

MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR _____ MILL BITUMINOUS, BITUMINOUS SURFACING, CURB & GUTTER, AND SEWER REPAIRS _____

LOCATED ON _____ CSAH 1 _____ BETWEEN _____ 111TH AVE _____ AND _____ 9TH AVE _____

CSAH 1

GROSS LENGTH	8,844.49 FEET	1.675 MILES
EXCEPTIONS-LENGTH	150.80 FEET	0.029 MILES
NET LENGTH	8,693.69 FEET	1.646 MILES

GOVERNING SPECIFICATIONS
THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

THIS PLAN CONTAINS 87 SHEETS

INDEX

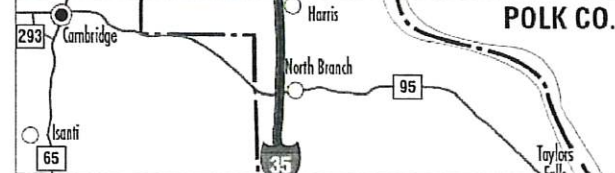
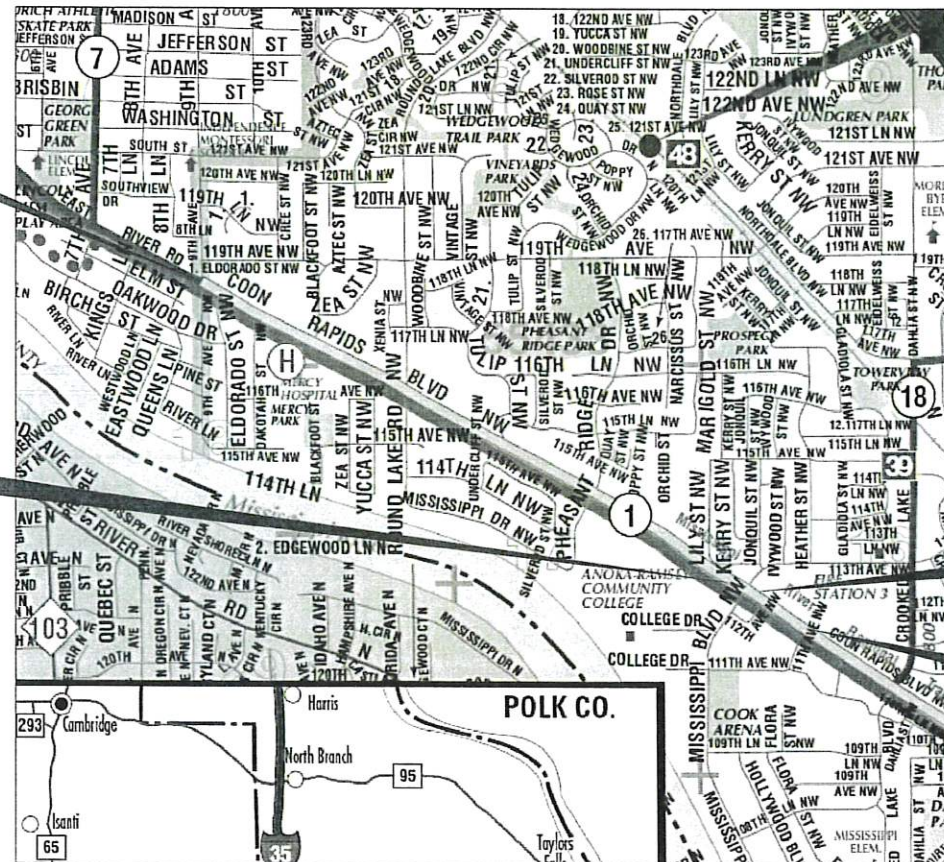
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59	PERMANENT PAVEMENT MARKING PLAN DETAILS
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70 - 87	EXISTING SIGNAL PLANS

BEGIN SAP 002-601-059
CSAH 01, STA: 28+31.00

BEGIN EXCEPTION
CSAH 01, STA: 108+19.30

END EXCEPTION
CSAH 01, STA: 109+70.10

END SAP 002-601-059
CSAH 01, STA: 116+75.49



PROJECT LOCATION

CITY OF COON RAPIDS
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTIONS 7, 8, 16, 17
TOWNSHIP 31 NORTH
RANGE 24 WEST

[Signature] 5-13, 2022
ANOKA COUNTY ENGINEER

[Signature] 5/19, 2022
CITY OF COON RAPIDS ENGINEER

[Signature] For 5/19, 2022
STATE AID ENGINEER:
APPROVED FOR STATE AID FUNDING

[Signature] For 5/19, 2022
DISTRICT STATE AID ENGINEER: REVIEWED FOR
COMPLIANCE WITH STATE AID RULES/POLICY

DESIGN DESIGNATION (CSAH 1)

ESAL 20	1,916.371	FUNCTIONAL CLASSIFICATION	A-MINOR RELIEVER
R VALUE	70	NO. OF TRAFFIC LANES	4 NO. OF PARKING LANES 0
ADT (2022)	18024	DESIGN SPEED	55 MPH
PROJ. ADT (2042)	18024	STOPPING SIGHT DISTANCE BASED ON:	
PROJ. HCADT (2042)	18024	HEIGHT OF EYE	3.5' HEIGHT OF OBJECT 2.0'
SOIL FACTOR	70	DESIGN SPEED NOT ACHIEVED AT:	
10 TON DESIGN		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: AARON P. ANDERSON
SIGNATURE: *[Signature]*
DATE: 03-10-2022 LICENSE NO. 58657

DRAWN BY _____ MR _____ DATE 02/02/2022
DESIGN BY _____ MR _____ DATE 02/02/2022
CHECKED BY _____ CO _____ DATE 04/27/2022



**ANOKA COUNTY
HIGHWAY DEPT.**


STATE AID PROJECT 002-601-059

TITLE SHEET

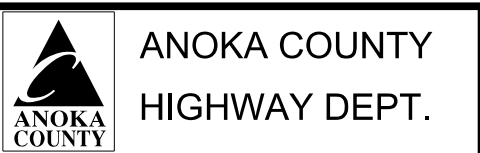
Sheet 1 of 87 Sheets

STORM DRAINAGE TAB											A
NUMBER	TYPE	ACTION	NEW CASTING TYPE	FURNISH AND INSTALL CASTING ASSEMBLY	RING HEIGHT (INCIDENTAL)	REMOVE STRUCTURE	GROUT CATCH BASIN OR MANHOLE	CONSTRUCT DRAINAGE STRUCTURE DESIGN H	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48"	CONNECT TO EXISTING STORM SEWER (INCIDENTAL)	NOTES
				EACH	LIN FT	EACH	EACH	LIN FT	LIN FT	EACH	
109	CB	GROUT					1				Grout structure, doghouse, and invert
110	CB	GROUT					1				Clean
111A	CB	RE-RING	A	1	0.2						Grout doghouse
111B	CB	CONSTRUCT	B	1				3.0		1	
112	CB	RE-RING	A	1	0.7						Grout doghouses and invert
113	CB	RE-RING	A	1	0.4						
114	CB	RE-RING	A	1	0.7						
115	CB	GROUT					1				
116	CB	GROUT					1				
117	CB	RE-RING	A	1	0.5						Grout structure
118	CB	RE-RING	A	1	0.7						Grout doghouses
119	CB	RE-RING	A	1	0.6						Grout doghouses and invert
120	CB	RE-RING	A	1	0.5						Grout invert
121	CB	RE-RING	A	1	0.4						
122	CB	RE-RING	A	1	0.9						Repour invert
123	CB	RE-RING	A	1	0.4						
124	CB	RE-RING	A	1	1.0						Grout structure and invert
125	CB	RE-RING	A	1	0.4						
126	CB	RE-RING	A	1	0.3						
127	CB	RE-RING	A	1	0.2						Grout doghouse
128	CB	RE-RING	A	1	0.2						
129	CB	RE-RING	A	1	0.0						Grout structure
130	CB	RE-RING	A	1	0.2						
131	CB	RE-RING	A	1	0.2						
132	CB	RE-RING	A	1	0.0						
133	CB	RECON	A	1	0.6	1		3.1		1	
134	CB	RE-RING	A	1	0.6						
135	CB	RE-RING	A	1	0.5						
136	CB	RE-RING	A	1	0.5						
137	CB	RE-RING	A	1	0.2						
138	CB	RE-RING	A	1	0.8						
139	CB	RE-RING	A	1	0.8						
140	CB	RE-RING	A	1	0.7						
141	CB	RE-RING	A	1	0.4						
142	CB	RE-RING	A	1	0.4						
143	CB	RE-RING	A	1	0.4						
144	CB	RE-RING	A	1	0.8						
145	CB	RECON	A	1	0.8	1		3.3		1	
146	CB	RE-RING	A	1	0.2						Grout structure
147	CB	RE-RING	A	1	0.6						
148	CB	RE-RING	A	1	0.2						
149	CB	RE-RING	A	1	0.6						
150	CB	RECON	A	1	0.0	1		2.5		2	
151	CB	RE-RING	A	1	1.5						Repour invert
152	CB	RE-RING	A	1	0.4						
153	CB	RE-RING	A	1	0.7						
154	CB	RE-RING	A	1	1.0						
155	CB	GROUT					1				
156	CB	RE-RING	A	1	0.2						
TOTALS				43	21.0	3	5	11.9	0.0	5	

NO	DATE	BY	CKD	APPR	REVISION	04/26/2022	3:58:18 PM
NAME: P:\22-01-00\CSAH_01_(111TH-7TH)\Base\Proposed\SEQ.dgn							

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 SIGNATURE: 
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 CHECKED BY CO DATE 04/26/2022



STATE AID PROJECT 002-601-059


STORM DRAINAGE TAB (CONT.)								A
NUMBER	TYPE	ACTION	NEW CASTING TYPE	FURNISH AND INSTALL CASTING ASSEMBLY	RING HEIGHT (INCIDENTAL)	REMOVE STRUCTURE	GROUT CATCH BASIN OR MANHOLE	NOTES
				EACH	LIN FT	EACH	EACH	
203	MH	GROUT					1	
204	MH	OK						
205	MH	GROUT					1	
206	MH	GROUT					1	
207	MH	OK						
209	MH	OK						
210	MH	RE-RING	A-7D	1	2.0			Repour invert
211	MH	GROUT					1	
TOTALS				1	2.0	0	4	

CASTING ASSEMBLIES SUMMARY						B
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	DESCRIPTION	NOTES	QUANTITY
A-7D	700-7	715		STD. PLATE: 4101D, 4110F	CASTING COVER STAMPED "STORM SEWER"	1
SAN	NEENAH R-1733	NEENAH R1733-5044		301-CP LID WITH RUBBER GASKET ON BOTTOM	CASTING COVER STAMPED "SANITARY SEWER"	1
TYPE A	2X3 RECT.	NEENAH R-3067L		WITH ADAPTER PLATE 3067-23 AND BACK		43
TYBE B	M-11			DITCH GRATE		1
SEE PAGES 11-12 FOR CASTING DETAILS.						
ALL CASTING HEIGHTS ARE TO BE VERIFIED IN THE FIELD						
ALL MANHOLE COVERS SHOULD BE LABELED AS STORM OR SANITARY						
NEW CASTINGS TO BE INSTALLED AFTER ASPHALT MILLING IS COMPLETED						
MANHOLE CASTINGS TO BE RECESSED 1/4" FROM TOP OF FINISHED MAT						
ALL MANHOLES TO BE WRAPPED WITH INFI-SHIELD. THIS WORK IS INCIDENTAL						

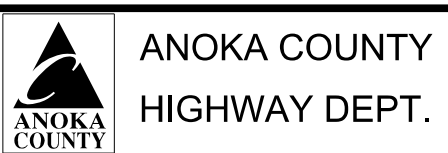
BITUMINOUS STREET SUMMARY		C
LOCATION	BITUMINOUS	NOTES
	2360 TYPE SP 12.5 WEAR (4,F)	
	TON	
9th Avenue	1	[1]
Eldorado Street	8	[1]
Blackfoot Street North	41	[1]
Blackfoot Street South	41	[1]
Round Lake Blvd North	30	[1]
Round Lake Blvd South	33	[1]
Yuca Street	19	[1]
Autumn Glen Senior Living	16	[1]
Oakmont Apartments	8	[1]
Pheasant Ridge Drive North	27	[1]
Pheasant Ridge Drive South	32	[1]
PROJECT TOTAL	256	

BITUMINOUS SUMMARY NOTES:
 [1] QUANTITY ESTIMATED FOR 1 LIFTS

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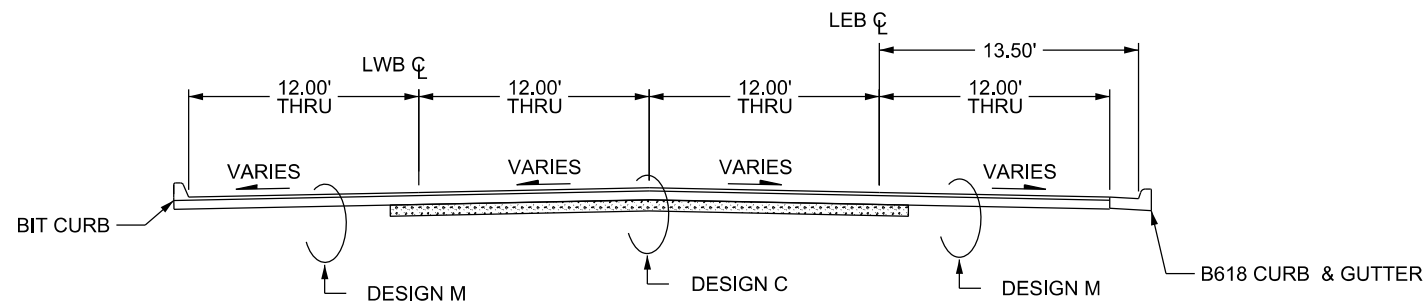
STATE AID PROJECT 002-601-059

TABULATIONS
 Sheet 4 of 87 Sheets

CSAH 1- COON RAPIDS BLVD

EXISTING SECTION

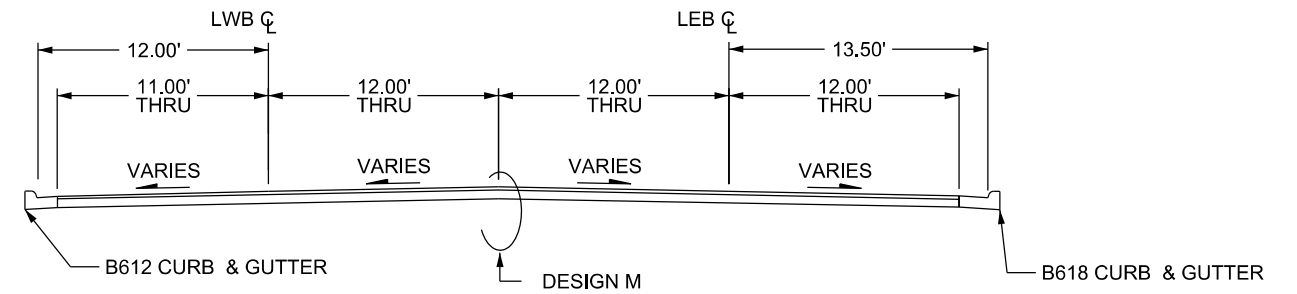
28+31.00 - 29+22.00



CSAH 1- COON RAPIDS BLVD

PROPOSED SECTION

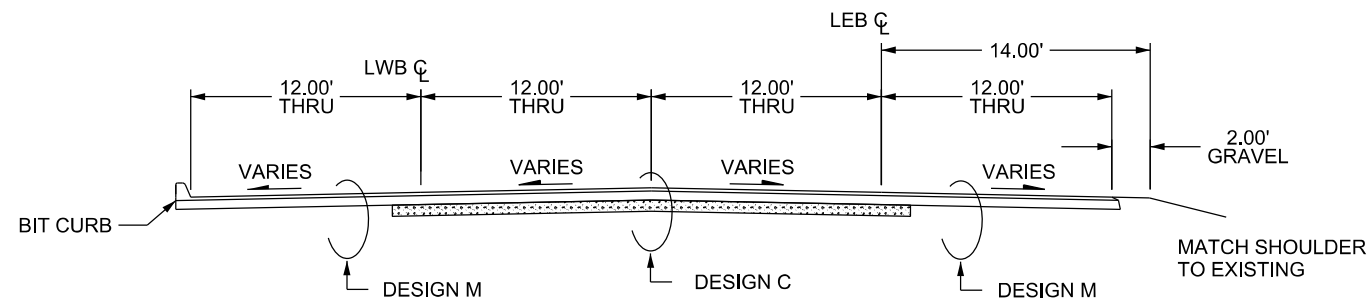
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CSAH 1- COON RAPIDS BLVD

EXISTING SECTION

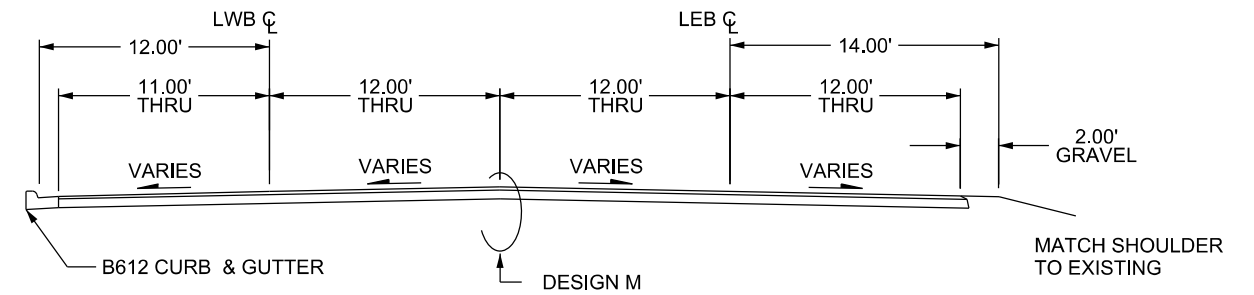
29+22.00 - 36+00.00



CSAH 1- COON RAPIDS BLVD


PROPOSED SECTION

29+22.00 - 36+00.00



NOTE: CONCRETE SECTION UNDER ROADWAY IS SHOWN IN AN APPROXIMATE LOCATION

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**ANOKA COUNTY
 HIGHWAY DEPT.**

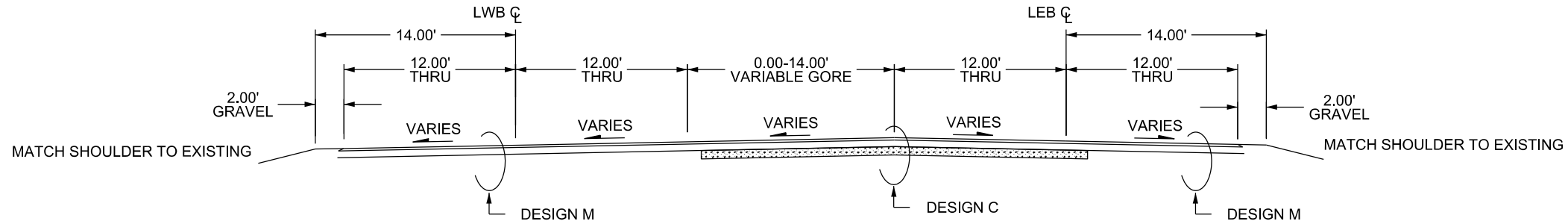
STATE AID PROJECT 002-601-059

TYPICAL SECTIONS
 Sheet 5 of 87 Sheets

CSAH 1- COON RAPIDS BLVD

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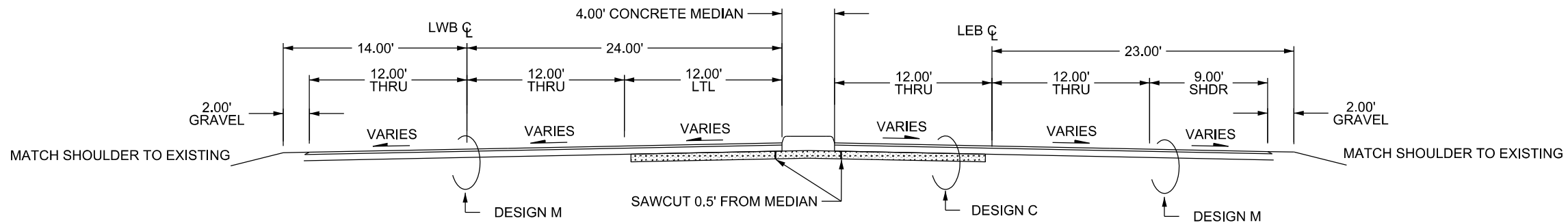
36+00.00 - 36+88.00



CSAH 1- COON RAPIDS BLVD

EXISTING SECTION

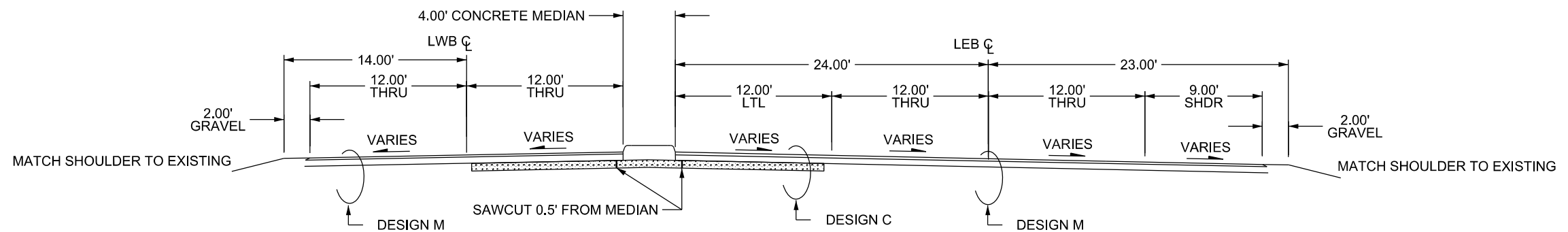
36+88.00 - 39+86.00



CSAH 1- COON RAPIDS BLVD

EXISTING SECTION


39+86.00 - 43+13.00



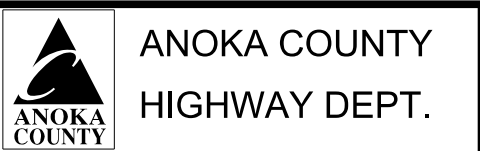
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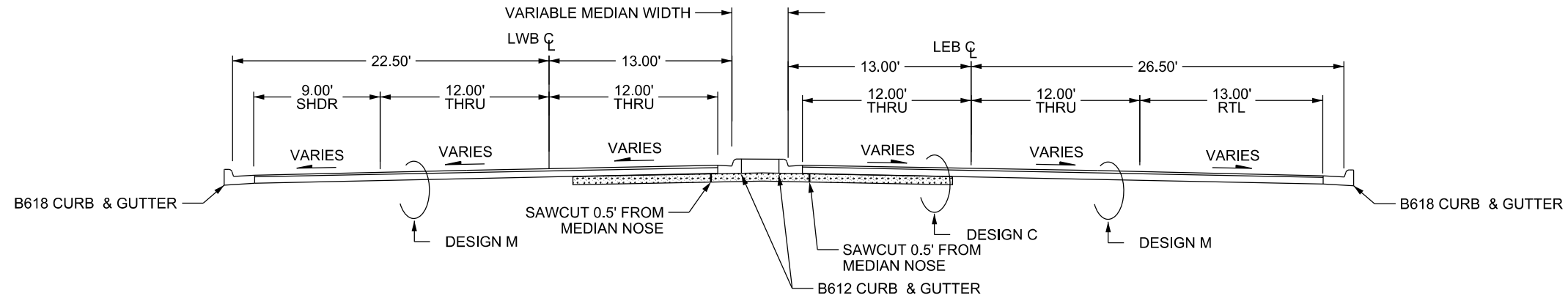
STATE AID PROJECT 002-601-059

TYPICAL SECTIONS
 Sheet 6 of 87 Sheets

CSAH 1- COON RAPIDS BLVD

EXISTING SECTION

51+56.00 - 54+38.00

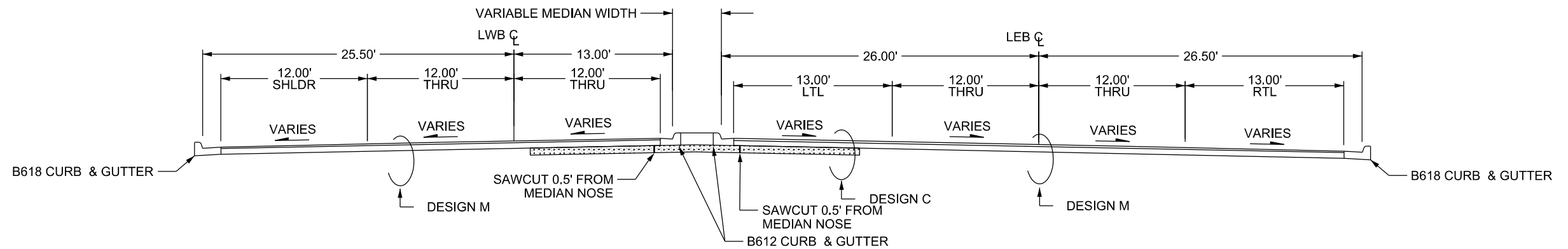


CSAH 1- COON RAPIDS BLVD

EXISTING SECTION

54+38.00 - 58+42.00 104+00.00 - 108+46.00

82+00.00 - 85+18.00 112+57.00 - 117+51.00

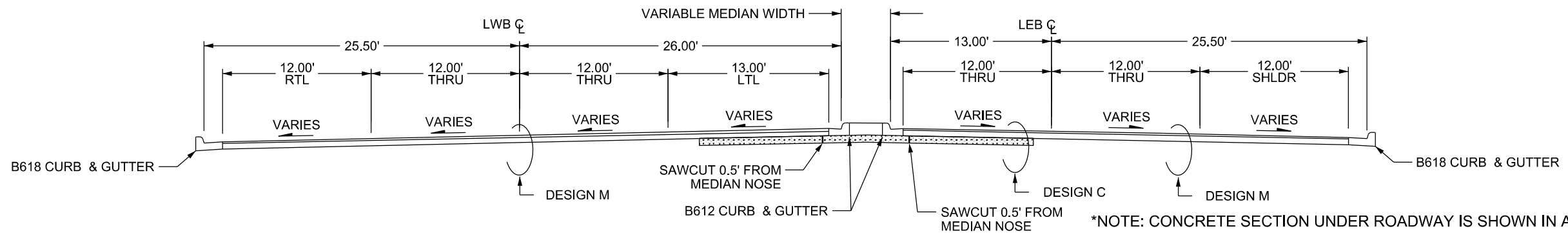


CSAH 1- COON RAPIDS BLVD

EXISTING SECTION

58+42.00 - 61+23.00 108+46.00 - 112+57.00


85+18.00 - 89+18.00



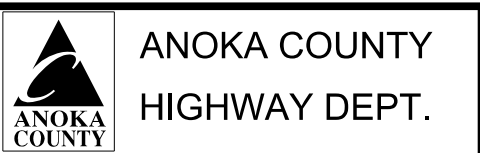
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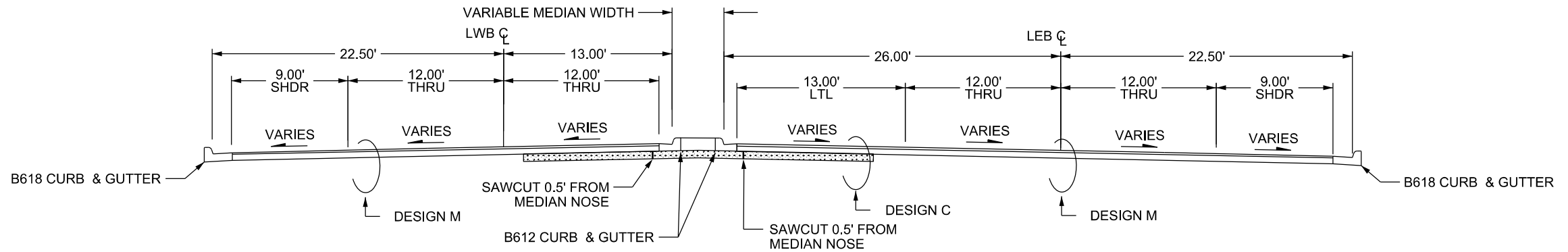
TYPICAL SECTIONS
 Sheet 8 of 87 Sheets

CSAH 1- COON RAPIDS BLVD

EXISTING SECTION

61+23.00 - 66+00.00

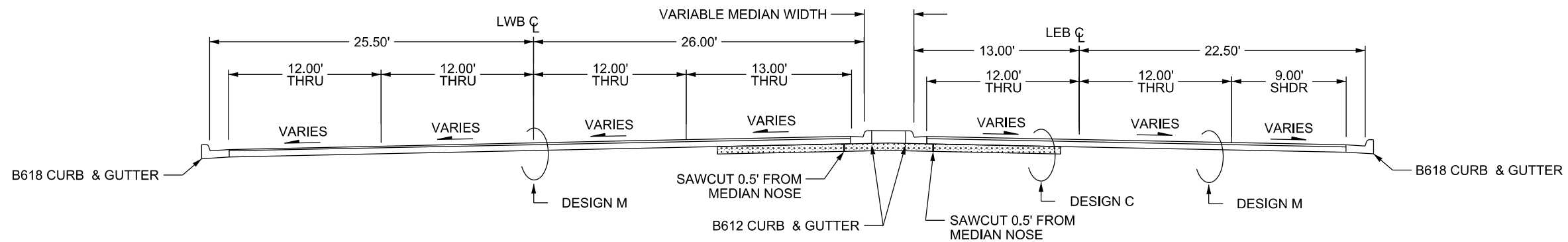
73+00.00 - 76+74.00



CSAH 1- COON RAPIDS BLVD

EXISTING SECTION

66+00.00 - 71+47.00



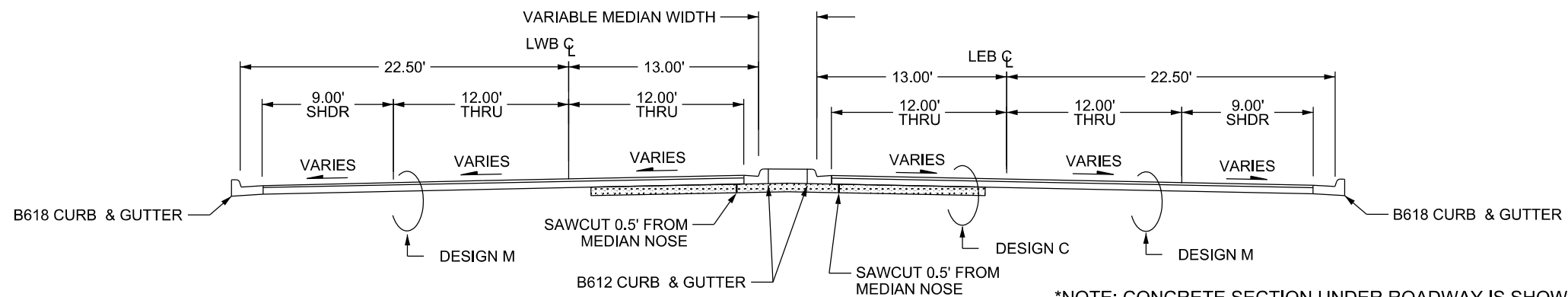
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EXISTING SECTION

71+47.00 - 73+00.00

89+18.00 - 104+00.00


76+70.00 - 82+00.00



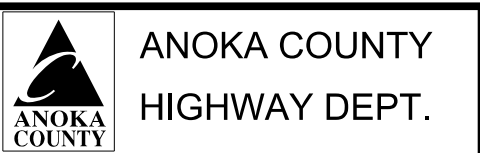
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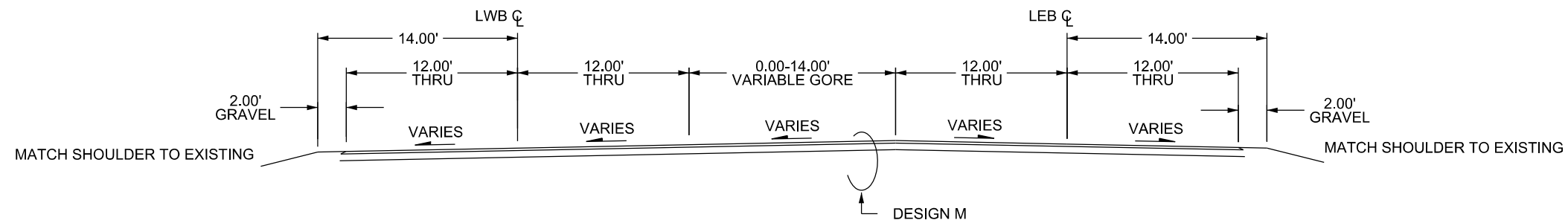


STATE AID PROJECT 002-601-059

TYPICAL SECTIONS
 Sheet 9 of 87 Sheets

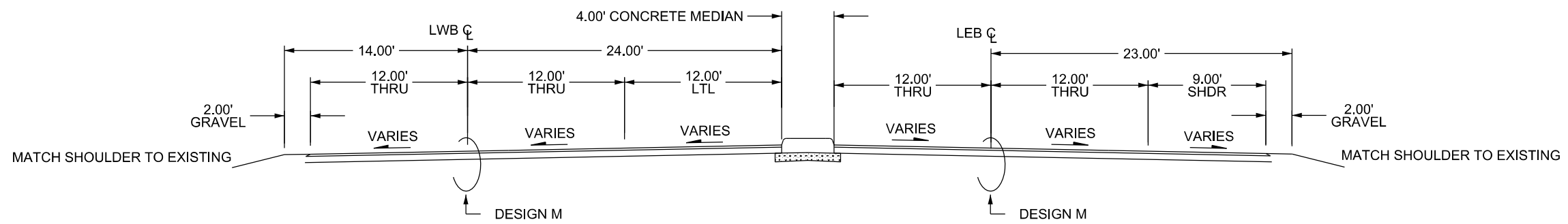
CSAH 1- COON RAPIDS BLVD PROPOSED SECTION

36+00.00 - 36+88.00



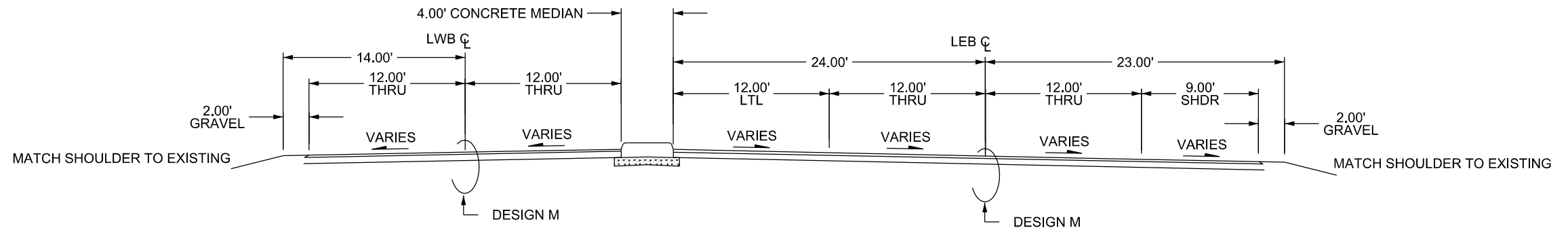
CSAH 1- COON RAPIDS BLVD PROPOSED SECTION

36+88.00 - 39+86.00




CSAH 1- COON RAPIDS BLVD PROPOSED SECTION

39+86.00 - 43+13.00

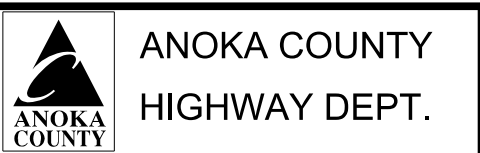


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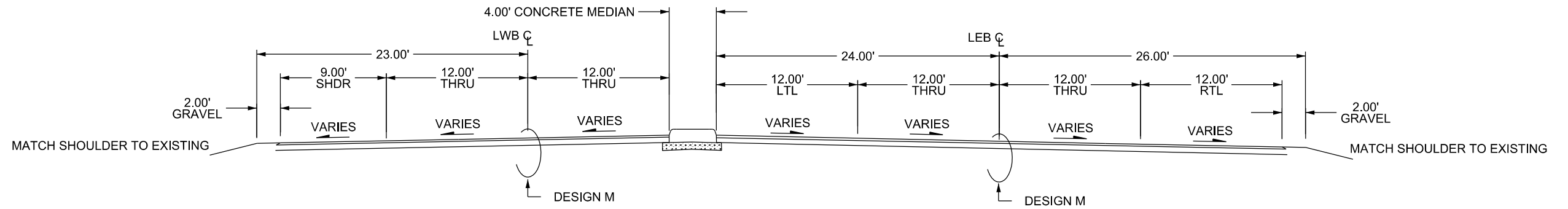


STATE AID PROJECT 002-601-059

TYPICAL SECTIONS
 Sheet 10 of 87 Sheets

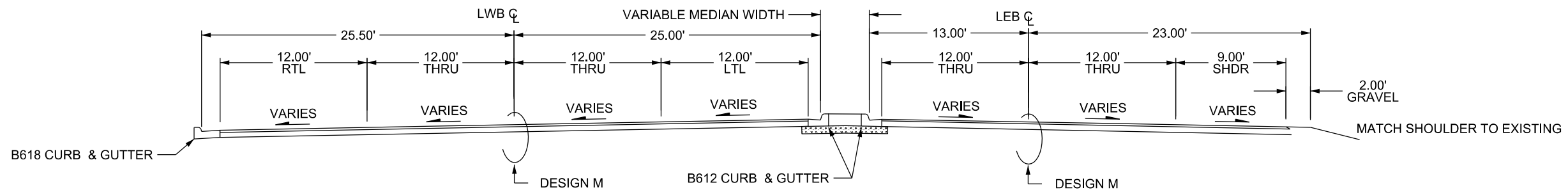
CSAH 1- COON RAPIDS BLVD PROPOSED SECTION

43+13.00 - 45+50.00



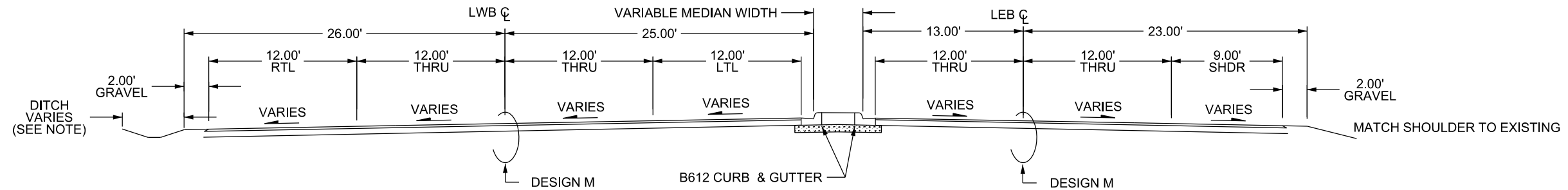
CSAH 1- COON RAPIDS BLVD PROPOSED SECTION

45+50.00 - 46+00.00



CSAH 1- COON RAPIDS BLVD PROPOSED SECTION

46+00.00 - 48+07.00



*NOTE: CONSTRUCTION OF DITCH AS DIRECTED BY ENGINEER *

NO	DATE	BY	CKD	APPR	REVISION	TIME
	04/26/2022					3:58:30 PM

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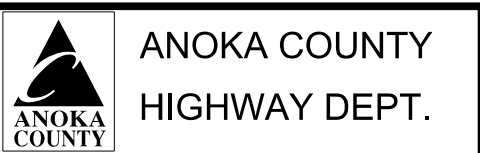
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DATE: 03-10-2022 LICENSE NO. 58657

DRAWN BY: MR DATE 02/02/2022

DESIGN BY: MR DATE 02/02/2022

CHECKED BY: CO DATE 04/26/2022



STATE AID PROJECT 002-601-059

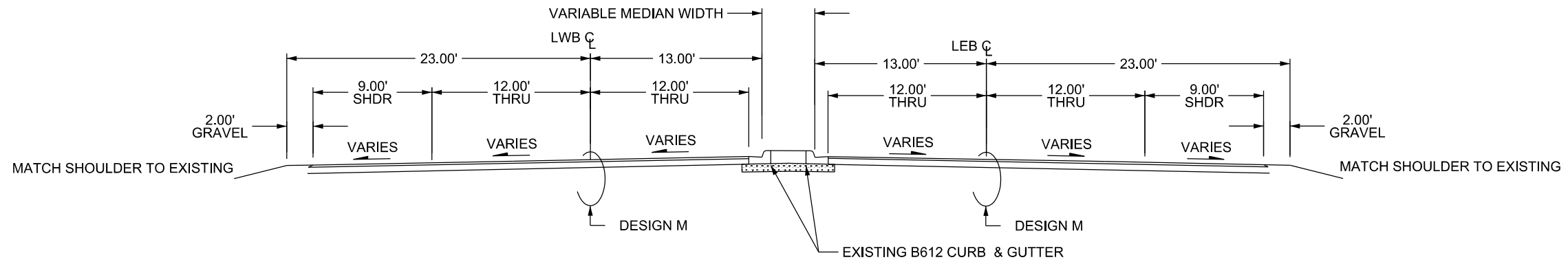
TYPICAL SECTIONS

Sheet 11 of 87 Sheets

CSAH 1- COON RAPIDS BLVD

PROPOSED SECTION

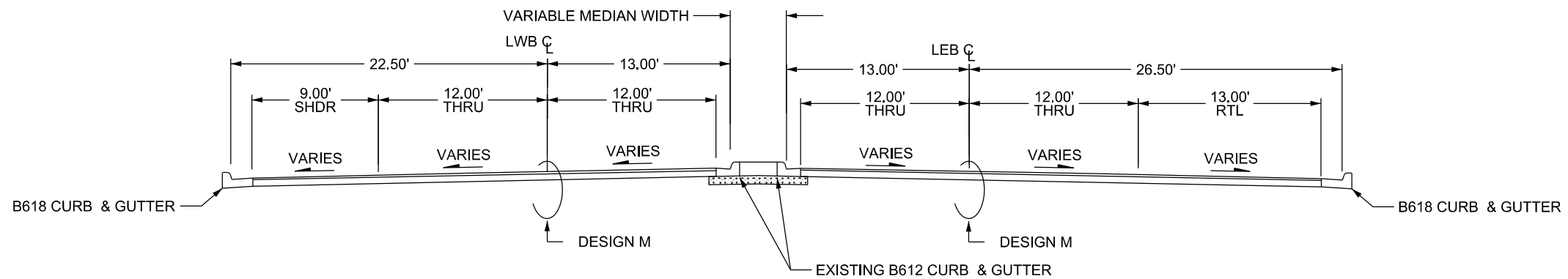
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CSAH 1- COON RAPIDS BLVD

PROPOSED SECTION

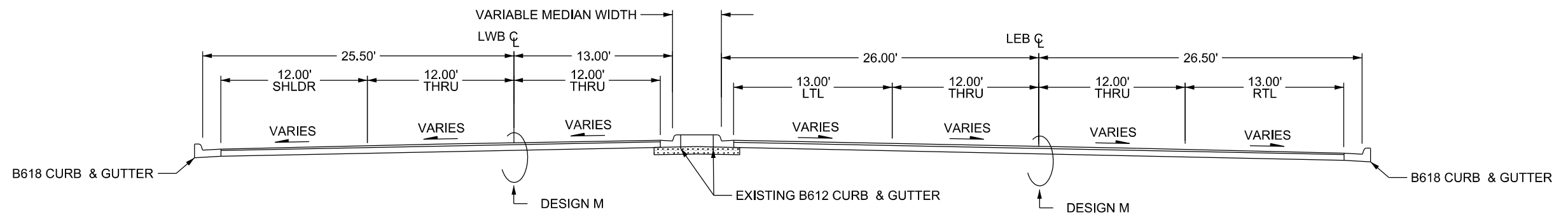
51+56.00 - 54+38.00



CSAH 1- COON RAPIDS BLVD


PROPOSED SECTION

54+38.00 - 58+42.00 104+00.00 - 108+19.30
 82+00.00 - 85+18.00 112+57.00 - 116+75.49

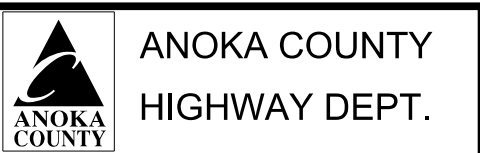


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NAME: P:\22-01-00\CSAH_01_(111TH-7TH)\Base\Proposed\TYPICALS.dgn

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: AARON P. ANDERSON
 SIGNATURE: 
 DATE: 03-10-2022 LICENSE NO. 58657

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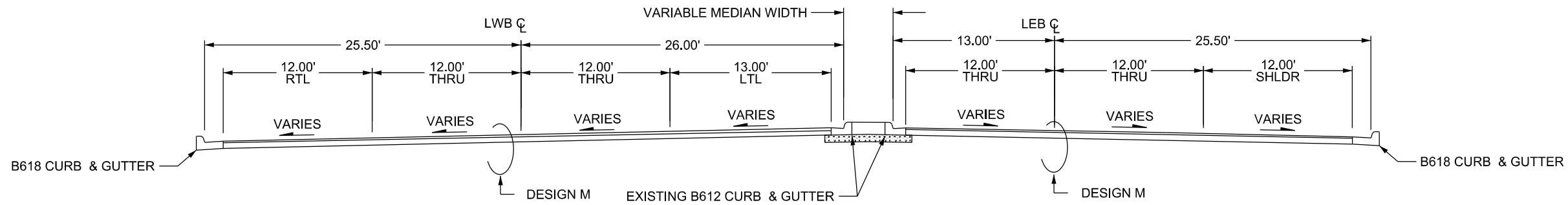


STATE AID PROJECT 002-601-059

TYPICAL SECTIONS
 Sheet 12 of 87 Sheets

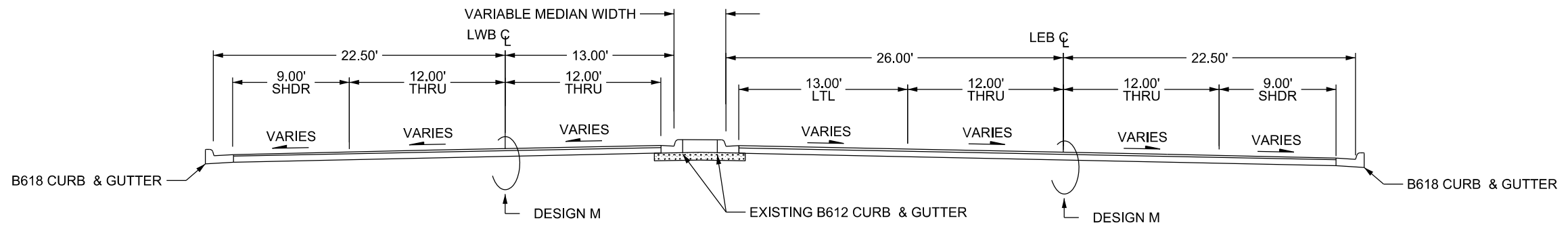
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58+42.00 - 61+23.00 109+70.10 - 112+57.00
85+18.00 - 89+18.00



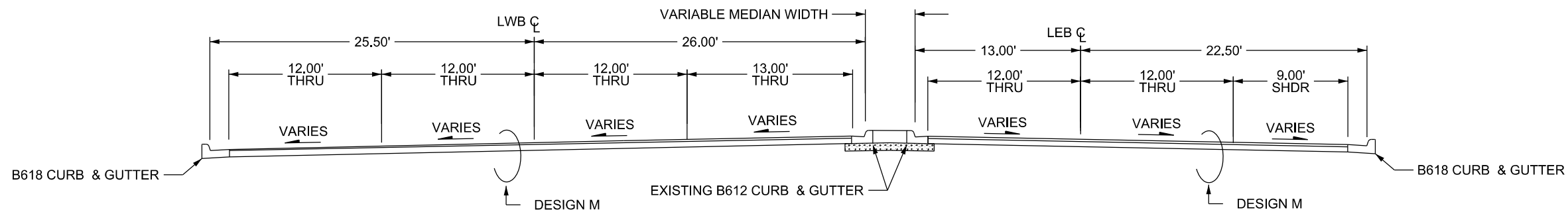
CSAH 1- COON RAPIDS BLVD PROPOSED SECTION

61+23.00 - 66+00.00
73+00.00 - 76+74.00




CSAH 1- COON RAPIDS BLVD PROPOSED SECTION

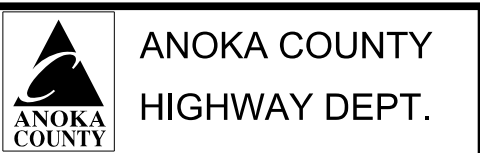
66+00.00 - 71+47.00



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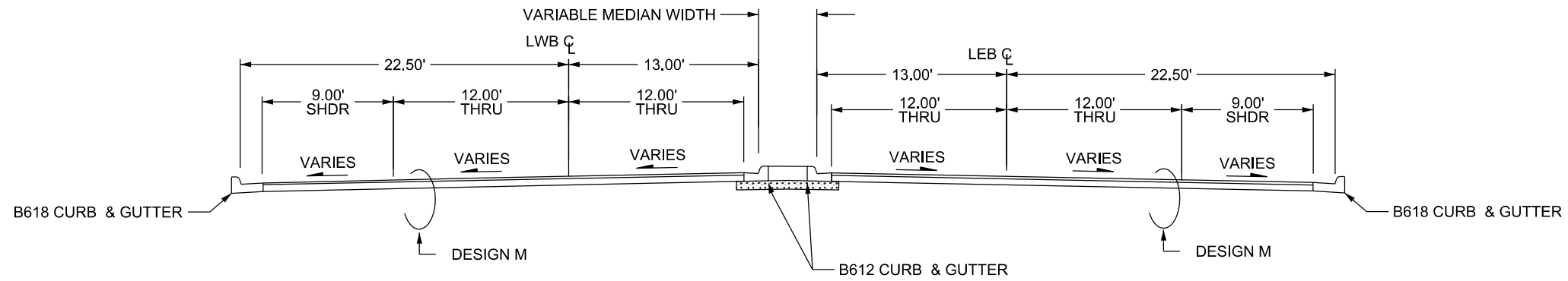
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TYPICAL SECTIONS

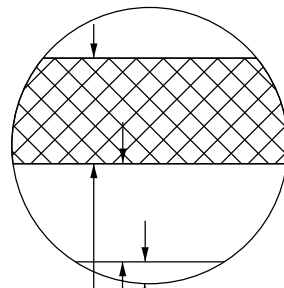
Sheet 13 of 87 Sheets

CSAH 1- COON RAPIDS BLVD PROPOSED SECTION

71+47.00 - 73+00.00 89+18.00 - 104+00.00
76+70.00 - 82+00.00

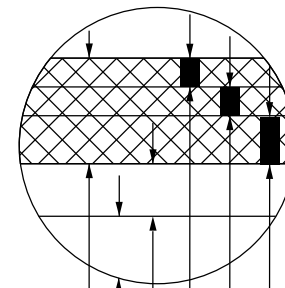


DESIGN C CONCRETE REMOVAL SECTION



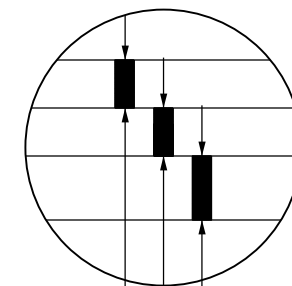
7.0" MILL BITUMINOUS
REMOVE 8.0" CONCRETE PAVEMENT
1" - 4" COMMON EXCAVATION

DESIGN M MILL / RECLAIM SECTION



7.0" MILL BITUMINOUS
1" - 4" COMMON EXCAVATION
AGGREGATE CLASS 5 BASE
2.0" BITUMINOUS WEAR (SPWEB440F)
2.0" BITUMINOUS WEAR (SPWEB440F)
3.0" BITUMINOUS NON-WEAR (SPNWB430B)


BUS PAD BITUMINOUS PATCH SECTION




2.0" TYPE SP 12.5 BITUMINOUS WEAR (SPWEB440F)
3.0" TYPE SP 12.5 BITUMINOUS WEAR (SPWEB440F)
3.0" TYPE SP 12.5 BITUMINOUS MIXTURE (PATCH)

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 **ANOKA COUNTY
HIGHWAY DEPT.**

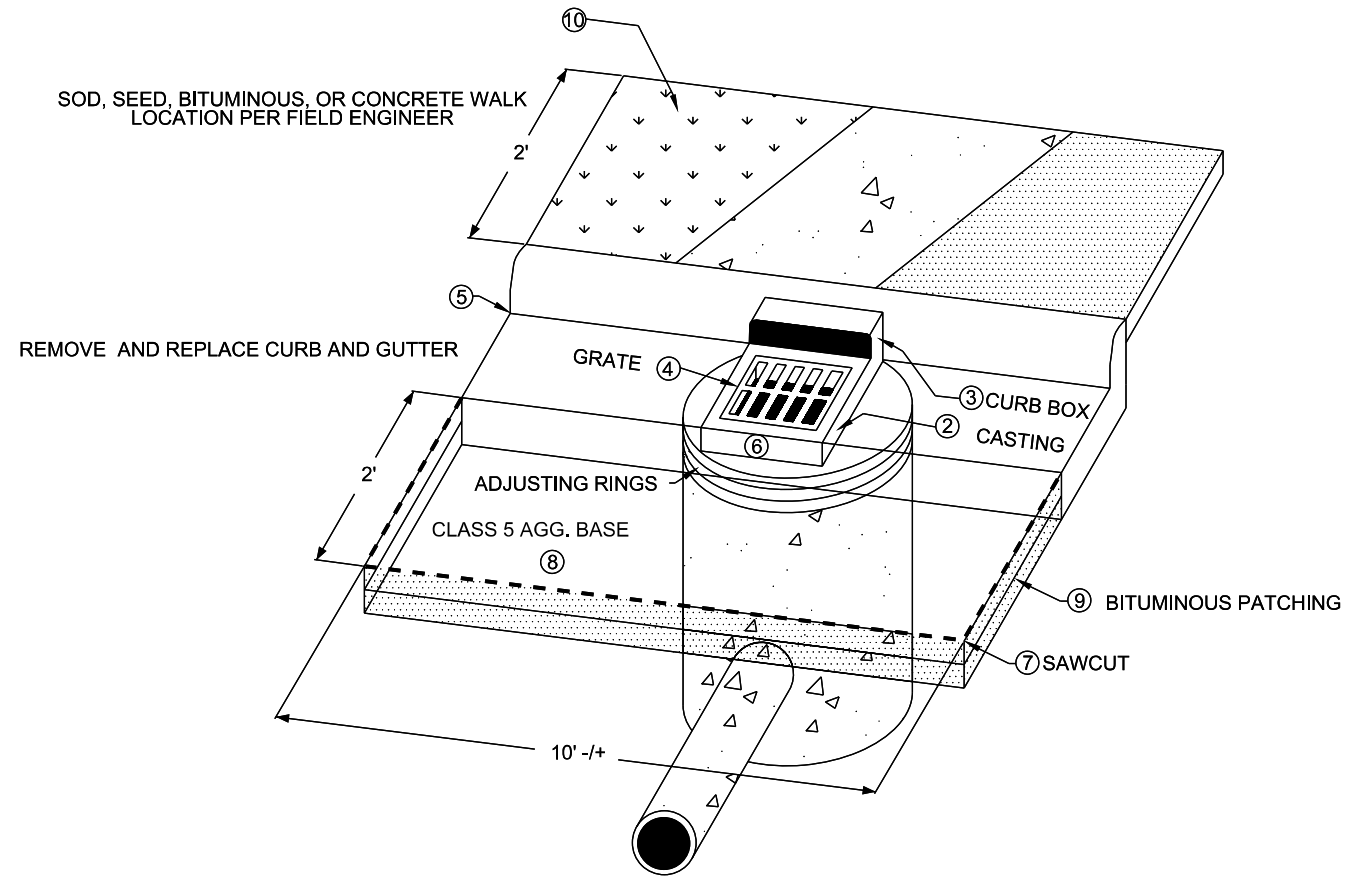
STATE AID PROJECT 002-601-059

TYPICAL SECTIONS

Sheet 14 of 87 Sheets

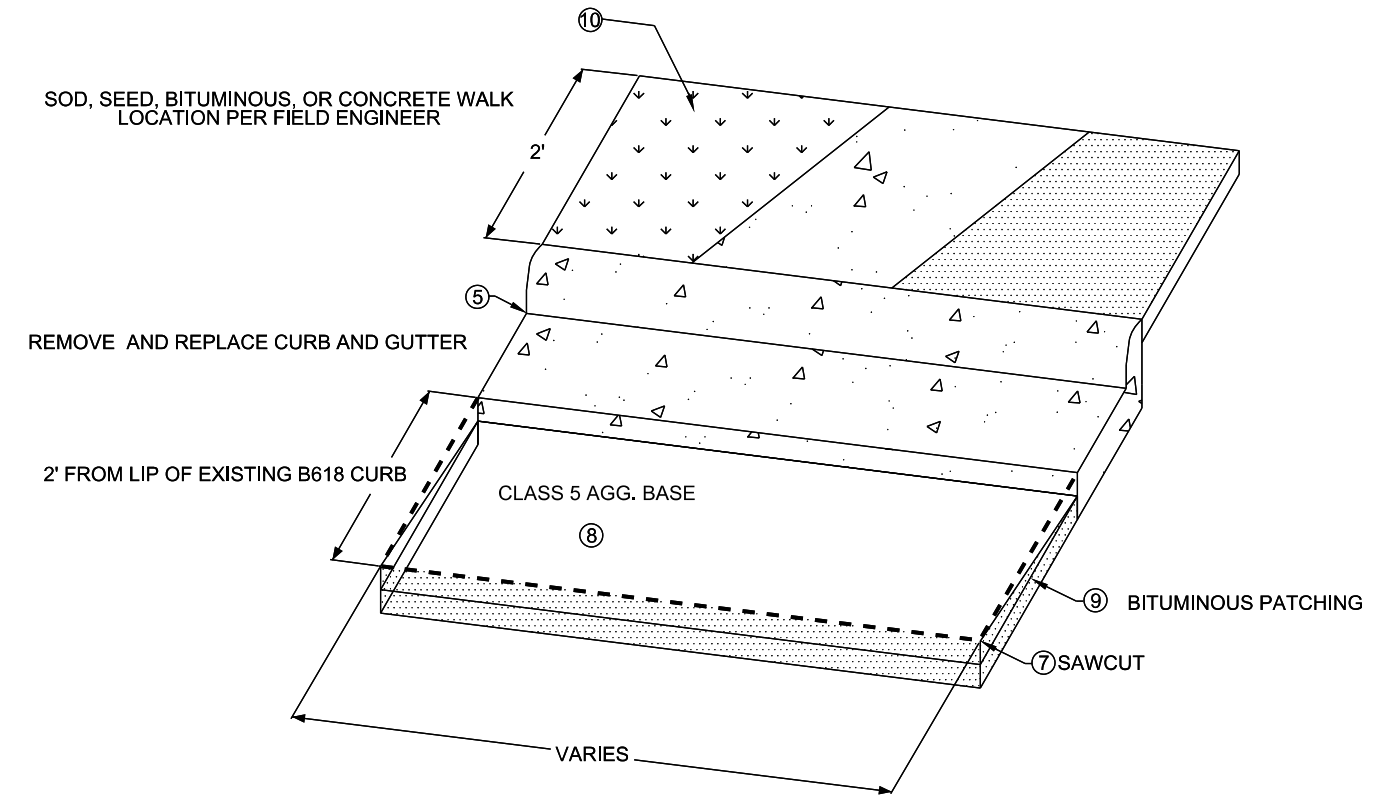
CATCH BASIN DETAIL

SEE STRUCTURE TAB FOR LOCATION
(PAGE 3)



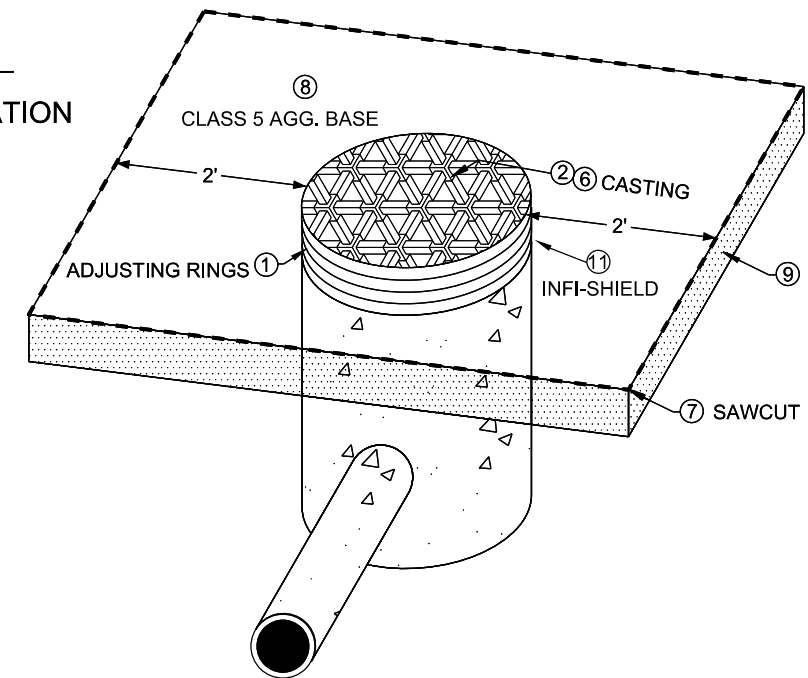
NEW CURB DETAIL

SEE PLAN FOR LOCATION



MANHOLE DETAIL

SEE STRUCTURE TAB FOR LOCATION
(PAGE 3)



NOTES

FOR TRAFFIC CONTROL AT CATCH BASIN AND MANHOLE REPAIRS REFER TO THE MINNESOTA MANUAL ON TEMPORARY TRAFFIC CONTROL LAYOUTS FIELD MANUAL.

- ① CONCRETE ENCASED CONCRETE ADJUSTING RINGS STANDARD PLATE 4026A
- ② RING AND FRAME CASTING; REFERENCE CASTING ASSEMBLIES SUMMARY CHART FOR CASTING TYPE
- ③ CURB BOX MATCHES CASTING REFERENCE CHART FOR CASTING TYPE
- ④ GRATE CASTING; REFERENCE CASTING ASSEMBLIES SUMMARY CHART FOR CASTING TYPE
- ⑤ CONCRETE CURB AND GUTTER DESIGN B STANDARD PLATE 7100H, FORM CURB TO FIT CASTING
- ⑥ INSTALLATION OF CATCH BASIN OR MANHOLE CASTINGS; REFERENCE STANDARD PLATE PER TYPE OF CASTING
- ⑦ SAWCUT BITUMINOUS PAVEMENT / CONCRETE CURB FULL DEPTH.
- ⑧ ADD AND COMPACT AGGREGATE BASE CLASS 5 AROUND REPAIRED STRUCTURE. ITEM INCIDENTAL TO ENTIRE STRUCTURE REPAIR
- ⑨ REMOVE VARIABLE DEPTH BITUMINOUS, PATCH WITH 2, 3" LIFTS OF BITUMINOUS, TOP LIFT SHOULD TAPER TO BOTTOM LIFT AT CURB.
- ⑩ REPLACE DISTURBED AREA BEHIND CATCH BASIN WITH EITHER SOD (RESIDENTIAL AREAS), EROSION CONTROL BLANKET, BITUMINOUS, OR CONCRETE
- ⑪ WRAP STORM SEWER MANHOLE AND SANITARY SEWER MANHOLE CONCRETE ADJUSTING RINGS & CASTING WITH INFI-SHIELD SEAL WRAP OR APPROVED EQUIVALENT, INSTALL PER MANUFACTURER'S RECOMMENDATIONS, INFI-SHIELD WRAP INCIDENTAL TO ADJUSTMENT.

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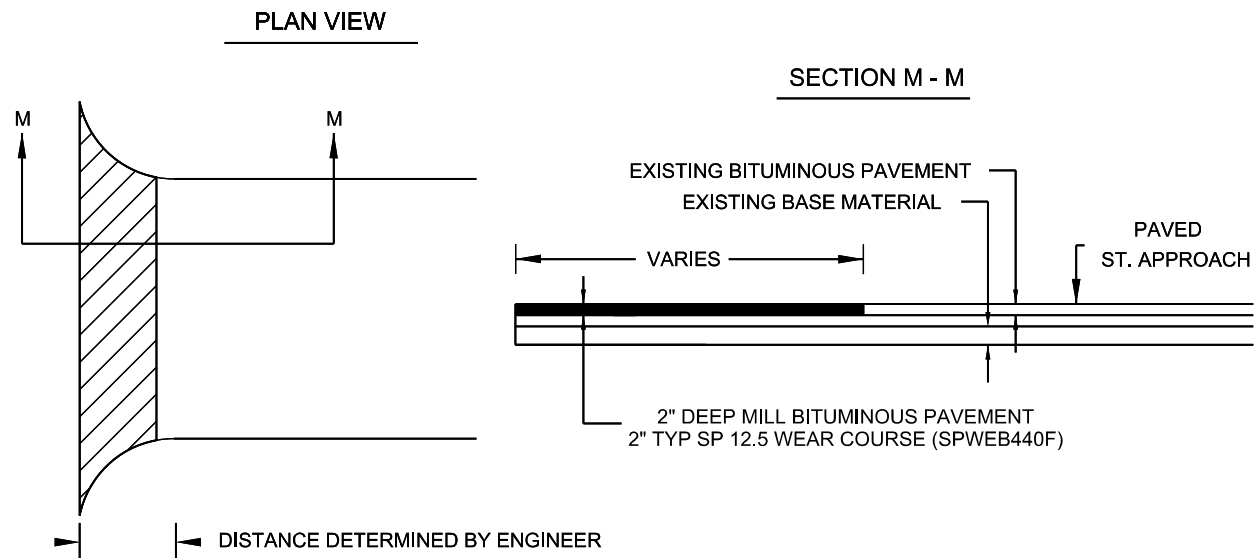
STATE AID PROJECT 002-601-059

DETAILS

Sheet 17 of 87 Sheets

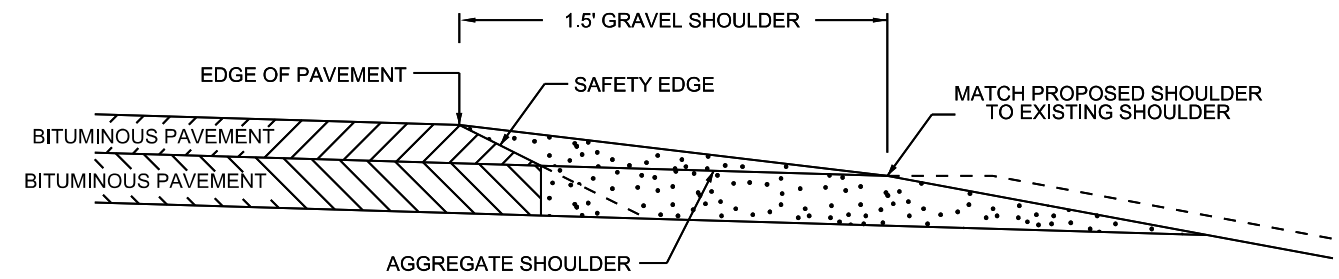
STREET APPROACH DETAIL (MILL & OVERLAY)

BITUMINOUS STREET



SHOULDER DETAIL

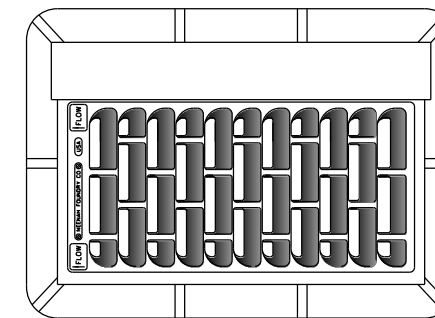
BITUMINOUS SAFETY EDGE
GRAVEL SHOULDER



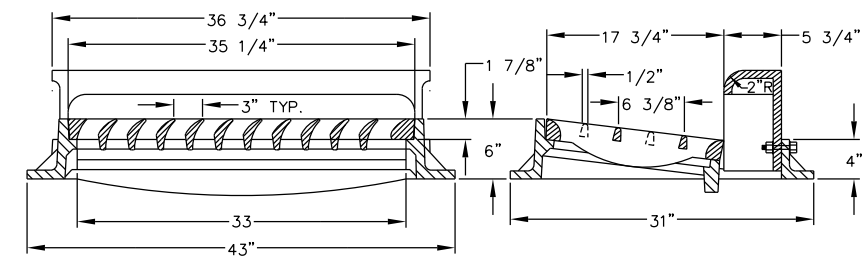
SAFETY EDGE TO BE USED IN ALL NON-CURB AREAS ON SHOULDER.

OPTIONAL DESIGN EXTENDS SAFETY EDGE DEEPER THAN 6" AND WIDER THAN 10.5". SEE SPECIAL PROVISIONS.

NEENAH R-3067-L STORM INLET CASTING WITH CURB BOX



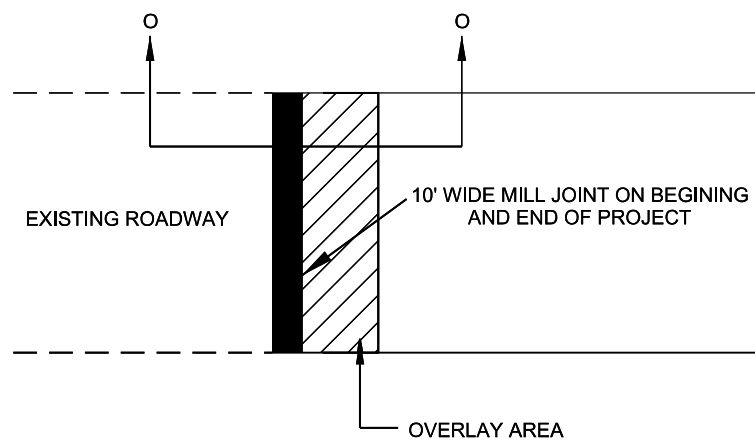
TYPE L GRATE



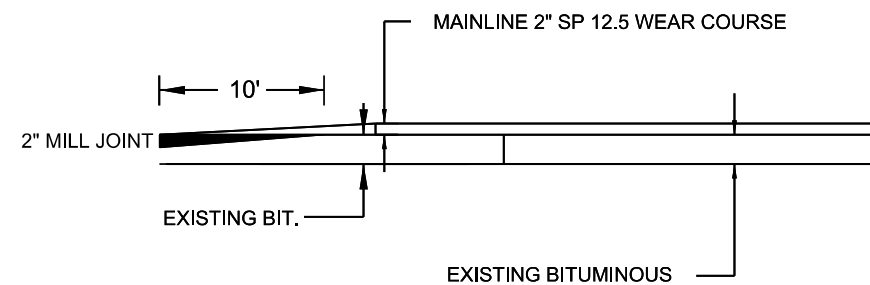
NOTE: LOW POINTS SHALL HAVE A TYPE L BI-DIRECTIONAL GRATE.

MAINLINE JOINT DETAIL (OVERLAY)

PLAN VIEW



SECTION O - O



NO	DATE	BY	CKD	APPR	REVISION		
	04/26/2022					3:58:33 PM	

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ANOKA COUNTY
HIGHWAY DEPT.

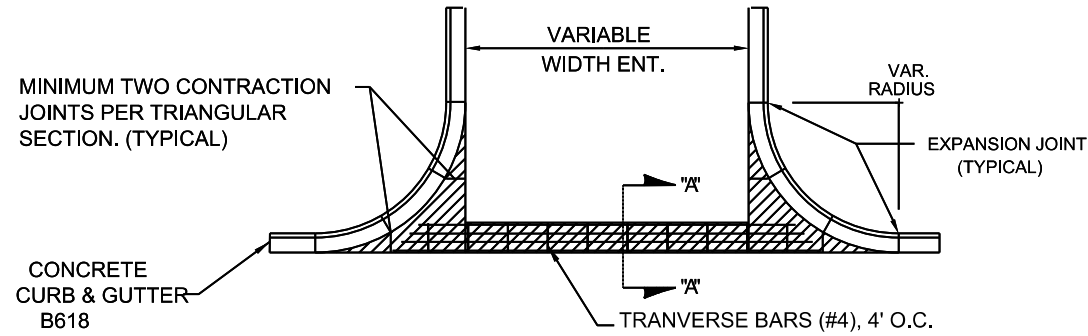
STATE AID PROJECT 002-601-059

DETAILS

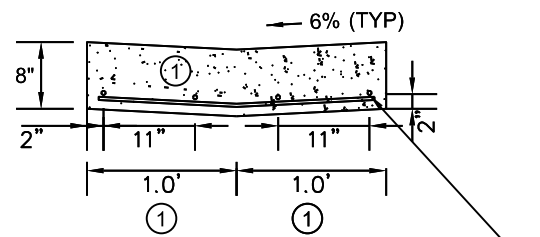
Sheet 15 of 87 Sheets

CROSS GUTTER DETAIL

PAID FOR AS 8" VALLEY GUTTER



SECTION "A"- "A"



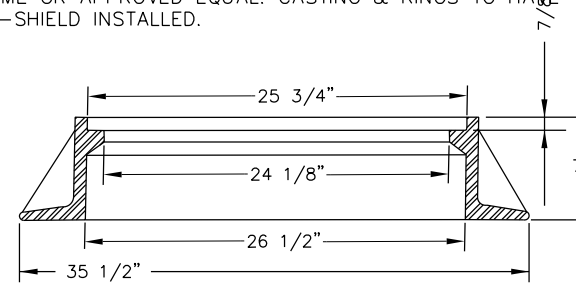
LONGITUDINAL BARS (#4) - INCIDENTAL TO THE INSTALLATION OF VALLEY GUTTER

= DESIGNATES 8 INCH DEPTH CONCRETE

① MATCH GUTTER WIDTH.

STANDARD MANHOLE CASTING

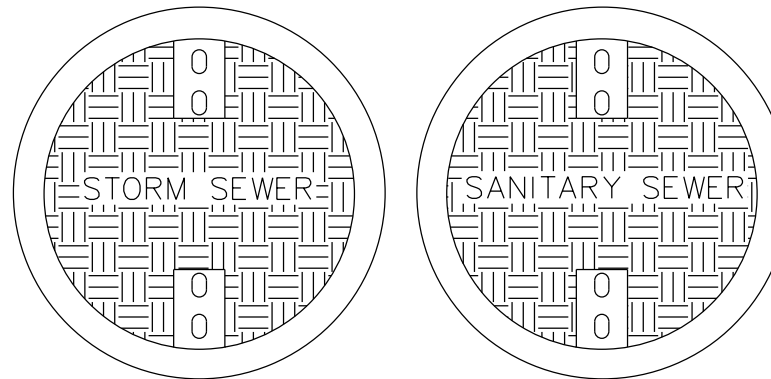
CASTING - NEENAH FOUNDRY NO. R-1733 SERIES MANHOLE FRAME OR APPROVED EQUAL. CASTING & RINGS TO HAVE INFI-SHIELD INSTALLED.



COVER - ESS BROTHER 301-CP LID. OR EQUAL WITH RUBBER GASKET ON THE BOTTOM OF THE LID.

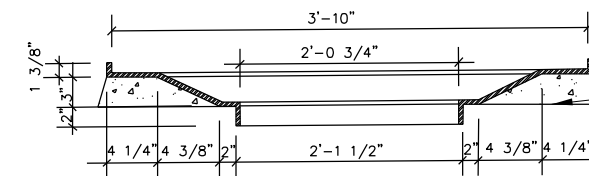
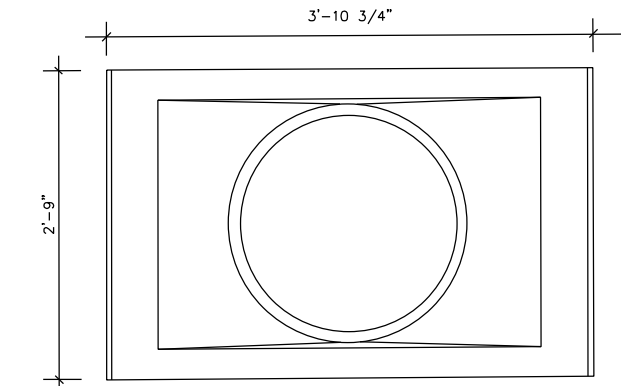
NEENAH R1733-5044

NEENAH R1733-5044

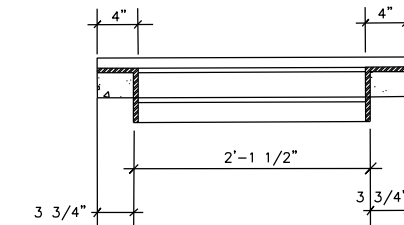


NOTE: ALL LIDS MUST HAVE RUBBER GASKET ON THE BOTTOM OF THE LID.

ESS BROS. R-3067-27 ADAPTER PLATE



FILL WITH CONCRETE BETWEEN ADAPTER AND TOP OF STRUCTURE.



NOTE: INSTALL ADAPTER PLATE ON TO STRUCTURE FIRST. THEN INSTALL 2" X 3" RINGS ON TOP OF ADAPTER PLATE FOR PROPER HEIGHT. IF SHIMS ARE NEEDED, USE PLASTIC ONES BETWEEN CASTING AND TOP RING. RINGS ARE TO BE WRAPPED IN FABRIC AND 1/4 INCH OF GROUT BETWEEN RINGS. (SEE SPECS.)

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**ANOKA COUNTY
 HIGHWAY DEPT.**

STATE AID PROJECT 002-601-059

DETAILS

Sheet 16 of 87 Sheets

CONSTRUCTION NOTES:

- RECLAMATION IN STAGE 4 ASSUMED TO BE 1" OF BITUMINOUS AND 5" OF AGGREGATE BASE.

- ONCE STAGE 2 HAS BEGUN, CONSTRUCTION TO OCCUR 24 HOURS A DAY UNTIL STAGE 4 IS COMPLETE.

STAGE 1: WORK IN THIS STAGE CONSISTS OF CONCRETE CURB AND GUTTER REPAIR, CATCH BASIN REPAIR, PEDESTRIAN RAMP IMPROVEMENTS, LOOP REPLACEMENT, AND SIDE-STREET LOOP REPLACEMENTS ON THE OUTSIDE LANE OF BOTH EASTBOUND AND WESTBOUND. LOOPS TO BE PLACED IN GRAVEL. MILL TAPER ALONG WESTBOUND LANE BETWEEN 9TH AVE. AND DAKOTAH ST. IN COMPLIANCE WITH BOTH MMUTCD AND THE MNDOT TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL. EROSION CONTROL SHALL BE APPLIED BEFORE COMMENCING WITH STAGE 2.

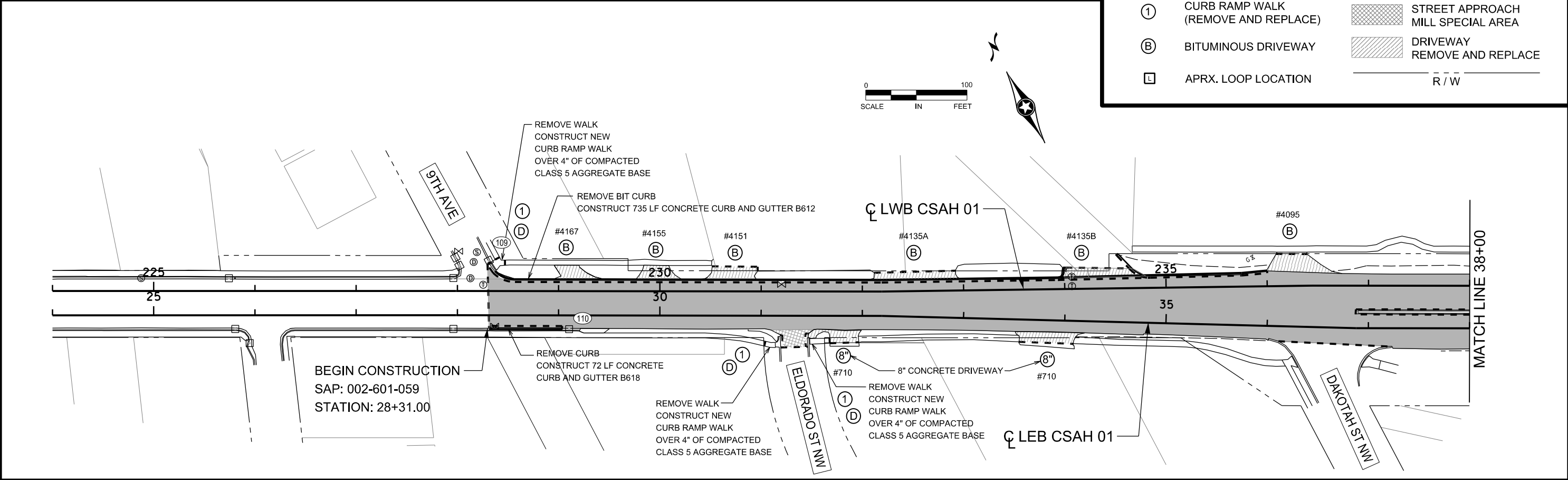
STAGE 2: WORK IN THIS STAGE CONSISTS OF 7" BITUMINOUS MILL, FULL DEPTH CONCRETE SAW, CONCRETE PAVEMENT REMOVAL, COMMON EXCAVATION TO ACHIEVE A 7" SECTION, GRADING OF GRAVEL BASE, LOOP REPLACEMENT, AND ONE LIFT OF BITUMINOUS BASE. LOOPS TO BE PLACED IN GRAVEL. THIS STAGE IS ON THE INSIDE LANES OF EASTBOUND AND WESTBOUND ONLY.

STAGE 3: WORK IN THIS STAGE CONSISTS OF 7" BITUMINOUS MILL, CONCRETE PAVEMENT REMOVAL, COMMON EXCAVATION TO ACHIEVE A 7" SECTION, GRADING OF GRAVEL BASE AND ONE LIFT OF BITUMINOUS BASE. THIS STAGE IS IN THE TRAFFIC CROSS OVER AREA, BETWEEN 9TH AVE. AND MEDIAN CURB AT DAKOTAH ST. NW.

STAGE 4: WORK IN THIS STAGE CONSISTS OF A 6" BITUMINOUS MILL, RECLAMATION OF REMAINING BITUMINOUS, COMMON EXCAVATION TO ACHIEVE A 7" SECTION, GRADING OF GRAVEL BASE, LOOP REPLACEMENT, AND ONE LIFT OF BITUMINOUS BASE AND ONE LIFT OF BITUMINOUS BINDER. LOOPS TO BE PLACED IN GRAVEL. THIS STAGE IS THE OUTSIDE LANES OF EASTBOUND AND WESTBOUND.

STAGE 5: WORK IN THIS STAGE CONSISTS OF FINAL PAVING OVER ENTIRE SITE THAT WAS ENCOMPASSED WITH STAGES 1-4. FINAL WEARING COURSE TO BE PAVED UNDER TRAFFIC, IN A MOVING WORKZONE TRAFFIC CONTROL LAYOUT.

LEGEND			
(D)	TRUNCATED DOMES	⊗	ADJUST GATE VALVE
(H)	ADJUST HANDHOLE	- - - -	SAWCUT
(N)	REMOVE AND REPLACE CONCRETE MEDIAN NOSE	[Solid Grey Box]	MAINLINE MILL AREA
(1)	CURB RAMP WALK (REMOVE AND REPLACE)	[Cross-hatched Box]	STREET APPROACH MILL SPECIAL AREA
(B)	BITUMINOUS DRIVEWAY	[Diagonal Hatched Box]	DRIVEWAY REMOVE AND REPLACE
(L)	APRX. LOOP LOCATION	— R/W —	



NO	DATE	BY	CKD	APPR	REVISION	
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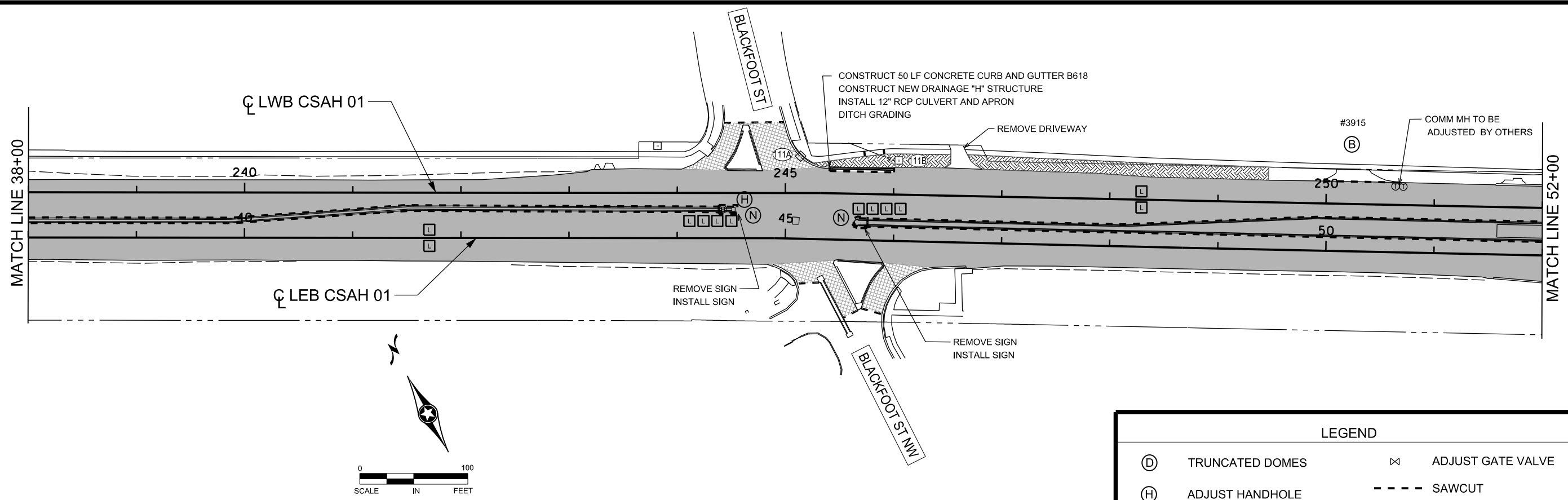
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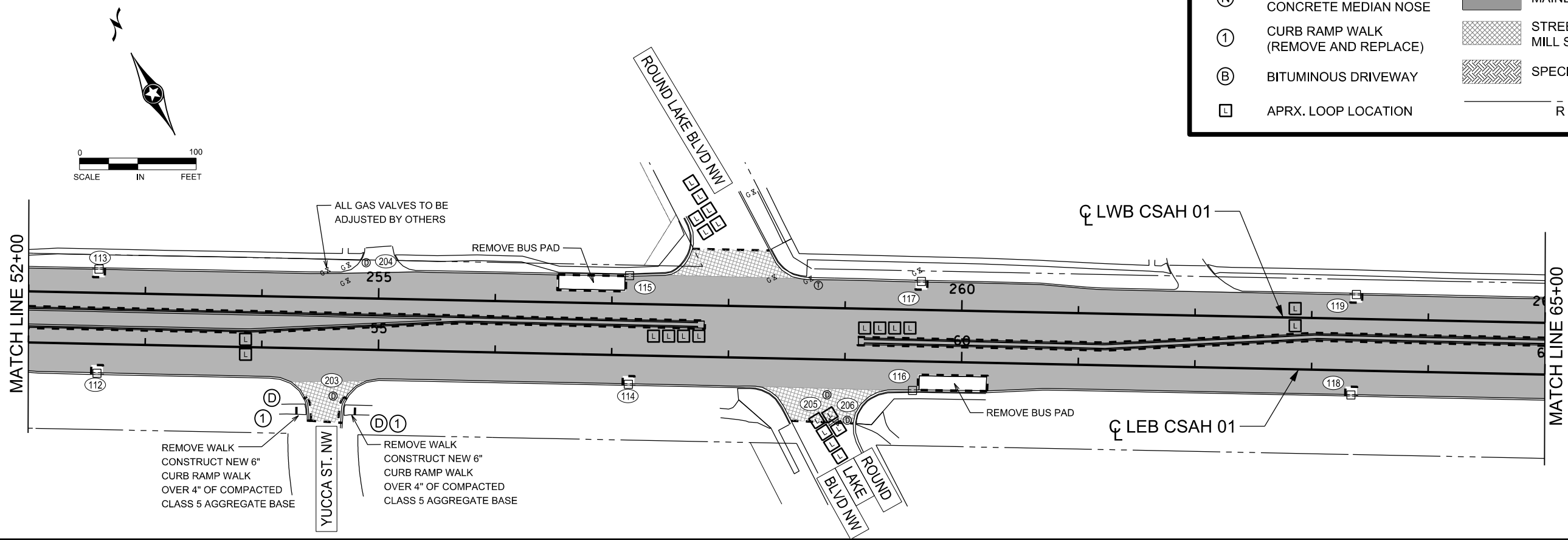
ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-601-059

CONSTRUCTION PLAN
STA 28+31.00 TO 38+00
Sheet 18 of 87 Sheets



LEGEND			
(D)	TRUNCATED DOMES	⊗	ADJUST GATE VALVE
(H)	ADJUST HANDHOLE	- - -	SAWCUT
(N)	REMOVE AND REPLACE CONCRETE MEDIAN NOSE	[Solid Grey]	MAINLINE MILL AREA
(1)	CURB RAMP WALK (REMOVE AND REPLACE)	[Cross-hatch]	STREET APPROACH MILL SPECIAL AREA
(B)	BITUMINOUS DRIVEWAY	[Diagonal Hatch]	SPECIAL DITCH GRADING
(L)	APRX. LOOP LOCATION	---	R / W



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NAME: P:\22-01-00\CSAH_01_(111TH-7TH)\Base\Proposed\CP2.dgn

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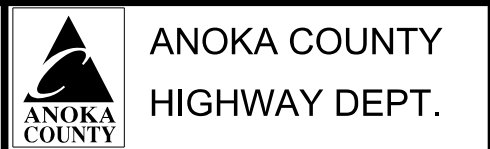
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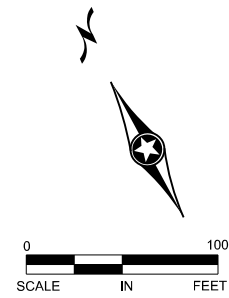
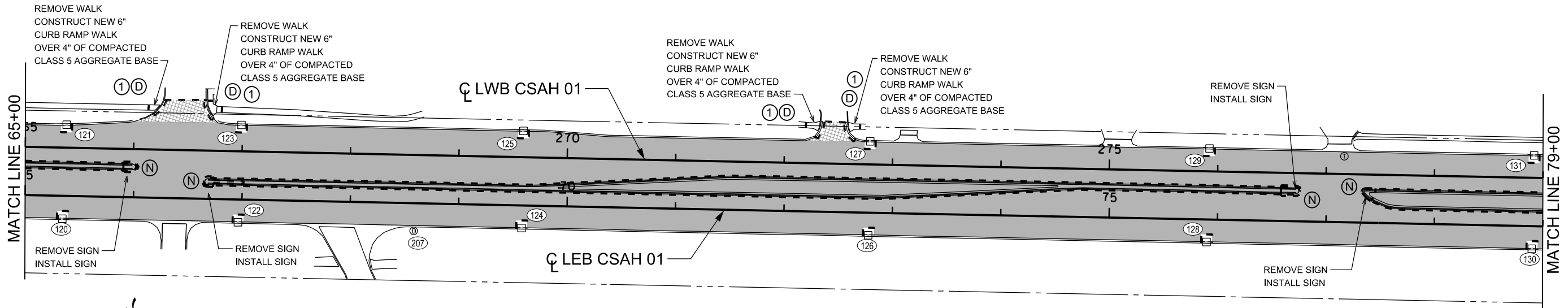
STATE AID PROJECT 002-601-059

CONSTRUCTION PLAN

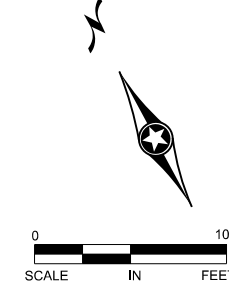
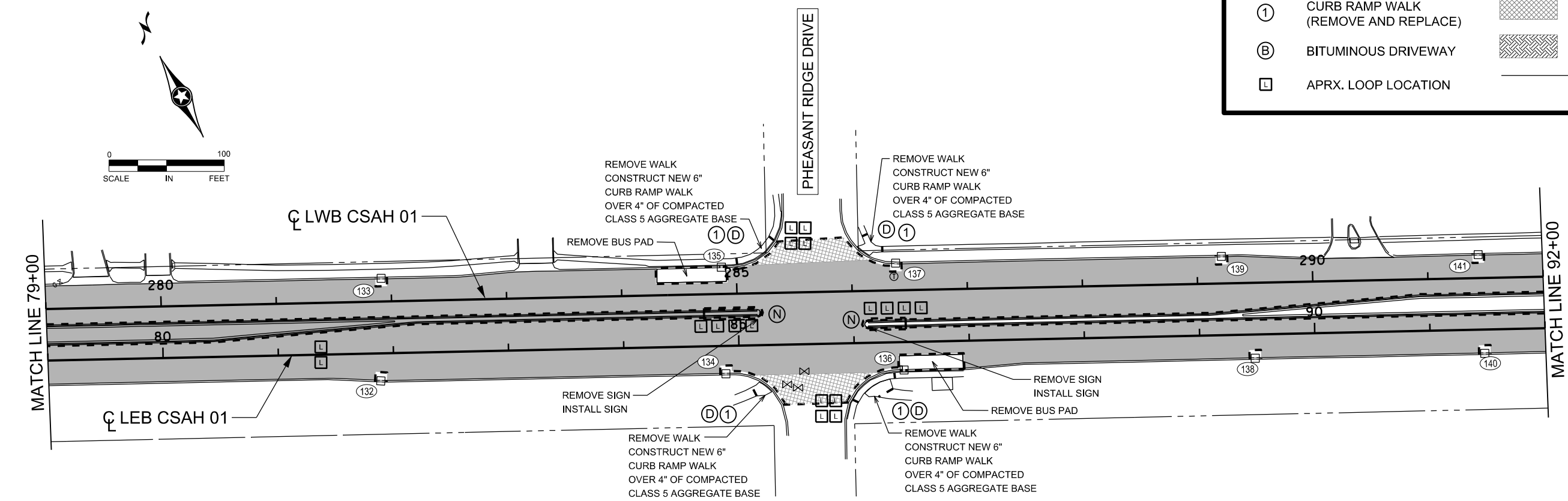
STA 38+00 TO 65+00

Sheet 19 of 87 Sheets

SPH005



LEGEND			
(D)	TRUNCATED DOMES	⋈	ADJUST GATE VALVE
(H)	ADJUST HANDHOLE	---	SAWCUT
(N)	REMOVE AND REPLACE CONCRETE MEDIAN NOSE	■	MAINLINE MILL AREA
(1)	CURB RAMP WALK (REMOVE AND REPLACE)	▨	STREET APPROACH MILL SPECIAL AREA
(B)	BITUMINOUS DRIVEWAY	▩	SPECIAL DITCH GRADING
(L)	APRX. LOOP LOCATION	---	R/W



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NAME: P:\22-01-00\CSAH_01_(111TH-7TH)\Base\Proposed\CP3.dgn

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PRINT NAME: AARON P. ANDERSON

SIGNATURE:

DATE: 03-10-2022 LICENSE NO. 58657

DRAWN BY: MR. DATE 02/02/2022

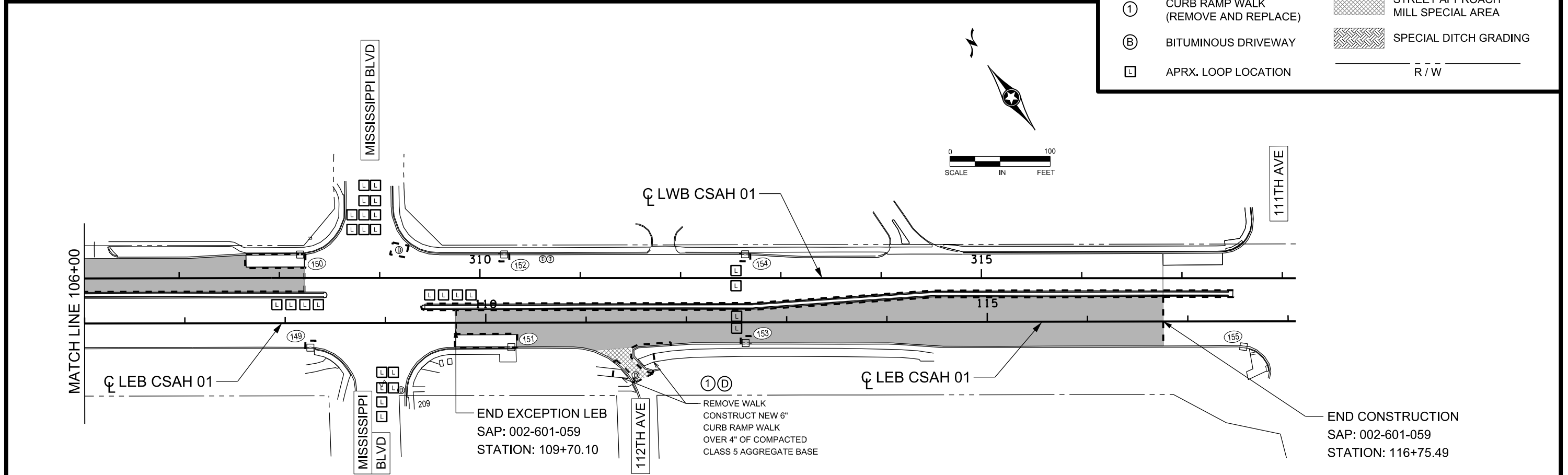
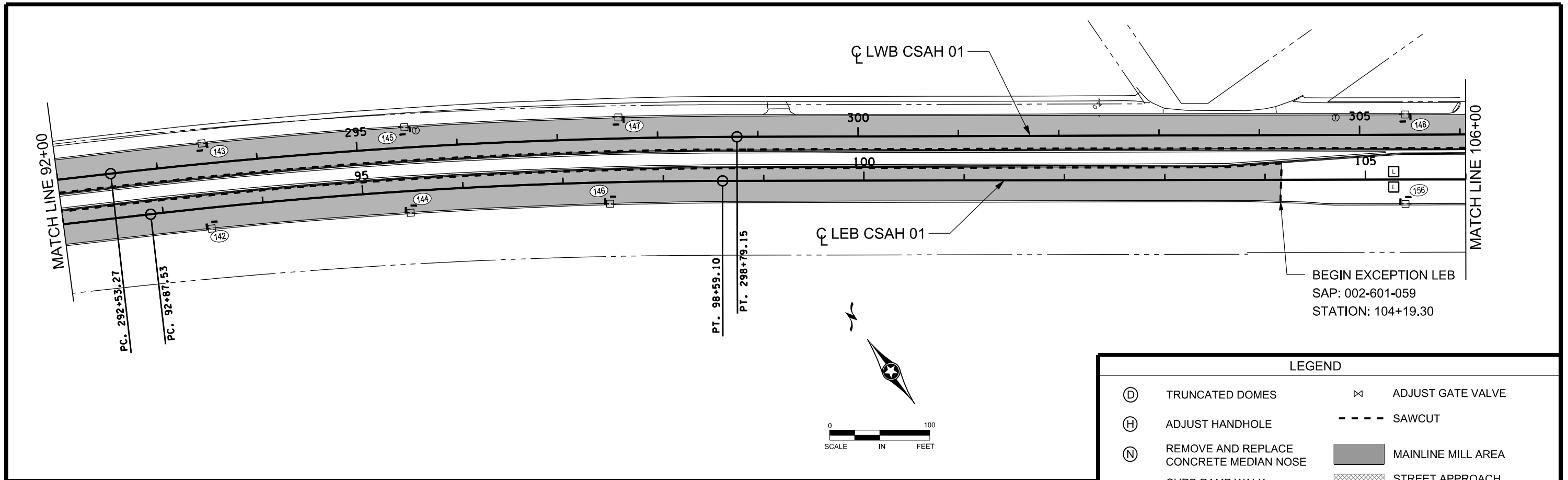
DESIGN BY: MR. DATE 02/02/2022

CHECKED BY: CO. DATE 04/26/2022

ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-601-059

CONSTRUCTION PLAN
STA 65+00 TO 92+00
Sheet 20 of 87 Sheets



LEGEND			
(D)	TRUNCATED DOMES	⊗	ADJUST GATE VALVE
(H)	ADJUST HANDHOLE	- - -	SAWCUT
(N)	REMOVE AND REPLACE CONCRETE MEDIAN NOSE	■	MAINLINE MILL AREA
(1)	CURB RAMP WALK (REMOVE AND REPLACE)	▨	STREET APPROACH MILL SPECIAL AREA
(B)	BITUMINOUS DRIVEWAY	▩	SPECIAL DITCH GRADING
(L)	APRX. LOOP LOCATION	—	R / W

NO	DATE	BY	CKD	APPR	REVISION	05/11/2022	7:12:22 AM
NAME: P:\22-01-00\CSAH_01_(111TH-7TH)\Base\Proposed\CP4.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: AARON P. ANDERSON
 SIGNATURE:
 DATE: 03-10-2022 LICENSE NO. 58657

DRAWN BY: MR DATE 02/02/2022
 DESIGN BY: MR DATE 02/02/2022
 CHECKED BY: CO DATE 05/11/2022

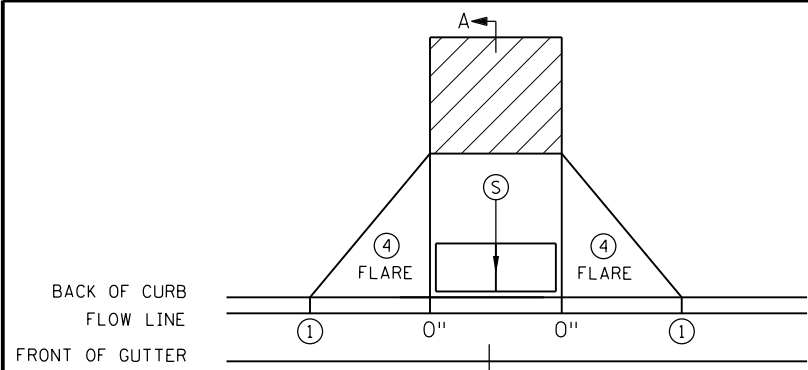


STATE AID PROJECT 002-601-059

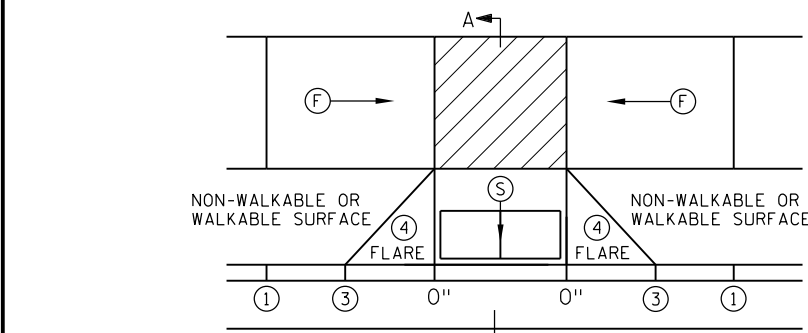
CONSTRUCTION PLAN
 STA 92+00 TO 116+75.49
 Sheet 21 of 87 Sheets

PLOTTED/REVISED: 04/26/2022

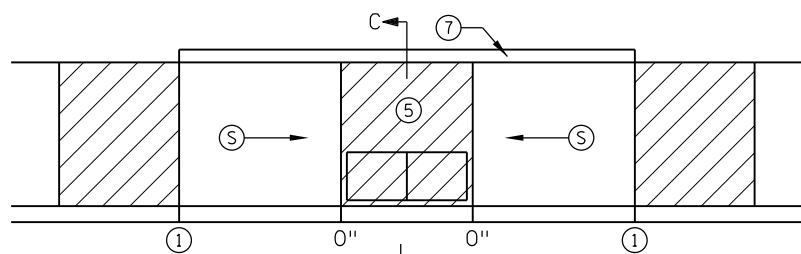
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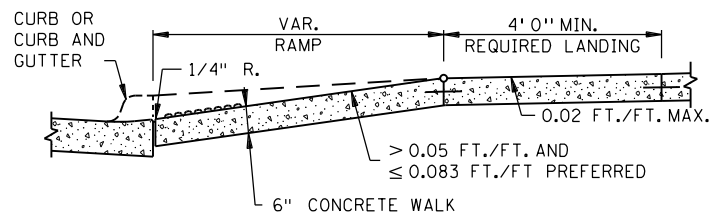
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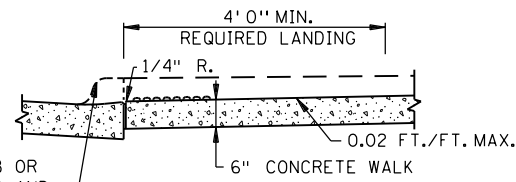
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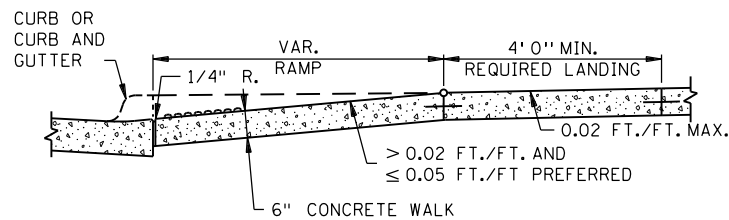
PARALLEL



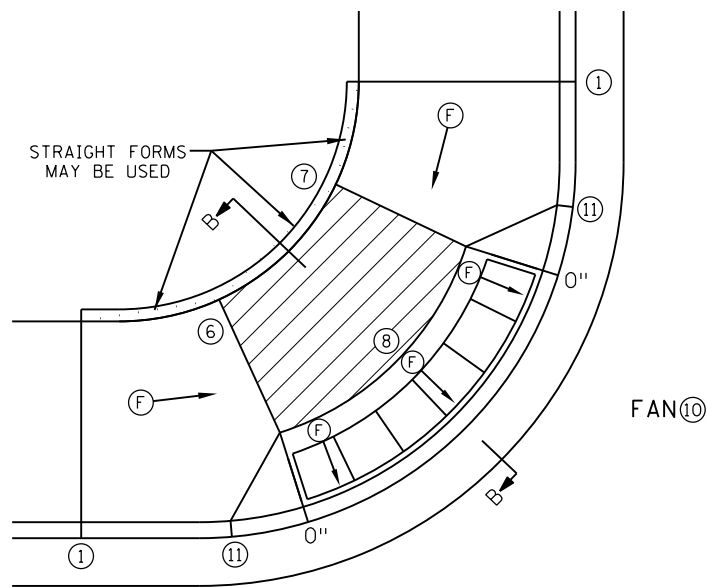
SECTION A-A
PERPENDICULAR/TIERED/DIAGONAL



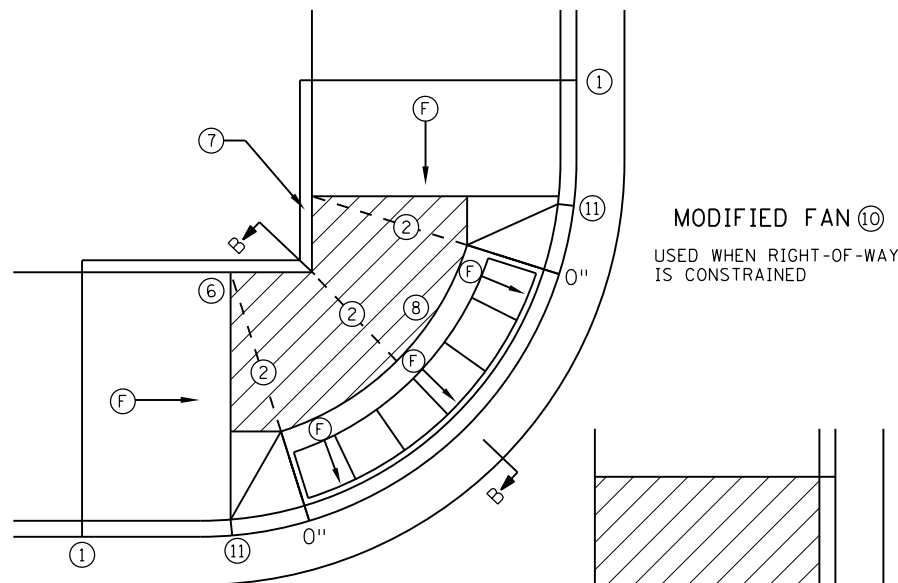
SECTION C-C
PARALLEL/DEPRESSED CORNER



SECTION B-B
FAN

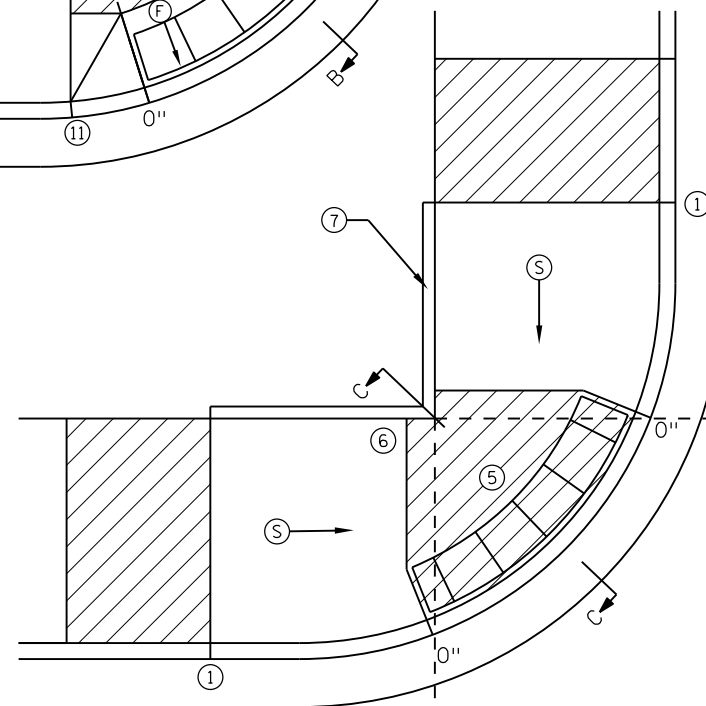


FAN ⑩

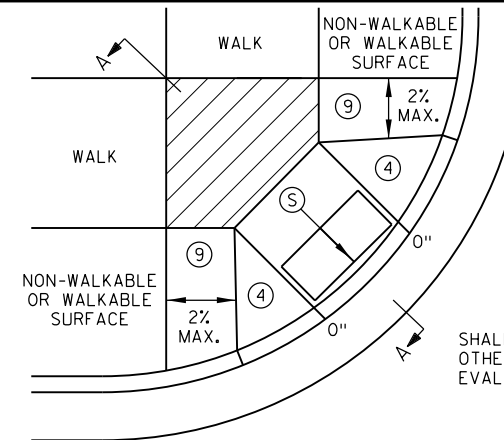


MODIFIED FAN ⑩

USED WHEN RIGHT-OF-WAY IS CONSTRAINED



DEPRESSED CORNER



DIAGONAL

SHALL ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL

NOTES:

- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.
- INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
- SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.
- CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
- ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL, THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH. (EXCEPT AS STATED IN ⑥ BELOW.)
- TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 OF 6 FOR ALL SEPARATELY POURED INITIAL LANDINGS.
- WHEN SIDEWALK IS AT BACK OF CURB, TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE. MAINTAIN POSITIVE BOULEVARD DRAINAGE TO TOP OF CURB.
- ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
- 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.
- WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.
- RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

- ① MATCH FULL HEIGHT CURB.
- ② 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
- ③ 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
- ④ SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
- ⑤ DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
- ⑥ THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
- ⑦ WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS LESS THAN 5% RUNNING SLOPE SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
- ⑧ A 7' MIN TOP RADIUS GRADE BREAK IS REQUIRED TO BE CONSTRUCTIBLE.
- ⑨ PAVE FULL WALK WIDTH.
- ⑩ "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.
- ⑪ INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3" CURB HEIGHT. REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

LEGEND

- THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.
- ⑤ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- ⑦ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- ⑩ LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- X" CURB HEIGHT

REVISION:

APPROVED: 11-04-2021

Jeff J. Perkins
OPERATIONS DIVISION



STANDARD PLAN 5-297.250

1 OF 6

THOMAS STYRBICKI
STATE DESIGN ENGINEER

APPROVED: 11-04-2021
REVISED:

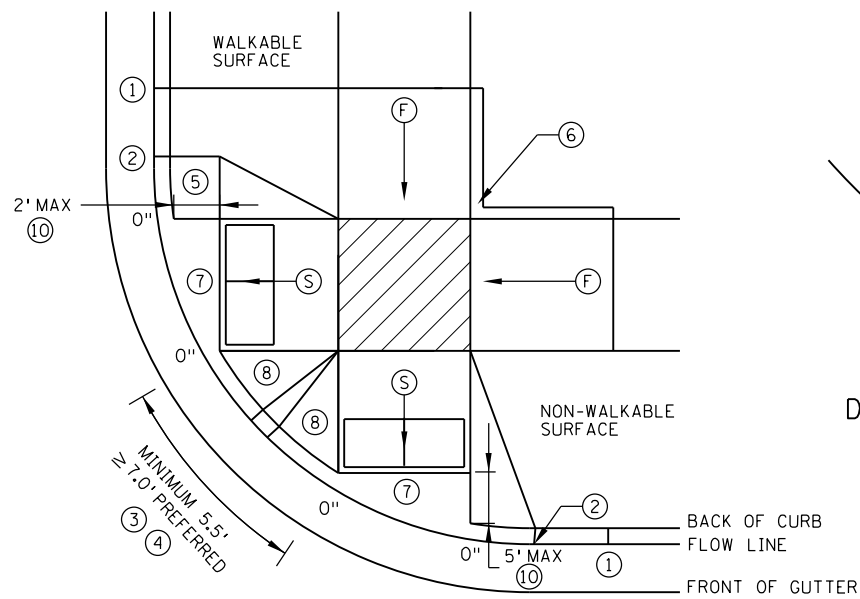
STATE AID PROJ. NO. 002-601-059

PEDESTRIAN CURB RAMP DETAILS

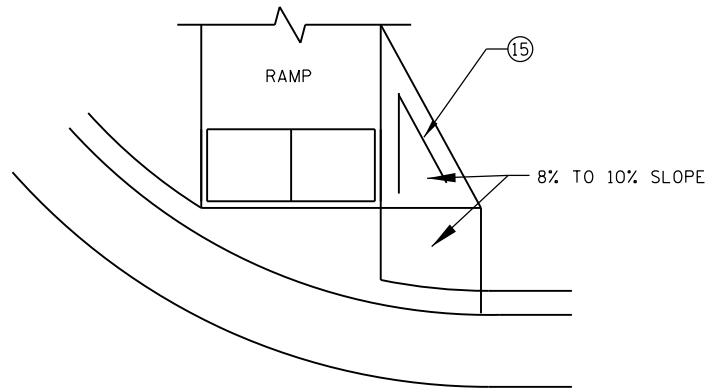
SHEET NO.22 OF 87 SHEETS

PLOTTED/REVISED: 04/26/2022

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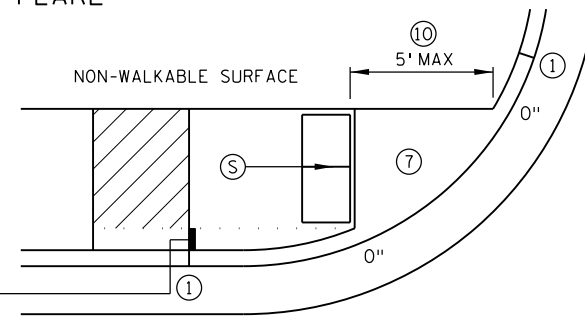


COMBINED DIRECTIONAL

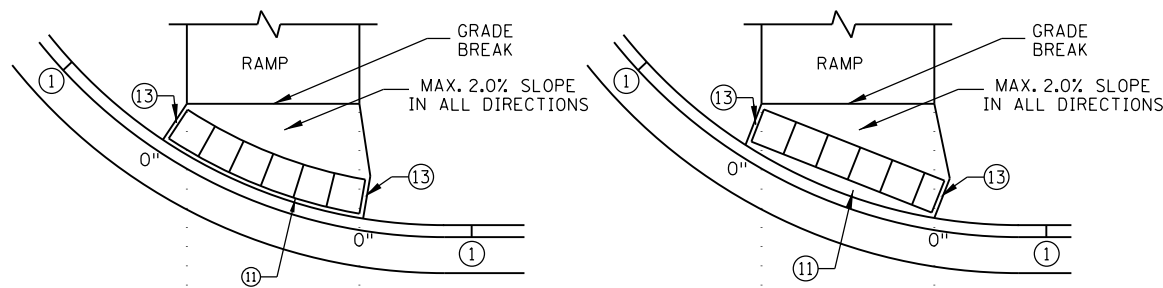


DIRECTIONAL RAMP WALKABLE FLARE

IF NON-CONCRETE BLVD. IS CONSTRUCTED AND IS LESS THAN 2' IN WIDTH AT TOP OF CURB TRANSITION, PAVE CONCRETE RAMP WIDTH TO ADJACENT BACK OF CURB.

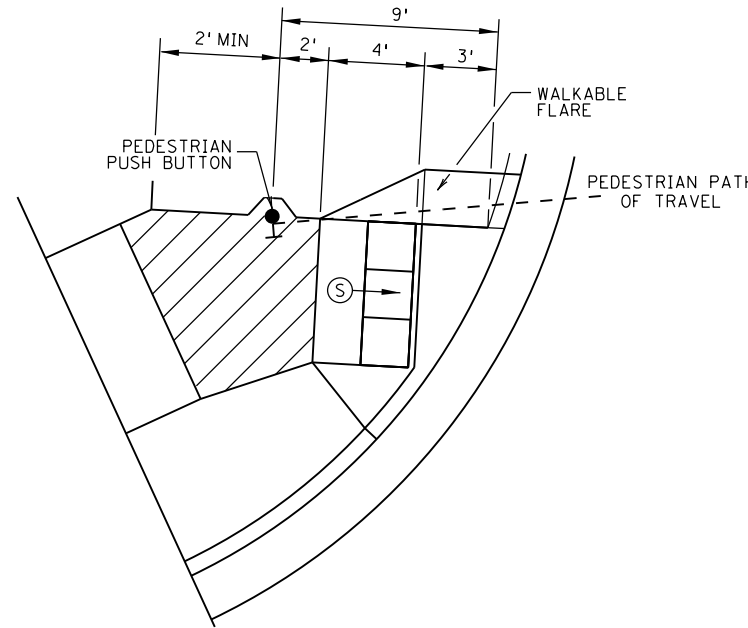


STANDARD ONE-WAY DIRECTIONAL ⑨



DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫

ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



SEMI-DIRECTIONAL RAMP ③④⑨

3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB
 PRIMARILY USED FOR APS APPLICATIONS WHERE THE PAR DOES NOT CONTINUE PAST THE PUSH BUTTON (DEAD-END SIDEWALK)

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY, FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" - 3" OFFSET IS ALLOWED.

WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.

- ① MATCH FULL CURB HEIGHT.
- ② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.
- ③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).
- ④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.
- ⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHALL BE USED. SEE THE DETAIL ON THIS SHEET.
- ⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
- ⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
- ⑧ 8% TO 10% WALKABLE FLARE.
- ⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
- ⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- ⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
- ⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.
- ⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.
- ⑮ PLACE 2 NO. 4 BARS 4 INCHES FROM SIDE OF FORMS WITH A MINIMUM 2 INCHES OF CONCRETE COVER ALONG EACH SIDE OF FLARE (INCIDENTAL).

LEGEND

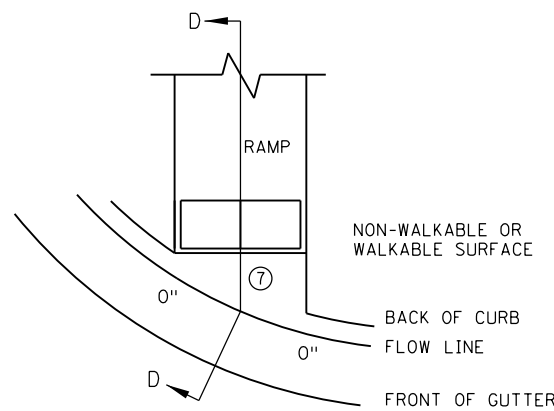
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⑤ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

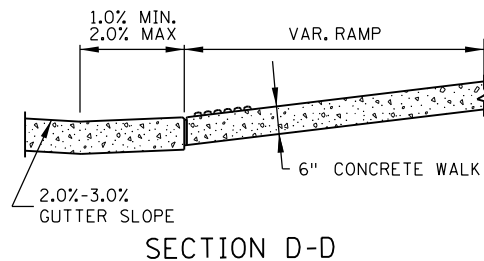
⑥ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

⑦ LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PAR.

X" CURB HEIGHT



CURB FOR DIRECTIONAL RAMPS ⑭



SECTION D-D

REVISION:
 APPROVED: 11-04-2021
 Jeff J. Perkins
 OPERATIONS DIVISION

MINNESOTA
 DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.250

2 OF 6

THOMAS STYRBICKI
 STATE DESIGN ENGINEER

APPROVED: 11-04-2021
 REVISED:

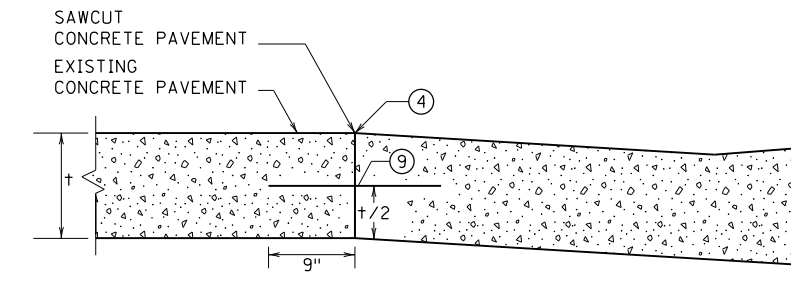
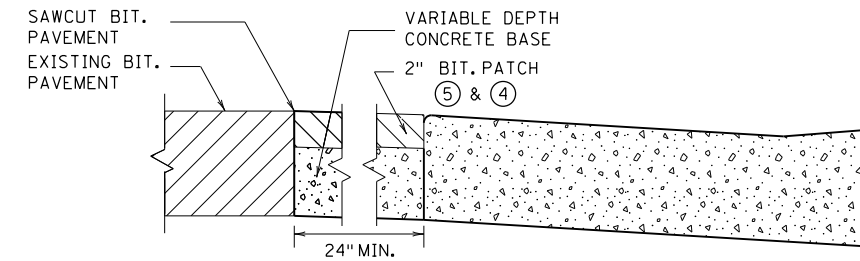
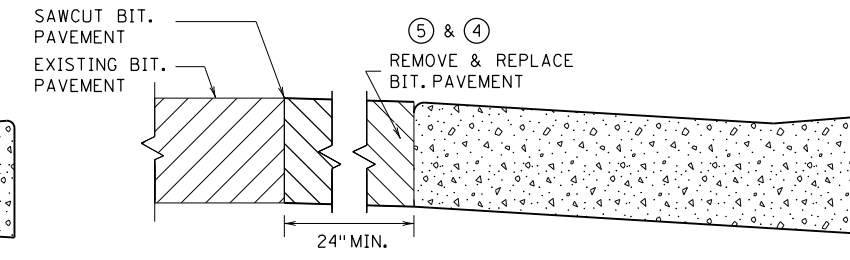
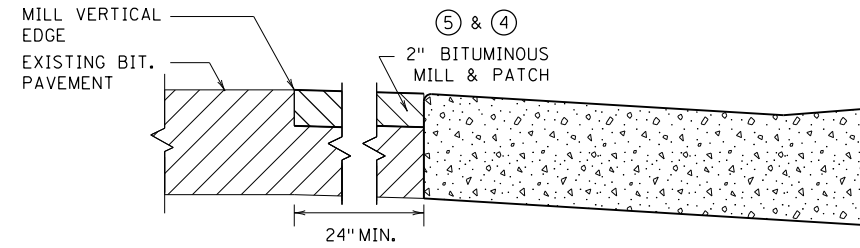
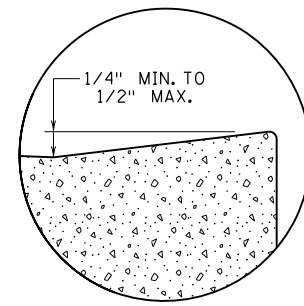
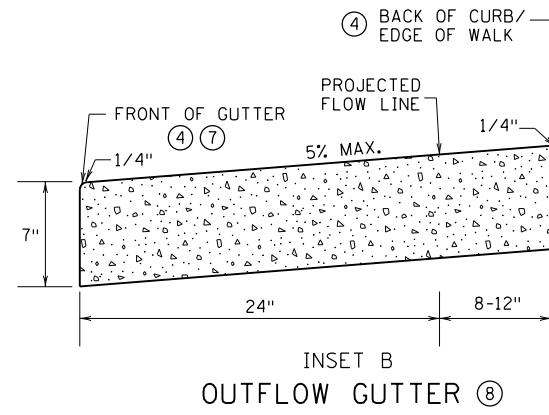
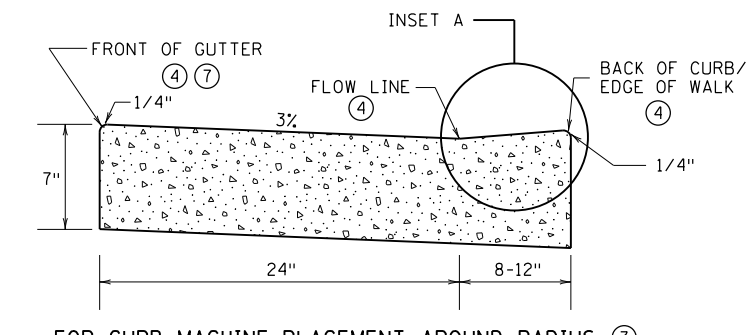
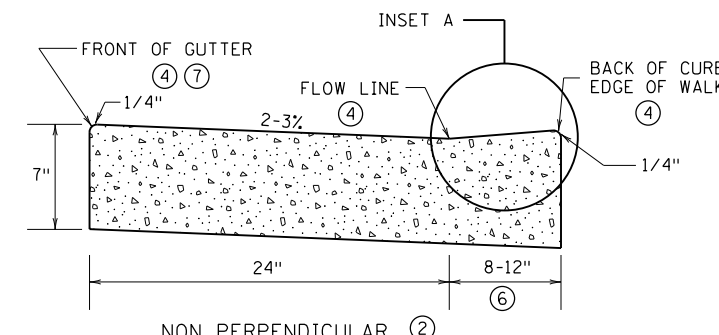
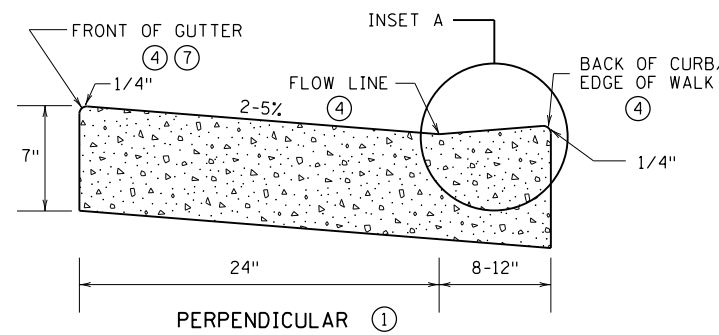
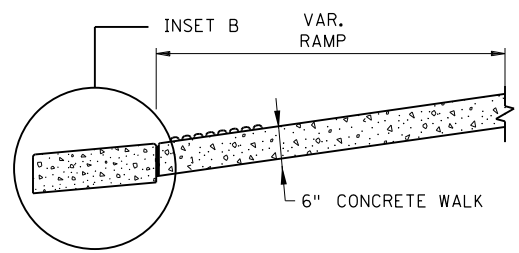
PEDESTRIAN CURB RAMP DETAILS

STATE AID PROJ. NO. 002-601-059

SHEET NO.23 OF 87 SHEETS

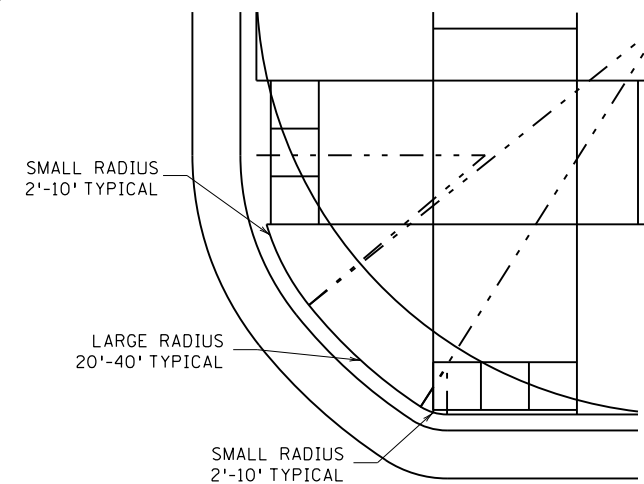
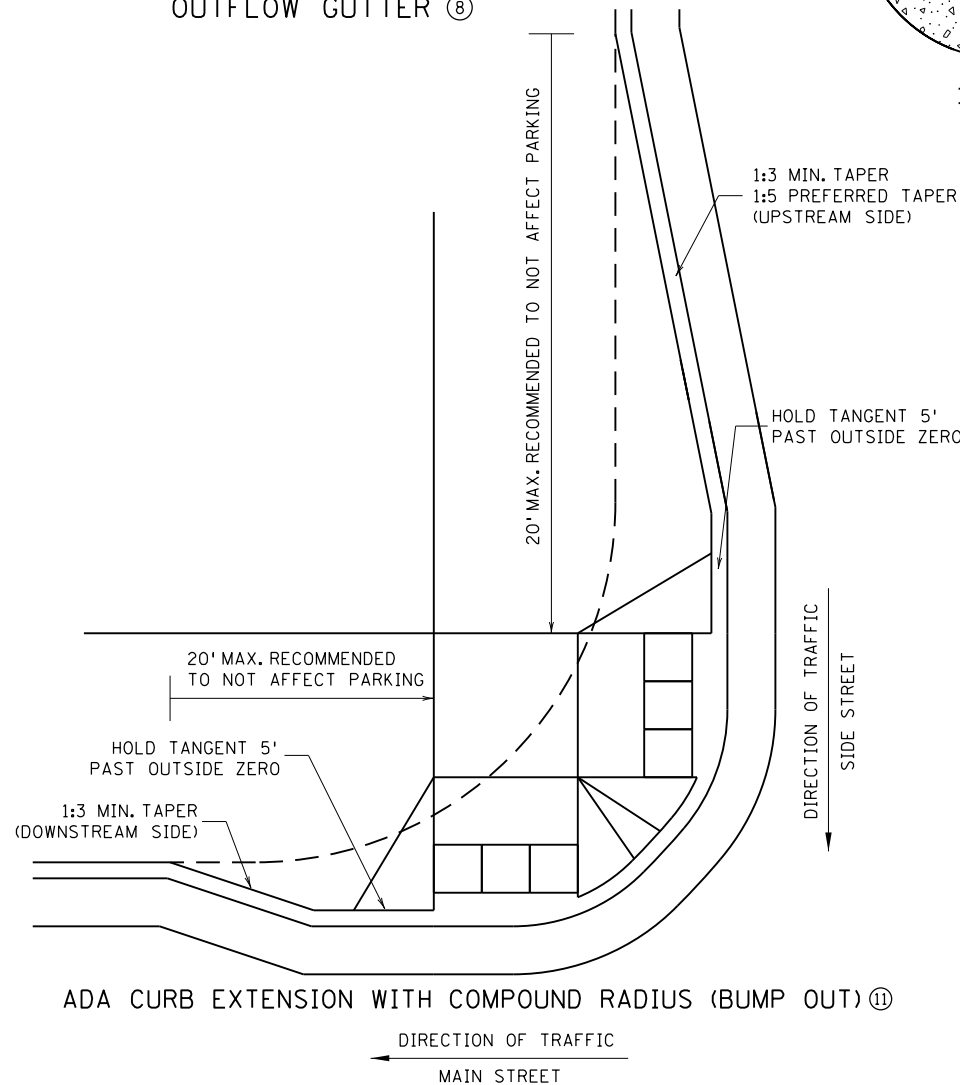
PLOTTED/REVISED: 04/26/2022

DISTRICT #: PLOTNAME: P:\22-01-00\CSAH-01\1111H-7TH\Bases\Proposed\ADA.dgn



ONLY ALLOWED PER ENGINEER'S APPROVAL

PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER FOR USE ON CURB RAMP RETROFITS



NOTES:

- POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM. NO PONDING SHALL BE PRESENT IN THE PAR.
- ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.
- ① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.
- ② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.
- ③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.
- ④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".
- ⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.
- ⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.
- ⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.
- ⑧ SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.
- ⑨ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1' MINIMUM FROM ALL JOINTS.
- ⑩ HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.
- ⑪ CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.

REVISION:
 APPROVED: 11-04-2021
 Jeff J. Perkins
 OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION
 STANDARD PLAN 5-297.250 3 OF 6
 APPROVED: 11-04-2021
 REVISOR:
 THOMAS STYRBICKI
 STATE DESIGN ENGINEER

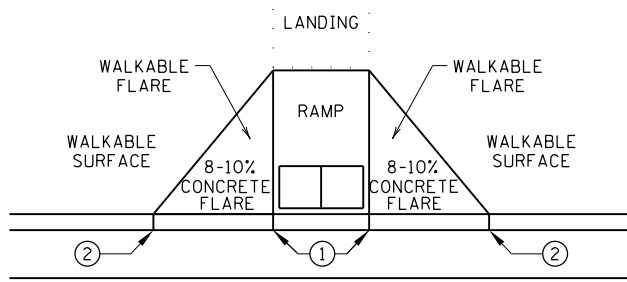
PEDESTRIAN CURB RAMP DETAILS

STATE AID PROJ. NO. 002-601-059

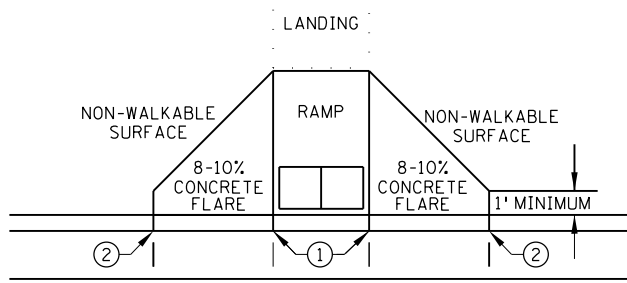
SHEET NO. 24 OF 87 SHEETS

PLOTTED/REVISED: 04/26/2022

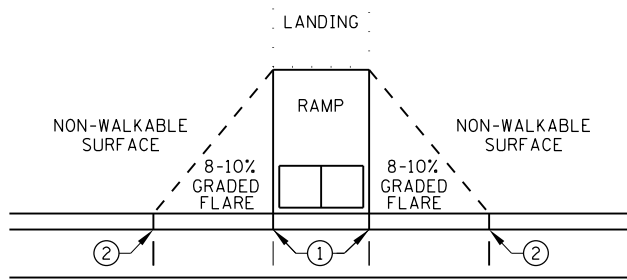
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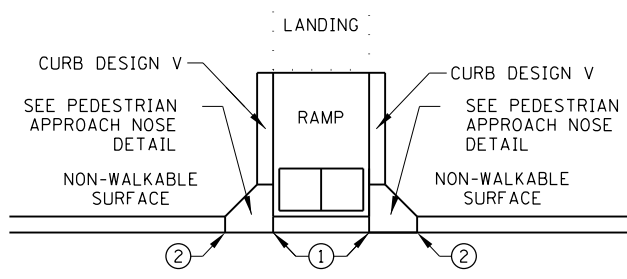
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

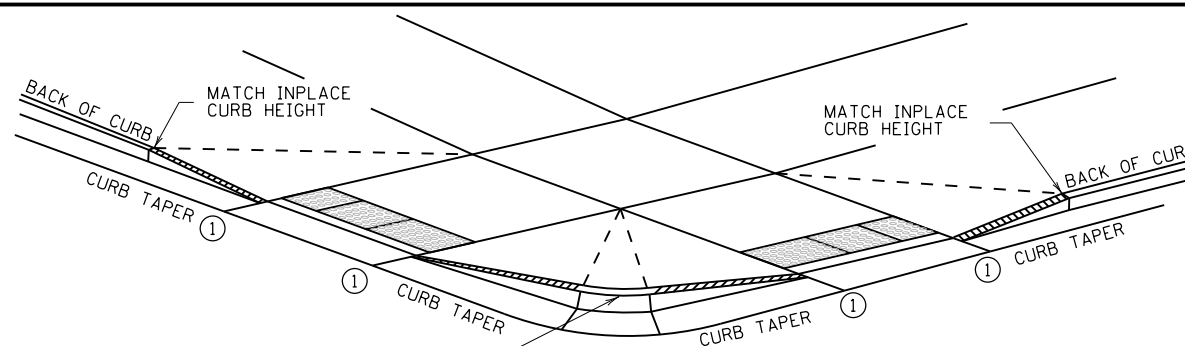


GRADED FLARES



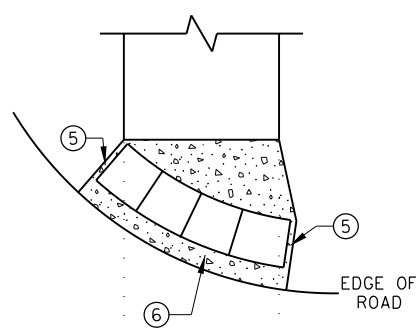
RETURNED CURB ④

TYPICAL SIDE TREATMENT OPTIONS ③ ⑩

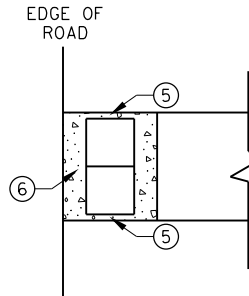


3" MINIMUM CURB HEIGHT, 4" PREFERRED
(MEASURED AT FRONT FACE OF CURB)
FOR A MIN. 6" LENGTH (MEASURED ALONG FLOW LINE)

DETECTABLE EDGE WITH
CURB AND GUTTER ⑦

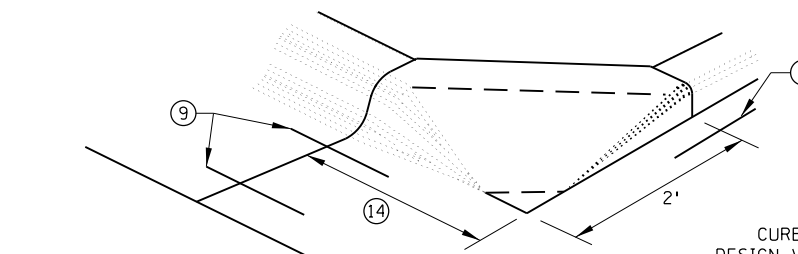


RADIAL DETECTABLE WARNING

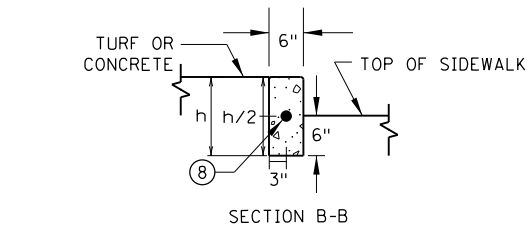


RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

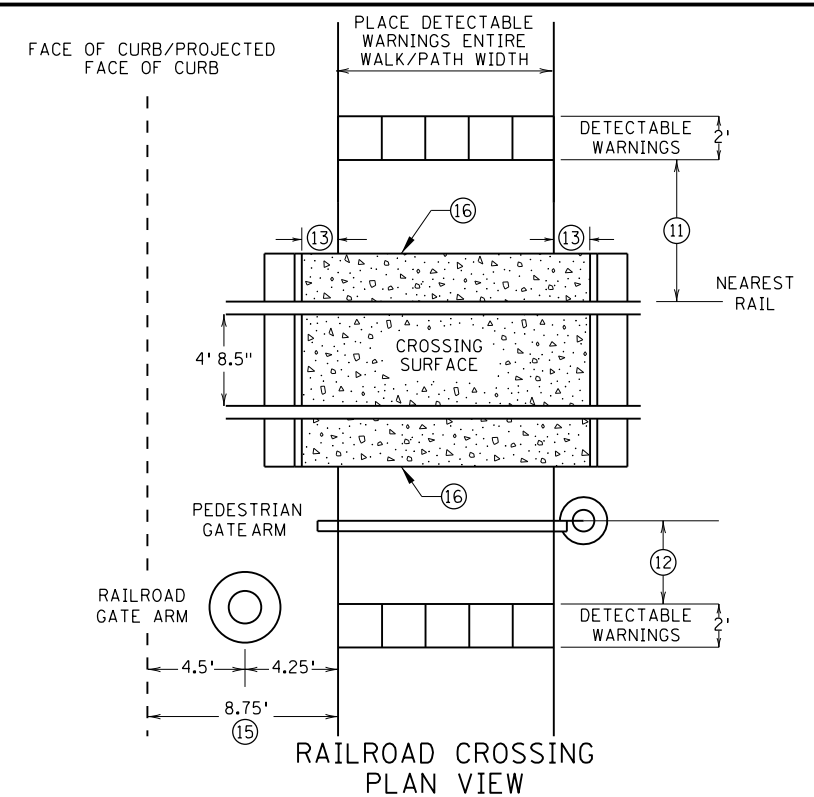


SECTION A-A



SECTION B-B

PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)



RAILROAD CROSSING
PLAN VIEW

NOTES:

- INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8-10% TO A MINIMUM 3 INCH CURB HEIGHT. INCREASE CURB TAPER LENGTH AT LESS THAN 8% OR REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.
- SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.
- A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.
- ① 0" CURB HEIGHT. SEE INSET A ON SHEET 3 OF 6.
- ② FULL CURB HEIGHT.
- ③ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.
- ④ TYPICALLY USED FOR MEDIANS AND ISLANDS.
- ⑤ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑥ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.
- ⑦ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS, AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.
- ⑧ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.
- ⑨ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.
- ⑩ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6' LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE. CONSTRUCT THESE TAPERS AT 0"-3" AT 8-10%, THEN LESS THAN 5% FROM 3" CURB TO FULL CURB HEIGHT.
- ⑪ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.
- ⑫ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑪.
- ⑬ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.
- ⑭ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.
- ⑮ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.
- ⑯ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.

REVISION:
APPROVED: 11-04-2021
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TRANSPORTATION

STANDARD PLAN 5-297.250

4 OF 6

Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

APPROVED: 11-04-2021
REVISED:

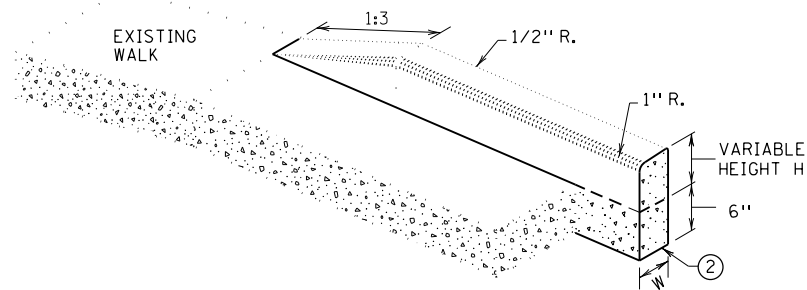
PEDESTRIAN CURB RAMP DETAILS

STATE AID PROJ. NO. 002-601-059

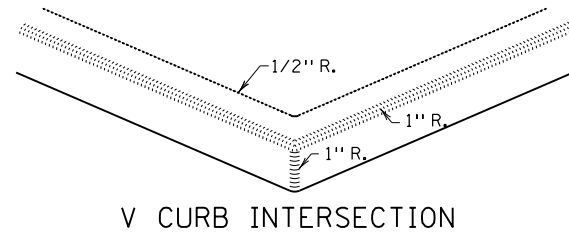
SHEET NO.25 OF 87 SHEETS

PLOTTED/REVISED: 04/26/2022

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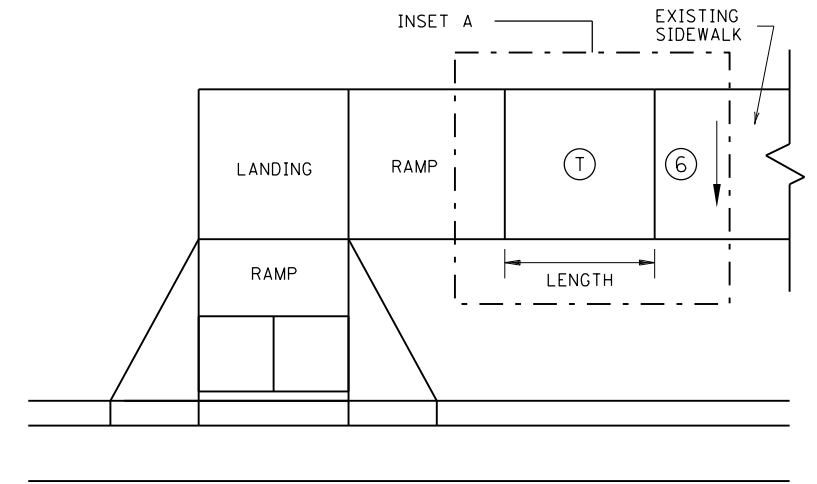


V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS

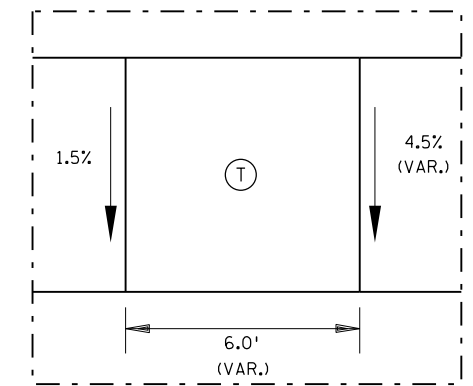


V CURB INTERSECTION

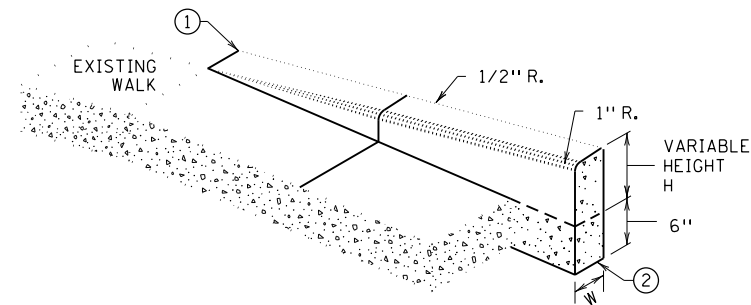
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



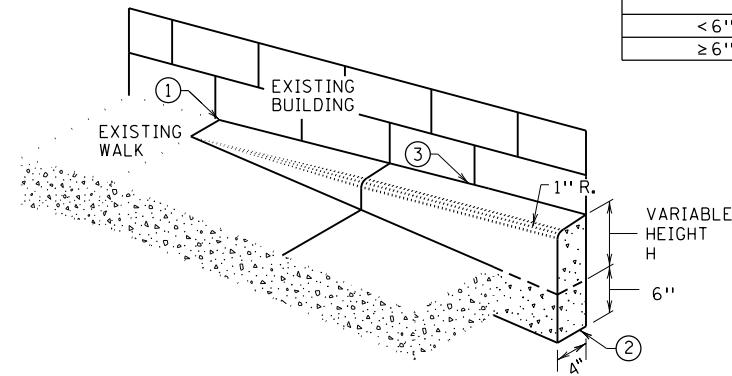
TRANSITION PANEL ④ ⑤



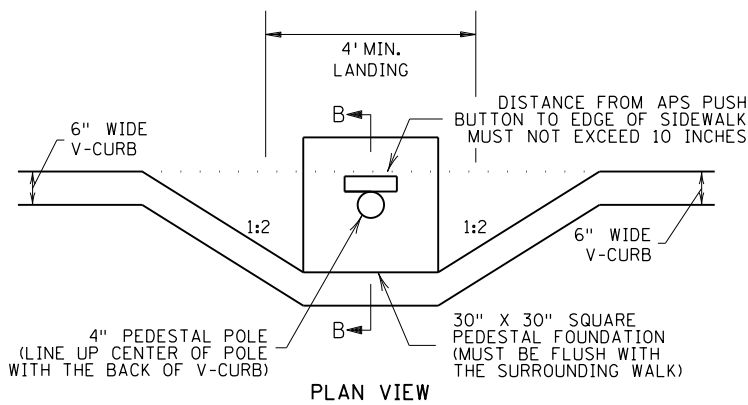
INSET A



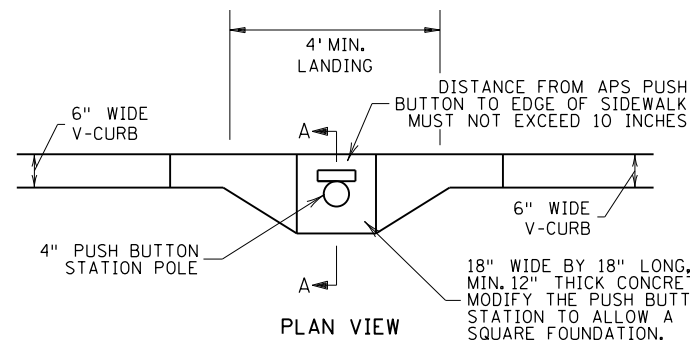
V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS



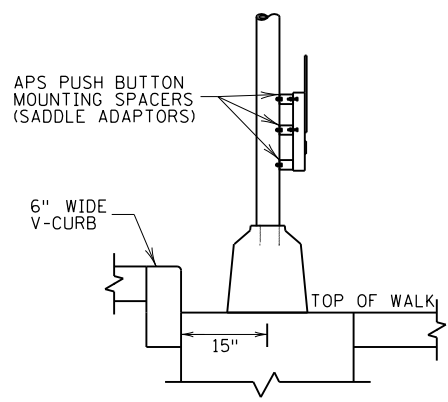
V CURB ADJACENT TO BUILDING
OR BARRIER



PLAN VIEW

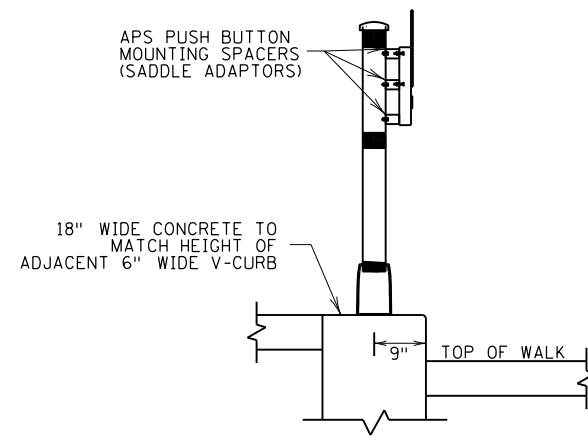


PLAN VIEW



SECTION B-B

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



SECTION A-A

PUSH BUTTON STATION (V-CURB)

NOTES:

A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.

V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.

- ① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
- ② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
- ③ CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM 1/2" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.
- ④ THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.
- ⑤ TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
- ⑥ EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

- THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.
- Ⓢ INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
 - ▨ LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
 - Ⓣ TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

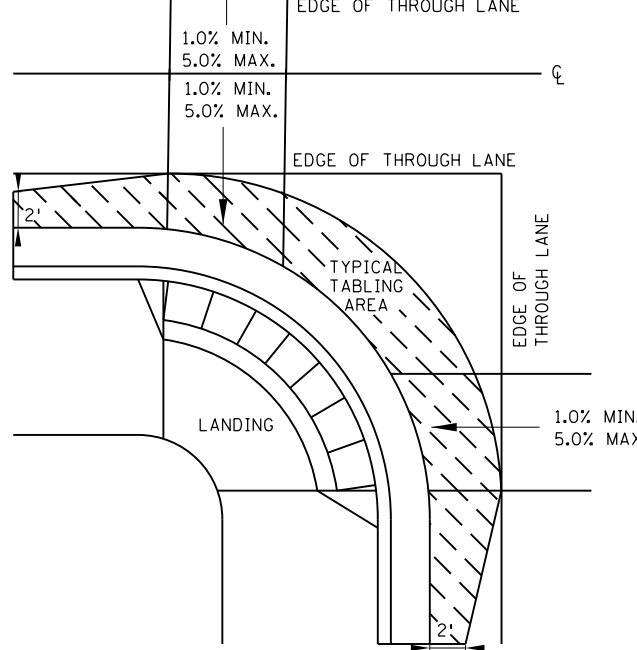
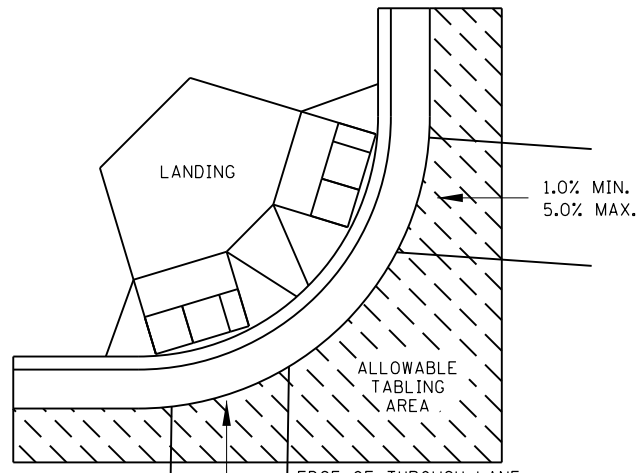
REVISION:
 APPROVED: 11-04-2021
 Jeff J. Perkins
 OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION
 STANDARD PLAN 5-297.250 5 OF 6
 APPROVED: 11-04-2021
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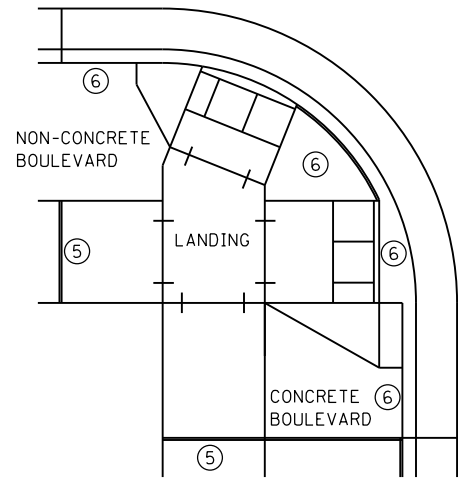
PEDESTRIAN CURB RAMP DETAILS
 STATE AID PROJ. NO. 002-601-059
 SHEET NO.26 OF 87 SHEETS

PLOTTED/REVISED: 04/26/2022

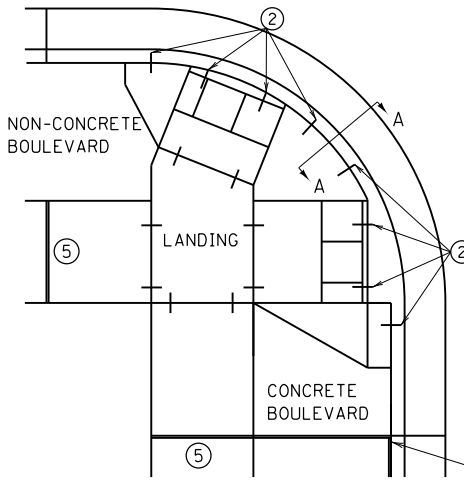
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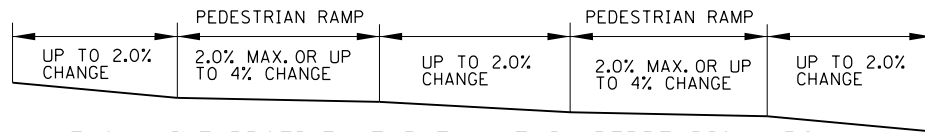
CURB LINE AND ROAD CROSSING ADJUSTMENTS



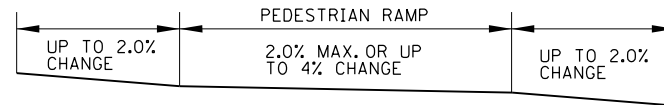
EXPANSION MATERIAL PLACEMENT FOR CONCRETE ROADWAYS



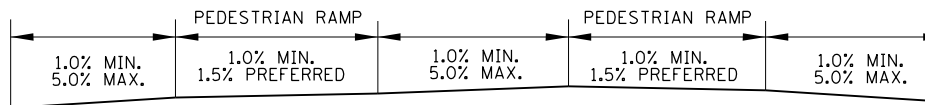
CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS



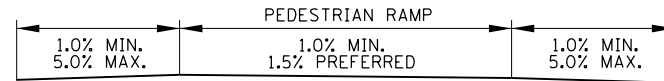
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



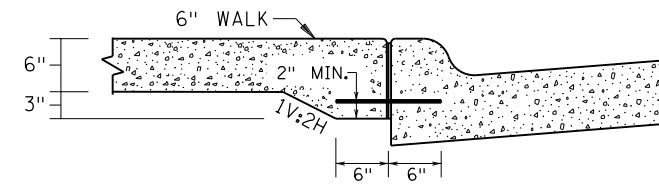
FLOW LINE PROFILE "TABLE" - FAN



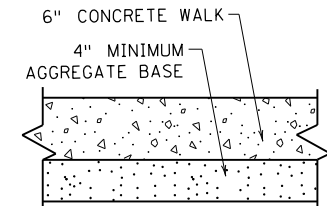
FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS



FLOW LINE PROFILE RAISE - FAN

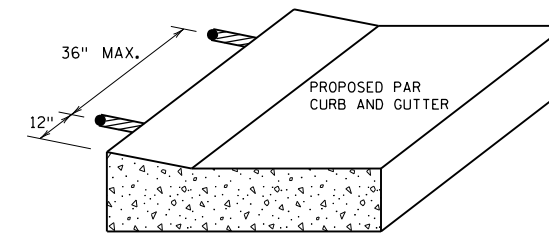


SECTION VIEW A-A THICKENED SECTION THROUGH CURB RAMP FLARES

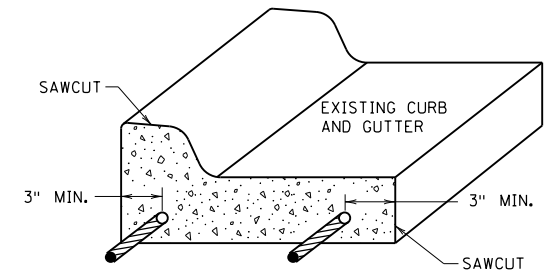


TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

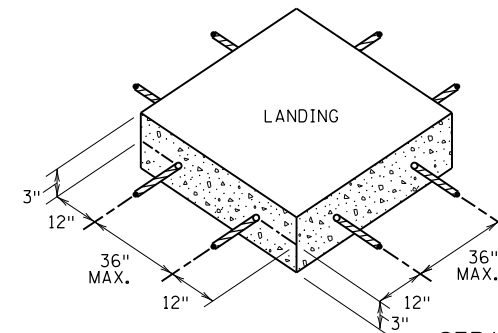
END SILL CURB AT TOP OF CURB RAMP AND DRIVEWAY FLARES.



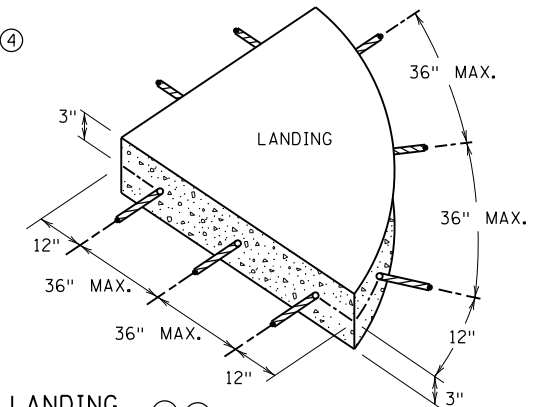
CURB RAMP REINFORCEMENT DETAILS



CURB AND GUTTER REINFORCEMENT



SEPARATE LANDING POUR REINFORCEMENT



GENERAL NOTES:

"TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.

RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.

MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:

- 1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
- 2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
- 3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
- 4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA:

- 1) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
- 2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
- 3) 5.0% RECOMMENDED MAX. FLOW LINE
- 4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

- 1) TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.
- 2) DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) AT 36" MAXIMUM CENTER TO CENTER MINIMUM 12" SPACING FROM CONSTRUCTION JOINTS. BARS TO BE ADJUSTED TO MATCH RAMP GRADE. BARS TO BE PAID BY EACH.
- 3) DRILL AND GROUT 2 - NO. 4 X 12" LONG (6" EMBEDDED) REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS. BARS TO BE PAID BY EACH.
- 4) THIS CURB LINE REINFORCEMENT DETAIL SHALL BE USED ON BITUMINOUS ROADWAYS. FOR CONCRETE ROADWAYS, SEE NOTE 6.
- 5) CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.
- 6) USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.

REVISION:

APPROVED: 11-04-2021

Jeff J. Pel
JEFF PERKINS
OPERATIONS DIVISION

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MINNESOTA
DEPARTMENT
OF
TRANSPORTATION

STANDARD PLAN 5-297.250 6 OF 6

APPROVED: 11-04-2021
REVISED:

Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

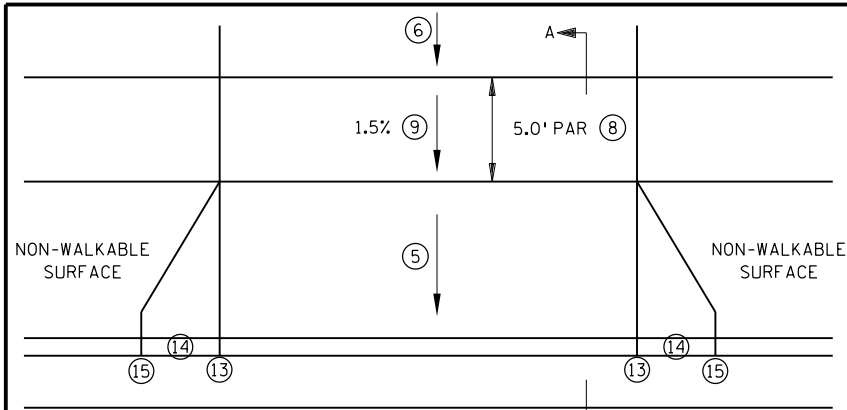
PEDESTRIAN CURB RAMP DETAILS

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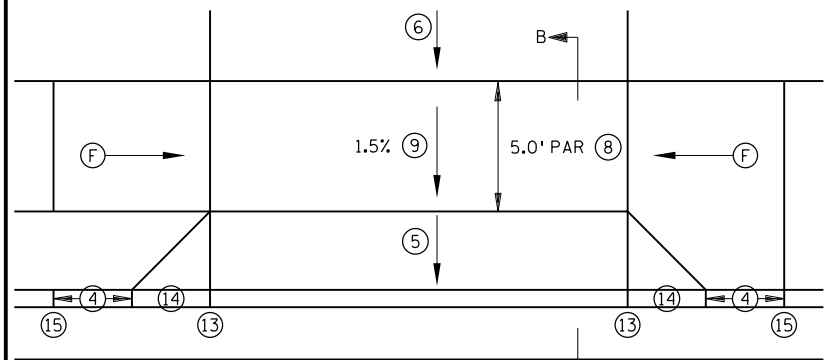
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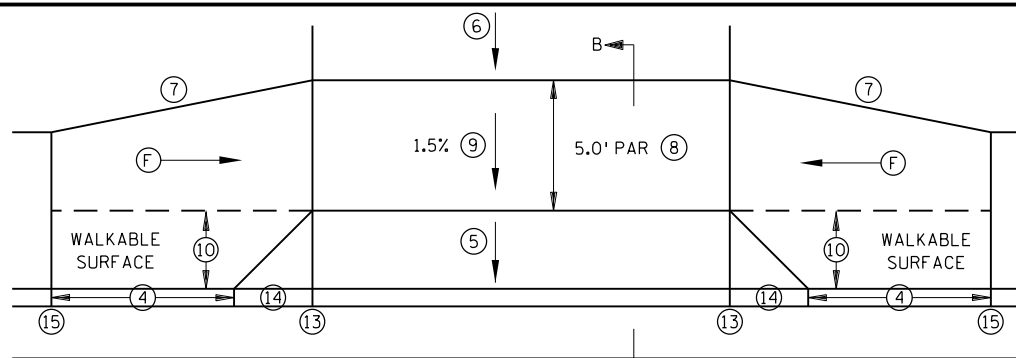
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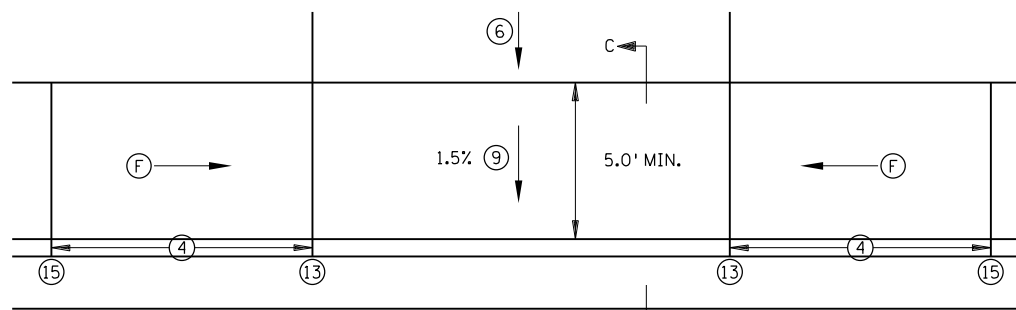
PERPENDICULAR DRIVEWAY ①



TIERED PERPENDICULAR DRIVEWAY ②



TIERED PERPENDICULAR OFFSET DRIVEWAY ②



PARALLEL DRIVEWAY ③

LEGEND	
(F)	INDICATES DRIVEWAY RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

NOTES:

ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.

IN URBAN ROADWAY SECTIONS, 6" CURB HEIGHT SHOULD BE USED WHEN 6' OR GREATER BOULEVARD WIDTH IS PROPOSED. WHEN BOULEVARD IS LESS THAN 6' WIDE, 4" CURB HEIGHT SHOULD BE USED.

MAINTAIN EXISTING DRAINAGE PATTERNS FLOWING TO PUBLIC RIGHT OF WAY.

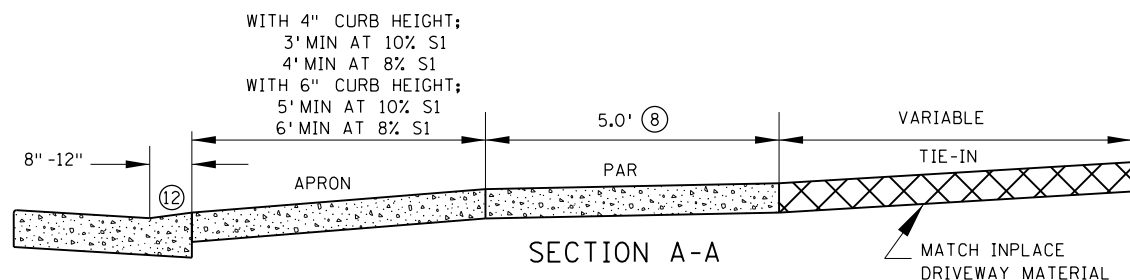
ACQUIRE ADEQUATE L3 TO ALLOW FOR A CONTINUOUS PAR PROFILE (UNIFORM TYPICAL SIDEWALK SECTION) THROUGH THE DRIVEWAY APRON.

IN NO CASE SHALL SIDEWALK PROFILES EXCEED 5.0%, EXCEPT SIDEWALK PROFILES CAN MATCH ROADWAY GRADE IF ROADWAY GRADE IS GREATER THAN 5.0%. RAMPS FOR DRIVEWAYS ARE REQUIRED TO FOLLOW THE ABOVE SIDEWALK CRITERIA.

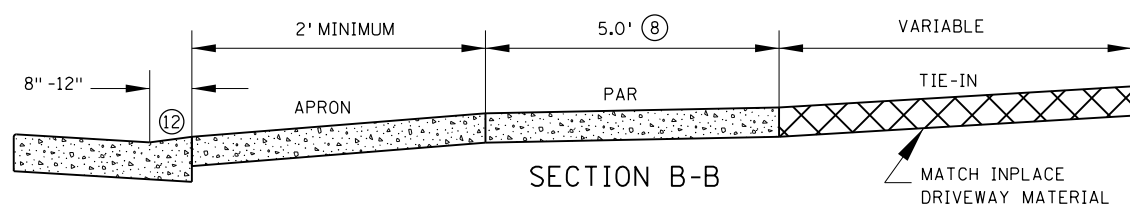
CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PEDESTRIAN ACCESS ROUTE (PAR). 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

DRIVEWAY TYPES FROM MOST PREFERRED TO LEAST PREFERRED ARE AS FOLLOWS: PERPENDICULAR, TIERED PERPENDICULAR, TIERED PERPENDICULAR OFFSET & PARALLEL.

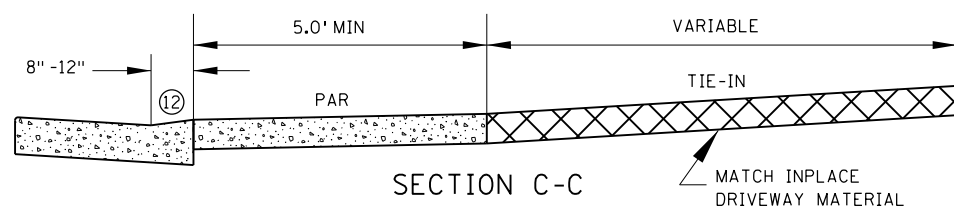
- ① PERPENDICULAR DRIVEWAYS ARE THE STANDARD AND STARTING POINT FOR ALL DRIVEWAY DESIGN AND CONSTRUCTION. SHOULD BE USED TO ACHIEVE CONTINUOUS PAR PROFILE THROUGH THE DRIVEWAY. OBTAINING A PERPENDICULAR DRIVEWAY DESIGN BECOMES MORE CRITICAL WITH STEEP ROADWAY PROFILES.
- ② TO BE USED WHEN PERPENDICULAR DRIVEWAY DESIGN CANNOT BE ACHIEVED, THE DRIVEWAY PAR IS BELOW ROADWAY CURB HEIGHT. THIS DRIVEWAY TYPE CAN BE USED FOR BOTH PAVED (AS SHOWN) AND GRASS BOULEVARDS.
- ③ TO BE USED WHEN PERPENDICULAR AND TIERED PERPENDICULAR DRIVEWAY DESIGN CANNOT BE ACHIEVED. CAN BE USED FOR STEEP NEGATIVE SLOPED DRIVEWAYS. DW CURB TYPE 2 SHOULD BE USED TO RAISE PAR ABOVE GUTTER AND REDUCE "ROLLER COASTER" EFFECT. 4" HIGH ROADWAY CURB SHOULD BE USED TO REDUCE "ROLLER COASTER" EFFECT ESPECIALLY WHEN MULTIPLE DRIVEWAYS ARE PRESENT.
- ④ TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
- ⑤ 8% STANDARD, 10% MAX. FOR COMMERCIAL AND 12% MAX. FOR RESIDENTIAL. SEE GENERAL NOTES ON SHEET 2 FOR MORE INFORMATION.
- ⑥ S3 8% MAXIMUM, IF THE SLOPE IS EXCEEDED OR CONTINUED FOR MORE THAN 5'; ANALYZE VEHICLE TEMPLATES FOR VERTICAL CLEARANCE. IF EXISTING DRIVEWAY IS NEGATIVELY DRAINING, S3 CAN BECOME SLIGHTLY MORE NEGATIVE TO ACHIEVE PERPENDICULAR DRIVEWAY DESIGN IF THE VERTICAL CLEARANCE IS ACHIEVED IN VEHICLE TEMPLATES.
- ⑦ 1:3 MIN. 1:5 PREFERRED FOR DRIVEWAY RETROFIT PROJECTS. 1:10 PREFERRED FOR SIDEWALK REPLACEMENT PROJECTS.
- ⑧ 5.0' MIN. PAR WIDTH IS THE STANDARD THROUGH DRIVEWAYS. IF FEASIBLE WIDEN DRIVEWAY PAR WIDTH TO MATCH APPROACHING SIDEWALK PAR WIDTHS. IN VERTICALLY CONSTRAINED AREAS PAR WIDTHS CAN INCREMENTALLY BE REDUCED TO 4.5' OR 4' MIN AFTER ALL OTHER OPTIONS HAVE BEEN APPLIED.
- ⑨ THE PEDESTRIAN ACCESS ROUTE, MAY NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.
- ⑩ SIDEWALK OFFSET TO BE LESS THAN OR EQUAL TO HALF THE APPROACHING SIDEWALK WIDTH.
- ⑪ INTEGRAL DRIVEWAY APRON TO BE POURED MONOLITHICALLY/INTEGRAL WITH THE CURB AND GUTTER. SEE SHEET 2 FOR MORE INFORMATION.
- ⑫ SEE SHEET 2 FOR CURB TYPE INFORMATION.
- ⑬ 0" CURB IS AT FLOW LINE. SEE DRIVEWAY TABLE FOR BACK OF CURB HEIGHTS.
- ⑭ 3' LONG AT 8-10% PREFERRED FOR INITIAL CURB TAPER. REDUCE CURB TAPER SLOPE IF NECESSARY TO MATCH ADJACENT SIDEWALK GRADES.
- ⑮ MATCH FULL CURB HEIGHT.
- ⑯ 1:2 TAPER RATE ON INTEGRAL DRIVEWAY APRONS.
- ⑰ SEE SHEET 4 FOR WHEN 6" WALK IS REQUIRED.



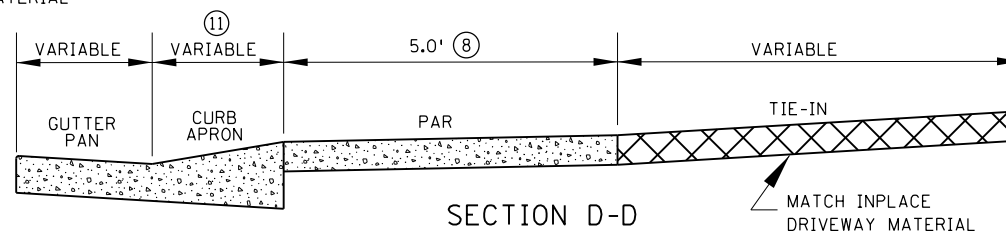
SECTION A-A



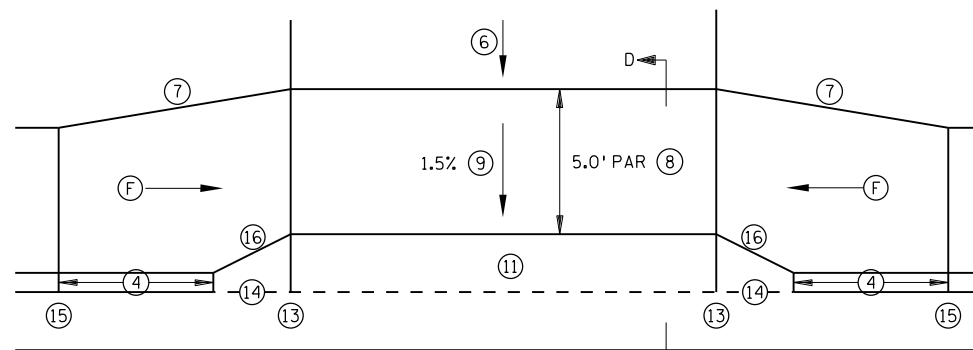
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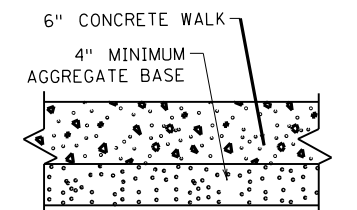
SECTION C-C



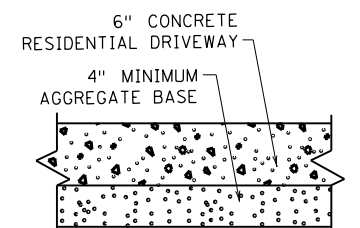
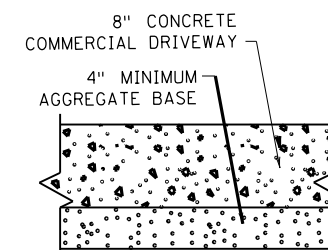
SECTION D-D



INTEGRAL DRIVEWAY APRON



TYPICAL SIDEWALK SECTION ⑰



TYPICAL DRIVEWAY SECTIONS

REVISION:

APPROVED: 11-04-2021

Jeff J. Perkins
JEFFREY PERKINS
OPERATIONS DIVISION



STANDARD PLAN 5-297.254

1 OF 4

Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

APPROVED: 11-04-2021
REVISED:

STATE AID PROJ. NO. 002-601-059

DRIVEWAY AND SIDEWALK DETAILS

SHEET NO.28 OF 87 SHEETS

PLOTTED/REVISED: 04/26/2022

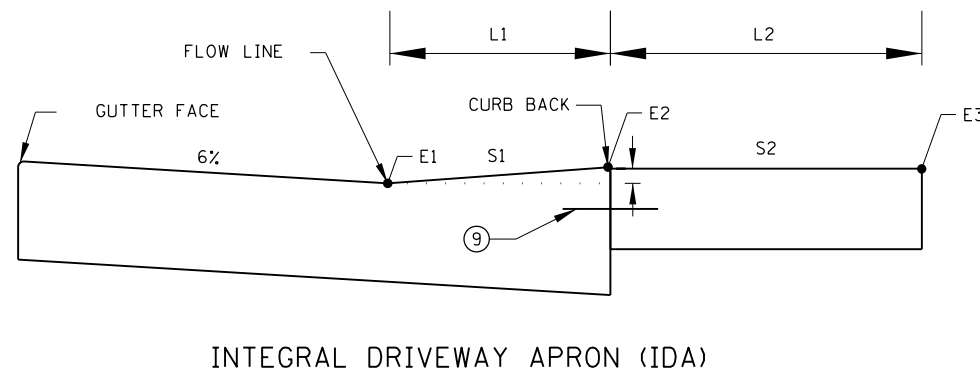
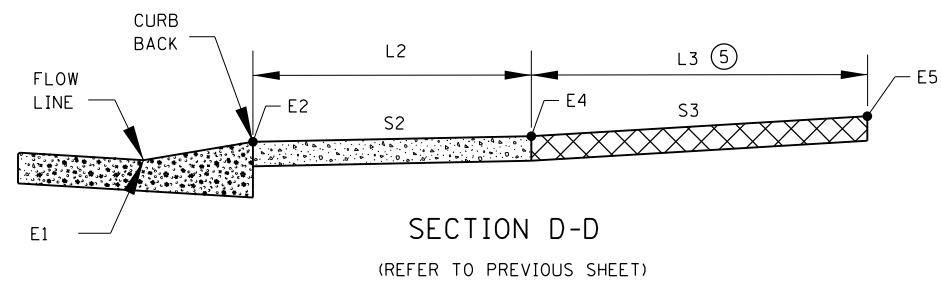
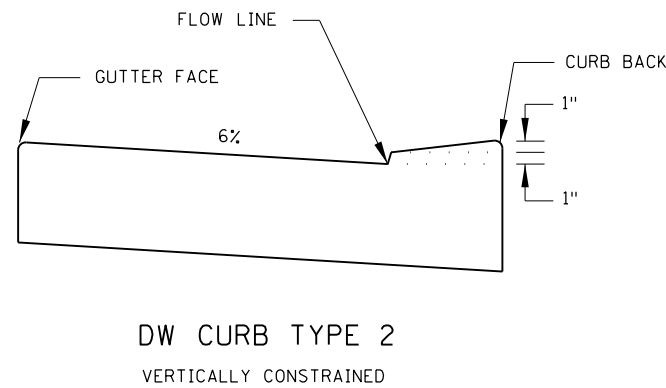
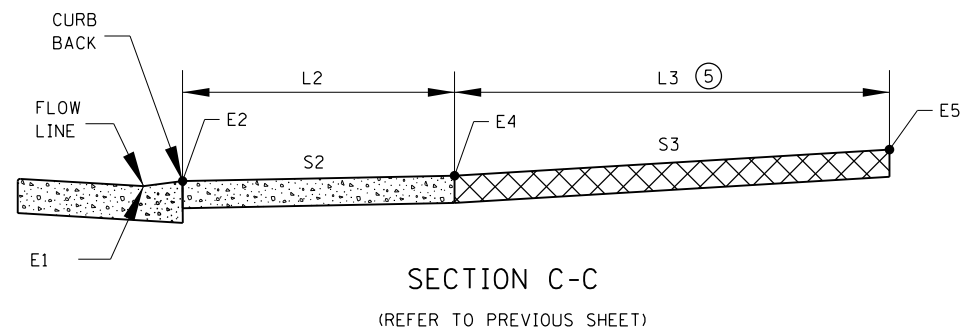
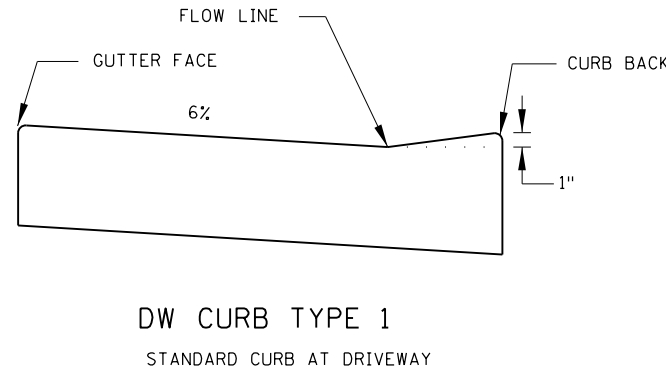
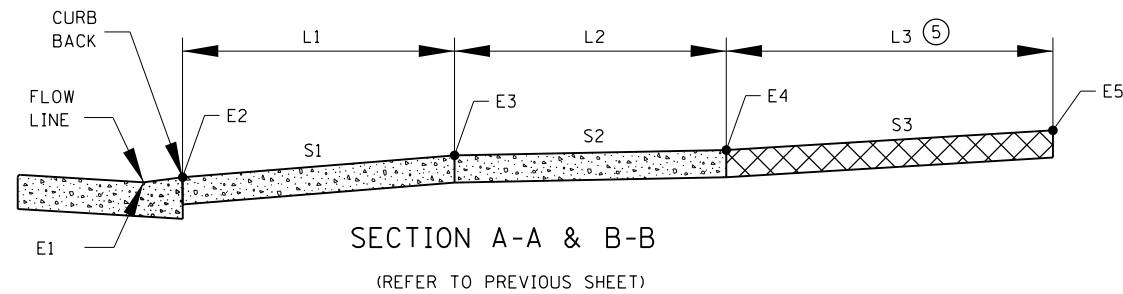
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DRIVEWAY TABLE ①

STATION	SIDE	DRIVEWAY TYPE ②	CURB TYPE ③	E1	E2	L1	S1	E3	L2	S2 ④	E4	L3 ⑤	S3	EXISTING ⑥	E5	COMMENTS
						FT	%		FT	%		FT	%			

NOTES:

- ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.
- DW CURB TYPE 1 SHALL BE USED WHEN THE DRIVEWAY ACTS AS A PEDESTRIAN RAMP. THE MAX. APRON SLOPE MUST ADHERE TO ADA CRITERIA AS WELL. DW CURB TYPE 1 SHOULD BE USED IF THERE IS ON STREET PARKING.
- WHERE ROADWAY DRAINAGE IS A CONCERN (NEGATIVE SLOPED APRON) DW CURB TYPE 2 CAN BE USED TO HELP KEEP THE WATER ON PUBLIC RIGHT OF WAY.
- S1 8% STANDARD, 10% MAX. COMMERCIAL AND 12% MAX. RESIDENTIAL. IF EXISTING GRADES ARE STEEPER DO NOT MAKE GRADES APPRECIABLY WORSE BY USING BEST PRACTICES SUCH AS DRIVEWAY CURB HEIGHTS, EXTENDING L3 AND/OR STEEPEN S3.
- S3 8% MAXIMUM, IF THIS SLOPE IS EXCEEDED OR CONTINUED FOR MORE THAN 5', ANALYZE VEHICLE TEMPLATES FOR VERTICAL CLEARANCE. SEE FACILITY DESIGN GUIDE, CHAPTER 6, FOR GEOMETRIC DESIGNS OF DRIVEWAYS.
- ① EXAMPLE SHOWN TO BE INCLUDED IN PLAN FOR EACH DRIVEWAY THAT HAS PAR THROUGH IT.
- ② REFERS TO THE FOLLOWING TYPES; PERPENDICULAR DRIVEWAY, TIERED PERPENDICULAR OFFSET DRIVEWAY, TIERED PERPENDICULAR DRIVEWAY, PARALLEL DRIVEWAY, AND INTEGRAL DRIVEWAY APRON.
- ③ DW CURB TYPE 1 IS THE STANDARD AND SHALL BE THE STARTING POINT FOR ALL PERPENDICULAR AND TIERED DRIVEWAYS. DW CURB TYPE 2 SHALL ONLY BE USED AFTER UTILIZING BEST PRACTICES SUCH AS MAXIMIZING S1, S3, AND L3.
- ④ SHOULD BE DESIGNED AT 1.5%.
- ⑤ ACQUIRE ADEQUATE L3 TO ALLOW FOR CONTINUOUS PAR PROFILE (UNIFORM SIDEWALK SECTION) THROUGH THE DRIVEWAY APRON.
- ⑥ PROVIDE INPLACE TIE-IN SLOPE INFORMATION AT BACK OF PROPOSED WALK (S3 AREA).
- ⑦ INFORMATION TO BE INCORPORATED INTO DRIVEWAY TABLE WHEN INTEGRAL DRIVEWAY APRON IS USED. OTHER CURB HEIGHTS & CURB APRON LENGTHS CAN BE USED.
- ⑧ L1 & S1 FOR INTEGRAL DRIVEWAY APRON IS TO FLOWLINE. 12.5% IS MAXIMUM PREFERRED SLOPE.
- ⑨ TIE ADJACENT SECTIONS. CONCRETE DRIVEWAY APRON AND CONCRETE DRIVEWAY SIDEWALK SHALL BE CONSTRUCTED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. DRILL AND GROUT OR CAST IN-PLACE THROUGH HOLES IN THE FORMS NO. 4 X 12" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINT.



CURB TYPE	L1	E2	S1 ⑧
	FT		%
IDA 216	1.33	+0.16	12.5
IDA 220	1.67	+0.16	10
IDA 324	2	+0.24	12.5
IDA 432	2.67	+0.33	12.5

REVISION:
 APPROVED: 11-04-2021

 JEFFREY PERKINS
 OPERATIONS DIVISION

	STANDARD PLAN 5-297.254	2 OF 4
	 THOMAS STYRBICKI STATE DESIGN ENGINEER	APPROVED: 11-04-2021 REVISED:

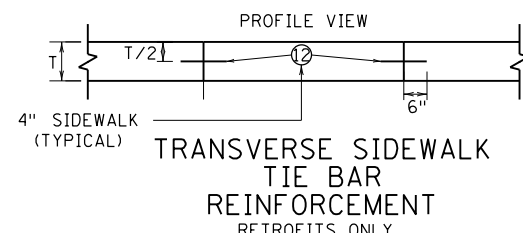
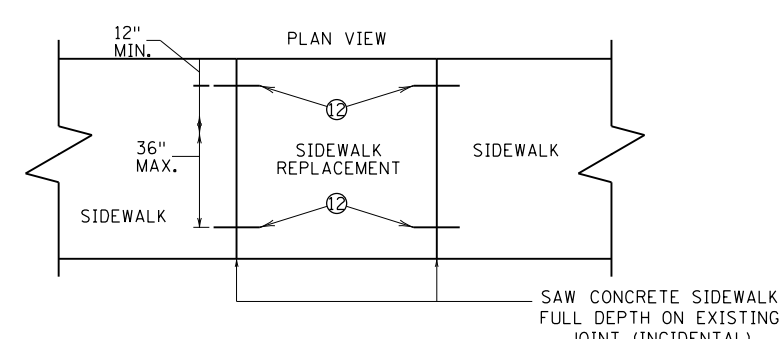
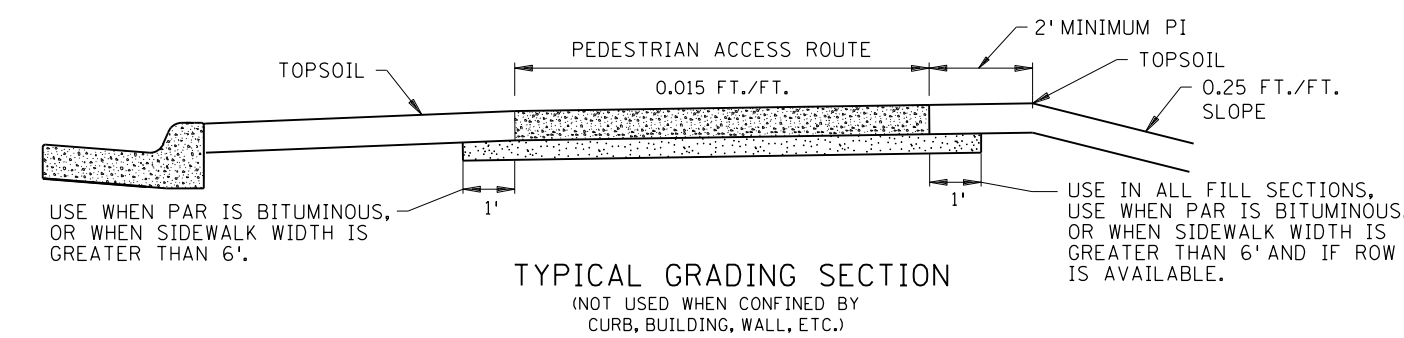
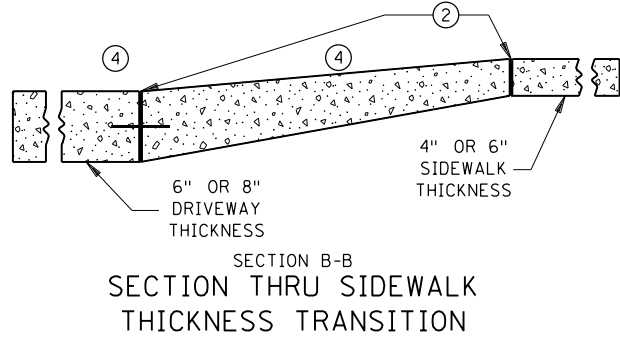
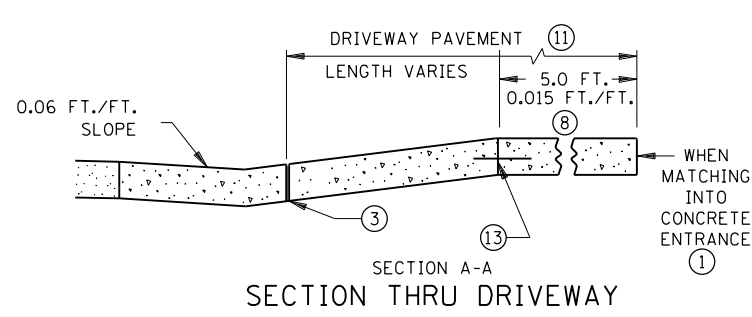
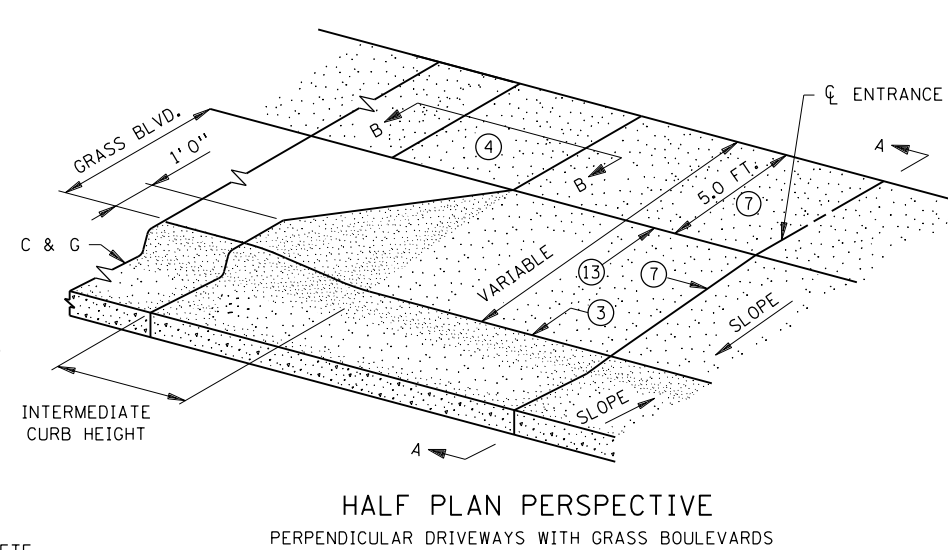
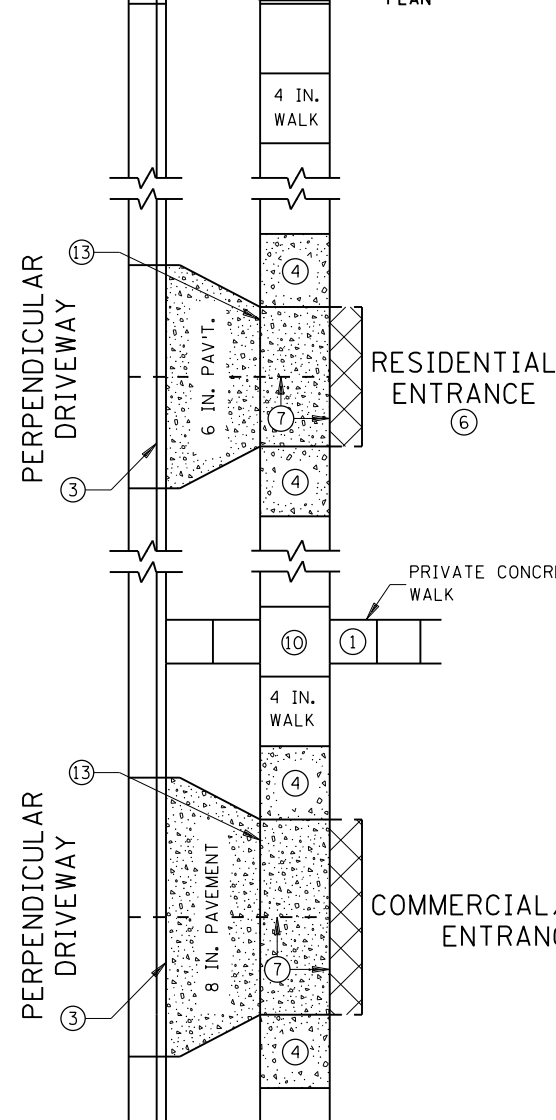
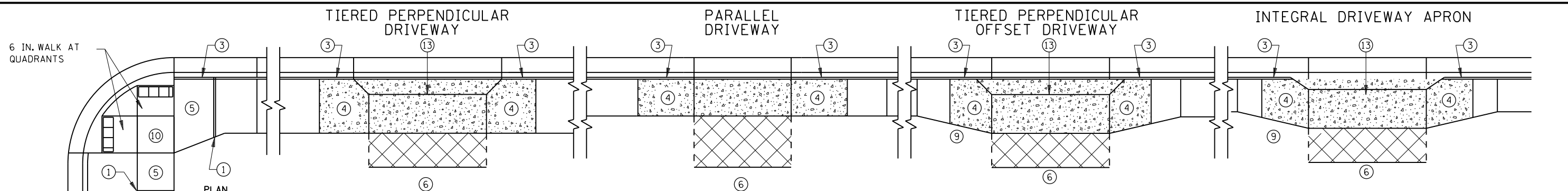
DRIVEWAY AND SIDEWALK DETAILS

STATE AID PROJ. NO. 002-601-059

SHEET NO.29 OF 87 SHEETS

PLOTTED/REVISED: 04/26/2022

DISTRICT #: PLOT NAME: \$\$\$PLOT\$NAME\$\$\$
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SIDEWALK WIDTH, W	SIDEWALK THICKNESS, T	TIE BAR SIZE	LENGTH	SPACING
> 7'	4"	No. 4	12"	24"
>10'	6"	No. 4	12"	36"

FOR 4" CONCRETE ONLY: CAST IN PLACE BARS MUST BE SUPPORTED WITH P-STAKES OR REINFORCEMENT BASKETS FOR FULL WIDTH CONCRETE PLACEMENTS.
 FOR 6" CONCRETE ONLY: DRILL AND GROUT OR CAST IN PLACE THROUGH HOLES IN THE FORMS REQUIRED FOR STAGED ADJACENT CONCRETE PLACEMENTS.

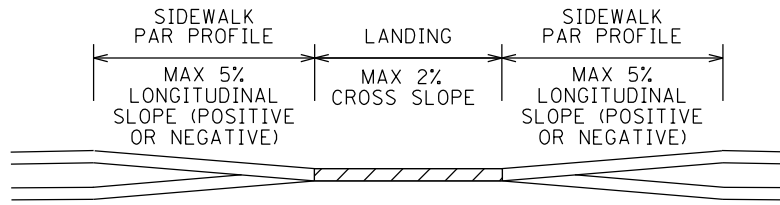
- NOTES:**
- ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.
 - TO MINIMIZE SIDEWALK "ROLLER COASTER" EFFECT IT IS DESIRABLE TO KEEP THE PAR ELEVATION CONTINUOUS OR AT LEAST IN THE UPPER HALF OF CURB HEIGHT. 4" HIGH CURB SHOULD BE USED INSTEAD OF 6" HIGH CURB TO HELP THIS PROBLEM WHEN APPLICABLE.
 - 4" HIGH ADJACENT CURB IS PREFERRED WHEN BOULEVARDS 4' OR LESS ARE PRESENT MEASURED FROM THE BACK OF CURB. WHEN THE DRIVEWAY IS SLOPING DOWN FROM THE ROADWAY (NEGATIVE) 4" HIGH ADJACENT CURB SHOULD ALSO BE USED.
 - SEE FACILITY DESIGN GUIDE, CHAPTER 6, FOR GEOMETRIC DESIGN OF DRIVEWAYS.
 - ① CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE. DRIVEWAY EXPANSION SHALL BE PLACED AT TOP OR BOTTOM OF TRANSITION PANEL.
 - ② CONSTRUCT WITH EXPANSION MATERIAL MNDOT PER SPEC. 3702 TYPES A-E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE. MAXIMUM ONE EXPANSION PER DRIVEWAY PLACED AT EITHER TOP OR BOTTOM OF CONCRETE THICKNESS TRANSITION. IF MULTIPLE DRIVEWAYS EXIST PLACE ONE EXPANSION BETWEEN EACH DRIVEWAY. IF NO DRIVEWAY EXIST PLACE A MAXIMUM OF ONE EXPANSION PER 150' OF SIDEWALK RUN.
 - ③ USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.
 - ④ TRANSITION DRIVEWAY THICKNESS TO WALK THICKNESS. IF THERE IS A CONSTRUCTION JOINT AND NO EXPANSION IS USED, INSTALL TIE BARS.
 - ⑤ TRANSITION CURB RAMP THICKNESS TO WALK THICKNESS.
 - ⑥ MATCH INPLACE DRIVEWAY WIDTH, MATERIAL TYPE AND THICKNESS.
 - ⑦ FORM CONTRACTION JOINT AS NEEDED TO PRODUCE APPROXIMATELY SQUARE PANELS. CONCRETE PANEL SIZE SHOULD NOT EXCEED 1 1/2 : 1 LENGTH X WIDTH. 81 SF FOR 6" CONCRETE DRIVEWAY WITH 9'X9' MAXIMUM PANEL SIZE. 144 SF FOR 8" CONCRETE DRIVEWAY WITH 12'X12' MAXIMUM PANEL SIZE. MATCH DRIVEWAY APRON AND SIDEWALK JOINTS.
 - ⑧ THE PEDESTRIAN ACCESS ROUTE CROSS-SLOPE, SHALL NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.
 - ⑨ 1:10 MIN. SIDEWALK OFFSET TAPER REQUIRED FOR SIDEWALK REPLACEMENT PROJECTS. 1:3 MIN. AND 1:5 MIN. PREFERRED SIDEWALK OFFSET TAPER FOR DRIVEWAY REPLACEMENT.
 - ⑩ LANDING REQUIRED, SEE NEXT SHEET FOR MORE INFORMATION.
 - ⑪ CONCRETE DRIVEWAY APRON AND CONCRETE DRIVEWAY SIDEWALK SECTIONS SHALL BE CONSTRUCTED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. ENGINEER'S APPROVAL REQUIRED FOR MONOLITHIC PLACEMENTS.
 - ⑫ DRILL AND GROUT NO. 4 X 12" LONG TIE BARS (EPOXY COATED), 36" MAXIMUM SPACING BETWEEN BARS COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINTS. 1' MINIMUM FROM ADJACENT CONCRETE JOINTS. BARS TO BE ADJUSTED TO MATCH SIDEWALK GRADES. TO BE PAID BY EACH.
 - ⑬ DRILL AND GROUT OR CAST IN-PLACE THROUGH HOLES IN THE FORMS NO. 4 X 12" LONG TIE BARS (EPOXY COATED), 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINTS. 1' MINIMUM FROM ADJACENT CONCRETE JOINTS.

REVISION: 12-23-2021
 APPROVED: 11-04-2021
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 JEFFREY PERKINS
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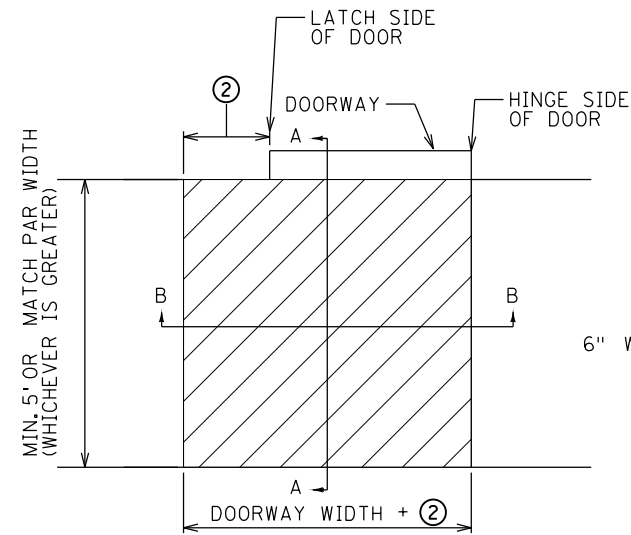
	STANDARD PLAN 5-297.254	3 OF 4	DRIVEWAY AND SIDEWALK DETAILS
		APPROVED: 11-04-2021 REVISED: 12-23-2021	
DEPARTMENT OF TRANSPORTATION	THOMAS TYRBICKI STATE DESIGN ENGINEER	SHEET NO.30 OF 87 SHEETS	

PLOTTED/REVISED: 04/26/2022

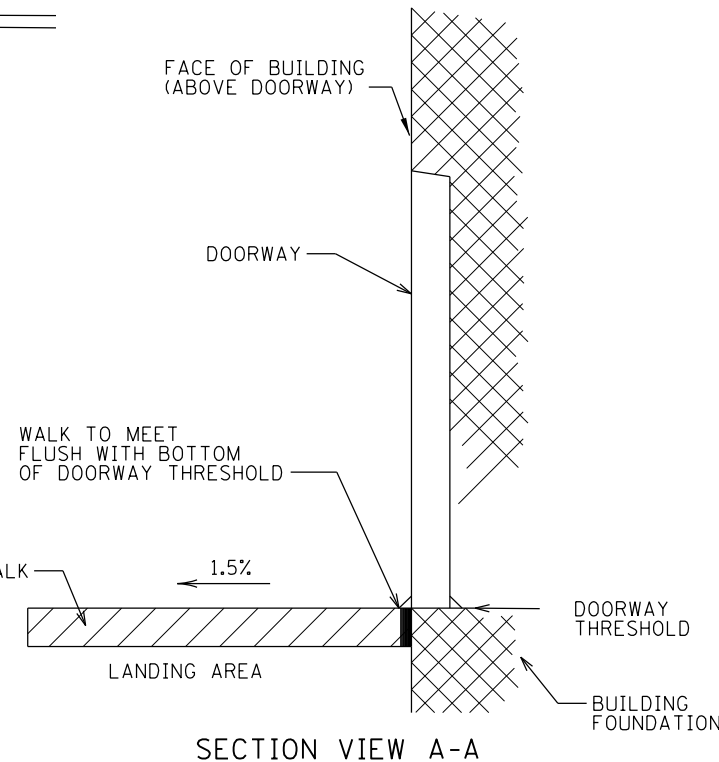
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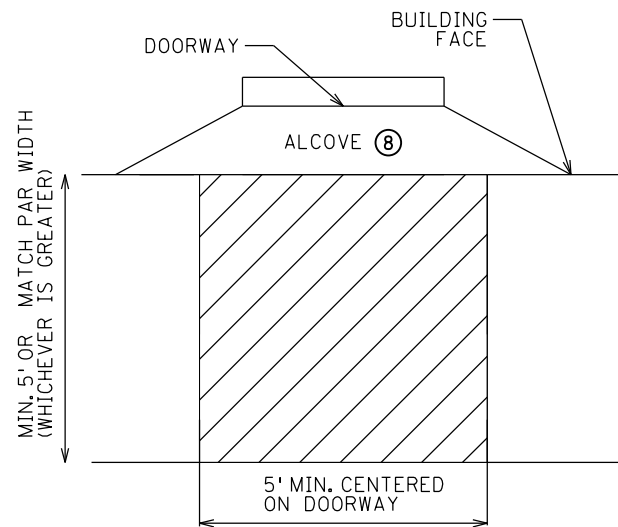
SECTION VIEW B-B



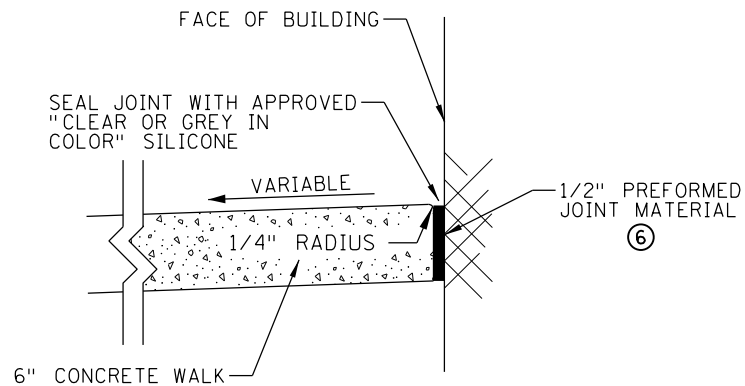
PLAN VIEW DOORWAY



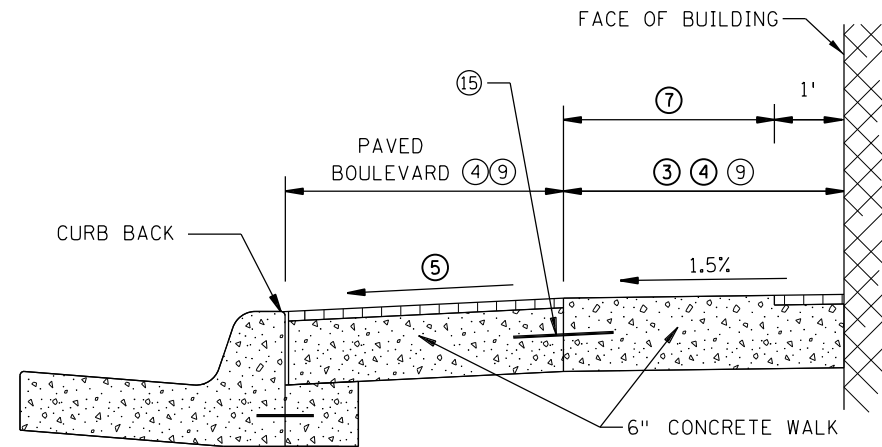
SECTION VIEW A-A



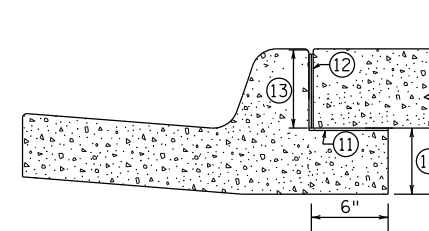
PLAN VIEW DOORWAY WITH ALCOVE
 SIDEWALK LANDING REQUIREMENTS ①



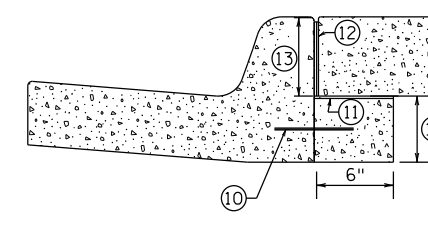
BUILDING JOINT SEAL (INCIDENTAL)



DOWNTOWN SIDEWALK TYPICAL SECTION



SLIP FORM SILL



FIXED FORM SILL

SILL CURB SHOULD BE USED AT ALL LOCATIONS WHEN CONCRETE WALK IS AT BACK OF CURB, INCLUDING PAVED BOULEVARD.
 SILL CURB SHALL NOT BE USED IN CURB RAMP AND DRIVEWAY AREAS, INCLUDING CONCRETE FLARES.
 SILL CURB WITH 4" WALK CAN USE FIXED OR SLIP FORM OPTIONS.

NOTES:

- 6" WALK IS REQUIRED:
 - 1) IN ALL SIDEWALK LOCATIONS WHERE VARIABLE SLOPED CONCRETE BOULEVARDS ARE PAVED, SUCH AS COMMERCIAL (STORE FRONT, DOWNTOWN) AREAS.
 - 2) ANYTIME DRILL AND REINFORCEMENT IS USED TO TIE LONGITUDINAL JOINTS TOGETHER.
 - 3) TO ELIMINATE LONGITUDINAL JOINT WHEN INCREASING PANEL SIZE OVER 36SF.
 - 4) AT LOCATIONS WHERE MAINTENANCE EQUIPMENT WILL SUBJECT CONCRETE TO HEAVY LOADS.
- ALL SIDEWALK AND BOULEVARD WIDTHS SHALL BE MEASURED FROM BACK OF CURB.
 FIELD ADJUST SIDEWALK PROFILES TO MEET ALL DOORWAY THRESHOLDS.
 SIDEWALK MUST MAINTAIN POSITIVE DRAINAGE AWAY FROM THE BUILDING TO THE ROADWAY.
 SEE SPECIAL PROVISIONS FOR SILICONE SPECIFICATIONS.
- ① LANDING CRITERIA IS REQUIRED FOR ALL DOORS, STEPS, AND PRIVATE WALKS. FEASIBILITY DECREASES WITH NARROWER BOULEVARDS AND STEEPER SIDEWALK PROFILES.
 - ② 18" MIN. WHEN DOOR SWINGS OUTWARD FROM BUILDING. 12" MIN WHEN DOOR SWINGS INWARD FROM BUILDING.
 - ③ 6' MIN. PAR REQUIRED WHEN ADJACENT TO BUILDINGS.
 - ④ 2/3 PAR TO 1/3 BOULEVARD SHOULD BE USED WHEN FEASIBLE. HOLD UNIFORM BOULEVARD WIDTH. 4' PREFERRED MINIMUM BOULEVARD.
 - ⑤ 1%-5% FOR THE MAJORITY OF THE BLOCK, WITH EXCEPTIONS UP TO 8% IN CONSTRAINED AREAS.
 - ⑥ CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A-E EXPANSION. LEAVE A MINIMUM 1/2" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.
 - ⑦ TO MINIMIZE VIBRATION AND ROLLING RESISTANCE, AREA SHALL BE FREE OF PAVERS, STAMPED CONCRETE, AND/OR EXCESSIVE JOINTING.
 - ⑧ 2% MAX. PER BUILDING CODE. IF GREATER THAN 2%, FLATTEN AS FEASIBLE.
 - ⑨ FORM CONTRACTION JOINTS AS NEEDED TO PRODUCE APPROXIMATELY SQUARE PANEL SIZE. CONCRETE PANEL SIZE SHOULD NOT EXCEED 1 1/2 : 1 LENGTH X WIDTH.
 - ⑩ DRILL AND GROUT NO. 4 X 8" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONSTRUCTION JOINTS. 1' MINIMUM FROM ADJACENT CONCRETE JOINTS. TIE BARS SHALL BE EMBEDDED 4" WITH 2" MINIMUM CONCRETE COVER AND ARE INCIDENTAL TO SILL PLACEMENT.
 - ⑪ FURNISH AND INSTALL THE FULL WIDTH OF THE TOP OF SILL A MINIMUM 2ML THICK POLYTHENE SHEETING.
 - ⑫ USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.
 - ⑬ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.
 - ⑭ 6" WALK: 5" MIN. FOR B424; 7" MIN. FOR B624
 4" WALK: 7" MIN. FOR B424; 9" MIN. FOR B624
 - ⑮ DRILL AND GROUT NO. 4 X 12" LONG TIE BARS (EPOXY COATED). 36" MAXIMUM SPACING BETWEEN BARS WITH 2" MINIMUM CONCRETE COVER PLACED 1' MINIMUM FROM ADJACENT CONCRETE JOINTS.

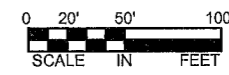
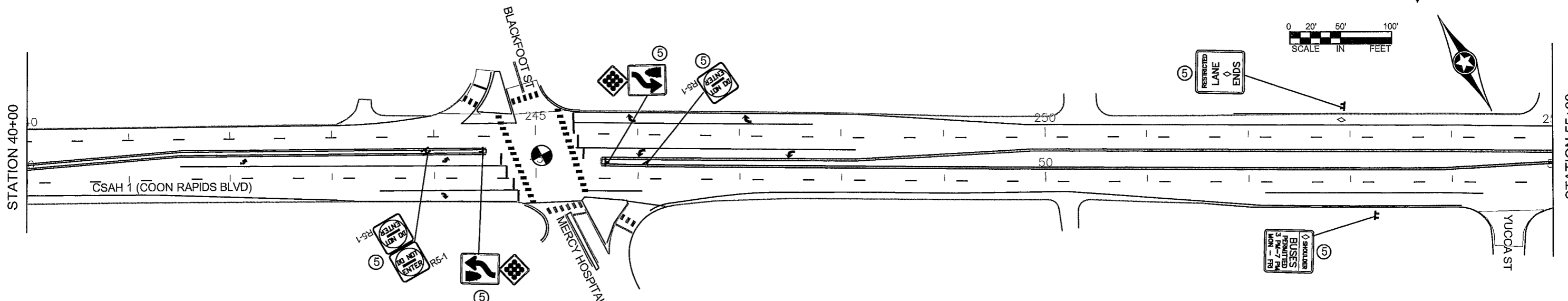
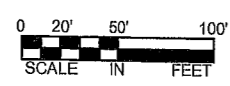
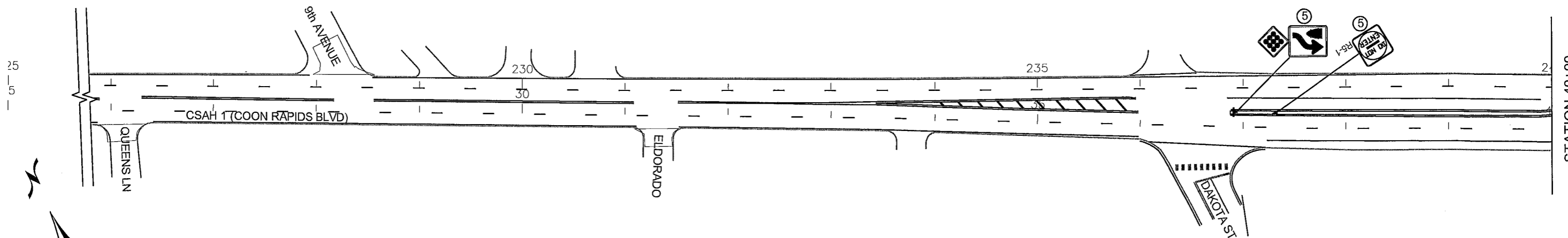
REVISION:
 APPROVED: 11-04-2021

 JEFFREY PERKINS
 OPERATIONS DIVISION

 MINNESOTA DEPARTMENT OF TRANSPORTATION	STANDARD PLAN 5-297.254	4 OF 4
	APPROVED: 11-04-2021 REVISED:	
 THOMAS STYRBICKI STATE DESIGN ENGINEER		STATE AID PROJ. NO. 002-601-059

DRIVEWAY AND SIDEWALK DETAILS

SIGN NOTES:
 ⑤ REMOVE SIGN



NO	DATE	BY	CKD	APPR	REVISION

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: SEAN R. THIEL DATE: 4/26/22

SIGNATURE: *Sean R. Thiel* LICENSE NO. 45129

DRAWN BY: TMV DATE: 04/11/22

DESIGN BY: _____ DATE: _____

CHECKED BY: SRT DATE: 02/23/22

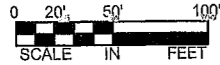


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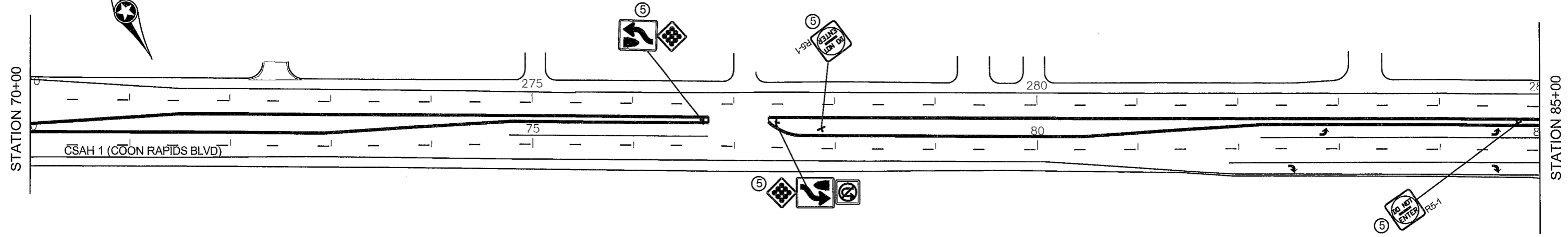
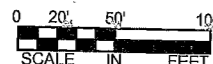
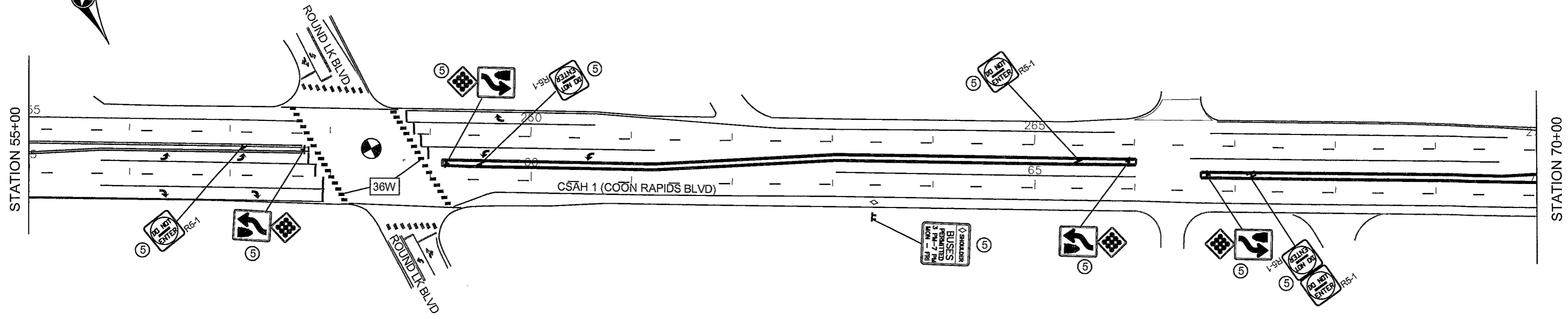
SAP 002-601-059

EXISTING SIGN REMOVALS

SHEET 32 OF 87 SHEETS



SIGN NOTES:
 ⑤ REMOVE SIGN



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\22-01-00\CS&A_01_(111h-7h)\Base\Traffic\Existing Sign Removals.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.

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 SIGNATURE: *Sean R. Thiel* LICENSE NO. 45129

DRAWN BY: TMV DATE: 04/11/22
 DESIGN BY: _____ DATE: _____
 CHECKED BY: SRT DATE: 02/23/22

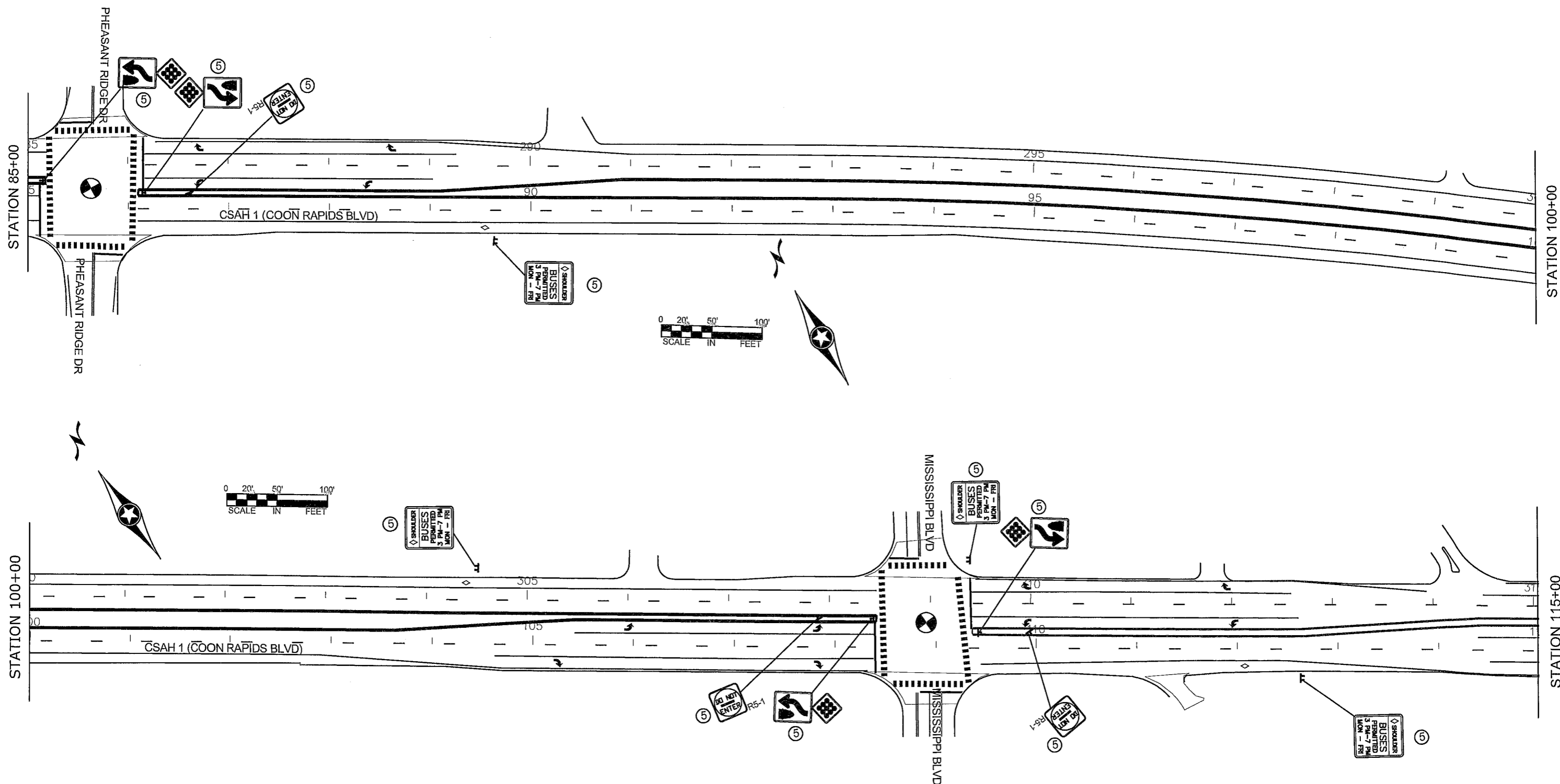


ANOKA COUNTY
 HIGHWAY DEPT.

SAP 002-601-059

EXISTING SIGN REMOVALS
 SHEET 33 OF 87 SHEETS

SIGN NOTES:
 ⑤ REMOVE SIGN



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\22-01-00\CSAH_01 (111th-7th)\Base\Traffic\Existing Sign Removals.dwg

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DRAWN BY: TMV DATE: 04/11/22
 DESIGN BY: DATE: _____
 CHECKED BY: SRT DATE: 02/23/22

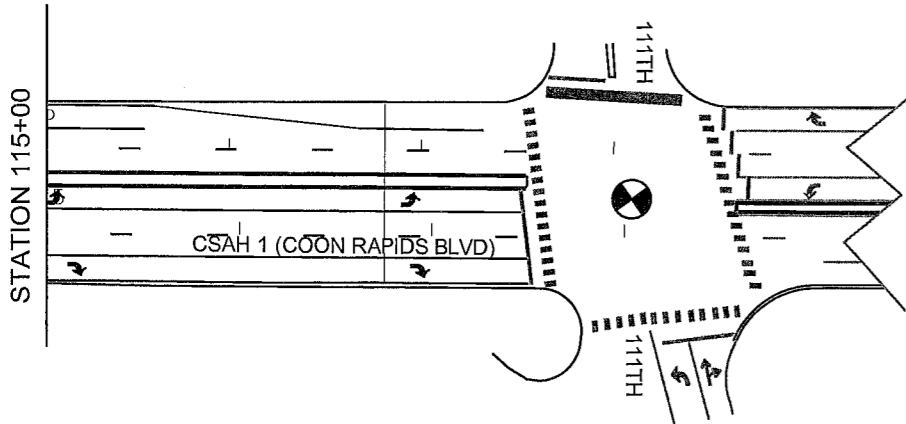
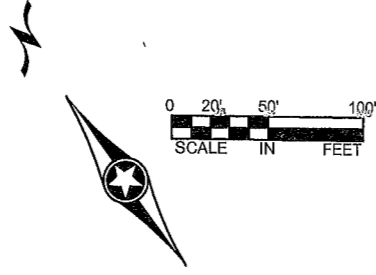


ANOKA COUNTY
 HIGHWAY DEPT.

SAP 002-601-059

EXISTING SIGN REMOVALS
 SHEET 34 OF 87 SHEETS

SIGN NOTES:
 ⑤ REMOVE SIGN



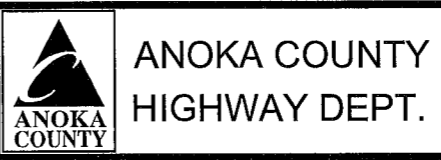
EXISTING SIGN TAB				
STATION	ADDRESS/ DESCRIPTION (NOTES)	REMOVE SIGN TYPE C	SIGN NUMBER	SIGN LEGEND
		EACH		
36+93	MEDIAN	1	R4-7 OM1-1	KEEP RIGHT 9-BUTTON
37+35	MEDIAN	1	R5-1	DO NOT ENTER
44+00	MEDIAN	1	R5-1 R5-1	DO NOT ENTER DO NOT ENTER
44+50	MEDIAN	1	R4-7 OM1-1	KEEP RIGHT 9-BUTTON
45+70	MEDIAN	1	R4-7 OM1-1	KEEP RIGHT 9-BUTTON
46+10	MEDIAN	1	R5-1	DO NOT ENTER
252+95	LT	1		RESTRICT LN ENDS
53+25	RT	1		SHOULDER BUSES
57+20	MEDIAN	1	R5-1	DO NOT ENTER
57+75	MEDIAN	1	R4-7 OM1-1	KEEP RIGHT 9-BUTTON
59+20	MEDIAN	1	R4-7 OM1-1	KEEP RIGHT 9-BUTTON
59+50	MEDIAN	1	R5-1	DO NOT ENTER
63+40	RT	1		SHOULDER BUSES
65+45	MEDIAN	1	R5-1	DO NOT ENTER
66+00	MEDIAN	1	R4-7 OM1-1	KEEP RIGHT 9-BUTTON
66+75	MEDIAN	1	R4-7 OM1-1	KEEP RIGHT 9-BUTTON
67+20	MEDIAN	1	R5-1 R5-1	DO NOT ENTER DO NOT ENTER
76+70	MEDIAN	1	R4-7 OM1-1	KEEP RIGHT 9-BUTTON
77+45	MEDIAN	1	R3-4 R4-7 OM1-1	NO U TURN KEEP RIGHT 9-BUTTON
77+90	MEDIAN	1	R5-1	DO NOT ENTER
84+60	MEDIAN	1	R5-1	DO NOT ENTER
85+16	MEDIAN	1	R4-7 OM1-1	KEEP RIGHT 9-BUTTON
86+20	MEDIAN	1	R4-7 OM1-1	KEEP RIGHT 9-BUTTON
86+65	MEDIAN	1	R45-1	DO NOT ENTER
89+60	RT	1		SHOULDER BUSES
304+50	LT	1		SHOULDER BUSES
107+86	MEDIAN	1	R5-1	DO NOT ENTER
108+40	MEDIAN	1	R4-7 OM1-1	KEEP RIGHT 9-BUTTON
309+40	LT	1		SHOULDER BUSES
109+43	MEDIAN	1	R4-7 OM1-1	KEEP RIGHT 9-BUTTON
109+90	MEDIAN	1	R5-1	DO NOT ENTER
112+60	RT	1		SHOULDER BUSES
TOTAL		32		

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\Traffic\Existing Sign Removals.dwg					

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 SIGNATURE: *Sean R. Thiel* LICENSE NO. 45129

DRAWN BY: TMV DATE: 04/11/22
 DESIGN BY: _____ DATE: _____
 CHECKED BY: SRT DATE: 02/23/22



SAP 002-601-059

EXISTING SIGN REMOVALS QUANTITIES
 SHEET 35 OF 87 SHEETS

STAGE 1 CONSTRUCTION NOTES (TYP.)

1. WORK IN THIS STAGE CONSISTS OF CONCRETE CURB AND GUTTER REPAIR, CATCH BASIN REPAIR, PEDESTRIAN RAMP IMPROVEMENTS, LOOP REPLACEMENT, AND SIDE STREET LOOP REPLACEMENTS ON THE OUTSIDE LANE OF BOTH EASTBOUND AND WESTBOUND. LOOPS TO BE PLACED IN GRAVEL. MILL TAPER ALONG WESTBOUND LANE BETWEEN 9TH AVE AND DAKOTAH ST.
2. EROSION CONTROL SHALL BE APPLIED BEFORE COMMENCING WITH STAGE 2.

STAGE 1 TRAFFIC CONTROL NOTES (TYP.)

1. 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".
2. 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.
3. CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
4. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - FIELD MANUAL OF THE SAME MANUAL.
5. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
6. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
7. REMOVE ALL CONFLICTING PAVEMENT MARKINGS WITHIN THE CONSTRUCTION LIMITS. BLACK REMOVABLE PREFORMED PLASTIC MARKING TAPE SHALL BE USED ON ALL CONFLICTING PAVEMENT MARKINGS OUTSIDE OF THE CONSTRUCTION LIMITS AND AS INDICATED ON THE PLAN SHEETS.
8. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
9. WHEN LEFT TURN LANE CLOSURES AT SIGNALIZED INTERSECTIONS, CONTACT ACHD SIGNALS AT LEAST 24 - 48 HRS IN ADVANCE TO COORDINATE SIGNAL SYSTEM OPERATIONS AND/OR BAG LEFT TURN SIGNAL HEAD(S).
10. ACCESS SHALL BE MAINTAINED TO ALL STREETS, DRIVEWAYS AND BUS STOPS IN CONSTRUCTION AREA.
11. DAKOTAH STREET SHALL REMAIN FULL ACCESS INTERSECTION.
12. ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ANY REMOVED 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.

TRAFFIC CONTROL KEY:

- ⊙ WEIGHTED CHANNELIZER
- DRUM
- ⇄ TEMPORARY SIGN

STRIPING KEY

-  TRIANGLE - PAINT
-  PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

SIGN NOTES:

- ② TEMPORARY TRAFFIC CONTROL SIGN

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\Traffic\Full Depth Stage 1.dwg					

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SIGNATURE: *Sean R. Thiel* LICENSE NO. 45129

DRAWN BY: TMV DATE: 04/12/22

DESIGN BY: DATE:

CHECKED BY: JKR DATE: 04/19/22



ANOKA COUNTY
HIGHWAY DEPT.

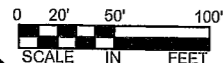
SAP 002-601-059

TRAFFIC CONTROL
STAGE 1

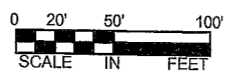
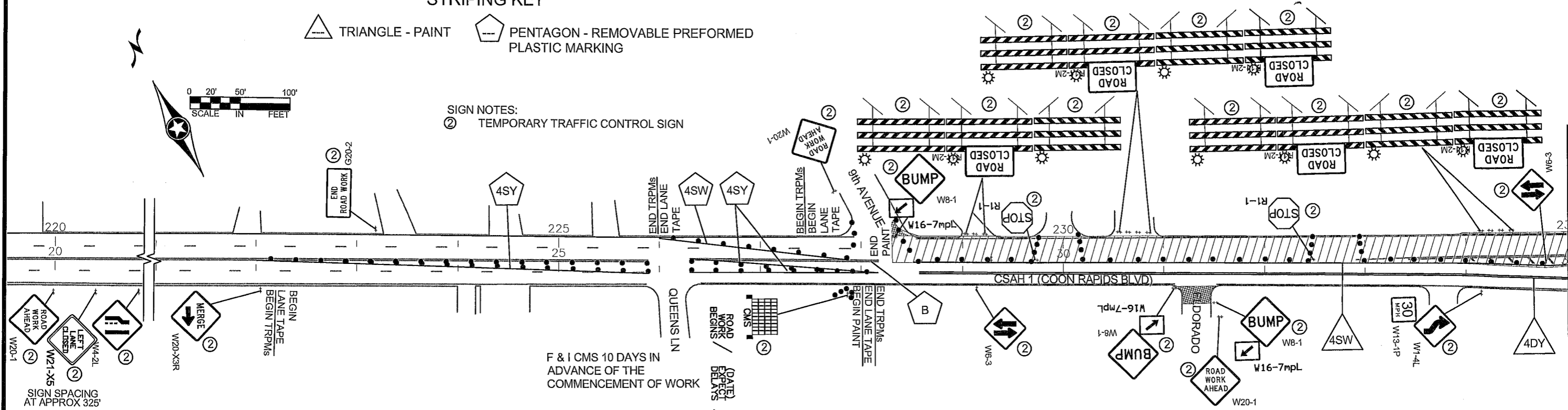
SHEET 36 OF 87 SHEETS

STRIPING KEY

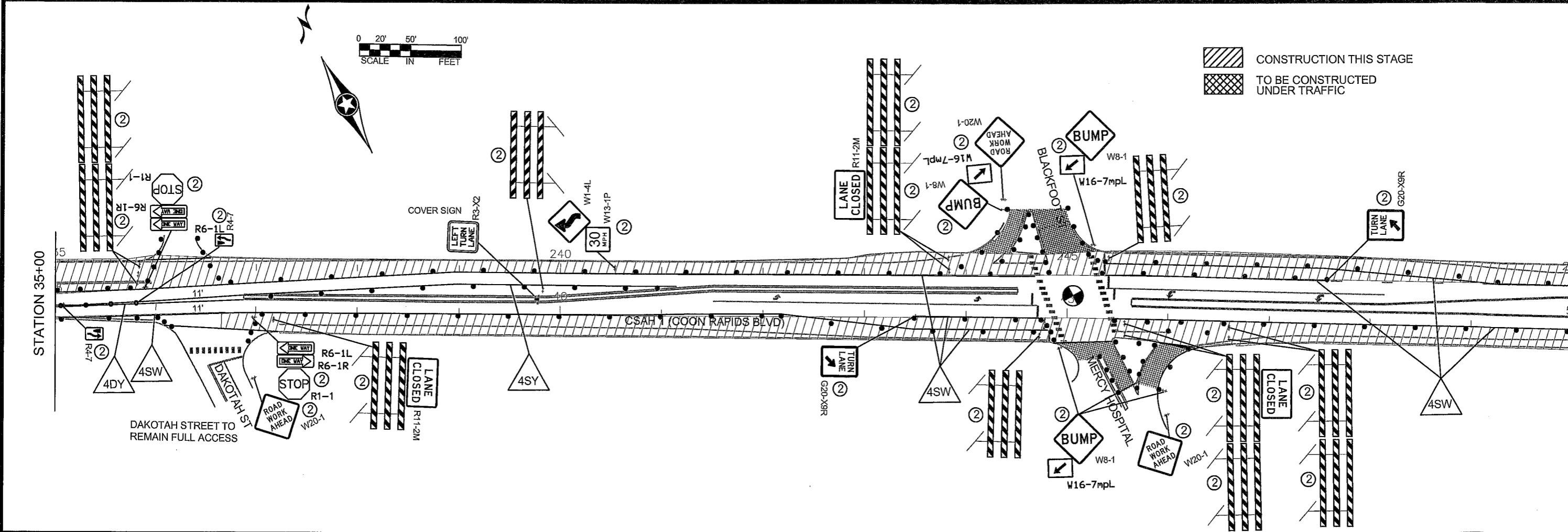
- TRIANGLE - PAINT
- PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN



- CONSTRUCTION THIS STAGE
- TO BE CONSTRUCTED UNDER TRAFFIC

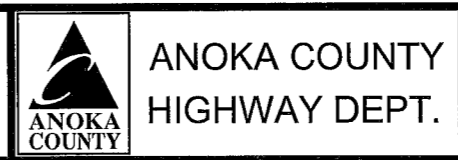


NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\Traffic\Full Depth Stage 1.dwg					

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.

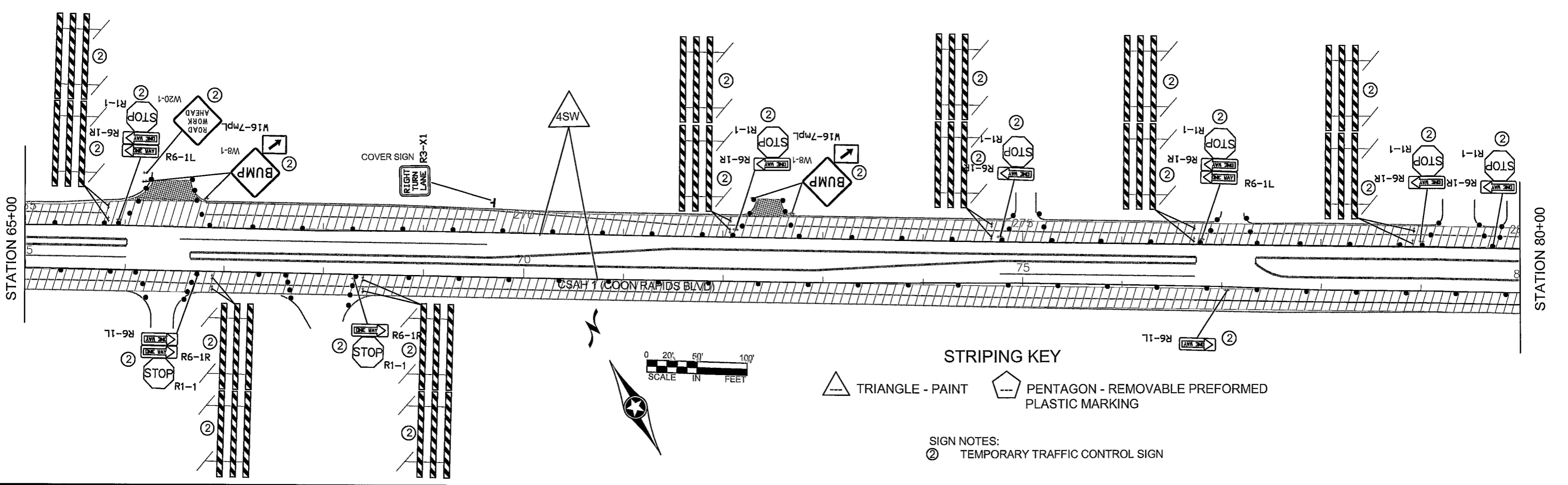
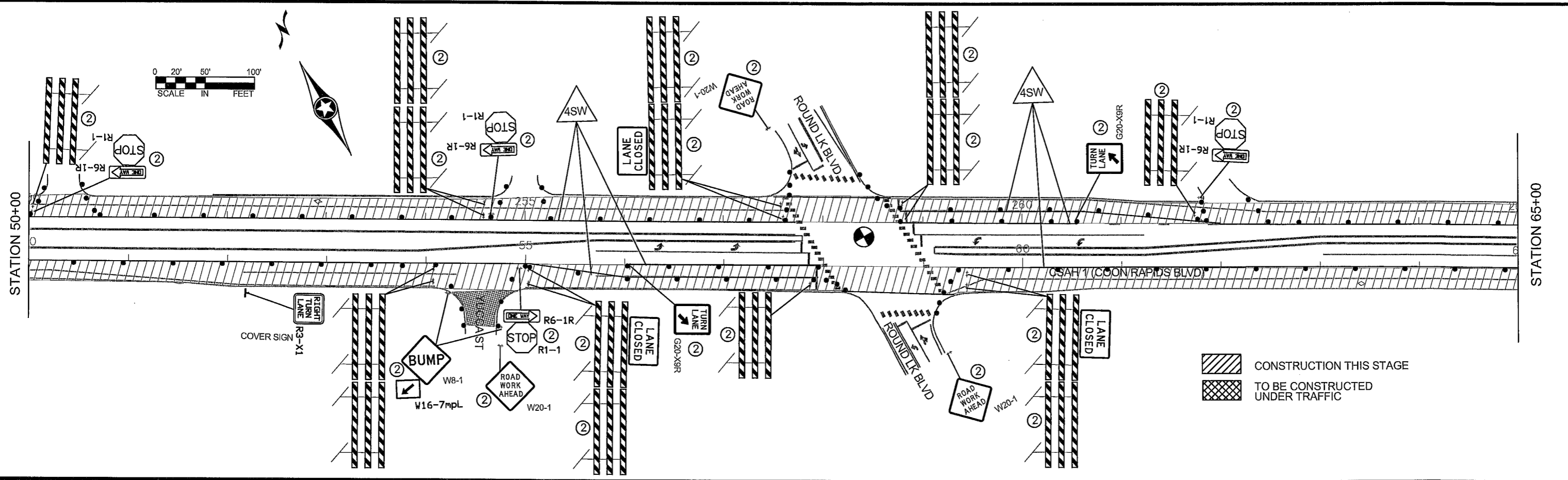
PRINT NAME: SEAN R. THIEL DATE: 4/26/22
 SIGNATURE: *Sean R. Thiel* LICENSE NO. 45129

DRAWN BY: TMV DATE: 04/12/22
 DESIGN BY: _____ DATE: _____
 CHECKED BY: JKR DATE: 04/19/22



SAP 002-601-059

TRAFFIC CONTROL
 STAGE 1
 SHEET 37 OF 87 SHEETS



STRIPING KEY

--- TRIANGLE - PAINT --- PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\Traffic\Full Depth Stage 1.dwg					

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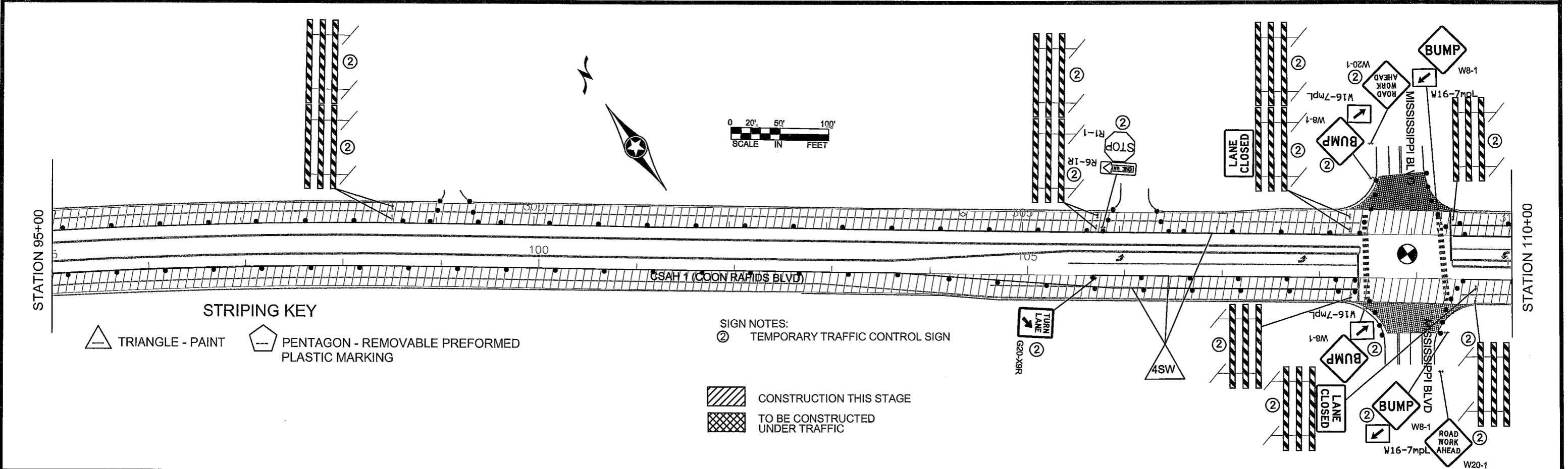
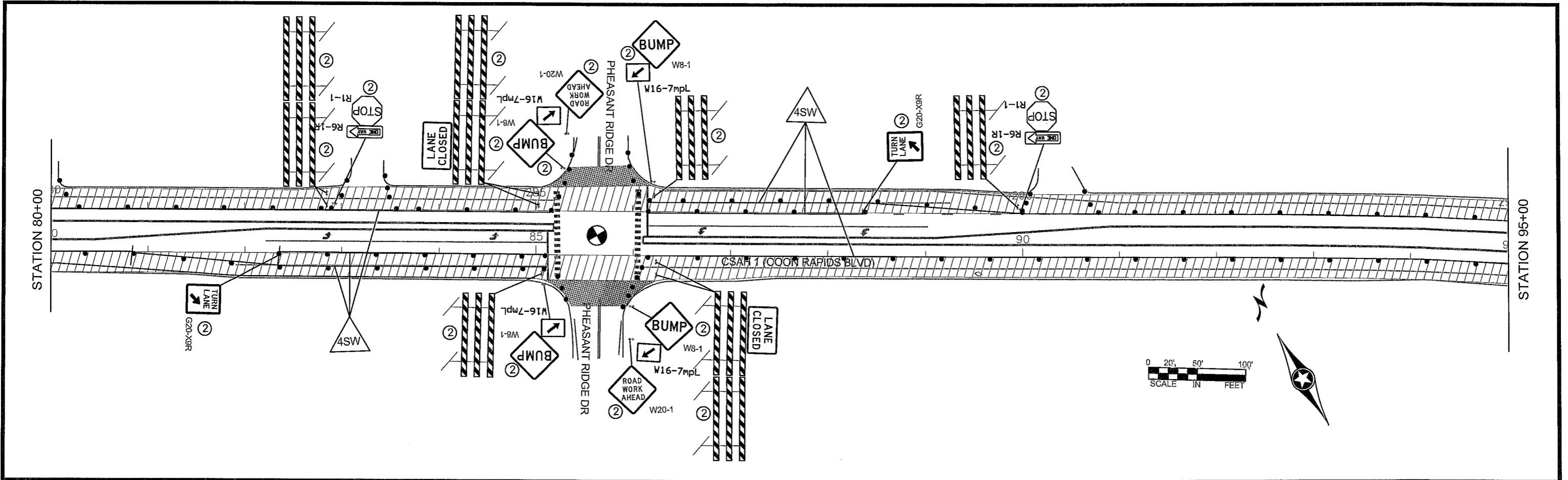
PRINT NAME: SEAN R. THIEL DATE: 4/26/22
 SIGNATURE: *Sean R. Thiel* LICENSE NO. 45129

DRAWN BY: TMV DATE: 04/12/22
 DESIGN BY: DATE:
 CHECKED BY: JKR DATE: 04/19/22

ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-601-059

TRAFFIC CONTROL
 STAGE 1
 SHEET 38 OF 87 SHEETS



STRIPING KEY

TRIANGLE - PAINT
 PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

SIGN NOTES:

TEMPORARY TRAFFIC CONTROL SIGN

CONSTRUCTION THIS STAGE
 TO BE CONSTRUCTED UNDER TRAFFIC

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\Traffic\Full Depth Stage 1.dwg					

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 DESIGN BY _____ DATE _____
 CHECKED BY JKR DATE 04/19/22



SAP 002-601-059

TRAFFIC CONTROL
STAGE 1

SHEET 39 OF 87 SHEETS

STAGE 2 CONSTRUCTION NOTES (TYP.)

1. WORK IN THIS STAGE CONSISTS OF 7" BITUMINOUS MILL, FULL DEPTH CONCRETE SAW, CONCRETE REMOVAL, COMMON EXCAVATION TO ACHIEVE A 7" SECTION, GRADING OF GRAVEL BASE, LOOP REPLACEMENT, AND ONE LIFT OF BITUMINOUS BASE. LOOPS TO BE PLACED IN GRAVEL.
2. THIS STAGE IS ON THE INSIDE LANES OF EASTBOUND AND WESTBOUND ONLY.
3. ONCE STAGE 2 COMMENCES, CONSTRUCTION TO OCCUR 24 HOURS A DAY UNTIL STAGE 4 IS COMPLETE.

STAGE 2 TRAFFIC CONTROL NOTES (TYP.)

1. 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".
2. 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.
3. CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
4. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - FIELD MANUAL OF THE SAME MANUAL.
5. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
6. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
7. REMOVE ALL CONFLICTING PAVEMENT MARKINGS WITHIN THE CONSTRUCTION LIMITS. BLACK REMOVABLE PREFORMED PLASTIC MARKING TAPE SHALL BE USED ON ALL CONFLICTING PAVEMENT MARKINGS OUTSIDE OF THE CONSTRUCTION LIMITS AND AS INDICATED ON THE PLAN SHEETS.
8. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
9. WHEN LEFT TURN LANE CLOSURES AT SIGNALIZED INTERSECTIONS, CONTACT ACHD SIGNALS AT LEAST 24 - 48 HRS IN ADVANCE TO COORDINATE SIGNAL SYSTEM OPERATIONS AND/OR BAG LEFT TURN SIGNAL HEAD(S).
10. ACCESS SHALL BE MAINTAINED TO ALL STREETS, DRIVEWAYS AND BUS STOPS IN CONSTRUCTION AREA.
11. DAKOTAH STREET SHALL REMAIN FULL ACCESS INTERSECTION.
12. THE INTERSECTIONS OF BLACKFOOT ST AND ROUND LAKE BLVD CANNOT BE CLOSED AT THE SAME TIME.
13. SIGNALIZED INTERSECTIONS ARE NOT TO BE OPENED TO TRAFFIC UNTIL RAMPING HAS BEEN PLACED.
14. ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ANY REMOVED 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.

TRAFFIC CONTROL KEY:

- ⊙ TUBULAR MARKER
- DRUM
- ++ TEMPORARY TRAFFIC CONTROL SIGN

STRIPING KEY

-  TRIANGLE - PAINT
-  PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

- SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\Traffic\Full Depth Stage 2.dwg

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PRINT NAME: SEAN R. THIEL DATE: 4/26/22

SIGNATURE: *Sean R. Thiel* LICENSE NO. 45129

DRAWN BY: TMV DATE: 04/18/22

DESIGN BY: _____ DATE: _____

CHECKED BY: SRT DATE: 04/21/22



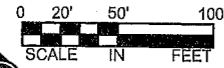
ANOKA COUNTY
HIGHWAY DEPT.

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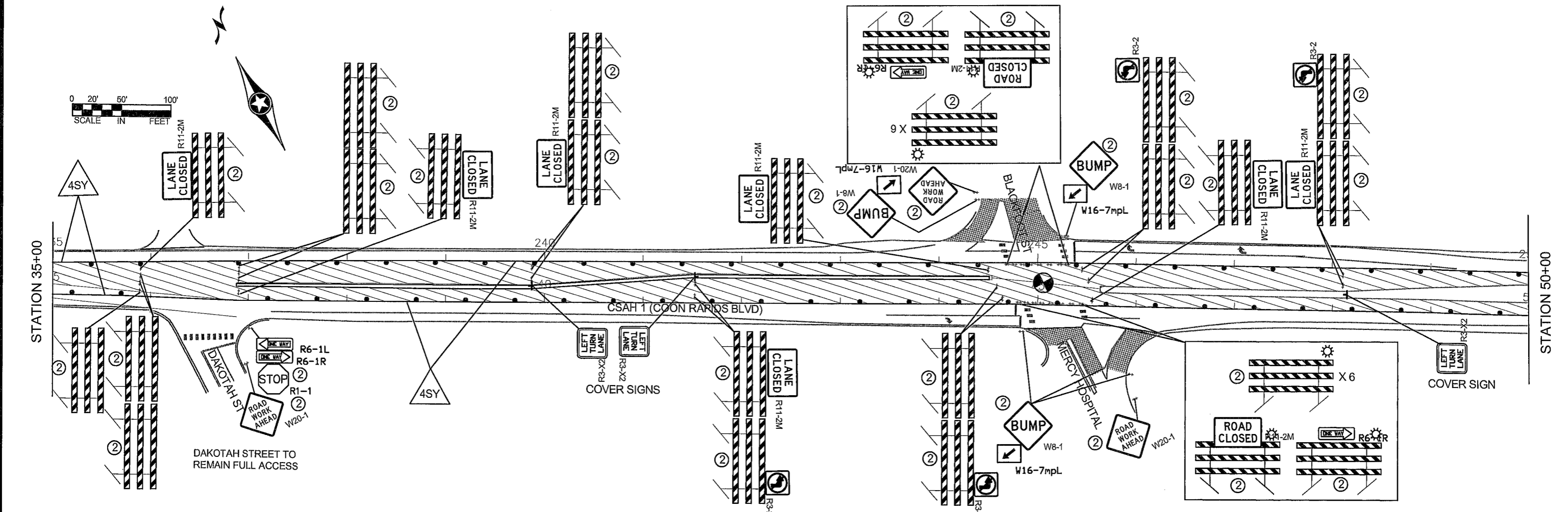
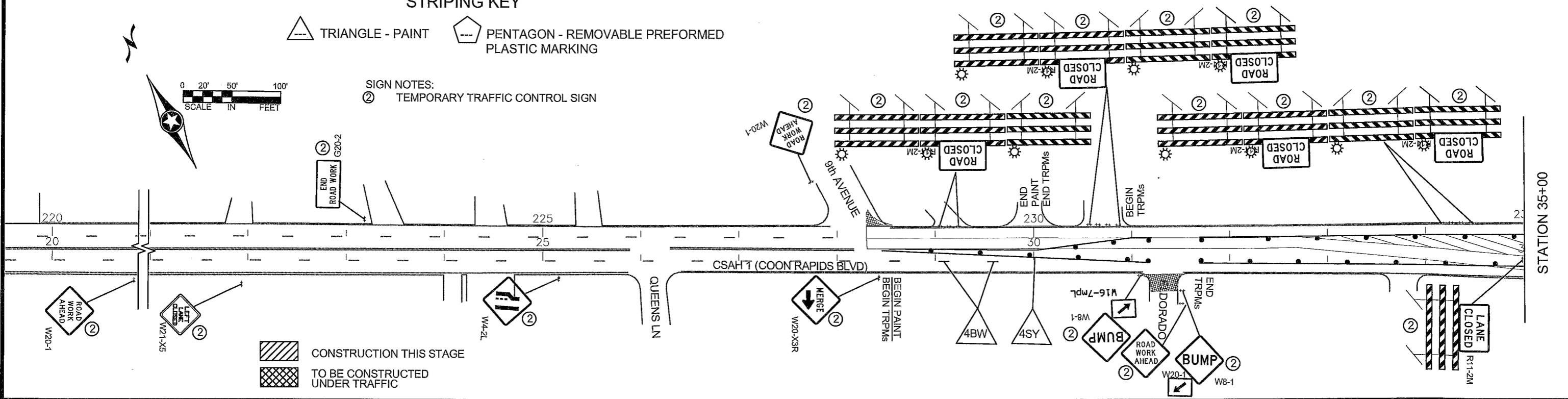
TRAFFIC CONTROL
 STAGE 2

SHEET 41 OF 87 SHEETS

STRIPING KEY



SIGN NOTES:
② TEMPORARY TRAFFIC CONTROL SIGN



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\Traffic\Full Depth Stage 2.dwg

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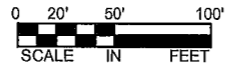
ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-601-059

TRAFFIC CONTROL
STAGE 2
SHEET 42 OF 87 SHEETS

STATION 50+00

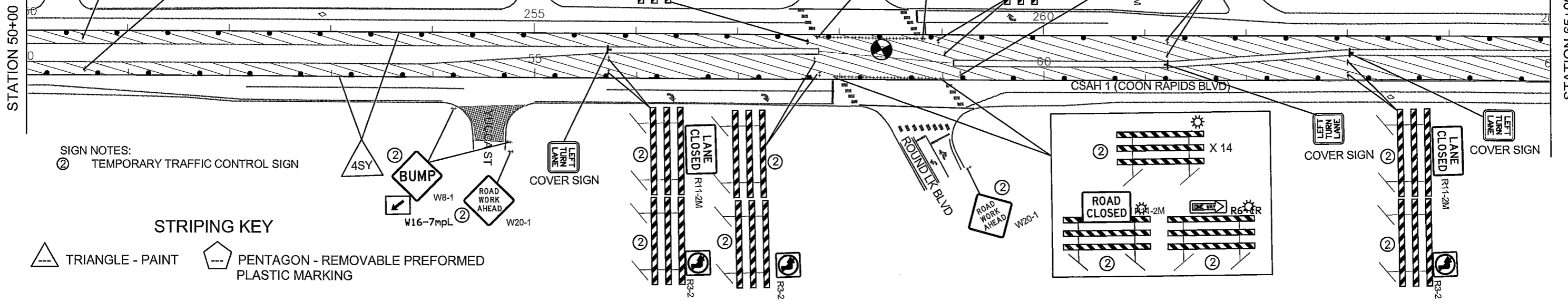
STATION 65+00



SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

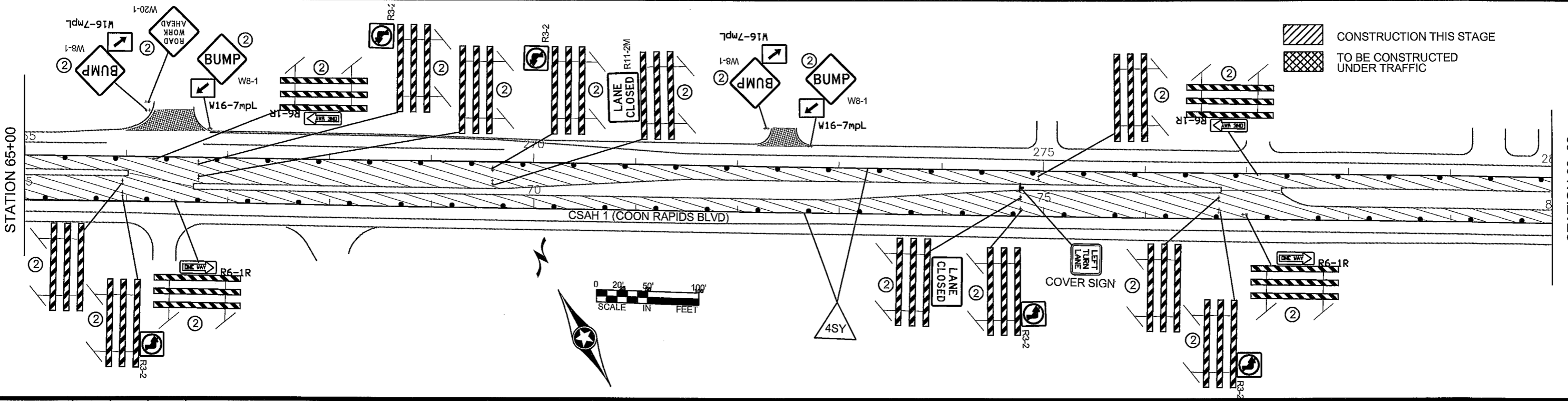
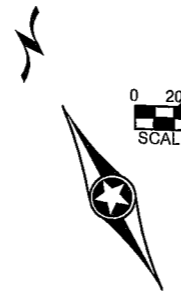
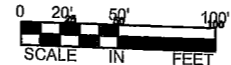
STRIPING KEY

- △ TRIANGLE - PAINT
- ⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



STATION 65+00

STATION 80+00



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\Traffic\Full Depth Stage 2.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: SEAN R. THIEL DATE: 4/26/22
 SIGNATURE: *Sean R. Thiel* LICENSE NO. 45129

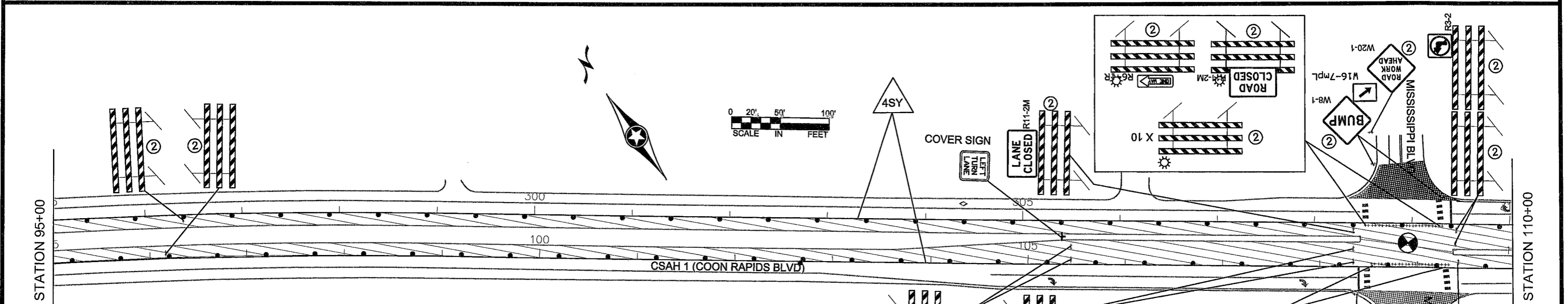
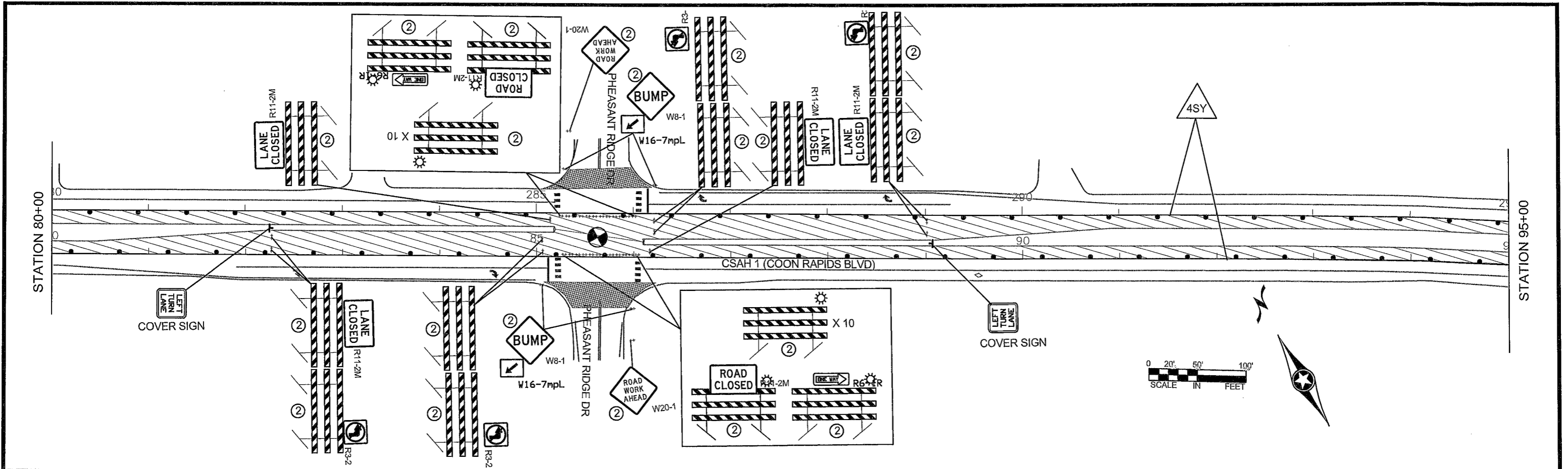
DRAWN BY: TMV DATE: 04/18/22
 DESIGN BY: _____ DATE: _____
 CHECKED BY: SRT DATE: 04/21/22



ANOKA COUNTY
 HIGHWAY DEPT.

SAP 002-601-059

TRAFFIC CONTROL
 STAGE 2
 SHEET 43 OF 87 SHEETS



STRIPING KEY

- TRIANGLE - PAINT
- PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

- CONSTRUCTION THIS STAGE
- TO BE CONSTRUCTED UNDER TRAFFIC

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\22-01-00\CSAH_01_(111th-7th)\BaselTraffic\Full Depth Stage 2.dwg					

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SIGNATURE: *Sean R. Thiel* LICENSE NO. 45129

DRAWN BY: TMV DATE: 04/18/22

DESIGN BY: DATE:

CHECKED BY: SRT DATE: 04/21/22

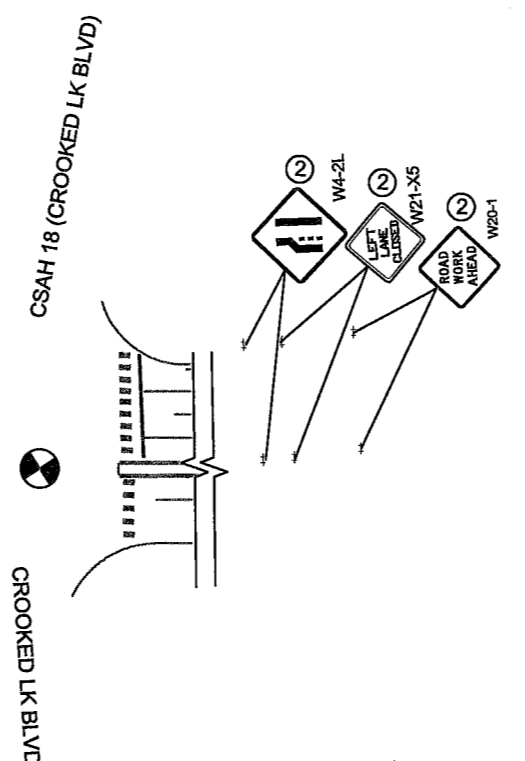
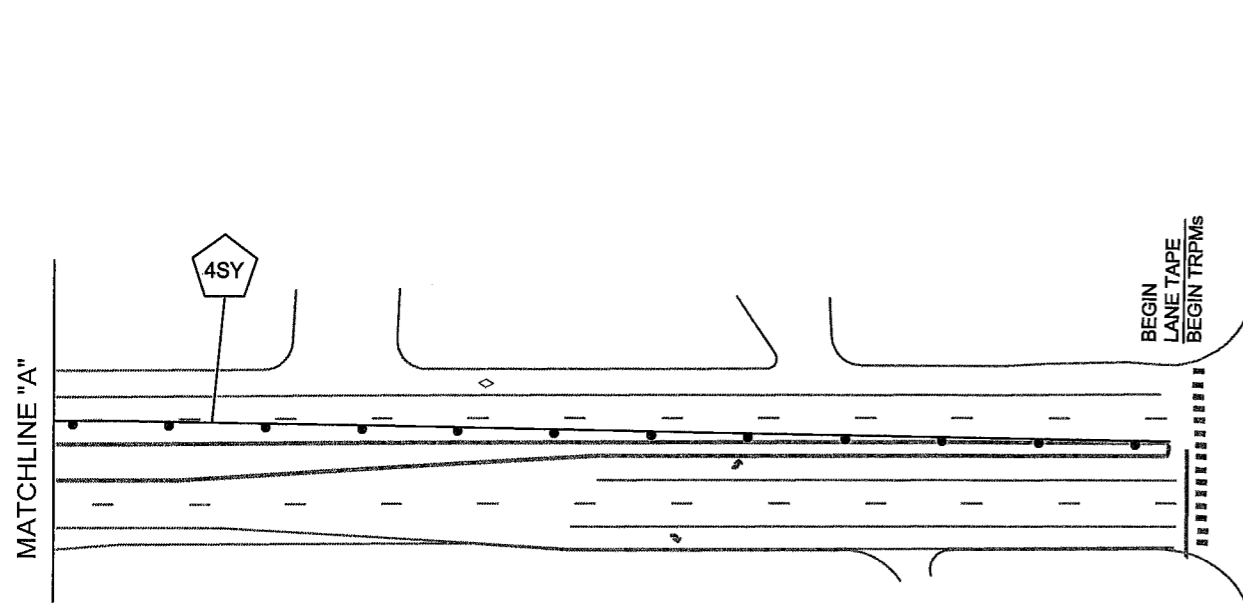
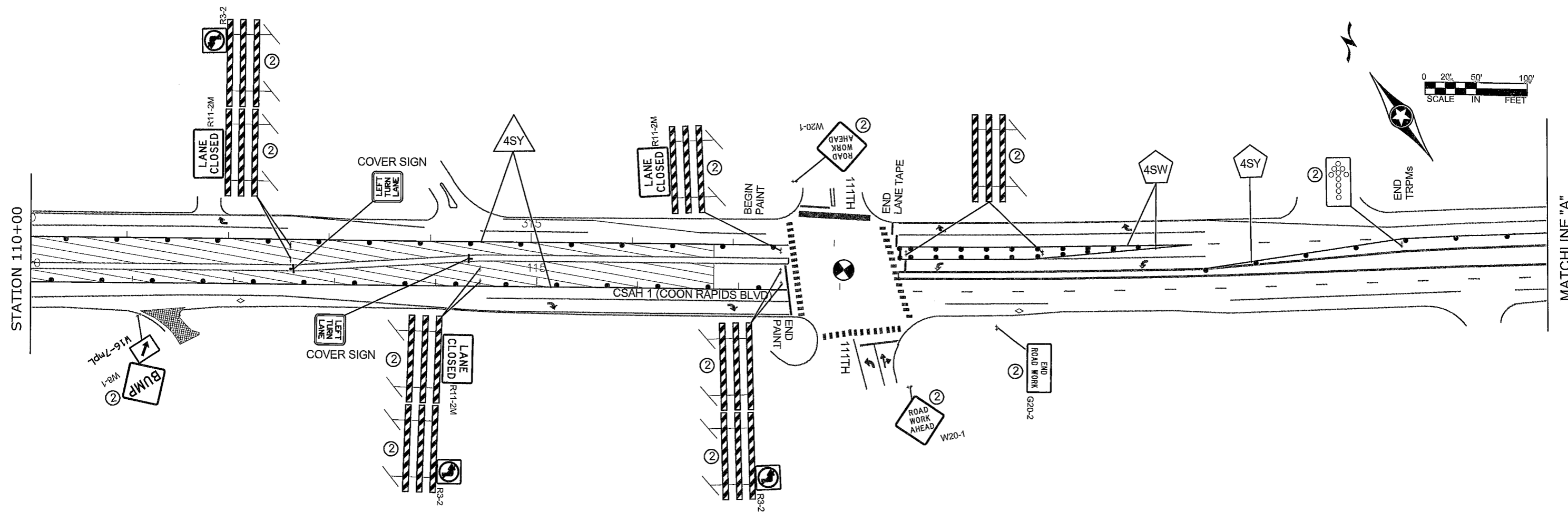


**ANOKA COUNTY
HIGHWAY DEPT.**

SAP 002-601-059

TRAFFIC CONTROL
STAGE 2

SHEET 44 OF 87 SHEETS



STRIPING KEY

△ TRIANGLE - PAINT ▭ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

▨ CONSTRUCTION THIS STAGE
 ▩ TO BE CONSTRUCTED UNDER TRAFFIC

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\Traffic\Full Depth Stage 2.dwg

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DRAWN BY: TMV DATE: 04/18/22

DESIGN BY: DATE:

CHECKED BY: SRT DATE: 04/21/22

ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-601-059

TRAFFIC CONTROL
 STAGE 2

SHEET 45 OF 87 SHEETS

STAGE 3 CONSTRUCTION NOTES (TYP.)

1. WORK IN THIS STAGE CONSISTS OF 7" BITUMINOUS MILL, CONCRETE REMOVAL, COMMON EXCAVATION TO ACHIEVE A 7" SECTION, GRADING OF GRAVEL BASE AND ONE LIFT OF BITUMINOUS BASE.
2. WORK IN THIS STAGE OCCURS IN THE CROSSOVER AREA, BETWEEN 9TH AVENUE AND MEDIAN CURBAT AT DAKOTAH ST.

STAGE 3 TRAFFIC CONTROL NOTES (TYP.)

1. INSIDE LANES OF EASTBOUND AND WESTBOUND TO HAVE ONLY ONE LIFT OF BITUMINOUS BASE AND WILL REMAIN CLOSED THROUGH STAGE 3.
2. 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".
3. 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.
4. CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
5. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - FIELD MANUAL OF THE SAME MANUAL.
6. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
7. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
8. REMOVE ALL CONFLICTING PAVEMENT MARKINGS WITHIN THE CONSTRUCTION LIMITS. BLACK REMOVABLE PREFORMED PLASTIC MARKING TAPE SHALL BE USED ON ALL CONFLICTING PAVEMENT MARKINGS OUTSIDE OF THE CONSTRUCTION LIMITS AND AS INDICATED ON THE PLAN SHEETS.
9. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
10. WHEN LEFT TURN LANE CLOSURES AT SIGNALIZED INTERSECTIONS, CONTACT ACHD SIGNALS AT LEAST 24 - 48 HRS IN ADVANCE TO COORDINATE SIGNAL SYSTEM OPERATIONS AND/OR BAG LEFT TURN SIGNAL HEAD(S).
11. ACCESS SHALL BE MAINTAINED TO ALL STREETS, DRIVEWAYS AND BUS STOPS IN CONSTRUCTION AREA.
12. DAKOTAH STREET SHALL REMAIN FULL ACCESS INTERSECTION.
13. THE INTERSECTIONS OF BLACKFOOT ST AND ROUND LAKE BLVD CANNOT BE CLOSED AT THE SAME TIME.
14. SIGNALIZED INTERSECTIONS ARE NOT TO BE OPENED TO TRAFFIC UNTIL RAMPING HAS BEEN PLACED.
15. ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ANY REMOVED 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.

TRAFFIC CONTROL KEY:

- ⊙ TUBULAR MARKER
- DRUM
- ++ TEMPORARY TRAFFIC CONTROL SIGN

STRIPING KEY

-  TRIANGLE - PAINT
-  PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

- SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\Traffic\Full Depth Stage 3.dwg					

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 CHECKED BY: SRT DATE: 04/21/22



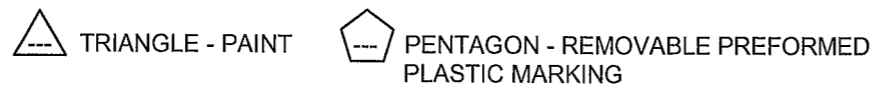
**ANOKA COUNTY
 HIGHWAY DEPT.**

SAP 002-601-059

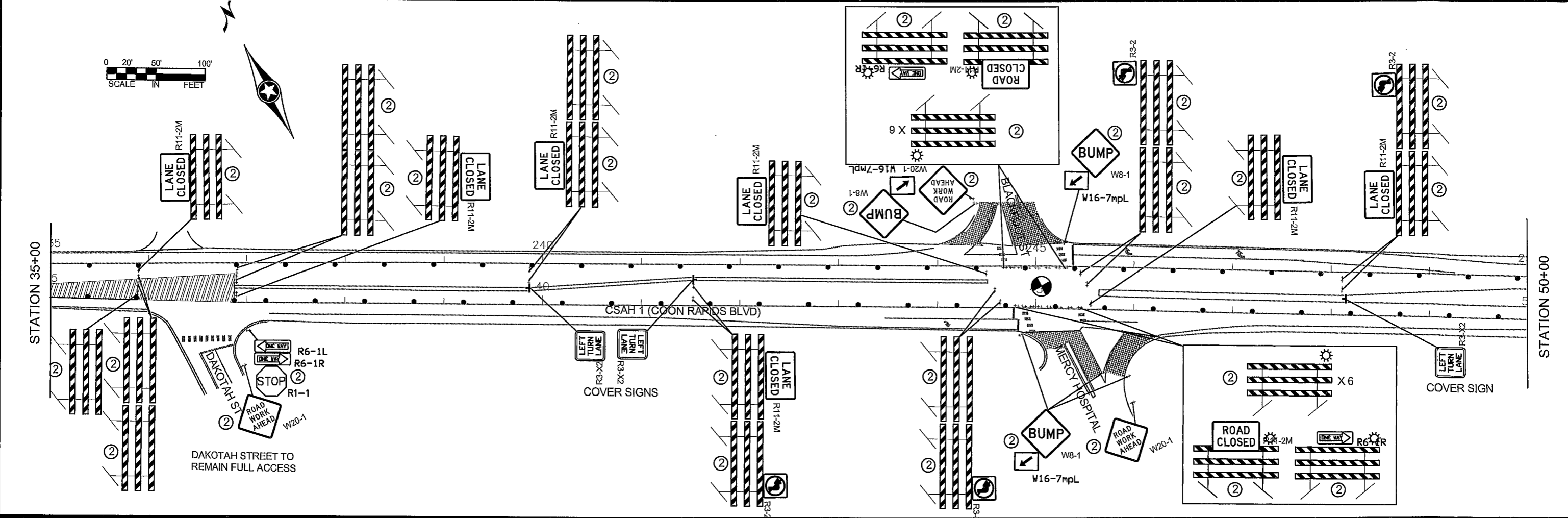
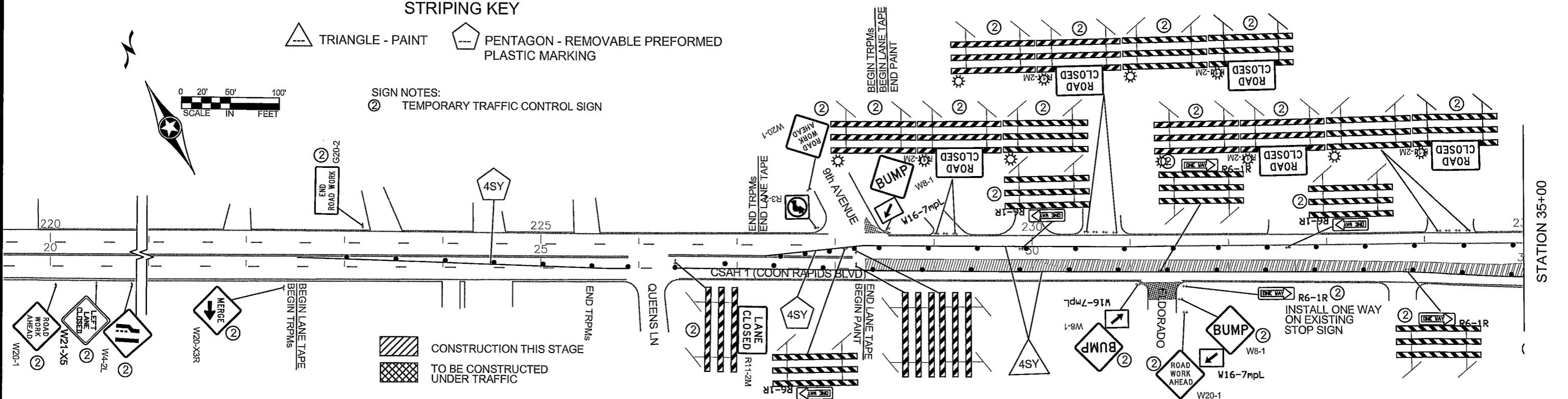
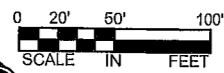
TRAFFIC CONTROL
 STAGE 3

SHEET 46 OF 87 SHEETS

STRIPING KEY



SIGN NOTES:
② TEMPORARY TRAFFIC CONTROL SIGN



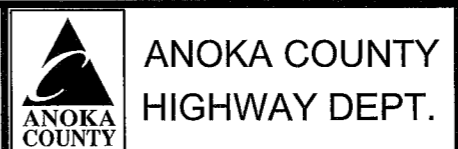
NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\22-01-00\CSAH_01_(111th-7th)\BaseTrafficFull Depth Stage 3.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.

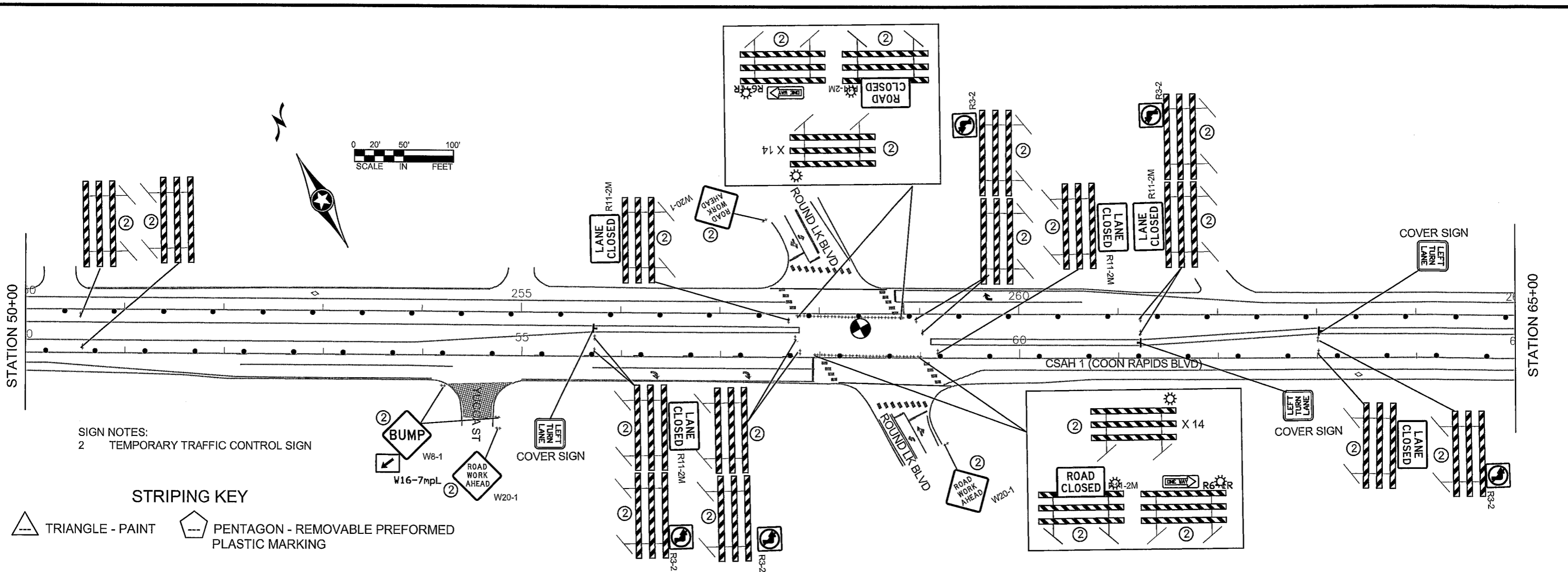
PRINT NAME: SEAN R. THIEL DATE: 4/26/22
SIGNATURE: *Sean R. Thiel* LICENSE NO. 45129

DRAWN BY: TMV DATE: 04/20/22
DESIGN BY: DATE: _____
CHECKED BY: SRT DATE: 04/21/22



SAP 002-601-059

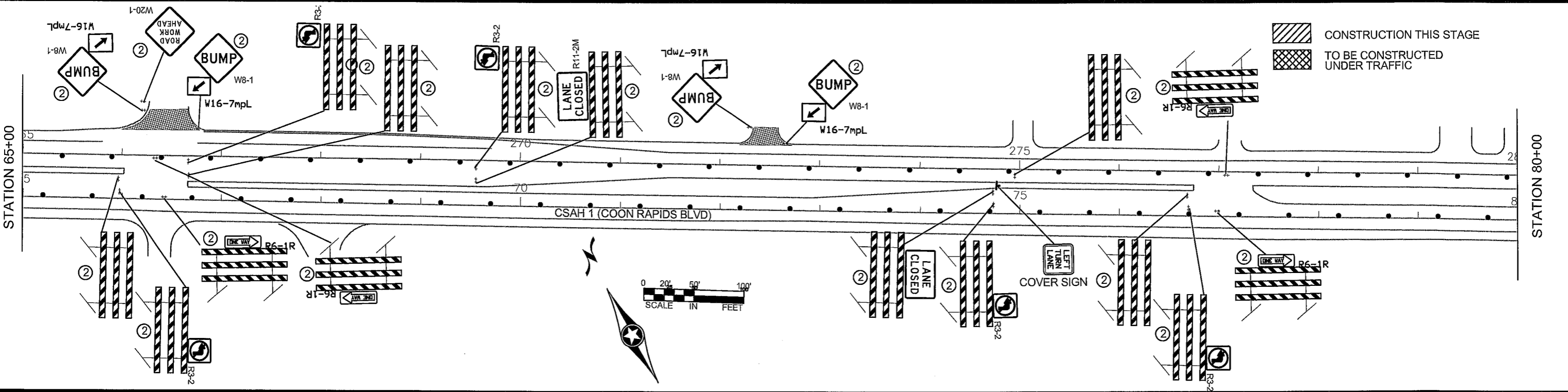
TRAFFIC CONTROL
STAGE 3
SHEET 47 OF 87 SHEETS



SIGN NOTES:
2 TEMPORARY TRAFFIC CONTROL SIGN

STRIPING KEY

- TRIANGLE - PAINT
- PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



- CONSTRUCTION THIS STAGE
- TO BE CONSTRUCTED UNDER TRAFFIC

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\TrafficFull Depth Stage 3.dwg					

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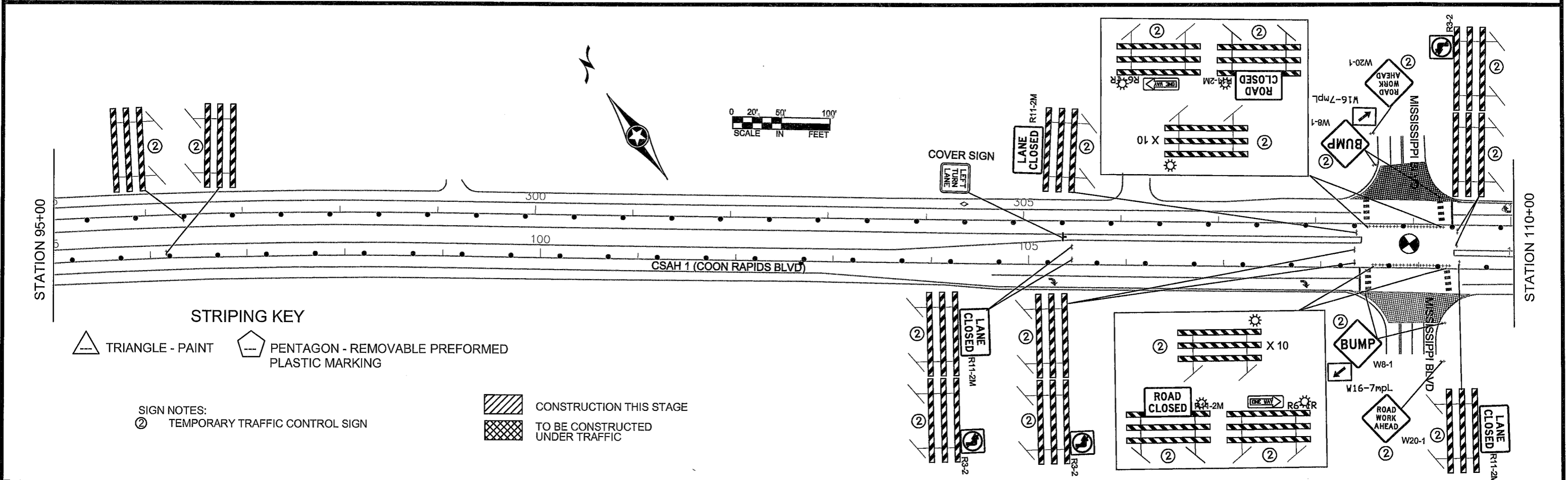
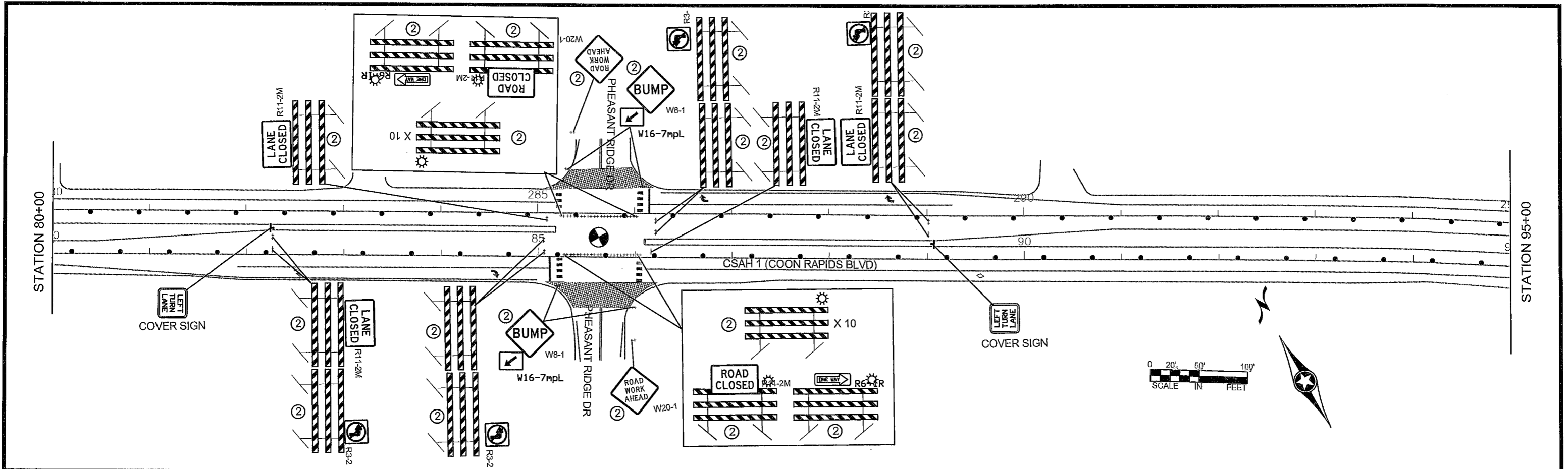
CHECKED BY: SRT DATE: 04/21/22

ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-601-059

TRAFFIC CONTROL
STAGE 3

SHEET 48 OF 87 SHEETS



NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\Traffic\Full Depth Stage 3.dwg					

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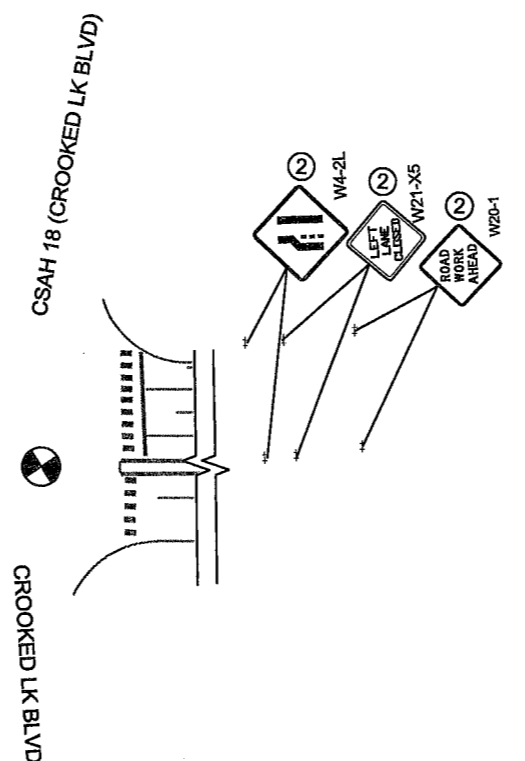
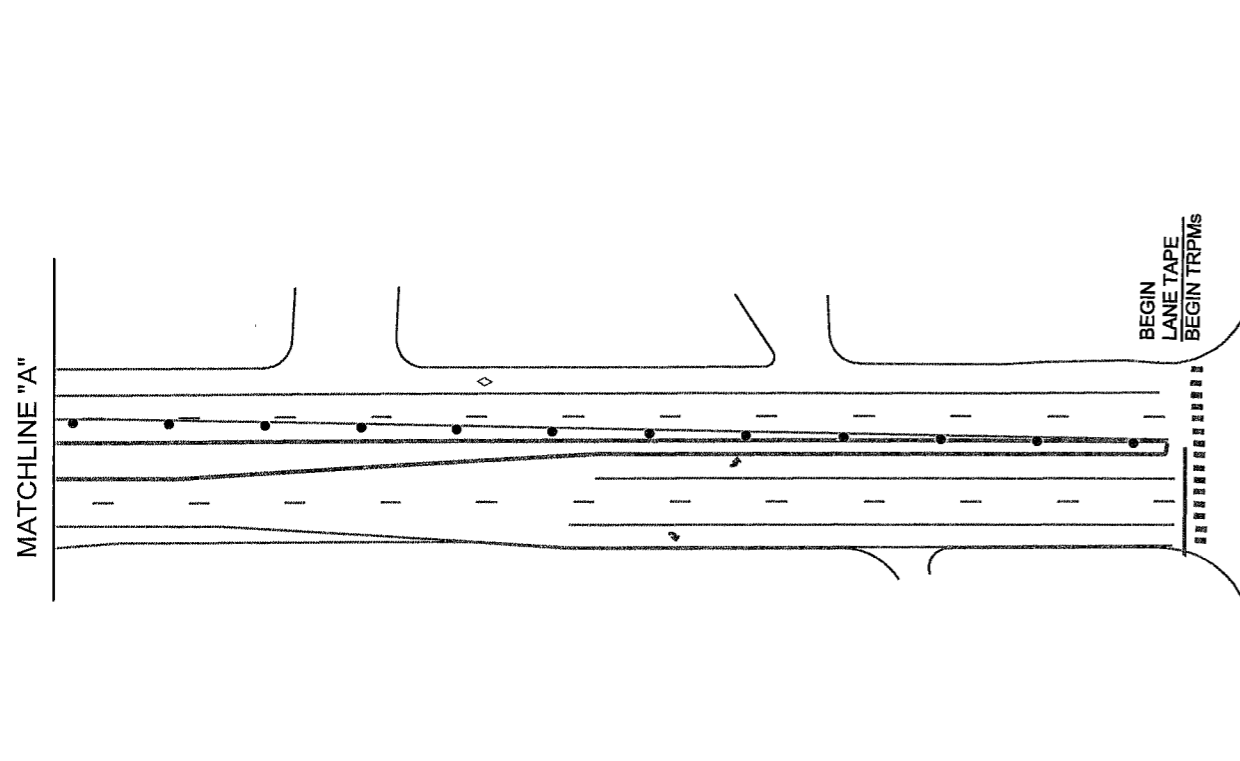
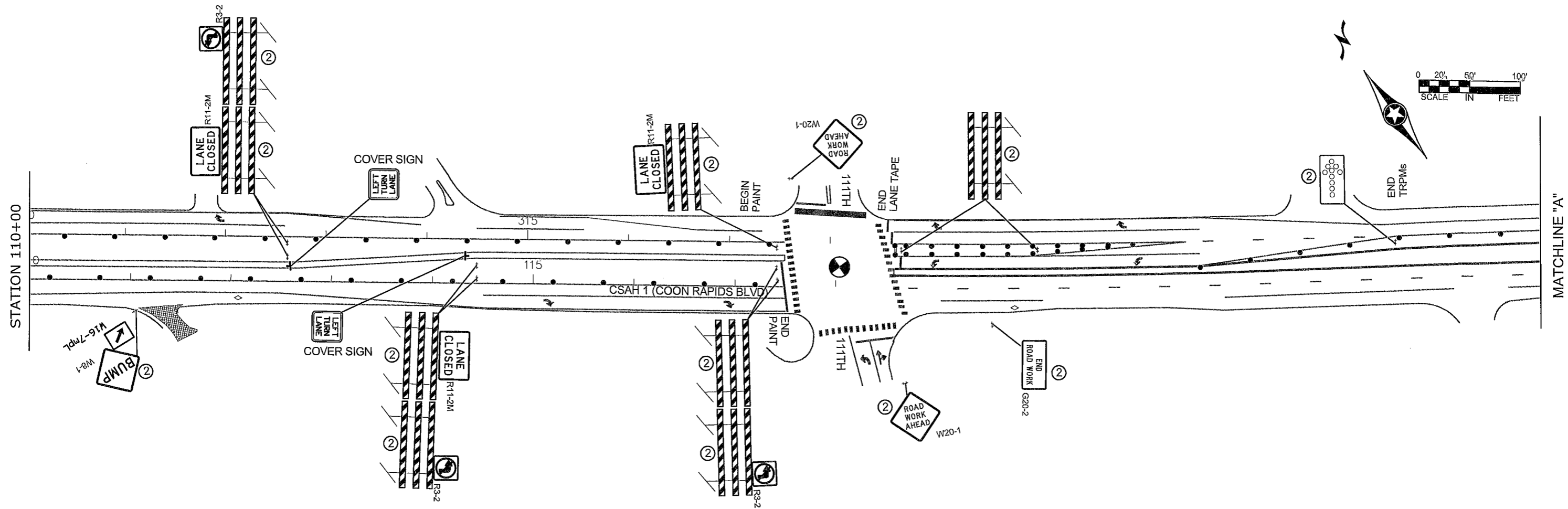
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SAP 002-601-059

TRAFFIC CONTROL STAGE 3

SHEET 49 OF 87 SHEETS



STRIPING KEY

△ TRIANGLE - PAINT ▭ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

SIGN NOTES:

② TEMPORARY TRAFFIC CONTROL SIGN

▨ CONSTRUCTION THIS STAGE

▩ TO BE CONSTRUCTED UNDER TRAFFIC

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\Traffic\Full Depth Stage 3.dwg					

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CHECKED BY: SRT DATE: 04/21/22



ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-601-059

TRAFFIC CONTROL
STAGE 3

SHEET 50 OF 87 SHEETS

STAGE 4 CONSTRUCTION NOTES (TYP.)

1. WORK IN THIS STAGE CONSISTS OF 6" BITUMINOUS MILL, RECLAMATION OF REMAINING BITUMINOUS, COMMON EXCAVATION TO ACHIEVE A 7" SECTION, GRADING OF GRAVEL BASE, LOOP REPLACEMENT, AND ONE LIFT OF BITUMINOUS BASE AND ONE LIFT OF BITUMINOUS BINDER.. LOOPS TO BE PLACED IN GRAVEL.
2. WORK IN THIS STAGE IS ON THE OUTSIDE LANES OF EASTBOUND AND WESTBOUND.

STAGE 4 TRAFFIC CONTROL NOTES (TYP.)

1. 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".
2. 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.
3. CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
4. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - FIELD MANUAL OF THE SAME MANUAL.
5. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
6. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
7. REMOVE ALL CONFLICTING PAVEMENT MARKINGS WITHIN THE CONSTRUCTION LIMITS. BLACK REMOVABLE PREFORMED PLASTIC MARKING TAPE SHALL BE USED ON ALL CONFLICTING PAVEMENT MARKINGS OUTSIDE OF THE CONSTRUCTION LIMITS AND AS INDICATED ON THE PLAN SHEETS.
8. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
9. ACCESS SHALL BE MAINTAINED TO ALL STREETS, DRIVEWAYS AND BUS STOPS IN CONSTRUCTION AREA.
10. DAKOTAH STREET SHALL REMAIN FULL ACCESS INTERSECTION.
11. ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ANY REMOVED 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.

TRAFFIC CONTROL KEY:

- ⊙ TUBULAR MARKER
- DRUM
- ++ TEMPORARY SIGN

STRIPING KEY

-  TRIANGLE - PAINT
-  PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

SIGN NOTES:

- ② TEMPORARY TRAFFIC CONTROL SIGN

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\Traffic\Full Depth Stage 4.dwg					

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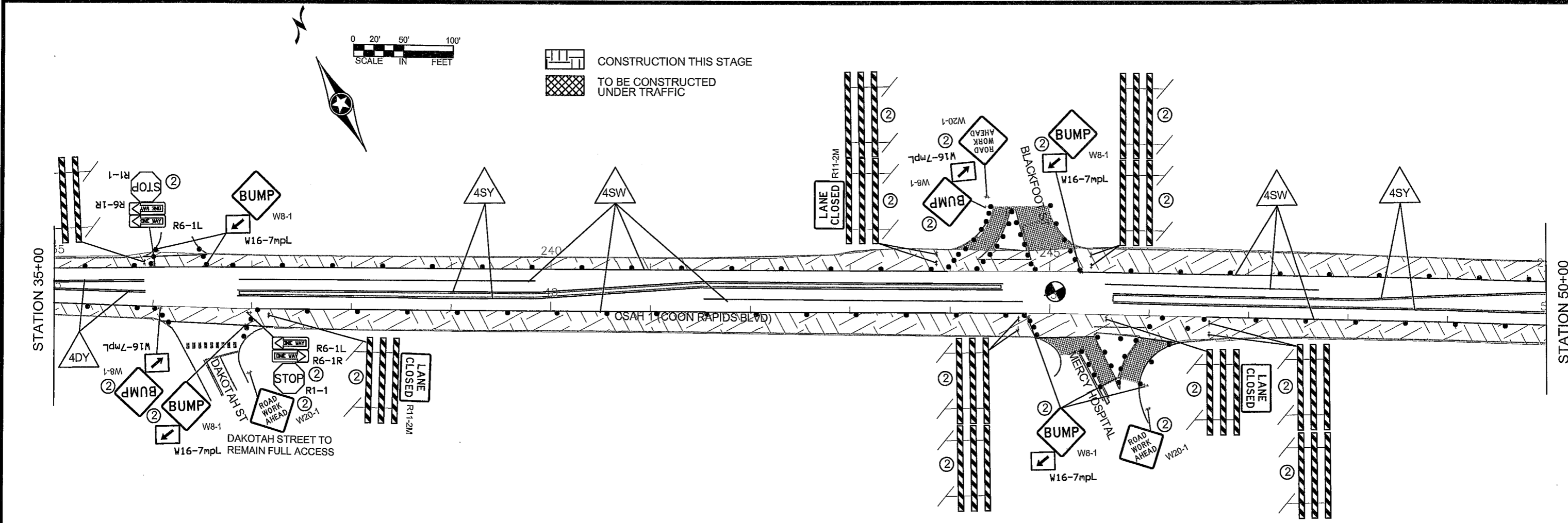
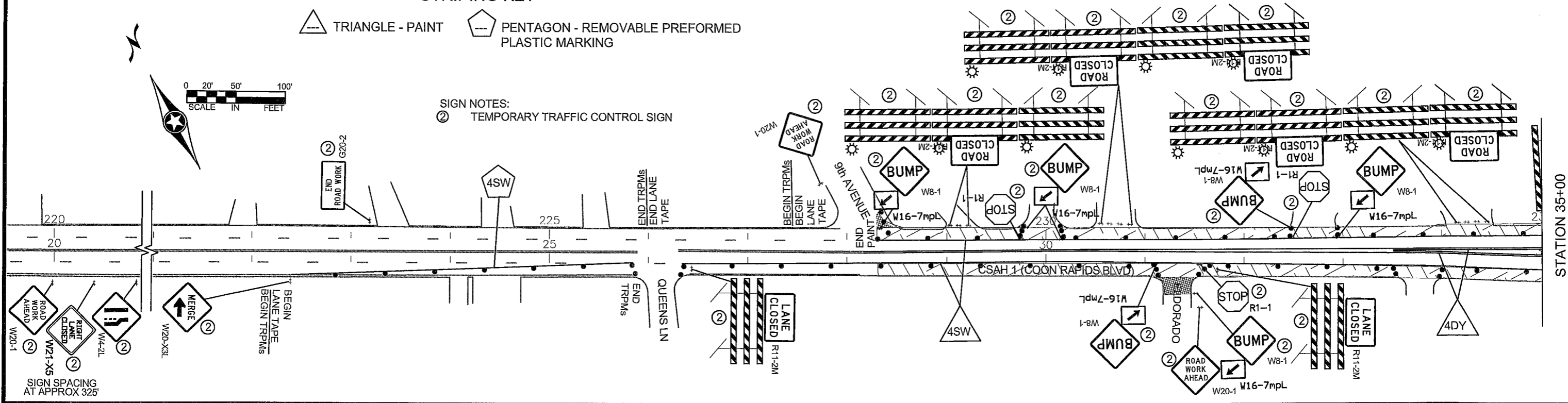
TRAFFIC CONTROL
 STAGE 4

SHEET 51 OF 87 SHEETS

STRIPING KEY

- △ TRIANGLE - PAINT
- ⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN



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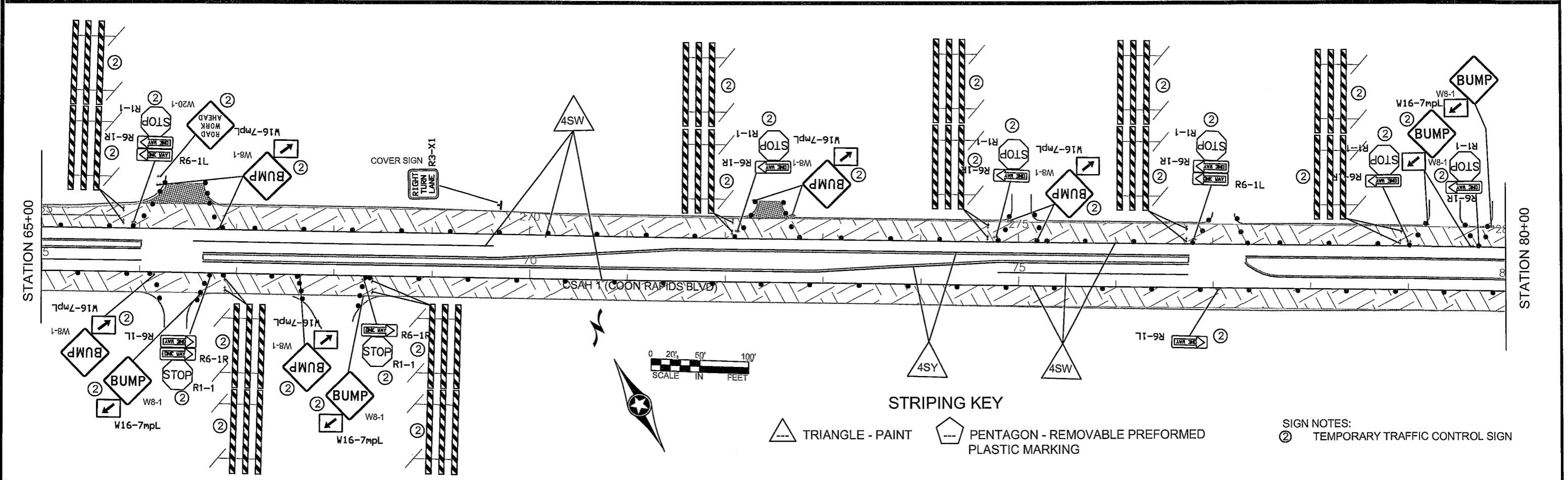
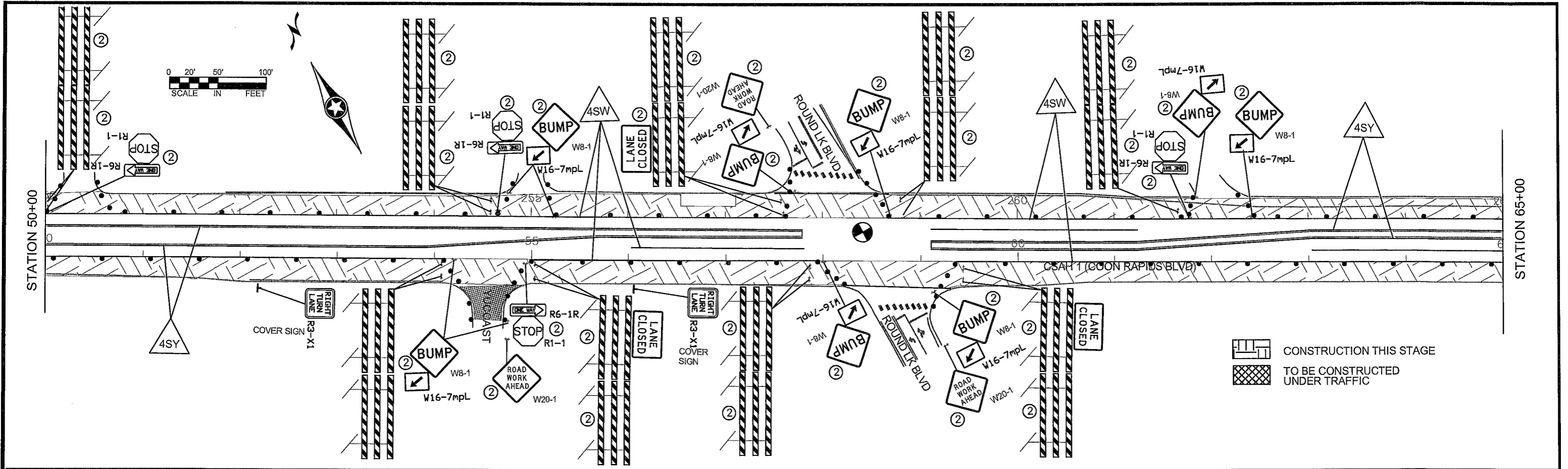
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

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TRAFFIC CONTROL
 STAGE 4

SHEET 52 OF 87 SHEETS



 CONSTRUCTION THIS STAGE
 TO BE CONSTRUCTED UNDER TRAFFIC

STRIPING KEY

-  TRIANGLE - PAINT
-  PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

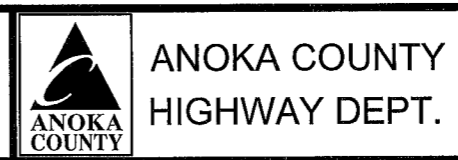
SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\Traffic\Full Depth Stage 4.dwg

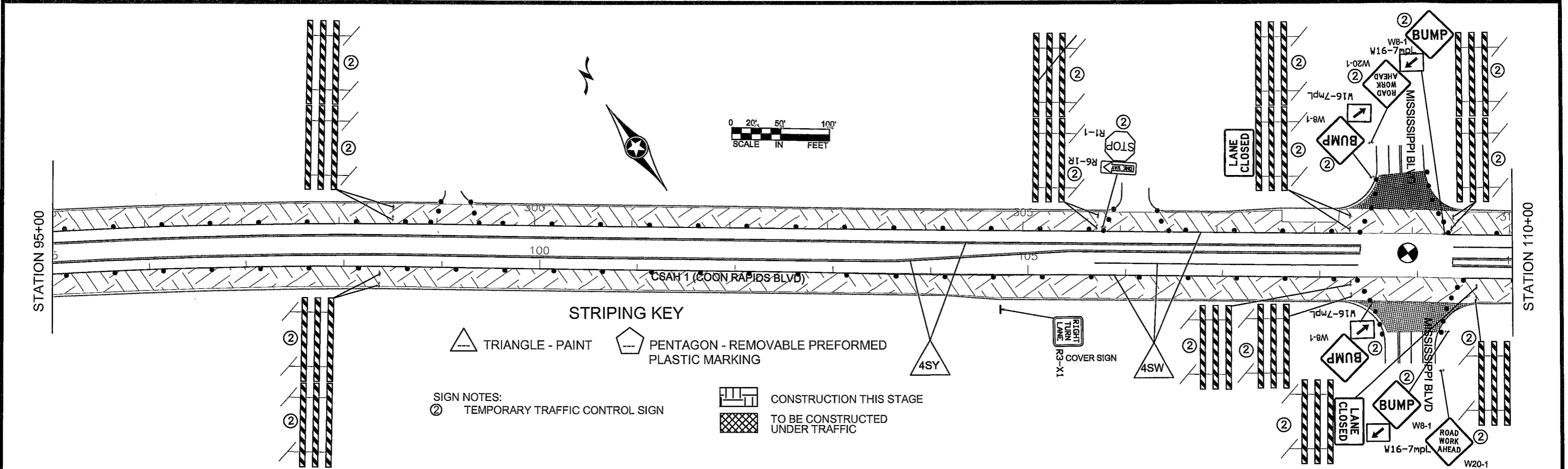
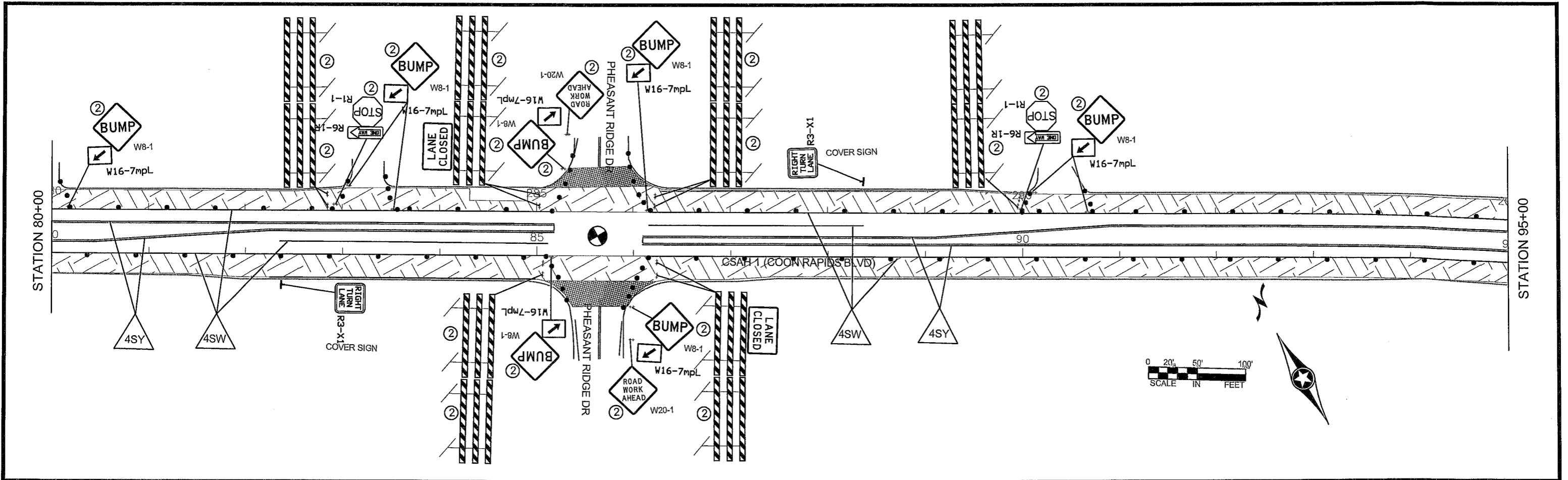
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SAP 002-601-059

TRAFFIC CONTROL
 STAGE 4
 SHEET 53 OF 87 SHEETS



NO	DATE	BY	CKD	APPR	REVISION

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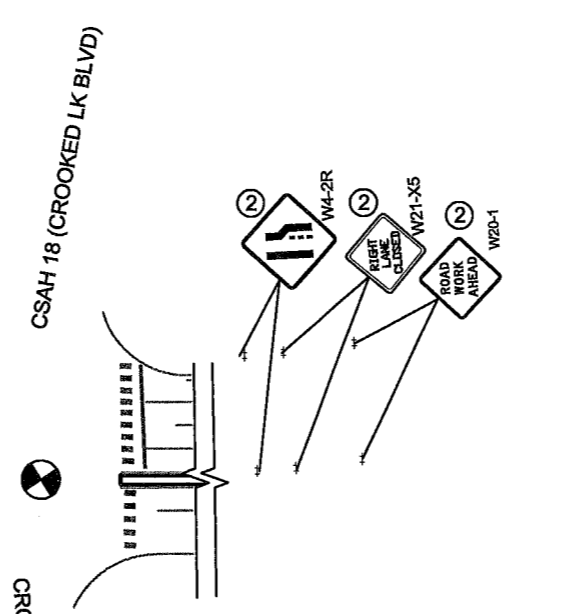
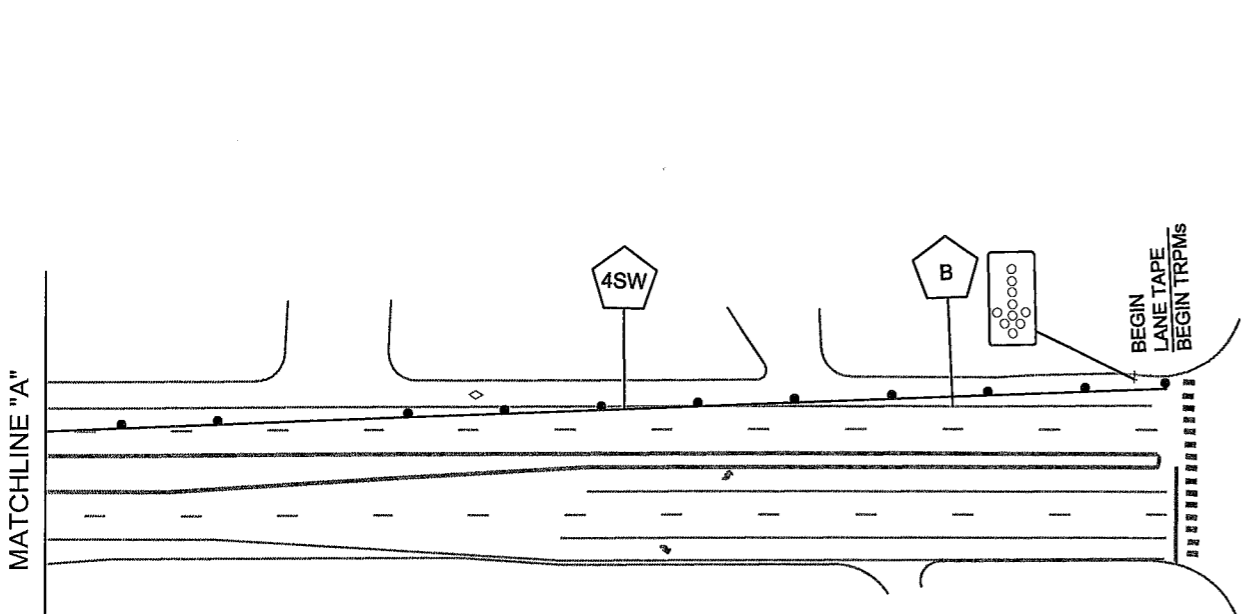
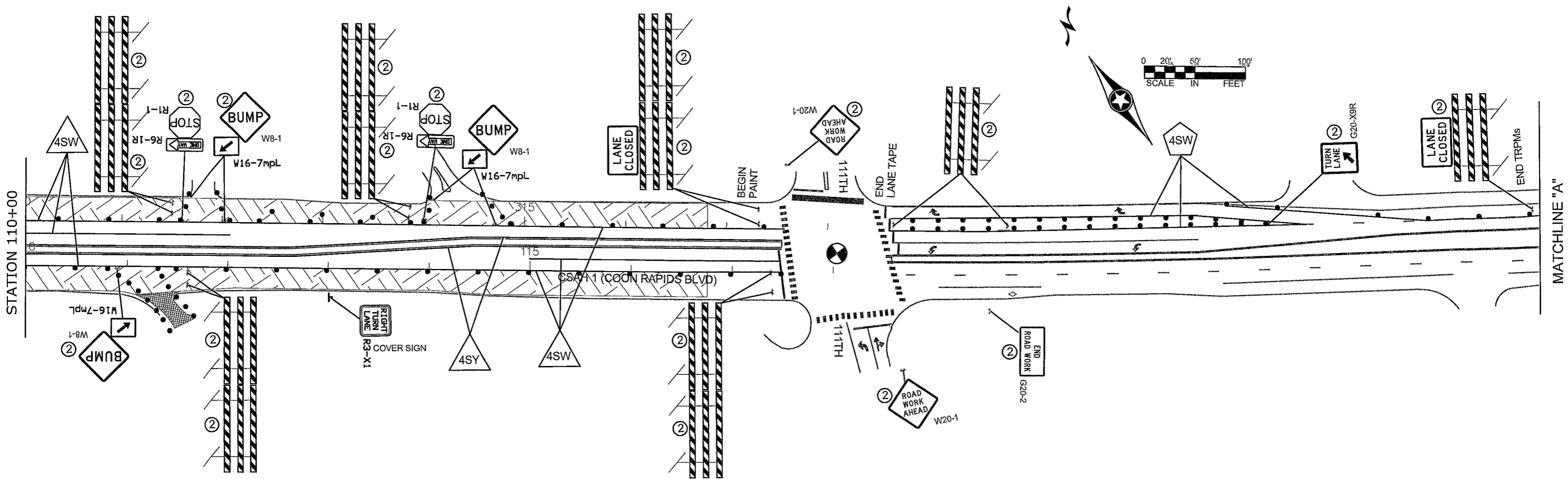
CHECKED BY: SRT DATE: 04/22/22

ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-601-059

TRAFFIC CONTROL
STAGE 4

SHEET 54 OF 87 SHEETS



STRIPING KEY

TRIANGLE - PAINT
 PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

SIGN NOTES:

TEMPORARY TRAFFIC CONTROL SIGN

CONSTRUCTION THIS STAGE
 TO BE CONSTRUCTED UNDER TRAFFIC

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\Traffic\Full Depth Stage 4.dwg

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**ANOKA COUNTY
HIGHWAY DEPT.**

SAP 002-601-059

TRAFFIC CONTROL
STAGE 4

SHEET 55 OF 87 SHEETS

STAGE 5 CONSTRUCTION NOTES (TYP.)

1. WORK IN THIS STAGE CONSISTS OF FINAL PAVING OVER ENTIRE PROJECT LIMITS THAT WAS ENCOMPASSED WITH STAGES 1-4. PAVING OPERATIONS TO BE UNDER TRAFFIC IN A MOVING OPERATION.

STAGE 5 TRAFFIC CONTROL NOTES (TYP.)

1. 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".
2. 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.
3. CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
4. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - FIELD MANUAL OF THE SAME MANUAL.
5. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
6. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
7. ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ANY REMOVED 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.
8. TEMPORARY YELLOW CENTERLINE AND LANE DESIGNATION SKIPS TO BE APPLIED EVERY 50' AS SOON AS POSSIBLE ON NEWLY PAVED SURFACE. SKIPS MUST BE INPLACE PRIOR TO OPENING TO TRAFFIC AND BEFORE THE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE TEMPORARY PAVEMENT MARKINGS PRIOR TO FINAL STRIPING OCCURS.
9. ACCESS SHALL BE MAINTAINED TO ALL STREETS, DRIVEWAYS AND BUS STOPS IN CONSTRUCTION AREA.
10. DAKOTAH STREET SHALL REMAIN FULL ACCESS INTERSECTION.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\22-01-00\CSAH_01_(111th-7th)\Base\Traffic\Full Depth Stage 5.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: SEAN R. THIEL DATE: 4/26/22

SIGNATURE: *Sean R. Thiel* LICENSE NO. 45129

DRAWN BY TMV DATE 04/22/22

DESIGN BY _____ DATE _____

CHECKED BY SRT DATE 04/22/22



ANOKA COUNTY
HIGHWAY DEPT.

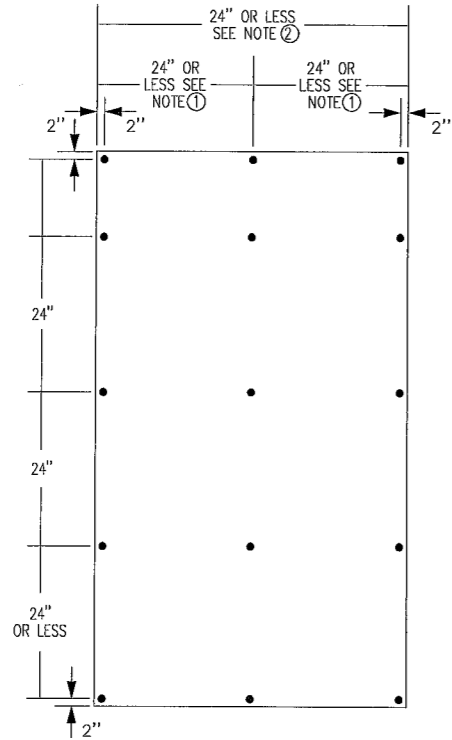
SAP 002-601-059

TRAFFIC CONTROL
STAGE 5

SHEET 56 OF 87 SHEETS

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3	QTY. STG. 4	QTY. STG. 5	M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3	QTY. STG. 4	QTY. STG. 5	M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3	QTY. STG. 4	QTY. STG. 5																																																																										
R6-1R	36" x 12"	ONE WAY	19	1	2	19	0	G20-X9R	30" X 36"	TURN LANE	10	0	0	1	0	ARROWBOARD			1	0	0	1	0																																																																										
R6-1R	36" x 12"	ONE WAY	5	1	1	5	0	R3-2	36" x 36"		0	24	24	0	0				0	1	1	0	0																																																																										
R1-1	30" x 30"	STOP	21	1	1	22	0	R6-1R	54" x 18"	ONE WAY	0	12	17	0	0	WEIGHTED CHANNELIZER			4	0	0	0	0																																																																										
R4-7	12" x 18"		2	0	0	0	0	R11-2	48" x 30"	LANE CLOSED	0	25	25	19	0	REFLECTORIZED REBOUNDABLE DRUM			752	390	390	643	AS NEEDED																																																																										
R6-1L	36" x 12"	ONE WAY	1	0	0	1	0	R11-2	48" X 30"	ROAD CLOSED	2	10	10	3	0	CMS sign to be installed a minimum of ten days prior to actual commencement of road work. At commencement of work, signs to remain in place for the duration of work.			2	0	0	0	0																																																																										
W1-4R	48" x 48"		2	0	0	0	0	FLASHER			5	101	98	6	0	<table border="1"> <thead> <tr> <th colspan="3">TEMPORARY PAVEMENT MARKING TABULATION</th> </tr> </thead> <tbody> <tr> <td>PAVEMENT MARKING REMOVAL 4" BROKEN LINE WHITE PAINT</td> <td>LIN FT</td> <td>18320</td> </tr> <tr> <td>PAVEMENT MARKING REMOVAL 4" SOLID LINE WHITE PAINT</td> <td>LIN FT</td> <td>3778</td> </tr> <tr> <td>PAVEMENT MARKING REMOVAL 4" DOUBLE LINE YELLOW PAINT</td> <td>LIN FT</td> <td>747</td> </tr> <tr> <td>PAVEMENT MARKING REMOVAL 24" SOLID YELLOW POLY PREFORM</td> <td>LIN FT</td> <td>57</td> </tr> <tr> <td>1 TEMPORARY RAISED PAVEMENT MARKER</td> <td>EACH</td> <td>213</td> </tr> <tr> <td>REMOVABLE BLASK MASK</td> <td>LIN FT</td> <td>395</td> </tr> <tr> <td>REMOVABLE POLY PREFORM MARKING (4" WHITE)</td> <td>LIN FT</td> <td>4813</td> </tr> <tr> <td>REMOVABLE POLY PREFORM MARKING (4" YELLOW)</td> <td>LIN FT</td> <td>2385</td> </tr> <tr> <td>4" SOLID LINE WHITE - PAINT</td> <td>LIN FT</td> <td>38726</td> </tr> <tr> <td>4" SOLID LINE YELLOW - PAINT</td> <td>LIN FT</td> <td>19179</td> </tr> <tr> <td>4" SOLID LINE DOUBLE YELLOW - PAINT</td> <td>LIN FT</td> <td>842</td> </tr> <tr> <td>PORTABLE CHANGEABLE MESSAGE SIGN</td> <td>UDAY</td> <td>20</td> </tr> </tbody> </table>						TEMPORARY PAVEMENT MARKING TABULATION			PAVEMENT MARKING REMOVAL 4" BROKEN LINE WHITE PAINT	LIN FT	18320	PAVEMENT MARKING REMOVAL 4" SOLID LINE WHITE PAINT	LIN FT	3778	PAVEMENT MARKING REMOVAL 4" DOUBLE LINE YELLOW PAINT	LIN FT	747	PAVEMENT MARKING REMOVAL 24" SOLID YELLOW POLY PREFORM	LIN FT	57	1 TEMPORARY RAISED PAVEMENT MARKER	EACH	213	REMOVABLE BLASK MASK	LIN FT	395	REMOVABLE POLY PREFORM MARKING (4" WHITE)	LIN FT	4813	REMOVABLE POLY PREFORM MARKING (4" YELLOW)	LIN FT	2385	4" SOLID LINE WHITE - PAINT	LIN FT	38726	4" SOLID LINE YELLOW - PAINT	LIN FT	19179	4" SOLID LINE DOUBLE YELLOW - PAINT	LIN FT	842	PORTABLE CHANGEABLE MESSAGE SIGN	UDAY	20																																					
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W4-2R	48" x 48"		1	3	3	0	0	W8-11	48" x 48"	UNEVEN LANES	AS NEEDED	AS NEEDED	AS NEEDED	AS NEEDED	AS NEEDED	<p>1 - SPACED EVERY 10 FEET</p>																																																																																	
W4-2R	48" x 48"		2	0	0	3	0	W8-12	48" x 48"	NO CENTER LINE	AS NEEDED	AS NEEDED	AS NEEDED	AS NEEDED	AS NEEDED							<p>CHANGEABLE MESSAGE BOARD - MESSAGE SEQUENCE LAYOUT</p>																																																																											
W6-3	48" x 48"		2	0	0	0	0	W20-7	48" x 48"		AS NEEDED	AS NEEDED	AS NEEDED	AS NEEDED	AS NEEDED	<p>CMS sign to be installed a minimum of ten days prior to actual commencement of road work.</p>																																																																																	
W8-1	48" x 48"	BUMP	23	23	23	55	AS NEEDED				AS NEEDED	AS NEEDED	AS NEEDED	AS NEEDED	<p>ROAD WORK BEGINS</p>																																																																																		
W16-7mpl	30" x 18"		23	23	23	55	NEEDED				AS NEEDED	AS NEEDED	AS NEEDED	AS NEEDED							<p>ROAD WORK EXPECT DELAYS</p>																																																																												
W20-1	48" x 48"	ROAD WORK AHEAD	18	18	18	18	18				AS NEEDED	AS NEEDED	AS NEEDED	AS NEEDED	<p>ROAD WORK BEGINS</p>																																																																																		
W20-5	48" x 48"	RIGHT LANE CLOSED	2	0	0	3	0				AS NEEDED	AS NEEDED	AS NEEDED	AS NEEDED							<p>ROAD WORK EXPECT DELAYS</p>																																																																												
W20-5	48" x 48"	LEFT LANE CLOSED	1	3	3	0	0				AS NEEDED	AS NEEDED	AS NEEDED	AS NEEDED	<p>ROAD WORK BEGINS</p>																																																																																		
W20-X3R	48" x 48"	MERGE	1	1	1	0	0				AS NEEDED	AS NEEDED	AS NEEDED	AS NEEDED							<p>ROAD WORK EXPECT DELAYS</p>																																																																												
W20-X3L	48" x 48"	MERGE	0	0	0	1	0				AS NEEDED	AS NEEDED	AS NEEDED	AS NEEDED	<p>ROAD WORK BEGINS</p>																																																																																		
G20-2A	48" x 24"	END ROAD WORK	2	2	2	2	2	R10-6	24" x 36"	STOP HERE ON RED	AS NEEDED	AS NEEDED	AS NEEDED	AS NEEDED							AS NEEDED	<p>ROAD WORK BEGINS</p>																																																																											
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NOTES:
 • ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
 • ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M.U.T.C.D.



OVERLAY ASSEMBLY STEPS FOR COVERING COMPLETE OR PORTION OF EXTRUDED SIGN PANEL:

- 1) DRILL 1/4" HOLES ON THE SHEET ALUMINUM OVERLAYS IN ACCORDANCE WITH THE HOLE SPACING ON THE DIAGRAM. OUTSIDE HOLES SHALL NOT BE SPACED MORE THAN 24" APART.
- 2) ATTACH PLASTIC SPACER(S) (1/4" MIN THICKNESS, 3/8" I.D. AND 7/8" O.D.) WITH DOUBLE FACED TAPE, CENTERED BEHIND EACH DRILLED HOLE.
- 3) POSITION THE FIRST OVERLAY PANEL'S BOTTOM EDGE FLUSH WITH THE BOTTOM OF THE INPLACE EXTRUDED SIGN PANEL AND THE OVERLAY PANEL'S LOWER LEFT EDGE FLUSH WITH THE LOWER LEFT EDGE OF THE BOTTOM INPLACE EXTRUDED PANEL SECTION.
- 4) DRILL ALL OF THE OUTSIDE HOLES THROUGH THE INPLACE EXTRUDED SIGN PANEL AND ATTACH THE OVERLAY PANEL WITH SHEET METAL SCREWS.
- 5) DRILL THE INNER HOLES THROUGH THE INPLACE EXTRUDED SIGN PANEL AND ATTACH WITH SHEET METAL SCREWS AS SPECIFIED IN STEP 4 ABOVE.
- 6) ABUT THE NEXT OVERLAY PANEL TO THE FIRST ATTACHED OVERLAY PANEL AND PERFORM THE SAME WORK AS SPECIFIED IN STEPS 4 AND 5 ABOVE.
- 7) PLACE EACH ADDITIONAL OVERLAY PANEL AS SPECIFIED IN STEP 6 ABOVE.

NOTES FOR COVERING COMPLETE OR PORTION OF EXTRUDED SIGN PANEL:

- ① THE CENTER SHEET METAL SCREWS SHALL BE SPACED AT 1/2 OF THE PANELS WIDTH.
- ② IF THE SHEET ALUMINUM PANEL IS GREATER THAN 48" WIDE, THE SHEET METAL SCREWS SPACING SHALL BE NO GREATER THAN 24". IF THE SHEET ALUMINUM PANEL IS LESS THAN 24" WIDE, THERE SHALL BE NO INNER HOLES.
- ③ VERTICAL SPACING FOR THE MOUNTING HOLES IS 50% OF THE PANEL HEIGHT. IF THE PANEL IS LESS THAN 24" HIGH, THERE SHALL BE NO INNER HOLES.
- ④ HORIZONTAL SPACING FOR MOUNTING HOLES SHALL NOT BE LESS THAN 15" NOR MORE THAN 24".

GENERAL NOTES:

SIGN PANEL OVERLAYS SHALL BE MADE OF A RIGID MATERIAL. (SHEET ALUMINUM, PLYWOOD, CORRUGATED PLASTIC, OR OTHER MATERIAL AS APPROVED BY THE ENGINEER), THE INSTALLATION SHALL ALLOW ADEQUATE AIR FLOW BETWEEN THE OVERLAY PANEL AND THE INPLACE SIGN PANEL BY PROVIDING A MINIMUM SPACING OF 1/4" (1" MAXIMUM).

IF SHEET METAL SCREWS ARE USED WITH CORRUGATED PLASTIC, FENDER WASHERS SHALL BE PLACED BETWEEN SCREWS AND PANEL OVERLAY.

SPACERS SHALL BE A MATERIAL THAT WILL NOT HARM THE SIGN SHEETING FACE (SUCH AS PLASTIC OR RUBBER).

ALL COVERING MATERIAL, MOUNTING HARDWARE AND FASTENERS SHALL BE REMOVED WHEN PANEL OVERLAY IS REMOVED.

SIGN PANEL OVERLAYS USED TO COVER ALL OR PART OF A SIGN SHALL BE THE SAME COLOR AS THE BACKGROUND COLOR OF THE SIGN TO BE COVERED AND SHALL COVER ALL OF THE SIGN OR MESSAGE TO BE COVERED UNLESS SHOWN OTHERWISE IN THE PLAN.

TAPE SHALL NOT BE APPLIED TO THE SIGN SHEETING SURFACE. PRE-MASK OR APPLICATION TAPE SHALL BE REMOVED PRIOR TO EXPOSURE TO SUNLIGHT.

OVERLAY ASSEMBLY COVERING TYPE C OR D SIGN PANEL:

A RIGID OPAQUE PANEL OVERLAY, THE OVERLAY PANEL SHOULD BE APPROXIMATELY THE SAME SIZE AS THE SIGN PANEL SUCH THAT THE SIGN MESSAGE IS COMPLETELY COVERED

HOOKS OR PREFORMED STRAPS EXTEND OVER TOP EDGE(S) OF SIGN PANEL

INPLACE SIGN

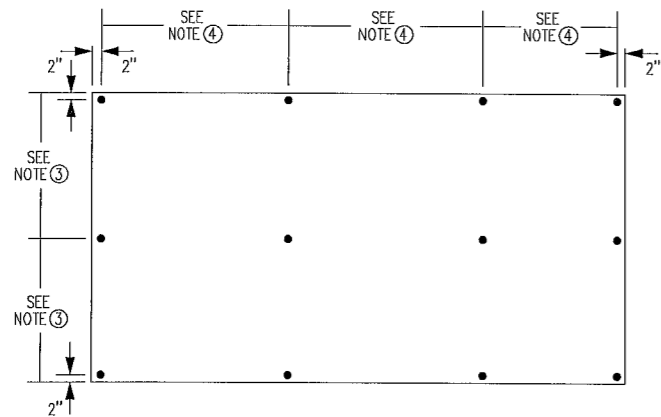
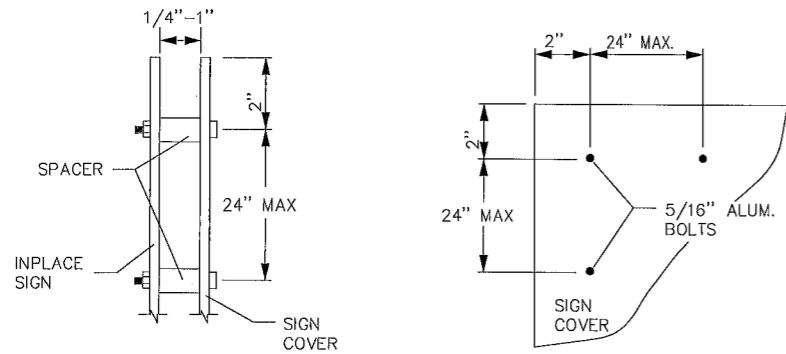
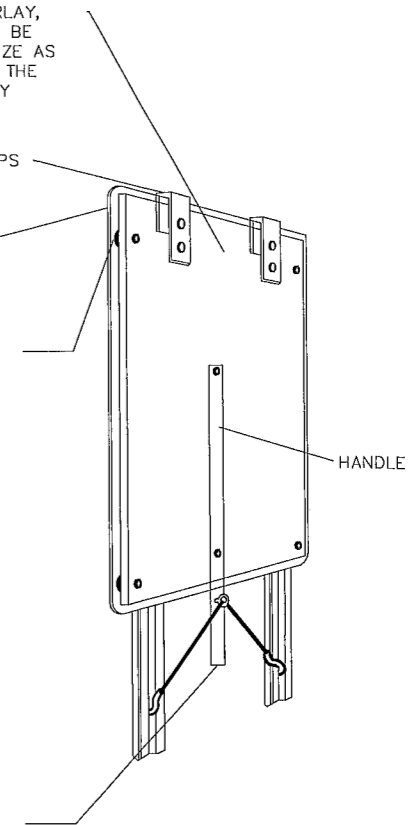
A SPACER IS REQUIRED IN ALL 4 CORNERS TO PROVIDE AIR FLOW GAP BETWEEN THE SIGN FACE AND OVERLAY PANEL

SPACERS SHALL ALLOW BETWEEN 1/4" TO 1" GAP AND BE A MATERIAL THAT WILL NOT HARM THE SIGN SHEETING FACE

ALL FASTENERS (SUCH AS bolts, HOOKS OR SCREWS) SHALL NOT TOUCH THE SIGN SHEETING FACE

THE OVERLAY PANEL SHALL BE ATTACHED TO THE SIGN STRUCTURE SUCH THAT IT WILL NOT MOVE DUE TO WIND

BOTTOM OF HANDLE SHALL BE SECURED TO PREVENT MOVEMENT. BOLT ON HANDLE SHALL BE ATTACHED TO OVERLAY PANEL AS TO NOT DAMAGE INPLACE SIGN PANEL.



NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\22-01-00\CSAH_01_(111TH-71H)\Base\Traffic\Stage Qty.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: SEAN R. THIEL
 SIGNATURE: *Sean R. Thiel*
 DATE: 7/26/22 LICENSE NO. 45129

DRAWN BY: TMV DATE: 04/22/22
 DESIGN BY: DATE: _____
 CHECKED BY: DATE: _____

ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-601-059

**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.

MULTI COMPONENT (MULTI COMP):

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 MULTI COMP PAVEMENT MARKINGS.

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

A MULTI COMP LINE SHALL BE APPLIED WITH A MINIMUM THICKNESS OF 20 MILS (WET) AND 4" WIDE. GLASS BEADS SHALL BE APPLIED AT A MINIMUM RATE OF 25LBS POUNDS 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 FILD 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.

PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE - MULTI COMP	LIN FT	24589
4" BROKEN LINE WHITE - MULTI COMP	LIN FT	3560
4" SOLID LINE YELLOW - MULTI COMP	LIN FT	15022
4" DOUBLE LINE YELLOW - MULTICOMP	LIN FT	1077
24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC (PMS)*	LIN FT	573
24" SOLID LINE YELLOW - PREFORMED THERMOPLASTIC (PMS)*	LIN FT	104
3'X6' ZEBRA CROSSWALK - PREFORMED THERMOPLASTIC	SQ FT	3510
PAVEMENT MESSAGE (LEFT ARROW) - PREFORMED THERMOPLASTIC	SQ FT	279
PAVEMENT MESSAGE (RIGHT ARROW) - PREFORMED THERMOPLASTIC	SQ FT	249
PAVEMENT MESSAGE (BUS) - PREFORMED THERMOPLASTIC	SQ FT	95
PAVEMENT MESSAGE (ONLY) - PREFORMED THERMOPLASTIC	SQ FT	105

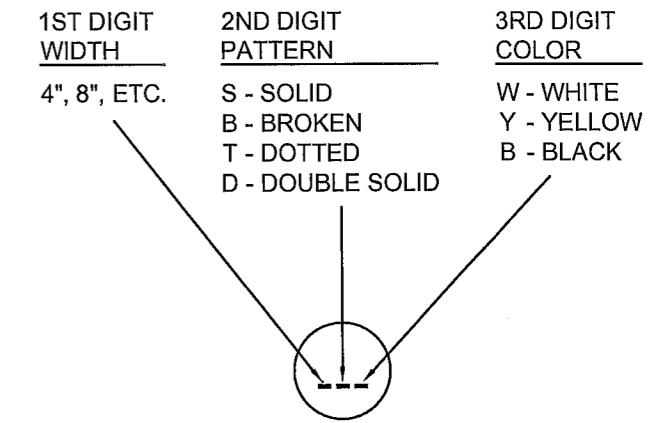
1 - 10' STRIPE, 40' GAP
* PAVEMENT MARKING SPECIAL

SYMBOLS & MATERIALS LEGEND

- CROSSWALK BLOCK WHITE - POLY PREFORM
- ↩ PAVEMENT MESSAGE (LEFT ARROW) POLY PREFORM

STRIPING KEY

- CIRCLE - MULTI COMP
- △ TRIANGLE - PAINT
- SQUARE - POLY PREFORM THERMOPLASTIC
- ⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



EXAMPLE: (4SW) = SOLID LINE WHITE - MULTI COMP

- — BROKEN LINE - 50' CYCLE (10' LINE, 40' GAP)
- - - - DOTTED LINE - 15' CYCLE (3' LINE, 12' GAP) UNLESS SHOWN OTHERWISE IN THE PLAN

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\22-01-00\CSAH_01_(111TH-7TH)\Base\Traffic\Perm Pvmt Mrkg Guide Notes 2021.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: SEAN R. THIEL DATE: 4/26/22

SIGNATURE: *Sean R. Thiel* LICENSE NO. 45129

DRAWN BY: TMV DATE: 02/08/22

DESIGN BY: _____ DATE: _____

CHECKED BY: SRT DATE: 02/23/22

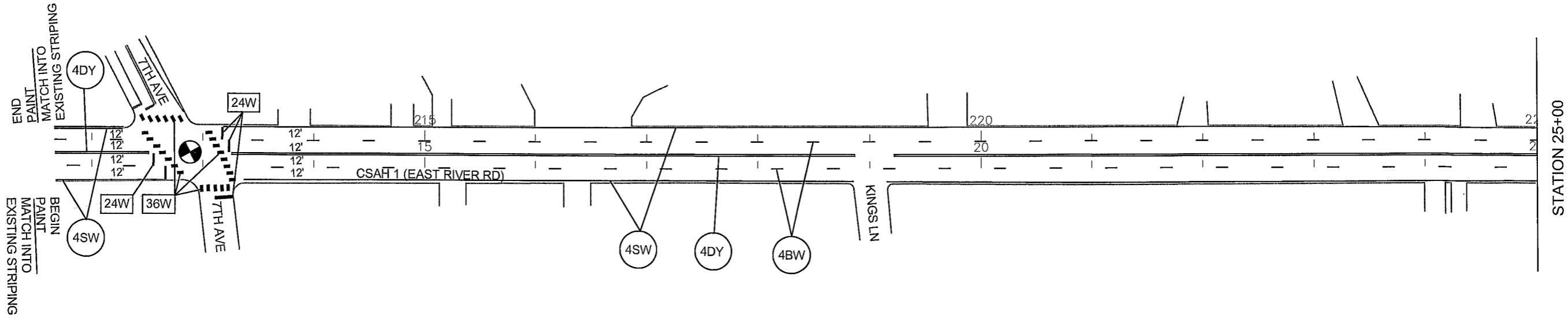


**ANOKA COUNTY
HIGHWAY DEPT.**

SAP 002-601-059

PERMANENT PAVEMENT MARKING PLAN DETAILS

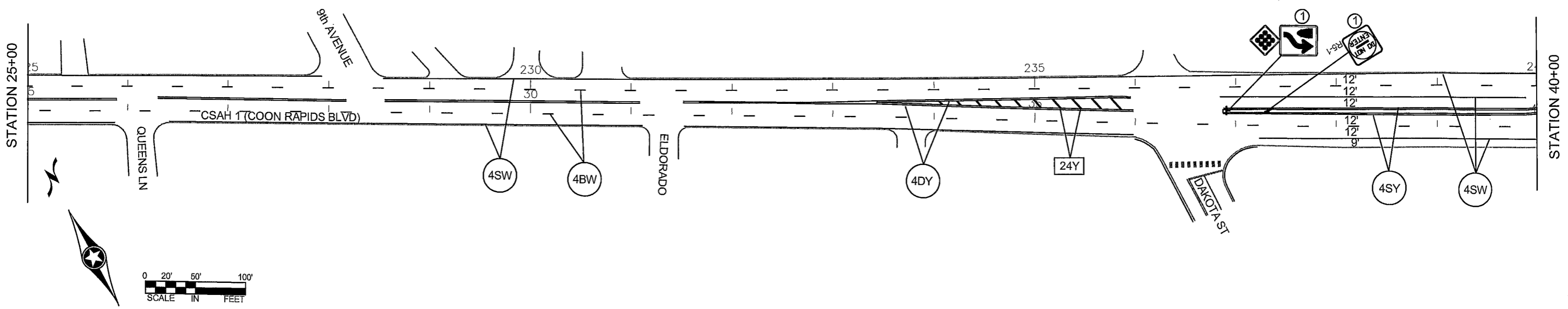
SHEET 59 OF 87 SHEETS



SIGN NOTES:
 ① INSTALL SIGN

STRIPING KEY
 ○ CIRCLE - MULTI COMP
 □ SQUARE - POLY PREFORM

- 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".
 - LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - ACCESS SHALL BE MAINTAINED TO ALL STREETS, DRIVEWAYS AND BUS STOPS IN CONSTRUCTION AREA.
 - ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
 - ALL SIGNS SHALL BE FURNISHED AND INSTALLED UNLESS OTHERWISE NOTED.
 - ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING.



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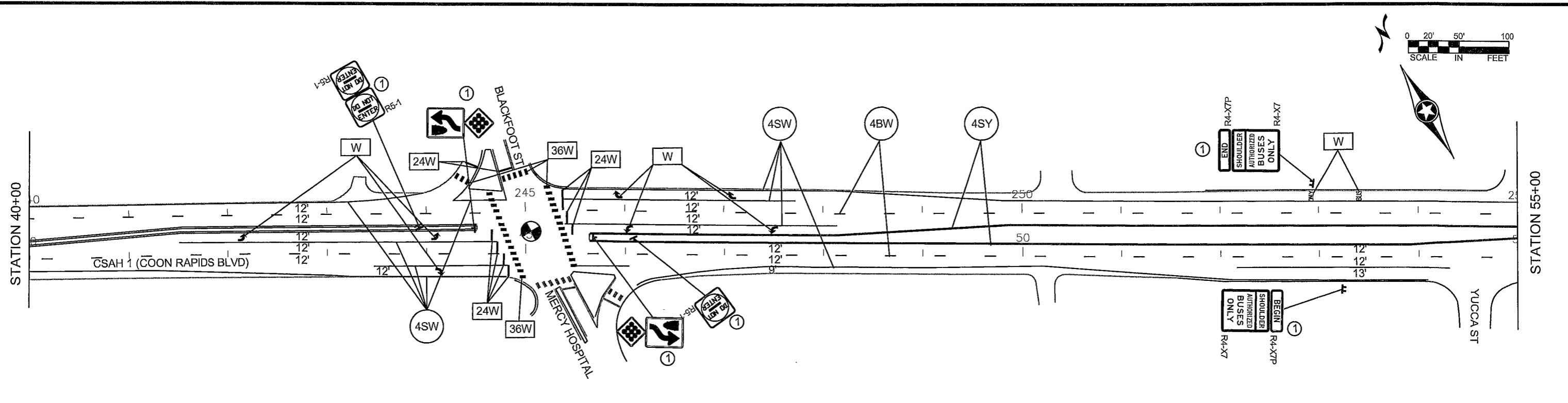
CHECKED BY: SRT DATE: 02/23/22



SAP 002-601-059

PERMANENT SIGNING & STRIPING

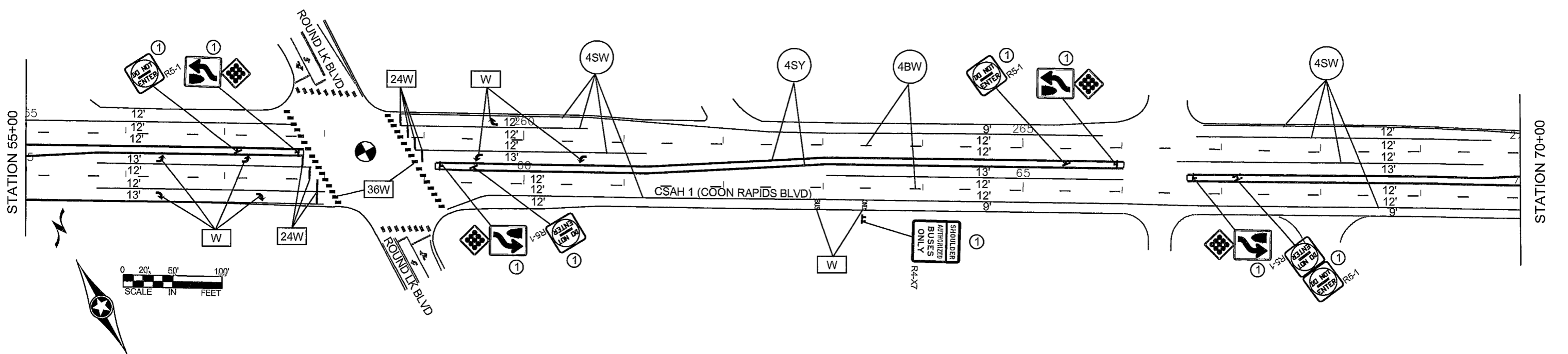
SHEET 60 OF 87 SHEETS



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STRIPING KEY
 ○ CIRCLE - MULTI COMP
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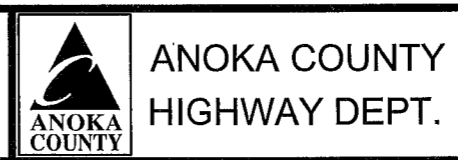
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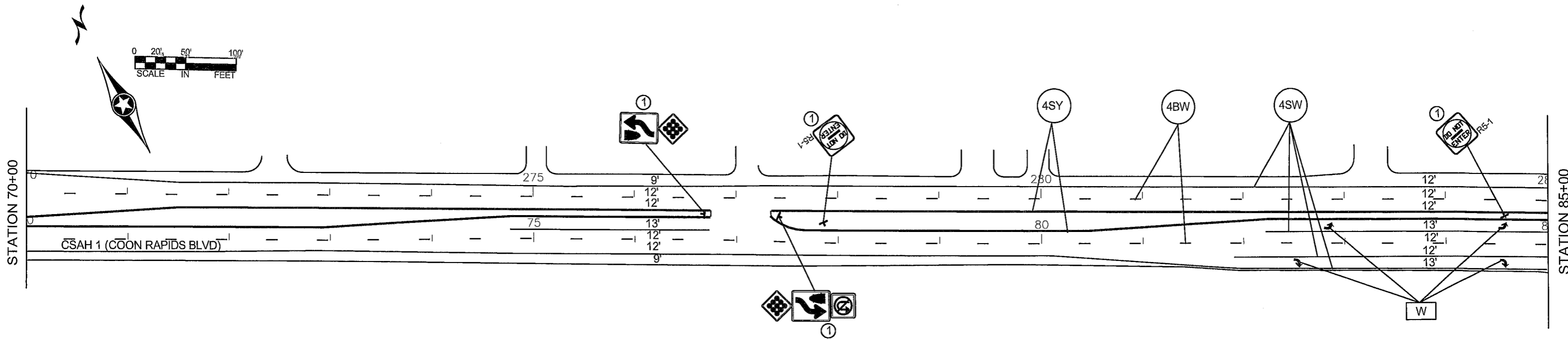
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SAP 002-601-059

PERMANENT SIGNING & STRIPING
 SHEET 61 OF 87 SHEETS



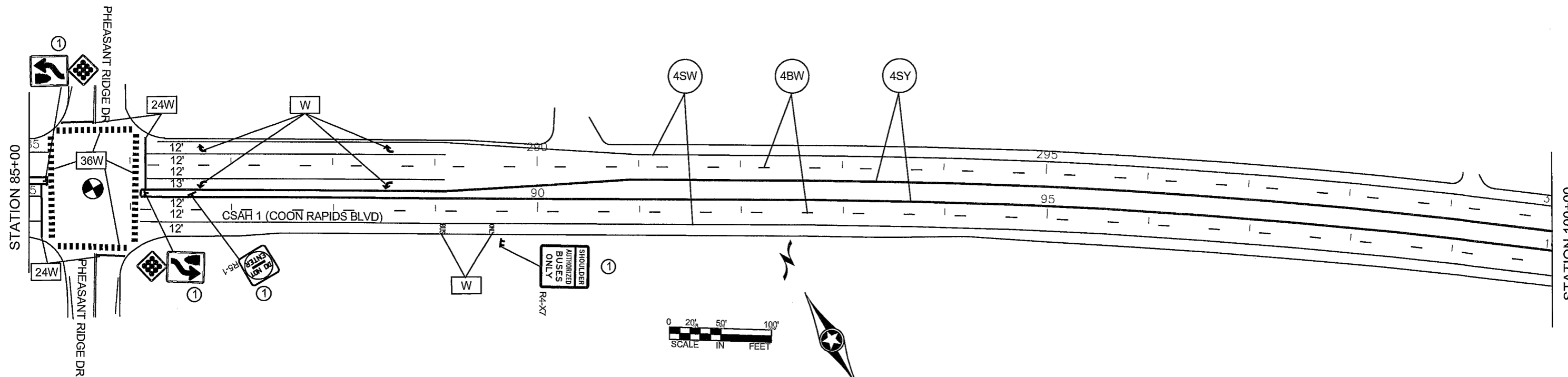
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STRIPING KEY

○ CIRCLE - MULTI COMP
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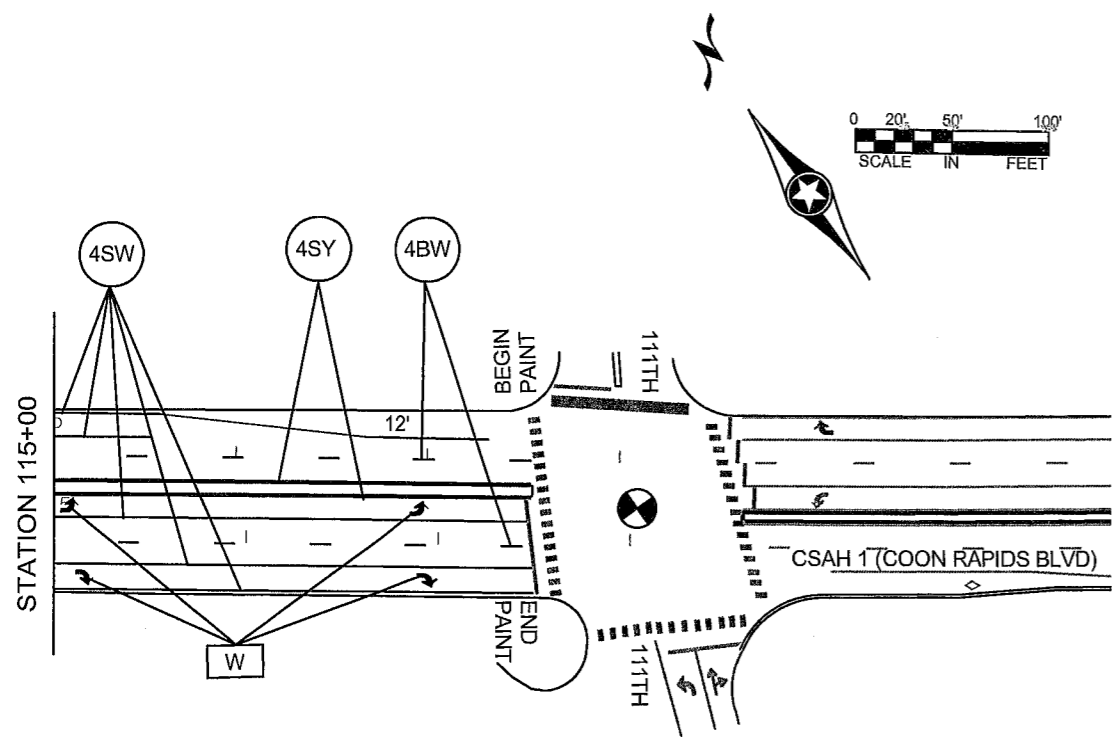
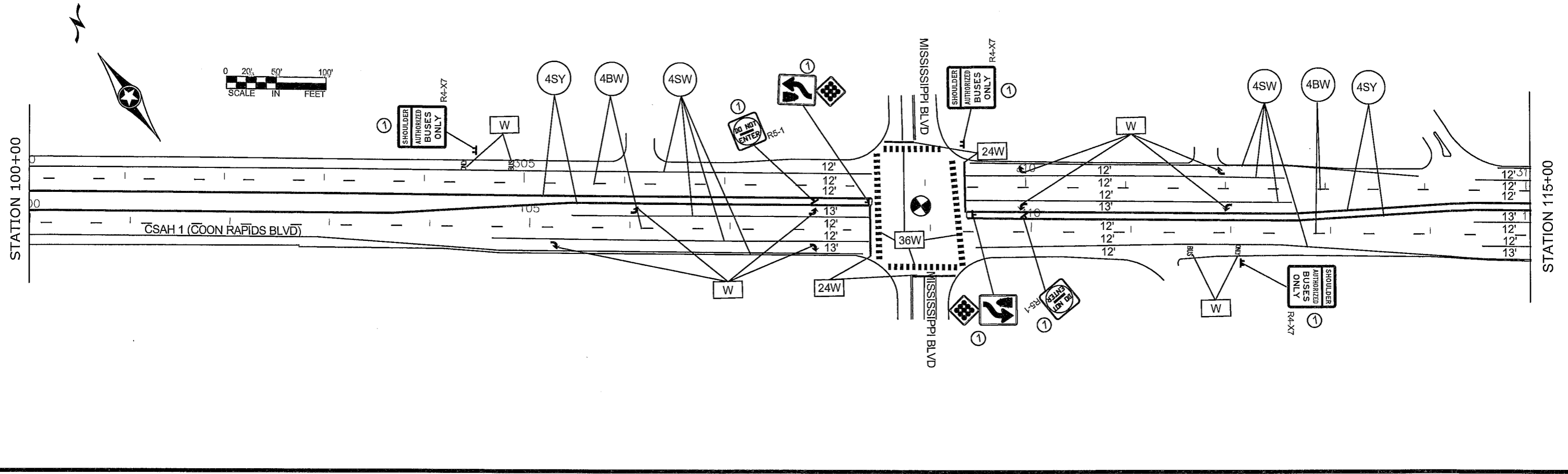
DRAWN BY: TMV DATE: 02/08/22
 DESIGN BY: DATE: _____
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ANOKA COUNTY
 HIGHWAY DEPT.

SAP 002-601-059

PERMANENT SIGNING
 & STRIPING
 SHEET 62 OF 87 SHEETS



SIGN NOTES:
 ① INSTALL SIGN

STRIPING KEY
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ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-601-059

PERMANENT SIGNING
 & STRIPING
 SHEET 63 OF 87 SHEETS

F & I SIGN PANELS							
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	PANEL AREA	TOTAL AREA	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT To pavement edge
				SQ. FT.	SQ. FT.		
R3-4	24" x 24"		1	4.00	4.00	1	7.0'
R4-7	24" x 30"		13	5.00	65.00		
OM1-1	18" x 18"		13	2.25	29.25		
R3-4	42" x 12"		1	3.50	3.50		
R3-4	42" x 12"		1	3.50	3.50		
R3-4	42" x 48"		7	14.00	98.00	2	7.0'
R5-1	30" x 30"		14	6.25	87.50	1	7.0'
PROJECT TOTAL SQ FT				290.75			

NOTES:

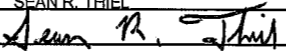
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
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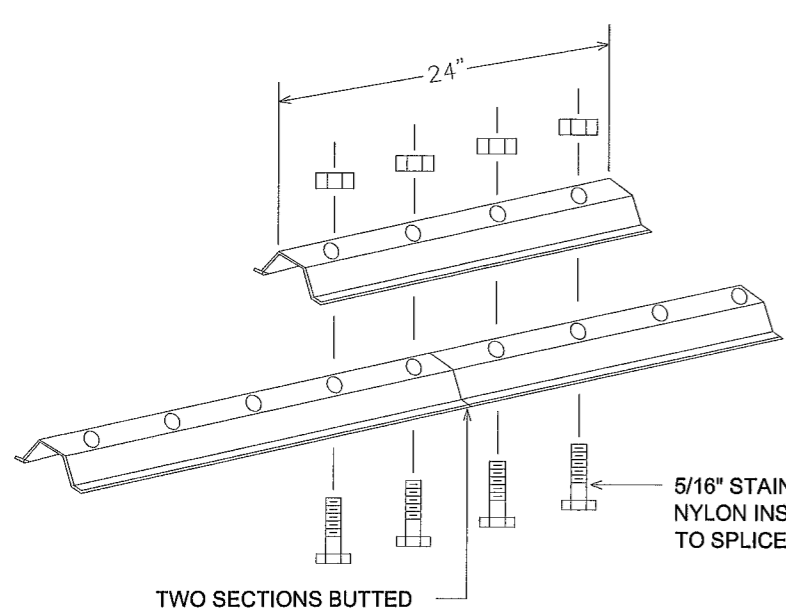


ANOKA COUNTY
HIGHWAY DEPT.

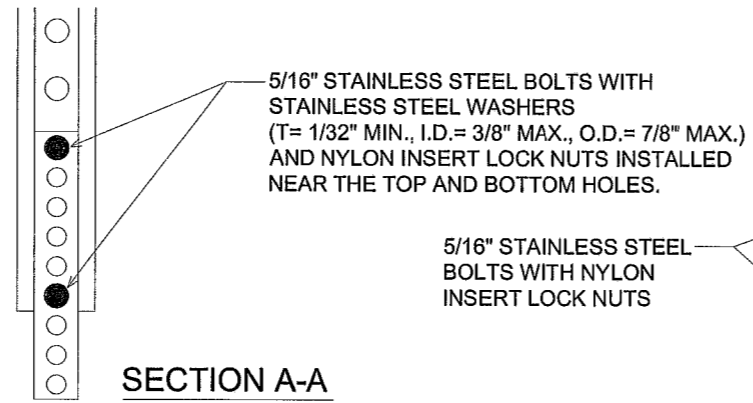
SAP 002-601-059

PERMANENT SIGNING
QUANTITIES

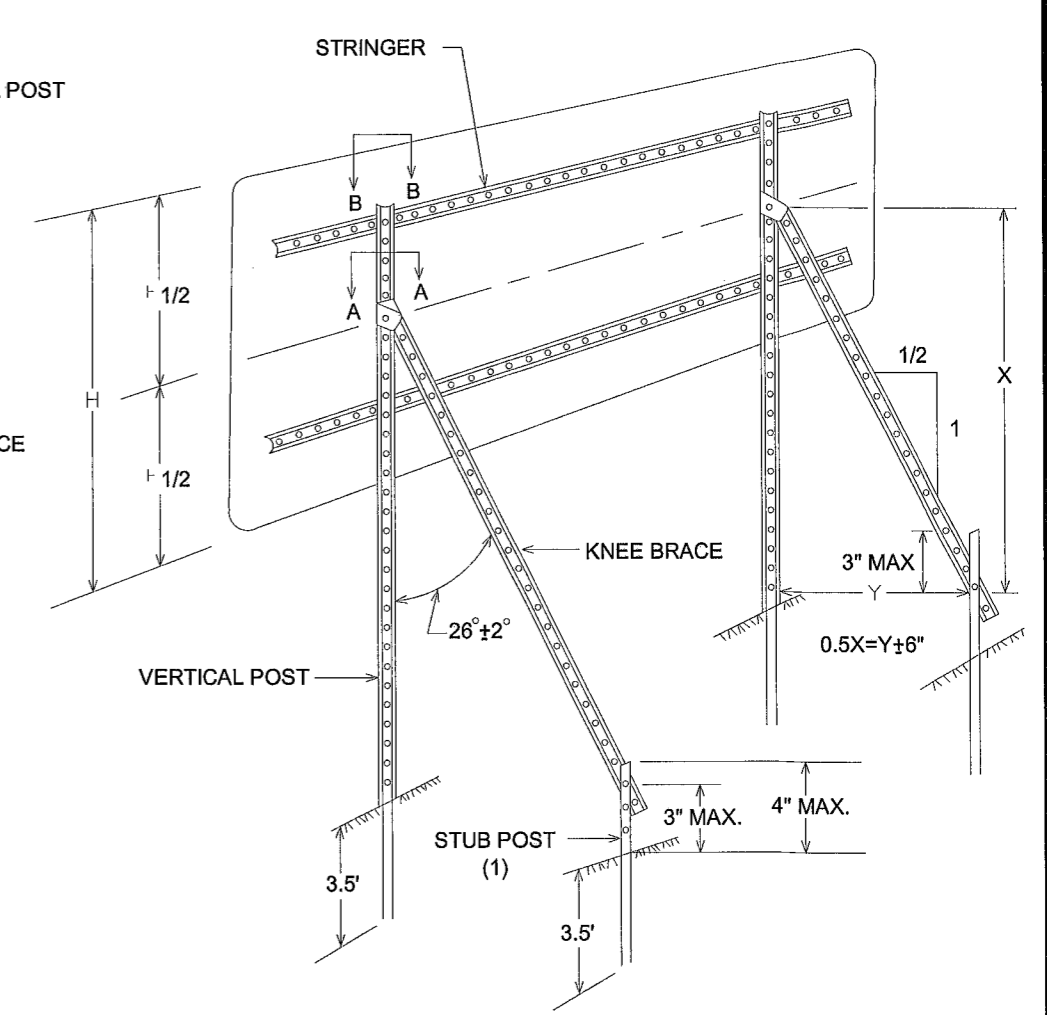
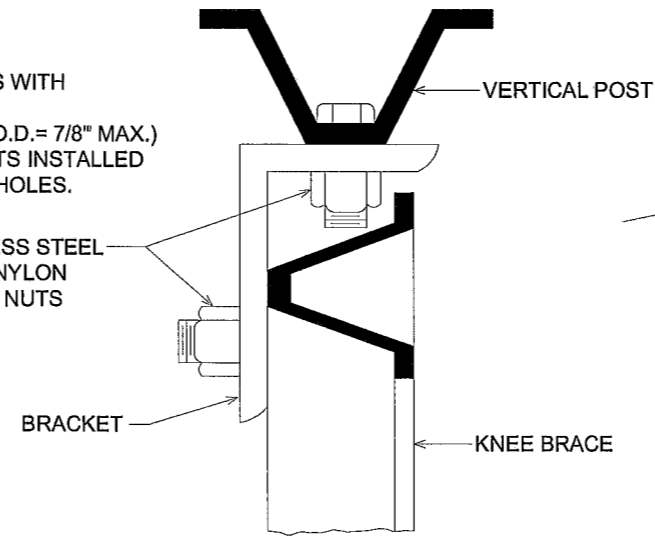
SHEET 64 OF 87 SHEETS



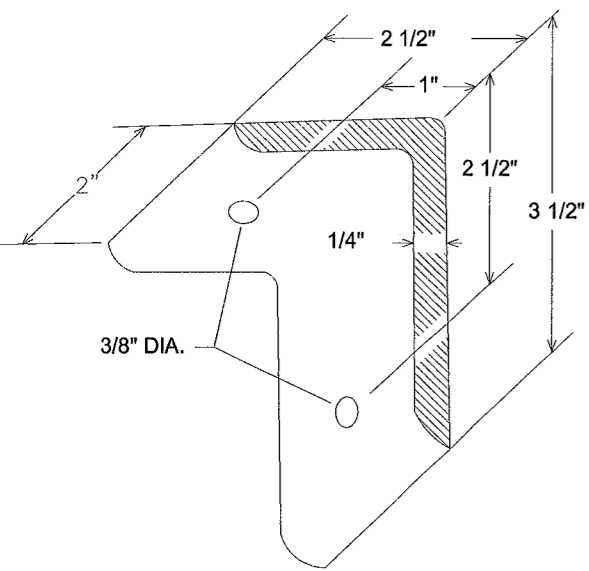
LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

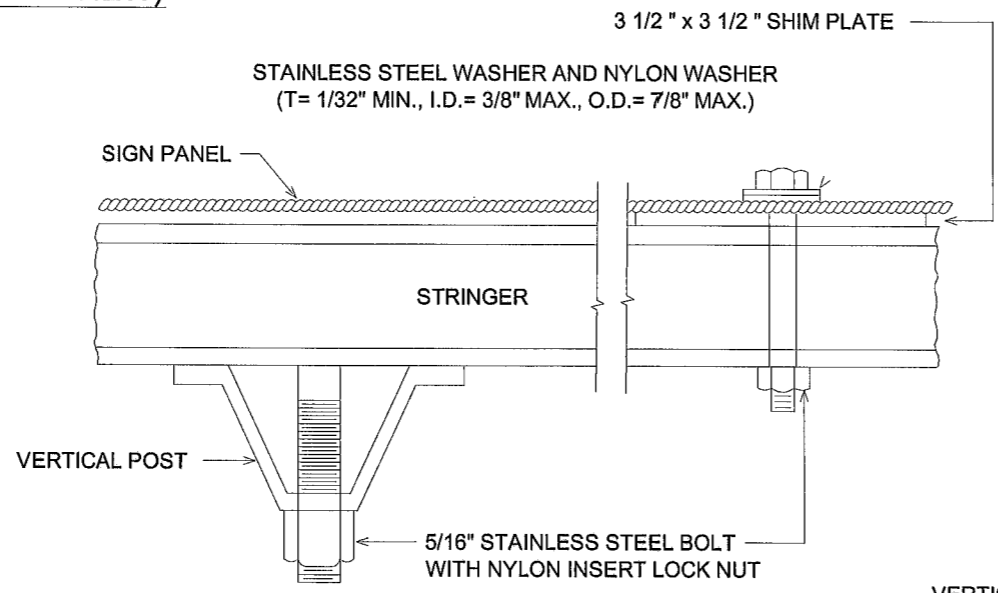


TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS

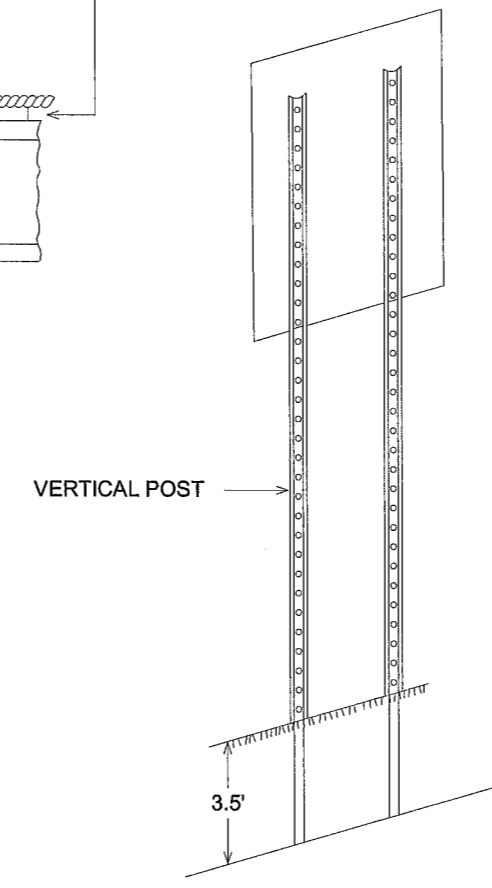


A-FRAME BRACKET

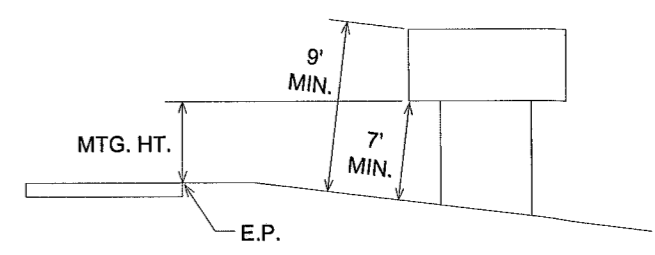
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



SECTION B-B



TYPICAL INSTALLATION 36" AND LARGER
TYPE "C" SIGNS



TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY
RELATIVE TO VERTICAL POST.

TYPE C & D SIGN
STRUCTURAL DETAILS

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\22-01-00\CSAH_01_(111TH-7TH)\Base\Traffic\Sign&Stripe_Details 2019.dwg					

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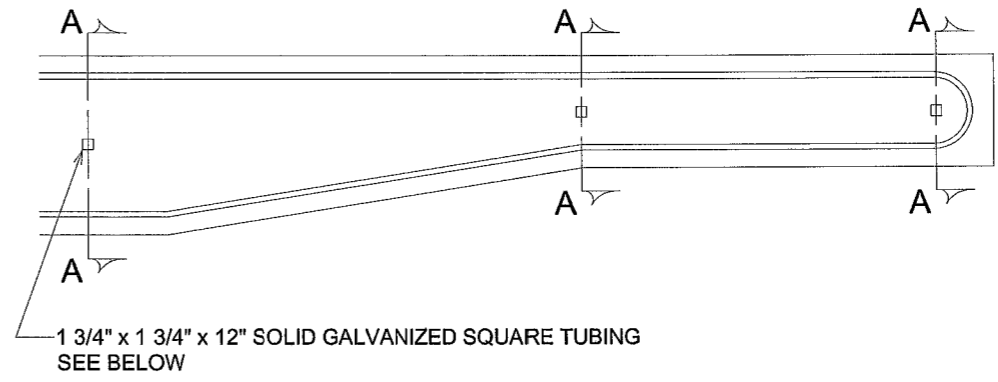
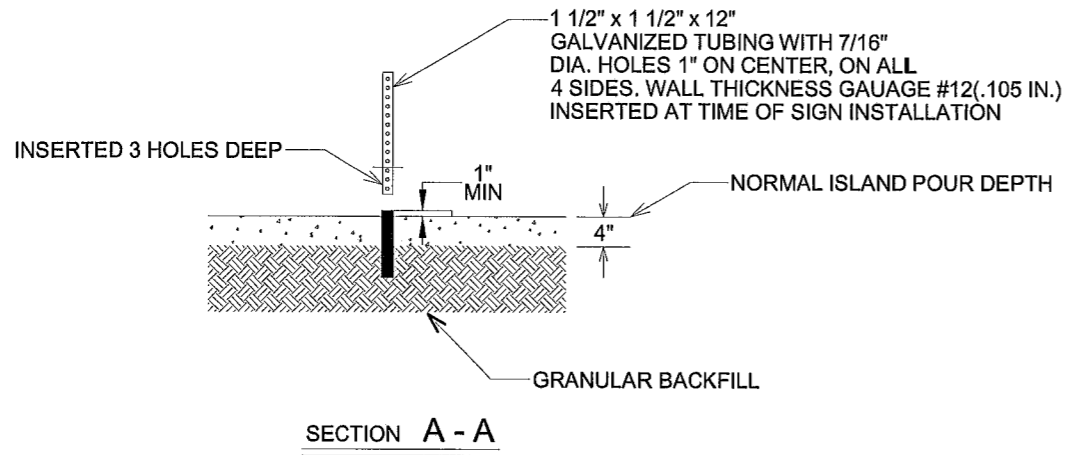
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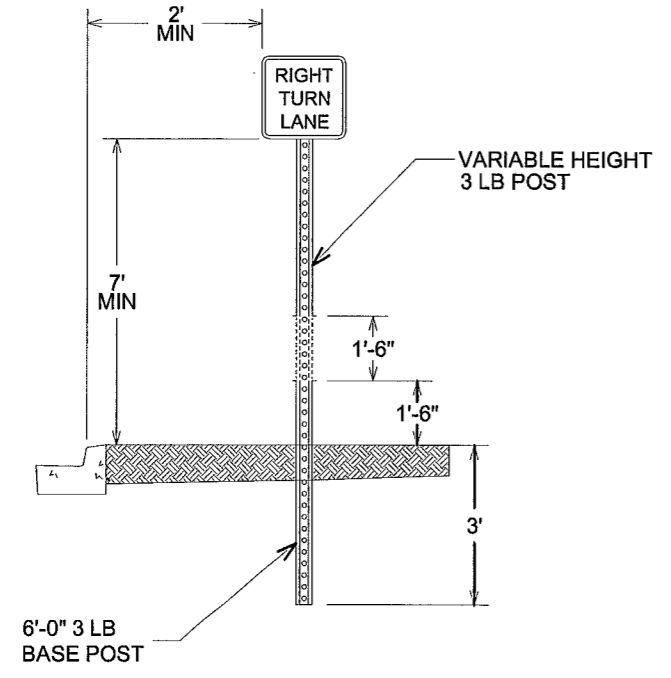
ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-601-059

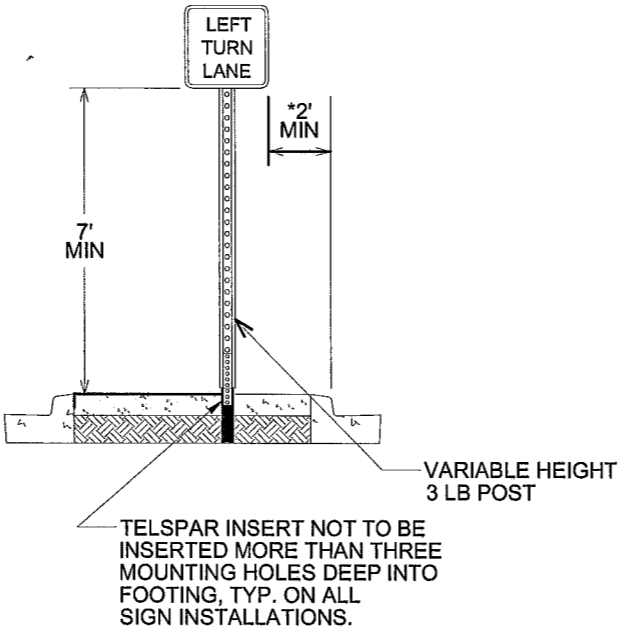
SIGNING & STRIPING
DETAILS
SHEET 65 OF 87 SHEETS



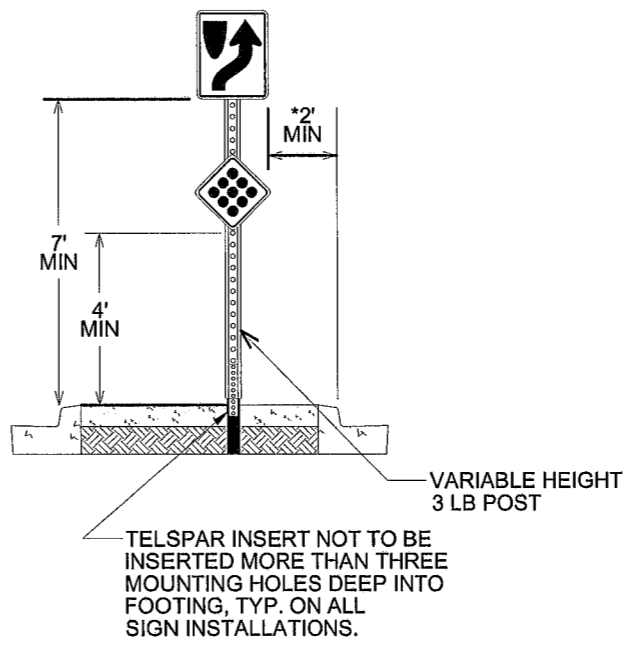
GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
SIGN INSTALLATION TYPICAL
KEEP RIGHT/CLUSTER



*1' MIN FOR NARROW URBAN LOCATIONS

INSTALLATION NEAR SIDEWALK (MN MUTCD)
The minimum height, measured vertically from the bottom of the sign to the sidewalk, of signs installed above sidewalks shall be 7 feet. If the bottom of a secondary sign that is mounted below another sign is mounted lower than 7 feet above a pedestrian sidewalk or pathway, the secondary sign shall not project more than 4 inches into the pedestrian facility.

NO	DATE	BY	CKD	APPR	REVISION

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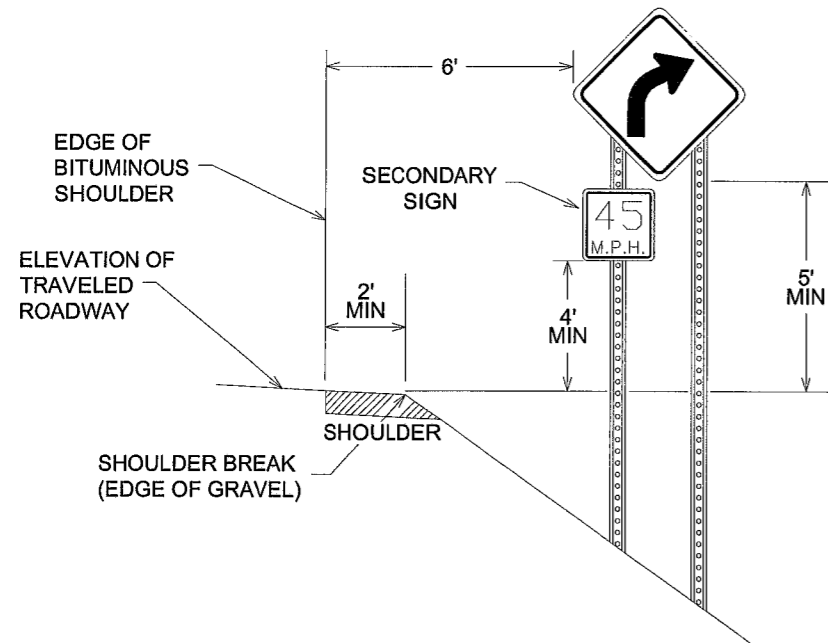
**ANOKA COUNTY
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SAP 002-601-059

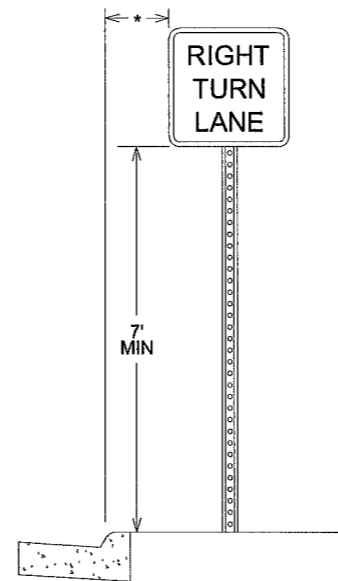
**SIGNING & STRIPING
DETAILS**

SHEET 66 OF 87 SHEETS

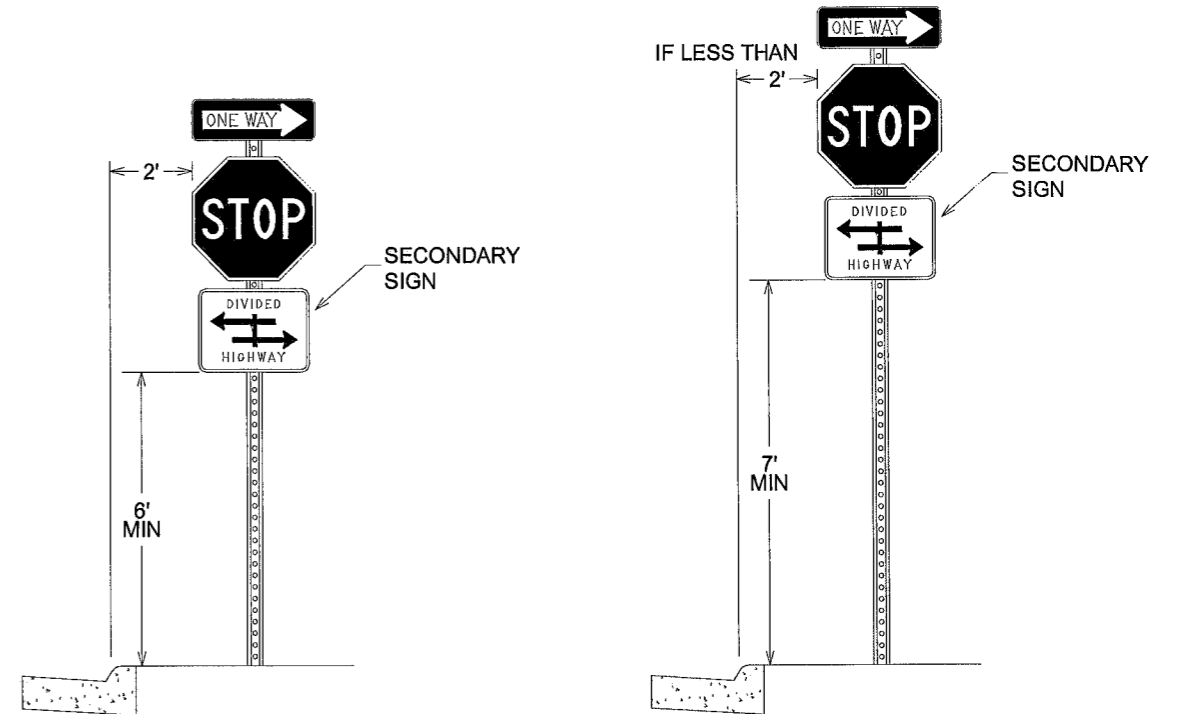
TYPICAL SIGN PLACEMENT
(RURAL)



TYPICAL SIGN PLACEMENT
(URBAN)



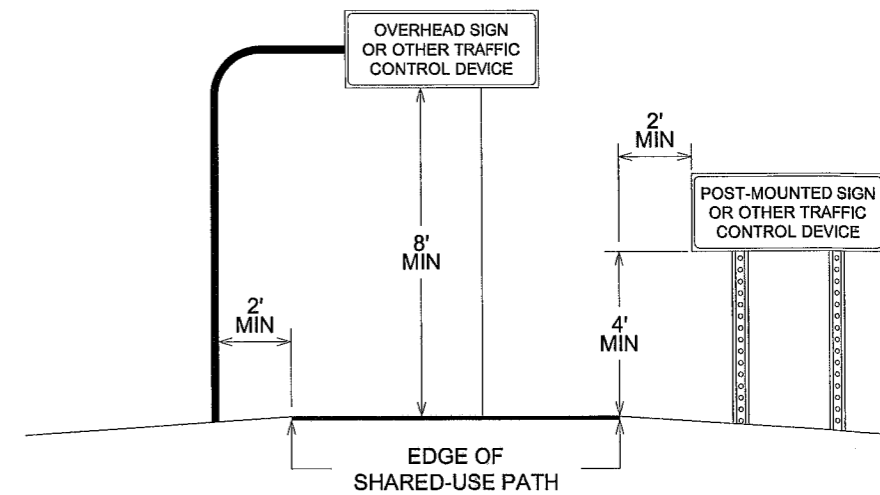
*2' - NARROW BOULEVARD (≤ 8' WIDE)
6' - WIDE BOULEVARD



NOTES:

- ALL DIMENSIONS ARE MINIMUMS
- MAINTAIN A DISTANCE OF 2' BETWEEN SIGNS AND BITUMINOUS TRAIL
- 7' SIGN CLEARANCE IF A 2' DISTANCE BETWEEN SIGN AND BITUMINOUS TRAIL CANNOT BE MAINTAINED

TYPICAL SIGN PLACEMENT
SHARED-USE PATH



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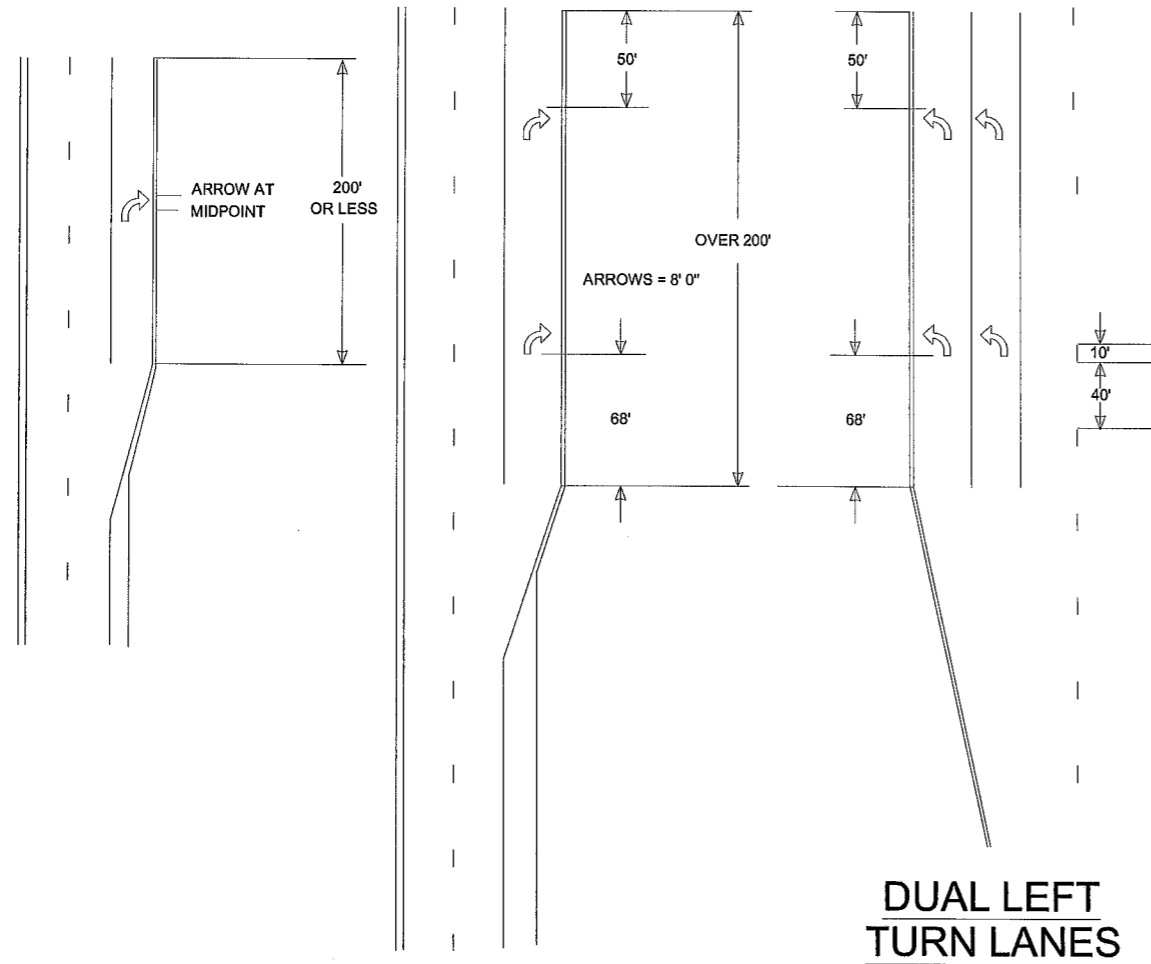
ANOKA COUNTY
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SAP 002-601-059

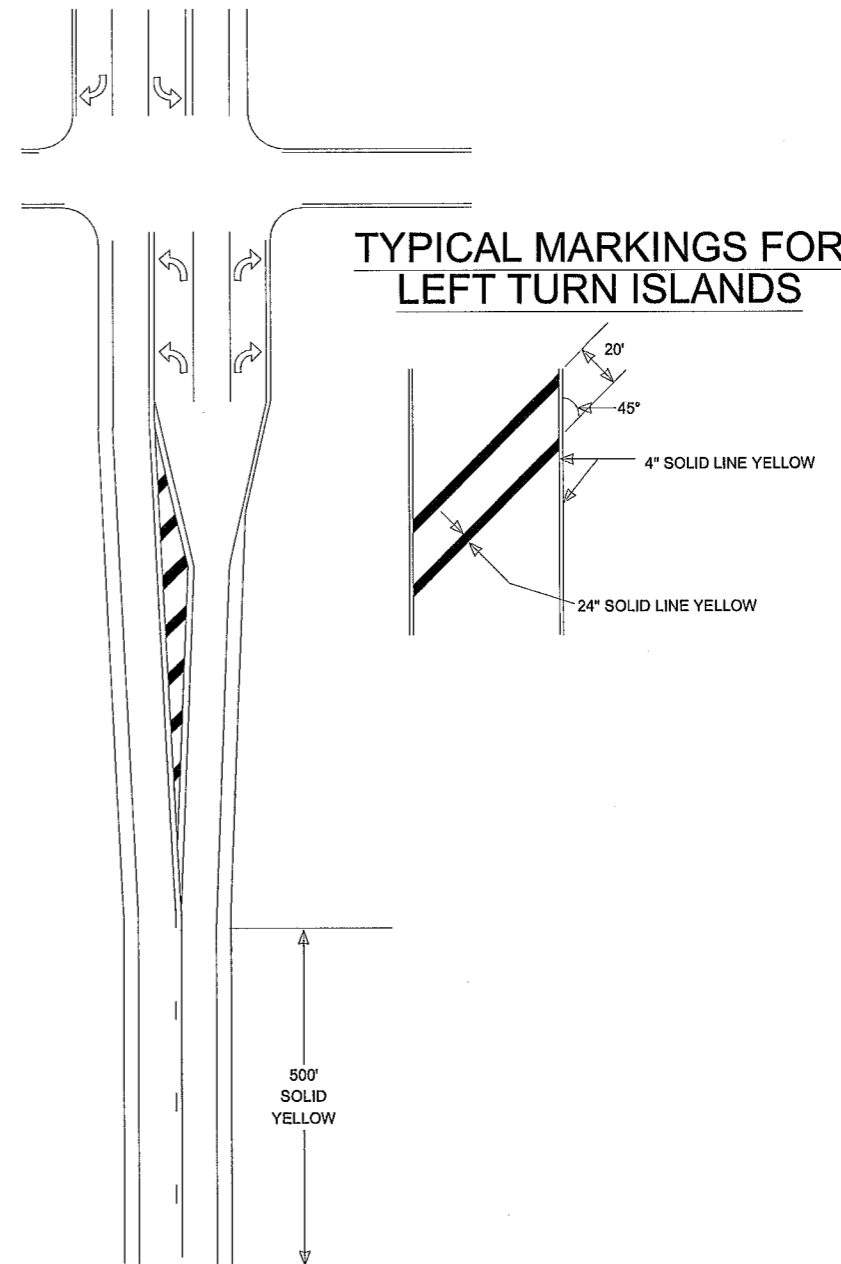
SIGNING & STRIPING
DETAILS

SHEET 67 OF 87 SHEETS

**TYPICAL MESSAGE PLACEMENT
FOR TURN LANES**



**TYPICAL MARKINGS FOR
LEFT TURN ISLANDS**



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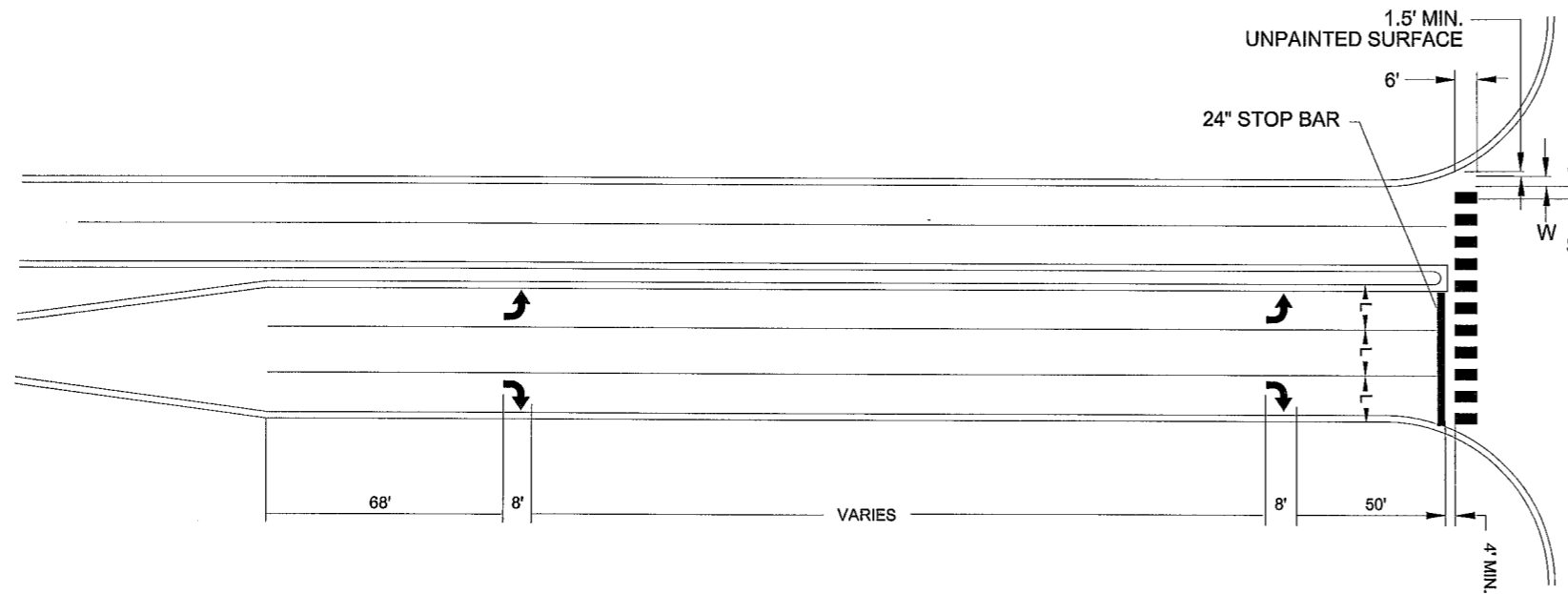
**ANOKA COUNTY
HIGHWAY DEPT.**

SAP 002-601-059

**SIGNING & STRIPING
DETAILS**

SHEET 68 OF 87 SHEETS

MARKINGS FOR PEDESTRIAN CROSSWALKS

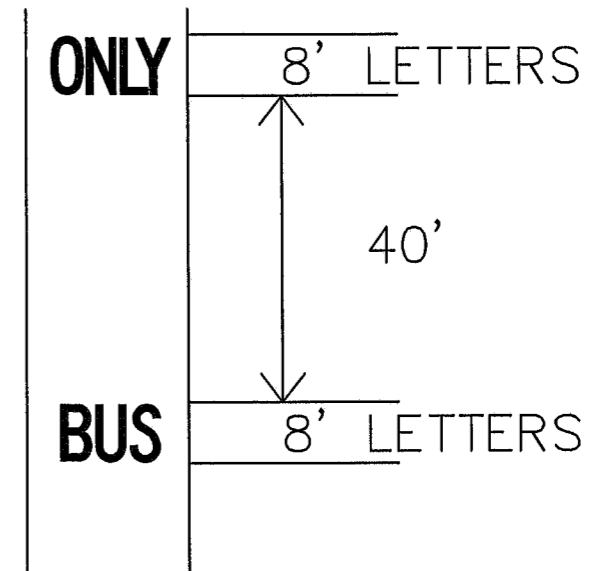


(L)	(W)	(S)
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

NOTES: CROSSWALKS:

- 1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
- 2.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMP ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGR.
- 3.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES. EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
- 4.) A MIN. OF 1.5' (450mm) CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
- 5.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' (3.3mm) INSIDE LANE.

BUS ONLY
PAVEMENT MARKINGS



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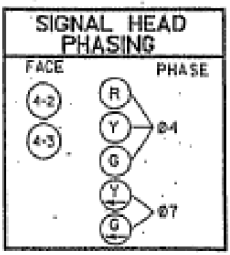
ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-601-059

SIGNING & STRIPING
DETAILS

SHEET 69 OF 87 SHEETS

LOOP DETECTOR CHART			DISTANCE TO STOP BAR
DESIGNATION	SIZE/FT.	FUNCTION	
D6-1	1-1.7mX1.7m	(D)	55m
D6-2	1-1.7mX1.7m	(D)	55m
D7-1	1-1.7mX3.6m	(7)	15m
DB-1	1-1.7mX1.7m	(3), (8)	37m
DB-2	2-1.7mX1.7m	(7)	-1m, 3.6m
D2-1	1-1.7mX1.7m	(D)	55m
D2-2	1-1.7mX1.7m	(D)	55m
D4-1	1-1.7mX1.7m	(3), (8)	55m
D4-2	2-1.7mX1.7m	(7)	-7m, 3.9m
D4-3	2-1.7mX1.7m	(8)	-7m, 3.9m



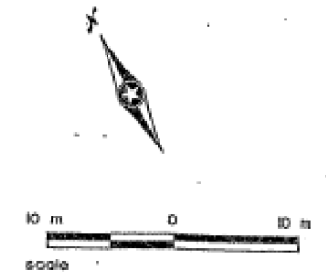
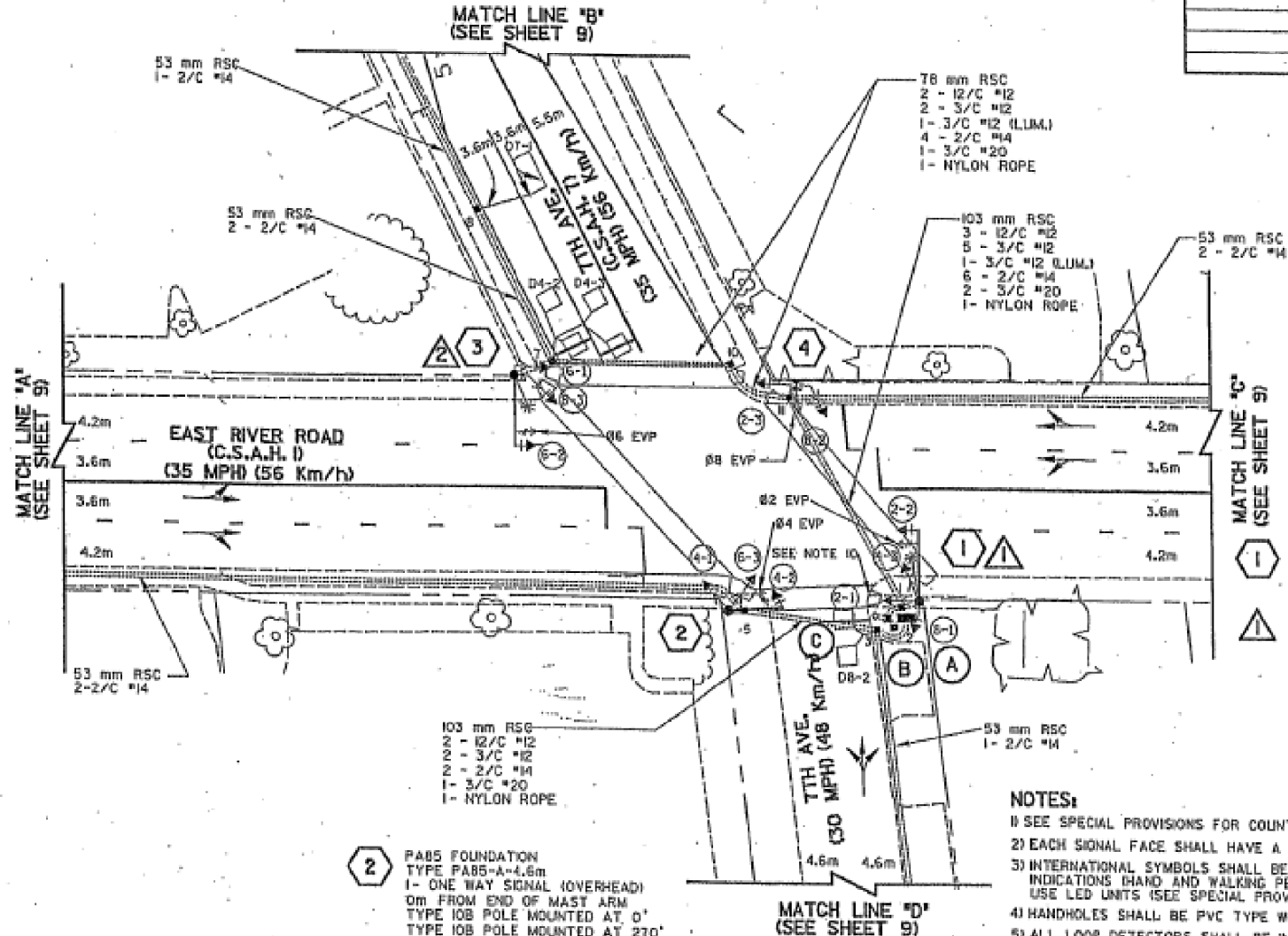
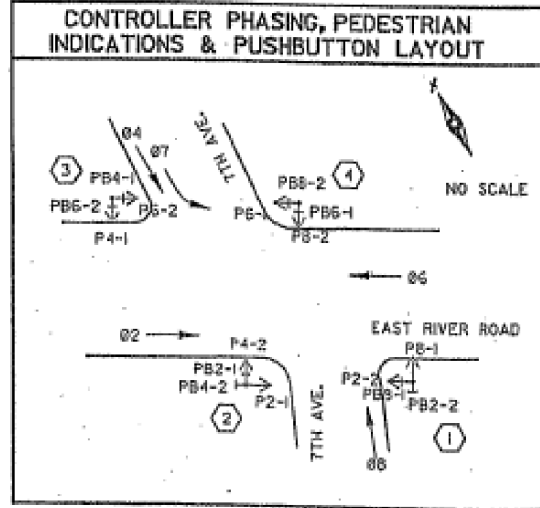
3 PAB5 FOUNDATION
TYPE PAB5-A-6.0m-D9m-3m (DAVIT AT 350')
1- ONE WAY SIGNAL (OVERHEAD)
0m FROM END OF MAST ARM
TYPE IOB POLE MOUNTED AT 180°
TYPE IOB POLE MOUNTED AT 270°
LUMINAIRE - 200 WATT H.P.S. WITH P.E.C. AND TEST SWITCH
ONEWAY EVP DETECTOR AND LIGHT
0.2 m FROM END OF MAST ARM, 19 mm HUB
2 - PEDESTRIAN PUSHBUTTONS
EXTEND 78 mm RSC INTO HH-1 WITH:
2 - 12/C #12, 2 - 3/C #12,
1 - 3/C #20,
AND 1- NYLON ROPE

4 PEDESTAL FOUNDATION
3m PEDESTAL AND BASE
TYPE 2C
ONEWAY EVP DETECTOR AND LIGHT
2 - PEDESTRIAN PUSHBUTTONS
EXTEND 78 mm RSC INTO HH-1 WITH:
1- 12/C #12, 3 - 3/C #12,
1 - 3/C #20,
AND 1- NYLON ROPE

7022

SIGNAL INDICATION CHART						
ALL SIGNAL INDICATIONS SHALL BE 300 mm						
ALL RED CIRCULAR INDICATIONS SHALL BE L.E.D.						
SIGNAL FACE	R	Y	G	RLTA	YLTA	GLTA
2-1.2-2.2-3	●	●	●			
4-1	●	●	●			
4-2.4-3	●	●	●			
6-1.6-2.6-3	●	●	●			←
8-1.8-2.8-3	●	●	●			←

- FUNCTIONS:**
- (D) CALL AND EXTEND
 - (3) EXTEND ONLY
 - (7) DELAY CALL, IMMEDIATE EXTEND
 - (8) STRETCH
- A** CONTROLLER CABINET PAD - SEE DETAIL
CONTROLLER & CABINET
EXTEND 103 mm RSC INTO HH-1 WITH:
5 - 12/C #12, 3 - 3/C #12,
6 - 2/C #14, 3 - 3/C #20,
AND 1- NYLON ROPE
EXTEND 35 mm RSC INTO HH-2 WITH:
3 - 1/C #6 AND 1- 1/C #6 BR.GR.
EXTEND 103 mm RSC INTO HH-3 WITH:
2 - 12/C #12, 2 - 3/C #12,
4 - 2/C #14, 1- 3/C #20,
AND 1- NYLON ROPE
1- 78 mm RSC STUB OUT OF CABINET
(THREAD AND CAP BOTH ENDS)
- B** SERVICE CABINET FOUNDATION - SEE DETAIL
SIGNAL SERVICE CABINET
EXTEND 35 mm RSC INTO HH-2
WITH:
3 - 1/C #6 AND 1- 1/C #6 BR.GR.
EXTEND 35 mm RSC INTO HH-1 WITH:
2 - 3/C #12 (LUM.)
- C** SOURCE OF POWER
ANOKA MUN. ELECTRIC
WOOD POWER POLE (INP.)
EXTEND 35 mm RSC INTO SERVICE CABINET WITH:
3 - 1/C #6



SIGNAL OPERATION NOTES

- NORMAL OPERATION IS 3 PHASE
- FLASH MODE SHALL BE ALL RED
- SOUTHBOUND APPROACH SHALL HAVE PROTECTED/PERMISSIVE LEFT TURNS
- 02 & 06 SHALL BE ON VEHICLE RECALL

2 PAB5 FOUNDATION
TYPE PAB5-A-4.6m
1- ONE WAY SIGNAL (OVERHEAD)
0m FROM END OF MAST ARM
TYPE IOB POLE MOUNTED AT 0°
TYPE IOB POLE MOUNTED AT 270°
ONEWAY EVP DETECTOR AND LIGHT
10.6 m FROM END OF MAST ARM, 19 mm HUB
2 - PEDESTRIAN PUSHBUTTONS
SIGN (R10-12) MOUNTED WITH RIGHT EDGE OF SIGN .45 m FROM END OF MAST ARM
EXTEND 78 mm RSC INTO HH-5 WITH:
2 - 12/C #12, 2 - 3/C #12,
1 - 3/C #20,
AND 1- NYLON ROPE

- NOTES:**
- 1) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
 - 2) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
 - 3) INTERNATIONAL SYMBOLS SHALL BE USED FOR ALL PEDESTRIAN INDICATIONS (HAND AND WALKING PERSON). THE HAND INDICATION SHALL USE LED UNITS (SEE SPECIAL PROVISIONS).
 - 4) HANDHOLES SHALL BE PVC TYPE WITH METAL FRAMES AND COVERS.
 - 5) ALL LOOP DETECTORS SHALL BE INSTALLED IN NMC CONDUIT. SEE DETAIL SHEET.
 - 6) EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS AND CABINET SHALL BE DETERMINED BY TRAFFIC OFFICE PERSONNEL.
 - 7) ALL SIGNAL INDICATIONS SHALL HAVE GLASS LENSES, EXCEPT RED CIRCULAR INDICATIONS WHICH SHALL USE LED UNITS.
 - 8) EXISTING SIGNAL EQUIPMENT SHALL BE REMOVED AND SALVAGED.
 - 9) CROSS WALKS SHALL BE ZEBRA STRIPED. SEE SIGNING AND STRIPING LAYOUT.
 - 10) CONTRACTOR SHALL REMOVE EXISTING CURB & GUTTER AND SHALL INSTALL NEW PEDESTRIAN RAMP ACCORDING TO MN/DOT STANDARD PLATE MTO36D.

NO	DATE	BY	CHK	APPR	REVISION
1	2/23/99	RAS	DM	CSH	REVISIONS PER ANOKA COUNTY COMMENTS



I hereby certify that this plan, specification or report 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.
George M. Stumppis

COUNTY PROJECT NO. S.A.P. 02-601-38
CITY PROJECT NO. 02-601-059

DRAWN BY P. JAGER DATE 9-98
DESIGNED BY P. JAGER DATE 5-98
CHECKED BY G. STUMPPIS DATE 5-98



ANOKA COUNTY

INTERSECTION LAYOUT

SHEET 8

NO	DATE	BY	CHK	APPR	REVISION

NAME: P:\22-01-00\CSAH_01_(111TH-7TH)\Base\Proposed\SIGNAL_PLANS.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: _____
SIGNATURE: _____
DATE: _____ LICENSE NO. _____

DRAWN BY MR DATE 02/02/2022
DESIGN BY MR DATE 02/02/2022
CHECKED BY CO DATE 04/26/2022

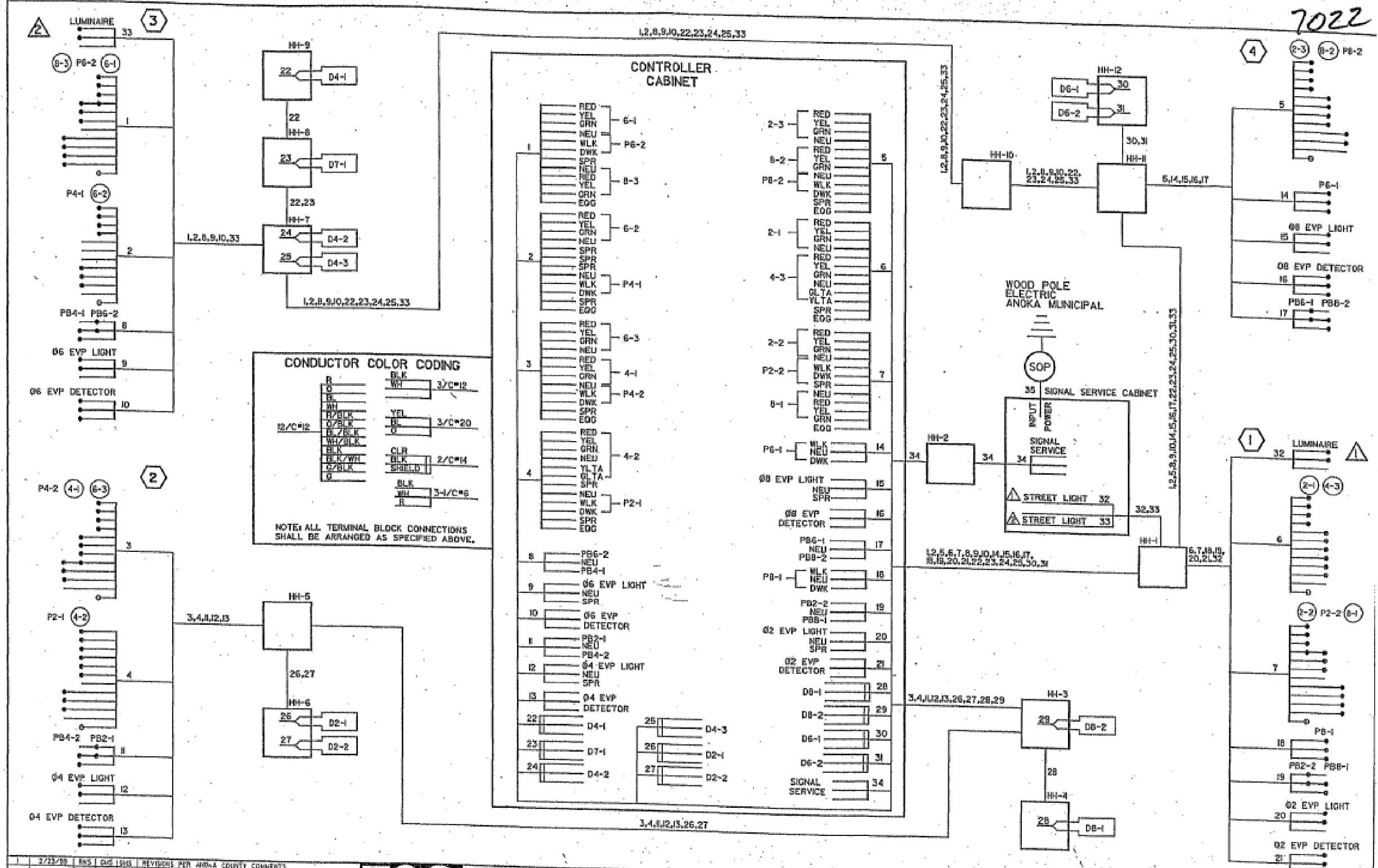


ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-601-059

EXISTING SIGNAL PLANS
Sheet 70 of 87 Sheets

7022



FILE: P:\22-01-00CSAH_01_111TH-7TH\Bases\Proposed\SIGNAL_PLANS.dgn
 LET: 04/26/2022 10:56:14 AM
 USER: J. J. JENSEN
 PROJECT: 02/24/2022 09:28:13

NO	DATE	BY	CKD	APPR	REVISION	04/26/2022	3:59:14 PM
1	3/23/22	JJS	JJS	JJS	REVISED PER ANOKA COUNTY COMMENTS		

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.

COUNTY PROJECT NO. _____
 DRAWN BY: P. JAGER DATE: 5-24
 DESIGNED BY: P. JAGER DATE: 5-24

ANDERSON CONSULTING
 ANOKA COUNTY

NO	DATE	BY	CKD	APPR	REVISION	04/26/2022	3:59:14 PM
1	04/26/2022	JJS	JJS	JJS	EXISTING SIGNAL PLANS		

NAME: P:\22-01-00CSAH_01_111TH-7TH\Bases\Proposed\SIGNAL_PLANS.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: _____
 SIGNATURE: _____
 DATE: _____ LICENSE NO. _____

DRAWN BY: MR. DATE: 02/02/2022
 DESIGN BY: MR. DATE: 02/02/2022
 CHECKED BY: CO. DATE: 04/26/2022

ANOKA COUNTY HIGHWAY DEPT.

STATE AID PROJECT 002-601-059

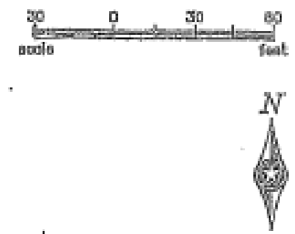
Sheet 72 of 87 Sheets

- INTERCONNECT NOTES:**
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
 - (*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT "A"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
 - ALL ITEMS OF THIS SIGNAL SYSTEM ARE IN PLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED IN PLACE, EXCEPT WHERE BOXED IN AND DENOTED BY BOTH (*) AND BY EITHER F & I (ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR) OR BY REMOVE (ITEMS TO BE REMOVED & DISPOSED OF BY CONTRACTOR).
 - NEW HANDHOLES REQUIRED TO BE FURNISHED & INSTALLED BY THE CONTRACTOR AS PART OF PROJECT SHALL BE PRE-CAST POLYMER CONCRETE STRUCTURES (QUAZITE). SEE DETAILS/SPECIAL PROVISIONS.
 - FOR EXISTING CONDUITS BEING REUSED AS PART OF THE COMPLETE INTERCONNECT SYSTEM, THE CONTRACTOR SHALL PULL A FISH TAPE THROUGH THESE CONDUITS TO CONFIRM THAT CONDUITS ARE ABLE TO BE REUSED WITH NEW CABLE INSTALLATIONS PRIOR TO NEW INTERCONNECT CABLES BEING INSTALLED IN THESE CONDUITS.
 - SEPARATE PAY ITEMS ARE INCLUDED FOR NEW 1.5 INCH CONDUITS (BOTH FOR INSTALLATION IN BOULEVARD AREAS AND FOR BORING UNDER EXISTING DRIVEWAYS OR ROADWAYS), SHOULD EXISTING CONDUITS BE FOUND INCAPABLE OF HAVING NEW INTERCONNECT CABLES BE INSTALLED IN THESE CONDUITS. SEE SPECIAL PROVISIONS.
 - SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING LABOR AND MATERIALS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR IN EACH IN PLACE TRAFFIC SIGNAL CONTROLLER CABINET AS PART OF THE "TRAFFIC CONTROL INTERCONNECT "A" PAY ITEM.

N.M.O. LOOP DETECTORS

NUMBER	SIZE (FT)	LOCATION	FUNCTION
D1-1	4-8x8	E 20' W 80'	1
D2-1	2-8x8	280'	1
D4-1	8x8	70'	7
D4-2	8x8	70'	3
D4-3	8x20	0'	1
D6-1	4-8x8	E 20' W 80'	1
D6-2	2-8x8	280'	1
D8-1	8x8	120'	3
D8-2	2-8x8	E' & 20'	1

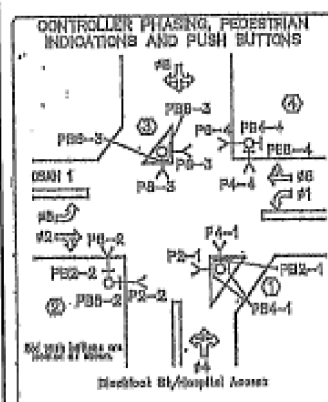
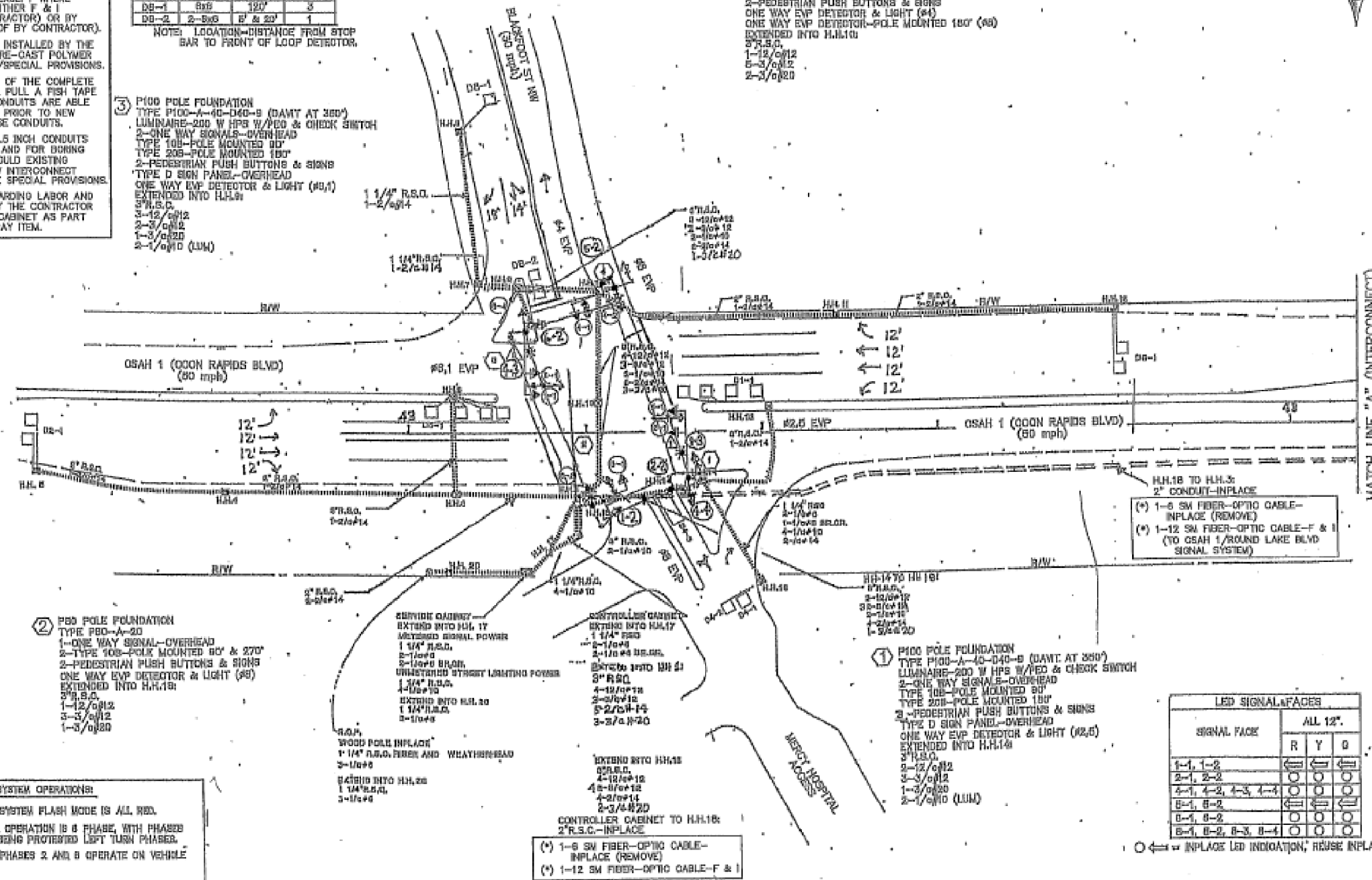
- EXPLANATIONS**
- 1 = CALL AND EXTEND
 - 3 = EXTEND ONLY
 - 7 = DELAYED CALL, IMMEDIATE EXTEND
 - 8 = CARRY OVER (STRETCH)



NOTE: LOCATION-DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

- ③ P100 POLE FOUNDATION
 TYPE P100-A-40-D40-B (DAMI AT 360°)
 LUMINAIRE-200 W HPS W/160 & CHECK SWITCH
 2-ONE WAY SIGNALS-OVERHEAD
 TYPE 10B-POLE MOUNTED 90°
 TYPE 20B-POLE MOUNTED 180°
 2-PEDESTRIAN PUSH BUTTONS & SIGNS
 TYPE D SIGN PANEL-OVERHEAD
 ONE WAY EVP DETECTOR & LIGHT (#8,1)
 EXTENDED INTO H.H.10
 3" R.S.C.
 3-12/0#12
 2-3/0#12
 1-3/0#20
 2-1/0#20 (LUM)

- ④ P80 POLE FOUNDATION
 TYPE P80-A-28
 1-ONE WAY SIGNAL-OVERHEAD
 2-TYPE 10B-POLE MOUNTED 90° & 270°
 2-PEDESTRIAN PUSH BUTTONS & SIGNS
 ONE WAY EVP DETECTOR & LIGHT (#4)
 ONE WAY EVP DETECTOR-POLE MOUNTED 180° (#8)
 EXTENDED INTO H.H.10
 3" R.S.C.
 1-12/0#12
 5-3/0#12
 2-3/0#20



- SIGNAL SYSTEM OPERATIONS:**
- SIGNAL SYSTEM FLASH MODE IS ALL RED.
 - NORMAL OPERATION IS 8 PHASE, WITH PHASES 1 & 8 BEING PROTECTED LEFT TURN PHASES.
 - SIGNAL PHASES 2 AND 8 OPERATE ON VEHICLE RECALL.

LED SIGNAL FACES

SIGNAL FACE	ALL 12"		
	R	Y	D
1-1, 1-2	○	○	○
2-1, 2-2	○	○	○
4-1, 4-2, 4-3, 4-4	○	○	○
8-1, 8-2	○	○	○
8-1, 8-2	○	○	○
8-1, 8-2, 8-3, 8-4	○	○	○

○ ← IN PLACE LED INDICATION; REVERSE IN PLACE

DESIGN TEAM

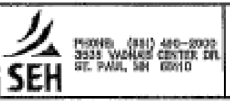
NO.	DATE	BY	CHKD	APPR	REVISION

REVISIONS

NO.	DATE	DESCRIPTION

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, PE
 License No. 22457



ANOKA COUNTY, MN
 CITY OF COON RAPIDS
 SAP 002-030-010

TRAFFIC SIGNAL INTERCONNECT "A"
 INTERSECTION LAYOUT
 CSAH 1 (COON RAPIDS BLVD)
 AT BLACKFOOT STREET

FILE NO.
 ANOKA 142302
 4
 115

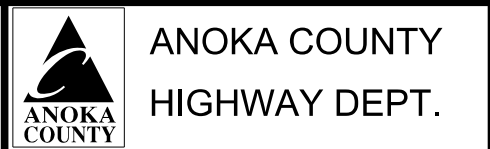
NO.	DATE	BY	CHKD	APPR	REVISION

NAME: P:\22-01-00\CSAH_01_(111TH-7TH)\Base\Proposed\SIGNAL_PLANS.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: _____
 SIGNATURE: _____
 DATE: _____ LICENSE NO. _____

DRAWN BY: MR. DATE 02/02/2022
 DESIGN BY: MR. DATE 02/02/2022
 CHECKED BY: CO. DATE 04/26/2022



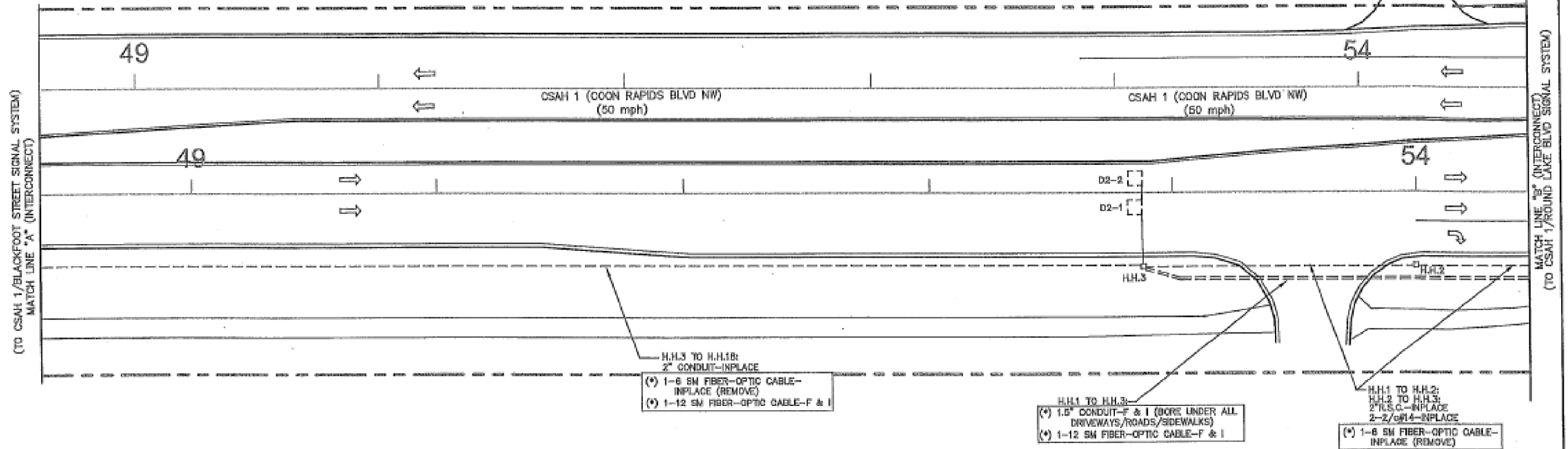
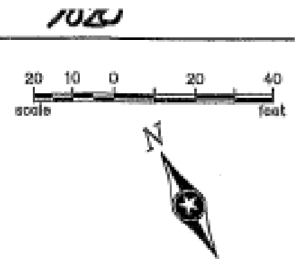
STATE AID PROJECT 002-601-059

EXISTING SIGNAL PLANS
 Sheet 73 of 87 Sheets

INTERCONNECT NOTES

- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE ONE CALL EXCAVATION NOTICE SYSTEM (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) (*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2505 (TRAFFIC CONTROL INTERCONNECT "A"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 3) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED BY BOTH (*) AND BY EITHER F & I (ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR) OR BY REMOVE (ITEMS TO BE REMOVED & DISPOSED OF BY CONTRACTOR).
- 4) NEW HANDHOLES REQUIRED TO BE FURNISHED & INSTALLED BY THE CONTRACTOR AS PART OF PROJECT SHALL BE PRE-CAST POLYMER CONCRETE STRUCTURES (QUAZITE). SEE DETAILS/SPECIAL PROVISIONS.
- 5) FOR EXISTING CONDUITS BEING REUSED AS PART OF THE COMPLETE INTERCONNECT SYSTEM, THE CONTRACTOR SHALL PULL A FISH TAPE THROUGH THESE CONDUITS TO CONFIRM THAT CONDUITS ARE ABLE TO BE REUSED WITH NEW CABLE INSTALLATIONS, PRIOR TO NEW INTERCONNECT CABLES BEING INSTALLED IN THESE CONDUITS.

- 6) SEPARATE PAY ITEMS ARE INCLUDED FOR NEW 1.5 INCH CONDUITS (BOTH FOR INSTALLATION IN BOULEVARD AREAS AND FOR BORING UNDER EXISTING DRIVEWAYS OR ROADWAYS), SHOULD EXISTING CONDUITS BE FOUND INCAPABLE OF HAVING NEW INTERCONNECT CABLES BE INSTALLED IN THESE CONDUITS. SEE SPECIAL PROVISIONS.
- 7) SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING LABOR AND MATERIALS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR IN EACH INPLACE TRAFFIC SIGNAL CONTROLLER CABINET AS PART OF THE "TRAFFIC CONTROL INTERCONNECT "A" PAY ITEM.



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

REVISIONS	NO.	BY	DATE

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: July 9, 2018
 License No.: 22457



ANOKA COUNTY, MN
 CITY OF COON RAPIDS
 BAP 002-030-010

TRAFFIC SIGNAL INTERCONNECT "A"
 INTERSECTION LAYOUT
 CSAH 1 (COON RAPIDS BLVD)
 (BLACKFOOT ST TO ROUND LAKE BLVD)

FILE NO. 6
 ANOKA 148312
 115

NO.	DATE	BY	CKD	APPR	REVISION	04/26/2022	3:59:27 PM
NAME: P:\22-01-00\CSAH_01_(111TH-7TH)\Base\Proposed\SIGNAL_PLANS.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: _____
 SIGNATURE: _____
 DATE: _____ LICENSE NO. _____

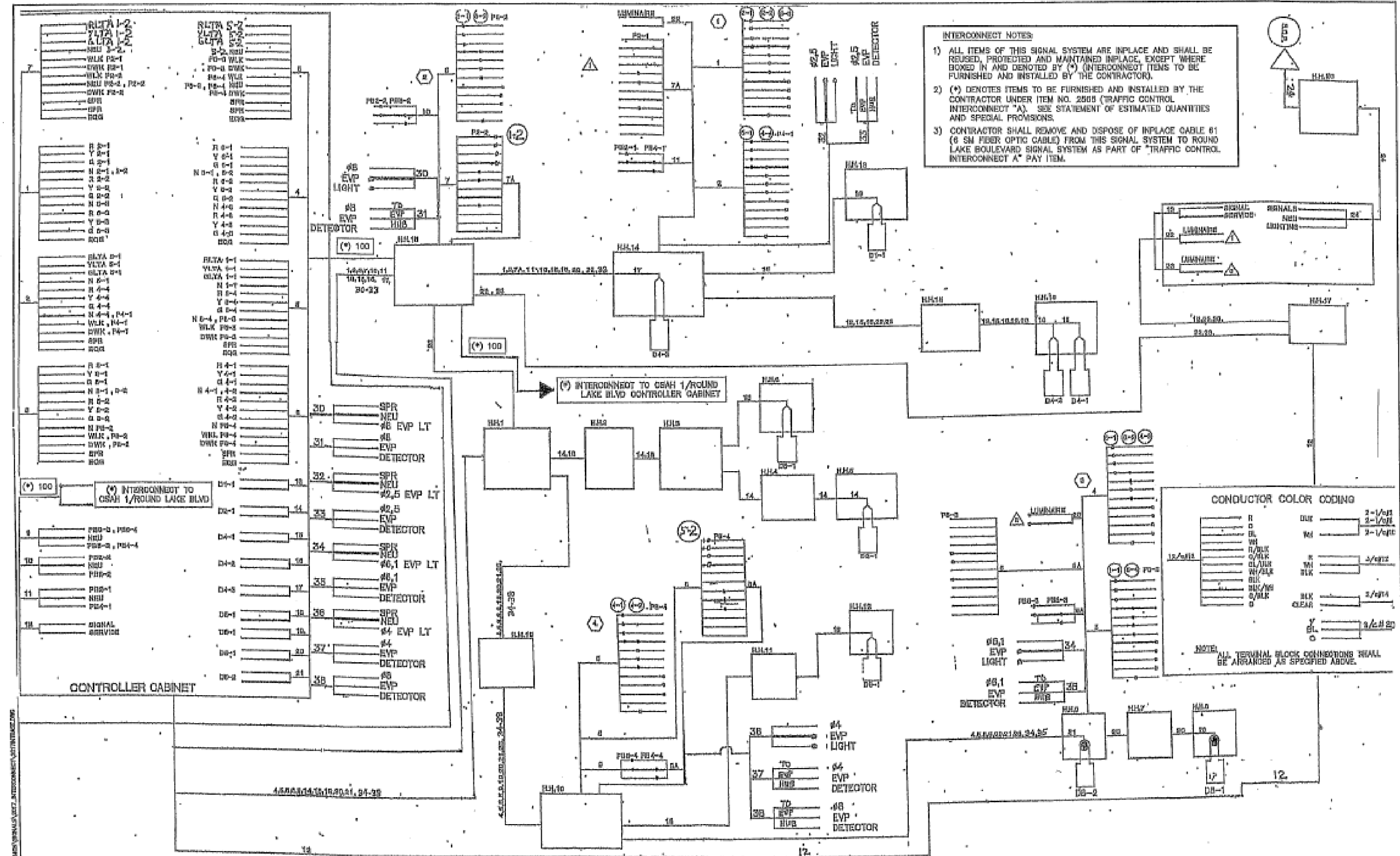
DRAWN BY: MR DATE 02/02/2022
 DESIGN BY: MR DATE 02/02/2022
 CHECKED BY: CO DATE 04/26/2022

ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-601-059

EXISTING SIGNAL PLANS
 Sheet 74 of 87 Sheets

FOR REFERENCE PURPOSES ONLY



INTERCONNECT NOTES:

- 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED BY (*) (INTERCONNECT ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR).
- 2) (*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2505 (TRAFFIC CONTROL INTERCONNECT "A"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 3) CONTRACTOR SHALL REMOVE AND DISPOSE OF INPLACE CABLE #1 (6 SM FIBER OPTIC CABLE) FROM THIS SIGNAL SYSTEM TO ROUND LAKE BOULEVARD SIGNAL SYSTEM AS PART OF "TRAFFIC CONTROL INTERCONNECT A" PAY ITEM.

CONDUCTOR COLOR CODING

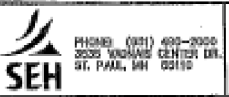
R	RED	2-1/4" 1"
Y	YELLOW	2-1/4" 1"
G	GREEN	2-1/4" 1"
B	BLUE	3/4" 1/2"
W	WHITE	3/4" 1/2"
BLK	BLACK	3/4" 1/2"
GRN	GREEN	3/4" 1/2"
BRN	BROWN	3/4" 1/2"
OR	ORANGE	3/4" 1/2"
PUR	PURPLE	3/4" 1/2"
SLV	SILVER	3/4" 1/2"
OPQ	OPAL	3/4" 1/2"

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

DRAWN BY: JMS	NO.	BY	DATE	REVISIONS
DESIGNED BY: JMS				
CHECKED BY: JMS				

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 H. Gray, PE
 Name: John H. Gray, PE
 Date: July 8, 2018
 Lic. No.: 22457



ANOKA COUNTY, MN
CITY OF COON RAPIDS
 SAP 002-030-010

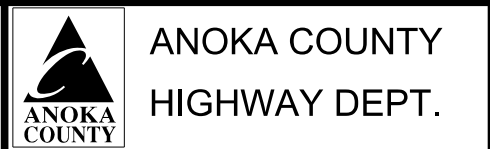
TRAFFIC SIGNAL INTERCONNECT "A"
FIELD WIRING DIAGRAM
CSAH 1 (COON RAPIDS BLVD)
AT BLACKFOOT STREET

FILE NO. ANOKA 142352
5
115

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: _____
 SIGNATURE: _____
 DATE: _____ LICENSE NO. _____

DRAWN BY: MR. DATE 02/02/2022
 DESIGN BY: MR. DATE 02/02/2022
 CHECKED BY: CO. DATE 04/26/2022



STATE AID PROJECT 002-601-059

EXISTING SIGNAL PLANS
 Sheet 75 of 87 Sheets

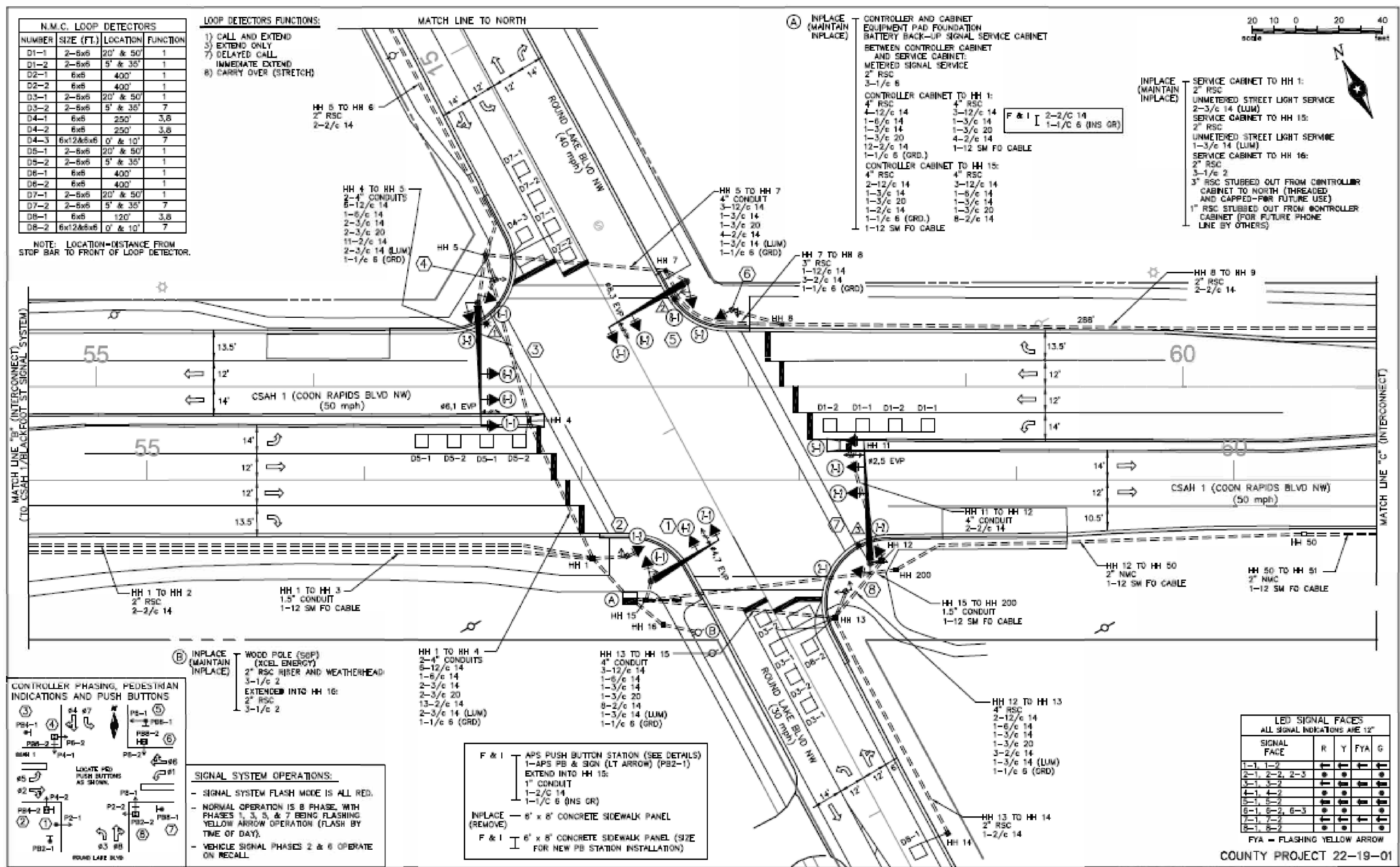
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FOR REFERENCE PURPOSES ONLY

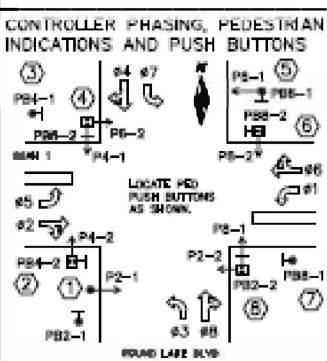
N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-8x6	20' & 50'	1
D1-2	2-8x6	5' & 35'	1
D2-1	6x6	400'	1
D2-2	6x6	400'	1
D3-1	2-8x6	20' & 50'	1
D3-2	2-8x6	5' & 35'	7
D4-1	6x6	250'	3,8
D4-2	6x6	250'	3,8
D4-3	6x12&6x6	0' & 10'	7
D5-1	2-8x6	20' & 50'	1
D5-2	2-8x6	5' & 35'	1
D6-1	6x6	400'	1
D6-2	6x6	400'	1
D7-1	2-8x6	20' & 50'	1
D7-2	2-8x6	5' & 35'	7
D8-1	6x6	120'	3,8
D8-2	6x12&6x6	0' & 10'	7

- LOOP DETECTORS FUNCTIONS:**
- 1) CALL AND EXTEND
 - 3) EXTEND ONLY
 - 7) DELAYED CALL
 - IMMEDIATE EXTEND
 - 8) CARRY OVER (STRETCH)

NOTE: LOCATION-DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.



- (A) INPLACE (MAINTAIN INPLACE)**
- CONTROLLER AND CABINET EQUIPMENT PAD FOUNDATION BATTERY BACK-UP SIGNAL SERVICE CABINET BETWEEN CONTROLLER CABINET AND SERVICE CABINET: METERED SIGNAL SERVICE
- 2" RSC
 - 3-1/e 6
- CONTROLLER CABINET TO HH 1:
- 4" RSC
 - 4" RSC
 - 4-12/c 14
 - 3-12/c 14
 - 1-6/c 14
 - 1-3/c 14
 - 1-3/c 14
 - 1-3/c 20
 - 12-2/c 14
 - 1-1/c 6 (GRD.)
 - 1-12 SM FO CABLE
- CONTROLLER CABINET TO HH 15:
- 4" RSC
 - 4" RSC
 - 2-12/c 14
 - 3-12/c 14
 - 1-3/c 14
 - 1-3/c 20
 - 1-3/c 14
 - 1-2/c 14
 - 1-1/e 6 (GRD.)
 - 1-12 SM FO CABLE
- CONTROLLER CABINET TO HH 16:
- 4" RSC
 - 4" RSC
 - 2-12/c 14
 - 3-12/c 14
 - 1-3/c 14
 - 1-3/c 20
 - 1-3/c 14
 - 1-2/c 14
 - 1-1/e 6 (GRD.)
 - 8-2/c 14
- INPLACE (MAINTAIN INPLACE)
- SERVICE CABINET TO HH 1:
- 2" RSC
 - UNMETERED STREET LIGHT SERVICE
 - 2-3/c 14 (LUM)
- SERVICE CABINET TO HH 15:
- 2" RSC
 - UNMETERED STREET LIGHT SERVICE
 - 1-3/c 14 (LUM)
- SERVICE CABINET TO HH 16:
- 2" RSC
 - 3-1/e 2
 - 3" RSC STUBBED OUT FROM CONTROLLER CABINET TO NORTH (THREADED AND CAPPED-FOR FUTURE USE)
 - 1" RSC STUBBED OUT FROM CONTROLLER CABINET (FOR FUTURE PHONE LINE BY OTHERS)



- (B) INPLACE (MAINTAIN INPLACE)**
- WOOD POLE (S&P) (XCEL ENERGY) 2" RSC RISER AND WEATHERHEAD
- 3-1/c 2
 - EXTENDED INTO HH 16:
 - 2" RSC
 - 3-1/c 2

- SIGNAL SYSTEM OPERATIONS:**
- SIGNAL SYSTEM FLASH MODE IS ALL RED.
 - NORMAL OPERATION IS 8 PHASE WITH PHASES 1, 3, 5, & 7 BEING FLASHING YELLOW ARROW OPERATION (FLASH BY TIME OF DAY).
 - VEHICLE SIGNAL PHASES 2 & 6 OPERATE ON RECALL.

- F & I**
- APPS PUSH BUTTON STATION (SEE DETAILS)
 - 1-APPS PB & SIGN (LT ARROW) (PB2-1)
 - EXTEND INTO HH 15:
 - 1" CONDUIT
 - 1-2/c 14
 - 1-1/c 6 (INS GR)
- INPLACE (REMOVE)
- 6' x 6' CONCRETE SIDEWALK PANEL
- F & I**
- 6' x 8' CONCRETE SIDEWALK PANEL (SIZE FOR NEW PB STATION INSTALLATION)

LED SIGNAL FACES
ALL SIGNAL INDICATIONS ARE 12"

SIGNAL FACE	R	Y	FYA	G
1-1, 1-2	●	●	●	●
2-1, 2-2, 2-3	●	●	●	●
3-1, 3-2	●	●	●	●
4-1, 4-2	●	●	●	●
5-1, 5-2	●	●	●	●
6-1, 6-2, 6-3	●	●	●	●
7-1, 7-2	●	●	●	●
8-1, 8-2	●	●	●	●

FYA = FLASHING YELLOW ARROW

DRAWN BY:	JMC
DESIGNER:	JMC
CHECKED BY:	JMC
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.

Date: May 9, 2022 Name: John M. Gray, PE Lic. No.: 22457



ANOKA COUNTY
CITY OF COON RAPIDS

REVERSE SIGNAL SYSTEM 'J'
INTERSECTION LAYOUT
CSAH 1 (COON RAPIDS BLVD NW) AT ROUND LAKE BOULEVARD

PLC FILE: ANOKA_121928
SIGNAL SHEET: 32 OF 35
63U
94

NO.	DATE	BY	CKD	APPR	REVISION	05/17/2022	9:28:24 AM
NAME: P:\22-01-00CSAH_01_(111TH-7TH)\Base\Proposed\SIGNAL_PLANS.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: _____
SIGNATURE: _____
DATE: _____ LICENSE NO. _____

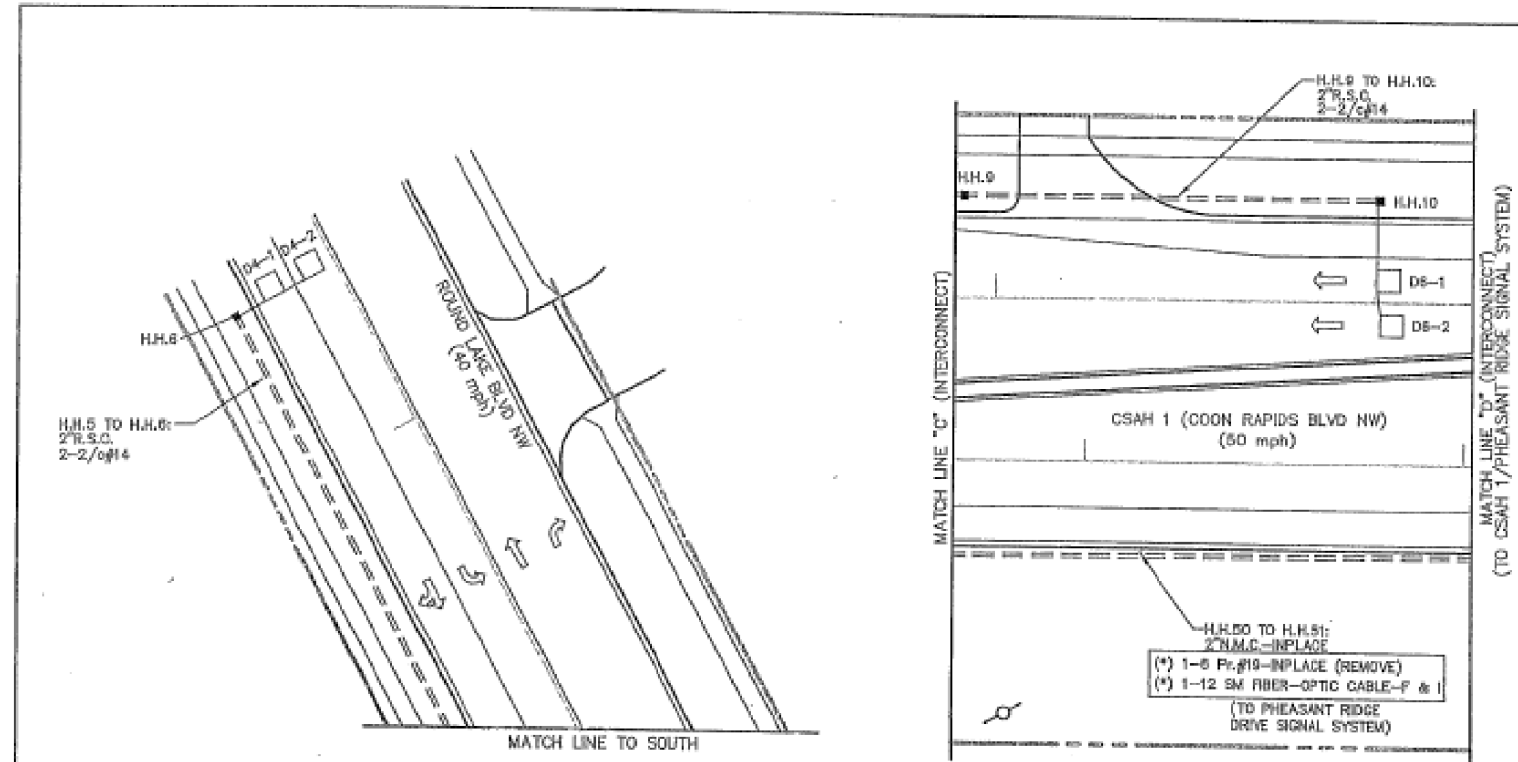
DRAWN BY: MR DATE 02/02/2022
DESIGN BY: MR DATE 02/02/2022
CHECKED BY: CO DATE 05/17/2022

ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-601-059

EXISTING SIGNAL PLANS
Sheet 76 of 87 Sheets

7019



- INTERCONNECT NOTES:**
- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
 - 2) (*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2555 (TRAFFIC CONTROL INTERCONNECT "A"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
 - 3) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED BY BOTH (*) AND BY EITHER F & I (ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR) OR BY "REMOVE" (ITEMS TO BE REMOVED & DISPOSED OF BY CONTRACTOR).
 - 4) NEW HANDHOLES REQUIRED TO BE FURNISHED & INSTALLED BY THE CONTRACTOR AS PART OF PROJECT SHALL BE PRE-CAST POLYMER CONCRETE STRUCTURES (QUAZITE). SEE DETAILS/SPECIAL PROVISIONS.
 - 5) EXISTING CONCRETE HANDHOLES WITH CONCRETE OR TYPE LD COVERS IN BOULEVARD AREAS (USED WITH INTERCONNECT SYSTEM CABLES) SHALL BE ADJUSTED TO FINISHED SURROUNDING GRADE (TO BE MEASURED AND PAID FOR SEPARATELY-SEE SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES).
 - 6) FOR EXISTING CONDUITS BEING REUSED AS PART OF THE COMPLETE INTERCONNECT SYSTEM, THE CONTRACTOR SHALL PULL A FISH TAPE THROUGH THESE CONDUITS TO CONFIRM THAT CONDUITS ARE ABLE TO BE REUSED WITH NEW CABLE INSTALLATIONS, PRIOR TO NEW INTERCONNECT CABLES BEING INSTALLED IN THESE CONDUITS.
 - 7) SEPARATE PAY ITEMS ARE INCLUDED FOR NEW 1.5 INCH CONDUITS (BOTH FOR INSTALLATION IN BOULEVARD AREAS AND FOR BORING UNDER EXISTING DRIVEWAYS OR ROADWAYS), SHOULD EXISTING CONDUITS BE FOUND INCAPABLE OF HAVING NEW INTERCONNECT CABLES BE INSTALLED IN THESE CONDUITS. SEE SPECIAL PROVISIONS.
 - 8) SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING LABOR AND MATERIALS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR IN EACH INPLACE TRAFFIC SIGNAL CONTROLLER CABINET AS PART OF THE "TRAFFIC CONTROL INTERCONNECT "A" PAY ITEM.

- ① PA100 POLE FOUNDATION
TYPE PA100-A-35
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11'
1-ANGLE MOUNT SIGNAL-POLE MOUNTED 270'
1-ANGLE MOUNT C.D. PED INDICATION-POLE MOUNTED 270'
1-PEDESTRIAN PUSH BUTTON
R10-X12 SIGN PANEL-ADJACENT TO 7-1
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EVP DETECTOR AND LIGHT (#4,7)
EXTEND INTO H.H.15:
3\"/>

- ② PEDESTAL FOUNDATION
12' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
1-STRAIGHT MOUNT SIGNAL-POLE MOUNTED (FACING WB LT TRAFFIC)
1-STRAIGHT MOUNT C.D. PED INDICATION-POLE MOUNTED (FOR CROSSING CSAH 1)
1-PEDESTRIAN PUSH BUTTON
EXTEND INTO H.H.1:
3\"/>

- ③ PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-B (DAVIT AT 350')
LUMINAIRE-COBRAHEAD LED
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11' & 23'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90' & 180'
1-PEDESTRIAN PUSH BUTTON
R5-1L SIGN PANEL-POLE MOUNTED 0'
R10-X12 SIGN PANEL-ADJACENT TO 1-1
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EVP DETECTOR AND LIGHT (#5,1)
EXTEND INTO H.H.5:
3\"/>

- ④ PEDESTAL FOUNDATION
12' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
2-STRAIGHT MOUNT C.D. PED INDICATIONS-POLE MOUNTED
1-PEDESTRIAN PUSH BUTTON
EXTEND INTO H.H.5:
3\"/>

- ⑤ PA100 POLE FOUNDATION
TYPE PA100-A-40-D40-B (DAVIT AT 350')
LUMINAIRE-COBRAHEAD LED
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11'
1-ANGLE MOUNT SIGNAL-POLE MOUNTED 270'
1-ANGLE MOUNT C.D. PED INDICATION-POLE MOUNTED 270'
1-PEDESTRIAN PUSH BUTTON
R10-X12 SIGN PANEL-ADJACENT TO 3-1
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EVP DETECTOR AND LIGHT (#6,3)
EXTEND INTO H.H.7:
3\"/>

- ⑥ PEDESTAL FOUNDATION
12' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
1-STRAIGHT MOUNT SIGNAL-POLE MOUNTED (FACING EB LT TRAFFIC)
1-STRAIGHT MOUNT C.D. PED INDICATION-POLE MOUNTED (FOR CROSSING CSAH 1)
1-PEDESTRIAN PUSH BUTTON
EXTEND INTO H.H.8:
3\"/>

- ⑦ PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-B (DAVIT AT 350')
LUMINAIRE-COBRAHEAD LED
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11' & 23'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90' & 180'
1-PEDESTRIAN PUSH BUTTON
R8-1L SIGN PANEL-POLE MOUNTED 0'
R10-X12 SIGN PANEL-ADJACENT TO 5-1
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EVP DETECTOR AND LIGHT (#2,5)
EXTEND INTO H.H.12:
3\"/>

- ⑧ PEDESTAL FOUNDATION
12' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
2-STRAIGHT MOUNT C.D. PED INDICATIONS-POLE MOUNTED
1-PEDESTRIAN PUSH BUTTON
EXTEND INTO H.H.13:
3\"/>

DRAWN BY: JMB
DESIGNER: JMB
CHECKED BY: JMB

DESIGN TEAM	NO.	BY	DATE

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.
Date: May 5, 2018
Name: John W. King, PE
Lic. No.: 22457



ANOKA COUNTY, MN
CITY OF COON RAPIDS
SAP 002-030-010

TRAFFIC SIGNAL INTERCONNECT "A"
INTERSECTION LAYOUT
CSAH 1 (COON RAPIDS BLVD)
AT ROUND LAKE BOULEVARD

FILE NO. ANOKD 142312
8
115

NO.	DATE	BY	CKD	APPR	REVISION	04/26/2022	3:59:46 PM

NAME: P:\22-01-00\CSAH_01_(111TH-7TH)\Base\Proposed\SIGNAL_PLANS.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: _____
SIGNATURE: _____
DATE: _____ LICENSE NO. _____

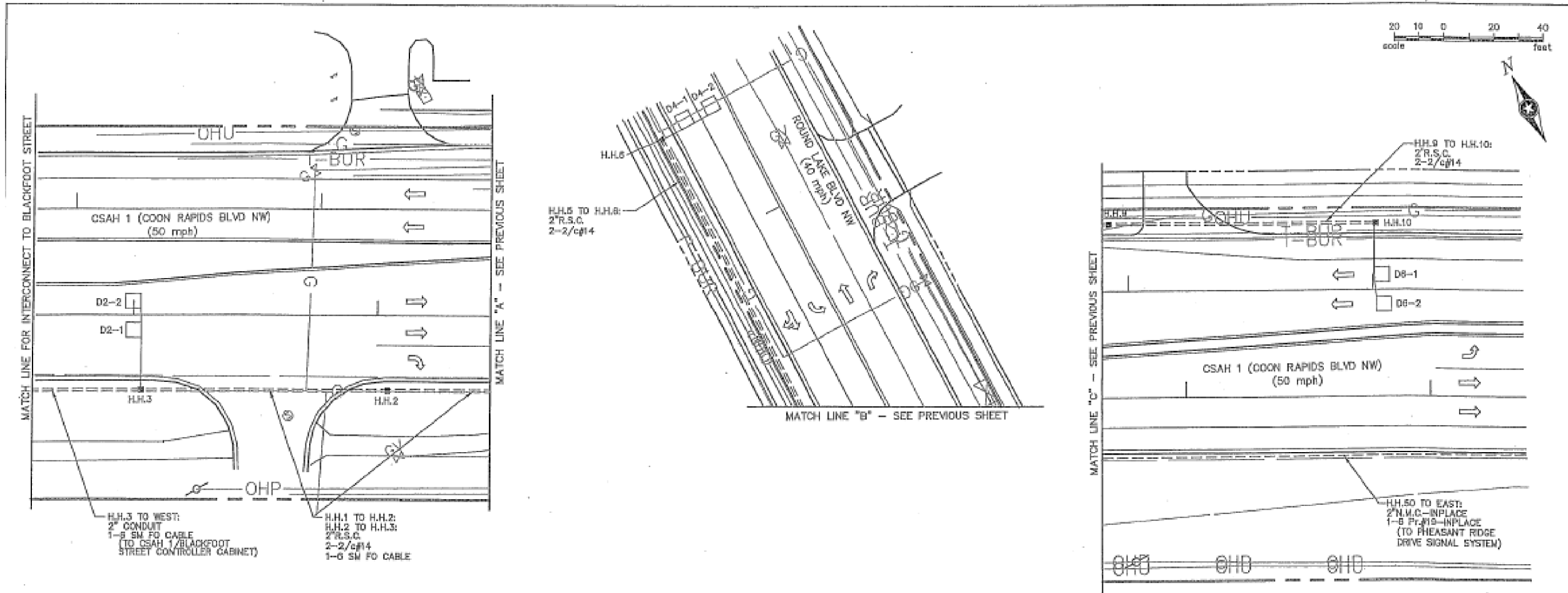
DRAWN BY: MR DATE 02/02/2022
DESIGN BY: MR DATE 02/02/2022
CHECKED BY: CO DATE 04/26/2022

ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-601-059

EXISTING SIGNAL PLANS
Sheet 77 of 87 Sheets

FOR REFERENCE PURPOSES ONLY



- ① PA100 POLE FOUNDATION
TYPE PA100-A-35
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11'
1-ANGLE MOUNT SIGNAL-POLE MOUNTED 270'
1-ANGLE MOUNT C.D. PED INDICATION-POLE MOUNTED 270'
1-PEDESTRIAN PUSH BUTTON
R10-X12 SIGN PANEL-ADJACENT TO 7-1
TYPE D SIGN PANEL-OVERHEAD (D-1)
ONE WAY EVP DETECTOR AND LIGHT (#4,7) (EVP)
EXTEND INTO H.H.13:
3"R.S.C.
2-12/c#14
1-3/c#14 (EVP)
1-3/c#20 (EVP)
1-2/c#14
1-1/c#5 (GRD.)

- ② PEDESTAL FOUNDATION
12' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
1-STRAIGHT MOUNT SIGNAL-POLE MOUNTED
(FACING WB LT TRAFFIC)
1-STRAIGHT MOUNT C.D. PED INDICATION-
POLE MOUNTED (FOR CROSSING CSAH 1)
1-PEDESTRIAN PUSH BUTTON
EXTEND INTO H.H.11:
3"R.S.C.
1-12/c#14
1-2/c#14
1-1/c#5 (GRD.)

- ③ PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9 (DAMT AT 350')
LUMINAIRE-CORRAHEAD LED (SEE SPECIAL PROVISIONS)
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11' & 23'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90' & 180'
1-PEDESTRIAN PUSH BUTTON
R6-1L SIGN PANEL-POLE MOUNTED 0'
R10-X12 SIGN PANEL-ADJACENT TO 1-1
TYPE D SIGN PANEL-OVERHEAD (D-3)
ONE WAY EVP DETECTOR AND LIGHT (#6,1) (EVP)
EXTEND INTO H.H.5:
3"R.S.C.
2-12/c#14
1-8/c#14
1-3/c#14 (EVP)
1-3/c#20 (EVP)
1-2/c#14
1-2/c#14
1-3/c#14 (LUM)
1-1/c#5 (GRD.)

- ④ PEDESTAL FOUNDATION
12' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
2-STRAIGHT MOUNT C.D. PED INDICATIONS-
POLE MOUNTED
1-PEDESTRIAN PUSH BUTTON
EXTEND INTO H.H.1:
3"R.S.C.
1-12/c#14
1-2/c#14
1-1/c#5 (GRD.)

- ⑤ PA100 POLE FOUNDATION
TYPE PA100-A-40-D40-9 (DAMT AT 350')
LUMINAIRE-CORRAHEAD LED (SEE SPECIAL PROVISIONS)
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11'
1-ANGLE MOUNT SIGNAL-POLE MOUNTED 270'
1-ANGLE MOUNT C.D. PED INDICATION-POLE MOUNTED 270'
1-PEDESTRIAN PUSH BUTTON
R10-X12 SIGN PANEL-ADJACENT TO 3-1
TYPE D SIGN PANEL-OVERHEAD (D-3)
ONE WAY EVP DETECTOR AND LIGHT (#8,3) (EVP)
EXTEND INTO H.H.7:
3"R.S.C.
2-12/c#14
1-3/c#14 (EVP)
1-3/c#20 (EVP)
1-2/c#14
1-3/c#14 (LUM)
1-1/c#5 (GRD.)

- ⑥ PEDESTAL FOUNDATION
12' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
1-STRAIGHT MOUNT SIGNAL-POLE MOUNTED
(FACING EB LT TRAFFIC)
1-STRAIGHT MOUNT C.D. PED INDICATION-
POLE MOUNTED (FOR CROSSING CSAH 1)
1-PEDESTRIAN PUSH BUTTON
EXTEND INTO H.H.8:
3"R.S.C.
1-12/c#14
1-2/c#14
1-1/c#5 (GRD.)

- ⑦ PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9 (DAMT AT 350')
LUMINAIRE-CORRAHEAD LED (SEE SPECIAL PROVISIONS)
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS-POLE MOUNTED 90' & 180'
1-PEDESTRIAN PUSH BUTTON
R6-1L SIGN PANEL-POLE MOUNTED 0'
R10-X12 SIGN PANEL-ADJACENT TO 5-1
TYPE D SIGN PANEL-OVERHEAD (D-4)
ONE WAY EVP DETECTOR AND LIGHT (#2,5) (EVP)
EXTEND INTO H.H.12:
3"R.S.C.
2-12/c#14
1-8/c#14
1-3/c#14 (EVP)
1-3/c#20 (EVP)
1-2/c#14
1-3/c#14 (LUM)
1-1/c#5 (GRD.)

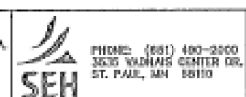
- ⑧ PEDESTAL FOUNDATION
12' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
2-STRAIGHT MOUNT C.D. PED INDICATIONS-
POLE MOUNTED
1-PEDESTRIAN PUSH BUTTON
EXTEND INTO H.H.13:
3"R.S.C.
1-12/c#14
1-2/c#14
1-1/c#5 (GRD.)

S.P. 002-601-048
S.P. 114-121-010

DRAWN BY: JMG	1 JMG 5/13	REMOVED POLES AND MAST ARMS TO BE COUNTY FURNISHED/CONTRACTOR INSTALLED
DESIGNED BY: JMG	2 JMG 10/14	RECORD DRAWING
CHECKED BY: JMG		
NO.	BY	DATE

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.

Signature: *JMG* Name: John M. Gray, PE License No.: 55457



ANOKA COUNTY, MINNESOTA
CITY OF COON RAPIDS

TRAFFIC SIGNAL SYSTEM
INTERSECTION LAYOUT
CSAH 1 AT ROUND LAKE BOULEVARD

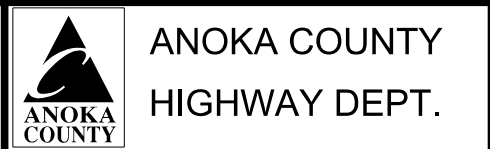
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SIGNAL SHEET	48
11 OF 15	

NO.	DATE	BY	CKD	APPR	REVISION	04/26/2022	3:59:52 PM
NAME: P:\22-01-00\CSAH_01_(111TH-7TH)\Base\Proposed\SIGNAL_PLANS.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: _____
SIGNATURE: _____
DATE: _____ LICENSE NO. _____

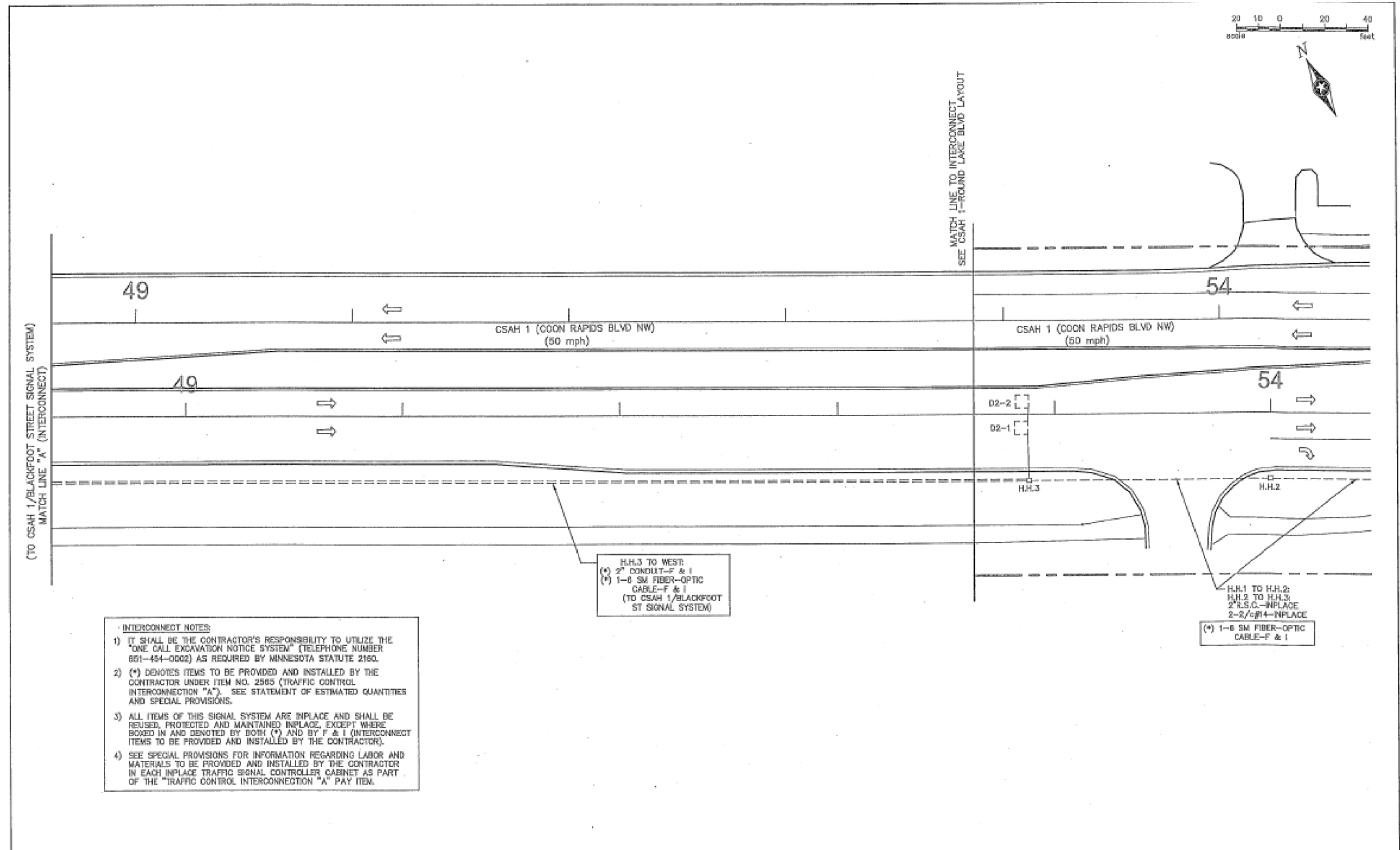
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DESIGN BY: MR DATE 02/02/2022
CHECKED BY: CO DATE 04/26/2022



STATE AID PROJECT 002-601-059

EXISTING SIGNAL PLANS
Sheet 78 of 87 Sheets

FOR REFERENCE PURPOSES ONLY

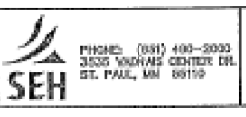


- INTERCONNECT NOTES:**
- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
 - 2) (*) DENOTES ITEMS TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION "A"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
 - 3) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED BY BOTH (*) AND BY F & I (INTERCONNECT ITEMS TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR).
 - 4) SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING LABOR AND MATERIALS TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR IN EACH INPLACE TRAFFIC SIGNAL CONTROLLER CABINET AS PART OF THE "TRAFFIC CONTROL INTERCONNECTION "A" PAY ITEM.

DRAWN BY: JMC	1 JMC 10/14	RECORD DRAWING	
DESIGNER: JMC			
CHECKED BY: JMC			
DESIGN TEAM	NO.	BY	DATE

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.

Date: May 8, 2014 Name: John M. Gray, PE Lic. No.: 22487



ANOKA COUNTY, MINNESOTA
CITY OF COON RAPIDS

TRAFFIC SIGNAL INTERCONNECT "A"
FIELD WIRING DIAGRAM
CSAH 1 (COON RAPIDS BLVD)
(BLACKFOOT ST TO ROUND LAKE BLVD)

FILE NO. ANOKC 127407	5
DATE 05/09/2014	30

S.P. 002-030-007

NO.	DATE	BY	CKD	APPR	REVISION	04/26/2022	3:59:59 PM
NAME: P:\22-01-00\CSAH_01_(111TH-7TH)\Base\Proposed\SIGNAL_PLANS.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: _____
SIGNATURE: _____
DATE: _____ LICENSE NO. _____

DRAWN BY: MR DATE 02/02/2022
DESIGN BY: MR DATE 02/02/2022
CHECKED BY: CO DATE 04/26/2022

ANOKA COUNTY HIGHWAY DEPT.

STATE AID PROJECT 002-601-059

EXISTING SIGNAL PLANS
Sheet 79 of 87 Sheets

REVISE SIGNAL SYSTEM J NOTES:

- 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS BOXED IN AND NOTED OTHERWISE ON PLANS.
- 2) ALL HANDHOLES ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE.
- 3) LOCATION OF NEW PUSH BUTTON STATION SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 4) ALL CABLES AND CONDUCTORS, CONDUIT, HANDHOLES, AND LOOP DETECTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED OTHERWISE.
- 5) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (MLP) 12 AWG IN 3/4" NMC. LOOP DETECTORS IMPACTED BY EITHER CURB RAMP WORK OR MILL/OVERLAY WORK SHALL BE FURNISHED, INSTALLED & MADE OPERATIONAL BY CONTRACTOR TO SATISFACTION OF ENGINEER. SEE DETAILS & SPECIAL PROVISIONS.
- 6) CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING LOOP DETECTOR SPLICE KITS (FOR ANY LOOP DETECTOR BEING REPLACED AS PART OF THIS PROJECT) AND SHALL FURNISH AND INSTALL NEW LOOP DETECTOR SPLICE KITS IN THE ADJACENT HANDHOLE FOR THESE LOOP DETECTORS AS CALLED FOR IN THE SPECIAL PROVISIONS.
- 7) A SEPARATE PAY ITEM HAS BEEN ADDED (2585 - RIGID PVC LOOP DETECTOR 6" x 6") FOR REPLACEMENT OF LOOP DETECTORS. SHOULD THESE LOOP DETECTORS BE REQUIRED TO BE REPLACED BY THE CONTRACTOR EITHER DUE TO MILL/OVERLAY OR CURB RAMP/CURB AND GUTTER WORK THAT CAUSES THE EXISTING LOOP DETECTOR TO BE DAMAGED, THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT AND MAINTAIN THE EXISTING LOOP DETECTORS (INCLUDING LEAD-IN CONDUITS FROM HANDHOLE TO IN-PAVEMENT LOOP DETECTOR CONDUIT) AND SHALL NOTIFY THE ENGINEER IF THEY ANTICIPATE THAT A LOOP DETECTOR WILL BE DAMAGED DUE TO THEIR WORK. COUNTY WILL PROVIDE INITIAL LOCATION OF THESE LOOP DETECTORS FOR CONTRACTOR TO BE ABLE TO PLAN FOR WORKING AROUND THESE LOOP DETECTORS. SEE SPECIAL PROVISIONS.
- 8) CONTRACTOR SHALL MAINTAIN A SIGNAL SYSTEM IN OPERATION AT THIS INTERSECTION AT ALL TIMES, UNLESS OTHERWISE APPROVED BY THE ENGINEER FOR THE SIGNAL SYSTEM TO BE PLACED INTO ALL-RED FLASH DURING NON-PEAK TRAFFIC PERIODS (FOR WORK THAT REQUIRES THE SIGNAL SYSTEM TO BE OUT OF OPERATION OR TO ACCOMMODATE ROAD WORK AT THE INTERSECTION).
- 9) ANY DAMAGE TO INPLACE TRAFFIC SIGNAL FACILITIES (CONDUIT, CABLES, HANDHOLES, SIGNAL POLES, ETC.), DUE TO TRAFFIC SIGNAL OR ROAD WORK, SHALL BE REPAIRED BY CONTRACTOR TO SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE COUNTY.
- 10) F & I = NEW, FURNISH AND INSTALL.
S & I = INPLACE, SALVAGE AND INSTALL.
- 11) CONCRETE SIDEWALK REMOVAL AND REPLACEMENT ON THE SW QUADRANT (TO ALLOW FOR NEW PUSH BUTTON STATION FB2-1 TO BE FURNISHED AND INSTALLED) SHALL BE COMPLETED BY THE CONTRACTOR AND INCLUDED AS PART OF THE BIG ITEM FOR REVISE SIGNAL SYSTEM J (ITEM NO. 2565), WITH NO DIRECT COMPENSATION BEING MADE THEREFOR.

① INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION
TYPE PA100-A-35
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11'
1-ANGLE MOUNT SIGNAL-POLE MOUNTED 270'
1-ANGLE MOUNT C.D. PED INDICATION-POLE MOUNTED 270'
R10-X12 SIGN PANEL-ADJACENT TO 7-1
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EWP DETECTOR AND LIGHT (#4.7)
EXTENDED INTO HH 15:
3" RSC
2-12/c 14
1-3/c 14
1-3/c 20
1-2/c 14
1-1/c 6 (GRD.)

INPLACE (SALVAGE) 1-PEDESTRIAN PUSH BUTTON AT 90 DEG
INPLACE (REMOVE) 1-PED PB STICKER SIGN AT 90 DEG (R10-4b)
F & I 1-PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTON USED TO BE (AT 90 DEG)

④ INPLACE (MAINTAIN INPLACE) PEDESTAL FOUNDATION
12' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
2-STRAIGHT MOUNT C.D. PED INDICATIONS-POLE MOUNTED
EXTENDED INTO HH 5:
3" RSC
1-12/c 14
1-2/c 14
1-1/c 6 (GRD.)

INPLACE (SALVAGE) 1-PEDESTRIAN PUSH BUTTON (SOUTH SIDE OF POLE)
INPLACE (REMOVE) 1-PED PB STICKER SIGN (R10-4b)
F & I 1-APS PB, SIGN (RT ARROW) AND APS PEDESTAL POLE SPACERS (PB2-2)
PLUG HOLES ON PEDESTAL POLE WHERE PUSH BUTTON USED TO BE (SOUTH SIDE OF POLE)

⑦ INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9 (DAVT AT 350)
LUMINAIRE-COBRAHEAD LED
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11' & 23'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90' & 180'
R6-1L SIGN PANEL-POLE MOUNTED 0'
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EWP DETECTOR AND LIGHT (#2.5)
EXTENDED INTO HH 12:
3" RSC
2-12/c 14
1-6/c 14
1-3/c 14
1-3/c 20
1-2/c 14
1-3/c 14 (LUM)
1-1/c 6 (GRD.)

INPLACE (SALVAGE) 1-PEDESTRIAN PUSH BUTTON AT 270 DEG
INPLACE (REMOVE) 1-PED PB STICKER SIGN AT 270 DEG (R10-4b)
F & I 1-APS PB, SIGN (LT ARROW) AND APS MAST ARM POLE ADAPTOR (PB2-1)
PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTON USED TO BE (AT 270 DEG)

② INPLACE (MAINTAIN INPLACE) PEDESTAL FOUNDATION
12' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
1-STRAIGHT MOUNT SIGNAL-POLE MOUNTED (FACING WB LT TRAFFIC)
1-STRAIGHT MOUNT C.D. PED INDICATION-POLE MOUNTED (FOR CROSSING CSAH 1)
EXTENDED INTO HH 1:
3" RSC
1-12/c 14
1-2/c 14
1-1/c 6 (GRD.)

INPLACE (SALVAGE) 1-PEDESTRIAN PUSH BUTTON (EAST SIDE OF POLE)
INPLACE (REMOVE) 1-PED PB STICKER SIGN (R10-4b)
F & I 1-APS PB, SIGN (RT ARROW) AND APS PEDESTAL POLE SPACERS (PB2-2)
PLUG HOLES ON PEDESTAL POLE WHERE PUSH BUTTON USED TO BE (EAST SIDE OF POLE)

⑤ INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION
TYPE PA100-A-40-D40-9 (DAVT AT 350)
LUMINAIRE-COBRAHEAD LED
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL-POLE MOUNTED 270'
1-ANGLE MOUNT C.D. PED INDICATION-POLE MOUNTED 270'
R10-X12 SIGN PANEL-ADJACENT TO 3-1
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EWP DETECTOR AND LIGHT (#6.3)
EXTENDED INTO HH 7:
3" RSC
2-12/c 14
1-3/c 14
1-3/c 20
1-2/c 14
1-3/c 14 (LUM)
1-1/c 6 (GRD.)

INPLACE (SALVAGE) 1-PEDESTRIAN PUSH BUTTON AT 315 DEG
INPLACE (REMOVE) 1-PED PB STICKER SIGN AT 315 DEG (R10-4b)
F & I 1-APS PB, SIGN (LT ARROW) AND APS MAST ARM POLE ADAPTOR (PB2-1)
PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTON USED TO BE (AT 315 DEG)

⑧ INPLACE (MAINTAIN INPLACE) PEDESTAL FOUNDATION
12' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
2-STRAIGHT MOUNT C.D. PED INDICATIONS-POLE MOUNTED
EXTENDED INTO HH 13:
3" RSC
1-12/c 14
1-2/c 14
1-1/c 6 (GRD.)

INPLACE (SALVAGE) 1-PEDESTRIAN PUSH BUTTON (NORTH SIDE OF POLE)
INPLACE (REMOVE) 1-PED PB STICKER SIGN (R10-4b)
F & I 1-APS PB, SIGN (RT ARROW) AND APS PEDESTAL POLE SPACERS (PB2-2)
PLUG HOLES ON PEDESTAL POLE WHERE PUSH BUTTON USED TO BE (NORTH SIDE OF POLE)

③ INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9 (DAVT AT 350)
LUMINAIRE-COBRAHEAD LED
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11' & 23'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90' & 180'
R6-1L SIGN PANEL-POLE MOUNTED 0'
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EWP DETECTOR AND LIGHT (#6.1)
EXTENDED INTO HH 5:
3" RSC
2-12/c 14
1-6/c 14
1-3/c 14
1-3/c 20
1-2/c 14
1-3/c 14 (LUM)
1-1/c 6 (GRD.)

INPLACE (SALVAGE) 1-PEDESTRIAN PUSH BUTTON AT 270 DEG
INPLACE (REMOVE) 1-PED PB STICKER SIGN AT 270 DEG (R10-4b)
F & I 1-APS PB, SIGN (LT ARROW) AND APS MAST ARM POLE ADAPTOR (PB2-1)
PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTON USED TO BE (AT 270 DEG)

⑥ INPLACE (MAINTAIN INPLACE) PEDESTAL FOUNDATION
12' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
1-STRAIGHT MOUNT SIGNAL-POLE MOUNTED (FACING EB LT TRAFFIC)
1-STRAIGHT MOUNT C.D. PED INDICATION-POLE MOUNTED (FOR CROSSING CSAH 1)
EXTENDED INTO HH 8:
3" RSC
1-12/c 14
1-2/c 14
1-1/c 6 (GRD.)

INPLACE (SALVAGE) 1-PEDESTRIAN PUSH BUTTON (WEST SIDE OF POLE)
INPLACE (REMOVE) 1-PED PB STICKER SIGN (R10-4b)
F & I 1-APS PB, SIGN (RT ARROW) AND APS PEDESTAL POLE SPACERS (PB2-2)
PLUG HOLES ON PEDESTAL POLE WHERE PUSH BUTTON USED TO BE (WEST SIDE OF POLE)

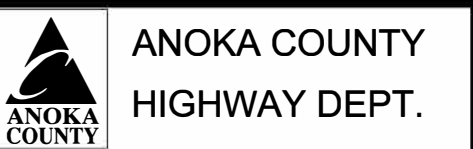
COUNTY PROJECT 22-19-01

DRAWN BY: JMG	DESIGNED BY: JMG	CHECKED BY: JMG	DATE: 05/17/2022	REVISIONS:	1. 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. Date: May 9, 2022 Name: John M. Gray, PE Lic. No.: 22457	SEH PHONE: (800) 495-2000 3535 SHADOWN CENTER DR. ST. PAUL, MN 55110	ANOKA COUNTY CITY OF COON RAPIDS	REVISE SIGNAL SYSTEM J SIGNAL SYSTEM NOTES CSAH 1 (COON RAPIDS BOULEVARD) AT ROUND LAKE BOULEVARD	FILE NO. ANOKA 122928	63V	SIGNAL SHEET 33 OF 35	94
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NO	DATE	BY	CKD	APPR	REVISION	05/17/2022	9:29:04 AM
NAME: P:\22-01-00CSAH_01_(111TH-7TH)\Base\Proposed\SIGNAL_PLANS.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: _____
SIGNATURE: _____
DATE: _____ LICENSE NO. _____

DRAWN BY: MR. DATE 02/02/2022
DESIGN BY: MR. DATE 02/02/2022
CHECKED BY: CO. DATE 05/17/2022



STATE AID PROJECT 002-601-059

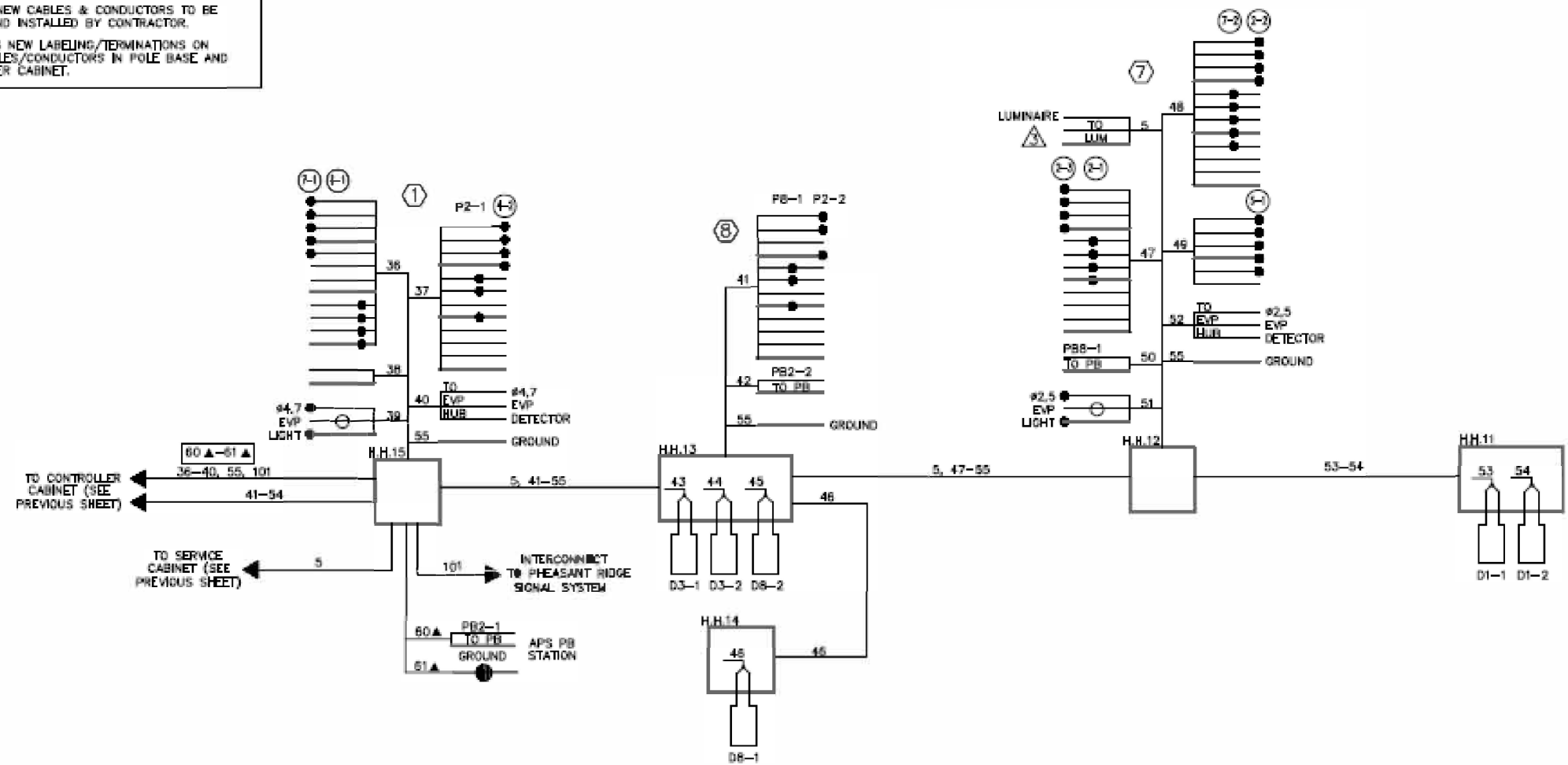
EXISTING SIGNAL PLANS
Sheet 79A of 87 Sheets

REVISE SIGNAL SYSTEM J NOTES:

- 1) ALL CABLES AND CONDUCTORS, HANDHOLES, AND LOOP DETECTORS ARE INPLACE AND SHALL BE REVISED AND MAINTAINED INPLACE, EXCEPT AS OTHERWISE NOTED.
- 2) ▲ DENOTES NEW CABLES & CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
- 3) (**) DENOTES NEW LABELING/TERMINATIONS ON INPLACE CABLES/CONDUCTORS IN POLE BASE AND IN CONTROLLER CABINET.

CONDUCTOR COLOR CODE (14 GAUGE)			
TO SIGNAL CABINET		TO DEVICE	
1/CABLE	RED	RED	RED
2/CABLE	BLACK	BLACK	BLACK
3-1/CABLE	WHITE	WHITE	WHITE
3-2/CABLE	GREEN	GREEN	GREEN
3-3/CABLE	YELLOW	YELLOW	YELLOW
3-4/CABLE	BLUE	BLUE	BLUE
3-5/CABLE	PINK	PINK	PINK
3-6/CABLE	BROWN	BROWN	BROWN
3-7/CABLE	GRAY	GRAY	GRAY
3-8/CABLE	ORANGE	ORANGE	ORANGE
3-9/CABLE	PURPLE	PURPLE	PURPLE
3-10/CABLE	TEAL	TEAL	TEAL
3-11/CABLE	SLATE	SLATE	SLATE
3-12/CABLE	MAUVE	MAUVE	MAUVE
3-13/CABLE	PLUM	PLUM	PLUM
3-14/CABLE	CHOCOLATE	CHOCOLATE	CHOCOLATE

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.



COUNTY PROJECT 22-19-01

DRAWN BY: JMG DESIGNER: JMG CHECKED BY: JMG	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. Date: 04/13/2022 Name: John M Gray, PE Lic. No.: 22457	ANOKA COUNTY CITY OF COON RAPIDS	REVISE SIGNAL SYSTEM J FIELD WIRING DIAGRAM CSAH 1 (COON RAPIDS BOULEVARD) AT ROUND LAKE BOULEVARD	FILE NO. ANOKA 122028 SIGNAL SHEET 35 OF 35	63X 94
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NO	DATE	BY	CKD	APPR	REVISION	05/17/2022	9:30:06 AM
NAME: P:\22-01-00\CSAH_01_(111TH-7TH)\Base\Proposed\SIGNAL_PLANS.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.

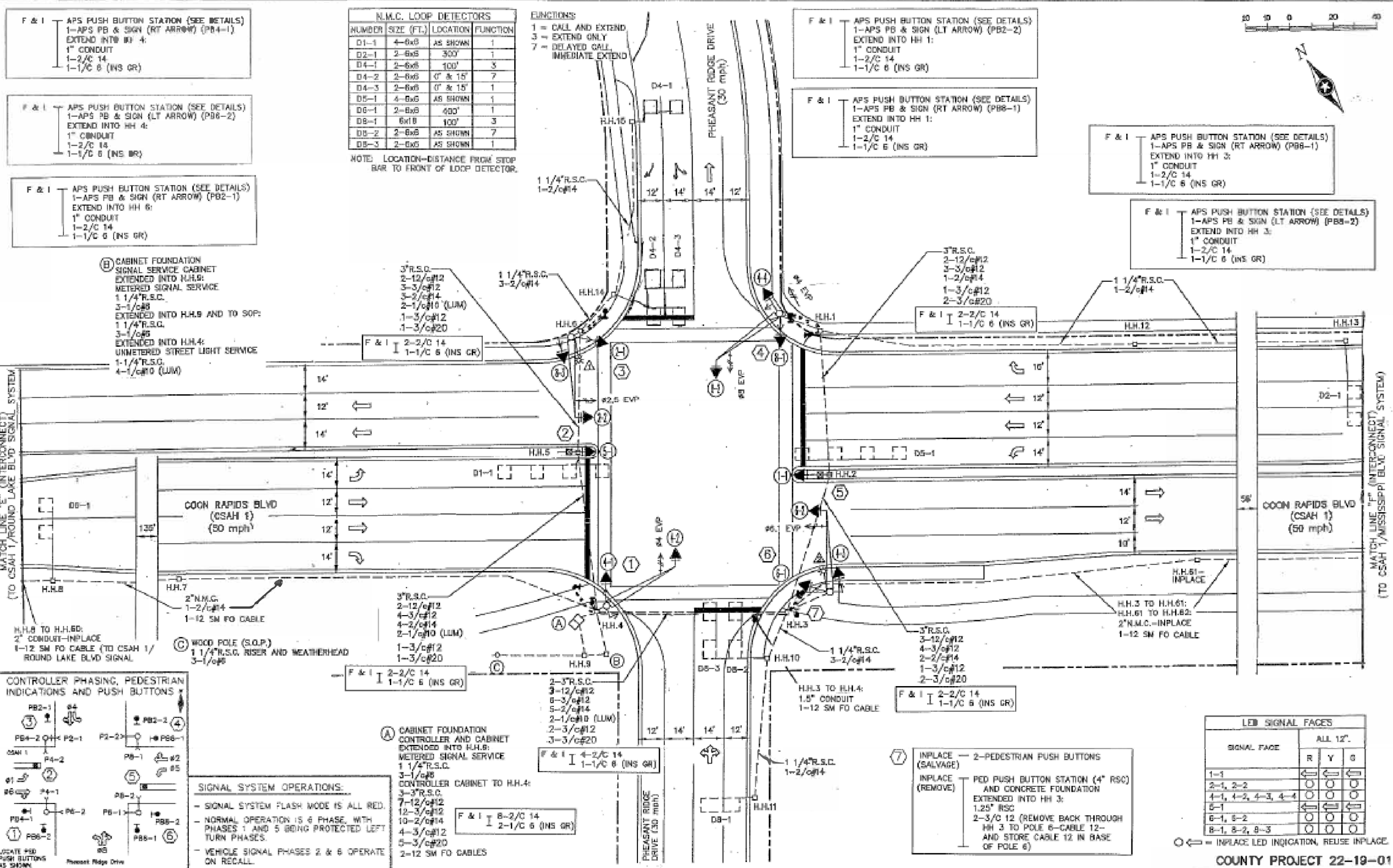
PRINT NAME: _____
 SIGNATURE: _____
 DATE: _____ LICENSE NO. _____

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 DESIGN BY: MR DATE 02/02/2022
 CHECKED BY: CO DATE 05/17/2022

ANOKA COUNTY
HIGHWAY DEPT.

STATE AID PROJECT 002-601-059

EXISTING SIGNAL PLANS
 Sheet 81 of 87 Sheets



N.M.C. LOOP DETECTORS

NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	4-6x8	AS SHOWN	1
D2-1	2-6x8	300'	1
D4-1	2-6x8	100'	3
D4-2	2-6x8	0' & 15'	7
D4-3	2-6x8	0' & 15'	1
D5-1	4-6x8	AS SHOWN	1
D6-1	2-6x8	400'	1
D8-1	6x18	100'	3
D8-2	2-6x8	AS SHOWN	7
D8-3	2-6x8	AS SHOWN	1

NOTE: LOCATION-DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

- FUNCTIONS:**
- 1 = CALL AND EXTEND
 - 3 = EXTEND ONLY
 - 7 = DELAYED CALL, IMMEDIATE EXTEND

F & I APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PB & SIGN (RT ARROW) (PB4-1)
EXTEND INTO HH 4:
1" CONDUIT
1-2/C 14
1-1/C 6 (NS GR)

F & I APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PB & SIGN (LT ARROW) (PB8-2)
EXTEND INTO HH 4:
1" CONDUIT
1-2/C 14
1-1/C 6 (NS GR)

F & I APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PB & SIGN (RT ARROW) (PB2-1)
EXTEND INTO HH 6:
1" CONDUIT
1-2/C 14
1-1/C 6 (NS GR)

F & I APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PB & SIGN (LT ARROW) (PB2-2)
EXTEND INTO HH 1:
1" CONDUIT
1-2/C 14
1-1/C 6 (NS GR)

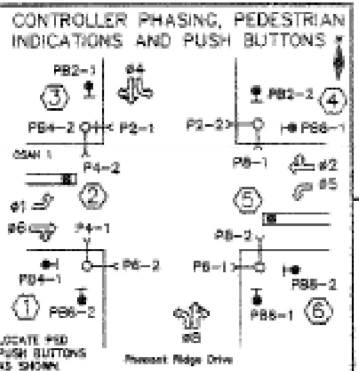
F & I APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PB & SIGN (RT ARROW) (PB8-1)
EXTEND INTO HH 1:
1" CONDUIT
1-2/C 14
1-1/C 6 (NS GR)

F & I APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PB & SIGN (RT ARROW) (PB8-1)
EXTEND INTO HH 3:
1" CONDUIT
1-2/C 14
1-1/C 6 (NS GR)

F & I APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PB & SIGN (LT ARROW) (PB8-2)
EXTEND INTO HH 3:
1" CONDUIT
1-2/C 14
1-1/C 6 (NS GR)

B CABINET FOUNDATION
SIGNAL SERVICE CABINET
EXTENDED INTO H.H.9:
METERED SIGNAL SERVICE
1 1/4" R.S.C.
3-1/c#8
EXTENDED INTO H.H.9 AND TO SGP:
1 1/4" R.S.C.
3-1/c#8
EXTENDED INTO H.H.4:
UNMETERED STREET LIGHT SERVICE
1-1/4" R.S.C.
4-1/c#10 (LUM)

C WOOD POLE (S.O.P.)
1 1/4" R.S.C. RISER AND WEATHERHEAD
3-1/c#8



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 & 6 OPERATE ON RECALL.

A CABINET FOUNDATION
CONTROLLER AND CABINET
EXTENDED INTO H.H.8:
METERED SIGNAL SERVICE
1 1/4" R.S.C.
3-1/c#8
CONTROLLER CABINET TO H.H.4:
3-3" R.S.C.
7-12/c#12
12-3/c#12
10-2/c#14
4-3/c#12
5-3/c#20
2-12 SM FO CABLES

7 INPLACE - 2-PEDESTRIAN PUSH BUTTONS (SALVAGE)
INPLACE - PED PUSH BUTTON STATION (4" RSC) AND CONCRETE FOUNDATION EXTENDED INTO HH 3:
1.25" RSC
2-3/C 12 (REMOVE BACK THROUGH HH 3 TO POLE 6-CABLE 12- AND STORE CABLE 12 IN BASE OF POLE 6)

LED SIGNAL FACES

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

○ = INPLACE LED INDICATION, REUSE INPLACE

DESIGN TEAM

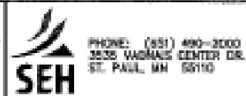
NO.	BY	DATE

REVISIONS

NO.	BY	DATE	REVISION

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. Ship, PE
Date: May 11, 2022 License No. 22457



ANOKA COUNTY
CITY OF COON RAPIDS

REVISE SIGNAL SYSTEM "H" INTERSECTION LAYOUT
CSAH 1 (COON RAPIDS BOULEVARD) AT PHEASANT RIDGE DRIVE

FILE NO. 63R
ANOKC 122920
SIGNAL SHEET 28 OF 35
94

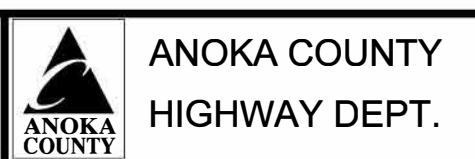
NO.	DATE	BY	CKD	APPR	REVISION	

NAME: P:\22-01-00CSAH_01_(111TH-7TH)Base\Proposed\SIGNAL_PLANS.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: _____
SIGNATURE: _____
DATE: _____ LICENSE NO. _____

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DESIGN BY: MR. DATE 02/02/2022
CHECKED BY: CO. DATE 05/17/2022



STATE AID PROJECT 002-601-059

EXISTING SIGNAL PLANS
Sheet 82 of 87 Sheets

REVISE SIGNAL SYSTEM H NOTES

- 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED IN PLACE UNLESS DOBNO IN AND NOTED OTHERWISE ON PLANS.
- 2) ALL HANDHOLES ARE IN PLACE AND SHALL BE REUSED AND MAINTAINED IN PLACE, EXCEPT AS FOLLOWS:
 - ADJUST HANDHOLES 1, 2, 3, 4, 5, 6 AND 14 TO FINISHED SURROUNDING SIDEWALK, MEDIAN, OR BOULEVARD GRADE AFTER ALL WORK IS COMPLETED.
 - REMOVE INPLACE CONCRETE FRAME AND COVER (HH 2, 3, 4, 5, 6, AND 14) AND REPLACE TYPE LB FRAMP AND COVER (HH 1) AND FINISH AND INSTALL NEW PVC METAL FRAME AND COVER ON EACH OF THESE HANDHOLES AFTER CONCRETE MATERIAL BODY HAS BEEN ADJUSTED, SO THAT NEW COVER IS INSTALLED TO TOP FINISH WITH FINISHED SURROUNDING GRADE.
 - ALL HANDHOLE ADJUSTMENT WORK (INCLUDING FRAME & COVER REMOVAL AND REPLACEMENT) IS INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2265 (REVISE SIGNAL SYSTEM H). SEE DETAILS AND SPECIAL PROVISIONS FOR FURTHER INFORMATION.
- 3) LOCATION OF NEW PUSH BUTTON STATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 4) ALL CABLES AND CONDUCTORS, CONDUIT, HANDHOLES, AND LOOP DETECTORS ARE IN PLACE AND SHALL BE REUSED AND MAINTAINED IN PLACE, EXCEPT WHERE NOTED IN AND DENOTED OTHERWISE.
- 5) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) 12 AWG IN 3/4" NMW. LOOP DETECTORS IMPACTED BY EITHER CURB RAMP WORK OR MILL/OVERLAY WORK SHALL BE FURNISHED, INSTALLED & MADE OPERATIONAL BY CONTRACTOR TO SATISFACTION OF ENGINEER. SEE DETAILS & SPECIAL PROVISIONS.
- 6) CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING LOOP DETECTOR SPICE KITS (FOR ANY LOOP DETECTOR BEING REPLACED AS PART OF THIS PROJECT) AND SHALL FURNISH AND INSTALL NEW LOOP DETECTOR SPICE KITS IN THE ADJACENT PLUG HOLE FOR THESE LOOP DETECTORS AS CALLED FOR IN THE SPECIAL PROVISIONS.
- 7) A SEPARATE PAY ITEM HAS BEEN ADDED (2265) FOR REPLACEMENT OF LOOP DETECTOR (6' x 6') FOR REPLACEMENT OF LOOP DETECTORS. SHOULD THESE LOOP DETECTORS BE REQUIRED TO BE REPLACED BY THE CONTRACTOR EITHER DUE TO MILL/OVERLAY OR CURB RAMP/CURB AND GUTTER WORK THAT CAUSES THE EXISTING LOOP DETECTOR TO BE DAMAGED, THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT AND MAINTAIN THE EXISTING LOOP DETECTOR (INCLUDING LEAD-IN CONDUITS FROM HANDHOLE TO IN-PAYMENT) LOOP DETECTOR CONDUIT AND SIGNAL POINT THE ENGINEER IF THEY ANTICIPATE THAT A LOOP DETECTOR WILL BE DAMAGED DUE TO THEIR WORK. COUNTY WILL PROVIDE INITIAL LOCATION OF THESE LOOP DETECTORS FOR CONTRACTOR TO BE ABLE TO PLAN FOR WORKING AROUND THESE LOOP DETECTORS. SEE SPECIAL PROVISIONS.
- 8) CONTRACTOR SHALL MAINTAIN A SIGNAL SYSTEM IN OPERATION AT THIS INTERSECTION AT ALL TIMES, UNLESS OTHERWISE APPROVED BY THE ENGINEER FOR THE SIGNAL SYSTEM TO BE PLACED INTO ALL-RED FLASH DURING NON-PEAK TRAFFIC PERIODS (FOR WORK THAT REQUIRES THE SIGNAL SYSTEM TO BE OUT OF OPERATION OR TO ACCOMMODATE ROAD WORK AT THE INTERSECTION).
- 9) ANY DAMAGE TO INPLACE TRAFFIC SIGNAL FACILITIES (CONDUIT, CABLES, HANDHOLES, SIGNAL POLES, ETC.) DUE TO TRAFFIC SIGNAL OR ROAD WORK SHALL BE REPAIRED BY CONTRACTOR TO SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE COUNTY.
- 10) F & I = NEW FINISH AND INSTALL
S & I = INPLACE, SALVAGE AND INSTALL

① P90 POLE FOUNDATION
TYPE P90-A-35
ONE WAY SIGNAL-OVERHEAD
TYPE 30A-POLE MOUNTED 30'
TYPE 10B-POLE MOUNTED 270'
2-PEDESTRIAN PUSH BUTTONS AT 225/315 DEG
DOWNLIGHT PED-POLE MOUNTED
ONE WAY EVP DETECTOR AND LIGHT (#4)
EXTENDED INTO H.H.4:
3"R.S.C.
2-12/c#12
3-3/c#12
1-3/c#20

INPLACE — 2-PEDESTRIAN PUSH BUTTONS AT 225/315 DEG (SALVAGE)
INPLACE — 2-R10-3e STICKER SIGNS AT 225/315 DEG (REMOVE)
F & I — PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTONS USED TO BE (AT 225/315 DEG)

② PEDESTAL FOUNDATION
PEDESTAL POLE, BASE & WIND COLLAR
TYPE 1A
R4-7 SIGN PANEL-POLE MOUNTED
EXTENDED INTO H.H.5:
3"R.S.C.
2-12/c#12
3-3/c#12

③ P90 POLE FOUNDATION
TYPE P90-A-35-D40-9 (DAVT AT 350)
LUMINAIRE-250 W HPS WITH PEC AND CH.SW.
ONE WAY SIGNAL-OVERHEAD
2-TYPE 10B-POLE MOUNTED 45' & 315'
2-PEDESTRIAN PUSH BUTTONS AT 0/270 DEG
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EVP DETECTOR AND LIGHT (#2,F)
EXTENDED INTO H.H.8:
3"R.S.C.
2-12/c#12
4-3/c#12
1-3/c#20
3-1/c#10 (LUM)

INPLACE — 2-PEDESTRIAN PUSH BUTTONS AT 0/270 DEG (SALVAGE)
INPLACE — 2-R10-3e STICKER SIGNS AT 0/270 DEG (REMOVE)
F & I — 1-APS PB, SIGN (LT ARROW) AND APS MAST ARM POLE ADAPTOR AT 270 DEG (PB4-2)
PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTONS USED TO BE (AT 0/270 DEG)
1-2/c 14

④ P90 POLE FOUNDATION
TYPE P90-A-35
ONE WAY SIGNAL-OVERHEAD
TYPE 30A-POLE MOUNTED 45' & 315'
2-TYPE 10B-POLE MOUNTED 45' & 315'
2-PEDESTRIAN PUSH BUTTONS AT 225/315 DEG
ONE WAY EVP DETECTOR AND LIGHT (#8)
ONE WAY EVP DETECTOR-POLE MOUNTED 180' (#4)
EXTENDED INTO H.H.1:
3"R.S.C.
2-12/c#12
4-3/c#12
2-3/c#20

INPLACE — 2-PEDESTRIAN PUSH BUTTONS AT 225/315 DEG (SALVAGE)
INPLACE — 2-R10-3e STICKER SIGNS AT 225/315 DEG (REMOVE)
F & I — PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTONS USED TO BE (AT 225/315 DEG)

⑤ PEDESTAL FOUNDATION
PEDESTAL POLE, BASE & WIND COLLAR
TYPE 1A
R4-7 SIGN PANEL-POLE MOUNTED
EXTENDED INTO H.H.2:
3"R.S.C.
1-12/c#12
3-3/c#12

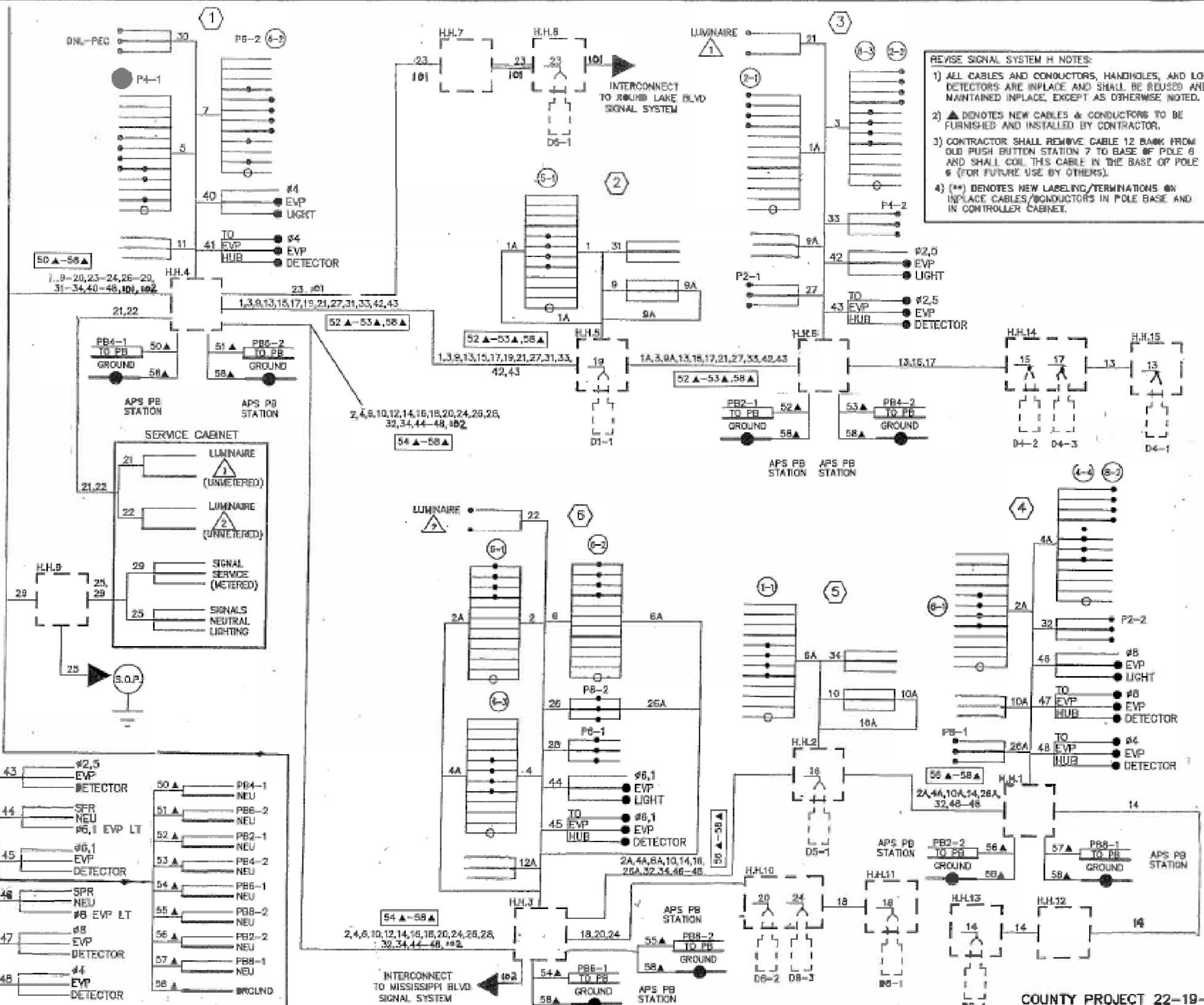
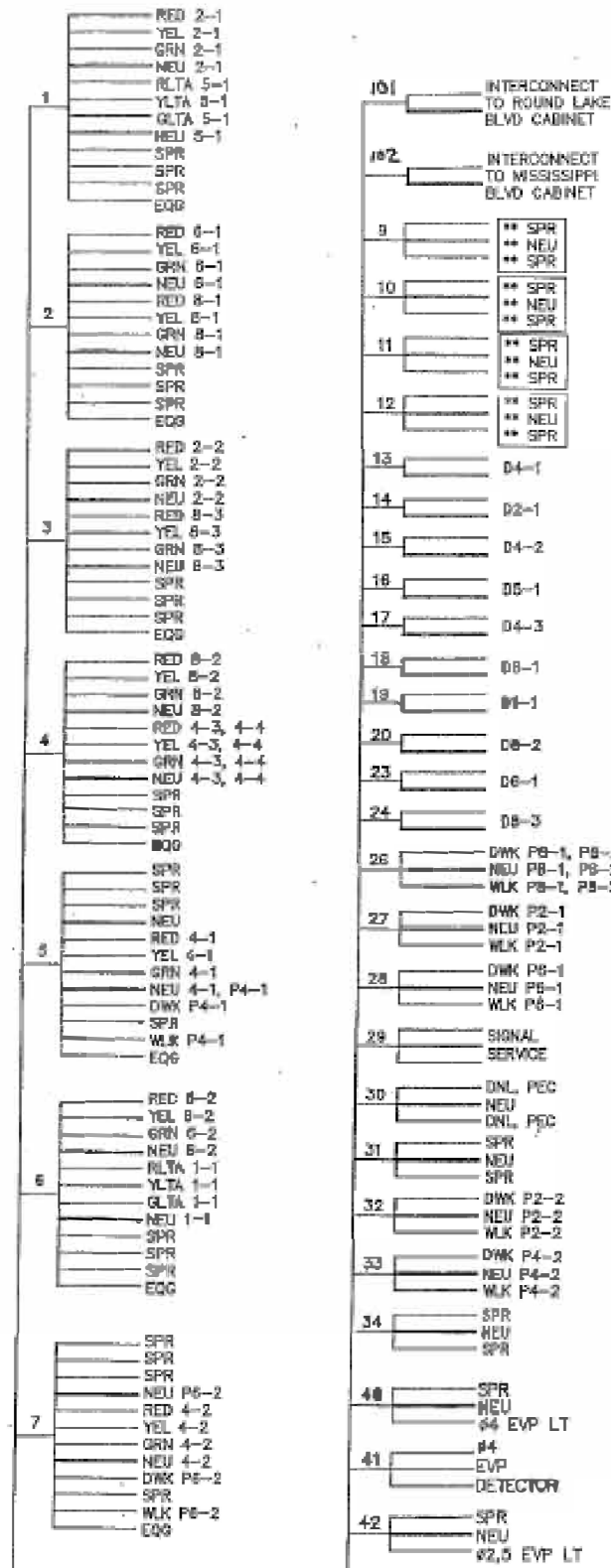
⑥ P90 POLE FOUNDATION
TYPE P90-A-35-D40-9 (DAVT AT 350)
LUMINAIRE-250 W HPS WITH PEC AND CH.SW.
ONE WAY SIGNAL-OVERHEAD
2-TYPE 10B-POLE MOUNTED 90' & 270'
2-PEDESTRIAN PUSH BUTTONS AT 180/270 DEG
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EVP DETECTOR AND LIGHT (#8,1)
EXTENDED INTO H.H.3:
3"R.S.C.
6-12/c#12
8-3/c#12
1-3/c#20
2-1/c#10 (LUM)

INPLACE — 2-PEDESTRIAN PUSH BUTTONS AT 180/270 DEG (SALVAGE)
INPLACE — 2-R10-3e STICKER SIGNS AT 180/270 DEG (REMOVE)
F & I — PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTONS USED TO BE (AT 180/270 DEG)

COUNTY PROJECT 22-19-01

DESIGNER: JMG	DATE: 02/02/2022	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. Date: <u>MOY 9, 2022</u> Name: <u>John M Gray, PE</u> Lic. No. <u>22457</u> 	ANOKA COUNTY CITY OF COON RAPIDS	REVISE SIGNAL SYSTEM 'H' SIGNAL SYSTEM NOTES CBAY1 (COON RAPIDS BOULEVARD) AT PHEASANT RIDGE DRIVE	FILE NO. 63S
CHECKED BY: JMG	DATE: 02/02/2022				SIGNAL SHEET 94
DESIGN TEAM	NO. BY DATE				REVISIONS

CONTROLLER CABINET



REVISE SIGNAL SYSTEM H NOTES:

- 1) ALL CABLES AND CONDUCTORS, HANDHOLES, AND LOOP DETECTORS ARE IN PLACE AND SHALL BE REUSED AND MAINTAINED IN PLACE, EXCEPT AS OTHERWISE NOTED.
- 2) ▲ DENOTES NEW CABLES & CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
- 3) CONTRACTOR SHALL REMOVE CABLE 12 BANK FROM OLD PUSH BUTTON STATION 7 TO BASE OF POLE 8 AND SHALL COIL THIS CABLE IN THE BASE OF POLE 6 (FOR FUTURE USE BY OTHERS).
- 4) (**) DENOTES NEW LABELING/TERMINATIONS ON IN PLACE CABLES/CONDUCTORS IN POLE BASE AND IN CONTROLLER CABINET.

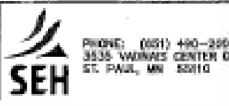
DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

NO.	BY	DATE

REVISIONS

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

Signature: *[Signature]* Name: John M. Gray, PE Lic. No. 22457 Date: May 8, 2022



ANOKA COUNTY
CITY OF COON RAPIDS

REVISE SIGNAL SYSTEM "H"
FIELD WIRING DIAGRAM
CSAH 1 (COON RAPIDS BOULEVARD)
AT PHEASANT RIDGE DRIVE

FILE NO. ANOKA 122828
SIGNAL SHEET 31 OF 35
63T
94

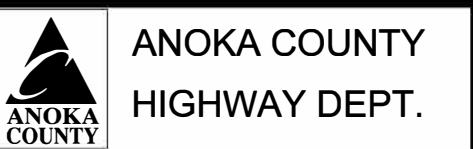
NO.	DATE	BY	CKD	APPR	REVISION	05/17/2022	9:32:15 AM

NAME: P:\22-01-00CSAH_01_(111TH-7TH)Base\Proposed\SIGNAL_PLANS.dgn

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

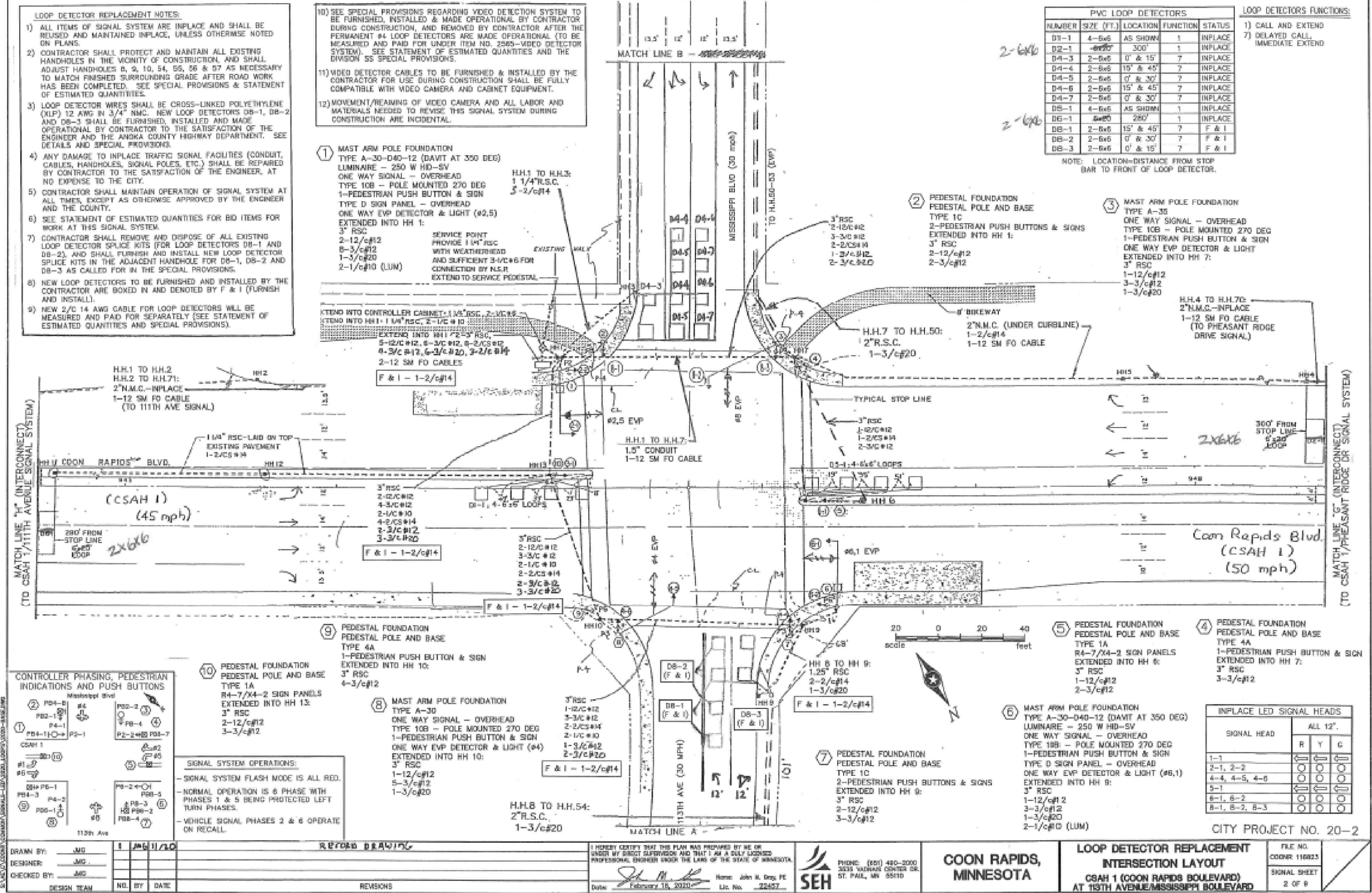
PRINT NAME: _____
 SIGNATURE: _____
 DATE: _____ LICENSE NO. _____

DRAWN BY: MR. DATE 02/02/2022
 DESIGN BY: MR. DATE 02/02/2022
 CHECKED BY: CO. DATE 05/17/2022



STATE AID PROJECT 002-601-059

EXISTING SIGNAL PLANS
Sheet 83A of 87 Sheets



NO.	DATE	BY	CKD	APPR	REVISION	04/26/2022	4:00:30 PM
1							

NAME: P:\22-01-00\CSAH_01_(111TH-7TH)\Base\Proposed\SIGNAL_PLANS.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: _____

SIGNATURE: _____

DATE: _____ LICENSE NO. _____

DRAWN BY: MR _____ **DATE:** 02/02/2022

DESIGN BY: MR _____ **DATE:** 02/02/2022

CHECKED BY: CO _____ **DATE:** 04/26/2022

ANOKA COUNTY HIGHWAY DEPT.

SEH

PHONE: (651) 490-2000
3035 WILKINS CENTER DR.
ST. PAUL, MN 55110

COON RAPIDS, MINNESOTA

LOOP DETECTOR REPLACEMENT INTERSECTION LAYOUT
CSAH 1 (COON RAPIDS BOULEVARD)
AT 113TH AVENUE/MISSISSIPPI BOULEVARD

FILE NO. COONR 116823
SIGNAL SHEET 2 OF 9

EXISTING SIGNAL PLANS

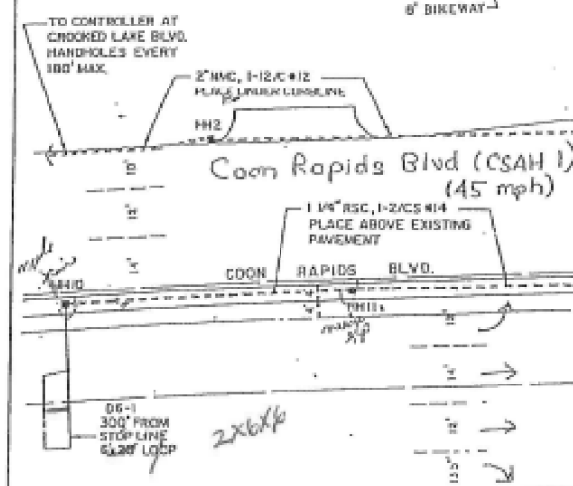
STATE AID PROJECT 002-601-059

Sheet 84 of 87 Sheets

7016

LED RETROFIT-SYSTEM "T" NOTES

- ALL ITEMS OF SIGNAL SYSTEM ARE IN PLACE AND SHALL BE REUSED AND MAINTAINED IN PLACE, UNLESS OTHERWISE NOTED ON PLANS.
- CONTRACTOR SHALL REMOVE THE INPLACE 12" x 12" 2-SECTION PED SIGNAL INDICATORS & HOUSINGS, AND SHALL FURNISH AND INSTALL NEW ONE SECTION COUNTERDOWN TIMER LED "HAND/WALKING PERSON" PED SIGNALS (HOUSING, VISOR, LENS) IN THEIR PLACE.
- CONTRACTOR SHALL REMOVE THE INPLACE TYPE 200 BRACKETING (0") ON POLES 1 AND 4; SHALL FURNISH AND INSTALL NEW TYPE 100 BRACKETING (90° & 270°) IN THEIR PLACE, SHALL SALVAGE, INSTALL, AND MAKE OPERATIONAL SIGNAL HEADS 2-2, 4-1, 4-4, AND 8-2; AND SHALL INCORPORATE NEW ONE SECTION PEDESTRIAN SIGNALS WITHIN NEW BRACKETINGS. CAP UNUSED HUB AT 0. ALL WORK LISTED ABOVE SHALL BE CONSIDERED INCIDENTAL TO THE PEDESTRIAN INDICATION PAY ITEM.
- CONTRACTOR SHALL REMOVE THE INPLACE TYPE 100 BRACKETING (0") ON POLES 2 AND 5; SHALL FURNISH AND INSTALL NEW TYPE 30A BRACKETING (90°) AND NEW TYPE 100 BRACKETING (270°) IN THEIR PLACE; & SHALL INCORPORATE NEW ONE SECTION PEDESTRIAN SIGNALS WITHIN NEW BRACKETINGS. CAP UNUSED HUB AT 0. ALL WORK LISTED ABOVE SHALL BE CONSIDERED INCIDENTAL TO THE PEDESTRIAN INDICATION PAY ITEM.
- CONTRACTOR SHALL REMOVE INPLACE OPTICALLY PROGRAMMED SIGNAL HEADS (AND TYPE 1A BRACKETING) FROM POLES 3 AND 6 (HOUSING, VISORS, LENSES); AND SHALL FURNISH AND INSTALL NEW 12" 3-SECTION HOUSINGS, VISORS, AND BACKGROUND SHIELDS (ALONG WITH NEW TYPE 1A BRACKETING) IN THEIR PLACE FOR VEHICLE SIGNAL INDICATIONS 1-1 & 5-1. ALL WORK LISTED ABOVE SHALL BE INCIDENTAL TO THE LED VEHICLE SIGNAL PAY ITEMS.
- 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 INDICATORS (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 VEHICLE & PEDESTRIAN HOUSINGS, VISORS & BACKGROUND SHIELDS SHALL BE FABRICATED USING NEW POLYCARBONATE MATERIALS.



- CONTRACTOR SHALL REMOVE ALL INPLACE INCANDESCENT AND OPTICALLY PROGRAMMED "RED", "YELLOW", AND "GREEN" VEHICLE SIGNAL INDICATION LENSES, AND SHALL FURNISH AND INSTALL NEW LED INDICATORS IN THEIR PLACE.
- CONTRACTOR SHALL REMOVE ALL INPLACE PEDESTRIAN PUSH BUTTONS (8 TOTAL), R10-4a STICKER SIGNS, AND "MEANING OF WALK" STICKER SIGNS, & SHALL FURNISH & INSTALL NEW SOLID STATE PED PUSH BUTTONS AND R10-3a SIGNS IN THEIR PLACE.
- 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.

ONE WAY EVP DETECTOR AND LIGHT (#2,5)-OVERHEAD

- TYPE A-35-D-10-12 ONE WAY SIGNAL (OVERHEAD) 2-TYPE 100 AT 90° & 270° 2 PED. PUSH BUTTONS LUMINAIRE (250w MD-SV, 350V) EXTEND INTO HH 1, 3" RSC, 1-12/C #12, 2-3/C #12, 4-1/C #10 1-3/4 #12, 1-3/4 #20

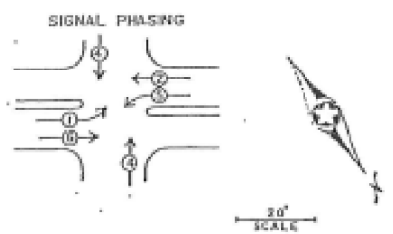
ONE WAY EVP DETECTOR AND LIGHT (#4)-OVERHEAD

- TYPE A-25 TYPE 100 AT 270° TYPE 130A AT 90° 2 PED. PUSH BUTTONS LUMINAIRE (250w MD-SV, 350V) EXTEND INTO HH 1, 3" RSC, 2-12/C #12, 4-3/C #12 1-3/4 #12, 1-3/4 #20

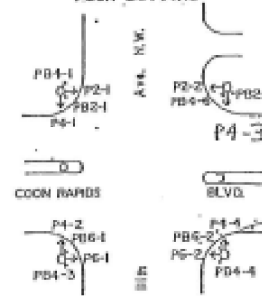
ONE WAY SIGNAL (TYPE 1A) EXTEND INTO HH 6, 3" RSC, 1-12/C #12, 2-3/C #12

ONE WAY EVP DETECTOR AND LIGHT (#6,1)-OVERHEAD

- TYPE A-30-D-10-12 ONE WAY SIGNAL (OVERHEAD) 2-TYPE 100 AT 90° & 270° 2 PED. PUSH BUTTONS LUMINAIRE (250w MD-SV, 350V) EXTEND INTO HH 8, 3" RSC, 1-12/C #12, 3-3/C #10, 2-1/C #10 1-3/4 #12, 1-3/4 #20



PEDESTRIAN SIGNALS AND PUSH BUTTONS



DESIGNED BY	JMG	1	11/16	6/10	RECORD DRAWING FOR PROJECT
CHECKED BY	JMG				
DESIGN TEAM		NO.	BY	DATE	REVISIONS

ONE WAY SIGNAL (TYPE 1A) EXTEND INTO HH 12, 3" RSC, 2-12/C #12, 3-3/C #12

- TYPE A-35-D-10-12 ONE WAY SIGNAL (OVERHEAD) 2-TYPE 100 AT 90° & 270° 2 PED. PUSH BUTTONS LUMINAIRE (250w MD-SV, 350V) EXTEND INTO HH 1, 3" RSC, 1-12/C #12, 2-3/C #12, 4-1/C #10 1-3/4 #12, 1-3/4 #20

RECORD PLAN FOR LED PROJECT (PLANS CONFIRMED FOR PROJECT WORK ONLY) DATE 08-10-09

ONE WAY EVP DETECTOR AND LIGHT (#4)-OVERHEAD

- TYPE A-35-D-10-12 ONE WAY SIGNAL (OVERHEAD) 2-TYPE 100 AT 270° TYPE 30A AT 90° 2 PED. PUSH BUTTONS EXTEND INTO HH 9, 3" RSC, 1-12/C #12, 2-3/C #12 1-3/4 #12, 1-3/4 #20

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

S.P. 114-030-10 CITY PROJECT NO. 09-18

DATE	04/26/2022	TIME	4:00:43 PM
NAME	P:\22-01-00CSAH_01_(111TH-7TH)\Base\Proposed\SIGNAL_PLANS.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: _____
 SIGNATURE: _____
 DATE: _____ LICENSE NO. _____

DRAWN BY MR DATE 02/02/2022
 DESIGN BY MR DATE 02/02/2022
 CHECKED BY CO DATE 04/26/2022



ANOKA COUNTY HIGHWAY DEPT.

COON RAPIDS, MINNESOTA

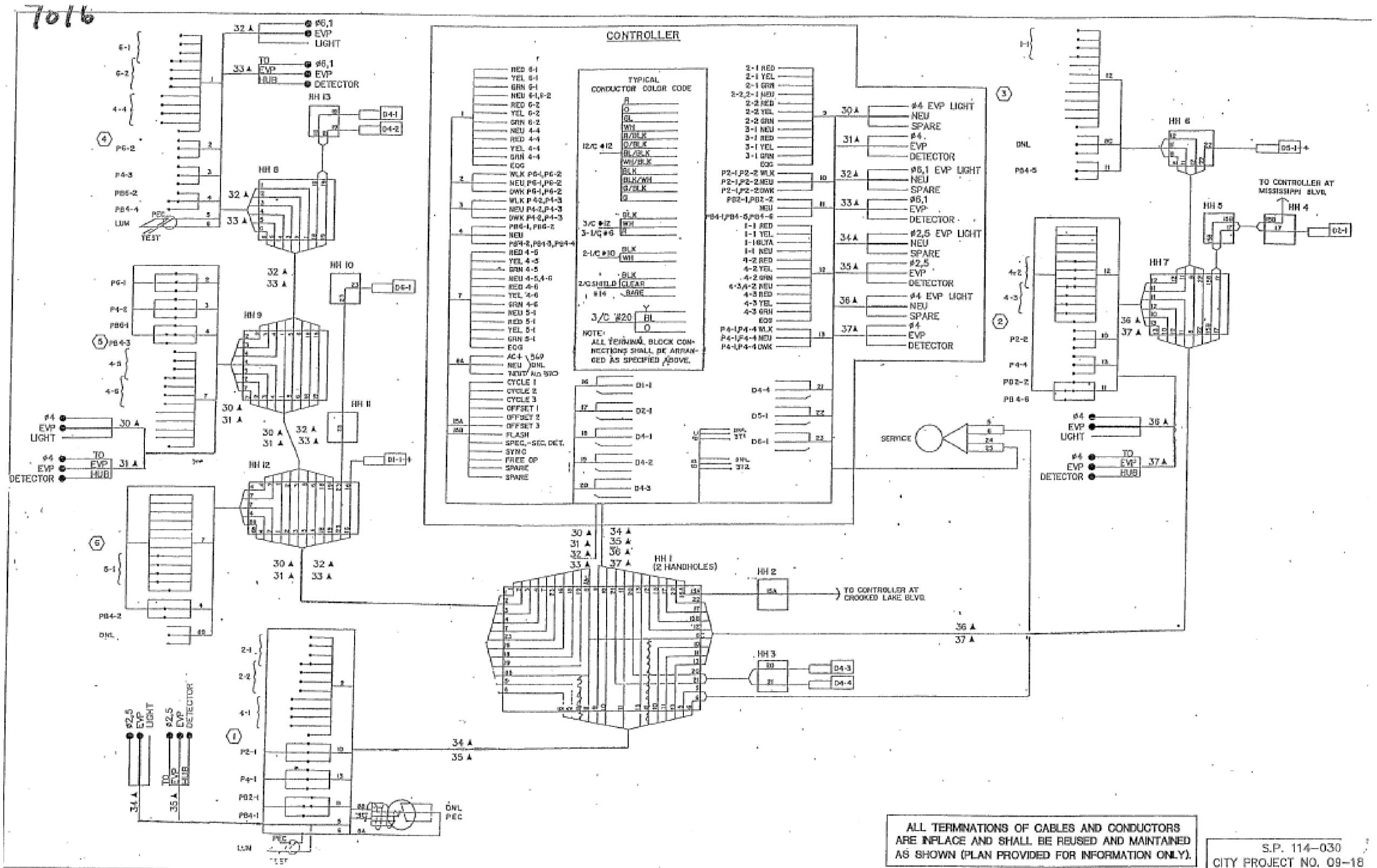
LED RETROFIT-SYSTEM T INTERSECTION LAYOUT CSAH 1 AT 11TH AVENUE

FILE NO. 107418, 22 DATE 05/18/2020 131

STATE AID PROJECT 002-601-059

EXISTING SIGNAL PLANS Sheet 86 of 87 Sheets

FOR REFERENCE PURPOSES ONLY



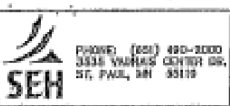
ALL TERMINATIONS OF CABLES AND CONDUCTORS ARE IN PLACE AND SHALL BE REUSED AND MAINTAINED AS SHOWN (PLAN PROVIDED FOR INFORMATION ONLY).

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

DESIGNED BY: JMG	NO.	BY	DATE
CHECKED BY: JMG			
DESIGN TEAM			

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.

J.M.G.
John M. Grogan, PE
May 18, 2022
Lic. No. 32557



COON RAPIDS, MINNESOTA

LED RETROFIT-SYSTEM T
FIELD WIRING DIAGRAM
CBAH 1 AT 11TH AVENUE

FILE NO.	23
DATE	05/18/2022
SHEET NO.	131

NO	DATE	BY	CKD	APPR	REVISION	TIME
	04/26/2022					4:00:50 PM

NAME: P:\22-01-00CSAH_01_(111TH-7TH)\Base\Proposed\SIGNAL_PLANS.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: _____
SIGNATURE: _____
DATE: _____ LICENSE NO. _____

DRAWN BY: MR. DATE 02/02/2022
DESIGN BY: MR. DATE 02/02/2022
CHECKED BY: CO. DATE 04/26/2022

ANOKA COUNTY HIGHWAY DEPT.

STATE AID PROJECT 002-601-059

EXISTING SIGNAL PLANS
Sheet 87 of 87 Sheets