Swan View Coalition *Nature and Human Nature on the Same Path*

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February 19, 2025

Rob Davies
Hungry Horse Ranger District
PO Box 190340
Hungry Horse, MT 59919

PDF submitted via https://cara.fs2c.usda.gov/Public//CommentInput?Project=67436
and to robert.davies@usda.gov and pdonnellon@fs.fed.us

Re: West Reservoir PA

Dear Ranger Davies;

Please accept these comments in the above matter into the public record. These comments and the attached documents supplement the comments and documents we submitted in this matter yesterday, primarily regarding poor management of culverts and the leaving of stream-aligned culverts in abandoned or decommissioned roads.

Wheeler Creek Road 895F

The Wheeler Creek Road 895F ends at a trailhead at MP 6.863. There, the last mile of the decommissioned road is used as the first segment of Trail 64.

We hiked this trail in July of 2015 and found four stream-aligned culverts that had been left in place, largely in avalanche chutes. We took photos of these four culverts and the brush and avalanche debris that was largely blocking the culvert inlets. We reported these culverts to the Flathead NF as a violation of then-Amendment 19's requirement that all stream-aligned culverts be removed from reclaimed/decommissioned roads.

The Flathead NF responded by having Ron Krueger inspect the culverts left in the roadbed above the trailhead. We've attached Ron Krueger's six 8/6/15 culvert inspection forms as Attachment 1 (ignore the 2/5/16 receipt date in the upper right-hand corner). He confirms two have medium risk of blockage and that one was "Fnd ¾ full of dirt/deposition." Were these culverts ever removed? If not, when were they last inspected?

We include a photo of the first culvert inlet past the trailhead on the following page:

We also reported a culvert on the open portion of the road that had plugged and was depositing gravel onto the road surface, as shown in the photo on the following page:

Included as Attachment 2 are 5 culvert monitoring forms filled out by E. Lovering on September 25 and 27, 2005 (ignore the 2/5/16 receipt date in the upper right-hand corner). All five culverts are marked as "High Risk CMP." What is the current condition of these culverts today? How often have they been inspected since 2005?

These circumstances are in the project area and are examples of the kind of information that must be disclosed in the West Reservoir NEPA analyses and EIS.

Sincerely,

Keith

Keith J. Hammer
Chair

Attachments:

1. Ron Krueger's six 8/6/15 culvert inspection forms
2. Five culvert monitoring forms filled out by E. Lovering

Jess Aiken / Walt
Mike Church
Ron Krueger

ATTACHMENT 1 2-5-16

CULVERT INVENTORY

(Flowing Water or Scour Present - Normally 24" or Larger)

Dist D-6 **Road #** Wheeler 895 F **MP** 1st pipe past 7 mi. Head

(Source of Milepost: **Wheeled** **DMI** **Odometer** Other _____)

Field verification report By: RK **Date** 8-6-15

Stream Name: N/A Cross Stream

GPS: True North - CONUS NAD83 – and format of ddd.ddddd° (ex: 47.26419°)

Northing: _____ Easting: _____

Accuracy of GPS Reading: ± _____ Feet

- ○ Attach photos of the culvert, damages, or evidence of erosion – Picture # _____
- ○ Attach drawings (if needed) depicting the current situation.

Physical Data on the Culvert

Width: 24" Height: 24" Length: _____

Skew: _____° Slope: _____% (slope from Inlet to Outlet)

Rust line height: at inlet 30% at outlet 50%

Risk of Failure: High (Low) **Risk of Blockage:** High Medium (Low)

Shape:	**Construction:**	**Material:**	**Corrugation:**
☑ Round	☐ Spiral CMP	☑ Galvanized Steel	☑ 2 ⅔ x ½ in.
☐ Arch	☑ Annular CMP	☐ Aluminum	☐ 3 x 1 in.
☐ Box	☐ Structural Plate	☐ Concrete	☐ 5 x 1 in.
☐ Open Bottom Arch	☐ Smooth	☐ Plastic	☐ 6 x 2 in.
☐ Other _____	☐ Other _____	☐ Wood/Log	☐ Smooth
		☐ Other _____	☐ Other _____

Inlet Type:	**Outlet Type:**	**Outlet Configuration:**	
☐ Projection	☐ Projection	☐ At Stream Grade	☐ Freefall Into Pool _____ ft
☐ Mitered	☐ Mitered - slightly crushed	☑ Below Stream Grade but 3/4 full of dirt / deposited from	☐ Freefall Into Riprap _____ ft
			☐ Cascade Over Riprap

Culvert Attachments:

Location:	**Type:**		**Material:**
☐ Inlet	☐ Flared End Section	☐ Headwall	☐ Galvanized Steel
☐ Outlet	☐ Drop Inlet	☐ Wingwall	☐ Aluminum
☐ Barrel	☐ Downspout	☐ Debris Rack	☐ Concrete
	☐ Beaver Control Device		☐ Plastic
	☐ Other _____		☐ Wood
			☐ Other _____
Location:	**Type:**		**Material:**
☐ Inlet	☐ Flared End Section	☐ Headwall	☐ Galvanized Steel
☐ Outlet	☐ Drop Inlet	☐ Wingwall	☐ Aluminum
☐ Barrel	☐ Downspout	☐ Debris Rack	☐ Concrete
	☐ Beaver Control Device		☐ Plastic
	☐ Other _____		☐ Wood
			☐ Other _____

Pipe Condition (check all that apply)

☐ Bank Erosion	☐ Inlet Plugged
☐ Barrel Broke	☐ Invert Rusted Through
☑ Barrel Debris	☐ Invert Worn Through
☐ Beaver Activity	☑ Outlet Bent
☐ Fill Eroding	☑ Outlet Plugged
☐ Flow Exceeds Capacity	☐ Water Flowing Under
☐ Inlet Bent	☐ Other _____

Bank Full Width _____ Ft Blockage Flow Path ☐ Over Road ☐ Along road	Estimated Fill Height _____ Ft (0'-5' or 5'-15' or over 15')

Deposition (sand/gravel bars) Upstream ☐ Little or none ☐ Significant Amount Evidence of Flooding or Overflow-Yes (No) Shrubs Blocking Inlet- Yes No	CMP vs Channel Alignment <15 degrees > 15 Degrees (less than) (greater than) Floatable Debris Upstream- Yes No Bank Mass Failure Upstream- Yes No Movement of streambed Material- Yes No

Fill Out The Following Information if Time or Conditions Permit

Channel Gradient Upstream _____ % Channel Gradient Downstream _____ % Riprap: ☐ Upstream ☐ Downstream ☐ None Road Width _____ Ft Road Length in Channel _____ Ft (Measured along centerline of road)	Downstream Fill Slope Length _____ Ft (Measured top of fill to toe of fill) Downstream Fill Slope _____ % Upstream Fill Slope Length _____ Ft Upstream Fill Slope _____ % Bottom Fill Width _____ Ft (Width of channel at bottom of fill)

Miscellaneous Information

Substrates in Culvert: Inlet: Sta _____ Depth _____
Barrel: Sta _____ Depth _____ Sta _____ Depth _____
Outlet: Sta _____ Depth _____

Baffles, weirs or other internal structures:
☐ Yes ☐ No

Note type and number: _____

Fish Passage Data
Tag Number: _____ (if found – normally inside barrel)

SITE SKETCH Include: North Arrow (use compass) - Direction of stream flow - Inlet/channel alignment - Photo point locations and numbers - Multiple structures - Weirs and other instream structures - Debris jams inside, upstream, or downstream near site - Trash racks, screens, etc. that may affect flow - Location of Riprap

Jeff Arkley
Mike Church
Ron Krueger

2-5-16

ATTACHMENT 1

CULVERT INVENTORY

(Flowing Water or Scour Present - Normally 24" or Larger)

Dist 6 **Road #** Wheeler **MP** 2nd from TH

(Source of Milepost: **Wheeled** **DMI** **Odometer** Other _____)

Field verification report By: R Krueger **Date** 6/15/15

Stream Name: _____

GPS: True North - CONUS NAD83 – and format of ddd.ddddd° (ex: 47.26419°)

Northing: _____ Easting: _____

Accuracy of GPS Reading: ± _____ Feet

- ☑ Attach photos of the culvert, damages, or evidence of erosion – Picture # _____
- ○ Attach drawings (if needed) depicting the current situation.

Currently Moving
50% stream
50% Ditch relief
Bankfull stream 4ft

Physical Data on the Culvert

Width: 24" Height: 24" Length: _____

Skew: _____° Slope: _____% (slope from Inlet to Outlet)

Rust line height: at inlet 30% at outlet 30%

Risk of Failure: High (Low) **Risk of Blockage:** High (Medium) Low

Shape:	**Construction:**	**Material:**	**Corrugation:**
☑ Round	☐ Spiral CMP	☑ Galvanized Steel	☑ 2 ⅔ x ½ in.
☐ Arch	☑ Annular CMP	☐ Aluminum	☐ 3 x 1 in.
☐ Box	☐ Structural Plate	☐ Concrete	☐ 5 x 1 in.
☐ Open Bottom Arch	☐ Smooth	☐ Plastic	☐ 6 x 2 in.
☐ Other _____	☐ Other _____	☐ Wood/Log	☐ Smooth
		☐ Other	☐ Other

Inlet Type:	**Outlet Type:**	**Outlet Configuration:**	
☐ Projection	☐ Projection	☑ At Stream Grade	☐ Freefall Into Pool 0 ft
☐ Mitered	☐ Mitered	☐ Below Stream Grade	☐ Freefall Into Riprap _____ ft
			☐ Cascade Over Riprap

Culvert Attachments:

Location:	**Type:**		**Material:**
☐ Inlet	☐ Flared End Section	☐ Headwall	☐ Galvanized Steel
☐ Outlet	☐ Drop Inlet	☐ Wingwall	☐ Aluminum
☐ Barrel	☐ Downspout	☐ Debris Rack	☐ Concrete
	☐ Beaver Control Device		☐ Plastic
	☐ Other _____		☐ Wood
			☐ Other

Location:	**Type:**		**Material:**
☐ Inlet	☐ Flared End Section	☐ Headwall	☐ Galvanized Steel
☐ Outlet	☐ Drop Inlet	☐ Wingwall	☐ Aluminum
☐ Barrel	☐ Downspout	☐ Debris Rack	☐ Concrete
	☐ Beaver Control Device		☐ Plastic
	☐ Other _____		☐ Wood
			☐ Other

Pipe Condition (check all that apply)

☐ Bank Erosion	☐ Inlet Plugged
☐ Barrel Broke	☐ Invert Rusted Through
☐ Barrel Debris	☐ Invert Worn Through
☐ Beaver Activity	☐ Outlet Bent
☐ Fill Eroding	☐ Outlet Plugged
☐ Flow Exceeds Capacity	☐ Water Flowing Under
☐ Inlet Bent	☐ Other _____

Bank Full Width 4' Ft Blockage Flow Path ☐ Over Road ☑ ~~Along~~ road	Estimated Fill Height 8 Ft (0'-5' or 5'-15' or over 15')

Deposition (sand/gravel bars) Upstream ☑ Little or none ☐ Significant Amount Evidence of Flooding or Overflow-Yes (No) Shrubs Blocking Inlet- Yes (No) Cleared	CMP vs Channel Alignment <15 degrees > 15 Degrees (less than) (greater than) Floatable Debris Upstream- Yes No Bank Mass Failure Upstream- Yes No Movement of streambed Material- Yes No

Fill Out The Following Information if Time or Conditions Permit

Channel Gradient Upstream _____ % Channel Gradient Downstream _____ % Riprap: ☐ Upstream ☐ Downstream ☐ None Road Width 14' Ft Road Length in Channel _____ Ft (Measured along centerline of road)	Downstream Fill Slope Length _____ Ft (Measured top of fill to toe of fill) Downstream Fill Slope _____ % Upstream Fill Slope Length _____ Ft Upstream Fill Slope _____ % Bottom Fill Width _____ Ft (Width of channel at bottom of fill)

Miscellaneous Information

Substrates in Culvert: Inlet: Sta _____ Depth _____
Barrel: Sta _____ Depth _____ Sta _____ Depth _____
Outlet: Sta _____ Depth _____

Baffles, weirs or other internal structures:
☐ Yes ☐ No

Note type and number: _____
_____

Fish Passage Data
Tag Number: _____ (if found – normally inside barrel)

SITE SKETCH Include: North Arrow (use compass) - Direction of stream flow - Inlet/channel alignment - Photo point locations and numbers - Multiple structures - Weirs and other instream structures - Debris jams inside, upstream, or downstream near site - Trash racks, screens, etc. that may affect flow - Location of Riprap

Mike Church
Ron Kraegel

2-5-16

ATTACHMENT 1

CULVERT INVENTORY

(Flowing Water or Scour Present - Normally 24" or Larger)

Dist 4 **Road #** Hardy **MP** 3rd from TH

(Source of Milepost: **Wheeled** **DMI** **Odometer** Other _____)

Field verification report By: R Kraegel **Date** 8/6/15

Stream Name: _____

GPS: True North - CONUS NAD83 – and format of ddd.ddddd° (ex: 47.26419°)

Northing: _____ Easting: _____

Accuracy of GPS Reading: ± _____ Feet

- ☑ Attach photos of the culvert, damages, or evidence of erosion – Picture # _____
- ○ Attach drawings (if needed) depicting the current situation.

Physical Data on the Culvert

Width: 24" Height: 24" Length: ?

Skew: _____° Slope: _____% (slope from Inlet to Outlet)

Rust line height: at inlet 33% at outlet 35%

Risk of Failure: High (Low) **Risk of Blockage:** High Medium (Low)

Shape:	**Construction:**	**Material:**	**Corrugation:**
☑ Round	☐ Spiral CMP	☑ Galvanized Steel	☑ 2 ⅔ x ½ in.
☐ Arch	☑ Annular CMP	☐ Aluminum	☐ 3 x 1 in.
☐ Box	☐ Structural Plate	☐ Concrete	☐ 5 x 1 in.
☐ Open Bottom Arch	☐ Smooth	☐ Plastic	☐ 6 x 2 in.
☐ Other _____	☐ Other _____	☐ Wood/Log	☐ Smooth
		☐ Other _____	☐ Other _____

Inlet Type:	**Outlet Type:**	**Outlet Configuration:**	
☐ Projection	☐ Projection	☐ At Stream Grade	☐ Freefall Into Pool _____ft
☐ Mitered	☐ Mitered	☐ Below Stream Grade	☐ Freefall Into Riprap_____ft
			☐ Cascade Over Riprap

Culvert Attachments:

Location:	**Type:**		**Material:**
☐ Inlet	☐ Flared End Section	☐ Headwall	☐ Galvanized Steel
☐ Outlet	☐ Drop Inlet	☐ Wingwall	☐ Aluminum
☐ Barrel	☐ Downspout	☐ Debris Rack	☐ Concrete
	☐ Beaver Control Device		☐ Plastic
	☐ Other _____		☐ Wood
			☐ Other _____
Location:	**Type:**		**Material:**
☐ Inlet	☐ Flared End Section	☐ Headwall	☐ Galvanized Steel
☐ Outlet	☐ Drop Inlet	☐ Wingwall	☐ Aluminum
☐ Barrel	☐ Downspout	☐ Debris Rack	☐ Concrete
	☐ Beaver Control Device		☐ Plastic
	☐ Other _____		☐ Wood
			☐ Other _____

ATTACHMENT 1

Pipe Condition (check all that apply)

☐ Bank Erosion	☐ Inlet Plugged
☐ Barrel Broke — some sediment	☐ Invert Rusted Through
☐ Barrel Debris	☐ Invert Worn Through
☐ Beaver Activity — blocking	☐ Outlet Bent
☐ Fill Eroding — inlet/outlet	☐ Outlet Plugged — Ditch
☐ Flow Exceeds Capacity — cleaned	☐ Water Flowing Under — crossdrain
☐ Inlet Bent	☐ Other _____

Bank Full Width N/a Ft	Estimated Fill Height _____ Ft
Blockage Flow Path	(0'-5' or 5'-15' or over 15')
☐ Over Road ☐ Along road	

Deposition (sand/gravel bars) Upstream	CMP vs Channel Alignment
☐ Little or none ☐ Significant Amount	<15 degrees > 15 Degrees
	(less than) (greater than)
Evidence of Flooding or Overflow- ~~Yes~~ No	Floatable Debris Upstream- Yes No
Shrubs Blocking Inlet- (Yes) No — cleared	Bank Mass Failure Upstream- Yes No
	Movement of streambed Material- Yes No

Fill Out The Following Information if Time or Conditions Permit

Channel Gradient Upstream _____ %	Downstream Fill Slope Length _____ Ft
Channel Gradient Downstream _____ %	(Measured top of fill to toe of fill)
Riprap:	Downstream Fill Slope _____ %
☐ Upstream ☐ Downstream ☐ None	Upstream Fill Slope Length _____ Ft
Road Width _____ Ft	Upstream Fill Slope _____ %
Road Length in Channel _____ Ft	Bottom Fill Width _____ Ft
(Measured along centerline of road)	(Width of channel at bottom of fill)

Miscellaneous Information

No water flow

Substrates in Culvert: Inlet: Sta _____ Depth _____
Barrel: Sta _____ Depth _____ Sta _____ Depth _____
Outlet: Sta _____ Depth _____

Baffles, weirs or other internal structures: ☐ Yes ☐ No
Note type and number: _____

Fish Passage Data
Tag Number: _____ (if found – normally inside barrel)

SITE SKETCH Include: North Arrow (use compass) - Direction of stream flow - Inlet/channel alignment - Photo point locations and numbers - Multiple structures - Weirs and other instream structures - Debris jams inside, upstream, or downstream near site - Trash racks, screens, etc. that may affect flow - Location of Riprap

Jess Aromyshen
Mike Church
Ron Knapp

ATTACHMENT 1 2-5-16

CULVERT INVENTORY

(Flowing Water or Scour Present - Normally 24" or Larger)

Dist _____ **Road #** Wheeler **MP** 4th Pump Trl

(Source of Milepost: **Wheeled** **DMI** **Odometer** Other _____)

Field verification report By: RK **Date** 8/6/15

Stream Name: Cold Creek

GPS: True North - CONUS NAD83 – and format of ddd.ddddd° (ex: 47.26419°)

Northing: _____ Easting: _____

Accuracy of GPS Reading: ± _____ Feet

- ☑ Attach photos of the culvert, damages, or evidence of erosion – Picture # _____
- ○ Attach drawings (if needed) depicting the current situation.

Physical Data on the Culvert

Width: 18" Height: 18" Length: 30' ±

Skew: _____° Slope: _____% (slope from Inlet to Outlet)

Rust line height: at inlet 33"± at outlet 40"±

Risk of Failure: High ~~Low~~ **Risk of Blockage:** High Medium ~~Low~~

Shape:	**Construction:**	**Material:**	**Corrugation:**
☑ Round	☐ Spiral CMP	☑ Galvanized Steel	☑ 2 ⅔ x ½ in.
☐ Arch	☑ Annular CMP	☐ Aluminum	☐ 3 x 1 in.
☐ Box	☐ Structural Plate	☐ Concrete	☐ 5 x 1 in.
☐ Open Bottom Arch	☐ Smooth	☐ Plastic	☐ 6 x 2 in.
☐ Other _____	☐ Other _____	☐ Wood/Log	☐ Smooth
		☐ Other	☐ Other

Inlet Type:	**Outlet Type:**	**Outlet Configuration:**	
☐ Projection	☐ Projection	☐ At Stream Grade	☐ Freefall Into Pool _____ft
☐ Mitered	☐ Mitered	☐ Below Stream Grade	☐ Freefall Into Riprap_____ft
			☐ Cascade Over Riprap

Culvert Attachments:

Location:	**Type:**		**Material:**
☐ Inlet	☐ Flared End Section	☐ Headwall	☐ Galvanized Steel
☐ Outlet	☐ Drop Inlet	☐ Wingwall	☐ Aluminum
☐ Barrel	☐ Downspout	☐ Debris Rack	☐ Concrete
	☐ Beaver Control Device		☐ Plastic
	☐ Other _____		☐ Wood
			☐ Other
Location:	**Type:**		**Material:**
☐ Inlet	☐ Flared End Section	☐ Headwall	☐ Galvanized Steel
☐ Outlet	☐ Drop Inlet	☐ Wingwall	☐ Aluminum
☐ Barrel	☐ Downspout	☐ Debris Rack	☐ Concrete
	☐ Beaver Control Device		☐ Plastic
	☐ Other _____		☐ Wood
			☐ Other

Pipe Condition (check all that apply)

☐ Bank Erosion	☐ Inlet Plugged w/ sticks & duff
☐ Barrel Broke	☐ Invert Rusted Through
☐ Barrel Debris	☐ Invert Worn Through
☐ Beaver Activity	☐ Outlet Bent no water
☐ Fill Eroding	☐ Outlet Plugged Flow
☐ Flow Exceeds Capacity	☐ Water Flowing Under
☐ Inlet Bent	☐ Other cross drain

Bank Full Width _____ Ft	Estimated Fill Height _____ Ft
Blockage Flow Path	(0'-5' or 5'-15' or over 15')
☐ Over Road ☑ Along road	

Deposition (sand/gravel bars) Upstream	CMP vs Channel Alignment
☑ Little or none ☐ Significant Amount	<15 degrees > 15 Degrees
	(less than) (greater than)
Evidence of Flooding or Overflow-Yes No	Floatable Debris Upstream- Yes No
Shrubs Blocking Inlet- Yes No	Bank Mass Failure Upstream- Yes No
Uphill	Movement of streambed Material- Yes No

Fill Out The Following Information if Time or Conditions Permit

Channel Gradient Upstream _____ %	Downstream Fill Slope Length _____ Ft
Channel Gradient Downstream _____ %	(Measured top of fill to toe of fill)
Riprap:	Downstream Fill Slope _____ %
☐ Upstream ☐ Downstream ☐ None	Upstream Fill Slope Length _____ Ft
Road Width 14' Ft	Upstream Fill Slope _____ %
Road Length in Channel _____ Ft	Bottom Fill Width _____ Ft
(Measured along centerline of road)	(Width of channel at bottom of fill)

Miscellaneous Information

Substrates in Culvert: Inlet: Sta _____ Depth _____
Barrel: Sta _____ Depth _____ Sta _____ Depth _____
Outlet: Sta _____ Depth _____

Baffles, weirs or other internal structures: ☐ Yes ☐ No
Note type and number: _____

Fish Passage Data
Tag Number: _____ (if found – normally inside barrel)

SITE SKETCH Include: North Arrow (use compass) - Direction of stream flow - Inlet/channel alignment - Photo point locations and numbers - Multiple structures - Weirs and other instream structures - Debris jams inside, upstream, or downstream near site - Trash racks, screens, etc. that may affect flow - Location of Riprap

ATTACHMENT 1

CULVERT INVENTORY

(Flowing Water or Scour Present - Normally 24" or Larger)

Dist 6 **Road #** Wheeler **MP** 5m past trailhead

(Source of Milepost: **Wheeled** **DMI** **Odometer** Other _____)

Field verification report By: RK **Date** 8/6/15

Stream Name: _____

GPS: True North - CONUS NAD83 – and format of ddd.ddddd° (ex: 47.26419°)

Northing: _____ Easting: _____

Accuracy of GPS Reading: ± _____ Feet

☑ Attach photos of the culvert, damages, or evidence of erosion – Picture # _____

○ Attach drawings (if needed) depicting the current situation.

Physical Data on the Culvert

Width: 18" Height: 18" Length: _____

Skew: _____° Slope: _____% (slope from Inlet to Outlet)

Drains out de

Rust line height: at inlet 33% at outlet 33%

Risk of Failure: High (Low) **Risk of Blockage:** High Medium (Low)

Shape:	**Construction:**	**Material:**	**Corrugation:**
☑ Round	☐ Spiral CMP	☑ Galvanized Steel	☐ 2⅔ x ½ in.
☐ Arch	☑ Annular CMP	☐ Aluminum	☐ 3 x 1 in.
☐ Box	☐ Structural Plate	☐ Concrete	☐ 5 x 1 in.
☐ Open Bottom Arch	☐ Smooth	☐ Plastic	☐ 6 x 2 in.
☐ Other _____	☐ Other _____	☐ Wood/Log	☐ Smooth
		☐ Other _____	☐ Other _____

Inlet Type:	**Outlet Type:**	**Outlet Configuration:**	
☐ Projection	☐ Projection	☑ At Stream Grade	☐ Freefall Into Pool 1 ft
☐ Mitered	☐ Mitered	☐ Below Stream Grade	☐ Freefall Into Riprap — ft
			☐ Cascade Over Riprap

Culvert Attachments:

Location:	**Type:**		**Material:**
☐ Inlet	☐ Flared End Section	☐ Headwall	☐ Galvanized Steel
☐ Outlet	☐ Drop Inlet	☐ Wingwall	☐ Aluminum
☐ Barrel	☐ Downspout	☐ Debris Rack	☐ Concrete
	☐ Beaver Control Device		☐ Plastic
	☐ Other _____		☐ Wood
			☐ Other _____

Location:	**Type:**		**Material:**
☐ Inlet	☐ Flared End Section	☐ Headwall	☐ Galvanized Steel
☐ Outlet	☐ Drop Inlet	☐ Wingwall	☐ Aluminum
☐ Barrel	☐ Downspout	☐ Debris Rack	☐ Concrete
	☐ Beaver Control Device		☐ Plastic
	☐ Other _____		☐ Wood
			☐ Other _____

Pipe Condition (check all that apply)

☐ Bank Erosion	☐ Inlet Plugged w/ sticks / debris
☐ Barrel Broke	☐ Invert Rusted Through
☐ Barrel Debris	☐ Invert Worn Through
☐ Beaver Activity	☐ Outlet Bent
☐ Fill Eroding	☐ Outlet Plugged
☐ Flow Exceeds Capacity	☐ Water Flowing Under
☐ Inlet Bent	☐ Other _____

Bank Full Width _____ Ft	Estimated Fill Height _____ Ft
Blockage Flow Path	(0'-5' or 5'-15' or over 15')
☐ Over Road ☑ Along road	7'

Deposition (sand/gravel bars) Upstream	CMP vs Channel Alignment
☑ Little or none ☐ Significant Amount	<15 degrees > 15 Degrees
	(less than) (greater than)
Evidence of Flooding or Overflow-Yes (No)	Floatable Debris Upstream- Yes No
Shrubs Blocking Inlet- (Yes) No	Bank Mass Failure Upstream- Yes No
(there) not	Movement of streambed Material- Yes No

Fill Out The Following Information if Time or Conditions Permit

Channel Gradient Upstream _____ %	Downstream Fill Slope Length _____ Ft
Channel Gradient Downstream _____ %	(Measured top of fill to toe of fill)
Riprap:	Downstream Fill Slope _____ %
☐ Upstream ☐ Downstream ☐ None	Upstream Fill Slope Length _____ Ft
Road Width _____ Ft	Upstream Fill Slope _____ %
Road Length in Channel _____ Ft	Bottom Fill Width _____ Ft
(Measured along centerline of road)	(Width of channel at bottom of fill)

Miscellaneous Information

Substrates in Culvert: Inlet: Sta _____ Depth _____
Barrel: Sta _____ Depth _____ Sta _____ Depth _____
Outlet: Sta _____ Depth _____

Baffles, weirs or other internal structures: ☐ Yes ☐ No
Note type and number: _____

Fish Passage Data
Tag Number: _____ (if found – normally inside barrel)

SITE SKETCH Include: North Arrow (use compass) - Direction of stream flow - Inlet/channel alignment - Photo point locations and numbers - Multiple structures - Weirs and other instream structures - Debris jams inside, upstream, or downstream near site - Trash racks, screens, etc. that may affect flow - Location of Riprap

1255 A.R.K. / Wall
Mike Charile
Ron Krueger

ATTACHMENT 1

CULVERT INVENTORY

(Flowing Water or Scour Present - Normally 24" or Larger)

~~Culvert View~~

Dist ~~??~~ TO6 **Road #** wheeler **MP** 6" pipe past TH

(Source of Milepost: **Wheeled DMI Odometer** Other ______)

Field verification report By: Keith Hamm **Date** ~~????~~ 8-6-15

Stream Name: ? 4' Bank full width 12" wide flowing water

GPS: True North - CONUS NAD83 – and format of ddd.ddddd° (ex: 47.26419°)

Northing: ______________ Easting: ______________

Accuracy of GPS Reading: ± ______ Feet

- Attach photos of the culvert, damages, or evidence of erosion – Picture # ______
- Attach drawings (if needed) depicting the current situation.

24"

Physical Data on the Culvert

Width: ______ Height: ______ Length: ______

Skew: ______ ° Slope: ______% (slope from Inlet to Outlet)

Rust line height: at inlet ______ at outlet ______

Risk of Failure: High (Low) **Risk of Blockage:** High (Medium) Low

Shape:	**Construction:**	**Material:**	**Corrugation:**
☒ Round	☐ Spiral CMP	☒ Galvanized Steel	☒ 2 ⅔ x ½ in.
☐ Arch	☒ Annular CMP	☐ Aluminum	☐ 3 x 1 in.
☐ Box	☐ Structural Plate	☐ Concrete	☐ 5 x 1 in.
☐ Open Bottom Arch	☐ Smooth	☐ Plastic	☐ 6 x 2 in.
☐ Other ______	☐ Other ______	☐ Wood/Log	☐ Smooth
		☐ Other ______	☐ Other

Inlet Type:	**Outlet Type:**	**Outlet Configuration:**	
☐ Projection	☐ Projection	☐ At Stream Grade	☐ Freefall Into Pool 0 ft
☐ Mitered	☐ Mitered	☒ Below Stream Grade	☐ Freefall Into Riprap — ft
			☐ Cascade Over Riprap —

Culvert Attachments:

Location:	**Type:**		**Material:**
☐ Inlet	☐ Flared End Section	☐ Headwall	☐ Galvanized Steel
☐ Outlet	☐ Drop Inlet	☐ Wingwall	☐ Aluminum
☐ Barrel	☐ Downspout	☐ Debris Rack	☐ Concrete
	☐ Beaver Control Device		☐ Plastic
	☐ Other ______		☐ Wood
			☐ Other ______

Location:	**Type:**		**Material:**
☐ Inlet	☐ Flared End Section	☐ Headwall	☐ Galvanized Steel
☐ Outlet	☐ Drop Inlet	☐ Wingwall	☐ Aluminum
☐ Barrel	☐ Downspout	☐ Debris Rack	☐ Concrete
	☐ Beaver Control Device		☐ Plastic
	☐ Other ______		☐ Wood
			☐ Other ______

Pipe Condition (check all that apply)

☐ Bank Erosion	☐ Inlet Plugged
☐ Barrel Broke	☐ Invert Rusted Through
☐ Barrel Debris	☐ Invert Worn Through
☐ Beaver Activity	☐ Outlet Bent
☐ Fill Eroding	☐ Outlet Plugged
☐ Flow Exceeds Capacity	☐ Water Flowing Under
☐ Inlet Bent	☐ Other _____

Bank Full Width _____ Ft Blockage Flow Path ☐ Over Road ☐ Along road	Estimated Fill Height _____ Ft (0'-5' or 5'-15' or over 15')

Deposition (sand/gravel bars) Upstream ☑ Little or none ☐ Significant Amount Evidence of Flooding or Overflow-Yes No Shrubs Blocking Inlet- Yes No	CMP vs Channel Alignment <15 degrees > 15 Degrees (less than) (greater than) Floatable Debris Upstream- Yes No Bank Mass Failure Upstream- Yes No Movement of streambed Material- Yes No

Fill Out The Following Information if Time or Conditions Permit

Channel Gradient Upstream _____ % Channel Gradient Downstream _____ % Riprap: ☐ Upstream ☐ Downstream ☐ None Road Width _____ Ft Road Length in Channel _____ Ft (Measured along centerline of road)	Downstream Fill Slope Length _____ Ft (Measured top of fill to toe of fill) Downstream Fill Slope _____ % Upstream Fill Slope Length _____ Ft Upstream Fill Slope _____ % Bottom Fill Width _____ Ft (Width of channel at bottom of fill)

Miscellaneous Information

Substrates in Culvert: Inlet: Sta _____ Depth _____
Barrel: Sta _____ Depth _____ Sta _____ Depth _____
Outlet: Sta _____ Depth _____

Baffles, weirs or other internal structures:
☐ Yes ☐ No

Note type and number: _____
_____

Fish Passage Data
Tag Number: _____ (if found – normally inside barrel)

SITE SKETCH Include: North Arrow (use compass) - Direction of stream flow - Inlet/channel alignment - Photo point locations and numbers - Multiple structures - Weirs and other instream structures - Debris jams inside, upstream, or downstream near site - Trash racks, screens, etc. that may affect flow - Location of Riprap

Med
riff

2' deep pool

2-5-16

ATTACHMENT 2

2-5-16

Road Number 895F

Observers E. LONGRING

Date 9/25/05

Purpose: Routine Monitoring X High Flow Event X
Other _____

Road Mile Post _____

GPS: Datum WGS84
(LAT) – Degree 48° Min 04.604" Sec _____

(LONG) - Degree 114° 113 Min 49.635" Sec _____

CMP Height 24" Inches

CMP Width 24" Inches

CMP Rust Line Height 6" Inches

Bank Full Width 1' Feet/Inches
Comments: _____

* Culvert Capacity = CMP Rust Line Height/CMP Height
** Constriction Ratio = CMP Width/Bank Full Width
*** CMP Location – If CMP is less than 600 feet above spawning reach.
**** Potential Diversion of a stream down a road segment if a CMP plugs.

CULVERT MONITORING FORM 5/2005

Risk Criteria	Good Situation	Poor Situation
1 Culvert Capacity*	< 1/3 CMP Height	> 1/3 CMP Height
2 Deposition Upstream of CMP	little or no deposition e.g. gravel bars, pool filled with sand	Significant amounts of sand/gravel deposits, as bars or in pools
3 Evidence of Flooding, Backwater, or Overflow	NO	YES
4 Stream Constriction Ratio**	< 33%	>33%
5 Shrubs Blocking CMP Inflow	NO	YES
6 CMR/Channel Alignment	<15 Degrees off line	>15 degrees off line
7 Floatable Debris Upstream of CMP	NO	YES
8 Streambank Mass Failure Upstream of CMP	NO	YES
9 Movement of Streambed Materials	NO – e.g.algae on streambed rocks	YES – e.g. bright rocks no algae
10 CMP Location***	NO	YES
11 Potential Diversion ****	NO	YES

If either item 1, 2, 3 are a Poor Situation than CMP is considered as HIGH RISK CMP. If item 1, 2, or 3 are Poor Situation and CMP is above spawning (yes to #10), than this is a **critical situation**. A combination of several Poor Situations (#4-11) would equal a HIGH RISK CMP.

HIGH RISK CMP X **LOW RISK CMP** _____

ATTACHMENT 2

Road Number 895F

Observers E LOVERING

Date 9/25/06

Purpose: Routine Monitoring X High Flow Event X
Other

Road Mile Post

GPS: Datum WGS84 45 38'
(LAT) – Degree 48° Min 04.6065' Sec

(LONG) - Degree 113° Min 49.953' Sec

CMP Height 24" Inches

CMP Width 24 Inches

CMP Rust Line Height 10" Inches

Bank Full Width 10' Feet/Inches
Comments: CLOGGED W/ FLOTABLES & DEAD FALL CLEANED

* Culvert Capacity = CMP Rust Line Height/CMP Height
** Constriction Ratio = CMP Width/Bank Full Width
*** CMP Location – If CMP is less than 600 feet above spawning reach.
**** Potential Diversion of a stream down a road segment if a CMP plugs.

CULVERT MONITORING FORM 5/2005

Risk Criteria	Good Situation	Poor Situation
1 Culvert Capacity*	< 1/3 CMP Height	≥ 1/3 CMP Height
2 Deposition Upstream of CMP	Little or no deposition e.g. gravel bars, pool filled with sand	Significant amounts of sand/gravel deposits, as bars or in pools
3 Evidence of Flooding, Backwater, or Overflow	NO	YES
4 Stream Constriction Ratio**	< 33%	>33%
5 Shrubs Blocking CMP Inflow	NO	YES
6 CMR/Channel Alignment	<15 Degrees off line	>15 degrees off line
7 Floatable Debris Upstream of CMP	NO	YES
8 Streambank Mass Failure Upstream of CMP	NO	YES
9 Movement of Streambed Materials	NO – e.g.algae on streambed rocks	YES – e.g. bright rocks no algae
10 CMP Location***	NO	YES
11 Potential Diversion ****	NO	YES

If either item 1, 2, 3 are a Poor Situation than CMP is considered as HIGH RISK CMP. If item 1, 2, or 3 are Poor Situation and CMP is above spawning (yes to #10), than this is a **critical situation**. A combination of several Poor Situations (#4-11) would equal a HIGH RISK CMP.

HIGH RISK CMP X **LOW RISK CMP**

2-5-16

ATTACHMENT 2

Road Number 895F

Observers E. LOFGREN

Date 9/15

Purpose: Routine Monitoring X High Flow Event X
Other

Road Mile Post

GPS: Datum WGS84
(LAT) – Degree 48° Min 04.643' Sec

(LONG) - Degree 114° Min 49.616' Sec

CMP Height 24" Inches

CMP Width 24" Inches

CMP Rust Line Height 6" Inches

Bank Full Width 48" Feet/Inches
Comments: NO H2O TODAY
ONLY ON HIGH FLOWS

* Culvert Capacity = CMP Rust Line Height/CMP Height
** Constriction Ratio = CMP Width/Bank Full Width
*** CMP Location – If CMP is less than 600 feet above spawning reach.
**** Potential Diversion of a stream down a road segment if a CMP plugs.

CULVERT MONITORING FORM 5/2005

Risk Criteria	Good Situation	Poor Situation
1 Culvert Capacity*	< 1/3 CMP Height	> 1/3 CMP Height
2 Deposition Upstream of CMP	Little or no deposition e.g. gravel bars, pool filled with sand	Significant amounts of sand/gravel deposits, as bars or in pools
3 Evidence of Flooding, Backwater, or Overflow	NO	YES
4 Stream Constriction Ratio**	< 33%	>33%
5 Shrubs Blocking CMP Inflow	NO	YES
6 CMR/Channel Alignment	<15 Degrees off line	>15 degrees off line
7 Floatable Debris Upstream of CMP	NO	YES
8 Streambank Mass Failure Upstream of CMP	NO	YES
9 Movement of Streambed Materials	NO – e.g.algae on streambed rocks	YES – e.g. bright rocks no algae
10 CMP Location***	NO	YES
11 Potential Diversion ****	NO	YES

If either item 1, 2, 3 are a Poor Situation than CMP is considered as HIGH RISK CMP. If item 1, 2, or 3 are Poor Situation and CMP is above spawning (yes to #10), than this is a **critical situation**. A combination of several Poor Situations (#4-11) would equal a HIGH RISK CMP.

HIGH RISK CMP X **LOW RISK CMP**

2-5-16

ATTACHMENT 2

Road Number 895 F

Observers E LOVERING

Date 9/27/06

Purpose: Routine Monitoring X High Flow Event X
Other

Road Mile Post SITE 4

GPS: Datum WGS84
(LAT) – Degree Min Sec

(LONG) - Degree Min Sec

CMP Height 24" Inches

CMP Width 24" Inches

CMP Rust Line Height 8" Inches

Bank Full Width 3' Feet/Inches

Comments: NO
MED FLW

* Culvert Capacity = CMP Rust Line Height/CMP Height
** Constriction Ratio = CMP Width/Bank Full Width
*** CMP Location – If CMP is less than 600 feet above spawning reach.
**** Potential Diversion of a stream down a road segment if a CMP plugs.

CULVERT MONITORING FORM 5/2005

Risk Criteria	Good Situation	Poor Situation
1 Culvert Capacity*	< 1/3 CMP Height	> 1/3 CMP Height
2 Deposition Upstream of CMP	Little or no deposition e.g. gravel bars, pool filled with sand	Significant amounts of sand/gravel deposits, as bars or in pools
3 Evidence of Flooding, Backwater, or Overflow	NO	YES
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5 Shrubs Blocking CMP Inflow	NO	YES
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7 Floatable Debris Upstream of CMP	NO	YES
8 Streambank Mass Failure Upstream of CMP	NO	YES
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10 CMP Location***	NO	YES
11 Potential Diversion ****	NO	YES

If either item 1, 2, 3 are a Poor Situation than CMP is considered as HIGH RISK CMP. If item 1, 2, or 3 are Poor Situation and CMP is above spawning (yes to #10), than this is a **critical situation.** A combination of several Poor Situations (#4-11) would equal a HIGH RISK CMP.

HIGH RISK CMP X **LOW RISK CMP**

2-5-16

ATTACHMENT 2

Road Number 8N5 F

Observers E. LOVELING

Date 9/27

Purpose: Routine Monitoring X High Flow Event X
Other

Road Mile Post TRAIL SITE 3

GPS: Datum WGS84
(LAT) – Degree 48° Min Sec

(LONG) - Degree 113° Min Sec

CMP Height 18" Inches

CMP Width 18" Inches

CMP Rust Line Height 5" Inches

Bank Full Width 3' Feet/Inches

Comments: H2O TODAY, DITCH BOTH SIDES OF STREAM, SPRINGS, SMALL FILL

* Culvert Capacity = CMP Rust Line Height/CMP Height
** Constriction Ratio = CMP Width/Bank Full Width
*** CMP Location – If CMP is less than 600 feet above spawning reach.
**** Potential Diversion of a stream down a road segment if a CMP plugs.

CULVERT MONITORING FORM 5/2005

Risk Criteria	Good Situation	Poor Situation
1 Culvert Capacity*	< 1/3 CMP Height	> 1/3 CMP Height
2 Deposition Upstream of CMP	Little or no deposition e.g. gravel bars, pool filled with sand	Significant amounts of sand/gravel deposits, as bars or in pools
3 Evidence of Flooding, Backwater, or Overflow	NO	YES
4 Stream Constriction Ratio**	< 33%	>33%
5 Shrubs Blocking CMP Inflow	NO	YES
6 CMR/Channel Alignment	<15 Degrees off line	>15 degrees off line
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10 CMP Location***	NO	YES
11 Potential Diversion ****	NO	YES

If either item 1, 2, 3 are a Poor Situation than CMP is considered as HIGH RISK CMP. If item 1, 2, or 3 are Poor Situation and CMP is above spawning (yes to #10), than this is a **critical situation**. A combination of several Poor Situations (#4-11) would equal a HIGH RISK CMP.

HIGH RISK CMP X **LOW RISK CMP**