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.

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.”

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.’”
WHO, WHAT, WHERE’S ON STREAM CROSSINGS

WHAT ARE “STREAM CROSSING STANDARDS?”

“Stream Crossing Standards” are minimum design standards for road crossings that were developed by the DWR and N.D. Department of Transportation (NDDOT) to further refine the requirements of N.D.C.C. section 24-03-08. In short, Stream Crossing Standards are the minimum design standards for a stream crossing to convey a standard recurrence interval (e.g., 10-year, 15-year, 25-year, and 50-year) flow rate (e.g., cubic feet per second). The “minimum design standards” for a crossing are located in N.D.A.C. chapter 89-14-01.

WHAT IS THE PURPOSE OF STREAM CROSSING STANDARDS?

Stream Crossing Standards were developed in the early 2000s through a cooperative effort between the DWR and NDDOT to ensure reasonable road design requirements for all road authorities regarding stream crossings. Stream Crossing Standards attempted to balance upstream, downstream, and road authority interests with proper roadway design. Stream Crossing Standards were also developed to provide liability protection for road authorities, their contractors, sub contractors, or agents, and any individual, firm, corporation, or limited liability company that installs stream crossings that comply with Stream Crossing Standards.

WHEN SHOULD A CROSSING COMPLY WITH STREAM CROSSING STANDARDS?

Crossings installed before Stream Crossing Standards were adopted are considered “grandfathered” or “legacy” crossings if their construction pre-dated the Stream Crossing Standards design requirements. However, when a crossing is constructed or reconstructed, or when a stream crossing determination is made by the DWR, the new crossing must comply with Stream Crossing Standards. Compliance with Stream Crossing Standards affords a road authority liability protection as described in N.D.C.C. section 24-03-08 and N.D.A.C. section 89-14-01-01. However, enforcing compliance with Stream Crossing Standards is outside of the DWR’s jurisdiction.

HOW DO I DETERMINE A CROSSING SIZE?

The crossing must be designed and installed under the road authority’s supervision to convey the design flow rate within the allowable headwater limitations provided in the Stream Crossing Standards. The crossing design can be highly dependent on the site location and topography, the road authority’s budget, availability of materials and contractors, etc.

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

The request can be submitted to the DWR by filling out a Stream Crossing Determination Request form (SN 61885). 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 use 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 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.

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• The DWR does not provide culvert or bridge sizing services.

• The DWR hydrologic review process incorporates NDDOT’s approach to determinations, which takes a conservative regional approach.

• Site-specific detailed hydraulics modeling and review is beyond the scope of the DWR's determination services.

• Compliance with Stream Crossing Standards provides liability protection to the road authority and others (see N.D.C.C. sections 24-03-06, 24-03-08, and 24-06-26.1). Non-compliance may remove this liability protection.

• Nothing contained in the Stream Crossing Standards is intended to restrict a road authority from providing greater flow capacity in a crossing beyond minimum standards.

• If multiple crossings or an entire watershed is being considered, it may be more beneficial and economical to seek the assistance of a consulting engineer with experience in water resources engineering. They will be able to determine both the flow rate and crossing design necessary to comply with Stream Crossing Standards.

• If requesting a stream crossing determination for a NDDOT stream crossing, the DWR recommends contacting the applicable NDDOT District Engineer before submitting stream crossing request to the DWR.

• Road authorities may request a deviation from Stream Crossing Standards, but such a deviation must be approved by both the DWR and NDDOT. NDDOT has deviation authority over Stream Crossing Standards if it “determines it is appropriate to do so and the crossings are designed under scientific highway construction and engineering standards” (see N.D.A.C. section 89-14-01-06).

MORE INFORMATION

Contact the DWR at (701) 328-4956 or by email at dwrregpermits@nd.gov.

More information is available on the DWR’s "Other Regulations" webpage [website](#).