PROJECT	DESIGNATION	BRIDGE FILE
IM-65-3(281)118	9612790	I65-119-2313C & JC

STRUCTURE	TYPE	SPANS	SKEW	OVER	℄ STATION
I65-119-2313C	CONTINUOUS COMPOSITE STEEL BEAM BRIDGE	4 SPANS 13606, 25311, 25187, 13615	VARIES LT.	CONRAIL & GUION RD	9+070.214 "A"
I65-119-2313JC	CONTINUOUS COMPOSITE STEEL BEAM BRIDGE	4 SPANS 13672, 25417, 25296, 13664	VARIES LT.	CONRAIL & GUION RD	9+075.229 "A"

INDEX

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE PLANS

FOR SPANS OVER 6.1 METERS
ROUTE: I-65 RP: 118+084

PROJECT NO. IM-65-3(281)118 P.E.
IM-65-3(281)118 CONST.

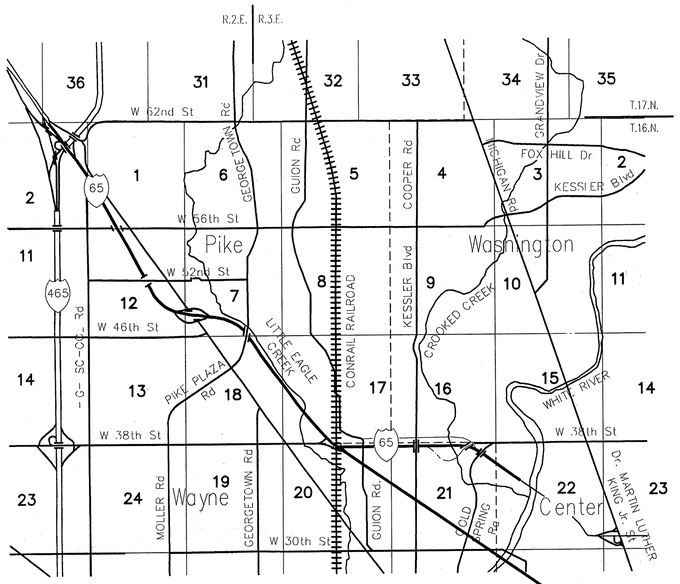
DECK RECONSTRUCTION AND WIDENING FOR BRIDGES ON I-65 OVER GUION ROAD AND CSXT RAILROAD IN PIKE TOWNSHIP, MARION COUNTY

TRAFFIC DATA	38th St. to Lafayette Rd.	
A.A.D.T. (1997)	56320	V.P.D.
A.A.D.T. (2020)	79325	V.P.D.
D.H.V. (2020)	9519	V.P.H.
DIRECTIONAL DISTRIBUTION	50	%
TRUCKS	12%	% D.H.V.
	15%	% A.A.D.T.

TRAFFIC DATA	Lafayette Rd. to I-465	
A.A.D.T. (1997)	44090	V.P.D.
A.A.D.T. (2020)	62095	V.P.D.
D.H.V. (2020)	6210	V.P.H.
DIRECTIONAL DISTRIBUTION	50	%
TRUCKS	10%	% D.H.V.
	13%	% A.A.D.T.

DESIGN DATA	
ESAL'S	
DESIGN SPEED	100 KPH
PROJECT DESIGN CRITERIA	PARTIAL RECONSTRUCTION (4R) (FREEWAY)
FUNCTIONAL CLASSIFICATION	PRINCIPAL ARTERIAL
RURAL / URBAN	URBAN (INTERMEDIATE)
TERRAIN	LEVEL
ACCESS CONTROL	FULL

SCALE: 1:24000



PROJECT LOCATION SHOWN BY

Str. No. I65-119-2313C & JC
Deck Reconstruction and
Widening for Present
Str. No. I65-119-2313B & JB
NB & SB I-65 Over Guion Road
& Conrail

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 1999
TO BE USED WITH THESE PLANS

VICINITY MAP

INDIANAPOLIS, INDIANA
WAYNE & PIKE TOWNSHIPS
MARION COUNTY

JANSSEN & SPAANS ENGINEERING
CONSULTING ENGINEERS
2825 EAST 56TH STREET
INDIANAPOLIS, INDIANA 46220
BUS. (317) 254-9686
FAX (317) 259-8262

Butler Fairman Seufert
CONSULTING ENGINEERS
8450 WESTFIELD BLVD., SUITE 300
INDIANAPOLIS, IN. 46240
317 713-4615
FAX 317 713-4616
509 WEST 84TH DRIVE, SUITE G
MERRILLVILLE, IN. 46410
219 769-2333
FAX 219 769-2377

FEDERAL HIGHWAY ADMINISTRATION
U.S. DEPT. OF TRANSPORTATION
APPROVED: _____ DATE
DIVISION ADMINISTRATOR

PLANS PREPARED BY: BUTLER, FAIRMAN & SEUFERT, INC. 317 713-4615 PHONE NUMBER
CERTIFIED BY: Stephen F. Weintraut 9-28-01 DATE
APPROVED FOR LETTING: _____ CHIEF, DIVISION OF DESIGN DATE

STEPHEN F. WEINTRAUT REGISTERED No. 16222 STATE OF INDIANA PROFESSIONAL ENGINEER

BRIDGE FILE
I65-119-2313C & JC
DESIGNATION
9612790

SHEETS		
1	of	51

CONTRACT	PROJECT
R-24327	IM-65-3(281)118

10-03-0284 14:25 C.CARTER
R:\3884\AUTOCAD\BRIDGE\119-2313\2313TITLE.dwg

LOG OF TEST BORING

EARTH EXPLORATION

Project: I-65 over Guion Road
Location: Marion County, Indiana
Client: Indiana Department of Transportation
7770 West New York Street · Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. F-1
Elevation 237.9
Datum USC&GS
EEI Proj. No. 1-5457
Sheet 1 of 2

Proj. No. IM-65-3(281)118 Station 9+030 Weather Sunny Driller S.P.
Struct. No. I65-119-2313B&JB Offset 3 m Rt. "A" Temp. 20 Deg F Inspector R.O.

SAMPLE No.	Type	Rec %	Blow Counts	Depth ft / m	DESCRIPTION/CLASSIFICATION and REMARKS	q_p kPa	q_u kPa	γ kg/m³	W %	LL %	PL %	PI %
					TOPSOIL El. 237.9							
SS-1	X	100	4 4 4		LOAM, medium stiff to hard, brown and gray (fill; visual)	380			30.4			
SS-2	X	100	4 6 7			>430			11.5			
SS-3	X	100	4 7 7			380			11.4			
SS-4	X	100	7 7 7			>430			8.2			
SS-5	X	100	7 10 13			>430			9.4			
SS-6	X	100	8 8 9			>430			8.2			
SS-7	X	100	16 12 14			>430			8.8			
SS-8	X	100	6 11 24			>430			10.8			
SS-9	X	100	4 5 6			140			11.8			
SS-10	X	100	2 2 3		LOAM, soft to hard, moist, gray, occasional thin sand seams (glacial till), A-4, Lab No. 3211SL El. 227.5	140			14.3			

Continued Next Page

WATER LEVEL OBSERVATIONS

Depth m	While Drilling	Upon Completion	28 Days After Drilling
Depth to Water	15.2	10.1	8.3
Depth to Cave-in		11.6	10.3

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

GENERAL NOTES

Start 3/11/99 End 3/11/99 Rig D-120
Drilling Method 83 mm I.D. HSA ATV
Remarks Backfilled with auger cuttings and bentonite chip plug near surface.

LOG OF TEST BORING

EARTH EXPLORATION

Project: I-65 over Guion Road
Location: Marion County, Indiana
Client: Indiana Department of Transportation
7770 West New York Street · Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. F-1
Elevation 237.9
Datum USC&GS
EEI Proj. No. 1-5457
Sheet 2 of 2

Proj. No. IM-65-3(281)118 Station 9+030 Weather Sunny Driller S.P.
Struct. No. I65-119-2313B&JB Offset 3 m Rt. "A" Temp. 20 Deg F Inspector R.O.

SAMPLE No.	Type	Rec %	Blow Counts	Depth ft / m	DESCRIPTION/CLASSIFICATION and REMARKS	q_p kPa	q_u kPa	γ kg/m³	W %	LL %	PL %	PI %
SS-11	X	100	2 4 4		LOAM, soft to hard, moist, gray, occasional thin sand seams (glacial till), A-4, Lab No. 3211SL	100			14.3			
SS-12	X	100	2 3 3			100			13.7			
SS-13	X	100	16 18 20			>430			10.6			
SS-14	X	100	19 23 28			50 >430			8.8			
SS-15	X	100	13 17 19			>430	730	2166	9.8			
SS-16	X	100	18 25 31			>430			10.5			
SS-17	X	100	33 42 52		El. 215.2	100			12.7			
SS-18	X	100	30 28 31		SAND, very dense, wet, gray, A-2-4, Lab No. 3212SL El. 213.5							
					End of Boring at 24.4 m							

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

LOG OF TEST BORING

EARTH EXPLORATION

Project: I-65 over Guion Road
Location: Marion County, Indiana
Client: Indiana Department of Transportation
7770 West New York Street · Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. F-2
Elevation 230.1
Datum USC&GS
EEI Proj. No. 1-5457
Sheet 1 of 2

Proj. No. IM-65-3(281)118 Station 9+069 Weather Cloudy Driller R.S.
Struct. No. I65-119-2313B&JB Offset 21.5 m Lt. "A" Temp. 30 Deg F Inspector R.O.

SAMPLE No.	Type	Rec %	Blow Counts	Depth ft / m	DESCRIPTION/CLASSIFICATION and REMARKS	q_p kPa	q_u kPa	γ kg/m³	W %	LL %	PL %	PI %
					TOPSOIL							
					LOAM, very stiff, moist, brown (fill; visual)							
					SANDY LOAM, with asphaltic concrete fragments (fill; visual) El. 229.3							
					LOAM, stiff, moist, brown (fill; visual) El. 228.3							
SS-1	X	90	6 10 18			>430			8.9			
SS-2	X	80	4 6 6			>430			9.8			
SS-3	X	90	3 2 2		CLAY LOAM, very soft to soft, moist, brown, A-6(8), Lab No. 3217SL El. 227.2	140			22.7	32	15	17
SS-4	X	80	2 1 1			50			13.0			
					SANDY LOAM, very loose to loose, wet, brown, occasional thin loam seams, A-2-4, Lab No. 3213SL El. 225.8							
SS-5	X	100	4 7 7			>430			11.2			
SS-6	X	65	4 4 7			170			10.0			
SS-7	X	45	12 12 14		LOAM, stiff to hard, brown to gray after 7.6 m (glacial till), A-4, Lab No. 3211SL	>430			8.8			
SS-8	X	0	23 36 42			---			---			
SS-9	X	90	19 23 28			>430	757	2187	9.1			
SS-10	X	45	16 18 18			---			17.7			

Continued Next Page

WATER LEVEL OBSERVATIONS

Depth m	While Drilling	Upon Completion	31 Days After Drilling
Depth to Water	2.4	2.1	2.3
Depth to Cave-in		11.9	3.1

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

GENERAL NOTES

Start 3/8/99 End 3/8/99 Rig CME 75
Drilling Method 83 mm I.D. HSA Truck
Remarks Backfilled with auger cuttings and bentonite chip plug near surface.

LOG OF TEST BORING

EARTH EXPLORATION

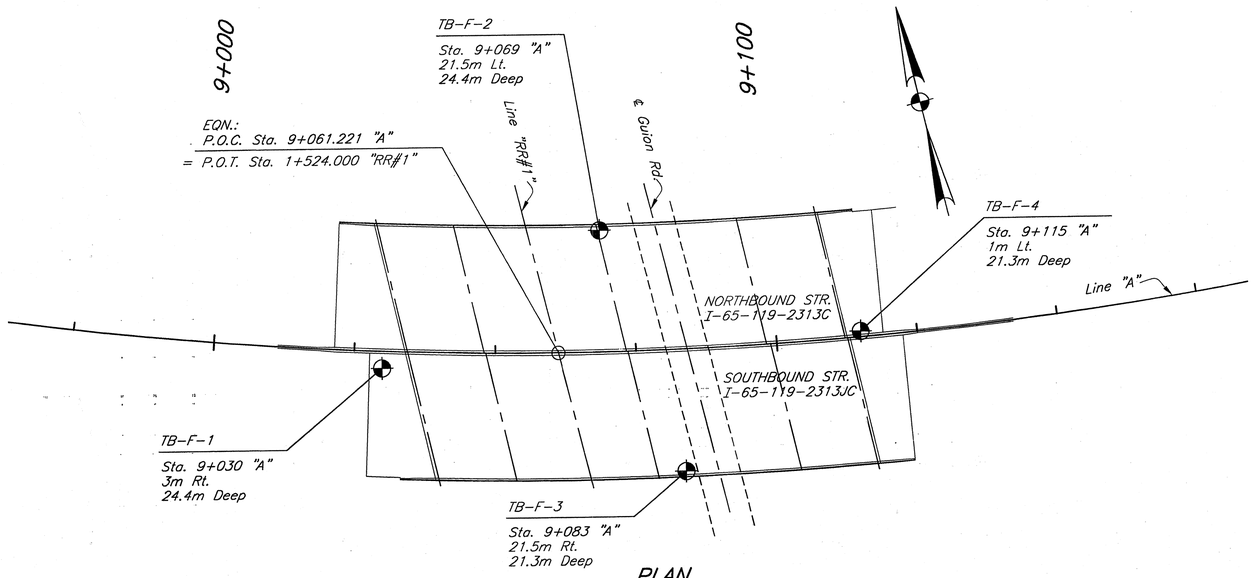
Project: I-65 over Guion Road
Location: Marion County, Indiana
Client: Indiana Department of Transportation
7770 West New York Street · Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. F-2
Elevation 230.1
Datum USC&GS
EEI Proj. No. 1-5457
Sheet 2 of 2

Proj. No. IM-65-3(281)118 Station 9+069 Weather Cloudy Driller R.S.
Struct. No. I65-119-2313B&JB Offset 21.5 m Lt. "A" Temp. 30 Deg F Inspector R.O.

SAMPLE No.	Type	Rec %	Blow Counts	Depth ft / m	DESCRIPTION/CLASSIFICATION and REMARKS	q_p kPa	q_u kPa	γ kg/m³	W %	LL %	PL %	PI %
					LOAM, stiff to hard, brown to gray after 7.6 m (glacial till), A-4, Lab No. 3211SL El. 215.5							
SS-11	X	90	7 10 16			>430			5.3			
SS-12	X	45	1 1 4		SAND AND GRAVEL, very loose, wet, gray, A-1-a, Lab No. 3210SL El. 213.6							
SS-13	X	100	17 21 22									
SS-14	X	100	12 16 18		GRAVELLY SAND, dense to medium dense, wet, gray (visual) El. 210.9							
SS-15	X	90	9 12 14									
SS-16	X	100	8 10 15		SAND, medium dense to dense, wet, gray, A-2-4, Lab No. 3212SL El. 205.9							
SS-17	X	100	10 15 28									
SS-18	X	100	12 15 14		LOAM, very stiff, gray (glacial till), A-4, Lab No. 3211SL El. 205.7	>430			7.8			
					End of Boring at 24.4 m							

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.



PLAN
Scale=1:500

STANDARD PENETRATION TEST

Driving 50.8 O.D. Sampler 450 with 63.5 Kg Hammer falling 760. Count made at 150 intervals. First 150 for seating sampler. "N" is the Sum of the Hammer Blows of the Second and Third 150 intervals of an 450 Drive.

Note:
The entire Geotechnical Report developed by Earth Exploration, Inc. will be made available to the Contractor upon request.

NOTE
See General Plan for Pile Loadings.

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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FAX 317 713-4616
509 WEST 84TH DRIVE, SUITE G
MERRILLVILLE, IN. 46410
219 769-2333
FAX 219 769-2377

STEPHEN F. WEINTRAUT REGISTERED No. 16222 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Stephen F. Weintraut 9-28-01
DESIGN ENGINEER DATE

DESIGNED: S. WEINTRAUT DRAWN: L. OSBORNE
CHECKED: M. MATEL CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

SOIL BORINGS

HORIZONTAL SCALE AS NOTED	FILE I-65-119-2313C & JC
VERTICAL SCALE AS NOTED	DESIGNATION 9612790
SURVEY BOOK	SHEET 2 OF 51
CONTRACT R-24327	PROJECT IM-65-3(281)118

BFS NO. 3804.07

LOG OF TEST BORING

Earth Exploration, Inc.

Project: I-65 over Gulon Road
Location: Marion County, Indiana
Client: Indiana Department of Transportation
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. F-3
Elevation 230.3
Datum USC&GS
EEI Proj. No. 1-5457
Sheet 1 of 2

Proj. No. IM-65-3(281)118 Station 9+083 Weather Sunny Driller J.M.
Struct. No. I65-119-2313B&JB Offset 21.5 m Rt. "A" Temp. 38 Deg F Inspector R.O.

SAMPLE No.	Type	Rec %	Blow Counts	Depth ft	Depth m	DESCRIPTION/CLASSIFICATION and REMARKS	q_p kPa	q_u kPa	γ kg/m3	W %	LL %	PL %	PI %
						El. 230.3							
SS-1	X	65	4 8 13				430			13.9			
SS-2	X	90	7 11 8	1	5	LOAM, soft to very stiff, moist, brown, occasional sand seams (fill; visual)	---			6.2			
SS-3	X	100	2 3 5	2			100			17.3			
						El. 227.6							
SS-4	X	65	2 2 2	3	10	CLAY LOAM, soft, moist, brown, A-6, Lab No. 3217SL	140			22.5			
						El. 226.6							
SS-5	X	65	2 7 7	4	15	LOAM, stiff, brown (glacial till), A-4, Lab No. 3211SL	140			9.3			
						El. 224.8							
SS-6	X	100	5 10 11	5	20	SANDY LOAM, medium dense, wet, brown, A-2-4, Lab No. 3213SL							
						El. 223.4							
SS-7	X	100	3 6 8	6	25	LOAM, stiff to hard, gray (glacial till), A-4, Lab No. 3211SL	260			13.4			
SS-8	X	100	3 6 10	7	30		>430	156	2135	11.8			
SS-9	X	100	7 11 13	8	35		>430			6.7			
SS-10	X	100	8 9 12	9	40		>430			8.7			

Continued Next Page

WATER LEVEL OBSERVATIONS

Depth m	While Drilling	Upon Completion	24 Days After Drilling
Depth to Water	4.9	2.8	2.6
Depth to Cave-in	4.8	3.9	

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

GENERAL NOTES

Start 3/15/99 End 3/15/99 Rig D-120
Drilling Method 83 mm I.D. HSA ATV
Remarks Backfilled with auger cuttings and bentonite chip plug near surface.

LOG OF TEST BORING

Earth Exploration, Inc.

Project: I-65 over Gulon Road
Location: Marion County, Indiana
Client: Indiana Department of Transportation
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. F-3
Elevation 230.3
Datum USC&GS
EEI Proj. No. 1-5457
Sheet 2 of 2

Proj. No. IM-65-3(281)118 Station 9+083 Weather Sunny Driller J.M.
Struct. No. I65-119-2313B&JB Offset 21.5 m Rt. "A" Temp. 38 Deg F Inspector R.O.

SAMPLE No.	Type	Rec %	Blow Counts	Depth ft	Depth m	DESCRIPTION/CLASSIFICATION and REMARKS	q_p kPa	q_u kPa	γ kg/m3	W %	LL %	PL %	PI %
SS-11	X	100	10 16 15	13	45	LOAM, stiff to hard, gray (glacial till), A-4, Lab No. 3211SL	>430			10.0			
						El. 214.8							
SS-12	X	100	7 10 8	15	50	SAND, medium dense to very dense, wet, gray, occasional thin gravel seams, A-2-4, Lab No. 3212SL	>430	493	2234	9.8			
SS-13	X	100	12 13 16	16	55								
SS-14	X	65	12 22 24	18	60								
SS-15	X	100	15 25 29	19	65								
						El. 209.0							
SS-16	X	100	14 25 32	21	70	End of Boring at 21.3 m							
				22	75								
				23	80								
				24	85								
				25									

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

LOG OF TEST BORING

Earth Exploration, Inc.

Project: I-65 over Gulon Road
Location: Marion County, Indiana
Client: Indiana Department of Transportation
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. F-4
Elevation 237.0
Datum USC&GS
EEI Proj. No. 1-5457
Sheet 1 of 2

Proj. No. IM-65-3(281)118 Station 9+115 Weather Cloudy Driller S.P.
Struct. No. I65-119-2313B&JB Offset 1 m Lt. "A" Temp. 32 Deg F Inspector R.O.

SAMPLE No.	Type	Rec %	Blow Counts	Depth ft	Depth m	DESCRIPTION/CLASSIFICATION and REMARKS	q_p kPa	q_u kPa	γ kg/m3	W %	LL %	PL %	PI %
						El. 237.0							
						TOPSOIL							
SS-1	X	55	1 1 2			SANDY LOAM, very loose, moist, brown (fill; visual)	140			14.0			
SS-2	X	90	3 4 5	1	5		>430			15.0			
SS-3	X	65	4 4 5	2		LOAM, medium stiff to very stiff, moist, brown, occasional thin silty clay, clay loam and sand seams (fill; visual)	190			13.8			
SS-4	X	100	8 9 15	3	10		140			18.0			
SS-5	X	90	7 6 10	4	15		220			15.1			
SS-6	X	100	6 7 9	5	20		190			9.2			
						El. 229.4							
SS-7	X	100	10 7 14	6	25	CLAY LOAM, medium stiff, moist, brown, A-6, Lab No. 3217SL	190			10.2			
SS-8	X	100	3 3 4	7	30		220			19.8			
						El. 226.9							
SS-9	X	65	2 4 5	8	35	SAND, loose, wet, brown, A-2-4, Lab No. 3212SL							
						El. 225.0							
SS-10	X	100	11 13 15	9	40								

Continued Next Page

WATER LEVEL OBSERVATIONS

Depth m	While Drilling	Upon Completion	24 Hrs. After Drilling
Depth to Water	10.1	9.1	9.1
Depth to Cave-in		10.8	10.7

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

GENERAL NOTES

Start 3/9/99 End 3/9/99 Rig D-120
Drilling Method 83 mm I.D. HSA ATV
Remarks Backfilled with bentonite to 0.3 m and auger cuttings.

LOG OF TEST BORING

Earth Exploration, Inc.

Project: I-65 over Gulon Road
Location: Marion County, Indiana
Client: Indiana Department of Transportation
7770 West New York Street - Indianapolis, Indiana 46214
317-273-1690 / 317-273-2250 (Fax)

Boring No. F-4
Elevation 237.0
Datum USC&GS
EEI Proj. No. 1-5457
Sheet 2 of 2

Proj. No. IM-65-3(281)118 Station 9+115 Weather Cloudy Driller S.P.
Struct. No. I65-119-2313B&JB Offset 1 m Lt. "A" Temp. 32 Deg F Inspector R.O.

SAMPLE No.	Type	Rec %	Blow Counts	Depth ft	Depth m	DESCRIPTION/CLASSIFICATION and REMARKS	q_p kPa	q_u kPa	γ kg/m3	W %	LL %	PL %	PI %
						SANDY LOAM, medium dense, wet, brown, A-2-4, Lab No. 3213SL							
						El. 223.6							
SS-11	X	100	8 10 14	13	45	LOAM, very stiff to hard, gray, occasional boulders (glacial till), A-4, Lab No. 3211SL	>430			8.0			
SS-12	X	100	50 50/.3	15	50		>430			8.4			
SS-13	X	100	9 12 15	16	55		>430			10.0			
SS-14	X	100	7 9 11	18	60		>430	298	2111	11.0			
SS-15	X	100	28 27 30	19	65		>430	1494	2154	7.9			
						El. 215.7							
SS-16	X	100	16 25 28	21	70	End of Boring at 21.3 m	>430			7.8			
				22	75								
				23	80								
				24	85								
				25									

The stratification lines represent the approximate boundary between soil/rock types and the transition may be gradual.

STANDARD PENETRATION TEST

Driving 50.8 O.D. Sampler 450 with 63.5 Kg Hammer falling 760. Count made at 150 intervals. First 150 for seating sampler. "N" is the Sum of the Hammer Blows of the Second and Third 150 intervals of an 450 Drive.

Note:
The entire Geotechnical Report developed by Earth Exploration, Inc. will be made available to the Contractor upon request.

NOTE
See General Plan for Pile Loadings.

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

JANSSEN & SPAANS ENGINEERING
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FAX 317 713-4616
509 WEST 84TH DRIVE, SUITE G
MERRILLVILLE, IN. 46410
219 769-2333
FAX 219 769-2377

STEPHEN F. WEINTRAUT REGISTERED No. 16222 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Stephen F. Weintraut 9-28-01
DESIGN ENGINEER DATE

DESIGNED: S. WEINTRAUT DRAWN: L. OSBORNE
CHECKED: M. MATEL CHECKED: M. MATEL

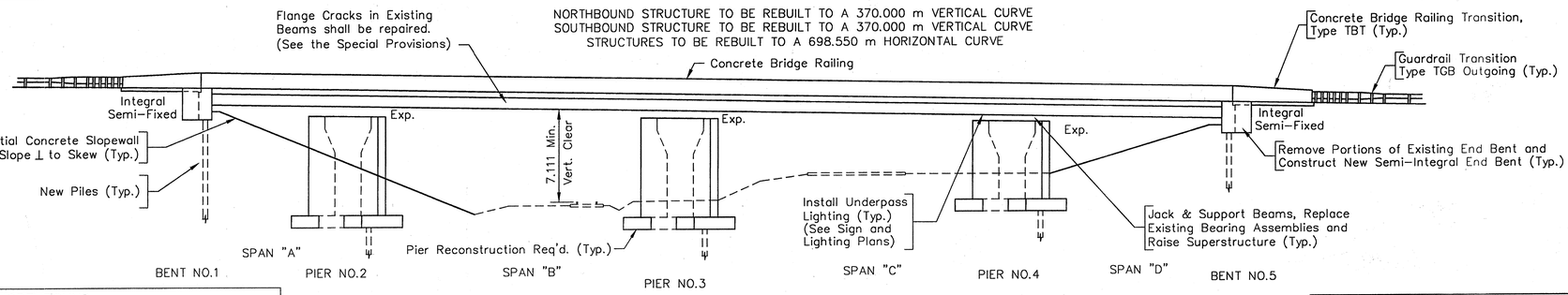
INDIANA DEPARTMENT OF TRANSPORTATION

SOIL BORINGS

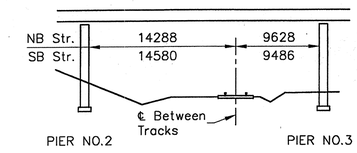
HORIZONTAL SCALE	FILE
AS NOTED	I-65-119-2313C & JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	2A OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

R:\3804\AUTOCAD\BRIDGE\119-2313\2313B362.dwg 09-06-01 AT 10:55 1 C.CARTER



ELEVATION



SECTION ⊥ TO TRACKS

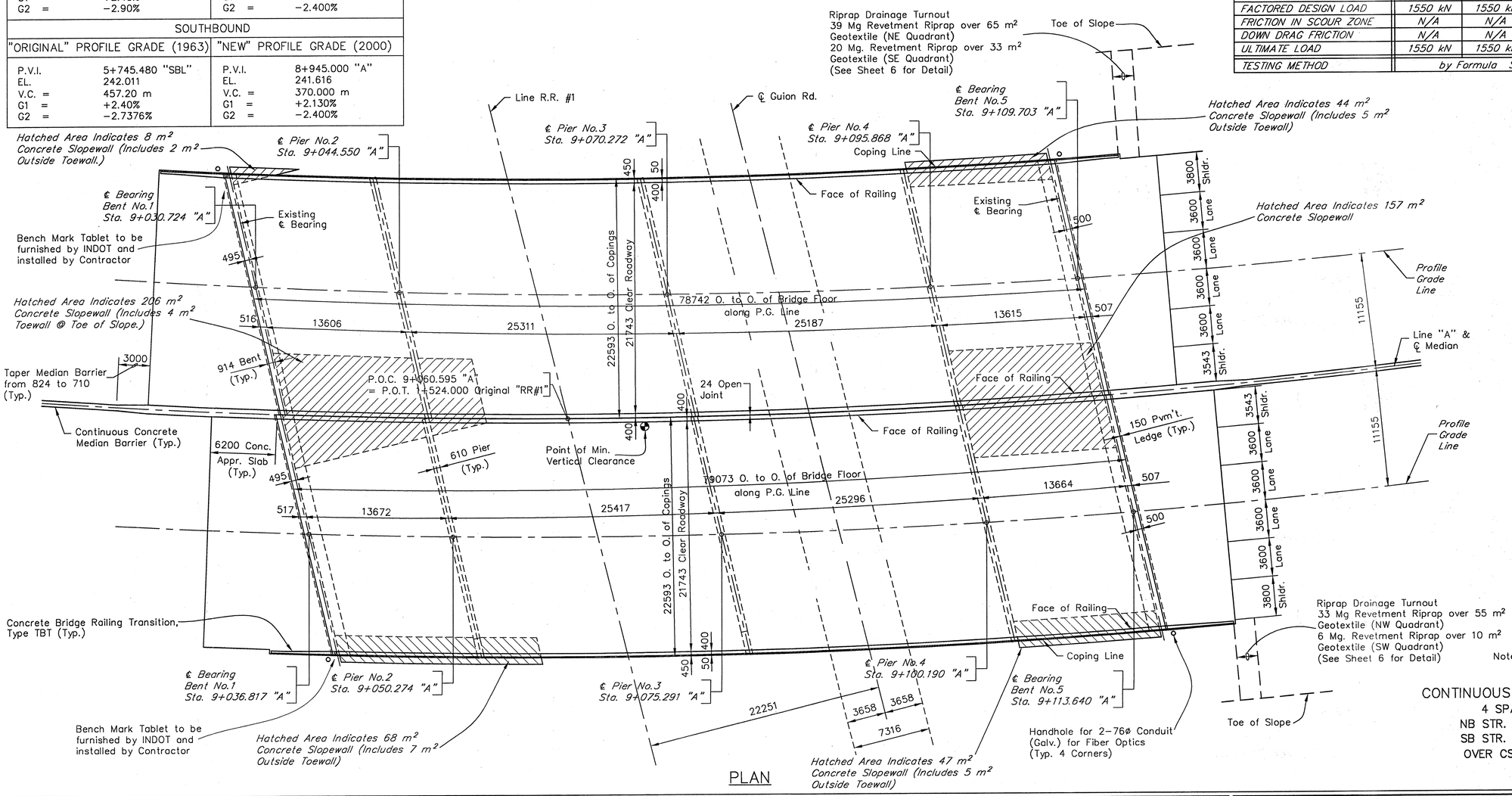
Not to Scale

NORTHBOUND			
"ORIGINAL" PROFILE GRADE (1963)		"NEW" PROFILE GRADE (2000)	
P.V.I.	5+745.480 "NBL"	P.V.I.	8+945.000 "A"
EL.	242.011	EL.	241.616
V.C. =	426.72 m	V.C. =	370.000 m
G1 =	+2.40%	G1 =	+2.130%
G2 =	−2.90%	G2 =	−2.400%

SOUTHBOUND			
"ORIGINAL" PROFILE GRADE (1963)		"NEW" PROFILE GRADE (2000)	
P.V.I.	5+745.480 "SBL"	P.V.I.	8+945.000 "A"
EL.	242.011	EL.	241.616
V.C. =	457.20 m	V.C. =	370.000 m
G1 =	+2.40%	G1 =	+2.130%
G2 =	−2.7376%	G2 =	−2.400%

DESIGN LOADING FOR GEOTECHNICAL TESTING

SUBSTRUCTURE	*BENT NO.1*	*PIER NO.2*	*PIER NO.3*	*PIER NO.4*	*BENT NO.5*
DESIGN LOAD	*620 kN*	*620 kN*	*620 kN*	*620 kN*	*620 kN*
FACTOR OF SAFETY	*2.5*	*2.5*	*2.5*	*2.5*	*2.5*
FACTORED DESIGN LOAD	*1550 kN*	*1550 kN*	*1550 kN*	*1550 kN*	*1550 kN*
FRICTION IN SCOUR ZONE	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
DOWN DRAG FRICTION	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
ULTIMATE LOAD	*1550 kN*	*1550 kN*	*1550 kN*	*1550 kN*	*1550 kN*
TESTING METHOD	*by Formula Std. Spec. 701*				



PLAN

Note: All dimensions are in millimeters. All stations and elevations are in meters unless noted.

CONTINUOUS COMPOSITE STEEL BEAM BRIDGES
4 SPANS: 13640, 2 @ 25299, 13640,
NB STR. SKEW: VARIES LT, 21743 CL. RDWY.
SB STR. SKEW: VARIES LT, 21743 CL. RDWY.
OVER CSX & GUION RD. ON INTERSTATE 65
IN MARION COUNTY

JANSSEN & SPAANS ENGINEERING CONSULTING ENGINEERS
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STEPHEN F. WEINTRAUT REGISTERED No. 16222 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Stephen F. Weintraut 9-28-01
DESIGN ENGINEER DATE

DESIGNED: M. EICHENAUER DRAWN: C. CARTER
CHECKED: S. WEINTRAUT CHECKED: D. MILLER

INDIANA DEPARTMENT OF TRANSPORTATION

GENERAL PLAN

HORIZONTAL SCALE	BRIDGE FILE
1:200	I65-119-2313C & JC
VERTICAL SCALE	DESIGNATION
	9612790
SURVEY BOOK	SHEETS
	3 of 51
CONTRACT	PROJECT
R-24327	IM-65-3 (281) 118

FILE NAME : GNPLN.dwg
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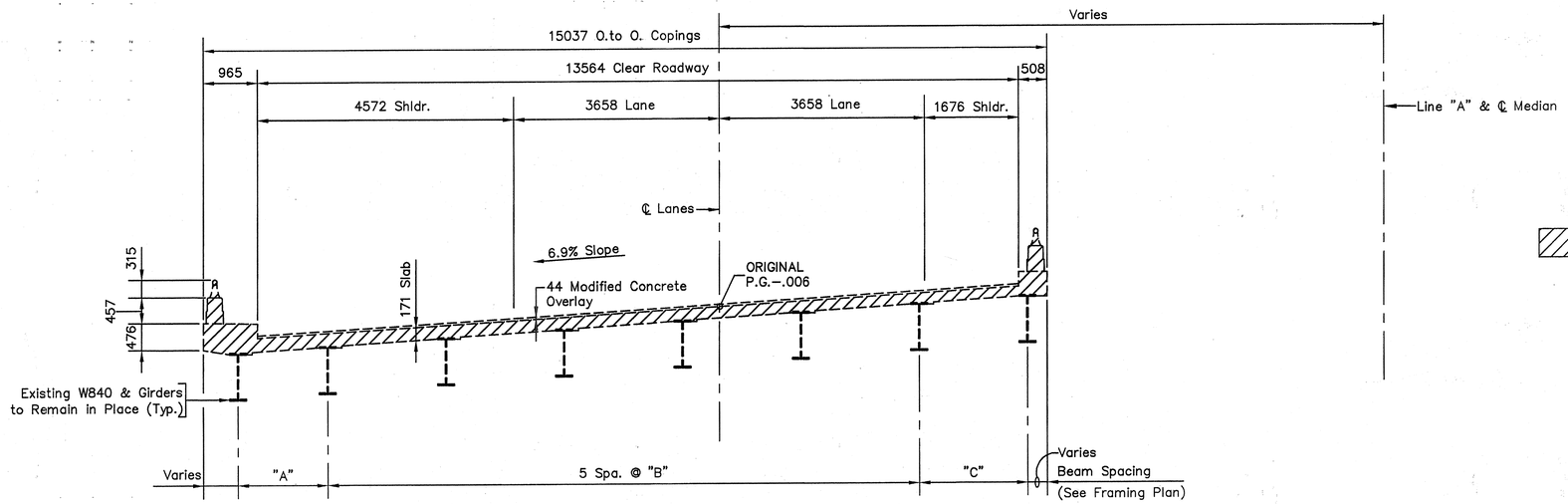
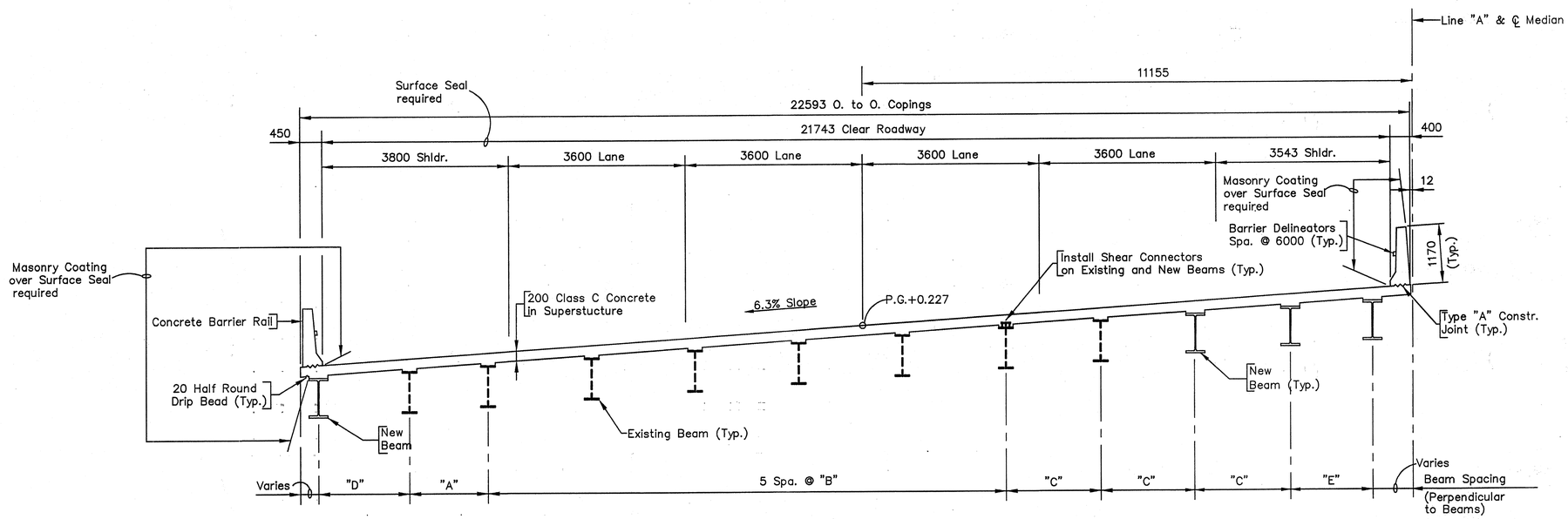
MRD\NT : 14-JAN-00, 08:27:48 / JRC



Cross Hatched Areas Indicate Removal

TYPICAL REMOVAL SECTION – NORTHBOUND

BEAM SPACING TABLE				
SPAN	"A"	"B"	"C"	"D"
DIM. "A"	1580	1600	1600	1617
DIM. "B"	2082	2108	2108	2130
DIM. "C"	1907	1930	1930	1950
DIM. "D"	1693	Varies	Varies	1962
DIM. "E"	1907	Varies	Varies	1435



TYPICAL RECONSTRUCTION SECTION – NORTHBOUND

Note: All dimensions are in millimeters, unless noted.

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FILE NAME : GNPLN2.dwg
LASER DISK : 28A
MRD\INT : 14-JAN-00, 09:49:09 / JRC

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STEPHEN F. WEINTRAUT
REGISTERED
No. 16222
STATE OF
INDIANA
PROFESSIONAL ENGINEER

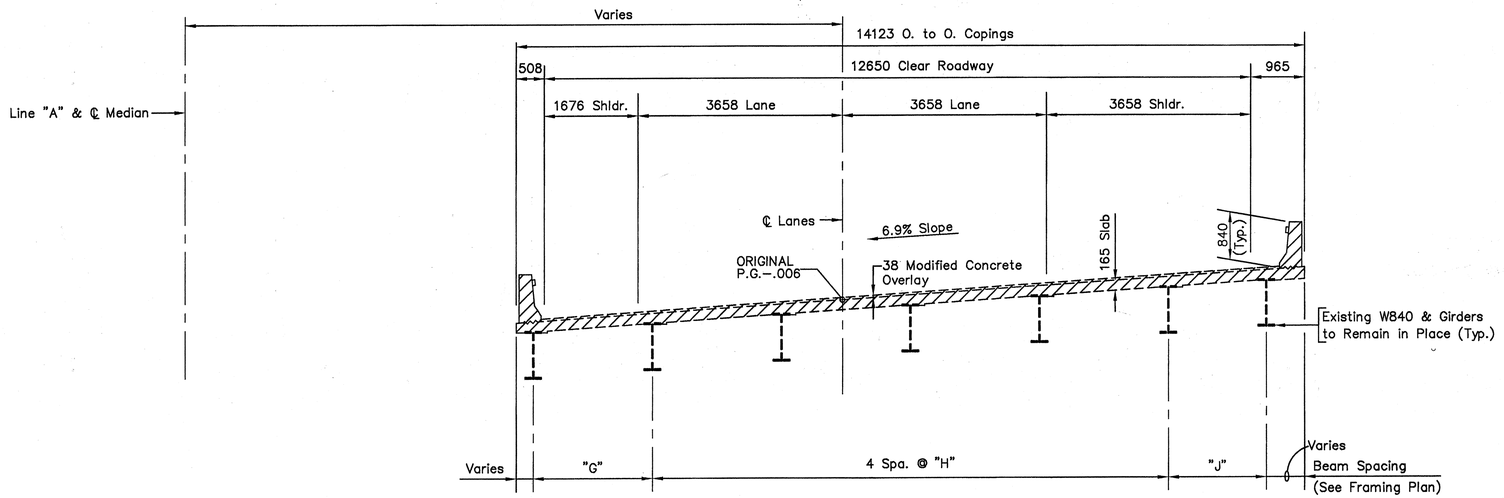
RECOMMENDED FOR APPROVAL Stephen F. Weintraut 9-28-01
DESIGN ENGINEER DATE

DESIGNED: M. EICHENAUER DRAWN: L. OSBORNE
CHECKED: S. WEINTRAUT CHECKED: D. MILLER

INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS
NORTHBOUND STRUCTURE

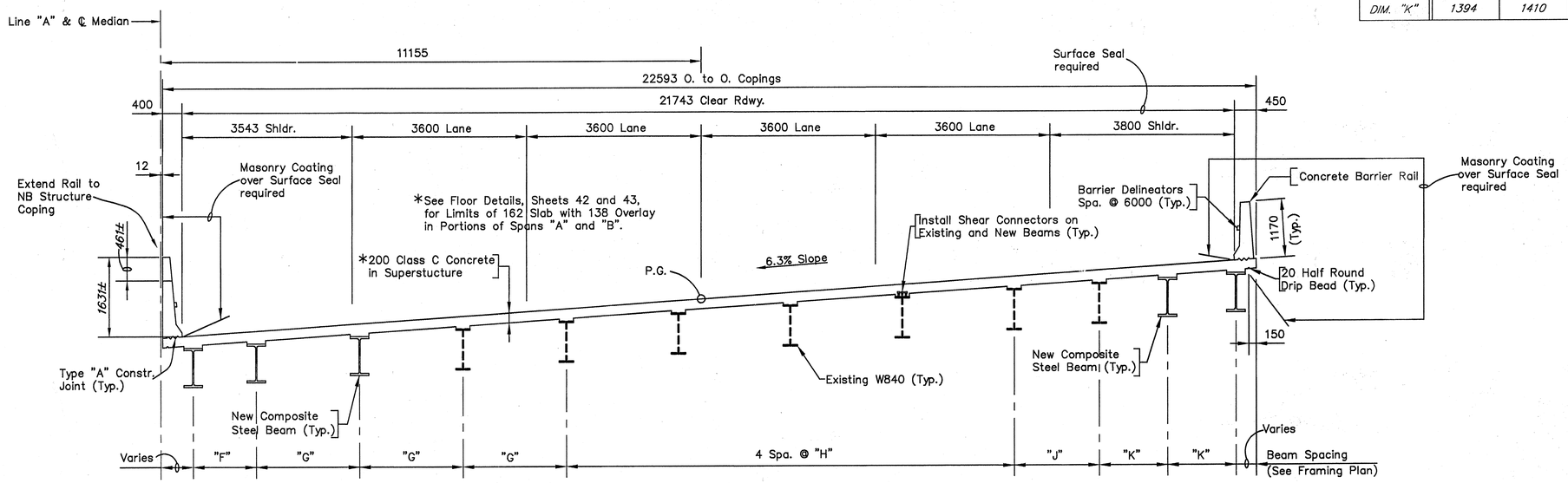
SCALE	BRIDGE FILE
1:50	165-119-2313C
	DESIGNATION
	9612790
SURVEY BOOK	SHEETS
	4 of 51
CONTRACT	PROJECT
R-24327	IM-65-3 (281) 118



TYPICAL REMOVAL SECTION – SOUTHBOUND

Cross Hatched Areas Indicate Removal

BEAM SPACING TABLE				
SPAN	"A"	"B"	"C"	"D"
DIM. "F"	1608	Varies	Varies	1098
DIM. "G"	2110	2134	2134	2153
DIM. "H"	2286	2311	2311	2332
DIM. "J"	1733	1753	1753	1768
DIM. "K"	1394	1410	1410	1423



TYPICAL RECONSTRUCTION SECTION – SOUTHBOUND

Note: All dimensions are in millimeters, unless noted.

XREFERENCES : None
USER SETTING : USER 41 ALL
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FILE NAME : GNPLN3.dwg
LASER DISK : 28A
MRD\INT : 14-JAN-00, 08:41:46 / JRC

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STEPHEN F. WEINTRAUT
REGISTERED No. 16222 STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Stephen F. Weintraut 9-28-01
DESIGN ENGINEER DATE

DESIGNED: M. EICHENAUER
DRAWN: L. OSBORNE
CHECKED: S. WEINTRAUT
CHECKED: D. MILLER

INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS
SOUTHBOUND STRUCTURE

SCALE	BRIDGE FILE
1:50	I65-119-2313JC
UNLESS NOTED	DESIGNATION
	9612790
SURVEY BOOK	SHEETS
	5 of 51
CONTRACT	PROJECT
R-24327	IM-65-3 (281) 118

DESIGN DATA

ALLOWABLE DESIGN STRESSES:

Class "C" Concrete	F'c = 27 MPa
Class "A" Concrete	F'c = 24 MPa
Class "B" Concrete	F'c = 21 MPa
Reinforcing Steel	Fy = 420 MPa

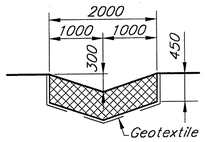
LIVE LOAD:

HS20-44 loading with distribution in accordance with 1996 A.A.S.H.T.O. Specifications and subsequent interim Specifications. Load Factor = 2.17

Checked for special loading of 10885 kg. axles spaced at 1220 mm centers.

DEAD LOAD:

Actual plus 1.7 kN per square meter (composite) for future wearing surface and 0.7 kN per square meter (non composite) for permanent metal deck forms. Slab designed with a 40 mm wearing surface. Load Factor = 1.30



RIPRAP DRAINAGE TURNOUT DETAIL

Not to Scale

GENERAL NOTES

Plans for the existing structures are on file in the Central Office and are available upon request.

Where new work is to be fitted to old work, the Contractor shall check all dimensions and conditions in the field and report any errors or discrepancies to the Engineer.

Portions of Present Structures shall be removed.

Footings shall be lower than shown if found necessary. See Article 206.11 of the Specifications.

Tolerance in position of pile head maximum 50 mm horizontally.

Determine pile lengths by Article 701 of the Specifications.

Steel encased concrete piles shall be driven to the Ultimate Bearing noted.

Reinforcing steel covering shall be 65 mm in top and 25 mm in bottom of floor slabs and 50 mm in all other areas unless noted.

Concrete shall be Class C in upper portions of integral end bents, floor slab and barrier railings.

Concrete shall be Class A in all portions of the project not noted above.

Continuous concrete pours shall be made between construction joints shown.

Chamfer exposed corners of concrete 25 mm unless noted.

Construct concrete approach slabs as shown.

Construct concrete slopewall as shown.

Place revetment riprap over geotextile as shown.

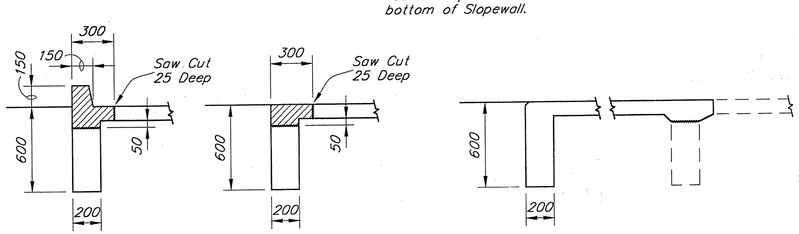
Surface seal shall be required on various areas of the structures as shown.

Masonry coating shall be required on various areas of the structures as shown. Masonry coating shall conform to Federal Color Standard 595a, Color No. 27778 (Antique Ivory). See the Special Provisions.

As an alternate, permanent metal deck forms may be used.

New steel diaphragms may be used in lieu of re-using existing diaphragms wherever reversing or retro-fitting is required.

Note:
See Standards for Toewall required at bottom of Slopewall.



REMOVAL AT BENT NO.1

REMOVAL AT BENT NO.5

RECONSTRUCTION AT BENT NO.1 OR BENT NO.5

CONCRETE SLOPEWALL WIDENING DETAILS

Scale=1:20

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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STEPHEN F. WEINTRAUT
REGISTERED
No. 16222
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Stephen F. Weintraut 9-28-01
DESIGN ENGINEER DATE

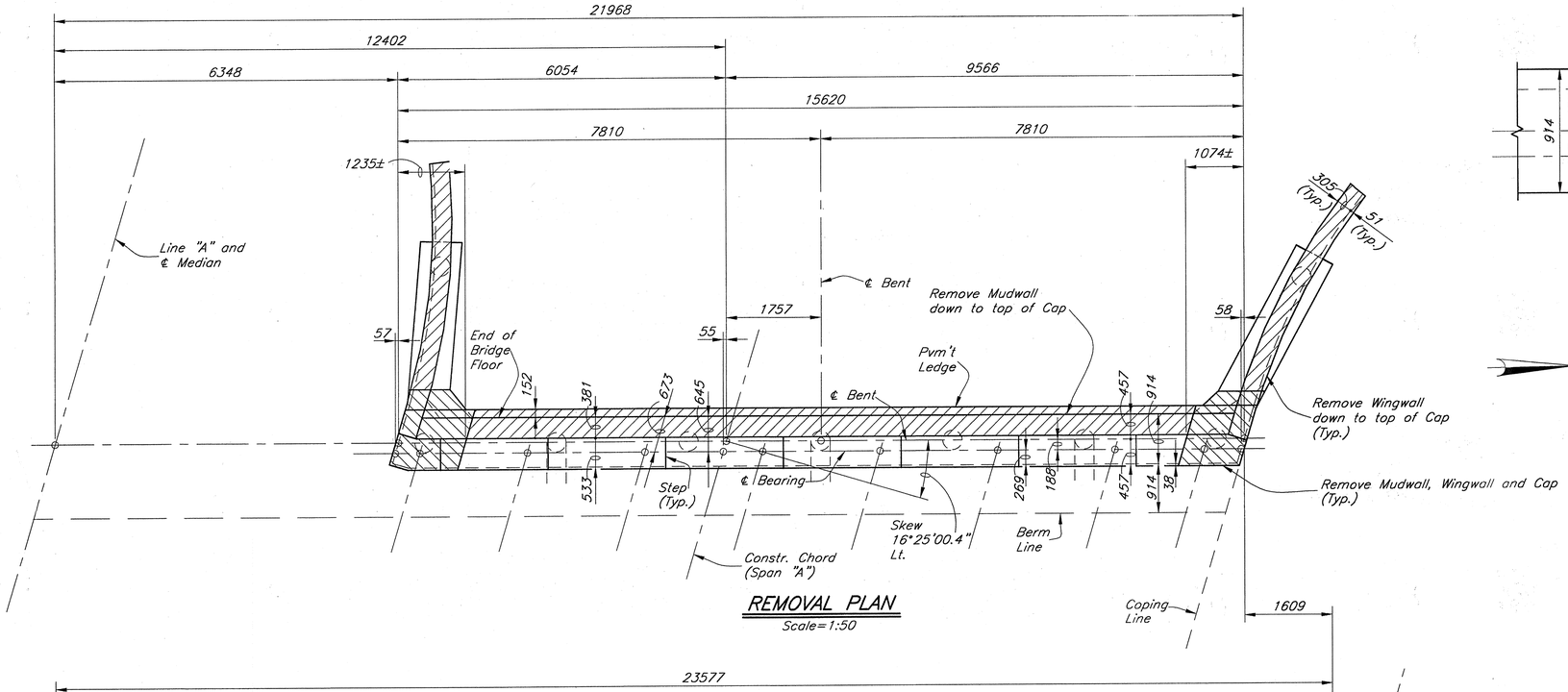
DESIGNED: M. EICHENAUER DRAWN: L. OSBORNE
CHECKED: S. WEINTRAUT CHECKED: D. MILLER

INDIANA DEPARTMENT OF TRANSPORTATION

GENERAL NOTES AND DESIGN DATA

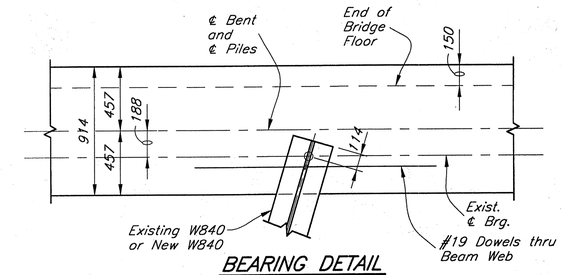
HORIZONTAL SCALE AS NOTED	FILE 165-119-2313C & JC
VERTICAL SCALE AS NOTED	DESIGNATION 9612790
SURVEY BOOK	SHEET 6 OF 51
CONTRACT R-24327	PROJECT IM-65-3(281)118

BFS NO. 3804.07



REMOVAL PLAN

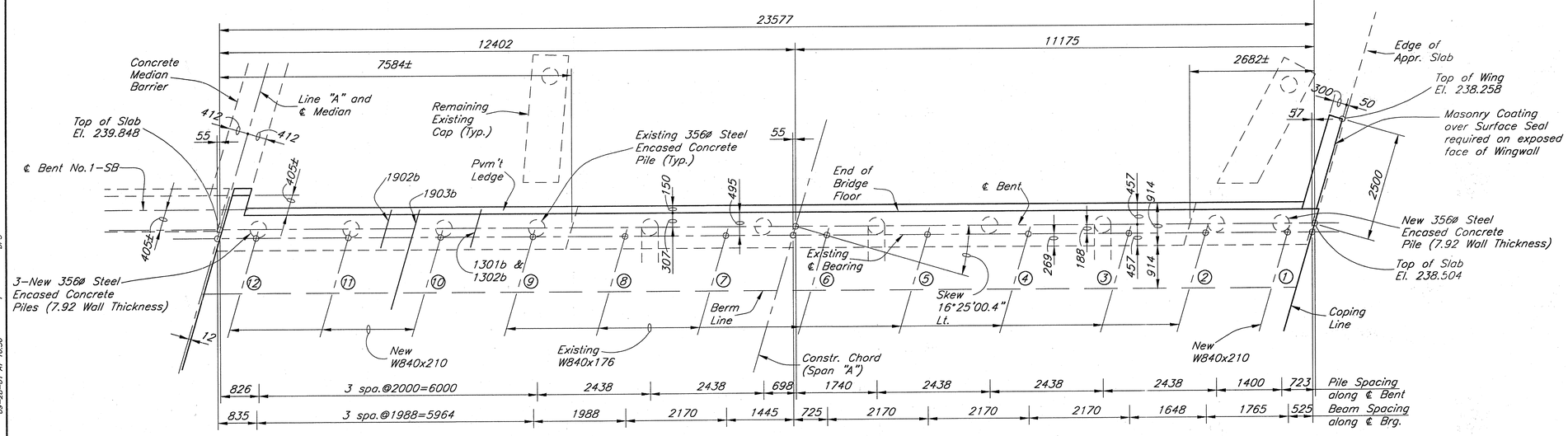
Scale=1:50



BEARING DETAIL

Scale=1:20

Note: Hatched Areas Indicate Portions to be Removed.



RECONSTRUCTION PLAN

Scale=1:50

NOTES
See General Plan for Pile Loadings.
See Sheets 11 and 12 for Sections.

⊛ Elevations are along Existing ℄ Bearing

⊛ BOTTOM OF BEAM ELEVATIONS

Beam No.	12	11	10	9	8	7	6	5	4	3	2	1
Elevation	238.723	238.610	238.496	238.391	238.278	238.154	238.032	237.908	237.785	237.663	237.568	237.457

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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MICHAEL MATEL REGISTERED No. 860186 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: M. Matel 9-28-01
DESIGN ENGINEER DATE

DESIGNED: J. SERA DRAWN: C. CARTER
CHECKED: M. MATEL CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

BENT NO.1 DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	7 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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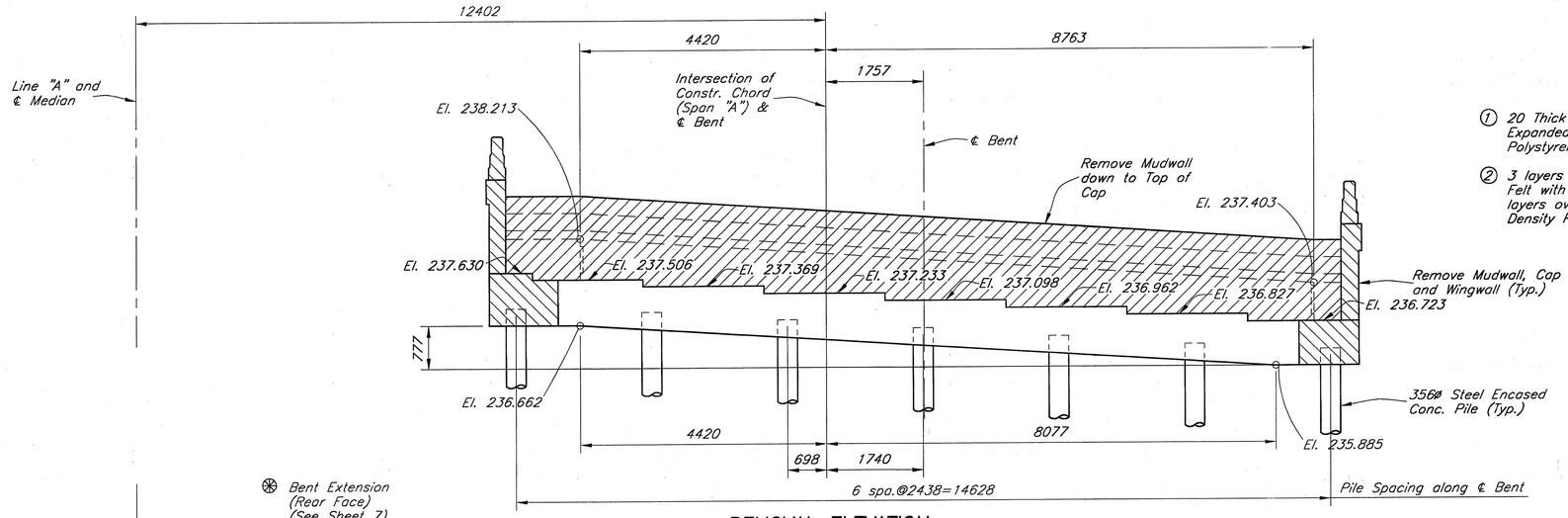
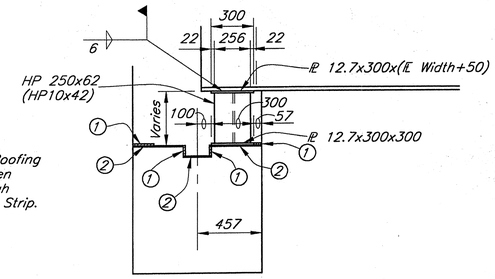


REMOVAL ELEVATION

Scale=1:50

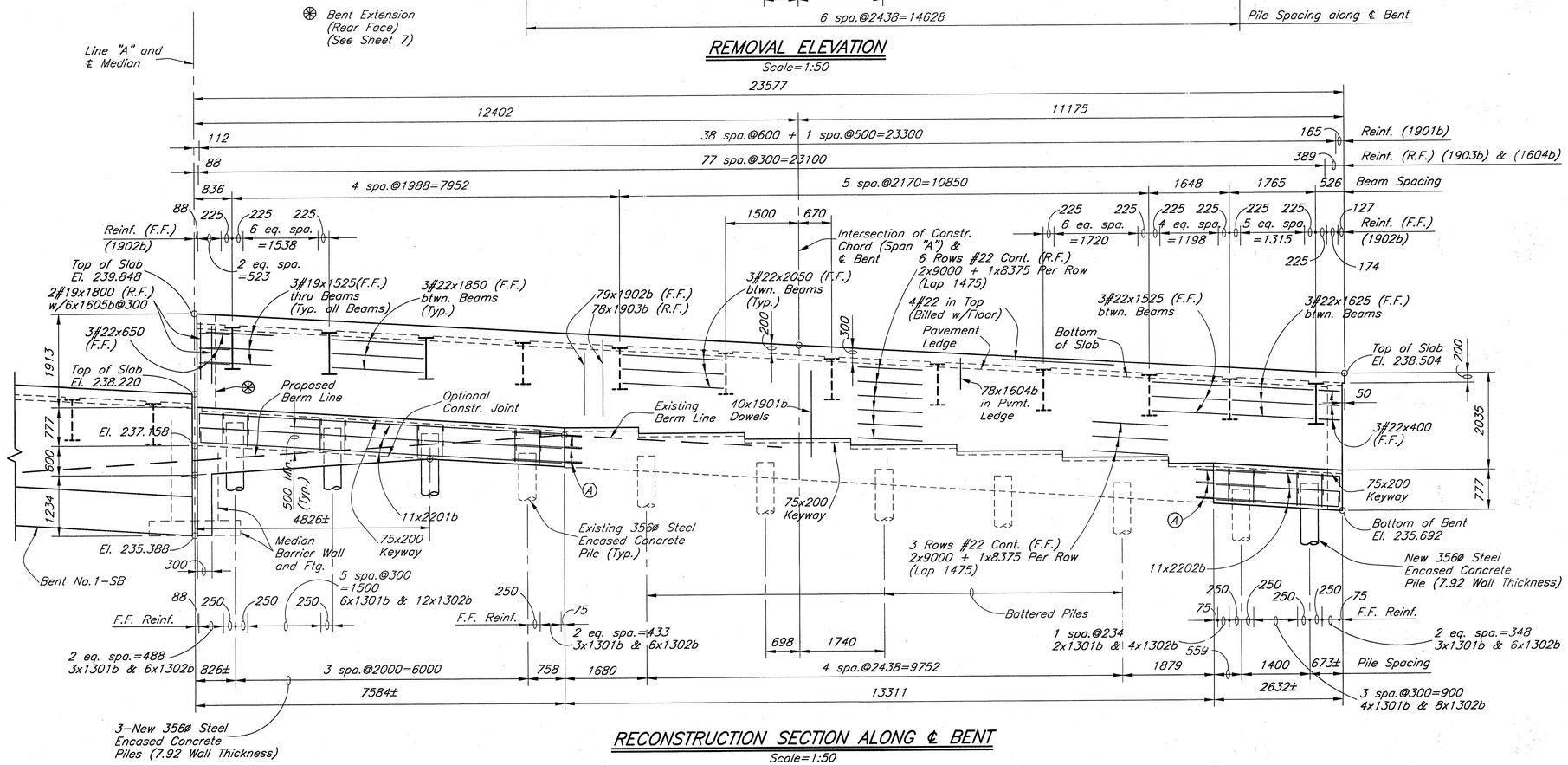


① 20 Thick Expanded Polystyrene

② 3 layers of Med. Wt. Roofing Felt with Grease between layers over 3 Thick High Density Plastic Bearing Strip.

BEAM SUPPORT DETAIL

Scale=1:20



RECONSTRUCTION SECTION ALONG ℄ BENT

Scale=1:50

Note: Hatched Areas Indicate Portions to be Removed.

Ⓐ 6 #22x1650 Dowels set in 360 Deep Field Drilled Holes with an Approved Anchor System. (Min. Pullout = 160 kN)

NOTES
See General Plan for Pile Loadings.
See Sheets 11 and 12 for Sections.

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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MICHAEL MATEL
REGISTERED No. 860186 STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: M. Matel 9-28-01
DESIGN ENGINEER DATE

DESIGNED: J. SERA DRAWN: C. CARTER
CHECKED: M. MATEL CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

BENT NO.1 DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	8 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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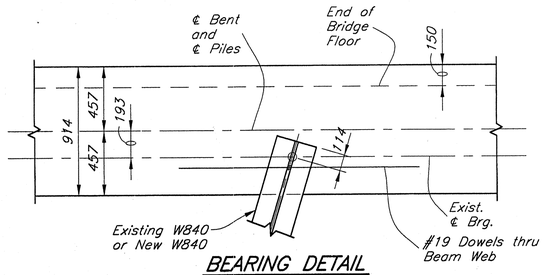
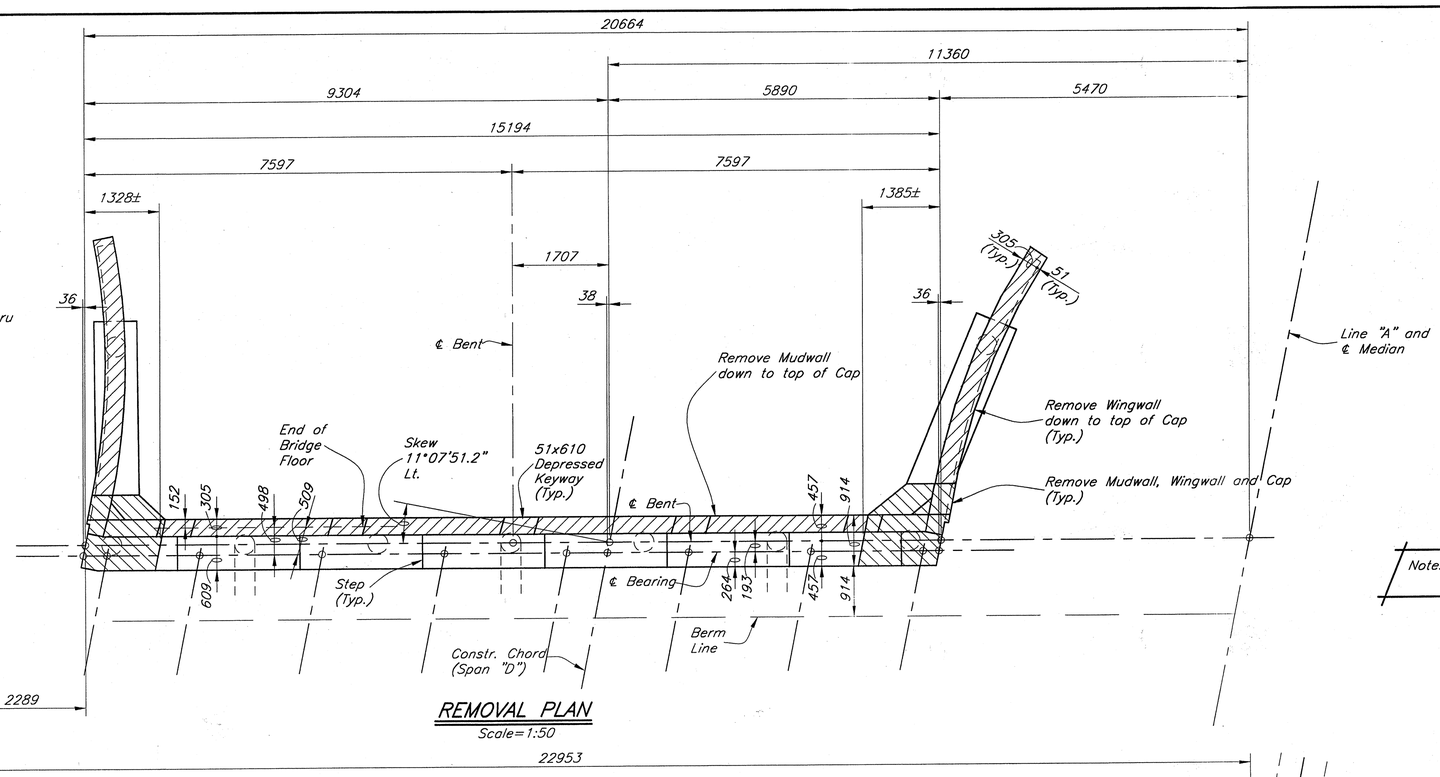
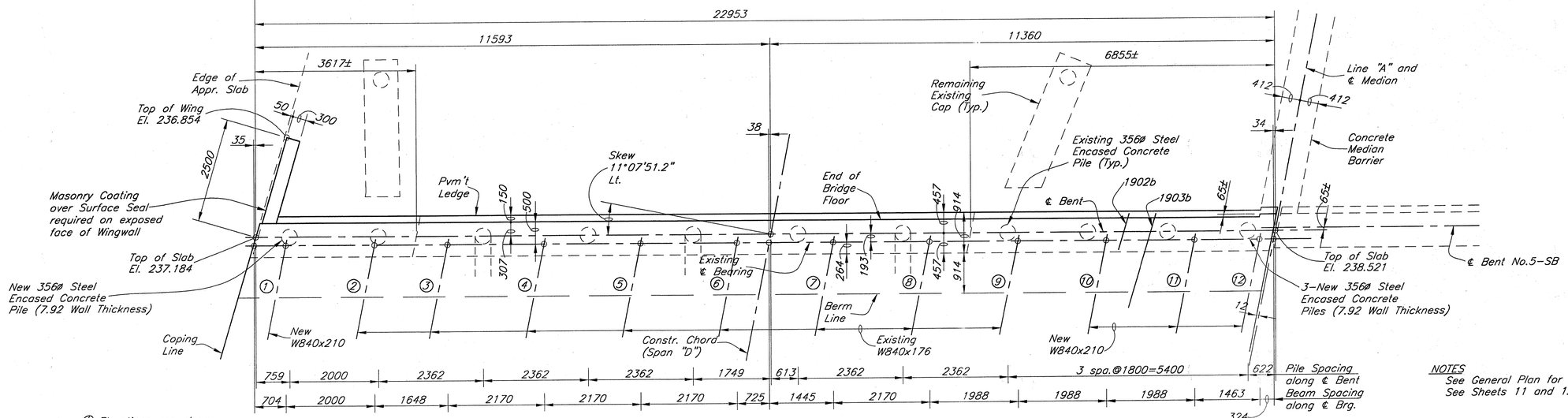


BEARING DETAIL
Scale=1:20



REMOVAL PLAN
Scale=1:50

Note: Hatched Areas Indicate Portions to be Removed.



RECONSTRUCTION PLAN
Scale=1:50

NOTES
See General Plan for Pile Loadings.
See Sheets 11 and 12 for Sections.

⊗ Elevations are along Existing ℄ Bearing

⊗BOTTOM OF BEAM ELEVATIONS

Beam No.	1	2	3	4	5	6	7	8	9	10	11	12
Elevation	236.155	236.282	236.377	236.504	236.630	236.755	236.882	237.008	237.124	237.230	237.346	237.432

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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MICHAEL MATEL
REGISTERED
No. 860186
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: 9-28-01
DESIGN ENGINEER DATE

DESIGNED: J. SERA DRAWN: C. CARTER
CHECKED: M. MATEL CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

BENT NO.5 DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	9 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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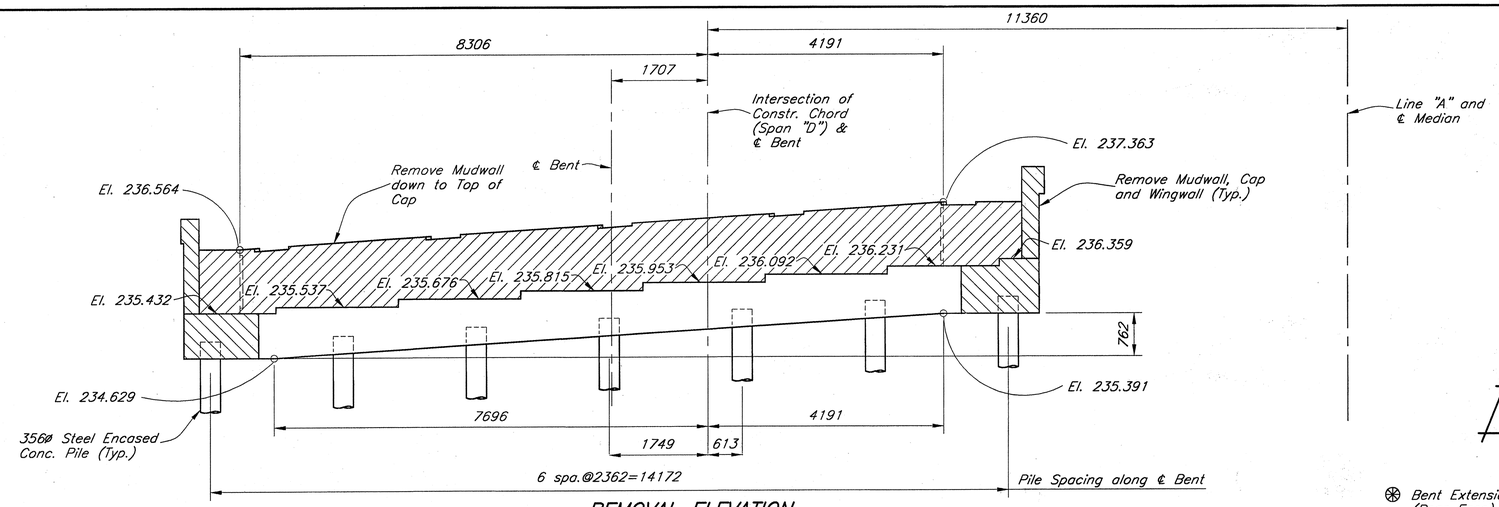
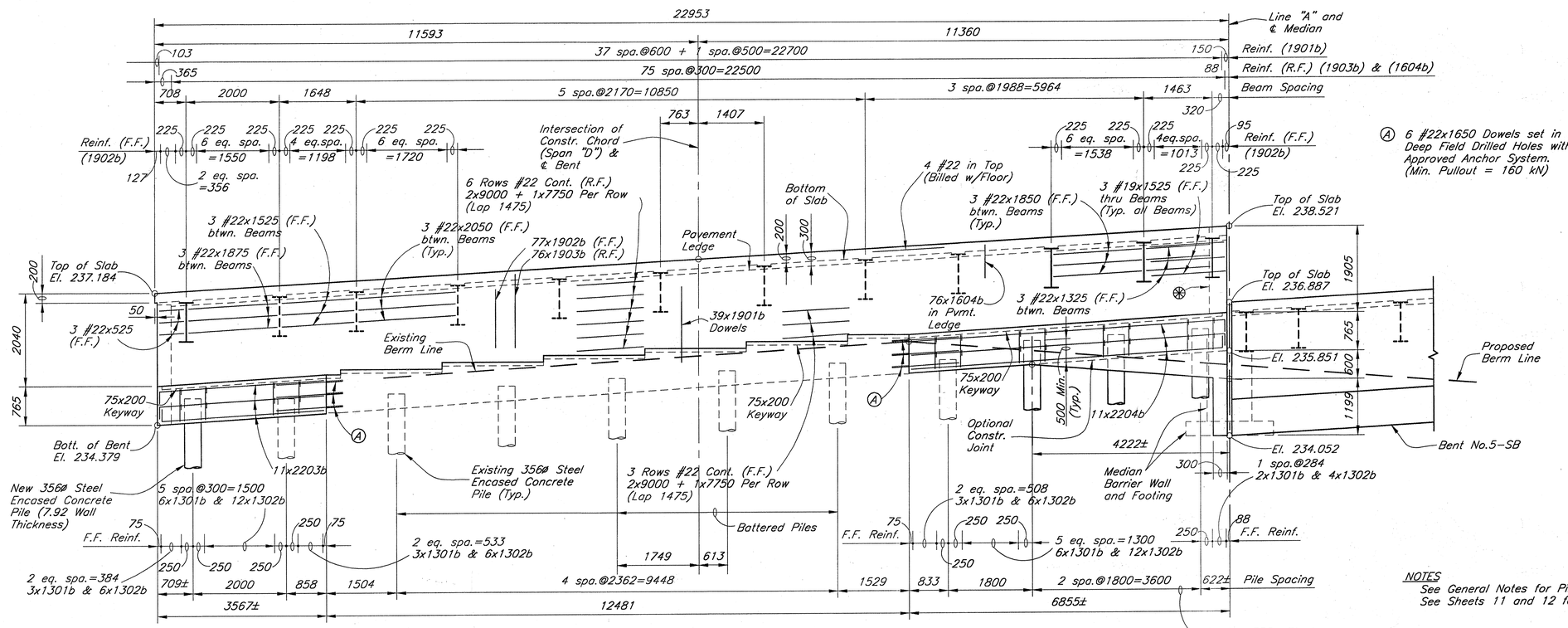


Note: Hatched Areas Indicate Portions to be Removed.

REMOVAL ELEVATION

Scale=1:50

⊛ Bent Extension (Rear Face) (See Sheet 9)



Ⓐ 6 #22x1650 Dowels set in 360 Deep Field Drilled Holes with an Approved Anchor System. (Min. Pullout = 160 kN)

RECONSTRUCTION SECTION ALONG ℄ BENT

Scale=1:50

NOTES

See General Notes for Pile Loadings.
See Sheets 11 and 12 for Sections.

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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MICHAEL MATEL
REGISTERED
No. 860186
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: 9-28-01
DESIGN ENGINEER DATE

DESIGNED: J. SERA DRAWN: C. CARTER
CHECKED: M. MATEL CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

BENT NO.5 DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	10 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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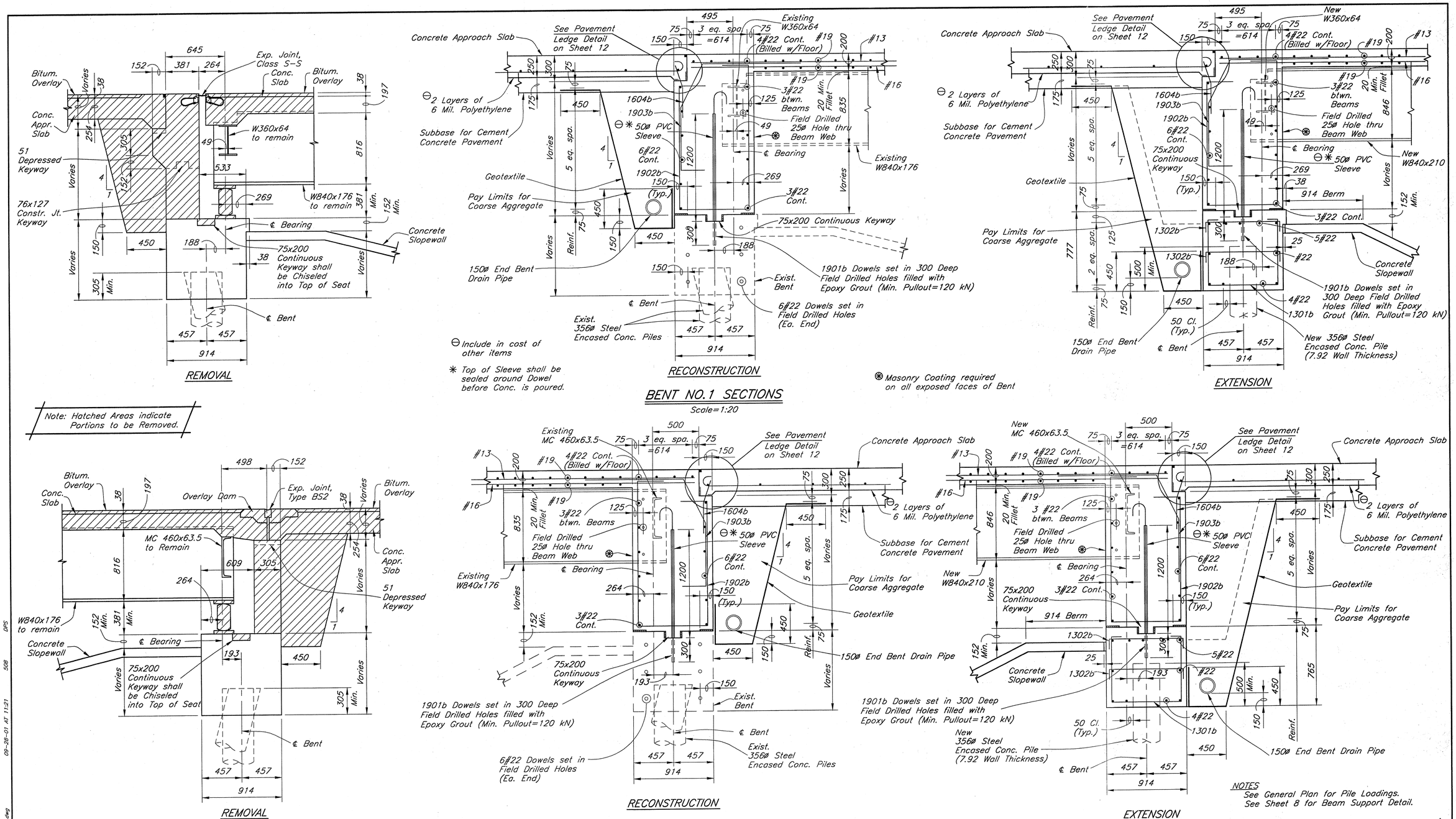

NOTES
See General Plan for Pile Loadings.
See Sheet 8 for Beam Support Detail.

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

JANSSEN & SPAANS ENGINEERING CONSULTING ENGINEERS
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MICHAEL MATEL REGISTERED No. 860186 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: 9-28-01
DESIGN ENGINEER DATE

DESIGNED: D. MILLER DRAWN: C. CARTER
CHECKED: M. MATEL CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

BENTS NO.1 AND NO.5 DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	11 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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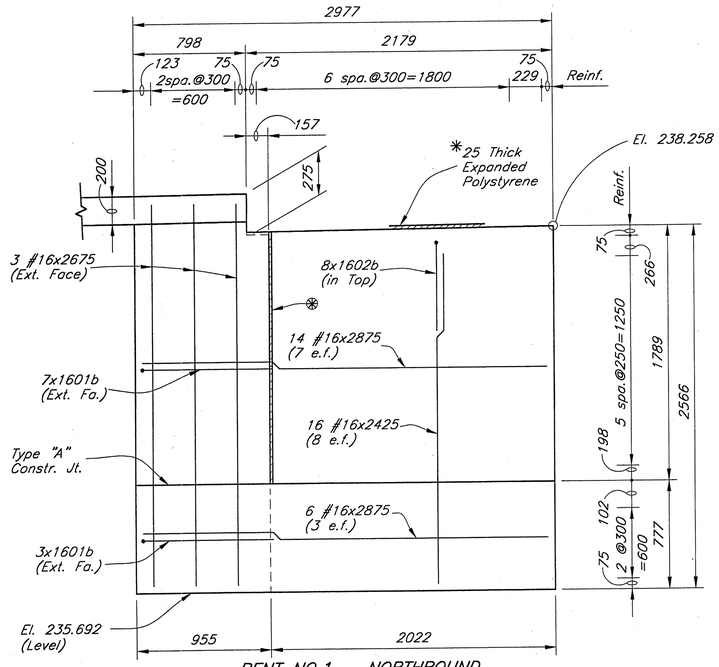
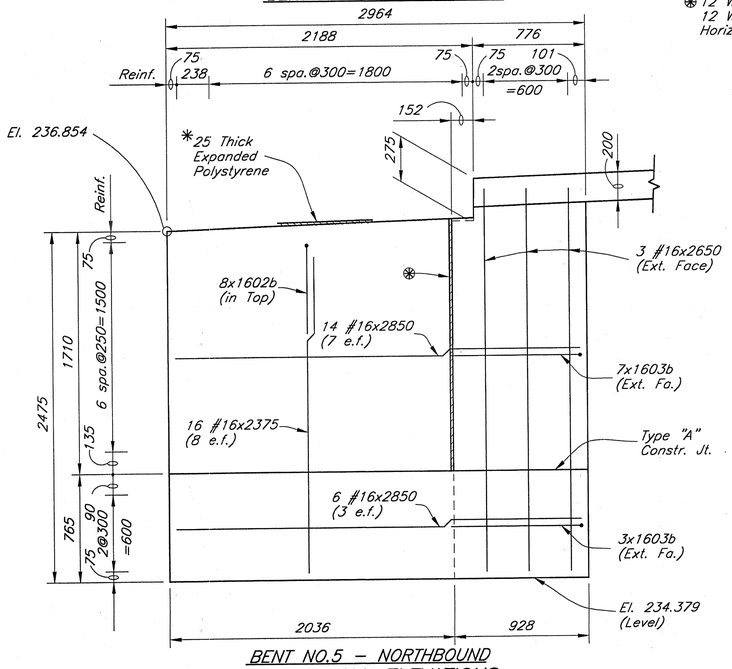
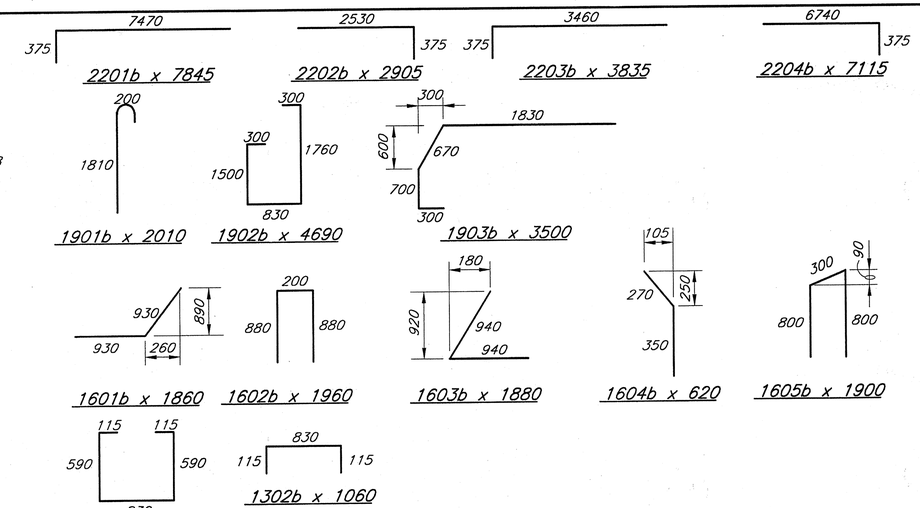


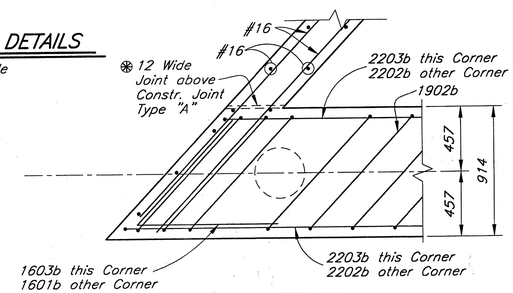
BENT NO.1 – NORTHBOUND



BENT NO.5 – NORTHBOUND
WINGWALL ELEVATIONS
Scale=1:20

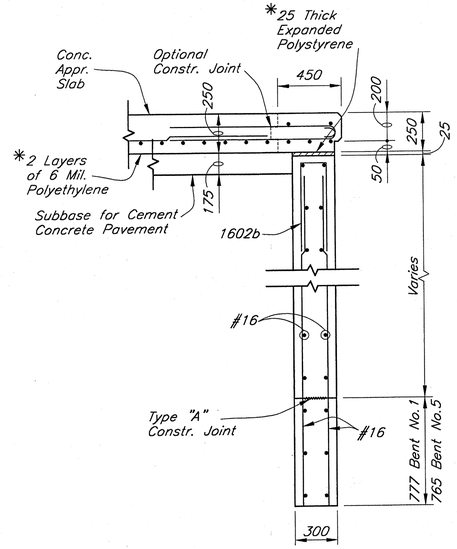


BAR BENDING DETAILS
Not to Scale



PLAN–SECTION AT CORNER
Not to Scale

❀ 12 Wide Saw Cut with Expanded Polystyrene or 12 Wide Joint formed with Expanded Polystyrene. Horiz. Reinf. shall be cut 50 clear of ea. side of Joint.



WINGWALL SECTION
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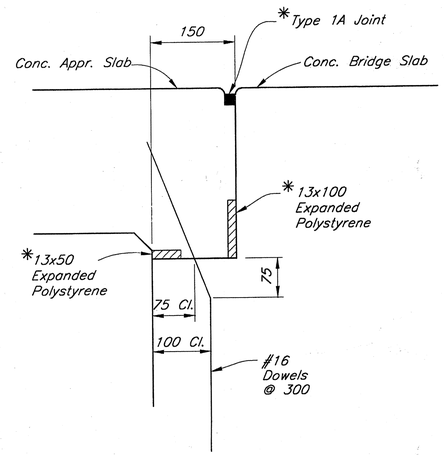
* Include in cost of other items.



PAVEMENT LEDGE DETAIL
Scale=1:5

BILL OF MATERIALS BENT NO.1

REINFORCING STEEL			
Mark or Size	No. of Bars	Length (mm)	Mass (kg)
2201b	11	7845	
2202b	11	2905	
#22	18	9000	
#22	9	8375	
#22	15	2050	
#22	12	1850	
#22	12	1650	
#22	3	1625	
#22	3	1525	
#22	3	650	
#22	3	400	
Total #22 (Epoxy Coated)			1341
1901b	40	2010	
1902b	79	4690	
1903b	78	3500	
#19	36	1525	
#19	2	1800	
Total #19 (Epoxy Coated)			1749
1601b	10	1860	
1602b	8	1960	
1604b	78	620	
1605b	6	1900	
#16	20	2875	
#16	3	2675	
#16	16	2425	
Total #16 (Epoxy Coated)			308
1301b	33	2240	
1302b	66	1060	
Total #13 (Epoxy Coated)			143
Total Steel (Epoxy Coated)			3541
CONCRETE			
Class "A" in Substructure (Below Constr. Joint)			9.5 m^3
MISCELLANEOUS			
Field Drilled Holes in Concrete			52 Each
Field Drilled Holes			36 Each
Surface Seal			7 m^2
Masonry Coating			52 m^2
356 ø Steel Encased Concrete Piles (7.92 Wall Thickness) 4 @ 22m Each			88 m

BILL OF MATERIALS BENT NO.5

REINFORCING STEEL			
Mark or Size	No. of Bars	Length (mm)	Mass (kg)
2203b	11	3835	
2204b	11	7115	
#22	18	9000	
#22	9	7750	
#22	15	2050	
#22	3	1875	
#22	9	1850	
#22	12	1650	
#22	3	1525	
#22	3	1325	
#22	3	525	
Total #22 (Epoxy Coated)			1324
1901b	39	2010	
1902b	77	4690	
1903b	76	3500	
#19	36	1525	
Total #19 (Epoxy Coated)			1700
1602b	8	1960	
1603b	10	1880	
1604b	76	620	
#16	20	2850	
#16	3	2650	
#16	16	2375	
Total #16 (Epoxy Coated)			286
1301b	35	2240	
1302b	70	1060	
Total #13 (Epoxy Coated)			152
Total Steel (Epoxy Coated)			3462
CONCRETE			
Class "A" in Substructure (Below Constr. Joint)			9.3 m^3
MISCELLANEOUS			
Field Drilled Holes in Concrete			51 Each
Field Drilled Holes			36 Each
Surface Seal			7 m^2
Masonry Coating			51 m^2
356 ø Steel Encased Concrete Piles (7.92 Wall Thickness) 4 @ 19m Each			76 m

⊕ A.S.T.M. A615M, Grade 420.

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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MICHAEL MATEL REGISTERED No. 860186 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Michael Matel 9-28-01
DESIGN ENGINEER DATE

DESIGNED: J.SERA DRAWN: C. CARTER
CHECKED: M. MATEL CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

BENTS NO.1 AND NO.5 DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	12 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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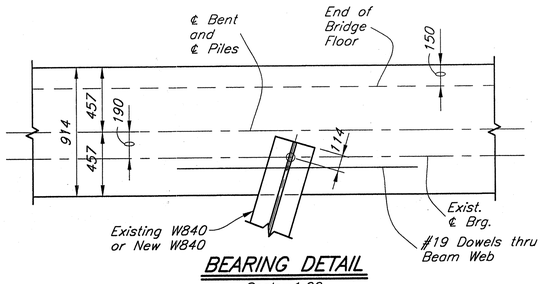

BEARING DETAIL
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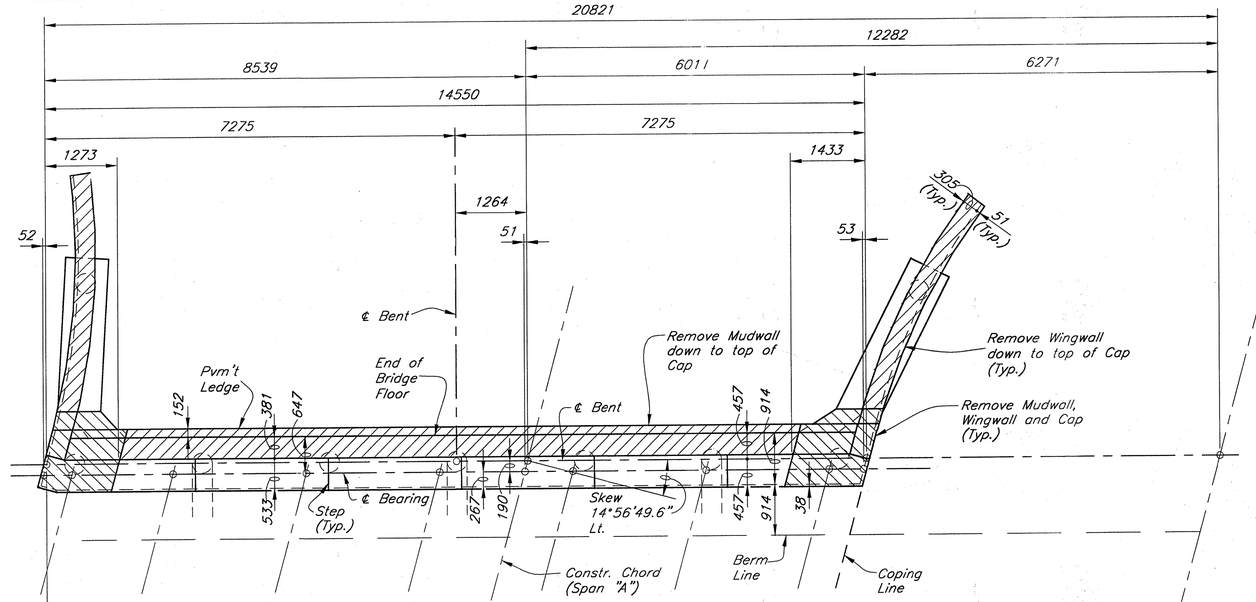
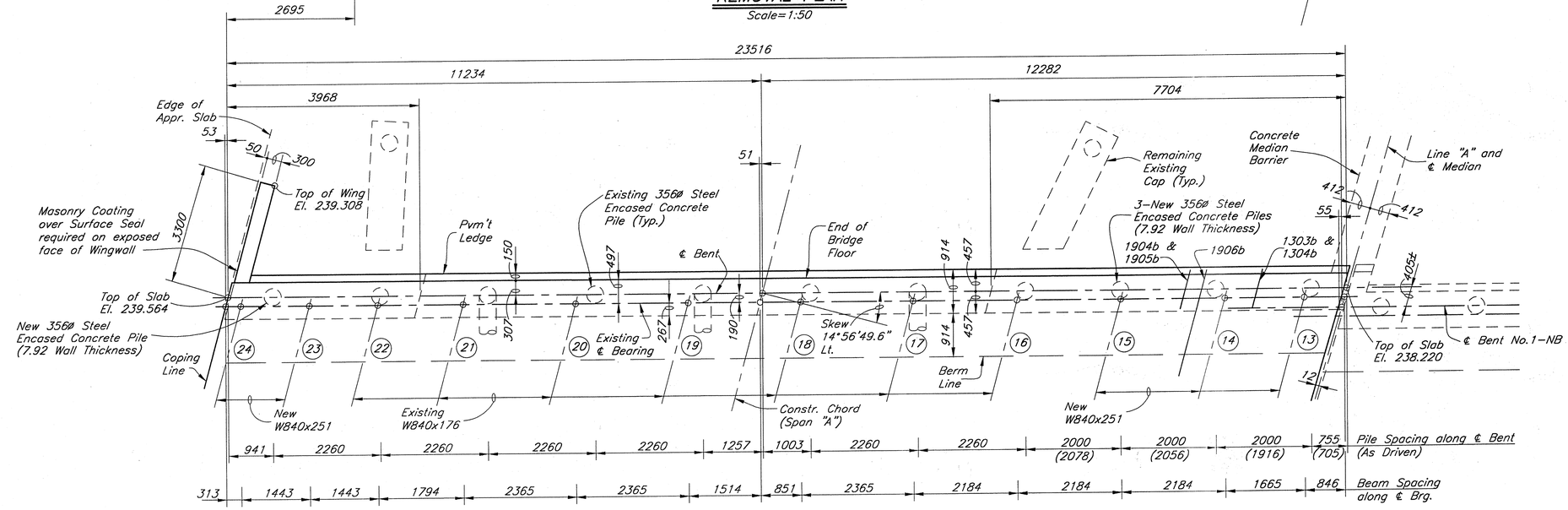


REMOVAL PLAN
Scale=1:50

Note: Hatched Areas Indicate Portions to be Removed.



RECONSTRUCTION PLAN
Scale=1:50

NOTES
See General Plan for Pile Loadings.
See Sheets 17 and 18 for Sections.

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

⊛ BOTTOM OF BEAM ELEVATIONS

Beam No.	24	23	22	21	20	19	18	17	16	15	14	13
Elevation	238.456	238.374	238.314	238.212	238.076	237.940	237.805	237.669	237.545	237.398	237.274	237.179

⊛ Elevations are along Existing ℄ Bearing

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MICHAEL MATEL REGISTERED No. 860186 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Michael Matel 9-28-01
DESIGN ENGINEER DATE

DESIGNED: J. SERA DRAWN: J. EVANS
CHECKED: M. MATEL CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

BENT NO.1 DETAILS
SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	13 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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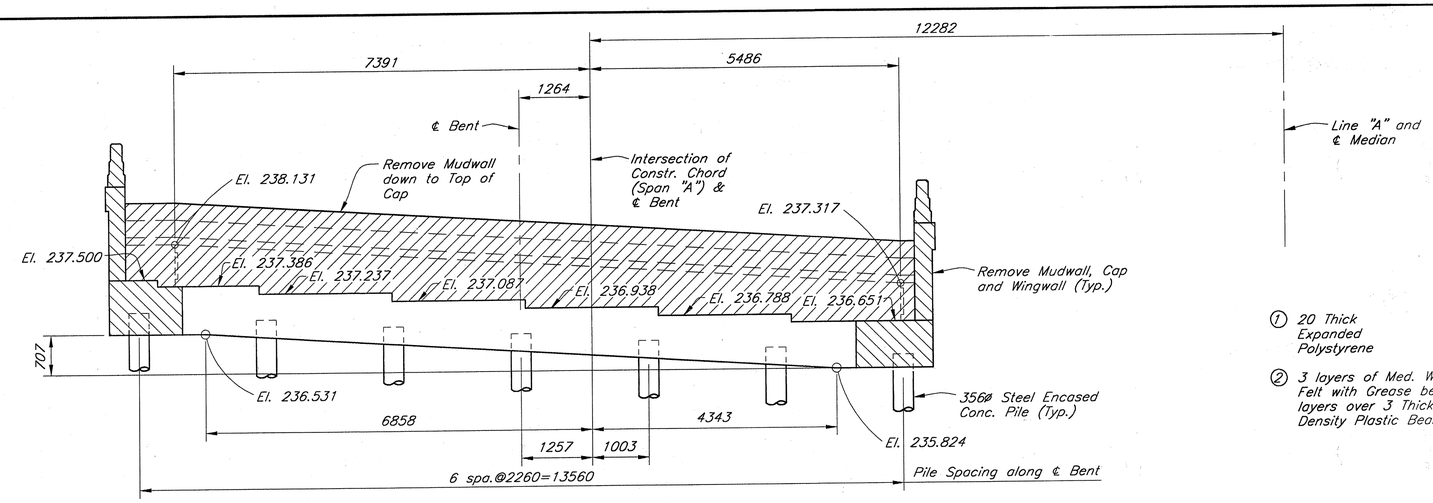
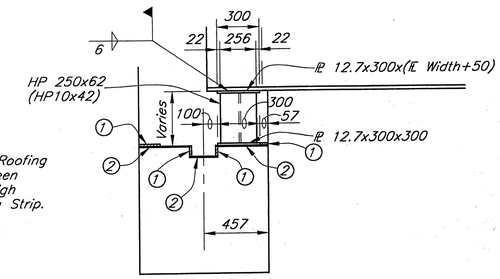


REMOVAL ELEVATION

Scale=1:50

① 20 Thick Expanded Polystyrene

② 3 layers of Med. Wt. Roofing Felt with Grease between layers over 3 Thick High Density Plastic Bearing Strip.



BEAM SUPPORT DETAIL

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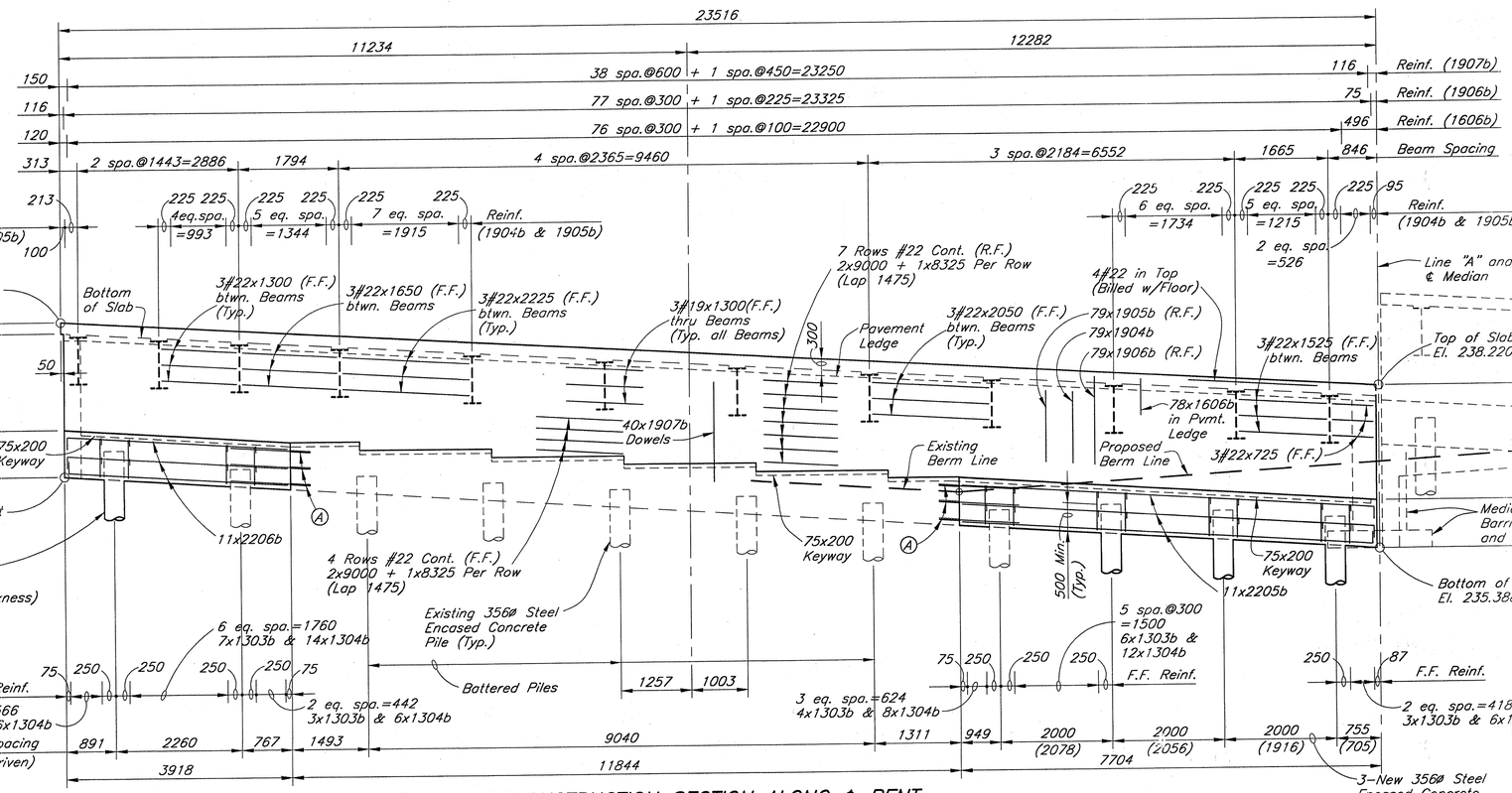
Note: Hatched Areas Indicate Portions to be Removed.



RECONSTRUCTION SECTION ALONG ℄ BENT

Scale=1:50

Ⓐ 6#22x1650 Dowels set in 360 Deep Field Drilled Holes with an Approved Anchor System. (Min. Pullout = 160 kN)

NOTES
See General Plan for Pile Loadings.
See Sheets 17 and 18 for Sections.

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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MICHAEL MATEL
REGISTERED
No. 860186
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: M. Matel 9-28-01
DESIGN ENGINEER DATE

DESIGNED: J. SERA DRAWN: J. EVANS
CHECKED: M. MATEL CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

BENT NO.1 DETAILS
SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	14 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

DFS NO. 3804.07

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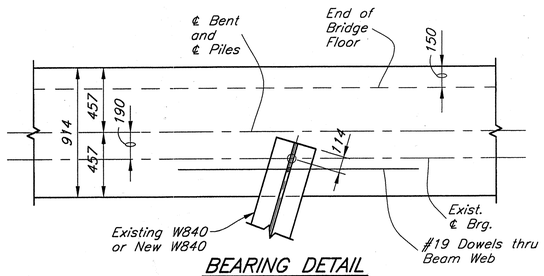
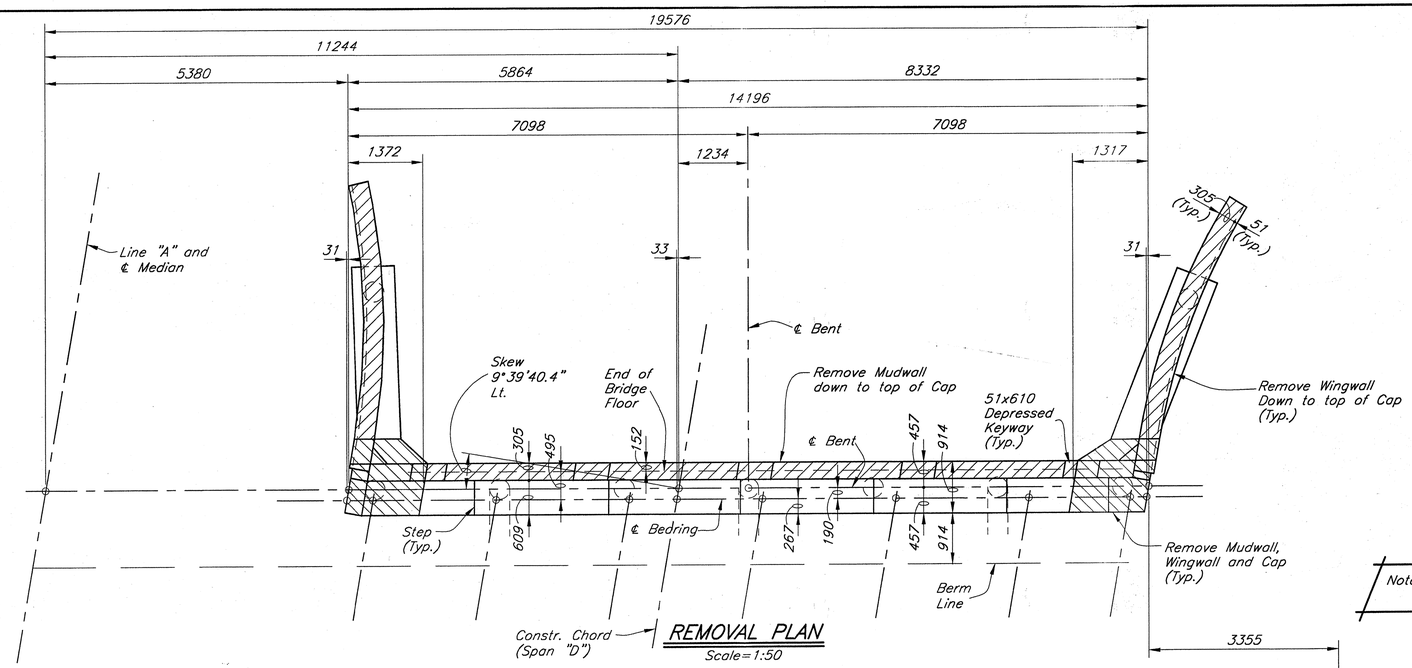
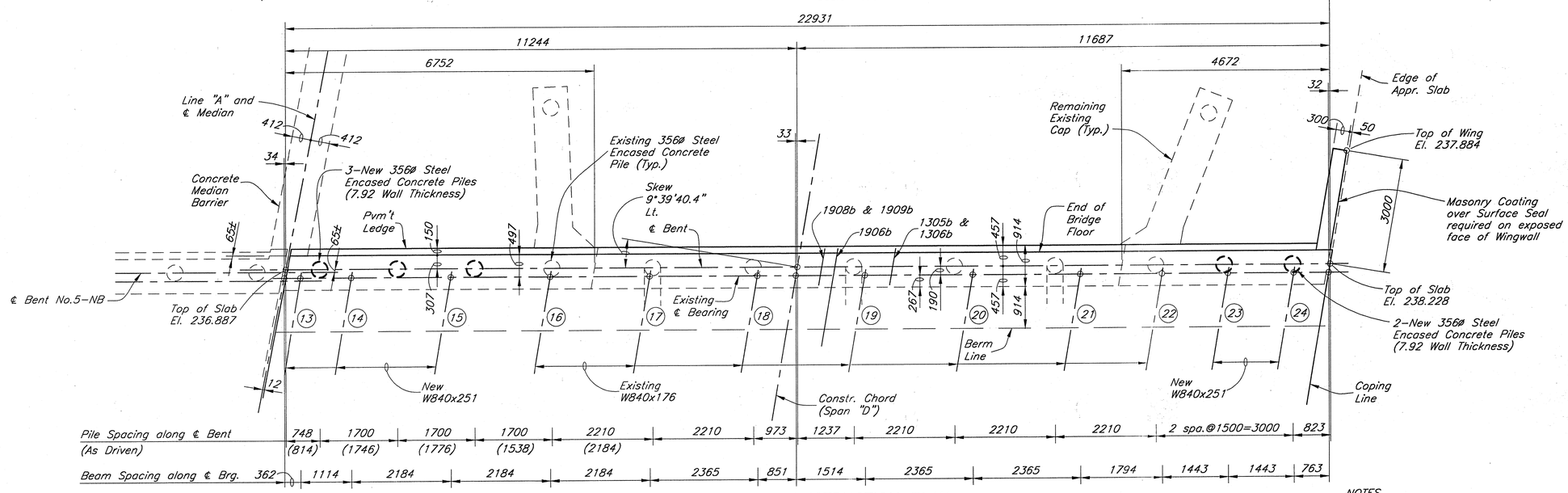


BEARING DETAIL
Scale=1:20



REMOVAL PLAN
Scale=1:50

Note: Hatched Areas Indicate Portions to be Removed.



RECONSTRUCTION PLAN
Scale=1:50

NOTES
See General Plan for Pile Loadings.
See Sheets 17 and 18 for Sections.

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

⊛ BOTTOM OF BEAM ELEVATIONS

Beam No.	13	14	15	16	17	18	19	20	21	22	23	24
Elevation	235.825	235.890	236.017	236.163	236.292	236.431	236.571	236.709	236.849	236.955	237.015	237.100

⊛ Elevations are along Existing ℄ Bearing

JANSSEN & SPAANS ENGINEERING CONSULTING ENGINEERS
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MICHAEL MATEL REGISTERED No. 860186 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Michael Matel 9-28-01
DESIGN ENGINEER DATE

DESIGNED: J. SERA DRAWN: J. EVANS
CHECKED: M. MATEL CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

BENT NO.5 DETAILS
SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	15 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

DFS NO. 3804.07

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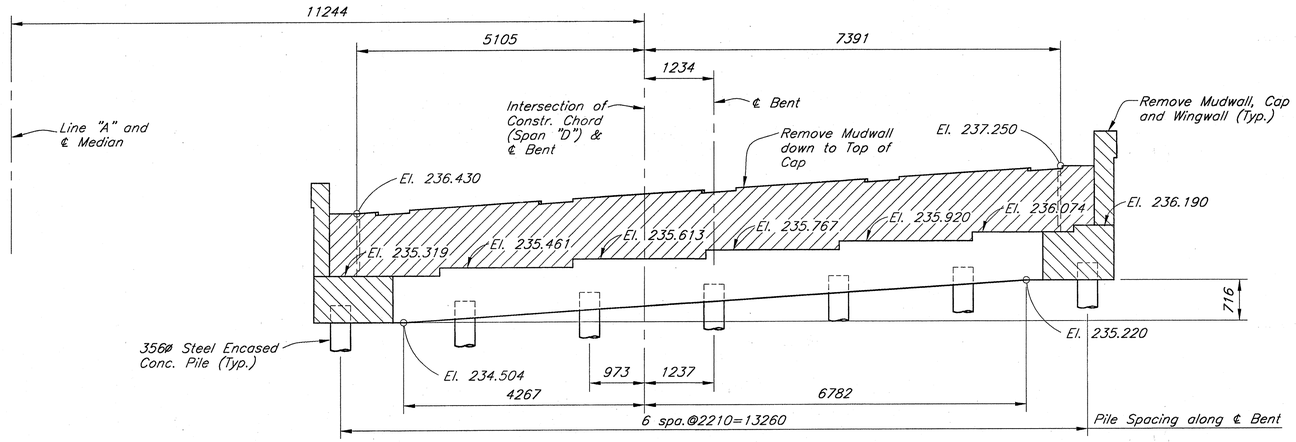
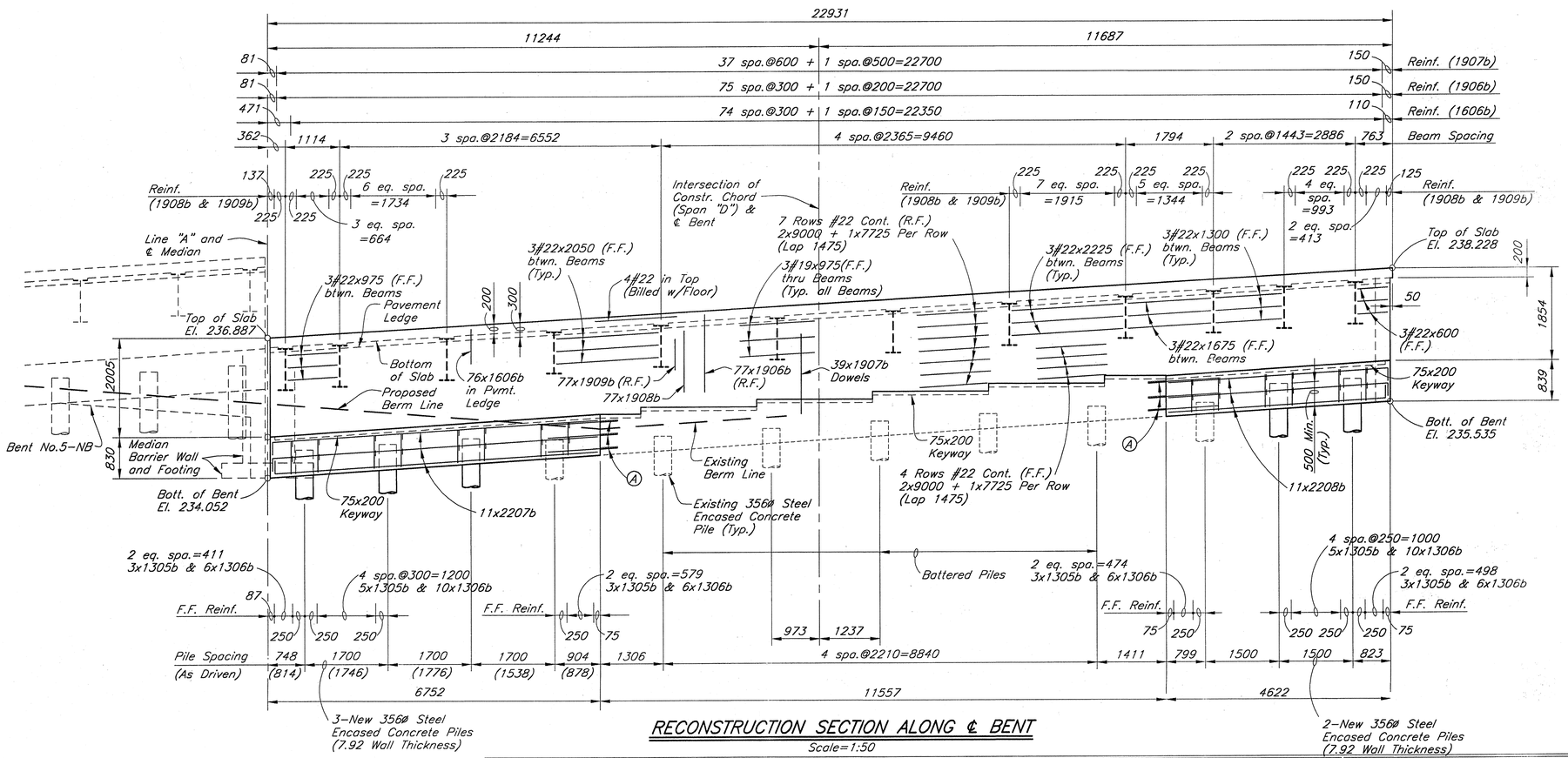


REMOVAL ELEVATION

Scale=1:50

Note: Hatched Areas Indicate Portions to be Removed.



RECONSTRUCTION SECTION ALONG ℄ BENT

Scale=1:50

Ⓐ 6#22x1650 Dowels set in 360 Deep Field Drilled Holes with an Approved Anchor System. (Min. Pullout = 160 kN)

NOTES

See General Plan for Pile Loadings.
See Sheet 17 and 18 for Sections.

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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RECOMMENDED FOR APPROVAL: Michael Matel 9-28-01
DESIGN ENGINEER DATE

DESIGNED: J. SERA DRAWN: J. EVANS
CHECKED: M. MATEL CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

BENT NO.5 DETAILS SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	16 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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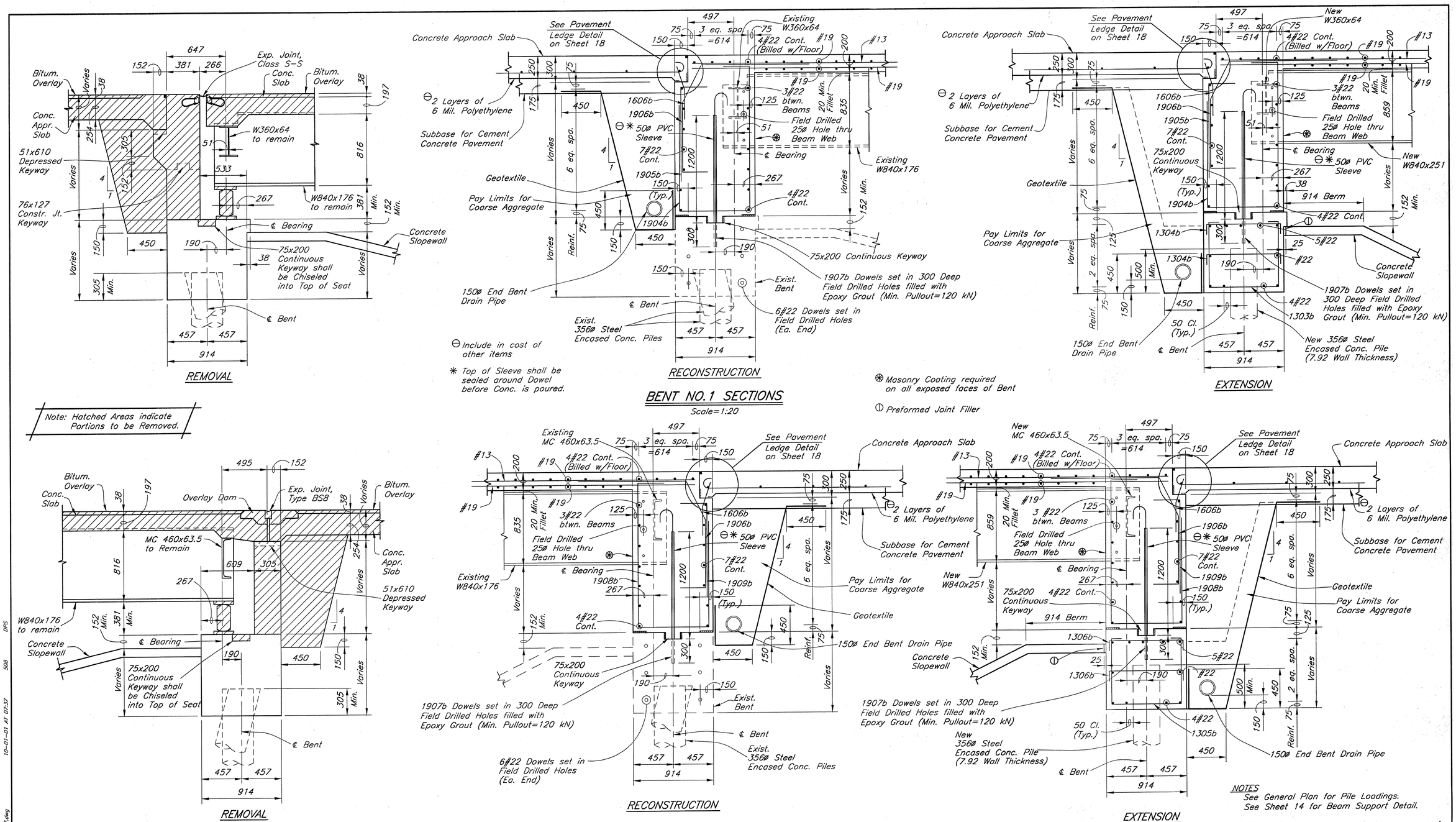

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MICHAEL MATEL REGISTERED No. 860186 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: 9-28-01
DESIGN ENGINEER DATE

DESIGNED: J. SERA
DRAWN: J. EVANS
CHECKED: M. MATEL
CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

BENTS NO.1 AND NO.5 DETAILS
SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	17 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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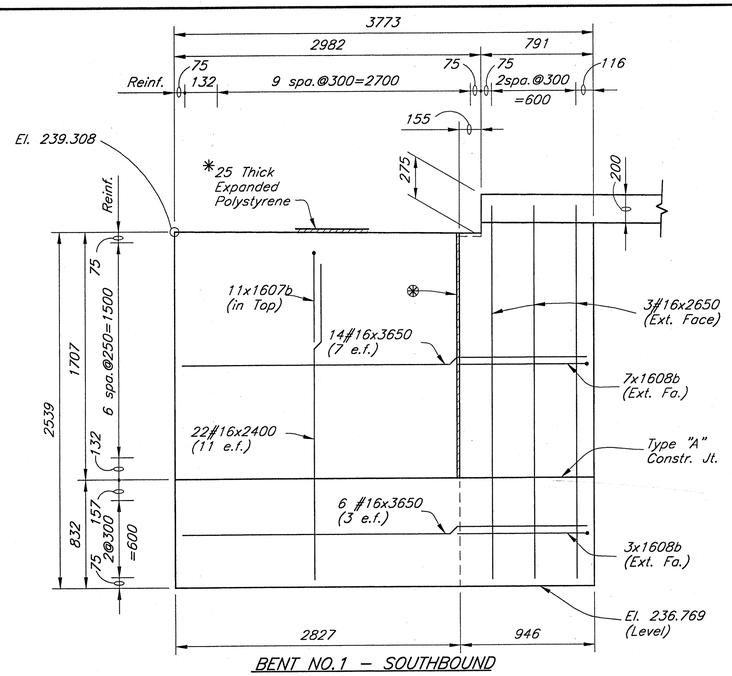

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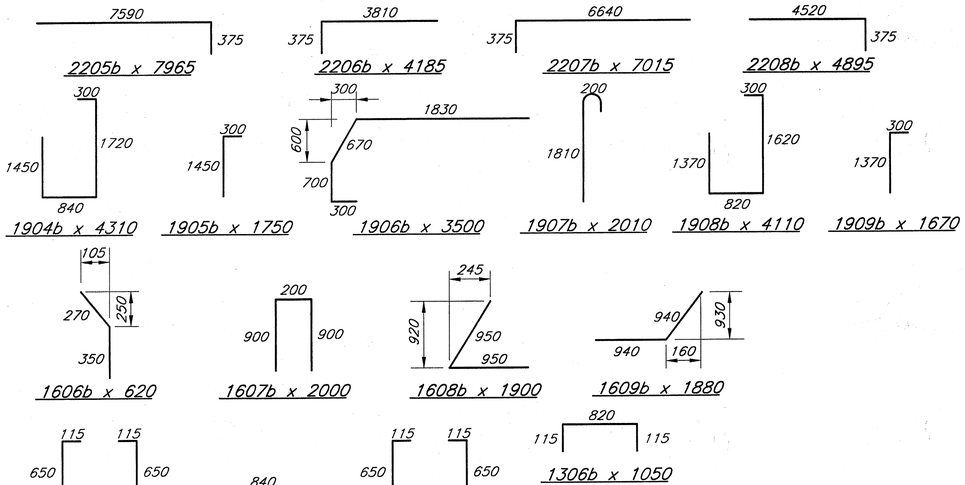
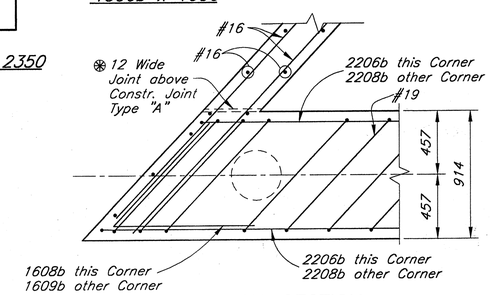


BAR BENDING DETAILS

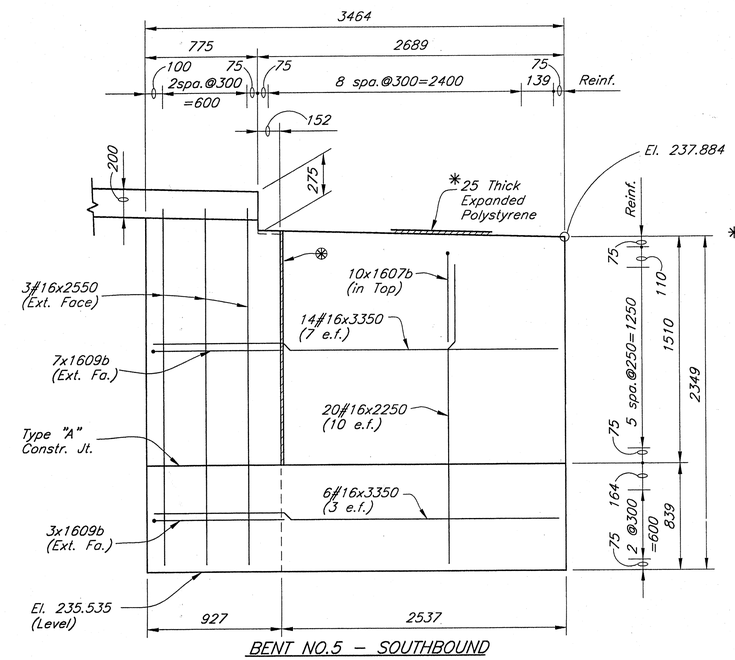
Not to Scale

❀ 12 Wide Saw Cut with Expanded Polystyrene or 12 Wide Joint formed with Expanded Polystyrene. Horiz. Reinf. shall be cut 50 clear of ea. side of Joint.



PLAN–SECTION AT CORNER

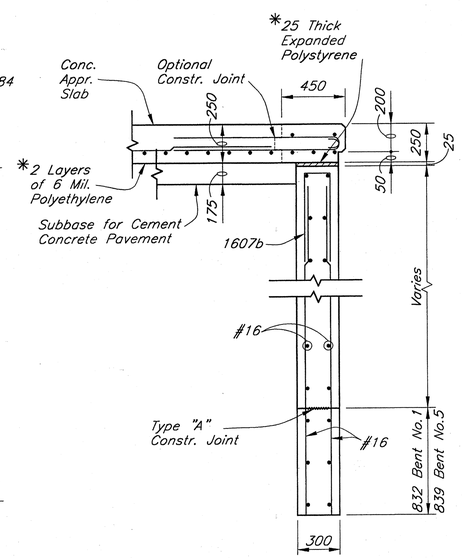
Not to Scale



BENT NO.5 – SOUTHBOUND

WINGWALL ELEVATIONS

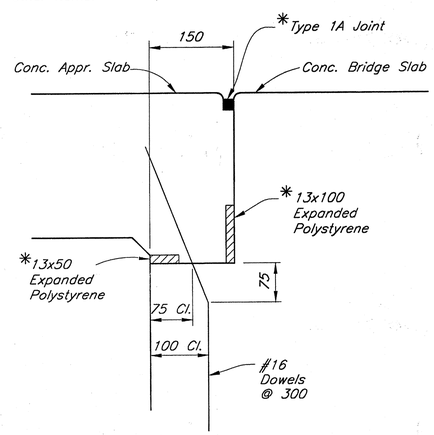
Not to Scale



WINGWALL SECTION

Scale=1:20

* Include in cost of other items.



PAVEMENT LEDGE DETAIL

Scale=1:5

BILL OF MATERIALS BENT NO.1

REINFORCING STEEL			
Mark or Size	No. of Bars	Length (mm)	Mass (kg)
2205b	11	7965	
2206b	11	4185	
#22	22	9000	
#22	11	8325	
#22	12	2225	
#22	9	2050	
#22	15	1650	
#22	3	1525	
#22	6	1300	
#22	3	725	
Total #22 (Epoxy Coated)			1544
1904b	79	4310	
1905b	79	1750	
1906b	79	3500	
1907b	40	2010	
#19	36	1300	
Total #19 (Epoxy Coated)			1972
1606b	78	620	
1607b	11	2000	
1608b	10	1900	
#16	20	3650	
#16	3	2650	
#16	22	2400	
Total #16 (Epoxy Coated)			346
1303b	38	2370	
1304b	76	1070	
Total #13 (Epoxy Coated)			170
Total Steel (Epoxy Coated)			4032
CONCRETE			
Class "A" in Substructure (Below Constr. Joint)			9.6 m^3
MISCELLANEOUS			
Field Drilled Holes in Concrete			52 Each
Field Drilled Holes			36 Each
Surface Seal			8 m^2
Masonry Coating			53 m^2
356 ø Steel Encased Concrete Piles (7.92 Wall Thickness) 4 @ 22m Each			88 m

BILL OF MATERIALS BENT NO.5

REINFORCING STEEL			
Mark or Size	No. of Bars	Length (mm)	Mass (kg)
2207b	11	7015	
2208b	11	4895	
#22	22	9000	
#22	11	7725	
#22	12	2225	
#22	9	2050	
#22	3	1675	
#22	12	1650	
#22	6	1300	
#22	3	975	
#22	3	600	
Total #22 (Epoxy Coated)			1510
1906b	77	3500	
1907b	39	2010	
1908b	77	4110	
1909b	77	1670	
#19	36	975	
Total #19 (Epoxy Coated)			1851
1606b	76	620	
1607b	10	2000	
1609b	10	1880	
#16	20	3350	
#16	3	2550	
#16	20	2250	
Total #16 (Epoxy Coated)			319
1305b	37	2350	
1306b	74	1050	
Total #13 (Epoxy Coated)			164
Total Steel (Epoxy Coated)			3844
CONCRETE			
Class "A" in Substructure (Below Constr. Joint)			9.3 m^3
MISCELLANEOUS			
Field Drilled Holes in Concrete			51 Each
Field Drilled Holes			36 Each
Surface Seal			7 m^2
Masonry Coating			50 m^2
356 ø Steel Encased Concrete Piles (7.92 Wall Thickness) 5 @ 18m Each			90 m

⊕ A.S.T.M. A615M, Grade 420.

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

JANSSEN & SPAANS ENGINEERING CONSULTING ENGINEERS
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219 769-2333
FAX 219 769-2377

MICHAEL MATEL REGISTERED No. 860186 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: M. Matel 9-28-01
DESIGN ENGINEER DATE

DESIGNED: J. SERA DRAWN: J. EVANS
CHECKED: M. MATEL CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

BENTS NO.1 AND NO.5 DETAILS
SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	18 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BRS NO. 3804.07

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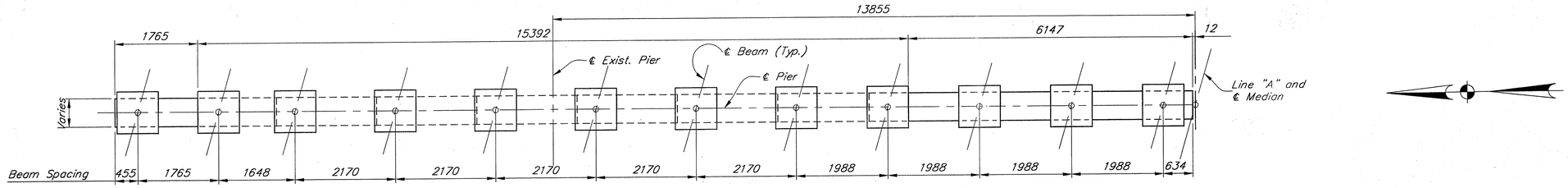

CAP PLAN

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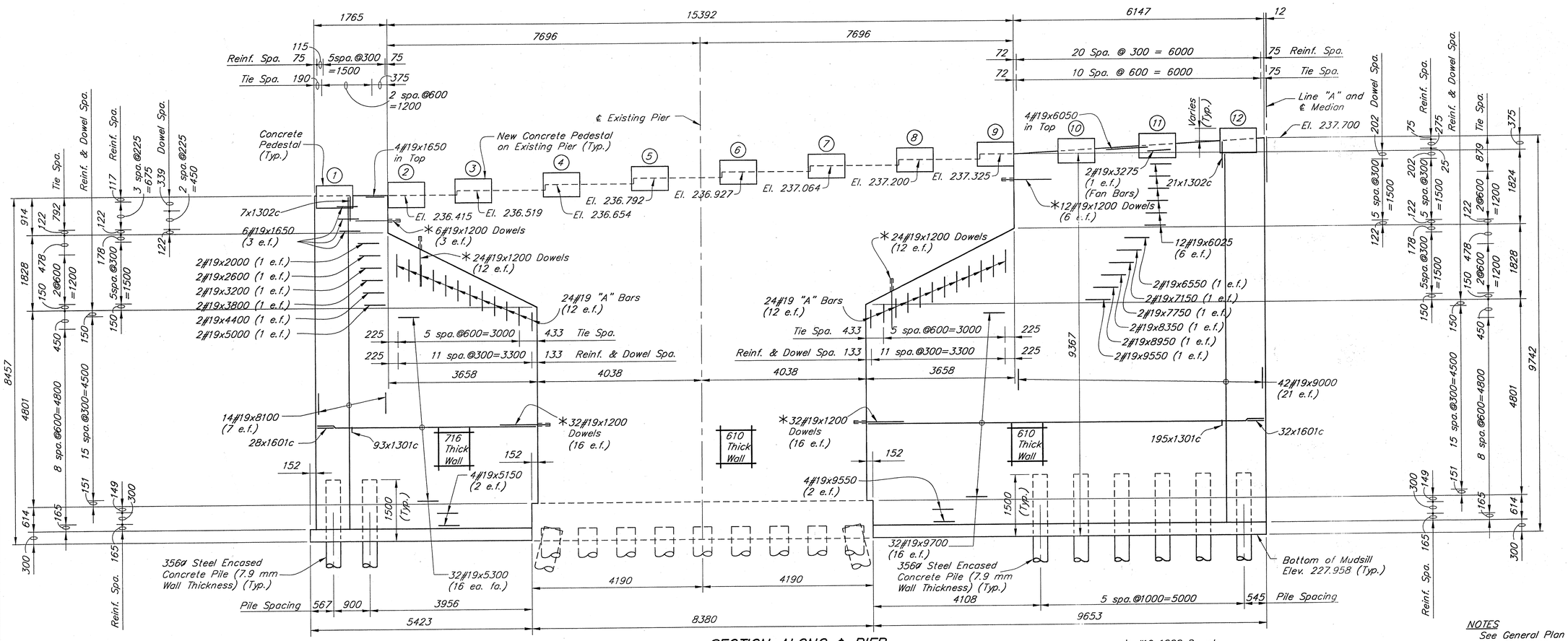

SECTION ALONG ℄ PIER

Scale = 1:50

"A" Bars 24 #19
2#19x4800
2#19x5550
2#19x5700
2#19x5850
2#19x6000
2#19x6150
2#19x6300
2#19x6450
2#19x6600
2#19x6750
2#19x6900
2#19x7050
148200

* #19x1200 Dowels
Set in 205 Deep Field Drilled
Holes w/ an Approved Anchor System
(Min. Pullout = 117.9 kN)

NOTES
See General Plan for Pile Loadings.
See Sheet 22 for Sections.
See Sheet 26A for Pedestals.

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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FAX 219 769-2377

STEPHEN F. WEINRAUT
REGISTERED
No. 16222
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL — DESIGN ENGINEER — DATE 9-28-01

DESIGNED: M. MATEL — DRAWN: J. MOFFITT
CHECKED: J. SERA — CHECKED: J. WAGNER

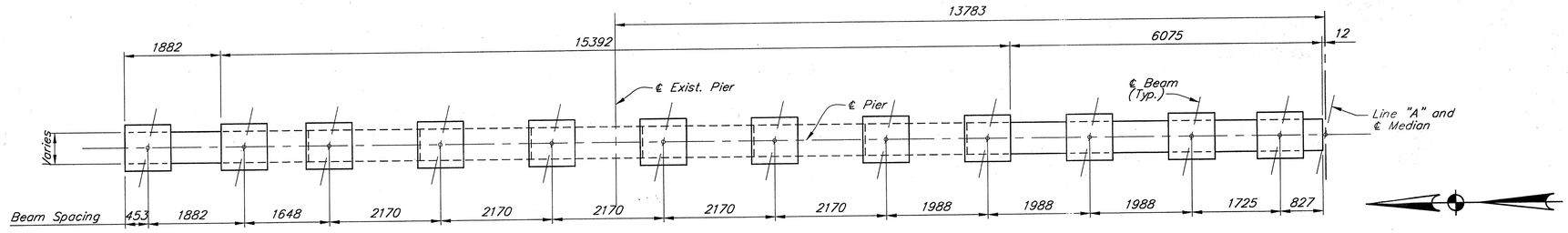
INDIANA DEPARTMENT OF TRANSPORTATION

PIER NO.2 DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	I-65-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEETS
	19 of 51
CONTRACT	PROJECT
R-24327	IM-65-3 (281) 118

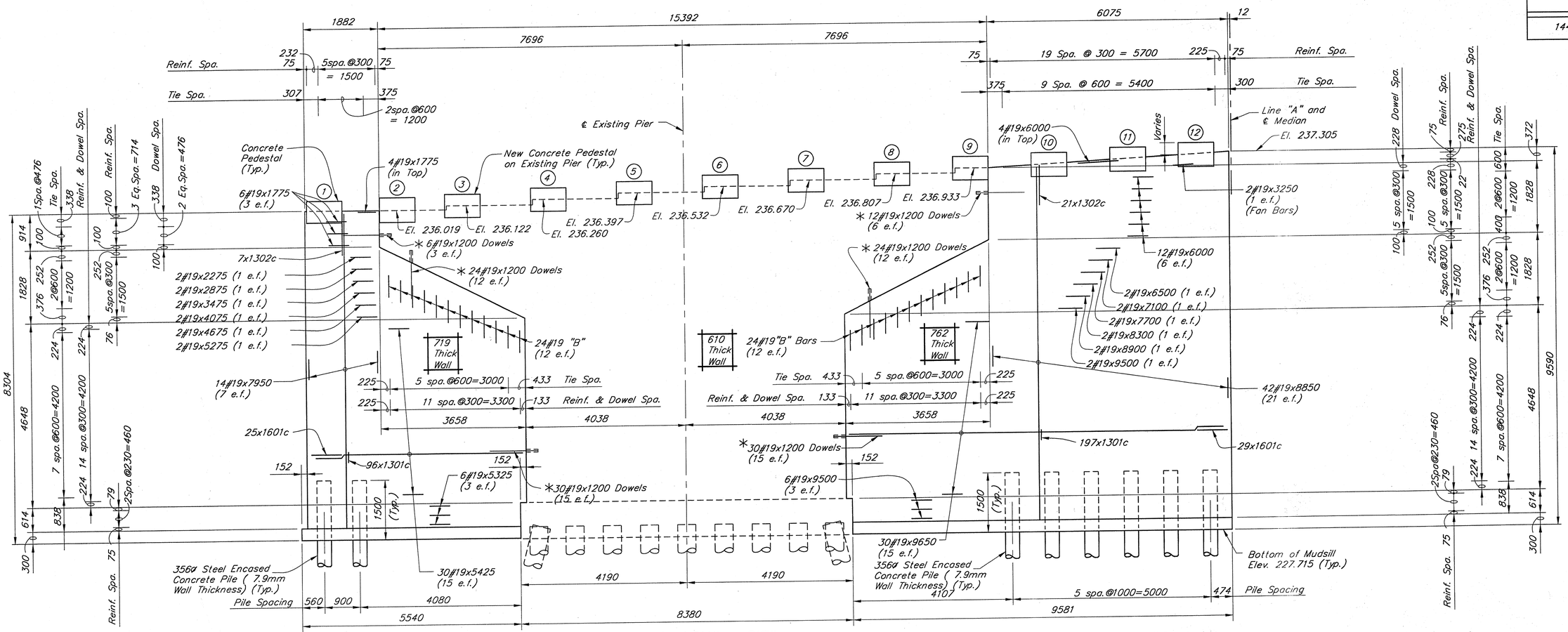
XREFERENCES : None
USER SETTING : USER 41 ALL
DIRECTORY PATH: E:\PROJECTS\996510\DETAILS\119-2313\
FILE NAME : 2313BA37
LASER DISK : 28A
MRD\INT : 14-JAN-00, 08:31:18 / JRC

"B" Bars 24 #19
2#19x4650
2#19x5400
2#19x5550
2#19x5700
2#19x5850
2#19x6000
2#19x6150
2#19x6300
2#19x6450
2#19x6600
2#19x6750
2#19x6900
144600



CAP PLAN

Scale = 1:50



SECTION ALONG ℄ PIER

Scale = 1:50

* #19x1200 Dowels
Set in 205 Deep Field Drilled Holes w/ an Approved Anchor System (Min. Pullout = 117.9 kN)

NOTES
See General Plan for Pile Loadings.
See Sheet 22 for Sections.
See Sheet 26A for Pedestals.

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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FAX 219 769-2377

STEPHEN F. WEINRAUT REGISTERED No. 16222 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Stephen F. Weinraut 9-28-01
DESIGN ENGINEER DATE

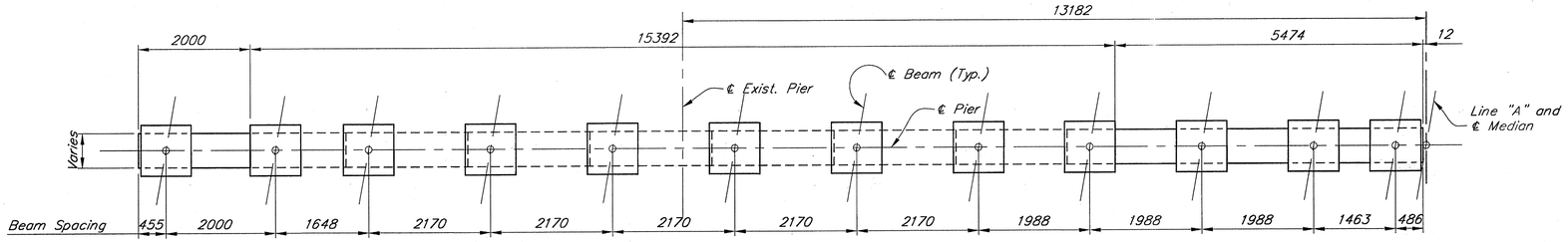
DESIGNED: M. MATEL
DRAWN: J. MOFFITT
CHECKED: J. SERA
CHECKED: J. WAGNER

INDIANA DEPARTMENT OF TRANSPORTATION

PIER NO.3 DETAILS
NORTHBOUND STRUCTURE

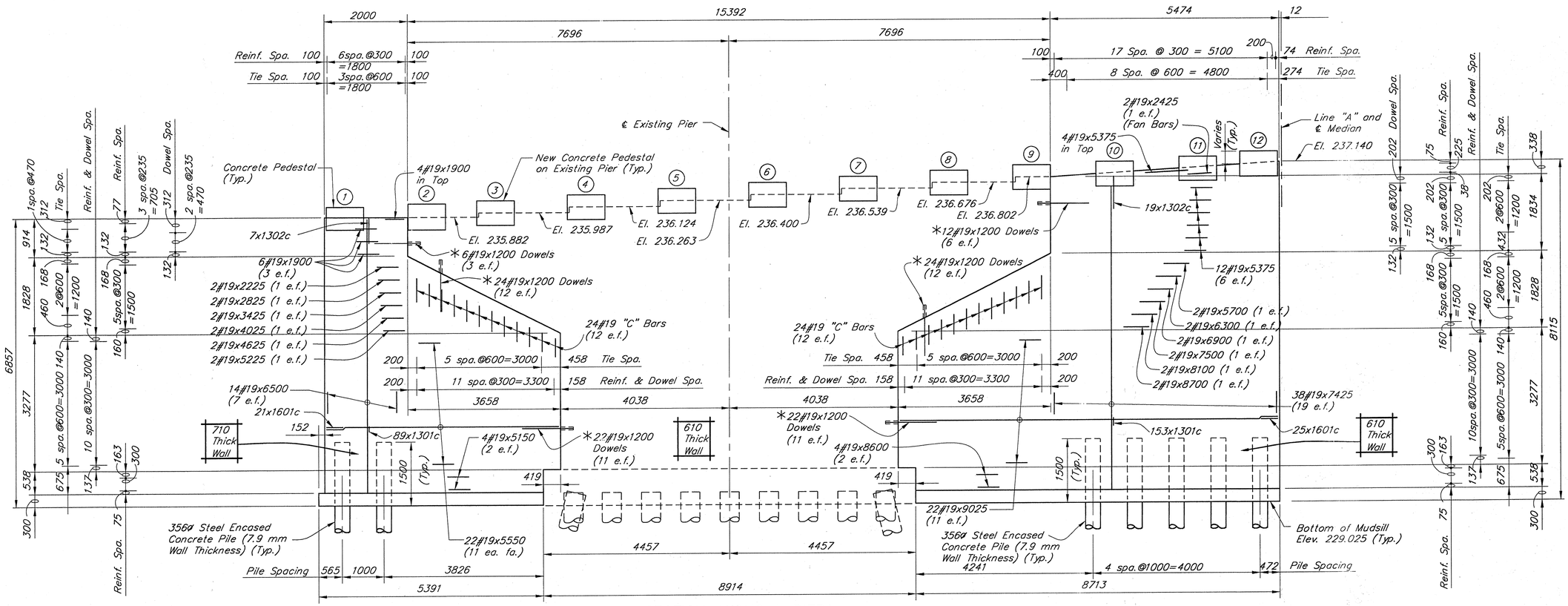
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	I-65-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEETS
	20 of 51
CONTRACT	PROJECT
R-24327	IM-65-3(281) 118

XREFERENCES : None
USER SETTING : USER 41 ALL
DIRECTORY PATH: R:\BRIDGES\996510\DETAILS\119-2313\
FILE NAME : 2313B439
LAYOUT : 26A
LAST USER : JRC
MRD\INT : 14-JAN-00, 08:34:34 / JRC



CAP PLAN

Scale = 1:50



SECTION ALONG ℄ PIER

Scale = 1:50

"C" Bars 24 #19
2#19x3250
2#19x3950
2#19x4100
2#19x4250
2#19x4400
2#19x4550
2#19x4700
2#19x4850
2#19x5000
2#19x5150
2#19x5300
2#19x5450
109900

* #19x1200 Dowels
Set in 205 Deep Field Drilled
Holes w/ an Approved Anchor System
(Min. Pullout = 117.9 kN)

NOTES
See General Plan for Pile Loading.
See Sheet 22 for Sections.
See Sheet 26A for Pedestals.

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

JANSSEN & SPAANS ENGINEERING CONSULTING ENGINEERS
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MERRILLVILLE, IN. 46410
219 769-2333
FAX 219 769-2377

STEPHEN F. WENTWORTH
REGISTERED No. 16222 STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Stephen F. Wentworth 9-28-01
DESIGN ENGINEER DATE

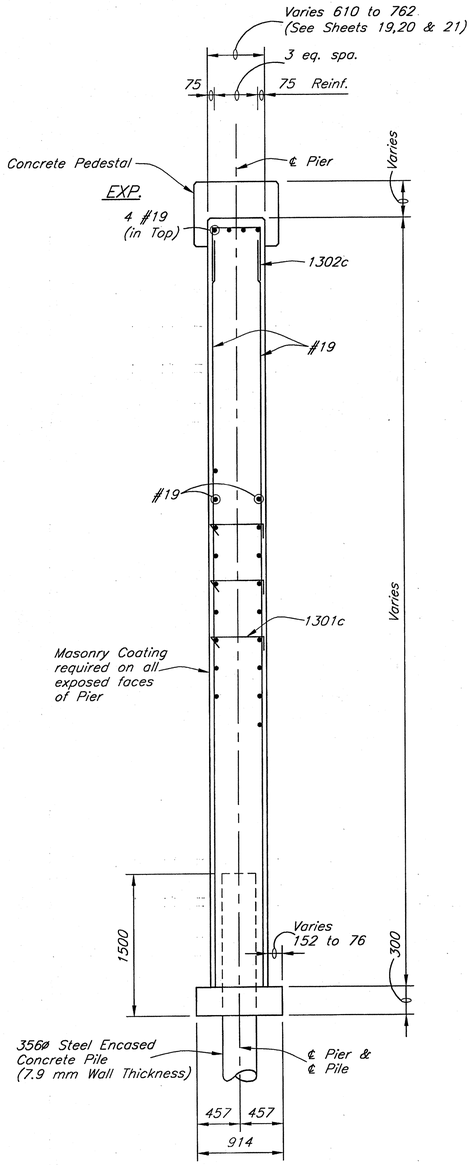
DESIGNED: M. MATEL DRAWN: J. MOFFITT
CHECKED: J. SERA CHECKED: J. WAGNER

INDIANA DEPARTMENT OF TRANSPORTATION

PIER NO.4 DETAILS NORTHBOUND STRUCTURE

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	I-65-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEETS
	21 of 51
CONTRACT	PROJECT
R-24327	IM-65-3(281) 118

XREFERENCES : None
USER STYLE : 41 ALL
DIRECTORY PATH: R:\BRIDGES\996510\DETAILS\119-2313\
FILE NAME : 2313B441
LASER DISK : 28A
MRD\INT : 14-JAN-00, 08:39:03 / JRC



SECTION

Not to Scale

BILL OF MATERIALS
PIER NO.2

REINFORCING STEEL

Mark or Size	No. of Bars	Length (mm)	Mass (kg)
#19	32	9700	
#19	6	9550	
#19	42	9000	
#19	2	8950	
#19	2	8350	
#19	14	8100	
#19	2	7750	
#19	2	7150	
#19	2	6550	
#19	4	6050	
#19	12	6025	
#19	32	5300	
#19	4	5150	
#19	2	5000	
#19	2	4400	
#19	2	3800	
#19	2	3275	
#19	2	3200	
#19	2	2600	
#19	2	2000	
#19	10	1650	
#19	130	1200	
#19	48	"A" Bars	
Total #19 (Plain)			3891
1601c	60	1970	
Total #16 (Plain)			184
1301c	288	740	
1302c	28	1560	
Total #13 (Plain)			255
Total Reinforcing Steel (Plain)			4330

CONCRETE

Class "A" in Substructure	
Mudsill	4.1 m^3
Pier Stem	71.4 m^3
Total	75.5 m^3

MISCELLANEOUS

Field Drilled Holes in Concrete	130 Ea.
356 ø Steel Encased Concrete Pile (7.9 mm Wall Thickness) (8 piles @ 13 m Ea.)	104 m
Masonry Coating	305 m^2

BILL OF MATERIALS
PIER NO.3

REINFORCING STEEL

Mark or Size	No. of Bars	Length (mm)	Mass (kg)
#19	30	9650	
#19	8	9500	
#19	2	8900	
#19	42	8850	
#19	2	8300	
#19	14	7950	
#19	2	7700	
#19	2	7100	
#19	2	6500	
#19	16	6000	
#19	30	5425	
#19	6	5325	
#19	2	5275	
#19	2	4675	
#19	2	4075	
#19	2	3475	
#19	2	3250	
#19	2	2875	
#19	2	2275	
#19	10	1775	
#19	126	1200	
#19	48	"B" Bars	
Total #19 (Plain)			3858
1601c	54	1970	
Total #16 (Plain)			165
1301c	293	740	
1302c	28	1560	
Total #13 (Plain)			259
Total Reinforcing Steel (Plain)			4282

CONCRETE

Class "A" in Substructure	
Mudsill	4.1 m^3
Pier Stem	69.8 m^3
Total	73.9 m^3

MISCELLANEOUS

Field Drilled Holes in Concrete	126 Ea.
356 ø Steel Encased Concrete Pile (7.9 mm Wall Thickness) (8 piles @ 13 m Ea.)	104 m
Masonry Coating	400 m^2

⊕ A.S.T.M. A615M, Grade 420.

BILL OF MATERIALS
PIER NO.4

REINFORCING STEEL

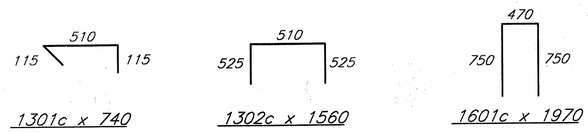
Mark or Size	No. of Bars	Length (mm)	Mass (kg)
#19	22	9025	
#19	2	8700	
#19	4	8600	
#19	2	8100	
#19	2	7500	
#19	38	7425	
#19	2	6900	
#19	14	6500	
#19	2	6300	
#19	2	5700	
#19	22	5550	
#19	16	5375	
#19	2	5225	
#19	4	5150	
#19	2	4625	
#19	2	4025	
#19	2	3425	
#19	2	2825	
#19	2	2425	
#19	2	2225	
#19	10	1900	
#19	110	1200	
#19	48	"C" Bars	
Total #19 (Plain)			2998
1601c	46	1970	
Total #16 (Plain)			141
1301c	242	740	
1302c	26	1560	
Total #13 (Plain)			218
Total Reinforcing Steel (Plain)			3357

CONCRETE

Class "A" in Substructure	
Mudsill	3.9 m^3
Pier Stem	54.4 m^3
Total	58.3 m^3

MISCELLANEOUS

Field Drilled Holes in Concrete	110 Ea.
356 ø Steel Encased Concrete Pile (7.9 mm Wall Thickness) (7 piles @ 15 m Ea.)	105 m
Masonry Coating	325 m^2



BAR BENDING DETAILS

Not to Scale

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

JANSSEN & SPAANS ENGINEERING
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STEPHEN F. WEINRAUT
REGISTERED No. 16222 STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Stephen F. Weinraut 9-28-01
DESIGN ENGINEER DATE

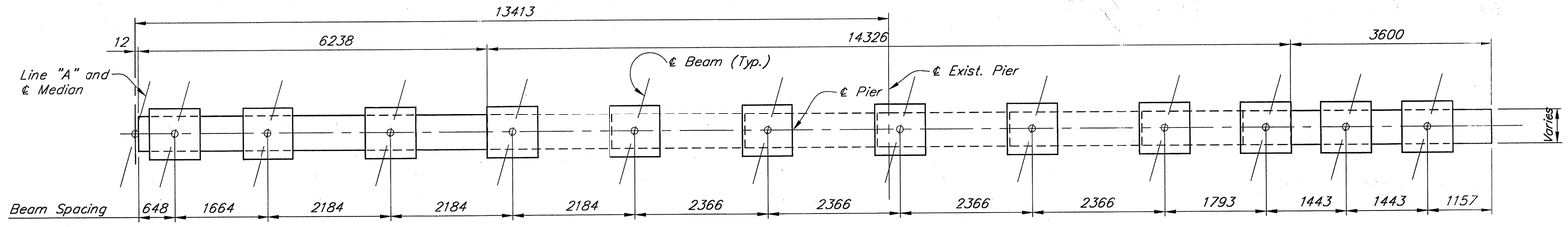
DESIGNED: M. MATEL DRAWN: J. MOFFITT
CHECKED: J. SERA CHECKED: J. WAGNER

INDIANA DEPARTMENT OF TRANSPORTATION

PIER NO.2, NO.3 AND NO.4 DETAILS
NORTHBOUND STRUCTURE

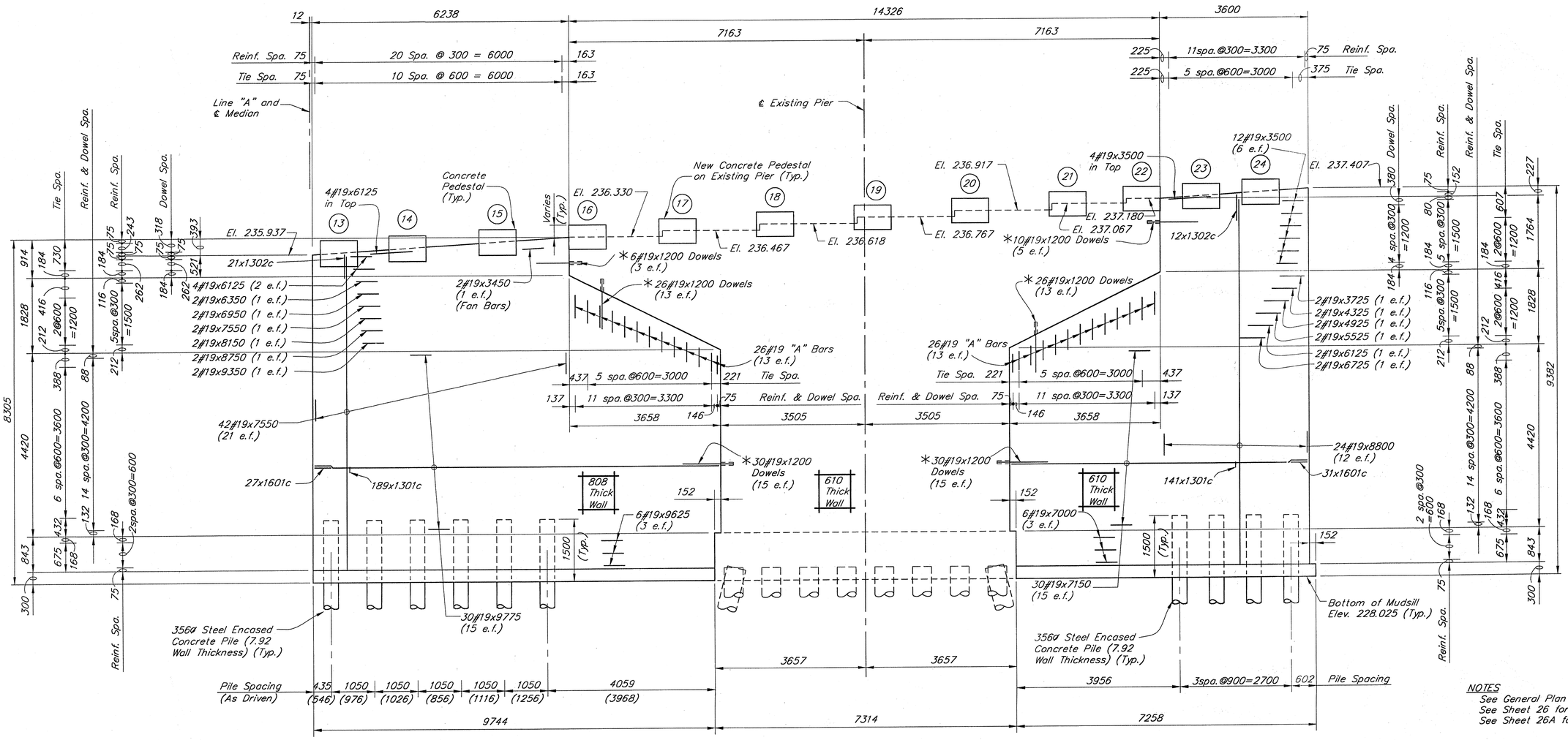
HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	I-65-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEETS
	22 of 51
CONTRACT	PROJECT
R-24327	IM-65-3 (281) 118

R:\3804\AUTOCAD\BRIDGE\119-2313\2313B443.dwg 08-06-01 AT 14:05 1 C.CARTER



CAP PLAN

Scale = 1:50



"A" Bars 26 #19
2#19x4400
2#19x5300
2#19x5450
2#19x5600
2#19x5750
2#19x5900
2#19x6050
2#19x6200
2#19x6350
2#19x6500
2#19x6650
2#19x6800
2#19x6950
155800

SECTION ALONG ℄ PIER

Scale = 1:50

NOTES
See General Plan for Pile Loadings.
See Sheet 26 for Sections.
See Sheet 26A for Pedestals.

* #19x1200 Dowels
Set in 205 Deep Field Drilled
Holes w/ an Approved Anchor System
(Min. Pullout = 117.9 kN)

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

JANSSEN & SPAANS ENGINEERING
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Butler Fairman Seufert
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509 WEST 84TH DRIVE, SUITE G
MERRILLVILLE, IN. 46410
219 769-2333
FAX 219 769-2377

STEPHEN F. WEINTRAUT
REGISTERED
No. 16222
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Stephen F. Weintraut 9-28-01
DESIGN ENGINEER DATE

DESIGNED: J. WAGNER
DRAWN: J. MOFFITT
CHECKED: J. SERA
CHECKED: J. WAGNER

INDIANA DEPARTMENT OF TRANSPORTATION

PIER NO.2 DETAILS SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	I-65-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEETS
	23 of 51
CONTRACT	PROJECT
R-24327	IM-65-3(281) 118

XREFERENCES : None
USER SETTING : USER 41 ALL
DIRECTORY PATH: R:\BRIDGES\996510\DETAILS\119-2313\
FILE NAME : PIER25.dwg
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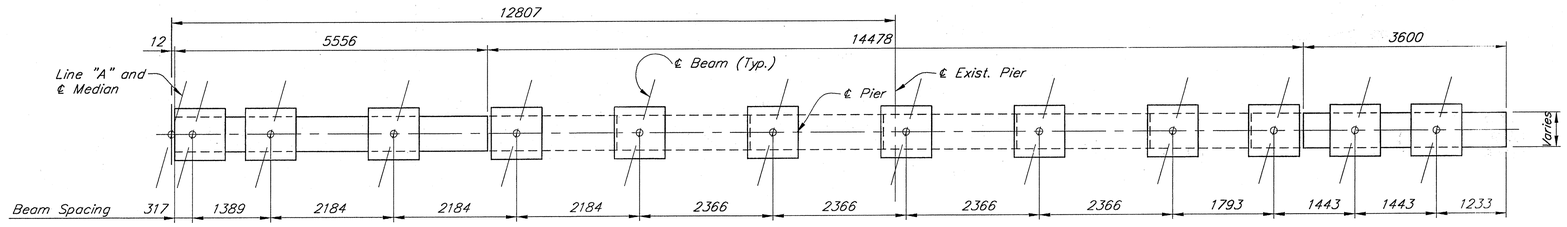
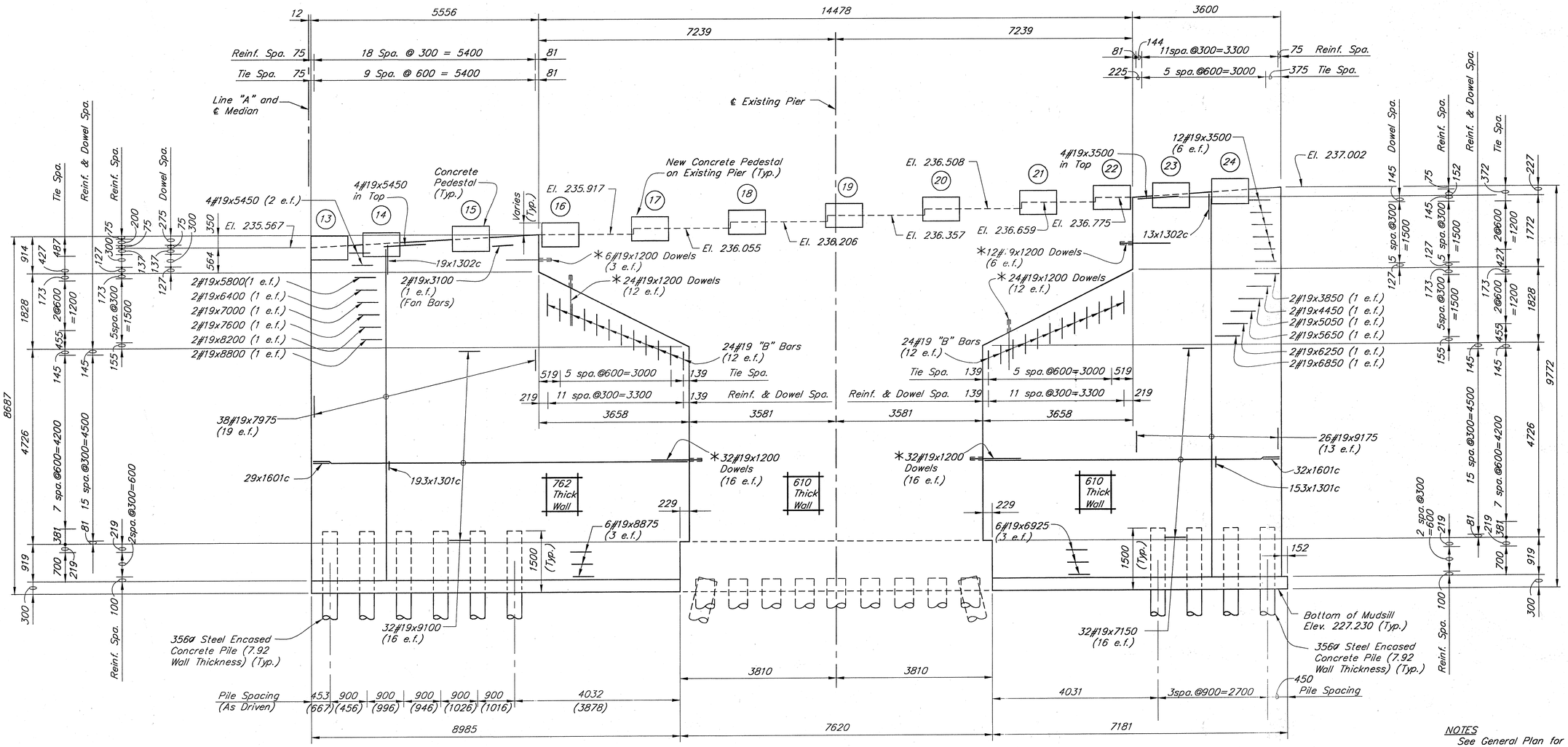


CAP PLAN

Scale = 1:50



* #19x1200 Dowels
Set in 205 Deep Field Drilled
Holes w/ an Approved Anchor System
(Min. Pullout = 117.9 kN)

NOTES
See General Plan for Pile Loadings.
See Sheet 26 for Sections.
See Sheet 26A for Pedestals.

SECTION ALONG ℄ PIER

Scale = 1:50

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

JANSSEN & SPAANS ENGINEERING
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FAX 317 713-4616
509 WEST 64TH DRIVE, SUITE G
MERRILLVILLE, IN. 46410
219 769-2333
FAX 219 769-2377

STEPHEN F. WEINTRAUT
REGISTERED
No. 16222
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Stephen F. Weintraut 9-28-01
DESIGN ENGINEER DATE

DESIGNED: J. WAGNER DRAWN: J. MOFFITT
CHECKED: J. SERA CHECKED: J. WAGNER

INDIANA DEPARTMENT OF TRANSPORTATION

PIER NO.3 DETAILS
SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	I-65-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEETS
	24 of 51
CONTRACT	PROJECT
R-24327	IM-65-3(281) 118

XREFERENCES : None
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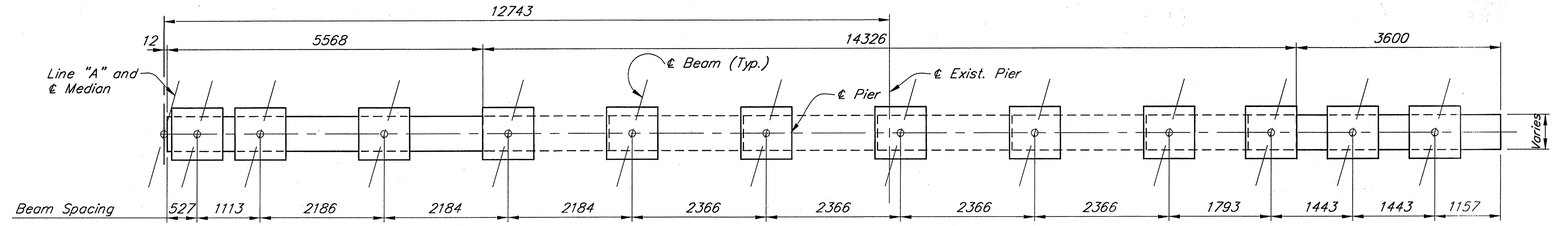

CAP PLAN

Scale = 1:50

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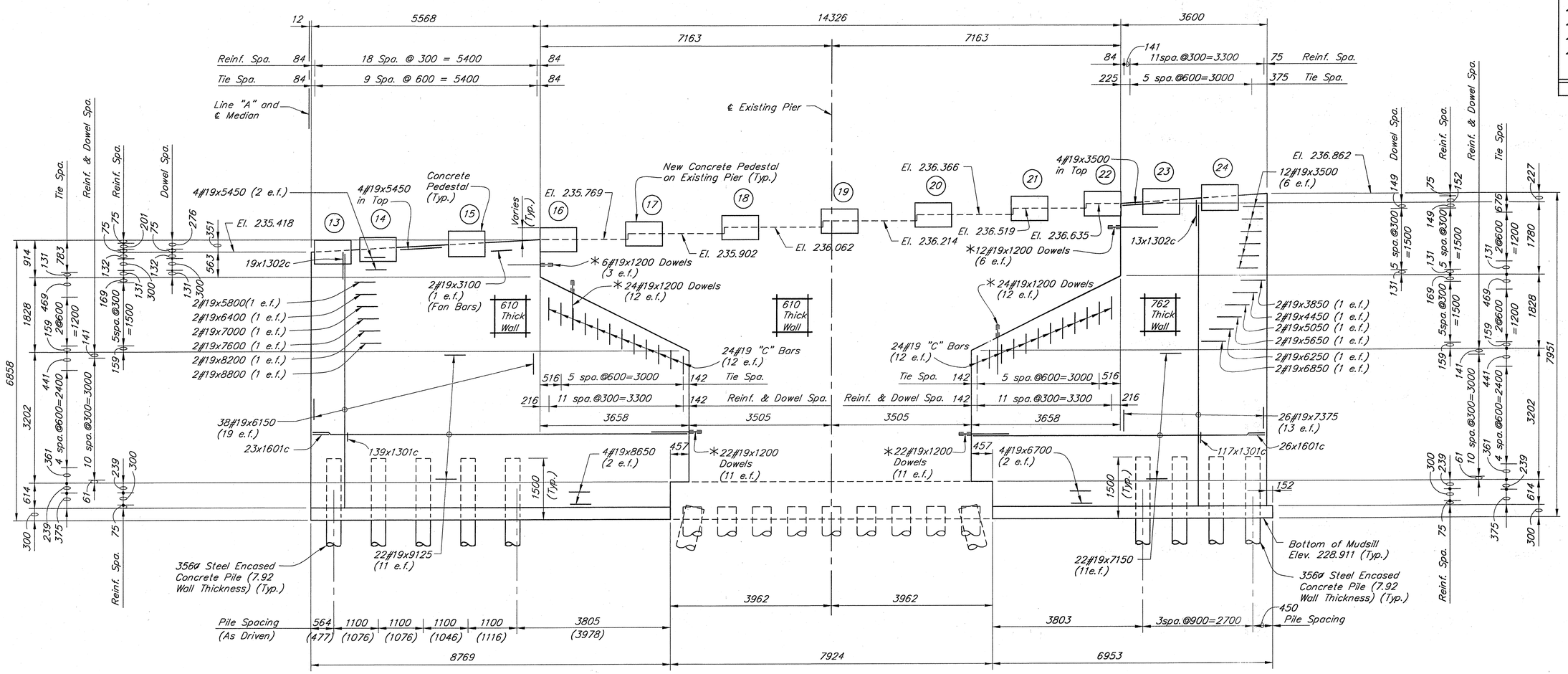

* #19x1200 Dowels
Set in 205 Deep Field Drilled
Holes w/ an Approved Anchor System
(Min. Pullout = 117.9 kN)

SECTION ALONG ℄ PIER

Scale = 1:50

NOTES
See General Plan for Pile Loadings.
See Sheet 26 for Sections.
See Sheet 26A for Pedestals.

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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219 769-2333
FAX 219 769-2377

STEPHEN F. WEINTRAUT REGISTERED No. 16222 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Stephen F. Weintraut 9-28-01
DESIGN ENGINEER DATE

DESIGNED: J. WAGNER DRAWN: J. MOFFITT
CHECKED: J. SERA CHECKED: J. WAGNER

INDIANA DEPARTMENT OF TRANSPORTATION

PIER NO.4 DETAILS
SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	I-65-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEETS
	25 of 51
CONTRACT	PROJECT
R-24327	IM-65-3(281) 118

XREFERENCES : None
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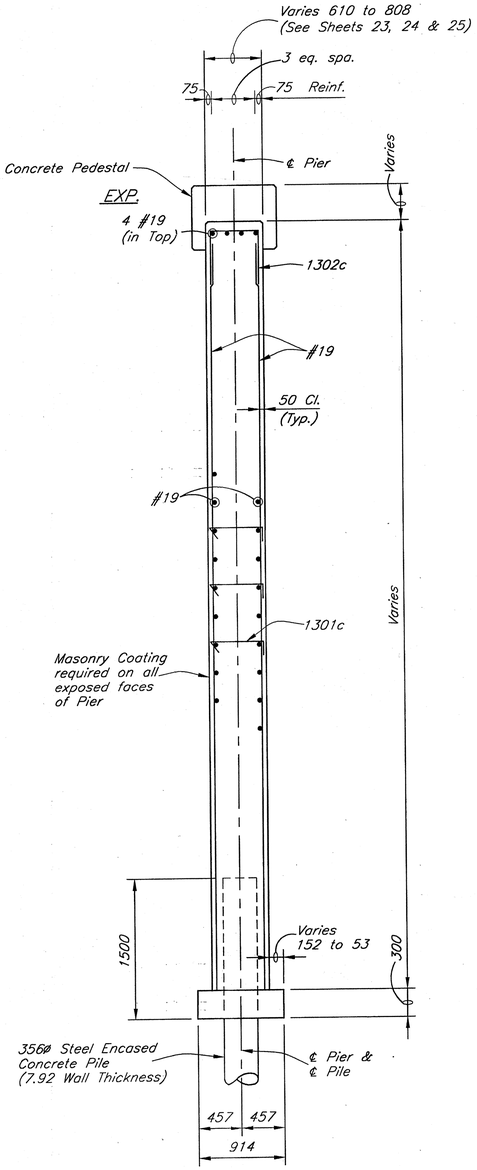


SECTION
Not to Scale

BILL OF MATERIALS
PIER NO.2

REINFORCING STEEL

Mark or Size	No. of Bars	Length (mm)	Mass (kg)
#19	30	9775	
#19	6	9625	
#19	2	9350	
#19	24	8800	
#19	2	8750	
#19	2	8150	
#19	44	7550	
#19	30	7150	
#19	6	7000	
#19	2	6950	
#19	2	6725	
#19	2	6350	
#19	10	6125	
#19	2	5525	
#19	2	4925	
#19	2	4325	
#19	2	3725	
#19	16	3500	
#19	2	3450	
#19	128	1200	
#19	52	"A" Bars	
Total #19 (Plain)			4179
1601c	58	1970	
Total #16 (Plain)			177
1301c	330	740	
1302c	33	1560	
Total #13 (Plain)			294
⊕ Total Reinforcing Steel (Plain)			4650

CONCRETE

Class "A" in Substructure	
Mudsill	4.7 m^3
Pier Stem	76.8 m^3
Total	81.5 m^3

MISCELLANEOUS

Field Drilled Holes in Concrete	128 Ea.
356 Ø Steel Encased Concrete Pile (7.92 Wall Thickness) (10 piles @ 14 m Ea.)	140 m
Masonry Coating	265 m^2

BILL OF MATERIALS
PIER NO.3

REINFORCING STEEL

Mark or Size	No. of Bars	Length (mm)	Mass (kg)
#19	26	9175	
#19	32	9100	
#19	6	8875	
#19	2	8800	
#19	2	8200	
#19	38	7975	
#19	2	7600	
#19	32	7150	
#19	2	7000	
#19	6	6925	
#19	2	6850	
#19	2	6400	
#19	2	6250	
#19	2	5800	
#19	2	5650	
#19	8	5450	
#19	2	5050	
#19	2	4450	
#19	2	3850	
#19	16	3500	
#19	2	3100	
#19	130	1200	
#19	48	"B" Bars	
Total #19 (Plain)			4196
1601c	61	1970	
Total #16 (Plain)			186
1301c	346	740	
1302c	32	1560	
Total #13 (Plain)			304
⊕ Total Reinforcing Steel (Plain)			4686

CONCRETE

Class "A" in Substructure	
Mudsill	4.4 m^3
Pier Stem	77.4 m^3
Total	81.8 m^3

MISCELLANEOUS

Field Drilled Holes in Concrete	130 Ea.
356 Ø Steel Encased Concrete Pile (7.92 Wall Thickness) (10 piles @ 13 m Ea.)	130 m
Masonry Coating	405 m^2

BILL OF MATERIALS
PIER NO.4

REINFORCING STEEL

Mark or Size	No. of Bars	Length (mm)	Mass (kg)
#19	22	9125	
#19	2	8800	
#19	4	8650	
#19	2	8200	
#19	2	7600	
#19	26	7375	
#19	22	7150	
#19	2	7000	
#19	2	6850	
#19	4	6700	
#19	2	6400	
#19	2	6250	
#19	38	6150	
#19	2	5800	
#19	2	5650	
#19	8	5450	
#19	2	5050	
#19	2	4450	
#19	2	3850	
#19	16	3500	
#19	2	3100	
#19	110	1200	
#19	48	"C" Bars	
Total #19 (Plain)			3247
1601c	49	1970	
Total #16 (Plain)			150
1301c	256	740	
1302c	32	1560	
Total #13 (Plain)			238
⊕ Total Reinforcing Steel (Plain)			3635

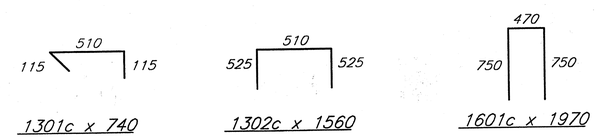
CONCRETE

Class "A" in Substructure	
Mudsill	4.3 m^3
Pier Stem	59.0 m^3
Total	63.3 m^3

MISCELLANEOUS

Field Drilled Holes in Concrete	110 Ea.
356 Ø Steel Encased Concrete Pile (7.92 Wall Thickness) (9 piles @ 14 m Ea.)	126 m
Masonry Coating	310 m^2

⊕ A.S.T.M. A615M, Grade 420.



BAR BENDING DETAILS
Not to Scale

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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STEPHEN F. WEINTRAUT
REGISTERED
No. 16222
STATE OF INDIANA
PROFESSIONAL ENGINEER

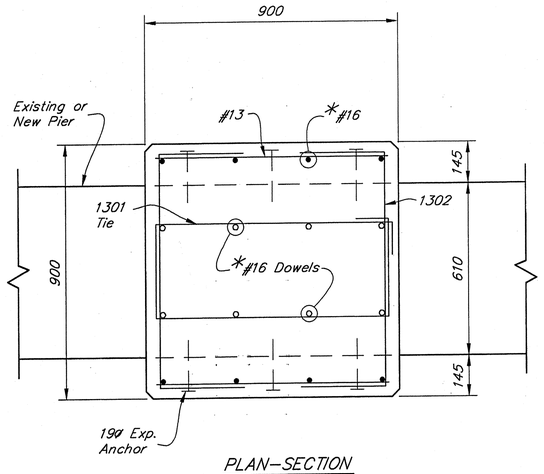
RECOMMENDED FOR APPROVAL: Stephen F. Weintraut 9-28-01
DESIGN ENGINEER DATE

DESIGNED: J. WAGNER DRAWN: J. MOFFITT
CHECKED: J. SERA CHECKED: J. WAGNER

INDIANA DEPARTMENT OF TRANSPORTATION

PIER NO.2, NO.3 AND NO.4 DETAILS
SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	I-65-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEETS
	26 of 51
CONTRACT	PROJECT
R-24327	IM-65-3 (281) 118



PLAN–SECTION

PEDESTAL ELEVATIONS AND DIMENSIONS

PIER NO.2–NB

Beam No.	1	2	3	4	5	6	7	8	9	10	11	12
Top Elevation	237.160	237.262	237.357	237.479	237.603	237.727	237.851	237.974	238.088	238.202	238.316	238.429
Dim. "H" (±)	745	847	838	825	811	800	787	774	763	783	776	768

PIER NO.3–NB

Beam No.	1	2	3	4	5	6	7	8	9	10	11	12
Top Elevation	236.759	236.869	236.963	237.087	237.212	237.335	237.459	237.584	237.698	237.814	237.928	238.027
Dim. "H" (±)	740	850	841	827	815	803	789	777	765	787	779	773

PIER NO.4–NB

Beam No.	1	2	3	4	5	6	7	8	9	10	11	12
Top Elevation	236.309	236.427	236.522	236.646	236.773	236.897	237.023	237.148	237.263	237.379	237.494	237.579
Dim. "H" (±)	427	545	535	522	510	497	484	472	461	482	474	469

PIER NO.2–SB

Beam No.	13	14	15	16	17	18	19	20	21	22	23	24
Top Elevation	236.863	236.958	237.083	237.218	237.342	237.480	237.615	237.751	237.888	237.990	238.061	238.144
Dim. "H" (±)	885	875	863	888	875	862	848	834	821	810	818	810

PIER NO.3–SB

Beam No.	13	14	15	16	17	18	19	20	21	22	23	24
Top Elevation	236.451	236.531	236.657	236.792	236.919	237.056	237.192	237.329	237.466	237.572	237.641	237.724
Dim. "H" (±)	864	857	845	875	864	850	835	821	807	797	808	800

PIER NO.4–SB

Beam No.	13	14	15	16	17	18	19	20	21	22	23	24
Top Elevation	235.994	236.059	236.186	236.319	236.447	236.586	236.724	236.862	237.001	237.107	237.178	237.262
Dim. "H" (±)	543	538	527	550	545	524	510	496	482	472	480	473

Note: "H" Dimensions shall be verified in field.

BILL OF MATERIALS
PEDESTALS
PIERS NO.2, NO.3 AND NO.4–NB

REINFORCING STEEL			
Mark or Size	No. of Bars	Length (mm)	Mass (kg)
#16	288	1075	
#16	288	1000	
Total #16 (Plain)			927
1301	100	2550	
1302	128	1400	
1303	144	1000	
#13	272	800	
Total #13 (Plain)			791
⊕ Total Steel (Plain)			1718

CONCRETE	
Class "A" in Substructure	23.0 m^3

MISCELLANEOUS	
⊖ Field Drilled Holes in Conc.	360 Each
⊗ 19ø Expansion Anchors	216 Each

BILL OF MATERIALS
PEDESTALS
PIERS NO.2, NO.3 AND NO.4–SB

REINFORCING STEEL			
Mark or Size	No. of Bars	Length (mm)	Mass (kg)
#16	288	1075	
#16	288	1000	
Total #16 (Plain)			927
1301	103	2550	
1302	134	1400	
1303	144	1000	
#13	278	800	
Total #13 (Plain)			812
⊕ Total Steel (Plain)			1739

CONCRETE	
Class "A" in Substructure	24.7 m^3

MISCELLANEOUS	
⊖ Field Drilled Holes in Conc.	360 Each
⊗ 19ø Expansion Anchors	216 Each

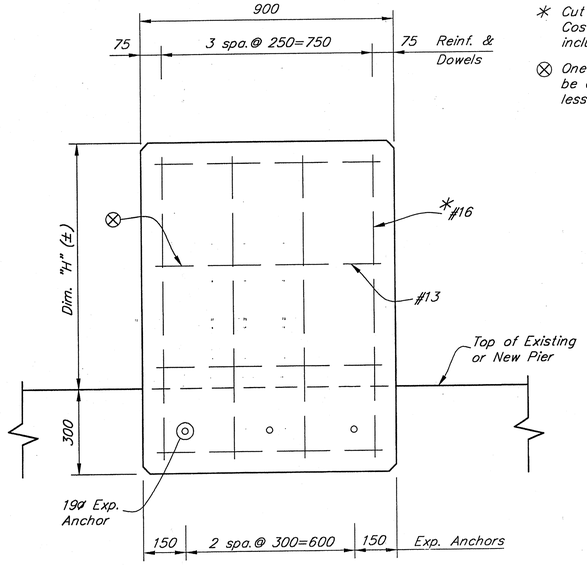
⊕ A.S.T.M. A615M, Grade 420

⊖ Includes Field Drilled Holes for Anchor Rods. See Bearing Details for locations.

⊗ Include in cost of other items.

* Cut bars in Field as required. Cost of Field Cutting shall be included in cost of other items.

⊗ One Row of Horiz. Bars shall be omitted if Dim. "H" is less than 500.



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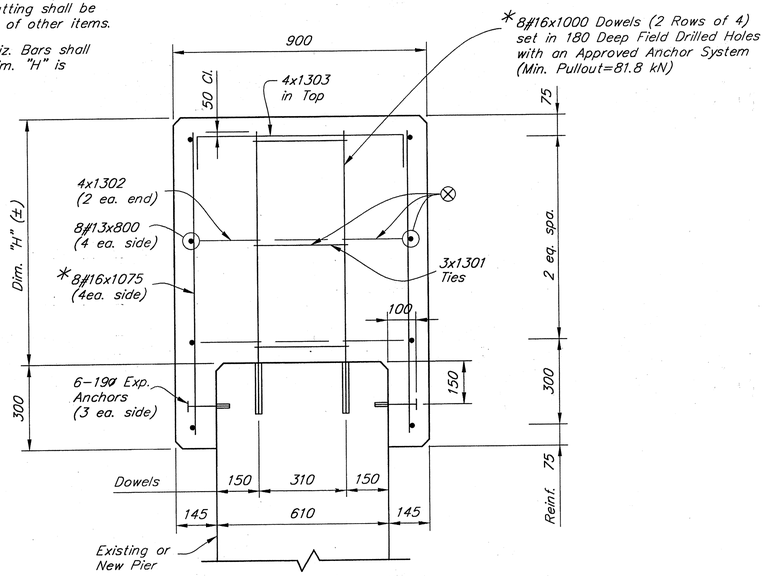

SECTION

PEDESTAL DETAILS

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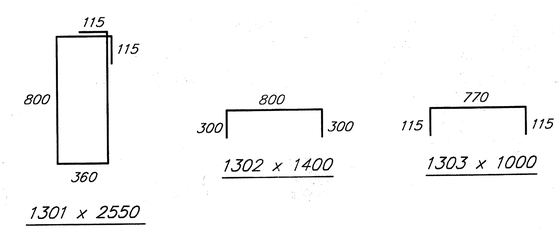

BAR BENDING DETAILS

Not to Scale

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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FAX 219 769-2377

STEPHEN F. WEINTRAUT REGISTERED No. 16222 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Stephen F. Weintraut 9-28-01
DESIGN ENGINEER DATE

DESIGNED: D. MILLER DRAWN: D.S. & J.E.
CHECKED: S. WEINTRAUT CHECKED: D. MILLER

INDIANA DEPARTMENT OF TRANSPORTATION

PEDESTAL DETAILS
PIERS NO.2, NO.3 AND NO.4

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C & JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
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	26A OF 51
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R-24327	IM-65-3(281)118

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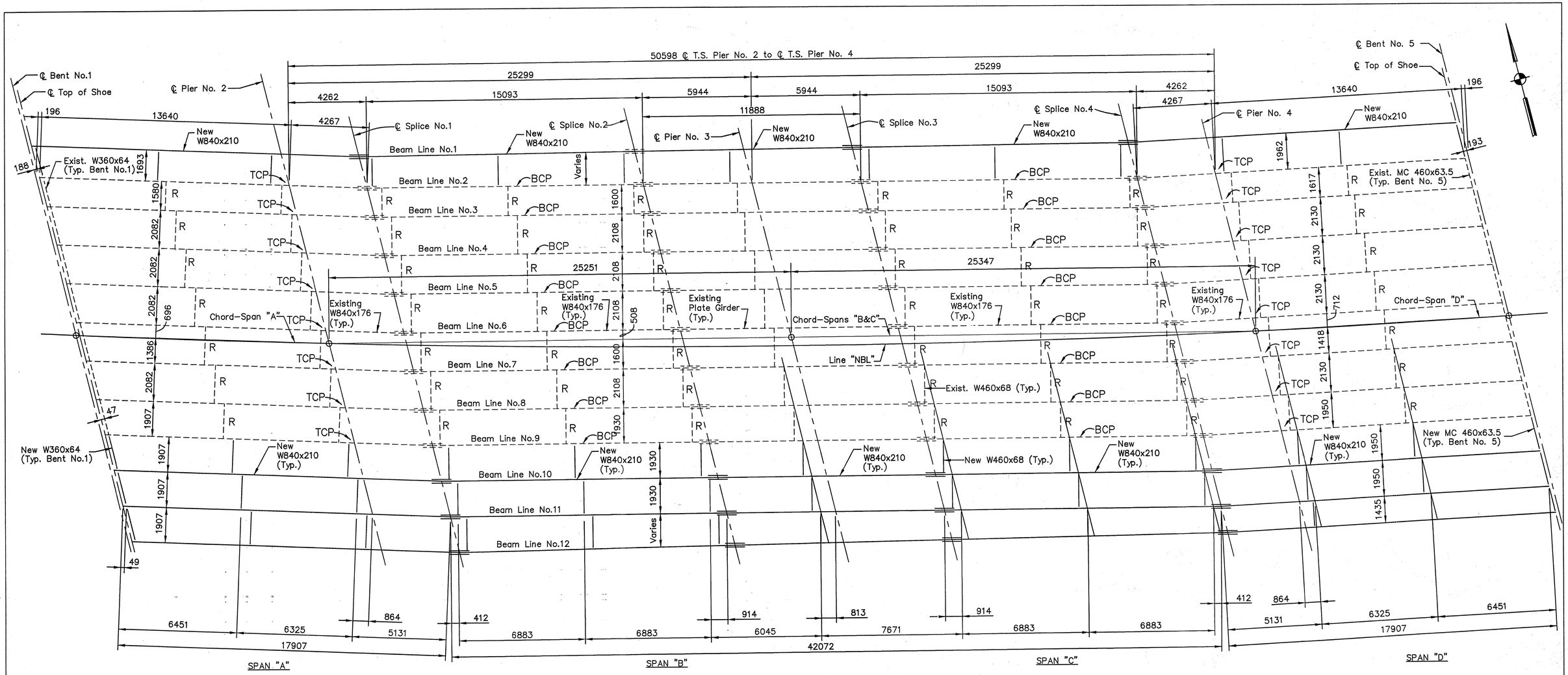

FRAMING PLAN – NORTHBOUND

BCP = Bottom Flange Cover Plate Retro-Fit required ea. end.

TCP = Top Flange Cover Plate Retro-Fit required ea. end.

R = Diaphragm Retro-Fit required

Note:
Dimensions shown are Parallel to Chords and Perpendicular to Beams.

Notes:
All Dimensions Are In Millimeters And All Stations Are In Meters Unless Noted.
Existing Structural Steel In W840's Is A.S.T.M. A-36M.
Existing Structural Steel In Plate Girders Is A.S.T.M. A-441M
for Plate Thickness 19-38, Fy=300 MPa
for Plate Thickness 38-101, Fy=275 MPa
Intermittent Welds Are Present On Diaphragm Connections
Partial Length Coverplates Are Present
New Beams shall be A.S.T.M. A 709M, Grade 345.

XREFERENCES : None
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JSB
JANSSEN & SPAANS ENGINEERING
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FAX 219 769-2377

MICHAEL D. EICHENAUER
REGISTERED
No. 19900474
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Michael D. Eichenauer 9-28-01
DESIGN ENGINEER DATE

DESIGNED: K.M & J.S. DRAWN: C. CARTER
CHECKED: M. EICHENAUER CHECKED: M. EICHENAUER

INDIANA DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
NORTHBOUND STRUCTURE

SCALE	BRIDGE FILE
1:100	I65-119-2313 C
UNLESS NOTED	DESIGNATION
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SURVEY BOOK	SHEETS
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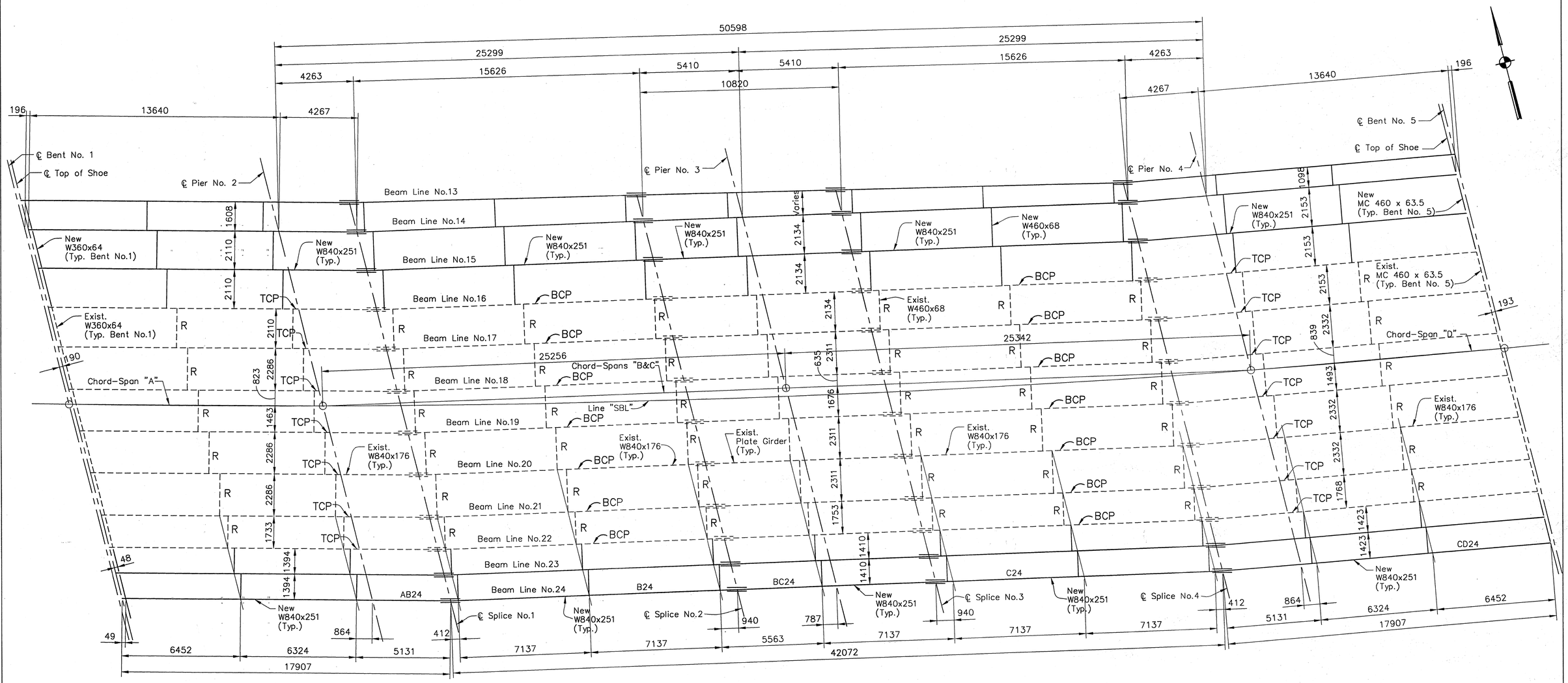

SPAN "A" SPAN "B" SPAN "C" SPAN "D"

FRAMING PLAN – SOUTHBOUND

BCP = Bottom Flange Cover Plate Retro-Fit required ea. end.

TCP = Top Flange Cover Plate Retro-Fit required ea. end.

R = Diaphragm Retro-Fit required

Note:
Dimensions shown are Parallel to Chords and Perpendicular to Beams.

Notes:
All Dimensions Are In Millimeters And All Stations Are In Meters Unless Noted.
Existing Structural Steel In W840's Is A.S.T.M. A-36M.
Existing Structural Steel In Plate Girders Is A.S.T.M. A-441M for Plate Thickness 19-38, Fy=300 MPa for Plate Thickness 38-101, Fy=275 MPa
Intermittent Welds Are Present On Diaphragm Connections
Partial Length Coverplates Are Present
New Beams shall be A.S.T.M. A 709M, Grade 345.

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MICHAEL D. EICHENAUER REGISTERED No. 19900474 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Michael D. Eichenauer 9-28-01
DESIGN ENGINEER DATE

DESIGNED: K.M & J.S. DRAWN: C. CARTER
CHECKED: M. EICHENAUER CHECKED: M. EICHENAUER

INDIANA DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
SOUTHBOUND STRUCTURE

SCALE	BRIDGE FILE
1:100	I65-119-2313 JC
UNLESS NOTED	DESIGNATION
	9612790
SURVEY BOOK	SHEETS
	28 of 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

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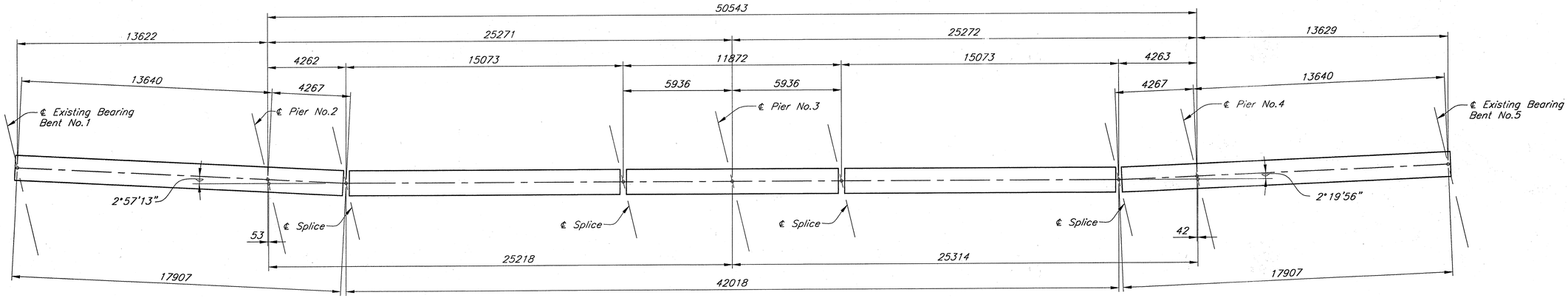
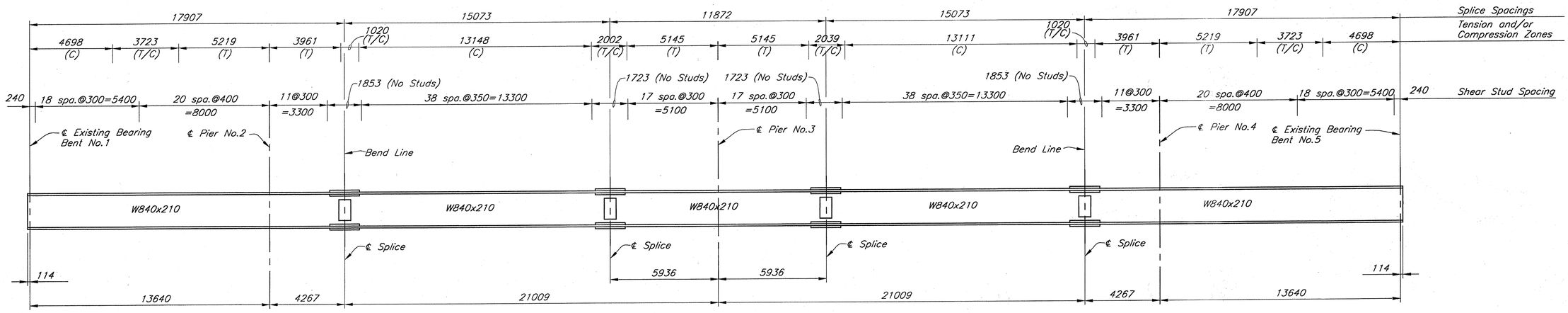
MRD\INT : 14-JAN-00, 08:26:02 / JRC

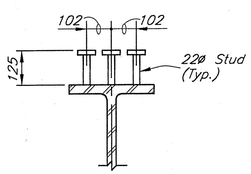


PLAN

(T)=Tension
(C)=Compression



ELEVATION



SHEAR STUD DETAIL

Not to Scale

STUDS REQUIRED
2556x125 Long for New Beams.
3192x125 Long for Existing Beams.
(Total for NB Str.
Beams 1 thru 13)

NEW BEAM NO.1

Not to Scale

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

JANSSEN & SPAANS ENGINEERING CONSULTING ENGINEERS
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Butler Fairman Scufert CONSULTING ENGINEERS
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317 713-4615
FAX 317 713-4616
509 WEST 84TH DRIVE, SUITE G
MERRILLVILLE, IN. 46410
219 769-2333
FAX 219 769-2377

MICHAEL D. EICHENAUER REGISTERED No. 19900474 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Michael D. Eichenauer 9-28-01
DESIGN ENGINEER DATE

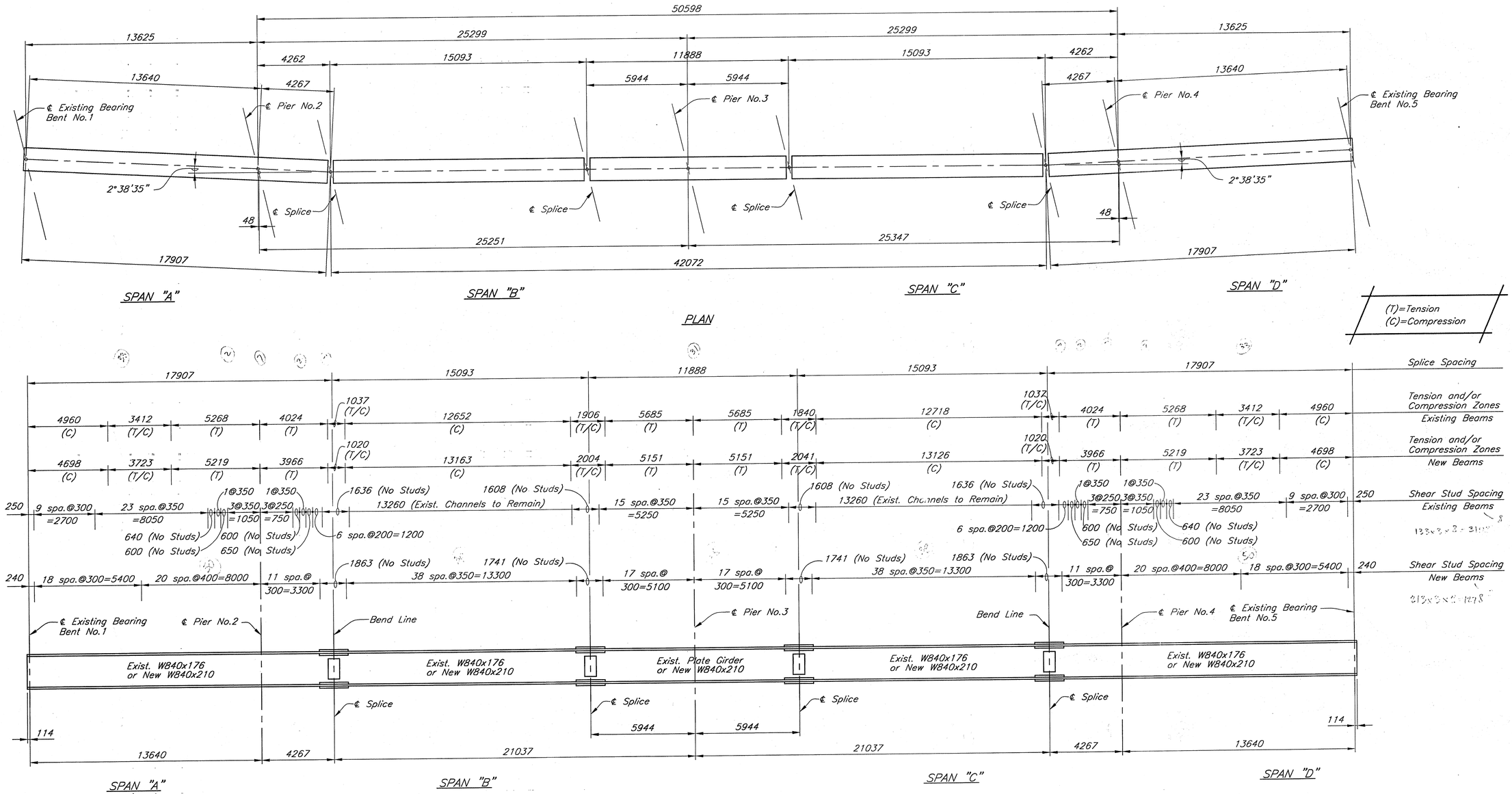
DESIGNED: K.M. & J.S. DRAWN: D. SHEETZ
CHECKED: M. EICHENAUER CHECKED: M. EICHENAUER

INDIANA DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	29 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07



EXISTING BEAMS NO.2 THRU NO.9 AND NEW BEAMS NO.10 AND NO.11

Not to Scale

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

JSB
JANSSEN & SPAANS ENGINEERING
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B&S
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MICHAEL D. EICHENAUER
REGISTERED No. 19900474 STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Michael D. Eichenauer 9-28-01
DESIGN ENGINEER DATE

DESIGNED: K.M. & J.S. DRAWN: D. SHEETZ
CHECKED: M. EICHENAUER CHECKED: M. EICHENAUER

INDIANA DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	30 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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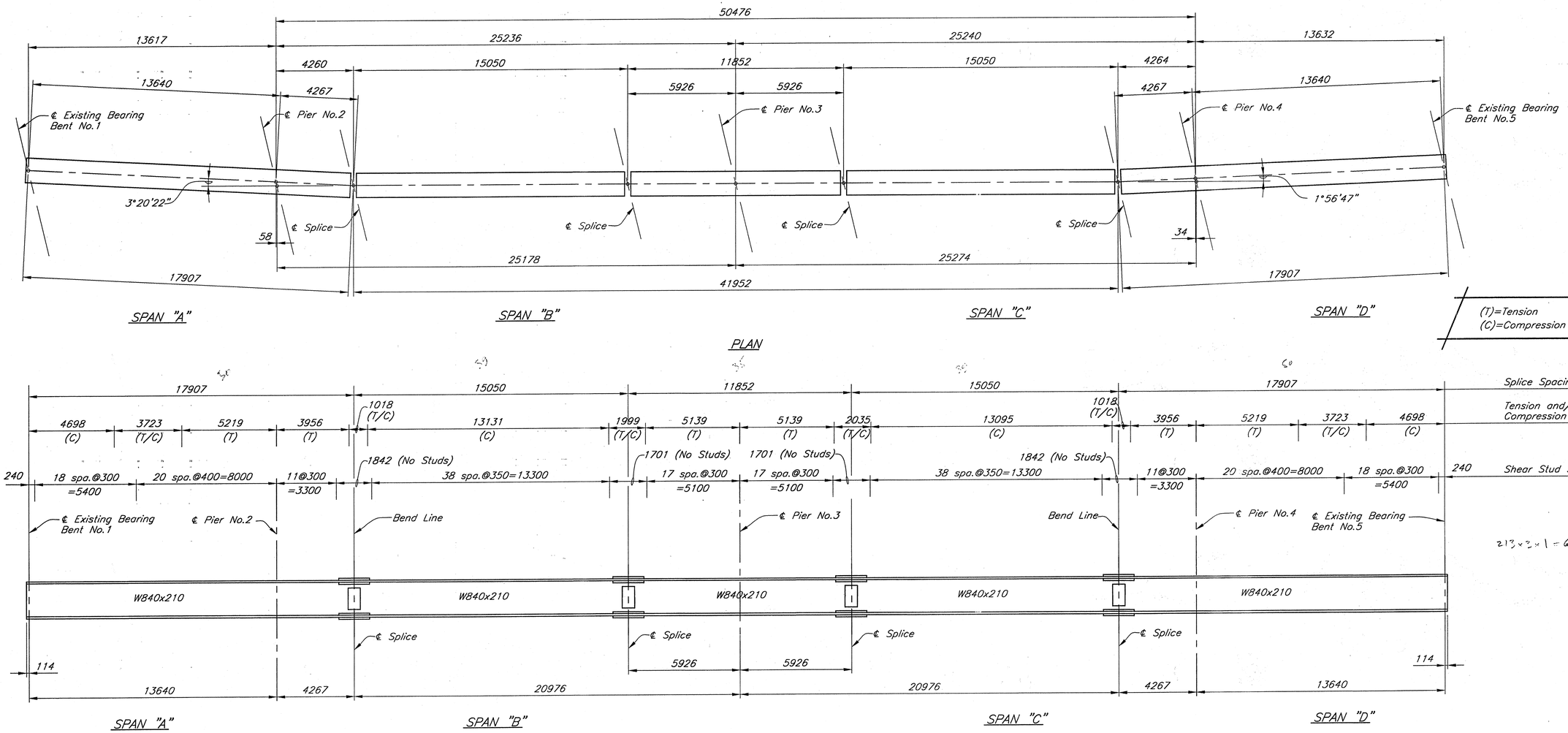

213×3×1=639

NEW BEAM NO.12

Not to Scale

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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MICHAEL D. EICHENAUER REGISTERED No. 19900474 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Michael D. Eichenauer 9-28-01
DESIGN ENGINEER DATE

DESIGNED: K.M. & J.S. DRAWN: D. SHEETZ
CHECKED: M. EICHENAUER CHECKED: M. EICHENAUER

INDIANA DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	31 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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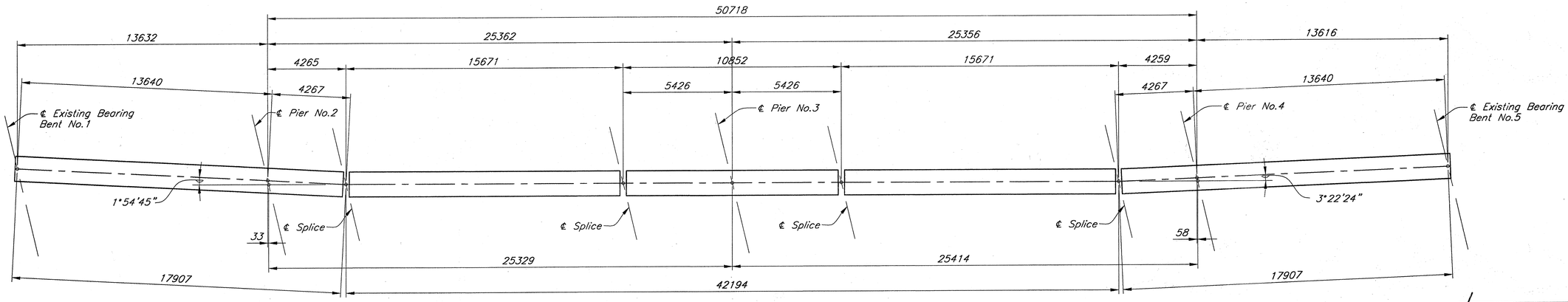
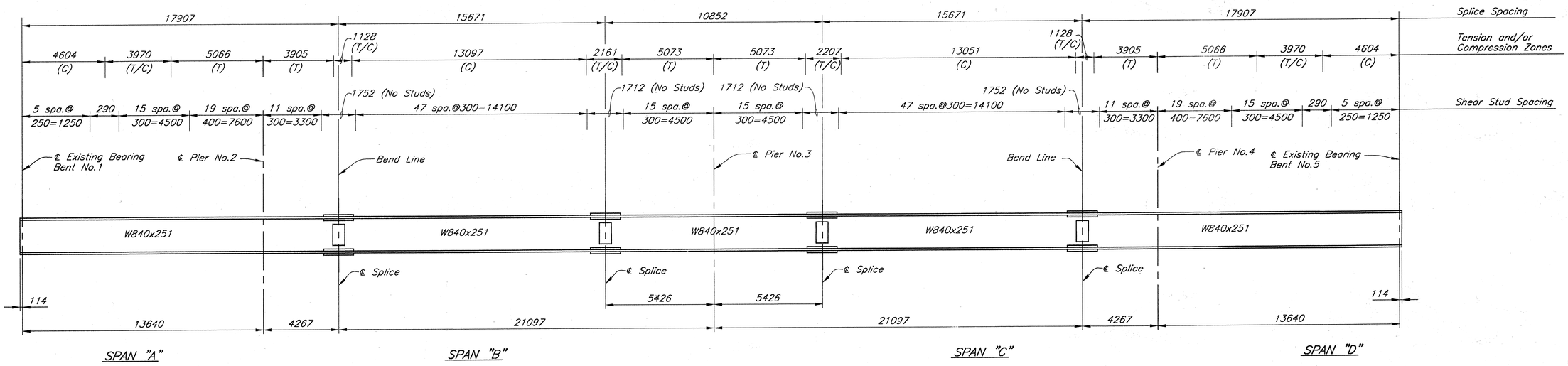
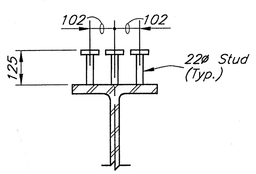


PLAN

(T)=Tension
(C)=Compression



ELEVATION



STUDS REQUIRED
3441x125 Long for New Beams.
3213x125 Long for Existing Beams.
(Total for SB Str.
Beams 13 thru 24)

SHEAR STUD DETAIL

Not to Scale

NEW BEAM NO.13

Not to Scale

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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MICHEL D. EICHENAUER
REGISTERED
No. 19900474
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Michel D. Eichenauer 9-28-01
DESIGN ENGINEER DATE

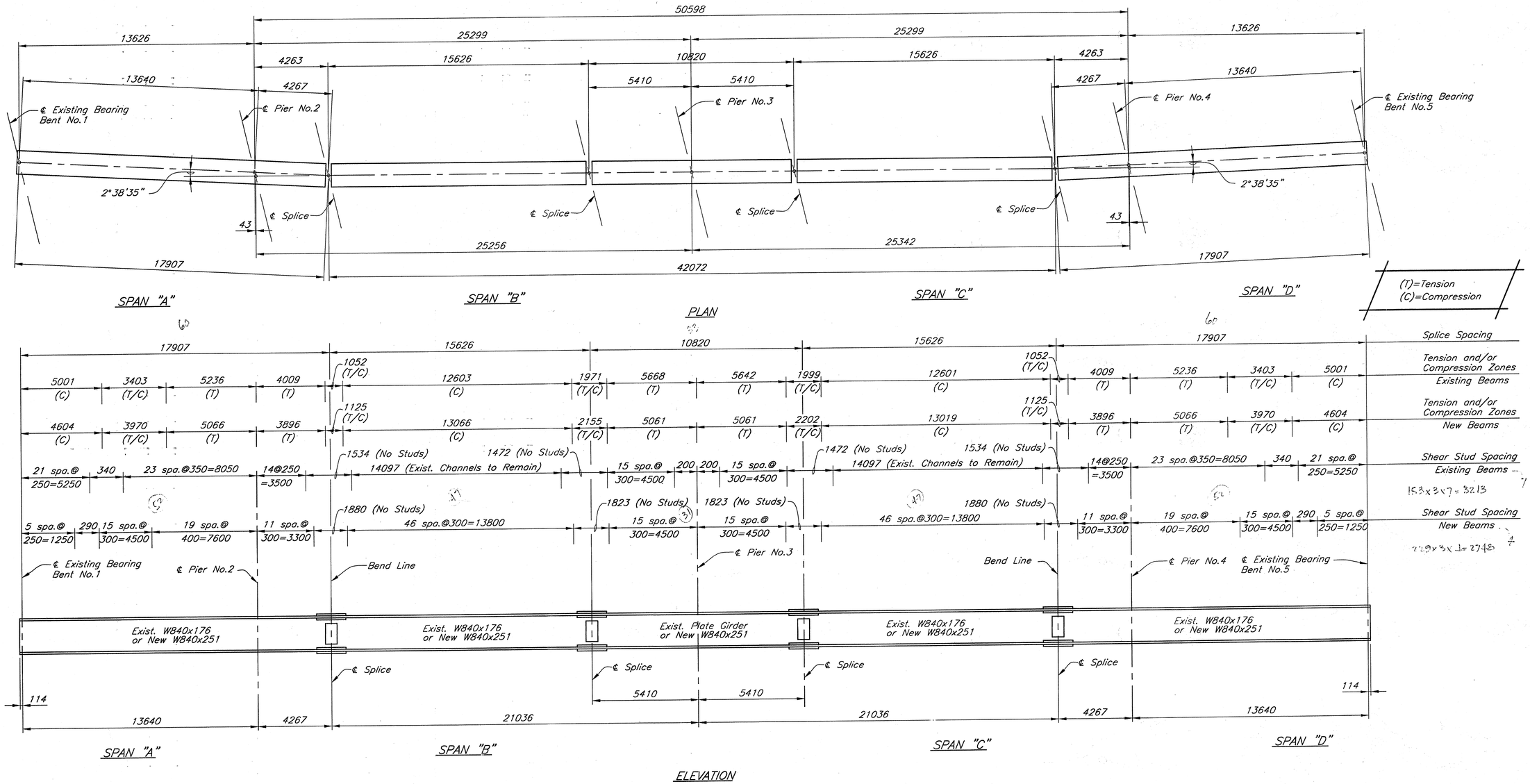
DESIGNED: K.M. & J.S. DRAWN: D. SHEETZ
CHECKED: M. EICHENAUER CHECKED: M. EICHENAUER

INDIANA
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	32 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BRS NO. 3804.07



EXISTING BEAMS NO.16 THRU NO.22 AND NEW BEAMS NO.14, NO.15, NO.23 AND NO.24

Not to Scale

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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MICHAEL D. EICHENAUER REGISTERED No. 19900474 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Michael D. Eichenauer 9-28-01
DESIGN ENGINEER DATE

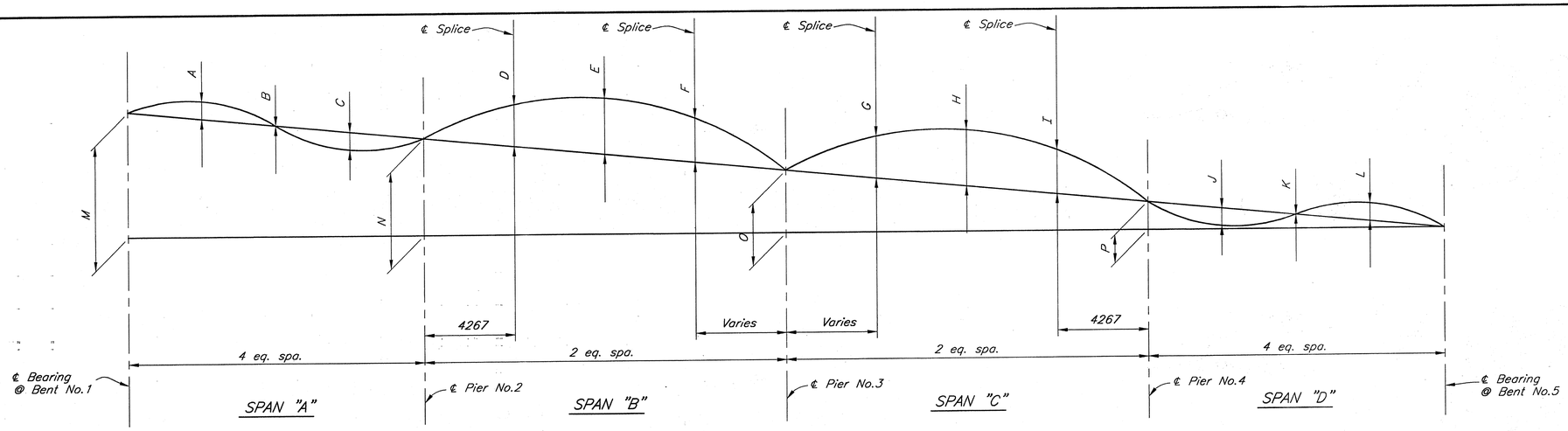
DESIGNED: K.M. & J.S. DRAWN: D. SHEETZ
CHECKED: M. EICHENAUER CHECKED: M. EICHENAUER

INDIANA DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	33 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07



NO LOAD CAMBER AND REAMING DIAGRAM

Not to Scale

TABLE OF CAMBERS

	SPAN "A"			SPAN "B"			SPAN "C"			SPAN "D"		
	1/4 PT.	1/2 PT.	3/4 PT.	℄ SPL.	1/2 PT.	℄ SPL.	℄ SPL.	1/2 PT.	℄ SPL.	1/4 PT.	1/2 PT.	3/4 PT.
DEAD LOAD STEEL	0	0	0	2	5	2	2	5	2	0	0	0
DEAD LOAD CONCRETE	1	0	−2	10	23	11	11	23	10	−2	0	1
SUBTOTAL	1	0	−2	12	28	13	13	28	12	−2	0	1
VERTICAL CURVE	a	b	c	d	e	f	g	h	i	j	k	l
TOTAL	A	B	C	D	E	F	G	H	I	J	K	L

VERTICAL CURVE CORRECTION

BEAM LINE	a	b	c	d	e	f	g	h	i	j	k	l
1	0	1	0	13	15	5	5	2	11	0	1	0
10	1	1	1	12	15	5	5	2	12	0	1	0
11	1	0	0	11	15	5	5	2	12	1	0	0
12	1	0	0	14	16	5	4	0	9	1	0	0

CAMBER DIMENSIONS

BEAM LINE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	1	1	−2	25	43	18	18	30	23	−2	1	1	1303	1133	732	282
10	2	1	−1	24	43	18	18	30	24	−2	1	1	1266	1098	710	276
11	2	0	−2	23	43	18	18	30	24	−1	0	1	1263	1096	708	275
12	2	0	−2	26	44	18	17	28	21	−1	0	1	1292	1125	722	275

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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FAX 219 769-2377

MICHAEL D. EICHENAUER REGISTERED No. 19900474 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Michael D. Eichenauer 9-28-01
DESIGN ENGINEER DATE

DESIGNED: J. WAGNER DRAWN: C. CARTER
CHECKED: M. MATEL CHECKED: J. WAGNER

INDIANA
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	34 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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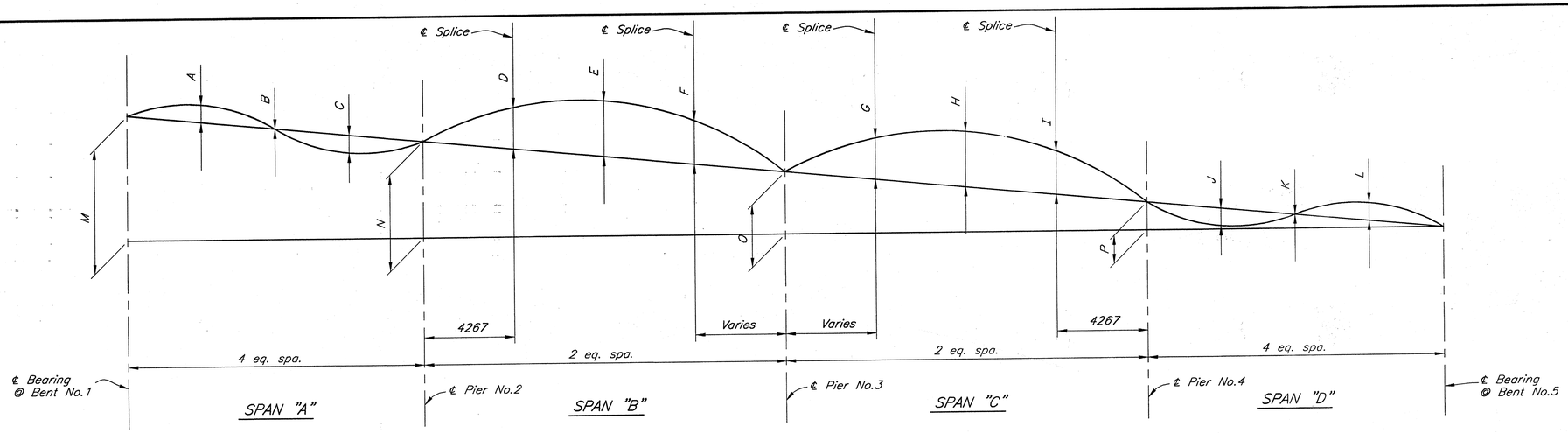

NO LOAD CAMBER AND REAMING DIAGRAM

Not to Scale

TABLE OF CAMBERS

	SPAN "A"			SPAN "B"			SPAN "C"			SPAN "D"		
	1/4 PT.	1/2 PT.	3/4 PT.	℄ SPL.	1/2 PT.	℄ SPL.	℄ SPL.	1/2 PT.	℄ SPL.	1/4 PT.	1/2 PT.	3/4 PT.
DEAD LOAD STEEL	0	0	0	2	5	2	2	5	2	0	0	0
DEAD LOAD CONCRETE	1	0	−2	9	21	8	8	21	9	−2	0	1
SUBTOTAL	1	0	−2	11	26	10	10	26	11	−2	0	1
VERTICAL CURVE	a	b	c	d	e	f	g	h	i	j	k	l
TOTAL	A	B	C	D	E	F	G	H	I	J	K	L

VERTICAL CURVE CORRECTION

BEAM LINE	a	b	c	d	e	f	g	h	i	j	k	l
13	0	0	1	9	12	3	5	4	14	0	0	1
14	0	0	1	12	14	4	4	3	12	1	1	1
15	0	0	1	12	14	5	5	3	12	1	0	0
23	0	1	0	12	14	4	5	3	11	0	0	0
24	0	1	0	12	13	4	4	3	11	0	1	0

CAMBER DIMENSIONS

BEAM LINE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
13	1	0	−1	20	38	13	15	30	25	−2	0	2	1354	1165	754	297
14	1	0	−1	23	40	14	14	29	23	−1	1	2	1384	1195	769	296
15	1	0	−1	23	40	15	15	29	23	−1	0	1	1381	1192	766	295
23	1	1	−2	23	40	14	15	29	22	−2	0	1	1358	1172	752	290
24	1	1	−2	23	39	14	14	29	22	−2	1	1	1357	1171	752	290

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

JSB
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STEPHEN F. WEINTRAUT
REGISTERED No. 16222 STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Stephen F. Weintraut 9-28-01
DESIGN ENGINEER DATE

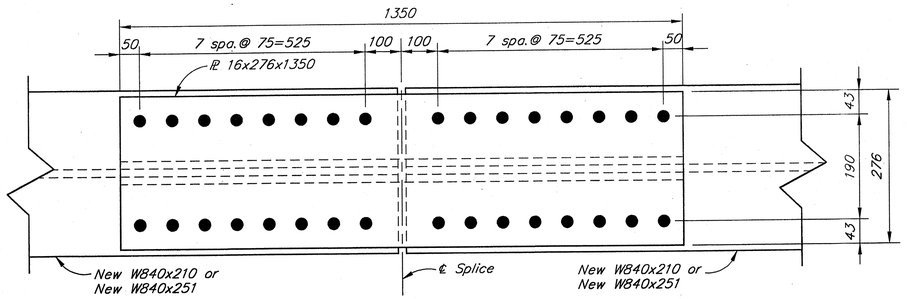
DESIGNED: J. WAGNER DRAWN: D. BRITA
CHECKED: M. MATEL CHECKED: J. WAGNER

INDIANA
DEPARTMENT OF TRANSPORTATION

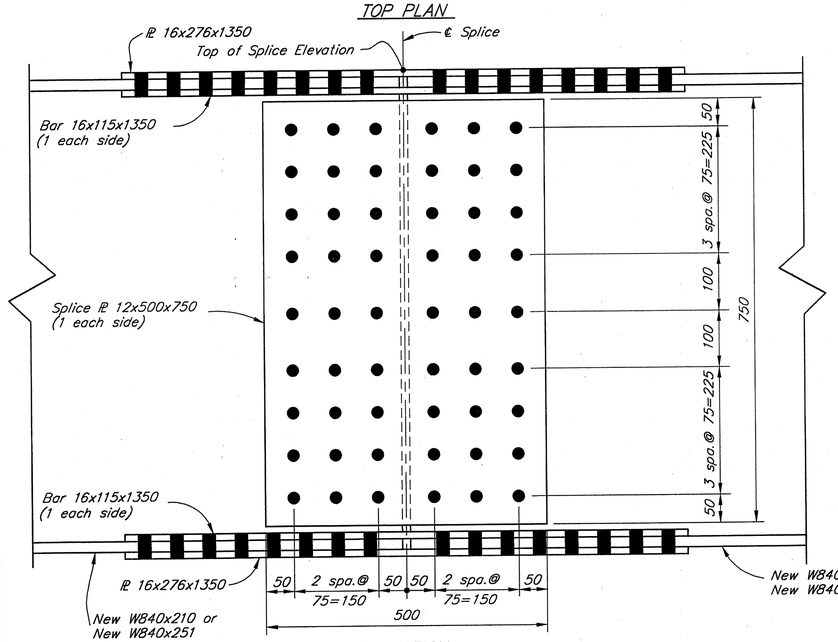
STRUCTURAL STEEL DETAILS
SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	35 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

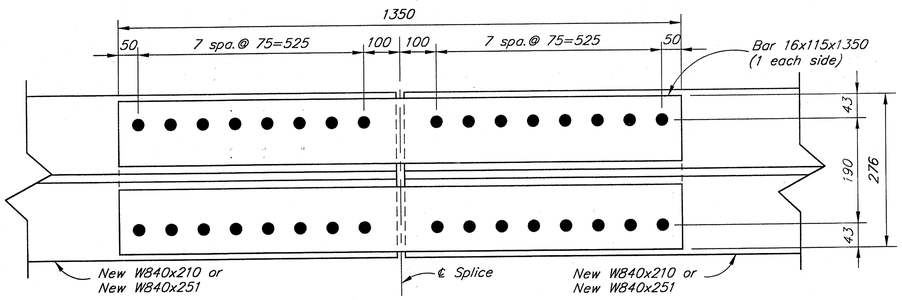
BFS NO. 3804.07



TOP PLAN



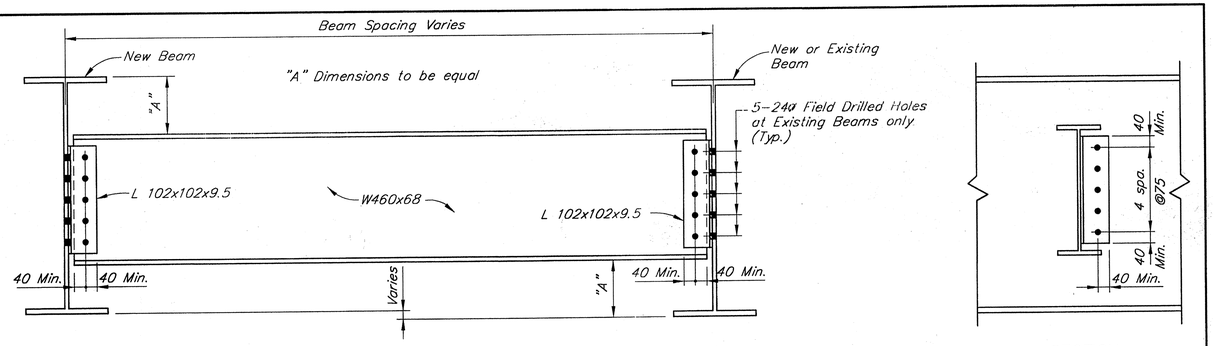
ELEVATION



BOTTOM PLAN

SPLICE DETAILS

Not to Scale



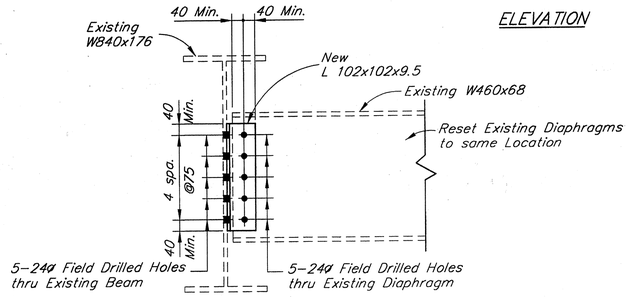
ELEVATION

SECTION

TYPICAL NEW INTERIOR DIAPHRAGM

Scale=1:10

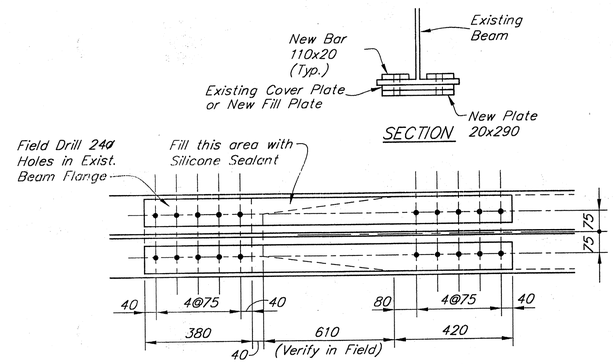
Note:
New Plates and Bars
shall have 24ø Holes
for 22ø Bolts



ELEVATION

TYPICAL EXISTING INTERIOR DIAPHRAGM CONNECTION RETRO-FIT

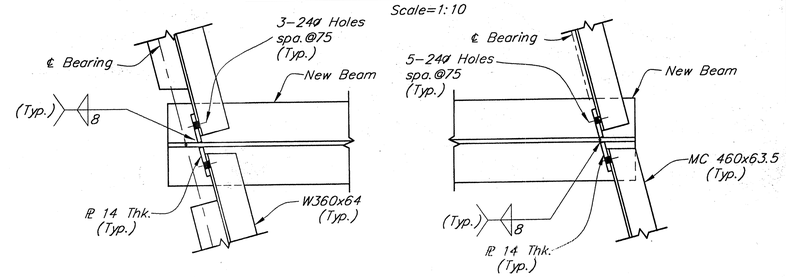
Scale=1:10



BOTTOM FLANGE (SHOWN)
TOP FLANGE (SIMILAR)

COVER PLATE RETRO-FIT DETAILS

Scale=1:10



PLAN - BENT NO.1

PLAN - BENT NO.5

TYPICAL NEW END DIAPHRAGM CONNECTION DETAILS

Scale=1:10

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

TOP OF SPLICE ELEVATIONS

BEAM LINE	SPLICE NO.1	SPLICE NO.2	SPLICE NO.3	SPLICE NO.4
1	238.105	237.859	237.658	237.395
2	238.202	237.961	237.765	237.507
3	238.297	238.056	237.860	237.602
4	238.420	238.180	237.983	237.727
5	238.544	238.304	238.108	237.853
6	238.667	238.428	238.232	237.977
7	238.791	238.551	238.357	238.103
8	238.915	238.676	238.481	238.227
9	239.029	238.790	238.595	238.343
10	239.148	238.910	238.716	238.463
11	239.261	239.024	238.830	238.578
12	239.375	239.127	238.925	238.663
13	237.813	237.553	237.369	237.096
14	237.908	237.637	237.445	237.161
15	238.033	237.763	237.571	237.287
16	238.152	237.880	237.689	237.405
17	238.276	238.006	237.815	237.533
18	238.414	238.143	237.952	237.671
19	238.550	238.279	238.089	237.809
20	238.685	238.417	238.226	237.947
21	238.823	238.554	238.363	238.086
22	238.925	238.658	238.469	238.191
23	239.012	238.745	238.557	238.278
24	239.095	238.829	238.640	238.362

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MICHAEL D. EICHENAUER
REGISTERED
No. 19900474
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL Michael D. Eichenauer 9-28-01
DESIGN ENGINEER DATE

DESIGNED: K. MUELLNER DRAWN: D. SHEETZ
CHECKED: J. WAGNER CHECKED: M. EICHENAUER

INDIANA DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C & JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	36 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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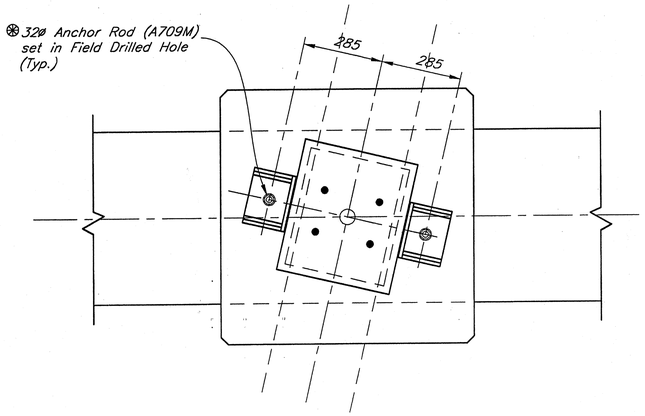
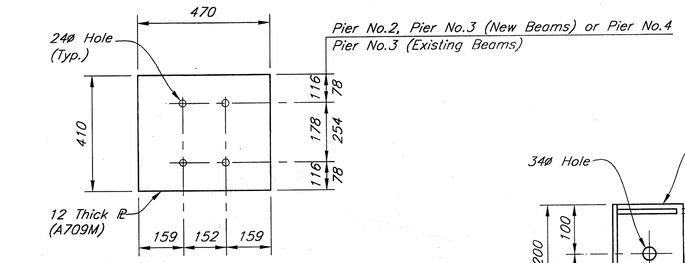
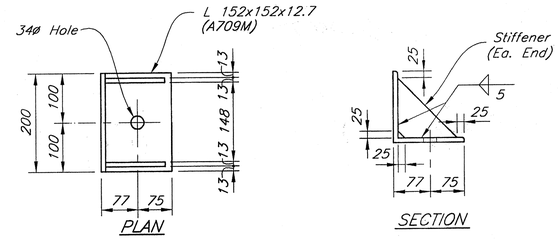


PLAN



SHIM PLATE

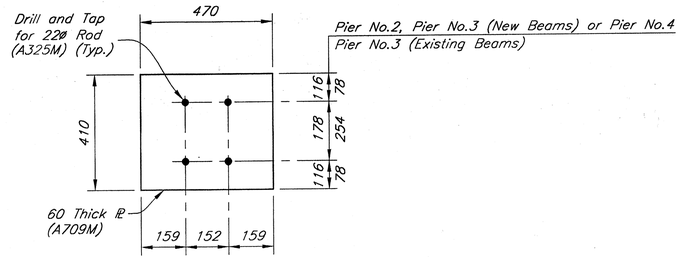


PLAN

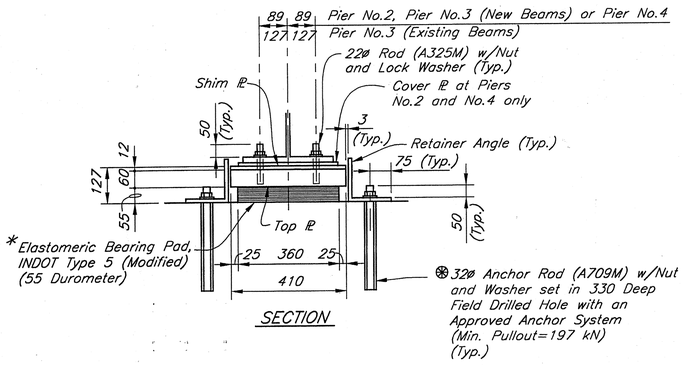
SECTION

RETAINER ANGLE DETAILS

Not to Scale



TOP PLATE



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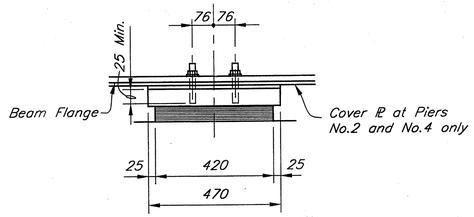

ELEVATION

Notes:
32ø Anchor Rods w/Nuts and Washers and Retainer Angles shall be included in the pay item "Structural Steel, Lump Sum." Weight of Anchor Rods is not included in the Estimated Weight of Structural Steel.
Elastomeric Bearing Pads, Top Plates, Shim Plates and 22ø Rods w/Nuts and Lock Washers shall be included in the pay item "Bearing Assemblies, Elastomeric, Each."
Existing Shim Plates shall be removed.
Existing Hole locations shall be verified prior to fabrication of Top Plates and Shim Plates.

*Elastomeric Pad shall be Bonded to Concrete and to Top Plate.

⊛ Field Drilled Holes Billed with Concrete Pedestal.

EXPANSION

BEARING ASSEMBLY DETAILS

Scale=1:10

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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JEFFREY S. NICHOLSON
REGISTERED
No. 19900078
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Jeffrey S. Nicholson 9-28-01
DESIGN ENGINEER DATE

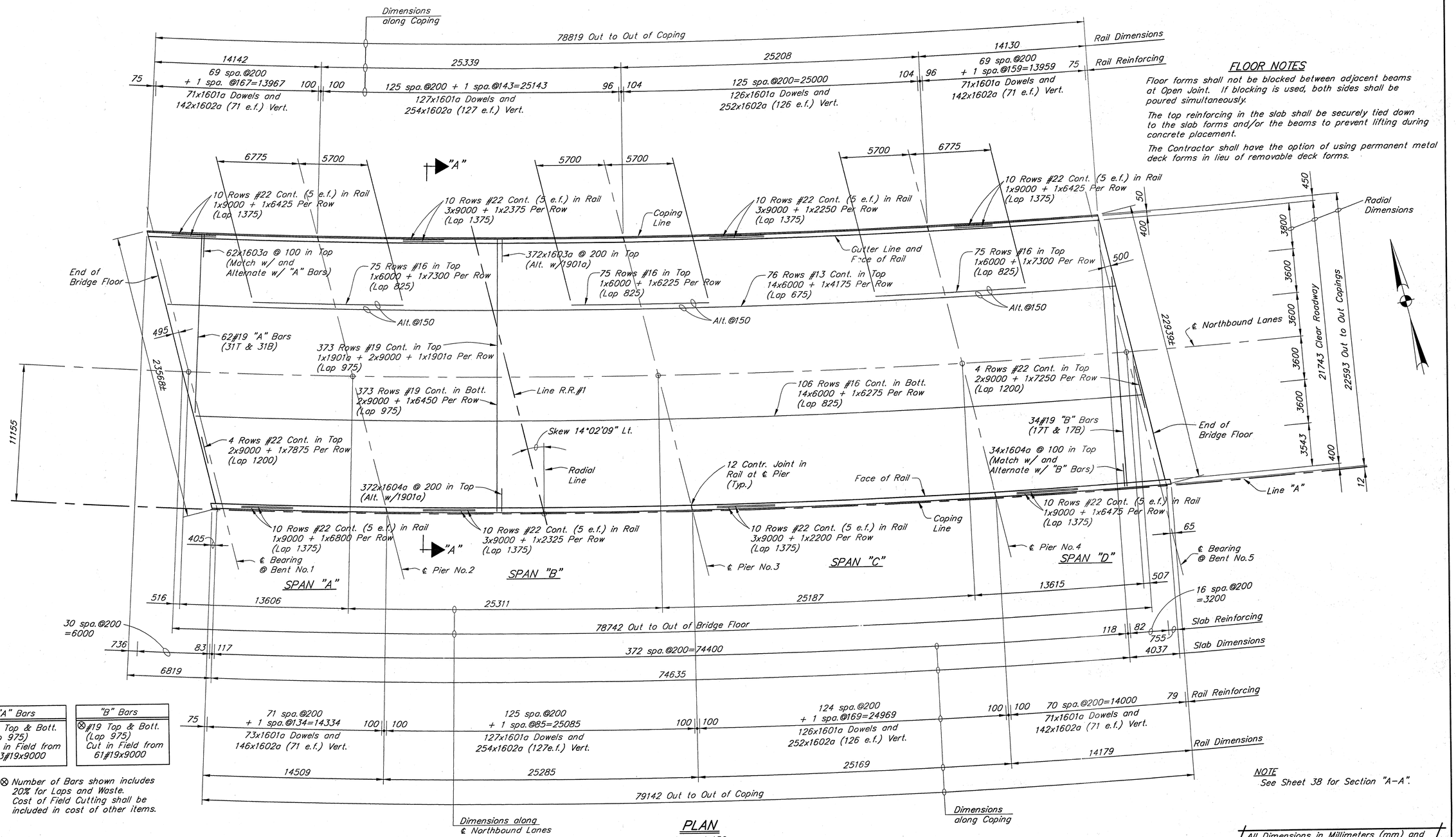
DESIGNED: J. NICHOLSON DRAWN: D. SHEETZ
CHECKED: K. MUELLNER CHECKED: D. MILLER

INDIANA
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
PIERS NO.2, NO.3 AND NO.4

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C & JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	36A OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07



FLOOR NOTES

Floor forms shall not be blocked between adjacent beams at Open Joint. If blocking is used, both sides shall be poured simultaneously.

The top reinforcing in the slab shall be securely tied down to the slab forms and/or the beams to prevent lifting during concrete placement.

The Contractor shall have the option of using permanent metal deck forms in lieu of removable deck forms.

"A" Bars	"B" Bars
⊗#19 Top & Bott. (Lap 975) Cut in Field from 103#19x9000	⊗#19 Top & Bott. (Lap 975) Cut in Field from 61#19x9000

⊗ Number of Bars shown includes 20% for Laps and Waste. Cost of Field Cutting shall be included in cost of other items.

NOTE
See Sheet 38 for Section "A-A".

PLAN
Scale=1:150

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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STEPHEN F. WEINHAUT REGISTERED No. 16222 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Stephen F. Weinhaut 9-28-01
DESIGN ENGINEER DATE

DESIGNED: K.M. & J.S. DRAWN: J. EVANS
CHECKED: M. EICHENAUER CHECKED: D. MILLER

INDIANA DEPARTMENT OF TRANSPORTATION

FLOOR DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	37 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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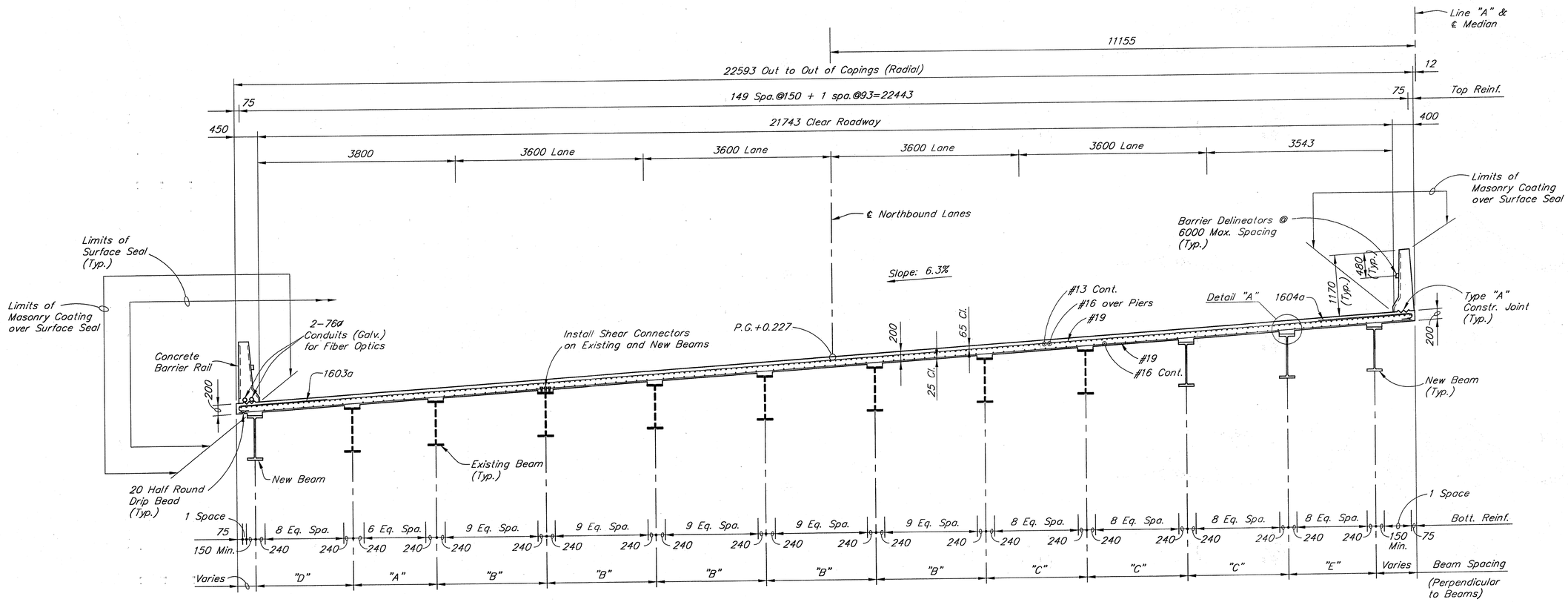
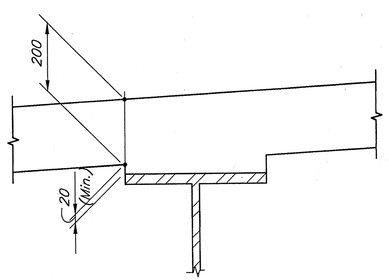


SECTION "A-A"

Scale=1:40



DETAIL "A"

Not to Scale

BEAM SPACING TABLE				
SPAN	"A"	"B"	"C"	"D"
DIM. "A"	1580	1600	1600	1617
DIM. "B"	2082	2108	2108	2130
DIM. "C"	1907	1930	1930	1950
DIM. "D"	1693	Varies	Varies	1962
DIM. "E"	1907	Varies	Varies	1435

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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CHECKED: M. EICHENAUER CHECKED: D. MILLER

INDIANA
DEPARTMENT OF TRANSPORTATION

FLOOR DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	38 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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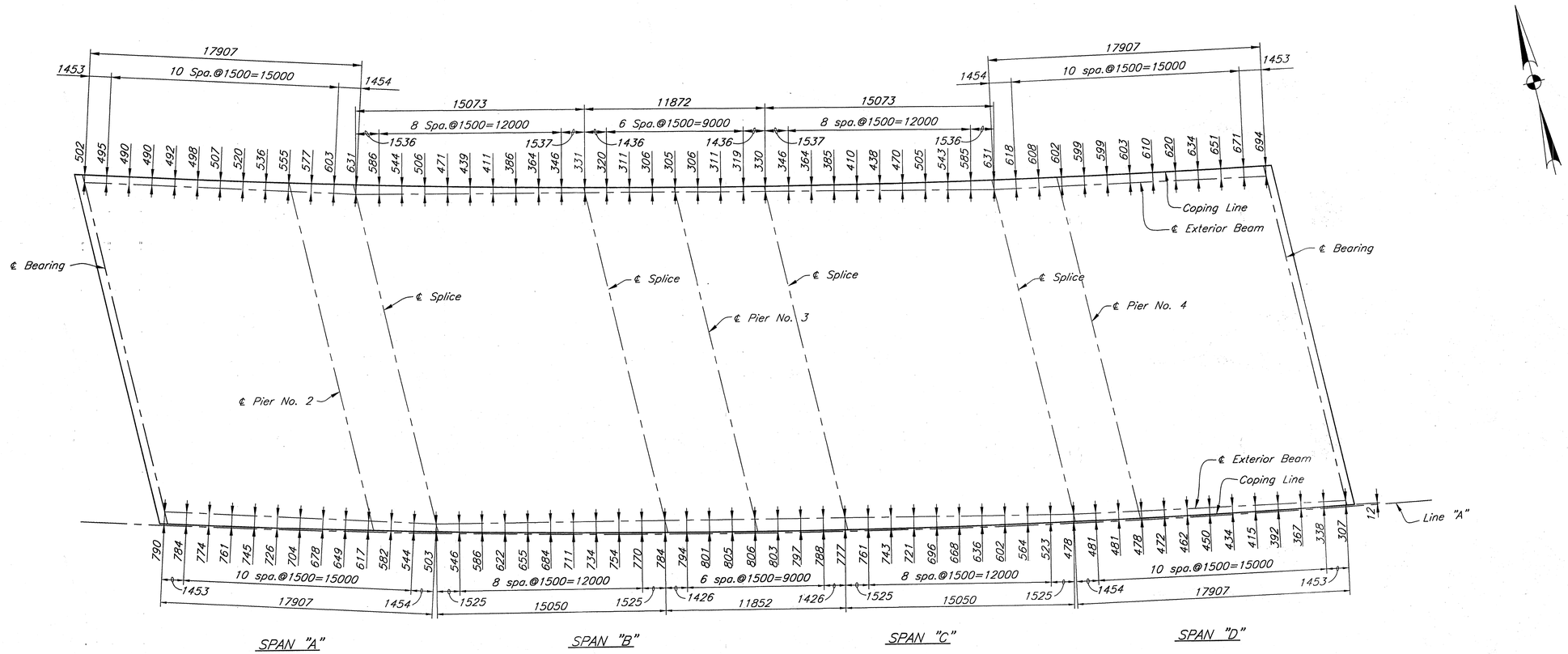

COPING OFFSETS

Scale=1:150

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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DESIGN ENGINEER DATE

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CHECKED: M. EICHENAUER CHECKED: G. NULLINER

INDIANA
DEPARTMENT OF TRANSPORTATION

FLOOR DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	39 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

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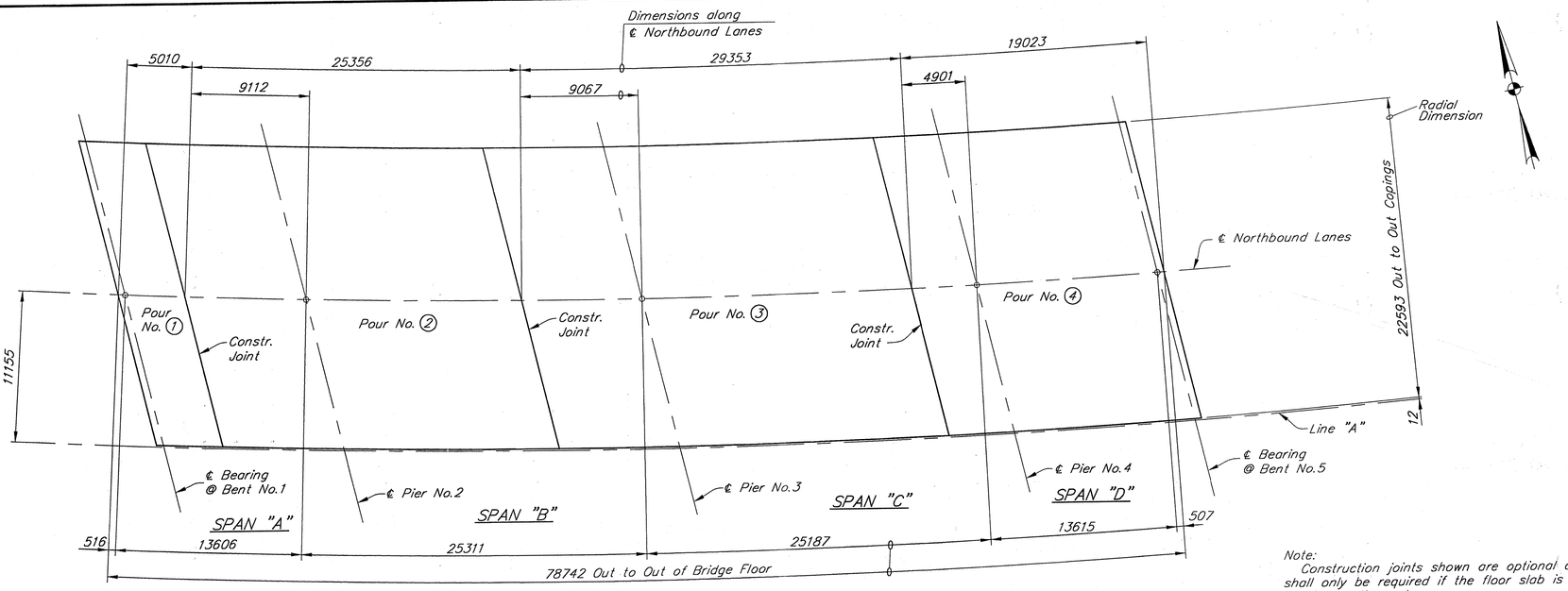


SEQUENCE OF POURS

Scale=1:200

Note:
Construction joints shown are optional and shall only be required if the floor slab is not poured continuously.

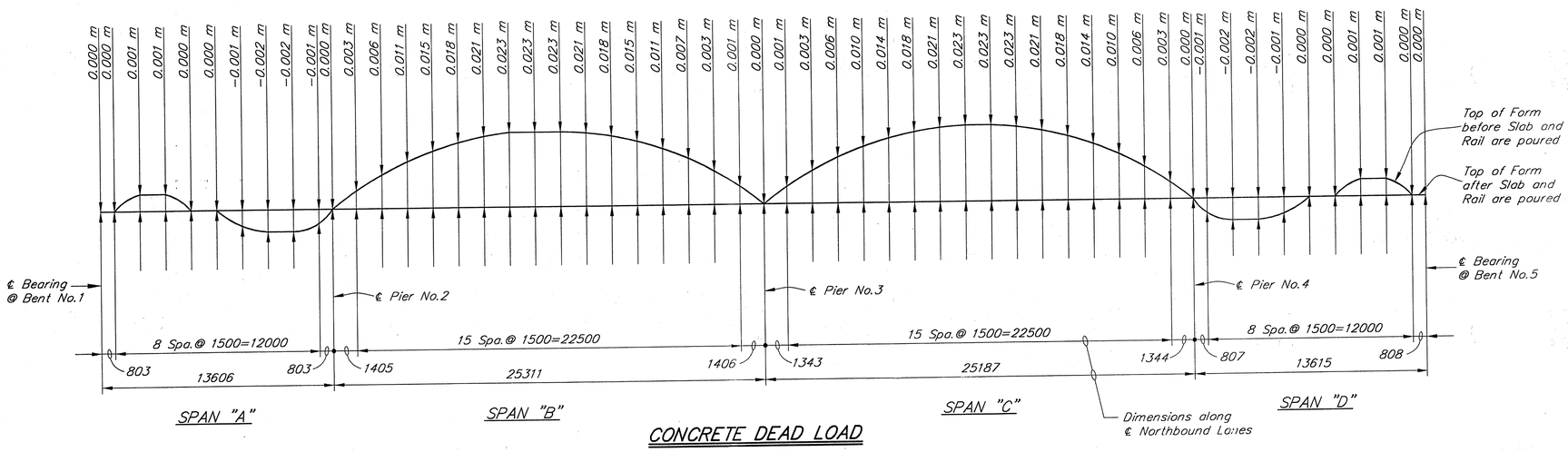
SCREED NOTES

Screed elevations will be given for setting screeds and coping forms so that the slab and copings will be at the required elevations after all the concrete has been poured.

Take elevations at the screed and coping points on top of adjacent beams, subtract these elevations from the given elevations and use resulting dimensions as the height for setting the screed or coping forms above that point. This dimension remains unchanged regardless of how much or what order the concrete is poured.

No concrete shall be poured until the above operation is completed.

Do not set screeds or coping forms by leveling.



CONCRETE DEAD LOAD DEFLECTION DIAGRAM

Not to Scale

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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RECOMMENDED FOR APPROVAL: Stephen F. Weinraut 9-28-01
DESIGN ENGINEER DATE

DESIGNED: K.M. & J.S. DRAWN: J. EVANS
CHECKED: M. EICHENAUER CHECKED: D. MILLER

INDIANA DEPARTMENT OF TRANSPORTATION

FLOOR DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	40 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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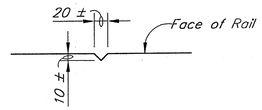

CHAMFERED RECESS

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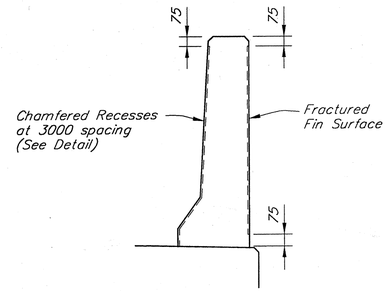

TYPICAL RAIL SECTION

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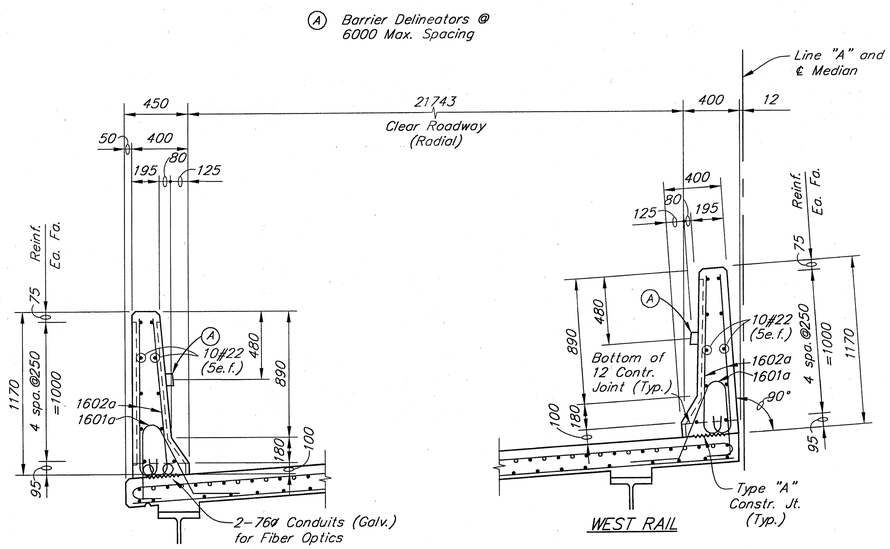
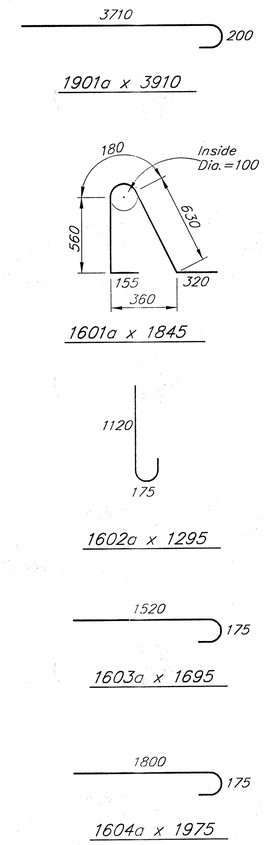


EAST RAIL

WEST RAIL

TYPICAL RAIL SECTIONS

Not to Scale



BAR BENDING DETAILS

Not to Scale

BILL OF MATERIALS
SUPERSTRUCTURE
SPANS "A", "B", "C" & "D"

REINFORCING STEEL

Mark or Size	No. of Bars	Length (mm)	Mass (kg)
#22	176	9000	
#22	4	7875	
#22	4	7250	
#22	10	6800	
#22	10	6475	
#22	20	6425	
#22	10	2375	
#22	10	2325	
#22	10	2250	
#22	10	2200	
Total #22 (Epoxy Coated)			6076
1901a	746	3910	
#19	1656	9000	
#19	373	6450	
Total #19 (Epoxy Coated)			45207
1601a	792	1845	
1602a	1584	1295	
1603a	434	1695	
1604a	406	1975	
#16	150	7300	
#16	106	6275	
#16	75	6225	
#16	1709	6000	
Total #16 (Epoxy Coated)			27208
#13	1064	6000	
#13	76	4175	
Total #13 (Epoxy Coated)			6661
⊕ Total Steel (Epoxy Coated)			85152

CONCRETE

Class "C" in Superstructure	
Pour No.1	63.0 m^3
Pour No.2	119.9 m^3
Pour No.3	138.8 m^3
Pour No.4	128.6 m^3
Total	450.3 m^3
Class "C" in Railing	49.1 m^3

MISCELLANEOUS

Surface Seal	2063 m^2
Masonry Coating	351 m^2
Barrier Delineators	34 Ea.
76ø Conduit (Galv.)	162 m

⊕ A.S.T.M. A615M, Grade 420.

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Stephen F. Weintraut 9-28-01
DESIGN ENGINEER DATE

DESIGNED: K.M. & J.S. DRAWN: J. EVANS
CHECKED: M. EICHENAUER CHECKED: D. MILLER

INDIANA
DEPARTMENT OF TRANSPORTATION

FLOOR DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	41 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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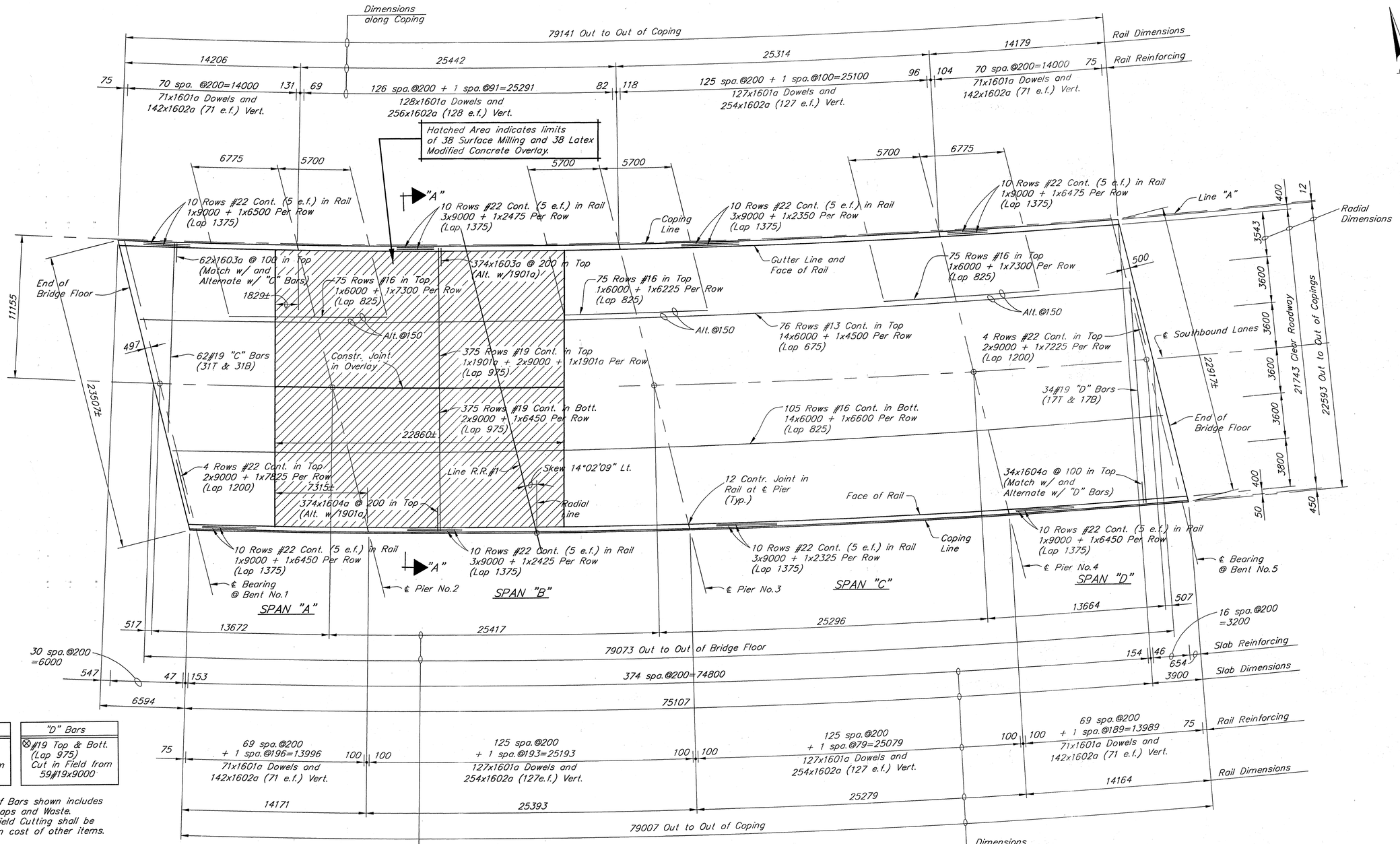

"C" Bars
⊗#19 Top & Bott. (Lap 975) Cut in Field from 100#19x9000

"D" Bars
⊗#19 Top & Bott. (Lap 975) Cut in Field from 59#19x9000

⊗ Number of Bars shown includes 20% for Laps and Waste. Cost of Field Cutting shall be included in cost of other items.

FLOOR NOTES

Floor forms shall not be blocked between adjacent beams at Open Joint. If blocking is used, both sides shall be poured simultaneously.

The top reinforcing in the slab shall be securely tied down to the slab forms and/or the beams to prevent lifting during concrete placement.

The Contractor shall have the option of using permanent metal deck forms in lieu of removable deck forms.

PLAN

Scale=1:150

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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STEPHEN F. WEINTRAUT REGISTERED No. 16222 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Stephen F. Weintraut 9-28-01
DESIGN ENGINEER DATE

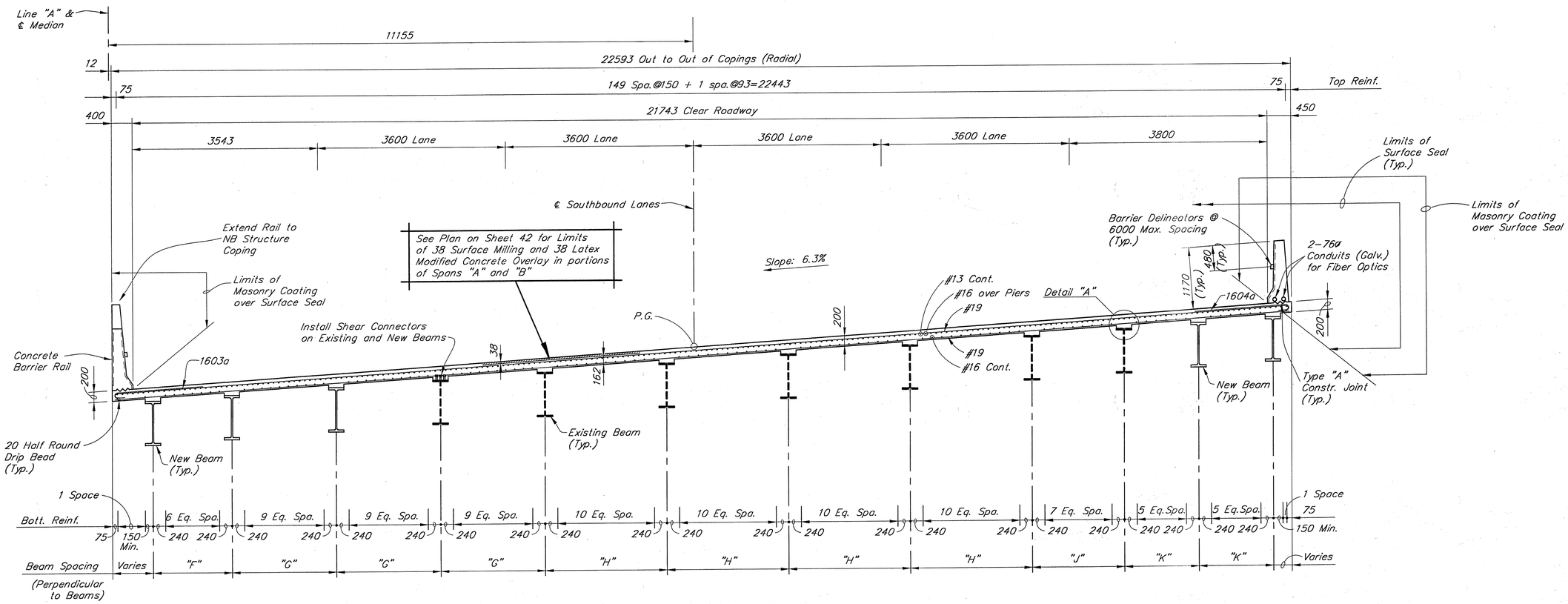
DESIGNED: K.M. & J.S. DRAWN: J. EVANS
CHECKED: M. EICHENAUER CHECKED: D. MILLER

INDIANA DEPARTMENT OF TRANSPORTATION

FLOOR DETAILS SOUTHBOUND STRUCTURE

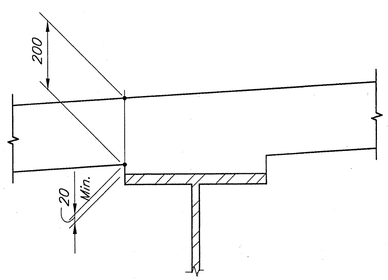
HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	42 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07



SECTION "A-A"

Scale=1:40



DETAIL "A"

Not to Scale

BEAM SPACING TABLE				
SPAN	"A"	"B"	"C"	"D"
DIM. "F"	1608	Varies	Varies	1098
DIM. "G"	2110	2134	2134	2153
DIM. "H"	2286	2311	2311	2332
DIM. "J"	1733	1753	1753	1768
DIM. "K"	1394	1410	1410	1423

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PROFESSIONAL ENGINEER

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DESIGN ENGINEER DATE

DESIGNED: K.M. & J.S. DRAWN: J. EVANS
CHECKED: M. EICHENAUER CHECKED: D. MILLER

INDIANA DEPARTMENT OF TRANSPORTATION

FLOOR DETAILS
SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	43 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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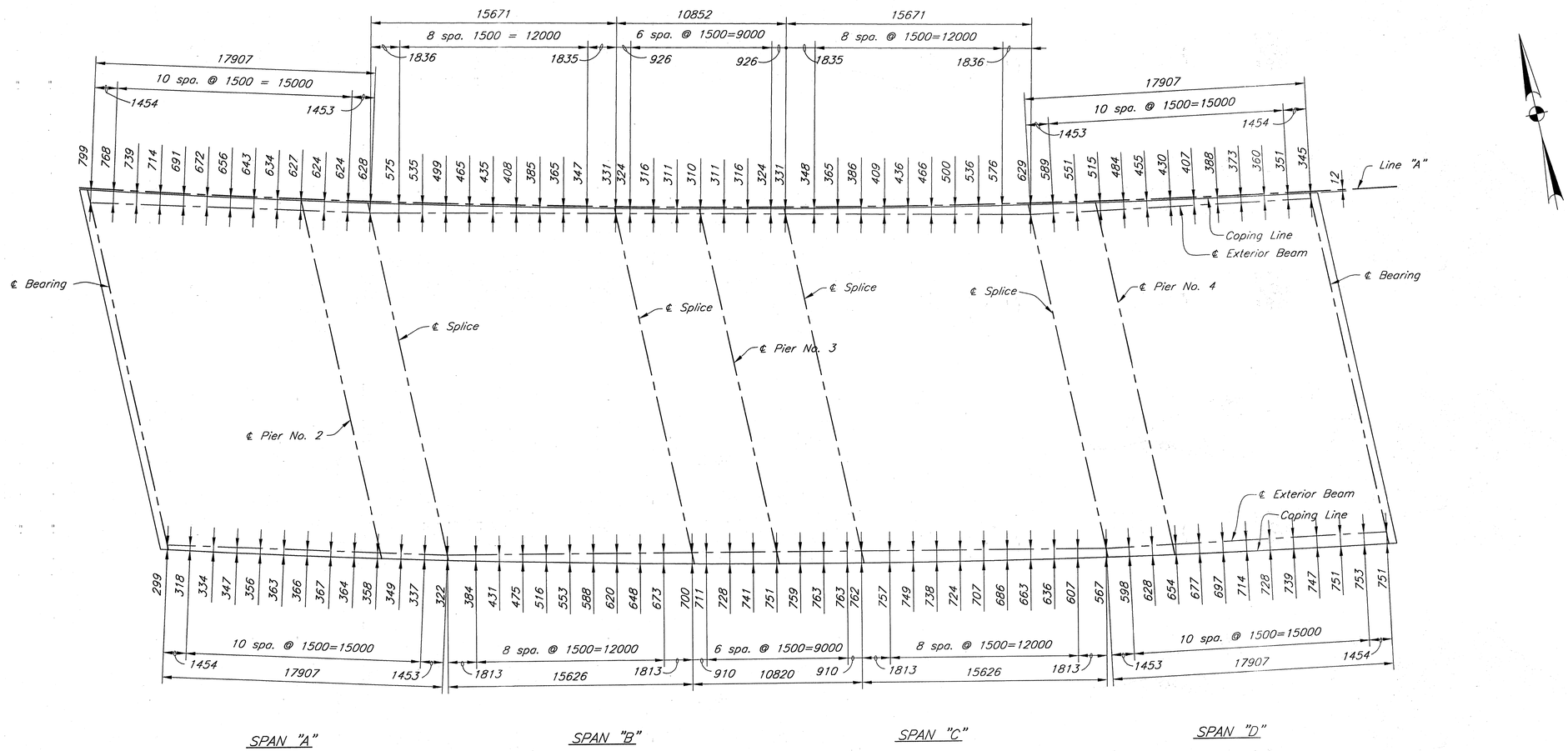

COPING OFFSETS

Scale=1:150

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

JANSSEN & SPAANS ENGINEERING CONSULTING ENGINEERS
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509 WEST 84TH DRIVE, SUITE G
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FAX 219 769-2377

STEPHEN F. WEINTRAUT REGISTERED No. 16222 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Stephen F. Weintraut 9-28-01
DESIGN ENGINEER DATE

DESIGNED: C. OGG DRAWN: M. MANG
CHECKED: M. EICHENAUER CHECKED: G. NULLINER

INDIANA DEPARTMENT OF TRANSPORTATION

FLOOR DETAILS
SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	44 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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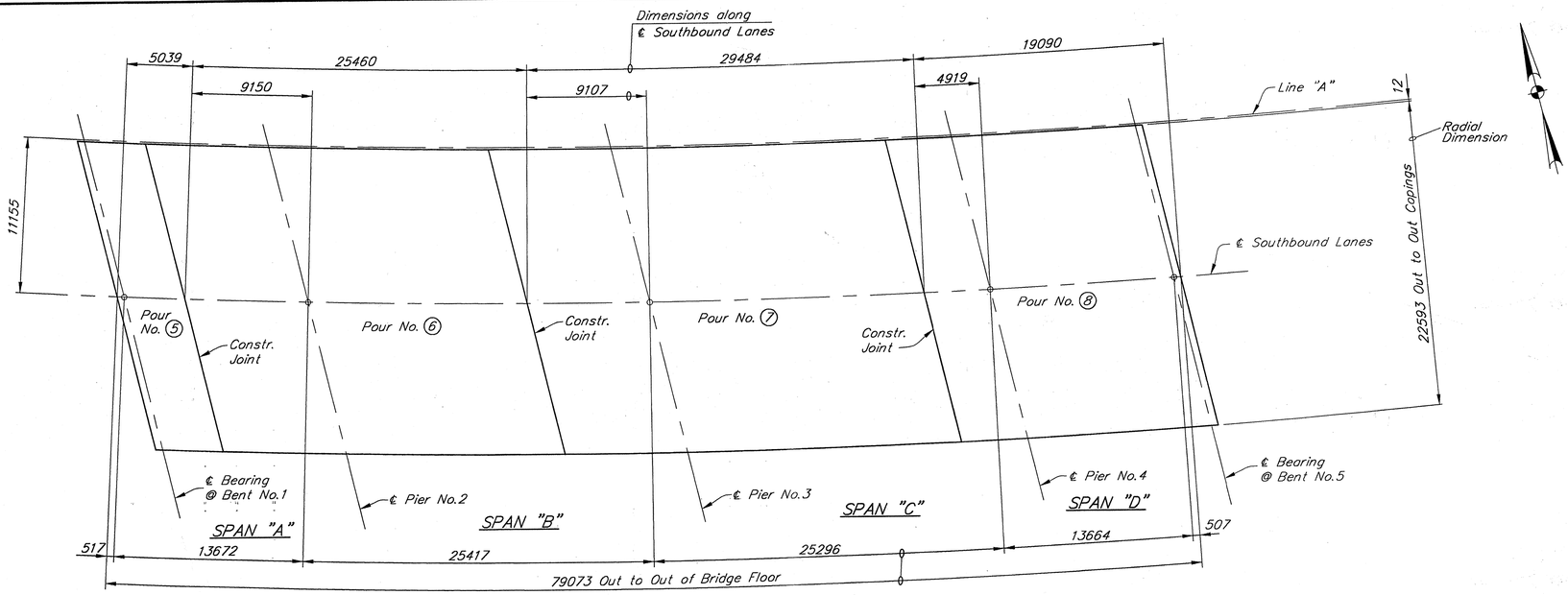


SEQUENCE OF POURS

Scale=1:200

Dimensions along
℄ Southbound Lanes

Note:
Construction joints shown are optional and shall only be required if the floor slab is not poured continuously.

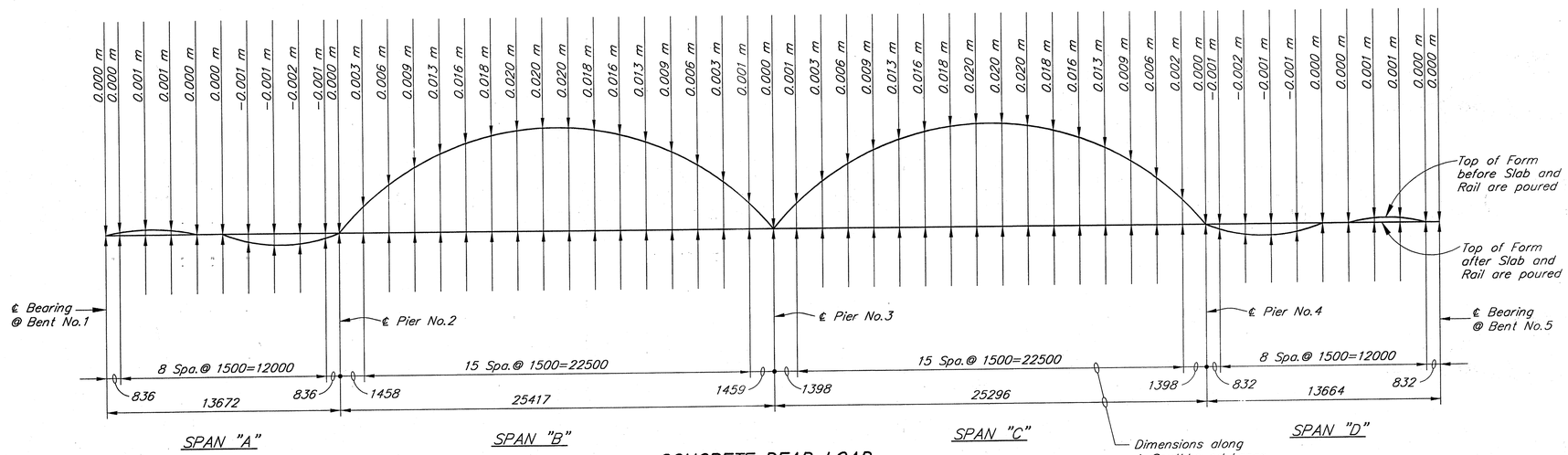
SCREED NOTES

Screed elevations will be given for setting screeds and coping forms so that the slab and copings will be at the required elevations after all the concrete has been poured.

Take elevations at the screed and coping points on top of adjacent beams, subtract these elevations from the given elevations and use resulting dimensions as the height for setting the screed or coping forms above that point. This dimension remains unchanged regardless of how much or what order the concrete is poured.

No concrete shall be poured until the above operation is completed.

Do not set screeds or coping forms by leveling.



CONCRETE DEAD LOAD DEFLECTION DIAGRAM

Not to Scale

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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STEPHEN F. WEINRAUT
REGISTERED
No. 16222
STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Stephen F. Weinraut 9-28-01
DESIGN ENGINEER DATE

DESIGNED: K.M. & J.S. DRAWN: J. EVANS
CHECKED: M. EICHENAUER CHECKED: D. MILLER

INDIANA
DEPARTMENT OF TRANSPORTATION

FLOOR DETAILS
SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	45 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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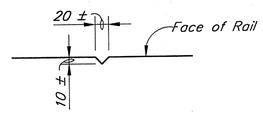
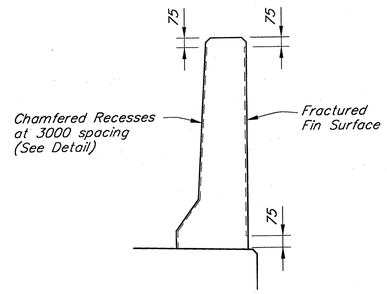


CHAMFERED RECESS

Not to Scale



TYPICAL RAIL SECTION

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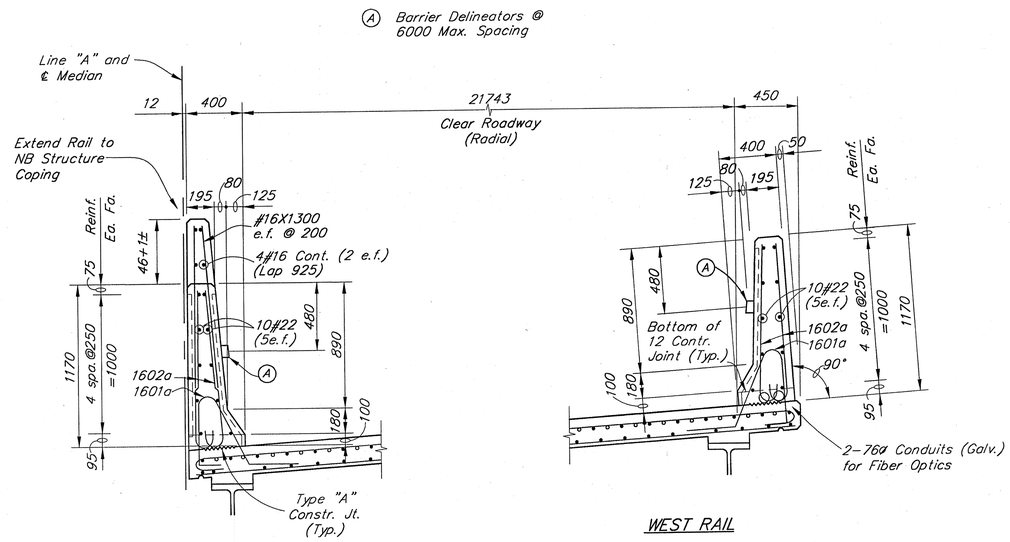

TYPICAL RAIL SECTIONS

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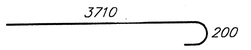

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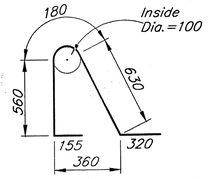

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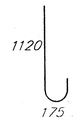

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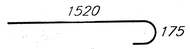

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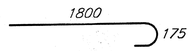

1604a x 1975

BAR BENDING DETAILS

Not to Scale

BILL OF MATERIALS SUPERSTRUCTURE SPANS "A", "B", "C" & "D"

REINFORCING STEEL

Mark or Size	No. of Bars	Length (mm)	Mass (kg)
#22	176	9000	
#22	4	7825	
#22	4	7225	
#22	10	6500	
#22	10	6475	
#22	20	6450	
#22	10	2475	
#22	10	2425	
#22	10	2350	
#22	10	2325	
Total #22 (Epoxy Coated)			6080
1901a	750	3910	
#19	1659	9000	
#19	375	6450	
Total #19 (Epoxy Coated)			45331
1601a	793	1845	
1602a	1586	1295	
1603a	436	1695	
1604a	408	1975	
#16	150	7300	
#16	105	6600	
#16	75	6225	
#16	1695	6000	
Total #16 (Epoxy Coated)			27139
#13	1064	6000	
#13	76	4500	
Total #13 (Epoxy Coated)			6686
Total Steel (Epoxy Coated)			85236

CONCRETE

Class "C" in Superstructure	
Pour No.5	62.9 m^3
Pour No.6	120.4 m^3
Pour No.7	139.4 m^3
Pour No.8	127.2 m^3
Total	449.9 m^3
Class "C" in Railing	49.0 m^3

MISCELLANEOUS

Surface Seal	2071 m^2
Masonry Coating	351 m^2
Barrier Delineators	28 Ea.
76ø Conduit (Galv.)	163 m

⊕ A.S.T.M. A615M, Grade 420.

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STEPHEN F. WEINFAULT REGISTERED No. 16222 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Stephen F. Weinfault 9-28-01
DESIGN ENGINEER DATE

DESIGNED: K.M. & J.S. DRAWN: J. EVANS
CHECKED: M. EICHENAUER CHECKED: D. MILLER

INDIANA DEPARTMENT OF TRANSPORTATION

FLOOR DETAILS SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	46 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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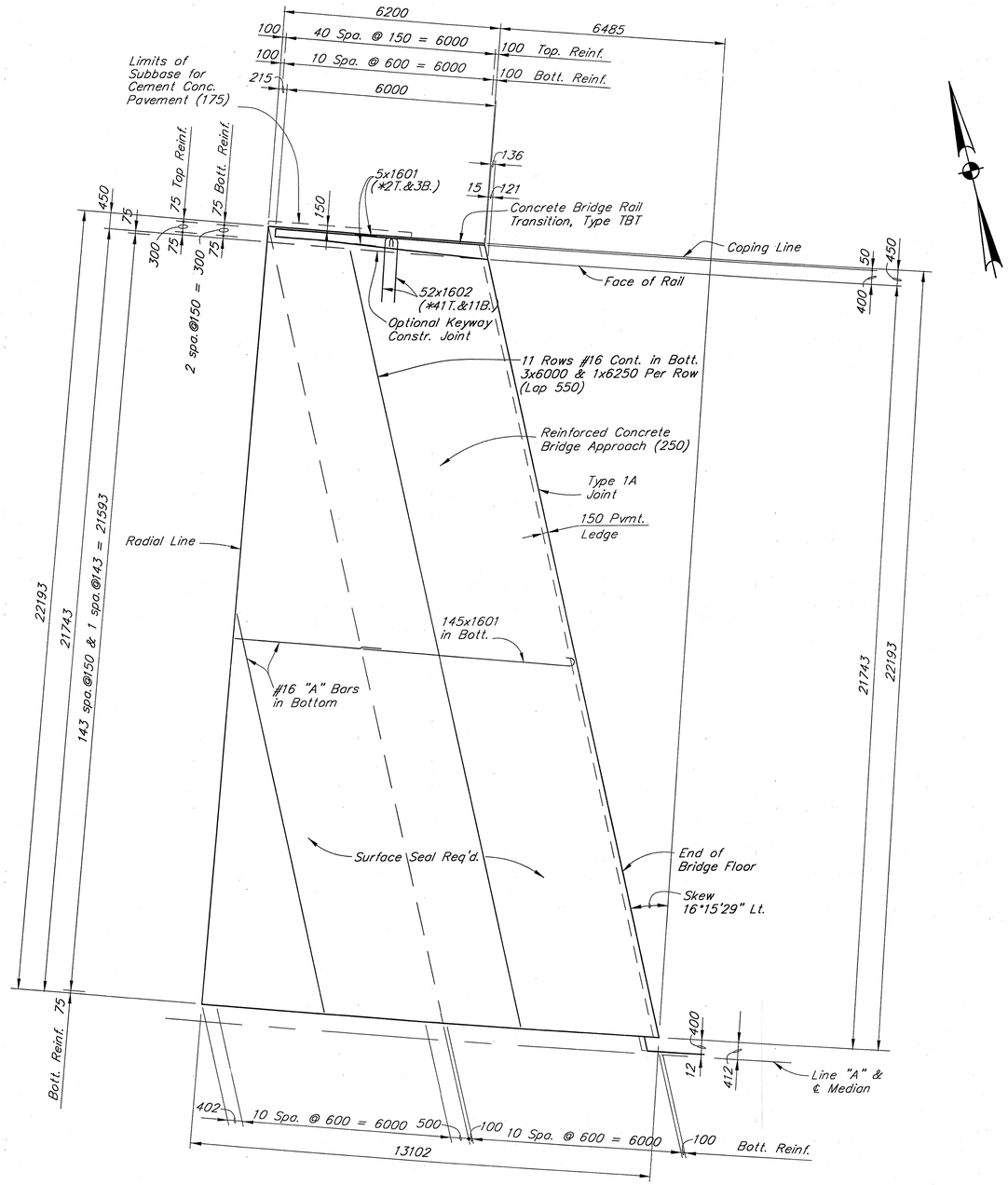
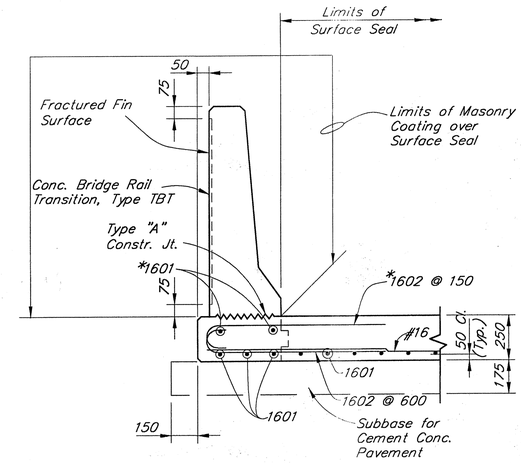


NORTHEAST SLAB PLAN

Scale=1:75



SECTION

Not to Scale

1601x6225 1602x2005

BAR BENDING DETAILS

Not to Scale

BILL OF MATERIALS NORTHEAST SLAB

REINFORCING STEEL

	Mark or Size	No. of Bars	Length (mm)	Mass (kg)
*	1601	2	6225	
	1601	148	6225	
*	1602	41	2005	
	1602	11	2005	
	#16	11	6250	
	#16	161	6000	
⊕	Total Steel (Plain)			3070
⊕	Total Steel (Epoxy Coated)			147

CONCRETE

Reinforced Concrete Bridge Approach (250)	215 m^2

MISCELLANEOUS

Subbase for Cement Concrete Pavement	37 m^3
Concrete Bridge Railing Transition, Type TBT	1 Each
⊗ Surface Seal	212 m^2
Masonry Coating	12 m^2

* Denotes Epoxy Coated

⊕ A.S.T.M. A615M, Grade 420

⊗ Does Not Include Conc. Bridge Rail Transition, Type TBT

⊗ Number of Bars shown includes 20% for Laps and Waste. Cost of Field Cutting shall be included in cost of other items.

"A" Bars
⊗#16 in Bottom, each way (Lap 550) Cut in Field from 128#16x6000

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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MICHAEL MATEL REGISTERED No. 860186 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: 9-28-01
DESIGN ENGINEER DATE

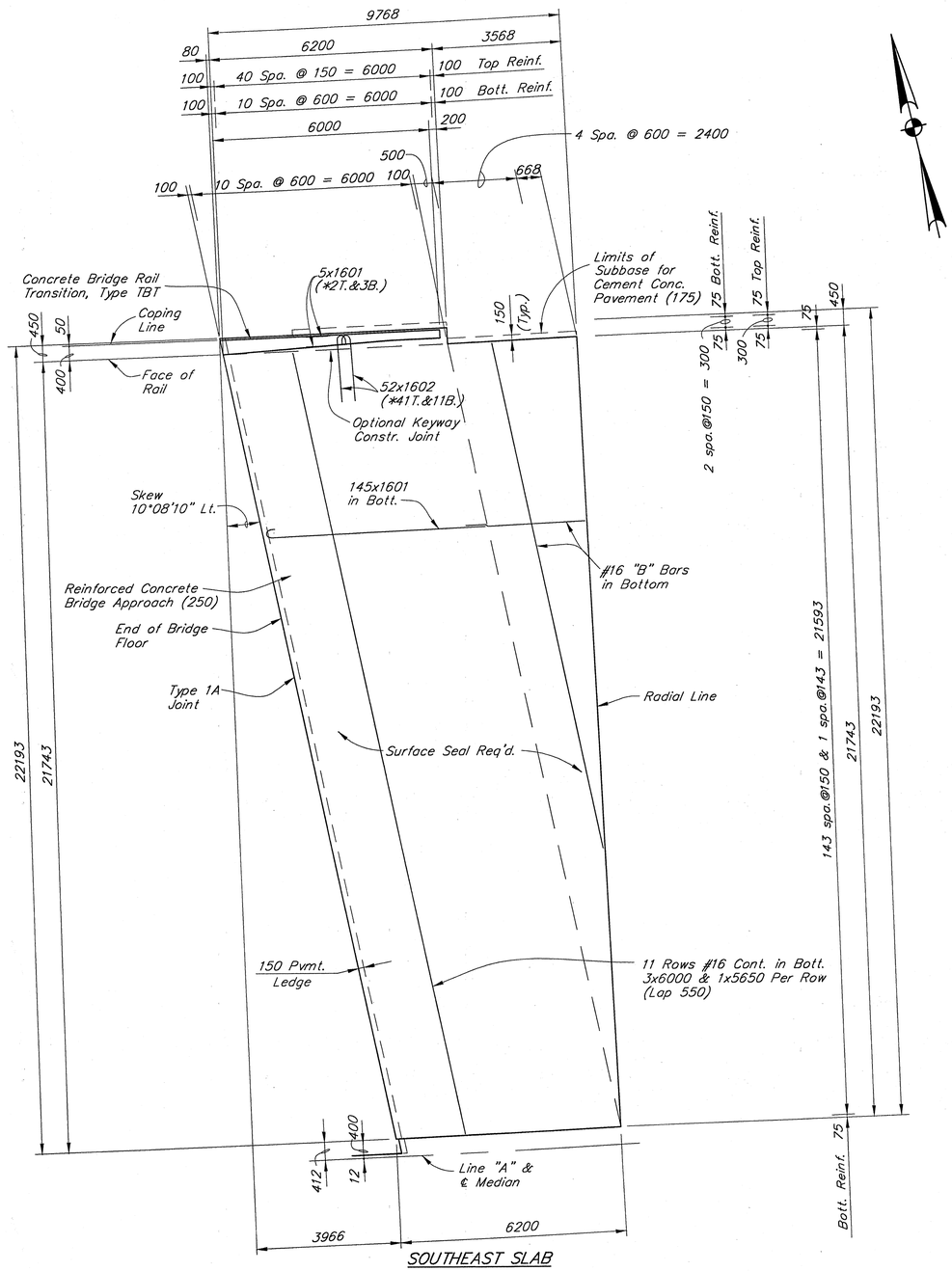
DESIGNED: D. SHEETZ DRAWN: D. SHEETZ
CHECKED: M. MATEL CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	47 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BRS NO. 3804.07



SOUTHEAST SLAB

PLAN

Scale=1:75

BILL OF MATERIALS
SOUTHEAST SLAB

	REINFORCING STEEL			
	Mark or Size	No. of Bars	Length (mm)	Mass (kg)
*	1601	2	6225	
	1601	148	6225	
*	1602	41	2005	
	1602	11	2005	
	#16	98	6000	
	#16	11	5650	
⊕	Total Steel (Plain)			2473
⊕	Total Steel (Epoxy Coated)			147

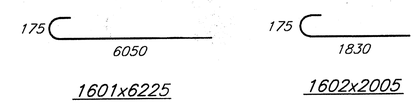
CONCRETE	
Reinforced Concrete Bridge Approach (250)	177 m^2

MISCELLANEOUS	
Subbase for Cement Concrete Pavement	31 m^3
Concrete Bridge Railing Transition, Type TBT	1 Each
⊗ Surface Seal	175 m^2
Masonry Coating	12 m^2

* Denotes Epoxy Coated

⊕ A.S.T.M. A615M, Grade 420

⊗ Does Not Include Conc. Bridge Rail Transition, Type TBT



1601x6225 1602x2005

BAR BENDING DETAILS

Not to Scale

⊗ Number of Bars shown includes 20% for Laps and Waste. Cost of Field Cutting shall be included in cost of other items.

"B" Bars
⊗#16 in Bottom, each way (Lap 550) Cut in Field from 65#16x6000

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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MICHAEL MATEL REGISTERED No. 860186 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Michael Matel 9-28-01
DESIGN ENGINEER DATE

DESIGNED: D. SHEETZ DRAWN: D. SHEETZ
CHECKED: M. MATEL CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS
NORTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	48 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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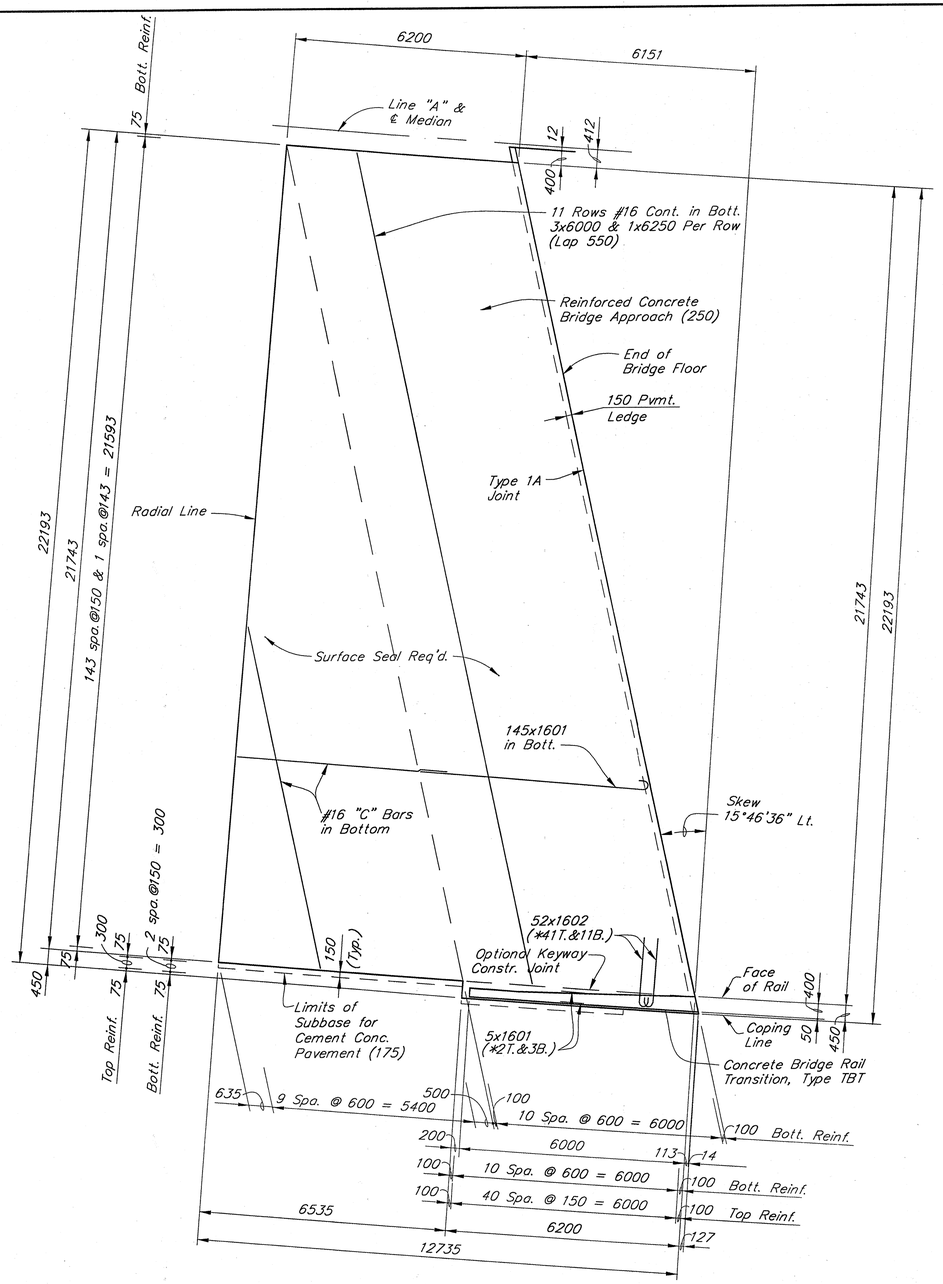


NORTHWEST SLAB

PLAN

Scale=1:75

BILL OF MATERIALS
NORTHWEST SLAB

	REINFORCING STEEL			
	Mark or Size	No. of Bars	Length (mm)	Mass (kg)
*	1601	2	6225	
	1601	148	6225	
*	1602	41	2005	
	1602	11	2005	
	#16	11	6250	
	#16	152	6000	
⊕	Total Steel (Plain)			2986
⊕	Total Steel (Epoxy Coated)			147

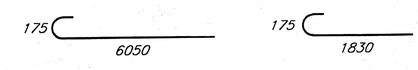
CONCRETE	
Reinforced Concrete Bridge Approach (250)	209 m^2

MISCELLANEOUS	
Subbase for Cement Concrete Pavement	37 m^3
Concrete Bridge Railing Transition, Type TBT	1 Each
⊗ Surface Seal	207 m^2
Masonry Coating	12 m^2

* Denotes Epoxy Coated

⊕ A.S.T.M. A615M, Grade 420

⊗ Does not Include Conc. Bridge Rail Transition, Type TBT



1601x6225 1602x2005

BAR BENDING DETAILS

Not to Scale

⊗ Number of Bars shown includes 20% for Laps and Waste. Cost of Field Cutting shall be included in cost of other items.

"C" Bars
⊗ #16 in Bottom, each way (Lap 550) Cut in Field from 119#16x6000

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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MICHAEL MATEL REGISTERED No. 860186 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Michael Matel 9-28-01
DESIGN ENGINEER DATE

DESIGNED: D. SHEETZ DRAWN: D. SHEETZ
CHECKED: M. MATEL CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS
SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	49 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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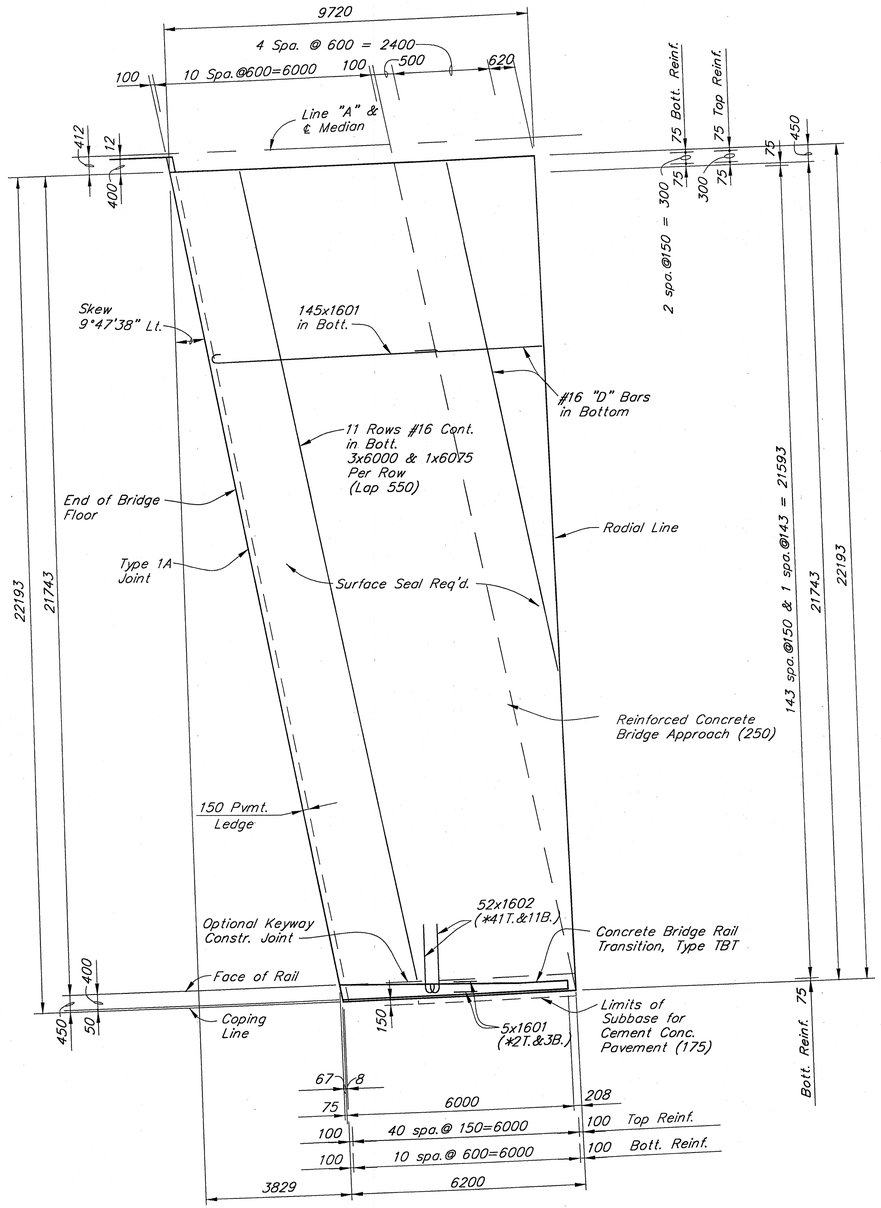

SOUTHWEST SLAB

PLAN

Scale=1:75

BILL OF MATERIALS
SOUTHWEST SLAB

	REINFORCING STEEL			
	Mark or Size	No. of Bars	Length (mm)	Mass (kg)
*	1601	2	6225	
	1601	148	6225	
*	1602	41	2005	
	1602	11	2005	
	#16	11	6075	
	#16	99	6000	
⊕	Total Steel (Plain)			2490
⊕	Total Steel (Epoxy Coated)			147

	CONCRETE	
	Reinforced Concrete Bridge Approach (250)	177 m^2

	MISCELLANEOUS	
	Subbase for Cement Concrete Pavement	31 m^3
	Concrete Bridge Railing Transition, Type TBT	1 Each
⊗	Surface Seal	175 m^2
	Masonry Coating	12 m^2

* Denotes Epoxy Coated

⊕ A.S.T.M. A615M, Grade 420

⊗ Does not Include Conc. Bridge Rail Transition, Type TBT

1601x6225 1602x2005

BAR BENDING DETAILS

Not to Scale

⊗ Number of Bars shown includes 20% for Laps and Waste. Cost of Field Cutting shall be included in cost of other items.

"D" Bars
⊗#16 in Bottom, each way (Lap 550) Cut in Field from 66#16x6000

All Dimensions in Millimeters (mm) and all Stations and Elevations in Meters (m) unless otherwise noted

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MICHAEL MATEL REGISTERED No. 860186 STATE OF INDIANA PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Michael Matel 9-28-01
DESIGN ENGINEER DATE

DESIGNED: D. SHEETZ DRAWN: D. SHEETZ
CHECKED: M. MATEL CHECKED: M. MATEL

INDIANA DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS
SOUTHBOUND STRUCTURE

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	50 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

DFS NO. 3804.07

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STRUCTURE QUANTITIES

ITEM	CONCRETE CLASS C IN SUPERSTR.	CONCRETE CLASS A IN SUBSTR.	SUBBASE FOR CEMENT CONCRETE PAVEMENT	REINF. CONC. BRIDGE APPR. 250 mm	CONC. RAILING CLASS C	REINF. STEEL (PLAIN)	REINF. STEEL (EPOXY COATED)	EST. WEIGHT STR. STEEL	STEEL ENCASED CONC. PILES	22Ø STUDS 125 LONG	76Ø CONDUIT (GALV.)	CONCRETE BRIDGE RAILING TRANSITION TYPE TBT	EST. AREA SURFACE SEAL	EST. AREA MASONRY COATING	FIELD DRILLED HOLES IN CONCRETE	BARRIER DELINEATORS	BEARING ASSEMBLIES, ELASTOMERIC	HANDHOLE FOR 76Ø CONDUIT	⊛ FIELD DRILLED HOLES	COVER PLATE RETRO-FIT
	m^3	m^3	Mg	m^2	m^3	kg	kg	kg	m	EACH	m	EACH	m^2	m^2	EACH	EACH	EACH	EACH	EACH	EACH
NORTHBOUND STRUCTURE																				
SUBSTRUCTURE																				
Bent No.1		9.5					3541		88				7	52	52				36	
Pier No.2		75.5				4330			104					305	130		12			
Pier No.3		73.9				4282			104					400	126		12			
Pier No.4		58.3				3357			105					325	110		12			
Bent No.5		9.3					3462		76				7	51	51				36	
Pedestals		23.0				1718									360					
SUPERSTRUCTURE																				
Spans "A" thru "D"	450.3				49.1		85152	77632		3192	162		2063	351		34		2		64
APPROACH SLABS																				
Northeast			37	215		3070	147					1	212	12						
Southeast			31	177		2473	147					1	175	12						
SUB-TOTALS	450.3	249.5	68	392	49.1	19230	92449	77632	477	3192	162	2	2464	1508	829	34	36	2	72	64
SOUTHBOUND STRUCTURE																				
SUBSTRUCTURE																				
Bent No.1		9.6					4032		88				8	53	52				36	
Pier No.2		81.5				4650			140					265	128		12			
Pier No.3		81.8				4686			130					405	130		12			
Pier No.4		63.3				3635			126					310	110		12			
Bent No.5		9.3					3844		90				7	50	51				36	
Pedestals		24.7				1739									360					
SUPERSTRUCTURE																				
Spans "A" thru "D"	449.9				49.0		85236	112078		3213	163		2071	351		28		2		56
APPROACH SLABS																				
Northwest			37	209		2986	147					1	207	12						
Southwest			31	177		2490	147					1	175	12						
SUB-TOTALS	449.9	270.2	68	386	49.0	20186	93406	112078	574	3213	163	2	2468	1458	831	28	36	2	72	56
TOTALS	900.2	519.7	136	778	98.1	⊕39416	⊕185855	189710	1051	6405	325	4	4932	2966	1660	62	72	4	144	120

⊕ A.S.T.M. A615M, Grade 420

⊛ Does not include Holes for Diaphragms or Bearings.

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509 WEST 84TH DRIVE, SUITE G
MERRILLVILLE, IN. 46410
219 769-2333
FAX 219 769-2377

STEPHEN F. WEINTRAUT
REGISTERED No. 16222 STATE OF INDIANA
PROFESSIONAL ENGINEER

RECOMMENDED FOR APPROVAL: Stephen F. Weintraut 9-28-01
DESIGN ENGINEER DATE

DESIGNED: D. MILLER DRAWN: C. CARTER
CHECKED: S. WEINTRAUT CHECKED: D. MILLER

INDIANA
DEPARTMENT OF TRANSPORTATION

BRIDGE SUMMARY

HORIZONTAL SCALE	FILE
AS NOTED	165-119-2313C & JC
VERTICAL SCALE	DESIGNATION
AS NOTED	9612790
SURVEY BOOK	SHEET
	51 OF 51
CONTRACT	PROJECT
R-24327	IM-65-3(281)118

BFS NO. 3804.07

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