

Notes on Grade B Construction for Waterway Crossings
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The NESC requires that Grade B construction be used when a wire crosses or overhangs a “navigable” waterway requiring a waterway crossing permit (NESC 241C1b(3)).

The definition of “navigable” as adopted by the US at the national level (and presumably the definition assumed by the NESC since it is a national code) is defined by the Army Corp of Engineers in 33 CFR 329 as follows:

Section 329.4 - General definition

Navigable waters of the United States are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

The definition of “navigable” used at the national level focuses more on waterways used for the purpose of transporting interstate or foreign commerce (large shipping vessels, high shipping traffic). In this sense, these waterways have a very similar function to limited access highways (interstates and major State Highways), which also require Grade B construction.

This document from the Army Corp of Engineer defines the waterways in Wisconsin that are defined as “navigable” based on the national definition. They are often referred to as “Section 10” crossings:

<https://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/navigable%20waters%20wi.pdf>

Wisconsin adopts the NESC as its State Electrical Code, Volume 1 in PSC 114 but does not specify if the definition applied to Grade B water crossings is based on the national definition of navigable or the State of Wisconsin one. The State of Wisconsin defines ALL waterways capable of floating the smallest personal watercraft (canoes, kayaks, etc.) as navigable. This is done under the Public Trust Doctrine, mainly for the purpose of keeping the State’s waterways open for public use. The DNR requires permits for all utility work that is done around or over wetlands, streams or any other bodies of water. This is done mostly to ensure the protection of the wetlands and waterways. Neither the State’s definition of navigable waterway nor the DNR’s permit requirements are related to a waterway’s “navigability” from a commercial shipping perspective.

Historically, WPS has only utilized Grade B construction over waterways where they were classified as a Section 10 crossing (navigable per the national definition, require an Army Corp. crossing permit). I feel this is in line with the intent of the NESC. I do not believe the State of Wisconsin intends that every single overhead utility crossing of a marsh, creek, or small river that MAY be accessible to someone in a kayak be built to Grade B construction standards. Therefore, I recommend we only build water crossings to Grade B standards when it is a Section 10 crossing requiring an Army Corp of Engineering Permit to cross that body of water.

Additional Information:

PSC 114.232(c) states “Water areas not suitable for sailboating include portions of meandering rivers, streams and canals where the widest width does not exceed 50 m (165 feet) within any unobstructed, 1.6–km (1–mile) long segment that includes the crossing or where the width does not exceed 50 m (165 feet) within the surface area of any segment less than 1.6–km (1–mile) long on the line–crossing side of an overwater obstruction. All rivers, streams, canals and creeks as defined by the Wisconsin department of natural resources (DNR) which meet this definition are considered not suitable for sailing.

Exception: Regardless of width, the clearance over a canal, river, or stream normally used to provide access for sailboats to a larger body of water shall be the same as that required for water areas suitable for sailboating on the larger body of water. This also applies where a sailboat may be transported across such water with its mast extended”