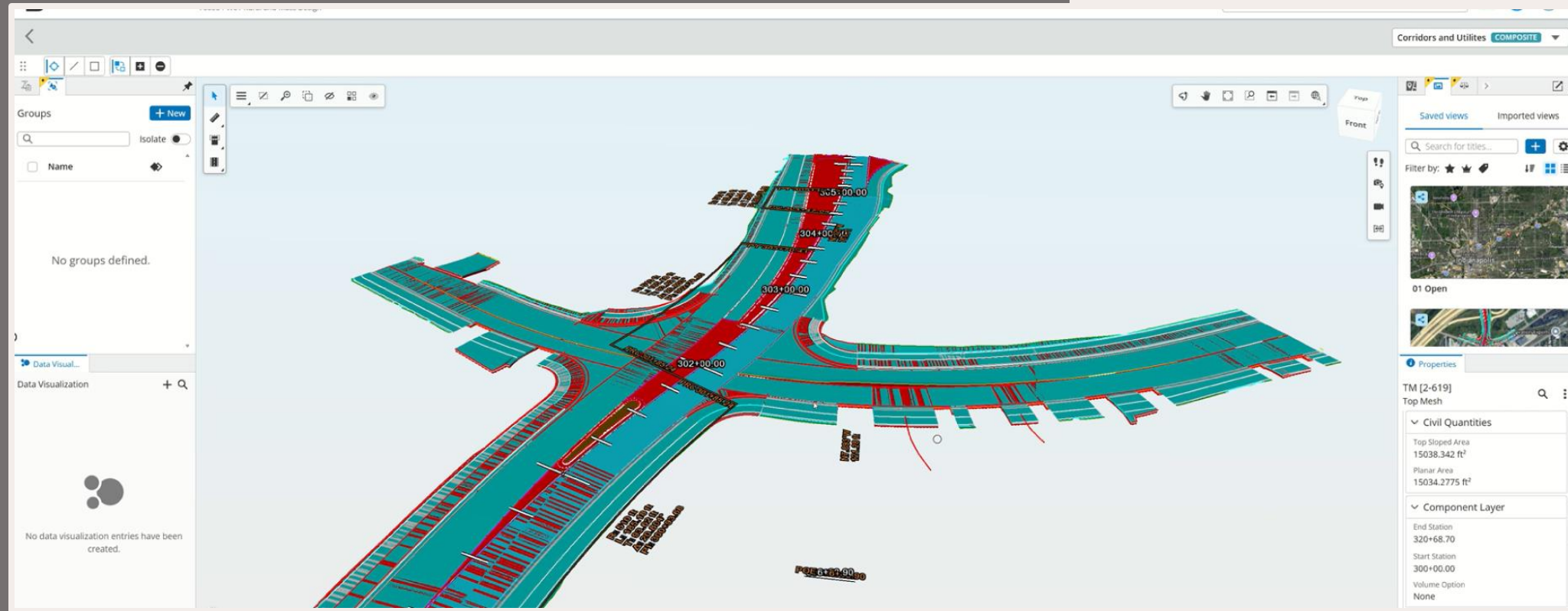




Transforming INDOT Major Projects with Bentley Infrastructure Cloud

Andrew Pangallo
Jon Paauwe
Tim Haney
Nathan Goins



HNTB



Agenda

Andrew – Foundations of Digital Delivery

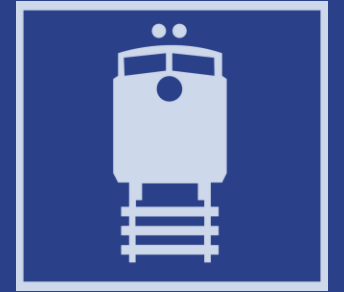
Jon – Pathways to Digital Delivery

Tim – Deliverables Management on Major Projects

Nathan – What's Next?



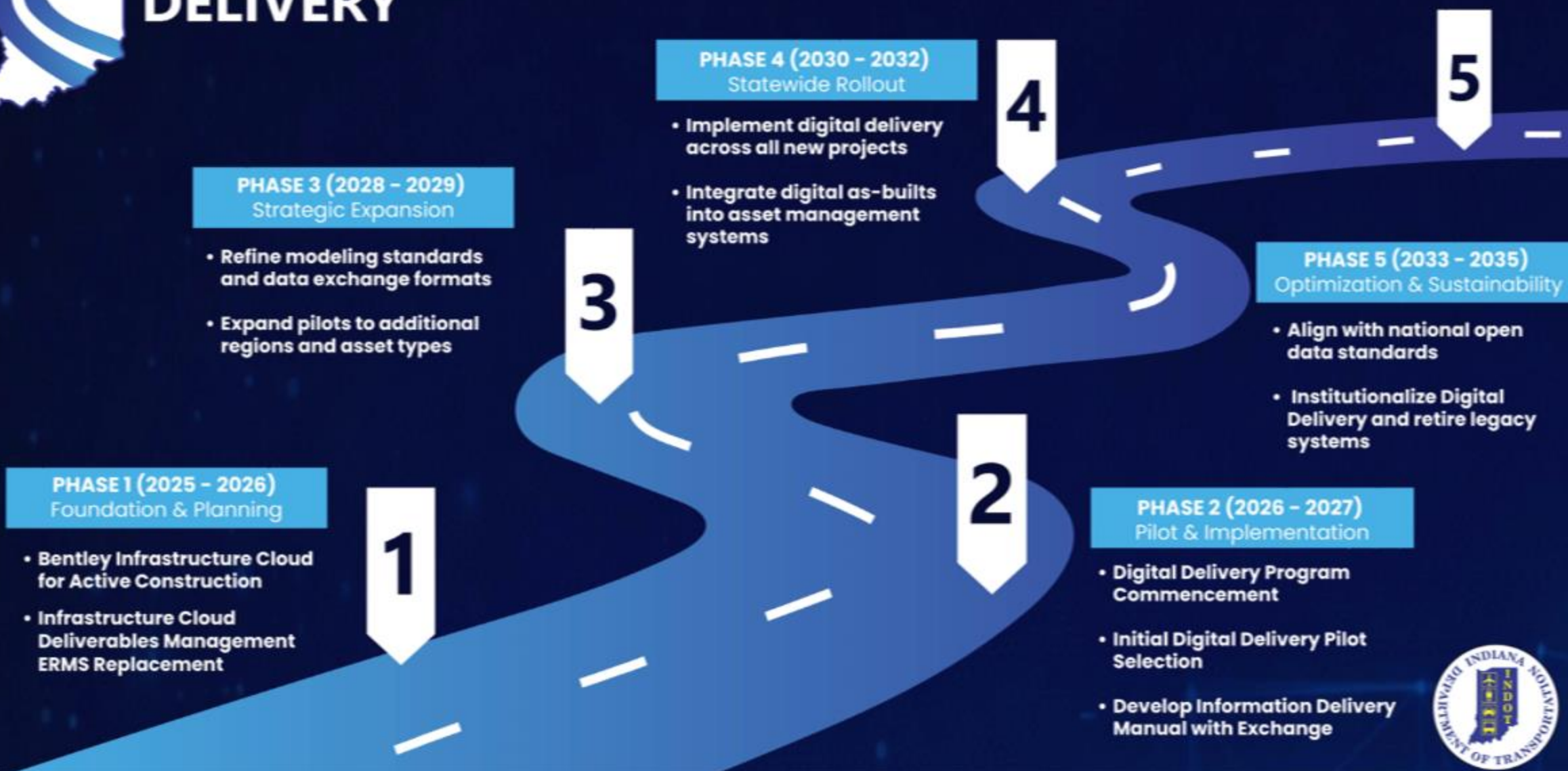
2026 Purdue Road School Transportation Conference





INDOT DIGITAL DELIVERY

10 YEAR STRATEGIC ROADMAP



Digital Delivery Website

- <https://on.in.gov/INDOTDigitalDelivery>

Digital Delivery

[Home](#) [INDOT](#) > [INDOT](#) > Digital Delivery

Digital delivery in transportation refers to a **model-based project delivery method** that replaces traditional 2D paper plans with **3D-engineered models and structured data** as the primary source of truth throughout the project lifecycle. Instead of static PDFs, contractors, designers, and inspectors work from integrated digital models that include geometry, attributes, and linked documentation. This approach enables:

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- **Enhanced asset management** through digital as-builts and lifecycle data integration.
- **Data-driven decision-making** and automation for quantity takeoffs, cost estimation, and GIS integration



Getting Started

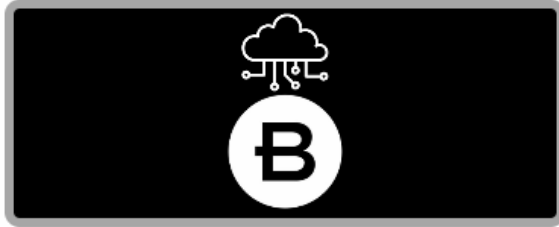
Bentley®
REGISTRATION

[Click Here to Register](#)



Digital Delivery Website

Trainings



Infrastructure Cloud Overview

[Click Here](#)



Infrastructure Cloud Project
Collaboration

[Click Here](#)



YouTube Bentley Training

[Click Here](#)



ProjectWise Deliverables Management
Portal Help

[Click Here](#)

[CLICK HERE TO SUBMIT FEEDBACK ABOUT DIGITAL DELIVERY](#)

Frequently Asked Questions

What is Digital Delivery?

+

Why are DOTs adopting Digital Delivery?

+

What are the benefits?

+

Who is impacted?

+



Bentley Access

- INDOT user access
- Use ITAP application

Home » Enroll New Application

Application Enrollment – Select Application

☐ PSCS Portal

☐ Project Close Out

☐ Project Commitments

☐ Project Scoping Application

☐ Projector

☒ ProjectWise

☒ DOTWise

☐ Public Works Application

☐ Railroad Application

☐ Research and Development Testing Website

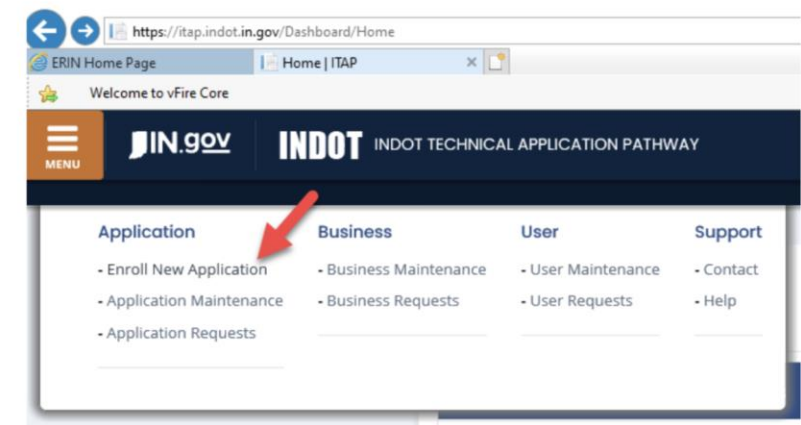
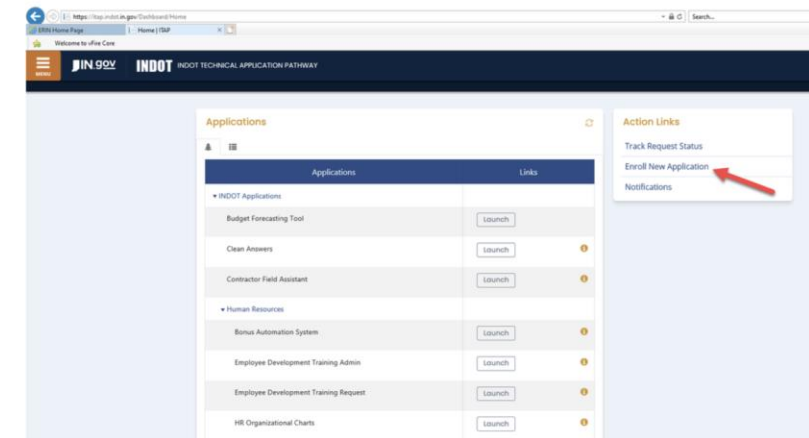
Requesting ProjectWise Access and the DOTWise Project Creator

To request access to ProjectWise and the DOTWise Project Creator, you must do so via the ITAP application (<https://itap.indot.in.gov>). The process varies slightly if you already have access to the application(s), and just need to request additional roles for them. These processes are explained in the next section.

2.1 Requesting Access to New Applications

This section explains how to request access to a new application.

1. A User may request access to a new INDOT application from either the ITAP home page or from the ITAP menu. From the ITAP home page, click on the Enroll New Application link under Application. From the ITAP menu, click on the Menu button and then select the Enroll New Application link under Application.



Enroll New Application

Infrastructure Cloud

[Register a project](#) [Upgrade projects](#) Recent My projects  

 EXTERNAL PROJECT 205815 SR 32 PDB Created on: Feb 10, 2025	 PROJECT Lead Des 1900162 x-Testing Contract R-42570 - M... Created on: Sep 25, 2025	 PROJECT INDOT_Phase 1 BIC INDOT_Phase 1 BIC Created on: Feb 19, 2026	 PROJECT Sandbox BIC Demo Sandbox Indianapolis Created on: Jan 20, 2026	 PROJECT Improve 64 Contract R-42570, Lead Des 19... Created on: Mar 12, 2026
 PROJECT BIC Training Template BIC Training Template Created on: Nov 24, 2025	 PROJECT Major Projects Template Major Projects Template Created on: Jul 28, 2025	 PROJECT 2100256 R-43741 - Seymour I-74 Greensburg Created on: Dec 16, 2025	 PROJECT 2100202, R-43798 Contract R-43798 Coliseum BL... Created on: Jan 5, 2026	 EXTERNAL PROJECT 684082 I70 Pavement Replacement Indianapolis, IN Created on: Feb 3, 2026

[All projects](#)



<https://www.in.gov/dot/div/contracts/conmemo/22-08.pdf>

Title *	
Construction Conference Test	
Summary Description and Solution	
Parking Lot curb is icy	
Onset Date of Change	Change Order Type
02/11/2026	104.02 Changed Condition

Andrew Pangallo

Role: Contractor Project Manager ✕

Cancel



Deliverables Management

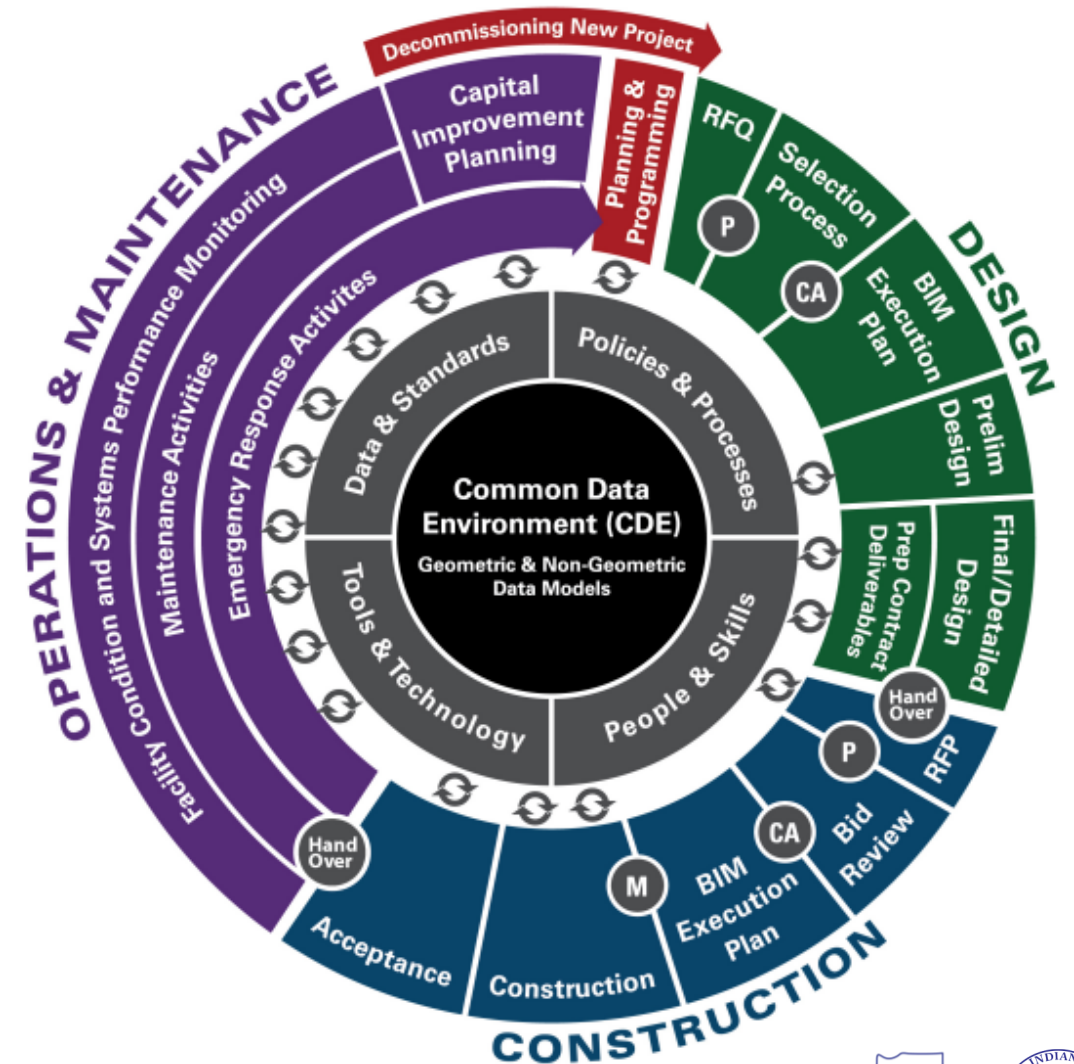
☐	 HNTB Test Transmittal ID: Lead Des 1900162-TR-0000051 To: Matt Stocker, HNTB Corporation	Stage 1	03/13/2026 1:12 PM	For Review	✓ Acknowledged Due date: 03/15/2026 1:12 PM ⌚ 11 days to respond Due date: 03/27/2026 1:12 PM	Acknowledgements 1 / 1 Responses 0 / 1
☐	 2026-03-13_Improve 64 Example... ID: Lead Des 1900162-TR-0000050 To: Amanda Ranck, Indiana DOT + 1 more	Stage 1	03/13/2026 11:06 AM	Design Submittal	✓ Acknowledged Due date: 03/15/2026 11:06 AM ⌚ 11 days to respond Due date: 03/27/2026 11:06 AM	Acknowledgements 2 / 2 Responses 0 / 1
☐	 2026 Road School Transmittal Ex... ID: Lead Des 1900162-TR-00000... To: Timothy Haney, HNTB Corporation	Stage 2	03/12/2026 5:03 PM	Submittal	✓ Acknowledged Due date: 03/14/2026 5:03 PM ⌚ 27 days to respond Due date: 04/11/2026 5:03 PM	Acknowledgements 1 / 1 Responses 0 / 1
☐	 Improve 64 Example Package Re... ID: Lead Des 1900162-TR-0000049 To: Amanda Ranck, Indiana DOT + 1 more	Stage 1	03/11/2026 1:07 PM	Design Submittal	✓ Acknowledged Due date: 03/13/2026 1:07 PM ⌚ 9 days to respond Due date: 03/25/2026 1:07 PM	Acknowledgements 2 / 2 Responses 0 / 1
☐	 2026 Road School Transmittal Ex... ID: Lead Des 1900162-TR-0000045 To: Timothy Haney, HNTB Corporation	Stage 1	03/09/2026 3:31 PM	Submittal	✓ Acknowledged Due date: 03/11/2026 3:31 PM ✓ Responded Due date: 04/08/2026 3:31 PM	Acknowledgements 1 / 1 Responses 1 / 1



RFP Digital Delivery

ID: 21239
Digital Delivery
Implementation
Plan and Data
Requirements
Development
Plan

- Target RFP: 03/10/26
- Modernize Bentley Workspace
 - Bridge Workspace
 - Drainage Workspace
- Future-State Data Dictionary



Major Projects



Improve
64



I-70
Revive
Contract 3



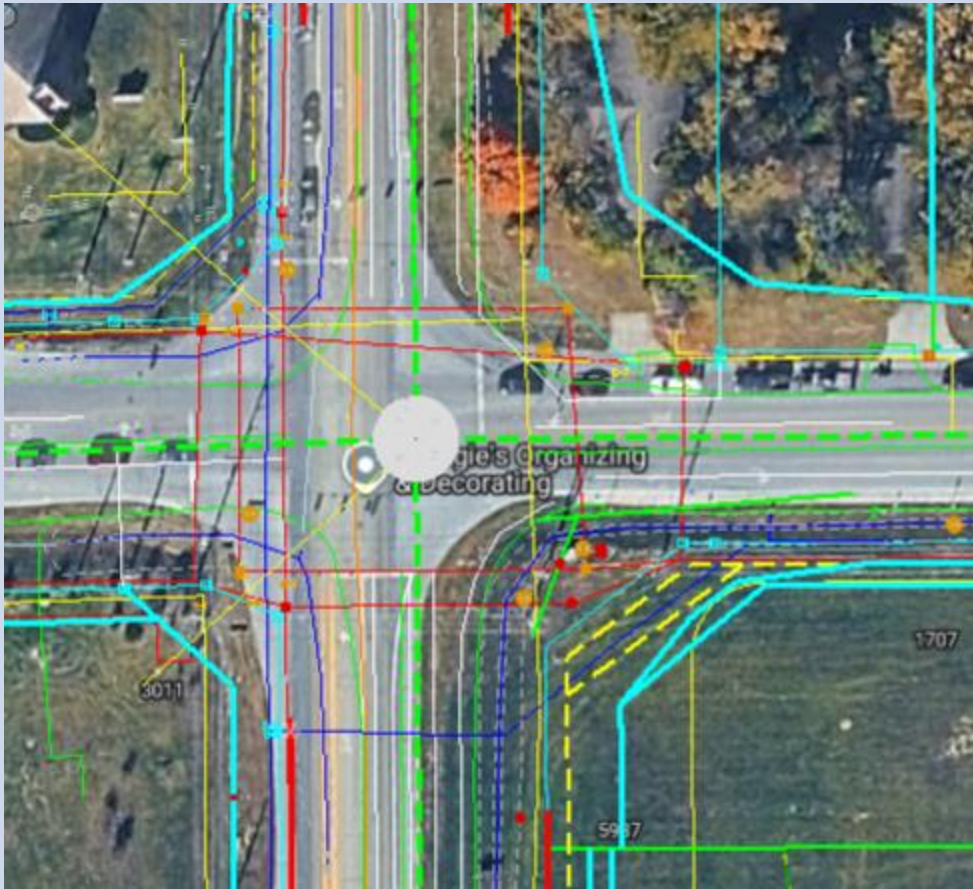
Renew I-
70 West



Mid States



CAD Model Request

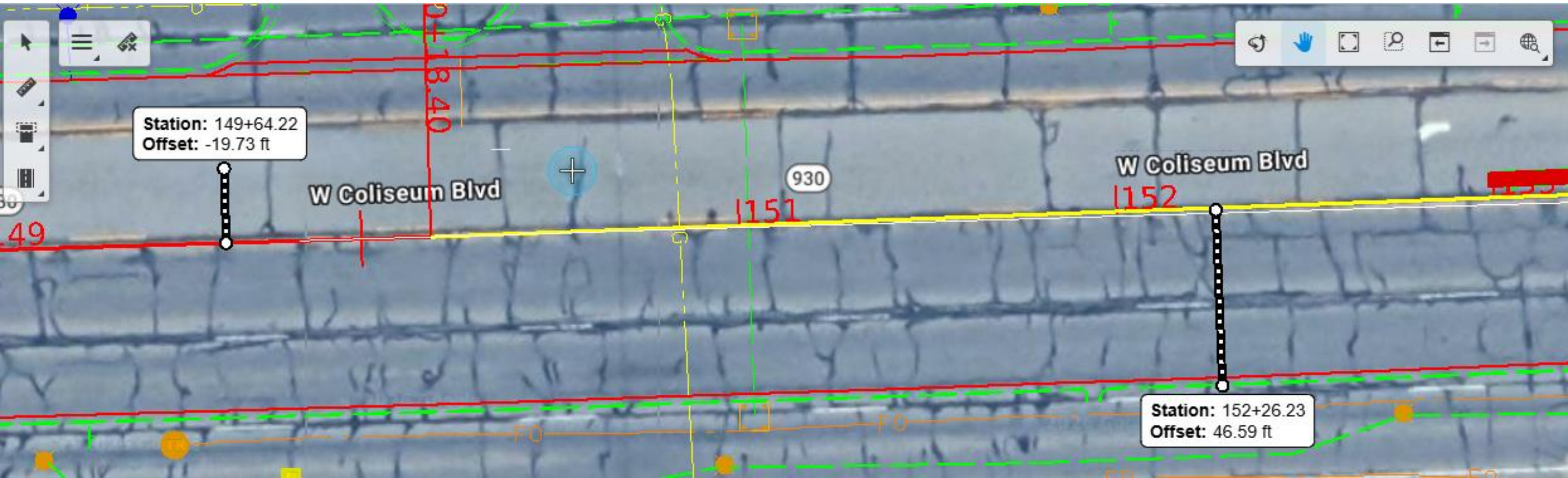


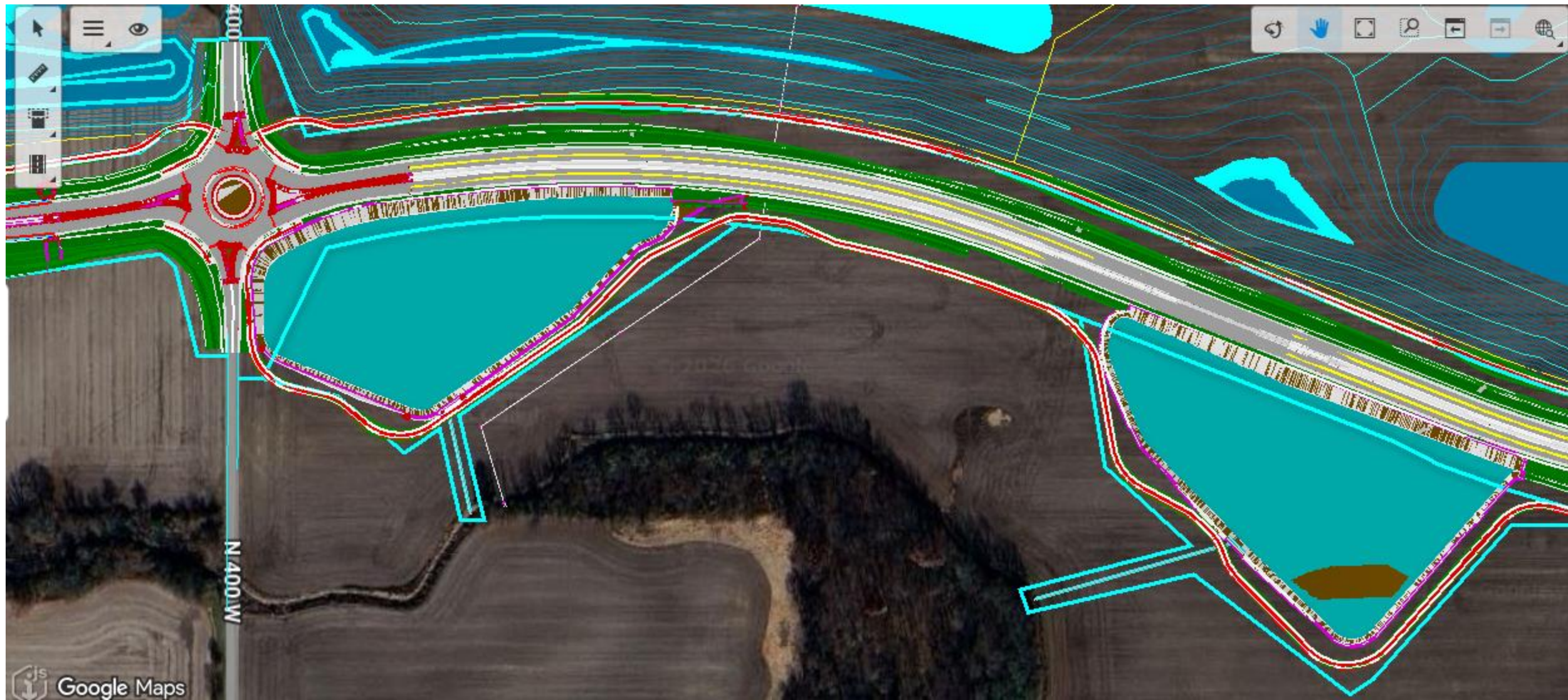
Blanket Waiver Form

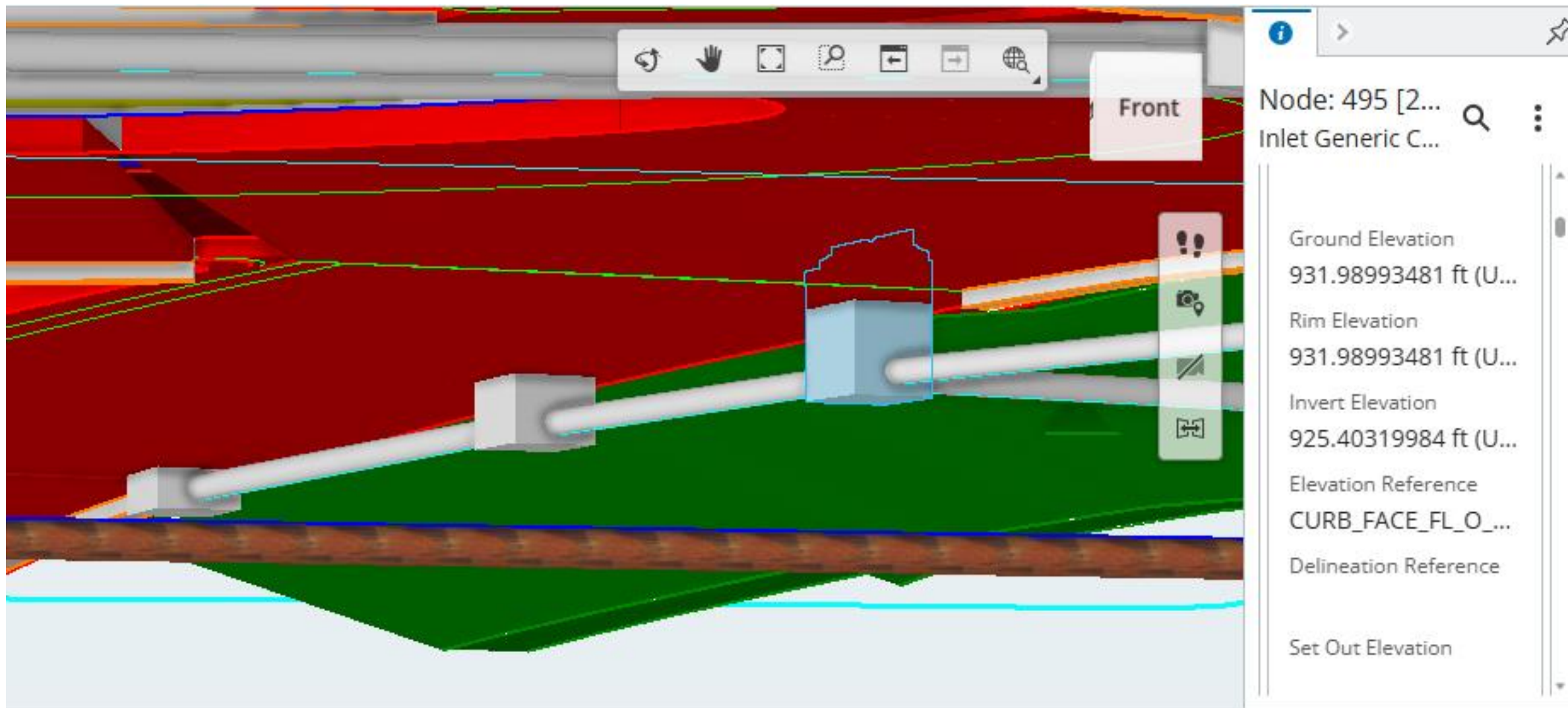
Export PDF with Geolocation
or Coordinate System

INDOT ProjectWise work
area

Infrastructure Cloud



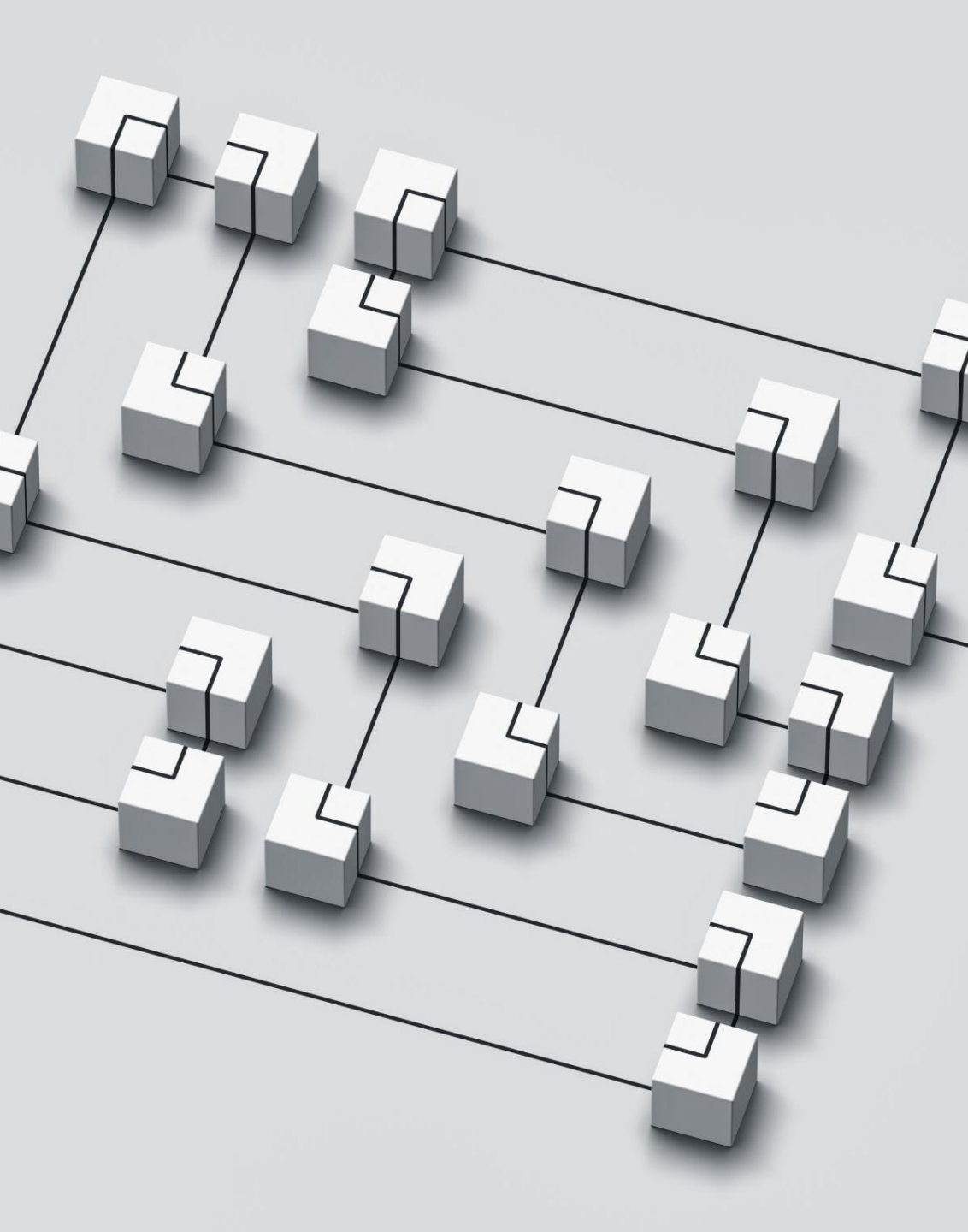




 Display Optimizations

Presentation 





Pathways to Digital Delivery

- Data Pathway
 - Item Types
 - Data Dictionary
 - CAD Details and Requirements
 - The "Model"
- Business Pathway
 - Tools
 - Processes

Business Pathway



ProjectWise and
Infrastructure Cloud



3 Step Approach



Challenges

>5000 Switches
Logistics

Stepped Approach



First Step – Active Construction Contracts

Construction Records Management
Intra-project Communication
Limited Inspection



Second Step – Active Design Contracts

Deliverables Management
Design Collaboration



Third Step – Future State

Document Coding
Expanded Workflows

Agile Tool Development

Alphabet Soup – ITAP et al

Agile Development – Iterate, iterate,
iterate

Collaborative Effort – Tools that work
for everyone

Feedback Required - [INDOT: Digital
Delivery](#)

Digital delivery in transportation refers to a **model-based project delivery method** that replaces traditional 2D paper plans with **3D-engineered models and structured data** as the primary source of truth throughout the project lifecycle. Instead of static PDFs, contractors, designers, and inspectors work from integrated digital models that include geometry, attributes, and linked documentation. This approach enables:

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Getting Started

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Trainings



Infrastructure Cloud Overview

[Click Here](#)



Infrastructure Cloud Project Collaboration

[Click Here](#)



YouTube Bentley Training

[Click Here](#)



ProjectWise Deliverables Management Portal Help

[Click Here](#)

CLICK HERE TO SUBMIT FEEDBACK ABOUT DIGITAL DELIVERY

2026 Purdue Road School Transportation Conference



Goodbye ERMS

Hello Infrastructure Cloud

Multiple File Upload Tool (MFUT)

Indiana Department of Transportation

Current User : JonathanPauwe

Enter DES number: [Fill from SPMS](#)

Required Properties

DES Number :

Structure Number :

Current Status :

Document Type :

Road Bridge Indicator :

Designed By :

Contract Number :

Design Type :

District :

Managed By :

Optional Properties

Project Number :

Letting Date :

NBI Number :

Ending Reference Post :

Keywords :

Route Number :

Project Stage :

Stimulus Project Indicator :

Review Due Date :

Provision Type :

Location :

Primary DES Number :

Beginning Reference Post :

Comments :

Revision Date :

County :

Final Tracing Type :

Reviewer :

Review Completed Date :

Culvert Asset ID :

Next

ProjectWise

DES 1234567

Future Project Structure Testing

PROJECT

Home

Work

Documents

Deliverables

Map

Models

Dashboard

DES 1234567

Future Project Structure Testing

SR 70, 1.15 miles West of SR 66

Sunny

75°F

Wind: 11 mph, SSW

Humidity: 54%

SAT 75° 46"

SUN 57° 30"

MON 58° 43"

TUE 59° 53"

My recent activity

Design Issue #105-00002

BCM Test Issue

October 2, 2025

Viewed

Design Issue #105-00001

Design Issue test

October 2, 2025

Viewed

More Submittal Testing #SUB-00005

Contracts Detail

October 2, 2025

Viewed

More Submittal Testing #TRA-00004

Management

October 2, 2025

Viewed

More Submittal Testing #TRA-00005

Specification Ambiguity

October 2, 2025

Viewed

My work

My work

My role

All

ID: SUB-00008

Pay Item

Assigned to: Engineer

Status: Unresolved - draft

ID: TRA-00002

Test

Assigned to: Jonathan Pauwe

Status: Unresolved

ID: TRA-00001

Fix date, not current

Assigned to: Jonathan Pauwe

Due Jul 16, 2024 - 486 days Over - Status: Issue rejected - ...

ID: TAS-00009

Utility Coordination

Assigned to: Jonathan Pauwe

Due Mar 28, 2025 - 121 days Overdue - Status: Draft

View all

Create

[Bridge Replacement Stage 2 Checklist](#)

[Design Document Review](#)

[Design Issue](#)

[Design Task](#)

[Development Milestone](#)

[Level 1 Checklist](#)

iModels

I-69

No content

Summary

My work

Project

17

All open items

New 0

Overdue 14

Close deadline 0

Upcoming 1

0

Open Clash

0

Open Design Issue

1

Open Design Task

0

Open Reviews

3

Open Submittals

13

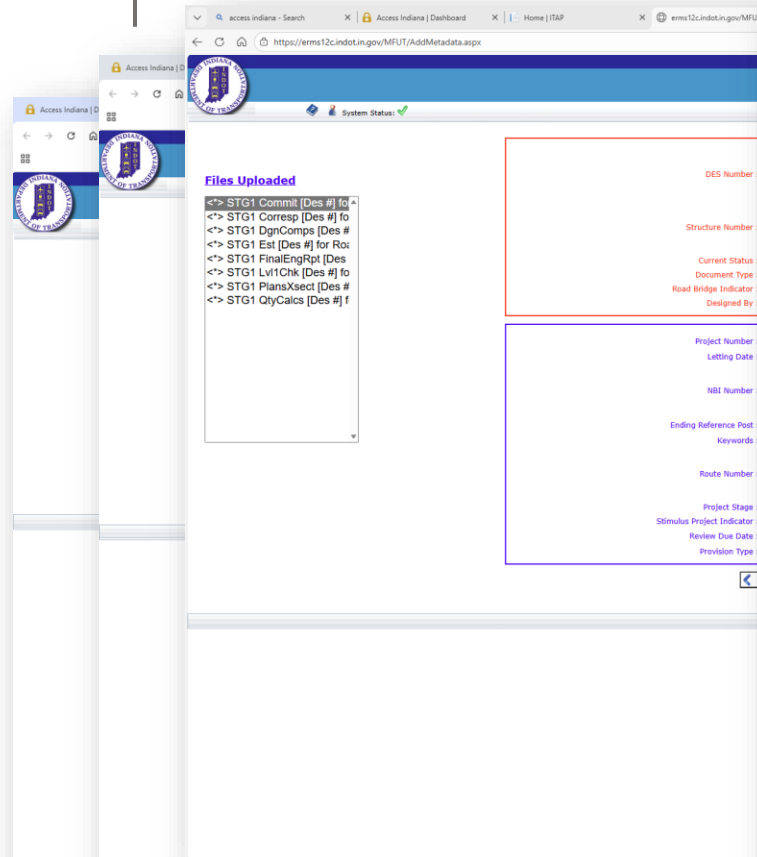
Open Deliverable Issues

0

Open Deliverable RFI

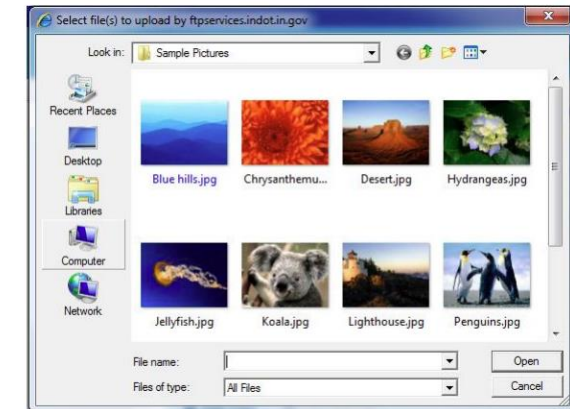


From ERMS to What's Next

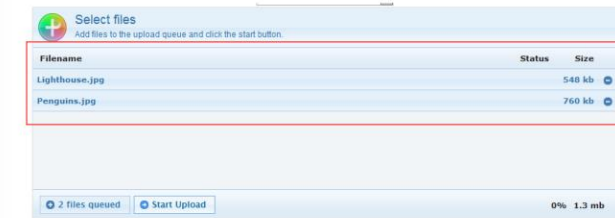


Multiple File Upload Tool (MFUT)
Last Updated 04/25/2016
John Gosch

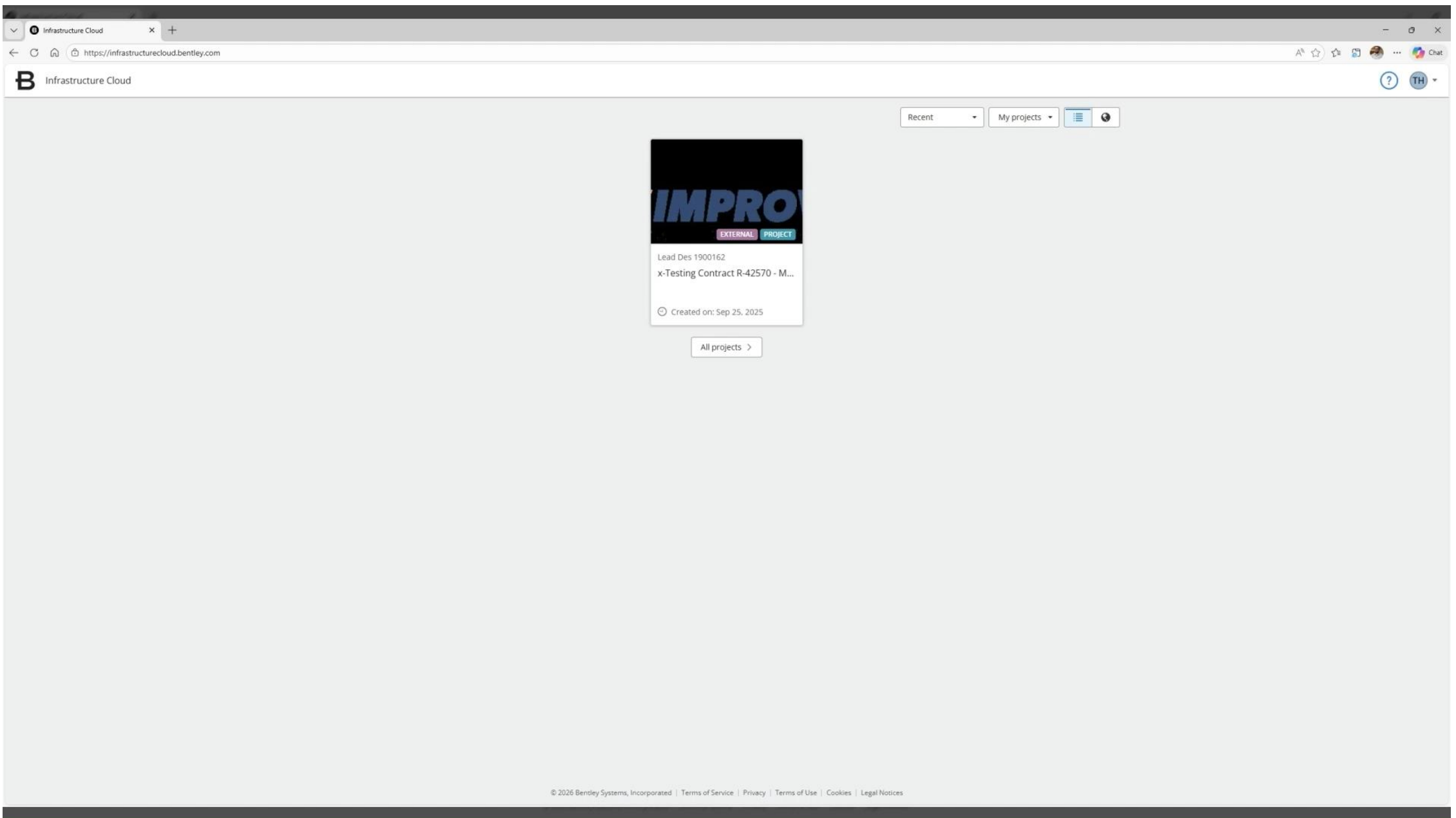
Getting to MFUT from ITAP.....	Page 02
Initial Page.....	Page 03
Upload Control.....	Page 05
Adding Files.....	Page 05
Removing Files.....	Page 07
Executing the Upload.....	Page 07
Entering File Information.....	Page 09
Adding Information to All Files.....	Page 09
Adding Information to Individual Files.....	Page 10
Appendix A: Special Controls.....	Page 13
Appendix B: Change Log.....	Page 18



From here browse to the location of the files and, using the shift and ctrl keys, select the files to upload. Then click on the "Open" button. This will populate the files into the upload list on the control.



If more files are needed simply click on the "files queued" button to add more. The new files can be from a different location than the original files added.



Why is INDOT Moving This Direction?

2025

- 1800+ Stage Submittals
- Not including Final Tracings

- Data Integrity
- Consistency
- Transparency
- Automation
- Cost

INDOT forecasts **\$10 Million** in savings for Stage Submittals
^
PER YEAR

Infrastructure Cloud

Lead Des 1900162

x-Testing Contract R-42570 - Major Projects Improve 64 (ATL a...

EXTERNAL

PROJECT

★

Search any datatype in this project or asset

?

TH

+

Deliverables Management

ProjectWise Deliverables Management

New

Home

Work

Documents

Deliverables

Map

iModels

Dashboard

Carbon Analysis

Incoming

Outgoing

Drafts

Download responses

Show all types

Q

Show all completed

	Subject	Package ID	Classification	Issued	Purpose	Status	Progress	Latest response	Actions
☐	2026 Road School Transmittal Example ID: Lead Des 1900162-TR-0000045 To: Timothy Haney, HNTB Corporation	Lead Des 1900162-TR-0000045	Stage 1	03/09/2026 2:31 PM	Submittal	Acknowledged Due date: 03/11/2026 2:31 PM Responded Due date: 04/08/2026 2:31 PM	Acknowledgements 1 / 1 Responses 1 / 1	03/09/2026 2:38 PM	
☐	Version Compare Transmittal ID: Lead Des 1900162-TR-0000048 To: Timothy Haney, HNTB Corporation	Lead Des 1900162-TR-0000048	Stage 1	03/06/2026 10:09 AM	Design Submittal	Acknowledged Due date: 03/08/2026 11:09 AM Responded Due date: 03/20/2026 11:09 AM	Acknowledgements 1 / 1 Responses 1 / 1	03/06/2026 10:17 AM	
☐	Additional Reviewer Guide Transmittal ID: Lead Des 1900162-TR-0000046 To: Nathan Goins, HNTB Corporation	Lead Des 1900162-TR-0000046	Stage 1	03/04/2026 4:04 PM	Submittal	Acknowledged Due date: 03/06/2026 4:04 PM Responded Due date: 03/18/2026 5:04 PM	Acknowledgements 1 / 1 Responses 1 / 1	03/06/2026 9:06 AM	
☐	BIC_Workflow_0001 ID: Lead Des 1900162-TR-0000034 - C To: Nathan Goins, HNTB Corporation + 1 more	Lead Des 1900162-TR-0000034 - C	DSUB Release for Constr...	02/10/2026 11:12 AM	Design Submittal	Acknowledged Due date: 02/12/2026 11:12 AM Responded Due date: 02/24/2026 11:12 AM	Acknowledgements 2 / 2 Responses 1 / 1	02/10/2026 11:36 AM	
☐	BIC_Workflow_0001 ID: Lead Des 1900162-TR-0000034 - B To: Nathan Goins, HNTB Corporation + 1 more	Lead Des 1900162-TR-0000034 - B	DSUB Stage 3 (STG3)	02/10/2026 10:35 AM	Design Submittal	Acknowledged Due date: 02/12/2026 10:35 AM Responded Due date: 02/24/2026 10:35 AM	Acknowledgements 2 / 2 Responses 1 / 1	02/10/2026 10:53 AM	
☐	BIC_Workflow_0001 ID: Lead Des 1900162-TR-0000034 To: Nathan Goins, HNTB Corporation + 1 more	Lead Des 1900162-TR-0000034	DSUB Stage 1 (STG1)	02/10/2026 9:51 AM	Design Submittal	Acknowledged Due date: 02/12/2026 9:51 AM Responded Due date: 02/24/2026 9:51 AM	Acknowledgements 2 / 2 Responses 1 / 1	02/20/2026 2:08 PM	
☐	Consolidator Test ID: Lead Des 1900162-TR-0000033 To: Nathan Goins, HNTB Corporation	Lead Des 1900162-TR-0000033	DSUB	02/09/2026 2:16 PM	For Review	Acknowledged Due date: 02/11/2026 2:16 PM Responded Due date: 02/23/2026 2:16 PM	Acknowledgements 1 / 1 Responses 1 / 1	02/09/2026 2:34 PM	
☐	Submittal_Transmittal_Issues_00000001 ID: Lead Des 1900162-TR-0000032 - C To: Nathan Goins, HNTB Corporation	Lead Des 1900162-TR-0000032 - C	DSUB	02/09/2026 2:07 PM	Design Submittal	Acknowledged Due date: 02/11/2026 2:07 PM Responded Due date: 02/23/2026 2:07 PM	Acknowledgements 1 / 1 Responses 1 / 1	02/09/2026 2:10 PM	
	Submittal_Transmittal_Issues_00000001					Acknowledged Due date: 02/11/2026 1:28 PM	Acknowledgements 1 / 1		

Administration

2026 Purdue Road School Transportation Conference

HNTB

Deliverables, a look back

Home

HNTB Corporation

Assets

Projects

71007
I-69 Martinsville

16

?

Nathan Goins

NG

Deliverables Management

ProjectWise Deliverables Management

New

Incoming

Outgoing (1)

Drafts

Acknowledge selected

Show all types

Subject

Classification

Issued

Purpose

Status

Progress

Actions

R-33493 | RFI 00003 Radio Interc...

ID: 71007-InRFI-0000157

From: Nathan Goins, HNTB Corporation

01/08/2020 10:22 AM

RFI

No acknowledgement is required from you
Due date: 01/10/2020 10:22 AM
No response is required from you
Due date: 01/15/2020 10:22 AM

1 response cycle
RFI closed

HNTB RFI 00003 Radio Interconn...

ID: 71007-InRFI-0000158

From: Tyler Kovacs, Indiana DOT

01/08/2020 10:32 AM

RFI

No acknowledgement is required from you
Due date: 01/10/2020 10:32 AM
No response is required from you
Due date: 01/15/2020 10:32 AM

1 response cycle
RFI closed



HNTB

From Digital Delivery to Digital Engineering

What's Next?

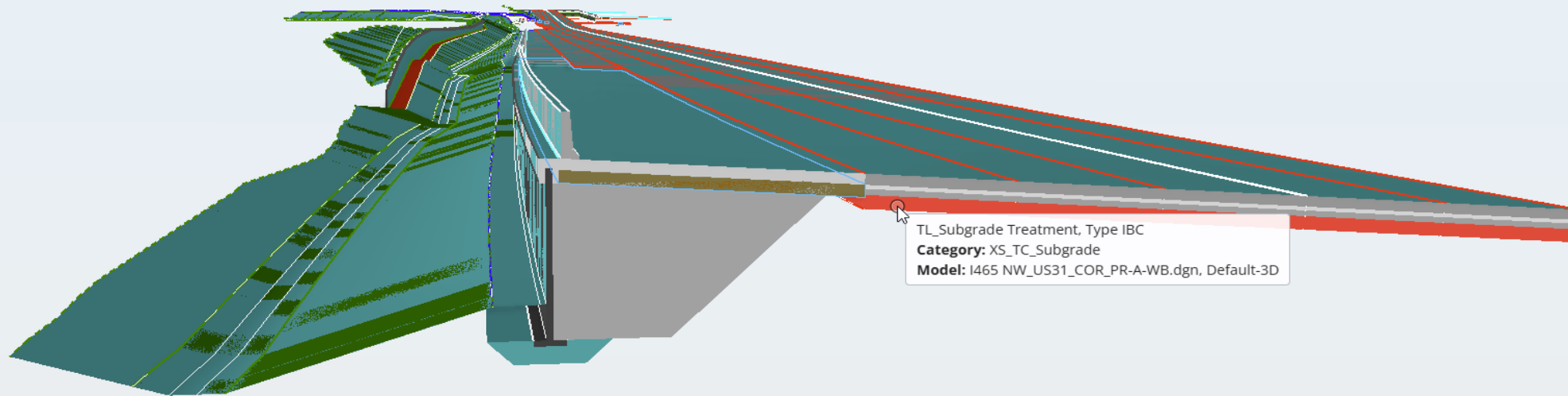
- More real time collaboration
- INDOT wants your models
- What this means for how you work
 - Reviewing Models, not just files
 - Resolving issues in context
 - Connected workflows, fewer handoffs



HNTB



Unified Model Viewing



- View and work with models directly in a web browser
- No OpenRoads or OpenBridge required
- Roads, Bridges, drainage, terrain, all together

Map Layers

Base

Google Maps: Aerial Im...

Background

No Background layers specified

Add Layer

Overlay

No Overlay layers specified

Add Layer

Properties

SW2_Aggregate for Under...

XS_TC_Aggregate

Selected Item(s)

Category

XS_TC_Aggregate

Code

Model

I465 NW_US31_COR_PR-A-WB.dgn, ...

User Label

SW2_Aggregate for Underdrains

Mesh

Surface Feature Symbology

XS_TC_Aggregate

Volume Option

Design

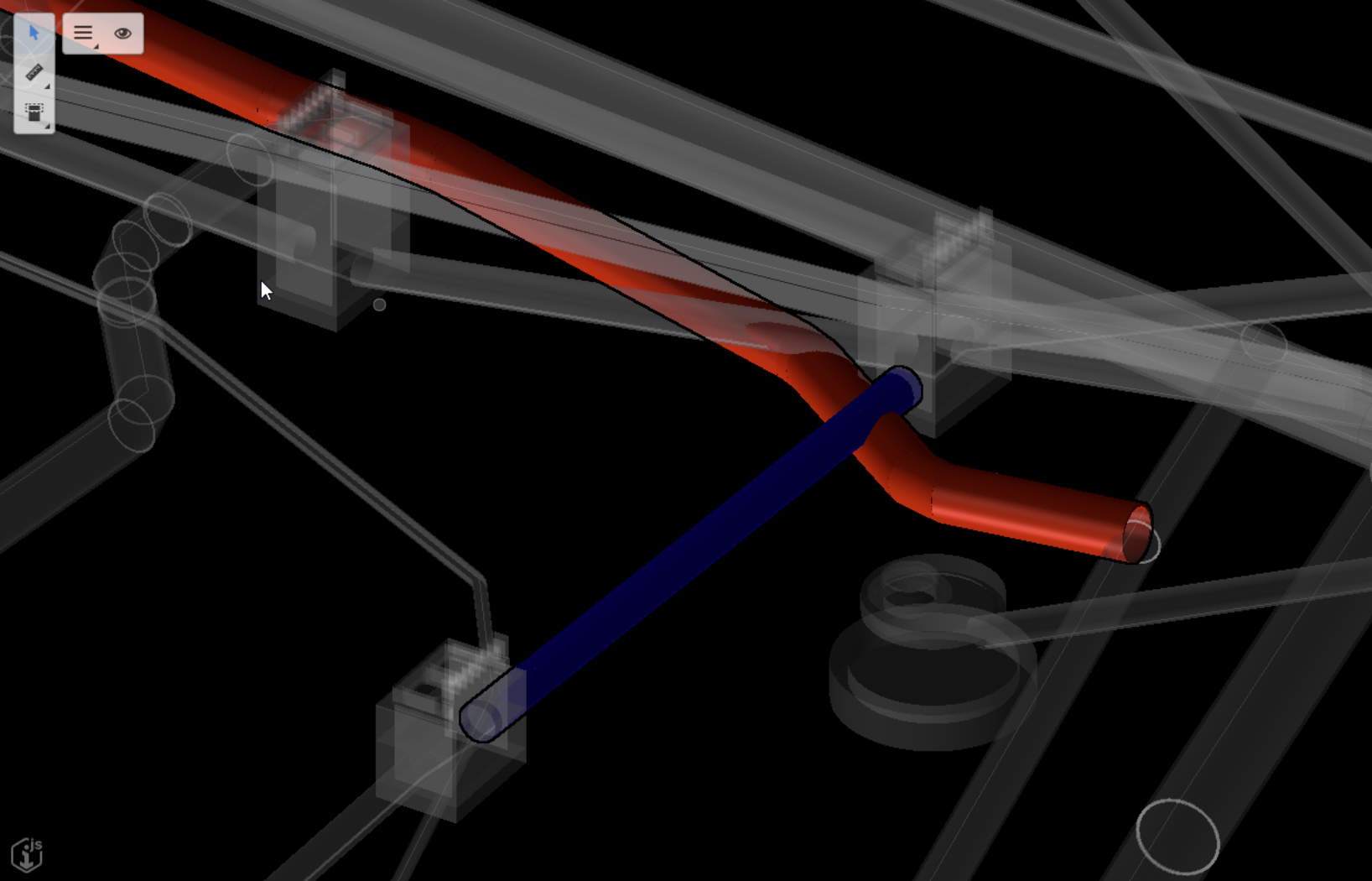
Cut Factor



HNTB

Forms (0)

2026 Purdue Road School Transportation Conference

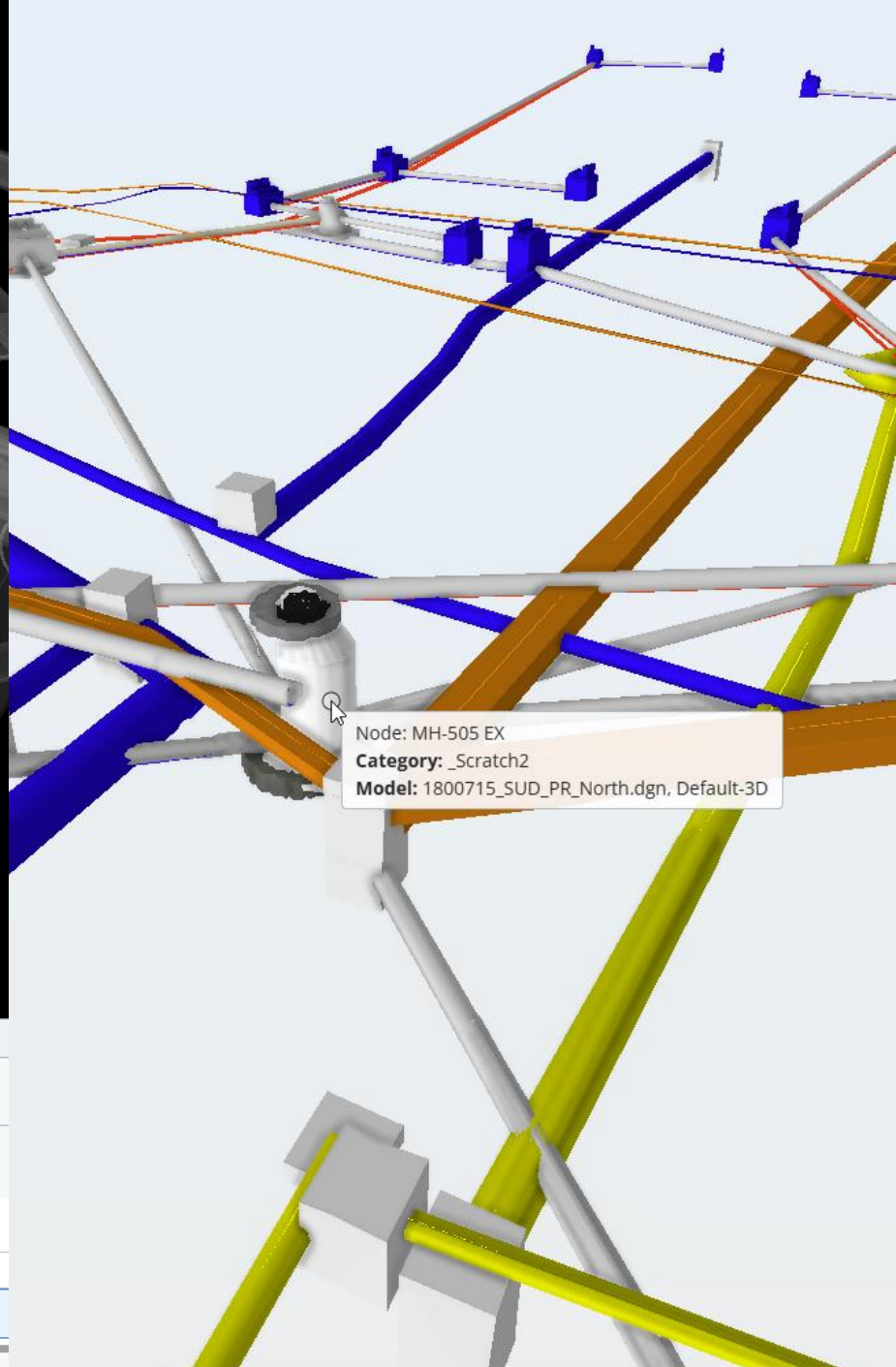


Forms Clash Detection

Clash Jobs > Clash PR Drainage

Clash View ^ Clash

	#	Set A Element	Set B Element	Status	Suppression
☐	31	Link: WATER VAULT [3-3MM]	Link: P-314 [4-37U]	Active	Unsuppressed
☒	30	Link: WATERS [3-3MI]	Link: P-312 [4-364]	Active	Unsuppressed





From Digital Delivery to Digital Collaboration

- Built on today's digital delivery foundation
- Earlier insight
- More collaboration, fewer late surprises



Thank you

Andrew Pangallo

apangallo@indot.IN.gov



Jon Paauwe

jpaauwe@indot.IN.gov



Tim Haney

tihaney@hntb.com



Nathan Goins

ngoins@hntb.com

