

**6115.0231 SPECIFIC STANDARDS; BRIDGES, CULVERTS, INTAKES, AND OUTFALLS.**

Subpart 1. **Specific requirements.** In addition to the general standards in part 6115.0230, subparts 2 to 5, specific requirements for bridges, culverts, intakes, outfalls, and other crossings of public waters shall be met according to this part.

Subp. 2. **Bridges, culverts, and other crossings.** The construction, reconstruction, or relocation of all bridges, culverts, or other crossings over public waters shall be approved if all of the following criteria are met:

A. the hydraulic capacity of the structure is established by a competent technical study. The sizing shall not be based solely on the size of existing upstream and downstream structures. If a state or federal floodplain information study exists for the area, or a United States Geological Survey gaging station is located nearby on the stream, the hydraulics of the proposed bridge/culvert design must be consistent with these data. The department may waive this requirement if:

(1) the department has performed a hydraulic study based upon available information and reasonable assumptions;

(2) the department has made a field investigation of the project site; and

(3) the project will not cause flood-related damages or problems for upstream or downstream interests;

B. new crossings and replacements of existing crossings comply with local floodplain management ordinances, with provisions of part 6120.5700, subpart 4, item A, and with the following:

(1) for new crossings, no approach fill for a crossing shall encroach upon a community designated floodway. When a floodway has not been designated or when a floodplain management ordinance has not been adopted, increases in flood stage in the regional flood of up to one-half of one foot shall be approved if they will not materially increase flood damage potential. Additional increases may be permitted if: a field investigation and other available data indicate that no significant increase in flood damage potential would occur upstream or downstream, and any increases in flood stage are reflected in the floodplain boundaries and flood protection elevation adopted in the local floodplain management ordinance;

(2) for replacement of existing crossings, if the existing crossing has a swellhead of one-half of one foot or less for the regional flood, the replacement crossing shall comply with the provisions for new crossings in subitem (1). If the existing crossing has a swellhead of more than one-half of one foot for the regional flood, stage increases up to the existing swellhead shall be allowed if field investigation and other available data indicate that no significant flood damage potential exists upstream from the crossing based on analysis of data submitted by the applicant. The swellhead for the replacement crossing may exceed the existing swellhead if it complies with the provisions for new crossings found in subitem (1); and

(3) the decks and approaches to bridges or culverts on major transportation routes and on roads that provide access to development at urban densities shall be no lower than two feet below

the flood protection elevation as defined in part 6120.5700, subpart 5, unless it can be shown that alternative routes or access can be provided during the regional flood;

C. the structure provides for game fish movement, unless the structure is intended to impede rough fish movement or the stream has negligible fisheries value;

D. the structure will not obstruct reasonable public navigation. For bridges over public watercourses, three feet above the calculated 50-year flood stage ordinarily satisfies navigational clearance requirements. For bridges over public waterbasins or public water wetlands, and all culverts, three feet of clearance above the ordinary high water level ordinarily satisfies navigational requirements;

E. any project proposed near an existing or proposed segment of the state trails system should be consistent therewith; and

F. bridges and walkways to islands comply with the following:

(1) bridges and walkways over watercourses to islands must be designed to cause negligible backwater effects during floods and must be securely anchored or otherwise capable of withstanding the dynamic forces of flowing water, ice, and debris; and

(2) permits for reconstruction of existing bridges or walkways over public waterbasins and public water wetlands to islands that are intended to provide public access shall be issued only if the existing crossing provides the only existing land access to the island, there is existing development on the island, and the design provides for any public navigational needs and is consistent with the natural surroundings.

Subp. 3. **Intakes and outfalls.** The construction, reconstruction, or relocation of all water intake and sewer outfall structures placed in public waters shall be approved if all of the following criteria are met:

A. adequate attention is given to methods of screening the structure from view as much as possible from the surface of the public water through the use of existing vegetation or new plantings;

B. the project is not detrimental to public values, including but not limited to fish and wildlife habitat, navigation, water supply, water quality, or stormwater retention;

C. no site conditions will require frequent future disruption of the beds of public waters;

D. adequate precautions are planned during and after construction to prevent silt, soil, and other suspended particles from being discharged into public waters;

E. adjacent to the intake structure, the banks and bed of the public water are protected from erosion and scour by placement of suitable riprap shore protection;

F. the banks are revegetated by seeding and/or sodding;

G. the structure is designed by a professional engineer;

H. for intake structures, excavation is detailed in the application and on design plans. When necessary, a water appropriation permit must be obtained from the department prior to operation of the intake structure. An appropriate sized screen must be used to prevent fish intake; and

I. outfall structure design:

(1) when necessary, incorporates a stilling-basin, surge-basin, energy dissipator, or other device or devices to minimize disturbance and erosion of natural shoreline and bed resulting from peak flows;

(2) when feasible, utilizes discharge to stormwater treatment ponds, artificial stilling or sedimentation basins, or other devices for entrapment of floating trash and litter, sand, silt, debris, and organic matter prior to discharge to public waters; and

(3) when feasible, maximizes use of natural or artificial ponding areas to provide water retention and storage for the reduction of peak flows into public waters.

**Statutory Authority:** *MS s 103G.315; 105.415*

**History:** *8 SR 533; 25 SR 143; 27 SR 529*

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