

**DOUGLAS COUNTY**  
**TRANSPORTATION AND LAND SERVICES**



**2020**

**ANNUAL BRIDGE REPORT**



## **Program Management and Inspection**

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## I. INTRODUCTION

The 2020 Annual Bridge Report summarizes the status of bridges within the Douglas County roadway network. Prepared in accordance with Washington State statute (WAC 136-20-060) it includes findings of bridge inspection efforts and recommendations for replacement, repair, further study, or rehabilitation of county bridges. Updated annually the report supports and assists development of the Transportation Department update of the Six-Year Transportation Improvement Program and annual budget.

Contained within this report are descriptions of ongoing bridge inspection efforts current findings, bridge restrictions and emergency repairs undertaken during the reporting period. This report provides descriptions of completed, existing and recommended projects and programs.

Douglas County owns, maintains and inspects 20 NBI (National Bridge Inventory) Bridges (Table 1-A), and 43 Short Span (less than 20') structures (Table 1-B) including one (1) Pedestrian Bridge. 63 structures in total.

**Table 1-A: NBIS Inventory Overview**

	structure_id	bridge_no	bridge_name	structure_length	built_year	rebuilt_year	curb_to_curb_width	facilities_carried	adt	adt_year
1	08245100	3.5K.5SW	ALSTOWN	49	1961	0	24	RD 3 SW	44	2018
2	08814700	2DSWA	Armstrong East Culverts	27	2009	0	0	RD 4 SW	106	2019
3	08105600	7USW	BEAVER CREEK (SCHOOL)	30	1965	0	30	BADGER MTN. RD	665	2016
4	08116200	22.8C.8NE	BRIDGEPORT HILL	132	1957	0	24	BRIDGEPORT HILL RD	275	2017
5	08164400	3MNV	C.KUMMER RANCH	24	1949	1981	28	AIRPORT RD (3 NW)	155	2019
6	08853400	3.63 E Ave	CANYON B BRIDGE	597	2012	0	50	Eastmont Avenue	7686	2019
7	08883900	26.5ENE	CHIEF JOSEPH DAM BRIDGE	240	2016	0	30	PEARL HILL RD.	515	2018
8	08616000	8 G NW	LAMOINE BRIDGE	58	1995	0	34.2	LAMOINE RD	200	2017
9	08311800	20.5D.5NE	MANSFIELD N. NO.4	25	1959	1994	24.2	MANSFIELD NORTH RD	54	2019
10	08309900	21DNE	MANSFIELD N. NO.5	24	1961	1994	24	MANSFIELD NORTH RD	55	2019
11	07976700	23K.2NE	MARY JANE HILL	90	1990	0	28.5	MARY JANE HILL RD	30	2017
12	08338200	2L.5NW	N.NELSON RANCH	23	1965	2017	23.5	2 RD NW	41	2019
13	08174200	20.5M.5SW	PALISADES NO. 1	78	1957	0	24	PALISADES RD	204	2018
14	08144500	19LSW	PALISADES NO. 2	78	1957	0	24	PALISADES RD	204	2018
15	08384400	16ISW	PALISADES NO. 3	78	1957	0	24	PALISADES RD	204	2018
16	08641800	11.5F.5SW	PALISADES NO. 4	62	1998	0	28	WAGON RD	50	2018
17	08683300	11.5 BSE	SAGEBRUSH FLATS	66	2002	0	34.5	RIMROCK MEADOWS RD	206	2018
18	08610700	23 D NE	SMITH DRAW BRIDGE	101	1993	0	34.2	BRIDGEPORT HILL RD	252	2019
19	08212200	27H.5NE	UPPER PEARL HILL	30	1953	0	24.1	PEARL HILL RD	62	2017
20	08410700	5FSE	WHITEHALL	28	1960	1981	28	WHITEHALL RD F SE	65	2018

**Table 1-B: Short Span Inventory Overview**

	structure_id	bridge_no	bridge_name	structure_length	built_year	rebuilt_year	curb_to_curb_width	facilities_carried	adt	adt_year
1	08860600	924251	21st ST. NE CULVERT	4	1960	0	0	21ST ST. NE	401	2018
2	08859700	924280	23rd ST NE. BRIDGE	16	1960	1991	24	23rd ST NE	381	2012
3	08891300	925561	27th ST. NE CULVERT	7	2015	0	0	27TH ST. NE	1220	2019
4	08860900	925961	31st ST NW CULVERT	8	1960	0	0	31st ST.NW	387	2014
5	08861000	926321	33rd NW BRIDGE	18	1960	2000	96	33rd ST. NW	211	2014
6	08861100	926541	35th NW BRIDGE	17	1960	0	33.5	35th St. NW	247	2014
7	08861200	927891	38th NW CULVERT	6	1960	2010	36	38th ST. NW	288	2014
8	08862700	997461	6 MILE CULVERT	6	1950	0	0	ROAD P NE	37	2014
9	08860500	917321	8TH ST SE. CULVERT	10	1960	0	0	8TH ST. SE	690	2014
10	08861700	954281	9NW CULVERT	6	1950	0	0	9 NW	55	2013
11	08861900	994291	ARMSTRONG CULVERT	10	1960	2000	0	RD E. SW	39	2014
12	08861300	993131	BATTERMAN CULVERT	6	2008	0	0	BATTERMAN RD.	627	2013
13	08864100	938041	BEAVER CREEK (BREILER)	12	2012	0	0	WITTE RD	50	2013
14	08864200	938611	BEAVER CREEK (BRETT)	10	2010	0	0	RD 9.5 SW	40	2013
15	08862100	952551	BRANDT RANCH BRIDGE	18	1975	0	16	RD P NW	20	2014
16	08861800	944671	BSW/3SW	5	1997	0	0	3SW	50	2014
17	08864900	952509	C.SLUSSER RANCH CULVERTS	18	2008	0	0	SLUSSER ROAD	52	2014
18	08862600	997101	CANYON FERRY CULVERT	9	1980	0	0	CANYON FERRY RD.	30	2014
19	08871300	981021	CARPENTER RD. CULVERT	7	2015	0	45	CARPENTER RD/RD 20	4	2014
20	08416600	1LNW	DOUGLAS NORTH	22	1932	0	23	DOUGLAS NORTH RD	99	2014
21	08862000	952592	DOUGLAS NORTH CULVERT	9	1935	0	0	N. DOUGLAS RD.	68	2013
22	08898800	924691	FEIL PLACE CULVERT	6	2017	0	24	FEIL PLACE NE	55	2018
23	08882700	8.5 SNW	HIGGINS LOOP	15	2015	0	0	HIGGINS RD.	200	2015
24	08861600	994170	M SW CULVERT	6	1900	0	0	S. WATERVILLE RD.	110	2014
25	08862500	998211	McCABE OIL CULVERT	7	1980	0	0	McCABE OIL	42	2014
26	08860800	925901	McELMURRY LN. NE CULVERT	6	1960	0	0	McELMURRY LN. NE	40	2013
27	08861500	923351	McNEAL CANYON CULVERT	9	1900	0	0	CASCADE AVE.	839	2014
28	08863900	995151	McNEIL CYN. PIPES	18	2009	0	0	McNEIL CANYON RD.	459	2013
29	08862300	946151	MOSES COULEE BRIDGE	12	1960	0	28	MOSES COULEE RD	174	2014
30	08862200	946153	MOSES COULEE CULVERT-10.	5	1970	0	0	Moses Coulee Rd.	174	2014
31	08862400	946151-7.6	MOSES COULEE CULVERT-7.6	5	1960	0	0	Moses Coulee Rd.	174	2014
32	08860700	920091	N. BAKER CULVERT	12	1960	0	0	N. BAKER AVE.	813	2012
33	08861400	919781	N. LYLE CULVERTS	12	1997	0	0	N. LYLE AVE.	1639	2012
34	08900600	A-90 TRAIL	PEDESTRIAN/LOOP TRAIL	90	1995	0	14	LOOP TRAIL	0	0
35	08860400	912031	S. IOWA CULVERT	4	1960	0	0	S. IOWA AVE.	192	2013
36	08860200	913081	S. JAMES CULVERT	7	2006	0	52	S. JAMES ST	801	2014
37	08860100	916991	S. KENTUCKY CULVERT	11	1960	0	0	S. KENTUCKY AVE.	2753	2013
38	08860000	917141	S. MARY CULVERT	5	1971	0	0	S. Mary	62	2013
39	08859800	917151	S. NANCY CULVERT	4	1960	0	0	S. NANCY AVE.	40	2013
40	08859600	930090	S. NILE BRIDGE	20	1983	0	30	S. NILE	745	2019
41	08862800	995101	SPRAUER BOXES	18	1950	0	0	LAMOINE RD.	221	2013
42	08210600	31.5NW	SUPPLEE WEST	20	1971	0	30.5	ROAD 3 NW (BARNES)	44	2019
43	08915000	14.5X.85W	ELVA WAY	16	2002	0	36	ELVA WAY	200	20xx



## **II. EXECUTIVE SUMMARY**

This report summarizes Douglas County's 2020 Bridge Program activities. This program is the county's comprehensive strategy to maintain and preserve the county's bridges and the continuity of the road network.

The three primary goals of the bridge program are:

1. Keep bridges open and safe for public use.
2. Preserve bridge infrastructure by performing condition inspections, identifying repairs, and maximizing a structure's useful life through active maintenance, preservation and rehabilitation.
3. Replace bridges with reliable new structures when repair and rehabilitation is not feasible.

The program is continually evaluated and updated to improve effectiveness and efficient management of bridge assets throughout the county, including administration of the program and planning for maintenance, repair and replacement.

Coordination on these elements with administration, inspection and maintenance teams is a primary focus.

### III. BRIDGE INSPECTIONS

Bridges inspected in 2020 are listed in **Tables 2-A (NBI) and 2-B (Short Span)**.  
**Table 2-A: 2020 NBI Inspections**

	STRUCTURE ID	BRIDGE No.	BRIDGE NAME	DUE DATE
<b>AREA 1</b>				
1	8174200	20.5M.5SW	PALISADES NO. 1	04/23/2020
2	8144500	19LSW	PALISADES NO. 2	04/23/2020
3	8384400	161SW	PALISADES NO. 3	04/23/2020
4	8641800	11.5F.5SW	PALISADES NO. 4	04/23/2020
<b>AREA 2</b>				
5	8245100	3.5K.5SW	ALSTOWN	04/23/2020
6	8105600	7USW	BEAVER CREEK (SCHOOL)	04/23/2020
7	8683300	11.5BSE	SAGEBRUSH FLATS	04/23/2020
8	8140700	5FSE	WHITEHALL	04/23/2020
<b>AREA 3</b>				
9	7976700	23K.2NE	MARY JANE HILL	04/23/2020

**Table 2-B 2020 SHORT SPAN INSPECTIONS**

	STRUCTURE ID	BRIDGE No.	BRIDGE NAME	DUE DATE
<b>AREA 1</b>				
1	8900600	A-90 TRAIL	A-90 TRAIL (PEDESTRIAN)	07/17/2020*
<b>AREA 2</b>				
2	8861700	954281	9NW CULVERT	03/01/2020
3	8861900	994291	ARMSTRONG CULVERT	03/01/2020
4	8864100	938041	BEAVER CREEK (BREILER)	03/01/2020
5	8864200	938611	BEAVER CREEK (BRETT)	03/01/2020
6	8862100	952551	BRANDT RANCH BRIDGE	03/01/2020
7	8861800	944671	BSW/3SW	03/01/2020
8	8862600	997101	CANYON FERRY CULVERT	03/01/2020
9	8862000	952592	DOUGLAS NORTH CULVERT	03/01/2020
10	8862200	946153	MOSES COULEE CULVERT-10.	03/01/2020
11	8862400	946151-7.6	MOSES COULEE CULVERT-7.6	03/01/2020
12	8862800	995101	SPRAUER BOXES CULVERT	03/01/2020
13	8882700	8.5 S NW	HIGGINS LOOP CULVERTS	04/20/2020
14	8862300	946151	MOSES COULEE BRIDGE	04/19/2020
15	8861600	994170	M SW CULVERT	04/20/2020
16	8416600	1LNW	DOUGLAS NORTH BRIDGE	04/23/2020
17	8864900	952509	C. SLUSSER RANCH CULVERTS	08/25/2020
<b>AREA 3</b>				
18	8862500	998211	McCABE OIL CULVERT	03/01/2020
19	8863900	995151	MCNEIL CANYON PIPES	03/01/2020
20	8862700	997461	6 MILE CULVERT	03/02/2020

## **BRIDGE INSPECTION PROGRAM ELEMENTS OVERVIEW**

The National Bridge Inspection Standards (NBIS) is defined by Title 23 Code of Federal Regulations 650 Subpart C and establishes the federal mandate for inspection procedures, frequency of inspections, qualifications of personnel, inspection reports, and preparation and maintenance of a state bridge inventory for all structures defined as bridges (vehicle carrying structures with span length over twenty-feet) located on public roads.

Routine NBI inspections are performed annually typically the 3<sup>rd</sup> week in April.

### **1. Bridge Data, Files and Documentation**

The Washington State Bridge Inspection Manual (BIM) specifies components that are mandated by FHWA and components that are required by WSDOT policy for WSDOT and local agency compliance. In addition, the BIM outlines how these agencies shall maintain the physical paper and electronic bridge files, maintain the state bridge inventory, submit state bridge inventory data to FHWA, and respond to FHWA and Statewide Program Manager requests for information.

The aggregation of structure inventory and appraisal data collected nationally to fulfill the requirements of the NBIS is the National Bridge Inventory (NBI). For local agencies in the State of Washington, BridgeWorks is the software application that is used to record, process and report, and which updates data in the inventory databases.

### **2. Bridge Inspection Organization**

The bridge inspection organization is structured as a collaborative effort between the WSDOT Bridge Preservation Office, WSDOT Local Programs, and local agency bridge owners with the FHWA as a primary stakeholder. Collectively, all state and local agency owned bridges subject to the NBIS and managed under this organization.

- A. The inspection organization is led by the State Bridge Preservation Engineer who serves as the (Statewide Program Manager) and is advised by the Bridge Inspection Committee.
- B. The Bridge Inspection Committee is made up of state and local representatives that provide overall advisory input to the bridge inspection manual and organization within the State of Washington.
- C. A Delegated Program Manager assumes duties of the program manager for the selected subset of bridges under their direct control and part of the inspection team. In Douglas County, the Douglas County Delegated Program Manager is the Assistant County Engineer / Programs Manager (J. Lange).

- D. A Team Leader is in charge of an inspection team and responsible for planning, preparing, and performing field inspection of bridges. The Team Leader also makes repair recommendations and is responsible for initiating critical damage procedures including full bridge closure if deemed necessary. In Douglas County, the Team Leader is the Construction / Bridge Inspector (T. Howard.)
- E. The Assistant Inspector (Co-inspector) may accompany the Team Leader during field bridge inspections and assist with other duties under the direct supervision of a Team Leader. In Douglas County, the Assistant Inspector is the Road Superintendent (S. Reiman). In addition, the Area Supervisors participate in bridge inspection and maintenance training to further efficiencies, coordination and understanding of bridge maintenance and operation (B. Long, A. Stibal, J. Pease).
- F. A Load Rating Engineer manages all aspects of maintaining current and accurate load ratings for bridges they are responsible for in their inventory. Consultants and WSDOT Bridge Design Engineers may provide Load Rating analyses upon request.
- G. Underwater Bridge Inspection Divers (UBID) inspect all submerged bridge elements. Douglas County currently has no bridges in its inventory needing Underwater Inspections.
- H. The Washington Division Office of the FHWA has assigned a Division Bridge Engineer (DBE) to work collaboratively with the bridge inspection organization. The DBE works directly with the Statewide Program Manager and the WSDOT Local Program Bridge Engineer on issues of compliance and is an active member of the Bridge Inspection Committee.

### **3. Routine Bridge Inspections**

The purpose of routine inspections is to evaluate and record the current condition of the bridge, determine the degree of wear and deterioration, and recommend repairs or needed services. Federal regulations require that NBIS bridges receive a routine bridge inspection at least once every twenty-four months.

The Bridges scheduled for inspection in 2021 are listed in **Table 2-C** NBI and **Table 2-D** Short Span.

Local agency inspection reports are submitted to WSDOT on a calendar year basis for record keeping utilizing the WSDOT BridgeWorks (WSBIS) software. Bridge inspectors perform evaluations of the bridge structure condition and record information about defects identified. Most bridges will show increasing signs of deterioration as a result of age and usage. Inspection records developed over years of observation will aid the department in assessing the overall condition of the structures.

Table 2C: 2021 NBI INSPECTIONS (tentatively April 12<sup>th</sup> – 16<sup>th</sup> , 2021)

	STRUCTURE ID	BRIDGE No.	BRIDGE NAME	DUE DATE
AREA 1				
1	08853400	3.63 E Ave	CANYON B BRIDGE	4/17/2021
AREA 2				
2	08814700	2DSWA	ARMSTRONG EAST CULVERTS	4/16/2021
3	08164400	3MNW	C.KUMMER RANCH	4/16/2021
4	08616000	8 G NW	LAMOINE BRIDGE	4/16/2021
5	08338200	2L.5NW	N.NELSON RANCH	4/16/2021
6	08210600	3I.5NW	SUPPLEE	4/16/2021
AREA 3				
7	08116200	22.8C.8NE	BRIDGEPORT HILL	4/15/2021
8	08883900	26.5ENE	CHIEF JOSEPH DAM BRIDGE	4/15/2021
9	08311800	20.5D.5NE	MANSFIELD N. NO 4	4/15/2021
10	08309900	21DNE	MANSFIELD N. NO 5	4/15/2021
11	07976700	23K.2NE	MARY JANE HILL	4/15/2021
12	08610700	23 D NE	SMITH DRAW BRIDGE	4/15/2021

Table 2D: 2021 SHORT SPAN INSPECTIONS

	STRUCTURE ID	BRIDGE No.	BRIDGE NAME	DUE DATE
AREA 1				
1	08861300	993131	BATTERMAN CULVERT	2/21/2021
2	08900600	A-90 TRAIL	PEDESTRIAN/LOOP TRAIL	2/20/2021
3	08915000	14.5X.85W	ELVA WAY	2/20/2021
4	08898800	924691	FEIL PLACE CULVERT	2/18/2021
5	08860800	925901	MCELMURRY LN. NE CULVERT	2/20/2021
6	08861500	923351	McNEAL CANYON CULVERT	2/20/2021
7	08860700	920091	N. BAKER CULVERT	2/20/2021
8	08861400	919781	N. LYLE CULVERT	2/20/2021
9	08860400	912031	S. IOWA CULVERT	2/20/2021
10	08860200	913081	S. JAMES CULVERT	2/20/2021
11	08860100	916991	S. KENTUCKY CULVERT	2/20/2021
12	08860000	917141	S. MARY CULVERT	2/20/2021
13	08859800	917151	S. NANCY CULVERT	2/20/2021
14	08859600	930090	S. NILE BRIDGE	2/20/2021
15	08860500	917321	8TH ST SE. CULVERT	2/20/2021
16	08860600	924251	21ST ST. NE CULVERT	2/20/2021
17	08859700	924280	23RD ST NE. BRIDGE	2/20/2021
18	08891300	925561	27TH ST. NE CULVERT	2/20/2021
19	08860900	925961	31ST ST NW CULVERT	2/20/2021
20	08861000	926321	33RD NW BRIDGE	2/20/2021
21	08861100	926541	35TH NW BRIDGE	2/20/2021
22	08861200	927891	38TH ST SE. CULVERT	2/20/2021
AREA 3				
23	08871300	981021	CARPENTER RD. CULVERT	9/18/2021*

### **Fracture Critical Inspection**

Additional inspections are required every twenty-four months on structures having fracture critical tension members whose failure could cause partial or total collapse of the bridge. **Douglas County has no bridges in inventory requiring Fracture Critical inspection.**

### **4. UBIT and Equipment Inspections**

An Under Bridge Inspection Truck (UBIT) or other under-bridge inspection methods are necessary to perform inspections if the underside of the bridge is inaccessible without the use of equipment. These inspections are generally required on a 72-month frequency for Douglas County. Inspection frequency of this type is dependent on the design, material, or present condition of a structure.

Douglas County has four (4) bridges which utilized WSDOT forces in combination with a minimum of one (1) Douglas County inspector on site, not including traffic control which is provided by the County.

The UBIT inspection schedule is provided below:

	STRUCTURE ID	BRIDGE No.	BRIDGE NAME	CYCLE	DUE DATE
AREA 1					
	8853400	3.63 E Ave	CANYON B BRIDGE	72 mo	10/19/2023
AREA 3					
	8883900	26.5ENE	CHIEF JOSEPH DAM BRIDGE	72 mo	10/18/2023
	8610700	23 D NE	SMITH DRAW BRIDGE	72 mo	10/01/2025
	8116200	22.8C.8NE	BRIDGEPORT HILL	72 mo	10/01/2025

### **5. Underwater Inspections**

Inspection of underwater elements of bridges that meet the criteria are required by the NBIS at least once every sixty months. Where water is too deep at low water elevations to permit visual inspection from the surface by wading, a NBIS certified diver must be used to conduct the inspection. These inspections are intended to verify scour conditions as well as the condition of underwater structural elements that cannot be observed during the routine inspections. Underwater inspections are typically performed by a qualified consultant or WSDOT divers obtained by a local agency. **Douglas County currently has no bridges in its inventory which require underwater inspection. Inspection of the C. Kummer Bridge inspection needs to be scheduled during low water (dry season) to facilitate inspection.**

#### IV. DEFICIENT BRIDGES

Bridge deficiencies may be found during inspections and work items. Maintenance and repair needs are identified and forwarded to the Area Road Supervisor(s). Some work items are urgent and require immediate repair, while others are prioritized lower as longer term maintenance items to help preserve the service life of the bridge.

The **Sufficiency Rating (SR)** is a measure that provides an overview of the condition of a bridge and of the inventory as a whole. The SR is a calculated value for each bridge based on the condition of the various bridge elements and public use factors. The structural adequacy, safety, geometric layout, and importance of the bridge to the traveling public are factored into the SR. The SR ranges from zero (a bridge that is closed and can no longer carry loads) to 100 (a bridge with no deficiencies).

See **Table 3-A** NBI – Sufficiency Ratings (SR) and **Table 3-B**: Short Span – Sufficiency Ratings (SR).

The structural adequacy and safety, and the serviceability and functional obsolescence of a bridge are determined along with the SR. Structurally deficient means that a bridge requires repair or replacement of a certain component. This may include cracked or spalled concrete on the bridge deck, the support structure, or the entire bridge itself. If the condition is such that it no longer is able to carry the intended traffic loads it may be weight restricted. Being structurally deficient does not imply that the bridge is in danger of collapse or unsafe to the traveling public. If a bridge is open, it is considered safe.

Functional obsolescence is assessed by comparing the existing design of each bridge to current standards.

**Table 3-A: NBI – Sufficiency Ratings (SR)**

	Structure ID	Bridge No.	Bridge Name	Area	O/C	SR
1	8212200	27H.5NE	UPPER PEARL HILL	AREA 3	P	42.66*
2	8311800	20.5D.5NE	MANSFIELD N. NO.4	AREA 3	P	56.02
3	8309900	21DNE	MANSFIELD N. NO.5	AREA 3	P	69.81
4	8174200	20.5M.5SW	PALISADES NO. 1	AREA 1	A	72.54
5	8144500	19LSW	PALISADES NO. 2	AREA 1	A	72.54
6	8384400	161SW	PALISADES NO. 3	AREA 1	A	72.54
7	8116200	22.8C.8NE	BRIDGEPORT HILL	AREA 3	A	79.45
8	8105600	7USW	BEAVER CREEK (SCHOOL)	AREA 2	A	85.00
9	8245100	3.5K.5SW	ALSTOWN	AREA 2	A	85.54
10	7976700	23K.2NE	MARY JANE HILL	AREA 3	P	87.24
11	8338200	2L.5NW	N. NELSON RANCH	AREA 2	A	95.98
12	8164400	3MNW	C. KUMMER RANCH	AREA 2	A	96.90
13	8210600	31.5NW	SUPLEE WEST	AREA 2	A	96.94
14	8853400	3.63 E Ave	CANYON B BRIDGE	AREA 1	A	97.26
15	8140700	5FSE	WHITEHALL	AREA 2	A	98.95
16	8683300	11.5BSE	SAGEBRUSH FLATS	AREA 2	A	99.03
17	8883900	26.5ENE	CHIEF JOSEPH DAM BRIDGE	AREA 3	A	99.04
18	8610700	23 D NE	SMITH DRAW BRIDGE	AREA 3	A	99.26
19	8616000	8 G NW	LAMOINE BRIDGE	AREA 2	A	99.73
20	8814700	2DSWA	ARMSTRONG EAST CULVERTS	AREA 2	A	99.92
21	8641800	11.5F.5SW	PALISADES NO. 4	AREA 1	A	99.98

\*Upper Pearl Hill is in the process of being temporarily repaired due to damage sustained during the Pearl Hill Fire (9/7/2020); the Sufficiency Rating may be updated upon completion of the impact analysis.



**Table 3-B: Short Span – Sufficiency Ratings (SR)**

	StructureID	Bridge No.	Bridge Name	Area	O/C	SR
1	8416600	1LNW	DOUGLAS NORTH BRIDGE	AREA 2	A	55.37
2	8862100	952551	BRANDT RANCH BRIDGE	AREA 2	A	63.67
3	8859600	930090	S. NILE BRIDGE	AREA 1	P	64.59
4	8862300	946151	MOSES COULEE BRIDGE	AREA 2	A	64.67
5	8859700	924280	23rd ST. NE BRIDGE	AREA 1	A	65.13
6	8861100	926541	35th NW BRIDGE	AREA 1	A	70.15
7	8862800	995101	SPRAUER BOXES CULVERT	AREA 2	A	74.07
8	8862200	946153	MOSES COULEE CULVERT-10.	AREA 2	A	74.75
9	8862400	946151-7.6	MOSES COULEE CULVERT-7.6	AREA 2	A	74.75
10	8862600	997101	CANYON FERRY CULVERT	AREA 3	A	75.10
11	8861000	926321	33rd NW BRIDGE	AREA 1	A	75.16
12	8862700	997461	6 MILE CULVERT	AREA 3	A	75.16
13	8862500	998211	McCABE OIL CULVERT	AREA 3	A	75.17
14	8862000	952592	DOUGLAS NORTH CULVERT	AREA 2	A	75.18
15	8861600	994170	M SW CULVERT	AREA 2	A	95.98
16	8864900	952509	C. SLUSSER RANCH CULVERTS	AREA 2	A	96.92
17	8863900	995151	McNEIL CANYON PIPES	AREA 3	A	98.20
18	8860600	924251	21st ST. NE CULVERT	AREA 1	A	98.96
19	8860400	912031	S. IOWA CULVERT	AREA 1	A	98.98
20	8860000	917141	S. MARY CULVERT	AREA 1	A	98.99
21	8859800	917151	S. NANCY CULVERT	AREA 1	A	99.00
22	8860800	925901	McELMURRY LN. CULVERT	AREA 1	A	99.00
23	8861500	923351	McNEAL CANYON CULVERT	AREA 1	A	99.69
24	8860100	916991	S. KENTUCKY CULVERT	AREA 1	A	99.74
25	8861300	993131	BATTERMAN CULVERT*	AREA 1	A	99.85
26	8861400	919781	N. LYLE CULVERTS	AREA 1	A	99.85
27	8893100	925561	27th ST. NE CULVERT	AREA 1	A	99.89
28	8882700	8.5 S NW	HIGGINS LOOP CULVERTS	AREA 2	A	99.92
29	8860700	920091	N. BAKER CULVERT	AREA 1	A	99.92
30	8860200	913081	S. JAMES CULVERT	AREA 1	A	99.92
31	8860500	917321	8th ST. SE CULVERT	AREA 1	A	99.94
32	8860900	925961	31st ST. NW CULVERT	AREA 1	A	99.96
33	8861200	927891	38th NW CULVERT	AREA 1	A	99.97
34	8864200	938611	BEAVER CREEK (BRETT)	AREA 2	A	99.97
35	8864100	938041	BEAVER CREEK (BREILER)	AREA 2	A	99.98
36	8915000	9914.5X.85W	ELVA WAY	AREA 1	A	99.98
37	8861700	954281	9NW CULVERT	AREA 2	A	99.99
38	8861900	994291	ARMSTRONG CULVERT	AREA 2	A	99.99
39	8861800	944671	BSW/3SW	AREA 2	A	99.99
40	8898800	924691	FEIL PLACE CULVERT*	AREA 1	A	99.99
41	8871300	981021	CARPENTER RD CULVERT	AREA 3	A	100
42	8900600	A-90 TRAIL	A-90 TRAIL (PEDESTRIAN)	AREA 1	A	-

## **V. POSTED BRIDGES**

Douglas County has five (5) bridges posted for Single Unit Vehicles (SUVs):

- Mary Jane Hill Bridge
- Upper Pearl Hill Bridge
- Mansfield #4 Bridge
- Mansfield #5 Bridge
- S. Nile Bridge

Mary Jane Hill Bridge is inspected annually.

Monthly monitoring is performed on Upper Pearl Hill Bridge, Mansfield #4 and Mansfield #5 Bridges.

Replacement / rehabilitation projects will be scoped. Cost estimates will be prepared and funding strategies identified for repairs or replacement of these structures as applicable.

**1. Mary Jane Hill Bridge (7976700 / 23K.2NE):**



*2019- NW Posting Signage*



*2017- From East*

Scour has been remediated within the channel and the abutments meet the 100 year flood guideline. The bridge continues to show signs of expanded hairline to small cracking as of the 2020 inspection. Yearly inspections with detailed marking/ monitoring of the cracks on all elements continue.

## 2. Upper Pearl Hill Bridge:



4/21/17 – Looking North



4/26/17 – Looking South @ NW abutment

Upper Pearl Hill Bridge No. 27H.5NE (SID 08212200)

Bridge Posting Sign per 2019 Load Rating Update

Actual postings listed below in red

60"		60"	5"B
<b>WEIGHT LIMIT REDUCED</b>			4"B
<b>SINGLE UNIT VEHICLES</b>			4"B
<del>3 OR LESS AXLES</del>	<del>7T</del>		4"B
4 AXLES	23T	12T	4"B
5 AXLES	25T	12T	4"B
6 AXLES	25T	12T	4"B
7 AXLES	28T	12T	4"B

Upper Pearl Hill is in the process of being temporarily repaired due to damage sustained during the Pearl Hill Fire (9/7/2020); the Sufficiency Rating may be updated upon completion of the impact analysis.



The timber abutment is being replaced, as is the upstream channel stabilization.

### 3. Mansfield #4 Bridge:



4/19/07 – Elevation – looking North



4/19/07 – Elevation – looking North

Mansfield North Number 4 Bridge No 20.5D.5NE (SID 08311800)

Bridge Posting Sign per 2019 Load Rating Update

Actual Postings Listed Below in Red

60"		60"	
		<b>WEIGHT LIMIT REDUCED</b>	5"B
		<b>SINGLE UNIT VEHICLES</b>	4"B
		<del>3 OR LESS AXLES 7T</del>	4"B
60"	4 AXLES	27T 12T	4"B
	5 AXLES	29T 12T	4"B
	6 AXLES	33T 12T	4"B
	7 AXLES	35T 12T	4"B



4. Mansfield #5 Bridge:



4/19/07 – Bridge Deck – looking West

Mansfield North Number 5 Bridge No 21DNE (SID 08309900)

Bridge Posting Sign per 2019 Load Rating Update

Actual Postings Listed Below in Red

	60"		
		<b>WEIGHT LIMIT REDUCED</b>	5"B
		<b>SINGLE UNIT VEHICLES</b>	4"B
		<del>3 OR LESS AXLES</del> 7T	4"B
60"		4 AXLES 25T <del>12T</del>	4"B
		5 AXLES 28T <del>12T</del>	4"B
		6 AXLES 31T <del>12T</del>	4"B
		7 AXLES 34T <del>12T</del>	4"B

## 5. S. Nile Bridge:



4/16/19 – Elevation – looking East



4/16/19 – Elevation – looking West

South Nile Bridge No 930090 (SID 08859600)

Bridge Posting Sign per 2019 Load Rating Update

Actual Postings Listed Below in Red  
60"

60"	<b>WEIGHT LIMIT REDUCED</b>		5'B
	SINGLE UNIT VEHICLES		4'B
	<del>3 OR LESS AXLES</del>	<del>7T</del>	4'B
	4 AXLES	25T 12T	4'B
	5 AXLES	27T 12T	4'B
	6 AXLES	30T 12T	4'B
	7 AXLES	34T 12T	4'B

## GENERAL PROGRAM ELEMENTS

A load rating report is performed for each bridge in the NBIS inventory in accordance with federal and state regulations. A bridge load rating is the measure of the bridge's load carrying capacity. There are two capacity levels that bracket this ability, the **Inventory Rating** and the **Operating Rating**.

- The **Inventory Rating** is the load that a bridge can carry for an indefinite number of load cycles without detriment to the bridge.
- The **Operating Rating** is the maximum load that can be carried on an infrequent basis without detriment to the bridge.

NBIS regulations require the posting, or restrictions, of load limits on a bridge when the load rating factors for the legal loads is less than 1. Load rating factors are calculated using six standard truck configurations to check the capacity levels: Three truck configurations represent legal loads; a national standard truck; and two overload vehicles. The minimum posting value is three tons of inventory or operating levels. Bridges not capable of carrying a maximum gross weight of three tons must be closed.

On November 15, 2013, a Federal Highway Administration (FHWA) Memorandum was issued requiring that all Specialized Haul Vehicles also receive a load rating. The purpose of this memorandum was to clarify FHWA's position on the analysis of *Specialized Hauling Vehicles* (SHVs) as defined in the AASHTO Manual for Bridge Evaluation (MBE) during bridge load rating and posting to comply with the requirements of the NBIS. The intent of the load rating and posting provisions of the NBIS is to insure that all bridges are appropriately evaluated to determine the safe live load carrying capacity considering all unrestricted legal loads including State routine permits, and that bridges are posted if required, in accordance with the MBE. The SHVs are closely-spaced multi-axle single unit trucks introduced by the trucking industry in the last decade. Examples include dump trucks, construction vehicles, solid waste trucks and other hauling trucks.

FHWA established the following timelines for rating bridges for SHVs:

**Group 1:** Bridges with the shortest span not greater than 200 feet should be re-rated after their next NBIS inspection, but no later than December 31, 2017;  
and

**Group 2:** Rate bridges not in Group 1 no later than December 31, 2022.

<p><i>Douglas County had eight NBI bridges that fell under Group 1 with the remainder in Group 2.</i></p>
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## **VI. SCOUR EVALUATION**

Soundings are being performed for each bridge that spans over natural waterways to indicate movement of the streambed over several monitoring periods.

A scour evaluation is required for all bridges over water. The purpose of a scour evaluation is to determine susceptibility of the bridge's foundation to the erosive actions of flowing water removing material from the bridge's foundation. A bridge is considered scour critical if its foundation is determined to be unstable for observed or calculated scour conditions. When a bridge inspector identifies an actual or potential problem, the bridge must be further evaluated to determine whether or not it should be considered scour critical.

Scour Evaluations are to be reviewed and confirmed for all NBI structures. Currently each bridge has a Scour Plan of Action in the file.

## **VII. EMERGENCY REPAIRS & INSPECTIONS**

### **i. Pearl Hill Fire 9/7/2020:**

On Labor Day weekend, the Pearl Hill fire damaged three NBI structures including the wooden abutments and channel stabilization of the Upper Pearl Hill Bridge and guardrail on the Bridgeport Hill Bridge and the Smith Draw Bridge.

The Upper Pearl Hill Bridge was closed until an analysis could be performed the following week. A Critical Damage Bridge Repair Report was submitted to WSDOT. The bridge was re-opened to traffic on 9/16/2020

Emergency repairs are in process on the Upper Pearl Hill Bridge and a guardrail replacement contract is being prepared.

- ii. Plans:** In 2015, Douglas County prepared a Post-Earthquake Technical Assessment Guide. In cooperation with the Area Supervisors, this guide needs to be reviewed and updated.
- iii. Training:** Training is to be provided to Area Supervisors and crew to ensure that personnel is familiar with the response plan, and has the resources available to respond and perform emergency evaluations and initiate the necessary emergency response/action.

## **VIII. MAINTENANCE ACTIVITIES**

Proper maintenance and repairs are necessary to prevent further deterioration of structures, to extend their useful life and to prevent or reduce major repair costs in the future.

During inspections, maintenance needs are documented, prioritized, and repair work scheduled for completion by county crews or project contract. Typical annual maintenance includes brush cutting, bridge rail and guardrail repairs, deck and drain cleaning, and routine inspections.

Maintenance and Repair Service are provided to the Area Supervisors and are scheduled for follow-up in the summer, fall and following spring. The Bridge Inspection and Maintenance teams will implement a system specifically to address maintenance and repair of bridges in a timely manner, including updates to track and closeout Service Requests.

## **IX. 2020 PROJECTS**

Area 3 crew repaired the H-block wing wall on the Mansfield No. 5 Bridge.

Area 2 crew repaired the concrete wing wall on the Sprauer Boxes.

Area 1 crew was able to modify and replace missing deck “Z” clips on the A-90 Pedestrian Trail Bridge.

Projects summaries provided on the following pages.

## **I. Area 1 – A-90 Loop Trail Pedestrian Bridge – Deck Clip replacement/installation**

*Work completed the week of May 8, 2020.*

The A-90 Loop Trail Pedestrian Bridge is a 90-foot long, timber structure located north of the 27<sup>th</sup> Street Trailhead. In 2020 the bridge was inspected and load rated by a consultant. Access to the bridge is challenging due to vegetation and geometry.

Many of the 360 deck “Z” clips were loose or missing. As the timber went through seasonal shrink / swell cycles the deck clips became loose and bolts and clips were lost. The timber deck panels were loose, uneven and “rattled” with pedestrian and bike traffic. Alternates to the deck clips were explored, including simply drilling and bolting the deck to the bridge. The clips are a non-destructive method to attach the timber deck, which minimizes moisture migration to the bridge sub and super structure.

New clips had already been purchased to replace lost clips. The clips were modified to aid tightening the clips. A man lift was utilized for access.



*A-90 Ped Bridge 5/7/2020*



*Deck clip missing bolt*



*Underside of bridge after deck clip replacement*



*Deck clip with bolt and washer*

### **Future work items:**

- Access remediation (bollard installation).
- Deck preservation.
- Railing preservation (sealant application).

*\*Boardwalk*

**II. Area 2 – Sprauer Boxes – Wing Wall Repair Completed April 2020.**

The Sprauer Boxes is an 18' x 48' Concrete Dual box culvert with 10' wing walls.

The wing wall at the SE corner of the box culvert was detaching from the box culvert and at risk of failing if not repaired.



**Future work items:**

- Monitor seasonal scour, consider mitigation at the inlet and outlet.
- Monitor separation of culvert segments.
- Seal concrete wing wall cracking and exposed rebar on deck (north).

April 2020: Damaged guardrail repaired.



**III. Mansfield No. 5 – Wing Wall Repair/Replacement.** Completed April 2020.

Mansfield No. 5 is steel structure including 2.5-inch metal corrugated decking with a 4" steel-plate to retain deck surfacing. Bridge is approximately 25-feet long and 25-feet wide.

The 2009 Repair Report called for reset of leaning NW wing wall. Utilizing geo-grid and battered H-Block, tucked behind the abutment wall.



**Future work items:**

Bridge is Load Rated for Single Unit Vehicles.

- Per load rating plan continue monthly monitoring of "I" beam rotation.
- Monitor NE and SW timber wing walls (3" x 12" – 12-ft long) for replacement.
- Painting of steel member to slow corrosion of steel members.
- Monitor drainage route around bridge and abutment.
- Monitor scour.

## **X. PROGRAMMED PROJECTS**

### **2021 Bridge Program Work Plan**

- **Continue monthly monitoring plan development for posted bridges**
  - **Mansfield No. 4**
  - **Mansfield No. 5**
  - **Upper Pearl Hill**
  - **S. Nile (Short Span)**
- **2021 Inspections**
- **2021 Maintenance Repairs**
- **A-90 Trail Deck Clip Repair, Railing Maintenance, Deck Maintenance (seal)**
- **Scour Evaluations**
- **Inspection Conference attendance (Virtual – April 19-22) JL / TH +**
- **Upper Pearl Hill funding options and packages for replacement. 2020-2021.**
- **Guardrail repair/replacement: Bridgeport Hill and Smith Draw**
- **Post Fire Scour Evaluations and Monitoring:**
  - **Upper Pearl Hill**
  - **Bridgeport Hill**
  - **Smith Draw**
- *Continue to develop Bridge Program / Asset Management database*
- *Develop Bridge Asset Summaries*
- *Analysis of Bridge Condition Data*
- *Short Span inspection / rehab*
- *Staff training: WSDOT program updates*
- *Staff training: routine maintenance and repairs*
- *Develop Bridge Web-Page*
- *Automate Annual Report to streamline process*

## **XI. RECOMMENDED PROJECTS**

### **1. Deck Program**

Several of Douglas County's bridges have active deck deterioration observed through deck spalling and delamination. Delaying repairs causes deck deterioration to accelerate. All delaminated, spalled and patched analysis is to be performed prior to any application for federal Highway Bridge Program funds to establish project needs and scope.

### **2. Bridge Cleaning and Painting**

Douglas County's steel bridges have active pack rust, speckle rust and other deterioration caused by age, weather and usage. Delaying repairs causes the steel to continue to deteriorate and fatigue without protection. Steel bridges that require maintenance and preservation will need to be identified to initiate application for federal Highway Bridge Program funds to establish project needs and scope.

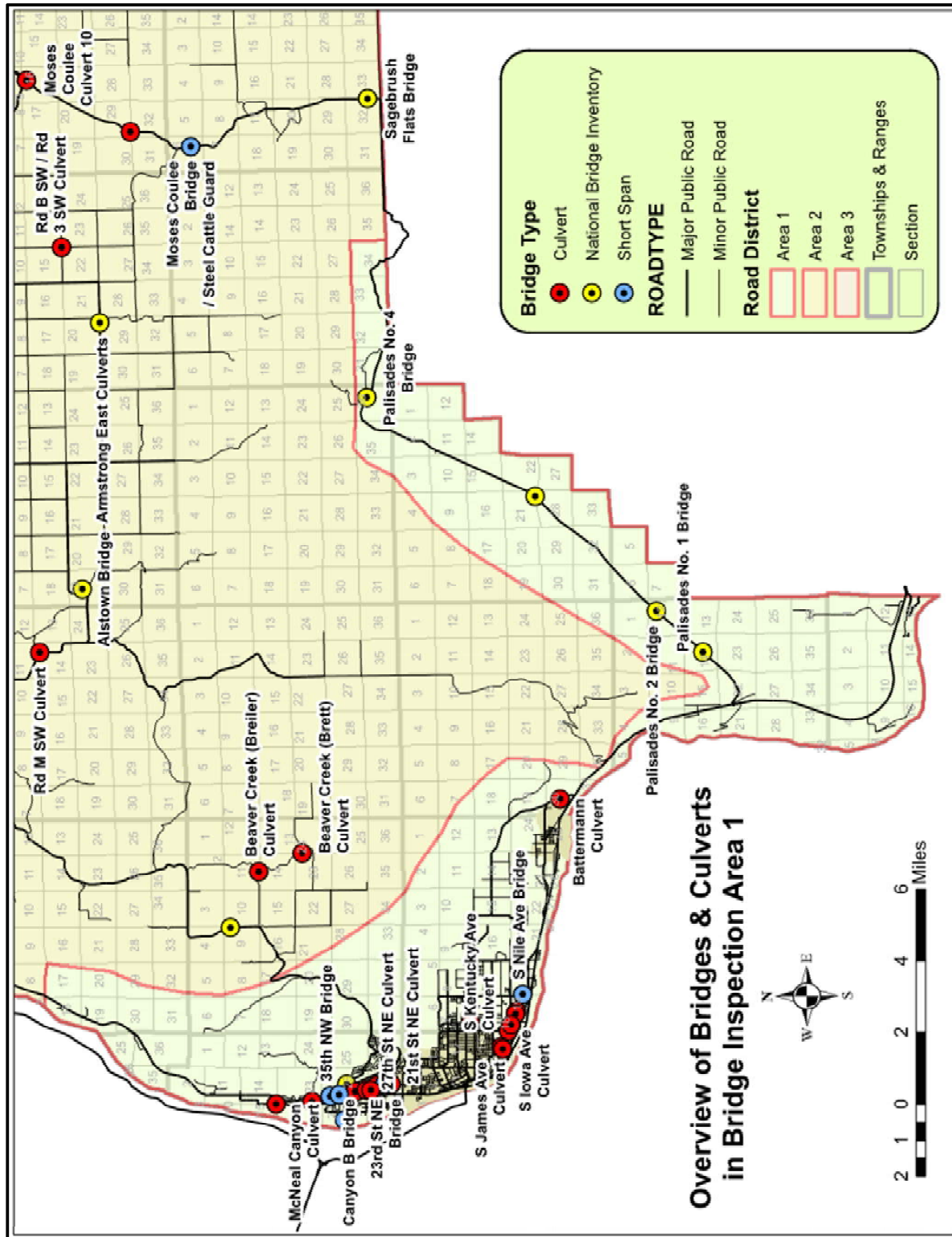
The Bridge and Ferry Terminal Washing General Permit (Ecology – National Pollutant Discharge Elimination System – NPDES) may be applicable to bridge maintenance activities.

## Appendix A –

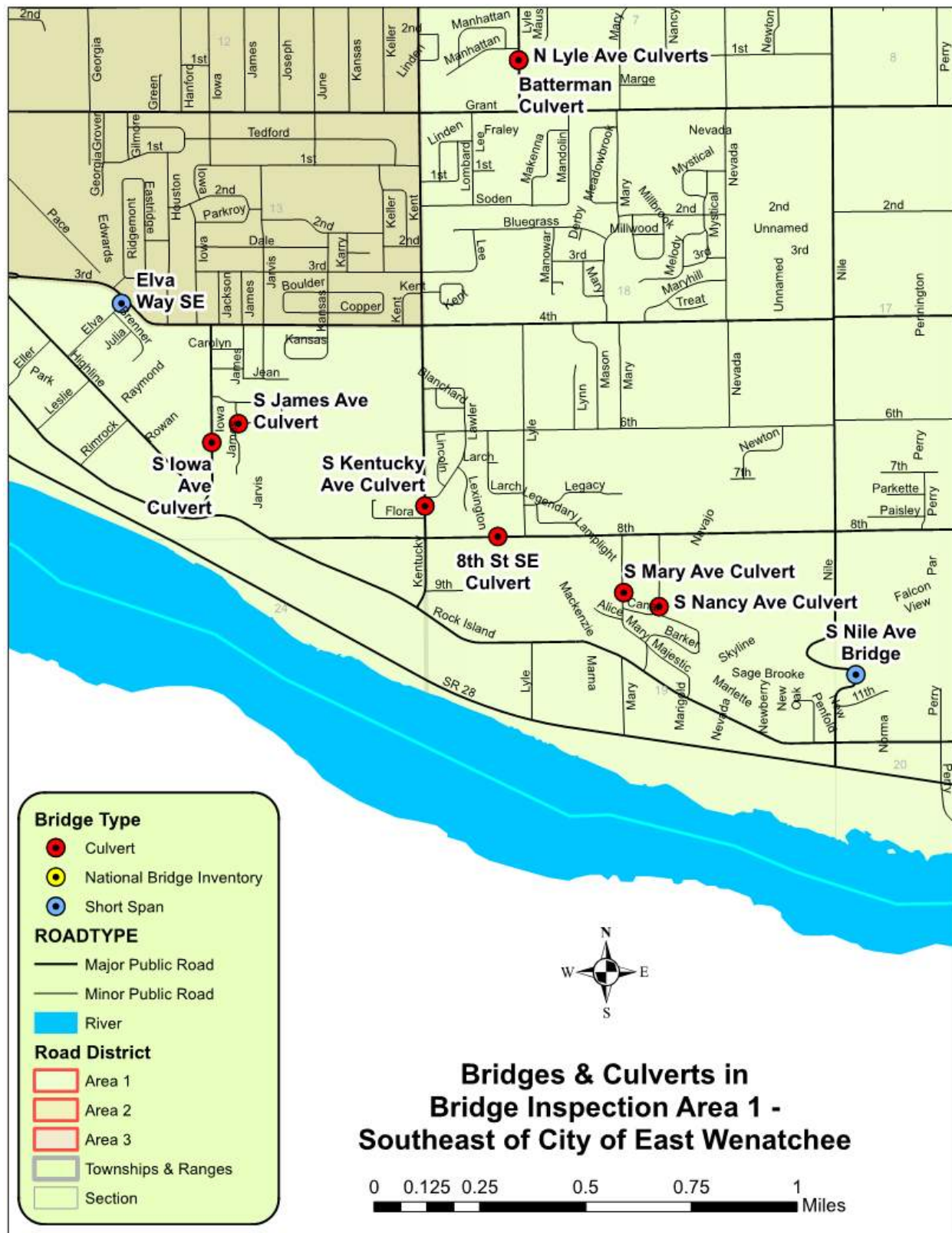
	STRUCTURE ID	BRIDGE NUMBER	BRIDGE NAME	LENGTH	LOCATION	FACILITY CARRIED
1	08860600	924251	21st ST. NE CULVERT	4	21st ST. NE	21ST ST. NE
2	08859700	924280	23rd ST NE. BRIDGE	16	23rd ST NE	23rd ST NE
3	08891300	925561	27th ST. NE CULVERT	7	27th St. NE	27TH ST. NE
4	08860900	925961	31st ST NW CULVERT	8	31st ST NW	31st ST.NW
5	08861000	926321	33rd NW BRIDGE	18	33rd St. NW	33rd ST. NW
6	08861100	926541	35th NW BRIDGE	17	35th ST. NW	35th St. NW
7	08861200	927891	38th NW CULVERT	6	38th ST. NW	38th ST. NW
8	08862700	997461	6 MILE CULVERT	6	ROAD P NE	ROAD P NE
9	08860500	917321	8TH ST SE. CULVERT	10	8TH ST. SE	8TH ST. SE
10	08861700	954281	9NW CULVERT	6	9 NW	9 NW
11	08245100	3.5K.5SW	ALSTOWN	49	0.12 N JCT 4 SW	RD 3 SW
12	08861900	994291	ARMSTRONG CULVERT	10	RD E. SW	RD E. SW
13	08814700	2DSWA	Armstrong East Culverts	27	20/2924N24E	RD 4 SW
14	08861300	993131	BATTERMAN CULVERT	6	BATTERMAN RD.	BATTERMAN RD.
15	08864100	938041	BEAVER CREEK (BREILER)	12	WITTE RD (RD 8 SW)	WITTE RD
16	08864200	938611	BEAVER CREEK (BRETT)	10	RD 9.5 SW	RD 9.5 SW
17	08105600	7USW	BEAVER CREEK (SCHOOL)	30	7.1 NE JCT FANCHER FLD RD	BADGER MTN. RD
18	08862100	952551	BRANDT RANCH BRIDGE	18	RD P NW	RD P NW
19	08116200	22.8C.8NE	BRIDGEPORT HILL	132	10.28N25E	BRIDGEPORT HILL RD
20	08861800	944671	BSW/3SW	5	BSW	3SW
21	08164400	3MNW	C.KUMMER RANCH	24	2.7 E RD O NW	AIRPORT RD (3 NW)
22	08864900	952509	C.SLUSSEY RANCH CULVERTS	18	33./426N23E	SLUSSEY ROAD
23	08853400	3.63 E Ave	CANYON B BRIDGE	597	CANYON B	Eastmont Avenue
24	08862600	997101	CANYON FERRY CULVERT	9	CANYON FERRY RD.	CANYON FERRY RD.
25	08871300	981021	CARPENTER RD. CULVERT	7	CARPENTER RD/RD 20	CARPENTER RD/RD 20
26	08883900	26.5ENE	CHIEF JOSEPH DAM BRIDGE	240	0.25E JCT. 17 173	PEARL HILL RD.
27	08416600	11NW	DOUGLAS NORTH	22	31.25N23E	DOUGLAS NORTH RD
28	08862000	952592	DOUGLAS NORTH CULVERT	9	N. DOUGLAS RD.	N. DOUGLAS RD.
29	08915000	14.5X.85W	ELVA WAY	16	13.22N20E	ELVA WAY
30	08898800	924691	FEIL PLACE CULVERT	6	FEIL PLACE NE	FEIL PLACE NE
31	08882700	8.5 SNW	HIGGINS LOOP	15	HIGGINS RD.	HIGGINS RD.
32	08616000	8 G NW	LAMOINE BRIDGE	58	23.26N 23E	LAMOINE RD
33	08861600	994170	M SW CULVERT	6	S. WATERVILLE RD.	S. WATERVILLE RD.
34	08311800	20.5D.5NE	MANSFIELD N. NO.4	25	2.0 SE JCT BDGPRT HILL RD	MANSFIELD NORTH RD
35	08309900	21DNE	MANSFIELD N. NO.5	24	1.11 SE JCT BDGPRT HILL R	MANSFIELD NORTH RD
36	07976700	23K.2NE	MARY JANE HILL	90	28.26N26E	MARY JANE HILL RD
37	08862500	998211	McCABE OIL CULVERT	7	RD 30 NE	McCABE OIL
38	08860800	925901	McELMURRY LN. NE CULVERT	6	McELMURRY LN. NE	McELMURRY LN. NE
39	08861500	923351	McNEAL CANYON CULVERT	9	CASCADE AVE.	CASCADE AVE.
40	08863900	995151	McNEIL CYN. PIPES	18	McNEIL CYN ROAD	McNEIL CANYON RD.
41	08862300	946151	MOSES COULEE BRIDGE	12	MOSES COULEE RD	MOSES COULEE RD
42	08862200	946153	MOSES COULEE CULVERT-10.	5	MOSES COULEE RD.	Moses Coulee Rd.
43	08862400	946151-7.6	MOSES COULEE CULVERT-7.6	5	MOSES COULEE RD.	Moses Coulee Rd.
44	08860700	920091	N. BAKER CULVERT	12	N. BAKER AVE.	N. BAKER AVE.
45	08861400	919781	N. LYLE CULVERTS	12	N. LYLE AVE.	N. LYLE AVE.
46	08338200	2L.5NW	N.NELSON RANCH	23	1.13 E JCT US 2	2 RD NW
47	08174200	20.5M.5SW	PALISADES NO. 1	78	14.21N22E	PALISADES RD
48	08144500	19LSW	PALISADES NO. 2	78	12.21N22E	PALISADES RD
49	08384400	16ISW	PALISADES NO. 3	78	28.22N23E	PALISADES RD
50	08641800	11.5F.5SW	PALISADES NO. 4	62	0.03 NE JCT PALISADES RD	WAGON RD
51	08900600	A-90 TRAIL	PEDESTRIAN/LOOP TRAIL	90	APPLE CAPITAL LOOP TRAIL	LOOP TRAIL
52	08860400	912031	S. IOWA CULVERT	4	S. IOWA AVE.	S. IOWA AVE.
53	08860200	913081	S. JAMES CULVERT	7	S. JAMES ST.	S. JAMES ST
54	08860100	916991	S. KENTUCKY CULVERT	11	S. KENTUCKY	S. KENTUCKY AVE.
55	08860000	917141	S. MARY CULVERT	5	S. MARY ST.	S. Mary
56	08859800	917151	S. NANCY CULVERT	4	S. NANCY AVE.	S. NANCY AVE.
57	08859600	930090	S. NILE BRIDGE	20	S. NILE ST	S. NILE
58	08683300	11.5 BSE	SAGEBRUSH FLATS	66	32/33 23N25E	RIMROCK MEADOWS RD
59	08610700	23 D NE	SMITH DRAW BRIDGE	101	10.28 N. 25E	BRIDGEPORT HILL RD
60	08862800	995101	SPRAUER BOXES	18	LAMOINE RD.	LAMOINE RD.
61	08210600	31.5NW	SUPPLEE WEST	20	1.66 E RD K (GOLL)	ROAD 3 NW (BARNES)
62	08212200	27H.5NE	UPPER PEARL HILL	30	1.44 E JCT HILAND ORCH RD	PEARL HILL RD
63	08410700	5FSE	WHITEHALL	28	4.16 S JCT US 2	WHITEHALL RD F SE



## Appendix B - Asset Maps

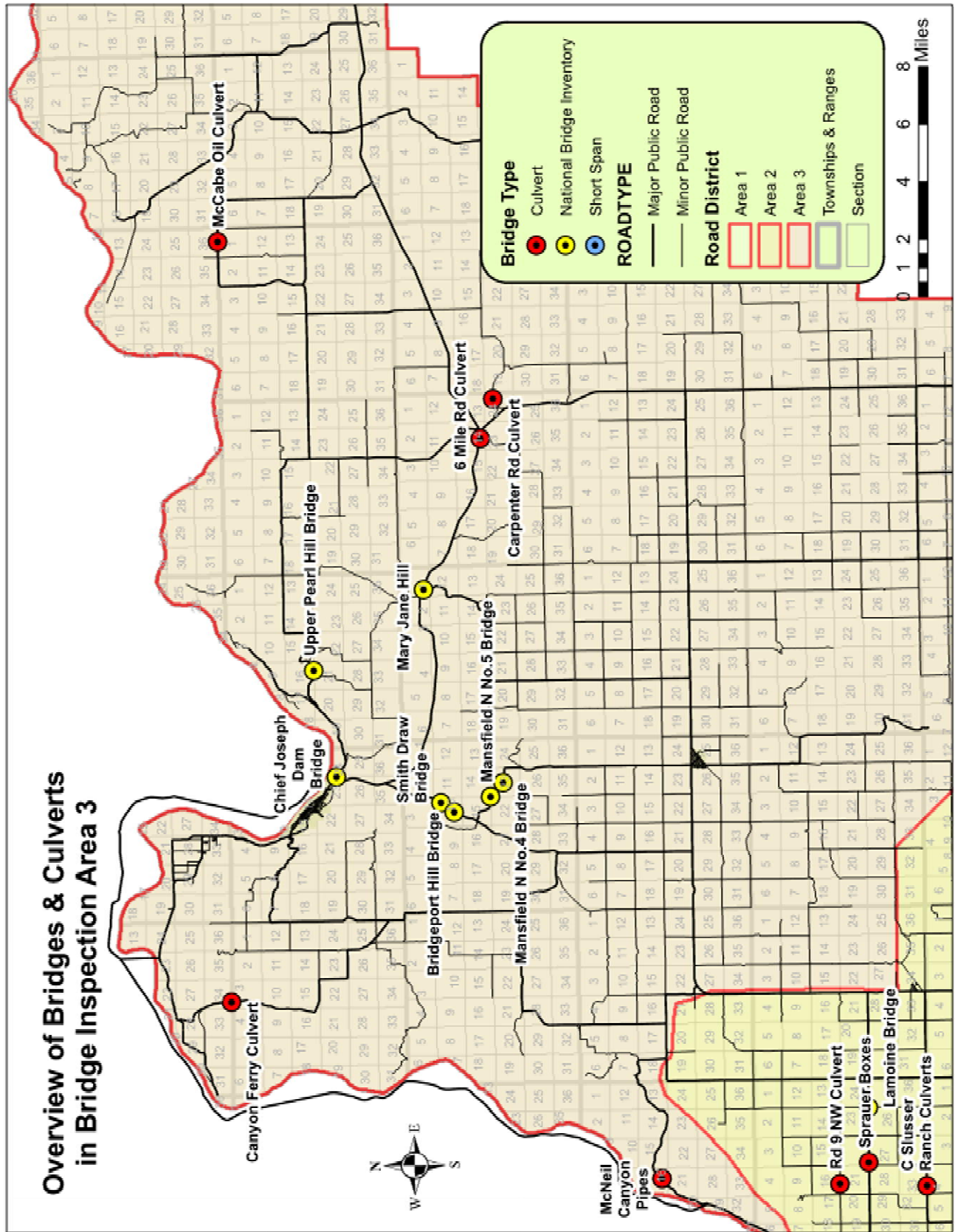




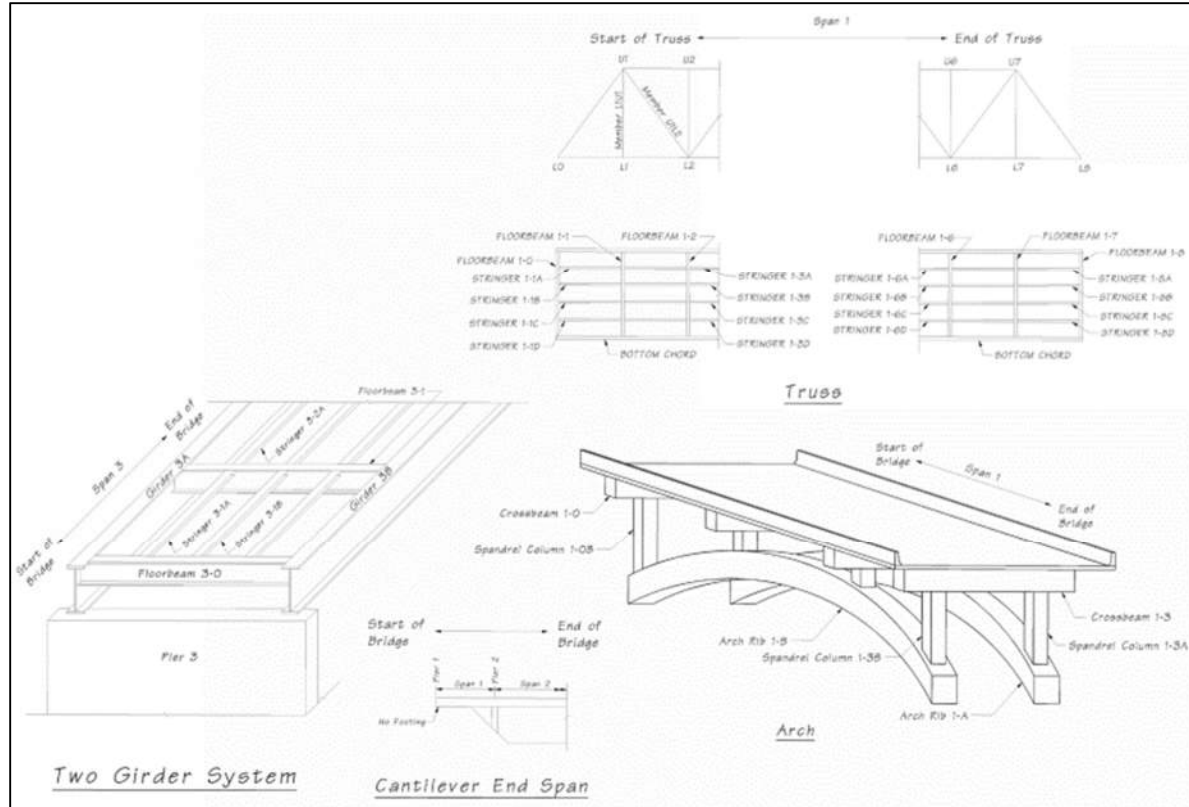
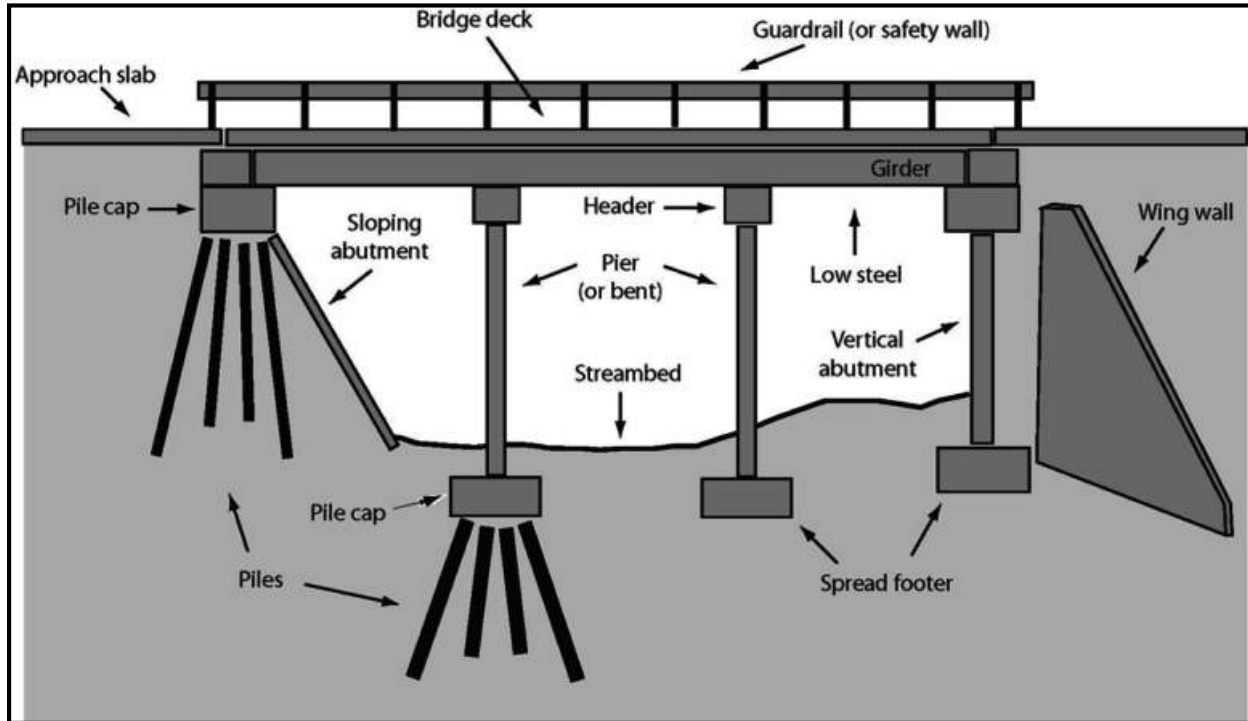








### Schematic Drawing of Typical Bridge Elements



## PAST INSPECTIONS

### 2019 NBI Inspections

Bridge Name	Last Inspection Date	Problems at Last Inspection	Structure Type
ARMSTRONG EAST CULVERTS	4/16/2019	Repair ACP under all barriers. Scour at outlet. Crack fill deck.	Metal Culverts (CMP)
BRIDGEPORT HILL	10/19/19	Remove excess chip seal gravel from curb along the bridge.	Concrete
C. KUMMER RANCH	4/16/2019	Replace wing walls with H-block as time allows	Timber
CANYON B BRIDGE	4/17/2019	Clear debris from joint seals and repair.	Concrete
CHIEF JOSEPH DAM BRIDGE	4/15/2019	Clear debris from joint bridge deck and joints.	Concrete
LAMOINE BRIDGE	4/16/2019	Crack fill deck and approaches	Concrete
MANSFIELD N.: No. 4	4/15/2019	Reset H-Block at SW wing wall. Repair NW top timber wing wall.	Steel
MANSFIELD N.: No. 5	4/15/2019	Reset block at NW wing wall. Reconstruct with batter tuck wall behind abutment.	Steel
N. NELSON RANCH	4/16/2019	Top NW rail and SW wing wall to be reattached.	Timber
SMITH DRAW BRIDGE	10/19/19	Remove excess chip seal gravel from curb along the bridge.	Concrete
SUPLEE WEST	4/16/2019	Riprap to be replaced from footings up to concrete lip, 2'.	Steel
UPPER PEARL HILL	4/15/2019	Address roadside erosion along both sides of bridge. Repair spall at NW corner of deck (ACP).	Steel

### 2019 Short Span Inspections

Bridge Name	Last Inspection Date	Problems at Last Inspection	Structure Type
S. NILE BRIDGE	4/16/2019	Crack fill bridge deck and pavement seats. Repaint guardrail. Monitor propagating deck cracks at SW abutment.	Concrete Slab
27 <sup>th</sup> STREET NE CULVERT	4/16/2019	None.	Concrete culvert
SUPLEE	4/16/2019	Replace riprap from footings up to concrete lip (approximately 2ft depth).	Steel Deck / Concrete Abutment

### 2018 NBI Inspections

Bridge Name	Last Inspection Date	Problems at Last Inspection	Structure Type
ALSTOWN	4/23/2018	Soundings performed this inspection. Recommend scour evaluation at time of NRL ratings by 2022 due to channel migration to determine abutment depths.	Steel
BEAVER CREEK (SCHOOL)	4/23/2018	Soundings performed this inspection. NRL ratings due by 2022. Repair bump at both pavement seats to eliminate live load impact.	Concrete
DOUGLAS NORTH	4/23/2018	Soundings performed this inspection. Crack fill at pavement seats and repair all corners of bridge deck (not in wheel path) with HMA due to section loss.	Concrete
MARY JANE HILL	4/23/2018	NRL load rating with new weight limits in 2017. Clear debris under guardrail for proper bridge deck drainage. Tighten all guardrail bolts and corbels.	Concrete Girder
PALISADES NO.1	4/20/2018	Soundings performed this inspection. Remove material from wheel curb on deck. Use HMA to install swales at all 4 bridge deck corners to minimize deck drainage at abutments. Repair bump at both pavement seats to eliminate live load impact. Replace bullet-riddled bridge markers.	Concrete
PALISADES NO.2	4/20/2018	Soundings performed this inspection. Need to asphalt outside corners of bridge at abutment for drainage and remove material from wheel curb on deck. Remove vegetation from center of channel at inlet.	Concrete
PALISADES NO.3	4/20/2018	Soundings performed this inspection. Need to asphalt outside corners of bridge at abutment for drainage and remove material from wheel curb on deck.	Concrete
PALISADES NO.4	4/20/2018	Soundings performed this inspection. Minor settlement at pavement seats. No repairs needed.	Concrete Girder
SAGEBRUSH FLATS	4/20/2018	Soundings performed this inspection. NRL ratings due by 2022. Fill large transverse cracking along both approaches.	Concrete Girder
WHITEHALL	4/20/2018	Soundings performed this inspection. NRL ratings due by 2022. Crack fill approaches at pavement seats. Repair previously patched pothole at SW corner of bridge with HMA. Remove asphalt from under SW guardrail to eliminate runoff at abutment.	Steel



## 2018 Short Span Inspections

bridge_name	last_insp_date	location	Insp_Findings
38th NW CULVERT	2018_20-20	38th ST. NW	
DOUGLAS NORTH BRIDGE	2018_04-23	31.25N23E	Cracking on outside wheel curbs
23rd ST. NE BRIDGE	2018_02-20	23rd ST. NE	
S. NANCY CULVERT	2018_02-20	S. NANCY AVE	Cracking around headwall and tailwall
S. MARY CULVERT	2018_02-20	S. MARY AVE	Cracking around headwall and tailwall
S. KENTUCKY CULVERT	2018_02-20	S. KENTUCKY AVE	
S. JAMES CULVERT	2018_02-20	S. JAMES AVE	
S. IOWA CULVERT	2018_02-20	S. IOWA AVE	Cracking around headwall and tailwall
8th ST. SE CULVERT	2018_02-20	8th ST SE	Spalls with exposed rebar at inlet
21st ST. NE CULVERT	2018_02-20	21st ST. NE	Cracking around headwall and tailwall
N. BAKER CULVERT	2018_02-20	N. BAKER AVE	Contraction scour at N outlet
McELMURRY LN. CULVERT	2018_02-20	McELMURRY LN	Deteriorating headwall with cracking
31st ST. NW CULVERT	2018_02-20	31st ST. NW	
33rd NW BRIDGE	2018_02-20	33rd ST. NW	Approach settlement
35th NW BRIDGE	2018_02-20	35th ST. NW	Grafitti at inlet
BATTERMAN CULVERT	2018_02-20	BATTERMAN RD	Exposed culvert deteriorating at both ends
N. LYLE CULVERTS	2018_02-20	N. LYLE AVE	
McNEAL CANYON CULVERT	2018_02-20	NW CASCADE AVE	Heavy vegetation around culvert
FEIL PLACE CULVERT	2018_02-18	FEIL PL.	