

Kenton C. Ward, CFM
Surveyor of Hamilton County
Phone (317) 776-8495
Fax (317) 776-9628

Suite 188
One Hamilton County Square
Noblesville, Indiana 46060-2230

To: Hamilton County Drainage Board

March 12, 2020

Re: Benton Hinesley Drain – Lamong Road Replacement of Small Structure 31056

Attached are plans, and other information for the Lamong Road Improvement project. An inspection of the drainage facilities for this project has been made and the facilities were found to be complete and acceptable.

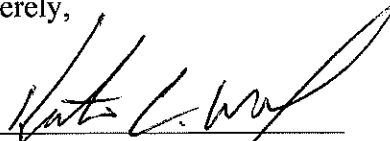
This report will serve as an initial and final report for this construction. This road project occurred approximately 715 feet north of the intersection of 246th Street and Lamong Road. The work is reflected on plans prepared by USI Consultants for the Hamilton County Highway Department. The plans are dated September 10, 2013 and have a project number of PB-11-0004.

The Benton Hinesley Drain was altered during this project. The new small bridge structure was installed approximately 60 feet south of the previously installed structure under Lamong Rd. With the installation of the new structure the roadside ditch was regraded. In this regrading, the project removed approximately 115 feet of an existing grass water way installed on the west side of Lamong Road in 1995 as part of the Marion Adams School Arm Reconstruction project. (See report dated for May 14, 1993; DRB. 3, PG. 134)

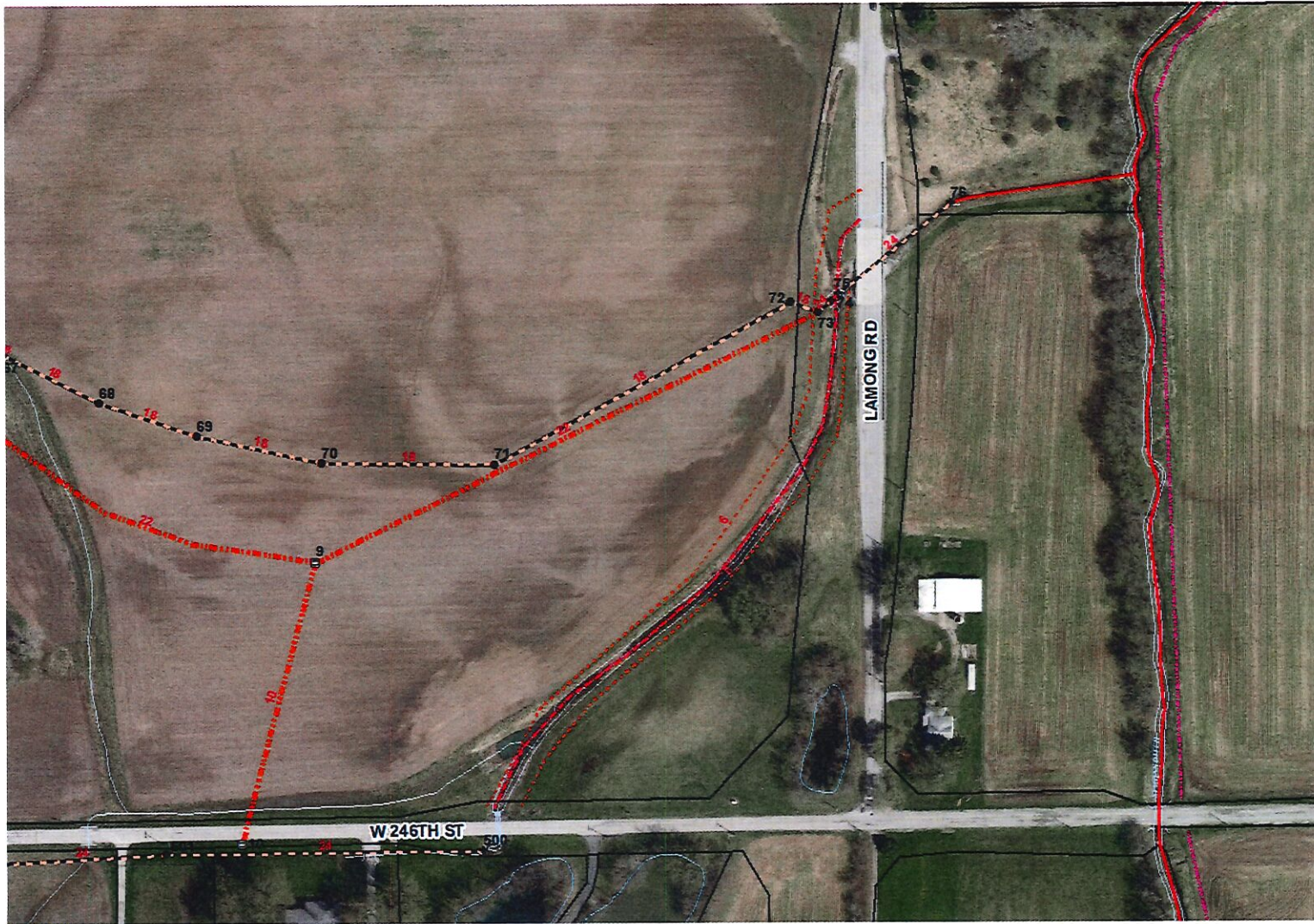
The new small bridge structure installed further south crossed an existing 24" RCP. The existing drain was installed in 2008 with the Sheridan Elementary Arm (See report dated for April 21, 2008; DRB 11, PGS.217-218). The 184 feet of existing 24" RCP between structures 75-76 was replaced with 184 feet of open ditch. The length of the drain due to the changes described above is now **0 feet**.

This project was paid for by the Hamilton County Highway Department and work was conducted within existing drain easements and road right of way. I recommend the Board approve the drain's construction as complete and acceptable.

Sincerely,

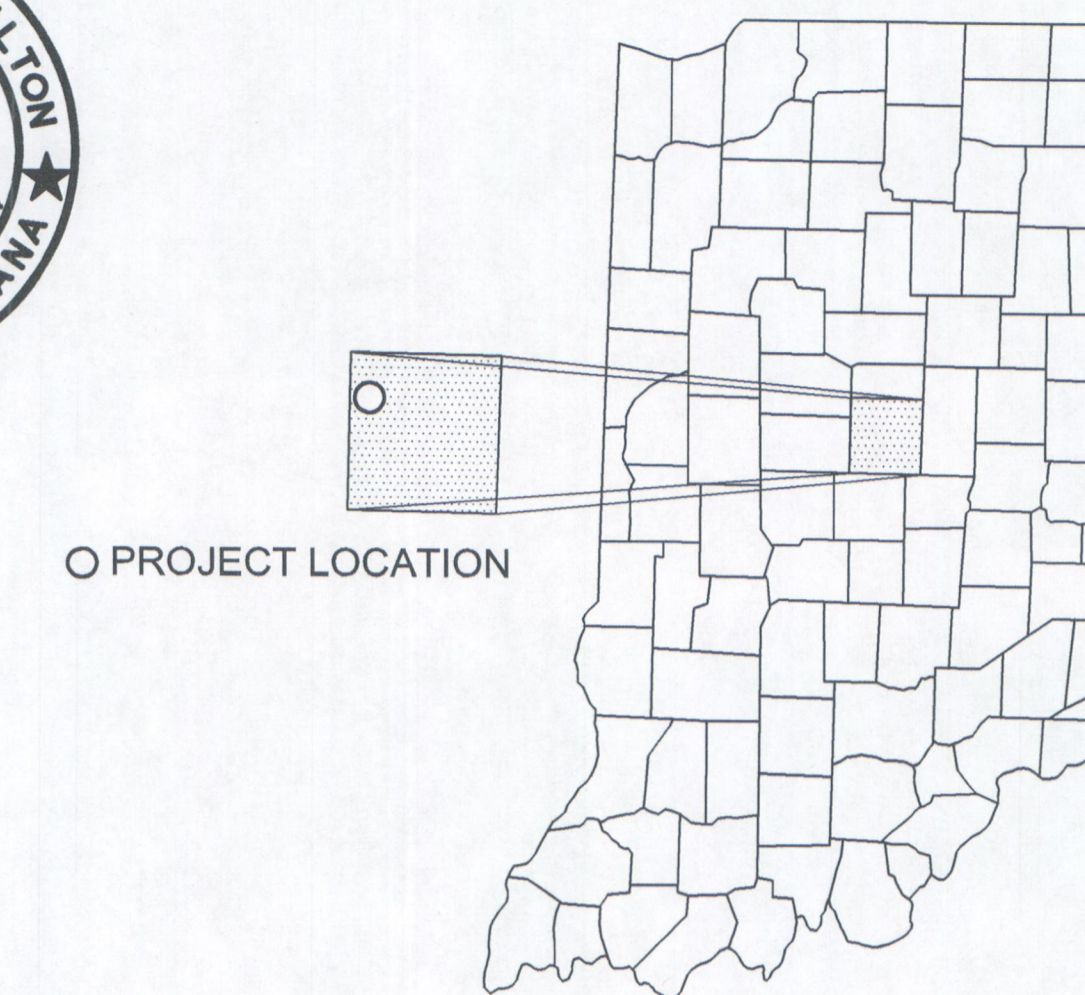
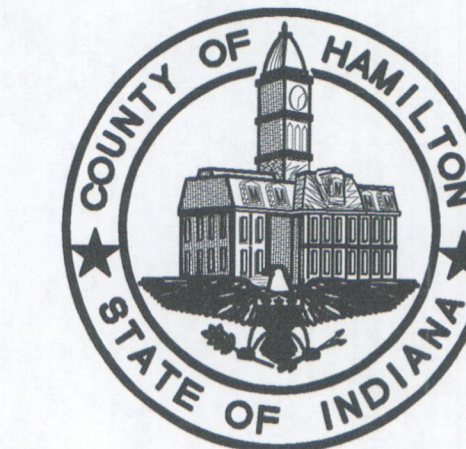
A handwritten signature in black ink, appearing to read "Kenton C. Ward", written over a horizontal line.

Kenton C. Ward,
Hamilton County Surveyor



STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
Hamilton Co. Bridge No. 292	Reinforced Concrete Slab Bridge	1 Span @ 25'-0" 40' Skew Lt.	Benton Hinesley Drain	13+62.00 "PR" & Structure

HAMILTON COUNTY, INDIANA



O PROJECT LOCATION

REPLACEMENT PLAN OF SMALL STRUCTURE 31056 (BRIDGE NO. 292) LAMONG ROAD/BENTON HINESLEY DRAIN ADAMS TOWNSHIP PB-11-0004

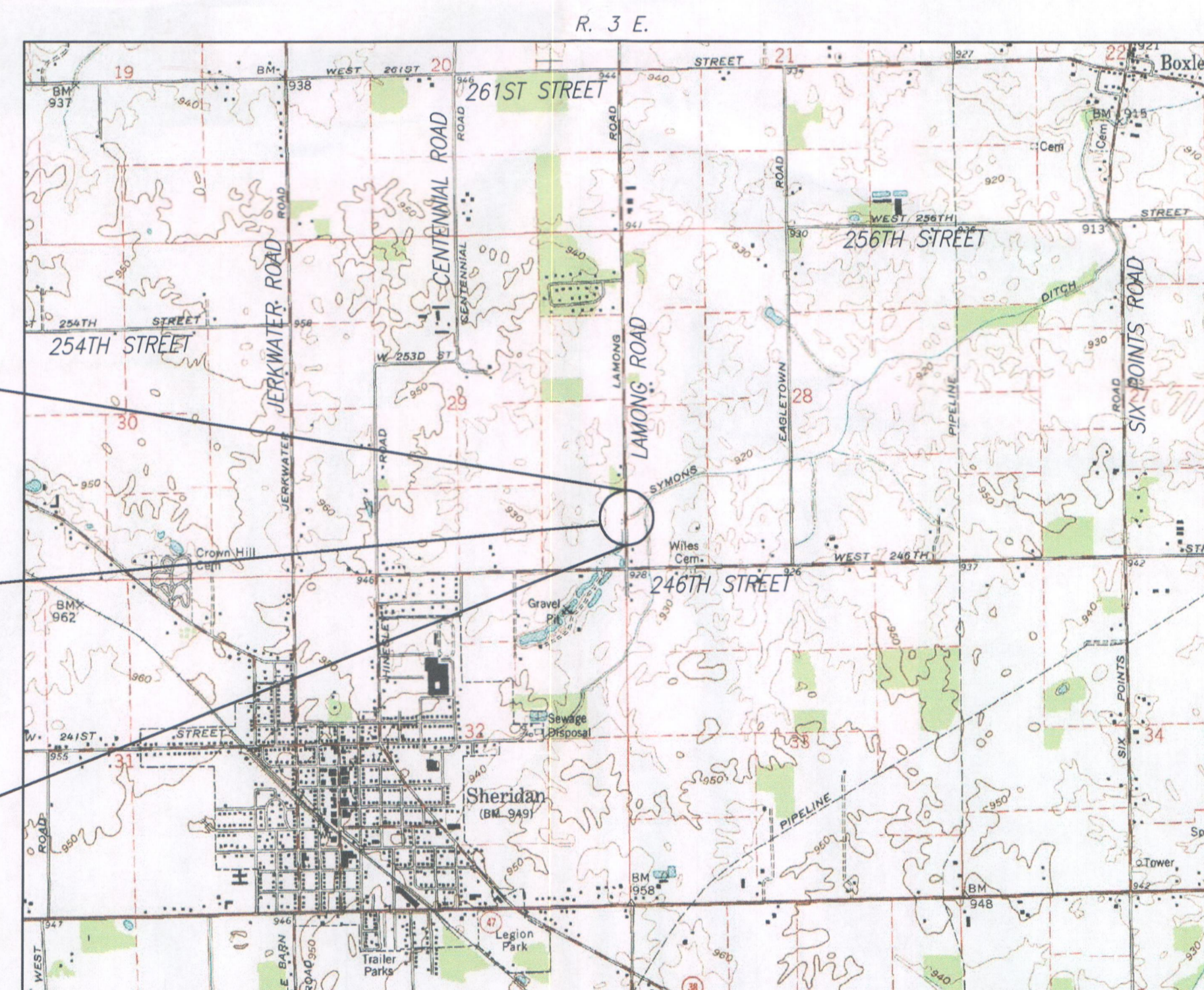
REPLACEMENT OF HAMILTON COUNTY SMALL STRUCTURE NO. 31056 (BRIDGE NO. 292)
LAMONG ROAD OVER BENTON HINESLEY DRAIN 700 FEET NORTH OF 246TH STREET IN SECTIONS 28 & 29, T 20 N., R 3 E,
ADAMS TOWNSHIP, HAMILTON COUNTY, INDIANA

SMALL STRUCTURE NO. 31056 (BRIDGE NO. 292)
LAMONG ROAD OVER BENTON HINESLEY DRAIN
Latitude: 40°08'47.3" N
Longitude: 86°12'14.8 W

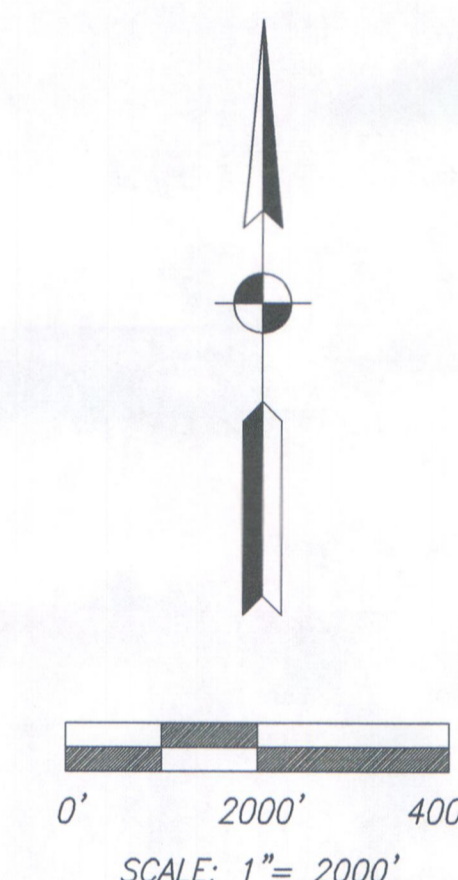
TRAFFIC DATA	
A.D.T. (2012)	470 V.P.D.
A.D.T. (2033 PROJECTED)	675 V.P.D.
DESIGN SPEED	55 M.P.H.
ACCESS CONTROL	NONE
LOCAL FUNCTIONAL CLASSIFICATION	PRIMARY ARTERIAL
REGULATED DRAIN	YES-OPEN STREAM

INDEX	
SHEET NO.	SUBJECT
1	TITLE AND INDEX
2	TYPICAL CROSS SECTION
3	MISCELLANEOUS DETAILS
4	PLAN PROFILE
5	SOIL BORINGS
6	EROSION CONTROL PLAN
7	LAYOUT SHEET
8	GENERAL PLAN
9-10	END BENT DETAILS
11-12	SUPERSTRUCTURE DETAILS
13	SCREED DETAILS
14-15	APPROACH SLAB DETAILS
16	BRIDGE SUMMARY
17-22	CROSS SECTIONS-LINE "A"
23-24	CROSS SECTIONS-LINE "BR"

Bridge Length: 0.005 mi.
Roadway Length: 0.094 mi.
Total Length: 0.099 mi.
Max Grade: 1.08%



LOCATION MAP



APPROVED BY
HAMILTON COUNTY BOARD OF COMMISSIONERS

Steven C. Dillinger
STEVEN C. DILLINGER, PRESIDENT

Christine Altman
CHRISTINE ALTMAN, VICE-PRESIDENT

Mark E. Heirbrandt
MARK E. HEIRBRANDT, MEMBER

ATTEST DATE 14 Oct. 2013

Dawn Coverdale
DAWN COVERDALE, COUNTY AUDITOR

RECOMMENDED FOR APPROVAL DATE 14 OCT 2013

Jim Neal
JIM NEAL, PE, COUNTY HIGHWAY ENGINEER

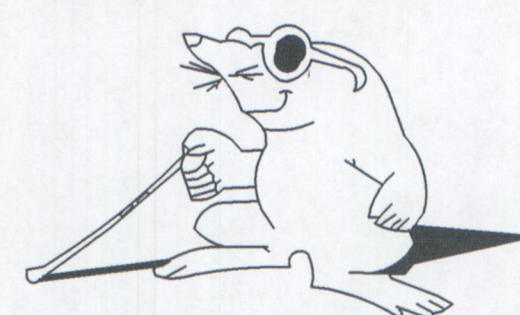
Plans Prepared By:
USI 8415 E. 56th Street
Indianapolis, Indiana 46216
Phone: (317) 544-4996
CONSULTANTS Fax: (317) 544-4997

Paul R. Aikins
PAUL R. AIKINS

DATE September 10, 2013



"DON'T DIG BLIND"

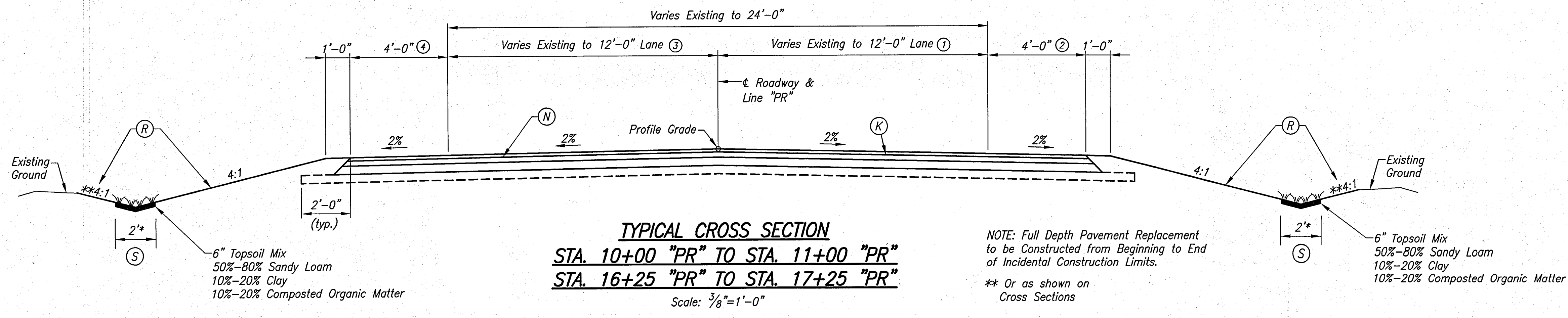


1-800-382-5544
CALL BEFORE YOU DIG

CAUTION !!

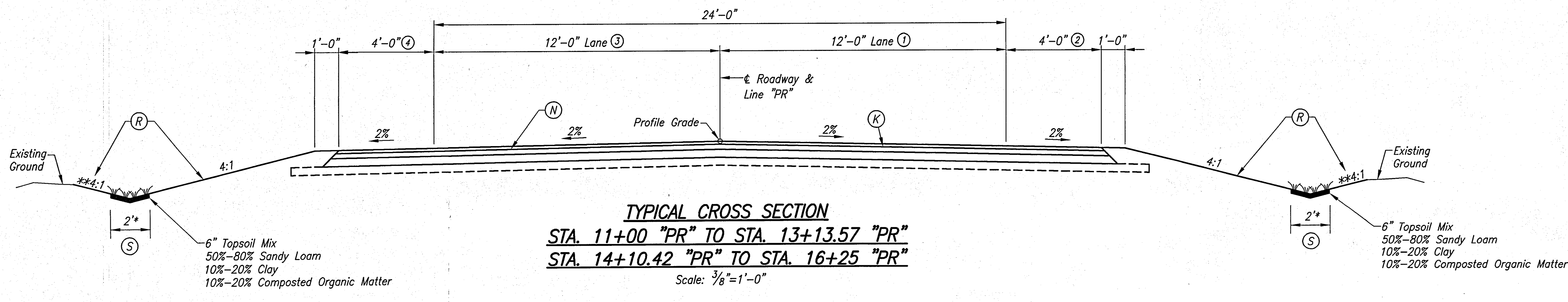
THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED UPON ABOVE GROUND EVIDENCE (including, but not limited to, manholes, inlets, valves, and marks made upon the ground by others) AND ARE SPECULATIVE IN NATURE. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF SAID EXISTING UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.

[INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2014
TO BE USED WITH THESE PLANS]

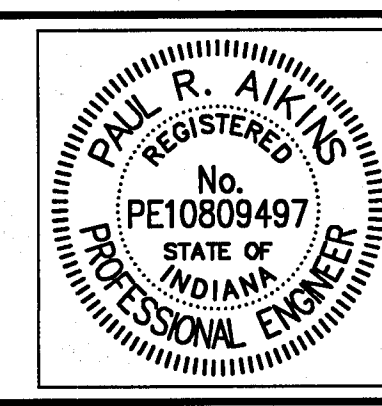
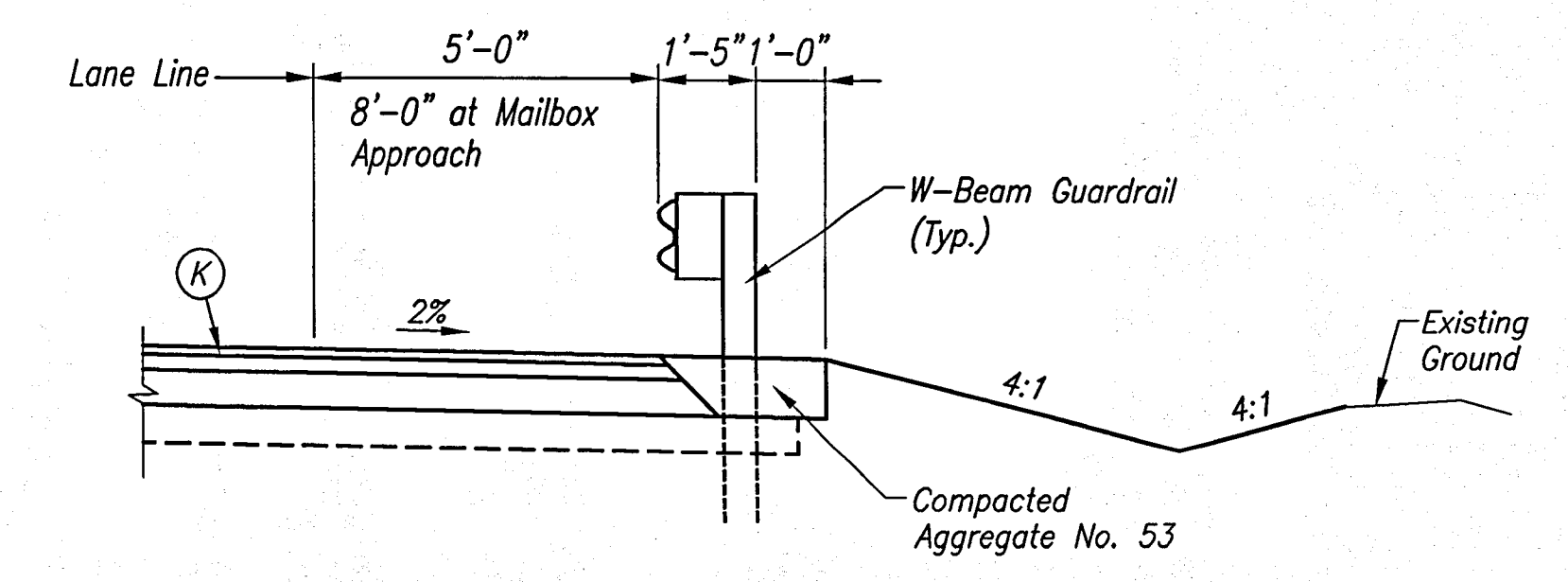


- LEGEND**
- (K) HMA FULL DEPTH PAVEMENT
 165#/SYD HMA Surface, Type "A" on
 275#/SYD HMA Intermediate, Type "A" on
 440#/SYD HMA Base, Type "A" on
 Subgrade Treatment Type IIIA, Aggregate only
 (Proof Roll Required)
 - (N) Tack Coat
 - (R) VEGETATIVE BUFFER
 Erosion Control Blankets with Seeding, "R"
 (see Erosion Control Details & Specifications)
 - (S) VEGETATIVE SWALE
 Erosion Control Blankets with Swale Seeding
 (see Erosion Control Details & Specifications)

* Vegetative Swale width is 2' when side slopes are 4:1.
 Width will need to be adjusted where slopes are flatter than 4:1 such that a minimum swale depth of 0.25' is provided.



- Ⓞ Varies 10'-1" at Sta. 10+00 "PR" to 12'-0" at Sta. 11+00 "PR"
- Ⓞ Varies 9'-9" at Sta. 10+00 "PR" to 12'-0" at Sta. 11+00 "PR"
- Ⓞ Varies 1'-0" at Sta. 10+00 "PR" to 4'-0" at Sta. 11+00.00 "PR"
- Ⓞ Varies 1'-0" at Sta. 10+00 "PR" to 12'-0" at Sta. 11+00 "PR"
- Ⓞ Varies 1'-0" at Sta. 10+00 "PR" to 4'-0" at Sta. 11+00.00 "PR"
- Ⓞ Varies 10'-1" at Sta. 11+00 "PR" to 12'-0" at Sta. 13+13.57 "PR"
- Ⓞ Varies 9'-9" at Sta. 11+00 "PR" to 12'-0" at Sta. 13+13.57 "PR"
- Ⓞ Varies 1'-0" at Sta. 11+00.00 "PR" to 4'-0" at Sta. 11+67.07 "PR"
- Ⓞ Varies 12'-0" at Sta. 11+00 "PR" to 12'-0" at Sta. 13+13.57 "PR"
- Ⓞ Varies 12'-0" at Sta. 11+00 "PR" to 12'-0" at Sta. 13+13.57 "PR"
- Ⓞ Varies 1'-0" at Sta. 11+00.00 "PR" to 4'-0" at Sta. 11+67.07 "PR"
- Ⓞ Varies 12'-0" at Sta. 14+10.42 "PR" to 12'-0" at Sta. 16+25.0 "PR"
- Ⓞ Varies 12'-0" at Sta. 14+10.42 "PR" to 12'-0" at Sta. 16+25.0 "PR"
- Ⓞ Varies 5'-0" at Sta. 11+67.07 "PR" to 5'-0" at Sta. 13+13.57 "PR"
- Ⓞ Varies 5'-0" at Sta. 11+67.07 "PR" to 5'-0" at Sta. 13+13.57 "PR"
- Ⓞ Varies 5'-0" at Sta. 14+10.42 "PR" to 5'-0" at Sta. 15+31.25 "PR"
- Ⓞ Varies 5'-0" at Sta. 14+10.42 "PR" to 5'-0" at Sta. 15+31.25 "PR"
- Ⓞ Varies 5'-0" at Sta. 15+31.25 "PR" to 8'-0" at Sta. 15+91.25 "PR"
- Ⓞ Varies 5'-0" at Sta. 15+31.25 "PR" to 8'-0" at Sta. 15+91.25 "PR"
- Ⓞ Varies 4'-0" at Sta. 16+25.00 "PR" to 1'-0" at Sta. 17+25 "PR"
- Ⓞ Varies 8'-0" at Sta. 15+91.25 "PR" to 8'-0" at Sta. 16+23.12 "PR"
- Ⓞ Varies 8'-0" at Sta. 16+23.12 "PR" to 3'-2" at Sta. 16+47.25 "PR"
- Ⓞ Varies 3'-2" at Sta. 16+47.25 "PR" to 1'-0" at Sta. 17+25.00 "PR"



RECOMMENDED FOR APPROVAL *PRA* 11-15-13
 DESIGN ENGINEER DATE

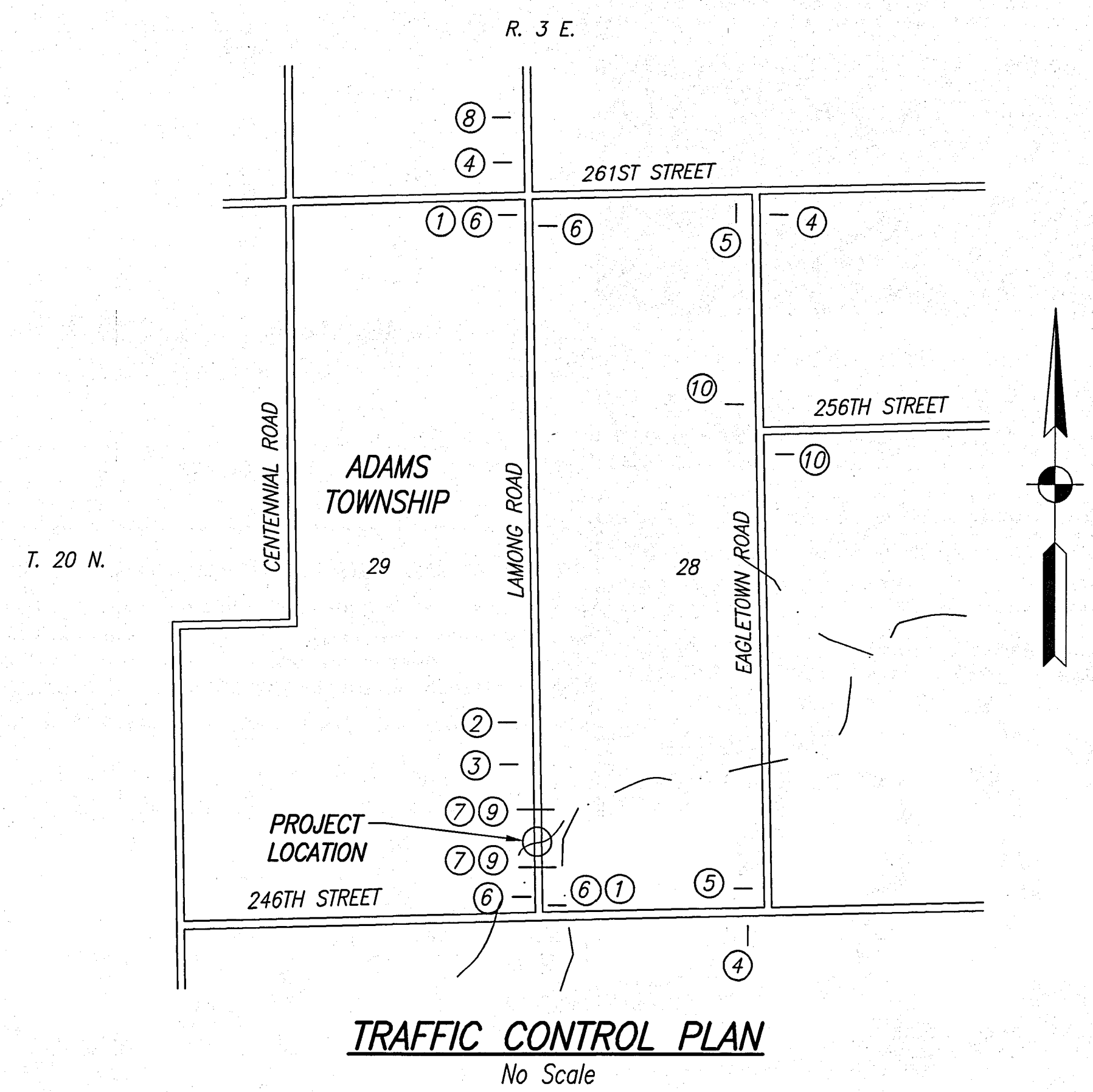
DESIGNED: PRA DRAWN: DWB
 CHECKED: MJH CHECKED: PRA

HAMILTON COUNTY
 BRIDGE NO. 292

TYPICAL CROSS SECTION

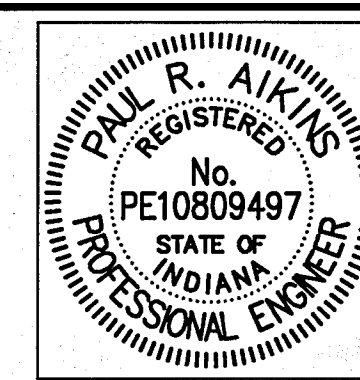
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 292
VERTICAL SCALE	DESIGNATION
AS NOTED	-
SURVEY BOOK	SHEETS
-	2 of 24
CONTRACT	PROJECT
-	PB-11-0004

PAVEMENT MARKINGS				
DESCRIPTION	COLOR	LOCATION	LENGTH (Lft.)	PAY LENGTH (Lft.)
Line, Paint, Solid, 4"	Yellow	10+00 to 17+25 "PR" Lt. & Rt. of Centerline	725	1450
		Total		1450
Line, Paint, Solid, 4"	White	10+00 to 17+25 "PR" Lt. & Rt. Lane Line	725	1450
		Total		1450



SIGN LEGEND				
SYMBOL	MESSAGE	NUMBER	TYPE	REQ'D.
①	LAMONG ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY	R11-3	A	2
	DETOUR(R or L)	XM4-10	B	2
②	ROAD CONSTRUCTION AHEAD	XW20-1	A	1
③	ROAD CLOSED 500 FT.	XW20-3	A	1
④	DETOUR ROUTE MARKER ASSEMBLY (LEFT)			3
⑤	DETOUR ROUTE MARKER ASSEMBLY (RIGHT)			2
⑥	STANDARD BARRICADE TYPE III-B			48 Lft.
	ROAD CLOSURE SIGN ASSEMBLY			2 Each
⑦	STANDARD BARRICADE TYPE III-A			48 Lft.
	ROAD CLOSURE SIGN ASSEMBLY			2 Each
⑧	DETOUR AHEAD	XW20-2	A	1
⑨	ROAD CLOSED	R11-2	A	2
⑩	DETOUR ROUTE MARKER ASSEMBLY (STRAIGHT)			2

2-XG20-5 Signs to be placed at site a minimum of 10 business days prior to Road Closure. (2-Type "A" Signs req'd.)



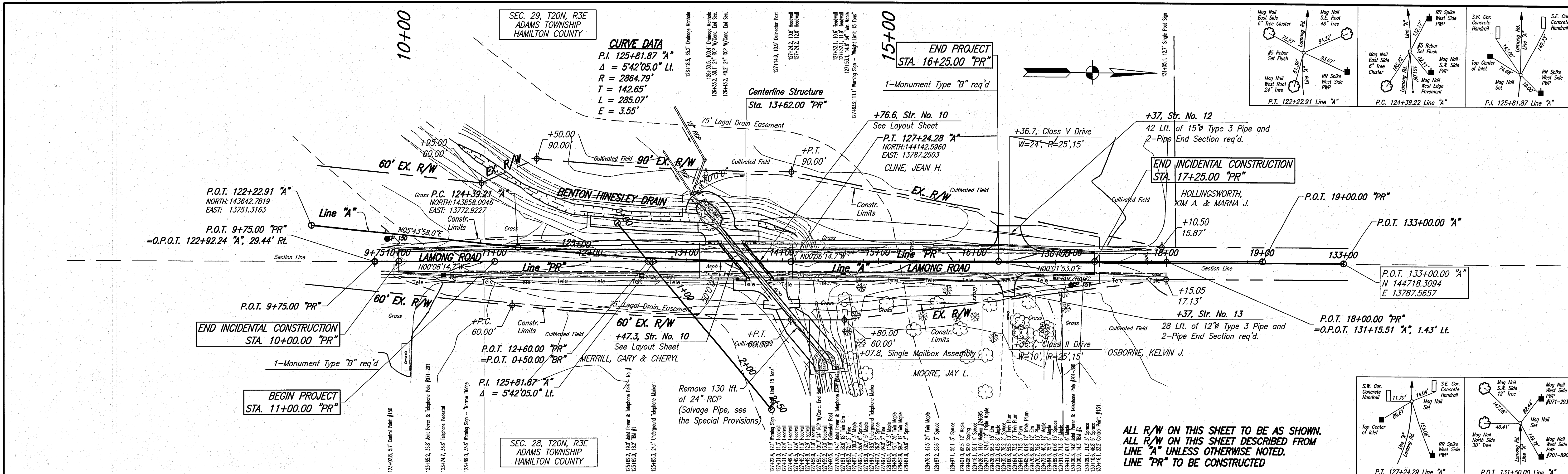
RECOMMENDED FOR APPROVAL: *P.R.A.* 11-15-13
DESIGN ENGINEER DATE

DESIGNED: PRA DRAWN: DWB
CHECKED: MJH CHECKED: PRA

HAMILTON COUNTY
BRIDGE NO. 292

MISCELLANEOUS DETAILS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 292
VERTICAL SCALE	DESIGNATION
AS NOTED	-
SURVEY BOOK	SHEETS
-	3 of 24
CONTRACT	PROJECT
-	PB-11-0004



- GUARDRAIL LEGEND**
- (A) Guardrail End Treatment, Type OS Req'd.
 - (B) Guardrail Transition TGS-1 Req'd.
 - (C) 31.25 Lft. Railing TS-1 Req'd.
 - (D) 31.25 Lft. W-Beam Guardrail Req'd.
 - (E) 125.00 Lft. W-Beam Guardrail Req'd.

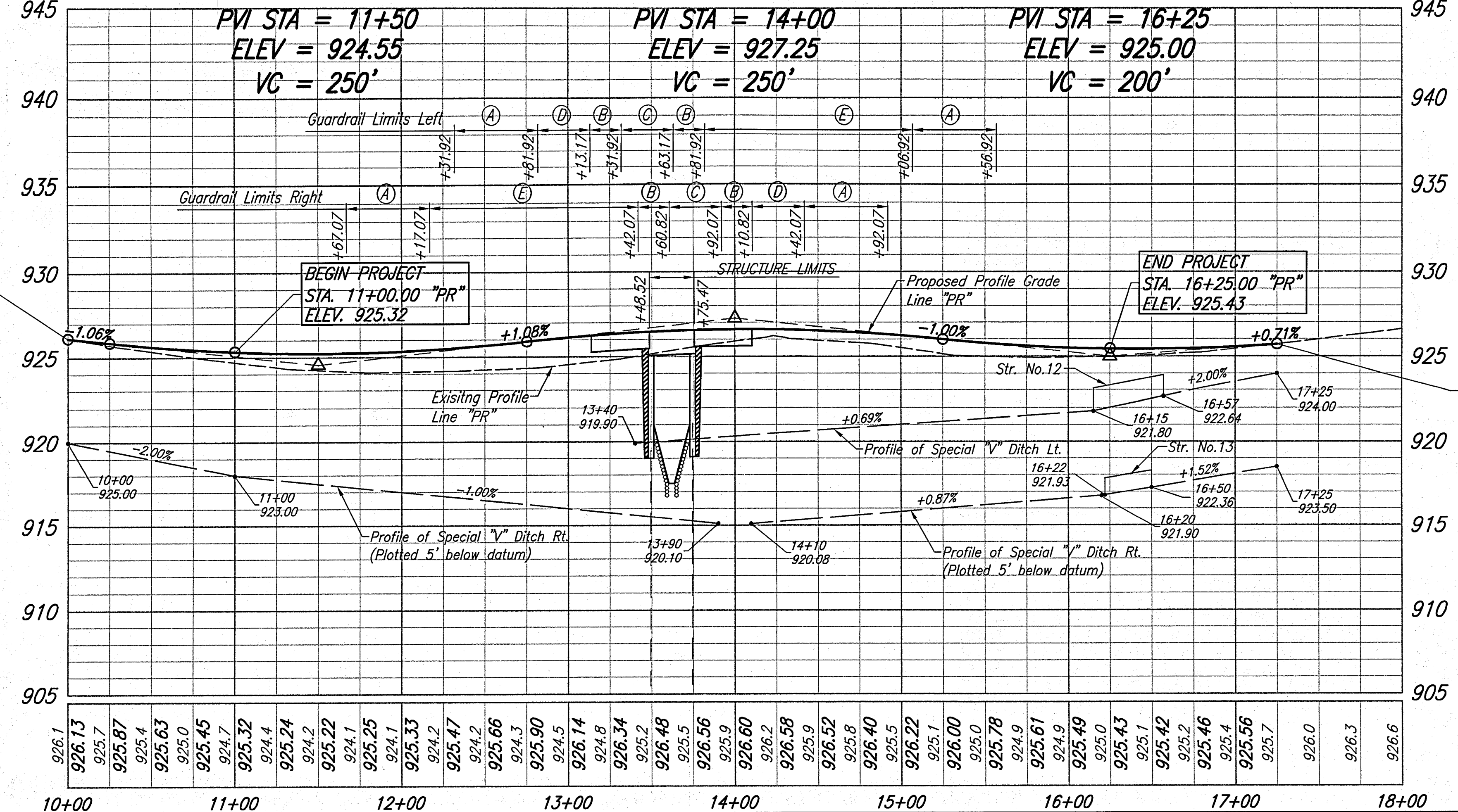
BEGIN INCIDENTAL CONSTRUCTION
 STA. 10+00.00 "PR"
 ELEV. 926.13

UTILITY OWNERS:

AT&T North Central
 Curtis Miller, Legal Mandate Engineer
 116 E. Taylor Street
 Kokomo, IN 46901
 Ph: 765-454-4054
 Fax: 765-454-5093
 Email: cm5432@att.com

Duke Energy
 Cindy Rowland, Major Projects
 100 S. Mill Creek Road,
 Noblesville, IN 46062
 Ph: 317-776-5341
 Cell: 317-431-4762
 Fax: 317-776-5330
 Email: cindy.rowland@duke-energy.com

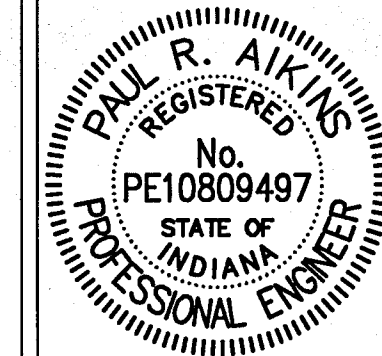
Swayzee Communications Corp
 Steve Boss
 214 S. Washington Street
 Swayzee, IN 46986
 General Ph: 765-922-7916
 Office: 317-758-4801
 Cell: 317-491-8688
 Fax: 765-922-4545
 Email: swayzee@swayzee.com



- BENCHMARKS**
- TBM#1 R/R Spike 1.0' up west side PWP#251-447 180'+/- south of c/l culvert 15'+/- east of c/l Lamong Rd., Sta. 125+69.87 "A", 18.2' Rt., Elev. 924.778'
- TBM#2 R/R spike 1.0' up west side PWP#201-890 150'+/- north of c/l culvert 15'+/- east of c/l Lamong Rd., Sta. 130+00.89 "A", 14.3' Rt., Elev. 925.775'
- TBM#17 - R.R. Spike north side Telephone Pole #23-1 located in front of House #2445 on south side 246th Street, 500'± west of Lamong Rd., Elev. 927.24'
- TBM#19 - R.R. Spike W Side Pwp. #071-290 in front of House #24601 E Side Lamong Rd., 200' N 246th St. Elev. 930.14'

NOTES

All Utilities have been relocated. The Utility locations shown on this sheet are their original locations, prior to relocation. See the Special Provisions for additional information.



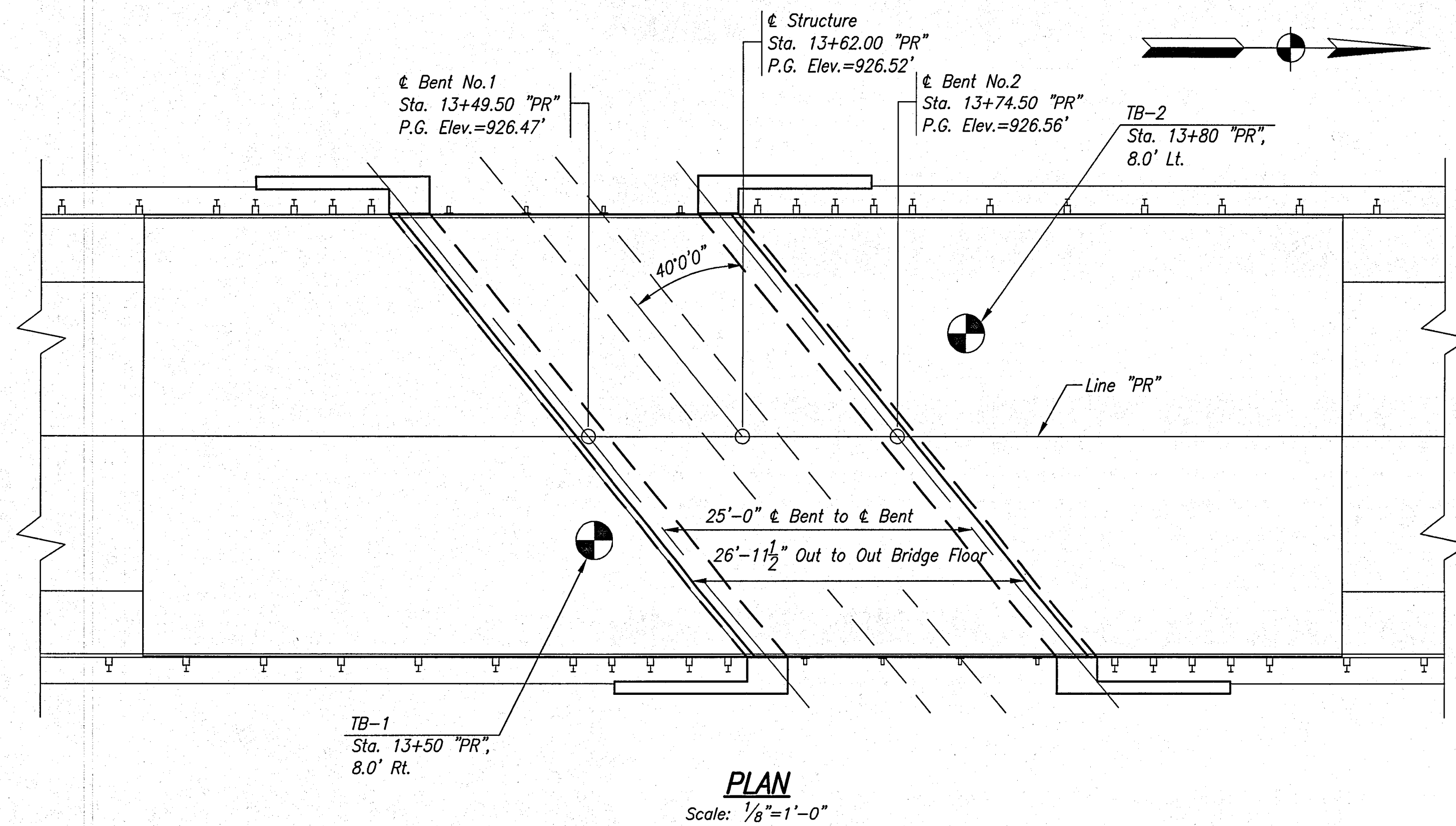
RECOMMENDED FOR APPROVAL *PRA* 11-15-13
 DESIGN ENGINEER DATE

DESIGNED: PRA DRAWN: DWB
 CHECKED: MJH CHECKED: PRA

HAMILTON COUNTY BRIDGE NO. 292

PLAN PROFILE LINE "PR"

HORIZONTAL SCALE 1"=50'	BRIDGE FILE HAMILTON 292
VERTICAL SCALE 1"=10'	DESIGNATION
SURVEY BOOK	SHEETS
CONTRACT	4 of 24
	PROJECT
	PB-11-0004



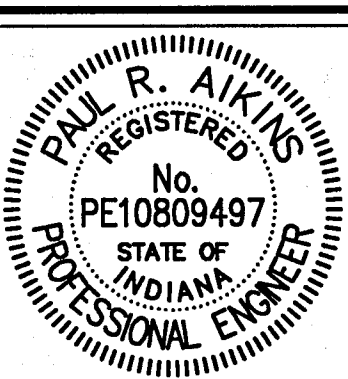
SUPPORT	BENT NO.1	BENT NO.2
PILE SIZE, TYPE, AND GRADE	14" Steel Encased Concrete Piles (Grade 50) (0.312")	14" Steel Encased Concrete Piles (Grade 50) (0.312")
MAX. DESIGN LOAD, Q _f (kips)	112	112
FACTORED DESIGN SOIL RESISTANCE, R _r (kips)	112	112
RESISTANCE FACTOR, Φ dyn	0.55	0.55
DOWNDRAW LOAD, DD (kips)	-	-
NOMINAL SOIL RESISTANCE, R _n (kips)	204	204
DOWNDRAW FRICTION, R _{sd} (kips)	0	0
SCOUR ZONE FRICTION, R _{sscour} (kips)	N/A	N/A
RELAXATION OF TIP IN SHALE, R _{relax} (kips)	0	0
NOMINAL DRIVING RESISTANCE, R _{ndr} (kips)	204	204
ESTIMATED PILE TIP ELEVATION (ft)	872.0	872.0
TESTING METHOD	INDOT Std. Spec. 701.05(a)	INDOT Std. Spec. 701.05(a)

LOG OF TEST BORING				Boring No.	TB-1
Project: Lamona Road over Benton-Hinesley Drain				Elevation	925
Location: Hamilton County, Indiana				Datum	USC & GS
Client: USI Consultants, Inc.				EEI Proj. No.	1-12-264
7770 West New York Street - Indianapolis, Indiana 46214				Sheet	1 of 2
317-273-1690 / 317-273-2250 (Fax)					
Proj. No.	Station	Weather	Sunny	Driller	C.H.
Struct. No.	Hamilton 292	Offset	8 ft Lt. "PR"	Inspector	
Temp.	88° F				
SAMPLE	DESCRIPTION/CLASSIFICATION and REMARKS	SOIL PROPERTIES			
No.	Rec %	N Value	Depth ft	q _s tsf	q _t tsf
SS-1	90	14	14		
ASPHALTIC CONCRETE, 6 in.					
GRANULAR SUBBASE					
SANDY LOAM, medium dense, brown (fill)					
SS-2	65	5	5	1.25	32.0
SILTY CLAY, stiff, brown and gray					
SS-3	100	10	10		
SAND, loose, moist, brown to gray below 6 1/2'					
SS-4	90	7	7		
SILTY LOAM, loose, gray, with occasional sand seams and inclusions					
SS-5	100	7	7	0.5	18.7
SILT, soft to medium stiff, gray					
SS-6	100	6	6	1.5	24.6
SILTY CLAY LOAM, stiff to medium stiff, gray					
SS-7	100	5	5	1.0	23.9
SILT, soft to medium stiff, gray					
SS-8	90	4	4	0.25	17.0
SILTY LOAM, soft, gray					
SS-9	90	5	5		
GRAVELLY SAND, very loose, wet, gray					
SANDY LOAM, very loose, wet, gray					
SS-10	85	11	11	1.25	17.1
SILTY LOAM, stiff, gray, with frequent sand inclusions and wet sand seams					
WATER LEVEL OBSERVATIONS				GENERAL NOTES	
Depth ft	While Drilling	Upon Completion	After Drilling	Start	End
To Water	18	14	BF	8:12	8:12
To Cave-in		15			
Remarks: Re-filled with water surface, bentonite chips and asphaltic concrete patch at surface.					

LOG OF TEST BORING				Boring No.	TB-1
Project: Lamona Road over Benton-Hinesley Drain				Elevation	925
Location: Hamilton County, Indiana				Datum	USC & GS
Client: USI Consultants, Inc.				EEI Proj. No.	1-12-264
7770 West New York Street - Indianapolis, Indiana 46214				Sheet	2 of 2
317-273-1690 / 317-273-2250 (Fax)					
Proj. No.	Station	Weather	Sunny	Driller	C.H.
Struct. No.	Hamilton 292	Offset	8 ft Lt. "PR"	Inspector	
Temp.	88° F				
SAMPLE	DESCRIPTION/CLASSIFICATION and REMARKS	SOIL PROPERTIES			
No.	Rec %	N Value	Depth ft	q _s tsf	q _t tsf
SS-11	90	25	25	3.75	12.1
SILTY LOAM, stiff, gray, with frequent sand inclusions and wet sand seams					
CLAY LOAM, very stiff, gray					
SS-12	80	8	8	<0.25	12.4
LOAM, very soft, gray					
SS-13	90	29	29		
SAND, medium dense, wet, gray					
SS-14	65	37	37		
SANDY GRAVEL, dense, wet, gray					
SS-15	80	28	28	2.75	13.0
LOAM, very stiff, gray					
SS-16	100	33	33	3.0	10.9
End of Boring at 60 ft					
WATER LEVEL OBSERVATIONS				GENERAL NOTES	
Depth ft	While Drilling	Upon Completion	After Drilling	Start	End
To Water	19	12	BF	8:12	8:12
To Cave-in		15			
Remarks: Re-filled with water surface, bentonite chips and asphaltic concrete patch at surface.					

LOG OF TEST BORING				Boring No.	TB-2
Project: Lamona Road over Benton-Hinesley Drain				Elevation	925
Location: Hamilton County, Indiana				Datum	USC & GS
Client: USI Consultants, Inc.				EEI Proj. No.	1-12-264
7770 West New York Street - Indianapolis, Indiana 46214				Sheet	1 of 2
317-273-1690 / 317-273-2250 (Fax)					
Proj. No.	Station	Weather	Sunny	Driller	C.H.
Struct. No.	Hamilton 292	Offset	8 ft Lt. "PR"	Inspector	
Temp.	88° F				
SAMPLE	DESCRIPTION/CLASSIFICATION and REMARKS	SOIL PROPERTIES			
No.	Rec %	N Value	Depth ft	q _s tsf	q _t tsf
SS-1	80	25	25		
ASPHALTIC CONCRETE, 6 in.					
GRANULAR SUBBASE					
SANDY LOAM, medium dense, moist, brown (fill)					
SS-2	90	7	7	1.75	29.0
SILTY CLAY, stiff, brown and gray					
SS-3	55	3	3	0.75	20.4
SILTY CLAY LOAM, medium stiff, brown and gray					
SS-4	90	4	4	0.5	20.8
SILT, soft to medium stiff, gray					
SS-5	100	5	5	0.75	22.5
SILT, soft to medium stiff, gray					
SS-6	90	6	6		
SILTY LOAM, very soft to soft, gray, with occasional sand inclusions					
SS-7	100	7	7	0.25	10.2
GRAVELLY SAND, medium dense, wet, gray					
SS-8	100	11	11		
SANDY LOAM, medium dense, wet, gray					
SS-9	100	12	12	0.5	23.0
SILT, soft to medium stiff, gray and dark gray, with frequent organic partings and inclusions					
SS-10	100	13	13	0.25	16.0
SILTY LOAM, very soft to soft, gray					
WATER LEVEL OBSERVATIONS				GENERAL NOTES	
Depth ft	While Drilling	Upon Completion	After Drilling	Start	End
To Water	19	12	BF	8:12	8:12
To Cave-in		15			
Remarks: Re-filled with water surface, bentonite chips and asphaltic concrete patch at surface.					

LOG OF TEST BORING				Boring No.	TB-2
Project: Lamona Road over Benton-Hinesley Drain				Elevation	925
Location: Hamilton County, Indiana				Datum	USC & GS
Client: USI Consultants, Inc.				EEI Proj. No.	1-12-264
7770 West New York Street - Indianapolis, Indiana 46214				Sheet	2 of 2
317-273-1690 / 317-273-2250 (Fax)					
Proj. No.	Station	Weather	Sunny	Driller	C.H.
Struct. No.	Hamilton 292	Offset	8 ft Lt. "PR"	Inspector	
Temp.	88° F				
SAMPLE	DESCRIPTION/CLASSIFICATION and REMARKS	SOIL PROPERTIES			
No.	Rec %	N Value	Depth ft	q _s tsf	q _t tsf
SS-11	90	21	21	3.0	10.3
SILTY LOAM, very soft to soft, gray					
LOAM, very stiff, gray, with occasional sand inclusions above 35'					
SS-12	90	17	17	3.5	238
SANDY LOAM, medium dense, wet, gray					
SS-13	100	19	19		
SANDY LOAM, medium dense, wet, gray					
SS-14	0	23	23		
LOAM, stiff to very stiff, gray, with boulders near 48' to 52'					
SS-15	90	38	38	1.5	12.6
SILT, soft to medium stiff, gray and dark gray, with frequent organic partings and inclusions					
SS-16	100	35	35	3.75	11.8
End of Boring at 60 ft					
WATER LEVEL OBSERVATIONS				GENERAL NOTES	
Depth ft	While Drilling	Upon Completion	After Drilling	Start	End
To Water	18	15	BF	8:12	8:12
To Cave-in		15			
Remarks: Re-filled with water surface, bentonite chips and asphaltic concrete patch at surface.					



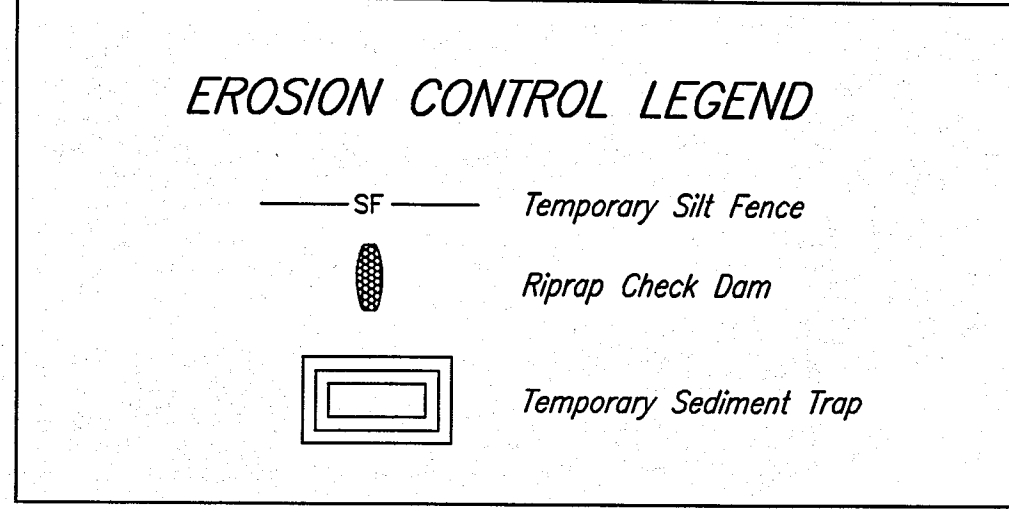
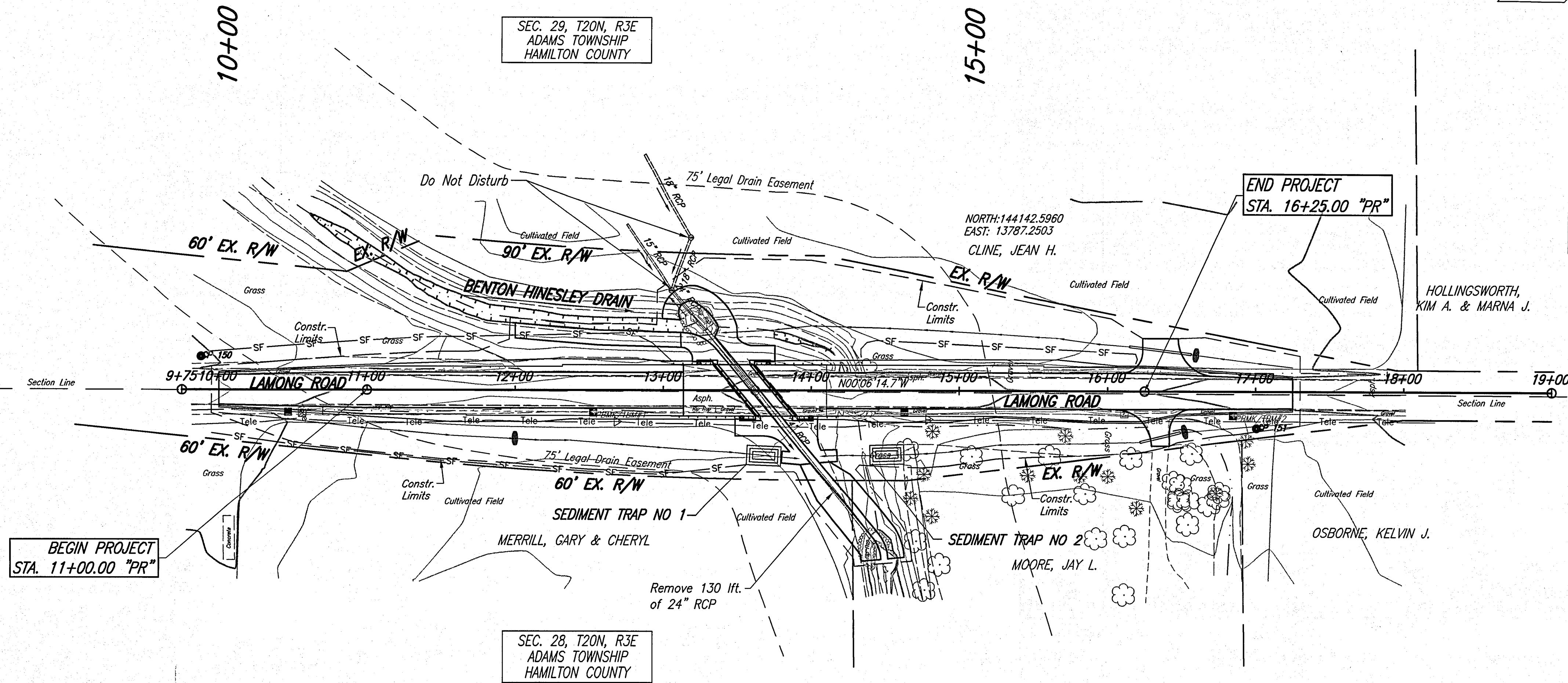
RECOMMENDED FOR APPROVAL *PRA* 11-15-13
DESIGN ENGINEER DATE

DESIGNED: PRA DRAWN: DWB
CHECKED: MJH CHECKED: PRA

HAMILTON COUNTY
BRIDGE NO. 292

SOIL BORINGS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 292
VERTICAL SCALE	DESIGNATION
AS NOTED	
SURVEY BOOK	SHEETS
	5 of 24
CONTRACT	PROJECT
	PB-11-0004



TEMPORARY EROSION AND SEDIMENT CONTROL TABLE

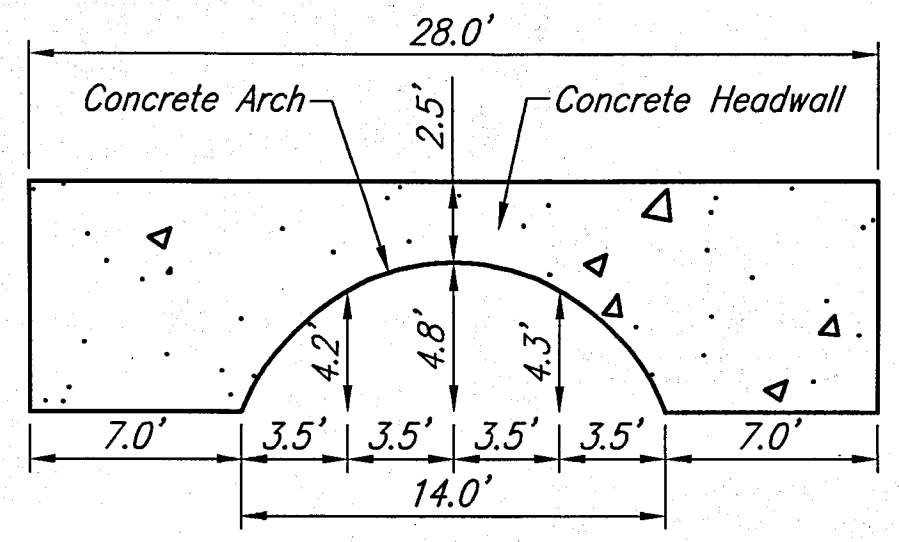
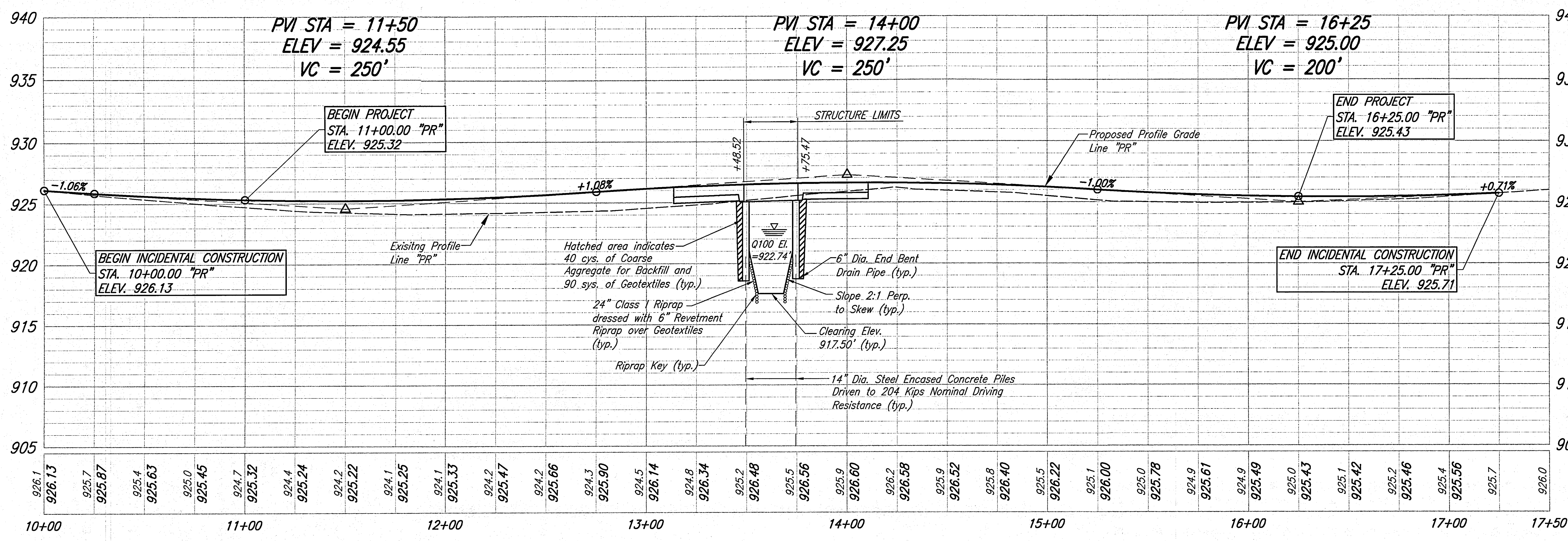
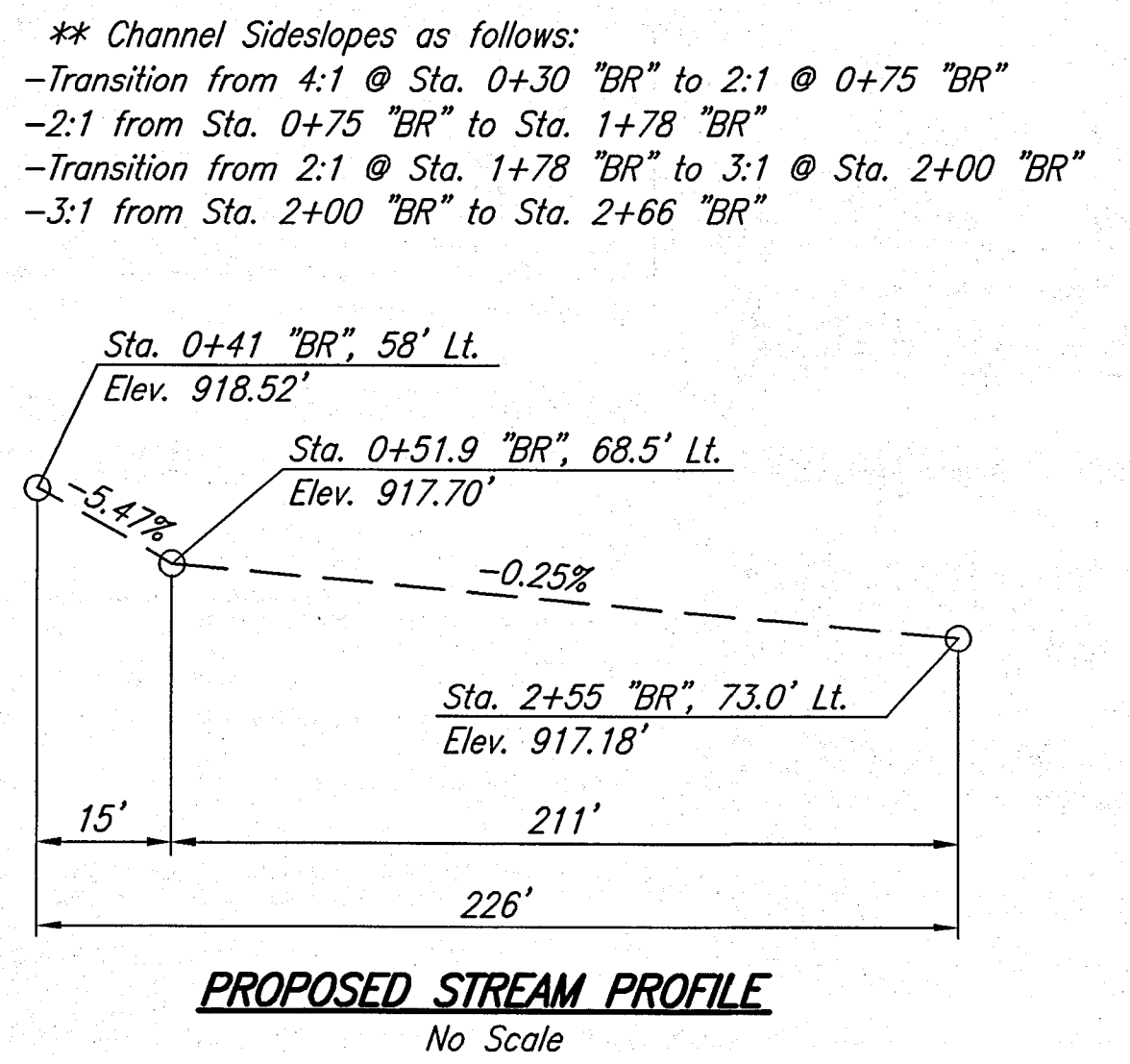
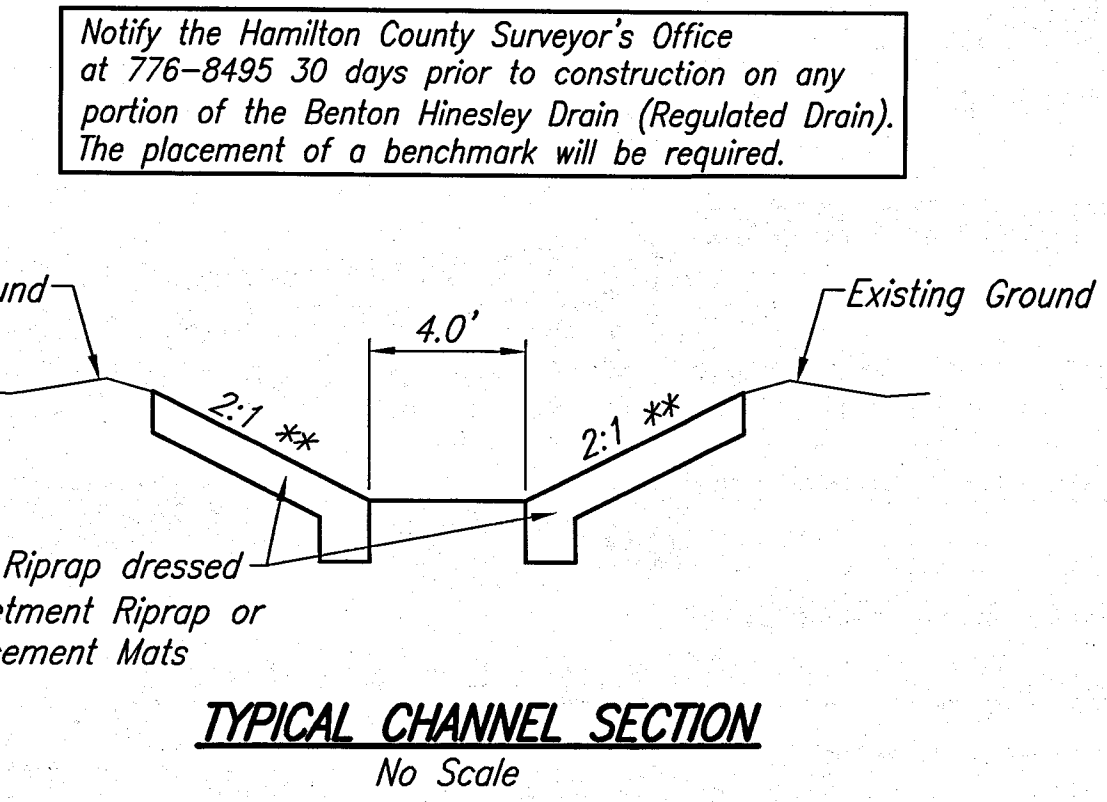
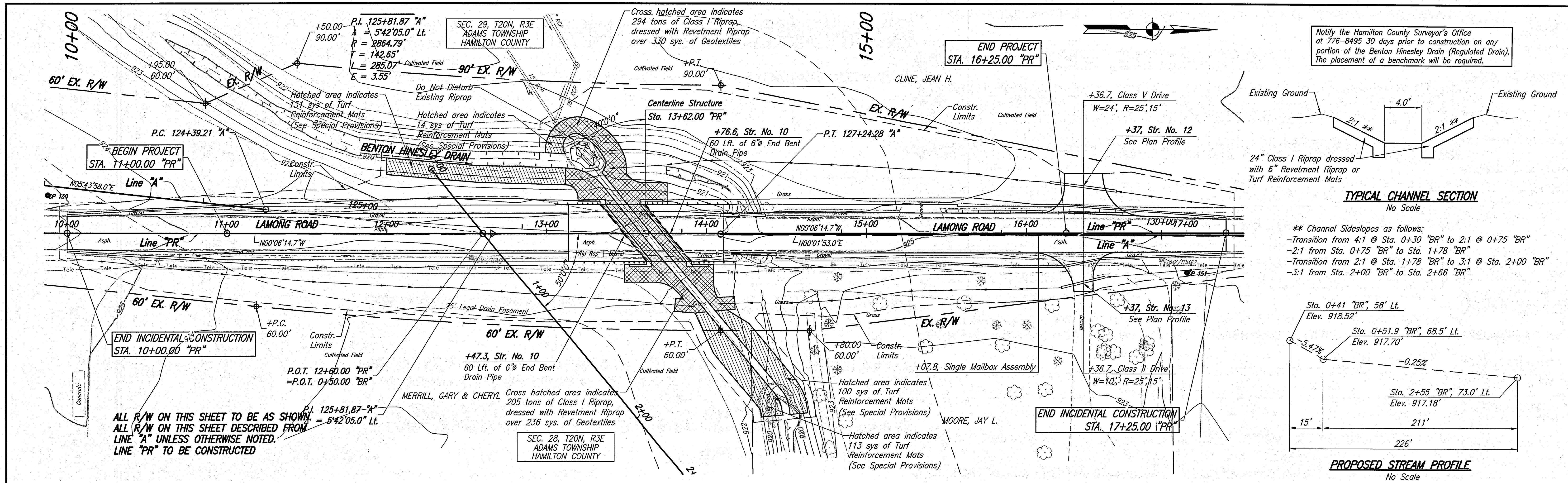
LOCATION		Temporary Check Dam Revetment Riprap	Sediment Trap	Temporary Silt Fence
STATION TO STATION	LT./RT.			
12+00 "PR"	RT.	4.4 tons		
16+60 "PR"	RT.	4.4 tons		
16+70 "PR"	LT.	4.4 tons		
10+00 "PR" to 12+98 "PR"	LT.			305 lft.
10+00 "PR" to 13+91 "PR"	RT.			391 lft.
14+20 "PR" to 16+20 "PR"	LT.			200 lft.
13+68 "PR"	RT.		4 tons	
14+50 "PR"	RT.		4 tons	
TOTALS		13.2 tons	8 tons	896 lft.

Note: Detailed construction sequence provided by the contractor shall be approved by John South, Hamilton County Soil and Water Conservation District prior to starting construction. Costs for pump around, sand bag dikes, or other practices to prevent offsite sedimentation as specified in the contractor's sequence shall be included in the bid for erosion and sediment control.

SEDIMENT TRAP SUMMARY

STRUCTURE NUMBER	DRAINAGE AREA	LENGTH (L)	WIDTH (W)	DEPTH (D)	STORAGE REQUIRED	STORAGE PROVIDED	WIER LENGTH	WIER HEIGHT
		Ac	Ft	Ft				
1	0.28	15	5	2	504	545	2	1.5
2	0.30	15	5	2	540	545	2	1.5

	RECOMMENDED FOR APPROVAL DESIGN ENGINEER	11-15-13 DATE	HAMILTON COUNTY BRIDGE NO. 292 EROSION CONTROL PLAN LINE "PR"	HORIZONTAL SCALE 1"=50'	BRIDGE FILE HAMILTON 292	
	DESIGNED: PRA	DRAWN: DWB		VERTICAL SCALE 1"=50'	SURVEY BOOK	SHEETS 6 of 24
	CHECKED: MJH	CHECKED: PRA		CONTRACT		PROJECT
				PROJECT		PB-11-0004



EARTHWORK SUMMARY

Common Excavation	= 941 Cys
Fill +20%	= 1413 Cys
Waterway Excavation	= 583 Cys
Usable Waterway Excavation (70%)	= 408 Cys
Borrow	= 64 Cys
Foundation Excavation	= 231 Cys

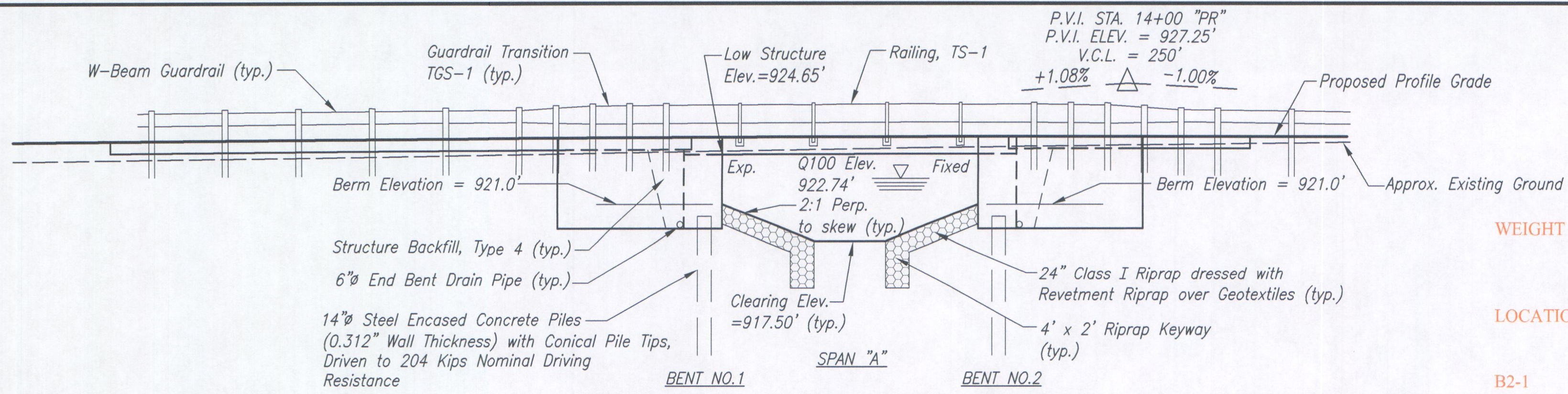
HYDRAULIC DATA

Drainage Area:	0.97 sq. miles
Q100	460 cft./sec.
Q100 Elev.	922.74 ft.

DESCRIPTION	Existing Structure	Proposed Structure
Backwater:	1.25 ft.	0.94 ft.
V100:	9.02 ft./sec.	7.53 ft./sec.
Waterway Area below Q100 Elev.	50.92 sft.	61.04 sft.
Low Structure Elevation:	924.51 sft.	924.65 sft.
Freeboard	1.77 ft.	1.94 ft.

REINFORCED CONCRETE SLAB BRIDGE
 1 SPAN @ 25'-0", 40" SKEW LT.
 34'-0" CLEAR ROADWAY

	RECOMMENDED FOR APPROVAL DESIGN ENGINEER 11-15-13 DATE	HAMILTON COUNTY BRIDGE NO. 292	HORIZONTAL SCALE 1"=30'	BRIDGE FILE HAMILTON 292
	DESIGNED: PRA DRAWN: DWB CHECKED: MJH CHECKED: PRA		LAYOUT LINE "PR"	VERTICAL SCALE 1"=5'
			SURVEY BOOK -	PROJECT PB-11-0004



ELEVATION
Scale: 1/8"=1'-0"

WEIGHT OF THE HAMMER: 4090 POUNDS

TYPE OF HAMMER: ICE MOD 425

LOCATION	PENETRATION LAST 20 BLOW (IN.)	DROP HEIGHT (FT.)	BEARING VALUE (TONS)	PILE LENGTH (FT.)	PILE ELEVATION (FT.)
B2-1	7.00	6.00	149.60	00.00	919.62
B2-2	12.00	6.00	117.50	00.00	920.16
B2-3	8.00	6.00	141.60	00.00	920.25
B2-4	7.00	6.00	149.60	00.00	920.38
B2-5	11.00	6.00	122.70	00.00	920.51
B2-6	9.00	6.00	134.60	00.00	920.51
B2-7	9.00	6.00	134.60	00.00	920.43
B2-8	3.00	6.00	200.00	00.00	920.33
B2-9	4.00	6.00	182.90	00.00	920.24
B2-10	5.00	6.00	169.60	00.00	919.65
B1-1	20.00	6.00	108.30	33.92	920.05
B1-2	5.00	6.00	169.60	36.63	919.56
B1-3	6.00	6.00	158.70	31.83	920.19
B1-4	5.00	6.00	169.60	37.25	920.22
B1-5	7.00	6.00	149.60	30.33	920.33
B1-6	12.00	6.00	117.50	32.17	920.46
B1-7	6.00	6.00	158.70	36.88	920.39
B1-8	7.00	6.00	149.60	34.33	920.28
B1-9	10.00	6.00	128.30	32.63	920.20
B1-10	6.00	6.00	158.70	32.25	919.54

DESIGN DATA

Superstructure, Substructure and Substructure Foundation designed for HL-93 loading, in accordance with AASHTO LRFD Bridge Design Specifications, 6th Edition, 2012, and subsequent Interim Specifications thru 2009.

Designed for actual dead load plus 35#/sft. future wearing surface.

Slab designed with 1/2" wearing surface.

UNIT STRESSES:
Class "C" Concrete $F'_c = 4000$ p.s.i.
Class "A" Concrete $F'_c = 3500$ p.s.i.
Class "B" Concrete $F'_c = 3000$ p.s.i.
Reinforcing Steel (Grade 60) $F_y = 60,000$ p.s.i.

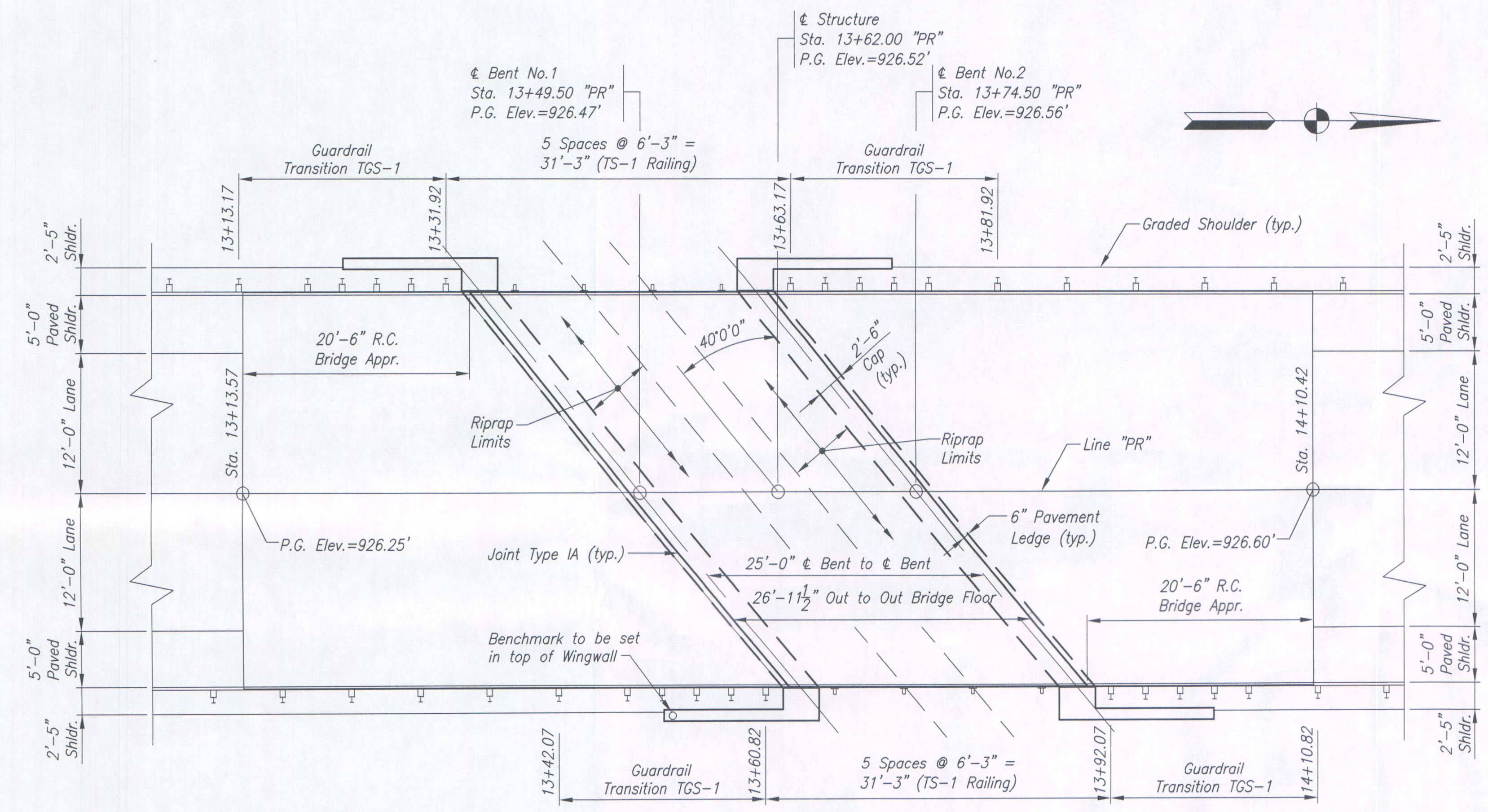
Stay in place deck forms will not be permitted on this project.

GENERAL NOTES:

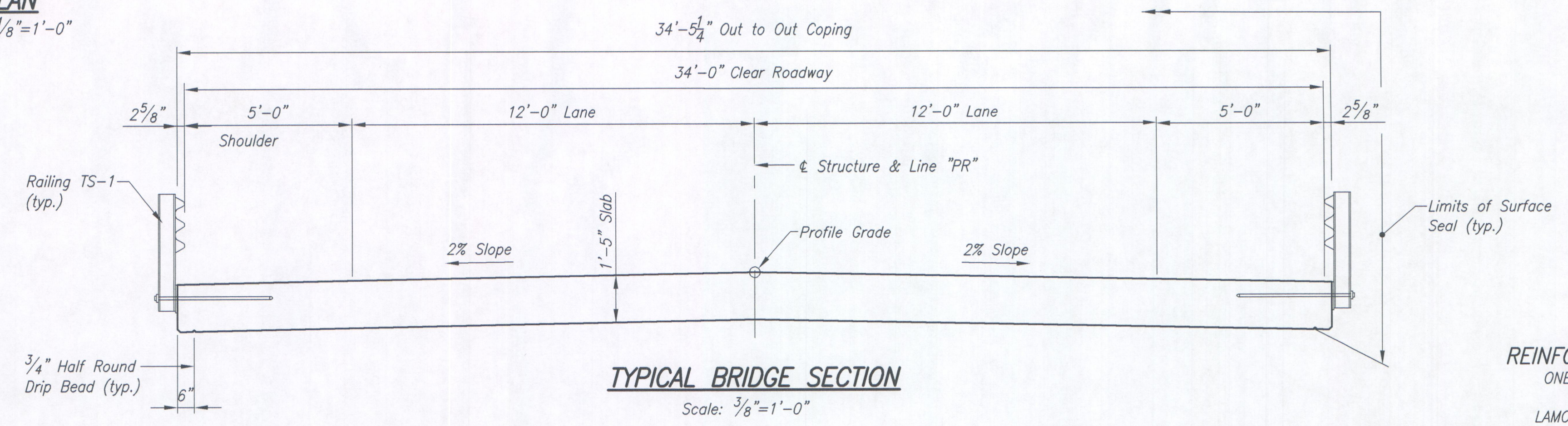
All dimensions are in feet and inches and all elevations are in feet unless otherwise noted.

Reinforcing steel covering to be 2 1/2" in top and 1" min. in bottom of floor slabs, 3" in footings except bottom steel to be 4", and 2" in all other parts, unless noted.

Surface Seal the top of bridge floor, face of deck copings, underside of bridge floor from coping to drip bead, end bent caps, exposed wingwall surfaces and bridge approach slabs. Estimated Quantity = 3967 Sft.

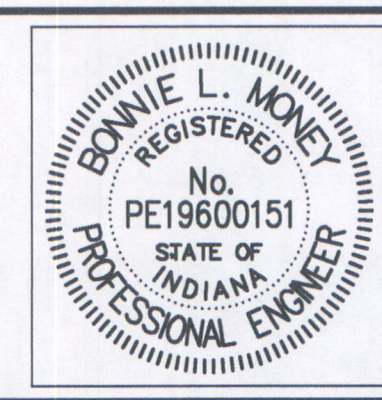


PLAN
Scale: 1/8"=1'-0"



TYPICAL BRIDGE SECTION
Scale: 3/8"=1'-0"

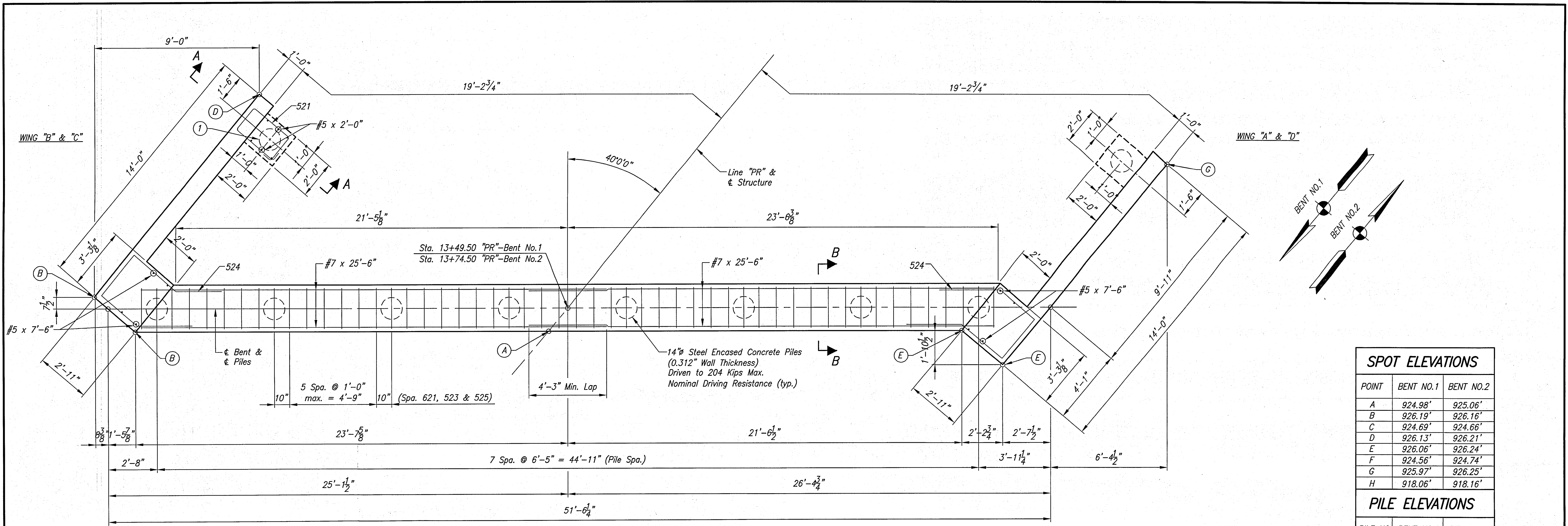
REINFORCED CONCRETE SLAB BRIDGE
ONE SPAN @ 25'-0"; SKEW 40'00"00" LT.,
34'-0" CLEAR ROADWAY WIDTH
LAMONG ROAD OVER BENTON HINESLEY DITCH
HAMILTON COUNTY, INDIANA



RECOMMENDED FOR APPROVAL: *Bonnie Money* 11-15-13 DATE
DESIGNED: BLM DRAWN: DWB
CHECKED: MJH CHECKED: BLM

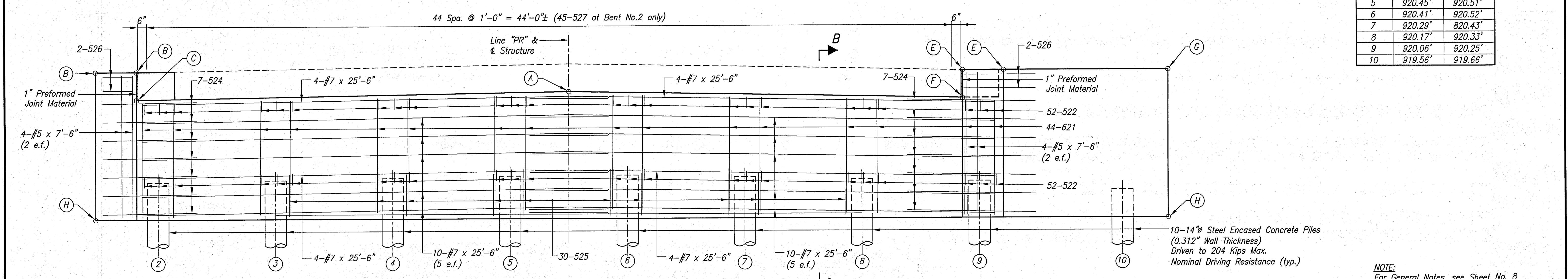
HAMILTON COUNTY
BRIDGE NO. 292
GENERAL PLAN

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 292
VERTICAL SCALE	DESIGNATION
AS NOTED	
SURVEY BOOK	SHEETS
	8 of 24
CONTRACT	PROJECT
	PB-11-0004



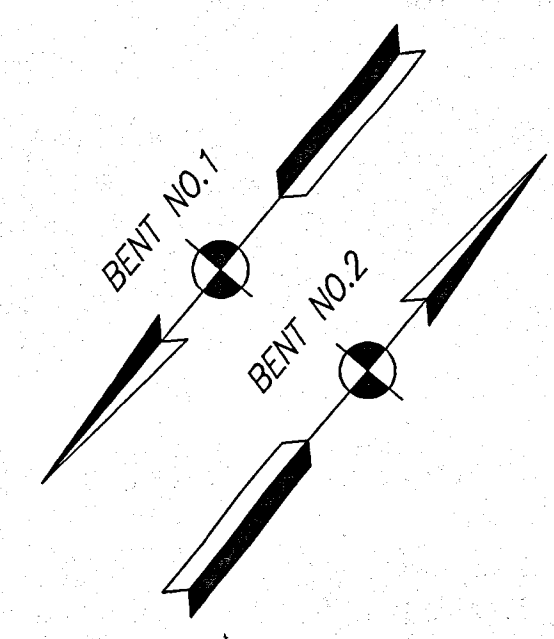
END BENT PLAN

Scale: $\frac{3}{8}'' = 1'-0''$



END BENT ELEVATION

Scale: $\frac{3}{8}'' = 1'-0''$



SPOT ELEVATIONS

POINT	BENT NO.1	BENT NO.2
A	924.98'	925.06'
B	926.19'	926.16'
C	924.69'	924.66'
D	926.13'	926.21'
E	926.06'	926.24'
F	924.56'	924.74'
G	925.97'	926.25'
H	918.06'	918.16'

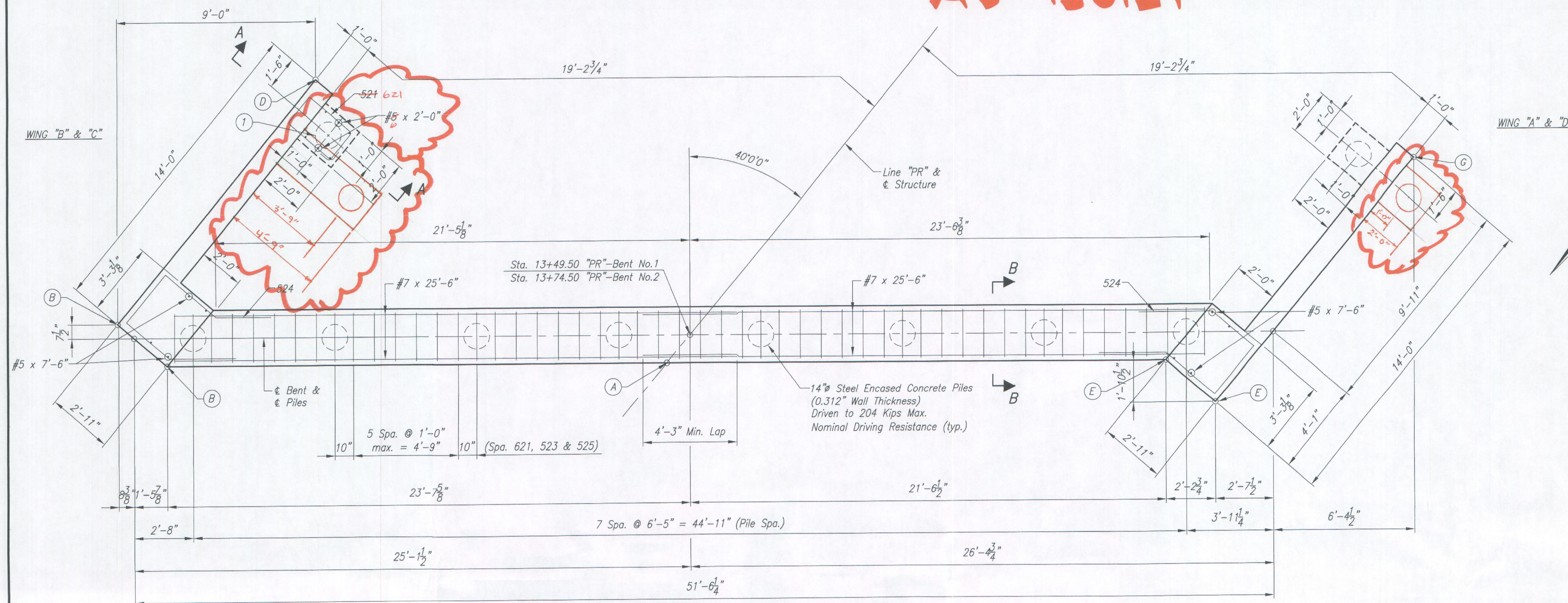
PILE ELEVATIONS

PILE NO.	BENT NO.1	BENT NO.2
1	919.56'	919.66'
2	920.19'	920.18'
3	920.27'	920.28'
4	920.35'	920.40'
5	920.45'	920.51'
6	920.41'	920.52'
7	920.29'	820.43'
8	920.17'	920.33'
9	920.06'	920.25'
10	919.56'	919.66'

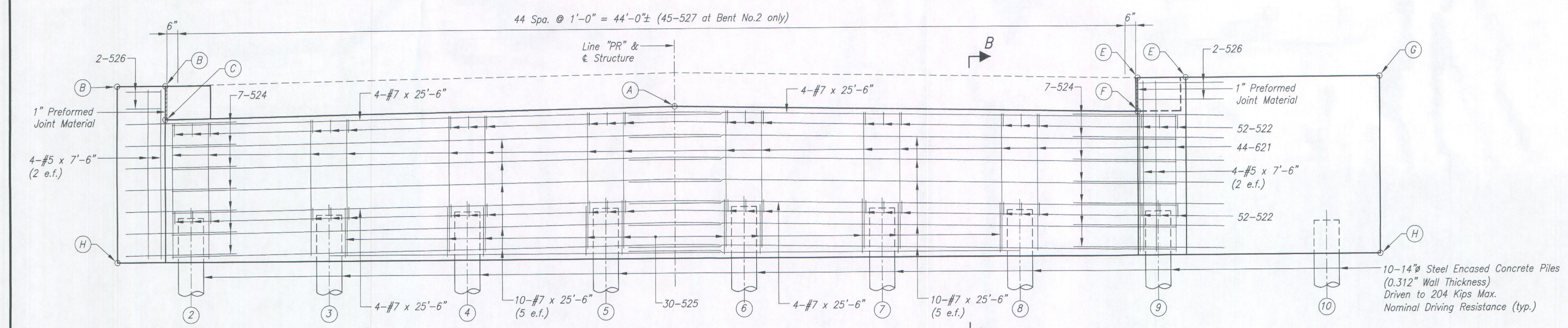
NOTE:
 For General Notes, see Sheet No. 8
 For Additional Superstructure Details, see Sheet No. 10
 For Reinforcing Bar Notes, see Standard Dwg. E703-BRST-01.

	RECOMMENDED FOR APPROVAL: <i>Bonnie Money</i> 11-15-13 DATE	HAMILTON COUNTY BRIDGE NO. 292	HORIZONTAL SCALE	BRIDGE FILE
	DESIGNED: BLM DRAWN: DWB CHECKED: MJH CHECKED: BLM		END BENT DETAILS	As Noted
			VERTICAL SCALE	DESIGNATION
			As Noted	
			SURVEY BOOK	SHEETS
			N/A	9 of 24
			CONTRACT	PROJECT
				PB-11-0004

BENT #2 AS-BUILT



END BENT PLAN
Scale: 3/8" = 1'-0"



END BENT ELEVATION
Scale: 3/8" = 1'-0"

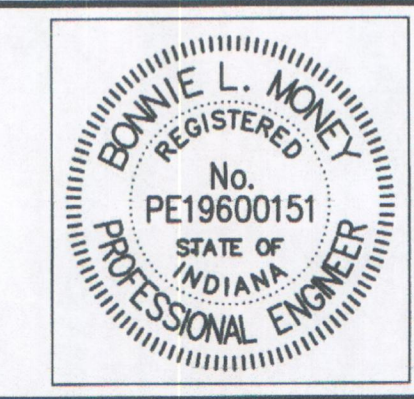
SPOT ELEVATIONS

POINT	BENT NO.1	BENT NO.2
A	924.98'	925.06'
B	926.19'	926.16'
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PILE ELEVATIONS

PILE NO.	BENT NO.1	BENT NO.2
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4	920.35'	920.40'
5	920.45'	920.51'
6	920.41'	920.52'
7	920.29'	820.43'
8	920.17'	920.33'
9	920.06'	920.25'
10	919.56'	919.66'

NOTE:
For General Notes, see Sheet No. 8
For Additional Superstructure Details, see Sheet No. 10
For Reinforcing Bar Notes, see Standard Dwg. E703-BRST-01.



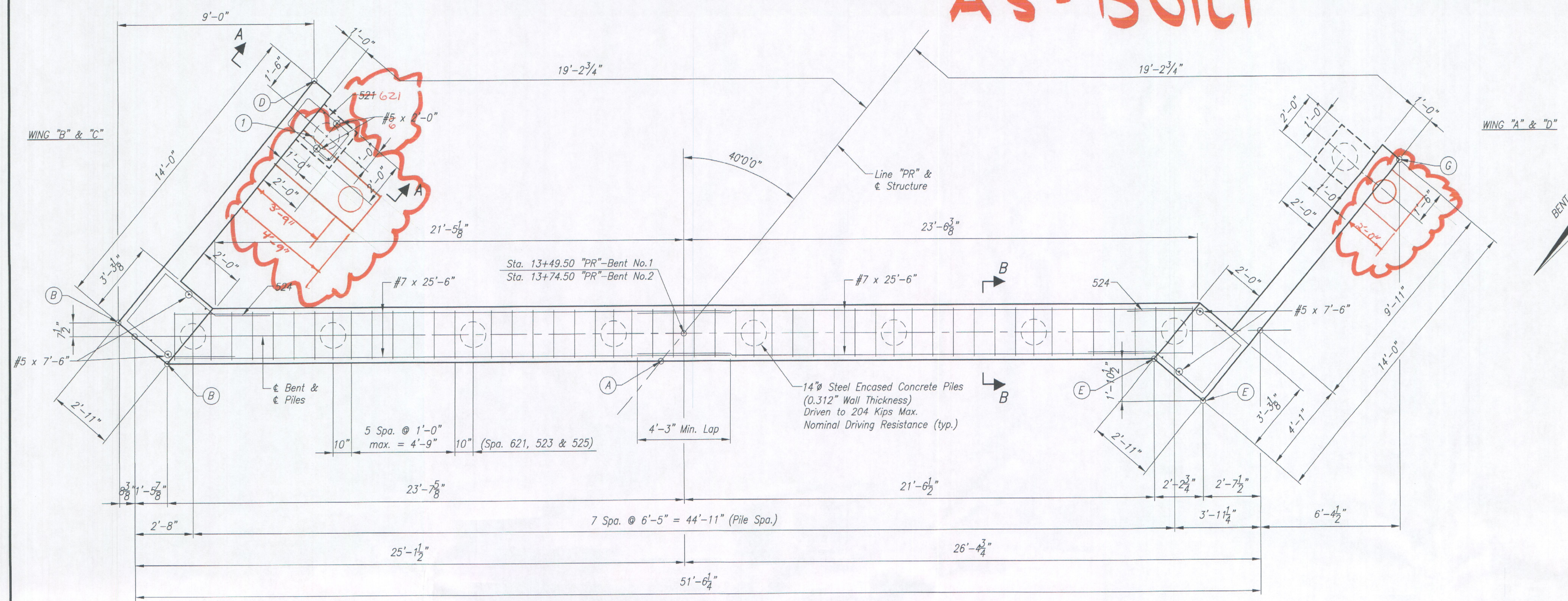
RECOMMENDED FOR APPROVAL: *Bonnie Money* 11-15-13 DATE
DESIGNED: BLM DRAWN: DWB
CHECKED: MJH CHECKED: BLM

**HAMILTON COUNTY
BRIDGE NO. 292**

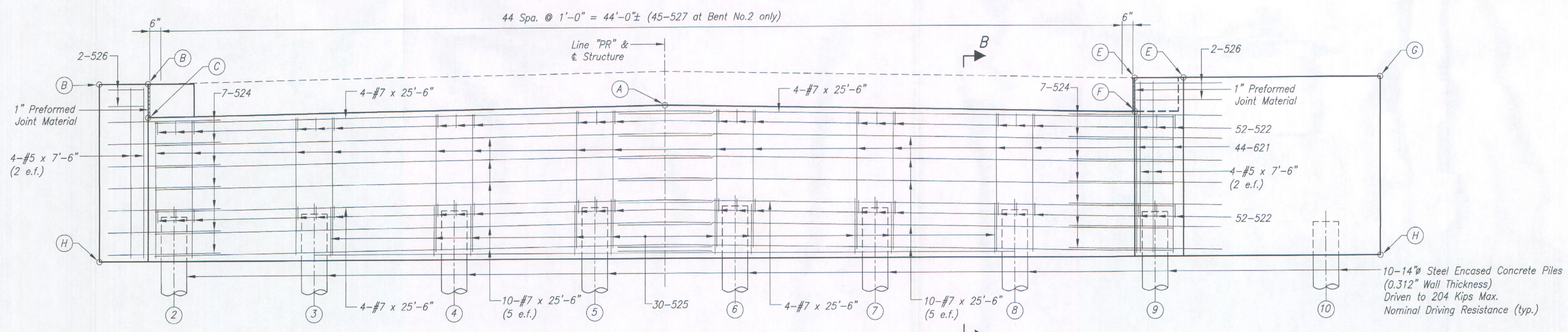
END BENT DETAILS

HORIZONTAL SCALE As Noted	BRIDGE FILE HAMILTON 292
VERTICAL SCALE As Noted	DESIGNATION
SURVEY BOOK N/A	SHEETS 9 of 24
CONTRACT	PROJECT PB-11-0004

**BENT #2
AS-BUILT**



END BENT PLAN
Scale: $\frac{3}{8}'' = 1'-0''$

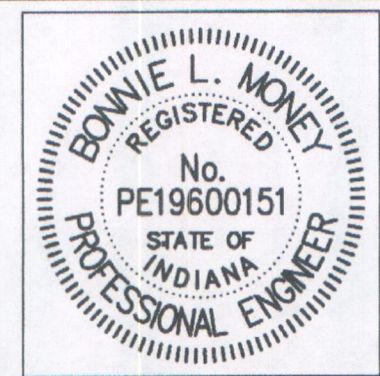


END BENT ELEVATION
Scale: $\frac{3}{8}'' = 1'-0''$

SPOT ELEVATIONS		
POINT	BENT NO.1	BENT NO.2
A	924.98'	925.06'
B	926.19'	926.16'
C	924.69'	924.66'
D	926.13'	926.21'
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PILE ELEVATIONS		
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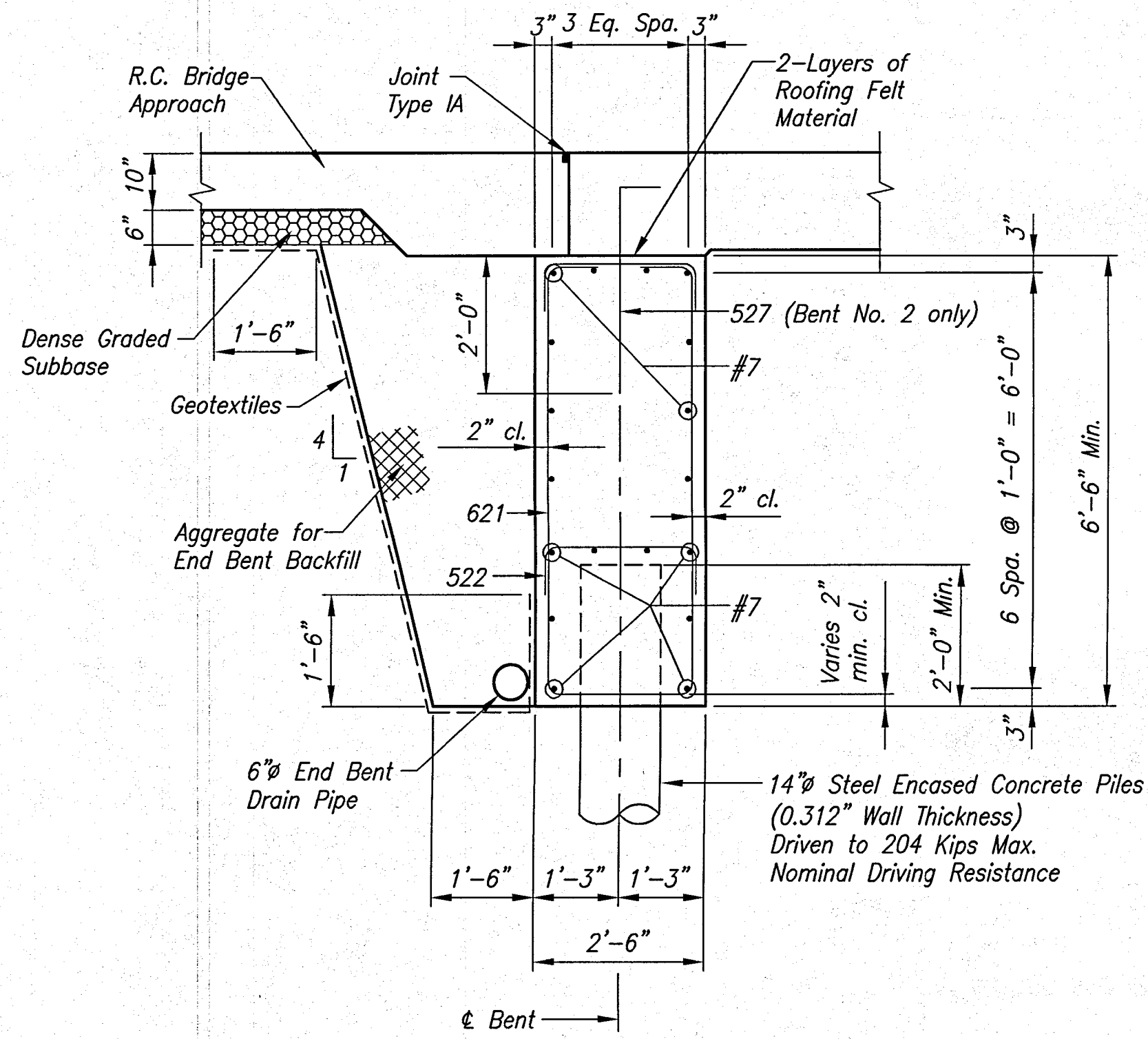
NOTE:
For General Notes, see Sheet No. 8
For Additional Superstructure Details, see Sheet No. 10
For Reinforcing Bar Notes, see Standard Dwg. E703-BRST-01.



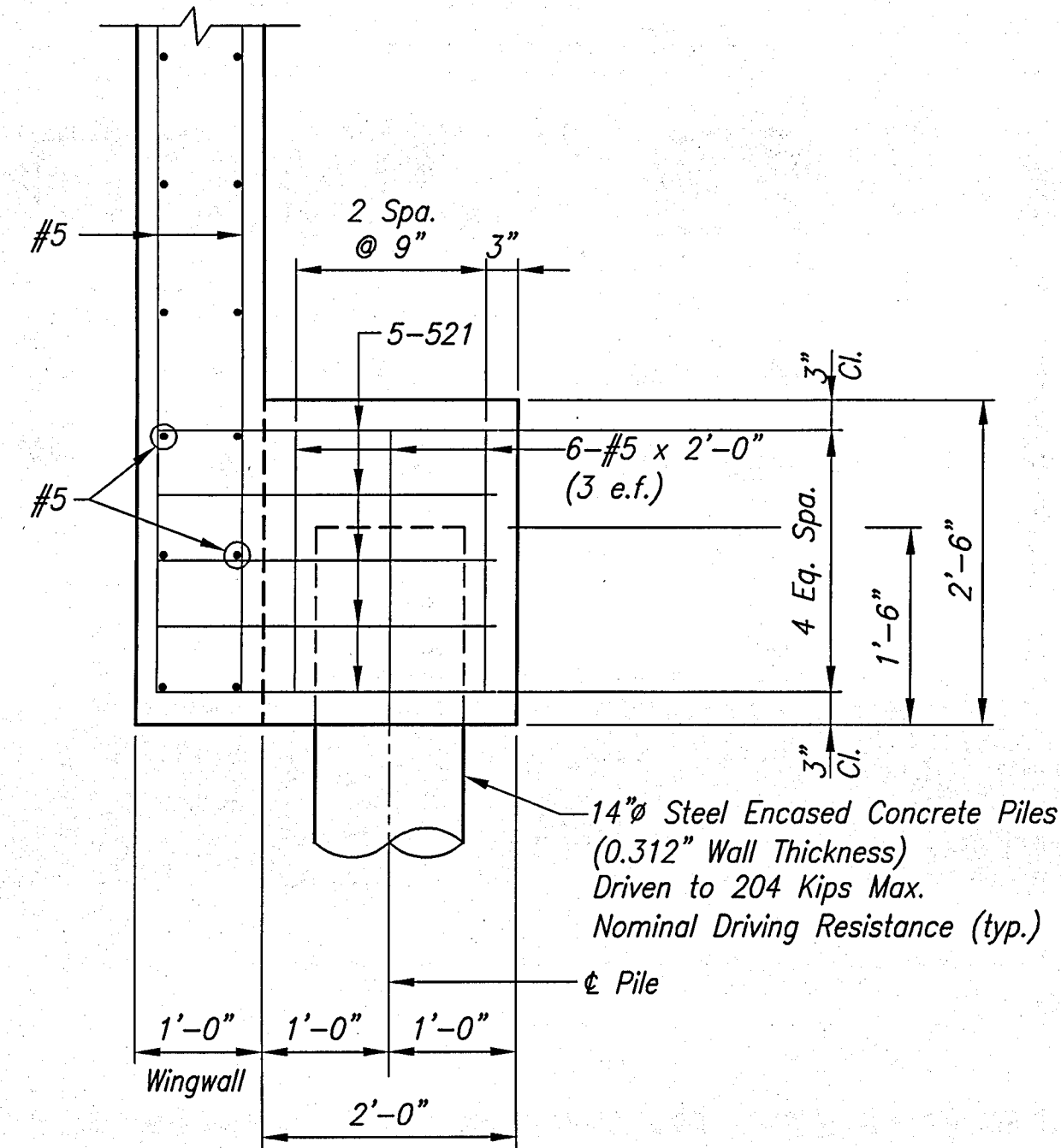
RECOMMENDED FOR APPROVAL: *Bonnie Money* 11-15-13 DATE
DESIGNED: BLM DRAWN: DWB
CHECKED: MJH CHECKED: BLM

**HAMILTON COUNTY
BRIDGE NO. 292**
END BENT DETAILS

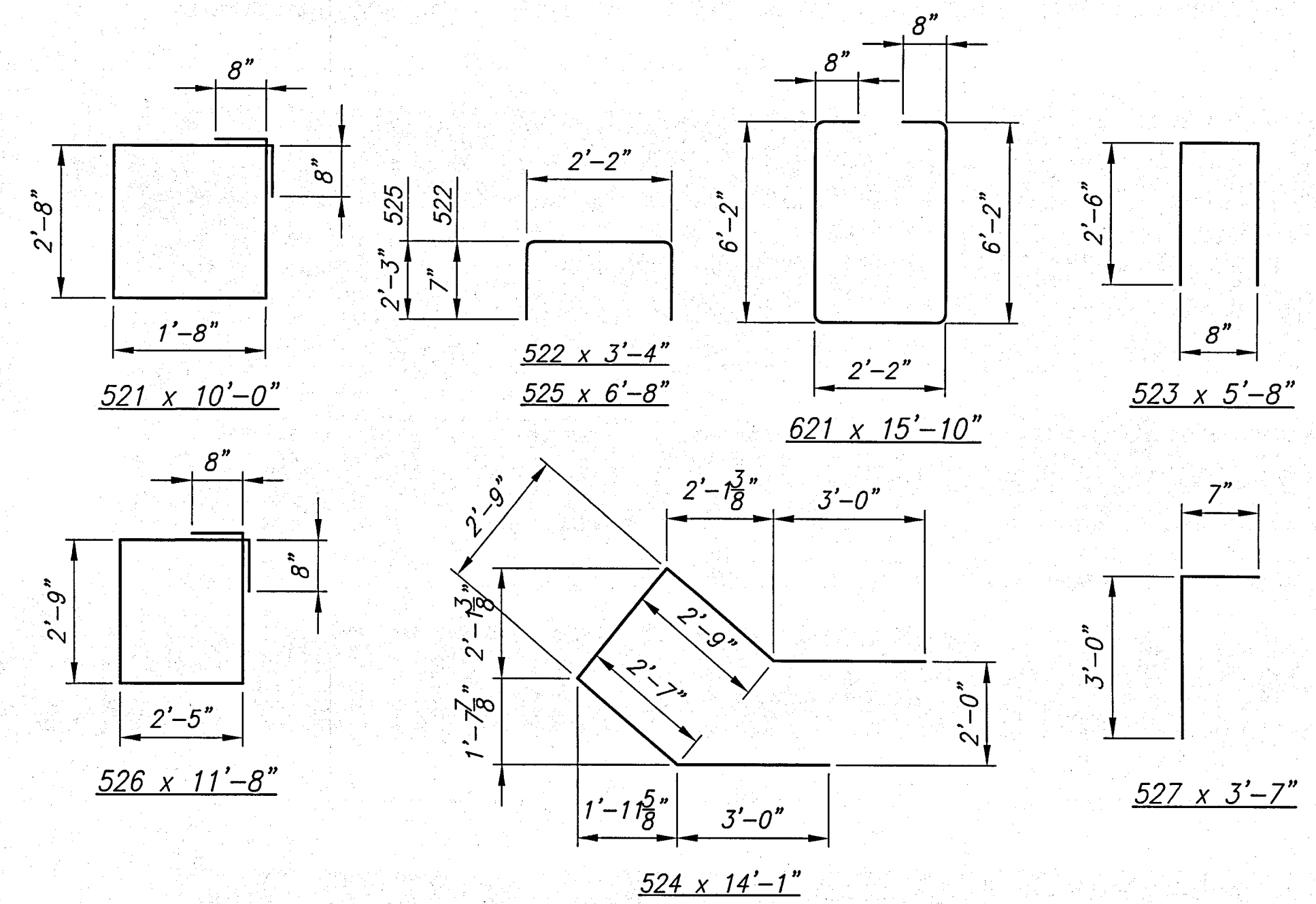
HORIZONTAL SCALE As Noted	BRIDGE FILE HAMILTON 292
VERTICAL SCALE As Noted	DESIGNATION
SURVEY BOOK N/A	SHEETS 9 of 24
CONTRACT	PROJECT PB-11-0004



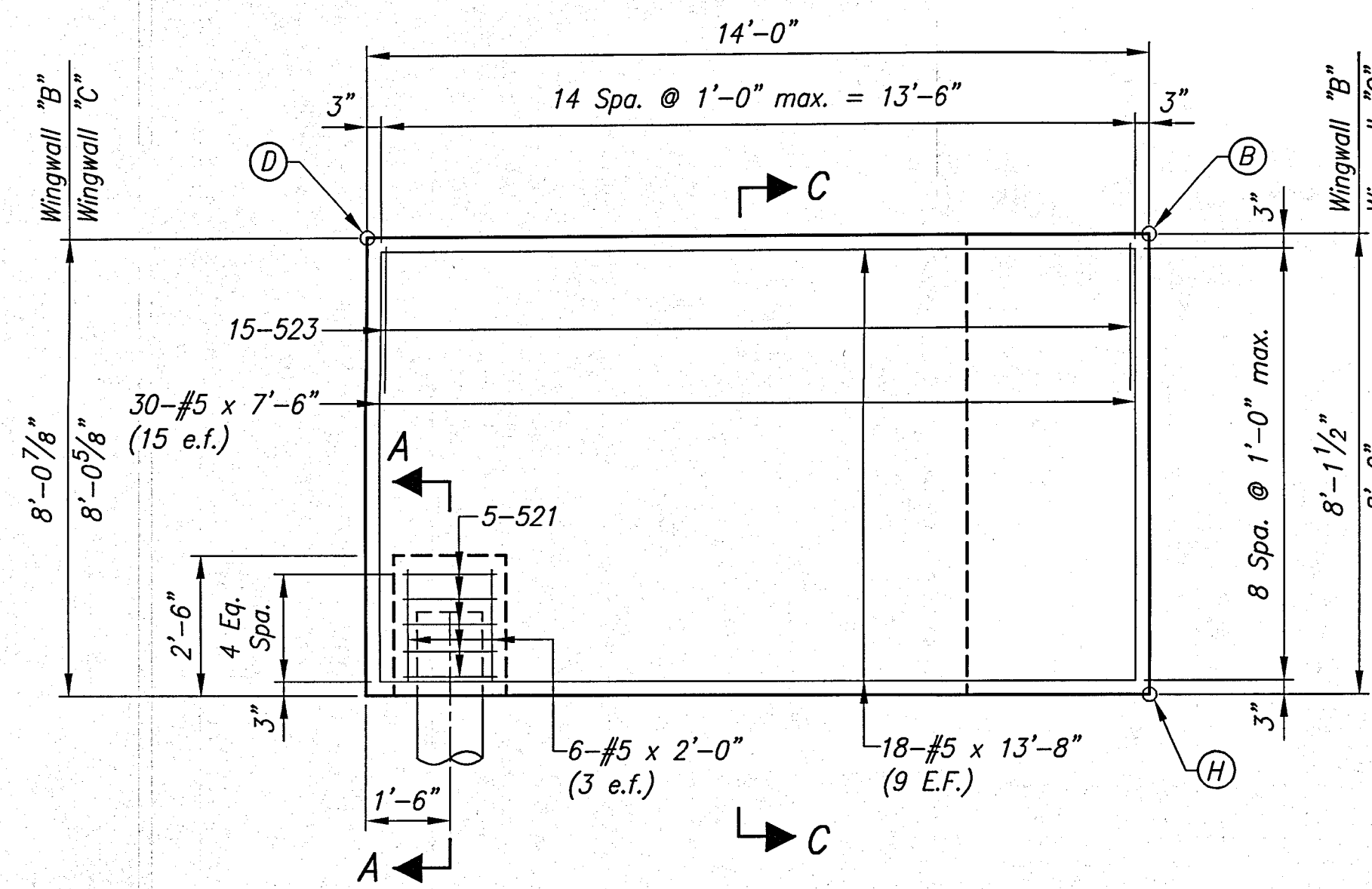
SECTION "B-B"
Scale: 1/2" = 1'-0"



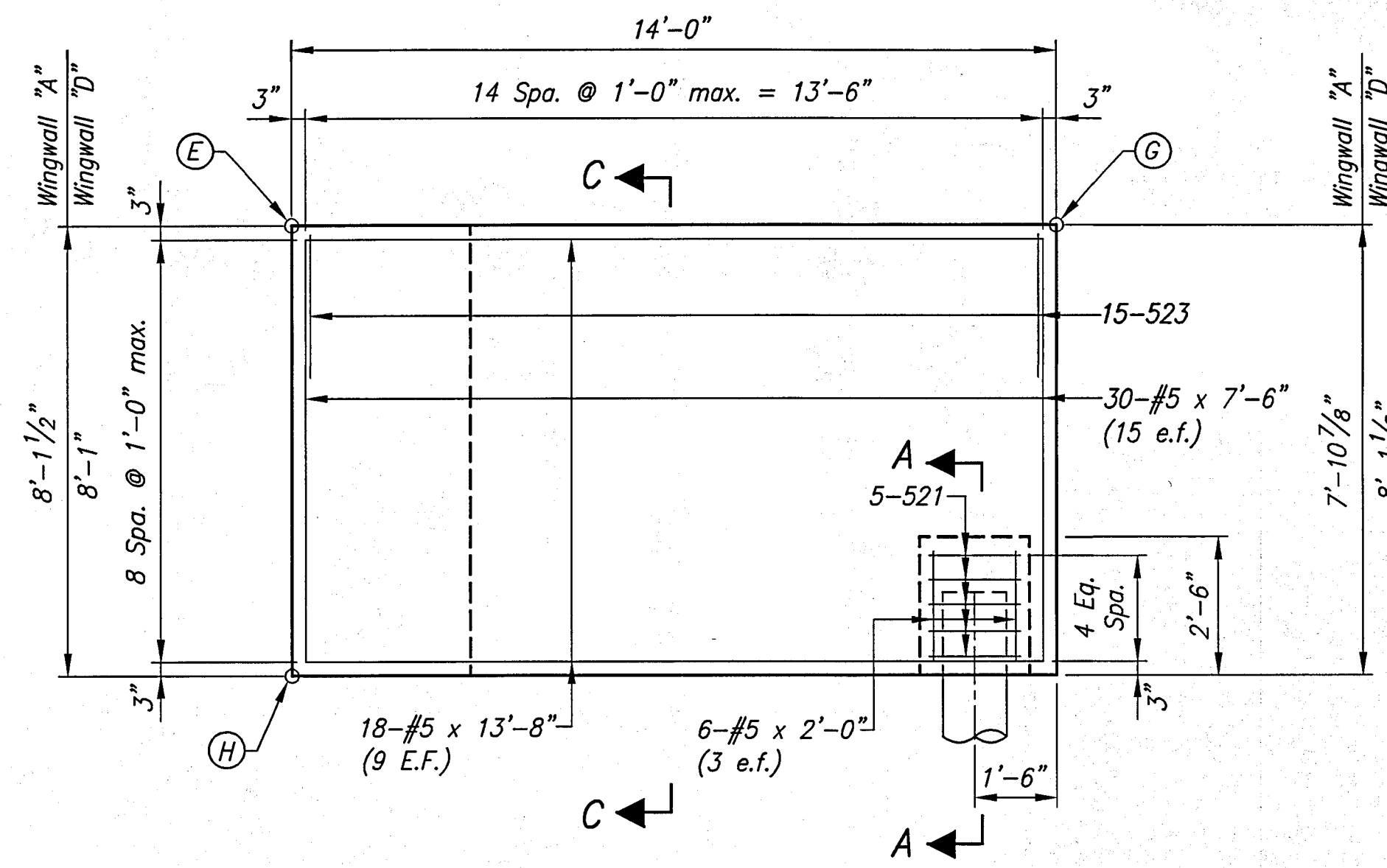
SECTION "A-A"
Scale: 3/4" = 1'-0"



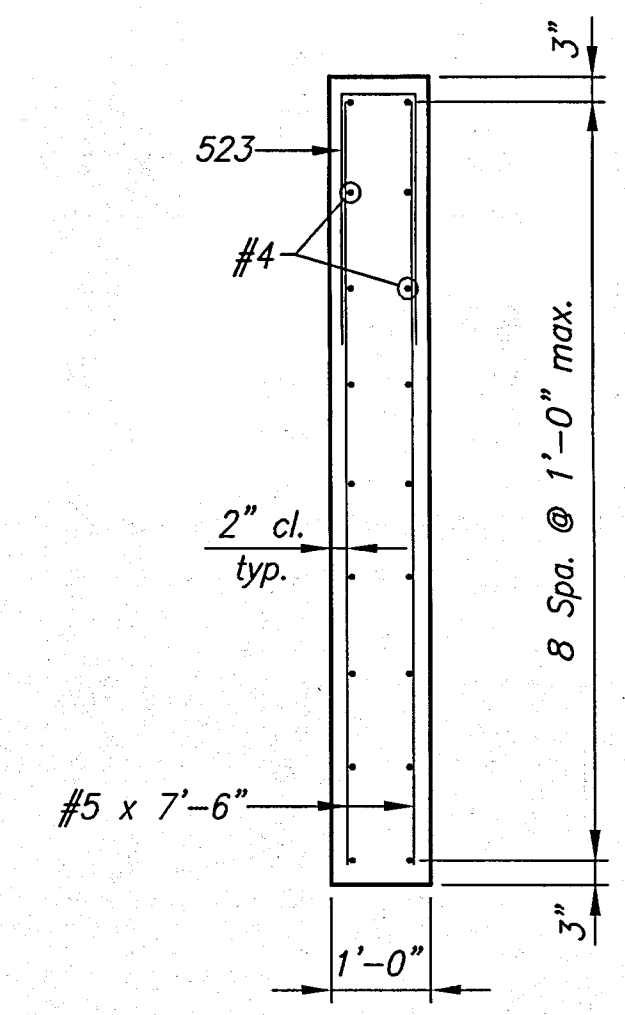
BAR BENDING DETAILS
No Scale



WINGWALL "B" & "C" ELEVATION
Scale: 3/8" = 1'-0"



WINGWALL "A" & "D" ELEVATION
Scale: 3/8" = 1'-0"



SECTION "C-C"
Scale: 1/2" = 1'-0"

**BILL OF MATERIALS
END BENT NO.1**

REINFORCING STEEL			
Size or Mark	No. of Bars	Length	Weight (lbs.)
#7	36	25'-6"	
		Total #7	1876 lbs.
621	44	15'-10"	
		Total #6	1046 lbs.
521	10	10'-0"	
522	104	3'-4"	
523	30	5'-8"	
524	14	14'-1"	
525	30	6'-8"	
526	4	11'-8"	
#5	36	13'-8"	
#5	68	7'-6"	
#5	12	2'-0"	
		Total #5	2176 lbs.
Total Reinforcing Steel			5098 lbs.
CONCRETE CLASS "A"			40.3 cys.

MISCELLANEOUS

Surface Seal	265 sft.
14" Steel Encased Concrete Piles, 0.312" Wall Thickness, 10 @ 49 lft.	490 lft.
Conical Pile Shoe	10 each

**BILL OF MATERIALS
END BENT NO.2**

REINFORCING STEEL			
Size or Mark	No. of Bars	Length	Weight (lbs.)
#7	36	25'-6"	
		Total #7	1876 lbs.
621	44	15'-10"	
		Total #6	1046 lbs.
521	10	10'-0"	
522	104	3'-4"	
523	30	5'-8"	
524	14	14'-1"	
525	30	6'-8"	
526	4	11'-8"	
527	45	3'-7"	
#5	36	13'-8"	
#5	68	7'-6"	
#5	12	2'-0"	
		Total #5	2344 lbs.
Total Reinforcing Steel			5267 lbs.
CONCRETE CLASS "A"			40.3 cys.

MISCELLANEOUS

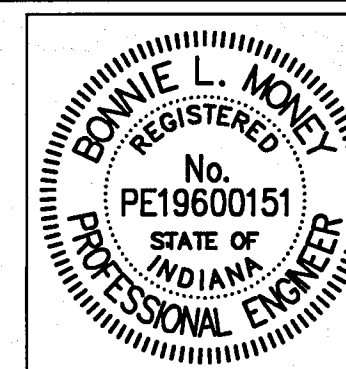
Surface Seal	265 sft.
14" Steel Encased Concrete Piles, 0.312" Wall Thickness, 10 @ 49 lft.	490 lft.
Conical Pile Shoe	10 each

NOTES:

For additional End Bents Details, see Sheet No. 9

For Reinforcing Bar Notes, see Standard Drawing E-703-BRST-01.

For General Notes, See Sheet No. 8



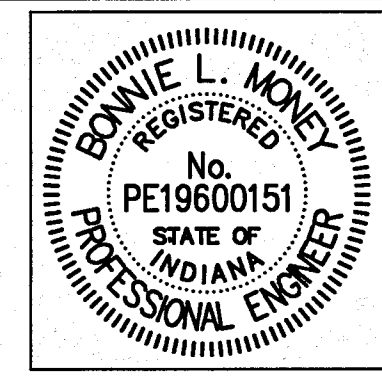
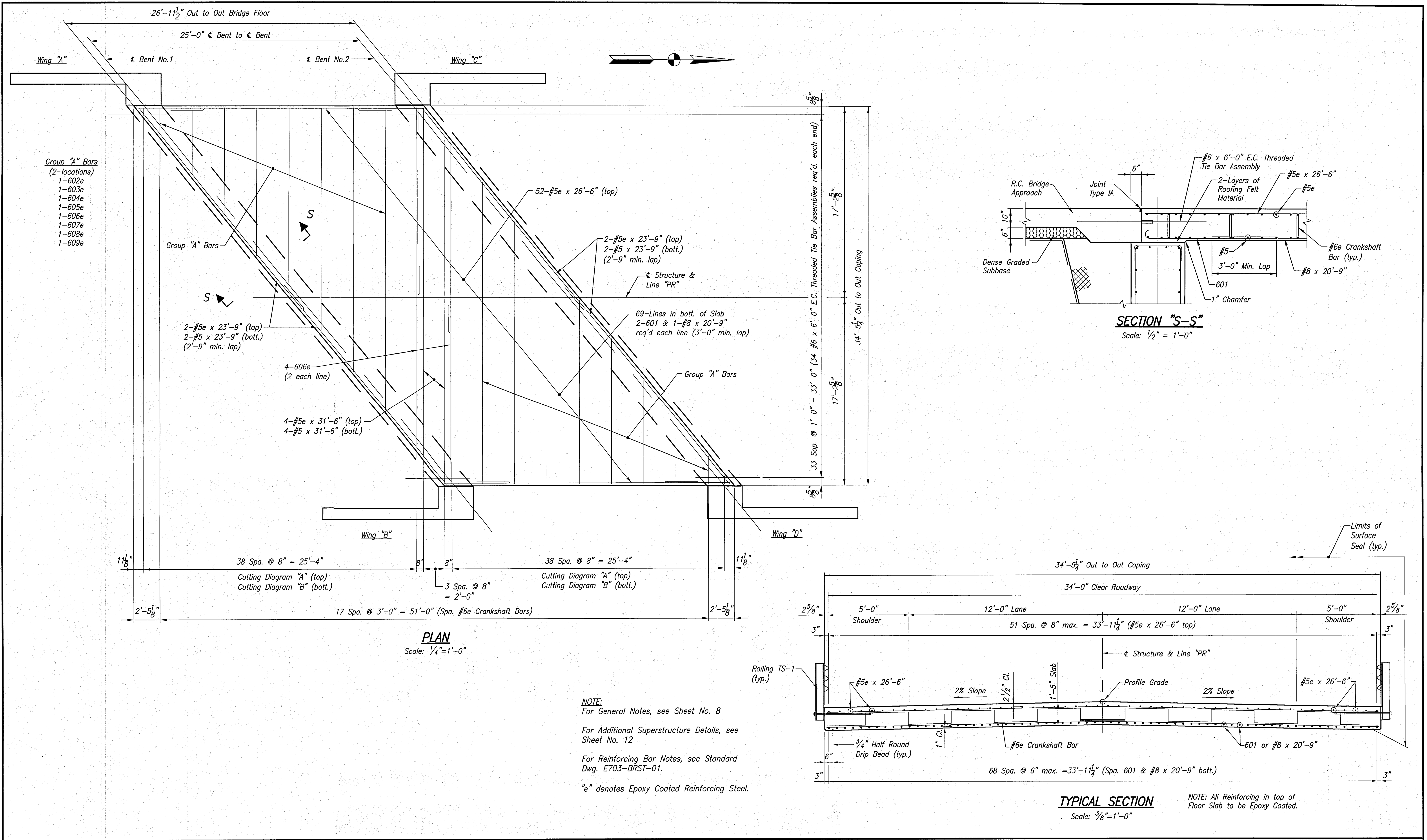
RECOMMENDED FOR APPROVAL: *Bonnie Money* 11-15-13 DATE

DESIGNED: BLM DRAWN: DWB
CHECKED: MJH CHECKED: BLM

**HAMILTON COUNTY
BRIDGE NO. 292**

END BENT DETAILS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 292
VERTICAL SCALE	DESIGNATION
AS NOTED	
SURVEY BOOK	SHEETS
	10 of 24
CONTRACT	PROJECT
	PB-11-0004



RECOMMENDED FOR APPROVAL: *Bonnie Money* 11-15-13 DATE

DESIGNED: BLM DRAWN: DWB

CHECKED: MJH CHECKED: BLM

HAMILTON COUNTY
BRIDGE NO. 292

SUPERSTRUCTURE DETAILS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 292
VERTICAL SCALE	DESIGNATION
AS NOTED	
SURVEY BOOK	SHEETS
	11 of 24
CONTRACT	PROJECT
	PB-11-0004

**BILL OF MATERIALS
SUPERSTRUCTURE**

EPOXY COATED REINFORCING STEEL

Size or Mark	No. of Bars	Length	Weight (lbs.)
602e	2	8'-2"	
603e	2	8'-0"	
604e	2	13'-7"	
605e	2	17'-2"	
606e	6	22'-9"	
607e	2	28'-4"	
608e	2	31'-11"	
609e	2	37'-6"	
	Total #6e		640 lbs.
#5e	39	31'-7"	
#5e	4	31'-6"	
#5e	52	26'-6"	
#5e	4	23'-9"	
	Total #5e		2953 lbs.
	Total E.C. Reinforcing Steel		3593 lbs.

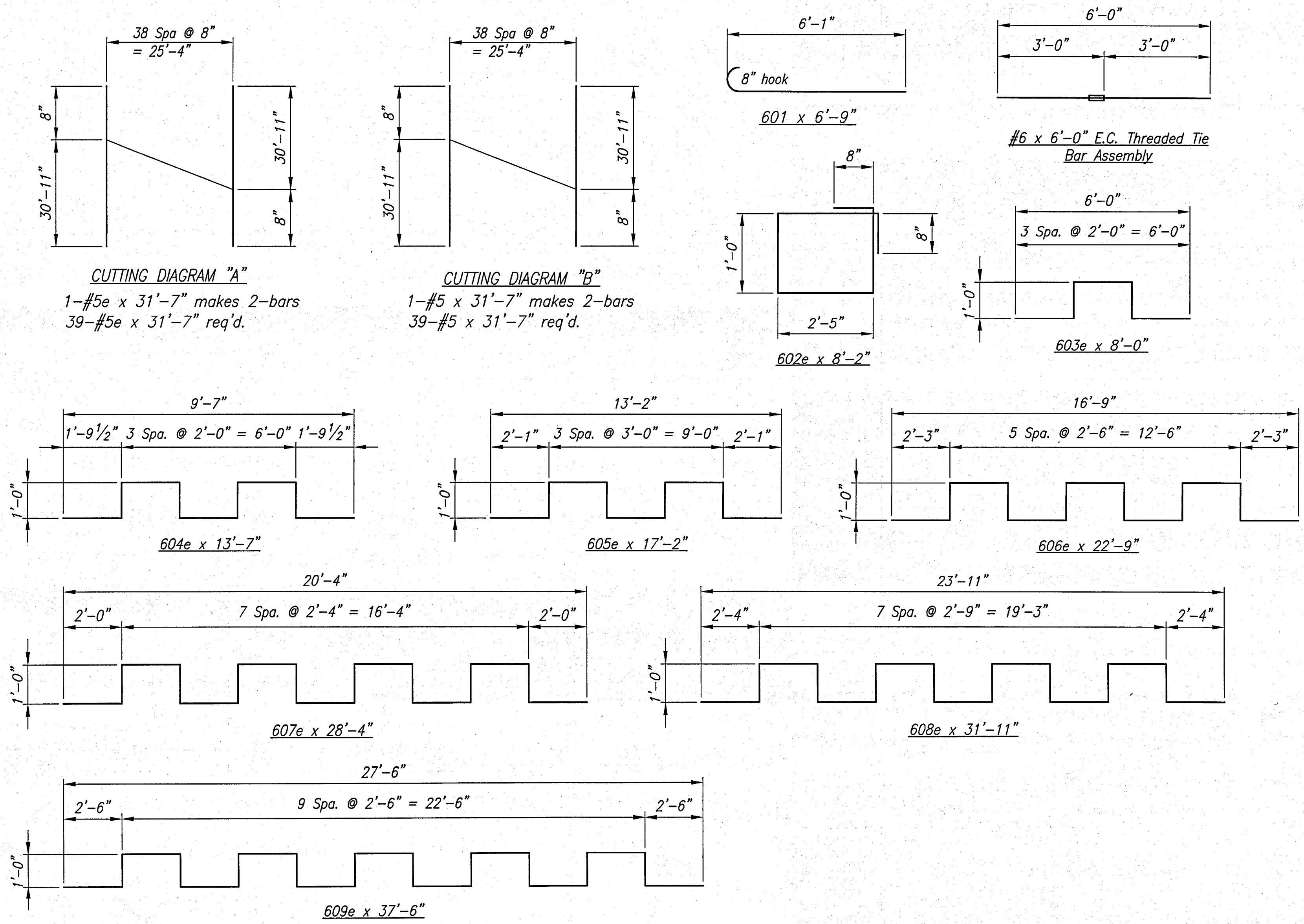
REINFORCING STEEL

Size or Mark	No. of Bars	Length	Weight (lbs.)
#8	69	20'-9"	
	Total #8		3823 lbs.
601	138	6'-9"	
	Total #6		1399 lbs.
#5	39	31'-7"	
#5	4	31'-6"	
#5	4	23'-9"	
	Total #5		1515 lbs.
	Total Reinforcing Steel		6737 lbs.

CONCRETE CLASS "C" 49.3 cys.

MISCELLANEOUS

Surface Seal	1029 sft.
E.C. Threaded Tie Bar Assembly	68 each

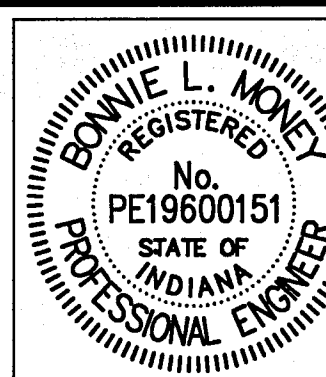


NOTE:
 For General Notes, see Sheet No. 8.

For Additional Superstructure Details, see Sheet No. 11

For Reinforcing Bar Notes, see Standard Dwg. E703-BRST-01.

"e" denotes Epoxy Coated Reinforcing Steel.



RECOMMENDED FOR APPROVAL: *Bonnie Money* 11-15-13 DATE

DESIGNED: BLM DRAWN: DWB

CHECKED: MJH CHECKED: BLM

**HAMILTON COUNTY
BRIDGE NO. 292**

SUPERSTRUCTURE DETAILS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 292
VERTICAL SCALE	DESIGNATION
AS NOTED	-
SURVEY BOOK	SHEETS
	12 of 24
CONTRACT	PROJECT
	PB-11-0004

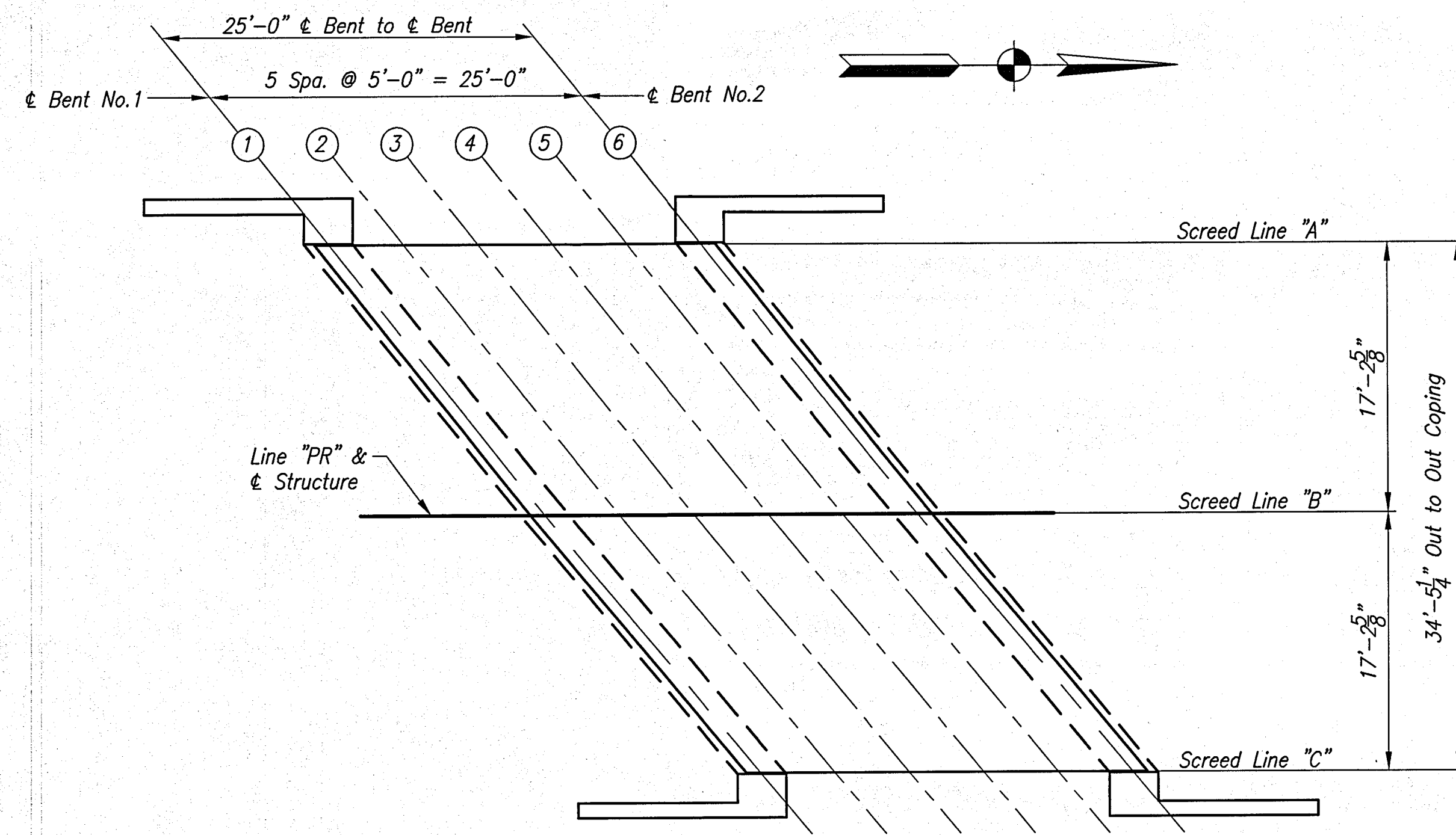
SCREED NOTES:

Take elevations at all screed points on top of forms adjacent to the screed points. Subtract these elevations from the elevations tabulated and use the resulting dimensions as the height for setting the screed or coping above the point. This dimension remains constant regardless of the amount or the order of the concrete pour. Do not set screeds or coping forms by leveling. No concrete in the floor shall be poured until the above operations are completed.

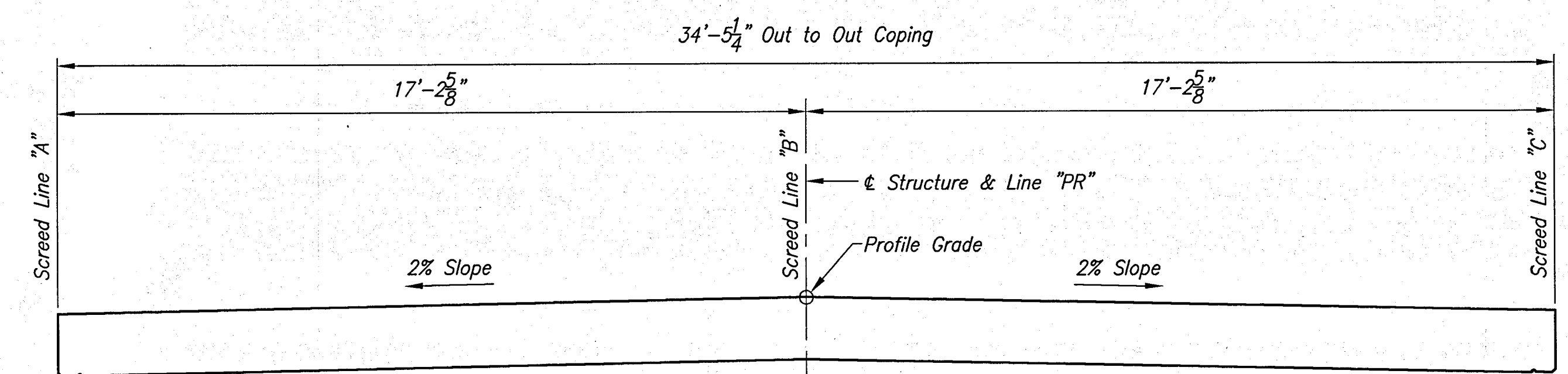
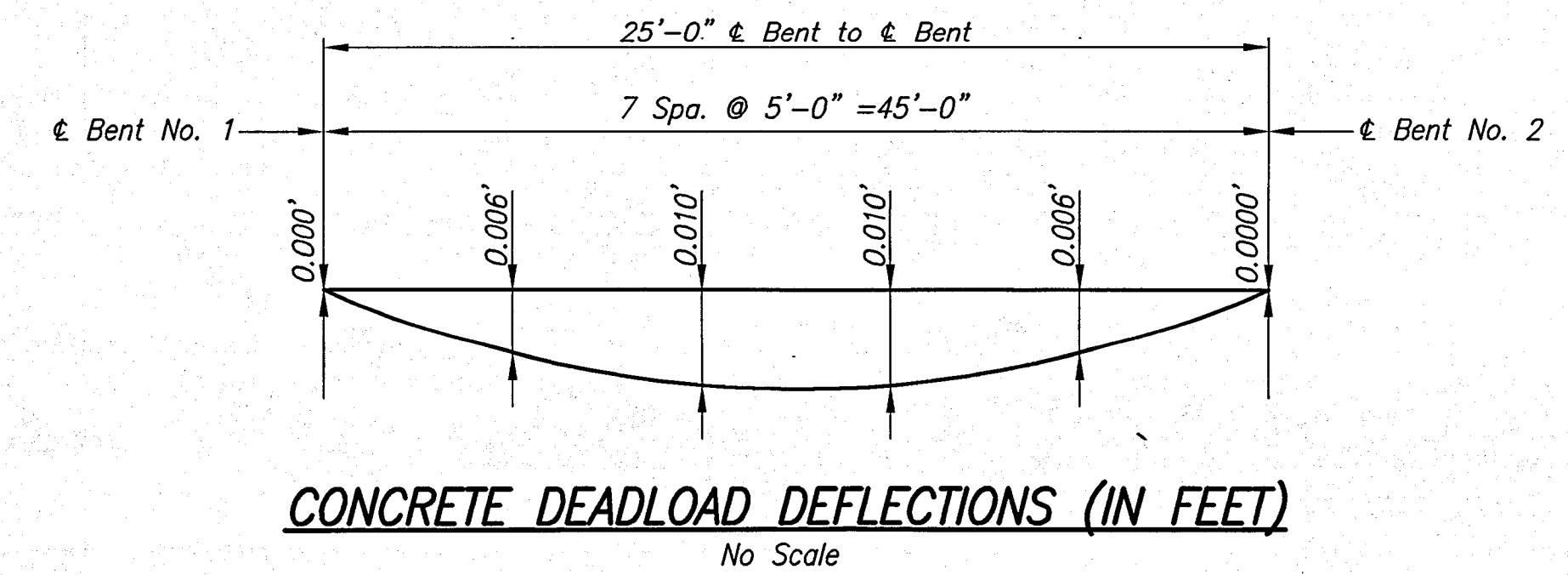
The effect of Dead Load Deflection is included in the tabulated elevations.

The elevations shown in the table above do not include any allowances for falsework deflection and settlement. These adjustments shall be determined in the field and applied under the direction of the Engineer.

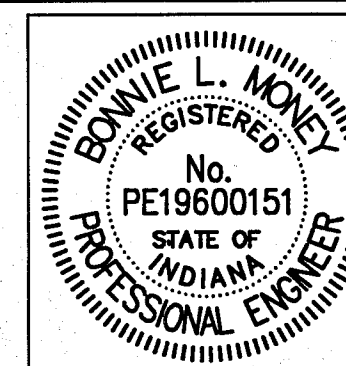
POINT	LOCATION	1	2	3	4	5	6
A	Elevation - Top Of Slab @ Coping	926.055	926.080	926.110	926.130	926.155	926.175
	Elevation - Top Of Form						
	Distance - Top Of Form To Top Of Slab @ Coping						
B	Elevation - Top Of Slab @ Crown	926.475	926.495	926.515	926.535	926.550	926.565
	Elevation - Top Of Form						
	Distance - Top Of Form To Top Of Slab @ Coping						
C	Elevation - Top Of Slab @ Coping	926.185	926.205	926.215	926.230	926.240	926.245
	Elevation - Top Of Form						
	Distance - Top Of Form To Top Of Slab @ Coping						



SCREED PLAN
Scale: 1/8" = 1'-0"



SCREED SECTION
Scale: 3/8" = 1'-0"



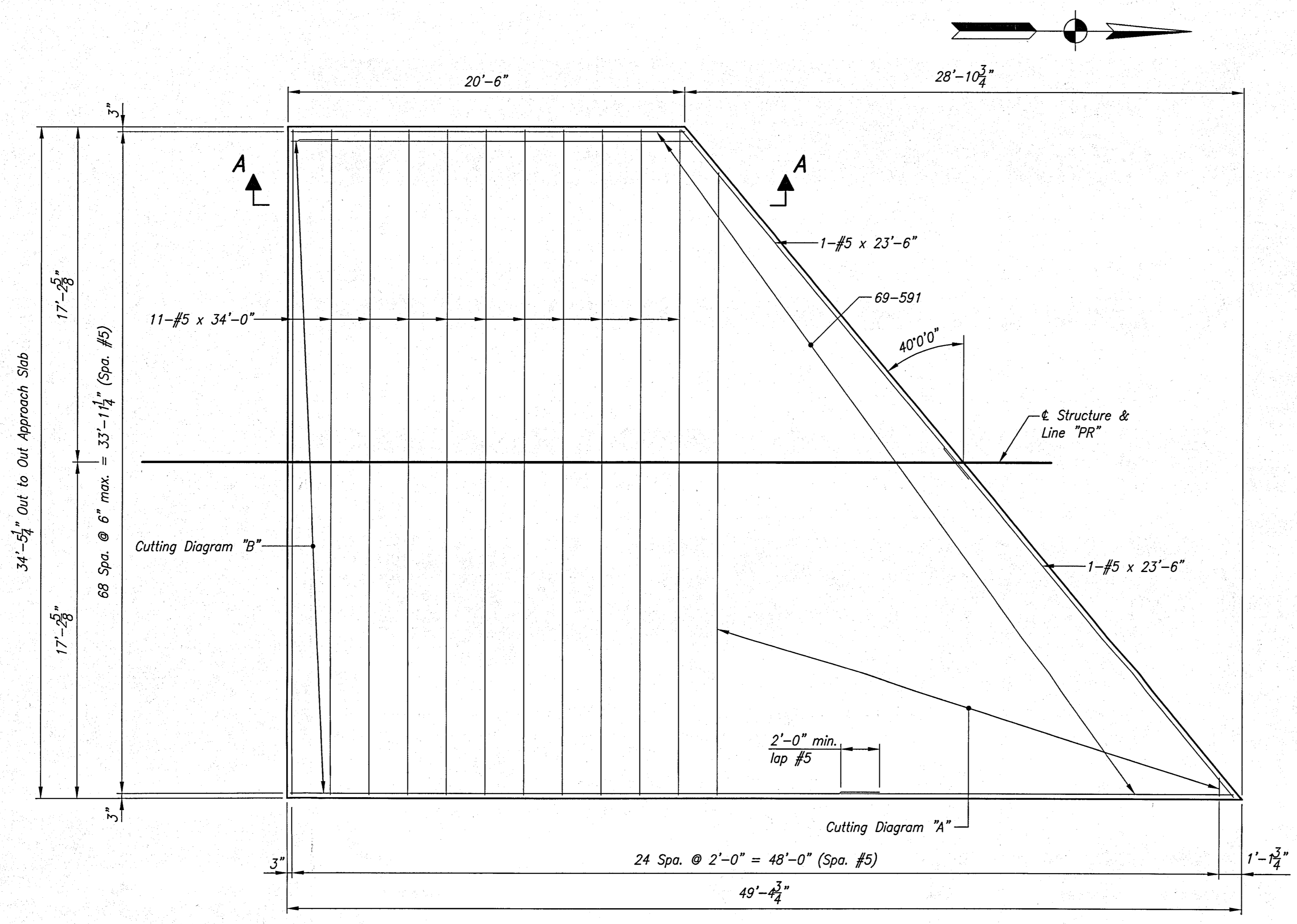
RECOMMENDED FOR APPROVAL: *Bonnie Money* 11-15-13
DATE

DESIGNED: BLM DRAWN: DWB
CHECKED: MJH CHECKED: BLM

HAMILTON COUNTY
BRIDGE NO. 292

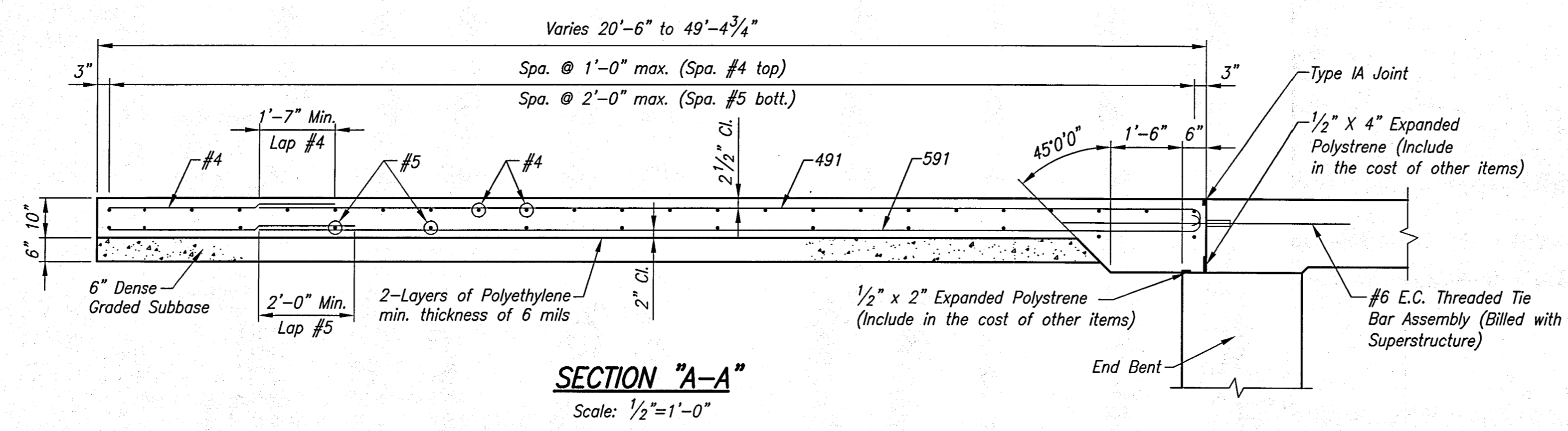
SCREED DETAILS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	HAMILTON 292
VERTICAL SCALE	DESIGNATION
AS NOTED	
SURVEY BOOK	SHEETS
	13 of 24
CONTRACT	PROJECT
	PB-11-0004



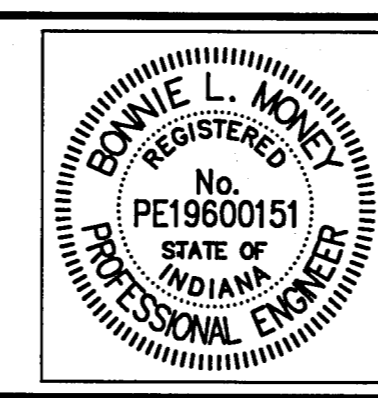
PLAN-SHOWING BOTTOM REINFORCING
Scale: 1/4"=1'-0"

NOTE:
South Approach Slab shown,
North Approach Slab same by
180° rotation



SECTION "A-A"
Scale: 1/2"=1'-0"

NOTES:
For additional Approach Slab Details, see Sheet No. 15
All Reinforcing Steel to be Epoxy Coated in Approach Slabs.
For Type IA Joint, see Standard Drawings E503-CCPJ-05 and E610-BRJT-01.
For Reinforcing Bar Notes, see Standard Drawing E-703-BRST-01.
For General Notes, See Sheet No. 8



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**HAMILTON COUNTY
BRIDGE NO. 292**
APPROACH SLAB DETAILS

HORIZONTAL SCALE	BRIDGE FILE
As Noted	HAMILTON 292
VERTICAL SCALE	DESIGNATION
As Noted	
SURVEY BOOK	SHEETS
	14 of 24
CONTRACT	PROJECT
	PB-11-0004