

**Wisconsin Dept. of Transportation
Structure Inventory Data**

Bridge B360231

Structure No.: B360231	Municipality: NEWTON	Section:	Town:	Range:	Maintenance Agency: STATE HIGHWAY DEPT	Owner: STATE HIGHWAY DEPT
Replaced Structure No.: B360049	Historical Sig.: 5	Latitude: 435938.42	Longitude: 874345.21	County: MANITOWOC(36)	District: 3	

ABUTMENT DATA (CARDINAL)

1. Abutment Type: SILL FLEXIBLE/RECT
2. Pile Type: PILING - CAST IN PLACE (CIP)
3. Pile Size: 254 OR 273 MM (10 OR 10-3/4")
4. Slope Protection Type: STAB CR STONE
5. Rdwy. Width: 42.0 ft
6. Deck Width: 44.5 ft
7. Wing Type: PARALLEL TO ROADWAY

ABUTMENT DATA (NON-CARDINAL)

1. Abutment Type: SILL FLEXIBLE/RECT
2. Pile Type: PILING - CAST IN PLACE (CIP)
3. Pile Size: 254 OR 273 MM (10 OR 10-3/4")
4. Slope Protection Type: STAB CR STONE
5. Rdwy. Width: 42.0 ft
6. Deck Width: 44.5 ft
7. Wing Type: PARALLEL TO ROADWAY

GEOMETRIC DATA

1. Structure Length: 123.7 ft (Back to Back Abuts. Along Rrdwy. Centerline)
2. No. Lanes On: 2
3. L. Sdk. Width On: ft
4. R. Sdk. Width On: ft
5. Median Type:
6. Median Width: ft
7. Skew Angle: 12 Deg.
8. Direction Skew Angle: RIGHT
9. Horizontal Curve: Radius, ft
10. Dir.-Hor. Curve:
11. Girder Spacing: ft
12. Height: ft (Top Pier Footing to Top Deck or Streambed Elev. to Top Deck)
13. NBI Bridge Length Met: true

APPROACH DATA

1. Appr. Pavement Width: 24 ft
2. Rt. Shoulder Width: 6 ft
3. Lt. Shoulder Width: 12 ft
4. Total Width (Sum Above): 42 ft
5. Guardrail Termination: 1
6. Guardrail Adequacy: 1
7. Railing Attachment Type: 5 - 22 MM (7/8") BOLTS
8. Railing Design Year:
9. Left Outer Railing Type:
10. Right Outer Railing Type:
11. Left Inner Railing Type:
12. Right Inner Railing Type:

CAPACITY DATA

1. Design MS: HL93
2. Inventory MS: RF1.28
3. Operating MS: RF1.67
4. Max. Veh. Wt.: 250 kips
5. Load Rating Basis.: LRFR
6. Load Governing Member: SLAB
7. Deck Composition: EPOXY COATED REINFORCING
8a. Deck Membrane: NONE
8b. Deck Surface: CONCRETE

HYDRAULIC DATA

1. Design Flood Frequency: yrs
2. Design Discharge: cu-ft/s
3. Max. Velocity: ft/s
4. Drainage Area: sq. ft
5. High Water Elev.: ft
6. Scour Critical Code: N
7. Scour Calculated?: false

STRUCTURE SERVICE DATA

1. Hwy. On Detour Length: 27 ft
2. Type Service On: HIGHWAY
3. Type Service Under: HIGHWAY

APPRAISAL UPDATE

1. Load Capacity: 5-LEGAL LOAD STRESS NOT EXCEEDED
2. Geom. On:
3. Geom. Under:
4. Appr. Align: 8-COND EQUAL DESIRABLE CRITERIA
5. Horiz. Align:
6. Vert. Align:

PLANNING DATA

1. Functional Classification: INTERSTATE-RURAL(01)
2. ADT: 10950
3. ADT-Year: 2017
4. Truck ADT %:
5. Future ADT: 11800
6. Future ADT-Year: 2036

CONDITION DATA

Deck:	SuperStructure:	SubStructure:	Channel:
Culvert:	Waterway:		

Bridge B360231

CONSTRUCTION DATE

Project ID	Construction Contractor	Construction Designer	Construction Year	Plans Reel Number	Letting Date	Survey Received	Work Performed
1224-21-73	NORTHEAST ASPHALT, INC.	OMNNI	2017		13-Dec-2016	03-Feb-2016	NEW STRUCTURE

CLEARANCE DATA

Clearance Lane Number	Minimum Vertical	Minimum Vertical Date	Minimum Horizontal Distance	Right Minimum Lateral
	14.79	13-Jun-2018	56.0	17.0
Left Minimum Lateral	Railroad Right Minimum Lateral	Railroad Left Minimum Lateral	Railroad Vertical Distance	Railroad Horizontal Distance
17.0				

ROUTE DATA

Number	Direction	Type	Structure Route On / Under	Structure Route Cardinal / NonCardinal
043	S		0	N
	E		U	C

Number	Structure Route Location	Highway Feature Name	Structure Route Local System	Highway Feature Designation
043	5.8M S JCT USH 151	IH 43 SB	IH	MAINLINE
	0.1M W JCT CTH CR	NEWTON RD	LRD	MAINLINE

Number	Structure Route Primary Flag	Designed National Network Flag	Structure Defense Highway Designation	Highway On Inventory Route
043	Y	Y	1	NHI
	Y	N	0	NON

PIER DATA

Number	Pier Type	Piling Type	Piling Size	Pier Skew Angle	Direction of Skew
0	PILE BENT	PILING - CAST IN PLACE (CIP)	254 OR 273 MM (10 OR 10-3/4")		
1	PILE BENT	PILING - CAST IN PLACE (CIP)	254 OR 273 MM (10 OR 10-3/4")		

SPAN DATA

Number	Type	Length	Configuration	Material	Girder or Truss Height	Girder or Truss Spacing
0		30.0	HAUNCHED SLAB	CONCRETE		
1		60.5	HAUNCHED SLAB	CONCRETE		
2		30.0	HAUNCHED SLAB	CONCRETE		

EXPANSIONJOINT DATA

Number	Location	Type	Inactive Date



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Inspection Report for
B-36-231

IH 43 SB over NEWTON RD
Jun 20,2017



Type	Prior	Frequency (mos)	Performed
Routine		24	X
SIA Review		48	X

Latitude	43°59'38.42"N	Owner	STATE HIGHWAY DEPT
Longitude	87°43'45.21"W	Maintainer	STATE HIGHWAY DEPT

Time Log		Team members
Hours	Minutes	Brady R
0	45	

Name	Number	Signature	Date
Inspector			
Weber, Dale	3007	<i>Dale Weber</i> E-signed by Dale Weber(dotdsw)	06-21-17

BRIDGE INSPECTION REPORT
Wisconsin Department of Transportation
DT2007 2003 s.84.17 Wis. Stats.

page 2

Identification & Location

Feature On: IH 43 SB	Section Town Range: S27 T18N R23E	Structure Number: B-36-231
Feature Under: NEWTON RD	County: MANITOWOC	
Location 5.8M S JCT USH 151	Municipality: NEWTON	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 40	Bridge Roadway Width: 42.0	Total Length: 123.7
Approach Pavement Width: 24	Deck Width: 44.5	Deck Area (sq ft): 5504

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	2	10950	2017	ONE WAY TRAFFIC
Under	2	250	2017	TWO WAY TRAFFIC

Capacity

Load Rating

Inventory rating: rf1.37	Overburden depth (in):	Last rating date:	Controlling:
Operating rating: RF1.77	Deck surface material: CONCRETE	Re-rate for capacity (Y/N):	Control location:
Posting:	Re-rate notes:		

Hydraulic

Classification

Scour Critical Code(113):	Q100 (ft3/sec):	
High water elevation (ft):	Velocity (ft/sec):	Sufficiency #:

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONCRETE	HAUNCHED SLAB		30.0	Y
2	CONCRETE	HAUNCHED SLAB		60.5	
3	CONCRETE	HAUNCHED SLAB		30.0	

Expansion joint(s)

Temperature:

File:	New:
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Clearance

Item	File Measurement (ft)	File Date	New Measurement (ft)
Highway Min Vertical Under Cardinal	14.8		
Highway Min Vertical Under Non-Cardinal			
Horizontal Under Cardinal	56.0		
Horizontal Under Non-Cardinal			
Highway Min Vertical On Cardinal			
Horizontal On Cardinal			

Construction History

Year	Work Performed	FOS id
9999	NOT BUILT	1224-21-73

BRIDGE INSPECTION REPORT
Wisconsin Department of Transportation
DT2007 2003 s.84.17 Wis. Stats.

page 3

Structure No.: **B-36-231**

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	38		Reinforced Concrete Slab	SF	5,544	5,508	36	0	0
		1080	Delamination - Spall - Patched Area CS-2(Span 1-4 SF & Span 2-2 SF) Solid patches	SF		0	6	0	0
		1130	Cracking (RC) CS-2(Span 1-30 SF) Long. crack	SF		0	30	0	0
	8000		Wearing Surface (Bare)	SF	5,198	5,198	0	0	0
X	205		Reinforced Concrete Column	EA	6	6	0	0	0
X	215		Reinforced Concrete Abutment	LF	96	96	0	0	0
X	234		Reinforced Concrete Cap	LF	87	87	0	0	0
X	321		Reinforced Concrete Structural Approach Slab	SF	1,680	1,680	0	0	0
X	331		Reinforced Concrete Bridge Rail	LF	248	219	29	0	0
		1130	Cracking (RC) CS-2(W Side 16' & E Side 13') Vert. cracking	LF		0	29	0	0
X	8400		Integral Wingwall	EA	4	4	0	0	0

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	9001		Drainage - Approach Inlets at SW & SE quadrants	EA	4	4	0	0	0
X	9046		Slope Protection- Select Crushed Material Not placed as of 6/20/17	EA	2	2	0	0	0

NBI Ratings

	File	New
Deck	8	8
Superstructure	8	8
Substructure	8	8
Culvert	N	N
Channel	N	N
Waterway	N	N

BRIDGE INSPECTION REPORT
Wisconsin Department of Transportation
DT2007 2003 s.84.17 Wis. Stats.

page 4

Structure No.: **B-36-231**

Structure Specific Notes

Inspection Specific Notes

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Special Requirements

Chk	Hours	Cost	Comments
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STRUCTURE INVENTORY AND APPRAISAL FIELD REVIEW FORM

B-36-231
IH 43 SB over NEWTON RD

LOCATION

(3) Municipality:
(16) Latitude(° ' "):
(17) Longitude(° ' "):

NEWTON
43°59'38.42"N
87°43'45.21"W

TRAFFIC SERVICE

(28A) Lanes On:
(28B) Lanes Under:
(102) Traffic Pattern On:
(102) Traffic Pattern Under:
(19) Detour Length(mi):

2
2
-NO TRAFFIC ☒ -ONE WAY TRAFFIC -TWO WAY TRAFFIC
-NO TRAFFIC -ONE WAY TRAFFIC ☒ -TWO WAY TRAFFIC
27

GEOMETRY

(49) Structure Length(ft):
(50) Sidewalk Width(ft):
(50) Curb Width(ft):
(52) Culvert Barrel Length(ft):
(34) Skew:

(51) Bridge Roadway Width(ft):
(52) Deck Width(ft):
Right Wingwall Length(ft):
Left Wingwall Length(ft):
(32) Approach Roadway Width(ft):

(47) Minimum Horizontal(ft):
(55) Minimum Right Lateral(ft):
(56) Minimum Left Lateral(ft):

123.7	
Left:	Right:
Angle(°):	Direction: -RIGHT FORWARD -LEFT FORWARD
Cardinal	Non-Cardinal
42.0	
44.5	
40	0
Cardinal Under Clearance	Non-Cardinal Under Clearance
56.0	
17.0	
17.0	

RAILING APPRAISAL

(36A) Bridge Rail Adequacy:
(36B) Transition Adequacy:
(36C) Approach Guardrail Adequacy:
(36D) Guardrail Termination Adequacy:
Outer Rail:

-SUB-STANDARD ☒ -STANDARD -NOT APPLICABLE		
-SUB-STANDARD ☒ -STANDARD -NOT APPLICABLE		
-SUB-STANDARD ☒ -STANDARD -NOT APPLICABLE		
-SUB-STANDARD ☒ -STANDARD -NOT APPLICABLE		
Left	Right	Type
		TYPE F (TWO SQUARE TUBES) - STEEL(8)
		TYPE F (3 SQUARE TUBES) - STEEL(65)
		TYPE F (4 SQUARE TUBES) - STEEL(72)
		TYPE M-STEEL 3 SQUARE TUBES(93)
		SLOPED FACE PARAPET LF(91)
		SLOPED FACE PARAPET HF(92)
		VERTICAL FACE PARAPET TYPE A(74)
		TYPE W-THRIE BEAM(79)
		TYPE H ON VERTICAL PARAPET(80)
		TIMBER(38)
X	X	OTHER(99) (Please specify)
		Left:
		Right:
	CONT GUARD RAIL	
	NO APP GRDRL	
	NO ATTACHMENT	
5	22 MM(7/8") BOLT (Please enter quantity)	
	25 MM(1") BOLT (Please enter quantity)	
	OTHER (Please specify)	
X	(01) ENERGY ABSORBING TERMINAL/EAT	
	(02) TURN DOWN	
	(99) OTHER (Please specify)	

ROADWAY ALIGNMENT APPRAISAL

(72) Approach Alignment Appraisal:

	3 Intolerable- Substantial speed reduction
	6 Fair- Minor speed reduction
X	8 Good- No speed reduction

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Bridge

Main

Abutment

Pier

Span

Geometry

Approach

Sufficiency

Capacity

Hydraulic

Expansion Joint

Appraisal

ADT

Design load rating

HL93

Inventory load rating

RF1.28

Operating load rating

RF1.67

Load posting

Max vehicle weight (kips)

250

Load rating basis

LRFR

Load governing member

SLAB

Rating change date

2018-10-03

Girder section loss

Overburden depth (in)

0.0

Overburden depth date

2018-01-17

Deck protection

EPOXY COATED REINFORCING

Deck membrane

NONE

Deck surface

CONCRETE

Deck Composition

Material

CONCRETE(01)

Add material



add

Inspection

save

cancel

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SUFFICIENCY RATING CALCULATION**B-36-231 on 01/31/19****BUILDING S1**

Inventory Rating =	[41.47]	SuperStructure Rating is =	[8]
SubStructure Rating is =	[8]	Culvert Rating is =	[N]

$S1 = 55.0 - (A + B)$
 $55.00 = 55.0 - (0.0 + 0.00)$
-----> S1 = 55.00

BUILDING S2

Calculated Values ---> X = 5475.00 ---> Y = 6.40 ---> G = 0.0 ---> H = 0.0

Deck (58) Rating is =	[8]	Structural Eval.(67) Rating is =	[8]
Deck Geometry (68) Rating is =	[8]	UnderClearance (69) Rating is =	[6]
Water Adequacy (71) Rating is =	[N]	Approach Align. (72) Rating is =	[8]
ADT (29) =	[10950]	Road Way Width (51) m =	[12.80]
Approach Width (32) m =	[12.80]	Number of Lanes (28) =	[2]
Structure Type (43) =	[01]	Vertical Clearance (53) m =	[99.99]
STRAHNET (100) =	[1]	Traffic Pattern (102) =	[1]

$S2 = 30 - [J + (G + H) + I]$
 $30.00 = 30 - [0 + 0.00 + 0]$
-----> S2 = 30.00

BUILDING S3

ADT (29) =	[10950]	Detour Length (19) km =	[43]
------------	---------	-------------------------	------

$A = 22.07$
 $K = 1.00$

STRAHNET (100) =	[1]
------------------	-----

$S3 = 15.0 - (A + B)$
 $-2.00 = 15.0 - 15.00 + 2.0$
-----> S3 = 0.00(min:0,max:15)

Detour Length (19) km is =	[43]	Structure Type (43) is =	[01]
Traffic Safety number digits(36) is =	[0]		

$S4 = A + B + C$
 $0.03 = 0.03 + 0 + 0$
-----> **S4 = 0.03**

theRating is = S1 [55.00] + S2 [30.00] + S3 [0.00] - S4 [0.03]

FINAL RATING IS 85.0

Database-stored sufficiency

Inspection

save

cancel

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TRAFFIC DATA

IH 43
ADT = 11800 (2036)
RDS = 70 M.P.H.

NEWTON RD
ADT = 380 (2036)
RDS = 50 M.P.H.

DESIGN DATA

STRUCTURE IS DESIGNED FOR FUTURE WEARING SURFACE OF 20"/SQ. FT.

LIVE LOAD:

DESIGN LOADING _____ HL-93
INVENTORY RATING FACTOR _____ RF = 1.37
OPERATING RATING FACTOR _____ RF = 1.77
WISCONSIN STANDARD PERMIT
VEHICLE (Wis-SPV) _____ 250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY
SUPERSTRUCTURE _____ f'_c = 4,000 PSI
ALL OTHER _____ f'_c = 3,500 PSI
HIGH STRENGTH BAR STEEL
REINFORCEMENT, GRADE 60 _____ f_y = 60,000 PSI

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. PIER 1
9. PIER 2
10. PIER DETAILS
11. SUPERSTRUCTURE
12. SUPERSTRUCTURE DETAILS
13. STRUCTURAL APPROACH SLAB
14. STRUCTURAL APPROACH SLAB DETAILS
15. SINGLE SLOPE 32SS PARAPET
16. SLOPE PAVING

FOUNDATION DATA

ABUTMENTS AND PIERS TO BE SUPPORTED ON $10\frac{3}{4}$ X 0.25-INCH CIP CONCRETE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 130 TONS** PER PILE. ESTIMATED LENGTH = 75' AT EACH ABUTMENT. ESTIMATED LENGTH = 75' AT EACH PIER.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY			
OMNI ASSOCIATES			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	William C. Dreher, SR.	09/08/16	DATE
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE B-36-231			
IH 43 SB OVER NEWTON ROAD			
COUNTY	MANITOWOC	TOWN	NEWTON
DESIGN SPEC.	AASHTO LRFD BRIDGE DESIGN SPECIFICATION	LOAD	HL-93
DESIGNED BY	BRE	DESIGN CK'D.	KRO
DRAWN BY	BRE	PLANS CK'D.	KRO
GENERAL PLAN			SHEET 1 OF 16
			377

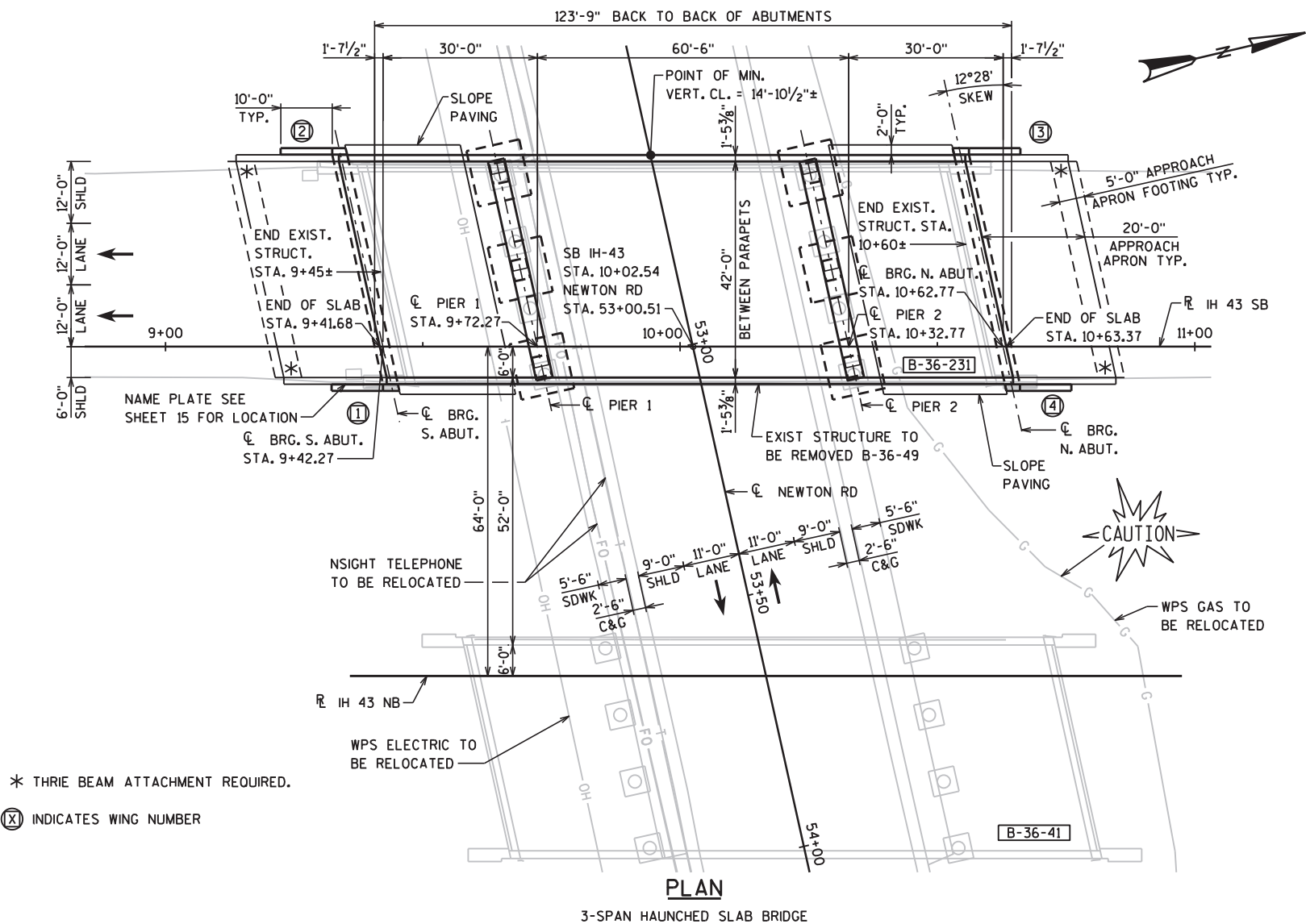
BRIDGE OFFICE CONTACT

WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT

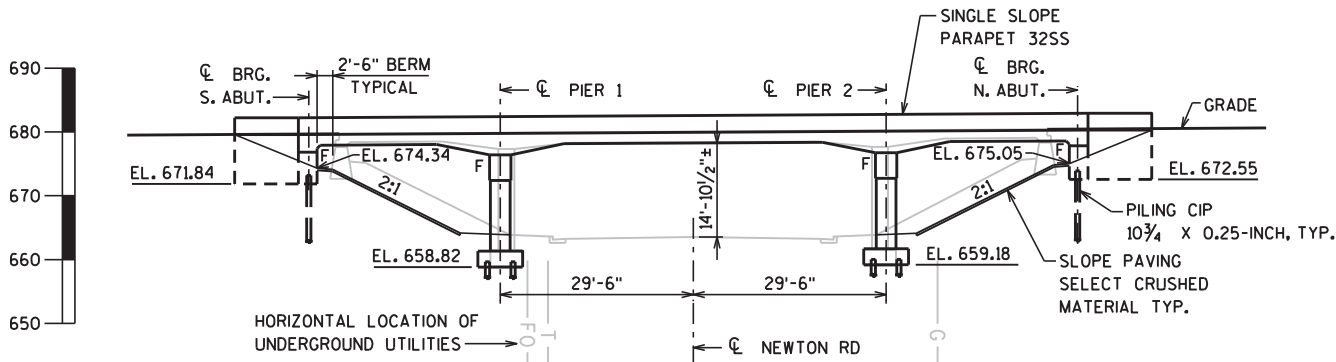
KRISTOFER OLSON
OMNI ASSOCIATES
(920) 735-6900

9/8/16



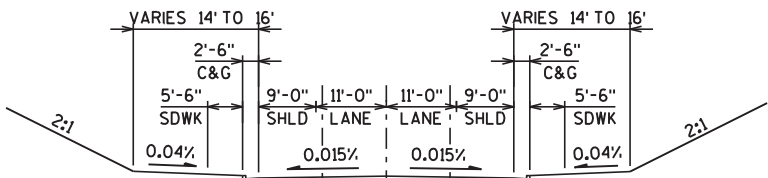
* THRIE BEAM ATTACHMENT REQUIRED.

(X) INDICATES WING NUMBER



ELEVATION

NORMAL TO NEWTON ROAD



TYPICAL FINISHED SECTION NEWTON ROAD



GENERAL NOTES:

DRAWING SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

AT ABUTMENTS ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH "BACKFILL STRUCTURE TYPE A".

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

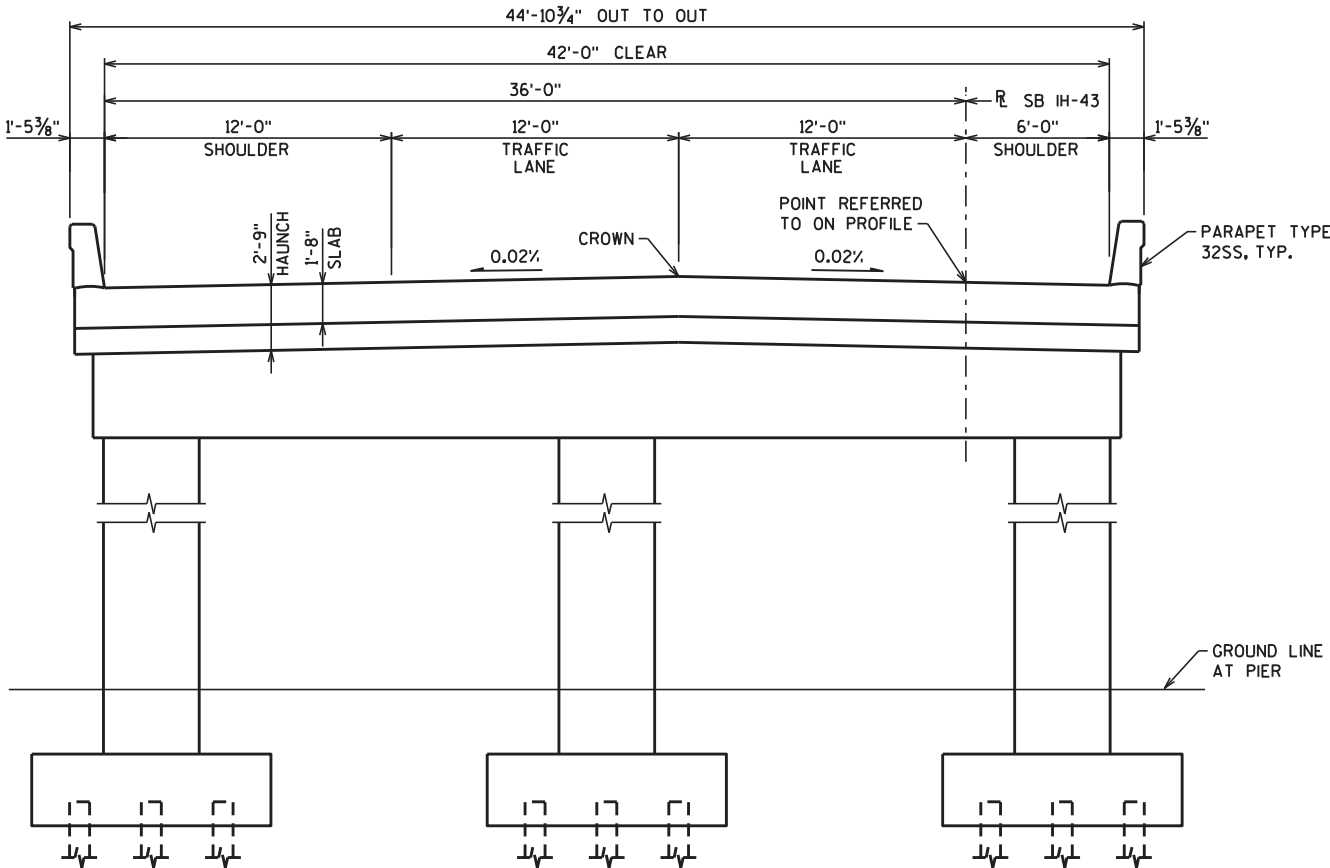
EXISTING BRIDGE B-36-49 IS A THREE SPAN HAUNCHED CONCRETE SLAB WITH AN OVERALL WIDTH OF 43'-0" AND AN OVERALL LENGTH OF 114'-10 1/2".

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SELECT CRUSHED MATERIAL TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE FOLLOWING COMPLETED SURFACES: TOP OF SLAB, PAVING NOTCH, TOPS OF APPROACH APRONS. PIGMENTED PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE FRONT FACES AND TOPS OF BOTH DECK & APPROACH PARAPETS.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

THE QUANTITY FOR BACKFILL STRUCTURE TYPE A, BID ITEM 210.1500, IS CALCULATED BASED ON THE APPLICABLE FIGURES 12.6-1 AND 12.6-2 IN THE WISCONSIN DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL.



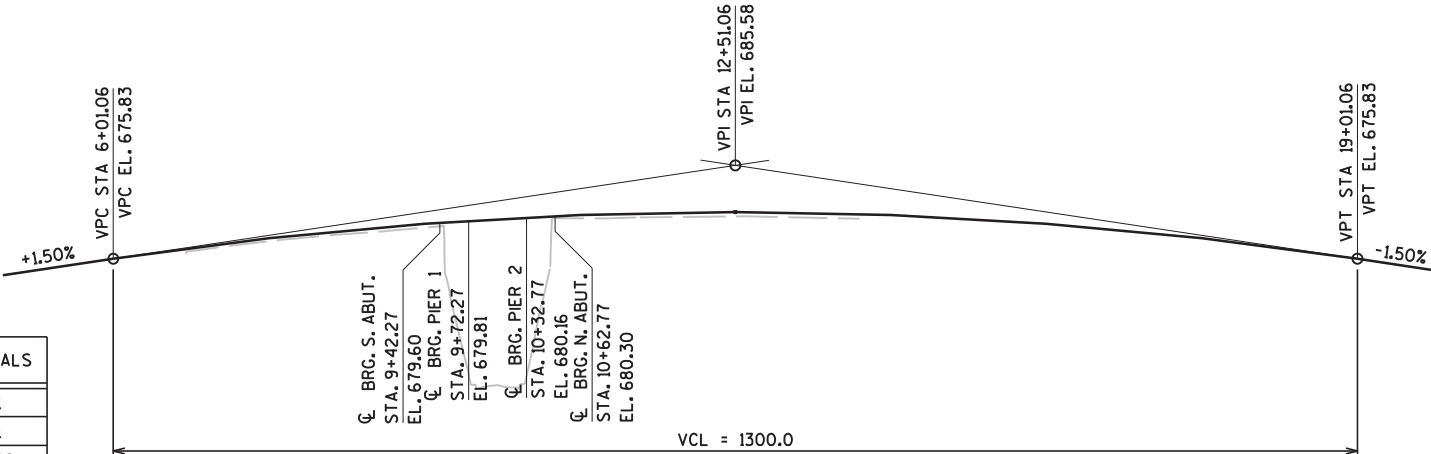
CROSS SECTION
(LOOKING NORTH)

BENCH MARKS

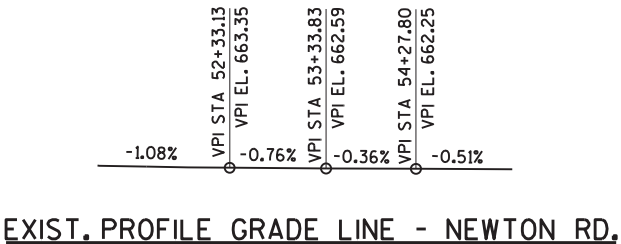
NO.	STATION	DESCRIPTION	ELEV.
1	9+65 100' RT.	BENCH MARK CAP TOP OF S.E. WING STRU. B-36-41	681.91
2	10+55 35' LT.	BENCH MARK CAP TOP OF N.W. WING STRU. B-36-49	682.59

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	SUPER.	SOUTH ABUT.	NORTH ABUT.	PIER 1	PIER 2	S. APRCH. APRON	N. APRCH. APRON	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 10+02	LS	---	---	---	---	---	---	---	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-36-231	LS	---	---	---	---	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	---	210	210	---	---	---	---	420
305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	---	---	---	---	---	145	145	290
502.0100	CONCRETE MASONRY BRIDGES	CY	411	42	42	63	63	63	63	747
502.3200	PROTECTIVE SURFACE TREATMENT	SY	590	---	---	---	---	95	95	780
502.3210	PIGMENTED SURFACE SEALER	SY	100	---	---	---	---	15	15	130
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	---	2930	2920	2290	2290	---	---	10,430
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	89800	1260	1260	8680	8680	10310	10310	130,300
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	---	---	---	---	---	207	207	414
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	---	10	10	---	---	---	---	20
550.2104	PILING CIP CONCRETE 10 3/4 X 0.25-INCH	LF	---	525	525	2250	2250	---	---	5,550
604.0600	SLOPE PAVING SELECT CRUSHED MATERIAL	SY	---	139	139	---	---	---	---	278
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	---	70	70	---	---	50	50	240
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4	---	---	---	---	---	---	4
NON-BID ITEMS										
	FILLER	SIZE	-----	-----	-----	-----	-----	-----	-----	1/2" & 3/4"

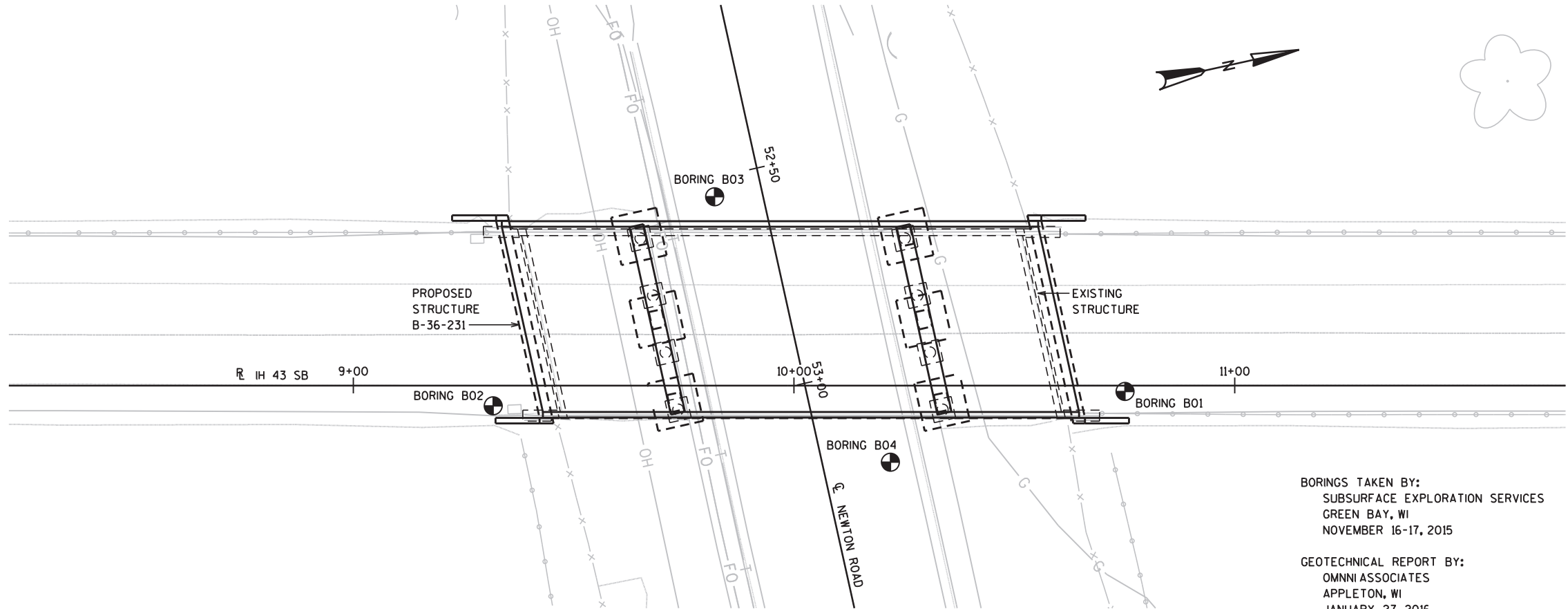


PROFILE GRADE LINE - SOUTHBOUND IH 43



EXIST. PROFILE GRADE LINE - NEWTON RD.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-231			
DRAWN BY		BRE	PLANS CK'D. KRO
CROSS SECTION & QUANTITIES		SHEET 2 OF 16	
		378	



BORINGS TAKEN BY:
SUBSURFACE EXPLORATION SERVICES
GREEN BAY, WI
NOVEMBER 16-17, 2015

GEOTECHNICAL REPORT BY:
OMNI ASSOCIATES
APPLETON, WI
JANUARY 27, 2016

ABBREVIATIONS
F—Fine M—Medium C—Coarse
Ws—Weathered So—Sound

MATERIAL SYMBOLS
Topsoil Silt Sandstone
Sand Peat Limestone
Gravel Clay Igneous Rock

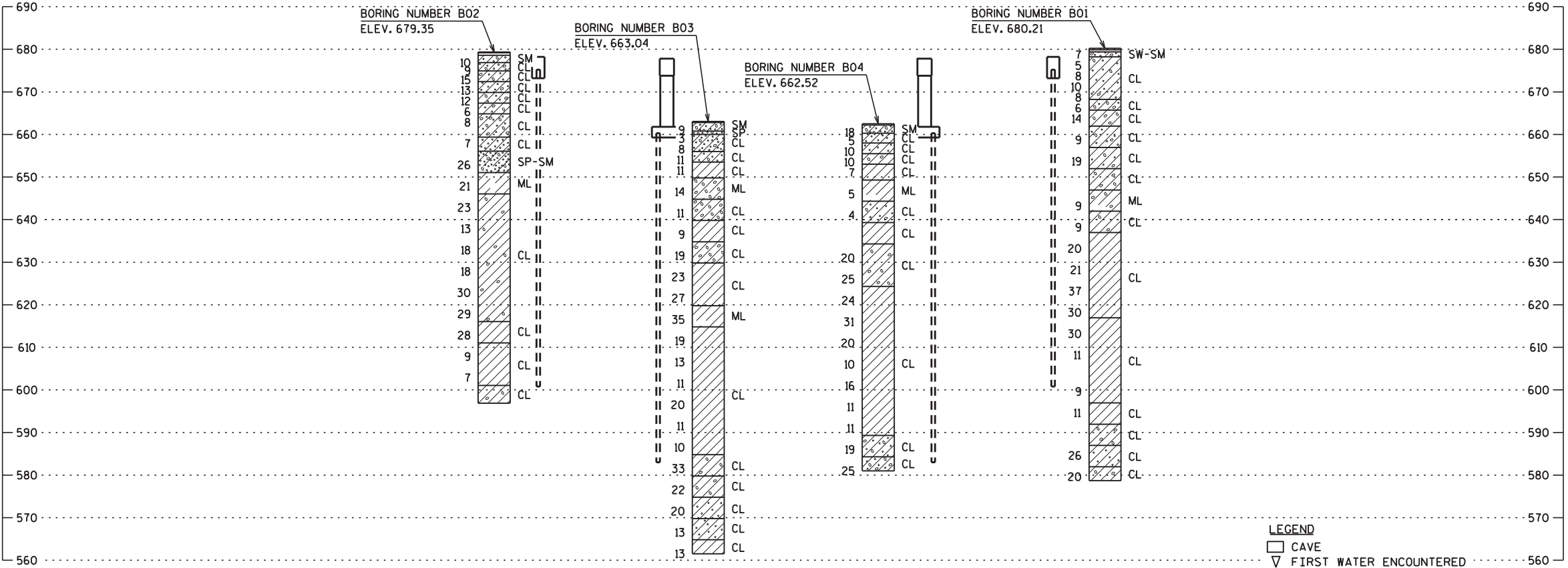
LEGEND OF PROBING
Probing No.
Sta.
Elevation
95/6=95 Blows for 6" Penetration
Probing taken with a 350*wt. Falling 18" on a 2" O.D. Point.
7 Average Blows Per Foot
Refusal 95/6

LEGEND OF BORING
Boring No.
Sta.
Elev.
Unconfined Strength—7.7
Blows Per Ft. Using 140* Wt. Falling 30"
Wash Sample
Shelby Tube — S.T.
Ground Water Elevation
No Ground Water Observed Above This Elevation
Sandy Gravel
F. Boulders or Cobbles
Sand
Silty Clay
So Limestone

Unless otherwise specified, the blows per foot at the locations indicated are based on driving a 0.D.x1.4" I.D. split spoon sampler with a 140* hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways does not warrant conditions below the depths investigated or that the classification of material encountered in these investigations is necessarily typical of the entire site.

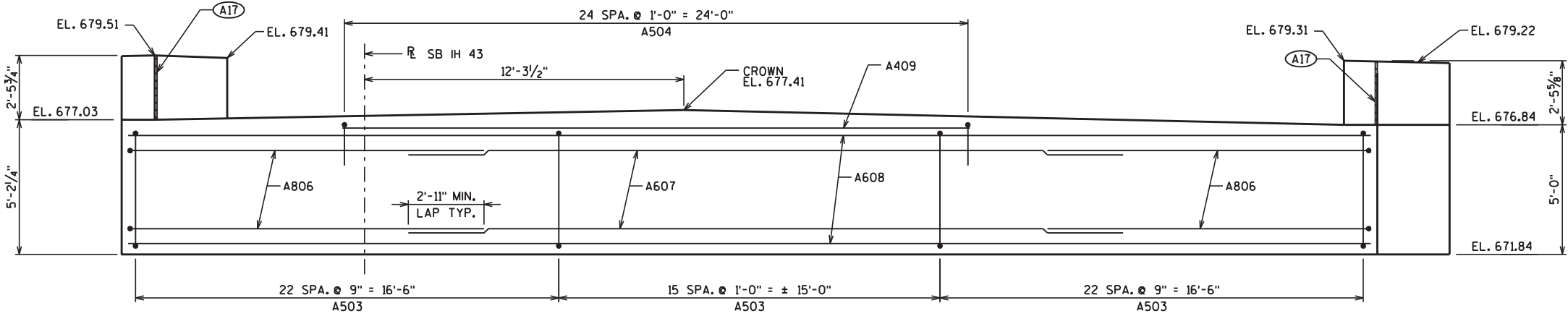


LEGEND
CAVE
FIRST WATER ENCOUNTERED
COMPLETION WATER ENCOUNTERED

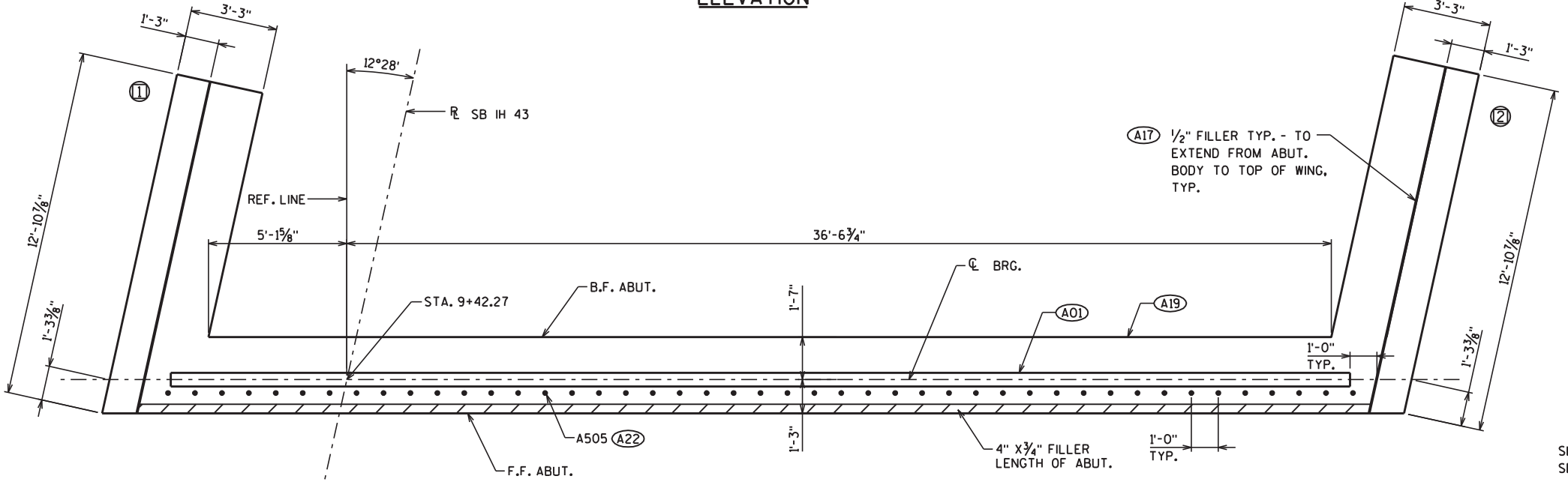
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-36-231			
DRAWN BY		BRE	PLANS CK'D. KRO
SUBSURFACE EXPLORATION		SHEET 3 OF 16	
		379	

LEGEND

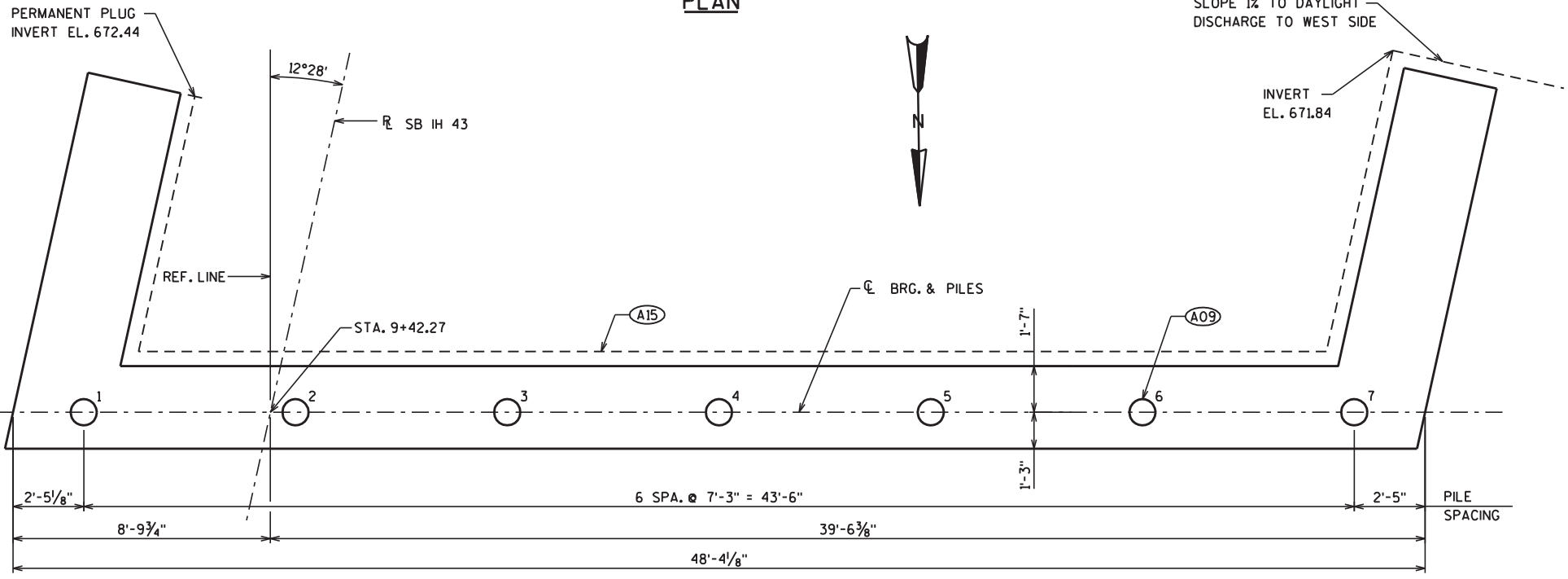
- (A01) CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.
- (A09) SUPPORT ABUTMENT ON 10 3/4" DIA. 0.250-INCH WALL THK. CAST-IN-PLACE CONCRETE PILING, ESTIMATED 75'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN, SEE SHEET 5 FOR DETAILS.
- (A17) SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- (A22) A505 BARS SPACED @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)
- SEE SHEET 5 FOR BILL OF BARS, BAR BENDING DIAGRAMS AND PILE SPlice DETAILS.
- (X) INDICATES WING NUMBER



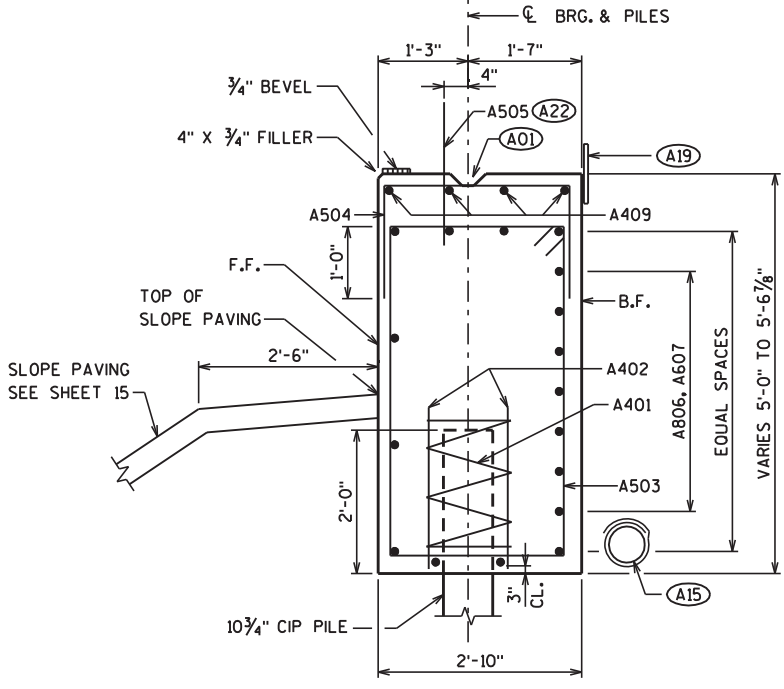
ELEVATION



PLAN



PILE PLAN



SECTION THRU ABUTMENT BODY

HORIZ. BARS NOT OTHERWISE IDENTIFIED ARE A608 BARS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-231			
DRAWN BY		KRW	PLANS CK'D. JAW
SOUTH ABUTMENT		SHEET 4 OF 16	
		380	

LEGEND

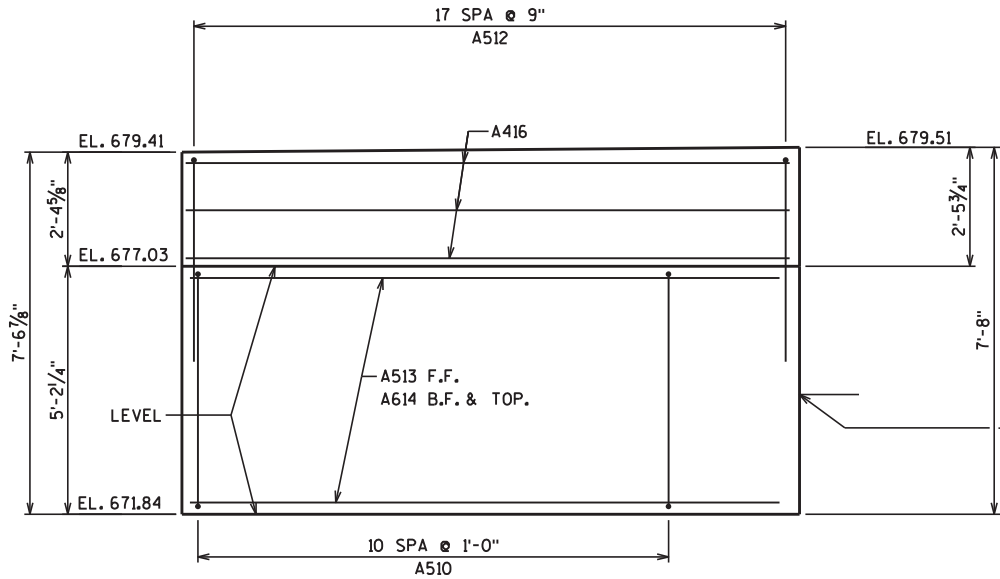
(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2" x 6". (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

(A17) 1/2" FILLER: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)

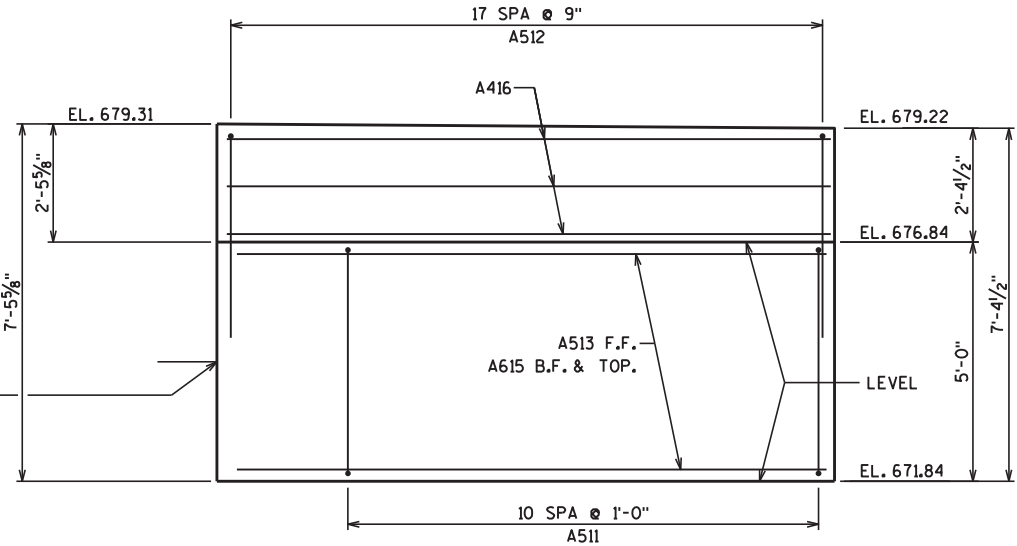
◆ SLOPE TO DRAIN. SLOPE SAME AS SUPERSTRUCTURE.

BILL OF BARS

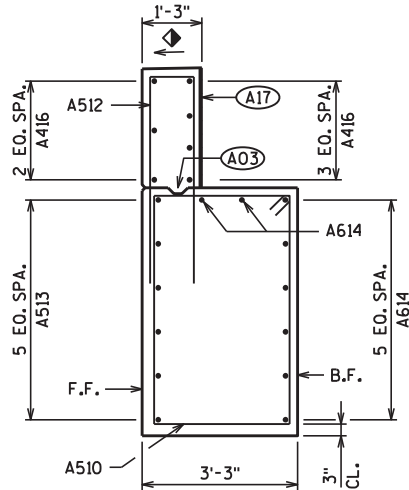
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
A401		7	28'-0"	X	BODY - ONE PER PILE
A402		14	2'-3"		BODY - TWO PER PILE
A503		60	14'-10"	X	BODY - STIRRUPS
A504		25	5'-5"	X	BODY - VERTICAL, TOP
A505		45	2'-0"		BODY - VERTICAL, DOWEL
A806		14	14'-5"	X	BODY - HORIZONTAL B.F.
A607		7	27'-6"		BODY - HORIZONTAL B.F.
A608		10	48'-0"		BODY - HORIZONTAL F.F., TOP, BOTT.
A409		4	24'-0"		BODY - HORIZONTAL TOP
A510	X	11	16'-0"	X	WINGS - STIRRUPS, W1
A511	X	11	15'-8"	X	WINGS - STIRRUPS, W2
A512	X	36	9'-0"	X	WINGS - VERTICAL
A513	X	12	12'-4"		WINGS - HORIZONTAL, F.F.
A614	X	8	11'-5"		WING 1 - HORIZONTAL, B.F. & TOP
A615	X	8	12'-9"		WING 2 - HORIZONTAL, B.F. & TOP
A416	X	14	12'-4"		WINGS - HORIZONTAL



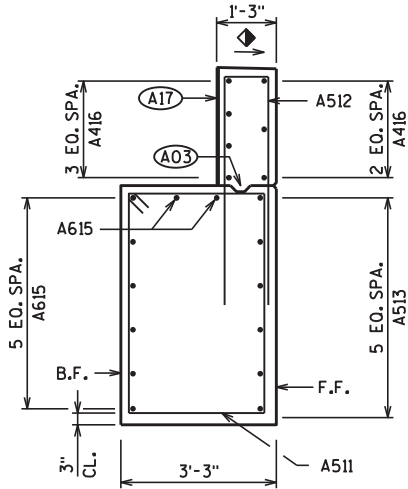
WING 1 ELEVATION



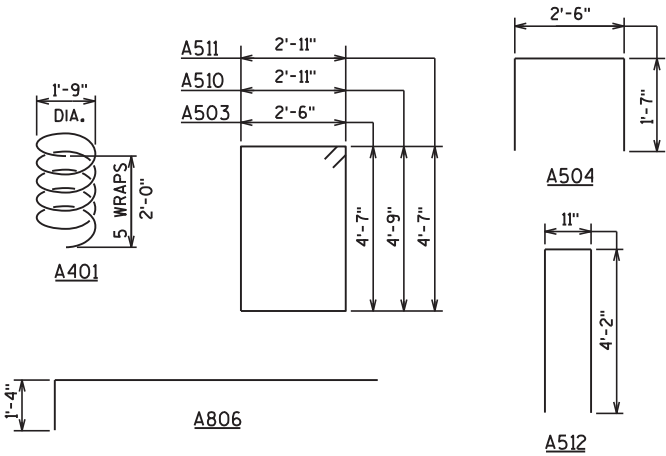
WING 2 ELEVATION



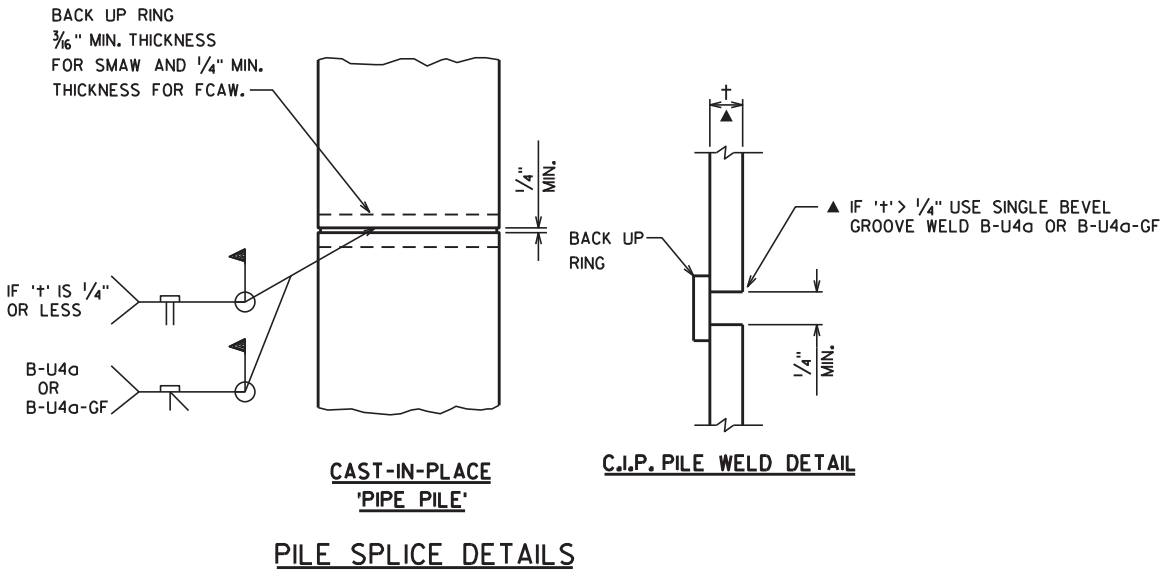
WING 1 SECTION



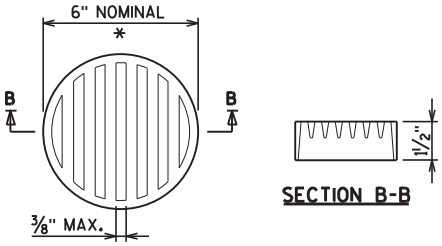
WING 2 SECTION



BAR BENDING DIAGRAMS



PILE SPLICE DETAILS



RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-231			
DRAWN BY		KRW	PLANS CK'D. JAW
SOUTH ABUTMENT DETAILS		SHEET 5 OF 16	
		381	

(A01) CONSTRUCTION JOINT: KEYWAY FORMED BY A BEVELED 2×6 .

(A09) SUPPORT ABUTMENT ON 10 3/4" DIA. 0.250-INCH WALL THK. CAST-IN-PLACE CONCRETE PILING, ESTIMATED 75' LONG WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN, SEE SHEET 5 FOR DETAILS.

(A17) SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)

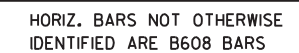
(A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

(A22) B505 BARS SPACED @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

SEE SHEET 7 FOR BILL OF BARS AND BAR BENDING DIAGRAMS.

SEE SHEET 5 FOR PILE SPLICE DETAILS.

(IX) INDICATES WING NUMBER



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-231			
DRAWN BY		KRW	PLANS CKD. JAW
NORTH ABUTMENT		SHEET 6 OF 16	
		382	

LEGEND

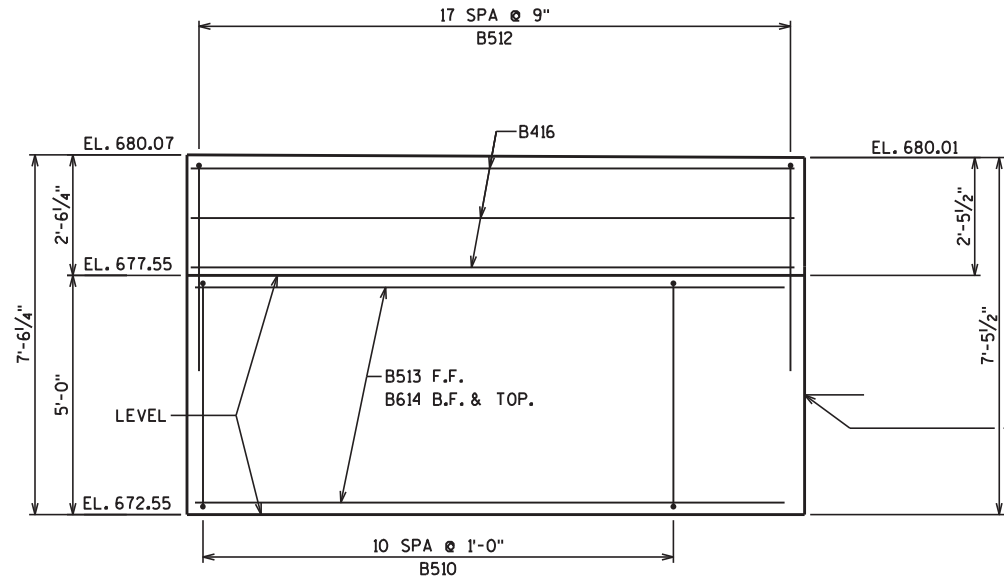
(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2" x 6". (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

(A17) 1/2" FILLER: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)

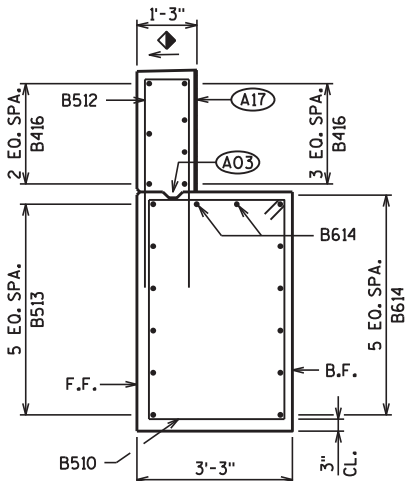
◆ SLOPE TO DRAIN. SLOPE SAME AS SUPERSTRUCTURE.

BILL OF BARS

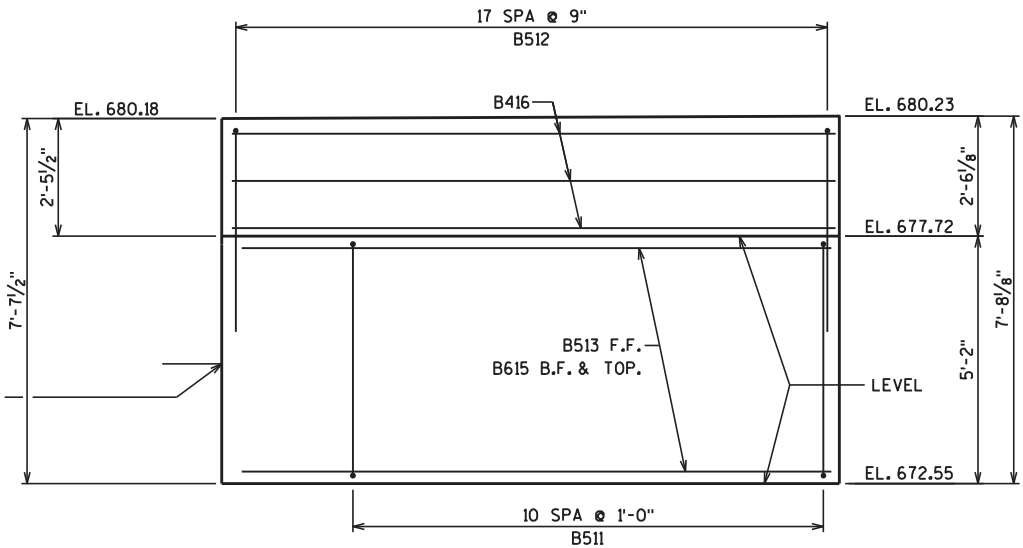
BAR MARK	COAT	NO. REO'D.	LENGTH	BENT	LOCATION
B401		7	28'-0"	X	BODY - ONE PER PILE
B402		14	2'-3"		BODY - TWO PER PILE
B503		60	14'-10"	X	BODY - STIRRUPS
B504		24	5'-4"	X	BODY - VERTICAL, TOP
B505		45	2'-0"		BODY - VERTICAL, DOWEL
B806		14	14'-5"	X	BODY - HORIZONTAL B.F.
B607		7	27'-6"		BODY - HORIZONTAL B.F.
B608		10	48'-0"		BODY - HORIZONTAL F.F., TOP, BOTT.
B409		4	23'-0"		BODY - HORIZONTAL TOP
B510	X	11	15'-8"	X	WINGS - STIRRUPS, W3
B511	X	11	16'-0"	X	WINGS - STIRRUPS, W4
B512	X	36	9'-0"	X	WINGS - VERTICAL, W3
B513	X	12	12'-4"		WINGS - HORIZONTAL, F.F.
B614	X	8	11'-5"		WING 3 - HORIZONTAL, B.F. & TOP
B615	X	8	12'-9"		WING 4 - HORIZONTAL, B.F. & TOP
B416	X	14	12'-4"		WINGS - HORIZONTAL



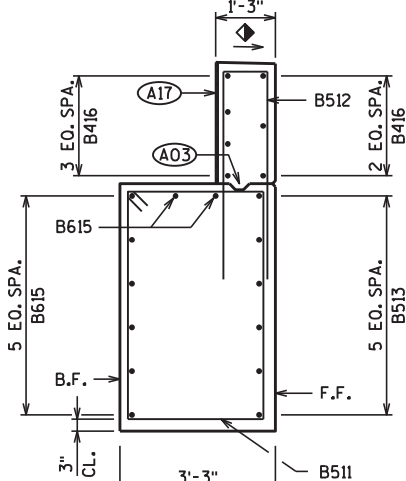
WING 3 ELEVATION



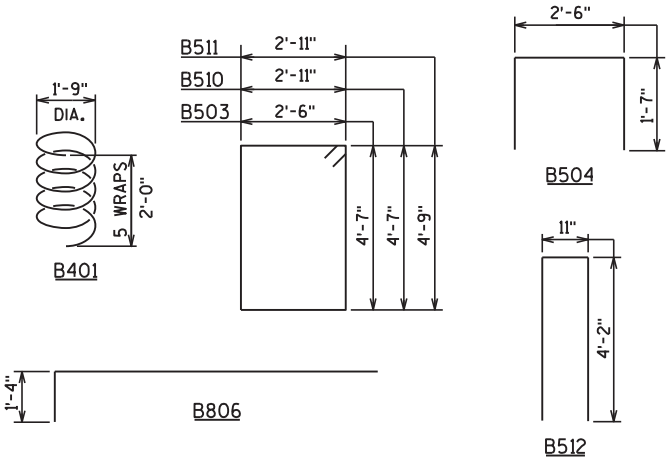
WING 3 SECTION



WING 4 ELEVATION

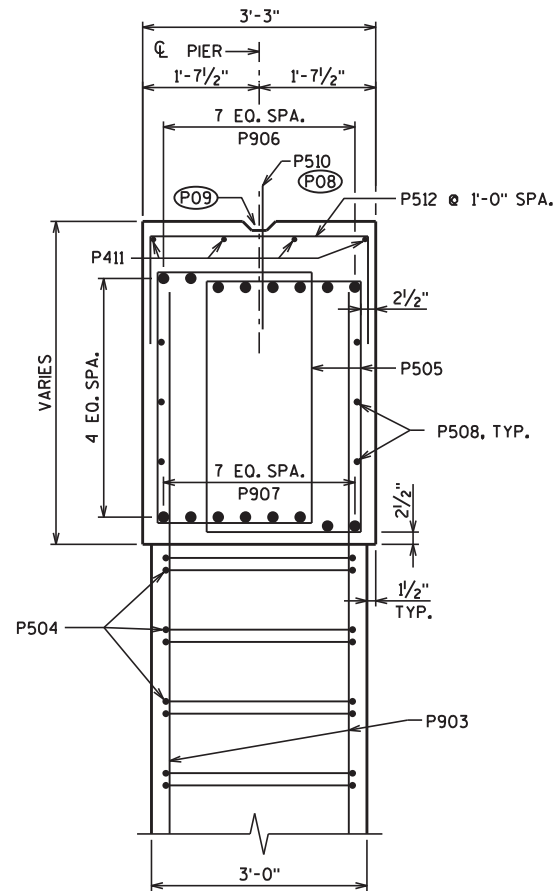
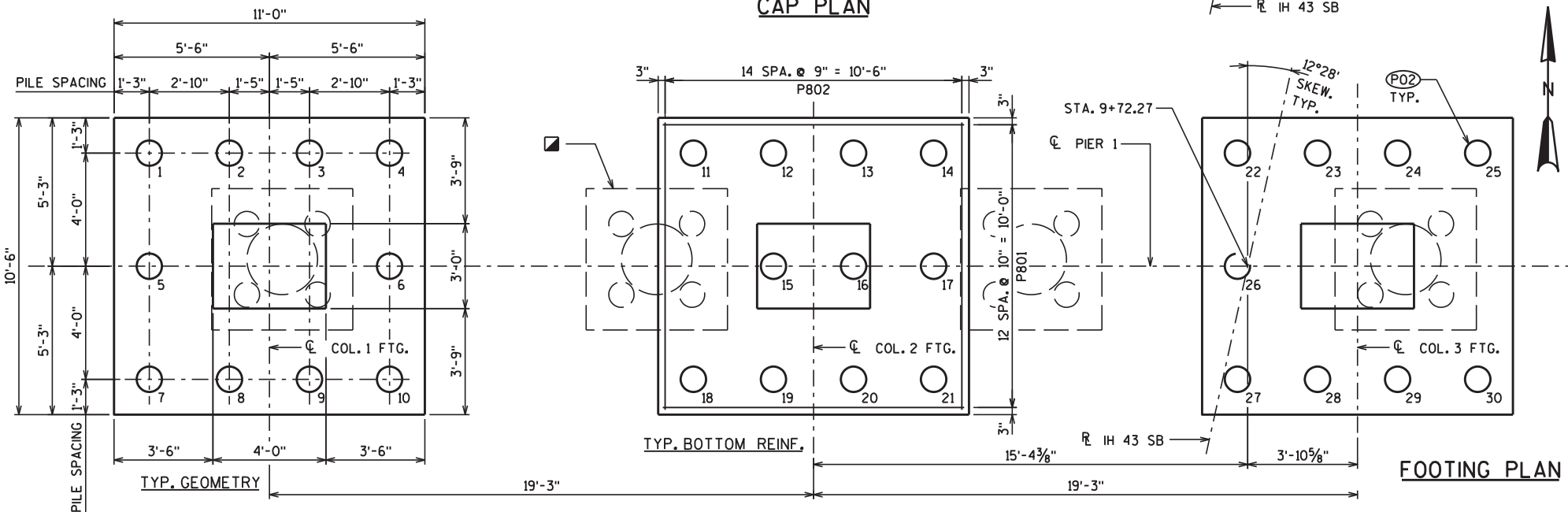
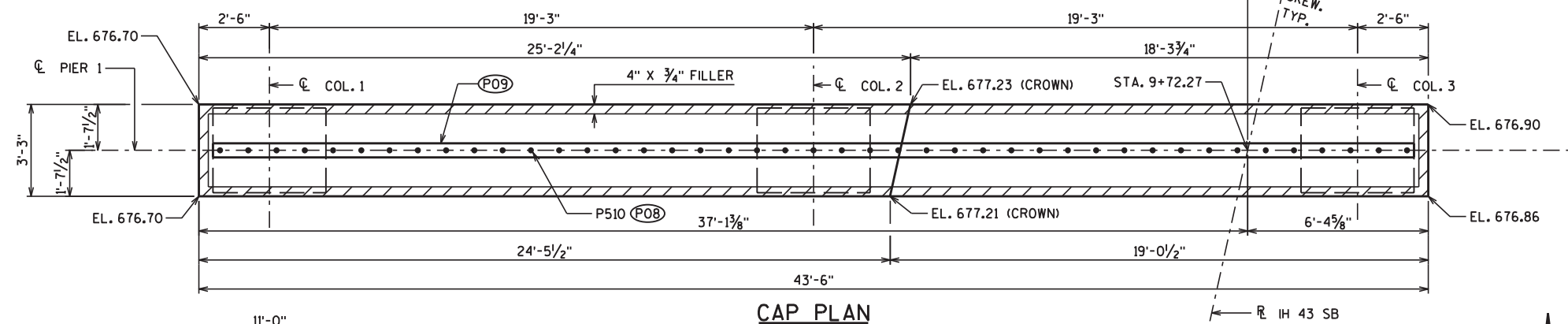
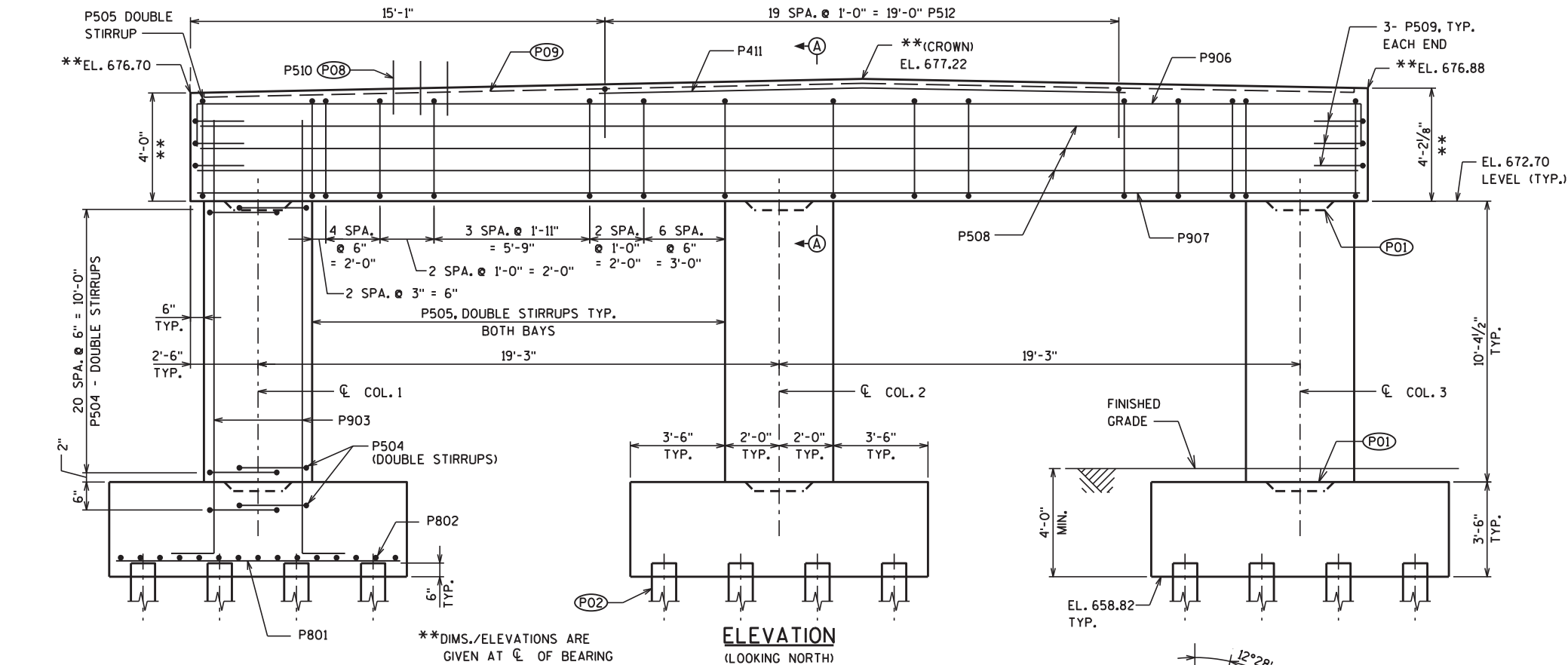


WING 4 SECTION



BAR BENDING DIAGRAMS

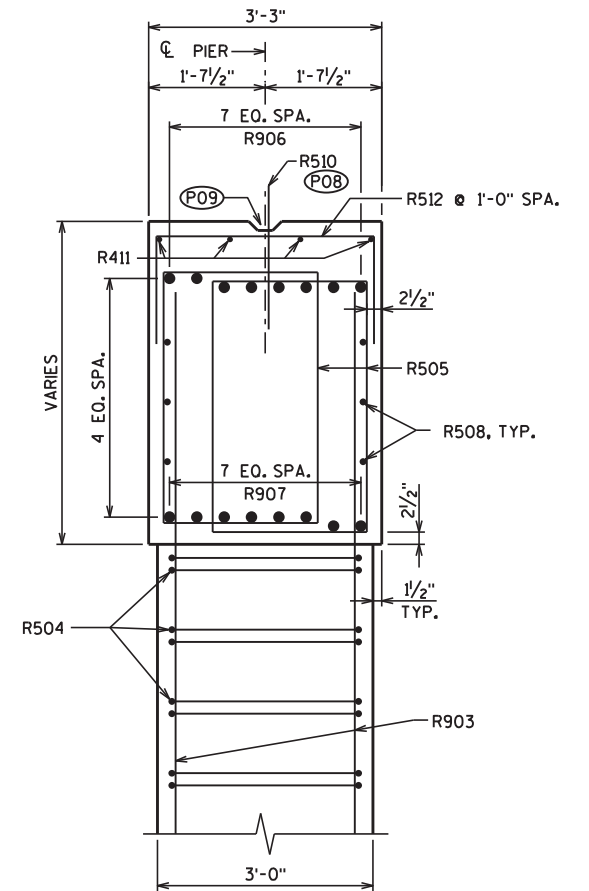
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-231			
DRAWN BY		KRW	PLANS CK'D. JAW
NORTH ABUTMENT DETAILS		SHEET 7 OF 16	
		383	

**NOTES**

- (P01) 1'-3" X 2'-6" X 4" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.
- (P02) PIER TO BE SUPPORTED ON 10 3/4" X 0.25-INCH CIP CONCRETE PILING, ESTIMATED 75 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE. PILING FROM EXISTING BRIDGE THAT FALL WITHIN THE PILE CAP SHALL BE INCORPORATED INTO THE NEW PIER.
- (P08) P510 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)
- (P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2 X 6. (TERMINATE 6" FROM EDGE OF PIER CAP.)
- REMOVE EXISTING PILE CAP WITHOUT DAMAGING EXISTING PILES.

SEE SHEET 10 FOR SECTION THRU COLUMN, BILL OF BARS, BAR BENDING DIAGRAMS AND PILE SPLICE DETAILS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-231			
DRAWN BY		KRO	PLANS CK'D. BRE
PIER 1		SHEET 8 OF 16	
		384	



SECTION A-A THRU CAP

(P01) 1'-3" X 2'-6" X 4" CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

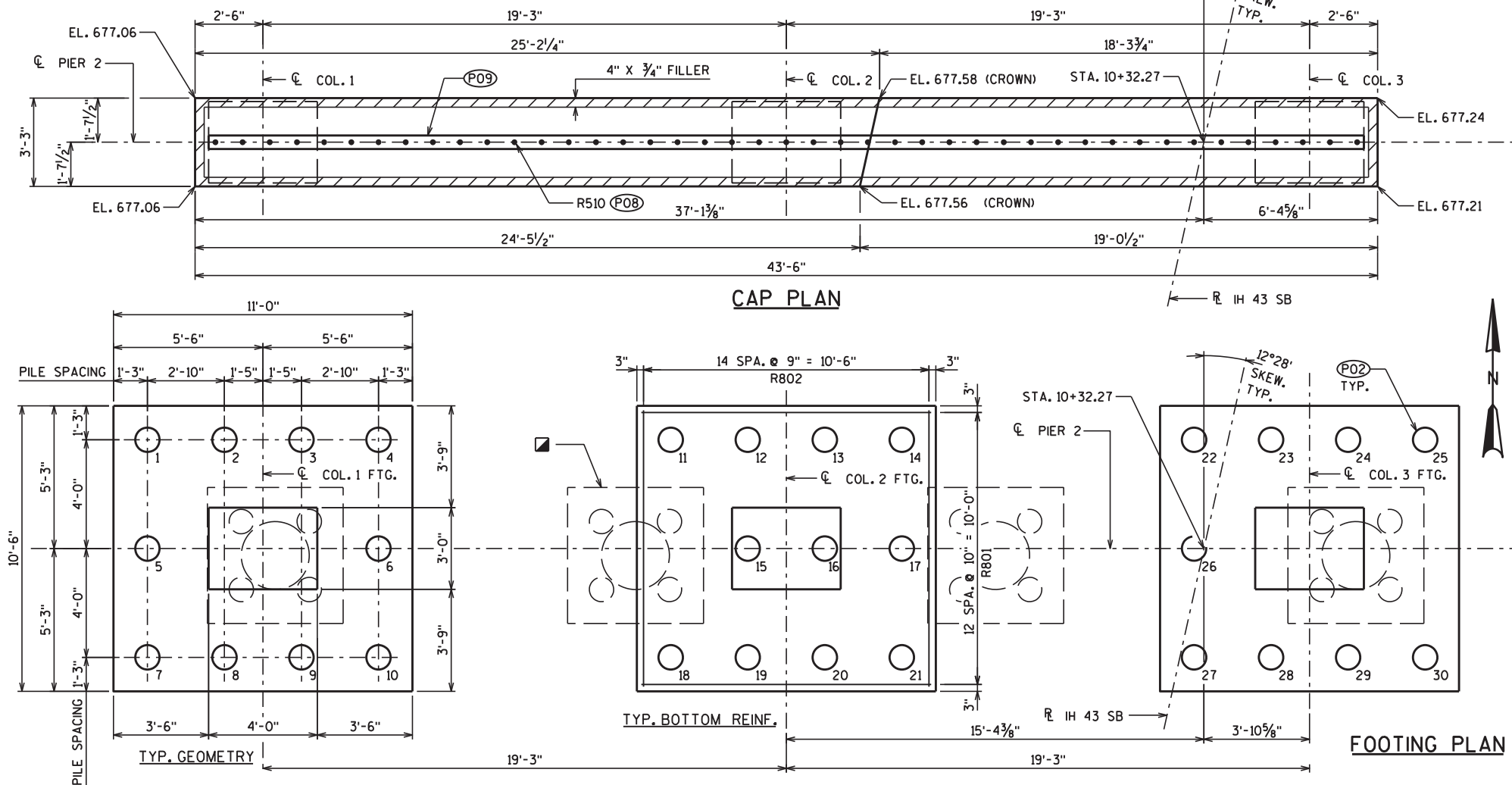
(P02) PIER TO BE SUPPORTED ON 10 3/4" X 0.25-INCH CIP CONCRETE PILING, ESTIMATED 75 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 130 TONS PER PILE. PILING FROM EXISTING BRIDGE THAT FALL WITHIN THE PILE CAP SHALL BE INCORPORATED INTO THE NEW PIER.

(P08) R510 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2 X 6. (TERMINATE 6" FROM EDGE OF PIER CAP.)

☒ REMOVE EXISTING PILE CAP WITHOUT DAMAGING EXISTING PILES.

SEE SHEET 10 FOR SECTION THRU COLUMN, BILL OF BARS, BAR BENDING
DIAGRAMS AND PILE SPLICE DETAILS.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-231			
DRAWN BY		KRO	PLANS CK'D. BRE
PIER 2		SHEET 9 OF 16	
		385	

BILL OF BARS

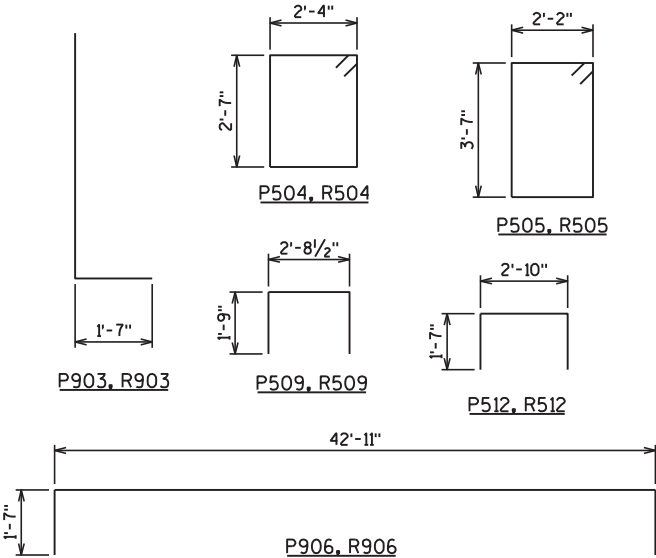
PIER 1

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
P801		39	10'-6"		FOOTING - HORIZONTAL
P802		45	10'-0"		FOOTING - HORIZONTAL
P903	X	54	17'-5"	X	COLUMN - VERTICAL
P504	X	132	10'-6"	X	COLUMN - DOUBLE STIRRUPS
P505	X	84	12'-2"	X	CAP - DOUBLE STIRRUPS
P906	X	8	45'-7"	X	CAP - HORIZONTAL - TOP
P907	X	8	43'-0"		CAP - HORIZONTAL - BOTTOM
P508	X	6	43'-0"		CAP - HORIZONTAL - SIDES
P509	X	6	6'-0"	X	CAP - ENDS
P510	X	42	2'-0"		CAP - DOWELS
P411	X	4	19'-0"		CAP - HORIZONTAL - TOP
P512	X	20	5'-7"	X	CAP - VERTICAL - TOP

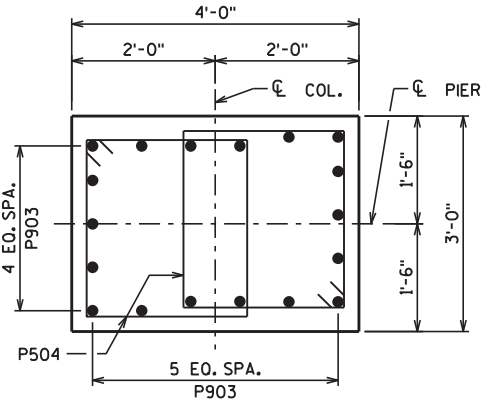
BILL OF BARS

PIER 2

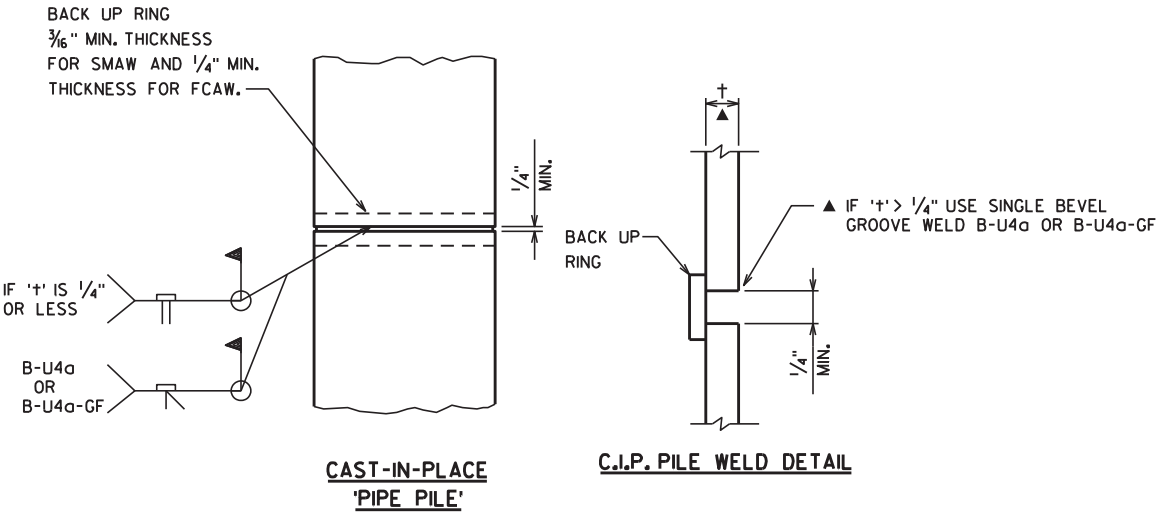
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
R801		39	10'-6"		FOOTING - HORIZONTAL
R802		45	10'-0"		FOOTING - HORIZONTAL
R903	X	54	17'-5"	X	COLUMN - VERTICAL
R504	X	132	10'-6"	X	COLUMN - DOUBLE STIRRUPS
R505	X	84	12'-2"	X	CAP - DOUBLE STIRRUPS
R906	X	8	45'-7"	X	CAP - HORIZONTAL - TOP
R907	X	8	43'-0"		CAP - HORIZONTAL - BOTTOM
R508	X	6	43'-0"		CAP - HORIZONTAL - SIDES
R509	X	6	6'-0"	X	CAP - ENDS
R510	X	42	2'-0"		CAP - DOWELS
R411	X	4	19'-0"		CAP - HORIZONTAL - TOP
R512	X	20	5'-7"	X	CAP - VERTICAL - TOP



BAR BENDING DIAGRAMS



TYPICAL SECTION THRU COLUMN



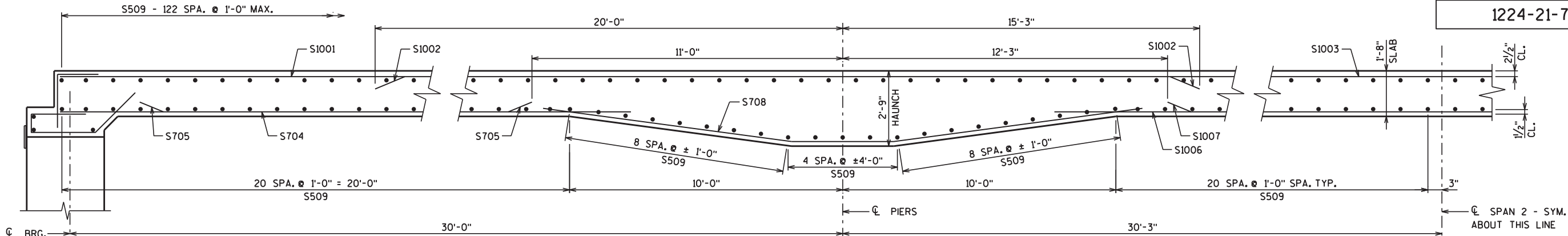
PILE SPLICE DETAILS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-231			
	DRAWN BY	BRE	PLANS CK'D. KRO
PIER DETAILS		SHEET 10 OF 16	
		386	

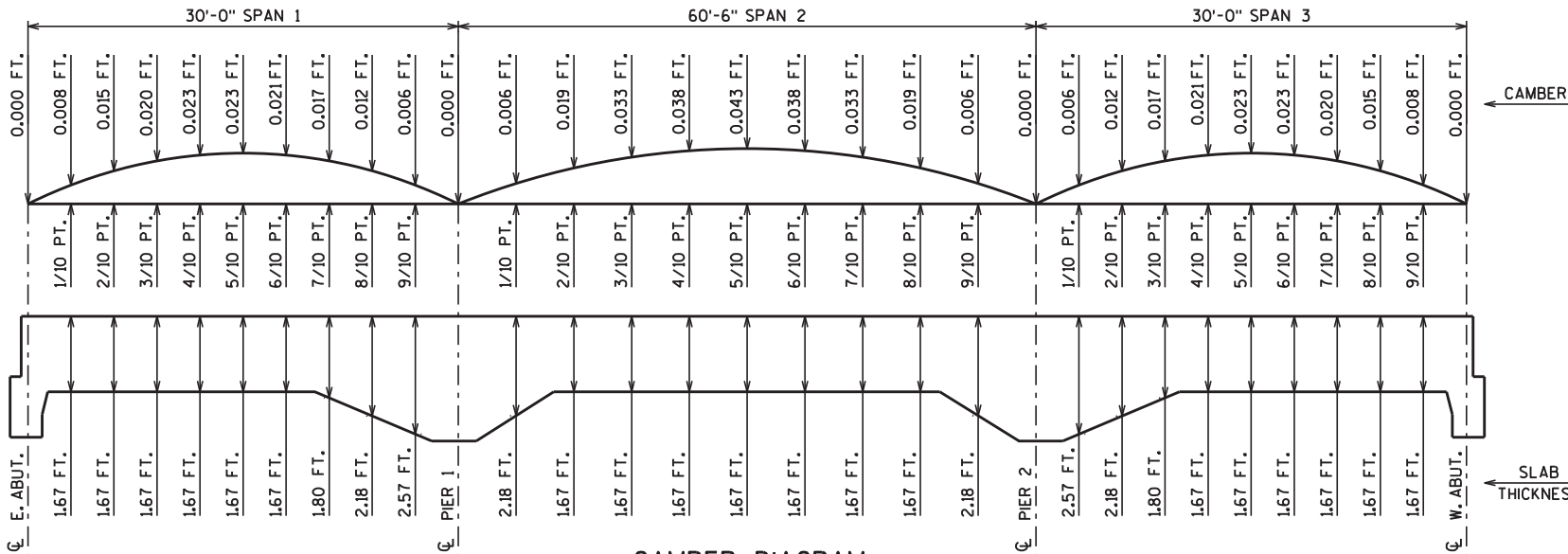


(A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-231			
DRAWN BY		BRE	PLANS CK'D. JAW
SUPERSTRUCTURE		SHEET 11 OF 16	
		387	



LONGITUDINAL SECTION THRU ROADWAY



CAMBER DIAGRAM

CAMBER IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEADLOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. PARAPETS SHOWN ABOVE THE HORIZ. CONST. JT. SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

TOP OF DECK ELEVATIONS

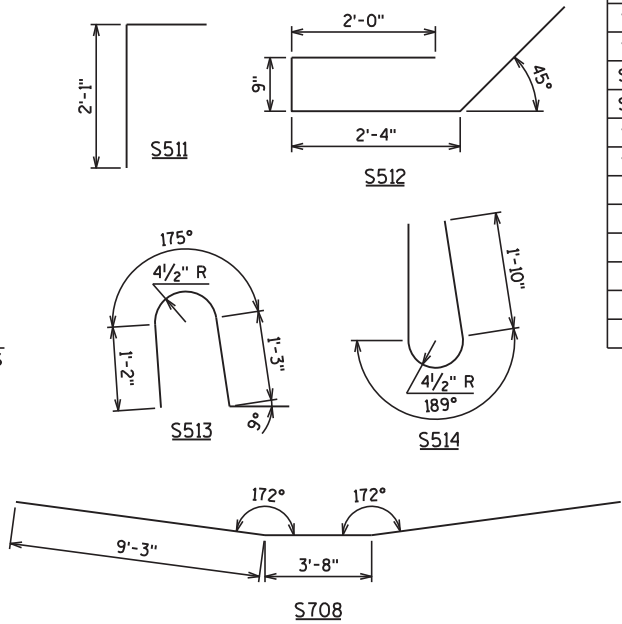
LOCATION	S.ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER 1
W. EDGE	679.28	679.30	679.32	679.35	679.37	679.39	679.41	679.43	679.45	679.47	679.49
CROWN	679.83	679.85	679.87	679.89	679.91	679.93	679.95	679.97	679.99	680.01	680.03
PROFILE	679.60	679.63	679.65	679.67	679.69	679.71	679.73	679.75	679.77	679.79	679.81
E. EDGE	679.47	679.49	679.51	679.53	679.55	679.57	679.60	679.62	679.63	679.65	679.67

LOCATION	PIER 1	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER 2
W. EDGE	679.49	679.53	679.57	679.61	679.64	679.68	679.71	679.75	679.78	679.82	679.85
CROWN	680.03	680.07	680.11	680.15	680.18	680.22	680.25	680.29	680.32	680.35	680.38
PROFILE	679.81	679.85	679.88	679.92	679.96	679.99	680.03	680.06	680.09	680.12	680.16
E. EDGE	679.67	679.71	679.75	679.79	679.82	679.86	679.89	679.92	679.96	679.99	680.02

LOCATION	PIER 2	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	N.ABUT.
W. EDGE	679.85	679.86	679.88	679.89	679.91	679.92	679.94	679.95	679.97	679.98	679.99
CROWN	680.38	680.40	680.41	680.43	680.44	680.46	680.47	680.48	680.50	680.51	680.52
PROFILE	680.16	680.17	680.18	680.20	680.21	680.23	680.24	680.26	680.27	680.28	680.30
E. EDGE	680.02	680.03	680.05	680.06	680.08	680.09	680.10	680.12	680.13	680.14	680.16

BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
S1001	X	98	55'-0"		LONGITUDINAL TOP
S1002	X	96	35'-3"		LONGITUDINAL TOP
S1003	X	49	30'-0"		LONGITUDINAL TOP
S704	x	84	22'-9"		LONGITUDINAL BOTTOM
S705	x	82	18'-0"		LONGITUDINAL BOTTOM
S1006	X	42	50'-2"		LONGITUDINAL BOTTOM
S1007	X	41	36'-0"		LONGITUDINAL BOTTOM
S708	X	90	22'-2"	X	LONGITUDINAL BOTTOM AT PIER
S509	X	253	45'-1"		TRANSVERSE TOP & BOTTOM
S510	X	244	5'-0"		TRANSVERSE TOP
S511	X	90	3'-6"	X	END OF SLAB
S512	X	90	6'-11"	X	END OF SLAB
S513	X	366	4'-5"	X	PARAPET VERTICAL
S514	X	366	5'-0"	X	PARAPET VERTICAL
S515	X	36	41'-8"		PARAPET HORIZONTAL



BAR BEND DIAGRAMS

NOTES

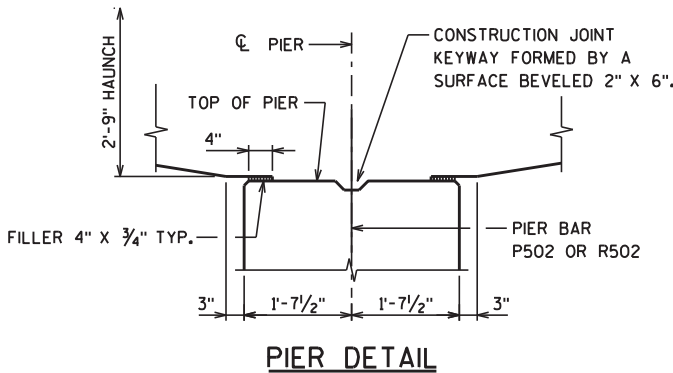
SLAB THICKNESS DIMENSION IS MINIMUM. ANY TOLERANCES TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

TOP TRANSVERSE BARS IN THE SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

TRANSVERSE BARS SHALL BE PLACED PARALLEL TO THE CL OF SUBSTRUCTURE UNITS.

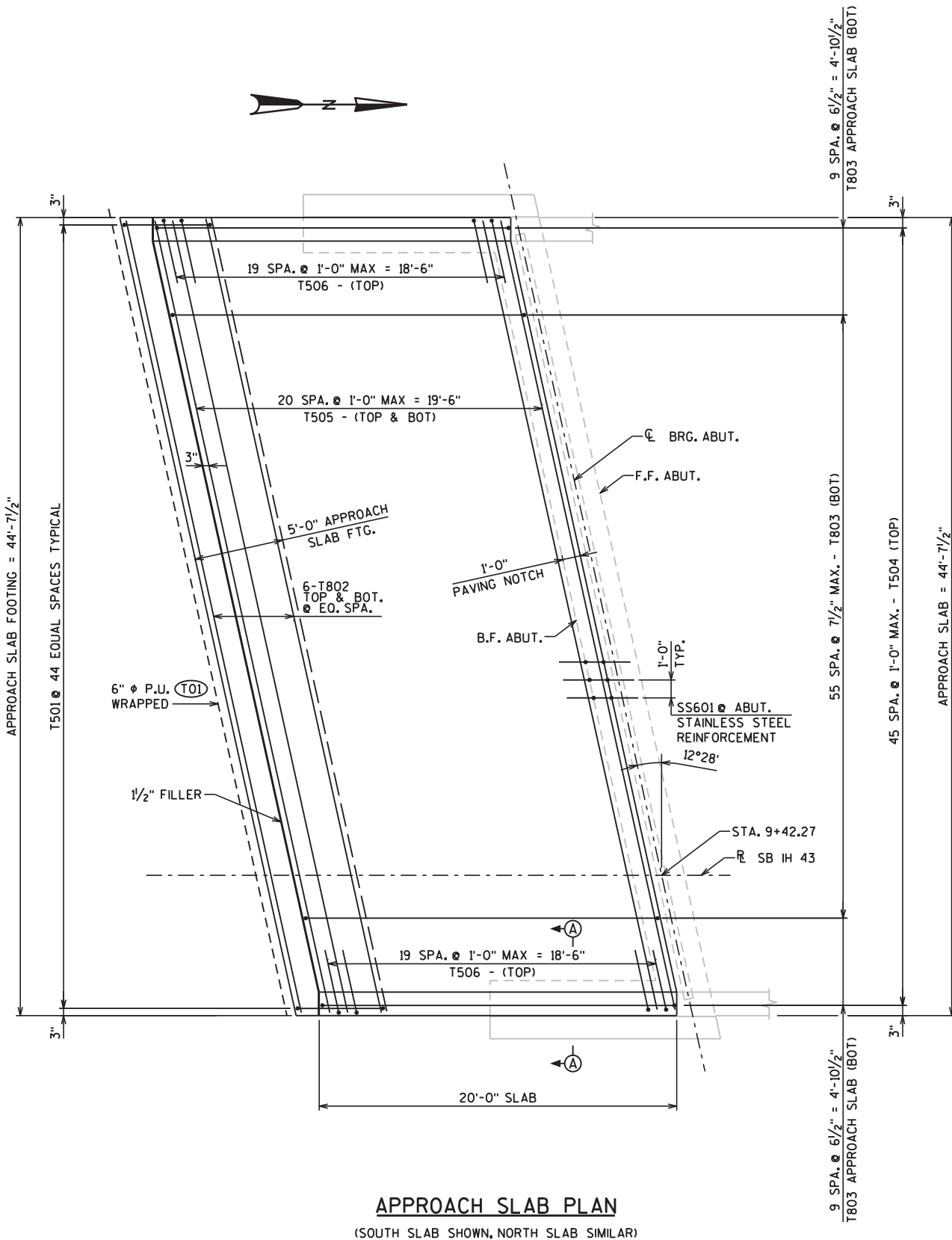
PARAPETS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE CL OF ABUTMENTS, THE CL OF PIERS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR CL.



PIER DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-231			
DRAWN BY		BRE	PLANS CK'D. JAW
SUPERSTRUCTURE DETAILS		SHEET 12 OF 16	
		388	



APPROACH SLAB PLAN
(SOUTH SLAB SHOWN, NORTH SLAB SIMILAR)

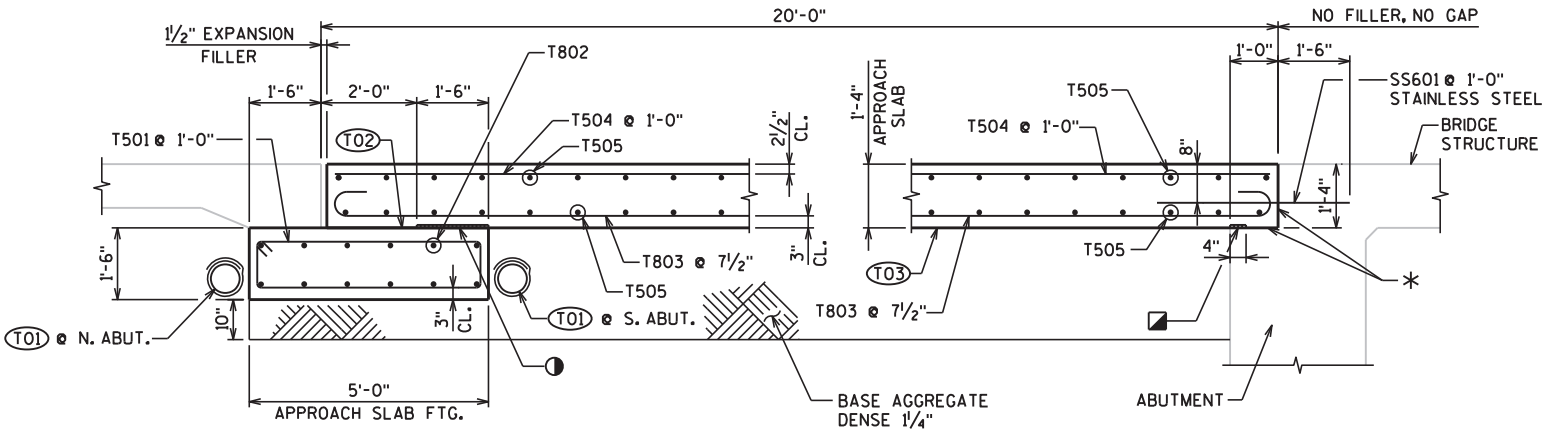
NOTES:

- (T01) PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH SLAB, LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.
- (T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.
- (T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.
- (A17) SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)
- * APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH PRIOR TO POURING STRUCTURAL APPROACH SLAB.
- 3/4" PREFORMED JOINT FILLER ACCORDING TO STD. SPEC. 502.2.7. (4" WIDE X PAVING NOTCH LENGTH)
- 3/4" PREFORMED JOINT FILLER ACCORDING TO STD. SPEC. 502.2.7. (1'-6" WIDE X FOOTING LENGTH)

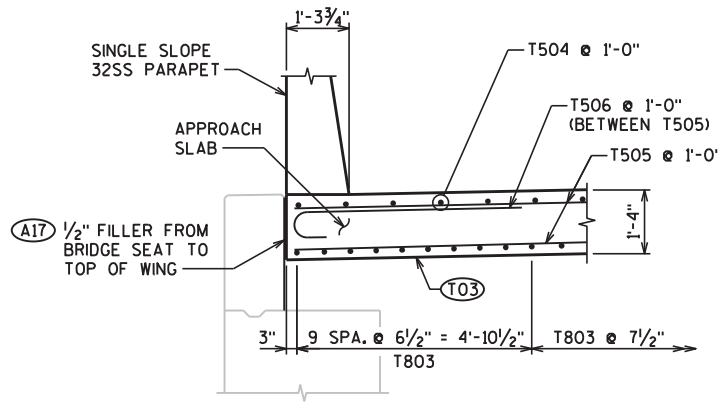
STATE PROJECT NUMBER
1224-21-73

DESIGN DATA:

ALLOWABLE SOIL BEARING PRESSURE: 2,000 P.S.F.
CONCRETE STRENGTH f'c: 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60, fy: 60,000 P.S.I.



TRANSVERSE SECTION THRU APPROACH SLAB
(SOUTH APRON SHOWN, NORTH APRON SIMILAR)

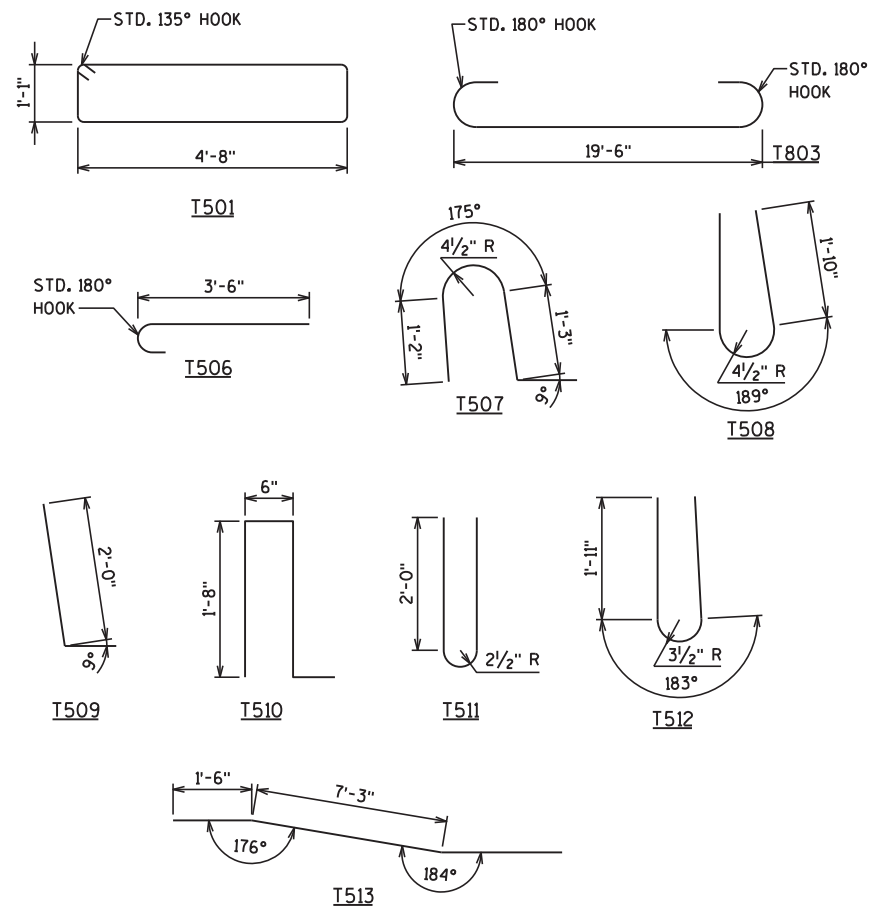


SECTION A-A

REVISION			
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-231			
DRAWN BY		BRE	PLANS CK'D. JAW
STRUCTURAL APPROACH SLAB		SHEET 13 OF 16 389	

BILL OF BARS

BAR MARK	COAT	SOUTH QTY.	NORTH QTY.	LENGTH	BENT	LOCATION
T501	X	45	45	12'-1"	X	FOOTING - STIRRUPS
T802	X	12	12	45'-2"		FOOTING - HORIZONTAL
T803	X	74	74	21'-4"	X	SLAB - LONG. - BOTTOM
T504	X	46	46	19'-6"		SLAB - LONG. - TOP
T505	X	42	42	45'-2"		SLAB - TRANS. - TOP & BOT.
T506	X	40	40	4'-1"	X	SLAB - TRANS. - TOP
T507	X	36	36	4'-5"	X	PARAPET - VERTICAL
T508	X	36	36	5'-0"	X	PARAPET - VERTICAL
T509	X	24	24	2'-9"	X	PARAPET - VERTICAL
T510	X	34	34	4'-4"	X	PARAPET - VERTICAL
T511	X	22	22	4'-9"	X	PARAPET - VERTICAL
T512	X	12	12	4'-10"	X	PARAPET - VERTICAL
T513	X	2	2	19'-6"	X	PARAPET - HORIZONTAL
T514	X	10	10	19'-6"		PARAPET - HORIZONTAL



BAR BENDING DIAGRAMS

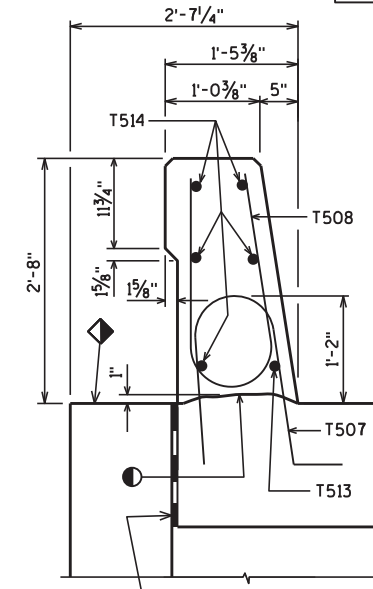
BILL OF BARS (STAINLESS STEEL, FOR ONE APPROACH SLAB)

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
SS601		46	3'-0"		CONC. DIAPH. & ABUTS. TO APPROACH APRON

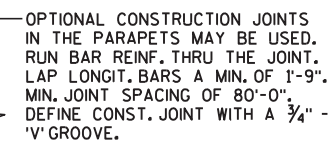
STATE PROJECT NUMBER

1224-21-73

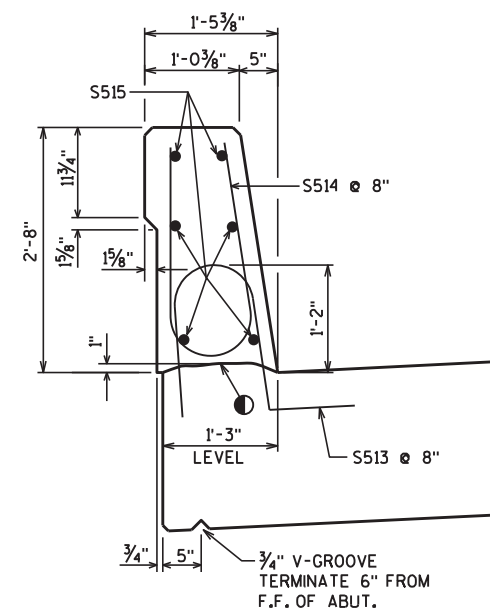
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-231			
	DRAWN BY	BRE	PLANS CK'D. JAW
STRUCTURAL APPROACH SLAB DETAILS		SHEET 14 OF 16	
		390	



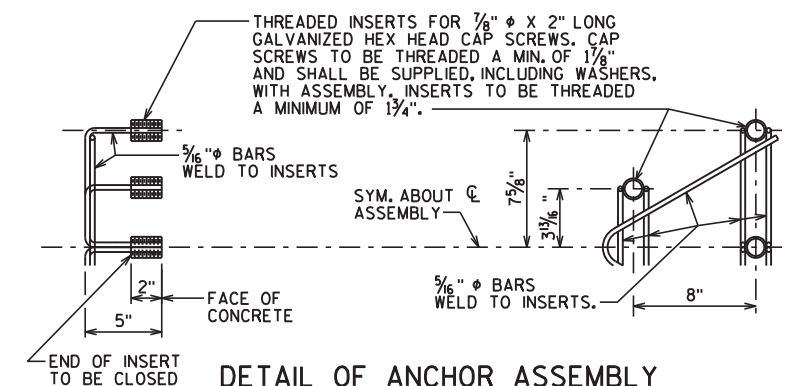
SECTION C



PLAN



SECTION THRU PARAPET ON BRIDGE



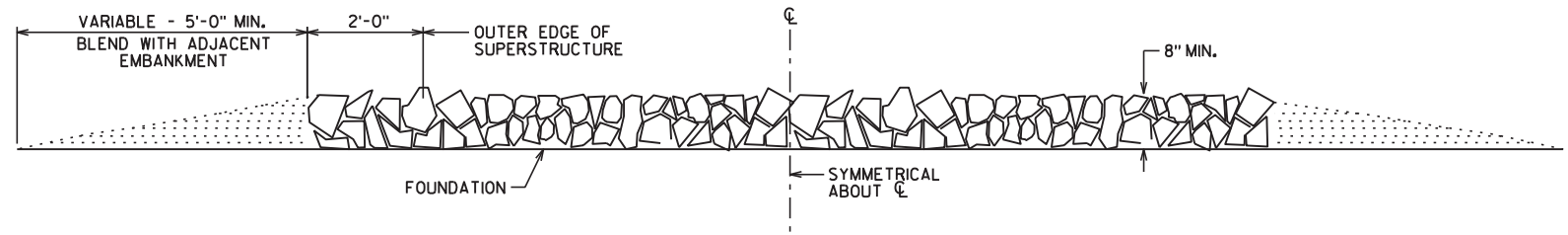
DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED
IN ACCORDANCE WITH AASHTO M232 CLASS C.

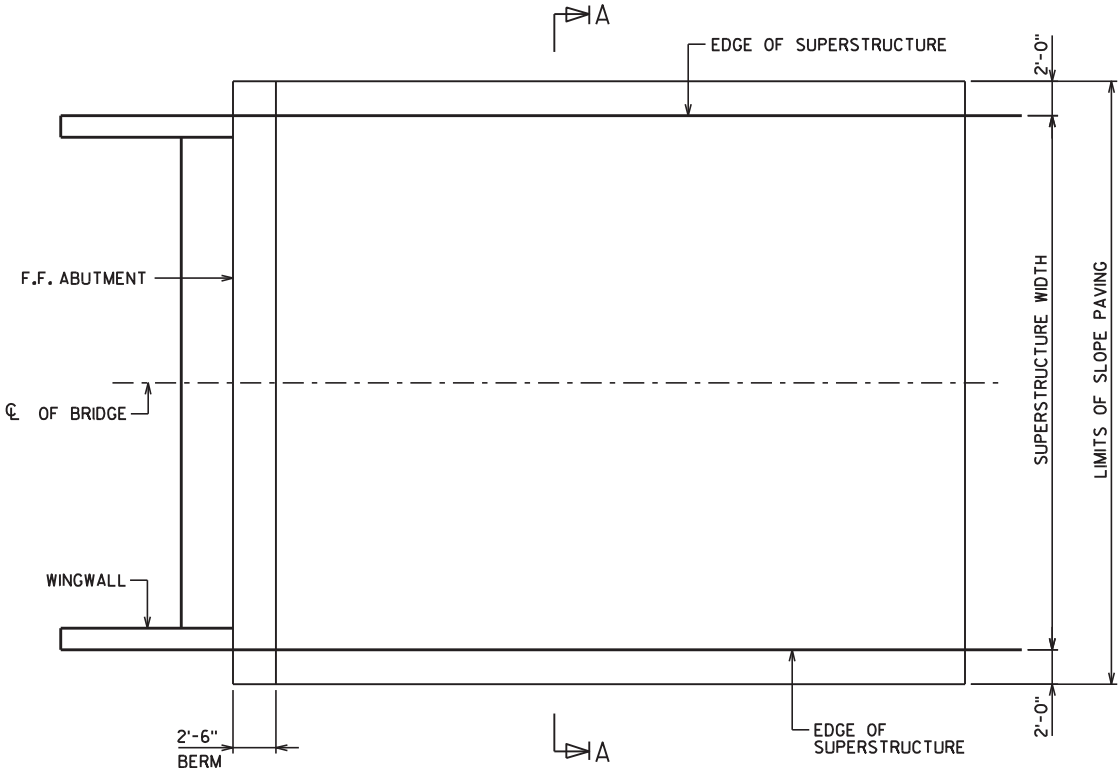
ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES
FOR STEEL PLATE BEAM GUARD", EACH.

▽ T507 AND T510 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.

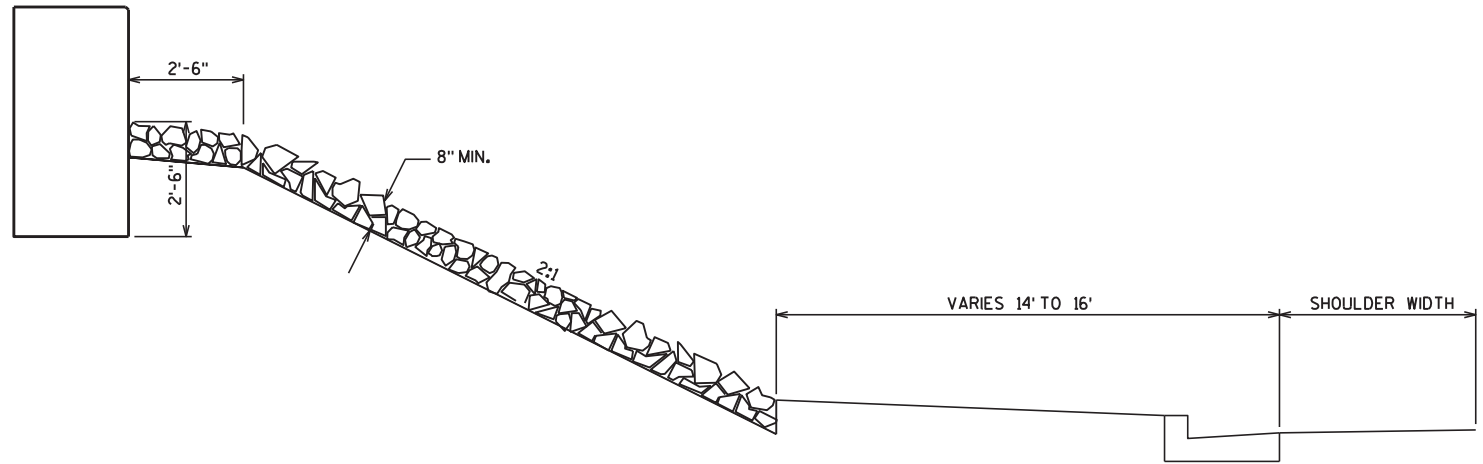
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-231			
DRAWN BY		BRE	PLANS CK'D. KRO
SINGLE SLOPE 32SS PARAPET		SHEET 15 OF 16	
		391	



SECTION A-A



PLAN



STANDARD CROSS SECTION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

WOOD FORMS MAY BE LEFT IN PLACE WHEN OF A QUALITY ACCEPTABLE TO THE ENGINEER.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-36-231			
		DRAWN BY	BRE
		PLANS CK'D.	KRO
SLOPE PAVING (SELECT CRUSHED MATERIAL)		SHEET 16 OF 16	
		392	