

SR 62 Bridges

Small bridges also have challenges....

Terry Summers, PE – Project Manger, INDOT

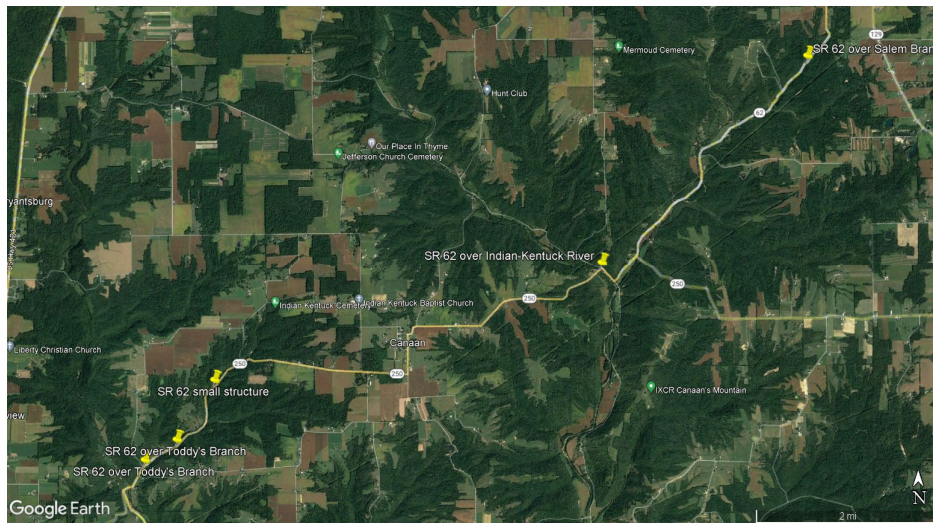
Mike Wenning, PE – Project Manager, B&N



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SR 62 Project Locations



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SR 62 Project Overview

- 4 Bridge Replacements/Superstructure Replacements and 1 Small Structure Replacement
- Over an 8 mile stretch of SR 62
- Windy roadway with minimal shoulders.
- Most ROW set at edge of pavement.
- Design Speed 45 MPH, ADT 1,500 VPD, Rural Collector



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SR 62 Between US 421 & SR 129 – Madison, IN

Crossing	Scope	Level 1 Exceptions
Toddy's Branch	Superstructure Replacement	Horizontal Curve Stopping Sight Distance (H & V) Superelevation
Toddy's Branch	Replacement, New Alignment	Horizontal Curve Stopping Sight Distance (H & V) Vertical Profile
6.9 miles E of US 421	Small Structure Replacement	
Indian-Kentuck Ck.	Replacement Change Scope	Horizontal Curve Lane Width Usable Shoulder
Salem Branch	Superstructure Replacement	Horizontal Curve Stopping Sight Distance (H & V) Superelevation



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Level 1 vs Level 2 Design Parameters

- Design Memo 20-13 Reduced Level 1 Criteria for 45 mph or less.

Design Criteria – Level One and Level Two Classifications			
	Design Criteria	High Speed (50 mph or higher and Freeways, incl. ramps)	Low Speed (45 mph or lower)
1	Design speed	Level One	Level One
2	Lane width	Level One	Level One only if on the National Truck Network. Otherwise, Level Two.
3	Shoulder width (uncurbed section) ⁽¹⁾	Level One	Level Two
4	Bridge clear roadway width ⁽²⁾	Level Two	Level Two
5	Design structural capacity	Level One	Level One
6	Horizontal curve, minimum radius	Level One	Level Two
7	Superelevation transition length and distribution	Level Two	Level Two
8a	Stopping sight distance, horizontal curve	Level One	Level Two
8b	Stopping sight distance, vertical curve (crest only)	Level One	Level Two
9	Maximum grade	Level One	Level Two
10	Travel lane cross slope	Level One	Level Two
11	Superelevation rate	Level One	Level Two



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Level 1 vs Level 2 Design Parameters

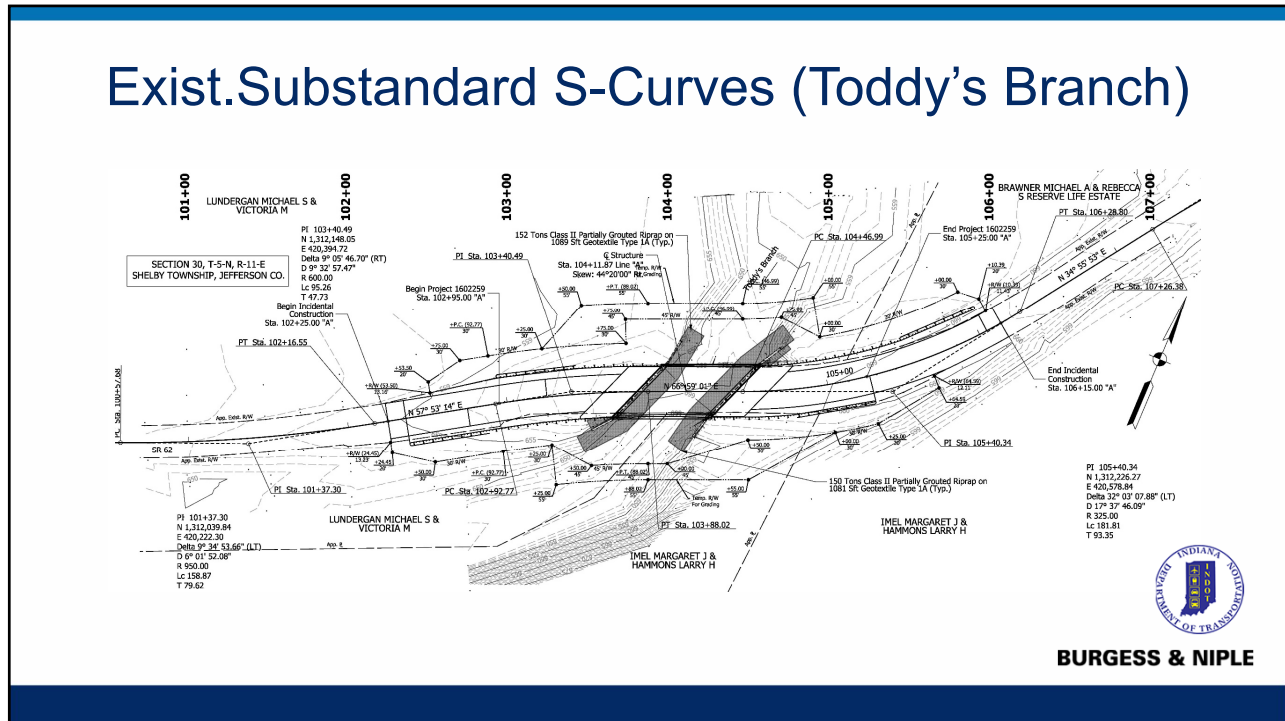
- Even when a level 1 or 2 Design Criteria can't be met, mitigate as much as possible.
 - Don't want to increase budgeted scope significantly.
 - Don't want to require additional ROW.
 - Don't want to increase environmental impacts.



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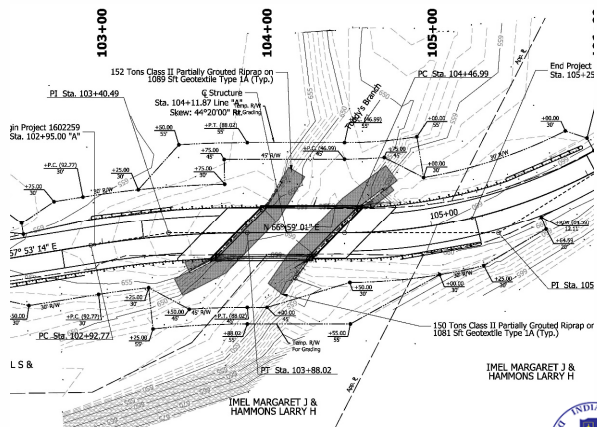
Exist. Substandard S-Curves (Toddy's Branch)



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Exist. Substandard S-Curves (Toddy's Branch)

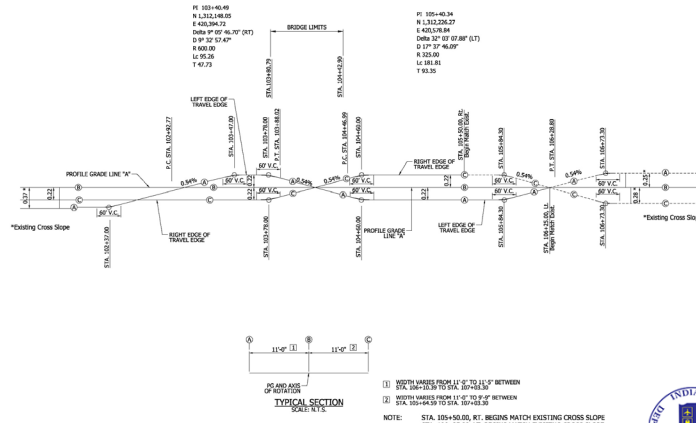
- Original Curve Radii 600' and 325'
 - Minimum Curve 585' assuming 8% superelevation
 - Existing normal crown.
- Could we do anything to make it better without significantly increasing scope or cost?



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Exist. Substandard S-Curves (Toddy's Branch)

- Able to improve to Remove Crown within ROW footprint.
- 2% versus 8% superelevation

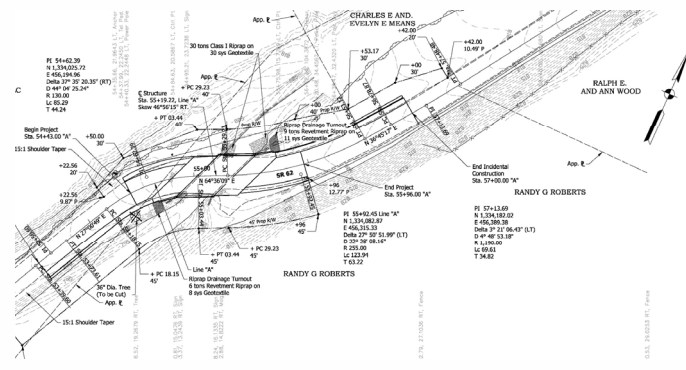


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Exist. Substandard S-Curves (Salem Branch)

- Original Curve Radii 130' and 255'
 - Minimum Curve 585' assuming 8% superelevation
 - Existing normal crown.
- Could we do anything to make it better without significantly increasing scope or cost?

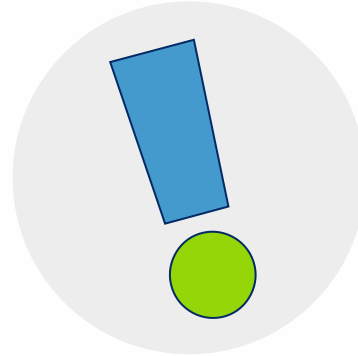


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Exist. Substandard S-Curves (Salem Branch)

- Not only was SE still substandard
- SE transition lengths (runoff) was substandard.
- Ends of transition caused fill outside existing ROW (Edge of pavement).
- **Lesson Learned:** Can't always better the situation given the constraints.



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Grades

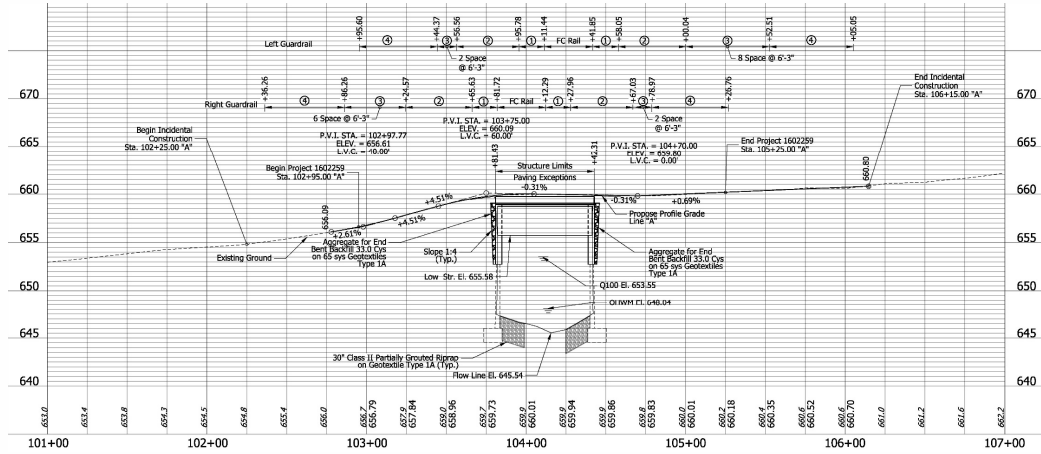
- Develop positive deck drainage
 - Avoid 0% or nearly flat grades when possible.
 - Water (and Chlorides) tend to pond on deck and wick into deck.
 - Shortens the deck life.
 - 6" PVC pipes spaced at 6' used for many years to mitigate this.
 - Caused other problems and is being discontinued



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Grades

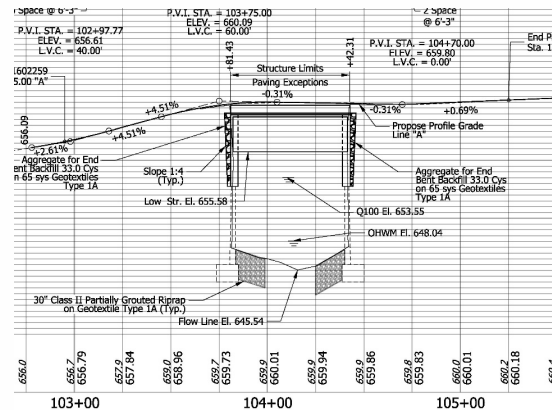


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Grades

- Original grade 0%
- Needed to follow existing grade as close as possible on approaches to stay in ROW.
- Was able to adjust to -0.31% on bridge.
- Desired minimum grade 0.3%
 - IDM 203-4.04(03)
- Reused existing abutment. Depth of removal could be varied



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Other Issues

- Right of Way
 - 2 Parcels went to condemnation
 - One owner refused the offer wanting a temporary bridge built.
- Utilities
 - One utility said they were not in the area initially.
 - Continued pressing during plan development.
 - Not only were they there but they produced an easement.



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And, Then There Were Bats

- Project delayed due to ROW and Utilities
- Time ran out on previous Bat inspection
- B&N was authorized to perform bat inspection.
- INDOT performed guano tests



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Grey Bat

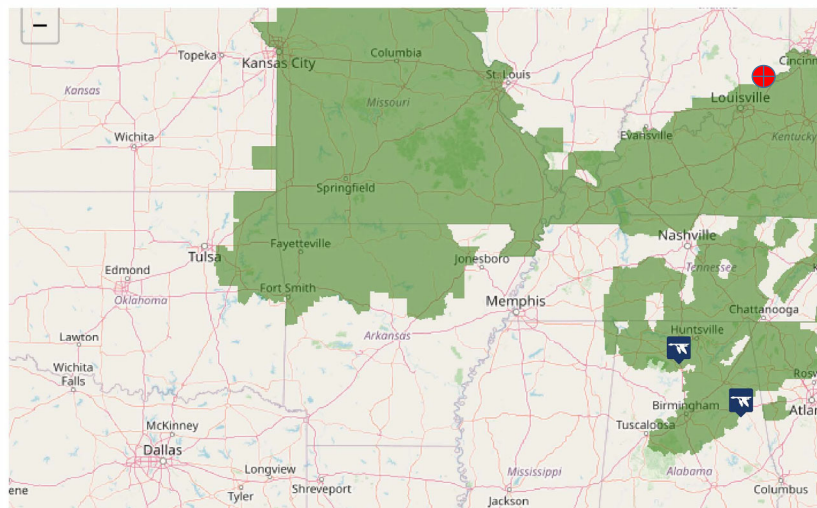
- *Myotis grisescens*
- 3 ½" long, 10" wingspan
- Added to US List of Endangered Wildlife in 1976



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Grey Bat Territory



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Updates

- Project bid Feb 10, 2023
- 3 Bidders within 5%

Date: 2/10/2023



INDIANA DEPARTMENT OF TRANSPORTATION
APPARENT BID RESULTS
FOR THE LETTING OF February 10, 2023

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Contract B -40421-A Description: BRIDGE, SUPERSTRUCTURE AND SMALL STRUCTURE REPLACEMENT DBE Goal: 12.00
 Call 511 Route: SR 62 Location: ON SR 62 OVER INDIAN-KENTUCK CREEK, 0.59 MILE WEST OF SR 250 Engineer's Estimate: None Below
 County: JEFFERSON Seymour District

Code	Bidder	Address	Phone	Amount of Bid	Type
35-1139301	E & B PAVING LLC quotes@ebpaving.com	ANDERSON IN	(765)643-5358	\$6,294,000.00	R
35-1385672	FORCE CONSTRUCTION CO INC quotes@forceco.com	COLUMBUS IN	(812)372-8441	\$6,540,599.52	R
61-1256623	LOUISVILLE PAVING CO amitchell@loupaving.com	LOUISVILLE KY	(502)583-1726	\$6,622,000.00	R



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Thank you!

Questions?



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