NORTH Dakota | Transportation
Be Legendary.

NDDOT
SNBI Coding Guide
Supplement

Version 1.4

March 2025

Table of Contents

ABBREVIATIONS

The following is a list of abbreviations used in the NDDOT Coding Guide:

BMS	Bridge Management System
BrM	AASHTOWare Bridge Management Software
GPS	Global Positioning System
HPCS	Highway Performance Classification System
LPA	Local Public Agency
MPO	Metropolitan Planning Organization
NDDOT	North Dakota Department of Transportation
NLEB	Northern Long-Eared Bat
NSTM	Non-Redundant Steel Tension Member
PCA	Plan of Corrective Action
SFN	State Form Number
SI&A	Structure Inventory and Appraisal
TE	Transporter Erector

1. GENERAL

Purpose of the NDDOT Coding Guide

State Departments of Transportation are required to prepare and maintain an inventory of their bridges meeting the bridge definition as part of the Code of Federal Regulations (CFR) §650.305. The inventory data will be submitted to FHWA on an annual basis or upon request.

In addition to the structures submitted to FHWA, the NDDOT inspects and inventories additional structures. In general, all highway carrying structures owned by the State that has a bridge length of 8 feet or greater will be inspected and inventoried. Additionally, the NDDOT inspects and inventories a number of non-highway carrying structures. These additional structures will be coded in the same format as bridges submitted to FHWA.

All inventory items required for submittal to FHWA are included in the SNBI Coding Guide. This document serves as additional guidance to the SNBI specific to the North Dakota Department of Transportation (NDDOT). The purpose of the SNBI section of the guide is to clarify how to code inventory data. Whenever no State specific guidance or commentary is provided, refer to the SNBI only.

In addition to the Federally required SNBI code, the NDDOT maintains a list of agency-defined inventory items that will be coded for each structure. These are collected for internal management purposes, and guidance for coding these items are included in Section 1.3 of this document.

This document serves as additional guidance and clarification for the SNBI items and primary guidance for agency-defined items.

References and Resources

- SNBI: FHWA Specifications for the National Bridge Inventory
- North Dakota Bride Inspection Manual: North Dakota Bridge Inspection Manual
- North Dakota Bridge Load Rating Manual: North Dakota Bridge Load Rating Manual
- NBIS 23 CFR §650: NBIS 23 CFR §650
- FHWA NBIS Oversight Program:
    - Metrics for the Oversight of the National Bridge Inspection Program
    - NBIP Compliance Review Manual
- NDDOT GIS and Mapping: NDDOT GIS & Mapping
- NDDOT Plans and Proposals: NDDOT Plans & Proposals
- NDDOT Transportation Plans & Programs: NDDOT Transportation Plans & Programs
- North Dakota State Freight Plan: ND State Freight Plan
- North Dakota State Historical Sites: ND Historical Society
- FHWA GIS Platform: FHWA GIS Platform

2. NDDOT Commentary for SNBI Items

Bridge Identification

B.ID.01 Bridge Number

Character limit: 15

All bridge numbers will be assigned by the NDDOT Bridge Division. To request a new bridge number for state owned structures, use the New Bridge ID Request Form found on the NDDOT Bridge Website under Bridge Design. All requests must be submitted to the NDDOT Bridge Division and approved before implemented.

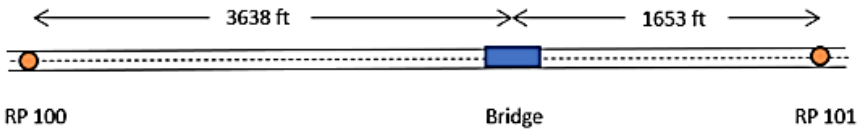
The format of B.ID.01 Bridge Number is different from A-4 Agency Defined Bridge ID. While B.ID.01 is the bridge number reported to FHWA, A-4 is used internally at the NDDOT to identify a bridge.

The naming convention for bridges in North Dakota varies depending on bridge ownership. Use the appropriate naming convention at the time of naming. If the bridge ownership changes during the life of the bridge, the bridge number will not change.

State owned bridges:

A State bridge number is established by the highway route number followed by the mile point carried to three decimal places. The highway number occupies the first four digits. Leading zeros are used when the highway number is less than four digits. The next six digits consist of the mile point to three decimal places. Leading zeros are used for mile points less than 100.

To determine the mile point of the bridge, use the center of the bridge. Find the measured distance between the reference point (RP) back station and the bridge station RP. Divide this distance by the distance between the RP back and ahead station. Use the actual distance between the reference points; do not assume 5280.0 ft between them.



Distance from RP 100 to RP 101: 5292 ft

Distance from RP 100 to Bridge: 3639 ft

Bridge Milepoint = 100 + (3639/5291) = 100.688

The bridge number may also contain letter designations to clarify the location of a structure and/or the service type of the structure. There are two spaces between the last digit of the decimal mile point and the (first) letter for L, R, M, N, S, and T designations. There are four spaces when using a B designation. Note that some bridges may have more than one letter in the bridge number.

Letter	Description
L	Structure is on the left roadway or left side
R	Structure is on the right roadway or right side
B	Main structure does not carry highway traffic
M	Structure is in the median
N	Structure is on State right of way, but not on the mainline roadway
S	Structure is on a left service road
T	Structure is on a right service road

Examples:

0	0	0	2	0	2	9	2	7	5			L		

0	0	4	1	0	7	3	4	9	8					B

0	0	0	2	0	0	1	3	3	7			S		

0	0	8	3	9	2	6	7	8	3			R		B

The structure does not carry highway traffic and is in reference to the right roadway.

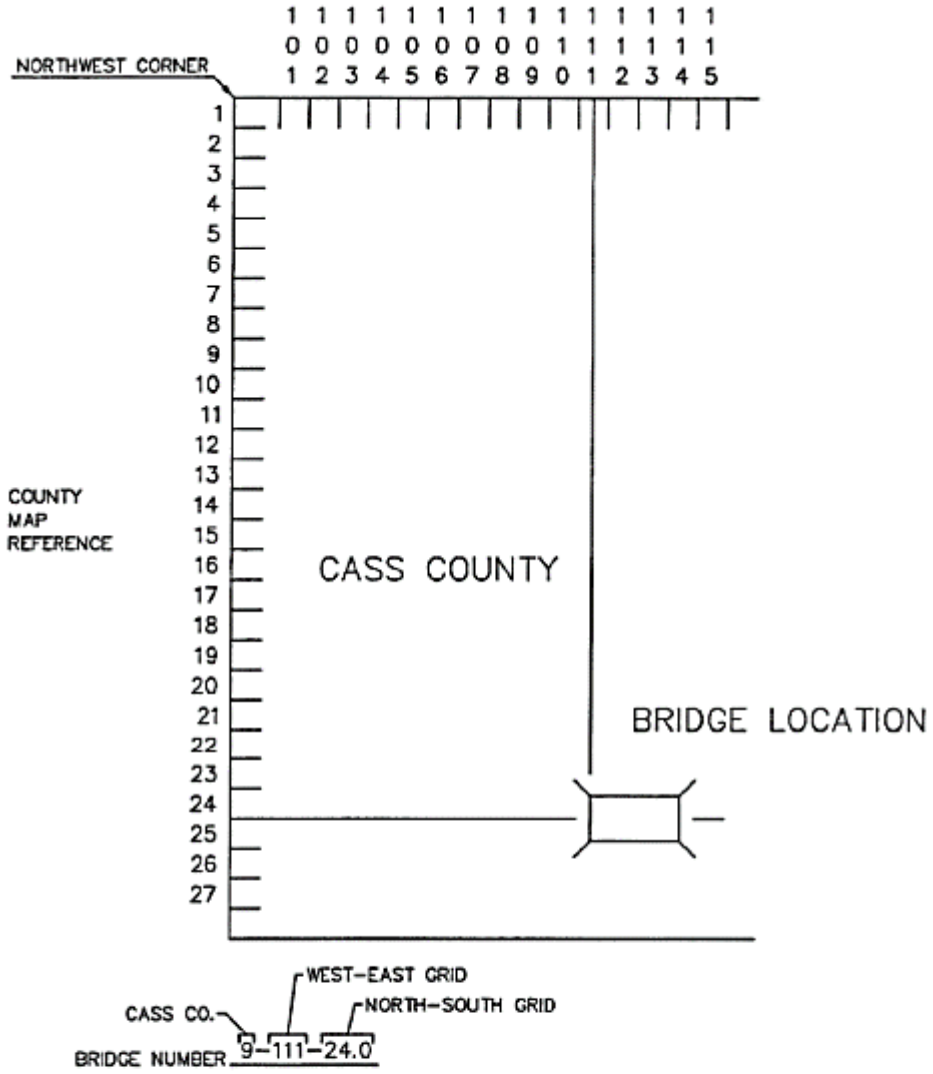
0	0	9	4	3	4	6	4	2	6			N	L	

The structure is in the State right of way, on the left side of the mainline roadway. Use two spaces before the N and no spaces between the N and the L. Note that the N will always come before the L or R.

<u>County owned bridges:</u>

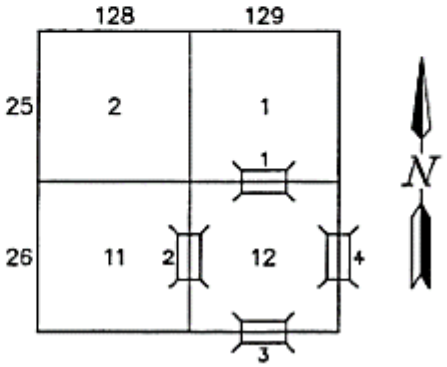
County bridge numbers are derived from a coordinate system unique to each county. The bridge number is made up by seven leading zeros, the two-digit county code (see B.L.02 County Code), then a mile number read to the right (East) from the NW corner of the county, then a mile number read down (South) from the NW corner of the county. The last digit is a number from 0 to 9 to account for multiple structures within the same mile grid. No tailing letter designations will be used for county structures.

When a structure is located on a section line, reference the lower reference mile of the two options.



STRUCTURES ON SECTION LINE WILL BE CODED AS SHOWN IN THE EXAMPLE AT RIGHT;

STR. NO. 1	129-25.0
STR. NO. 2	128-26.0
STR. NO. 3	129-26.0
STR. NO. 4	129-26.1



If a county keeps inventory of their minor structures using the same naming convention, these numbers will not be skipped. If a bridge number exists as a minor structure, a new major structure can still receive this bridge number.

Examples:

0	0	0	0	0	0	0	1	8	1	3	0	1	5	0

0	0	0	0	0	0	0	0	5	1	3	0	2	1	1

City or State Park owned bridges:

City bridge numbers contain four leading zeros followed by the applicable alphabetic city code and a numeric two-digit code. The city codes are shown in the table below.

City bridges may have the tailing letter designation B if the bridge does not carry highway traffic. There are four, five, or six spaces between the last number and the B designation depending in how many characters are in the city/state park code.

City or State Park	**Code**
Bismarck	BISM
Dickinson	DKSN
Fargo	FRGO
Ft. Ransom State Park	FRSP
Grand Forks	GF
Grafton	GRAF
Jamestown	JMTN
Mandan	MAN
Minot	MNOT
Turtle River State Park	TRSP
Valley City	VC
West Fargo	WF

Examples:

0	0	0	0	J	M	T	N	0	3					

0	0	0	0	F	R	G	O	2	5					B

0	0	0	0	W	F	0	7							B

0	0	0	0	M	A	N	0	9						B

B.ID.02 Bridge Name

Bridge Names will be established by the NDDOT Bridge Division as applicable. Bridge Names may be common names used for identification of the structure. Local owners may inform the NDDOT Bridge Division of preferred names for their bridges.

B.ID.03 Previous Bridge Number

Report the bridge number in the format that was reported to FHWA in the past. Do not report in the agency defined bridge number format. If an old bridge was renamed in the bridge file upon removal from the inventory, code the bridge number before the renaming occurred.

Example: Bridge 09-103-25.0 was replaced with 09-103-25.1. Bridge 09-103-25.0 is now named R09103250 in the bridge file. Before removal, the old bridge was reported to FHWA with bridge number 000000009103250. Code 000000009103250 for B.ID.03.

State Bridge ID Example: Previous Bridge 0003-050.156 code 0003050156.

If no previous bridge number exists, code 0.

B.L.02 County Code

The following list includes the 53 counties in North Dakota. While the county number shown in the table is commonly used for the applicable county, the FIPS code that will be submitted to FHWA does not match this number.

NORTH DAKOTA COUNTIES

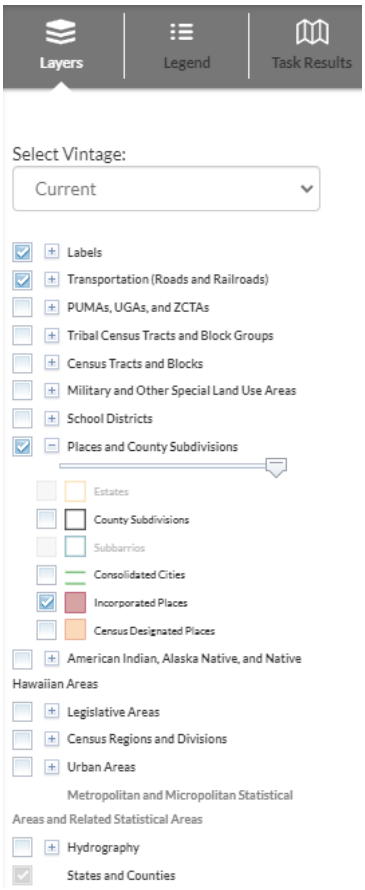
FIPS CODE	COUNTY NAME	COUNTY NUMBER	FIPS CODE	COUNTY NAME	COUNTY NUMBER	FIPS CODE	COUNTY NAME	COUNTY NUMBER
001	Adams	1	037	Grant	19	073	Ransom	37
003	Barnes	2	039	Griggs	20	075	Renville	38
005	Benson	3	041	Hettinger	21	077	Richland	39
007	Billings	4	043	Kidder	22	079	Rolette	40
009	Bottineau	5	045	LaMoure	23	081	Sargent	41
011	Bowman	6	047	Logan	24	083	Sheridan	42
013	Burke	7	049	McHenry	25	085	Sioux	43
015	Burleigh	8	051	McIntosh	26	087	Slope	44
017	Cass	9	053	McKenzie	27	089	Stark	45
019	Cavalier	10	055	McLean	28	091	Steele	46
021	Dickey	11	057	Mercer	29	093	Stutsman	47
023	Divide	12	059	Morton	30	095	Towner	48
025	Dunn	13	061	Mountrail	31	097	Traill	49
027	Eddy	14	063	Nelson	32	099	Walsh	50
029	Emmons	15	065	Oliver	33	101	Ward	51
031	Foster	16	067	Pembina	34	103	Wells	52
033	Golden Valley	17	069	Pierce	35	105	Williams	53
035	Grand Forks	18	071	Ramsey	36			

See the NDDOT County maps for more information.

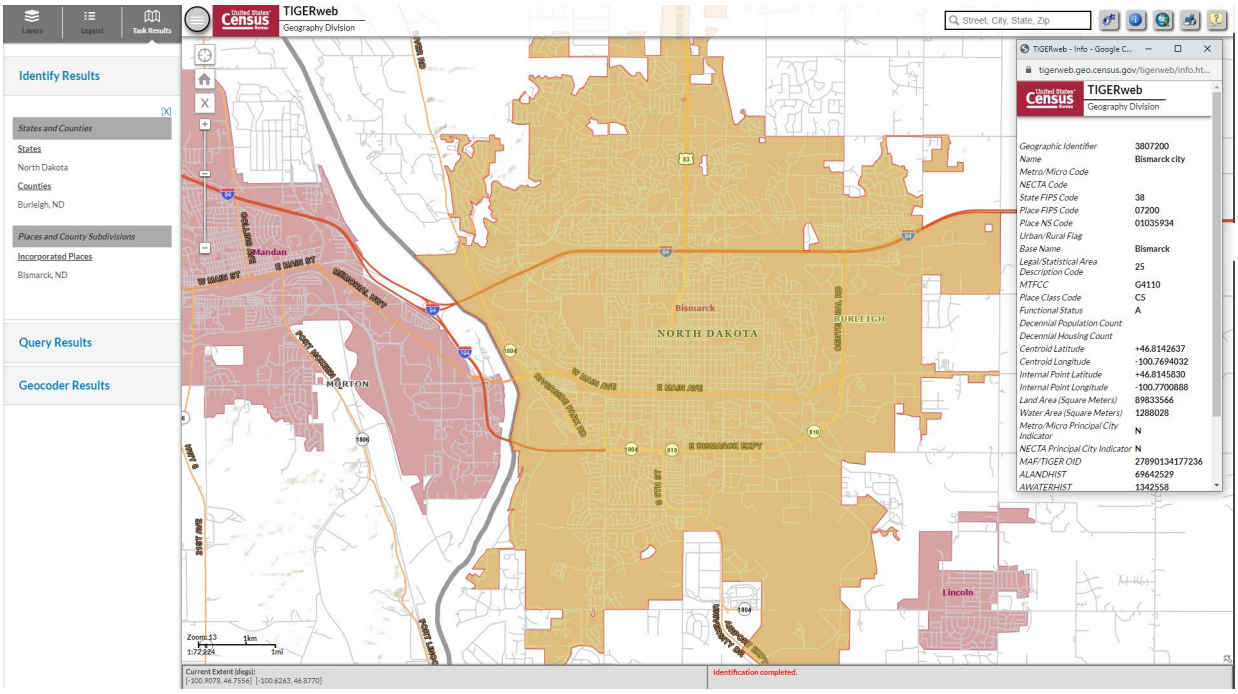
B.L.03 Place Code

FIPS place codes can be found using the U.S. Census Bureau's TIGERweb application.

- Zoom in to North Dakota,
- Select the layer "Places and County Subdivisions",
- Unselect all the sub-layers except "Incorporated places".



Identify the bridge location and verify if the bridge is in an incorporated place. Use the “Identify” tool to select a place. “Name” and “Place FIPS Code” gives the information needed to code (or verify an existing code) for B.L.03.



B.L.04 Highway Agency District

Code the district for each structure. The eight districts used by the North Dakota Department of Transportation are shown in the table below. A map of the districts can be found here: North Dakota Districts.

District Code	District Name	District Number
61	Bismarck	1
62	Valley City	2
63	Devils Lake	3
64	Minot	4
65	Dickinson	5
66	Grand Forks	6
67	Williston	7
68	Fargo	8

B.L.05 Latitude and B.L.06 and Longitude

Latitude and Longitude should be established at the center of the bridge.

B.L.07 Border Bridge Number

North Dakota shares border bridges with Minnesota and South Dakota. Code the corresponding border bridge number from the table below.

Refer to the respective border bridge agreements for the most up to date information.

Report N when the asset is not a border bridge.

NDDOT Bridge Number	MnDOT Bridge Number
0002-358.090	9090
0002-911.409	4700
0005-335.813	35005
0010-940.666	14012
0011-182.459	84001
0013-391.615	4720
0017-140.372	5872
0054-009.958	9100
0059-001.010	35007
0066-138.720	35011
0094-352.453 R	9067
0094-352.457 L	9066
0200-415.724	54004
0210-002.937	84002
09-142-04.0	54550
09-142-10.0	6646
09-142-18.0	14525
09-144-35.0	14503
09-144-40.0	14501
18-146-30.0	60561
39-126-04.0	84508
39-127-10.0	84520
39-127-13.0	84511
39-130-18.0	84517
39-134-33.0	84512
39-135-37.0	84531
49-129-05.0	7097
49-129-05.1	60569
49-129-10.0	5767
49-130-15.0	54549
49-131-28.0	6676
FRGO03	5270
FRGO09	14511
FRGO29	14539
FRGO30	14510
FRGO31	14523
GF02	60506

NDDOT Bridge Number	SDDOT Bridge Number
41-116-24.0	000000046141000
41-136-24.1	000000046334000
11-127-24.0	000000007131000
11-140-24.0	000000007266000
11-115-24.1	_
11-116-24.0	000000007023000
06-104-23.0	000000032036001

Refer to the respective border bridge agreements for the most up to date information.

Report N when not a border bridge.

B.L.08 Border Bridge State or County Code

North Dakota shares bridges with Minnesota and South Dakota. State and County codes for all bordering entities are shown below.

Bordering State/County	Code
Minnesota	27
South Dakota	45
Montana	30
Canada	CA

B.L.11 Bridge Location

Report a narrative description of the bridge location using geographical references such as cities, county lines, and highway junctions. The description is limited to 25 characters to maintain compatibility with other NDDOT systems.

When referring to highways, use the following highway prefixes:

Interstate I
US Routes US
ND Routes ND

Abbreviate only when necessary to fit the character limit.

Examples:

2 WEST 1 SOUTH OF CROSBY
7 WEST OF US 83
4 SOUTH OF JCT I-94
WEST FRONT STREET-WILLISTON

B.L.12 Metropolitan Planning Organization

Code one of the following options, when applicable. Refer to the websites shown in the table for MPO boundaries.

Code	MPO Full Name	Link to the MPO's Website
Bismarck-Mandan	Bismarck-Mandan MPO	Bismarck-Mandan MPO
Fargo-Moorhead	Fargo-Moorhead Metro COG	Fargo-Moorhead Metro COG
Grand Forks-East Grand Forks	Grand Forks-East Grand Forks MPO	Grand Forks-East Grand Forks MPO
Central Dakota	Central Dakota MPO	Central Dakota MPO

Classification

B.CL.03 Federal or Tribal Land Access

Use the applicable code(s) other than "N – Not applicable" when the bridge is within the boundaries of Federal or Tribal Land or provides the only access to Federal or Tribal Land. Report "N" when these criteria are not met.

B.CL.06 Emergency Evacuation Designation

Code "N – Not an Emergency Evacuation Route" for all structures on the NDDOT Bridge Inventory. As of 2023 there are no routes in North Dakota with an emergency evacuation designation.

Bridge Material and Type

For additional guidance and information on bridge material and type descriptions refer to the FHWA Bridge Inspector's Reference Manual (BIRM).

B.SP.01 Span Configuration Designation

Code similar spans as one dataset even if the spans are not continuous.

B.SP.05 Span Continuity

Code this item based on plan data, load rating data or visual assessment. Unless otherwise observed, code the following for multi-span bridges:

Use code 1 for prestressed (P/S) concrete box beam, P/S I-beam, and P/S T-beam bridges.
Use code 2 for reinforced concrete slab and reinforced concrete T-beam bridges.

B.SP.07 Span Protective System

Code this item based on plan data or visual assessment.
Unless otherwise noted in the plans use code 0 for concrete bridges.

B.SP.10 Wearing Surface

For bridges with no deck overlay, unless otherwise noted in the plans:

- Use code 0 for state owned structures built prior to 2000.
- Use code C01 for state owned structures built in 2000 and later.
- Use code 0 for non-state owned structures.

For bridges with a deck overlay use code C04.

B.SP.11 Deck Protective System

When coding this item do not consider fly ash as a deck protective system.

Treated Timber decks code “X – Other”

B.SP.12 Deck Reinforcing Protective System

Code this item based on information found in the plans or bridge element data. Historically, the NDDOT started using epoxy coated rebar on the top mat only in 1976. Mixed bar bridge decks were used up until 1990.

Unless otherwise noted on the as-built plans:

- Use Code 0 for concrete bridge decks built prior to 1976.
- Use Code C01 for concrete bridge decks built in 1990 and later.

B.SB.04 Substructure Type

For concrete box culverts:

- Use code A01 for exterior walls.
- Use code P01 for interior walls.

B.SB.05 Substructure Protective System

Code this item based on plan data or visual assessment.
Unless otherwise noted in the plans use code 0 for concrete bridges.

B.SB.06 Foundation Type

Use code F01 for concrete box culverts.

B.SB.07 Foundation Protective System

Code this item based on plan data or visual assessment.
Unless otherwise noted in the plans use code 0 for concrete bridges.

Box Culvert Span Set and Substructure Set Example

The following is an example data entry for span sets and substructure sets for a double box culvert.

Double Box Culvert Span Set Example		
Item ID	**Data Item**	**Value (1)**
B.SP.01	Span Configuration Designation	C01
B.SP.02	Number of Spans	2
B.SP.03	Number of Beam Lines	1
B.SP.04	Span Material	C01
B.SP.05	Span Continuity	7
B.SP.06	Span Type	F02
B.SP.07	Span Protective System	0
B.SP.08	Deck Interaction	
B.SP.09	Deck Material and Type	0
B.SP.10	Wearing Surface	
B.SP.11	Deck Protective System	
B.SP.12	Deck Reinforcing Protective System	
B.SP.13	Deck Stay-In-Place Forms	

Double Box Culvert Substructure Set Example			
Item ID	**Data Item**	**Value (1)**	**Value (2)**
B.SB.01	Substructure Configuration Designation	A01	P01
B.SB.02	Number of Substructure Units	2	1
B.SB.03	Substructure Material	C01	C01
B.SB.04	Substructure Type	A01	P01
B.SB.05	Substructure Protective System	0	0
B.SB.06	Foundation Type	F01	F01
B.SB.07	Foundation Protective System	0	0

B.RH.01 Bridge Railings

This code is used for the bridge rail only. It does not apply to approach rail. This code is intended to identify what crash test level the existing rail meets; not what standard is required. Use the table below to determine the crash test level of common bridge rail in ND.

Bridge Railing Type	Crash Test Standard and Level
Alaska 2-Tube Bridge Rail 32.5” (2018 or older)	NCHRP 350 TL-4
Alaska 2-Tube Bridge Rail 36” (2019 or newer)	MASH 2016 TL-4
Concrete Curb and Post	Use Code I
Double Box Beam E-Rail Retrofit (Tube < 5/16”)	NCHRP 230 TL-3
Double Box Beam E-Rail Retrofit (Tube ≥ 5/16”)	NCHRP 350 TL-3
Double Box Beam Free-Standing Retrofit (Tube < 5/16”)	NCHRP 230 TL-3
Double Box Beam Free-Standing Retrofit (Tube ≥ 5/16”)	NCHRP 350 TL-3
Jersey Barrier (32” to 36” Height)	MASH 2016 TL-3
Jersey/Single Slope Barrier (36 to 41” Height)	MASH 2016 TL-4
Jersey/Single Slope Barrier (42” Height)	MASH 2016 TL-5
Kansas Corral	NCHRP 350 TL-3
Three Cable Wood Post Guardrail w/Buried Anchor (Figure B.RH.01-1)	NCHRP 230 TL-3
Three Cable Wood Post Guardrail w/Surface Anchor (Figure B.RH.01-2)	NCHRP 350 TL-3
W-Beam Guardrail - Wood Post (28" Height, 6' 3" Post Spacing)	NCHRP 350 TL-3
W-Beam Guardrail - Steel Post (28" Height, 6' 3" Post Spacing)	MASH 2016 TL-3
W-Beam Guardrail - Wood Post (31" Height, 6' 3" Post Spacing)	MASH 2016 TL-3

MASH 2016: Implemented on all state highway projects beginning in 2018 (all new bridges constructed in 2018 or later will meet MASH 350 2016.
MASH 2009 was never implemented in ND.
NCHRP Report 350 was adopted shortly after 1993 (when it first was introduced). It replaced NCHRP 230.

See Figures on following pages for more information regarding three cable guardrail and clear zone distances for buried structures.

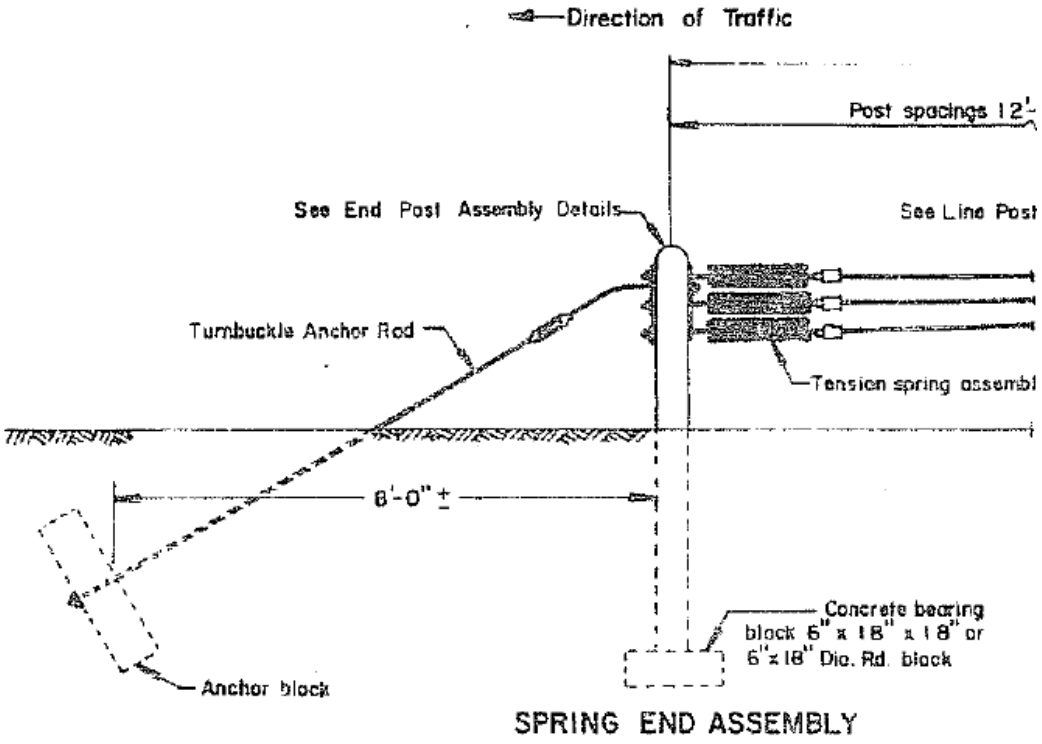


Figure B.RH.01-1 Three Cable Guardrail with Buried Anchor Block

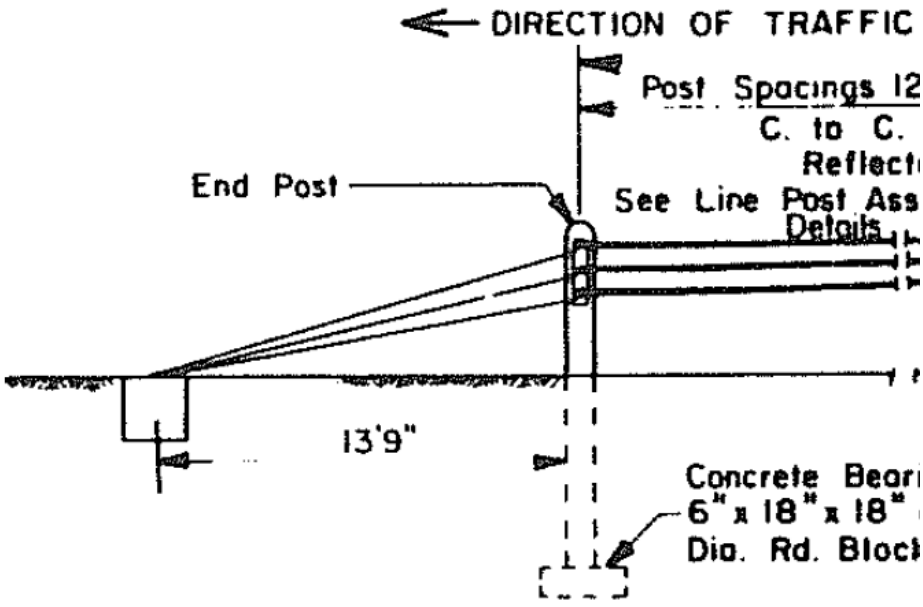


Figure B.RH.01-2 Three Cable Guardrail with Surface Anchor Block

For box culverts with no guardrail, refer to the minimum clear distance table below (distance in Feet), with the clear zone measured from the edge of the driving lane.

NDDOT Design Clear Distances (for foreslope)

Design Speed (mph)	Design ADT***	Foreslope				
		FLAT	1V:6H	1V:5H	1V:4H	1V:3H
≤40	UNDER 750	7-10	7-10	7-10	7-10	**
	750–1500	10	12	12	14	**
	1500–6000	12	14	14	16	**
	OVER 6000	14	16	16	18	**
45-50	UNDER 750	10	12	12	14	**
	750–1500	14	16	16	20	**
	1500–6000	16	18	20	26	**
	OVER 6000	20	22	24	28	**
55	UNDER 750	12	14	14	18	**
	750–1500	16	18	20	24	**
	1500–6000	20	22	24	30	**
	OVER 6000	22	24	26	32*	**
60	UNDER 750	16	18	20	24	**
	750–1500	20	24	26	32*	**
	1500–6000	26	30	32*	40*	**
	OVER 6000	30	32*	36*	44*	**
65-75	UNDER 750	18	20	20	26	**
	750–1500	24	26	28	36*	**
	1500–6000	28	32*	34*	42*	**
	OVER 6000	30	34*	38*	46*	**

Use Code N if no guardrail exists and the clear zone is greater than the minimum clear distance.
Use Code 0 if no guardrail exists and the clear zone is less than the minimum clear distance.

More information regarding roadside hardware can be found in the NDDOT Roadside Safety Field Guide: NDDOT Highway Barrier Pocket Guide

Additional guidance and information about bridge railing types published by Task Force 13 can be found here: Task Force 13

B.RH.02 Transitions

Information about specific transition systems published by Task Force 13 can be found here: Task Force 13 Transition Systems

Bridge Geometry

B.G.01 NBIS Bridge Length

Field measure B.G.01 (NBIS Bridge Length) during the initial inspection of a structure when B.G.02 (Total Bridge length) is less than or equal to 30 feet.

B.G.13 Maximum Bridge Height

Estimate the maximum bridge height from plans when the height is more than 30 ft. When no plans are available, field measure the maximum height. For bridges over waterways or highways, collect the maximum bridge height as part of the initial channel cross section or vertical under clearance measurements.

For culverts, record the opening height (rise) of the tallest barrel.

Features

B.F.01 Feature Type

Code Pathways for any sidewalks above or below the bridge.

B.F.03 Feature Name

For local roads use the most applicable name for the road (street name, highway name, CMC route number, etc.). Refrain from using generic names such as “County Road”, “County Highway” or “City Street”. Only use these designations when no road name exists. Below is a list of examples for different highways:

Full Highway Description	**Code**
INTERSTATE 94 WEST BOUND	I-94 WB
INTERSTATE 29 SOUTH BOUND OFF RAMP	I-29 SB OFF RAMP
US HIGHWAY 12	US 12
ND HIGHWAY 18	ND 18
US HIGHWAY 83 BYPASS	US 83 BYPASS
DENVER AVENUE	DENVER AVE
30TH STREET NORTHEAST	30TH ST NE
COUNTY HWY 11	COUNTY HWY 11

For waterways, always use the actual name of the water feature. Only use generic names, such as “Creek” or “River”, when no name exists.

For sidewalks code “Sidewalk”. Include location of the sidewalk(s) when applicable, e.g. “Sidewalk East and West sides”.

For railroads, use the abbreviations shown below.

Railroad Name	Code
Burlington Northern Santa Fe Railway	BNSF
Dakota Missouri Valley Western Railroad	DMVW
Canadian Pacific Railway	CP
Dakota Northern Railroad	DNRR
Northern Plains Railroad	NP

B.RT.02 Route Number

For local routes with no county number, report "0". Do not report the street name.

B.H.02 Urban Code

Populations last updated in 2023.

Urban Areas in North Dakota with population 5,000 to 49,999:

Urban Area	Population	Urban Area Code	B.H.02 Coding
Devils Lake	7,493	23878	99998
Dickinson	25,674	24094	99998
Jamestown	15,207	42508	99998
Valley City	6,547	90055	99998
Wahpeton	7,904	91189	99998
Watford City	6,687	92797	99998
Williston	29,510	95644	99998

Urban Areas in North Dakota with Population greater than 49,999:

Urban Area	Population	Urban Area Code	B.H.02 Coding
Bismarck	98,198	07921	07921
Fargo	167,743	29089	29089
Grand Forks	59,101	34219	34219
Minot	50,925	57655	57655

Refer to the Tigerweb application to find the exact boundaries of the urban areas.

B.H.04 National Highway Freight Network

Refer to the FHWA Freight Management and Operations website for more information: FHWA - National Highway Freight Network

Hwy	Begin RP	End RP	Description	Code
I-29	0	63.267	I-29 from ND/SD line to I-94	2
I-29	63.267	217.517	I-29 from I-94 to ND/MB Line	1
I-94	0	349.584	I-94 from ND/MT line to I-29	2
I-94	394.584	352.454	I-94 from I-29 to ND/MN Line	1
US-2	148.753	355.479	US-2 from US-52 to I-29	1
US-52	97.052	0	US-52 from US-2 to ND/SK Line	1
55th St. SE Minot	US-2	Minot Intermodal Facility	Bridge effected: MNOT26	1
40th Ave N Fargo	I-29	Amazon Fulfillment Center	Bridges effected: 29-069.374 N & 29-069.374	1

Code the following Routes as “3-Critical Rural Freight Corridor”:
As of 2023 NDDOT has not designated any CRFCs.

Code the following Routes as “4-Critical Urban Freight Corridor”:
Critical Urban Freight Corridors (CUFCs) have been designated in the Bismarck-Mandan, Fargo-West Fargo, and Grand Forks. The NDDOT Planning Division works with the MPOs to designate CUFCs. These routes are subject to change. Refer to the State Freight & Rail Plan for more information.

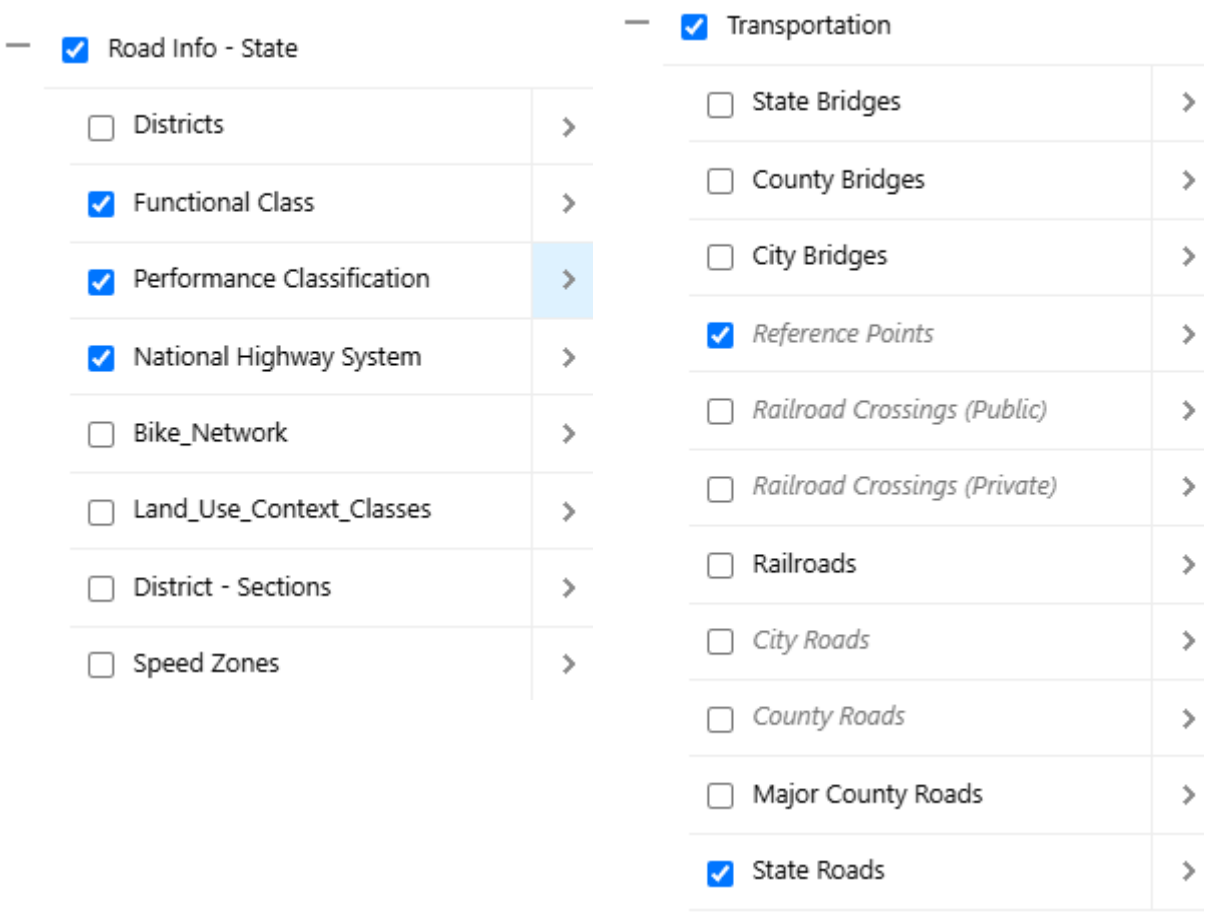
Code all other routes as “N-Not on the NHFN”.

B.H.06 LRS Route ID

The LRS Route ID is reported to the HPMS with Database Field Name ROUTE_ID. The following two links show route information for state and county roads, respectively.

For Internal (NDDOT Staff):

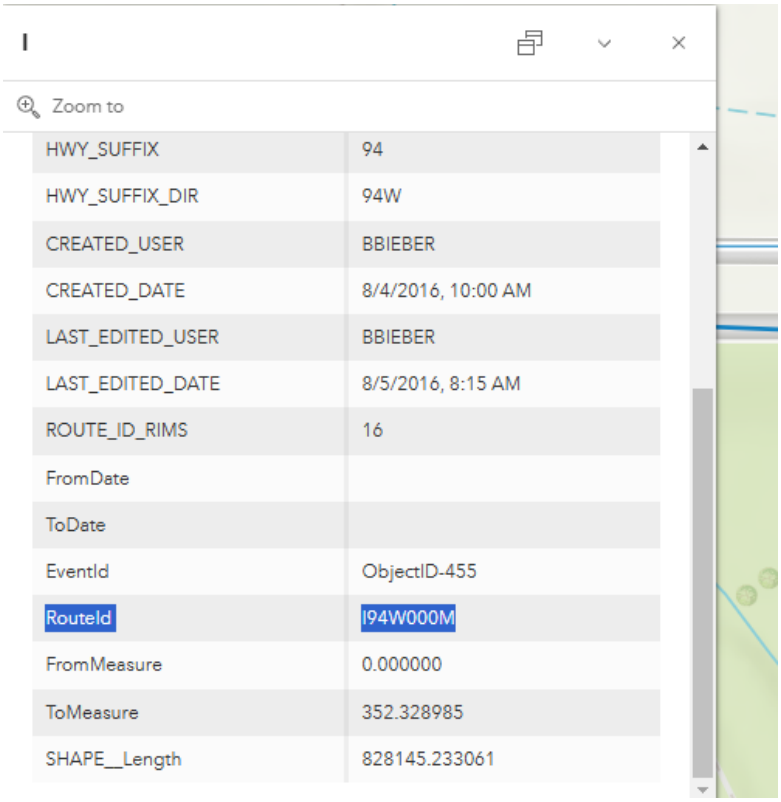
Use the RIMS Viewer: https://gis.dot.nd.gov/external/ge_html/?viewer=rims#, and select the following layers:



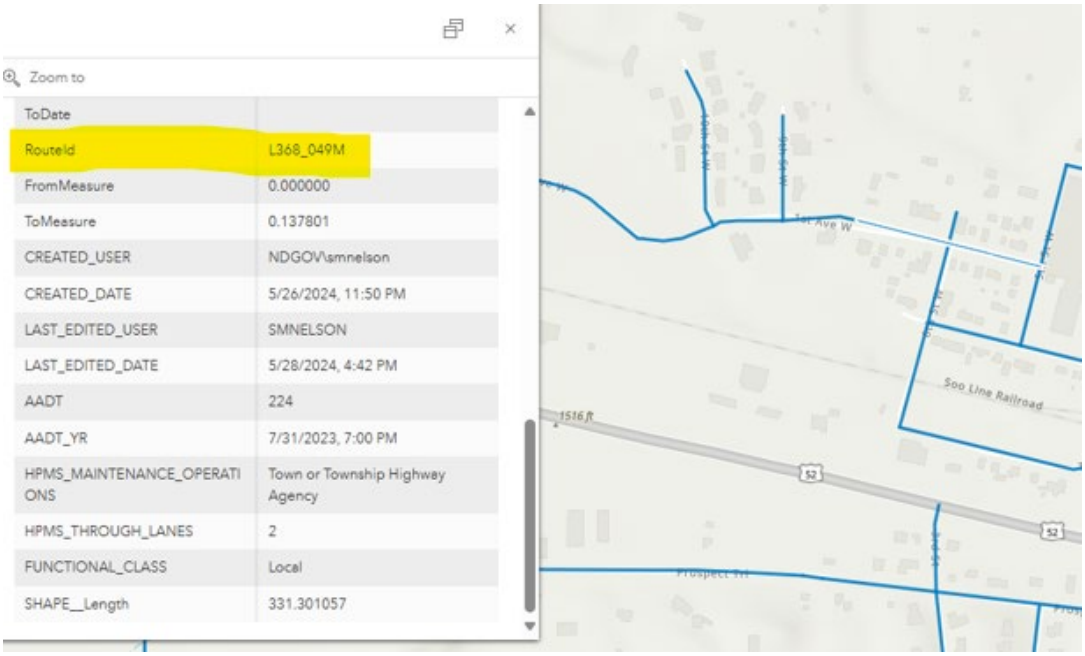
For External Staff:

State and Federal Roads: [NDDOT ArcGIS State & Federal Roads]

Below is an example showing the LRS Route ID (Route_ID) for I-94 Eastbound. Report I94E000M.

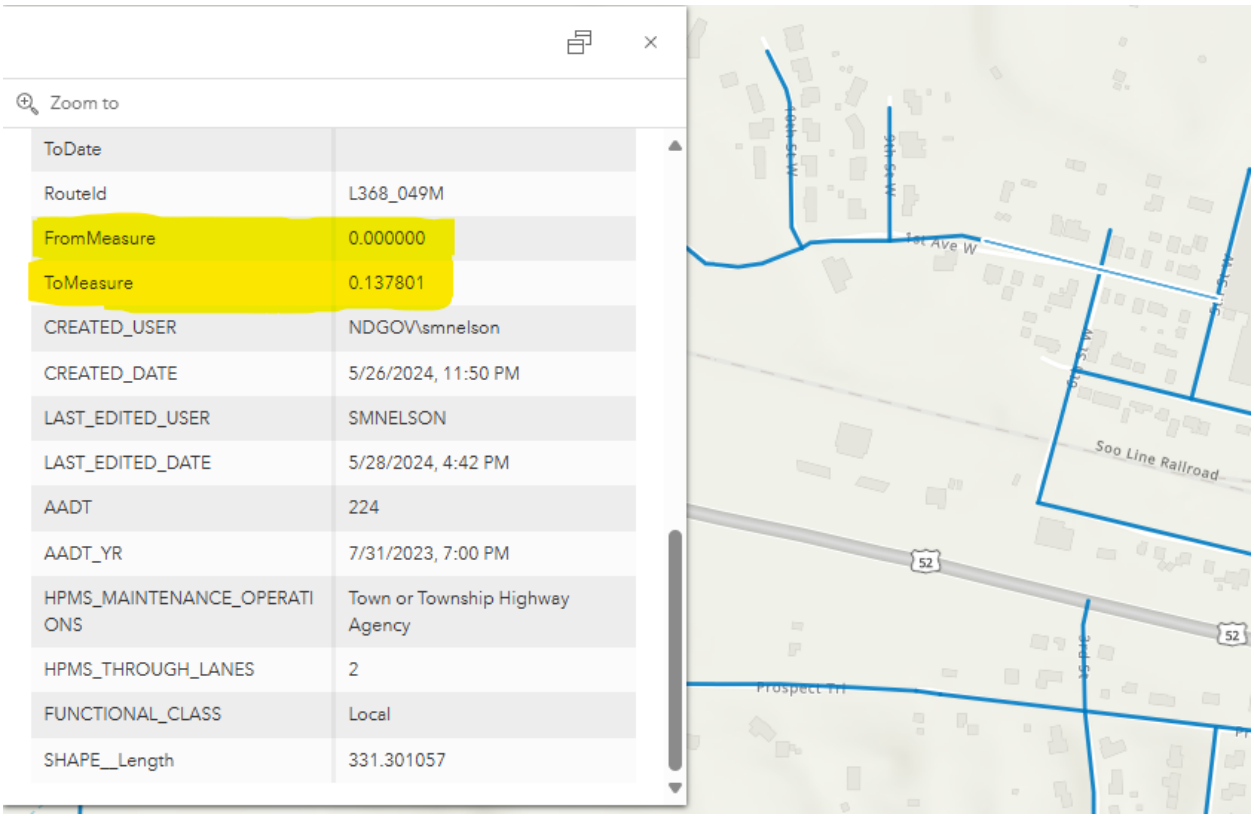


County Roads: [NDDOT ArcGIS County Roads]



B.H.07 LRS Mile Point

For structures on local routes estimate this value based on the FromMeasure & ToMeasure below.



B.H.10 Annual Average Daily Truck Traffic

When AADTT data is not available, such as for local routes, assign 10% of the AADT. Additional factors such as the following may also be considered when estimating the AADTT:

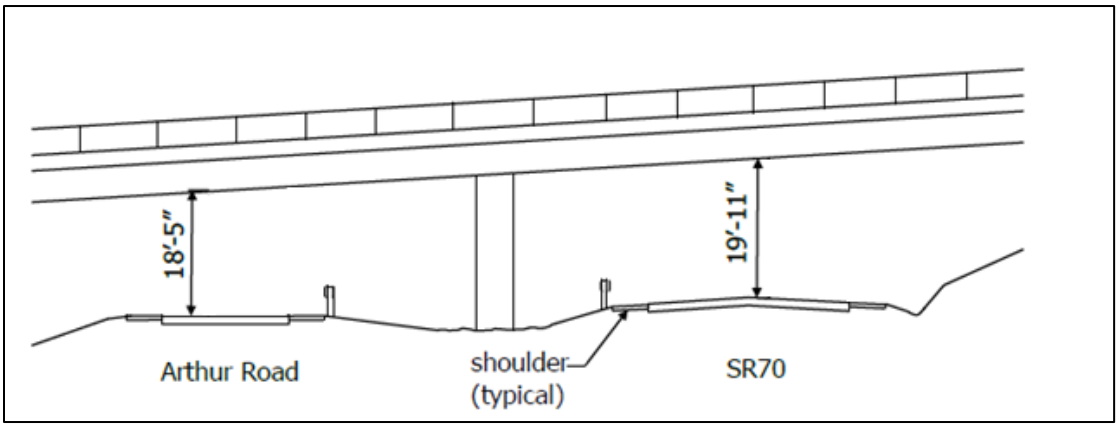
- ADT
- Functional Classification
- Approach roadway width
- Knowledge of local truck traffic in the area

B.H.12 Highway Maximum Usable Vertical Clearance

Code the minimum vertical clearance for each highway feature, excluding shoulders. Code item B.H.12 for all highway features below a bridge, including non-NHS routes. IF there is a visible change in the pavement surface or if the route under is gravel, verify the vertical clearance with field measurements using the vertical clearance form.

Example:
Arthur Road passes below the bridge and has an 18'-5" maximum usable vertical clearance. SR70 also passes below the bridge and has a 19'-11" maximum usable vertical clearance.

- Report 18.4 for the Arthur Road highway feature.
- Report 19.9 for the SR70 highway feature.



B.H.13 Highway Minimum Vertical Clearance

Code the minimum vertical clearance for each highway feature, including graded shoulders.

B.H.17 Bypass Detour Length

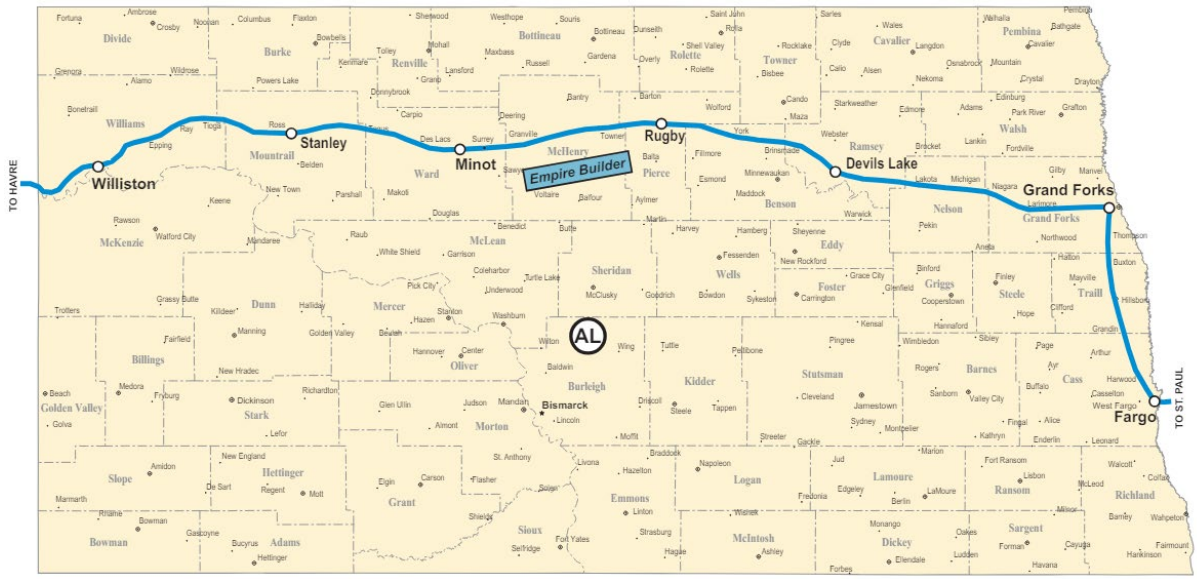
When determining the bypass detour length, consider functional classification and route restrictions (such as bridge clearances and posting values). A detour route should not have more restrictive features than the highway feature reported in B.F.01.

B.RR.01 Railroad Service Type

All railroad service types will be coded either “F – Freight” or “P – Passenger”. Amtrack is the only passenger rail service in North Dakota.

Refer to the North Dakota State Rail Plan for more information.

AMTRAK ROUTES IN NORTH DAKOTA



B.N.01 Navigable Waterway

In conjunction with the US Coast Guard and the North Dakota State Water Commission, the following waterways are considered Navigable in North Dakota.

1. Missouri River
2. Yellowstone River
3. Red River of the North
4. James River
5. Sheyenne River
6. Pembina River
7. Bois De Sioux River
8. Knife River
9. Mouse River/Souris River
10. Heart River
11. Cannonball River
12. Devils Lake
13. Sweetwater Lake
14. Lake Metigoshe
15. Painted Woods Lake
16. Upper Des Lacs Lake
17. Long Lake, Bottineau County

For all other waterways, code “N – Not navigable waters”.

B.N.06 Substructure Navigation Protection

Per the Guide Specification and Commentary for Vessel Collision Design of Highway Bridges, Volume I: Final Report, it is required that "[i]n navigable waterway areas where vessel collision by merchant ships and barges may be anticipated, bridge structures shall be designed to prevent collapse of the superstructure by considering the size and type of the vessel, available water depth, vessel speed, and structure response in accordance with the Guide Specification criteria." Moreover, "The specifications apply to all bridge types which cross a navigable shallow draft inland waterway with barge traffic, and deep draft waterways with large merchant ships. The provisions are applicable to normal merchant vessels, either steel hulled ship or barge vessels."

Navigable waterways (as listed in B.N.01) in North Dakota do not currently carry merchant ships or commercial barges. In these cases, use code "1 – Navigation protection not required; assessment of navigation opening and vessel traffic has determined that there is a low probability that an errant vessel could impact the bridge."

If the use of the waterways by merchant ships and vessels change, this code may need to be updated.

Loads, Load Rating, and Posting

B.LR.02 Design Method

Code this Item based on available plans. If no plans are available, use inferences from the design details and the design load. The LFD Design method was introduced in the early 1970's. Therefore, bridges designed prior to 1970 could be assumed to have been designed using the ASD Method. Bridges designed since 2010 are designed using the LRFD method.

B.LR.07 Controlling Legal Load Rating Factor

Code the lowest RF of the AASHTO Legal Loads and State Legal Loads. Use the tables below to determine which vehicles apply to a bridge.

AASHTO Legal Loads		
Truck Code	Description	Applicable Bridges
Type 3	Single Unit	All Bridges
Type 3S2	Combination	All Bridges
Type 3-3	Combination	All Bridges
SU4	Single Unit	All Bridges
SU5	Single Unit	All Bridges
SU6	Single Unit	All Bridges
SU7	Single Unit	All Bridges
EV2	Emergency Vehicle	Interstate Bridges and Bridges within 1 Highway Mile of Interstate
EV3	Emergency Vehicle	Interstate Bridges and Bridges within 1 Highway Mile of Interstate

For more information about AASHTO Legal Loads see the (MBE) and the ND Load Rating Manual.

State Legal Loads		
Truck Code	Description	Applicable Bridges
ND1	105,500 LB Gross	All State Bridges, Local Bridges as Identified by Local Officials
ND2	Discontinued	Discontinued
ND3	Reserved	Reserved for Future Use

For more information about State legal loads see the ND Load Rating Manual.

B.LR.08 Routine Permit Loads

The State of North Dakota has several different routine permit types for different types of commodities. For bridge evaluation purposes, routine permits are grouped into 2 categories.

Category 1 – 10% Overweight/Winter Permit

Concurrent with state law, every bridge in the state is potentially on a 10% Overweight/Winter Permit Route. For 10% Overweight/Winter Permits to be allowed, all AASHTO Legal Loads (excluding emergency vehicles) and State Legal Loads must have a RF of 1.10 or greater.

Category 2 – 129,000 lb. Network

NDHP maintains a map of routes that are approved for 129,000 lb permits. The routes on the map are also shown in the table on the following page. Bridges on a 129,00 lb route must maintain a rating factor of greater than 1.0 for each of the 129,000 lb permit loads listed in the ND Bridge Load Rating Manual.

For bridges on the 129,000 lb Network:

- Use Code “A” if both Category 1 & 2 conditions are met
- Use Code “B” if only 1 of the Category 1 & 2 conditions are met
- Use Code “C” if neither Category 1 nor 2 conditions are met

For all other bridges:

- Use Code “A” if Category 1 conditions are met
- Use Code “C” if Category 1 conditions are NOT met.

129,000 LB Network Routes			
Road	**Begin MilePoint**	**End Milepoint**	**Route Description**
I-29	0.00	217.847	SD-MB
I-94	0	352.464	MT-MN
US 2	0	358.09	MT-MN
US 12	34.44	33.207	149th Ave - US 85
US 52	0	82.969	SK- Jct of US 2
US 52	267.488	267.51	Jct of 281 & 94- Jct of 94 & 52 N side of ramp
US 81	163.105	228.353	N Jct of 81 & 29-S Jct of 81 & 29
US 81	945.105	949.222	Jct of 2 & 81-jct of 29 & 81
US 83	0	198.581	SD- Jct of US 2
US 83	237.02	265.98	Jct of 5 & 83- MB Border
US 85	0	196.705	SD- Jct of 85 & 85b Williston
US 281	0	67.488	SD Border - Jct of 94 & 281 interchange n side
ND 11	0	3.6	Jct 83 & 11- East end of Hauge City Limits
ND 5	99.605	135.563	Jct of 5 & 52-Jct 5 & 83
ND 5	317.185	322.18	E Jct 18 & 5 - W Jct 81 & 5
ND 8	35	80.42	Mott- Jct of 94 & 8 N Ramp
ND 8	80.2	80.868	Jct of 94 & 8 - Red Trail Energy Turn on ND 8
ND 8	203.888	211.361	Jct of US 52 - SK
ND 17	14.31	146.372	Jct 18 & 17 - MN border
ND 18	73	106.7	.2 miles S of Jct 94 & 18 -S Jct of 18 ND 200A
ND 18	223.609	233.609	1 mile S of Jct 18 & 5 - 11 S of Jct 18& 5
ND 46	113.768	120.318	1 mile E of Kindred-.2 E Jct of 29 & 46
ND 54	7.695	7.895	Jct of 29 & .2 E of Jct of 29
ND 66	122.45	122.947	1/2 mile E of US 81 & 66 - Jct of 81 & 66
ND 66	14.95	138.72	Jct of ND 66 & 18 - MN border
ND 200	399	406.526	N Jct of 200 & 29 - S Jct of 200 & 29
ND 200A	951.347	959.79	S Jct of 18 & 200a- Jct of 29 & 200a
ND 1806	71.14	71.715	Jct of I-94 - Mandan Refinery

B.PS.02 Posting Status Change Date

For initial coding use the Load Rating Date. IF the load rating date is not known use the date of the SNBI inspection.

B.EP.01 Legal Load Configuration and B.EP.02 Rating Factor

B.EP.01 and B.EP.02 should be filled out for Engineering Judgement Ratings. Contact Bridge Division for assistance with this code if not identified on the load rating report.

Inspections

B.IR.02 Fatigue Details

This item must be coded for all bridges with steel members, regardless of the presence of NSTMs.

B.IR.03 Underwater Inspection Required

Refer to the NDDOT Bridge Inspection Manual, Section 1.5 Inspection Type and Frequency.

B.IR.04 Complex Feature

North Dakota does not have any bridges with complex features as defined by the NBIS. Use Code N for all structures on the inventory.

B.IE.01 Inspection Type

In addition to the SNBI inspection types, the NDDOT has defined the following inspection types:

- **Load Rating**: Use when entering new load rating data.
- **Record Change**: Use when making data updates to the inventory. This inspection type is typically used for any data updated in the office. This is a non-recurring inspection type that is done as needed to maintain an accurate bridge inventory.
- **Closure Verification**: Use when the purpose of the inspection is to verify a proper bridge closure.

B.IE.05 Inspection Interval

Refer to the NDDOT Bridge Inspection Manual, Section 1.5 Inspection Type and Frequency.
Report 0 for the agency defined inspection types “Load Rating” and “Record Change”.

B.IE.07 Risk Based Inspection Interval Method

Code “1 – Method 1” for all Routine, Underwater and NSTM inspections. Inspection types without an inspection interval should be coded “N – Not Applicable”.

B.W.03 Work Performed

Define the work as major rehabilitation if 25% or more of the component was repaired. If less than 25% of the component was repaired, code the work as minor rehabilitation.

Bridge Condition

Refer to Appendix C of the SNBI for additional guidance on condition codes.

Appraisal

B.AP.03 Scour Vulnerability

B.AP.03 should be based on the code identified in the hydraulic report.

The following guidance can be used to transition codes from NBI 113 to SNBI B.AP.03:

- Code “A” if existing Item 113 is 4, 5, 6, 8*,
- Code “B” if existing Item 113 is 7, 8*
- Code “D” if existing Item 113 is 3, 2, 1. If existing 113 is a 1 or 2, review item B.C.11 to ensure the observed scour is represented.
- Code “U” if existing Item 113 is a “U”

*For existing bridges coded as NBI 8, use code “A” unless countermeasures are identified on the Hydraulic report or scour appraisal.

*For existing buried structures, use code “A” if the structure has a floor (Box culverts and steel culverts), the flow velocity is less than 10 fps and a cutoff wall and/or rock is present at the inlet and outlet. This is consistent with the NDDOT approved Scour Risk Flow Chart.

B.AP.05 Seismic Vulnerability

Per the NDDOT Design Manual Section IV-04.03.14, “All of North Dakota is in Seismic Performance Zone 1 with acceleration coefficients varying between 1 and 2.5%. With very small acceleration coefficients, earthquake forces will rarely govern the design of NDDOT structures.”

Use code “N – Bridge does not require seismic evaluation due to low anticipated ground motion or agency prioritization” for all structures on the NDDOT Inventory.

3. NDDOT Agency Items

The NDDOT records and maintains a set of inventory items used for bridge management purposes. These items are not submitted to FHWA; however, they are essential for the agency's bridge management practices. All applicable agency items should be coded for every inventoried structure

A-1 Load Rating Recommended

Character Limit: 1

- Code "Y" if a load rating review is recommended.
- Code "N" if no load rating review is necessary.

Refer to the NDDOT Bridge Inspection Manual and NDDOT Load Rating Manual for more information on defects identified during an inspection that may prompt a load rating review.

A-4 Agency Bridge ID

Character Limit: 17

Follow the same procedure as outlined under SNBI Code B.ID.01 Bridge Number, with the following exceptions:

State Owned Structures:

- No leading zeros before the four-digit highway number
- Include a hyphen following the highway number (i.e., as the fifth character)
- Include a period following the three-digit mile (i.e., as the ninth character)

Example:

0	0	0	2	-	0	2	9	.	2	7	5			L		

City Owned Structures:

- No leading zeros

Example:

M	A	N	0	9						B						

County Owned Structures:

- No leading zeros before the county number
- Include a hyphen between the county number and the East-West mile (i.e., as the third character)
- Include a hyphen between the East-West mile and the North-South mile (i.e., as the seventh character)
- Include a period after the North-South mile (i.e., as the tenth character)

Example:

0	5	-	1	3	0	-	2	1	.	1				

A-5 GPS Y

Code the GPS Y coordinates (Northing) for the center of the structure referencing NAD83(2011) and UTM Zone 14.

A-6 GPS X

Code the GPS X coordinates (Easting) for the center of the structure referencing NAD83(2011) and UTM Zone 14.

A-7 Agency Admin Area

Code the agency of administrative responsibility for the structure.

Code	Description	Use
0	Not NBI	Use this code for Bridge length structures that are not to be included in the submittal. i.e. Ped/Rail Road Bridges
1	State	State System Bridges
2	County ON	CMC County Route Bridges
3	County Off	Non CMC Route County Bridges
4	Urban	Urban Bridges
5	Primary Regional	Primary Regional System Bridges
6	Secondary Regional	Secondary Regional System Bridges

Refer to the Urban System Maps to determine bridges on Primary and Secondary Regional Systems.

A-8 Structure Notes

Include any relevant structure information that is not captured elsewhere. Historically, this field has been used to note structure replacement information, rehabilitation information, change of ownership, and other significant changes that can be useful for future reference.

A-9 Bridge Status

Code the status of the structure. The Bridge Status, along with the NBIS Length code, will determine if a structure is submitted to FHWA. **Only structures coded "2 – Closed" or "3 – Active" will be included in the annual data submittal to FHWA.**

Code	Description	Included in FHWA Submittal	Comment
1	Inactive	No	Use for structures with a positive closure or for structures that are removed from the bridge inventory or FHWA submittal. This code is generally used for any special cases where codes 2 through 5 do not apply.
2	Closed	Yes	Use for structures closed to traffic.
3	Active	Yes	Use for all active structures.
4	Proposed	No	Use for new structures not yet constructed or not open to traffic. Code 3-Active once opened.
5	Obsolete	No	Use for removed or replaced structures.

A-11 Highway Performance Classification System

Code the Highway Performance Classification System (HPCS) of the inventory route. Refer to information given by the Planning Division for a map and future updates to the roadway system: Highway Performance Classification System

Code	Description
RI	Rural Interstate
UI	Urban Interstate
RIC	Rural Interregional Corridor
UIC	Urban Interregional Corridor
RSC	Rural State Corridor
USC	Urban State Corridor
RCR	Rural District Corridor
UCR	Urban District Corridor
RCL	Rural District Collector
UCL	Urban District Collector
COU	Field drive or approach to a HPCS route

A-12 Deck Overlay Date

Code the date of the most recent deck Overlay

A-14 Chaining Date

Code the most recent chaining date for the bridge deck. Report the date in the following format: MM/DD/YYYY. This date should be newer than the latest deck overlay or deck replacement date.

A-15 Delamination Pct

Code the delamination percentage recorded at the last chaining date. This data should be revised after deck overlays and deck replacements.

A-16 TE Route

Code ‘Y” if the structure is on a Transporter Erector (TE) Route. Leave blank if not on a TE route.

A-17 State Freight Level

Code the Strategic Highway Freight Level of the inventory route as defined by the North Dakota State Freight Plan. There are three freight levels: 1, 2, and 3. Level 1 indicates a road with the greatest criticality for freight transportation. Leave blank if the route is not on the freight system.

Code	Description	Roads Included
1	Level 1: Critical rural freight corridors, International/Interstate	Interstate and Interregional Highways, Congressional Designated High Priority Corridors, STRAHNET, National Truck Network, Energy/Agricultural Access Corridors, High Truck Volume Principal Arterials
2	Level 2: Regional/Intrastate	State Corridors, District Corridors, Limited County Major Collectors, City Principal Arterials
3	Level 3: Local	District Collectors, Some County, City, Township and Tribal Roads

Refer to the NDDOT Planning Division for further information and maps showing the freight levels of roads in the state.

NDDOT State Freight Plan Information: NDDOT State Freight Plan Information
NDDOT State Freight Map: NDDOT State Freight Map

A-18 Wearing Surface Depth

Code the depth of wearing surface to the nearest Inch.
This code applies to bridges only, Code N – Not Applicable for culverts. Refer to item A-34 for culvert fill depth.

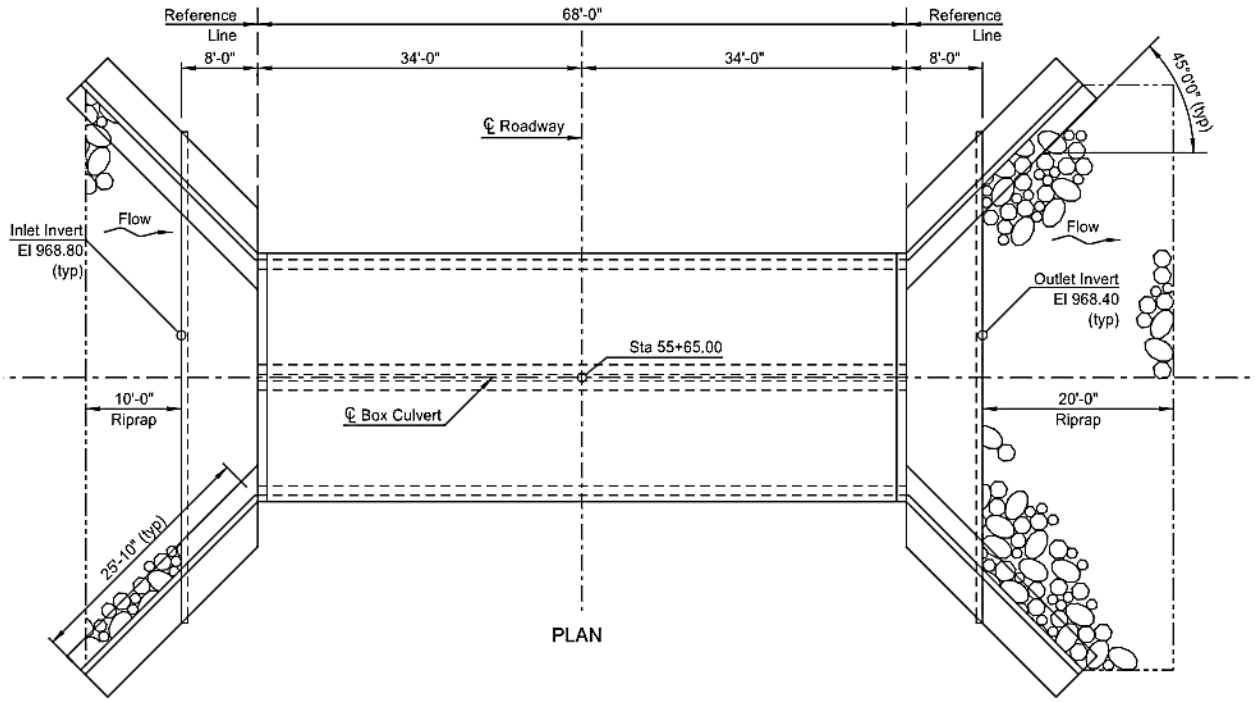
Examples:
A bridge has a timber deck with 3 inches of gravel overburden. Code “3”
A bridge has a concrete deck with no overburden. Code “0”.

A-20 Culvert Description

Character Limit: 60

The culvert description is used to note the culvert description and dimension. The first part of the code designates the number of barrels (single, double, triple, quadruple, etc.), the second part notes the dimension (in order of span, height, and length), and the third part notes the culvert type (SPP, SPP ellipse, RCB, Precast RCB, etc.) For a concrete culvert, cast-in-place is assumed. Include “PRECAST” to distinguish between cast-in-place and precast concrete.

The length of the culvert should correspond to the pay length of the culvert. Update this code when a culvert has been extended.



The above drawing shows a double barrel 12’X12’X68’ precast concrete box culvert. Code 12’X12’X68’ PRECAST RCB.

Examples:
SINGLE 12’X’10’X96’ PRECAST RCB
DOUBLE 12’X12’X118’ PRECAST RCB
SINGLE 8’-6”X192’ SPP ELLIPSE
QUAD 5’X84’ RCP

A-21 Project Control Number

Character Limit: 60

For work events defined in B.W.01 through B.W.03, code the Project Control Number (PCN) for the project. When multiple projects have been completed, list comma separated PCNs in consecutive order.

A-23 Channel Cross Section Required

This code is used to identify if channel cross sections are required for a structure. Generally, a bridge over waterway will have channel cross section measurements taken. Bridges over drainage ditches may not require channel cross sections. Bridges over major river crossings will have cross sections measured during their Underwater inspections, and therefore do not need separate channel cross section measurements during the Routine inspections.

Code "Y – Yes" for bridges over waterway.
Code "N – No" for bridges not over waterway, for all culverts, and for major bridges with special Underwater inspections.

A-24 Channel Cross Section Frequency

If A-23 is coded "Y – Yes", code the minimum required frequency of channel cross section measurements. For state owned bridges, the normal frequency is 48 months. Local bridges will have channel cross section measurements taken at every Routine inspection.

Refer to the NDDOT Inspection Manual for any updates to the channel cross section measurement frequency.

A-32 Federal-Aid Highway System

Code if the structure is on or off the Federal-Aid Highway System. This code is used for project planning and funding.

Code	Description
0	Not on the Fed-Aid System
1	On the Fed-Aid System

The Federal-Aid Highway System includes the following road classifications:

- Interstate
- Principal Arterial-Other Freeways and Expressways
- Principal Arterial-Other
- Minor Arterial
- Major Collector
- Urban Minor Collector

Refer to SNBI Code B.H.01 (Functional Classification) to verify the functional classification of the highway. Note that for Minor Collectors, only those defined as Urban are included on the Federal-Aid Network. Do not code Rural Minor Collectors as "1 – On the Fed-Aid System".

A-33 Max Posting Tons

Number of Characters: 2

Code the max allowable posting tons for the bridge as per the latest load rating or engineering judgement made by the NDDOT Bridge Division.

If no posting is required, code "00".
If the controlling rating is 0 tons, code "0".

A-34 NLEB Range

This code is used to identify structures within the Northern Long-eared Bat Region. Code "Y-Yes" if the structure is within the Northern Long-eared Bat Region. Otherwise, code "N-No".

Refer to the Environmental Notes in Section 6 of the plan sheets when recent bridge plans are available.

For more information, refer to the North Dakota State Wildlife Action Plan (2015) (Page 330) or the U.S. Fish & Wildlife Service.

A-35 Uncoated Weathering Steel

This code is used to identify if a structure has elements with uncoated weathering steel. This code applies to structures with either superstructure and/or substructure steel elements.

Code	Description
Y	Uncoated weathering steel
N	No uncoated weathering steel
U	Unknown

A-36 Scour POA Category

Every bridge with a scour POA will be designated a POA category. Each category will have a different monitoring approach during and/or after a flooding event.

Code	Description
A	During event flood monitoring
B	Defer monitoring for up to 90 days
C	Defer monitoring until next Routine Inspection

A-37 Culvert Fill Depth

Record the fill depth for culverts in feet to the nearest tenth of a foot, measured from the headwall of the culvert. Measurements should be taken at both the centerline and at each edge line of the roadway. Report the maximum measurement.

A-40 Traffic Station ID

This code is used to identify the unique highway segment for each State highway feature identified in B.F.01. Code the highway segment number for all features both on and under the bridge. The Highway Segment Number is found under the database field name SEG_SEQ_NBR under Performance Classification. Local highways do not have a unique identifying segment number.

Agency Items (BrM Only)

Scour Appraisal

Appraisal Level and Info

Record the level of the completed scour appraisal and the applicable description of the scour evaluation performed.

Level 1:	Flow Chart
Level 1.5:	Assessment, USGS
Level 2:	Evaluation
Level 3:	Physical Model

Appraisal Date

Record the date of the completed scour appraisal.

Appendix A - Element Environmental Factors

When coding elements for a structure, an element environment must be selected. The environmental factors are in a numeric scale from 1 to 4.

Elements exposed to different environmental conditions deteriorate differently. These factors include:
Operational activities from traffic and truck movements
Exposure to water, salt, and other corrosive materials
Condition of protective and water proofing systems
Temperature extremes either from nature or man
When inventorying and assessing the condition of the elements, an inspector should consider the environment in which the
element is operating. The environment designation of an element can change over time as it would if operating policies were changed to reduce the use of road salt. By definition, the environment designation cannot change as the result of maintenance work or deterioration.

Environment Description

1—Benign	Neither environmental factors nor operating practices are likely to significantly change the condition of the element over time or their effects have been mitigated by the presence of highly effective protective systems.
2—Low	Environmental factors, operating practices, or both either do not adversely influence the condition of the element or their effects are substantially lessened by the application of effective protective systems.
3—Moderate	Any change in the condition of the element is likely to be quite normal as measured against those environmental factors, operating practices, or both that are considered typical by the agency.
4—Severe	Environmental factors, operating practices, or both, contribute to the rapid decline in the condition of the element. Protective systems are not in place or are ineffective.

Factors that could increase the severity of the environment rating for various elements include: (Record the predominant environment)

Element	Example Environmental Factors
Timber Elements	High Moisture Content
	Pest Infestation
	Ice flow impacts
Steel Elements	Distance from salt air
	Water wet/dry cycles
	Exposure to corrosive soils and liquids
Concrete Elements	Freeze thaw cycles
	Tire Chain wear
	Deck salting
	Petroleum Based High Temperatures
Joints and Bearings	Extreme Temperature Ranges
	Operating Practices High traffic and or Truck volume

Additional Guidance on Element Environments

DECKS/SLABS ELEMENTS (12-55)	
BENIGN (1) 1. Low salt 2. Low traffic	MODERATE (3) 1. High salt 2. Low traffic
LOW (2) 1. Low salt 2. High traffic	SEVERE (4) 1. High salt 2. High traffic

SUPERSTRUCTURE ELEMENTS (101-199)	
BENIGN (1) 1. Low salt 2. Low traffic 3. No exposure to moisture	MODERATE (3) 1. High salt 2. Low traffic 3. High exposure to moisture
LOW (2) 1. Low salt 2. High traffic 3. Low exposure to moisture	SEVERE (4) 1. High salt 2. High traffic 3. High exposure to moisture

SUBSTRUCTURE ELEMENTS (201-299, 401-403)	
BENIGN (1) 1. Low salt 2. Low traffic 3. No exposure to moisture	MODERATE (3) 1. High salt 2. Low traffic 3. High exposure to moisture
LOW (2) 1. Low salt 2. High traffic 3. Low exposure to moisture	SEVERE (4) 1. High salt 2. High traffic 3. High exposure to moisture

OTHER SUPER/SUBSTRUCTURE ELEMENTS (300-399)	
BENIGN (1) 1. Low salt 2. Low traffic 3. Protective system* 4. No exposure to moisture**	MODERATE (3) 1. High salt 2. Low traffic 3. No or ineffective protective system* 4. High exposure to moisture
LOW (2) 1. Low salt 2. High traffic 3. Protective system* 4. Low exposure to moisture**	SEVERE (4) 1. High salt 2. High traffic 3. No or ineffective protective system* 4. High exposure to moisture**

* Refers to approach slab and/or bridge railing.
** Refers to bearings and/or deck drains.

Low traffic: 0-1500 ADT High traffic > 1500 ADT