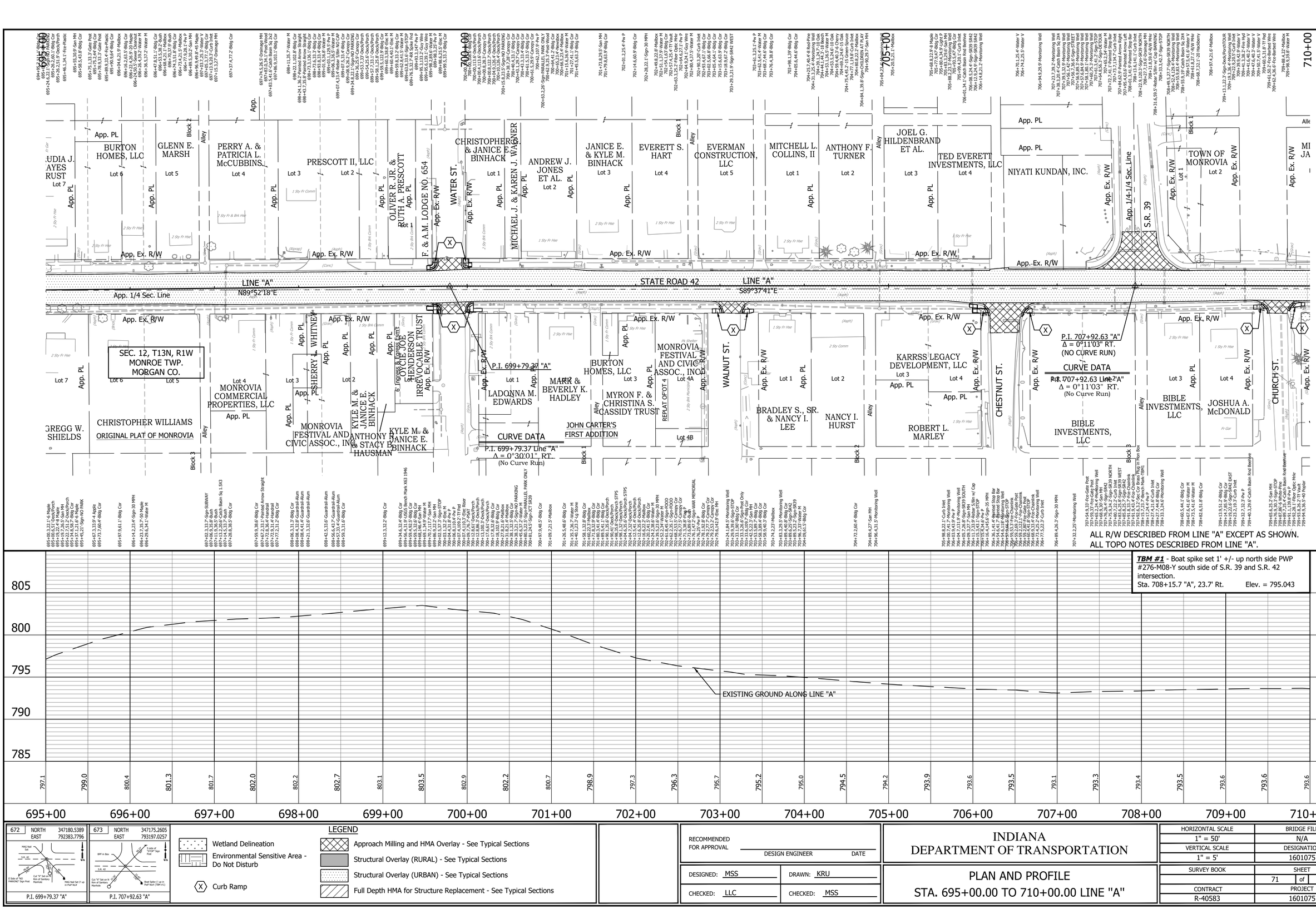


TBM #1 - Boat spike set 1' +/- up north side PWP #276-M08-Y south side of S.R. 39 and S.R. 42 intersection.
Sta. 708+15.7 "A", 23.7' Rt. Elev. = 795.043

ALL R/W DESCRIBED FROM LINE "A" EXCEPT AS SHOWN.
ALL TOPO NOTES DESCRIBED FROM LINE "A".

672 NORTH 347180.5389
EAST 792383.7796

P.I. 699+79.37 "A"

673 NORTH 347175.2605
EAST 793197.0257

P.I. 707+92.63 "A"

LEGEND

- Wetland Delineation
- Environmental Sensitive Area - Do Not Disturb
- Curb Ramp
- Approach Milling and HMA Overlay - See Typical Sections
- Structural Overlay (RURAL) - See Typical Sections
- Structural Overlay (URBAN) - See Typical Sections
- Full Depth HMA for Structure Replacement - See Typical Sections

RECOMMENDED FOR APPROVAL
DESIGN ENGINEER DATE

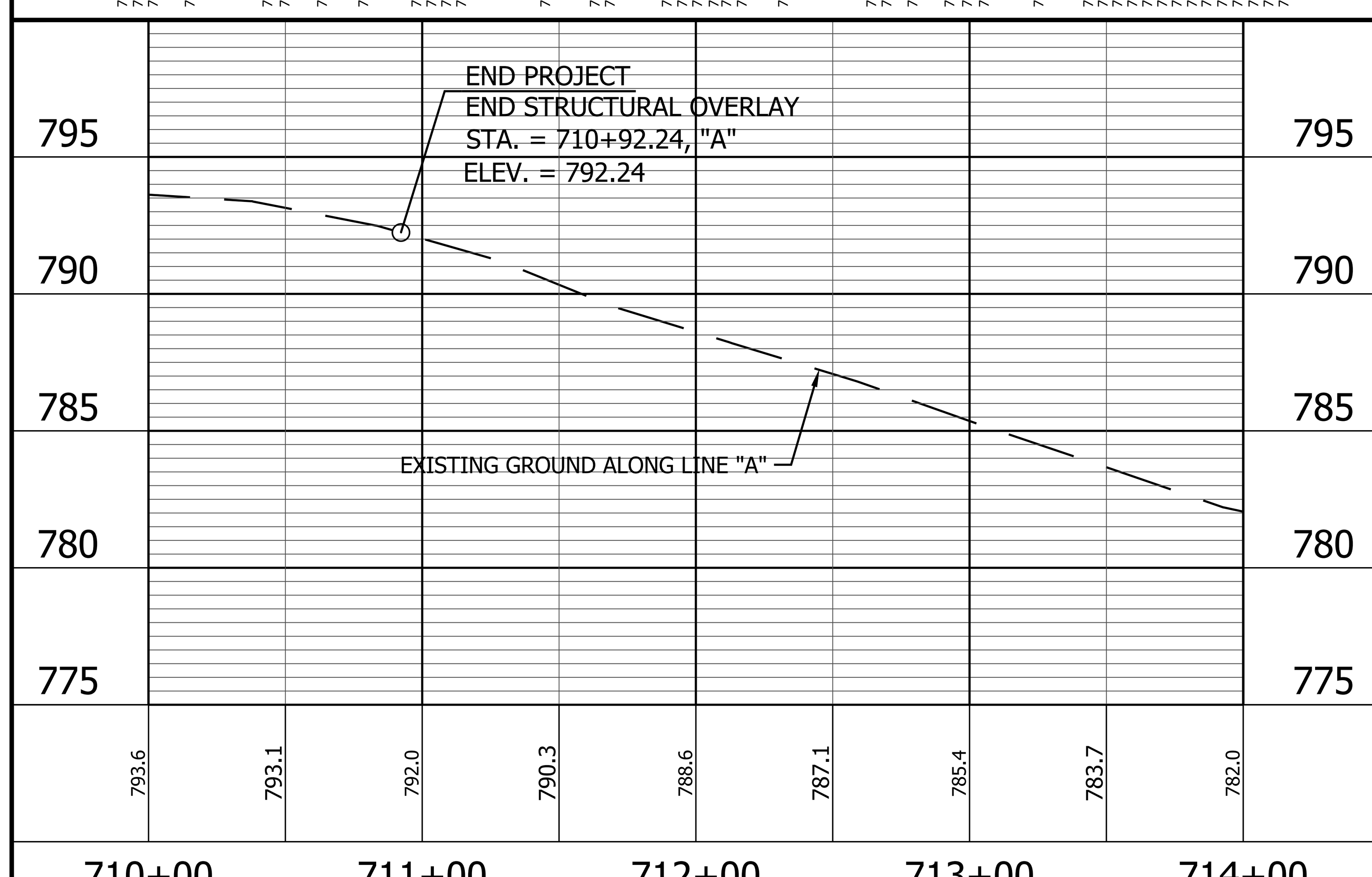
DESIGNED: MSS DRAWN: KRU
CHECKED: LLC CHECKED: MSS

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 695+00.00 TO 710+00.00 LINE "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
1" = 5'	1601075
SURVEY BOOK	SHEET
	71 of 86
CONTRACT	PROJECT
R-40583	1601075

PRINT DATE: 5/2/22
PLOT SCALE: 1:1 EDIT DATE: 4/27/22 - 4:49 PM EDITED BY: MMURRAY DRAWING FILE: P:\19-500-058-1 SR 42 HMA OVERLAY\ACAD\06 PLAN PROF\RD-P&P LINE A-SR42-02.DWG

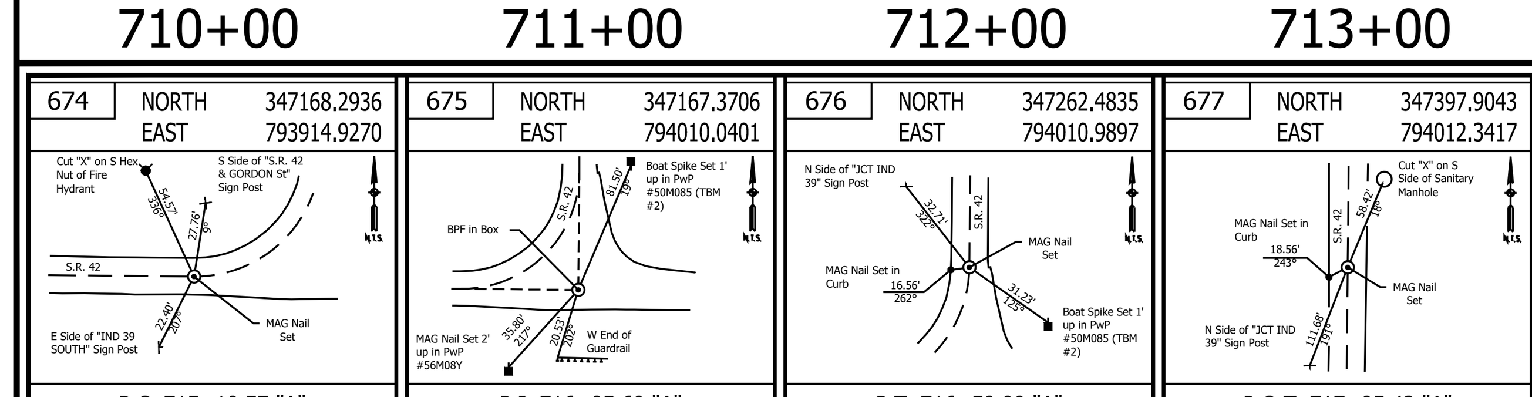


TBM #2 - Boat spike set 1' +/- up west side PWP #50-M08-S N.W. corner S.R. 42 and Gordon Rd.

Sta. 716+46.1 "A", 27.1' Elev. = 782.383

LEGEND

- Wetland Delineation
- Environmental Sensitive Area - Do Not Disturb
- Curb Ramp
- Approach Milling and HMA Overlay - See Typical Sections
- Structural Overlay (RURAL) - See Typical Sections
- Structural Overlay (URBAN) - See Typical Sections
- Full Depth HMA for Structure Replacement - See Typical Sections



RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — DATE

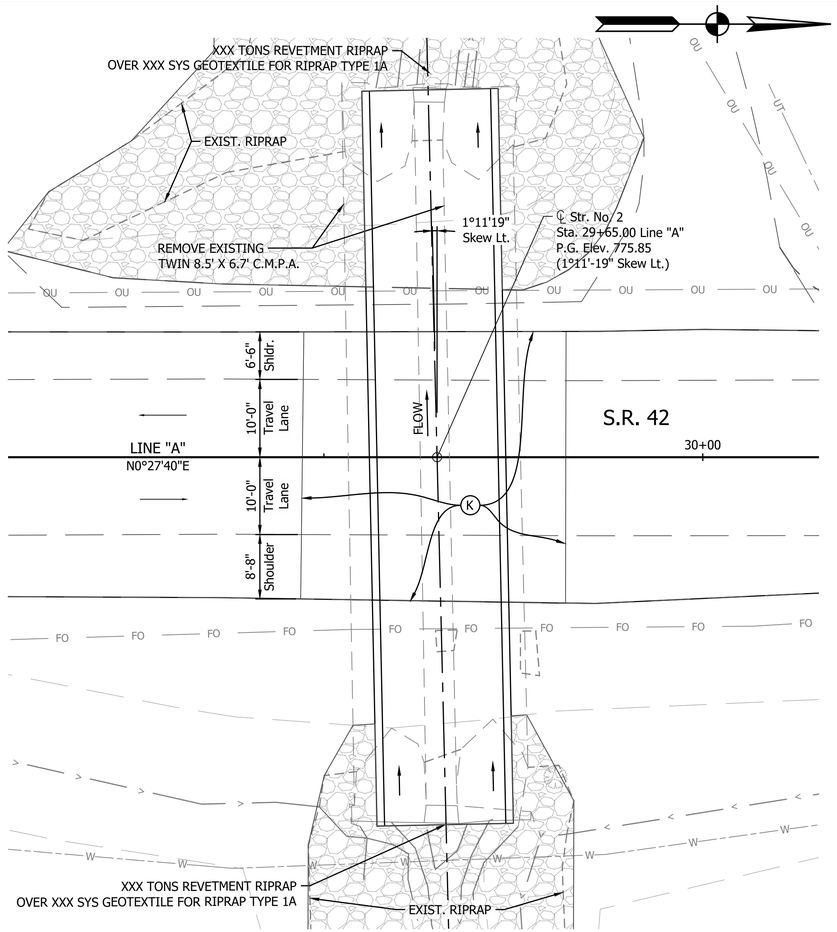
DESIGNED: MSS | DRAWN: KRU
CHECKED: LLC | CHECKED: MSS

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 710+00.00 TO 718+00.00 LINE "A"

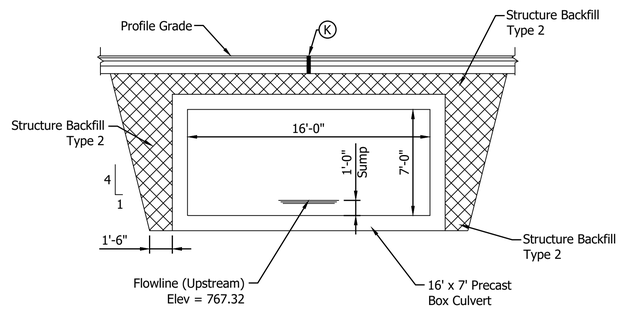
HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
1" = 5'	1601075
SURVEY BOOK	SHEET
	72 of 86
CONTRACT	PROJECT
R-40583	1601075

PRINT DATE: 5/2/22 PLOT SCALE: 1:1 EDIT DATE: 4/27/22 - 4:49 PM EDITED BY: MMURRAY DRAWING FILE: P:\19-500-058-1 SR 42 HMA OVERLAY\ACAD\06 PLAN PROF\RD-P&P LINE A-SR42-02.DWG



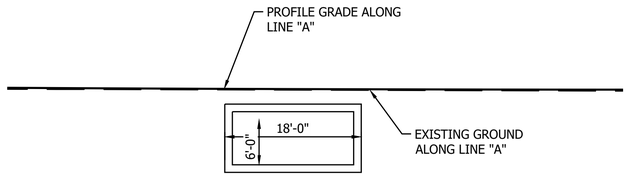
PLAN

SCALE: 1" = 10'



STRUCTURE BACKFILL AT CULVERT

SCALE: 1" = 5'



ELEVATION

SCALE: 1" = 10'

DESIGN DATA

Structure shall be designed for HL-93 loading, in accordance with the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 and subsequent interim.

Dead Load increased 35 PSF for Future Wearing Surface.

HYDRAULIC DATA

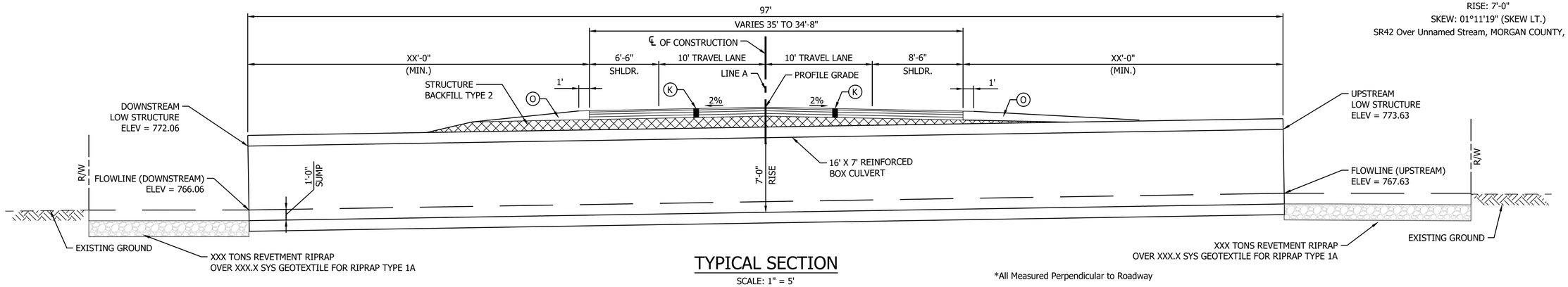
Drainage Area	= 136.7 acres
Q100 Discharge	= 227.52 cfs
Headwater Elevation at Q100	= 770.51 ft
Backwater at Q100	= -0.21 ft
Velocity at Q25	= 3.59 ft/s
Skew	= 0°
Existing Q100 Discharge	= 227.52
Existing Headwater Elevation at Q100	= 770.79
Existing Backwater at Q100	= 0.07
Existing Velocity at Q25	= 7.75

NOTES:

Contractor Shall Verify Existing Flowline Elevation to set the Appropriate Sump Depth.

Reinforcement in the Box Culvert Shall be Epoxy Coated.

Contractor Shall Provide a XXft Undercut (XXX Cys) and Replace the Soil with XX in of Compacted Aggregate, No. 53 (XXX Tons) on top of XX in of Compacted Aggregate, No. 5 (XXX Cys) on top of Geotextiles, Type 2B (XXX Sys)



TYPICAL SECTION

SCALE: 1" = 5'

*All Measured Perpendicular to Roadway

REINFORCED CONCRETE BOX STRUCTURE

SPAN: 16'-0"
RISE: 7'-0"
SKEW: 01°11'19" (SKEW LT.)
SR42 Over Unnamed Stream, MORGAN COUNTY, INDIANA

LEGEND

(K) Full Depth HMA for Structure Replacement

(O) Compacted Aggregate, No. 53

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: YZ DRAWN: CK

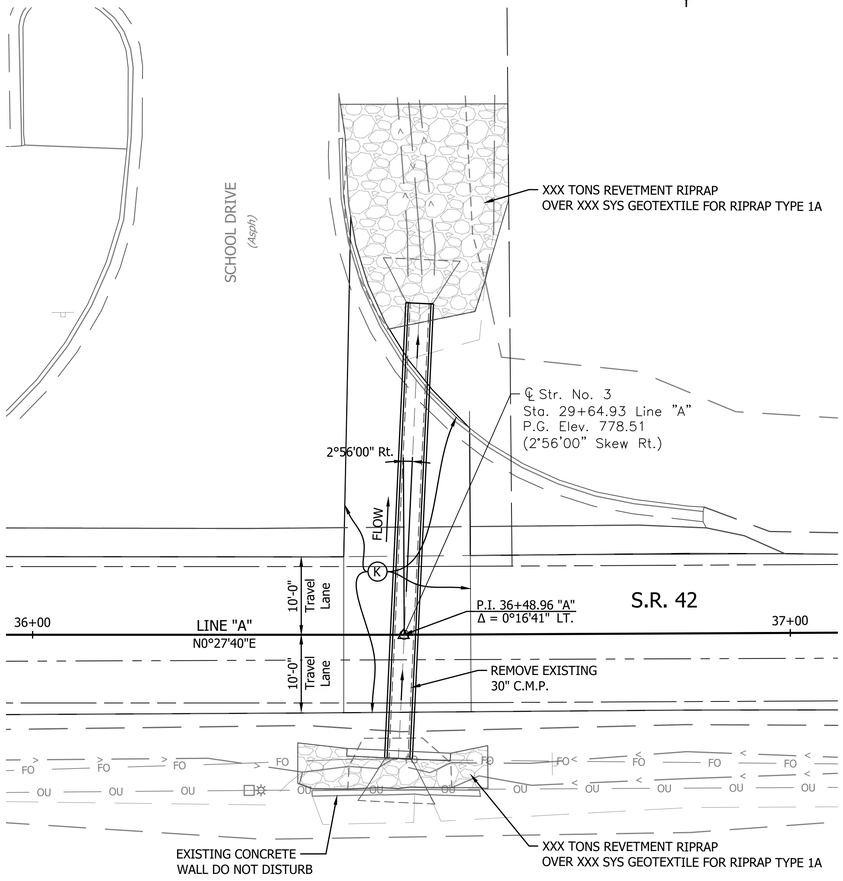
CHECKED: YZ CHECKED: MRM

INDIANA
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE 2 BOX CULVERT

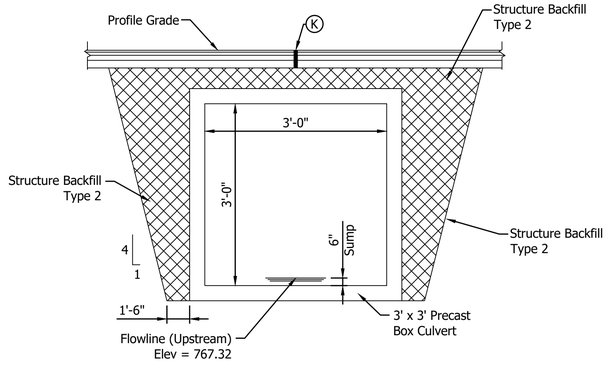
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	NA
VERTICAL SCALE	DESIGNATION
AS NOTED	2001548
SURVEY BOOK	SHEET
	73 of 86
CONTRACT	PROJECT
R-40583	1601075

PRINT DATE: 5/2/22
PLOT SCALE: 1:1 EDIT DATE: 4/28/22 - 3:57 PM EDITED BY: MMURRAY DRAWING FILE: P:\19-500-058-1 SR 42 HMA OVERLAY\ACAD\103 GENERAL PLAN\RD-GP-CULVERT 2.DWG



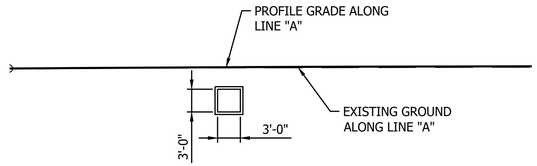
PLAN

SCALE: 1" = 10'



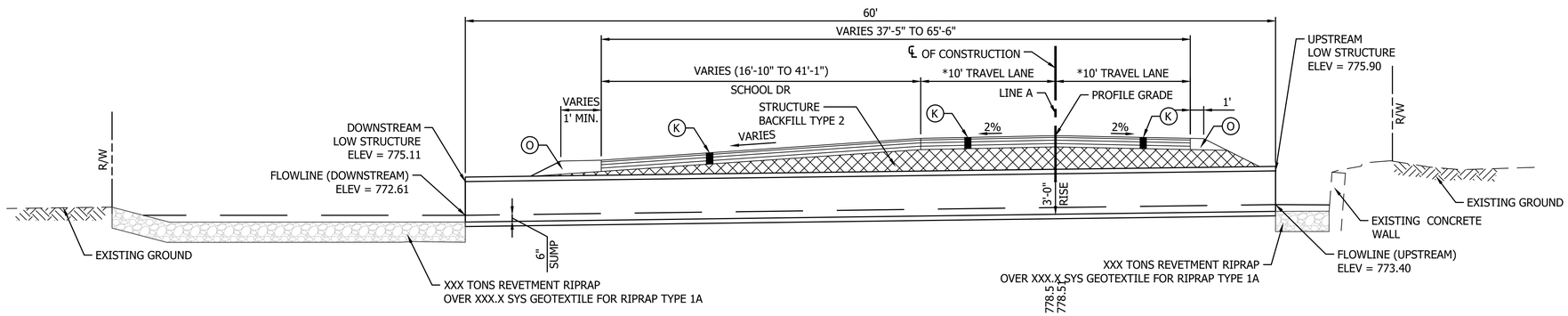
STRUCTURE BACKFILL AT CULVERT

NOT TO SCALE



ELEVATION

SCALE: 1" = 10'



TYPICAL SECTION

SCALE: 1" = 5'

*All Measured Perpendicular to Roadway

DESIGN DATA

Structure shall be designed for HL-93 loading, in accordance with the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 and subsequent interim.

Dead Load increased 35 PSF for Future Wearing Surface.

HYDRAULIC DATA

Drainage Area	= 136.7 acres
Q100 Discharge	= 227.52 cfs
Headwater Elevation at Q100	= 770.51 ft
Backwater at Q100	= -0.21 ft
Velocity at Q25	= 3.59 ft/s
Skew	= 0°
Existing Q100 Discharge	= 227.52
Existing Headwater Elevation at Q100	= 770.79
Existing Backwater at Q100	= 0.07
Existing Velocity at Q25	= 7.75

NOTES:

Contractor Shall Verify Existing Flowline Elevation to set the Appropriate Sump Depth.

Reinforcement in the Box Culvert Shall be Epoxy Coated.

Contractor Shall Provide a XXft Undercut (XXX Cys) and Replace the Soil with XX in of Compacted Aggregate, No. 53 (XXX Tons) on top of XX in of Compacted Aggregate, No. 5 (XXX Cys) on top of Geotextiles, Type 2B (XXX Sys)

REINFORCED CONCRETE BOX STRUCTURE

SPAN: 3'-0"
RISE: 3'-0"
SKEW: 02°56'00" (SKEW RT.)
SR42 Over UNT to Lake Creek, MORGAN COUNTY, INDIANA

LEGEND

(K) Full Depth HMA for Structure Replacement

(O) Compacted Aggregate, No. 53

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: MSS DRAWN: ----

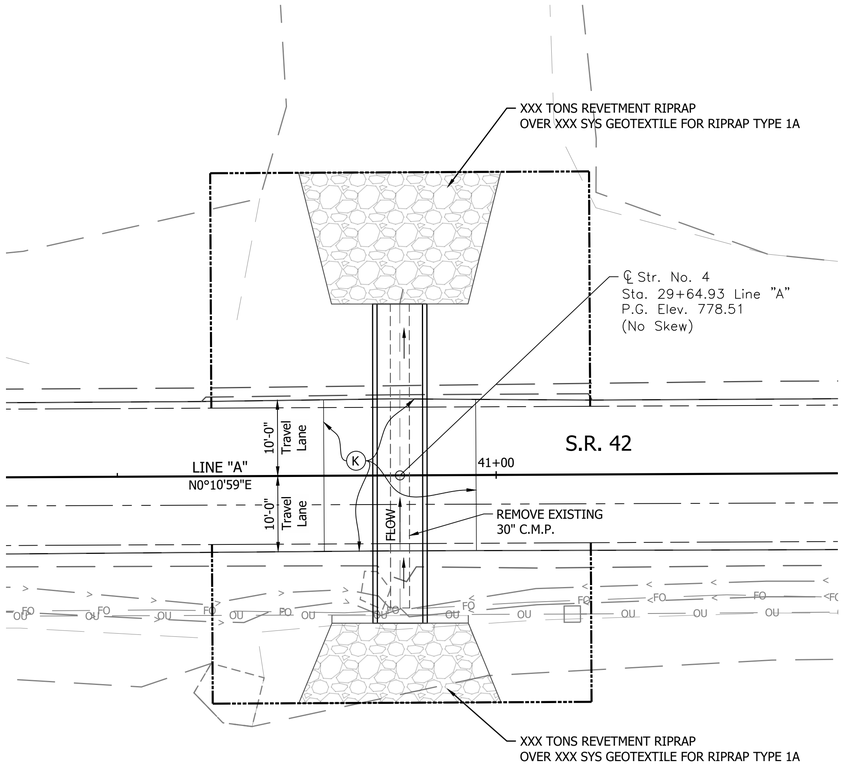
CHECKED: LLC CHECKED: MSS

INDIANA
DEPARTMENT OF TRANSPORTATION

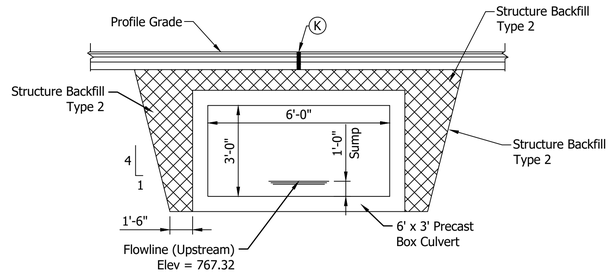
GENERAL PLAN
STRUCTURE 3 BOX CULVERT

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	NA
VERTICAL SCALE	DESIGNATION
AS NOTED	2001548
SURVEY BOOK	SHEET
	74 of 86
CONTRACT	PROJECT
R-40583	1601075

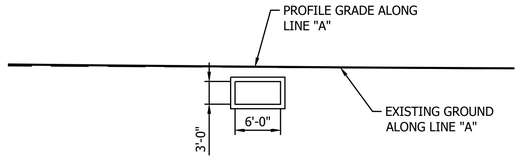
PRINT DATE: 5/2/22
PLOT SCALE: 1:1 EDIT DATE: 4/29/22 - 2:17 PM EDITED BY: MMURRAY DRAWING FILE: P:\19-500-058=1 SR 42 HMA OVERLAY\ACAD\103 GENERAL PLAN\RD-GP-CULVERT 3.DWG



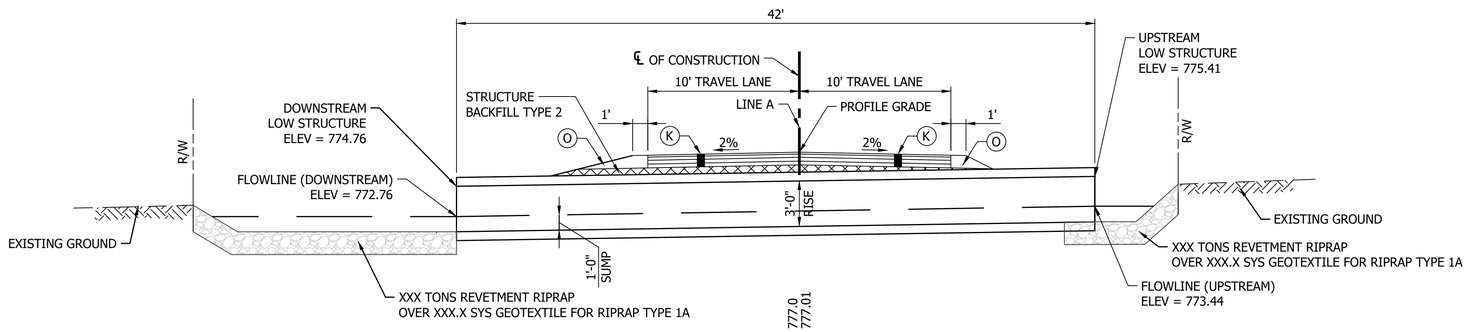
PLAN
SCALE: 1" = 10'



STRUCTURE BACKFILL AT CULVERT
NOT TO SCALE



ELEVATION
SCALE: 1" = 10'



TYPICAL SECTION
SCALE: 1" = 5'

DESIGN DATA
Structure shall be designed for HL-93 loading, in accordance with the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 and subsequent interim.

Dead Load increased 35 PSF for Future Wearing Surface.

HYDRAULIC DATA

Drainage Area	= 136.7 acres
Q100 Discharge	= 227.52 cfs
Headwater Elevation at Q100	= 770.51 ft
Backwater at Q100	= -0.21 ft
Velocity at Q25	= 3.59 ft/s
Skew	= 0°
Existing Q100 Discharge	= 227.52
Existing Headwater Elevation at Q100	= 770.79
Existing Backwater at Q100	= 0.07
Existing Velocity at Q25	= 7.75

NOTES:

Contractor Shall Verify Existing Flowline Elevation to set the Appropriate Sump Depth.

Reinforcement in the Box Culvert Shall be Epoxy Coated.

Contractor Shall Provide a XXft Undercut (XXX Cys) and Replace the Soil with XX in of Compacted Aggregate, No. 53 (XXX Tons) on top of XX in of Compacted Aggregate, No. 5 (XXX Cys) on top of Geotextiles, Type 2B (XXX Sys)

REINFORCED CONCRETE BOX STRUCTURE
SPAN: 6'-0"
RISE: 3'-0"
SKEW: 00°00'00" (NO SKEW)
SR42 Over Unnamed Tributary, MORGAN COUNTY, INDIANA

LEGEND

(K) Full Depth HMA for Structure Replacement

(O) Compacted Aggregate, No. 53

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: MSS DRAWN: ----

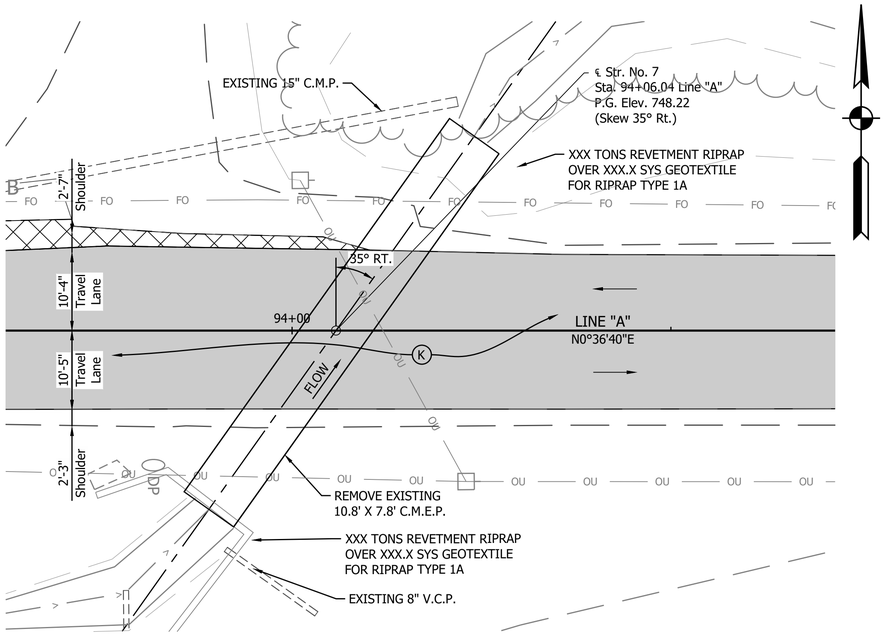
CHECKED: LLC CHECKED: MSS

INDIANA DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE 4 BOX CULVERT

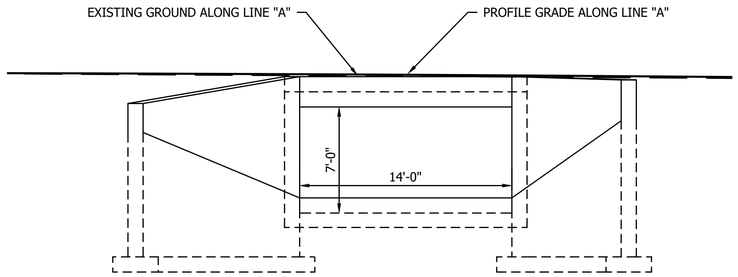
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	NA
VERTICAL SCALE	DESIGNATION
AS NOTED	2001548
SURVEY BOOK	SHEET
	75 of 86
CONTRACT	PROJECT
R-40583	1601075

PRINT DATE: 5/2/22
PLOT SCALE: 1:1 EDIT DATE: 4/28/22 - 4:03 PM EDITED BY: MMURRAY DRAWING FILE: P:\19-500-058-1 SR 42 HMA OVERLAY\ACAD\103 GENERAL PLAN\RD-GP-CULVERT 4.DWG



PLAN

SCALE: 1" = 10'

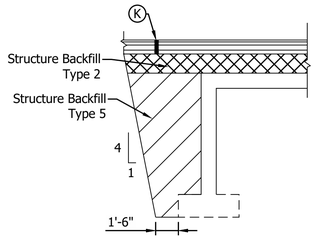


ELEVATION

SCALE: 1" = 5'

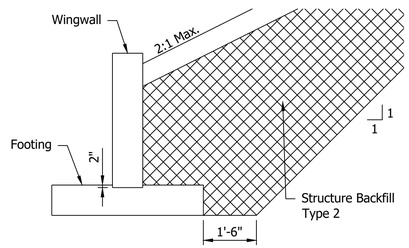
WINGWALL TABLE			
Wing	"L"	Top of Wall Elevation	Area of Wingwall
A	XX FT	XXX.XX	XXX.X FT^2
B	XX FT	XXX.XX	XXX.X FT^2
C	XX FT	XXX.XX	XXX.X FT^2
D	XX FT	XXX.XX	XXX.X FT^2
		TOTAL WING AREA ***	XXX.X FT^2

*** ASSUMES DOWNSTREAM BOTTOM WING AT ELEV. XXX.XX
(X" BELOW TOP OF FOOTING)
ASSUMES UPSTREAM BOTTOM WING AT ELEV. XXX.XX
(X" BELOW TOP OF FOOTING)
ESTIMATED QUANTITY OF HEADWALLS = XX FT^2



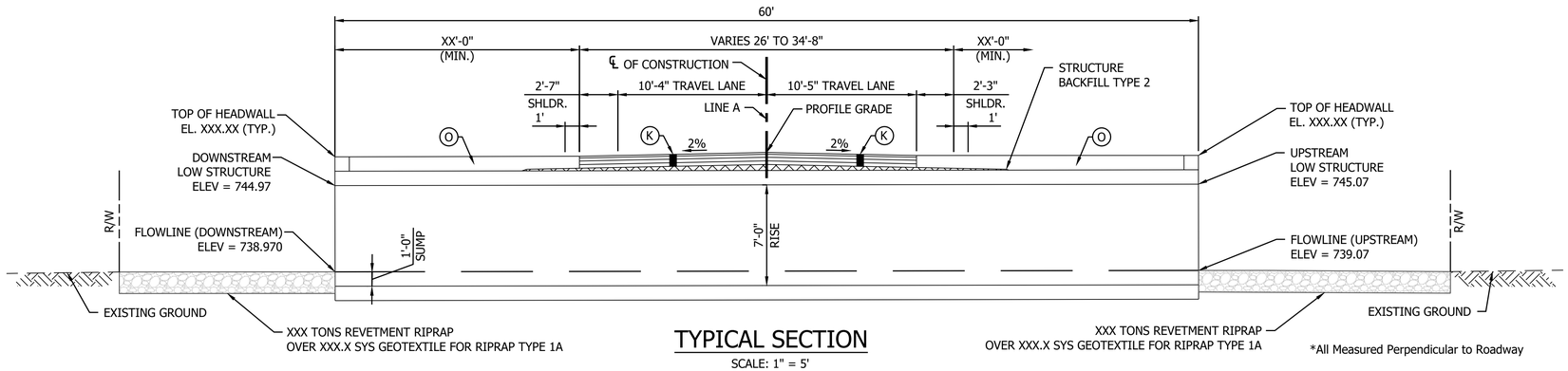
TYPICAL EXCAVATION STRUCTURE BACKFILL LIMIT AT STRUCTURE

SCALE: 1" = 5'



TYPICAL EXCAVATION STRUCTURE BACKFILL LIMIT AT WINGWALLS

SCALE: 1" = 5'



TYPICAL SECTION

SCALE: 1" = 5'

*All Measured Perpendicular to Roadway

SOIL PARAMETERS FOR WINGWALL DESIGN	
X,XXX (B = X ft) X,XXX (B = X ft) X,XXX (B = X ft) X,XXX (B = X ft)	Factored Bearing Resistance (psf)
0.XX	Resistance Factor (φ)
X,XXX (B = X ft) X,XXX (B = X ft) X,XXX (B = X ft) X,XXX (B = X ft)	Nominal Bearing Resistance (psf)
XX	Friction Angle between Wingwall and Structure Backfill (Type II) (δ)
0.X	Friction Factor between Footing and Foundation Soil
XX	Cohesion of Foundation Soil (psf)
XX	Adhesion of Foundation Soil (psf)
XX	Internal Friction Angle of Foundation Soil (Øb)
XXX	Estimated Unit Weight of Structure Backfill, moist/saturated (pcf)

*Varies depending on width of foundation (B). Interpolation between provided values is permitted

DESIGN DATA

Structure shall be designed for HL-93 loading, in accordance with the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 and subsequent interim.

Dead Load increased 35 PSF for Future Wearing Surface.

HYDRAULIC DATA

Drainage Area	= XXX acres
Q100 Discharge	= XX.X cfs
Headwater Elevation at Q100	= XXX.XX ft
Backwater at Q100	= X.XX ft
Velocity at Q100	= X.XX ft/s
Velocity at Q25	= X.XX ft/s
Skew	= X°
Existing Q100 Discharge	= XX
Existing Headwater Elevation at Q100	= XX
Existing Backwater at Q100	= XX
Existing Velocity at Q25	= XX

NOTES:

Contractor Shall Verify Existing Flowline Elevation to set the Appropriate Sump Depth.

Reinforcement in the Box Culvert Shall be Epoxy Coated.

Contractor Shall Provide a XXft Undercut (XXX Cys) and Replace the Soil with XX in of Compacted Aggregate, No. 53 (XXX Tons) on top of XX in of Compacted Aggregate, No. 5 (XXX Cys) on top of Geotextiles, Type 2B (XXX Sys)

REINFORCED CONCRETE BOX STRUCTURE

SPAN: 14'-0"
RISE: 7'-0"
SKEW: 35°00'00" RT.
SR42 over XXXXXX LEGAL DRAIN MORGAN COUNTY, INDIANA

LEGEND

(K) Full Depth HMA for Structure Replacement

(O) Compacted Aggregate, No. 53

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: MSS DRAWN: ----

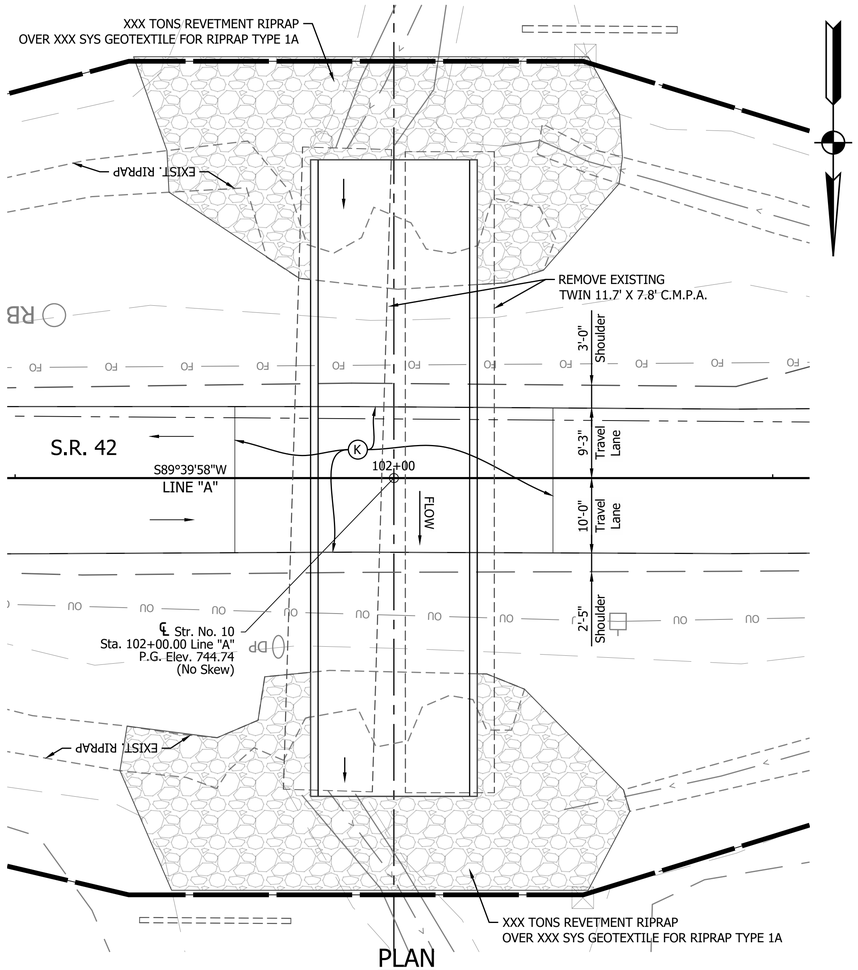
CHECKED: LLC CHECKED: MSS

INDIANA DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE 7 BOX CULVERT

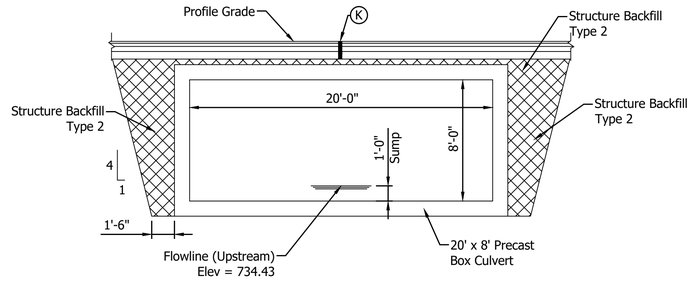
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
AS NOTED	1800121
SURVEY BOOK	SHEET
	76 of 86
CONTRACT	PROJECT
R-40583	1601075

PRINT DATE: 5/2/22
PLOT SCALE: 1:1 EDIT DATE: 4/28/22 - 11:00 AM EDITED BY: MMURRAY DRAWING FILE: P:\19-500-058-1 SR 42 HMA OVERLAY\ACAD\103 GENERAL PLAN\RD-GP-CULVERT 7.DWG



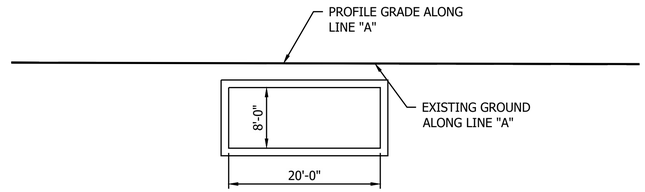
PLAN

SCALE: 1" = 10'



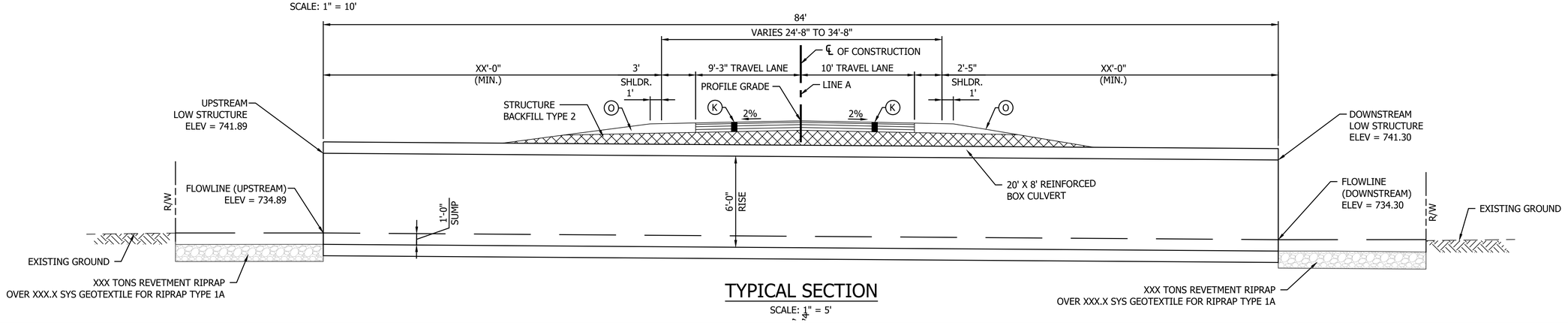
STRUCTURE BACKFILL AT CULVERT

SCALE: 1" = 5'



ELEVATION

SCALE: 1" = 10'



TYPICAL SECTION

SCALE: 1" = 5'

DESIGN DATA

Structure shall be designed for HL-93 loading, in accordance with the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 and subsequent interim.

Dead Load increased 35 PSF for Future Wearing Surface.

HYDRAULIC DATA

Drainage Area	= 550.7 acres
Q100 Discharge	= 694.17 cfs
Headwater Elevation at Q100	= 740.31 ft
Backwater at Q100	= 1.79 ft
Velocity at Q25	= 7.39 ft/s
Skew	= 0°
Existing Q100 Discharge	= 694.17
Existing Headwater Elevation at Q100	= 740.71
Existing Backwater at Q100	= 2.19
Existing Velocity at Q25	= 6.70

NOTES:

Contractor Shall Verify Existing Flowline Elevation to set the Appropriate Sump Depth.

Reinforcement in the Box Culvert Shall be Epoxy Coated.

Contractor Shall Provide a XXft Undercut (XXX Cys) and Replace the Soil with XX in of Compacted Aggregate, No. 53 (XXX Tons) on top of XX in of Compacted Aggregate, No. 5 (XXX Cys) on top of Geotextiles, Type 2B (XXX Sys)

REINFORCED CONCRETE BOX STRUCTURE

SPAN: 20'-0"
RISE: 8'-0"
SKEW: 00°00'00" (NO SKEW)
SR42 Over Unnamed Stream MORGAN COUNTY, INDIANA

LEGEND

(K) Full Depth HMA for Structure Replacement

(O) Compacted Aggregate, No. 53

RECOMMENDED FOR APPROVAL

DESIGN ENGINEER DATE

DESIGNED: YZ DRAWN: CK

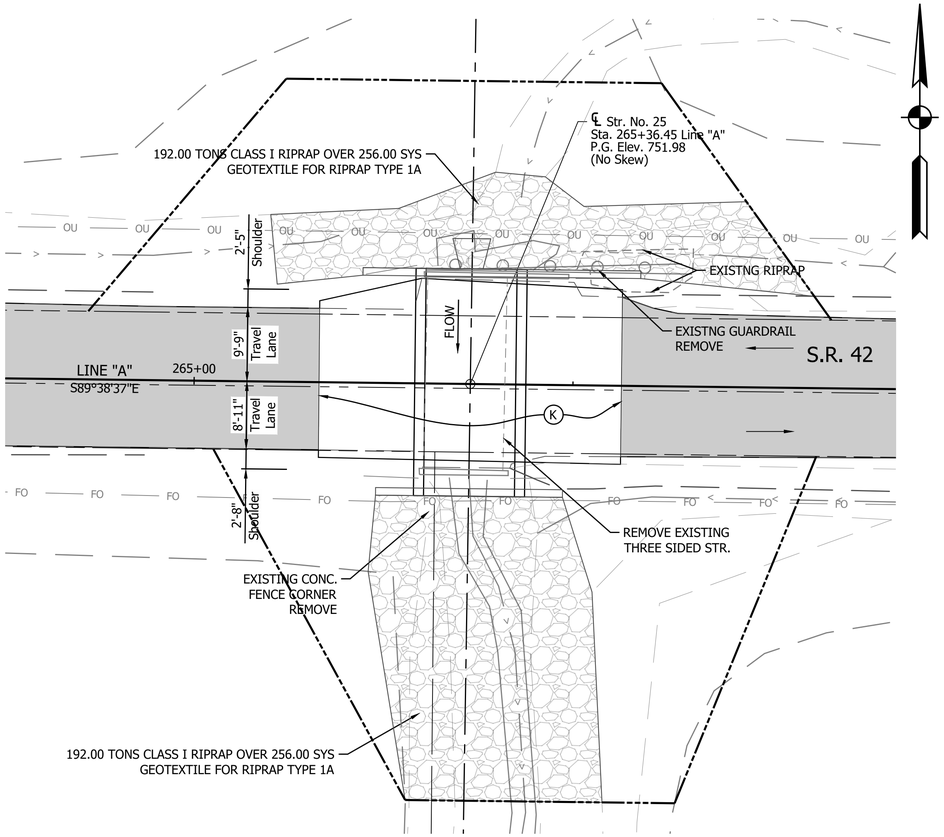
CHECKED: YZ CHECKED: MRM

INDIANA
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE 10 BOX CULVERT

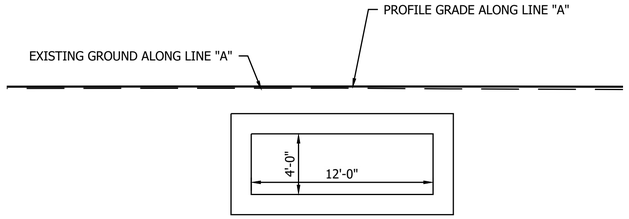
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
AS NOTED	2001551
SURVEY BOOK	SHEET
	77 of 86
CONTRACT	PROJECT
R-40583	1601075

PRINT DATE: 5/2/22
PLOT SCALE: 1:1 EDIT DATE: 4/28/22 - 9:27 AM EDITED BY: MMURRAY DRAWING FILE: P:\19-500-058-1 SR 42 HMA OVERLAY\ACAD\103 GENERAL PLAN\RD-GP-CULVERT 10.DWG



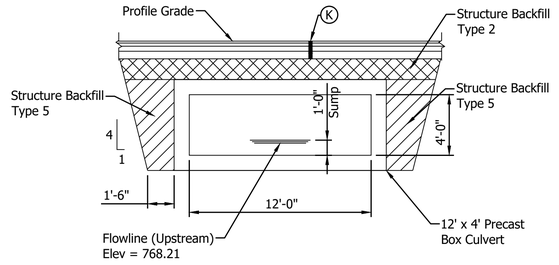
PLAN

SCALE: 1" = 10'



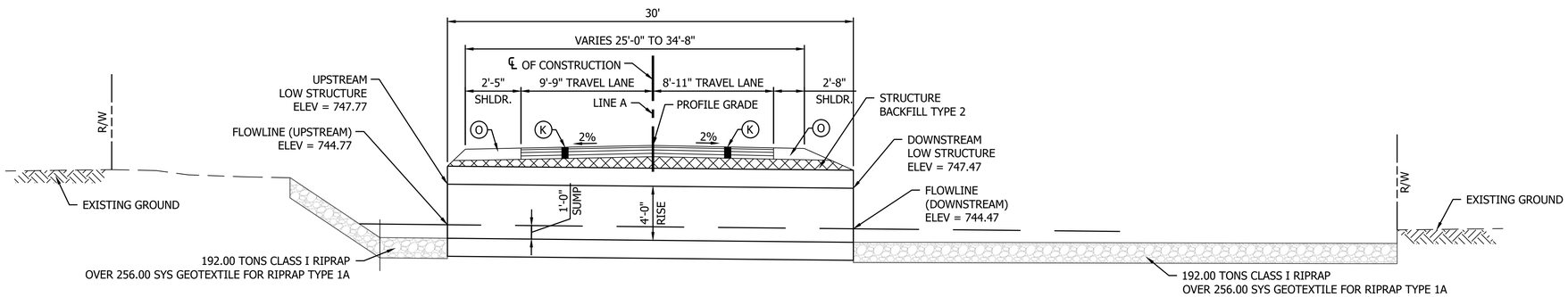
ELEVATION

SCALE: 1" = 5'



TYPICAL EXCAVATION STRUCTURE BACKFILL LIMIT AT CULVERT

SCALE: 1" = 5'



TYPICAL SECTION

SCALE: 1" = 5'

DESIGN DATA

Structure shall be designed for HL-93 loading, in accordance with the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 and subsequent interim.

Dead Load increased 35 PSF for Future Wearing Surface.

HYDRAULIC DATA

Drainage Area	= 270.70 acres
Q100 Discharge	= 385.66 cfs
Headwater Elevation at Q100	= 751.20 ft
Backwater at Q100	= 1.66 ft
Velocity at Q25	= 7.08 ft/s
Skew	= 0°
Existing Q100 Discharge	= 385.66 cfs
Existing Headwater Elevation at Q100	= 751.19 ft
Existing Backwater at Q100	= 1.65 ft
Existing Velocity at Q25	= 8.22 ft/s

NOTES:

Contractor Shall Verify Existing Flowline Elevation to set the Appropriate Sump Depth.

Reinforcement in the Box Culvert Shall be Epoxy Coated.

REINFORCED CONCRETE BOX STRUCTURE

SPAN: 12'-0"
RISE: 4'-0"
SKEW: 00°00'00" (NO SKEW)

LEGEND

(K) Full Depth HMA for Structure Replacement

(O) Compacted Aggregate, No. 53

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: YZ DRAWN: CK

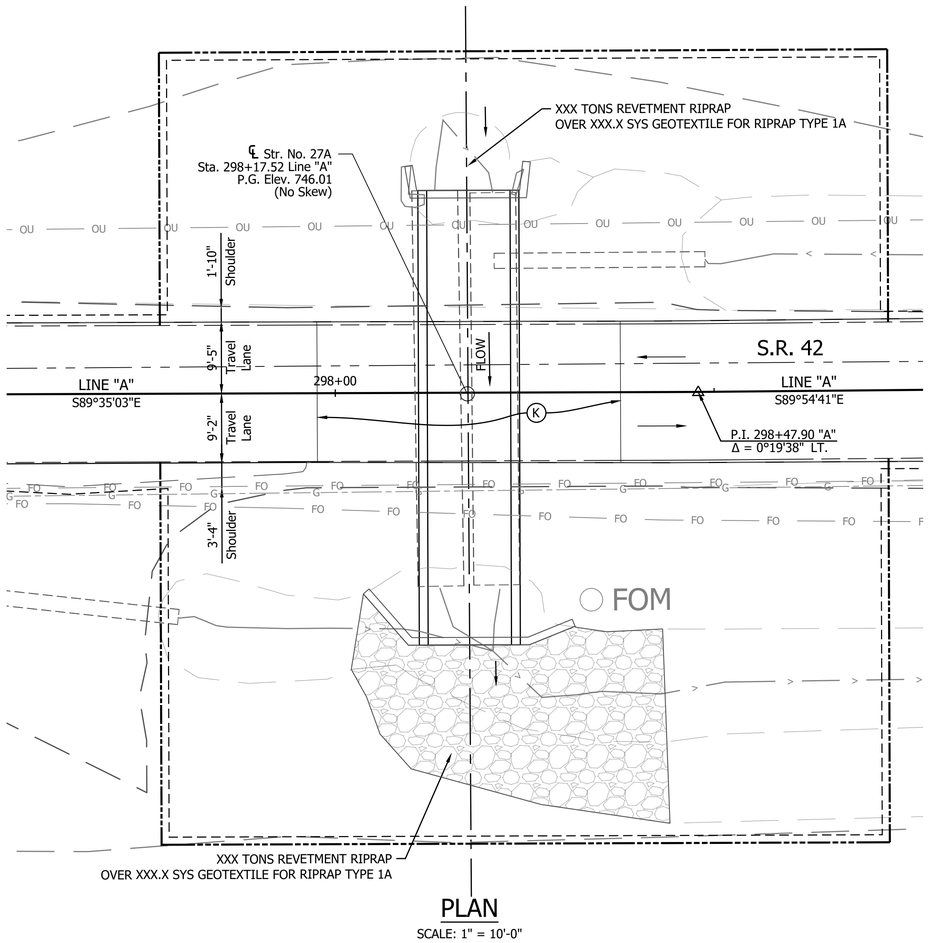
CHECKED: LLC CHECKED: MRM

INDIANA DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE 25 BOX CULVERT

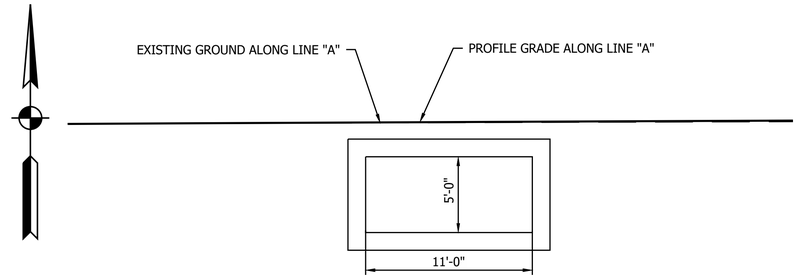
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
AS NOTED	1701593
SURVEY BOOK	SHEET
	78 of 86
CONTRACT	PROJECT
RS-40583	1701593

PRINT DATE: 5/2/22
PLOT SCALE: 1:1 EDIT DATE: 5/2/22 - 9:22 AM EDITED BY: MMURRAY DRAWING FILE: P:\19-500-058-1 SR 42 HMA OVERLAY\ACAD\103 GENERAL PLAN\RD-GP-CULVERT 25.DWG



PLAN

SCALE: 1" = 10'-0"

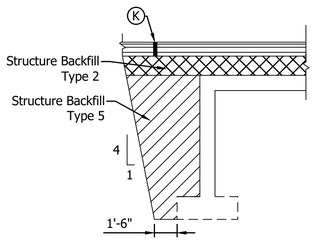


ELEVATION

SCALE: 1" = 5'

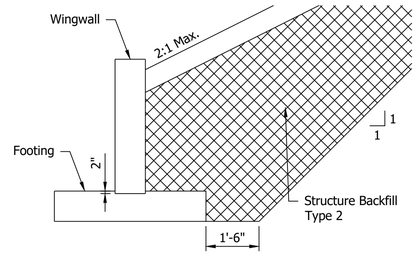
WINGWALL TABLE			
Wing	"L"	Top of Wall Elevation	Area of Wingwall
A	XX FT	XXX.XX	XXX.X FT^2
B	XX FT	XXX.XX	XXX.X FT^2
C	XX FT	XXX.XX	XXX.X FT^2
D	XX FT	XXX.XX	XXX.X FT^2
		TOTAL WING AREA ***	XXX.X FT^2

*** ASSUMES DOWNSTREAM BOTTOM WING AT ELEV. XXX.XX
(X" BELOW TOP OF FOOTING)
ASSUMES UPSTREAM BOTTOM WING AT ELEV. XXX.XX
(X" BELOW TOP OF FOOTING)
ESTIMATED QUANTITY OF HEADWALLS = XX FT^2



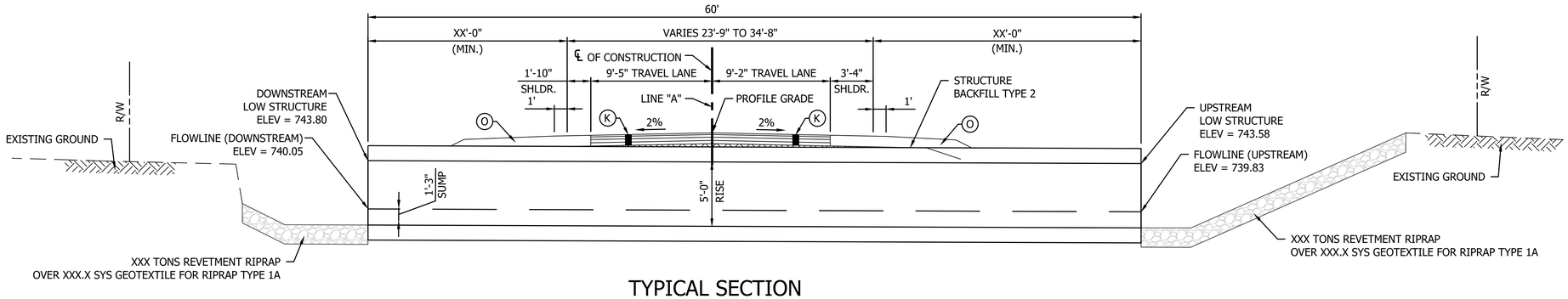
TYPICAL EXCAVATION STRUCTURE BACKFILL LIMIT AT STRUCTURE

SCALE: 1" = 5'



TYPICAL EXCAVATION STRUCTURE BACKFILL LIMIT AT WINGWALLS

SCALE: 1" = 5'



TYPICAL SECTION

SCALE: 1" = 5'

SOIL PARAMETERS FOR WINGWALL DESIGN	
X,XXX (B = X ft) X,XXX (B = X ft) X,XXX (B = X ft) X,XXX (B = X ft)	Factored Bearing Resistance (psf)
0.XX	Resistance Factor (φ)
X,XXX (B = X ft) X,XXX (B = X ft) X,XXX (B = X ft) X,XXX (B = X ft)	Nominal Bearing Resistance (psf)
XX	Friction Angle between Wingwall and Structure Backfill (Type II) (δ)
0.X	Friction Factor between Footing and Foundation Soil
XX	Cohesion of Foundation Soil (psf)
XX	Adhesion of Foundation Soil (psf)
XX	Internal Friction Angle of Foundation Soil (Øb)
XXX	Estimated Unit Weight of Structure Backfill, moist/saturated (pcf)

*Varies depending on width of foundation (B). Interpolation between provided values is permitted

DESIGN DATA

Structure shall be designed for HL-93 loading, in accordance with the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 and subsequent interim.

Dead Load increased 35 PSF for Future Wearing Surface.

HYDRAULIC DATA

Drainage Area	= XXX acres
Q100 Discharge	= XX.X cfs
Headwater Elevation at Q100	= XXX.XX ft
Backwater at Q100	= X.XX ft
Velocity at Q100	= X.XX ft/s
Velocity at Q25	= X.XX ft/s
Skew	= X°
Existing Q100 Discharge	= XX
Existing Headwater Elevation at Q100	= XX
Existing Backwater at Q100	= XX
Existing Velocity at Q25	= XX

NOTES:

Contractor Shall Verify Existing Flowline Elevation to set the Appropriate Sump Depth.

Reinforcement in the Box Culvert Shall be Epoxy Coated.

Contractor Shall Provide a XXft Undercut (XXX Cys) and Replace the Soil with XX in of Compacted Aggregate, No. 53 (XXX Tons) on top of XX in of Compacted Aggregate, No. 5 (XXX Cys) on top of Geotextiles, Type 2B (XXX Sys)

REINFORCED CONCRETE BOX STRUCTURE

SPAN: 11'-0"
RISE: 5'-0"
SKEW: 00°00'00" (NO SKEW)
SR42 over XXXXXX LEGAL DRAIN MORGAN COUNTY, INDIANA

LEGEND

(K) Full Depth HMA for Structure Replacement
(O) Compacted Aggregate, No. 53

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

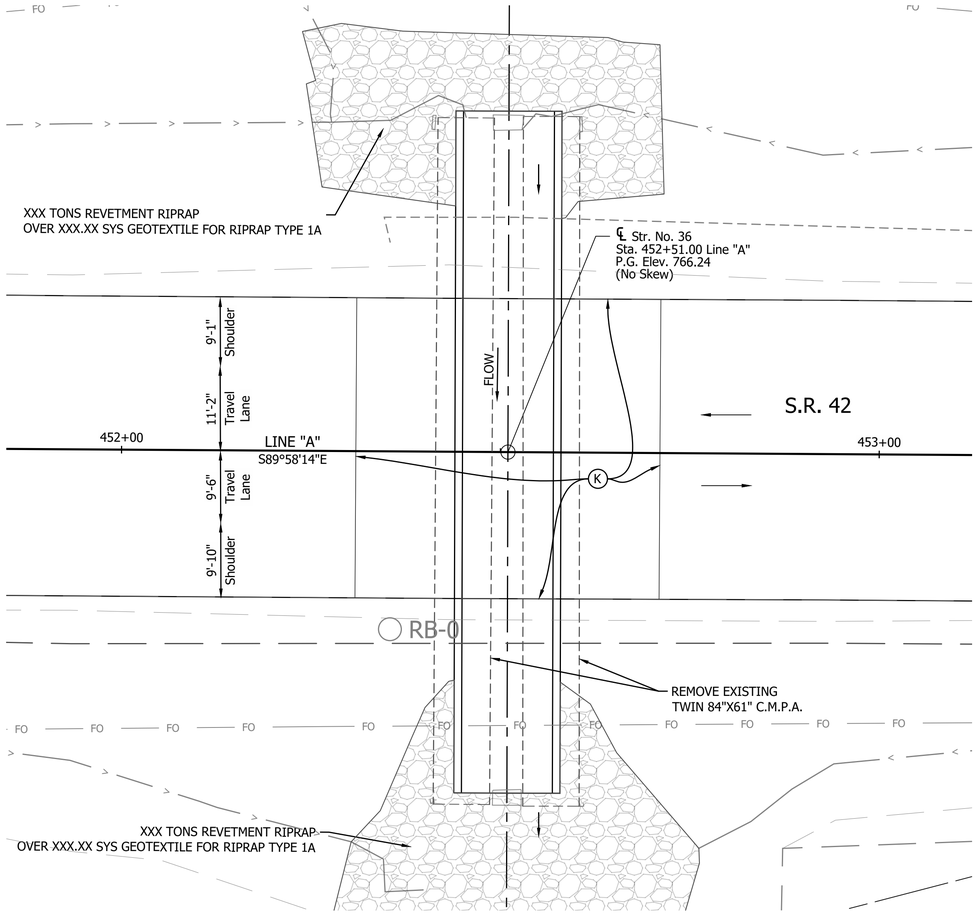
DESIGNED: YZ | DRAWN: CK
CHECKED: YZ | CHECKED: MRM

INDIANA
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE 27A BOX CULVERT

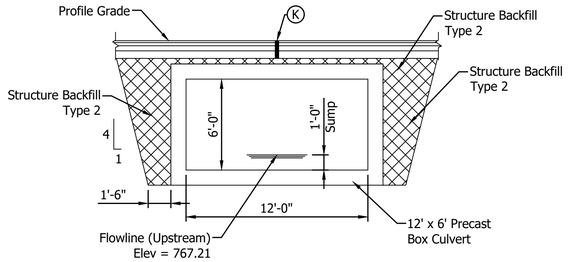
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
AS NOTED	200154
SURVEY BOOK	SHEET
	79 of 86
CONTRACT	PROJECT
R-40583	1601075

PRINT DATE: 5/2/22
PLOT SCALE: 1:1 EDIT DATE: 5/2/22 - 9:22 AM EDITED BY: MMURRAY DRAWING FILE: P:\19-500-088-1 SR 42 HMA OVERLAY\ACAD\103 GENERAL PLAN\RD-GP-CULVERT 27A.DWG



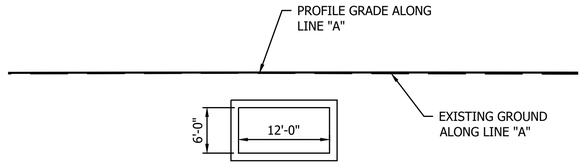
PLAN

SCALE: 1" = 10'-0"



STRUCTURE BACKFILL AT CULVERT

SCALE: 1" = 5'



ELEVATION

SCALE: 1" = 10'

DESIGN DATA

Structure shall be designed for HL-93 loading, in accordance with the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 and subsequent interim.

Dead Load increased 35 PSF for Future Wearing Surface.

HYDRAULIC DATA

Drainage Area	= 178.8 acres
Q100 Discharge	= 313.44 cfs
Headwater Elevation at Q100	= 771.93 ft
Backwater at Q100	= 1.69 ft
Velocity at Q25	= 7.08 ft/s
Skew	= 0°
Existing Q100 Discharge	= 313.44
Existing Headwater Elevation at Q100	= 772.22
Existing Backwater at Q100	= 1.98
Existing Velocity at Q25	= 6.85

NOTES:

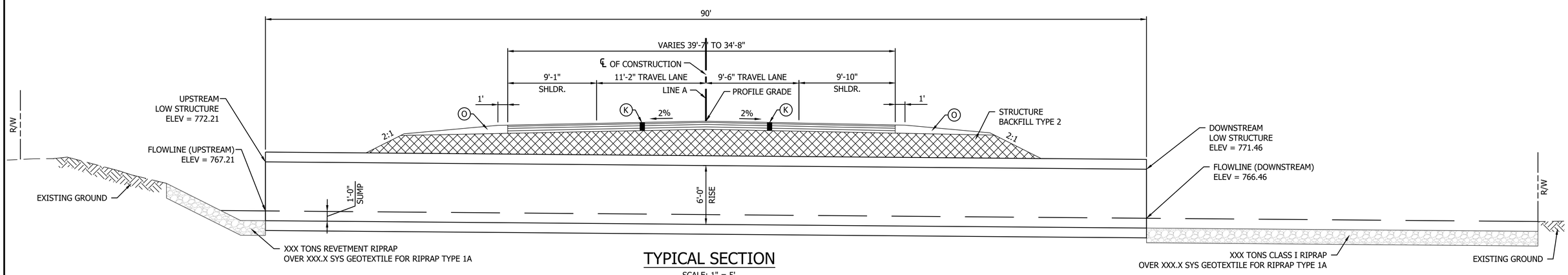
Contractor Shall Verify Existing Flowline Elevation to set the Appropriate Sump Depth.

Reinforcement in the Box Culvert Shall be Epoxy Coated.

Contractor Shall Provide a XXft Undercut (XXX Cys) and Replace the Soil with XX in of Compacted Aggregate, No. 53 (XXX Tons) on top of XX in of Compacted Aggregate, No. 5 (XXX Cys) on top of Geotextiles, Type 2B (XXX Sys)

REINFORCED CONCRETE BOX STRUCTURE

SPAN: 12'-0"
RISE: 6'-0"
SKEW: 00°00'00" (NO SKEW)
SR42 over XXXXXX LEGAL DRAIN MORGAN COUNTY, INDIANA



TYPICAL SECTION

SCALE: 1" = 5'

LEGEND

(K) Full Depth HMA for Structure Replacement

(O) Compacted Aggregate, No. 53

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: YZ DRAWN: CK

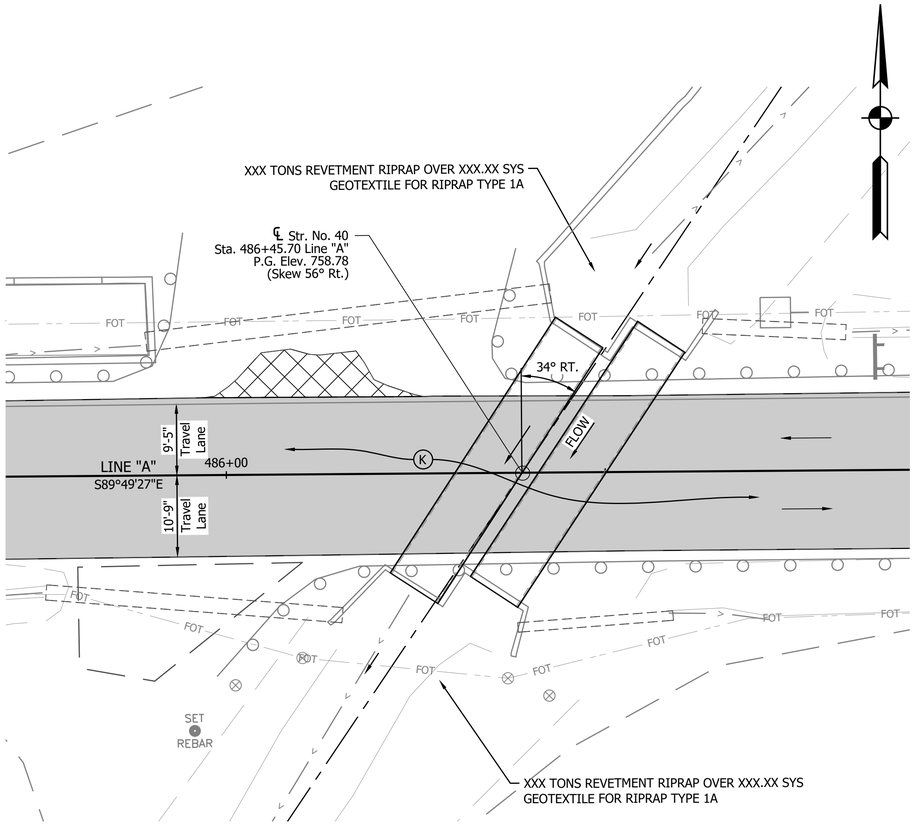
CHECKED: YZ CHECKED: MRM

INDIANA DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE 36 BOX CULVERT

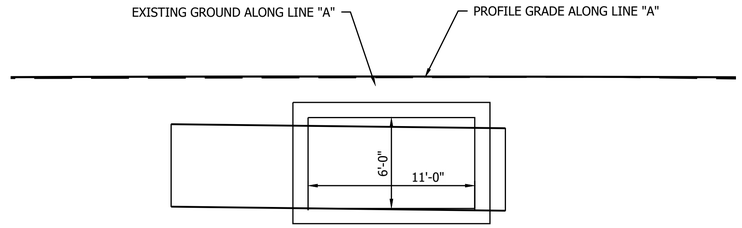
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
AS NOTED	2001558
SURVEY BOOK	SHEET
	80 of 86
CONTRACT	PROJECT
R-40583	1601075

PRINT DATE: 5/2/22
PLOT SCALE: 1:1 EDIT DATE: 5/2/22 - 2:26 PM EDITED BY: MMURRAY DRAWING FILE: P:\19-500-058\1 SR 42 HMA OVERLAY\ACAD\103 GENERAL PLAN\RD-GP-CULVERT 36.DWG



PLAN

SCALE: 1" = 10'-0"

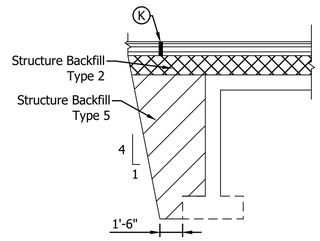


ELEVATION

SCALE: 1" = 5'

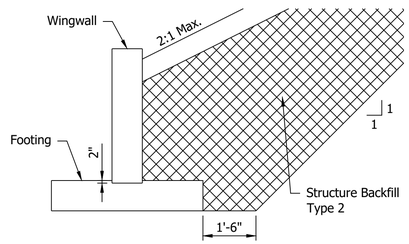
WINGWALL TABLE			
Wing	"L"	Top of Wall Elevation	Area of Wingwall
A	XX FT	XXX.XX	XXX.X FT^2
B	XX FT	XXX.XX	XXX.X FT^2
C	XX FT	XXX.XX	XXX.X FT^2
D	XX FT	XXX.XX	XXX.X FT^2
		TOTAL WING AREA ***	XXX.X FT^2

*** ASSUMES DOWNSTREAM BOTTOM WING AT ELEV. XXX.XX
(X" BELOW TOP OF FOOTING)
ASSUMES UPSTREAM BOTTOM WING AT ELEV. XXX.XX
(X" BELOW TOP OF FOOTING)
ESTIMATED QUANTITY OF HEADWALLS = XX FT^2



TYPICAL EXCAVATION STRUCTURE BACKFILL LIMIT AT STRUCTURE

SCALE: 1" = 5'



TYPICAL EXCAVATION STRUCTURE BACKFILL LIMIT AT WINGWALLS

SCALE: 1" = 5'

SOIL PARAMETERS FOR WINGWALL DESIGN	
X,XXX (B = X ft) X,XXX (B = X ft) X,XXX (B = X ft) X,XXX (B = X ft)	Factored Bearing Resistance (psf)
0.XX	Resistance Factor (φ)
X,XXX (B = X ft) X,XXX (B = X ft) X,XXX (B = X ft) X,XXX (B = X ft)	Nominal Bearing Resistance (psf)
XX	Friction Angle between Wingwall and Structure Backfill (Type II) (δ)
0.X	Friction Factor between Footing and Foundation Soil
XX	Cohesion of Foundation Soil (psf)
XX	Adhesion of Foundation Soil (psf)
XX	Internal Friction Angle of Foundation Soil (Øb)
XXX	Estimated Unit Weight of Structure Backfill, moist/saturated (pcf)

*Varies depending on width of foundation (B). Interpolation between provided values is permitted

DESIGN DATA

Structure shall be designed for HL-93 loading, in accordance with the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 and subsequent interim.

Dead Load increased 35 PSF for Future Wearing Surface.

HYDRAULIC DATA

Drainage Area	= XXX acres
Q100 Discharge	= XX.X cfs
Headwater Elevation at Q100	= XXX.XX ft
Backwater at Q100	= X.XX ft
Velocity at Q100	= X.XX ft/s
Velocity at Q25	= X.XX ft/s
Skew	= X°
Existing Q100 Discharge	= XX
Existing Headwater Elevation at Q100	= XX
Existing Backwater at Q100	= XX
Existing Velocity at Q25	= XX

NOTES:

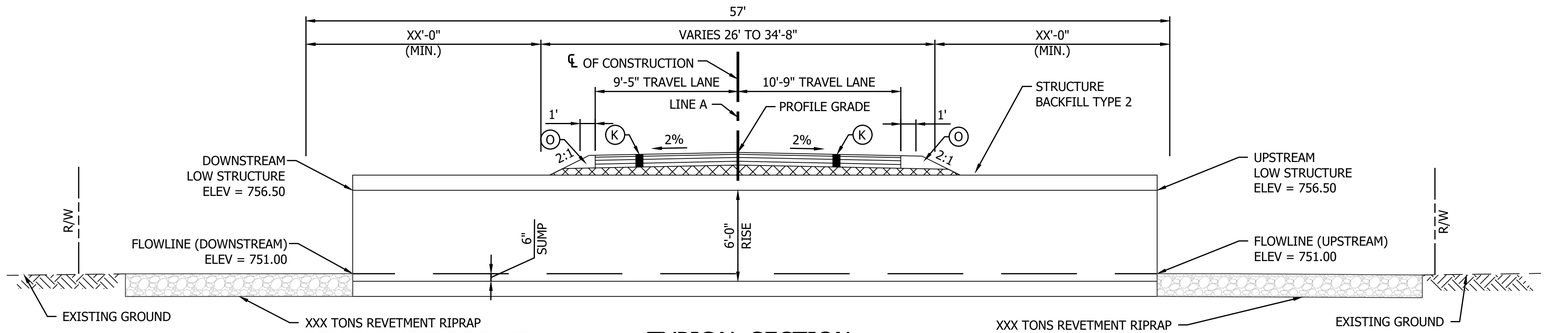
Contractor Shall Verify Existing Flowline Elevation to set the Appropriate Sump Depth.

Reinforcement in the Box Culvert Shall be Epoxy Coated.

Contractor Shall Provide a XXft Undercut (XXX Cys) and Replace the Soil with XX in of Compacted Aggregate, No. 53 (XXX Tons) on top of XX in of Compacted Aggregate, No. 5 (XXX Cys) on top of Geotextiles, Type 2B (XXX Sys)

REINFORCED CONCRETE BOX STRUCTURE

SPAN: 11'-0"
RISE: 6'-0"
SKEW: 34°00'00" RT.
SR42 over XXXXXX LEGAL DRAIN MORGAN COUNTY, INDIANA



TYPICAL SECTION

SCALE: 1" = 5'-0"

*All Measured Perpendicular to Roadway

LEGEND

(K) Full Depth HMA for Structure Replacement

(O) Compacted Aggregate, No. 53

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: MSS DRAWN: ----

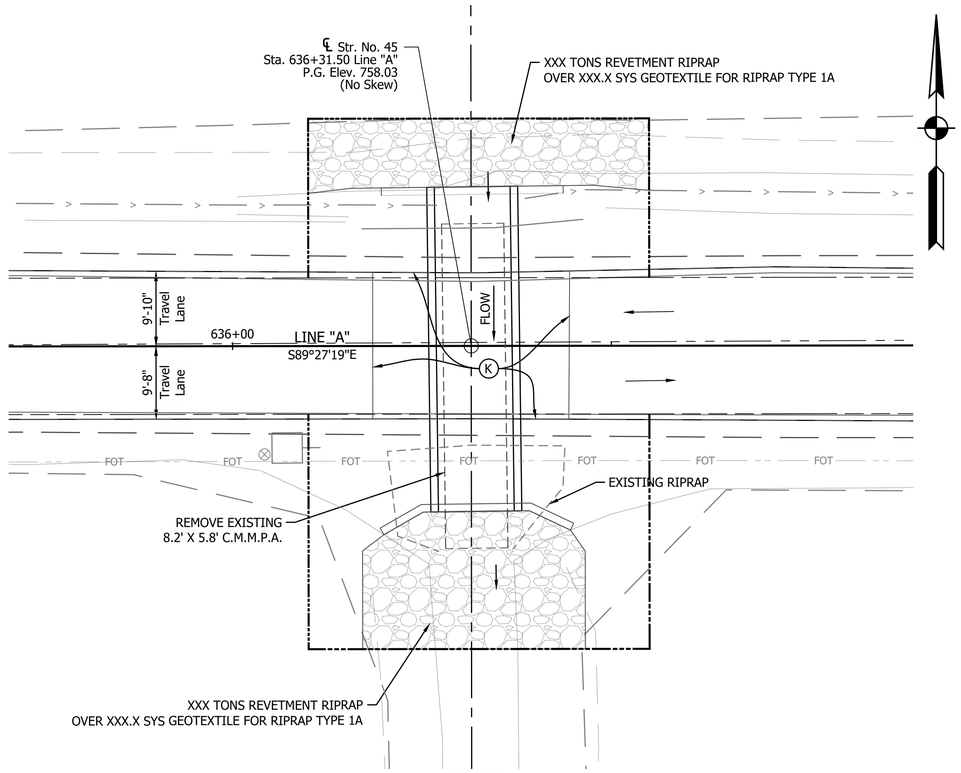
CHECKED: LLC CHECKED: MSS

INDIANA DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE 40 BOX CULVERT

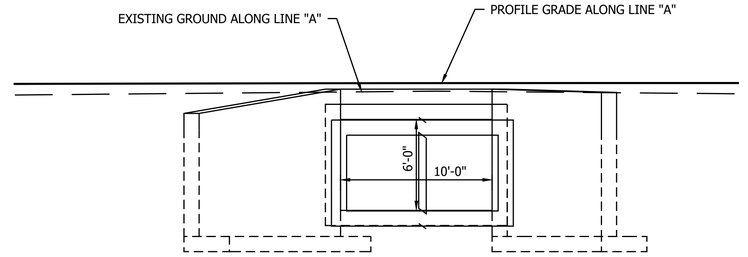
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
AS NOTED	1800122
SURVEY BOOK	SHEET
	81 of 86
CONTRACT	PROJECT
R-40583	1601075

PRINT DATE: 5/2/22
PLOT SCALE: 1:1 EDIT DATE: 5/2/22 - 2:27 PM EDITED BY: MMURRAY DRAWING FILE: P:\19-500-058-1 SR 42 HMA OVERLAY\ACAD\103 GENERAL PLAN\RD-GP-CULVERT 40.DWG



PLAN

SCALE: 1" = 10'-0"

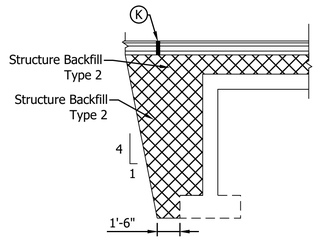


ELEVATION

SCALE: 1" = 5'

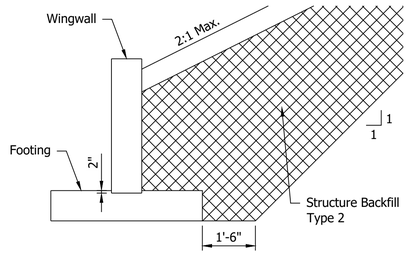
WINGWALL TABLE			
Wing	"L"	Top of Wall Elevation	Area of Wingwall
A	XX FT	XXX.XX	XXX.X FT^2
B	XX FT	XXX.XX	XXX.X FT^2
C	XX FT	XXX.XX	XXX.X FT^2
D	XX FT	XXX.XX	XXX.X FT^2
		TOTAL WING AREA ***	XXX.X FT^2

*** ASSUMES DOWNSTREAM BOTTOM WING AT ELEV. XXX.XX
(X" BELOW TOP OF FOOTING)
ASSUMES UPSTREAM BOTTOM WING AT ELEV. XXX.XX
(X" BELOW TOP OF FOOTING)
ESTIMATED QUANTITY OF HEADWALLS = XX FT^2



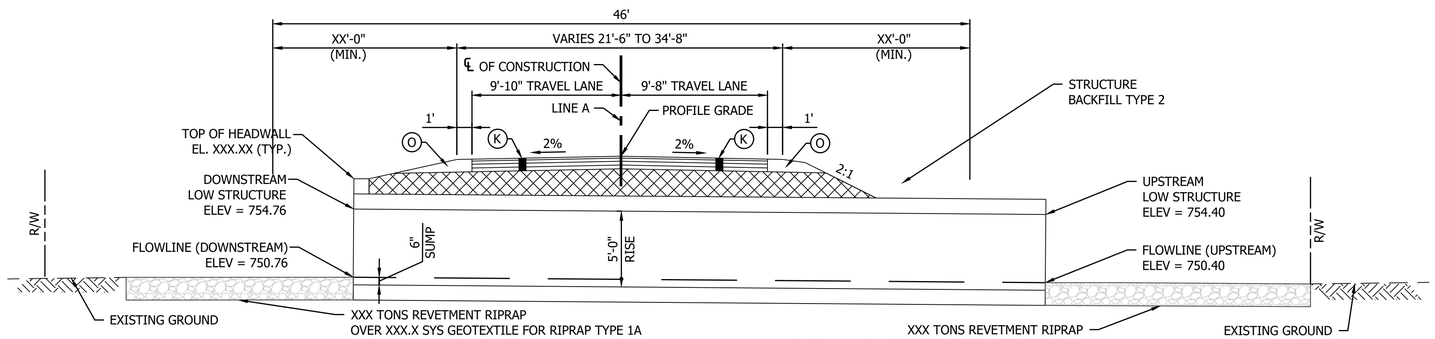
TYPICAL EXCAVATION STRUCTURE BACKFILL LIMIT AT STRUCTURE

SCALE: 1" = 5'



TYPICAL EXCAVATION STRUCTURE BACKFILL LIMIT AT WINGWALLS

SCALE: 1" = 5'



TYPICAL SECTION

SCALE: 1" = 5'

*All Measured Perpendicular to Roadway

SOIL PARAMETERS FOR WINGWALL DESIGN	
X,XXX (B = X ft) X,XXX (B = X ft) X,XXX (B = X ft) X,XXX (B = X ft)	Factored Bearing Resistance (psf)
0.XX	Resistance Factor (φ)
X,XXX (B = X ft) X,XXX (B = X ft) X,XXX (B = X ft) X,XXX (B = X ft)	Nominal Bearing Resistance (psf)
XX	Friction Angle between Wingwall and Structure Backfill (Type II) (δ)
0.X	Friction Factor between Footing and Foundation Soil
XX	Cohesion of Foundation Soil (psf)
XX	Adhesion of Foundation Soil (psf)
XX	Internal Friction Angle of Foundation Soil (Øb)
XXX	Estimated Unit Weight of Structure Backfill, moist/saturated (pcf)

*Varies depending on width of foundation (B). Interpolation between provided values is permitted

DESIGN DATA

Structure shall be designed for HL-93 loading, in accordance with the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 and subsequent interim.

Dead Load increased 35 PSF for Future Wearing Surface.

HYDRAULIC DATA

Drainage Area	= XXX acres
Q100 Discharge	= XX.X cfs
Headwater Elevation at Q100	= XXX.XX ft
Backwater at Q100	= X.XX ft
Velocity at Q100	= X.XX ft/s
Velocity at Q25	= X.XX ft/s
Skew	= X°
Existing Q100 Discharge	= XX
Existing Headwater Elevation at Q100	= XX
Existing Backwater at Q100	= XX
Existing Velocity at Q25	= XX

NOTES:

Contractor Shall Verify Existing Flowline Elevation to set the Appropriate Sump Depth.

Reinforcement in the Box Culvert Shall be Epoxy Coated.

Contractor Shall Provide a XXft Undercut (XXX Cys) and Replace the Soil with XX in of Compacted Aggregate, No. 53 (XXX Tons) on top of XX in of Compacted Aggregate, No. 5 (XXX Cys) on top of Geotextiles, Type 2B (XXX Sys)

REINFORCED CONCRETE BOX STRUCTURE

SPAN: 10'-0"
RISE: 6'-0"
SKEW: 00°00'00" (NO SKEW)
SR42 over XXXXXX LEGAL DRAIN MORGAN COUNTY, INDIANA

LEGEND

(K) Full Depth HMA for Structure Replacement
(O) Compacted Aggregate, No. 53

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: YZ DRAWN: CK
CHECKED: YZ CHECKED: MRM

INDIANA DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE 45 BOX CULVERT

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
AS NOTED	2001559
SURVEY BOOK	SHEET
	82 of 86
CONTRACT	PROJECT
R-40583	1601075

PRINT DATE: 5/2/22
PLOT SCALE: 1:1 EDIT DATE: 4/5/22 - 1:42 PM EDITED BY: MMURRAY DRAWING FILE: P:\19-500-038-1 SR 42 HMA OVERLAY\ACAD\103 GENERAL PLAN\RD-GP-CULVERT 45.DWG

Note:
Where pump around or dewatering activities are outlet into a roadside ditch a sediment trap shall be required.

Sediment Trap

Note:
Where a ditch ties into the dewatering area, an additional pump shall be required.

1 Down station outlet condition

3 Up station outlet condition

Small structure or culvert

Mill and Resurface

FLOW

S.R. 42

LINE "A"
N0°27'40"E

Mill and Resurface

Begin Full Depth Pavement

FS FS FS FS FS FS FS

End Full Depth Pavement

4 Up station inlet condition

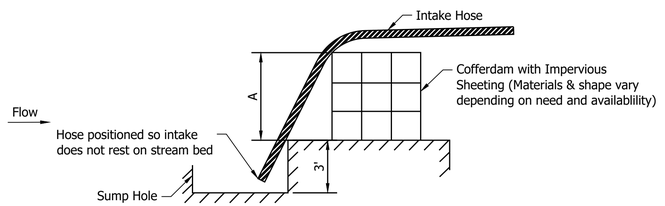
Note:
Small structures and culverts shall be installed under full closure.

Note:
Where there is sheet flow from roadway filter sock located at the toe of slope shall be required.

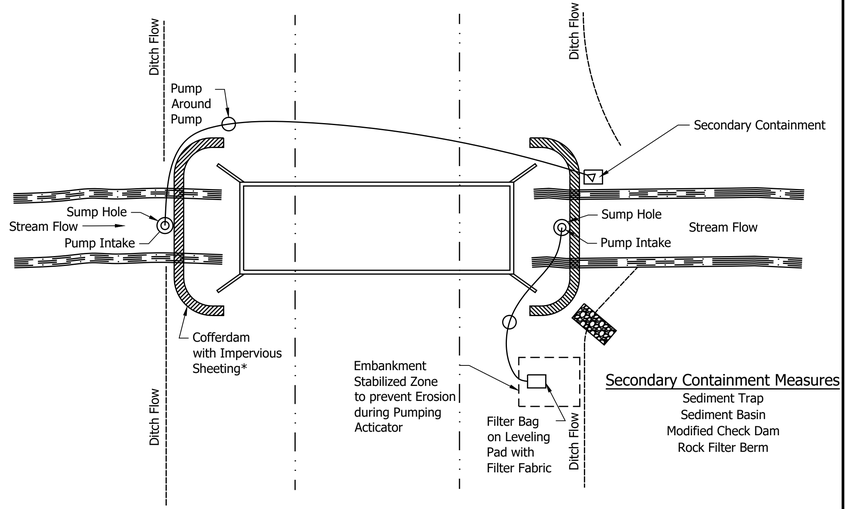
2 Down station inlet condition

Sediment Trap

Note:
Where a ditch ties into the dewatering area, an additional pump shall be required.
Where a ditch ties in outside of the dewatering area a sediment trap shall be required.



COFFERDAM/SUMP HOLE WORK AREA



Secondary Containment Measures
Sediment Trap
Sediment Basin
Modified Check Dam
Rock Filter Berm

PUMP AROUND AND DEWATERING DETAILS

PUMP AROUND AND DEWATERING DETAILS

EROSION CONTROL LEGEND

- SEDIMENT TRAP
- TEMPORARY INLET PROTECTION
- —SF— SILT FENCE
- —FS— FILTER SOCK
- EXISTING DITCH FLOW LINE
- (MR) MODIFIED TEMPORARY CHECK DAM, REVETMENT RIPRAP
- (RR) TEMPORARY CHECK DAM, REVETMENT RIPRAP
- EROSION CONTROL BLANKET - COIR MAT
- (TS) TEMPORARY SEEDING
- PROPOSED DITCH FLOW LINE
- (P) PUMP AROUND

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: MSS DRAWN: ----

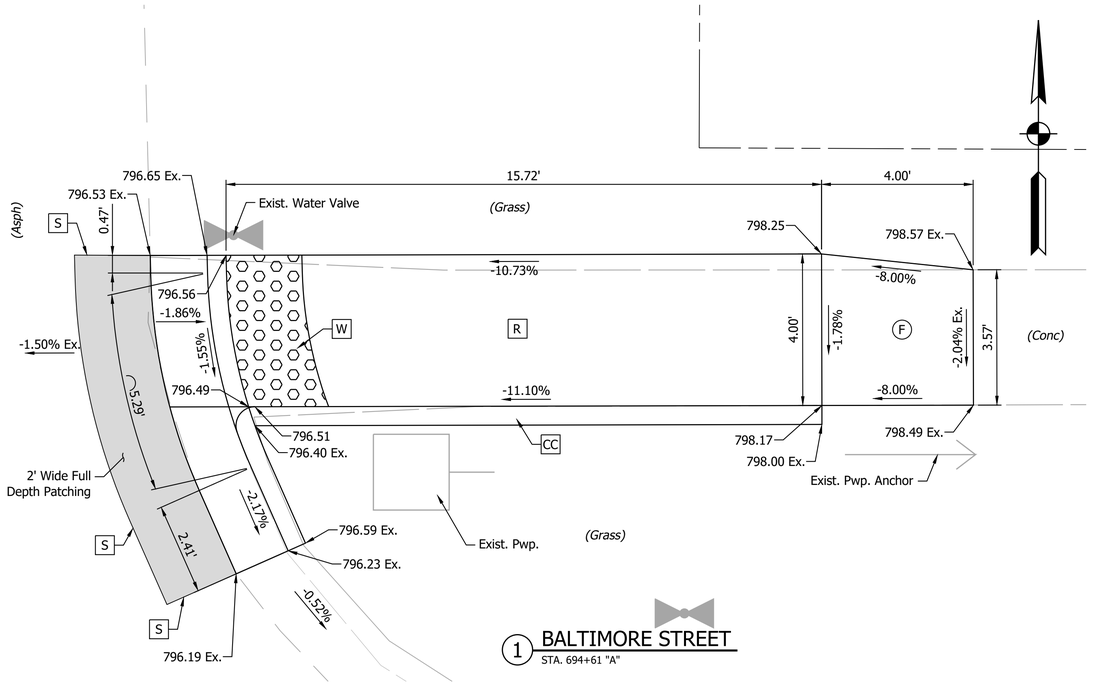
CHECKED: LLC CHECKED: MSS

INDIANA DEPARTMENT OF TRANSPORTATION

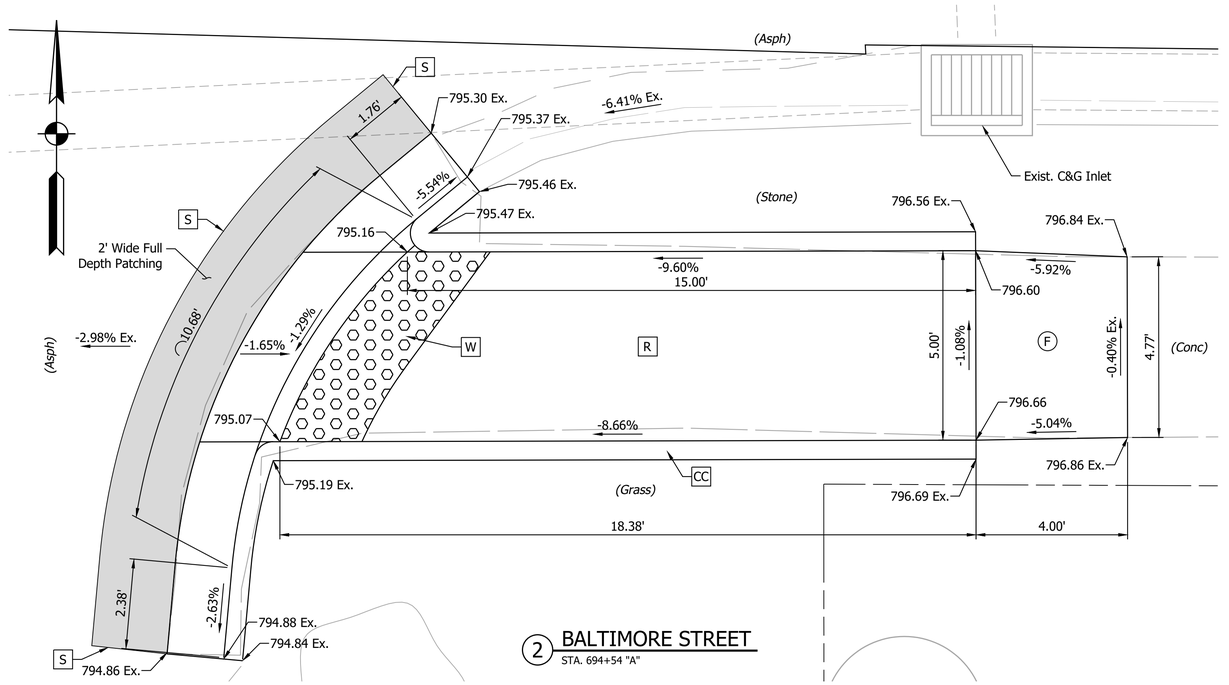
Small Structure & Culvert Erosion Control General Plan

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	NA
VERTICAL SCALE	DESIGNATION
AS NOTED	2001548
SURVEY BOOK	SHEET
	83 of 86
CONTRACT	PROJECT
R-40583	1601075

PRINT DATE: 5/2/22
PLOT SCALE: 1:1 EDIT DATE: 5/2/22 - 1:47 PM EDITED BY: BWERNZ DRAWING FILE: P:\19-500-058-1 SR 42 HMA OVERLAY\ACAD\07 CONST DTL\RD-TEC GENERAL LAYOUT.DWG



1 BALTIMORE STREET
STA. 694+61 "A"



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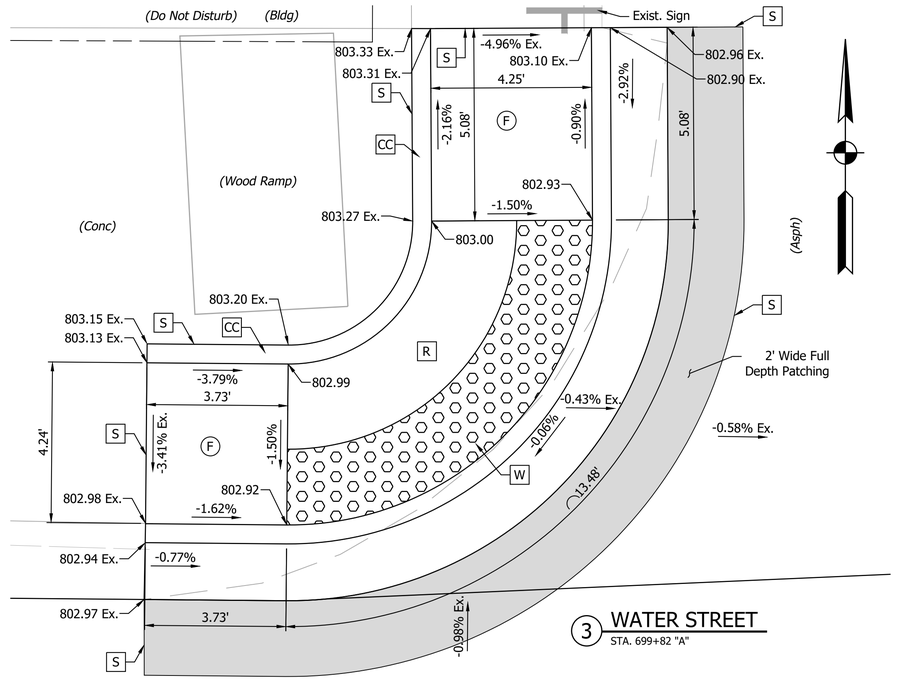
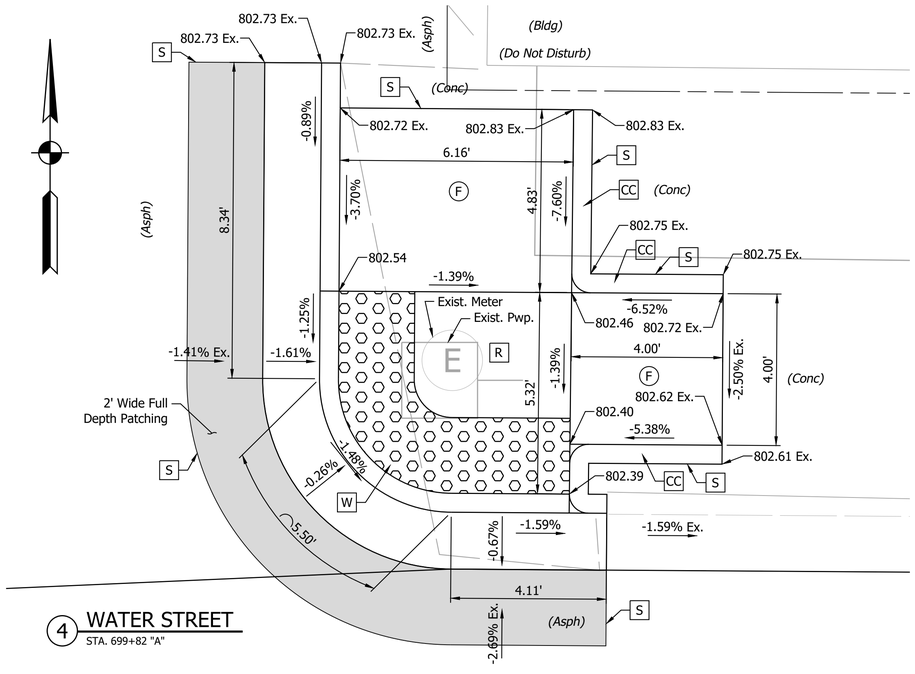
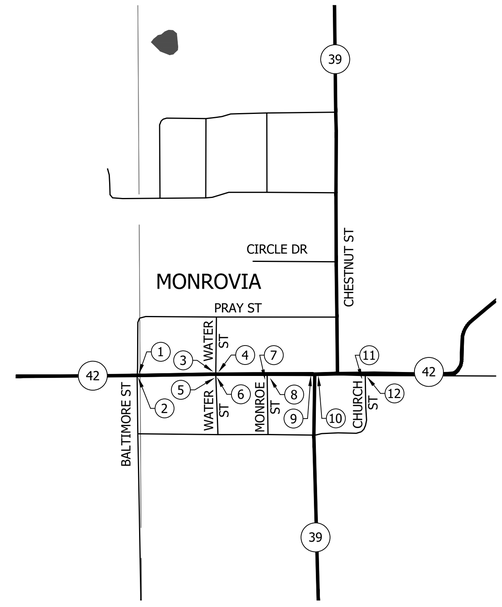


3 WATER STREET
STA. 699+82 "A"



4 WATER STREET
STA. 699+82 "A"



LOCATION MAP

LEGEND

F	Concrete Sidewalk	FS	Flared Side		Detectable Warning Surface	26	Sodding
R	Ramp	B.C.	Bottom of Curb	W	Install Detectable Warning Surface Only	CC	Return Curb
TS	Turning Space	T.C.	Top of Curb	S	Saw Cut		

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: MSS DRAWN: ----

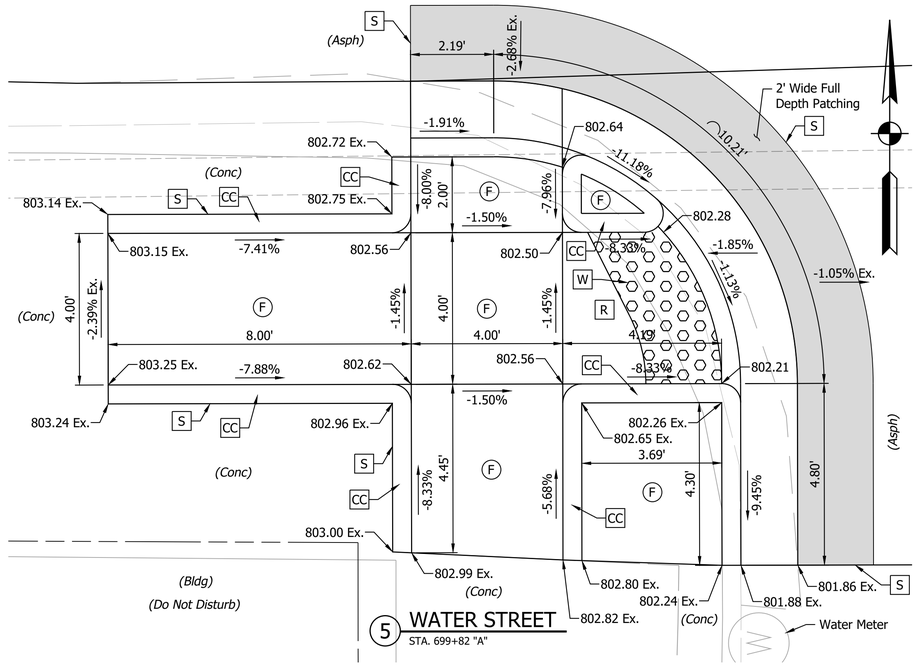
CHECKED: LLC CHECKED: MSS

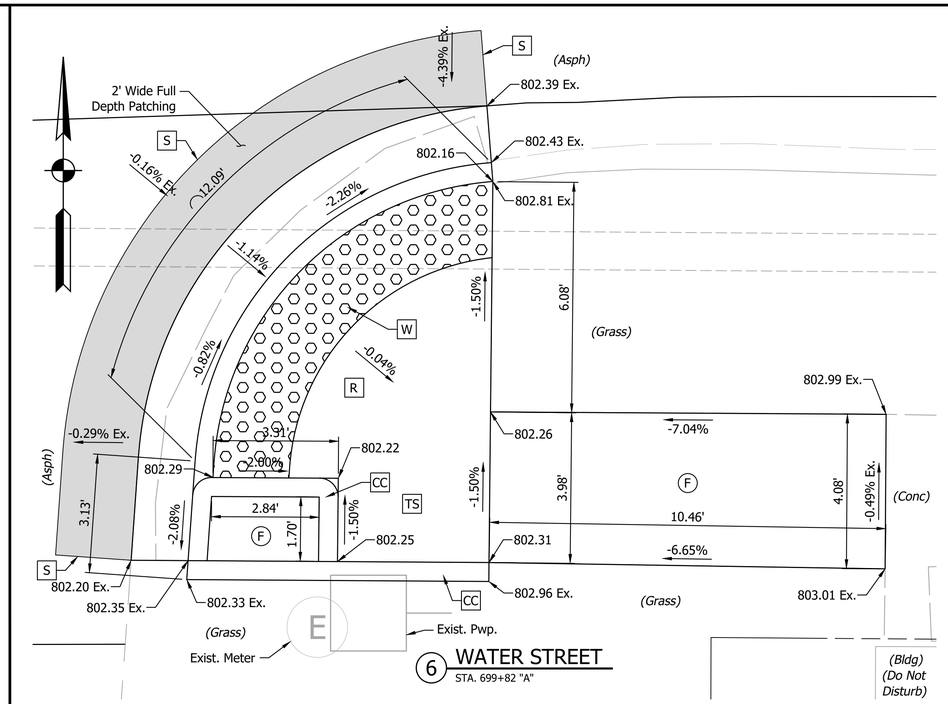
INDIANA
DEPARTMENT OF TRANSPORTATION

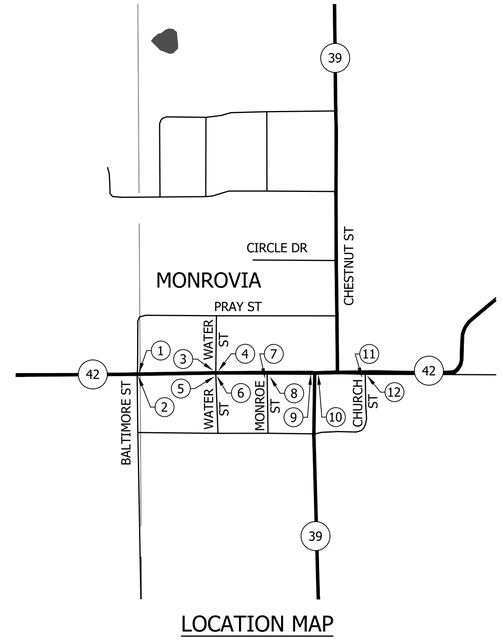
CURB RAMP DETAILS

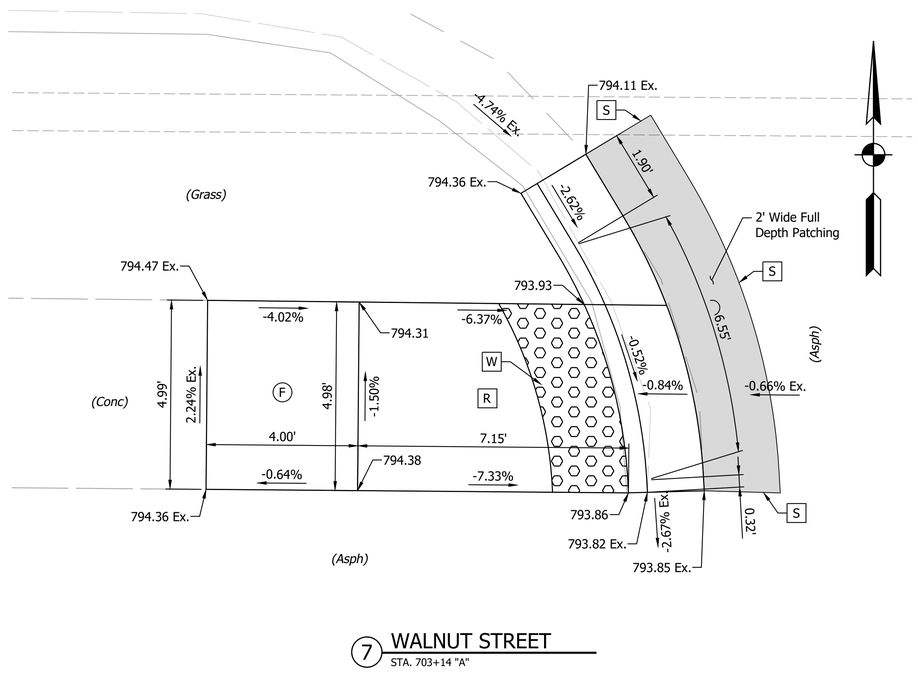
HORIZONTAL SCALE	BRIDGE FILE
1" = 2'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1601075
SURVEY BOOK	SHEET
	84 of 86
CONTRACT	PROJECT
R-40583	1601075

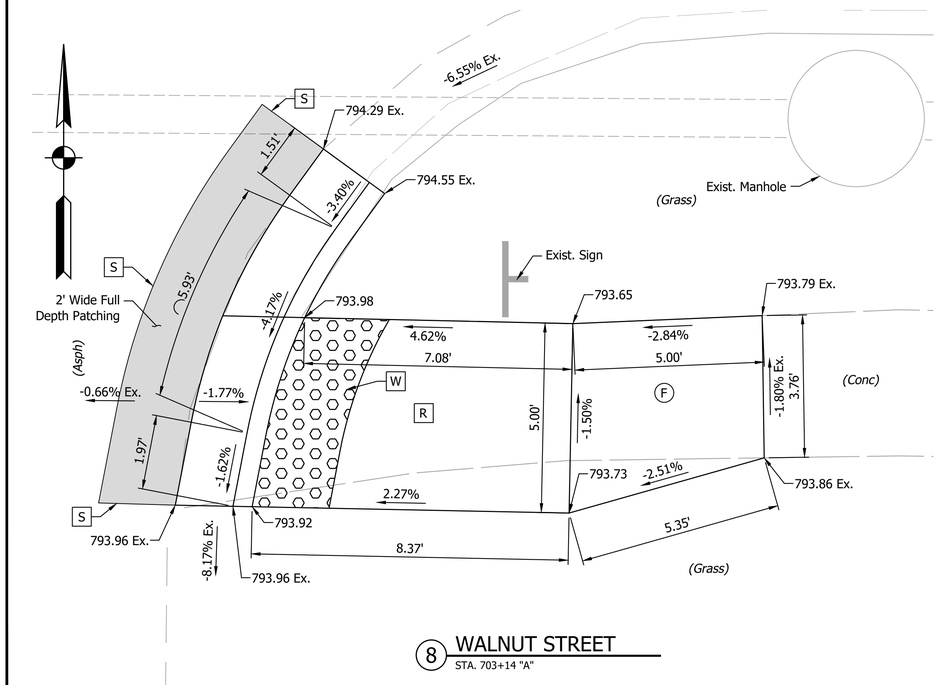
PRINT DATE: 5/2/22
PLOT SCALE: 1:1 EDIT DATE: 7/12/11 - 2:15 PM EDITED BY: MMURRAY DRAWING FILE: P:\19-500-0580-1 SR 42 HMA OVERLAY\ACAD\07 CONST DTL\RD-SHTS-CURB RAMP DET.DWG











LEGEND

F	Concrete Sidewalk	FS	Flared Side		Detectable Warning Surface	26	Sodding
R	Ramp	B.C.	Bottom of Curb	W	Install Detectable Warning Surface Only	CC	Return Curb
TS	Turning Space	T.C.	Top of Curb	S	Saw Cut		

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: MSS DRAWN: ----

CHECKED: LLC CHECKED: MSS

INDIANA DEPARTMENT OF TRANSPORTATION

CURB RAMP DETAILS

HORIZONTAL SCALE	BRIDGE FILE
1" = 2'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1601075
SURVEY BOOK	SHEET
	85 of 86
CONTRACT	PROJECT
R-40583	1601075

PRINT DATE: 5/2/22
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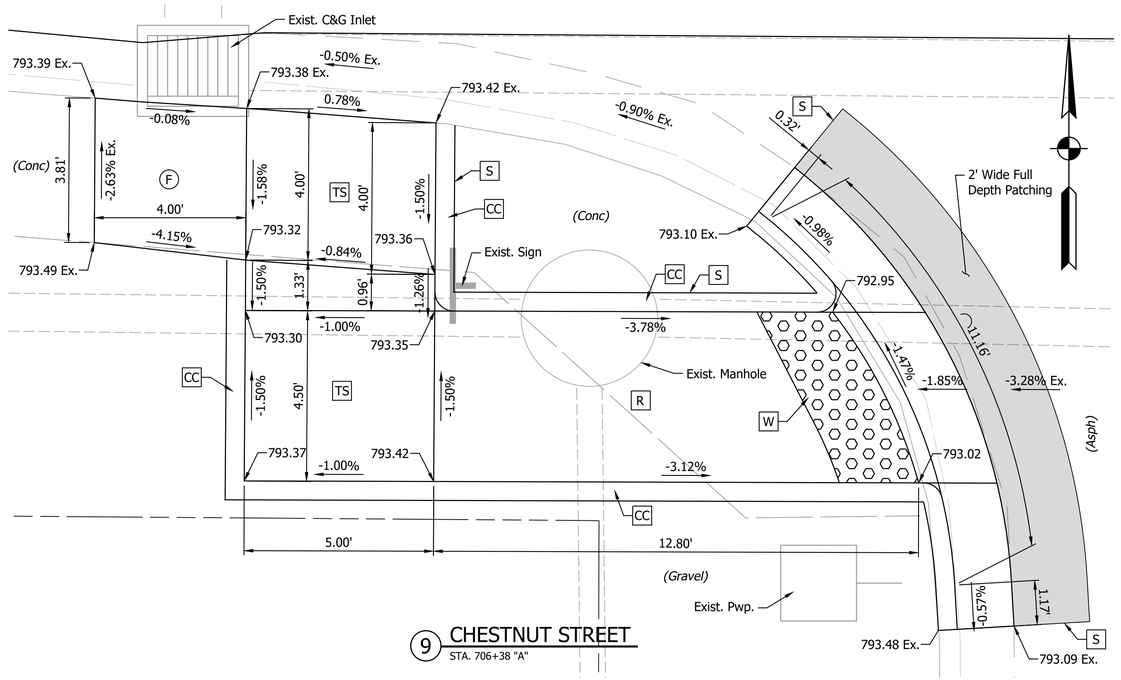
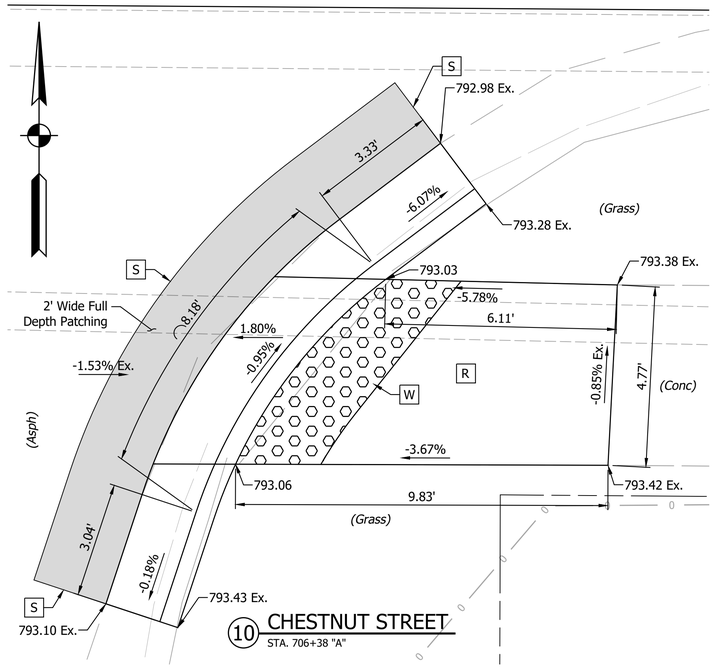
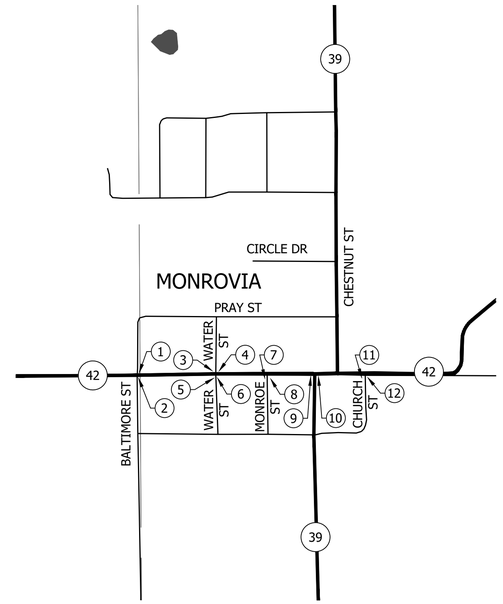


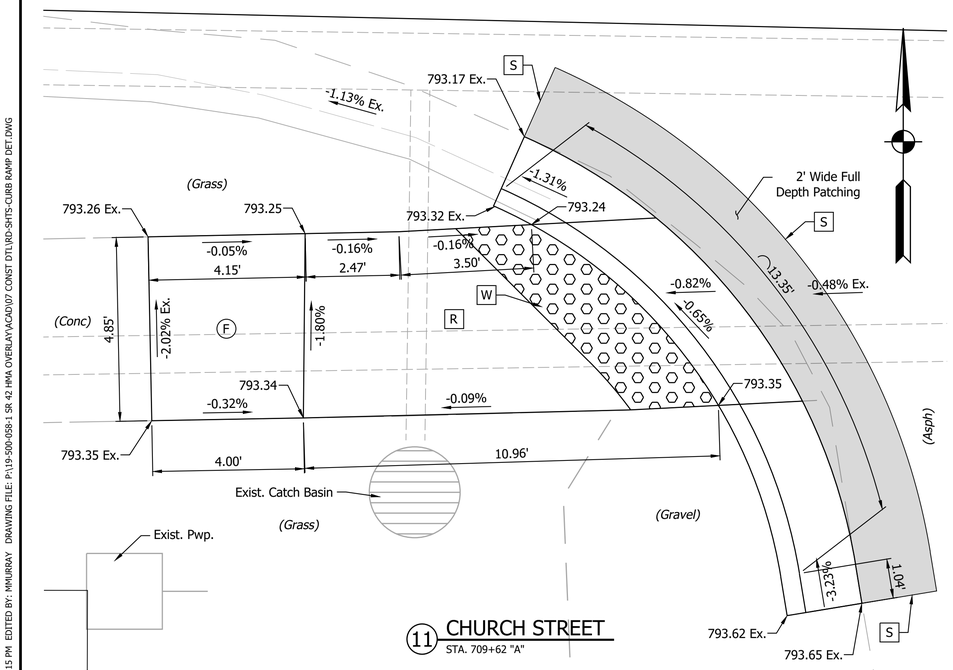
9 CHESTNUT STREET
STA. 706+38 "A"



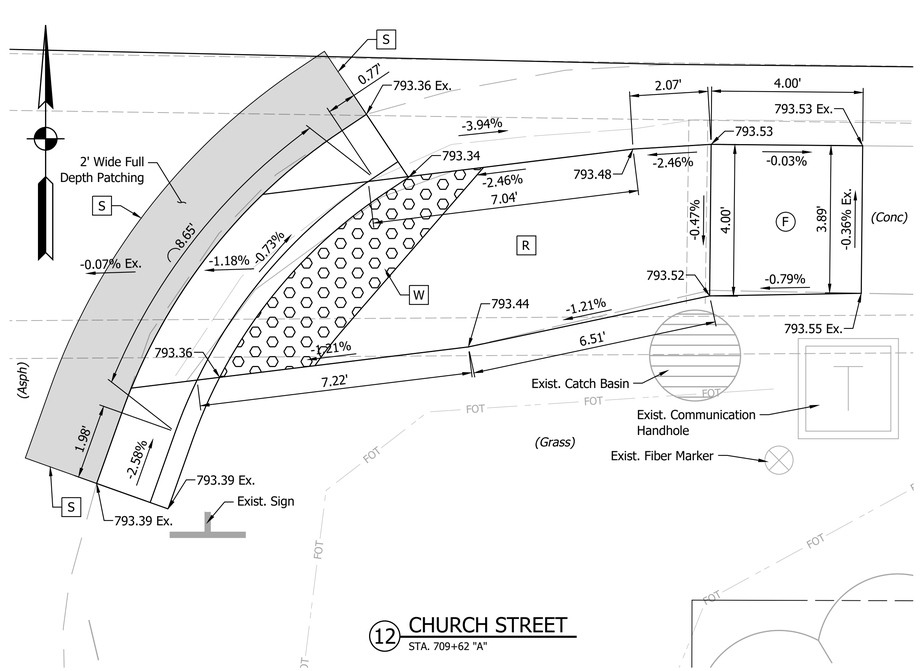
10 CHESTNUT STREET
STA. 706+38 "A"



LOCATION MAP



11 CHURCH STREET
STA. 709+62 "A"



12 CHURCH STREET
STA. 709+62 "A"

LEGEND

F	Concrete Sidewalk	FS	Flared Side		Detectable Warning Surface	26	Sodding
R	Ramp	B.C.	Bottom of Curb	W	Install Detectable Warning Surface Only	CC	Return Curb
TS	Turning Space	T.C.	Top of Curb	S	Saw Cut		

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: MSS DRAWN: ----

CHECKED: LLC CHECKED: MSS

INDIANA
DEPARTMENT OF TRANSPORTATION

CURB RAMP DETAILS

HORIZONTAL SCALE	BRIDGE FILE
1" = 2'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1601075
SURVEY BOOK	SHEET
	86 of 86
CONTRACT	PROJECT
R-40583	1601075

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Categorical Exclusion

Appendix C

Early Coordination

INDIANA DEPARTMENT OF TRANSPORTATION

Crawfordsville District
41 West 300 North
Crawfordsville, Indiana 47933

PHONE: (855) 463-6848
FAX: (765) 364-9226

Eric Holcomb, Governor
Joe McGuinness, Commissioner

April 19, 2021

Example Early Coordination Letter

Re: Agencies Early Coordination
Lead Des. Number 1601075
SR 42: Pavement Rehabilitation Project
Morgan County, Indiana

Dear «Position»,

The Federal Highway Administration (FHWA) and the Indiana Department of Transportation (INDOT) Crawfordsville District propose to proceed with a pavement rehabilitation project located on State Road (SR) 42 from the town of Eminence to the town of Monrovia in Morgan County, Indiana (Lead Des. Number 1601075). The FHWA is providing funds and is designated as the lead Federal agency. This letter is part of the early coordination phase of the environmental review process. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. **Please use the above Des. Number and project description in your reply.** We will incorporate your comments into a study of the project's environmental impacts.

The project is located on State Road (SR) 42 and will extend from the town of Eminence to the town of Monrovia, for a total project length of approximately 13.06 miles. The project is further describe as being in Adams and Monroe Townships within Sections 12, 13, 14, 15, 16, 21, 28, 33 of Township 13 North and Range 2 West and within Sections 7, 8, 9, 10, 11, 12 of Township 13 North and Range 1 West. The project is located in Mooresville West, Hall, and Eminence U.S. Geological (USGS) Quadrangles. The primary land use in the project area is residential and agricultural. See Appendix A for project area maps and photographs.

SR 42 is classified as a Major Collector and is not part of the National Highway System (NHS) or the National Truck Network (NTN). Within the project area, SR 42 can be broken into three sections: the town of Eminence, Eminence to Monrovia, and the town of Monrovia. In the town of Eminence, there are two 11 foot lanes with a paved shoulder that varies from 0 to 6 feet wide. From Eminence to Monrovia, SR 42 is two 9.5 foot lanes with a 2 foot usable shoulder of compacted aggregate on the outside. In the town of Monrovia, SR 42 has 2 10 foot lanes and 2 to 8 foot parallel parking lanes on each side of the travel lanes. Sidewalk also exists on each side of SR 42 within the town limits of Eminence and Monrovia.

The preferred alternative involves a functional Hot Mix Asphalt (HMA) minor structural overlay and/or full depth reclamation with patching as necessary within the town limits of Monrovia and Eminence. Full depth reclamation is being proposed outside the city limits through the remainder of the project area. A list of each structure to be replaced/repaired under Lead Des. Number 1601075 and their locations are included in the below table. There are additional small culvert pipes that are under 48" in diameter and do not have an assigned culvert numbers or designated Des Numbers that will also be replaced. Please refer to the Structure Locations map in Attachment A for locations of all small structures to be replaced. The roadside ditches present along the area of the small structures to be replaced will be regraded. The profile grade will match the existing grade within the town limits of Monrovia and Eminence. The rural portion of the roadway will include milling down the existing pavement to remove any deteriorated asphalt to a depth suitable for full depth reclamation, then it will be scarified, pulverized, and compacted to reclaim the asphalt before being repaved. The profile grade will be increased by approximately 2 inches to help facilitate better roadway/roadside drainage, and to provide appropriate cover for small structures. Existing drives located within the project area will either be reconstructed or receive

Please note that this project no longer includes full depth reclamation, nor does it include any shoulder widening. In addition, the profile grade as proposed will match the existing and will no longer be raised.

a wedge and level to tie into the existing profile grade. The roadway geometry will remain virtually unchanged except in 5 isolated areas, where the shoulder will be widened up to 6 feet around sharp curves to facilitate turning movements. Within the town limits of Eminence and Monrovia, ADA curb ramps will be evaluated for ADA compliance and upgraded if determined necessary. Sidewalks will not be replaced or upgraded with this project, and the drainage structures in the town of Monrovia will remain as they are part of a storm sewer network.

Please refer to pages C54 to C57 for an up to date table of all structures to be replaced.

CV #	Des. No.	Coordinates	Existing Size/Type	*Proposed Size/Type
CV 042-055-42.83	2001548	39.52378, -86.64154	103”X79” CMP	16’X6’ Rise
CV 042-055-43.03	2001550	39.52683, -86.64152	30” CMP	5’X3’ Box
CV 042-055-44.05	1800121	39.54162, -86.64151	144”X94” CMP	Pipe liner
CV 042-055-44.16	2001551	39.54314, -86.64223	144”X94” CMP	20’X6’ Box
CV 042-055-45.01	2001552	39.55247, -86.64629	18" CMP	49” x 32” RCPE
CV 042-055-46.13	2001553	39.56484, -86.63909	18" CMP	49" X 33" CMPA
CV 042-055-47.32	1701593	39.56485, -86.61786	10.5' X 4.5' Box	14' X 5' Box
CV 042-055-47.90	2001554	39.56481, -86.60624	6’ x 3.68’ CMP	7' x 3' Box
CV 042-055-48.78	2001555	39.56479, -86.58969	30" CMP	8'X3' Box
CV 042-055-49.29	2001557	39.57214, -86.58961	24" CMP	5’X3’ Box
CV 042-055-50.80	2001558	39.57930, -86.57003	2-84"X61" CMP’s	12' x 5' Box
CV 042-055-51.40	1800122	39.57929, -86.55892	84.2" x 61.1" CMP	Pipe Liner
CV 042-055-54.25	2001559	39.57899, -86.50486	98" x 69" CMP	10' x 6' Box

*The proposed structure sizes listed in this table are approximate and may change based on hydraulic requirements.

The apparent existing right-of-way is considered to be the edge of pavement. Additional right-of-way will be necessary, specifically around the proposed structure replacements and for shoulder widening on the sharp curves. Further investigation on the exact amount of permanent and temporary right-of-way to be acquired is needed, but it is anticipated to be approximately 3.5 acres of permanent and 0.75 acre of temporary right-of-way will be required in total.

Please note that this project will only require 2.11 acre of permanent right-of-way and 0.05 acre of temporary right-of-way.

The draft need for this project stems from the deteriorated pavement condition and poor roadside drainage. The draft purpose of this project is to address the deteriorated pavement and improve roadside drainage.

The Maintenance of Traffic (MOT) plan for this project is proposed to consist of a road closure with a detour route. Local access will be maintained for all property owners, businesses, and schools. If local detours are to be used, they will be coordinated with Morgan County and will require an agreement with INDOT for the use of local streets. An official detour route has not been determined at this time. It may be determined later that the road closure will need to be done in phases. Construction is expected to begin in the Spring of 2023.

To identify potential environmental concerns within the project vicinity, a Red Flag Investigation was performed for a 0.5-mile radius of the project area by RQAW. The Red Flag Investigation noted:

- Four schools
- Two recreational facilities
- One pipeline
- One trail
- One petroleum well
- Several hazardous material concerns are mapped within and/or adjacent to the project area

Coordination with respective agencies/owners of the above is occurring via this letter.

RQAW performed site visits on June 03, 04, 06, 11, 12, August 23, and September 23, 2019 to identify any ecological resources present. Several streams and wetlands exist within/adjacent to the project area. RQAW is currently preparing a *Waters of the U.S. Report* documenting these resources. Wetland and stream impacts are anticipated, but impacts are unknown at this time.

The project is expected to qualify for the application of the U.S. Fish and Wildlife Service (USFWS) range-wide programmatic informal consultation process for the Indiana bat and northern long-eared bat. Project information will be submitted through the USFWS Information for Planning and Consultation (IPaC) separately.

In regards to Section 106, coordination with INDOT Cultural Resource Office (CRO) will occur. This project will be evaluated under the Minor Projects Programmatic Agreement (MPPA) between INDOT, FHWA, State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation. If this project is determined to be outside of the MPPA, as the Section 106 process advances, the project area will be surveyed by individuals satisfying the Secretary of the Interior Professional Qualification Standards to determine an area of potential effect (APE), make recommendations on eligibility determinations and assess effects on potential historic resources. Additionally, the project area will be subjected to an archaeological reconnaissance by a qualified archaeologist. Coordination with the SHPO and the identified consulting parties will be ongoing for the duration of the Section 106 process.

If we do not receive your **response within 30 calendar days** from the date of this letter, it will be assumed your agency feels there will be no adverse effects incurred because of the project. However, if you feel an extension to the response time is necessary, a reasonable amount may be granted upon request. If a questionnaire follows this letter, please complete. If you have any questions regarding this matter, please contact Harlan Ford of the Environmental Department at RQAW, at 317.588.1798 or at hford@rqaw.com, or the INDOT Project Manager, Ann Bishop, at 419-934-5559 or at abishop@indot.in.gov. Thank you in advance for your input.

In an effort to reduce the file size of this letter, preliminary plans are not attached. Please contact Harlan Ford (contact information above) to request a copy of preliminary plans if desired.

Sincerely,

Harlan Ford
Environmental Scientist
RQAW Corporation

Appendices:

- ~~Appendix A: Project Maps and Photographs~~

Please note that project maps and photographs have been removed to avoid duplication and are included in Appendix B.

Cc:

- INDOT Crawfordsville District (electronic coordination)
- Federal Highway Administration (electronic coordination)
- Natural Resources Conservation Service (electronic coordination)
- Indiana Geological Survey (electronic coordination)
- IDNR Division of Fish and Wildlife (electronic coordination)
- IDEM (electronic coordination)
- USACE (electronic coordination)
- USFWS (electronic coordination)
- INDOT Aviation (electronic coordination)
- Local Floodplain Administrator (electronic coordination)
- Indianapolis Metropolitan Planning Organization (electronic coordination)
- U.S. Department of Housing and Urban Development (electronic coordination)
- National Park Service, Midwest Regional Office (electronic coordination)
- Morgan County Board of Commissioners (electronic coordination)
- Morgan County Surveyor (electronic coordination)
- Morgan County Council Members
- Morgan County Highway Department
- Town of Monrovia Council Members
- Eminence Consolidated School Corporation
- IDNR Oil and Gas Division
- Monroe-Gregg School District
- Eminence Community Schools

Please note that the Eminence Baptist Church and Mt. Tabor Christian Church were inadverently left off the mailing list. However, they were sent an ealry coordination packet on Augsut 5, 2021.

Indiana Department of Environmental Management

We Protect Hoosiers and Our Environment.

100 North Senate Avenue - Indianapolis, IN 46204
(800) 451-6027 - (317) 232-8603 - www.idem.IN.gov

INDOT Crawfordsville District
Ann Bishop
41 W. 300 N.
Crawfordsville , IN 47933
Date 4-19-21

RQAW Corporation
Harlan Ford
8770 North St. Ste. 110
Fishers , IN 46038

To Engineers and Consultants Proposing Roadway Construction Projects:

RE: The project is located on State Road (SR) 42 and will extend from the town of Eminence to the town of Monrovia, for a total project length of approximately 13.06 miles. The primary land use in the project area is residential and agricultural. The preferred alternative involves a functional Hot Mix Asphalt (HMA) minor structural overlay and/or full depth reclamation with patching as necessary within the town limits of Monrovia and Eminence. Full depth reclamation is being proposed outside the city limits through the remainder of the project area. There are several small structures that will be replaced throughout the project area. The roadside ditches present along the area of the small structures to be replaced will be regraded. The profile grade will match the existing grade within the town limits of Monrovia and Eminence. The rural portion of the roadway will include milling down the existing pavement to remove any deteriorated asphalt to a depth suitable for full depth reclamation, then it will be scarified, pulverized, and compacted to reclaim the asphalt before being repaved. The profile grade will be increased by approximately 2 inches to help facilitate better roadway/roadside drainage, and to provide appropriate cover for small structures. Existing drives located within the project area will either be reconstructed or receive a wedge and level to tie into the existing profile grade. The roadway geometry will remain virtually unchanged except in 5 isolated areas, where the shoulder will be widened up to 6 feet around sharp curves to facilitate turning movements. Within the town limits of Eminence and Monrovia, ADA curb ramps will be evaluated for ADA compliance and upgraded if determined necessary. Sidewalks will not be replaced or upgraded with this project, and the drainage structures in the town of Monrovia will remain as they are part of a storm sewer network. The apparent existing right-of-way is considered to be the edge of pavement. Additional right-of-way will be necessary, specifically around the proposed structure replacements and for shoulder widening on the sharp curves. Further investigation on the exact amount of permanent and temporary right-of-way to be acquired is needed, but it is anticipated to be approximately 3.5 acres of permanent and 0.75 acre of temporary right-of-way will be required in total. The Maintenance of Traffic (MOT) plan for this project is proposed to consist of a road closure with a detour route. Construction is expected to begin in the Spring of 2023.

This letter from the Indiana Department of Environmental Management (IDEM) serves as a standardized response to enquiries inviting IDEM comments on roadway construction, reconstruction, or other improvement projects within existing roadway corridors when the proposed scope of the project is beneath the threshold requiring a formal National Environmental Policy Act-mandated Environmental Assessment or Environmental Impact Statement. As the letter attempts to address all roadway-related environmental topics of potential concern, it is possible that not every topic addressed in the letter will be applicable to your particular roadway project.

For additional information on specific roadway-related topics of interest, please visit the appropriate Web pages cited below, many of which provide contact information for persons within the various program areas who can answer questions not fully addressed in this letter. Also please be mindful that some environmental requirements may be subject to change and so each person intending to include a copy of this letter in their project documentation packet is advised to download the most recently revised version of the letter; found at: http://www.in.gov/idem/5283.htm (http://www.in.gov/idem/5283.htm).

To ensure that all environmentally-related issues are adequately addressed, IDEM recommends that you read this letter in its entirety, and consider each of the following issues as you move forward with the planning of your proposed roadway construction, reconstruction, or improvement project:

WATER AND BIOTIC QUALITY

1. Section 404 of the Clean Water Act requires that you obtain a permit from the U.S. Army Corps of Engineers (USACE) before discharging dredged or fill materials into any wetlands or other waters, such as rivers, lakes, streams, and ditches. Other activities regulated include the relocation, channelization, widening, or other such alteration of a stream, and the mechanical clearing (use of heavy construction equipment) of wetlands. Thus, as a project owner or sponsor, it is your responsibility to ensure that no wetlands are disturbed without the proper permit. Although you may initially refer to the U.S. Fish and Wildlife Service National Wetland Inventory maps as a means of identifying potential areas of concern, please be mindful that those maps do not depict jurisdictional wetlands regulated by the USACE or the Department of Environmental Management. A valid jurisdictional wetlands determination can only be made by the USACE, using the 1987 Wetland Delineation Manual.

   USACE recommends that you have a consultant check to determine whether your project will abut, or lie within, a wetland area. To view a list of consultants that have requested to be included on a list posted by the USACE on their Web site, see USACE Permits and Public Notices (http://www.lrl.usace.army.mil/orf/default.asp) (http://www.lrl.usace.army.mil/orf /default.asp (http://www.lrl.usace.army.mil/orf/default.asp)) and then click on "Information" from the menu on the right-hand side of that page. Their "Consultant List" is the fourth entry down on the "Information" page. Please note that the USACE posts all consultants that request to appear on the list, and that inclusion of any particular consultant on the list does not represent an endorsement of that consultant by the USACE, or by IDEM.

   Much of northern Indiana (Newton, Lake, Porter, LaPorte, St. Joseph, Elkhart, LaGrange, Steuben, and Dekalb counties; large portions of Jasper, Starke, Marshall, Noble, Allen, and Adams counties; and lesser portions of Benton, White, Pulaski, Kosciusko, and Wells counties) is served by the USACE District Office in Detroit (313-226-6812). The central and southern portions of the state (large portions of Benton, White, Pulaski, Kosciosko, and Wells counties; smaller portions of Jasper, Starke, Marshall , Noble, Allen, and Adams counties; and all other Indiana counties located in north-central, central, and southern Indiana) are served by the USACE Louisville District Office (502-315-6733).

   Additional information on contacting these U.S. Army Corps of Engineers (USACE) District Offices, government agencies with jurisdiction over wetlands, and other water quality issues, can be found at http://www.in.gov/idem/4396.htm (http://www.in.gov/idem/4396.htm). IDEM recommends that impacts to wetlands and other water resources be avoided to the fullest extent.

2. In the event a Section 404 wetlands permit is required from the USACE, you also must obtain a Section 401 Water Quality Certification from the IDEM Office of Water Quality Wetlands Program. To learn more about the Wetlands Program, visit: http://www.in.gov/idem/4384.htm (http://www.in.gov/idem/4384.htm).

3. If the USACE determines that a wetland or other water body is isolated and not subject to Clean Water Act regulation, it is still regulated by the state of Indiana . A State Isolated Wetland permit from IDEM's Office of Water Quality (OWQ) is required for any activity that results in the discharge of dredged or fill materials into isolated wetlands. To learn more about isolated wetlands, contact the OWQ Wetlands Program at 317-233-8488.

4. If your project will involve over a 0.5 acre of wetland impact, stream relocation, or other large-scale alterations to water bodies such as the creation of a dam or a water diversion, you should seek additional input from the OWQ Wetlands Program staff. Consult the Web at: http://www.in.gov/idem/4384.htm (http://www.in.gov/idem/4384.htm) for the appropriate staff contact to further discuss your project.

5. Work within the one-hundred year floodway of a given water body is regulated by the Department of Natural Resources, Division of Water. The Division issues permits for activities regulated under the follow statutes:
    - IC 14-26-2 Lakes Preservation Act 312 IAC 11
    - IC 14-26-5 Lowering of Ten Acre Lakes Act No related code
    - IC 14-28-1 Flood Control Act 310 IAC 6-1
    - IC 14-29-1 Navigable Waterways Act 312 IAC 6
    - IC 14-29-3 Sand and Gravel Permits Act 312 IAC 6
    - IC 14-29-4 Construction of Channels Act No related code

    For information on these Indiana (statutory) Code and Indiana Administrative Code citations, see the DNR Web site at: http://www.in.gov/dnr/water/9451.htm (http://www.in.gov/dnr/water/9451.htm) . Contact the DNR Division of Water at 317-232-4160 for further information.

    The physical disturbance of the stream and riparian vegetation, especially large trees overhanging any affected water bodies should be limited to only that which is absolutely necessary to complete the project. The shade provided by the large overhanging trees helps maintain proper stream temperatures and dissolved oxygen for aquatic life.

6. For projects involving construction activity (which includes clearing, grading, excavation and other land disturbing activities) that result in the disturbance of one (1), or more, acres of total land area, contact the Office of Water Quality – Watershed Planning Branch (317/233-1864) regarding the need for of a Rule 5 Storm Water Runoff Permit. Visit the following Web page
    - http://www.in.gov/idem/4902.htm (http://www.in.gov/idem/4902.htm)

    To obtain, and operate under, a Rule 5 permit you will first need to develop a Construction Plan (http://www.in.gov/idem/4917.htm#constreq (http://www.in.gov/idem/4917.htm#constreq)), and as described in 327 IAC 15-5-6.5 (http://www.in.gov/legislative/iac/T03270/A00150 [PDF] (http://www.in.gov/legislative/iac/T03270/A00150.PDF), pages 16 through 19). Before you may apply for a Rule 5 Permit, or begin construction, you must submit your Construction Plan to your county Soil and Water Conservation District (SWCD) (http://www.in.gov/isda/soil/contacts/map.html (http://www.in.gov/isda/soil/contacts/map.html)).

    Upon receipt of the construction plan, personnel of the SWCD or the Indiana Department of Environmental Management will review the plan to determine if it meets the requirements of 327 IAC 15-5. Plans that are deemed deficient will require re-submittal. If the plan is sufficient you will be notified and instructed to submit the verification to IDEM as part of the Rule 5 Notice of Intent (NOI) submittal. Once construction begins, staff of the SWCD or Indiana Department of Environmental Management will perform inspections of activities at the site for compliance with the regulation.

Please be mindful that approximately 149 Municipal Separate Storm Sewer System (MS4) areas are now being established by various local governmental entities throughout the state as part of the implementation of Phase II federal storm water requirements. All of these MS4 areas will eventually take responsibility for Construction Plan review, inspection, and enforcement. As these MS4 areas obtain program approval from IDEM, they will be added to a list of MS4 areas posted on the IDEM Website at: http://www.in.gov/idem/4900.htm (http://www.in.gov/idem/4900.htm).

If your project is located in an IDEM-approved MS4 area, please contact the local MS4 program about meeting their storm water requirements. Once the MS4 approves the plan, the NOI can be submitted to IDEM.

Regardless of the size of your project, or which agency you work with to meet storm water requirements, IDEM recommends that appropriate structures and techniques be utilized both during the construction phase, and after completion of the project, to minimize the impacts associated with storm water runoff. The use of appropriate planning and site development and appropriate storm water quality measures are recommended to prevent soil from leaving the construction site during active land disturbance and for post construction water quality concerns. Information and assistance regarding storm water related to construction activities are available from the Soil and Water Conservation District (SWCD) offices in each county or from IDEM.

7. For projects involving impacts to fish and botanical resources, contact the Department of Natural Resources - Division of Fish and Wildlife (317/232-4080) for addition project input.

8. For projects involving water main construction, water main extensions, and new public water supplies, contact the Office of Water Quality - Drinking Water Branch (317-308-3299) regarding the need for permits.

9. For projects involving effluent discharges to waters of the State of Indiana , contact the Office of Water Quality - Permits Branch (317-233-0468) regarding the need for a National Pollutant Discharge Elimination System (NPDES) permit.

10. For projects involving the construction of wastewater facilities and sewer lines, contact the Office of Water Quality - Permits Branch (317-232-8675) regarding the need for permits.

AIR QUALITY

The above-noted project should be designed to minimize any impact on ambient air quality in, or near, the project area. The project must comply with all federal and state air pollution regulations. Consideration should be given to the following:

1. Regarding open burning, and disposing of organic debris generated by land clearing activities; some types of open burning are allowed (http://www.in.gov/idem/4148.htm (http://www.in.gov/idem/4148.htm)) under specific conditions. You also can seek an open burning variance from IDEM.

   However, IDEM generally recommends that you take vegetative wastes to a registered yard waste composting facility or that the waste be chipped or shredded with composting on site (you must register with IDEM if more than 2,000 pounds is to be composted; contact 317/232-0066). The finished compost can then be used as a mulch or soil amendment. You also may bury any vegetative wastes (such as leaves, twigs, branches, limbs, tree trunks and stumps) onsite, although burying large quantities of such material can lead to subsidence problems, later on.

   Reasonable precautions must be taken to minimize fugitive dust emissions from construction and demolition activities. For example, wetting the area with water, constructing wind barriers, or treating dusty areas with

chemical stabilizers (such as calcium chloride or several other commercial products). Dirt tracked onto paved roads from unpaved areas should be minimized.

Additionally, if construction or demolition is conducted in a wooded area where blackbirds have roosted or abandoned buildings or building sections in which pigeons or bats have roosted for 3-5 years precautionary measures should be taken to avoid an outbreak of histoplasmosis. This disease is caused by the fungus Histoplasma capsulatum, which stems from bird or bat droppings that have accumulated in one area for 3-5 years. The spores from this fungus become airborne when the area is disturbed and can cause infections over an entire community downwind of the site. The area should be wetted down prior to cleanup or demolition of the project site. For more detailed information on histoplasmosis prevention and control, please contact the Acute Disease Control Division of the Indiana State Department of Health at (317) 233-7272.

2. The U.S. EPA and the Surgeon General recommend that people not have long-term exposure to radon at levels above 4 pCi/L. (For a county-by-county map of predicted radon levels in Indiana, visit: http://www.in.gov/idem/4145.htm (http://www.in.gov/idem/4145.htm).)

   The U.S. EPA further recommends that all homes (and apartments within three stories of ground level) be tested for radon. If in-home radon levels are determined to be 4 pCi/L, or higher, EPA recommends a follow-up test. If the second test confirms that radon levels are 4 pCi/L, or higher, EPA recommends the installation of radon-reduction measures. (For a list of qualified radon testers and radon mitigation (or reduction) specialists visit: http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon_testers_mitigators_list.pdf (http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon_testers_mitigators_list.pdf).) It also is recommended that radon reduction measures be built into all new homes, particularly in areas like Indiana that have moderate to high predicted radon levels.

   To learn more about radon, radon risks, and ways to reduce exposure visit: http://www.in.gov/isdh/regsvcs/radhealth/radon.htm (http://www.in.gov/isdh/regsvcs/radhealth/radon.htm), http://www.in.gov/idem/4145.htm (http://www.in.gov/idem/4145.htm), or http://www.epa.gov/radon/index.html (http://www.epa.gov/radon/index.html).

3. With respect to asbestos removal: all facilities slated for renovation or demolition (except residential buildings that have (4) four or fewer dwelling units and which will not be used for commercial purposes) must be inspected by an Indiana-licensed asbestos inspector prior to the commencement of any renovation or demolition activities. If regulated asbestos-containing material (RACM) that may become airborne is found, any subsequent demolition, renovation, or asbestos removal activities must be performed in accordance with the proper notification and emission control requirements.

   If no asbestos is found where a renovation activity will occur, or if the renovation involves removal of less than 260 linear feet of RACM off of pipes, less than 160 square feet of RACM off of other facility components, or less than 35 cubic feet of RACM off of all facility components, the owner or operator of the project does not need to notify IDEM before beginning the renovation activity.

   For questions on asbestos demolition and renovation activities, you can also call IDEM's Lead/Asbestos section at 1-888-574-8150.

   However, in all cases where a demolition activity will occur (even if no asbestos is found), the owner or operator must still notify IDEM 10 working days prior to the demolition, using the form found at http://www.in.gov/icpr/webfile/formsdiv/44593.pdf (http://www.in.gov/icpr/webfile/formsdiv/44593.pdf).

Anyone submitting a renovation/demolition notification form will be billed a notification fee based upon the amount of friable asbestos containing material to be removed or demolished. Projects that involve the removal of more than 2,600 linear feet of friable asbestos containing materials on pipes, or 1,600 square feet or 400 cubic feet of friable asbestos containing material on other facility components, will be billed a fee of $150 per project; projects below these amounts will be billed a fee of $50 per project. All notification remitters will be billed on a quarterly basis.

For more information about IDEM policy regarding asbestos removal and disposal, visit: http://www.in.gov/idem/4983.htm (http://www.in.gov/idem/4983.htm).

4. With respect to lead-based paint removal: IDEM encourages all efforts to minimize human exposure to lead-based paint chips and dust. IDEM is particularly concerned that young children exposed to lead can suffer from learning disabilities. Although lead-based paint abatement efforts are not mandatory, any abatement that is conducted within housing built before January 1, 1978 , or a child-occupied facility is required to comply with all lead-based paint work practice standards, licensing and notification requirements. For more information about lead-based paint removal visit: http://www.in.gov/isdh/19131.htm (http://www.in.gov/isdh/19131.htm).

5. Ensure that asphalt paving plants are permitted and operate properly. The use of cutback asphalt, or asphalt emulsion containing more than seven percent (7%) oil distillate, is prohibited during the months April through October. See 326 IAC 8-5-2 , Asphalt Paving Rule (http://www.ai.org/legislative/iac/T03260/A00080.PDF (http://www.ai.org/legislative/iac/T03260/A00080.PDF)).

6. If your project involves the construction of a new source of air emissions or the modification of an existing source of air emissions or air pollution control equipment, it will need to be reviewed by the IDEM Office of Air Quality (OAQ). A registration or permit may be required under 326 IAC 2 (View at: www.ai.org/legislative/iac/t03260/a00020.pdf (http://www.ai.org/legislative/iac/t03260/a00020.pdf).) New sources that use or emit hazardous air pollutants may be subject to Section 112 of the Clean Air Act and corresponding state air regulations governing hazardous air pollutants.

7. For more information on air permits visit: http://www.in.gov/idem/4223.htm (http://www.in.gov/idem/4223.htm), or to initiate the IDEM air permitting process, please contact the Office of Air Quality Permit Reviewer of the Day at (317) 233-0178 or OAMPROD atdem.state.in.us.

LAND QUALITY

In order to maintain compliance with all applicable laws regarding contamination and/or proper waste disposal, IDEM recommends that:

1. If the site is found to contain any areas used to dispose of solid or hazardous waste, you need to contact the Office of Land Quality (OLQ)at 317-308-3103.

2. All solid wastes generated by the project, or removed from the project site, need to be taken to a properly permitted solid waste processing or disposal facility. For more information, visit http://www.in.gov/idem/4998.htm (http://www.in.gov/idem/4998.htm).

3. If any contaminated soils are discovered during this project, they may be subject to disposal as hazardous waste. Please contact the OLQ at 317-308-3103 to obtain information on proper disposal procedures.

4. If PCBs are found at this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding management of any PCB wastes from this site.

5. If there are any asbestos disposal issues related to this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding the management of asbestos wastes (Asbestos removal is addressed above, under Air Quality).

6. If the project involves the installation or removal of an underground storage tank, or involves contamination from an underground storage tank, you must contact the IDEM Underground Storage Tank program at 317/308-3039. See: http://www.in.gov/idem/4999.htm (http://www.in.gov/idem/4999.htm).

FINAL REMARKS

Should you need to obtain any environmental permits in association with this proposed project, please be mindful that IC 13-15-8 requires that you notify all adjoining property owners and/or occupants within ten days your submittal of each permit application. However, if you are seeking multiple permits, you can still meet the notification requirement with a single notice if all required permit applications are submitted with the same ten day period.

Should the scope of the proposed project be expanded to the extent that a National Environmental Policy Act Environmental Assessment (EA) or Environmental Impact Statement (EIS) is required, IDEM will actively participate in any early interagency coordination review of the project.

Meanwhile, please note that this letter does not constitute a permit, license, endorsement or any other form of approval on the part of the Indiana Department of Environmental Management regarding any project for which a copy of this letter is used. Also note that is it the responsibility of the project engineer or consultant using this letter to ensure that the most current draft of this document, which is located at http://www.in.gov/idem/5284.htm (http://www.in.gov/idem/5284.htm), is used.

Signature(s) of the Applicant

I acknowledge that the following proposed roadway project will be financed in part, or in whole, by public monies.

Project Description

The project is located on State Road (SR) 42 and will extend from the town of Eminence to the town of Monrovia, for a total project length of approximately 13.06 miles. The primary land use in the project area is residential and agricultural. The preferred alternative involves a functional Hot Mix Asphalt (HMA) minor structural overlay and/or full depth reclamation with patching as necessary within the town limits of Monrovia and Eminence. Full depth reclamation is being proposed outside the city limits through the remainder of the project area. There are several small structures that will be replaced throughout the project area. The roadside ditches present along the area of the small structures to be replaced will be regraded. The profile grade will match the existing grade within the town limits of Monrovia and Eminence. The rural portion of the roadway will include milling down the existing pavement to remove any deteriorated asphalt to a depth suitable for full depth reclamation, then it will be scarified, pulverized, and compacted to reclaim the asphalt before being repaved. The profile grade will be increased by approximately 2 inches to help facilitate better roadway/roadside drainage, and to provide appropriate cover for small structures. Existing drives located within the project area will either be reconstructed or receive a wedge and level to tie into the existing profile grade. The roadway geometry will remain virtually unchanged except in 5 isolated areas, where the shoulder will be widened up to 6 feet around sharp curves to facilitate turning movements. Within the town limits of Eminence and Monrovia, ADA curb ramps will be evaluated for ADA compliance and upgraded if determined necessary. Sidewalks will not be replaced or upgraded with this project,

and the drainage structures in the town of Monrovia will remain as they are part of a storm sewer network. The apparent existing right-of-way is considered to be the edge of pavement. Additional right-of-way will be necessary, specifically around the proposed structure replacements and for shoulder widening on the sharp curves. Further investigation on the exact amount of permanent and temporary right-of-way to be acquired is needed, but it is anticipated to be approximately 3.5 acres of permanent and 0.75 acre of temporary right-of-way will be required in total. The Maintenance of Traffic (MOT) plan for this project is proposed to consist of a road closure with a detour route. Construction is expected to begin in the Spring of 2023.

With my signature, I do hereby affirm that I have read the letter from the Indiana Department of Environment that appears directly above. In addition, I understand that in order to complete that project in which I am interested, with a minimum of impact to the environment, I must consider all the issues addressed in the aforementioned letter, and further, that I must obtain any required permits.

Date: 4.20.21

Signature of the INDOT
Project Engineer or Other Responsible Agent Ann M Bishop

Ann Bishop

Date: 4-20-21

Signature of the
For Hire Consultant

Harlan Ford

Organization and Project Information

Project ID:	Lead Des No. 1601075
Des. ID:	Lead Des No. 1601075
Project Title:	SR 42: Pavement Rehabilitation
Name of Organization:	RQAW Corporation
Requested by:	Harlan Ford

Environmental Assessment Report

1. Geological Hazards:
    - High liquefaction potential
    - 1% Annual Chance Flood Hazard
2. Mineral Resources:
    - Bedrock Resource: Moderate Potential
    - Sand and Gravel Resource: Low Potential
3. Active or abandoned mineral resources extraction sites:
    - Petroleum Exploration Wells

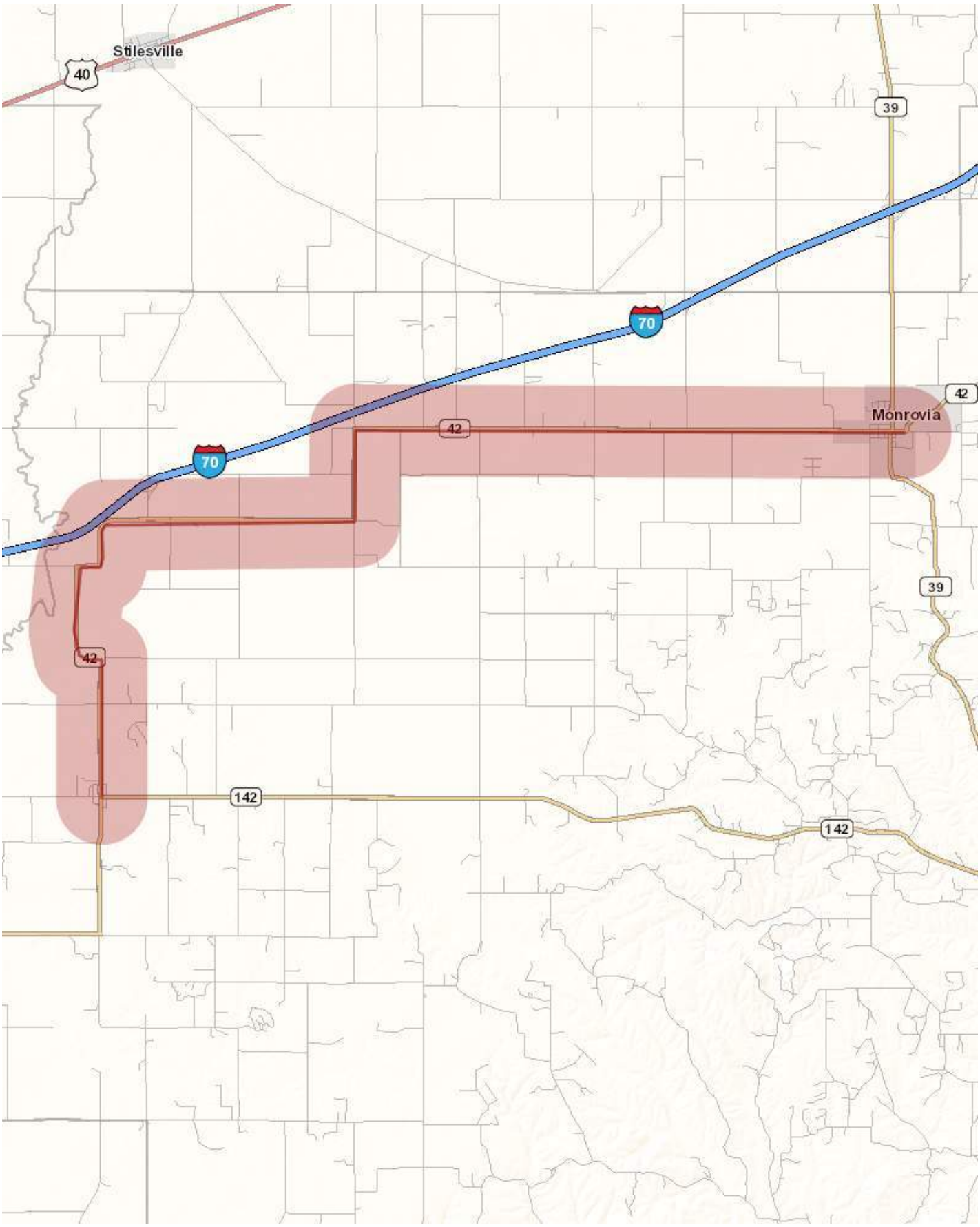
*All map layers from Indiana Map (maps.indiana.edu)

DISCLAIMER:

This document was compiled by Indiana University, Indiana Geological Survey, using data believed to be accurate; however, a degree of error is inherent in all data. This product is distributed "AS-IS" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use. No attempt has been made in either the design or production of these data and document to define the limits or jurisdiction of any federal, state, or local government. The data used to assemble this document are intended for use only at the published scale of the source data or smaller (see the metadata links below) and are for reference purposes only. They are not to be construed as a legal document or survey instrument. A detailed on-the-ground survey and historical analysis of a single site may differ from these data and this document.

This information was furnished by Indiana Geological Survey
Address: 420 N. Walnut St., Bloomington, IN 47404
Email: IGSEnvir@indiana.edu
Phone: 812 855-7428

Date: April 19, 2021



Metadata:

- https://maps.indiana.edu/metadata/Geology/Petroleum_Wells.html
- https://maps.indiana.edu/metadata/Geology/Seismic_Earthquake_Liquefaction_Potential.html
- https://maps.indiana.edu/metadata/Geology/Industrial_Minerals_Sand_Gravel_Resources.html
- https://maps.indiana.edu/metadata/Hydrology/Floodplains_FIRM.html
- https://maps.indiana.edu/metadata/Geology/Bedrock_Geology.html

From:	Courtade, Julian
To:	Harlan Ford
Subject:	[EXT] RE: Early Coordination Letter for Lead Des No. 1601075: SR 42 Pavement Rehabilitation Project in Morgan County, Indiana
Date:	Friday, April 23, 2021 8:34:31 AM
Attachments:	image001.png image002.png image004.png image006.png image008.png image010.png image011.png image012.png image019.png image021.png image023.png image025.png image003.png image005.png image007.png image009.png

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****** Please use caution this is an externally originating email. ******
Do not click on links or open attachments unless you recognize the sender and know the contents is safe.

Harlan –

I reviewed the Early Coordination Letter and found no issues with any surrounding airspace or public-use airports. This is due to the project meeting the required glideslope criteria from the nearest public-use facility according to 14 CFR Part 77 – Safe, efficient use, and preservation of the navigable airspace.

If any object will exceed 200 ft in height regardless of location, the object will need to be airspaced with the FAA 45 days prior to construction through the OEAAA portal below.

https://oeaaa.faa.gov/oeaaa/external/searchAction.jsp

Please let me know if you have any questions!

Thanks,

Julian L. Courtade
Chief Airport Inspector
100 North Senate Ave, N758-MM
Indianapolis, IN 46204
Cell: (317) 954-7385
Email: jcourtade@indot.in.gov

USDA
United States Department of Agriculture

Natural Resources Conservation Service
Indiana State Office
6013 Lakeside Boulevard
Indianapolis, IN 46278
317-290-3200

May 5, 2021

Harlan Ford
RQAW Corporation
8770 North Street, Suite 110
Fishers, Indiana 46038

Dear Mr. Ford:

The proposed project to rehabilitate the pavement along State Road 42 from the Town of Eminence to the Town of Monrovia, Morgan County, Indiana (Des No. 1601075), as referred to in your letter received on April 19, 2021, will cause a conversion of prime farmland.

The attached packet of information is for your use completing Parts VI and VII of the AD-1106. After completion, the federal funding agency needs to forward one copy to NRCS for our records.

If you need additional information, please contact John Allen at 317-295-5859.

Sincerely,

RICHARD NEILSON
Digitally signed by RICHARD NEILSON
Date: 2021.05.06 07:57:20 -04'00'

RICK NEILSON
State Soil Scientist

Enclosures

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request	4. Sheet 1 of _____
1. Name of Project **DES1601075_SR 42 Pavement Rehab**	5. Federal Agency Involved	
2. Type of Project	6. County and State **Morgan County, Indiana**	
PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS **4/19/21**	2. Person Completing Form **JRA**
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐		4. Acres Irrigated | Average Farm Size **273**
5. Major Crop(s) **Corn**	6. Farmable Land in Government Jurisdiction Acres: **197744** % **75**	7. Amount of Farmland As Defined in FPPA Acres: **150786** % **58**
8. Name Of Land Evaluation System Used **LESA**	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS **5/5/21**

PART III *(To be completed by Federal Agency)*	Maximum Points	Alternative Corridor For Segment Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly		3			
B. Total Acres To Be Converted Indirectly, Or To Receive Services		0			
C. Total Acres In Corridor		137.01	0	0	0
PART IV *(To be completed by NRCS) Land Evaluation Information*					
A. Total Acres Prime And Unique Farmland		3.44			
B. Total Acres Statewide And Local Important Farmland		0.00			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted		0.002			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		14			
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*		86			
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*	Maximum Points				
1. Area in Nonurban Use	15	12			
2. Perimeter in Nonurban Use	10	5			
3. Percent Of Corridor Being Farmed	20	20			
4. Protection Provided By State And Local Government	20	0			
5. Size of Present Farm Unit Compared To Average	10	2			
6. Creation Of Nonfarmable Farmland	25	0			
7. Availablility Of Farm Support Services	5	2			
8. On-Farm Investments	20	5			
9. Effects Of Conversion On Farm Support Services	25	0			
10. Compatibility With Existing Agricultural Use	10	0			
TOTAL CORRIDOR ASSESSMENT POINTS	160	46	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland (From Part V)	100	86			
Total Corridor Assessment (From Part VI above or a local site assessment)	160	46	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	132	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
Corridor A	**3**	**8/5/21**	YES ☐ NO ☑

5. Reason For Selection:
Meets the purpose and need of project

Signature of Person Completing this Part: **Harlan Ford** DATE **8/5/21**

NOTE: Complete a form for each segment with more than one Alternate Corridor

THIS IS NOT A PERMIT

State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife
Early Coordination/Environmental Assessment

DNR #: ER-23652 **Request Received:** April 19, 2021

Requestor:
RQAW Environmental
Harlan Ford
8770 North Street, Suite 110
Fishers, IN 46038

Project: SR 42 pavement rehabilitation, and multiple small structure repairs or replacements, between Eminence and Monrovia; Lead Des #1601075

County/Site info: Morgan

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

If our agency has regulatory jurisdiction over the project, the recommendations contained in this letter may become requirements of any permit issued. If we do not have permitting authority, all recommendations are voluntary.

Regulatory Assessment: This proposal may require the formal approval of our agency pursuant to the Flood Control Act (IC 14-28-1) for any proposal to construct, excavate, or fill in or on the floodway of a stream or other flowing waterbody which has a drainage area greater than one square mile, unless it qualifies for a bridge exemption (see enclosure). Please include a copy of this letter with the permit application, if required.

Natural Heritage Database: The Natural Heritage Program's data have been checked.
The state endangered Henslow's Sparrow (Centronyx henslowii) has been documented within the westernmost portion of the project area.

Fish & Wildlife Comments: We do not foresee any impacts to the Henslow's Sparrow as a result of this project.

1) Crossing Structures:
For purposes of maintaining fish and wildlife passage through a crossing structure, the Environmental Unit recommends bridges rather than culverts and bottomless culverts rather than box or pipe culverts. Wide culverts are better than narrow culverts, and culverts with shorter through lengths are better than culverts with longer through lengths. If box or pipe culverts are used, the bottoms should be buried 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 OHWM width); maintain the natural stream substrate within the structure; and have stream depth, channel width, and water velocities during low-flow conditions that are approximate to those in the natural stream channel.

The new, replacement, or rehabbed structure, and any bank stabilization under the structure, should not create conditions that are less favorable for wildlife passage under the structure compared to the current conditions. Any riprap placed at the culvert's outlet should match the outlet/invert elevation at the upstream edge of the riprap apron. Smaller stone and fines should be mixed in to match the existing stream substrate particle distribution and provide impermeability of the riprap apron/substrate so the flow does not percolate through the voids below the riprap apron's surface. The slope of the riprap should be no steeper than 20:1 from the lip of the culvert pipe to the streambed. Riprap on the inlet side should have a slope no steeper than 5:1. Natural streambed material should be backfilled within the structure where possible as it can provide refuge

Attachments: A - Bridge Exemption Criteria

for species using the culvert. Natural bed materials such as large cobble and boulders should be placed within the structure (anchored if necessary) to provide flow diversity and roughness/energy dissipation.

Sump depth for a pipe or box culvert should be increased/adjusted to match the structure's design life according to the background rate of bed degradation/downcutting so that the culvert does not become perched long before the culvert requires replacement. Culvert width and gradient should be appropriate for the site conditions so that flows do not scour out material from the culvert. Stream simulation design should be applied with any crossing structure. Additional information is available in Publication No. FHWA-HIF-11-008, Federal Highway Administration, Culvert Design for Aquatic Organism Passage, October 2010 (http://www.fhwa.dot.gov/engineering/hydraulics/pubs/11008/hif11008.pdf).

2) Bank Stabilization:
Minimize the use of riprap in the channel and use alternative erosion protection materials whenever possible. Bioengineered bank stabilization methods should be used on the bank slopes (see http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17553.wba). Riprap can be used as stream bank toe protection and placed from the toe of the bank up to the ordinary high-water mark (ohwm). From the ohwm to the top of the bank, erosion control blankets or turf reinforcement mats should be used. Erosion control blankets, turf reinforcement mats and other similar materials should be seeded with native plants to allow a natural, vegetated stream bank to develop.

3) Riparian Habitat:
We recommend a mitigation plan be developed (and submitted with the permit application, if required) for any unavoidable habitat impacts that will occur. The DNR's Habitat Mitigation Guidelines (and plant lists) can be found online at: http://iac.iga.in.gov/iac/20200527-IR-312200284NRA.xml.pdf.

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 non-wetland 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" dbh or greater (5:1 mitigation based on the number of large trees) or by using the 1:1 replacement ratio based on area depending on the type of habitat impacted (individual canopy tree removal in an urban streetscape or park-like environment versus removal of habitat supporting a tree canopy, woody understory, and herbaceous layer). Impacts under 0.10 acre in an urban area may still involve the replacement of large diameter trees but typically do not require any additional mitigation or additional plantings beyond seeding and stabilizing disturbed areas. There are exceptions for high quality habitat sites however.

The mitigation site should be located in the floodway, downstream of the one (1) square mile drainage area of that stream (or another stream within the 8-digit HUC, preferably as close to the impact site as possible) and adjacent to existing forested riparian habitat.

The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources:
1. Revegetate all bare and disturbed areas with a mixture of native grasses, sedges, wildflowers, and also native hardwood trees and shrubs if any woody plants are disturbed during construction as soon as possible upon completion. Do not use any varieties of Tall Fescue or other non-native plants, including prohibited invasive species

Attachments: A - Bridge Exemption Criteria

(see 312 IAC 18-3-25).
2. Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.
3. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.
4. Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 5 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30.
5. Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure.
6. Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds.
7. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.
8. Plant native hardwood trees along the top of the bank and right-of-way to replace the vegetation destroyed during construction.
9. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
10. Seed and protect all disturbed streambanks and slopes not protected by other methods that are 3:1 or steeper with erosion control blankets that are heavy-duty, biodegradable, and net free or that use loose-woven / Leno-woven netting to minimize the entrapment and snaring of small-bodied wildlife such as snakes and turtles (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas.

Contact Staff: Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife
Our agency appreciates this opportunity to be of service. Please contact the above staff member at (317) 232-4080 if we can be of further assistance.

Christie L. Stanifer **Date:** May 18, 2021

Christie L. Stanifer
Environ. Coordinator
Division of Fish and Wildlife

Attachments: A - Bridge Exemption Criteria

From: McWilliams, Robin
To: Harlan Ford
Subject: [EXT] Re: [EXTERNAL] Early Coordination Letter for Lead Des No. 1601075: SR 42 Pavement Rehabilitation Project in Morgan County, Indiana
Date: Tuesday, May 4, 2021 2:49:19 PM
Attachments: image012.png
image013.png
image014.png
image015.png
image016.png
image017.png

****** Please use caution this is an externally originating email. ******
Do not click on links or open attachments unless you recognize the sender and know the contents is safe.

Dear Harlan,

This responds to your recent letter requesting our comments on the aforementioned project.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of 1969, the Endangered Species Act of 1973, and the U. S. Fish and Wildlife Service's Mitigation Policy.

The project is within the range of the Indiana bat (Myotis sodalis) and northern long-eared bat (Myotis septentrionalis) and should follow the new Indiana bat/northern long-eared bat programmatic consultation process, if applicable (i.e. a federal transportation nexus is established). The Service has 14 days after a "Not Likely to Adversely Affect" determination letter is generated to review the project and provide additional comments or request additional information; if you do not receive a response from us within 14 days, we have no additional comments.

Wetland and stream impacts may require permits from the US Army Corps of Engineers, the Indiana Department of Environmental Management's Water Quality Certification program, and the Indiana Department of Natural Resources. Wetland impacts should be avoided, and any unavoidable impacts should be compensated for in accordance with the Corps of Engineer's mitigation guidelines.

Based on a review of the information you provided, the U.S. Fish and Wildlife Service has no other comments on the project as currently proposed. However, should new information arise pertaining to project plans or a revised species list be published, it will be necessary for the Federal agency to reinitiate consultation. Standard recommendations are provided below.

We appreciate the opportunity to comment at this early stage of project planning. If you have any questions about our recommendations, please call (812) 334-4261 x. 207.

Sincerely,
Robin McWilliams Munson

Standard Recommendations:

1. Do not clear trees or understory vegetation outside the construction zone boundaries. (**This restriction is not related to the "tree clearing" restriction for potential Indiana Bat habitat.)**
2. 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. Culverts should span the active stream channel, should be either embedded or a 3-sided or open-arch 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.
3. Restrict channel work and vegetation clearing to the minimum necessary for installation of the stream crossing structure.
4. 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.
5. Implement temporary erosion and sediment control methods within areas of disturbed soil. All disturbed soil areas upon project completion will be vegetated following INDOT's standard specifications.
6. Avoid all work within the inundated part of the stream channel (in perennial streams and larger intermittent streams) 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.
7. 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

Robin McWilliams Munson
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
620 South Walker Street
Bloomington, IN 46142
812-334-4261

Mon-Tues 8-3:30p
Wed-Thurs 8:30-3p Telework

From: Harlan Ford <hford@rqaw.com>
Sent: Monday, April 19, 2021 2:13 PM
To: McWilliams, Robin <robin_mcwilliams@fws.gov>
Subject: [EXTERNAL] Early Coordination Letter for Lead Des No. 1601075: SR 42 Pavement Rehabilitation Project in Morgan County, Indiana

Cameron Fraser

From: Earl, Brook <BEarl@indot.IN.gov>
Sent: Monday, December 9, 2019 11:09 AM
To: Cameron Fraser
Subject: RE: Indiana and Northern Long-eared Bat Check for the SR 42 Road Reconstruction Project located in Morgan County (DES 1601075 & 1701593)

Dear Cameron,

Des 1601075 & 1701593, based on the information provided, a review of the USFWS database DID NOT indicate the presence of endangered bat species in or within 0.5 mile of the project area.

Site specific MYSO and/or MYSE hibernacula, capture, or roost tree location data (e.g., geographic coordinates, GIS shapefiles or maps) will not be shared, distributed, or published without prior written consent from USFWS Bloomington Field Office. This is confidential information that can be used to update your IPaC questionnaire, but this information cannot be shared or distributed or placed within any documents.

Thank you,

Brook Earl
Environmental Manager, Capital Program Management Division
41 West 300 North
Crawfordsville, IN 47933
Office: (765)361-5253
Email: bearl@indot.in.gov

From: Cameron Fraser [mailto:cfraser@rqaw.com]
Sent: Monday, December 9, 2019 10:41 AM
To: Earl, Brook <BEarl@indot.IN.gov>
Cc: Mcmullen, Kenneth B <KMcmullen@indot.IN.gov>
Subject: Indiana and Northern Long-eared Bat Check for the SR 42 Road Reconstruction Project located in Morgan County (DES 1601075 & 1701593)

Good Morning Brook,

Attached, please find the Red Flag Investigation topographic and aerial maps showing the project location for a Road Reconstruction project on SR 42 in Morgan County, Indiana (DES 1601075 & 1701593). We appreciate INDOT's review of the GIS layers for the Indiana and Northern Long-eared bat. Please let me know if you need additional information.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273
http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html

In Reply Refer To: May 03, 2022
Project Code: 2022-0011027
Project Name: SR 42 Road Reconstruction in Morgan County, Indiana (lead Des. 1601075)

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at - http://www.fws.gov/midwest/endangered/section7/s7process/index.html. This website contains step-by-step instructions which will help you

determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process. For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of

Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. **Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.**

Attachment(s):

- Official Species List
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
(812) 334-4261

Project Summary

Project Code: 2022-0011027
Event Code: None
Project Name: SR 42 Road Reconstruction in Morgan County, Indiana (lead Des. 1601075)
Project Type: Road/Hwy - Maintenance/Modification
Project Description: The project is located on SR 42 in Morgan County, Indiana (lead Des. Number 1601075) and will extend from the town of Eminence to the town of Monrovia, for a total project length of approximately 13.06 miles. The project will consist of a functional Hot Mix Asphalt (HMA) minor structural overlay with partial depth patching as required within the town limits of Monrovia and Eminence. Outside of the city limits, throughout the remainder of the project area, a HMA minor structural overlay with full depth patching will be required except at all small structure replacement locations where full depth HMA pavement replacement will occur. The roadside ditches present along the area of the small structures to be replaced will be regraded. The profile grade will match the existing grade throughout the project limits. Within the town limits of Monrovia and Eminence the roadway will be milled down approximately 2 inches and 2 inches of new HMA will be placed. Outside the city limits, except where the small structures are located, the existing pavement will be milled down approximately 4.5 inches and 4.5 inches of new HMA will be placed. Existing drives located within the project area will either be reconstructed or receive a wedge and level to tie into the existing profile grade. All pavement markings will be replaced within the project limits as they will be removed during construction. The roadway geometry will remain match existing. Within the town limits of Monrovia, ADA curb ramps will be upgraded as necessary to current ADA standards. Sidewalks will not be replaced or upgraded with this project, and the drainage structures in the town of Monrovia will remain as they are part of a storm sewer network. This project is anticipated to require 2.41 acres of permanent right-of-way, specifically at the proposes structure replacement locations. No temporary right-of-way is anticipated to be needed. Suitable summer habitat is located within and adjacent to the project area. It is anticipated that up to 0.1 acre of tree clearing/trimming will be needed for the proposed small structure replacements. Dominant tree species consisted of silver maple (Acer saccharinum) and sugar maple (Acer saccharum). Tree clearing will be completed during the bat inactive season (October 1 through March 31) and all trees will be removed within 100 feet of existing roadway. A review of the USFWS Database by INDOT Crawfordsville District on December 9, 2019 did not indicate the presence of endangered bat species in or within the 0.5 mile search radius of the project area. RQAW performed a site visit on June 3-4, 6, and 23, 2019, September 23, 2019, and on April 1, 2022, to identify any

ecological resources present within or adjacent to the project area. No bats, or evidence of bats was observed. Temporary lighting may be utilized during construction. The project will not involve the placement or installation of permanent lighting. Construction is anticipated to start in the Spring or Summer of 2023.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.5527223,-86.64628404283587,14z

Counties: Morgan County, Indiana

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Incidental take of the NLEB is not prohibited here. Federal agencies may consult using the 4(d) rule streamlined process. Transportation projects may consult using the programmatic process. See www.fws.gov/midwest/endangered/mammals/nleb/index.html Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Oct 15 to Aug 31
Kentucky Warbler *Oporornis formosus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

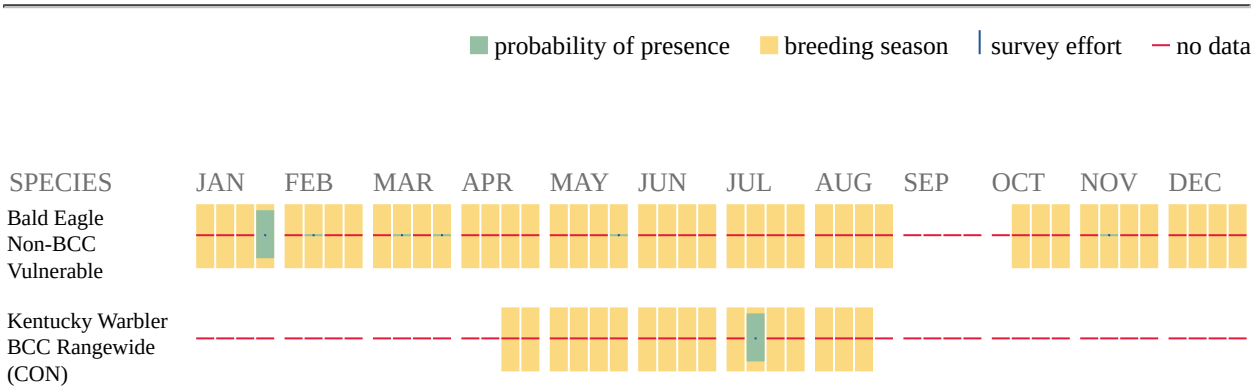
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act

requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER POND

- PUBGh

RIVERINE

- R2UBHx
- R4SBC
- R4SBCx

IPaC User Contact Information

Agency: Indiana Department of Transportation
Name: Harlan Ford
Address: 8770 North St., Suite 110
City: Fishers
State: IN
Zip: 46038
Email hford@rqaw.com
Phone: 4234585979

Lead Agency Contact Information

Lead Agency: Federal Highway Administration

From: Neild, Benjamin <BNeild@indot.IN.gov>
Sent: Wednesday, May 4, 2022 9:41 AM
To: Harlan Ford
Cc: Kurtz, Randy
Subject: [EXT] RE: IPaC Review for Lead Des No. 1601075

****** Please use caution this is an externally originating email. ******
Do not click on links or open attachments unless you recognize the sender and know the contents are safe.

Good morning, INDOT has reviewed the determination key and has completed the verification process to forward the project to USFWS for review.
Thanks
Ben

Benjamin Neild
Environmental Manager 2, Capital Program Management Division
41 West 300 North
Crawfordsville, IN 47933
Phone: (765) 361-5259
Email: bneild@indot.in.gov

From: Harlan Ford <hford@rqaw.com>
Sent: Tuesday, May 3, 2022 2:41 PM
To: Kurtz, Randy <RKurtz@indot.IN.gov>; Neild, Benjamin <BNeild@indot.IN.gov>
Subject: IPaC Review for Lead Des No. 1601075

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Hey Zane/Ben,

Sorry for the delay on this, but was waiting on some design detail confirmation. I have generated a new determination key using IPaC and was given a "Not Likely to Adversely Affect" finding which I believe to be appropriate for this project. Can one of you please review this determination key when you get the chance? I have attached the generated consistency letter to this email for your convenience and you all have been added as a project members in IPaC.

The IPaC Record Locator ID is: 389-112673025

Please let me know if you need anything else from me.

Thanks,

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273
http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html

In Reply Refer To: May 04, 2022
Project code: 2022-0011027
Project Name: SR 42 Road Reconstruction in Morgan County, Indiana (lead Des. 1601075)

Subject: Concurrence verification letter for the 'SR 42 Road Reconstruction in Morgan County, Indiana (lead Des. 1601075)' project under the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated May 04, 2022 to verify that the **SR 42 Road Reconstruction in Morgan County, Indiana (lead Des. 1601075)** (Proposed Action) may rely on the concurrence provided in the February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action is within the scope and adheres to the criteria of the PBO, including the adoption of applicable avoidance and minimization measures, and may affect, but is not likely to adversely affect (NLAA) the endangered Indiana bat (*Myotis sodalis*) and/or the threatened Northern long-eared bat (*Myotis septentrionalis*). Consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) is required.

The Service has 14 calendar days to notify the lead Federal action agency or designated non-federal representative if we determine that the Proposed Action does not meet the criteria for a NLAA determination under the PBO. If we do not notify the lead Federal action agency or designated non-federal representative within that timeframe, you may proceed with the Proposed Action under the terms of the NLAA concurrence provided in the PBO. This verification period allows Service Field Offices to apply local knowledge to implementation of the PBO, as we may identify a small subset of actions having impacts that were unanticipated. In such instances,

Service Field Offices may request additional information that is necessary to verify inclusion of the proposed action under the PBO.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities: If your initial bridge/culvert or structure assessments failed to detect Indiana bats, but you later detect bats prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office. In these instances, potential incidental take of Indiana bats may be exempted provided that the take is reported to the Service.

If the Proposed Action is modified, or new information reveals that it may affect the Indiana bat and/or Northern long-eared bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA Section 7(a)(2) may be required. If the Proposed Action may affect any other federally-listed or proposed species, and/or any designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please contact this Service Office.

The following species may occur in your project area and **are not** covered by this determination:

- Monarch Butterfly *Danaus plexippus* Candidate

Project Description

The following project name and description was collected in IPaC as part of the endangered species review process.

Name

SR 42 Road Reconstruction in Morgan County, Indiana (lead Des. 1601075)

Description

The project is located on SR 42 in Morgan County, Indiana (lead Des. Number 1601075) and will extend from the town of Eminence to the town of Monrovia, for a total project length of approximately 13.06 miles. The project will consist of a functional Hot Mix Asphalt (HMA) minor structural overlay with partial depth patching as required within the town limits of Monrovia and Eminence. Outside of the city limits, throughout the remainder of the project area, a HMA minor structural overlay with full depth patching will be required except at all small structure replacement locations where full depth HMA pavement replacement will occur. The roadside ditches present along the area of the small structures to be replaced will be regraded. The profile grade will match the existing grade throughout the project limits. Within the town limits of Monrovia and Eminence the roadway will be milled down approximately 2 inches and 2 inches of new HMA will be placed. Outside the city limits, except where the small structures are located, the existing pavement will be milled down approximately 4.5 inches and 4.5 inches of new HMA will be placed. Existing drives located within the project area will either be reconstructed or receive a wedge and level to tie into the existing profile grade. All pavement markings will be replaced within the project limits as they will be removed during construction. The roadway geometry will remain match existing. Within the town limits of Monrovia, ADA curb ramps will be upgraded as necessary to current ADA standards. Sidewalks will not be replaced or upgraded with this project, and the drainage structures in the town of Monrovia will remain as they are part of a storm sewer network. This project is anticipated to require 2.41 acres of permanent right-of-way, specifically at the proposes structure replacement locations. No temporary right-of-way is anticipated to be needed. Suitable summer habitat is located within and adjacent to the project area. It is anticipated that up to 0.1 acre of tree clearing/trimming will be needed for the proposed small structure replacements. Dominant tree species consisted of silver maple (Acer saccharinum) and sugar maple (Acer saccharum). Tree clearing will be completed during the bat inactive season (October 1 through March 31) and all trees will be removed within 100 feet of existing roadway. A review of the USFWS Database by INDOT Crawfordsville District on December 9, 2019 did not indicate the presence of endangered bat species in or within the 0.5 mile search radius of the project area. RQAW performed a site visit on June 3-4, 6, and 23, 2019, September 23, 2019, and on April 1, 2022, to identify any ecological resources present within or adjacent to the project area. No bats, or evidence of bats was observed. Temporary lighting may be utilized during construction. The project will not involve the placement or installation of permanent lighting. Construction is anticipated to start in the Spring or Summer of 2023.

Determination Key Result

Based on your answers provided, this project(s) may affect, but is not likely to adversely affect the endangered Indiana bat and/or the threatened Northern long-eared bat, therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required. However, also based on your answers provided, this project may rely on the concurrence provided in the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

Qualification Interview

1. Is the project within the range of the Indiana bat[1]?

   [1] See Indiana bat species profile

   Automatically answered
   Yes

2. Is the project within the range of the Northern long-eared bat[1]?

   [1] See Northern long-eared bat species profile

   Automatically answered
   Yes

3. Which Federal Agency is the lead for the action?

   A) Federal Highway Administration (FHWA)

4. Are *all* project activities limited to non-construction[1] activities only? (examples of non-construction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)

   [1] Construction refers to activities involving ground disturbance, percussive noise, and/or lighting.

   No

5. Does the project include *any* activities that are **greater than** 300 feet from existing road/ rail surfaces[1]?

   [1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

   No

6. Does the project include *any* activities **within** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum[1]?

   [1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

   No

7. Is the project located **within** a karst area?

   No

8. Is there *any* suitable[1] summer habitat for Indiana Bat or NLEB **within** the project action area[2]? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

   [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

   [2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the User's Guide for the Range-wide Programmatic Consultation for Indiana Bat and Northern Long-eared Bat.

   Yes

9. Will the project remove *any* suitable summer habitat[1] and/or remove/trim any existing trees **within** suitable summer habitat?

   [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

   Yes

10. Will the project clear more than 20 acres of suitable habitat per 5-mile section of road/rail?

    No

11. Have presence/probable absence (P/A) summer surveys[1][2] been conducted[3][4] **within** the suitable habitat located within your project action area?

    [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

    [2] Presence/probable absence summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernaculum (contact local Service Field Office for appropriate distance from hibernacula) that result in a negative finding requires additional consultation with the local Service Field Office to determine if clearing of forested habitat is appropriate and/or if seasonal clearing restrictions are needed to avoid and minimize potential adverse effects on fall swarming and spring emerging Indiana bats.

    [3] For projects within the range of either the Indiana bat or NLEB in which suitable habitat is present, and no bat surveys have been conducted, the transportation agency will assume presence of the appropriate species. This assumption of presence should be based upon the presence of suitable habitat and the capability of bats to occupy it because of their mobility.

    [4] Negative presence/probable absence survey results obtained using the summer survey guidance are valid for a minimum of two years from the completion of the survey unless new information (e.g., other nearby surveys) suggest otherwise.

    No

12. Does the project include activities **within documented Indiana bat habitat**[1][2]?

    [1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

    [2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

    No

13. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented Indiana bat** roosting/foraging habitat or travel corridors?

    Yes

14. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented Indiana bat** roosting/foraging habitat or travel corridors occur[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    B) During the inactive season

15. Does the project include activities **within documented NLEB habitat**[1][2]?

    [1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

    [2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

    No

16. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors?

    Yes

17. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors occur?

    B) During the inactive season

18. Will *any* tree trimming or removal occur **within** 100 feet of existing road/rail surfaces?

    Yes

19. Will *any* tree trimming or removal occur **between** 100-300 feet of existing road/rail surfaces?

    No

20. Are *all* trees that are being removed clearly demarcated?

    Yes

21. Will the removal of habitat or the removal/trimming of trees include installing new or replacing existing **permanent** lighting?

    No

22. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?

    No

23. Does the project include slash pile burning?

    No

24. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?

    Yes

25. Is there *any* suitable habitat[1] for Indiana bat or NLEB **within** 1,000 feet of the bridge? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

    [1] See the Service's current summer survey guidance for our current definitions of suitable habitat.

    Yes

26. Has a bridge assessment[1] been conducted **within** the last 24 months[2] to determine if the bridge is being used by bats?

    [1] See User Guide Appendix D for bridge/structure assessment guidance

    [2] Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges that meet the physical characteristics described in the Programmatic Consultation, regardless of whether assessments have been conducted in the past. Due to the transitory nature of bat use, a negative result in one year does not guarantee that bats will not use that bridge/structure in subsequent years.

    Yes

    SUBMITTED DOCUMENTS

    - *Bat inspection Structure Table SR 42.pdf https://ipac.ecosphere.fws.gov/project/AM45BLL7BFCG7NPLRH5XWXUCD4/projectDocuments/112672934*

27. Did the bridge assessment detect *any* signs of Indiana bats and/or NLEBs roosting in/under the bridge (bats, guano, etc.)[1]?

    [1] If bridge assessment detects signs of *any* species of bats, coordination with the local FWS office is needed to identify potential threatened or endangered bat species. Additional studies may be undertaken to try to identify which bat species may be utilizing the bridge prior to allowing *any* work to proceed.

    Note: There is a small chance bridge assessments for bat occupancy do not detect bats. Should a small number of bats be observed roosting on a bridge just prior to or during construction, such that take is likely to occur or does occur in the form of harassment, injury or death, the PBO requires the action agency to report the take. Report all unanticipated take within 2 working days of the incident to the USFWS. Construction activities may continue without delay provided the take is reported to the USFWS and is limited to 5 bats per project.

    No

28. Will the bridge removal, replacement, and/or maintenance activities include installing new or replacing existing **permanent** lighting?

    No

29. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)

    No

30. Will the project involve the use of **temporary** lighting *during* the active season?

    Yes

31. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **temporary** lighting will be used?

    Yes

32. Will the project install new or replace existing **permanent** lighting?

    No

33. Does the project include percussives or other activities (**not including tree removal/ trimming or bridge/structure work**) that will increase noise levels above existing traffic/ background levels?

    Yes

34. Will the activities that use percussives (**not including tree removal/trimming or bridge/ structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the active season[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    Yes

35. Will *any* activities that use percussives (**not including tree removal/trimming or bridge/ structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the inactive season[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    Yes

36. Are *all* project activities that are **not associated with** habitat removal, tree removal/ trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives, limited to actions that DO NOT cause any additional stressors to the bat species?

    Examples: lining roadways, unlighted signage , rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.

    Yes

37. Will the project raise the road profile **above the tree canopy**?

    No

38. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the active season within undocumented habitat.

39. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) and/or increase noise levels above existing traffic/background levels consistent with a No Effect determination in this key?

    Automatically answered
    Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the inactive season

40. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the tree removal/trimming that occurs outside of the Indiana bat's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.

41. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered
    Yes, because the tree removal/trimming that occurs outside of the NLEB's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.

42. Is the bridge removal, replacement, or maintenance activities portion of this project consistent with a No Effect determination in this key?

    Automatically answered
    Yes, because the bridge has been assessed using the criteria documented in the BA and no signs of bats were detected

43. **General AMM 1**
    Will the project 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 Avoidance and Minimization Measures?

    Yes

44. **Tree Removal AMM 1**
    Can *all* phases/aspects of the project (e.g., temporary work areas, alignments) be modified, to the extent practicable, to avoid tree removal[1] in excess of what is required to implement the project safely?

    Note: Tree Removal AMM 1 is a minimization measure, the full implementation of which may not always be practicable. Projects may still be NLAA as long as Tree Removal AMMs 2, 3, and 4 are implemented and LAA as long as Tree Removal AMMs 3, 5, 6, and 7 are implemented.

    [1] The word “trees” as used in the AMMs refers to trees that are suitable habitat for each species within their range. See the USFWS’ current summer survey guidance for our latest definitions of suitable habitat.

    Yes

45. **Tree Removal AMM 3**
    Can tree removal be 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)?

    Yes

46. **Tree Removal AMM 4**
    Can the project avoid cutting down/removal of *all* (1) **documented**[1] Indiana bat or NLEB roosts[2] (that are still suitable for roosting), (2) trees **within** 0.25 miles of roosts, and (3) documented foraging habitat any time of year?

    [1] The word documented means habitat where bats have actually been captured and/or tracked.

    [2] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

    Yes

47. **Lighting AMM 1**
    Will *all* **temporary** lighting be directed away from suitable habitat during the active season?

    Yes

Project Questionnaire

1. Have you made a No Effect determination for *all* other species indicated on the FWS IPaC generated species list?

   N/A

2. Have you made a May Affect determination for *any* other species on the FWS IPaC generated species list?

   N/A

3. How many acres[1] of trees are proposed for removal between 0-100 feet of the existing road/rail surface?

   [1] If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

   0.1

4. Please describe the proposed bridge work:

   Consists of several small structure replacements and/or pipe liners.

5. Please state the timing of all proposed bridge work:

   Spring or Summer of 2023

6. Please enter the date of the bridge assessment:

   April 1, 2022

Avoidance And Minimization Measures (AMMs)

This determination key result includes the committment to implement the following Avoidance and Minimization Measures (AMMs):

TREE REMOVAL AMM 1
Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal.

LIGHTING AMM 1
Direct temporary lighting away from suitable habitat during the active season.

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.

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).

TREE REMOVAL AMM 4
Do not remove **documented** Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or
documented foraging habitat any time of year.

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.

Determination Key Description: FHWA, FRA, FTA Programmatic Consultation For Transportation Projects Affecting NLEB Or Indiana Bat

This key was last updated in IPaC on April 28, 2022. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) for the endangered **Indiana bat** (*Myotis sodalis*) and the threatened **Northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects. The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.

IPaC User Contact Information

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Small Structure Table and Bat Inspection

Des. No.	Structure No. Per Plans	INDOT Structure No.	Existing Size/Type	[1]Proposed Size/Type	Location	Stream/Wetland Present	Date of Inspection	Inspector Name	Evidence of Bats	Evidence of Birds	Work Type
2001548	2	42-55-07514	103" X 79" CMP	16' X 7' Box	39.523748, -86.641527	UNT 11 to Lake Ditch	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
2001549	3	CLV-25123	30" CMP	3’ X 3’ Box	39.525628, -86.641560	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
2001550	4	CLV-25115	30" CMP	6' X 3' Box	39.526829, -86.641514	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	5	CLV-25113	18" HDPE	24” Smooth Pipe	39.534471, -86.641494	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	5B	CLV-25107	18" CMP	24” Smooth Pipe	39.536898, -86.641509	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
1800121	7	CV 042-055-44.05	144" X 94" CMP	Pipe Liner	39.541431, -86.641508	UNT 10 to Lake Ditch Second Crossing	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Pipe Liner
N/A	8	CLV-25099	18" CMP	24" Smooth Pipe	39.542408, -86.641493	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	9A	N/A	12" CMP	12” Smooth Pipe	39.543072, -86.641438	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	9	CLV-25097	18" CMP	24” Smooth Pipe	39.543098, -86.641557	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
2001551	10	42-55-07613	144" X 94" CMP	20' x 8' Box	39.543145, -86.642197	UNT 10 to Lake Ditch First Crossing	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
2001552	14A	CLV-25089	18" CMP	18” Smooth Pipe	39.552488, -86.646276	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	16E	CLV-25075	15" CMP	15” Smooth Pipe	39.557746, -86.641589	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	16I	CLV-25071	18" CMP	30" Smooth Pipe	39.563579, -86.641328	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
2001553	17	CLV-25065	18" CMP	30" Smooth Pipe	39.564834, -86.639098	Wetland W	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	18	CLV-25055	18" CMP	24” Smooth Pipe	39.564856, -86.633836	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	19	CLV-25051	18" CMP	24” Smooth Pipe	39.564884, -86.629189	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	20	CLV-25049	15" CMP	18" Smooth Pipe	39.564880, -86.626350	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	22	CLV-24445	15" CMP	18" Smooth Pipe	39.564860, -86.622347	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	24	CLV-24435	12" CMP	15" Smooth Pipe	39.564860, -86.621533	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
1701593	25	CV 042-055-47.32	10.5' X 4.5' Box	12' X 4' Box	39.564848, -86.617866	UNT 9 to Lake Ditch	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	26	CLV-24429	15" CMP	18” Smooth Pipe	39.564827, -86.613252	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	27	CLV-24421	18" CMP	24” Smooth Pipe	39.564822, -86.611032	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement

Small Structure Table and Bat Inspection

Des. No.	Structure No. Per Plans	INDOT Structure No.	Existing Size/Type	[1]Proposed Size/Type	Location	Stream/Wetland Present	Date of Inspection	Inspector Name	Evidence of Bats	Evidence of Birds	Work Type
2001554	27A	CV 042-055-47.90	6ft X 3.XX ft Twin CMP's	11' x 5' Box	39.564798, -86.606228	UNT 8 to Lake Ditch	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
2001555	29	CLV-24397	30" CMP	30" Smooth Pipe	39.564795, -86.589704	UNT 7 to Lake Ditch and Wetland O	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	29D	CLV-24389	12" CMP	15" Smooth Pipe	39.568230, -86.589606	Wetland O	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	30	CLV-24381	18" CMP	24" Smooth Pipe	39.572073, -86.589657	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
2001557	31	CLV-24377	24" CMP	24" Smooth Pipe	39.572116, -86.589601	Wetland L	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	32	CLV-24185	18" CMP	24" Smooth Pipe	39.579254, -86.584965	Wetland K	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	33	CLV-24183	18" CMP	24" Smooth Pipe	39.579173, -86.578854	Wetland H and Wetland I	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	34	CLV-24181	18" CMP	24" Smooth Pipe	39.579225, -86.575569	Wetland F and Wetland G	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	35	CLV-24177	15" CMP	18" Smooth Pipe	39.579284, -86.574095	Wetland E	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
2001558	36	CV 042-055-50.80	Twin 84" X 61" CMP's	12' x 6' Box	39.579302, -86.570042	UNT 6 to Lake Ditch and Wetland D1	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	37	CLV-24163	18" CMP	24" Smooth Pipe	39.579307, -86.566982	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
1800122	40 & 40A	CV 042-055-51.40	Twin CMPA's 6.8' x 5.4' w/ headwall	Pipe Liner	39.579295, -86.558024	UNT 5 to Lake Ditch	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Pipe Liner
N/A	40B	CLV-24155	18" CMP	24" Smooth Pipe	39.579289, -86.553501	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	41	CLV-24143	15" CMP	18" Smooth Pipe	39.579238, -86.541385	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	42	CLV-24127	15" CMP	30" Smooth Pipe	39.579174, -86.535933	UNT 3 to Lake Ditch	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	43	CLV-24123	12" CMP	15" Smooth Pipe	39.579139, -86.532558	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	43A	CLV-24129	12" CMP	24" Smooth Pipe	39.579033, -86.526474	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
2001559	45	CV 042-055-54.25	98" X 69" CMP	10' x 5' Box	39.578969, -86.504838	UNT 1 to Lake Ditch and Wetland A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	45A	CLV-24115	15" CMP	24" Smooth Pipe	39.578955, -86.498252	Wetland A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	45B	CLV-24111	29" X 18" CMP	30" Smooth Pipe	39.578935, -86.493655	Wetland A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement
N/A	47	CLV-24105	15" CPP	30" Smooth Pipe	39.578869, -86.486093	N/A	4/1/2022	Cameron Fraser & Brooke Fox	No	No	Replacement

CMP: Corrugated Metal Pipe **HDPE: High Density Polyethylene Pipe**
CMPA: Corrugated Metal Pipe Arch **CPP: Corrugated Polyethylene Pipe**

[1] Please note that the exact size and material of proposed structures will be determined as part of the final design process.

Categorical Exclusion

Appendix D

Section 106 of the National Historic Preservation Act (NHPA)

Date: 2/18/2021; **UPDATED 2022/05/23**

Project Designation Number: 1601075 (Lead Des.)

Route Number: SR 42

Project Description: Hot mix asphalt (HMA) Overlay and Small Structure Replacements

The proposed project involves HMA overlay and small structure/culvert replacements on SR 42 in Morgan County, Indiana. The project begins in the small community of Eminence and ends in the Town of Monrovia. It is approximately 13 miles long and will extend from approximately SR 142 to 0.06 mile east of the east junction of SR 39. It is located in Adams and Monroe townships within Sections 12, 13, 14, 15, 16, 21, 28, 33 of Township 13 North and Range 2 West and within Sections 7, 8, 9, 10, 11, 12 of Township 13 North and Range 1 West.

The need for improvement is based on the deteriorating pavement structure and drainage system. The purpose of the project is to improve the pavement structure and address drainage issues.

The proposed alternative involves improving the existing roadway by providing an HMA overlay with patching as necessary between Eminence and Monrovia. The profile will match existing through most of the project but does vary from the existing to provide cover for drainage structures. The existing cross slope-will be corrected to a 2% normal crown where possible. The roadway geometry will match existing except in isolated areas, where a shoulder will be added. Between Eminence and Monrovia, five (5) sharp curves will include 6-foot shoulder widening to facilitate turning movements. The widening will occur to the inside at full-depth and may also be widened by 6-feet to the outside. The outside widening is to be determined. These curves are at the following locations in Adams Township: **1) W. Gore Road**; **2) Belle Union Road**, **3) Curve east of Belle Union Road/**at residence; **4) N. Evans Road/W. Wheeler Road**; **5) at Crown Center**. No curve-widening locations are within Monroe Township.

The proposed alternative additionally involves replacement of 41 culverts between the communities of Eminence and Monrovia, including 13 small structure replacements (Des. Nos. 2001548, 2001550, 1800121, 2001551, 2001552, 2001553, 1701593, 2001554, 2001555, 2001557, 2001558, 1800122, and 2001559). All structure replacements will be made in existing alignments. See table below for all small structure and culvert replacements:

Feature Crossed	Des Number / CMP Identifier	Str. No.	Small Structure Number	R/W Possible?	Existing Size/Type	Proposed Size/Type
SR 42	Des. No. 2001548	2	CV 042-055-42.83	N	103" x 79" CMP	16'x7' Box
SR 42	CMP A	3	-	Y	30" CMP	48"x29" Conc. Elliptical
SR 42	Des. No. 2001550	4	CV 042-055-43.03	Y	30" CMP	5'x3' Box
SR 42	CMP B	5	-	Y	18" HDPE	34"x22" Conc. Elliptical
SR 42	CMP C	5B	-	Y	18" CMP	Removed
SR 42	Des. No. 1800121	7	CV 042-055-44.05	Y	11ft x 7.5ft CMP	Pipe Liner
SR 42	CMP D	8	-	Y	18" CMP	24" CMP
SR 42	CMP E	9	-	Y	18" CMP	34"x22" Conc. Elliptical
SR 42	Des. No. 2001551	10	CV 042-055-44.16	N	140" x 94" CMP	20'x6' Box

SR 42	Des. No. 2001552	14A	CV 042-055-44.01	Y	18" CMP	5'x3' Box
SR 42	CMP F	16E	-	Y	15" CMP	18" CMP
SR 42	CMP G	16I	-	N	18" CMP	30" CMP
SR 42	Des. No. 2001553	17	CV 042-055-46.13	N	18" CMP	49"x33" CMP
SR 42	CMP H	18	-	Y	18" CMP	23"x14" Conc. Elliptical
SR 42	CMP I	19	-	Y	18" CMP	30" CMP
SR 42	CMP J	20	-	Y	15" CMP	15" CMP
SR 42	CMP K	22	-	Y	15" CMP	18" CMP
SR 42	CMP L	24	-	Y	12" CMP	Removed
SR 42	Des. No. 1701593	25	CV 042-055-47.32	Y	10.5ft x 4.5ft Concrete Slabtop	12'x4' Box
SR 42	CMP M	26	-	Y	15" CMP	23"x14 Conc. Elliptical
SR 42	CMP N	27	-	Y	18" CMP	34"x22" Conc. Elliptical
SR 42	Des. No. 2001554	27A	CV 042-055-47.90	Y	6ft x 3.68 ft CMP	11'x4' Box
SR 42	Des. No. 2001555	29	CV 042-055-48.78	Y	30" CMP	8'x3' Box
SR 42	CMP O	29D	-	Y	12" CMP	15" CMP
SR 42	Des. No. 2001557	31	CV 042-055-49.29	Y	24" CMP	5'x3' Box
SR 42	CMP P	32	-	Y	18" CMP	34"x22" Conc. Elliptical
SR 42	CMP Q	33	-	Y	18" CMP	30"x19" Conc. Elliptical
SR 42	CMP R	34	-	Y	18" CMP	30"x19" Conc. Elliptical
SR 42	CMP S	35	-	Y	15" CMP	24"x13" Conc. Elliptical
SR 42	Des. No. 2001558	36	CV 042-055-50.80	N	84.2" x 61.1" CMP	12'x5' Box
SR 42	CMP T	37	-	Y	12" CMP	30"x19" Conc. Elliptical
SR 42	Des. No. 1800122	40	CV 042-055-51.40	Y	84.2" x 61.1"	Pipe Liner
SR 42	CMP U	40B	-	Y	18" CMP	34"x22" Conc. Elliptical
SR 42	CMP V	41	-	Y	15" CMP	34"x22" Conc. Elliptical
SR 42	CMP W	42	-	Y	15" CMP	24" CMP
SR 42	CMP X	43	-	Y	12" CMP	24" CMP
SR 42	CMP Y	43A	-	Y	21" CMP	24" CMP
SR 42	CMP Z	45	CV 042-055-54.25	Y	98" x 69" CMP	10'x6' Box
SR 42	CMP 2A	45A	-	Y	15" CMP	34"x22" Conc. Elliptical
SR 42	Des. No. 2001559	45B	CV 042-055-54.25	Y	29" x 18" CMP	34"x22" Conc. Elliptical
SR 42	CMP 2B	47	-	Y	15" CPP	30" CMP

Sidewalks and curb ramps are present in Monrovia along SR 42. Sidewalks will not be replaced or upgraded with this project, and the drainage structures in town will remain as is. The curb ramps not meeting current Americans with Disabilities (ADA) compliance standards will be replaced to meet current standards. Curb ramps in Monrovia may be replaced at the following intersections with SR 42: **1) Baltimore Rd**.; **2) Waters St**; **3) Walnut St**.; **4**) **S. Chestnut St**.; **5) N. Chestnut St**.; and **6) Church S**t.

The project is anticipated to be let in 2023. Both temporary and permanent right-of-way are anticipated--particularly at curve widening and small structure replacements—but amounts are unknown at this time. Traffic in Eminence and Monrovia will be maintained primarily by phased construction with a moving operation utilizing a flagger. A full closure with detour utilizing SR 12 and SR 39 is anticipated for culvert replacements and overlay outside the towns.

UPDATED INFORMATION: 2022/05/23

On May 2, 2022 INDOT CRO was informed of the following project updates: *"…Through design development, the construction limits, right-of-way, and other project specifics are being refined. The proposed alternative has been determined to involve improving the existing roadway by providing an HMA overlay with full-depth replacement at the structures. Additionally, two (2) other pipes have been identified for replacement. These pipes are associated with previously identified culverts, teeing into them. Maps of their locations and photos have been provided in the link above that show these additional pipes do not exhibit historic features. Please also see the table below for all small structure and culvert replacements, and note that red text denotes changes from the previously approved MPPA determination. Furthermore, note that the materials and structure sizes may change slightly pending the final design and the options selected in the approved hydraulics report."*

Feature Crossed	Des Number / CMP Identifier	Str. No.	R/W Possible?	Existing Size/Type	Proposed Size/Type
SR 42	Des. No. 2001548	2	N	103" x 79" CMP	16'x7' Box
SR 42	Des. No. 1601075 / CMP A	3	Y	30" CMP	3'x3' Box
SR 42	Des. No. 2001550	4	Y	30" CMP	6'x3' Box
SR 42	CMP B	5	Y	18" HDPE	24" Smooth Pipe
SR 42	CMP C	5B	Y	18" CMP	24" Smooth Pipe
SR 42	Des. No. 1800121	7	Y	144" x 94" CMP	Pipe Liner
SR 42	CMP D	8	Y	18" CMP	24" Smooth Pipe
SR 42	CMP E	9	Y	18" CMP	24" Smooth Pipe
SR 42	(Tee into Structure 9)	9A	Y	12" CMP	12" Smooth Pipe
SR 42	Des. No. 2001551	10	N	144" x 94" CMP	20'x8' Box
SR 42	Des. No. 2001552	14A	Y	18" CMP	18" Smooth Pipe
SR 42	CMP F	16E	Y	15" CMP	15" Smooth Pipe
SR 42	CMP G	16I	N	18" CMP	30" Smooth Pipe
SR 42	Des. No. 2001553	17	N	18" CMP	30" Smooth Pipe
SR 42	CMP H	18	Y	18" CMP	24" Smooth Pipe
SR 42	CMP I	19	Y	18" CMP	24" Smooth Pipe
SR 42	CMP J	20	Y	15" CMP	18" Smooth Pipe
SR 42	CMP K	22	Y	15" CMP	18" Smooth Pipe
SR 42	CMP L	24	Y	12" CMP	15" Smooth Pipe

SR 42	Des. No. 1701593	25	Y	10.5' x 4.5' Box	12'x4' Box
SR 42	CMP M	26	Y	15" CMP	18" Smooth Pipe
SR 42	CMP N	27	Y	18" CMP	24" Smooth Pipe
SR 42	Des. No. 2001554	27A	Y	6ft x 3.XX ft CMP	12'x5' Box
SR 42	Des. No. 2001555	29	Y	30" CMP	30" Smooth Pipe
SR 42	CMP O	29D	Y	12" CMP	15" Smooth Pipe
SR 42	(Tee into Structure 31)	30	Y	18" CMP	24" Smooth Pipe
SR 42	Des. No. 2001557	31	Y	24" CMP	24" Smooth Pipe
SR 42	CMP P	32	Y	18" CMP	24" Smooth Pipe
SR 42	CMP Q	33	Y	18" CMP	24" Smooth Pipe
SR 42	CMP R	34	Y	18" CMP	24" Smooth Pipe
SR 42	CMP S	35	Y	15" CMP	18" Smooth Pipe
SR 42	Des. No. 2001558	36	N	Twin 84" x 61" CMP's	12'x6' Box
SR 42	CMP T	37	Y	18" CMP	24" Smooth Pipe
SR 42	Des. No. 1800122	40 & 40A	Y	Twin CMPA's 6.8' x 5.4' w/ headwall	Pipe Liner
SR 42	CMP U	40B	Y	18" CMP	24" Smooth Pipe
SR 42	CMP V	41	Y	15" CMP	18" Smooth Pipe
SR 42	CMP W	42	Y	15" CMP	30" Smooth Pipe
SR 42	CMP X	43	Y	12" CMP	15" Smooth Pipe
SR 42	CMP Y	43A	Y	12" CMP	24" Smooth Pipe
SR 42	Des. No. 2001559 / CMP Z	45	Y	98" x 69" CMP	10' Smooth Flat Top
SR 42	CMP 2A	45A	Y	15" CMP	24" Smooth Pipe
SR 42	~~Des. No. 2001559~~	45B	Y	29" x 18" CMP	30" Smooth Pipe
SR 42	CMP 2B	47	Y	15" CPP	30" Smooth Pipe

Feature Crossed (if applicable):

County/Township: Morgan County/Adams and Monroe townships **City:** Monrovia/Eminence

Information reviewed (please check all that apply):

☑ General project location map ☑ USGS map ☑ Aerial photograph ☑ Interim Report

☐ Written description of project area ☐ General project area photos ☑ Soil survey data

☐ Previously completed historic property ☑ Previously completed archaeology reports

☑ Bridge Inspection Information ☑ SHAARD ☑ SHAARD GIS ☑ Streetview Imagery

Other (please specify): Morgan County property records/GIS information, accessed here: https://morgancounty.in.gov/gis/ **;** Project information submitted by RQAW on Dec. 7, 2020 and January 25, 2021 and on file with INDOT-CRO.

Bundy, Paul D., Aaron L. Harth, and Andrew V. Martin
2020 A Phase Ia Archaeological Reconnaissance Survey for the Proposed State Route 42 HMA Minor Structural Overlay from SR 142 to 0.19 Miles East of SR 39 in Morgan County, Indiana (INDOT Des. Nos. 1601075 and 1701593).

Please specify all applicable categories and condition(s) (conditions that are applicable are highlighted):

A-9. Installation, repair, or replacement of erosion control measures along roadways, waterways and bridge piers within previously disturbed soils.

B-1. Replacement, repair, or installation of curbs, curb ramps, or sidewalks, including when such projects are associated with roadway work such as surface replacement, reconstruction, rehabilitation, or resurfacing projects, including overlays, shoulder treatments, pavement repair, seal coating, pavement grinding, and pavement marking, under the following conditions ***[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]***:

Condition A (Archaeological Resources)

One of the two conditions listed below must be satisfied *(EITHER Condition i or Condition ii must be satisfied)*:

i. Work occurs in previously disturbed soils; *OR*

ii. Work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. If the archaeological investigation locates National Register-listed or potentially National Register-eligible archaeological resources, then full Section 106 review will be required. Copies of any archaeological reports prepared for the project will be provided to the Division of Historic Preservation and Archaeology (DHPA) and any archaeological site form information will be entered directly into the State Historic Architectural and Archaeological Database (SHAARD) by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE.

Condition B (Above-Ground Resources)

One of the two conditions listed below must be satisfied *(EITHER Condition i or Condition ii must be satisfied)*:

i. Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *OR*

ii. Work occurs adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource under one of the two additional conditions listed below *(EITHER Condition a OR Condition b must be met and field work and documentation must be completed as described below)*:

   a. No unusual features, including but not limited to historic brick or stone sidewalks, curbs or curb ramps, stepped or elevated sidewalks and historic brick or stone retaining walls are present in the project area adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *OR*

   b. Unusual features, including but not limited to historic brick or stone sidewalks, curbs or curb ramps, stepped or elevated sidewalks and historic brick or stone retaining walls are present in the project area adjacent to or within a National Register-listed or National Register-eligible individual above-ground resource or district and ANY ONE of the conditions *(1, 2, or 3)* listed below must be fulfilled:

      1. Unusual features described above will not be impacted by the project. Firm commitments regarding the avoidance of these features must be listed in the MPPA determination form and the NEPA document and must be entered into the INDOT Project Commitments Database. These projects will also be flagged for quality assurance reviews by INDOT Cultural Resources Office during/after project construction.

      2. Unusual features described above have been determined not to contribute to the significance of the historic resource by INDOT Cultural Resources Office in consultation with the SHPO based on an analysis and justification prepared by their staff or review of such information

from other qualified professional historians.

3. Impacts to unusual features described above have been determined by INDOT Cultural Resources Office to be so minimal that they do not diminish any of the characteristics that contribute to the significance of the historic resource, based on an analysis and justification prepared by their staff or review of such information from other qualified professional historians.

B-3. Construction of added travel, turning, or auxiliary lanes (e.g., bicycle, truck climbing, acceleration and deceleration lanes) and shoulder widening under the following conditions ***[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]***:

Condition A (Archaeological Resources)

One of the two conditions listed below must be met *(EITHER Condition i or Condition ii must be satisfied):*

i. Work occurs in previously disturbed soils; *OR*

ii. Work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. If the archaeological investigation locates National Register-listed or potentially National Register-eligible archaeological resources, then full Section 106 review will be required. Copies of any archaeological reports prepared for the project will be provided to the DHPA and any archaeological site form information will be entered directly into the SHAARD by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE.

Condition B (Above-Ground Resources)

Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource.

B-9. Installation, replacement, repair, lining, or extension of culverts and other drainage structures under the conditions listed below ***[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]***:

Condition A (Archaeological Resources)

One of the two conditions listed below must be met *(EITHER Condition i or Condition ii must be satisfied)*:

i. Work occurs in previously disturbed soils; *OR*

ii. Work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. If the archaeological investigation locates National Register-listed or potentially National Register-eligible archaeological resources, then full Section 106 review will be required. Copies of any archaeological reports prepared for the project will be provided to the DHPA and any archaeological site form information will be entered directly into the SHAARD by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE.

Condition B (Above-Ground Resources)

One of the conditions below must be met *(EITHER Condition i or Condition ii must be satisfied)*:

i. Work does not involve installation of a new culvert and other drainage structure, and there are no impacts to unusual features, including but not limited to historic brick or stone sidewalks, curbs or curb ramps, stepped or elevated sidewalks and retaining walls, under one of the following conditions *(Condition a, Condition b, or Condition c must be satisfied)*:

   a. The structure exhibits no wood, stone, or brick structures or parts therein; *OR*
   b. The structure exhibits only modern wood, stone, or brick structures or parts therein; *OR*
   c. The structure exhibits non-modern wood, stone, or brick structures or parts therein and the following conditions are met *(BOTH Condition 1 AND Condition 2 must be met):*

1. Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *AND*
2. The structure lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. Under this condition, a qualified professional (meeting the Secretary of Interior's Professional Qualification standards [48 Federal Register (FR) 44716]) must prepare an analysis and justification that the structure lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. This documentation must be reviewed and approved by INDOT Cultural Resources Office.

ii. Work involves the installation of a new culvert and other drainage structures AND/OR there may be impacts to unusual features, including historic brick or stone sidewalks, curbs or curb ramps, stepped or elevated sidewalks and retaining walls, under the following conditions *(BOTH Condition a and Condition b must be satisfied)*:

a. Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *AND*

b. The subject structure exhibits one of the characteristics described below *(Condition 1, Condition 2 or Condition 3 must be satisfied)*.

1. The structure exhibits no wood, stone, or brick structures or parts therein; *OR*
2. The structure exhibits only modern wood, stone, or brick structures or parts therein; *OR*
3. The structure exhibits non-modern wood, stone, or brick structures or parts therein but lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. Under this condition, a qualified professional (meeting the Secretary of Interior's Professional Qualification standards [48 Federal Register (FR) 44716]) must prepare an analysis and justification that the structure lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. This documentation must be reviewed and approved by INDOT Cultural Resources Office.

Are there any commitments associated with this project? If yes, please explain and include in the Additional Comments Section below. yes ☒ no ☐

Does the project result in a de minimis impact to a Section 4(f) protected historic resource? If yes, please explain in the Additional Comments Section below. yes ☐ no ☒

Additional Comments:

Above-ground Resources

An INDOT-Cultural Resources Office (CRO) historian who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61 first performed a desktop review, checking the Indiana Register of Historic Sites and Structures (State Register) and National Register of Historic Places (National Register) lists for Morgan County. The following resource on both lists is present within 0.25 mile of the project area, a distance that would serve as an adequate area of potential effects (APE) given the scope of the project and the surrounding terrain: **1) Lake Ditch Bridge/Morgan County Bridge Number 96** (NR-1614; c.-1895/1926; intersection of Lake Ditch and Lake Ditch Road/CR 530W; west of Monrovia). The resource is located on a county road at a site estimated to be 0.15 mile south of the intersection with SR 42. The resource is not located along the proposed project route for Des. No. 1601075. No other listed resources were recorded within 0.25 mile of the project area.

The *Morgan County Interim Report* (1993; Adams and Monroe townships; Monrovia Scattered Sites (MSS); Eminence Scattered Sites (ESS)) of the Indiana Historic Sites and Structures Inventory (IHSSI) was also consulted. The National Register & IHSSI information is available in the Indiana State Historic Architectural and Archaeological Research Database (SHAARD) and the Indiana Historic Buildings, Bridges, and Cemeteries Map (IHBBCM). (Note: The SHAARD/IHBBCM information for Monrovia and Eminence was not complete; therefore, the interim report hard-copy maps were utilized for this review.)

Monroe Township:

No IHSSI-surveyed Monroe Township resources rated higher than 'contributing' were recorded along the proposed project route. SHAARD-GIS cites the *Bridge Inventory Rating and Safety Inspection Report: Morgan County (Associated Engineering Consultants, Inc.; Nashville, 1974) and the Bridge Reinspection Study and Report: Morgan County (Nashville, 1978)* as recording the following Monroe Township resource within 0.25 mile of the Des. No. 1601075 project route: **1) Lake Ditch Bridge/Morgan County Bridge No. 96** (NR-1614; Lake Ditch Road/CR 530W). As noted in the previous paragraph, this listed [NR & SR] resource is not located along the proposed project route.

No historic district is present in Monrovia. The following surveyed Monrovia Scattered Sites (MSS) with IHSSI ratings of "notable" or higher were recorded along the proposed project route: **1) MSS #11009** (House; NA Main St./SR 42; c.1845 double pen; rated 'notable'). This resource is not located at a corner; no project activity will take place at this location. No other surveyed MSS resources with IHSSI ratings higher than 'notable' were recorded along the proposed project route.

As noted, no historic district is present in Monrovia. With regard to the below-listed, proposed curb-ramp-replacement locations within the town, a review of available online street-view imagery and aerial photography shows that sidewalks and curbs at the proposed locations are modern concrete and each has been modified for compliance with previous ADA-standards. No above-ground concerns are present at these locations:

- Baltimore Rd.;
- Waters St.;
- Walnut St.;
- 4) S. Chestnut St.;
- 5) N. Chestnut St.;
- 6) Church St.

Adams Township:

The following surveyed Adams Township resources with IHSSI ratings of 'notable' or higher were recorded along the proposed project route: **1) 15015** (Thomas Mills House; NA Belle Union Road; c.-1885 I-house; rated 'notable'). This resource is located immediately west of the intersection of SR 42 and Belle Union Road; **2) 15016** (Bowen House; NA SR 42; c.-1870 I-house/Italianate; rated 'notable'). Examination of Morgan County GIS/property records, available streetview imagery and interim report mapping indicates that this resource has been demolished, likely between the years 1993-1997.

SHAARD-GIS cites the *Inventory of Bridges on State Highway System of Indiana (Indianapolis, 1979, 1983)* as recording the following Adams Township resource along the Des. No. 1601075 project route: **1) Indiana State Highway Bridge Number 42-55-6735 (SR 42 over Lake Ditch**). SHAARD-GIS records indicate that this resource was demolished c. 1991. No other IHSSI-surveyed Adams Township resources with ratings higher than 'notable' were recorded along the proposed project route for Des. No. 1601075.

Adams Township #15015 (Thomas Mills House; NA Belle Union Road; c.-1885 I-house; rated 'notable) is immediately west of the intersection of SR 42 and Belle Union Road. As stated in previous paragraphs, the curve at Belle Union Road is one of five (5) sharp curves between Eminence and Monrovia *"…that will include 6-foot shoulder widening to facilitate turning movements. The widening will occur to the inside at full-depth and may also be widened by 6-feet to the outside. The outside widening is to be determined..."*

Inside curve-widening near Adams Township #15015 would not occur since the resource is located to the west (outside) of the curve/intersection. With regard to potential outside curve-widening, a February 12, 2021 email from RQAW to INDOT-CRO stated that no outside curve-widening will occur near Adams Township #15015:

"…The designer confirmed that widening to the outside is no longer being considered as part of the project scope. Here is a screen capture of the PFC plan set showing the curve at W. Belle Union Road. It shows 25 feet of RW to the inside only…"

None of the other curve-widening locations in Adams Township are near IHSSI-surveyed resources rated higher than 'contributing.'

No historic district is present in Eminence. The following surveyed Eminence Scattered Sites (ESS) with IHSSI ratings of 'notable' or higher were recorded along the proposed project route: **1) #16001** (Eminence High School; NA SR 42; c.1931; 1951;1974; rated 'notable'). This resource lacks a direct sidewalk connection to SR 42; no north-south sidewalk is present in front of the resource. As noted in project submission information "…*Sidewalks will not be replaced or upgraded with this project, and the drainage structures in town will remain as is…"* No curb work or sidewalk installation will take place in this location.

According to a January 25, 2021 email from RQAW to INDOT-CRO, the twin-pipe structure (Des. No. 2001548/CV 042-055-42.83) located on SR 42 to the immediate south of at the Eminence School will be replaced with a 16'x7' concrete box structure on the same alignment. Right-of-way is not anticipated at this location.

Small Structures/Culverts:

As noted in previous paragraphs, Des. No. 1601075 (lead Des. No.) project involves replacement of forty-one (41) culverts between Eminence and Monrovia, including thirteen (13) small structure replacements (Des. Nos. 2001548, 2001550, 1800121, 2001551, 2001552, 2001553, 1701593, 2001554, 2001555, 2001557, 2001558, 1800122, and 2001559).

Review of the 13 small structure replacements (under the above-listed Des. Nos.) is as follows:

1. **Des. No. 2001548/ Bridge #042-55-07514** (proposed under Des. No. 2001548) to be replaced with **CV 042-055-42.83**. Existing structure comprised of twin corrugated metal pipes (CMPs); unknown date of construction. BIAS photos/records and photos provided by RQAW show no non-modern wood, brick, or stone parts therein;

2. **Des. No. 2001550/CV 042-055-43.03**: Existing structure is a 30"CMP; photos provided by RQAW; due to insufficient pipe diameter, no BIAS report;

3. **Des. No. 1800121/CV 042-055-44.05**: BIAS records indicate existing structure is a 11' X 7.5' CMP; date of construction unknown. BIAS photos/records and photos provided by RQAW show no non-modern wood, brick, or stone parts therein;

4. **Des. No. 2001551/Bridge #042-55-07613/NBI #015845** (proposed under Des. No. 2001551) to be replaced with **CV 042-055-44.16**: Existing structure is twin 140" x 94" CMPs constructed c.-1991. BIAS photos/records and photos provided by RQAW show no non-modern wood, brick, or stone parts therein;

5. **Des. No. 2001552/CV 042-055-44.01**: Existing structure is an 18" CMP; photos provided by RQAW; due to insufficient pipe diameter, no BIAS report;

6. **Des. No. 2001553/CV 042-055-46.13**: Existing structure is an 18" CMP; photos provided by RQAW; due to insufficient pipe diameter, no BIAS report;

7. **Des. No. 1701593/CV 042-055-47.32**: Existing structure is a 10.5' X 4.5' concrete slab-top culvert with extensions; according to BIA records, year of construction is unknown. BIAS photos/records and photos provided by RQAW show no non-modern wood, brick, or stone parts therein;
8. **Des. No. 2001554/CV 042-055-47.90**: The existing structure is comprised of twin 6' X 3' CMPs; year of

construction is unknown. BIAS photos/records and photos provided by RQAW show no non-modern wood, brick, or stone parts therein;

9. **Des. No. 2001555/CV 042-055-48.78:** The existing structure is a 30" CMP; photos provided by RQAW; due to insufficient pipe diameter, no BIAS report;

10. **Des. No. 2001557/CV 042-055-49.29:** The existing structure is a 24" CMP; photos provided by RQAW; due to insufficient pipe diameter, no BIAS report;

11. **Des. No. 2001558/CV 042-055-50.80**: The existing structure is comprised of twin 84.2" x 61CMPs; year of construction is not known; BIAS photos/records and photos provided by RQAW show no non-modern wood, brick, or stone parts therein;

12. **Des. No. 1800122/CV 042-055-51.40**: The existing structure is comprised of twin 4.5; year of construction is not known; BIAS photos/records and photos provided by RQAW show no non-modern wood, brick, or stone parts therein;
13. **Des. No. 2001559/ CV 042-055-54.25:** The existing structure is 29" x 18" CMP; photos provided by RQAW show no modern wood, brick, or stone parts therein.

None of the following existing structures/culverts are included in in the Bridge Inspection Application System (BIAS) database since they are of small size (less than four feet in diameter), are classified as ditches, and/or are located underneath SR 42.

CMP A: No CLV number. It is a 30" small culvert pipe;
CMP B: No CLV number. It is a 18" PVC pipe;
CMP C: No CLV number. It is an 18" CMP**;**
CMP D: No CLV number; It is an 18" CMP;
CMP E: No CLV number. It is an 18" CMP;
CMP F: No CLV number. It is a 15" CMP;
CMP G: No CLV number. It is an 18" CMP with modern concrete headwall;
CMP H: No CLV number. It is an 18" CMP;
CMP I: No CLV number. It is an 18" CMP;
CMP J: No CLV number. It is a 15" CMP;
CMP K: No CLV number. It is a 15" CMP
CMP L: No CLV number. It is a 12" CMP;
CMP M: No CLV number. It is a 15" CMP;
CMP N: No CLV number. It is an 18" CMP;
CMP O: No CLV number. It is a 12" CMP;
CMP P: No CLV number. It is an 18" CMP;
CMP Q: No CLV number. It is an 18" CMP;
CMP R: No CLV number. It is an 18" CMP;
CMP S: No CLV number. It is a 15" CMP;
CMP T: No CLV number. It is a 12" CMP;
CMP U: No CLV number. It is an 18" CMP;
CMP V: No CLV number. It is a 15" CMP;
CMP W: No CLV number. It is a 15" CMP;
CMP X: No CLV number. It is a 12" CMP;
CMP Y: No CLV number. It is a 21" CMP;
CMP Z: No CLV number. It is a 98" X 69" CMP with modern concrete and gabion headwalls;
CMP 2A: No CLV number. It is a 15" CMP;
CMP 2B: No CLV number. It is a 15" CMP.

Based on examination of structure photos and descriptions provided by RQAW--on file at INDOT-CRO--the

above-listed structures exhibit no wood, stone, or brick structures or parts therein. In addition, there is no evidence to suggest that the structures possess historical or engineering significance. No unusual features are present that may be impacted by the project.

Land in the project area is agricultural; topography is flat, with scattered farms and residences present. Based on a review of the SR 42 project route via available online street-view imagery and aerial photography, these properties ranged from the mid-to late-twentieth/early twenty-first centuries. None appeared to possess the material integrity or cultural significance necessary to be considered eligible to the National Register.

Based on the available information, as summarized above, no above-ground concerns exist.

Archaeological Resources

An INDOT-CRO archaeologist who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61 reviewed and approved the Phase Ia archaeological reconnaissance report prepared by Cultural Resource Analysts (Bundy et al. 2020). The reconnaissance examined a 207.3-acre survey area through the excavation of shovel test pits, pedestrian survey of agricultural fields, and visual inspection of disturbed areas. As a result of the current field reconnaissance, seven previously unrecorded archaeological sites (12Mg624, 12Mg625, 12Mg626, 12Mg627, 12Mg628, 12Mg629, and 12Mg630) were recorded and the four previously recorded site locations were revisited (12Mg21, 12Mg229, 12Mg257, and 12Mg311). Of the previously recorded sites revisited, only three sites (12Mg21, 12Mg257, and 12Mg311) yielded artifacts. The remaining site (12Mg229) was not found within the narrow survey corridor despite close interval pedestrian survey within an agricultural (corn) field with excellent visibility. Most of these sites (12Mg257, 12Mg311, and 12Mg624– 12Mg630) were late nineteenth- through twentieth-century historic artifact scatters with low artifact density and no intact cultural deposits found within the survey area. The remaining two sites (12Mg21 and 12Mg229) were small prehistoric artifact scatters with no intact deposits found within the survey area. All of these sites likely extend outside the survey area and were not fully investigated. Therefore, their National Register of Historic Places or Indiana Register of Historic Sites and Structures eligibility cannot be fully assessed. However, the portions of these sites that were found within the current survey area demonstrated low archaeological information potential and poor integrity, and are recommended not eligible for listing in the National Register of Historic Places or Indiana Register of Historic Sites and Structures. No further archaeological work is recommended within the survey area at any of these sites.

The portions of sites 12Mg21, 12Mg229, 12Mg257, 12Mg311, 12Mg624, 12Mg625, 12Mg626, 12Mg627, 12Mg628, 12Mg629, and 12Mg630 located outside of the project R/W must marked for avoidance by all ground-disturbing activities during construction and labeled for avoidance on plans as "Environmental Sensitive Area – Do Not Disturb".

Based upon these results, there are no archaeological concerns as long as the portions of sites 12Mg21, 12Mg229, 12Mg257, 12Mg311, 12Mg624, 12Mg625, 12Mg626, 12Mg627, 12Mg628, 12Mg629, and 12Mg630 located outside of the project R/W are marked for avoidance by all ground-disturbing activities during construction and the scope of the project does not change.

Accidental Discovery: If any archaeological artifacts or human remains are uncovered during construction, demolition, or earth moving activities, construction within 100 feet of the discovery will be stopped, and the INDOT Cultural Resources Office and the Division of Historic Preservation and Archaeology will be notified immediately.

INDOT Cultural Resources staff reviewer(s): Susan Branigin and Matt Coon

****Be sure to attach this form to the National Environmental Policy Act documentation for this project. Also, the NEPA documentation shall reference and include the description of the specific stipulation in the PA that qualifies the project as exempt from further Section 106 review.*

From: Branigin, Susan <SBranigin@indot.IN.gov>
Sent: Monday, May 23, 2022 11:08 AM
To: Kyle J. Boot
Cc: Coon, Matthew; Branigin, Susan; Mcdaniel, Kaitlyn; Kurtz, Randy; Harlan Ford; Lisa Casler; Joseph Dabkowski; Haylee Moscato; Hannah Kopf
Subject: [EXT] RE: [EXT] RE: [EXT] RE: [EXT] FW: SR 42 Structural Overlay and Small Structure Replacements Projects, Lead Des 1601075, MPPA Category B-1, B-3, and B-9

Hi Kyle,

Thank you for the submittal of this project's revised scope information for CRO's review. We've determined that the project continues to qualify under Categories B-1, B-3, and B-9 of the Minor Projects PA, thus concluding the Section 106 process. For use in the CE, the completed determination form can be accessed via the provided ProjectWise link.

Please keep in mind that if the scope of the project or project limits should change, our office will need to re-examine the information to determine whether the MPPA still applies. Feel free to contact us should you have any questions or need additional information.

Minor Project PA Determination Form_B-1_B-3_B-9_1601075.pdf

Best regards,

Susan R. Branigin
History Team Lead
Cultural Resources Office
Environmental Services
100 N. Senate Ave., Rm. N758-ES
Indianapolis IN 46204
Office: 317.417.1622
Email: sbranigin@indot.in.gov
Work Hours: M-F_7:30 a.m.-3:30 p.m.

***For the latest updates from INDOT's Cultural Resources Office, subscribe to the Environmental Services listserv:** https://www.in.gov/indot/3217.htm

Contract Publication Series 19-566

A PHASE IA ARCHAEOLOGICAL RECONNAISSANCE SURVEY FOR THE PROPOSED STATE ROUTE 42 HMA MINOR STRUCTURAL OVERLAY FROM SR 142 TO 0.19 MILES EAST OF SR 39 IN MORGAN COUNTY, INDIANA (INDOT DES. NOS. 1601075 AND 1701593)

by
Paul D. Bundy, RPA 15111

Prepared for

RQAW Corporation

Prepared by

cra
cultural resource analysts, inc

Kentucky | West Virginia | Wyoming
Indiana | Louisiana | Tennessee | Virginia

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by

Paul D. Bundy, RPA 15111
with contributions by Aaron L. Harth and Andrew V. Martin, RPA 61710

Prepared for

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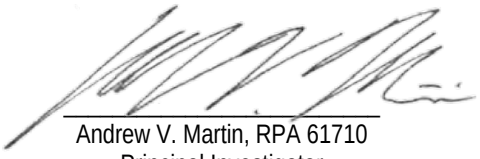
CRA Project No.: I19R010



Andrew V. Martin, RPA 61710
Principal Investigator

January 9, 2020

Lead Agency: Indiana Department of Transportation
INDOT Des. Nos.: 1601075 and 1701593
Indiana State Museum Accession No.: 71.19.1713

VI. Conclusions and Recommendations

From July 16–26, 2019, Cultural Resource Analysts, Inc., personnel conducted a phase Ia archaeological reconnaissance survey for the proposed SR 42 pavement replacement project in Morgan County, Indiana (INDOT Designation Numbers 1601075 and 1701593). The survey was conducted at the request of RQAW Corporation. The survey area encompassed approximately 83.9 ha (207.3 acres) of potential ground disturbance along the existing SR 42 corridor. The survey area included both sides of SR 42 with agricultural fields, pastures, woods, and lawns. Survey methods consisted of pedestrian survey supplemented with shovel testing, as well as visual inspection of disturbed areas.

Prior to conducting this survey, an archaeological records review was completed using the DHPA SHAARD. The records review revealed that there were four recorded archaeological sites near or within the survey area (12Mg21, 12Mg229, 12Mg257, and 12Mg311). Two of the sites (12Mg21 and 12Mg229) were documented as prehistoric lithic artifact scatters and the other two sites (12Mg257 and 12Mg311) were recorded as historic artifact scatters. As a result of the previous work, these sites were recommended not eligible for the National Register of Historic Places and no further work was recommended at any of these sites.

As a result of the current field reconnaissance, seven previously unrecorded archaeological sites (12Mg624, 12Mg625, 12Mg626, 12Mg627, 12Mg628, 12Mg629, and 12Mg630) were recorded and the four previously recorded site locations were revisited (12Mg21, 12Mg229, 12Mg257, and 12Mg311). Of the previously recorded sites revisited, only three sites (12Mg21, 12Mg257, and 12Mg311) yielded artifacts. The remaining site (12Mg229) was not found within the narrow survey corridor despite close interval pedestrian survey within an agricultural (corn) field with excellent visibility. Most of these sites (12Mg257, 12Mg311, and 12Mg624–12Mg630) were late nineteenth- through twentieth-century historic artifact scatters with low artifact density and no intact cultural deposits found within the survey area. The remaining two sites (12Mg21 and 12Mg229) were small prehistoric artifact scatters with no intact deposits found within the survey area. All of these sites likely extend outside the survey area and were not fully investigated. Therefore, their NRHP or IHSS eligibility cannot be fully assessed. However, the portions of these sites that were found within the current survey area demonstrated poor archaeological integrity, and are recommended not eligible for listing in the NRHP or IHSS. No further archaeological work is recommended within the survey area at any of these sites.

Note that a principal investigator or field archaeologist cannot grant or withhold clearance to a project. Although the decision to grant or withhold clearance is reached, at least in part, on the recommendations made by the field investigator, clearance may be obtained only through an administrative decision made by the lead agency in consultation with the State Historic Preservation Officer (Indiana DHPA). This decision is made, in part, based on the recommendations made by the field investigator. If any previously unrecorded archaeological materials are encountered during construction activities, the DHPA should be notified immediately at (317) 232-1646, and the INDOT Cultural Resources Office (CRO) at (317) 233-6795. If human remains are discovered, construction activities should cease immediately, and the DHPA, the INDOT, CRO, the local coroner, and the local law enforcement agency must be notified.

Categorical Exclusion

Appendix E

Red Flag and Hazardous Materials

INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N642
Indianapolis, Indiana 46204

PHONE: (317) 232-5113
FAX: (317) 233-4929

Eric Holcomb, Governor
Joe McGuinness, Commissioner

Date: May 6, 2021

To: Site Assessment & Management (SAM)
Environmental Policy Office - Environmental Services Division (ESD)
Indiana Department of Transportation
100 N Senate Avenue, Room N642
Indianapolis, IN 46204

From: Cameron Fraser
RQAW Corporation
8770 North Street; Suite 110
Fishers, Indiana 46038
cfraser@rqaw.com

Re: RED FLAG INVESTIGATION
Des. Numbers 1601075 & 1701593, State Project
Road Reconstruction Project
SR 42, from SR 142 to 0.06 mile east of SR 39
Morgan County, Indiana

PROJECT DESCRIPTION

Brief Description of Project: The Federal Highway Administration (FHWA) and Indiana Department of Transportation (INDOT) Crawfordsville District propose to proceed with a road reconstruction project along State Road (SR) 42 in Morgan County, Indiana. The project extends approximately 13.03 miles on SR 42 and will extend from approximately SR 142 to 0.06 mile east of SR 39; beginning in the town of Eminence and ending in the town of Monrovia. It is further described as being in Adams and Monroe Townships within Sections 12, 13, 14, 15, 16, 21, 28, 33 of Township 13 North and Range 2 West, and within Sections 7, 8, 9, 10, 11, 12 of Townships 13 North and Range 1 West.

The project will involve a mill and hot mix asphalt (HMA) minor structural overlay along the entire project route. There will also be sections of full depth pavement reconstruction at locations where the profile grade needs to be adjusted due to inadequate cover over structures or where the roadway geometry requires improvement. Within the towns of Eminence and Monrovia, the roadway geometry will remain the same and only a mill and hot mix asphalt (HMA) overlay will occur. The travel lanes and shoulder width will remain the same, except in five (5) isolated locations around sharp curves. The shoulder width at these locations will be widened between 0 to 6 feet. Forty-one (41) culverts/maintenance pipes, nine (9) small structures with INDOT structure numbers and thirty-two (32) maintenance pipes without INDOT structure numbers, will be replaced for this project. Five (5) of the maintenance pipes will be replaced with small structures and therefore have been assigned INDOT structure numbers. The nine (9) small structures with INDOT structure numbers and five (5) maintenance pipes were assigned individual Des. Numbers; see table in the Ecological Information Summary section and the Water Resources Maps of this RFI for culvert/maintenance pipe information/locations. The existing curb ramps at various intersections within the towns of Eminence and Monrovia will be upgraded to meet current Americans with Disabilities Act (ADA) standards. The intersections where ADA curb ramp work is proposed to occur are provided in the below table:

Intersections:	Quadrants:	Depth of Excavation (feet below ground surface (ft-bgs))
Baltimore Rd and SR 42	NE and SE	2.5 ft-bgs
Waters St and SR 42	All four corners	2.5 ft-bgs
Walnut St and SR 42	SW and SE	2.5 ft-bgs
South Chestnut St and SR 42	SW and SE	2.5 ft-bgs
Church St and SR 42	SW and SE	2.5 ft-bgs
Walters Rd and SR 42 (Eminence)	NE	2.5 ft-bgs

Bridge and/or Culvert Work Included in Project: Yes ☒ No ☐ Structure #(s) See Table in Ecological Information Summary Section below

If this is a bridge project, is the bridge Historical? Yes ☐ No ☒ , Select ☐ Non-Select ☐

(Note: If the project involves a historical bridge, please include the bridge information in the Recommendations Section of the report).

Proposed right of way: Temporary ☒ # Acres To Be Determined (TBD), Permanent ☒ # Acres TBD, Not Applicable ☐

Type of excavation: A majority of the project will only require excavation to a depth of approximately 2.5 feet below ground surface (bgs); however, the locations requiring small structure replacements may require up to approximately 10 feet bgs.

Maintenance of traffic (MOT): The MOT plan will be performed by phased construction with a moving operation utilizing flaggers to allow a one-lane, two-way operation for the milling and overlay from the beginning of the project to the Eminence Community School, and from Baltimore Street to the end of the project. The maintenance of traffic plan will utilize state and local detour routes from the Eminence Community School to Baltimore Street limits.

Work in waterway: Yes ☒ No ☐ Below ordinary high water mark: Yes ☒ No ☐

State Project: ☒ LPA: ☐

Any other factors influencing recommendations: N/A

INFRASTRUCTURE TABLE AND SUMMARY

Infrastructure
Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:

Religious Facilities	**5***	Recreational Facilities	**4**
Airports[1]	**N/A**	Pipelines	**1**
Cemeteries	**6**	Railroads	**N/A**
Hospitals	**N/A**	Trails	**2**
Schools	**5**	Managed Lands	**N/A**

[1]In order to complete the required airport review, a review of public airports within 3.8 miles (20,000 feet) is required.

Explanation:

Religious Facilities: *Five (5) religious facilities, one (1) unmapped and four (4) mapped, are located within the 0.5 mile search radius. The nearest facility, identified as Monrovia United Methodist Church, is located approximately 0.03 mile south of the eastern portion of the project area. No impact is expected.

Cemeteries: Six (6) cemeteries are located within the 0.5 mile search radius. The nearest cemetery, identified as Crown Center Cemetery, is located approximately 0.25 mile west of the central portion of the project area. No impact is expected.

Schools: Five (5) schools are located within the 0.5 mile search radius. Four (4) schools are located adjacent to the project area. Eminence Elementary School and Eminence High School are located adjacent to the west of the southern portion of the project area. Monrovia High School and Monrovia Jr. High School are located adjacent to the south of the eastern portion of the project area. Coordination with the Eminence Consolidated School Corporation and the Monroe-Gregg School District will occur.

Recreational Facilities: Four (4) recreational facilities are located within the 0.5 mile search radius. Two (2) recreational facilities are located adjacent to the project area. Eminence Elementary and High School is located adjacent to the west of the southern portion of the project area. Monrovia Jr-Sr Highschool is located adjacent to the south of the eastern portion of the project area. Coordination with the Eminence Consolidated School Corporation and the Monroe-Gregg School District will occur.

Pipelines: One (1) pipeline segment is located within the 0.5 mile search radius. The pipeline segment, identified as Indiana Farm Bureau Cooperative Association, transects the project area at two (2) locations within the western portion of the project area. Coordination with INDOT Utilities and Railroad will occur.

Trails: Two (2) trail segments are located within the 0.5 mile search radius. The nearest trail segment, identified as Eminence Schools and Ballfields Pathway, is located 0.07 mile west of the southern portion of the project area; however, access to this trail segment is adjacent to the west of the southern portion of the project area. Coordination with Eminence Community Schools will occur.

WATER RESOURCES TABLE AND SUMMARY

Water Resources Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
NWI - Points	**1**	Canal Routes - Historic	**N/A**
Karst Springs	**N/A**	NWI - Wetlands	**20**
Canal Structures – Historic	**N/A**	Lakes	**11**
NPS NRI Listed	**N/A**	Floodplain - DFIRM	**5**
NWI-Lines	**18**	Cave Entrance Density	**N/A**
IDEM 303d Listed Streams and Lakes (Impaired)	**3**	Sinkhole Areas	**N/A**
Rivers and Streams	**35**	Sinking-Stream Basins	**N/A**

Explanation:

National Wetlands Inventory (NWI)-Points: One (1) NWI-point is located within the 0.5 mile search radius. The NWI-point is located approximately 0.06 mile south of the western portion of the project area. No impact is expected.

NWI-Lines: Eighteen (18) NWI-line segments are located within the 0.5 mile search radius. Four (4) NWI-line segments, two (2) in the eastern portion of the project area and two (2) in the southern portion of the project area, transect the project area. A Waters of the US Report will be prepared and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

Indiana Department of Environmental Management (IDEM) 303d Listed Streams and Lakes (Impaired): Three (3) impaired stream segments are located within the 0.5 mile search radius. The nearest impaired stream segment is located approximately 0.27 mile west of the western portion of the project area. No impact is expected.

Rivers and Streams: Thirty-five (35) stream segments are located within the 0.5 mile search radius. Nine (9) stream segments transect the project area, and six (6) stream segments are adjacent to the project area; two (2) within and one (1) adjacent to the eastern portion of the project area, three (3) within the central portion of the project area, one (1) within and three (3) adjacent to the western portion of the project area, and three (3) within and two (2) adjacent to the southern portion of the project area. A Waters of the US Report will be prepared and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

NWI-Wetlands: Twenty (20) NWI-wetland polygons are located within the 0.5 mile search radius. Two (2) NWI-wetland polygons are located within or adjacent to the project area. One (1) NWI-wetland polygon is located adjacent to the south of the central portion of the project area, and one (1) NWI-wetland polygon is located within the eastern portion of the project area. A Waters of the US Report will be prepared and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

Lakes: Eleven (11) lake polygons are located within the 0.5 mile search radius. The nearest lake polygon is located approximately 0.05 mile west of the western portion of the project area. No impact is expected.

Floodplain – Digital Flood Insurance Rate Map (DFIRM): Five (5) floodplain polygons are located within the 0.5 mile search radius. The project is located within two (2) floodplain polygons, one (1) at the eastern portion of the project area and one (1) at the southern portion of the project area. Coordination with INDOT ESD Ecology and Waterway Permitting will occur.

MINING AND MINERAL EXPLORATION TABLE AND SUMMARY

Mining/Mineral Exploration Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Petroleum Wells	**1**	Mineral Resources	**N/A**
Mines – Surface	**N/A**	Mines – Underground	**N/A**

Explanation:

Petroleum Wells: One (1) petroleum well is located within the 0.5 mile search radius. The petroleum well is located adjacent to the south of the eastern portion of the project area and is presumed plugged. No impact is expected.

HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY

Hazardous Material Concerns Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Superfund	**N/A**	Manufactured Gas Plant Sites	**N/A**
RCRA Generator/ TSD	**N/A**	Open Dump Waste Sites	**N/A**
RCRA Corrective Action Sites	**N/A**	Restricted Waste Sites	**N/A**
State Cleanup Sites	**2**	Waste Transfer Stations	**N/A**
Septage Waste Sites	**N/A**	Tire Waste Sites	**N/A**
Underground Storage Tank (UST) Sites	**5***	Confined Feeding Operations (CFO)	**N/A**
Voluntary Remediation Program	**N/A**	Brownfields	**N/A**
Construction Demolition Waste	**N/A**	Institutional Controls	**N/A**
Solid Waste Landfill	**N/A**	NPDES Facilities	**3**
Infectious/Medical Waste Sites	**N/A**	NPDES Pipe Locations	**1**
Leaking Underground Storage Tank (LUST) Sites	**8**	Notice of Contamination Sites	**1**

Unless otherwise noted, site specific details presented in this section were obtained from documents reviewed on the IDEM Virtual File Cabinet (VFC).

The Hazardous material concerns for this project are located in three (3) sections of the project area. Therefore, the explanation below will focus on the three (3) extents identified in the Hazardous Material Concerns Maps.

Explanation:

Extent 1:
Walters Rd and SR 42:
UST Sites: Eminence Dairyland, 6540 N SR 42 (AI ID 43901), is located approximately 0.02 mile north of the SR 42 and SR 142/Walters Road intersection. IDEM conducted a UST inspection on September 27, 2017, and the facility was found to be in compliance with equipment, operating, and maintenance requirements set forth in Indiana's UST Rule 329 IAC 9. No impact is expected.

LUST Sites: Dean Hudson (also listed as Hudson Pluming), 6542 S R 42 (AI ID 40203), is located approximately 0.02 mile north of the SR 42 and SR 142 intersection. Two (2) USTs were removed from the site in April of 1998. Samples were collected from the UST pit soil stockpile during closure activities, and the results indicated a release has occurred at the site and was identified in the vicinity of the former UST cavity and dispenser islands. It does not appear as though impacts extend into the curb ramp area. No impact is expected.

CV 042-055-42.83:
National Pollutant Discharge Elimination System (NPDES) Facilities:
Eminence Community School Corporation is located adjacent to the west of the southern portion of the project area. The permit for the NPDES facility expires May 31, 2020. Coordination with Eminence Community School Corporation will occur.

NPDES Pipe Locations:
Eminence Community School Corporation NPDES pipe is located approximately 0.15 mile west of the southern portion of the project area. The NPDES pipe discharges into an unnamed tributary (UNT) of Lake Ditch and flows west, away from the project area. No impact is expected.

Pipe A: Refer to CV 042-055-42.83 section above.

Extent 2:
Pipe H:
LUST Sites: Little Point Truck Stop (mapped twice), 9681 North Little Point Road (AI ID 41382), is an active gas station located approximately 0.09 mile north of the central portion of the project area at the SR 42 and CR 1100 West intersection. No impact is expected.

Former Kroger's Kountry Mart, 9629 North Little Point Road (AI ID 43140), is located across CR 1100 West and adjacent to the east of the Little Point Truck Stop LUST site and 0.09 mile north of the project area. No impact is expected.

Pipe I: Refer to Pipe H section above.

Extent 3:
Baltimore Rd and SR 42: There do not appear to be any Hazardous Material Concern sites mapped or located at this intersection. No impact is expected.

Waters St and SR 42:
LUST Sites: INDOT County Station (Morgan County Station 3+88), SR 42 and Water Street (AI ID 42321), is located adjacent to the eastern portion of the project area in the southwest quadrant of the SR 42 and Water Street intersection. According to the No Further Action (NFA) Determination Pursuant to Remediation Closure Guide issued by IDEM on September 14, 2016, low levels of contamination may remain in the ROW and surrounding area; however, contamination does not appear to extend into the ADA curb ramp construction area. No impact is expected; however, if the depth of excavation extends past 5 ft-bgs, then coordination with INDOT SAM will occur.

Walnut St and SR 42:
State Cleanup Sites: Nancy's Auto, 55 West Main Street (AI ID 107285), is located 0.03 mile east of the above intersection. The site was once an auto repair shop and is now a hardware store. No impact is expected.

South Chestnut St and SR 42:
State Cleanup Sites and Notice of Contamination site: High Point Oil Company (also listed as Former High Point Oil Facility), 35 West Main Street (AI ID 42338), is located on the southwest corner of SR 42 and Chestnut Street. According to the NFA Request, dated November 12, 2019, the site was initially developed as a retail fuel facility as early as the mid-1960s. Groundwater and soil contamination remain on the site, and extend into the ROW and proposed ADA curb ramp activities. 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. An Environmental Restrictive Covenant (ERC) is pending for this site; therefore, coordination will be conducted with IDEM Project Manager (Douglas Bartz, dbartz@idem.IN.gov) before further site activities occur. If groundwater monitoring wells are encountered in the project area, they should be maintained in place. If they cannot be maintained, then the contractor must contact the INDOT Project Manager who will notify the INDOT Permits Group. The INDOT Permits Group will notify the permit holder that the well must be removed prior to construction. The permit holder is responsible for coordination with IDEM and the INDOT Permits Group for replacement or relocation of the well. If a property owner cannot be found in connection with the monitoring well, then well abandonment will be included in the project contract. All well abandonment activities

must be completed by an Indiana Licensed Well Driller in accordance with IAC 312- 13-10. Regardless of whether the well is abandoned by the contractor or the property owner, a record of well abandonment, including the well driller's license number, must be provided to the INDOT Project Manager once the well has been abandoned.

Church St and SR 42: There do not appear to be any Hazardous Material Concern sites mapped or located at this intersection. No impact is expected.

ECOLOGICAL INFORMATION SUMMARY

The Morgan County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high-quality natural communities can be found at the following link: https://www.in.gov/dnr/nature-preserves/files/np_morgan.pdf. A preliminary review of the Indiana Natural Heritage Database by INDOT Environmental Services did indicate the presence of ETR species within the 0.5 mile search radius. Coordination with United States Fish and Wildlife Service (USFWS) and IIDNR will occur.

A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. The project area is located in mostly rural area surrounded by farm fields; however, the southern project terminus and eastern project terminus are located in urban areas surrounded by residential and commercial properties. Forty-one (41) culverts/pipes, nine (9) small structures with INDOT structure numbers and thirty-two (32) maintenance pipes currently without INDOT structure numbers, will be replaced for this project. See Water Resources Maps for culvert /pipe locations. The structures and INDOT bat inspection results (if available) are listed in the table below:

	Small Structure No. / Pipe Identifier	Des Number	Date of Inspection:	Bats Present: Yes; No; N/A
	CV 042-055-42.83 (Currently 042-55-07514)	Des. No. 2001548	4/15/2020	No
Str. No. 3	Pipe A	- Des No. 2001549	N/A	N/A
	CV 042-055-43.03 (Currently Maintenance Pipe)	Des. No. 2001550	N/A	N/A
Str. No. 5	Pipe B	-	N/A	N/A
Str. No. 5B	Pipe C	-	N/A	N/A
	CV 042-055-44.05	Des. No. 1800121	8/12/2020	No
Str. No. 8	Pipe D	-	N/A	N/A
Str. No. 9	Pipe E	-	N/A	N/A
	CV 042-055-44.16 (Currently 042-55-07613)	Des. No. 2001551	4/15/2020	No
	CV 042-055-44.01 (Currently Maintenance Pipe)	Des. No. 2001552	N/A	N/A
Str. No. 16E	Pipe F	-	N/A	N/A
Str. No. 16I	Pipe G	-	N/A	N/A
	CV 042-055-46.13 (Currently Maintenance Pipe)	Des. No. 2001553	N/A	N/A
Str. No. 18	Pipe H	-	N/A	N/A
Str. No. 19	Pipe I	-	N/A	N/A
Str. No. 20	Pipe J	-	N/A	N/A
Str. No. 22	Pipe K	-	N/A	N/A
Str. No. 24	Pipe L	-	N/A	N/A
	CV 042-055-47.32	Des. No. 1701593	5/12/2020	No
Str. No. 26	Pipe M	-	N/A	N/A
Str. No. 27	Pipe N	-	N/A	N/A

Please Refer to Appendix C, pages C54-C57 for the updated table of structures.

Please note that the alphabetical nomenclature used at the time the RFI was prepared and approved has been abandoned and a numerical numbering system is now being used.

	CV 042-055-47.90	Des. No. 2001554	8/12/2020	No
	CV 042-055-48.78 (Currently Maintenance Pipe)	Des. No. 2001555	N/A	N/A
Str. No. 29D	Pipe O	-	N/A	N/A
	CV 042-055-49.29 (Currently Maintenance Pipe)	Des. No. 2001557	N/A	N/A
Str. No. 32	Pipe P	-	N/A	N/A
Str. No. 33	Pipe Q	-	N/A	N/A
Str. No. 34	Pipe R	-	N/A	N/A
Str. No. 35	Pipe S	-	N/A	N/A
	CV 042-055-50.80	Des. No. 2001558	2/15/2018	No
Str. No. 37	Pipe T	-	N/A	N/A
	CV 042-055-51.40	Des. No. 1800122	5/12/2020	No
Str. No. 40B	Pipe U	-	N/A	N/A
Str. No. 41	Pipe V	-	N/A	N/A
Str. No. 42	Pipe W	-	N/A	N/A
Str. No. 43	Pipe X	-	N/A	N/A
Str. No. 43A	Pipe Y	-	N/A	N/A
	CV 042-055-54.25	Des. No. 2001559	8/12/2020	No
Str. No. 45A	Pipe Z	-	N/A	N/A
Str. No. 45B	Pipe 2A	-	N/A	N/A
Str. No. 47	Pipe 2B	-	N/A	N/A

No information regarding the presence or absence of bats was found for the thirty-two (32) maintenance pipes. The inspection report for structure number CV 042-055-50.80 exceeds the two-year threshold. Additional investigation to confirm the presence or absence of bats in the thirty-two (32) Maintenance pipes and structure number CV 042-055-50.80 will be necessary. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

RECOMMENDATIONS SECTION

INFRASTRUCTURE:
Schools: Four (4) schools, Eminence Elementary School and Eminence High School Monrovia High School and Monrovia Jr. High School, are located adjacent to the project area. Coordination with the Eminence Consolidated School Corporation and the Monroe-Gregg School District will occur.

Recreational Facilities: Two (2) recreational facilities, Eminence Elementary and High School Monrovia Jr-Sr Highschool are located adjacent to the project area. Coordination with the Eminence Consolidated School Corporation and the Monroe-Gregg School District will occur.

Pipelines: One (1) pipeline segment, Indiana Farm Bureau Cooperative Association, transects the project area at two (2) locations within the western portion of the project area. Coordination with INDOT Utilities and Railroad will occur.

Trails: The nearest trail segment identified as Eminence Schools and Ballfields Pathway is located 0.07 mile west of the southern portion of the project area; however, access to this trail segment is adjacent to the west of the southern portion of the project area. Coordination with Eminence Community Schools will occur.

WATER RESOURCES:
The presence of the following water resources will require the preparation of a Waters of the US Report and coordination with INDOT ESD Ecology and Waterway Permitting:

- Four (4) NWI-line segments transect the project area.
- Nine (9) stream segments transect the project area, and six (6) stream segments are adjacent to the project area.
-Two (2) NWI-wetland polygons are located within the project area.
-The project is located within two (2) floodplain polygons (coordination only)

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS:
CV 042-055-42.83:
NPDES Facilities:
Eminence Community School Corporation is located adjacent to the west of the southern portion of the project area. The permit for the NPDES facility expires May 31, 2020. Coordination with Eminence Community School Corporation will occur.

Waters St and SR 42:
LUST Sites: INDOT County Station (Morgan County Station 3+88), SR 42 and Water Street (AI ID 42321), is located adjacent to the eastern portion of the project area in the southwest quadrant of the SR 42 and Water Street intersection. According to the NFA Determination Pursuant to Remediation Closure Guide issued by IDEM on September 14, 2016, low levels of contamination may remain in the ROW and surrounding area; however, contamination does not appear to extend into the ADA curb ramp construction area. No impact is expected; however, if the depth of excavation extends past 5 ft-bgs, then coordination with INDOT SAM will occur.

South Chestnut St and SR 42:
State Cleanup Sites: High Point Oil Company (also listed as Former High Point Oil Facility), 35 West Main Street (AI ID 42338), is located on the southwest corner of SR 42 and Chestnut Street. According to the NFA Request, dated November 12, 2019, the site was initially developed as a retail fuel facility as early as the mid-1960s. Groundwater and soil contamination remain on the site, and extend into the ROW and proposed ADA curb ramp activities. 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. An ERC is pending for this site; therefore, coordination will be conducted with IDEM Project Manager (Douglas Bartz, dbartz@idem.IN.gov) before further site activities occur. If groundwater monitoring wells are encountered in the project area, they should be maintained in place. If they cannot be maintained, then the contractor must contact the INDOT Project Manager who will notify the INDOT Permits Group. The INDOT Permits Group will notify the permit holder that the well must be removed prior to construction. The permit holder is responsible for coordination with IDEM and the INDOT Permits Group for replacement or relocation of the well. If a property owner cannot be found in connection with the monitoring well, then well abandonment will be included in the project contract. All well abandonment activities must be completed by an Indiana Licensed Well Driller in accordance with IAC 312- 13-10. Regardless of whether the well is abandoned by the contractor or the property owner, a record of well abandonment, including the well driller's license number, must be provided to the INDOT Project Manager once the well has been abandoned.

ECOLOGICAL INFORMATION:
Coordination with USFWS and IDNR will occur. Additional investigation to confirm the presence or absence of bats in the thirty-two (32) Maintenance pipes and structure number CV 042-055-50.80 will be necessary. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

INDOT Environmental Services concurrence: Nicole Fohey-Breting Digitally signed by Nicole Fohey-Breting Date: 2021.05.12 15:28:13 -04'00' (Signature)

Prepared by:
Cameron Fraser
NEPA Specialist
RQAW Corporation

Graphics:

SITE LOCATION: YES

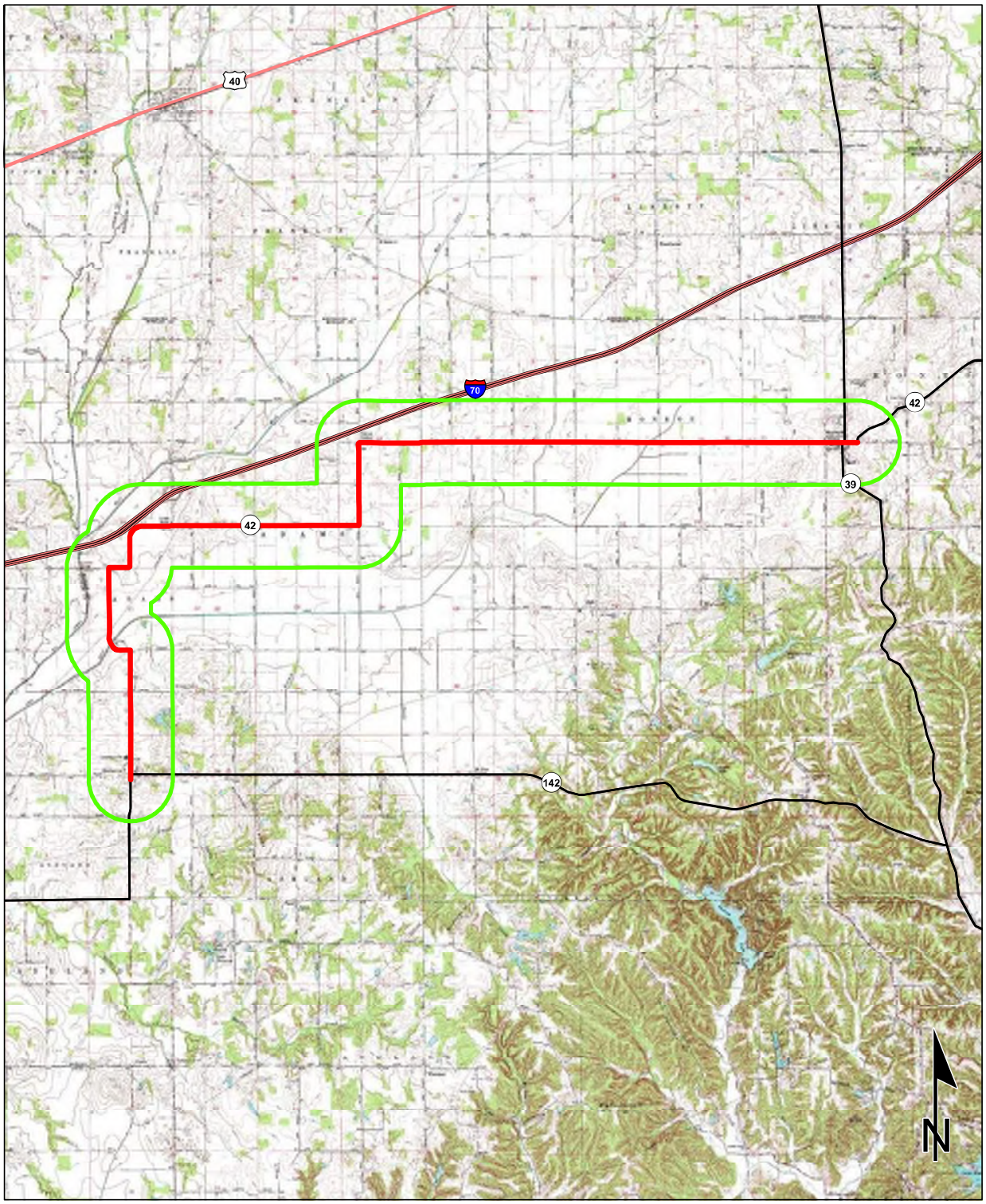
INFRASTRUCTURE: YES

WATER RESOURCES: YES

MINING/MINERAL EXPLORATION: YES

HAZARDOUS MATERIAL CONCERNS: YES

Red Flag Investigation - Site Location
SR 42, From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



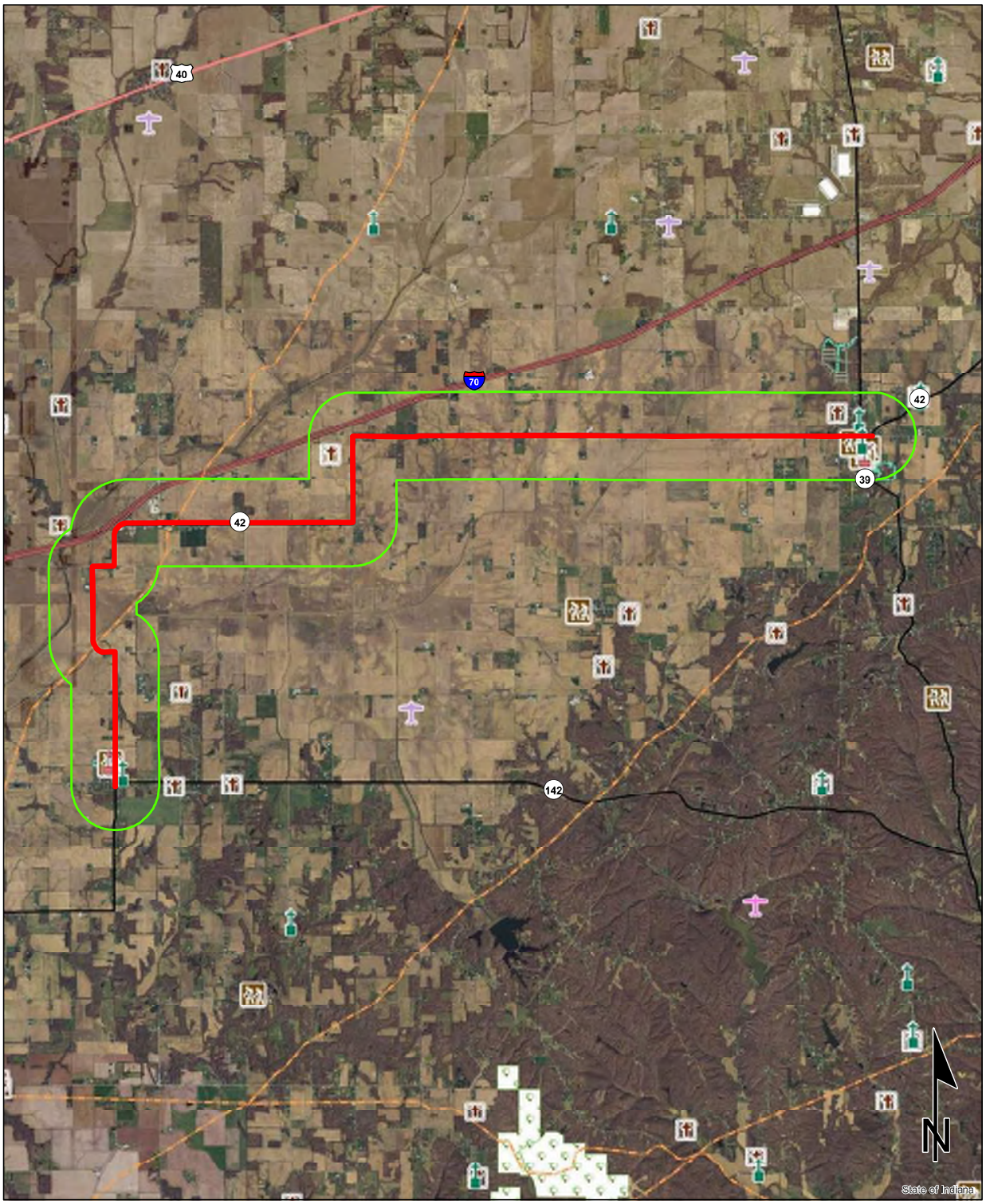
1.5 0.75 0 1.5 Miles

Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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

MOORESVILLE WEST, HALL, & EMINENCE QUADRANGLES
INDIANA
7.5 MINUTE SERIES
(TOPOGRAPHIC)

Red Flag Investigation - Infrastructure
SR 42 From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



1 0.5 0 1 Miles

Sources:
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Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
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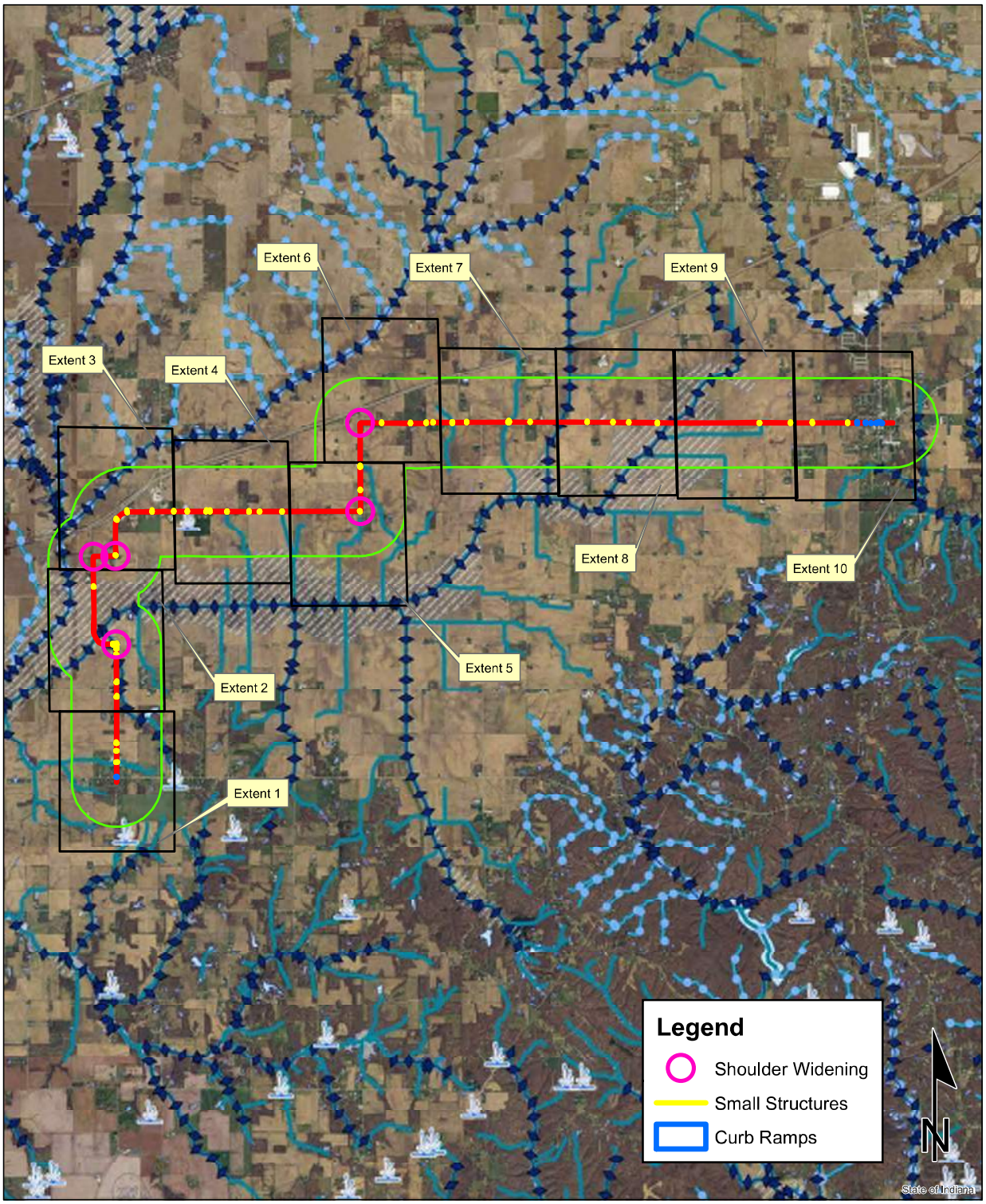
- Religious Facility
- Airport
- Cemeteries
- Hospital
- School
- Recreation Facility
- Pipeline
- Railroad
- Trails
- Managed Lands
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Water Resources
SR 42, From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



1 0.5 0 1 Miles

Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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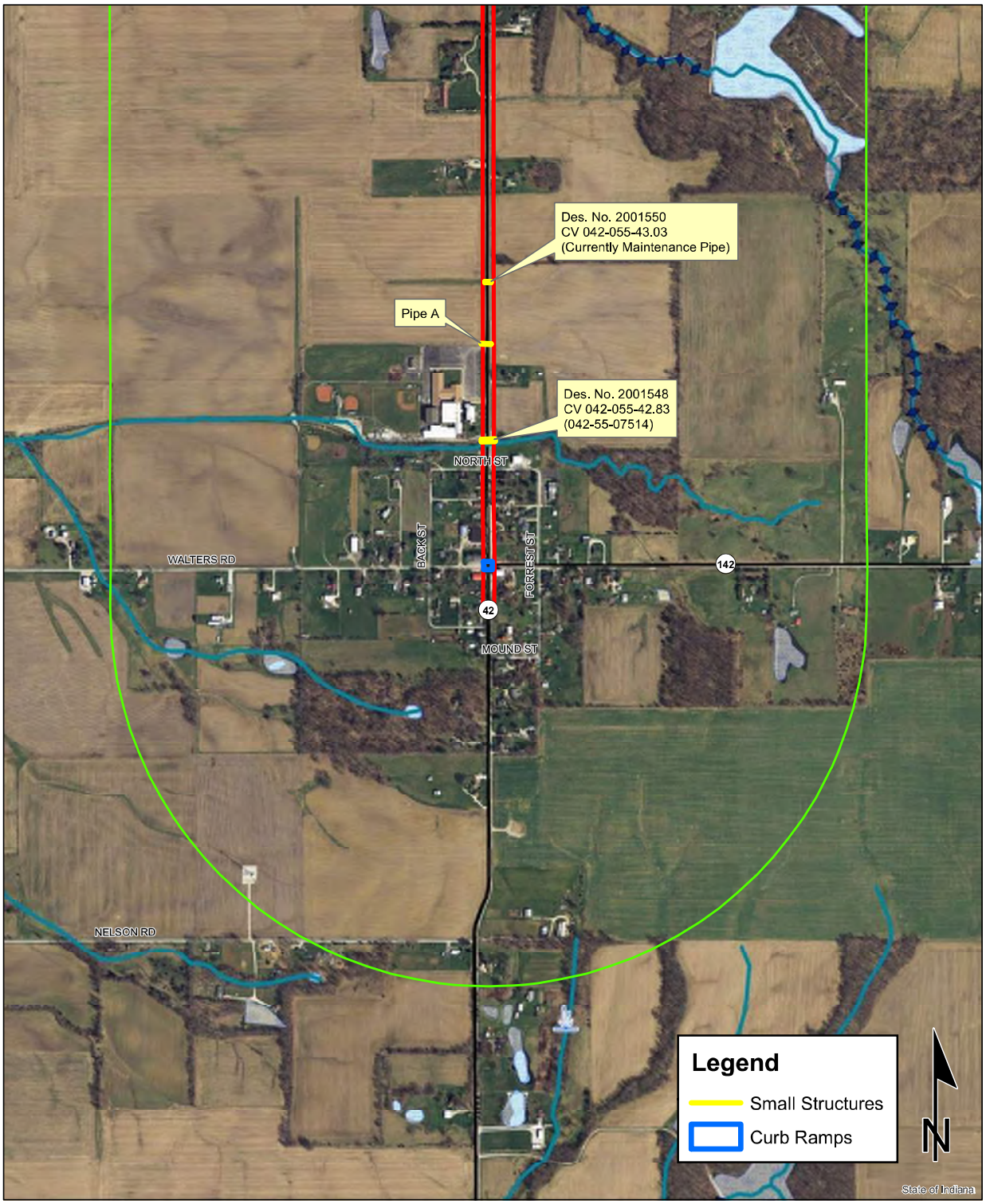
- NWI - Point
- Karst Spring
- NWI- Line
- Impaired_Stream_Lake
- NPS NRI listed
- River
- Canal Structure - Historic
- Canal Route - Historic
- Wetlands
- Lake
- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Water Resources (Extent 1)
SR 42, From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



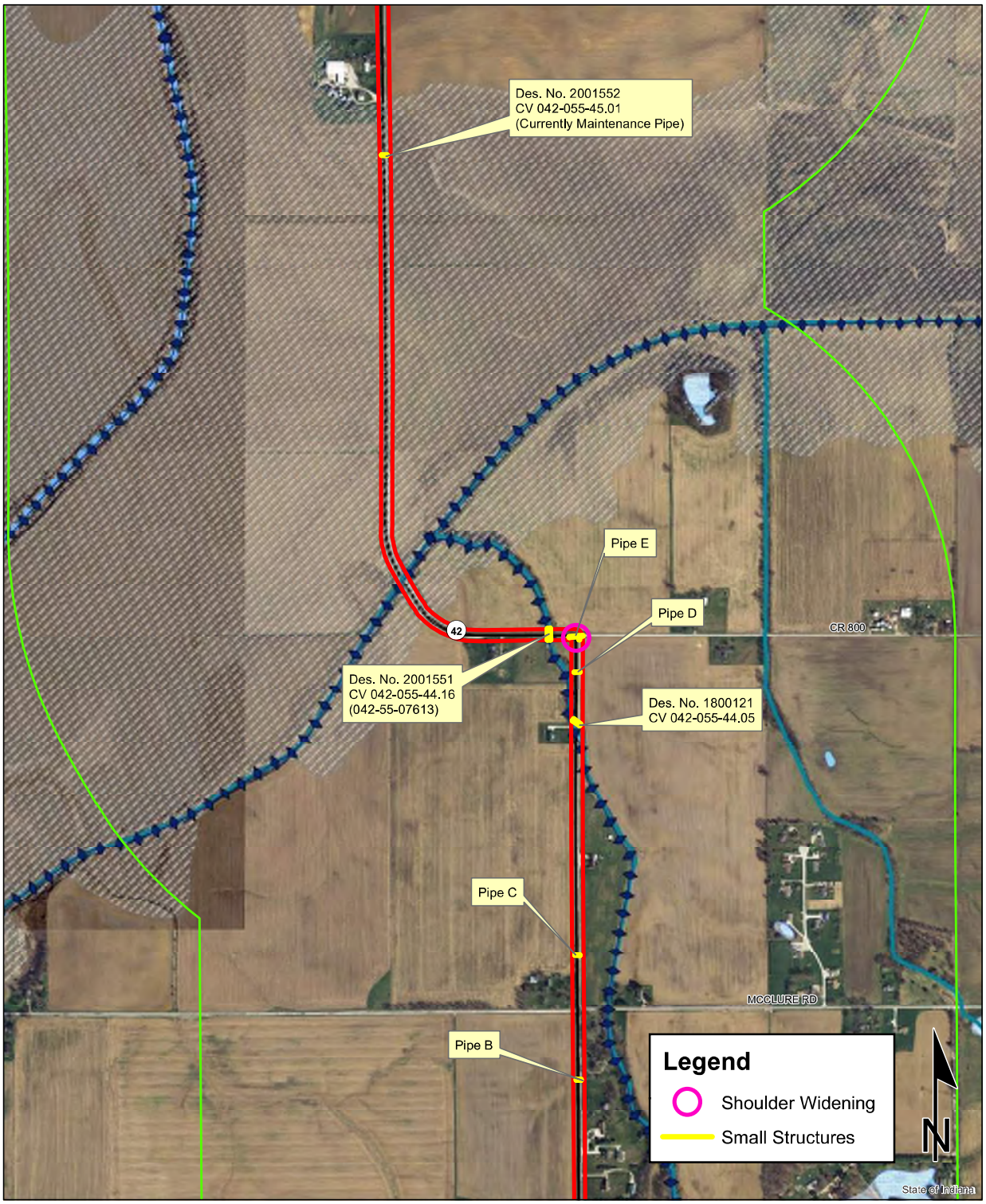
0.15 0.075 0 0.15 Miles

Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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

- NWI - Point
- Karst Spring
- NWI- Line
- Impaired_Stream_Lake
- NPS NRI listed
- River
- Canal Structure - Historic
- Canal Route - Historic
- Wetlands
- Lake
- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Water Resources (Extent 2)
SR 42, From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



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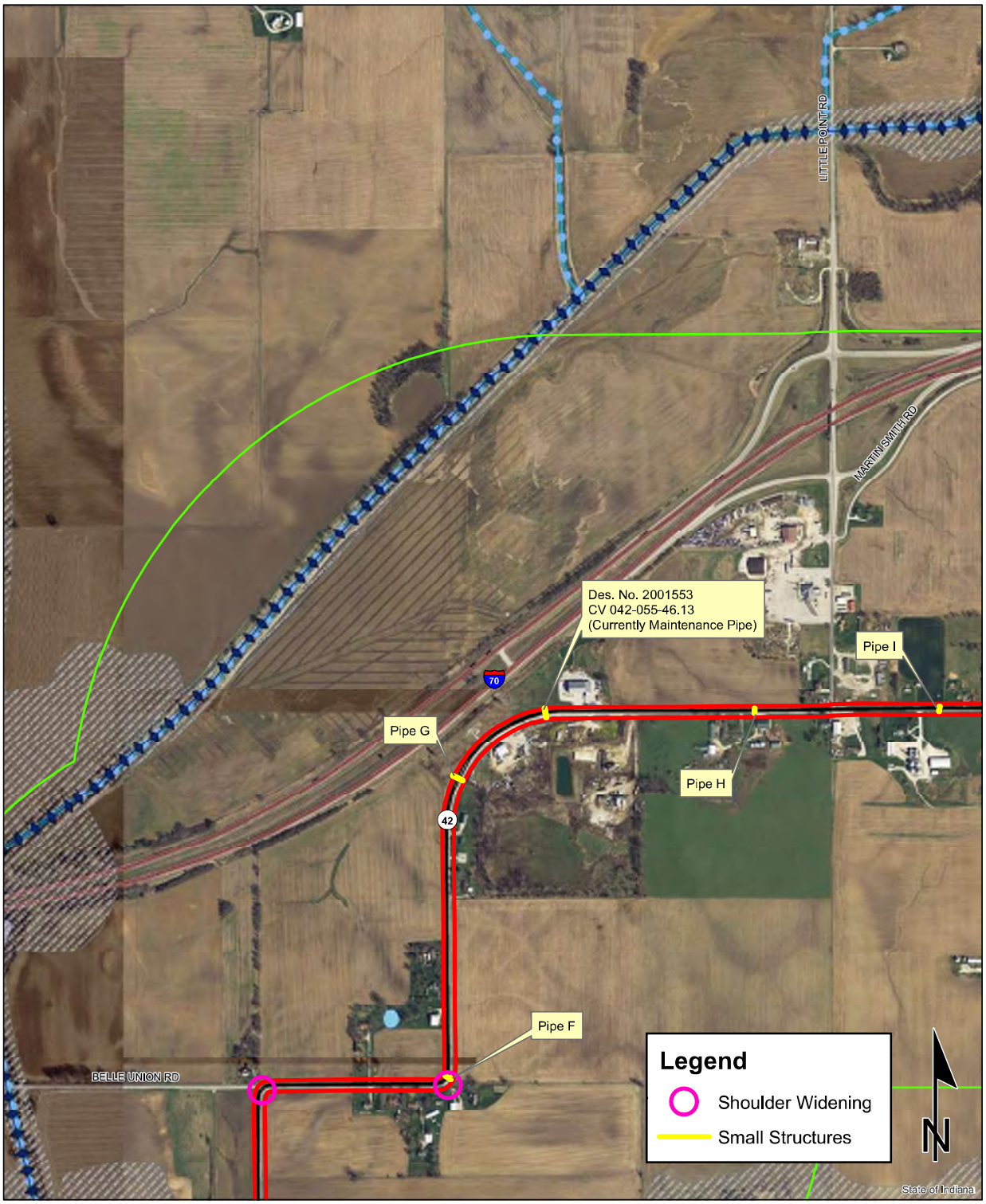
Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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

- NWI - Point
- Karst Spring
- NWI- Line
- Impaired_Stream_Lake
- NPS NRI listed
- River
- Canal Structure - Historic
- Canal Route - Historic
- Wetlands
- Lake
- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Water Resources (Extent 3)
SR 42, From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



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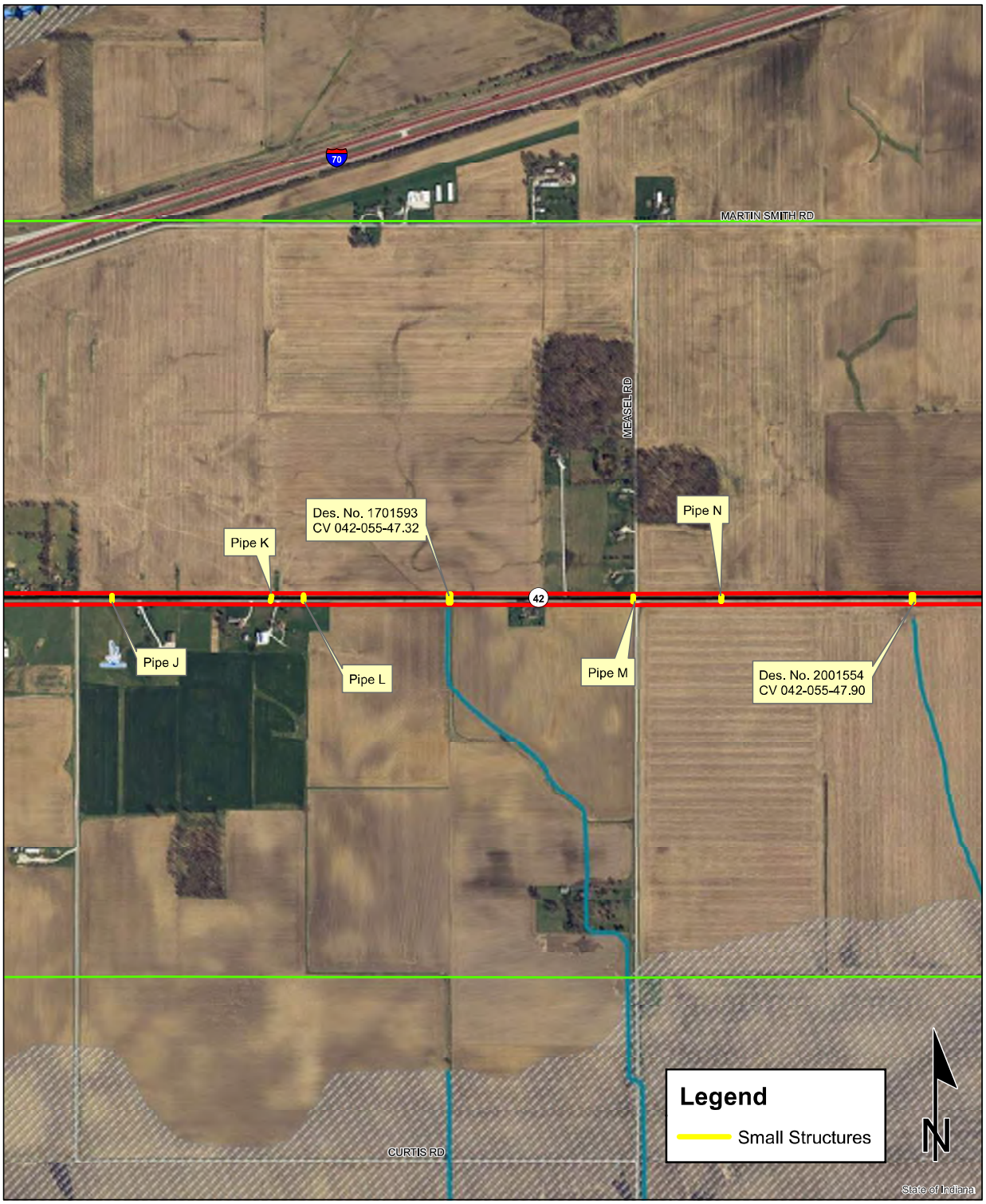
Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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

- NWI - Point
- Karst Spring
- NWI- Line
- Impaired_Stream_Lake
- NPS NRI listed
- River
- Canal Structure - Historic
- Canal Route - Historic
- Wetlands
- Lake
- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Water Resources (Extent 4)
SR 42, From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



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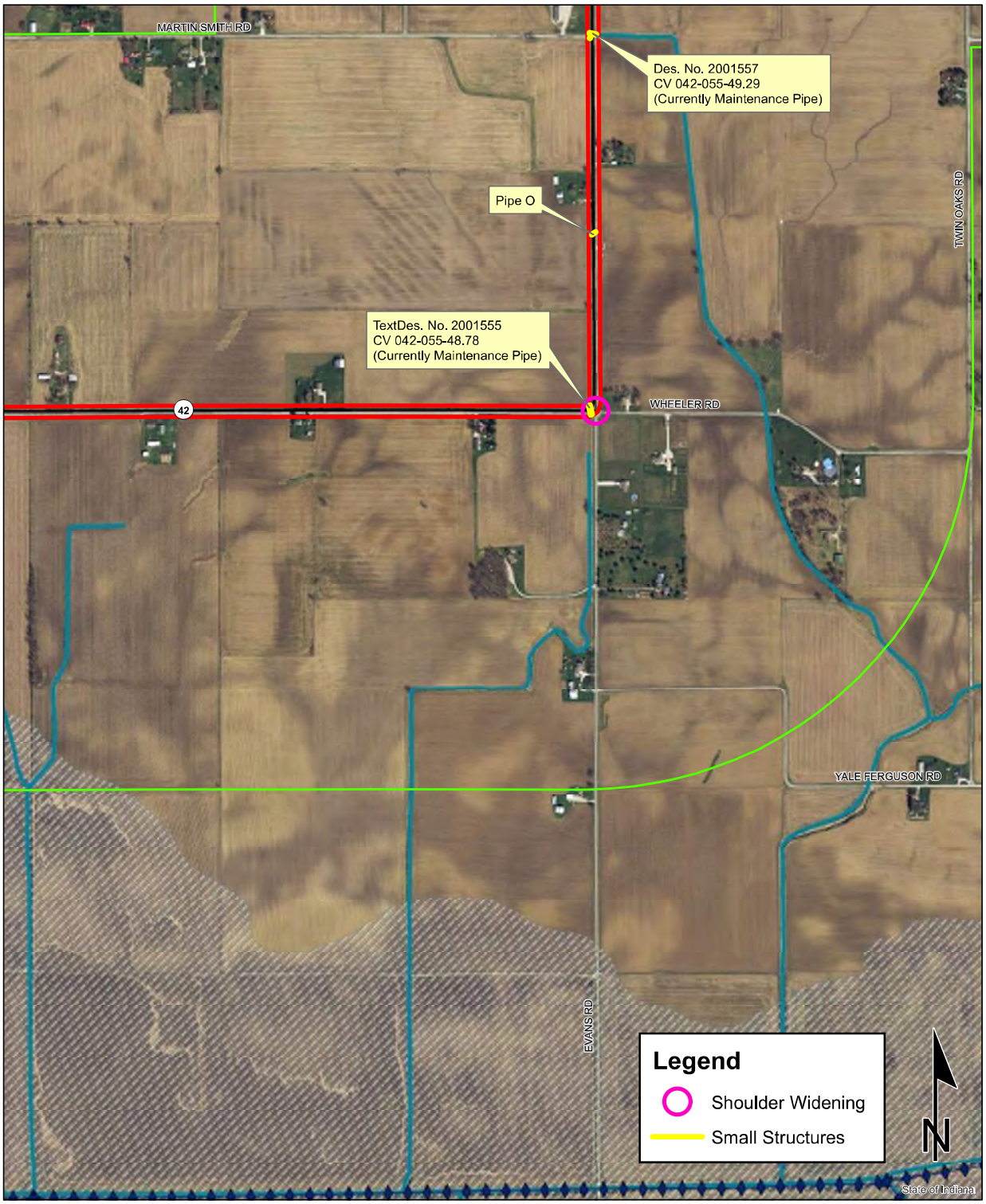
Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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

- NWI - Point
- Karst Spring
- NWI- Line
- Impaired_Stream_Lake
- NPS NRI listed
- River
- Canal Structure - Historic
- Canal Route - Historic
- Wetlands
- Lake
- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Water Resources (Extent 5)
SR 42, From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



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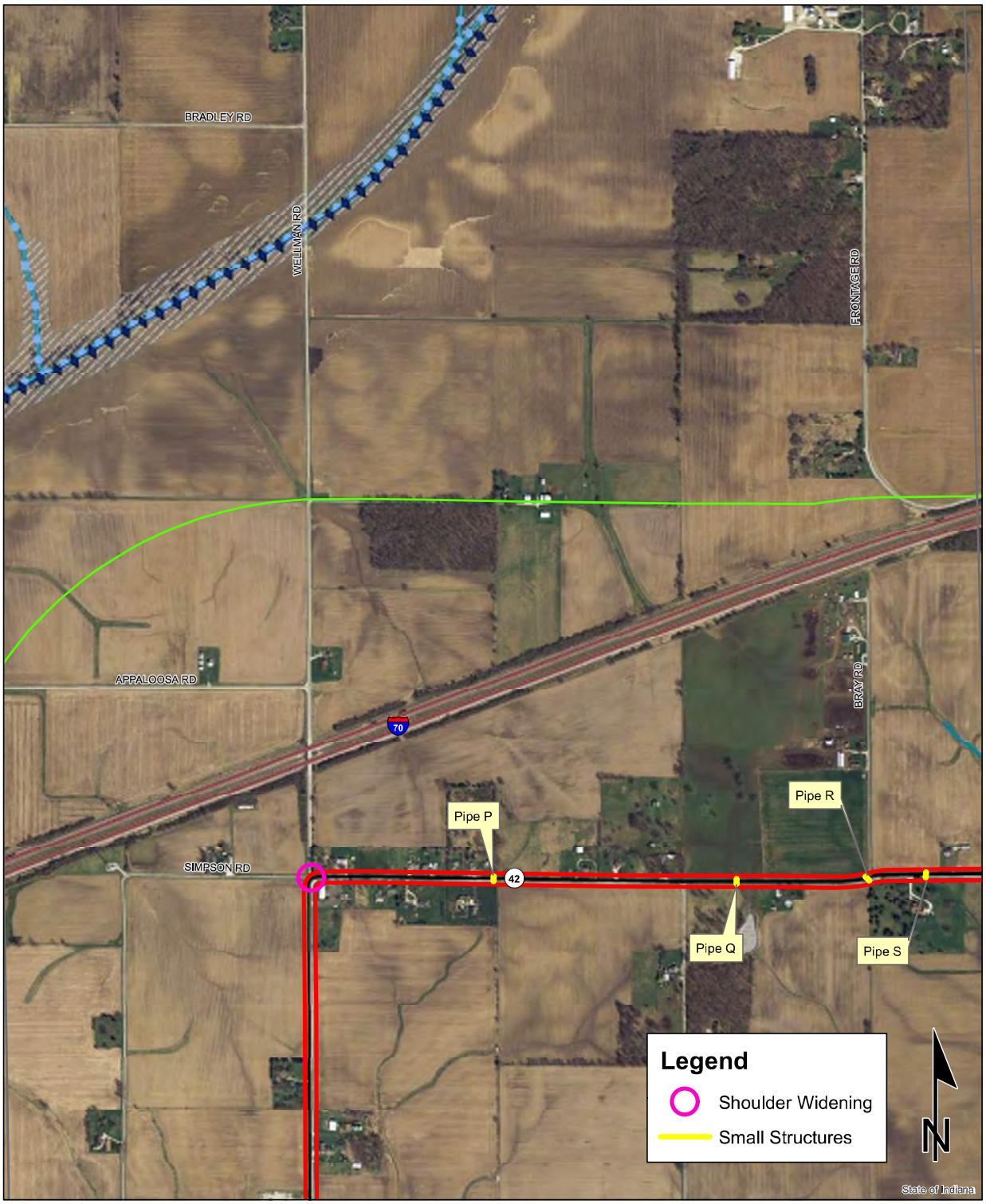
Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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

NWI - Point
Karst Spring
NWI- Line
Impaired_Stream_Lake
NPS NRI listed
River
Canal Structure - Historic
Canal Route - Historic
Wetlands
Lake
Floodplain - DFIRM
Cave Entrance Density
Sinkhole Area
Sinking-Stream Basin
County Boundary
Project Area
Half Mile Radius
Toll
Interstate
State Route
US Route
Local Road

Red Flag Investigation - Water Resources (Extent 6)
SR 42, From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



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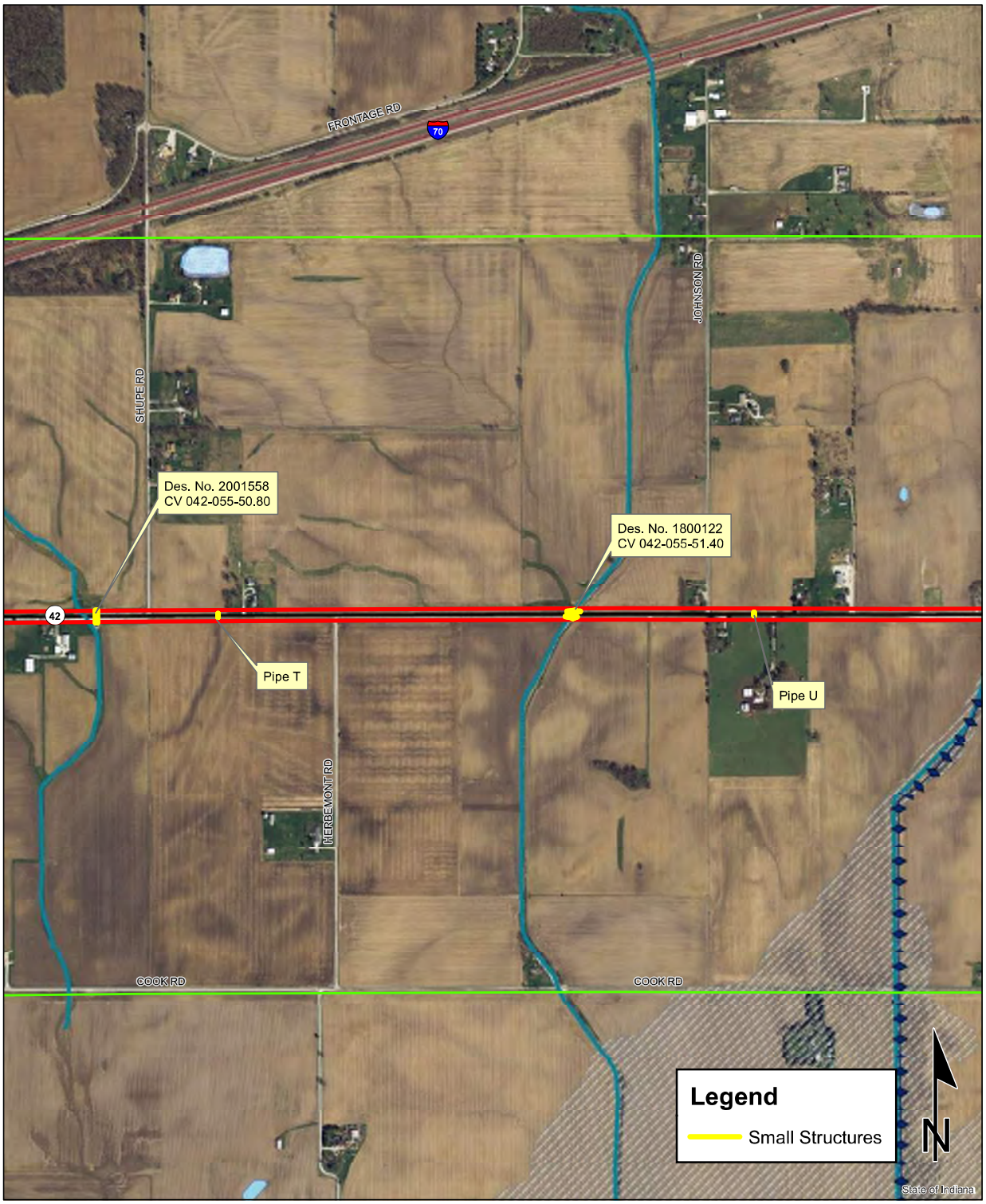
Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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

- NWI - Point
- Karst Spring
- NWI- Line
- Impaired_Stream_Lake
- NPS NRI listed
- River
- Canal Structure - Historic
- Canal Route - Historic
- Wetlands
- Lake
- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Water Resources (Extent 7)
SR 42, From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



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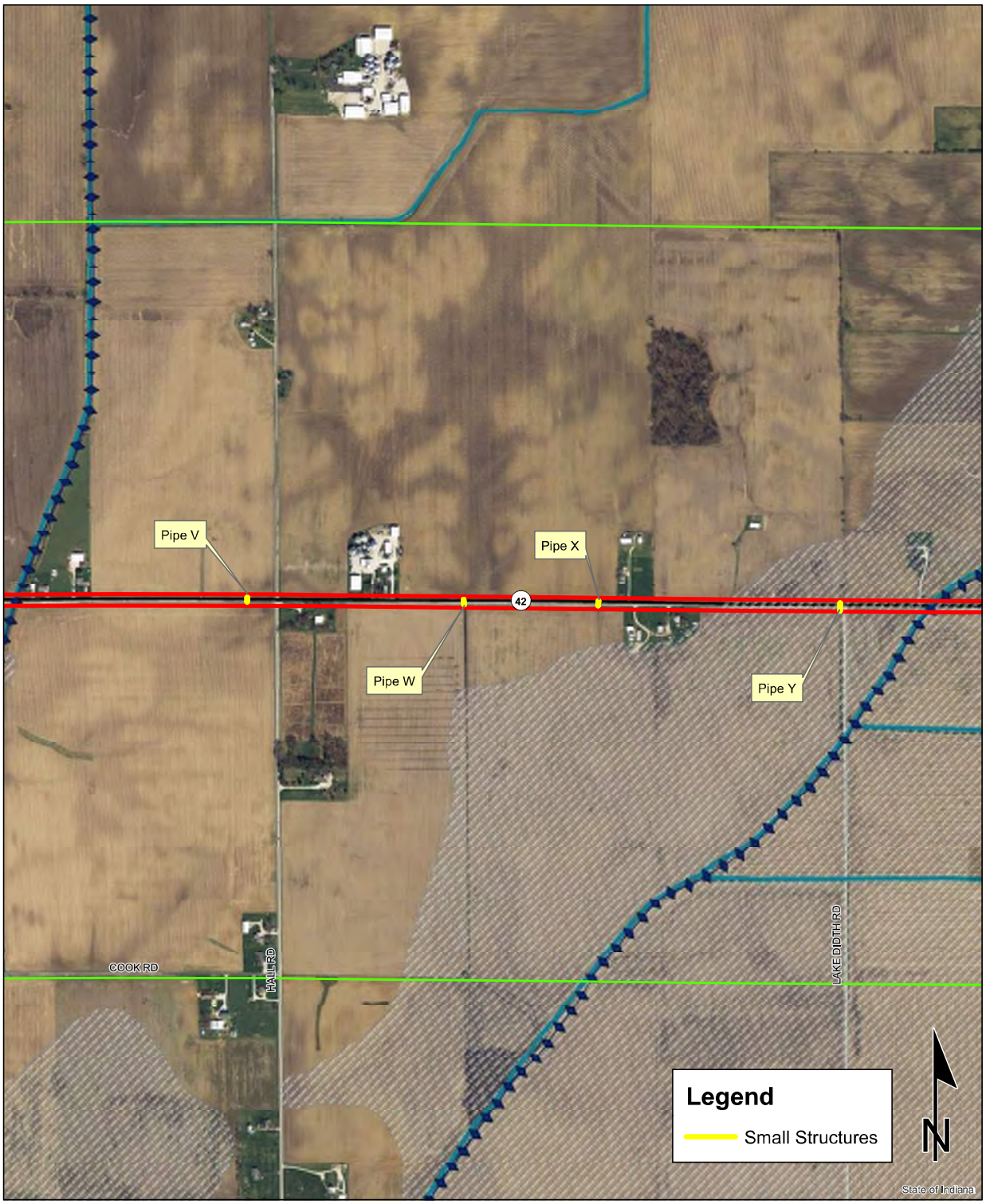
Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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

- NWI - Point
- Karst Spring
- NWI- Line
- Impaired_Stream_Lake
- NPS NRI listed
- River
- Canal Structure - Historic
- Canal Route - Historic
- Wetlands
- Lake
- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Water Resources (Extent 8)
SR 42, From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



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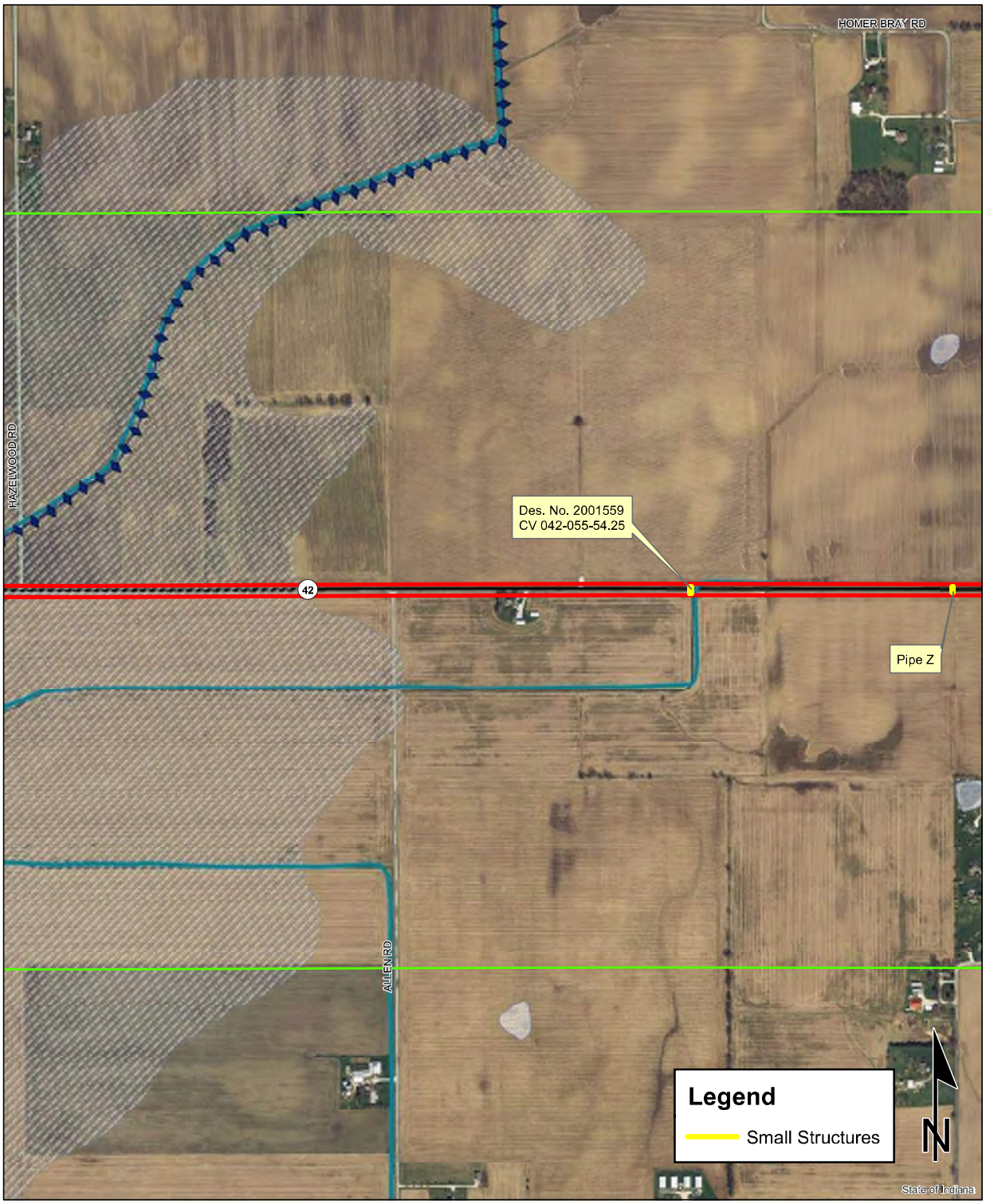
Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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

- NWI - Point
- Karst Spring
- NWI- Line
- Impaired_Stream_Lake
- NPS NRI listed
- River
- Canal Structure - Historic
- Canal Route - Historic
- Wetlands
- Lake
- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Water Resources (Extent 9)
SR 42, From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



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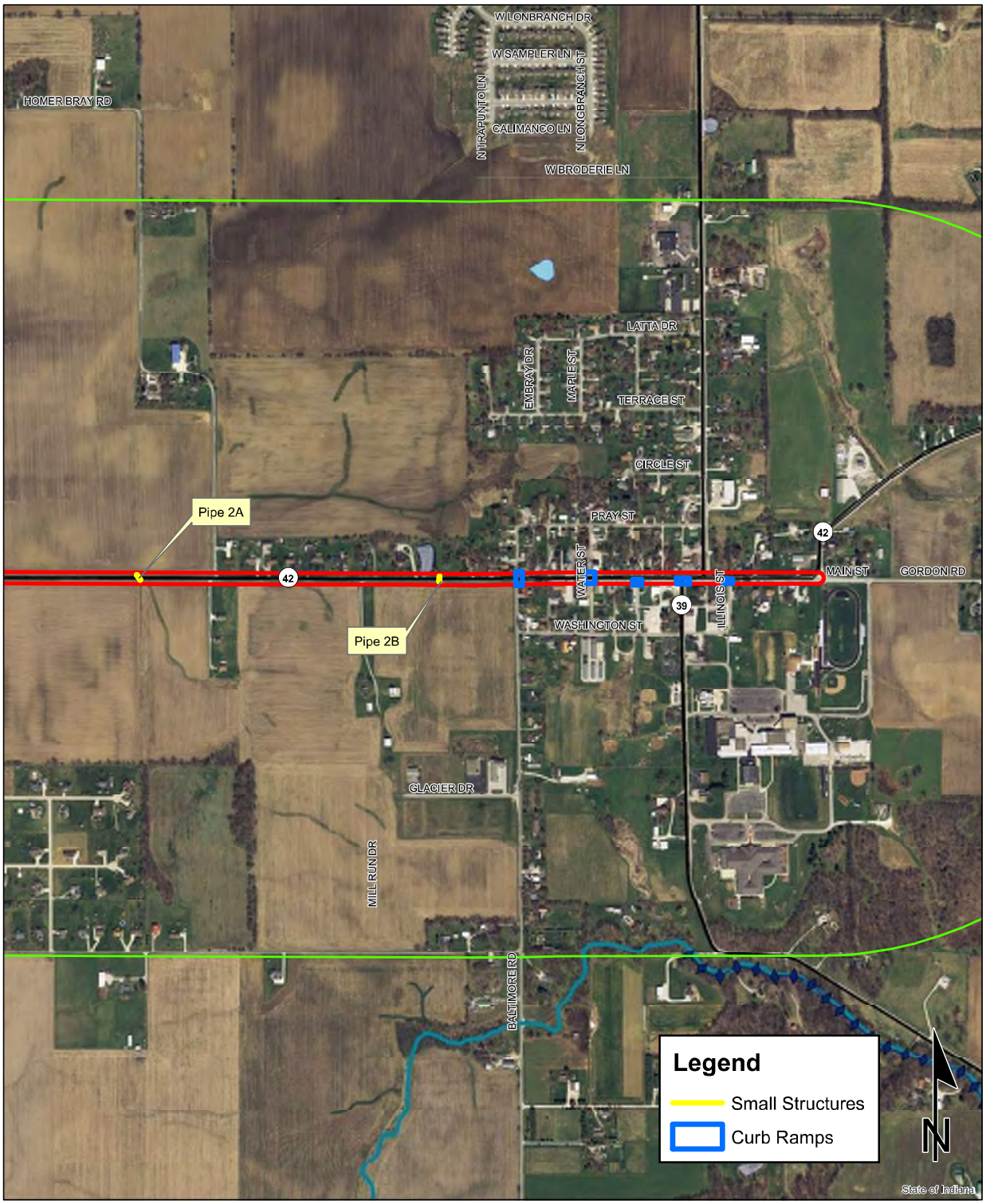
Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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

- NWI - Point
- Karst Spring
- NWI- Line
- Impaired_Stream_Lake
- NPS NRI listed
- River
- Canal Structure - Historic
- Canal Route - Historic
- Wetlands
- Lake
- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Water Resources (Extent 10)
SR 42, From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



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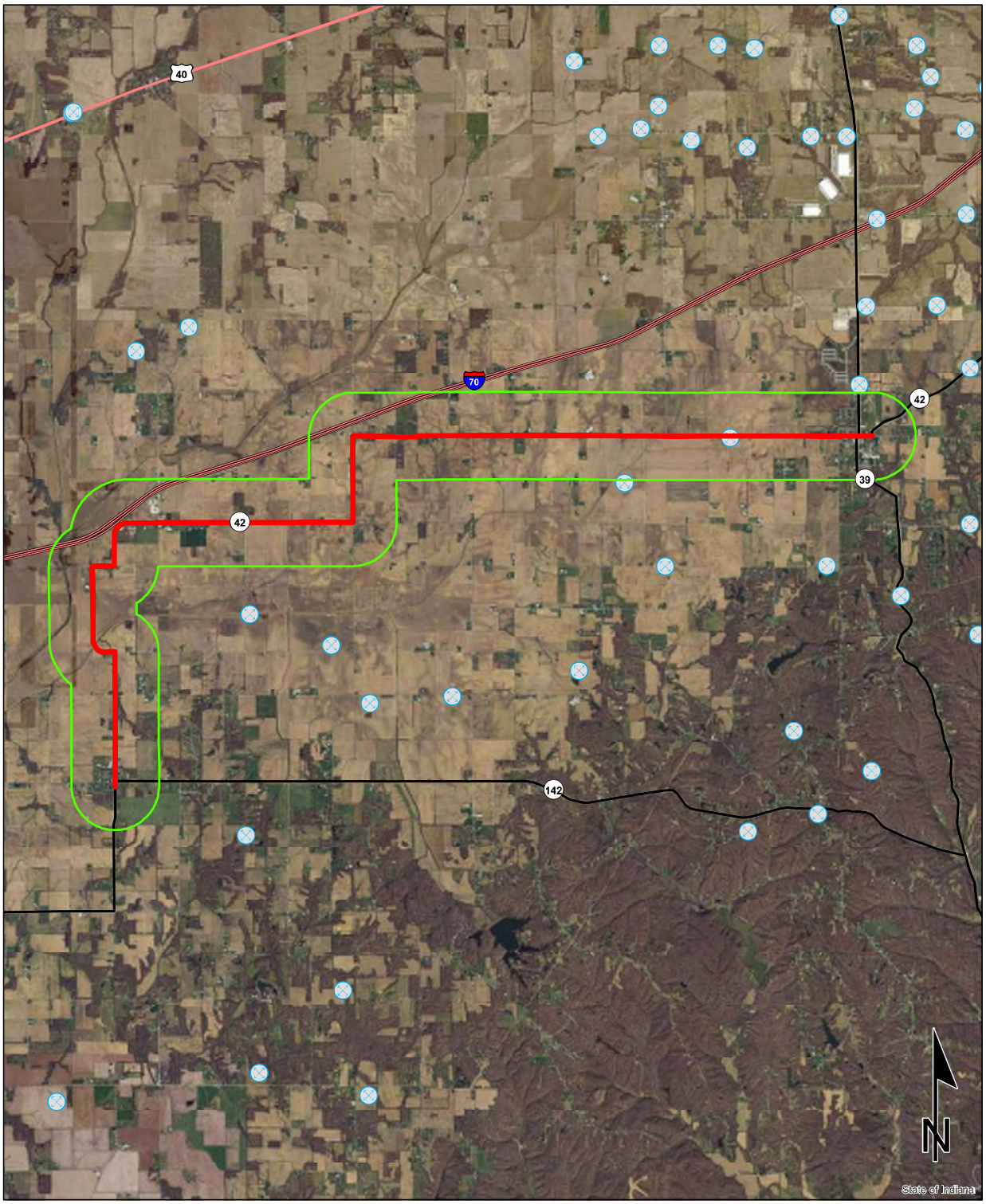
Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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

- NWI - Point
- Karst Spring
- NWI- Line
- Impaired_Stream_Lake
- NPS NRI listed
- River
- Canal Structure - Historic
- Canal Route - Historic
- Wetlands
- Lake
- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Mining and Mineral Exploration
SR 42 From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



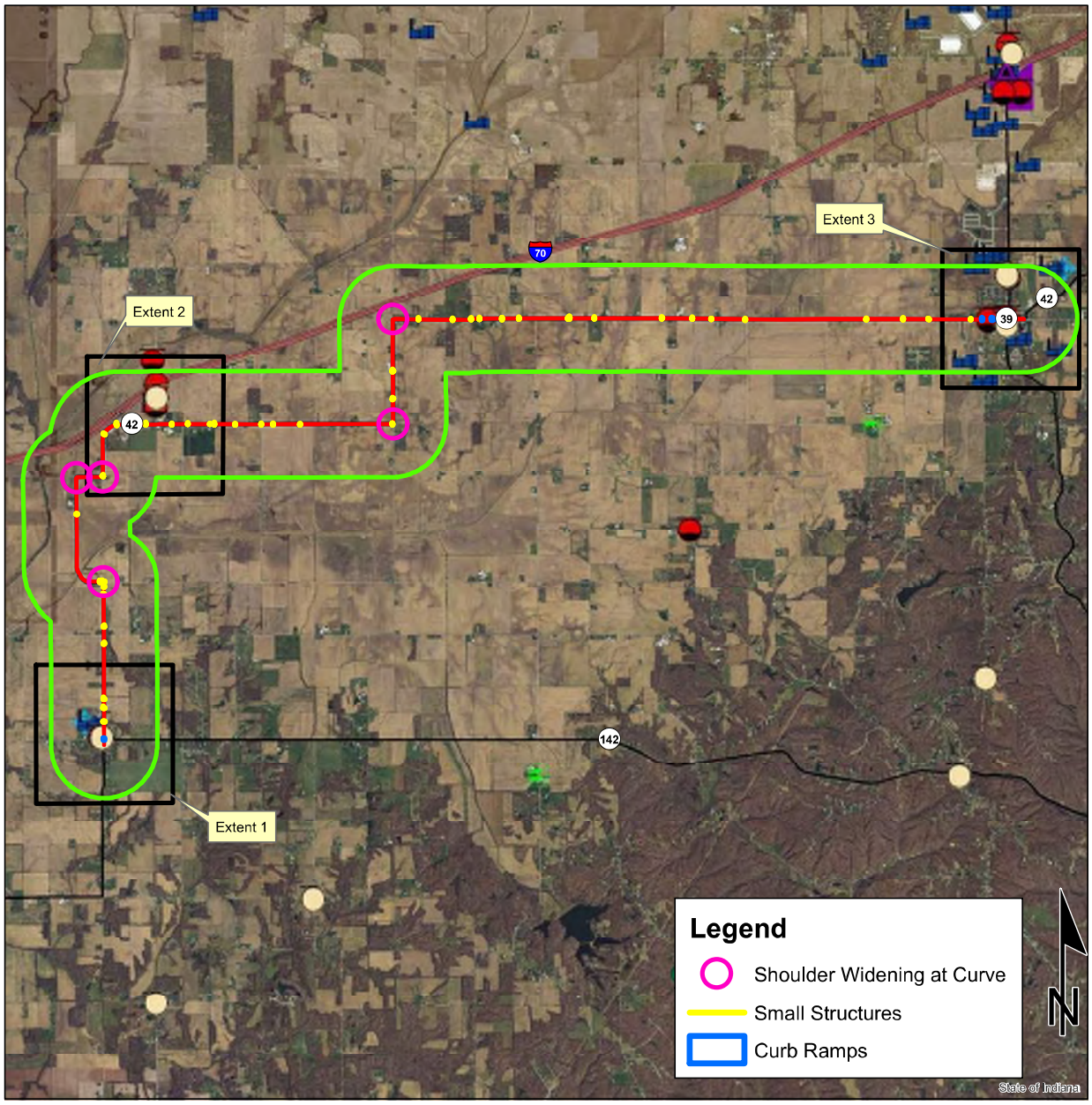
1 0.5 0 1 Miles

Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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

- Oil and Gas Wells
- Mineral Resources
- Mine - Surface
- Mine - Underground
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Hazardous Material Concerns (Full Extent)
SR 42, From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



- Brownfield
- RCRA Corrective Action Sites
- Confined Feeding Operation
- Notice_Of_Contamination
- Construction/Demolition Site
- Infectious/Medical Waste Site
- Leaking Underground Storage Tank
- Manufactured Gas Plant
- NPDES Facilites
- NPDES Pipe Locations
- Open Dump Waste Site
- RCRA Generator/TSD
- Restricted Waste Site
- Septage Waste Site
- Solid Waste Landfill
- State Cleanup Site
- Superfund
- Tire Waste Site
- Underground Storage Tank
- Voluntary Remediation Program
- Waste Transfer Station
- Institutional Controls
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

1 0.5 0 1 Miles

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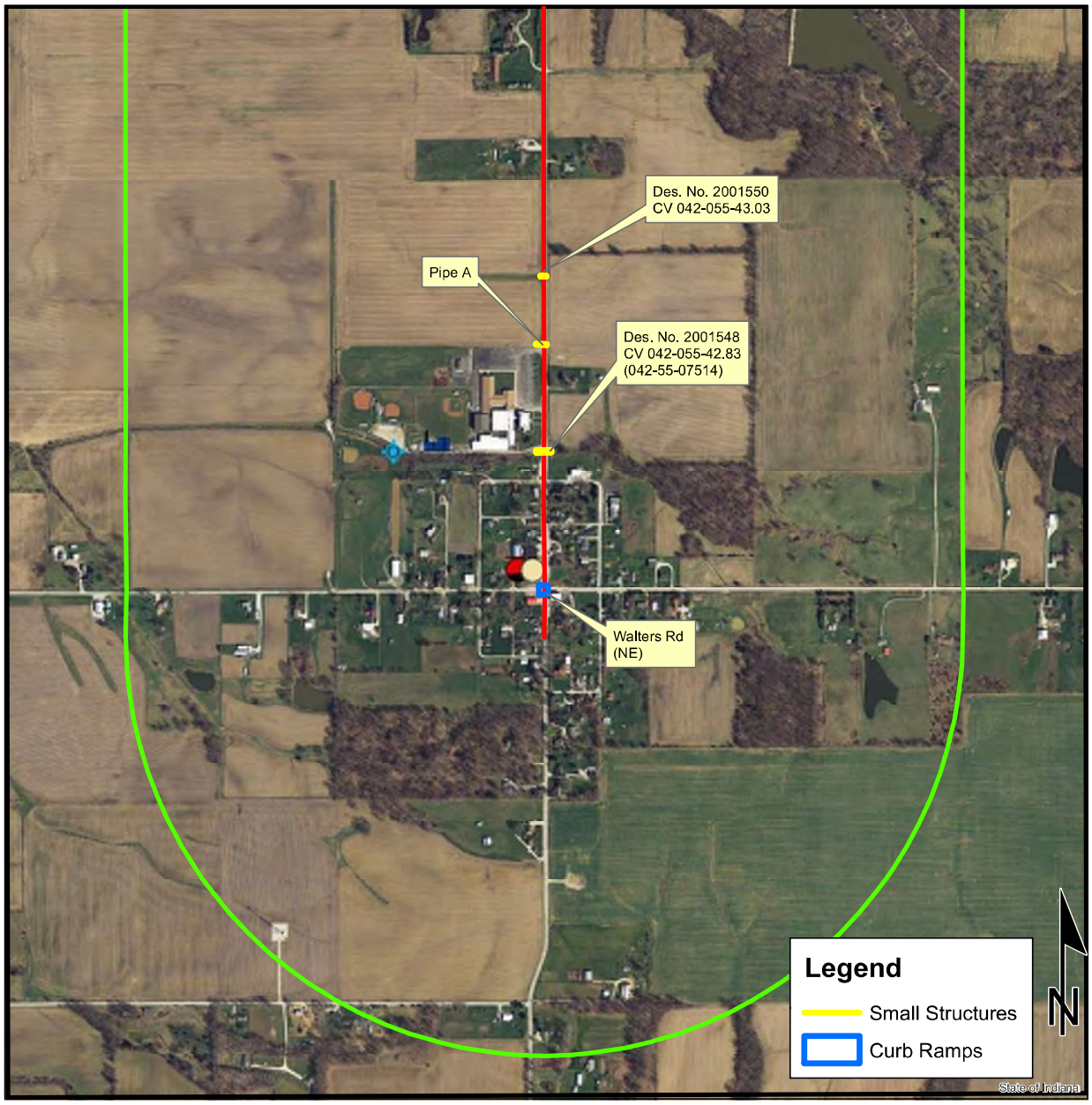
Sources:
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

Red Flag Investigation - Hazardous Material Concerns (Extent 1)
SR 42, From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



- Brownfield
- RCRA Corrective Action Sites
- Confined Feeding Operation
- Notice_Of_Contamination
- Construction/Demolition Site
- Infectious/Medical Waste Site
- Leaking Underground Storage Tank
- Manufactured Gas Plant
- NPDES Facilites
- NPDES Pipe Locations
- Open Dump Waste Site
- RCRA Generator/TSD
- Restricted Waste Site
- Septage Waste Site
- Solid Waste Landfill
- State Cleanup Site
- Superfund
- Tire Waste Site
- Underground Storage Tank
- Voluntary Remediation Program
- Waste Transfer Station
- Institutional Controls
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

0.15 0.075 0 0.15 Miles

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Sources:
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

Red Flag Investigation - Hazardous Material Concerns (Extent 2)
SR 42, From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana

- Brownfield
- RCRA Corrective Action Sites
- Confined Feeding Operation
- Notice_Of_Contamination
- Construction/Demolition Site
- Infectious/Medical Waste Site
- Leaking Underground Storage Tank
- Manufactured Gas Plant
- NPDES Facilites
- NPDES Pipe Locations
- Open Dump Waste Site
- RCRA Generator/TSD
- Restricted Waste Site
- Septage Waste Site
- Solid Waste Landfill
- State Cleanup Site
- Superfund
- Tire Waste Site
- Underground Storage Tank
- Voluntary Remediation Program
- Waste Transfer Station
- Institutional Controls
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

0.15 0.075 0 0.15 Miles

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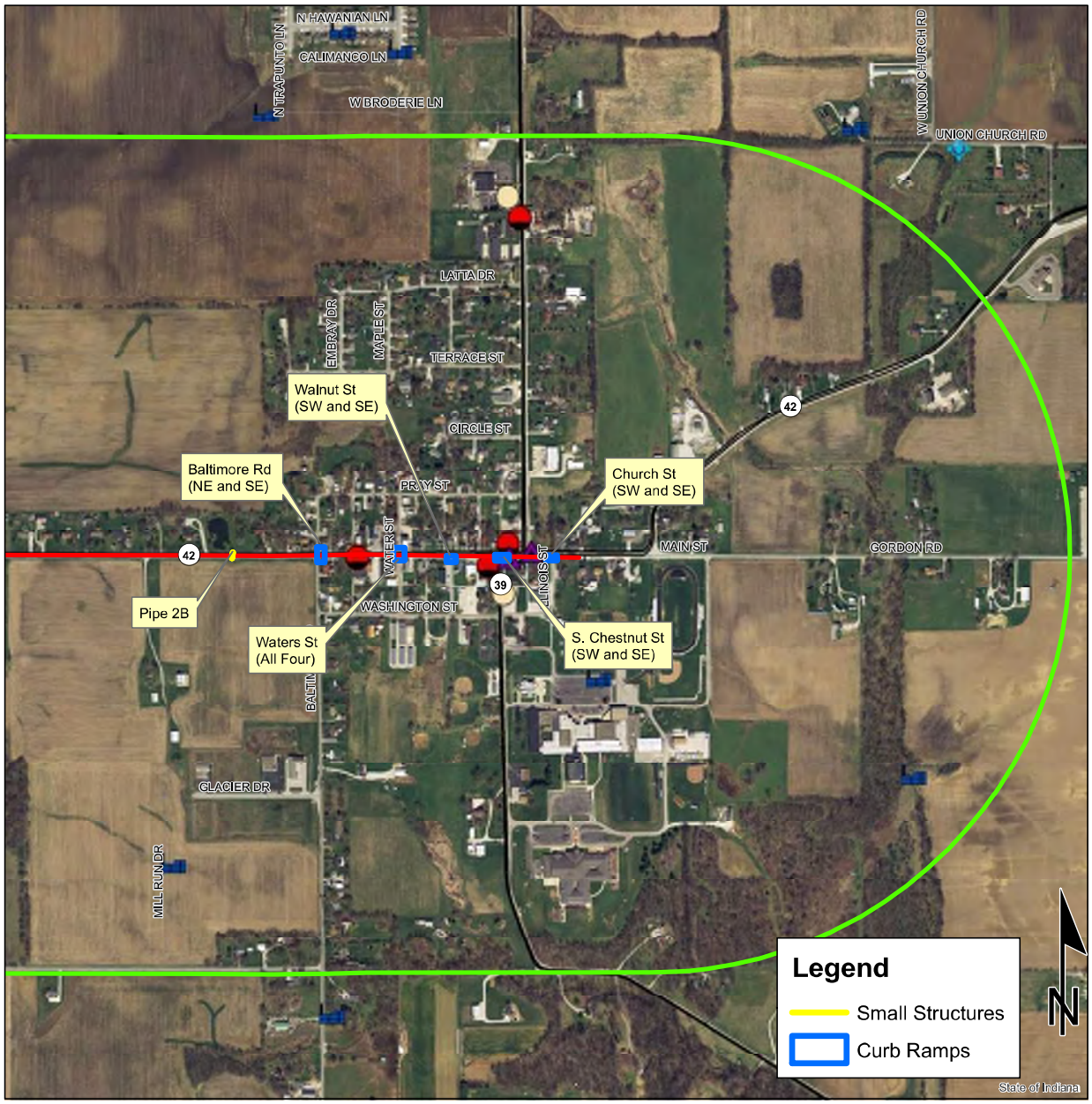
Sources:
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

Red Flag Investigation - Hazardous Material Concerns (Extent 3)
SR 42, From SR 142 to 0.06 Mile East of SR 39
Des. Nos. 1601075 & 1701593, Road Reconstruction
Morgan County, Indiana



- Brownfield
- RCRA Corrective Action Sites
- Confined Feeding Operation
- Notice_Of_Contamination
- Construction/Demolition Site
- Infectious/Medical Waste Site
- Leaking Underground Storage Tank
- Manufactured Gas Plant
- NPDES Facilites
- NPDES Pipe Locations
- Open Dump Waste Site
- RCRA Generator/TSD
- Restricted Waste Site
- Septage Waste Site
- Solid Waste Landfill
- State Cleanup Site
- Superfund
- Tire Waste Site
- Underground Storage Tank
- Voluntary Remediation Program
- Waste Transfer Station
- Institutional Controls
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

0.15 0.075 0 0.15 Miles

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

Sources:
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

From: INDOT esd.sam <esd.sam@indot.IN.gov>
Sent: Thursday, June 2, 2022 7:58 PM
To: Harlan Ford
Cc: Kurtz, Randy; Aaron Lawson
Subject: [EXT] RE: [EXT] RE: ATTN: NICOLE FOHEY-BRETING: Question Concerning RFI Addendum for Lead Des No. 1601075

Thank you Harlan –

It's always good to hear from you. I reviewed the original RFI and the evaluate based on the changes / updates provided in the email. SAM concurs that a Limited RFI is not warranted at this time. Please reach back out if there are any additional changes or updates to the scope or extent.

Thank you and I hope you have a great rest of the week.
Sincerely,
Nicole

Nicole Fohey-Breting
Site Assessment & Management (SAM) Team Lead
100 North Senate Avenue N758-ES
Indianapolis, Indiana 46204
Office: (317) 416-7084
Email: NFoheyBreting@indot.in.gov
Office Hours: 8 to 4 PM

From: Harlan Ford <hford@rqaw.com>
Sent: Wednesday, June 1, 2022 1:11 PM
To: INDOT esd.sam <esd.sam@indot.IN.gov>
Cc: Kurtz, Randy <RKurtz@indot.IN.gov>; Aaron Lawson <alawson@rqaw.com>
Subject: FW: [EXT] RE: ATTN: NICOLE FOHEY-BRETING: Question Concerning RFI Addendum for Lead Des No. 1601075

Hey Nicole,

I know your office is extremely busy right now and I am not trying to rush you by no means, but have you had a chance to look over the below email yet? We are under a time crunch to get this CE submitted and this is one of the last outlying things on my list to complete before we can do so.

Thanks,

HARLAN FORD | ENVIRONMENTAL SCIENTIST
O: 423.458.5979
www.rqaw.com

From: Harlan Ford
Sent: Tuesday, May 24, 2022 12:10 PM
To: INDOT esd.sam <esd.sam@indot.IN.gov>
Cc: Kurtz, Randy <RKurtz@indot.IN.gov>; Aaron Lawson <alawson@rqaw.com>
Subject: RE: [EXT] RE: ATTN: NICOLE FOHEY-BRETING: Question Concerning RFI Addendum for Lead Des No. 1601075

Hey Nicole,

Hope you have been doing well!

The project limits hasn't changed from what was in the approved RFI, but I have attached some updated figures that shows the construction limits and proposed work. All work will occur within the existing pavement except at locations where small structures will be replaced. If you need any additional information to make a determination, just let us know.

Thanks for your time,

HARLAN FORD | ENVIRONMENTAL SCIENTIST
O: 423.458.5979
www.rqaw.com

From: INDOT esd.sam <esd.sam@indot.IN.gov>
Sent: Tuesday, May 24, 2022 11:13 AM
To: Harlan Ford <hford@rqaw.com>
Cc: Kurtz, Randy <RKurtz@indot.IN.gov>; Aaron Lawson <alawson@rqaw.com>
Subject: [EXT] RE: ATTN: NICOLE FOHEY-BRETING: Question Concerning RFI Addendum for Lead Des No. 1601075

Hi Harlan –

Thank you for reaching out regarding Des No. 1601075 and describing the updates to the project. Can RQAW provide a figure depicting the updated project area? It sounds as though an RFI Addendum is not warranted; however, that will help with the determination.

Thank you!
Sincerely,
Nicole

From: Harlan Ford <hford@rqaw.com>
Sent: Thursday, May 19, 2022 10:27 AM
To: INDOT esd.sam <esd.sam@indot.IN.gov>
Cc: Kurtz, Randy <RKurtz@indot.IN.gov>; Aaron Lawson <alawson@rqaw.com>
Subject: ATTN: NICOLE FOHEY-BRETING: Question Concerning RFI Addendum for Lead Des No. 1601075

Dear INDOT SAM,

We wanted to inform you that the RFI for this project was approved on May 12, 2021 and is now past 1 year old. RQAW has conducted a review of the available GIS layers and has found no additional resources that could impact the project.

We also wanted to make you aware that since the RFI has been approved that the project has been down-scoped. This project will no longer include any shoulder widening, nor would it include the curb ramp located in Eminence as indicated in the approved RFI. In addition, the profile grade will match the existing as close as possible throughout the project limits.

In addition, Pipe A as identified in the RFI, now has it's own Des No. (Des 2001549), which is the only change. It may be important to note that the alphabetical pipe identifier used at the time the RFI was prepared has been abandoned and a numerical identifier is now being used. All structures included in the RFI are still the same and no new additional structures or locations have been added from what is documented in the approved RFI.

Please let us know if you think an addendum would be needed or if we are okay to proceed with the approved RFI and note the change in the CE document?

Thanks in advance,

RQAW

HARLAN FORD
ENVIRONMENTAL SCIENTIST
O: 423.458.5979
8770 North St., Ste. 110, Fishers, IN 46038
www.rqaw.com

From: BARTZ, DOUG <DBARTZ@idem.IN.gov>
Sent: Tuesday, June 28, 2022 12:36 PM
To: Harlan Ford
Cc: Greg Alfrey; VEATCH, TIM
Subject: [EXT] FW: State Cleanup Site - Project Coordination for SR 42 Roadway Project from Eminence to Monrovia in Morgan County
Attachments: State Cleanup Site_Roadway Project in Morgan County_Project Location Maps and Plan Sheet.pdf

Mr. Ford,

Thanks for the information regarding the former High Point Oil property, FID #12098, Incident #200312084, located in Monrovia, Morgan County, Indiana. For clarification, the site was at one time a State Cleanup project, however it was referred to the Petroleum Remediation Section (formerly Leaking Underground Storage Tank Section) on September 12, 2006.

After review of the information provided in your email and based on documents submitted to IDEM for Incident #200312084, IDEM has no environmental concerns with the described INDOT project as it pertains to the High Point Oil Site. However, considering the depth to groundwater at the site is roughly 6 feet below the ground surface, workers may experience some petroleum odor when excavating soil during the replacement of the southwest curb ramp at Chestnut Street.

It is possible certain groundwater monitoring wells may need to be abandoned prior to INDOT conducting the field work portion of the project. For this reason, Mr. Greg Alfrey, LPG, Senior Project Manager, Wilcox Environmental Engineering, who is working on behalf of High Point Oil on Incident #200312084, is cc'd on this email. Mr. Alfrey can be reached by calling (317) 472-0999.

Should you need further assistance or have additional information regarding the described INDOT project and the former High Point Oil property, please do not hesitate to call, or email.

Sincerely,

Douglas Bartz

Indiana Department of
Environmental Management
Douglas M. Bartz
Senior Environmental Manager
• (317) 695-6170 • dbartz@idem.IN.gov

Protecting Hoosiers & Our Environment

www.idem.IN.gov

Help us improve!
IDEM values your feedback

From: Harlan Ford <hford@rqaw.com>
Sent: Friday, June 24, 2022 1:59 PM
To: BARTZ, DOUG <DBARTZ@idem.IN.gov>
Subject: State Cleanup Site - Project Coordination for SR 42 Roadway Project from Eminence to Monrovia in Morgan County

Hello Mr. Bartz,

Hope you are doing well. We are working with INDOT on a roadway project located on SR 42 in Morgan County, Indiana. The project limits will begin at the SR 42/SR 142 intersection in the Town of Eminence to 0.06 mile east of SR 39 west junction in the Town of Monrovia for a total project length of 13.06 miles. INDOT and the Federal Highway Administration (FHWA) are the project sponsors.

The project will involve the following work:
A Hot Mix Asphalt (HMA) minor structural overlay with partial depth patching as required within the town limits of Monrovia and Eminence. Outside of the town limits, throughout the remainder of the project area, an HMA minor structural overlay with full depth patching will be required except at all small structure replacement locations where full depth HMA pavement replacement will occur. The profile grade will match the existing grade throughout the project limits. Within the town limits of Monrovia and Eminence, the roadway will be milled down approximately 2 inches and 2 inches of new HMA will be placed. Outside the city limits, except where the small structures are located, the existing pavement will be milled down approximately 4.5 inches and 4.5 inches of new HMA will be placed. All pavement markings will be removed and replaced within the project limits. The roadway geometry will match the existing throughout the project area. Existing drives/roadway approaches located within the project area will either be reconstructed or receive a wedge and level to tie into the existing profile grade. Existing sidewalks will not be replaced or upgraded as part of this project. Within the town limits of Monrovia, ADA curb ramps will be upgraded as necessary to current ADA standards. The project includes work on 43 culverts (41 replacements and 2 pipe liners). All small structures are located within the rural portion of the project area. The roadside ditches present along the area of the small structures to be replaced will

be regraded. The drainage structures in the Town of Monrovia will not be modified as part of the project, as they are part of a storm sewer network.

During a desktop review of mapped hazardous material concerns in the area using available state GIS layers, we identified a State Cleanup Site associated with the High Point Oil Company (Also referred to as the Former High Point Oil Facility). This site is located at 35 West Main Street on the southwest corner of SR 42 and Chestnut Street in Monrovia (IDEM VFC AI # 42338). According to the VFC, it appears that this project is pending having an ERC placed on the property. Groundwater and soil contamination remain on the site and likely extends into INDOT right-of-way (within the project area). Both the southeast and southwest curb ramps at Chestnut Street will be replaced. Depth of excavation will not exceed 3ft. below ground surface for the replacement of the curb ramps. As mentioned above, the HMA overlay on the pavement will only extend down to a depth of 2 inches.

As recommended by INDOT's Site Assessment & Management (SAM) section, we are coordinating with you to determine if there are any possible environmental concerns associated with this project as it pertains to the State Cleanup Site. I have attached project area maps showing the location of the project, and a project plan sheet specific to the location of the State Cleanup Site to assist you in your review.

Please let me know if you need any additional information or if you have any concerns. My contact information is below.

Thank you for your help!

RQAW

HARLAN FORD
ENVIRONMENTAL SCIENTIST
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8770 North St., Ste. 110, Fishers, IN 46038
www.rqaw.com

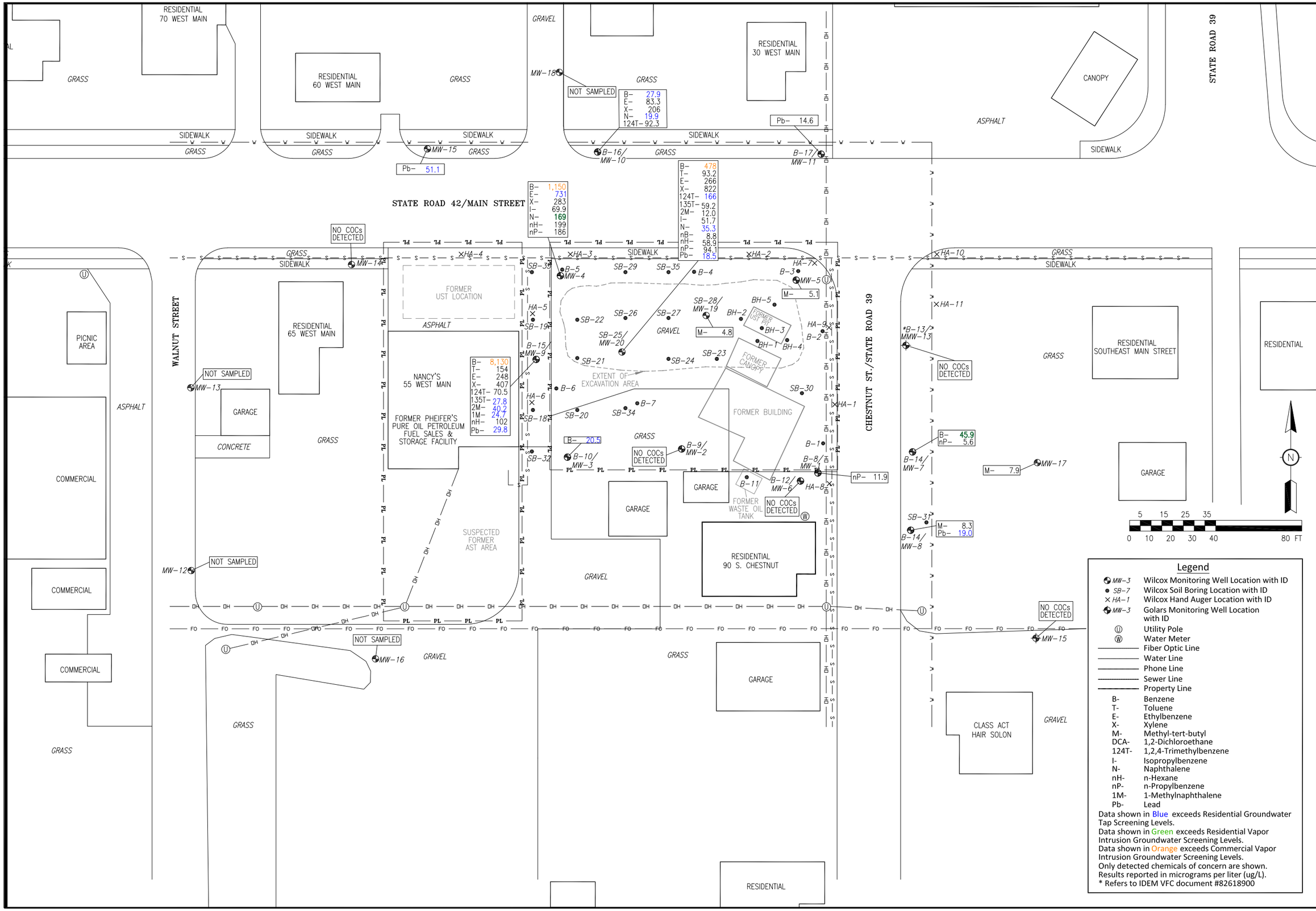
From: Greg Alfrey <galfrey@wilcoxenv.com>
Sent: Tuesday, June 28, 2022 1:55 PM
To: BARTZ, DOUG; Harlan Ford
Cc: VEATCH, TIM
Subject: [EXT] RE: State Cleanup Site - Project Coordination for SR 42 Roadway Project from Eminence to Monrovia in Morgan County
Attachments: Figure 3B - GW Analytical.pdf

Thanks Doug,

Harlan, I attached the most recent map that depicts the monitoring wells onsite. You may interact with MW-5 in the NE corner of the property, please reach out to me for any more information, thanks.

WILCOX
ENVIRONMENTAL ENGINEERING
Website | Facebook
Twitter | LinkedIn

Gregory A. Alfrey, LPG
Senior Project Manager
Wilcox Environmental Engineering, Inc.
1552 Main St. Suite 100 | Speedway, Indiana 46224
P: 317.472.0999, ext. 234 | F: 317.472.0993 | C: 765.215.9196



Legend

- MW-3 Wilcox Monitoring Well Location with ID
- SB-7 Wilcox Soil Boring Location with ID
- HA-1 Wilcox Hand Auger Location with ID
- MW-3 Golars Monitoring Well Location with ID
- Utility Pole
- Water Meter
- Fiber Optic Line
- Water Line
- Phone Line
- Sewer Line
- Property Line

B-	Benzene
T-	Toluene
E-	Ethylbenzene
X-	Xylene
M-	Methyl-tert-butyl
DCA-	1,2-Dichloroethane
124T-	1,2,4-Trimethylbenzene
I-	Isopropylbenzene
N-	Naphthalene
nH-	n-Hexane
nP-	n-Propylbenzene
1M-	1-Methylnaphthalene
Pb-	Lead

Data shown in Blue exceeds Residential Groundwater Tap Screening Levels.
Data shown in Green exceeds Residential Vapor Intrusion Groundwater Screening Levels.
Data shown in Orange exceeds Commercial Vapor Intrusion Groundwater Screening Levels.
Only detected chemicals of concern are shown.
Results reported in micrograms per liter (ug/L).
* Refers to IDEM VFC document #82618900

WILCOX PROJECT # 305.15	SCALE 1" = 40'	FIGURE NUMBER 3B
PROJECT MANAGER G. ALFREY	DATE 8/21/19	
	FILE NUMBER 30515006	

GROUNDWATER ANALYTICAL RESULTS NO FURTHER ACTION REQUEST

FOURTH QUARTER 2018

HIGH POINT OIL

35 WEST MAIN STREET, MONROVIA, INDIANA

WILCOX
ENVIRONMENTAL ENGINEERING

Categorical Exclusion

Appendix F

Water Resources

Fishers, IN - Corporate
8770 North St., Ste. 110
Fishers, IN 46038
317.588.1798

APPROVED
Justus McGill
7/29/21

Waters of the United States Determination
SR 42 Roadway Reconstruction
Morgan County, Indiana
Des. No. 1601075 & 1701593
Prepared by: Julie Evans and Brooke Fox, RQAW Corporation
Completed Date: July 10, 2020

Dates of Waters Field Investigation:
A field investigation was conducted on June 3, 4, 6, and September 5, 2019 by RQAW Corporation to evaluate the presence of *Waters of the United States* for the proposed SR 42 Roadway Reconstruction Project in Morgan County, IN.

Location:
SR 42
Section 8 – 12, Township 13 N, Range 1 W
Section 13 – 16, Township 13 N, Range 2 W
Section 21, 28 and 33, Township 13 N, Range 2 W
Eminence and Hall U.S. Geological Survey (USGS) Quadrangle
Morgan County, Indiana

Project Termini:

Northeast
Latitude: 39.57896° N
Longitude: -86.47621° W

Southwest
Latitude: 39.52118° N
Longitude: -86.64148° W

National Wetlands Inventory (NWI) Wetlands:
According to the U.S. Fish and Wildlife (USFWS) National Wetlands Inventory (NWI) data available through IndianaMap (http://www.indianamap.org/), there are 18 NWI polygons within the half mile radius of the survey area. One NWI polygon (PUBGh- Palustrine, Unconsolidated Bottom, Intermittently Exposed, Diked/Impounded) adjacent to the survey area. A map showing a half mile radius with the NWI layer turned on is provided in the attachments (Page A16).

United States National Geological Survey (USGS) National Hydrography Dataset (NHD):
According to the USGS NHD data, there are 74 NHD lines within the survey area. Of these, 60 lines are classified as unnamed perennial streams, 6 lines are classified as canal ditches, and 6 are classified as unnamed intermittent streams, and 1 line is classified as pipeline. Maps showing the NHD layer turned on is provided in the attachments (Pages A58 – A65).

Soils:
According to the Soil Survey Geographic (SSURGO) Database for Morgan County, Indiana, the survey area contains soil areas with nationally listed hydric soils.

Map Abbreviation	Soil Name	Hydric Component Range	Classification
CrA	Crosby silt loam (0 to 2% slopes)	1 to 32%	Hydric
CsB2	Crosby silt loam (2 to 4% slopes)	1 to 32%	Hydric
FcA	Fincastle silt loam, (0 to 2% slopes)	1 to 32%	Hydric
MeB	Martinsville loam (2 to 6% slopes)	0%	Not Hydric
MnB2	Miami silt loam (2 to 6% slopes)	1 to 32%	Hydric
MnC2	Miami sit loam (6 to 12% slopes)	1 to 32%	Hydric

Map Abbreviation	Soil Name	Hydric Component Range	Classification
Mp	Milford silty clay loam	100%	Hydric
Pm	Patton silty clay loam (0 to 2% slopes)	66 to 99%	Hydric
Ps	Pits	0%	Not Hydric
Rd	Reesville silt loam	1 to 32%	Hydric
RegA	Rensselaer clay loam	66 to 99%	Hydric
RuB	Russell silt loam (2 to 6% slopes)	1 to 32%	Hydric
Sh	Shoals silt loam (0 to 2% slopes)	1 to 32%	Hydric
Sn	Sloan silty clay loam	100%	Hydric
ThrA	Treaty silty clay loam (0 to 1% slopes)	66 to 99%	Hydric
Wr	Whitaker loam	1 to 32%	Hydric
XeB2	Xenia silt loam (2 to 6% slopes)	1 to 32%	Hydric

12 Digit HUC:
Sycamore Creek – HUC 051202011501
Lake Ditch – HUC 015202030505
Snake Creek – HUC 015202030506
Mud Creek – HUC 051202030504
Snake Creek-Lake Ditch – HUC 051202030506

Duplicate project maps and photographs have been removed and included in Appendix B. Additional photographs and wetland determination forms have been removed to reduce file size.

Attachments:
~~Project Location Maps……A1 – A6~~
Natural Resources Conservation Service (NRCS) Soil Survey Map & Soils Report……A7 – A15
NWI Maps, Floodplain Maps, Water Resources Maps, and NHD Maps……A16 – A65
~~Photograph Location Map and Photographs……A66 – A258~~
~~Wetland Determination Forms……A259 – A404~~

Project Description:
The project will involve a mill and hot mix asphalt (HMA) minor structural overlay along the entire project route. There will also be sections of full depth pavement reconstruction at locations where the profile grade needs to be adjusted due to inadequate cover over structures or where the roadway geometry requires improvement. Within the towns of Eminence and Monrovia, the roadway geometry will remain the same and only a mill and HMA overlay will occur. In addition to the mill and HMA overlay activities, the existing curb ramps at various intersections within the towns of Eminence and Monrovia will be upgraded to meet current Americans with Disabilities Act (ADA) standards. The travel lanes and shoulder width will remain the same, except in five isolated locations around sharp curves. The shoulder width at these locations will be widened between 0 to 6 feet. Thirteen small structure replacements, pipe lining, or extensions along SR 42 are anticipated for this project:

Structures Being Replaced	Des. No.	Photo number	Location
CV 042-055-54.25	2001559	38-39	South of Wetland A; North of UNT 1
CV 042-055-51.40	1800122	122, 124-125	UNT 5 to Lake Ditch
CV 042-055-50.80	2001558	136-138,140-141	UNT 6 to Lake Ditch; West of Wetland D1
CV 042-055-49.29	2001557	193	East of RSD 9; West of Wetland L and Grassy Swale 3
CV 042-055-48.78	2001555	225-226	North of UNT 7 to Lake Ditch
CV 042-055-47.90	2001554	241	North of UNT 8 to Lake Ditch
CV 042-055-47.32	1701593	246-248	North of UNT 9 to Lake Ditch
CV 042-055-46.13	2001553	282	South of Wetland W and RSD 12; North of RSD 13
CV 042-055-45.01	2001552	287	South of RSD 15

Structures Being Replaced	Des. No.	Photo number	Location
042-55-07613	2001551	300, 302, 304-30	UN 10 to Lake Ditch (First Crossing)
CV 042-055-44.05	1800121	310-311	UNT 10 to Lake Ditch (Second Crossing)
CV 042-055-43.03	2001550	312-313	North of UNT 11 to Lake Ditch
042-55-07514	2001548	314-317	UNT 11 to Lake Ditch

Other Structures Within Survey Area	Des. No.	Photo number	Location
Unassigned Structure 1	N/A	38, 39	North of Grassy Swale 1; South of Wetland A
Unassigned Structure 2	N/A	107	North of UNT 3 to Lake Ditch
042-55-03659 B	1900762	88, 91	UNT 2 to Lake Ditch
042-55-07453	1800650	109	UNT 4 to Lake Ditch
Unassigned Structure 3	N/A	107, 131	Connecting Wetland D1 and D2
Unassigned Structure 4	N/A	147	North of Wetland E
042-55-06735	1800510	293, 295	Lake Ditch
Unassigned Structure 5	N/A	318-319	East of UNT 12 to Lake Ditch

Streams:
According to the hydrology data available through IndianaMap (http://www.indianamap.org/) and the Eminence and Hall USGS topographic maps (1:24,000 scale), there are 14 streams within the survey area. During the field investigation, the presence of unnamed tributaries (UNTs) 1 – 12 to Lake Ditch (two observed crossings on UNT 10 to Lake Ditch) and Lake Ditch were verified. Acres of stream within the survey area are based on the largest OHWM width measurements and total linear feet of stream. For streams crossing the survey area in more than one location (UNT 10 to Lake Ditch), acreage and linear feet of stream at each crossing is provided. A discussion of each stream is provided below. Characteristics for each stream are also summarized in Table 1.

UNT 1 to Lake Ditch (59 lft./0.01 acre of free flowing channel within survey area)
UNT 1 to Lake Ditch was observed within the survey area and was flowing at the time of investigation. UNT 1 to Lake Ditch was determined to have intermittent flow due to water in the channel with more than 48 hours since a significant rain event and debris deposits outside the stream channel. Additionally, this stream is classified as an USGS intermittent blueline stream. UNT 1 to Lake Ditch flows in a north to south direction away from the survey area. According to the USGS StreamStats report, this stream has a drainage area of 0.546 square mile and a gradient of 37.9 feet per mile. UNT 1 to Lake Ditch exhibited downstream ordinary high water mark (OHWM) characteristics of 8.0 feet in width and 2.5 feet in depth. The downstream OHWM measurement was taken approximately 56.0 feet from the structure outlet. An upstream OHWM was not taken as there was no evidence of a stream north of the structure CV 042-055-51.40. The OHWM measurement was taken outside the influence of the structure.

This stream exhibited a substrate primarily of silt. This stream exhibited poor quality due to lack of sinuosity, an absence of riffles and pools, channelization, and agricultural runoff. UNT 1 to Lake Ditch flows into UNT 2 to Lake Ditch which flows into Lake Ditch. Lake Ditch, then flows into Mill Creek, which flows into Eel River, which flows into the White River. Since UNT 1 to Lake Ditch contributes intermittent surface water flow to the White River, a Traditionally Navigable Waterway (TNW), UNT 1 to Lake Ditch is likely to be considered a *Waters of the United States*.

UNT 1 to Lake Ditch CV (46 lft./0.009 acre of encapsulated stream within survey area)
UNT 1 to Lake Ditch CV is encapsulated within Structure No. CV 042-055-54.25, which is an 8 feet wide x 46 feet long corrugated metal pipe (CMP).

UNT 2 to Lake Ditch (256.8 lft./0.053 acre within survey area)
UNT 2 to Lake Ditch was observed within the survey area and was flowing at the time of investigation. The stream is locally named Bayless Ditch, but is referred to as UNT 2 to Lake Ditch throughout this report. UNT 2 to Lake Ditch was determined to have intermittent flow due to water in the channel with more than 48 hours since a significant rain event. This stream is classified as an USGS intermittent blueline stream. UNT 2 to Lake Ditch flows in a northeast to southwest direction away from the survey area. According to the USGS StreamStats Report, this stream has a drainage area of 2.355 square miles and a gradient of 22.3 feet per mile. UNT 2 to Lake Ditch exhibited a downstream OHWM of 9.0 feet in width and 4.0 feet in depth. The downstream OHWM measurement was taken approximately 72.5 feet from the structure outlet. UNT 2 to Lake Ditch exhibited an upstream OHWM of 9.0 feet in width and 3.7 feet in depth which was taken approximately 101.1 feet from the structure outlet. The OHWM measurements were taken outside the influence of the structure. UNT 2 to Lake Ditch flows through structure 042-55-03659 B under SR 42.

This stream exhibited a substrate primarily of silt. This stream exhibited poor quality due to lack of sinuosity channelization, an absence of riffles and pools, and agricultural runoff. UNT 2 to Lake Ditch flows into Lake Ditch which then flows into Mill Creek, which flows into Eel River, which flows into the White River. Since UNT 2 to Lake Ditch contributes intermittent surface water flow to the White River, a TNW, UNT 2 to Lake Ditch is likely to be considered a *Waters of the United States*.

UNT 3 to Lake Ditch (68.3 lft./0.009 acre within survey area)
UNT 3 to Lake Ditch was observed within the survey area, 0.25 mile east of N. Hall Road, and although no flowing water was observed at the time of investigation ponding water observed within the stream channel. UNT 3 to Lake Ditch was determined to have an ephemeral flow due to the presence of rooted plants within the stream channel and no sediment or debris deposits outside the stream channel. Additionally, UNT 3 to Lake Ditch is not classified an USGS blueline stream. Aerial imagery shows that the stream flows into a drainage swale, which eventually flows into Lake Ditch. UNT 3 to Lake Ditch flows in a north to south direction away from the survey area. According to the USGS StreamStats Report, this stream has a drainage area of 0.045 square mile and a gradient of 10.2 feet per mile. UNT 3 to Lake Ditch exhibited a downstream OHWM characteristics of 5.5 feet in width and 1.0 feet in depth. The downstream OHWM measurement was taken approximately 48.1 feet from the structure outlet. The OHWM measurement was taken outside the influence of the structure. An upstream OHWM was not taken as there was no evidence of a stream north Unassigned Structure 3.

This stream exhibited a substrate primarily of silt. This stream exhibited poor quality due channelization, poor water clarity, an absence of riffles and pools, and agricultural runoff. UNT 3 to Lake Ditch is likely not a *Waters of the United States* as it does not contribute perennial or intermittent overland flow to a TNW.

UNT 4 to Lake Ditch (182.5 lft./0.041 acre within survey area)
UNT 4 to Lake Ditch was observed within the survey area, the stream is located 0.35 mile west of N Hall Road and was following at the time of investigation. UNT 4 to Lake Ditch was determined to have a perennial flow due to a well-defined bed/bank and absence of rooted plants within the stream channel. Additionally, UNT 4 to Lake Ditch is classified as an USGS perennial blueline stream. UNT 4 to Lake Ditch flows in a northeast to southwest direction away from the survey area. According to the USGS StreamStats Report, this stream has a drainage area of 3.721 square mile and a gradient of 18.5 feet per mile. UNT 4 to Lake Ditch exhibited a downstream OHWM characteristics of 9.5 feet in width and 4.5 feet in depth. The downstream OHWM measurement was taken approximately 69.0 feet from the structure outlet. UNT 4 to Lake Ditch exhibited an upstream OHWM of 9.75 feet in width and 4.5 feet in depth which was taken approximately 54.8 feet from the structure outlet. The OHWM measurements were taken outside the influence of the structure. UNT 4 to Lake Ditch flows through structure 042-55-07453 under SR 42.

This stream exhibited a substrate primarily of silt. This stream exhibited poor quality due to lack of sinuosity, channelization, an absence of riffles and pools, and agricultural runoff. UNT 4 to Lake Ditch flows into Lake Ditch which then flows into Mill Creek, which flows into Eel River, which flows into the White River. Since UNT 4 to