HIGHWAY CONSTRUCTION FACTORS GROUP
ATTACHMENT 4
EXCERPS FROM CONSTRUCTION PROJECT DESIGN PLANS
BRIDGE 9340 COLLAPSE
MINNEAPOLIS, MN.; 8/1/07
HWY-07-MH024

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 9340
T.H. 35W OVER MISSISSIPPI RIVER & R.R.,
1.0 MI. N.E. OF JCT. OF T.H. 94
SEC. 24 & 25 T 29 N R 24 W
CITY OF MINNEAPOLIS HENNEPIN COUNTY
JOB NO. T50567 STATE PROJ. NO. 2783-9340E

BRIDGE NO. 27873
T.H. 35W UNDER RAMP TO T.H. 55 S.B.,
0.2 MI. N.E. OF JCT. OF T.H. 94
SEC. 26 T 29 N R 24 W
CITY OF MINNEAPOLIS HENNEPIN COUNTY
JOB NO. T50558 STATE PROJ. NO. 2783-27873A

BRIDGE NO. 27874
T.H. 35W N.B. CONN. RD. UNDER T.H. 55,
0.2 MI. N. OF JCT. OF T.H. 94
SEC. 26 T 29 N R 24 W
CITY OF MINNEAPOLIS HENNEPIN COUNTY
JOB NO. T50559 STATE PROJ. NO. 2783-27874A

BRIDGE NO. 27879
T.H. 35W OVER WASHINGTON AVE.,
0.5 MI. N.E. OF JCT. OF T.H. 94
SEC. 26 T 29 N R 24 W
CITY OF MINNEAPOLIS HENNEPIN COUNTY
JOB NO. T50560 STATE PROJ. NO. 2783-27879A

BRIDGE NO. 27879A
T.H. 35W S.B. COLL. RD. OVER WASHINGTON AVE.,
0.5 MI. N.E. OF JCT. OF T.H. 94
SEC. 26 T 29 N R 24 W
CITY OF MINNEAPOLIS HENNEPIN COUNTY
JOB NO. T50561 STATE PROJ. NO. 2783-27879AB

BRIDGE NO. 27880
T.H. 35W N.B. COLL. OVER WASHINGTON AVE. & R.R.,
0.5 MI. N.E. OF JCT. OF T.H. 94
SEC. 26 T 29 N R 24 W
CITY OF MINNEAPOLIS HENNEPIN COUNTY
JOB NO. T50562 STATE PROJ. NO. 2783-27880B

BRIDGE NO. 27880A
N.B. COLL. OFF RAMP UNDER T.H. 35W,
0.5 MI. N.E. OF JCT. OF T.H. 94
SEC. 26 T 29 N R 24 W
CITY OF MINNEAPOLIS HENNEPIN COUNTY
JOB NO. T50562 STATE PROJ. NO. 2783-27880AA

BRIDGE NO. 27887
T.H. 35W S.B. OVER JOHNSON ST. CONNECTION
1.6 MI. S.W. OF JCT. OF T.H. 280
SEC. 13 T 29 N R 24 W
CITY OF MINNEAPOLIS HENNEPIN COUNTY
JOB NO. T57308 STATE PROJ. NO. 2783-27887A

BRIDGE NO. 27888
T.H. 35W N.B. OVER JOHNSON ST. CONNECTION
1.7 MI. S.W. OF JCT. OF T.H. 280
SEC. 13 T 29 N R 24 W
CITY OF MINNEAPOLIS HENNEPIN COUNTY
JOB NO. T57308 STATE PROJ. NO. 2783-27888A

BRIDGE NO. 27893
T.H. 35W N.B. OVER C.S.A.H. 88 & B.N.S.F. R.R.
1.4 MI. S.W. OF JCT. OF T.H. 280
SEC. 13 T 29 N R 24 W
CITY OF MINNEAPOLIS HENNEPIN COUNTY
JOB NO. T90425 STATE PROJ. NO. 2783-27893A

BRIDGE NO. 27902
T.H. 35W N.B. OFF RAMP UNDER WASHINGTON AVE.,
0.4 MI. N.E. OF JCT. OF T.H. 94
SEC. 26 T 29 N R 24 W
CITY OF MINNEAPOLIS HENNEPIN COUNTY
JOB NO. T50563 STATE PROJ. NO. 2783-27902A

BRIDGE NO. 27903
T.H. 35W N.B. COLL. OFF RAMP TO 3RD,
0.4 MI. N.E. OF JCT. OF T.H. 94
SEC. 26 T 29 N R 24 W
CITY OF MINNEAPOLIS HENNEPIN COUNTY
JOB NO. T50564 STATE PROJ. NO. 2783-27903A

FEDERAL PROJ. NO. IM-BR0353(306)

DESIGN DATA
MAXIMUM ALLOWABLE DESIGN STRESSES:
f'_c = 4000 psi n = 8
f_y = 60000 psi REINFORCEMENT

LIST OF SHEETS

NO.	DESCRIPTION
1	BRIDGE DESCRIPTIONS
2	BRIDGE PLAN QUANTITIES
3-16	BRIDGE 9340 DETAILS
17-29	BRIDGE 27873 DETAILS
30-42	BRIDGE 27874 DETAILS
43-56	BRIDGE 27879 & 27879A DETAILS
57-71	BRIDGE 27880 & 27880A DETAILS
72-79	BRIDGE 27887 DETAILS
80-87	BRIDGE 27888 DETAILS
88	BRIDGE 27893 DETAILS
89-104	BRIDGE 27902 DETAILS
105-119	BRIDGE 27903 DETAILS

CONSTRUCTION NOTES

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

THE FIRST TWO DIGITS OF EACH BAR MARK INDICATE THE BAR NUMBER WHICH APPROXIMATES THE NOMINAL DIAMETER OF THE BAR IN MILLIMETERS (mm).

BARS MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED.

NO CUTTING WILL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. SAWCUT 1/4" MINIMUM AT EDGES OF JOINT REMOVAL. REMOVAL AND RECONSTRUCTION SHALL CONFORM TO MNDOT SPEC. 2433.

PREFORMED JOINT FILLER MATERIALS ARE INCIDENTAL. PAYMENT IS TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS FOR WHICH NO ADDITIONAL PAYMENT WILL BE MADE.

APPROVED BONDING GROUT TO BE APPLIED TO ALL CONTACT SURFACES BETWEEN NEW AND INPLACE CONCRETE AT JOINT RECONSTRUCTION.

HATCHED AREAS ARE TO BE REMOVED EXCEPT AS NOTED.

PROVIDE SAWCUT IN CONCRETE WEARING COURSE OVER ALL CONSTRUCTION JOINTS IN EXISTING SLAB AND OVER CENTERLINES OF PIERS. SEAL WITH CONCRETE JOINT SEALER PER MNDOT SPEC. 3722.

I HEREBY CERTIFY THAT THE ABOVE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNED Steven W. Ellis DATE 2/7/07
LICENSED PROFESSIONAL ENGINEER
NAME: STEVEN W. ELLIS LIC NO. 10783

APPROVED Kevin Westlund
STATE BRIDGE ENGINEER
FOR
DATE 2/7/07

BRIDGE NO.
9340
27873
27874
27879
27879A
27880
27880A
27887
27888
27893
27902
27903

DESIGN UNIT: STEVEN W. ELLIS

(T.H. 35W=394)

TITLE: BRIDGE DESCRIPTIONS & LIST OF SHEETS

DES: DWN: CHK: SWE APPROVED

SHEET NO. 1 OF 119 SHEETS

SCHEDULE OF QUANTITIES FOR BRIDGES

	ITEM NO.	ITEM	UNIT	BRIDGE NO. 9340	27873	27874	27879 & 27879A	27880 & 27880A	27887	27888	27893	27902	27903	TOTAL QUANTITY
	2100.601	RECONSTRUCT ANTI-ICING SYSTEM	LUMP SUM	1										1
1	2401.513	TYPE MOD F (SL-4) RAILING CONCRETE (SY46)	LIN. FT.		495	356	474	1473				360	277	3363 (P)
	2401.541	REINFORCEMENT BARS (EPOXY COATED)	POUND		6410	4660	5600	16950				5150	3880	42600 (P)
	2401.602	CONCRETE END POST	EACH		1	2	2	5				4	2	16
2	2401.618	STRUCTURAL CONCRETE (SY33) SPECIAL	SQ. FT.	2082	21	13	62	109	67	42	5	5	3	2409
	2401.618	PAINTED SURFACE FINISH (IMPLACE)	SQ. FT.						2020	1306				3326 (P)
	2401.619	BRIDGE DECK PLANING	SQ. FT.	210182					31602	13905				255683 (P)
3	2402.603	INSTALL EXPANSION JOINT DEVICES	LIN. FT.	968	146	122	379	126	190	207		105	51	2294 (P)
4	2404.618	CONCRETE WEARING COURSE (SUITA) 2.0"	SQ. FT.	224300					32497	20598				277395 (P)
	2404.618	BLASTING (SPECIAL)	SQ. FT.	224300					32497	20598				277395 (P)
	2433.504	REMOVE CONCRETE WEARING COURSE	SQ. FT.	224300					32497	20598				277395 (P)
	2433.506	REMOVE SLAB TYPE 1	SQ. FT.	16657					665	423				17745
	2433.506	REMOVE SLAB TYPE 5	SQ. FT.	2082	21	13	62	109	67	42	5	5	3	2409
	2433.506	REMOVE CONCRETE CURB AND RAIL	LIN. FT.		496	360	429	1482				375	281	3423 (P)
	2433.516	ANCHORAGES TYPE REINF BARS	EACH		536	386	478	1535				404	319	3668
	2433.602	GROUTED REINF BARS	EACH		10	14	20	50	16	8		81	20	219
	2433.602	GREASE EXP BEARING ASSEMBLIES	EACH				44							44
	2433.602	RECONSTRUCT EXPANSION BEARINGS	EACH									6		6
	2433.602	RECONSTRUCT CONCRETE END POST	EACH						2	1				3
	2433.603	RECONSTRUCT EXPANSION JOINT TYPE A	LIN. FT.		151	131	404	89	190	207		110	28	1310 (P)
	2433.603	RECONSTRUCT EXPANSION JOINT TYPE B	LIN. FT.	285									28	313 (P)
	2433.603	RECONSTRUCT EXPANSION JOINT TYPE D	LIN. FT.	683				37						720
	2433.603	RESEAL JOINT TYPE EB	LIN. FT.	282	132	56	355	83				52	43	1004 (P)
	2433.603	CLEAN AND SEAL MEDIAN JOINT	LIN. FT.				420							420
	2433.603	CLEAN AND SEAL DECK JOINTS	LIN. FT.		145	119	385	577					24	1250
	2433.603	CLEAN AND SEAL JOINTS TYPE 1	LIN. FT.	224	161	440	880	128				567	250	2650 (P)
	2433.603	RESEAL SLOPE PAVING JOINTS	LIN. FT.	293	160	133	418	120	202	229		118	64	1729 (P)
	2433.603	RECONSTRUCT CONCRETE MEDIAN	LIN. FT.	5										5
	2433.603	RECONSTRUCT CURB	LIN. FT.	2020	95									2115
	2433.603	RECONSTRUCT PAVING BRACKET	LIN. FT.	143										143
	2433.603	REPOINT AND SEAL CRACKS	LIN. FT.									50		50
5	2433.606	SEAL BRIDGE DECK CRACKS	GALLON		4	1	2	4			1	1	1	14
	2433.618	CONCRETE SURFACE REPAIR	SQ. FT.			100	200	100				250		650
	2433.618	REMOVE LOOSE CONCRETE	SQ. FT.				530							530
	2433.618	MILL AND PATCH CONCRETE SURFACE	SQ. FT.		210	130	615	1090			50	91	60	2246

1. VOLUME OF TYPE MOD F RAILING CONCRETE (SY46):
   BRIDGE 27873 - 56 CU. YDS.
   BRIDGE 27874 - 40 CU. YDS.
   BRIDGE 27879 & 27879A - 48 CU. YDS.
   BRIDGE 27880 & 27880A - 180 CU. YDS.
   BRIDGE 27902 - 44 CU. YDS.
   BRIDGE 27903 - 34 CU. YDS.
   ITEM INCLUDES PAYMENT FOR NAME PLATES.

2. HIGH EARLY STRENGTH CONCRETE IF REQUIRED.

3. EXPANSION JOINT DEVICES ARE TYPE 4 OR TYPE 5. SEE CHART BELOW.

4. VOLUME OF CONCRETE WEARING COURSE (SUITA) 2.0":
   BRIDGE 27887 - 226 CU. YDS. BASED ON AN AVERAGE THICKNESS OF 2 1/4". INCLUDES 6110 SQ. FT. FOR APPROACHES.
   BRIDGE 27888 - 143 CU. YDS. BASED ON AN AVERAGE THICKNESS OF 2 1/4". INCLUDES 6554 SQ. FT. FOR APPROACHES.
   BRIDGE 9340 - 1385 CU. YDS. BASED ON AN AVERAGE THICKNESS OF 2".

5. INCLUDES APPROACH PANELS.

TYPE OF DEVICE	UNIT	BRIDGE NO. 9340	27873	27874	27879 & 27879A	27880 & 27880A	27887	27888	27902	27903	TOTAL
EXPANSION JOINT DEVICES TYPE 4	LIN. FT.	968	56	122	379	126				51	1702
EXPANSION JOINT DEVICES TYPE 5	LIN. FT.		90				190	207	105		592

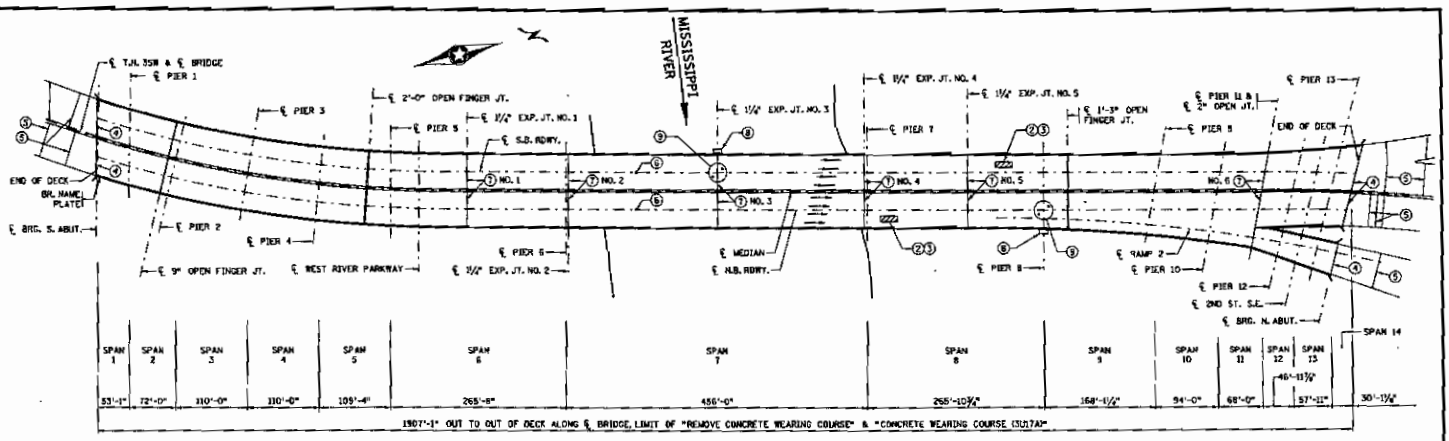
BRIDGE NO.
9340
27873
27874
27879
27879A
27880
27880A
27887
27888
27893
27902
27903

CERTIFIED BY Steven W. Ellis FEB. 5, 2007
LICENSED PROFESSIONAL ENGINEER DATE
NAME: STEVEN W. ELLIS LIC. NO. 10783

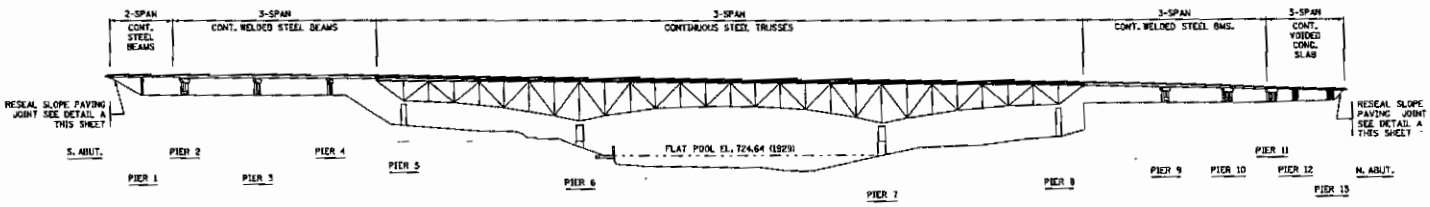
TITLE: SCHEDULE OF QUANTITIES

DES. DRN. NKL. CHK. SWE. APPROVED: 2-7-07

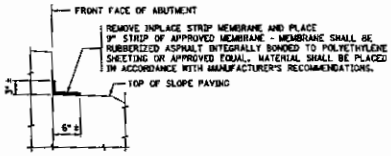
SHEET NO. 2 OF 119 SHEETS



GENERAL PLAN



GENERAL ELEVATION

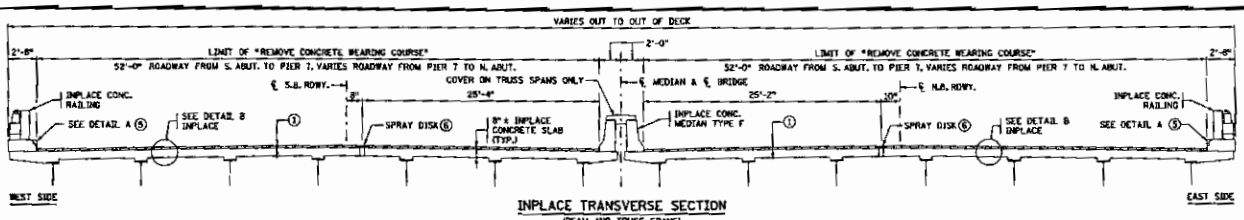


DETAIL A
(RESEAL SLOPE PAVING JOINT)

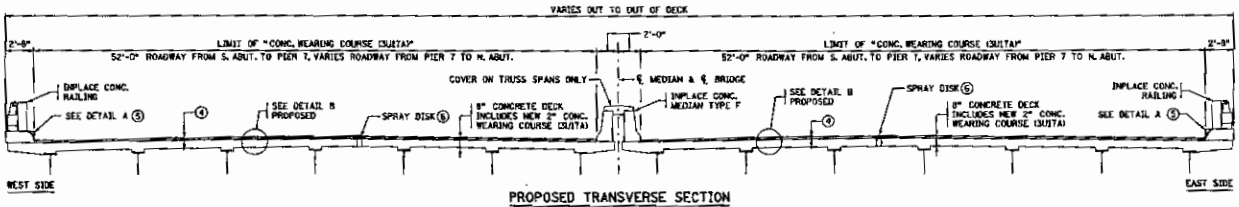
NOTES FOR REPAIR

2. REMOVE SLAB TYPE 1, SEE SHEET 4 DETAIL B (INPLACE).
3. REMOVE SLAB TYPE 3, SEE SHEET 4 DETAIL B (PROPOSED).
4. RECONSTRUCT EXPANSION JOINT TYPE B
5. SEE SHEET 14 FOR APPROACH PANEL JOINT DETAILS.
6. REPLACE ANTI-ICING SYSTEM SPRAY DISKS AND SENSORS IN DECK. SEE SPECIAL PROVISIONS.
7. RECONSTRUCT EXPANSION JOINT TYPE D
8. RWIS MEASURING STATIONS. LOCATIONS SHOWN ARE APPROXIMATE.
9. SENSORS, SEE SHEET NO. 13.

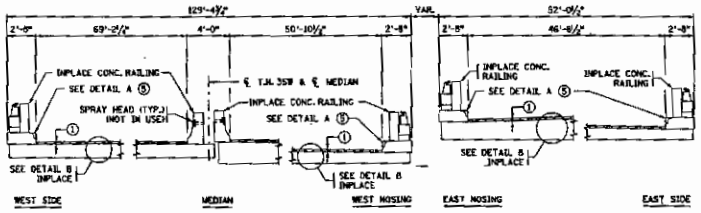
CERTIFIED BY Arlen Ottman 1/31/07 (LICENSED PROFESSIONAL ENGINEER, DATE) NAME: ARLEN OTTMAN LIC. NO. 7578	TITLE: GENERAL PLAN & ELEVATION	DES: / CHK:	DR: B.T. / CHK: R.E.H.	APPROVED: 2-7-07
		SHEET NO. 3 OF 119 SHEETS		BRIDGE NO. 9340



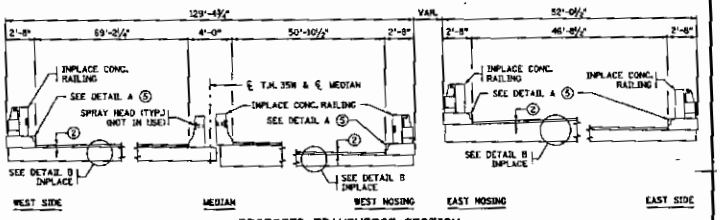
INPLACE TRANSVERSE SECTION
(BEAM AND TRUSS SPANS)



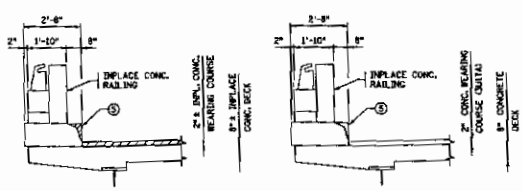
PROPOSED TRANSVERSE SECTION
(BEAM AND TRUSS SPANS)



INPLACE TRANSVERSE SECTION
TRANSVERSE SECTION AT NORTH APPROACH VOIDED SLAB

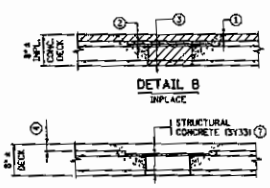


PROPOSED TRANSVERSE SECTION
TRANSVERSE SECTION AT NORTH APPROACH VOIDED SLAB



INPLACE DETAIL A

PROPOSED DETAIL A



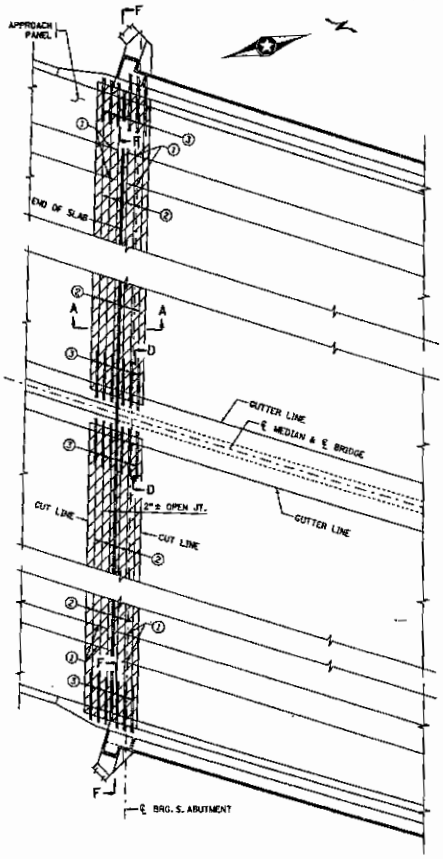
DETAIL B
INPLACE

DETAIL B
PROPOSED

NOTES FOR REPAIR

1. REMOVE CONCRETE WEARING COURSE TO 2" DEEP.
2. REMOVE SLAB TYPE 1.
3. REMOVE SLAB TYPE 3.
4. NEW 2" CONCRETE WEARING COURSE (3U17A).
5. REMOVED UNSOUND CONCRETE FROM THE CURB AND PATCH WITH CONCRETE (3Y46). INCLUDED IN ITEM "RECONSTRUCT CURB" PER LIN. FT.
6. REMOVE AND REPLACE ANTI-ICING SYSTEM SPRAY DISKS AND SENSORS IN DECK. SEE DETAIL SHEET 13 AND SPECIAL PROVISIONS.
7. CONCRETE MIX FOR "STRUCTURAL CONCRETE (3Y33)" TO BE HIGH EARLY STRENGTH.

CERTIFIED BY Arlen Ottman 1/31/07 (LICENSED PROFESSIONAL ENGINEER) DATE NAME: ARLEN OTTMAN LIC. NO. 7578	TITLE: TRANSVERSE SECTIONS	DES: DR: B.T. CHK: CHK: R.E.H.	APPROVED: 2-7-07	BRIDGE NO. 9340
		SHEET NO. 4 OF 119 SHEETS		



AT SOUTH ABUTMENT
RECONSTRUCT EXPANSION JOINT TYPE B

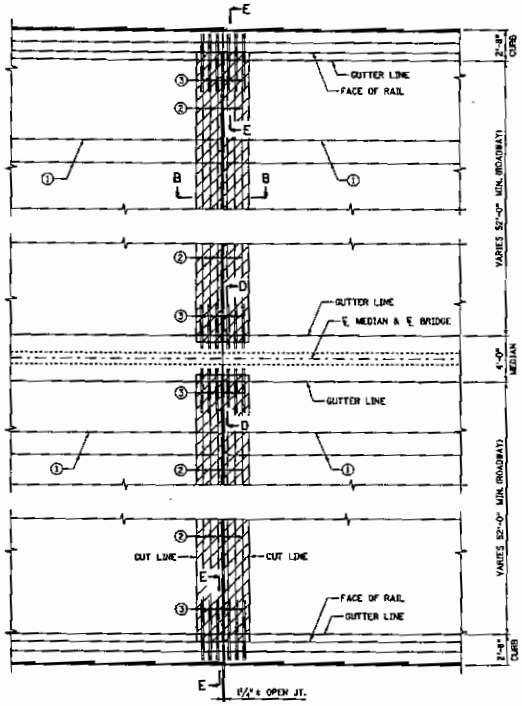
NOTES:

DENOTES REMOVAL

EXPOSED SURFACE CUTLINES SHALL BE SAWCUT TO 1" DEEP.

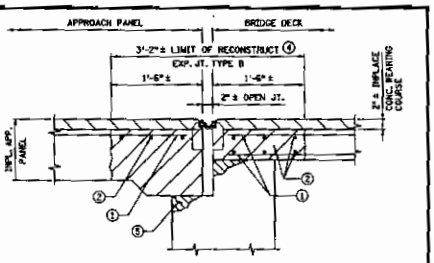
SEE SHEET 6 FOR SECTION C-C LOCATION.

SEE SHEET 6 FOR SECTIONS D-D, E-E AND F-F.

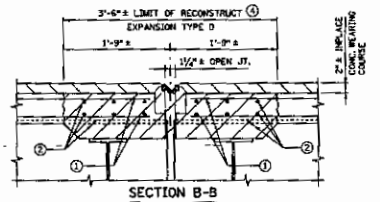


AT EXPANSION JOINT NO. 1 - 5
RECONSTRUCT EXPANSION JOINT TYPE B

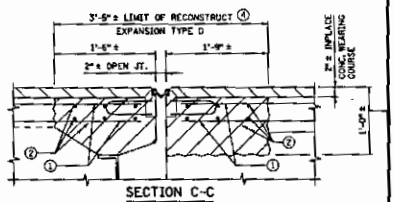
PART - PLAN
(INPLACE)



SECTION A-A
(SOUTH ABUTMENT)



SECTION B-B
(TYP. AT EXP. JT. NO. 1 THRU 5)



SECTION C-C
(PIER 11)

① INPLACE LONGITUDINAL DECK AND APP. PANEL REINF. NOT COMPLETELY EXPOSED TO REMAIN, CLEAN, STRAIGHTEN AND ADJUST AS REQUIRED.

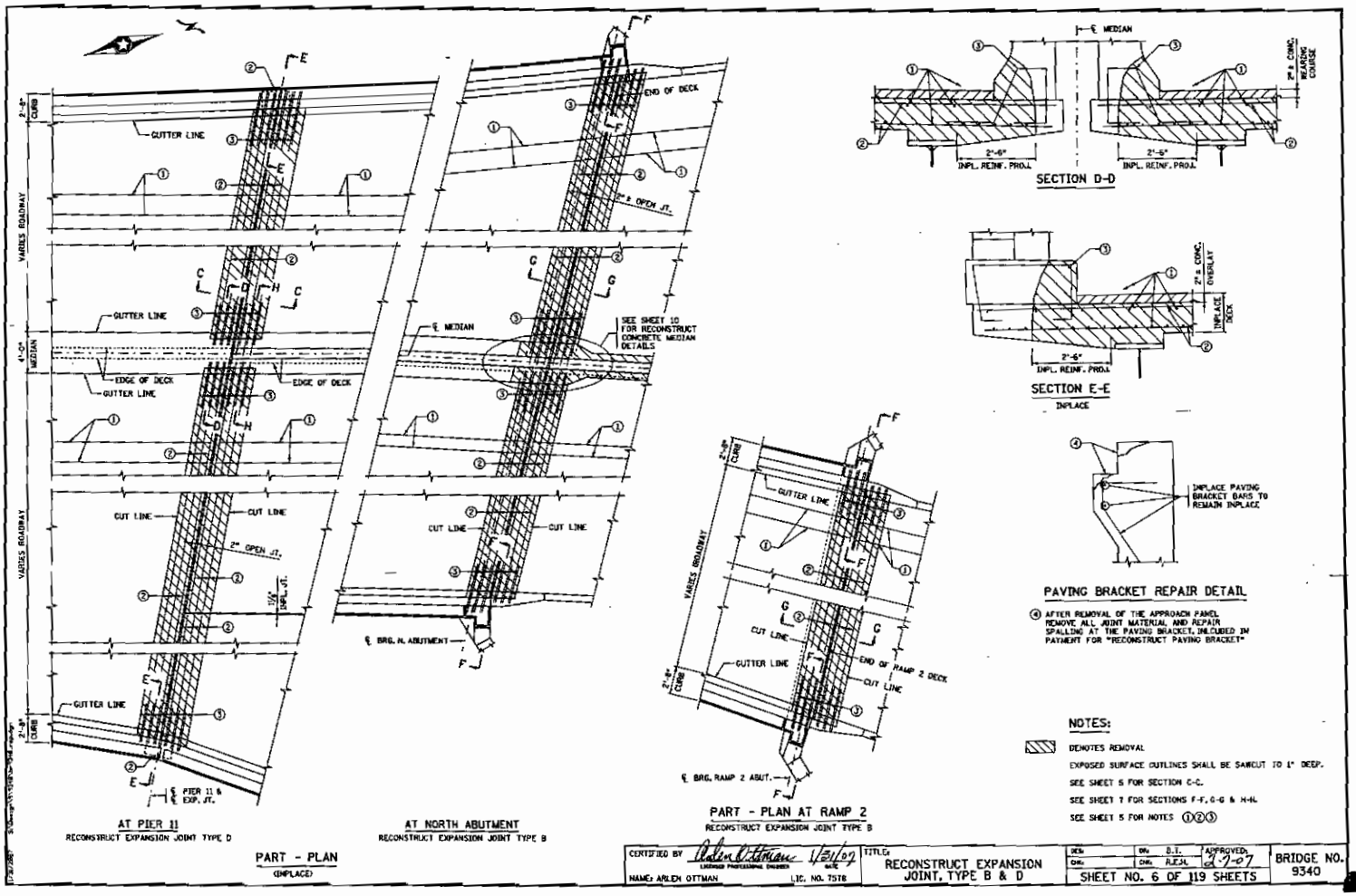
② INPLACE TRANSVERSE REINF. COMPLETELY EXPOSED TO BE REMOVED AND DISPOSED OF. TRANSVERSE REINF. AT JOINT REMOVAL NOT COMPLETELY EXPOSED TO REMAIN INPLACE, CLEAN, STRAIGHTEN AND ADJUST AS REQUIRED. CUT TO PROVIDE A 2'-5" PROJECTION FROM CUTLINE.

③ INPLACE MEDIAN AND CURB VERTICAL REINF. NOT COMPLETELY EXPOSED TO REMAIN, CLEAN, STRAIGHTEN AND ADJUST AS REQUIRED.

④ REMOVAL LIMITS MAY BE ADJUSTED ACCORDINGLY TO CORRESPOND WITH THE CONSTRUCTION JOINT LIMITS FROM PREVIOUS JOINT RECONSTRUCTION.

⑤ SEE SHEET 6 FOR PAVING BRACKET REPAIR DETAIL AND SPECIAL PROVISIONS.

CERTIFIED BY: Arlen Ottman, LICENSED PROFESSIONAL ENGINEER — DATE 1/31/07 — NAME: ARLEN OTTMAN — LIC. NO. 7578	TITLE: RECONSTRUCT EXPANSION JOINT, TYPE B & D	DES. / CHK.	DR. B.T. / CHK. R.E.N.	APPROVED: 2-7-07
		SHEET NO. 5 OF 119 SHEETS		BRIDGE NO. 9340



AT PIER 11
RECONSTRUCT EXPANSION JOINT TYPE D

AT NORTH ABUTMENT
RECONSTRUCT EXPANSION JOINT TYPE B

PART - PLAN
(INPLACE)

PART - PLAN AT RAMP 2
RECONSTRUCT EXPANSION JOINT TYPE B

SECTION D-D

SECTION E-E
INPLACE

PAVING BRACKET REPAIR DETAIL

④ AFTER REMOVAL OF THE APPROACH PANEL REMOVE ALL JOINT MATERIAL AND REPAIR SPALLING AT THE PAVING BRACKET, INCLUDED IN PAYMENT FOR "RECONSTRUCT PAVING BRACKET"

NOTES:

DENOTES REMOVAL

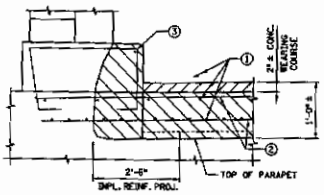
EXPOSED SURFACE OUTLINES SHALL BE SAWCUT TO 1" DEEP.

SEE SHEET 5 FOR SECTION C-C.

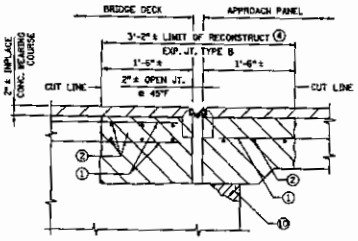
SEE SHEET 7 FOR SECTIONS F-F, G-G & H-H.

SEE SHEET 5 FOR NOTES ①②③

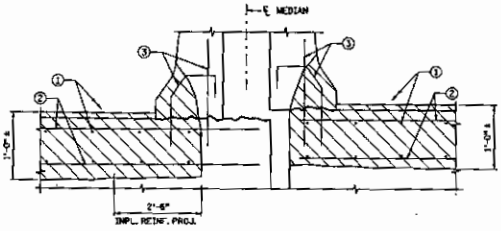
CERTIFIED BY Arlen Ottman 1/31/07 LICENSED PROFESSIONAL ENGINEER DATE NAME: ARLEN OTTMAN LIC. NO. 7578	TITLE: RECONSTRUCT EXPANSION JOINT, TYPE B & D	DES: DR: B.T. CHK: R.E.H.	APPROVED: 2-7-07	BRIDGE NO. 9340
		SHEET NO. 6 OF 119 SHEETS		



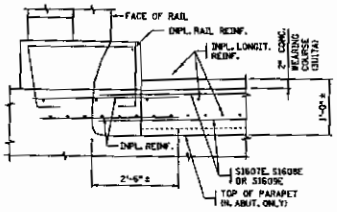
SECTION F-F
INPLACE



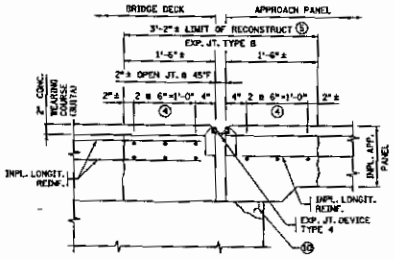
SECTION G-G
INPLACE



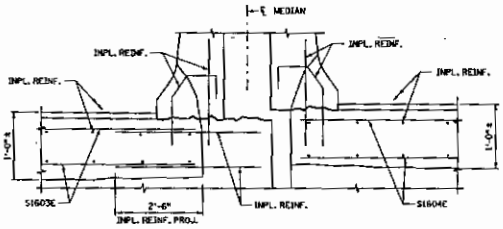
SECTION H-H
INPLACE



SECTION F-F
PROPOSED



SECTION G-G
PROPOSED



SECTION H-H
PROPOSED

NOTES:

DENOTES REMOVAL

EXPOSED SURFACE CUTLINES SHALL BE SAWCUT TO 1" DEEP.

SEE SHEET 5 FOR NOTES ①②③

SEE SHEET 6 FOR EXP. JT. RECONSTRUCTION AT NORTH END OF BRIDGE.

④ S1607E, S1608E OR S1609E TOP & BOT.

⑤ CONCRETE FOR JOINT RECONSTRUCTION TO BE MIX (3Y33).

⑩ SEE SHEET 6 FOR PAVING BRACKET REPAIR DETAIL AND SPECIAL PROVISION.

⑧ BILL OF REINFORCEMENT FOR RECONSTRUCTION EXPANSION JOINT TYPE B

BAR	NO.	LENGTH	SHAPE	LOCATION
S1601E	18	55'-1"	——	TRANS. AT S. ABUT. T & B
S1607E	9	36'-2"	——	TRANS. AT N. ABUT. T & B
S1608E	9	51'-10"	——	TRANS. AT N. ABUT. T & B
S1609E	9	47'-8"	——	TRANS. AT RAMP 2 T & B

⑧ REINFORCEMENT BARS TO BE INCLUDED IN PAYMENT FOR "RECONSTRUCT EXPANSION JOINT TYPE B". WEIGHT OF REINFORCEMENT FOR 5 JOINTS IS APPROXIMATELY 3530 LBS.

⑨ BILL OF REINFORCEMENT FOR RECONSTRUCTION EXPANSION JOINT TYPE D

BAR	NO.	LENGTH	SHAPE	LOCATION
S1602E	120	53'-0"	——	TRANS. AT JT. RECONST. NO. 1-5 T & B
S1603E	12	55'-4"	——	TRANS. AT PIER 11 JT. RECONST. T & B
S1604E	12	43'-10"	——	TRANS. AT PIER 11 JT. RECONST. T & B
S1605E	6	56'-3"	——	TRANS. AT PIER 11 JT. RECONST. T & B
S1606E	6	28'-6"	——	TRANS. AT PIER 11 JT. RECONST. T & B

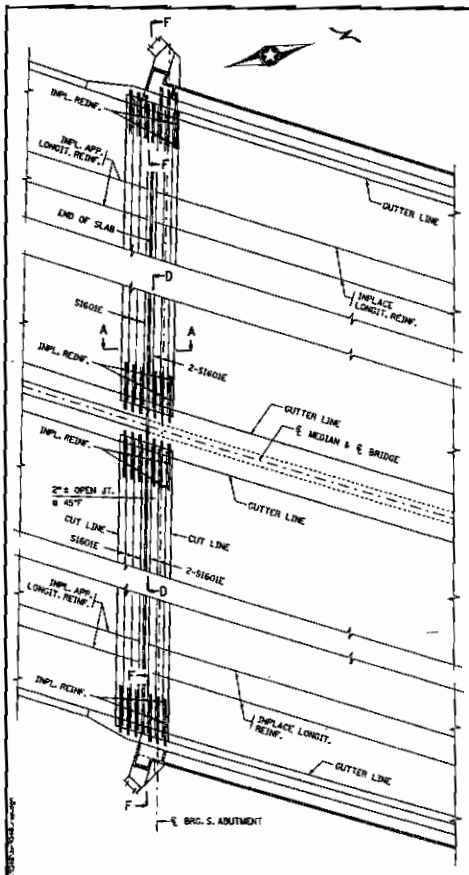
⑨ REINFORCEMENT BARS TO BE INCLUDED IN PAYMENT FOR "RECONSTRUCT EXPANSION JOINT TYPE D". WEIGHT OF REINFORCEMENT FOR 12 JOINTS IS APPROXIMATELY 9100 LBS.

CERTIFIED BY Arlen Ottman 1/31/07 LICENSED PROFESSIONAL ENGINEER DATE NAME: ARLEN OTTMAN LIC. NO. 7578	TITLE: RECONSTRUCT EXPANSION JOINT, TYPE B & D	DES:	DN: B.T.	APPROVED: 2-7-07	BRIDGE NO. 9340
		CHK:	CHK: R.E.H.		
		SHEET NO. 7 OF 119 SHEETS			

NOTES:

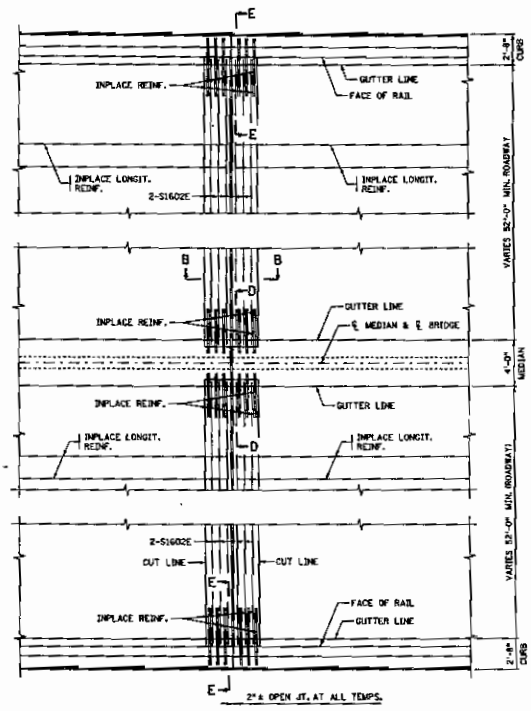
SEE SHEET 9 FOR SECTION C-C LOCATION.

SEE SHEET 9 FOR SECTIONS D-D, E-E AND F-F.



BEAM SPANS

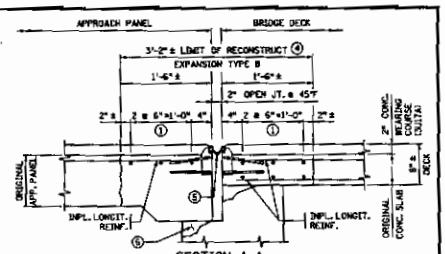
AT SOUTH ABUTMENT
RECONSTRUCT EXPANSION JOINT TYPE B



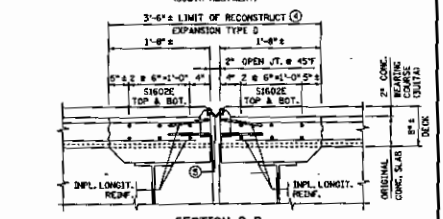
TRUSS SPANS

AT EXPANSION JOINT NO. 1 - 5
RECONSTRUCT EXPANSION JOINT TYPE B

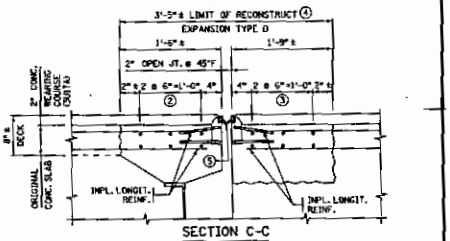
PART - PLAN
(PROPOSED)



SECTION A-A
(SOUTH ABUTMENT)



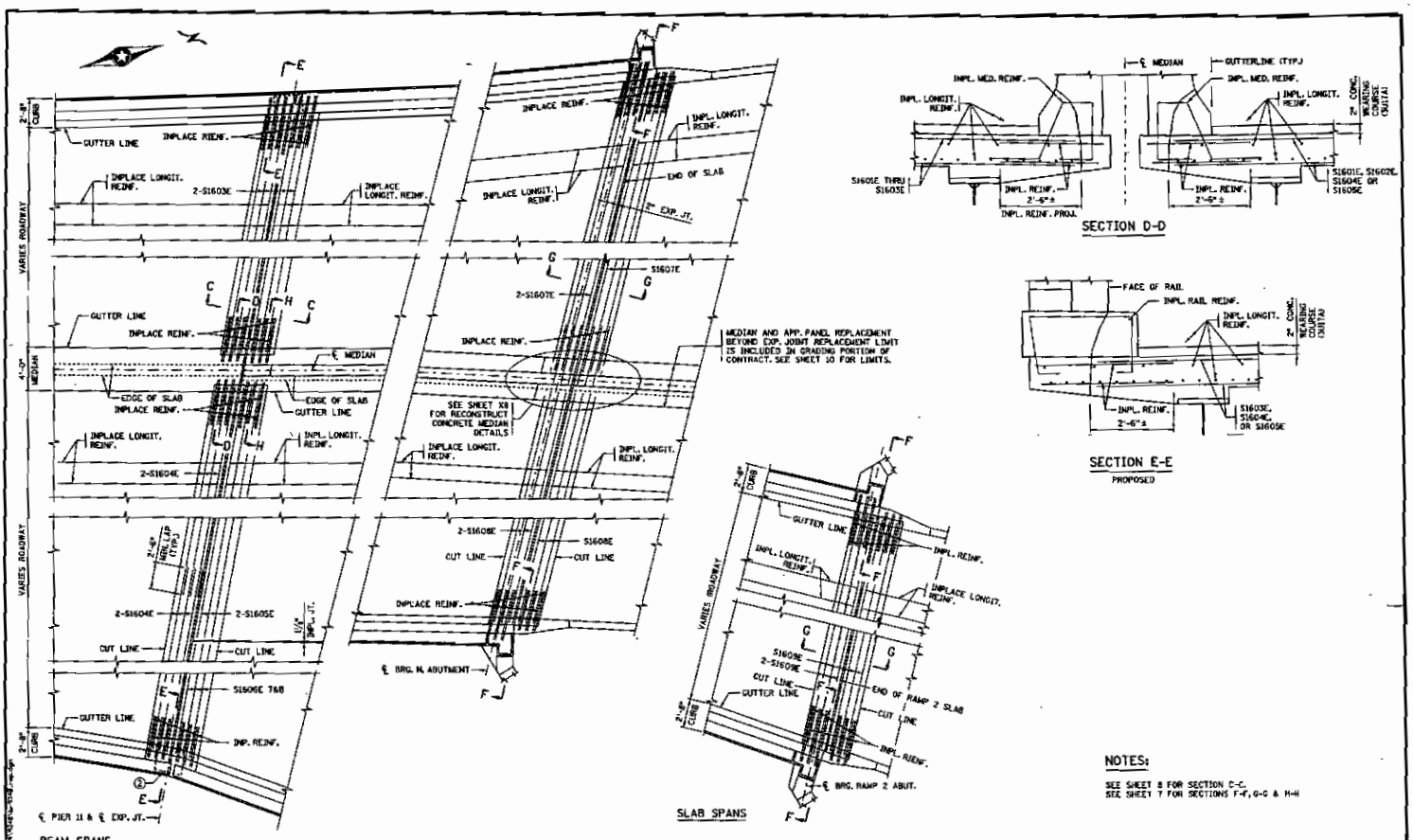
SECTION B-B
(TYP. AT EXP. JT. NO. 1 THRU 5)



SECTION C-C
(PIER 11)

1. S1601E TOP & BOTTOM
2. S1603E OR S1604E TOP & BOTTOM
3. S1605E, S1606E OR S1606E TOP & BOTTOM
4. CONCRETE FOR JOINT RECONSTRUCTION TO BE MIX (3Y33).
5. EXP. JT. DEVICE TYPE 4
6. SEE SHEET 6 FOR PAVING BRACKET REPAIR DETAIL AND SPECIAL PROVISIONS.

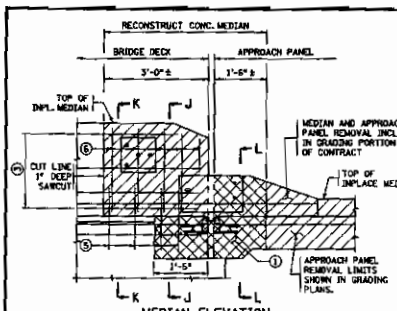
CERTIFIED BY: Arlen Ottman 1/31/07 (LICENSED PROFESSIONAL ENGINEER) DATE	TITLE: RECONSTRUCT EXPANSION JOINT, TYPE B & D	DES: DR: B.T. CHK: CHK: R.E.H. APPROVED: 02-9-07	BRIDGE NO. 9340
NAME: ARLEN OTTMAN LIC. NO. 7578		SHEET NO. 8 OF 119 SHEETS	



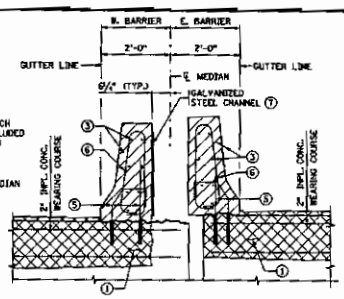
NOTES:

SEE SHEET 8 FOR SECTION C-C.
SEE SHEET 7 FOR SECTIONS F-F, G-G & H-H

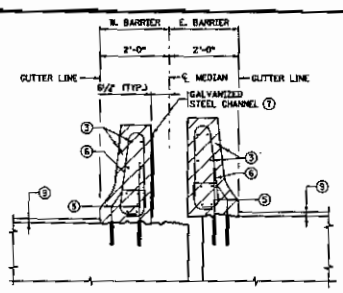
CERTIFIED BY [signature] 1/31/07 LICENSED PROFESSIONAL ENGINEER DATE NAME: ARLEN OTTMAN LIC. NO. 7578	TITLE: RECONSTRUCT EXPANSION JOINT, TYPE B & D	DES: DR: B.T. CHK: R.E.H.	APPROVED: 2-7-07	BRIDGE NO. 9340
		SHEET NO. 9 OF 119 SHEETS		



MEDIAN ELEVATION
INPLACE



SECTION J-J
INPLACE

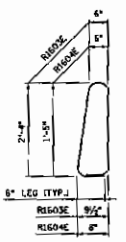


SECTION K-K
INPLACE

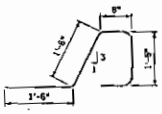
9 BILL OF REINFORCEMENT FOR RECONSTRUCT CONCRETE MEDIAN

BAR	NO.	LENGTH	SHAPE	LOCATION
R1601E	3	6'-7"		BARRIER DOWEL
R1602E	3	4'-2"		BARRIER DOWEL
R1603E	13	5'-9"		BARRIER VERTICAL
R1604E	2	4'-5"		BARRIER VERTICAL
R1605E	4	2'-8"		BARRIER HORIZONTAL
R1606E	3	2'-6"		BARRIER VERTICAL
R1607E	3	8'-6"		BARRIER DOWEL
R1608E	16	1'-2"		BARRIER HORIZONTAL

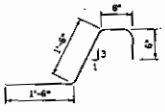
9 REINFORCEMENT BARS TO BE INCLUDED IN PAYMENT FOR "RECONSTRUCT CONCRETE MEDIAN". WEIGHT OF REINFORCEMENT IS APPROXIMATELY 190 LBS.



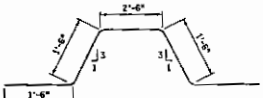
R1603E, R1604E.



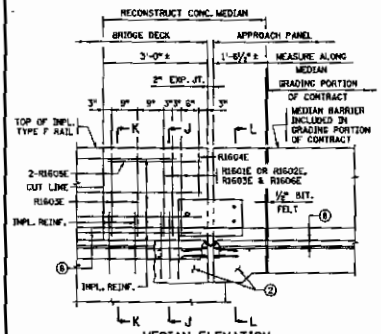
R1601E



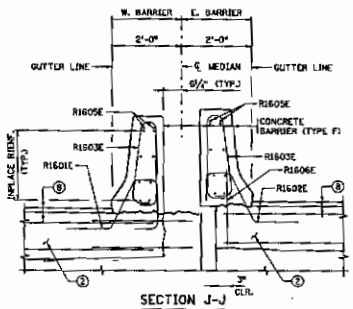
R1602E



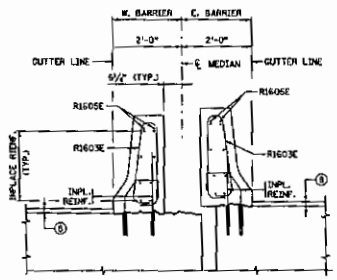
R1607E



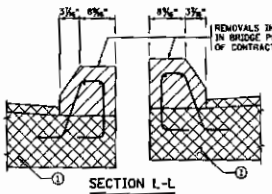
MEDIAN ELEVATION
PROPOSED



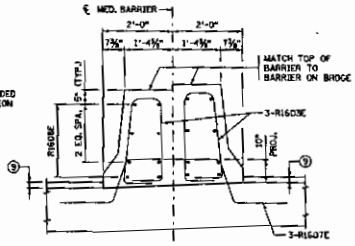
SECTION J-J
PROPOSED



SECTION K-K
PROPOSED



SECTION L-L
INPLACE



SECTION L-L
PROPOSED

NOTES:

▨ DENOTES REMOVAL

EXPOSED SURFACE CUTLINES SHALL BE SAWCUT TO 1" DEEP.

1. SEE SHEET 6 FOR RECONSTRUCT EXPANSION JOINT TYPE B DETAILS (INPLACE).
2. SEE SHEET 9 FOR RECONSTRUCT EXPANSION JOINT TYPE B DETAILS (PROPOSED).
3. INPLACE LONGITUDINAL MEDIAN REINF. NOT COMPLETELY EXPOSED TO REMAIN, CLEAN, STRAIGHTEN AND ADJUST AS REQUIRED.
5. INPLACE MEDIAN DOWELS REINF. AT JOINT RECONSTRUCTION COMPLETELY EXPOSED TO BE REMOVED AND DISPOSED OF. MEDIAN DOWELS REINF. NOT COMPLETELY EXPOSED TO REMAIN INPLACE, CLEAN, STRAIGHTEN AND ADJUST AS REQUIRED.
6. INPLACE MEDIAN VERTICAL REINF. COMPLETELY EXPOSED TO BE REMOVED AND DISPOSED OF.
7. DO NOT REPLACE STEEL CHANNEL UNLESS IT IS NEED TO SUPPORT ANTI-ICING SYSTEM COMPONENTS.
8. 2" CONCRETE WEARING COURSE.

RECONSTRUCT CONCRETE MEDIAN IS 5 LIN. FT.

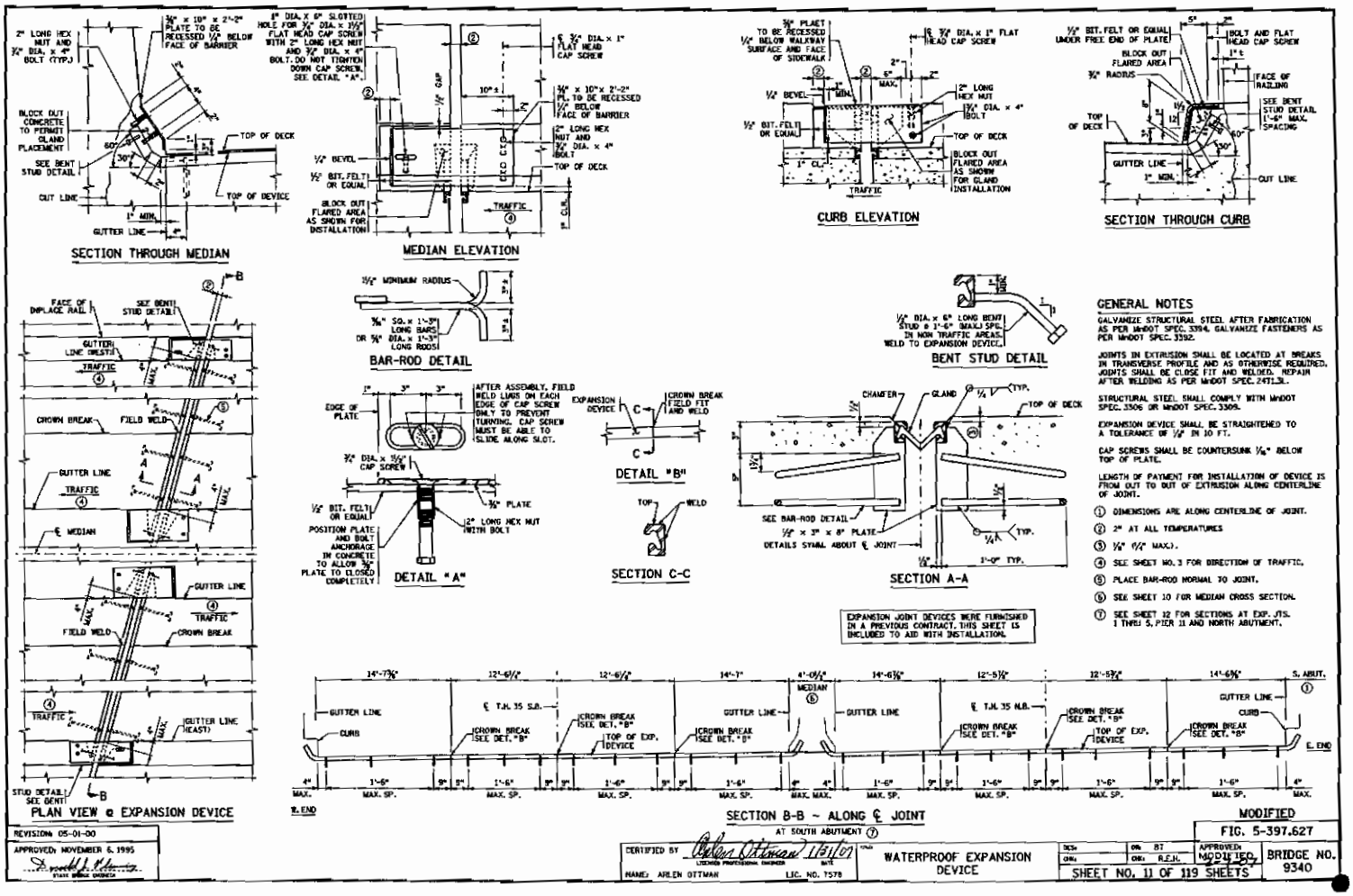
CERTIFIED BY Arlen Ottman 1/31/07 DATE
LICENSED PROFESSIONAL ENGINEER
NAME: ARLEN OTTMAN LIC. NO. 7578

TITLE: RECONSTRUCT CONCRETE MEDIAN

DES. | CHK. | DR. B.T. | CHK. R.E.H. | APPROVED: 2-7-07

SHEET NO. 10 OF 119 SHEETS

BRIDGE NO. 9340



GENERAL NOTES

GALVANIZE STRUCTURAL STEEL AFTER FABRICATION AS PER MnDOT SPEC. 3394. GALVANIZE FASTENERS AS PER MnDOT SPEC. 3392.

JOINTS IN EXTRUSION SHALL BE LOCATED AT BREAKS IN TRANSVERSE PROFILE AND AS OTHERWISE REQUIRED. JOINTS SHALL BE CLOSE FIT AND WELDED. REPAIR AFTER WELDING AS PER MnDOT SPEC. 2471.3L.

STRUCTURAL STEEL SHALL COMPLY WITH MnDOT SPEC. 3306 OR MnDOT SPEC. 3309.

EXPANSION DEVICE SHALL BE STRAIGHTENED TO A TOLERANCE OF 1/8" IN 10 FT.

CAP SCREWS SHALL BE COUNTERSUNK 1/16" BELOW TOP OF PLATE.

LENGTH OF PAYMENT FOR INSTALLATION OF DEVICE IS FROM OUT TO OUT OF EXTRUSION ALONG CENTERLINE OF JOINT.

① DIMENSIONS ARE ALONG CENTERLINE OF JOINT.

② 2" AT ALL TEMPERATURES

③ 1/8" (1/4" MAX.).

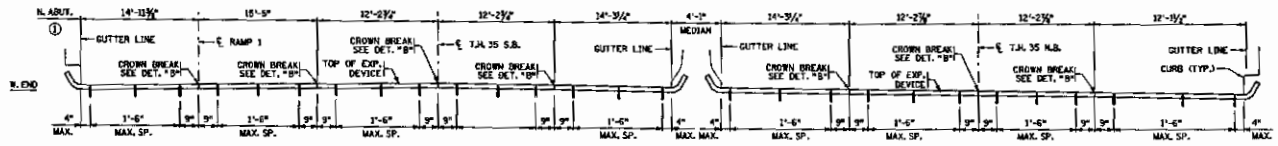
④ SEE SHEET NO. 3 FOR DIRECTION OF TRAFFIC.

⑤ PLACE BAR-ROD NORMAL TO JOINT.

⑥ SEE SHEET 10 FOR MEDIAN CROSS SECTION.

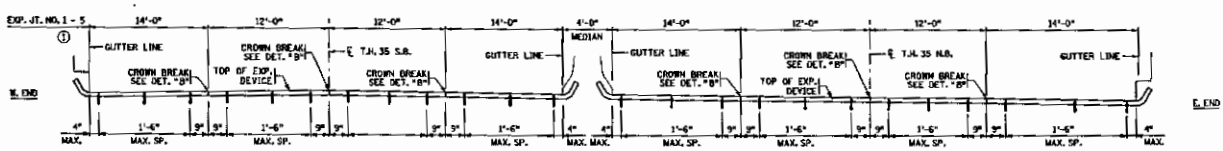
⑦ SEE SHEET 12 FOR SECTIONS AT EXP. JTS. 1 THRU 5, PIER 11 AND NORTH ABUTMENT.

EXPANSION JOINT DEVICES WERE FURNISHED IN A PREVIOUS CONTRACT. THIS SHEET IS INCLUDED TO AID WITH INSTALLATION.



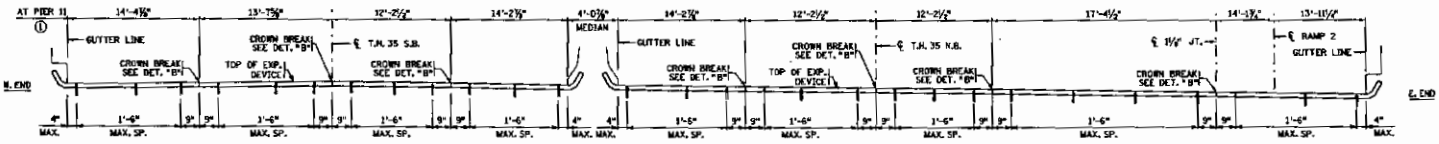
SECTION B-B ~ ALONG ℄ JOINT

AT NORTH ABUTMENT



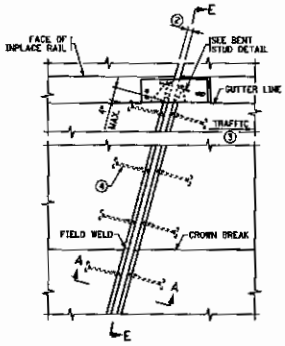
SECTION B-B ~ ALONG ℄ JOINT

AT EXP. JTS. NO. 1-5

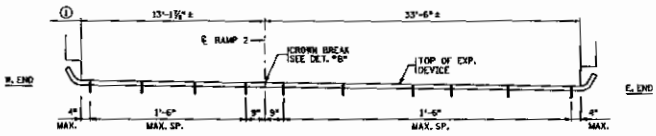


SECTION B-B ~ ALONG ℄ JOINT

AT PIER 11



PLAN VIEW @ EXPANSION DEVICE



SECTION E-E ~ ALONG ℄ JOINT

AT NORTH ABUTMENT AT RAMP 2

EXPANSION JOINT DEVICES WERE FURNISHED IN A PREVIOUS CONTRACT. THIS SHEET IS INCLUDED TO AID WITH INSTALLATION.

GENERAL NOTES

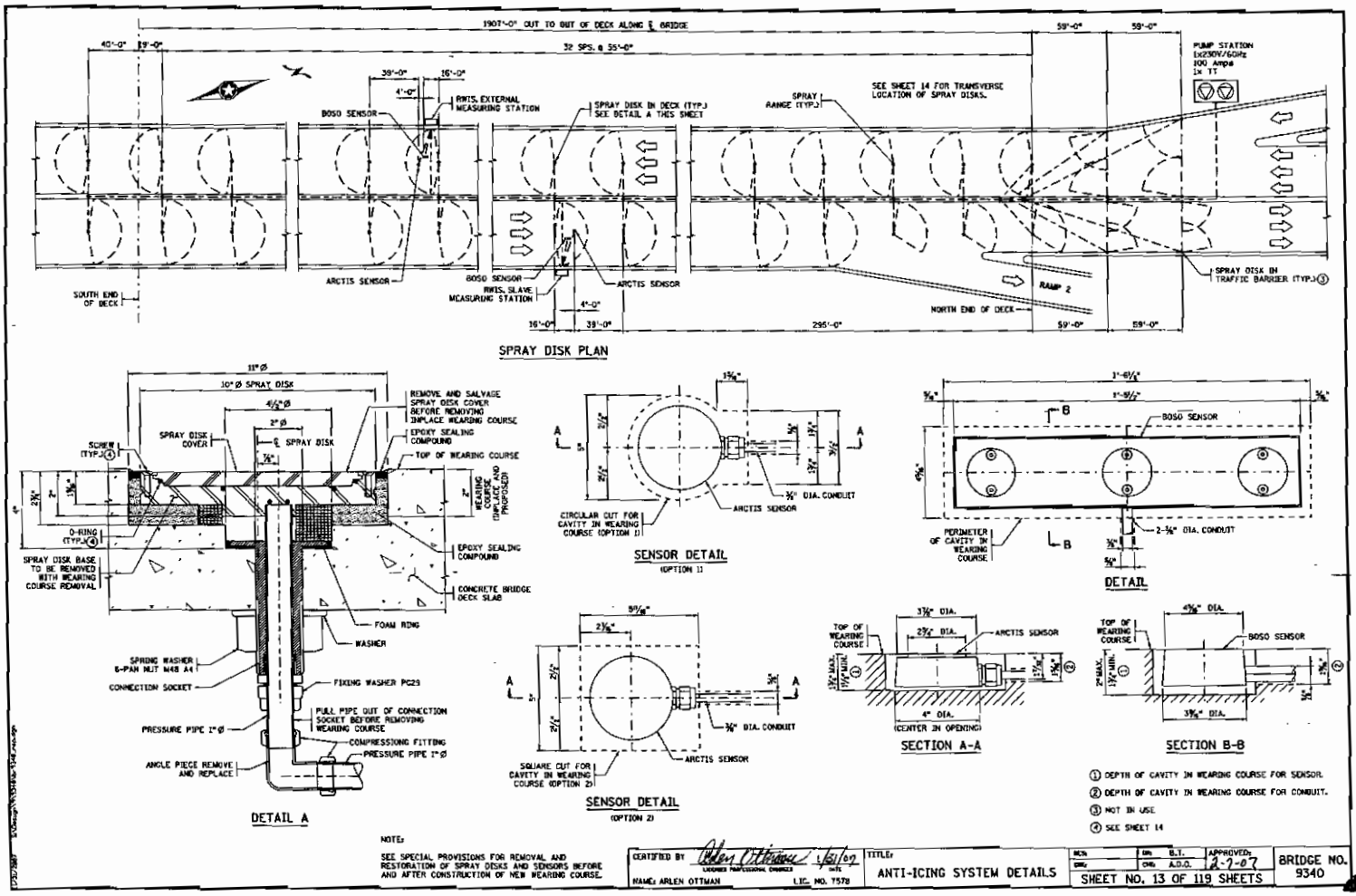
SEE SHEET 11 FOR DETAIL B.

SEE SHEET 11 FOR SECTION A-A.

SEE SHEET 11 FOR SECTION B-B LOCATION.

1. DIMENSIONS ARE ALONG CENTERLINE OF JOINT.
2. 2" AT ALL TEMPERATURES
3. SEE SHEET NO. 3 FOR DIRECTION OF TRAFFIC.
4. PLACE BAR-ROD NORMAL TO JOINT.
5. SEE SHEET 10 FOR MEDIAN CROSS SECTIONS.

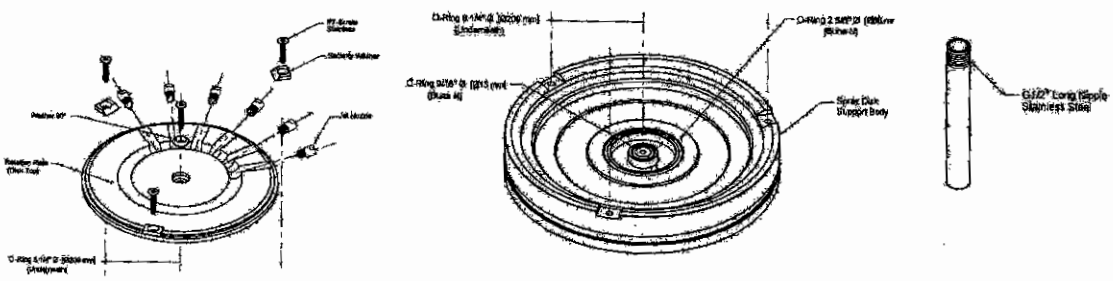
CERTIFIED BY [signature] 1/31/07 LICENSED PROFESSIONAL ENGINEER DATE NAME: ARLEN OTTMAN LIC. NO. 7578	TITLE: WATERPROOF EXPANSION DEVICE	DES: DR: B.T. CHK: CHK: R.E.H.	APPROVED: 2-7-07	BRIDGE NO. 9340
		SHEET NO. 12 OF 119 SHEETS		



① DEPTH OF CAVITY IN WEARING COURSE FOR SENSOR.
② DEPTH OF CAVITY IN WEARING COURSE FOR CONDUIT.
③ NOT IN USE
④ SEE SHEET 14

NOTE:
SEE SPECIAL PROVISIONS FOR REMOVAL AND RESTORATION OF SPRAY DISKS AND SENSORS BEFORE AND AFTER CONSTRUCTION OF NEW WEARING COURSE.

CERTIFIED BY: Arlen Ottman 1/31/07 (LICENSED PROFESSIONAL ENGINEER) DATE	TITLE: ANTI-ICING SYSTEM DETAILS	DES. B.T. / CHK. A.D.O.	APPROVED: 2-7-07	BRIDGE NO. 9340
NAME: ARLEN OTTMAN LIC. NO. 7578		SHEET NO. 13 OF 119 SHEETS		



STANDARD VIEW-SPRAY DISK (BOTTOM CONNECTION)
WITH ADJUSTABLE SPRAY PATTERN AND ROTATION PLATE

SUMMARY OF QUANTITIES FOR RECONSTRUCT ANTI-ICING SYSTEM ①

	SALVAGE SPRAY DISK COVER	68 EACH
	SALVAGE 1" DIA. PRESSURE PIPE	68 EACH
	1" DIA. ANGLE PIECE	68 EACH
	SPRAY DISK BASE	68 EACH
②	BOSO SENSOR (WITH CABLE)	2 EACH
②	ARCTIS SENSOR (WITH CABLE)	2 EACH
	INSTALL SPRAY DISK BASE	68 EACH
	REINSTALL SPRAY DISK COVER	68 EACH
③	15 mm O - RING	68 EACH
③	66 mm O - RING	68 EACH
③	209 mm O - RING	68 EACH

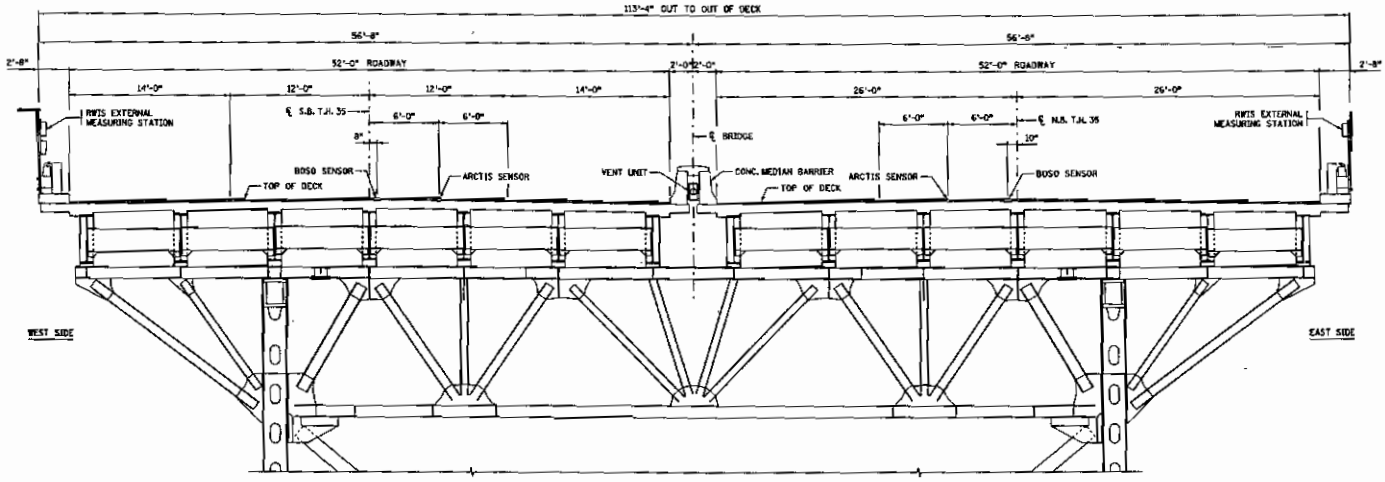
① SPECIAL PROVISIONS.
ALL QUANTITIES LISTED ABOVE ARE INCLUDED IN "RECONSTRUCT ANTI-ICING SYSTEM."

② ESTIMATED LENGTH OF CABLE: 50 m FOR ALL SENSORS.

③ ONE O - RING OF EACH SIZE PER SPRAY DISK.

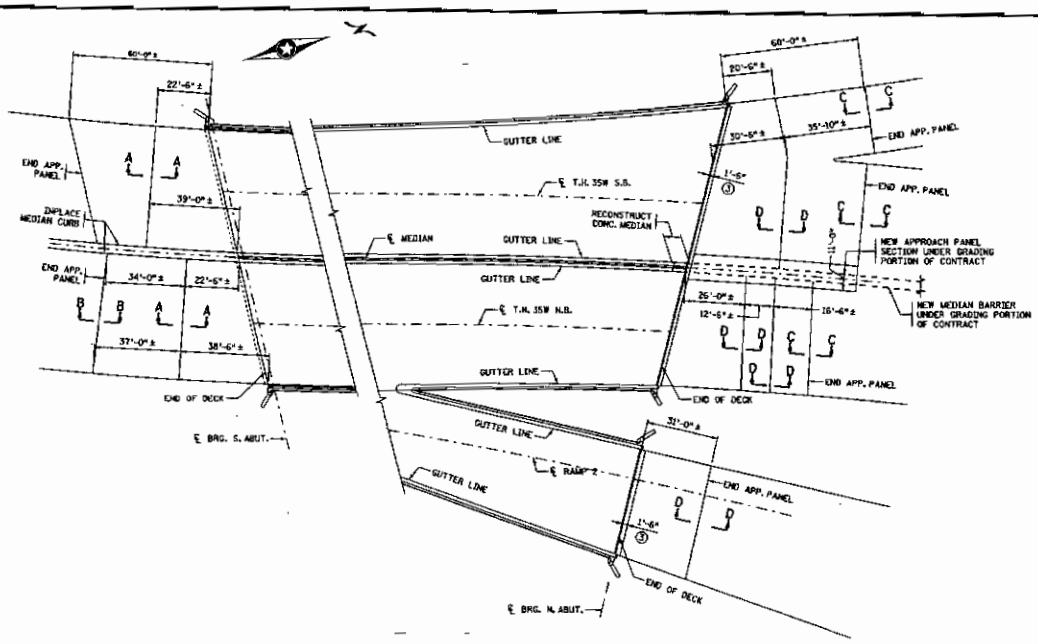
QUANTITIES GIVEN IN TABLE ARE FOR THE CONTRACTOR'S CONVENIENCE ONLY. ANY EXTRA MATERIAL SHALL BE FURNISHED BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION.

EXTRA WORK AND MATERIAL ORDERED BY THE ENGINEER WILL BE PAID FOR UNDER THE PROVISIONS OF MN/DOT 1403.

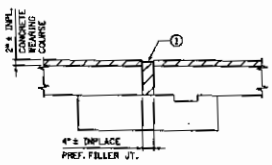


TYPICAL TRANSVERSE SECTION
(BEAMS AND TRUSS SPANS)

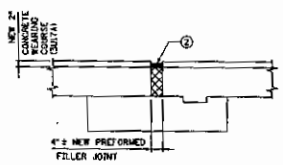
CERTIFIED BY [signature] 1/31/07 LICENSED PROFESSIONAL ENGINEER DATE NAME: ARLEN OTTMAN LIC. NO. 7578	TITLE: ANTI-ICING SYSTEM DETAILS	DES: DR: B.T. CHK: CHK: A.D.O.	APPROVED: 2-7-07	BRIDGE NO. 9340
		SHEET NO. 14 OF 119 SHEETS		



INPLACE APPROACH PANELS PLAN



SECTION A-A
(INPLACE)



SECTION A-A
(PROPOSED)

NOTES:

DENOTES REMOVAL

DENOTES NEW PREFORMED JOINT FILLER

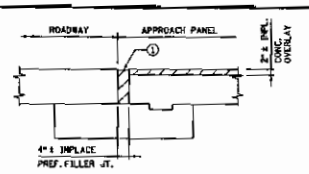
ALL NEW WEARING COURSE ON APPROACH PANELS IS INCLUDED IN BRIDGE PORTION OF CONTRACT.

JOINTS AT SECTIONS A-A, B-B & C-C INCLUDED IN ITEM "RESEAL JOINT TYPE EBS" PER LIN. FT. JOINTS AT SECTION D-D INCLUDED IN ITEM "SEAL CONCRETE PAVEMENT JOINTS" PER LIN. FT.

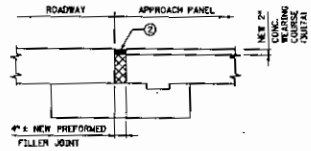
① ALL PREFORMED JOINT FILLER & SEALER TO BE REMOVED & DISPOSED OF & CUT TO 4" OPENING & CLEAN JOINT.

② PROVIDE NEW PREFORMED JOINT FILLER AND SEAL PER SPEC 3723.

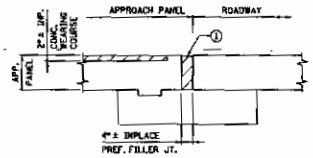
③ EXPANSION JOINT INCLUDED IN BRIDGE PORTION OF CONTRACT.



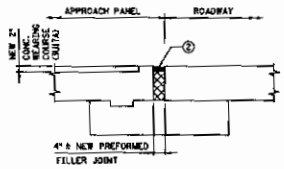
SECTION B-B
(INPLACE)



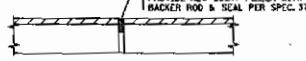
SECTION B-B
(PROPOSED)



SECTION C-C
(INPLACE)



SECTION C-C
(PROPOSED)



SECTION D-D
(INPLACE/PROPOSED)

CERTIFIED BY: Arlen Ottman 4/31/07 (LICENSED PROFESSIONAL ENGINEER, DATE) NAME: ARLEN OTTMAN LIC. NO. 7578	TITLE: APPROACH PANEL DETAILS	DES: B.T. DRN: R.E.H. APPROVED: 2-7-07	BRIDGE NO. 9340
		SHEET NO. 15 OF 119 SHEETS	

CONCRETE WEARING COURSE

☐ LOW SLUMP

☐ OTHER _____
TYPE OR MANUFACTURER

EXPANSION JOINTS

JOINT MANUFACTURER _____
NAME AND ADDRESS (CITY, STATE)

MANUFACTURER'S IDENTIFICATION _____
MFR'S No. AND/OR LETTER DESIGNATION FOR JOINT USED

GLAND MANUFACTURER _____
NAME AND ADDRESS (CITY, STATE)

SIZE OF GLAND _____

MANUFACTURER'S IDENTIFICATION _____
MFR'S No. AND/OR LETTER DESIGNATION FOR GLAND USED

ELASTOMERIC BEARING PADS

PAD MANUFACTURER _____
NAME AND ADDRESS (CITY, STATE)

SPECIAL SURFACE FINISH

SYSTEM: _____ COLOR: _____

FINISHING ROADWAY FACES OF BARRIER RAILING

TYPE: _____ COLOR: _____

ANTI-GRAFFITI COATING

MANUFACTURER _____
NAME AND ADDRESS (CITY, STATE)

PRODUCT NAME: _____ LOCATION: _____

PAINT SYSTEM

Mn/DOT SPECIFICATION NUMBER _____
2478 OR 2479 OR OTHER

MANUFACTURER _____
NAME AND ADDRESS (CITY, STATE)

PRIME COAT _____
Mn/DOT MATERIAL SPECIFICATION NUMBER

INTERMEDIATE COAT _____
Mn/DOT MATERIAL SPECIFICATION NUMBER

FINISH COAT _____ _____
Mn/DOT MATERIAL SPECIFICATION NUMBER COLOR

PLAN QUALITY

RATE 1 (AGREE), 2 (NEUTRAL), OR 3 (DISAGREE, PLEASE COMMENT BELOW)

DIMENSIONING AND DETAILING ADEQUATELY DESCRIBED REQUIRED CONSTRUCTION. _____

BAR LISTS AND QUANTITIES WERE TYPICALLY COMPLETE AND FREE OF ERRORS. _____

SCALE OF DRAWINGS AND OVERALL LEGIBILITY OF LINES AND TEXT WAS GOOD. _____

(SB) SPECIAL PROVISIONS ADEQUATELY DESCRIBED SPECIAL WORK AND PAYMENT. _____

COMMENTS: _____

NUMBER OF BRIDGE SUPPLEMENTAL AGREEMENTS: _____ COST: $ _____

LIST SIGNIFICANT ERRORS OR OMISSIONS IN PLAN DETAILS OR PAY QUANTITIES IN THE SPACE PROVIDED AT RIGHT.

OTHER ITEMS ①

① UTILITIES ADDED DURING CONSTRUCTION AND SPECIALTY ITEMS.

FINAL QUANTITIES ENTERED ON SCHEDULE OF QUANTITIES: YES ☐ NO ☐

SUMMARY OF SIGNIFICANT AS-BUILT CHANGES

THE AS-BUILT INFORMATION WAS ADDED TO THE PLAN BY:

_____ _____
INSPECTOR(S) SIGNATURE DATE

CHECKED BY: _____ _____
PROJECT ENGINEER/SUPERVISOR SIGNATURE DATE

AT THE TIME OF THE FINAL, THIS COMPLETED AS-BUILT BRIDGE DATA SHEET MUST BE SUBMITTED TO THE BRIDGE OFFICE - ATTN: REGIONAL CONSTRUCTION ENGINEER (MS610).

REVISION: 05-27-2005
APPROVED: SEPTEMBER 26, 2003
[signature]
STATE BRIDGE ENGINEER

AS-BUILT DETAILS
(AS NEEDED)

FIG. 5-397.900

TITLE: AS-BUILT BRIDGE DATA

RES: DR: CHK: CHK:

APPROVED: 2-7-07

SHEET NO. 16 OF 119 SHEETS

BRIDGE NO. 9340