PROJECT	DESIGNATION
2100572	2100572
CONTRACT	BRIDGE FILE
B-43949	009-48-10798

STRUCTURE INFORMATION				
STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
009-48-10798	Composite Pre-stressed Concrete Bulb-Tee Beam Bridge	1 Span: 68'-0" Skew: 15°00'00" Lt.	Mud Creek	15+00.00 "PR-1"

INDIANA DEPARTMENT OF TRANSPORTATION

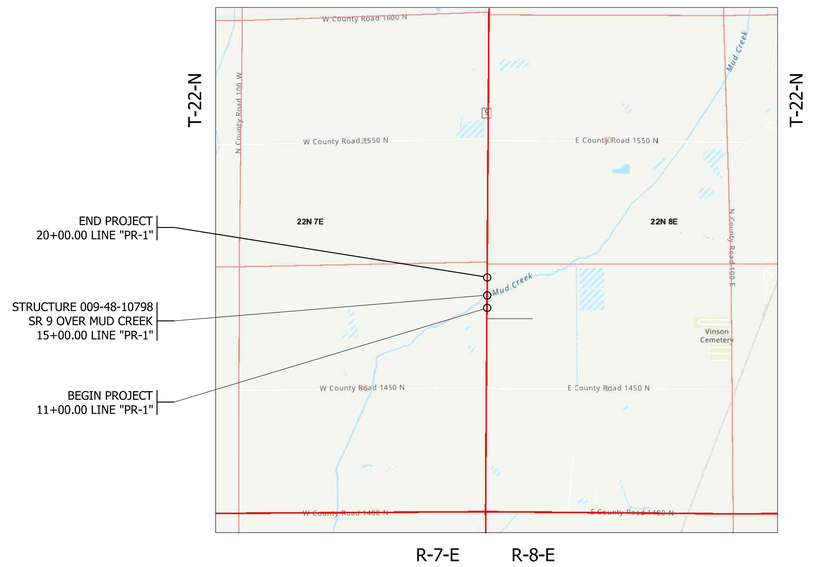
BRIDGE PLANS

FOR SPANS OVER 20 FEET

ROUTE: S.R. 9 AT: RP 86+100

PROJECT NO. 2100572 P.E.
2100572 R/W
2100572 CONST.

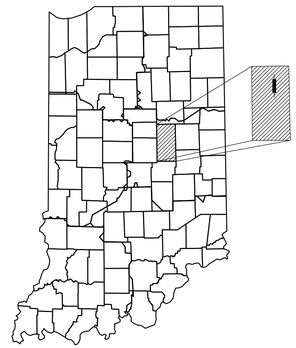
Bridge Replacement on SR 9 over Mud Creek
Located 2.83 Miles North of SR 28
Section 31, T-22-N, R-8-E, Van Buren Township, Madison County, Indiana
Section 36, T-22-N, R-7-E, Boone Township, Madison County, Indiana



SCALE: 1" = 2000'

TRAFFIC DATA		
A.A.D.T.	(2026)	4384 V.P.D.
A.A.D.T.	(2046)	4600 V.P.D.
D.H.V		448 V.P.H.
DIRECTIONAL DISTRIBUTION		50.73%
TRUCKS		9.24% A.A.D.T.
		8.53% D.H.V.

DESIGN DATA	
DESIGN SPEED	55 M.P.H.
PROJECT DESIGN CRITERIA	3R (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL
RURAL/URBAN	RURAL
TERRAIN	LEVEL
ACCESS CONTROL	NONE



PROJECT LOCATION SHOWN BY —
MADISON COUNTY

LATITUDE: 40°19'8.4"N LONGITUDE: 85°40'18.4"W

BRIDGE LENGTH: 0.013 MI.
ROADWAY LENGTH: 0.157 MI.
TOTAL LENGTH: 0.170 MI.
MAX. GRADE: +3.92 %

HUC: 051202010403

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2024
TO BE USED WITH THESE PLANS.

Kimley»Horn

Kimley-Horn & Associates, Inc.
500 E. 96th Street, Suite 300
Indianapolis, IN 46240
(317) 218-9560

PLANS PREPARED BY: (317)-218-9560 PHONE NUMBER

CERTIFIED BY: DATE

APPROVED FOR LETTING: INDIANA DEPARTMENT OF TRANSPORTATION DATE

BRIDGE FILE
009-48-10798
DESIGNATION
2100572

SURVEY BOOK	SHEETS		
ELECTRONIC	1	of	22
CONTRACT	PROJECT		
B-43949	2100572		

Plot: 11/13/2024 10:41 AM

File: K:\IND_Structures\170268010_SR 9 over Mud Creek Bridge Replacement (2100572)\4 Plan Development\2100572_BR_SR 9 over Mud Creek\Plan Sheets\BR_2100572_Sht Title.dgn
Model: TITLE SHEET

UTILITIES

TELEPHONE: AT&T
240 N. MERIDIAN STREET ROOM 1791
INDIANAPOLIS, IN 46204
ATTN: KIM BARKES
PH: 812-390-2595
E-MAIL: g09871@att.com

POWER: AMERICAN ELECTRIC POWER
8600 SMITHS MILL ROAD
NEW ALBANY, OH 43054
ATTN: JOSHUA ADAMS
PH:
E-MAIL: TL publicprojects@aep.com

CABLE: COMCAST CABLE
688 INDUSTRIAL DRIVE
ELMHURST, IL 60126
ATTN: RHONDA DALTON
PH:
E-MAIL: rhonda_dalton@comcast.com

811 Know what's below. Call before you dig.

INDIANA UNDERGROUND
1-800-382-5544 OR CALL 811
24 HOURS A DAY 7 DAYS A WEEK

GENERAL NOTES

All earth shoulders, median areas, and cut and fill slopes shall be plain or mulch seeded except where sodding is specified.

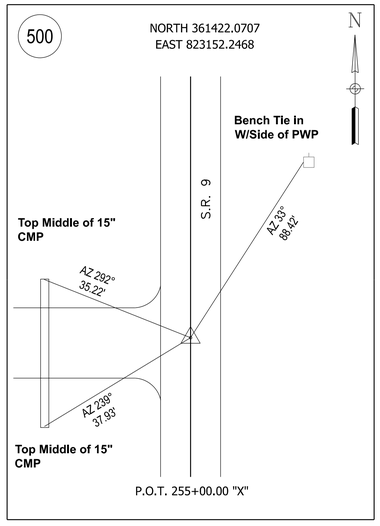
The final cross sections of the grading contract will be the original cross sections of the paving contract. However, partial or complete cross sections shall be taken if necessary to determine the actual excavation quantities.

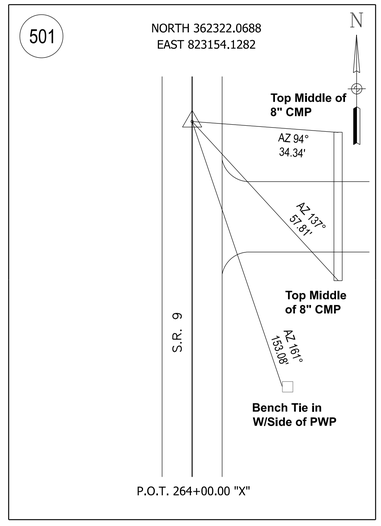
The paper relocation will be cross sectioned by the Engineer before construction.

INDEX

REVISIONS

SHEET NO.	DATE	REVISED





REFERENCE TIES

Plot: 11/13/2024 10:41 AM

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: RD DRAWN: LPK

CHECKED: KMS CHECKED: KMS

INDIANA
DEPARTMENT OF TRANSPORTATION

INDEX

HORIZONTAL SCALE	BRIDGE FILE
N/A	009-48-10798
VERTICAL SCALE	DESIGNATION
N/A	2100572
SURVEY BOOK	SHEETS
ELECTRONIC	2 of 22
CONTRACT	PROJECT
B-43949	2100572

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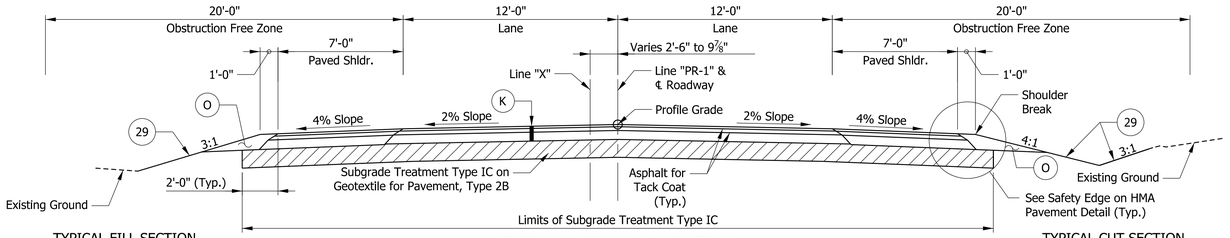
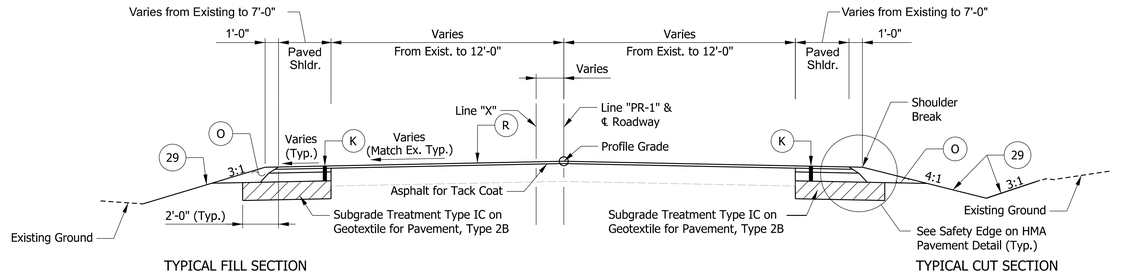


TYPICAL APPROACH SECTION

Scale: ¼" - 1'-0"

Sta. 11+00.00 "PR-1" to Sta. 14+38.66 "PR-1"
Sta. 15+61.33 "PR-1" to Sta. 20+00.00 "PR-1"



MILL & OVERLAY INCIDENTAL CONSTRUCTION SECTION

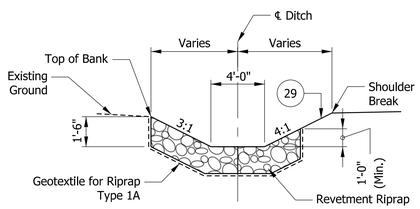
Scale: ¼" - 1'-0"

Sta. 10+50.00 "PR-1" to Sta. 11+00.00 "PR-1"
Sta. 20+00.00 "PR-1" to Sta. 20+50.00 "PR-1"

LEGEND

- (K) HMA Pavement
  165 LB/SYS QC/QA HMA, 3, 64, Surface, 9.5mm on
  275 LB/SYS QC/QA HMA, 3, 64, Int., 19.00mm on
  660 LB/SYS QC/QA HMA, 3, 64, Base, 25.0mm
  Subgrade Treatment Type IC on
  Geotextile for Pavement, Type 2B
- (O) Variable Depth Compacted Aggregate Base, No. 53
- (R) 165 LB/SYS QC/QA HMA, 3, 64, Surface, 9.5mm on Transition Milling
- (29) Mulched Seeding, Type R
- Subgrade Treatment Type IC

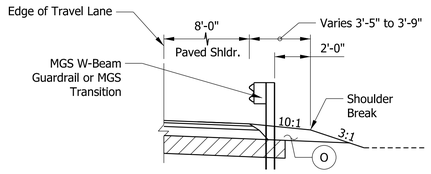
NOTES:
*A safety ledge shall be placed in the surface and intermediate layers of all edges of pavements that are not bound by a curb or barrier wall or adjacent to guardrail.
*See E601-DRIV for additional information regarding Class II & Class V Drives.



TYPICAL REVETMENT RIPRAP FLAT BOTTOM DITCH DETAIL

Not to Scale

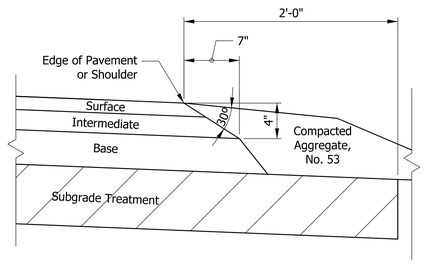
Sta. 12+20 "PR-1" Rt. to Sta. 14+65 "PR-1" Rt.
Sta. 17+65 "PR-1" Lt. to Sta. 20+50 "PR-1" Lt.
Sta. 19+45 "PR-1" Rt. to Sta. 20+50 "PR-1" Rt.



TYPICAL HALF SECTION WITH GUARDRAIL

Scale: ¼" - 1'-0"

See Plan & Profile Sheet for Locations



SAFETY EDGE ON HMA PAVEMENT

Not to Scale

Plot: 11/13/2024 10:41 AM

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: RD DRAWN: LPK

CHECKED: KMS CHECKED: KMS

INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS

HORIZONTAL SCALE	BRIDGE FILE
As Noted	009-48-10798
VERTICAL SCALE	DESIGNATION
As Noted	2100572
SURVEY BOOK	SHEETS
ELECTRONIC	3 of 22
CONTRACT	PROJECT
B-43949	2100572

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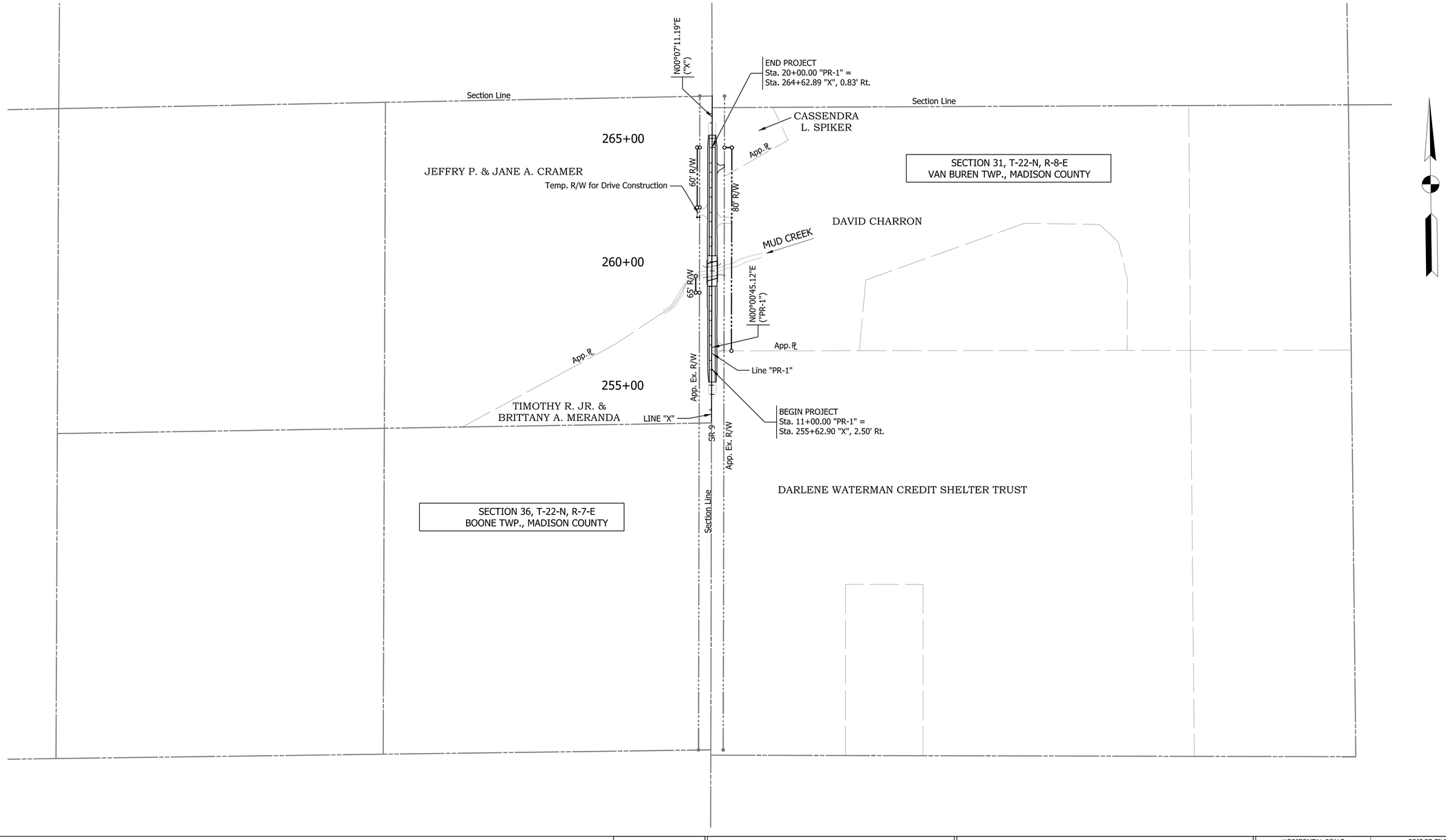

All R/W described from Line "X"
All stationing described from Line "X" except as shown

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: LPK DRAWN: LPK

CHECKED: AGP CHECKED: AGP

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAT NO. 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 200'	009-48-10798
VERTICAL SCALE	DESIGNATION
N/A	2100572

SURVEY BOOK	SHEETS
ELECTRONIC	4 of 22
CONTRACT	PROJECT
B-43949	2100572

Plot: 11/13/2024 10:41 AM

File: K:\IND_Structures\170268010_SR 9 over Mud Creek Bridge Replacement (2100572)\4 Plan Development\2100572_BR_SR 9 over Mud Creek\Plan Sheets\BR_2100572_Plat 1.dgn
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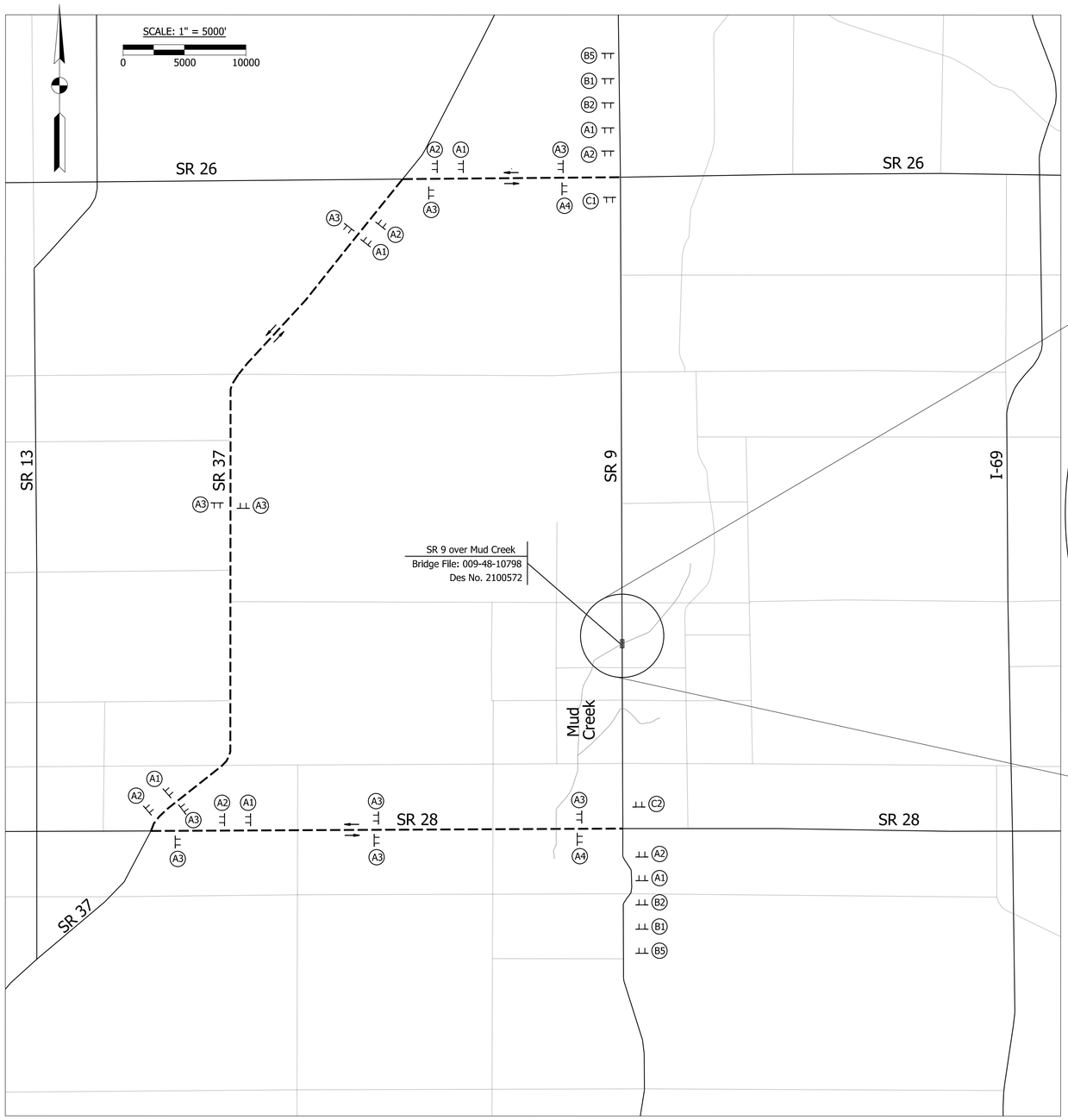
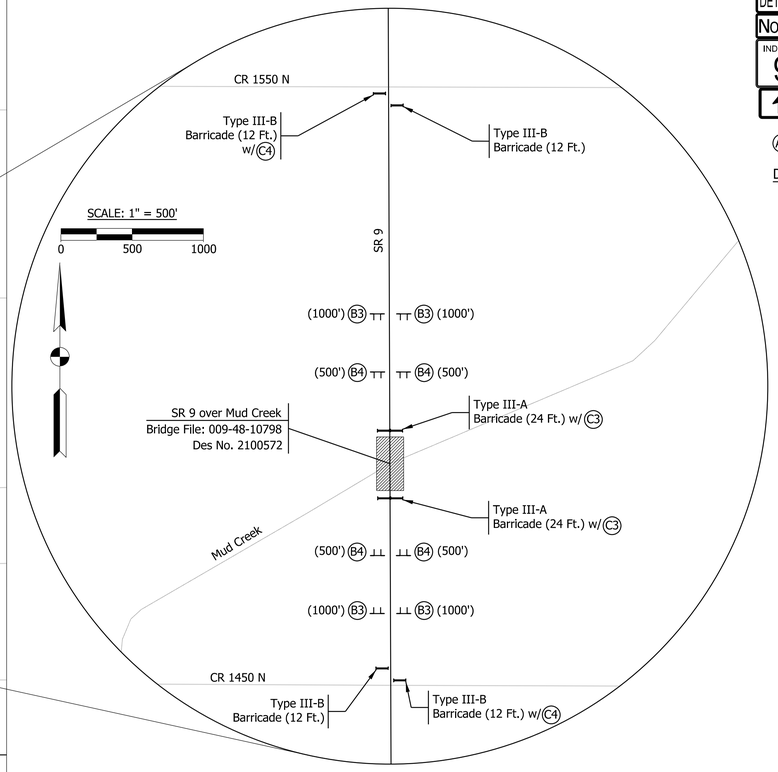
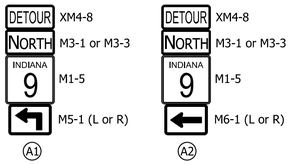


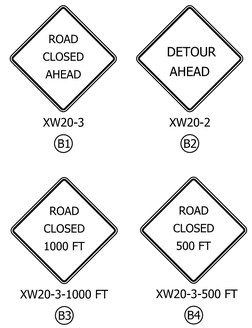


QUANTITY SUMMARY TABLE

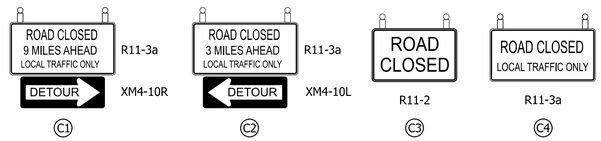
ITEM	QUANTITY
Construction Sign, A	14 Each
Detour Route Marker Sign Assembly	24 Each
Road Closure Sign Assembly	6 Each
Barricade, III-A	48 Ft.
Barricade, III-B	48 Ft.
Maintaining Traffic	1 LS



DETOUR ROUTE MARKER ASSEMBLIES



CONSTRUCTION SIGNS



ROAD CLOSURE SIGN ASSEMBLIES

LEGEND

- Construction Zone
- Construction Sign
- Barricade Type III-A or III-B
- Detour Route
- Detour Traffic

NOTES

1. SR 9 shall be closed to through traffic from County Road 1450 N to County Road 1550 N.
2. Through traffic shall be detoured along SR 28, SR 37, and SR 26 throughout construction.
3. Access to all driveways shall be maintained throughout construction.
4. See Std. Drawing E 801-TCSN-01 through -08 for additional sign details.
5. See Std. Drawing E 801-TCDT-01 and -04 for additional details.

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: RD DRAWN: RD

CHECKED: KMS CHECKED: KMS

INDIANA
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
DETOUR ROUTE

HORIZONTAL SCALE	BRIDGE FILE
As Noted	009-48-10798
VERTICAL SCALE	DESIGNATION
As Noted	2100572

SURVEY BOOK	SHEETS
ELECTRONIC	5 of 22
CONTRACT	PROJECT
B-43949	2100572

Plot: 11/13/2024 10:42 AM

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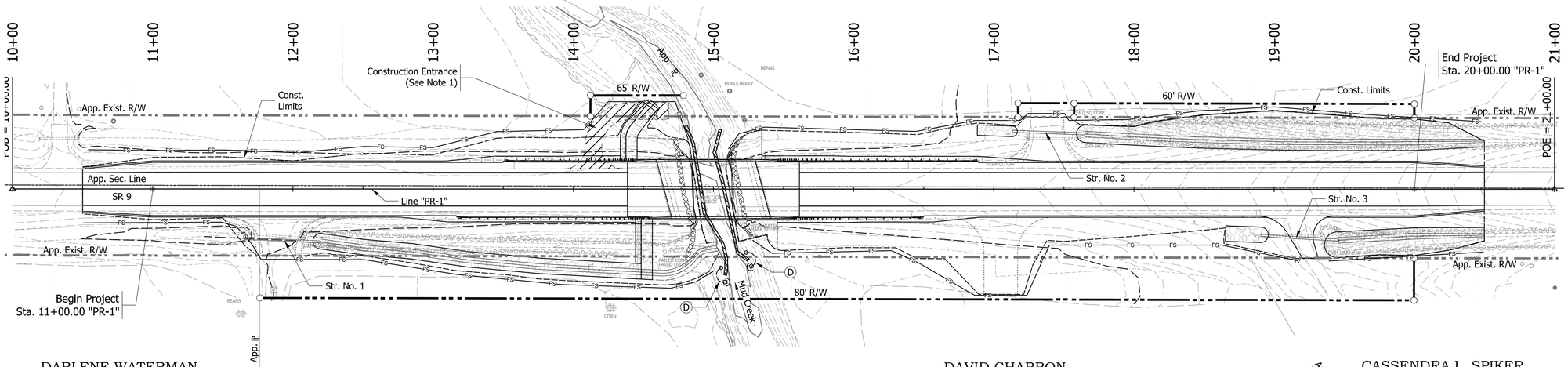
Model:MOT - DETOUR [Sheet]

SECTION 36, T-22-N, R-7-E
BOONE TWP., MADISON COUNTY

JERALD N. & SANDRA KAY BALDWIN

JACK & SANDRA S. HUNTZINGER



LEGEND

- FS — Filter Sock
- D — Dewatering
- Construction Entrance
- Wildlife Trail
- Cofferdam

DARLENE WATERMAN
CREDIT SHELTER TRUST

DAVID CHARRON

CASSENDRA L. SPIKER

SECTION 31, T-22-N, R-8-E
VAN BUREN TWP., MADISON COUNTY

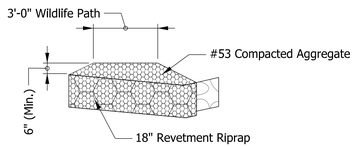
TEMPORARY SEEDING (0.61 ac)	
Mobilization and Demobilization for Surface Stabilization	2 EA
Temporary Seed (150 lb/ac)	91.5 LBS
Temporary Mulch (2.5 ton/ac)	1.53 TON
Fertilizer (400 lb/ac)	244 LBS

PERMANENT SEEDING (0.61 ac)	
Mobilization and Demobilization for Seeding	2 EA
Mulched Seeding, Type R	2952 SYS

OTHER EROSION CONTROL QUANTITIES	
Filter Sock	2009 LFT

CONSTRUCTION ENTRANCE QUANTITIES	
* No. 2 Stone (12" Min.)	100 TON
* Geotextile for Construction Entrance	235 SYS
**Concrete Washout	1 EA

* Number & Locations of Construction Entrances to be Verified in the Field
** Not Paid For Directly



WILDLIFE PATH CROSSING
Not to Scale

GENERAL CONSTRUCTION NOTES

1. Construction Entrance shown for reference only. A minimum of one construction entrance shall be provided. Contractor to identify required number of construction entrances and locations.
2. The Erosion and Sediment Control Measures shall be installed and maintained in accordance with the details shown on the Plans, INDOT Standard Specifications Section 205, INDOT Standard Drawings, and the IDEM Storm Water Quality Manual.
3. Concrete washout areas shall be installed and utilized as containment for washing equipment of uncured concrete and associated liquids. All concrete washout water shall be discharged to a concrete washout area. Locations for washouts are not shown on the plans, but shall be dependent upon field conditions and shall be placed away from water channels and other stormwater.
4. Temporary surface stabilization shall be accomplished by the use of a temporary seeding mixture along with temporary mulching. The temporary seed mixture shall be used to establish a temporary cover for disturbed solls during the construction operations. Temporary seeding shall be placed on disturbed areas that are expected to be idle for over 7 days or as directed by the Engineer. Placement of the temporary surface stabilization shall be as per the INDOT Standard Specifications, Section 205.
5. Where pavement is not proposed, permanent surface stabilization shall be achieved by the use of a seeding mixture, along with mulching material/erosion control blankets and fertilizer or sod. Placement of the permanent surface stabilization shall occur upon final grading in areas and shall be per INDOT Standard Specifications, Section 621, unless otherwise specified.
6. Temporary impacts within streambed shall be restored to preconstruction conditions and any impacts to native substrate shall be replaced.

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: RD DRAWN: LPK

CHECKED: KMS CHECKED: KMS

INDIANA
DEPARTMENT OF TRANSPORTATION

EROSION CONTROL

HORIZONTAL SCALE	BRIDGE FILE
1" = 40'	009-48-10798
VERTICAL SCALE	DESIGNATION
1" = 40'	2100572

SURVEY BOOK	SHEETS
ELECTRONIC	6 of 22
CONTRACT	PROJECT
B-43949	2100572

Plot: 11/13/2024 10:42 AM

File: \\kimley-horn.com\MW_IND1\IND_Structures\170268010_SR 9 over Mud Creek Bridge Replacement (2100572)\4 Plan Development\2100572_BR_SR 9 over Mud Creek\Plan Sheets\BR_2100572_Erosion Control.dgn
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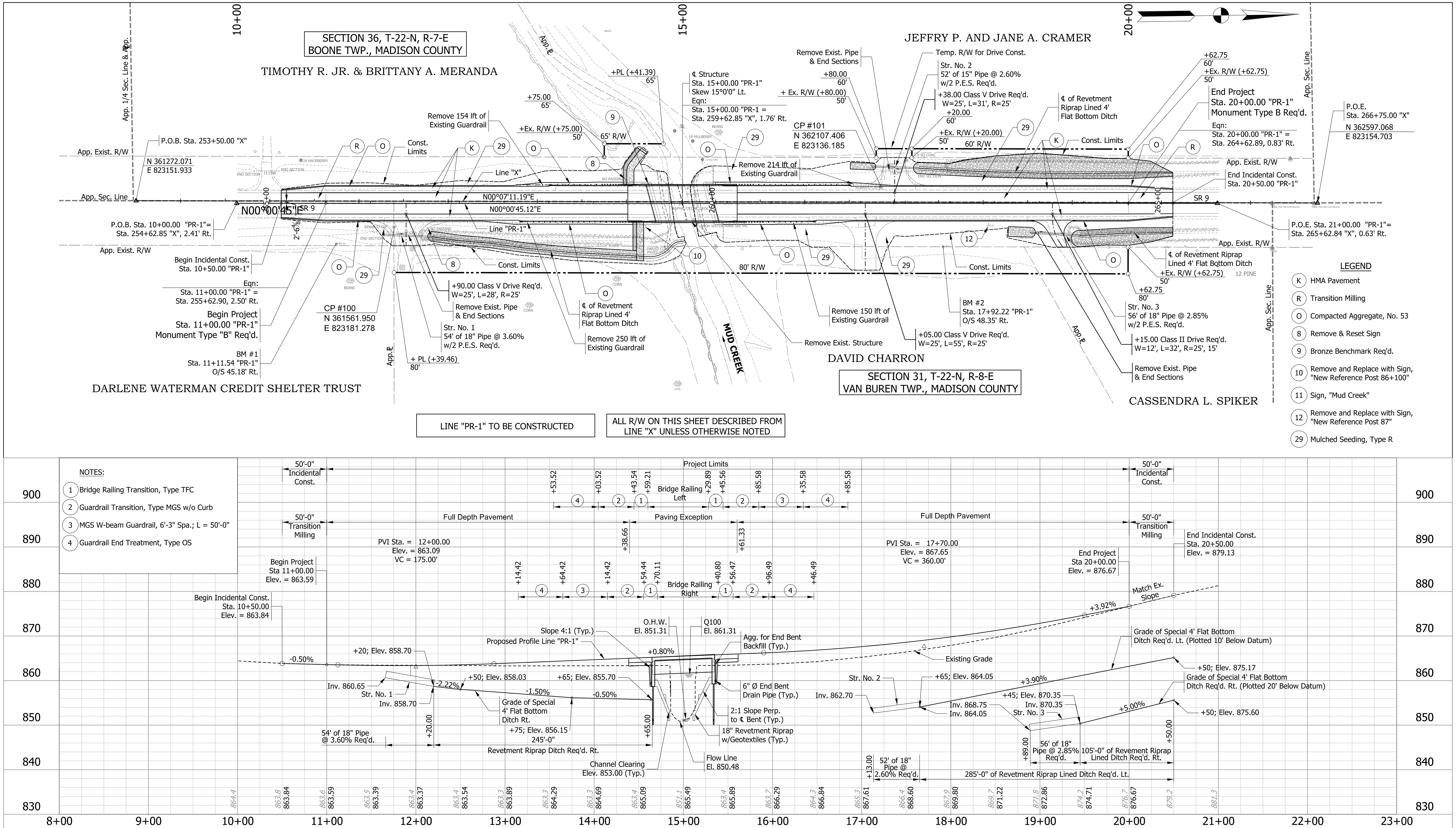

NOTE:
See Index Sheet for Alignment Reference Tie Diagrams

TBM #1 - Bench Tie in PWP #MA22-409
Sta. 11+11.54 "PR-1"; 45.18' Rt.
Elev. = 867.950

TBM #2 - Bench Tie in PWP #MA22-412
Sta. 17+92.22 "PR-1"; 48.35' Rt.
Elev. = 868.778

RECOMMENDED FOR APPROVAL ______ DESIGN ENGINEER DATE

DESIGNED: RD DRAWN: LPK
CHECKED: KMS CHECKED: KMS

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE
LINE "PR-1"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	009-48-10798
VERTICAL SCALE	DESIGNATION
1" = 10'	2100572
SURVEY BOOK	SHEETS
ELECTRONIC	7 of 22
CONTRACT	PROJECT
B-43949	2100572

Plot: 11/13/2024 10:43 AM

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RESOURCE INTERNATIONAL, INC.

BORING LOG

BORING NO.: TB-01
SHEET 1 OF 3
NORTHING: 361830.374
EASTING: 823139.652
DATUM : NAD83
DATE STARTED : 08-23-23
DATE COMPLETED : 08-23-23

ROUTE #: SR-9 COUNTY : Madison
PROJECT TYPE: Bridge Replacement
LOCATION : SR 9 over Mud Creek, 2.83 mi. N. of SR 28
DES NO. : 2100572 RII PROJECT NO.: I-22-082

ELEVATION : 862.8 ft
STATION : 259+08
OFFSET : 15.1 ft Left
LINE : 'X'
DEPTH : 65.5 ft

BORING METHOD : 3.25" HSA
RIG TYPE : CME 55 Truck
CASING DIA. : 4 in
CORE SIZE : 3 in

HAMMER : Automatic
DRILLER/INSP : LH
TEMPERATURE : 94 °F
WEATHER : Partly Cloudy

GROUNDWATER: ▽ Encountered at Dry ▼ At completion Dry

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	N	MOISTURE CONTENT	DRY UNIT WEIGHT, PCF	ATTERBERG LIMITS LL	PL	PI	POCKET PEN., tsf	UNCONF. COMP., ksf
861.7	1	**13.0" - Asphalt.** 1.1											
861.0	2	**8.0" - Aggregate Base.** 1.8											
	3	**Sandy Loam A-6 (2)**, Dark Brownish Gray, Moist to Very Moist, Soft To Medium Stiff, (Lab-3).	SS 1	3 4 6	44	10	15					1.5	
	4		SS 2	1 2 3	56	5	17		27	15	12	1.5	
	5												
	6												
	7		SS 3	2 2 2	72	4	22					1.5	
	8												
	9		ST 4		96							0.75	
	10												
	11												
	12		SS 5	1 2 3	83	5	21					0.5	
	13												
	14		SS 6	3 3 5	89	8	21					1.0	
	15												
	16												
	17		SS 7	2 3 4	89	7	21					1.0	
844.8	18	18.0											
	19	**Sandy Gravel A-1-a (0)**, Gray, Moist, Medium Dense, (Lab-9).	SS 8	5 12 16	94	28	8		NP	NP	NP		
	20												
	21	-Drilling fluid added at 21.0'.											
	22		SS 9	10 10 11	83	21	12						
839.8	23	23.0											
	24	**Clay Loam A-6**, Gray, Slightly Moist, Very Stiff To Hard, (Same as Lab-4).	SS 10	10 14 14	83	28	11					4.0	
	25												

Continued on next page

RESOURCE INTERNATIONAL, INC.

BORING LOG

BORING NO.: TB-01
SHEET 2 OF 3
NORTHING: 361830.374
EASTING: 823139.652
DATUM : NAD83

ROUTE #: SR-9 COUNTY : Madison
PROJECT TYPE: Bridge Replacement

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	N	MOISTURE CONTENT	DRY UNIT WEIGHT, PCF	ATTERBERG LIMITS LL	PL	PI	POCKET PEN., tsf	UNCONF. COMP., ksf
	26	**Clay Loam A-6**, Gray, Slightly Moist, Very Stiff To Hard, (Same as Lab-4).											
	27		SS 11	8 12 18	94	30	11					4.5	
	28												
	29												
	30		SS 12	5 12 16	83	28	13					4.5	
	31												
	32												
	33												
	34		SS 13	16 25 50/4"	78		10					4.5	
	35												
	36												
825.8	37	37.0											
	38	**Sandy Gravel A-1-a**, Gray, Moist, Very Dense, (Same as Lab-9).											
	39												
	40		SS 14	8 23 28	72	51	18						
	41												
820.8	42	42.0											
	43	**Clay Loam A-6 (6)**, Dark Gray To Gray, Moist, Hard, (Lab-4).											
	44												
	45		SS 15	17 19 35	94	54	10		26	13	13	4.5	
	46												
	47												
	48												
	49		SS 16	8 22 48	28	70	15					4.5	
	50												
	51	Auger refusal @ 51.5'. 51.5											
811.3	52	**Siltstone** Gray, Slightly Weathered, Hard, Very fine grained, Medium bedded, Moderately Close Joints, Horizontal, Parallel Planar. -Qu @ 53.0' = 7,673 psi.	RC 1 RQD= 50%				87						
	53												
	54												
	55												

Continued on next page

RESOURCE INTERNATIONAL, INC.

BORING LOG

BORING NO.: TB-01
SHEET 3 OF 3
NORTHING: 361830.374
EASTING: 823139.652
DATUM : NAD83

ROUTE #: SR-9 COUNTY : Madison
PROJECT TYPE: Bridge Replacement

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	N	MOISTURE CONTENT	DRY UNIT WEIGHT, PCF	ATTERBERG LIMITS LL	PL	PI	POCKET PEN., tsf	UNCONF. COMP., ksf
	56	**Siltstone** Gray, Slightly Weathered, Hard, Very fine grained, Medium bedded, Moderately Close Joints, Horizontal, Parallel Planar.											
	57		RC 2 RQD= 73%		86								
	58												
	59												
	60												
	61												
	62												
	63		RC 3 RQD= 0%		0								
	64												
	65												
797.3	66	65.5											
	67	Bottom of Boring at 65.5 ft											
	68	Backfilled with 94 lbs cement, 50 lbs bentonite powder and 40 gal water. Pavement patched with concrete.											
	69												
	70												
	71												
	72												
	73												
	74												
	75												
	76												
	77												
	78												
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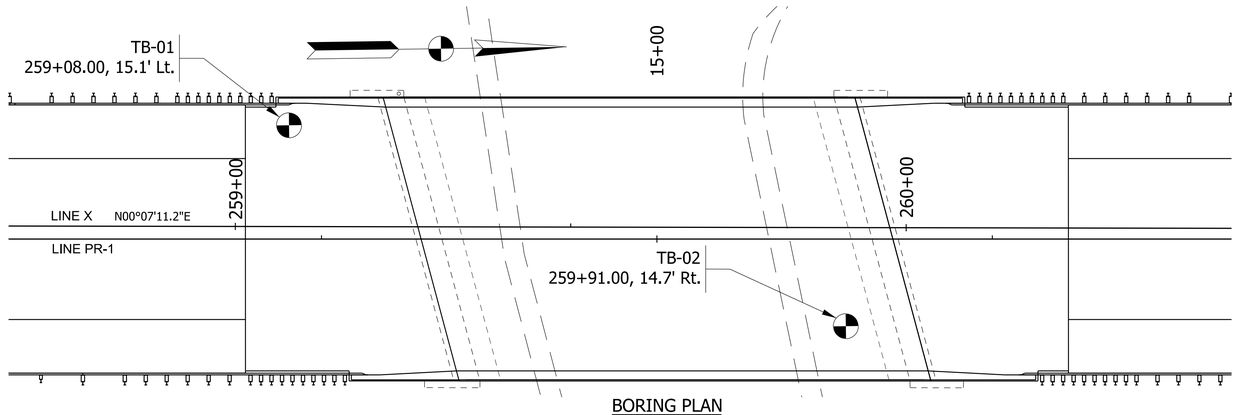
	81												
	82												
	83												
	84												
	85												
	86												



BORING PLAN
Scale: 3/32" = 1'-0"

PILE LOADING FOR GEOTECHNICAL TESTING

	Bent No. 1	Bent No. 2
Pile Size, Type, and Grade	HP 12 x 53 Grade 50 ksi	HP 12 x 53 Grade 50 ksi
Factored Design Load, Qf (kip)	TBD	TBD
Factored Design Soil Resistance, Rr (kip)	TBD	TBD
Resistance Factor	TBD	TBD
Downdrag Load, DD (kip), Due to Embankment Fill	TBD	TBD
Downdrag Load, D (kip), Due to Liquefaction	TBD	TBD
Nominal Soil Resistance, Rn (kip)	TBD	TBD
Downdrag Friction, Rs (kip)	TBD	TBD
Scour Zone Friction, Rn (kip)	TBD	TBD
Relaxation of Tip in Shale (kip)	TBD	TBD
Nominal Driving Resistance, Rndr (kip)	TBD	TBD
Estimated Pile Tip Elevation (Minimum)	TBD	TBD
Testing Method	ISS Section 701.05(b) (PDA)	

NOTES:

Pile shoes are required at all locations.

The restrike tests for piles shall be performed no sooner than 2 days following the initial drive.

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: RD DRAWN: LPK
CHECKED: KMS CHECKED: KMS

INDIANA DEPARTMENT OF TRANSPORTATION

SOIL BORINGS

HORIZONTAL SCALE	BRIDGE FILE
3/32" = 1'-0"	009-48-10798
VERTICAL SCALE	DESIGNATION
3/32" = 1'-0"	2100572
SURVEY BOOK	SHEETS
ELECTRONIC	8 of 22
CONTRACT	PROJECT
B-43949	2100572

Plot: 11/13/2024 10:43 AM

File: K:\[IND_Structures\170268010_SR 9 over Mud Creek Bridge Replacement (2100572)\4 Plan Development\2100572_BR_SR 9 over Mud Creek\Plan Sheets\BR_2100572_Soil Borings.dgn
Model:LINE PR-1 - PLAN PR-1 [Sheet]

RESOURCE INTERNATIONAL, INC.

BORING LOG

BORING NO.: TB-02
SHEET 1 OF 3
NORTHING: 361914.211
EASTING: 823169.648
DATUM: NAD83
DATE STARTED: 08-21-23
DATE COMPLETED: 08-21-23

ROUTE #: SR-9 COUNTY: Madison
PROJECT TYPE: Bridge Replacement
LOCATION: SR 9 over Mud Creek, 2.83 mi. N. of SR 28
DES NO.: 2100572 RII PROJECT NO.: I-22-082

ELEVATION: 863.2 ft
STATION: 259+91
OFFSET: 14.7 ft Right
LINE: 'X'
DEPTH: 64.0 ft

BORING METHOD: 3.25" HSA
RIG TYPE: CME 55 Truck
CASING DIA.: 4 in
CORE SIZE: 3 in

HAMMER: Automatic
DRILLER/INSP: LH
TEMPERATURE: 93 °F
WEATHER: Partly Cloudy

GROUNDWATER: ▽ Encountered at Dry ▼ At completion Dry

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	N	MOISTURE CONTENT	DRY UNIT WEIGHT, PCF	ATTERBERG LIMITS LL	PL	PI	POCKET PEN., tsf	UNCONF. COMP., ksf
862.2	1	**12.0" - Asphalt.** 1.0											
861.1	2	**13.0" - Aggregate Base.** 2.1											
860.0	3	**Sand and Gravel A-1-a**, Brownish Gray, Slightly Moist, Loose, (Aggregate Base). 3.2	SS 1	5 3 3	56	6							
	4	**Clay Loam A-6 (8)**, Grayish Brown, Very Moist, Very Soft To Soft, (Lab-5).	SS 2	2 2 3	33	5	25					1.25	
	5												
	6												
	7		SS 3	2 1 2	67	3	30		32	17	15	0.75	
	8												
	9												
853.2	10	10.0	SS 4	0 1 1	0	2							
	11	**Silty Clay Loam A-6 (8)**, Brownish Gray, Slightly Moist, Soft To Very Stiff, (Lab-6).	2S 4A	2	100		31					0.75	
	12		SS 5	1 2 2	72	4	22					0.75	
	13												
	14		ST 6		100				28	14	14		0.76
	15												
	16												
	17		SS 7	3 6 11	33	17	19					0.5	
845.2	18	18.0											
	19	**A-1-b (0)**, Brown, Moist, Medium Dense To Dense, (Lab-7).	SS 8	10 17 14	83	31	13						
	20												
	21												
	22		SS 9	15 16 14	72	30	10		NP	NP	NP		
	23												
838.9	24	24.3	SS 10	5 17 16	61	33	8 10						
	25												

Continued on next page

RESOURCE INTERNATIONAL, INC.

BORING LOG

BORING NO.: TB-02
SHEET 2 OF 3
NORTHING: 361914.211
EASTING: 823169.648
DATUM: NAD83

ROUTE #: SR-9 COUNTY: Madison
PROJECT TYPE: Bridge Replacement

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	N	MOISTURE CONTENT	DRY UNIT WEIGHT, PCF	ATTERBERG LIMITS LL	PL	PI	POCKET PEN., tsf	UNCONF. COMP., ksf
	26	**Silty Clay Loam A-6**, Gray, Slightly Moist to Moist, Hard, (Same as Lab-6).	SS 11	12 16 22	67	38	12					4.25	
	27												
	28												
	29		SS 12	7 14 26	83	40	11					4.5	
	30												
	31												
	32												
	33												
	34		SS 13	3 17 28	89	45	16						
826.2	35	37.0											
	36	**Gravelly Sand A-1-b (0)**, Grayish Brown To Gray, Moist to Wet, Dense To Very Dense, (Lab-8).											
	37												
	38												
	39												
	40		SS 14	16 20 26	100	46	7						
	41												
	42												
	43												
	44		SS 15	33 50/4"	56		9						
	45												
	46												
	47												
	48												
	49		SS 16	22 33 50/5"	94		18		NP	NP	NP		
	50												
	51												
	52												
	53												
809.2	54	54.0	SS 17	50/0"	0								
	55	**Siltstone** Gray, Slightly Weathered, Hard, Very fine grained, Medium bedded, Moderately Close Joints, Horizontal, Paralel Planar.											

Continued on next page

RESOURCE INTERNATIONAL, INC.

BORING LOG

BORING NO.: TB-02
SHEET 3 OF 3
NORTHING: 361914.211
EASTING: 823169.648
DATUM: NAD83

ROUTE #: SR-9 COUNTY: Madison
PROJECT TYPE: Bridge Replacement

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	SAMPLE NUMBER	SPT per 6"	% RECOVERY	N	MOISTURE CONTENT	DRY UNIT WEIGHT, PCF	ATTERBERG LIMITS LL	PL	PI	POCKET PEN., tsf	UNCONF. COMP., ksf
	56	-Qu @ 54.0' = 9,407 psi.	RC 1 RQD= 82%		84								
	57	**Siltstone** Gray, Slightly Weathered, Hard, Very fine grained, Medium bedded, Moderately Close Joints, Horizontal, Paralel Planar.											
	58												
	59												
	60												
	61												
	62		RC 2 RQD= 100%		100								
	63												
799.2	64	64.0											
		Bottom of Boring at 64.0 ft											
		Backfilled with 94 lbs cement, 50 lbs bentonite powder and 40 gal water. Pavement patched with concrete.											
	65												
	66												
	67												
	68												
	69												
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	71												
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	84												
	85												
	86												

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: RD DRAWN: LPK
CHECKED: AGP CHECKED: AGP

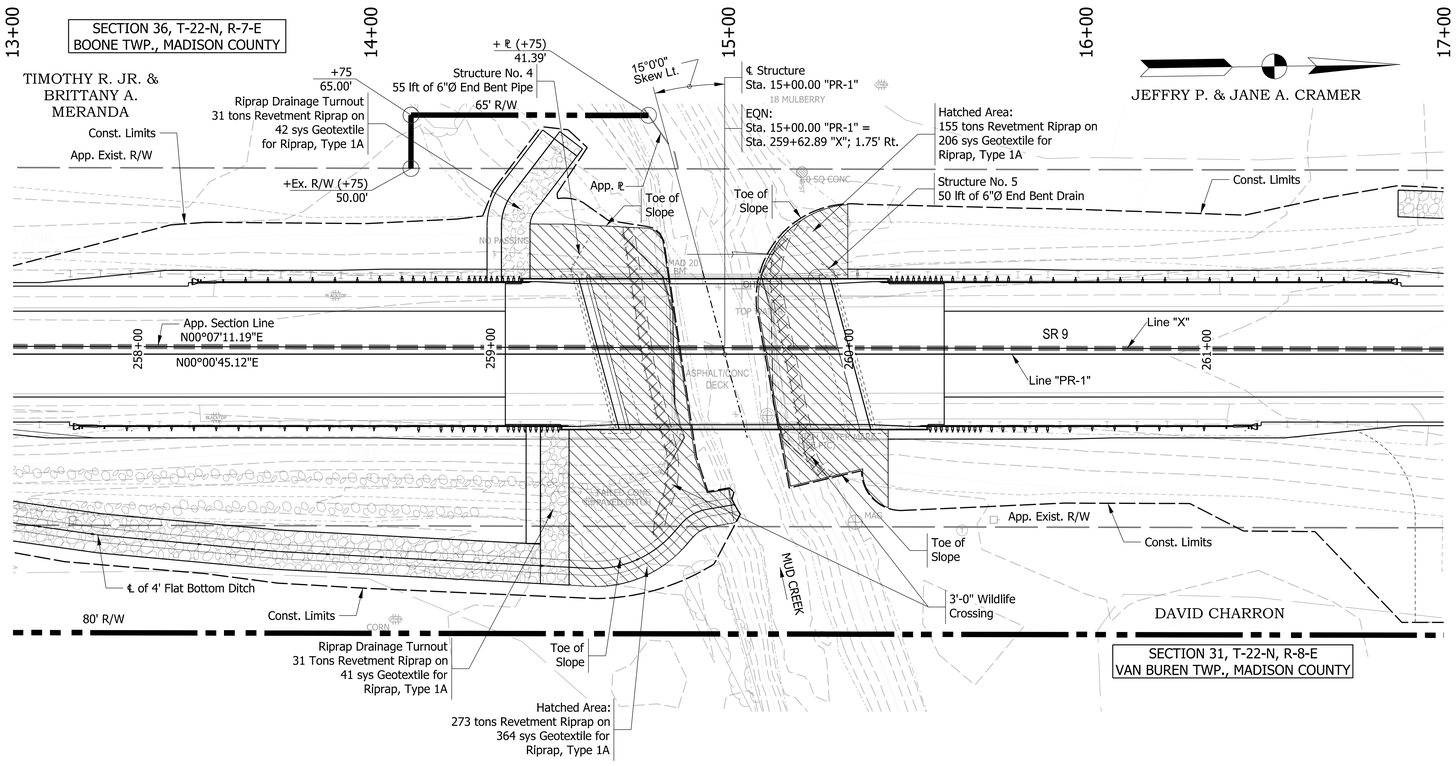
INDIANA DEPARTMENT OF TRANSPORTATION

SOIL BORINGS

HORIZONTAL SCALE	BRIDGE FILE
3/32" = 1'-0"	009-48-10798
VERTICAL SCALE	DESIGNATION
3/32" = 1'-0"	2100572
SURVEY BOOK	SHEETS
ELECTRONIC	9 of 22
CONTRACT	PROJECT
B-43949	2100572

Plot: 11/13/2024 10:43 AM

File: \\kimley-horn.com\MW_IND1\IND_Structures\170268010_SR 9 over Mud Creek Bridge Replacement (2100572)\4 Plan Development\2100572_BR_SR 9 over Mud Creek\Plan Sheets\BR_2100572_Soil Borings 2.dgn
Model:LINE PR-1 - PLAN PR-1 [Sheet]



ALL R/W ON THIS SHEET DESCRIBED FROM LINE "X" UNLESS OTHERWISE NOTED

LINE "PR-1" TO BE CONSTRUCTED

EXISTING STRUCTURE

The existing structure (009-48-00157B) Is a single span reinforced concrete girder bridge constructed in 1923. It was rehabilitated in 1953 and 2010, with a bridge length of 29'-9" and a 41'-0" clear roadway width. Existing structure to be removed.

HYDRAULIC DATA

Waterway Opening Provided	393.34 sq ft
Drainage Area	11.53 sq mi
Design Discharge, Q100	1600 cfs
Proposed Q100 Velocity	4.05 ft/sec
Q100 Elevation	861.31 ft
Proposed Backwater at Q100	0.75 ft
Existing Waterway Opening	244.22 sq ft
Existing Backwater	1.47 ft
Proposed Low Structure Elevation	861.02 ft
Existing Low Structure Elevation	860.41 ft

HYDRAULIC SCOUR DATA

Q100 Discharge	1600 cfs
Q100 Elevation	861.31 ft
Q100 Max Velocity	6.18 ft/sec
Q100 Scour Depth (Contraction)	16.11 ft
Q100 Scour Depth (Total)	16.11 ft
Q100 Low Scour Elevation	834.07 ft
Q500 Discharge	2054 cfs
Q500 Elevation	861.62 ft
Q500 Max. Velocity	8.05 ft/sec
Q500 Scour Depth (Contraction)	22.25 ft
Q500 Scour Depth (Total)	22.25 ft
Q500 Low Scour Elevation	827.93 ft

EARTHWORK TABULATION

Fill + 20%	2695 cys
Common Excavation	1805 cys
Usable Waterway Excavation (70%)	625 cys
Surplus Foundation Excavation (70%)	- cys
Borrow	265 cys
Total Waterway Excavation	890 cys
Excavation Unclassified	- cys
Benching (Estimated)	300 cys

No direct payment for Benching. Benching will not be paid for as Common Excavation

COMPOSITE PRE-STRESSED CONCRETE
BULB-TEE BEAM BRIDGE
1 SPAN @ 68'-0"
CLEAR ROADWAY 39'-4"; 15°00'00" SKEW LT.
SR 9 OVER MUD CREEK
MADISON COUNTY

NOTE:
See Index Sheet for Alignment Reference Ties
See Plan & Profile for Benchmark Data

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: RD DRAWN: LPK

CHECKED: KMS CHECKED: KMS

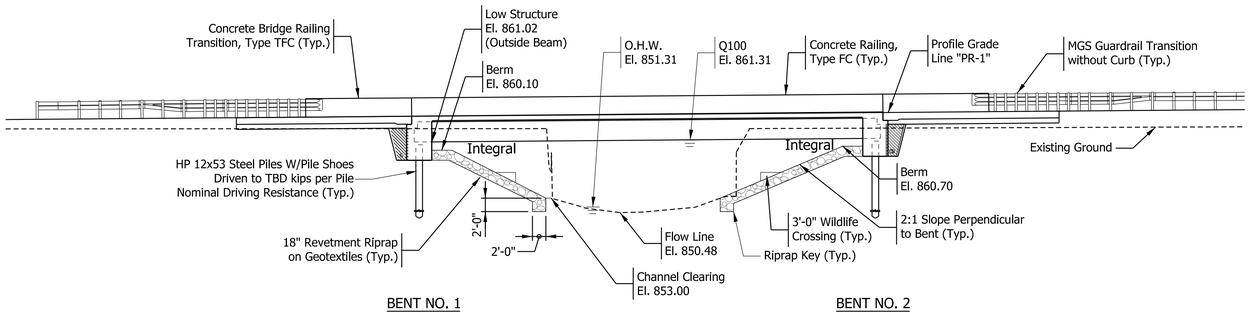
INDIANA
DEPARTMENT OF TRANSPORTATION

LAYOUT

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	009-48-10798
VERTICAL SCALE	DESIGNATION
1" = 10'	2100572
SURVEY BOOK	SHEETS
ELECTRONIC	10 of 22
CONTRACT	PROJECT
B-43949	2100572

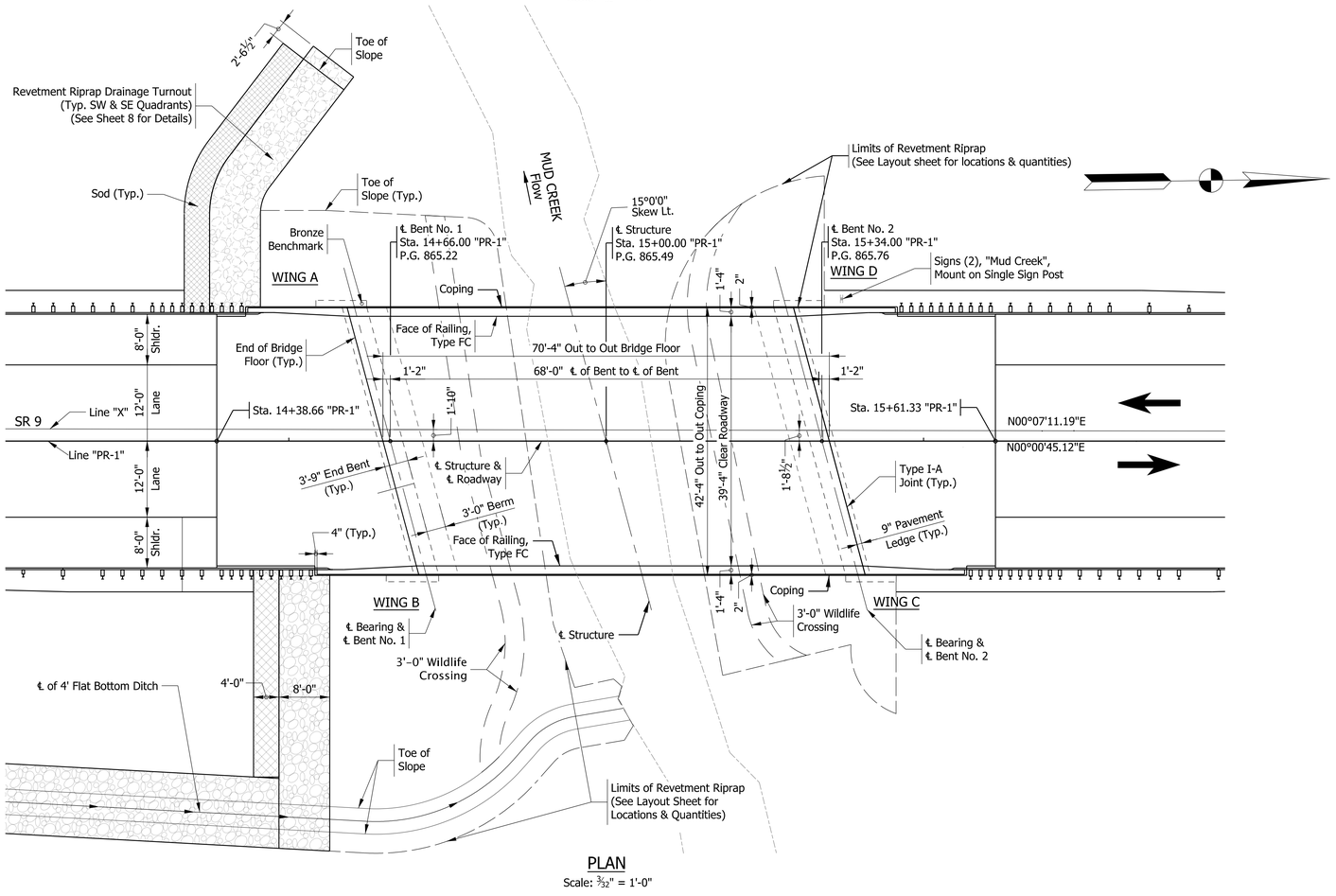
Plot: 11/13/2024 10:43 AM
File: K:\IND_Structures\170268010_SR 9 over Mud Creek Bridge Replacement (2100572)\4 Plan Development\2100572_BR_SR 9 over Mud Creek\Plan Sheets\BR_2100572_Layout.dgn
Model:SHEET MODEL

STRUCTURE TO BE BUILT ON +0.80% GRADE



ELEVATION

Scale: $\frac{3}{32}$" = 1'-0"



PLAN

Scale: $\frac{3}{32}$" = 1'-0"

GENERAL NOTES

Reinforcing steel cover shall be 2 1/2" in top and 1" minimum in bottom of floor slab and 2" in all other parts, unless noted.

DESIGN DATA

Designed for HL-93 loading, in accordance with AASHTO LRFD bridge Design Specifications, Ninth Edition, 2020 and its subsequent revisions.

DEAD LOAD

Actual weight plus 35 lb/ft² for future wearing surface and 15 lb/ft² for permanent metal deck forms.

FLOOR SLAB

Designed with a 7½" structural depth plus ½" sacrificial wearing surface.

DESIGN STRESSES

CONCRETE

Class C	f'c	= 4,000 psi
Class A	f'c	= 3,500 psi

REINFORCING STEEL

Grade 60	f'y	= 60,000 psi

CONSTRUCTION LOADING

The exterior beam has been checked for strength, deflection, and overturning using the construction loads shown below. Cantilever overhang brackets were assumed for support of the deck overhang past the edge of the exterior beam. Finishing machine was assumed to be supported 6 in. outside the vertical coping form. The top overhang brackets were assumed to be located 6 in. past the edge of the vertical coping form. The bottom overhang brackets were assumed to be braced against the intersection of the beam bottom flange and web.

DECK FALSEWORK LOADS

Designed for 15 lb/ft² for permanent metal stay-in-place deck forms, removable deck forms, and 2-ft exterior walkway.

CONSTRUCTION LIVE LOAD

Designed for 20 lb/ft² extending 2 ft past the edge of coping and 75 lb/ft vertical force applied at a distance of 6 in. outside the face of coping over a 30-ft length of the deck centered with the finishing machine.

FINISHING-MACHINE LOAD

4500 lb distributed over 10 ft along the coping.

WIND LOAD

Designed for 70 mph horizontal wind loading in accordance with LRFD 3.8.1.

SEISMIC DESIGN DATA

Seismic Performance Zone	Zone 1
Acceleration Coefficient	0.106
Seismic Soil Profile	Site Class D

COMPOSITE PRE-STRESSED CONCRETE BULB-TEE BEAM BRIDGE
1 SPAN @ 68'-0"
CLEAR ROADWAY 39'-4"; 15°00'00" SKEW LT.
SR 9 OVER MUD CREEK
MADISON COUNTY

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: RD DRAWN: LPK

CHECKED: KMS CHECKED: KMS

INDIANA DEPARTMENT OF TRANSPORTATION

GENERAL PLAN

HORIZONTAL SCALE	BRIDGE FILE
$\frac{3}{32}$"= 1'-0"	009-48-10798
VERTICAL SCALE	DESIGNATION
$\frac{3}{32}$"= 1'-0"	2100572
SURVEY BOOK	SHEETS
ELECTRONIC	11 of 22
CONTRACT	PROJECT
B-43949	2100572

Plot: 11/13/2024 10:44 AM

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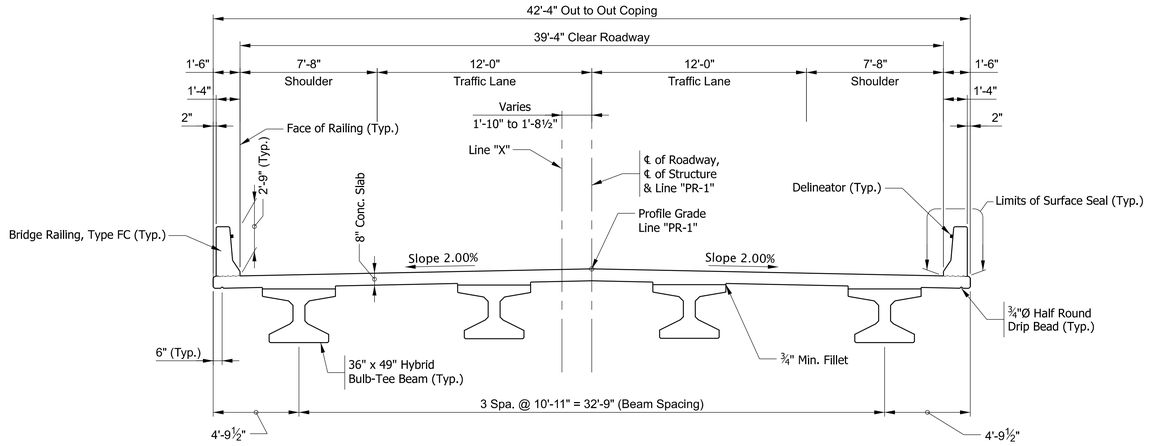
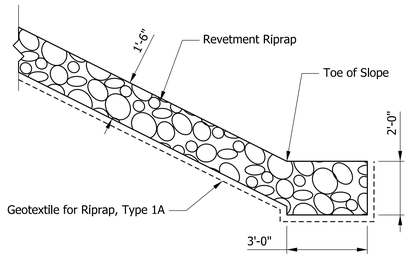
Model:SHEET MODEL



TYPICAL SECTION

Scale: ¼" = 1'-0"



RIPRAP DRAINAGE TURNOUT TYPICAL KEY

Scale: ⅜" = 1'-0"

RIPRAP DRAINAGE TURNOUT TYPICAL SECTION

Scale: ⅜" = 1'-0"

COMPOSITE PRE-STRESSED CONCRETE
BULB-TEE BEAM BRIDGE
1 SPAN @ 68'-0"
CLEAR ROADWAY 39'-4"; 15°00'00" SKEW LT.
SR 9 OVER MUD CREEK
MADISON COUNTY

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: RD DRAWN: LPK

CHECKED: KMS CHECKED: KMS

INDIANA
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN

HORIZONTAL SCALE	BRIDGE FILE
¼" = 1'-0"	009-48-10798
VERTICAL SCALE	DESIGNATION
¼" = 1'-0"	2100572

SURVEY BOOK	SHEETS
ELECTRONIC	12 of 22
CONTRACT	PROJECT
B-43949	2100572

Plot: 11/13/2024 10:44 AM

File: K:\IND_Structures\170268010_SR 9 over Mud Creek Bridge Replacement (2100572)\4 Plan Development\2100572_BR_SR 9 over Mud Creek\Plan Sheets\BR_2100572_General Plan-Typ Section.dgn
Model: Default

SUMMARY OF BRIDGE QUANTITIES

ITEM	CONCRETE				CONCRETE RAILING CLASS C	REINF. BARS	REINF. BARS, EPOXY COATED	RAILING STEEL	BARRIER DELIN-EATORS	REINF. CONC. BRIDGE APPROACH (SIZE)	DENSE GRADED SUBBASE	STRUCT. STEEL	ANCHOR PLATES MK-AP	PILES										GRATES BASINS, & FITTINGS, CAST IRON	EXP. JOINT TYPE __	CONC. STR. MEMBERS		SURFACE SEAL**	
	CLASS C	CLASS A	CLASS B											STEEL PIPE (SIZE)	STEEL PIPE EPOXY COATED (SIZE)	STEEL H (SIZE)	STEEL H EPOXY COATED	STEEL H REINF. CONC. ENCASED	TEST PILE, DYNAMIC, PRODUCTION	TEST PILE, DYNAMIC, RESTRIKE	PILE SHOE (SIZE)	PILE TIP STEEL H (SIZE)	CORED HOLE IN ROCK				BOX BEAM TYPE & SIZE	I BEAM TYPE & SIZE	
	SUPERSTR	SUBSTR	ABOVE FTG.	IN FTG.																		NO.						
	CYS	CYS	CYS	CYS	CYS	LBS	LBS	LFT	EACH	SYS	CYS	LBS	EACH	LFT	LFT	LFT	LFT	LFT	LFT	EACH	EACH	EACH		LFT	LBS	LFT	LFT	LFT	SFT	
TOTALS																														

** Estimated Quantity

		RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE		INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE: N/A; BRIDGE FILE: 009-48-10798; VERTICAL SCALE: N/A; DESIGNATION: 2100572
		DESIGNED: RD	DRAWN: LPK	BRIDGE SUMMARY	SURVEY BOOK; SHEETS: ELECTRONIC 13 of 22; CONTRACT; PROJECT: B-43949; 2100572
		CHECKED: AGP	CHECKED: AGP		

Plot: 11/13/2024 10:44 AM

File: K:\IND_Structures\170268010_SR 9 over Mud Creek Bridge Replacement (2100572)\4 Plan Development\2100572_BR_SR 9 over Mud Creek\Plan Sheets\BR_2100572_Bridge Summary.dgn
Model: BRIDGE SUMMARY

PAVEMENT QUANTITIES AND APPROACH TABLE

LOCATION	DESCRIPTION (APPROACH TYPE OR CLASS)	WIDTH	LENGTH	RADII	DISTANCE BEYOND R/W LINE	SURFACE BEYOND R/W LINE			GRADE				EXCAVATION		CLEAR ZONE AT DRIVE	HMA FOR APPROACHES				HMA MATERIALS					HMA BASE 25 mm	SEAL COAT TYPE 2	SEAL COAT TYPE 5	HMA MATERIAL FOR:		COMPACTED AGGREGATE FOR BASE NO. 53				COMPACTED AGGREGATE FOR SURFACE NO. 73							REMARKS
						COMPACTED AGGREGATE BASE	HMA	CONCRETE	1	2	3	4	CUT	FILL						SURFACE 9.5 mm		INTERMD. 19.0 mm		BASE 25.0 mm				PRIME COAT	TACK COAT										
																LBS. PER SYD.				LBS. PER SYD.										DEPTH				DEPTH							
		FT	FT	FT	FT	SYS	SYS	SYS	%	%	%	%	CYS	CYS	FT	SYS	SYS	SYS	SYS	SYS	SYS	SYS	SYS	SYS	TONS	SYS	SYS	SYS	SYS	SYS	SYS	SYS	SYS	SYS	SYS	SYS				

PAVEMENT MARKINGS SUMMARY OF QUANTITIES

LOCATION	LINE PAINT		LINE EPOXY				LINE EPOXY				TRANSVERSE MARKINGS THERMOPLASTIC STOP LINE		TRANSVERSE MARKINGS CROSSHATCH LINE		TRANSVERSE MARKINGS CROSSWALK LINE		PAVEMENT MESSAGE THERMOPLASTIC LANE INDICATION ARROW	PAVEMENT MESSAGE THERMOPLASTIC WORD "ONLY"	SNOWPLOWABLE RAISED PAVEMENT MARKERS
	SOLID WHITE 4 in	SOLID YELLOW 4 in	SOLID WHITE 4 in	SOLID YELLOW 4 in	SOLID WHITE 8 in	SOLID YELLOW 8 in	BROKEN WHITE 4 in	BROKEN YELLOW 4 in	BROKEN WHITE 8 in	BROKEN YELLOW 8 in	SOLID WHITE 12 in	SOLID WHITE 24 in	SOLID YELLOW 24 in	SOLID YELLOW 24 in	SOLID WHITE 4 in	SOLID WHITE 8 in			
	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	EACH	EACH	EACH

GUARDRAIL SUMMARY TABLE

LOCATION						MGS W-BEAM GUARDRAIL LENGTH					GUARDRAIL END TREATMENT, OS, 31"	GUARDRAIL, MGS TRANSITION WITHOUT CURB	LINEAR GRADING	GUARDRAIL REMOVE	MGS TERMINAL SYSTEM		REMARKS
FROM STATION	TO STATION	LEFT	MEDIAN LEFT	MEDIAN RIGHT	RIGHT	MGS W-BEAM, 6 FT 3 IN. SPA.	STANDARD POST AT 3 FT 1.5 IN. SPA.	DOUBLE FACED AT 6 FT 3 IN. SPA.	DOUBLE FACED AT 3 FT 1.5 IN. SPA.	SHOP CURVED AT ____FT. SPA.					CABLE TERMINAL ANCHOR		
		LFT	LFT	LFT	LFT	LFT	LFT	LFT	LFT	LFT	EACH	EACH	LFT	LFT	EACH	EACH	
TOTALS																	

Right-of-Way Markers and Monuments Table

LOCATION					Monuments				REMARKS
Station	Left	Center	Right	Offset	A	B	C	D	
					Each	Each	Each	Each	
TOTAL									

PAVED SIDE DITCH, RIPRAP DITCH, AND SODDING SUMMARY TABLE

LOCATION					PAVED SIDE DITCH								RIPRAP DITCH			SODDING						NURSERY SODDING FOR LAWNS
FROM STATION	TO STATION	LEFT	MEDIAN	RIGHT	ACTUAL LENGTH	CUT OFF WALLS (8' EQUIVAL. LENGTH EACH)	LUGS (8' EQUIVAL. LENGTH EACH)	TOTAL EQUIVALENT PAY LENGTHS TYPE					REVETMENT RIPRAP	UNIFORM RIPRAP	GEOTEXTILES	FOR PAVED SIDE DITCHES	FOR DITCHES	FOR MEDIAN	FOR SHOULDER BREAK	SODDING AT BRIDGE CONE	TOTAL SODDING	
					LFT	EACH	EACH	LFT	LFT	LFT	LFT	LFT	TONS	TONS	SYS	SYS	SYS	SYS	SYS	SYS	SYS	SYS

STRUCTURE DATA TABLE

STRUCTURE NUMBER	LOCATION				SIZE	DESCRIPTION		LENGTH	SKEW	FLOW LINE			SERVICE LIFE	SITE DESIGNATION	pH	BACKFILL METHOD	STRUCTURE BACKFILL TYPE		REVETMENT RIPRAP	CONCRETE, CLASS A, FOR STR.	VIDEO INSPECTION	PIPE END SECTION	GRATED BOX END SECTION			SAFETY METAL END SECTION			REMARKS
	STATION	LEFT	RIGHT	CROSS		PIPE TYPE	MANHOLE, INLET, CATCH BASIN, OR SPECIALTY STRUCTURE AND TYPE			COVER	UP STREAM	DOWN STREAM																	
					IN.			LFT		FT	ELEV.	ELEV.	YR				TYPE	CYS	TON	CYS	LFT	EA.	TYPE	SLOPE	EA.	TYPE	SLOPE	EA.	