

BRIDGE GENERAL NOTES

REFERENCE:

SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:
 AS-1-81 REVISED 09-15-94
 AS-2-98 DATED 12-29-98
 PD-10-99 REVISED 10-20-90
 A-1-89M REVISED 3-20-95
 SDC-1-96M DATED 02-12-97
 VPP-1-90M REVISED 3-20-95

SUPPLEMENTAL SPECIFICATIONS:

842 DATED 01-06-99
 846 DATED 09-09-97
 863 DATED 10-12-99
 865 DATED 03-23-90
 863 DATED 10-12-99
 899 DATED 10-21-98
 905 DATED 04-01-98
 907 DATED 10-21-98
 954 DATED 09-29-97

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 1999, AND THE 1995 O.D.O.T. BRIDGE DESIGN MANUAL.

DESIGN LOADING:

HS20-44 AND THE ALTERNATE MILITARY LOADING.
 FUTURE WEARING SURFACE (FWS) OF 60 P.S.F.

DESIGN DATA:

CONCRETE CLASS S -
 COMPRESSIVE STRENGTH 4500 P.S.I. (SUPERSTRUCTURE)

CONCRETE CLASS C -
 COMPRESSIVE STRENGTH 4000 P.S.I. (SUBSTRUCTURE)

REINFORCEMENT STEEL:

ASTM A615, B616 OR A617
 GRADE 60 MINIMUM YIELD STRENGTH 60,000 P.S.I.
 SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A618 OR A615.
 STRUCTURAL STEEL
 ASTM A36 - YIELD STRENGTH 36,000 P.S.I. (INTERMEDIATE DIAPHRAGMS)
 ASTM A572 - YIELD STRENGTH 50,000 P.S.I. (LOAD PLATES AT BEARINGS)

PRESTRESSED CONCRETE
 COMPRESSIVE STRENGTH - 7000 P.S.I. (FINAL)
 COMPRESSIVE STRENGTH - 5000 P.S.I. (RELEASE)
 UNIT STRESS 2800 P.S.I. (COMPRESSION), 500 P.S.I. (TENSION)

PRESTRESSING STRAND -
 ASTM A416 GRADE 270, F_u = 270,000 P.S.I.
 1/2" DIA. SEVEN-WIRE UNCOATED, LOW-RELAXATION STRANDS
 NOMINAL STRAND AREA - 0.167 SQ. IN.
 INITIAL STRESS - 15.75 P.S.I.

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.

REMOVAL OF EXISTING STRUCTURE:

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, THE EXISTING STRUCTURE SHALL BE REMOVED UPON RECEIVING PERMISSION FROM THE ENGINEER.

PROTECTION OF TRAFFIC:

FOR PROTECTION OF TRAFFIC DETAILS, REFER TO THE M.O.T. PLANS.

CONSTRUCTION CONSTRAINTS FOR ABUTMENTS IN SELECT GRANULAR EMBANKMENT:

PRIOR TO CONSTRUCTING THE ABUTMENT FOOTINGS, THE SELECT GRANULAR EMBANKMENT MATERIAL AS SPECIFIED BY THE REINFORCED EARTH COMPANY AND USED AS BACKFILL AT THE ABUTMENTS SHALL BE PLACED AND COMPACTED UP TO THE LEVEL OF THE ABUTMENT FOOTINGS.

AFTER THE FOOTINGS AND BREAST WALLS HAVE BEEN COMPLETED, BUT PRIOR TO SETTING THE BEAMS OR THE ABUTMENTS AND CONSTRUCTING THE END DIAPHRAGMS, THE FOLLOWING SHALL OCCUR:

THE SELECT GRANULAR EMBANKMENT MATERIAL SHALL BE PLACED AND COMPACTED A MINIMUM OF ONE FOOT ABOVE THE ELEVATION OF THE ABUTMENT ANCHORAGE STRIPS.

20% MATERIAL SHALL THEN BE PLACED AND COMPACTED UP TO THE BEAM SEAT ELEVATION, AND FROM THE BEAM SEAT ELEVATION UP TO THE LEVEL OF THE SUBGRADE AT A 1:1 SLOPE.

ITEM 501 - UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503, EXCEPT THE REQUIRED BACKFILL MATERIAL BEYOND THE LIMITS OF THE SELECT GRANULAR EMBANKMENT MATERIAL BEHIND THE ABUTMENTS SHALL BE 20% MATERIAL PLACED IN 6" LIFTS.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE):

THE ULTIMATE BEARING VALUE IS 166 TONS PER PILE FOR THE REAR ABUTMENT PILES.

THE ULTIMATE BEARING VALUE IS 159 TONS PER PILE FOR THE FORWARD ABUTMENT PILES.

THE ULTIMATE BEARING VALUE IS 75 TONS PER PILE FOR THE PIER PILES.

PILES SHALL BE DRIVEN IN ACCORDANCE WITH 507.04 OF THE CWS. THE FINAL PENETRATION ELEVATION AND/OR BEARING CAPACITY SHALL BE APPROVED IN ACCORDANCE WITH 507.04 PRIOR TO CONSTRUCTING THE FOOTINGS.

REAR ABUTMENT PILES:

32 1/4" C.I.P. CONCRETE PILES, 65 FEET LONG, ESTIMATED LENGTH
 16 SPLICES
 32 1/4" C.I.P. CONCRETE PILES OF ORDER LENGTH TO FEET LONG

END ABUTMENT PILES:

32 1/4" C.I.P. CONCRETE PILES, 75 FEET LONG, ESTIMATED LENGTH
 16 SPLICES
 32 1/4" C.I.P. CONCRETE PILES OF ORDER LENGTH 80 FEET LONG

PIER PILES:

42 1/4" C.I.P. CONCRETE PILES, 50 FEET LONG, ESTIMATED LENGTH
 42 1/4" C.I.P. CONCRETE PILES OF ORDER LENGTH 55 FEET LONG
 21 SPLICES

ITEM 507-ABUTMENT PILES, AS PER PLAN:

PILE WALL THICKNESS: THE RESPONSIBILITY OF CHOOSING AND PROVIDING A SATISFACTORY PILE WALL THICKNESS FOR THIS PROJECT SHALL BE BORNE BY THE CONTRACTOR EXCEPT THAT THE PILE WALL THICKNESS SHALL NOT BE LESS THAN 0.310 INCHES FOR THE REAR ABUTMENT PILES AND 0.297 INCHES FOR THE FORWARD ABUTMENT PILES.

ITEM 507-ABUTMENT PILES, AS PER PLAN:

PILE HAMMER: THE PILE HAMMER USED TO INSTALL THE PILES SHALL HAVE A STATE'S ENERGY RATING OF NOT LESS THAN 20,000 FOOT-POUNDS. THIS REQUIREMENT DOES NOT RELIEVE THE CONTRACTOR FROM 100.05 WHICH STATES THAT THE CONTRACTOR IS TO PROVIDE SUFFICIENT EQUIPMENT FOR PROSECUTING THE REQUIRED WORK.

UTILITY LINES:

ALL EXPENSES INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE UTILITY(IES), THE CONTRACTOR AND THE UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT (INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

ITEM SPECIAL SEALING OF CONCRETE SURFACES. (EPOXY-URETHANE)

THE COLOR OF THE TOP COAT SHALL CONFORM TO FEDERAL STANDARD NO. 5958-3722 (BUFF).

CONVERSION OF METRIC STANDARD DRAWINGS:

THE METRIC STANDARD DRAWINGS REFERENCED IN THESE PLANS SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.011 OF THE 1997 CONSTRUCTION AND MATERIALS SPECIFICATIONS. THE APPENDIX OF ASTM E 380 SHALL BE UTILIZED FOR ANY ADDITIONAL CONVERSION FACTORS REQUIRED. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRIAL ENGLISH VALUES WHERE SUITABLE. ANY CONVERSION OF DIMENSIONS REQUIRED TO CONSTRUCT THE ITEMS SHOWN ON THE STANDARDS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

MECHANICALLY STABILIZED EARTH (MSE) WALLS:

THE MECHANICALLY STABILIZED EARTH (MSE) WALLS SHOWN IN THESE PLANS HAVE BEEN DESIGNED BY THE REINFORCED EARTH COMPANY, 2814 WESTWOOD CENTER DRIVE, SUITE 1100, VIENNA, VIRGINIA 22186. THE CONSTRUCTION OF MSE WALLS UTILIZING SMALL MATERIALS SHALL FOLLOW THE REINFORCED EARTH COMPANY'S REQUIREMENTS ESTABLISHED BY THE REINFORCED EARTH COMPANY.

THE ALLOWABLE BEARING PRESSURE OF THE SUBGRADE MATERIAL ON WHICH THE MSE WALLS ARE TO BE CONSTRUCTED IS 14 TONS PER SQUARE FOOT.

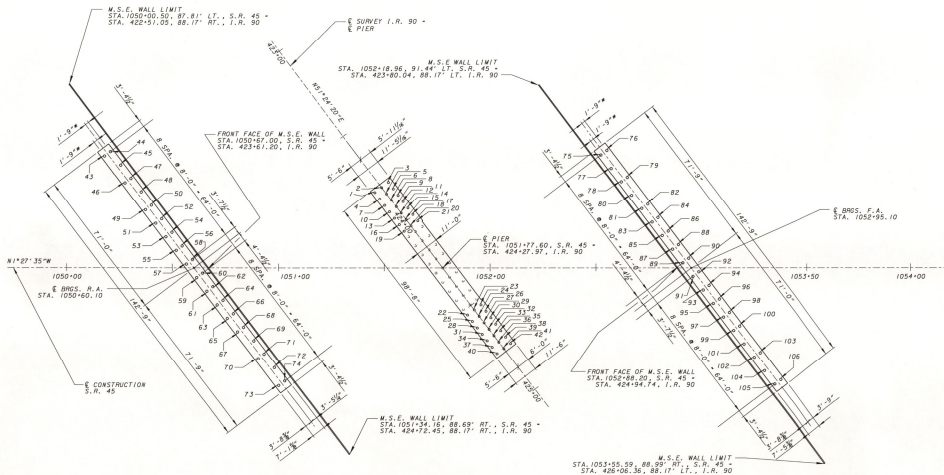
CONCRETE COVER:

CONCRETE COVER IS 2" UNLESS NOTED OTHERWISE.

ABBREVIATIONS:

ABBREVIATIONS USED IN DETAILING REINFORCEMENT INCLUDE:

E.F. = EACH FACE
 N.F. = NEAR FACE
 F.F. = FAR FACE



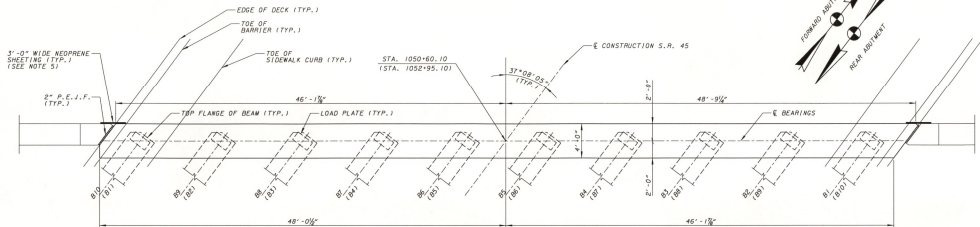
PLAN

LEGEND:

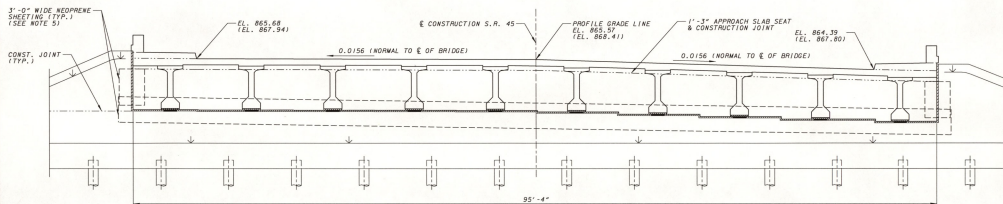
- PIER PILES (NOS. 1 - 42)
- 12" DIA. CIP CONCRETE
- VERTICAL PILES (EXISTING)

NOTES:

1. PIER PILES (NOS. 1 - 42)
12" DIA. CIP CONCRETE
EST. PILE LENGTH = 45 FT.
2. REAR ABUTMENT PILES (NOS. 43-74)
14" DIA. CIP CONCRETE
EST. PILE LENGTH = 65 FT.
EST. TIP EL. 788.4
3. FWD. ABUTMENT PILES (NOS. 75-106)
14" DIA. CIP CONCRETE
EST. PILE LENGTH = 75 FT.
EST. TIP EL. 783.5
4. DESIGN DIMENSIONS SHOWN. ACTUAL FIELD CONSTRUCTED DIMENSIONS MAY VARY SLIGHTLY.



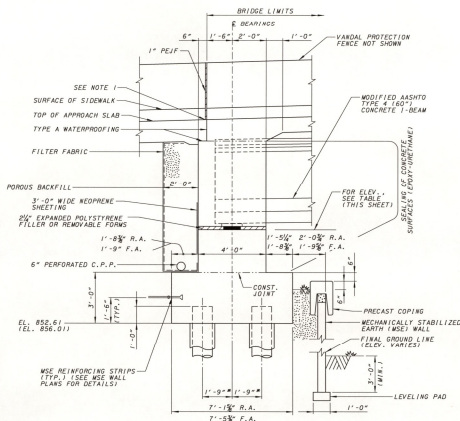
DIAPHRAGM PLAN



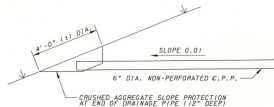
DIAPHRAGM ELEVATION
(VANDAL PROTECTION FENCE NOT SHOWN)

NOTES:

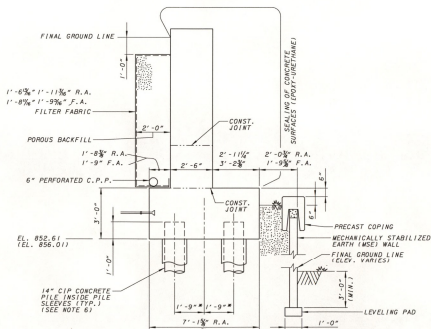
1. ELEVATIONS, BEAM NUMBERS AND STATIONS IN () ARE FOR FORWARD ABUTMENT ONLY.
2. ELEVATIONS ARE SHOWN AT THE BACK FACE OF THE ABUTMENT DIAPHRAGM.
3. THE DIAPHRAGM CONCRETE ENCASEING THE CONCRETE I-BEAMS SHALL BE PLACED AT LEAST 48 HOURS BEFORE THE DECK CONCRETE IS PLACED.
4. FOR BEAM SEAT ELEVATIONS, SEE SHEET 7/26.
5. FOR ADDITIONAL NEOPRENE SHEETING DETAILS, SEE STANDARD DWG. SICD-1-96M.



ABUTMENT SECTION



TERMINATION OF
6" N.P.C.P.P. DETAIL



WINGWALL SECTION

	BEAM SEAT ELEVATIONS									
	BEAM NO. 1	BEAM NO. 2	BEAM NO. 3	BEAM NO. 4	BEAM NO. 5	BEAM NO. 6	BEAM NO. 7	BEAM NO. 8	BEAM NO. 9	BEAM NO. 10
REAR ABUTMENT	858.10	859.40	858.97	859.23	859.39	859.43	859.45	859.48	859.49	
FORWARD ABUTMENT	861.64	861.76	861.89	862.00	862.11	862.09	861.95	861.82	861.67	861.51

LEGEND:

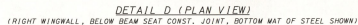
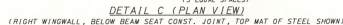
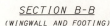
- NOMINAL DIMENSION.
- ACTUAL DIMENSION
- VARIES BY 6" MAX.

NOTES:

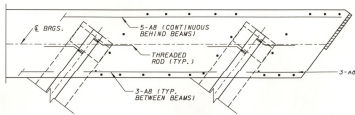
- PREFORMED ELASTOMERIC JOINT SEALER TDS. 11.1 1/2" FOR 1/2" JOINT DEPRESSION 1/2" BELOW ROADWAY AND FACE OF CURB PLACED IN 5/8" x 2 1/2" GROOVE.
- FOR ABUTMENT PLAN AND ELEVATIONS. SEE SHEETS 5/26.
- FOR MECHANICALLY STABILIZED EARTH (MSE) WALL PLAN AND ELEVATIONS. SEE SHEETS 3/26 AND 4/26.
- THE ULTIMATE BEARING VALUE IS 166 TONS PER PILE FOR THE REAR ABUTMENT PILES.
- THE ULTIMATE BEARING VALUE IS 159 TONS PER PILE FOR THE FORWARD ABUTMENT PILES.
- FOR ADDITIONAL SEMI-INTEGRAL RETENTION DETAILS. SEE STANDARD DWG. SICD-1-96M.
- FOR PILE SLEEVE NOTE. SEE SHEET 3/26.



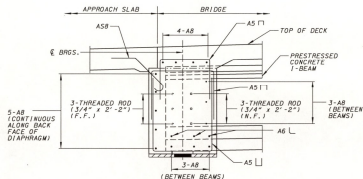
(TYPICAL BOTH ABUTMENTS, REINFORCEMENT IS OPPOSITE HAND FOR HALF-ELEVATION NOT SHOWN)



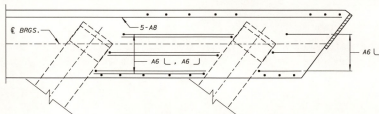
1. FOOTING STEW LONGITUDINAL AND STIRRUP REINFORCEMENT SHALL BE SPREAD APART VERTICALLY AS STEW DEPTH INCREASES.
2. CONCRETE COVER SHALL BE 2" UNLESS NOTED OTHERWISE.
3. CONCRETE COVER FOR BOTTOM AND SIDES OF FOOTING AND STEW SHALL BE 3".
4. REINFORCING STEEL LAP LENGTHS:
 - NO. 5 BARS - 1'-0"
 - NO. 6 BARS - 4'-4"
 - NO. 8 BARS - 7'-3"
5. FOR ABUTMENT DIMENSIONS AND ELEVATIONS, SEE SHEET 5/26.



SECTION B-B



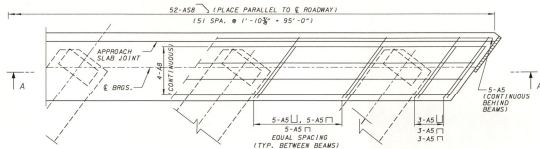
DIAPHRAGM SECTION



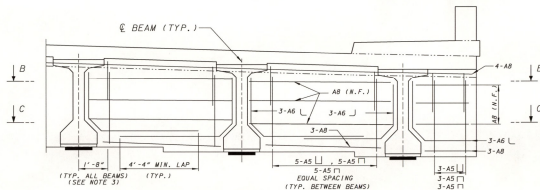
SECTION C-C

NOTES:

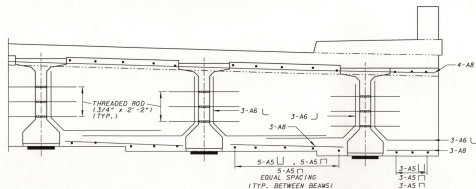
1. CONCRETE COVER IS 2" UNLESS NOTED OTHERWISE.
2. REINFORCING STEEL LAP LENGTHS:
NO. 5 BARS - 3'-3"
NO. 6 BARS - 4'-4"
NO. 8 BARS - 7'-3"
3. 1'-8" DIMENSION MEASURED PERPENDICULAR TO BEAM.
4. FOR DIAPHRAGM DIMENSIONS AND ELEVATIONS, SEE SHEET 6/26.



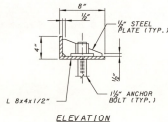
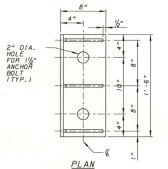
DIAPHRAGM REINFORCEMENT LAYOUT - PARTIAL PLAN



DIAPHRAGM REINFORCEMENT LAYOUT - PARTIAL ELEVATION
(TYP. BOTH ABUTMENTS)



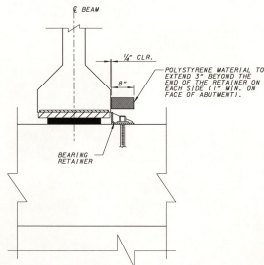
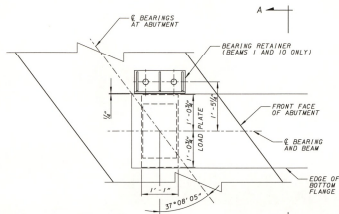
SECTION A-A

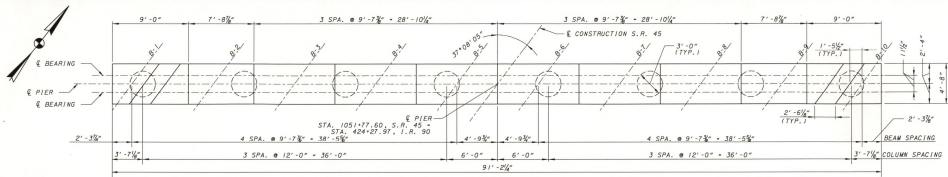


BEARING RETAINER
DETAILS

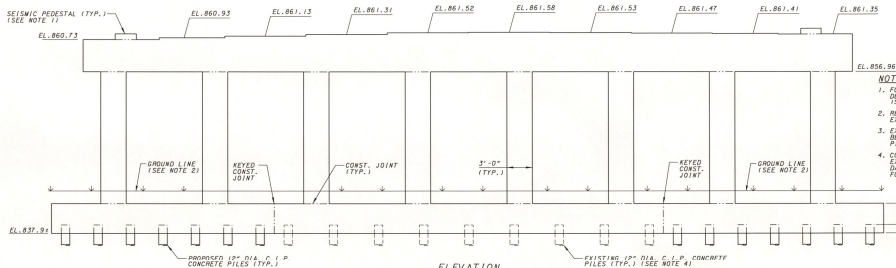
NOTES:

1. 2 RETAINERS REQUIRED PER ABUTMENT AT BEAMS 1 AND 10.
2. LOCATE RETAINERS ON THE ACUTE ANGLE SIDE OF THE BEARINGS.
FOR LAYOUT, SEE SHEET 5/10.
3. FOR ADDITIONAL INFORMATION INCLUDING DETAILS NOT SHOWN,
SEE STD. DRAWING SDCD-1-BEN SHEET 6/7.
4. ALL STRUCTURAL STEEL SHALL BE GALVANIZED AS PER CMS 711.02.

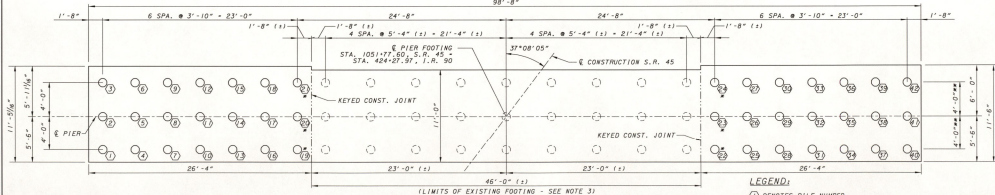




CAP AND COLUMN PLAN



ELEVATION



FOOTING PLAN

DESIGN DIMENSIONS SHOWN FOR FOOTING AND PILE LAYOUT.
ACTUAL FIELD CONSTRUCTED DIMENSIONS MAY VARY SLIGHTLY.

LEGEND:

- ① DENOTES PILE NUMBER
- PROVIDE 12" DIA. PRE-BORED HOLES AT THESE PILE LOCATIONS ONLY. HOLES SHALL EXTEND 15 FEET BELOW THE BOTTOM OF FOOTING ELEV.

NOTES:

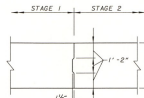
1. FOR SEISMIC PEDESTAL DETAILS, SEE SHEET 15/26.
2. REGRADE TO MATCH EXISTING AND SEED.
3. EXISTING FOOTING TO BE REMOVED. EXISTING PILES TO REMAIN.
4. CONTRACTOR TO PROTECT EXISTING PILES AGAINST DAMAGE WHEN REMOVING FOOTING.

LEGEND:

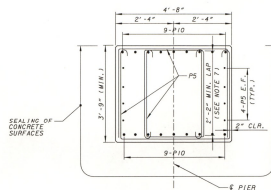
■ REINFORCING STEEL
MECHANICAL CONNECTOR

NOTES:

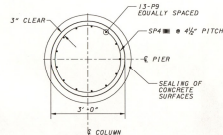
1. REINFORCEMENT IS OPPOSITE HAND FOR HALF ELEVATION NOT SHOWN.
2. TOP OF THE COLUMN SPIRAL REINFORCEMENT SHALL BE EMBEDDED A MINIMUM OF 2" INTO THE PIER CAP CONCRETE.
3. REINFORCING STEEL LAP LENGTHS:
NO. 4 BARS - 2'-11"
NO. 5 BARS - 3'-7"
NO. 8 BARS - 7'-5"
NO. 9 BARS - 9'-2"
NO. 10 BARS - 11'-7"
4. FOR ELASTOMERIC BEARING DETAILS, SEE SHEET 21/26.
5. FOR SEISMIC PEDESTAL DETAILS, SEE SHEET 19/26.
6. THE ULTIMATE BEARING VALUE IS 75 TONS PER PILE FOR THE PROPOSED PILES.
7. PIER CAP LONGITUDINAL REINFORCEMENT AND STIRRUPS TO BE SPREAD APART VERTICALLY AS PIER CAP DEPTH INCREASES. MINIMUM LAP LENGTH OF STIRRUP LESS = 2'-2".



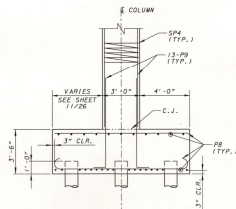
DETAIL D
(KEYED CONSTRUCTION JOINT)



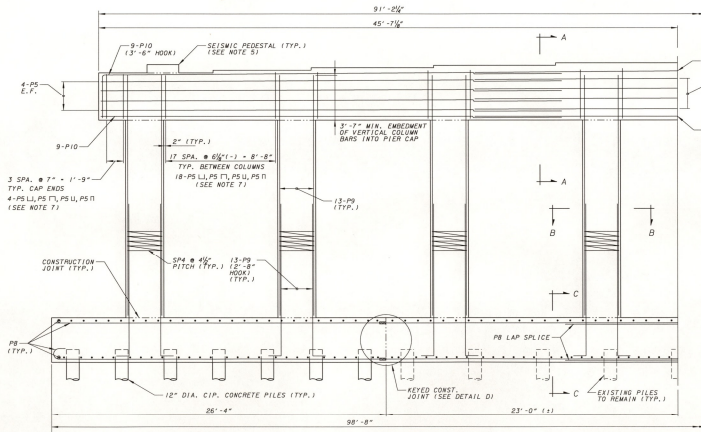
SECTION A-A



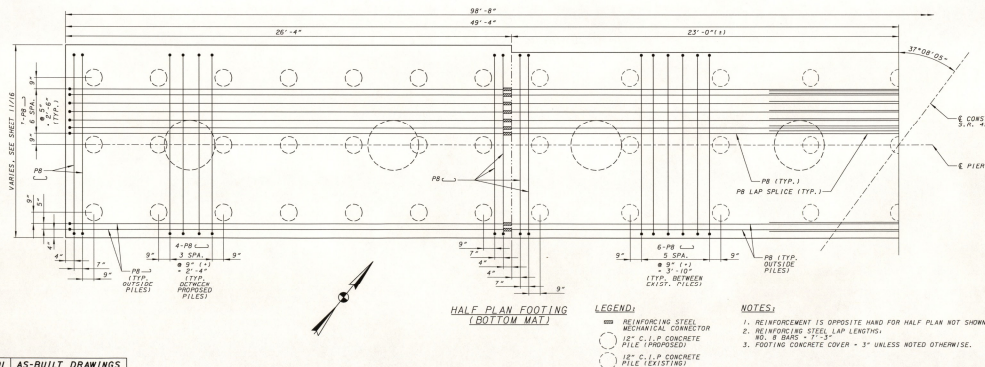
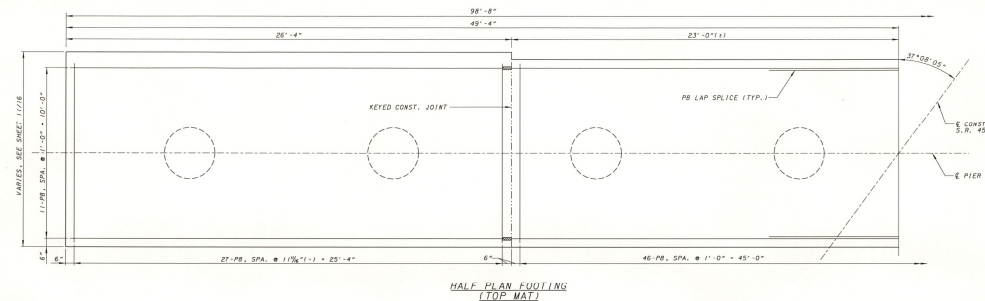
SECTION B-B



SECTION C-C



HALF ELEVATION



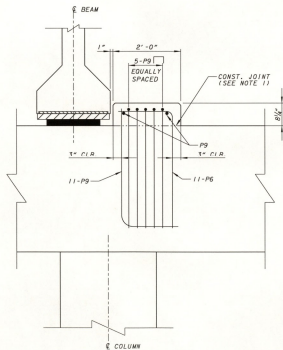
LEGEND:

- REINFORCING STEEL
MECHANICAL CONNECTOR
- 12" C.I.P CONCRETE
PILE (PROPOSED)
- 12" C.I.P CONCRETE
PILE (EXISTING)

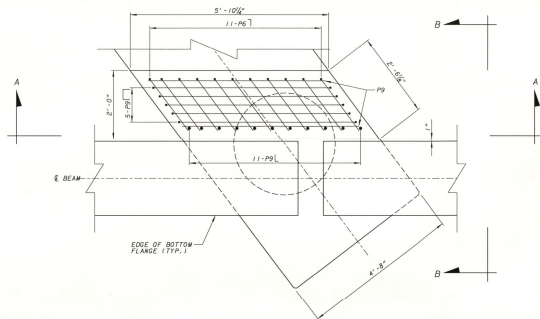
NOTES:

1. REINFORCEMENT IS OPPOSITE HAND FOR HALF PLAN NOT SHOWN.
2. REINFORCING STEEL LAP LENGTHS:
NO. 8 BARS = 7'-3"
3. FOOTING CONCRETE COVER = 3" UNLESS NOTED OTHERWISE.

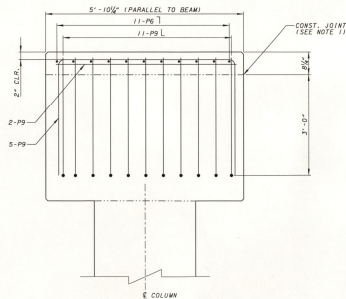
NOTES:
 1. SUGGESTED CONSTRUCTION PROCEDURE: CAST SEISMIC
 PEDestal AFTER THE LOAD PLATE HAS BEEN WELDED
 TO THE SOLE PLATE.



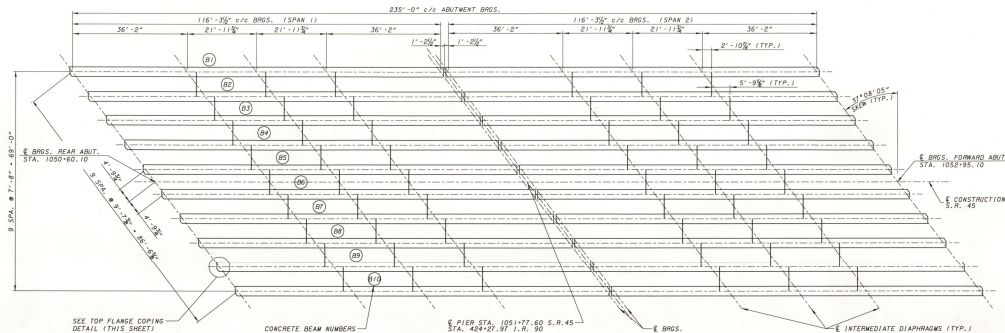
SECTION B-B



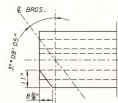
PLAN



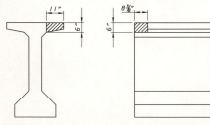
SECTION A-A



FRAMING PLAN



PLAN



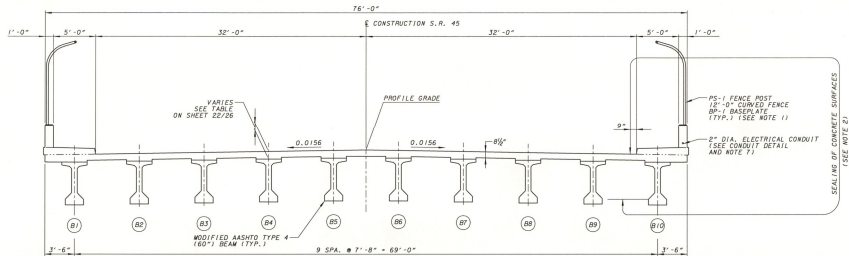
END VIEW

ELEVATION

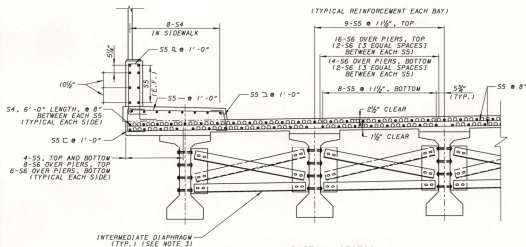
TOP FLANGE
COPING DETAIL

NOTES:

1. SEE SHEETS 17/26 FOR INTERMEDIATE DIAPHRAGM DETAILS.
2. TO PREVENT TORSIONAL DAMAGE FROM OCCURRING AT THE INTERMEDIATE DIAPHRAGM CONNECTION, THE DIAPHRAGM BOLTS SHALL NOT BE TIGHTENED COMPLETELY AS PER SUPPLEMENTAL SPECIFICATION 603.21 UNTIL 48 HOURS AFTER THE DECK CONCRETE HAS BEEN PLACED.



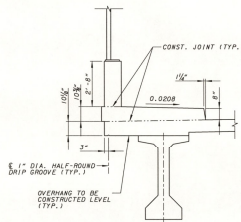
TRANSVERSE SECTION
(LOOKING UPSTATION)



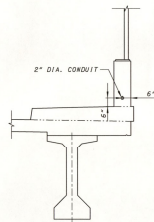
PARTIAL SECTION
(LEFT SIDEWALK SHOWN, RIGHT SIDEWALK OPPOSITE HAND)

NOTES:

1. FOR VANDAL PROTECTION FENCE DETAILS, SEE STD. DRAWING VPP-1-90W.
2. THE CONTRACTOR SHALL USE A NON-PROXY SEALER FOR THE SIDEWALK AND 6" CUTTER, AND AN PROXY-URTHANF SEALER FOR OTHER SURFACES.
3. PROVIDE INTERMEDIATE DIAPHRAGMS AS PER PSID-1-89, SHEET 6-10, "INTERMEDIATE DIAPHRAGM DETAIL (MODIFIED AASHTO TYPE 4 BEAMS)", AND "DIAPHRAGM SUPPORT FOR 60", 66" & 72" BEAMS".
4. REINFORCING STEEL LAP LENGTHS:
NO. 5 BARS = 3'-7"
NO. 6 BARS = 4'-4"

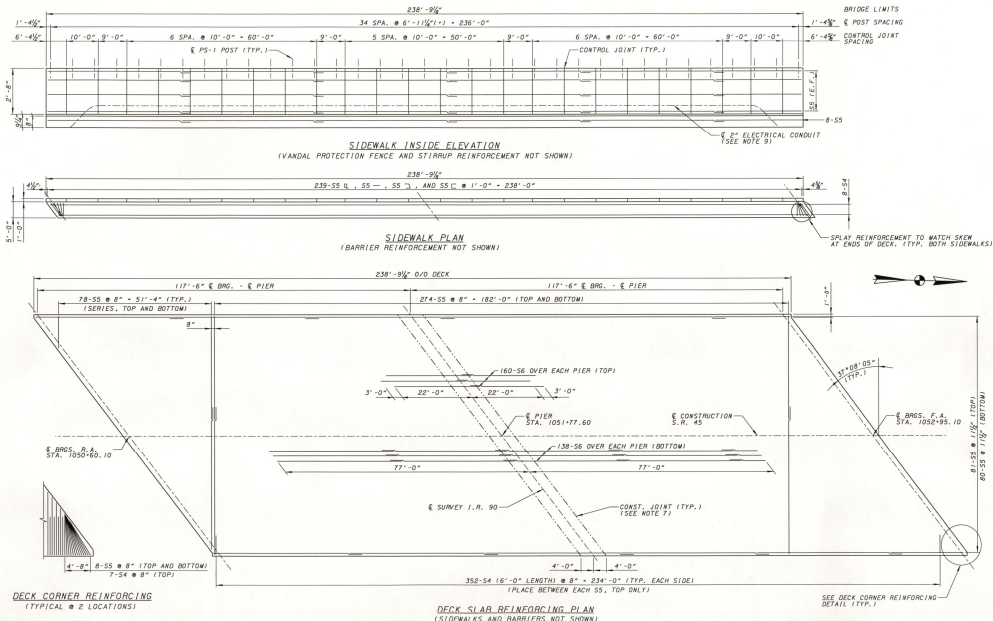


SIDEWALK SECTION
(LEFT SIDEWALK SHOWN, RIGHT SIDEWALK OPPOSITE HAND)



CONDUIT DETAIL
(SEE NOTE 7)

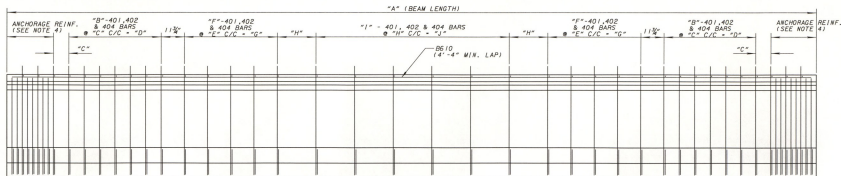
5. FOR ADDITIONAL REINFORCING DETAILS AND DECK SLAB PLAN, SEE SHEET 18/26.
6. FOR THE LOCATION OF CONDUIT JOINTS IN BARRIER, SEE SHEET 18/26.
7. CONTRACTOR SHALL PROVIDE CONDUIT IN BARRIER ON EAST SIDE OF BRIDGE ONLY. FOR ADDITIONAL CONDUIT DETAILS, SEE STD. CONSTRUCTION DRAWING HL-30.32W.



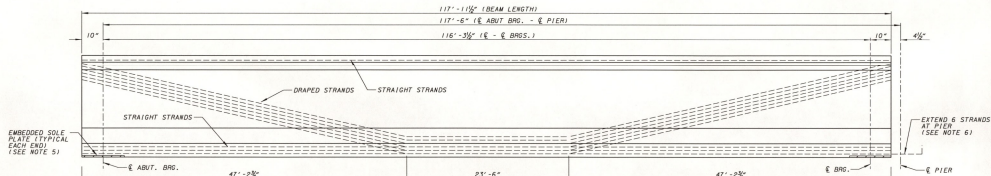
NOTES:

1. FOR ADDITIONAL REINFORCING DETAILS AND DECK TRANSVERSE SECTION, SEE SHEET 17/26.
2. FOR ADDITIONAL SIDEWALK AND BARRIER REINFORCEMENT DETAILS, SEE SHEETS 17/26 AND STD. DRAWING BR-2-98.
3. FOR ADDITIONAL SIDEWALK AND BARRIER DETAILS NOT SHOWN, SEE STD. DRAWING BR-2-98.
4. FOR VANDAL PROTECTION FENCE DETAILS, SEE STD. DRAWING VPF-1-90W.
5. REINFORCING STEEL LAP LENGTHS:
 NO. 5 BARS - 3'-7"
 NO. 6 BARS - 4'-4"

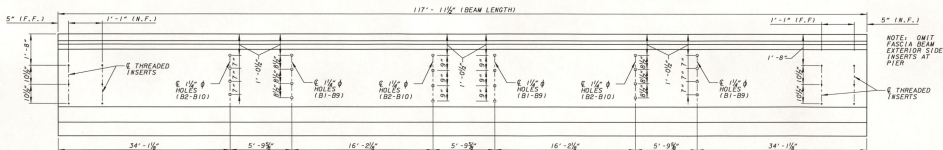
6. DECK SLAB CONCRETE SHALL NOT BE PLACED UNTIL AT LEAST 48 HOURS AFTER PLACEMENT OF ADJUTANT DIAPHRAGM CONCRETE.
7. CONCRETE WITHIN THE CONSTRUCTION JOINTS ON EITHER SIDE OF PIER, INCLUDING CONCRETE FOR THE PIER DIAPHRAGM, SHALL NOT BE PLACED UNTIL CONCRETE HAS BEEN PLACED IN THE SPANS ADJACENT TO THE PIER.
8. FOR ADDITIONAL CONST. JOINT DETAILS INCLUDING SEALING SEE STD. DWG. PSD-1-99, SHEET 8/8.
9. FOR ADDITIONAL CONDUIT DETAILS, SEE SHEET 17/26.



SHEAR REINFORCEMENT (SEE TABLE ON SHEET 20/26 FOR SHEAR REINFORCEMENT DETAILS.)



PRESTRESSING STRAND (SPAN 1 SHOWN, SPAN 2 OPPOSITE HAND) (SEE TABLE ON SHEET 20/26 FOR PRESTRESSING STRAND DETAILS.)



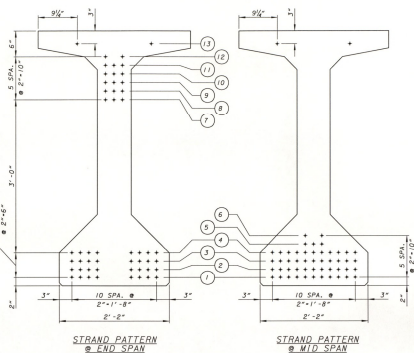
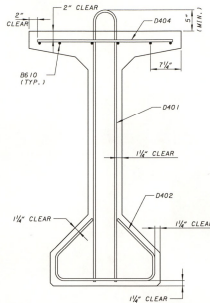
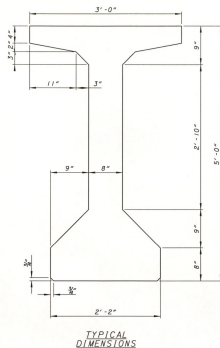
THREADED INSERT AND BOLT HOLE LOCATIONS (SPAN 1 SHOWN, SPAN 2 OPPOSITE HAND)

LEGEND:

N.F. - NEAR FACE
F.F. - FAR FACE
CLN. - CLEAR
TYP. - TYPICAL
U.W.O. - UNLESS NOTED OTHERWISE

NOTES:

1. FOR BEAM CROSS SECTIONS, SEE SHEET 18 / 23.
2. PRESTRESSED CONCRETE - $f'c = 7000$ PSI
 $f'ci = 5000$ PSI
3. PRESTRESSING STRAND - NOMINAL STRAND AREA = 0.167 SQ. IN.
4. FOR ANCHORAGE ZONE REINFORCEMENT (INCLUDING V-BARS), SEE STD. DWG. PS10-1-99, SHEET 2/8.
5. FOR EMBEDDED SOLE PLATE DETAILS, SEE STD. DWG. PS10-1-99, SHEET 4/8.
6. FOR EXTENDED STRAND DETAILS, SEE STD. DWG. PS10-1-99, SHEET 7/8.
7. FOR INTERMEDIATE DIAPHRAGM DETAILS, SEE STD. DWG. PS10-1-99, SHEET 6/8, DETAIL 3.
8. THE FABRICATOR SHALL CONFIRM THAT THREADED INSERT AND THROUGH BOLT HOLES AS DETAILED ABOVE CLEAR THE PRESTRESSING STRAND BY 1/8\"
9. FOR ADDITIONAL DETAILS AND NOTES, INCLUDING PIER AND ABUTMENT DIAPHRAGM DETAILS, SEE STD. DWG. PS10-1-99.
10. SEE BEAM SHOP DRAWING FOR AS-BUILT DIMENSIONS.



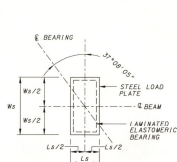
BEAM SECTIONS
(MODIFIED AASHTO TYPE 4 (60""))

BEAM MARK	NO. REQ'D	PATTERN	NUMBER OF STRANDS PER ROW													TOTAL NO. OF STRANDS	CONCRETE STRENGTH		D401 BARS REQ'D	D402 BARS REQ'D	D404 BARS REQ'D	APPROX. WEIGHT (LBS.)
			ROW NUMBER														f'ci	f'c				
			1	2	3	4	5	6	7	8	9	10	11	12	13							
TYP.	20	END SPAN	8	8	8	8	--	--	3	3	3	3	2	2	51	5 KSI	7 KSI	135	147	135	105,690	
		MID SPAN	11	11	11	11	3	2	--	--	--	--	--	2	51							

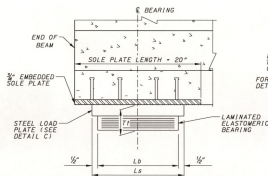
SHEAR REINFORCEMENT DIMENSION TABLE											
BEAM MARK	NO. REQ'D	DIMENSIONS									
		A	B	C	D	E	F	G	H	I	J
TYP.	20	117" - 1 1/2"	29	6"	14'-0"	1'-0"	29	28'-0"	2'-0"	13	24'-0"

NOTES:

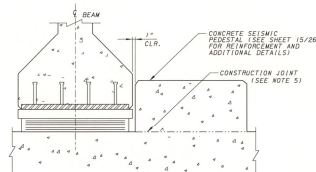
- FOR BEAM ELEVATIONS AND DETAILS, SEE SHEET 19/26.
- FOR BEAM NOTES, SEE SHEET 19/26.



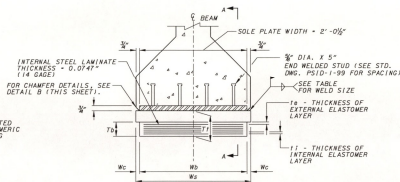
BEARING ORIENTATION PLAN



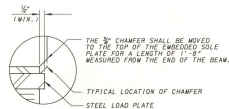
SECTION A-A



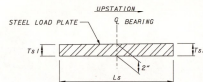
SEISMIC PEDESTAL
PIER



LAMINATED ELASTOMERIC EXPANSION BEARINGS
ABUTMENT & PIER



DETAIL B



DETAIL C

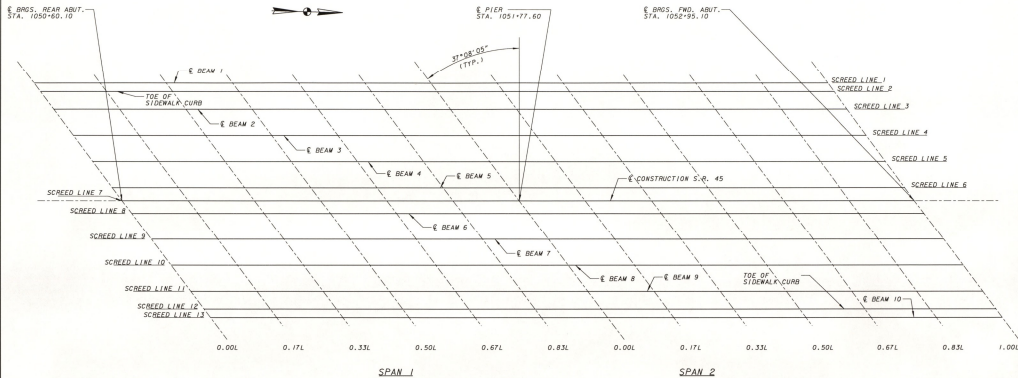
BEARING LOCATION	BEARING TYPE	NO. REQ'D.	DEAD LOAD (k)(ps)	LIVE LOAD (k)(ps)	TOTAL LOAD (DL+L) (k)(ps)	BEARING		f _i	NO. OF 1's	f _c (2 EA.)	NUMBER OF INTERNAL LAMINATES (14 GAGE)	T ₀	STEEL LOAD PLATE				T ₁	FILLET WELD SIZE	
						Lb	Wb						Ls	Ws	Ts ₁	Ts ₂		Wc	
REAR ABUTMENT	EXP	159	55.0	214.6	12.00	20.00	0.35	4	0.25	5	2.27	13.00	25.50	1 1/2	2 1/2	4.27	3/8	2.75	
PIER (SPAN 1)	EXP	161	61.9	223.0	12.00	20.00	0.35	4	0.25	5	2.27	13.00	25.50	1 1/2	2 1/2	4.27	3/8	2.75	
PIER (SPAN 2)	EXP	161	61.9	223.0	12.00	20.00	0.35	4	0.25	5	2.27	13.00	25.50	1 1/2	2 1/2	4.27	3/8	2.75	
FORWARD ABUTMENT	EXP	159	55.0	214.6	12.00	20.00	0.35	4	0.25	5	2.27	13.00	25.50	2	2	4.27	3/8	2.75	

NOTES:

1. ELASTOMERIC BEARINGS SHALL COMPLY WITH ITEM 516 AND ARTICLES 14.1.3 AND 14.4.1 OF SECTION 18 BEARING DEVICES, DIVISION 11, CONSTRUCTION, OF THE AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES", SIXTEENTH EDITION, 1996, INCLUDING THE 1997 AND 1998 AMENDMENTS, WHICH BEARINGS SHALL BE 100 MILLIMETER THICK, AND SHALL BE SUBJECTED TO THE LOAD TESTING REQUIREMENTS DEFINED IN ARTICLE 18.7.4.5 OF THE AASHTO STANDARD. BEARINGS WERE DESIGNED UNDER ARTICLE 14.6.6 (METHOD A) OF SECTION 14, BEARINGS, DIVISION 1, DESIGN OF BRIDGES AND STRUCTURES INCLUDED IN THE UNIT PRICE BID FOR THE BEARINGS, EACH.

2. THE STEEL LOAD PLATE SHALL BE ASTM A572, GRADE 50 STEEL, AND SHALL BE GALVANIZED AS PER F11.02. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER OVER THE ENTIRE TOP SURFACE. THE TEMPERATURE OF THE STEEL SHALL BE CONTROLLED SO THAT THE LOAD PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE DOES NOT EXCEED 300°F AS DETERMINED BY THE USE OF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES.

3. BEARING REPLETION/REPAIRING: IF DECK CONCRETE IS PLACED AT AN AMBIENT TEMPERATURE HIGHER THAN 60°F OR LOWER THAN 40°F, AND THE BEARING SLAB DEFLECTION EXCEEDS 1/8 OF THE BEARING HEIGHT AT 60°F (+/-) 10°F, THE BEAMS OR GIRDERS SHALL BE RAISED TO ALLOW THE BEARINGS TO RETURN TO THEIR UNDEFORMED SHAPE AT 60°F (+/-) 10°F.
4. THE TOTAL DESIGN LOAD FOR A BEARING EQUALS THE SUM OF THE DEAD LOAD AND LIVE LOAD TABULATED IN THE BEARING TABLE.
5. SUGGESTED CONSTRUCTION PROCEDURE: CAST SEISMIC PEDESTAL AFTER THE LOAD PLATE HAS BEEN WELDED TO THE SOLE PLATE.



SCREED LINE PLAN

NOTES:

1. FOR SCREED ELEVATIONS, SEE SHEET 23/26.
2. L = SPAN LENGTH

AS-BUILT DECK DEPTH OVER BEAMS, INCHES										
LOCATION	BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5	BEAM 6	BEAM 7	BEAM 8	BEAM 9	BEAM 10
REAR. BRG.	10.20	10.08	9.60	10.20	10.08	9.36	9.84	10.20	9.84	9.60
MID. SPAN	10.56	10.32	11.16	9.72	10.44	11.28	10.56	11.16	10.92	10.08
PIER	10.68	10.44	10.08	10.80	10.80	10.20	10.56	10.68	10.56	10.68
MID. SPAN	10.56	11.04	11.16	11.40	11.40	11.64	11.16	11.64	11.64	10.68
FWD. BRG.	10.44	10.44	10.56	10.32	10.44	10.32	10.32	10.44	10.32	10.56

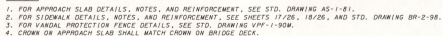
DESIGN SCENCY
GANNETT FLEMING
ENGINEERS & ARCHITECTS, P.C.
400 EAST 10TH AVENUE, SUITE 400
DENVER, CO 80202

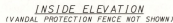
REVIEWED	DATE
PLC	10/10

SCREED ELEVATION TABLES
BRIDGE NO. ATB-45-1992
C. B. 45. 00000 1 0 0 0

ATB-45-19.74

- | |
|--|
| 23 / 20 |
| <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> <div style="border-bottom: 1px solid black; width: 100%; text-align: center;">98</div> <div style="width: 100%; text-align: center;">101</div> </div> |





1. THE CONTRACTOR SHALL USE A NON-EPOXY SEALER FOR THE SIDEWALK AND 9" GUTTER, AND AN EPOXY-URETHANE SEALER FOR OTHER SURFACES.
2. FOR SIDEWALK AND BARRIER REINFORCEMENT DETAILS, SEE SHEETS 26/26 AND STD. DRAWING BR-2-90.
3. FOR ADDITIONAL SIDEWALK AND BARRIER DETAILS NOT SHOWN, SEE STD. DRAWING BR-2-90.
4. FOR VANDAL PROTECTION FENCE DETAILS, SEE STD. DRAWING VPF-1-90M.
5. FOR BRIDGE TERMINAL ASSEMBLY DETAILS, SEE STD. CONSTRUCTION DRAWING GR-3.1. TYPE I ASSEMBLY SHALL BE USED.

