

Indiana Department of Transportation

County Tippecanoe and Clinton Route SR 38 Des. No. 1601074

**FHWA-Indiana Environmental Document
CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM
GENERAL PROJECT INFORMATION**

Road No./County:	SR 38, Tippecanoe and Clinton Counties
Designation Number:	1601074
Project Description/Termini:	HMA overlay minor structural replacement from 1.07 miles east of I-65 to US 421

After completing this form, I conclude that this project qualifies for the following type of Categorical Exclusion (FHWA must review/approve if Level 4 CE):

X	Categorical Exclusion, Level 2 – The proposed action meets the criteria for Categorical Exclusion Manual Level 2 - table 1, CE Level Thresholds. Required Signatories: ESM (Environmental Scoping Manager)
	Categorical Exclusion, Level 3 – The proposed action meets the criteria for Categorical Exclusion Manual Level 3 - table 1, CE Level Thresholds. Required Signatories: ESM, ES (Environmental Services Division)
	Categorical Exclusion, Level 4 – The proposed action meets the criteria for Categorical Exclusion Manual Level 4 - table 1, CE Level Thresholds. Required Signatories: ESM, ES, FHWA
	Environmental Assessment (EA) – EAs require a separate FONSI. Additional research and documentation is necessary to determine the effects on the environment. Required Signatories: ES, FHWA

Note: For documents prepared by or for Environmental Services Division, it is not necessary for the ESM of the district in which the project is located to release for public involvement or sign for approval.

Approval _____

ESM Signature	Date	ES Signature	Date
_____		_____	
FHWA Signature		Date	

Release for Public Involvement

<u>N/A</u>	_____	<u>12-21-2020</u>	_____
ESM Initials	Date	ES Initials	Date

Certification of Public Involvement _____

Office of Public Involvement Date

Note: Do not approve until after Section 106 public involvement and all other environmental requirements have been satisfied.

INDOT ES/District Env.
Reviewer Signature: _____ Date: _____

Name and Organization of CE/EA Preparer: Tamra L. Reece and Alison Whitehead, Hanson Professional Services Inc. (Hanson)

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Part I - PUBLIC INVOLVEMENT

Every Federal action requires some level of public involvement, providing for early and continuous opportunities throughout the project development process. The level of public involvement should be commensurate with the proposed action.

Does the project have a historic bridge processed under the Historic Bridges PA*? If No, then: Opportunity for a Public Hearing Required? Yes No

*A public hearing is required for all historic bridges processed under the Historic Bridges Programmatic Agreement between INDOT, FHWA, SHPO, and the ACHP.

Discuss what public involvement activities (legal notices, letters to affected property owners and residents (i.e. notice of entry), meetings, special purpose meetings, newspaper articles, etc.) have occurred for this project.

Remarks: Notice of Entry letters were mailed to potentially affected property owners near the project area on September 29, 2020... To meet the public involvement requirements of Section 106... The project will meet the minimum requirements described in the current Indiana Department of Transportation (INDOT) Public Involvement Manual...

Public Controversy on Environmental Grounds Will the project involve substantial controversy concerning community and/or natural resource impacts? Yes No

Remarks: At this time, there is no substantial public controversy concerning impacts to the community or to natural resources.

Part II - General Project Identification, Description, and Design Information

Sponsor of the Project: INDOT Local Name of the Facility: SR 38 INDOT District: Crawfordsville

Funding Source (mark all that apply): Federal [X] State [X] Local [] Other* []

*If other is selected, please identify the funding source:

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PURPOSE AND NEED:

Describe the transportation problem that the project will address. The solution to the traffic problem should NOT be discussed in this section. (Refer to the CE Manual, Section IV.B.2. Purpose and Need)

Need:

The project needs (or deficiencies) include the poor structural, physical, and operational condition of the existing pavement. The pavement has moderate to severe transverse and longitudinal cracking, moderate rutting and raveling at random locations throughout the travel lanes. The poor roadway condition is exacerbated due to the inadequate shoulder widths. In addition to the roadway deficiencies the current sidewalk and curb ramp areas are in poor condition in various locations within the town of Mulberry and do not meet the American with Disabilities Act (ADA) standards.

Purpose:

The purpose of the project is to enhance the long-term integrity of the roadway pavement, improve lateral structural support of the travel lanes, improve pedestrian access within the Town of Mulberry, and address rutting of the pavement on the SR 38 corridor.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Tippecanoe and Clinton Municipality: Dayton and Mulberry

Limits of Proposed Work: SR 38 from 1.07 mi east of I-65 to US 421 west junction in Tippecanoe and Clinton Counties, Indiana

Total Work Length: 10.75 Mile(s) Total Work Area: 83.9 Acre(s)

Is an Interchange Modification Study / Interchange Justification Study (IMS/IJS) required? If yes, when did the FHWA grant a conditional approval for this project?

Table with Yes/No columns and Date field. X is marked in the No column.

1If an IMS or IJS is required; a copy of the approved CE/EA document must be submitted to the FHWA with a request for final approval of the IMS/IJS.

In the remarks box below, describe existing conditions, provide in detail the scope of work for the project, including the preferred alternative. Include a discussion of logical termini. Discuss any major issues for the project and how the project will improve safety or roadway deficiencies if these are issues.

Location:

SR 38 from 1.07 miles east of I-65 to north junction of SR38/US 421 junction in Tippecanoe County: Township 22 North, Range 3 West, Sections 2, 3, 4, 9, 10, 11, 12, 13, Clinton County: Township 22 North, Range 2 West, Sections 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, and Township 22 North, Range 1 West, Sections 18, 19 (Appendix B, page 2).

Existing Conditions:

SR 38 has a single travel lane in each direction. Pavement width is approximately 24 feet consisting of two 12-foot lanes and 0-10 feet wide shoulders with various materials. This section of SR 38 is classified as a two-lane Rural Minor Arterial and Collector on non-National Highway System route. The project limits located within the town of Dayton are designated as an urban area boundary. Posted speed limits along the project corridor range from 30 to 55 mph.

The minimum useable shoulder width for this project varies from 8 feet to 3 feet in width. Existing side slopes vary from 2:1 to 4:1 with roadside ditches. The rural cross section along SR 38 consists of two 11-foot to 12-foot lanes bordered by 3-foot to 6-foot paved shoulders (3-6 foot useable). The roadside drainage ditches are intermittent along the north and south sides of the SR 38 corridor. The ditches are u-shaped with variable v-shaped ditches of varying depth and slope.

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The south fork of the Wildcat Creek is within the project limits of the town of Dayton. Adjacent land uses are residential, agricultural, and light industrial.

Preferred Alternative:

The project is split up into six sections depending on existing conditions, traffic counts, INDOT route classifications and surrounding uses. The preferred alternative will meet the project's purpose and need to address the long-term integrity of the roadway pavement, improve lateral structural support of the travel lanes, improve pedestrian access within the Town of Mulberry, and address rutting of the pavement on the SR 38 corridor. Logical termini are from Adams Road within the eastern limits of the town of Dayton to US 421. This roadway corridor has common roadway conditions as identified in the purpose and need and provides independent utility from other potential transportation improvements.

Section 1: Station 392+50 to Station 394+50, see Appendix B, page 22 (Adams Road to east edge of Dayton Cemetery)
The preferred alternative for Section 1 is full depth reclamation of the travel lanes and construct 2' paved and 1' aggregate shoulders. 4:1 foreslopes, a 4' ditch, and 3:1 backslopes tying into the existing ground will also be constructed. This alternative will improve the lateral support of the roadway.

Section 2: Station 394+50 to Station 491+10, see Appendix B, pages 22 to 29 (east edge of Dayton Cemetery to 50 feet east of E 350 S) broken up into two parts. Part 1, Station 394+50 to Station 403+70, see Appendix B, page 22 and Part 2, Station 403+70 to Station 491+10, see Appendix B, pages 22 to 29.

The preferred alternative for Section 2 Part 1 is full depth reclamation of the travel lanes and construct 2' paved and 1' aggregate shoulders. 4:1 foreslopes, a 4' ditch, and 3:1 backslopes tying into the existing ground will also be constructed. This will reduce right-of-way needs and allow for improved lateral support of the roadway and improved drainage. For Part 2, the preferred alternative is to mill and overlay the travel lanes and both shoulders. This alternative is low cost and will have minimal inconvenience to the travelling public.

Section 3: Station 491+10 to Station 662+00, see Appendix B, pages 29 to 41 (50 feet east of E 350 S to 200 feet west of West St., Mulberry)

The preferred alternative for Section 3 is full depth reclamation of the travel lanes and construct 2' paved and 1' aggregate shoulders. 4:1 foreslopes, a 4' ditch, and 3:1 backslopes tying into the existing ground will also be constructed. The exception for this is Station 512+48.20 to Station 515+54.40, Station 560+20.50 to Station 563+26.80, and Station 631+79.80 to Station 635+42.80. At these stations 4' shoulders will be constructed, and guardrail will be placed. This alternative will reduce right-of-way needs and will allow for improved lateral support of the roadway and improved drainage.

Section 4: Station 662+00 to Station 710+00, Appendix B, pages 41 to 44 (200 feet west of West Street, Mulberry to 750 feet east of Park Street, Mulberry) broken up into two parts. Part 1 (residential) from Station 662+00 to Station 684+00, Appendix B, pages 41 to 42, and Station 689+00 to Station 710+00, Appendix B, pages 43 to 44, and Part 2 (commercial) from Station 684+00 to Station 689+00, Appendix B, page 44.

The preferred alternative for Section 4 is to mill and overlay the travel lanes and both shoulders. This alternative will cause minimal inconvenience to the travelling public. Lateral support is not an issue at this location because the support already exists from the adjacent aggregate parking/parkway urban layout.

Section 5: Station 710+00 to Station 858+50, Appendix B, pages 44 to 55 (750 feet east of Park Street., Mulberry to 800 feet east of N 500 W)

The preferred alternative for section 5 is full depth reclamation of the travel lanes and construct 2' paved and 1' aggregate shoulders. 4:1 foreslopes, a 4' ditch, and 3:1 backslopes tying into the existing ground will also be constructed. This alternative is preferred because it will reduce right-of-way needs and allow for improved lateral support of the roadway and improved drainage.

Section 6: Station 858+50 to Station 960+00, Appendix B, pages 55 to 62 (800 feet east of N 500 W to North Junction of SR 38/US 421)

The preferred alternative for Section 6 is full depth reclamation of the travel lanes and construct 2' paved and 1' aggregate shoulders. 2:1 foreslopes to existing ground will also be included. The exception for this is at Station

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862+42.90 to Station 865+33.70, Appendix B, page 55 and Station 871+24.60 to Station 875+11.00, Appendix B, page 55. At these locations there will be full depth reclamation of the travel lanes and 4' paved shoulders and guardrail will be constructed. This alternative will reduce right-of-way needs, improve drainage, and reduce environmental impacts to farmland, trees, and streams.

OTHER ALTERNATIVES CONSIDERED:

Describe all discarded alternatives, including the Do-Nothing Alternative and an explanation of why each discarded alternative was not selected.

Discarded alternatives for Section 1 include mill and overlay travel lanes and construct 2' paved and 6' aggregate shoulders with minimum 3R design requirements, mill and overlay travel lanes and construct 10' paved shoulders, and mill and overlay travel lanes and both shoulders. These were discarded as these alternatives would require additional right-of-way, and some alternatives did not meet the project's purpose and need of addressing the pavement edge deterioration.

Discarded alternatives for Section 2 Parts 1 and 2 include mill and overlay travel lanes and construct 4' paved and 4' aggregate shoulders with minimum 3R design requirements and mill and overlay travel lanes. These alternatives were discarded due to increased right-of-way needs and not meeting the purpose and need of addressing the pavement edge deterioration.

Discarded alternatives for Section 3 include mill and overlay travel lanes and construct 4' paved and 2' to 4' aggregate shoulders with minimum 3R design requirements, mill and overlay travel lanes and construct 6' paved and 2' aggregate shoulders with desirable 3R requirements, and mill and overlay travel lanes and both shoulders. These alternatives were discarded because of increased right-of-way needs and not meeting the purpose and need of addressing the pavement edge deterioration.

Discarded alternatives for Section 4 Part 1 include mill and overlay travel lanes and curb and gutter, mill and overlay travel lanes and construct paved shoulders and street parking. These were discarded because of cost and potential runoff problems. The only discarded alternative for Section 4 Part 2 was the do nothing alternative.

Discarded alternatives for Section 5 include mill and overlay travel lanes and construct 4' paved and 4' aggregate shoulders with desirable 3R requirements and to mill and overlay travel lanes and both shoulders. Both alternatives were discarded because of increased right-of-way needs and not meeting the purpose and need of addressing the pavement edge deterioration.

Discarded alternatives for Section 6 include mill and overlay travel lanes and construct 4' paved and 4' aggregate shoulders with desirable 3R design requirements and mill and overlay travel lanes and both shoulders. These were discarded due to increased right-of-way needs and not meeting the purpose and need of addressing the pavement edge deterioration.

Full Depth Reclamation Alternative

Full depth reclamation was recommended in some areas but not the entire project. The pavement design for Des. No 1601074 was received from INDOT in May 2020. In the areas with proposed shoulder widening (see Preferred Alternatives), it was determined by the pavement designer that a full-depth reclamation pavement treatment would be most beneficial to addressing the deteriorating pavement/subbase condition while providing the needed 1.5 ft – 2 ft. of widening proposed. No widening of the shoulders is proposed in Section 2 Part 2 or Section 4 (Town of Mulberry). Section 2 Part 2 already has been widened to 10 ft. shoulders from a previous project and no widening was desired throughout the Town of Mulberry due to the presence of curb and sidewalk. Therefore, the Full Depth Reclamation Alternative for the entire corridor was dismissed from further consideration.

Do Nothing Alternative

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The other alternative considered was the "Do Nothing" alternative. This alternative would cost nothing, but it would not meet the standard purpose and need to enhance the long term integrity of the roadway pavement, provide lateral structural support of the travel lanes, seal the pavement from water infiltration, improve pedestrian access within the Town of Mulberry, and address rutting of the pavement on the SR 38 corridor.

No further alternatives were considered.

The Do Nothing Alternative is not feasible, prudent or practicable because (Mark all that apply):

It would not correct existing capacity deficiencies;

It would not correct existing safety hazards;

It would not correct the existing roadway geometric deficiencies;

It would not correct existing deteriorated conditions and maintenance problems; or

It would result in serious impacts to the motoring public and general welfare of the economy.

Other (Describe)

X

ROADWAY CHARACTER: SR 38 (at various points)

Sta. 392+20 – 395+50

Functional Classification:	Rural Minor Arterial		
Current ADT:	6770	Design Year ADT:	8026
Design Hour Volume (DHV):	10.62%	Truck Percentage (%):	16.31
Designed Speed (mph):	40	Legal Speed (mph):	40

Existing

Proposed

	Existing		Proposed
Number of Lanes:	2		2
Type of Lanes:	Through		Through
Pavement Width:	12	ft.	12
Shoulder Width:	1.5	ft.	3
Median Width:	N/A	ft.	N/A
Sidewalk Width:	N/A	ft.	N/A

Sta. 395+50 – 403+70, 491+10 – 596+75

Functional Classification:	Rural Minor Arterial		
Current ADT:	4332-6770	Design Year ADT:	5296-8026
Design Hour Volume (DHV):	10.20-10.62%	Truck Percentage (%):	16.31-16.97
Designed Speed (mph):	55	Legal Speed (mph):	55

Existing

Proposed

	Existing		Proposed
Number of Lanes:	2		2
Type of Lanes:	Through		Through
Pavement Width:	12	ft.	12
Shoulder Width:	1 – 1.5	ft.	3
Median Width:	N/A	ft.	N/A
Sidewalk Width:	N/A	ft.	N/A

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Sta. 704+50 – 710+00

Functional Classification: Rural Major Collector
 Current ADT: 2405 Design Year ADT: 2962
 Design Hour Volume (DHV): 10.02% Truck Percentage (%) 5.95
 Designed Speed (mph): 40 Legal Speed (mph): 40

Existing **Proposed**

Number of Lanes:	2	2	
Type of Lanes:	Through	Through	
Pavement Width:	12	12	ft.
Shoulder Width:	1-3	1-3	ft.
Median Width:	N/A	N/A	ft.
Sidewalk Width:	N/A	N/A	ft.

Sta. 710+00 – 715+00

Functional Classification: Rural Major Collector
 Current ADT: 2405 Design Year ADT: 2962
 Design Hour Volume (DHV): 10.02% Truck Percentage (%) 5.95
 Designed Speed (mph): 40 Legal Speed (mph): 40

Existing **Proposed**

Number of Lanes:	2	2	
Type of Lanes:	Through	Through	
Pavement Width:	12	12	ft.
Shoulder Width:	1	3	ft.
Median Width:	N/A	N/A	ft.
Sidewalk Width:	N/A	N/A	ft.

Sta. 715+00 – 960+00

Functional Classification: Rural Major Collector
 Current ADT: 2405-2433 Design Year ADT: 2962-2997
 Design Hour Volume (DHV): 10.02-10.03% Truck Percentage (%) 5.95-8.26
 Designed Speed (mph): 55 Legal Speed (mph): 55

Existing **Proposed**

Number of Lanes:	2	2	
Type of Lanes:	Through	Through	
Pavement Width:	12	12	ft.
Shoulder Width:	1	3	ft.
Median Width:	N/A	N/A	ft.
Sidewalk Width:	N/A	N/A	ft.

Setting: Urban Suburban Rural
 Topography: Level Rolling Hilly

If the proposed action has multiple roadways, this section should be filled out for each roadway.

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DESIGN CRITERIA FOR BRIDGES:

Des. 2000800

Structure/NBI Number(s): Small Structure CV 038-079-07.58 Sufficiency Rating: N/A
 (Rating, Source of Information)

	Existing	Proposed
Bridge Type:	Reinforced Concrete Box with a Corrugated Metal Pipe	Precast Reinforced Concrete Four-Sided Structure
Number of Spans:		
Weight Restrictions:	ton	ton
Height Restrictions:	ft.	ft.
Curb to Curb Width:	ft.	ft.
Outside to Outside Width:	ft.	ft.
Shoulder Width:	1 ft.	4 ft.
Length of Channel Work:	1	80 ft.

Describe bridges and structures; provide specific location information for small structures.

Remarks: The existing structure is a 3-foot by 3-foot reinforced concrete box (RCB) with a corrugated metal pipe liner (CMPL). The existing structure will be removed and replaced with a precast four-sided RCB structure with an 8-foot span and 3-foot rise. Riprap will be placed at the structure inlet and outlet. The structure is located approximately 0.1 mile east of the intersection of SR 38 and CR 950 E. (Appendix B, page 63).

Designation number 2000800 is being used solely for tracking purposes.

Will the structure be rehabilitated or replaced as part of the project? Yes No N/A

Des. 2000802

Structure/NBI Number(s): Small Structure CV 038-079-8.88 Sufficiency Rating: N/A
 (Rating, Source of Information)

	Existing	Proposed
Bridge Type:	Double Barrel Elliptical Corrugated Metal Pipe	Precast Reinforced Concrete Four-Sided Structure
Number of Spans:		
Weight Restrictions:	ton	ton
Height Restrictions:	ft.	ft.
Curb to Curb Width:	ft.	ft.
Outside to Outside Width:	ft.	ft.
Shoulder Width:	1 ft.	4 ft.
Length of Channel Work:	1	65 ft.

Describe bridges and structures; provide specific location information for small structures.

Remarks: The existing structure is a 32-inch by 24-inch double barrel elliptical corrugated metal pipe (CMP). The existing structure will be removed and replaced with a precast four-sided RCB structure with a 5-foot span and 3-foot rise. Riprap will be placed at the structure inlet and outlet. The structure is located approximately 0.12 mile east of the intersection of SR 38 and CR 1050 E. (Appendix B, page 64).

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Designation number 2000802 is being used solely for tracking purposes.

Will the structure be rehabilitated or replaced as part of the project? Yes No N/A

Des. 1902042
 Structure/NBI Number(s): Small Structure CV 038-012-10.20 Sufficiency Rating: N/A
(Rating, Source of Information)

	Existing		Proposed
Bridge Type:	Corrugated Metal Pipe Arch		Corrugated Metal Pipe Arch
Number of Spans:			
Weight Restrictions:		ton	
Height Restrictions:		ft.	
Curb to Curb Width:		ft.	
Outside to Outside Width:		ft.	
Shoulder Width:	1	ft.	4
Length of Channel Work:			25

Describe bridges and structures; provide specific location information for small structures.

Remarks: The existing structure is an 87-inch by 71-inch corrugated metal pipe arch (CMPA). The existing structure will remain in place. Riprap will be placed at the structure outlet and headwalls will be constructed. The structure is located approximately 0.2 mile west of the intersection of SR 38 and Seager Lane. (Appendix B, page 65).

Designation number 1902042 is being used solely for tracking purposes.

Will the structure be rehabilitated or replaced as part of the project? Yes No N/A

Des. 2001746
 Structure/NBI Number(s): Small Structure CV 038-012-11.86 Sufficiency Rating: N/A
(Rating, Source of Information)

	Existing		Proposed
Bridge Type:	Corrugated Metal Pipe		Precast Reinforced Concrete Four-Sided Structure
Number of Spans:			
Weight Restrictions:		ton	
Height Restrictions:		ft.	
Curb to Curb Width:		ft.	
Outside to Outside Width:		ft.	
Shoulder Width:	1	ft.	3
Length of Channel Work:			65

Describe bridges and structures; provide specific location information for small structures.

Remarks: The existing structure is a 30-inch CMP. The existing structure will be removed and replaced with a

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precast four-sided RCB structure with a 5-foot span and 3-foot rise. Riprap will be placed at the structure inlet and outlet. The structure is located approximately 0.9 mile west of the intersection of SR 38 and CR 700 W. (Appendix B, page 66).

Designation number 2001746 is being used solely for tracking purposes.

Will the structure be rehabilitated or replaced as part of the project? **Yes** **No** **N/A**

Des. 1902043

Structure/NBI Number(s): Small Structure CV 038-012-14.60 Sufficiency Rating: N/A
 (Rating, Source of Information)

	Existing	Proposed	
Bridge Type:	Corrugated Metal Pipe with Headwalls	Corrugated Metal Pipe Arch with Headwalls	
Number of Spans:			
Weight Restrictions:			ton
Height Restrictions:			ft.
Curb to Curb Width:			ft.
Outside to Outside Width:			ft.
Shoulder Width:	1	4	ft.
Length of Channel Work:		101	ft.

Describe bridges and structures; provide specific location information for small structures.

Remarks: The existing structure is a 4-foot by 4-foot CMP with headwalls. The existing structure will be removed and replaced with a CMP with headwalls with a 95-inch span and 67-inch rise. Riprap will be placed at the structure outlet. The structure is located approximately 0.15 mile west of the intersection of SR 38 and CR 500 W. (Appendix B, page 67).

Designation number 1902043 is being used solely for tracking purposes.

Will the structure be rehabilitated or replaced as part of the project? **Yes** **No** **N/A**

Des. 1902044

Structure/NBI Number(s): Small Structure CV 038-012-14.70 Sufficiency Rating: N/A
 (Rating, Source of Information)

	Existing	Proposed	
Bridge Type:	Reinforced Concrete Box	Precast Reinforced Concrete Four-Sided Structure	
Number of Spans:			
Weight Restrictions:			ton
Height Restrictions:			ft.
Curb to Curb Width:			ft.
Outside to Outside Width:			ft.
Shoulder Width:	1	4	ft.
Length of Channel Work:		71	ft.

Describe bridges and structures; provide specific location information for small structures.

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Remarks: The existing structure is a 7-foot by 5-foot RCB. The existing structure will be removed and replaced with a precast four-sided RCB structure with an 8-foot span and 6-foot rise. Riprap will be placed at the structure inlet and outlet. The structure is located approximately 100 feet east of the intersection of SR 38 and CR 500 W. (Appendix B, page 68).

Designation number 1902044 is being used solely for tracking purposes.

Will the structure be rehabilitated or replaced as part of the project? **Yes** **No** **N/A**

Des. 2001747
 Structure/NBI Number(s): Small Structure CV 038-012-15.38 Sufficiency Rating: N/A
 (Rating, Source of Information)

	Existing	Proposed	
Bridge Type:	Corrugated Metal Pipe	Corrugated Metal Pipe with Headwalls and CIPP Liner	
Number of Spans:			
Weight Restrictions:			ton
Height Restrictions:			ft.
Curb to Curb Width:			ft.
Outside to Outside Width:			ft.
Shoulder Width:	1	3	ft.
Length of Channel Work:		11	ft.

Describe bridges and structures; provide specific location information for small structures.

Remarks: The existing structure is a 36-inch CMP. The existing structure will remain in place and be lined. Riprap will be placed at the outlet of the pipe. The structure is located approximately 0.18 mile west of the intersection of SR 38 and CR 400 W. (Appendix B, page 69).

Designation number 2001747 is being used solely for tracking purposes.

Will the structure be rehabilitated or replaced as part of the project? **Yes** **No** **N/A**

If the proposed action has multiple bridges or small structures, this section should be filled out for each structure.

MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

	Yes	No
Is a temporary bridge proposed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is a temporary roadway proposed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will the project involve the use of a detour or require a ramp closure? (describe in remarks)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provisions will be made for access by local traffic and so posted.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provisions will be made for through-traffic dependent businesses.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Provisions will be made to accommodate any local special events or festivals.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Will the proposed MOT substantially change the environmental consequences of the action?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is there substantial controversy associated with the proposed method for MOT?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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Remarks: The MOT for the project will require a full or partial closure with access to local traffic with an official state detour route for all truck traffic. If there is a need for a closure of SR 38, the official detour (going west to east) would be:

1. I-65 north to SR 26 to US 421/SR 39 (approximately 21.1 miles)
2. I-65 south to SR 28 to US 421/SR 39 (approximately 24.3 miles)

The closures/lane restrictions will pose a temporary inconvenience to traveling motorists (including school buses and emergency services); however, no significant delays are anticipated, and all inconveniences will cease upon project completion. Delays may occur during construction but will cease with project completion.

ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: \$ 385,000 Right-of-Way: \$ 600,000 Construction: \$ 6,686,294.00
 (Note: TIP/STIP amount to be updated at a later date)

Anticipated Start Date of Construction: 2022

Date project incorporated into STIP July 2, 2019 (2020-2024 STIP)

Is the project in an MPO Area? **Yes** **No**

If yes,
 Name of MPO Area Plan Commission of Tippecanoe County
 Location of Project in TIP 2020-2024 pg. 24
 Date of incorporation by reference into the STIP July 2, 2019

RIGHT OF WAY:

Land Use Impacts	Amount (acres)	
	Permanent	Temporary
Residential	18.10	
Commercial/Religious Facility	0.14	
Agricultural	32.55	
Forest		
Wetlands		
Other: Cemetery	0.04	0.04
Other:		
TOTAL	50.83	0.04

Describe both Permanent and Temporary right-of-way and describe their current use. Typical and Maximum right-of-way widths (existing and proposed) should also be discussed. Any advance acquisition or reacquisition, either known or suspected, and there impacts on the environmental analysis should be discussed.

Remarks: The project requires approximately 50.83 acres of permanent right-of-way (ROW) in residential, commercial,

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agricultural, and cemetery properties. The project requires approximately 0.04 acre of temporary ROW from the Dayton Cemetery at the west end of the project within the Town of Dayton. The typical proposed ROW width is 40 feet. The maximum proposed ROW width is 65 feet. The existing typical ROW width is the edge of pavement and the maximum existing ROW width is 150 feet; therefore, additional ROW is recommended for the preferred alternative to widen the shoulders. The project requires approximately 50.83 acres of permanent ROW in residential, commercial, agricultural, and cemetery properties. The need for this amount of ROW stems from the placement of the existing ROW lines as well as the proposed work types. During the preliminary engineering phases, the existing ROW was set at the edge of pavement for long stretches within the project's limits.

If the scope of work or permanent or temporary ROW amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately.

Part III – Identification and Evaluation of Impacts of the Proposed Action

SECTION A – ECOLOGICAL RESOURCES

	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
Streams, Rivers, Watercourses & Jurisdictional Ditches	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Federal Wild and Scenic Rivers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State Natural, Scenic or Recreational Rivers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nationwide Rivers Inventory (NRI) listed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outstanding Rivers List for Indiana	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Navigable Waterways	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Remarks: Based on a desktop review, a site visit on June 18 and 20, 2019 by Hanson, the aerial map of the project area (Appendix B, pages 4-7), and the water resources map in the Red Flag Investigation (RFI) report (Appendix E, pages 16-17), there are forty-four (44) rivers and streams located within the 0.5-mile search radius. There are twelve (12) streams, rivers, and watercourses present within or adjacent to the project area. There are no Federal, Wild and Scenic Rivers, State Natural, Scenic and Recreational Rivers, navigable waterways or National Rivers Inventory waterways present in the project area. The South Fork of Wildcat Creek, which is in the project area just east of Dayton, is listed as an Outstanding River for Indiana, but will not be impacted by the project.

Thirty-five (35) 303d Listed (impaired) Stream segments are located within the 0.5-mile search radius. Seven (7) segments are located within the project area.

- South Fork of Wildcat Creek is approximately 0.63 mile east of the Town of Dayton. The creek is listed as impaired for E. coli, Dissolved Oxygen (DO) and PCBs in fish tissue.
- Unnamed tributary (UNT) to South Fork of the Wildcat Creek is approximately 3.54 miles east of the Town of Dayton. The UNT is listed as impaired for Impaired Biotic Communities (IBC).
- Middle Fork of the Wildcat Creek is approximately 1.01 miles west of North Main Street in the Town of Mulberry. The creek is listed as impaired for E. coli.
- Kilmore Creek and Hog Run are listed as impaired for E. coli at various approximate locations: 0.28, 1.67, 1.81, 2.35 and 6.17 miles west of US 421.

Workers who are working in or near water with E. coli should take care to wear appropriate personal protective equipment (PPE), observe proper hygiene procedures, including regular hand washing, and limit personal exposure. Concerning Impaired Biotic Communities (IBC) and Dissolved Oxygen (DO), Best

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Management Practices (BMPs) will be used to avoid further degradation to streams. Concerning PCBs in fish tissue, exposure to PCBs in fish tissue is considered low, assuming workers are not eating biota surrounding or associated with the water body. If there will be sediment and/or soils disturbed by construction, additional investigation may be necessary. Coordination with INDOT SAM will occur prior to any site activities.

A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by INDOT Ecology and Waterway Permitting Office on May 11, 2020. Please refer to Appendix F for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that thirteen (13) jurisdictional streams are located in the project area including the South Fork of Wildcat Creek, eight (8) unnamed tributaries to Kilmore Creek, three (3) unnamed tributaries to the South Fork of Wildcat Creek, and one (1) unnamed tributary to Hog Run. Because the thirteen streams had a defined bed, bank, and connection to downstream waters, all were considered likely Waters of the U.S. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

The largest of these stream features, South Fork of Wildcat Creek, is tributary to Wildcat Creek. It is identified as a permanent river on the USGS topographic mapping, flowing north under SR 38. It is labeled as R2UBH (riverine, lower perennial, unconsolidated bottom, permanently flooded) on the NWI map. SR 38 is carried over the South Fork of Wildcat Creek via Structure No. 420, a 450-foot bridge (Appendix B, page 24). The ordinary high water mark (OHWM) measured at the bridge location is approximately 42 inches in depth and the OHWM width of the creek was measured at approximately 35 feet. Based on the USGS StreamStats, the upstream drainage area for South Fork Wildcat Creek at Structure No. 420 is 230.7 square miles. No impacts to the South Fork of Wildcat Creek are expected as the scope of the project does not include work on Structure No. 420.

UNT 1 is an ephemeral tributary to South Fork Wildcat Creek. It is not depicted as a blue line on the USGS topographic mapping or labeled on the NWI map. UNT 1 flows south under SR 38 via Structure No. 478, a 36-inch by 48-inch concrete box culvert (Appendix B, page 28). The OHWM measured at the culvert location is approximately 12 inches in depth, and the OHWM width of the creek was measured at approximately 6 feet. No impacts to UNT 1 are expected as Structure No. 478 is to remain in place.

UNT 2 is an ephemeral tributary to South Fork Wildcat Creek. It is not depicted as a blue line on the USGS topographic mapping or labeled on the NWI map. UNT 2 flows north under SR 38 via Structure No. 514, a 36-inch box culvert with a 24-inch corrugated metal pipe (CMP) inside (Appendix B, page 30). The OHWM measured at the CMP location is approximately 12 inches in depth, and the OHWM width of the stream was measured at approximately 3.5 feet. Impacts to UNT 2 are expected as Structure No. 514 is to be replaced with an 8-foot by 3-foot box culvert per Des. No. 2000800 (Appendix B, page 63).

UNT 3 is an intermittent tributary to Hog Run, which ultimately drains to Wildcat Creek. It is depicted as an intermittent stream on the USGS topographic mapping but is not labeled on the NWI map. UNT flows north under SR 38 via Structure No. 634, an 87-inch by 71-inch corrugated metal pipe arch (Appendix B, page 39). The OHWM measured at the CMP location is approximately 12 inches in depth, and the OHWM width of the stream was measured at approximately 3.5 feet. The upstream drainage area based on the USGS StreamStats is 0.44 square mile. Impacts to UNT 3 are expected as Structure No. 634 will have headwalls constructed per Des. No. 1902042 (Appendix B, page 65).

UNT 4 is an intermittent tributary to South Fork Wildcat Creek. It is depicted as an intermittent stream on the USGS topographic mapping but is not labeled on the NWI map. UNT 4 flows north under SR 38 via Structure No. 749, a 115-foot-long bridge (Appendix B, page 47). The OHWM measured at the bridge location is approximately 18 inches in depth and the OHWM width of the stream was measured at approximately 6 feet. The upstream drainage area based on the USGS StreamStats is 1.83 square miles. No impacts to UNT 4 are expected as work to Structure No. 749 is not included in the project scope.

UNT 5 is an ephemeral tributary to Kilmore Creek, which ultimately drains to Wildcat Creek. It is not

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depicted as a blue line on the USGS topographic mapping or labeled on the NWI map. UNT 5 flows south under SR 38 via Structure No. 837, an 18-inch CMP (Appendix B, page 53). The OHWM measured at the CMP location is less than 12 inches in depth, and the OHWM width of the stream was measured at approximately 1 foot. Impacts to UNT 5 are expected as Structure No. 837 will be extended.

UNT 6 is an intermittent tributary to Kilmore Creek. It is depicted as a blue line on the USGS topographic mapping but is not labeled on the NWI map. UNT 6 flows south under SR 38 via Structure No. 864, a 48-inch diameter CMP (Appendix B, page 55). The OHWM measured at the CMP location is approximately 18 inches in depth, and the OHWM width of the stream was measured at approximately 5 feet. Impacts to UNT 6 are expected as Structure No. 864 will be removed and replaced with a 95-inch by 67-inch corrugated metal pipe arch with headwalls (Appendix B, page 67).

UNT 7 is an intermittent tributary to Kilmore Creek. It is depicted as an intermittent stream on the USGS topographic mapping but is not labeled on the NWI map. UNT 7 flows south under SR via Structure No. 871, a 24-inch CMP (Appendix B, page 56). The OHWM measured at the CMP location is approximately 24 inches in depth, and the OHWM width of the stream was measured at approximately 4 feet. The upstream drainage area based on the USGS StreamStats is 0.43 square miles. Impacts to UNT 7 are expected as Structure No. 871 will be extended.

UNT 8 is a perennial tributary to Kilmore Creek. It is depicted as an intermittent stream on the SGS topographic mapping but is not labeled on the NWI map. UNT 8 flows south under SR 38 via Structure No. 873, a 7-foot by 5-foot reinforced concrete box (Appendix B, page 56). The OHWM measure at the culvert location is approximately 18 inches in depth, and the OHWM width of the stream was measured at approximately 4 feet. The upstream drainage area based on the USGS StreamStats is 1.23 square miles. Impacts to UNT 8 are expected as Structure No. 873 will be removed and replaced with an 8-foot by 6-foot precast reinforced concrete four-sided structure per Des. 1902044 (Appendix B, page 68).

UNT 9 is an intermittent tributary to Kilmore Creek. It is not depicted as a blue line on the USGS topographic mapping or labeled on the NWI map. UNT 9 flows south under SR 39 via Structure No. 913, a 36-inch CMP (Appendix B, page 59). The OHWM measured at the CMP location is approximately 12 inches in depth, and the OHWM width of the stream was measured at approximately 6.5 feet. Impacts to UNT 9 are expected as Structure No. 913 will be lined per Des. 2001747 (Appendix B, page 69).

UNT 10 is an ephemeral tributary to Kilmore Creek. It is not depicted as a blue line on the USGS topographic mapping or labeled on the NWI map. UNT 10 flows south under SR 38 via Structure No. 922, a twenty-three-inch by twenty-one-inch elliptical CMP (Appendix B, page 59). The OHWM measured at the CMP location is approximately 12 inches in depth, and the OHWM width of the stream was measured at approximately 2 feet. Impacts to UNT 10 are expected as Structure No. 922 will be extended.

UNT 11 is an ephemeral tributary to Kilmore Creek. It is not depicted as a blue line on the USGS topographic mapping or labeled on the NWI map. UNT 11 flows south under SR 38 via Structure No. 933, a 14-inch CMP (Appendix B, page 60). The OHWM measured at the RCP location is approximately 12 inches in depth, and the OHWM width of the stream was measured at approximately 1.5 feet. Impacts to UNT 11 are expected as Structure No. 933 will be extended.

UNT 12 is an intermittent tributary to Kilmore Creek. It is depicted as an intermittent stream on the USGS topographic mapping but is not labeled on the NWI map. UNT 12 flows south under SR 38 via Structure No. 947, a 24-inch CMP (Appendix B, page 61). The OHWM measured at the CMP is approximately 12 inches in depth, and the OHWM width of the stream was measured at approximately 5 feet. The upstream drainage area based on the USGS StreamStats is 0.08 square mile. Impacts to UNT 12 are expected as Structure No. 947 will be extended.

Seventeen (17) roadside ditches (RSDs) were observed throughout the study area. Flow was not observed in

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any of the ditches during the site visit. The ditches lacked an OHWM and did not have a defined bed and bank area; therefore, they would likely be considered non-jurisdictional.

Total impacts include 429 linear feet to jurisdictional streams. A 401 and 404 Regional General Permit will be required. UNT 8 will require a Construction in a Floodway (CIF) Permit.

Jurisdictional Stream	Permanent Impacts (LFT)	Impact
South Fork of Wildcat Creek	-	-
UNT 1	-	-
UNT 2	80	Replace structure, riprap
UNT 3	26	Riprap
UNT 4	-	-
UNT 5	16	Extend structure
UNT 6	101	Replace structure, raprap
UNT 7	10	Extend structure
UNT 8	71	Replace structure, riprap
UNT 9	11	Line structure, riprap
UNT 10	54	Extend structure, riprap
UNT 11	52	Extend structure, riprap
UNT 12	8	Extend structure

Early coordination letters were sent on April 10, 2019 (Appendix C, page 2). The U.S. Fish and Wildlife Service (USFWS) responded on April 11, 2019 with standard recommendations to minimize impacts to active stream channels (Appendix C, page 16). The Indiana Department of Natural Resources Division of Fish and Wildlife (IDNR-DFW) responded on May 10, 2019 with recommendations to avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible (Appendix C, page 6). An early coordination environmental review was requested from the Indiana Department of Environmental Management (IDEM) through the automatic website (<http://www.in.gov/idem/5284.htm>) on April 10, 2019. An automated letter was generated from the IDEM's website on April 10, 2019. Applicable recommendations from the Proposed Roadway Letter include limited stream disturbance and coordinating with the appropriate permitting agencies (Appendix C, page 18). All applicable USFWS and IDNR recommendations are included in the Environmental Commitments section of this CE document.

Other Surface Waters

Reservoirs

Lakes

Farm Ponds

Detention Basins

Storm Water Management Facilities

Other: _____

Presence

Impacts

Yes No

X		X

Remarks:

Based on a desktop review, a site visit on June 18 and 20, 2020 by Hanson, the aerial map of the project area (Appendix B, pages 4-7), and the water resource map in the RFI report (Appendix E, page 16), there are fourteen (14) lakes within the 0.5-mile search radius. No other surface waters are present within the project area; therefore, no impacts are expected.

Wetlands

Presence

Impacts

Yes No

X	X	
---	---	--

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Total wetland area: 0.007 acre(s) Total wetland area impacted: 0.007 acre(s)

(If a determination has not been made for non-isolated/isolated wetlands, fill in the total wetland area impacted above.)

Wetland No.	Classification	Total Size (Acres)	Impacted Acres	Comments
C	PEM1A	0.007	0	Wetland C represents an area along the south of SR 38 and west of North County Road 400 West where the presence of standing water and cattails were observed. It is believed that the construction of an access road by the property owner restricted the flow of water into the ditch. The vegetation in the area was comprised entirely of common cattail (<i>Typha latifolia</i>), which is a hydric species. Hydric soil was present due to the indicator of redox dark surface (F6). Standing water was observed on the site at a depth of approximately two inches.

Documentation

ES Approval Dates

Wetlands (Mark all that apply)

- Wetland Determination
- Wetland Delineation
- USACE Isolated Waters Determination
- Mitigation Plan

X
X

May 11, 2020
May 11, 2020

Improvements that will not result in any wetland impacts are not practicable because such avoidance would result in (Mark all that apply and explain):

- Substantial adverse impacts to adjacent homes, business or other improved properties;
- Substantially increased project costs;
- Unique engineering, traffic, maintenance, or safety problems;
- Substantial adverse social, economic, or environmental impacts, or
- The project not meeting the identified needs.

X

Measures to avoid, minimize, and mitigate wetland impacts need to be discussed in the remarks box.

Remarks:

Based on a review of the National Wetlands Inventory (NWI) online mapper (<https://www.fws.gov/wetlands/data/Mapper.html>), a site visit on June 18 and 20, 2019 by Hanson, the USGS topographic map (Appendix B, page 3), and the RFI report (Appendix E), there are ninety-two (92) wetlands located within the 0.5 mile search radius. There is one wetland present within or adjacent to the project area.

A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by the INDOT Ecology and Waterway Permitting Office on May 11, 2020. Please refer to Appendix F for the *Waters of the U.S. Determination / Wetland Delineation Report*. The USACE makes all final determinations regarding jurisdiction.

One (1) wetland, Wetland C, was identified in the project area. Wetland C is located along the south of SR 38 and west of North County Road 400. Wetland C is approximately 0.007 acre in size and exhibits a surface connection to UNT 10, an ephemeral tributary to Kilmore Creek. During the site visit on June 18 and 20, 2019 the presence of standing water and cattails was observed. It is believed that the construction of an access road by the property owner restricted the flow of water into the ditch. The quality of the wetland was

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found to be poor due to its monoculture plant community, its apparently artificial nature, and its small capacity for flood storage. The wetland type is PEM1A (palustrine emergent persistent wetland, temporarily flooded).

Approximately 0.007 acre of Wetland C will be impacted by extending and adding end sections to Structure No. 922, a 23-inch by 21-inch elliptical CMP, as well as the installation of downstream riprap protection (Appendix B, page 59). Avoidance alternatives would not be practicable because it would not meet the purpose and need of addressing the poor structural, physical, and operational condition of the existing pavement. Mitigation is not anticipated because impacts total less than 0.1 acre, which is the threshold for mitigation.

There is no practicable alternative to the proposed new construction in wetlands and the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

Early coordination letters were sent on April 10, 2019 (Appendix C, page 2). The USFWS responded on April 11, 2019 without specific recommendations concerning wetlands (Appendix C, page 16). The IDNR-DFW responded on May 10, 2019 with recommendations to avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible and to coordinate with the appropriate permitting agencies (Appendix C, page 6). An early coordination environmental review was requested from the IDEM through the automatic website (<http://www.in.gov/idem/5284.htm>) on April 10, 2019. An automated letter was generated from the IDEM's website on April 10, 2019. Applicable recommendations from the Proposed Roadway Letter include coordinating with the appropriate permitting agencies (Appendix C, page 18). All applicable IDNR recommendations are included in the Environmental Commitments section of this CE document.

Terrestrial Habitat
Unique or High Quality Habitat

<u>Presence</u>	<u>Impacts</u>	
	Yes	No
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Use the remarks box to identify each type of habitat and the acres impacted (i.e. forested, grassland, farmland, lawn, etc).

Remarks: Based on a desktop review, a site visit on August 20, 2020 by Green 3, LLC, the aerial map of the project area (Appendix B, pages 4-7), and the topographic map (Appendix B, page 3), there are small, forested areas, landscape trees within residential lawns, street trees within the Town of Mulberry, and trees surrounding the banks of some streams. Dominant tree species include sugar maple (*Acer saccharum*), silver maple (*Acer saccharinum*), black walnut (*Juglans nigra*), slippery elm (*Ulmus rubra*), hackberry (*Celtis occidentalis*), and boxelder (*Acer negundo*). 3.03 acres of trees are scheduled for removal within 100 feet of the roadway. Avoidance alternatives would not be practicable because it would not meet the purpose and need of addressing the poor structural, physical, and operational condition of the existing pavement.

Early coordination letters were sent on April 10, 2019 (Appendix C, page 2). In order to minimize impacts to terrestrial habitat for construction of the project, the recommendations by the USFWS received April 11, 2019 (Appendix C, page 16) and the IDNR-DFW received May 10, 2019 (Appendix C, page 6) in their early coordination response will be considered for implementation. These recommendations regarded tree and understory clearly and sediment and erosion control measures. All applicable USFWS and IDNR-DFW recommendations are included in the Environmental Commitments section of this CE document. An early coordination environmental review was requested from the IDEM through the automatic website (<http://www.in.gov/idem/5284.htm>) on April 10, 2019. An automated letter was generated from the IDEM's website on April 10, 2019. Applicable recommendations from the Proposed Roadway Letter include sediment and erosion control measures (Appendix C, page 18). All applicable recommendations are included in the Environmental Commitments section of this CE document.

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If there are high incidences of animal movements observed in the project area, or if bridges and other areas appear to be the sole corridor for animal movement, consideration of utilizing wildlife crossings should be taken.

Karst	Yes	No
Is the proposed project located within or adjacent to the potential Karst Area of Indiana?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are karst features located within or adjacent to the footprint of the proposed project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If yes, will the project impact any of these karst features?	<input type="checkbox"/>	<input type="checkbox"/>

Use the remarks box to identify any karst features within the project area. (Karst investigation must comply with the Karst MOU, dated October 13, 1993)

Remarks: Based on a desktop review, the project is located outside the designated karst region of Indiana as outlined in the October 13, 1993 Memorandum of Understanding (MOU). According to the topo map of the project area (Appendix B, page 3) and the RFI report (Appendix E), there are no karst features identified within or adjacent to the project area. In the early coordination response, the Indiana Geological Survey (IGS) did not indicate that karst features exist in the project area (Appendix C, page 10). Geological hazards include a high liquefaction potential and a floodway. Mineral resources include a high potential of bedrock resource and a high potential of sand and gravel resource. There are no active or abandoned mineral resources extraction sites documented in the area. Response from IGS has been communicated with the designer on June 11, 2019. No impacts are expected.

	Presence	Impacts	
		Yes	No
Threatened or Endangered Species			
Within the known range of any federal species	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Any critical habitat identified within project area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Federal species found in project area (based upon informal consultation)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State species found in project area (based upon consultation with IDNR)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Yes	No
Is Section 7 formal consultation required for this action?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Remarks: Based on a desktop review and the RFI report (Appendix E) completed by Hanson on April 17, 2020, the IDNR Tippecanoe and Clinton Counties Endangered, Threatened and Rare (ETR) Species List has been checked and is included in (Appendix E, page 27). The highlighted species on the list reflect the federal and state identified ETR species located within the county. According to the IDNR-DFW early coordination response letter dated May 10, 2019 (Appendix C, page 6), the Natural Heritage Program's Database has been checked. The state endangered round hickorynut (*Obovaria fasciola*), state special concern wavyrayed lampmussel (*Lampsilis fasciola*), and state special concern American badger (*Taxidea taxus*) have all been documented within a half-mile of the project area. No impacts to the mussel species are expected as long as erosion control measures are implemented near any waterways along the project route. Impacts to the badgers are unlikely as a result of this project because they are wide ranging species that prefer an open, prairie-type habitat.

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C, page 42). The project is within range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). No additional species were found within or adjacent to the project area other than the Indiana bat and NLEB.

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The project qualifies for the *Range-wide Programmatic Informal Consultation for the Indiana bat and northern long-eared bat (NLEB)*, dated May 2016 (revised February 2018), between FHWA, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and USFWS. An effect determination key was completed on September 8, 2020, and based on the responses provided, the project was found to not likely adversely affect the Indiana bat or the NLEB. INDOT reviewed and verified the effect finding on September 15, 2020 and requested USFWS’s review of the finding (Appendix C, page 27). No response was received from USFWS within the 14-day review period; therefore, it was concluded they concur with the finding. Avoidance and Mitigation Measures (AMMs) are included as firm commitments in the *Environmental Commitments* section of this document.

Structure No. 873 (Appendix B, page 56) has shown evidence of use (i.e. nests) by a bird species protected under the Migratory Bird Treaty Act (MBTA) during the August 8, 2020 inspection. Avoidance and minimization measures must be implemented prior to the start of and during the nesting season. Nests without eggs or young should be removed prior to construction during the non-nesting season (September 8 – April 30) and during the nesting season if no eggs or young are present. Nests with eggs or young cannot be removed or disturbed during the nesting season (May 1 – September 7). Nests with eggs or young should be screened or buffered from active construction. Details of the required procedures are outlined in the “Potential Migratory Bird on Structure Unique Special Provision”. This firm commitment is included in the *Environmental Commitments* of this document.

This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act, as amended. If new information on endangered species at the site becomes available, or if project plans are changed, USFWS will be contacted for consultation.

SECTION B – OTHER RESOURCES

	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Drinking Water Resources			
Wellhead Protection Area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public Water System(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Residential Well(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Source Water Protection Area(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sole Source Aquifer (SSA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If a SSA is present, answer the following:

	Yes	No
Is the Project in the St. Joseph Aquifer System?	<input type="checkbox"/>	<input type="checkbox"/>
Is the FHWA/EPA SSA MOU Applicable?	<input type="checkbox"/>	<input type="checkbox"/>
Initial Groundwater Assessment Required?	<input type="checkbox"/>	<input type="checkbox"/>
Detailed Groundwater Assessment Required?	<input type="checkbox"/>	<input type="checkbox"/>

Remarks: **Sole Source Aquifer**
 The project is located in Tippecanoe and Clinton Counties, which are not located within the area of the St. Joseph Sole Source Aquifer, the only legally designated sole source aquifer in the state of Indiana. Therefore, the FHWA/EPA Sole Source Aquifer Memorandum of Understanding (MOU) is not applicable to this project. Therefore, a detailed groundwater assessment is not needed and no impacts are expected.

Wellhead Protection Area
 The Indiana Department of Environmental Management’s Wellhead Proximity Determinator website

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<http://www.in.gov/idem/cleanwater/pages/wellhead/>) was accessed on August 25, 2020 by Hanson. This project is not located within a Wellhead Protection Area or Source Water Area. No impacts are expected.

Water Wells

The Indiana Department of Natural Resources Water Well Record Database website (<https://www.in.gov/dnr/water/3595.htm>) was accessed on October 16, 2020 by Hanson. The nearest well is mapped within the project area approximately 65 feet west of the intersection of SR 38 and CR 900 E. The features will not be affected because the structure at that location is to remain in place. Therefore, no impacts are expected. Should it be determined during the right-of-way phase that these wells are affected, a cost to cure will likely be included in the appraisal to restore the wells.

In an Urban Area Boundary Location

Based on a desktop review of the INDOT MS4 website (<https://entapps.indot.in.gov/MS4/>) by Hanson on October 16, 2020, and the RFI report; this project is located in an Urban Area Boundary (UAB) location. An early coordination letter was sent on November 12, 2020, to the Dayton MS4 coordinator. The MS4 coordinator responded via phone call and stated that there were no concerns with the project as there will not be work within the town of Dayton MS4 boundary.

In a Public Water System Location

Based on a desktop review, a site visit on June 18 and 20, 2020 by Hanson, the aerial map of the project area (Appendix B, pages 4-7), and a review of the preliminary plan sheets in Appendix B, this project is located where there are two public water systems. The public water system within the Town of Dayton is serviced by the Lafayette Waterworks. The Town of Mulberry is serviced by Mulberry Water Works. The public water systems will not be affected because the scope of work and the depth of excavation within Dayton and Mulberry will not require water line relocations. Early coordination letters were sent on April 10, 2019. Continued coordination with all public utilities will occur in accordance with the Environmental Commitments at the end of the document to minimize impacts.

Flood Plains

- Longitudinal Encroachment
- Transverse Encroachment
- Project located within a regulated floodplain
- Homes located in floodplain within 1000' up/downstream from project

	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
Longitudinal Encroachment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transverse Encroachment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Project located within a regulated floodplain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Homes located in floodplain within 1000' up/downstream from project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discuss impacts according to classification system described in the "Procedural Manual for Preparing Environmental Studies".

Remarks:

Based on a desktop review of The Indiana Department of Natural Resources Indiana Floodway Information Portal website (<http://dnrmmaps.dnr.in.gov/appsphp/fdms/>) by Hanson on November 16, 2020, and the RFI report; this project is located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix F). An early coordination letter was sent on April 10, 2019, to the local Floodplain Administrator. The floodplain administrator did not respond within the 30-day time frame. This project qualifies as a Category 3 per the current INDOT CE Manual, which states, "The modifications to drainage structures included in this project will result in an insubstantial change in their capacity to carry flood water. This change could cause a minimal increase in flood heights and flood limits. These minimal increases will not result in any substantial adverse impacts on the natural and beneficial floodplain values; they will not result in substantial change in flood risks or damage; and they do not have substantial potential for interruption or termination of emergency service or emergency routes; therefore, it has been determined that this encroachment is not substantial."

Farmland

- Agricultural Lands
- Prime Farmland (per NRCS)

	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
Agricultural Lands	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Prime Farmland (per NRCS)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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Total Points (from Section VII of CPA-106/AD-1006* 149
 *If 160 or greater, see CE Manual for guidance.

See CE Manual for guidance to determine which NRCS form is appropriate for your project.

Remarks: Based on a desktop review, a site visit on June 18 and 20, 2020 by Hanson, and the aerial map of the project area (Appendix B, pages 4-7), the project will convert 38.6 acres of farmland as defined by the Farmland Protection Policy Act. An early coordination letter was sent on April 10, 2019, to Natural Resources Conservation Services (NRCS). Coordination with NRCS resulted in a score of 149 on the NRCS-CPA-106 (Appendix C, page 13). NRCS's threshold score for significant impacts to farmland that result in the consideration of alternatives is 160. Since this project score is less than the threshold, no significant loss of prime, unique, statewide, or local important farmland will result from this project. No alternatives other than those previously discussed in this document will be investigated without reevaluating impacts to prime farmland.

SECTION C – CULTURAL RESOURCES

	Category	Type	INDOT Approval Dates	N/A
Minor Projects PA Clearance				X

**Eligible and/or Listed
Resource Present**

Results of Research

Archaeology	X
NRHP Buildings/Site(s)	X
NRHP District(s)	X
NRHP Bridge(s)	

Project Effect

No Historic Properties Affected No Adverse Effect Adverse Effect

**Documentation
Prepared**

Documentation (mark all that apply)

		ES/FHWA Approval Date(s)	SHPO Approval Date(s)
Historic Properties Short Report			
Historic Property Report	X	4/30/2020	5/29/2020
Archaeological Records Check/ Review	X	4/30/2020	5/29/2020
Archaeological Phase Ia Survey Report	X	4/8/2020	5/29/2020
Archaeological Phase Ic Survey Report			
Archaeological Phase II Investigation Report			
Archaeological Phase III Data Recovery			
APE, Eligibility and Effect Determination	X	10/1/2020	10/26/2020
800.11 Documentation	X	10/1/2020	10/26/2020

MOA Signature Dates (List all signatories)

Memorandum of Agreement (MOA)

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Describe all efforts to document cultural resources, including a detailed summary of the Section 106 process, using the categories outlined in the remarks box. The completion of the Section 106 process requires that a Legal Notice be published in local newspapers. Please indicate the publication date, name of paper(s) and the comment period deadline. Likewise include any further Section 106 work which must be completed at a later date, such as mitigation or deep trenching.

Remarks:

Full Section 106

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires that federal agencies identify and assess the effects of federal projects, programs, and actions on historic resources. This includes projects that are supported by federal funds. The Section 106 process was managed by Green 3, who is listed on the IDNR Department of Historic Preservation and Archaeology's (DHPA) Roster of Qualified Professionals.

Area of Potential Effect (APE): According to 36 CFR 800.16(d), the APE is defined as “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking...”

The APE of the project includes all properties adjacent to the project area and those with a proximate viewshed of the project. Urban development of the town of Mulberry and along SR 38 limited the APE. Throughout the project alignment, the APE extends out approximately 0.05 mile and 0.18 mile from the centerline of SR 38. Refer to Appendix D, page 26 for an aerial map of the APE.

A Cemetery Development Plan will be required for work within 100-feet of the Dayton Cemetery, also known as Fairfield Cemetery, which is adjacent to the project area. Coordination with INDOT Cultural Resources occurred. A Cemetery Development Plan will be completed by Green 3 who is listed on the IDNR DHPA Roster of Qualified Professionals prior to construction activities. The Cemetery Development Plan was discussed with the INDOT Project Manager (PM) and Design Engineer.

Coordination with Consulting Parties: On July 19, 2019, the following parties were sent early coordination (see Appendix D, page 45):

Consulting Party	Response
Indiana Landmarks, Western Regional Office	No Response
Clinton County Historian	No Response
Clinton County Historical Society and Museum	No Response
Tippecanoe County Historian	No Response
Tippecanoe County Historical Association	No Response
Area Plan Commission of Tippecanoe County	No Response
Clinton County Department of Area Planning	No Response
Clinton County Commissioners	No Response
Clinton County Council	No Response
Clinton County Highway Department	No Response
Tippecanoe County Commissioners	No Response
Tippecanoe County Council	No Response
Tippecanoe County Highway Department	No Response
Eastern Shawnee Tribe of Oklahoma	No Response
Miami Tribe of Oklahoma	August 22, 2019; accepted invitation
Peoria Tribe of Indians of Oklahoma	No Response
Pokagon Band of Potawatomi Indians	No Response
Forest County Potawatomi Community	No Response

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Note: INDOT CRO is acting on behalf of FHWA. FHWA is the lead federal agency. The IDNR Historic Preservation Officer (SHPO) is an automatic consulting party.

Archaeology: An Indiana Archaeological Literature Review and Phase 1a Reconnaissance (Jackson, March 2020) was approved by INDOT CRO and made available for review to consulting parties on April 30, 2020 (Appendix D, page 55). The report concluded that three sites have the potential to provide information that would increase knowledge of the history of the region and therefore are recommended to be potentially eligible for listing in the National Register of Historic Places (NRHP) and should be avoided by the proposed construction activities (Appendix D, page 65).

A hard copy of the approved report was mailed to SHPO for review and concurrence on April 30, 2020. SHPO concurred with the findings in the report in their letter dated May 29, 2020.

Historic Properties: An Historic Property Report (HPR) was completed for this project (Wood, September 2020). This HPR was written as part of the Section 106 process and included the boundaries of the APE for this project. INDOT CRO approved the HPR for distribution to SHPO and Consulting Parties on April 30, 2020. The HPR was made available to SHPO and Consulting Parties for review on April 30, 2020 (Appendix D, page 55).

There are two resources eligible for listing in the NRHP:

Trinity Reformed Church (IHSSI # 023-440-23038) – is a representative example of the Romanesque Revival style of architecture, exhibiting a three-story tower, large half-round arches above stained-glass windows, and a steeply-pitched hipped roof. It is the only example of this style of architecture in the Town of Mulberry and in Madison Township. It is recommended eligible for listing in the NRHP under Criterion C due to its distinct Romanesque Revival architecture.

Mulberry Commercial Historic District (IHSSI #s 023-440-21001-025) – encompasses mostly commercial properties that demonstrate Italianate, I-House, and several commercial/vernacular styles. Construction dates for the historic structures within the district range from the 1870s through the 1940s. The district is recommended eligible for listing in the NRHP under Criterion A for its association with the transportation and commercial development of Mulberry and under Criterion C for its association with distinct architecture.

No other properties within the APE are listed in or recommended eligible for listing in the NRHP.

Documentation Finding: On October 1, 2020, the INDOT, acting on FHWA's behalf, determined a "No Adverse Effect" finding is appropriate for this undertaking and requested written concurrence from the SHPO with the Section 106 determination of effect. The Determination of Effect finding is shown in Appendix D, page 5. The SHPO concurred with the Section 106 finding on October 26, 2020 (Appendix D, pages D12 and D13).

Public Involvement: A public notice was advertised in *The Times*, a daily newspaper of Frankfort, Clinton County, Indiana on October 3, 2020 (Appendix D, page 2 and 3). The notice offered the public an opportunity to comment on the Section 106 finding. The public had a 30-day comment period to respond to the notice. The comment period expired on November 3, 2020, and no comments were received.

The Section 106 process has been completed and the responsibilities of the FHWA under Section 106 have been fulfilled. If changes to the existing construction plans are implemented, or if work is necessary beyond the existing designated construction limits, then these impacts will need to be evaluated. If any previously unidentified intact archaeological deposits or human remains are uncovered during construction, demolition, or earthmoving activities, work within the area will stop and the IDNR Department of Historic Preservation and Archaeology will be notified of the discovery within two business days as required by IC 14-21-1-27 and 29.

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SECTION D – SECTION 4(f) RESOURCES/ SECTION 6(f) RESOURCES

Section 4(f) Involvement (mark all that apply)

Parks & Other Recreational Land

- Publicly owned park
- Publicly owned recreation area
- Other (school, state/national forest, bikeway, etc.)

Presence

Use

Yes	No

Evaluations Prepared

- Programmatic Section 4(f)*
- “De minimis” Impact*
- Individual Section 4(f)

FHWA Approval date

--

Wildlife & Waterfowl Refuges

- National Wildlife Refuge
- National Natural Landmark
- State Wildlife Area
- State Nature Preserve

Presence

Use

Yes	No

Evaluations Prepared

- Programmatic Section 4(f)*
- “De minimis” Impact*
- Individual Section 4(f)

FHWA Approval date

--

Historic Properties

- Sites eligible and/or listed on the NRHP

Presence

X

Use

Yes	No
	X

Evaluations Prepared

- Programmatic Section 4(f)*
- “De minimis” Impact*
- Individual Section 4(f)

FHWA Approval date

--

*FHWA approval of the environmental document also serves as approval of any Section 4f Programmatic and/or De minimis evaluation(s) discussed below.

Discuss Programmatic Section 4(f) and “de minimis” Section 4(f) impacts in the remarks box below. Individual Section 4(f) documentation must be separate Draft and Final documents. For further discussions on Programmatic, “de minimis” and Individual Section 4(f) evaluations please refer to the “Procedural Manual for the Preparation of Environmental Studies”. Discuss proposed alternatives that satisfy the requirements of Section 4(f).

Remarks:

Section 4(f) of the U.S. Department of Transportation Act of 1966 prohibits the use of certain public and historic lands for federally funded transportation facilities unless there is no feasible and prudent alternative. The law applies to significant publicly owned parks, recreation areas, wildlife / waterfowl refuges, and NRHP eligible or listed historic properties. Lands subject to this law are considered Section 4(f) resources.

Based on a desktop review, a site visit on June 18 and 20, 2020 by Hanson, the aerial map of the project area

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(Appendix B, pages 4-7), the Federal Highway Administration’s Section 4(f) Compliance Requirements (for historic properties) and Section 106 Findings and Determinations Area of Potential Effect Eligibility Determinations Effect Finding (Appendix D, page 14) and the RFI report (Appendix E), there are five (5) 4(f) resources located within the 0.5-mile search radius. There are two (2) located within or adjacent to the project area. These two resources are eligible for listing in the NRHP. These include the Trinity Reformed Church and the Mulberry Commercial Historic District. Trinity Reformed Church is recommended eligible for listing in the NRHP under Criterion C due to its distinct Romanesque Revival architecture. The Mulberry Commercial Historic District is recommended eligible for listing in the NRHP under Criterion A for its association with the transportation and commercial development of Mulberry and under Criterion C for its association with distinct architecture. INDOT, acting on FHWA’s behalf, has determined a “No Adverse Effect” finding for both resources. The project will not use these resources by taking permanent right of way and will not alter the environment in such a way as to constitute constructive use of these resources. Therefore, no use is expected.

Section 6(f) Involvement	<u>Presence</u>	<u>Use</u>	
		Yes	No
Section 6(f) Property	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discuss proposed alternatives that satisfy the requirements of Section 6(f). Discuss any Section 6(f) involvement.

Remarks: The U.S. Land and Water Conservation Fund Act of 1965 established the Land and Water Conservation Fund (LWCF), which was created to preserve, develop, and assure accessibility to outdoor recreation resources. Section 6(f) of this Act prohibits conversion of lands purchased with LWCF monies to a non-recreation use.

A review of 6(f) properties on the LWCF website at <https://www.lwcfcoalition.com/tools> revealed a total of fourteen (14) properties in Tippecanoe County and no properties in Clinton County (Appendix I, page 2). None of these properties are located within or adjacent to the project area. Therefore, there will be no impacts to 6(f) resources as a result of this project.

SECTION E – Air Quality

Air Quality

Conformity Status of the Project		Yes	No
Is the project in an air quality non-attainment or maintenance area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If YES, then:			
Is the project in the most current MPO TIP?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the project exempt from conformity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If the project is NOT exempt from conformity, then:			
Is the project in the Transportation Plan (TP)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is a hot spot analysis required (CO/PM)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Level of MSAT Analysis required?

Level 1a Level 1b Level 2 Level 3 Level 4 Level 5

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Remarks: This project is included in the Fiscal Year (FY) 2020-2024 Area Plan Commission of Tippecanoe County Transportation Improvement Program (MPO TIP) and Statewide Transportation Improvement Program (STIP) (Appendix H, page 2 and 3).

This project is located in Tippecanoe and Clinton Counties, which are currently in attainment for all criteria pollutants according to IDEM's map of Current Nonattainment Areas dated September 16, 2020. Therefore, the conformity procedures of 40 CFR Part 93 do not apply.

This project is of a type qualifying as a categorical exclusion (Group 1) under 23 CFR 771.117(c), or exempt under the Clean Air Act conformity rule under 40 CFR 93.126, and as such, a Mobile Source Air Toxics analysis is not required.

SECTION F - NOISE

Noise **Yes** **No**
 Is a noise analysis required in accordance with FHWA regulations and INDOT's traffic noise policy?

	No	Yes/ Date
ES Review of Noise Analysis	<input type="checkbox"/>	<input type="checkbox"/>

Remarks: This project is a Type III project. In accordance with 23 CFR 772 and the current *Indiana Department of Transportation Traffic Noise Analysis Procedure*, this action does not require a formal noise analysis.

SECTION G – COMMUNITY IMPACTS

Regional, Community & Neighborhood Factors

	Yes	No
Will the proposed action comply with the local/regional development patterns for the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Will the proposed action result in substantial impacts to community cohesion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will the proposed action result in substantial impacts to local tax base or property values?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will construction activities impact community events (festivals, fairs, etc.)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the community have an approved transition plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If No, are steps being made to advance the community's transition plan?	<input type="checkbox"/>	<input type="checkbox"/>
Does the project comply with the transition plan? (explain in the remarks box)	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Remarks: The project consists of improvements to existing SR 38 through a portion of the towns of Dayton and Mulberry, Indiana in Tippecanoe, and Clinton Counties. The project is not in conflict with local planning and development.

Early coordination letters were sent to various agencies on April 10, 2020 (Appendix C, page 2). No responses were received from local agencies.

The project will not substantially impact the tax base or property values. The project requires a total of approximately 50.65 acres of permanent ROW from adjacent property owners (18.10 acres from residential and 32.55 acres in agricultural).

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In 2012 the Town of Dayton implemented an Americans with Disabilities Act (ADA) Transition Plan for Public Right-of-Way within the Town of Dayton. The project conforms to the plan as the project scope does not include sidewalks along the SR 38 corridor within the Town of Dayton.

A review of the Indiana fairs and festival website (<http://www.fairsandfestivals.net>) did not show any events for the Dayton or Mulberry areas. The contractor will be responsible for contacting school districts and emergency services in accordance with the Indiana Design Manual guidelines. Due to the scope of the project, and because the project includes a traffic detour plan, it is concluded that the project will not impact community cohesion nor adversely impact local events.

Indirect and Cumulative Impacts

Will the proposed action result in substantial indirect or cumulative impacts?

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Remarks:

Indirect impacts are effects that are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate. Cumulative impacts are effects that result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency or person undertakes such actions.

The project is limited to pavement replacement and small structure replacement. The project will occur on the SR 38 roadway alignment and does not involve new roadway sections. Land use adjacent to the project is a mix of previously developed rural residential and agricultural. The project is not anticipated to induce changes in patterns of land use, the population density, or the growth rate of the area. Nor is the project anticipated to result in indirect effects on air, water or natural systems. Based on these reasons, the project will likely not result in substantial indirect or cumulative impacts.

Public Facilities & Services

Will the proposed action result in substantial impacts on health and educational facilities, public and private utilities, emergency services, religious institutions, airports, public transportation or pedestrian and bicycle facilities? *Discuss how the maintenance of traffic will affect public facilities and services.*

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Remarks:

Based on a desktop review, a site visit on June 18 and 20, 2019 by Hanson, the aerial map of the project area (Appendix B, pages 4-7), and the RFI report (Appendix E), there are four (4) religious facilities, one (1) airport, four (4) cemeteries, one (1) hospital, one (1) school, and three (3) recreational facilities located within the 0.5 mile of the project. The Gloria Dei Lutheran Church, Trinity Church of Mulberry, and Dayton Cemetery are within or adjacent to the project area. A Cemetery Development Plan will be needed for Dayton Cemetery because the project is within 100 feet of the cemetery. Access to all properties will be maintained during construction. Therefore, no impacts are expected.

Early coordination letters were sent to the Tippecanoe County Emergency Management Agency, Clinton County Emergency Management Agency, Clinton County Emergency Management Service, Tippecanoe County Sheriff's Department, Tippecanoe County School Corporation, Clinton County Sheriff's Department, and the Clinton Central School Corporation on April 10, 2019. The agencies did not respond to the early coordination letter. All applicable recommendations are included in the Environmental Commitments section of this CE document.

Environmental Justice (EJ) (Presidential EO 12898)

During the development of the project were EJ issues identified?
Does the project require an EJ analysis?

Yes	No
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

If YES, then:

Are any EJ populations located within the project area?

<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Will the project result in adversely high or disproportionate impacts to EJ populations?

Remarks:

Under FHWA Order 6640.23A, FHWA and *Indiana Department of Transportation*, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. Per the current INDOT Categorical Exclusion Manual, an Environmental Justice (EJ) Analysis is required for any project that has two or more relocations or 0.5 acre of additional permanent right-of-way. This project will have fewer than two relocations. However, the project will require more than 0.5 acre of additional permanent and/or temporary right-of-way; therefore, an EJ analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exists and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city or town and is called the community of comparison (COC). In this project, the COC is comprised of Clinton and Tippecanoe Counties. The community that overlaps the project limits is called the affected community (AC). In this project, the AC is *Census Tract 9503, Clinton County, Indiana and Census Tract 109.02, Tippecanoe County, Indiana*. An AC has a population of concern for EJ if the population is more than 50% minority or low-income or if the low-income or minority population is 125% of the COC. Data from the American Community Service (ACS) 5-year estimates data (2010) was obtained from the US Census Bureau Website <https://factfinder.census.gov/> on *June 26, 2019* by *Hanson Professional Services*. The data collected for minority and low-income populations within the AC are summarized in the below table.

Analysis of COC 1&2 and AC 1&2, Clinton and Tippecanoe Counties, Indiana

	COC 1&2 - (Clinton and Tippecanoe Counties, Indiana)	AC-1&2 - (AC1-Census Tract 9503, Clinton County, Indiana); (AC2-Census Tract 109.02, Tippecanoe, County, Indiana)
Percent Minority	17.88%	3.60%
125% of COC	22.35%	AC < 125% COC
EJ Population of Concern		No
Percent Low-Income	18.50%	8.44%
125% of COC	23.17 %	AC < 125% COC
EJ Population of Concern		No

*Refer to the INDOT EJ guidance for calculating percentages

AC-1&2, which includes Census Tract 9503, Clinton County, Indiana and Census Tract 109.02, Tippecanoe County, Indiana, has a percent minority of 3.60%, which is below 50% and is below the 125% COC threshold. Therefore, AC-1&2 do not contain minority populations of EJ concern.

AC-1&2, which includes Census Tract 9503, Clinton County, Indiana and Census Tract 109.02, Tippecanoe County, Indiana, has a percent low-income of (8.44%) which is below 50% and is below the 125% COC threshold. Therefore, AC-1&2 do not contain low-income populations of EJ concern.

The census data sheets, map, and calculations can be found in Appendix I. No further environmental justice analysis is warranted.

Relocation of People, Businesses or Farms

Will the proposed action result in the relocation of people, businesses, or farms?

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Is a Business Information Survey (BIS) required?
 Is a Conceptual Stage Relocation Study (CSRS) required?
 Has utility relocation coordination been initiated for this project?

Number of relocations: Residences: _____ Businesses: _____ Farms: _____ Other: _____

If a BIS or CSRS is required, discuss the results in the remarks box.

Remarks: No relocations of people, businesses, or farms will take place as a result of this project. Initial utility notice letters were sent on March 27, 2019, verification letters sent on March 24, 2020, conflict analysis letters sent on August 27, 2020, and a work plan request letter will be sent in December 2020.

SECTION H – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

Hazardous Materials & Regulated Substances (Mark all that apply)

Documentation

Red Flag Investigation
 Phase I Environmental Site Assessment (Phase I ESA)
 Phase II Environmental Site Assessment (Phase II ESA)
 Design/Specifications for Remediation required?

	No	Yes/ Date
ES Review of Investigations	<input type="checkbox"/>	October 2, 2018

Include a summary of findings for each investigation.

Remarks: Based on a review of GIS and available public records, a RFI was completed on April 17, 2020 by Hanson (Appendix E). Six (6) underground storage tank (UST) sites, one (1) construction demolition waste site, three (3) leaking underground storage (LUST) sites, three (3) confined feeding operations (CFO), one (1) brownfield, three (3) institutional controls, two (2) NPDES facilities, and one (1) NPDES pipe location are located within 0.5 mile of the project area, and of these sites, two (2) UST sites, one (1) LUST site, one (1) brownfield, and three (3) institutional controls could affect the project area.

UST: Crop Production Services, 9491 West State Road 38, Agency ID No. 14823, is adjacent to the project area. There is no closure documentation available, and excavation associated with culvert replacement activities for CV 038-012-10.20 are occurring adjacent to the site; therefore, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Coordination with the IDEM Project Manager will occur.

UST/LUST: RMD Marketing, 202 East Jackson Street, Agency ID No. 3148, is adjacent to the ADA curb ramp work within the Town of Mulberry. IDEM issued a No Further Action Determination Pursuant to RISC letter, dated September 8, 2007, following the recording of an environmental restrictive covenant on the deed of the property. Residual absorbed and dissolved contaminants of concern remain adjacent to and likely extend into the project area. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. In regard to the ERC, coordination with the IDEM Project Manager will occur.

Brownfield: Horn's Auto Repair, 107 West Jackson Street, Agency ID No. 106110, is located adjacent to the project area within the town of Mulberry and adjacent to the ADA curb ramp work. Closure documentation or sampling was not completed. If excavation occurs in this area, it is likely that petroleum contamination will be encountered. Before proper removal and disposal of soil and/or groundwater, analysis for lead will be necessary.

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Institutional Controls: Three (3) institutional controls are associated with the RMD Marketing #184 located at 202 East Jackson Street, Mulberry within the project area and adjacent to the proposed ADA curb ramp work. An ERC restricts groundwater usage and excavation of soil below six (6) feet below the ground surface (ft-bgs). Coordination with the IDEM Project Manager will occur.

SECTION I – PERMITS CHECKLIST

Permits (mark all that apply)	<u>Likely Required</u>
Army Corps of Engineers (404/Section10 Permit)	
Individual Permit (IP)	<input type="checkbox"/>
Nationwide Permit (NWP)	<input type="checkbox"/>
Regional General Permit (RGP)	<input checked="" type="checkbox"/>
Pre-Construction Notification (PCN)	<input type="checkbox"/>
Other	<input type="checkbox"/>
Wetland Mitigation required	<input type="checkbox"/>
Stream Mitigation required	<input type="checkbox"/>
IDEM	
Section 401 WQC	<input checked="" type="checkbox"/>
Isolated Wetlands determination	<input type="checkbox"/>
Rule 5	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>
Wetland Mitigation required	<input type="checkbox"/>
Stream Mitigation required	<input type="checkbox"/>
IDNR	
Construction in a Floodway	<input checked="" type="checkbox"/>
Navigable Waterway Permit	<input type="checkbox"/>
Lake Preservation Permit	<input type="checkbox"/>
Other	<input type="checkbox"/>
Mitigation Required	<input type="checkbox"/>
US Coast Guard Section 9 Bridge Permit	
Others (Please discuss in the remarks box below)	
	<input type="checkbox"/>

Remarks: Permits likely needed include a Rule 5 for over an acre of land disturbance, a 401/404 Regional General Permit based on impacts to jurisdictional resources, and a Construction in a Floodway permit for UNT 8 that has 1.25 square miles of drainage.

Applicable recommendations provided by permitting agencies are included in the Environmental Commitments section of this document. If permits are found to be necessary, the conditions of the permit will be requirements of the project and will supersede these recommendations.

It is the responsibility of the project sponsor to identify and obtain all required permits.

SECTION J- ENVIRONMENTAL COMMITMENTS

The following information should be provided below: List all commitments, name of agency/organization requesting the commitment(s) and indicating which are firm and which are for further consideration. The commitments should be numbered.

Remarks: **FIRM**

- 1) If the scope of work or permanent or temporary ROW amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted

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- immediately. (INDOT ESD)
- 2) It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access. (INDOT ESD)
 - 3) If birds or nests are found on the structure or during the site visit, coordination with INDOT district/INDOT ESD must occur. (INDOT ESD)
 - 4) Workers who are working in or near water with E. coli should take care to wear appropriate personal protective equipment (PPE), observe proper hygiene procedures, including regular hand washing, and limit personal exposure. Concerning Impaired Biotic Communities (IBC) and Dissolved Oxygen (DO), Best Management Practices (BMPs) will be used to avoid further degradation to streams. Concerning PCBs in fish tissue, exposure to PCBs in fish tissue is considered low, assuming workers are not eating biota surrounding or associated with the water body. If there will be sediment and/or soils disturbed by construction, additional investigation may be necessary. Coordination with INDOT SAM will occur prior to any site activities. (INDOT ESD)
 - 5) General AMM 1: Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs. (USFWS)
 - 6) Lighting AMM 1: Direct temporary lighting away from suitable habitat during the active season. (USFWS)
 - 7) Tree Removal AMM 1: Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal. (USFWS)
 - 8) Tree Removal AMM 2: Apply time of year restrictions for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/rail surface and outside of documented roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed. (USFWS)
 - 9) Tree Removal AMM 3: Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g. install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits). (USFWS)
 - 10) Tree Removal AMM 4: Do not remove documented Indiana bat or NLEB roosts that are still suitable for roosting, or within 0.25 miles of roosts, or documented foraging habitat any time of year. (USFWS)
 - 11) Underground Storage Tank (UST): Crop Production Services, 9491 West State Road 38, Agency ID No. 14823, is adjacent to the project area. There is no closure documentation available, and excavation associated with culvert replacement activities for CV 038-012-10.20 are occurring adjacent to the site; therefore, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Coordination with the IDEM Project Manager will occur. (INDOT ESD)
 - 12) Underground Storage Tank/Leaking Underground Storage Tank (UST/LUST): RMD Marketing, 202 East Jackson Street, Agency ID No. 3148, is adjacent to the ADA curb ramp work within the Town of Mulberry. IDEM issued a No Further Action Determination Pursuant to RISC letter, dated September 8, 2007, following the recording of an ERC on the deed of the property. Residual absorbed and dissolved CoCs remain adjacent to and likely extend into the project area. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. In regard to the ERC, coordination with the IDEM Project Manager will occur. (INDOT ESD)
 - 13) Brownfield: Horn's Auto Repair, 107 West Jackson Street, Agency ID No. 106110, is located

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County Tippecanoe and Clinton Route SR 38 Des. No. 1601074

adjacent to the project area within The Town of Mulberry and adjacent to the ADA curb ramp work. Closure documentation or sampling was not completed. If excavation occurs in this area, it is likely that petroleum contamination will be encountered. Before proper removal and disposal of soil and/or groundwater, analysis for lead will be necessary (INDOT ESD).

- 14) Institutional Controls: Three (3) institutional controls are associated with the RMD Marketing #184 located at 202 East Jackson Street, Mulberry within the project area and adjacent to the proposed ADA curb ramp work. An ERC restricts groundwater usage and excavation of soil below six (6) feet below the ground surface (ft-bgs). Coordination with the IDEM Project Manager will occur. (INDOT ESD)
- 15) Structure No. 873 (Appendix B, page 56) has shown evidence of use (i.e., nests) by a bird species protected under the Migratory Bird Treaty Act (MBTA) during the August 8, 2020 inspection. Avoidance and minimization measures must be implemented prior to the start of and during the nesting season. Nests without eggs or young should be removed prior to construction during the non-nesting season (September 8 – April 30) and during the nesting season if no eggs or young are present. Nests with eggs or young cannot be removed or disturbed during the nesting season (May 1 – September 7). Nests with eggs or young should be screened or buffered from active construction. Details of the required procedures are outlined in the “Potential Migratory Bird on Structure Unique Special Provision. (INDOT ESD)

FOR CONSIDERATION

- 1) If box or pipe culverts are used, the bottoms should be buried to a minimum of 6” (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2’) below the stream bed elevation to allow a natural streambed to form within or under the crossing structure. Crossings should: span the entire channel width (a minimum of 1.2 times the bankful width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width/length) of 0.25; and have stream depth and water velocities during low-flow conditions that are approximate to those in the natural stream channel. The new, replacement, or rehabbed structure should not create conditions that are less favorable for wildlife passage under the structure compared to the current conditions. (IDNR)
- 2) Impacts to non-wetland forest of one (1) acre or more should be mitigated at a minimum 2:1 ratio. If less than one acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. Impacts to nonwetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, at least 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10 inches dbh or greater (5:1 mitigation based on the number of large trees). (IDNR)
- 3) Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting from April 1 through September 30. [RSP 107-B-040] (IDNR)
- 4) Do not construct any temporary runarounds or causeways. (IDNR)
- 5) Use minimum average 6-inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids. (IDNR)
- 6) Protect the area around and below any concentrated discharge points, down to the waterway’s normal flow level, with appropriate structural armament such as riprap. (IDNR)
- 7) Restrict below low-water work in streams to placement of culverts, piers, pilings, and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap. (USFWS)
- 8) Culverts should span the active stream channel, should be either embedded or a 3-sided or open-arch

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County Tippecanoe and Clinton Route SR 38 Des. No. 1601074

- culvert, and be installed where practicable on an essentially flat slope. When an open-bottom culvert or arch is used in a stream, which has a good natural bottom substrate, such as gravel, cobbles, and boulders, the existing substrate should be left undisturbed beneath the culvert to provide natural habitat for the aquatic community. (USFWS)
- 9) Minimize the extent of hard armor (riprap) in bank stabilization by using bioengineering techniques whenever possible. If riprap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat. (USFWS)
 - 10) Avoid all work within the inundated part of the stream channel during the fish spawning season (April 1 through June 30); except for work within sealed structures such as caissons or cofferdams that were installed prior to the spawning season. No equipment shall be operated below Ordinary High Water Mark during this time unless the machinery is within the caissons or on the cofferdams. (USFWS)
 - 11) Evaluate wildlife crossings under bridge/culverts projects in appropriate situations. Suitable crossings include flat areas below bridge abutments with suitable ground cover, high water shelves in culverts, amphibian tunnels, and diversion fencing. (USFWS)

SECTION K- EARLY COORDINATION

Please list the date coordination was sent and all agencies that were contacted as a part of the development of this Environmental Study. Also, include the date of their response or indicate that no response was received. INDOT and FHWA are automatically considered early coordination participants and should only be listed if a response is received.

Remarks: **Early Coordination letters were sent on April 10, 2019, to the following agencies and local government offices. Responses received from agencies are listed below.**

Agency	Early Coordination Response Dates
U.S. Fish and Wildlife Service	April 11, 2019
Natural Resources Conservation Service	June 4, 2019
Indiana Geological Survey	June 11, 2019
Indiana Department of Natural Resources	May 10, 2019
Indiana Department of Environmental Management	April 10, 2019
U.S. Department of Housing & Urban Development	No Response
U.S. Army Corps of Engineers – Louisville District	No Response
Tippecanoe County Highway Department	No Response
Clinton County Highway Department	No Response
Tippecanoe County Area Planning Commission	No Response
Clinton County Area Plan Commission	No Response
Tippecanoe County Building Commission	No Response
Tippecanoe County Emergency Management Agency	No Response
Clinton County Emergency Management Agency	No Response
Clinton County Emergency Management Service	No Response
Tippecanoe County School Corporation	No Response
Tippecanoe County Sheriff's Department	No Response
Clinton County Sheriff's Department	No Response
Tippecanoe County Surveyor	No Response

Indiana Department of Transportation

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Clinton County Surveyor	No Response
Clinton Central School Corporation	No Response

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APPENDIX A

INDOT Supporting Documentation

Categorical Exclusion Level Thresholds

	PCE	Level 1	Level 2	Level 3	Level 4 ¹
Section 106	Falls within guidelines of Minor Projects PA	“No Historic Properties Affected”	“No Adverse Effect”	-	“Adverse Effect” Or Historic Bridge involvement ²
Stream Impacts	No construction in waterways or water bodies	< 300 linear feet of stream impacts	≥ 300 linear feet of stream impacts	-	Individual 404 Permit
Wetland Impacts	No adverse impacts to wetlands	< 0.1 acre	-	< 1 acre	≥ 1 acre
Right-of-way³	Property acquisition for preservation only or none	< 0.5 acre	≥ 0.5 acre	-	-
Relocations	None	-	-	< 5	≥ 5
Threatened/Endangered Species (Species Specific Programmatic for Indiana bat & northern long eared bat)	“No Effect”, “Not likely to Adversely Affect” (Without AMMs ⁴ or with AMMs required for all projects ⁵)	“Not likely to Adversely Affect” (With any other AMMs)	-	“Likely to Adversely Affect”	Project does not fall under Species Specific Programmatic
Threatened/Endangered Species (Any other species)	Falls within guidelines of USFWS 2013 Interim Policy	“No Effect”, “Not likely to Adversely Affect”	-	-	“Likely to Adversely Affect”
Environmental Justice	No disproportionately high and adverse impacts	-	-	-	Potential ⁶
Sole Source Aquifer	Detailed Assessment Not Required	-	-	-	Detailed Assessment
Floodplain	No Substantial Impacts	-	-	-	Substantial Impacts
Coastal Zone Consistency	Consistent	-	-	-	Not Consistent
National Wild and Scenic River	Not Present	-	-	-	Present
New Alignment	None	-	-	-	Any
Section 4(f) Impacts	None	-	-	-	Any
Section 6(f) Impacts	None	-	-	-	Any
Added Through Lane	None	-	-	-	Any
Permanent Traffic Alteration	None	-	-	-	Any
Coast Guard Permit	None	-	-	-	Any
Noise Analysis Required	No	-	-	-	Yes
Air Quality Analysis Required	No	-	-	-	Yes ⁷
Approval Level	Concurrence by INDOT District Environmental or Environmental Services				
<ul style="list-style-type: none"> • District Env. Supervisor • Env. Services Division • FHWA 		Yes	Yes	Yes Yes	Yes Yes Yes

¹Coordinate with INDOT Environmental Services. INDOT will then coordinate with the appropriate FHWA Environmental Specialist.

²Any involvement with a bridge processed under the Historic Bridge Programmatic Agreement.

³Permanent and/or temporary right-of-way.

⁴AMMs = Avoidance and Mitigation Measures.

⁵AMMs determined by the IPAC decision key to be needed that are listed in the USFWS *User's Guide for the Range-wide Programmatic Consultation for Indiana bat and Northern long-eared bat* as “required for all projects”.

⁶Potential for causing a disproportionately high and adverse impact.

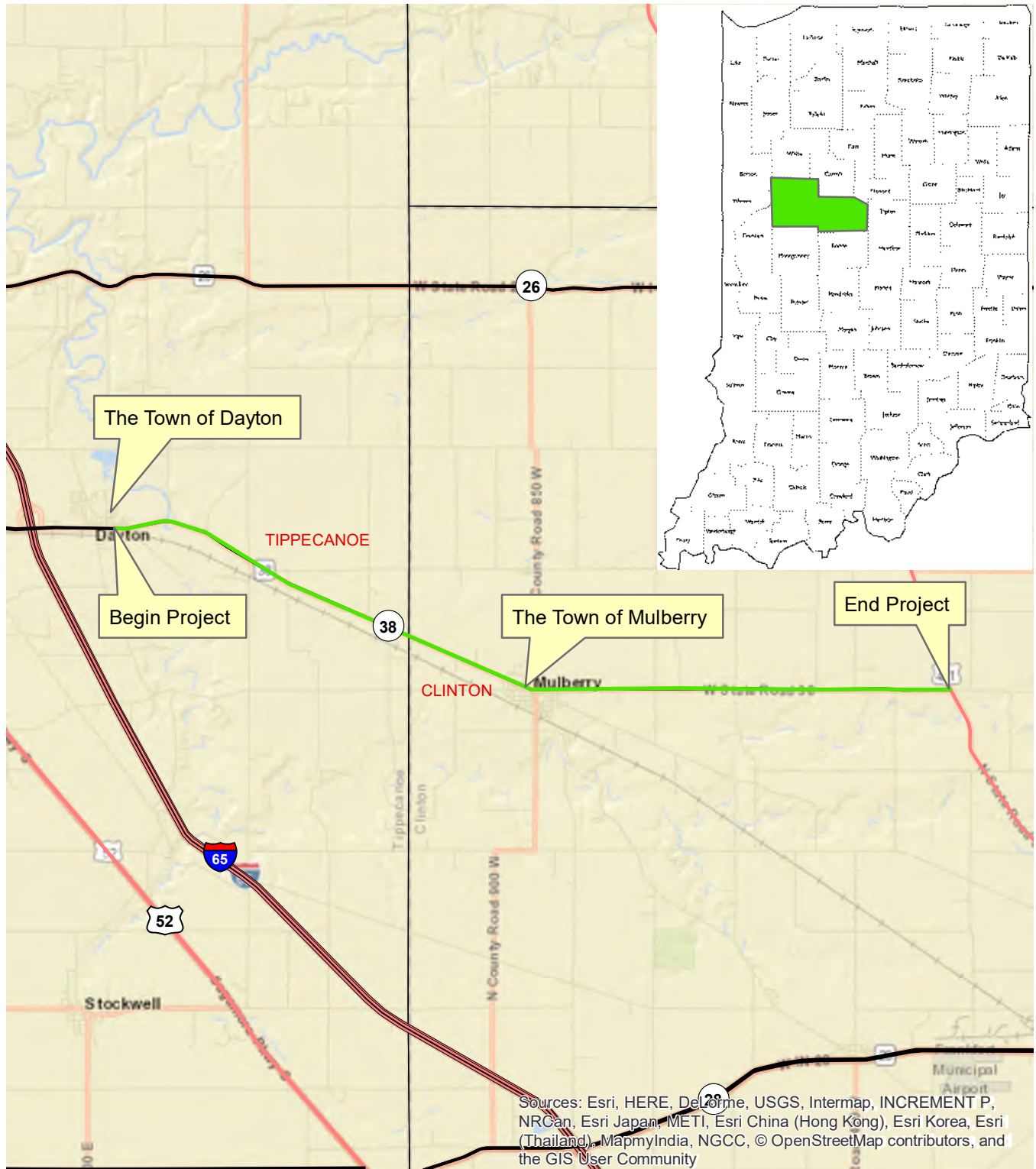
⁷Hot Spot Analysis and/or MSAT Quantitative Emission Analysis.

*Substantial public or agency controversy may require a higher-level NEPA document.

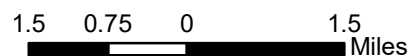
APPENDIX B

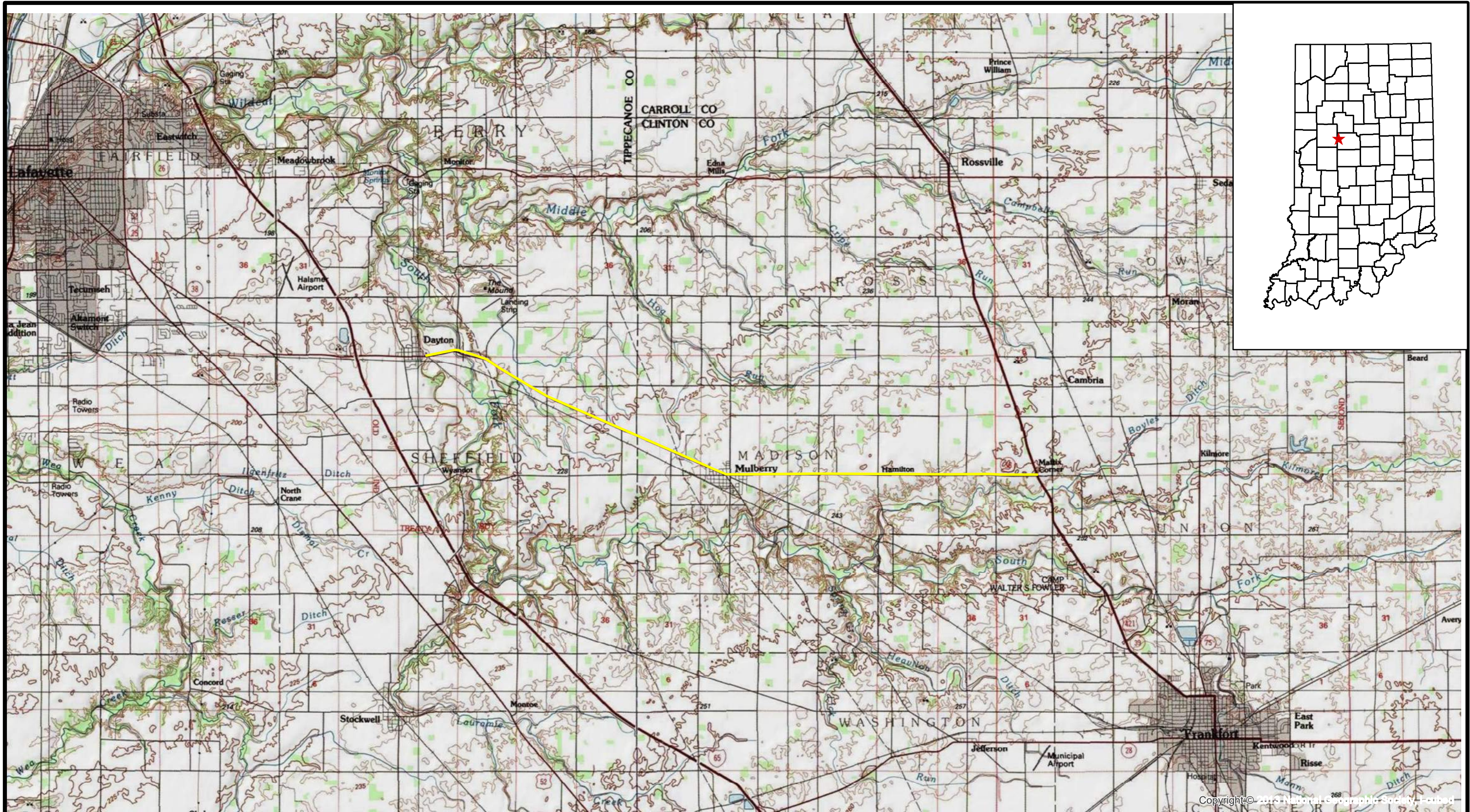
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Figure 1 Project Location



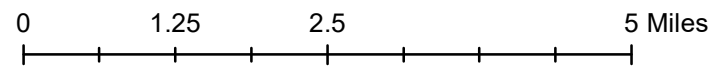
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I:\19\obs\18\H0068B\CAD\GIS\Projects\Environmental\EXH_USGSQuad_20190829.mxd

- ★ Project Location
- Project Area



USGS Topographic Map

Waters of the U.S. Determination Report
 SR 38 HMA Overlay and Minor Structural
 Tippecanoe and Clinton Counties, Indiana

Des. No. 1601074

Figure 2

Figure 1A Project Site and Structure Location

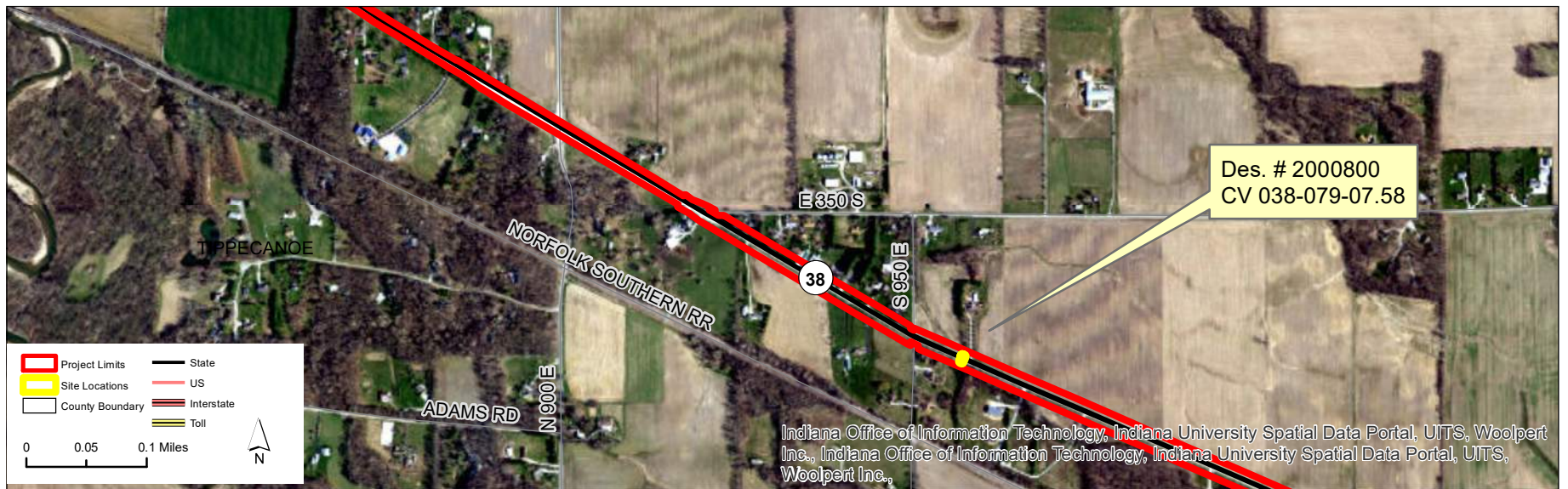


Figure 1B Project Site and Structure Location



Figure 1C Project Site and Structure Location

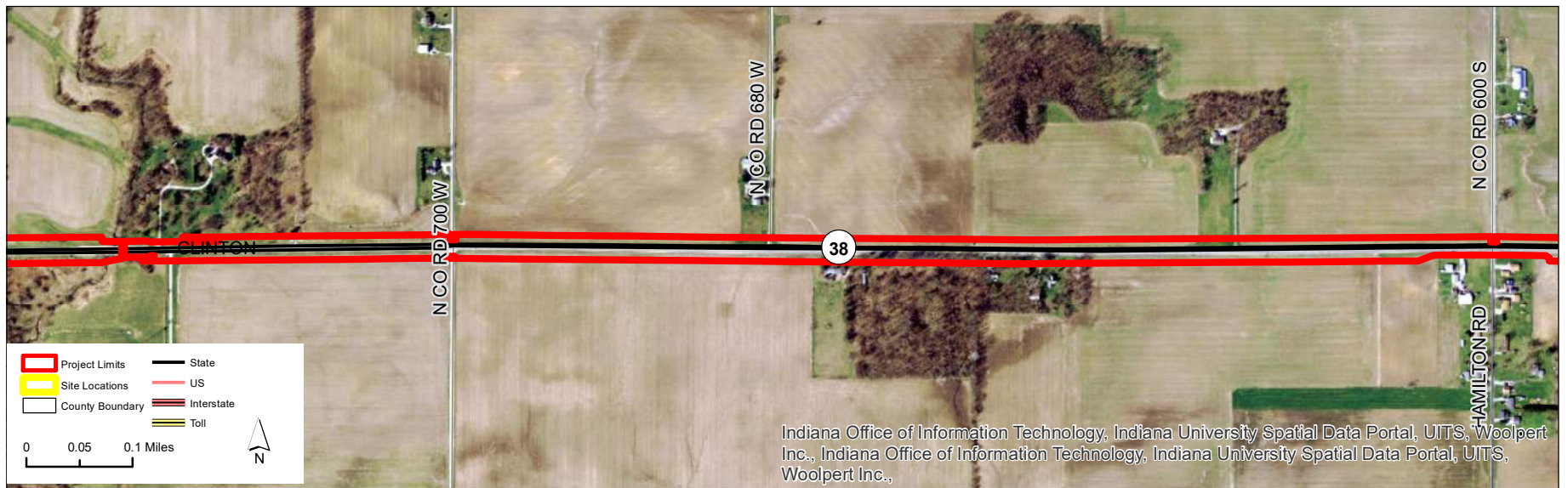
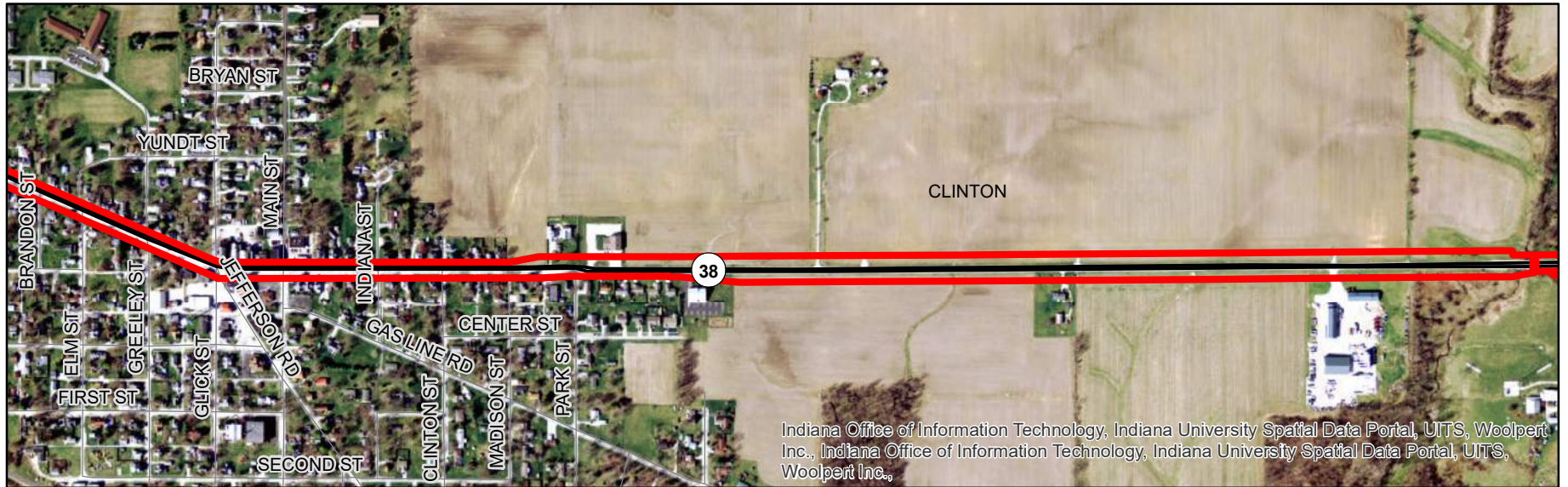
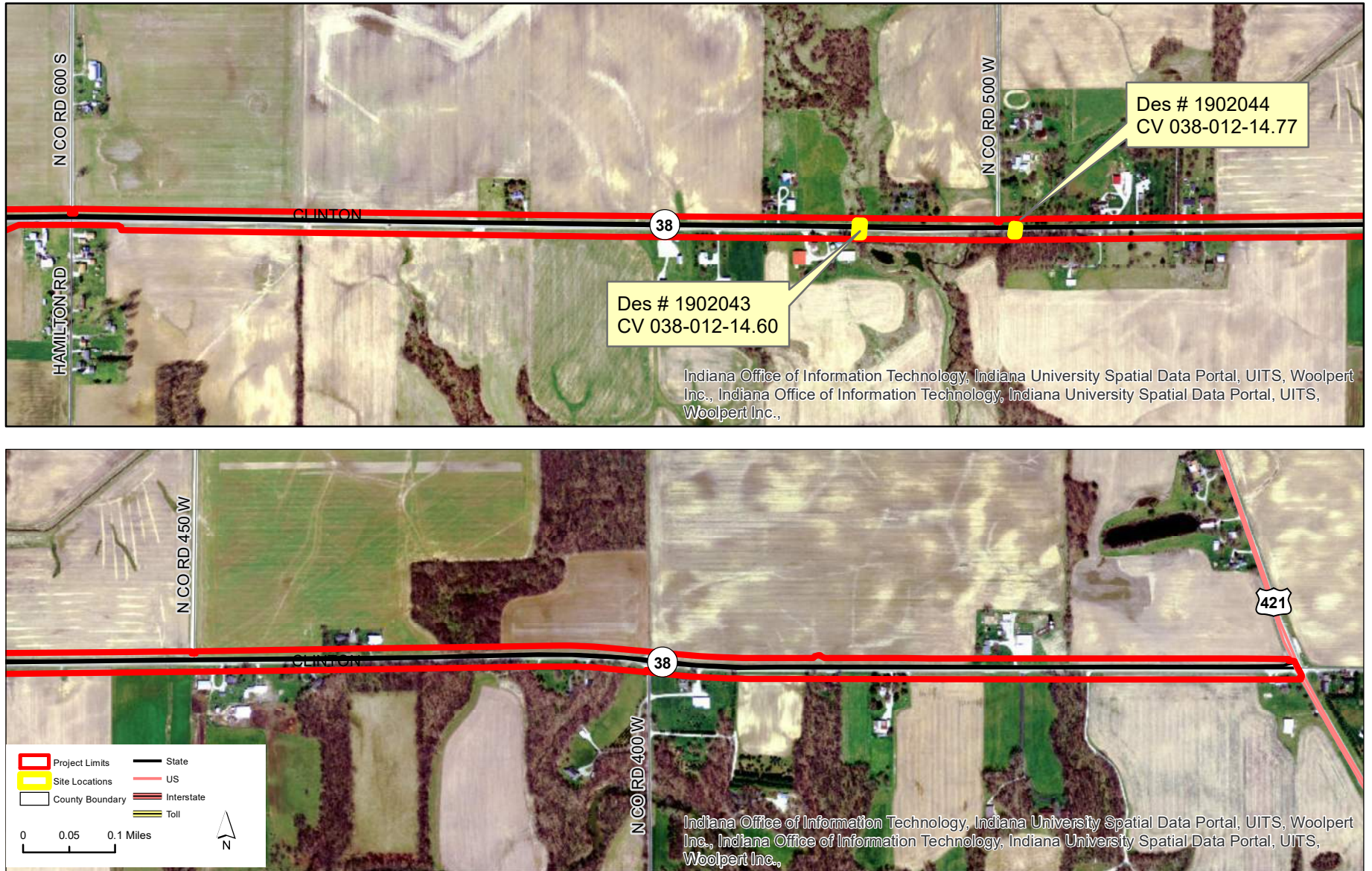
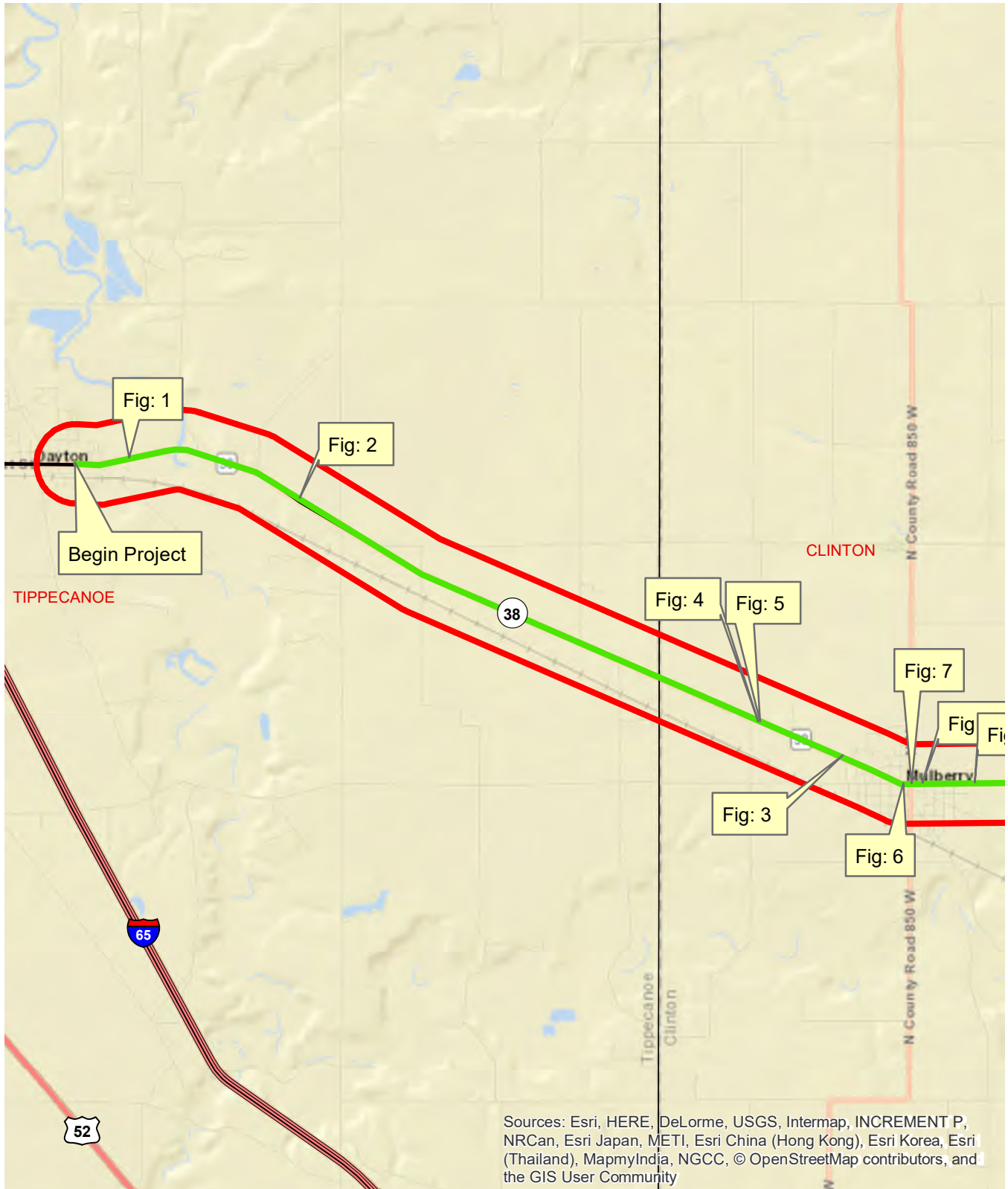


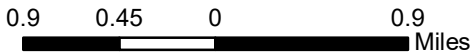
Figure 1D Project Site and Structure Location



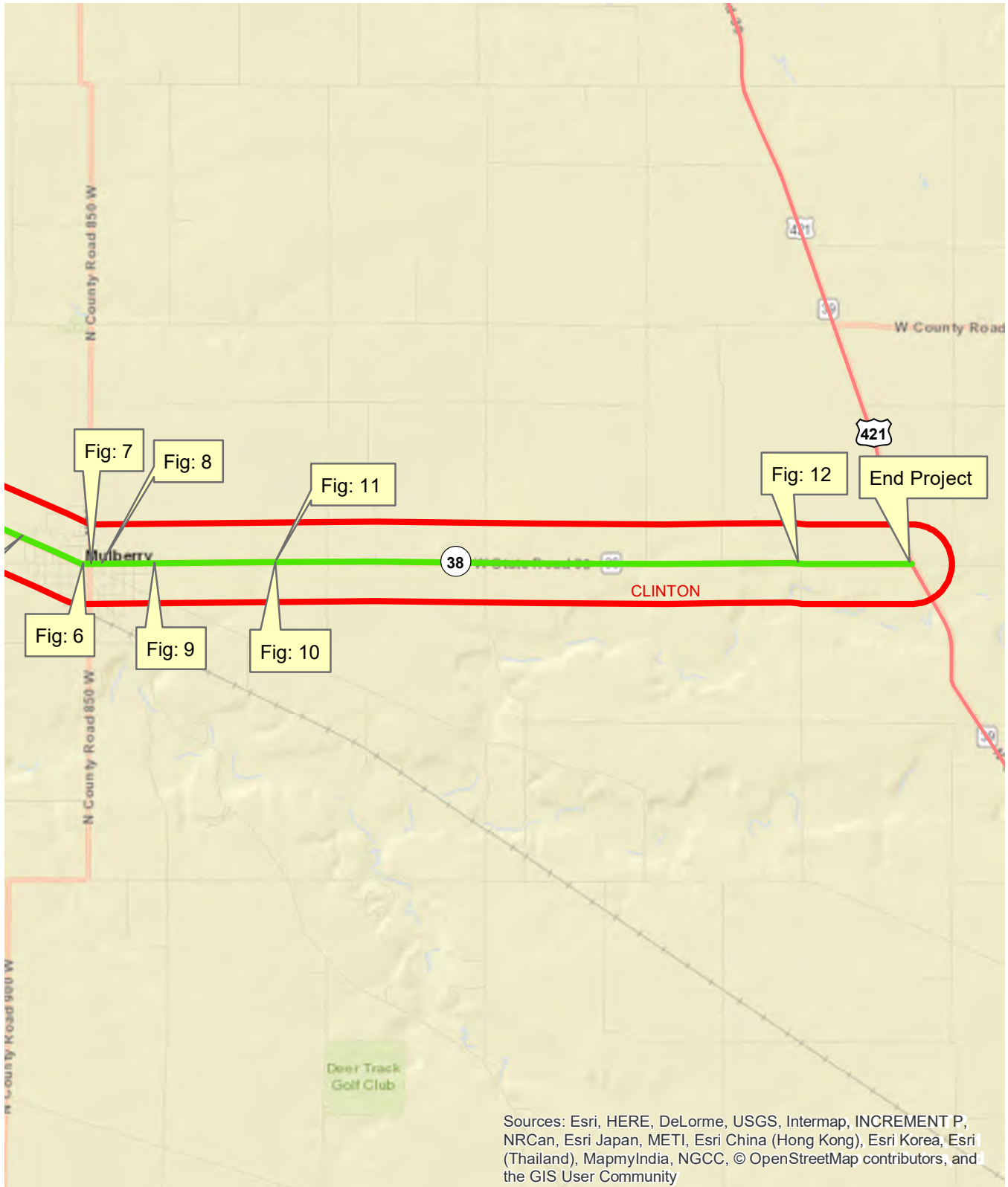


Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.



Early Coordination Photo Locations East Segment
Des. No. 1601074
SR 38 HMA Overlay Minor Structural
Tippecanoe and Clinton Counties, Indiana



This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

0.9 0.45 0 0.9 Miles



Fig: 1, SR 38 east of Dayton, viewing west



Fig: 2, SR 38 west of 900 E, viewing west



Fig: 3, SR 38 in Mulberry viewing east



Fig: 4, SR 38 Small Structure N CR 500 West, viewing north



Fig: 5, SR 38 Small Structure west of Seager Lane, viewing east



Fig: 6, SR 38 in Mulberry viewing west



Fig: 7, SR 38 in Mulberry, viewing east



Fig: 8, SR 38 in Mulberry, viewing east



Fig: 9, SR 38 in Mulberry viewing west



Fig: 10, SR 38 west of N CR 700 W, viewing east



Fig: 11, SR 38 west of N CR 700 W viewing west



Fig: 12, SR 38 N CR 400 W viewing east



PROJECT	BRIDGE FILE
1601074	
CONTRACT	ROAD DESIGNATION
RS-40528	1601074

INDIANA DEPARTMENT OF TRANSPORTATION



KIN PROJECT INFORMATION

DESIGNATION	PROJECT DESCRIPTION
1601073	SR 38 Small Town Reconstruction in the Town of Dayton
1902042	SR 38 Small Structure Pipe Liner - CV 038-012-10.20 - Str. No. 634
1902043	SR 38 Small Structure Replacement - CV 038-012-14.60 - Str. No. 864
1902044	SR 38 Small Structure Replacement - CV 038-012-14.70 - Str. No. 873
2000800	SR 38 Small Structure Replacement - CV 038-079-07.58 - Str. No. 514
2000802	SR 38 Small Structure Replacement - CV 038-079-08.88 - Str. No. 561
2001746	SR 38 Small Structure Replacement - CV 038-012-11.86 - Str. No. 721
2001747	SR 38 Small Structure Replacement - CV 038-012-15.38 - Str. No. 913

TRAFFIC DATA	
A.A.D.T. (2018)	VARIES 2,405 - 6,770 V.P.D.
A.A.D.T. (2042)	VARIES 2,962 - 8,026 V.P.D.
D.H.V. (2042)	VARIES 297 - 852 V.P.H.
DIRECTIONAL DISTRIBUTION	VARIES 49.16% - 53.23%
TRUCKS	VARIES 4.00% - 16.97% A.A.D.T.
	VARIES 3.05% - 17.8% D.H.V.

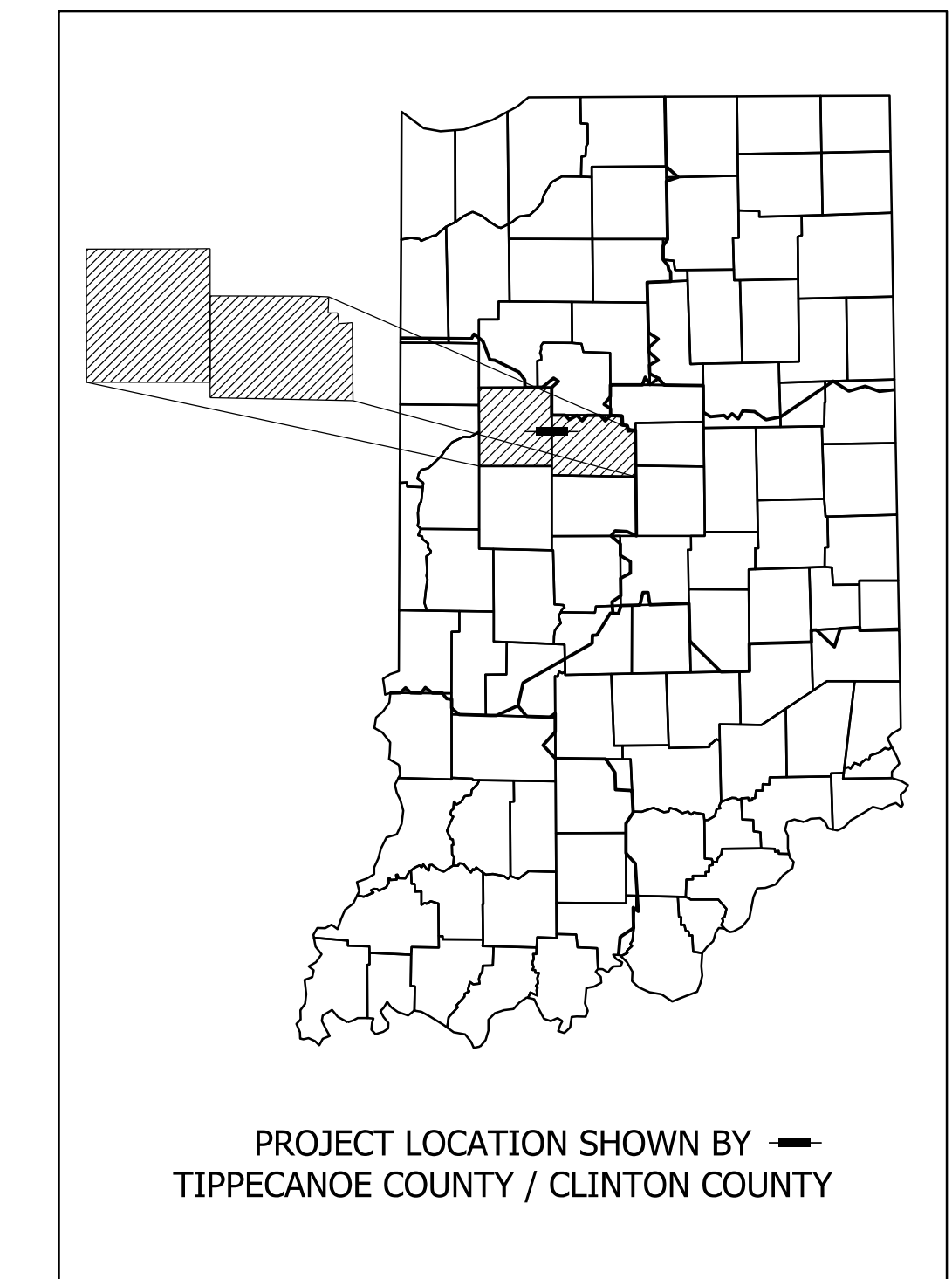
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PROJECT DESIGN CRITERIA	3R (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL/MAJOR COLLECTOR
RURAL/URBAN	RURAL
TERRAIN	LEVEL/ROLLING
ACCESS CONTROL	NONE

ROAD PLANS

ROUTE: SR 38 FROM: RP 5+53 TO: RP 16+43
 1601074 P.E.
 PROJECT NO. 1601074 R/W
 1601074 CONST.

ADDITIONAL RIGHT OF WAY
 REQUIRED FOR THIS PROJECT

Full Depth Reclamation with HMA Overlay on SR 38
 Located Approximately from 1.07 miles E. of I-65 to N. Jct of SR 39/US 421
 In Sections 3, 4, 10, 11, 12, 13, T22N, R3W
 Sections 13,14,15,16,17,18,20,21,22,23,24, T22N, R2W, Sections 18, 19, T22N, R1W
 Sheffield Township, Tippecanoe County, Indiana, Madison, Ross, and Washington Township, Clinton County, Indiana

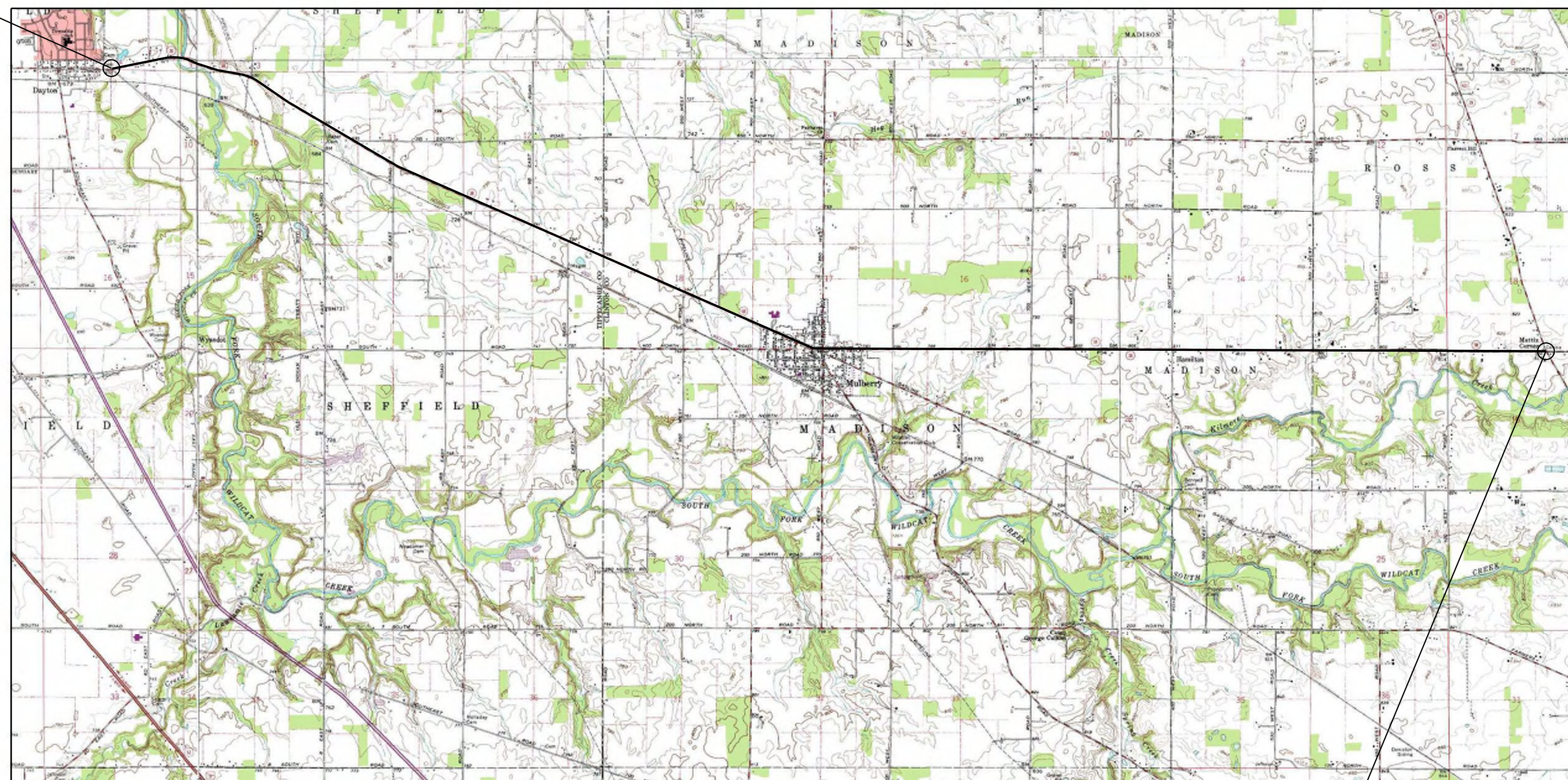


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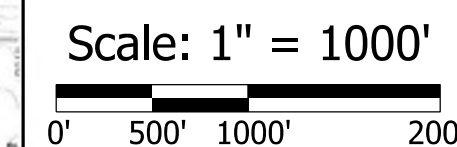
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ROADWAY LENGTH:	10.753	MI.
TOTAL LENGTH:	10.753	MI.
MAX. GRADE:	-6.77 / 5.59	%

HUC 051201070311
 HUC 051201070205
 HUC 051201070310
 HUC 051201070306

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END PROJECT 1601074
 Sta. 960+00.00 "A"

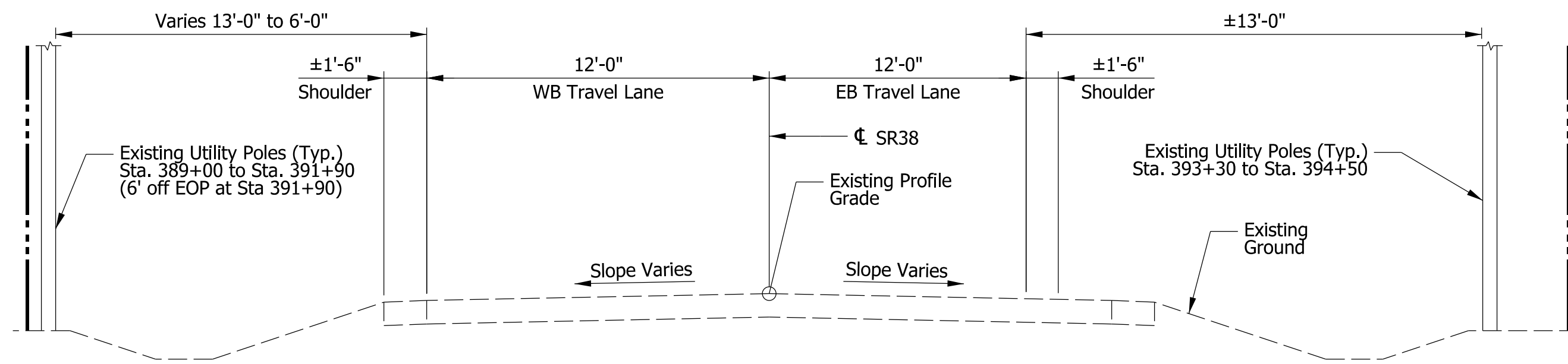


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 AUGUST 21, 2020

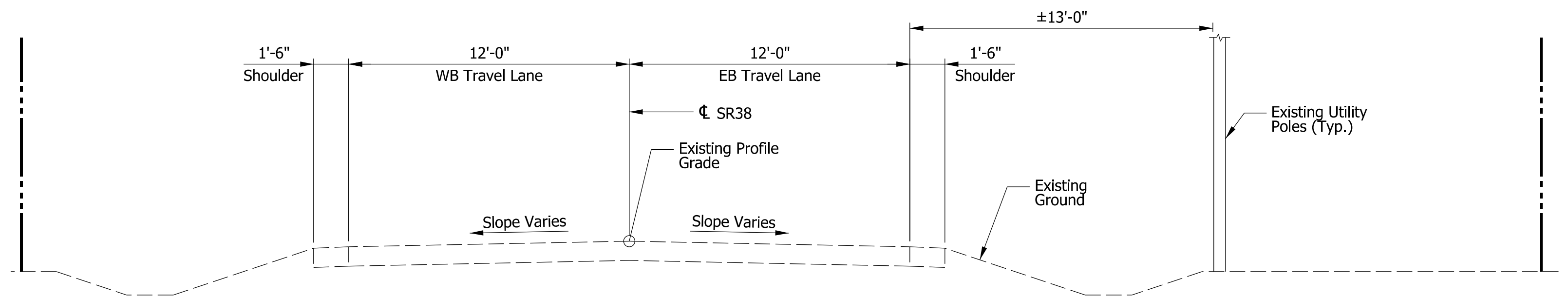
INDIANA DEPARTMENT OF TRANSPORTATION
 STANDARD SPECIFICATIONS DATED 2020 TO
 BE USED WITH THESE PLANS.

PLANS PREPARED BY:	HANSON	(317)293-9024 PHONE NUMBER
CERTIFIED BY:		8/21/2020 DATE
APPROVED FOR LETTING:		DATE

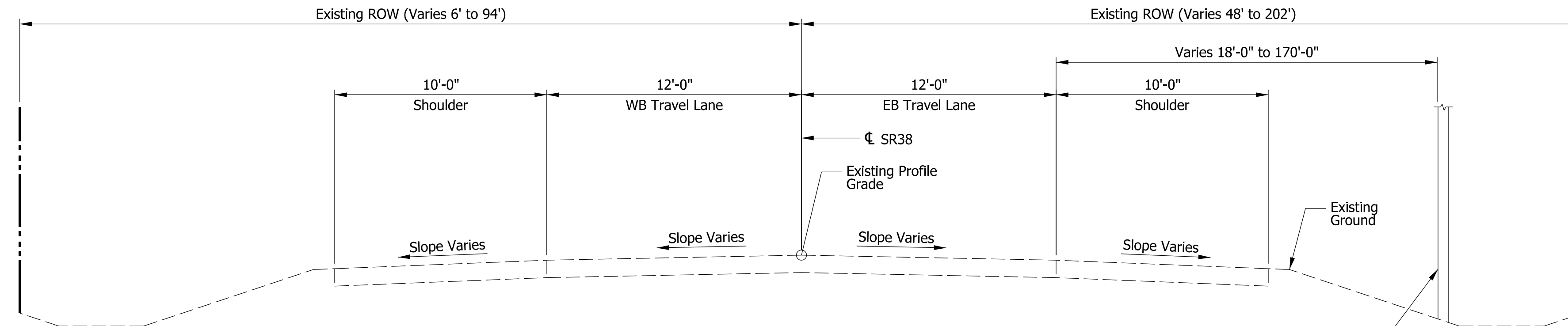
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	1601074
SURVEY BOOK	SHEETS
	1 of 422
CONTRACT	PROJECT
RS-40528	1601074



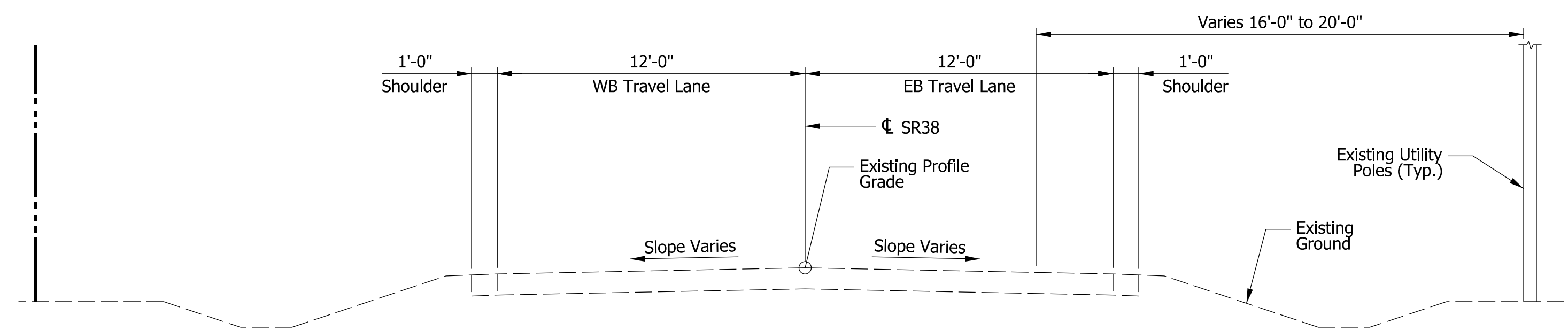
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EXISTING TYPICAL SECTION
 SR 38
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EXISTING TYPICAL SECTION
 SR 38
 Sta. 403+70 to Sta. 491+10 "A"
 (Bridge Paving Exception Sta. 417+85.14 "A" to Sta. 421+63.62 "A")



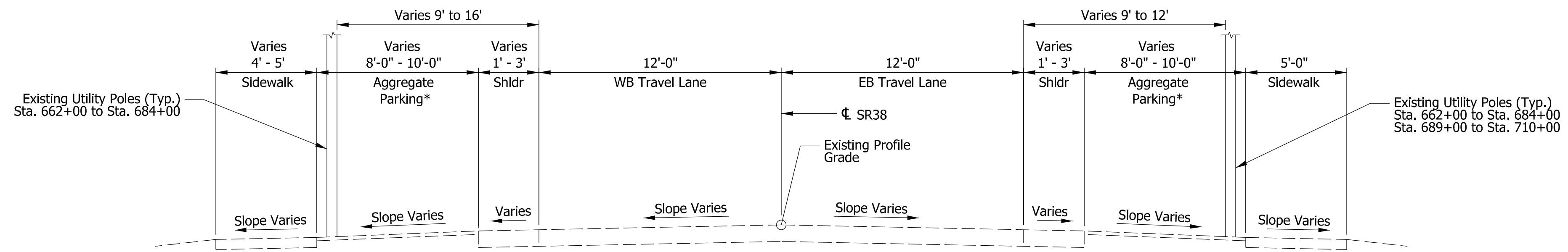
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	8/21/2020	DATE
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CHECKED: JR	CHECKED: KS		

INDIANA
 DEPARTMENT OF TRANSPORTATION

EXISTING TYPICAL SECTIONS
 STA. 392+50 "A" TO STA. 662+00 "A"

	BRIDGE FILE
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1" = 50'	1601074
SURVEY BOOK	SHEETS
	3 of 422
CONTRACT	PROJECT
RS-40528	1601074

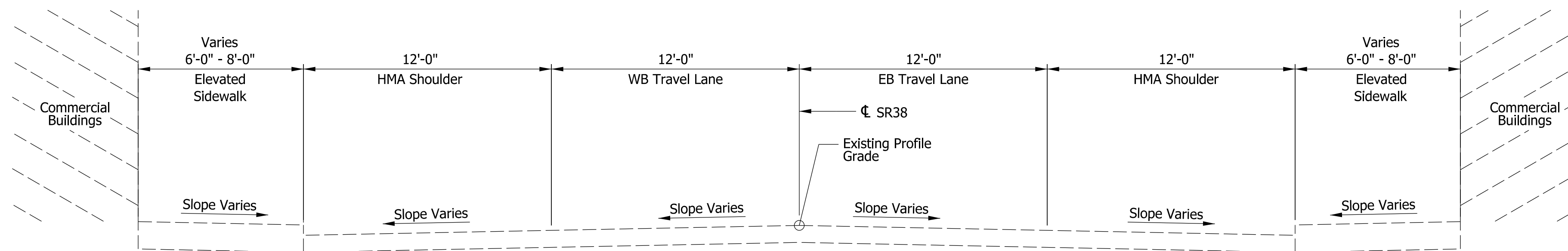


EXISTING TYPICAL SECTION

SR 38

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Sta. 689+00 to Sta. 710+00 "A"

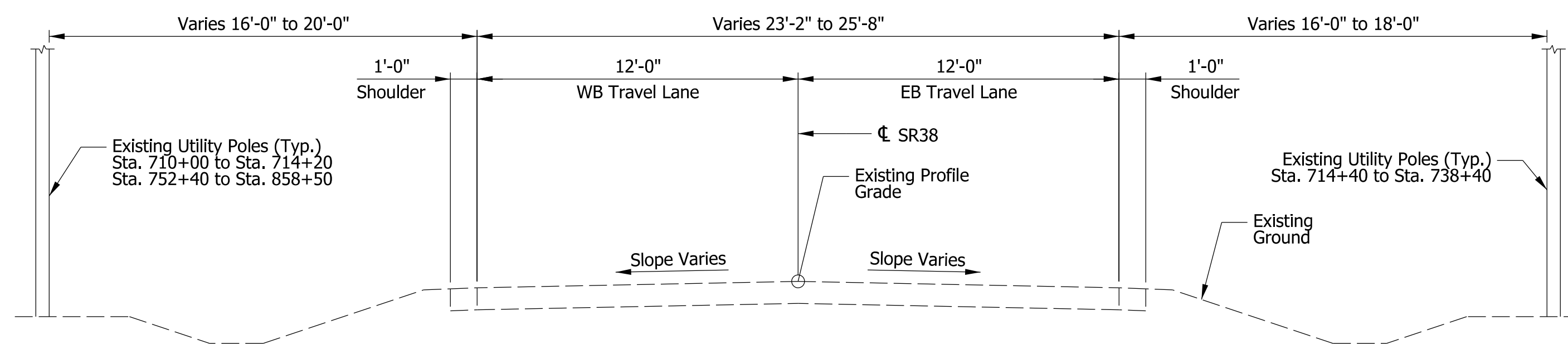
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Sta. ±702+00 to Sta. 710+00



EXISTING TYPICAL SECTION

SR 38

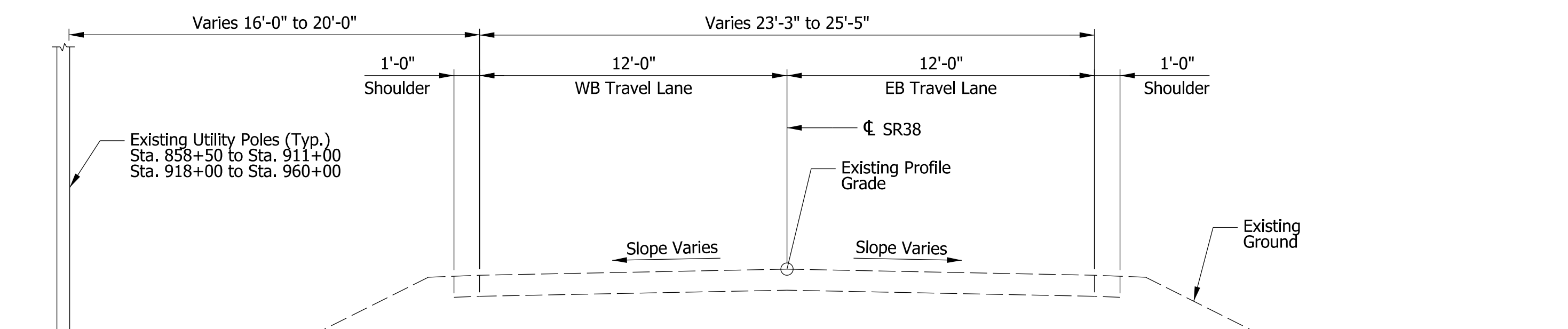
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EXISTING TYPICAL SECTION

SR 38

Sta. 710+00 to Sta. 858+50 "A"
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EXISTING TYPICAL SECTION

SR 38

Sta. 858+50 to Sta. 960+00 "A"

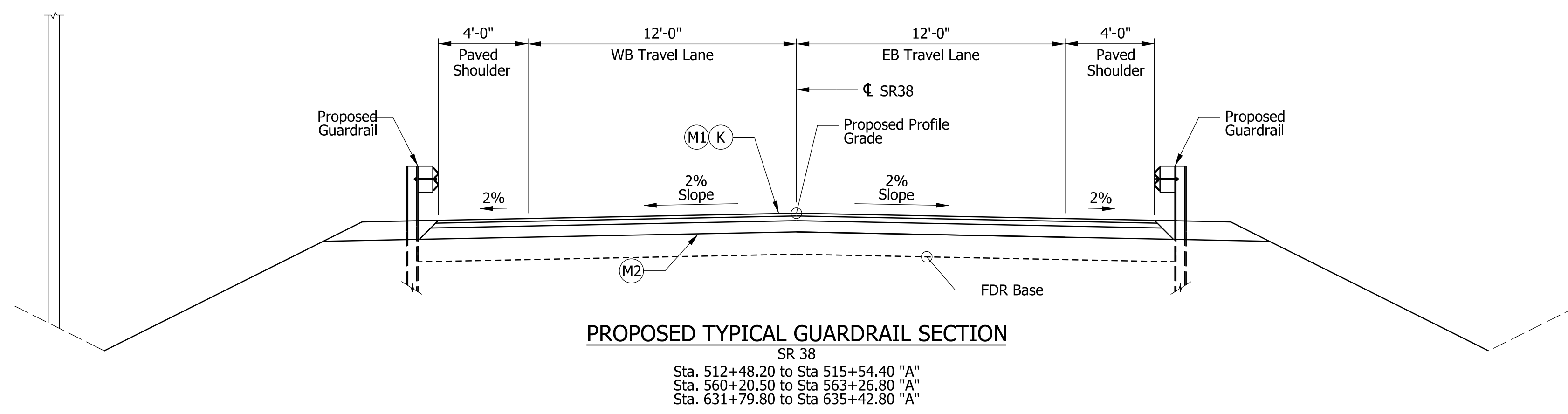
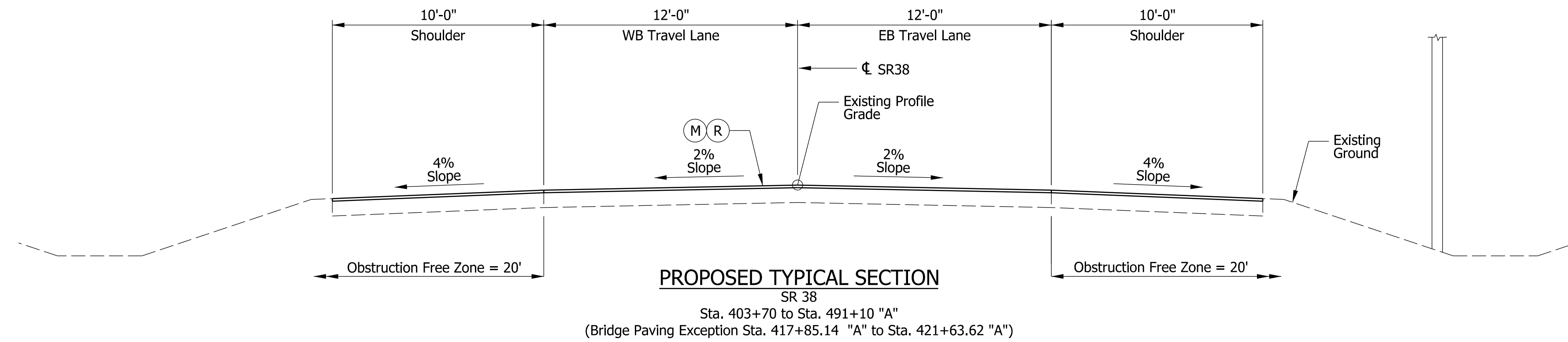
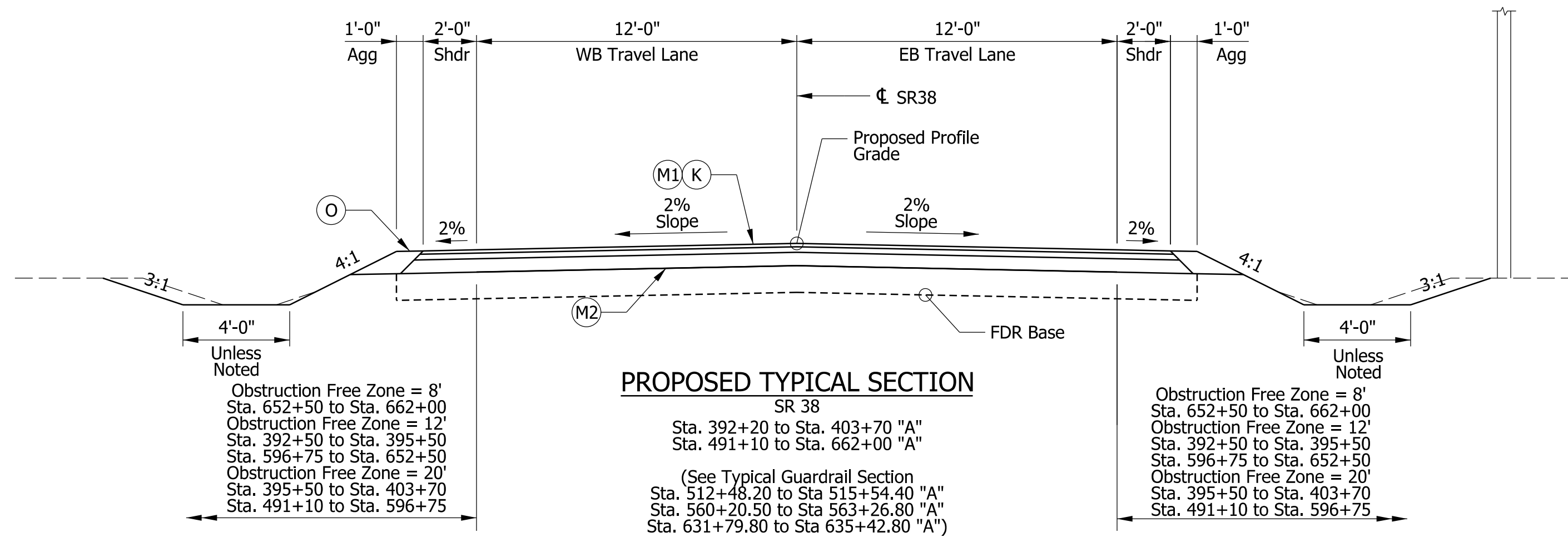
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DESIGN ENGINEER DATE 8/21/2020

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CHECKED: JR CHECKED: KS

INDIANA
DEPARTMENT OF TRANSPORTATION

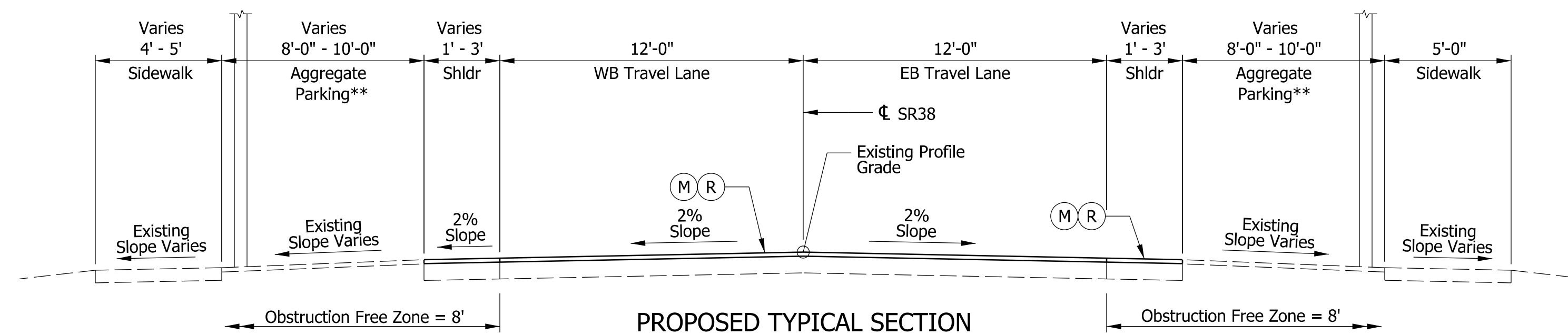
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SURVEY BOOK	SHEETS 4 of 422
CONTRACT RS-40528	PROJECT 1601074



- LEGEND**
- (K) 165 LB/SYD QC/QA-HMA, 3, 70, Surface 9.5mm, on 275 LB/SYD QC/QA-HMA, 3, 70, Intermediate 19mm, on 6 in. Cold Central Plant Recycling on 12 in. Full Depth Reclamation (FDR)
 - (K1) 220 LB/SYD QC/QA-HMA, 3, 70, Surface 9.5mm, on 6 in. Cold Central Plant Recycling on 12 in. Full Depth Reclamation (FDR)
 - (O) Variable Depth Compacted Aggregate, No. 53
 - (R) 165 LB/SYD QC/QA-HMA, 3, 70, Surface 9.5mm
 - (M) Milling, Asphalt, 1.5 in
 - (M1) Milling, Asphalt, 8.0 in
 - (M2) Milling, Scarification

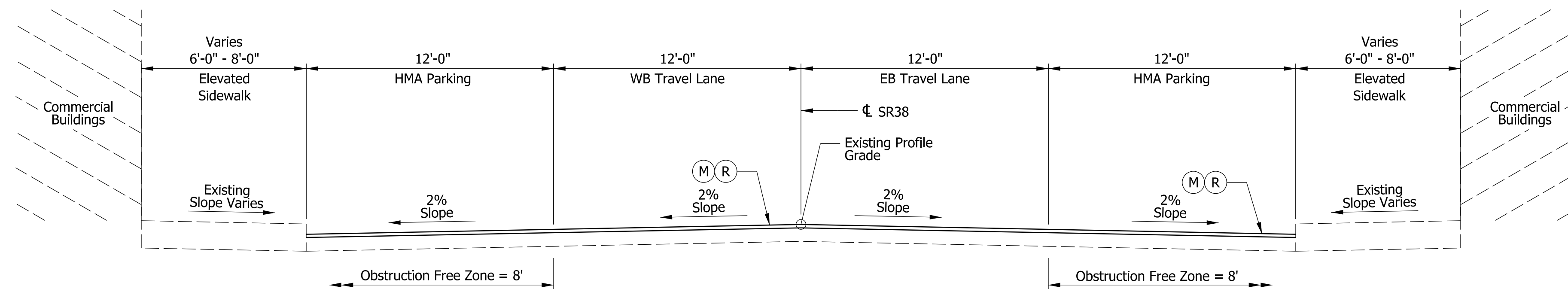
RECOMMENDED FOR APPROVAL DESIGN ENGINEER _____ DATE 8/21/2020 DESIGNED: KS DRAWN: MH CHECKED: JR CHECKED: KS	INDIANA DEPARTMENT OF TRANSPORTATION TYPICAL SECTIONS STA. 392+50 "A" TO STA. 662+00 "A"		BRIDGE FILE
	SCALE 1" = 50'		DESIGNATION 1601074
	SURVEY BOOK		SHEETS 5 of 422
	CONTRACT RS-40528		PROJECT 1601074



PROPOSED TYPICAL SECTION

SR 38
(Residential Area)
Sta. 662+00 to Sta. 684+00 "A"
Sta. 689+00 to Sta. 710+00 "A"

** Note: No Existing Parking / Sidewalk
Sta. 662+00 to Sta. ±665+00
Sta. ±702+00 to Sta. 710+00



PROPOSED TYPICAL SECTION

SR 38
(Commercial Area)
Sta. 684+00 to Sta. 689+00 "A"

LEGEND

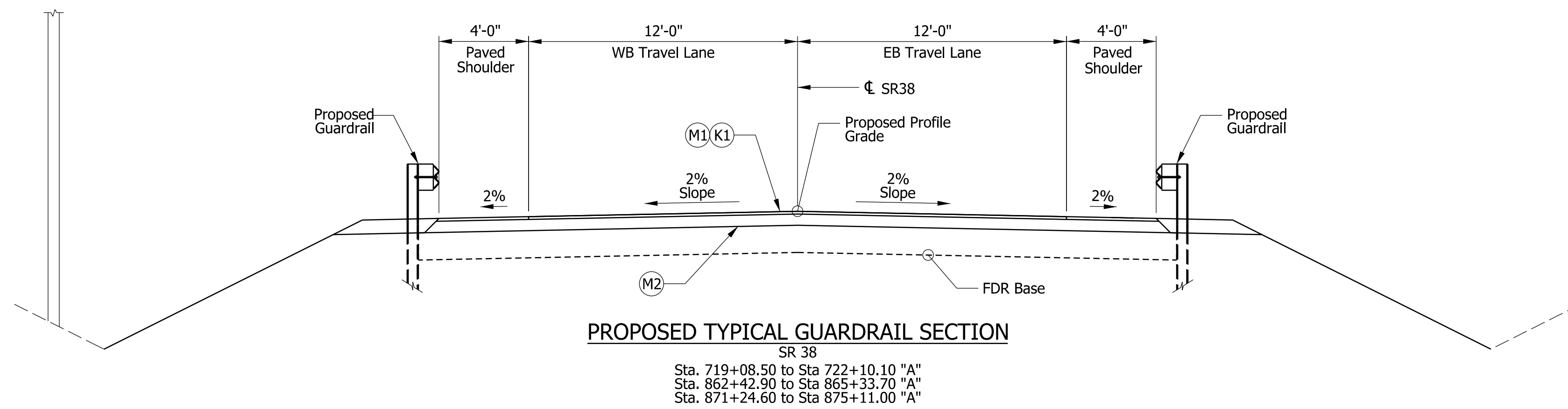
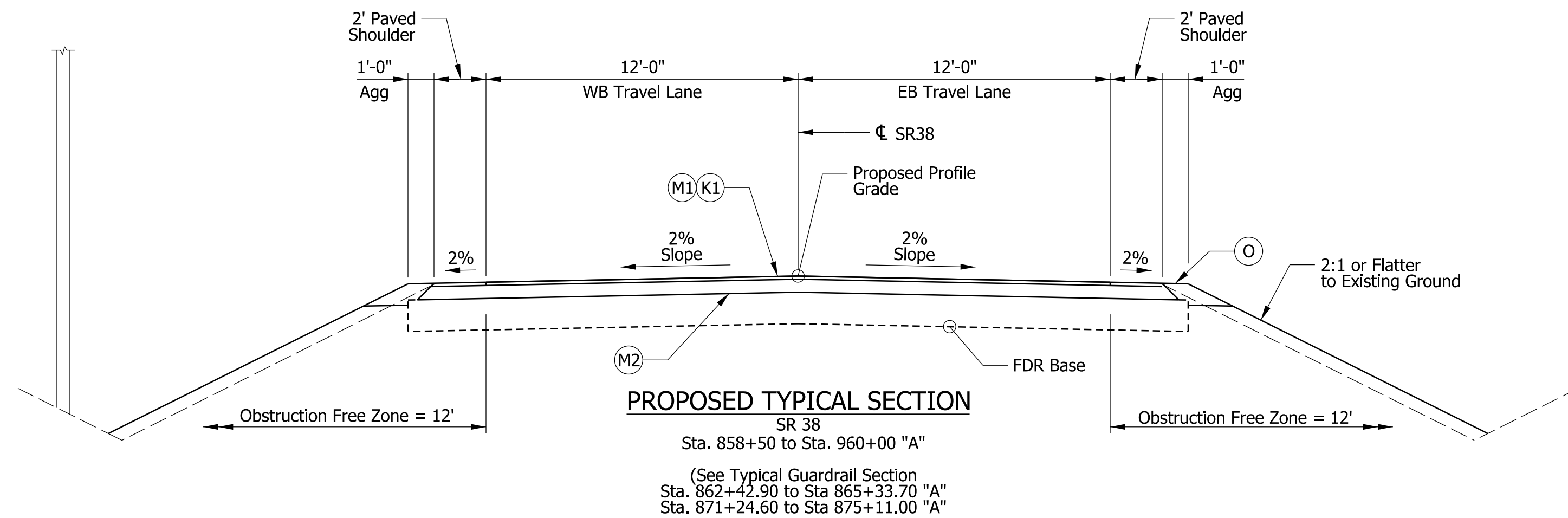
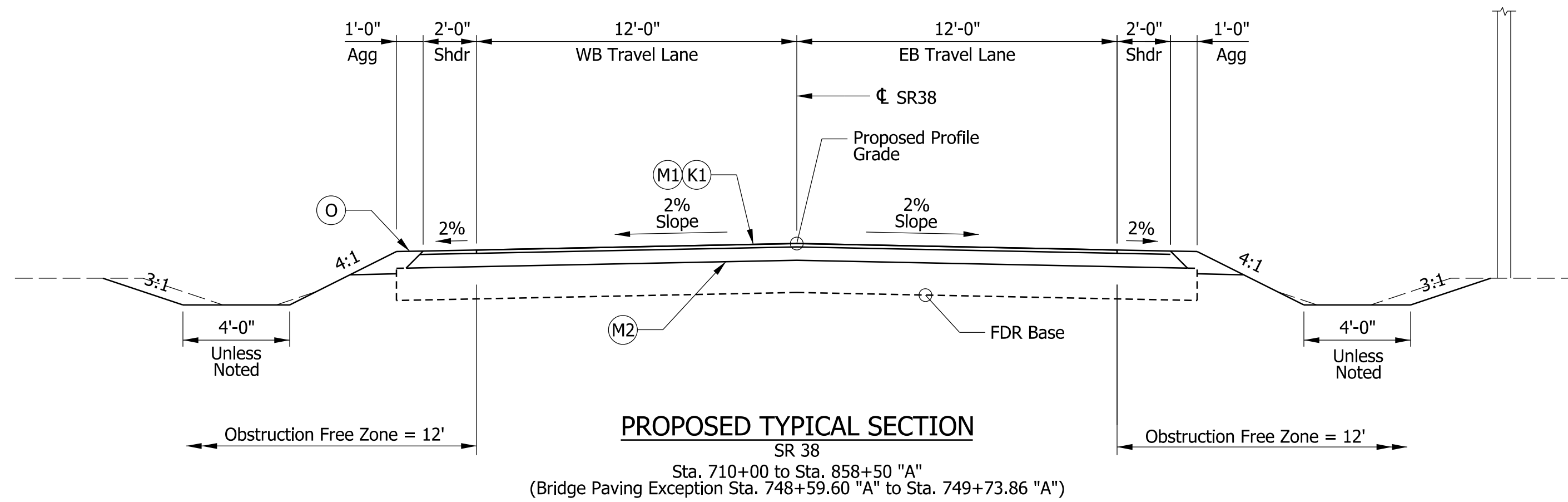
- (K) 165 LB/SYD QC/QA-HMA, 3, 70, Surface 9.5mm, on 275 LB/SYD QC/QA-HMA, 3, 70, Intermediate 19mm, on 6 in. Cold Central Plant Recycling on 12 in. Full Depth Reclamation (FDR)
- (K1) 220 LB/SYD QC/QA-HMA, 3, 70, Surface 9.5mm, on 6 in. Cold Central Plant Recycling on 12 in. Full Depth Reclamation (FDR)
- (O) Variable Depth Compacted Aggregate, No. 53
- (R) 165 LB/SYD QC/QA-HMA, 3, 70, Surface 9.5mm
- (M) Milling, Asphalt, 1.5 in
- (M1) Milling, Asphalt, 8.0 in
- (M2) Milling, Scarification

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	8/21/2020	DATE
DESIGNED: KS	DRAWN: MH		
CHECKED: JR	CHECKED: KS		

INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS
STA. 662+00 "A" TO STA. 710+00 "A"

	BRIDGE FILE
SCALE	DESIGNATION
1" = 50'	1601074
SURVEY BOOK	SHEETS
	6 of 422
CONTRACT	PROJECT
RS-40528	1601074



LEGEND

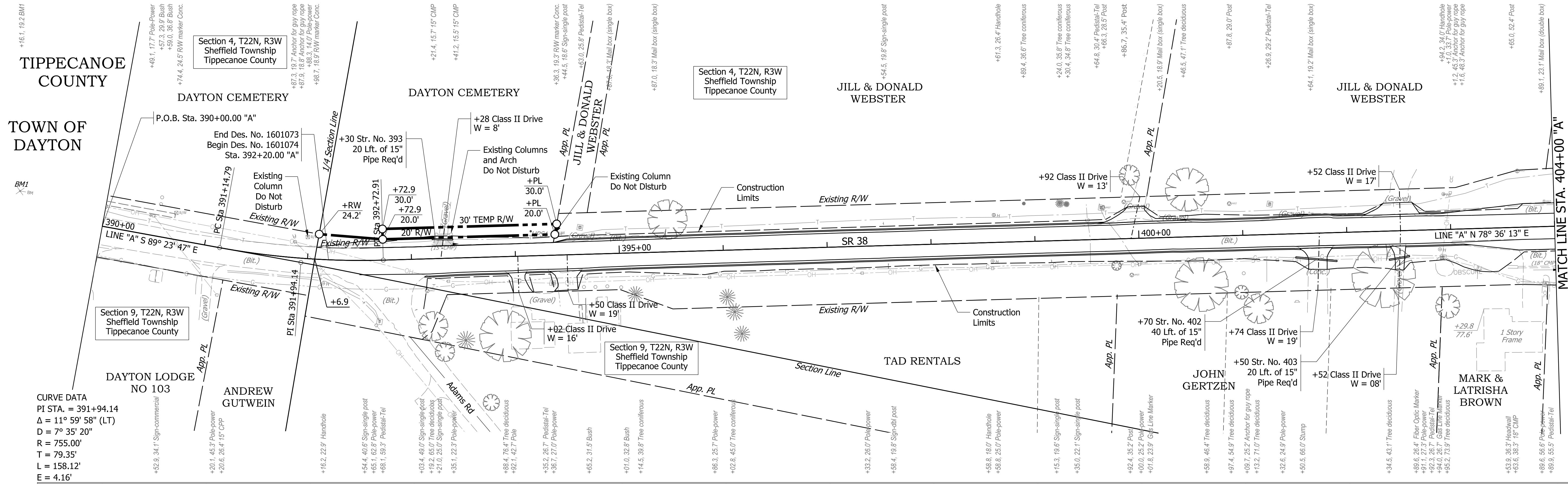
- (K) 165 LB/SYD QC/QA-HMA, 3, 70, Surface 9.5mm, on 275 LB/SYD QC/QA-HMA, 3, 70, Intermediate 19mm, on 6 in. Cold Central Plant Recycling on 12 in. Full Depth Reclamation (FDR)
- (K1) 220 LB/SYD QC/QA-HMA, 3, 70, Surface 9.5mm, on 6 in. Cold Central Plant Recycling on 12 in. Full Depth Reclamation (FDR)
- (O) Variable Depth Compacted Aggregate, No. 53
- (R) 165 LB/SYD QC/QA-HMA, 3, 70, Surface 9.5mm
- (M) Milling, Asphalt, 1.5 in
- (M1) Milling, Asphalt, 8.0 in
- (M2) Milling, Scarification

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	8/21/2020	DATE
DESIGNED: KS	DRAWN: MH		
CHECKED: JR	CHECKED: KS		

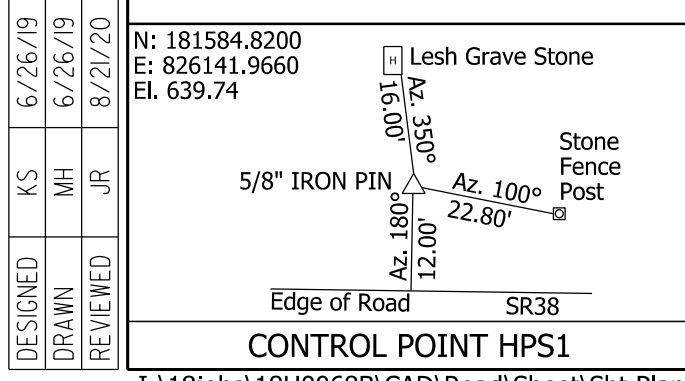
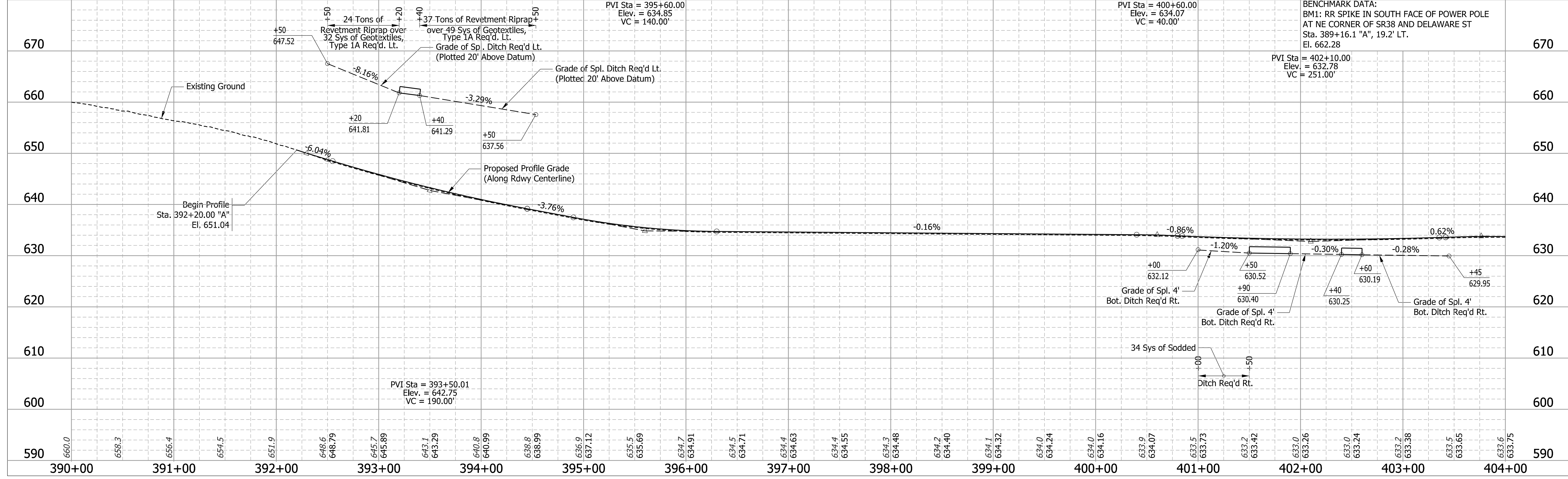
INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS
STA. 710+00 "A" TO STA. 960+00 "A"

	BRIDGE FILE	
SCALE	DESIGNATION	
1" = 50'	1601074	
SURVEY BOOK	SHEETS	
	7	of 422
CONTRACT	PROJECT	
RS-40528	1601074	



CURVE DATA
 PI STA. = 391+94.14
 Δ = 11° 59' 58" (LT)
 D = 7° 35' 20"
 R = 755.00'
 L = 79.35'
 T = 158.12'
 E = 4.16'



DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

N: 181584.8200
 E: 326141.9660
 El. 639.74

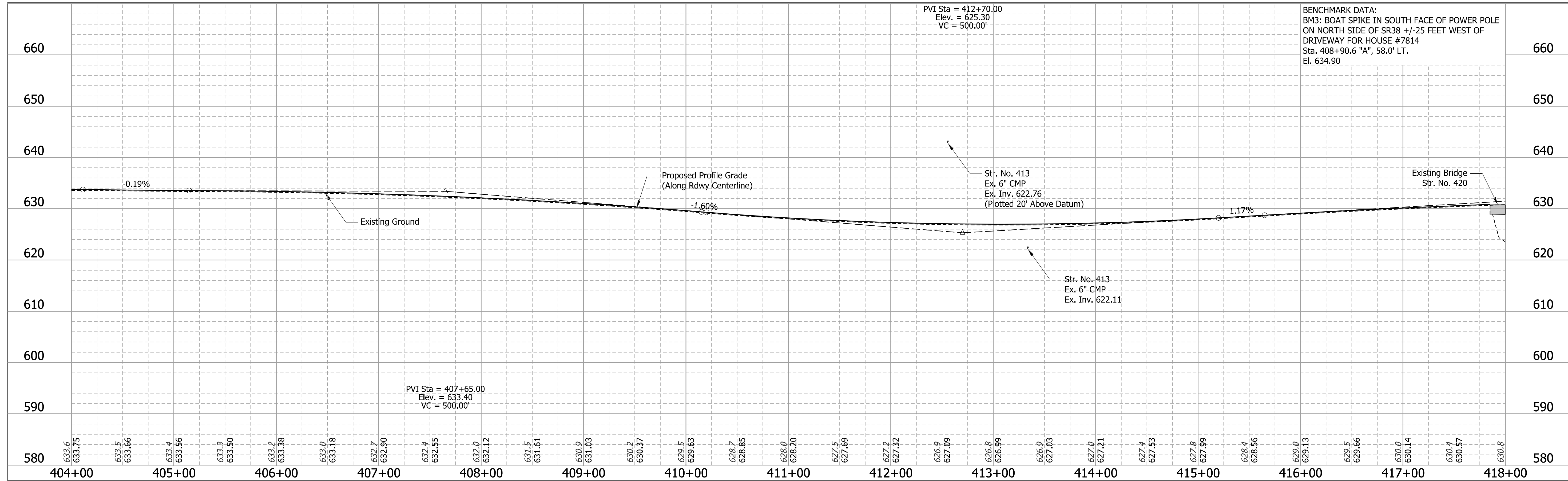
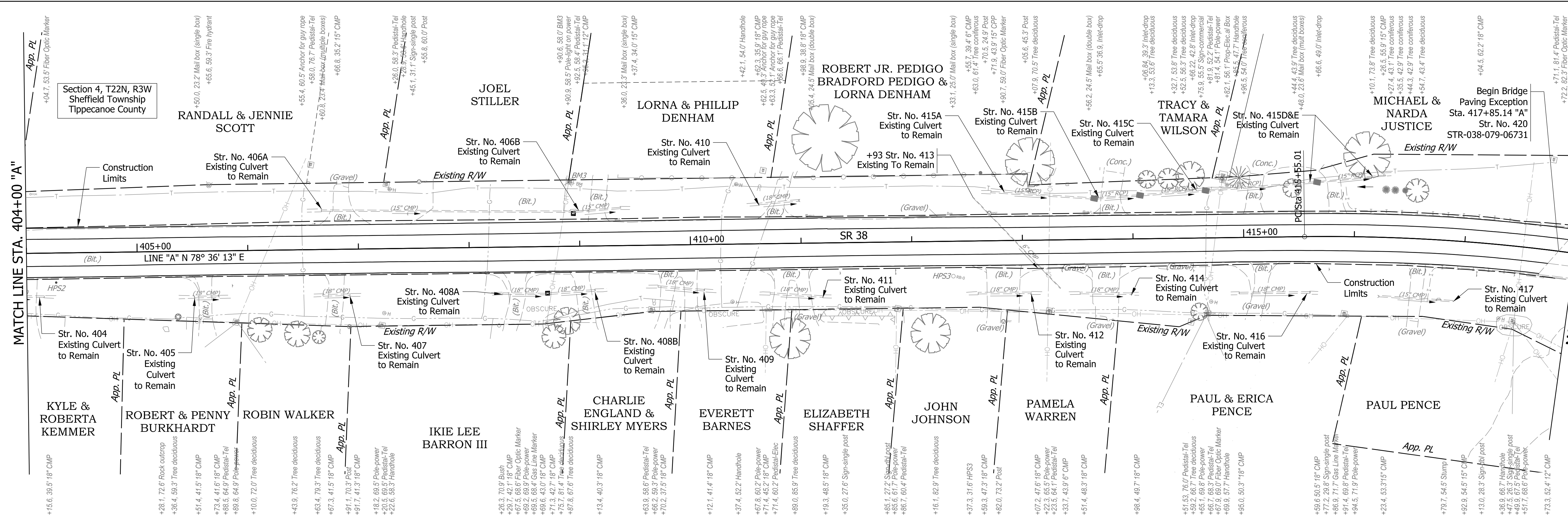
RECOMMENDED FOR APPROVAL		8/21/2020	DATE
DESIGNED:	KS	DRAWN:	MH
CHECKED:	JR	CHECKED:	KS

INDIANA
 DEPARTMENT OF TRANSPORTATION
PLAN AND PROFILE
 STA. 390+00 "A" TO STA. 404+00 "A"

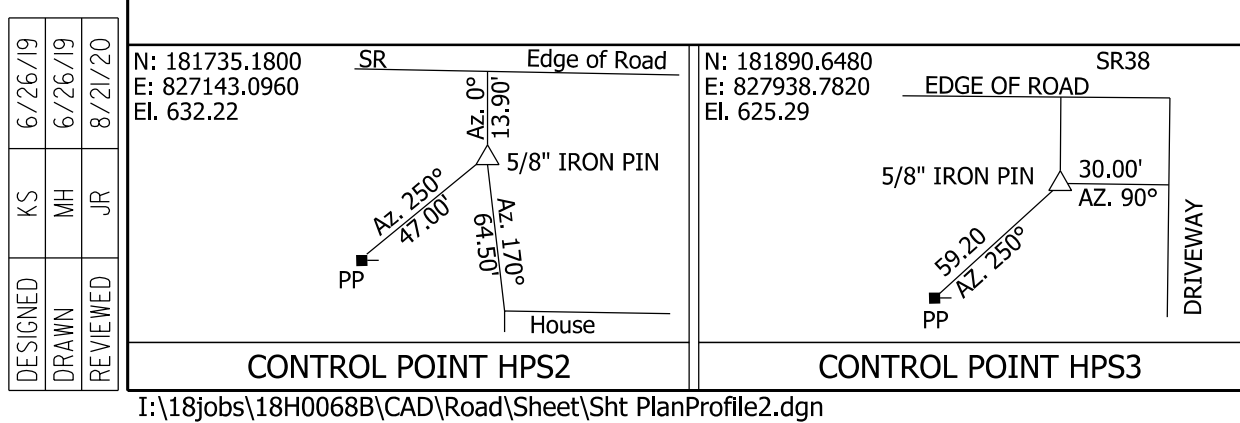
BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	48 of 422
CONTRACT	PROJECT
RS-40528	1601074

MATCH LINE STA. 404+00 "A"

MATCH LINE STA. 418+00 "A"



BENCHMARK DATA:
 BM3: BOAT SPIKE IN SOUTH FACE OF POWER POLE
 ON NORTH SIDE OF SR38 +/-25 FEET WEST OF
 DRIVEWAY FOR HOUSE #7814
 Sta. 408+90.6 "A", 58.0' LT.
 El. 634.90



RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
		8/21/2020
DESIGNED: KS	DRAWN: MH	
CHECKED: JR	CHECKED: KS	

INDIANA
 DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
 STA. 404+00 "A" TO STA. 418+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	49 of 422
CONTRACT	PROJECT
RS-40528	1601074

DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

N: 181735.1800
 E: 327143.0960
 El. 632.22

SR Edge of Road

5/8" IRON PIN

House

CONTROL POINT HPS2

N: 181890.6480
 E: 327938.7820
 El. 625.29

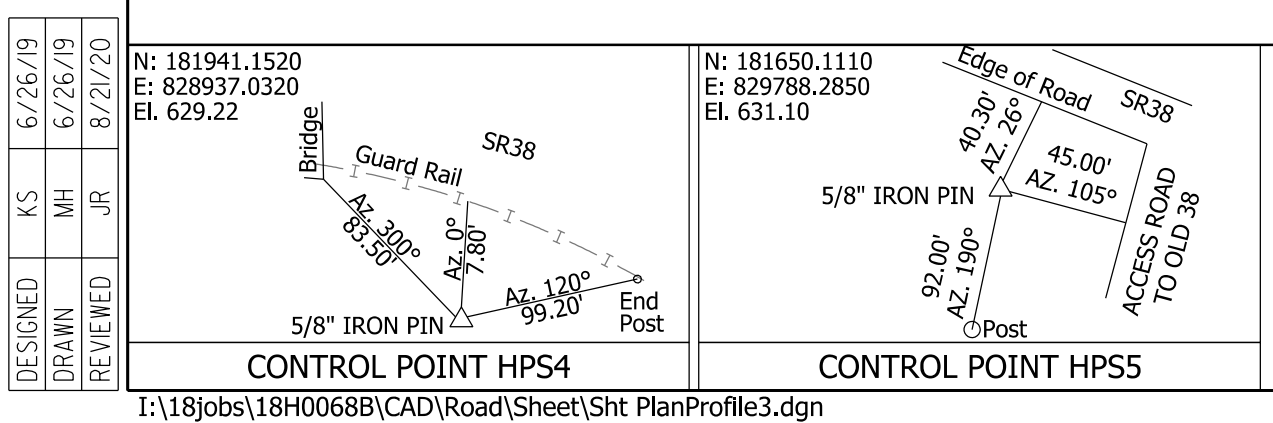
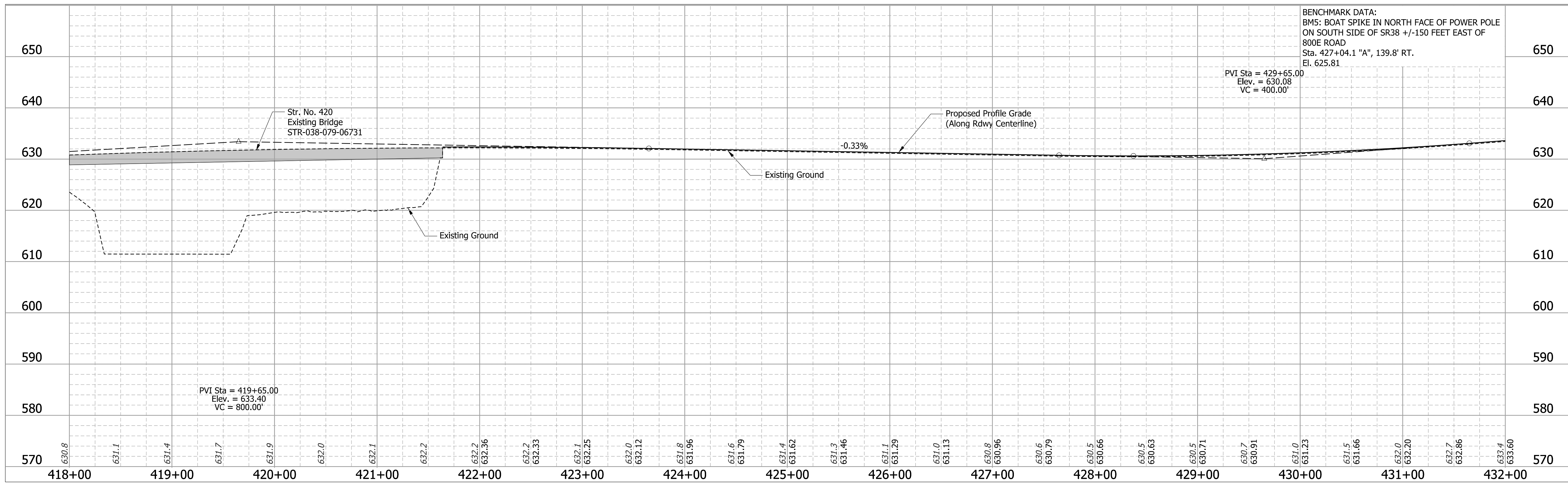
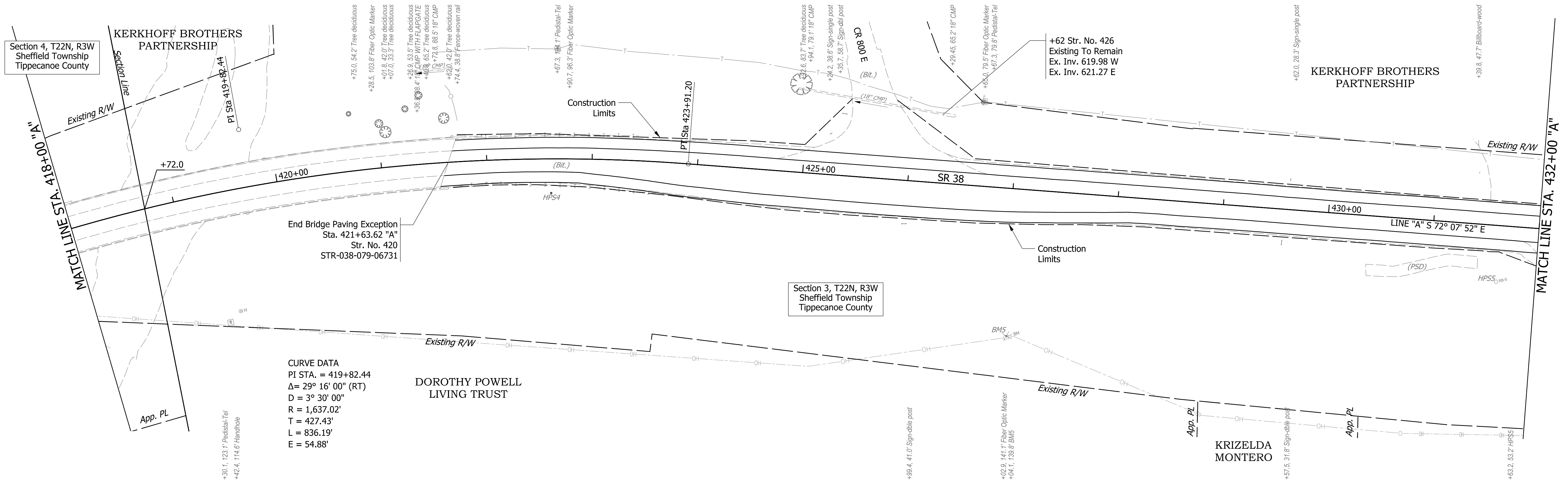
EDGE OF ROAD SR38

5/8" IRON PIN

30.00' AZ. 90°

DRIVEWAY

CONTROL POINT HPS3



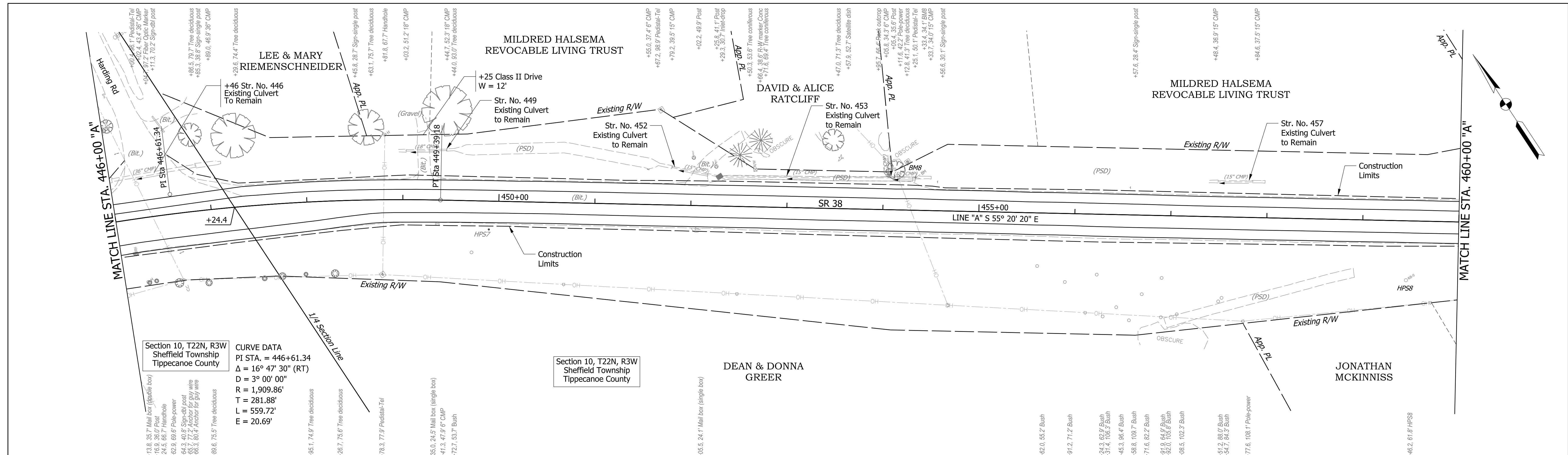
DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

RECOMMENDED FOR APPROVAL		8/21/2020
DESIGN ENGINEER		DATE
DESIGNED: KS	DRAWN: MH	
CHECKED: JR	CHECKED: KS	

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 418+00 "A" TO STA. 432+00 "A"

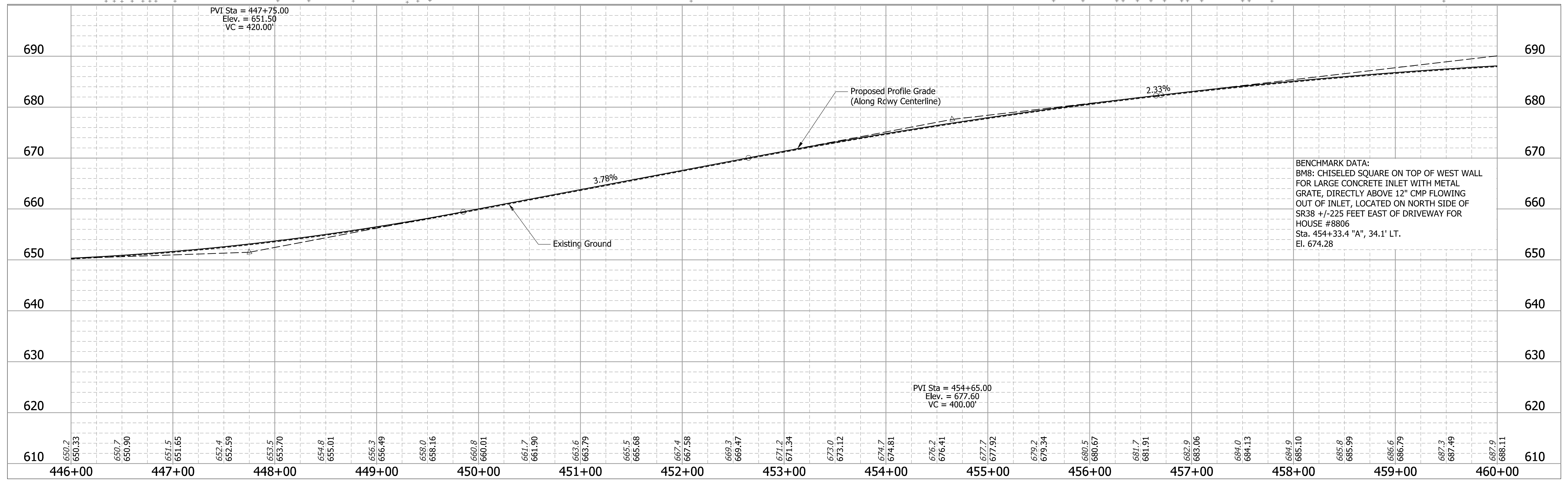
BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	50 of 422
CONTRACT	PROJECT
RS-40528	1601074



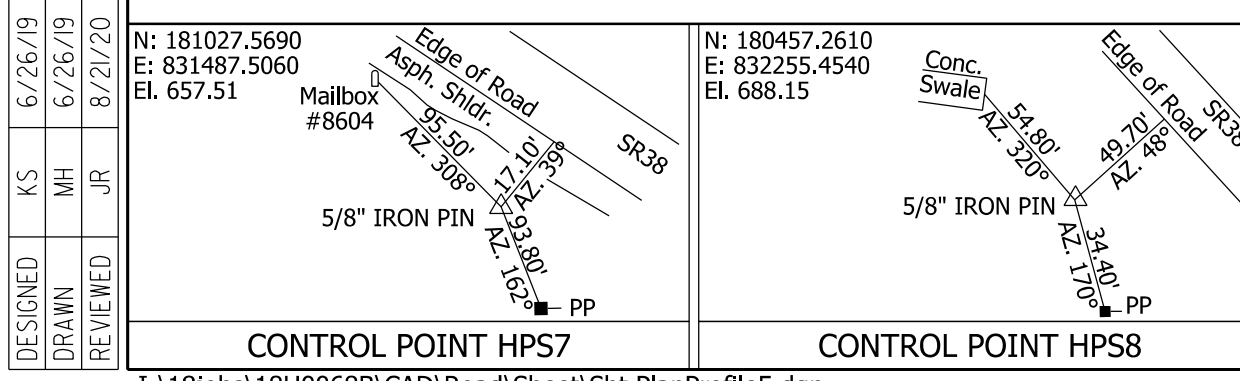
Section 10, T22N, R3W
Sheffield Township
Tippecanoe County

CURVE DATA
PI STA. = 446+61.34
 $\Delta = 16^\circ 47' 30''$ (RT)
D = 3° 00' 00"
R = 1,909.86'
T = 281.88'
L = 559.72'
E = 20.69'

Section 10, T22N, R3W
Sheffield Township
Tippecanoe County



BENCHMARK DATA:
BM8: CHISELED SQUARE ON TOP OF WEST WALL
FOR LARGE CONCRETE INLET WITH METAL
GRATE, DIRECTLY ABOVE 12" CMP FLOWING
OUT OF INLET, LOCATED ON NORTH SIDE OF
SR38 +/-225 FEET EAST OF DRIVEWAY FOR
HOUSE #8806
Sta. 454+33.4 "A", 34.1' LT.
El. 674.28



RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
		8/21/2020
DESIGNED: KS	DRAWN: MH	
CHECKED: JR	CHECKED: KS	

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 446+00 "A" TO STA. 460+00 "A"

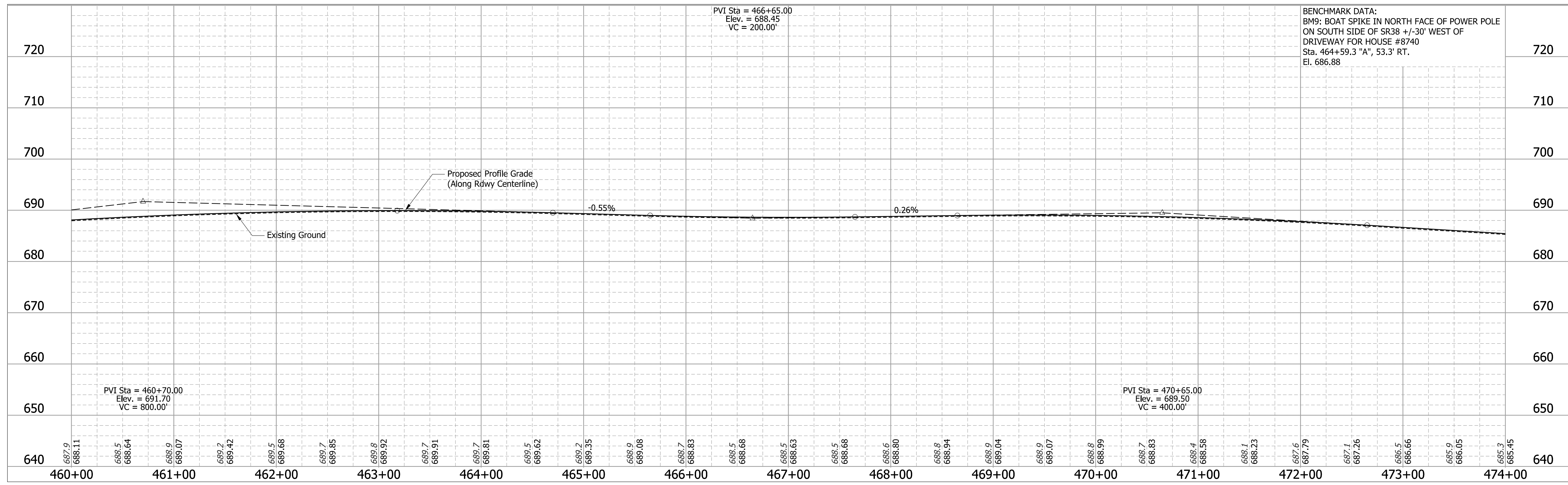
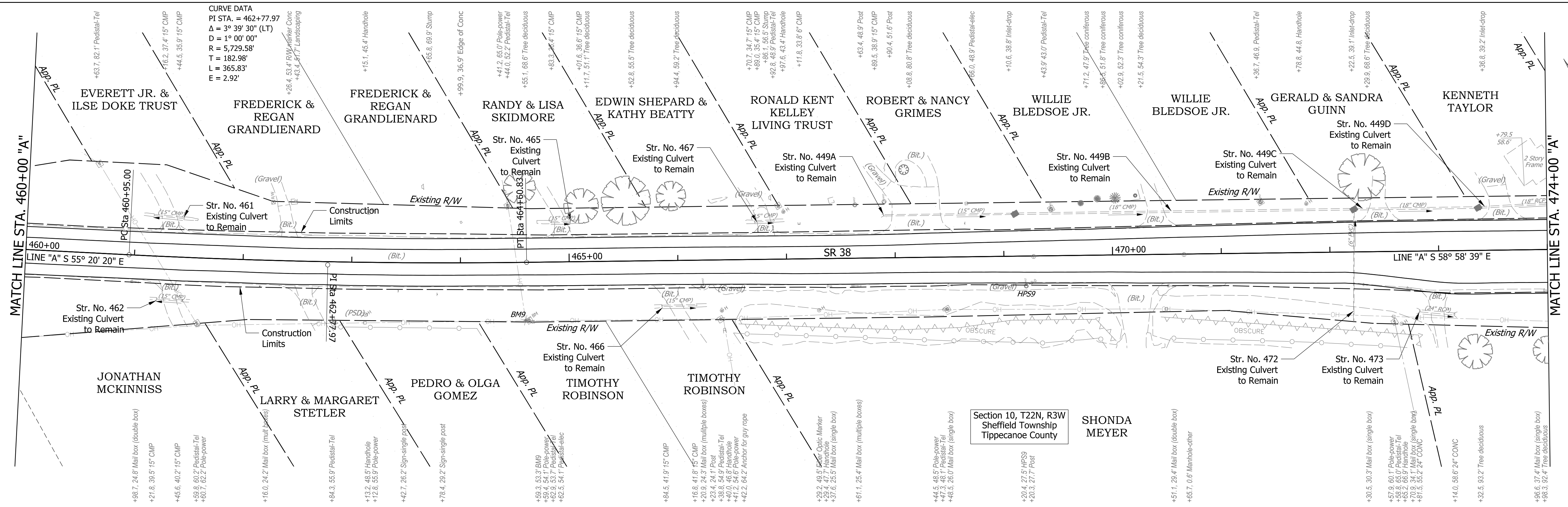
BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	52 of 422
CONTRACT	PROJECT
RS-40528	1601074

DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

N: 181027.5690
E: 831487.5060
El. 657.51

Mallbox #8604

N: 180457.2610
E: 832255.4540
El. 688.15



DESIGNED: KS 6/26/19
 DRAWN: MH 6/26/19
 REVIEWED: JR 8/21/20

N: 179964.7380
 E: 333099.9790
 El. 687.66

#8815
 6TH Fence Post
 CONTROL POINT HPS9

I:\18\jobs\18H0068B\CAD\Road\Sheet\Sht.PlanProfile6.dgn

RECOMMENDED FOR APPROVAL: _____ DATE: 8/21/2020

DESIGN ENGINEER: _____

DESIGNED: KS DRAWN: MH
 CHECKED: JR CHECKED: KS

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
 STA. 460+00 "A" TO STA. 474+00 "A"

BRIDGE FILE

SCALE: 1" = 50' H 1" = 10' V

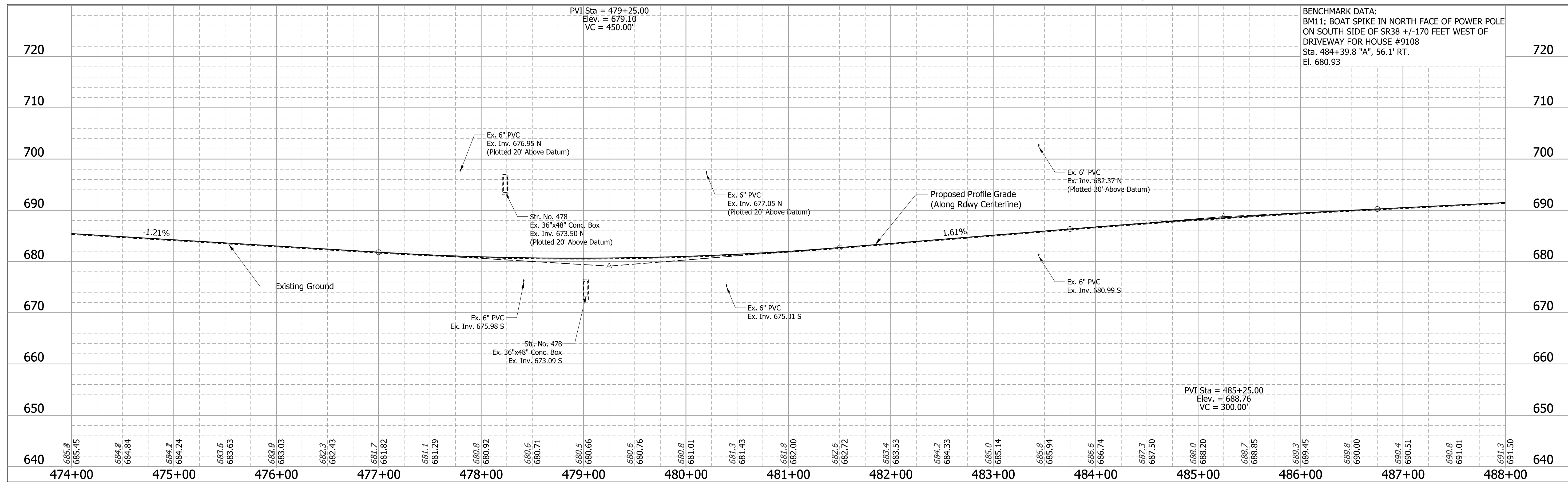
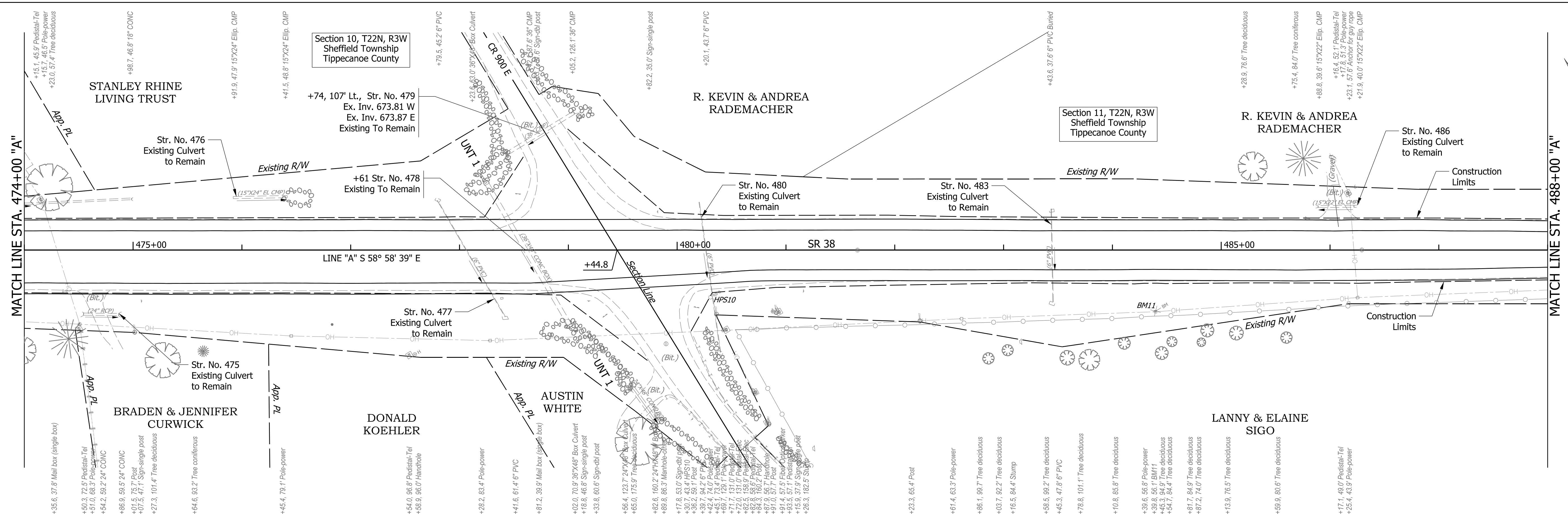
DESIGNATION: 1601074

SURVEY BOOK

PROJECT: RS-40528

SHEETS: 53 of 422

PROJECT: 1601074



DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

N: 179378.8750
 E: 334043.2870
 El: 679.87

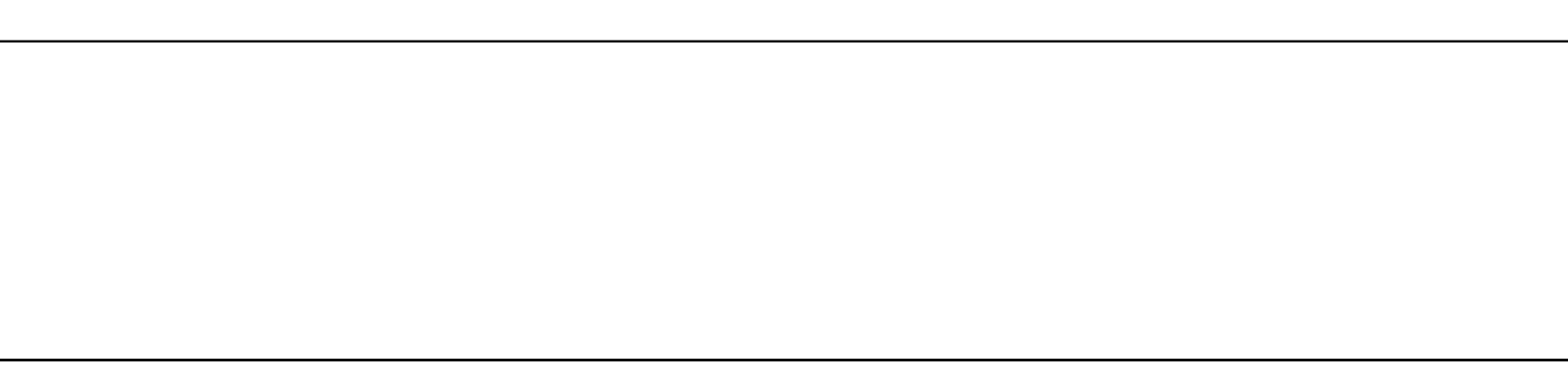
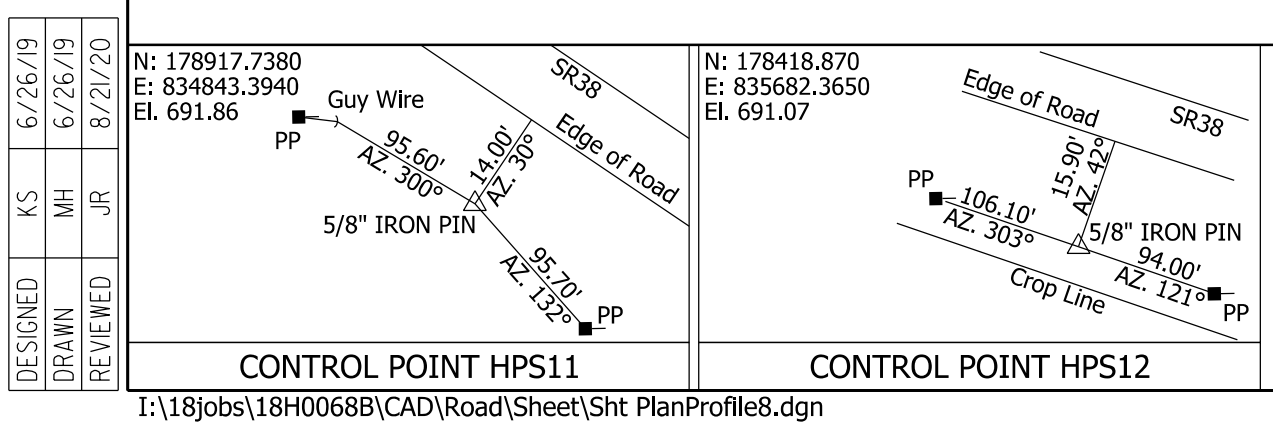
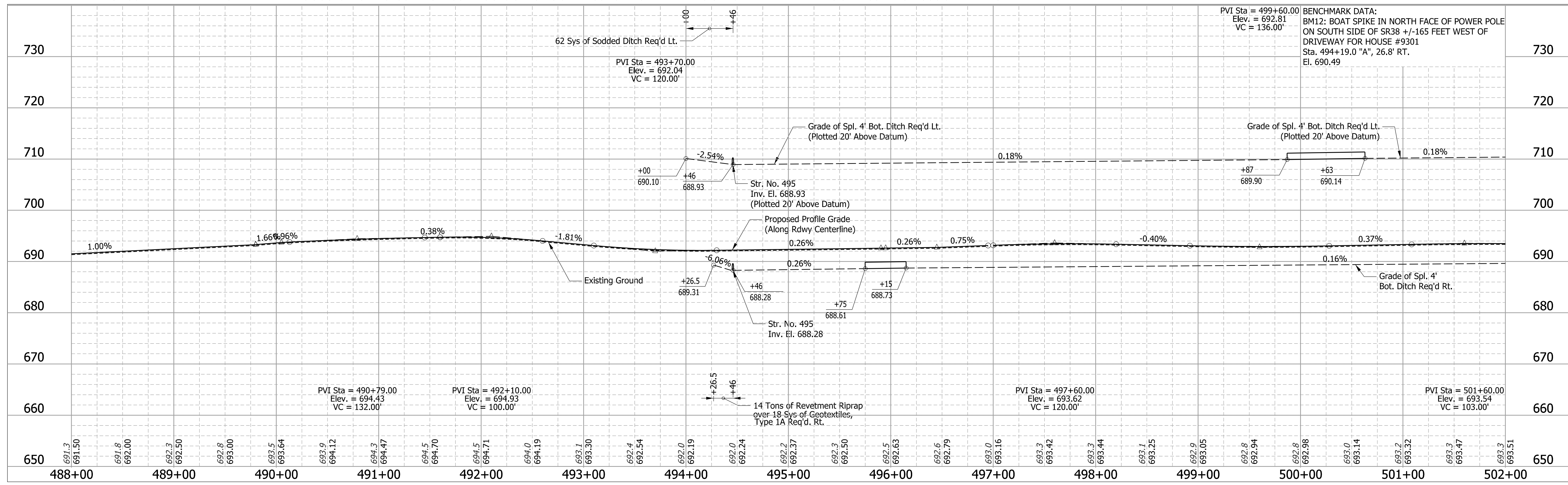
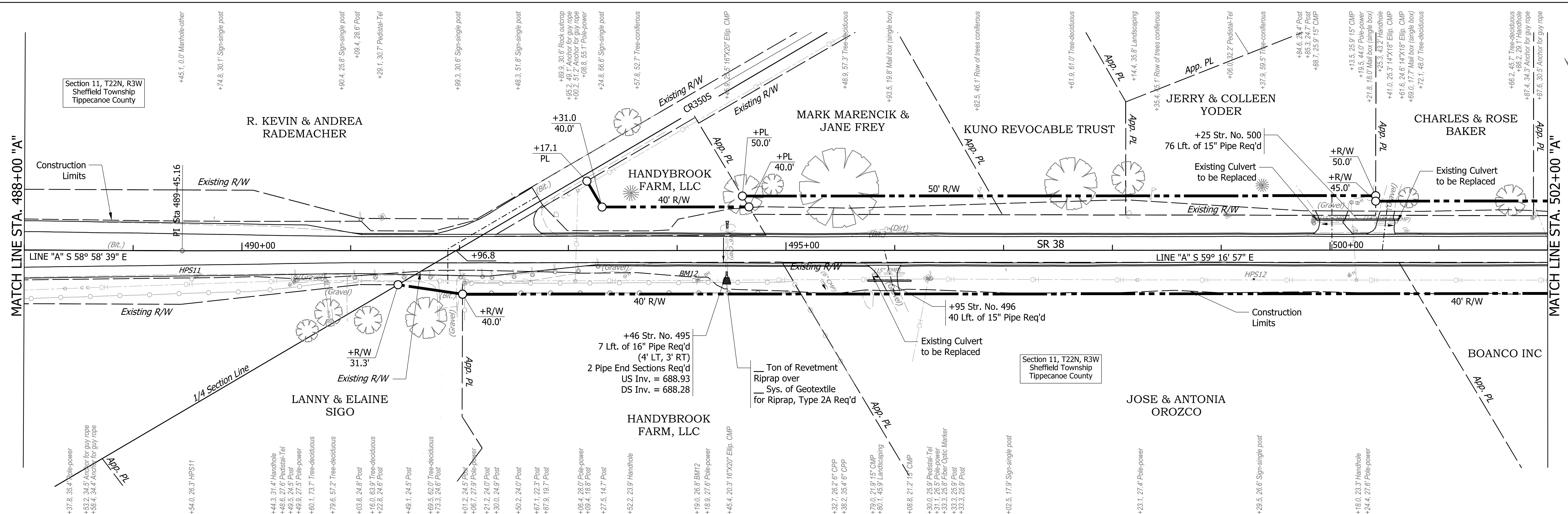
SR 38
 Edge of Road
 CR 900E
 Edge of Road
 15' 20' 30' 45' 60' 75' 90' 105' 120' 135' 150' 165' 180' 195' 210' 225' 240' 255' 270' 285' 300'
 5/8" IRON PIN
 R/W Marker
 Telephone Pole
 CONTROL POINT HPS10

RECOMMENDED FOR APPROVAL		8/21/2020	DATE
DESIGN ENGINEER			
DESIGNED: KS	DRAWN: MH		
CHECKED: JR	CHECKED: KS		

INDIANA
 DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 474+00 "A" TO STA. 488+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	54 of 422
CONTRACT	PROJECT
RS-40528	1601074

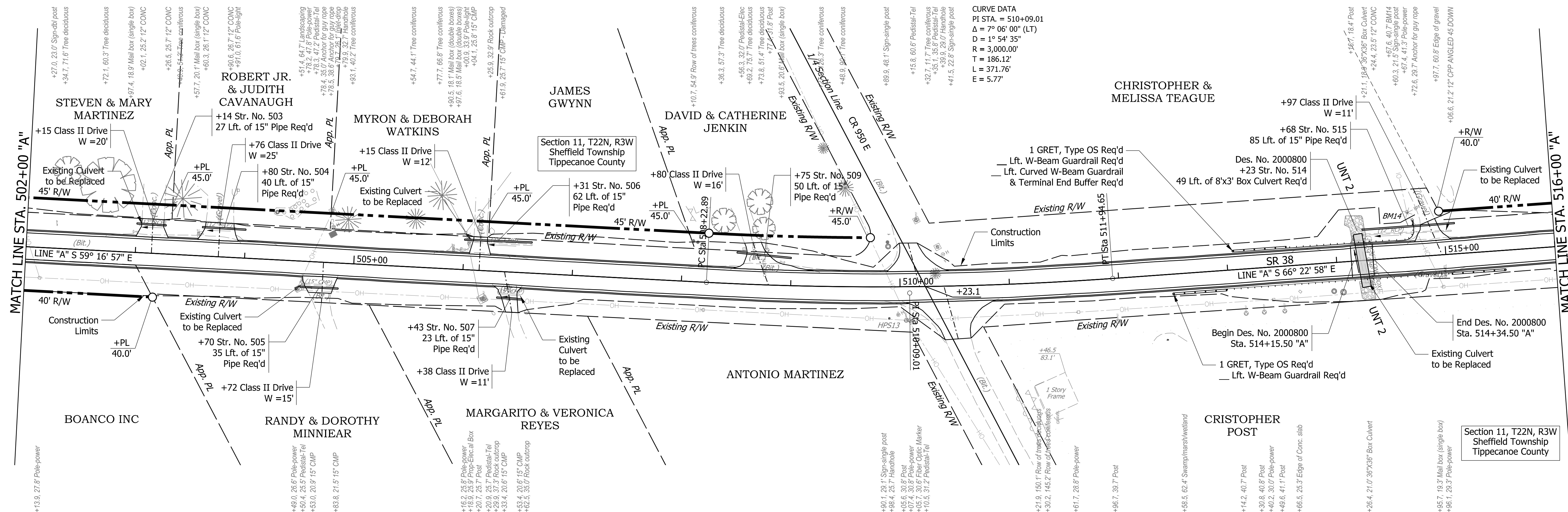


DESIGNED: KS	DRAWN: MH	CHECKED: JR
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
		8/21/2020
DESIGNED: KS	DRAWN: MH	
CHECKED: JR	CHECKED: KS	

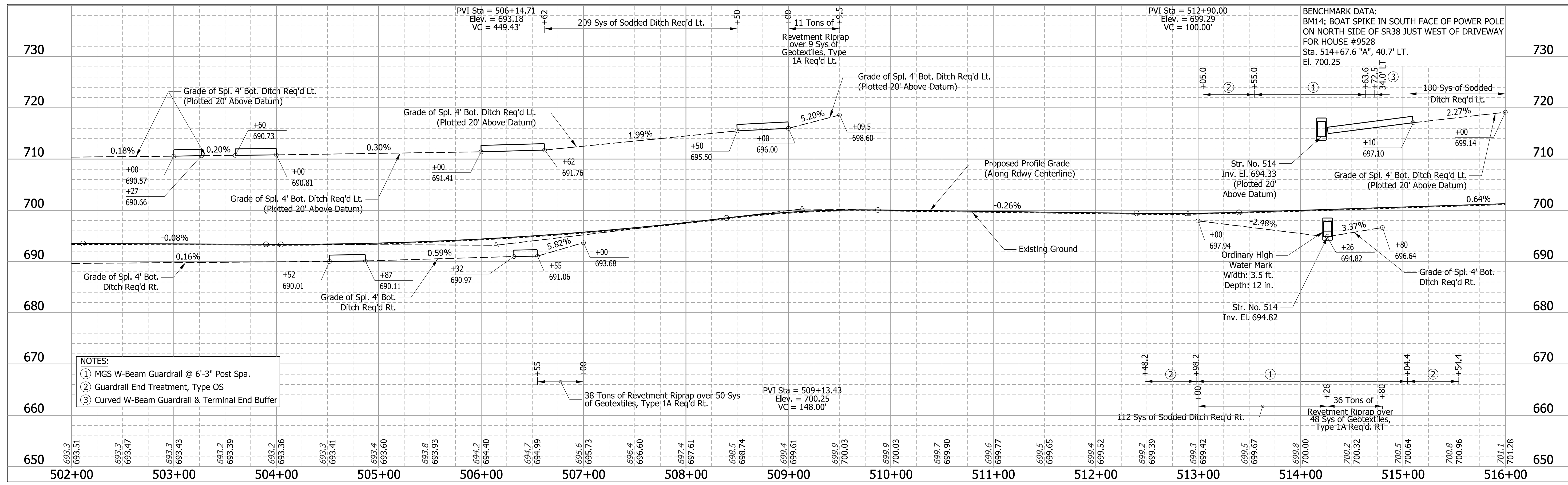
INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 488+00 "A" TO STA. 502+00 "A"

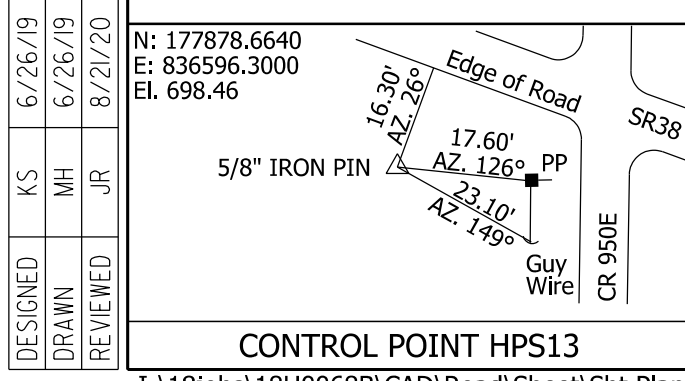
BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SHEETS	
SURVEY BOOK	55 of 422
PROJECT	
CONTRACT	1601074
RS-40528	



CURVE DATA
 PI STA. = 510+09.01
 $\Delta = 7^\circ 06' 00''$ (LT)
 $D = 1^\circ 54' 35''$
 $R = 3,000.00'$
 $T = 186.12'$
 $L = 371.76'$
 $E = 5.77'$



- NOTES:**
- ① MGS W-Beam Guardrail @ 6'-3" Post Spa.
 - ② Guardrail End Treatment, Type OS
 - ③ Curved W-Beam Guardrail & Terminal End Buffer



N: 177878.6640
 E: 336596.3000
 El. 698.46

DESIGNED: KS 6/26/19
 DRAWN: MH 6/26/19
 REVIEWED: JR 8/21/20

CONTROL POINT HPS13

RECOMMENDED FOR APPROVAL

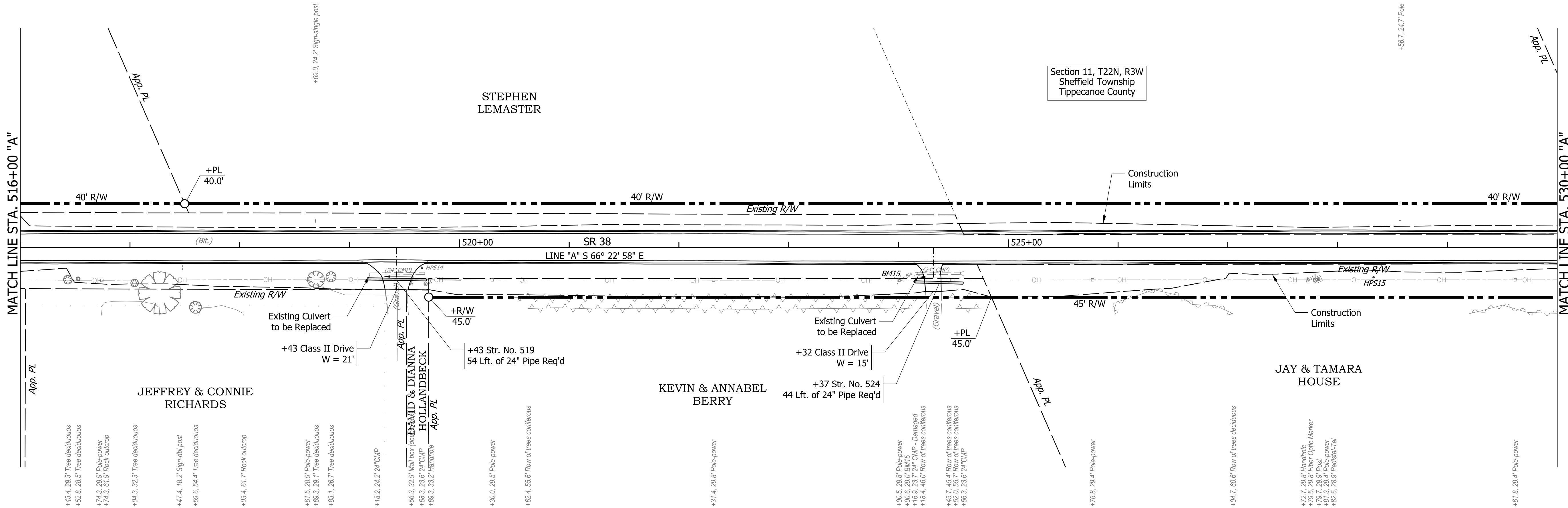
DESIGN ENGINEER: [Signature] DATE: 8/21/2020

DESIGNED: KS DRAWN: MH
 CHECKED: JR CHECKED: KS

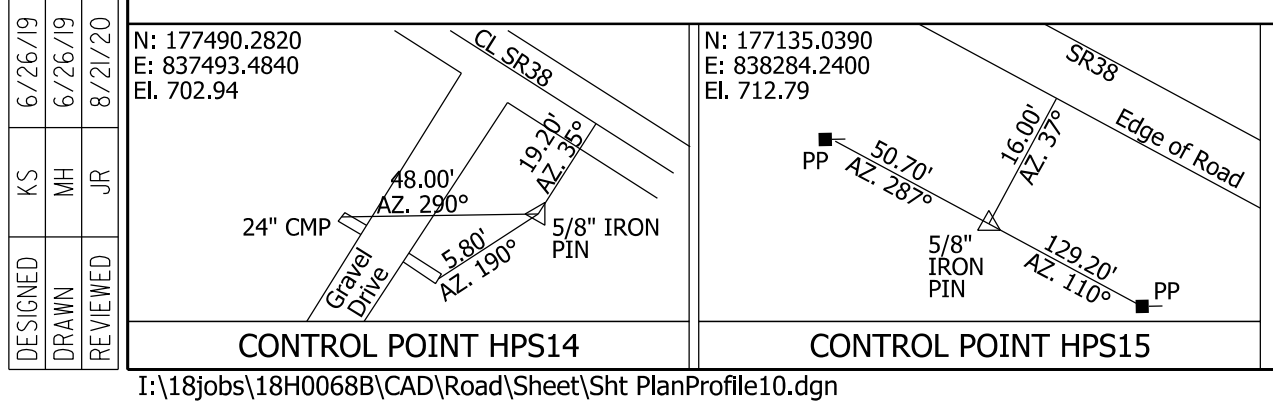
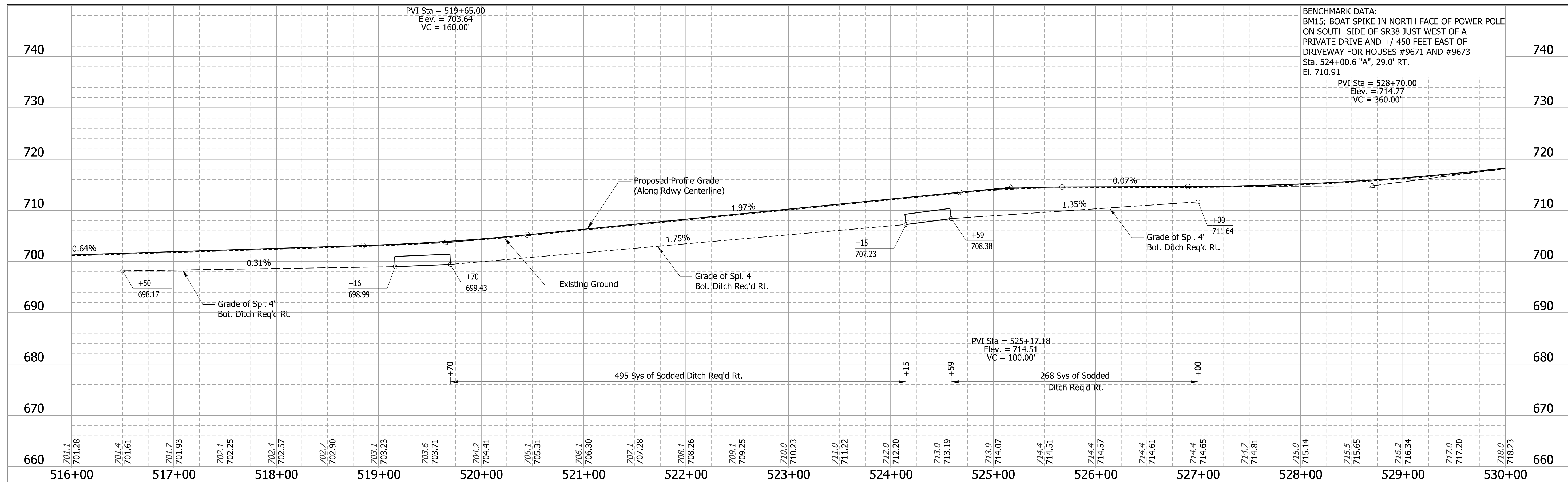
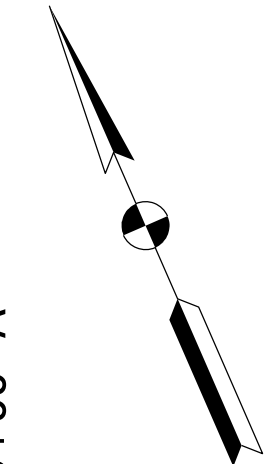
INDIANA
 DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
 STA. 502+00 "A" TO STA. 516+00 "A"

BRIDGE FILE: 2000800
 SCALE: 1" = 50' H 1" = 10' V
 DESIGNATION: 1601074
 SURVEY BOOK: [Blank]
 SHEETS: 56 of 422
 CONTRACT: RS-40528
 PROJECT: 1601074



Section 11, T22N, R3W
Sheffield Township
Tippecanoe County



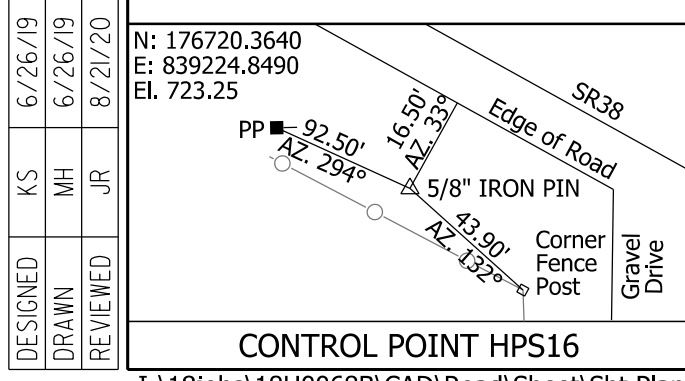
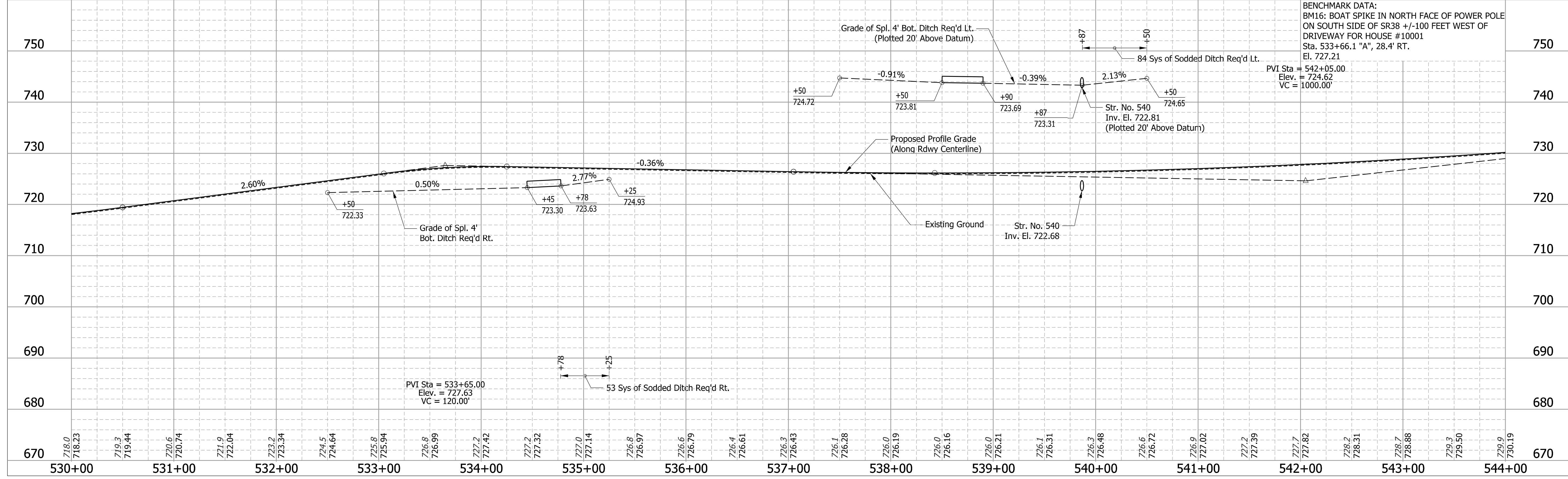
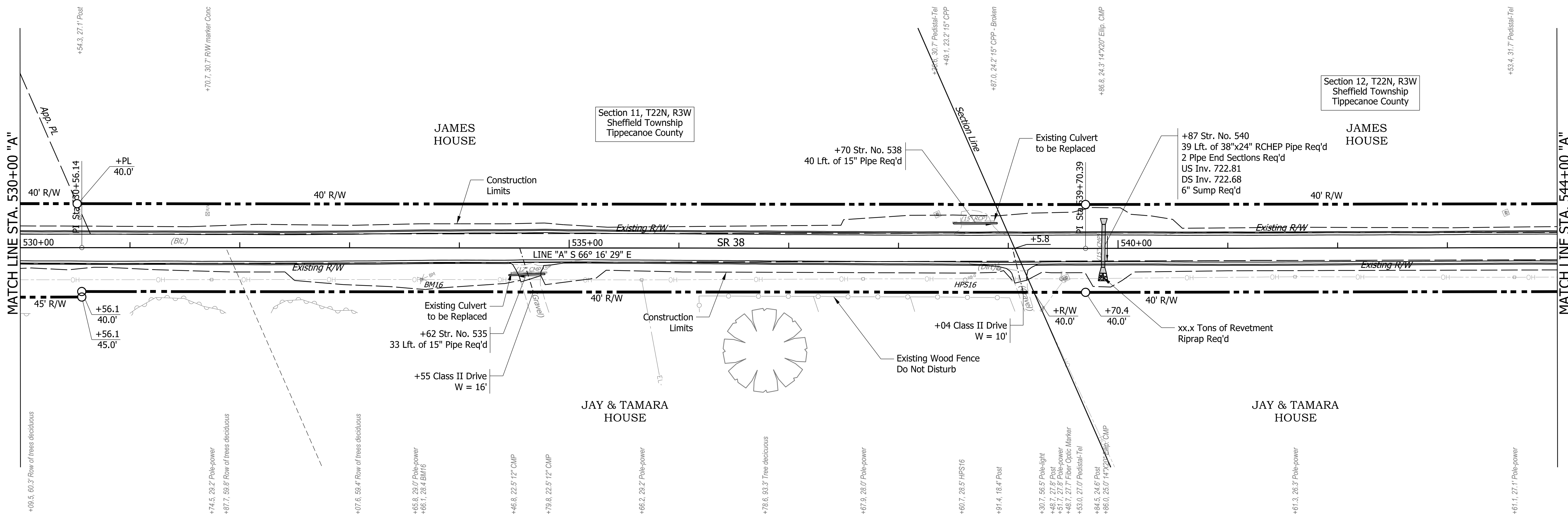
DESIGNED: KS	6/26/19
DRAWN: MH	6/26/19
REVIEWED: JR	8/21/20

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	8/21/2020	DATE
DESIGNED: KS	DRAWN: MH		
CHECKED: JR	CHECKED: KS		

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 516+00 "A" TO STA. 530+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	57 of 422
CONTRACT	PROJECT
RS-40528	1601074



DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

N: 176720.3640
E: 839224.8490
Ei: 723.25

CONTROL POINT HPS16

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	8/21/2020	DATE
DESIGNED: KS	DRAWN: MH		
CHECKED: JR	CHECKED: KS		

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 530+00 "A" TO STA. 544+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	58 of 422
CONTRACT	PROJECT
RS-40528	1601074

MATCH LINE STA. 544+00 "A"

MATCH LINE STA. 558+00 "A"

Section 12, T22N, R3W
Sheffield Township
Tippecanoe County

Section 13, T22N, R3W
Sheffield Township
Tippecanoe County

JAMES HOUSE &
RUTH YOST-HOUSE

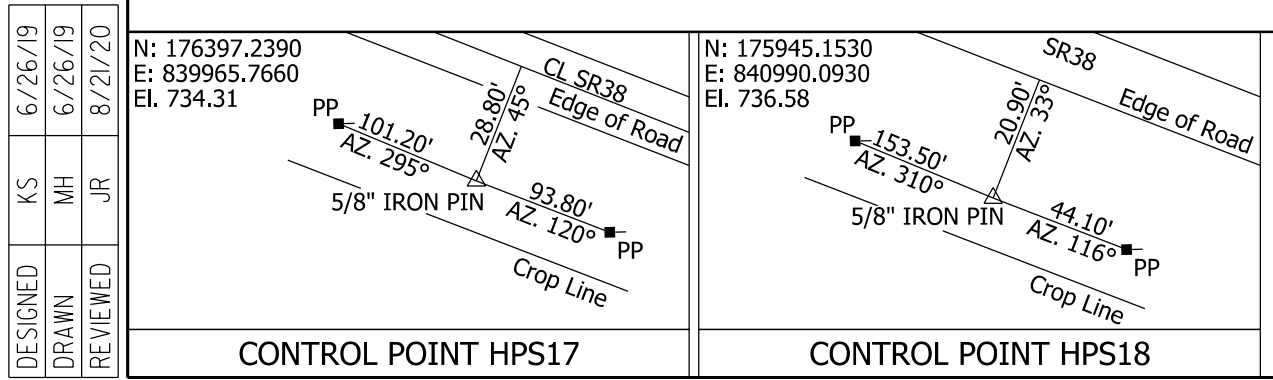
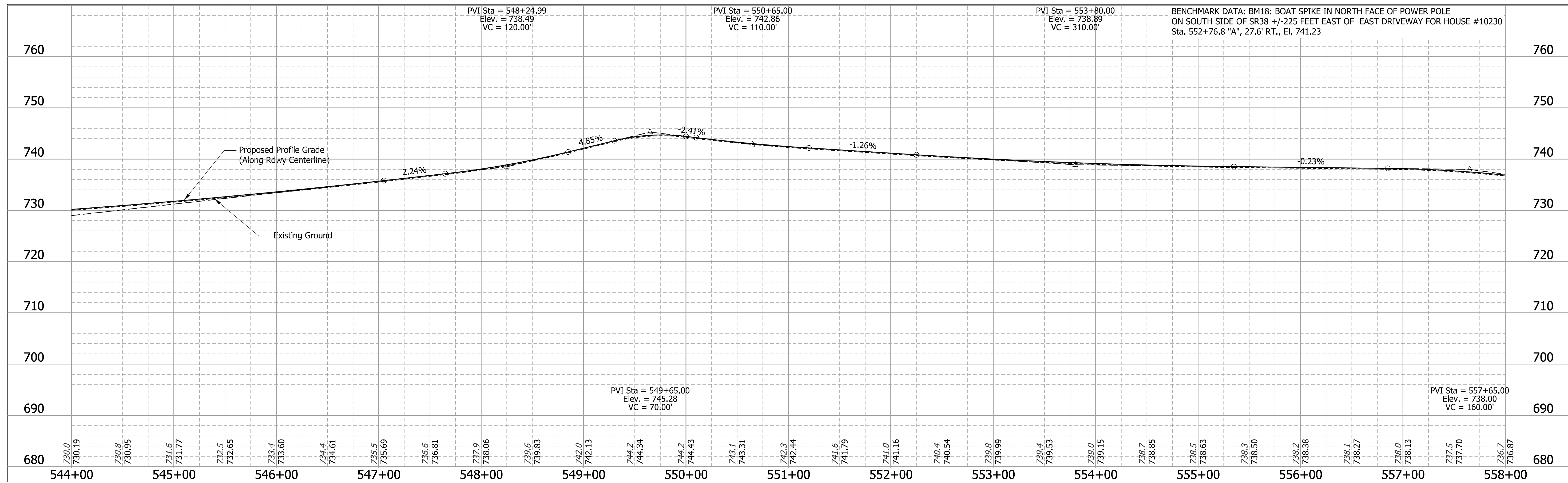
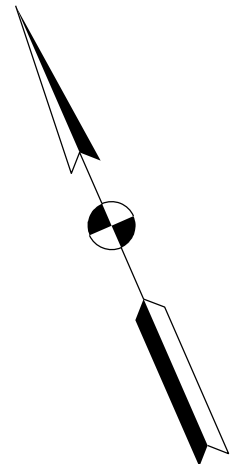
JAMES HOUSE

GARY, LOREN, KEVIN &
DONITA SCHROEDER

GARY, LOREN, KEVIN &
DONITA SCHROEDER

JAY & TAMARA
HOUSE

JERRY & STACY, LLC



RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
		8/21/2020
DESIGNED: KS	DRAWN: MH	
CHECKED: JR	CHECKED: KS	

INDIANA
DEPARTMENT OF TRANSPORTATION

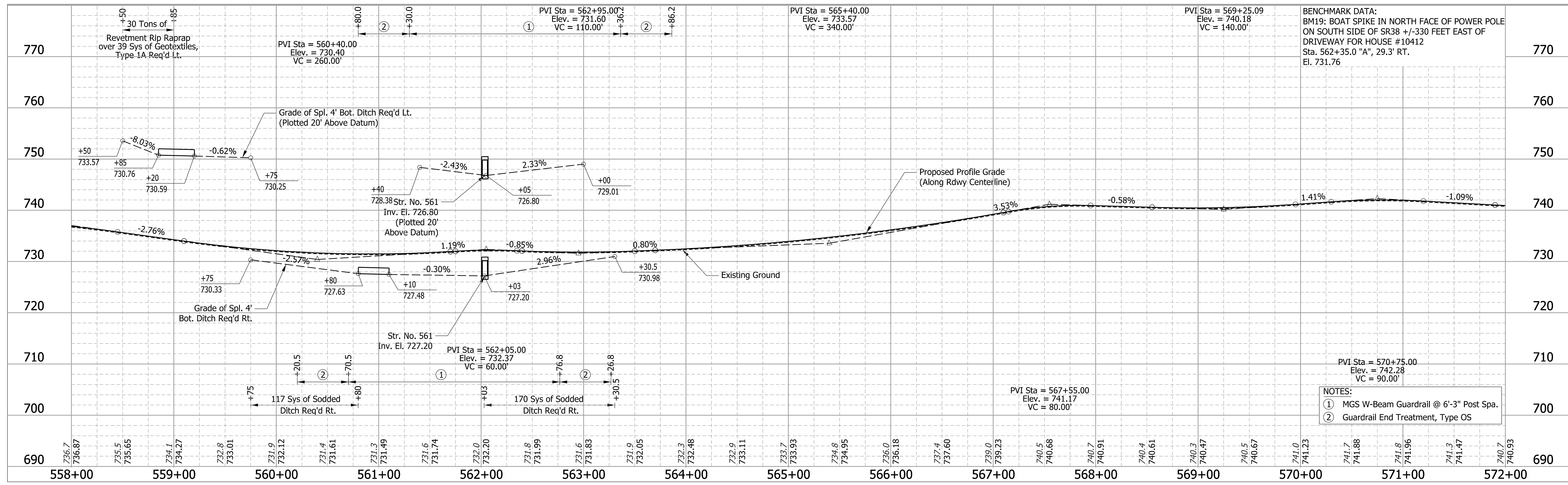
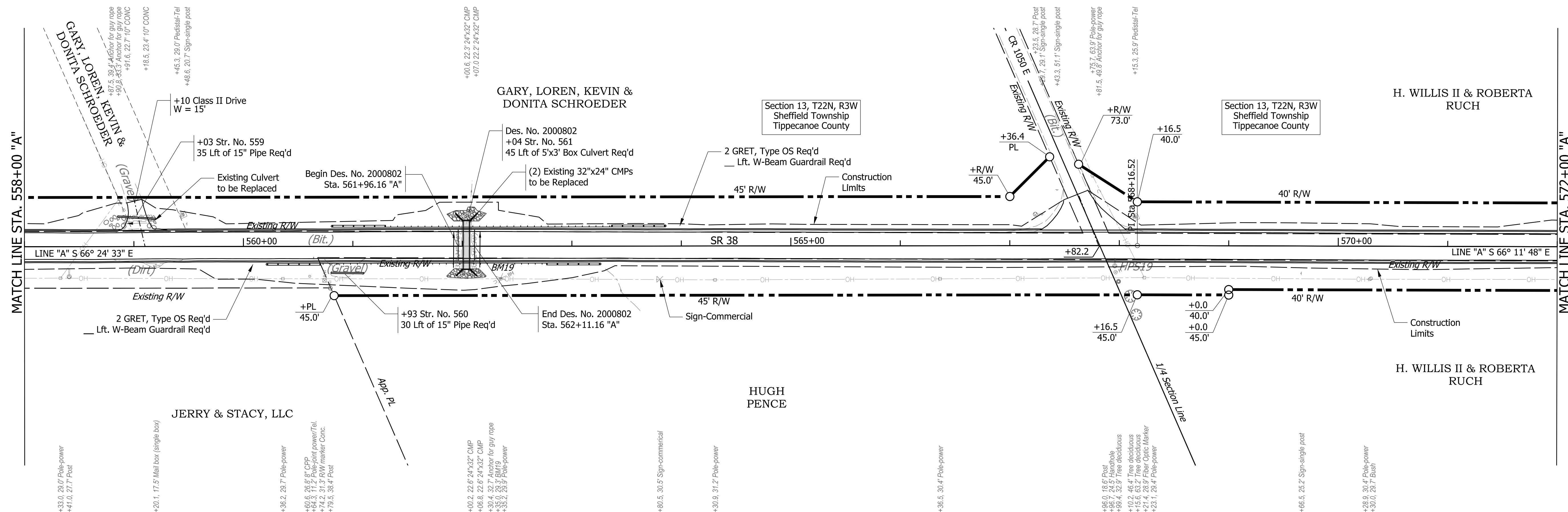
PLAN AND PROFILE
STA. 544+00 "A" TO STA. 558+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	59 of 422
CONTRACT	PROJECT
RS-40528	1601074

DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

N: 176397.2390
E: 339965.7660
El. 734.31

N: 175945.1530
E: 340990.0930
El. 736.58



- NOTES:
- ① MGS W-Beam Guardrail @ 6'-3" Post Spa.
 - ② Guardrail End Treatment, Type OS

DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

CONTROL POINT HPS19

N: 175554.8100
E: 341918.8360
El: 739.80

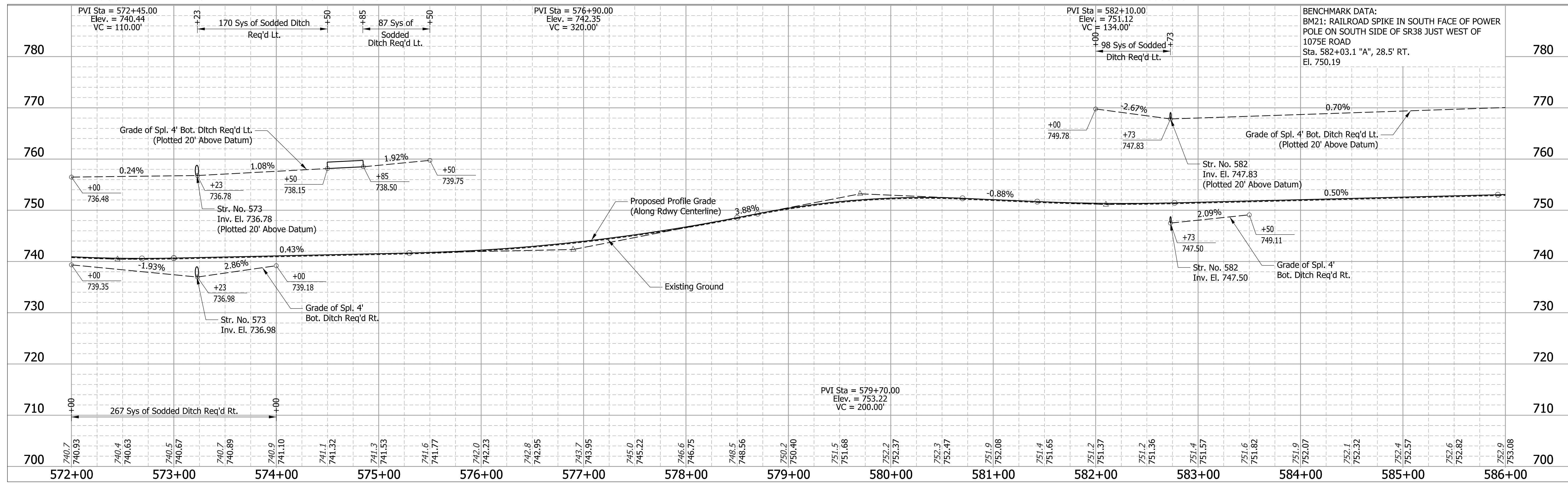
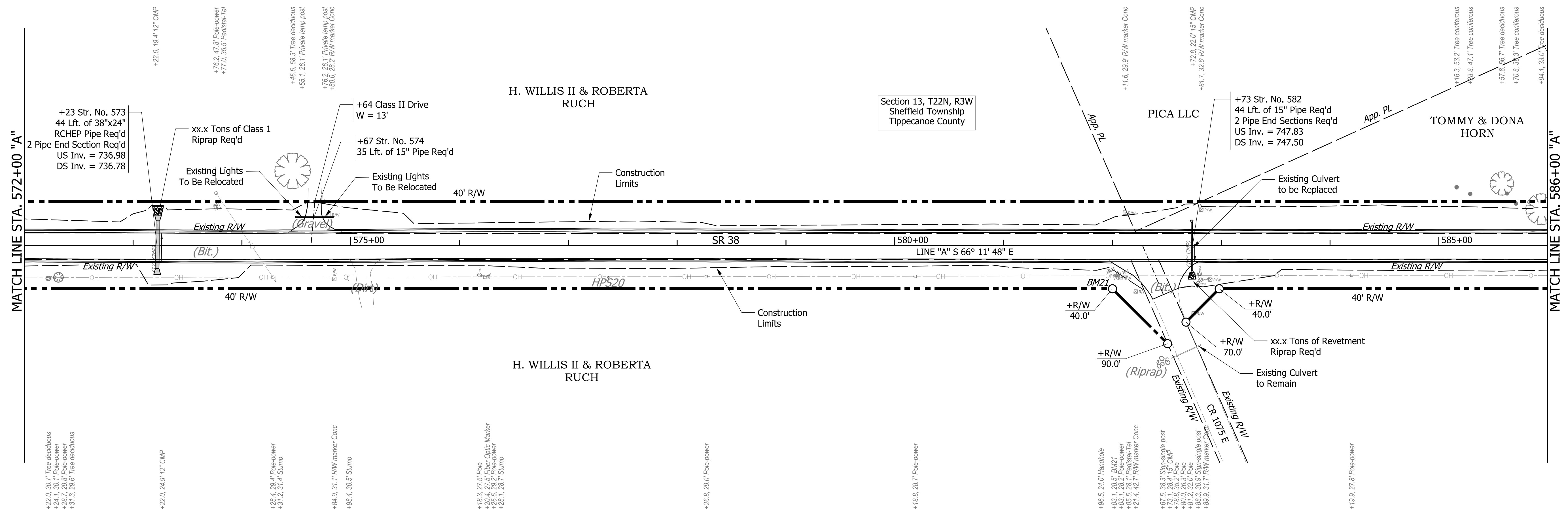
Edge of Road
Crop Line

5/8" IRON PIN
1/4" 30.90"
1/4" 1.38" PP

RECOMMENDED FOR APPROVAL		8/21/2020	DATE
DESIGN ENGINEER			
DESIGNED:	KS	DRAWN:	MH
CHECKED:	JR	CHECKED:	KS

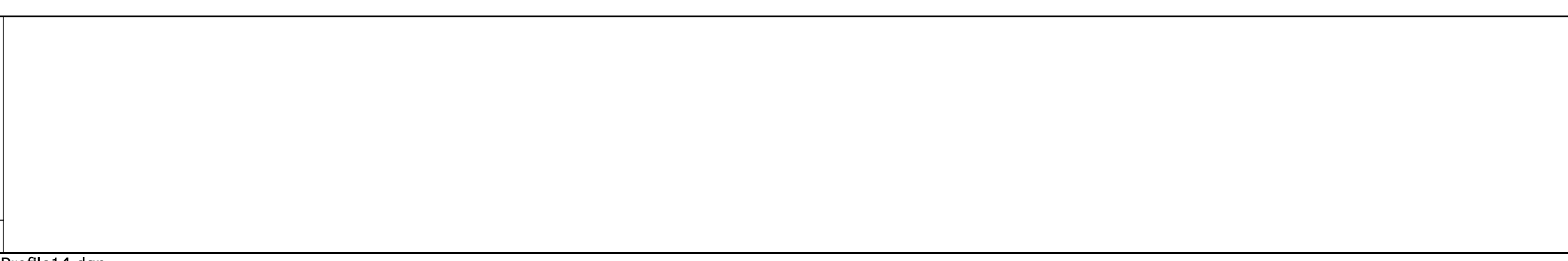
INDIANA DEPARTMENT OF TRANSPORTATION	
PLAN AND PROFILE STA. 558+00 "A" TO STA. 572+00 "A"	

BRIDGE FILE	200802
SCALE	DESIGNATION 1" = 50' H 1" = 10' V
SURVEY BOOK	SHEETS 60 of 422
CONTRACT	PROJECT RS-40528 1601074



DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

CONTROL POINT HPS20

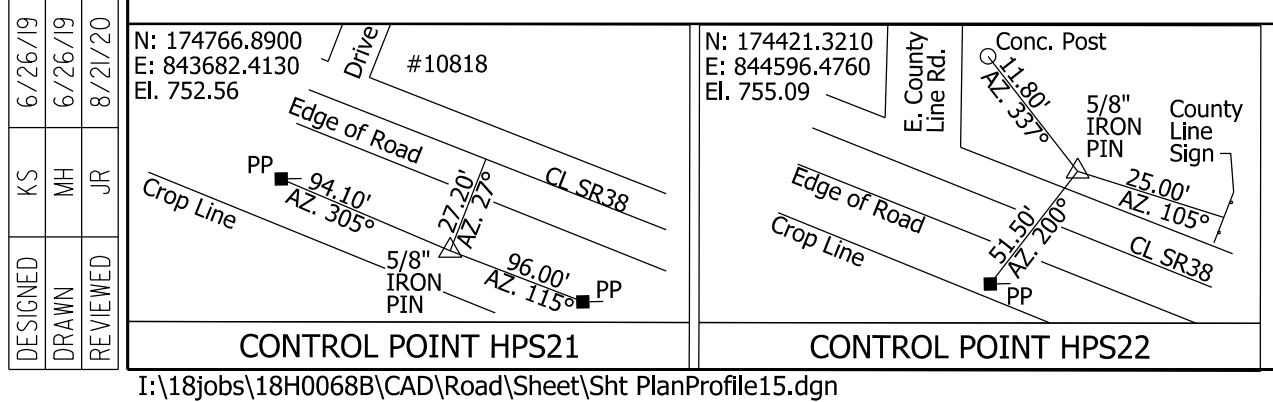
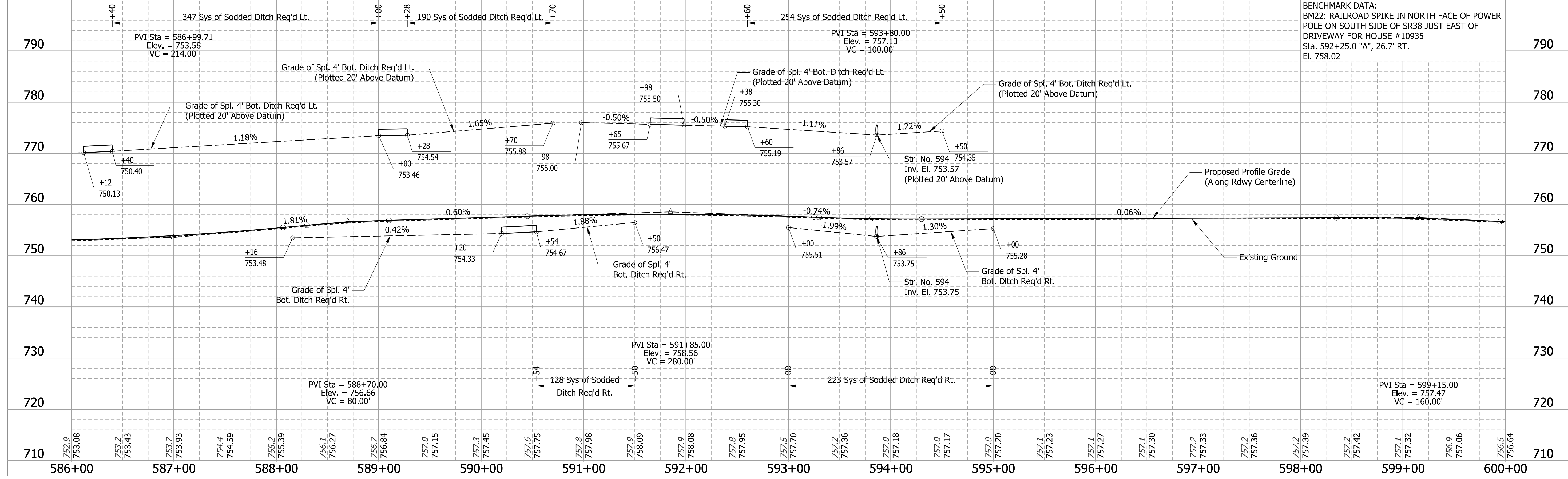
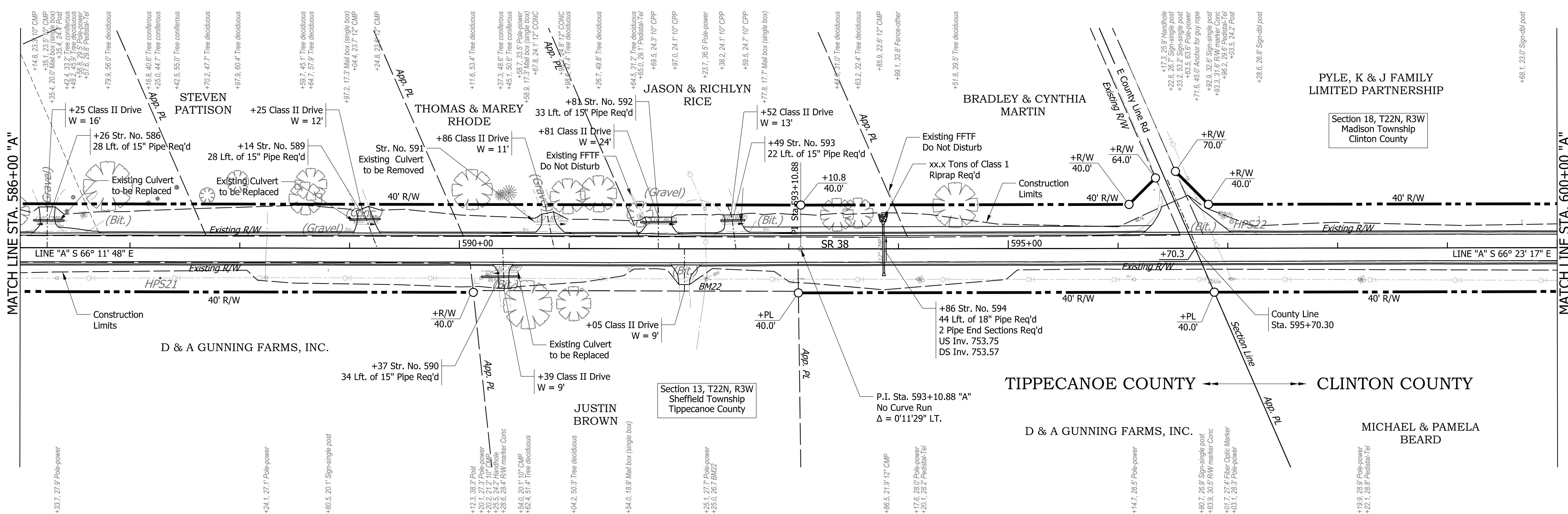


RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	8/21/2020	DATE
DESIGNED: KS	DRAWN: MH		
CHECKED: JR	CHECKED: KS		

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 572+00 "A" TO STA. 586+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	61 of 422
CONTRACT	PROJECT
RS-40528	1601074



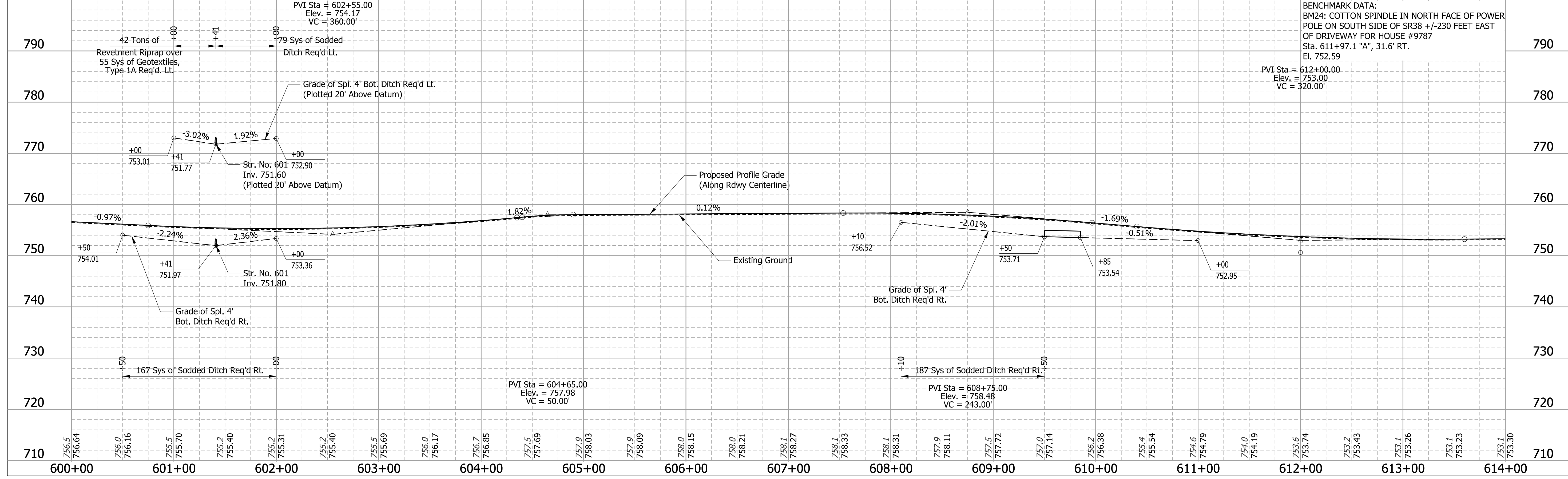
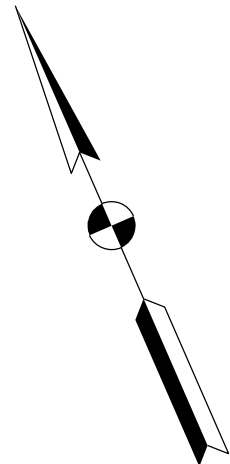
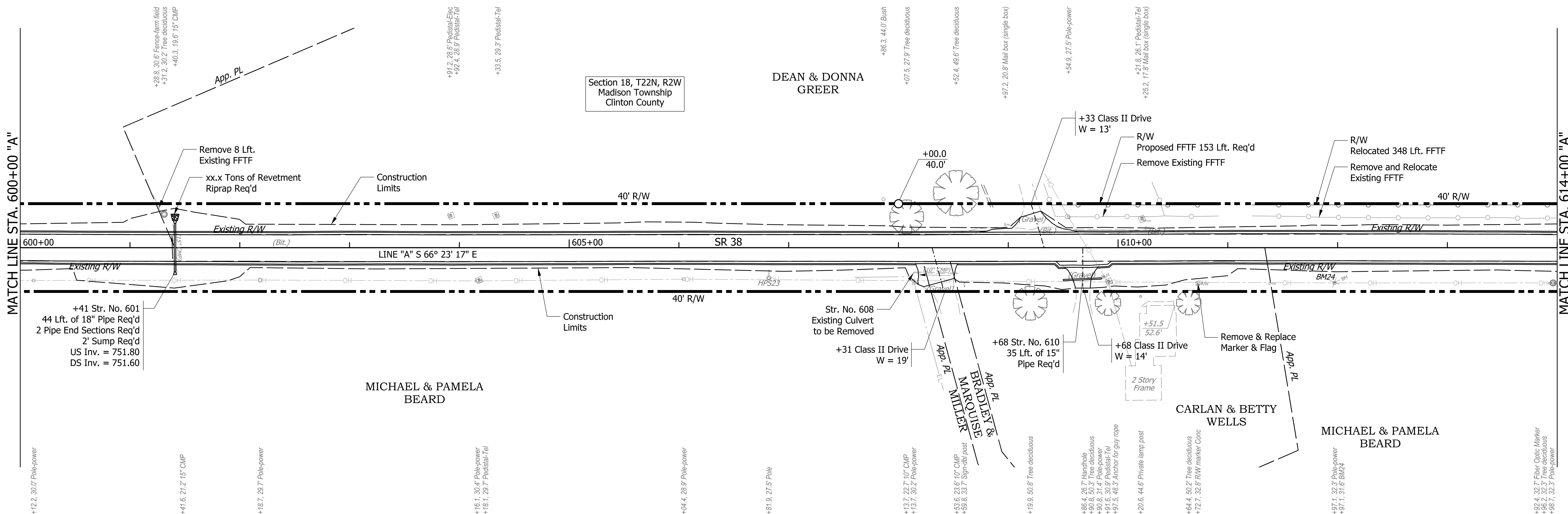
DESIGNED: KS	DRAWN: MH
CHECKED: JR	CHECKED: KS

RECOMMENDED FOR APPROVAL
 DESIGN ENGINEER: [Signature] DATE: 8/21/2020
 INDIANA DEPARTMENT OF TRANSPORTATION
 PLAN AND PROFILE
 STA. 586+00 "A" TO STA. 600+00 "A"

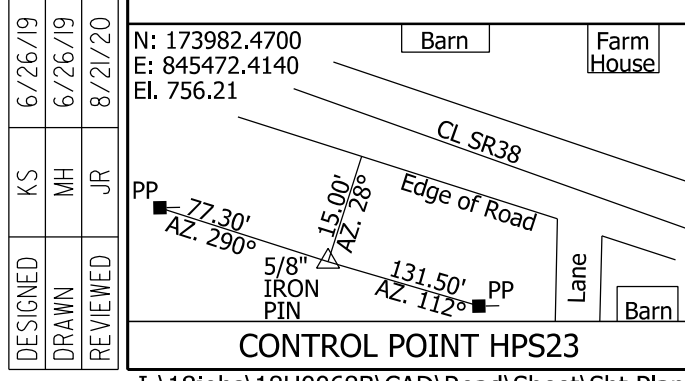
BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	62 of 422
CONTRACT	PROJECT
RS-40528	1601074

MATCH LINE STA. 600+00 "A"

MATCH LINE STA. 614+00 "A"



BENCHMARK DATA:
 BM24: COTTON SPINDLE IN NORTH FACE OF POWER POLE ON SOUTH SIDE OF SR38 +/-230 FEET EAST OF DRIVEWAY FOR HOUSE #9787 Sta. 611+97.1 "A", 31.6' RT. El. 752.59
 PVI Sta = 612+00.00
 Elev. = 753.00
 VC = 320.00'



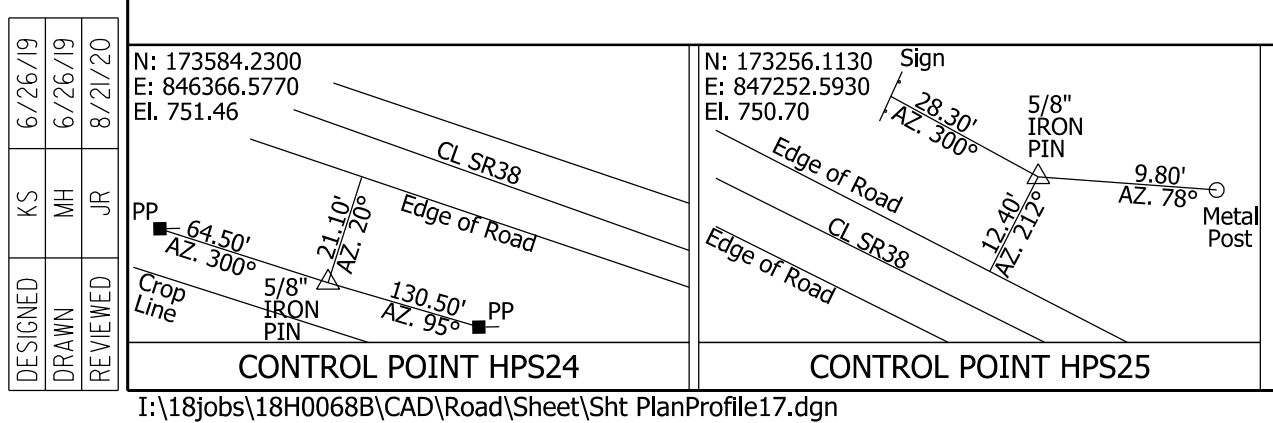
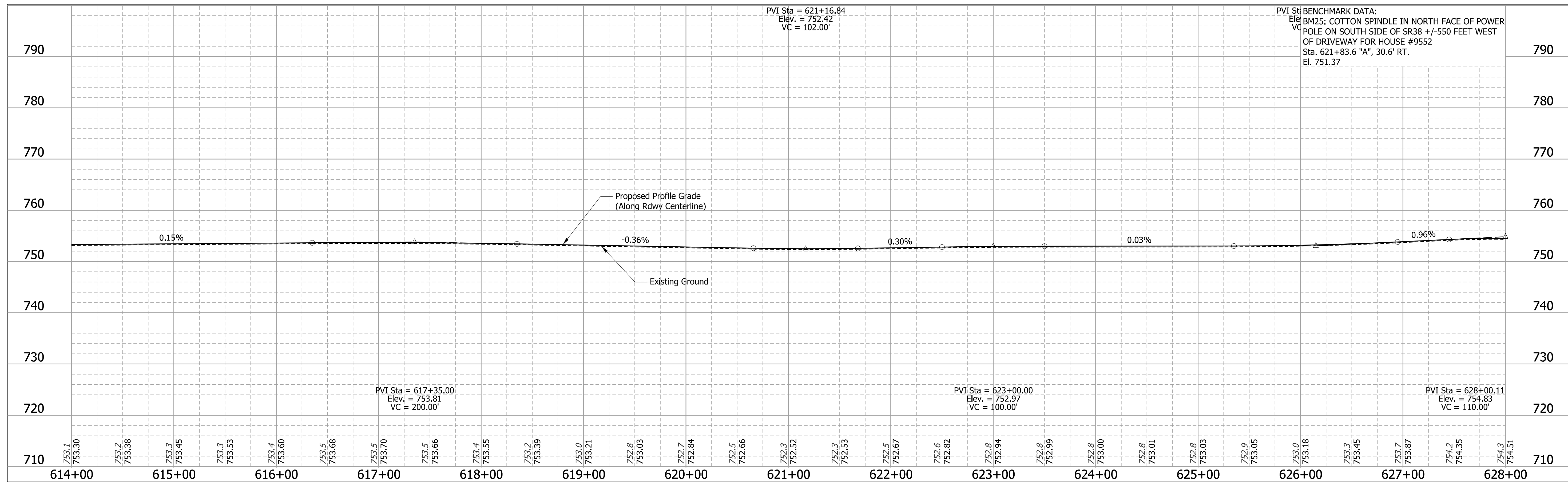
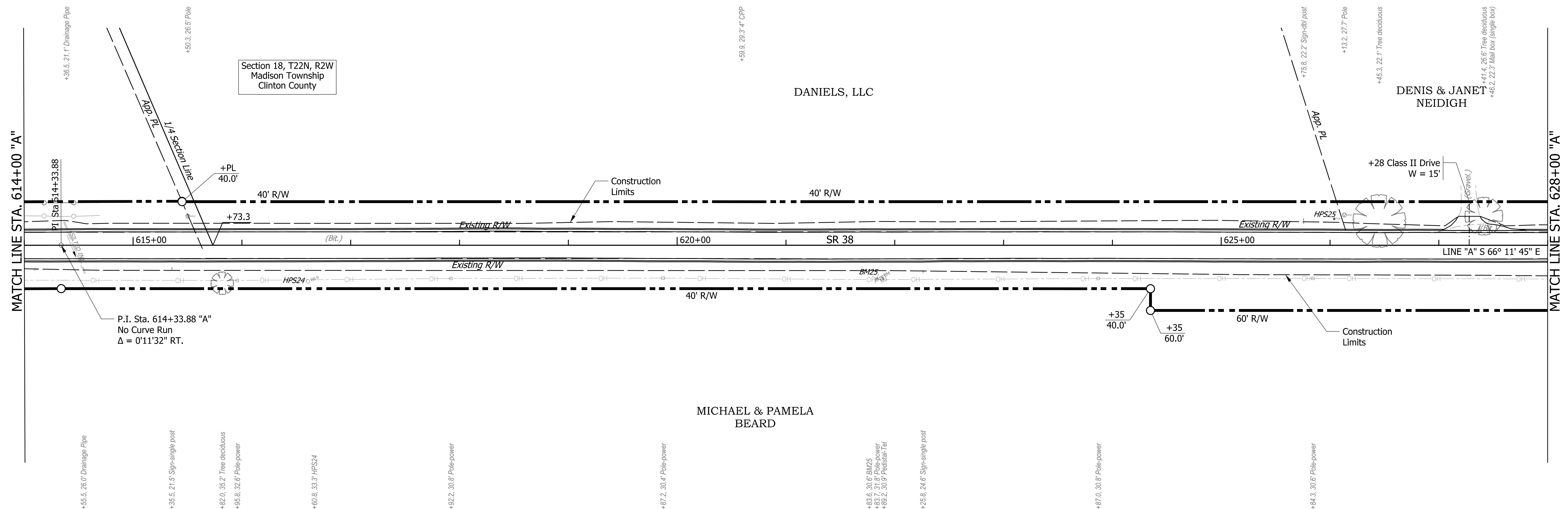
DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

I:\18jobs\18H0068B\CAD\Road\Sheet\Sht PlanProfile16.dgn

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	8/21/2020	DATE
DESIGNED:	KS	DRAWN:	MH
CHECKED:	JR	CHECKED:	KS

INDIANA
 DEPARTMENT OF TRANSPORTATION
PLAN AND PROFILE
 STA. 600+00 "A" TO STA. 614+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	63 of 422
CONTRACT	PROJECT
RS-40528	1601074



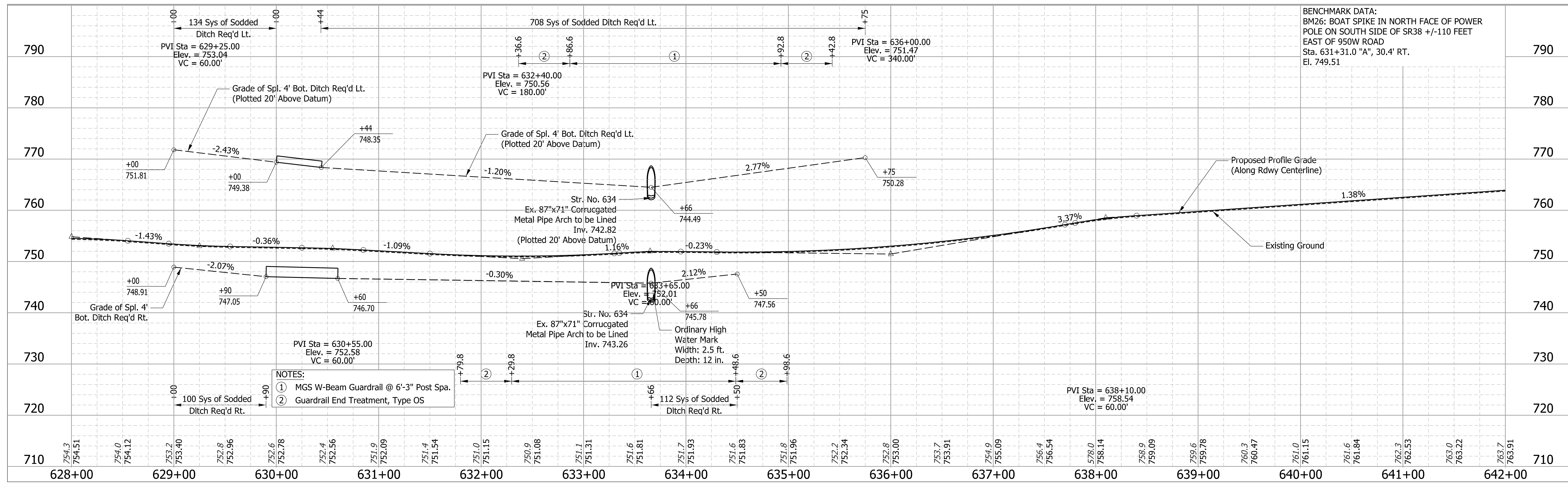
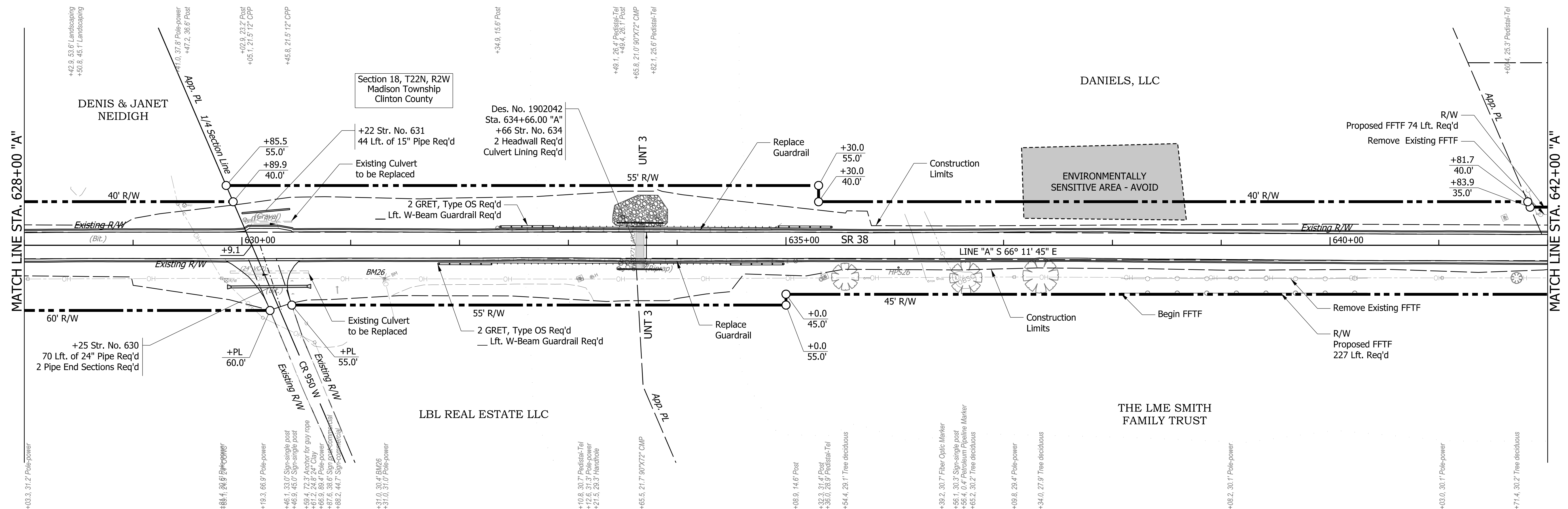
DESIGNED: KS	6/26/19
DRAWN: MH	6/26/19
REVIEWED: JR	8/21/20

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
		8/21/2020
DESIGNED: KS	DRAWN: MH	
CHECKED: JR	CHECKED: KS	

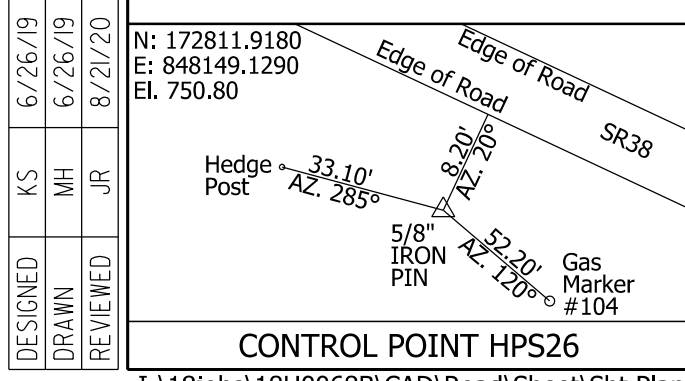
INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 614+00 "A" TO STA. 628+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	64 of 422
CONTRACT	PROJECT
RS-40528	1601074



BENCHMARK DATA:
 BM26: BOAT SPIKE IN NORTH FACE OF POWER POLE ON SOUTH SIDE OF SR38 +/-110 FEET EAST OF 950W ROAD Sta. 631+31.0 "A", 30.4' RT. El. 749.51



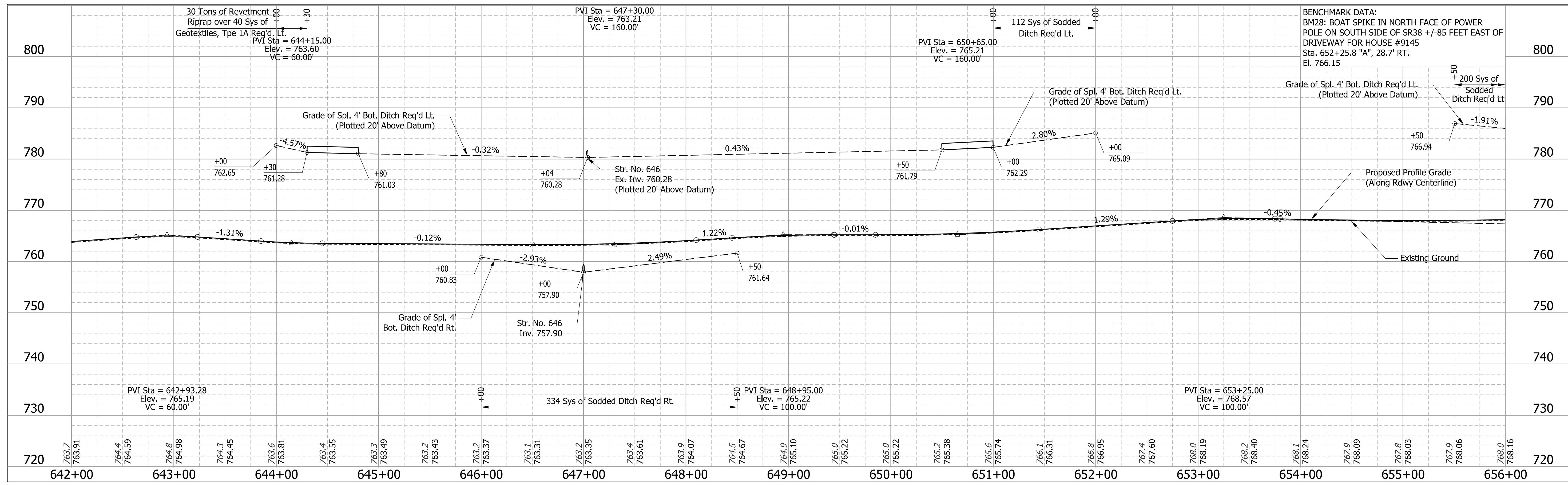
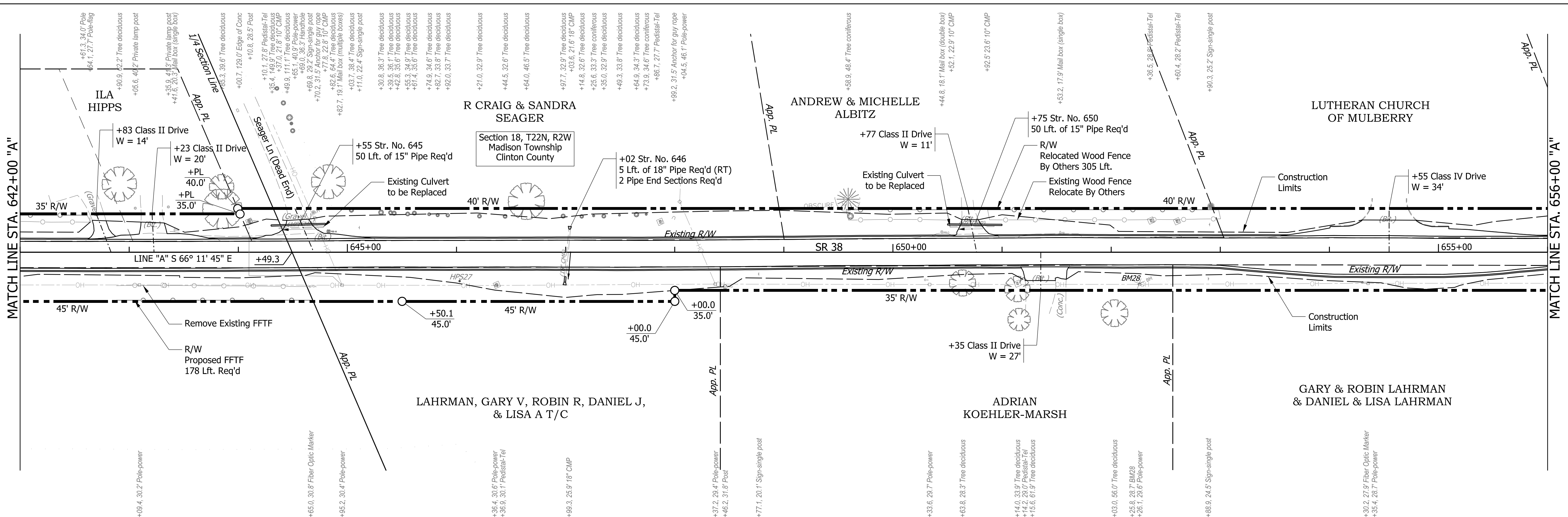
CONTROL POINT HPS26
 T:\18\jobs\18H0068B\CAD\Road\Sheet\Sht PlanProfile18.dgn

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	8/21/2020	DATE
DESIGNED: KS	DRAWN: MH		
CHECKED: JR	CHECKED: KS		

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
 STA. 628+00 "A" TO STA. 642+00 "A"

CULVERT ID	BRIDGE FILE
CV 038-012-10-20	1902042
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	65 of 422
CONTRACT	PROJECT
RS-40528	1601074



DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

N: 172403.0700
 E: 349061.1290
 El. 760.81

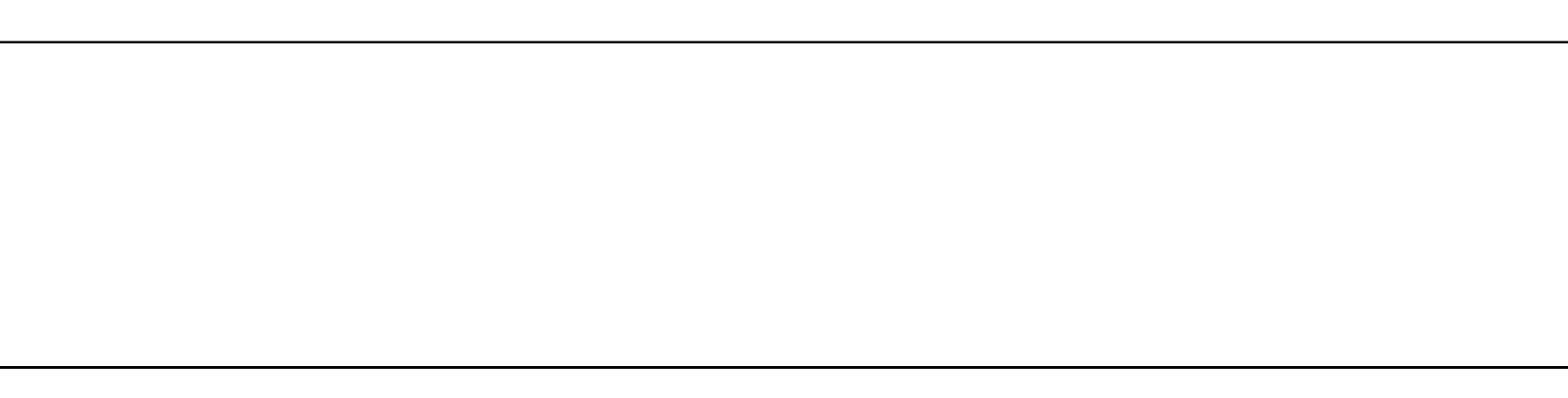
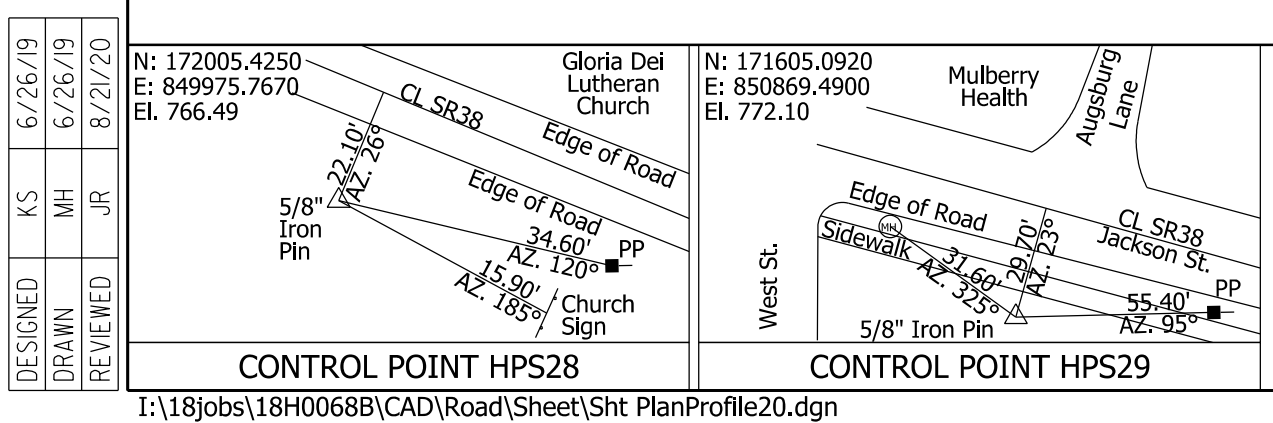
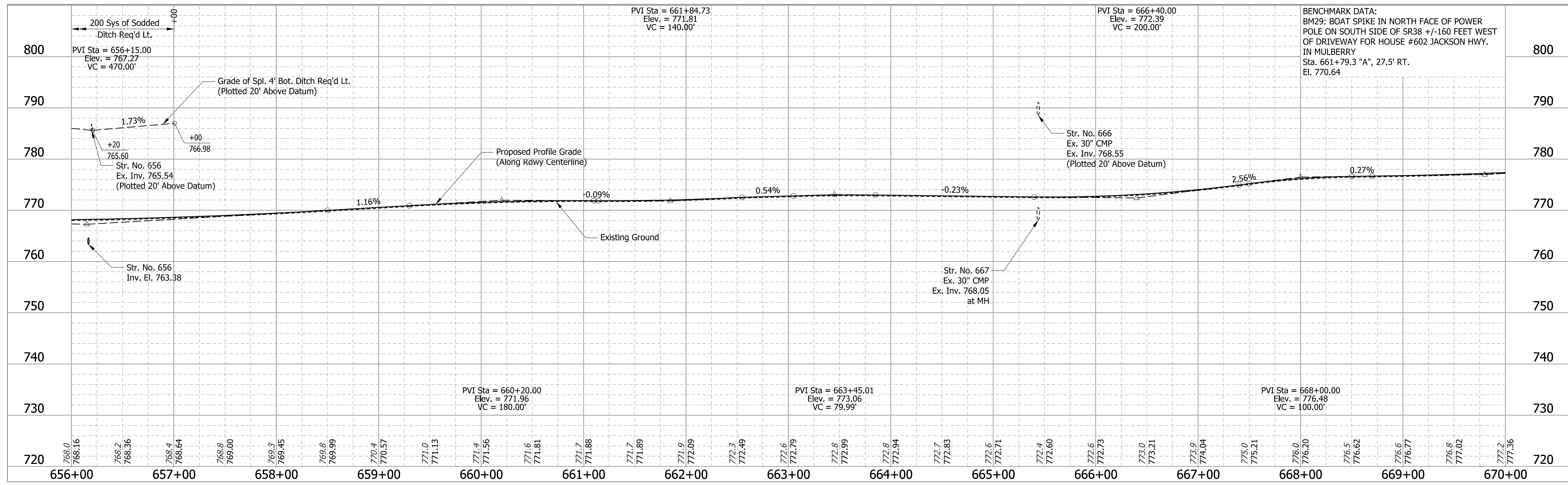
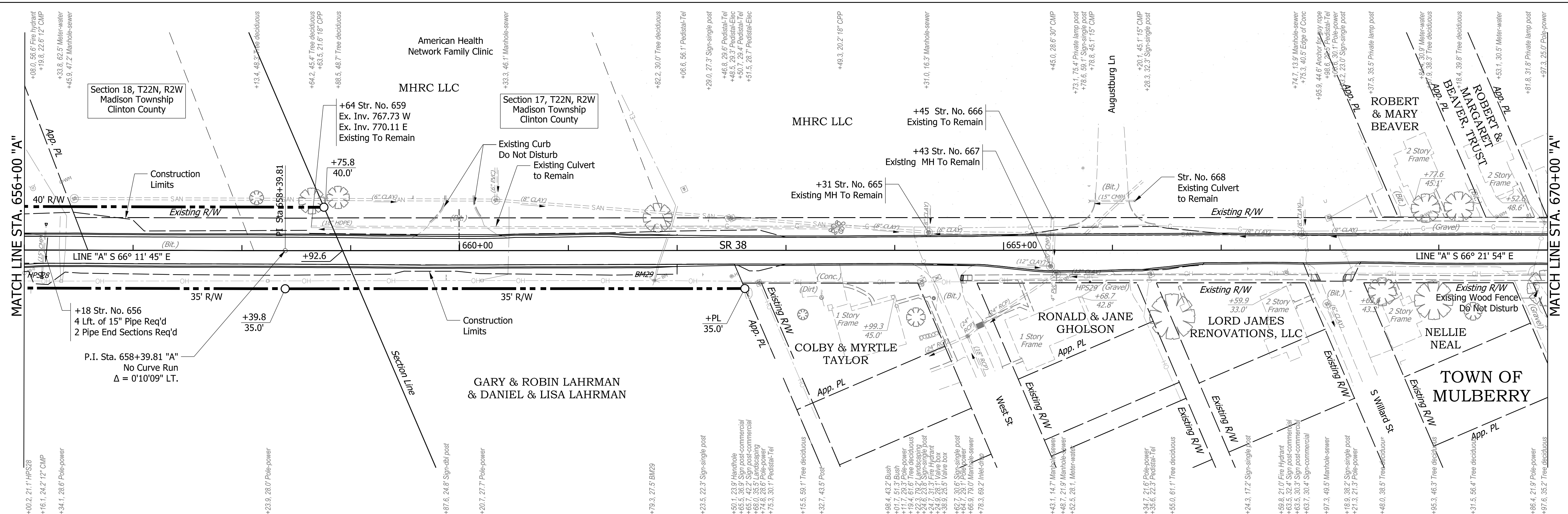
CONTROL POINT HPS27
 I:\18\jobs\18H0068B\CAD\Road\Sheet\Sht PlanProfile19.dgn

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	8/21/2020	DATE
DESIGNED: KS	DRAWN: MH		
CHECKED: JR	CHECKED: KS		

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 642+00 "A" TO STA. 656+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	66 of 422
CONTRACT	PROJECT
RS-40528	1601074

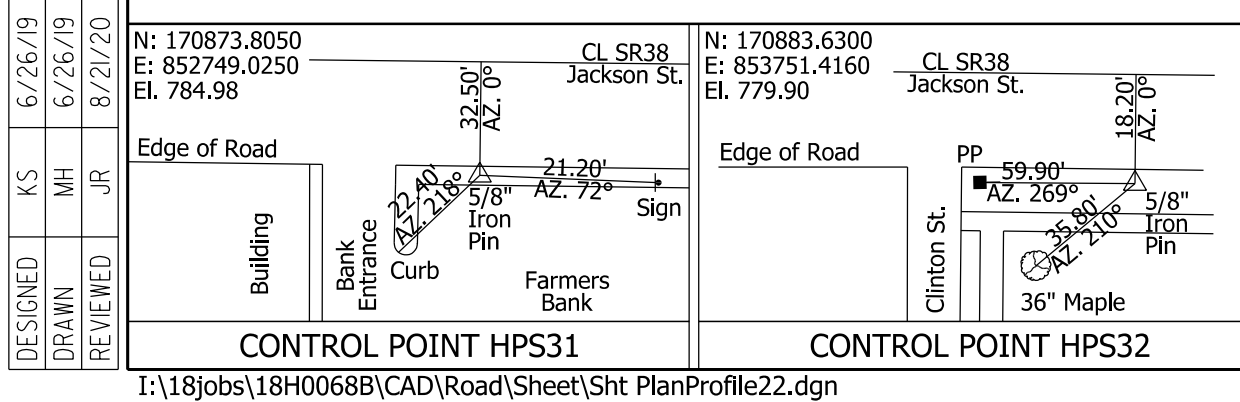
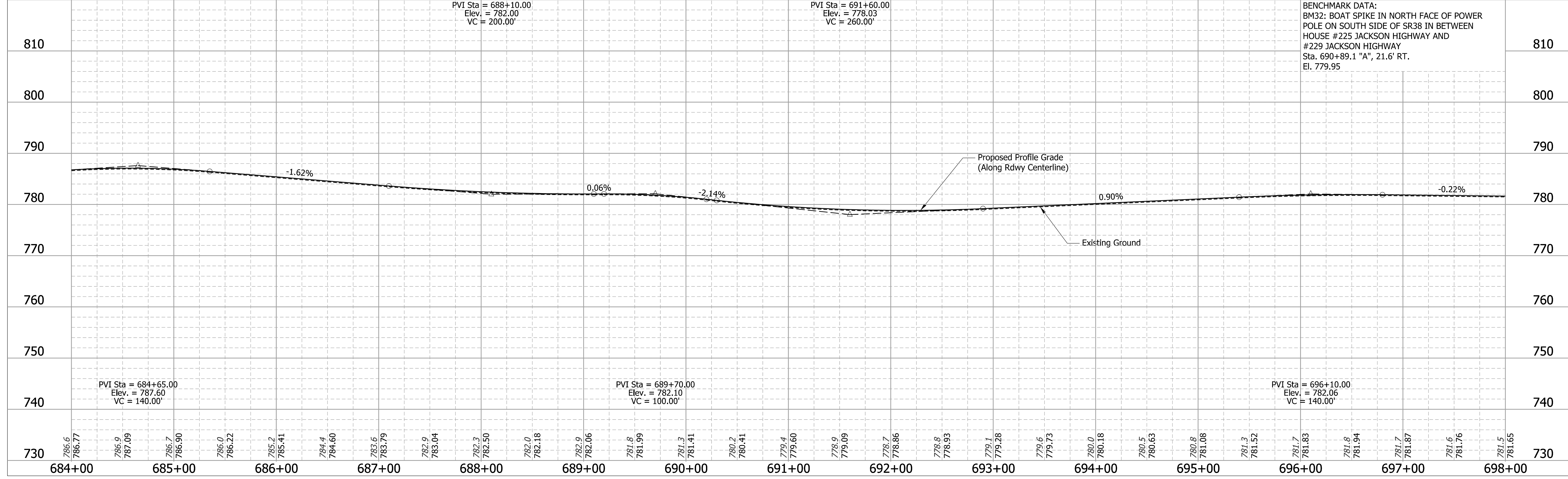
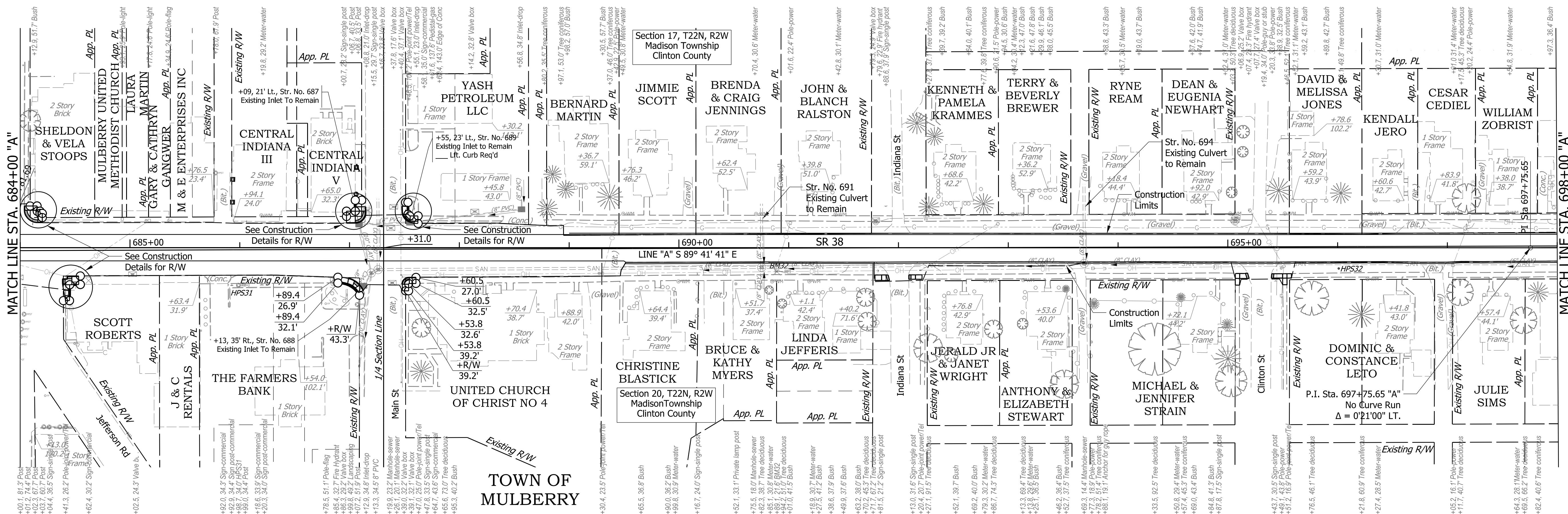


DESIGNED: KS	DRAWN: MH
CHECKED: JR	CHECKED: KS

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 656+00 "A" TO STA. 670+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	67 of 422
CONTRACT	PROJECT
RS-40528	1601074



RECOMMENDED FOR APPROVAL

DESIGN ENGINEER: [Signature] DATE: 8/21/2020

DESIGNED: KS DRAWN: MH

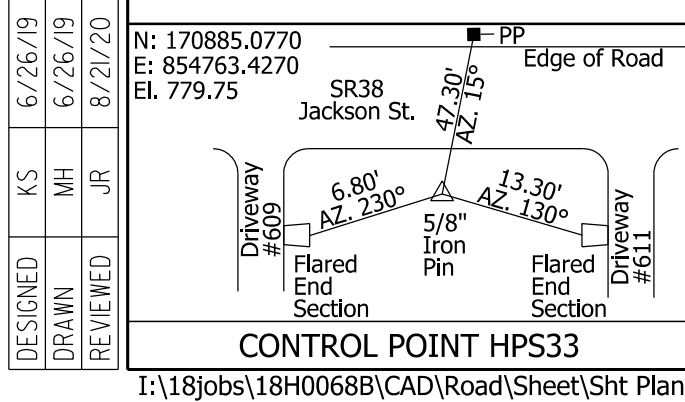
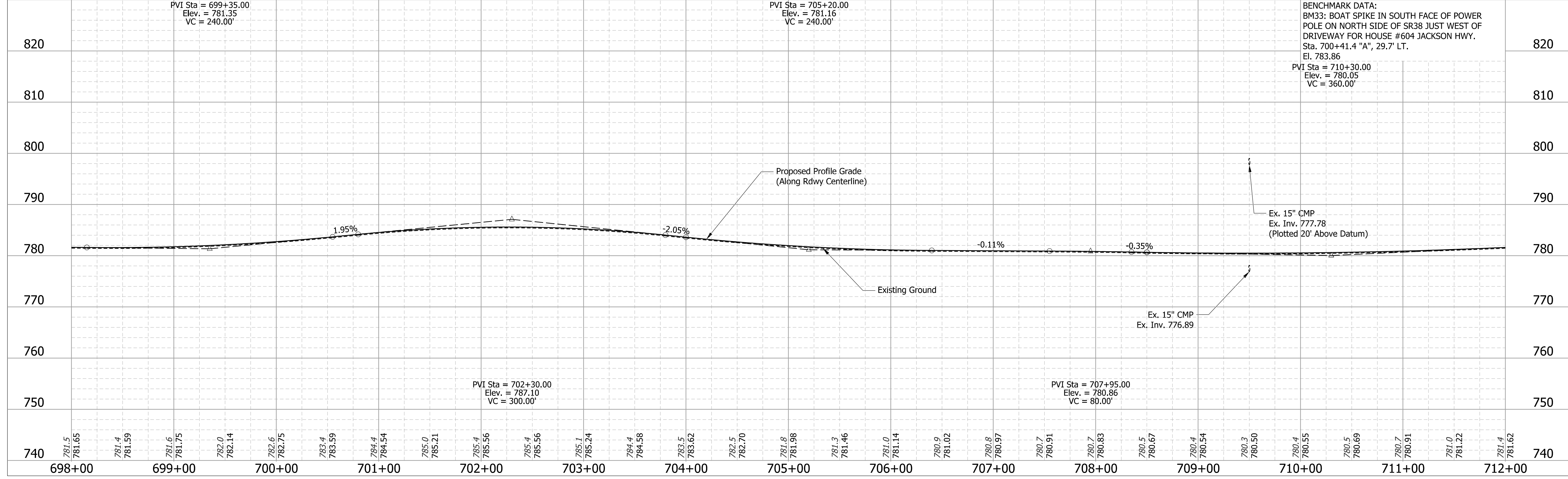
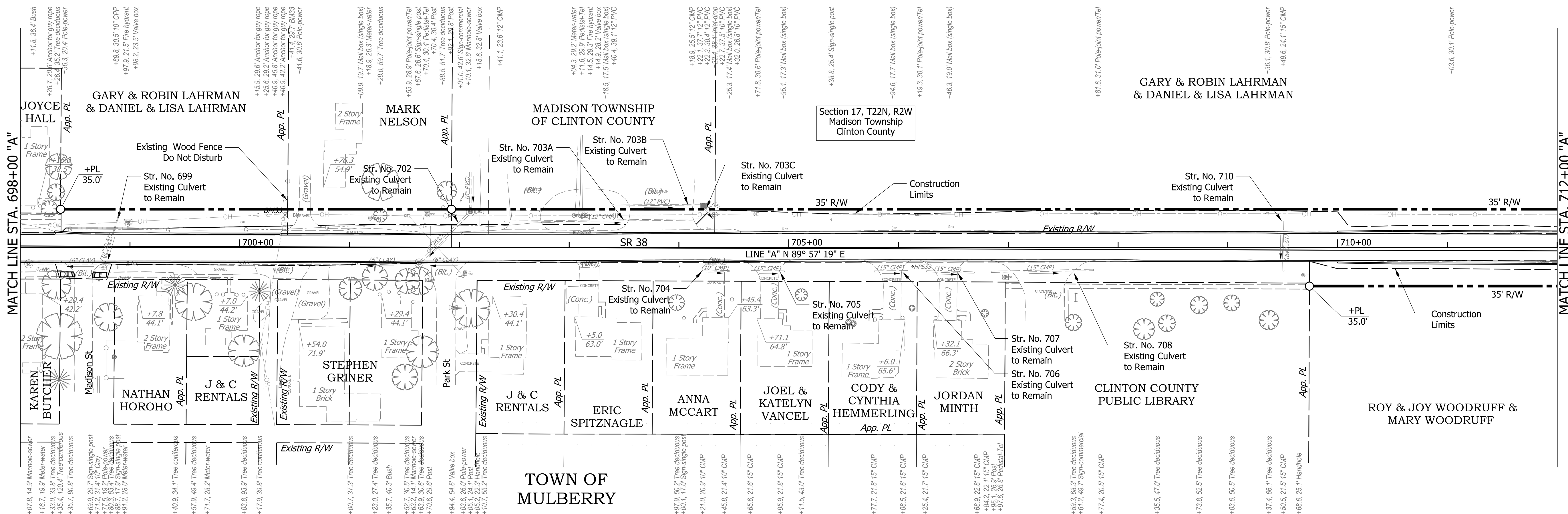
CHECKED: JR CHECKED: KS

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE

STA. 684+00 "A" TO STA. 698+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SHEETS	
69	of 422
PROJECT	
RS-40528	1601074



DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

N: 170885.0770
 E: 454763.4270
 El. 779.75

SR38
 Jackson St.

Edge of Road

Driveway

Flared End Section

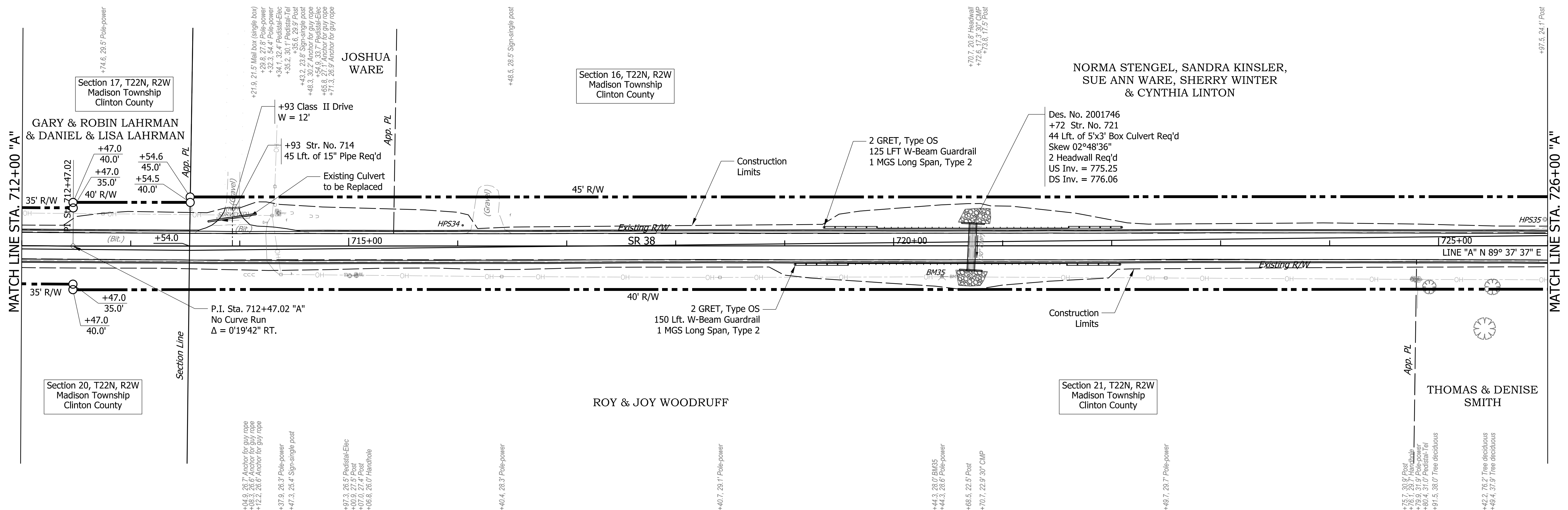
CONTROL POINT HPS33

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	8/21/2020	DATE
DESIGNED: KS	DRAWN: MH		
CHECKED: JR	CHECKED: KS		

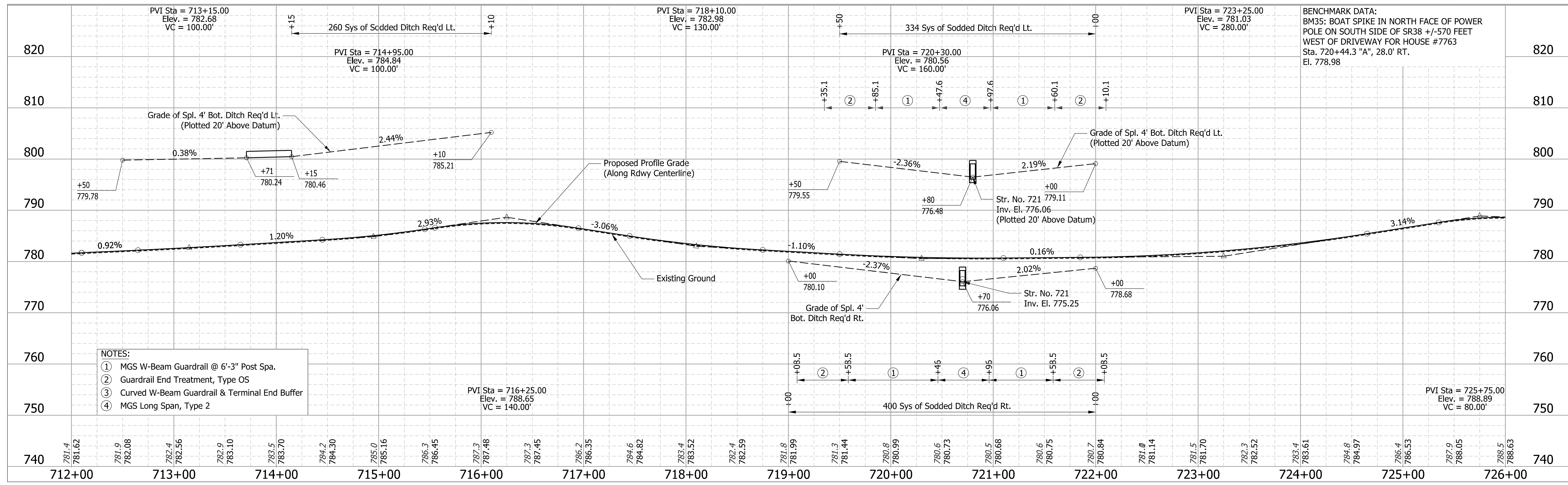
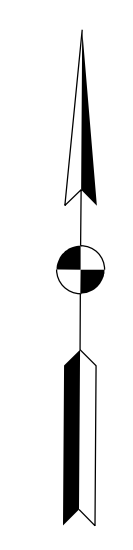
INDIANA
 DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
 STA. 698+00 "A" TO STA. 712+00 "A"

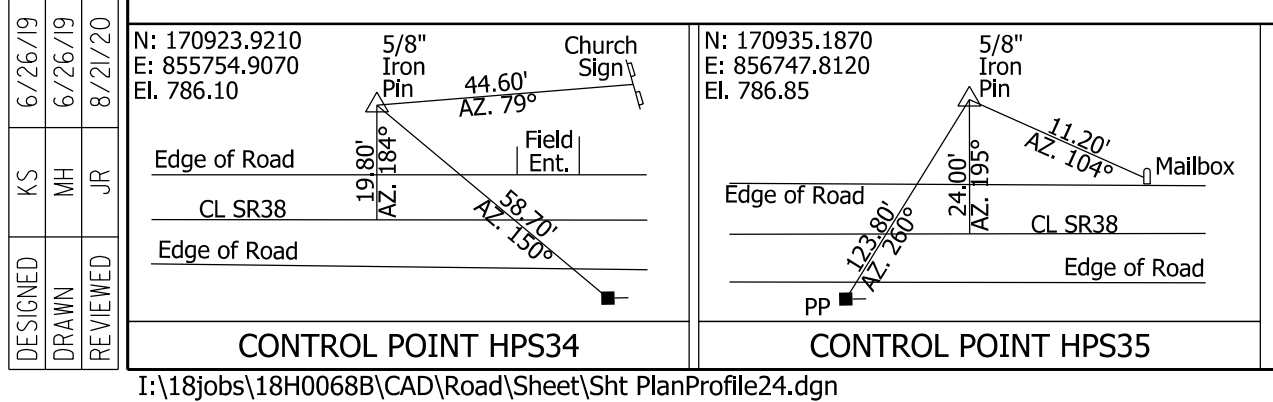
BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	70 of 422
CONTRACT	PROJECT
RS-40528	1601074



NORMA STENGEL, SANDRA KINSLER,
SUE ANN WARE, SHERRY WINTER
& CYNTHIA LINTON



- NOTES:**
- ① MGS W-Beam Guardrail @ 6'-3" Post Spa.
 - ② Guardrail End Treatment, Type OS
 - ③ Curved W-Beam Guardrail & Terminal End Buffer
 - ④ MGS Long Span, Type 2



DESIGNED: KS	DRAWN: MH
CHECKED: JR	CHECKED: KS

INDIANA
DEPARTMENT OF TRANSPORTATION

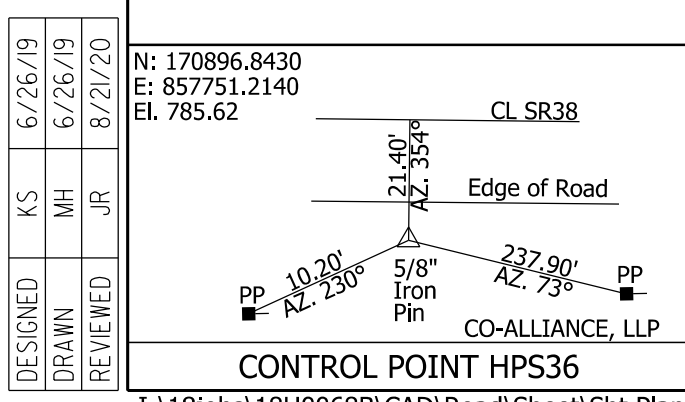
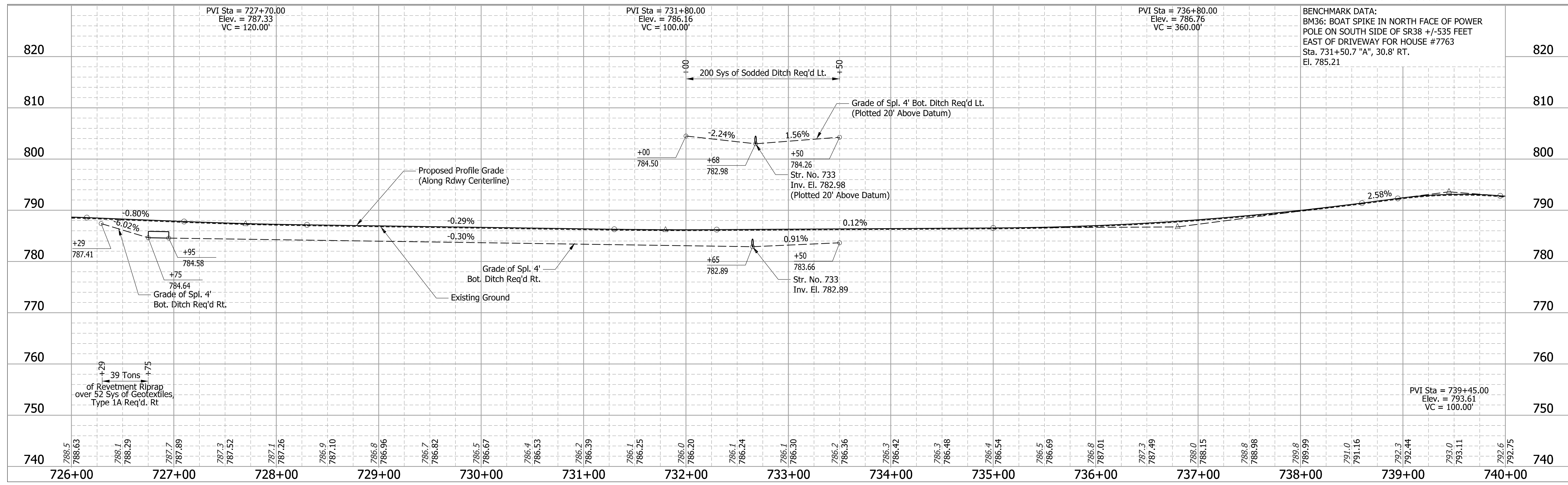
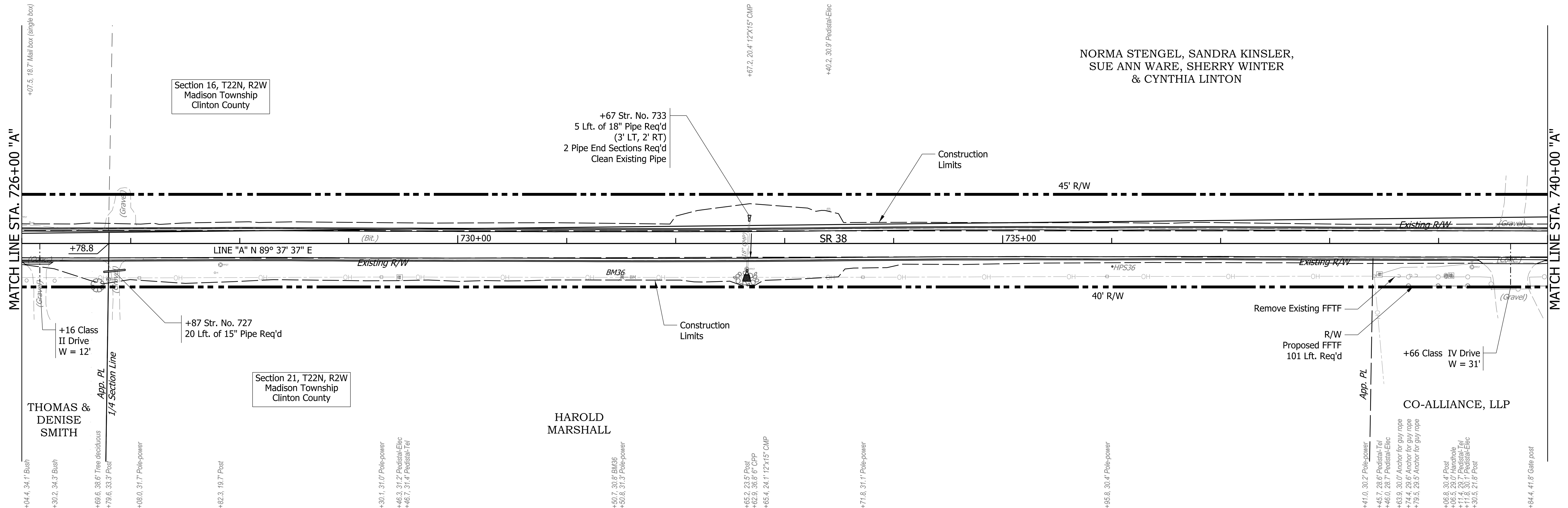
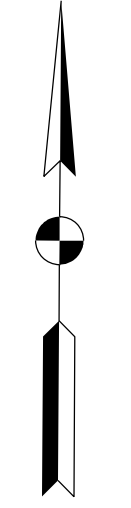
RECOMMENDED FOR APPROVAL: _____ DATE: 8/21/2020

DESIGN ENGINEER: _____

PLAN AND PROFILE
STA. 712+00 "A" TO STA. 726+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	71 of 422
CONTRACT	PROJECT
RS-40528	1601074

NORMA STENDEL, SANDRA KINSLER,
SUE ANN WARE, SHERRY WINTER
& CYNTHIA LINTON



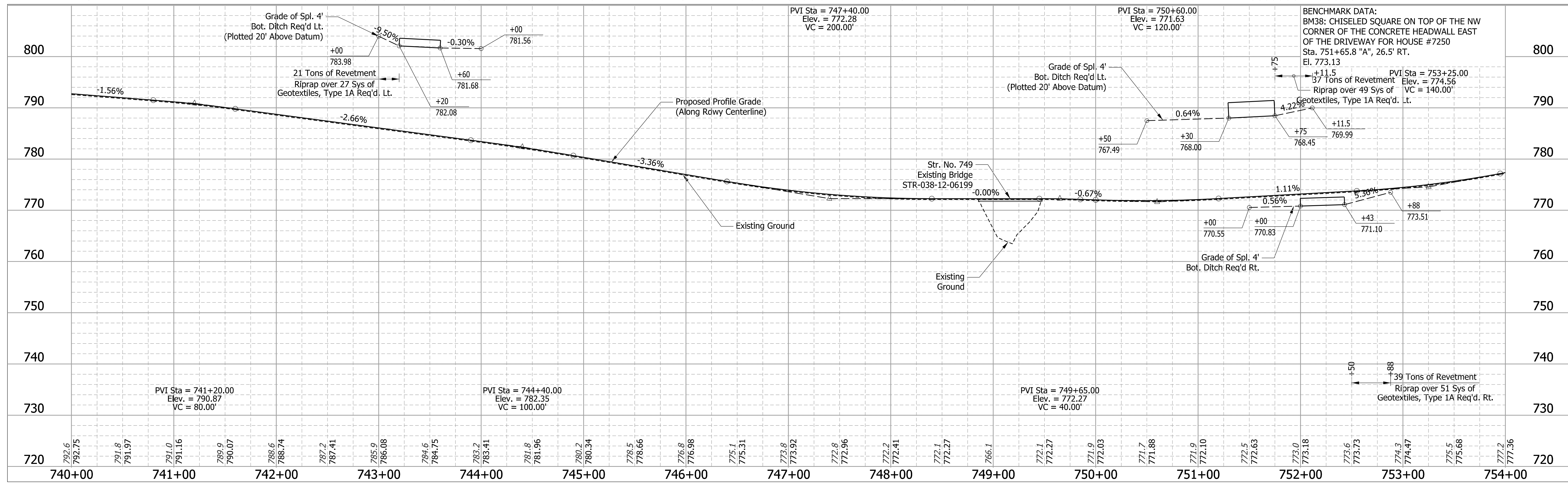
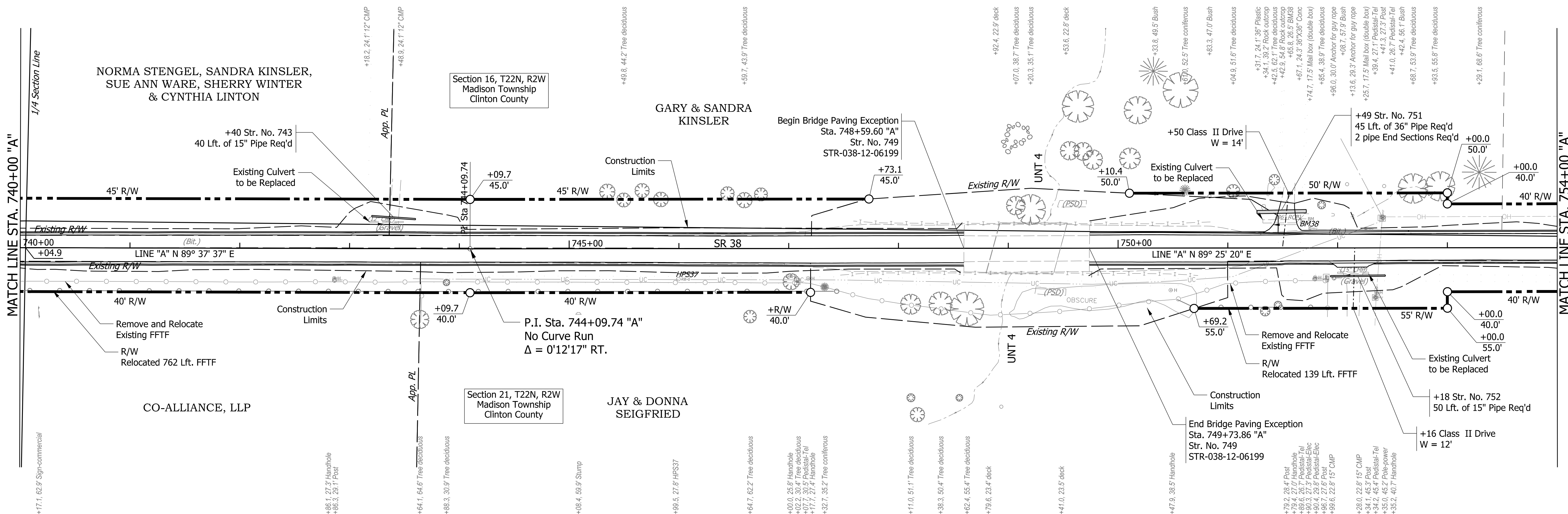
DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

RECOMMENDED FOR APPROVAL		8/21/2020	DATE
DESIGNED:	KS	DRAWN:	MH
CHECKED:	JR	CHECKED:	KS

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 726+00 "A" TO STA. 740+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	72 of 422
CONTRACT	PROJECT
RS-40528	1601074



DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

N: 170897.3650
E: 4580750.2190
E: 775.91

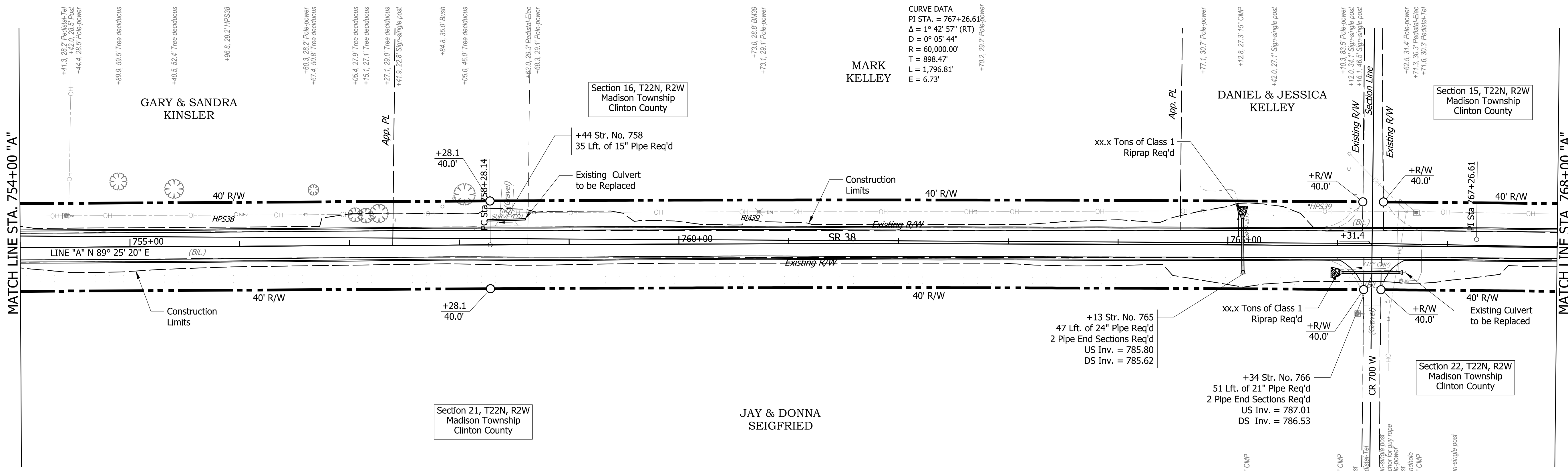
Edge of Road
Edge of Road
5/8" Iron Pin
97.60' AZ, 62°
Fiber Optic Sign
Fence

CONTROL POINT HPS37

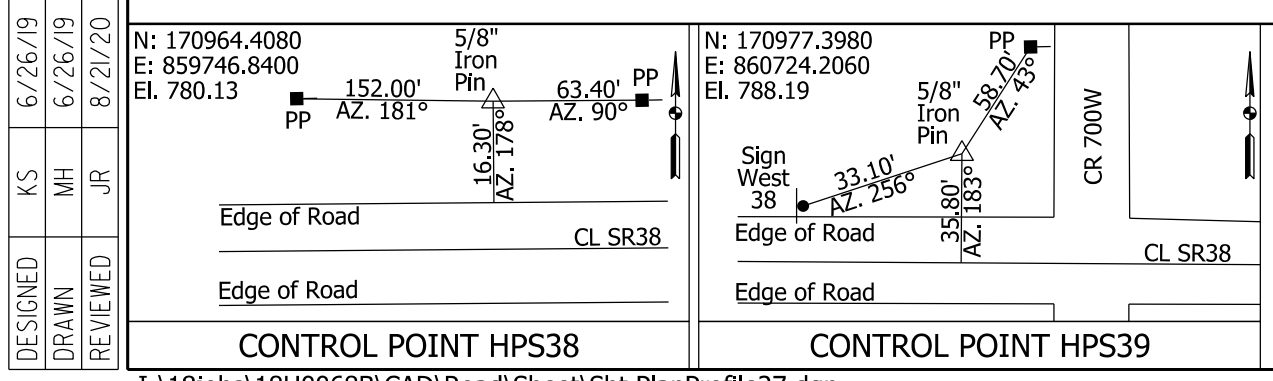
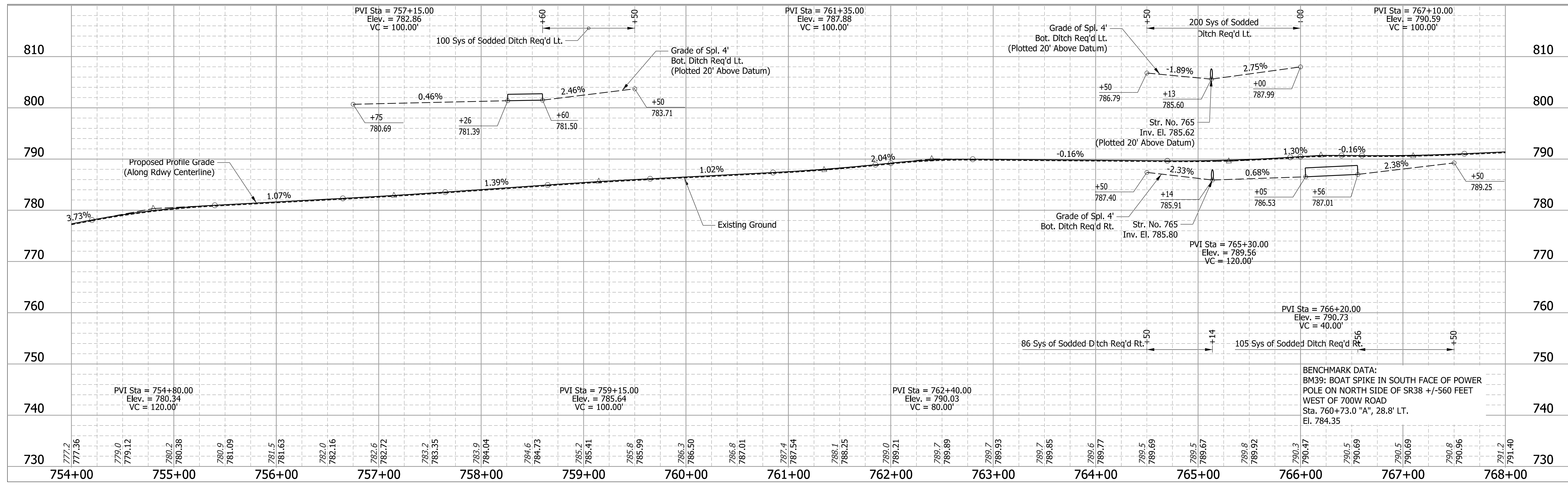
RECOMMENDED FOR APPROVAL		8/21/2020	DATE
DESIGNED:	KS	DRAWN:	MH
CHECKED:	JR	CHECKED:	KS

INDIANA DEPARTMENT OF TRANSPORTATION	
PLAN AND PROFILE STA. 740+00 "A" TO STA. 754+00 "A"	

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SHEETS	
73	of 422
PROJECT	
CONTRACT	PROJECT
RS-40528	1601074



CURVE DATA
 PI STA. = 767+26.66
 $\Delta = 1^\circ 42' 57''$ (RT)
 $D = 0^\circ 05' 44''$
 $R = 60,000.00'$
 $T = 898.47'$
 $L = 1,796.81'$
 $E = 6.73'$

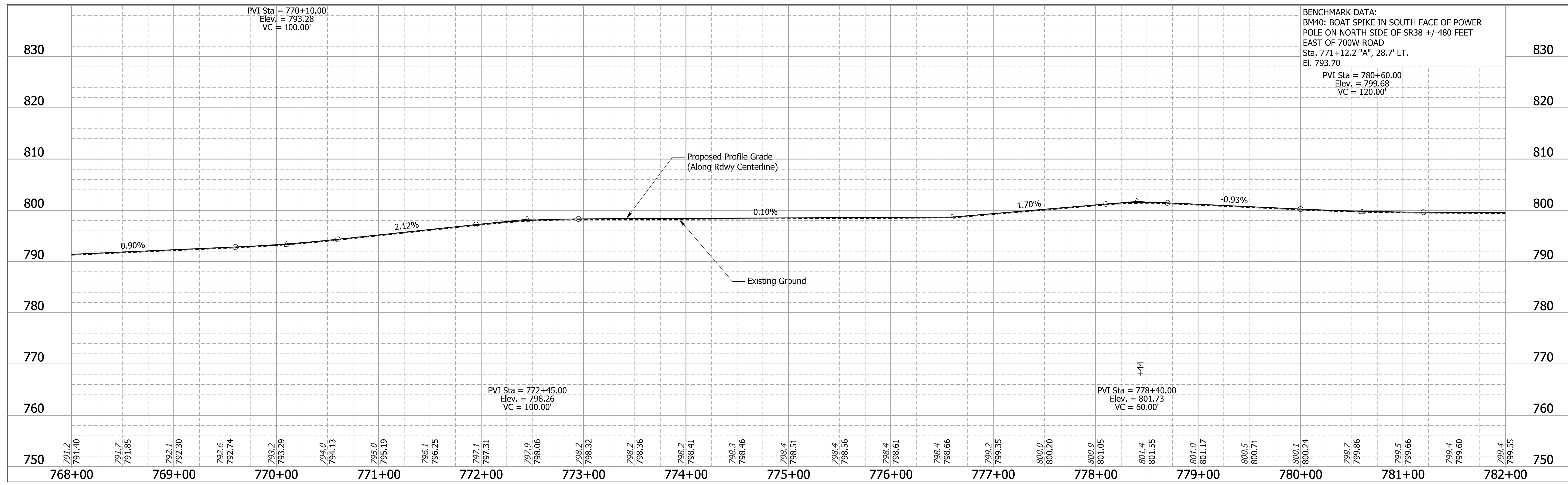
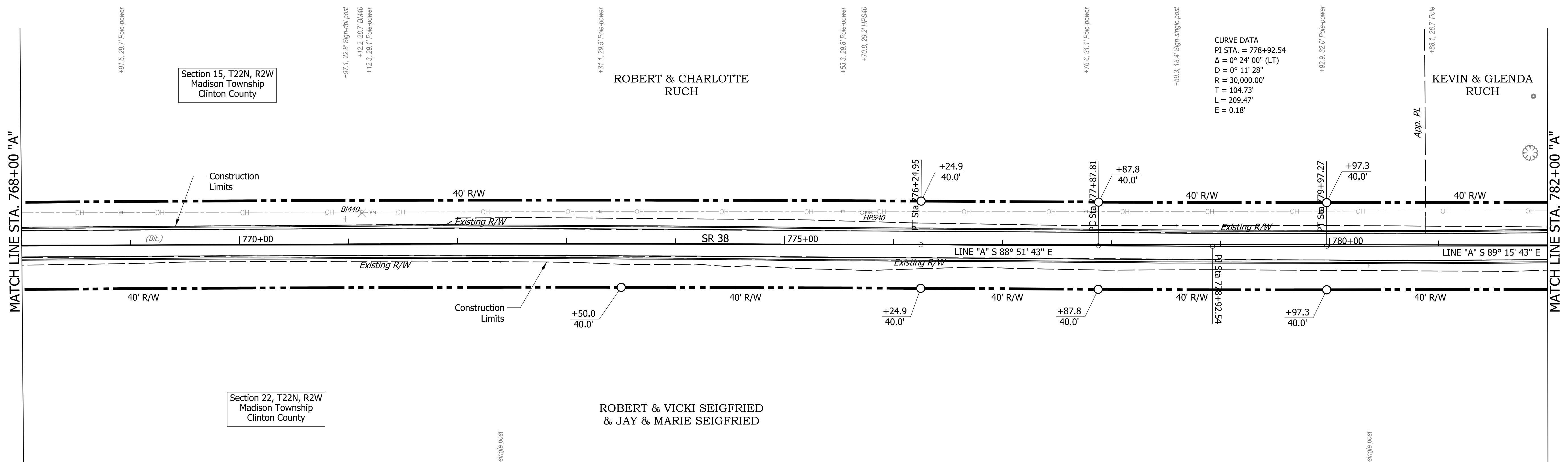


DESIGNED: KS	DRAWN: MH	CHECKED: JR
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE: 8/21/2020
DESIGNED: KS	DRAWN: MH	CHECKED: KS
CHECKED: JR	CHECKED: KS	

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 754+00 "A" TO STA. 768+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SHEETS	
74	of 422
PROJECT	
CONTRACT	PROJECT
RS-40528	1601074



DESIGNED: KS 6/26/19
DRAWN: MH 6/26/19
REVIEWED: JR 8/21/20

N: 170959.0100
E: 361721.5870
El. 796.33

5/8" Crop Line
17.30' Iron
AZ: 277°
207.00'
AZ: 87°
16.80' SR38
1.680' Edge of Road
1.680' Edge of Road

CONTROL POINT HPS40

RECOMMENDED FOR APPROVAL

DESIGN ENGINEER: _____ DATE: 8/21/2020

DESIGNED: KS DRAWN: MH

CHECKED: JR CHECKED: KS

INDIANA DEPARTMENT OF TRANSPORTATION

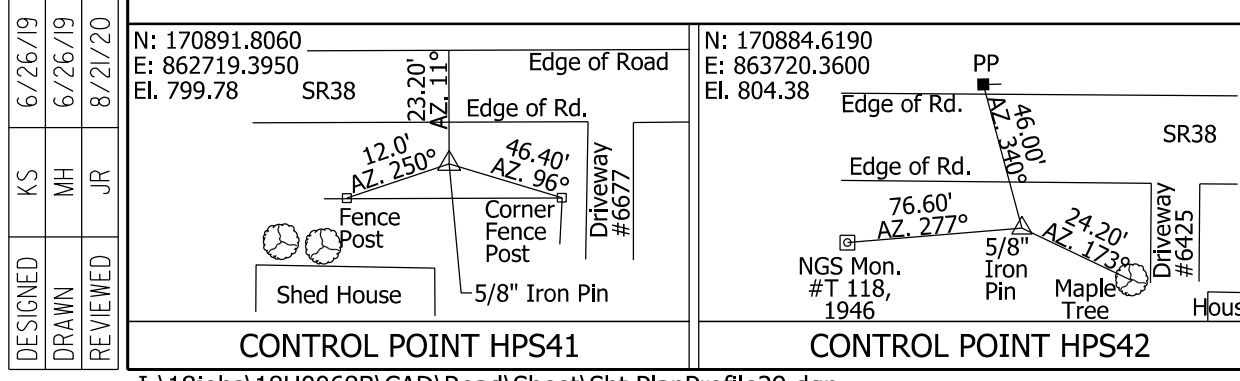
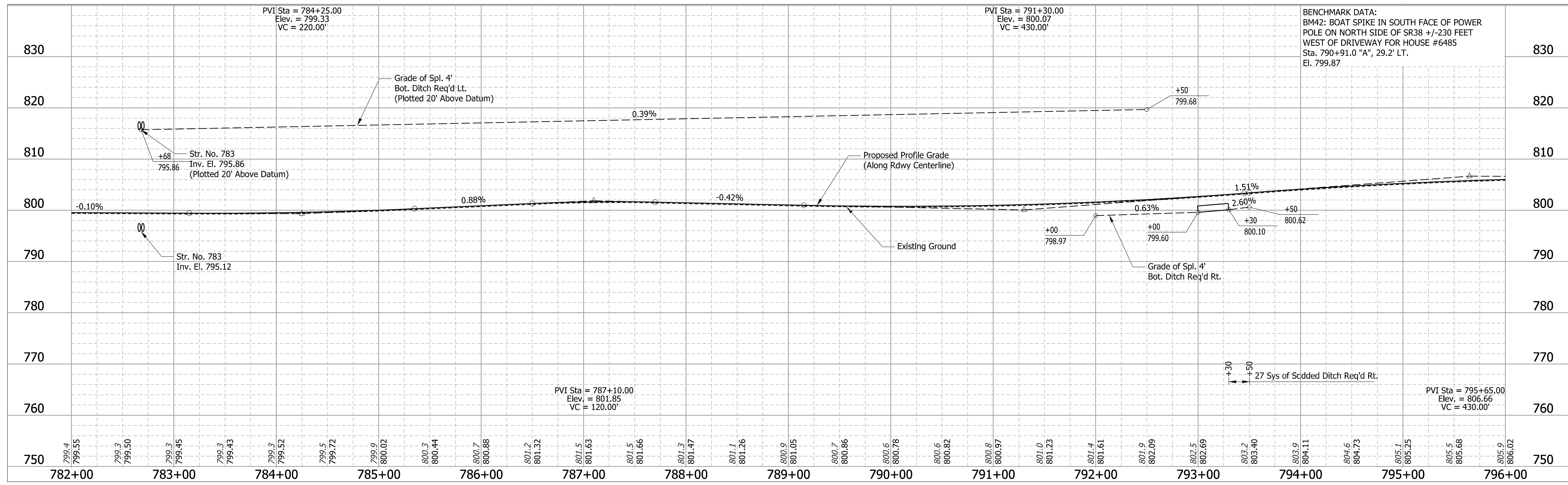
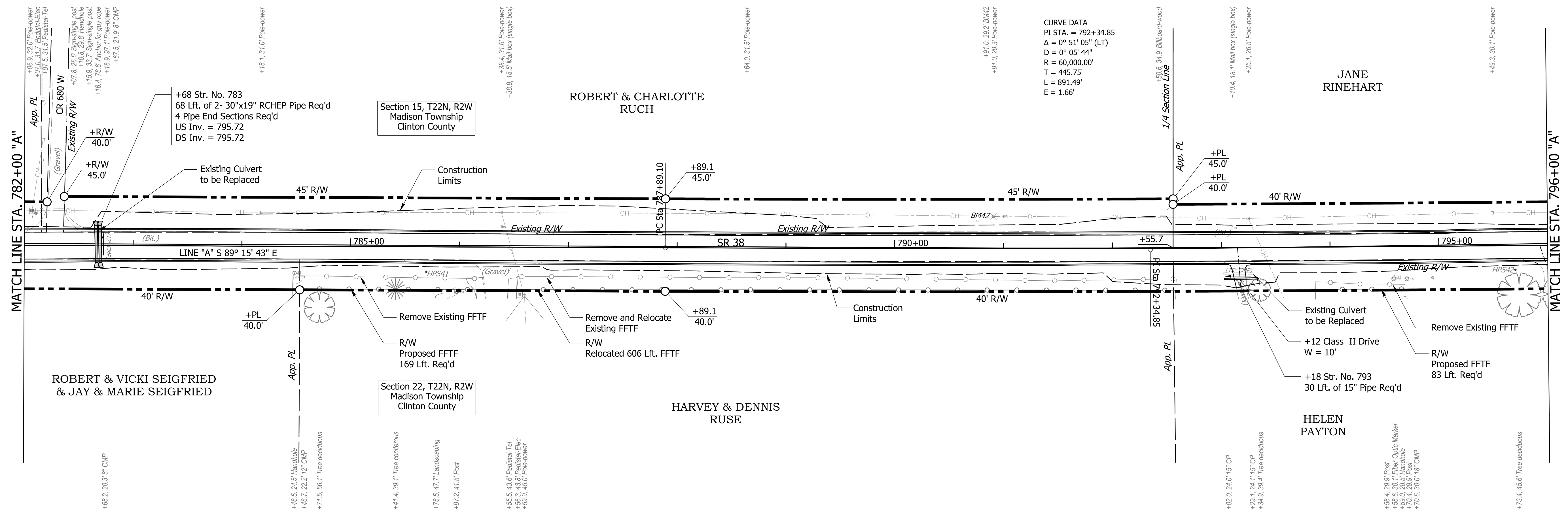
PLAN AND PROFILE
STA. 768+00 "A" TO STA. 782+00 "A"

BRIDGE FILE

SCALE: 1" = 50' H 1" = 10' V

SURVEY BOOK: _____ SHEETS: 75 of 422

CONTRACT: RS-40528 PROJECT: 1601074

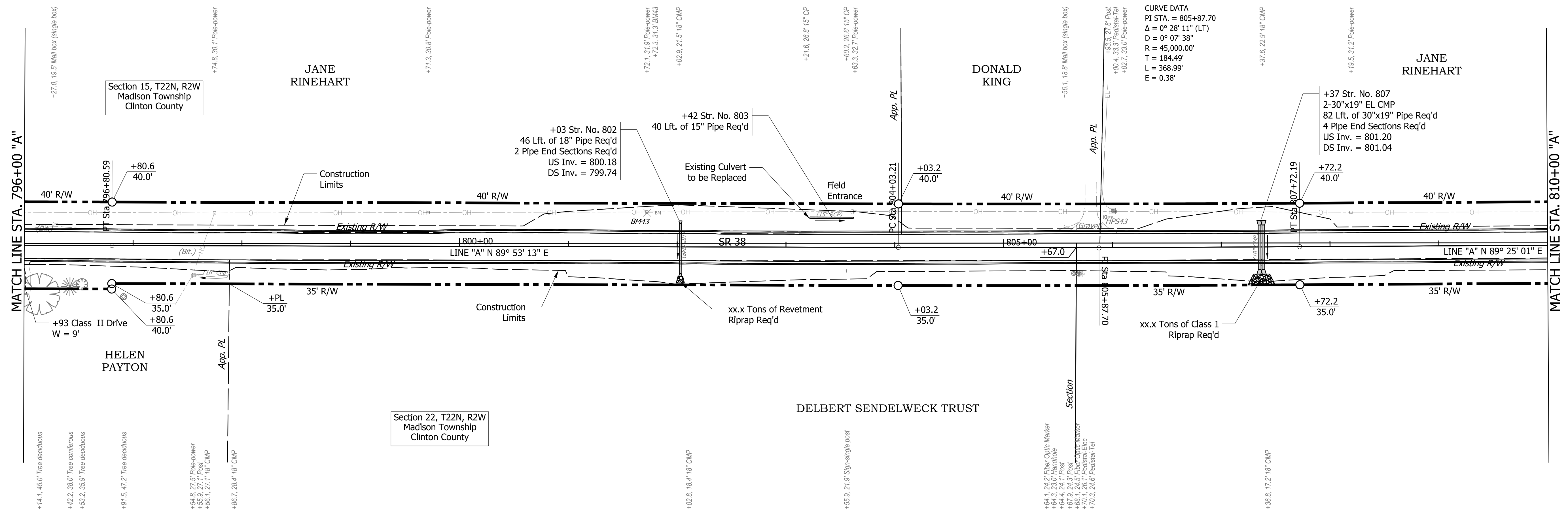


RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
		8/21/2020
DESIGNED: KS	DRAWN: MH	
CHECKED: JR	CHECKED: KS	

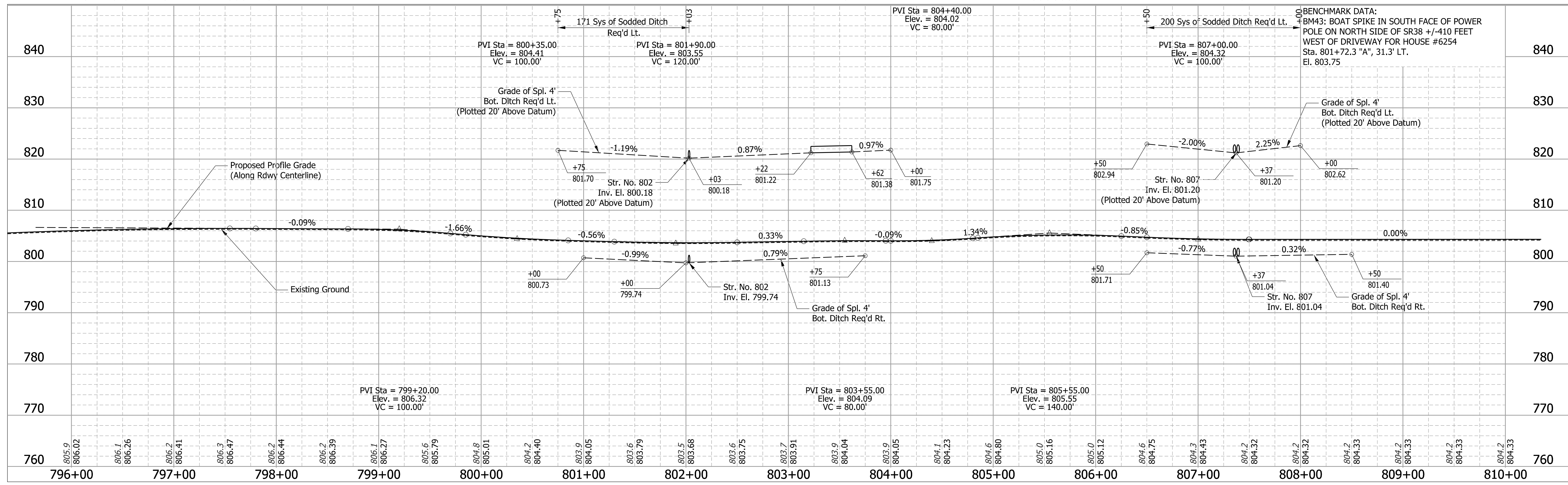
INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 782+00 "A" TO STA. 796+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	76 of 422
CONTRACT	PROJECT
RS-40528	1601074



CURVE DATA
 PI STA. = 805+87.70
 Δ = 0° 28' 11" (LT)
 D = 0° 07' 38"
 R = 45,000.00'
 T = 184.49'
 L = 368.99'
 E = 0.38'



BENCHMARK DATA:
 BM43: BOAT SPIKE IN SOUTH FACE OF POWER
 POLE ON NORTH SIDE OF SR38 +/-410 FEET
 WEST OF DRIVEWAY FOR HOUSE #6254
 Sta. 801+72.3 "A", 31.3' LT.
 El. 803.75

DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

CONTROL POINT HPS43

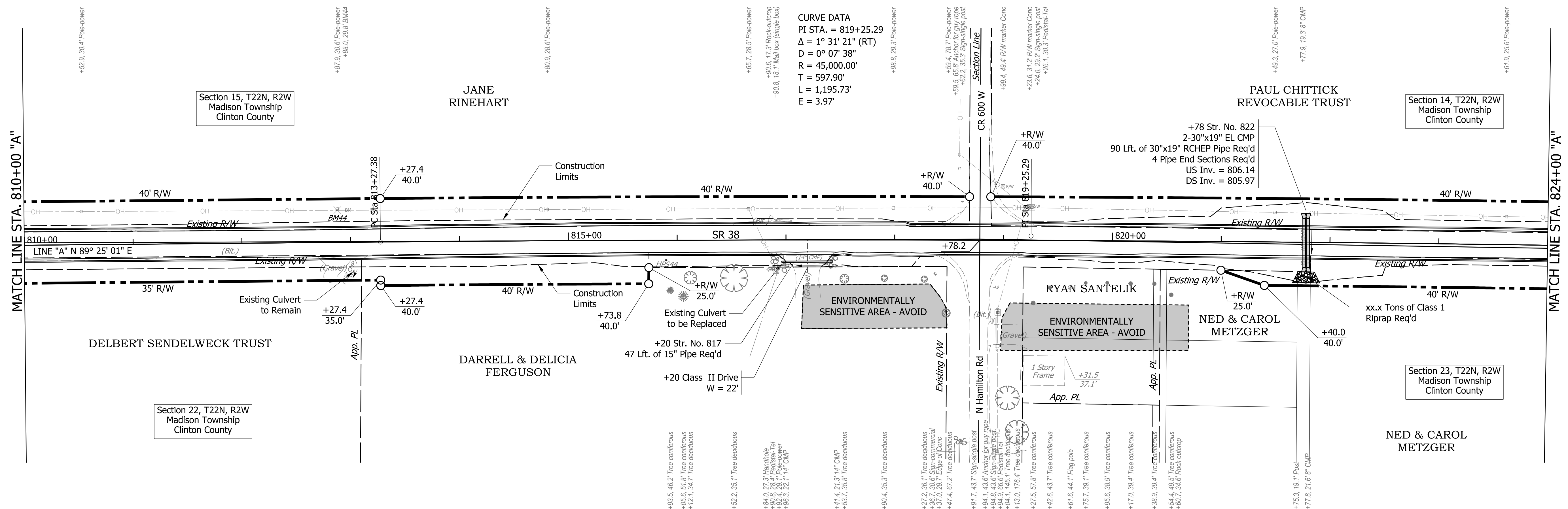
N: 170936.7740 E: 364743.4010 El. 805.02	5/18" AZ 25.1°	10/20" AZ 52°	PP
Mailbox SR38	Edge of Rd.	Edge of Rd.	

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	8/21/2020	DATE
DESIGNED: KS	DRAWN: MH		
CHECKED: JR	CHECKED: KS		

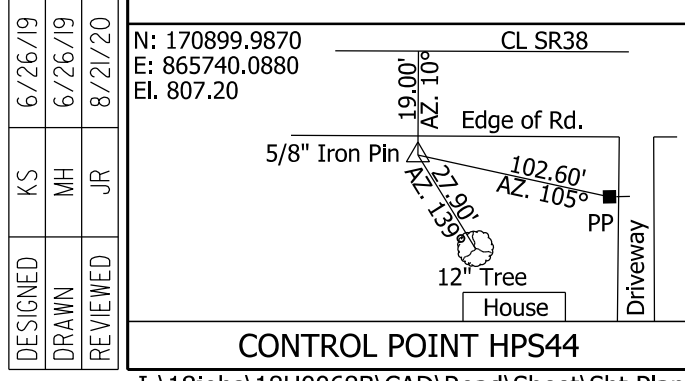
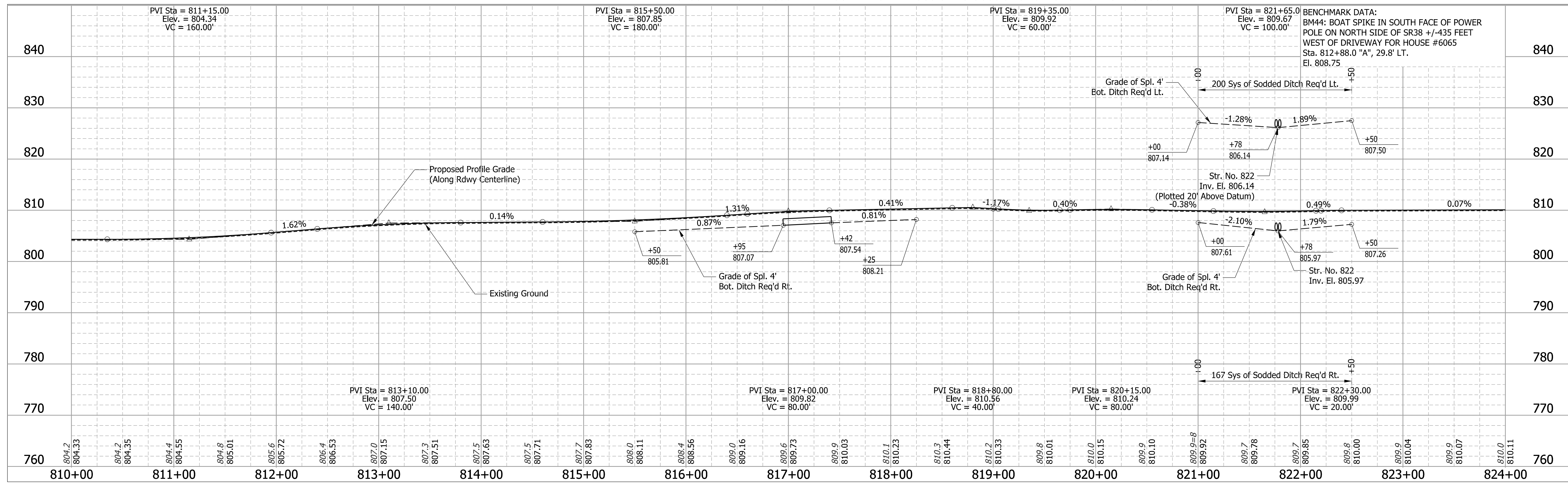
INDIANA
 DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
 STA. 796+00 "A" TO STA. 810+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	77 of 422
CONTRACT	PROJECT
RS-40528	1601074



CURVE DATA
 PI STA. = 819+25.29
 $\Delta = 1^\circ 31' 21''$ (RT)
 $D = 0^\circ 07' 38''$
 $R = 45,000.00'$
 $T = 597.90'$
 $L = 1,195.73'$
 $E = 3.97'$



DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	8/21/2020	DATE
DESIGNED: KS	DRAWN: MH		
CHECKED: JR	CHECKED: KS		

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 810+00 "A" TO STA. 824+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	78 of 422
CONTRACT	PROJECT
RS-40528	1601074

MATCH LINE STA. 824+00 "A"

MATCH LINE STA. 838+00 "A"

Section 14, T22N, R2W
Madison Township
Clinton County

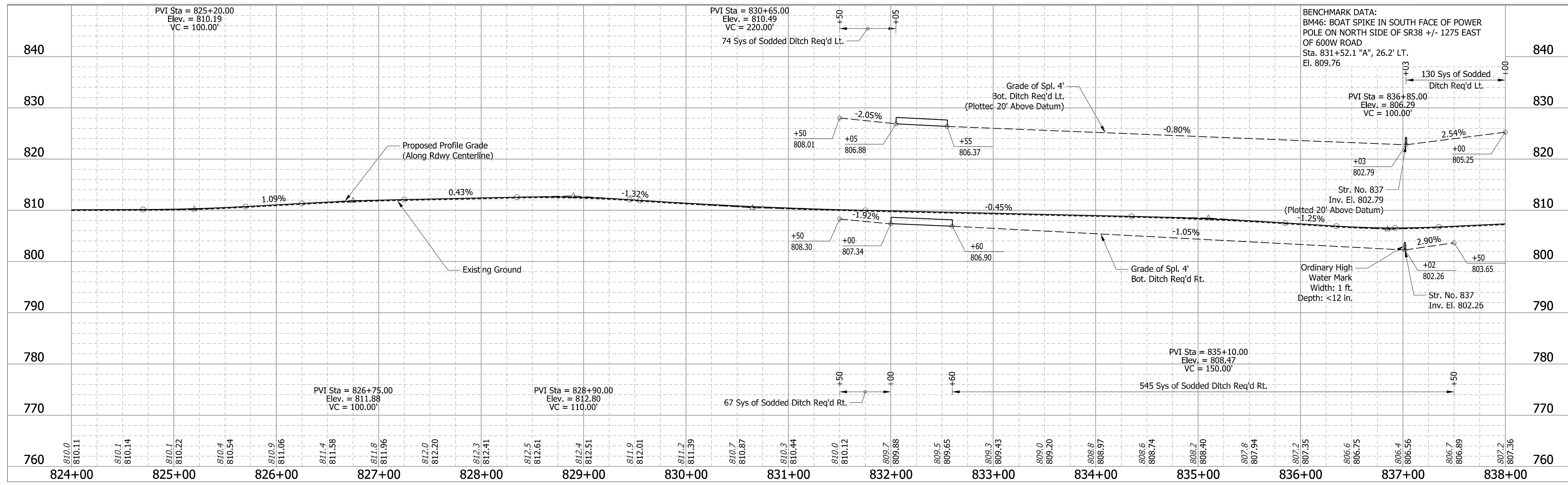
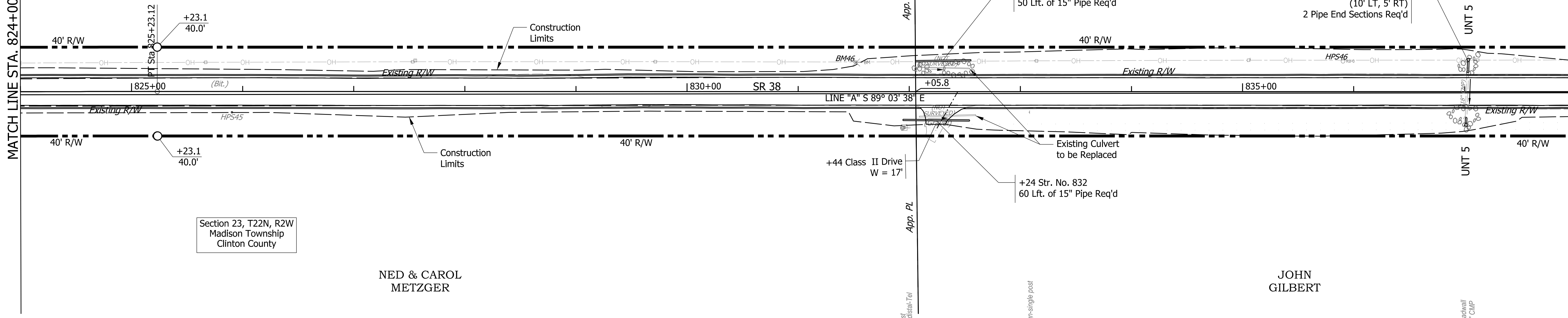
PAUL CHITICK
REVOCABLE TRUST

Section 23, T22N, R2W
Madison Township
Clinton County

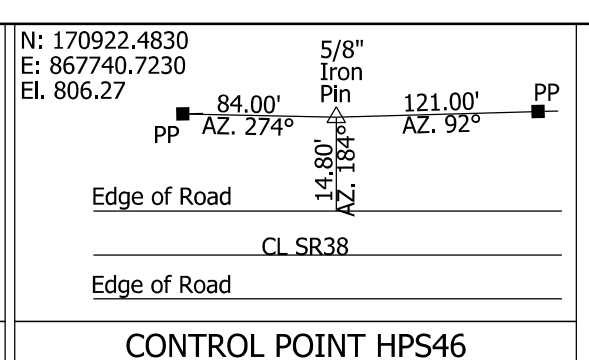
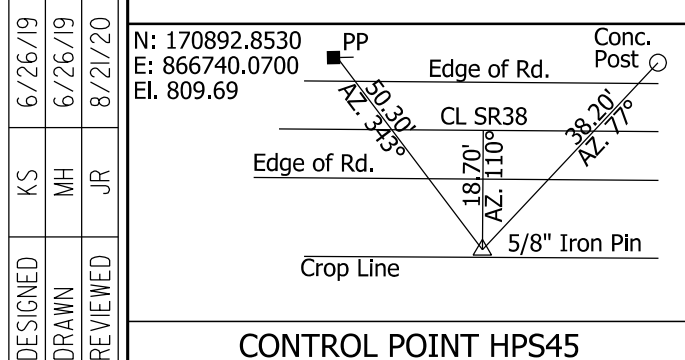
NED & CAROL
METZGER

JOHN
GILBERT

JOHN
GILBERT



BENCHMARK DATA:
BM46: BOAT SPIKE IN SOUTH FACE OF POWER
POLE ON NORTH SIDE OF SR38 +/- 1275 EAST
OF 600W ROAD
Sta. 831+52.1 "A", 26.2' LT.
El. 809.76



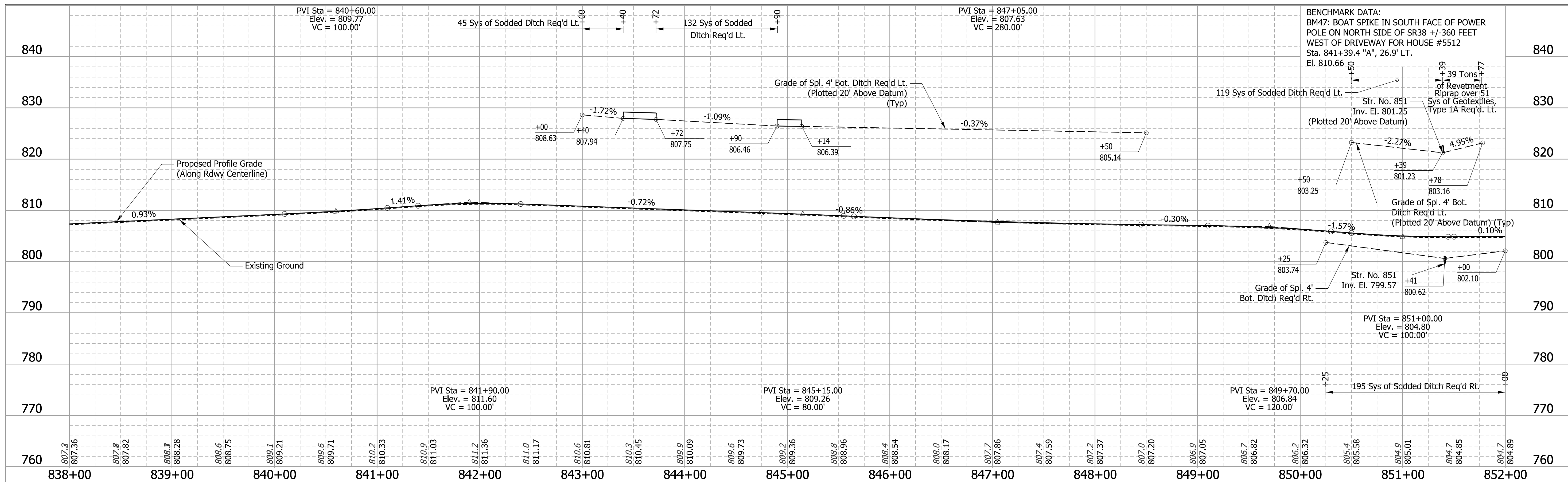
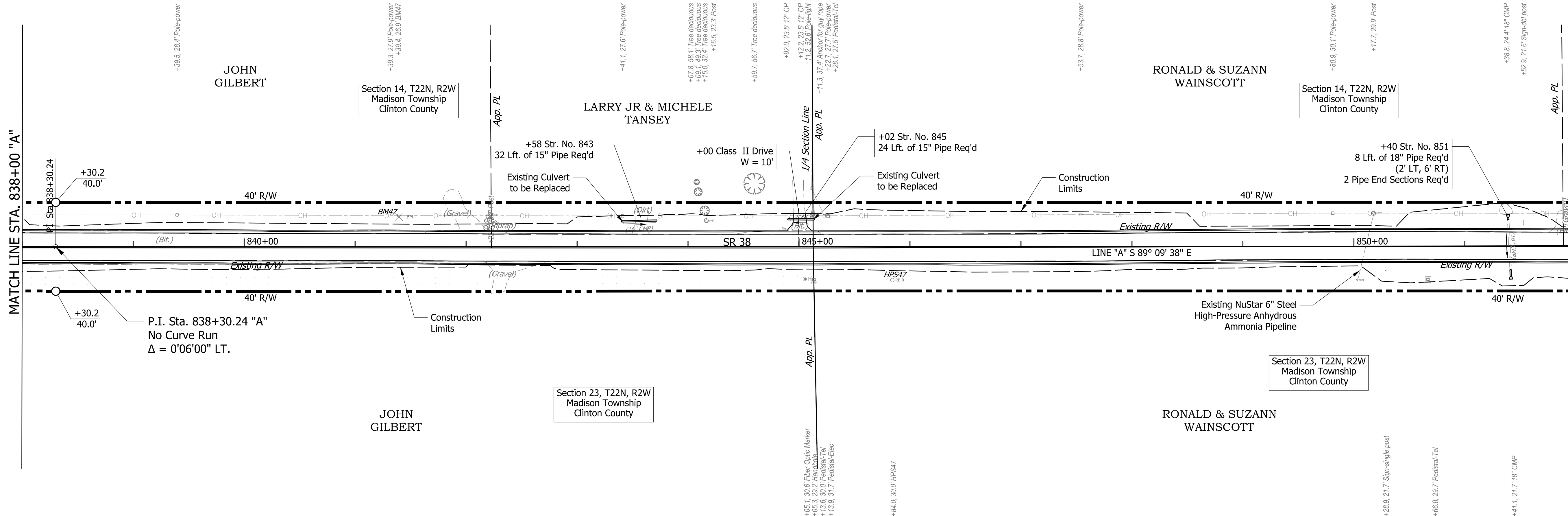
RECOMMENDED FOR APPROVAL
DESIGN ENGINEER: _____ DATE: 8/21/2020
DESIGNED: KS DRAWN: MH
CHECKED: JR CHECKED: KS

INDIANA
DEPARTMENT OF TRANSPORTATION
PLAN AND PROFILE
STA. 824+00 "A" TO STA. 838+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SHEETS	
79	of 422
PROJECT	
CONTRACT	PROJECT
RS-40528	1601074

MATCH LINE STA. 838+00 "A"

MATCH LINE STA. 852+00 "A"



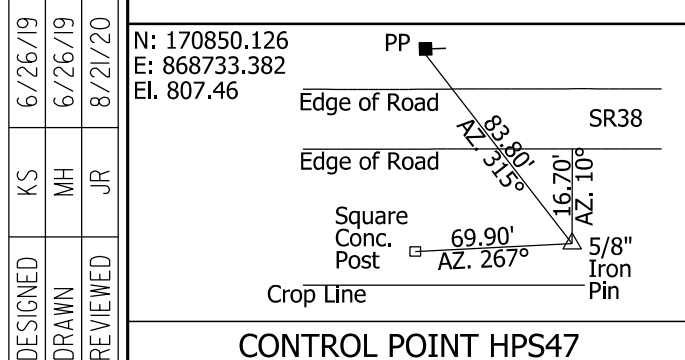
BENCHMARK DATA:
 BM47: BOAT SPIKE IN SOUTH FACE OF POWER POLE ON NORTH SIDE OF SR38 +/-360 FEET WEST OF DRIVEWAY FOR HOUSE #5512 Sta. 841+39.4 "A", 26.9' LT. El. 810.66

Str. No. 851
 Inv. El. 801.25
 (Plotted 20' Above Datum)

Str. No. 851
 Inv. El. 799.57
 Bot. Ditch Req'd Rt.

PVI Sta = 851+00.00
 Elev. = 804.80
 VC = 100.00'

PVI Sta = 849+70.00
 Elev. = 806.84
 VC = 120.00'

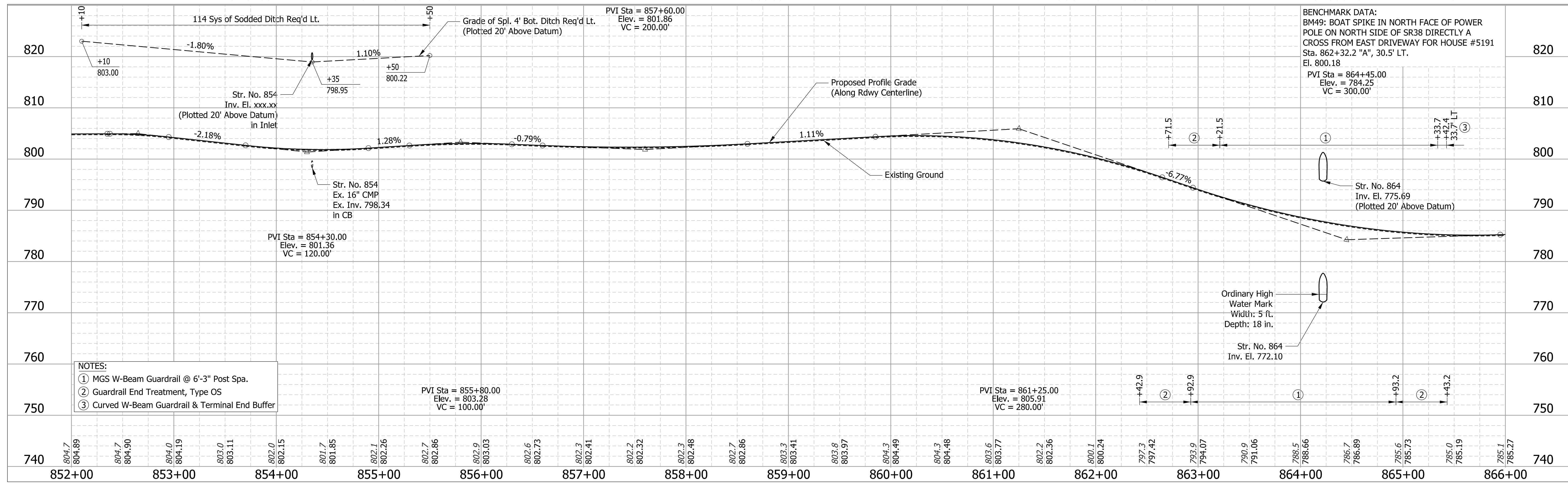
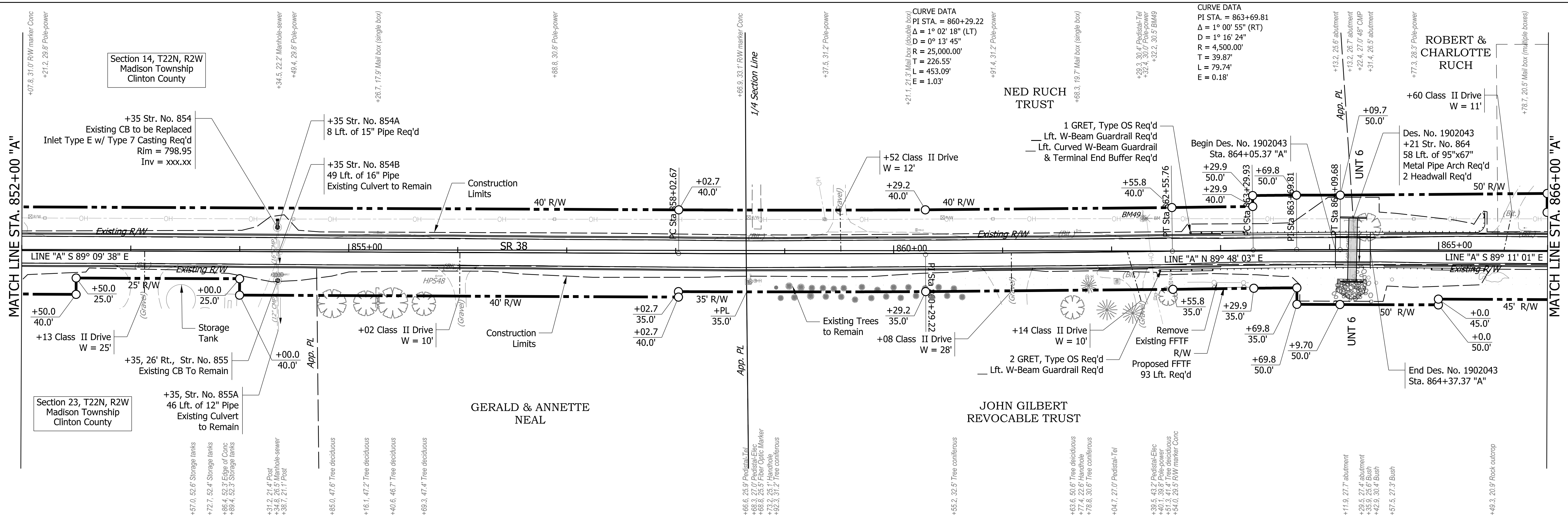


DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

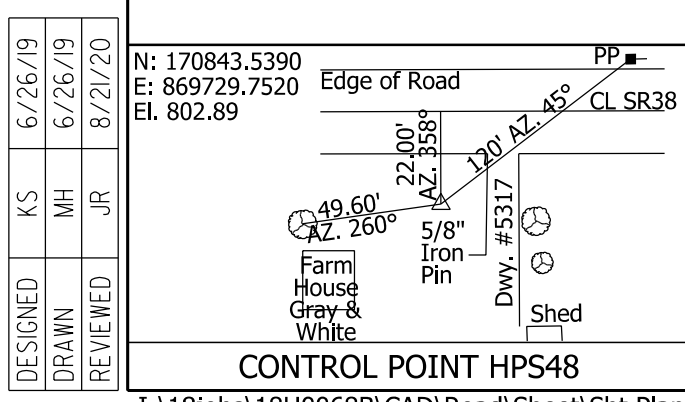
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	8/21/2020	DATE
DESIGNED:	KS	DRAWN:	MH
CHECKED:	JR	CHECKED:	KS

INDIANA
 DEPARTMENT OF TRANSPORTATION
 PLAN AND PROFILE
 STA. 838+00 "A" TO STA. 852+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	80 of 422
CONTRACT	PROJECT
RS-40528	1601074



- NOTES:
- ① MGS W-Beam Guardrail @ 6'-3" Post Spa.
 - ② Guardrail End Treatment, Type OS
 - ③ Curved W-Beam Guardrail & Terminal End Buffer



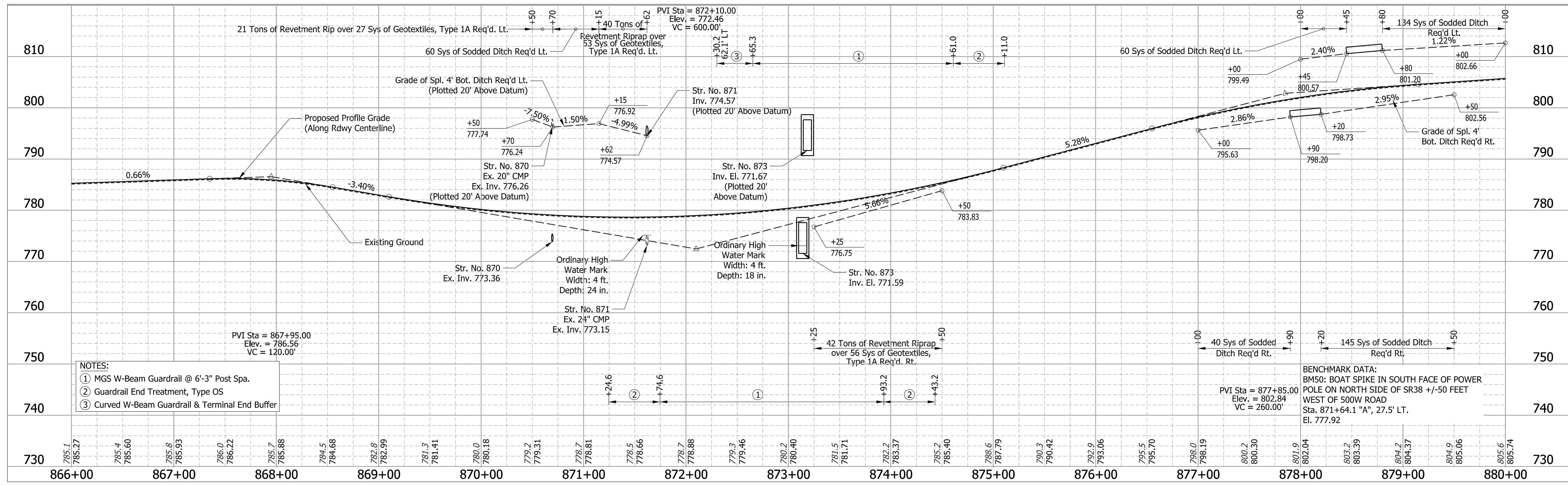
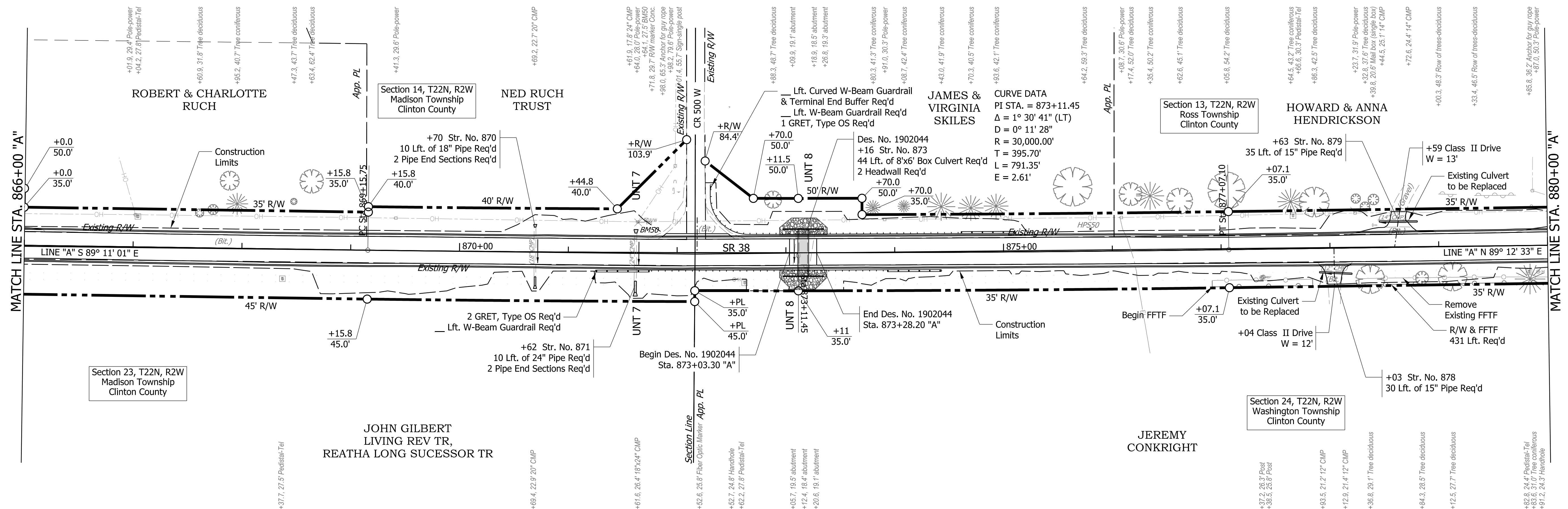
DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
		8/21/2020
DESIGNED: KS	DRAWN: MH	
CHECKED: JR	CHECKED: KS	

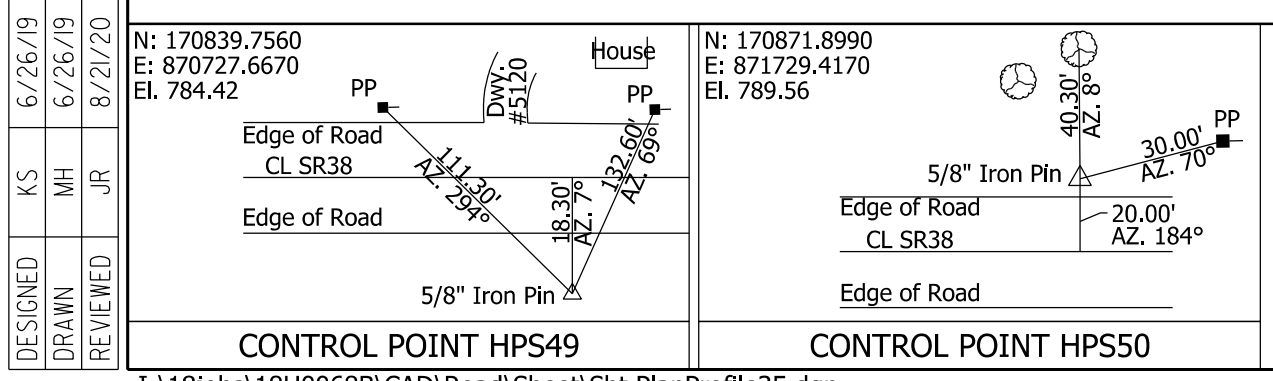
INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 852+00 "A" TO STA. 866+00 "A"

CULVERT ID	BRIDGE FILE
CV 038-012-14.60	1902043
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	81 of 422
CONTRACT	PROJECT
RS-40528	1601074



- NOTES:
- ① MGS W-Beam Guardrail @ 6'-3" Post Spa.
 - ② Guardrail End Treatment, Type OS
 - ③ Curved W-Beam Guardrail & Terminal End Buffer

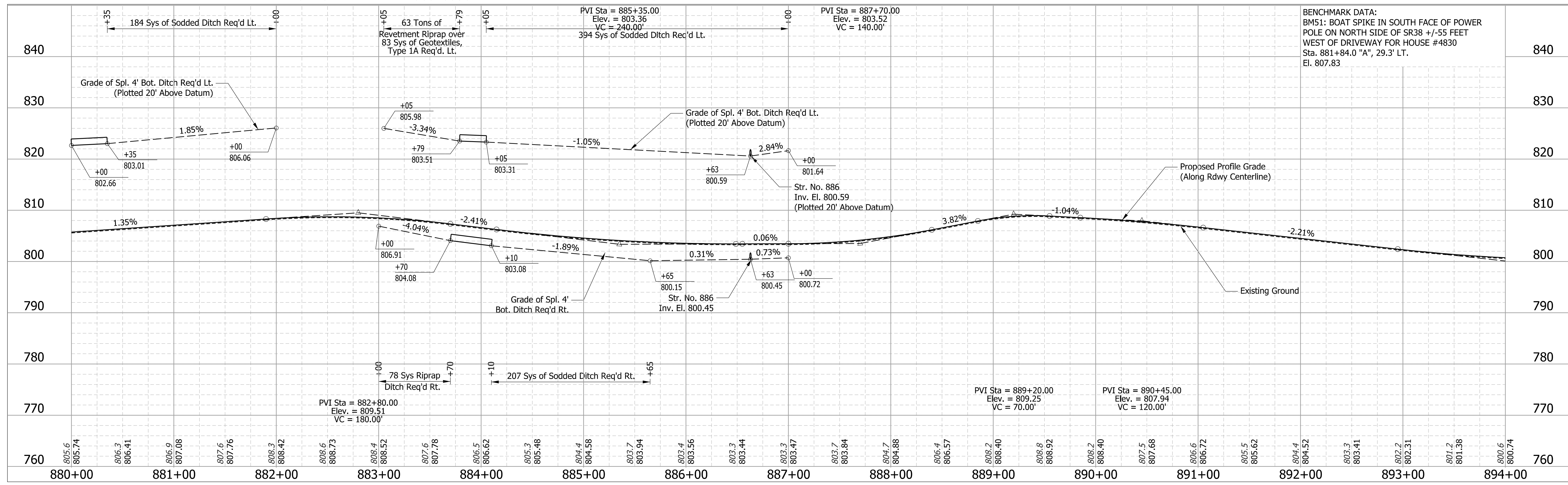
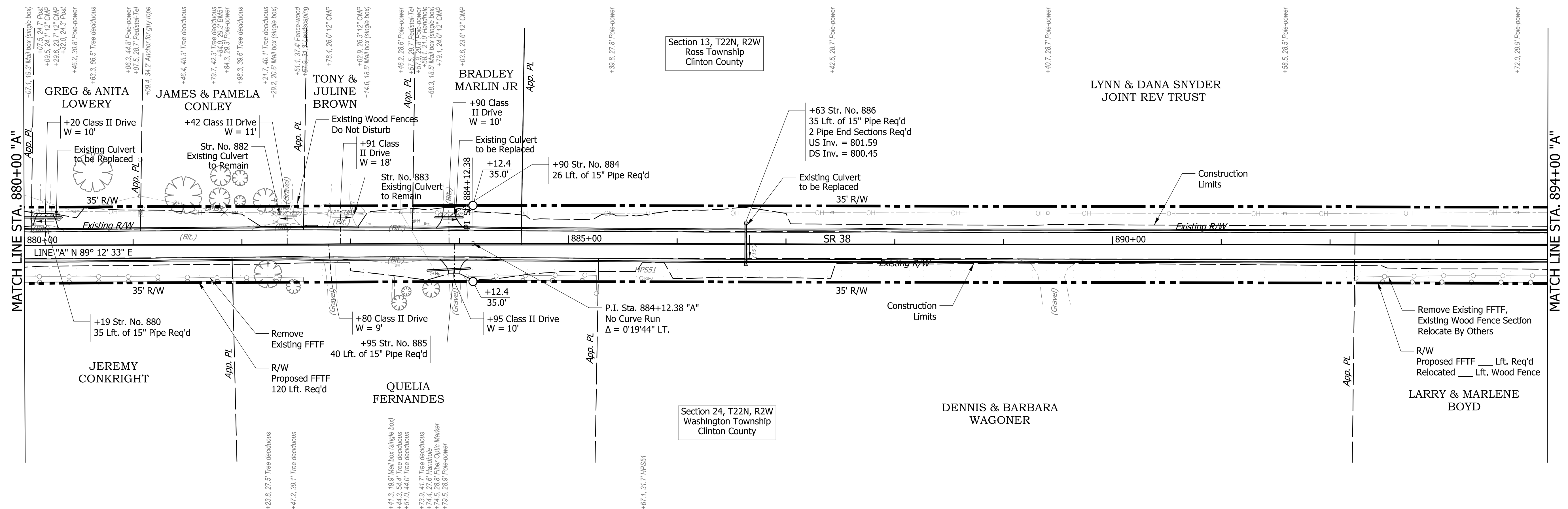


RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
		8/21/2020
DESIGNED: KS	DRAWN: MH	
CHECKED: JR	CHECKED: KS	

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 866+00 "A" TO STA. 880+00 "A"

CULVERT ID	BRIDGE FILE
CV 038-012-14.70	1902044
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	82 of 422
CONTRACT	PROJECT
RS-40528	1601074



DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

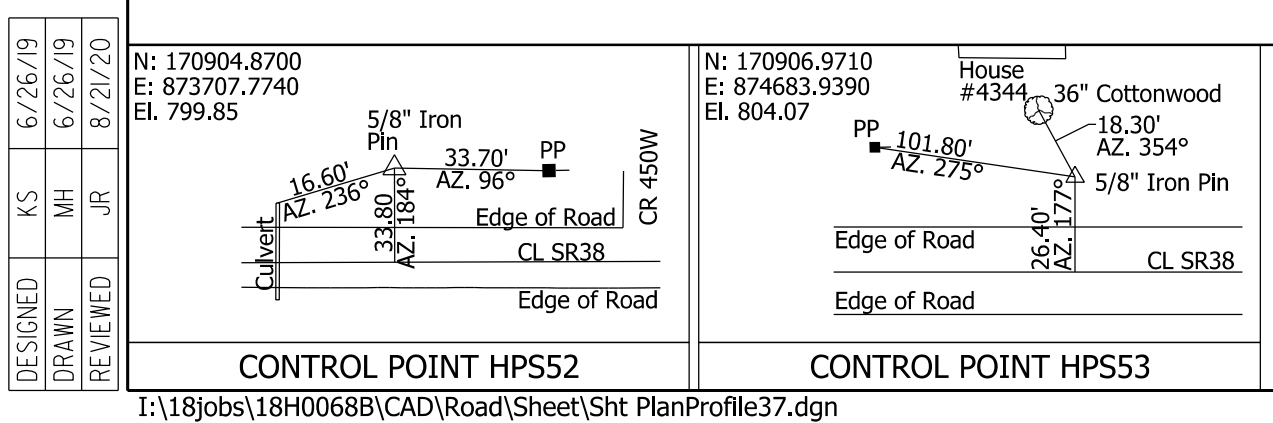
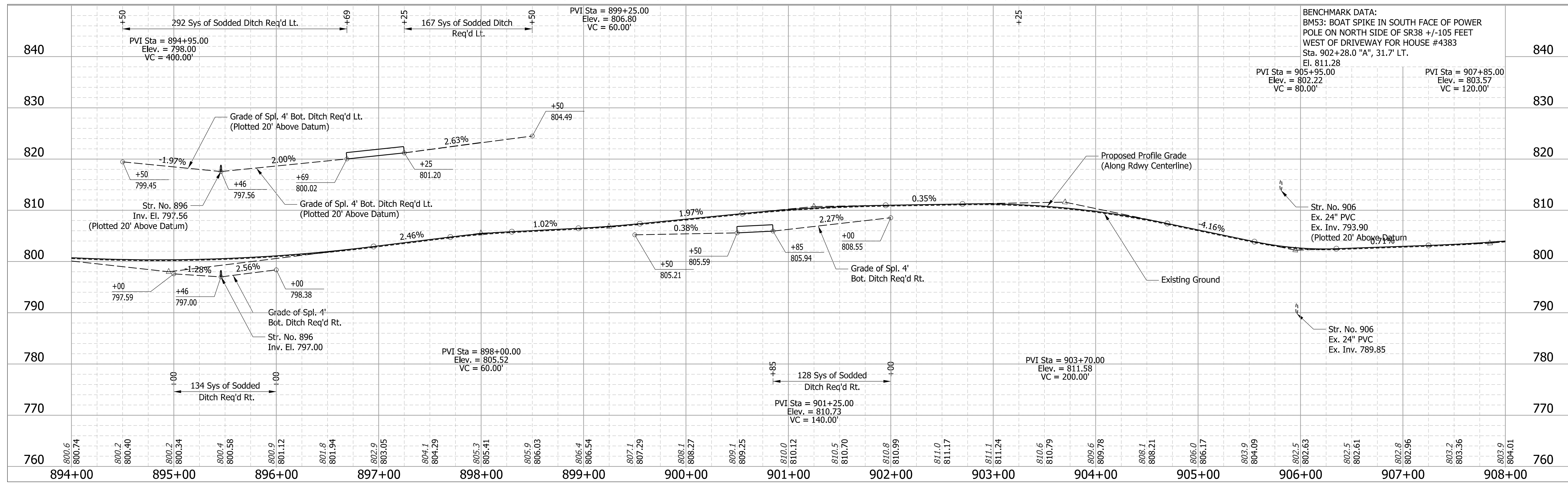
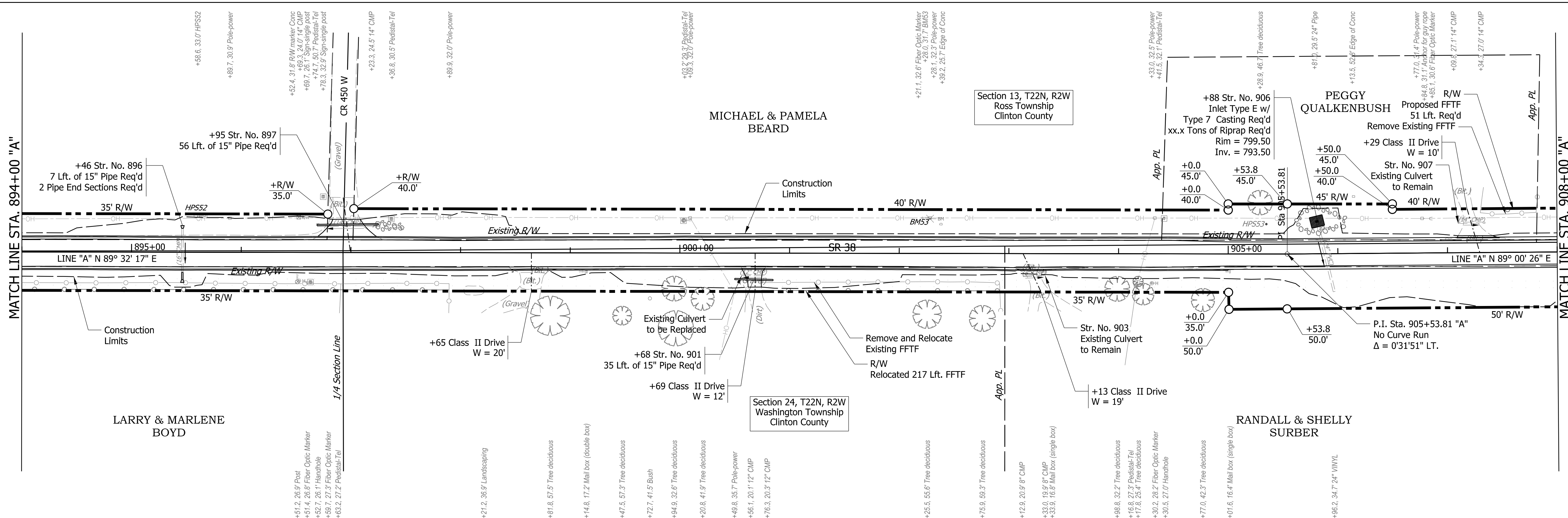
N: 170832.1900
 E: 372716.8080
 El. 801.30
 SR38
 41.20' Az. 294°
 14.90' Az. 15°
 5/8" Iron Pin
 Crop Line
 CONTROL POINT HPS51

RECOMMENDED FOR APPROVAL		8/21/2020
DESIGN ENGINEER		DATE
DESIGNED: KS	DRAWN: MH	
CHECKED: JR	CHECKED: KS	

INDIANA DEPARTMENT OF TRANSPORTATION	
PLAN AND PROFILE STA. 880+00 "A" TO STA. 894+00 "A"	

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SHEETS	
CONTRACT	PROJECT
RS-40528	1601074

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SHEETS	
CONTRACT	PROJECT
RS-40528	1601074



Station	Elevation	Notes
894+00	797.56	Str. No. 896 Inv. El.
895+00	797.00	Grade of Spl. 4' Bot. Ditch
896+00	797.00	Str. No. 896 Inv. El.
898+00	805.52	PVI Sta = 898+00.00
899+00	806.80	PVI Sta = 899+25.00
901+00	810.73	PVI Sta = 901+25.00
903+00	811.58	PVI Sta = 903+70.00
907+00	803.57	PVI Sta = 907+85.00

DESIGNED: KS	DRAWN: MH
CHECKED: JR	CHECKED: KS

INDIANA
DEPARTMENT OF TRANSPORTATION

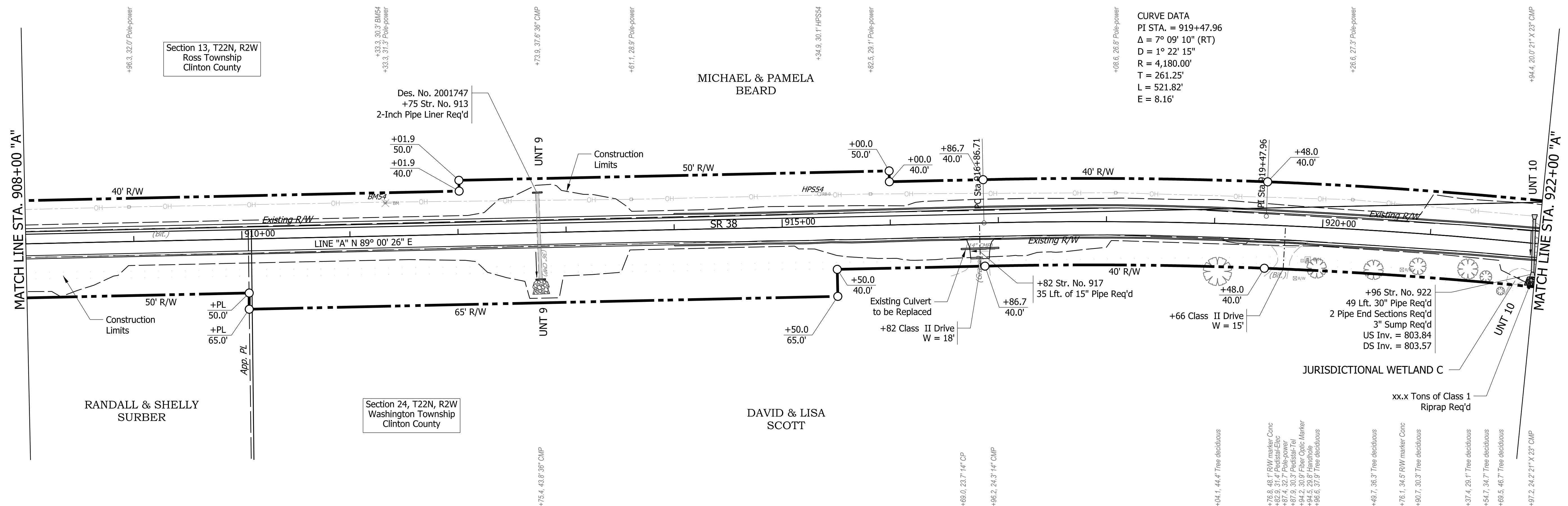
PLAN AND PROFILE
STA. 894+00 "A" TO STA. 908+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	84 of 422
CONTRACT	PROJECT
RS-40528	1601074

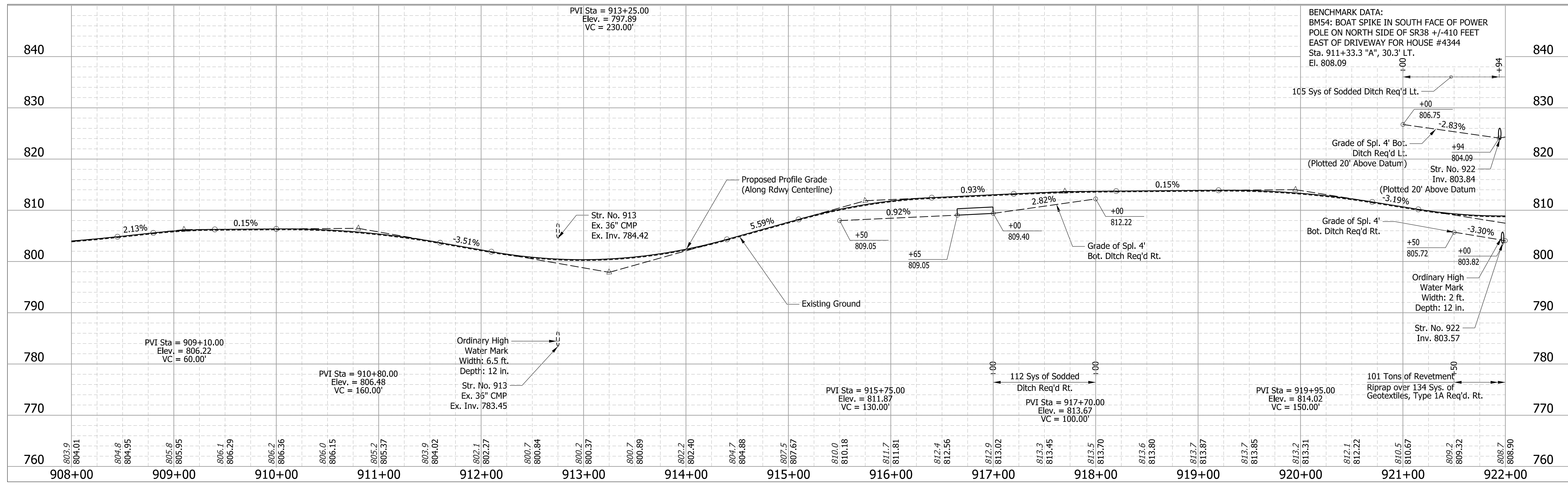
DESIGNED: KS 6/26/19
DRAWN: MH 6/26/19
REVIEWED: JR 8/21/20

N: 170904.8700
E: 873707.7740
El. 799.85

N: 170906.9710
E: 874583.9390
El. 804.07



CURVE DATA
 PI STA. = 919+47.96
 $\Delta = 7^\circ 09' 10''$ (RT)
 $D = 1^\circ 22' 15''$
 $R = 4,180.00'$
 $T = 261.25'$
 $L = 521.82'$
 $E = 8.16'$



BENCHMARK DATA:
 BM54: BOAT SPIKE IN SOUTH FACE OF POWER POLE ON NORTH SIDE OF SR38 +/-410 FEET EAST OF DRIVEWAY FOR HOUSE #4344 Sta. 911+33.3 "A", 30.3' LT. El. 808.09

DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

N: 170926.9540
 E: 375683.6650
 El. 809.81

5/8" Iron Pin
 47.20'
 AZ 56°

Edge of Road
 CL SR38
 Edge of Road
 Sign Post

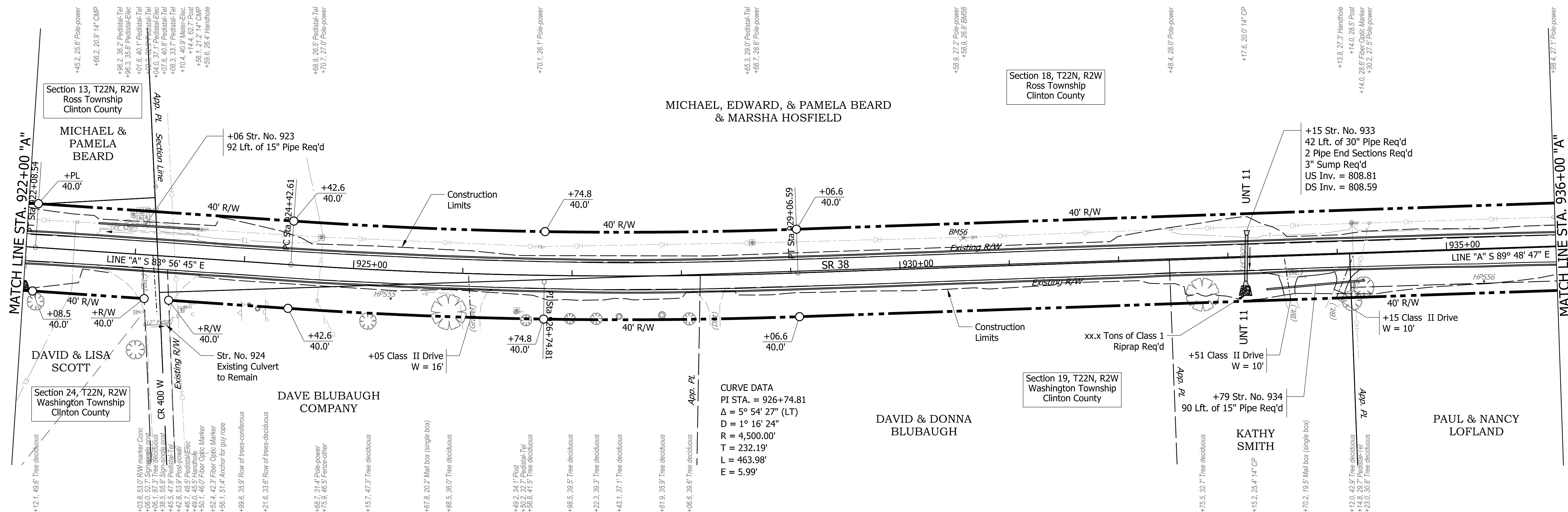
CONTROL POINT HPS54

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	8/21/2020	DATE
DESIGNED: KS	DRAWN: MH		
CHECKED: JR	CHECKED: KS		

INDIANA
 DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
 STA. 908+00 "A" TO STA. 922+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	85 of 422
CONTRACT	PROJECT
RS-40528	1601074



MICHAEL, EDWARD, & PAMELA BEARD
& MARSHA HOSFIELD

Section 18, T22N, R2W
Ross Township
Clinton County

Section 13, T22N, R2W
Ross Township
Clinton County

Section 24, T22N, R2W
Washington Township
Clinton County

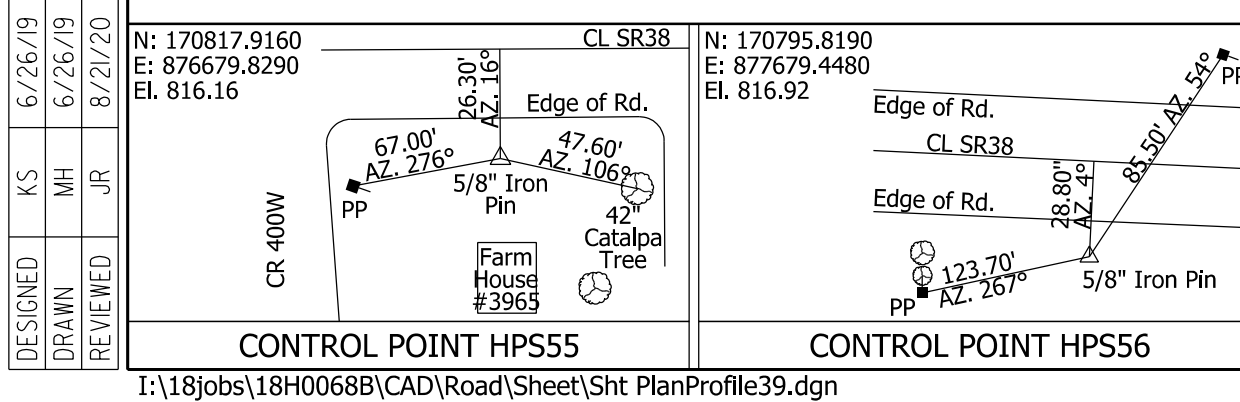
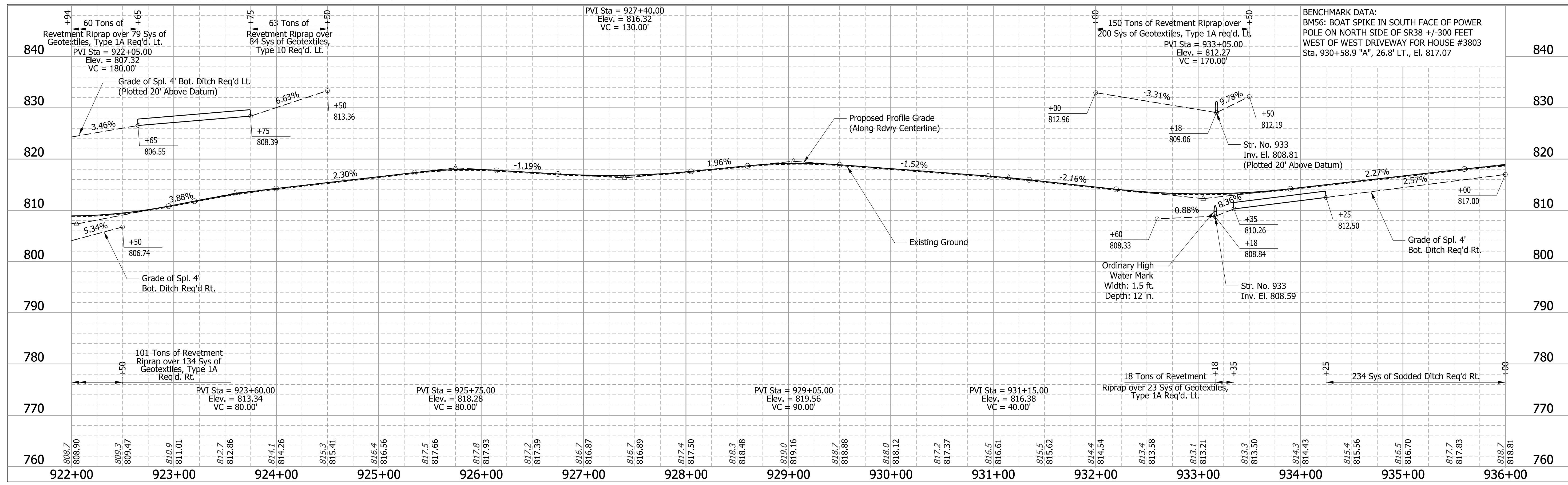
Section 19, T22N, R2W
Washington Township
Clinton County

CURVE DATA
PI STA. = 926+74.81
 $\Delta = 5^\circ 54' 27''$ (LT)
D = 1° 16' 24"
R = 4,500.00'
T = 232.19'
L = 463.98'
E = 5.99'

DAVID & DONNA
BLUBAUGH

KATHY
SMITH

PAUL & NANCY
LOFLAND



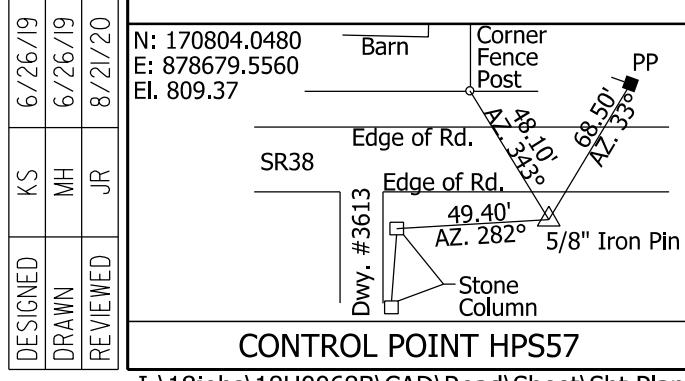
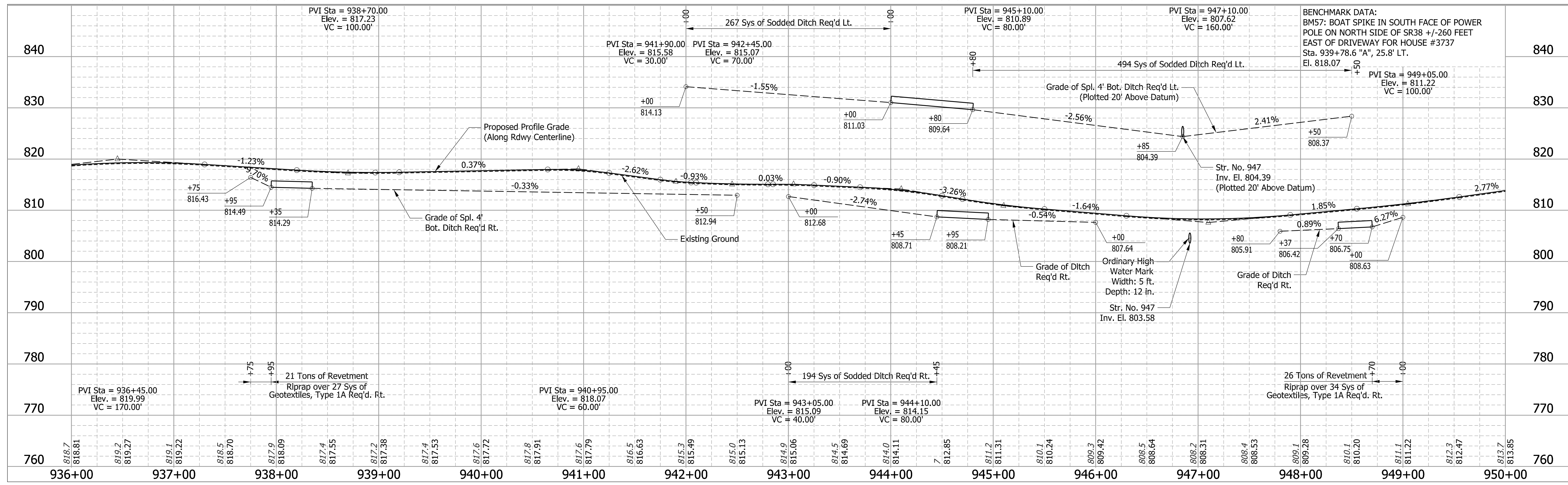
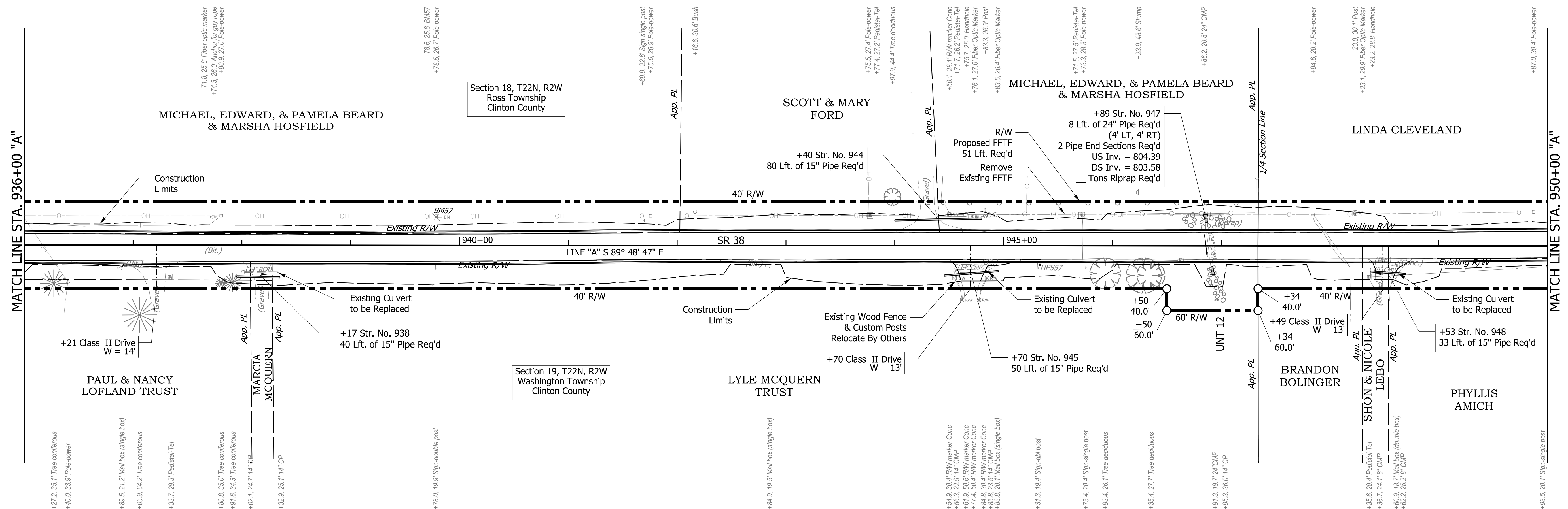
RECOMMENDED FOR APPROVAL
DESIGN ENGINEER: KS
DATE: 8/21/2020

DESIGNED: KS
DRAWN: MH
CHECKED: JR
CHECKED: KS

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 922+00 "A" TO STA. 936+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	86 of 422
CONTRACT	PROJECT
RS-40528	1601074



DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	8/21/2020	DATE
DESIGNED:	KS	DRAWN:	MH
CHECKED:	JR	CHECKED:	KS

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 936+00 "A" TO STA. 950+00 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	87 of 422
CONTRACT	PROJECT
RS-40528	1601074

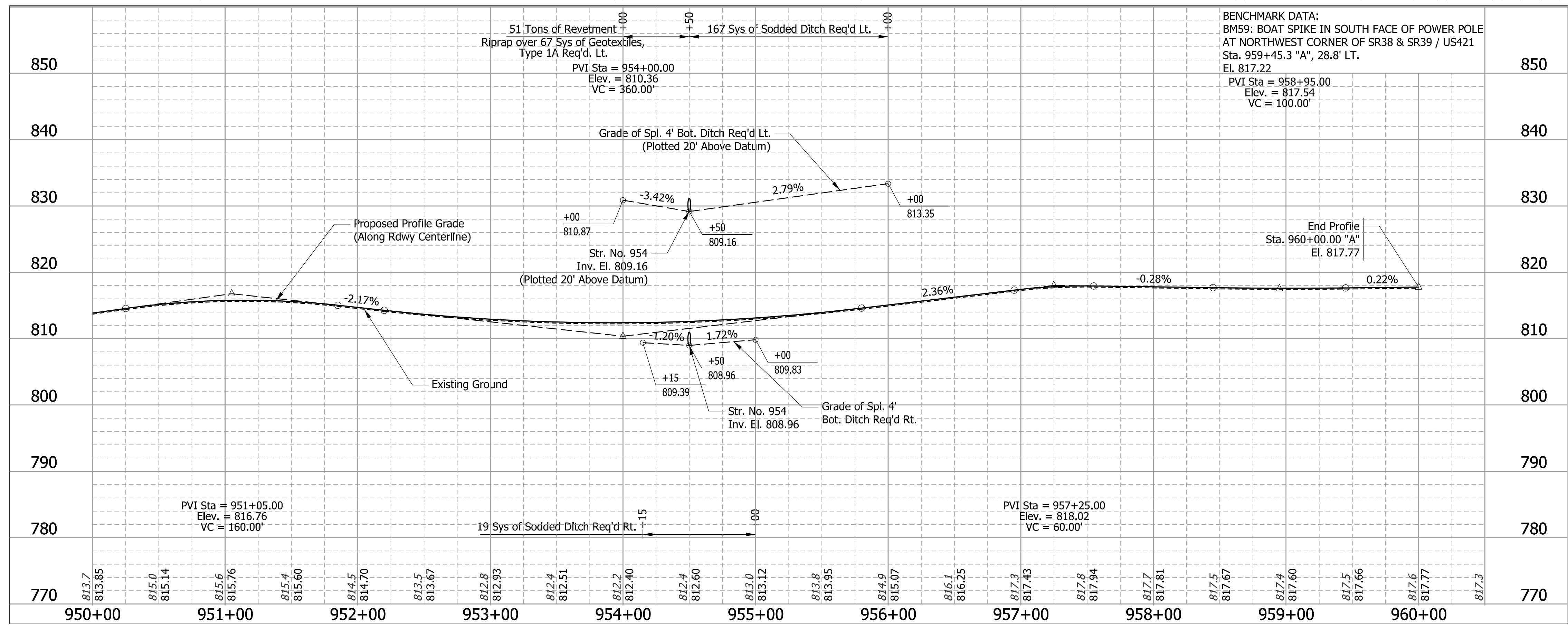
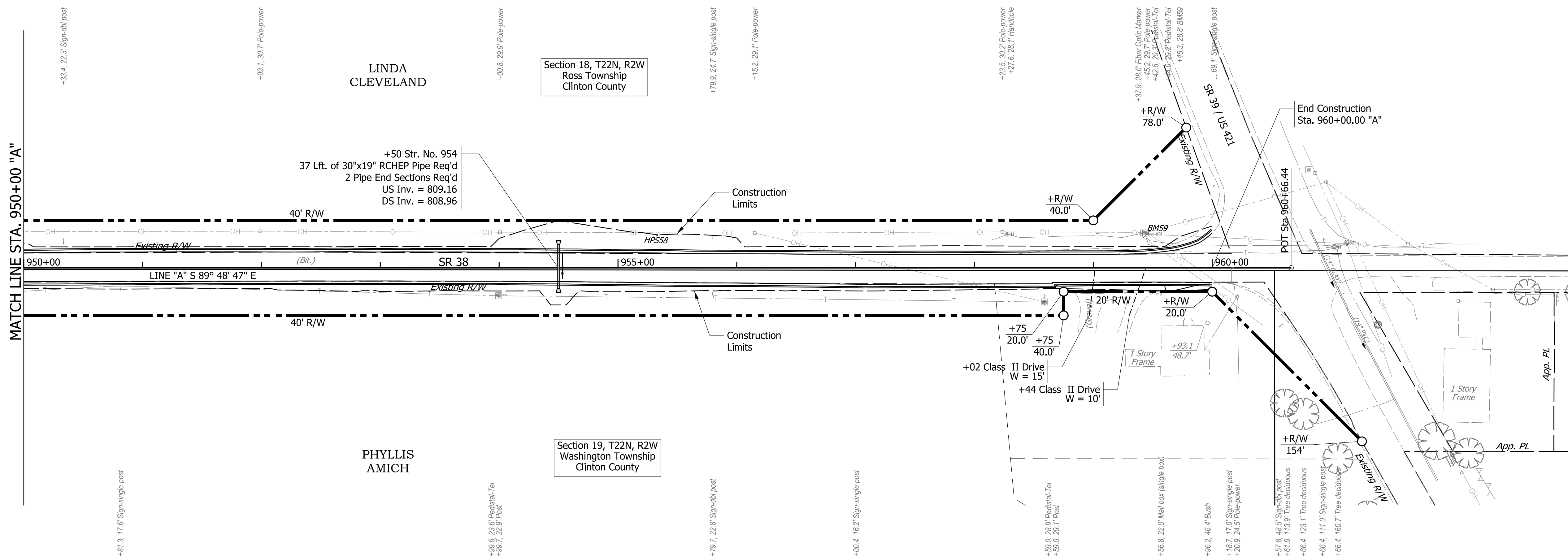
MATCH LINE STA. 950+00 "A"

LINDA CLEVELAND

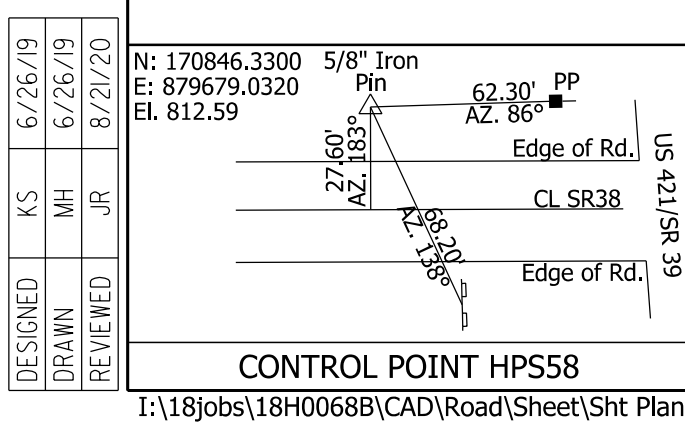
Section 18, T22N, R2W
Ross Township
Clinton County

PHYLLIS AMICH

Section 19, T22N, R2W
Washington Township
Clinton County



BENCHMARK DATA:
BM59: BOAT SPIKE IN SOUTH FACE OF POWER POLE
AT NORTHWEST CORNER OF SR38 & SR39 / US421
Sta. 959+45.3 "A", 28.8' LT.
El. 817.22
PVI Sta = 958+95.00
Elev. = 817.54
VC = 100.00'



DESIGNED	KS	6/26/19
DRAWN	MH	6/26/19
REVIEWED	JR	8/21/20

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	8/21/2020	DATE
DESIGNED: KS	DRAWN: MH		
CHECKED: JR	CHECKED: KS		

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 950+00 "A" TO STA. 960+50 "A"

BRIDGE FILE	
SCALE	DESIGNATION
1" = 50' H 1" = 10' V	1601074
SURVEY BOOK	SHEETS
	88 of 422
CONTRACT	PROJECT
RS-40528	1601074