

MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR _____ MILL BITUMINOUS AND BITUMINOUS SURFACING

LOCATED ON CSAH 11 BETWEEN CSAH 1 (EAST RIVER ROAD) AND CSAH 3 (COON RAPIDS BLVD)

CSAH 11

GROSS LENGTH	3049.90 FEET	0.578 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	3049.90 FEET	0.578 MILES

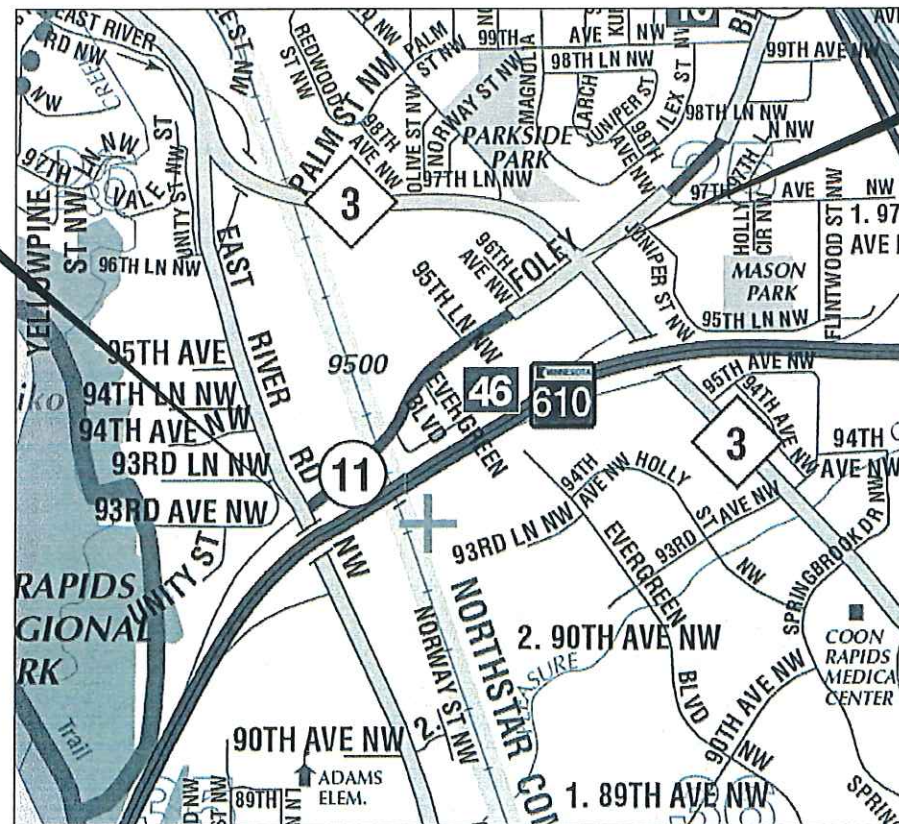
GOVERNING SPECIFICATIONS
THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

THIS PLAN CONTAINS 17 SHEETS

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3-4	TYPICAL SECTIONS
5	DETAILS
6-7	CONSTRUCTION PLAN
8-11	SIGNING AND STRIPING PLANS
12-17	SIGNAL PLANS

END SAP 002-611-037
CSAH 11, STA: 10+43.80



BEGIN SAP 002-611-037
CSAH 11, STA: 40+93.70

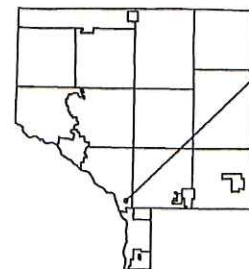
Approved ,20 18
CITY OF COON RAPIDS ENGINEER

Approved 4/18/18 ,20 18
ANOKA COUNTY ENGINEER

DATE 5/2/18
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

DATE 5/2/18
STATE AID ENGINEER:
APPROVED FOR STATE AID FUNDING

PROJECT LOCATION



CITY OF COON RAPIDS
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTIONS 25 & 26
TOWNSHIP 31 NORTH
RANGE 24 WEST

DESIGN DESIGNATION (CSAH 01)

ESAL 20	718,958	FUNCTIONAL CLASSIFICATION	A MINOR ARTERIAL
R VALUE	50	NO. OF TRAFFIC LANES	4
ADT (2014)	6762	NO. OF PARKING LANES	0
PROJ. ADT (2034)	6762	DESIGN SPEED	40 MPH
PROJ. HCADT (2034)	399	STOPPING SIGHT DISTANCE BASED ON:	
SOIL FACTOR	N/A	HEIGHT OF EYE	3.5'
		HEIGHT OF OBJECT	2.0'
		DESIGN SPEED NOT ACHIEVED AT:	
		STA. _____ TO STA. _____	MPH _____

I HEREBY CERTIFY THAT THIS PLAN 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: JOSEPH J. MACPHERSON
SIGNATURE:
DATE: 4-10-18 LICENSE NO. 48732

DRAWN BY: SPH DATE: 03/19/2018
DESIGN BY: SPH DATE: 03/19/2018
CHECKED BY: HG DATE: 03/19/2018



ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-611-037

TITLE SHEET

Sheet 1 of 17 Sheets

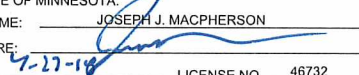
dfrey

STATEMENT OF ESTIMATED QUANTITIES				
NOTES	ITEM NUMBER	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1
6	2021.601	RAILROAD PROTECTIVE SERVICES	LUMP SUM	1
7	2231.509	BITUMINOUS PATCHING MIXTURE	TON	50
1	2232.504	MILL BITUMINOUS SURFACE (2.0")	SQ YD	21263
	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	1063
	2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE (4,C)	TON	1834
	2550.602	LOOP DETECTOR NMC	EACH	1
2	2563.601	TRAFFIC CONTROL	LUMP SUM	1
3	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	20
4	2581.503	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	LIN FT	244
5	2582.503	4" SOLID LINE MULTI COMP	LIN FT	12419
5	2582.503	4" BROKEN LINE MULTI COMP	LIN FT	1230
5	2582.503	4" DOUBLE SOLID LINE MULTI COMP	LIN FT	474
	2582.518	PAVEMENT MESSAGE PREFORM THERMOPLASTIC	SQ FT	855

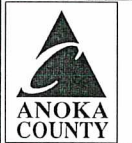
CONSTRUCTION NOTES	
1	DETAIL MILLING AROUND MANHOLES, CATCH BASINS, GATE VALVES, AND ALONG CURB LINE IS INCIDENTAL TO THIS ITEM.
2	ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO, AND BE INSTALLED IN ACCORDANCE WITH, THE MOST CURRENT REVISION OF THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". DO NOT PASS, PASS WITH CARE, NO CENTER STRIPE, AND STOP HERE ON RED SIGNS SHALL BE INPLACE WHENEVER PAVEMENT MARKINGS ARE NOT PRESENT.
3	2 MESSAGE BOARDS, ONE ON EACH END OF PROJECT, WILL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
4	CENTERLINE AND LANE DESIGNATION SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON EACH NEW LIFT OF PAVEMENT; SKIPS MUST BE INPLACE BEFORE THE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE PRIOR TO FINAL PAINT STRIPING.
5	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.
6	THE CONTRACTOR SHALL ESTABLISH AND COORDINATE RAILROAD PROTECTIVE SERVICES THROUGH THE AUTHORIZED RAILWAY OWNER (BNSF). PROTECTIVE SERVICES ARE REQUIRED WHENEVER WORKING WITHIN RAILROAD RIGHT OF WAY.
7	TO BE USED IN THE EVENT THAT MILLED BITUMINOUS SURFACE DISPLAYS AREA(S) OF REMOVE AND REPLACE.

BASIS OF PLANNED QUANTITIES		
2357	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL / SQ YD
2360	ALL BITUMINOUS PAVEMENT	115 LBS / SQ YD / IN THICKNESS
2581	REMOVABLE PREFORM PAVEMENT MARKING TAPE	2' AT 50' INTERVALS

NO	DATE	BY	CKD	APPR	REVISION	04/26/2018	2:03:23 PM
NAME: P:\18-01-00\CSAH_11_(CSAH1-CSAH3)\Base\PROPOSED\PROPOSED.dgn							

I HEREBY CERTIFY THAT THIS PLAN 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: JOSEPH J. MACPHERSON
 SIGNATURE: 
 DATE: 7-27-18 LICENSE NO. 46732

DRAWN BY: SPH DATE: 03/19/2018
 DESIGN BY: SPH DATE: 03/19/2018
 CHECKED BY: HG DATE:



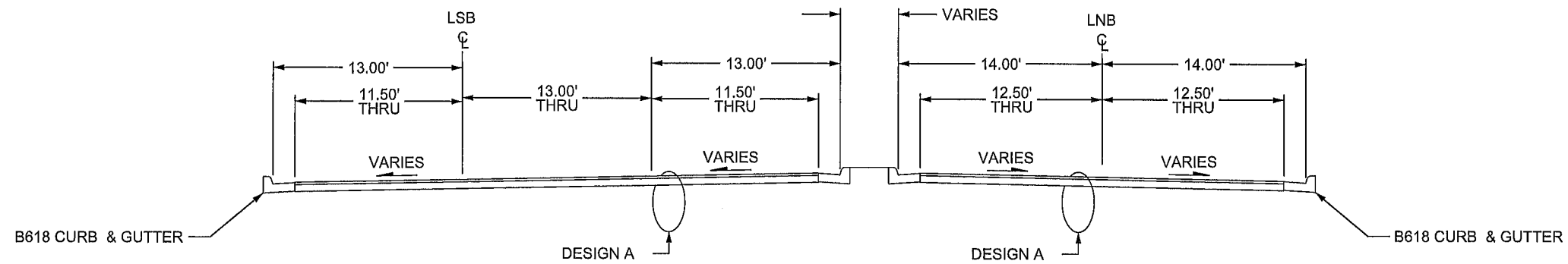
**ANOKA COUNTY
 HIGHWAY DEPT.**

COUNTY PROJECT 002-611-037

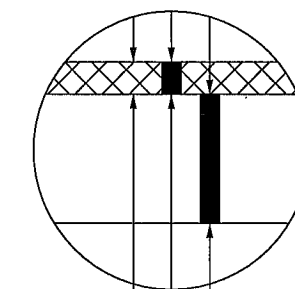
STATEMENT OF ESTIMATED QUANTITIES
 Sheet 2 of 17 Sheets

CSAH 11 - Foley Blvd
(PROPOSED) SECTION

10+43.8 - 15+25



DESIGN A
MILL SECTION



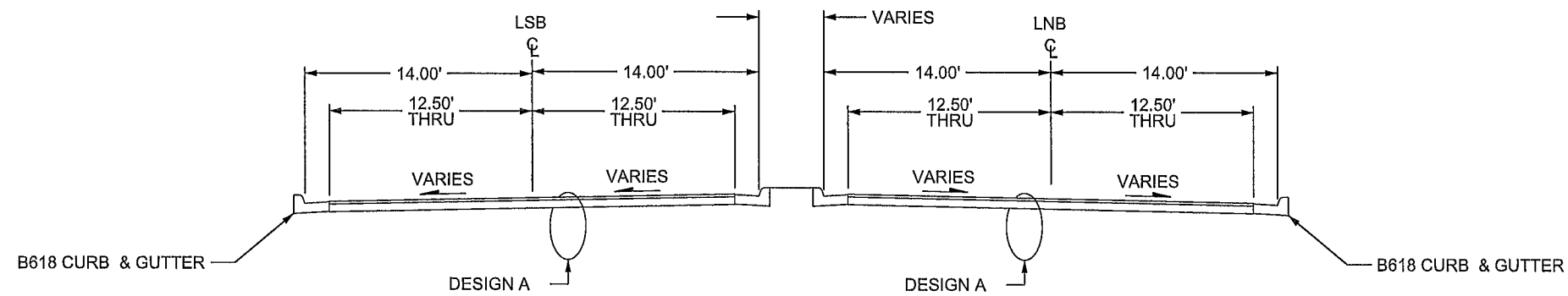
1.5" MILL BITUMINOUS
1.5" BITUMINOUS WEAR (SPWEB440C)
REMAINING BITUMINOUS

CONSTRUCTION NOTE:
ALL PAVING SHALL BE PULLED IN THE SAME
DIRECTION AS TRAFFIC FOR THAT LANE OF TRAVEL.

NOTE: STATIONING BASED OFF LNB ALIGNMENT

CSAH 11 - Foley Blvd
(PROPOSED) SECTION

15+25 - 20+32
36+50 - 38+75



NO	DATE	BY	CKD	APPR	REVISION
	04/12/2018				

NAME: P:\18-01-00\CSAH_11_(CSAH1-CSAH3)\Base\PROPOSED\PROPOSED.dgn

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PRINT NAME: JOSEPH J. MACPHERSON
SIGNATURE: *[Signature]*
DATE: 7.10.18 LICENSE NO. 46732

DRAWN BY: SPH DATE: 03/19/2018
DESIGN BY: SPH DATE: 03/19/2018
CHECKED BY: HG DATE:



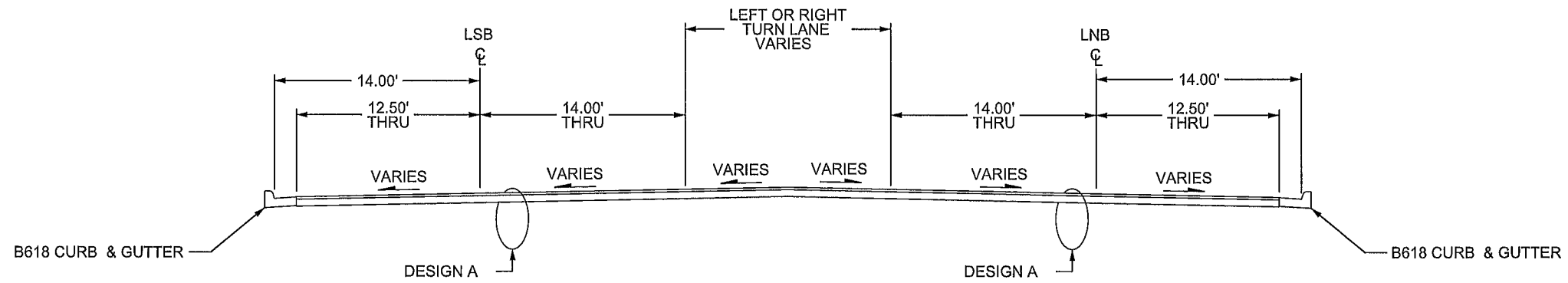
ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 002-611-037

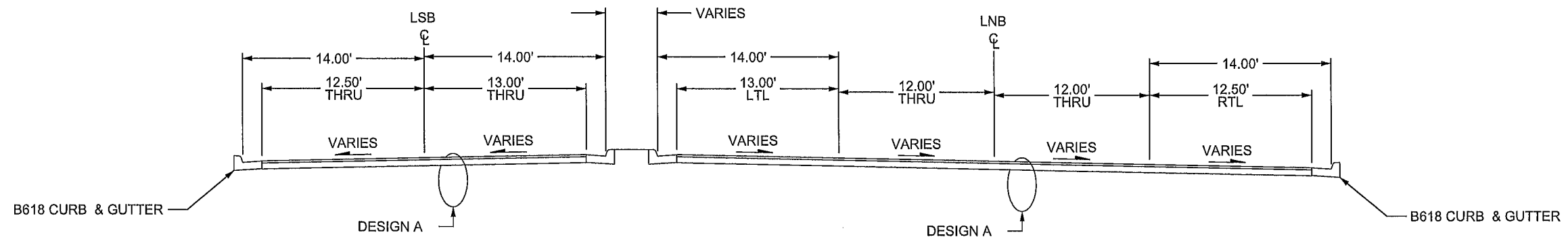
TYPICAL SECTIONS
Sheet 3 of 17 Sheets

sp/hrs

CSAH 11 - Foley Blvd (PROPOSED) SECTION 20+32 - 36+50



CSAH 11 - Foley Blvd PROPOSED SECTION 38+75 - 40+93.7



NOTE: STATIONING BASED OFF LNB ALIGNMENT

NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME
						04/12/2018	10:58:49 AM

I HEREBY CERTIFY THAT THIS PLAN 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: JOSEPH J. MACPHERSON
 SIGNATURE: *[Signature]*
 DATE: 4-18-18 LICENSE NO. 46732

DRAWN BY: SPH DATE: 03/19/2018
 DESIGN BY: SPH DATE: 03/19/2018
 CHECKED BY: HG DATE: 03/19/2018



ANOKA COUNTY
HIGHWAY DEPT.

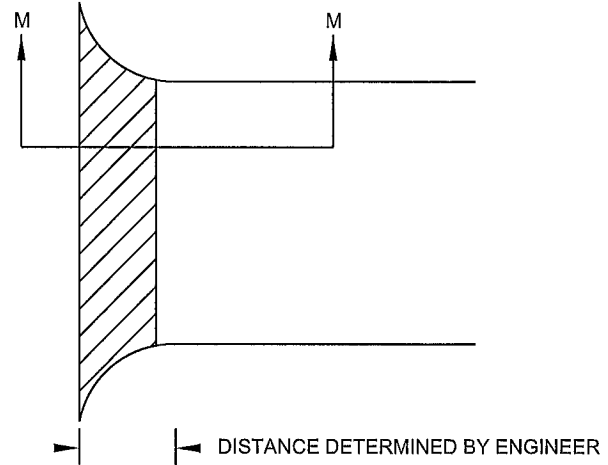
COUNTY PROJECT 002-611-037

TYPICAL SECTIONS
Sheet 4 of 17 Sheets

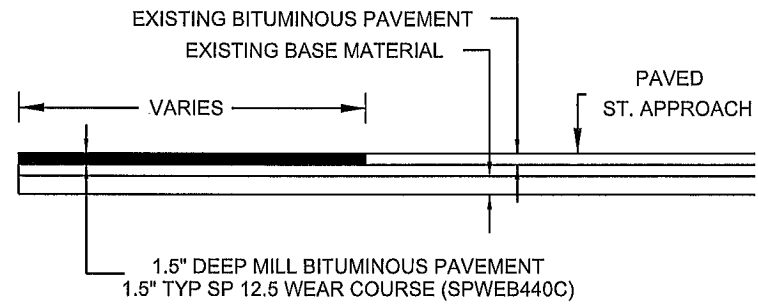
sphtds

STREET APPROACH DETAIL (MILL & OVERLAY) BITUMINOUS STREET

PLAN VIEW



SECTION M - M



NO.	DATE	BY	CKD	APPR	REVISION	TIME
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PRINT NAME: JOSEPH J. MACPHERSON

SIGNATURE: *[Signature]*

DATE: 4-10-18 LICENSE NO. 46732

DRAWN BY SPH DATE 03/19/2018

DESIGN BY SPH DATE 03/19/2018

CHECKED BY HG DATE 03/19/2018



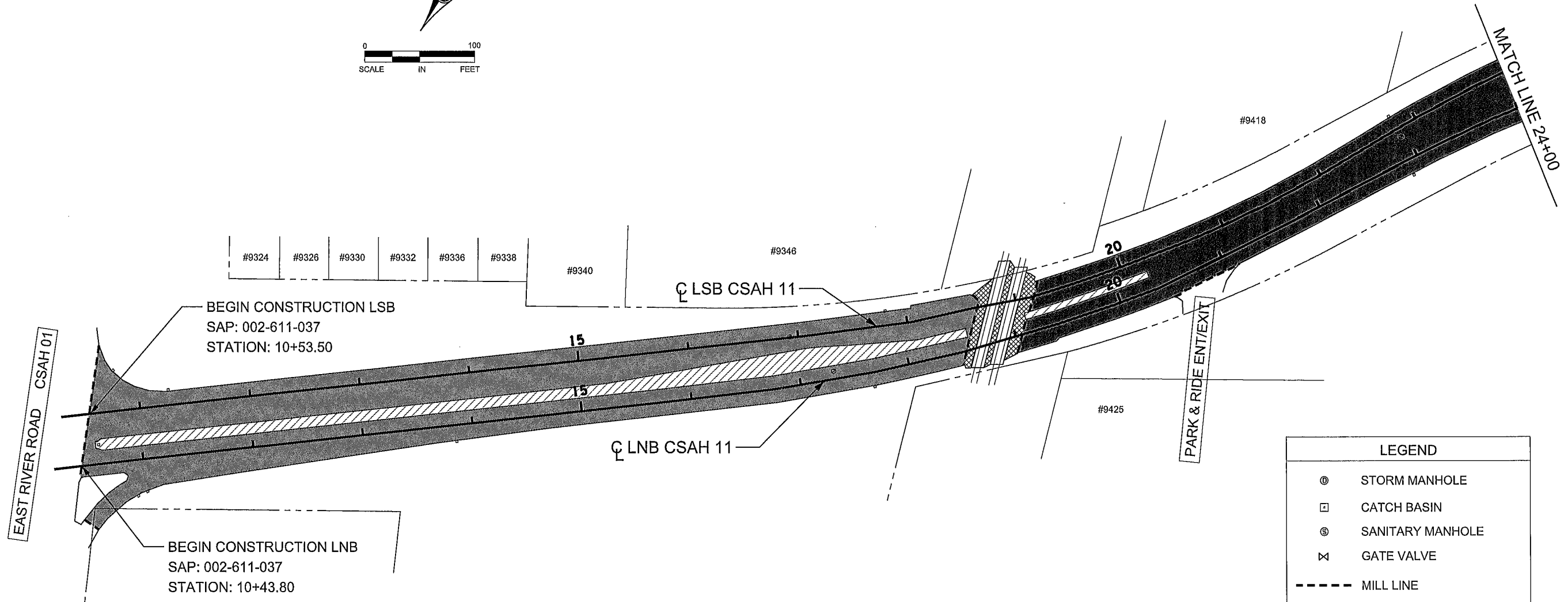
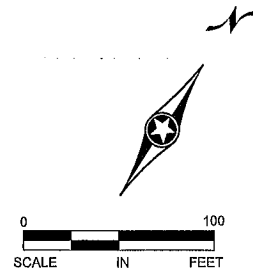
ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 002-611-037

DETAILS

Sheet 5 of 17 Sheets

spheacs



LEGEND	
⊙	STORM MANHOLE
⊠	CATCH BASIN
⊙	SANITARY MANHOLE
⊗	GATE VALVE
---	MILL LINE
■	MAINLINE MILL AREA
▨	RAILROAD BIT. AREA (NOT TO BE MILLED)
▨	CONCRETE MEDIAN AREA
---	R / W

NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME
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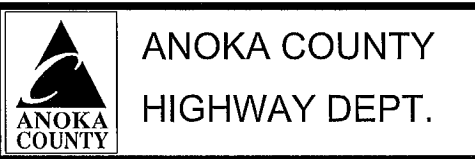
SIGNATURE: *[Signature]*

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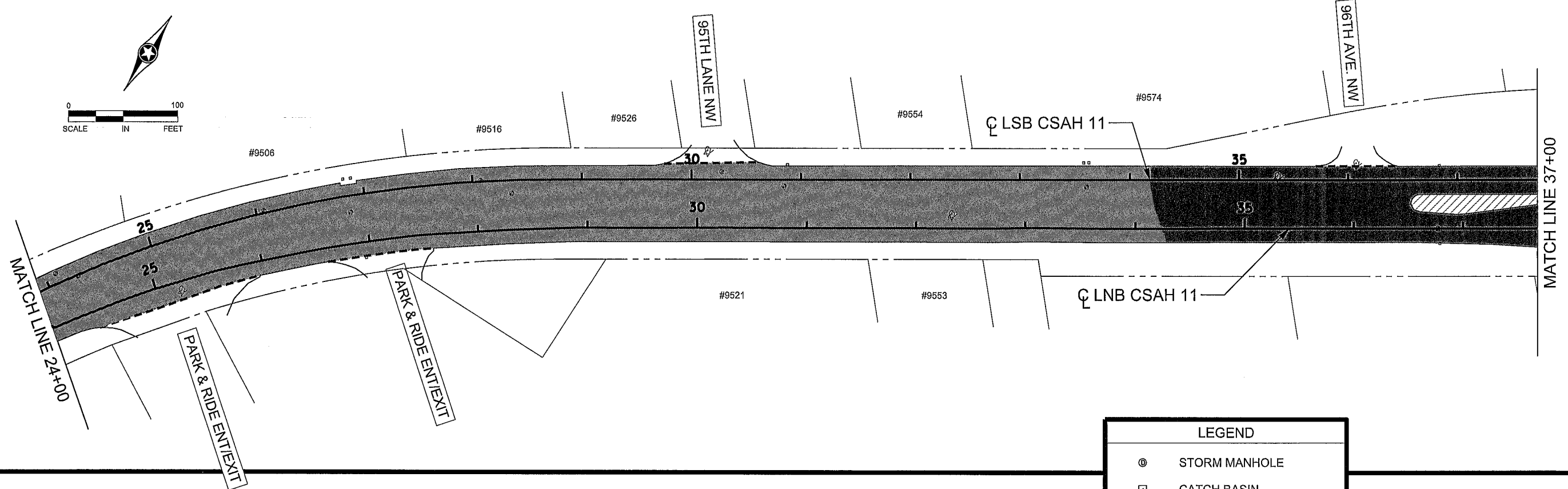
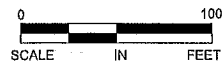
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COUNTY PROJECT 002-611-037

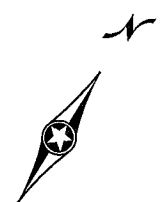
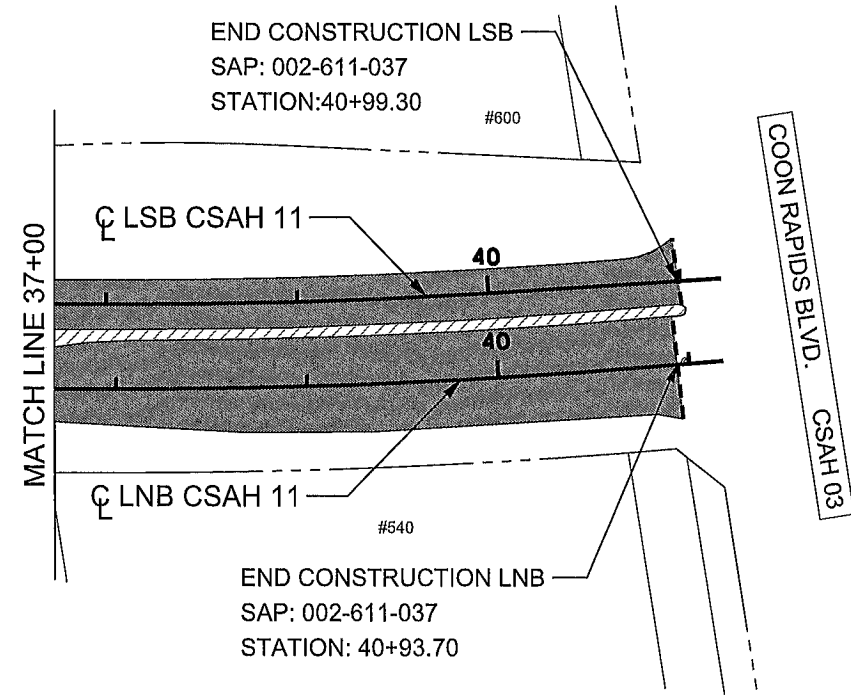
CONSTRUCTION PLAN
STA 10+43.8 TO 24+00
Sheet 6 of 17 Sheets

sphecs



LEGEND

- ⊙ STORM MANHOLE
- ⊠ CATCH BASIN
- ⊙ SANITARY MANHOLE
- ⊗ GATE VALVE
- MILL LINE
- MAINLINE MILL AREA
- ▨ RAILROAD BIT. AREA (NOT TO BE MILLED)
- ▩ CONCRETE MEDIAN AREA
- R / W



NO	DATE	BY	CKD	APPR	REVISION
	04/12/2018				

NAME: P:\18-01-00\CSAH_11_(CSAH1-CSAH3)\Basal\PROPOSED\PROPOSED.dgn

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PRINT NAME: JOSEPH J. MACPHERSON
 SIGNATURE: *[Signature]*
 DATE: 4-10-18 LICENSE NO. 46732

DRAWN BY SPH DATE 03/19/2018
 DESIGN BY SPH DATE 03/19/2018
 CHECKED BY HG DATE 03/19/2018

**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 002-611-037

CONSTRUCTION PLAN

STA 24+00 TO 40+99.3

Sheet 7 of 17 Sheets

PERMANENT PAVEMENT MARKING PLAN
NOTES AND GUIDELINES

GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. ANOKA COUNTY HIGHWAY DEPARTMENT WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS, LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS, ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

EPOXY:

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENT AND/OR LAITANCE ON LOW SPEED (SPEED LIMIT 35 MPH OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS. SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

AN EPOXY RESIN LINE 4" WIDE AND 15 MILL THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS FOR 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES FAHRENHEIT OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

PREFORMED THERMOPLASTIC:

THE PREFORMED THERMOPLASTIC MARKINGS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS ON CLEAN AND DRY SURFACES. SEE SPECIAL PROVISIONS FOR PREFORMED THERMOPLASTIC MARKING SPECIFICATIONS.

PAINT:

AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.

GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50 DEGREES FARHENHEIT OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OR DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

PERMANENT MARKING QUANTITIES		
ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE - EPOXY PAINT	LIN FT	7509
4" BROKEN LINE WHITE - EPOXY PAINT	LIN FT	1060
24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC	SQ FT	398
PAVEMENT MESSAGE (RT ARROW) - PREFORMED THERMOPLASTIC	SQ FT	60
PAVEMENT MESSAGE (LT ARROW) - PREFORMED THERMOPLASTIC	SQ FT	150
PAVEMENT MESSAGE (RR X-ING) - PREFORMED THERMOPLASTIC	SQ FT	247
4" SOLID LINE YELLOW - EPOXY PAINT	LIN FT	4910
4" BROKEN LINE YELLOW - EPOXY PAINT	LIN FT	170
4" DOUBLE SOLID LINE YELLOW - EPOXY PAINT	LIN FT	474

SYMBOLS & MATERIALS LEGEND

■ CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC

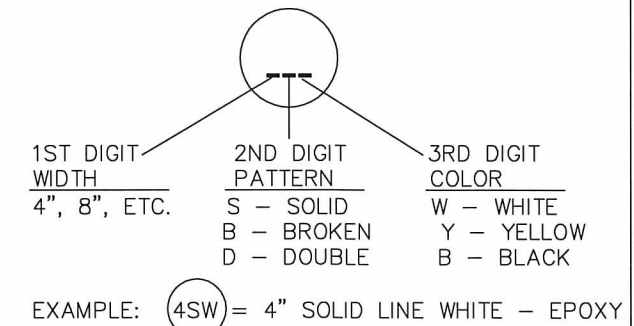
↩ PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

STRIPING KEY

○ CIRCLE - EPOXY □ SQUARE PREFORMED THERMOPLASTIC

△ TRIANGLE - PAINT

⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

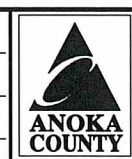


NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\16-01-00\CR 60\Base\TRAFFIC\Perm pvmt mrkg guide notes_guidelines.dwg

I HEREBY CERTIFY THAT THIS PLAN 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: DOUGLAS W. FISCHER
SIGNATURE: *[Signature]*
DATE: 4/18/18 LICENSE NO. 20235

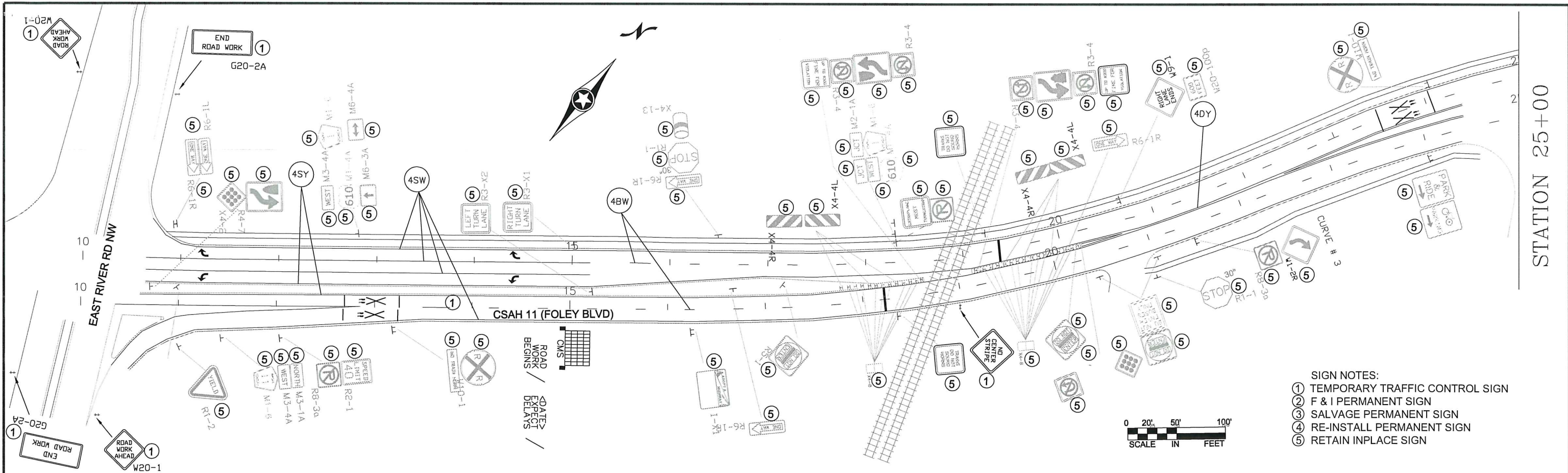
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CHECKED BY: JR DATE: 1/31/18



ANOKA COUNTY
HIGHWAY DEPT.

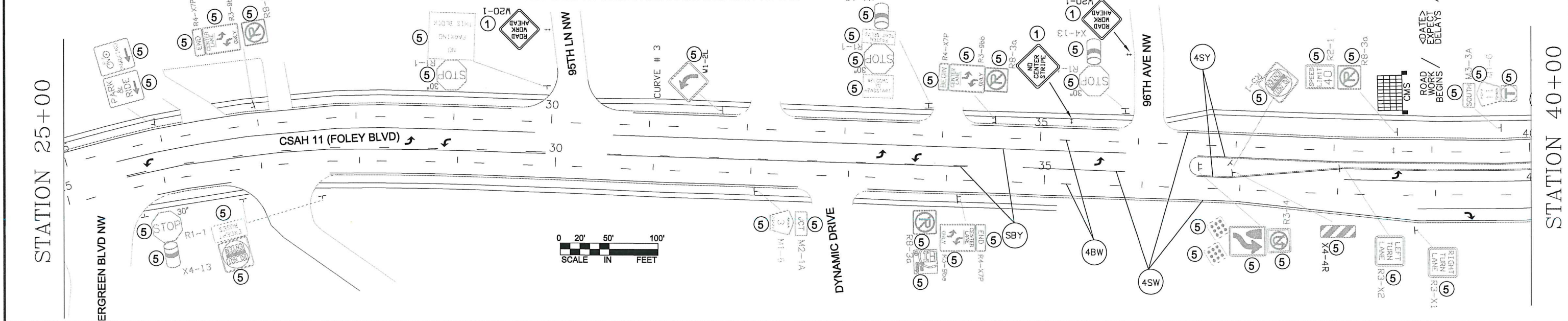
STATE PROJECT NO. _____
STATE AID PROJECT NO. _____
STATE AID PROJECT NO. 002-611-037
COUNTY PROJECT NO. _____

PERMANENT MARKING
TABULATION
Sheet 8 of 17 Sheets



NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK, TO A LOCATION AS SPECIFIED BY THE ENGINEER. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS. PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.
- CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.
- ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING
- ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ALL SALVAGED AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\16-01-00\CR 60\base\Traffic\Signing_Striping.dwg

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: DOUGLAS W. FISCHER
 SIGNATURE: *[Signature]*
 DATE: 4/18/18 REG. NO. 20235

DRAWN BY: RLB DATE: 1/20/18
 DESIGN BY: RLB DATE: 1/20/18
 CHECKED BY: JR DATE: 1/20/18

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. 002-611-037
 COUNTY PROJECT NO. _____

TEMPORARY SIGNING,
 PERMANENT SIGNING
 AND STRIPING

Sheet 9 of 17 Sheets

TEMPORARY TRAFFIC CONTROL SIGNS

M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY		MOUNTING HEIGHT TO PAVEMENT EDGE FT.
					No. POST	
W8-12	48" x 48"	16.00		2	2	7.0'
R4-1	24" x 30"	5.00		0	1	7.0'
R4-2	24" x 30"	5.00		0	1	7.0'
G20-2A	48" x 24"	8.00		5	2	7.0'
W8-1A	48" x 48"	16.00		AS NEEDED		
W8-1A	48" x 48"	16.00		AS NEEDED		
W8-8	48" x 48"	16.00		AS NEEDED		
W8-9	48" x 48"	16.00		AS NEEDED		
	48" x 48"	16.00		AS NEEDED		
W8-11	48" x 48"	16.00		AS NEEDED		
W20-1	48" x 48"	16.00		AS NEEDED (ESTIMATED 7)		
CMS sign to be installed a minimum of ten days prior to actual commencement of road work. Signs to be removed when road work begins.				2		

NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK, TO A LOCATION AS SPECIFIED BY THE ENGINEER. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS. PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.
- CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.
- ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING
- ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ALL SALVAGED AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.

CHANGEABLE MESSAGE BOARD - MESSAGE SEQUENCE LAYOUT

		R	O	A	D		
		W	O	R	K		
		B	E	G	I	N	S

	<	D	A	T	E	>	
		E	X	P	E	C	T
		D	E	L	A	Y	S

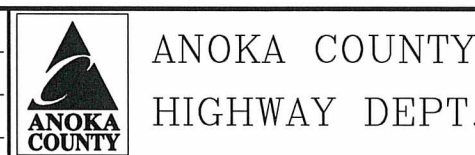
CMS sign to be installed a minimum of ten days prior to actual commencement of road work. Signs to be removed when road work begins.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\16-01-00\CR 60\base\Traffic\Signing_Striping.dwg

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: DOUGLAS W. FISCHER
 SIGNATURE:
 DATE: 4/18/18 REG. NO. 20235

DRAWN BY: RLB DATE: 1/20/18
 DESIGN BY: RLB DATE: 1/20/18
 CHECKED BY: JR DATE: 1/20/18



STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. 002-611-037
 COUNTY PROJECT NO. _____

TRAFFIC CONTROL QUANTITY
 Sheet 11 of 17 Sheets

LED RETROFIT-SYSTEM "N" NOTES:

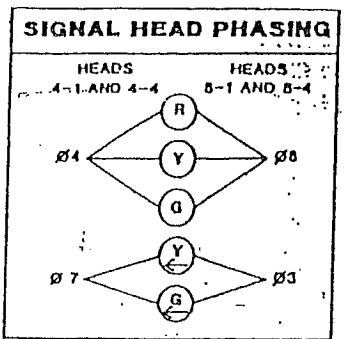
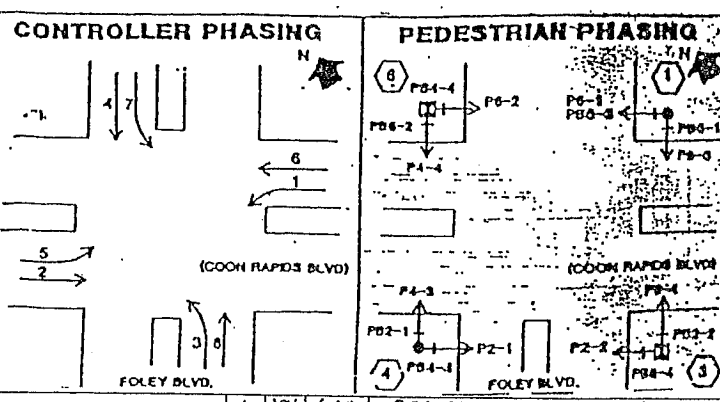
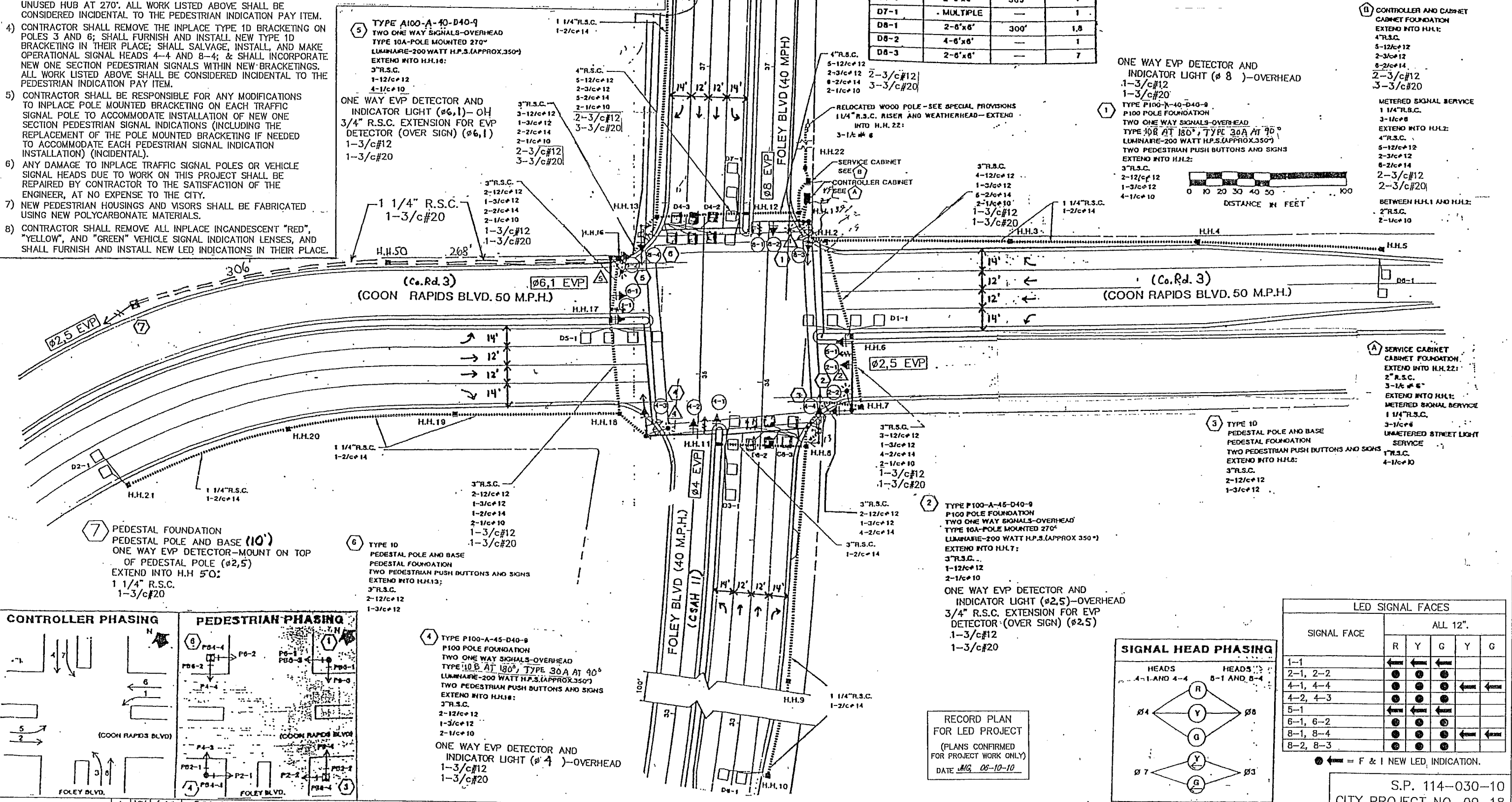
- ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
- CONTRACTOR SHALL REMOVE THE INPLACE 12" x 12" 2-SECTION PED SIGNAL INDICATIONS & HOUSINGS, AND SHALL FURNISH AND INSTALL NEW ONE SECTION COUNTDOWN TIMER LED "HAND/WALKING PERSON" PED SIGNALS (HOUSING, VISOR, LENS) IN THEIR PLACE.
- CONTRACTOR SHALL REMOVE THE INPLACE TYPE 10C BRACKETING (270°) ON POLES 1 AND 4; SHALL FURNISH & INSTALL NEW TYPE 30A BRACKETING (90°) AND NEW TYPE 10B BRACKETING (180°) IN THEIR PLACE, SHALL SALVAGE, INSTALL, AND MAKE OPERATIONAL SIGNAL HEADS 4-3 AND 8-3; AND SHALL INCORPORATE NEW ONE SECTION PEDESTRIAN SIGNALS WITHIN NEW BRACKETINGS. CAP UNUSED HUB AT 270°. ALL WORK LISTED ABOVE SHALL BE CONSIDERED INCIDENTAL TO THE PEDESTRIAN INDICATION PAY ITEM.
- CONTRACTOR SHALL REMOVE THE INPLACE TYPE 1D BRACKETING ON POLES 3 AND 6; SHALL FURNISH AND INSTALL NEW TYPE 1D BRACKETING IN THEIR PLACE; SHALL SALVAGE, INSTALL, AND MAKE OPERATIONAL SIGNAL HEADS 4-4 AND 8-4; & SHALL INCORPORATE NEW ONE SECTION PEDESTRIAN SIGNALS WITHIN NEW BRACKETINGS. ALL WORK LISTED ABOVE SHALL BE CONSIDERED INCIDENTAL TO THE PEDESTRIAN INDICATION PAY ITEM.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MODIFICATIONS TO INPLACE POLE MOUNTED BRACKETING ON EACH TRAFFIC SIGNAL POLE TO ACCOMMODATE INSTALLATION OF NEW ONE SECTION PEDESTRIAN SIGNAL INDICATIONS (INCLUDING THE REPLACEMENT OF THE POLE MOUNTED BRACKETING IF NEEDED TO ACCOMMODATE EACH PEDESTRIAN SIGNAL INDICATION INSTALLATION) (INCIDENTAL).
- ANY DAMAGE TO INPLACE TRAFFIC SIGNAL POLES OR VEHICLE SIGNAL HEADS DUE TO WORK ON THIS PROJECT SHALL BE REPAIRED BY CONTRACTOR TO THE SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE CITY.
- NEW PEDESTRIAN HOUSINGS AND VISORS SHALL BE FABRICATED USING NEW POLYCARBONATE MATERIALS.
- CONTRACTOR SHALL REMOVE ALL INPLACE INCANDESCENT "RED", "YELLOW", AND "GREEN" VEHICLE SIGNAL INDICATION LENSES, AND SHALL FURNISH AND INSTALL NEW LED INDICATIONS IN THEIR PLACE.

- CONTRACTOR SHALL REMOVE ALL INPLACE PEDESTRIAN PUSH BUTTONS (8 TOTAL), R10-4c STICKER SIGNS, AND "MEANING OF WALK" STICKER SIGNS, & SHALL FURNISH & INSTALL NEW SOLID STATE PED PUSH BUTTONS AND R10-3e SIGNS IN THEIR PLACE.
- CONTRACTOR SHALL ALSO REMOVE TWO (2) INPLACE "LEFT TURN SIGNAL" SIGNS AND MOUNTING HARDWARE FROM THE MAST ARMS OF POLES 2 AND 5 (INCIDENTAL).
- CONTRACTOR SHALL MAINTAIN OPERATION OF THE SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY THE ENGINEER.
- SEE STATEMENT OF ESTIMATED QUANTITIES FOR BID ITEMS FOR WORK AT THIS SIGNAL SYSTEM.

LOOP DETECTORS			
NUMBER	SIZE	LOCATION	FUNCTION
D1-1	MULTIPLE	---	1
D2-1	2-8'x6'	365'	1
D3-1	MULTIPLE	---	1
D4-1	2-6'x6'	300'	1,8
D4-2	4-6'x6'	---	1
D4-3	2-6'x6'	---	7
D5-1	MULTIPLE	---	1
D6-1	2-8'x6'	365'	1
D7-1	MULTIPLE	---	1
D8-1	2-8'x6'	300'	1,8
D8-2	4-6'x6'	---	1
D8-3	2-6'x6'	---	7

NOTE: LOCATION: DISTANCE FROM STOP BAR TO DETECTOR

- FUNCTIONS:**
- CALL AND EXTEND
 - CALL ONLY
 - EXTEND ONLY
 - CALL ONLY DENSITY
 - DELAYED CALL ONLY
 - DELAYED CALL ONLY DENSITY
 - DELAYED CALL - IMMEDIATE EXTEND
 - CARRY OVER (STRETCH)
 - ADVISORY DETECTOR
 - SAMPLING DETECTOR
 - SPECIAL DETECTOR



LED SIGNAL FACES					
SIGNAL FACE	ALL 12"				
	R	Y	G	Y	G
1-1	←	←	←		
2-1, 2-2	←	←	←		
4-1, 4-4	←	←	←	←	←
4-2, 4-3	←	←	←	←	←
5-1	←	←	←		
6-1, 6-2	←	←	←		
8-1, 8-4	←	←	←	←	←
8-2, 8-3	←	←	←	←	←

← = F & I NEW LED INDICATION.

RECORD PLAN FOR LED PROJECT
 (PLANS CONFIRMED FOR PROJECT WORK ONLY)
 DATE JMG, 06-10-10

DRAWN BY: JMG	1	JMG	6/10	RECORD DRAWING FOR PROJECT
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

I HEREBY CERTIFY THAT THIS PLAN 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.

Name: John M. Gray, PE
 Lic. No. 22457
 Date: May 18, 2009

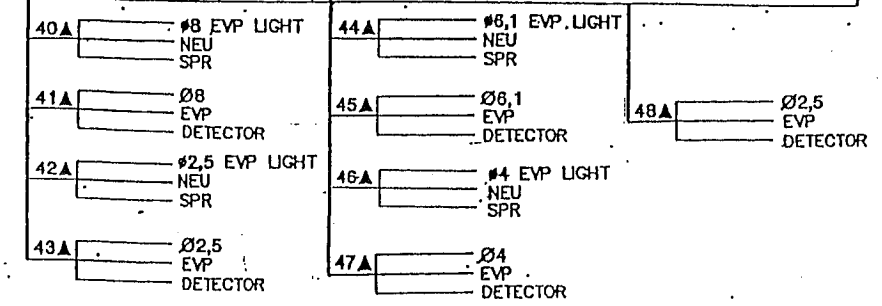
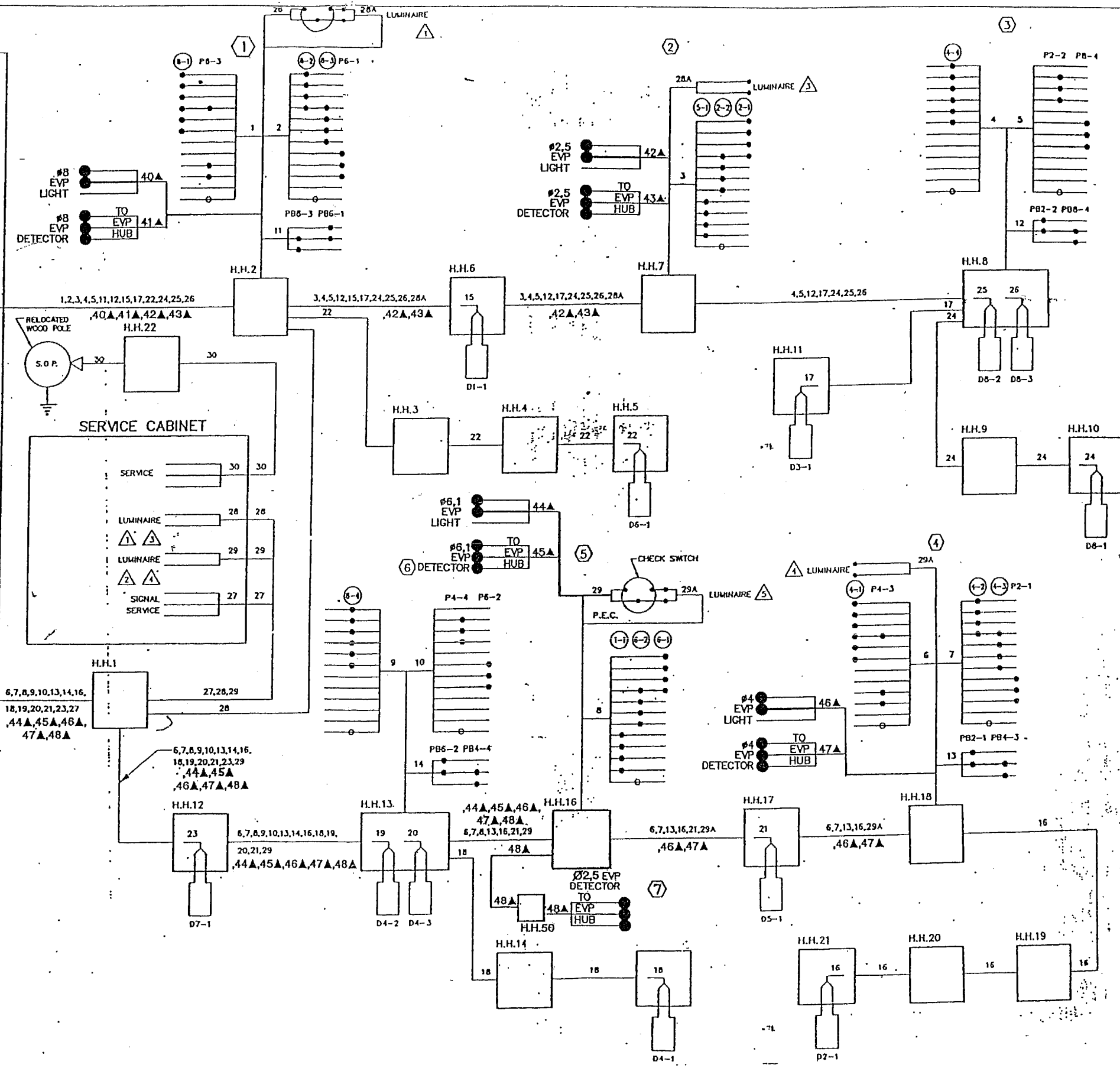
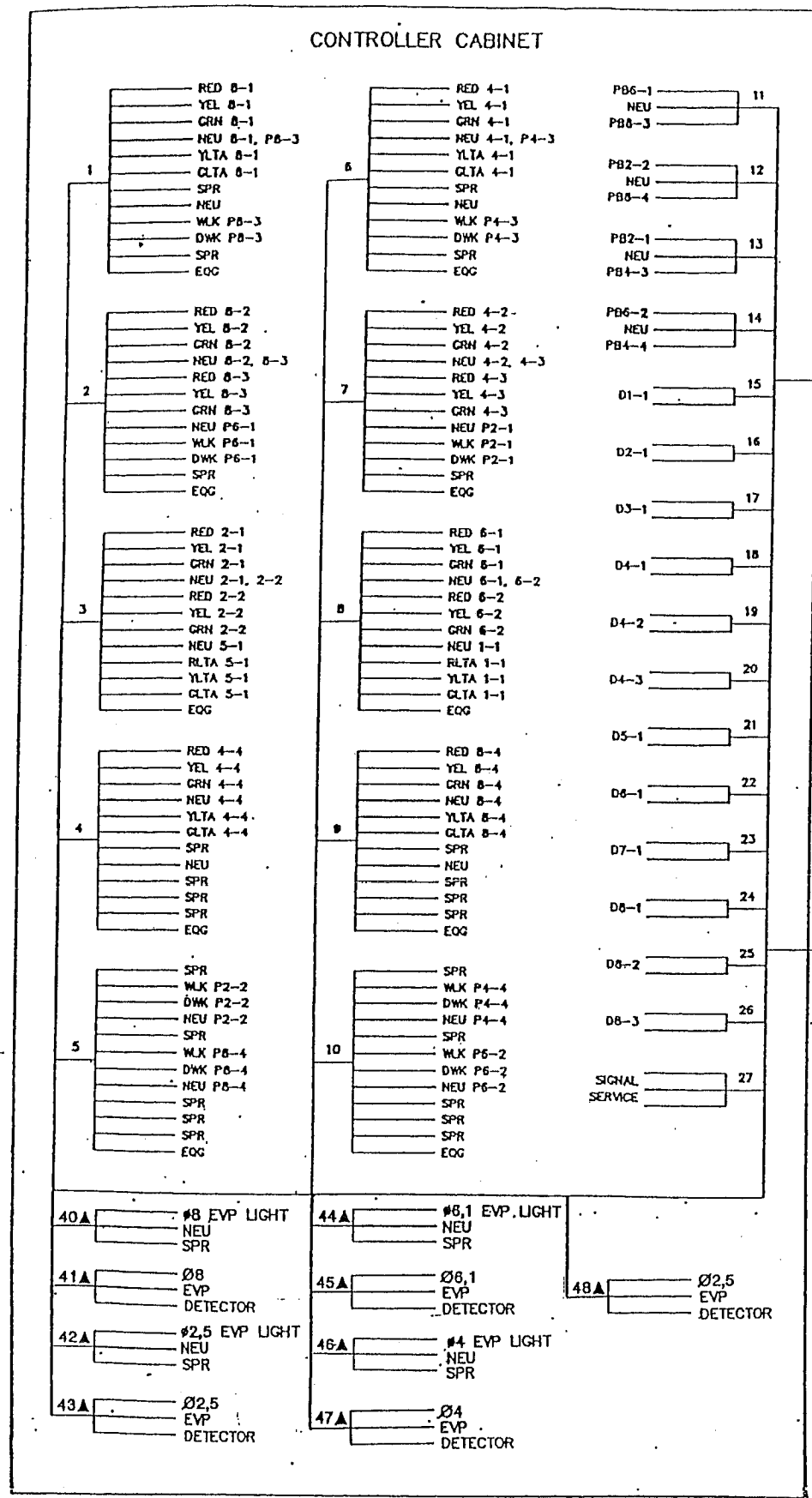
SEH
 PHONE: (651) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

COON RAPIDS, MINNESOTA

LED RETROFIT-SYSTEM "N" INTERSECTION LAYOUT
 COUNTY ROAD 3 AT CSAH 11

S.P. 114-030-10
 CITY PROJECT NO. 09-18
 FILE NO. 107418
 DATE
 32
 131

7500



ALL TERMINATIONS OF CABLES AND CONDUCTORS ARE IN PLACE AND SHALL BE REUSED AND MAINTAINED AS SHOWN (PLAN PROVIDED FOR INFORMATION ONLY).

S.P. 114-030
CITY PROJECT NO. 09-18

DRAWN BY: JMG	DESIGNER: JMG	CHECKED BY: JMG
DESIGN TEAM	NO. BY DATE	REVISIONS

I HEREBY CERTIFY THAT THIS PLAN 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.

John M. Gray
Name: John M. Gray, PE
Date: May 18, 2009
Lic. No. 22457

SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

COON RAPIDS, MINNESOTA

LED RETROFIT-SYSTEM 'N'
FIELD WIRING DIAGRAM
COUNTY ROAD 3 AT CSAH 11

FILE NO. 107418	33
DATE 05/18/2009	

131

NMC LOOP DETECTORS

NUMBER	SIZE (METERS)	LOCATION
D1-1 - F. & I.	1.7 X 1.7	12
D1-2 - F. & I.	1.7 X 1.7	3
D2-1 - F. & I.	1.7 X 1.7	101 (1)
D2-2 - F. & I.	1.7 X 1.7	101 (1)
D5-1 - F. & I.	1.7 X 1.7	12
D5-2 - F. & I.	1.7 X 1.7	3
D6-1 - F. & I.	1.7 X 1.7	101 (1)
D6-2 - F. & I.	1.7 X 1.7	101 (1)
D8-1 - F. & I.	1.7 X 1.7	45 (1)
D8-2 - F. & I.	1.7 X 1.7	45 (1)
D8-3 - F. & I.	1.7 X 1.7	45 (1)
D8-4 - F. & I.	1.7 X 4.6	-1
D8-5 - F. & I.	1.7 X 1.7	3
D8-6 - F. & I.	1.7 X 1.7	3

F. & I. = FURNISH AND INSTALL
 (1) LOCATE AT INPLACE HANDHOLE

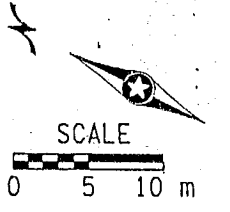
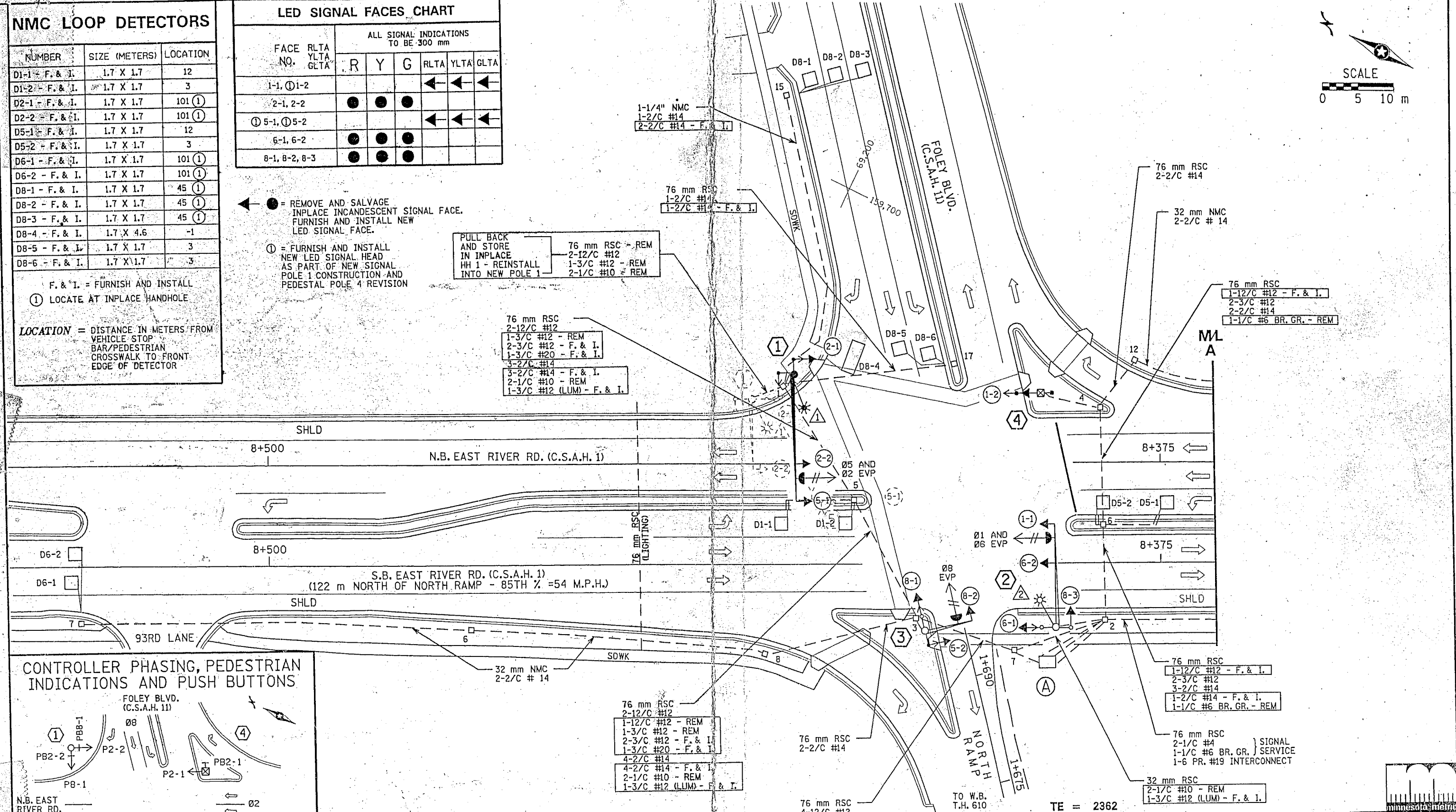
LOCATION = DISTANCE IN METERS FROM VEHICLE STOP BAR/PEDESTRIAN CROSSWALK TO FRONT EDGE OF DETECTOR

LED SIGNAL FACES CHART

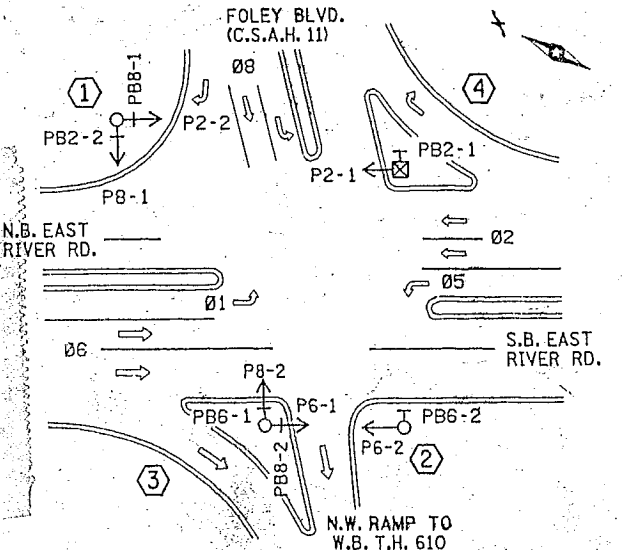
FACE RLTA NO.	ALL SIGNAL INDICATIONS TO BE 300 mm					
	R	Y	G	RLTA	YLTA	GLTA
1-1, (1)1-2				←	←	←
2-1, 2-2	●	●	●			
(1)5-1, (1)5-2				←	←	←
6-1, 6-2	●	●	●			
8-1, 8-2, 8-3	●	●	●			

● = REMOVE AND SALVAGE INPLACE INCANDESCENT SIGNAL FACE. FURNISH AND INSTALL NEW LED SIGNAL FACE.
 (1) = FURNISH AND INSTALL NEW LED SIGNAL HEAD AS PART OF NEW SIGNAL POLE 1 CONSTRUCTION AND PEDESTAL POLE 4 REVISION

PULL BACK AND STORE IN INPLACE INTO NEW POLE 1
 76 mm RSC - REM
 2-12/C #12
 1-3/C #12 - REM
 2-3/C #12 - F. & I.
 1-3/C #20 - F. & I.
 3-2/C #14
 3-2/C #14 - F. & I.
 2-1/C #10 - REM
 1-3/C #12 (LUM) - F. & I.



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL-RED.
 - NORMAL OPERATION IS 4 PHASE WITH PHASE 1 AND PHASE 5 BEING A PROTECTED LEFT TURN.

DRAWN BY:	REVISED BY:	REVISED BY:	AS BUILT BY:
T. WELLS			
CHECKED:	CHECKED:	CHECKED:	CHECKED:
DATE: 9-5-00	DATE:	DATE:	DATE:
SYSTEM I.D.: 21727			
METER ADDRESS: 9200 E. RIVER RD. (EXHIBIT 244)			
STATE AID PROJECT:			
CERTIFIED BY: [Signature] REG. NO. 24660 DATE 9-5-00			
PROFESSIONAL ENGINEER			

INTERSECTION LAYOUT
 REVISE TRAFFIC CONTROL SIGNAL SYSTEM "B"
 T.H. 610
 NORTH WEST RAMP AT EAST RIVER ROAD
 IN COON RAPIDS, ANOKA COUNTY
 State Proj. No. 0217-16 (T.H. 610) Sheet No. 673 of 891 Sheets

NOTES:

- 1) SEE SPECIAL PROVISIONS FOR SIGNAL CONTROLLER AND CABINET, PEDESTRIAN INDICATIONS, LED INDICATIONS, PAINTING OF SIGNAL SYSTEM AND OTHER STATE FURNISHED MATERIALS.
- 2) PAINT SIGNAL SYSTEM.
- 3) ALL NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS. (STD. PLATE NO. M8114A)
- 4) ALL LOOP DETECTORS SHALL BE NMC LOOP DETECTORS. (SEE LOOP DETECTOR CHART AND NMC LOOP DETECTOR DETAIL SHEET.)
- 5) ALL NEW PEDESTRIAN INDICATIONS SHALL BE 12 INCH LED INDICATIONS WITH INTERNATIONAL FACES. ALL INPLACE PEDESTRIAN INDICATIONS ARE 12 INCH AND SHALL BE REPLACED WITH LED INDICATIONS AND INTERNATIONAL FACES. (SEE SPECIAL PROVISIONS)
- 6) A 21 mm HALF COUPLING, 21 mm PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE FURNISHED AND INSTALLED AS STATED IN POLE NOTE FOR NEW POLE 1.
- 7) LOCATION OF THE NEW POLE 4, NEW HANDHOLES, AND LOOP DETECTORS SHALL BE DETERMINED BY TRAFFIC OFFICE PERSONNEL.
- 8) RELABEL ALL CABLE TERMINATIONS IN POLE BASES AND SIGNAL CABINET
- 9) SEE ROAD CONSTRUCTION UTILITY SHEETS FOR ABOVE AND UNDERGROUND UTILITY LOCATIONS.
- 10) FOR PLAN AND UTILITIES SYMBOLS SEE SIGNATURE SHEET AND TECHNICAL MANUAL.
- 11) THIS INTERSECTION LAYOUT SHOWS METRIC CONVERSIONS FROM EXISTING ENGLISH DIMENSIONS. SEE INPLACE SIGNAL SYSTEM FOR ENGLISH UNIT NOTATION.

12) THE MEANING OF ABBREVIATED WORDS ARE AS FOLLOWS:

- F. & I. = FURNISH AND INSTALL
- R. & S. = REMOVE AND SALVAGE
- REM = REMOVE

ALL OTHER ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE USED INPLACE UNLESS OTHERWISE NOTED.

A EQUIPMENT PAD (SEE DETAIL)
 SIGNAL CONTROLLER AND CABINET - R. & S.
 SIGNAL CONTROLLER AND CABINET - INSTALL
 SERVICE EQUIPMENT
 SIGNAL SERVICE CABINET -
 (120/240 VOLT)
 BETWEEN SIGNAL SERVICE CABINET
 AND CONTROLLER CABINET:
 76 mm RSC WITH
 2-1/C #6
 1-1/C #6 BR. GR.
 2-1/C #10 (ELECTRICAL OUTLET)
 BETWEEN SIGNAL SERVICE CABINET
 AND HH 2:
 76 mm RSC WITH
 4-1/C #10 (LUMINAIRE) - REM
 2-3/C #12 (LUM) - F. & I.
 CONTROLLER CABINET TO HH 2:
 102 mm WITH
 2-12/C #12
 1-12/C #12 - F. & I.
 3-3/C #12
 1-3/C #12 - F. & I.
 1-3/C #20 - F. & I.
 3-2/C #14
 1-2/C #14 - F. & I.
 1-1/C #6 BR. GR. - REM
 1-6 PR. #19 INTERCONNECT TO SIGNAL SYSTEM "A"
 AT T.H. 610 SOUTH WEST RAMP
 AND EAST RIVER ROAD
 CONTROLLER CABINET TO HH 7:
 102 mm WITH
 4-12/C #12
 1-12/C #12 - REM
 1-3/C #12
 1-3/C #12 - REM
 3-3/C #12 - F. & I.
 2-3/C #20 - F. & I.
 6-2/C #14
 4-2/C #14 - F. & I.
 76 mm RSC STUB OUT -
 (THREADED AND CAPPED)

1 P90 POLE FOUNDATION - REM
 TYPE P90-A-9.1-D12.2-2.7 (DAVIT AT 355°)
 ONE WAY SIGNAL OVERHEAD AT 0 m
 TYPE 10B POLE MOUNTED AT 270°
 TYPE 30A POLE MOUNTED AT 90°
 LUMINAIRE - 200 WATT HPS
 WITH PEC AND CHECK SWITCH
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS
 (R10-4c)
 REMOVE ALL ITEMS,
 SALVAGE ONLY
 SIGNAL POLE AND BASE,
 MAST ARM,
 AND SIGNAL HEADS
 EXTEND INTO INPLACE HH 1:
 76 mm RSC - REMOVE
 2-12/C #12 - REINSTALL INTO NEW POLE 1
 1-3/C #12
 2-1/C #10 - REM

1 PA100 POLE FOUNDATION
 TYPE PA100-A-16.7-D12.2-2.7 (DAVIT AT 355°)
 TWO ONE WAY SIGNALS OVERHEAD AT 0 m
 AND 5.5 m
 TYPE 10B POLE MOUNTED AT 180°
 TYPE 30A POLE MOUNTED AT 90°
 LUMINAIRE - 200 WATT HPS
 WITH PEC AND CHECK SWITCH
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 PHASE 5 AND PHASE 2 - MOUNTED OVERHEAD 1.0 m
 FROM END OF MAST ARM (WITH KBR HUB)
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4c)
 F. & I.
 EXTEND INTO INPLACE HH 1:
 76 mm RSC
 2-12/C #12 - REINSTALL FROM INPLACE POLE 1
 2-3/C #12
 1-3/C #20
 1-3/C #12 (LUM) - F. & I.

3 P80 POLE FOUNDATION
 TYPE P80-A-6A
 ONE WAY SIGNAL OVERHEAD AT 0 m
 TYPE 30A POLE MOUNTED AT 90° - R & S.
 TYPE 10B POLE MOUNTED AT 90° - F. & I.
 TYPE 10B POLE MOUNTED AT 270°
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 PHASE 8 - MOUNTED OVERHEAD 1.0 m
 FROM END OF MAST ARM (WITH KBR HUB)
 2-PEDESTRIAN PUSH BUTTON AND SIGN (R10-4c)
 F. & I.
 EXTEND INTO INPLACE HH 3:
 76 mm RSC
 2-12/C #12
 1-3/C #12
 1-3/C #12
 1-3/C #20 - F. & I.

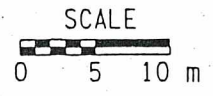
5 PEDESTAL FOUNDATION - REMOVE TO CONCRETE WALK ELEVATION AND REPAIR WALK
 SIGNAL PEDESTAL POLE AND BASE
 TYPE 1E
 PEDESTRIAN PUSH BUTTON AND SIGN
 (R10-4C)
 R. & S.
 EXTEND INTO INPLACE HH 5:
 76 mm RSC - PLUG AND ABANDON
 1-12/C #12
 2-3/C #12 - REM

2 P100 POLE FOUNDATION
 TYPE P90-A-13.7-D12.2-2.7 (DAVIT AT 355°)
 TWO ONE WAY SIGNAL OVERHEAD AT 0 m
 AND 5.5 m
 TYPE 10A POLE MOUNTED AT 90°
 TYPE 10B POLE MOUNTED AT 270°
 LUMINAIRE - 200 WATT HPS
 WITH PEC AND CHECK SWITCH
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 PHASE 1 AND PHASE 6 - MOUNTED 1.0 m
 FROM END OF MAST ARM (WITH KBR HUB)
 F. & I.
 PEDESTRIAN PUSH BUTTON AND SIGN
 (R10-4c)
 R9-3a SIGN (NO PEDESTRIAN CROSSING)
 POLE MOUNTED AND FACING POLE 4 - REPLACE WITH NEW R9-3a SIGN
 EXTEND INTO INPLACE HH 2:
 76 mm RSC
 2-12/C #12
 1-3/C #12
 1-3/C #12 - F. & I.
 1-3/C #20 - F. & I.
 2-1/C #10 - REM
 1-3/C #12 (LUM) - F. & I.

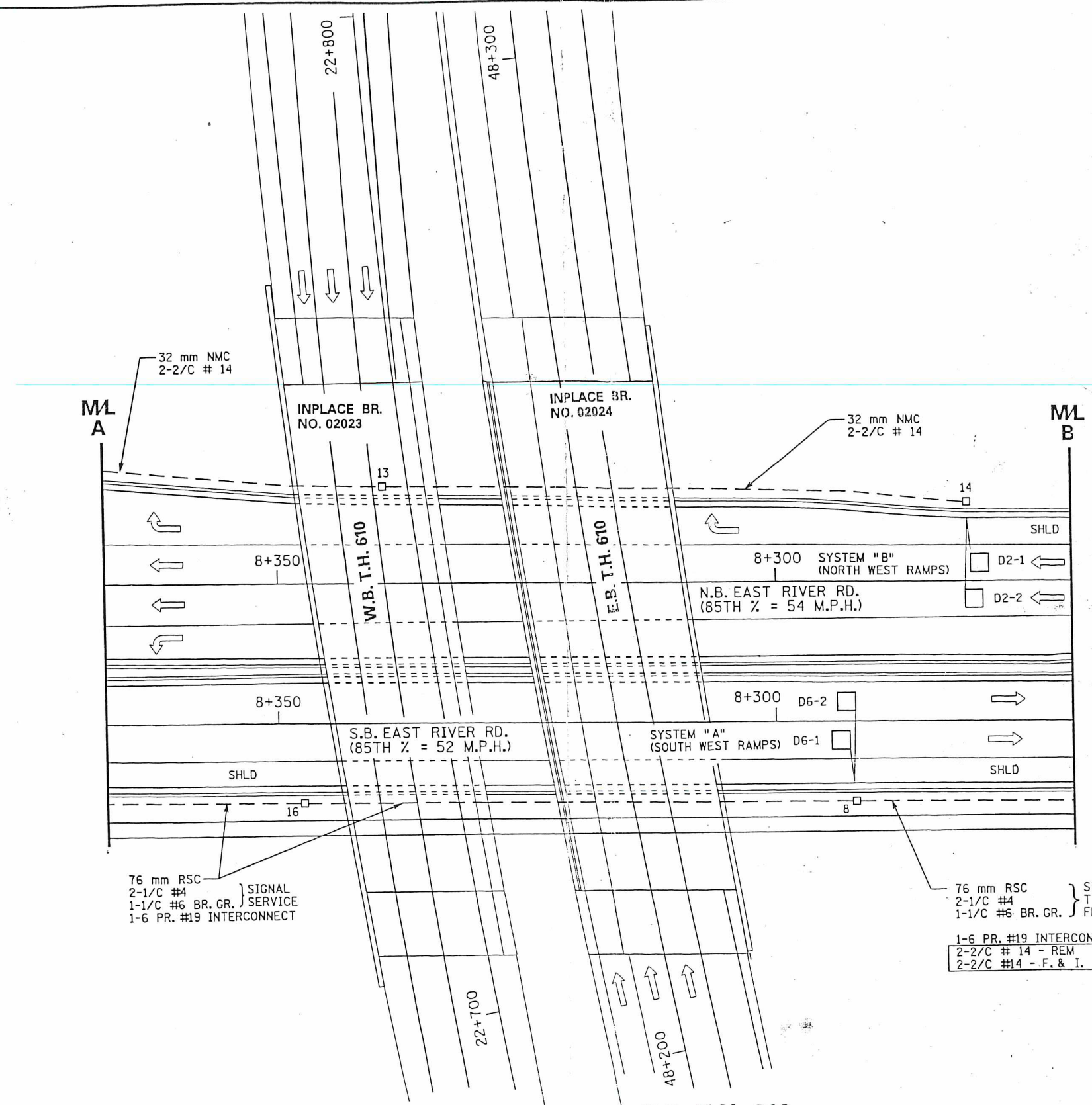
4 PEDESTAL FOUNDATION
 SIGNAL PEDESTAL POLE AND BASE
 TYPE 4A - REVISE TO TYPE 1C
 PEDESTRIAN PUSH BUTTON AND SIGN
 (R10-4c)
 R9-3a SIGN (NO PEDESTRIAN CROSSING)
 POLE MOUNTED AND FACING POLE 2 - REPLACE WITH NEW R9-3a SIGN
 EXTEND INTO HH 4:
 76 mm RSC
 1-12/C #12 - F. & I.
 2-3/C #12
 1-1/C #6 BR. GR. - REM

TE = 2362

DRAWN BY: T. WELLER				REVISOR BY:				AS BUILT BY:							
CHECKED: DATE: 10-17-00				CHECKED: DATE:				CHECKED: DATE:							
SYSTEM I.D.: 21727								INTERSECTION LAYOUT							
METER ADDRESS: 9200 E. RIVER RD. (EXHIBIT 244)								REVISE TRAFFIC CONTROL SIGNAL SYSTEM "B"							
STATE AID PROJECT:								T.H. 610							
IN COON RAPIDS, ANOKA COUNTY								NORTH WEST RAMP AT EAST RIVER ROAD							
CERTIFIED BY: <i>[Signature]</i>								REG. NO. 24660 DATE 10-17-00							
State Proj. No. 0217-16 (T.H.610)								Sheet No. 674 of 891 Sheets							



69,200
159,700

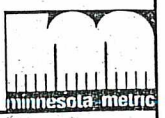


76 mm RSC
2-1/C #4
1-1/C #6 BR. GR. } SIGNAL
1-6 PR. #19 INTERCONNECT } SERVICE

76 mm RSC
2-1/C #4
1-1/C #6 BR. GR. } SIGNAL SERVICE TO SYSTEM "B" (NORTH WEST RAMP)
FROM SYSTEM "A" (SOUTH WEST RAMP)
1-6 PR. #19 INTERCONNECT
2-2/C # 14 - REM
2-2/C #14 - F. & I.

W.B. T.H. 610

E.B. T.H. 610



INTERSECTION LAYOUT

REVISE TRAFFIC CONTROL SIGNAL SYSTEM "A" AND SIGNAL SYSTEM "B"

T.H. 610 NORTH WEST AND SOUTH WEST RAMP AT EAST RIVER ROAD

IN COON RAPIDS, ANOKA COUNTY

DRAWN BY: T. WELLER	REVISED BY:	REVISED BY:	AS BUILT BY:
CHECKED: DATE: 9-5-00	CHECKED: DATE:	CHECKED: DATE:	CHECKED: DATE:

STATE AID PROJECT: 158-010-12

CERTIFIED BY: *[Signature]* REG. NO. 24660 DATE 9.5.00

PROFESSIONAL ENGINEER

State Proj. No. 0217-16 (T.H.610) Sheet No. 672 of 891 Sheets

