

**2021 SENATE POLITICAL SUBDIVISIONS**

**SB 2324**

# 2021 SENATE STANDING COMMITTEE MINUTES

## Political Subdivisions Committee Sakakawea, State Capitol

SB 2324  
2/12/2021

A BILL for an Act to amend and reenact section 24-03-08 of the North Dakota Century Code, relating to installation of culverts.
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**Chairman Burckhard** opened the hearing on SB 2324 at 8:59 a.m. Members present: Burckhard, Anderson, Lee, Larson, Kannianen, Oban, Heitkamp.

### Discussion Topics:

- 24-inch culver installation date
- Liability for citizen paid culvert
- Road builder liability
- Good cause language
- Sunset clause
- Existing mandate in century code
- Environmental changes
- Drainage statute
- Township/County official's compliance with century code
- Unfunded mandate

**[8:59] Senator Terry Wanzek**, District 29. Introduced SB 2324, testified in favor #6515, and provided a proposed amendment 21.1016.01001 (testimony #6524 and #6523).

**[9:20] Sue Backer**, Courtenay Citizen. testified in favor #6513.

**[9:30] Doug Zink**, Farmer and Landowner, Foster County. testified in favor #6521.

**[9:42] Kale Van Bruggen**, District Counsel, Foster County Water Resource District. testified in favor #6441.

**[9:47] Aaron Birst**, ND Association of Counties. testified in opposition #6528.

**[10:00] Larry Syverson**, Executive Secretary, Director of Intergovernmental Relations, ND Township Officers Association. testified in opposition #6503.

**[10:04] Drew Courtney**, Farmer, Oakes North Dakota. testified neutral #6510.

### Additional written testimony: (2)

**Jeff Bata**, Farmer, Foster County. Provided written testimony in favor #6273.

**Nick West**, President, North Dakota Association of County Engineers. Provided testimony in opposition #5909.

**Chairman Burckhard** closed the hearing on SB 2324 at 10:08 a.m.

*Patricia Lahr, Committee Clerk*

**Testimony on SB 2324**  
**Senate Political Subs Committee**  
**Senator Terry Wanzek**

Good morning Chairman Burckhard and members of the Senate Political Subdivisions. I'm Terry Wanzek from Jamestown, State Senator representing district 29 in ND Legislature. I am here today to present SB 2324 to your committee and explain why it is before you. I introduced this bill on behalf of a constituent who approached me with a problem. She is here today to share her story with you. Her name is Ms. Sue Backer. I would ask Mr. Chairman that she be able to provide testimony immediately after me as she has a funeral to go back to in Jamestown at 12:30 today.

First before we tell her story, I want to make reference to a handout I gave to each of you from the state engineer. It is a good information piece on stream crossings and stream crossing determinations from the Office of the State Engineer(OSE) and how they work within our ND law. The reason I am sharing this is because it is a critical piece of her story. This handout explains the process Ms Backer went through to get to where we are today.

Ms. Backer brought it to my attention that the law affords her the right to pursue a stream crossing determination, with her local water board's permission or upon petition of the majority of landowners of the area affected or at the request of the board of county commissioners or township supervisors. And then the century code states that "the board of county commissioners, or the board of township supervisors, as the case may be, upon notification of the determination, shall install a culvert or bridge of sufficient capacity". Ms. Backers stream crossing determination revealed, and with the assistance of a private engineering firm there is need for at a minimum, a 30" culvert, where there was an 18" culvert.

Here is her problem. While the law states the political sub shall follow the stream crossing determination, there is no enforcement. Even though Ms. Backer spent thousands of dollars on private engineering analysis and legal fees to establish a reason for an OSE stream determination study and spent 2-3 years making her case, and ultimately prevailing according to the law, there is no enforcement. Her township continued to ignore all her efforts. Matter of fact, having knowledge of all this information I'm sharing, the township ignored it and then placed a new culvert in this specific road last fall with a new culvert, 18".

Mr. Chairman and members of committee, here is where I get upset. This bill did not have to be before you or us if this township authority would have communicated with Ms. Backer. She has expressed to me that she tried numerous times to reach out over the course of her endeavor, only to be ignored. It is the reason why we as legislators get approached every 2 years and have to clarify the law because 5 % of society is obstinate and wont follow the rules. IMO, A little communication from the township authority would have gone a long way in this case.

That brings us to the bill before you. It is an attempt to rectify this situation. Ms. Backers only recourse is to go to court now and spend more dollars. She could have paid for the culvert with the funds she has spent fighting the issue. The bill was hastily introduced as time was running out on me, as I was home quarantining with COVID at the deadline to introduce bills. Ms. Backer and her attorney feel the language in the bill still does not really do much as is. So I prepared amendments and have them here today. I believe the amendments do put more teeth into enforcement. I'll explain the amendments.

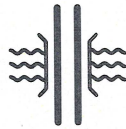
Mr. Chairman and committee members, I realize this is a delicate issue. Anytime you get into the middle of a water issue it gets sticky. I do understand the concern that this bill could become an unfounded mandate burdening counties and townships. I was our township treasure for over 25 years. I know townships have little resources. And I know county budgets are tight. I understand that. I want to work with the political subs that have concerns to find a reasonable mechanism that protects constituents like Ms. Backer without creating a burdensome financial stress on our counties and townships. I want to see more cooperation and communication in solving these issues. Thank you for your time.

# 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

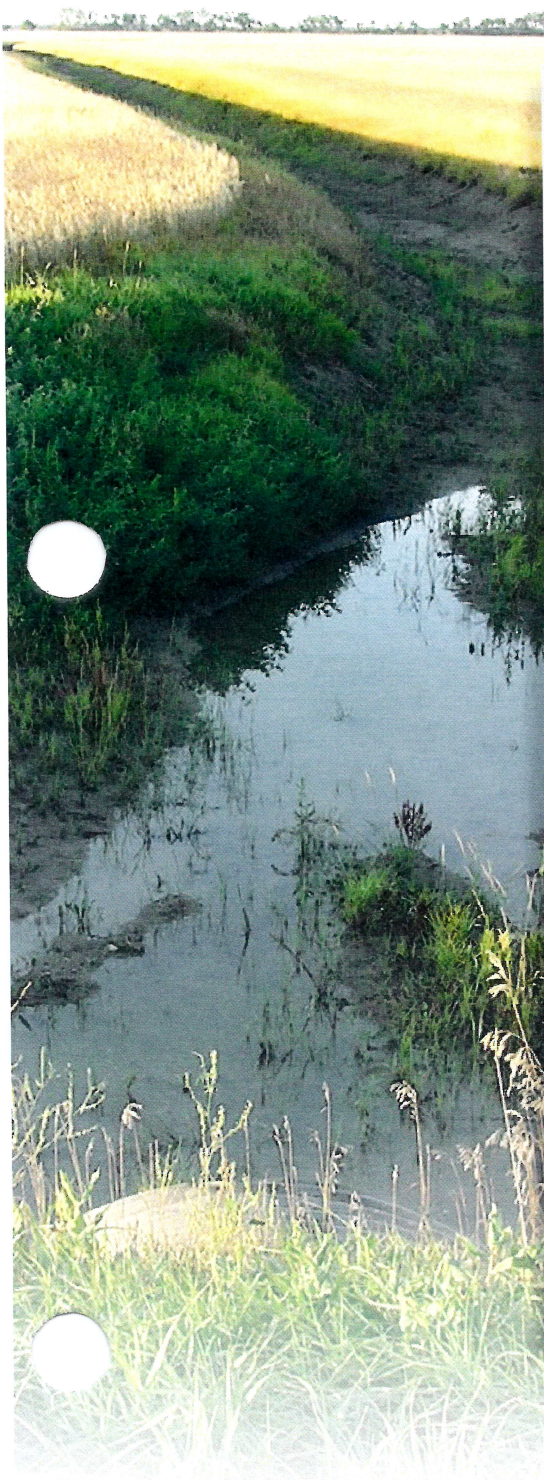


According to North Dakota Century Code (N.D.C.C.) section 24-01-01.1(22), a “highway, street, or road” is “a general term denoting a public way for purposes of vehicular travel, including the entire area within the right of way. A highway in a rural area may be called a ‘road’, while a highway in an 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 Office of the State Engineer (OSE) upon request from an eligible party under N.D.C.C. section 24-03-08.



# WHO, WHAT, WHERE'S ON STREAM CROSSINGS



## WHO HAS JURISDICTION OVER STREAM CROSSINGS?

Generally, the road authority has jurisdiction over culverts, bridges, etc. in their roads, whether that be the township, county, municipal, or state road authority. Water resource districts only have authority over culverts needed to accommodate a "drain." Jurisdiction has been litigated in the North Dakota Supreme Court in several cases. A good resource for discussion on this topic is the "Roadways" section of the North Dakota Water Managers Handbook, which is available from the [North Dakota Water Resource District Association](#).

## WHERE CAN I FIND THE APPLICABLE LAWS REGARDING STREAM CROSSINGS?

N.D.C.C. titles 24 and 61 include the laws directly or indirectly relating to stream crossings, depending on the specific issue. The specific laws generally governing stream crossing determinations include:

- N.D.C.C. section 24-03-06
- N.D.C.C. section 24-03-08
- N.D.C.C. section 24-06-26.1
- N.D.A.C. article 89-14

## WHAT ARE "STREAM CROSSING STANDARDS?"

"Stream Crossing Standards" are minimum design standards for road crossings that were developed by the OSE 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 OSE 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, subcontractors, or agents, and any individual firm, corporation, or limited liability company that installs stream crossings that comply with Stream Crossing Standards.

## WHEN SHOULD A STREAM 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 OSE, 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 OSE'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.



# OSE 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 OSE by filling out a [Stream Crossing Determination Request form \(SFN 61885\)](#).

## WHAT INFORMATION WILL I GET IF I REQUEST AN OSE 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 OSE, as described in N.D.C.C. section 24-03-08. The OSE 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 OSE MAKE A DETERMINATION?

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

## USGS STREAM STATS

OSE 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 OSE 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 OSE 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 State Engineer 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 OSE STREAM CROSSING DETERMINATION?

OSE stream crossing determinations are considered an “action or decision” by the State Engineer 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 State Engineer hearing on the matter.



## OTHER IMPORTANT CONSIDERATIONS

- The OSE does not provide culvert or bridge sizing services.
- The OSE 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 OSE'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 OSE recommends contacting the applicable [NDDOT District Engineer](#) before submitting stream crossing request to the OSE.
- Road authorities may request a deviation from Stream Crossing Standards, but such a deviation must be approved by both the OSE 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 OSE at (701) 328-2752 or by email at [swcregpermits@nd.gov](mailto:swcregpermits@nd.gov).

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

21.1016.01001  
Title.

Prepared by the Legislative Council staff for  
Senator Wanzek  
February 11, 2021

PROPOSED AMENDMENTS TO SENATE BILL NO. 2324

Page 1, line 15, remove the overstrike over "When"

Page 1, line 15, remove "If"

Page 1, line 19, remove "If the state engineer recommends"

Page 1, remove lines 20 and 21

Page 1, line 22, replace "the recommendation, shall install the recommended culvert or bridge." with "If the department, the board of county commissioners, or the board of township supervisors, as the case may be, fails to install a culvert or bridge of sufficient capacity for the design discharge determined by the state engineer within one year after receiving the state engineer's determination, and does not have good cause for failing to do so, a court may award reasonable court costs and attorney's fees to a person who incurred the expenses in an action to enforce this section."

Renumber accordingly



Sixty-seventh  
Legislative Assembly  
of North Dakota

**SENATE BILL NO. 2324**

Introduced by

Senators Wanzek, Conley

Representatives Ostlie, Pollert, Satrom

1 A BILL for an Act to amend and reenact section 24-03-08 of the North Dakota Century Code,  
2 relating to installation of culverts.

3 **BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:**

4 **SECTION 1. AMENDMENT.** Section 24-03-08 of the North Dakota Century Code is  
5 amended and reenacted as follows:

6 **24-03-08. Determinations of surface water flow and appropriate highway**  
7 **construction.**

8 ~~Whenever and wherever~~When a highway under the supervision, control, and jurisdiction of  
9 the department ~~or under the supervision, control, and jurisdiction of the~~ a board of county  
10 commissioners ~~of any county~~, or the board of township supervisors has been or will be  
11 constructed over a watercourse or draw into which flow surface waters from farmlands, the  
12 state engineer, upon petition of the majority of landowners of the area affected or at the request  
13 of the board of county commissioners, township supervisors, or a water resource board, shall  
14 determine as nearly as practicable the design discharge that the crossing is required to carry to  
15 meet the stream crossing standards prepared by the department and the state engineer. ~~When~~If  
16 the determination has been made by the state engineer, the department, the board of county  
17 commissioners, or the board of township supervisors, as the case may be, upon notification of  
18 the determination, shall install a culvert or bridge of sufficient capacity to permit the water to flow  
19 freely and unimpeded through the culvert or under the bridge. ~~If the state engineer recommends~~  
20 ~~a specific size or design for the culvert or bridge, the department, the board of county~~  
21 ~~commissioners, or the board of township supervisors, as the case may be, upon notification of~~  
22 ~~the recommendation, shall install the recommended culvert or bridge.~~If the department, the  
23 board of county commissioners, or the board of township supervisors, as the case may be, fails  
24 to install a culvert or bridge of sufficient capacity for the design discharge determined by the

Sixty-seventh  
Legislative Assembly

1 state engineer within one year after receiving the state engineer's determination, and does not  
2 have good cause for failing to do so, a court may award reasonable court costs and attorney's  
3 fees to a person who incurred the expenses in an action to enforce this section. The  
4 department, county, and township are not liable for any damage to any structure or property  
5 caused by water detained by the highway at the crossing if the highway crossing has been  
6 constructed in accordance with the stream crossing standards prepared by the department and  
7 the state engineer and any recommendations from the state engineer for a specific size or  
8 design for the culvert or bridge.

## Senate Bill 2324

Feb 12, 2021 9 am

- Good morning, I am Sue Backer from Courtenay, ND. We are a farm family. I grew up on the farm that my family is now farming and farming is our livelihood.
- I am here today in regards to Senate Bill 2324. I am in favor of Senate Bill 2324 to amend Century Code 24-03-08, relating to installation of culverts.
- There have been two engineering studies done on our property showing that a larger culvert needs to be installed on a township road and still no action has been taken by our Township Board.
- My family and I are farming the land that I grew up on near Montpelier. This land has been farmed by my family since my grandfather homesteaded in the early 1900. There is a natural waterway that has flowed through this property every spring on its way to the James River since as long as any of us can remember. Usually by summer this waterway is dry. Seven years ago we began noticing that water was backing up along the township road that separates our farm land and our neighbor to the north. Our neighbor also noticed that the water was backing up on our side of the road. Here are some **aerial photos** that we took with our drone showing the conditions. We contacted our local township with our concern but they kept dismissing the problem as just an unusually wet spring, heavy rain runoff etc. and basically kept avoiding the issue. Every year since, the problem continued to get worse as the wet conditions continued and we lost more and more land that we were previously able to crop, yet our neighbor to the north's field conditions did not change drastically due to the wet conditions. We could physically see that the culvert and roadway was holding back the water that was coming through the natural drain. But our township officers told us that they could not put a bigger culvert in because culverts must be smaller the further upstream you get and if the culvert in question was replaced with a bigger culvert then they would need to replace all of the downstream culverts as well. That got us thinking, so we started to trace the waterway upstream and discovered that the upstream culverts were larger than our downstream culvert. We were elated to have found out that there was an explanation why our culvert was no longer handling the flow of water that was coming downstream. But that information did not seem to make a difference to our township board.
- On Aug 14, 2018, we finally filed a complaint of unauthorized construction of a dike or dam with the Stutsman County Water Resource Board. We were told it was a township issue and they do not have any control over a township road. We again contacted the Township in 2019 and they denied there was a problem so we hired Interstate Engineering to conduct a hydrology study (attached) that backed our claim that the current 18" culvert needed to be replaced with at least a 30" culvert to comply with the stream crossing standards. Again they denied our request.
- After even more research we discovered that the township could order their own ND State Engineer Stream Crossing Determination at NO CHARGE. They refused to request the report.
- We then contacted the Stutsman County Water Board and the Stutsman County Commission to help us with this issue and request a ND State Engineer stream crossing determination and was told it is a township issue and the only way we can get action is to hire an attorney at our expense and sue the township, which we did not want to do.
- So in 2019 my mother paid her real estate taxes under protest and it was only then that we got

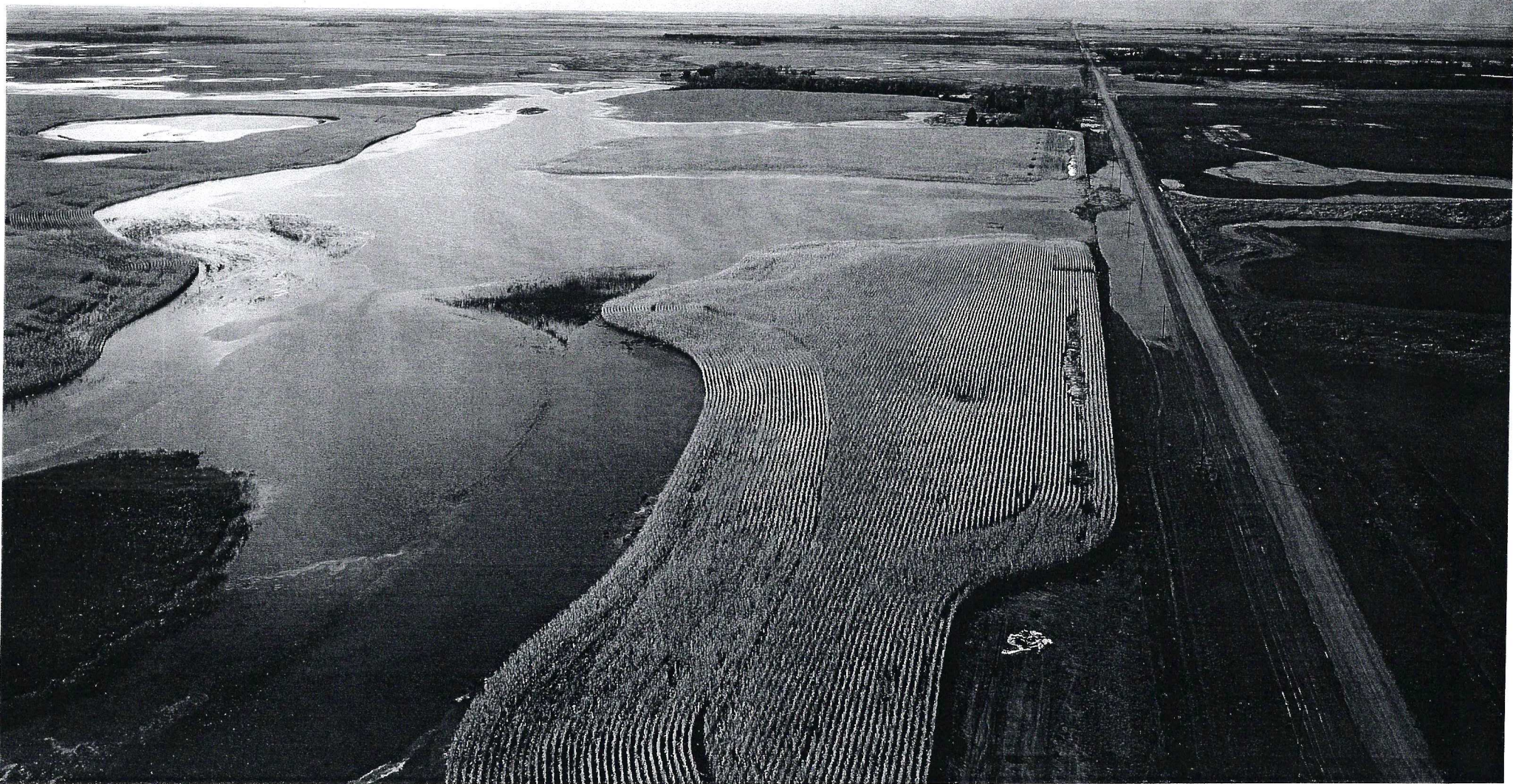
the attention of the Stutsman County Commissioners. They requested the Stutsman County Water Board order a "FREE" stream crossing determination.

- On Feb 10, 2020 the request was made and on September 1, 2020 the Stutsman County Water Board received the determination (Copy of State Engineering Determination attached) stating that a culvert needs to be installed that will carry 46 cfs, or cubic feet of water per second, which coincides with Interstate Engineering's determination. Stutsman County Water Board then forwarded the report to the township citing the Century Code and the township still took no action to correct the problem. In the meantime the township replaced the culvert in question on 8/20/2020 with the same size and not with the required size. I did text the chairman and informed him the state engineer's determination was in review and they had already received the independent study but the township still installed a new incorrect culvert.
- My family has gone through many hoops to try and get a correct size culvert installed to no avail. Not to mention how frustrating this has been.
- We have now hired two attorneys which has cost us money besides paying for our own engineering report and still we have had no action from our township which leaves us no recourse except to sue at our expense. One of my attorneys has told me that the current law rewards the township for compliance but does not punish the township for **non**-compliance, so there is very little incentive for the township to comply with the law, and this makes it expensive to enforce the law against the township. I want the law to be enforceable and not put upon the tax payer to have to enforce the law or at least be able to recoup expenses incurred including attorney fees.
- That is why I am requesting that you support SB 2324 to change the language to make this an enforceable law that actually punishes townships for failing to comply with the law.
- Do you have any questions?
- Thank you for listening. I appreciate your time and consideration.

Apr. April 2000



08 2019



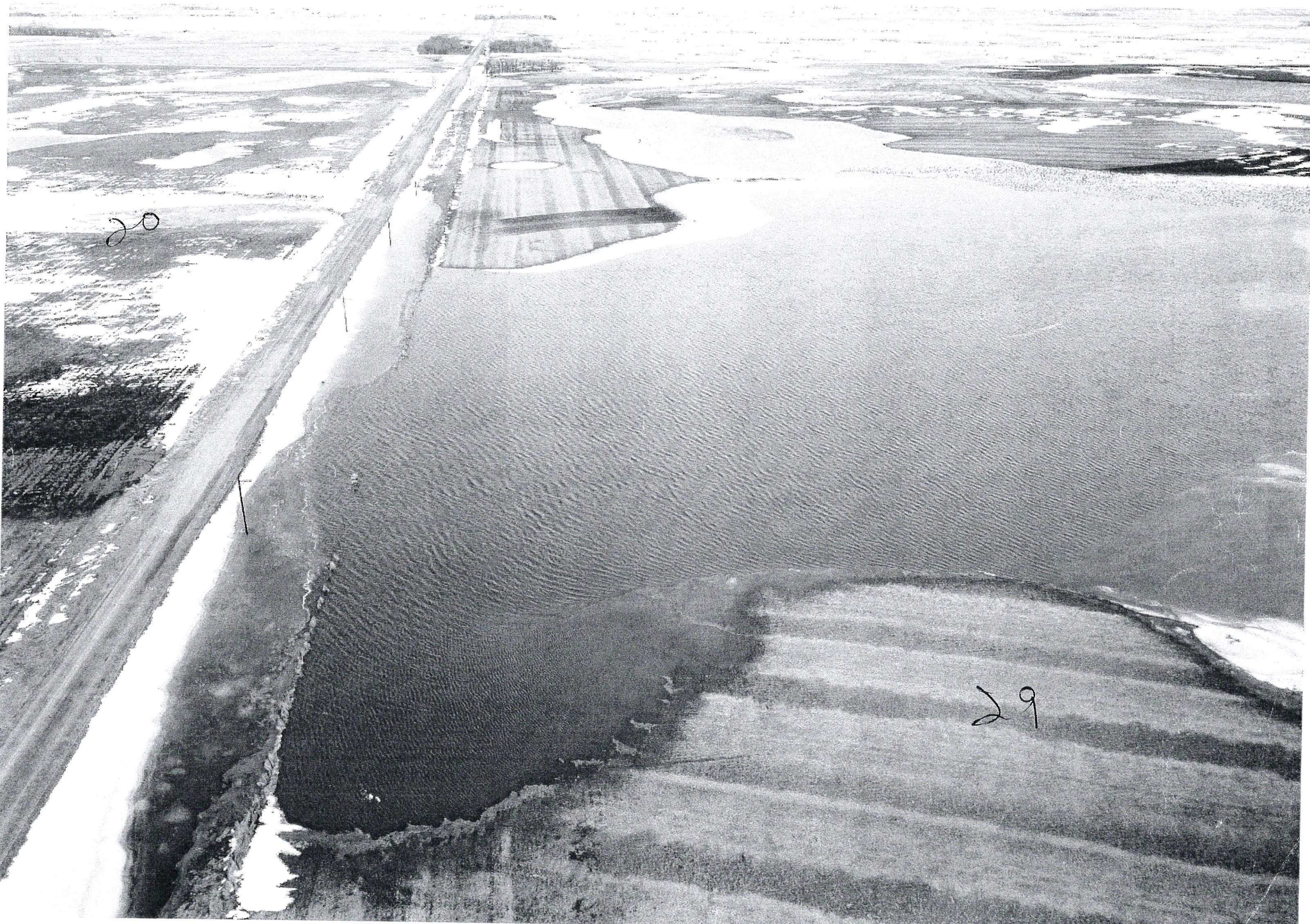
April 2019

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29



April 2019



20

29



Aug 2018



COPY

HYDRAULIC STUDY  
For  
Culvert Recommendation  
Montpelier Township  
In NE 1/4 of NW 1/4 of Section 29, T 137 N, R 63 W.  
Stutsman County, ND  
July, 2019



7/18/19  
Date

Benjamin B. Aaseth  
License No. 10085

Interstate Engineering, Inc.  
Jamestown, North Dakota  
J19-04-090

## I. GENERAL

This hydraulic study has been prepared to investigate the size of structure that would be required to convey the water at a crossing located in the NE 1/4 of NW 1/4 of Section 29, T 137 N, R 63 W, Montpelier Township in Stutsman County, North Dakota. There are no upstream structures that impact this site at the analyzed event year. This site will be designed for a 10-year event, based upon North Dakota Administrative Code 89 for township roads.

The existing pipe onsite has damaged end sections. The upstream end section has a damaged top as well as some rust. The downstream end section is split at the seams.

The existing site has the following characteristics:

- Top of Road = 1489'
- Existing Road Width = 22'
- Tailwater = 10 foot bottom with 10:1 side slopes
- Invert North end = 1484.19'
- Channel elevation near north end = 1484.07'
- Invert South end = 1484.13'
- Channel elevation near south end = 1484.13'
- Lat: 46° 39' 35.23" N Long: 98° 39' 42.12" W

## II. HYDROLOGY

Originally when the quad maps were developed it appeared that this culvert drained a much larger area, since that time there has been some change in flow patterns. The water approximately one-mile south of the culvert located just south of the Section Line, flows primarily easterly thru an existing drainage channel. Originally it appeared that this water flowed north to the culvert in quad maps originally developed. Considering that this crossing is only to be sized for a 10-year event only 5% of the larger drainage flows were considered to flow north based upon aerial drone video and photo graphs that were taken in the spring of 2019. See Appendix B. If all of the area to the south would be considered when sizing the culvert, the size would need to be significantly larger. See sheet 3 for the original drainage area identified with the original quad maps, compared to the drainage used for sizing the culvert on Sheets 1 & 2.

The drainage area for this site was determined, using the USGS Quad Maps, to be approximately 0.95 square miles (approximately 608 acres). This area is shown on Sheets 1 & 2. The drainage basin flows through mainly farmland and wetland areas. The main use of the drainage area is agriculture land.

The discharges at the site were determined utilizing the USGS "Techniques for Estimating Peak-Flow Frequency Relations for North Dakota Streams 1992", which takes into consideration different soil types, vegetation, storage,

slope of the basin, and terrain. The area being studied is in Region C, with slopes of approximately 4 feet per mile.

III. HYDRAULIC ANALYSIS

The FHWA HY-8 program was used in the analysis. The following data has been compiled and utilized to determine a sufficient and appropriate structure at this location.

Channel: Area identified on quad maps

Total Drainage Area: 0.95 square miles

Existing Structure at Site:  
18" Corrugated Steel Pipe

Existing Upstream Structure:  
None or Unknown

Existing downstream Structure:  
24" Corrugated Steel Pipe

Site Characteristics: (Small Drainage + 5% of the larger drainage)

Design (2):	9 cfs
Design (10):	43 cfs
Design (15):	56 cfs
Design (25):	74 cfs
Design (50):	103 cfs
Design (100):	136 cfs
Greatest Flood (500 year):	225 cfs

The structure was sized for 10-year event, restricting the headwater to be the pipe diameter + 2 feet which is based on the North Dakota Stream and Crossing Standards.

IV. STRUCTURE COMPARISON

The following chart analyzes the proposed structure for the crossing of the roadway:

<u>Number of Lines</u>	<u>Structure Type</u>	<u>Total Waterway Opening (sq. ft.)</u>	<u>Allowable Headwater</u>
1	* 30" CSP	4.90	Dia. + 2 feet

\*24" CSP should be installed at this time due to downstream culvert sizes.

*Headwater Comparison*

Flood Event	Flow (cfs)	Headwater Existing (ft) 18" CSP	Headwater Proposed (ft) 30" CSP
2 Year	7	1486.06	1485.76
10 Year	32	1489.05	1488.50
25 Year	55	1489.10	1489.08
<i>Overtops road (cfs)</i>		<i>15.01</i>	<i>46.79</i>

V. CONCLUSION & RECOMMENDATION

The recommendation pipe is a 30" Corrugated Steel Pipe, but considering that the downstream culvert is only 24", this culvert should be installed at only a 24" at this time. This pipe should be installed at the existing inverts. The pipe should be installed with end sections as there is evidence that the existing pipe has been damaged from machinery likely mowing the ditches. If further reports are done with a larger study, all the pipes on this drainage should be analyzed to the James River to create a system that would meet state laws.

As per the North Dakota permit from the USACE, counter sinking is only required when there is a stable stream bed. This stream bed is not stable and therefor no need for counter sinking.

Please call at any time if you have any questions or need any further information.

Ben Aaseth

NORTH  
**Dakota** | State Engineer  
Be Legendary.™

September 1, 2020

Mr. Joel Lees, Chairman  
Stutsman County Water Resource District  
PO Box 1727  
Jamestown, ND 58402-1727,

RE: Stream Crossing Determination - Montpelier Township - Sections 20 and 29

Dear Mr. Lees:

On February 10, 2020, the Office of the State Engineer received a request from the Stutsman County Water Resource District to perform a stream crossing determination for a stream crossing (Crossing) located between Sections 20 and 29, Township 137 North, Range 63 West, Montpelier Township, Stutsman County. The Crossing is located through what is locally known as 52<sup>nd</sup> Street SE, which is classified as an off-system township road.

Our office analyzed the Crossing according to the minimum stream crossing standards outlined in North Dakota Administrative Code (N.D.A.C.) article 89-14, and determined the required design discharge at the Crossing is **46 cfs** (10-year event for a township road). While this is the minimum design standard required for the Crossing, N.D.A.C. section 89-14-01-03 states that there is no restriction on a road authority to provide even greater capacity.

According to N.D.A.C. section 89-14-01-01, anyone who fails to comply with these standards is not entitled to the immunity provided in North Dakota Century Code sections 24-03-06, 24-03-08, or 24-06-26.1.

Please contact me at 701-328-4958 or [hsobrigewitch@nd.gov](mailto:hsobrigewitch@nd.gov) if you have any questions concerning this correspondence.

Sincerely,



Hunter Obrigewitch  
Water Resource Engineer

HO/1348

Cc: Montpelier Township  
Sue Backerman  
John Fiebeger

## TECHNICAL MEMORANDUM

---

DATE: **August 13, 2020**

TO: *JP* John Paczkowski, P.E., State Engineer (Interim)

FROM: *AC* Aaron Carranza, P.E., Director, Regulatory Division  
*ML* Matt Lindsay, P.E., Manager, Engineering and Permitting Section  
*HO* Hunter Obrigewitch, Water Resource Engineer

SUBJECT: **Stream Crossing Determination, Montpelier Township Road**

On February 10, 2020, the Office of the State Engineer (OSE) received a request to perform a stream crossing determination from the Stutsman County Water Resource District. The stream crossing (Crossing) is located between Sections 20 and 29, Township 137 North, Range 63 West, Montpelier Township, Stutsman County. The Crossing is located on an off-system township road locally known as 52<sup>nd</sup> Street SE, between 85<sup>th</sup> and 86<sup>th</sup> Avenue SE. (See Exhibit 1).

Contained within North Dakota Administrative Code § 89-14-01-03, flood frequency requirements are presented for varying stream crossings. The Crossing is located on an off-system township road, thus requiring the passage of a 10-year recurrence interval flow event within allowable headwater limitations.

USGS Scientific Investigations Report 2015-5096 (Report) was used to determine the peak runoff at the Crossing, see Figure 1. The input parameters, required for the Report's hydrologic zone C regression equation, include the drainage area (0.997 square miles), stream length (1.51 miles), and corresponding maximum and minimum basin elevations (1509 feet and 1483 feet, respectively).

Variable	Lower Bound (if applicable)	Value	Upper Bound (if applicable)	Units	Comment
DRNAREA =	0.132 ≤	0.997	≤ 2811.637	square miles	Meets Limitations
ELEVMAX =	N/A	1509	N/A	ft	
MINBELEV =	N/A	1483	N/A	ft	
STREAMLENGTH =	N/A	1.51	N/A	miles	
RUGGED (calculated) =	(STREAMLENGTH/DRNAREA)*(ELEVMAX-MINBELEV)				
	21.309 ≤	40.41	≤ 2264.002	feet per mile	Meets Limitations

From Table 4, Region C, for 2, 5, 10, 25, 50, 100, and 500 year events

$$\begin{aligned} \log Q_{50\%} &= 0.555 + 0.425 \times \log(\text{DRNAREA}) + 0.301 \times \log(\text{RUGGED}) \\ Q_{50\%} &= 10.91 \text{ cu. ft./sec. (CFS)} \\ \\ \log Q_{20\%} &= 0.988 + 0.460 \times \log(\text{DRNAREA}) + 0.296 \times \log(\text{RUGGED}) \\ Q_5 &= 29.03 \text{ cu. ft./sec. (CFS)} \\ \\ \log Q_{10\%} &= 1.187 + 0.476 \times \log(\text{DRNAREA}) + 0.294 \times \log(\text{RUGGED}) \\ Q_{10} &= 45.57 \text{ cu. ft./sec. (CFS)} \\ \\ \log Q_{4\%} &= 1.379 + 0.491 \times \log(\text{DRNAREA}) + 0.292 \times \log(\text{RUGGED}) \\ Q_{25} &= 70.38 \text{ cu. ft./sec. (CFS)} \\ \\ \log Q_{2\%} &= 1.493 + 0.500 \times \log(\text{DRNAREA}) + 0.291 \times \log(\text{RUGGED}) \\ Q_{50} &= 91.17 \text{ cu. ft./sec. (CFS)} \\ \\ \log Q_{1\%} &= 1.591 + 0.507 \times \log(\text{DRNAREA}) + 0.290 \times \log(\text{RUGGED}) \\ Q_{100} &= 113.82 \text{ cu. ft./sec. (CFS)} \\ \\ \log Q_{0.2\%} &= 1.769 + 0.520 \times \log(\text{DRNAREA}) + 0.287 \times \log(\text{RUGGED}) \\ Q_{500} &= 169.58 \text{ cu. ft./sec. (CFS)} \end{aligned}$$

This Location Can Expect To Get:
2 Year Event, in CFS, Q= 11
5 Year Event, in CFS, Q= 30
10 Year Event, in CFS, Q= 46
25 Year Event, in CFS, Q= 71
50 Year Event, in CFS, Q= 92
100 Year Event, in CFS, Q= 114
500 Year Event, in CFS, Q= 170

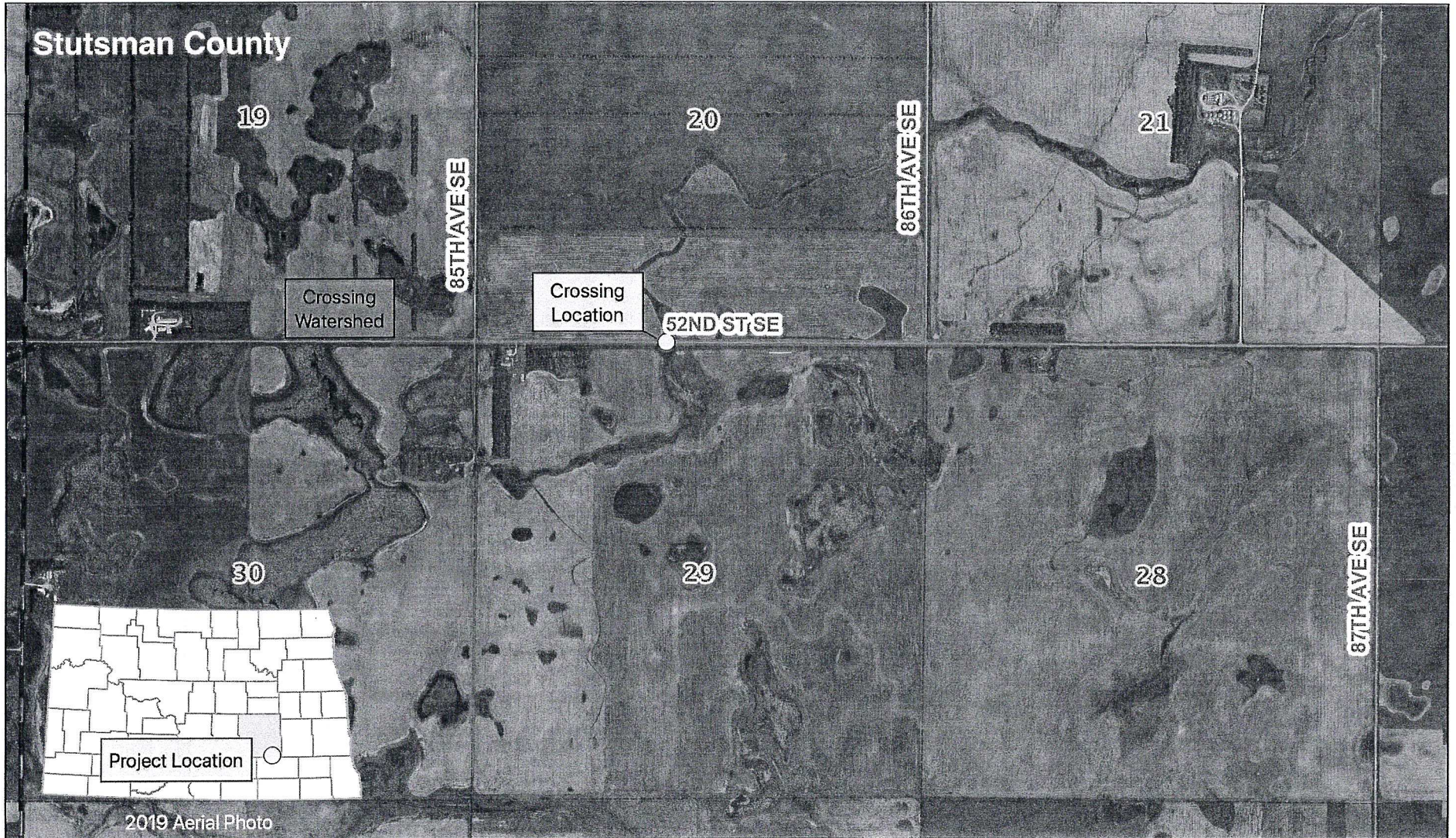
**Figure 1: OSE Regression Calculations for Crossing**

Drainage area and maximum and minimum basin elevations were delineated utilizing elevation data from the 2012 James River Basin Phase 1 LiDAR collect. Burnlines were added to the LiDAR where culverts may be so that the flow is accurately represented during delineation. The N.D. Risk Assessment MapService was used to evaluate if the waterbodies in Section 30 and the watercourse or drain immediately south of Section 29 and located in the N ½ of Sections 31 and 32, are contributing areas. After considering the 10-year event, those areas were determined to be non-contributing areas to the watershed. The stream length variable, which is the sum of all mapped streams within the watershed, was determined using the USGS hydrography 24k streams data. The Report's regression equation provided the value for the 10-year recurrence interval and determined to be 46 cfs.

**Recommendation**

Based on the available information and my analysis, **I recommend that the State Engineer determine the 10-year recurrence interval discharge at the Crossing to be 46 CFS.**





Date: 8/4/2020  
Prepared by: CWN

### Exhibit 1 - Stream Crossing Determination



Between Sections 20 and 29, T137N, R63W, Stutsman County

**Testimony by Doug Zink  
Foster County Water Resource District Vice Chair  
Before the Senate Political Subdivisions Committee  
In Favor of SB 2324**

**February 12, 2021**

Chairman Burckhard, Vice Chairman Anderson, and members of the Senate Political Subdivisions Committee, my name is Doug Zink. I am a farmer and landowner in Foster County, and Vice Chair of the Foster County Water Resource District. I am testifying today in support of SB 2324, and to provide you of examples that show why the current statute needs your help.

First, I want to acknowledge that you have a difficult task at hand: balancing the interests of private property owners with the interests of the public road authorities. The right management of water is necessary to accommodate frequent flooding, prevent damage to roads, bridges, and other infrastructure, all while ensuring property rights are protected from unreasonable flooding.

Second, I'd like to point out some aspects of current law. The Department of Transportation, county boards, and township boards, all acting as their respective road authorities' roles, have sole power over and responsibility for culverts through their roadways. The only exception is for culverts accommodating legal assessment drains.

North Dakota law has always required road authorities to design roads so as to permit the watershed that encounters the roadway to cross in a reasonable amount of time without overflowing onto upstream, adjacent land. The courts have said that this is what the constitution requires, unless the road authority buys a flowage easement from the landowner.

In 1953, the legislature put this requirement in statute and adopted Century Code section 24-03-06. In 1999, the legislature delegated authority to the Department of Transportation and State Water Commission to develop standards for calculating the reasonable discharge at road crossings – called, “the stream crossing standards.” The standards provide road authorities with certainty that, if they follow the standard, they will be protected from liability for damages caused at the crossing to adjacent landowners. The legislature made a deal with road authorities: if you follow the stream crossing standard, we will protect you from liability.

Current law allows a majority of landowners affected or the local water board to request the State Engineer conduct a stream crossing study and provide the discharge rate to the road authority. This discharge rate can be used by an engineer to calculate the appropriate culvert size. The very statute this bill seeks to amend (24-03-08) already states that “upon notification of the determination, [the road authority] shall install a culvert or bridge of sufficient capacity to permit the water to flow freely and unimpeded through the culvert or under the bridge.”

Unfortunately, the road authority is not following the current law. I have some examples to share with you in my home county.

As I said, balancing the interests of the public road authority, limited budgets for roadway infrastructure, and private property rights is always a challenge. I believe the intent behind SB 2324 is not to ask you to change the current law, but to strengthen it.

SB 2324 could be improved even more:

First, on Line 15, do not change the word "When" to "If." The word "If" implies that the State Engineer may elect when and when not to do a crossing determination.

Second, similar to current statute provisions for condemnation law, a party who has to bring legal action to enforce the current law should be entitled to reasonable attorneys' fees. In order to balance the public's budget interests, I propose an amendment to the bill that allows recovery of attorneys' fees upon successful enforcement of this statute if the road authority fails to install a culvert or bridge of sufficient capacity within one-year of notification.

"The department, county, or township's failure to install a culvert or a bridge of sufficient capacity within one-year of notification of the determination shall be considered a willful violation of this section, and the court shall award a party the reasonable expenses of maintaining an action to enforce this section against the department, county, or township, including reasonable attorneys' fees.

Thank you, and I stand for questions from the Committee.

**Testimony by Kale R. Van Bruggen  
Counsel for the Foster County Water Resource District**

**Before the Senate Political Subdivisions Committee  
In Favor of SB 2324**

**February 12, 2021**

Chairman Burckhard, Vice Chairman Anderson, and members of the Senate Political Subdivisions Committee, I represent the Foster County Water Resource District. Our Vice Chairman, Mr. Doug Zink, plans to testify in support of SB 2324. I am familiar with the bill and I am available to assist Vice Chairman Zink, and to answer any questions the Committee might have of the Foster County Water Resource District. Thank you for your consideration of the Foster County Water Resource District's concerns regarding this bill.

## Testimony to the Senate Political Subdivisions

February 12, 2021

Thank you Chairman Burckhard and Committee Members, for the opportunity to provide testimony on SB 2324. My name is Aaron Birst and I represent the North Dakota Association of Counties which is in opposition to this bill.

This bill contains a simple change. However, this bill is a **Major** shift in public policy. To be clear, if this bill would become law you will have shifted budget (and ultimately property tax levy authority) from duly elected local officials to an unelected State official.

As you know, within North Dakota's thousands of miles of road networks, we have thousands if not tens of thousands of bridges and culverts. Those road networks have been built over multiple generations with many factors going into those decisions. Local road authorities have had to balance many factors including traffic counts, road size, material costs, Federal and State support, budget considerations, environmental impacts and water flow to name a few. Those decisions will have impacts beyond a singular calendar year.

Additionally, when those decisions were made they were done with the best understanding of the current conditions. Conditions can change. Dry cycles can become wet cycles or vice-versa. Also, changes brought on by human activity can alter previously understood conditions.

Drainage of wetlands, drain tiling, cultivation of previously natural grasslands can also change waterflows to name a few. In other words, what may have been a properly sized culvert may over time become obsolete.

Under this bill a simply engineering study looking **EXCLUSIVELY** at present water flows would **REQUIRE** Counties and Townships to expend money without regard to their financial situation.

Meaning this bill would force Counties and Townships to shift money from their priorities to suit the State Engineer's recommendation. This bill also does not address when a legitimate debate exists between competing stream studies. The State Engineer's determination is final.

Water law is complex. However, North Dakota has always had an engrafted reasonableness standard when it comes to drainage. As the North Dakota Supreme Court has repeatedly made clear for close to seventy years, "political subdivision have no duty to provide "perfect"

drainage." See Little v. Burleigh County, 82 N.W.2d 603 (ND 1957) Even more specifically the Supreme Court recognized there exists "an implied standard of reasonableness in applying N.D.C.C. §§ 24-03-06 and 24-03-08." See Fandrich v. Wells County, 2000 ND 181.

Passage of this bill would overturn well settled law which would result in unreasonable shifting of taxing authority from elected officials to appointed officials.

Thank you.



**North Dakota Township Officers Association**  
*Promoting basic Grassroots Government!*

Larry A Syverson, Executive Secretary  
465-150<sup>th</sup> Ave NE  
Mayville ND 58257-9011  
(701)430-1735  
larry.ndtoa@gmail.com

**February 12, 2021**

**Senate Political Subdivisions Committee**

**To oppose SB 2324**

Good morning Chairman Burckhard and members of the Senate Political Subdivisions Committee. I am Larry Syverson, the Executive Secretary of the North Dakota Township Officers Association. NDTOA represents the nearly 6,000 Township Officers that serve 1,317 organized ND Townships.

Nick West the Grand Forks County Engineer has submitted testimony expressing his concern that SB 2324 would be an unfunded mandate on the counties. Our concerns for townships are the same; if you add townships to Nick's text he has very well stated our position.

NDTOA opposes SB 2324 as an unfunded mandate, and unless a way can be found to address the cost, I must respectfully ask that you give it a do not pass recommendation

Thank you, Chairman Burckhard and committee members; that concludes my prepared statement; I will try to answer any questions you may have.

February 12, 2021

Drew Courtney  
9053 103 Ave SE  
Oakes, ND 58474  
701-490-0824

Regarding SB 2324

Chairman Burckhard and members of the Senate Political Subdivisions Committee,

My name is Drew Courtney and I farm by Oakes. Thank you for the opportunity to testify on SB 2324. Today I am going to explain two reasons why I have great concerns with SB 2324 in its form as introduced.

The first concern I have is a potential mandate from the state causing a township to spend money on a project for which they may not have funding. If it is deemed necessary for a township to install a culvert, I believe a funding mechanism from the state should be in place. Many townships in the state are running on slim margins and this bill could place a large financial burden on them.

Another scenario causing concern is the detriment of a mandated culvert to a farmer who has implemented good farming practices by moving water through the use of drain tile and has gained control of the sub surface drainage. If a culvert is sought out by Farmer A, who has done zero subsurface water management, to move water under a road and into Farmer B's field, and a culvert is mandated, a culvert could increase the water flow to an area where Farmer B implemented good farming practices. These practices include moving water through the use of drain tile causing gained control of the sub surface drainage. If Farmer A has remained complacent in their water mitigation practices, Farmer B, who has invested large amounts of money into land improvements, could be penalized by the mandated culvert.

Thank you for the opportunity to testify on SB 2324. I would request amendments to help address these concerns. Feel free to contact me with questions.

Sincerely,

Drew Courtney



Jeff Bata

8385 1<sup>st</sup> st se

Kensal, ND 58455

701-320-3054

netloss2@yahoo.com

Testimony on Senate Bill # 2324 Culverts

I am a farmer in Foster County, SE of Carrington along the East side of the James River. I recommend two amendments to the bill. Striking If on line 15 on Page 1, and leaving When as it was before. Delete Page 1, lines 19-22 and replace it with The department ,county, or township's failure to install a culvert or bridge of sufficient capacity within one-year of notification of the determination shall be considered a willful violation of this section, and the court shall award a party the reasonable expenses of maintaining an action to enforce this section against the department, county, or township, including reasonable attorneys' fees. As it is currently in the Century Code WE LANDOWNERS, have no recourse but to go to court and litigate the damages. But that costs Probably \$30,000.00, and not a for sure thing to WIN! So spending \$30,000.00 with no guarantee of winning for damages of \$6,000.00 to \$8,000.00 in Property ,in some years like last year, is just is not FEASIBLE!! My property is on the James River, in 2009 an old bridge (Clark Bridge) was overtopped with flood water. Bridge was damaged to be closed, UNSAFE, and unrepairable! FEMA was involved and the County had its OWN engineering firm do a hydraulic report on the River Crossing to take the bridge out and replace it with ONE 10 Foot Culvert. They did not do a Stream Crossing Study by the state! It The old Bridge was 50 feet long, with the distance of 70 Feet from bank to bank under the bridge. Needless to say the ONE 10 Foot culvert creates a big problem of flooding on my land! Every Spring my 77 acres of River Bottom Hayland floods, backs up into my field. It now takes a very long time into June before it dries up. In 2019 that fall with Sept. record rainfall and Oct. 8 Snowstorm it completely flooded out. Water topped over road. I never have taken my bales home until October. Never got them home because of flood. Water stayed all winter, spring, and even into summer. Killed off the grass. I made 33 bales on the 77 acres this past summer. On average every year I get 150 to 210 bales. Never before has it been this bad. It seems to me the WE LANDOWNERS just have no protection, just only go to court and spend an enormous amount of money in lawyer fees! I have also included some engineering reports and stream crossing study. I WOULD RECOMMEND PASSING OF THIS BILL.

Thank you for your time

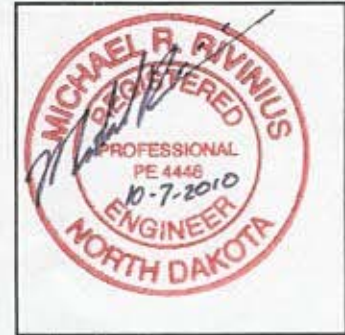
**HYDRAULICS ANALYSIS**

**TO:** FEMA  
Foster County Commission

**FROM:** Michael R. Rivinius, P.E.  
Wold Engineering, P.C.

**DATE:** October 7, 2010

**RE:** Foster County - Application Ref No. FRBRO1C  
Hart Bridge, Br. #16-122-16.0  
Sec 22, T145N, R64W



**I. PURPOSE**

The purpose of this memo is to evaluate a replacement option that will provide a crossing that has a 15-year headwater that closely matches the existing conditions and meets the headwater limitations set forth in ND Century Code 89-14-01-05. The Hart Bridge, BR 16-122-16.0, located at Section 22, Township 145N, Range 64W, see Figure 1 below. This bridge was damaged during the 2009 spring flood event.

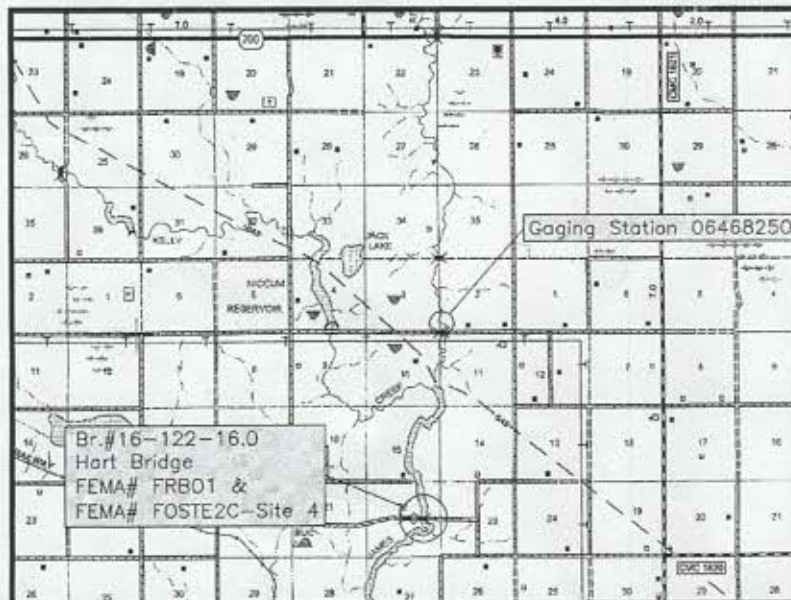


Figure 1 – Location Map



## II. HYDROLOGY

James River is a part of the Missouri River Basin and is in Hydrologic Region C. It originates in Wells County in central North Dakota and flows generally in an easterly direction until it turns south near the Grace City, ND. The James River has a large flood plain and the drainage area is composed of numerous noncontributing sloughs and small lakes.

There is approximately 649 square miles of contributing drainage area above this site, which was determined using U.S.G.S. topographic maps, County maps and gaging station data. The channel slope is approximately 3.2 feet per mile, which was derived from U.S.G.S. topographic maps.

A flood frequency analysis was completed for gaging station 06468250, which was then used in Equation (2) from the U.S.G.S. W-RI Report 92-4020 to determine the flood frequency discharge values shown in Table 1 below, see appendix 1 for calculations.

This roadway is located on an township road in Foster County; therefore the new culverts will be evaluated for a 15-year discharge frequency.

**Table 1 - Design Frequencies**

Frequency (Years)	Discharge (cfs)
2	937
10	3,175
15*	5,658
25	7,112
50	10,019
100	14,157
500	19,024

\* Design Frequency

## III. EXISTING CONDITIONS

The existing structure is a one span steel truss bridge supported on concrete abutments. This bridge was built in 1905 with no documented major reconstruction. The overall length is 50 feet with a clear roadway width of 17.7 feet. There is approximately 1" of dirt and gravel on the deck. The structure condition is considered in serious condition. The bridge is currently closed to traffic due to damage sustained from the 2009 spring flood event.

#### IV. HYDRAULIC EVALUATION

The existing structure is on a straight alignment on an east-west roadway with a zero degree skew. The upstream channel flows from the north where it meets the existing structure at a zero (0) degree skew. HEC-RAS was used for the hydraulic analysis of the existing bridge, existing site without a road or bridge and the alternate evaluation.

The criteria and assumptions used to evaluate the existing bridge and new combination of culverts were as follows:

- 1.) The new combinations of culverts were analyzed using a 15-year design discharge.
- 2.) The head water for the 15-year design discharge shall not exceed 1.5 pipe diameters as per ND Century Code 89-14-01-05.
- 3.) A field survey of the upstream and downstream channel sections were used in the analysis.
- 4.) The channel slope at the structure was assumed to be 0.0013ft/ft with a Manning's n-value of 0.35.
- 5.) The overflow elevation for the existing bridge was based on the existing road profile with an overtopping elevation of 999.89.
- 6.) The overflow elevation for alternate #1 was based on an overflow section that is 1.89 feet lower than the existing roadway low point. The length of the overflow section is 200 feet long. The overtopping elevation is 998.00'.

The analysis shows that the existing roadway elevation is below the 10-year headwater elevation for this site without a bridge or roadway in place. This indicates that the existing roadway would require a grade raise in order to meet the 15-year design discharge, without overtopping the roadway. The grade raise creates concerns for the upstream residents due to the potential increase in headwater for high flood events. Analysis of the existing bridge shows that the roadway is overtopped between the 2-year and 5-year event.

One corrugated steel pipe (CSP) was evaluated for replacement at this site, see Table 2 below. This culvert was analyzed using HEC-RAS with the inlet elevation set at 12.79' below the existing bridge deck and the outlet elevation set at 12.99' below the existing bridge deck. These inverts are approximately 1.0 feet below the natural stream channel to allow siltation to cover the rock riprap and bottom of the new culvert, which will recreate the natural stream bottom and mitigate any wetland loss. **The results show that a single 10' CSP with a 200' overflow section will handle the 15-year discharge with a headwater stage that closely matches the existing conditions, see Table 2 below.**

throughout, I estimate that the flow expected to be experienced at the Crossing for an event of the same return interval to be 0.9 percent larger.

**Crossing flow:**

The summation of the peak flow at Gage and Kelly Creek and then applying the multiplier 1.009 will approximate the peak flow observed at the Crossing. The Gage 15-year was 7,448 cfs and the Kelly Creek 15-year was 1,136 cfs. This yields 8,584 cfs and then applying the multiplier yields 8,661 cfs.

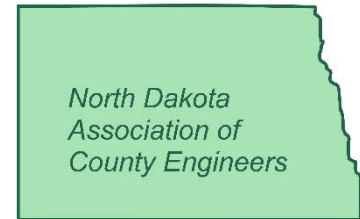
**Recommendation**

Based on the available information and my analysis, **I recommend that the State Engineer determine the 15-year recurrence interval discharge at the Crossing to be 8,661 CFS.**

Testimony Prepared for the  
**Senate Political Subdivisions Committee**

Friday, February 12, 2021

By: Nick West PE, NDACE President & Grand Forks County Engineer



**RE: Senate Bill 2324**

Chairman Burckhard and members of the Senate Political Subdivisions Committee, thank you for the opportunity to provide testimony in opposition of SB 2324 on behalf of the North Dakota Association of County Engineers.

Every time a crossing (culvert or bridge) is replaced or worked on it is potentially controversial. There is a constant tug of war between the upstream and downstream landowners. The upstream folks want a bigger crossing, while the downstream folks want a smaller crossing, and the local subdivision (sub) is stuck in the middle. The middle common ground is the NDCC and the resident knowledge of the local sub people, with the support (not mandates) of the State Engineers (SE) office on very controversial projects.

Grand Forks County unfortunately is all too familiar with water problems, we live and breathe water controversy every day, and thus are fluent in our current water laws. When a situation becomes extra difficult and common ground can't be found locally, the State Engineers office is called in to help. The current existing balance of authority between the local subs and state office works well as-is and does not warrant change. We consider the SE office a great partner and asset.

Bottom line, this bill would transfer power from the local sub to the State, in addition it would create an unfunded mandate. The SE office could force their way into the pocket book of the local sub. Having one Government entity tell another Government entity how to spend their funds is never good. For example, the SE office could arbitrarily mandate the County add another culvert or replace an existing culvert with a bigger one, against the County's opinion, even if the culvert already meets the stream crossing standards. A larger culvert is always more expensive. The County would have no authority to rebut that, the County would have no choice but to pay for a more expensive culvert and maintain a larger more expensive culvert in the future too. This philosophy could create a

negative working relationship between local subs and the SE office. It would also create significantly more work for the SE office. Is the SE office capable and willing to absorb the additional task?

Here's one scenario: The standard on a County major collector road is a 25-year event. If a crossing only passes a 20-year event, then the County should pay to install a culvert that meets a 25-year event. If the current culvert passes a 25-year event and the SE determines a larger culvert is needed, then the SE office should pay for the larger culvert.

I will admit, there are times when it is prudent to install a crossing that exceeds the stream crossing standards, but those situations need to be thought out, designed carefully and work in conjunction with the SE and Local Sub, which is how it's done currently; not mandated by the SE office.

We believe the bill, as written, has an unfavorable fiscal impact to counties. Please consider the following additional language to address this issue: "The cost of a crossing to meet the stream crossing standards shall be borne by the crossings owner. If a crossing is determined that its hydraulic capacity needs to exceed the stream crossing standards, the entity making such determination shall pay for the additional cost. The manner in which the construction is done shall be borne by the crossings owner".

We would recommend a "do not pass" vote on this bill, however if this bill proceeds further we recommend adding language to address the unfunded mandate.

Please feel free to reach out to me with any questions. I can be reached via phone at Office: 701-780-8248 or Mobile: 701-317-0126 or via email at: [nick.west@gfcounty.org](mailto:nick.west@gfcounty.org).

Thank you for your time and consideration.

# 2021 SENATE STANDING COMMITTEE MINUTES

## Political Subdivisions Committee Sakakawea, State Capitol

SB 2324  
2/18/2021

Relating to installation of culverts.

**Senator Burckhard** opened the hearing at 8:54 AM. All members present: **Burckhard, Anderson, Lee, Larson, Kannianen, Heitkamp, Oban.**

### Discussion Topics:

- Township supervisors not following state engineer's determination
- Legal fee payments in court cases
- Townships recovering court costs

[9:00] **Senator Anderson** moved to adopt amendment 21.1016.01001.

[9:01] **Senator Heitkamp** seconded.

Senators	Vote
Senator Burckhard	Yes
Senator Anderson	Yes
Senator J. Lee	Yes
Senator D. Larson	Yes
Senator Kannianen	Yes
Senator Heitkamp	Yes
Senator Oban	Yes

Roll Call vote 7-0-0. Motion carries.

[9:06] **Senator Larson** moved DO NOT PASS AS AMENDED.

[9:09] **Senator Kannianen** second.

Senators	Vote
Senator Burckhard	Yes
Senator Anderson	No
Senator J. Lee	No
Senator D. Larson	Yes
Senator Kannianen	Yes
Senator Heitkamp	No
Senator Oban	No

[9:16] Roll Call vote 3-4-0. Motion fails.



[9:17] **Senator Lee** moved DO PASS AS AMENDED.

[9:17] **Senator Heitkamp** second.

<b>Senators</b>	<b>Vote</b>
Senator Burckhard	No
Senator Anderson	Yes
Senator J. Lee	Yes
Senator D. Larson	No
Senator Kannianen	No
Senator Heitkamp	Yes
Senator Oban	Yes

[9:17] Roll Call vote 4-3-0. Motion carries.

[9:18] **Senator Heitkamp** will carry SB 2324.

**Senator Burckhard** adjourned the hearing at 9:18.

*Rose Laning for Patricia Lahr, Committee Clerk*

CS  
2/18  
1001

PROPOSED AMENDMENTS TO SENATE BILL NO. 2324

Page 1, line 15, remove the overstrike over "When"

Page 1, line 15, remove "If"

Page 1, line 19, remove "If the state engineer recommends"

Page 1, remove lines 20 and 21

Page 1, line 22, replace "the recommendation, shall install the recommended culvert or bridge." with "If the department, the board of county commissioners, or the board of township supervisors, as the case may be, fails to install a culvert or bridge of sufficient capacity for the design discharge determined by the state engineer within one year after receiving the state engineer's determination, and does not have good cause for failing to do so, a court may award reasonable court costs and attorney's fees to a person that incurred the expenses in an action to enforce this section."

Renumber accordingly

**REPORT OF STANDING COMMITTEE**

**SB 2324: Political Subdivisions Committee (Sen. Burckhard, Chairman)** recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (4 YEAS, 3 NAYS, 0 ABSENT AND NOT VOTING). SB 2324 was placed on the Sixth order on the calendar.

Page 1, line 15, remove the overstrike over "When"

Page 1, line 15, remove "If"

Page 1, line 19, remove "If the state engineer recommends"

Page 1, remove lines 20 and 21

Page 1, line 22, replace "the recommendation, shall install the recommended culvert or bridge." with "If the department, the board of county commissioners, or the board of township supervisors, as the case may be, fails to install a culvert or bridge of sufficient capacity for the design discharge determined by the state engineer within one year after receiving the state engineer's determination, and does not have good cause for failing to do so, a court may award reasonable court costs and attorney's fees to a person that incurred the expenses in an action to enforce this section."

Renumber accordingly

**2021 HOUSE POLITICAL SUBDIVISIONS**

**SB 2324**

# 2021 HOUSE STANDING COMMITTEE MINUTES

Political Subdivisions Committee  
Room JW327B, State Capitol

SB 2324  
3/11/2021

## Relating to installation of culverts

**Chairman Dockter: (9:00).** Opened the hearing.

Representatives	Vote
Representative Jason Dockter	P
Representative Brandy Pyle	P
Representative Mary Adams	P
Representative Claire Cory	P
Representative Sebastian Ertelt	P
Representative Clayton Fegley	P
Representative Patrick Hatlestad	P
Representative Mary Johnson	P
Representative Lawrence R. Klemin	P
Representative Donald Longmuir	P
Representative Dave Nehring	P
Representative Marvin E. Nelson	P
Representative Nathan Toman	P

### Discussion Topics:

- Stream crossing determination
- Surface water flow

**Sen. Wanzek:** Introduced the bill. Testimony #8794,8800.

**Doug Zink, Foster County Water Resource District Vice Chair:** In favor, testimony #8784.

**Sue Backer:** In favor, testimony #7961, 7962, 7963.

**Kale R. Van Bruggen, Counsel for the Foster County Water Resource District:** In favor, testimony #8613.

**Brennen Quintus, NDRF:** Answered questions regarding insurance.

**Aaron Burst, ND Association of Counties:** In opposition, testimony #8760.

**Nick West, President of NDACE, the Grand Forks County Highway Engineer and Chairman of Allendale Township:** In opposition, testimony #8533.

**Wayne Oien, Representing Griggs County Commission:** No written testimony.

**Jayne Tenneson, Griggs County State's Attorney, Nelson County State's Attorney:**  
In opposition, testimony #8761.

**Tom Dahl, Chairman Griggs County Water Resource:** In opposition, testimony #8732.

**Larry Syverson, Secretary of ND Association of Townships:** In opposition, testimony #8770.

**Matt Lindsay, Engineer State Water Commission:** Neutral position, testimony #8787.

**Additional written testimony:**  
8783.

**Chairman Dockter: (11:45).** Closed the hearing.

*Carmen Hickle, Committee Clerk*

**Testimony on SB 2324**  
**Senate Political Subs Committee**  
**Senator Terry Wanzek**

Good morning Chairman Burckhard and members of the Senate Political Subdivisions. I'm Terry Wanzek from Jamestown, State Senator representing district 29 in ND Legislature. I am here today to present SB 2324 to your committee and explain why it is before you. I introduced this bill on behalf of a constituent who approached me with a problem. She is here today to share her story with you. Her name is Ms. Sue Backer. I would ask Mr. Chairman that she be able to provide testimony immediately after me as she has a funeral to go back to in Jamestown at 12:30 today.

First before we tell her story, I want to make reference to a handout I gave to each of you from the state engineer. It is a good information piece on stream crossings and stream crossing determinations from the Office of the State Engineer(OSE) and how they work within our ND law. The reason I am sharing this is because it is a critical piece of her story. This handout explains the process Ms Backer went through to get to where we are today.

Ms. Backer brought it to my attention that the law affords her the right to pursue a stream crossing determination, with her local water board's permission or upon petition of the majority of landowners of the area affected or at the request of the board of county commissioners or township supervisors. And then the century code states that "the board of county commissioners, or the board of township supervisors, as the case may be, upon notification of the determination, shall install a culvert or bridge of sufficient capacity". Ms. Backers stream crossing determination revealed, and with the assistance of a private engineering firm there is need for at a minimum, a 30" culvert, where there was an 18" culvert.

Here is her problem. While the law states the political sub shall follow the stream crossing determination, there is no enforcement. Even though Ms. Backer spent thousands of dollars on private engineering analysis and legal fees to establish a reason for an OSE stream determination study and spent 2-3 years making her case, and ultimately prevailing according to the law, there is no enforcement. Her township continued to ignore all her efforts. Matter of fact, having knowledge of all this information I'm sharing, the township ignored it and then placed a new culvert in this specific road last fall with a new culvert, 18".

Mr. Chairman and members of committee, here is where I get upset. This bill did not have to be before you or us if this township authority would have communicated with Ms. Backer. She has expressed to me that she tried numerous times to reach out over the course of her endeavor, only to be ignored. It is the reason why we as legislators get approached every 2 years and have to clarify the law because 5 % of society is obstinate and wont follow the rules. IMO, A little communication from the township authority would have gone a long way in this case.

That brings us to the bill before you. It is an attempt to rectify this situation. Ms. Backers only recourse is to go to court now and spend more dollars. She could have paid for the culvert with the funds she has spent fighting the issue. The bill was hastily introduced as time was running out on me, as I was home quarantining with COVID at the deadline to introduce bills. Ms. Backer and her attorney feel the language in the bill still does not really do much as is. So I prepared amendments and have them here today. I believe the amendments do put more teeth into enforcement. I'll explain the amendments.

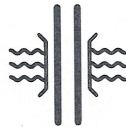
Mr. Chairman and committee members, I realize this is a delicate issue. Anytime you get into the middle of a water issue it gets sticky. I do understand the concern that this bill could become an unfounded mandate burdening counties and townships. I was our township treasure for over 25 years. I know townships have little resources. And I know county budgets are tight. I understand that. I want to work with the political subs that have concerns to find a reasonable mechanism that protects constituents like Ms. Backer without creating a burdensome financial stress on our counties and townships. I want to see more cooperation and communication in solving these issues. Thank you for your time.

# 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 Office of the State Engineer (OSE) upon request from an eligible party under N.D.C.C. section 24-03-08.



# WHO, WHAT, WHERE'S ON STREAM CROSSINGS



## WHO HAS JURISDICTION OVER STREAM CROSSINGS?

Generally, the road authority has jurisdiction over culverts, bridges, etc. in their roads, whether that be the township, county, municipal, or state road authority. Water resource districts only have authority over culverts needed to accommodate a "drain." Jurisdiction has been litigated in the North Dakota Supreme Court in several cases. A good resource for discussion on this topic is the "Roadways" section of the North Dakota Water Managers Handbook, which is available from the [North Dakota Water Resource District Association](#).

## WHERE CAN I FIND THE APPLICABLE LAWS REGARDING STREAM CROSSINGS?

N.D.C.C. titles 24 and 61 include the laws directly or indirectly relating to stream crossings, depending on the specific issue. The specific laws generally governing stream crossing determinations include:

- N.D.C.C. section 24-03-06
- N.D.C.C. section 24-03-08
- N.D.C.C. section 24-06-26.1
- N.D.A.C. article 89-14

## WHAT ARE "STREAM CROSSING STANDARDS?"

"Stream Crossing Standards" are minimum design standards for road crossings that were developed by the OSE 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 OSE 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, subcontractors, or agents, and any individual firm, corporation, or limited liability company that installs stream crossings that comply with Stream Crossing Standards.

## WHEN SHOULD A STREAM 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 OSE, 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 OSE'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.



# OSE 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 OSE by filling out a [Stream Crossing Determination Request form \(SFN 61885\)](#).

## WHAT INFORMATION WILL I GET IF I REQUEST AN OSE 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 OSE, as described in N.D.C.C. section 24-03-08. The OSE 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 OSE MAKE A DETERMINATION?

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

## USGS STREAM STATS

OSE 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 OSE 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 OSE 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 State Engineer 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 OSE STREAM CROSSING DETERMINATION?

OSE stream crossing determinations are considered an "action or decision" by the State Engineer 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 State Engineer hearing on the matter.



## OTHER IMPORTANT CONSIDERATIONS

- The OSE does not provide culvert or bridge sizing services.
- The OSE 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 OSE'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 OSE recommends contacting the applicable [NDDOT District Engineer](#) before submitting stream crossing request to the OSE.
- Road authorities may request a deviation from Stream Crossing Standards, but such a deviation must be approved by both the OSE 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 OSE at (701) 328-2752 or by email at [swcregpermits@nd.gov](mailto:swcregpermits@nd.gov).

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

21.1016.02002  
Title.

Prepared by the Legislative Council staff for  
Senator Wanzek

March 10, 2021

PROPOSED AMENDMENTS TO ENGROSSED SENATE BILL NO. 2324

Page 1, line 22, remove "within one year after receiving the state engineer's determination"

Page 2, line 4, remove "and any recommendations from the state engineer for a specific size or design for the"

Page 2, line 5, remove "culvert or bridge"

Renumber accordingly

Testimony by Doug Zink  
Foster County Water Resource District Vice Chair  
Before the Senate Political Subdivisions Committee  
In Favor of SB 2324

March 10, 2021

<sup>Dockler</sup>  
Chairman ~~Kleman~~ and members of the House Political Subdivisions, my name is Doug Zink. I am a farmer and landowner in Foster County, and Vice Chair of the Foster County Water Resource District and Chairman of the Tri-County Resource District comprising of Foster, Eddy, and Wells counties. I am testifying today in support of SB 2324, and to provide you examples that show why the current statute needs your help.

First, I want to acknowledge that you have a difficult task at hand: balancing the interests of private property owners with the interests of the public road authorities. The right management of water is necessary to accommodate frequent flooding, prevent damage to roads, bridges, and other infrastructure, all while ensuring property rights are protected from unreasonable flooding.

Second, I'd like to point out some aspects of current law. The Department of Transportation, county boards, and township boards, all acting as their respective road authorities' roles, have sole power over and responsibility for culverts through their roadways. The only exception is for culverts accommodating legal assessment drains.

North Dakota law has always required road authorities to design roads so as to permit the watershed that encounters the roadway to cross in a reasonable amount of time without overflowing onto upstream, adjacent land. The courts have said that this is what the constitution requires, unless the road authority buys a flowage easement from the landowner.

In 1953, the legislature put this requirement in statute and adopted Century Code section 24-03-06. In 1999, the legislature delegated authority to the Department of Transportation and State Water Commission to develop standards for calculating the reasonable discharge at road crossings—called, “the stream crossing standards.” The standards provide road authorities with certainty that, if

they follow the standard, they will be protected from liability for damages caused at the crossing to adjacent landowners. The legislature made a deal with road authorities: if you follow the stream crossing standard, we will protect you from liability.

Unfortunately, the road authority is not following the current law. I have some examples to share with you in my home county.

SB 2324 does not transfer any authority away from local townships and counties to the State Engineer. The current law already requires road authorities to install a culvert meeting the stream crossing standards upon notification from the state engineer. One can read the existing law on Line 15 of the bill which says “When the determination has been made by the state engineer, the department, the board of county commissioners, or the board of township supervisors, as the case may be, upon notification of the determination, shall install a culvert or bridge of sufficient capacity to permit the water to flow freely and unimpeded through the culvert or under the bridge.

SB2324 does not add any unfunded mandates. The bill doesn’t mandate anything new. Current law requires the road authority to follow the stream crossing standards. Unfortunately, some road authorities are ignoring current law. Those following current law will be unaffected by this bill. But those that do not follow current law, could end up paying attorneys’ fees if they do not have “just cause” for using the stream crossing standards.

As I said, balancing the interests of the public road authority, limited budgets for roadway infrastructure, and private property rights is always a challenge. I believe the intent behind SD 2324 is not to ask you to change the current law, but to strengthen it.

Thank you, and I stand for questions from the Committee.

## Senate Bill 2324

Feb 12, 2021 9 am Revised for the House 3/8/2021

- Good morning, I am Sue Backer from Courtenay, ND. We are a farm family. I grew up on the farm that my family is now farming and farming is our livelihood.
- I am here today in regards to Senate Bill 2324. I am in favor of Senate Bill 2324 to amend Century Code 24-03-08, relating to installation of culverts.
- There have been two engineering studies done on our property showing that a larger culvert needs to be installed on a township road and still no action has been taken by our Township Board.
- My family and I are farming the land that I grew up on near Montpelier. This land has been farmed by my family since my grandfather homesteaded in the early 1900. There is a natural waterway that has flowed through this property every spring on its way to the James River since as long as any of us can remember. Usually by summer this waterway is dry. Seven years ago we began noticing that water was backing up along the township road that separates our farm land and our neighbor to the north. Our neighbor also noticed that the water was backing up on our side of the road. Here are some **aerial photos** that we took with our drone showing the conditions. We contacted our local township with our concern but they kept dismissing the problem as just an unusually wet spring, heavy rain runoff etc. and basically kept avoiding the issue. Every year since, the problem continued to get worse as the wet conditions continued and we lost more and more land that we were previously able to crop, yet our neighbor to the north's field conditions did not change drastically due to the wet conditions. We could physically see that the culvert and roadway was holding back the water that was coming through the natural drain. But our township officers told us that they could not put a bigger culvert in because culverts must be smaller the further upstream you get and if the culvert in question was replaced with a bigger culvert then they would need to replace all of the downstream culverts as well. That got us thinking, so we started to trace the waterway upstream and discovered that the upstream culverts were larger than our downstream culvert. We were elated to have found out that there was an explanation why our culvert was no longer handling the flow of water that was coming downstream. But that information did not seem to make a difference to our township board.
- On Aug 14, 2018, we finally filed a complaint of unauthorized construction of a dike or dam with the Stutsman County Water Resource Board. We were told it was a township issue and they do not have any control over a township road. We again contacted the Township in 2019 and they denied there was a problem so we hired Interstate Engineering to conduct a hydrology study (copy upon request) that backed our claim that the current 18" culvert needed to be replaced with at least a 30" culvert to comply with the stream crossing standards. Again, they denied our request.
- After even more research we discovered that the township could order their own ND State Engineer Stream Crossing Determination at NO CHARGE. They refused to request the report.
- We then contacted the Stutsman County Water Board and the Stutsman County Commission to help us with this issue and request a ND State Engineer stream crossing determination and was told it is a township issue and the only way we can get action is to hire an attorney at our expense and sue the township, which we did not want to do.

- So, in 2019 my mother paid her real estate taxes under protest and it was only then that we got the attention of the Stutsman County Commissioners. They requested the Stutsman County Water Board order a "FREE" stream crossing determination.
- On Feb 10, 2020 the request was made and on September 1, 2020 the Stutsman County Water Board received the determination (Copy of State Engineering Determination upon request) stating that a culvert needs to be installed that will carry 46 cfs, or cubic feet of water per second, which coincides with Interstate Engineering's determination. Stutsman County Water Board then forwarded the report to the township citing the Century Code and the township still took no action to correct the problem. In the meantime the township replaced the culvert in question on 8/20/2020 with the same size and not with the required size. I did text the chairman and informed him the state engineer's determination was in review and they had already received the independent study but the township still installed a new incorrect 18" culvert.
- My family has gone through many hoops to try and get a correct size culvert installed to no avail. Not to mention how frustrating this has been.
- We have now hired two attorneys which has cost us money besides paying for our own engineering report and still we have had no action from our township which leaves us no recourse except to sue at our expense. One of my attorneys has told me that the current law rewards the township for compliance but does not punish the township for **non-compliance**, so there is very little incentive for the township to comply with the law, and this makes it expensive to enforce the law against the township. I want the law to be enforceable and not put upon the tax payer to have to enforce the law or at least be able to recoup expenses incurred including attorney fees.
- That is why I am requesting that you support SB 2324 to change the language to make this an enforceable law that actually punishes townships for failing to comply with the law that is currently written. We are not asking to change the law in regards to Century Code 24-03-08 just to amend it so the tax payer has recourse to make the current law enforceable when the township will not obey the law and fulfill their duties as a township board. This is a mandated law in the books now we need to make the township perform their duties as the current law is written and amend it to make it enforceable. This would not be an unfunded mandate if the township complies with the current law it just makes them accountable. To suggest that we can vote out an elected official is not realistic in most townships due to the small population and the few people who are willing to serve.
- Do you have any questions?

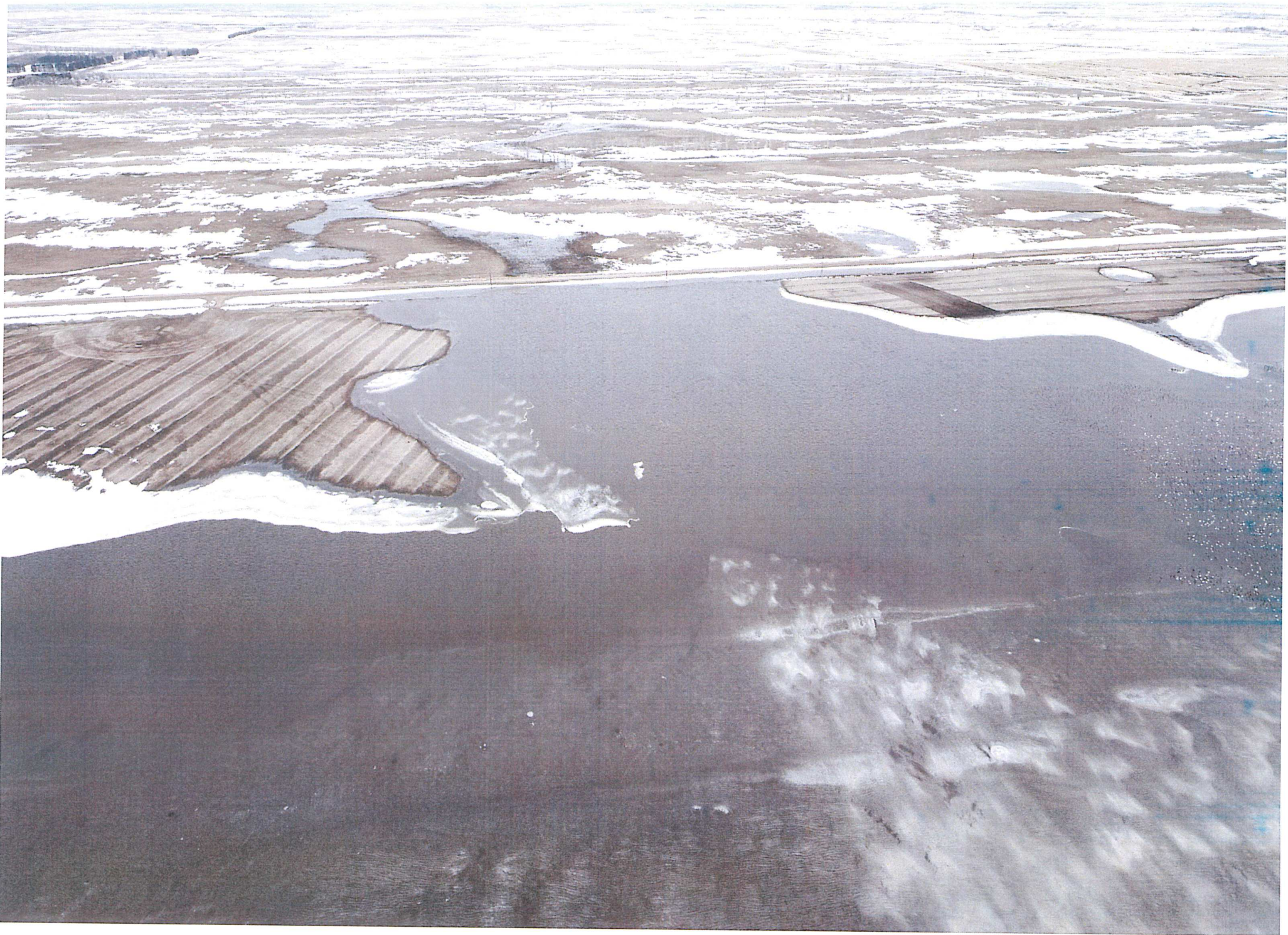
Thank you for listening. I appreciate your time and consideration.













COPY

HYDRAULIC STUDY  
For  
Culvert Recommendation  
Montpelier Township  
In NE 1/4 of NW 1/4 of Section 29, T 137 N, R 63 W.  
Stutsman County, ND  
July, 2019



7/18/19  
Date

Benjamin B. Aaseth  
License No. 10085

Interstate Engineering, Inc.  
Jamestown, North Dakota  
J19-04-090

I. GENERAL

This hydraulic study has been prepared to investigate the size of structure that would be required to convey the water at a crossing located in the NE 1/4 of NW 1/4 of Section 29, T 137 N, R 63 W, Montpelier Township in Stutsman County, North Dakota. There are no upstream structures that impact this site at the analyzed event year. This site will be designed for a 10-year event, based upon North Dakota Administrative Code 89 for township roads.

The existing pipe onsite has damaged end sections. The upstream end section has a damaged top as well as some rust. The downstream end section is split at the seams.

The existing site has the following characteristics:

- o Top of Road = 1489'
- o Existing Road Width = 22'
- o Tailwater = 10 foot bottom with 10:1 side slopes
- o Invert North end = 1484.19'
- o Channel elevation near north end = 1484.07'
- o Invert South end = 1484.13'
- o Channel elevation near south end = 1484.13'
- o Lat: 46° 39' 35.23" N Long: 98° 39' 42.12" W

II. HYDROLOGY

Originally when the quad maps were developed it appeared that this culvert drained a much larger area, since that time there has been some change in flow patterns. The water approximately one-mile south of the culvert located just south of the Section Line, flows primarily easterly thru an existing drainage channel. Originally it appeared that this water flowed north to the culvert in quad maps originally developed. Considering that this crossing is only to be sized for a 10-year event only 5% of the larger drainage flows were considered to flow north based upon aerial drone video and photo graphs that were taken in the spring of 2019. See Appendix B. If all of the area to the south would be considered when sizing the culvert, the size would need to be significantly larger. See sheet 3 for the original drainage area identified with the original quad maps, compared to the drainage used for sizing the culvert on Sheets 1 & 2.

The drainage area for this site was determined, using the USGS Quad Maps, to be approximately 0.95 square miles (approximately 608 acres). This area is shown on Sheets 1 & 2. The drainage basin flows through mainly farmland and wetland areas. The main use of the drainage area is agriculture land.

The discharges at the site were determined utilizing the USGS "Techniques for Estimating Peak-Flow Frequency Relations for North Dakota Streams 1992", which takes into consideration different soil types, vegetation, storage,

slope of the basin, and terrain. The area being studied is in Region C, with slopes of approximately 4 feet per mile.

III. HYDRAULIC ANALYSIS

The FHWA HY-8 program was used in the analysis. The following data has been compiled and utilized to determine a sufficient and appropriate structure at this location.

Channel: Area identified on quad maps

Total Drainage Area: 0.95 square miles

Existing Structure at Site:  
18" Corrugated Steel Pipe

Existing Upstream Structure:  
None or Unknown

Existing downstream Structure:  
24" Corrugated Steel Pipe

Site Characteristics: (Small Drainage + 5% of the larger drainage)

Design (2):	9 cfs
Design (10):	43 cfs
Design (15):	56 cfs
Design (25):	74 cfs
Design (50):	103 cfs
Design (100):	136 cfs
Greatest Flood (500 year):	225 cfs

The structure was sized for 10-year event, restricting the headwater to be the pipe diameter + 2 feet which is based on the North Dakota Stream and Crossing Standards.

IV. STRUCTURE COMPARISON

The following chart analyzes the proposed structure for the crossing of the roadway:

<u>Number of Lines</u>	<u>Structure Type</u>	<u>Total Waterway Opening (sq. ft.)</u>	<u>Allowable Headwater</u>
1	* 30" CSP	4.90	Dia. + 2 feet

\*24" CSP should be installed at this time due to downstream culvert sizes.



*Headwater Comparison*

Flood Event	Flow (cfs)	Headwater Existing (ft) 18" CSP	Headwater Proposed (ft) 30" CSP
2 Year	7	1486.06	1485.76
10 Year	32	1489.05	1488.50
25 Year	55	1489.10	1489.08
<i>Overtops road (cfs)</i>		15.01	46.79

V.

CONCLUSION & RECOMMENDATION

The recommendation pipe is a 30" Corrugated Steel Pipe, but considering that the downstream culvert is only 24", this culvert should be installed at only a 24" at this time. This pipe should be installed at the existing inverts. The pipe should be installed with end sections as there is evidence that the existing pipe has been damaged from machinery likely mowing the ditches. If further reports are done with a larger study, all the pipes on this drainage should be analyzed to the James River to create a system that would meet state laws.

As per the North Dakota permit from the USACE, counter sinking is only required when there is a stable stream bed. This stream bed is not stable and therefor no need for counter sinking.

Please call at any time if you have any questions or need any further information.

Ben Aaseth

## Existing Site Photos

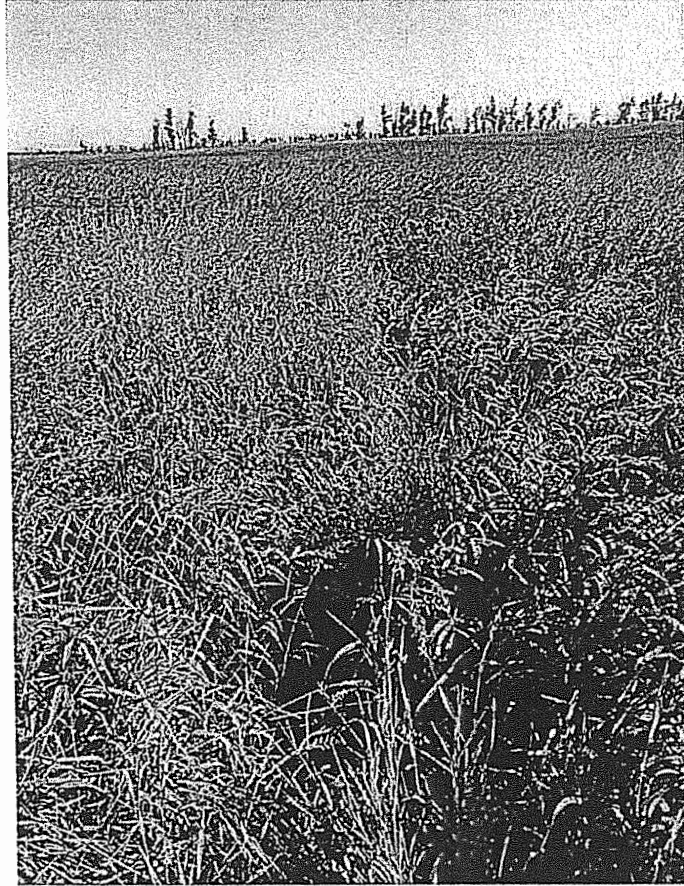
Existing site looking south.



Existing Culvert Invert.



Existing Site Looking North.

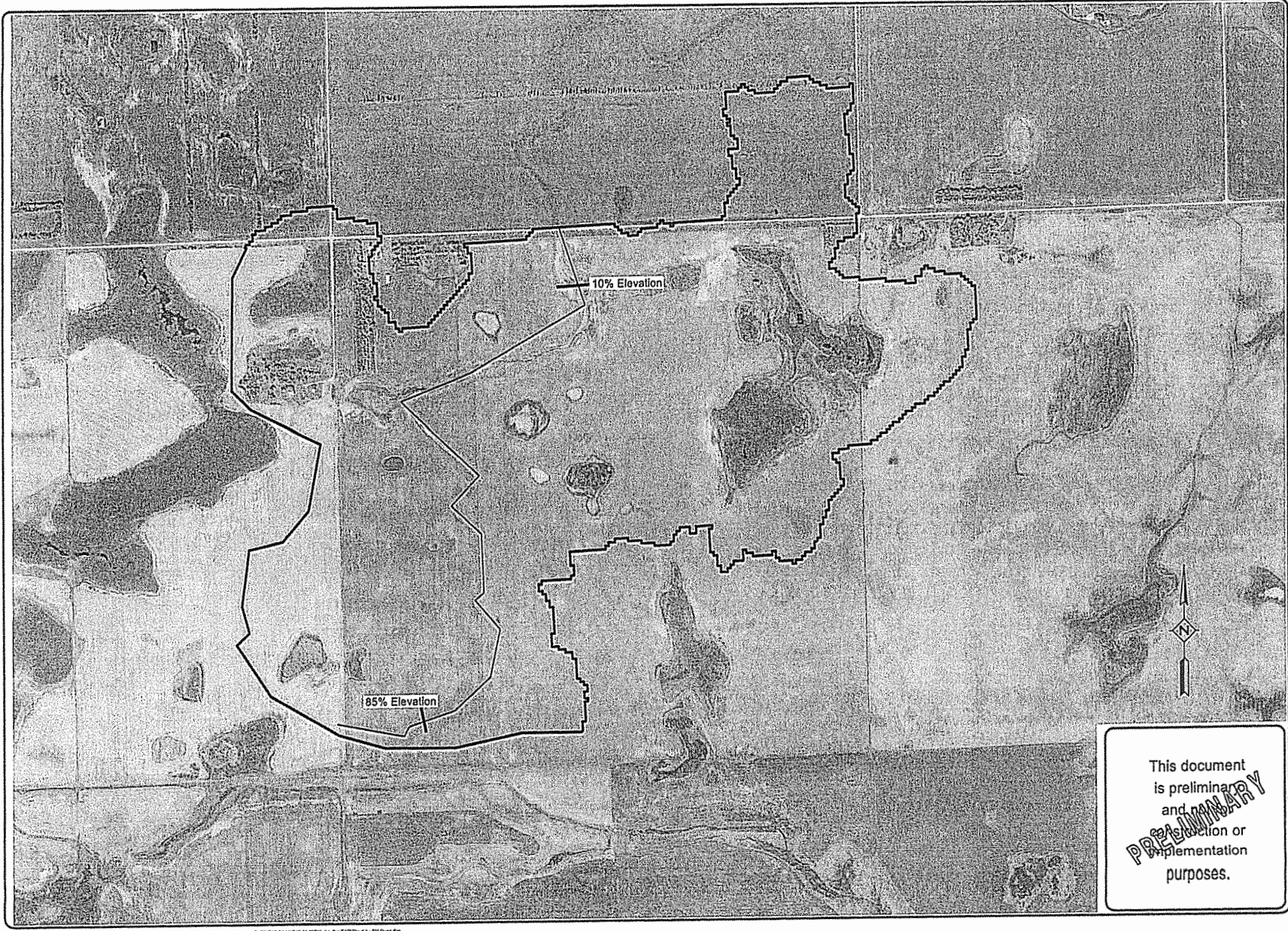


Existing Culvert Outlet



APPENDIX A .

PROJECT MAPS



REV	Date	By	Description

Hydrus, Inc.  
 Sec 26, T13N, R85W  
 Sardinia County ND

Drainage Area - Aerial

Drawn By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Checked By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Entered By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Plotted By: \_\_\_\_\_ Date: \_\_\_\_\_

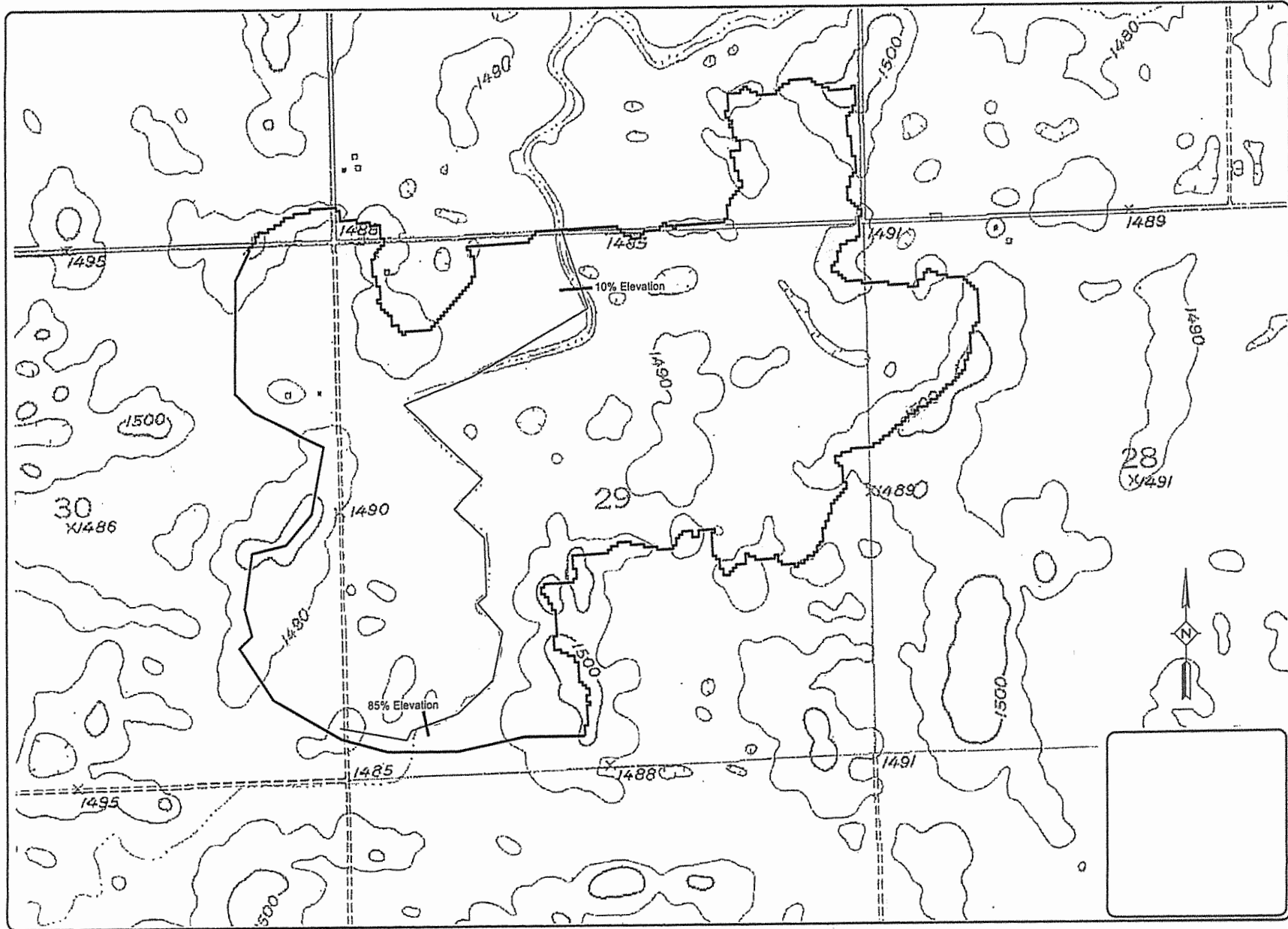
Interstate Engineering, Inc.  
 1001 O. Ave. SW  
 Jamestown, ND 58402-2035  
 Ph: (701) 252-0224  
 www.interstateeng.com

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**INTERSTATE ENGINEERING**

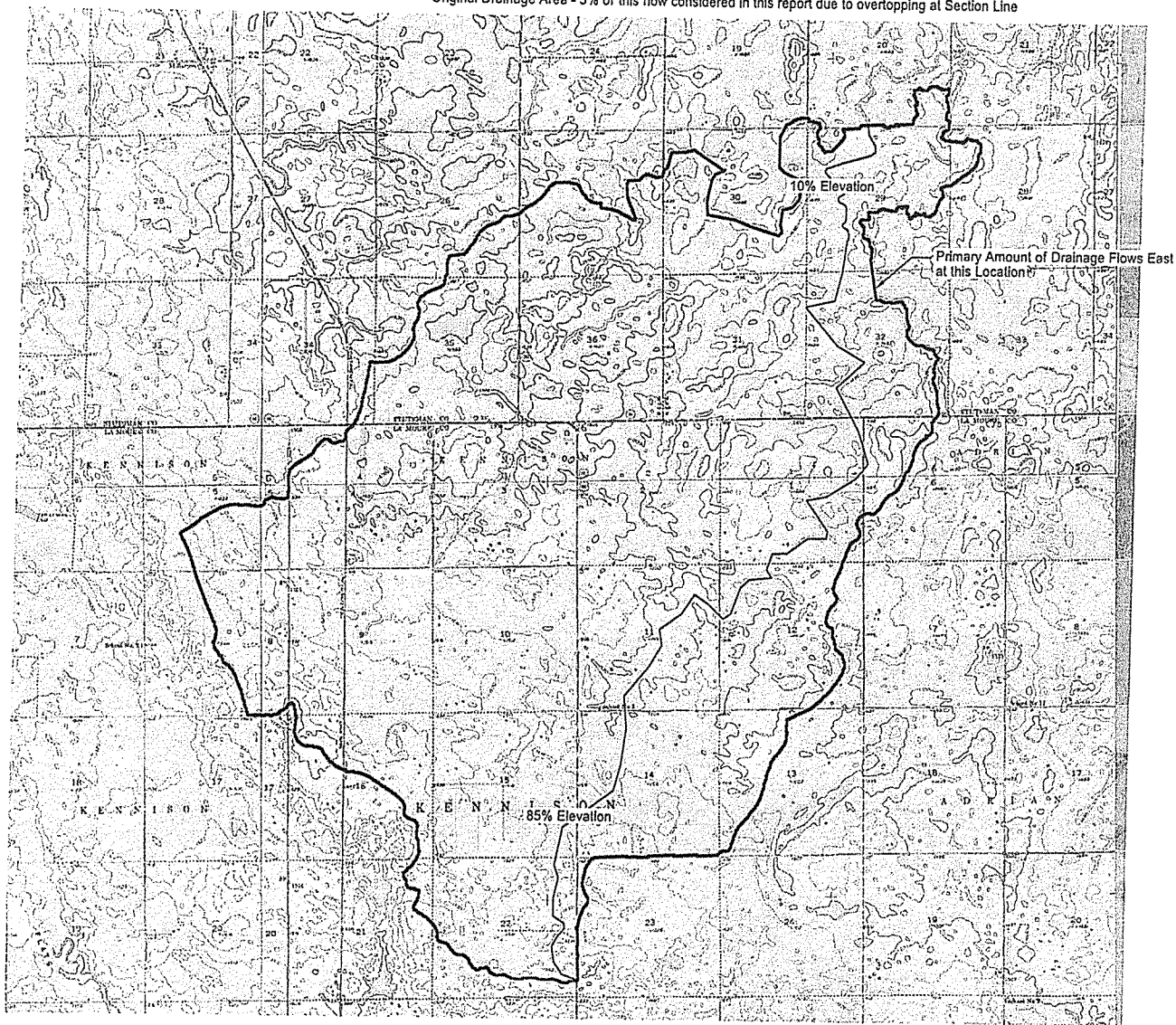
Professionals you need. people you trust.

This document is preliminary and for informational purposes only. It is not to be used for construction or implementation purposes.



Hydatic Shrub Sec 28, T137N, R13W Saline County, MO		Date By: _____ Description: _____	
Drainage Area - Quad		Project No: 148509	
Drawn By: _____	Checked By: _____	Project No: 148509	Date: 01/11/14
Interstate Engineering, Inc. P.O. Box 2035 1801 W. Highway 160 Joplin, MO 64402-2035 PH (761) 552-0234 Fax (761) 552-0235 www.interstateeng.com			
<b>INTERSTATE ENGINEERING</b> Professionals you need, people you trust.			
Sheet Number: <b>1</b>		Scale: _____	

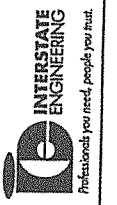
Original Drainage Area - 5% of this flow considered in this report due to overtopping at Section Line



Rev. No.	Date	By	Description

Section: T13N R10W  
 Township: Township 13 North  
 Range: Range 10 West  
 Drainage Area - Original  
 Drawn By: JE  
 Checked By: BA  
 Surveyed By: BA  
 Draughted By: BA  
 Project No.: J145400  
 Date: 07/11/13

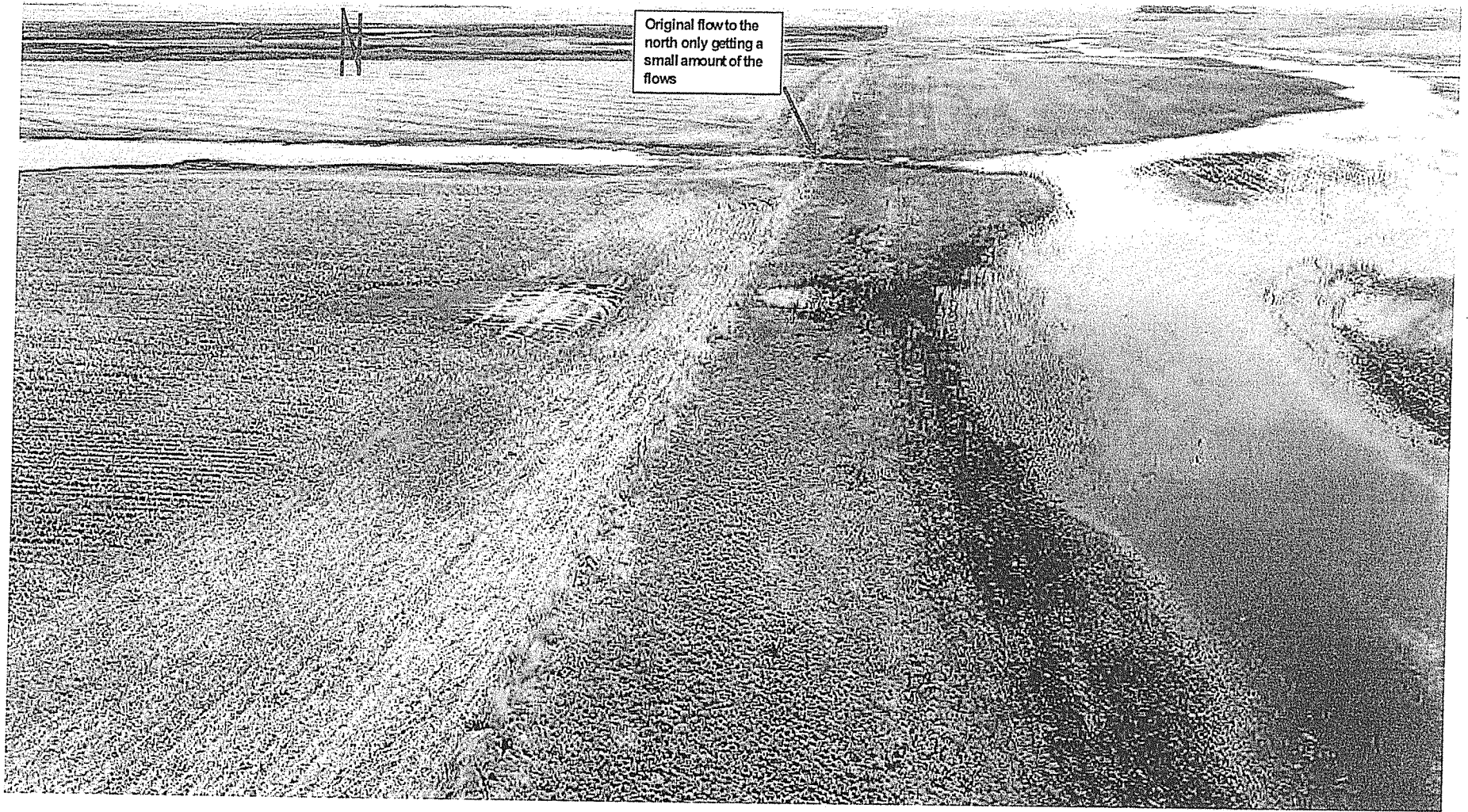
Interstate Engineering, Inc.  
 1903 12th Avenue SW  
 Jamestown, ND 58402-2035  
 Tel: (701) 332-0001  
 Fax: (701) 332-0003  
 www.interstateeng.com  
Circle 11 on Reader Service, Interstate Engineering and Earth Services



APPENDIX B

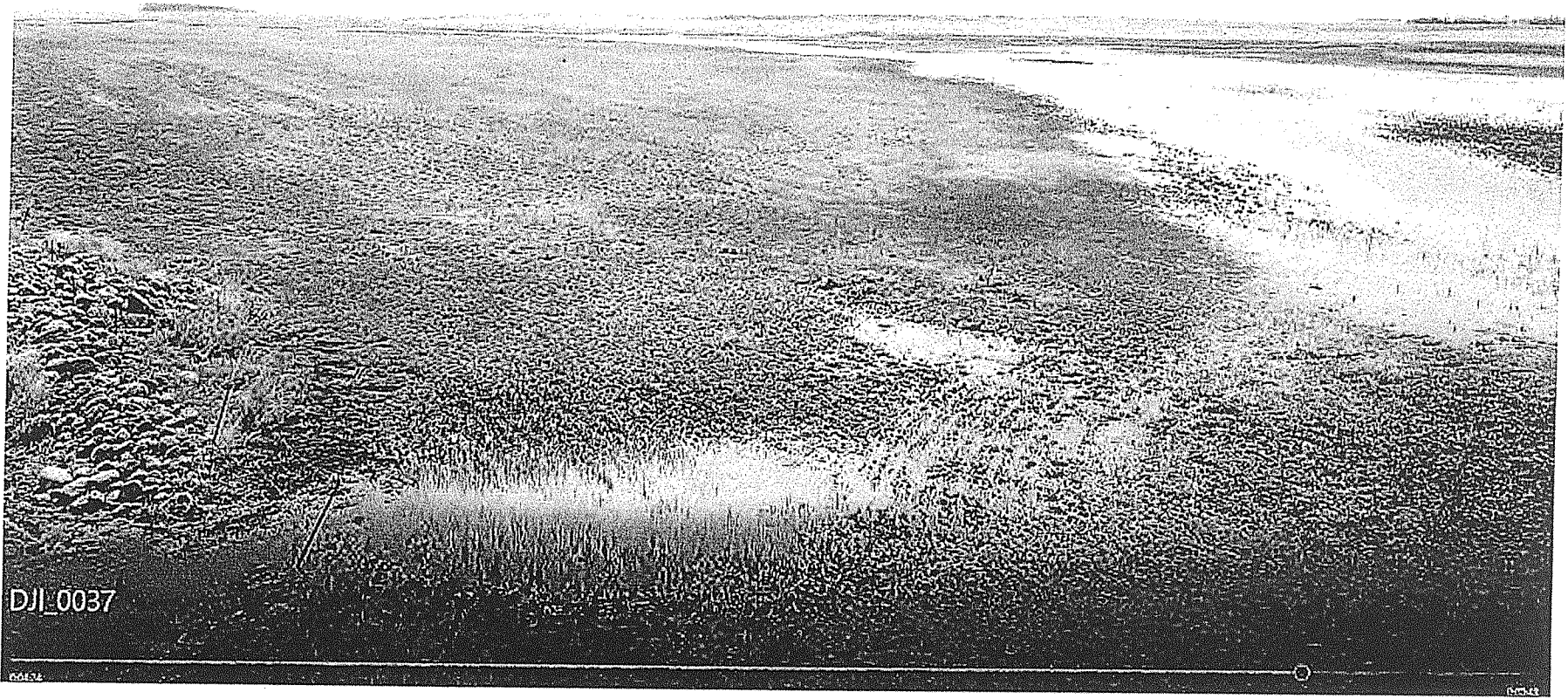
DRONE PHOTOS



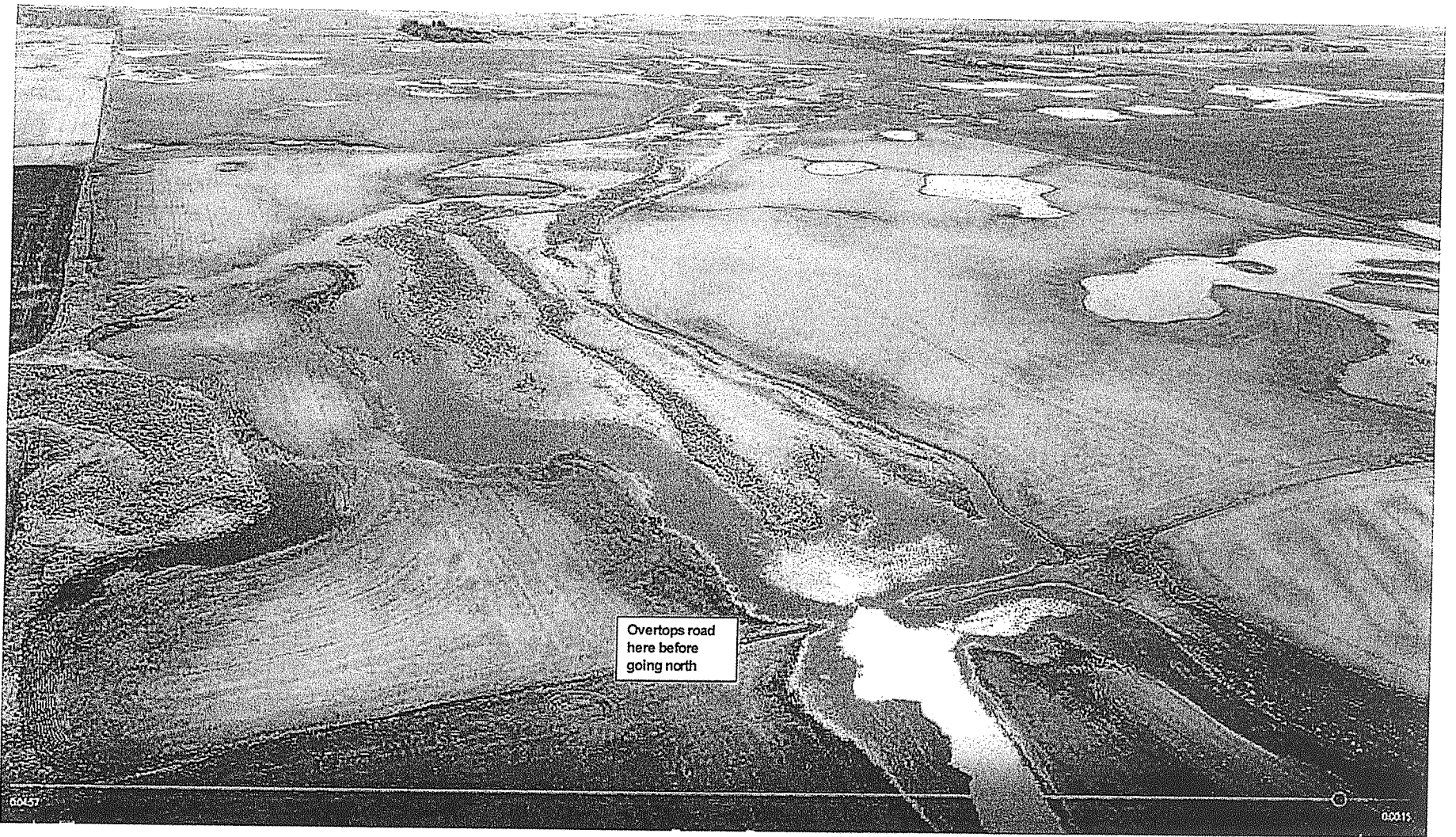


Original flow to the north only getting a small amount of the flows

*Looking East*



*Looking Southeast*



Overtops road  
here before  
going north

Looking Southeast

00457

00115

## APPENDIX C

### CALCULATIONS

# HY-8 Culvert Analysis Report

**Crossing Discharge Data**

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 9 cfs

Design Flow: 43 cfs

Maximum Flow: 74 cfs

**Table 1 - Summary of Culvert Flows at Crossing: Small Area - Existing**

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
1486.46	9.00	9.00	0.00	1
1488.94	15.50	14.90	0.00	100
1489.03	22.00	15.06	6.79	10
1489.05	28.50	15.09	13.16	4
1489.06	35.00	15.12	19.77	4
1489.08	41.50	15.14	26.09	3
1489.08	43.00	15.15	27.76	3
1489.10	54.50	15.18	39.14	3
1489.11	61.00	15.20	45.73	3
1489.12	67.50	15.22	51.81	2
1489.13	74.00	15.24	58.14	2
1489.00	15.01	15.01	0.00	Overtopping

**Rating Curve Plot for Crossing: Small Area - Existing**



Table 2 - Culvert Summary Table: Culvert 1

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
9.00	9.00	1486.46	2.357	2.266	7-JH2c	-1.000	1.156	1.156	0.360	5.994	1.836
15.50	14.90	1488.94	4.837	3.598	7-JH2c	-1.000	1.405	1.405	0.483	8.527	2.163
22.00	15.06	1489.03	4.931	3.646	7-JH2c	-1.000	1.409	1.409	0.581	8.608	2.395
28.50	15.09	1489.05	4.947	3.654	7-JH2c	-1.000	1.410	1.410	0.664	8.622	2.579
35.00	15.12	1489.06	4.962	3.662	7-JH2c	-1.000	1.410	1.410	0.737	8.634	2.732
41.50	15.14	1489.08	4.974	3.668	7-H2c	-1.000	1.411	1.411	0.803	8.645	2.864
43.00	15.15	1489.08	4.978	3.670	7-H2c	-1.000	1.411	1.411	0.818	8.648	2.892
54.50	15.18	1489.10	4.998	3.680	7-H2t	-1.000	1.412	1.412	0.920	8.665	3.087
61.00	15.20	1489.11	5.008	3.686	7-JH2c	-1.000	1.413	1.413	0.972	8.674	3.182
67.50	15.22	1489.12	5.017	3.690	7-JH2c	-1.000	1.413	1.413	1.021	8.682	3.271
74.00	15.24	1489.13	5.027	3.695	7-H2c	-1.000	1.413	1.413	1.068	8.689	3.352

\*\*\*\*\*

Straight Culvert

Inlet Elevation (invert): 1484.10 ft, Outlet Elevation (invert): 1484.10 ft

Culvert Length: 48.00 ft, Culvert Slope: 0.0000

\*\*\*\*\*

**Site Data - Culvert 1**

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 1484.10 ft

Outlet Station: 48.00 ft

Outlet Elevation: 1484.10 ft

Number of Barrels: 1

**Culvert Data Summary - Culvert 1**

Barrel Shape: Circular

Barrel Diameter: 1.50 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting

Inlet Depression: None

**Table 3 - Downstream Channel Rating Curve (Crossing: Small Area - Existing)**

Flow (cfs)	Water Surface Elev (ft)	Depth (ft)	Velocity (ft/s)	Shear (psf)	Froude Number
9.00	1484.46	0.36	1.84	0.22	0.61
15.50	1484.58	0.48	2.16	0.30	0.63
22.00	1484.68	0.58	2.39	0.36	0.65
28.50	1484.76	0.66	2.58	0.41	0.66
35.00	1484.84	0.74	2.73	0.46	0.67
41.50	1484.90	0.80	2.86	0.50	0.68
43.00	1484.92	0.82	2.89	0.51	0.68
54.50	1485.02	0.92	3.09	0.57	0.69
61.00	1485.07	0.97	3.18	0.61	0.70
67.50	1485.12	1.02	3.27	0.64	0.70
74.00	1485.17	1.07	3.35	0.67	0.70

**Tailwater Channel Data - Small Area - Existing**

Tailwater Channel Option: Trapezoidal Channel

Bottom Width: 10.00 ft

Side Slope (H:V): 10.00 (1:1)

Channel Slope: 0.0100

Channel Manning's n: 0.0350

Channel Invert Elevation: 1484.10 ft

**Roadway Data for Crossing: Small Area - Existing**

Roadway Profile Shape: Constant Roadway Elevation

Crest Length: 500.00 ft

Crest Elevation: 1489.00 ft

Roadway Surface: Gravel

Roadway Top Width: 22.00 ft

# HY-8 Culvert Analysis Report

**Crossing Discharge Data**

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 9 cfs

Design Flow: 43 cfs

Maximum Flow: 74 cfs

**Table 1 - Summary of Culvert Flows at Crossing: Small Area - Proposed**

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
1485.76	9.00	9.00	0.00	1
1486.34	15.50	15.50	0.00	1
1486.91	22.00	22.00	0.00	1
1487.23	28.50	28.50	0.00	1
1487.58	35.00	35.00	0.00	1
1488.31	41.50	41.50	0.00	1
1488.50	43.00	43.00	0.00	1
1489.03	54.50	47.02	7.19	17
1489.05	61.00	47.15	13.62	4
1489.06	67.50	47.25	19.80	3
1489.08	74.00	47.34	26.34	3
1489.00	46.79	46.79	0.00	Overtopping

**Rating Curve Plot for Crossing: Small Area - Proposed**

**Table 2 - Culvert Summary Table: Culvert 1**

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
9.00	9.00	1485.76	1.397	1.663	7-H2c	-1.000	0.995	0.995	0.360	4.941	1.836
15.50	15.50	1486.34	1.927	2.242	7-H2c	-1.000	1.326	1.326	0.483	5.860	2.163
22.00	22.00	1486.91	2.379	2.812	7-H2c	-1.000	1.592	1.592	0.581	6.670	2.395
28.50	28.50	1487.23	2.876	3.129	7-H2c	-1.000	1.818	1.818	0.664	7.453	2.579
35.00	35.00	1487.58	3.481	3.448	7-JH2c	-1.000	2.007	2.007	0.737	8.087	2.732
41.50	41.50	1488.31	4.214	3.833	7-JH2c	-1.000	2.160	2.160	0.803	9.008	2.864
43.00	43.00	1488.50	4.401	3.931	7-JH2c	-1.000	2.189	2.189	0.818	9.248	2.892
54.50	47.02	1489.03	4.932	4.211	7-JH2c	-1.000	2.258	2.258	0.920	9.900	3.087
61.00	47.15	1489.05	4.949	4.220	7-JH2c	-1.000	2.260	2.260	0.972	9.919	3.182
67.50	47.25	1489.06	4.962	4.228	7-JH2c	-1.000	2.262	2.262	1.021	9.935	3.271
74.00	47.34	1489.08	4.975	4.234	7-JH2c	-1.000	2.263	2.263	1.068	9.951	3.352

\*\*\*\*\*

Straight Culvert

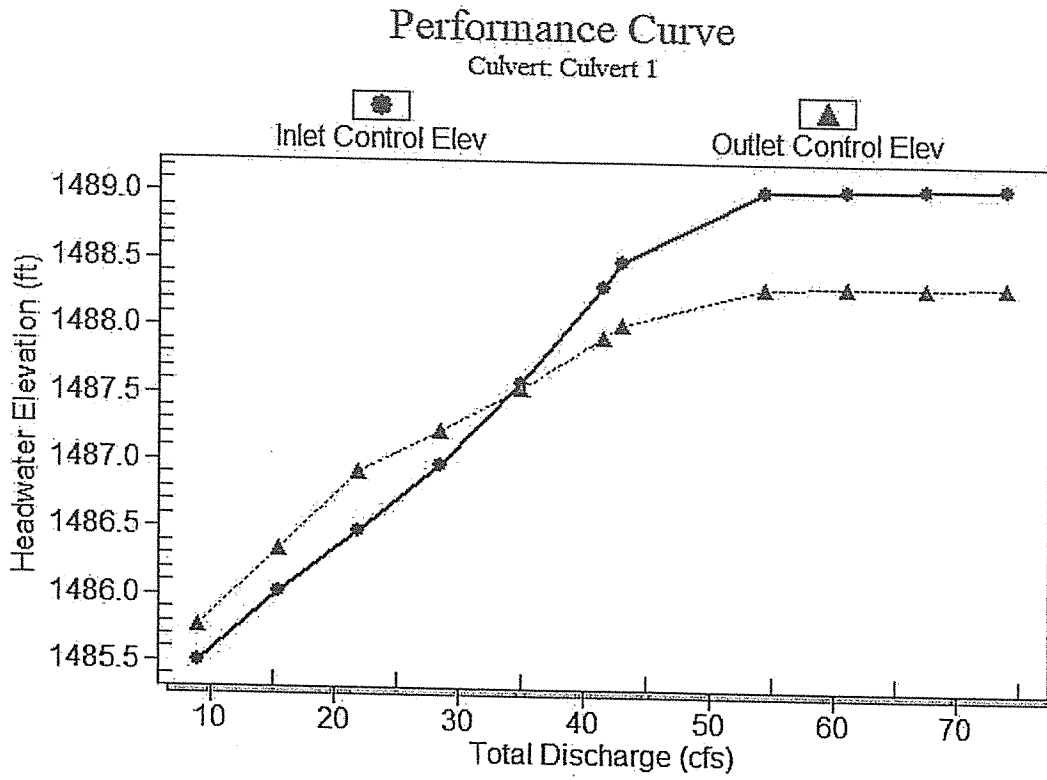
Inlet Elevation (invert): 1484.10 ft, Outlet Elevation (invert): 1484.10 ft

Culvert Length: 48.00 ft, Culvert Slope: 0.0000

\*\*\*\*\*

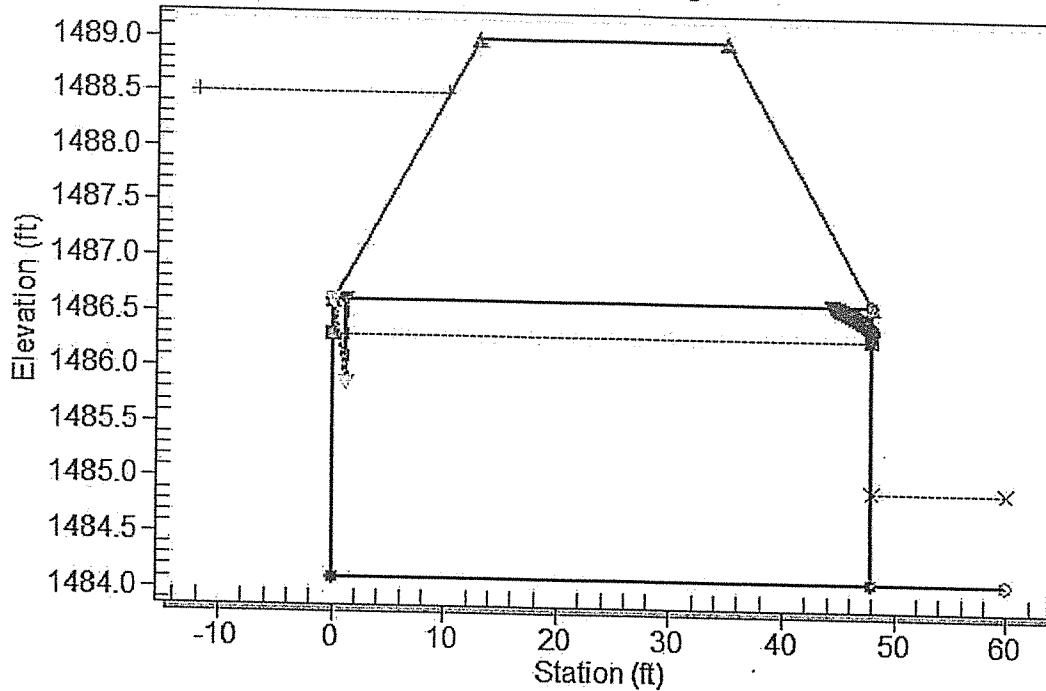


### Culvert Performance Curve Plot: Culvert 1



### Water Surface Profile Plot for Culvert: Culvert 1

Crossing - Small Area - Proposed, Design Discharge - 43.0 cfs  
Culvert - Culvert 1, Culvert Discharge - 43.0 cfs



#### Site Data - Culvert 1

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 1484.10 ft

Outlet Station: 48.00 ft

Outlet Elevation: 1484.10 ft

Number of Barrels: 1

#### Culvert Data Summary - Culvert 1

Barrel Shape: Circular

Barrel Diameter: 2.50 ft

Barrel Material: Corrugated Steel

Embedment: 0.00 in

Barrel Manning's n: 0.0240

Culvert Type: Straight

Inlet Configuration: Beveled Edge (1:1)

Inlet Depression: None

**Table 3 - Downstream Channel Rating Curve (Crossing: Small Area - Proposed)**

Flow (cfs)	Water Surface Elev (ft)	Depth (ft)	Velocity (ft/s)	Shear (psf)	Froude Number
9.00	1484.46	0.36	1.84	0.22	0.61
15.50	1484.58	0.48	2.16	0.30	0.63
22.00	1484.68	0.58	2.39	0.36	0.65
28.50	1484.76	0.66	2.58	0.41	0.66
35.00	1484.84	0.74	2.73	0.46	0.67
41.50	1484.90	0.80	2.86	0.50	0.68
43.00	1484.92	0.82	2.89	0.51	0.68
54.50	1485.02	0.92	3.09	0.57	0.69
61.00	1485.07	0.97	3.18	0.61	0.70
67.50	1485.12	1.02	3.27	0.64	0.70
74.00	1485.17	1.07	3.35	0.67	0.70

**Tailwater Channel Data - Small Area - Proposed**

Tailwater Channel Option: Trapezoidal Channel

Bottom Width: 10.00 ft

Side Slope (H:V): 10.00 (1:1)

Channel Slope: 0.0100

Channel Manning's n: 0.0350

Channel Invert Elevation: 1484.10 ft

**Roadway Data for Crossing: Small Area - Proposed**

Roadway Profile Shape: Constant Roadway Elevation

Crest Length: 500.00 ft

Crest Elevation: 1489.00 ft

Roadway Surface: Gravel

Roadway Top Width: 22.00 ft

Project No.: 1904090

Date: 6/20/2019

Location: Montpelier

Existing Conditions: 18" CMP

**Contributing Drainage Area (CA):**

Contributing Area (SQ. FT.):	2.65E+07 (Fill In)
Contributing Area (Acres):	608.1088384
Contributing Area (SQ. MI.):	0.95

**Main-channel Slope (S):**

Elevation located 85% of longest water course:	1485
Elevation located 10% of longest water course:	1480
Distance Between Elevations:	6033

Main-channel Slope (FT/MI): 4.3759324

**Peak Flow:**

Region:	c
Q(2) =	7
Q(10) =	32
Q(15) =	42
Q(25) =	55
Q(50) =	77
Q(100) =	101
Q(500) =	166

Project No.: 1904090

Date: 7/15/2019

Location: Montpelier

Existing Conditions: 18" CMP

Contributing Drainage Area (CA):

Contributing Area (SQ. FT.): 5.05E+08 (Fill In)

Contributing Area (Acres): 11590.11816

Contributing Area (SQ. MI.): 18.11

Main-channel Slope (S):

Elevation located 85% of longest water course: 1504

Elevation located 10% of longest water course: 1481

Distance Between Elevations: 34253

Main-channel Slope (FT/MI): 3.5453829

Peak Flow:

Region: c

Q(2) = 40

Q(10) = 217

Q(15) = 284

Q(25) = 379

Q(50) = 527

Q(100) = 699

Q(500) = 1171

NORTH  
**Dakota** | State Engineer  
Be Legendary.™

September 1, 2020

Mr. Joel Lees, Chairman  
Stutsman County Water Resource District  
PO Box 1727  
Jamestown, ND 58402-1727,

RE: Stream Crossing Determination - Montpelier Township - Sections 20 and 29

Dear Mr. Lees:

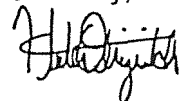
On February 10, 2020, the Office of the State Engineer received a request from the Stutsman County Water Resource District to perform a stream crossing determination for a stream crossing (Crossing) located between Sections 20 and 29, Township 137 North, Range 63 West, Montpelier Township, Stutsman County. The Crossing is located through what is locally known as 52<sup>nd</sup> Street SE, which is classified as an off-system township road.

Our office analyzed the Crossing according to the minimum stream crossing standards outlined in North Dakota Administrative Code (N.D.A.C.) article 89-14, and determined the required design discharge at the Crossing is **46 cfs** (10-year event for a township road). While this is the minimum design standard required for the Crossing, N.D.A.C. section 89-14-01-03 states that there is no restriction on a road authority to provide even greater capacity.

According to N.D.A.C. section 89-14-01-01, anyone who fails to comply with these standards is not entitled to the immunity provided in North Dakota Century Code sections 24-03-06, 24-03-08, or 24-06-26.1.

Please contact me at 701-328-4958 or [hsobrigewitch@nd.gov](mailto:hsobrigewitch@nd.gov) if you have any questions concerning this correspondence.

Sincerely,



Hunter Obrigewitch  
Water Resource Engineer

HO/1348

Cc: Montpelier Township  
Sue Backerman  
John Fiebeger

## TECHNICAL MEMORANDUM

---

DATE: **August 13, 2020**

TO: **JP** John Paczkowski, P.E., State Engineer (Interim)

FROM: **ac** Aaron Carranza, P.E., Director, Regulatory Division  
**ML** Matt Lindsay, P.E., Manager, Engineering and Permitting Section  
**HO** Hunter Obrigewitch, Water Resource Engineer

SUBJECT: **Stream Crossing Determination, Montpelier Township Road**

On February 10, 2020, the Office of the State Engineer (OSE) received a request to perform a stream crossing determination from the Stutsman County Water Resource District. The stream crossing (Crossing) is located between Sections 20 and 29, Township 137 North, Range 63 West, Montpelier Township, Stutsman County. The Crossing is located on an off-system township road locally known as 52<sup>nd</sup> Street SE, between 85<sup>th</sup> and 86<sup>th</sup> Avenue SE. (See Exhibit 1).

Contained within North Dakota Administrative Code § 89-14-01-03, flood frequency requirements are presented for varying stream crossings. The Crossing is located on an off-system township road, thus requiring the passage of a 10-year recurrence interval flow event within allowable headwater limitations.

USGS Scientific Investigations Report 2015-5096 (Report) was used to determine the peak runoff at the Crossing, see Figure 1. The input parameters, required for the Report's hydrologic zone C regression equation, include the drainage area (0.997 square miles), stream length (1.51 miles), and corresponding maximum and minimum basin elevations (1509 feet and 1483 feet, respectively).

Variable	Lower Bound (if applicable)	Value	Upper Bound (if applicable)	Units	Comment
DRNAREA =	0.132 ≤	0.997	≤ 2811.637	square miles	Meets Limitations
ELEVMAX =	N/A	1509	N/A	ft	
MINBELEV =	N/A	1483	N/A	ft	
STREAMLENGTH =	N/A	1.51	N/A	miles	
RUGGED (calculated) =	(STREAMLENGTH/DRNAREA)*(ELEVMAX-MINBELEV)				
	21.309 ≤	40.41	≤ 2264.002	feet per mile	Meets Limitations

From Table 4, Region C, for 2, 5, 10, 25, 50, 100, and 500 year events

$$\begin{aligned} \log Q_{50\%} &= 0.555 + 0.425 \times \log(\text{DRNAREA}) + 0.301 \times \log(\text{RUGGED}) \\ Q_{50\%} &= 10.91 \text{ cu. ft./sec. (CFS)} \\ \\ \log Q_{20\%} &= 0.988 + 0.460 \times \log(\text{DRNAREA}) + 0.296 \times \log(\text{RUGGED}) \\ Q_{20\%} &= 29.03 \text{ cu. ft./sec. (CFS)} \\ \\ \log Q_{10\%} &= 1.187 + 0.476 \times \log(\text{DRNAREA}) + 0.294 \times \log(\text{RUGGED}) \\ Q_{10\%} &= 45.57 \text{ cu. ft./sec. (CFS)} \\ \\ \log Q_{4\%} &= 1.379 + 0.491 \times \log(\text{DRNAREA}) + 0.292 \times \log(\text{RUGGED}) \\ Q_{4\%} &= 70.38 \text{ cu. ft./sec. (CFS)} \\ \\ \log Q_{2\%} &= 1.493 + 0.500 \times \log(\text{DRNAREA}) + 0.291 \times \log(\text{RUGGED}) \\ Q_{2\%} &= 91.17 \text{ cu. ft./sec. (CFS)} \\ \\ \log Q_{1\%} &= 1.591 + 0.507 \times \log(\text{DRNAREA}) + 0.290 \times \log(\text{RUGGED}) \\ Q_{1\%} &= 113.82 \text{ cu. ft./sec. (CFS)} \\ \\ \log Q_{0.2\%} &= 1.769 + 0.520 \times \log(\text{DRNAREA}) + 0.287 \times \log(\text{RUGGED}) \\ Q_{0.2\%} &= 169.58 \text{ cu. ft./sec. (CFS)} \end{aligned}$$

This Location Can Expect To Get:
2 Year Event, in CFS, Q= 11
5 Year Event, in CFS, Q= 30
10 Year Event, in CFS, Q= 46
25 Year Event, in CFS, Q= 71
50 Year Event, in CFS, Q= 92
100 Year Event, in CFS, Q= 114
500 Year Event, in CFS, Q= 170

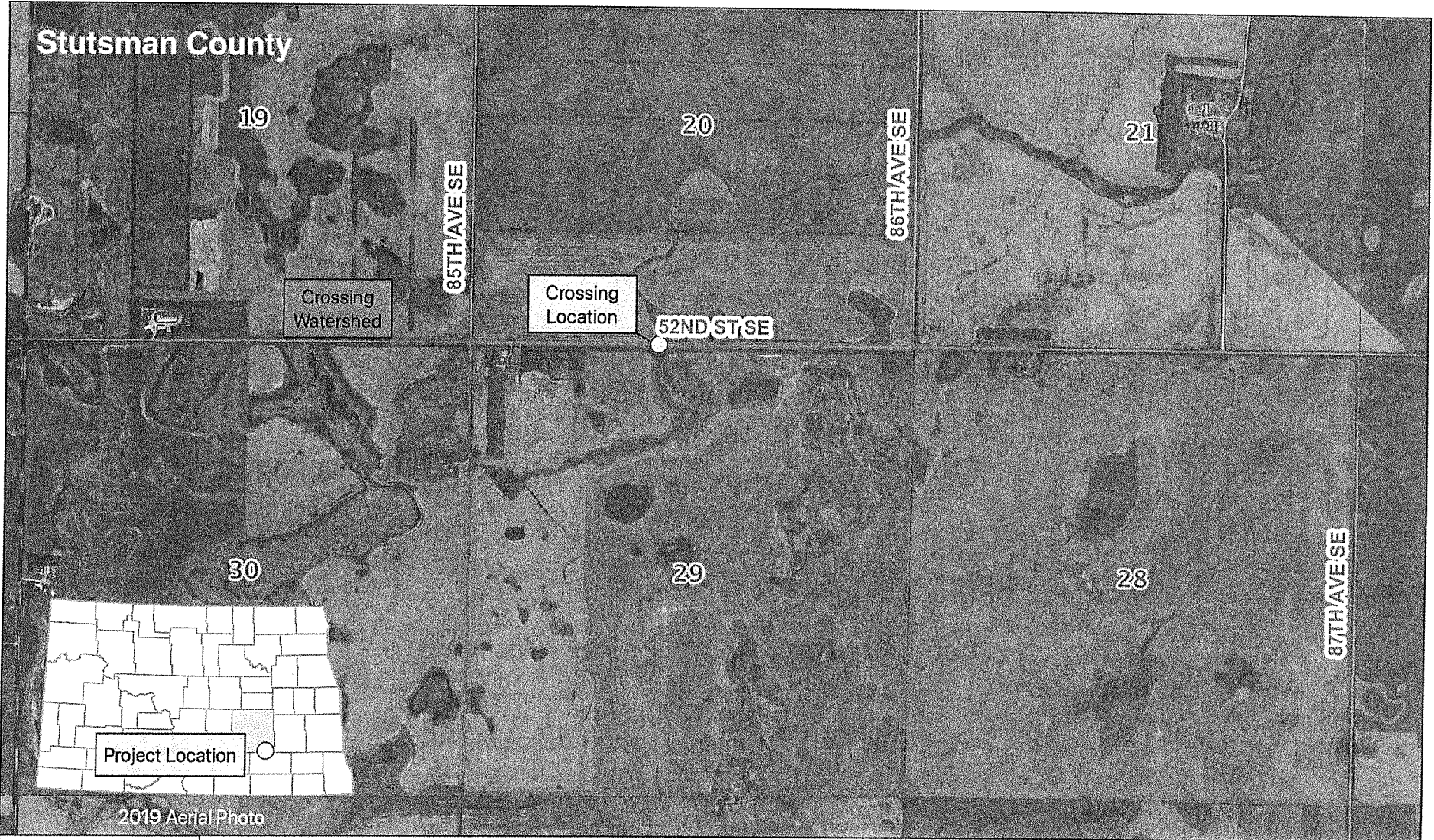
**Figure 1: OSE Regression Calculations for Crossing**

Drainage area and maximum and minimum basin elevations were delineated utilizing elevation data from the 2012 James River Basin Phase 1 LiDAR collect. Burnlines were added to the LiDAR where culverts may be so that the flow is accurately represented during delineation. The N.D. Risk Assessment MapService was used to evaluate if the waterbodies in Section 30 and the watercourse or drain immediately south of Section 29 and located in the N ½ of Sections 31 and 32, are contributing areas. After considering the 10-year event, those areas were determined to be non-contributing areas to the watershed. The stream length variable, which is the sum of all mapped streams within the watershed, was determined using the USGS hydrography 24k streams data. The Report's regression equation provided the value for the 10-year recurrence interval and determined to be 46 cfs.

**Recommendation**

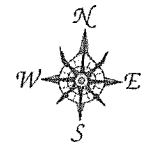
Based on the available information and my analysis, I recommend that the State Engineer determine the 10-year recurrence interval discharge at the Crossing to be 46 CFS.





Date: 8/4/2020  
Prepared by: CWN

### Exhibit 1 - Stream Crossing Determination



Between Sections 20 and 29, T137N, R63W, Stutsman County

**Testimony by Kale R. Van Bruggen  
Counsel for the Foster County Water Resource District  
Before the House Political Subdivisions Committee  
In Favor of SB 2324  
March 11, 2021**

Chairman Dockter, Vice Chair Pyle, and members of the House Political Subdivisions Committee, I represent the Foster County Water Resource District as its General Counsel. Our Vice Chairman, Mr. Doug Zink, plans to testify in support of SB 2324. I am familiar with the bill and I am available to assist Vice Chairman Zink, and to answer any questions the Committee might have of the Foster County Water Resource District. Thank you for your consideration of the Foster County Water Resource District's concerns regarding this bill.

## Testimony to the House Political Subdivisions

March 11, 2021

Thank you Chairman Dockter and Committee Members for the opportunity to provide testimony on SB 2324. My name is Aaron Birst and I represent the North Dakota Association of Counties which is in opposition to this bill.

This bill contains a simple change. However, this bill is a **Major** shift in public policy. To be clear, if this bill would become law you will have shifted budget (and ultimately property tax levy authority) from duly elected local officials to an unelected State official.

As you know, within North Dakota's thousands of miles of road networks, we have thousands if not tens of thousands of bridges and culverts. Those road networks have been built over multiple generations with many factors going into those decisions. Local road authorities have had to balance many factors including traffic counts, road size, material costs, Federal and State support, budget considerations, environmental impacts and water flow to name a few. Those decisions will have impacts beyond a singular calendar year.

Additionally, when those decisions were made, they were done with the best understanding of the current conditions. Conditions can change. Dry cycles can become wet cycles or vice-versa. Also, changes brought on by human activity can alter previously understood conditions.

Drainage of wetlands, drain tiling, cultivation of previously natural grasslands can also change waterflows to name a few. In other words, what may have been a properly sized culvert may over time become obsolete.

Under this bill a simply engineering study looking **EXCLUSIVELY** at present water flows would **REQUIRE** Counties and Townships to expend money **WITHIN A YEAR** without regard to their financial situation. Meaning this bill would force Counties and Townships to shift money from their current priorities to suit the State Engineer's recommendation. This bill also does not address when a legitimate debate exists between competing stream studies. The State Engineer's determination is final.

Water law is complex. However, North Dakota has always had an engrafted reasonableness standard when it comes to drainage. As the North Dakota Supreme Court has repeatedly made

clear for close to seventy years, "political subdivision have no duty to provide "perfect" drainage." See Little v. Burleigh County, 82 N.W.2d 603 (ND 1957) Even more specifically the Supreme Court recognized there exists "an implied standard of reasonableness in applying N.D.C.C. §§ 24-03-06 and 24-03-08." See Fandrich v. Wells County, 2000 ND 181.


Passage of this bill would overturn well settled law which would result in unreasonable shifting of taxing authority from elected officials to appointed officials.

Thank you.

Testimony Prepared for the  
**House Political Subdivisions Committee**

Thursday, March 11, 2021

By: Nick West PE, NDACE President & Grand Forks County Engineer



*North Dakota  
Association of  
County Engineers*

**RE: Senate Bill 2324**

Chairman Dockter and members of the House Political Subdivisions Committee, my name is Nick West, I'm the president of NDACE, the Grand Forks County Highway Engineer and Chairman of Allendale Township. Thank you for the opportunity to provide testimony in opposition of SB 2324.

I did submit testimony a month ago when this bill was first heard in the Senate Transportation Committee. Please reference that testimony, as it still holds true. Every crossing is controversial, it's a constant tug of war between upstream and downstream interests, and the middle ground is the NDCC. The State Engineer's office should remain a partner, an asset, as it is today, and not turned into an authoritative agency with direct jurisdiction over Local Governments.

That said, I'd like to express my sympathies to all the parties involved in these culvert projects. Managing water is challenging and has real financial consequences both up and downstream. Often times there's a lot of tribulations to each unique situation, with limited funding to remedy the problems, and government is tasked with finding that balance and sometimes gets a bad name in the process. However, this bill doesn't solve the problem.

Bottom line, this bill as proposed with its amendments transfer's power away from the local subs and gives it to the State Engineer's office, with no funding mechanism to support it. The State Engineer could tell a County or Township what to do and the County or Township would have no mechanism to contradict or even negotiate the requirement, even if the Engineer's requirement exceeds the Stream Crossing Standards. This unfunded mandate could be particularly difficult for a township or smaller county to work into their construction plan particularly within the one-year timeframe amendment. Having one agency dictate what another agency must do, is never a good thing.

It's likely that this bill would create an increase in determination requests that could overwhelm the State Engineer's office. One question that would need to be addressed is, does the State Engineer's office have sufficient capacity to process such requests?

Additionally, and unfortunately, this bill still doesn't solve the enforcement issue, as folks like Mrs. Backer would still be forced to sue the township in order to get justice, that part doesn't change from current Century Code.

We would urge a "do not pass" vote on this bill, however if this bill proceeds further, we recommend adding language to address the potential unfunded mandate.

Please feel free to reach out to me with any questions. I can be reached via phone at Office: 701-780-8248 or Mobile: 701-317-0126 or via email at: [nick.west@gfcounty.org](mailto:nick.west@gfcounty.org).

Thank you for your time and consideration.

**Testimony by Jayme Tenneson, Griggs County State's Attorney, Nelson County State's Attorney  
Before the House Political Subdivisions Committee**

**In Opposition of SB 2324**

**March 11, 2021**

Thank you Chairman Dockter and Committee Members, for the opportunity to provide testimony on SB 2324. My name is Jayme Tenneson, I am the State's Attorney in Nelson County and Griggs County and serve as an executive officer on the board of the NDACo. I also farm with my father in Griggs County.

I first heard the adage of "Whiskey is for drinking and water is for fighting", after I had been serving as state's attorney and it was contradictory to everything my experience as a state's attorney had told me. Unfortunately, I have learned the hard way, that there is probably no truer expression than this.

As a State's Attorney, I have the duty to look out for the best interest of the counties I serve. As a farmer I must work as hard as I can to conserve our land not only for my own livelihood, but so that I can pass on an asset that I hope provides for generations. I respectfully request recommend a **"DO NOT PASS"** on SB 2324.

First, I need to speak to you as a State's Attorney. Counties have limited budgets and resources as you see every year during the session. I believe passage of SB 2324 is detrimental to the counties I serve, probably more than others because we are importers of water. Both Nelson and Griggs Counties are importers of water having the Sheyenne River and Baldhill Creek system as outlets to drains. Both counties have hundreds of stream crossings and culverts throughout the county and township road system. The requirement that counties

follow stream crossing studies and replace culverts within one year of the study under SB 2324 will have disastrous financial impact on counties. This disastrous financial impact will be implemented through appointed officials rather than the local elected officials.

I believe that implementation of SB 2324 will cause deteriorated relationships between neighboring counties, neighboring townships, and between counties and townships. Passage of SB 2324 will force counties and townships to “dump” water on their downstream neighbors without being able to broker deals between the sub divisions. Under current law, there is no requirement to replace the culverts within any given time frame. This allows the townships or counties the ability to work together. When crossing county or township lines, it gives the water resource board the ability to work with the townships, counties, and other water boards to find a solution to issues. I believe SB 2324 will ultimately result in suits between counties, townships, and landowners.

The Griggs County Commission and Nelson County Commission are concerned about the financial repercussions of SB 2324 and the power that this would give to the state to control county and township affairs. As a result both commissions have taken action to formally oppose SB 2324.

Finally, voters of my respective counties voted for township officers and county commissioners and shown confidence in their ability to steer the counties in the right direction and solve the counties’ problems. These voters have given the commissioners and township officers the power to manage the culverts of the counties and townships. The commissioners have the ability to appoint a water resource board and gives that board to be the governors of



water in their respective counties. Current law, gives those same water resource board members the ability to work with other boards to govern shared watersheds.

Next, I think it's appropriate to address you as a farmer. Because of changes in technology and the need to get the highest return on investment possible, farmers are more aggressively draining with use of GPS technology and subsoil tiling. These practices remove the water from the land at higher speeds. These practices result in increased flows at stream crossings and through the man-made or natural drains. This causes water to back up at stream crossings and erode the drainage channels. Now, culverts that were sufficient for the last 50 years are no longer sufficient. Channels that handled the water for the last 50 years are no longer sufficient. Downstream neighbors receive these higher volumes of water at faster rates. This additional water causes drains to overtop their banks and flood fertile land of downstream neighbors. These actions are causing irreparable damage to fertile farmland while draining the water from poor to mediocre land. It creates erosion of the drainage channels that can not be stopped nor repaired. As a farmer it kills me to see the soil erode. Soil can not be replaced.

Griggs County County and Foster County are currently facing a stream crossing study on a drain at the county line. This is the western boundary of Griggs County and the Eastern Boundary of Foster. This drain travels approximately 7 miles before it enters the Baldhill Creek which eventually flows into Lake Ashtabula and into the Sheyenne River. In this particular stream crossing study, the study calls for two 36 inch culverts to replace a single 24 inch culvert that adequately served the drain since the early 50s.

I'm intimately familiar with this stream crossing because my family farms this land on the eastern boundary of Griggs County, and it has been in my family since the late 40s.

Replacing these culverts will quadruple the water flow through the drain, likely topping the channel and causing more erosion. 2 miles downstream from the Griggs and Foster County line there is the farm yard of Tim and Nancy Anderson that is near the drain. The Andersons have previously have fought water in their farm yard near their home because of this drain. Increased flows from the additional culvert will cause the Andersons to contend with a flooded yard and home. Approximately a mile downstream from the Andersons is Tim and Marietta Weber. Tim lives on his family farm that was built by his father Rueben. Webers have diked their yard and have seen waters approximately 6 inches from the top of their dike. Again, increased flows will likely be catastrophic for the Weber family. Yet, another mile down the road, Doug Johnson's land has a wildlife easement on it. This wildlife easement will only allow a portion of the water to leave the Johnson land. Finally, the drain flows into land owned by Gary and Karen Ramsey, this land is irrigated with an irrigation pivot, but the pivot is unable to operate as it once did because of the washout created by this drain. The Ramseys never imagined their investment in and expensive irrigation system would be stopped because of a water washout. Current law mandates that more water flow into this waterway and proposed law mandates that it be done within a year. The upstream land owners have only expressed the desire to move the water from their land with absolutely no regard for the downstream damage.

Neither current law under NDCC 24-03-08 nor proposed SB 2324 take into account any downstream impact, but allows upstream landowners to relieve the water from their land as quickly as possible. Current law and the proposed legislation of SB 2324 do not work. It allows

upstream landowners to dump their water and forget it and leave those downstream to suffer the consequences.

For the reasons above, I respectfully recommend **“DO NOT PASS”** on SB 2324. Thank you.

Thank you Chairman Dockter and members of the House Political Subdivisions Committee:

My name is Tom Dahl. I am a farmer and landowner in Griggs County. I currently serve on the following boards: Chairman of the Griggs County Water Resource District, member of the Tri-County Water Resource District comprised of Griggs, Barnes, and Stutsman Counties, and Washburn Township Board Chairman. SB 2324 is a bill that will heighten the water struggles/difficulties within this state and I ask that you vote against it for several reasons.

1. Creates problems for downstream landowners by:
  - A. Increasing culvert sizes such as an 18" to a 24", 24" to a 30", 30" to a 36". A fairly inexpensive way to create a problem for those downstream, but creates downstream impacts that are not taken into consideration the way the bill is currently written.
  - B. Jumping watersheds forcing water to go against USGS Stream Stats Natural Waterway.
  - C. Increasing drainage with the help of modern technology including Lasers, GPS, and RTK.
2. Will allow artificial drainage of large sloughs.
3. The bill, as written, requires townships and counties to construct improvements mandated by unelected officials potentially creating a financial burden.

Griggs County, who borders Foster County to the east, is currently dealing with an exemplary situation. Foster County's 1,000 acre watershed on the eastern part the county originally flowed east across the Griggs' county line and continued north traveling under Hwy. 200 making its' way to the 3<sup>rd</sup> St. Drain. This water shed was rerouted decades ago to a watershed flowing southeast instead of north. Over the recent years Foster county landowners have jumped an additional 1,200 acres joining the 1,000 acre water shed forcing it to accept 2,200 acres of water going SE causing tremendous problems for landowners in Griggs County as it cannot handle this volume.

The current century code provision focuses only on the upstream side of the road, but has no provisions on property damages that will occur downstream. Griggs County is a major importer of water as it is the outlet for many drains that require larger culverts at the bottom end of the watershed.



# North Dakota Township Officers Association

*Promoting basic Grassroots Government!*

Larry A Syverson, Executive Secretary  
 465-150<sup>th</sup> Ave NE  
 Mayville ND 58257-9011  
 (701)430-1735  
 larry.ndtoa@gmail.com

**March 11, 2021**

**House Political Subdivisions Committee**

**To oppose SB 2324**

Good morning Chairman Dockter and members of the House Political Subdivisions Committee. I am Larry Syverson, the Executive Secretary of the North Dakota Township Officers Association. NDTOA represents the nearly 6,000 Township Officers that serve 1,317 organized ND Townships.

NDTOA is currently conducting a survey of its members concerning funding shortcomings and asking them to identify projects that they cannot complete because of the lack of funds. So far we have received 305 responses back; the most common unfunded issue is the replacement of deteriorated or undersized culverts, this was reported by 111 of the 305 townships. Of those that provided cost estimates the mean value of the needed work was \$42,029.

It would seem the premise of SB 2324 is that if the township replaces one culvert all will be well, end of story. If only it were that easy I would not bother to oppose the bill. The problem is, the problem would not be solved, just moved to the next mile and then to the next mile. The flow must reach either a river or an assessment drain before it can be considered resolved. That often requires a chain of culverts which must be replaced resulting in cost in the tens of thousands of dollars.

Should SB 2324 pass, townships will have to make some difficult choices if faced with one of these dilemmas; how to pay for thousands of dollars' worth of culvert installations and still maintain the road network. Perhaps they could set up a special assessment district and charge the cost to the benefited landowners. Perhaps the road in question might be closed, barricaded, and cut open to allow unrestricted flow; the public would have to take the long-way-around to get where they need to go, not a good solution, but if the township doesn't have an extra \$60,000 that might be the answer.

One possible solution would be for the state engineer to determine the water course and forward the information to the appropriate water resource district to set up an assessment drain district to cover the costs of the culverts and any downstream modifications to handle the resulting flow rate. That way the costs would not be paid at the expense of road maintenance funding. This would also allow the costs to be applied across multiple townships if required by the water course. (continued)

*Serving ND Townships since 1966*  
 For information go to: [NDTOA.COM](http://NDTOA.COM)



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larry.ndtoa@gmail.com

NDTOA opposes SB 2324 as an unfunded mandate, and unless a way can be found to address the cost, I must respectfully ask that you give it a do not pass recommendation

Thank you, Chairman Dockter and committee members; that concludes my prepared statement; I will try to answer any questions you may have.

# TECHNICAL MEMORANDUM

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DATE: **October 5, 2020**

TO: *ac* Aaron Carranza, P.E., Director, Regulatory Division

FROM: *ML* Matt Lindsay, P.E., Manager, Engineering and Permitting Section

SUBJECT: **STREAM CROSSING DETERMINATION HYDROLOGIC METHODS**

## DESCRIPTION OF PROBLEM

There is little guidance in N.D. Administrative Code § 89-14-01-03 regarding the hydrology methods to be used to calculate discharge (i.e., flow) values for the “minimum design standard recurrence interval” for a “stream crossing.” Generally, the three options, as the case may be, to use are the “rational method,” “United Stage Geological Survey’s” regression report, or “other recognized hydrologic methods.” However, staff have questioned the applicability of the “USGS regression approach” over all situations and how and when that method is best implemented or served given there is not existing guidance, standard, or agency policy when to use “other hydrologic methods.” This memo will serve as a guide to Office of State Engineer staff regarding what hydrologic methods to implement where and when, depending on the circumstances.

## FURTHER STEPS OR ACTION NEEDED TO IMPLEMENT

None. This document could suffice as a policy or internal standard operating procedure.

## RECOMMENDATION

At minimum, I recommend adopting this as an internal policy in writing, otherwise known as an standard operating procedure.

## **STREAM CROSSING DETERMINATION HYDROLOGIC METHODS**

N.D. Administrative Code ch. 89-02 stipulates requirements for compliance with North Dakota Stream Crossing Standards, as codified in N.D. Century Code § 24-03-08. There is little guidance in ch. 89-02 regarding the “recognized” or “other recognized hydrologic methods” to use and when to use them. The following will be a general guidance for Office of State Engineer staff as to when to implement the appropriate hydrologic methods to compute discharge values. This guidance has been discussed with N.D. Department of Transportation (NDDOT) staff.

### REGRESSION EQUATIONS

The U.S. Geological Survey (USGS) regression equations from USGS Scientific Investigations Report 2015-5096 (USGS Report) is the default hydrology method to utilize for **ALL** stream crossings. The following are some important considerations.

The regression equations should be calculated separately, preferably with a spreadsheet. USGS Stream Stats (<https://water.usgs.gov/osw/streamstats/>) should be checked initially to aid in review, but Stream Stats results cannot be used for formal determinations.

### DATA SOURCES

Regression equation variables, such as drainage area, maximum elevation, minimum elevation, mapped stream length, longest flow path, etc., should be calculated in GIS capable software and using best available data, such as:

- 1) LiDAR from ND State Water Commission website
  - a. Preferably, 1-meter resolution DEM, based upon most recent LiDAR, should be used.
  - b. If 1-meter is too fine a resolution to analyse efficiently, DEM may be resampled to a higher resolution, preferably 3-meter resolution.
- 2) National Hydrology Dataset (NHD) from USGS website
- 3) High resolution aerial photograph from the ND State Water Commission website and Google Earth for identifying culvert locations.
- 4) ND Risk Assessment MapService for recurrence interval inundation data

### EQUATION VARIABLES

In order to further refine the intent of some of the USGS Report’s equation variables, the following expands upon the definitions provided in the USGS Report.



“Stream\_length” is defined as the “the summed length of all mapped streams.” The OSE interprets this to be the NHD layer 24K streams.

“LFP\_length” is defined as the “length of longest flow path.” The OSE interprets this to be the length of the longest flow path in the drainage area from the downstream most point to the upstream most point in the drainage area.

## EQUATION LIMITATIONS AND BASIN REPRESENTATION

If the USGS regression equations do not meet the limitations of the equations, or the parameter information does not accurately represent the basin, the data may be altered in the following ways:

- 1) “Drainage\_Area” (All Hydrologic Zones)
  - a. The equation results for drainage areas less than the minimum requirements may be considered for final determinations
- 2) “Ruggedness\_number” (Hydrologic Zones B and C)
  - a. The “stream\_length” variable utilizes the NHD layer. This data may be altered to more closely match streams as identified on high resolution aerial photography to develop a more accurate basin representation.
  - b. For small drainage areas without sufficient “stream\_length,” the longest flow path for the drainage area may be delineated with GIS software to mimic stream\_length per NDDOT guidance in NDDOT’s Chapter V Hydraulic Studies and Drainage Design.

## EXISTING CULVERTS OR BRIDGES

Every effort should be made to identify all existing culverts and bridges that may affect drainage area boundaries and flow paths. High resolution aerial photography will be utilized in most cases. If the existence of a culvert(s) is not known and its existence would make a substantial difference in the final determination, a site visit may be warranted and will be decided on a case by case basis.

## NON-CONTRIBUTING AREAS

Non-contributing areas should be removed from the drainage area, where appropriate. Identification of non-contributing areas within a drainage area should be based on the design event of the crossing. ND Risk Assessment MapService data should be utilized to aid in identifying non-contributing areas. If there is a high level of uncertainty whether an area is a non-contributing area for the crossing in question, a conservative and consistent approach is to include those areas as contributing to the crossing.

## OTHER GUIDANCE AND EXCEPTIONS

Unless otherwise specified in this memorandum, the USGS Report or NDDOT guidance from NDDOT's Chapter V Hydraulic Studies and Drainage Design should be referenced in the absence of any further guidance or details in this memorandum.

The following are general exceptions to use of the regression equations. These exceptions are consistent with NDDOT guidance in NDDOT's Chapter V Hydraulic Studies and Drainage Design.

- **IF the crossing is located in an urban setting**, utilizing the rational method may be more appropriate than the regression equations or other hydrologic methods.
- **IF the stream crossing is adjacent to another major "hydrologic zone" boundary in Figure 1 of the Report**, check the equations results of the adjacent hydrologic zone. The results from the zone with the most conservative results will be used for the final determination.
- **IF the crossing is located on a gaged stream**, a statistical analysis of the stream gage data may be more appropriate. Utilizing USGS's 17B or 17C flood flow frequency methodologies in HEC-SSP program to implement is recommended. Only use a statistical analysis when there are NO tributaries entering the stream in question between the stream crossing requested and the available stream gage data.
- **IF the crossing is an equalization culvert for a large waterbody, such as a pond, slough, or lake**, utilizing the methodology in the NDDOT's Chapter V Hydraulic Studies and Drainage Design may be more appropriate than other methods.
- **Other hydrology methods** may be pursued on a case by case basis, however, every effort to utilize the USGS regression equations must be exhausted before utilizing other hydrologic methods. Use of other hydrologic methods must be approved by the OSE's Regulatory Division Director.



# STREAM CROSSING DETERMINATION REQUEST

NORTH DAKOTA STATE ENGINEER

REGULATORY DIVISION

SFN 61885 (8/2020)

Crossing Type					
<input type="checkbox"/> City / Municipal Road / Urban		<input type="checkbox"/> County Road / Off System		<input type="checkbox"/> County Road / Major Collector	
<input type="checkbox"/> Township Road		<input type="checkbox"/> State Highway			
Road Authority of Jurisdiction (e.g., Barnes County Highway Department, Dwight Township, etc.)					
Have you contacted the Road Authority regarding this request? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable					
Road Description (e.g., County Hwy No. 1, 110th Ave NE, etc.)					
Request Location					
Upstream	¼	¼	Section	Township	Range
Downstream	¼	¼	Section	Township	Range
<b>MUST ATTACH MAP TO HELP INDICATE LOCATION(S) REQUESTED.</b> <i>If multiple stream crossings are requested, please provide location details on a separate sheet(s).</i>					
Anticipated construction start date of stream crossing, if known?					
Requestor's Certification					
I am requesting a stream crossing determination from the State Engineer. I understand the requirements of North Dakota Century Code sections 24-03-06 and 24-03-08 and that upon receipt of the State Engineer's stream crossing determination, the stream crossing must be designed and installed, at minimum, according to the State Engineer's discharge (i.e., flow rate) provided the requirements in sections 24-03-06 and 24-03-08 and the requirements in North Dakota Administrative Code article 89-14. Additionally, I acknowledge that my request is accurately described and depicted as I intended. My signature below acknowledges that I have read and agree to these statements.					
Requestor Affiliation					
<input type="checkbox"/> Petition by Majority of Landowners of the Area Affected		<input type="checkbox"/> Township Supervisors			
<input type="checkbox"/> Board of County Commissioners		<input type="checkbox"/> Water Resource District			
Requestor Name (Please list organization name; if petition, please provide separate sheets)					
Address			City	State	ZIP Code
Telephone Number			Email Address		
Requestor Signature					Date

*Additional Sheets May Be Attached If Necessary*

If you need any assistance, please contact the Regulatory Division at (701) 328-2752.

This request must be submitted to  
North Dakota Office of the State Engineer

**Mail** | 900 East Boulevard Ave, Bismarck ND 58505

**Email** | [swcregpermits@nd.gov](mailto:swcregpermits@nd.gov)

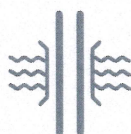
**Fax** | (701) 328-3696

# 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 Office of the State Engineer (OSE) upon request from an eligible party under N.D.C.C. section 24-03-08.

# WHO, WHAT, WHERE'S ON STREAM CROSSINGS



## WHO HAS JURISDICTION OVER STREAM CROSSINGS?

Generally, the road authority has jurisdiction over culverts, bridges, etc. in their roads, whether that be the township, county, municipal, or state road authority. Water resource districts only have authority over culverts needed to accommodate a “drain.” Jurisdiction has been litigated in the North Dakota Supreme Court in several cases. A good resource for discussion on this topic is the “Roadways” section of the North Dakota Water Managers Handbook, which is available from the [North Dakota Water Resource District Association](#).

## WHERE CAN I FIND THE APPLICABLE LAWS REGARDING STREAM CROSSINGS?

N.D.C.C. titles 24 and 61 include the laws directly or indirectly relating to stream crossings, depending on the specific issue. The specific laws generally governing stream crossing determinations include:

- N.D.C.C. section 24-03-06
- N.D.C.C. section 24-03-08
- N.D.C.C. section 24-06-26.1
- N.D.A.C. article 89-14

## WHAT ARE “STREAM CROSSING STANDARDS?”

“Stream Crossing Standards” are minimum design standards for road crossings that were developed by the OSE 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 OSE 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, subcontractors, or agents, and any individual firm, corporation, or limited liability company that installs stream crossings that comply with Stream Crossing Standards.

## WHEN SHOULD A STREAM 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 OSE, 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 OSE’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.



# OSE 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 OSE by filling out a [Stream Crossing Determination Request form \(SFN 61885\)](#).

## WHAT INFORMATION WILL I GET IF I REQUEST AN OSE 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 OSE, as described in N.D.C.C. section 24-03-08. The OSE 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 OSE MAKE A DETERMINATION?

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

## USGS STREAM STATS

OSE 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 OSE 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 OSE 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 State Engineer 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 OSE STREAM CROSSING DETERMINATION?

OSE stream crossing determinations are considered an "action or decision" by the State Engineer 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 State Engineer hearing on the matter.



## OTHER IMPORTANT CONSIDERATIONS

- The OSE does not provide culvert or bridge sizing services.
- The OSE 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 OSE'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 OSE recommends contacting the applicable [NDDOT District Engineer](#) before submitting stream crossing request to the OSE.
- Road authorities may request a deviation from Stream Crossing Standards, but such a deviation must be approved by both the OSE 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 OSE at (701) 328-2752 or by email at [swcregpermits@nd.gov](mailto:swcregpermits@nd.gov).

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

**From:** [khagel@daktel.com](mailto:khagel@daktel.com)  
**To:** [terry.traynor@ndaco.org](mailto:terry.traynor@ndaco.org); [NDLA, Intern 10 - Winbauer, Katie](#)  
**Subject:** RE: SB 2324 "Culvert Bill" Oppose -Do Not Pass  
**Date:** Thursday, March 11, 2021 8:45:48 AM

\*\*\*\*\* **CAUTION:** This email originated from an outside source. Do not click links or open attachments unless you know they are safe. \*\*\*\*\*

Honorable Rep. Jason Dockter and Committee Members:

Foster County opposes the Culvert bill as amended to require installation within one year. The timeline does not account for budgeting for these projects.

Depending on when a water study is requested and the follow up of ordering and installation, the highway funding may not include costs for such work.

Proposed road maintenance work for that year may have to be delayed to meet the requirements under this law.

Last year we had 3 water studies brought to our Commission which would have required multiple culvert installation. We contracted with our Engineer (Wold Engineering) to review these studies because he had questioned the CFS numbers on the lower 2 sites. Our Engineer presented his findings to the State Engineer. This resulted in the State Engineer reviewing the methodology used on these studies. One study involved a Texas Crossing which was created in 2011 when major flooding irreparably damaged a bridge that had to be removed and FEMA would not pay to replace it. After the review, it was determined the Texas Crossing is adequate. A second site was reviewed and the CFS were adjusted so that the number and size of culverts was changed. We ordered the culverts for the 2nd site last fall but too late to do the installation. These 3 studies were presented to the Senate Committee by a citizen as "Nothing being done on these 3 studies" which was not true. The other 2 studies are also on paved roads where there is no reconstruction planned. So we would be tearing up good pavement to install culverts. The 2nd site installation is planned for this spring.

The cost of culverts has doubled due to the price of steel according to our local contractor. We had sought culvert quotes on 2 other projects which came in at \$24,000 which if we continue with that project would now cost \$50,000 just for the culverts. For our small county, this would be approximately 2 mills.

There is also the question of county wide funding for these projects when it benefits certain landowners. We know there are 2 major studies on water and legal drainage assessment which maybe all these issues should be combined for study, benefit,



and cost analyses. When these issues cross county lines there is added conflict on how to resolve these issues. A private citizen requests a study that snowballs into an unfunded mandate for which counties are not prepared. This bill in its present form would impact not only Counties but North Dakota Department of Transportation and Townships.

Thank you for your consideration.

# 2021 HOUSE STANDING COMMITTEE MINUTES

## Political Subdivisions Committee Room JW327B, State Capitol

SB 2324  
3/16/2021  
Sub committee

Relating to the installation of culverts
--

**Rep. Ertelt: (8:00)** Sub-committee chairperson, called the meeting to order

**Rep. Ertelt:** Present  
**Rep. Fegley:** Present  
**Rep. Nelson:** Present  
**Rep. Nehring:** Present

### Discussion Topics:

- Amendment
- State Engineer

**Rep. Ertelt:** Discussed the amendment from Sen. Wanzek 21.1016.02002 and changes to the bill. #8800

**Rep. Ertelt: (8:17).** Adjourned the sub-committee and the committee will meet on Thursday at 8:00.

*Carmen Hickle, Committee Clerk*

21.1016.02002  
Title.

Prepared by the Legislative Council staff for  
Senator Wanzek

March 10, 2021

PROPOSED AMENDMENTS TO ENGROSSED SENATE BILL NO. 2324

Page 1, line 22, remove "within one year after receiving the state engineer's determination"

Page 2, line 4, remove "and any recommendations from the state engineer for a specific size or design for the"

Page 2, line 5, remove "culvert or bridge"

Renumber accordingly

# 2021 HOUSE STANDING COMMITTEE MINUTES

## Political Subdivisions Committee Room JW327B, State Capitol

SB 2324  
3/18/2021  
Sub committee

Relating to installation of culverts
--------------------------------------

**Rep. Ertelt: (8:02).** Chairperson of the Sub-committee

**Rep. Ertelt:** Present

**Rep. Fegley:** Present

**Rep. Nehring:** Present

**Rep. Nelson:** Present

### Discussion Topics:

- Amendment
- Township officer
- Up-stream plan

**Rep. Ertelt:** Explained an email that he received regarding the township officer and culvert work completed.

**Rep. Nelson:** Proposed amendment which would replace the one year within five years.

**Rep. Nehring:** Townships meet annually.

**Rep. Ertelt:** Concerned with adding the time frame.

**Rep. Fegley:** Proposed amendment Line 20 come up with a plan within 6 months or the States Attorney upon request will explain to all the officers what the law is. Testimony #9990.

**Terry Traynor:** Answered questions. Existing law is not clear.

**Rep. Ertelt:** If there is no enforcement or incentive are we back to where it was. How to incentivize it?

**Aaron Carranza State Engineer:** Answered questions.

**Rep. Nehring:** Made a motion on the proposed amendment 21.1016.02002. #8800

**Rep. Nelson:** Second the motion.

Voice vote carried

**Rep. Nelson:** Felt the study should go forward then see if there are any changes to be made.

**Rep. Fegley:** Concurred.

**Rep. Ertelt:** Wanted to talk to Sen. Wanzek to see how he felt about the study. If we adopt the amendment, it has a protection for downstream to have a specific size and using the State Engineer to determine the specific size.

**Rep. Ertelt: (8:49).** Closed the sub-committee

*Carmen Hickle, Committee Clerk*

March 10, 2021

PROPOSED AMENDMENTS TO ENGROSSED SENATE BILL NO. 2324

Page 1, line 22, remove "within one year after receiving the state engineer's determination"

Page 2, line 4, remove "and any recommendations from the state engineer for a specific size or design for the"

Page 2, line 5, remove "culvert or bridge"

Renumber accordingly

Amendment to SB 2324

Line 20 strike everything after be and to line 24 to The department

Line 20 after be add; needs to come up with a plan in 6 months or upon request the States Attorney will explain their duty to follow the law.

Second page

Line 4 strike the language after the first engineer.

21.1016.02002  
Title.

Prepared by the Legislative Council staff for  
Senator Wanzek

March 10, 2021

PROPOSED AMENDMENTS TO ENGROSSED SENATE BILL NO. 2324

Page 1, line 22, remove "within one year after receiving the state engineer's determination"

Page 2, line 4, remove "and any recommendations from the state engineer for a specific size or design for the"

Page 2, line 5, remove "culvert or bridge"

Renumber accordingly



# 2021 HOUSE STANDING COMMITTEE MINUTES

## Political Subdivisions Committee Room JW327B, State Capitol

SB 2324  
3/25/2021  
Sub Committee

Relating to installation of culverts
--------------------------------------

**Rep. Ertelt: (8:05).** Opened the sub committee

**Rep. Ertelt:** Present

**Rep. Fegley:** Present

**Rep. Nehring:** Present

**Rep. Nelson:** Present

### Discussion Topics:

- Minimum size
- Amendments

**Rep. Ertelt:** Discussed changes to the Wanzek amendment and First Engrossment Christmas Tree version 21.1016.02006. Testimony #10719, #10723.

**Rep. Fegley:** Flow rate versus culvert size.

**Rep. Nehring:** Time line authorization.

**Rep. Nelson:** Time line is executive function.

**Matt Lyndsey, Engineer State Water Commission:** Answered questions.

**Rep. Nelson:** Discussed a proposed amendment from Association of Counties.

**Rep. Ertelt:** Introduced 21.1016.02007 for a study. Testimony #10724.

**Rep. Nehring:** Made a motion on 21.1016.02007 study.

Died for a lack of a second.

**Rep. Nelson:** In favor of adding the study on the end of the bill but not replacing the bill with a study.

**Rep. Fegley:** Made a motion to move 21.1016.02006.

Died for a lack of a second.

**Rep. Nelson:** Made a motion to move the bill as amended.

**Rep. Fegley:** Second the motion.

**Rep. Ertelt:** Yes  
**Rep. Fegley:** Yes  
**Rep. Nehring:** No  
**Rep. Nelson:** Yes

**Rep. Ertelt: (8:37).**

*Carmen Hickle, Committee Clerk*

21.1016.02006

## FIRST ENGROSSMENT

Sixty-seventh  
Legislative Assembly  
of North Dakota

## ENGROSSED SENATE BILL NO. 2324

Introduced by

Senators Wanzek, Conley

Representatives Ostlie, Pollert, Satrom

1 A BILL for an Act to amend and reenact section 24-03-08 of the North Dakota Century Code,  
2 relating to installation of culverts.

3 **BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:**

4 **SECTION 1. AMENDMENT.** Section 24-03-08 of the North Dakota Century Code is  
5 amended and reenacted as follows:

6 **24-03-08. Determinations of surface water flow and appropriate highway**  
7 **construction.**

8 ~~Whenever and wherever~~When a highway under the supervision, control, and jurisdiction of  
9 the department ~~or under the supervision, control, and jurisdiction of the~~ a board of county  
10 commissioners ~~of any county~~, or the a board of township supervisors has been or will be  
11 constructed over a watercourse or draw into which flow surface waters from farmlands, the  
12 state engineer, upon petition of the majority of landowners of the area affected or at the request  
13 of the board of county commissioners, township supervisors, or a water resource board, shall  
14 determine as nearly as practicable the design discharge ~~that~~ the crossing is required to carry to  
15 meet the stream crossing standards prepared by the department and the state engineer. When  
16 the determination has been made by the state engineer, the department, the board of county  
17 commissioners, or the board of township supervisors, as the case may be, upon notification of  
18 the determination, shall install a culvert or bridge of ~~sufficient capacity to permit the water to flow~~  
19 ~~freely and unimpeded through the culvert or under the bridge~~ minimum size commercially  
20 available to provide the design discharge determined by the state engineer. If the department,  
21 the board of county commissioners, or the board of township supervisors, as the case may be,  
22 ~~fails to install a culvert or bridge of sufficient capacity for~~ minimum size commercially available to  
23 provide the design discharge determined by the state engineer ~~within one year after receiving~~  
24- ~~the state engineer's determination~~, and does not have good cause for failing to do so, a court

Sixty-seventh  
Legislative Assembly

1 may award reasonable court costs and attorney's fees to a person that incurred the expenses in  
2 an action to enforce this section. The department, county, and township are not liable for any  
3 damage to any structure or property caused by water detained by the highway at the crossing if  
4 the highway crossing has been constructed in accordance with the stream crossing standards  
5 prepared by the department and the state engineer ~~and any recommendations from the state~~  
6 ~~engineer for a specific size or design for the culvert or bridge.~~

SECTION 1. AMENDMENT. Section 24-03-08 of the North Dakota Century Code is amended and reenacted as follows: 24-03-08. Determinations of surface water flow and appropriate highway construction.

~~Whenever and wherever~~When a highway under the supervision, control, and jurisdiction of the department ~~or under the supervision, control, and jurisdiction of the,~~ a board of county commissioners of any county, or the board of township supervisors has been or will be constructed over a watercourse or draw into which flow surface waters from farmlands, the state engineer, upon petition of the majority of landowners of the area affected or at the request of the board of county commissioners, township supervisors, or a water resource board, shall determine as nearly as practicable the design discharge that the crossing is required to carry to meet the stream crossing standards prepared by the department and the state engineer. ~~When~~If the determination has been made by the state engineer, the department, the board of county commissioners, or the board of township supervisors, as the case may be, upon notification of the determination, shall install a culvert or bridge of sufficient capacity to permit the water to flow freely and unimpeded through the culvert or under the bridge. If the state engineer recommends a specific size or design for the culvert or bridge, the department, the board of county commissioners, or the board of township supervisors, as the case may be, upon notification of the recommendation, shall install the recommended culvert or bridge **when the highway is constructed or reconstructed.** The department, county, and township are not liable for any damage to any structure or property caused by water detained by the highway at the crossing if the highway crossing has been constructed in accordance with the stream crossing standards prepared by the department and the state engineer and any recommendations from the state engineer for a specific size or design for the culvert or bridge.

21.1016.02007

## FIRST ENGROSSMENT

Sixty-seventh  
Legislative Assembly  
of North Dakota

## ENGROSSED SENATE BILL NO. 2324

Introduced by

Senators Wanzek, Conley

Representatives Ostlie, Pollert, Satrom

1 A BILL for an Act to amend and reenact section 24-03-08 of the North Dakota Century Code,  
2 relating to installation of culverts. for an Act to provide for a legislative management study  
3 regarding stream crossing standards.

4 BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

5 **SECTION 1. AMENDMENT.** ~~Section 24-03-08 of the North Dakota Century Code is~~  
6 ~~amended and reenacted as follows:~~

7 ~~— 24-03-08. Determinations of surface water flow and appropriate highway~~  
8 ~~construction.~~

9 ~~— Whenever and wherever~~ When a highway under the supervision, control, and jurisdiction of  
10 ~~the department or under the supervision, control, and jurisdiction of the, a board of county~~  
11 ~~commissioners of any county, or the a board of township supervisors has been or will be~~  
12 ~~constructed over a watercourse or draw into which flow surface waters from farmlands, the~~  
13 ~~state engineer, upon petition of the majority of landowners of the area affected or at the request~~  
14 ~~of the board of county commissioners, township supervisors, or a water resource board, shall~~  
15 ~~determine as nearly as practicable the design discharge that the crossing is required to carry to~~  
16 ~~meet the stream crossing standards prepared by the department and the state engineer. When~~  
17 ~~the determination has been made by the state engineer, the department, the board of county~~  
18 ~~commissioners, or the board of township supervisors, as the case may be, upon notification of~~  
19 ~~the determination, shall install a culvert or bridge of sufficient capacity to permit the water to flow~~  
20 ~~freely and unimpeded through the culvert or under the bridge. If the department, the board of~~  
21 ~~county commissioners, or the board of township supervisors, as the case may be, fails to install~~  
22 ~~a culvert or bridge of sufficient capacity for the design discharge determined by the state~~  
23 ~~engineer within one year after receiving the state engineer's determination, and does not have~~  
24 ~~good cause for failing to do so, a court may award reasonable court costs and attorney's fees to~~

1 ~~a person that incurred the expenses in an action to enforce this section. The department,~~  
2 ~~county, and township are not liable for any damage to any structure or property caused by water~~  
3 ~~detained by the highway at the crossing if the highway crossing has been constructed in~~  
4 ~~accordance with the stream crossing standards prepared by the department and the state~~  
5 ~~engineer and any recommendations from the state engineer for a specific size or design for the~~  
6 ~~culvert or bridge.~~

7 **SECTION 1. LEGISLATIVE MANAGEMENT STUDY - STREAM CROSSING**

8 **STANDARDS.** During the 2021-22 interim, the legislative management shall consider studying  
9 stream crossing standards and the design discharges that crossings must carry to meet the  
10 standards. The study must include consideration of the development of the stream crossing  
11 standards, impacts of stream crossings on upstream and downstream landowners, and  
12 enforcement of section 24-03-08 and any similar stream crossing requirements. The legislative  
13 management shall report its findings and recommendations, together with any legislation  
14 required to implement the recommendations, to the sixty-eighth legislative assembly.

# 2021 HOUSE STANDING COMMITTEE MINUTES

## Political Subdivisions Committee Room JW327B, State Capitol

SB 2324  
3/25/2021

Relating to installation of culverts

**Chairman Dockter: (9:00).** Opened for committee work.

<b>Representatives</b>	<b>Attendance</b>
Representative Jason Dockter	P
Representative Brandy Pyle	P
Representative Mary Adams	P
Representative Claire Cory	P
Representative Sebastian Ertelt	P
Representative Clayton Fegley	P
Representative Patrick Hatlestad	P
Representative Dori Hauck	P
Representative Mary Johnson	P
Representative Lawrence R. Klemin	P
Representative Donald Longmuir	P
Representative Dave Nehring	P
Representative Marvin E. Nelson	P
Representative Nathan Toman	P

### Discussion Topics:

- Minimum culvert size
- Study

**Rep. Ertelt:** Explained the results of the sub-committee to recommend the Wanzek amendment. 21.1016.02002.

**Aaron Burst, Association of Counties:** Discussed 21.1016.02004. #10726

**Rep. Ertelt:** Moved a motion on the Wanzek amendment. 21.1016.02002. #8800

**Rep. Nelson:** Second the motion.

Voice vote carried.

**Rep. Klemin:** Recommended to change freeholders to landowners.

**Vice Chairman Pyle:** Moved a motion on proposed amendment 21.1016.02004 and also retain the previous amendment as well as change freeholders to landowners.



**Rep. Adams:** Second the motion.

Voice vote failed.

**Rep. Nelson:** Moved a do pass as amended motion.

**Rep. Fegley:** Second the motion.

<b>Representatives</b>	<b>Vote</b>
Representative Jason Dockter	N
Representative Brandy Pyle	N
Representative Mary Adams	N
Representative Claire Cory	A
Representative Sebastian Ertelt	N
Representative Clayton Fegley	Y
Representative Patrick Hatlestad	N
Representative Dori Hauck	N
Representative Mary Johnson	N
Representative Lawrence R. Klemin	N
Representative Donald Longmuir	N
Representative Dave Nehring	N
Representative Marvin E. Nelson	Y
Representative Nathan Toman	N

11-2-1 failed.

**Rep. Nehring:** Moved a do not pass as amended motion.

**Rep. Adams:** Second the motion.

<b>Representatives</b>	<b>Vote</b>
Representative Jason Dockter	Y
Representative Brandy Pyle	Y
Representative Mary Adams	Y
Representative Claire Cory	A
Representative Sebastian Ertelt	Y
Representative Clayton Fegley	Y
Representative Patrick Hatlestad	Y
Representative Dori Hauck	Y
Representative Mary Johnson	Y
Representative Lawrence R. Klemin	Y
Representative Donald Longmuir	Y
Representative Dave Nehring	Y
Representative Marvin E. Nelson	N
Representative Nathan Toman	Y

**12-1-1 carried**

House Political Subdivisions Committee

SB 2324

03/25/2021

Page 3

**Rep. Nehring:** Will carry the bill.

**Chairman Dockter: (9:46).** Closed for committee work.

*Carmen Hickle, Committee Clerk*

De 3/25/21  
10/1

21.1016.02002  
Title.03000

Prepared by the Legislative Council staff for  
Senator Wanzek

March 10, 2021

PROPOSED AMENDMENTS TO ENGROSSED SENATE BILL NO. 2324

Page 1, line 22, remove "within one year after receiving the state engineer's determination"

Page 2, line 4, remove "and any recommendations from the state engineer for a specific size or design for the"

Page 2, line 5, remove "culvert or bridge"

Renumber accordingly

PROPOSED AMENDMENTS TO ENGROSSED SENATE BILL NO. 2324

Page 1, line 1, replace "section" with "subsection 5 of section 11-11-14 and sections"

Page 1, line 1, after "24-03-08" insert "and 24-08-01"

Page 1, line 2, after "to" insert "authority of boards of county commissioners and"

Page 1, line 2, after "of" insert "bridges and"

Page 1, after line 3, insert:

**"SECTION 1. AMENDMENT.** Subsection 5 of section 11-11-14 of the North Dakota Century Code is amended and reenacted as follows:

5. To construct and repair bridges and to open, lay out, vacate, and change highways in the cases provided by law. ~~But the board may not contract for the construction of bridges costing more than one hundred dollars without first complying with the provisions of chapter 24-08."~~

Page 2, after line 5, insert:

**"SECTION 3. AMENDMENT.** Section 24-08-01 of the North Dakota Century Code is amended and reenacted as follows:

**24-08-01. Construction of bridges by board of county commissioners -  
Petition - Bids - Rejection.**

~~Whenever~~In addition to the power of a board of county commissioners under section 11-11-14 to initiate a road or bridge project independently, a board of county commissioners shall view and investigate the necessity of a proposed bridge when a majority of the freeholders of a civil township, or a majority of the freeholders living within a radius of three miles [4.83 kilometers] of the proposed location, petition the board of county commissioners for a bridge at a specified location within such the township, or within any incorporated city, if the cost of the bridge exceeds the sum of five hundred dollars,~~the board of county commissioners shall view and investigate the necessity of the proposed bridge. If the board approves the petition, it~~the board shall proceed to advertise in the official newspaper of the county, for a period of thirty days, the plans and specifications of the proposed bridge, asking for requesting sealed bids for the building of such construction of the bridge, to be submitted to it~~the board at the next regular or special meeting, at which the board shall proceed to examine all proposals or bids for the building of such construction of the bridge. The~~Unless the board rejects all bids received, the board shall award the contract to the lowest responsible bidder, requiring the bidder to give a bond in a sum not less than the amount stipulated in the bid or contract, conditioned for the faithful compliance with the terms of the bid or contract, the bond to be approved. The bond is subject to approval by the board and must be filed in the office of the county auditor but the board may reject all bids. If all bids are rejected, the board shall readvertise the request for bids as provided herein in this section. Provided, however, that~~However,~~if the amount of the lowest responsible bid is less than fifteen thousand dollars and all bids are rejected, the board may refuse all bids received and proceed to construct the bridge under its own

~~supervision as it is~~ the board deems most expedient and may enter into contracts for the labor or material to be used in the construction of the bridge."

Renumber accordingly

**REPORT OF STANDING COMMITTEE**

**SB 2324, as engrossed: Political Subdivisions Committee (Rep. Dockter, Chairman)** recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO NOT PASS** (12 YEAS, 1 NAY, 1 ABSENT AND NOT VOTING). Engrossed SB 2324 was placed on the Sixth order on the calendar.

Page 1, line 22, remove "within one year after receiving the state engineer's determination"

Page 2, line 4, remove "and any recommendations from the state engineer for a specific size or design for the"

Page 2, line 5, remove "culvert or bridge"

Renumber accordingly

21.1016.0200

4

**FIRST ENGROSSMENT**

Sixty-seventh  
Legislative Assembly  
of North Dakota

**ENGROSSED SENATE BILL NO. 2324**

Introduced by

Senators Wanzek, Conley

Representatives Ostlie, Pollert, Satrom

1 A BILL for an Act to amend and reenact ~~section~~subsection 5 of section 11-11-14 and sections  
2 24-03-08 and 24-08-01 of the North Dakota Century Code, relating to authority of boards of  
3 county commissioners and installation of bridges and culverts.

**4 BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:**

5 **SECTION 1. AMENDMENT.** Subsection 5 of section 11-11-14 of the North Dakota Century  
6 Code is amended and reenacted as follows:

7 5. To construct and repair bridges and to open, lay out, vacate, and change highways in  
8 the cases provided by law. ~~But the board may not contract for the construction of~~  
9 ~~bridges costing more than one hundred dollars without first complying with the~~  
10 ~~provisions of chapter 24-08.~~

11 **SECTION 2. AMENDMENT.** Section 24-03-08 of the North Dakota Century Code is  
12 amended and reenacted as follows:

13 **24-03-08. Determinations of surface water flow and appropriate highway**  
14 **construction.**

15 ~~Whenever and wherever~~When a highway under the supervision, control, and jurisdiction of  
16 the department ~~or under the supervision, control, and jurisdiction of the,~~ a board of county  
17 commissioners ~~of any county,~~ or the a board of township supervisors has been or will be  
18 constructed over a watercourse or draw into which flow surface waters from farmlands, the  
19 state engineer, upon petition of the majority of landowners of the area affected or at the request  
20 of the board of county commissioners, township supervisors, or a water resource board, shall  
21 determine as nearly as practicable the design discharge ~~that~~ the crossing is required to carry to  
22 meet the stream crossing standards prepared by the department and the state engineer. When  
23 the determination has been made by the state engineer, the department, the board of county

1 commissioners, or the board of township supervisors, as the case may be, upon notification of  
2 the determination, shall install a culvert or bridge of sufficient capacity to permit the water to flow  
3 freely and unimpeded through the culvert or under the bridge. If the department, the board of  
4 county commissioners, or the board of township supervisors, as the case may be, fails to install  
5 a culvert or bridge of sufficient capacity for the design discharge determined by the state  
6 engineer within one year after receiving the state engineer's determination, and does not have  
7 good cause for failing to do so, a court may award reasonable court costs and attorney's fees to  
8 a person that incurred the expenses in an action to enforce this section. The department,  
9 county, and township are not liable for any damage to any structure or property caused by water  
10 detained by the highway at the crossing if the highway crossing has been constructed in  
11 accordance with the stream crossing standards prepared by the department and the state  
12 engineer and any recommendations from the state engineer for a specific size or design for the  
13 culvert or bridge.

14 **SECTION 3. AMENDMENT.** Section 24-08-01 of the North Dakota Century Code is  
15 amended and reenacted as follows:

16 **24-08-01. Construction of bridges by board of county commissioners - Petition - Bids**  
17 **- Rejection.**

18 ~~Whenever~~In addition to the power of a board of county commissioners under section  
19 11-11-14 to initiate a road or bridge project independently, a board of county commissioners  
20 shall view and investigate the necessity of a proposed bridge when a majority of the freeholders  
21 of a civil township, or a majority of the freeholders living within a radius of three miles [4.83  
22 kilometers] of the proposed location, petition the board of county commissioners for a bridge at  
23 a specified location within ~~such~~the township, or within any incorporated city, if the cost of the  
24 bridge exceeds the sum of five hundred dollars, ~~the board of county commissioners shall view~~  
25 ~~and investigate the necessity of the proposed bridge.~~ If the board approves the petition, ~~it~~the  
26 board shall ~~proceed to~~ advertise in the official newspaper of the county, for a period of thirty  
27 days, the plans and specifications of the proposed bridge, ~~asking for~~requesting sealed bids for  
28 ~~the building of such~~construction of the bridge, to be submitted to ~~it~~the board at the next regular  
29 or special meeting, at which the board shall ~~proceed to~~ examine all ~~proposals or~~ bids for ~~the~~  
30 ~~building of such~~construction of the bridge. ~~The~~Unless the board rejects all bids received, the  
31 board shall award the contract to the lowest responsible bidder, requiring the bidder to give a



1 bond in a sum not less than the amount stipulated in the bid or contract, conditioned for the  
2 faithful compliance with the terms of the bid or contract, ~~the bond to be approved.~~ The bond is  
3 subject to approval by the board and must be filed in the office of the county auditor ~~but the~~  
4 ~~board may reject all bids~~. If all bids are rejected, the board shall readvertise the request for bids  
5 as provided ~~herein~~ in this section. ~~Provided, however, that~~ However, if the amount of the lowest  
6 responsible bid is less than fifteen thousand dollars and all bids are rejected, the board may  
7 ~~refuse all bids received and proceed to~~ construct the bridge ~~under its own supervision as it~~ as  
8 the board deems most expedient and may enter into contracts for the labor or material to be  
9 used in the construction of the bridge.

21.1016.02002  
Title.

Prepared by the Legislative Council staff for  
Senator Wanzek

March 10, 2021

PROPOSED AMENDMENTS TO ENGROSSED SENATE BILL NO. 2324

Page 1, line 22, remove "within one year after receiving the state engineer's determination"

Page 2, line 4, remove "and any recommendations from the state engineer for a specific size or design for the"

Page 2, line 5, remove "culvert or bridge"

Renumber accordingly