

STATEMENT OF ESTIMATED QUANTITIES				
ITEM NO.	ITEM	NOTES	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
2021.501	MOBILIZATION		LUMP SUM	1
2104.501	REMOVE PIPE CULVERTS		LIN FT	100
2104.503	REMOVE BITUMINOUS DRIVEWAY PAVEMENT		SQ YD	2238
2104.503	REMOVE BITUMINOUS PAVEMENT		SQ FT	3060
2104.503	REMOVE CONCRETE DRIVEWAY PAVEMENT		SQ FT	523
2104.509	REMOVE CASTING		EACH	7
2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN FT	24
2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LIN FT	1251
2123.503	MOTOR GRADER		HOUR	60
2130.501	WATER		M-GAL	209
2211.501	AGGREGATE BASE CLASS 5		TON	1011
2215.501	FULL DEPTH RECLAMATION		SQ YD	59543
2215.502	HAUL FULL DEPTH RECLAMATION (LV)		CU YD	100
2221.501	SHOULDER BASE AGGREGATE CLASS 5		TON	660
2232.501	MILL BITUMINOUS SURFACE (2.0")	3	SQ YD	165
2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GALLON	3192
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (4,B)		TON	352
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (4,E)		TON	12401
2501.515	24" PC-CS PIPE APRON		EACH	2
2503.603	24" HDPE PIPE SEWER		LIN FT	100
2506.516	CASTING ASSEMBLY		EACH	7
2506.522	ADJUST FRAME AND RING CASTING	9	EACH	7
2531.507	6" CONCRETE DRIVEWAY PAVEMENT	8	SQ YD	10
2535.501	BITUMINOUS CURB (MODIFIED)		LIN FT	2276
2540.602	INSTALL MAIL BOX SUPPORT	1	EACH	46
2563.601	TRAFFIC CONTROL	4,6	LUMP SUM	1
2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	4	UNIT DAY	14
2573.601	BITUMINOUS FLUME		SQ YD	5
2581.501	REMOVABLE PREFORM PAVEMENT MARKING TAPE	2	LIN FT	147
2582.502	24" WHITE PREF THERMOPLASTIC	7	LIN FT	24
2582.502	4" SOLID LINE WHITE - EPOXY	7	LIN FT	28085
2582.502	4" BROKEN LINE WHITE-EPOXY	7	LIN FT	110
2582.502	4" SOLID LINE YELLOW - EPOXY	7	LIN FT	5175
2582.502	4" BROKEN LINE YELLOW - EPOXY	7	LIN FT	1340
2582.502	4" DOUBLE SOLID LINE YELLOW - EPOXY	7	LIN FT	4395
2582.618	3 X 6 ZEBRA CROSSWALK - PREFORMED THERMOPLASTIC	7	SQ FT	126

CONSTRUCTION NOTES	
1	MAILBOXES ARE TO BE INSTALLED AT THE EXISTING MAILBOX LOCATION OR AS DIRECTED BY THE LOCAL POSTAL AUTHORITY, CONTRACTOR IS RESPONSIBLE FOR CONTACTING. MAILBOX REMOVAL AND ALL MATERIALS ARE INCIDENTAL TO INSTALLATION.
2	CENTERLINE SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON EACH NEW LIFT OF PAVEMENT; SKIPS MUST BE INPLACE BEFORE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE PRIOR TO FINAL PAINT STRIPING.
3	ITEM INCLUDES 2" DEEP MILL AT BEGINNING AND END OF PROJECT, ALL PAVED ST APPROACHES, AND DRIVEWAYS; SEE DETAILS FOR DIMENSIONS
4	ALL TRAFFIC CONTROL METHODS SHALL CONFORM TO THE CURRENT "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL
5	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT WILL BE INSTALLED 7 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
6	DO NOT PASS, PASS WITH CARE AND NO CENTER STRIPE SIGNS TO BE INPLACE DURING MILLING, RECLAIMING OR PAVING
7	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.
8	CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
9	SEE STORM TABULATIONS FOR RING HEIGHTS. PAGE 9,11.

CASTING ASSEMBLIES SUMMARY				
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	QUANTITY
NEENAH*	R-3250-DVSP	V	YES	2
A-7D	700-7	715		5
*OR APPROVED EQUAL				
ALL CASTING HIEGHTS ARE TO BE VERIFIED IN THE FIELD.				
ALL MANHOLE COVERS SHOULD BE LABELED AS STORM OR				

BASIS OF PLANNED QUANTITIES		
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	.05 GAL / SQ YD
2211.501	AGGREGATE BASE CLASS 5	1.8 CU YD / TON
2360.501	ALL BITUMINOUS PAVEMENT	115 / SQ.YD. / IN THICKNESS

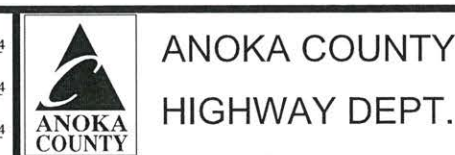
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: ANDREW WITTER
SIGNATURE: *[Signature]*
DATE: 4/23/14 LICENSE NO. 42757

DRAWN BY RT DATE 04/24/2014
DESIGN BY RT DATE 04/24/2014
CHECKED BY DF DATE 04/24/2014



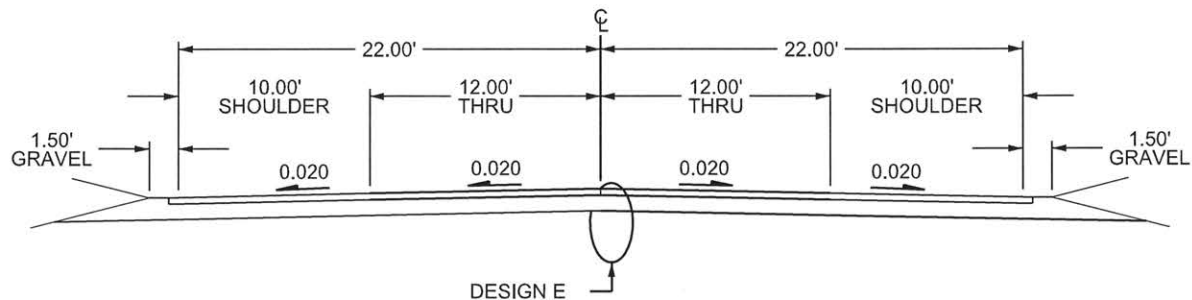
COUNTY PROJECT 14-14-56

STATEMENT OF ESTIMATED QUANTITIES
Sheet 2 of 19 Sheets

RAMSEY BLVD. - C.S.A.H. 56

EXISTING ROAD

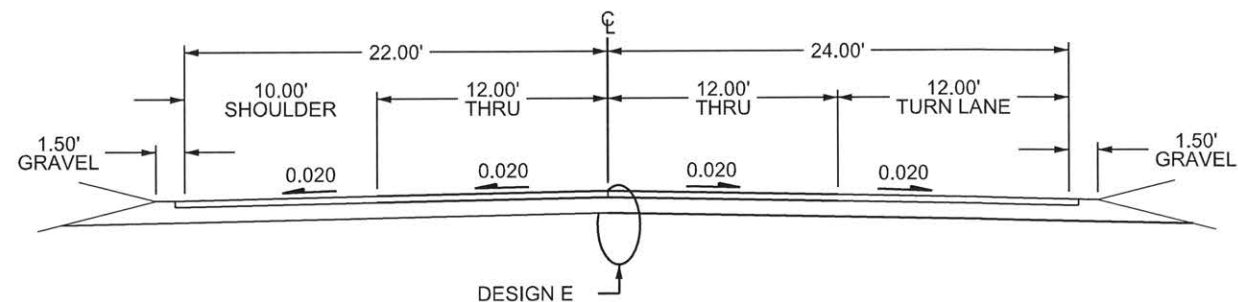
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 60+00 - 67+80
 72+95 - 85+31
 94+60 - 100+70
 104+25 - 114+77



RAMSEY BLVD. - C.S.A.H. 56

EXISTING ROAD

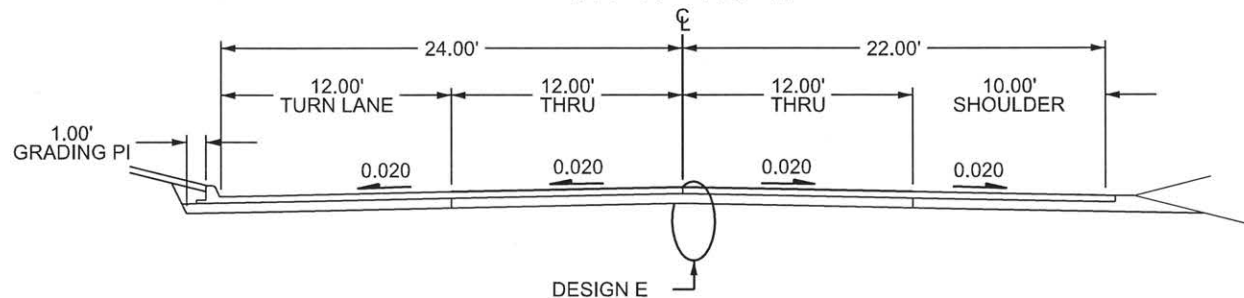
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 92+25 - 94+60
 119+61 - 121+45



RAMSEY BLVD. - C.S.A.H. 56

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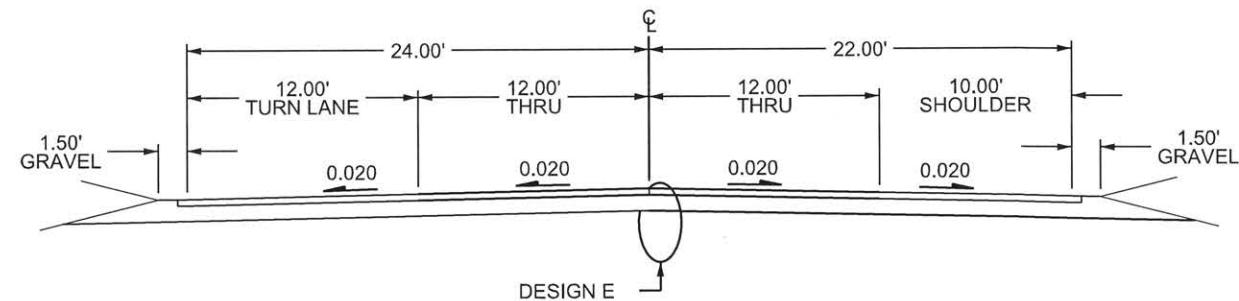
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 46+90 - 49+78
 49+78 - 52+55
 114+77 - 116+42



RAMSEY BLVD. - C.S.A.H. 56

EXISTING ROAD

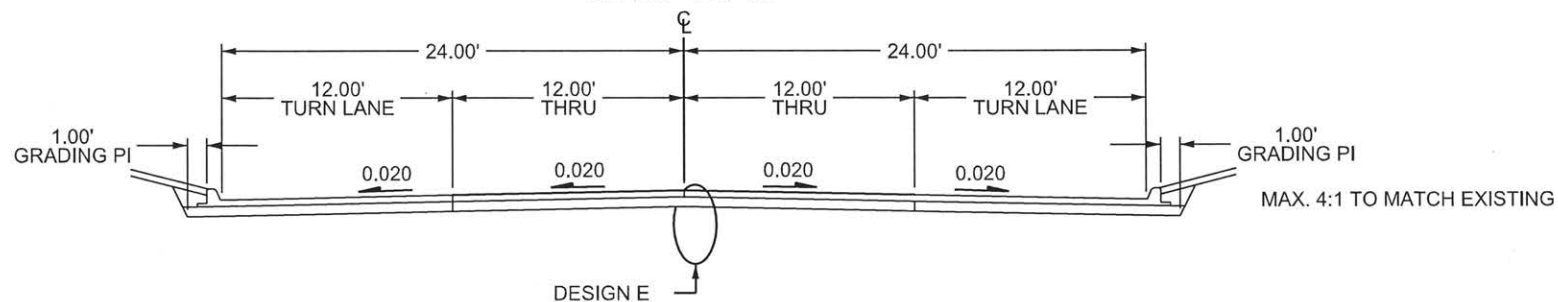
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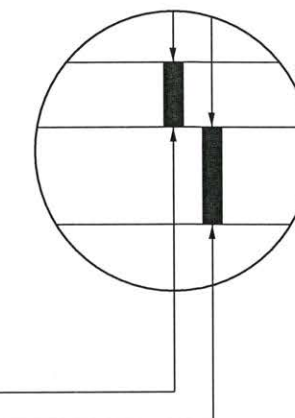
RAMSEY BLVD. - C.S.A.H. 56

EXISTING - BITUMINOUS CURB - RIGHT TURN LANE

44+05 - 46+90
 52+55 - 55+00



DESIGN E
 RECLAIM SECTION



+/-4" BITUMINOUS
 EXISTING BASE

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ANOKA COUNTY
 HIGHWAY DEPT.

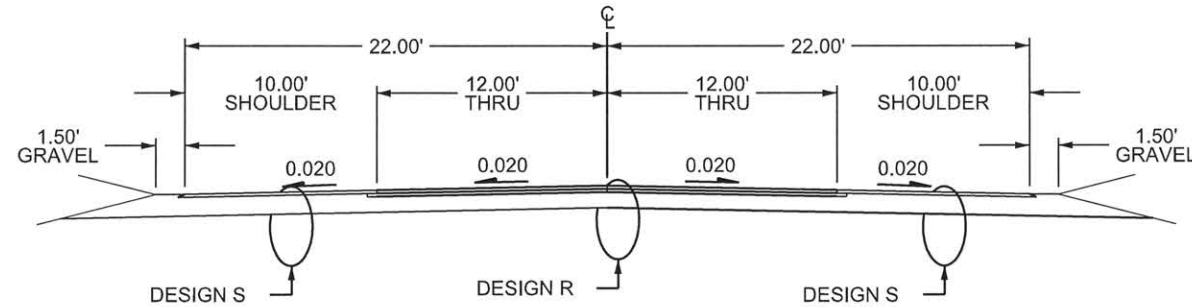
COUNTY PROJECT 14-14-56

TYPICAL SECTIONS
 Sheet 3 of 19 Sheets

RAMSEY BLVD. - C.S.A.H. 56

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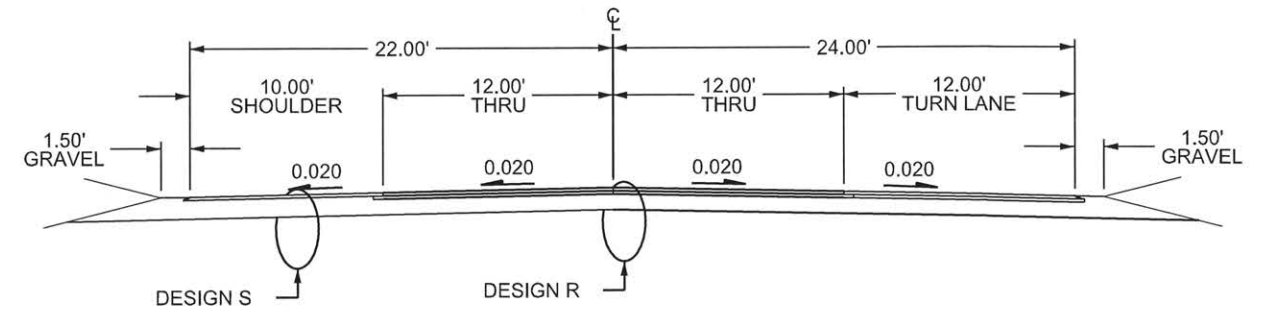
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72+95 - 85+31
94+60 - 100+70
104+25 - 114+77



RAMSEY BLVD. - C.S.A.H. 56

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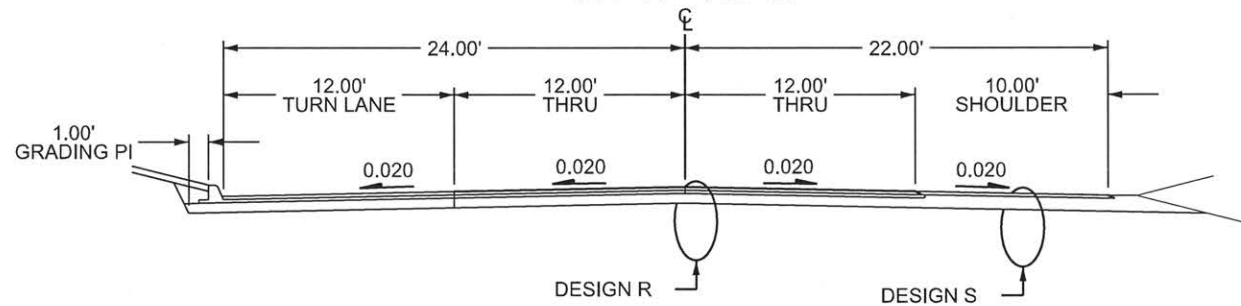
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92+25 - 94+60
119+61 - 121+45



RASMEY BLVD. - C.S.A.H. 56

EXISTING - BITUMINOUS CURB

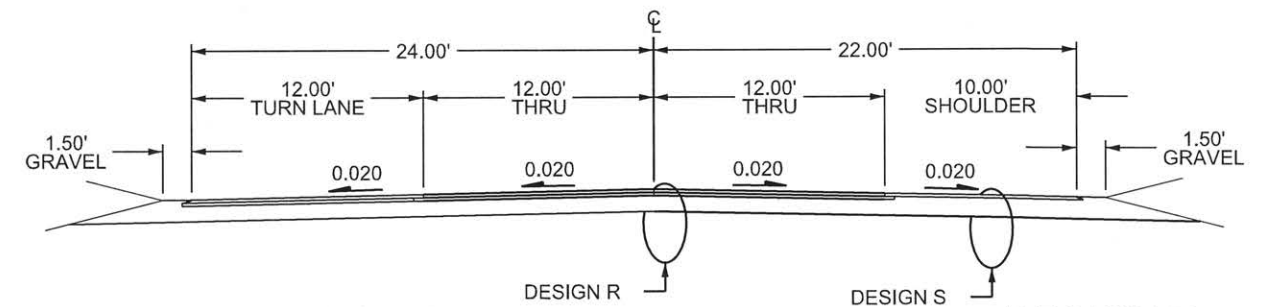
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49+78 - 52+55
114+77 - 116+42



RAMSEY BLVD. - C.S.A.H. 56

EXISTING ROAD

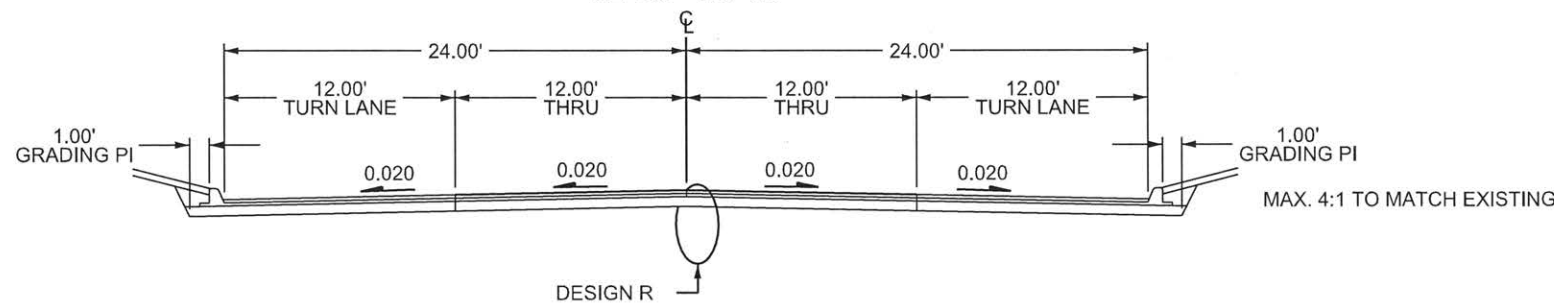
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42+95 - 44+05



RAMSEY BLVD. - C.S.A.H. 56

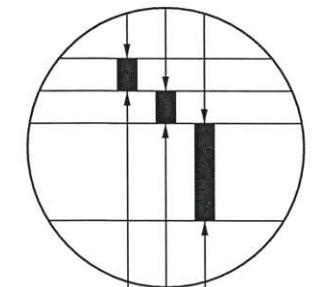
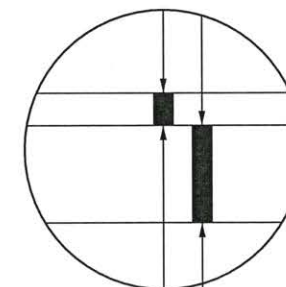
EXISTING - BITUMINOUS CURB - RIGHT TURN LANE

44+05 - 46+90
52+55 - 55+00



**DESIGN S
RECLAIM SECTION**

**DESIGN R
RECLAIM SECTION**



2.0" BITUMINOUS WEAR(SPWEB440E)
RECLAIMED BITUMINOUS

2.0" BITUMINOUS WEAR(SPWEB440E)
2.0" BITUMINOUS WEAR(SPWEB440E)
RECLAIMED BITUMINOUS

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SIGNATURE: *Andrew Witter*
DATE: 4/23/14 LICENSE NO. 42757

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CHECKED BY: DF DATE: 04/23/2014



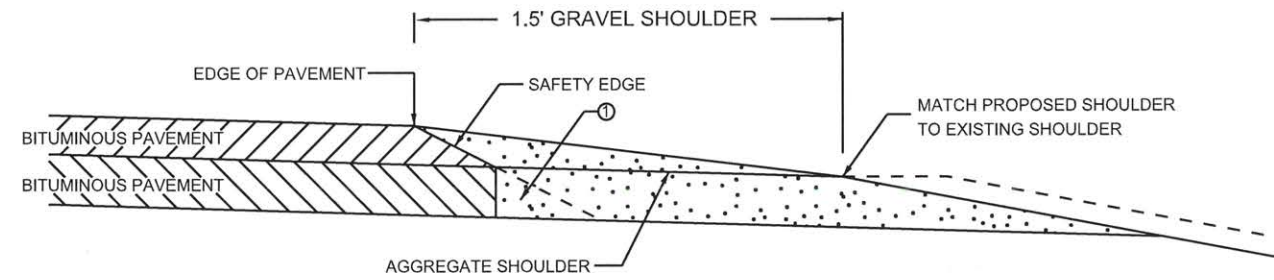
**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 14-14-56

TYPICAL SECTIONS
Sheet 4 of 19 Sheets

SHOULDER DETAIL

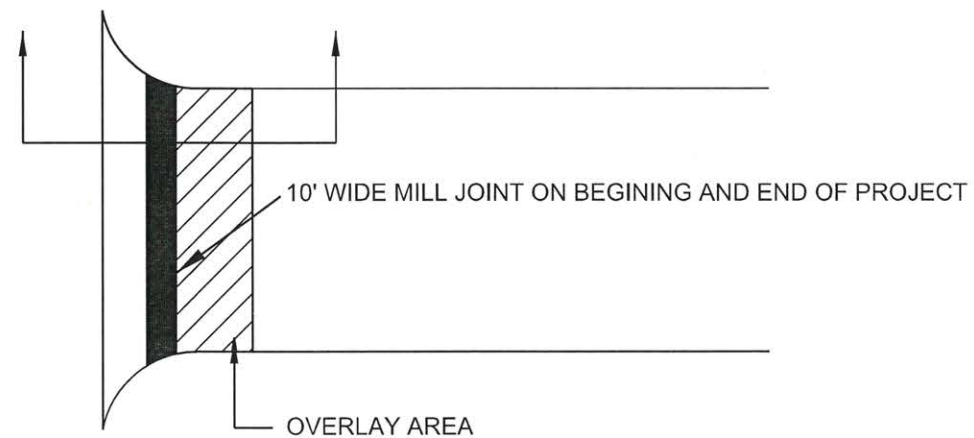
BITUMINOUS SAFETY EDGE
GRAVEL SHOULDER



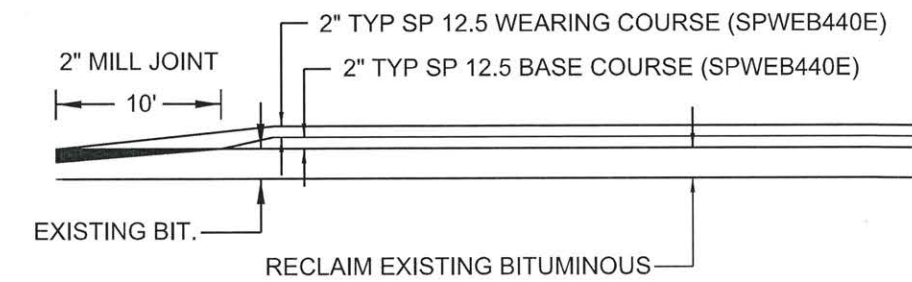
SAFETY EDGE TO BE USED IN ALL NON-CURB AREAS ON SHOULDER.

① OPTIONAL DESIGN EXTENDS SAFETY EDGE DEEPER THAN 6" AND WIDER THAN 10.5". SEE SPECIAL PROVISIONS.

MAINLINE JOINT DETAIL



MAINLINE JOINT DETAIL



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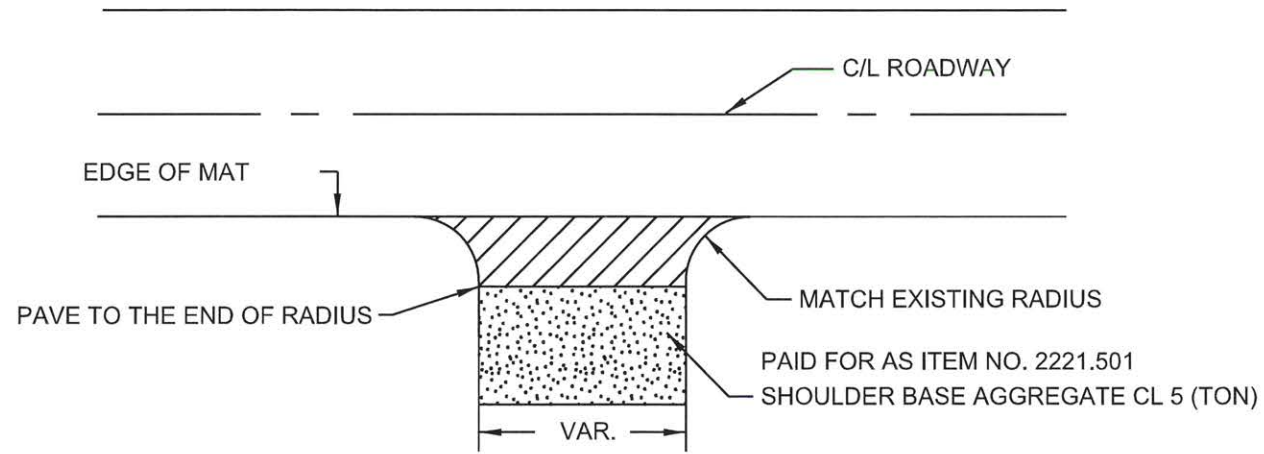


ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 14-14-56

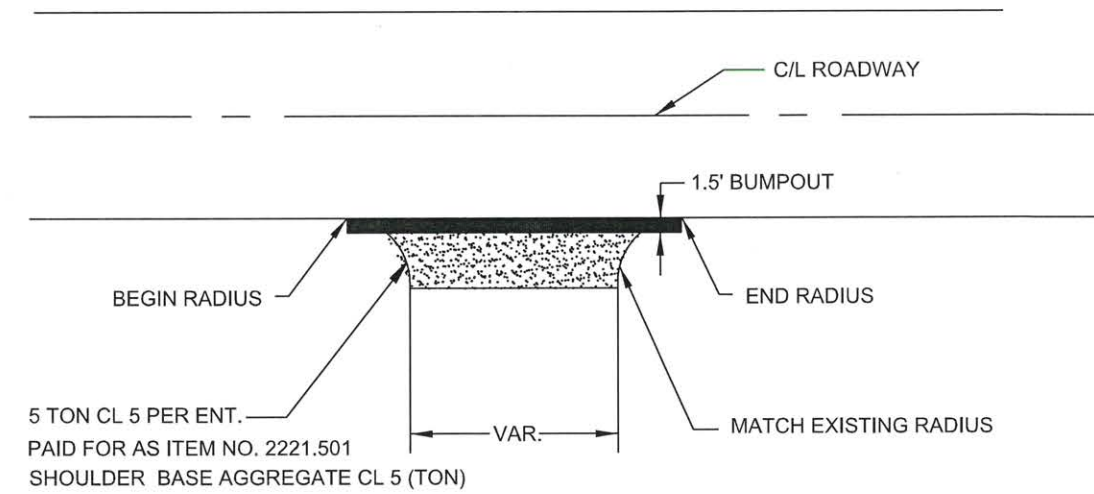
DETAILS
Sheet 5 of 19 Sheets

UNPAVED STREET APPROACH

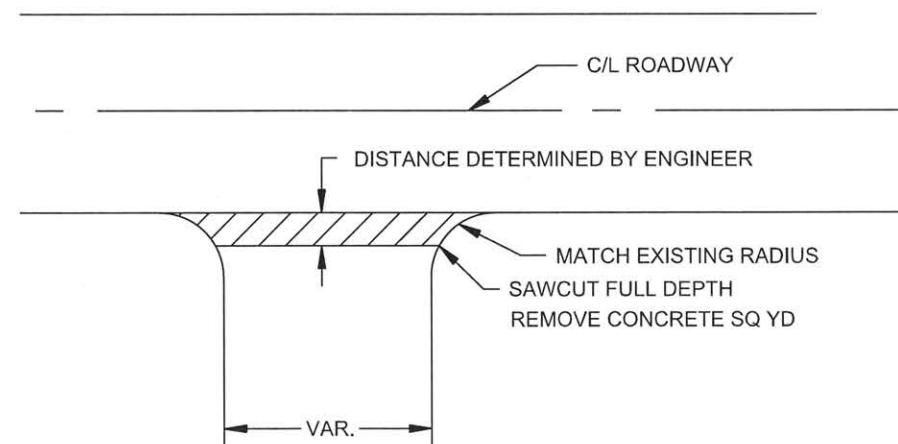


UNPAVED STREET APPROCHES, PAVED SEPERATE FROM MAINLINE,
PAID AS STREET APPROACHES.

GRAVEL DRIVEWAY AND FIELD ENTERANCE



CONCRETE DR. WAYS



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 SIGNATURE: *Andrew Mitter*
 DATE: 4/28/14 LICENSE NO. 42757

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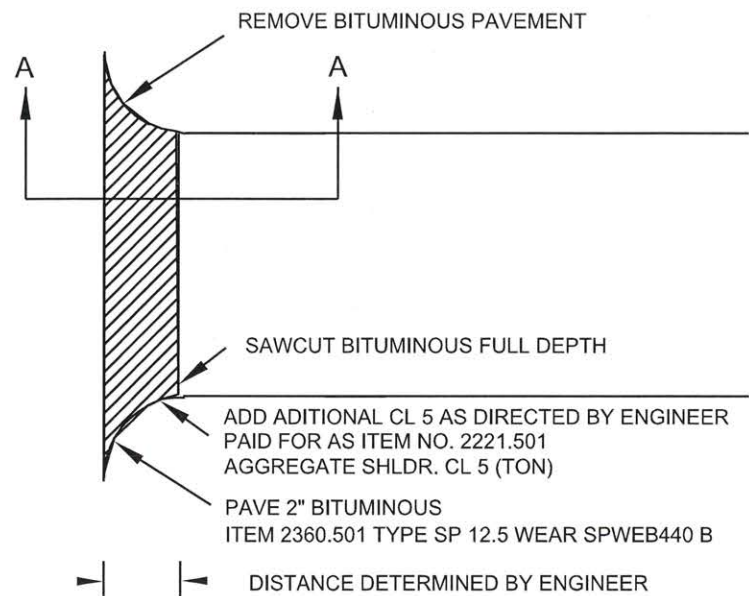
ANOKA COUNTY
 HIGHWAY DEPT.

COUNTY PROJECT 14-14-56

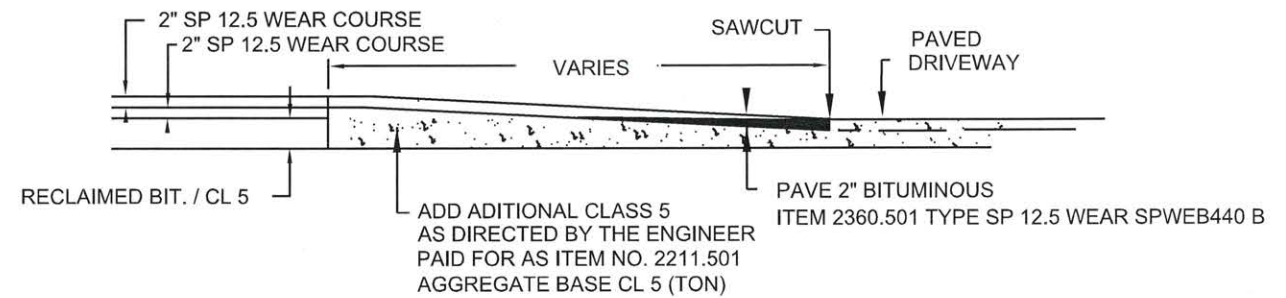
DETAILS
 Sheet 6 of 19 Sheets

PAVED DRIVEWAYS

DETAILS

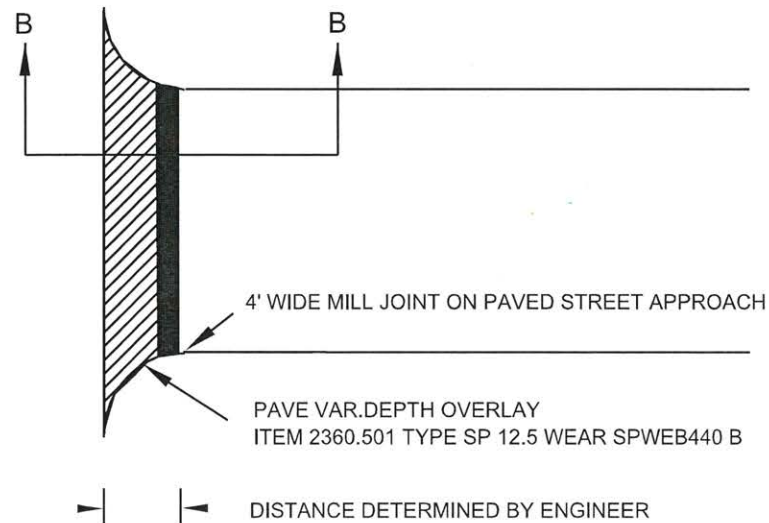


PAVED DRIVEWAY DETAILS A - A

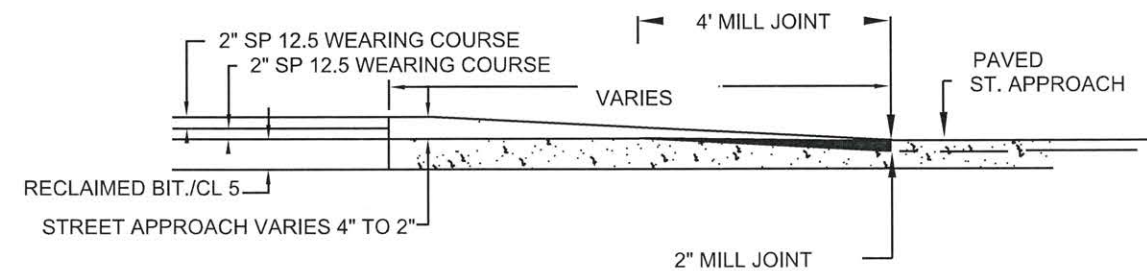


PAVED STREET APPROACH

JOINT DETAILS



PAVED STREET APPROACH JOINT DETAILS B - B



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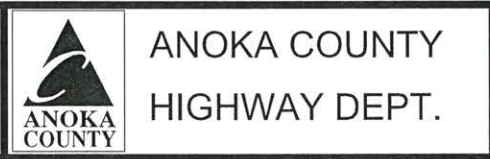
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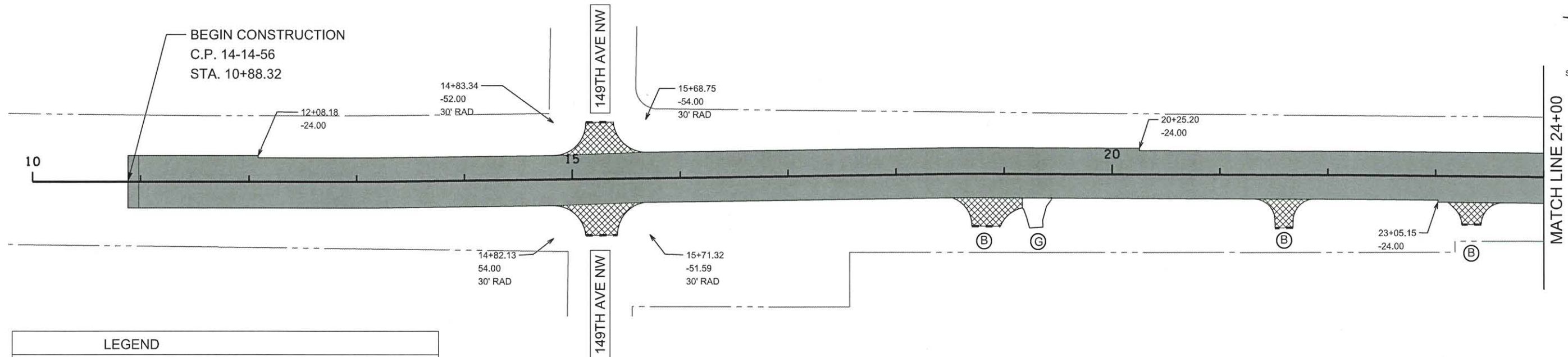
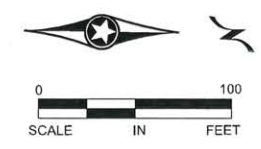
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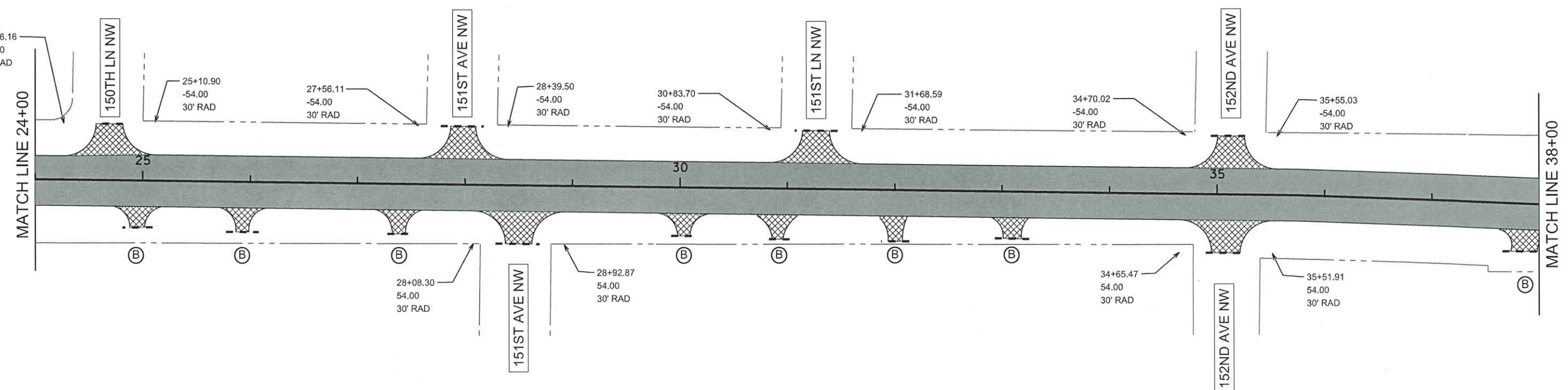
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COUNTY PROJECT 14-14-56



LEGEND			
(B)	BITUMINOUS	(Hatched)	MAINLINE (RECLAIM)
(C)	CONCRETE	(Cross-hatched)	STREET/DRIVEWAY REMOVAL
(G)	GRAVEL	(Diagonal lines)	SUPER TRANSITION AREA
- - -	SAWCUT	(R)	RE-RING / ADJUST CASTING



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PRINT NAME: ANDREW WITTER

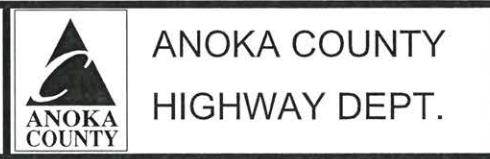
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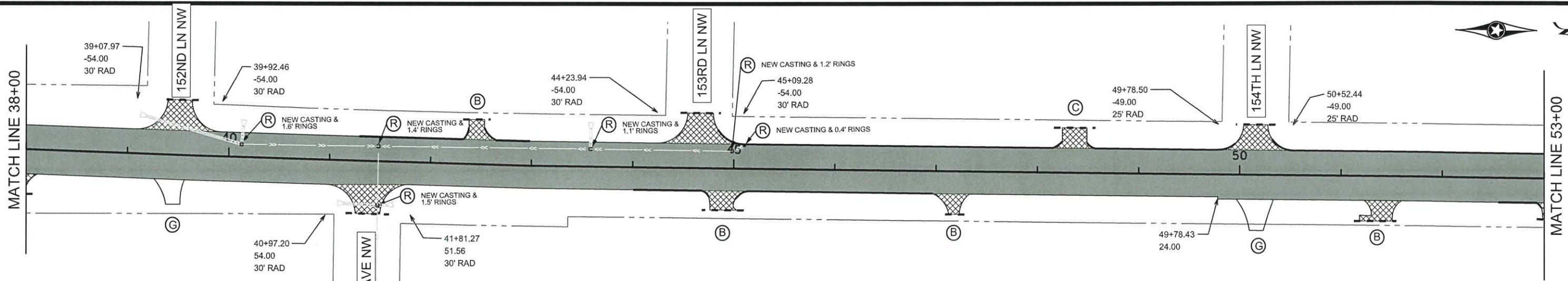


COUNTY PROJECT 14-14-56

CONSTRUCTION PLAN

STA 10+88 TO 38+00

Sheet 8 of 19 Sheets



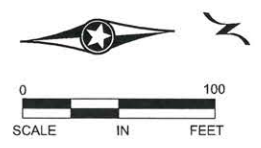
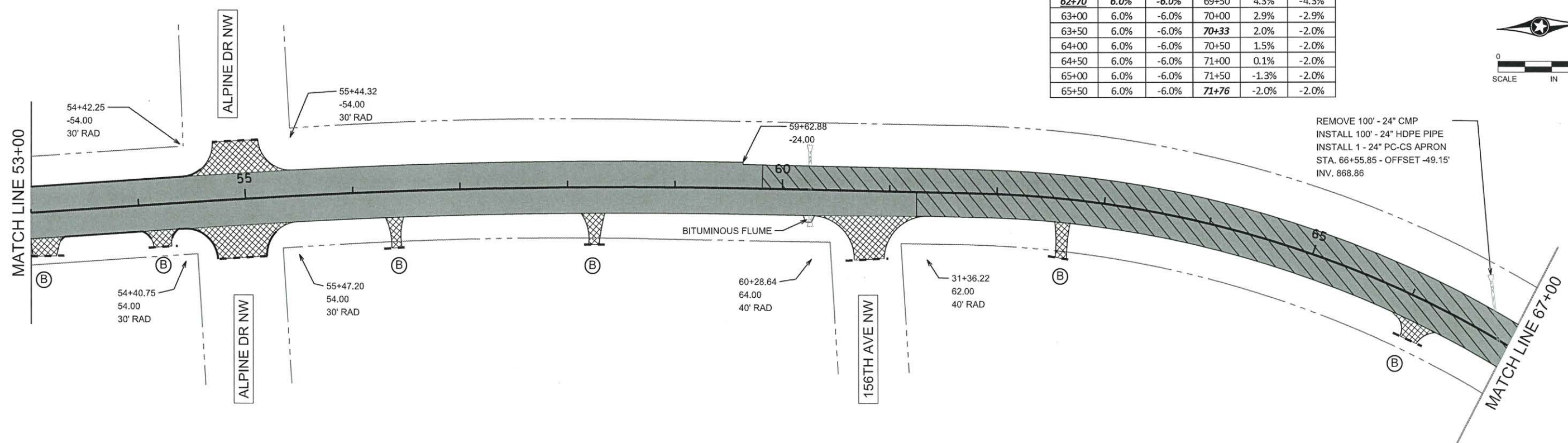
LEGEND

(B)	BITUMINOUS		MAINLINE (RECLAIM)
(C)	CONCRETE		STREET/DRIVEWAY REMOVAL
(G)	GRAVEL		SUPER TRANSITION AREA
- - -	SAWCUT		
(R)	RE-RING / ADJUST CASTING		

STORM DRAINAGE TAB

STATION	MH/CB	CASTING	RINGS	BUILD
40+10.00	MH	700-7	1.6	5.4
41+45.00	MH	700-7	1.4	5.3
41+50.00	MH	700-7	1.5	5.9
43+50.00	MH	700-7	1.1	5.1
45+00.00	MH	700-7	1.2	5.3
45+05.00	CB	R-3250	0.4	3.5
114+75.00	CB	R-3250	0.4	3.5

STA.	LT	RT	STA.	LT	RT
59+81	-2.0%	-2.0%	66+00	6.0%	-6.0%
60+00	-1.5%	-2.0%	66+50	6.0%	-6.0%
60+50	-0.1%	-2.0%	67+00	6.0%	-6.0%
61+00	1.3%	-2.0%	67+50	6.0%	-6.0%
61+25	2.0%	-2.0%	68+00	6.0%	-6.0%
61+50	2.7%	-2.7%	68+50	6.0%	-6.0%
62+00	4.1%	-4.1%	68+88	6.0%	-6.0%
62+50	5.4%	-5.4%	69+00	5.7%	-5.7%
62+70	6.0%	-6.0%	69+50	4.3%	-4.3%
63+00	6.0%	-6.0%	70+00	2.9%	-2.9%
63+50	6.0%	-6.0%	70+33	2.0%	-2.0%
64+00	6.0%	-6.0%	70+50	1.5%	-2.0%
64+50	6.0%	-6.0%	71+00	0.1%	-2.0%
65+00	6.0%	-6.0%	71+50	-1.3%	-2.0%
65+50	6.0%	-6.0%	71+76	-2.0%	-2.0%

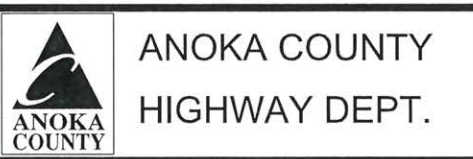


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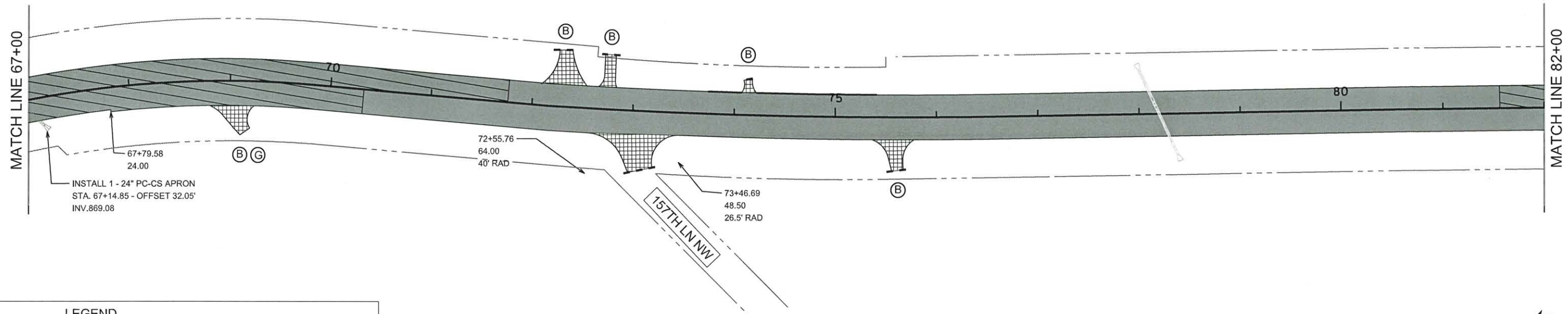
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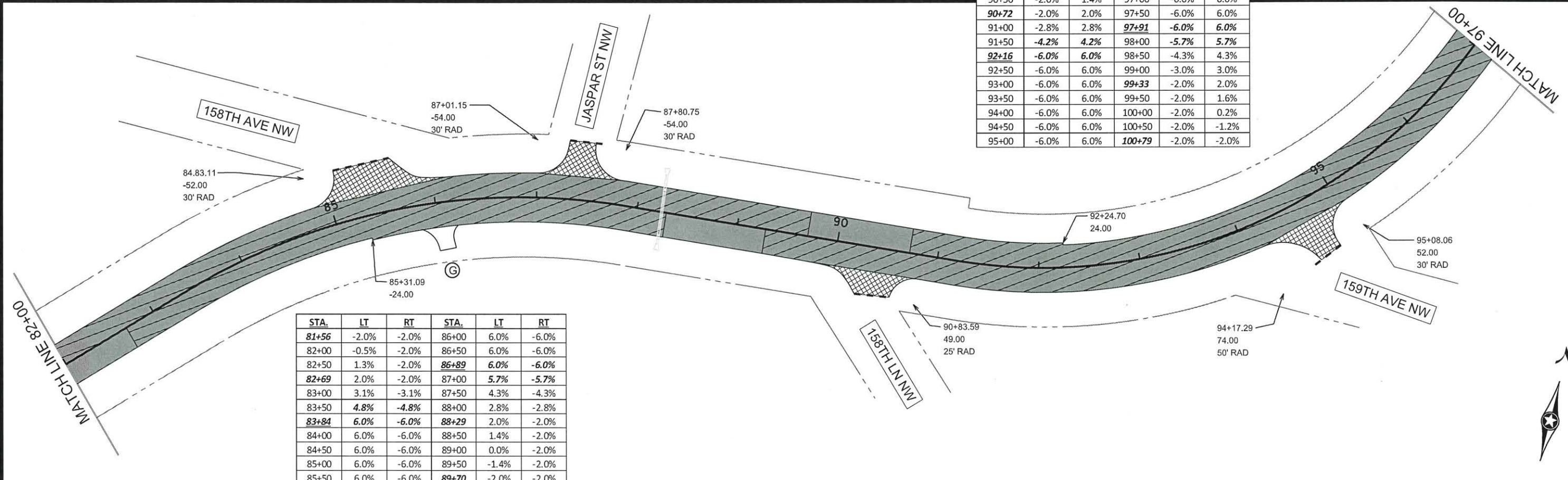
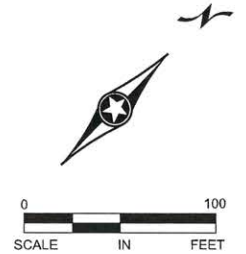
COUNTY PROJECT 14-14-56

CONSTRUCTION PLAN
 STA 38+00 TO 67+00
 Sheet 9 of 19 Sheets



LEGEND			
(B)	BITUMINOUS	[Solid Grey Box]	MAINLINE (RECLAIM)
(C)	CONCRETE	[Cross-hatched Box]	STREET/DRIVEWAY REMOVAL
(G)	GRAVEL	[Diagonal Hatched Box]	SUPER TRANSITION AREA
- - -	SAWCUT	(R) →	RE-RING / ADJUST CASTING

STA.	LT	RT	STA.	LT	RT
89+28	-2.0%	-2.0%	95+50	-6.0%	6.0%
89+50	-2.0%	-1.4%	96+00	-6.0%	6.0%
90+00	-2.0%	0.0%	96+50	-6.0%	6.0%
90+50	-2.0%	1.4%	97+00	-6.0%	6.0%
90+72	-2.0%	2.0%	97+50	-6.0%	6.0%
91+00	-2.8%	2.8%	97+91	-6.0%	6.0%
91+50	-4.2%	4.2%	98+00	-5.7%	5.7%
92+16	-6.0%	6.0%	98+50	-4.3%	4.3%
92+50	-6.0%	6.0%	99+00	-3.0%	3.0%
93+00	-6.0%	6.0%	99+33	-2.0%	2.0%
93+50	-6.0%	6.0%	99+50	-2.0%	1.6%
94+00	-6.0%	6.0%	100+00	-2.0%	0.2%
94+50	-6.0%	6.0%	100+50	-2.0%	-1.2%
95+00	-6.0%	6.0%	100+79	-2.0%	-2.0%



STA.	LT	RT	STA.	LT	RT
81+56	-2.0%	-2.0%	86+00	6.0%	-6.0%
82+00	-0.5%	-2.0%	86+50	6.0%	-6.0%
82+50	1.3%	-2.0%	86+89	6.0%	-6.0%
82+69	2.0%	-2.0%	87+00	5.7%	-5.7%
83+00	3.1%	-3.1%	87+50	4.3%	-4.3%
83+50	4.8%	-4.8%	88+00	2.8%	-2.8%
83+84	6.0%	-6.0%	88+29	2.0%	-2.0%
84+00	6.0%	-6.0%	88+50	1.4%	-2.0%
84+50	6.0%	-6.0%	89+00	0.0%	-2.0%
85+00	6.0%	-6.0%	89+50	-1.4%	-2.0%
85+50	6.0%	-6.0%	89+70	-2.0%	-2.0%

NO	DATE	BY	CKD	APPR	REVISION
	04/24/2014				9:42:43 AM

NAME: P:\14-01-00\CSAH_56_(Nof147th-CSAH5)Base\PROPOSEDIPLAN.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.

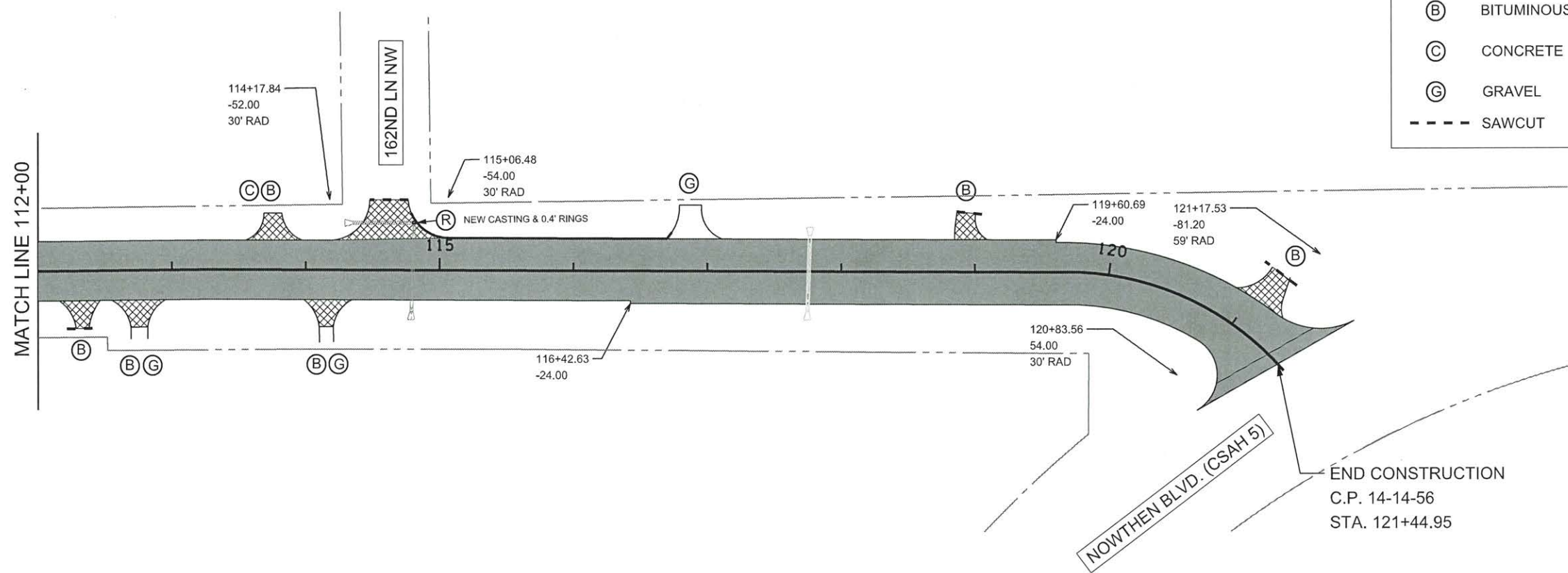
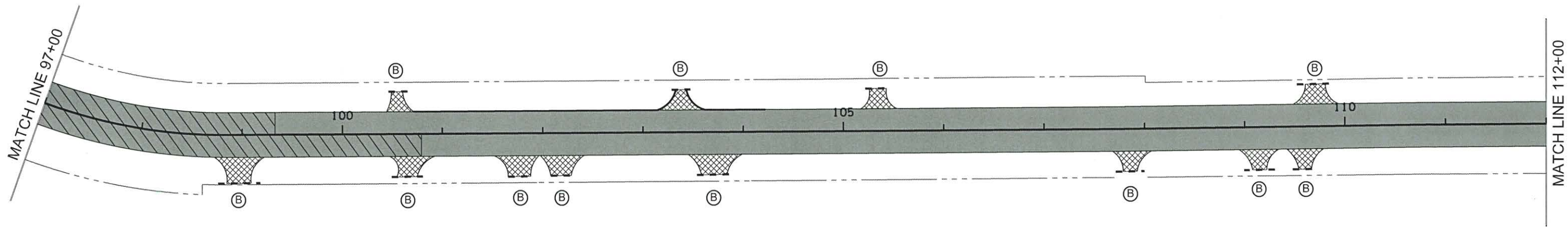
PRINT NAME: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: 4/28/14 LICENSE NO. 42757

DRAWN BY: RT DATE: 04/24/2014
 DESIGN BY: RT DATE: 04/24/2014
 CHECKED BY: DF DATE: 04/24/2014

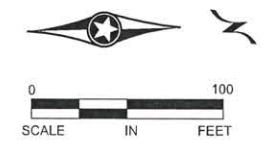
ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 14-14-56

CONSTRUCTION PLAN
 STA 67+00 TO 97+00
 Sheet 10 of 19 Sheets



LEGEND			
(B)	BITUMINOUS		MAINLINE (RECLAIM)
(C)	CONCRETE		STREET/DRIVEWAY REMOVAL
(G)	GRAVEL		SUPER TRANSITION AREA
- - -	SAWCUT	(R) →	RE-RING / ADJUST CASTING



NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME

NAME: P:\14-01-00\CSAH_56_(Nof147th-CSAH5)\Base\PROPOSED\PLAN.dgn

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PRINT NAME: ANDREW WITTER

SIGNATURE: *Andrew Witter*

DATE: 4/28/14 LICENSE NO. 42757

DRAWN BY: RT DATE: 04/23/2014

DESIGN BY: RT DATE: 04/23/2014

CHECKED BY: DF DATE: 04/23/2014

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 14-14-56

CONSTRUCTION PLAN

STA 97+00 TO 121+45

Sheet 11 of 19 Sheets

PERMANENT PAVEMENT MARKING PLAN
NOTES AND GUIDELINES

GENERAL INFORMATION:

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

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

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

EPOXY:

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

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

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

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

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

PREFORMED THERMOPLASTIC:

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

PAINT:

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

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

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

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

PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
24" WHITE THERMO- PLASTIC	LIN FT	24
3' X 6' THERMO- PLASTIC ZEBRA CROSSWALK	Sq Ft	126
4" SOLID LINE WHITE - EPOXY PAINT	LIN FT	28085
4" BROKEN LINE WHITE - EPOXY PAINT	LIN FT	110
4" SOLID LINE YELLOW - EPOXY PAINT	LIN FT	5175
4" BROKEN LINE YELLOW - EPOXY PAINT	LIN FT	1340
4" DOUBLE YELLOW - EPOXY PAINT	LIN FT	4395

SYMBOLS & MATERIALS LEGEND

■ CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC

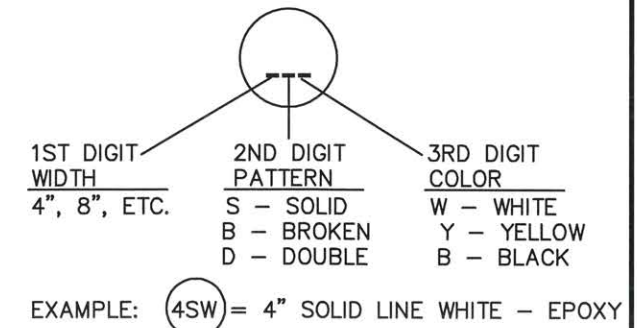
↩ PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

STRIPING KEY

○ CIRCLE - EPOXY □ SQUARE PREFORMED THERMOPLASTIC

△ TRIANGLE - PAINT

⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



NO	DATE	BY	CKD	APPR	REVISION

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: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: 4/28/14 LICENSE NO. 42757

DRAWN BY: RLB DATE: 4/7/14
 DESIGN BY: RLB DATE: 4/7/14
 CHECKED BY: JR DATE: 4/7/14



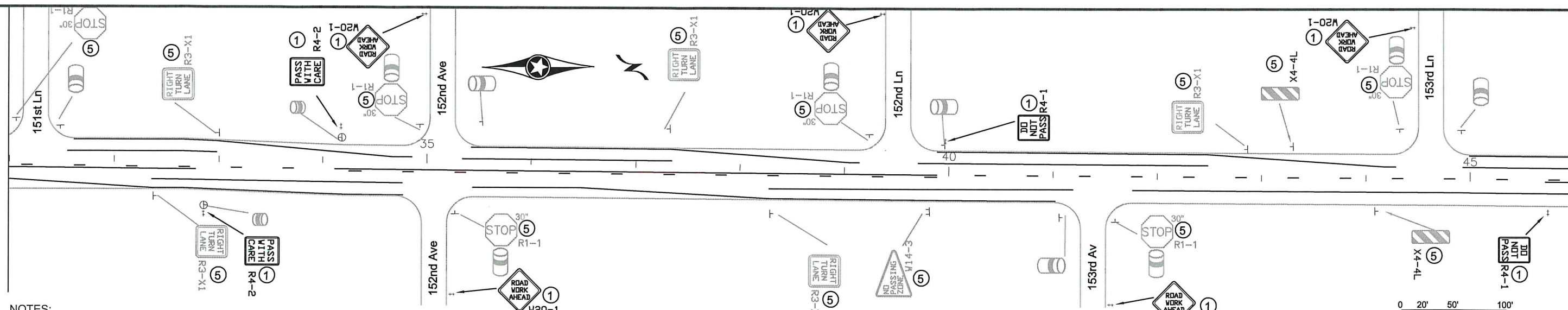
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 14-14-56

PERMANENT MARKING
TABULATION
 Sheet 12 of 19 Sheets

STATION 31+00

STATION 46+00

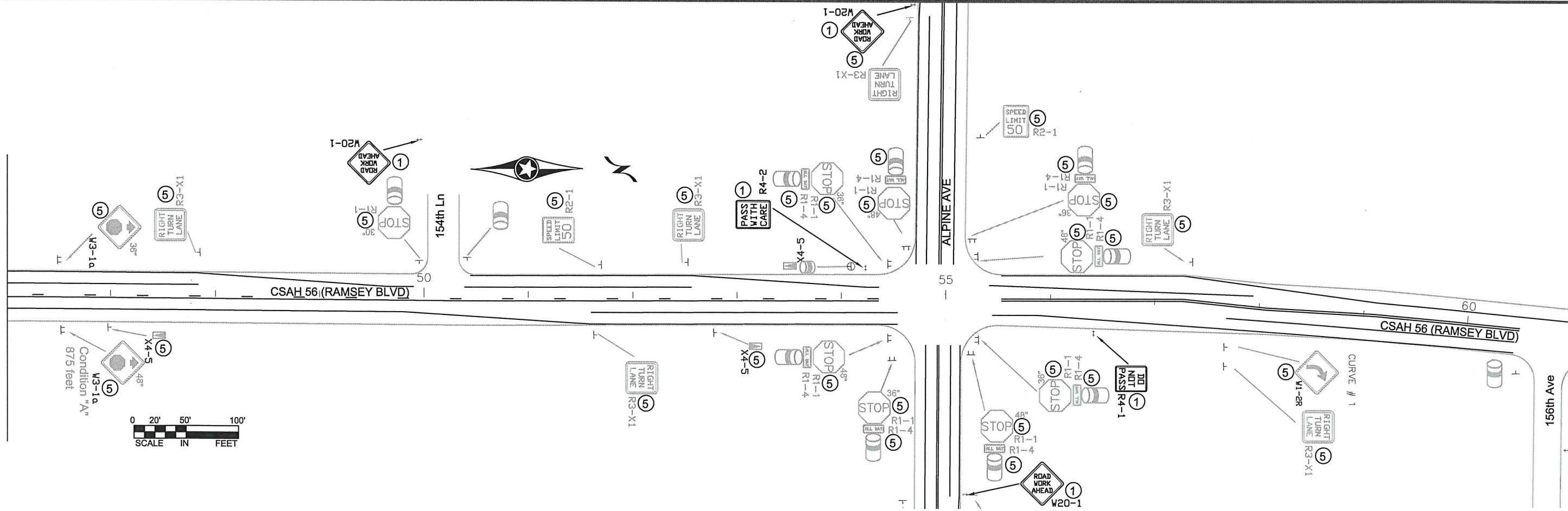


- NOTES:
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
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 - CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.
 - ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
 - ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING
 - ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ALL SALVAGED AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.

- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
 - ② F & I PERMANENT SIGN
 - ③ SALVAGE PERMANENT SIGN
 - ④ RE-INSTALL PERMANENT SIGN
 - ⑤ RETAIN INPLACE SIGN

STATION 46+00

STATION 61+00



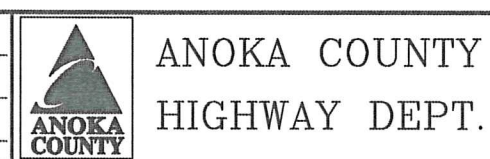
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg

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PRINT NAME: ANDREW WITTEK
 SIGNATURE: *[Signature]*
 DATE: 4/3/14 REG. NO. 42757

DRAWN BY: RLB DATE 4/3/14
 DESIGN BY: RLB DATE 4/3/14
 CHECKED BY: JR DATE 4/3/14

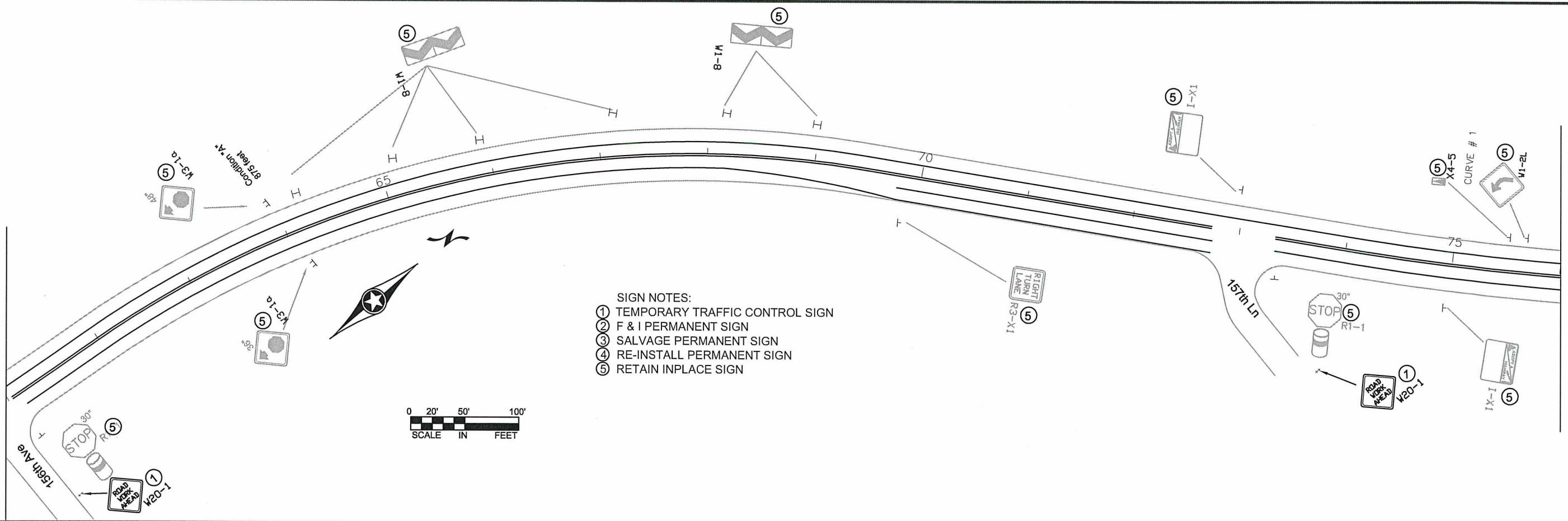


STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 14-14-56

TEMPORARY SIGNING,
 PERMANENT SIGNING
 AND STRIPING

Sheet 14 of 19 Sheets

STATION 61+00

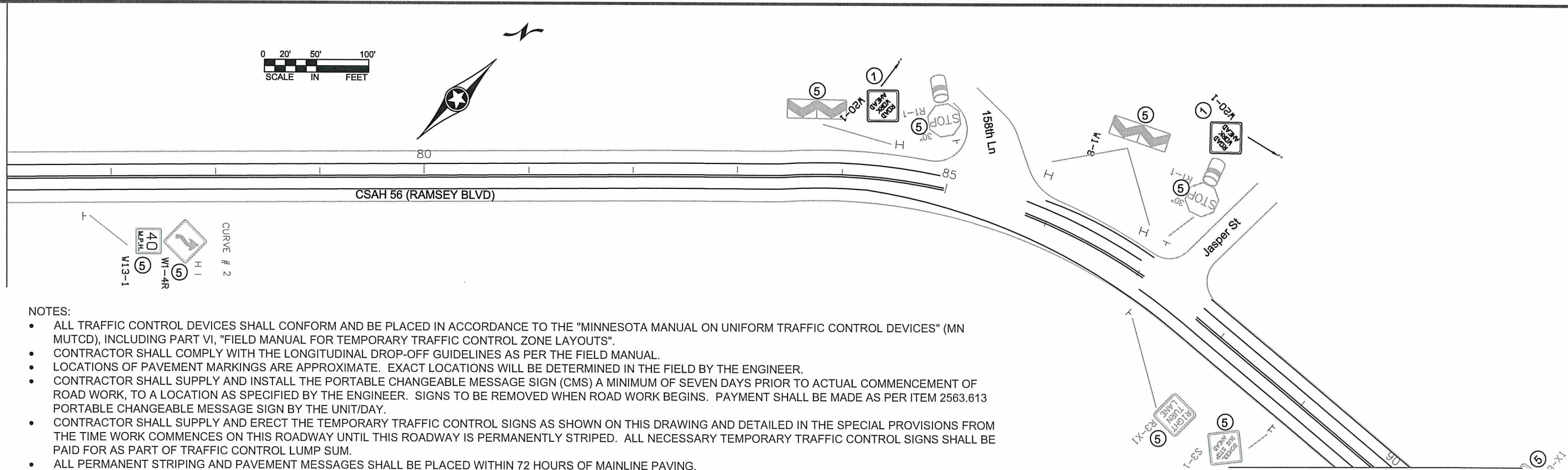


- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
 - ② F & I PERMANENT SIGN
 - ③ SALVAGE PERMANENT SIGN
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STATION 76+00

STATION 76+00



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STATION 90+00

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 REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: ANDREW WITTER

SIGNATURE: *[Signature]*

DATE: 4/28/14 REG. NO. 42757

DRAWN BY: RLB DATE: 4/3/14

DESIGN BY: RLB DATE: 4/3/14

CHECKED BY: JR DATE: 4/3/14



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

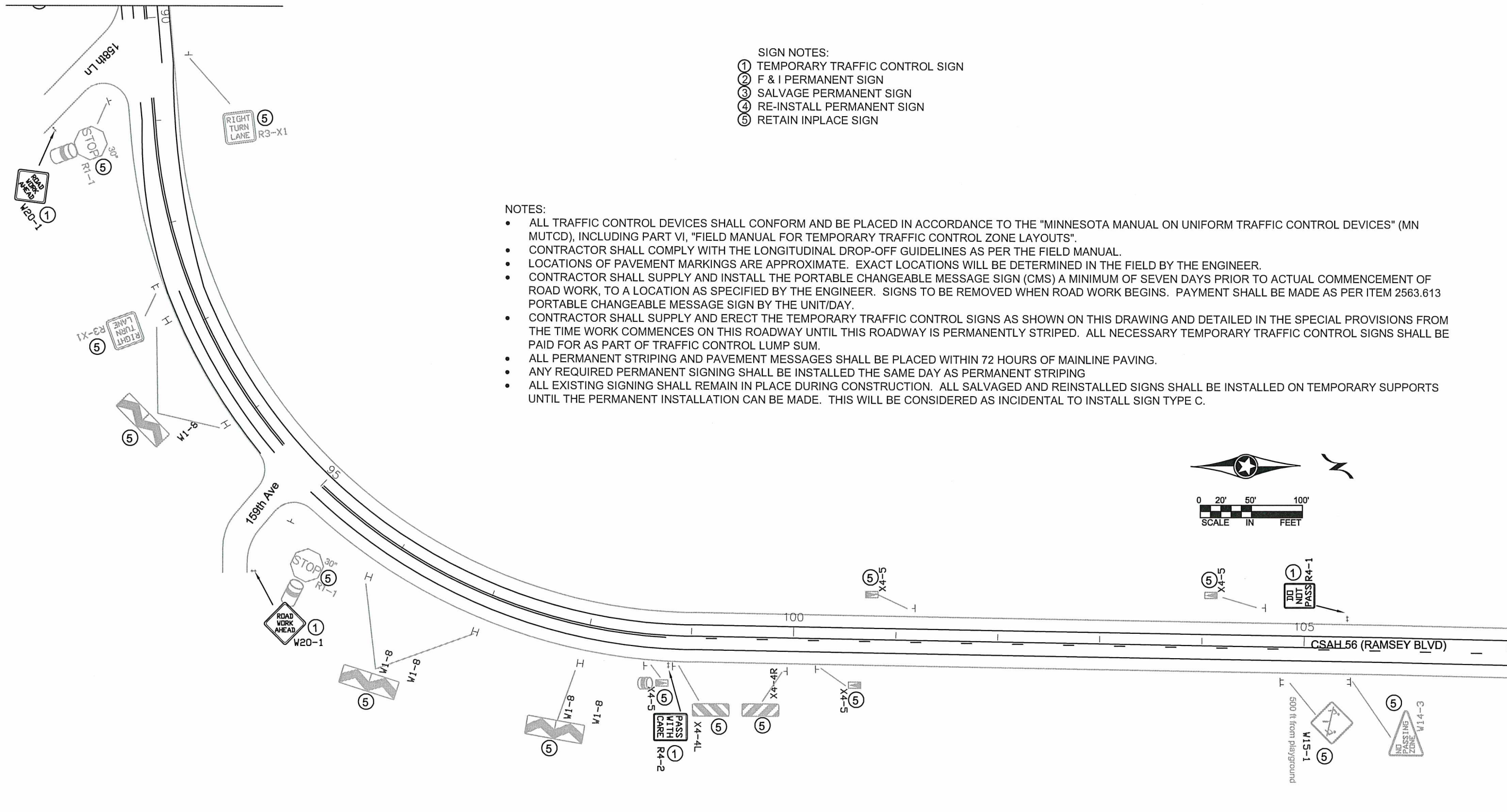
STATE AID PROJECT NO. _____

COUNTY PROJECT NO. 14-14-56

TEMPORARY SIGNING,
PERMANENT SIGNING
AND STRIPING

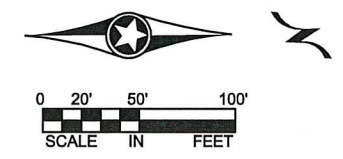
Sheet 15 of 19 Sheets

STATION 90+00



- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
 - ② F & I PERMANENT SIGN
 - ③ SALVAGE PERMANENT SIGN
 - ④ RE-INSTALL PERMANENT SIGN
 - ⑤ RETAIN INPLACE SIGN

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STATION 107+00

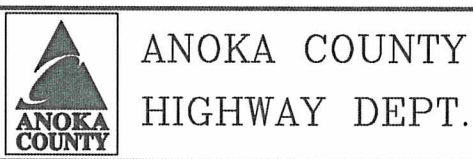
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg

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 SIGNATURE: *[Signature]*
 DATE: 4/28/14 REG. NO. 42757

DRAWN BY: RLB DATE: 4/3/14
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 CHECKED BY: JR DATE: 4/3/14

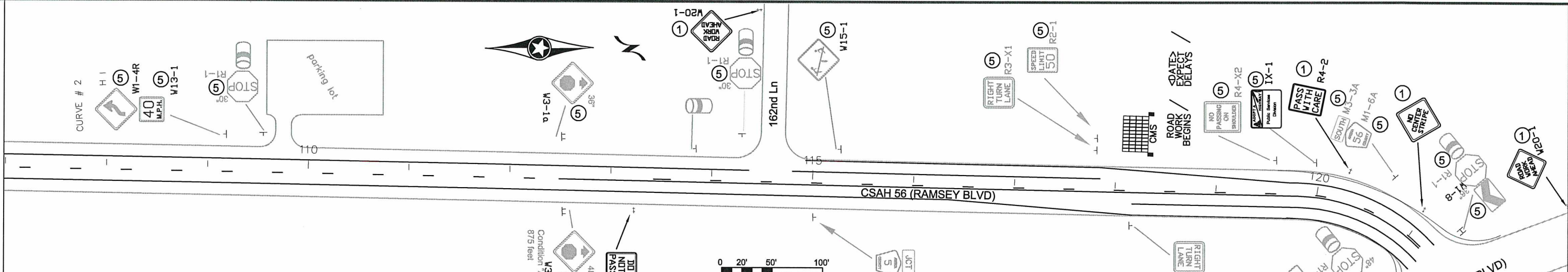


STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 14-14-56

TEMPORARY SIGNING,
 PERMANENT SIGNING
 AND STRIPING

Sheet 16 of 19 Sheets

STATION 107+00



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- SIGN NOTES:
- ① TEMPORARY TRAFFIC CONTROL SIGN
 - ② F & I PERMANENT SIGN
 - ③ SALVAGE PERMANENT SIGN
 - ④ RE-INSTALL PERMANENT SIGN
 - ⑤ RETAIN INPLACE SIGN

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg

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DATE: 4/28/14 REG. NO. 42757

DRAWN BY: RLB DATE 4/3/14

DESIGN BY: RLB DATE 4/3/14

CHECKED BY: JR DATE 4/3/14



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

STATE AID PROJECT NO. _____

COUNTY PROJECT NO. 14-14-56

TEMPORARY SIGNING,
PERMANENT SIGNING
AND STRIPING

Sheet 17 of 19 Sheets

TEMPORARY TRAFFIC CONTROL SIGNS						
M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY		MOUNTING HEIGHT TO PAVEMENT (866) FT.
					No. POST	
W8-12	48" x 48"	16.00		2	2	7.0'
R4-1	24" x 30"	5.00		7	1	7.0'
R4-2	24" x 30"	5.00		6	1	7.0'
G20-2A	48" x 24"	8.00		3	2	7.0'
W8-1A	48" x 48"	16.00		AS NEEDED		
W8-1A	48" x 48"	16.00		AS NEEDED		
W8-8	48" x 48"	16.00		AS NEEDED		
W8-9	48" x 48"	16.00		AS NEEDED		
	48" x 48"	16.00		AS NEEDED		
W8-11	48" x 48"	16.00		AS NEEDED		
W20-1	48" x 48"	16.00		AS NEEDED (ESTIMATED 26)		
CMS sign to be installed a minimum of seven days prior to actual commencement of road work. Signs to be removed when road work begins.				2		

NOTES:

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

CHANGEABLE MESSAGE BOARD - MESSAGE SEQUENCE LAYOUT

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

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

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

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: ANDREW WITTER
 SIGNATURE:
 DATE: 4/2/14 REG. NO. 42757

DRAWN BY: RLB DATE 4/3/14
 DESIGN BY: RLB DATE 4/3/14
 CHECKED BY: JR DATE 4/3/14

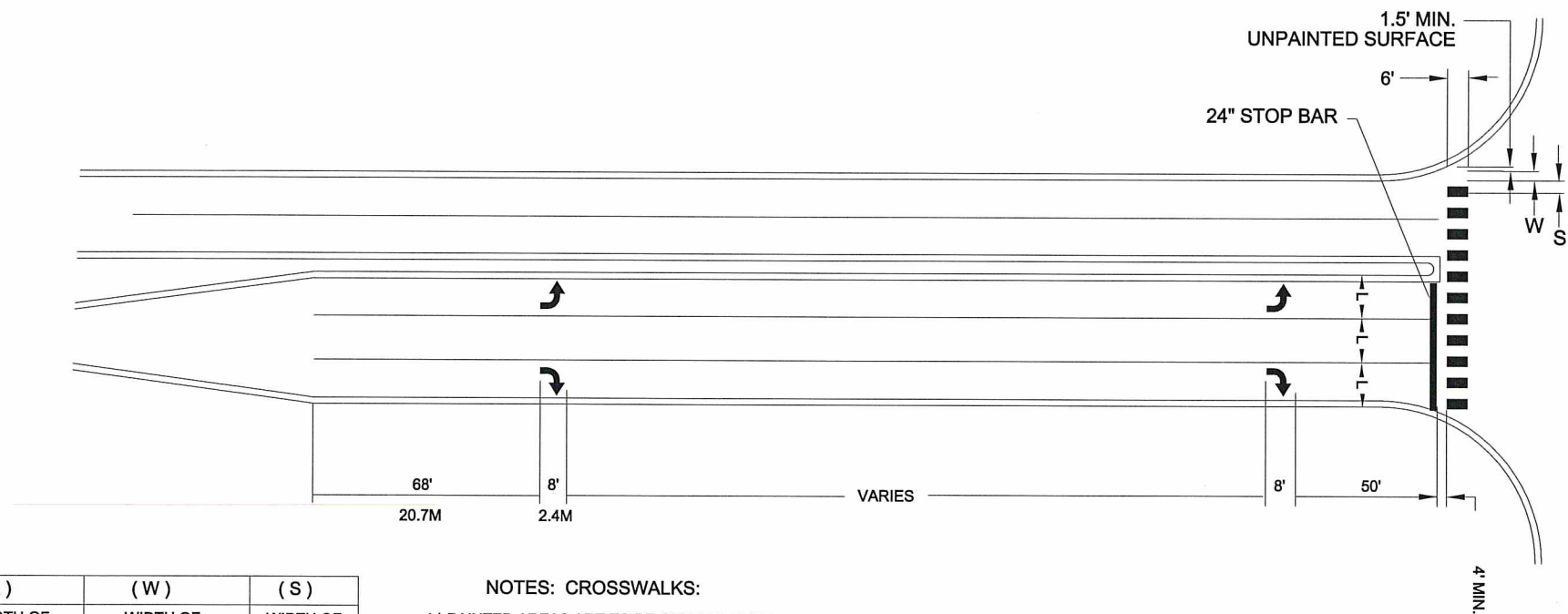


ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 14-14-56

TEMPORARY SIGNING,
 PERMANENT SIGNING
 AND STRIPING
 Sheet 18 of 19 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 RAMPS 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.

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 REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: ANDREW WITTER

SIGNATURE: *[Signature]*

DATE: 4/28/14 REG. NO. 42757

DRAWN BY RLB DATE 4/7/14

DESIGN BY RLB DATE 4/7/14

CHECKED BY JR DATE 4/7/14



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

STATE AID PROJECT NO. _____

COUNTY PROJECT NO. 14-14-56

SIGNING & STRIPING
DETAILS