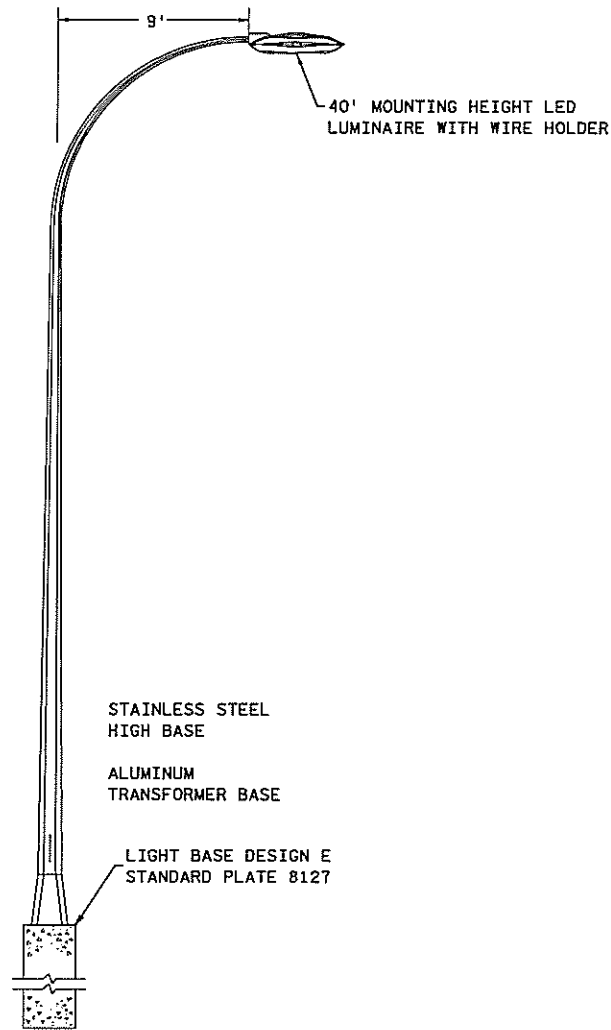


FF LIGHTING TABULATION				
ITEM DESCRIPTION	UNIT	TOTAL	SP 0202-95	SP 199-115-002
SALVAGE LIGHT FOUNDATION	EACH	1		1
SALVAGE LIGHTING UNIT	EACH	1		1
LIGHTING UNIT TYPE 9-40	EACH	20	20	
UNDERPASS LUMINAIRES TYPE LED	EACH	2	2	
LIGHT FOUNDATION DESIGN E	EACH	20	20	
0.75" RIGID STEEL CONDUIT	LIN FT	61	61	
1" RIGID STEEL CONDUIT	LIN FT	150	150	
2" RIGID STEEL CONDUIT	LIN FT	16	16	
2" NON-METALLIC CONDUIT	LIN FT	95	95	
3" NON-METALLIC CONDUIT	LIN FT	491	491	
UNDERGROUND WIRE 1 COND NO 2	LIN FT	81	81	
UNDERGROUND WIRE 1 COND NO 10	LIN FT	3168	3168	
DIRECT BURIED LIGHTING CABLE 4 COND NO 4	LIN FT	5524	5524	
SERVICE CABINET - TYPE L1	EACH	1	1	
UNDERGROUND CABLE SPLICE	EACH	1	1	
EQUIPMENT PAD B	EACH	1	1	
JUNCTION BOX	EACH	2	2	
HANDHOLE	EACH	1	1	
INSTALL LIGHTING UNIT	EACH	1		1
INSTALL LIGHT FOUNDATION	EACH	1		1
0.75" LIQUIDTIGHT FLEXIBLE CONDUIT	LIN FT	24	24	
1" LIQUIDTIGHT FLEXIBLE CONDUIT	LIN FT	6	6	

LEGEND	
	LIGHTING UNIT TYPE 9-40
	UNDERPASS LUMINAIRES TYPE LED
	PERMANENT GROUND ROD (25 OHMS OR LESS)
	SERVICE CABINET - TYPE L1
	PAD MOUNTED SOURCE OF POWER (BY OTHERS)
	HANDHOLE
	DIRECT BURIED LIGHTING CABLE
	3" NON-METALLIC CONDUIT (UNLESS OTHERWISE NOTED)
	SALVAGED LIGHTING UNIT
	EXISTING LIGHTING UNIT
	EXISTING HANDHOLE (F&I IN TRAFFIC SIGNAL PLANS)
	EXISTING CONDUIT (F&I IN TRAFFIC SIGNAL PLANS)

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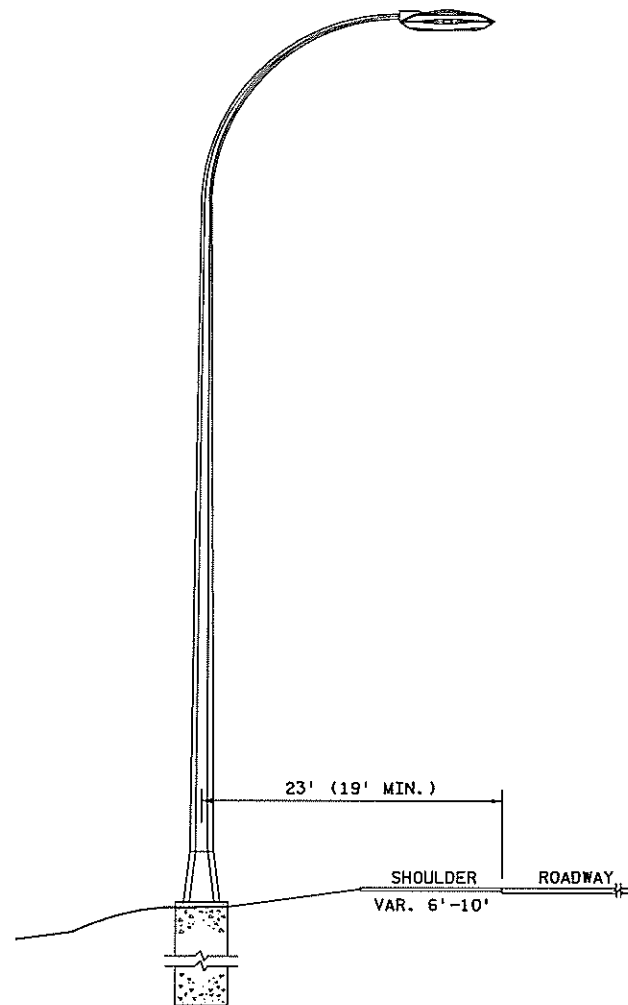
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Print Name: <u>STEVE MCHENRY</u> Date: <u>09-12-14</u> License # <u>46710</u>				STATE PROJECT NO. 002-683-004 199-115-002 STATE PROJECT NO. 0202-95 (TH 10) COUNTY PROJECT NO. 002-683-004 CITY PROJECT NO. 14-22		DRAWN BY T. RICHARDSON DESIGNED BY T. RICHARDSON CHECKED BY S. MCHENRY COMM. NO. 0138259		ANOKA COUNTY LIGHTING PLANS AND DETAILS T.H. 10 / C.S.A.H. 83 INTERCHANGE TABULATION AND LEGEND		SHEET 392 OF 586																	
REVISION <table border="1"> <thead> <tr> <th>NO</th> <th>DATE</th> <th>BY</th> <th>CKD</th> <th>APPR</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>				NO	DATE	BY	CKD	APPR																ENGINEERS PLANNERS DESIGNERS Consulting Group, Inc.		SHEET 392 OF 586	
NO	DATE	BY	CKD	APPR																							



LIGHTING UNIT TYPE 9-40
(BREAKAWAY)

RADIUS CHART (ENGLISH)

MAST ARM LENGTH	RADIUS
6	5
9	8
12	10



PLACEMENT OF LIGHTING UNIT
TYPE 9-40

NOTES:

1. USE THE MAXIMUM DISTANCE WHENEVER POSSIBLE, IF THE MINIMUM DISTANCE CANNOT BE OBTAINED CONTACT THE DISTRICT/DIVISION TRAFFIC ENGINEER.
2. LIGHT BASES SHALL BE PLACED IN ACCORDANCE WITH 2545.3F2.
3. DISTANCES SHALL BE MEASURED FROM THE EDGE OF DRIVING LANE OR TURN LANE.

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NO	DATE	BY	CKD	APPR	REVISION

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Print Name: STEVE MCHENRY

Steve Mchenry

Date: 09-12-14 License #: 46710

STATE PROJECT NO. 002-683-004
199-115-002

STATE PROJECT NO. 0202-95 (TH 10)

COUNTY PROJECT NO. 002-683-004

CITY PROJECT NO. 14-22

DRAWN BY T. RICHARDSON
DESIGNED BY T. RICHARDSON
CHECKED BY S. MCHENRY
COMM. NO. 0138259



ENGINEERS
PLANNERS
DESIGNERS

ANOKA COUNTY
LIGHTING PLANS AND DETAILS
T.H. 10 / C.S.A.H. 83 INTERCHANGE
LIGHTING DETAILS

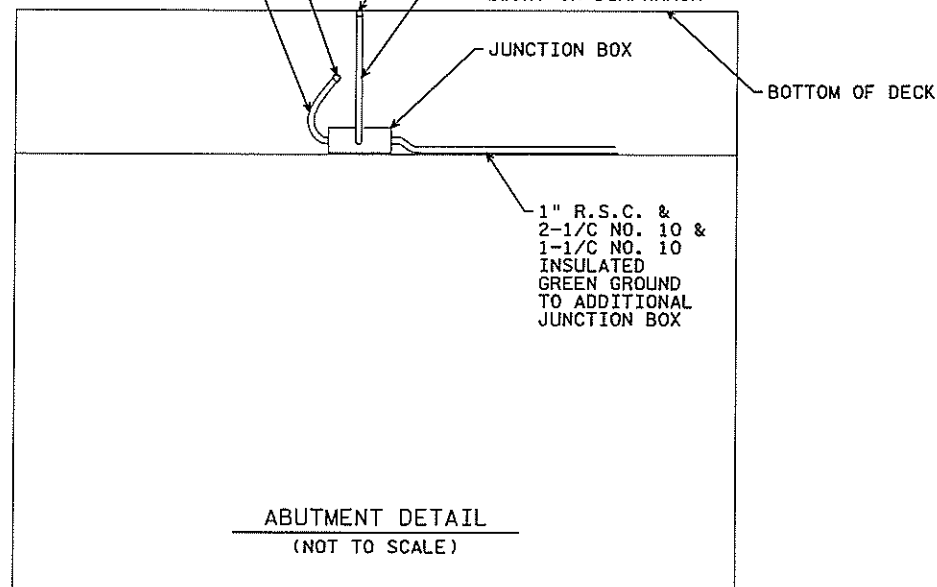
SHEET
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1" R.S.C. THRU ABUTMENT SLEEVE (SLEEVE F&I IN BRIDGE 02007 PLANS) WITH 3-1/4" NO. 10 & 1-1/4" NO. 10 INSULATED GREEN GROUND. SEE BRIDGE 02007 DETAILS FOR EXACT LOCATION.

1" LIQUIDTIGHT FLEXIBLE CONDUIT (6' MAX) & 2-1/4" NO. 10 & 1-1/4" NO. 10 INSULATED GREEN GROUND TO JUNCTION BOX

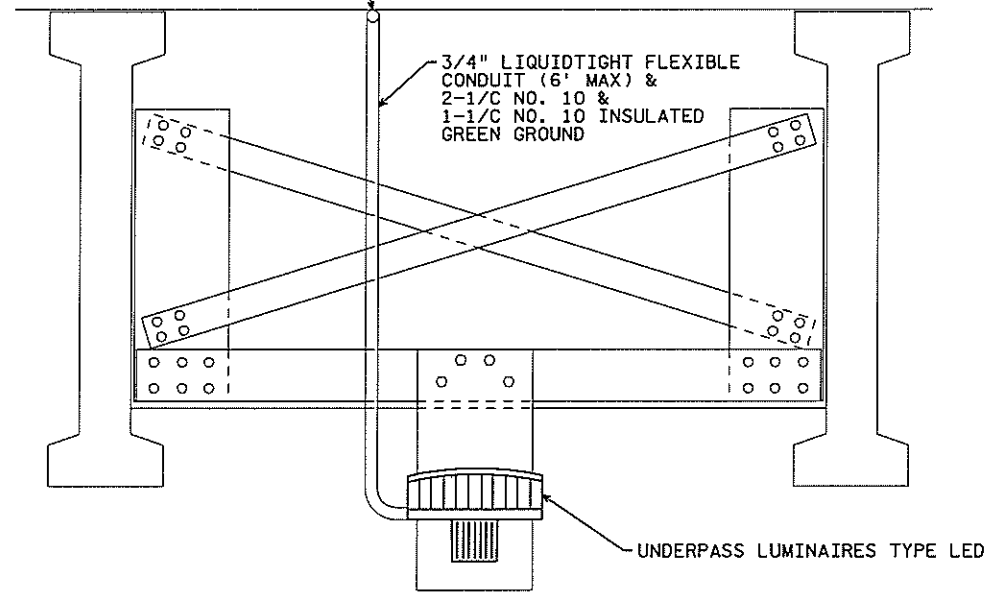
3/4" R.S.C. MOUNTED TO BOTTOM OF BRIDGE DECK

3/4" LIQUIDTIGHT FLEXIBLE CONDUIT (6' MAX) & 2-1/4" NO. 10 & 1-1/4" NO. 10 INSULATED GREEN GROUND TO UNDERPASS LIGHT ON DIAPHRAGM



ABUTMENT DETAIL
(NOT TO SCALE)

3/4" R.S.C. MOUNTED TO BOTTOM OF BRIDGE DECK



UNDERPASS LUMINAIRES TYPE LED

MOUNTED ON CROSS FRAME DIAPHRAGM
(NOT TO SCALE)

PLACE UNDERPASS LUMINAIRE ON DIAPHRAGM CLOSEST TO ROADWAY BUT NOT OVER ROADWAY.

TOP OF UNDERPASS LUMINAIRE SHALL BE MOUNTED SO THAT THE TOP OF THE LUMINAIRE FIXTURE SHALL BE BELOW THE BOTTOM OF THE ADJACENT BEAMS ON EITHER SIDE.

SEE DIAPHRAGM DETAILS FOR BRIDGED 02007 IN THE STRUCTURAL PLANS FOR BOLT PATTERN AND SPACING.

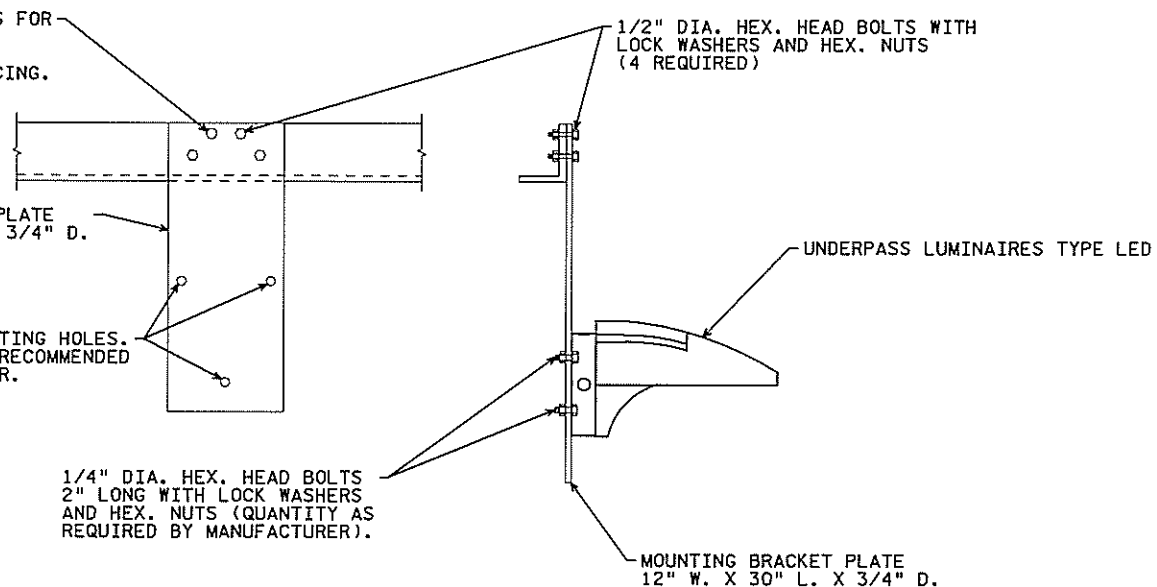
1/2" DIA. HEX. HEAD BOLTS WITH LOCK WASHERS AND HEX. NUTS (4 REQUIRED)

MOUNTING BRACKET PLATE 12" W. X 30" L. X 3/4" D.

LUMINAIRE MOUNTING HOLES. DIMENSIONS AS RECOMMENDED BY MANUFACTURER.

1/4" DIA. HEX. HEAD BOLTS 2" LONG WITH LOCK WASHERS AND HEX. NUTS (QUANTITY AS REQUIRED BY MANUFACTURER).

MOUNTING BRACKET PLATE 12" W. X 30" L. X 3/4" D.



MOUNTING PLATE DETAIL
(NOT TO SCALE)

NOTES:

1. THE JUNCTION BOXES SHALL BE 8-1/2" L. X 8-1/2" W. X 4" D. WITH REMOVABLE HUB PLATES AND MOUNTING LUGS.
2. FASTEN RIGID STEEL CONDUIT WITH CABLE CLAMPS ABOUT 5'-0" ON CENTER.
3. FASTEN CLAMPS AND JUNCTION BOXES TO CONCRETE WITH MASONRY ANCHORAGES OR POWER ACTIVATED STUDS.
4. 3/4" LIQUIDTIGHT NON-METALLIC FLEXIBLE CONDUIT SHOULD HAVE NO MORE THAN A MAX. LENGTH OF 6'-0".
5. ALL THREADED RIGID STEEL CONDUITS AND FITTINGS MUST HAVE ALL THREADS PROTECTED WITH A BRUSH ON CORROSION RESISTANT COMPOUND IN ACCORDANCE WITH NEC ARTICLE 300.6.
6. STEEL PLATES AND SHAPES SHALL BE GALVANIZED IN ACCORDANCE WITH MNDOT SPEC. 3394.
7. GALVANIZE BOLTS, NUTS, AND WASHERS PER MNDOT SPEC. 3392.

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NO	DATE	BY	CHKD	APPR	REVISION

I hereby certify that this plan, specification, or report was 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.
Print Name: **STEVE MCHENRY**
Steve Mchenry
Date: **09-12-14** License #: **46710**

STATE PROJECT NO. 002-683-004
199-115-002
STATE PROJECT NO. 0202-95 (TH 10)
COUNTY PROJECT NO. 002-683-004
CITY PROJECT NO. 14-22

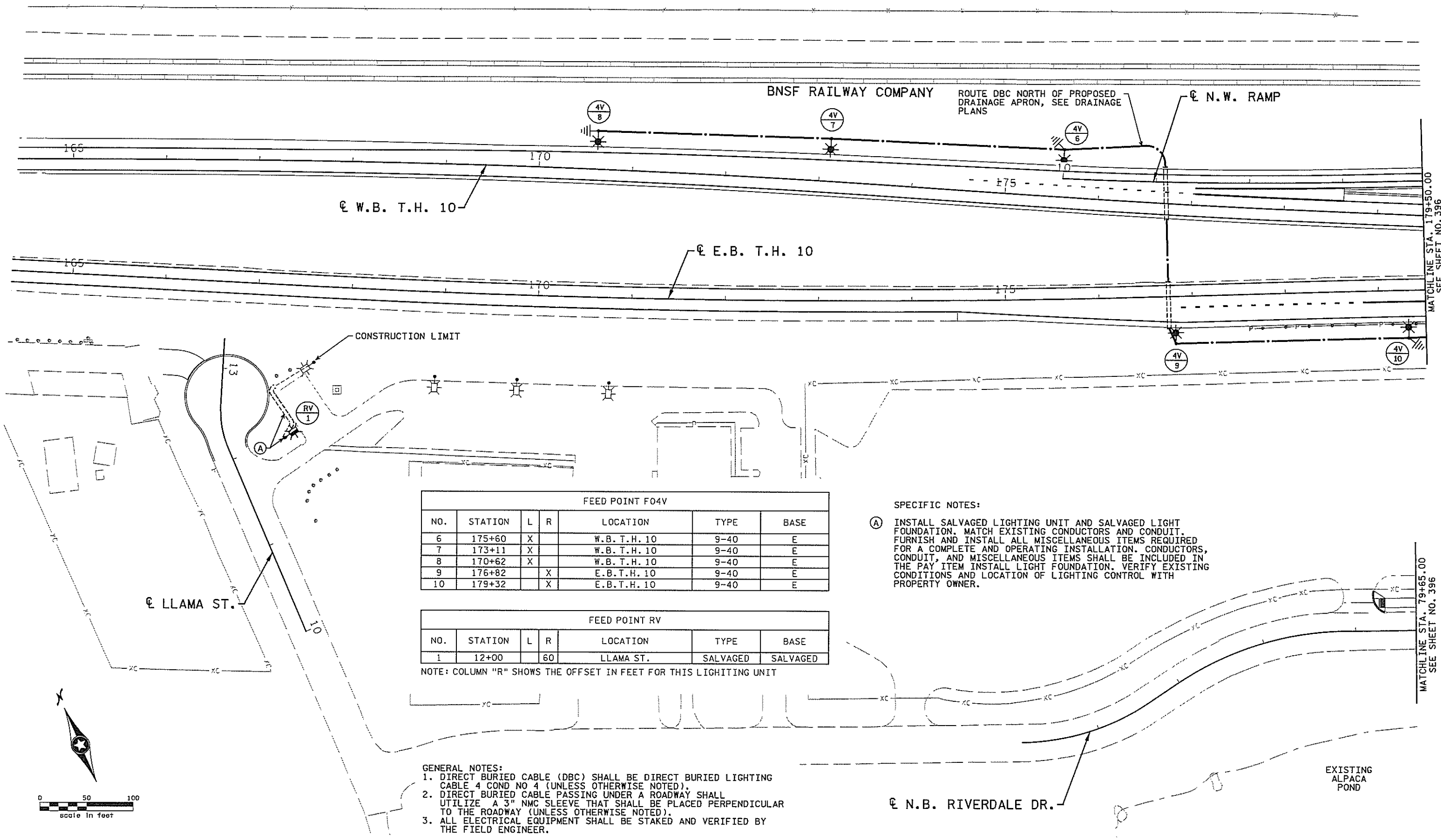
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DESIGNED BY T. RICHARDSON
CHECKED BY S. MCHENRY
COMM. NO. 0138259



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DESIGNERS

ANOKA COUNTY
LIGHTING PLANS AND DETAILS
T.H. 10 / C.S.A.H. 83 INTERCHANGE
LIGHTING DETAILS

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FEED POINT F04V						
NO.	STATION	L	R	LOCATION	TYPE	BASE
6	175+60	X		W.B. T.H. 10	9-40	E
7	173+11	X		W.B. T.H. 10	9-40	E
8	170+62	X		W.B. T.H. 10	9-40	E
9	176+82		X	E.B. T.H. 10	9-40	E
10	179+32		X	E.B. T.H. 10	9-40	E

FEED POINT RV						
NO.	STATION	L	R	LOCATION	TYPE	BASE
1	12+00		60	LLAMA ST.	SALVAGED	SALVAGED

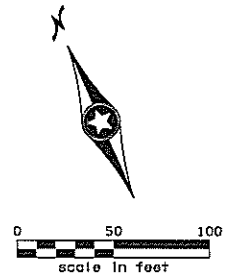
NOTE: COLUMN "R" SHOWS THE OFFSET IN FEET FOR THIS LIGHTING UNIT

SPECIFIC NOTES:

(A) INSTALL SALVAGED LIGHTING UNIT AND SALVAGED LIGHT FOUNDATION. MATCH EXISTING CONDUCTORS AND CONDUIT. FURNISH AND INSTALL ALL MISCELLANEOUS ITEMS REQUIRED FOR A COMPLETE AND OPERATING INSTALLATION. CONDUCTORS, CONDUIT, AND MISCELLANEOUS ITEMS SHALL BE INCLUDED IN THE PAY ITEM INSTALL LIGHT FOUNDATION. VERIFY EXISTING CONDITIONS AND LOCATION OF LIGHTING CONTROL WITH PROPERTY OWNER.

GENERAL NOTES:

- DIRECT BURIED CABLE (DBC) SHALL BE DIRECT BURIED LIGHTING CABLE 4 COND NO 4 (UNLESS OTHERWISE NOTED).
- DIRECT BURIED CABLE PASSING UNDER A ROADWAY SHALL UTILIZE A 3" NMC SLEEVE THAT SHALL BE PLACED PERPENDICULAR TO THE ROADWAY (UNLESS OTHERWISE NOTED).
- ALL ELECTRICAL EQUIPMENT SHALL BE STAKED AND VERIFIED BY THE FIELD ENGINEER.



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NO	DATE	BY	CHKD	APPR	REVISION

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Print Name: **STEVE MCHENRY**

Date: **09-12-14** License #: **46710**

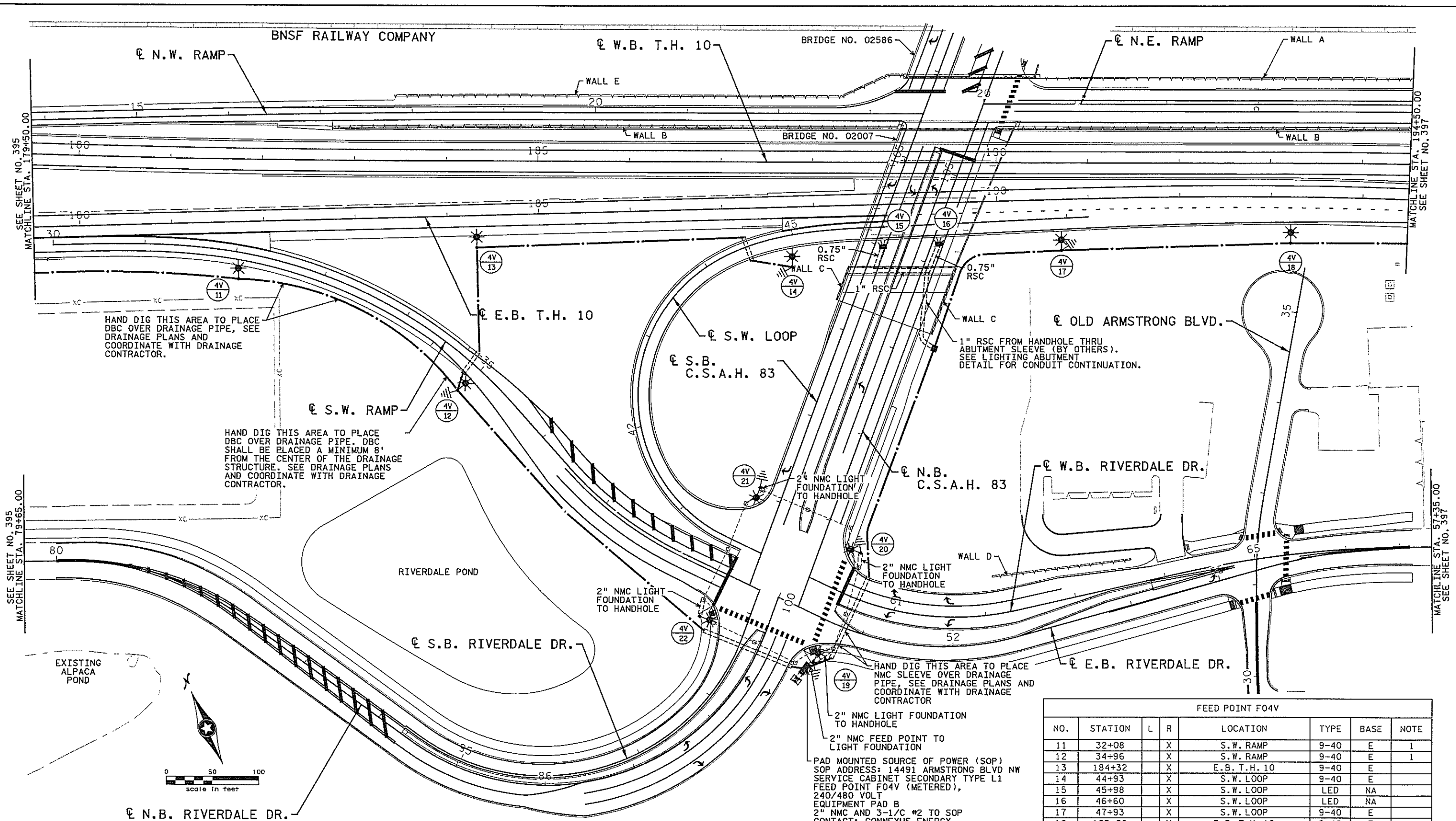
STATE PROJECT NO. 002-683-004
 199-115-002
 STATE PROJECT NO. 0202-95 (TH 10)
 COUNTY PROJECT NO. 002-683-004
 CITY PROJECT NO. 14-22

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 DESIGNED BY T. RICHARDSON
 CHECKED BY S. MCHENRY
 COMM. NO. 0138259



ANOKA COUNTY
 LIGHTING PLANS AND DETAILS
 T.H. 10 / C.S.A.H. 83 INTERCHANGE

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 OF
 586



HAND DIG THIS AREA TO PLACE DBC OVER DRAINAGE PIPE, SEE DRAINAGE PLANS AND COORDINATE WITH DRAINAGE CONTRACTOR.

HAND DIG THIS AREA TO PLACE DBC OVER DRAINAGE PIPE. DBC SHALL BE PLACED A MINIMUM 8' FROM THE CENTER OF THE DRAINAGE STRUCTURE. SEE DRAINAGE PLANS AND COORDINATE WITH DRAINAGE CONTRACTOR.

HAND DIG THIS AREA TO PLACE NMC SLEEVE OVER DRAINAGE PIPE, SEE DRAINAGE PLANS AND COORDINATE WITH DRAINAGE CONTRACTOR

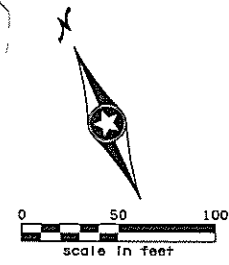
1" RSC FROM HANDHOLE THRU ABUTMENT SLEEVE (BY OTHERS). SEE LIGHTING ABUTMENT DETAIL FOR CONDUIT CONTINUATION.

PAD MOUNTED SOURCE OF POWER (SOP)
 SOP ADDRESS: 14491 ARMSTRONG BLVD NW
 SERVICE CABINET SECONDARY TYPE L1
 FEED POINT F04V (METERED),
 240/480 VOLT
 EQUIPMENT PAD B
 2" NMC AND 3-1/2" #2 TO SOP
 CONTACT: CONNEXUS ENERGY

- GENERAL NOTES:
1. DIRECT BURIED CABLE (DBC) SHALL BE DIRECT BURIED LIGHTING CABLE 4 COND NO 4 (UNLESS OTHERWISE NOTED).
 2. DIRECT BURIED CABLE PASSING UNDER A ROADWAY SHALL UTILIZE A 3" NMC SLEEVE THAT SHALL BE PLACED PERPENDICULAR TO THE ROADWAY (UNLESS OTHERWISE NOTED).
 3. ALL ELECTRICAL EQUIPMENT SHALL BE STAKED AND VERIFIED BY THE FIELD ENGINEER.

FEED POINT F04V							
NO.	STATION	L	R	LOCATION	TYPE	BASE	NOTE
11	32+08		X	S.W. RAMP	9-40	E	1
12	34+96		X	S.W. RAMP	9-40	E	1
13	184+32		X	E.B. T.H. 10	9-40	E	
14	44+93		X	S.W. LOOP	9-40	E	
15	45+98		X	S.W. LOOP	LED	NA	
16	46+60		X	S.W. LOOP	LED	NA	
17	47+93		X	S.W. LOOP	9-40	E	
18	193+22		X	E.B. T.H. 10	9-40	E	
19	89+01		X	N.B. RIVERDALE DR.	9-40	E	
20	100+78		X	N.B. C.S.A.H. 83	9-40	E	
21	101+07	X		S.B. C.S.A.H. 83	9-40	E	
22	38+47		X	S.W. RAMP	9-40	E	

NOTE 1 - LIGHTING UNIT OFFSET 19' FROM THE EDGE OF TRAVEL LANE TO AVOID CONFLICT WITH DRAINAGE PIPE. SEE DRAINAGE PLANS.



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Steve Mchenry

Date: **09-12-14** License #: **46710**

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002-683-004
199-115-002

STATE PROJECT NO.
0202-95 1TH 101

COUNTY PROJECT NO.
002-683-004

CITY PROJECT NO. 14-22

DRAWN BY
T. RICHARDSON

DESIGNED BY
T. RICHARDSON

CHECKED BY
S. MCHENRY

COMM. NO. 0138259



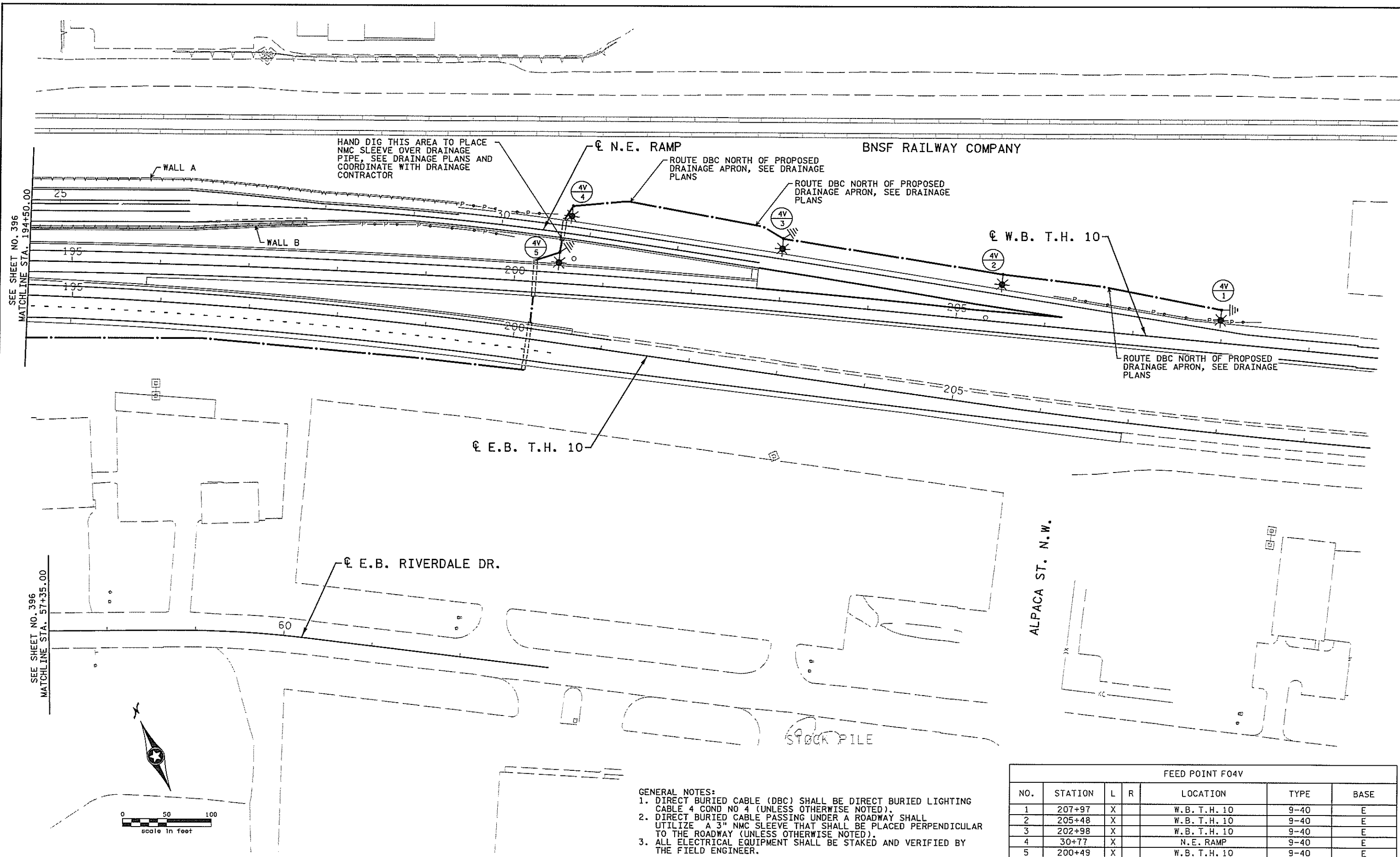
ANOKA COUNTY

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DESIGNERS

LIGHTING PLANS AND DETAILS

T.H. 10 / C.S.A.H. 83 INTERCHANGE

SHEET
396
OF
586



HAND DIG THIS AREA TO PLACE NMC SLEEVE OVER DRAINAGE PIPE, SEE DRAINAGE PLANS AND COORDINATE WITH DRAINAGE CONTRACTOR

☐ N.E. RAMP

BNSF RAILWAY COMPANY

ROUTE DBC NORTH OF PROPOSED DRAINAGE APRON, SEE DRAINAGE PLANS

ROUTE DBC NORTH OF PROPOSED DRAINAGE APRON, SEE DRAINAGE PLANS

☐ W.B. T.H. 10

ROUTE DBC NORTH OF PROPOSED DRAINAGE APRON, SEE DRAINAGE PLANS

☐ E.B. T.H. 10

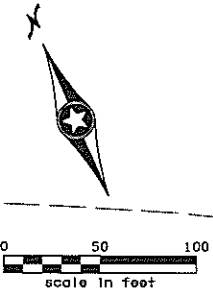
☐ E.B. RIVERDALE DR.

ALPACA ST. N.W.

STOCK PILE

SEE SHEET NO. 396
MATCHLINE STA. 194+50.00

SEE SHEET NO. 396
MATCHLINE STA. 57+35.00



GENERAL NOTES:

1. DIRECT BURIED CABLE (DBC) SHALL BE DIRECT BURIED LIGHTING CABLE 4 COND NO 4 (UNLESS OTHERWISE NOTED).
2. DIRECT BURIED CABLE PASSING UNDER A ROADWAY SHALL UTILIZE A 3" NMC SLEEVE THAT SHALL BE PLACED PERPENDICULAR TO THE ROADWAY (UNLESS OTHERWISE NOTED).
3. ALL ELECTRICAL EQUIPMENT SHALL BE STAKED AND VERIFIED BY THE FIELD ENGINEER.

FEED POINT F04V

NO.	STATION	L	R	LOCATION	TYPE	BASE
1	207+97	X		W.B. T.H. 10	9-40	E
2	205+48	X		W.B. T.H. 10	9-40	E
3	202+98	X		W.B. T.H. 10	9-40	E
4	30+77	X		N.E. RAMP	9-40	E
5	200+49	X		W.B. T.H. 10	9-40	E

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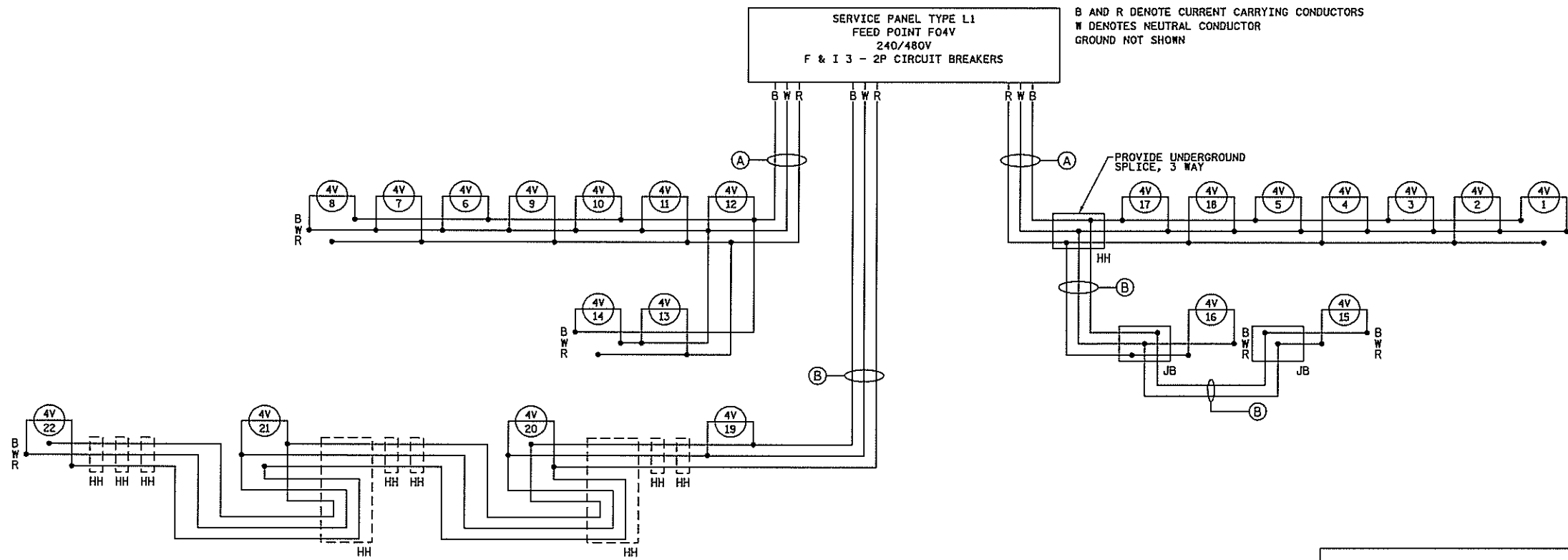
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ANOKA COUNTY
LIGHTING PLANS AND DETAILS
T.H. 10 / C.S.A.H. 83 INTERCHANGE

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LEGEND			
PROPOSED LUMINAIRE		PROPOSED CIRCUITRY	
PROPOSED HANDHOLE (HH) OR JUNCTION BOX (JB)		PROPOSED SPLICE	
		EXISTING HANDHOLE (HH) OR JUNCTION BOX (JB)	
A DIRECT BURIED LIGHTING CABLE 4 COND NO. 4			
B 1-1/C NO. 10			

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ANOKA COUNTY
 LIGHTING PLANS AND DETAILS
 T.H. 10 / C.S.A.H. 83 INTERCHANGE
 WIRING DIAGRAM

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