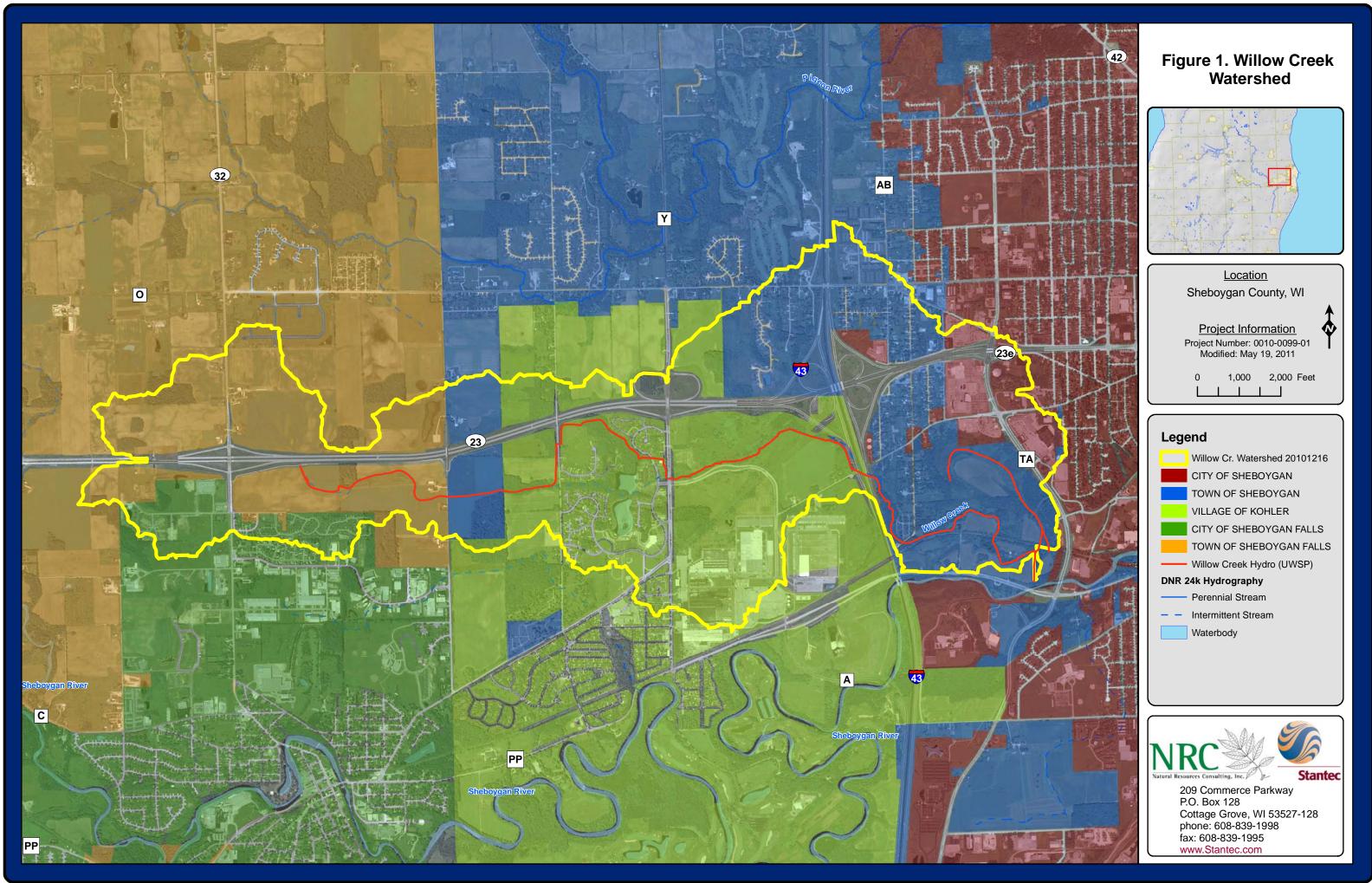
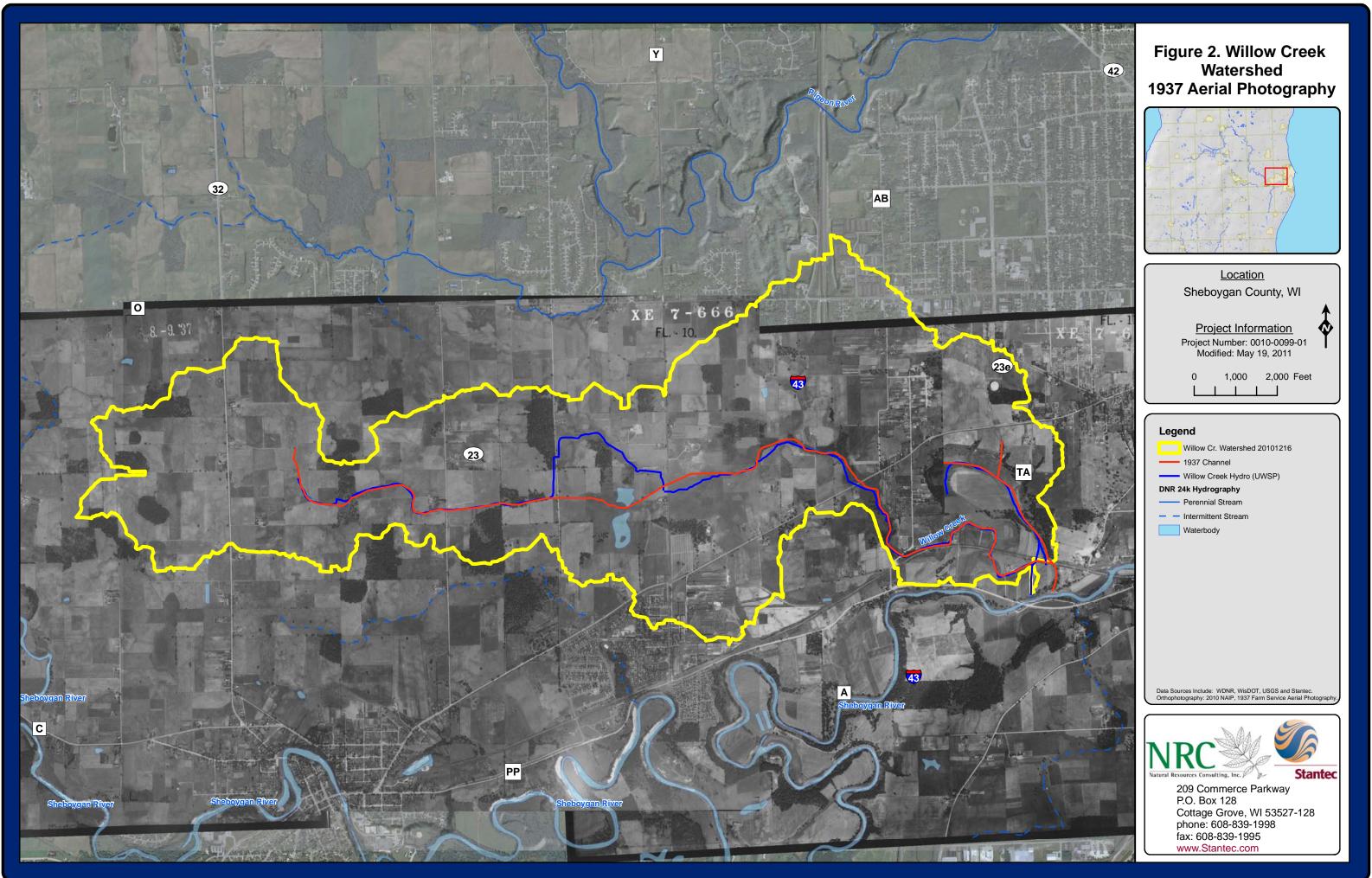
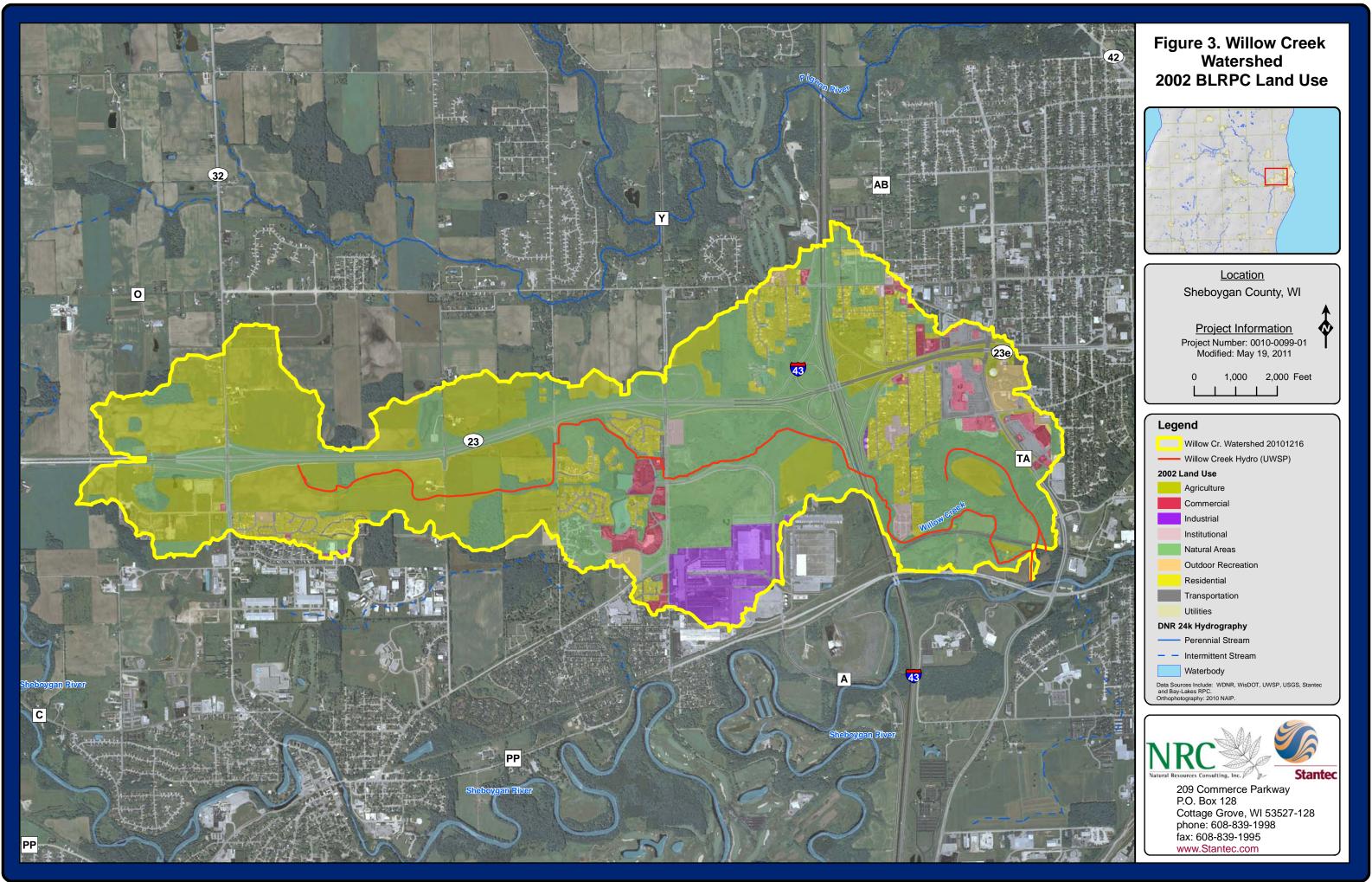
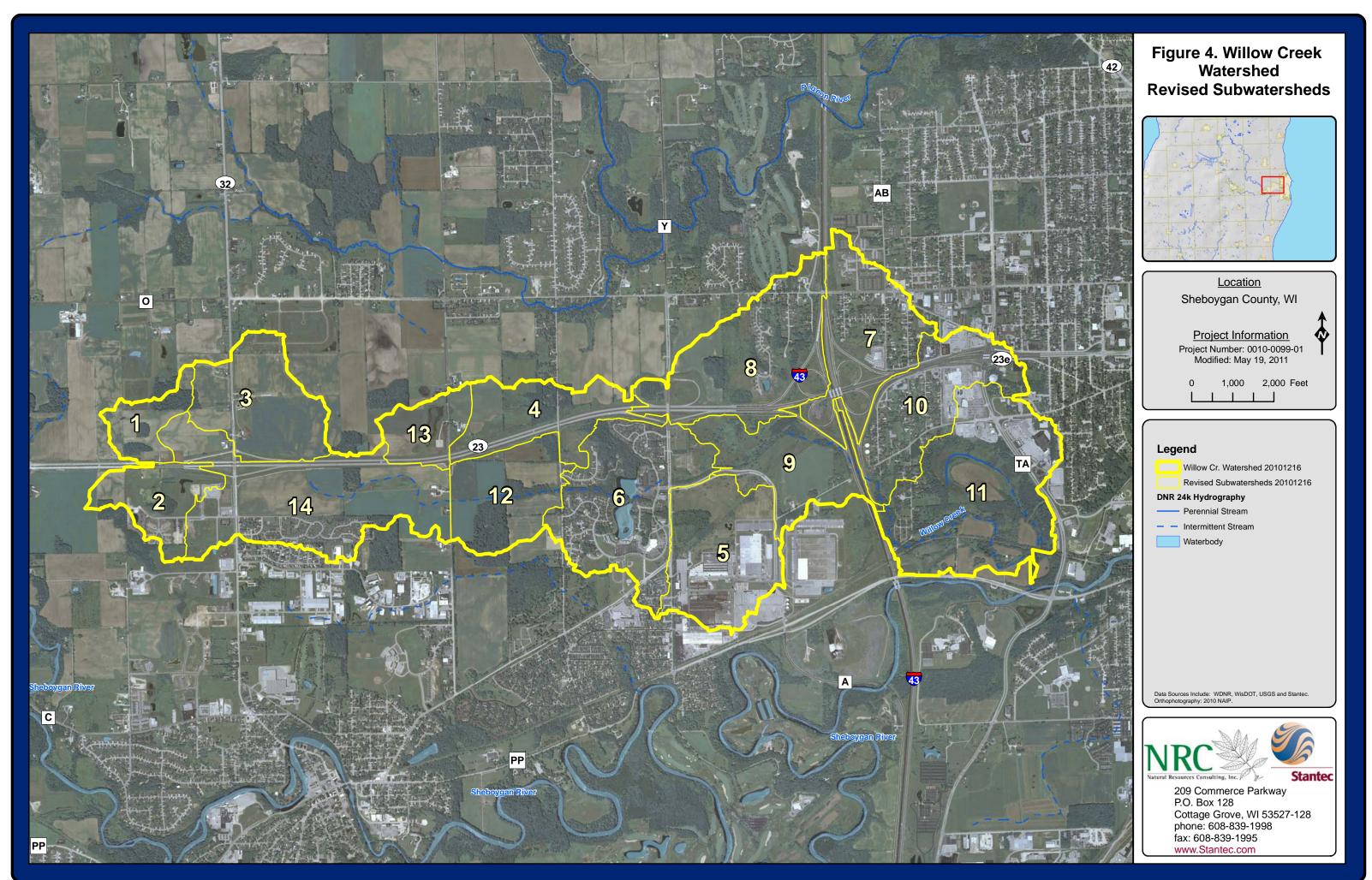
Willow Creek Watershed Protection and Improvement Plan Sheboygan County, Wisconsin

ATTACHMENT A









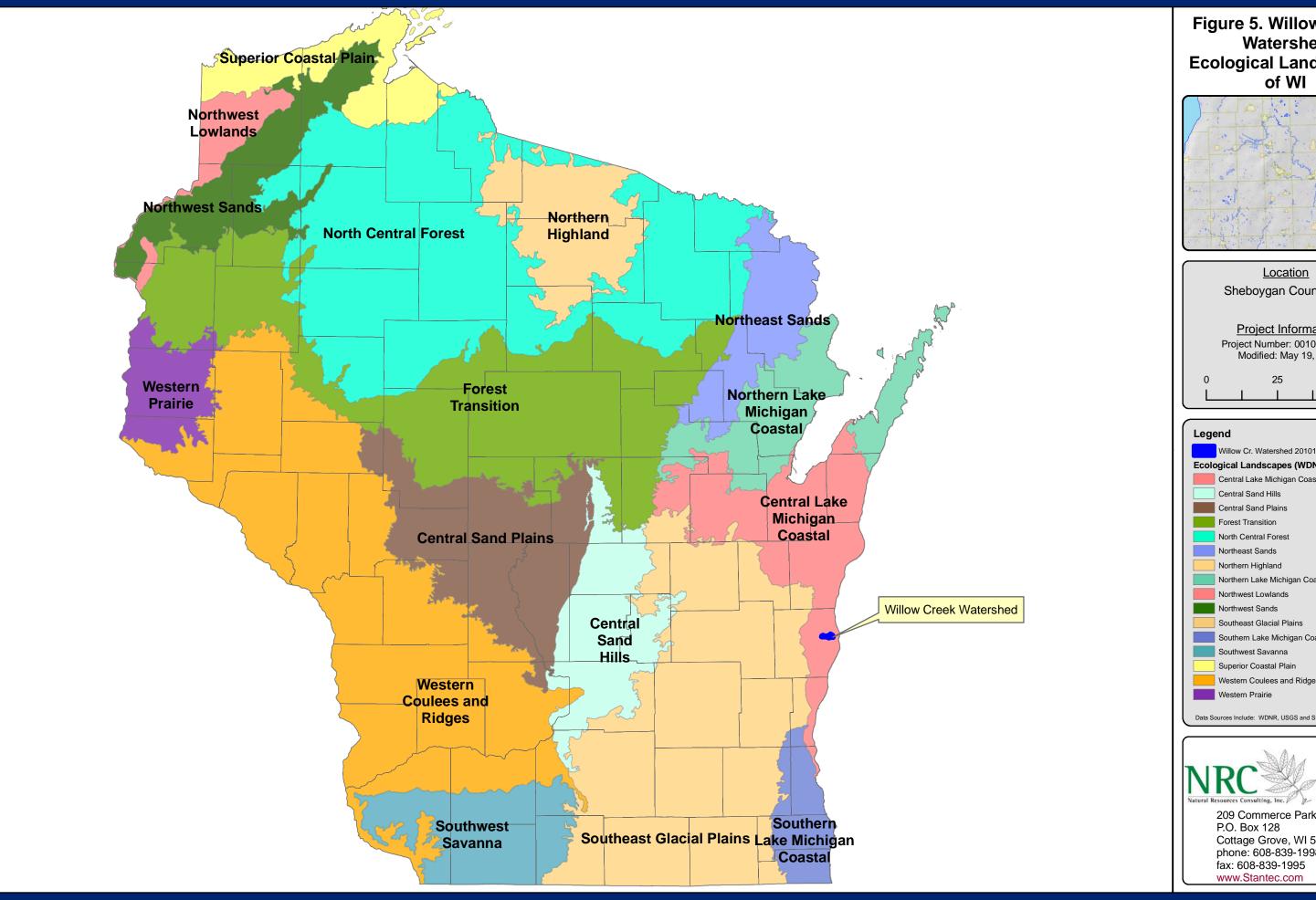
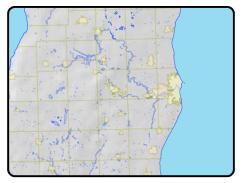
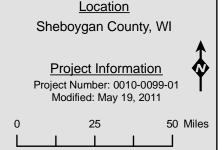
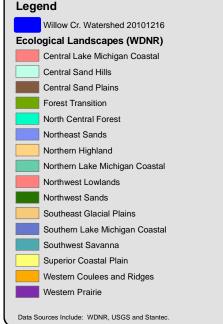


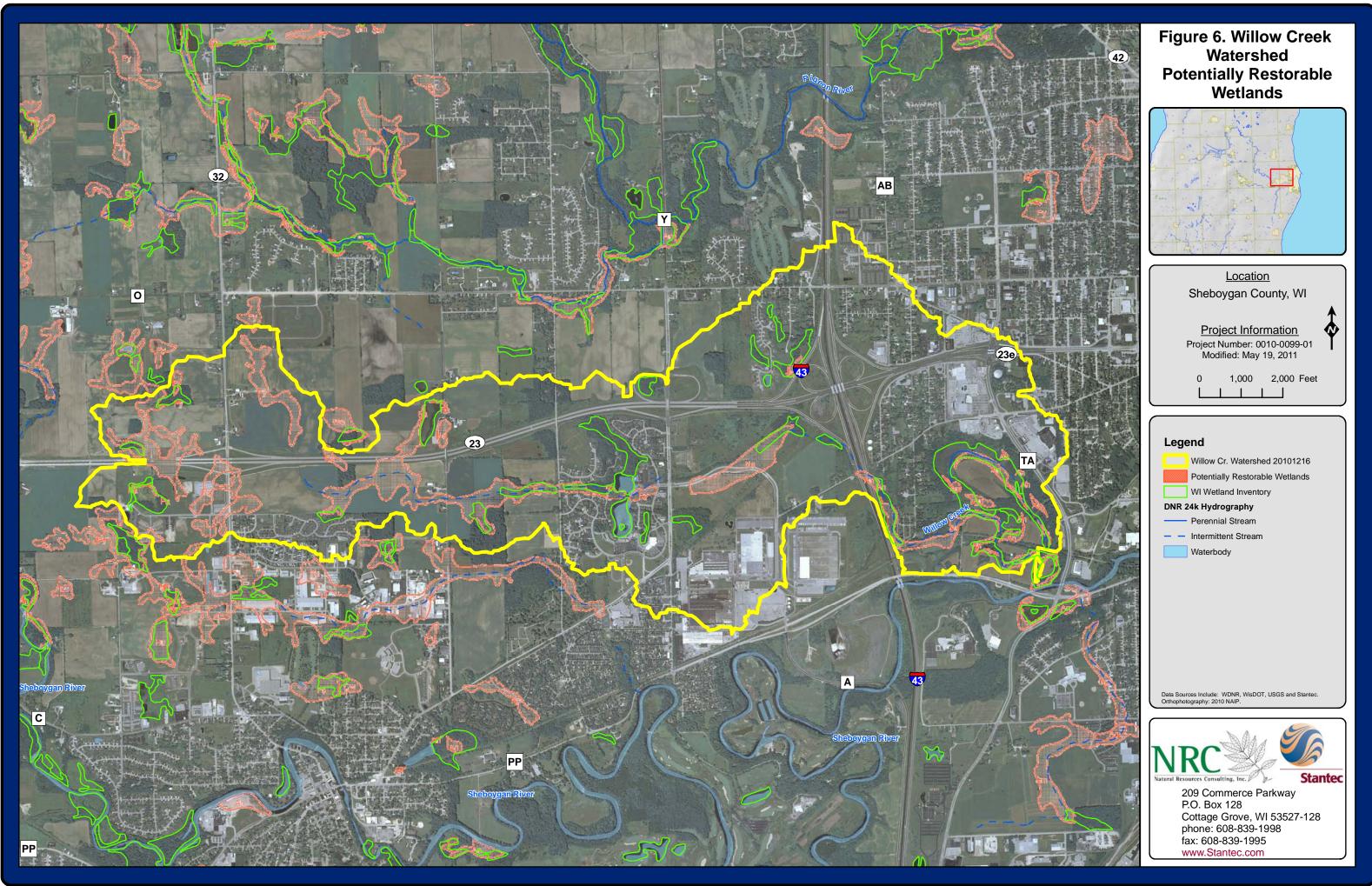
Figure 5. Willow Creek Watershed **Ecological Landscapes**

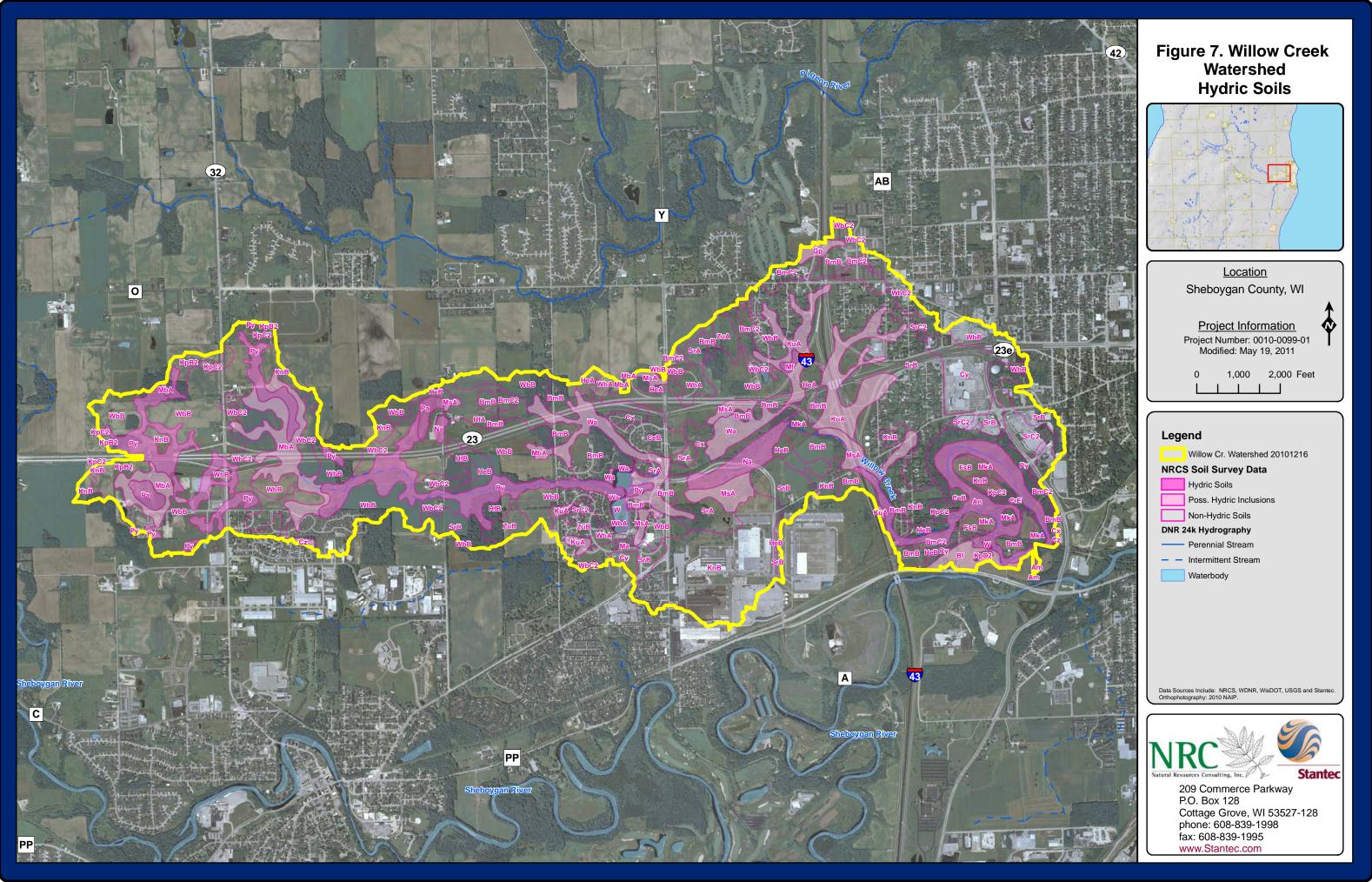


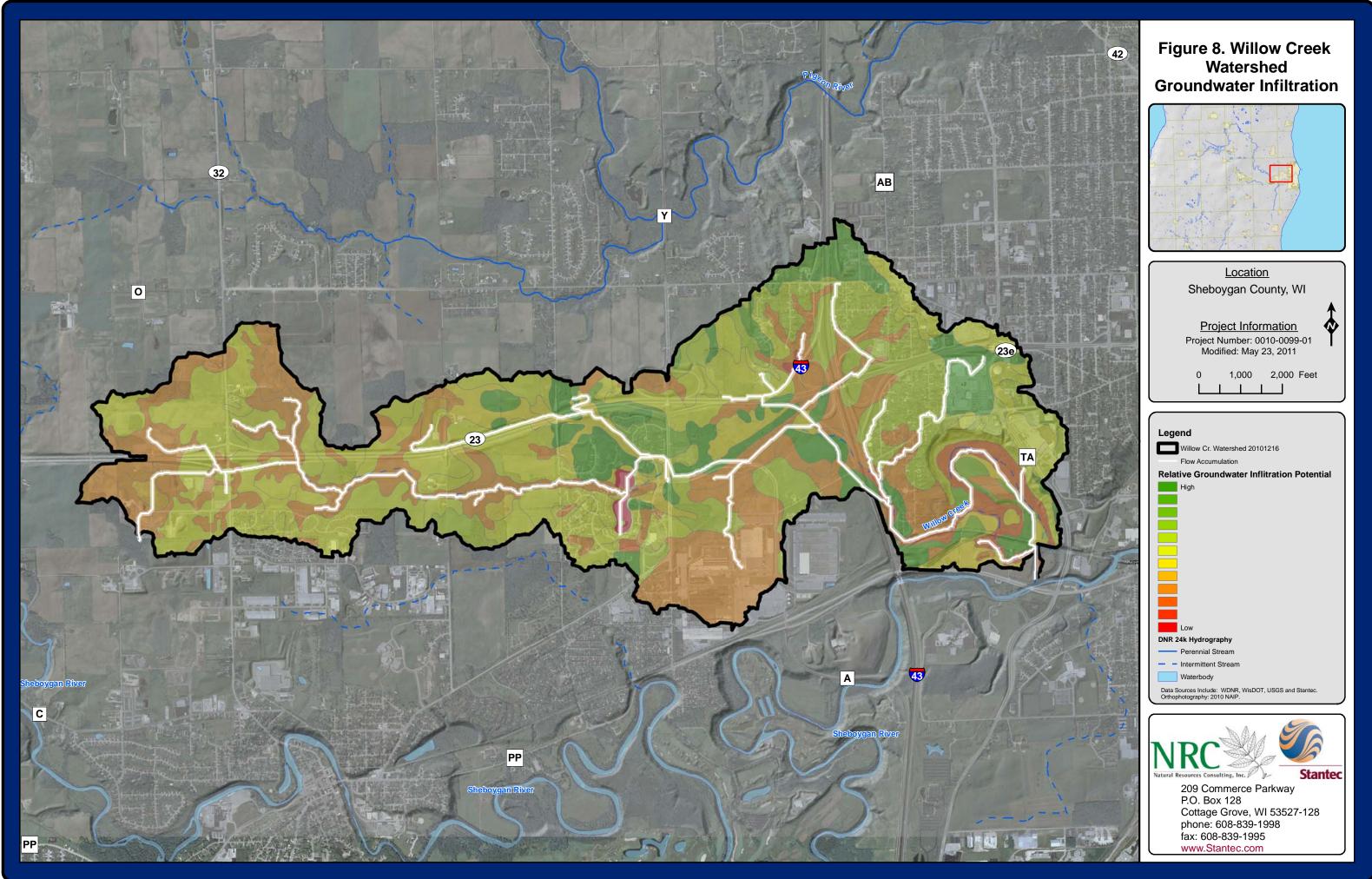


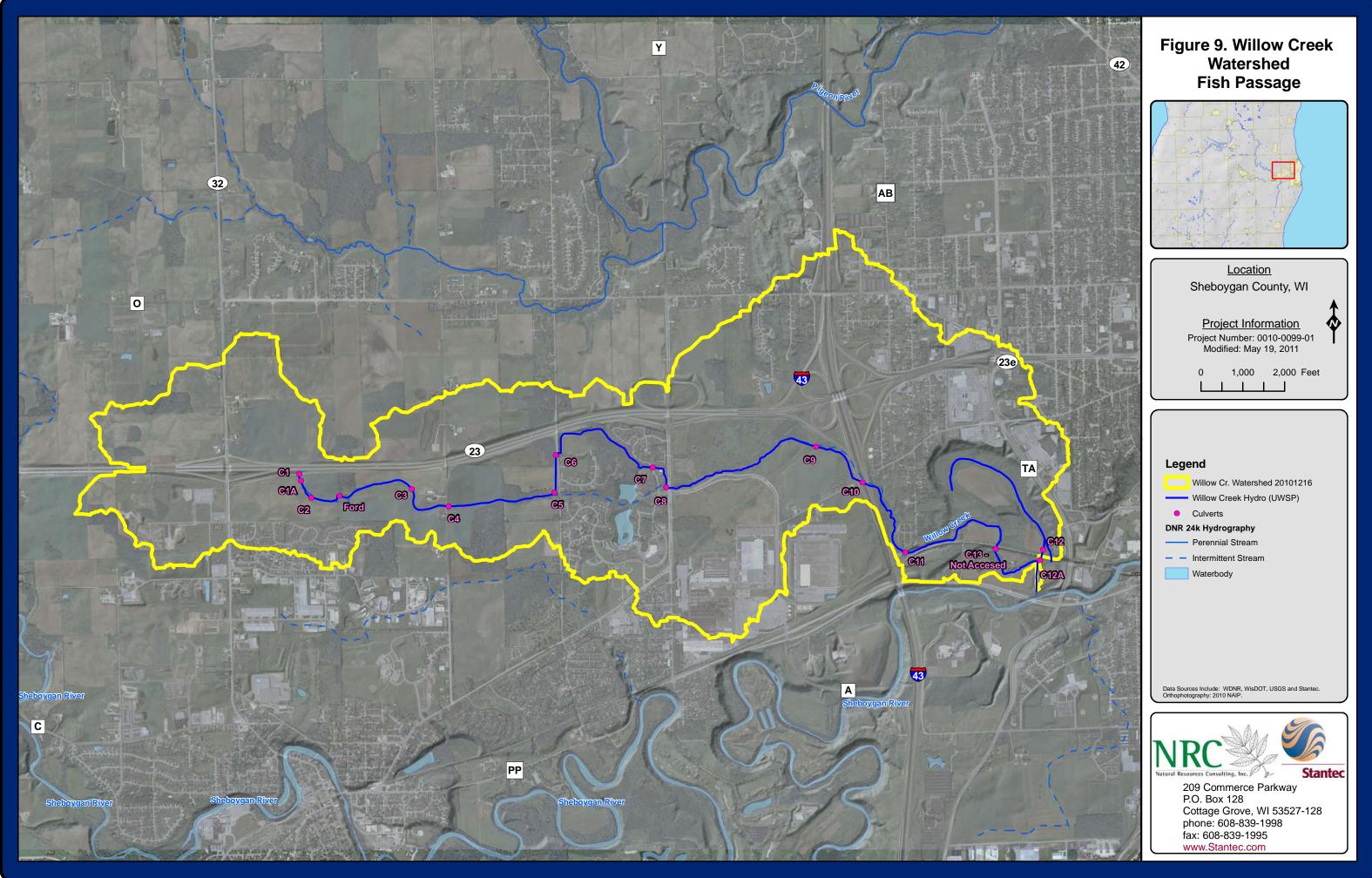












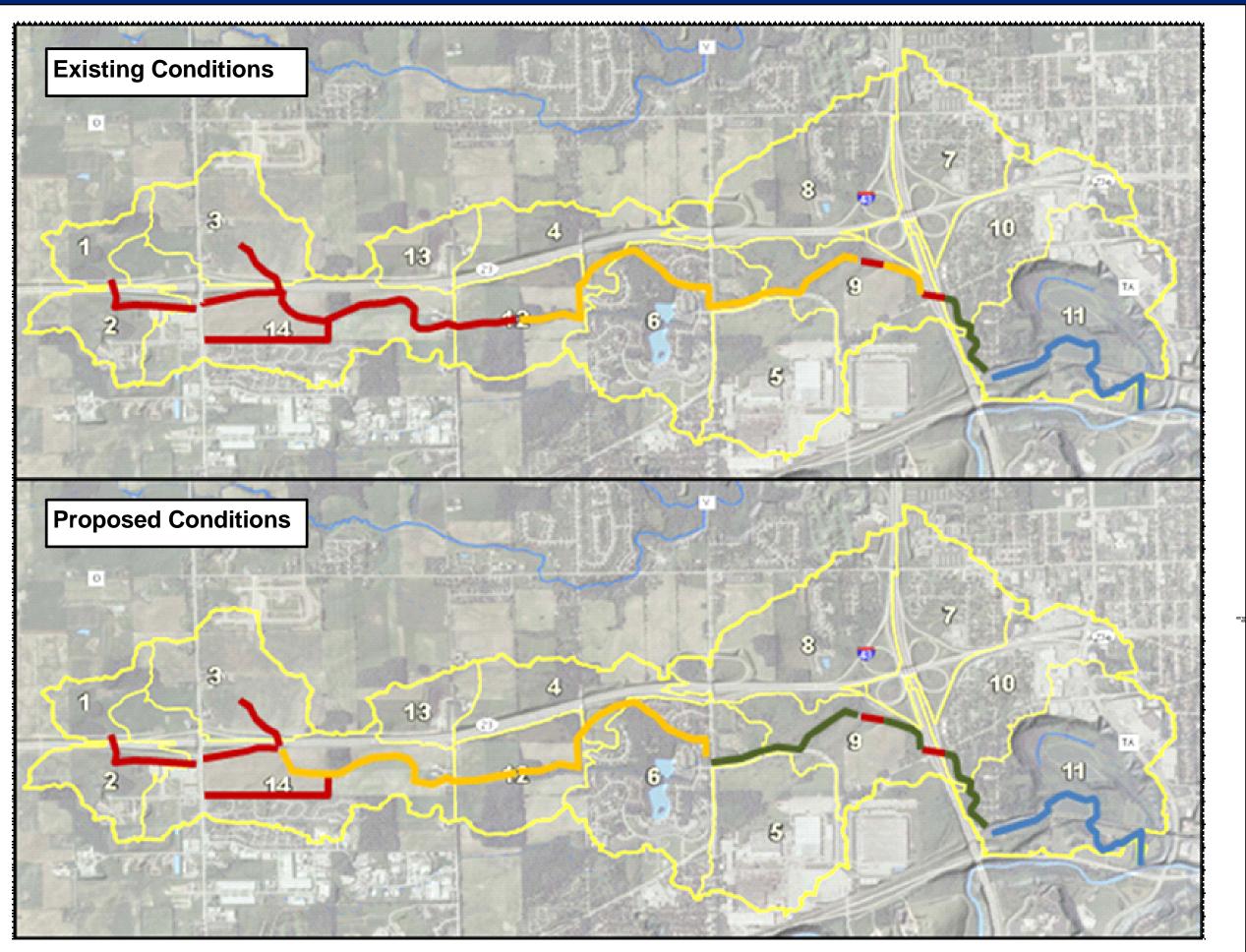


Figure 10. Willow Creek Watershed Stream Condition Map



<u>Location</u> Sheboygan County, WI

Project Information
Project Number: 0010-0099-01
Modified: May 23, 2011







Willow Creek Watershed Protection and Improvement Plan Sheboygan County, Wisconsin

ATTACHMENT B

Willow Creek Watershed Land Cover Acreages (BLRPC data)

Unit Description	Acres
Subwatershed 1 - State Highways	0.18
Subwatershed 1 - Woodlands	18.13
Subwatershed 1 - Croplands/Pastures	38.22
Subwatershed 1 - Other Natural Areas, including Open Space	1.75
Subwatershed 10 - Churches/Temples/Synagogues	5.45
Subwatershed 10 - Clinics	0.97
Subwatershed 10 - Designated Historic/Cultural/Archaeological Sites	0.71
Subwatershed 10 - Federal Highways	2.99
Subwatershed 10 - Hospitals	0.43
Subwatershed 10 - Lawns/Yards	0.78
Subwatershed 10 - Local Streets and Roads	20.46
Subwatershed 10 - Off-Street Parking	23.33
Subwatershed 10 - Parks/Parkways/Forest-Related Picnic Areas	9.06
Subwatershed 10 - Water Supply Storage Tanks/Reservoirs	0.70
Subwatershed 10 - Woodlands	8.71
Subwatershed 10 - Fallow Fields	15.74
Subwatershed 10 - Manufacturing	1.09
Subwatershed 10 - Motor Vehicle Related	1.02
Subwatershed 10 - Other Natural Areas, including Open Space	19.10
Subwatershed 10 - Retail Sales	7.17
Subwatershed 10 - Retail Services	0.85
Subwatershed 10 - Shopping Centers	5.53
Subwatershed 10 - Single Family Residential	58.85
Subwatershed 10 - Two Family	1.31
Subwatershed 11 - Churches/Temples/Synagogues	7.54
Subwatershed 11 - County Highways	0.73
Subwatershed 11 - Designated Historic/Cultural/Archaeological Sites	0.38
Subwatershed 11 - Federal Highways	0.29
Subwatershed 11 - Hospitals	0.09

Culturate rate at 4.4 Laura Manda	0.02
Subwatershed 11 - Lawns/Yards	8.03
Subwatershed 11 - Local Streets and Roads	11.22
Subwatershed 11 - Museums	0.32
Subwatershed 11 - Natural Gas Substations	0.66
Subwatershed 11 - Off-Street Parking	20.42
Subwatershed 11 - Parks/Parkways/Forest-Related Picnic Areas	3.40
Subwatershed 11 - Police/Fire Stations/Offices	0.64
Subwatershed 11 - Reservoirs and Ponds	0.31
Subwatershed 11 - Water Supply Storage Tanks/Reservoirs	0.00
Subwatershed 11 - Woodlands	168.95
Subwatershed 11 - Croplands/Pastures	20.85
Subwatershed 11 - Fallow Fields	6.02
Subwatershed 11 - Farm Buildings/Accessories	0.26
Subwatershed 11 - Other Natural Areas, including Open Space	32.95
Subwatershed 11 - Rail Related	5.96
Subwatershed 11 - Retail Sales	9.05
Subwatershed 11 - Retail Services	0.76
Subwatershed 11 - Shopping Centers	13.41
Subwatershed 11 - Single Family Residential	15.42
Subwatershed 11 - Two Family	0.27
Subwatershed 11 - Vacant Agriculture/Silviculture	0.28
Subwatershed 11 - Vacant Residence	1.39
Subwatershed 12 - Local Streets and Roads	0.76
Subwatershed 12 - Rivers and Streams	0.40
Subwatershed 12 - Trails	0.25
Subwatershed 12 - Woodlands	38.32
Subwatershed 12 - Croplands/Pastures	94.96
Subwatershed 12 - Fallow Fields	0.81
Subwatershed 12 - Other Natural Areas, including Open Space	2.72
Subwatershed 12 - Single Family Residential	1.34
Subwatershed 13 - Local Streets and Roads	0.84
Subwatershed 13 - Reservoirs and Ponds	1.65
Subwatershed 13 - State Highways	1.83
Subwatershed 13 - Trails	0.28
Subwatershed 13 - Woodlands	0.29

Subwatershed 13 - Croplands/Pastures	36.88
Subwatershed 13 - Farm Buildings/Accessories	2.88
Subwatershed 13 - Multi-Family	0.61
Subwatershed 13 - Other Natural Areas, including Open Space	23.17
Subwatershed 13 - Single Family Residential	0.48
Subwatershed 14 - Administrative Buildings	0.37
Subwatershed 14 - Local Streets and Roads	6.55
Subwatershed 14 - Parks/Parkways/Forest-Related Picnic Areas	2.31
Subwatershed 14 - State Highways	8.52
Subwatershed 14 - Trails	2.38
Subwatershed 14 - Woodlands	9.45
Subwatershed 14 - Croplands/Pastures	187.95
Subwatershed 14 - Farm Buildings/Accessories	5.98
Subwatershed 14 - Manufacturing	1.18
Subwatershed 14 - Mobile Homes	32.35
Subwatershed 14 - Other Natural Areas, including Open Space	45.34
Subwatershed 14 - Retail Sales	1.33
Subwatershed 14 - Single Family Residential	7.61
Subwatershed 14 - Two Family	2.30
Subwatershed 2 - State Highways	1.86
Subwatershed 2 - Trails	1.30
Subwatershed 2 - Woodlands	18.20
Subwatershed 2 - Croplands/Pastures	59.67
Subwatershed 2 - Other Natural Areas, including Open Space	12.95
Subwatershed 3 - State Highways	3.07
Subwatershed 3 - Woodlands	2.18
Subwatershed 3 - Croplands/Pastures	144.09
Subwatershed 3 - Farm Buildings/Accessories	6.98
Subwatershed 3 - Other Natural Areas, including Open Space	7.78
Subwatershed 3 - Single Family Residential	3.29
Subwatershed 4 - County Highways	0.08
Subwatershed 4 - Local Streets and Roads	0.63
Subwatershed 4 - State Highways	5.86
Subwatershed 4 - Trails	2.41
Subwatershed 4 - Woodlands	16.49

Subwatershed 4 - Croplands/Pastures	55.46
Subwatershed 4 - Fallow Fields	1.33
Subwatershed 4 - Farm Buildings/Accessories	0.02
Subwatershed 4 - Multi-Family	0.27
Subwatershed 4 - Other Natural Areas, including Open Space	52.62
Subwatershed 4 - Single Family Residential	2.58
Subwatershed 4 - Two Family	0.18
Subwatershed 5 - County Highways	1.27
Subwatershed 5 - Local Streets and Roads	5.02
Subwatershed 5 - Woodlands	8.73
Subwatershed 5 - Manufacturing	101.89
Subwatershed 5 - Other Natural Areas, including Open Space	73.82
Subwatershed 5 - Rail Related	3.70
Subwatershed 5 - Retail Sales	2.42
Subwatershed 5 - Single Family Residential	0.11
Subwatershed 6 - Athletic Fields	2.22
Subwatershed 6 - Cemeteries	6.31
Subwatershed 6 - County Highways	4.40
Subwatershed 6 - Lakes	11.63
Subwatershed 6 - Local Streets and Roads	16.12
Subwatershed 6 - Off-Street Parking	0.97
Subwatershed 6 - Playfields/Ball Diamonds/Volleyball Courts	5.68
Subwatershed 6 - State Highways	0.02
Subwatershed 6 - Trails	0.04
Subwatershed 6 - Woodlands	35.28
Subwatershed 6 - Croplands/Pastures	5.85
Subwatershed 6 - Fallow Fields	4.30
Subwatershed 6 - Land Under Development	23.19
Subwatershed 6 - Land Under Residential Development	0.29
Subwatershed 6 - Multi-Family	5.85
Subwatershed 6 - Other Natural Areas, including Open Space	42.60
Subwatershed 6 - Retail Sales	18.39
Subwatershed 6 - Retail Services	3.03
Subwatershed 6 - Shopping Centers	13.54
Subwatershed 6 - Single Family Residential	48.25

Subwatershed 6 - Two Family	5.32
Subwatershed 7 - County Highways	1.19
Subwatershed 7 - Fairgrounds	1.05
Subwatershed 7 - Federal Highways	7.19
Subwatershed 7 - Hospitals	0.29
Subwatershed 7 - Local Streets and Roads	10.32
Subwatershed 7 - Municipal Garages	0.02
Subwatershed 7 - Police/Fire Stations/Offices	0.35
Subwatershed 7 - State Highways	0.76
Subwatershed 7 - Water Supply Storage Tanks/Reservoirs	0.45
Subwatershed 7 - Fallow Fields	42.57
Subwatershed 7 - Land Under Development	19.15
Subwatershed 7 - Land Under Residential Development	0.27
Subwatershed 7 - Multi-Family	5.01
Subwatershed 7 - Other Natural Areas, including Open Space	56.10
Subwatershed 7 - Retail Sales	5.51
Subwatershed 7 - Single Family Residential	35.92
Subwatershed 7 - Two Family	0.81
Subwatershed 8 - County Highways	1.64
Subwatershed 8 - Federal Highways	5.16
Subwatershed 8 - Golf Courses	3.65
Subwatershed 8 - Local Streets and Roads	3.94
Subwatershed 8 - Reservoirs and Ponds	0.87
Subwatershed 8 - State Highways	7.42
Subwatershed 8 - Trails	1.23
Subwatershed 8 - Woodlands	27.90
Subwatershed 8 - Croplands/Pastures	21.67
Subwatershed 8 - Land Under Residential Development	5.01
Subwatershed 8 - Multi-Family	1.03
Subwatershed 8 - Other Natural Areas, including Open Space	129.79
Subwatershed 8 - Retail Sales	1.50
Subwatershed 8 - Single Family Residential	22.35
Subwatershed 8 - Two Family	19.06
Subwatershed 9 - Cemeteries	0.21
Subwatershed 9 - Federal Highways	4.85

Subwatershed 9 - Local Streets and Roads	3.47
Subwatershed 9 - Trails	1.18
Subwatershed 9 - Woodlands	60.43
Subwatershed 9 - Croplands/Pastures	31.64
Subwatershed 9 - Manufacturing	1.90
Subwatershed 9 - Other Natural Areas, including Open Space	53.74
Subwatershed 9 - Single Family Residential	2.72
	Total 2543.08

Soil Description Summary Willow Creek Watershed Sheboygan County, Wisconsin

Hydrologic Group A

Boyer (BmB, Bmc2)

The Boyer series consists of well drained soils underlain by stratified sand and gravel. The surface layer (0-4") consists of loamy sand with very friable weak fine granular structure. The subsoil (4"-22") consists of loamy sand and heavy sandy loam with friable to very friable weak thin platy, weak medium subangular blocky and moderate medium subangular blocky structures. The substratum (22"-60") consists of an moderately rapid permeability upper layer to (26") of sandy loam with friable weak medium subangular blocky structures above a very rapid permeable lower layer (60") of stratified sand and fine gravel (35% gravel by volume).

Hydrologic Group A/D

Palms (Pa)

The Palms series consists of very poorly drained soils with a 36" organic material layer underlain by loamy mineral layers. Permeability is moderately rapid in the organic layer and moderate in the underlying loamy layers. The surface layer (0-8") consists of a sapric material with friable moderate fine granular structure. The subsurface layer (8"- 36") consists of a sapric material with friable moderate weak medium to medium subangular blocky structures. The substratum (36"-60") consists of friable silt loam.

Alluvial Land, Wet (An)

The Alluvial Land, Wet series consists of layered loamy, sandy, and gravelly soil material. Some layers contain organic material and are poorly or very poorly drained. This soil varies widely in permeability and is subject to frequent flooding.

Hydrologic Group B

Bellevue Variant (Bf)

The Bellevue Variant series consists of well drained and moderately drained soils formed in loamy and sandy alluvial material. This soil has moderately rapid permeability and is subject to frequent flooding.

The surface layer (0-8") consists of fine sandy loam with friable weak medium granular structure. The subsoil (8"-30") consists of fine sandy loam with very friable weak medium subangular blocky structures. The substratum (30"-60") consists of loamy fine sand very friable thin strata of very fine sand and single grained loose sand.

Casco (CeB, CrE)

The Casco series consists of very steep well drained soils with a moderate permeability to a depth of 17 inches and very rapid below. The surface layer (0-8") consists of loam with friable weak medium subangular blocky structures. The subsurface layer (8"- 36") consists of clay loam with firm moderate subangular blocky structures and sandy clay loam with firm moderate medium subangular blocky structures. The substratum layer (17"- 60") consists of stratified gravel and loose single grained sand, 60% gravel by volume.

Fox Series (FsB)

The Fox series consists of well drained soils that are underlain by gravely and sandy outwash that have a moderate permeability to a depth of 27 inches and very rapid below. The surface layer (0-9") consists of silty loam with friable moderate fine granular structures. The subsurface layer (9"- 22") consists of silt loam with moderate thin platy structure, light silty clay loam with a strong medium subangular blocky structures, and clay loam with firm strong medium subangular blocky structures. The substratum layer (22"- 60") consists of heavy clay loam with strong

medium subangular blocky structures above firm stratified gravel and loose single grained sand, 55% gravel by volume.

Kibbie Series (KuA)

The Kibbie series consists of somewhat poorly drained soils that are underlain by stratified silt and very fine sand. These soils are on old glacial lake plains with a moderate permeability. The surface layer (0-8") consists of silt loam with friable weak fine subangular blocky structures. The subsurface layer (8"- 18") consists of clay loam with firm moderate fine subangular structure. The substratum layer (18"- 60") consists of silt loam with friable moderate medium subangular blocky structures above very firm stratified silt and very fine sand.

Matherton Series (MkA)

The Matherton series consists of somewhat poorly drained soils formed in silty and loamy deposits that are underlain by sand and gravel. Permeability is moderate in the subsoil and rapid in the substratum. The surface layer (0-8") consists of silt loam with friable moderate medium granular structures. The subsurface layer (8"- 11") consists of silt loam with friable moderate medium platy structures. The subsoil layer (11"- 29") consists of silt loam with friable moderate fine subangular structures, silty clay loam with firm moderate fine subangular blocky structures, and clay loan with firm moderate fine subangular blocky structures. The substratum layer (29"-60") consists of stratified sand and gravel with loose single grained gravel.

Sisson Series (SrA, SrB, SrC2)

The Sisson series consists of well drained soils that are underlain by stratified silt and very fine sand. Permeability is moderate. The surface layer (0-8") consists of very fine sandy loam with friable moderate fine subangular blocky structures. The subsurface layer (8"- 10") consists of very fine sandy loam with friable weak fine subangular blocky structures. The subsoil layer (10"-27") consists of light clay and clay loam with firm moderate medium subangular blocky structures, fine sandy loam with friable weak fine subangular blocky structures. The substratum layer (27"-60") consists of friable stratified silt and very fine sand.

Wasepi Series (Wa)

The Wasepi series consists of somewhat poorly drained soils formed in sandy and loamy deposits underlain by sandy glacial outwash. Permeability is moderately rapid in the subsoil and rapid in the substratum. The surface layer (0-8") consists of sandy loam with friable weak medium subangular blocky structure parting to friable moderate medium granular structures. The subsoil layer (8"- 29") consists of loamy sand with very friable weak medium subangular blocky structures, sand clay loam with firm moderate medium subangular blocky structures, sandy loam with friable weak medium subangular blocky structure. The substratum layer (29"- 60") consists of loose single grained sand and fine sand.

Waymor Series (WbA, WbB, WbC2)

The Waymor series consists of well drained soils formed in a thin silty and loamy layer over calcareous loamy glacial till. Permeability is moderate. The surface layer (0-9") consists of silty loam with friable moderate medium subangular blocky structure parting to friable moderate fine granular structures. The subsoil layer (9"- 31") consists of silty clay loam with firm strong medium subangular blocky structures parting to strong fine granular structures, clay loam with firm moderate medium subangular blocky structures. The substratum layer (31"- 60") consists of friable loam with 5% gravel by volume.

Zurich Series (ZuA, ZuB)

The Zurich series consists of well drained and moderately drained soils formed in silty sediments and stratified silt and very fine sand. Permeability is moderate. The surface layer (0-9") consists of silty loam with friable weak medium subangular blocky structure parting to friable moderate medium granular structures. The subsoil layer (9"- 24") consists of heavy silt loam with friable moderate medium subangular blocky structures, silty clay loam with strong fine subangular blocky structures, stratified silt and very fine sand with friable weak medium subangular blocky

structures. The substratum layer (24"- 60") consists of very friable stratified silt and very fine sand.

Hydrologic Group C:

Hebron Series (HeA, HeB)

The Hebron series consists of well drained and moderately well drained soils formed in a thin layer of loamy material over stratified silty and clayey lacustrine deposits. These soils are on old glacial lake plains and depressions with a moderate permeability to a depth of 23 inches and moderately slow below. The surface layer (0-8") consists of loam with friable moderate fine subangular structures. The subsurface layer (8"- 28") consists of loam with friable moderate medium subangular blocky structures, sandy clay loam with firm moderate fine subangular blocky structures, and silty clay loam with firm moderate medium prismatic structure parting to moderate fine angular blocky structures. The substratum layer (28"- 60") consists of stratified silt, silty clay, and silty clay loam, with firm weak thick platy structures.

Hebron Variant Series (HfA, HfB)

The Hebron series consists of well drained and moderately well drained soils formed in sandy and loamy sediments over stratified silty and clayey lacustrine deposits. These soils are on old glacial lake plains with a moderate rapid permeability to a depth of 33 inches and moderately slow below. The surface layer (0-8") consists of sandy loam with friable weak medium granular structures. The subsurface layer (8"- 33") consists of I loamy sand with very friable weak medium subangular blocky structures, sandy clay loam with firm moderate medium subangular blocky structures, and loamy sand with very friable weak medium subangular blocky structures. The substratum layer (33"- 60") consists of stratified silty loam, and silty clay loam, with firm moderate fine angular structures.

Kewaunee Series (KnB, KpB2, KpC2, KpD2)

The Kewaunee series consists of well drained and moderately well drained soils formed in silty clay loam glacial till with permeability moderately slow. The surface layer (0-8") consists of silt loam with friable moderate fine subangular blocky structure. The subsurface layer (8"-25") consists of silty clay to silty clay loam with firm fine angular blocky structures. The substratum layer (25"-60") consists of firm silty clay loam.

Manawa Series (MbA)

The Manawa series consists of somewhat poorly drained soils formed in silty clay loam glacial till with permeability slow. The surface layer (0-8") consists of silt loam with friable moderate medium granular structure. The subsurface layer (8"-26") consists of clay with firm weak medium prismatic structures parting to strong fine angular blocky structures above heavy silty clay loam with firm weak medium prismatic structure parting to strong fine angular blocky structures. The substratum layer (26"- 60") consists of firm silty clay loam.

Mosel Series (MsA)

The Mosel series consists of somewhat poorly drained soils formed in loamy lacustrine deposits on glacial till with permeability moderate to a depth of 26 inches and moderately slow below. The surface layer (0-9") consists of loam with friable weak medium granular structure. The subsurface layer (8"-29") consists of clay loam with firm moderate medium subangular blocky structures, gravelly sandy loam with friable weak medium subangular blocky structures, and heavy silt clay loam with firm moderate medium subangular blocky structures parting to moderate fine angular blocky structures. The substratum layer (29"- 60") consists of firm silty clay loam.

Hydrologic Group D:

Poygan (Py)

The Poygan series consists of poorly drained soils formed in silty clay lacustrine deposits or glacial till with a high organic-matter content and slow permeability. The surface layer (0-11")

consists of silty clay with friable weak medium and fine granular structure. The subsurface layer (11"-24") consists of silty clay to heavy silty clay with firm moderate medium subangular blocky structures, some parting to moderate fine angular blocky and weak coarse prismatic parting to strong medium angular blocky structures. The substratum (24"-60") consists of silty clay with firm weak coarse prismatic parting to moderate medium angular blocky structures.

Navan (Na)

The Navan series consists of poorly drained soils that are underlain by silty and clayey deposits. Permeability is moderate to a depth of 25 inches and moderately slow below. The surface layer (0-11") consists of loam with friable moderate medium granular structure and moderate fine subangular blocky structure. The subsurface layer (11"-36") consists of heavy loam with friable moderate medium subangular blocky structures, sandy clay loam with friable moderate medium subangular blocky structures, clay loam with firm moderate fine prismatic structure parting to moderate fine subangular blocky structure, and heavy silty clay loam with firm moderate medium subangular blocky structures.

No Hydrologic Group:

Cut and Fill Land, Sandy and Gravely (Cx)

This soil identification consists of sandy and gravely soil fill material. Percentages of sand and gravel ranges from 100% sand to 100% gravel. The permeability is rapid or very rapid.

Cut and Fill Land, Loamy (Cy)

This soil identification consists of silt loam, clay loam, sandy loam, or sandy clay loam soil fill material. The permeability is moderate or moderately rapid.

Gravel Pit (Gp)

This soil identification consists of areas where sand, gravel, or sand and gravel have been removed. Soil material is droughty and some sand and gravel may remain.

Marsh (Mf)

This soil identification consists of very poorly drained mixed mineral and organic material that is covered with water most of the year.

Rough Broken Land (Ry)

This soil identification consists of well drained silty clay loam or clay loam glacial till, commonly on lake beds, riverbanks, and escarpments.

Willow Creek Watershed Protection and Improvement Plan Sheboygan County, Wisconsin

ATTACHMENT C



Photo 1 – C3 outlet



Photo 3 – C2 outlet



Photo 5 –C1 outlet



Photo 2 – C3 inlet



Photo 4 – C2 inlet



Photo 6 – C1A inlet



Photo 7 – C1A outlet



Photo 9 – C4 inlet



Photo 11 –C5 outlet



Photo 8 – C4 outlet



Photo 10 – C5 inlet



Photo 12 – C6 outlet



Photo 13 – C6 inlet



Photo 15 – C7 outlet



Photo 17 –C8 inlet



Photo 14 – C7 inlet



Photo 16 - C8 outlet



Photo 19 – C9 outlet



Photo 20 – C10 outlet



Photo 22 – C11 inlet



Photo 24 – C12A inlet



Photo 21 – C11 outlet



Photo 23 -C12 outlet



Photo 25 – C12A outlet

Stream Walk Worksheet Willow Stream Name Weather in the past 24 hours: ☐ Storm (heavy rain) ☐ Rain (steady rain) Showers (intermittent rain) Overcast ☐ Clear/Sunny Weather Now: Monitoring Location (legal description - Township/Range/Section, ☐ Storm (heavy rain) longitude/latitude if known) ☐ Rain (steady rain) ☐ Showers (intermittent rain) □ Overcast Attach photo or sketch your site: I. Water Appearance Note features that affect stream habitat, such as riffles, runs, pools, ditches, ☐ Clear ☐ Dark Brown wetlands, dams, riprap, outfalls, tributaries, landscape features, logging, paths ☐ Oily Sheen #Turbid and roads. Include an arrow showing which way the stream is flowing, and ☐ Reddish another arrow showing 'north.' Milky Milky ☐ Green □ Foamy Other Notes 2. Water Odor ☐ Fishy □ None ☐ Sewage Rotten Eggs ☐ Chlorine ☐ Petroleum Other 3. Temperature

°F °C

(circle temp. scale used)

(continued on back)

4.	Subm	ersed	Agu	ıatic	Plants
----	------	-------	-----	-------	---------------

Where?	_
Identify or describe them:	

5. Riparian Vegetation

Looking upstream, describe the streamside cover.

a) Note vegetation on streambank only and check boxes if present (left column is for left-hand side of stream; right column is for right-hand side).

left		right
	Evergreen trees	
	Hardwood trees	
	Bushes, shrubs	
K	Tall grasses, ferns, etc.	
	Lawn	
	Boulders/rocks	
	Gravel/sand	
	Bare soil	
	Pavement/structures	

b) Note vegetation from the top of streambank back 66 feet.

left	Evergreen trees Hardwood trees Bushes, shrubs Tall grasses, ferns, etc. Lawn Boulders/rocks Gravel/sand Bare soil Pavement/structures	right
	Agricultural fields Pasture	4

6. Canopy Cover

Pick the category that best describes how much vegetation shades the stream at your site.

₹0%	□25%	□75%	□100%
Notes or	vegetatio	on:	

7. Bottom Substrate

Record the materials that make up the stream bottom.

Bottom types:

	Bedrock
	Boulder (>10 inches)
\Box	Cobble (2.5 inches - 10 inches)

_	CODDIC (Z.	Jiliches - 10	inches)
	Gravel (0.1	inches - 2.5	inches)

Sand	(<0.1	inches
 	•	

☐ Other (include organics)

Notes on substrate:		

8. Stream Discharge Estimate

Stream	width:	3	feet
		(a)	

Depth measurements:

211 4

<u> </u>	
ft.	
fi	
^{†‡}	
ftļ.	
total /5 =	avg. depth
	avg. dopti.

Velocity: Time (per 10 ft)

sec.	H.5/50C
sec.	- / 5
total	
divide total by n	umber of trials

Velocity = foot/second

Discharge: (width x depth x velocity)

9. Watershed Features

(within about 1/4 mile of the site - upstream)

Adjacent land used can impact the stream. Check "I" if present, "2" if clearly having an impact on the stream:

| 2 Residential

	single-family housing (dense)
a 🗆	single-family housing (> 1 acre lots)
	multifamily housing
ĊΥO	lawns

1	2	Roads.	etc.

$\frac{1}{2}$	paved roads, parking lots, bridges
ں ہے	paved roads, parking ious, bridges
₽□	unpaved roads

1 2 Construction underway on:

		housing development	
$\overline{}$	_		

☐ ☐ commercial/institutional

J		commercial development
_	$\overline{}$	المحمولات والمراثين والمراث وا

□ □ road or bridge building/repair

1 2 Agricultural ☐ grazing land /n

	grazing land (pastures)
	I feeding lots, animal holding
area	s .

	~~		- (-) [)	
J	♂	inactive	agricultural	lanc

1 2 Recreation

	golfing

1 2 Other

		mi	ning
_	_		

□ □ dams

10. Channel Alteration

Has the stream been channelized?

Yes //	No	

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Willow

Stream Walk Worksheet

Stream Name	
SL-) WI	Weather in the past 24 hours:
County State	☐ Storm (heavy rain)
State	☐ Rain (steady rain)
Tom Wedlerd	Showers (intermittent rain)
Your Name	Overcast
	☐ Clear/Sunny
Willow Creek - CIO	Weather Now:
Monitoring Location (legal description – Township/Range/Section,	☐ Storm (heavy rain)
longitude/latitude if known)	☐ Rain (steady rain)
	☐ Showers (intermittent rain)
11-16-10	☐ Overcast
Date Time	Clear/Sunny
Date Ingle	
Attach photo or sketch your site: Note features that affect stream habitat, such as riffles, runs, pools, ditches, wetlands, dams, riprap, outfalls, tributaries, landscape features, logging, paths and roads. Include an arrow showing which way the stream is flowing, and another arrow showing 'north.'	Clear

4.	Subr	nersed	Aa	uatic	Plants

Are there subr	mersed aquatic plants?
Yes	No
Where?	
Identify or o	describe them:

5. Riparian Vegetation

Looking upstream, describe the streamside cover.

a) Note vegetation on streambank only and check boxes if present (left column is for left-hand side of stream; right column is for right-hand side).

le	eft		right
(J	Evergreen trees	
	₹	Hardwood trees	7
Ã	P	Bushes, shrubs	-
ĺ	J	Tall grasses, ferns, etc.	
	J	Lawn	
	J	Boulders/rocks	
	J	Gravel/sand	
	3	Bare soil	
٥	7	Pavement/structures	
1 (Vote	e vegetation from the to	on of

b) Note vegetation from the top of streambank back 66 feet.

left		right
	Evergreen trees	
A	Hardwood trees	
_ _	Bushes, shrubs	
	Tall grasses, ferns, etc.	
	Lawn	
	Boulders/rocks	
	Gravel/sand	
	Bare soil	
	Pavement/structures	X
	Agricultural fields	<u></u>
	Pasture	

6. Canopy Cover

Pick the category that best describes how much vegetation shades the stream at your site.

□0%	□25% 之	75%	□100%
Notes or	vegetation	ı:	

7. Bottom Substrate

Record the materials that make up the stream bottom.

Bottom types:

☐ Bedrock
☐ Boulder (>10 inches)
Cobble (2.5 inches - 10 inches) 50
☐ Gravel (0.1 inches - 2.5 inches)
Sand (<0.1 inches) 50
☐ Silt

☐ Other	(include	organics)
---------	----------	-----------

Notes on substrate:	

8. Stream Discharge Estimate

Stream width:	E	fee
	(a)	_

Depth measurements:

ft.	c	75
ft.		

Velocity: Time (per 10 ft)

divide total by number of trials

$$37/3 = /2.3$$
 secs. (avg.)

Velocity = foot/second

10 ft.
$$\frac{123}{6}$$
 sec. (avg. time) = $\frac{123}{6}$ ft/sec.

Discharge: (width x depth x velocity)

$$\frac{8}{\text{(a)}} \text{ feet } \times \frac{75}{\text{(b)}} \text{ feet } \times \frac{81}{\text{(c)}} \text{ ft/sec.} =$$

$$= \frac{4.86}{\text{(b)}} \text{ ft}^{3}/\text{sec.}$$

9. Watershed Features

(within about 1/4 mile of the site - upstream)

Adjacent land used can impact the stream. Check "I" if present, "2" if clearly having an impact on the stream:

1 2 Residential

single-family housing (dense)
single-family housing (>1 acre lots)
multifamily housing
lawns
commercial/institutional

1 2 Roads, etc.

Xo	paved roads, parking lots, bridges
	unpaved roads

1 2 Construction underway on:

housing development
commercial development
road or bridge building/repair

| 2 Agricultural

	grazing land (pastures)
	feeding lots, animal holding
areas	

40	cropland	(type?)

J		inactive	agricu	ltural	land
---	--	----------	--------	--------	------

2 Recreation

golfing
camping

I 2 Other

J	mining
J	logging

☐ ☐ dams

10. Channel Alteration

Has the stream been channelized?

Yes	No.
	\

WAV materials revised Summer, ©2005.

Stream Walk Worksheet Weather in the past 24 hours: ☐ Storm (heavy rain) ☐ Rain (steady rain) Showers (intermittent rain) □ Overcast ☐ Clear/Sunny Weather Now: Monitoring Location (legal description – Township/Range/Section, ☐ Storm (heavy rain) longitude/latitude if known) ☐ Rain (steady rain) ☐ Showers (intermittent rain) Overcast Clear/Sunny Attach photo or sketch your site: I. Water Appearance Note features that affect stream habitat, such as riffles, runs, pools, ditches, Clear wetlands, dams, riprap, outfalls, tributaries, landscape features, logging, paths ☐ Dark Brown and roads. Include an arrow showing which way the stream is flowing, and ☐ Turbid Oily Sheen another arrow showing 'north.' ☐ Milky ☐ Reddish ☐ Green ☐ Foamy ☐ Other Notes 2. Water Odor ☑ None ☐ Fishy ☐ Sewage ☐ Rotten Eggs ☐ Chlorine ☐ Petroleum ☐ Other Notes 3. Temperature Water

(continued on back)

4.	Sub	mersed	Aq	uatic	P	lants
----	-----	--------	----	-------	---	-------

Are there subr Yes	mersed aquatic plants?
Where?	
Identify or o	lescribe them:

5. Riparian Vegetation

Looking upstream, describe the streamside cover.

a) Note vegetation on streambank only and check boxes if present (left column is for left-hand side of stream; right column is for right-hand side).

lett		right
	Evergreen trees	
\square	Hardwood trees	.
ঠা	Bushes, shrubs	рK
B	Tall grasses, ferns, etc.,	
	Lawn	□,
	Boulders/rocks	
	Gravel/sand	
	Bare soil	
	Pavement/structures	

b) Note vegetation from the top of streambank back 66 feet.

left		right
	Evergreen trees	
/ 3	Hardwood trees	"
Æ	Bushes, shrubs	A
	Tall grasses, ferns, etc.	X
	Lawn	
	Boulders/rocks	
	Gravel/sand	
	Bare soil	
	Pavement/structures	
	Agricultural fields	
	Pasture	

6. Canopy Cover

Pick the category that best describes how much vegetation shades the stream at your site.

□0%	25%	75%	□100%
Notes o	n vegetatio	on:	

7. Bottom Substrate

Record the materials that make up the stream bottom.

Bottom types:

 7 6	3ec	Ina	راہ
 , ,	コヒし	ט זונ	CK

- ☐ Boulder (>10 inches)
- 10 Cobble (2.5 inches 10 inches)
 - ☐ Gravel (0.1 inches 2.5 inches)
 - ☐ Sand (<0.1 inches)

90	X	Silt

☐ Other (include organics)

Notes or	i substrate:	

8. Stream Discharge Estimate

Stream width:	7	feet
•	(a)	_

Depth measurements:

	TC.			
, Section 1	ft.			
	ft.			
	ft.	etta		
_	total /5 =	<u>5</u>	avg.	depth

Velocity: Time (per 10 ft)

sec.

sec.

total

- 1	
- 1	
- 1	
1	
- 1	
- 1	
- 1	
- !	
- 1	
- 1	
- 1	
1	
- 1	

divide total by number of trials

/3 =	secs. (av	g.)
/elocity = fo	ot/second	
10.6. (/	

10 ft. / _____ sec. (avg. time) = ______ ft/sec.

Discharge: (width x depth x velocity)

$$\frac{7}{(a)} \text{ feet } \times \underbrace{\frac{6}{6}} \text{ feet } \times \underbrace{\frac{1}{(c)}} \text{ ft/sec.} =$$

$$= \underbrace{3.5} \text{ ft}^{3}/\text{sec.}$$

9. Watershed Features

(within about 1/4 mile of the site - upstream)

Adjacent land used can impact the stream. Check "I" if present, "2" if clearly having an impact on the stream:

| 2 Residential

- ☐ ☐ single-family housing (dense)
- \square single-family housing (> I acre lots)
- □ □ multifamily housing
- □ □ lawns
- □ □ commercial/institutional

1 2 Roads, etc.

- \square \square paved roads, parking lots, bridges
- □ □ unpaved roads

1 2 Construction underway on:

- □ □ housing development
- ☐ ☐ commercial development
- $\hfill\Box$ road or bridge building/repair

| 2 Agricultural

- $\hfill\Box$ grazing land (pastures)
- ☐ ☐ feeding lots, animal holding areas
- areas
- cropland (type?)
- \square \square inactive agricultural land

1 2 Recreation

- ☐ ☐ golfing
- ☐ ☐ camping
- \square \square swimming/fishing/canoeing
- □ □ hunting land/natural

1 2 Other

- ☐ ☐ mining
- ☐ ☐ logging
- ☐ ☐ industry
- ☐ ☐ sanitary landfill
- ☐ ☐ sewage treatment plant
- ☐ ☐ dams

10. Channel Alteration

Has the stream been channelized?

Yes	 No.	X
		-, -,

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Stream Crossing Data Sho	eet	Site ID:
General Information	· \)	11 1/
Name of Observer(s):) /	Date: //-/C
Road Name/Number:	23	
Stream Name: ω'_i/l_i	ow Creek	
GPS Waypoint: Additional Location Comments:	GPS Lat/Long:	:
Road Information		
Road Type: Federal State	•	Private Other:
Road Surface: Paved Gravel		Other:
Fill Depth (ft): > 10° Road N	Width (ft): $\frac{>50'}{}$ Structure Le	ength (ft): 1 - SO
Crossing Information		
Structure Type: Culvert(s) no.:	Bridge Ford Dam	Other: Structure ID:
Structure Shape	Structure Material	Structure Condition
Round	Metal	General Condition: New Good Fair Poor
Square/Rectangle	Concrete	Plugged: % Inlet Outlet In Pipe
Open Bottom Square/Rectangle	Plastic	Crushed % Inlet Outlet In Pipe
Pipe Arch	Wood	Rusted Through? Yes No
Open Bottom Arch	Structure Interior	Condition Comments:
Ellipse	Smooth	
	Corrugated	
Structure Height (ft): 1	Structure Water Depth (ft): 1,3	1: 0: 34 Perch Height (ft): 1,2
Fill out for primary culvert (culvert #1). If multiple of Fill out, if present. For a culvert, record the water depth at the inlet (I)	·	Height of Head (ft): 472
Stream Information		
Stream Flow: None	< ½ Bankfull	II = Bankfull > Bankfull
Bankfull Width (ft): 7-5/	Stream/Depth (ft):	Stream Velocity (ft/sec):
Scour Pool Length & Width (ft):2	X / S Upstream Por	nd Length & Width (ft): 2
Fish Passage Information Is the structure perched?	Yes No Is there p	onding upstream? Yes No
Is there a scour pool at the outlet?		gture fully backwatered? Yes No
Is there substrate through the structure's	enure lengton : Mes : Mo : /	change in head from the upstream yes No
A STATE OF THE STA		
Does the structure substrate match the structure?	/ Yes No./ /	reture narrower than the bankfull Yes No
Does the structure substrate match the structure? Is water in the structure moving faster that stream?	n in the	VAC NO

Erosion Information

Fill out all that apply. Use blank rows for additional locations. Additional locations may include prominent erosion along stream banks within 50 feet of crossing. Left and right are facing downstream. Note any comments below.

Location of Erosion	Erosion Dimensions (ft)			Total	Erosion		Material Eroded Sand, Silt, Clay, Gravel,	
	Length	Width	Depth	Erosion (Cubic feet)	Reac Stre	-	Loam, Sa	Loam, Sandy Loam or Gravelly Loam
Road Approach – Left					Yes	No		
Road Approach – Right				10.000	Yes	No		THE PERSON NAMED IN COLUMN THE
Road over Crossing					Yes	No		
Upstream Ditch – Left					Yes	No		Softwards of the second of the
Upstream Ditch – Right			***************************************	ekisterilindike - elitet Meesse missenieeee	Yes	No	er ersammen ersammen annes artaur et ee essamme	TRANSPORT TO A SHAPE OF THE STATE OF THE STA
Downstream Ditch – Left				o opinio anti o ordino printingo vino oltrango antigo antig	Yes	No		
Downstream Ditch – Right					Yes	No		***************************************
Upstream Embankment – Left					Yes	No	***************************************	er sammen. Additional and addition of the same and an addition of the same and additional additional and additional and additional
Upstream Embankment – Right				1801/491 · · · · · · · · · · · · · · · · · · ·	Yes	No		
Downstream Embankment – Left				n Sallinggape and the angles and the control of the salling and the salling an	Yes	No		· / · · · · · · · · · · · · · · · · · ·
Downstream Embankment — Right					Yes	No		
			111111111111111111111111111111111111111					
The second section of the second seco	Total	Erosion at	Crossing:					
f there is erosion occurring, can corrected the corrected defense the problem?	ctive actions,	such as roa	d drainage	measures, be in	stalled t	:0	Yes	No

Multiple Culverts

Number multiple cells from left to right facing downstream. Include a diagram below indicating which culvert is culvert #1.

Culvert # Width (ft) Height (ft) Leng	th (ft) Culvert #	Width (ft)	Height (ft)	Length (ft)
2	4			
3	5			

Photos		
☐ Site ID	☐ Inlet	☐ Outlet
☐ Road Approach – Left	☐ Road Approach — Right	
☐ Upstream Conditions	☐ Downstream Conditions	

Additional Site Comments

Culvert diagram, erosion, channel condition, evidence of wash-out, beaver, local testimony of frequency of overtopping...

- No channel on other side of Huy 23. This colvert appears to be a draintile 3 storm discharge

Site ID		
Follow these guidelines to determine "passability" for a range of fish species. Thresholds may need to be mod	dified if the ob	jective is
to evaluate passage for a particular species. Answer all questions.	•	,
Passability = 0 \ \ \ Most species and life stages can	not pass at m	ost flows
If any of the following questions can be answered "yes", then the crossing barrier score = 0.	• /	
1. The outlet of the structure is perched.	Yes	No
2. The structure water velocity is greater than 3 feet/second during baseflow.	Yes	No
3. The ratio of the structure water depth to stream water depth is less than 0.1 (depth ratio).	Yes	No
Structure water depth: / Stream water depth: = Depth Rat	tio:	
	<u></u>	
Passability = 0.8 Some species and/or life stages can	not pass at me	ost flows
If any of the following questions can be answered "yes", then the crossing barrier score = 0.5.		
1. The water depth in the structure is less than 0.2 feet.	Yes	No
2. The structure water velocity is 2 ₅ 3 feet/second during baseflow.	Yes	No
3. The structure is longer than 30 feet and does not have natural substrate through its entire length.	Yes	No
along of		
Passability = 0.9	Barrier at hi	igh flows
f any of the following questions can be answered "yes", then the crossing barrier score = 0.9.		•
1. There is a scour pool below the structure.	Yes	No
2. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio).	Yes	No
Structure width: = Constriction Rat	io:	
Passability = 1	Not	a barrier
fall of the following questions can be answered "yeş", then the crossing barrier score = 1.		
. The outlet of the structure is not perched.	Yes	No
The structure water velocity is less than 2 feet/second during baseflow.	Yes	No
The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio).	Yes	No

Yes

Yes

Yes

Yes

No

No

No

No

Additional Comments

The water depth in the structure is greater than 0.2 feet.

The ratio of the structure width to stream bankfull width is greater than 0.5 (constriction ratio).

 \Box The structure is shorter than 30 feet and does not have natural substrate through its entire length.

7. The structure is longer than 30 feet and has natural substrate through its entire length, or The structure is shorter than 30 feet and has natural substrate through its entire length, or

There is not a scour pool below the structure.

4.

Stream Crossing Dat	a Sheet	Site ID: C/A
	T.S.V B. ke Trail	Date: 1/-16-10
Road Name/Number: Stream Name:	15, se mair	
GPS Waypoint:	ike Trail 2 Ponde) betwee Hu	y 3 bike trail
Road Information		
Road Type: Federal	State County Town Tribal Pr	ivate Other:
	Gravel Sand Native Surface	Other:
Fill Depth (ft):	Road Width (ft): 9 Structure Lengt	h (ft): 1 35 (Thirly fine)
Crossing Information		<i>y</i>
Structure Type: Culvert(s) no	o.: _/ Bridge Ford Dam Oth	er: Structure ID:
Structure Shape	Structure Material St	ructure Condition
Round	Metal	eneral Condition: New Good Fair Poor
Square/Rectangle	Concrete PI	ugged: % Inlet Outlet In Pipe
Open Bottom Square/Rectangle	Plastic . Cr	rushed % Inlet Outlet In Pipe
Pipe Arch	Wood Re	usted Through? Yes No
Open Bottom Arch	Structure Interior Co	ondition Comments:
Ellipse	Smooth	
	Corrugated	
Structure Height (ft): 1 2 5	Structure Water Depth (ft): 1,3	37 0: 39 Perch Height (ft): 1,2 Un Kn C
Structure Width (ft): ¹ 25 Fill out for primary culvert (culvert #1). If n Fill out, if present.	Structure Water Velocity (ft/sec): 1	Height of Head (ft): 1, 2
Stream Information		
Stream Flow: None	< ½ Bankfull < Bankfull	= Bankfull > Bankfull
Bankfull Width (ft): 25	Stream Depth (ft):	Stream Velocity (ft/sec):
	10x15 Upstream Pond Lo	
Fish Passage Information		
	Yes No Is there pondi	ing upstream? (Yes No
is there a scour pool at the outlet?	(Yes) No Is the structur	e fully backwatered? Yes No
Is there substrate through the struc	ure's entire length? Yes No Is there a char	nge in head from the upstream Yes No
Does the structure substrate match substrate?	the stream V Is the structur	e narrower than the bankfull
Is water in the structure moving fas stream?	er than in the	s blocking the inlet? Yes (No
ou caill.	Management of the Control of the Con	

Fill out all that apply. Use blank rows for additional locations. Additional locations may include prominent erosion along stream banks within 50 feet of crossing. Left and right are facing downstream. Note any comments below.

		Erosio	n Dimensi	ons (ft)	Total	1	rosion	Material Eroded Sand, Silt, Clay, Grave		
	Location of E	osion	Length	Width	Depth	Erosion (Cubic fee	1	eaching tream	loam Sandy	
Road App	roach – Left			Marie - 1971 de 1972 de constituent de production de la constituent de la constituen			Yes	. No		
Road App	roach – Right						Yes	No		- A ANDRES
Road over	Crossing			No. of the state o		-	Yes	No		
Upstream	Ditch – Left	and the second s					Yes	No	nga ang kalang ang ang ang ang ang ang ang ang ang	
Upstream	Ditch – Right						Yes	No	and the state of t	
Downstre	am Ditch – Le	ft					Yes	No	The state of the s	
Downstrea	am Ditch – Rig	ht					Yes	No	W TONING PARTY WAS TONE TO THE	Hard on the Marketon and State of the Control of th
Upstream	Embankment	– Left					Yes	No		- management of the second
Upstream	Embankment	– Right		The same of the sa			Yes	No		
Downstrea	am Embankm	ent – Left		an annual constitution of			Yes	No		
Downstrea	am Embankme	ent – Right					Yes	No	THE TAX THE PARTY OF THE PARTY	
	A PAGE 1987 CONTRACTOR	100 (Delarindae errorre yn er estesten eisterte							The second secon	
		MM star of the man of		/		No. of the last of				The second section of the second section of the second section of the second section s
				and the second second		N. Carlotte	•			
			Total	Erosion at	Crossing:	1,000,000,000,000	The same of the sa	······································		
If there is e		ing, can correct	ive actions,	such as ro	ad drainage	measures, b	e installe	d to	Yes	No
							العا والمواسعة المعالمة	and the same of th	na kanarananan mananan kanaran	
Multiple Co	u iv erts		*			and a second section of the second section of the second	and the State of Stat			
Number m	ultiple cells fr	om left to right	facing down	stream. In	clude a diag	gram below i	ndicating	which culv	ert is culvert #1.	
Culvert #	Width (ft)	Height (ft)	Length (ft)	and the second second	Culv	ert#	Width (ft)	Height (ft)	Length (ft)
2			The state of the s	N. Contraction of the Contractio			4			
3		and the second s		The state of the s			5			

Additional Site Comments

☐ Road Approach – Left

☐ Upstream Conditions

Photos

Site ID

Culvert diagram, erosion, channel condition, evidence of wash-out, beaver, local testimony of frequency of overtopping...

☐ Road Approach – Right

☐ Downstream Conditions

☐ Inlet

Tokerts	SUbmerse).	"COONTE			State of the last
		Top/est	State of the	unle	1/20
-This is	the end of the	le chanel ,	Daes	NAt	continue
on of	he side of	Hry 23			,

☐ Outlet

Follow these guidelines to determine "passability" for a range of fish species. Thresholds may need to be modified to evaluate passage for a particular species. Answer all questions.	d if the objec	ctive is
Passability = 0 Most species and life stages cannot	pass at mos	t flows
If any of the following questions can be answered "yes", then the crossing barrier score = 0.		(-
1. The outlet of the structure is perched.	Yes	No
2. The structure water velocity is greater than 3 feet/second during baseflow.	Yes	(No
3. The ratio of the structure water depth to stream water depth is less than 0.1 (depth ratio).	Yes	(No)
Structure water depth:	6.32	
Passability = 0.5 Some species and/or life stages cannot	pass at mos	t flows
If any of the following questions can be answered "yes", then the crossing barrier score = 0.5.		Section 1
1. The water depth in the structure is less than 0.2 feet.	Yes	(No)
2. The structure water velocity is 2-3 feet/second during baseflow.	Yes	No
3. The structure is longer than 30 feet and does not have natural substrate through its entire length.	(Yes	No
Passability = 0.9	arrier at high	n flows
If any of the following questions can be answered "yes", then the crossing barrier score = 0.9.		200
1. There is a scour pool below the structure.	(Yes)	No
2. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio).	Yes	No
Structure width: 25 / Stream bankfull width: 75 = Constriction Ratio:	3	3
Passability = 1	Not a k	harrier
If all of the following questions can be answered "yes", then the crossing barrier score = 1.	1101 4 1	Juliel
1. The outlet of the structure is not perched.	Yes	No
2. The structure water velocity is less than 2 feet/second during baseflow.	Yes	No
3. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio).	Yes	No

No)

Yes

Additional Comments

Fish Passage Determination Summary

4. The water depth in the structure is greater than 0.2 feet.

6. The ratio of the structure width to stream bankfull width is greater than 0.5 (constriction ratio).
7. The structure is longer than 30 feet and has natural substrate through its entire length, or
The structure is shorter than 30 feet and has natural substrate through its entire length, or

 \Box The structure is shorter than 30 feet and does not have natural substrate through its entire length.

5. There is not a scour pool below the structure.

Stream trossing	Data Sneet				Site ID:	Lucia Lucia
General Information	,					
Name of Observer(s):	TSN.		J		Date:	11-16
Road Name/Number:	NA	- 147.0 6				
Stream Name:	Willow Cr	eet				
GPS Waypoint: Additional Location	Se mo	7 P	GPS Lat/Long:			
Comments:	tield Ulos	<u> </u>				
Road Information		The same of the sa		:		
Road Type: Fede	eral State County	Town	Tribal	Private Othe	r:	
Road Surface: Pav	ed (Gravel) Sand	Native S	Surface	Other:		
Fill Depth (ft): 3.7	S Road Width (ft):	7	Structure Lei	ngth (ft):1 <u>23</u>		
Crossing Information						
_	ert(s) no.: Bridge	Ford	Dam C)ther:	Structure II):
	Structure I			Structure Conditio		
Structure Shape Round	Metal			General Condition		Good Fair Poor
Square/Rectangle) - Inh	Concrete	-		Plugged:		Outlet In Pipe
Open Bottom Square/Rec	The second secon	,		Crushed		Outlet In Pipe
Pipe Arch	Wood	×.		Rusted Through?		Yes No
Open Bottom Arch	Structure I	nterior		Condition Commer		110
Ellipse	Smooth	>				
	Corrugate	~ ∋d	٠			
Structure Height (ft): $\frac{1}{2}$	4	Vater Dept	h (ft): ^{1,3}	1: , 5 0: /	Perch Heigh	t (ft): 1, 2
Structure Width (ft): ¹ Fill out for primary culvert (culver ² Fill out, if present.		Vater Velo c ee reverse.	city (ft/sec): 1	<.5	Height of He	ead (ft): 1, 2
Stream Information		Bute				
Stream Flow:	None < ½ Ban	kfull	< Bankfull	= Bankf	full	> Bankfull
Bankfull Width (ft): 12	Stream De	enth (ft):	.25	Stream Veloc		
Scour Pool Length & Width		-		d Length & Width (f		
Fish Passage Information				III. SUMINIMA PARA PARA PARA PARA PARA PARA PARA PA		
Is the structure perched? Is there a scour pool at the o	uutlat?	Yes (N		nding upstream?		Yes (No
	The same and the same and the same adoptions of the same	Yes (N	Is there a c	ture fully backwater hange in head from		Yes No
Is there substrate through th		(Yes N	side to dov	vnstream side?		Yes (No
Does the structure substrate substrate?	match the stream	(Yes) No	o Is the struc stream wid	ture narrower than th?	the bankfull	(Yes No
Is water in the structure mov	ring faster than in the	Yes (No		oris blocking the inle	et?	Yes No
Is water in the structure shall	lower than in the stream?	Yes No		dence of overtoppir		
	- The street of	1.22) is there evi	acrice of overtoppin	D OI WUSHIO	4.5. TE3 (NO

Fill out all that apply. Use blank rows for additional locations. Additional locations may include prominent erosion along stream banks within 50 feet of crossing. Left and right are facing downstream. Note any comments below

	Erosion Dimensions (ft)			Total	Erosion		Material Eroded	
Location of Erosion	Length	Width	Depth	Erosion (Cubic feet)	Reaching Stream		Loam, Sa	Clay, Gravel, ndy Loam or elly Loam
Road Approach – Left					Yes	No		
Road Approach – Right				ARLES ARV	Yes	No		The later than the property of the control of the c
Road over Crossing				The state of the s	Yes	No	* THERE STORES CONTRACTOR STORES	
Upstream Ditch – Left					Yes	No	***************************************	
Upstream Ditch – Right					Yes	No		***************************************
Downstream Ditch – Left		***************************************			Yes	No		MINING OF THE STATE OF THE STAT
Downstream Ditch – Right					Yes	No	a a servicione de l'estre de la legal de destination de la legal d	
Jpstream Embankment – Left				AND THE PROPERTY OF THE PROPER	Yes	No		**************************************
Jpstream Embankment – Right					Yes	No		
Downstream Embankment – Left					Yes	No		
Downstream Embankment – Right				No. of the last of	Yes	No		
								The state of the s
				2			The state of the s	
	Total	Erosion at	Crossing:					onionioni (orașe, orașe, o
there is erosion occurring, can correc				measures, be in	nstalled t	0		**************************************
ddress the problem?	5 400.0110,		a arannage		istanca t	•	Yes	No

1	N.A	ltip	۱.	C		
ì	IVIU	ITID	16	CH	IVP	rrs

Number multiple cells from left to right facing downstream. Include a diagram below indicating which culvert is culvert #1.

	your out a management of the					ng winen carre	t 10 Cart C. t 17 2.	
Culvert #	Width (ft)	Height (ft)	Length-(ft)		Culvert #	Width (ft)	Height (ft)	Length (ft)
2					4			
3		Control Sea Street, was the season of the se			5	- Andrews - Andr		
				•	terrine - research - 1911 - 19	desire a commence of the second	nto contrato communication and a second and	A

p	h	nt	n	c

☐ Site ID	☐ Inlet	☐ Outlet
🗖 Road Approach – Left	☐ Road Approach – Right	
Upstream Conditions	☐ Downstream Conditions	

Additional Site Comments

Culvert diagram, erosion, channel condition, evidence of wash-out, beaver, local testimony of frequency of overtopping...

- Channel upslope of cultert almost entirely silted in

Follow these guidelines to determine "passability" for a rai to evaluate passage for a particular species. Answer all que		modified if the obj	ective is
Passability = 0	Most species and life stages	cannot pass at mo	ost flows.
If any of the following questions can be answered "yes", th		•	
 The outlet of the structure is perched. 	· ·	Yes	(No.
2. The structure water velocity is greater than 3 feet/second	ond during baseflow. 🧷	Yes	No No
3. The ratio of the structure water depth to stream water	r depth is less than 0.1 (depth ratio).	Yes	(No)

Fish Passage Determination Summary

Passability = 0.5 If any of the following questions can be answered "yes", then the crossing barrier score = 0.5. 1. The water depth in the structure is less than 0.2 feet. 2. The structure water velocity is 2-3 feet/second during baseflow. 3. The structure is longer than 30 feet and does not have natural substrate through its entire length. Passability = 0.9 If any of the following questions can be answered "yes", then the crossing barrier score = 0.9. 1. There is a scour pool below the structure. 2. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). Yes No Structure width: 2. 7.5 / Stream bankfull width: / Stream bankfull width: / Stream bankfull width: / Constriction Ratio: 0.2.2	Structure water depth: / Stream water	depth: <u>* 25</u>	_ =	Depth Ratio:	<u> </u>	- Constitution of the Cons
If any of the following questions can be answered "yes", then the crossing barrier score = 0.5. 1. The water depth in the structure is less than 0.2 feet. 2. The structure water velocity is 2-3 feet/second during baseflow. 3. The structure is longer than 30 feet and does not have natural substrate through its entire length. Passability = 0.9 If any of the following questions can be answered "yes", then the crossing barrier score = 0.9. 1. There is a scour pool below the structure. Yes No Yes No Yes No No Yes No No Yes No No No No No No No No No N	Passability = 0.5	Some species	and/or li	ife stages cannot	pass at m	ost flows.
1. The water depth in the structure is less than 0.2 feet. 2. The structure water velocity is 2-3 feet/second during baseflow. 3. The structure is longer than 30 feet and does not have natural substrate through its entire length. Passability = 0.9 If any of the following questions can be answered "yes", then the crossing barrier score = 0.9. 1. There is a scour pool below the structure. Yes No Yes No Yes No No No Yes No No No No No No No No No N	If any of the following questions can be answered "yes", then the			-	•	_
2. The structure water velocity is 2-3 feet/second during baseflow. 3. The structure is longer than 30 feet and does not have natural substrate through its entire length. Passability = 0.9 If any of the following questions can be answered "yes", then the crossing barrier score = 0.9. There is a scour pool below the structure. Yes No Yes No No Yes No No Yes No No No No No No No No No N		Ü			Yes	(No)
3. The structure is longer than 30 feet and does not have natural substrate through its entire length. Passability = 0.9 If any of the following questions can be answered "yes", then the crossing barrier score = 0.9. There is a scour pool below the structure. Yes No Yes No No Yes No No No Yes No No No No No No No No No N	2. The structure water velocity is 2-3 feet/second during base	flow.			Yes	No
If any of the following questions can be answered "yes", then the crossing barrier score = 0.9. 1. There is a scour pool below the structure. 2. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). Yes No			s entire le	ength.	Yes	
1. There is a scour pool below the structure. Yes No The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). Yes No	Passability = 0.9			<u>B</u>	Barrier at h	igh flows.
1. There is a scour pool below the structure. Yes No The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). Yes No	If any of the following questions can be answered "yes", then th	ne crossing barrier score	= 0.9.		COMMUNICATION CONTRACTOR AND ADDRESS.	
2. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio).					Yes	(_{No})
	2. The ratio of the structure width to stream bankfull width is	less than 0.5. (constriction	on ratio)	•	Yes	
					0,22	

Passability = 1 Not a barrier. If all of the following questions can be answered "yes", then the crossing barrier score = 1. 1. The outlet of the structure is not perched. No 2. The structure water velocity is less than 2 feet/second during baseflow. Yes No 3. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio). Yes No 4. The water depth in the structure is greater than 0.2 feet. Yes No 5. There is not a scour pool below the structure. Ϋ́es, No 6. The ratio of the structure width to stream bankfull width is greater than 0.5 (constriction ratio). Yes No 7. \Box The structure is longer than 30 feet and has natural substrate through its entire length, or ☐ The structure is shorter than 30 feet and has natural substrate through its entire length, or No The structure is shorter than 30 feet and does not have natural substrate through its entire length.

Additional Comments

Stream Crossi	ng Da	ta Snee	t					Site	ID:		
General Information											
Name of Observer(s):		Treola	m)					Date	e: /	1-16-10	
Road Name/Number:		Δ. Δ								, , ,	
Stream Name:		Willow	Crept								•
		· a	200			GPS					
GPS Waypoint: Additional Location	2	<u>'ee </u>	19/			Lat/Lo	ng:				
Comments:		Field	C1055	ine							
Road Information											
Road Type:	Federal	State	County	Town		Tribal	Private	Other:			***************************************
Road Surface:	Paved	Grave	Sand		ve Surf		Other:		,		
Fill Depth (ft):	5	Road Wi	dth (ft): 20	0	s	tructure	e Length (ft): 1	23,5	•		
Crossing Information											
Structure Type:	Culvert(s)	no.: 2	Bridge	Ford		Dam	Other:	Stru	cture ID:	1	
Structure Shape			Structure N	/lateria	l		Structure	Condition			
Round			Metal				General C	Condition:	New	Good Fair	Poor
Square/Rectangle			Concrete)			Plugged:	%	Inlet	Outlet 1	n Pipe
Open Bottom Square	/Rectang	le	Plastic					— %	Inlet	Outlet I	n Pipe
Pipe Arch			Wood				Rusted Th		Y	'es l	No
Open Bottom Arch			Structure Ir	nterior				Comments:			
Ellipse			Smooth	>							
				vd.							
Structure Height (ft): 1	4/	(34)	Corrugate Structure V		enth (i	f+\· ^{1,3}	1: Dr.vo	· Perc	h Height	(ft): 1, 2	
	-	1.1	-							ad (ft): 1, 2	
Structure Width (ft): ¹ Fill out for primary culvert (d			_			(it/sec)		neig	nt of He	ad (Tt):	
² Fill out, if present.	•										
³ For a culvert, record the wa	ter depth at	the inlet (I) a	nd outlet (O) to c	letermin	e if the c	ulvert is fu	illy backwatered. R	lecord just 1 deptl	n for other	structures.	
Stream Information											
Stream Flow:	No	one	< ½ Ban	kfull		< Ban	kfull	= Bankfull		> Bankful	l
Bankfull Width (ft):	8		Stream De	pth (ft)): <u>D</u>	h	Stre	am Velocity (f	t/sec):	Dra	
Scour Pool Length & W	idth (ft):	2			Up	<i>)</i> stream	Pond Length &	_			
Fish Passage Information	on										
Is the structure perched				Yes	(No)	Is ther	e ponding upst	ream?		Yes	No
Is there a scour pool at	the outle	t?		Yes	(No)		structure fully l		00	Yes	No
s there substrate throu	igh the st	ructure's er	ntire length?	Yes	No	:	e a change in h downstream s		upstřéan <i>) (</i>	n ソes	No
Does the structure subs	strate ma	tch the stre	am	Yes	No	Is the	structure narro n width?		oankfull	Yes	No
Is water in the structure	e moving	faster than	in the	Desj	No	Is ther	e debris blockii	ng the inlet?		Yes	No

Is there evidence of overtopping or wash-outs?

stream?

Is water in the structure shallower than in the stream?

Fill out all that apply. Use blank rows for additional locations. Additional locations may include prominent erosion along stream banks within 50 feet of crossing. Left and right are facing downstream. Note any comments below.

	Erosion Dimensions (ft)			Total	Erosion			al <mark>Eroded</mark> Clay, Gravel,				
Location of Erosion	Length	Width	Depth	Depth	Depth	Depth	Depth	Erosion (Cubic feet)	Reaching Stream		Loam, Sa	ndy Loam or Ily Loam
Road Approach – Left					Yes	No						
Road Approach – Right					Yes	No						
Road over Crossing		,			Yes	No						
Upstream Ditch – Left					Yes	No						
Upstream Ditch – Right					Yes	No						
Downstream Ditch – Left		1			Yes	No						
Downstream Ditch – Right			and the same of th		Yes	No						
Upstream Embankment – Left					Yes	No						
Upstream Embankment – Right		And the second	1	1	Yes	No						
Downstream Embankment – Left	and the same of th				Yes	No						
Downstream Embankment – Right					Yes	No						
				× .			abamowa					
				1								
enter de la companya				j								
	Tota	l Erosion at	Crossing:			***************************************						
If there is erosion occurring, can correct address the problem?			_	measures, be i	nstalled	to	```	Yes				

Multiple Culverts

Number multiple cells from left to right facing downstream. Include a diagram below indicating which culvert is culvert #1.

Culvert #	Width (ft)	Height (ft)	Length (ft)
2	36	24	23.5
3			

Culvert #	Width (ft)	Height (ft)	Length (ft)
4			
5			

Photos		
☐ Site ID	☐ Inlet	☐ Outlet
☐ Road Approach — Left	☐ Road Approach – Right	
☐ Upstream Conditions	☐ Downstream Conditions	

Additional Site Comments

Culvert diagram, erosion, channel condition, evidence of wash-out, beaver, local testimony of frequency of overtopping...

- Crossin topped I trae in last zoyears.
-Bessel on conversation w/ land owner

Passability = 0 If any of the following questions can be an		Nost species and life	stages cannot pa	ss at m	ost flows.
The outlet of the structure is perched		1101 30010 0.		Yes	No
2. The structure water velocity is greate	r than 3 feet/second during baseflow	٧.		Yes	No
3. The ratio of the structure water depth	·	0.1 (depth ratio).	2-	Yes	No
Structure water depth:	/ Stream water depth:	=	Depth Ratio:	Dri	4
	e and the company of	1474 billion Sanc Sanc bases of Land School		\sim) mioristas introduciones
		e species and/or life	e stages cannot pa	ss at m	ost flows.
If any of the following questions can be ar	_	rier score = 0.5.		,D/	~c ₇
1. The water depth in the structure is le				Yes-	No No
 The structure water velocity is 2-3 fee The structure is longer than 30 feet at 	_			-Yes	(No)
3. The structure is longer than 30 feet a	nd does not have natural substrate the	nrough its entire ier	ıgın.	Yes	No
Passability = 0.9			Barr	ier at h	igh flows.
If any of the following questions can be ar	nswered "ves", then the crossing bar	rier score = 0.9.	en et efter vijst egskieliere egenerekt 🎬 🕳 🖫		Pulinaina
1. There is a scour pool below the struct				Yes	No
2. The ratio of the structure width to str		constriction ratio).		Yes	(No
Structure width: 4, 8 /	Stream bankfull width: 8		striction Ratio: 🏻 🕹	>	
Passability = 1	45/2015年 [2] [2] [2] [2] [2] [2] [2] [2] [2] [2]			Not	a barrier.
If all of the following questions can be ans	wered "yes", then the crossing barri	er score = 1.			
1 The outlet of the structure is not perc	had		/	Vec	No

(Yes

Yes

-Yes

(Yes)

Yes

No

No

No

No

Additional Comments

Fish Passage Determination Summary

2. The structure water velocity is less than 2 feet/second during baseflow.

4. The water depth in the structure is greater than 0.2 feet.

5. There is not a scour pool below the structure.

3. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio).

6. The ratio of the structure width to stream bankfull width is greater than 0.5 (constriction ratio).

The structure is shorter than 30 feet and does not have natural substrate through its entire length.

7. The structure is longer than 30 feet and has natural substrate through its entire length, or The structure is shorter than 30 feet and has natural substrate through its entire length, or

Stream Crossing Data S	heet	Site ID:
General Information		
Name of Observer(s): 751		Date: //-/6
Road Name/Number: Ran	- Li Kan I	
Stream Name:		
GPS Waypoint: Additional Location Comments:	MGP Eat/Lor	ng:
Road Information		
Road Type: Federal Stat	re County (Town) Tribal	Private Other:
Road Surface: (Paved) Grav	rel Sand Native Surface	Other:
Fill Depth (ft):	d Width (ft): 20 Structure	e Length (ft): 1
Crossing Information	Western Control of the Control of th	
Structure Type: Culvert(s) no.:	Bridge Ford Dam	Other: Structure ID:
Structure Shape	Structure Material	Structure Condition
Round	Metal	One and One William
Square/Rectangle	Concrete	DI 1 0/
Open Bottom Square/Rectangle	Plastic	Crushed % Inlet Outlet In Pipe
Pipe Arch	Wood	
Open Bottom Arch	Structure Interior	Rusted Through? Yes No Condition Comments:
Ellipse	Smooth	condition confinencs.
Empse		
S	Corrugated	12
Structure Height (ft):	Structure Water Depth (ft): 1,3	I: _ C O: _ C Perch Height (ft): 1, 2
Structure Width (ft): 1 Fill out for primary culvert (culvert #1). If multip 2 Fill out, if present. 3 For a culvert, record the water depth at the inlet		Height of Head (ft): 1, 2 Illy backwatered. Record just 1 depth for other structures.
Stream Information		
Stream Flow: None	(< 1/2 Bankfull	rfull = Bankfull > Bankfull
Bankfull Width (ft): ノストラ	Stream Depth (ft): 25	Stream Velocity (ft/sec):
Scour Pool Length & Width (ft): ²		Pond Length & Width (ft): 2
Fish Passage Information		
Is the structure perched?	Yes (No)Is there	e ponding upstream? Yes No
Is there a scour pool at the outlet?	The state of the s	tructure fully backwatered? Yes No
Is there substrate through the structure	Sentire length? V vest No :	e a change in head from the upstream downstream side?
Does the structure substrate match the	Ves (No.11	tructure narrower than the bankfull (Yes) No
substrate? Is water in the structure moving faster the stream?	nan in the	e debris blocking the inlet? Yes No
Is water in the structure shallower than	in the stream? Yes (No) Is there	e evidence of overtopping or wash-outs? Yes (No)

Fill out all that apply. Use blank rows for additional locations. Additional locations may include prominent erosion along stream banks within 50 feet of crossing. Left and right are facing downstream. Note any comments below.

	Erosic	n Dimensi	ons (ft)	Total	Erosion Reaching Stream		Material Erode Sand, Silt, Clay, Gr	
Location of Erosion	Length	Width	Depth	Erosion (Cubic feet)			Loam, Sar	ndy Loam or Ily Loam
Road Approach – Left					Yes	No		
Road Approach – Right					Yes	No		WWW.C.C. S. S. W. C. S.
Road over Crossing					Yes	No		
Upstream Ditch – Left					Yes	No		. 194 - 194 - 1992 - 1994 - 199
Upstream Ditch – Right			**************************************		Yes	No	The transport of the state of t	
Downstream Ditch – Left					Yes	No		
Downstream Ditch – Right					Yes	No		
Upstream Embankment – Left					Yes	No		
Upstream Embankment – Right				14 (14) (2) (2) (14) (14) (14) (14) (14) (14) (14) (14	Yes	No		
Downstream Embankment – Left					Yes	No		
Downstream Embankment – Right					Yes	No	***************************************	
смания мирания симиниминими на том симениминими полительного достовать на селе								
The second section of the second second second section					***************************************			
							· · · · · · · · · · · · · · · · · · ·	
/	Total	Erosion at	Crossing:	\				
f there is erosion occurring, can corre ddress the problem?	ctive actions,	such as roa	d drainage	measures, be in	nstalled	to	Yes	No

Multiple Culverts

Number multiple cells from left to right facing downstream. Include a diagram below indicating which culvert is culvert #1.

Culvert #	Width (ft)	Height (ft)	Length (ft)	C	Culver	rt#	Width (ft)	Height (ft)	Length (ft)
2					4				
3				aux - yr	5				

Photos		
☐ Site ID	☐ Inlet	☐ Outlet
🗖 Road Approach – Left	☐ Road Approach – Right	
Upstream Conditions	☐ Downstream Conditions	

Additional Site Comments

Culvert diagram, erosion, channel condition, evidence of wash-out, beaver, local testimony of frequency of overtopping...

Box collect. Not a fish borner.

Follow these guidelines to determine "passability" for a range of fish species. Thresholds may need to be modified to evaluate passage for a particular species. Answer all questions.	ed if the obj	ective is
Passability = 0 If any of the following questions can be answered "yes", then the crossing barrier score = 0. The outlet of the structure is perched. The structure water velocity is greater than 3 feet/second during baseflow. The ratio of the structure water depth to stream water depth is less than 0.1 (depth ratio). Structure water depth: Depth Ratio:	Yes Yes	NO NO NO
Passability = 0.5 If any of the following questions can be answered "yes", then the crossing barrier score = 0.5. The water depth in the structure is less than 0.2 feet. The structure water velocity is 2-3 feet/second during baseflow.	pass at mo Yes Yes	ost flows.
 The structure is longer than 30 feet and does not have natural substrate through its entire length. Passability = 0.9	Yes arrier at hij	No gh flows.
If any of the following questions can be answered "yes", then the crossing barrier score = 0.9. 1. There is a scour pool below the structure. 2. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). Structure width: / Stream bankfull width: = Constriction Ratio:	Yes Yes	No No
Passability = 1 if all of the following questions can be answered "yes", then the crossing barrier score = 1 .	Not a	a barrier.
 The outlet of the structure is not perched. The structure water velocity is less than 2 feet/second during baseflow. 	Yes	No No
3. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio).	(Yes)	No

Yes

Yes

Yes

Yes

No

(No

No

No

Additional Comments

Fish Passage Determination Summary

4. The water depth in the structure is greater than 0.2 feet.

6. The ratio of the structure width to stream bankfull width is greater than 0.5 (constriction ratio).

☐ The structure is shorter than 30 feet and does not have natural substrate through its entire length.

7. The structure is longer than 30 feet and has natural substrate through its entire length, or The structure is shorter than 30 feet and has natural substrate through its entire length, or

5. There is not a scour pool below the structure.

Stream Crossing Data	a Sheet		Site ID:
General Information Name of Observer(s): Road Name/Number:	75N		Date: 1/-16-10
Stream Name:	100010001		
	es map	GPS Lat/Long:	
Road Information	, and the same of		
Road Type: Federal	State County (Town)	Fribal Private Othe	r:
Road Surface: Paved	Gravel Sand Native Surfa		
Fill Depth (ft):	Road Width (ft): 25 St	ructure Length (ft): 1 32	
Crossing Information			
Structure Type: Culvert(s) no	o.: Bridge Ford	Dam Other:	Structure ID:
Structure Shape	Structure Material	Structure Condition	
Round	Metal	General Condition:	. New Good Fair Poor
Square/Rectangle	Concrete	Plugged:	
Open Bottom Square/Rectangle	Plastic	Crushed	
Pipe Arch	Wood	Rusted Through?	Yes No
Open Bottom Arch	Structure Interior	Condition Commer	
Ellipse	Smooth		Lacotton Consum.
	(Corrugated)		
Structure Height (ft): 1	Structure Water Depth (ft	1. 1.3	Perch Height (ft): 1, 2
Structure Width (ft): ¹ Fill out for primary culvert (culvert #1). If m Fill out, if present.	Structure Water Velocity	(ft/sec): 1	Height of Head (ft): 1, 2
Stream Information			
Stream Flow: None	(<½ Bankfull)	< Bankfull = Bankf	ull > Bankfull
Bankfull Width (ft): / こ	Stream Depth (ft):	Stream Veloc	ity (ft/sec):
Scour Pool Length & Width (ft):2	/5×/2 Ups	tream Pond Length & Width (f	
Fish Passage Information Is the structure perched?			
Is there a scour pool at the outlet?	Yes (No) (Yes) No	Is there ponding upstream? Is the structure fully backwater	Yes No' red? (Yes) No
Is there substrate through the struct		Is there a change in head from side to downstream side?	and the second s
Does the structure substrate match	the stream	Is the structure narrower than	the bankfull
substrate?	mander and anticomment of the contract of the	stream width?	Yes No
Is water in the structure moving fast stream?	er than in the	Is there debris blocking the inle	et? Yes No
Is water in the structure shallower th	nan in the stream? Yes (No)	Is there evidence of overtoppin	ng or wash-outs? Yes (No

Fill out all that apply. Use blank rows for additional locations. Additional locations may include prominent erosion along stream

	Location of Er	asian	Erosio	n Dimensio	ons (ft)	Total Erosion		sion	Materia l Sand, Silt, C	Eroded ay, Gravel
	Location of Li	OSIOIT	Length	Width	Depth	(Cubic feet)	1	eam	Loam, Sand Gravell	•
Road App	roach – Left	The second secon					Yes	No		,
Road App	roach – Right	P					Yes	No		
Road over	Crossing	me in managarja to se spenje out out out					Yes	No 🗸		tota occazione e communicacione
Upstream	Ditch – Left	THE STATE OF THE PARTY OF THE P					Yes	No		
Upstream	Ditch – Right						Yes	No		
Downstre	am Ditch – Lef	t					Yes	No		
Downstrea	am Ditch – Rig	ht				agangganigh, taga	Yes	No	marin manarens ventra erranavet.	
Jpstream	Embankment	– Left					Yes	No		
Jpstream	Embankment	– Right					Yes	No		
Downstrea	am Embankme	ent – Left					Yes	No	dealers of desired and des	THE PARTY OF THE P
Downstrea	ım Embankme	ent – Right				and the second s	Yes	No	NATIONAL CONTRACTOR CONTRACTOR	
	The state of the s		The state of the s			<i>f</i>				
					gggd die sterre	W. (1991) 1. 1. 1. 1. 1. 1. 1.			линавы от линентиции пур, а,	
	and the second s	The state of the s				(r			ANAMANTANIAN MANAMATAN (1) ANTANAMATAN	
			Total	Erosion at	Ćrossing:			L		
	erosion occurri e problem?	ing, can correct	ive actions, s	such as foa	d drainage	measures, be i	nstalled	to	Yes	No
/lultiple C i lumber mi		om left to right	facing down	stream. Inc	clude a diag	gram below ind	cating w	hich culv	ert is culvert #	1.
Culvert #	Width (ft)	Height (ft)	Length (ft		N. A.	Culver	· · · · · · · · · · · · · · · · · · ·	vidth (ft)	Height (ft)	Lanat

Culvert #	Width (ft)	Height (ft)	Length (ft)		Culvert #	Width (ft)	Height (ft)	Length (ft)
2		g g g g g g			4			1 (10 d. 4 de colondo e por grang 1 (1) (1)
3		A. C.		'	5	en e armenamente cerce monuma		
Photos						tani manamani massa m	tima economica con escanataria inside	dancer and an arranged
☐ Site ID			☐ Inlet		ò	Qutlet		
☐ Road App	oroach – Left	,	🗖 Road Ap	proach – Right				
☐ Upstrean	n Conditions		☐ Downst	eam Conditions		The state of the s		

Additional Site Comments

Culvert diagram, erosion, channel condition, evidence of wash-out, beaver, local testimony of frequency of overtopping...

- wide "O" shaped channel. - Appeals to
have been ditched historically

- Does not appear to be a fish passage issue

Follow these guidelines to determine "passability" for a range of fish species. Thresholds may need to be modito evaluate passage for a particular species. Answer all questions.	ified if the ob	jective is
Passability = 0 Most species and life stages cann	not pass at m	ost flows.
If any of the following questions can be answered "yes", then the crossing barrier score = 0.		
1. The outlet of the structure is perched.	Yes	No
2. The structure water velocity is greater than 3 feet/second during baseflow.	Yes	No
3. The ratio of the structure water depth to stream water depth is less than 0.1 (depth ratio).	Yes	No
Structure water depth: / Stream water depth: = Depth Rati	io: <u>16-5</u>	No.
Passability = 0.5 Some species and/or life stages cann	not pass at m	ost flows.
If any of the following questions can be answered "yes", then the crossing barrier score = 0.5.		_
1. The water depth in the structure is less than 0.2 feet.	Yes	(No)
2. The structure water velocity is 2-3 feet/second during baseflow.	Yes	No
3. The structure is longer than 30 feet and does not have natural substrate through its entire length.	Yes	No
Passability = 0.9	Barrier at h	igh flows.
If any of the following questions can be answered "yes", then the crossing barrier score = 0.9.		Service and the service and th
1. There is a scour pool below the structure.	Yes	No
2. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio).	Yes	No
Structure width: 6-3 / Stream bankfull width: 12 = Constriction Rati	0: 652	
Passability = 1	Not	a barrier.
If all of the following questions can be answered "yes", then the crossing barrier score = 1.		u 20111011
1. The outlet of the structure is not perched.	Yes	No
 The structure water velocity is less than 2 feet/second during baseflow. 	Yes	No
3. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio).	Yes	No
4. The water depth in the structure is greater than 0.2 feet.	Yes	No
5. There is not a scour pool below the structure.	Yes	No
6. The ratio of the structure width to stream bankfull width is greater than 0.5 (constriction ratio).	(Yeş	No
- The state of the	(,	

7. The structure is longer than 30 feet and has natural substrate through its entire length, or The structure is shorter than 30 feet and has natural substrate through its entire length, or

☐ The structure is shorter than 30 feet and does not have natural substrate through its entire length.

Site ID:

No

Additional Comments

Fish Passage Determination Summary

Stream Crossing	Data Sheet	t				Site ID:	<u>C</u>	
General Information								
Name of Observer(s):	15N					Date:	11-16-1	0
Road Name/Number:	Woodla.		bith			95.		
Stream Name:								
GPS Waypoint: Additional Location Comments:	<u>See 1</u>	map		GPS Lat/Long	:			
Road Information			and the same of					
Road Type: Feder	al State	County (Town	Tribal	Private	Other:		
Road Surface: Pave	d Gravel	Sand	Native S	Surface	Other:			
Fill Depth (ft):	Road Wid	th (ft):	5	Structure L	ength (ft): 1	85		
Crossing Information								
Structure Type: Culver	rt(s) no.: _/	Bridge	Ford	Dam	Other:	Structure	ID:	
Structure Shape		Structure N	/laterial		Structure	Condition		
(Round		Metal			General Co	ondition: Nev	w Good Fair	Poor
Square/Rectangle		Concrete			Plugged:	% Inlet	Outlet	In Pipe
Open Bottom Square/Recta	angle	Plastic			Crushed	% Inlet	Outlet	In Pipe
Pipe Arch	-	Wood			Rusted Th	rough?	Yes	No
Open Bottom Arch		Structure Ir	nterior			Comments:		
Ellipse		Smooth				_		
•		Corrugate	od D					***************************************
Structure Height (ft): 3	6	Structure V	S. A. C.	h (ft): 1,3	1: . / 0:	Perch Hei	ght (ft): 1, 2	3
Structure Width (ft): ¹	G	Structure W	Vater Velo	city (ft/sec): 1		Height of	Head (ft): 1, 2	
Fill out for primary culvert (culvert				, (,,			, ,	
² Fill out, if present. ³ For a culvert, record the water depi	th at the inlet (I) and	d outlet (O) to d	latermine if t	ho culvert is fully	hackwatered Re	ecord just 1 denth for at	har structuras	٠.
	ur at the inlet (i) and	i outlet (O) to u	eterrime ir t	ne culvert is runy	backwatered. No	ecord just 1 depth for ot	ner structures.	
Stream Information		processing the same of the sam	and the same of th				. *	e de la companya della companya della companya de la companya della companya dell
Stream Flow:	None	(<½ Banl	kfull)	< Bankfu	. 	= Bankfull	> Bankfu	11
Bankfull Width (ft):	***************************************	Stream De	pth (ft):	. 25	Strea	m Velocity (ft/sec)	1: _ 5	
Scour Pool Length & Width (ft): ² 12)	x12		Upstream Po	and Length &	Width (ft): 2		
Fish Passage Information	northodatae constitutadada habi communida e eleccido						anna sano anna antificia antificia	
Is the structure perched?				a an como formaco escarros como escario	onding upstr		Yes	J.
Is there a scour pool at the ou	Communication of the Communica			\ Ic thora	ucture fully b	ackwatered? ead from the upstre	(Yes	No No
Is there substrate through the	e structure's ent	ire length?	Yes (N	O 1:	ownstream si	•	Yes	No.
Does the structure substrate substrate?	match the strea	m	Yes (N	ls the str stream w		ver than the bankfo	ull Yes) No
Is water in the structure movi	ng faster than ir	n the	Yes (N	<u> </u>	debris blockin	g the inlet?	(Yes) No
stream? Is water in the structure shallo	ower than in the	e stream? /		/-		vertopping or wash	and the last	

Fill out all that apply. Use blank rows for additional locations. Additional locations may include prominent erosion along stream

			Erosion	Dimensi	ons (ft)	Total	1	osion	Material Sand, Silt, Cl	
***************************************	Location of Er	osion	Length	Width	Depth	Erosion (Cubic feet	1	aching ream	Loam, Sand Gravelly	y Loam or
Road Appi	oach – Left						Yes	No		
Road Appi	oach – Right	and transmitting the state of t				1 - 10-17 702-1700 av	Yes	No		7
Road over	Crossing						Yes	No		<u> </u>
Upstream	Ditch – Left	THE STATE OF THE S	-	***************************************			Yes	No		
Upstream	Ditch – Right	**************************************					Yes	No ,		7717 · · · · · · · · · · · · · · · · · ·
Downstrea	ım Ditch – Lef	t					Yes	Ŋø		
Downstrea	ım Ditch – Rig	ht					Yes	No	40000	
Upstream	Embankment	– Left				THE PERSON NAMED IN THE PE	Y,e's	No		
Upstream	Embankment	– Right					Yes	No	enggyptone, y ngggegyptonengamighton ngg	
Downstrea	m Embankme	ent – Left		COLUMN TO THE TOTAL CONTRACTOR			Yes	No	eron and good the design and another the series	
Downstrea	m Embankme	ent – Right					Yes	No		
	THE STATE OF THE S	** ModNostde man o commune o com								
									AND THE PROPERTY OF THE PROPER	N 700 70 -44
	THE CO. C. SHIPPHING AND THE CO.									
			Total E	rosion at	Crossing:				magnic America (account of the	
If there is e		ing, can correct	ive actions, s	uch as ro	ad drainage	measures, be	e installe	d to	Yes	No
		· · · · · · · · · · · · · · · · · · ·		- Jeren de la companya del companya della companya						
Multiple Cu	ulverts		\times	·						
Number m	ultiple cells fro	om left to right	facing downs	tream. In	clude a dia	gram below in	ndicating	which culve	ert is culvert #:	1.
Culvert#	Width (ft)	Height (ft)	Length (ft)	The state of the s	No.	Culv	ert#	Width (ft)	Height (ft)	Length (ft)
2		p p p p p p p p p p p p p p p p p p p			No. of the last of	4	1			
3		Appended of the second				5	5			
		and the second s				No. of the last of				
Photos	,	p de la companya della companya della companya de la companya della companya dell				The state of the s				
☐ Site ID	and the second		🖵 Inlet			`	01	utlet		
☐ Road App	oroach – Left		🗖 Road	Approac	h – Right					
☐ Upstream	n Conditions		☐ Dowr	nstream C	Conditions					
Additional 9	Site Comment	ts								
Culvert diag		channel condit	ion, evidence	of wash	out, beave	r, local testim	ony of fr	equency of	overtopping	
	- fish	observed)	14 5	COLT	hole					
	- Det	observed let is	a blose	Je-o	Fa	De/	D.	at an		
	- 7 . la	+ 1< 11	. 1 Salah Salah Salah Salah	Same	ne de Cari	· where pull	145	595e		

1)

Follow these guidelines to determine "passability" for a range of fish species. Thresholds may need to be more to evaluate passage for a particular species. Answer all questions.	nodified if the obj	ective is
Passability = 0 Most species and life stages of	annot pass at m	ost flows.
 If any of the following questions can be answered "yes", then the crossing barrier score = 0. The outlet of the structure is perched. The structure water velocity is greater than 3 feet/second during baseflow. The ratio of the structure water depth to stream water depth is less than 0.1 (depth ratio). 	Yes Yes Yes	No No No
	Ratio: <u>4</u>	
Passability = 0.5 If any of the following questions can be answered "yes", then the crossing barrier score = 0.5.	annot pass at m	ost flows
1. The water depth in the structure is less than 0.2 feet.	Yes	No
 The structure water velocity is 2-3 feet/second during baseflow. 	Yes	No
3. The structure is longer than 30 feet and does not have natural substrate through its entire length.	Yes	No
Passability = 0.9	Barrier at hi	gh flows.
If any of the following questions can be answered "yes", then the crossing barrier score = 0.9.		
1. There is a scour pool below the structure.	Yes	No
2. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio).	Yes	No
Structure width: / Stream bankfull width: = Constriction	Ratio:	
Passability = 1	Not	a barrier.
If all of the following questions can be answered "yes", then the crossing barrier score = 1.		
1. The outlet of the structure is not perched.	Yes	(No)
2. The structure water velocity is less than 2 feet/second during baseflow.	Yes	No
3. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio).	Yes	No

No

No

No

Yes

Yes

Yes

Yeş

Additional Comments

Fish Passage Determination Summary

4. The water depth in the structure is greater than 0.2 feet.

6. The ratio of the structure width to stream bankfull width is greater than 0.5 (constriction ratio).

☐ The structure is shorter than 30 feet and does not have natural substrate through its entire length.

7. The structure is longer than 30 feet and has natural substrate through its entire length, or The structure is shorter than 30 feet and has natural substrate through its entire length, or

5. There is not a scour pool below the structure.

Stream Crossin	g Data Sheet	t					Site ID:			
General Information				•						
Name of Observer(s):	TON						Date:	11-16	-10	
Road Name/Number:	Twin Oc	K5						***************************************		
Stream Name:	<u>Iwn () =</u>	<i>y</i> = >								
oti cam ivanic.	Assertation and	wten.			GPS					
GPS Waypoint:	292 M	<u> 190 </u>			Lat/Long:					
Additional Location Comments:		i								
comments.	V94WW47									
Road Information		,								
Road Type: Fe	ederal State	County (Town) .	Tribal	Private	Other:			
Road Surface: P	aved Gravel	Sand	Nativ	ve Surf	ace	Other:				
Fill Depth (ft):	Road Wid	ith (ft):	5	S [.]	tructure Le	ength (ft): 1	60			
Crossing Information										
-	ılvert(s) no.: 2	Bridge	Ford		Dam	Other:	Structure	יווי		
Structure Shape	iivert(s) iio	Structure N			Daili	Structure		: ID.		
Round			nateriai						. .	-
		Metal	<u></u>					ew Good	Fair	Poor
Square/Rectangle	Name of the second	Concrete					% Inle			n Pipe
Open Bottom Square/R	Rectangle	Plastic					% Inle		et In	n Pipe
Pipe Arch		Wood				Rusted Th	_	Yes	N	lo
Open Bottom Arch		Structure Ir	nterior			Condition	Comments:	-		
Ellipse		Smooth	>				****			
		Corrugate	d							
Structure Height (ft): 1	4	Structure W	/ater D	epth (f	t): ^{1,3}	1: /, ZS O:	/。O Perch He	ight (ft): 1.	, 2	
Structure Width (ft):1	6.25	Structure W	/ater V	elocity	(ft/sec): 1	<,5	Height of	f Head (ft)	: 1, 2	
¹ Fill out for primary culvert (cul		erts are used, se	e reverse	2.					-	
² Fill out, if present. ³ For a culvert, record the water	denth at the inlet (1) and	d outlot (O) to d	atormina	if the c	dvort is fully l	nachwatered Ri	ecord just 1 denth for a	ther structu	ırac	
To a curvert, record the water	depth at the filet (i) and	a datiet (O) to a	etermine	in the co	iivert is ruily i	Jackwatered. IN	ecord just I deput for c	the structu	163.	
Stream Information						_				
Stream Flow:	None	<½ Bank	kfull		< Bankful	п)	= Bankfull	> Ba	ankfull	
Bankfull Width (ft):	25	Stream De	pth (ft)		5	Strea	am Velocity (ft/sed	:): <u><_</u>	punered >	
Scour Pool Length & Wid	th (ft): ²	Restacting		Up	stream Poi	nd Length &	- Vermino ango	· Santana and A		
Fish Passage Information	NAME OF THE PROPERTY OF THE PR	/////////////////////////////////////					**			(,)
Is the structure perched? Is there a scour pool at th	e outlet?		Yes Yes	(No)	······································	onding upsti	ream ? ackwatered?		Yes Yeş	No No
			~			ar er er er er de enner een een en e	ead from the upstr	eam		Variation of
Is there substrate through			(Yes)	No	side to do	wnstream s	ide?		Yes	(No)
Does the structure substrate?	ate match the strea	m	Yes) No	Is the stru stream w		wer than the bank	tull	Yes	No
Is water in the structure n	noving faster than i	n the	V-				on the helpton			N1 =
stream?	T : TE TOTAL DESIGNATION OF THE STATE OF THE	man or propagation or accommon	Yes	(No)		ebris blockin			(Ye§	No
Is water in the structure sl	hallower than in the	e stream?	Yes	(No)	Is there e	vidence of o	vertopping or was	n-outs?	Yes	(No)

Fill out all that apply. Use blank rows for additional locations. Additional locations may include prominent erosion along stream banks within 50 feet of crossing. Left and right are facing downstream. Note any comments below.

Length Width Depth (Cubic feet) Stream Loam, Sandy Loam of Gravelly Loam Road Approach – Left Yes No Road Over Crossing Yes No Upstream Ditch – Left Yes No Downstream Ditch – Left Yes No Downstream Ditch – Right Yes No Upstream Embankment – Left Yes No Upstream Embankment – Left Yes No Downstream Embankment – Left Yes No		Erosio	n Dimensio	ons (ft)	Total	Eros	sion	Material Erodeo Sand, Silt, Clay, Gra				
Road Approach – Right Road over Crossing Upstream Ditch – Left Upstream Ditch – Right Ves No Downstream Ditch – Left Ves No Downstream Ditch – Right Ves No Upstream Embankment – Left Upstream Embankment – Left Upstream Embankment – Left Ves No Upstream Embankment – Left Ves No Downstream Embankment – Left Ves No Downstream Embankment – Left Ves No Downstream Embankment – Right Ves No	Location of Erosion	Length Width Depth ((- 1		Loam, Sand	ndy Loam or				
Road over Crossing Upstream Ditch – Left Ves No Upstream Ditch – Right Downstream Ditch – Left Pes No Downstream Ditch – Right Upstream Embankment – Left Upstream Embankment – Right Downstream Embankment – Left Downstream Embankment – Left Downstream Embankment – Right Pes No Downstream Embankment – Left Pes No Downstream Embankment – Right No	Road Approach – Left					Yes	No					
Upstream Ditch – Left Upstream Ditch – Right Ves No Downstream Ditch – Left Downstream Ditch – Right Ves No Upstream Embankment – Left Upstream Embankment – Right Downstream Embankment – Left Downstream Embankment – Right No	Road Approach – Right					Yes	No		Tuesday Transfer of the Control of t			
Upstream Ditch – Right Downstream Ditch – Left Pes No Downstream Ditch – Right Upstream Embankment – Left Upstream Embankment – Right Downstream Embankment – Left Downstream Embankment – Right Downstream Embankment – Right Pes No Yes No	Road over Crossing					Yes	No	10 mm - 10 mm	· · · · · · · · · · · · · · · · · · ·			
Downstream Ditch – Left Downstream Ditch – Right Upstream Embankment – Left Upstream Embankment – Right Downstream Embankment – Left Pes No Downstream Embankment – Right Downstream Embankment – Right Pes No No	Upstream Ditch – Left					Yes	No					
Downstream Ditch – Right Upstream Embankment – Left Upstream Embankment – Right Downstream Embankment – Left Downstream Embankment – Right Yes No Yes No Yes No Yes No	Upstream Ditch – Right					Yes	No	- Northern I	The second secon			
Upstream Embankment – Left Upstream Embankment – Right Downstream Embankment – Left Downstream Embankment – Right Yes No Yes No Yes No	Downstream Ditch – Left					Yes	No					
Upstream Embankment – Right Downstream Embankment – Left Downstream Embankment – Right Yes No Yes No Yes No	Downstream Ditch – Right				, and a second	Yes	No					
Downstream Embankment – Left Downstream Embankment – Right Yes No Yes No	Upstream Embankment – Left					Yes	No					
Downstream Embankment — Right Yes No	Upstream Embankment – Right				arte of the state	Yes	No	The second secon				
	Downstream Embankment – Left			and the state of t		Yes	No					
Total Erosion at Crossing:	Downstream Embankment Right	<u> </u>		ALE POPULATION OF THE POPULATI		Yes	No					
Total Erosion at Crossing:	The state of the s		and the state of t					and the second s				
Total Erosion at Crossing:	per complete con consider the constitution of											
Total Erosion at Crossing:		Andrew Comment	A STATE OF THE PARTY OF THE PAR									
	gather the state of the state o	Total	Erosion at	Crossing:								

Multiple Culverts

Number multiple cells from left to right facing downstream. Include a diagram below indicating which culvert is culvert #1.

Length

(ft)

Culvert #	Width (ft)	Height (ft)	Length (ft)		Culvert #	Width (ft)	Height (ft)
2	4	6,25	60	10 mm	4		
3					5	gor on the special state of th	

Photos		
☐ Site ID	☐ Inlet	☐ Outlet
☐ Road Approach – Left	☐ Road Approach – Right	
☐ Upstream Conditions	☐ Downstream Conditions	

Additional Site Comments

Culvert diagram, erosion, channel condition, evidence of wash-out, beaver, local testimony of frequency of overtopping...

- Culvert 2 does not recieve inflows except during High flow end

- Soveral fish observed of outlet, is swimming upstream into cultart

Follow these guidelines to determine "passability" for a range of fish species. Thresholds may need to be modified	l if the obje	ective is
to evaluate passage for a particular species. Answer all questions.		
Passability = 0 Most species and life stages cannot	pass at mo	st flows
If any of the following questions can be answered "yes", then the crossing barrier score = 0.		_
1. The outlet of the structure is perched.	Yes	(No)
2. The structure water velocity is greater than 3 feet/second during baseflow.	Yes	No
3. The ratio of the structure water depth to stream water depth is less than 0.1 (depth ratio).	Yes	No
Structure water depth: / Stream water depth: = Depth Ratio:	2 × E	
Passability = 0.5 Some species and/or life stages cannot	pass at mo	st flows
If any of the following questions can be answered "yes", then the crossing barrier score = 0.5.		
1. The water depth in the structure is less than 0.2 feet.	Yes	No
2. The structure water velocity is 2-3 feet/second during baseflow.	Yes	No
3. The structure is longer than 30 feet and does not have natural substrate through its entire length.	Yes	No
Passability = 0.9	arrier at hig	gh flows
f any of the following questions can be answered "yes", then the crossing barrier score = 0.9.	entire of the leaf	
1. There is a scour pool below the structure.	Yes	(No)
2. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio).	(Yes)	No
Structure width: 6.25 / Stream bankfull width: 25 = Constriction Ratio:	• 25	
Passability = 1	Not a	barrier
f all of the following questions can be answered "yes", then the crossing barrier score = 1.		
The outlet of the structure is not perched.	Yes	No
2. The structure water velocity is less than 2 feet/second during baseflow.	Yes	No
3. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio).	Yes	No

No

No

No)

No

Yes

Yes

Additional Comments

Fish Passage Determination Summary

The water depth in the structure is greater than 0.2 feet.

The ratio of the structure width to stream bankfull width is greater than 0.5 (constriction ratio).

☐ The structure is shorter than 30 feet and does not have natural substrate through its entire length.

7. The structure is longer than 30 feet and has natural substrate through its entire length, or The structure is shorter than 30 feet and has natural substrate through its entire length, or

5. There is not a scour pool below the structure.

Stream Crossing Data Sheet		Site ID:				
General Information Name of Observer(s): Road Name/Number: Stream Name: Willow Characterists	oloc) eek GPS	Date: 1 <u> -16</u> -	16			
GPS Waypoint: Additional Location Comments: Fish Observed	Se map Lat/Long	51 box culvent; both up	3 downstran			
Road Information						
Road Type: Federal State Count	ty Town Tribal	Private Other:				
Road Surface: Paved Gravel Sand	Native Surface	Other:				
Fill Depth (ft): Road Width (ft)		ength (ft): 1				
Crossing Information						
Structure Type: Culvert(s) no.: Bric	-	Other: Structure ID:				
·	cture Material	Structure Condition				
A STATE OF THE PARTY OF THE PAR	tal	General Condition: New Good	d Fair Poor			
Square/Rectangle Cor	ncrete	Plugged: % Inlet Out	tlet In Pipe			
Open Bottom Square/Rectangle Pla	stic	Crushed % Inlet Out	tlet In Pipe			
Pipe Arch Wo	ood	Rusted Through? Yes	No			
Open Bottom Arch Struc	ture Interior	Condition Comments:				
Ellipse	ooth					
	rugated					
			1,2			
		Perch Height (ft): Height of Head (f	t): 1,2			
Stream Information						
Stream Flow: None	½ Bankful	= Bankfull > E	3ankfull			
Bankfull Width (ft): Stre	am Depth (ft):	Stream Velocity (ft/sec):				
Scour Pool Length & Width (ft): ²	Upstream Po	nd Length & Width (ft): 2				
Fish Passage Information	- Starks	/				
Is the structure perched?		onding upstream?	Yes (No)			
Is there a scour pool at the outlet?	Is there a	ucture fully backwatered? change in head from the upstream	(Yes No			
Is there substrate through the structure's entire le	NOTO 2 : YES : INC :	ownstream side?	Yes No			
Does the structure substrate match the stream substrate?	Yes No Is the stru	ucture narrower than the bankfull	Yeş No			
Is water in the structure moving faster than in the						
stream?		ebris blocking the inlet?	Yes No			
Is water in the structure shallower than in the stream	am? Yes No Is there e	vidence of overtopping or wash-outs?	Yes (No)			

Fill out all that apply. Use blank rows for additional locations. Additional locations may include prominent erosion along stream banks within 50 feet of crossing. Left and right are facing downstream. Note any comments below.

Location of Erosion	Erosio	Erosion Dimensions (ft)			Erosion		Material Eroded Sand, Silt, Clay, Gravel,	
	Length	Width	Depth	Erosion (Cubic feet)	Reaching Stream		Loam, Sandy Loam or Gravelly Loam	
Road Approach – Left					Yes	No		
Road Approach – Right	A A A A A A A A A A A A A A A A A A A				Yes	No		
Road over Crossing	The state of the s				Yes	Νó		
Upstream Ditch – Left		The Bridge		ntaridinary, yang di ang d	Yes	No		
Upstream Ditch – Right		1			Yes	No		
Downstream Ditch – Left			The Control of the Co		Yes	No		
Downstream Ditch – Right				, and the same of	Yes	No		
Upstream Embankment – Left			and the same of th	B. A. C.	Yes	No		
Upstream Embankment – Right					Yes	No		
Downstream Embankment – Left				The state of the s	Yes	No		
Downstream Embankment – Right	and the second s				Yes	No		
					100			
المريح المراجع					.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
	Total	Erosion at	Crossing.					

Multiple Culverts

Number multiple cells from left to right facing downstream. Include a diagram below indicating which culvert is culvert #1.

Culvert #	Width (ft)	Height (ft)	Length (ft)
2			
3			

Culvert #	Width (ft)	Height (ft)	Length (ft)
4			
5			

Photos		
☐ Site ID	☐ Inlet	☐ Outlet
☐ Road Approach – Left	☐ Road Approach — Right	
☐ Upstream Conditions	☐ Downstream Conditions	

Additional Site Comments

Culvert diagram, erosion, channel condition, evidence of wash-out, beaver, local testimony of frequency of overtopping...

Fish observed swimming through cultured - both up ?

downstream

Follow these guidelines to determine "passability" for a range of fish species. Thresholds may need to be modified	if the obj	ective is
to evaluate passage for a particular species. Answer all questions.		
Passability = 0 Most species and life stages cannot p	ass at mo	ost flows.
If any of the following questions can be answered "yes", then the crossing barrier score = 0.		
1. The outlet of the structure is perched.	Yes	(No)
2. The structure water velocity is greater than 3 feet/second during baseflow.	Yes	No
3. The ratio of the structure water depth to stream water depth is less than 0.1 (depth ratio).	Yes	No
Structure water depth: / Stream water depth: = Depth Ratio: _		
Passability = 0.5 Some species and/or life stages cannot p	ass at mo	ost flows.
If any of the following questions can be answered "yes", then the crossing barrier score = 0.5.		~
1. The water depth in the structure is less than 0.2 feet.	Yes	No
2. The structure water velocity is 2-3 feet/second during baseflow.	Yes	No
3. The structure is longer than 30 feet and does not have natural substrate through its entire length.	Yes	No
Passability = 0.9	rrier at hi	gh flows.
If any of the following questions can be answered "yes", then the crossing barrier score = 0.9.		
1. There is a scour pool below the structure.	Yes	No)
2. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio).	Yes	No
Structure width: / Stream bankfull width: = Constriction Ratio:		
Passability = 1	Not a	a barrier.
If all of the following questions can be answered "yes", then the crossing barrier score = 1.		
1. The outlet of the structure is not perched.	Yes	No
2. The structure water velocity is less than 2 feet/second during baseflow.	Yes	No
3. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio).	Yes	No

⊊¥es∖

Yes

Yes

Yes

No

No

No

No

Additional Comments

Fish Passage Determination Summary

4. The water depth in the structure is greater than 0.2 feet.

6. The ratio of the structure width to stream bankfull width is greater than 0.5 (constriction ratio).

☐ The structure is shorter than 30 feet and does not have natural substrate through its entire length.

7. The structure is longer than 30 feet and has natural substrate through its entire length, or The structure is shorter than 30 feet and has natural substrate through its entire length, or

5. There is not a scour pool below the structure.

Stream Crossing I	Data Sheet				Site ID:	39	
General Information Name of Observer(s): Road Name/Number: Stream Name: GPS Waypoint: Additional Location Comments:	Nedland 3 Gu tohler propert Willow Creek See map.	y Y	GPS Lat/Long	3;	Date:/	1-16-10	
Road Information							
Road Type: Federa	al State County	Town	Tribal	(Private	Other:		
Road Surface: Paved	d Gravel Sand	Nativ	ve Surface	Other:			
Fill Depth (ft):	Road Width (ft):	JA	Structure I	ength (ft):1	<u> </u>		
Crossing Information							
Structure Type: Culver	t(s) no.: Bridge	Ford	Dam	Other:	Structure ID:		
Structure Shape	Structure N	/laterial		Structure	Condition		
Round	Metal			General Co	ondition: New	Good Fair Po	oor
Square/Rectangle	Concrete			Plugged:	% Inlet	Outlet In Pip	pe
Open Bottom Square/Recta	angle Plastic			Crushed	% Inlet	Outlet In Pip	pe
Pipe Arch	Wood			Rusted Th	rough?	'es No	
Open Bottom Arch	Structure li	nterior		Condition	Comments:		
Ellipse	(Smooth)						
	Corrugate	ad					
Structure Height (ft): 1	#ricerensk		epth (ft): ^{1,3}	i. 17 0.	•67 Perch Height	(ft): 1, 2	
Structure Width (ft): Fill out for primary culvert (culvert Fill out, if present. For a culvert, record the water dep	#1). If multiple culverts are used, s	ee reverse			Height of He		
Stream Information			and the second s				
Stream Flow:	None < ½ Ban	kfull	< Bankf	full	= Bankfull	> Bankfull	
Bankfull Width (ft): /	Stream De	epth (ft)	: <u>*75</u>	Strea	am Velocity (ft/sec):	102	
Scour Pool Length & Width (ft): ²		Upstream P	ond Length &	Width (ft): 2	enggewone (many)	
Fish Passage Information							
Is the structure perched? Is there a scour pool at the or	utlot?	Yes Yes	 	ponding upst ructure fully b			No∕ No
			(Is there		ead from the upstrear	n /	~~
Is there substrate through the	-	Yes	side to	downstream s	ide?	Yes (I	No)
Does the structure substrate substrate?	match the stream	- (Yes)	No stream		wer than the bankfull	(Yes) I	No
Is water in the structure mov	· ····································	Yes	A	debris blockir	ng the inlet?	Yes (I	No
stream?		Yes	13 111616		vertopping or wash-o	,	

Fill out all that apply. Use blank rows for additional locations. Additional locations may include prominent erosion along stream banks within 50 feet of crossing. Left and right are facing downstream. Note any comments below.

	Erosion Dimensions (ft)			Total	Erosion		Material Eroded Sand, Silt, Clay, Grave	
Location of Erosion	Length	Width	Depth	Erosion (Cubic feet)	Reaching Stream		Loam, San	dy Loam or ly Loam
Road Approach – Left					Yes	No		
Road Approach – Right					Yes	No		
Road over Crossing				and the second s	Yes	No		/
Upstream Ditch – Left					Yes	No		
Upstream Ditch – Right					Yes	No		
Downstream Ditch – Left	1				Yes	No		
Downstream Ditch – Right	1				Yes	No	,,,,,	***************************************
Upstream Embankment – Left					Yes	No		
Upstream Embankment – Right					Yes	No		
Downstream Embankment – Left		77.	P*************************************	, part of the same	Yes	No		
Downstream Embankment – Right				Judan de la companya	Yes	No		
	1				***************************************			
		, and a second	7	- Andrews				
	Total	Erosion at	Crossing:		***************************************	d		
If there is erosion occurring, can correct address the problem?	ive actions,	such as roa	ad drainage	measures, be in	nstalled	to	Yes	No

Multiple Culverts

Number multiple cells from left to right facing downstream. Include a diagram below indicating which culvert is culvert #1.

Culvert #	Width (ft)	Height (ft)	Length (ft)
2			
3			

Culvert #	Width (ft)	Height (ft)	Length (ft)
4			
5			

Photos		
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☐ Site ID	□ Inlet	☐ Outlet
☐ Road Approach — Left	☐ Road Approach — Right	
☐ Upstream Conditions	☐ Downstream Conditions	
	and the second s	

Additional Site Comments

Culvert diagram, erosion, channel condition, evidence of wash-out, beaver, local testimony of frequency of overtopping...

- Very little flow on inlet end of cultural.

Follow these guidelines to determine "passability" for a range of fish species. Thresholds may need to be mode to evaluate passage for a particular species. Answer all questions.	dified if the objective is	
Passability = 0 Most species and life stages can	nnot pass at most flows.	
If any of the following questions can be answered "yes", then the crossing barrier score = 0. 1. The outlet of the structure is perched. 2. The structure water velocity is greater than 3 feet/second during baseflow. 3. The ratio of the structure water depth to stream water depth is less than 0.1 (depth ratio). Structure water depth: / Stream water depth: / Depth Ra	Yes No Yes No Yes No	
Passability = 0.5 Some species and/or life stages can	nnot pass at most flows.	_
 If any of the following questions can be answered "yes", then the crossing barrier score = 0.5. The water depth in the structure is less than 0.2 feet. ; for the feet. The structure water velocity is 2-3 feet/second during baseflow. The structure is longer than 30 feet and does not have natural substrate through its entire length. 	Yes No Yes No Yes No	***
Passability = 0.9	Barrier at high flows.	
If any of the following questions can be answered "yes", then the crossing barrier score = 0.9. 1. There is a scour pool below the structure. 2. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). Structure width:	Yes (No) Yes (No)	
Passability = 1	Not a barrier.	
 If all of the following questions can be answered "yes", then the crossing barrier score = 1. The outlet of the structure is not perched. The structure water velocity is less than 2 feet/second during baseflow. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio). The water depth in the structure is greater than 0.2 feet. < 2 Get for the look? There is not a scour pool below the structure. 	Yes No Yes No Yes No Yes No Yes No	

6. The ratio of the structure width to stream bankfull width is greater than 0.5 (constriction ratio).

☐ The structure is shorter than 30 feet and does not have natural substrate through its entire length.

7. The structure is longer than 30 feet and has natural substrate through its entire length, or The structure is shorter than 30 feet and has natural substrate through its entire length, or Site ID:

Yes

Yes

No

Additional Comments

Fish Passage Determination Summary

Stream Crossi	ng Data Shee	t			Site ID:	
General Information		\				
Name of Observer(s):	70 m	Nedland			Date: //	1-16-10
Road Name/Number:		Collect	<u></u>			
Stream Name:	Willo					
GPS Waypoint: Additional Location Comments:	See 1	MgP	GPS Lat/Lon	g:		
Road Information						
Road Type:	Federal) State	County Tow	n Tribal	Private (Other:	
Road Surface:	Paved) Gravel	•	ative Surface	Other: ,		0.0000000000000000000000000000000000000
Fill Depth (ft):	Road Wi			Length (ft): 1	330)	
						·
Crossing Information	,					
Structure Type:	Culvert(s) no.:/	_ Bridge Fo	rd Dam	Other:	Structure ID:	
Structure Shape		Structure Mater	ial	Structure Con-	dition	
Round		Metal		General Condi	ition: New	Good Fair Poor
Square/Rectangle		Concrete		Plugged:	% Inlet	Outlet In Pipe
Open Bottom Square	e/Rectangle	Plastic		Crushed	% Inlet	Outlet In Pipe
Pipe Arch		Wood		Rusted Throug	gh?	res No
Open Bottom Arch		Structure Interio	or	Condition Con	nments:	
Ellipse		(Smooth)				
		Corrugated		(\ e	1/2	
Structure Height (ft): 1	*** O'CANAGE AND	Structure Water	Donth /ft), 1,3	1:.17 0:.6		- /f+\. 1, 2
	763	-				
Structure Width (ft): ¹ Fill out for primary culvert Fill out, if present.		verts are used, see reve			Height of He	
³ For a culvert, record the wa	ater depth at the inlet (I) a	nd outlet (O) to determ	ine if the culvert is full	y backwatered. Record	I just 1 depth for other	structures.
Stream Information				and the same of th		
Stream Flow:	None	< ½ Bankfull	< Banki	full = E	Bankfull	> Bankfull
Bankfull Width (ft):	8	Stream Depth (ft): 0, 75	Stream \	Velocity (ft/sec):	1. Z
Scour Pool Length & V	Vidth (ft): ²		Upstream P	ond Length & Wid	dth (ft): 2	- CARLAMANETTS
Fish Passage Informati	ion					
Is the structure perche	***************************************	Ye	s (No) Is there	ponding upstrean	n?	Yes (No
Is there a scour pool at	the outlet?	Ye		tructure fully back	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	(Yes) No
Is there substrate thro	ugh the structure's ei	ntire length? Ye	S (8 INO) :	a change in head downstream side?	•	n Yes No
Does the structure sub		am (Ye	s) No Is the st	tructure narrower		Yes (No
substrate? Where			stream	width?		163 (110
Is water in the structur	e moving taster than	in the Ye	s No Is there	debris blocking th	ie inlet?	Yes (No
stream?				· ·		

Fill out all that apply. Use blank rows for additional locations. Additional locations may include prominent erosion along stream banks within 50 feet of crossing. Left and right are facing downstream. Note any comments below.

	Erosic	n Dimensi	ons (ft)	Total	Eros			l Eroded lay, Gravel,
Location of Erosion	Length	Width	Depth	Erosion (Cubic feet)	Reac Stre	_	Loam, San	dy Loam or y Loam
Road Approach – Left					Yes	No		
Road Approach – Right					Yes	No		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Road over Crossing				hidada	Yes	No		
Upstream Ditch – Left	The state of the s				Yes	No		
Upstream Ditch – Right	1	24 c.			Ýes	No		
Downstream Ditch – Left				Marie of the state	Yes	No	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Downstream Ditch – Right				and the state of t	Yes	No		
Upstream Embankment – Left				<u></u>	Yes	No		
Upstream Embankment – Right				***************************************	Yes	No		
Downstream Embankment – Left		and the second second			Yes	No		
Downstream Embankment – Right	and the state of t				Yes	No		
and the second s	on the state of th			,				
					Way a state of the			
						100		
	Tota	Erosion at	Crossing:	···			and the state of t	**************************************
f there is erosion occurring, can correct address the problem?	ive actions,	such as roa	ad drainage	measures, be i	nstalled t	:0	Yes	No

Multiple Culverts

Number multiple cells from left to right facing downstream. Include a diagram below indicating which culvert is culvert #1.

Culvert #	Width (ft)	Height (ft)	Length (ft)
 2			
3			

Culvert #	Width (ft)	Height (ft)	Length (ft)
4			
5			

Photos		
☐ Site ID	☐ Inlet	☐ Outlet
☐ Road Approach – Left	☐ Road Approach – Right	
☐ Upstream Conditions	☐ Downstream Conditions	

Additional Site Comments

Culvert diagram, erosion, channel condition, evidence of wash-out, beaver, local testimony of frequency of overtopping...

_	Box cultert has two passages. N'ly pass	ese only Plans
	During High Flows. Not connect.	ed to stream dulin
	site Visit.	

Weighted culvert _ (176.75)= .13 = .15ft. Heo Depth. Fish Passage Determination Summary .67(.25)= .17 Site ID:	
Follow these guidelines to determine "passability" for a range of fish species. Thresholds may need to be modified if the to evaluate passage for a particular species. Answer all questions.	e objective is
Passability = 0 If any of the following questions can be answered "yes", then the crossing barrier score = 0. 1. The outlet of the structure is perched. 2. The structure water velocity is greater than 3 feet/second during baseflow. 3. The ratio of the structure water depth to stream water depth is less than 0.1 (depth ratio). Structure water depth:	es No es No
Passability = 0.5 If any of the following questions can be answered "yes", then the crossing barrier score = 0.5. 1. The water depth in the structure is less than 0.2 feet. (we's high a correct to 15) 2. The structure water velocity is 2-3 feet/second during baseflow. 3. The structure is longer than 30 feet and does not have natural substrate through its entire length.	No No
Passability = 0.9 If any of the following questions can be answered "yes", then the crossing barrier score = 0.9. 1. There is a scour pool below the structure. 2. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). Ye Structure width: Constriction Ratio: Stream bankfull width: Constriction Ratio: Stream bankfull width: Constriction Ratio: Constriction	473
Passability = 1 If all of the following questions can be answered "yes", then the crossing barrier score = 1. 1. The outlet of the structure is not perched. 2. The structure water velocity is less than 2 feet/second during baseflow. 3. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio).	s No
 The water depth in the structure is greater than 0.2 feet. There is not a scour pool below the structure. The ratio of the structure width to stream bankfull width is greater than 0.5 (constriction ratio). The structure is longer than 30 feet and has natural substrate through its entire length, or The structure is shorter than 30 feet and does not have natural substrate through its entire length. 	s No s No s No

Additional Comments

Road Name/Number: Stream Name: GPS Waypoint: Additional Location Comments: Road Type: Federal State County Town Tribal Private Other: Fill Depth (ft): Structure Length (ft): Structure Type: Culvert(s) no.: Z Bridge Ford Dam Other: Structure ID: Structure Shape Round Metal General Condition: Round Metal General Condition: Square/Rectangle Concrete Plugged: % Inlet Outlet In Pipe Open Bottom Square/Rectangle Plastic Crushed % Inlet Outlet In Pipe Pipe Arch Wood Rusted Through? Yes No Open Bottom Arch Structure Interior Condition Comments: Structure Water Depth (ft): 1-2 Structure Water Depth (ft): 1-3 Structure Water Open Height (ft): 1-2 Structure Water Open Height (ft): 1-2 Structure Water Open Height (ft): 1-3 Structure Water Velocity (ft/sec): 1-6 Structure Water Open Height (ft): 1-2 Structure Water Velocity (ft/sec): 1-6 Structure Water Open Height (ft): 1-2 Structure Water Velocity (ft/sec): 1-6 Structure Water Open Height (ft): 1-2 Structure Water Velocity (ft/sec): 1-6 Structure Water Velocity (ft/sec
GPS Waypoint: Additional Location Comments: Road Information Road Type: Federal State County Town Tribal Private Other: Road Surface: Payed Gravel Sand Native Surface Other: Fill Depth (ft): Structure Length (ft): O Crossing Information Structure Type: Culvert(s) no.: Bridge Ford Dam Other: Structure ID: Structure Shape Structure Material Structure Condition Round Metal General Condition: New Good Fair Poor Square/Rectangle Concrete Plugged: % Inlet Outlet In Pipe Open Bottom Square/Rectangle Plastic Crushed % Inlet Outlet In Pipe Pipe Arch Wood Rusted Through? Yes No Open Bottom Arch Structure Interior Condition Comments: Ellipse Smooth Corrugated Structure Water Depth (ft): 1 Structure Water Depth (ft): 1.2 Structure Water Velocity (ft/sec): 1 Structure (culvert #1). If multiple culverts are used, see reverse.
Road Type: Federal State County Town Tribal Private Other: Road Surface: Payed Gravel Sand Native Surface Other: Fill Depth (ft): Structure Length (ft): Structure Length (ft): Structure ID: Crossing Information Structure Type: Culvert(s) no.: Bridge Ford Dam Other: Structure ID: Structure Shape Structure Material Structure Condition Round Metal General Condition: New Good Fair Poor Square/Rectangle Plastic Crushed % Inlet Outlet In Pipe Open Bottom Square/Rectangle Plastic Crushed % Inlet Outlet In Pipe Pipe Arch Wood Rusted Through? Yes No Open Bottom Arch Structure Interior Condition Comments: Ellipse Smooth Corrugated Structure Height (ft): Structure Water Depth (ft): 1,3 I: ,4/2 O: ,8/3 Perch Height (ft): 1,2 III Structure Width (ft): 1,5 Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Width (ft): 1,5 If multiple culverts are used, see reverse.
Road Surface: Payed Gravel Sand Native Surface Other: Fill Depth (ft): Road Width (ft): Structure Length (ft): Crossing Information Structure Type: Culvert(s) no.: Bridge Ford Dam Other: Structure ID: Structure Shape Structure Material Structure Condition: New Good Fair Poor Square/Rectangle Concrete Plugged: % Inlet Outlet In Pipe Open Bottom Square/Rectangle Plastic Crushed % Inlet Outlet In Pipe Pipe Arch Wood Rusted Through? Yes No Open Bottom Arch Structure Interior Condition Comments: Ellipse Smooth Corrugated Structure Water Depth (ft): 1,3 I: 42 O: 83 Perch Height (ft): 1,2 Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 In Pipe Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 In Pipe Structure Water Velocity (ft/sec): 1,3 In Pipe Water Velocity (ft/sec): 1,3 In Water Velocity (ft/sec): 1,4 In Pipe Water Velocity (ft/sec):
Fill Depth (ft): Road Width (ft): Structure Length (ft): Crossing Information Structure Type: Culvert(s) no.: Bridge Ford Dam Other: Structure ID: Structure Shape Structure Material Structure Condition Round Metal General Condition: New Good Fair Poor Plugged: % Inlet Outlet In Pipe Open Bottom Square/Rectangle Plastic Crushed % Inlet Outlet In Pipe Pipe Arch Wood Rusted Through? Yes No Open Bottom Arch Structure Interior Condition Comments: Ellipse Smooth Corrugated Structure Height (ft): Structure Water Depth (ft): 1,3 I: 42 0: 83 Perch Height (ft): 1,2 Structure Width (ft): 5 Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 I Height of
Crossing Information Structure Type: Culvert(s) no.: Bridge Ford Dam Other: Structure Condition Metal General Condition: New Good Fair Poor Square/Rectangle Open Bottom Square/Rectangle Plugged:
Crossing Information Structure Type: Culvert(s) no.: Bridge Ford Dam Other: Structure Condition Metal General Condition: New Good Fair Poor Square/Rectangle Open Bottom Square/Rectangle Plugged:
Structure Type: Culvert(s) no.:
Structure Shape Round Metal General Condition: New Good Fair Poor Square/Rectangle Concrete Plugged: New Good Fair Poor Plugged: New Good Fair Poor Plugged: New Good Fair Poor New Inlet Outlet In Pipe New In Pipe New Good Fair Poor New In Pipe New In Pipe New Corushed Rusted Through? Yes No Condition Comments: Ellipse Smooth Corrugated Structure Height (ft): Structure Water Depth (ft): 1,3 II: 42 O: 83 Perch Height (ft): 1,2 III Structure Width (ft): 5 Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Width (ft): 1 Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft): 1,2 III Structure Water Velocity (ft/sec): 5 Height of Head (ft/sec): 1,2 III Structure Water Velocity (ft/sec): 1,2 III
Round Metal General Condition: New Good Fair Poor Square/Rectangle Concrete Plugged: New Good Fair Poor Plugged: New Good Fair Poor No Den Bottom Square/Rectangle Plastic Crushed New Good Fair Poor No Den Bottom Square/Rectangle Plastic Crushed New Good Fair Poor No Den Bottom Square/Rectangle Plastic Crushed New Good Fair Poor No Den Bottom Square/Rectangle No Den Bottom Arch Structure Interior Condition Comments: Ellipse Smooth Corrugated Structure Height (ft): 1 6 Structure Water Depth (ft): 1,3 I: .42 O: .83 Perch Height (ft): 1,2 III Structure Width (ft): 1,2 III Structure Water Velocity (ft/sec): 1 5 Height of Head (ft): 1,2 III III III III III III III III III I
Square/Rectangle Concrete Plugged: Notlet Outlet In Pipe Crushed Notlet Notlet In Pipe Crushed Notlet Notlet In Pipe Crushed Notlet Notlet In Pipe Rusted Through? Open Bottom Arch Structure Interior Condition Comments: Ellipse Structure Height (ft): Structure Water Depth (ft): Structure Water Depth (ft): Structure Water Velocity (ft/sec): Structure Water Velocity (ft/sec): Structure Water Used, see reverse.
Open Bottom Square/Rectangle Plastic Crushed % Inlet Outlet In Pipe Rusted Through? Yes No Open Bottom Arch Structure Interior Condition Comments: Ellipse Structure Height (ft): 1 Structure Water Depth (ft): 1,3 Structure Water Velocity (ft/sec): 1 Structure Width (ft): 1 Structure Water July (ft/sec): 1 Structure Water Velocity (ft/sec): 1 Fill out for primary culvert (culvert #1). If multiple culverts are used, see reverse.
Pipe Arch Open Bottom Arch Structure Interior Condition Comments: Ellipse Corrugated Structure Height (ft): 1
Open Bottom Arch Ellipse Smooth Corrugated Structure Height (ft): 1
Ellipse Corrugated Structure Height (ft): Structure Width (ft): Structure Water Depth (ft): Structure Water Velocity (ft/sec): Fill out for primary culvert (culvert #1). If multiple culverts are used, see reverse.
Structure Height (ft): Structure Water Depth (ft): Structure Water Velocity (ft/sec): Structure Water Velocity (ft/sec): Fill out for primary culvert (culvert #1). If multiple culverts are used, see reverse.
Structure Height (ft): Structure Water Depth (ft): Structure Width (ft): Structure Water Velocity (ft/sec): Structure Water Velocity (ft/sec): Height of Head (ft): Fill out for primary culvert (culvert #1). If multiple culverts are used, see reverse.
Structure Width (ft): ¹ Structure Water Velocity (ft/sec): ¹ < 5 Height of Head (ft): ^{1,2} Fill out for primary culvert (culvert #1). If multiple culverts are used, see reverse.
Structure Width (ft): ¹ Structure Water Velocity (ft/sec): ¹ < 5 Height of Head (ft): ^{1,2} Fill out for primary culvert (culvert #1). If multiple culverts are used, see reverse.
² Fill out, if present. ³ For a culvert, record the water depth at the inlet (I) and outlet (O) to determine if the culvert is fully backwatered. Record just 1 depth for other structures.
Stream Information
Stream Flow: None < ½ Bankfull < Bankfull = Bankfull > Bankfull
Bankfull Width (ft): 15 Stream Depth (ft): 1,025 Stream Velocity (ft/sec): 4,05
Scour Pool Length & Width (ft): ² 20 × 20 Upstream Pond Length & Width (ft): ²
Fish Passage Information
Fish Passage Information Is the structure perched? Yes No Is there ponding upstream? Yes No
Is the structure perched? Is there a scour pool at the outlet? Yes No Is there ponding upstream? Yes No Is there ponding upstream? Yes No Is the structure fully backwatered? Yes No
Is the structure perched? Is there a scour pool at the outlet? Yes No Is there ponding upstream? Yes No Is there ponding upstream? Yes No Is the structure fully backwatered? Yes No Is the structure fully backwatered? Yes No Is there a shange in head from the upstream
Is there a scour pool at the outlet? Is there a scour pool at the outlet? Is there substrate through the structure's entire length? Shortse sand 3 9 rave Does the structure substrate match the stream Yes No Is there ponding upstream?
Is there a scour pool at the outlet? Is there a scour pool at the outlet? Is there substrate through the structure's entire length? Shore Sand 39 face Does the structure match the stream Is the structure parrower than the hankfull

Fill out all that apply. Use blank rows for additional locations. Additional locations may include prominent erosion along stream banks within 50 feet of crossing. Left and right are facing downstream. Note any comments below.

	Erosio	n Dimensio	ons (ft)	Total	Eros		Material Eroded Sand, Silt, Clay, Gravel,
Location of Erosion	Length	Width	Depth	Erosion (Cubic feet)	Reac Stre	_	Loam, Sandy Loam or Gravelly Loam
Road Approach – Left					Yes	No	
Road Approach – Right	The Real Property lives and the Control of the Cont				Yes	Ŋø	
Road over Crossing	The same of the sa				Yes	No	
Upstream Ditch – Left	The state of the s	٠,			Yes	No	
Upstream Ditch – Right		W. C. D. C.			Yes	No	
Downstream Ditch – Left		100			Yes	No	
Downstream Ditch – Right			A Samuel Control of the Control of t	and the second s	Yes	No	
Upstream Embankment – Left					Yes	No	
Upstream Embankment – Right			Share and the same of the same	San La College	Yes	No	
Downstream Embankment – Left		a for the state of		The state of the s	Yes	No	
Downstream Embankment – Right	To the state of th	and the same of th		And the same of th	Yes	No	
ээлэгчийлийн _{нэ} тавгаг	The state of the s				San		
: A second	Total	Erosion at	Crossing:			, , , , , , , , , , , , , , , , , , ,	
If there is erosion occurring, can correct address the problem?	tive actions,	such as ro	ad drainage	measures, be in	nstalled 1	io	Yes No

Multiple Culverts

Number multiple cells from left to right facing downstream. Include a diagram below indicating which culvert is culvert #1.

Culvert #	Width (ft)	Height (ft)	Length (ft)
2	6	6	60
3			

Culvert #	Width (ft)	Height (ft)	Length (ft)
4			
5			

Photos	
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☐ Site ID	☐ Inlet	☐ Outlet
🗖 Road Approach – Left	☐ Road Approach – Right	
Upstream Conditions	☐ Downstream Conditions	

Additional Site Comments

Culvert diagram, erosion, channel condition, evidence of wash-out, beaver, local testimony of frequency of overtopping...

Debiis dom at inlet.
- Lorse Fish observed at outlets

Follow these guidelines to determine "passability" for a range of fish species. Thresholds may need to be modific to evaluate passage for a particular species. Answer all questions.	ed if the obj	ective is
Passability = 0 Most species and life stages canno	t pass at m	ost flows.
If any of the following questions can be answered "yes", then the crossing barrier score = 0.	•	_
1. The outlet of the structure is perched.	Yes	No
2. The structure water velocity is greater than 3 feet/second during baseflow.	Yes	No
3. The ratio of the structure water depth to stream water depth is less than 0.1 (depth ratio).	Yes	(No
Structure water depth: 62 / Stream water depth: 625 = Depth Ratio:	.5	
Passability = 0.5 Some species and/or life stages canno	t pass at m	ost flows.
If any of the following questions can be answered "yes", then the crossing barrier score = 0.5.		
1. The water depth in the structure is less than 0.2 feet.	Yes	(No
2. The structure water velocity is 2-3 feet/second during baseflow.	Yes	No
3. The structure is longer than 30 feet and does not have natural substrate through its entire length.	Yes	No
Passability = 0.9	Barrier at h	igh flows.
		G
If any of the following questions can be answered "yes", then the crossing barrier score = 0.9.	and the same of th	G
1. There is a scour pool below the structure.	Yes	No
 There is a scour pool below the structure. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). 	Yes	_
1. There is a scour pool below the structure.	Yes	No
 There is a scour pool below the structure. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). 	Yes O. 8	No
 There is a scour pool below the structure. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). Structure width: /S = Constriction Ratio: 	Yes O. 8	No No
 There is a scour pool below the structure. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). Structure width: /S = Constriction Ratio: Passability = 1	Yes Not	No No
 There is a scour pool below the structure. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). Structure width: /S = Constriction Ratio: Passability = 1 If all of the following questions can be answered "yes", then the crossing barrier score = 1.	Yes O. 8 Not	No No a barrier.
 There is a scour pool below the structure. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). Structure width: // Stream bankfull width: = Constriction Ratio: Passability = 1 If all of the following questions can be answered "yes", then the crossing barrier score = 1. The outlet of the structure is not perched. The structure water velocity is less than 2 feet/second during baseflow. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio). 	Yes Not Yes Yes	No No a barrier.
 There is a scour pool below the structure. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). Structure width: // Stream bankfull width: = Constriction Ratio: Passability = 1 If all of the following questions can be answered "yes", then the crossing barrier score = 1. The outlet of the structure is not perched. The structure water velocity is less than 2 feet/second during baseflow. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio). The water depth in the structure is greater than 0.2 feet. 	Yes Not Yes Yes Yes Yes	No No a barrier. No No No
 There is a scour pool below the structure. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). Structure width: // Stream bankfull width: = Constriction Ratio: Passability = 1 If all of the following questions can be answered "yes", then the crossing barrier score = 1. The outlet of the structure is not perched. The structure water velocity is less than 2 feet/second during baseflow. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio). The water depth in the structure is greater than 0.2 feet. There is not a scour pool below the structure. 	Yes Not Yes Yes Yes Yes Yes Yes	No No a barrier. No No
 There is a scour pool below the structure. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). Structure width: // Stream bankfull width: = Constriction Ratio: Passability = 1 If all of the following questions can be answered "yes", then the crossing barrier score = 1. The outlet of the structure is not perched. The structure water velocity is less than 2 feet/second during baseflow. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio). The water depth in the structure is greater than 0.2 feet. There is not a scour pool below the structure. The ratio of the structure width to stream bankfull width is greater than 0.5 (constriction ratio). 	Yes Not Yes Yes Yes Yes	No No a barrier. No No No
 There is a scour pool below the structure. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). Structure width: // Stream bankfull width: = Constriction Ratio: Passability = 1 If all of the following questions can be answered "yes", then the crossing barrier score = 1. The outlet of the structure is not perched. The structure water velocity is less than 2 feet/second during baseflow. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio). The water depth in the structure is greater than 0.2 feet. There is not a scour pool below the structure. 	Yes Not Yes Yes Yes Yes Yes Yes	No No a barrier. No No No

☐ The structure is shorter than 30 feet and does not have natural substrate through its entire length.

Site ID:

Additional Comments

Fish Passage Determination Summary

Stream Cross	ing Data Sheet		Site ID:	
General Information				
Name of Observer(s)	· Nooland		Date:	
Road Name/Number		Rocd)		
Stream Name:	Willow			
GPS Waypoint: Additional Location Comments:	Se Map Water main	GPS Lat/Long	:	
Road Information		· · · · · · · · · · · · · · · · · · ·		
	Fodoral State County	Tarres Table 1	(Pairette) Others	
Road Type:	Federal State County	Town Tribal	Private Other:	
Road Surface:	Paved Gravel Sand	Native Surface	Other:	
Fill Depth (ft):	Road Width (ft):	Structure Le	ength (ft): 1 _ 50	
Crossing Information				
Structure Type:	Culvert(s) no.: Bridge	Ford Dam	Other: Structure ID:	
Structure Shape	Structure	Material	Structure Condition	
Round	Metal		General Condition: New Good	d Fair Poor
Square/Rectangle	Concrete	!	Plugged: % Inlet Ou	tlet In Pipe
Open Bottom Square	e/Rectangle Plastic		Crushed % Inlet Ou	tlet In Pipe
Pipe Arch	Wood		Rusted Through? Yes	No
Open Bottom Arch	Structure I	nterior	Condition Comments:	
Ellipse	Smooth			
•	Corrugati	ad a	CHARLES WANTED	
Structure Height (ft): 1	· ·	Water Depth (ft): 1,3	1:/// 0: 0.67 Perch Height (ft):	1, 2
Structure Width (ft):1	s B	Water Velocity (ft/sec): 1	< 5 Height of Head (f	
1	(culvert #1). If multiple culverts are used, s		Theight of Head (I	·
For a culvert, record the wa	ater depth at the inlet (I) and outlet (O) to	determine if the culvert is fully l	backwatered. Record just 1 depth for other struc	tures.
	Company of the State of the Sta		nel flows into another Bankfull > Stream Velocity (ft/sec):	culund
Stream Information	Nono	tes on Chan	nel Tiens	
Stream Flow:	None Z5<½ Ban	kfull 1511 S Bankfu	ll = Bankfull > I	Bankfull
Bankfull Width (ft):	Stream De	epth (ft):	Stream Velocity (ft/sec):	
Scour Pool Length & W	/idth (ft): ²	Upstream Po	nd Length & Width (ft): 2	
Field December 1. feet and 1.				
Fish Passage Informati Is the structure perche	,	Yes No Is there p	onding upstream?	Yes No
Is there a scour pool at	CAMPO CONTRACTOR CONTR		ucture fully backwatered?	Yes No
Is there substrate throu	ugh the structure's entire length?	Ves No Is there a	change in head from the upstream	Yes No
Does the structure subs	strate match the stream		ucture narrower than the bankfull	Voc. No.
substrate?		stream w	idth?	Yes No
stream?	e moving faster than in the	Yes No Is there d	ebris blocking the inlet?	Yes No
	shallower than in the stream?		vidence of overtopping or wash-outs?	

Fill out all that apply. Use blank rows for additional locations. Additional locations may include prominent erosion along stream banks within 50 feet of crossing. Left and right are facing downstream. Note any comments below.

	Erosion Dimensions (ft)			Erosio		ions (ft) Total Erosion			*******	al Eroded Clay, Gravel
Location of Erosion	Length	Width	Depth	Erosion (Cubic feet)		Stream Loam, Sandy I Gravelly Lo		ndy Loam or		
Road Approach – Left					Yes	/ No				
Road Approach – Right					Yes	No				
Road over Crossing					Yes	No		diamental distribution (i.e.)		
Upstream Ditch – Left					Yes	No				
Upstream Ditch – Right					Yes	No	in the same of the			
Downstream Ditch – Left					Yes	No		high constant to the second se		
Downstream Ditch – Right	1				Yes	No				
Jpstream Embankment – Left		1		, C	Yes	No				
Jpstream Embankment – Right		1			Yes	No				
Downstream Embankment – Left		1			Yes	No		Miller and the officer from factor of the Manual Miller		
Downstream Embankment – Right					Yes	No	4.0			
							and the state of t	and the second s		
	, and the second	/								
			1							
The state of the s	Total	Erosion at	Crossing:	\		iserenome e maniero mine				
f there is erosion occurring, can correctiddress the problem?	ve actions,	such as roa	ad drainage	measures, be ir	nstalled i	:0	Yes	No		

N	1.,	ltip	ما	Cu	lve	rtc
ł٧	ıu	ILIU	ıc	Lu	IVC	I L3

Culvert # Width (ft)

Number multiple cells from left to right facing downstream. Include a diagram below indicating which culvert is culvert #1.

Height (ft) Length (ft)

Culvert #	Width (ft)	Height (ft)	Length (ft)		Culvert #	Width (ft)	Height (ft)	(ft)
2					4			
3					5	\		
Photos								
☐ Site ID			🗖 Inlet			Outlet		
☐ Road App	proach – Left		🗖 Road Ap	oproach – Right				
☐ Upstrear	m Conditions		Downst	ream Conditions				

Culvert # Width (ft)

Length

Height (ft)

Additional Site Comments

Culvert diagram, erosion, channel condition, evidence of wash-out, beaver, local testimony of frequency of overtopping...

-Watermain acts as potential fish barrier -No Notes on stream as it flows into another culvect 25 A. downstream.

Fish Passage	Determination	Summary
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Site ID:	
JILE ID.	

Follow these guidelines to determine "passability" for a range of fish species. Thresholds may need to be modified if the objective is to evaluate passage for a particular species. Answer all questions.

Passability = 0 Most species and life stage	s cannot pass at mo	ost flows.
If any of the following questions can be anywered "yes", then the crossing barrier score = 0.		
1. The outlet of the structure/is per¢hed.	Yes	No
2. The structure water velocity is greater than 3 feet/second during baseflow.	Yes	No
3. The ratio of the structure water depth to stream water depth is less than 0.1 (depth ratio).	Yes	No
Structure water depth: / Stream water depth: = Dept	h Ratio:	

Passability = 0.5 Some species and/or life stage	s cannot pass at mo	ost flows.
If any of the following questions can be answered "yes", then the crossing barrier score = 0.5.	•	
1. The water depth in the structure is less than 0.2 feet.	Yes	No
2. The structure water velocity is 2-3 feet/second during baseflow.	Yes	No
3. The structure is longer than 30 feet and does not have natural substrate through its entire length.	Yes	No
Passability = 0.9	Barrier at hi	gh flows.
If any of the following questions can be answered (yes", then the crossing barrier score = 0.9.		_
1. There is a scour pool below the structure.	Yes	No
2. The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio).	Yes	No
Structure width: / Stream bankfull width: = Constrictio	n Ratio:	
Passability = 1	Not a	a barrier.
If all of the following questions can be answered "yes", then the crossing partier score = 1.		
1. The outlet of the structure is not perched.	Yes	No
2. The structure water velocity is less than 2 feet/second during baseflow.	Yes	No
3. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio).	Yes	No
1. The water depth in the structure is greater than 0.2 feet.	Yes	No
5. There is not a scour pool below the structure.	Yes	No
5. The ratio of the structure width to stream bankfull width is greater than 0.5 (constriction ratio).	Yes	No
7. 🗖 The structure is longer than 30 feet and has natural substrate through its entire length, or		
☐ The structure is shorter than 30 feet and has natural substrate through its entire length, or	Yes	No
☐ The structure is shorter than 30 feet and does not have natural substrate through its entire length	Υ.	
,		

Additional Comments

Stream Crossing	Data Sheet		Site ID:	
General Information Name of Observer(s):	Nedlan)		Date:	
Road Name/Number:	RR Tracks	CIZA		
Stream Name:	Willow			
GPS Waypoint: Additional Location Comments:	See Map	GPS Lat/Long	3;	
Road Information				
Road Type: Federa	al State County	Town Tribal	Private Other:	
Road Surface: Paved	d Gravel Sand	Native Surface	Other: Rail Rose)	
Fill Depth (ft):	Road Width (ft):	Structure I	ength (ft): 1	
Crossing Information				
•	t(s) no.: Bridge	Ford Dam	Other: Structure ID	:
Structure Shape	Structure	Material	Structure Condition	
Round	Metal		General Condition: New	Good Fair Poor
Square/Rectangle	Concrete	ے	Plugged: % Inlet	Outlet In Pipe
Open Bottom Square/Recta		-	Crushed % Inlet	·
Pipe Arch	Wood			•
Open Bottom Arch		latoria	_	Yes No
•	Structure	interior	Condition Comments:	
Ellipse	Smooth	· · · · · · · · · · · · · · · · · · ·		
. 1	Corrugat	ted)	***************************************	
Structure Height (ft): 1	Structure '	Water Depth (ft): 1,3	I: 5 O: 6 Perch Heigh	t (ft): 1, 2 <u>• 3 3</u>
Structure Width (ft):	Structure '	Water Velocity (ft/sec): 1	Height of He	ead (ft): 1, 2
¹ Fill out for primary culvert (culvert a Fill out, if present.) ³ For a culvert, record the water deal			v backwatered. Record just 1 depth for othe	retructures
Stream Information	mat the finet (i) and outlet (o) to	determine if the edivere is rully	sackwatered. Record just 1 depth for othe	structures.
Stream Flow:	None < ½ Bar	nkfull < Bankfı	ull = Bankfull	> Bankfull
			Stream Velocity (ft/sec):	
Scour Pooi Length & Width (1	τι: <u>43 Χ / Ο</u>	Upstream Po	ond Length & Width (ft): 2	
Fish Passage Information				
Is the structure perched? Is there a scour pool at the ou	ıtlat2		ponding upstream?	Yes (No)
		Is there	ructure fully backwatered? a change in head from the upstrear	n (Yes) No
Is there substrate through the	-	side to d	lownstream side?	'' Yes (No)
Does the structure substrate is substrate?	match the stream	Yes No Is the str	ucture narrower than the bankfull	(Yes) No
Is water in the structure movi stream?	ng faster than in the		debris blocking the inlet?	Yes No
ls water in the structure shallo	ower than in the stream?	(Yes) No Is there	evidence of overtopping or wash-o	uts? Yes (No

Fill out all that apply. Use blank rows for additional locations. Additional locations may include prominent erosion along stream banks within 50 feet of crossing. Left and right are facing downstream. Note any comments below.

Location of Erosion Road Approach – Left Road Approach – Right Road over Crossing Upstream Ditch – Left Jostream Ditch – Right	Length	Width	Depth	Erosion (Cubic feet)	Reac Stre Yes	_		dy Loam or y Loam
Road Approach – Right Road over Crossing Jpstream Ditch – Left						No		
Road over Crossing Jpstream Ditch – Left						ļ	!	
Jpstream Ditch – Left					Yes	No		
					Yes	No		
Instroom Ditch Bight					Yes	No		
opstream bitch – Right					Yes	No		
Downstream Ditch – Left		land,			Yes	No		
Downstream Ditch – Right		No. of Parts		**************************************	Yes	No		
Jpstream Embankment – Left		J. Land St. Committee of the Committee o			Yes	No		
Jpstream Embankment – Right				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Yes	No		
Downstream Embankment – Left					Yes	No		
Downstream Embankment – Right		Accorded to the second	e e e e e e e e e e e e e e e e e e e	A Andread Control of the Control of	Yes	No		
		r de service		A STATE OF THE STA				
	- Allerton Barrer			The Age of				
	Total	Erosion at	Crossing:		W.			
f there is erosion occurring, can corrective ddress the problem?	ve actions,	such as roa	ad drainage	measures, be in	istalled t	O.	Yes	No

	Multiple	Culverts/
--	----------	-----------

Number multiple cells from left to right facing downstream. Include a diagram below indicating which culvert is culvert #1.

Culvert #	Width (ft)	Height (ft)	Length (ft)		Culvert #	Width (ft)	Height (ft)
2				1	4		
3					5		

Photos		
☐ Site ID	☐ Inlet	☐ Outlet
☐ Road Approach – Left	☐ Road Approach – Right	
☐ Upstream Conditions	☐ Downstream Conditions	

Length

(ft)

Additional Site Comments

Culvert diagram, erosion, channel condition, evidence of wash-out, beaver, local testimony of frequency of overtopping...

Loise fish observed downstream of culvert

Follow these guidelines to determine "passability" for a range of fish species. Thresholds may need to be modified to evaluate passage for a particular species. Answer all questions.	l if the obje	ective is				
Passability = 0 If any of the following questions can be answered "yes", then the crossing barrier score = 0. 1. The outlet of the structure is perched. 2. The structure water velocity is greater than 3 feet/second during baseflow. 3. The ratio of the structure water depth to stream water depth is less than 0.1 (depth ratio). Structure water depth: / Stream water depth: 5 = Depth Ratio:	Yes Yes Yes	No No No No				
Passability = 0.5 Some species and/or life stages cannot pass at most flows. If any of the following questions can be answered "yes", then the crossing barrier score = 0.5.						
1. The water depth in the structure is less than 0.2 feet. Yes. At outlet.	Yes	No				
2. The structure water velocity is 2-3 feet/second during baseflow.	Yes	(No				
3. The structure is longer than 30 feet and does not have natural substrate through its entire length.	Yes	No				
Passability = 0.9						
If any of the following questions can be answered "yes", then the crossing barrier score = 0.9. 1. There is a scour pool below the structure.	(Va)	No				
 The ratio of the structure width to stream bankfull width is less than 0.5. (constriction ratio). 	Yes Yes	No No				
Structure width: $\frac{1}{2}$ / Stream bankfull width: $\frac{1}{2}$ = Constriction Ratio:		NO				
Passability = 1 If all of the following quantians can be approved "yes" then the approved beginning to the province of the following the province of the prov	Not a	barrier.				
If all of the following questions can be answered "yes", then the crossing barrier score = 1. 1. The outlet of the structure is not perched.	Vaa	(NI)				
 The outlet of the structure is not perched. The structure water velocity is less than 2 feet/second during baseflow. 	Yes	(No) No				
 The structure water velocity is less than 2 feet/second during basellow. The ratio of the structure water depth to stream water depth is greater than 0.1 (depth ratio). 	Yes	No No				
4. The water depth in the structure is greater than 0.2 feet. A line of Indet.	Yes	(No				
5. There is not a scour pool below the structure.	Yes	No				

No

No

Yes

6. The ratio of the structure width to stream bankfull width is greater than 0.5 (constriction ratio).

☐ The structure is shorter than 30 feet and does not have natural substrate through its entire length.

7. The structure is longer than 30 feet and has natural substrate through its entire length, or The structure is shorter than 30 feet and has natural substrate through its entire length, or

Additional Comments

Fish Passage Determination Summary

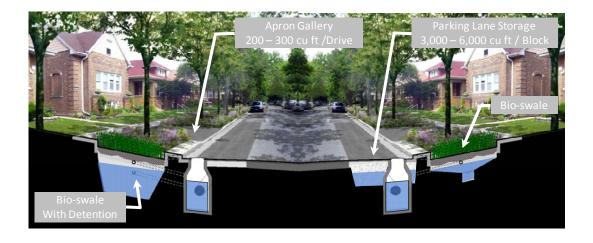
Willow Creek Watershed Protection and Improvement Plan Sheboygan County, Wisconsin

ATTACHMENT D

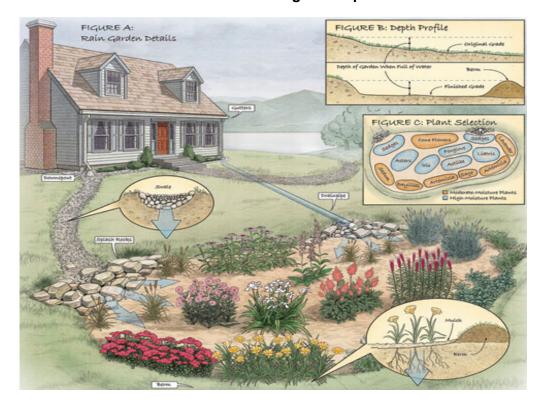
Green/Sustainable Infiltration Practices for New Development and Basin Retrofits



Example of Basin Storage Approach



Rain Garden Design Example



Conceptual Stormwater Infiltration Design

