

TESTIMONY OF

**Aaron Carranza, Division Director, Regulatory Division**

Chairman Patten, and members of the Senate Energy and Natural Resources Committee, I am Aaron Carranza the Regulatory Division Director of the Department of Water Resources. I'm here today to provide testimony in support of SB 2118.

This bill is an effort by the Department of Water Resources (Department) to enhance and optimize services provided.

The first North Dakota Century Code (N.D.C.C.) for method of highway construction for surface water (now termed "stream crossings") and flow determination were in 1945 (House Bill 269) and 1951 (House Bill 756). At the time, only through the language "...petition of the majority of landowners of the area affected..." would the Department be obligated to provide a flow rate analysis for a requested crossing. Once a flow rate analysis was provided by the Department, it was the "duty" of the county or state road authority to provide a culvert of sufficient capacity.

In 1999, House Bill 1310 codified that "Stream Crossing Standards" prepared by the Department of Transportation and the Department be used as the minimum design guidance for all public road entities in the state. This legislation also expanded which entities may request the Department provide a flow rate analysis compliant with the Stream Crossing Standards. It added county commissioners, townships supervisors, and water resource boards to the existing petition of the majority of landowners of the area affected.

In review of Department and legislative records of the 1999 legislation, the expansion of requesting entities for Department action was associated with ongoing litigation in Wells County at the time and the general concern of the uniform application of the newly referenced Stream Crossing Standards. The Department of Transportation and the Department further advanced the uniform application of the Stream Crossing Standards by jointly creating North Dakota Administrative Code (N.D.A.C) chapter 89-14-01 in 2001. The same Stream Crossing Standards are still the applicable rules today, as described in the attached fact sheet prepared by the Department in 2022.

Typically, the Department's workload and the prioritization of active permitting requests results in an extended processing time for these calculations.

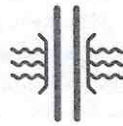
In practice, likely due to the need to take any Department-provided stream crossing flow to a qualified individual to design a code-compliant crossing, the Department receives on average a handful of such requests per year. After more than 20 years of Stream Crossing Standards determinations and uniform application of N.D.A.C. ch. 89-14-10 at the Township, County, and

# STREAM CROSSINGS

## FACTS & FAQs

### WHAT IS A...

#### STREAM CROSSING



According to North Dakota Administrative Code (N.D.A.C.) section 89-14-01-02, a "stream crossing means an opening to permit the flow of water under, adjacent to, or because of a highway."

#### HIGHWAY



According to North Dakota Century Code (N.D.C.C.) section 24-01-01.1(22), a "highway, street, or road" is "a general term denoting a public way for purposes of vehicular travel, including the entire area within the right of way. A highway in a rural area may be called a 'road', while a highway in an urban area may be called a 'street'."

#### STREAM CROSSING DETERMINATION



A stream crossing determination is a formal determination of flow (i.e., discharge) provided by the Department of Water Resources (DWR) upon request from an eligible party under N.D.C.C. section 24-03-08.



# DWR STREAM CROSSING DETERMINATIONS

## WHO CAN REQUEST A "STREAM CROSSING DETERMINATION" AND HOW?

According to N.D.C.C. section 24-03-08, the following parties may request a stream crossing determination:

- Board of county commissioners
- Township supervisors
- A water resource board
- A petition of the majority of landowners of the area affected

The request can be submitted to the DWR by filling out a [Stream Crossing Determination Request form \(SFN 61885\)](#).

## WHAT INFORMATION WILL I GET IF I REQUEST AN DWR STREAM CROSSING DETERMINATION?

The requesting party will receive "the design discharge that the crossing is required to carry to meet the stream crossing standards" (see N.D.A.C. section 24-03-08). In other words, the requesting party will receive the minimum flow rate required at the crossing in question and for the particular recurrence interval required in Stream Crossing Standards.

The road authority shall install a culvert or bridge of sufficient capacity upon notification of the stream crossing determination made by the DWR, as described in N.D.C.C. section 24-03-08. The DWR does not recommend or suggest the size or shape opening necessary to meet "sufficient capacity" to convey the identified minimum flow. This is a task left to the road authority.

## HOW DOES THE DWR MAKE A DETERMINATION?

DWR staff will assess the location and determine the best engineering method to calculate the minimum flow rate. Typically, the acceptable engineering practice is to utilize the U.S. Geological Survey's regression equations, which are summarized in [USGS's Scientific Investigations Report 2015-5096](#). DWR staff will use these equations in combination with analyzing the most recent topographic data, typically GIS software and LiDAR data, to delineate a drainage area contributing to the crossing and develop the variables needed for the equations. The DWR

will verify culvert locations via aerial photography investigation. Typically, the DWR will not make a site visit to verify culvert locations unless it would make a substantial difference in the DWR's determination. DWR staff will also identify non-contributing areas from several data sources and decide whether the DWR areas should be included in the drainage area.

## USGS STREAM STATS

DWR staff often use [USGS's Stream Stats](#) when feasible to do an initial approximation of the drainage area. This tool is publicly available online. While this tool provides an approximation of the drainage area and anticipated flow rate, the DWR does not recommend usage of this tool for formal stream crossing studies or determinations.

## OTHER METHODS

There are limitations to using the regression equations to determine a flow rate, so DWR staff may use other hydrology methods to verify the regression equations' results or determine a flow rate.

## IS A ROAD CROSSING EVER CONSIDERED A "DAM?"

Generally, the Department of Water Resources does not regulate highways or stream crossings as "dams" as long as the crossing meets Stream Crossing Standards. However, road authorities should properly place culverts at grade or channel bottom to ensure the crossing acts as an "opening to permit the flow of water" and does not otherwise impound water.

## WHAT ABOUT PRIVATE ROAD STREAM CROSSINGS?

Private road stream crossings are not subject to Stream Crossing Standards. However, any approach crossing within a road right of way must meet Stream Crossing Standards. Additionally, it is recommended that all private roads comply with Stream Crossing Standards so that the road does not act as a dam, as defined in N.D.A.C. section 89-08-01-01, or as an obstruction, as defined in N.D. Century Code section 61-16.1-51.

## WHAT IF I DISAGREE WITH AN DWR STREAM CROSSING DETERMINATION?

DWR stream crossing determinations are considered an "action or decision" by DWR as described in N.D.C.C. section 61-03-22. Any person aggrieved by a stream crossing determination has 30 days to request a DWR hearing on the matter.