

## Chapter NR 116

## WISCONSIN'S FLOODPLAIN MANAGEMENT PROGRAM

NR 116.01	Purpose.	NR 116.14	Development standards in other floodplain areas.
NR 116.02	Applicability.	NR 116.15	Nonconforming uses and nonconforming buildings.
NR 116.03	Definitions.	NR 116.16	Floodproofing.
NR 116.05	Adoption and upgrading of floodplain zoning ordinances.	NR 116.17	Levees, floodwalls and channel improvements.
NR 116.06	Areas to be regulated.	NR 116.18	Procedures for changing floodplain, floodway, floodfringe, shallow depth flooding, flood storage and coastal floodplain district limits.
NR 116.07	Standards for hydrologic and hydraulic studies.	NR 116.19	Appointment and duties of zoning administrator, zoning agency and board of adjustment or appeals.
NR 116.08	Uses downstream of dams.	NR 116.20	Municipal responsibilities.
NR 116.09	Data required to be shown on floodplain zoning maps.	NR 116.21	Permits, special exceptions, conditional uses, variances, appeals and amendments.
NR 116.10	Conflicts between water surface profiles and floodplain zoning maps.	NR 116.22	Department duties.
NR 116.11	Criteria for establishing and rezoning floodplain districts.		
NR 116.12	Development standards in floodway areas.		
NR 116.13	Development standards in floodfringe areas.		

**Note:** Chapter NR 116 as it existed on February 28, 1986 was repealed and a new chapter NR 116 was created effective March 1, 1986.

**NR 116.01 Purpose.** (1) The Wisconsin legislature in enacting chapter 614, laws of 1965, recognized that floodplain zoning is a necessary tool to protect human life, health and to minimize property damages and economic losses. Municipalities are required by s. 87.30 (1), Stats., to adopt reasonable and effective floodplain zoning ordinances within their respective jurisdictions to regulate all floodplains where serious flood damage may occur within one year after hydraulic and engineering data adequate to formulate the ordinance becomes available. If a municipality has a floodplain zoning ordinance already in effect, the provisions in s. NR 116.05 shall apply.

(2) The purpose of these rules is to provide a uniform basis for the preparation and implementation of sound floodplain regulations for all Wisconsin municipalities, to:

- (a) Protect life, health and property;
- (b) Minimize expenditures of public monies for costly flood control projects;
- (c) Minimize rescue and relief efforts, generally undertaken at the expense of the general public;
- (d) Minimize business interruptions;
- (e) Minimize damage to public facilities such as water mains, sewer lines, streets and bridges;
- (f) Minimize the occurrence of future flood blight areas;
- (g) Discourage the victimization of unwary land and home buyers; and
- (h) Prevent increases in the regional flood from occurring which will increase flood damage and may result in conflict and litigation between landowners.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86.

**NR 116.02 Applicability.** The provisions of this chapter are applicable to all municipalities. Unless otherwise specifically exempted by law, all state agencies are required to obtain permits required by local zoning ordinances if s. 13.48 (13), Stats., applies.

**Note:** Corps of engineers dredged material disposal activities which are authorized pursuant to s. 30.202 (2), Stats., are exempt from the requirements of this chapter.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86.

**NR 116.03 Definitions.** In this chapter:

(1) "Accessory structure or use" means any facility, structure, building or use which is accessory or incidental to the principal use of a property, structure or building.

(1e) "Campground" means any parcel of land which is designed, maintained, intended or used for the purpose of providing sites for nonpermanent overnight use by 4 or more camping units, or which is advertised or represented as a camping area.

(1s) "Camping unit" means any portable device, no more than 400 square feet in area, used as a temporary shelter, including but

not limited to a camping trailer, motor home, bus, van, pick-up truck or tent.

(2) "Certificate of compliance" means a document that is issued to a property owner by a municipality certifying that the use of land or a building is in conformance with provisions of the floodplain zoning ordinance.

(3) "Channel" means a natural or artificial watercourse with definite bed and banks to confine and conduct the normal flow of water.

(4) "Coastal floodplain" means an area along the coast of Lake Michigan or Lake Superior which is inundated by the regional flood and which is also subject to additional hazards due to wave runup.

(5) "Conditional use" or "special exception" means a use which is not allowed unless certain conditions specified in the zoning ordinance are met and a permit is granted by the board of adjustment or appeals or, where appropriate, the zoning agency.

(6) "Dam" as defined in s. NR 333.03 (2) means any artificial barrier, together with appurtenant works, built across a waterway and which has the primary purpose of impounding or diverting water.

(7) "Department" means the Wisconsin department of natural resources.

(8) "Developed area" means an area within a floodplain designated by a municipality and approved by the department which contains a minimum of 20 potential residential lots or a minimum of 5 acres of land zoned commercial, industrial or institutional wherein existing structures constitute a minimum of 50% of the structures that could be accommodated by the respective zoning density. The limits of the developed area are defined by a line connecting the existing structures on the outer perimeter of the majority of the structures. Vacant lots within that boundary are treated the same as lots with existing structures.

(9) "Development" means any artificial change to improved or unimproved real estate, including, but not limited to, the construction of buildings, structures or accessory structures; the construction of additions or substantial improvements to buildings, structures or accessory structures; the placement of buildings or structures; mining, dredging, filling, grading, paving, excavation or drilling operations; and the storage, deposition or extraction of materials.

(10) "Dryland access" means a vehicular access route which is above the regional flood elevation and which connects land located in the floodplain to land outside the floodplain.

(11) "Erosion" means a wearing away of land by the action of natural forces such as wind or water; on a coastal floodplain, the carrying away of soil by wave action.

(12) "Flood" or "flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas caused by:

- (a) The overflow or rise of inland waters;

(b) The rapid accumulation or runoff of surface waters from any source;

(c) The inundation caused by waves or currents of water exceeding anticipated cyclical levels along the shore of Lake Michigan or Lake Superior; and

(d) The sudden increase caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a seiche, or by some similarly unusual event.

**(13)** "Flood frequency" means the probability of a flood occurrence. A flood frequency is generally determined from statistical analyses. The frequency of a particular flood event is usually expressed as occurring, on the average, once in a specified number of years or as a percent (%) chance of occurring in any given year.

**Note:** For example, a 100-year flood event is expected to occur, or be exceeded, on the average of once in every 100 years, or which has a 1% chance of occurring or being exceeded in any given year. Any particular flood event could, however, occur more frequently than once in any given year.

**(14)** "Floodfringe" means that portion of the floodplain outside of the floodway, which is covered by flood water during the regional flood. The term, "floodfringe" is generally associated with standing water rather than flowing water.

**(15)** "Flood of record" means the highest known flood, the elevation of which can be determined through the use of physical or photographic data.

**(16)** "Floodplain" means that land which has been or may be covered by flood water during the regional flood. The floodplain includes the floodway, floodfringe, shallow depth flooding, flood storage and coastal floodplain areas.

**(17)** "Floodplain island" means a natural geologic land formation within the floodplain that is surrounded, but not covered, by flood water during the regional flood.

**(18)** "Floodplain management" means the full range of public policy and action for insuring wise use of floodplains. It includes everything from the collection and dissemination of flood data to the acquisition of floodplain lands and the enactment and administration of codes, ordinances and statutes for land use in the floodplain.

**(19)** "Floodproofing" means any combination of structural provisions, changes or adjustments to properties and structures, water and sanitary facilities and contents of buildings subject to flooding, for the purpose of reducing or eliminating flood damage.

**(20)** "Flood protection elevation" means an elevation 2 feet above the regional flood elevation.

**(21)** "Flood storage" means those floodplain areas where storage of flood waters has been taken into account in reducing the regional flood discharge.

**(22)** "Floodway" means the channel of a river or stream, and those portions of the floodplain adjoining the channel required to carry the regional flood discharge.

**(23)** "Freeboard" means a flood protection elevation requirement designed as a safety factor which is usually expressed in terms of a specified number of feet above a calculated flood level. Freeboard compensates for the effects of many factors that contribute to flood heights greater than those calculated. These factors include, but are not limited to, ice jams, debris accumulation, wave action, obstruction of bridge openings and floodways, the effects of urbanization on the hydrology of the watershed, loss of flood storage areas due to development and aggradation of the river or stream bed.

**(24)** "Habitable building" means any building, or portion thereof used for human habitation.

**(25)** "High flood damage potential" means potential damage as a result of flooding that is associated with any danger to life or health or any significant economic loss to a structure or building and its contents.

**(26)** "Human habitation" means a human residence or dwelling.

**(27)** "Hydraulic floodway lines" means those lines that delineate those portions of floodplain including the channel which are required to convey the regional flood discharge without any increase in regional flood heights.

**(28)** "Increase in regional flood height" means a calculated upward rise in the regional flood elevation, equal to or greater than 0.01 foot, resulting from a comparison of existing conditions and proposed conditions which is directly attributable to development in the floodplain but not attributable to manipulation of mathematical variables such as roughness factors, expansion and contraction coefficients and discharge.

**(29)** "Levee" means a continuous dike or embankment of earth constructed to prevent flooding of certain areas of land.

**(30)** "Littoral drift" means the movement of sedimentary material along the Lake Michigan or Lake Superior shoreline due to wave action and water currents.

**(30m)** "Mobile recreational vehicle" means a recreational vehicle that is carried, towed or self-propelled; is licensed for highway use, if registration is required; and is always capable of being driven or towed by a licensed vehicle.

**(31)** "Municipality" or "municipal" means a county, city or village.

**(32)** "NGVD" or "National Geodetic Vertical Datum" means elevations referenced to mean sea level datum, 1929 adjustment.

**(33)** "Nonconforming building" means an existing lawful building which is not in conformity with the dimensional or structural requirements of the floodplain zoning ordinance for the area of the floodplain which it occupies.

**(34)** "Nonconforming use" means an existing lawful use or accessory use of a structure, building or development which is not in conformity with the provisions of the floodplain zoning ordinance for the area of the floodplain which it occupies.

**(35)** "Obstruction to flow" means any development which physically blocks the conveyance of flood waters such that this development by itself or in conjunction with any future similar development will cause an increase in regional flood height.

**(36)** "Official floodway lines" means those lines which have been approved by the department, adopted by the municipality, and which are shown on the official floodplain zoning maps and used for regulatory purposes. The official floodway lines are established assuming that the area landward of the floodway lines will not be available to convey flood flows.

**(37)** "Open space use" means a use which has a relatively low flood damage potential, such as uses associated with agriculture, recreation, parking, storage yards, or certain sand and gravel operations.

**(38)** "Private sewage system" means a sewage treatment and disposal system serving a single structure with a septic tank and soil absorption field located on the same parcel as the structure. This term also means an alternative sewage system approved by the department of industry, labor and human relations including a substitute for the septic tank or soil absorption field, a holding tank, a system serving more than one structure or a system located on a different parcel than the structure.

**(39)** "Public utilities" means those utilities which employ underground or overhead transmission lines such as electric, telephone and telegraph, and distribution and collection systems such as water, sanitary sewer and storm sewer.

**(40)** "Rapidly urbanizing watershed" means a watershed where more than 20% of the land area of the watershed has been developed for residential, commercial or industrial uses or where development of the watershed is projected to grow at a rate of 10% or more in the next 10-year period.

**(41)** "Regional flood" means a flood determined to be representative of large floods known to have occurred in Wisconsin or

which may be expected to occur on a particular lake, river or stream once in every 100 years.

**Note:** The regional flood is based upon a statistical analysis of lake level or stream-flow records available for the watershed or an analysis of rainfall and runoff characteristics in the watershed or both. The flood frequency of the regional flood is once in every 100 years. In any given year, there is a 1% chance that the regional flood may occur or be exceeded. During a typical 30-year mortgage period, the regional flood has a 26% chance of occurring.

(42) "Shallow depth flooding areas" means those areas where the maximum depth of flooding does not exceed one foot in depth nor 6 hours in duration during the regional flood.

(43) "Special exception" or "conditional use" has the meaning designated in sub. (5).

(44) "Stormwater management" means public policy and action to control stormwater runoff associated with development within a rapidly urbanizing watershed in order to prevent the occurrence of, or an increase in, flood damage potential. It includes, but is not limited to, development of stormwater runoff data, flood profiles and enactment and administration of ordinances regulating land use in a watershed.

(45) "Structure" means any man-made object with form, shape and utility, either permanently or temporarily attached to or placed upon the ground, river bed, stream bed or lakebed.

(46) "Study" means any analysis that results in the calculation of discharge or elevation of the regional flood or the determination or delineation of boundary lines for any area within a floodplain.

(47) "Undeveloped area" means an area which is not a developed area.

(48) "Unnecessary hardship" means that circumstance where special conditions affecting a particular property, which were not self-created, have made strict conformity with restrictions governing areas, setbacks, frontage, height or density unnecessarily burdensome or unreasonable in light of the purposes of the ordinance.

(49) "Variance" means an authorization by the board of adjustment or appeals under s. NR 116.21 (4), for the construction or maintenance of a building or structure in a manner which is inconsistent with dimensional standards contained in the floodplain zoning ordinance.

**Note:** A variance can only be granted by the board of adjustment or appeals. A variance may not permit a use of property otherwise prohibited by the floodplain zoning ordinance or allow construction not protected to the flood protection elevation; it may, however, permit deviations from dimensional standards.

(50) "Watershed" means the entire region or area contributing runoff or surface water to a particular watercourse or body of water.

(51) "Water surface profile" means a graphical representation showing the elevation of the water surface of a watercourse for each position along a reach of river or stream at a certain flood flow. A water surface profile of the regional flood is used in regulating floodplain areas.

(52) "Well" means an excavation or opening in the ground made by digging, boring, drilling, driving or other methods, for the the purpose of obtaining groundwater regardless of its intended use.

(53) "Zoning agency" means a commission, board, committee or agency created or designated by the governing body of a municipality which acts on matters pertaining to planning or zoning. Under the provisions of s. 62.23 (7) (d) 2., Stats., the term "zoning agency" also includes the governing body of a city or village.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86; cr. (1e), (1s), (30m), Register, June, 1996, No. 486, eff. 7-1-96.

**NR 116.05 Adoption and upgrading of floodplain zoning ordinances.** (1) **ADOPTION.** Municipalities shall adopt, administer and enforce reasonable floodplain zoning ordinances for all floodplains where serious flood damage may occur within their respective jurisdictions. These ordinances shall meet or exceed the standards in this chapter.

(2) **INCLUSION IN LOCAL REGULATIONS, CODES AND PROGRAMS.** Where necessary, to insure the effectiveness of floodplain management and zoning objectives, the standards in this chapter shall be included in subdivision regulations, building and sanitary codes, flood insurance regulations, stormwater management regulations and other related programs.

(3) **SUBSTITUTION.** Where the department finds that one or more of the following regulations, codes or programs will accomplish the purpose of s. NR 116.01, these regulations, codes or programs may be substituted in lieu of all or portions of floodplain zoning ordinances:

(a) Zoning, acquisition of flooding easements or purchase of floodplain lands to permit only open space uses in floodplain areas.

(b) Flood warning systems.

(c) Building codes.

(d) Subdivision regulations.

(e) Private sewage system ordinances.

(f) Stormwater management regulations.

(4) **UPGRADING ORDINANCES.** Within 6 months from the time any of the information listed below is made available to a municipality by the department, the municipality shall upgrade its floodplain zoning ordinance, using the amendment procedure in s. NR 116.21, to reflect current floodplain information, including, but not limited to, the following:

(a) Changes in floodplain management statutes.

(b) Changes in floodplain management rules.

(c) Changes in floodplain management case law.

(d) New study data.

(e) Improved technical information and methods.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86.

**NR 116.06 Areas to be regulated.** Municipalities shall develop floodplain zoning maps, reflecting the best available data, which show the areas to be regulated. They shall also develop floodplain zoning ordinances to define proper uses in those regulated areas. These floodplain maps and zoning ordinances shall regulate all floodplains where serious flood damage may occur. The minimum limits for regulatory purposes shall be all those areas covered by water during the regional flood.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86.

**NR 116.07 Standards for hydrologic and hydraulic studies.** (1) **GENERAL.** The standards contained in this section shall be the basis for developing both hydrologic and hydraulic information to be used by municipalities for developing floodplain zoning maps and flood profiles, as defined in s. NR 116.09, and for administration of existing floodplain zoning ordinances as defined in s. NR 116.20 (2). The department shall review and approve all studies performed or completed under this section prior to use by any municipality.

(2) **CERTIFICATION AND RESPONSIBILITY OF THE STUDY CONTRACTOR.** Studies shall be completed under the direct supervision of the study contractor who is a registered professional engineer in the state of Wisconsin. The study contractor shall be responsible for the technical adequacy of the study.

(3) **HYDROLOGIC ANALYSIS - DETERMINATION OF REGIONAL FLOOD DISCHARGE.** (a) *Techniques.* Studies to determine the regional flood flow discharge may use the following techniques, if done in accordance with the requirements of par. (b):

1. The log-Pearson Type III distribution method as described in Bulletin #17B of the Hydrology Committee, U.S. Water Resources Council, entitled "Guidelines For Determining Flood Flow Frequency", September, 1981.

2. The current USGS empirical equations, developed from regression analysis of stream gaging data. (See USGS publication

entitled "Technique for Estimating Magnitude and Frequency of Floods in Wisconsin", by Conger, March, 1981.)

3. Synthetic hydrographs, which are combined and routed through the basin to the downstream end of the study area.

4. When using the synthetic hydrograph technique in subd. 3., the results shall be calibrated to past events where such information is available.

5. Technical Release No. 55 (TR55), entitled "Urban Hydrology For Small Watersheds", Engineering Division, SCS, U.S.D.A., January, 1975.

6. Comparison of similar drainage basins at gaged sites.

7. Historic flood data.

8. Other methods with department approval.

(b) *Required use of techniques.* The following shall be the minimum standards for determining the regional flood flow discharge:

1. The techniques to determine skew under par. (a) 1. may not be used if data from a gaging station in the watershed is not available or is available for a period of less than 10 years. In other cases, the technique to determine skew in par. (a) 1. shall be modified as follows:

a. If data from a gaging station in the watershed is available for 10 or more years but less than 26 years, the station skew shall be weighted with zero skew in accordance with Bulletin #17B.

b. If data from a gaging station in the watershed is available for 26 or more years, the station skew shall be used.

c. Skew values differing from those obtained in subd. 1. a. or b. may be used if they are approved by the department.

2. If the difference in the drainage area at the study site and the drainage area at a gaging station on the same watershed is less than or equal to 50%, the regional flood discharge at the study site shall be determined by transferring the calculated regional flood discharge at the gage by using Bulletin #17B techniques to the study site using a drainage area ratio taken to the "n" power, from page 12 of "Techniques for Estimating Magnitude and Frequency of Floods for Wisconsin Streams", U.S.G.S., Open File Report 80-1214, March 1981.

3. If the difference in the drainage area at the study site and the drainage area at a gaging station in the watershed is more than 50%, or if there is no gaging station in the watershed, at least 2 of the techniques described in par. (a) 2. to 7. shall be used to determine a weighted value of the regional flood discharge.

4. Comparison of similar drainage basins under par. (a) 5. shall be based on basin characteristics using Bulletin #17B 100-year discharges.

5. When using USGS empirical equations under par. (a) 2., the results shall be compared with Bulletin #17B 100-year discharges at gaged sites on similar drainage basins.

6. In all cases where dams or reservoirs, floodplain development or land use upstream have significantly altered the storage capacity or runoff characteristics of the watershed so as to affect the validity of any of the techniques listed in par. (a), the synthetic hydrograph technique in par. (a) 3. or the Technical Release No. 55 in par. (a) 4. shall be used for the determination of the regional flood flow discharge.

7. In rapidly urbanizing watersheds, the municipality shall require that computations for regional flood flow discharges reflect increased runoff from all projected future development. These computations shall be made using one of the following techniques:

a. A synthetic hydrograph based upon projected watershed development shall be produced and routed to critical locations within the study limits.

b. A mathematical model shall be developed to determine the effects of all projected future development in the watershed on the regional flood flow discharge. Local units of government shall

project what percentage of watershed development may occur under existing land use or subdivision ordinances and regional flood discharges shall be based upon that data. Where there are no existing land use or subdivision ordinances which control or regulate future development, total projected development shall be assumed to occupy 70% of the watershed. Where watersheds contain more than one municipality, agreements between those municipalities may be necessary to restrict future watershed development. In order to insure that future regional flood flows do not exceed the regional flood flow discharges used in local regulations, changes in existing land use or subdivision ordinances which may allow an increase or decrease in the projected development in the watershed shall be reflected in regional flood flow discharge values.

(4) **HYDRAULIC ANALYSIS – DETERMINATION OF THE REGIONAL FLOOD ELEVATION.** The following criteria shall be the basis for determining the regional flood profile:

(a) *Reconnaissance.* The study contractor is responsible for the collection of all existing data with regard to flooding in the study area. This shall include a literature search of all published reports in the study area and adjacent communities and an information search to obtain all unpublished information on flooding in the immediate and adjacent areas from federal, state and local units of government. This information shall include specific information on past flooding in the area, drainage structures such as bridges and culverts that affect flooding in the area, available topographic maps, available community maps, photos of past flood events and general flooding problems within the community. The study contractor will coordinate the collection of all available data and published reports with the department. A field reconnaissance shall be made by the responsible engineer to determine hydraulic conditions of the study area including type and number of structures, locations of cross sections and other parameters including roughness values which are necessary for the hydraulic analysis.

(b) *Base data.* Cross sections to be used for the hydraulic analysis may be obtained by one of several methods, including surveying or aerial photography. New or previously surveyed cross sections or topographic information obtained from aerial photographs may be used independently or in combination as the base data to be used in hydraulic analysis. The elevation datum of all of the information to be used in the hydraulic model shall be verified. All information used shall be referenced directly to NGVD unless the elevation datum is otherwise approved by the department.

(c) *Methodology.* Flood profiles shall be calculated by the standard step method, using the Corps of Engineers HEC-2 computer model. Other methods may be used with prior department approval provided that any computer models submitted to the department for review are in a form acceptable for entry into the department's floodplain data repository.

(d) *Floodway determination.* The hydraulic floodway lines shall be determined from the limits of effective flow based on the calculated regional flood water surface profile. Transitions shall take into account obstructions to flow such as road approach grades, bridges or natural restrictions. General guidelines for transitions may be found in "HEC-2, Water Surface Profiles-Users Manual, appendix IV, Application of HEC-2 Bridge Routine" published by the Hydrologic Engineering Center, Davis, California. All areas of the floodplain including overbank areas that can be assumed to convey flood waters shall be included in the hydraulic floodway.

(e) *Previous floodplain studies.* If differences exist between a study previously approved by the department and the contractor's calculated hydraulic floodways or flood profiles, the study contractor shall document justification and obtain departmental approval for these differences. Where the contractor's study differs from existing flood profiles or hydraulic floodways for adja-

cent communities, verification of the differences will be necessary for department approval of the hydraulic analysis.

(f) *Calculation of the regional flood profile.* The regional flood profile and changes to that profile caused by development in the floodplain, as determined by the hydraulic model, shall be calculated to the nearest 0.01 foot.

(g) *Adequacy of the hydraulic model.* The following factors shall be considered by the department to determine the adequacy of the hydraulic model and the regional flood profile. Upon written request by the department the study contractor shall submit written justification for the following factors:

1. Cross section spacing.
2. Differences in energy grade.

**Note:** Significant differences in the energy grade from cross section to cross section are an indication that cross sections should be more closely spaced or that other inaccuracies exist in the hydraulic model.

3. Methods for analyzing the hydraulics of structures such as bridges and culverts.
4. Lack of flow continuity.
5. Use of gradually varied flow model.

**Note:** In certain circumstances, rapidly varied flow techniques shall be used in combination with a gradually varied flow model such as weir flow over a levee or dike, flow through the spillway of a dam or special applications of bridge flow.

6. Manning's "n" values.
7. Calibration of the hydraulic model with past flood events.

(h) *Special applications.* The methods defined in par. (c) shall be used except in special cases, including circumstances where sediment transport, 2 dimensional flow or valley storage affects the accuracy of the hydraulic model. Where the standard step method is unwarranted, the department shall approve the method used for establishing the final water surface profile.

(i) *Base mapping.* In the preparation of a floodplain zoning map to be used by the municipality, the study contractor shall use the best available mapping to delineate floodplain limits.

(j) *Final report.* A narrative report shall accompany the maps and profiles and shall include the following:

1. Purpose of the study and description of the study area.
2. Coordination with other agencies.
3. Data collection.
4. Past flooding.
5. Engineering methods including a detailed description of the methodology used for hydrology, hydraulics and any special applications used in this study.
6. A floodway data table showing cross sections, drainage area, distance between cross sections, floodway top width, discharge, cross sectional area, mean velocity and regional flood elevation.
7. Previous studies on the same watercourse.
8. An appendix which includes:
  - a. Drainage basin maps.
  - b. Precipitation maps.
  - c. Pertinent photographs.
  - d. Soil and vegetation maps.
  - e. Sample calculations of the hydrologic analyses including all unit hydrographs.
  - f. Stream flow records.
  - g. Channel roughness values.
  - h. Any other data required by the department.

(k) *Wave action on the Great Lakes.* Standards used to determine the regional flood elevation for all municipalities adjacent to the Great Lakes shall be those specified in the publication, "Guidelines and Specifications for Study Contractors, Federal Emergency Management Agency, September 1982, appendix 1B, Wave Runup Analysis".

(5) **DOCUMENT AVAILABILITY.** The materials listed in this subsection are incorporated by reference in the corresponding subsections noted.

The document referred to in sub. (3) (a) 1. may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (mention title and stock number 052-045-00031-2). The document referred to in sub. (3) (a) 2. is available for inspection at the Geological Survey - Water Resource Division, U.S. Department of the Interior, 1815 University Avenue, Madison, Wisconsin 53706. The document referred to in sub. (3) (a) 5. is available for inspection at the Soil Conservation Service, U.S. Department of Agriculture, 4601 Hammersley Road, Madison, Wisconsin 53711; it may be purchased from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22151 (mention title and appropriate accession number: TR55 = PB 244531/AS). The document described in sub. (4) (c) and (d) is available for inspection at the United States Army Corps' Hydrologic Engineering Center, 609 2nd Street, Davis, California 95616. The document referred to in sub. (4) (k) is available for inspection at the Federal Emergency Management Agency Region V Office, 300 South Wacker Drive, Chicago, Illinois 60606 (mention title, date and appropriate appendix number).

(6) **INSPECTION OF DOCUMENTS.** Copies of the documents referred to in sub. (5) are also available for inspection in the following offices:

- (a) The department of natural resources, 101 South Webster Street, Madison, Wisconsin;
- (b) The office of the secretary of state, 30 W. Mifflin Street, Madison, Wisconsin;
- (c) The office of the revisor of statutes, 131 W. Wilson Street, Madison, Wisconsin.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86; corrections made under s. 13.93 (2m) (b) 6., Stats., Register, September, 1995, No. 477.

**NR 116.08 Uses downstream of dams. (1) GENERAL.** Adequately designed, constructed and maintained dams provide reduced damages and relief from flooding for developed areas. Areas downstream of dams shall be zoned and regulated by municipalities with floodplain zoning ordinances in compliance with the standards in this section, to reduce potential loss of life and property located downstream of the dams. Except as provided in sub. (2), areas downstream of all dams shall be delineated on floodplain maps in accordance with s. NR 116.09 (1) (b) 5. Flood studies and related mapping, completed and adopted prior to August 1, 2001, which calculated flood flow attenuation based on the existence of the dam structures within the contributing basin, may continue to use the dam in-place, no failure, profile.

(2) **EXEMPTIONS.** All dams having a structural height of 6 feet or less, or a storage capacity of 15 acre feet or less, and all dams having a structural height of more than 6 feet but less than 25 feet with a storage capacity of less than 50 acre feet are exempt from the requirements of this section unless the department determines pursuant to s. 31.19, Stats., that the dam is likely to endanger life, health or property.

(3) **COMPLIANT DAMS.** (a) A dam is considered compliant if all the following requirements are met:

1. The dam is structurally adequate to meet the conditions in ss. NR 333.05 (2) (k) and 333.07 (3) (b).
2. The dam is hydraulically adequate to meet the standards in s. NR 333.07 (1).
3. The dam has been certified by a professional engineer, registered in Wisconsin, to meet the requirements of subs. 1. and 2.
4. Written assurance of the dam owner's ability to operate and maintain the dam in good condition is obtained from the dam owner.
5. An emergency action plan to minimize loss of human life has been developed for the area downstream of the dam based on the assumption that the dam fails during the regional flood.
6. The department reviews and approves the material submitted under subs. 1. to 5.

(b) Developed areas downstream of compliant dams shall be zoned and regulated as follows:

1. For high hazard dams, assuming that the dam is nonexistent during the regional flood.

2. For significant or low hazard dams, assuming the dam fails during the regional flood.

(c) Undeveloped areas downstream of a compliant dam shall be zoned and regulated assuming that the dam fails during the regional flood.

**(4) NONCOMPLIANT DAMS.** (a) If an existing dam does not meet the standards in sub. (3) (a), the dam is considered noncompliant.

(b) Both developed and undeveloped areas downstream of a noncompliant dam shall be zoned and regulated assuming that dam failure occurs during the regional flood.

(c) The regional flood profile of the area downstream of the dam shall be calculated in accordance with s. NR 333.05 (2) (b).

**(5) CONSTRUCTION OF NEW DAMS.** (a) Dams constructed after August 1, 2001, shall be considered compliant if the requirements in sub. (3) (a) are met.

(b) Developed areas downstream of the construction of a new dam shall be zoned and regulated as if the dam does not exist until construction is 100% complete and all the conditions of sub. (3) (a) are met.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86; **CR 00-136: am.** (1), (2), (3) (a) 1. to 5., (b), (c), (4) (a) and (b) and (5) (a), Register July 2001, No. 547 eff. 8-1-01.

**NR 116.09 Data required to be shown on floodplain zoning maps.** Municipalities shall delineate the entire floodplain on their floodplain zoning maps.

**(1)** If the regional flood profile has been determined, the profile shall be used to develop the floodplain zoning maps which the municipality shall use as the basis for floodplain zoning.

(a) The maps shall show the following:

1. The floodway district;

2. The floodfringe district;

3. The regional flood elevation consistent with the regional flood profile shall be clearly lettered at identifiable positions on the official floodplain zoning maps. If for any reason that elevation is not shown on the maps, the profile shall be attached to and made a part of the maps; and

4. Source and date of study.

(b) In addition to the information in par. (a), the floodplain zoning maps shall include the following information, where applicable:

1. The shallow depth flooding district.

2. The flood storage district.

3. The coastal floodplain district.

4. Floodplain islands.

5. For developed and undeveloped areas downstream of dams, the floodway and floodfringe districts based on 3 conditions:

a. Assuming the dam is in place,

b. Assuming the dam is not in place, and

c. Assuming failure of the dam during the regional flood.

6. For areas adjacent to levees, floodwalls and channel improvements, the floodway and floodfringe districts based on 2 conditions:

a. Assuming the levee, floodwall or channel improvement is not in place, and

b. Assuming the levee, floodwall or channel improvement is in place.

(c) If technical information is available to ascertain the magnitude of floods larger than the regional flood the floodplain limits of these large floods may be reflected on the official floodplain

zoning maps and used for either public information purposes or for regulation.

**(2)** If the regional flood profile has not been determined, maps based upon historical floods, flood prone area maps, flood hazard boundary maps, aerial photos or detailed soils maps may initially serve as a basis for floodplain delineation, provided that the associated text of the zoning ordinance provides for a procedure similar to ss. NR 116.20 (2) and 116.21 (3) to ascertain the effects of all development upon flood flows and the regional flood elevation.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86.

**NR 116.10 Conflicts between water surface profiles and floodplain zoning maps.** Accepted engineering principles and techniques shall govern the transfer of profile elevation for use in delineation of the floodplain limits on the official floodplain zoning maps. If a conflict exists between the floodplain limits illustrated on the maps and the actual field conditions, the elevations from the water surface profile shall be the governing factor in locating the official floodplain limits.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86.

**NR 116.11 Criteria for establishing and rezoning floodplain districts.** **(1) DELINEATION OF FLOODWAY, FLOODFRINGE AND COASTAL FLOODPLAIN DISTRICTS.** Except as provided in sub. (2), the following criteria shall apply to the delineation of floodway, floodfringe and coastal floodplain districts.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86.

(a) *Floodway district.* The official floodway lines shown on floodplain zoning maps shall be the hydraulic floodway lines. These hydraulic floodway lines shall be determined by studies complying with the standards contained in s. NR 116.07.

(b) *Floodfringe district.* All areas within the floodplain landward of the official floodway lines shall be shown as a "floodfringe district."

(c) *Coastal floodplain district.* All areas adjacent to Lake Superior or Lake Michigan within the regional floodplain shall be designated as a coastal floodplain district.

**(2) REDELINEATION OR REZONING FLOODPLAIN DISTRICTS.** In accordance with the criteria of sub. (3), the following redelineations or rezonings may occur:

(a) *Redelineation or rezoning the floodway district to floodfringe district.* Riverward delineations of the official floodway lines established in accordance with sub. (1) (a) are permissible provided the following criteria are satisfied:

1. Any increase in regional flood height due to the delineation of the official floodway lines riverward from the hydraulic floodway lines shall be approved by the department prior to becoming effective. Increases may only be approved by the department if the provisions of sub. (3) are satisfied.

2. The effects of delineating the official floodway lines riverward from the hydraulic floodway lines shall be calculated by comparing the regional flood profile determined from the hydraulic floodway lines to that profile determined by assuming that the area landward of the revised floodway lines is not available to convey flood flows. Calculations shall conform to the standards contained in s. NR 116.07.

(b) *Redelineation or rezoning floodfringe district to floodway district.* Landward modifications of hydraulic floodway lines to delineate official floodway lines may be permitted provided the following conditions are satisfied:

1. The redelineation of the floodway lines is consistent with other municipal codes, ordinances, and ch. 30, Stats.; and

2. The current hydraulic floodway lines, which reflect the water surface profile used for regulation, shall be kept on file by the municipality.

(c) *Redelineation or rezoning floodway district to shallow depth flooding district.* For areas subject to shallow depth flooding, the official floodway lines may be delineated riverward of the

hydraulic floodway lines, provided all of the criteria in this paragraph are satisfied:

1. The maximum depth of flooding during the regional flood in the shallow depth flooding district may not exceed one foot in depth nor 6 hours in duration. The duration shall be determined by a synthetic hydrograph developed for the watershed and routed through the area;

2. The area is developed complete with existing streets and sewers and is subject to a land use plan, which includes provisions for drainage ways through the area with the capacity to convey that percentage of the regional flood which is flowing through the area under existing conditions;

3. The municipality shall adopt standards outlined in s. NR 116.14 (1) pertaining to shallow depth flooding district;

4. All areas within the hydraulic floodway landward of the official floodway lines shall be designated as "shallow depth flooding district"; and

5. All areas within the floodplain landward of the hydraulic floodway lines shall be delineated as "floodfringe district".

(d) *Redelineation or rezoning floodfringe district to flood storage district.* A "flood storage district" may be established for the area landward of the floodway in lieu of the floodfringe designation where floodplain storage will decrease the calculation of discharge and therefore the regional flood elevation, provided the following criteria are met:

1. The department shall approve the methodology used to analyze floodplain storage to determine revised regional flood elevations.

2. The municipality shall adopt standards outlined in s. NR 116.14 (2) pertaining to the flood storage district.

(e) *Rezoning flood storage district to floodfringe district.* Any proposal to rezone flood storage district to floodfringe district shall comply with the following conditions:

1. Any increase in regional flood height shall be approved by the department prior to becoming effective. Increases in the regional flood elevation may only be approved by the department if the provisions in sub. (3) are satisfied; and

2. The effect of rezoning the flood storage district to the floodfringe district shall be calculated by comparing the regional flood profile used as the basis for zoning to the regional flood profile determined by assuming that the area to be rezoned is not available to store floodwater.

(f) *Rezoning the shallow depth flooding district to floodfringe district.* Any proposal to rezone the shallow depth flooding district to floodfringe district shall comply with the following conditions:

1. Any increase in regional flood height shall be approved by the department prior to the rezoning becoming effective. Increases in the regional flood elevation may only be approved by the department if the provisions in sub. (3) are satisfied;

2. The entire shallow depth flooding district shall be rezoned to floodfringe district; and

3. The effect of rezoning the shallow depth flooding district to the floodfringe district shall be calculated by comparing the regional flood profile determined by the hydraulic floodway lines to the regional flood profile determined by assuming that the entire shallow depth flooding district is not available to convey floodflows. Calculations shall conform to the standards contained in s. NR 116.07.

**(3) CRITERIA FOR REDELINEATION OR REZONING FLOODPLAIN DISTRICTS.** (a) *Initial determinations.* Prior to redelineation or rezoning any floodplain district a municipality shall:

1. Assure that the applicable provisions of sub. (2) are met;

2. Require adequate technical data from the applicant or the municipality and submit such data to the department for review and concurrence in the effect of the proposed amendment on the height of the regional flood;

3. Assure that the proposed amendments meet the purpose of s. NR 116.01;

4. Assure that the appropriate legal arrangements have been made with all property owners affected by the increased flood elevations; and

5. Notify all affected municipalities of increased regional flood elevations.

(b) *Amendment process.* Upon completion of the steps in par. (a), the municipality and any affected municipality shall meet all legal requirements for amending its water surface profiles, floodplain zoning maps and zoning ordinances as established in s. NR 116.21 (6).

(c) *Submission to the department for approval.* If the municipality amends its official floodplain map, it shall also amend its water surface profiles and floodplain zoning ordinance and submit these amendments to the department for approval pursuant to s. NR 116.21 (6). Prior to department approval, all municipalities affected by the increased regional flood elevation shall amend their water surface profiles, floodplain zoning maps and zoning ordinances to reflect the increased regional flood elevations.

**(4) EXCEPTION TO CRITERIA FOR REDELINEATING OR REZONING FLOODPLAIN DISTRICTS.** If, as a result of improved data generated by a revised study approved by the department, and not as a result of changes due to encroachments in the floodplain, the hydraulic floodway line is revised landward of the official floodway lines, the municipality may continue to regulate on the basis of the official floodway lines provided the municipality meets all of the requirements of sub. (3), except the requirement of sub. (3) (a) 4.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86.

**NR 116.12 Development standards in floodway areas.** (1) **PROHIBITED USES.** Municipalities shall prohibit the following uses in floodway areas:

(a) Except as provided in sub. (2), any development which will cause an obstruction to flood flows or an increase in regional flood discharge or will adversely affect the existing drainage courses or facilities.

(b) A structure is always prohibited in, on or over floodway areas if the structure is:

1. Designed for human habitation;
2. Associated with high flood damage potential; or
3. Not associated with permanent open space uses.

(c) Any storage of materials that are buoyant, flammable, explosive or injurious to human, animal, plant, fish or other aquatic life.

(d) Any use which is not in harmony with, or which may be detrimental to, the uses permitted in the adjoining districts.

(e) Any sewage system, whether public or private, except portable latrines that are removed during flooding, or systems associated with recreational areas that meet the applicable provisions of local ordinances and ch. Comm 83.

(f) Any well, whether public or private, which is used to obtain water for ultimate human consumption, except systems associated with recreational areas that meet the applicable provisions of municipal zoning ordinances and chs. NR 811 and 812.

(g) Any solid or hazardous waste disposal facility.

(h) Any wastewater treatment pond or facility except as permitted in s. NR 110.15 (3) (b).

(i) Any sanitary sewer or water line except those used to service existing development or proposed development located outside of the floodway and which comply with the requirement for the floodplain area on which it is located.

**(2) PERMITTED USES AND STRUCTURES.** Municipalities, using the appropriate procedure described in s. NR 116.21, may issue permits in floodway areas allowing open space uses having a relatively low flood damage potential, such as those uses associated with agriculture, recreation, surface parking lots, storage yards or

certain sand and gravel operations. Permits for the following uses or structures may be allowed only if such uses or structures are consistent with all of the standards contained in this subsection and sub. (3) and such uses or structures are not prohibited in sub. (1) (b) to (i).

(a) Certain structures which are accessory to permitted open space uses or historical areas, if the structures meet all of the following criteria:

1. Are not designed for human habitation;
2. Have a low flood damage potential;
3. Are associated with an open space use or are functionally dependant on a waterfront location:

**Note:** For example, an unloading structure is functionally dependant on a waterfront location to unload boats or barges, but a storage facility is not.

4. Except as provided in sub. (3), are to be constructed and placed on the building site so as to offer no obstruction to flood flows;

5. Are firmly anchored to prevent them from floating away and restricting bridge openings or other constricted sections of the stream or river; and

6. All service facilities, such as electrical and heating equipment, shall be at or above the flood protection elevation for the particular area.

(b) Campgrounds, provided all of the following criteria are met and approval is granted by the department:

1. The character of the river system and the elevation of all portions of the campground are such that 72 hours warning of an approaching flood can be given to all persons using that campground;

2. An adequate flood warning system is in existence which will provide for adequate advance notice to all persons in the campground and make evacuation mandatory. Such a system shall involve an annual renewable written agreement between the campground owner, the emergency government coordinator, the national weather service and the chief municipal law enforcement official which shall specify a flood elevation at which evacuation shall occur;

3. The campground complies with all applicable local and state laws and regulations, including those of the department of health and social services;

4. The campground shall have signs at all entrances warning of the flood hazard involved;

5. Only mobile recreational vehicles with self-contained holding tanks or easily removable tents or camper units are allowable. No other habitable structures or buildings are permitted; and

6. Litter collection facilities shall be placed at or floodproofed to the flood protection elevation or be removed during flooding.

(c) Uses permitted by the department pursuant to chs. 30 and 31, Stats., provided that the necessary permits are obtained from the department and necessary amendments are adopted by the municipality to the official floodway lines, regional flood profiles, floodplain zoning maps and floodplain zoning ordinances.

(d) Public utilities, roads, streets and bridges provided that:

1. Adequate floodproofing measures are provided to the flood protection elevation; and

2. Except as provided in sub. (3), construction may not cause any obstruction to flood flows as reflected in the water surface profile based upon existing conditions.

**(2m) PERMITTED USES, NO PERMIT REQUIRED.** Camping in a camping unit in a floodway area outside of approved campgrounds under sub. (2) (b) is allowed without a permit if the camping unit consists of nothing more than an easily removable tent or if the following criteria are met:

(a) The camping unit is a mobile recreational vehicle;

(b) The camping unit is on a parcel of land that has less than 4 camping sites and the parcel is not advertised, represented or used as a camping area; and

(c) The camping unit may not occupy the site for a period of more than 180 consecutive days.

**(3) FLOODWAY DEVELOPMENT REQUIRING AMENDMENTS.** Any development in a floodway which will cause an obstruction to flood flows may be authorized by the municipality, but only if amendments are made to the official floodway lines, regional flood profile, floodplain zoning maps and floodplain zoning ordinances in accordance with the criteria established in s. NR 116.11. All such amendments shall meet the provisions of s. NR 116.21 (6).

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86; correction made in (1) (f) made under s. 13.93 (2m) (b) 7., Stats., Register, September, 1995, No. 477; cr. (2m), Register, June, 1996, No. 486, eff. 7-1-96; correction in (1) (e) made under s. 13.93 (2m) (b) 7., Stats., Register July 2001, No. 547.

**NR 116.13 Development standards in floodfringe areas. (1) GENERAL.** (a) Municipalities, using the appropriate procedure described in s. NR 116.21, may issue permits allowing uses in floodfringe areas which are compatible with the criteria in this section.

(b) All floodfringe developments shall be compatible with local land use plans. In the absence of formal plans, development shall be compatible with the uses permitted in adjoining districts.

(c) Floodfringe developments may be permitted only if such developments do not cause an obstruction to flood flows of any tributaries to the main stream, drainage ditches, or any other drainage facilities or systems or if amendments are made to the affected official floodway lines, water surface profiles, floodplain zoning maps and floodplain zoning ordinances in accordance with the provisions of ss. NR 116.11 and 116.21 (6).

(d) Floodfringe developments may be permitted only if such developments do not affect the conveyance capacity by causing an obstruction to flow or storage capacity of the floodplains, such that it causes any increase in the regional flood height or discharge.

**(2) RESIDENTIAL USES.** (a) Any structure or building used for human habitation (seasonal or permanent), which is to be erected, constructed, reconstructed, structurally altered or moved into the floodfringe area shall be placed on fill with the finished surface of the lowest floor, excluding basement or crawlway, at or above the flood protection elevation. If any such structure or building has a basement or crawlway, the surface of the floor of the basement or crawlway shall be at or above the regional flood elevation and shall be floodproofed to the flood protection elevation in accordance with s. NR 116.16. No variance may be granted to allow any floor below the regional flood elevation. An exception to the basement requirement may be granted by the department, but only in those communities granted such exception by the federal emergency management agency (FEMA) on or before March 1, 1986.

(b) For all uses under this subsection:

1. Fill shall be not less than one foot above the regional flood elevation;

2. Fill shall extend at such elevation at least 15 feet beyond the limits of any structure or building erected thereon; and

3. Dryland access shall be provided.

(c) If existing streets or sewer lines are at elevations which make compliance with par. (b) impractical, the department may approve the use of other floodproofing measures or methods in accordance with s. NR 116.16. The structure or building shall be floodproofed to the flood protection elevation.

(d) If existing streets or sewer lines are at elevations which make compliance with par. (b) 3. impractical, the municipality may permit new development and substantial improvements



where access roads are at an elevation lower than the regional flood elevation, provided:

1. The municipality has an adequate natural disaster plan which has been concurred in by the division of emergency government and approved by the department; or

2. The municipality has written assurance from the appropriate units of police, fire and emergency services that rescue and relief can be provided by wheeled vehicles to the structures during regional flooding, taking into account the anticipated depth, duration and velocity of the regional flood event in the area, thereby protecting human life and health and minimizing property damage and economic loss.

(3) ACCESSORY USES. Accessory structures not connected to a principal structure, including nonresidential agricultural structures, shall meet the applicable provisions of s. NR 116.12 (2) (a) 1., 2., 5. and 6. and sub. (6). Any such accessory structure may be constructed at elevations lower than the flood protection elevation. However, no accessory structure may be inundated to a depth greater than 2 feet or subject to flood velocities greater than 2 feet per second upon the occurrence of the regional flood.

(3m) PERMITTED USES, NO PERMIT REQUIRED. Camping in a camping unit in a floodfringe area outside of an approved campground under s. NR 116.12 (2) (b) is allowed without a permit if the camping unit consists of nothing more than an easily removable tent or if the following criteria are met:

(a) The camping unit is a mobile recreational vehicle;

(b) The camping unit is on a parcel of land that has less than 4 camping sites and the parcel is not advertised, represented or used as a camping area; and

(c) The camping unit may not occupy the site for a period of more than 180 consecutive days.

(4) COMMERCIAL USES. Any commercial structure or building which is to be erected, constructed, reconstructed, altered or moved into the floodfringe area shall meet the requirements of sub. (2). Certain yards, parking lots and other accessory structures or uses may be at elevations lower than the flood protection elevation. However, no such area in general use by the public may be inundated to a depth greater than 2 feet or subjected to flood velocities greater than 2 feet per second upon the occurrence of the regional flood. Inundation to depths greater than 2 feet may be approved provided an adequate warning system exists to protect life and property.

(5) MANUFACTURING AND INDUSTRIAL USES. Any manufacturing or industrial structure or building which is to be erected, constructed, reconstructed, altered or moved into the floodfringe district shall be protected to the flood protection elevation utilizing fill, adequate floodproofing measures or any combination thereof. On streams or rivers having protracted flood durations, greater protection may be required to minimize interference with normal plant operations. A lesser degree of protection, compatible with these criteria and the criteria in sub. (4), may be permissible for storage yards, parking lots and other accessory structures or uses.

(6) STORAGE OF MATERIALS. Storage of any materials which are buoyant, flammable or explosive, or which in times of flooding could be injurious to property, water quality or human, animal, plant, fish or aquatic life, shall be either floodproofed to or placed at or above the flood protection elevation. Adequate measures shall be taken to assure that these materials will not enter the river or stream during flooding.

(7) PUBLIC UTILITIES, STREETS AND BRIDGES. (a) If failure or interruption of public facilities would result in danger to the public health or safety or if such facilities are essential to the orderly functioning of the area, adequate floodproofing measures shall be provided to the flood protection elevation; a lesser degree of protection may be provided for minor or auxiliary roads or utilities if these conditions do not exist.

(b) Public utilities, roads, streets and bridges within the floodfringe shall be designed to be compatible with the local floodplain development plans.

(8) PRIVATE SEWAGE SYSTEMS. All private sewage systems shall meet the applicable provisions of the local ordinances and ch. Comm 83.

(9) WELLS. All wells, whether public or private, shall be floodproofed to the flood protection elevation and shall meet the applicable provisions of chs. NR 811 and 812.

(10) SOLID OR HAZARDOUS WASTE DISPOSAL FACILITIES. All solid or hazardous waste disposal facilities, whether public or private, are prohibited in floodfringe areas.

(11) DEPOSITION OF MATERIALS. Any deposition of materials for any purpose may be allowed only if the provisions of this section are met.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86; correction in (9) made under s. 13.93 (2m) (b) 7., Stats., Register, September, 1995, No. 477; cr. (3m), Register, June, 1996, No. 486, eff. 7-1-96; correction in (8) made under s. 13.93 (2m) (b) 7., Stats., Register July 2001, No. 547.

**NR 116.14 Development standards in other floodplain areas.** In cooperation with municipalities, and to insure sound floodplain management, the department may designate or approve the following floodplain districts, in addition to those established in ss. NR 116.12 and 116.13, providing the criteria in s. NR 116.11 are met:

(1) SHALLOW DEPTH FLOODING DISTRICT. The standards for permitting development in a floodfringe area under s. NR 116.13 shall be applicable to a shallow depth flooding area except that such development may not result in an obstruction to flood flows. If development does cause an obstruction to flood flows, the development may not be permitted unless the entire shallow depth flooding district is rezoned to floodfringe district according to the criteria established in s. NR 116.11 (2) (f).

(2) FLOOD STORAGE DISTRICT. (a) *General.* Municipalities using the appropriate procedure described in s. NR 116.20, may issue permits for development in flood storage areas which are compatible with the criteria for floodfringe areas, as described in s. NR 116.13, providing the provisions of par. (b) are met.

(b) *Flood storage modifications.* When any proposed development would remove flood storage volume, an equal volume of storage, as defined by the ground surface and the regional flood elevation, shall be provided to compensate for the volume of storage which is lost. Excavation below the groundwater table is not considered as providing an equal volume of storage.

(c) *Rezoning of flood storage district.* If compensatory storage cannot be provided, the area may not be developed unless the entire flood storage district is rezoned to floodfringe district utilizing the criteria established in s. NR 116.11 (2) (e).

(3) COASTAL FLOODPLAIN DISTRICT. The standards for permitting development in a floodfringe area under s. NR 116.13 shall be applicable in a coastal floodplain area, except that no development may be allowed which:

(a) Will be adversely affected by wave runup along the shore of Lake Michigan or Lake Superior; or

(b) Is associated with a high flood damage potential.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86.

**NR 116.15 Nonconforming uses and nonconforming buildings.** (1) GENERAL. Insofar as the standards in this section are not inconsistent with the provisions of ss. 59.69 (10) and 62.23 (7) (h), Stats., they shall apply to all uses and buildings that do not conform to the provisions contained within a floodplain zoning ordinance. These standards apply to the modification of, or addition to, any building and to the use of any building or premises which was lawful before the passage of the ordinance. The existing lawful use of a building or its accessory use which

is not in conformity with the provisions of a floodplain zoning ordinance may be continued subject to the following conditions:

(a) No extension of a nonconforming use, or modification or addition to any building with a nonconforming use or to any nonconforming building, may be permitted unless they are made in conformity with the provisions of this section. For the purposes of this section, the words "modification" and "addition" shall include, but not be limited to, any alteration, addition, modification, rebuilding or replacement of any such existing building, accessory building or accessory use. Ordinary maintenance repairs are not considered structural repairs, modifications or additions; such ordinary maintenance repairs include internal and external painting, decorating, paneling, the replacement of doors, windows and other nonstructural components; and the maintenance, repair or replacement of existing private sewage systems, water supply systems or connections to public utilities;

(b) If a nonconforming use or the use of a nonconforming building is discontinued for 12 consecutive months, it is no longer permitted and any future use of the building shall conform with the appropriate provisions contained in ss. NR 116.12, 116.13 and 116.14;

(c) No modification or addition to any nonconforming building or any building with a nonconforming use, which over the life of the building would exceed 50% of its present equalized assessed value, may be allowed unless the entire building is permanently changed to a conforming building with a conforming use in compliance with the applicable requirements of this chapter; and

(d) If any nonconforming building or any building with a nonconforming use is destroyed or is so badly damaged that it cannot be practically restored, it cannot be replaced, reconstructed or rebuilt unless the provisions of ss. NR 116.12, 116.13 and 116.14 are met. For the purpose of this subsection, restoration is deemed impracticable where the total cost of such restoration would exceed 50% of the present equalized assessed value of the building.

**(2) FLOODWAY AREAS.** (a) No modifications or addition to any nonconforming building or any building with a nonconforming use in a floodway area may be allowed, unless such modification or addition has been granted by permit, special exception, conditional use or variance and meets all of the requirements of sub. (1) and the following criteria:

1. The modification or addition to a building may not increase the amount of obstruction to flood flows; and

2. Any addition to a building shall be floodproofed in accordance with the requirements of s. NR 116.16, by means other than the use of fill, to the flood protection elevation.

(b) No new private sewage system, or addition to an existing private sewage system, may be allowed in a floodway area. Any maintenance, repair or replacement of a private sewage system in a floodway area shall meet the applicable requirements of all municipal ordinances and ch. Comm 83.

(c) No new well, or modifications to an existing well, which is used to obtain water for ultimate human consumption may be allowed in a floodway area. Any maintenance, repair or replacement of an existing well in a floodway area shall meet the applicable requirements of all municipal ordinances and chs. NR 811 and 812.

**(3) FLOODFRINGE AREAS.** (a) Except as provided in par. (b) or (c), no modification or addition to any nonconforming building or any building with a nonconforming use in the floodfringe area may be allowed unless such modification or addition has been granted by permit, special exception, conditional use or variance and the modification or addition is placed on fill or is floodproofed in compliance with the applicable regulations contained s. NR 116.13 (2).

(b) If compliance with the fill or floodproofing provisions of par. (a) would result in unnecessary hardship, and only if the building will not be used for human habitation and will not be associated with a high flood damage potential, the county board of adjustment or the city or village board of appeals, using the procedures established in s. NR 116.21 (4), may grant a variance for modifications or additions which are protected to elevations lower than the flood protection elevation if:

1. Human lives will not be endangered;
2. Water or private sewage systems will not be installed;
3. Flood depths will not exceed 2 feet;
4. Flood velocities will not exceed 2 feet per second; and
5. The building will not be used for storage of materials described in s. NR 116.13 (6).

(c) An addition to an existing room in a nonconforming building or a building with a nonconforming use may be allowed in a floodfringe area on a one time basis only if:

1. The addition has been granted by permit, special exception, conditional use or variance;
2. The addition does not exceed 60 square feet in area; and
3. The addition, in combination with other modifications or additions to the building, does not exceed 50% of the present equalized assessed value of the building.

(d) All new private sewage systems, or additions to, maintenance, repair or replacement of a private sewage system, in a floodfringe area shall meet the applicable requirements of all municipal ordinances and ch. Comm 83.

(e) All new wells, or additions to, replacement, repair or maintenance of a well, in a floodfringe area shall meet the applicable provisions of the floodplain zoning ordinance and chs. NR 811 and 812.

**(4) SHALLOW DEPTH FLOODING AREA.** No structural repairs, modifications or additions to an existing building, the cost of which exceeds, over the life of the existing building, 50% of its present equalized assessed value, may be allowed in a shallow depth flooding area unless the entire building is permanently changed to conform with the standards prescribed in s. NR 116.14 (1).

**(5) FLOOD STORAGE AREA.** No structural repairs, modifications or additions to an existing building, the cost of which exceeds, over the life of the existing building, 50% of its present equalized assessed value, may be allowed in a flood storage area unless the entire building is permanently changed to conform with the standards prescribed in s. NR 116.14 (2).

**(6) COASTAL FLOODPLAIN AREA.** No structural repairs, modifications or additions to an existing building, the cost of which exceeds, over the life of the existing building, 50% of its present equalized assessed value, may be allowed in a coastal floodplain area unless the entire building is permanently changed to conform with the standards prescribed in s. NR 116.14 (3).

**(7) MUNICIPAL RESPONSIBILITIES.** (a) Municipal floodplain zoning ordinances shall regulate nonconforming uses and nonconforming buildings in a manner consistent with this section and the applicable state statutes. These regulations shall apply to the modification or addition of any building or to the extension of the use of any building or premises which was lawful before the passage of the floodplain zoning ordinance or any amendment thereto.

(b) As permit applications are received for modifications or additions to nonconforming buildings in the floodplain, municipalities shall develop a list of those nonconforming buildings, their present equalized assessed value and a list of the costs of those activities associated with changes to those buildings enumerated in sub. (2) (a) or (3) (a), (b) and (c).

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86; correction in (2) (c) and (3) (e) made under s. 13.93 (2m) (b) 7., Stats., Register, September, 1995, No.

477; correction in (1) (intro.) was made under s. 13.93 (2m) (b) 7., Stats., Register July 2001, No. 547.

**NR 116.16 Floodproofing.** (1) GENERAL STANDARDS. When floodproofing measures are required by either a municipal floodplain zoning ordinance or some other regulation which incorporates by reference the floodproofing requirements of this chapter, such measures shall be designed to withstand the flood depths, pressures, velocities, impact and uplift forces and other factors associated with the regional flood, to assure that the structures are watertight and completely dry to the flood protection elevation without human intervention during flooding.

(2) CERTIFICATION. (a) Whenever floodproofing measures are required, a registered professional engineer or architect shall certify that the following floodproofing measures will be utilized, where appropriate, and are adequate to withstand the flood depths, pressures, velocities, impact and uplift forces and other factors associated with the regional flood:

1. Anchorage of structures, or addition of mass or weight to structures, to prevent flotation.
2. Reinforcement of walls and floors to resist rupture or collapse caused by water pressures or floating debris.
3. Construction of wells, water supply systems and waste treatment systems so as to prevent the entrance of flood waters into such systems.
4. Subsurface drainage systems to relieve external pressures on foundation walls and basement floors.
5. Cutoff valves on sewer lines or the elimination of gravity flow basement drains.
6. Placement of essential utilities above the flood protection elevation.

(b) Whenever floodproofing measures are required, a permit, special exception, conditional use or variance may not be issued until the certification required in par. (a) is submitted to the municipal zoning administrator.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86.

**NR 116.17 Levees, floodwalls and channel improvements.** (1) GENERAL. The following standards shall apply to municipal floodplain zoning regulations for areas landward of levees, floodwalls and channel improvements.

(2) LEVEES OR FLOODWALLS. (a) A levee or floodwall shall be considered adequate if all of the following criteria and the requirements of par. (b) are met:

1. The minimum top elevation of the levee or floodwall shall be calculated using whichever of the following provides the greater protection from floods:

a. The profile of the regional flood with that regional flood confined riverward of the proposed levee or floodwall, plus 3 feet of freeboard; or

b. The standard project flood and/or the 500 year flood confined riverward of the proposed levee or floodwall.

c. Exceptions to the standards in subd. 1. a. and b. may be granted by the department on a case-by-case basis for levees and floodwalls not used to protect human life.

2. U.S. army corps of engineers standards for design and construction of levees and floodwalls shall be the minimum standard for levees and floodwalls.

3. Interior drainage shall be provided using designated ponding areas, pumps or other similar means, in accordance with U.S. army corps of engineers standards.

4. An emergency action plan, concurred in by the division of emergency government and approved by the department, shall be in effect for the area behind the levee or floodwall that would be in the floodplain without the proposed levee or floodwall in place.

5. The municipality shall provide notification to all persons receiving construction permits in the area behind the proposed

levee or floodwall that would be in the floodplain without the proposed levee or floodwall in place that they are in an area protected by a levee or floodwall which is subject to flooding if the levee or floodwall is overtopped.

6. The levee or floodwall shall be annually inspected and certified, by a professional engineer registered in Wisconsin, that the levee or floodwall meets the standards in subds. 1. to 5. Annual reports of the inspection and certification shall be sent to the department for review.

7. The department reviews and approves the material submitted under subds. 1. to 5.

(b) No obstruction to flood flows caused by construction of levees or floodwalls may be allowed unless amendments are made to the floodway lines, regional flood profiles, floodplain zoning maps and floodplain zoning ordinances in accordance with the provisions of ss. NR 116.11, 116.12 (3) and 116.21 (6). Calculations of the effect of the levee or floodwall on regional flood heights shall compare existing conditions with the condition of the regional flood confined riverward of the proposed levee or floodwall.

(c) Floodplain areas protected by the adequate levee or floodwall shall be designated as flood fringe but may be regulated as areas outside of the floodplain unless the department determines that the levee or floodwall is no longer adequate.

(3) INADEQUATE LEVEES OR FLOODWALLS. If the department determines that an existing levee or floodwall does not meet the criteria of sub. (2) (a), all floodplain areas landward of the inadequate levee or floodwall shall be regulated as if the levee or floodwall does not exist.

(4) CHANNEL IMPROVEMENTS. (a) Channel improvements shall be considered to reduce flooding potential provided the following criteria are met:

1. The channel improvements are designed and constructed in accordance with acceptable standards.

2. Velocities resulting from the channel improvements will not increase downstream erosion.

3. An engineer registered in Wisconsin certifies that the criteria in subds. 1. and 2. are met.

4. The municipality submits a plan detailing how the channel improvements will be maintained.

5. The department reviews and approves the material submitted under subds. 1. to 4.

6. The necessary permits under ch. 30, Stats., are obtained for construction of the channel improvements.

(b) Floodplain areas adjacent to channel improvements approved under par. (a) shall be zoned and regulated in accordance with the reduced regional flood profile provided the channel improvements are maintained in accordance with the plan submitted by the municipality under par. (a) 4.

(c) If the department determines that the channel improvements are not being maintained in accordance with the plan submitted by the municipality under par. (a) 4., the floodplain zoning map shall be amended to reflect existing channel conditions.

(5) NEW CONSTRUCTION OF LEVEES, FLOODWALLS OR CHANNEL IMPROVEMENTS. No anticipated changes in the flood protection elevations or floodplain and floodway limits, based upon proposed levees, floodwalls or channel improvements, may be effective until the improvements are constructed, operative and approved by the department.

(6) AGRICULTURAL LEVEES. (a) Municipalities may permit agricultural levees which meet all applicable provisions of this subsection. For purposes of this subsection, an agricultural levee is one constructed to protect agricultural lands from floods that occur on a 10-year frequency or more often.

(b) Agricultural levees shall be designed and constructed so that the levees will overtop upon the occurrence of the 10-year frequency flood.

(c) Increases in flood heights in the area upstream from agricultural levees may not exceed 0.5 foot (15 cm.) for the 10-year frequency flood. No increase is allowed unless the written consent of the affected property owners is obtained prior to construction.

(d) Agricultural levees shall be designed and constructed to be overtopped and to cause no increase in flood elevation during the occurrence of the regional flood.

(e) The municipality's zoning administrator shall notify the department of the construction of any agricultural levees.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86.

**NR 116.18 Procedures for changing floodplain, floodway, floodfringe, shallow depth flooding, flood storage and coastal floodplain district limits.** Municipalities may not change the limits of the floodplain or the floodway, floodfringe, shallow depth flooding, flood storage or the coastal floodplain district without first amending the applicable portions of the water surface profiles, floodplain zoning maps and floodplain zoning ordinances in accordance with s. NR 116.11 and securing department approval for such amendments. No area in the floodplain may be removed from the floodplain unless it can be shown that the area has been filled to the flood protection elevation and is contiguous to other lands lying outside the floodplain.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86.

**NR 116.19 Appointment and duties of zoning administrator, zoning agency and board of adjustment or appeals.** (1) **APPOINTMENT POWERS.** Municipalities shall provide in their floodplain zoning ordinances for the appointment of appropriate boards and staff, and the development of necessary policies and procedures, to administer the floodplain zoning ordinance in accordance with this section. If a zoning administrator, zoning agency or a board of adjustment or appeals has already been appointed to administer a zoning ordinance adopted under s. 59.69, 59.692 or 62.23 (7), Stats., these officials shall also administer the floodplain zoning ordinance.

(2) **ZONING ADMINISTRATOR.** A zoning administrator and such additional staff as needed shall be appointed and given the duties and powers to:

(a) Advise applicants of the provisions of the floodplain zoning ordinance and provide assistance in preparing permit applications and appeals;

(b) Issue permits and inspect properties for compliance with the floodplain zoning ordinance;

(c) Keep the official records of, and any changes to, all water surface profiles, floodplain zoning maps, floodplain zoning ordinances, nonconforming buildings and nonconforming uses and the official records of all permit applications, permits, appeals, variances and amendments related to the floodplain zoning ordinance;

(d) Submit copies of any required data, special exception permits, variances, amendments, case-by-case analyses, annual reports and any other required information to the department. An annual summary showing only the number and types of zoning actions taken by the municipality shall be submitted to the department by the zoning administrator; and

(e) Investigate, prepare reports and report violations of the floodplain zoning ordinance to the appropriate municipal committee and to the municipal attorney, corporation counsel or district attorney, with copies to the appropriate department district office.

(3) **ZONING AGENCY.** (a) A zoning agency shall be appointed and given the duties and powers to:

1. Oversee the functions of the office of the zoning administrator;

2. Review and act upon all proposed amendments to the floodplain zoning ordinance; and

3. Maintain a complete public record of all its proceedings.

(b) In some cases, a zoning agency may act in place of the board of adjustment or appeals, if so designated by the municipality, to hear and decide special exception or conditional use permits. However, a zoning agency cannot act upon requests for a variance.

(4) **BOARD OF ADJUSTMENT OR APPEALS.** A board of adjustment, in counties or board of appeals, in cities and villages shall be appointed and given the duties and powers in accordance with ss. 59.694 and 62.23 (7), Stats., to:

(a) Hear and decide appeals where there is an alleged error in any interpretation, order, requirement, decision, or determination made by the zoning administrator in the enforcement or administration of the floodplain zoning ordinance;

(b) Hear and decide all requested special exceptions or conditional uses to the terms of the floodplain zoning ordinance, using the criteria found in s. NR 116.21 (3);

(c) Hear and decide all requested variances to the terms of the floodplain zoning ordinance;

(d) Maintain a complete public record of all its proceedings; and

(e) Make all of its decisions within a reasonable time and in the form of a written statement, resolution or order signed by the secretary. The zoning administrator may not be the secretary of the board of adjustment or appeals.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86; corrections in (1) and (4) (intro.) were made under s. 13.93 (2m) (b) 7., Stats., Register July 2001, No. 547.

**NR 116.20 Municipal responsibilities.** (1) **JURISDICTION.** (a) The floodplain zoning ordinance shall require authorization through permits, special exceptions, variances and amendments, from the appropriate municipality for any of the following activities in floodplain areas:

1. Any new use or change in use of land or water.

2. Any new use or change in use of a structure or building.

(b) The activities in par. (a) include, but are not limited to, the following:

1. Any structure, building or accessory structure or building which is to be erected, constructed, reconstructed, altered or moved into the floodplain area;

2. Any alteration, addition, modification, rebuilding or replacement of any existing structure, building or accessory structure or building;

3. Any deposition of materials for any purpose; and

4. Any sewage disposal system or water supply facilities, both public and private.

(2) **ADMINISTRATIVE PROCEDURES.** The floodplain zoning ordinance shall establish administrative procedures for obtaining all required permits, special exceptions, conditional uses, variances, appeals and amendments. These procedures shall provide for the following:

(a) An application shall be made to the zoning administrator for all zoning permits, special exceptions, conditional uses, variances and amendments. The application shall include, but not be limited to, the following information:

1. The name and address of the applicant and property owner;

2. The legal description of the property and the type of proposed use;

3. A map plan which accurately locates or describes the proposal with respect to the floodway and floodplain, and which provides all pertinent information such as the fill dimensions and elevations, building floor elevations, and floodproofing data; and

4. For all subdivision proposals, as defined in s. 236.02 (8), Stats., and for other land divisions or proposed developments

which have a total area that exceeds 5 acres or which have an estimated cost that exceeds \$125,000, the applicant shall provide all of the computations which are required to show the effect of the proposal on flood heights, velocities and floodplain storage. The municipality may transmit this data to the department for review. For the purpose of this paragraph, the cost of the proposal shall be estimated to include all structural development and landscaping improvements such as access and road development, electrical and plumbing services development, and other similar items, which can be reasonably applied to the overall development costs, but may not include the cost of the land.

(b) For land divisions and proposed developments which do not exceed 5 acres in area and which have an estimated cost of \$125,000 or less, if the regional flood profile has not been determined and the conditions in par. (a) 4. are not present, the municipality may transmit the information required in par. (a) 1. to 3. to the department for a determination of flood protection elevations and for an evaluation of the effects of the proposal upon flood heights, velocities and floodplain storage. Additional information, such as valley cross sections or survey data, may be required by the department when needed to determine the effects of the proposal; this information shall then be obtained from the applicant by the municipality. The department shall advise the municipality of its findings within 30 days after receiving the data, or within 30 days after receiving all requested additional information. Failure of the department to respond within 30 days shall be construed to mean it has no comment.

(c) Public hearings shall be held by municipalities on all special exceptions, conditional uses, variances, appeals and amendments. Proper notice shall be given of such public hearings in accordance with appropriate statutes; mailed notice of such public hearings and a copy of the application shall be given to the appropriate department district office. Such notice shall specify the time and place of the hearing and give sufficient details concerning the subject matter of the public hearing.

(d) A copy of all decisions granting or denying a special exception, conditional use, variance or amendment to the floodplain zoning ordinance shall be mailed within 10 days to the appropriate department district office.

**(3) CERTIFICATE OF COMPLIANCE.** No vacant land in the floodplain, and no building hereafter erected, altered or moved into the floodplain, may be occupied or used until the applicant obtains a certificate of compliance from the municipality. Municipalities shall require that the certificate be issued only after the applicant has submitted, prior to occupancy, to the municipal zoning administrator or building inspector a certification by a registered professional engineer or architect that the floodproofing requirements in the floodplain zoning ordinance have been met and a certification by a registered professional engineer, architect or registered land surveyor that the following are in compliance with the floodplain zoning ordinance:

- (a) The elevation of fill; and
- (b) The elevation of the lowest floor including basement floor.

**(4) ENFORCEMENT AND PENALTIES.** Each floodplain zoning ordinance shall include a separate section establishing appropriate penalties for violations of various provisions of the ordinance. An appropriate penalty, as reflected in s. 87.30 (2), Stats., may include an injunction for abatement or removal, and a fine or forfeiture. Any violation of the provisions of the floodplain zoning ordinance shall be investigated and reported to the appropriate municipal attorney, corporation counsel or district attorney for the prosecution of the violator.

**(5) PUBLIC INFORMATION.** (a) Where useful, marks on bridges or buildings or other markers may be set to show the depth of inundation during the regional flood at appropriate locations within the floodplain.

(b) All available information in the form of maps, engineering data and regulations shall be readily available and should be widely distributed.

(c) All legal descriptions of property in the floodplain should include information relative to the floodplain zoning classification when such property is transferred.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86.

**NR 116.21 Permits, special exceptions, conditional uses, variances, appeals and amendments.** **(1) GENERAL.** The floodplain zoning ordinance shall list the specific types of uses which may be authorized by permit, special exception or conditional use, indicating the particular authorization required for each type of use. These authorizations may not be contrary to the provisions of this chapter or other state law, or to applicable municipal ordinances.

**(2) PERMITS.** Municipalities shall issue permits for uses in floodplain areas which are in compliance with the applicable provisions for permitted uses in their floodplain zoning ordinances. These permits shall be issued by the zoning administrator.

**(3) SPECIAL EXCEPTIONS OR CONDITIONAL USES.** Any use requiring a special exception or conditional use permit may be allowed only upon application to the zoning administrator, public hearing and issuance of a special exception or conditional use permit by the board of adjustment or appeals or, where appropriate, the zoning agency. When determining whether to grant or deny a special exception or conditional use permit, the board of adjustment or appeals shall assure compliance of the proposal with:

- (a) The provisions of the floodplain zoning ordinance;
- (b) The purpose and objective of floodplain management, as enumerated in s. NR 116.01; and
- (c) Local land use plans and other land use controls.

**(4) VARIANCES.** Any prohibited deviation from the dimensional standards of the floodplain zoning ordinance, for which a permit has been denied by the zoning administrator, may be allowed only upon written request for a variance submitted to the zoning administrator, public hearing and issuance of a variance by the board of adjustment or appeals. The board has been submitted and a public hearing has been held, authorize in specific cases such a variance from the dimensional standards of the ordinance which will not be contrary to the public interest if, owing to special conditions and the adoption of the floodplain zoning ordinance, a literal enforcement of the provisions of the ordinance will result in unnecessary hardship. A variance:

- (a) Shall be consistent with the spirit of the floodplain zoning ordinance.
- (b) May not permit a lower degree of flood protection in the floodplain area than the flood protection elevation.
- (c) May not be granted for a use that is common to a group of adjacent lots or premises. In such a case, the zoning ordinance would have to be amended through proper amendment procedures.

(d) May not be granted unless it is shown that the variance will not be contrary to the public interest and will not be damaging to the rights of other persons or property values in the area.

(e) May not be granted for actions which require an amendment to the floodplain zoning ordinance as described in sub. (6).

(f) May not have the effect of granting, increasing or extending a use of property which is prohibited in that zoning district by the floodplain zoning ordinance.

(g) May not be granted solely on the basis of economic gain or loss.

(h) May not be granted for a self-created hardship.

**(5) APPEALS.** Appeals to the board of adjustment or appeals or zoning agency may be taken by any party aggrieved by any decision of the zoning administrator. Requests for special exception

or conditional use permits may be considered as appeals. Such appeals shall specify the grounds thereof and be filed within a reasonable period of time with the zoning administrator. The floodplain zoning ordinance shall set forth the time limitations for filing appeals. The zoning administrator shall forthwith transmit to the board of adjustment or appeals or zoning agency all records of the matter concerning the appeal. After public hearing, the board's or agency's decision shall either affirm, reverse, vary or modify in whole or in part the order, requirement, decision or determination appealed from. All appeal decisions shall conform to the applicable provisions of the floodplain zoning ordinance. The board's or agency's decision may be appealed to the courts in accordance with applicable state law.

**(6) AMENDMENTS.** (a) Official amendments are required for any changes in the official floodway lines, water surface profiles, floodplain zoning maps or floodplain zoning ordinance. Actions which require an amendment by the municipality include, but are not limited to, the following:

1. Any change in the official floodway lines or in the boundary of the floodplain area;
2. Settlement of conflicts between the water surface profiles and floodplain zoning maps, in accordance with s. NR 116.10;
3. Any fill, encroachment or development into the floodway which will result in obstructing flood flows; and
4. Any upgrading of floodplain zoning ordinances in accordance with s. NR 116.05.

(b) Amendments may be made upon petition of any interested party in accordance with the appropriate provisions of ss. 59.69 (3) and (4) and 62.23 (7) (d), Stats.

(c) All proposed amendments shall be referred to the appropriate municipal zoning agency for a public hearing and recommendation to the governing body which shall approve or disapprove the proposed amendment.

(d) Amendments of official floodway lines shall meet the provisions of s. NR 116.11.

(e) No amendments to official floodway lines, water surface profiles, floodplain zoning maps or floodplain zoning ordinances may become effective until they have been approved by the department.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86; corrections in (6) (b) were made under s. 13.93 (2m) (b) 7., Stats., Register July 2001, No. 547.

**NR 116.22 Department duties.** **(1) ASSISTANCE TO MUNICIPALITIES.** The department shall provide assistance to municipalities in the development, adoption and administration of their official floodway lines, water surface profiles, floodplain zoning maps and floodplain zoning ordinances. Such assistance shall include, but not be limited to, the activities described in this subsection.

(a) The department shall establish and upgrade standards for local floodplain zoning ordinances.

(b) When requested by a municipality, the department shall evaluate flood hazards and the effects of proposals in floodplain areas upon water surface profiles, floodway limits and flood velocities as provided in s. NR 116.20 (2) (b). Requests for such evaluations shall come from a municipality, not from individual property owners or applicants. Information needed to conduct the evaluation shall be provided by the applicant or the municipality.

(c) The department shall work with federal agencies to provide technical guidance and computer facilities for certain hydrologic, hydraulic and engineering studies. Generally, the necessary topographic and other base maps and field surveys will be the responsibility of the municipality.

(d) The department shall establish priorities for engineering studies to be done in municipalities by federal agencies.

(e) The department shall respond to the requests from municipalities to provide them assistance in enforcement actions against violations of their floodplain zoning ordinances.

(f) The department shall respond to requests from municipalities for assistance in developing hydraulic and official floodway lines.

(g) The department shall review all studies. No studies may be used until department approval has been secured.

**(2) REVIEW AND APPROVAL OF FLOODPLAIN ZONING ORDINANCES.** The department shall issue a certificate of approval to a municipality upon a finding that the adopted floodplain zoning ordinance meets the provisions of this chapter. The department review of floodplain zoning ordinances may include, but is not limited to, determinations that:

(a) The most accurate maps were utilized in delineating the floodplains;

(b) All floodplain zoning maps and floodplain zoning ordinances are compatible with all other shoreland regulations, existing zoning and land use plans;

(c) All water surface profiles, floodplain zoning maps and floodplain zoning ordinances are compatible with those of the adjoining municipalities on the same streams or rivers; and

(d) The floodway and floodplain lines shown on the floodplain zoning maps are accurate.

**(3) MONITORING.** The department shall monitor the administration and enforcement of floodplain zoning ordinances in municipalities. In so doing, the department may:

(a) Establish and upgrade standards for the review and evaluation of the administration and enforcement of floodplain zoning ordinances.

(b) Review and approve or deny proposed amendments to water surface profiles, floodplain zoning maps and floodplain zoning ordinances.

(c) Review floodplain zoning permits and all special exceptions, conditional uses, variances and amendments to floodplain zoning ordinances, to ensure in each instance compliance with the applicable floodplain zoning ordinances and this chapter.

(d) Review state and federal projects to assure that public works proposals in floodplains are compatible with local floodplain zoning ordinances and the provisions of this chapter.

**(4) ENFORCEMENT.** The department shall assist municipalities in achieving a consistent statewide approach to floodplain enforcement. This assistance may include, but is not limited to, the measures listed in this subsection.

(a) The department may request that corrective action be taken by the municipality where construction is occurring in a floodplain area which is either contrary to an existing floodplain zoning ordinance or which would be contrary to an approved floodplain zoning ordinance. Such corrective action may include, where appropriate, the following:

1. Active prosecution of violations of the floodplain zoning ordinance;

2. An injunction to stop construction until an adequate floodplain zoning ordinance can be adopted and approved by the department; and

3. Adoption of an adequate floodplain zoning ordinance and submittal to the appropriate department district office for approval.

(b) The department may seek an injunction to stop construction in the floodplain area until an adequate floodplain zoning ordinance is adopted and approved.

(c) The department may seek an injunction to stop construction in the floodplain area when the construction would violate an approved floodplain zoning ordinance or the provisions of this chapter.

(d) The department may seek adoption of an adequate floodplain zoning ordinance in accordance with the provisions of s. 87.30 (1), Stats., or an upgrading of a floodplain zoning ordinance in accordance with s. NR 116.05.

(e) The department may seek an injunction for abatement or removal or a fine or both for any violation of a floodplain zoning ordinance in accordance with s. 87.30 (2), Stats.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86.