

BSDMS Summary Report

18 Eel River at S.R. 59 near Clay City, IN

Site Location:

Site ID: 18

Site Name: Eel River at S.R. 59 near Clay City, IN

County: Clay

Nearest City: Clay City

State: IN

Latitude: 392018

Longitude: 870635

USGS Station ID:

Route Number: 59

Route Class: State

Service Level: Mainline

Route Direction: NA

Highway Mile Point: 15.92

Stream Name: Eel River

River Mile:

Contact:
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Publication:

Site Description:

The State Route 59 bridge crosses the Eel River 3.7 miles north of Clay City, Clay County, Indiana. The Conneley ditch bridge, located approximately 1.8 miles south, will act as a relief bridge for very large floods. No scour data has been obtained for this relief bridge. Both upstream overbanks are tilled with some woods between the fields and the channel. The downstream right overbank is wooded for several hundred ft downstream of the bridge. The downstream left overbank is mostly tilled with some trees and cabins between the field and channel. At low flows, the channel banks are steep and relatively high. Sloughing indicates that the banks are actively eroding.

Elevation Reference

Datum: MSL

MSL (ft):

Description of Reference Elevation:

BM: Unlabeled INDOT bronze tablet on the downstream left end of the bridge, elevation = 562.54 ft.
RP-1: Mark on guard rail at bridge station 108, on the upstream side of the bridge, elevation = 565.33 ft.

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RP-2: Mark on the guard rail at bridge station 108, on the downstream side of the bridge, elevation = 565.33 ft.

Stream Data

Drainage Area (sq mi):	880	Floodplain Width:	Wide
Slope in Vicinity(ft/ft):	0.00035	Natural Levees:	Little
Flow Impact:	Straight	Apparent Incision:	None
Channel Evolution	Threshold	Channel Boundary:	Alluvial
Armoring:	None	Banks Tree Cover:	Low
Debris Frequency:	Occasional	Sinuosity:	Meandering
Debris Effect:	Unknown	Braiding:	None
Stream Size:	Medium	Anabranching:	None
Flow Habit:	Perennial	Bars:	Unknown
Bed Material:	Sand	Stream Width Variability:	Equiwidth
Valley Setting:	Low		

Roughness Data

Manning's n Values

	Left Overbank	Channel	Right Overbank
High:			
Typical		0.03	
Low:			

Bed Material

Measurement Number	Yr	Mo	Dy	Sampler	D95 (mm)	D84 (mm)	D50 (mm)	D16 (mm)	SP	Shape	Cohesion
1	1991	10	7	BMH-53	8	2.3	0.5	0.25	2.65		Unknown

Bed Material Comments

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Measurement No: 1

Bridge Data

Structure No: 59-11-1728A
Length(ft): 342
Width(ft): 34
Number of Spans: 4
Vertical Configuration: Sloping
Low Chord Elev (ft): 559
Upper Chord Elev (ft): 560
Overtopping Elev (ft): 562.5
Skew (degrees): 15
Guide Banks: None
Waterway Classification: Main
Year Built: 1955
Avg Daily Traffic: 3600
Plans on File: Yes
Parallel Bridges No
Upstream/Downstream: N/A
Continuous Abutment: No
Distance Between Centerlines:
Distance Between Pier Faces:

Bridge Description:

Piers are numbered 1 through 3 with pier 1 closest to the left abutment (looking downstream). The abutments and piers are aligned perpendicular to the bridge deck.

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Abutment Data

Left Station: 0
Right Station: 330
Left Skew (deg): 0
Right Skew (deg) 0
Left Abutment Length (ft): 34
Right Abutment Length (ft) 34
Left Abutment to Channel Bank (ft): 40
Right Abutment to Channel Bank (ft): 120
Left Abutment Protection:
Right Abutment Protection
Contracted Opening Type: III
Embankment Skew (deg): 15
Embankment Slope (ft/ft): 2
Abutment Slope (ft/ft) 2
Wingwalls: No
Wingwall Angle (deg): 0

Pier Data

Pier ID	Bridge Station(ft)	Alignment	Highway Station	PierType	# Of Piles	Pile Spacing(ft)
1	75	0	86496.75	Single	0	
2	166	0	86590	Single	0	
3	256	0	86683.25	Single	0	

Pier ID	Pier Width(ft)	Pier Shape	Shape Factor	Length(ft)	Protection	Foundation
1	3	Round		33.5	Unknown	Poured
2	3	Round		33.5	Unknown	Poured

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2 Live-bed Non-cohesive Unknown 3 Unknown

PierID	D95 (mm)	D84 (mm)	D50 (mm)	D16 (mm)
1	8	2.25	0.5	0.25
2	8	2.25	0.5	0.25

Pier Scour Comments

Pier ID 1 Time: 12:30 US/DS: Downstream

Scour measurement was done as a discharge measurement with a 100-pound weight.

Pier ID 2 Time: 10:30 US/DS: Upstream

Abutment Scour

Contraction Scour

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Stage and Discharge Data

Peak Discharge					Flow (cfs)	Qacc	Peak Stage					Stage (ft)	Water Temp (C)	Return Period(yr)
year	mo	dy	hr	mi			year	mo	dy	hr	mi			
					0	none	1992	11	13	12:30	30	553.5		
1992	11	13	10:30	30	9130	none	1992	11	13	10:30	30	553.3		
					0	none	1991	2	13	8:45	45	540		
					0	none	1991	2	13	8:15	15	540		
					0	none	1990	10	17	12:30	30	539.2		
					0	none	1990	10	17	12:00	0	539.2		
					0	none	1992	6	12	12:00	0	536.1		
					0	none	1992	6	12	12:30	30	536.1		

Hydrograph

Hydrograph Number	Year	Month	Day	Hr	Min	Sec	Stage(ft)	Discharge (cfs)
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Supporting Files
