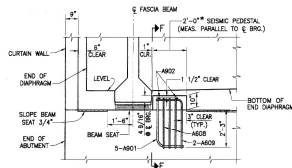


6" C.P.P. OUTLET DETAIL

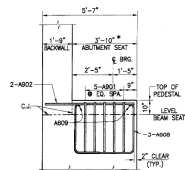


FRONT VIEW OF SEISMIC PEDESTAL

VIEW PARALLEL TO BEAM

THE A801 & A809 BARS SHALL BE PLACED PARALLEL TO THE CENTERLINE OF BEARING. THE A802 & A808 BARS SHALL BE PLACED PARALLEL TO THE BEAMS.

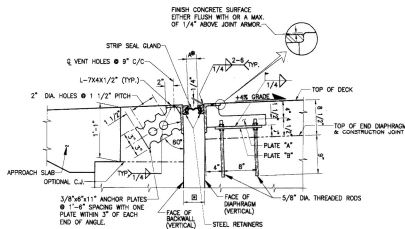
NOTE: COMPLETE WELDING OF BEAM SOLE PLATE TO BEARING LOAD PLATE BEFORE CASTING SEISMIC PEDESTALS.



SECTION E-E
SECTION PARALLEL TO E BEARING
(TYPICAL AT BOTH ABUTMENTS)

THE LOCATION OF THE MAIN REINFORCEMENT IN THE BEAM SEAT MAY BE ADJUSTED HORIZONTALLY TO ACCOMMODATE THE A801 BARS. (THE END DIAPHRAGM IS NOT SHOWN FOR CLARITY.)

* THE SURFACE OF THE BEAM SEAT IN THE AREA OF THE SEISMIC PEDESTAL SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE 1/4" DEEP MINIMUM.

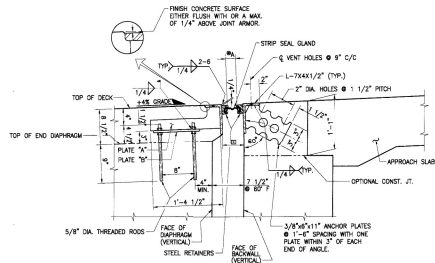


STRIP SEAL EXPANSION JOINT @ REAR ABUTMENT
PLATE "A" AND PLATE "B" SHALL BE INSTALLED PARALLEL TO THE CONCRETE I-BEAMS.
FOR ADDITIONAL DETAILS REFER TO D.O.D.T. STD. DWG. EXJ-6-85.

• - SEE TABLE OF DIMENSION "A" ON THIS SHEET.

• - THIS DIMENSION IS THE SUM OF 2 STEEL RETAINER WIDTHS PLUS DIMENSION "A".

AMBIENT TEMPERATURE	BEAM (FORWARD)	ABUTMENT
30°	2 1/2"	1 1/2"
40°	2 3/8"	2 3/8"
50°	2 7/8"	2 7/8"
60°	3 1/4"	3 1/4"
70°	3 7/8"	3 7/8"
80°	4 1/4"	4 1/4"
90°	4 7/8"	4 7/8"



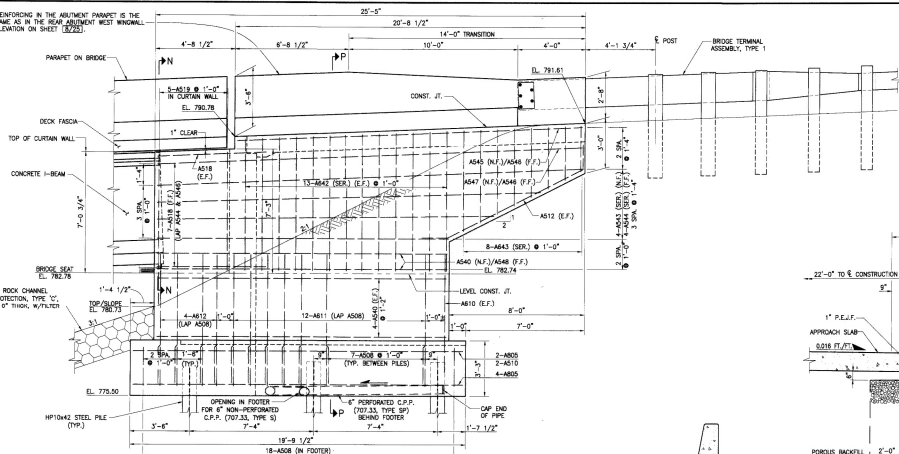
STRIP SEAL EXPANSION JOINT @ FORWARD ABUTMENT

PLATE "A" AND PLATE "B" SHALL BE INSTALLED PARALLEL TO THE CONCRETE I-BEAMS.
FOR ADDITIONAL DETAILS REFER TO D.O.D.T. STD. DWG. EXJ-6-85.

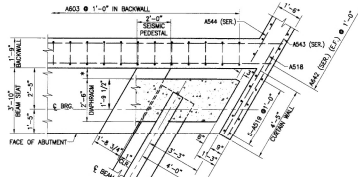
• - SEE TABLE OF DIMENSION "A" ON SHEET [628].

• - THIS DIMENSION IS THE SUM OF 2 STEEL RETAINER WIDTHS PLUS DIMENSION "A".

REINFORCING IN THE ABUTMENT PARAPET IS THE SAME AS IN THE REAR ABUTMENT WEST WINGWALL ELEVATION ON SHEET [8/25].

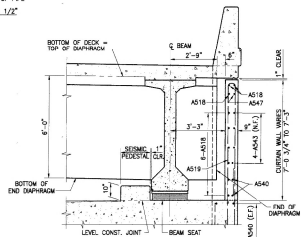


EAST WINGWALL ELEVATION
(FORWARD ABUTMENT)



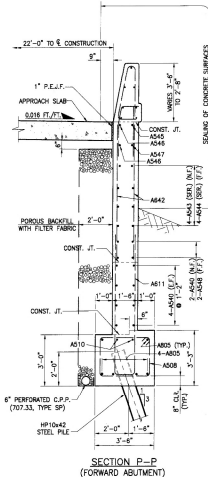
SECTION E-E
(FORWARD ABUTMENT)
(SEE SHEET 6/25 FOR LOCATION)

• 7 1/2" @ 60 F.



SECTION N-N
(FORWARD ABUTMENT)

(REBARS NOT SHOWN IN BEAM SEAT OR DECK)



SECTION P-P
(FORWARD ABUTMENT)

CONCRETE SURFACES

FORWARD ABUTMENT DETAILS

ATB-7-27.55

43

57

ms consultants, inc.
CONSULTING ENGINEERS & PLANNERS
10-02
DATE
FILE NUMBER

REC'D DATE
0-02
FILE NUMBER

Designation	A.C.	Remarks
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1

10

DETAILS

NT DE
-2755

ATTN: AID-7

ABU

WARD

FOR

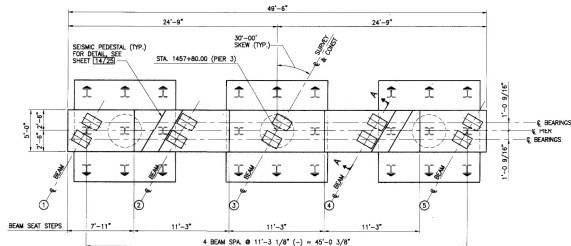
7.55

7-27

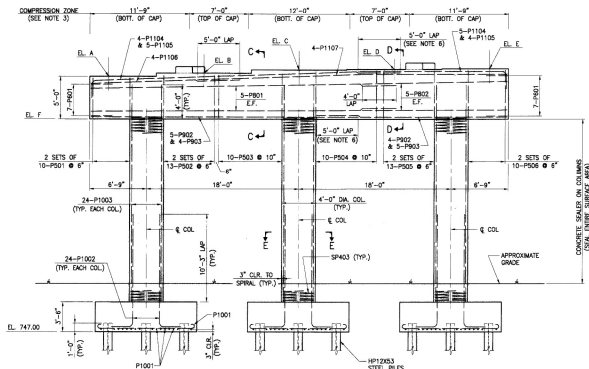
ATB-

11 / 25

$$\frac{43}{57}$$



PLAN

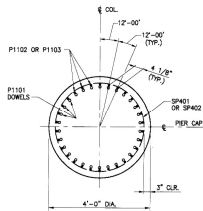


ELEVATION

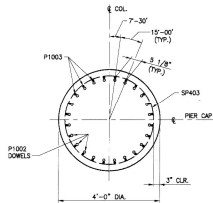
NOTES:

1. SPIRAL REINFORCEMENT AT TOP OF COLUMNS SHALL BE EMBEDDED A MINIMUM OF 2" INTO THE PIER CAP CONCRETE.
2. FOR SECTIONS C-C, D-D, E-E AND ADDITIONAL DETAILS, SEE SHEET 14/25.
3. THE 135° BEND CORNERS OF THE CLOSED TYPE STIRRUPS SHALL BE PLACED IN THE COMPRESSION ZONE.
4. FOR SECTION A-A, SEE SHEET 13/25.
5. FOR FOOTING PLAN, SEE SHEET 15/25.
6. ALTERNATE TOP P1104 AND P1105 AND BOTTOM P902 AND P903 BARS TRANSVERSELY ACROSS CAP.

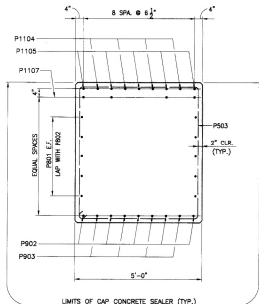
ELEVATION TABLE						
PIER 3	A	B	C	D	E	F
	778.07	778.45	778.83	778.90	778.97	773.07



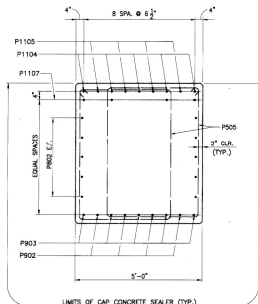
SECTION B-B
(PIER 1 & 2)



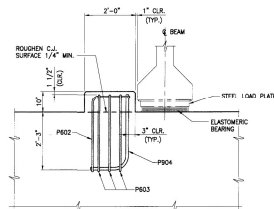
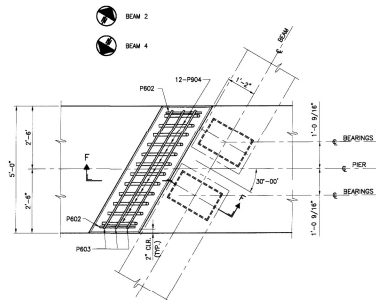
SECTION C-C
(PIER 3)



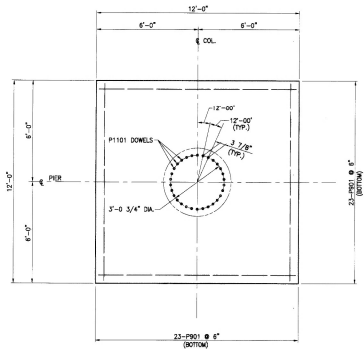
SECTION D-D
(PIER 1 & 2)



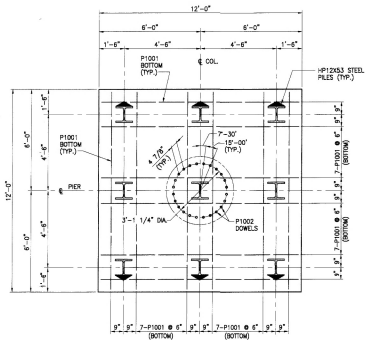
SECTION E-E
(PIER 3)



NOTE: ADJUST PIER CAP REINFORCEMENT
NECESSARY TO PLACE SEISMIC REINFORCEMENT.

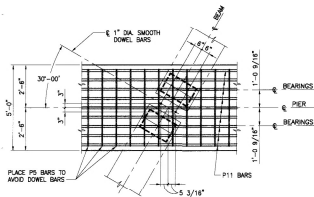


FOOTING PLAN
(PIER 1 AND PIER 2)



FOOTING PLAN

(PIER 3)
(SEE FOUNDATION LAYOUT PLAN,
SHEET 5/25, FOR PILE LOCATIONS)



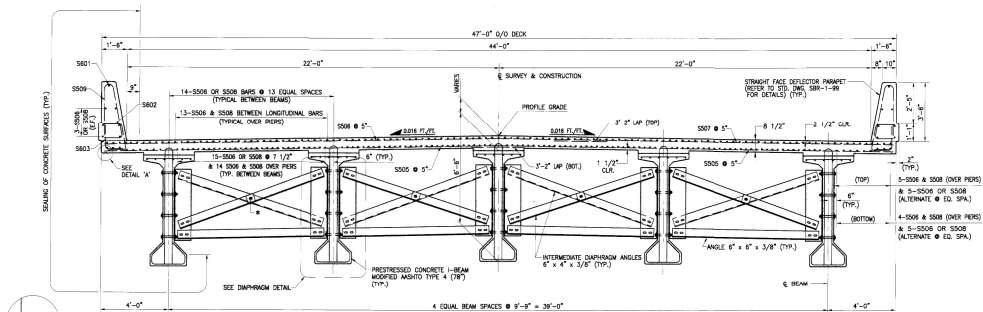
DOWEL BAR PLAN

(PIER 2 ONLY)

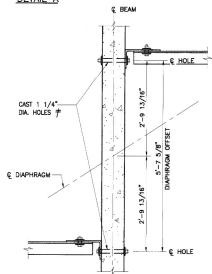
NOTE:

1. BRIDGE SEAT REINFORCING, SETTING ANCHORS:
REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT
SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE
WITH THE DRILLING OF BEARING ANCHOR HOLES OR
THE PRE-SETTING OF BEARING ANCHORS.

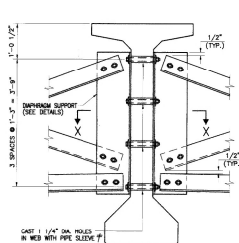




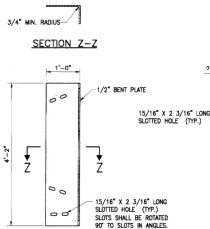
DETAIL A



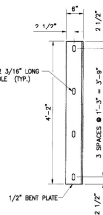
SECTION X-X



STEEL DIAPHRAGM DETAIL



DIAPHRAGM SUPPORT DETAIL
(DIAPHRAGM FACE)



DIAPHRAGM SUPPORT DETAIL
(BEAM FACE)

LEGEND:

- * - 15/16" X 2 3/16" LONG SLOTTED HOLE IN EACH ANGLE
AND 1/2" FILL PLATE

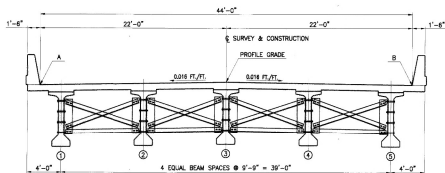
† - FASCIA BEAMS WILL HAVE INTERMEDIATE DIAPHRAGMS ON ONE SIDE ONLY. OMIT UNNECESSARY CAST HOLES.

NOTES:

1. SEE STD. DWG. PSID-1-99, SHEET 6/7 FOR FURTHER DETAILS.
2. SEE FRAMING PLAN, SHEET 19/25 FOR INTERMEDIATE DIAPHRAGM LOCATIONS.
3. INTERMEDIATE DIAPHRAGMS SHALL BE GALVANIZED AS PER STD. DWG. PSID-1-99.

SCREED ELEVATIONS TABLE

SPAN NO.	LOCATION	SCREED LINE A		BEAM LINE 1		BEAM LINE 2		BEAM LINE 3		BEAM LINE 4		BEAM LINE 5		SCREED LINE B	
		STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION	STATION	SCREED ELEVATION
SPAN NO. 1	0.00 L	1454+12.30	771.63	1454+13.74	771.73	1454+19.37	772.11	1454+25.00	772.49	1454+30.63	772.58	1454+36.26	772.63	1454+37.70	772.65
	0.25 L	1454+36.06	772.61	1454+37.49	772.71	1454+43.12	773.09	1454+48.75	773.47	1454+54.38	773.54	1454+60.01	773.61	1454+61.45	773.63
	0.50 L	1454+59.80	773.57	1454+61.24	773.67	1454+66.87	774.05	1454+72.50	774.44	1454+78.13	774.50	1454+83.76	774.57	1454+85.20	774.59
	0.75 L	1454+83.54	774.51	1454+84.99	774.61	1454+90.62	774.99	1454+96.25	775.37	1454+101.88	775.44	1454+107.51	775.61	1454+108.96	775.63
SPAN NO. 2	0.00 L	1455+07.30	775.43	1455+08.74	775.53	1455+14.37	775.91	1455+20.00	776.29	1455+25.63	776.36	1455+31.26	776.43	1455+32.70	776.45
	0.125 L	1455+23.55	776.14	1455+24.99	776.23	1455+30.62	776.61	1455+36.25	777.00	1455+41.88	777.06	1455+47.51	777.13	1455+48.95	777.15
	0.25 L	1455+39.80	776.83	1455+41.24	776.93	1455+46.87	777.31	1455+52.50	777.69	1455+58.13	777.76	1455+63.76	777.83	1455+65.20	777.85
	0.375 L	1455+56.05	777.51	1455+57.49	777.61	1455+63.12	777.99	1455+68.75	778.37	1455+74.38	778.44	1455+80.01	778.51	1455+81.45	778.53
	0.50 L	1455+72.30	778.17	1455+73.74	778.27	1455+79.37	778.65	1455+85.00	779.03	1455+90.63	779.10	1455+96.26	779.17	1455+97.70	779.19
	0.625 L	1455+88.55	778.81	1455+89.99	778.91	1455+95.62	779.29	1456+01.25	779.67	1456+06.88	779.74	1456+12.51	779.81	1456+13.95	779.83
	0.75 L	1456+04.80	779.43	1456+06.24	779.53	1456+11.87	779.91	1456+17.50	780.29	1456+23.13	780.36	1456+28.76	780.43	1456+30.20	780.45
	0.875 L	1456+21.05	780.04	1456+22.49	780.13	1456+28.12	780.51	1456+33.75	780.90	1456+39.38	780.96	1456+45.01	781.03	1456+46.45	781.05
SPAN NO. 3	0.00 L	1456+37.30	780.63	1456+38.74	780.73	1456+44.37	781.11	1456+50.00	781.49	1456+55.63	781.56	1456+61.26	781.63	1456+62.70	781.65
	0.125 L	1456+53.55	781.34	1456+54.99	781.43	1456+60.62	781.81	1456+66.25	782.20	1456+71.88	782.26	1456+77.51	782.33	1456+78.95	782.35
	0.25 L	1456+69.80	782.03	1456+71.24	782.13	1456+76.87	782.51	1456+82.50	782.89	1456+88.13	782.96	1456+93.76	783.03	1456+95.20	783.05
	0.375 L	1456+86.05	782.71	1456+87.49	782.81	1456+93.12	783.19	1456+98.75	783.57	1457+04.38	783.64	1457+10.01	783.71	1457+11.45	783.73
	0.50 L	1457+02.30	783.37	1457+03.74	783.47	1457+09.37	783.85	1457+15.00	784.23	1457+20.63	784.30	1457+26.26	784.37	1457+27.70	784.39
	0.625 L	1457+18.55	784.01	1457+19.99	784.11	1457+25.62	784.49	1457+31.25	784.87	1457+36.88	784.94	1457+42.51	785.01	1457+43.95	785.03
	0.75 L	1457+34.80	784.63	1457+36.24	784.73	1457+41.87	785.11	1457+47.50	785.49	1457+53.13	785.56	1457+58.76	785.63	1457+60.20	785.65
	0.875 L	1457+51.05	785.24	1457+52.49	785.33	1457+58.12	785.71	1457+63.75	786.10	1457+69.38	786.16	1457+75.01	786.23	1457+76.45	786.25
SPAN NO. 4	0.00 L	1457+67.30	785.83	1457+68.74	785.93	1457+74.37	786.31	1457+80.00	786.69	1457+85.63	786.76	1457+91.26	786.83	1457+92.70	786.85
	0.25 L	1457+91.05	786.81	1457+92.49	786.91	1457+98.12	787.29	1458+03.75	787.67	1458+09.38	787.74	1458+15.01	787.81	1458+16.45	787.83
	0.50 L	1458+14.80	787.77	1458+16.24	787.87	1458+21.87	788.25	1458+27.50	788.64	1458+33.13	788.70	1458+38.76	788.77	1458+40.20	788.79
	0.75 L	1458+38.55	788.71	1458+39.99	788.81	1458+45.62	789.19	1458+51.25	789.57	1458+56.88	789.64	1458+62.51	789.71	1458+63.95	789.73
	1.00 L	1458+62.30	789.63	1458+63.74	789.73	1458+69.37	790.11	1458+75.00	790.49	1458+80.63	790.56	1458+86.26	790.63	1458+87.70	790.65



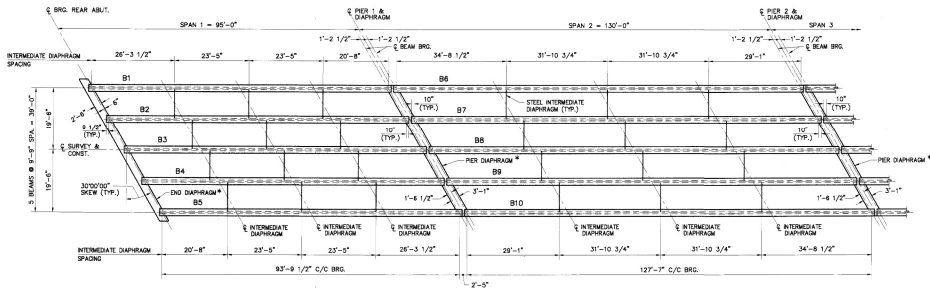
SCREED LINE LOCATIONS

NOTES

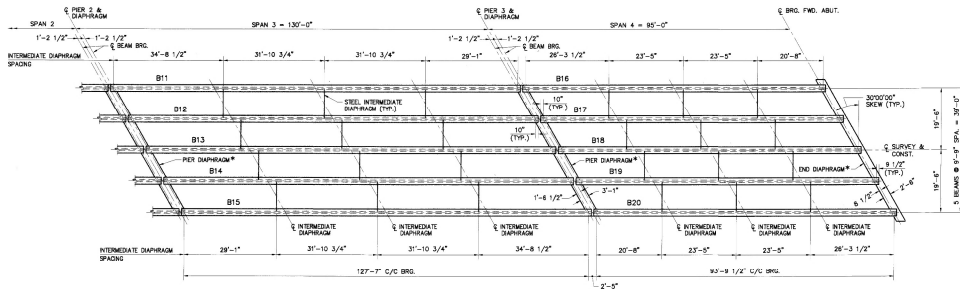
1. SCREED ELEVATIONS:

SCREED ELEVATIONS ARE FOR THE DECK SLAB SURFACE PRIOR TO CONCRETE PLACEMENT. ALLOWANCE HAS BEEN MADE FOR THE ANTICIPATED CALCULATED DEAD LOAD DEFLECTIONS.

L = SPAN LENGTH



FRAMING PLAN - SPANS 1 & 2

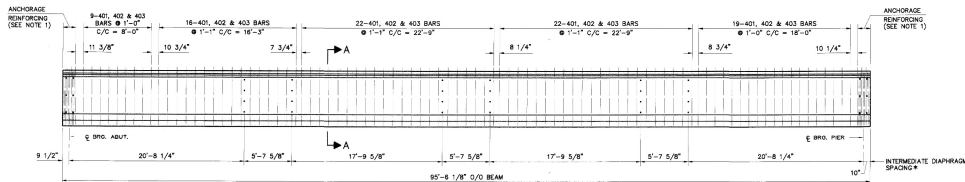


FRAMING PLAN - SPANS 3 & 4

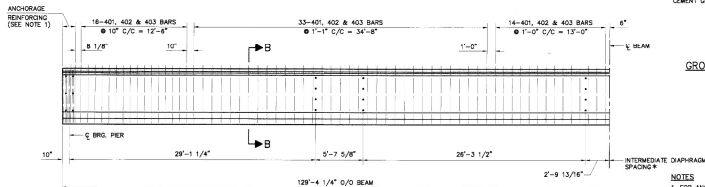
NOTE
ALL DIMENSIONS ARE MEASURED HORIZONTALLY.

LEGEND
* - FOR END AND PIER DIAPHRAGM DETAILS SEE SHT. 27/25.
B9 - INDICATES BEAM NUMBER





ELEVATION BEAMS B1 THRU B5
(SHOWN)
ELEVATION BEAMS B16 THRU B20
(OPPOSITE HAND)



ELEVATION BEAMS B6 THRU B15
(SYMMETRICAL ABOUT BEAM)



GROUTED RECESS FOR STRANDS CUT FLUSH AT BEAM ENDS

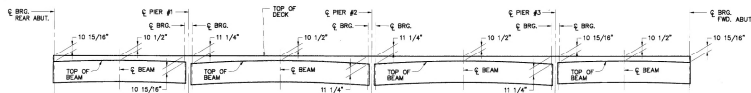
AS AN OPTION TO A GROUTED RECESS, PAINT ENDS OF STRANDS WITH POLYMER CEMENT GROUT OR ZINC RICH PRIMER.

RECESS CAN BE MADE FOR A SINGLE STRAND OR A GROUP OF STRANDS.

PAYMENT FOR TREATING PRESTRESS STRAND ENDS SHALL BE INCLUDED WITH ITEM 515, STRAIGHT STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 2, TYPE 4 MODIFIED (76').

NOTES

1. FOR ANCHORAGE REINFORCING DETAIL SEE SHEET **21/25**.
2. FOR SECTIONS A-A AND B-B SEE SHEET **21/25**.
3. THE TOPPING THICKNESSES SHOWN ARE NOMINAL DIMENSIONS. THE PAY QUANTITY FOR DECK CONCRETE SHALL BE BASED ON THE DESIGN SLAB THICKNESS AND THE AVERAGE OF THE NOMINAL HAUNCH DEPTHS AT MID-SPAN AND AT THE BEAM BEARINGS. THE HAUNCH DEPTHS ARE THE TOPPING THICKNESS MINUS THE DESIGN SLAB THICKNESS. DEVIATION FROM THIS AVERAGE MAY OCCUR BECAUSE THE TOP OF THE BEAM MAY NOT HAVE THE CAMBER ANTICIPATED BY DESIGN DUE TO CONTRACTOR'S TIME OF ERECTION, MIX DESIGN, AND OTHER FABRICATION FACTORS. ONCE ALL BEAMS ARE SET IN THEIR FINAL POSITION, THE CONTRACTOR SHALL RECORD THE TOP OF BEAM ELEVATIONS AT EACH BEARING AND AT MID-SPAN. THE ACTUAL CAMBER FOR EACH MEMBER SHALL BE THE MEASURED ELEVATION AT MID-SPAN MINUS THE AVERAGE ELEVATION AT EACH BEARING. THE ACTUAL HAUNCH DEPTH AT MID-SPAN SHALL BE THE NOMINAL DIMENSION PLUS OR MINUS THE DIFFERENCE BETWEEN THE ACTUAL AND ANTICIPATED CAMBER. THE 10 1/2" TOPPING THICKNESS AT MID SPAN INCLUDES A 2-INCH ALLOWANCE FOR VARIATIONS IN BEAM CAMBER.
4. DIMENSIONS ARE MEASURED ALONG BEAM.



TOPPING THICKNESS DIAGRAM
(SEE NOTE 3)

LEGEND
* = FACIA BEAMS WILL HAVE INTERMEDIATE DIAPHRAGMS ON INTERIOR SIDE ONLY. OMIT UNNECESSARY CAST HOLES.

ANTICIPATED CAMBER (AT TIME OF DECK PLACEMENT)	
BEAM NUMBER	CAMBER
B1 THRU B5	1"
B16 THRU B20	
B6 THRU B15	2 5/8"

ANCHORAGE REINFORCING DETAIL

SECTION C-C

SECTION A-A

SECTION B-B

SECTION D-D

SECTION E-E

EXTENDED STRAND DETAIL

STRAND DATA

STRANDS SHALL BE LOW-RELAXATION 1/2 INCH DIAMETER ($A_s = 0.167 \text{ IN}^2$) SEVEN WIRE UNCOATED STRANDS, ASTM A416, GRADE 270.

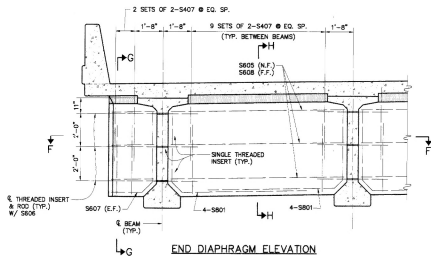
NUMBER OF STRANDS PER ROW			CONCRETE STRENGTH		401	402	403	501
RFAM MARK	ROW NUMBER	TOTAL STRANDS	f'ci	f'c	RARS REQ'D	RARS REQ'D	RARS REQ'D	RARS REQ'D
	①②③④⑤⑥⑦⑧⑨							
B1 TO B5 B16 TO B20	8 8 8 2 2 - - -	28	5000 psi	7500 psi	94	106	94	24
B6 TO B15	10 10 10 8 6 2 2 2 2	52	5000 psi	7500 psi	132	144	132	24

STRAND DEBONDING BEAMS B6 TO B15		
ROW NUMBER	NUMBER OF DEBONDED STRANDS	LENGTH FROM END TO DEBOND
①	2	14'-0"
①	2	7'-0"
②	4	7'-0"
③	2	7'-0"

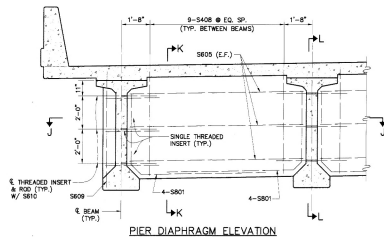
NOTE

1. SEE STANDARD DRAWING PSD-1-99 FOR ADDITIONAL DETAILS.
2. EXTEND STRANDS 2'-8" AND BEND UP. DEBONDED STRANDS SHALL NOT BE USED AS EXTENDED STRANDS.

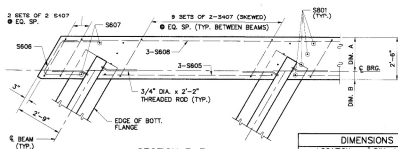
BENDING DIAGRAM
(ALL DIMENSIONS ARE OUT TO OUT)



END DIAPHRAGM ELEVATION

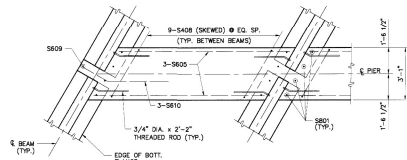


PIER DIAPHRAGM ELEVATION

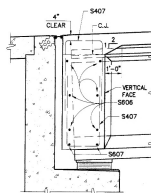


SECTION F-F
(SEE ABUTMENT DETAILS FOR FURTHER
END DIAPHRAGM DIMENSIONS)

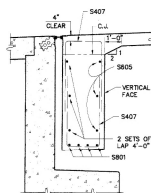
DIMENSIONS		
LOCATION	DIM. A	DIM. B
REAR ABUTMENT	2'-0"	6"
FORWARD ABUTMENT	1'-9 1/2"	8 1/2"



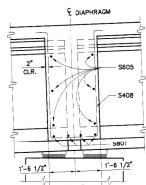
SECTION J-J



SECTION G-G



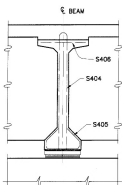
SECTION H-H



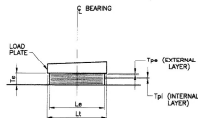
SECTION K-K



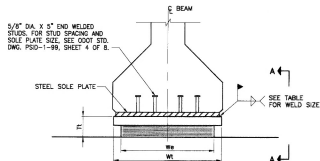
SECTION L-L
(TYP. BETWEEN BEAM ENDS)



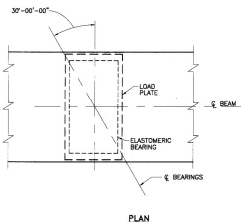
SECTION M-M



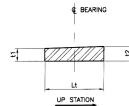
UP STATION
VIEW A-A



LAMINATED ELASTOMERIC BEARING



PLAN



STEEL LOAD PLATE DETAIL

NOTES:

LOAD PLATE

THE STEEL LOAD PLATE SHALL BE GALVANIZED AS PER 711.02.
 MATERIAL SHALL BE ASTM A709, YIELD STRENGTH = 36 KSI OR 50 KSI.

THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 300 F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

ELASTOMERIC BEARINGS

ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND MSHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, SECTION 18, BEARING DEVICES, DIVISION 3, CONSTRUCTION, ARTICLES 18.4.5.1 AND 18.5.6.2. BEARINGS SHALL BE GRADE 3, 50 DIAMETER ELASTOMER, AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS DEFINED IN ARTICLE 18.7.4.3 OF THE MSHTO DOCUMENT LISTED ABOVE. BEARINGS WERE DESIGNED UNDER SECTION 14.6.6 OF SECTION 14, BEARINGS, DIVISION 1, DESIGN. TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BEARINGS, EACH.

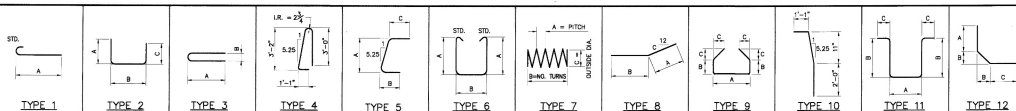
BEARING REPOSITIONING

IF DUEK LUNDELITE IS PLACED AT AN AMBIENT TEMPERATURE HIGHER THAN 80 F OR LOWER THAN 40 F AND THE BEARING SHEAR DEFLECTION EXCEEDS 1/8 OF THE BEARING HEIGHT AT 60 F $\pm$ 10 F, THE BEAMS OR ORDERS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60 F $\pm$ 10 F.

BASIS OF PAYMENT

THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS EITHER FIXED OR EXPANSION. PAYMENT WILL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, EACH, LAMINATED ELASTOMERIC BEARINGS.

BEARING LOCATION	BEARING TYPE	NO. REQ'D	DEAD LOAD KIPS	LIVE LOAD KIPS	TOTAL LOAD (DL+LL) KIPS	Lp (inches)	Wt (inches)	Tpi (inches)	No. OF TOP'S	Tpe (2 EA) (inches)	NUMBER OF INTERNAL LAMINATES (14 GAGE)	Te (inches)	STEEL LOAD PLATE				FILLET WELD SIZE (inches)	RETAINER ANGLE
													Wt (inches)	L1 (inches)	I1 (inches)	I2 (inches)		
REAR ABUTMENT	EXP.	5	148	78	226	15	24	0.50	5	0.35	6	3.65	25 1/2	16	1 1/2	2 1/8	5.46	5/16
PER 1 (SOUTH)	EXP.	5	163	82	245	13	20	0.37	4	0.27	5	2.39	25 1/2	14	1 1/2	2 1/8	4.77	5/16
PER 1 (NORTH)	EXP.	5	202	88	290	14	22	0.41	4	0.29	5	2.59	25 1/2	15	2 1/8	2 5/8	4.93	5/16
PER 2 (SOUTH)	FIXED	5	204	88	292	12 1/2	22	0.34	4	0.25	5	2.23	25 1/2	13 1/2	1 1/2	2 1/8	4.01	5/16
PER 2 (NORTH)	FIXED	5	204	88	292	12 1/2	22	0.34	4	0.25	5	2.23	25 1/2	13 1/2	2 5/8	3 3/16	5.14	5/16
PER 3 (SOUTH)	EXP.	5	202	88	290	14	22	0.41	4	0.29	5	2.59	25 1/2	15	1 1/2	2 1/8	4.40	5/16
PER 3 (NORTH)	EXP.	5	163	82	245	13	20	0.37	4	0.27	5	2.39	25 1/2	14	3 1/4	3 13/16	5.82	5/16
FORWARD ABUTMENT	EXP.	5	148	78	226	15	24	0.50	5	0.35	6	3.65	25 1/2	16	1 1/2	2 1/8	5.46	5/16

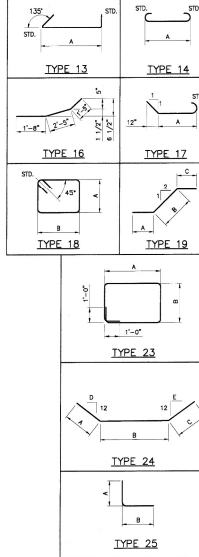


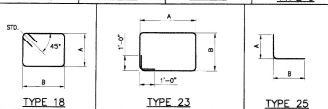
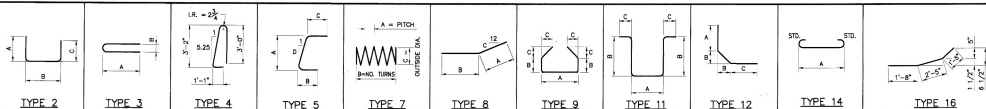
ABUTMENTS											
MARK	NUMBER		TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS				
	REAR	FORWARD					A	B	C	D	E
AS01	42	42	84	10'-4"	805	2	1'-8"	7'-3"	1'-8"		
AS02	42	42	84	9'-9"	591	25	5'-11"	1'-0"			
AS03	42	42	84	10'-2"	891	2	2'-2"	9'-3"	2'-2"		
AS04	4	4	8	26'-2"	235	8	1'-2"	27'-0"	21		
AS05	42	42	84	28'-3"	2,475	ST.					
AS06	2	2	4	26'-8"	111	ST.					
AS07	2	2	4	4'-2"	17	ST.					
AS08	37	37	74	10'-11"	943	18	2'-3"	3'-0"			
AS09	2	2	4	20'-3"	84	ST.					
AS10	2	2	4	19'-4"	81	ST.					
AS11	8	8	14	17'-7"	257	ST.					
AS12	4	4	8	11'-6"	96	24	1'-8"	8'-8"	1'-8"	8	24
AS13	1 SET OF 5		1 SET OF 5	17'-11" TO 25'-9"	114	ST.					1'-11 1/2"
AS14	1 SET OF 5		1 SET OF 5	13'-7" TO 31'-14"	91	ST.					1'-11"
AS15	1	1	2	25'-8"	34	ST.					
AS16	2	2	4	21'-3"	89	ST.					
AS17	1	1	2	21'-10"	46	ST.					
AS18	16	17	33	6'-3"	221	ST.					
AS19	9	9	18	16'-0"	300	2	6'-11"	0'-5"	8'-11"		
AS20	12	11	23	8'-3"	202	24	1'-8"	5'-1"	1'-8"	7	7
AS21	1	1	2	17'-8"	18	ST.					
AS22	1	1	2	13'-3"	14	ST.					
AS23	1 SET OF 4	1 SET OF 4	1 SET OF 4	17'-8" TO 25'-0"	90	ST.					2'-8"
AS24	1 SET OF 4	1 SET OF 4	1 SET OF 4	15'-2" TO 21'-2"	72	ST.					2'-8"
AS40	6	10	16	17'-3"	285	ST.					
AS41	1 SET OF 5		1 SET OF 5	17'-7" TO 25'-1"	111	ST.					1'-10 1/2"
AS42	1 SET OF 5		1 SET OF 5	13'-5" TO 20'-11"	90	ST.					1'-10 1/2"
AS43	1 SET OF 4		1 SET OF 4	17'-3" TO 25'-2"	88	ST.					2'-1 1/2"
AS44	1 SET OF 4		1 SET OF 4	12'-11" TO 20'-10"	70	ST.					2'-7 1/2"
AS45	1	1	2	20'-5"	43	ST.					
AS46	2	2	4	20'-11"	87	ST.					
AS47	1	1	2	25'-11"	50	ST.					
AS48	2	2	4	12'-11"	27	ST.					
AS51	15	15	30	7'-5"	232	4					
AS52	16	16	32	10'-0"	334	ST.					
AS53	6	6	12	5'-6"	99	16					
AS54	10	10	20	5'-0"	115	ST.					
AS55	6	6	12	9'-6"	119	ST.					
AS56	6	6	12	8'-1"	101	ST.					
TOTAL = 6,720 LB.											

ABUTMENTS										
MARK	NUMBER		TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS			
	REAR	FORWARD					A	B	C	INC.
AB01	42	42	84	15'-8"	1,877	2	5'-11"	7'-3"	2'-10"	
AB02	33	33	66	10'-0"	1,562	2	4'-3"	1'-3"	4'-3"	
AB03	51	51	102	13'-9"	2,107	2	6'-4"	1'-5"	6'-4"	
AB04	51	51	102	8'-8"	1,034	2	3'-1"	0'-11"	3'-1"	
AB05	1	1	2	6'-5"	10	ST.				
AB06	1	1	2	7'-6"	11	ST.				
AB07	1	1	2	10'-2"	15	ST.				
AB08	6	6	12	10'-9"	194	23	2'-11 1/2"	3'-8"	2'-11 1/2"	
AB09	4	4	8	4'-6"	54	25	3'-0"	1'-8"		
AB10	2	2	4	8'-8"	52	ST.				
AB11	12	12	24	18'-2"	655	2	8'-8"	1'-2"	8'-8"	
AB12	4	4	8	18'-4"	198	2	8'-8"	1'-2"	8'-10"	
AB13	1 SET OF 8	1 SET OF 8	1 SET OF 8	6'-5" TO 13'-6"	120	2	2'-10" TO 6'-4"	1'-2"	2'-10" TO 6'-4"	1'-0"
AB14	2 SETS OF 14	2 SETS OF 14	2 SETS OF 14	6'-11" TO 7'-4 1/2"	302	ST.				0'-1/2"
AB15	1	1	2	7'-8"	11	ST.				
AB16	1	1	2	6'-4"	10	ST.				
AB17	1	1	2	7'-2"	11	ST.				
AB18	1	1	2	9'-5"	14	ST.				
AB19	2	2	4	7'-9"	47	ST.				
AB20	12	12	24	16'-4"	589	2	7'-8"	1'-2"	7'-8"	
AB21	4	4	8	14'-6"	174	2	7'-8"	1'-2"	5'-11"	
AB22	1 SET OF 8	1 SET OF 8	1 SET OF 8	6'-4" TO 11'-5"	115	2	2'-9" TO 5'-11 1/2"	1'-2"	2'-9" TO 5'-11 1/2"	11"
AB23	2 SETS OF 14	2 SETS OF 14	2 SETS OF 14	7'-7" TO 8'-1"	329	ST.				0'-1/2"
AB24	1	1	2	7'-8"	11	ST.				
AB40	1 SET OF 8	1 SET OF 8	1 SET OF 8	6'-2" TO 13'-6"	118	2	2'-8" TO 6'-4"	1'-2"	2'-8" TO 6'-4"	1'-0 1/2"
AB41	2 SETS OF 13	2 SETS OF 13	2 SETS OF 13	6'-10" TO 7'-4"	277	ST.				0'-1/2"
AB42	2 SETS OF 13	2 SETS OF 13	2 SETS OF 13	7'-9" TO 8'-3"	312	ST.				0'-1/2"
AB43	1 SET OF 8	1 SET OF 8	1 SET OF 8	6'-4" TO 12'-6"	114	2	2'-9" TO 5'-11"	1'-2"	2'-9" TO 5'-11"	10 7/8"
AB51	15	15	30	3'-11"	176	10				
AB52	80	80	160	5'-4"	961	ST.				
AB53	15	15	30	2'-11"	131	ST.				
AB54	1	1	2	9'-8"	29	ST.				
AB55	1	1	2	8'-1"	24	ST.				
AB01	2	2	4	30'-3"	323	8	3'-2"	27'-1"	21	
AB02	16	16	32	30'-9"	2,827	ST.				
AB03	30	30	60	4'-8"	748	17	2'-9"			
AB04	6	6	12	20'-2"	646	ST.				
AB05	6	6	12	19'-4"	619	ST.				
AB01	10	10	20	4'-8"	300	28	3'-0"	1'-8"		
AB02	4	4	8	5'-3"	143	ST.				
TOTAL = 17,178 LB.										

NOTE:

1. FOR REINFORCING NOTES, SEE SHEET 25/26.





SUPERSTRUCTURE						DIMENSIONS			
MARK	TOTAL	LENGTH	WEIGHT	TYPE					
					A	B	C	D	INC.
S454	15	14'-0"	140	3	6'-10"	4'-1/2"			
S465	15	4'-10 1/2"	48	3	1'-11 1/2"	6-1/4"	8-1/2"		
S456	15	2'-6"	27	3					
S457	160	10'-10"	1,158	2	4'-3"	2'-8"	4'-3"		
S408	108	18'-6"	1,190	11	3'-2"	6'-2"	0'-8"		
S501	4 SERIES OF 6	3'-0" TO 4'-10 1/2"	99	ST.					4 1/2"
S502	4 SERIES OF 48	3'-0" TO 36'-1"	4,522	ST.					8 3/8"
S503	2 SERIES OF 7	18'-6" TO 22'-10"	302	ST.					8 3/8"
S504	2 SERIES OF 7	13'-5" TO 17'-8"	228	ST.					8 3/8"
S505	2074	24'-11"	53,899	ST.					
S506	3742	30'-0"	117,067	ST.					
S507	1026	19'-0"	21,307	ST.					
S508	523	25'-0"	13,637	ST.					
S509	910	7'-3"	7,036	4					
S601	32	30'-0"	1,442	ST.					
S602	910	3'-6"	4,794	5	1'-8"	1'-1"	1'-1"	5.25	
S603	910	3'-6"	3,303	28	2'-1"	1'-8"			
S606	96	10'-3"	1,479	ST.					
S608	12	6'-8"	120	5	2'-1"	2'-3"			
S607	8	6'-8"	60	5	4'-2"	0'-3"	7'-3"	1.75	
S608	12	27'-8"	491	ST.			1'-10"		
S609	6	6'-9"	66	ST.					
S610	18	5'-2"	140	8	1'-8"	3'-8"	7		
S611	2	40'-0"	120	ST.					
S601	160	12'-3"	5233	12	4'-2"	0'-2"	7'-4"		
TOTAL = 538,276 LBS.									

[illegible]

NOTES:

BAR SIZE: THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, PBM1 IS A NO. 8 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

ALL BARS TO BE EPOXY COATED.

REINFORCING BAR SAMPLES: REFER TO C.M.S. SECTION 700.709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING FOR EACH BRIDGE. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURES BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH THE PROJECT PLANS.

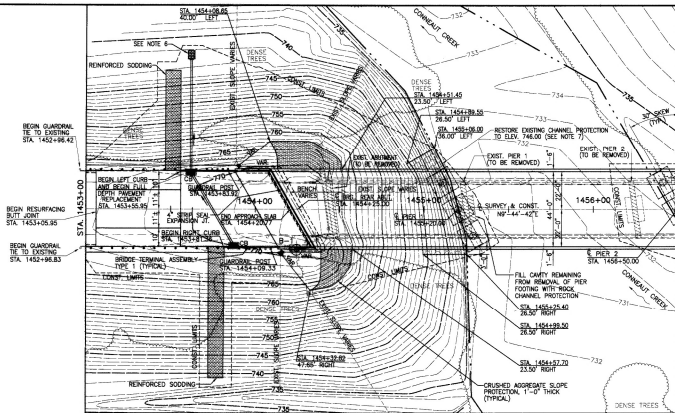
SPRAL REINFORCING BARS

COLUMN LENGTH: THE LENGTH SHOWN IN THE STEEL LIST FOR THE SPIRAL BARS IS THE DISTANCE FROM THE TOP OF THE FOOTING TO THE BOTTOM LAYER OF BARS IN THE RIER CAP.

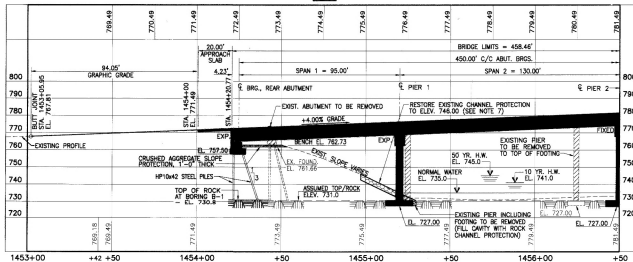
THE NUMBER OF TURNS SHOWN IS THE LENGTH EXPRESSED BY THE PITCH, PLUS 3 TURNS (TOTAL NUMBER OF CLOSED COILS), EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS MAY HAVE DEFORMATION AND SHALL IN OTHER RESPECTS CONFORM TO ITEM 509. 1 1/2 CLOSED COIL SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. FOR STEEL CHANNEL, TEE OR ANGLE SPACERS, WEIGHING APPROXIMATELY 1.01 LB. PER LIN. FT. OF SPACERS, SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. THEY SHALL BE EQUALLY SPACED ALONG THE PERIMPHY OF THE COIL. INCLUDE SPACERS WITH ITEM 511 FOR PAYMENT.

SPACERS:

CONCRETE SPACERS OR OTHER APPROVED NONCORROSIVE SPACING DEVICES SHALL BE USED AT SUFFICIENT INTERVALS (NEAR THE BOTTOM AND AT INTERVALS NOT EXCEEDING 10 FEET) TO INSURE CONCENTRIC SPACING FOR THE ENTIRE CAGE LENGTH. SPACERS SHALL BE CONSTRUCTED OF APPROVED MATERIAL EQUAL IN QUALITY AND DURABILITY TO THE CONCRETE SPECIFIED FOR THE SHAFT. THE SPACERS SHALL HAVE ADEQUATE DIMENSIONS TO ENSURE A MINIMUM 3 INCH CLEAR SPACE BETWEEN THE OUTSIDE OF THE REINFORCING CAGE AND THE DESIGN CONTOUR OF THE DRILLED SHAFT OR COLUMN. CYCLICAL COMPRESSION TESTS (800) FOR SUPPORT SHALL BE PROVIDED TO ENSURE THAT THE BOTTOM OF THE CAGE IS MAINTAINED AT THE PROPER DISTANCE ABOVE THE BASE.



PLAN



PROFILE AT C CONSTRUCTION & SURVEY



BENCHMARK NO. 1

RAILROAD SPIKE 0.50' UP N.E. SIDE 15' LOCUST TREE
STA. 1459+94, 63' LEFT - ELEV. 804.00

BENCHMARK NO. 2

RAILROAD SPIKE 1' UP EAST SIDE 10" LOCUST TREE
STA. 1452+35.38' LEFT - ELEV. 760.53

NOTES:

- 1) EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS-SECTIONS.
- 2) EXISTING SUBSTRUCTURE ELEVATIONS SHOWN ARE FROM ORIGINAL DESIGN DRAWINGS AND ARE 3.
- 3) TYPE I BRIDGE TERMINAL ASSEMBLIES SHALL BE USED TO CONNECT GUARDRAIL RUNS TO BRIDGE PARAPETS.
- 4) THE ESTIMATED AVERAGE PILE LENGTH FOR THE HP10x12
ABUTMENT PILES IS 30'-0" AT THE REAR ABUTMENT
AND 41'-0" AT THE FORWARD ABUTMENT.
- 5) THE ESTIMATED AVERAGE PILE LENGTH FOR THE HP12x15
PIER PILES IS 20'-0" AT PIER 3.
- 6) FOR ROADWAY DRAINAGE DETAILS, REFER TO ROADWAY SHEET 18-257.
- 7) RESTORE EXISTING CHANNEL PROTECTION WITH ITEM 601 ROCK CHANNEL PROTECTION, TYPE A, 3'-0" THICK, WITH FABRIC FILTER.

LEGEND:

-  - INDICATES STRUCTURES TO BE REMOVED
 - INDICATES ASSUMED TOP OF ROCK
 (BASED ON ORIGINAL DESIGN DRAWINGS)
 - INDICATES BORING LOCATION

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE

SPANS: 80'-0", 100'-0", 100'-0", 80'-0" C/C BRGS.

ROADWAY: 30'-0" AND 2' - 3" SAFETY CURBS

DESIGN LOADING: CF 2000 (51)

SKREW: 08°-00'-00" RIGHT FORWARD

WEARING SURFACE: 1" MONOLITHIC CONCRETE
w/ ASPHALT OVERLAY

ALIGNMENT: TANGENT

APPROACH SLABS: 25'-0"

YEAR BLUE T: 1959

CONDITION: GOOD

CONDITION: STRUCTURALLY DEFICIENT
DISPOSITION: SUITABLE FOR USE, BUT

DISPOSITION: SUPERSTRUCTURE, PIERS AND ABUTMENTS TO BE REPLACED

STRUCTURE FILE NUMBER: 0400939

PROPOSED STRUCTURE

PROPOSED WORK: NEW SUPERSTRUCTURE ON NEW PIERS
AND NEW ABUTMENTS

TYPE: PRESTRESSED CONCRETE I-BEAMS WITH REINFORCED CONCRETE DECK, CAP AND COLUMN PIERS, AND STUB ABUTMENTS

SPANS: 93'-9 1/2", 127'-7", 127'-7", 93'-9 1/2" C/C BRGS.

ROADWAY: 44'-0" TOE/TOE PARAPETS

DESIGN LOADING: HS25 AND THE ALTERNATE MILITARY LOADING AND A 60 PSF FUTURE WEARING SURFACE

SKW: 30°-00'-00" RIGHT FORWARD

WEARING SURFACE: 1 INCH MONOLITHIC CONCRETE

ALIGNMENT: TANGENT
APPROACH SLABS: 20'-0" LONG (AS-1-B1)

CROWN: 0.016 FT./FT.

SUPERELEVATION: NONE

AVERAGE DAILY TRUCK TRAFFIC: 288 (2023)

COORDINATES: LAT. N41°53'51", LONG. W80°34'16"

ms consultants, inc.

ASHTABULA COUNTY
STA. 1454+20.77

SITE PLAN
E. NO. ATR-7-275

4-7-27.55

173

33

57

COMPUTED BY : A.C. DATE : 06-02
CHECKED BY : W.E.R. DATE : 06-02

ESTIMATED QUANTITIES									
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIER	SUPER.	GENERAL	REF. AS PER PLAN SHEET NO.
202	11003	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	4
503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING				LUMP	
503	21101	482	CU. YD.	UNCLASSIFIED EXCAVATION, AS PER PLAN	382	109			4
503	21104	278	CU. YD.	UNCLASSIFIED EXCAVATION, INCLUDING ROCK		278			
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00100	1,650	FOOT	STEEL PILES HP 10 x 42, FURNISHED	1,650				
507	00150	1,650	FOOT	STEEL PILES HP 10 x 42, DRIVEN	1,650				
507	00200	520	FOOT	STEEL PILES HP 12 x 53, FURNISHED		520			
507	00250	520	FOOT	STEEL PILES HP 12 x 53, DRIVEN		520			
509	10000	387,517	LB	EPOXY COATED REINFORCING STEEL	26,898	122,343	236,278		
898	02000	609	CU YD	OC/GA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (DECK)				609	
898	02000	167	CU YD	OC/GA CONCRETE, CLASS OSC2, SUPERSTRUCTURE (PARAPET)	12			165	
898	02000	609	CU YD	OC/GA CONCRETE, CLASS OSC2, SUPERSTRUCTURE				609	
898	20100	279	CU YD	OC/GA CONCRETE, CLASS OSC4, SUBSTRUCTURE (PIER ABOVE FOOTING)		279			
898	20100	313	CU YD	OC/GA CONCRETE, CLASS OSC4, SUBSTRUCTURE (ABUTMENT, INCLUDING FOOTING)	313				
898	20300	168	CU YD	OC/GA CONCRETE, CLASS OSC4, SUBSTRUCTURE (FOOTING)		168			
515	14080	20	EACH	STRAIGHT STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 2, TYPE 4 MOD. (78")			20		
515	20000	48	EACH	INTERMEDIATE DIAPHRAGMS			48		
516	11210	106	FOOT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			106		
516	13600	90	SQ. FT.	1 INCH PREFORMED EXPANSION JOINT FILLER			90		
516	44100	5	EACH	ELASTOMERIC BEARING (13 x 20 x 2.39) WITH INTERNAL LAMINATES (NEOPRENE) AND LOAD PLATE (14 x 25 1/2 x 2 1/16)		5			
516	44100	5	EACH	ELASTOMERIC BEARING (14 x 22 x 2.59) WITH INTERNAL LAMINATES (NEOPRENE) AND LOAD PLATE (15 x 25 1/2 x 2 1/16)		5			
516	44100	5	EACH	ELASTOMERIC BEARING (12 1/2 x 22 x 2.23) WITH INTERNAL LAMINATES (NEOPRENE) AND LOAD PLATE (13 1/2 x 25 1/2 x 2 1/16)		5			
516	44100	5	EACH	ELASTOMERIC BEARING (12 1/2 x 22 x 2.23) WITH INTERNAL LAMINATES (NEOPRENE) AND LOAD PLATE (13 1/2 x 25 1/2 x 2 1/16)		5			
516	44100	5	EACH	ELASTOMERIC BEARING (14 x 22 x 2.59) WITH INTERNAL LAMINATES (NEOPRENE) AND LOAD PLATE (15 x 25 1/2 x 2 1/16)		5			
516	44100	5	EACH	ELASTOMERIC BEARING (13 x 20 x 2.39) WITH INTERNAL LAMINATES (NEOPRENE) AND LOAD PLATE (14 x 25 1/2 x 2 1/16)		5			
516	44200	10	EACH	ELASTOMERIC BEARING (15 x 24 x 3.45) WITH INTERNAL LAMINATES (NEOPRENE) AND LOAD PLATE (16 x 25 1/2 x 2 1/16)	10				
518	21200	129	CU. YD.	POROUS BACKFILL WITH FILTER FABRIC	129				
518	40000	150	FOOT	6" PERFORATED CORRUGATED PLASTIC PIPE	150				
518	40011	161	FOOT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	161				9
528	15000	196	SQ. YD.	REINFORCED CONCRETE APPROACH SLABS (T=13")			196		
864	10100	3180	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) *	255	820	2305		

* CONCRETE SEALER COLOR 17778 (LIGHT NEUTRAL)

GENERAL NOTES

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:

AS-1-81 REVISED 01/19/02 PSB-1-99 REVISED 01/18/03
EXJ-6-95 REVISED 01/19/02 PSB-1-99 REVISED 01/18/03

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

832 DATED 02/12/03 854 DATED 07/11/00
833 DATED 02/12/03 898 DATED 01/17/03
848 DATED 04/18/02 954 DATED 09/09/97

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996 INCLUDING THE INTERIM SPECIFICATIONS THRU 2000 AND THE O.D.O.T. BRIDGE DESIGN MANUAL.

DESIGN LOADINGS:

H225 AND THE ALTERNATE MILITARY LOADING. FUTURE WEARING SURFACE (FWS) OF 80 PSI.

DESIGN STRESSES:

HIGH PERFORMANCE CONCRETE - COMPRESSIVE STRENGTH 4,500 PSI (SUPERSTRUCTURE)
CONCRETE CLASS C - COMPRESSIVE STRENGTH 4,000 PSI (SUBSTRUCTURE)
REINFORCING STEEL - ASTM A615, A616 OR A617
GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI
SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A618 OR A615
STRUCTURAL STEEL - ASTM A36/A709 GRADE 36-YIELD STRENGTH 36,000 PSI OR
ASTM A572/A709 GRADE 50-YIELD STRENGTH 50,000 PSI

PRESTRESSED CONCRETE MEMBERS:

REINFORCING STEEL - ASTM A615, A616 OR A617 GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI
MILD REINFORCING STEEL FOR THE CONCRETE PRESTRESSED BEAMS GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI
CONCRETE FOR PRESTRESSED BEAMS
COMPRESSIVE STRENGTH (F_{cu}) 7,500 PSI
COMPRESSIVE STRENGTH (RELEASE) 5,000 PSI
UNIT STRESS - 3,000 PSI COMPRESSION
520 PSI TENSION

PRESTRESSING STRAND ASTM A416

1/2" DIAMETER AREA = .187 IN²
F_{pu} = 270,000 PSI
INITIAL STRESS = 0.75 F_{pu} (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
2 1/2" CONCRETE COVER

MONOLITHIC WEARING SURFACE:

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, THE EXISTING STRUCTURE SHALL BE REMOVED UPON RECEIVING PERMISSION FROM THE ENGINEER. THE ABUTMENTS SHALL BE REMOVED IN THEIR ENTIRETY AND THE PILES SHALL BE REMOVED AS INDICATED ON THE PLANS. THE PILES OF THE FORWARD ABUTMENT SHALL BE SHOWN TO EXISTATION 767.00 + 100 TO 3 FEET BELOW FINISHED GRADE, WHICHEVER IS LOWER.

PROTECTION OF TRAFFIC:

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT HIS PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION.

PAYMENT:

THIS WORK SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN (ASBESTOS NOTIFICATION)

AN ASBESTOS SURVEY OF BRIDGE NO. A7B-7-2755 OVER CONNEAUT CREEK SCHEDULED FOR REPLACEMENT WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT THERE ARE NO ASBESTOS CONTAINING MATERIALS PRESENT ON THIS STRUCTURE.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (DEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO:

ASHTABULA COUNTY
DEPA-NEDD-DAPC
CONCRETE MAINTENANCE
2110 E. AUSTRIA ROAD
TINNSBURG, OHIO 44087
PH: (330) 361-1255 (DIRECT LINE)
FAX: (330) 487-0789

AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF THE DEMOLITION OF THE BRIDGE, THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER.

INFORMATION REQUIRED ON THE FORM WILL INCLUDE:

- 1) THE CONTRACTOR'S NAME AND ADDRESS
- 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL OR RENOVATION
- 3) A DESCRIPTION OF THE PLANNED DEMOLITION OR RENOVATION AND THE METHOD(S) TO BE USED

A COPY OF THE DEPA FORM IS AVAILABLE FOR INSPECTION AT THE ODOT DISTRICT 4 OFFICE, 709 CANTONWOOD STREET, RAVENNA, OHIO 44266.

BASE FOR PAYMENT:

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE DEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 - STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

DIMENSIONS:

PLAN DIMENSIONS GIVEN ARE MEASURED HORIZONTAL AND AT 60° F UNLESS OTHERWISE NOTED.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE 203 GRANULAR MATERIAL PLACED IN 6 INCH LIFTS.

PILES DRIVEN TO BEDROCK

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES WITH A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR REFUSAL SHALL BE CONSIDERED AS OBTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS. THE CONTRACTOR IS RESPONSIBLE FOR SELECTING THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL. THE ULTIMATE BEARING VALUE IS 98 TONS PER PILE FOR THE HP10X42 ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 138 TONS PER PILE FOR THE HP12X53 PIER PILES.

REAR ABUTMENT PILES:

22 PILES 30 FEET LONG, ESTIMATED LENGTH 22 PILES 45 FEET LONG, ESTIMATED LENGTH 22 PILES OF ORDER LENGTH 30 FEET LONG 22 PILES OF ORDER LENGTH 45 FEET LONG

PIER PILES

26 PILES 20 FEET LONG, ESTIMATED LENGTH 26 PILES OF ORDER LENGTH 20 FEET LONG

FOUNDATION BEARING PRESSURE:

PIER FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM BEARING PRESSURE OF 6.1 TONS PER SQUARE FOOT. THE ALLOWABLE BEARING PRESSURE IS 10 TONS PER SQ. FOOT.

FOOTINGS:

PIER FOOTINGS SHALL BE PLACED IN BEDROCK AT THE ELEVATION SHOWN.

CONCRETE PARAPETS:

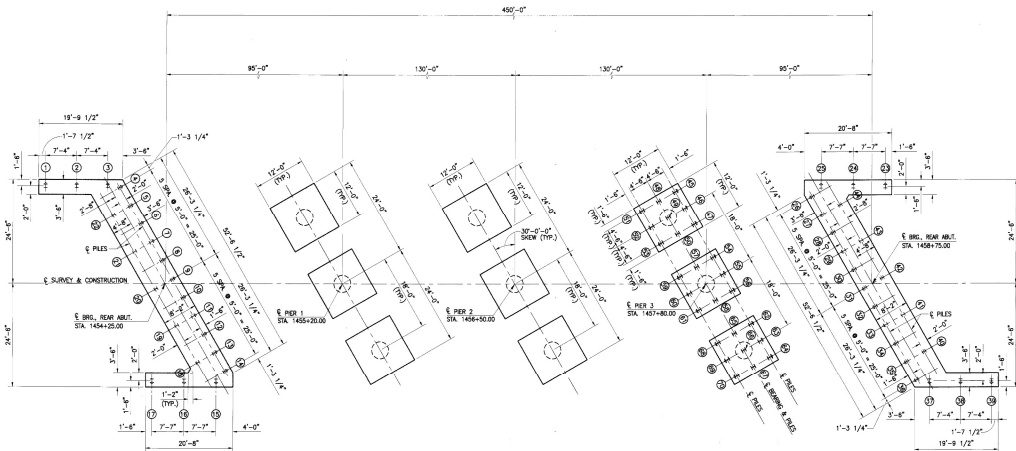
AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 1 1/4" DEEP CONTROL JOINTS SHALL BE SAWS INTO THE PERIMETER OF THE CONCRETE PARAPET. THE SAWCUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE PARAPET, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. THE SAWCUTS SHALL BE PLACED AT A MINIMUM OF 6 FEET AND A MAXIMUM OF 10 FEET CENTERS. THE USE OF AN EDGE GUIDE, FENCE, OR JOG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE. A MINIMUM WIDTH OF 1/4" OF THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED TO A MINIMUM DEPTH OF 1 INCH WITH A CAULKING MATERIAL. CONFORMING TO FEDERAL SPECIFICATION, TT-002276. THE BOTTOM 1/2 INCH OF THE INSIDE AND OUTSIDE FACE SHOULD BE LEFT UNSEALED TO ALLOW WATER TO ESCAPE.

INTERMEDIATE DIAPHRAGMS:

INTERMEDIATE DIAPHRAGMS SHALL BE STRUCTURAL STEEL AS SHOWN IN THE PLANS. THE CONTRACTOR'S OPTION TO USE CONCRETE INTERMEDIATE DIAPHRAGMS IN LIEU OF STRUCTURAL STEEL DIAPHRAGMS WILL NOT BE PERMITTED. THE PLACEMENT OF DECK CONCRETE SHALL NOT PROCEED UNTIL ALL INTERMEDIATE DIAPHRAGMS HAVE BEEN PROPERLY INSTALLED.

CONCRETE DECK AND PIER DIAPHRAGMS:

CAST-IN-PLACE CONCRETE DECK AND PIER DIAPHRAGMS SHALL NOT BE CAST UNTIL THE PRESTRESSED CONCRETE I-OORDERS HAVE ASED A MINIMUM OF 80 DAYS AFTER STRAND RELEASE.



NOTES

1. ALL ABUTMENT PILES SHALL BE HP10X42.
2. ALL PILES AT PIER 3 SHALL BE HP12X53.
3. PILES ① THRU ③ AND ⑤ THRU ⑦ SHALL BE CUT OFF TO PROVIDE A 2'-0" EMBEDMENT INTO THE FOOTING. ALL OTHER PILES SHALL BE CUT OFF TO PROVIDE A 1'-0" EMBEDMENT.

FOUNDATION LAYOUT PLAN

LEGEND

- ① INDICATES PILE NUMBER
 ⊕ INDICATES DIRECTION OF BATTER
 ABUTMENTS: 1:3
 PIER 3: 1:4

FOUNDATION LAYOUT PLAN

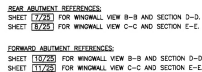
BRIDGE NO. ATB-7-2755
 OVER CORNELL CREEK

ATB-7-2755

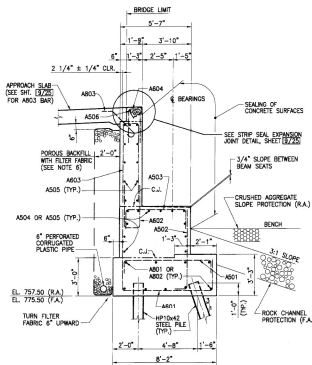
5/25

37

57



LEGEND:
 ③ - REAR ABUTMENT BEAM NO.
 ⑱ - FORWARD ABUTMENT BEAM NO.



SECTION A-A
 REAR ABUTMENT (AS SHOWN)
 FORWARD ABUTMENT (AS SHOWN & NOTED)

ELEVATION	ARBITMENT	
	REAR	FORWARD
A	771.53	790.75
B	770.67	791.61
C	772.39	790.59
D	771.53	791.45
E	772.54	789.73
F	771.68	790.59

ABUTMENT PARAPET SHALL BE
HP CONCRETE AND SHALL BE
INCLUDED WITH ITEM 511,
CLASS HP CONCRETE CURB

STRAIGHT FACE BRIDGE RAILING (TYP.)
(42" DEFLECTOR PARAPET TYPE)
SEE O.D.O.T. STD. DWG. SBR-1-99

ABBREVIATIONS:
C.J. - CONSTRUCTION JOINT
E.F. - EACH FACE
F.F. - FAR FACE
N.F. - NEAR FACE
F.A. - FORWARD ABUTMENT
R.A. - REAR ABUTMENT

1) EXPANSION JOINT ARMOR IS NOT SHOWN IN THE PLAN AND ELEVATION FOR CLARITY.

2) REFER TO THE FOUNDATION LAYOUT PLAN ON SHEET [5/25] FOR PILE

3) BEAM SEAT ELEVATIONS GIVEN ARE LOCATED ON THE CENTERLINE OF BEARING

4) ROADWAY ELEVATIONS A, C AND E ARE LOCATED AT THE FACE OF THE ABUTMENT PIER.

ABUTMENT ELEVATION
(REAR ABUTMENT SHOWN)

(FORWARD) ABUTMENT AS NOTED

5) AIRCRAFT SEAT ELEVATIONS HAVE BEEN ADJUSTED UPWARD 3/16"

3) ADJUSTMENT SEA ELEVATIONS HAVE BEEN ADJUSTED UPWARD 3/10 TO COMPENSATE FOR THE VERTICAL DEFORMATION OF THE BEARINGS.

6) POROUS BACKFILL WITH FILTER FABRIC SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE AND LATERALLY TO THE ENDS OF THE WIDENINGS.

1) EXPANSION JOINT ARMOR IS NOT SHOWN IN THE PLAN AND ELEVATION FOR CLARITY.

2) REFER TO THE FOUNDATION LAYOUT PLAN ON SHEET [5/25] FOR PILE

3) BEAM SEAT ELEVATIONS GIVEN ARE LOCATED ON THE CENTERLINE OF BEARING

4) ROADWAY ELEVATIONS A, C AND E ARE LOCATED AT THE FACE OF THE ABUTMENT PIER.