



**February 6, 2018**  
**Indiana Bridge Inspection Workshop**

Kate Francis

INDOT Central Office Bridge Inspection

# Authoritative Data Systems

- Data-centric Environments
- My Data v/s Your Data - No Longer Acceptable.
  - Location Referencing
  - Vertical Clearance
  - Load Rating
- Concept of Authoritative Sources



**ArcGIS®**



**ORACLE®**



**INDOT Bridge Clearances**



# Authoritative Data Systems

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- Bridge Inspection Application System (BIAS a.k.a. InspectTech)
  - Asset Condition (Deck/Super/Sub) and Detail (Material/Size/Type)
  - Responsibility/Ownership
  - Doing Business with INDOT (Load Rating Engineers/Team Leaders/Pre-qual)
- ESRI Roads & Highways (GIS)
  - Location (LRS ID/County/City)
  - Road Inventory Items (Functional Class/NHS/AADT)
- Clearance Map
  - Vertical Clearances (present)
  - Horizontal Clearances (future)
- Electronic Records Management System (ERMS)
  - Bridge File Documents
  - As-Built Plans and Shop Plans





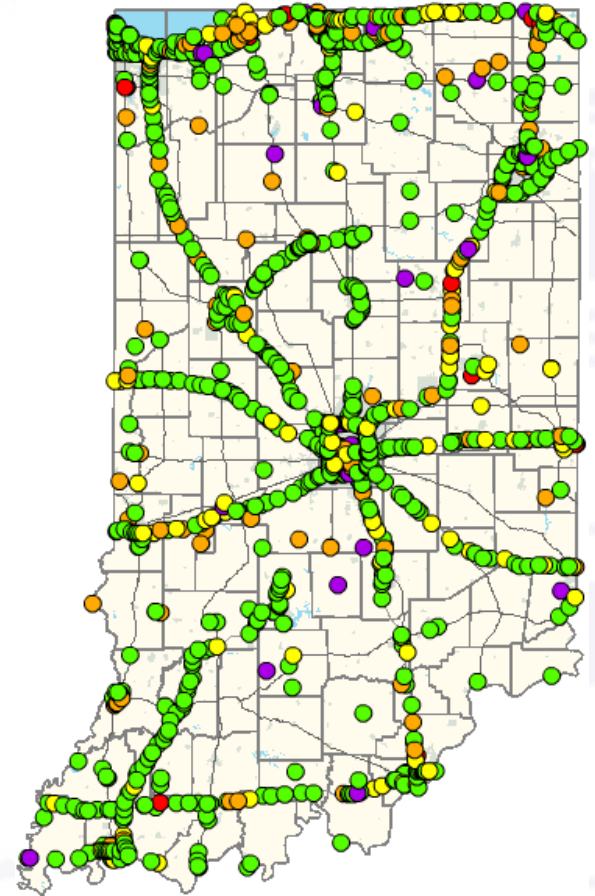
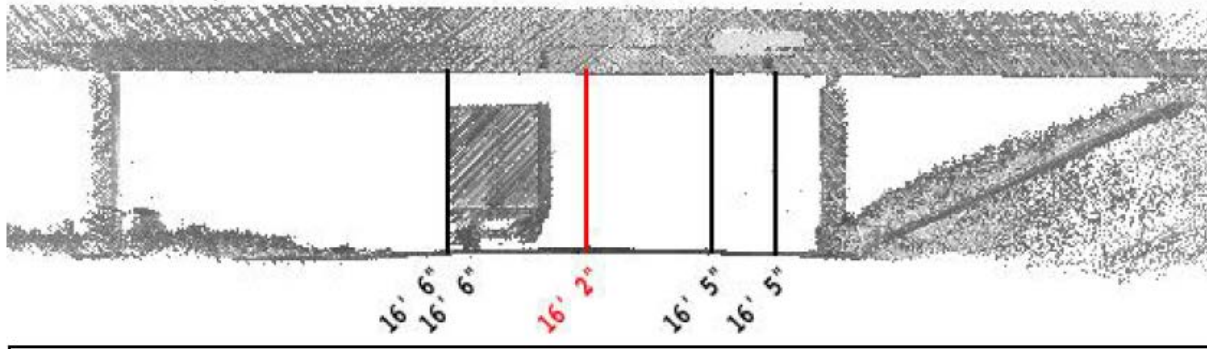




# Integrating Fields to Authoritative Sources

- Clearance Data – Clearance Map

- <http://intranet.indot.state.in.us/BridgeClearance/>
- Currently, 2 Read Only Fields
  - Item 53, Minimum Vertical Clearance Over Bridge Roadway
  - Item 54, Minimum Vertical UnderClearance
- Potential Future, 4 Read Only Fields
  - Item 10, Inventory Route, Minimum Vertical Clearance
  - Item 47, Inventory Route, Total Horizontal Clearance
  - Item 55, Minimum Later UnderClearance on Right
  - Item 56, Minimum Later UnderClearance on Left



# Integrating Fields to Authoritative Sources

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- Load Rating (BRADIN)
  - New Form in BIAS
  - 32 Fields Read Only Fields
  - NBI Items, including but not limited to:
    - NBI Item 31: Design Load
    - NBI Item 66C: Tons Posted
    - NBI Item 66D: Date Posted/Closed
  - Load Rating Items, including but not limited to:
    - HS20-44: Legal LC
    - AASHTO Type 3: Legal RF
    - AASHTO Type 3-3: Legal RF
    - SU6: Legal RF
    - Superload-11 Axles: Special Permit RF
    - Superload-13 Axles: Special Permit RF




# ERMS Link to BIAS for Bridge File Documentation

- ERMS is the only sanctioned long term file storage location.
- Periodic export of documents from BIAS to ERMS.
- ERMS Link provides easy access to multiple file libraries
  - Bridge File (See Memo 17-03)
  - Design Documents
  - Inspection Archive (Prior to 2011, no photos)
  - Large Plans (As-Built Plans provided by Construction)
    - Sometimes in .tif format
    - Send request for file compilation to INBridgesHelp email
  - Shop Plans
  - IDIQ – Indefinite Delivery / Indefinite Quantity
- Coming Soon: County Summary Reports
- Examples: 036-61-04384 B and 87-00264 and I70-083-02434 DWBL

▼ ERMS Security Group
Bridge File
Design Document
INDOT Bridge Inspection Report
Large Plans
Shop Drawings



# ERMS Link to BIAS for Bridge File Documentation


Main
Collector
Maintenance
Manager
Administration
Help
Type Asset Name Here...

Asset Details: 87-00264
Show More Details
Edit Asset Values
Show on Map
Create Report

[Quick View](#)
[Asset Info](#)
[Files](#)
[Maintenance](#)
[Scheduling](#)
[Administration](#)

**Completed Reports**

Inspection Date	Last Revision	Asset Code	Owner	Asset Type	Inspection Type	NBI 007: Facility Carried by Structure	NBI 006: Feature Intersected	Approved Date	
10/06/2017	11/01/2017	8700120	Moffatt, Andrew J.	Bridge	Scour Assessment	WARNER ROAD	CYPRESS CREEK	11/01/2017	
10/06/2017	10/30/2017	8700120	Moffatt, Andrew J.	Bridge	Scour Screening	WARNER ROAD	CYPRESS CREEK	10/30/2017	
08/29/2017	11/01/2017	8700120	ewski, Christopher	Bridge	Routine	WARNER ROAD	CYPRESS CREEK	11/01/2017	
10/05/2015	12/30/2015	8700120	h, Scott G.	Bridge	Routine	WARNER ROAD	CYPRESS CREEK	12/30/2015	
12/13/2013	03/20/2014	8700120	am	Bridge	Routine	WARNER ROAD	CYPRESS CREEK		
08/08/2011	10/24/2011	8700120	Marino, P.	Bridge	Routine	WARNER Rd	CYPRESS Creek		
10/29/2009	04/29/2011	8700120	County, W	Bridge	Routine	WARNER Rd	CYPRESS Creek		

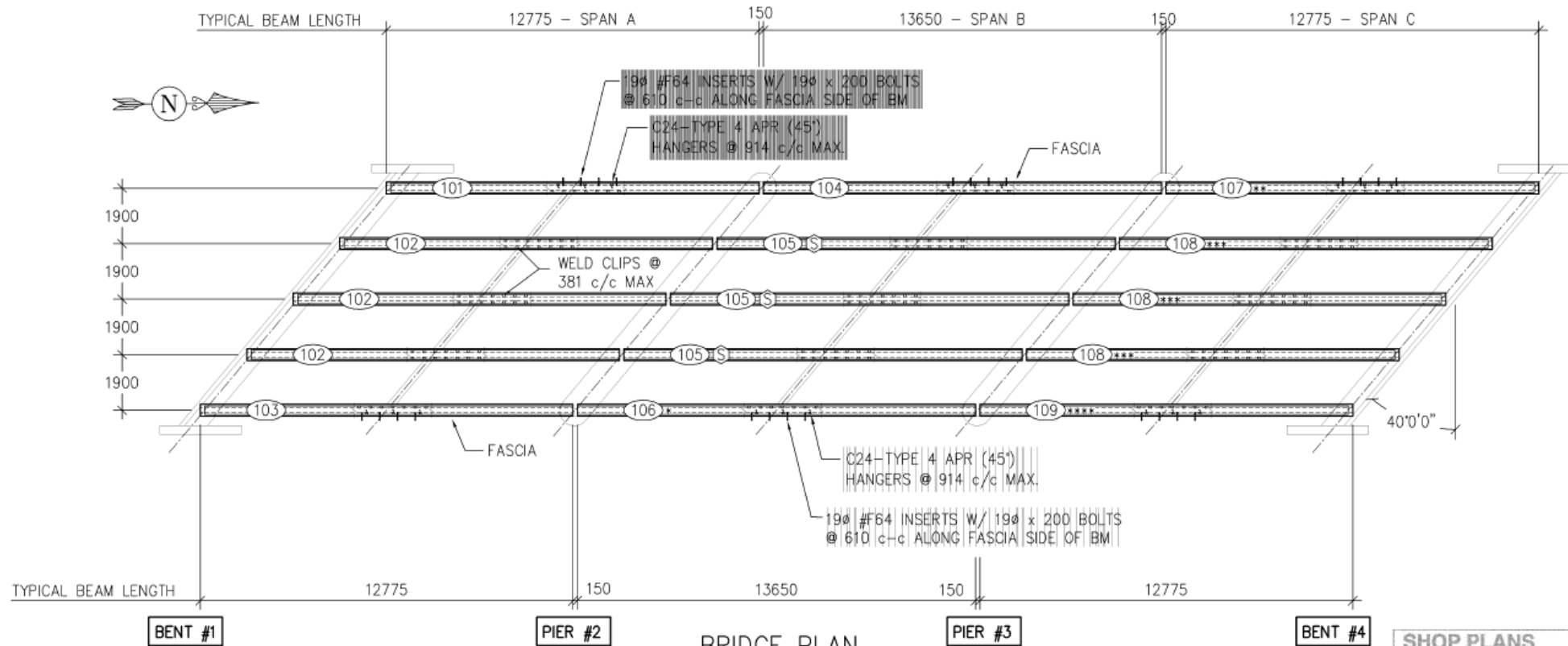
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**ERMS**

[Export All](#)

ERMS Security Group	Count	
Bridge File	256	
Design Document	12	
INDOT Bridge Inspection Report	81	
Large Plans	997	
Shop Drawings	10	

EF



\* MK. 106 IS IDENTICAL TO MK. 104 BY 180° ROTATION  
 \*\* MK. 107 IS IDENTICAL TO MK. 103 BY 180° ROTATION  
 \*\*\* MK. 108 IS IDENTICAL TO MK. 102 BY 180° ROTATION  
 \*\*\*\* MK. 109 IS IDENTICAL TO MK. 101 BY 180° ROTATION

**BRIDGE PLAN**  
 ⊕ = BEAM IS SYMMETRICAL



**SHOP PLANS**  
 Indiana Department of Transportation  
 APPROVED  
 SUBJECT TO CONDITIONS WRITTEN BELOW  
 DATE: \_\_\_\_\_ CKD. BY: *Joe Foster*  
 NOTE: THIS DRAWING CHECKED FOR DESIGN FEATURES ONLY. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, ACCURACY, AND FIT OF WORK.

**GENERAL NOTES:**

1. MANUFACTURE BEAMS IN ACCORDANCE WITH INDOT PLANS & SPECIFICATIONS.
2. MINIMUM CONCRETE STRENGTH AT RELEASE OF STRAND = 34.5 MPa  
 MINIMUM CONCRETE STRENGTH AT 28 DAYS = 41.4 MPa
3. STRAND SHALL BE (7) WIRE, UNCOATED, LOW RELAXATION, 13mm "OVERSIZED" DIAMETER (A<sub>s</sub> = 108mm<sup>2</sup>), GRADE 270
4. PULL EACH STRAND TO 150.43 KN.
5. STEEL GRADE 60, A.S.T.M. A-615.
6. SCORE TOPS OF BEAMS WITH A POINTED TOOL AT 75 c/c MAX
7. HS20-44 LOADING.
8. BEAMS SHALL BE FABRICATED AT LEAST 15 DAYS BEFORE THE DECK IS POURED.
9. INDOT CLEAR (SILANE) SEALER SHALL BE APPLIED TO TOPS OF ALL BMS; & ALSO

**NOTE:**  
 PSI SHALL FURNISH, INCIDENTAL TO BEAMS:  
 (134) 19Ø x 200 HEX BOLTS  
 (40) #19(E) X 1000 THREADED ANCHOR BARS

BEAM MARK	NO. REQD.	SHIPPING WEIGHT	
		TONS	kg
101	1	7 TONS	5475 kg
102	3	7 TONS	5475 kg
103	1	7 TONS	5475 kg
104	1	7 TONS	5845 kg
105	3	7 TONS	5845 kg
106*	1	7 TONS	5845 kg
107**	1	7 TONS	5475 kg
108***	3	7 TONS	5475 kg
109****	1	7 TONS	5475 kg

**PRESTRESS SERVICES**  
**PROJECT OVERVIEW**  
 WARRICK COUNTY, INDIANA  
 BRIDGE #264 (WARNER RD) / CYPRESS CREEK  
 BR. FILE: WARRICK 264 - DESIG. 9982640  
 INDOT CONTRACT #B-28538  
 CONTRACTOR: RAGLE CONSTRUCTION  
 PRODUCING PLANT: 747 8TH STREET HENDERSON, KY 42420  
 DRAFTING OFFICE: P.O. BOX 211 MELBOURNE, KY 41059  
 PH: (270) 826-6244 PH: (859) 441-0068  
 FAX: (270) 826-0628 FAX: (859) 441-7986  
 DATE: 1-22-07 DRAWN BY: EDD CHECKED: GDA

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# BIAS Training Questionnaire

- Bridge Inspection and Bridge Design
- BIAS Training Opportunities
- 30 Minute Online via Web Ex
- Please fill out the Questionnaire
  - Leave on table
  - Hand to me as you leave
  - Email [kfrancis@indot.in.gov](mailto:kfrancis@indot.in.gov)
- Offered to all Current BIAS Users
  - Feel free to forward
  - Not currently a BIAS users? No problem, provide your contact information and we'll invite you.

## WebEx Demonstrations for BIAS

Please rank the following BIAS WebEx Demonstrations by marking **High, Med** or **Low** to indicate your level of interest in attending.

High	Med	Low	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Understanding the complement of documents to complete a "bridge file" (Memo 17-03)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	How to use the BIAS Link to ERMS
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	How to upload documents to ERMS



# Indiana Bridge Inspection Workshop

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**THANK YOU!!**

**QUESTIONS ???**



# Indiana Bridge Inspection Workshop

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