

PLAN SYMBOLS

- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- SLOPE EASEMENT
- EXISTING RIGHT OF WAY
- PROPERTY LINE
- CORPORATE OR CITY LIMITS
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY
- RIVER OR CREEK
- DRAINAGE DITCH
- CULVERT
- DROP INLET
- GUARD RAIL
- BARBED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- WOOD FENCE
- STONE WALL OR FENCE
- HEDGE

- LOWLAND
- TIMBER
- ORCHARD
- BRUSH
- NURSERY

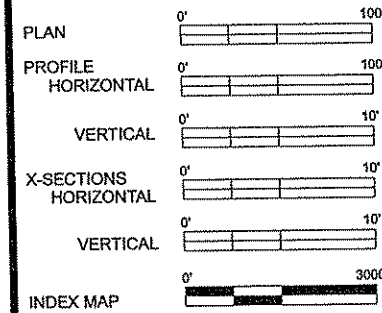
- CATTLE GUARD
- OVERPASS (Highway Over)
- UNDERPASS (Highway Under)
- BRIDGE

- BUILDING (One Story Frame)
- F-FRAME C-CONCRETE
- S-STONE T-TILE
- B-BRICK ST-STUCCO
- RAILROAD CROSSING BELL
- RAILROAD CROSSING GATE
- MANHOLE
- CATCH BASIN
- FIRE HYDRANT
- CAST IRON MONUMENT
- IRON PIN
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY

UTILITY SYMBOLS

- POWER POLE LINE
- TELEPHONE OR TELEGRAPH POLE LINE
- JOINT TELEPHONE & POWER ON POWER POLES
- ON TELEPHONE POLES
- ANCHOR
- STEEL TOWER
- STREET LIGHT
- PEDESTAL (Cable Terminal)
- GAS MAIN
- WATERMAIN
- TELEPHONE CABLE IN CONDUIT
- ELECTRIC CABLE IN CONDUIT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- BURIED TELEPHONE CABLE
- BURIED ELECTRIC CABLE
- SEWER (Sanitary or Storm)
- SEWER MANHOLE

SCALES



MINNESOTA DEPARTMENT OF TRANSPORTATION

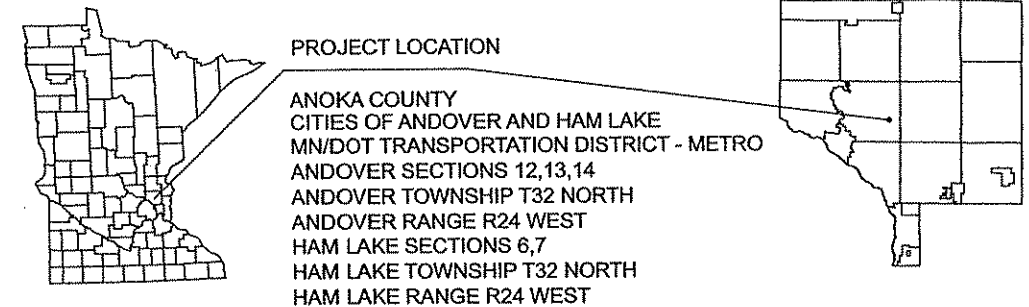
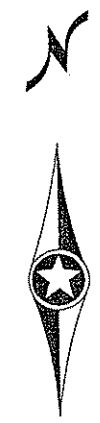
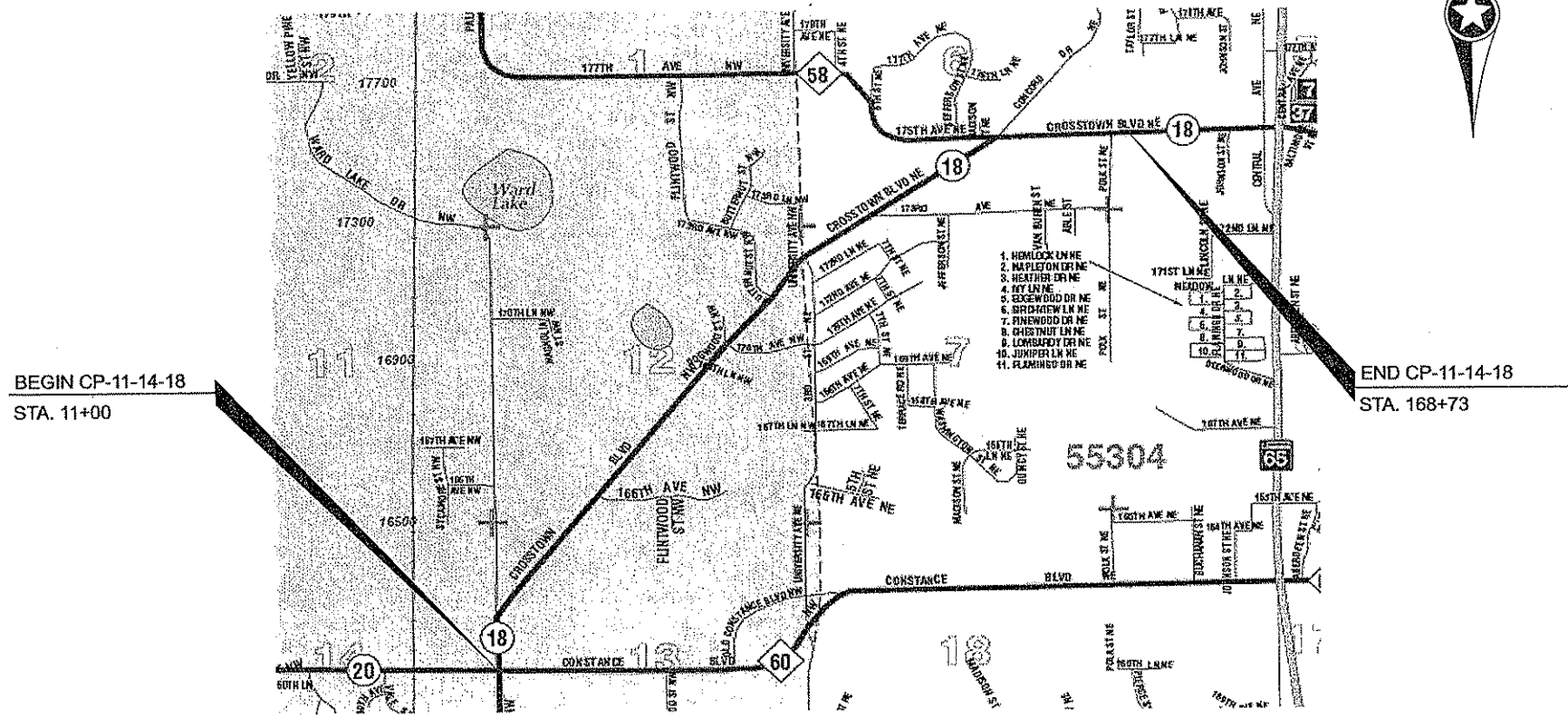
ANOKA COUNTY

CONSTRUCTION PLAN FOR CONCRETE PAVING, BITUMINOUS MILLING, BITUMINOUS RECLAIM, RTL / BYPASS CONST., AGGREGATE SHOULDERING
BITUMINOUS CURB, CONCRETE CURB, PORKCHOP ISLAND REMOVAL AND INCIDENTALS

LOCATED ON CSAH 18 BETWEEN CSAH 20 AND 950' EAST OF POLK ST

CP 11-14-18		
GROSS LENGTH	15773 FEET	2.99 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	15773 FEET	2.99 MILES

CITIES OF ANDOVER AND HAM LAKE



PROJECT LOCATION
 ANOKA COUNTY
 CITIES OF ANDOVER AND HAM LAKE
 MN/DOT TRANSPORTATION DISTRICT - METRO
 ANDOVER SECTIONS 12,13,14
 ANDOVER TOWNSHIP T32 NORTH
 ANDOVER RANGE R24 WEST
 HAM LAKE SECTIONS 6,7
 HAM LAKE TOWNSHIP T32 NORTH
 HAM LAKE RANGE R24 WEST

MINN. PROJ. NO. _____

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

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THIS PLAN CONTAINS 58 SHEETS
 DESIGN DESIGNATION

ESAL 20	777,074
R VALUE	50
ADT (2009) =	5622
Proj. ADT (2029) =	8433
Proj. HCADT (2029) =	337
Soil Factor	NA
10 TON DESIGN	

Functional Classification A-MINOR ARTERIAL EXPANDER
 No. of Traffic Lanes 2 No. of Parking Lanes 0
 Design Speed 55 MPH
 Based on Stopping Sight Distance 492'
 Height of eye 3.5' Height of object 2.0'
 Design Speed not achieved at:
 STA. --- TO STA. --- MPH ---

Approved _____, 20____ ANOKA COUNTY ENGINEER

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: CHARLES M. CADERHEAD, JR.
 SIGNATURE: *[Signature]*
 DATE: 6/2/11 LICENSE NO. 40416

DRAWN BY: JF DATE: 4/1/2011
 DESIGN BY: JF DATE: 4/1/2011
 CHECKED BY: BY DATE: 5/30/2011

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

TITLE SHEET
 Sheet 1 of 58 Sheets

STATEMENT OF ESTIMATED QUANTITIES						
ITEM NO.	ITEM	NOTE	TAB	UNIT	TOTAL EST. QUANT.	
2021.501	MOBILIZATION			LUMP SUM	1	
2031.501	FIELD OFFICE TYPE D			EACH	1	
2102.502	PAVEMENT MARKING REMOVAL	1		LIN FT	15800	
2104.501	REMOVE BITUMINOUS CURB	1	A	LIN FT	2788	
2104.501	REMOVE CURB AND GUTTER	16	B	LIN FT	81	
2104.505	REMOVE CONCRETE MEDIAN	16	C	SQ YD	21	
2104.505	REMOVE BITUMINOUS PAVEMENT		D	SQ YD	50	
2104.513	SAWING BITUMINOUS PAVEMENT	1	E	LIN FT	2788	
2104.523	SALVAGE SIGN PANEL TYPE C			EACH	28	
2105.525	TOPSOIL BORROW (LV)	20	H	CU YD	280	
2105.602	CONSTRUCT TURN LANE	14	F	EACH	1	
2105.602	CONSTRUCT BYPASS LANE	14	G	EACH	4	
2112.619	SHOULDER PREPERATION	2		ROAD STA	275	
2211.501	AGGREGATE BASE CLASS 5	19	I	TON	87	
2211.503	AGGREGATE BASE CLASS 5 (P)	3	J	CU YD	1549	
2221.503	AGGREGATE SHOULDERING CLASS 5	5	K	CU YD	505	
2232.501	MILL BITUMINOUS SURFACE (3")	25		SQ YD	56665	
2232.604	MILL BITUMINOUS SURFACE (SPECIAL)	6		SQ YD	3094	
2301.502	CONCRETE PAVEMENT STANDARD WIDTH 6"	9,27	L	SQ YD	56135	
2301.511	STRUCTURAL CONCRETE (MIX)		M	CU YD	9356	
2331.604	BITUMINOUS PAVEMENT RECLAMATION	24		SQ YD	18590	
2357.502	BITUMINOUS MATERIAL FOR TACK COAT			GALLON	184	
2360.501	TYPE SP 12.5 WEARING COURSE MIX (SPWEB440B)	4	N	TON	3806	
2360.503	TYPE SP 12.5 WEARING COURSE MIX (SPWEB240B)	18	O	SQ YD	1106	
2360.505	TYPE SP 12.5 BITUMINOUS MIXTURE FOR PATCHING	23		TON	150	
2531.501	CONCRETE CURB AND GUTTER DESIGN B412	8	P	LIN FT	1377	
2535.501	BITUMINOUS CURB	26	Q	LIN FT	200	
2535.501	BITUMINOUS CURB (MODIFIED)	7	R	LIN FT	1488	
2540.602	INSTALL MAIL BOX SUPPORT	11		EACH	45	
2563.601	TRAFFIC CONTROL	12,21,22		LUMP SUM	1	
2564.537	INSTALL SIGN TYPE C	1		EACH	2	
2564.602	FURNISH AND INSTALL SIGN PANEL TYPE C			SQ FT	39.25	
2573.508	BITUMINOUS LINED FLUME	1, 17		SQ YD	71	
2573.550	EROSION CONTROL SUPERVISOR	15		LUMP SUM	1	
2573.602	CULVERT END PROTECTION	1,13,15		EACH	13	
2575.501	SEEDING	15,20	S	ACRE	0.5	
2575.502	SEED MIXTURE 250	15,20	T	POUND	37	
2575.523	EROSION CONTROL BLANKET CAT 3	15,20	U	SQ YD	2547	
2575.532	FERTILIZER TYPE 3	15,20	V	POUND	184	
2582.502	4" SOLID LINE WHITE - EPOXY	22		LIN FT	33444	
2582.502	4" BROKEN LINE WHITE-EPOXY	22		LIN FT	290	
2582.502	4" SOLID LINE YELLOW - EPOXY	22		LIN FT	7016	
2582.502	4" BROKEN LINE YELLOW-EPOXY	22		LIN FT	2580	
2582.502	4" DOUBLE SOLID LINE YELLOW - EPOXY	22		LIN FT	2683	
2582.602	FORMED 4" GROOVE FOR EPOXY TRAFFIC ITEMS	10		LIN FT	66200	

- NOTES**
- LOCATION TO BE DETERMINED BY ENGINEER.
 - FOR SHAPING OF BITUMINOUS SHOULDERS, PRIOR TO GRAVEL PLACEMENT.
 - 3" CLASS 5 BASE FOR PAVED 7" SHLDR. PRIOR TO PAVING SHOULDER.
 - 3" BITUMINOUS MAINLINE SHOULDER. / OVERLAY EXISTING BIT. STREET APPROACH. (PAVE IN 2 LIFTS)
 - MATERIAL FOR FINISED 1.5' GRVL. SHLDR.
 - VARIABLE DEPTH FOR VERTICAL TRANSITIONS AT BEGIN AND END PROJECT.
 - 4" INTEGRAL BITUMINOUS CURB INSTALLED ON BITUMINOUS SHOULDER IN EXISTING BIT. CURB LOCATIONS. SEE DETAILS.
 - B412 INTEGRAL CONCRETE CURB INSTALLED IN RIGHT TURN LANES AT EXISTING BIT. CURB LOCATIONS.
 - CEMENT CONCRETE SURFACES SHALL BE SANDBLASTED CLEAN TO REMOVE ANY SURFACE TREATMENTS AND / OR LAITANCE. THIS SHALL BE CONSIDERD INCIDENTAL TO THE PAINT ITEMS.
 - THE CONTRACTOR HAS THE OPTION OF GRINDING THE CONCRETE OR FORMING A GROVE DURING THE FINISHING OPERATIONS.
 - MAILBOXES TO BE INSTALLED AT THE EXISTING MAILBOX LOCATION. MAILBOX MATERIALS INCIDENTAL TO INSTALLATION.
 - ALL TRAFFIC CONTROL METHODS SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 - INSTALL 1 PER CULVERT INSIDE RTL / BYPASS WIDENING AREAS - AT THE HIGH INVERT.
 - INCLUDES TIME AND MATERIALS TO CONSTRUCT. - COMMON EX., SELECT GRANULAR, AGG. BASE CL-5, TOPSOIL, MOTOR GRADER HRS, DOZER HRS, PNEUMATIC TIRED ROLLER HRS, SLT FENCE MACHINE SLICED, EROSION CONTROL BLANKET TYPE 3, SEEDING, SEED TYPE 250 AND FERTILIZER TYPE 3. EST. CALCS CAN BE FOUND IN PLAN DETAILS. - NOTE - CONCRETE FOR TURN LANE / BYPASS IS INCLUDED IN MAIN SEQ.
 - EROSION PREVENTION AND SEDIMENT CONTROL BMP'S TO BE INSTALLED, INSPECTED AND MAINTAINED THRUOUGHT CONSTRUCTION IN ACCORDENCE WITH THE PROJECT SWPPP.
 - REMOVE EXISTING PORKCHOP ISLAND AT 12+00, NEW 50' RAD. LSB AT CR 20.
 - REPAIRING, OVERLAYING EXISTING BIT FLUMES. ADDING ADDITIONAL FLUMES AT CURB ENDINGS AT THE DISCRETION OF ENGINEER.
 - OVERLAY EXISTING BITUMINOUS ENTRANCES.
 - FOR GRAVEL ENTRANCES.
 - FOR RE-ESTABLISHING AREA BEHIND CURB INSTALATION.
 - DO NOT PASS, PASS WITH CARE, NO CENTER STRIPE AND BUMP/BUMP AHEAD SIGNS TO BE INPLACE DURING MILLING OPERATIONS.
 - PERMANENT MARKINGS TO BE INPLACE WITHIN 72 HRS OF FINAL CONCRETE PAVING.
 - BITUMINOUS PATCHING AS NEEDED ON MILLED SURFACE PRIOR TO CONCRETE OVERLAY, AS DIRECTED BY THE ENGINEER.
 - FULL DEPTH RECLAIM EXISTING 8' BITUMINOUS SHOULDERS AND 12' EXISTING RIGHT TURN / BYPASS LANES.
 - MILL EXISTING MAINLINE. CONTRACTOR SHALL USE MILLING MACHINE WITH MINIMUM CAPACITY OF 12' PER PASS.
 - FORMED BITUMINOUS CURB FOR TRANSITIONING FROM INTEGRAL CURB TO EXISTING DRIVE WAY / STREET APPROACH CURB.
 - CONCRETE JOINTS SHALL BE SEALED. CONCRETE SEALER MNDOT SPEC. 3725 HOT POUR. SEALER INCIDENTAL TO CONCRETE PAVEMENT.

INDEX OF TABULATION CHARTS		
TAB.	DESCRIPTION	SHEET NO.
A	REMOVE BITUMINOUS CURB	3
B	REMOVE CONCRETE CURB AND GUTTER	3
C	REMOVE CONCRETE MEDIAN	3
D	REMOVE BITUMINOUS PAVEMENT	3
E	SAWING BITUMINOUS PAVEMENT	3
F	CONSTRUCT TURN LANE	3
G	CONSTRUCT BY-PASS LANE	3
H	TOPSOIL BORROW	3
I	AGGREGATE BASE CLASS 5	3
J	AGGREGATE BASE CLASS 5 (P)	3
K	AGGREGATE SHOULDERING CLASS 5	3
L	CONCRETE PAVEMENT STANDARD WIDTH (6")	3
M	STRUCTURAL CONCRETE (MIX)	4
N	TYPE SP 12.5 WEARING COURSE (SPWEB440B)	4
O	TYPE SP 12.5 WEARING COURSE (SPWEB240B)	4
P	CONCRETE CURB AND GUTTER DESIGN B412	4
Q	BITUMINOUS CURB	4
R	BITUMINOUS CURB (MODIFIED)	4
S	SEEDING	4
T	SEED MIXTURE 250	4
U	EROSION CONTROL BLANKET CAT 3	4
V	FERTILIZER TYPE 3	4

THE FOLLOWING STANDARD PLATE APPROVED BY THE DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

STANDARD PLATES	
PLATE NO.	DESCRIPTION
7100 H	CURB AND GUTTER DESIGN B412
8000 I	STANDARD BARRICADES

BASIS OF PLANNED QUANTITIES		
2105.602	CONSTRUCT TURN LANE	SEE PLAN DETAILS FOR CALCS
2105.602	CONSTRUCT BY-PASS LANE	SEE PLAN DETAILS FOR CALCS
2105.609	TOPSOIL BORROW	CU YDS * 1.8 = TONS
2123.503	MOTOR GRADER	20HR +/- PER MI. OF JOB & 2HR PER RTL / BYPASS
2123.521	PNEUMATIC TIRED ROLLER	20HR +/- PER MI. OF JOB & 2HR PER RTL / BYPASS
2123.610	DOZER	2 HR +/- PER RTL / BYPASS
2211.501	AGGREGATE BASE CLASS 5 (DRIVeways)	CU YDS * 1.8 = TONS
2211.503	AGGREGATE BASE CLASS 5 (MAINLINE)	CU YDS
2221.503	AGGREGATE SHOULDERING CLASS 5	CU YDS
2301.502	CONCRETE PAVEMENT, STANTARD WIDTH 6.0"	SQ YD
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	.05 GAL / SQ YD
2360.501	TYPE SP 12.5 WEARING COURSE (SPWEB440B)	115 LBS*SQYD*IN THICKNESS/2000=TONS
2360.503	TYPE SP 12.5 WEARING COURSE (SPWEB240B)	SQYD
2360.505	TYPE SP 12.5 BITUMINOUS MIXTURE FOR PATCHING	115 LBS*SQYD*IN THICKNESS/2000=TONS
2531.501	CONCRETE CURB AND GUTTER DESIGN B412	LIN FT
2575.501	SEEDING	ACRE
2575.502	SEED MIXTURE 250	70 LBS / ACRE
2575.531	FERTILIZER TYP 3	350 LBS / ACRE

A REMOVE BITUMINOUS CURB			
DIR	STA	STA	LIN FT
SB	27+39	31+00	361
SB	37+50	39+75	225
SB	75+50	77+75	225
NB	75+75	77+27	152
NB	91+00	93+00	200
SB	96+50	101+00	450
NB	97+13	101+75	462
SB	105+00	105+63	63
NB	113+00	114+25	125
SB	129+75	131+50	175
NB	129+75	131+75	200
SB	146+00	147+50	150
TOTAL			2,788

B REMOVE CONC. CURB AND GUTTER		
PORKCHOP ISL.	STA	LIN FT
12+00	81	

C REMOVE CONCRETE MEDIAN		
PORKCHOP IS.	STA	SQ YD
12+00	21	

D REMOVE BITUMINOUS PAVEMENT		
PORKCHOP IS.	STA	SQ YD
12+00	50	

E SAW BITUMINOUS PAVEMENT			
DIR	STA	STA	LIN FT
SB	27+39	31+00	361
SB	37+50	39+75	225
SB	75+50	77+75	225
NB	75+75	77+27	152
NB	91+00	93+00	200
SB	96+50	101+00	450
NB	97+13	101+75	462
SB	105+00	105+63	63
NB	113+00	114+25	125
SB	129+75	131+50	175
NB	129+75	131+75	200
SB	146+00	147+50	150
TOTAL			2,788

F CONSTRUCT TURN LANE - EACH	
ITEMS INCLUDED	QUANTITY
COMMON EX	147.00 CU YD
SELECT GRANULAR	187.83 TON
AGG BASE CLASS 5	75.77 TON
TOPSOIL	13.13 TON
MOTOR GRADER	2 HOUR
DOZER	2 HOUR
PNEUMATIC TIRED ROLLER	2 HOUR
SILT FENCE MACHINE SLICED	480 LIN FT
SEEDING (ACRE)	0.09 ACRE
SEED MIXTURE 350 (LB)	7.60 POUND
EROS. CONTROL BLANKET CAT 3	427 SQ YD
FERT. TYPE (LB)	31.50 POUND

G CONSTRUCT BYPASS LANE - EACH	
ITEMS INCLUDED	QUANTITY
COMMON EX	189.84 CU YD
SELECT GRANULAR	242.61 TON
AGG BASE CLASS 5	97.87 TON
TOPSOIL	16.96 TON
MOTOR GRADER	2 HOUR
DOZER	2 HOUR
PNEUMATIC TIRED ROLLER	2 HOUR
SILT FENCE MACHINE SLICED	620 LIN FT
SEEDING (ACRE)	0.11 ACRE
SEED MIXTURE 350 (LB)	9.29 POUND
EROS. CONTROL BLANKET CAT 3	551 SQ YD
FERT. TYPE (LB)	38.50 POUND

H TOPSOIL BORROW							
DIR	STA	STA	LIN FT	WIDTH (FT)	DEPTH (FT)	CU FT	CU YD
SB	27+39	31+00	361.0	8.0	0.33	953.0	35.3
SB	37+50	39+75	225.0	8.0	0.33	594.0	22.0
SB	75+50	77+75	225.0	8.0	0.33	594.0	22.0
NB	75+75	77+27	152.0	8.0	0.33	401.3	14.9
NB	91+00	93+00	200.0	8.0	0.33	528.0	19.6
SB	96+50	101+00	450.0	8.0	0.33	1188.0	44.0
NB	97+13	101+75	462.0	8.0	0.33	1219.7	45.2
SB	105+00	106+40	140.0	8.0	0.33	369.6	13.7
NB	113+00	114+25	125.0	8.0	0.33	330.0	12.2
SB	129+75	131+50	175.0	8.0	0.33	462.0	17.1
NB	129+75	131+75	200.0	8.0	0.33	528.0	19.6
SB	146+00	147+50	150.0	8.0	0.33	396.0	14.7
TOTAL							280

I AGGREGATE BASE CLASS 5 (DR)			
ADDRESS	STA	LOC.	TON
16775	63+50	RT	7
16775	67+00	RT	7
17051	90+00	RT	7
BUTTERNUT ST	93+00	LT	10
99	106+50	LT	7
FE	111+00	LT	7
FE	147+00	RT	7
901	153+00	LT	7
919	153+50	LT	7
939	157+00	LT	7
UNKNOWN	162+00	LT	7
1107 / 1109	167+00	LT	7
TOTAL			87

J AGGREGATE BASE CLASS 5 (ML)			
MICROSTATION			
SQ FT	DEPTH (FT)	CU FT	CU YD
167310.6	0.25	41827.65	1549.2
TOTAL			1549

K AGGREGATE SHOULDERING CLASS 5						
MAINLINE	STATION	STATION	LENGTH (FT)	WIDTH (FT)	DEPTH (FT)	CU YD
LNB	11+44	169+00	15756.0	1.5	0.33	288.9
LSB	11+44	169+00	15756.0	1.5	0.33	288.9
SUBTOTAL (CU YD)						577.7
SUBTRACT STREET OPENINGS						
WARD LK			100.0	1.5	0.33	1.8
166TH			100.0	1.5	0.33	1.8
170TH W			100.0	1.5	0.33	1.8
170TH E			100.0	1.5	0.33	1.8
BUTTERNUT			100.0	1.5	0.33	1.8
3RD ST			100.0	1.5	0.33	1.8
173RD			100.0	1.5	0.33	1.8
CR 58			100.0	1.5	0.33	1.8
POLK			100.0	1.5	0.33	1.8
SUBTRACT CURB AREAS						
LSB 27+10 31+00			390.0	1.5	0.33	7.2
LSB 37+30 40+00			270.0	1.5	0.33	5.0
LSB 75+30 77+30			200.0	1.5	0.33	3.7
LNB 75+50 77+30			180.0	1.5	0.33	3.3
LNB 90+70 9300.0			230.0	1.5	0.33	4.2
LSB 96+50 101+20			470.0	1.5	0.33	8.6
LNB 97+10 101+80			470.0	1.5	0.33	8.6
LSB 105+20 106+50			130.0	1.5	0.33	2.4
LNB 112+50 114+50			200.0	1.5	0.33	3.7
LSB 129+70 131+50			180.0	1.5	0.33	3.3
LNB 130+00 132+00			200.0	1.5	0.33	3.7
LSB 146+00 147+60			160.0	1.5	0.33	2.9
SUBTRACT ST. OPENINGS / CURB AREAS						73.0
SUBTOTAL (CU YD)						577.7
SUBTRACT ST. OPENINGS / CURB AREAS (CU YD)						73.0
TOTAL (CU YD)						505

L CONCRETE PAVEMENT STANDARD WIDTH 6"						
			LENGTH (FT)	WIDTH (FT)	SQ FT	SQ YD
MAINLINE			15800	26.0	410800	45644.4
RTL / BYPASSES						
RTL	CR 20	LSB	480	11	5280	586.7
BY	WARD LAKE DR	LNB	620	11	6820	757.8
RTL	WARD LAKE DR	LSB	480	11	5280	586.7
RTL	166TH	LNB	480	11	5280	586.7
BY	166TH	LSB	620	11	6820	757.8
RTL	170TH	LNB	480	11	5280	586.7
RTL	170TH	LSB	480	11	5280	586.7
BY	BUTTERNUT	LNB	420	11	4620	513.3
BY	BUTTERNUT	LNB	200	11	2200	244.4
RTL	BUTTERNUT	LSB	480	11	5280	586.7
RTL	3RD ST	LNB	18	11	198	22.0
RTL	3RD ST	LNB	462	11	5082	564.7
BY	3RD ST	LSB	170	11	1870	207.8
BY	3RD ST	LSB	450	11	4950	550.0
3RD ST ADD			63	11	693	77.0
RTL	173RD	LNB	355	11	3905	433.9
RTL	173RD	LNB	125	11	1375	152.8
BY	CR 58	LNB	620	11	6820	757.8
RTL	CR58	LSB	480	11	5280	586.7
RTL	POLK ST	LNB	480	11	5280	586.7
BY	POLK ST	LSB	620	11	6820	757.8
TOTAL						56135

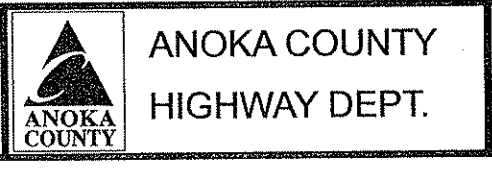
NO	DATE	BY	CHKD	APPR	REVISION

NAME: P111-01-00/CSAH 18 (CSAH20-TH65)Plan/CONCRETE3 Misc.TABS CONC.dgr06/02/2011 2:02:01 PM

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: CHARLES M. CADENHEAD JR.
 SIGNATURE: *[Signature]*
 DATE: 6/27/11 LICENSE NO. 40416

DRAWN BY: JF DATE: 4/1/2011
 DESIGN BY: JF DATE: 4/1/2011
 CHECKED BY: BV DATE: 5/30/2011



COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

MISC. TABULATIONS
 Sheet 3 of 58 Sheets

M STRUCTURAL CONCRETE (MIX)				
SQ YD	SQ FT	CONC. DEPTH (FT)	CU FT	CU YD
56134.8	505213.2	0.5	252606.6	9356

N TYPE SP 12.5 WEARING COURSE (SPWEB440B)				
			SQ YD	TON
	PAVED SHOULDER		18590.1	3207
	STREETS			
	CR 20		1316.5	227.1
	WARD LK		279.0	48.1
	166TH		267.0	46.1
	170TH E.		257.0	44.3
	170TH W.		148.0	25.5
	BUTTERNUT		223.1	38.5
	3RD ST		189.0	32.6
	173 RD		303.0	52.3
	CR 58		171.0	29.5
	POLK		321.0	55.4
	TOTAL		22065	3806

O TYPE SP 12.5 WEAR COURSE (SPWEB240B)				
	BIT ENTRANCES			SQ YD
	16150			33.2
	16147			19.9
	16234			22.9
	16324			31.5
	16331			31.4
	16358			26.6
	16409			26.4
	16409			24.8
	16409			24.4
	16450			17.1
	16450			19.8
	16464			27.4
	16473			32.3
	16675			33.3
	16675			30.2
	16880			33.2
	16873			25.6
	16906			22.8
	16911			26.2
	17020			22.5
	17066			26.3
	17069			32.8
	17095			32.4
	17142			21.2
	17163			28.2
	17182			55.8
	99			20.8
	99			23.0
	2,2,3,4,150			27.2
	304			38.0
	320			33.1
	345			19.2
	EMPTY			23.0
	EMPTY			24.8
	EMPTY			18.8
	745			25.4
	811			26.2
	839			26.9
	1015			26.4
	BUS STOP			26.1
	1117			19.6
	TOTAL (SQ YD)			1106

Q BITUMINOUS CURB	
	LIN FT
ESTIMATED QUANTITY	200
TOTAL	200

R BITUMINOUS CURB (MODIFIED)			
DIR	BEG. STA	END STA	LIN FT
SB	27+39	31+00	361
SB	37+50	39+75	225
SB	75+50	77+75	225
NB	75+75	77+27	152
SB	129+75	131+50	175
NB	129+75	131+75	200
SB	146+00	147+50	150
	TOTAL		1,488

S SEEDING (BEHIND NEW CURB)				
	CURB LENGTH (FT)	WIDTH (FT)	SQ FT	ACRE
	2,865	8	22920	0.53

T SEED MIXTURE 250					
CURB LENGTH (FT)	WIDTH (FT)	SQ FT	ACRE	RATE (LB/AC)	POUND
2,865	8	22920	0.53	70	37

U EROSION CONTROL BLANKET CAT 3			
CURB LENGTH (FT)	WIDTH (FT)	SQ FT	SQ YD
2,865	8	22920	2547

V FERTILIZER TYPE 3					
CURB LENGTH	WIDTH (FT)	SQ FT	ACRE	RATE (LB/AC)	POUND
2,865	8	22920	0.53	350	184

P CONCRETE CURB AND GUTTER DESIGN B412			
DIR	BEGIN STA	END STA	LIN FT
NB	91+00	93+00	200
SB	96+50	101+00	450
NB	97+13	101+75	462
SB	105+00	106+40	140
NB	113+00	114+25	125
	TOTAL		1,377

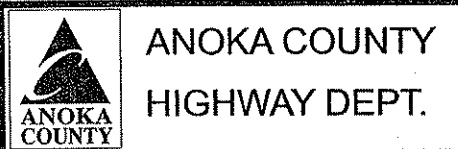
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NAME: P:\11-01-00\CSAH_18_(CSAH20-TH65)\Plant\CONCRETE\3 Misc.TABS CONC.dgr06/02/2011 2:01:48 PM

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: CHARLES M. CAPENHEAD JR.
 SIGNATURE: *[Signature]*
 DATE: 10/2/11 LICENSE NO. 40416

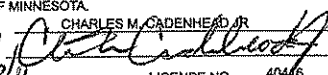

DRAWN BY: JF DATE: 4/1/2011
 DESIGN BY: JF DATE: 4/1/2011
 CHECKED BY: BV DATE: 5/30/2011



COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

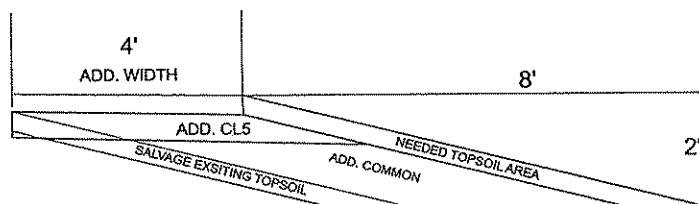
MISC. TABULATIONS
 Sheet 4 of 58 Sheets

1. ALL TOPSOIL STRIPPING WILL BE CONSIDERED TO BE COMMON EXCAVATION.
2. TOPSOIL SHALL BE DEFINED AS EXISTING SOILS WHICH MEET MN/DOT SPECIFICATION 3877 THAT WOULD BE SUITABLE FOR REUSE.
3. AGGREGATE SHOULDERING MATERIAL FOR THIS PROJECT SHALL BE CLASS 5 GRADATION IN ACCORDANCE WITH MN/DOT 2221 AND 3138.
4. SLOPE DRESSING ON THE PROJECT IS DEFINED AS THE TOPSOIL OR OTHER SOIL PLACED DURING PRIOR CONSTRUCTION TO PROVIDE A MEDIUM FOR ESTABLISHING TURF. THESE SOILS MAY NOT MEET THE MINIMUM ORGANIC CONTENT AND OTHER REQUIREMENTS FOR TOPSOIL BORROW
5. UNLESS OTHERWISE SPECIFICALLY ALLOWED OR REQUIRED BY THE CONTRACT, BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE RECYCLED TO THE EXTENT ALLOWED IN BASE AND SURFACING ITEMS OR DISPOSED OF OUTSIDE THE RIGHT-OF-WAY IN ACCORDANCE WITH SPEC. 2104.3C3.
6. WHERE CONNECTING TO THE INPLACE ROADWAYS AT THE TERMINI OF PROPOSED NEW CONSTRUCTION, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1:2 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
7. WHERE MATCHING INTO INPLACE CROSSROADS, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1:2 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
8. USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON THE EXISTING PAVEMENT. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT A UNIFORM RATE OF 0.03 TO 0.05 GALLONS/SQ. YD. BETWEEN BITUMINOUS LAYERS AND 0.07 TO 0.10 GALLONS/SQ. YD. ON CONCRETE OR MILLED BITUMINOUS SURFACES PRIOR TO BEING OVERLAID. THE APPLICATION RATES ARE FOR UNDILUTED EMULSIONS (AS SUPPLIED FROM THE REFINERY) OR MC AND RC LIQUID ASPHALTS. THE ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPECIFICATION 2357.
9. PROVIDE A SAWCUT WHERE PLACING NEW PAVEMENT ADJACENT TO INPLACE PAVEMENT TO ENSURE A UNIFORM JOINT.
10. STRIP ALL TOPSOIL AND INPLACE SLOPE DRESSING WHERE PRESENT IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING. FOR ESTIMATING PURPOSES, THE DEPTH OF TOPSOIL AVAILABLE IS CONSIDERED TO BE 4 INCHES.
11. THE CONSTRUCTION LIMITS AS SHOWN IN THE PLANS REPRESENT THE POINT OF INTERSECTION BETWEEN THE REQUIRED FILL OR CUT SLOPE AND THE EXISTING GROUND LINE AS DEPICTED ON THE CROSS SECTIONS. THE CONSTRUCTION LIMITS DO NOT INCLUDE AREAS REQUIRED FOR SLOPE ROUNDING.
12. DITCH BOTTOMS, TOE OF FILL, CUT RUNOUTS AND THE TOP EDGE OF THE BACKSLOPES SHALL BE ROUNDED REGARDLESS OF THE SECTION USED ON THE CROSS SECTION SHEETS.
13. ANY DEBRIS WHICH MAY BE ENCOUNTERED DURING GRADING SHALL BECOME PROPERTY OF THE CONTRACTOR AND DISPOSED OF OFF THE PROJECT RIGHT OF WAY IN A SUITABLE DISPOSAL AREA AS APPROVED BY THE ENGINEER.
14. UNSUITABLE SOILS NOT USED ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE PROJECT AND DISPOSED OF IN ACCORDANCE WITH MN/DOT SPECIFICATIONS.
15. AGGREGATE BASE MATERIAL SHALL BE 100% CRUSHED AND MEET THE REQUIREMENTS OF MN/DOT SPEC. 3138, CLASS 5.
16. COMPACTION OF ALL AGGREGATE BASE MATERIAL SHOULD BE IN ACCORDANCE WITH MN/DOT "QUALITY COMPACTION METHOD"
17. EMBANKMENT CONSTRUCTION SHALL BE PERFORMED AS REQUIRED BY MN/DOT SPECIFICATION 2105
18. COMPACTION OF ALL PERMANENT BITUMINOUS MIXTURES SHALL BE THE "MAXIMUM DENSITY METHOD"
19. THE MILLED MATERIAL SHALL BE PROCESSED TO PROVIDE A NOMINAL 1 INCH MAXIMUM SIZE. A TOLERANCE OF THE PERCENT IN MATERIAL RETAINED ON A ONE INCH SIEVE WILL BE PERMITTED, PROVIDED ALL MATERIAL PASSES A 1 1/2 INCH SIEVE. CRUSHING OF OVERSIZED MATERIAL SHALL BE INCIDENTAL.
20. CONTRACTOR SHALL BLADE THE EXISTING AGGREGATE MATERIAL ONTO THE SHOULDER PRIOR TO PLACING THE NEW CLASS 5 AGGREGATE ON THE SHOULDER. BLADING AND COMPACTION OF THE EXISTING AGGREGATE MATERIAL ONTO THE SHOULDER SHALL BE INCIDENTAL

<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO</th> <th>DATE</th> <th>BY</th> <th>CHKD</th> <th>APPR</th> <th>REVISION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO	DATE	BY	CHKD	APPR	REVISION													<p style="font-size: small;">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.</p> <p>PRINT NAME: CHARLES M. CADENHEAD JR. SIGNATURE:  DATE: 11/2/11 LICENSE NO. 40446</p>	<p>DRAWN BY: JF DATE: 4-1-2011 DESIGN BY: JF DATE: 4-1-2011 CHECKED BY: BV DATE: 5-30-2011</p>	 <p>ANOKA COUNTY HIGHWAY DEPT.</p>	<p>COUNTY PROJECT NO. CP 11-14-18 PREVIOUSLY CONST. UNDER 02-618-16 (1986)</p>	<p>SOILS & CONSTRUCTION NOTES</p> <p>Sheet <u>5</u> of <u>58</u> Sheets</p>
NO	DATE	BY	CHKD	APPR	REVISION																		

**NEW RTL / BYPASS WIDENING
4' WIDENING CALC.**

END AREA SQ FT



* NOTE CALC. BASED ON A EST. AVERAGE FINISHED DITCH DEPTH OF 2'

COMMON EX 8.27 SQ FT
SELECT GRANULAR 5.87 SQ FT
BASE CLASS 5 2.37 SQ FT
SHORT TOPSOIL 0.41 SQ FT

CU YDS PER 100'

COMMON EX 8.27 SQ FT X 100' = 827 CU FT / 27 = 30.62 CU YDS
SELECT GRANULAR 5.87 SQ FT X 100' = 587 CU FT / 27 = 21.74 CU YDS
BASE CLASS 5 2.37 SQ FT X 100' = 237 CU FT / 27 = 8.77 CU YDS
SHORT TOPSOIL 1.52 CU YDS

**SUMMARY
PER 480' RTL LOC**

COMMON EX
30.62 CU YDS (PER 100') X 4.8 RTL = 146.97 CU YDS PER RTL

BASE CLASS 5
8.77 CU YDS (PER 100') X 4.8 RTL = 42.09 CU YDS X 1.8 = 75.77 TONS (CV)

SELECT GRANULAR
21.74 CU YDS (PER 100') X 4.8 RTL = 104.35 CU YDS X 1.8 = 187.83 TONS (CV)

SHORT TOPSOIL
1.52 CU YDS (PER 100') X 4.8 RTL = 7.29 CU YDS X 1.8 = 13.13 TONS (CV)

**SUMMARY
PER 620' BYPASS LOC**

COMMON EX
30.62 CU YDS (PER 100') X 6.2 BYPASS = 189.84 CU YDS

BASE CLASS 5
8.77 CU YDS (PER 100') X 6.2 BYPASS = 54.37 CU YDS X 1.8 = 97.87 TONS (CV)

SELECT GRANULAR
21.74 CU YDS (PER 100') X 6.2 BYPASS = 134.78 CU YDS X 1.8 = 242.61 TONS (CV)

SHORT TOPSOIL
1.52 CU YDS (PER 100') X 6.2 BYPASS = 9.42 CU YDS X 1.8 = 16.96 TONS (CV)

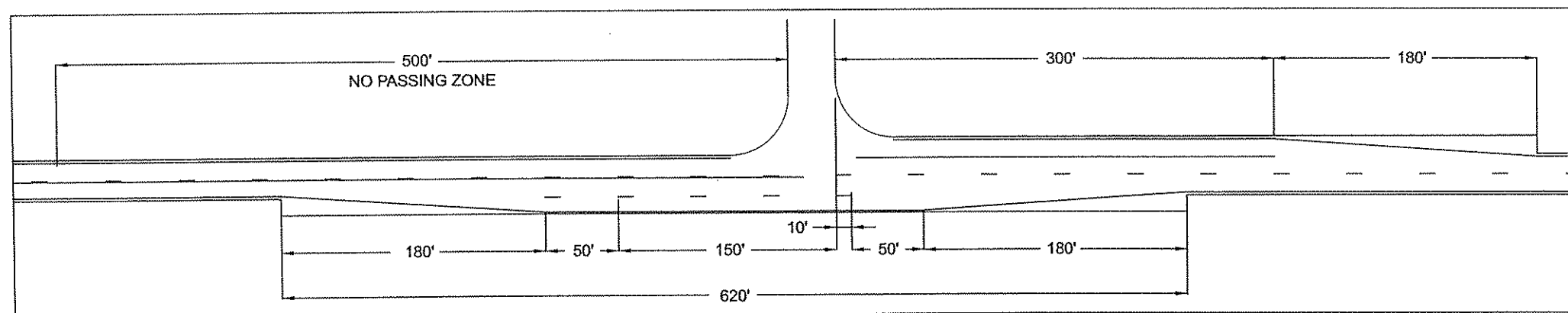
RTL / BYPASS WIDENING LOCATIONS

STREET	DIR.	BYPASS / RTL	ADD. WIDTH NEEDED	LENGTH	COMMON EXCAVATION	SELECT GRANULAR	CLASS 5	TOPSOIL	GRADER	DOZER	ROLLER	SILT FENCE	SEEDING	SEED TYPE 250	BLANKET TYPE 3	FERT. TYPE 3
			LN FT	LN FT	CU YD	TON	TON	TON	HOUR	HOUR	HOUR	LN FT	ACRE	POUND	SQ YD	POUND
166TH AVE	SB	BYPASS	4.0	620	189.84	242.61	97.87	16.96	2	2	2	620	0.11	7.7	551	38.5
170TH ST	SB	RTL	4.0	480	146.97	187.83	75.77	13.13	2	2	2	480	0.09	6.3	427	21.5
BUTTERNUT ST	NB	BYPASS	4.0	620	189.84	242.61	97.87	16.96	2	2	2	620	0.11	7.7	551	38.5
3RD ST	SB	BYPASS	4.0	620	189.84	242.61	97.87	16.96	2	2	2	620	0.11	7.7	551	38.5
POLK ST	SB	BYPASS	4.0	620	189.84	242.61	97.87	16.96	2	2	2	620	0.11	7.7	551	38.5
EST. TOTALS					906.33	1168.27	467.25	80.97	10	10	10	2960	0.53	37.1	2631	185.5

ITEM	4' WIDENING TURN LANE ITEMS INCLUDED IN ESTIMATE BY THE EACH	EST QTY	UNIT
2105.501/00010	COMMON EX	146.97	CU YD
2105.522/00030	SELECT GRANULAR	187.83	TON
2211.501/00050	AGG BASE CLASS 5	75.77	TON
2105.609/00100	TOPSOIL	13.13	TON
2123.503/00010	MOTOR GRADER	2	HOUR
2123.509/00010	DOZER	2	HOUR
2123.521/00010	PNEUMATIC-TIRED ROLLER	2	HOUR
2573.502/00040	SILT FENCE MACHINE SLICED	480	LN FT
2575.501/00010	SEEDING	0.09	ACRE
2575.502/00350	SEED MIXTURE 250	6.30	POUND
2575.523/00013	EROSION CONTROL BLANKET CAT 3	427	SQ YD
2575.531/00030	FERTILIZER TYPE 3	31.50	POUND

ITEM	4' WIDENING BYPASS ITEMS INCLUDED IN ESTIMATE BY THE EACH	EST QTY	UNIT
2105.501/00010	COMMON EX	189.84	CU YD
2105.522/00030	SELECT GRANULAR	242.61	TON
2211.501/00050	AGG BASE CLASS 5	97.87	TON
2105.609/00100	TOPSOIL	16.96	TON
2123.503/00010	MOTOR GRADER	2	HOUR
2123.509/00010	DOZER	2	HOUR
2123.521/00010	PNEUMATIC-TIRED ROLLER	2	HOUR
2573.502/00040	SILT FENCE MACHINE SLICED	620	LN FT
2575.501/00010	SEEDING	0.11	ACRE
2575.502/00350	SEED MIXTURE 250	7.70	POUND
2575.523/00013	EROSION CONTROL BLANKET CAT 3	551	SQ YD
2575.531/00030	FERTILIZER TYPE 3	38.50	POUND

RTL / BYPASS LAYOUT

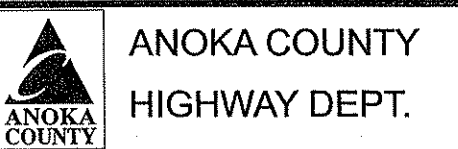


NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\11-01-00\CSAH_18_CSAH20-TH05\Plan\CONCRETE\IS Const. Details CONC.dwg 02/2011 1:30:43 PM

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: CHARLES M. CADENHEAD JR
 SIGNATURE: *[Signature]*
 DATE: 2/2/11 LICENSE NO. 40416

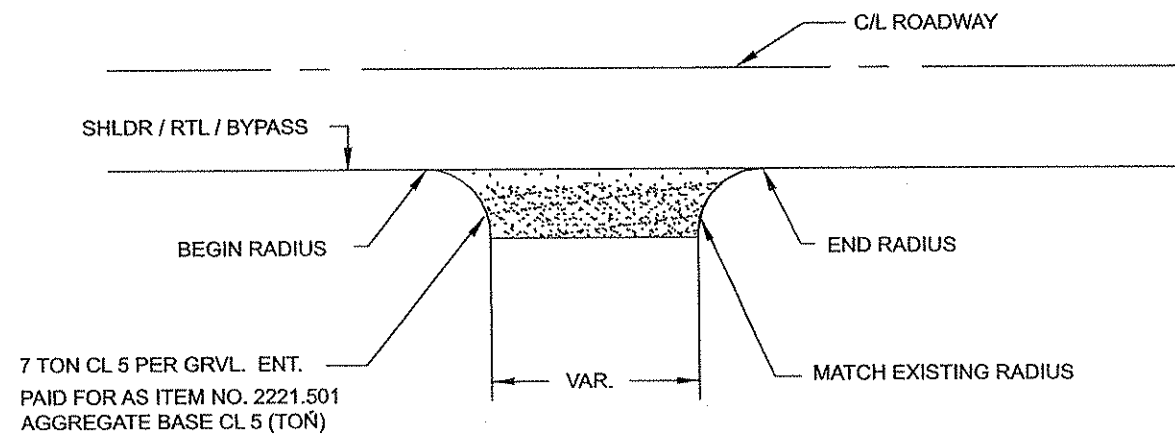
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 DESIGN BY JF DATE 4/1/2011
 CHECKED BY BV DATE 5/30/2011



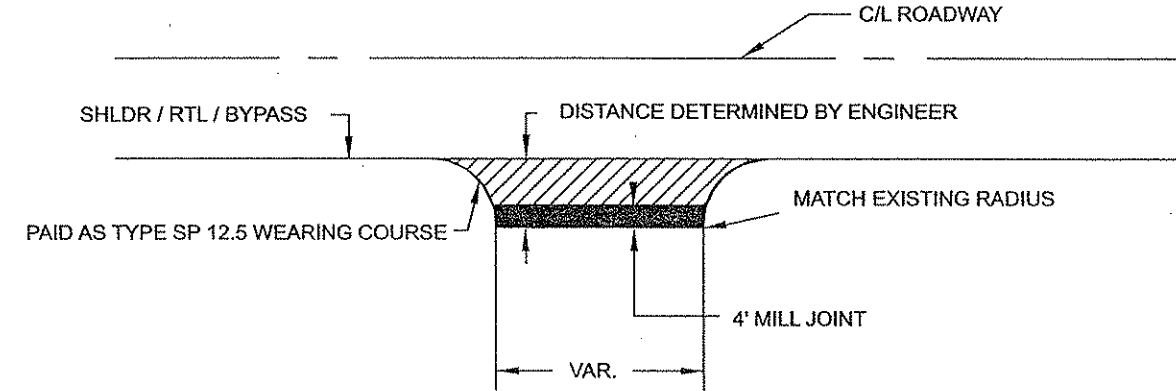
COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

CONSTRUCTION DETAILS
 Sheet 6 of 58 Sheets

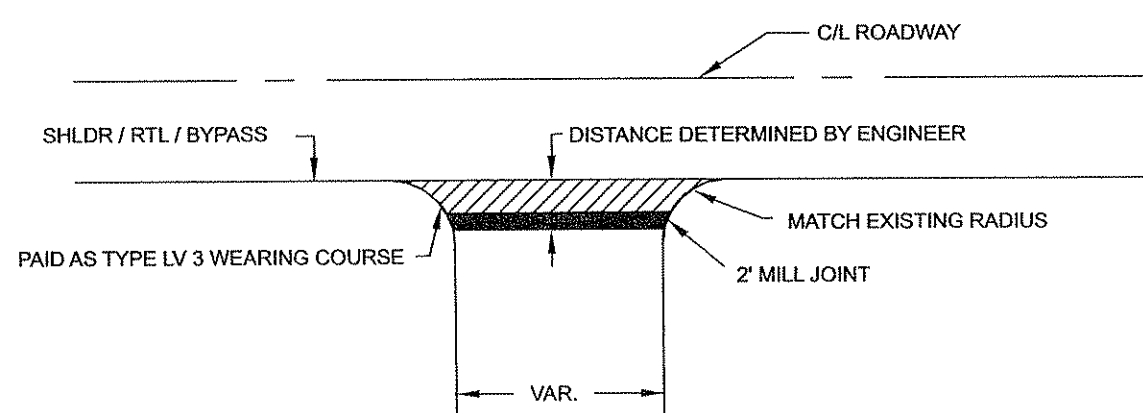
GRAVEL DRIVEWAYS AND FIELD ENT.



PAVED STREET APPROACHES



PAVED DRIVEWAYS



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\11-01-00\CSAH_16_(CSAH20-TH65)\Plan\CONCRETE\Const. Details CONC.dwg 02/2011 1:31:05 PM

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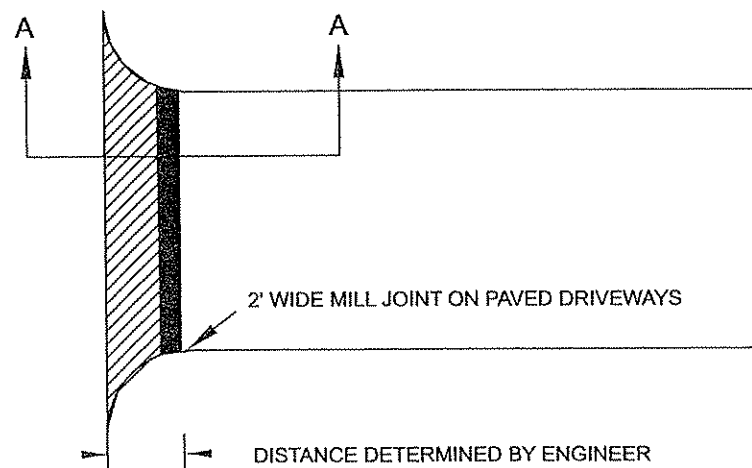


ANOKA COUNTY
 HIGHWAY DEPT.

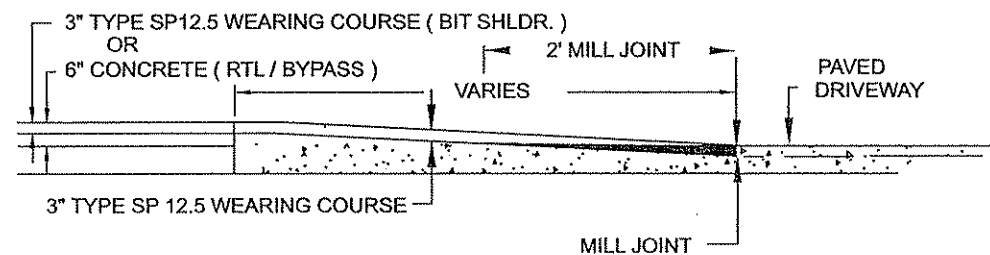
COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

PAVED DRIVEWAYS

JOINT DETAILS

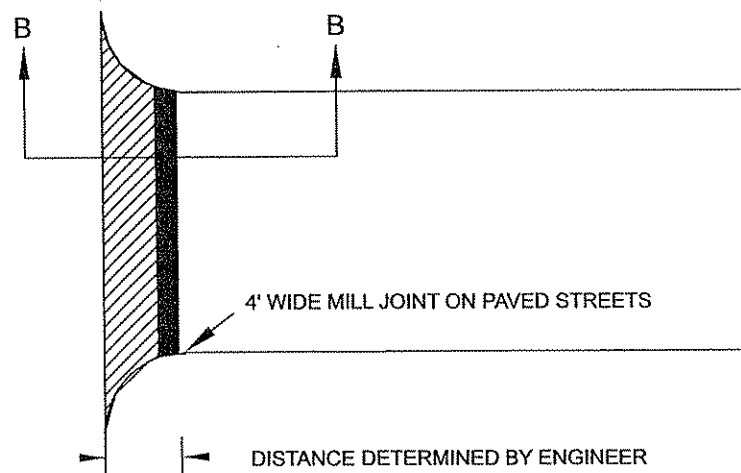


DRIVEWAY JOINT DETAILS A - A

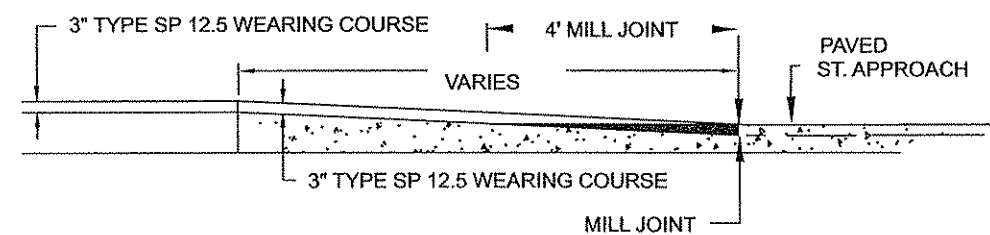


PAVED STREETS

JOINT DETAILS



STREET APPROACH JOINT DETAILS B - B



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\11-01-00\CSAH_18_(CSAH20-TH65)\Plan\CONCRETES Const. Details CONC.dwg/02/2011 1:31:25 PM

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PRINT NAME: CHARLES M. GADENHEAD JR.
 SIGNATURE: *[Signature]*
 DATE: 6/2/11 LICENSE NO. 4416

DRAWN BY JF DATE 4/1/2011
 DESIGN BY JF DATE 4/1/2011
 CHECKED BY BV DATE 5/30/2011



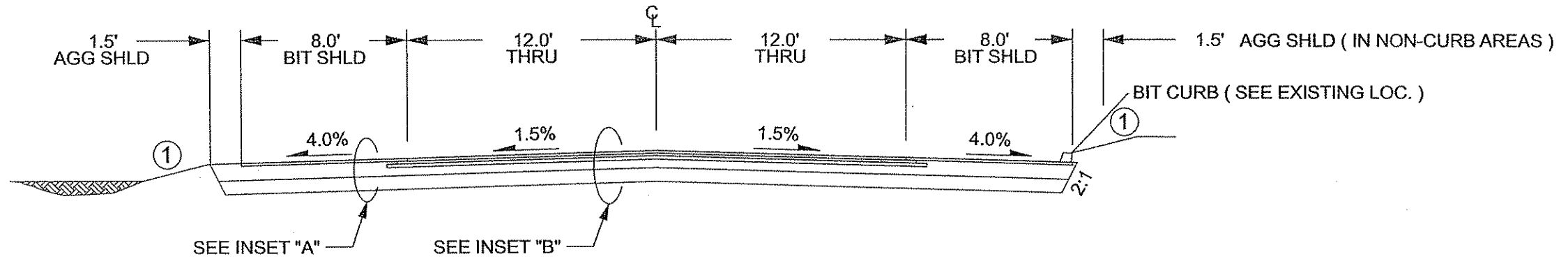
ANOKA COUNTY
 HIGHWAY DEPT.

COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

CONSTRUCTION DETAILS
 Sheet 8 of 58 Sheets

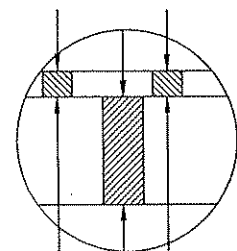
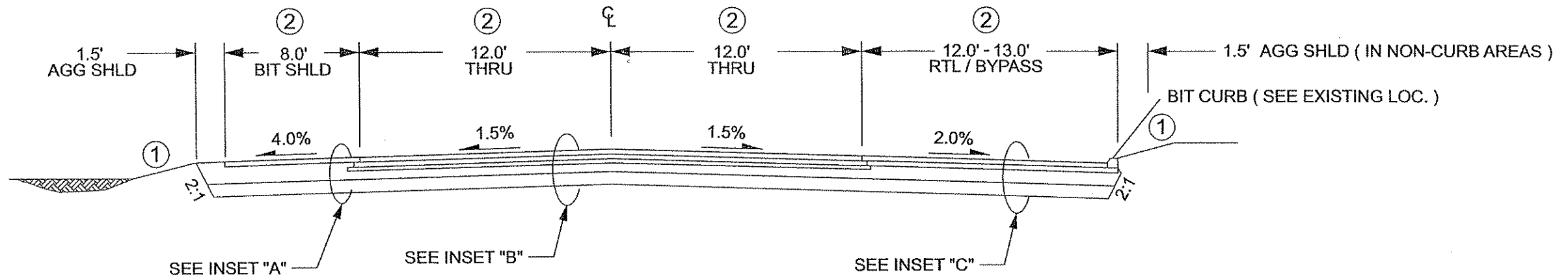
C.S.A.H. 18 (CROSSTOWN BLVD.) EXISTING TYP. SECTION

STA. 11+00 TO STA. 168+73



C.S.A.H. 18 (CROSSTOWN BLVD.) EXISTING TYP. RTL / BYPASS

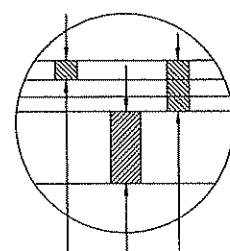
STA. 11+00 TO STA. 168+73



INSET "A"

④

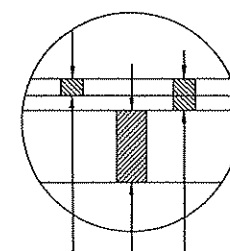
2.0" EXISTING BITUMINOUS
EXIST. VAR. DEPTH AGG. BASE
2.0" PROPOSED MILL SURFACE



INSET "B"

④

6.0" EXISTING BITUMINOUS
EXIST. VAR. DEPTH AGG. BASE
2.0" PROPOSED MILL SURFACE



INSET "C"

④

4.0" EXISTING BITUMINOUS
EXIST. VAR. DEPTH AGG. BASE
2.0" PROPOSED MILL SURFACE

- ① 1 : 4 SLOPE
- ② SEE SUPERELEVATION PLAN SHEETS FOR CROSS SLOPES IN CURVES
- ③ MINIMUM 4.0" TOP SOIL & SEED
- ④ AGGREGATE BASE AND BITUMINOUS DEPTHS ARE APPROXIMATE. DEPTH SHOWN ARE FROM EXISTING PLANS. ACTUAL DEPTHS MAY VARY.

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\11-01-00\CSAH_18_(CSAH20-TH65)\Plan\CONCRETE\6 Typical\CONC.dgn 09/02/2011 1:33:51 PM

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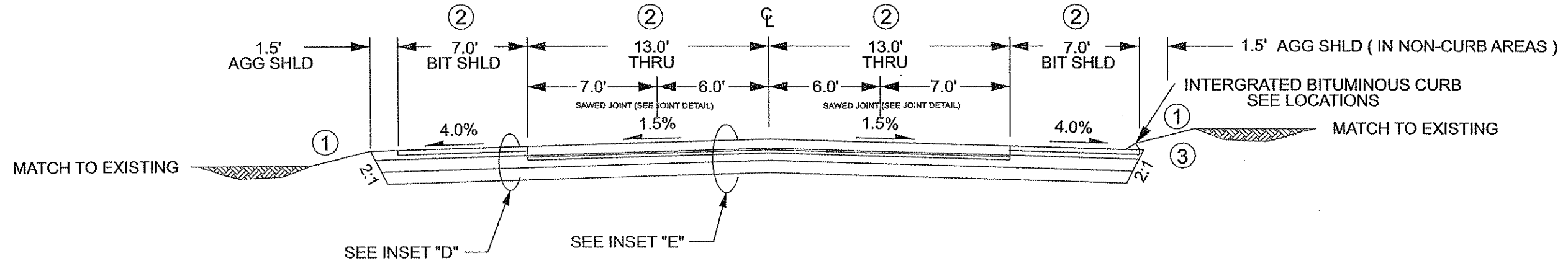
DRAWN BY JF DATE 4-1-2011
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ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

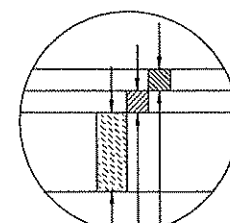
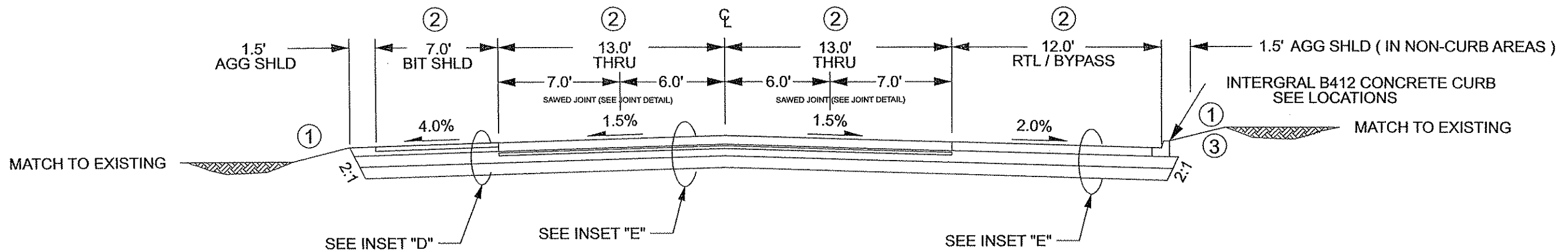
C.S.A.H. 18 (CROSSTOWN BLVD.) PROPOSED TYP. SECTION

STA. 11+00 TO STA. 168+73

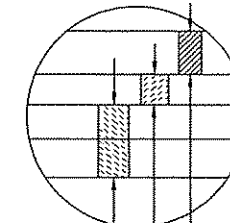


C.S.A.H. 18 (CROSSTOWN BLVD.) PROPOSED TYP. RTL / BYPASS

STA. 11+00 TO STA. 168+73



INSET "D"



INSET "E"

- ① 1 : 4 SLOPE
- ② SEE SUPERELEVATION PLAN SHEETS FOR CROSS SLOPES IN CURVES
- ③ MINIMUM 4.0" TOP SOIL & SEED
- ④ AGGREGATE BASE AND BITUMINOUS DEPTHS ARE APPROXIMATE. DEPTH SHOWN ARE FROM EXISTING PLANS. ACTUAL DEPTHS MAY VARY.

NO	DATE	BY	CHKD	APPR	REVISION
1	7/12/2010	BAV	JEO	CMC	SHEET CHANGED PER MNDOT REVIEW COMMENTS
NAME: P:\11-01-00\CSAH_18_(CSAH20-TH65)\Plan\CONCRETE\6 Typical\ CONC.dgn 06/02/2011 1:33:25 PM					

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: CHARLES M. CADENHEAD JR.
 SIGNATURE: *[Signature]*
 DATE: 6/2/11 LICENSE NO. 44416

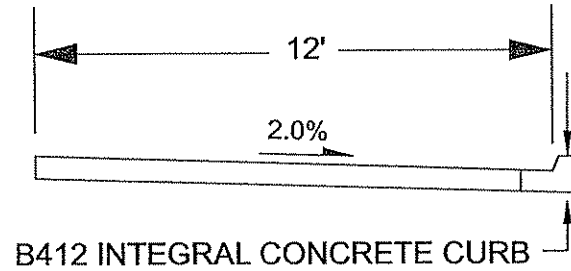
DRAWN BY: JF DATE: 4-1-2011
 DESIGN BY: JF DATE: 4-1-2011
 CHECKED BY: BV DATE: 5-30-2011



COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

TYPICAL SECTIONS
 Sheet 10 of 58 Sheets

INTEGRAL CONCRETE CURB DETAIL
CONC. RTL / BYPASS



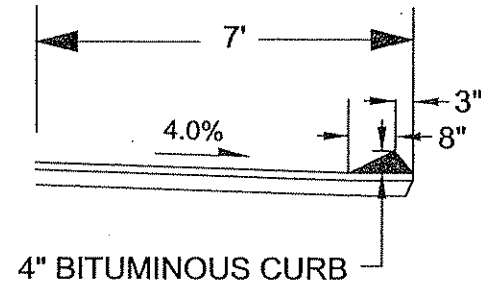
CONCRETE CURB LOCATIONS

- LNB 91+00 - 93+00
- LSB 96+50 - 101+00
- LNB 97+13 - 101+75
- LSB 105+00 - 106+40
- LNB 113+00 - 114+25

RTL / BYPASS LOCATIONS

- LSB RTL @ CSAH 20
- LSB RTL @ WARD LK DR
- LNB BYPASS @ WARD LK DR
- LSB BYPASS @ 166TH (REQUIRES EXTRA WIDTH)
- LNB RTL @ 166TH
- LSB RTL @ 170TH (REQUIRES EXTRA WIDTH)
- LNB RTL @ 170TH
- LNB BYPASS @ BUTTERNUT (REQUIRES EXTRA WIDTH)
- LSB RTL @ BUTTERNUT
- LSB BYPASS @ 3RD ST (REQUIRES EXTRA WIDTH)
- LNB RTL @ 3RD ST
- LNB RTL @ 173RD
- LNB BYPASS @ CR 58
- LSB RTL @ CR 58
- LSB BYPASS @ POLK ST (REQUIRES EXTRA WIDTH)
- LNB RTL @ POLK ST

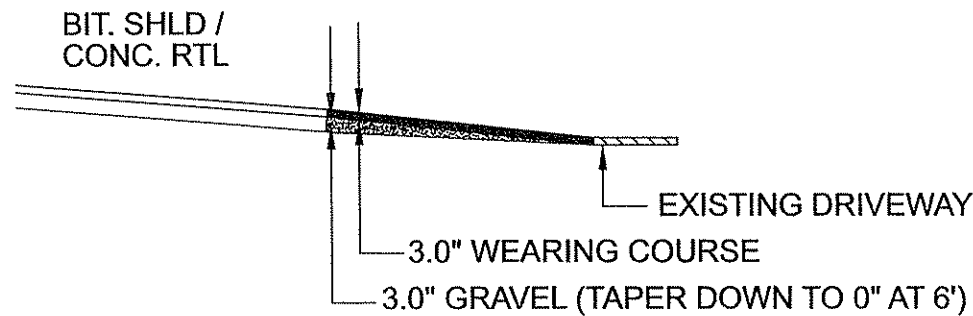
INTEGRAL BITUMINOUS CURB DETAIL
BIT. SHLD



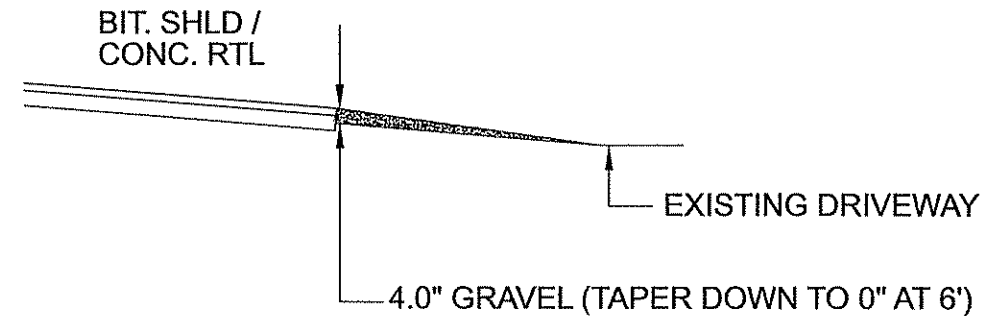
BITUMINOUS CURB LOCATIONS

- LSB 27+39 - 31+00
- LSB 37+50 - 39+75
- LSB 75+50 - 77+75
- LNB 75+75 - 77+27
- LSB 129+75 - 131+50
- LNB 129+75 - 131+75
- LSB 146+00 - 147+50

TYPICAL BITUMINOUS DRIVEWAY TRANSITION



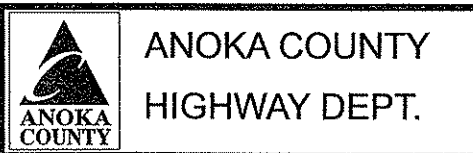
TYPICAL GRAVEL DRIVEWAY TRANSITION



NO	DATE	BY	CHKD	APPR	REVISION
1	7/12/2010	BAV	JEO	CMC	SHEET CHANGED PER MNDOT REVIEW COMMENTS
NAME: P:\11-01-00\CSAH_18_CSAH20-TH65\Plan\CONCRETE\6 Typicals CONC.dgn 08/02/2011 1:33:06 PM					

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: CHARLES M. CADENHEAD JR.
 SIGNATURE: *[Signature]*
 DATE: 4/2/11 LICENSE NO. 47416

DRAWN BY: JF DATE: 4-1-2011
 DESIGN BY: JF DATE: 4-1-2011
 CHECKED BY: BV DATE: 5-30-2011



COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

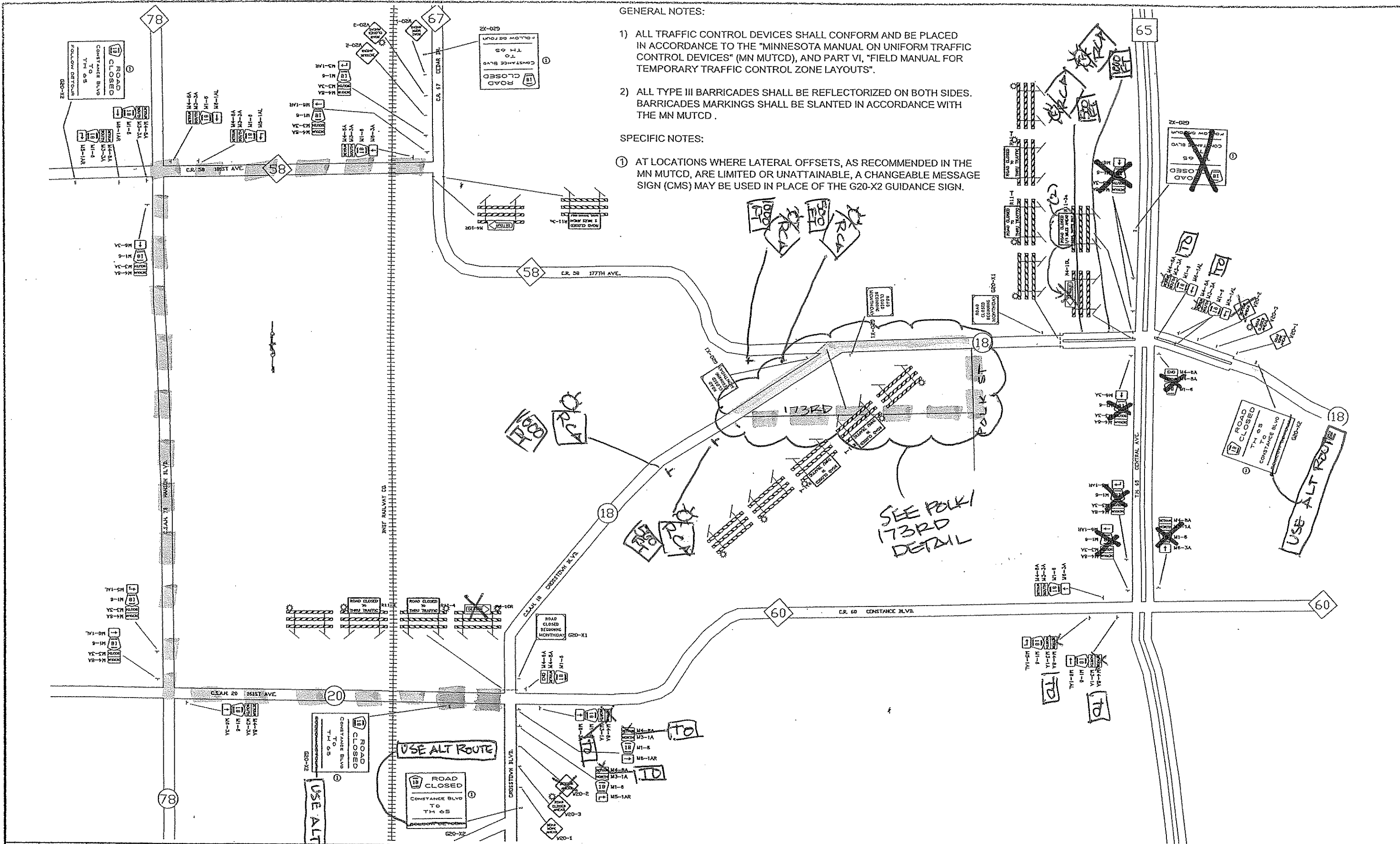
TYPICAL SECTIONS
 Sheet 11 of 58 Sheets

GENERAL NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MN MUTCD.

SPECIFIC NOTES:

- ① AT LOCATIONS WHERE LATERAL OFFSETS, AS RECOMMENDED IN THE MN MUTCD, ARE LIMITED OR UNATTAINABLE, A CHANGEABLE MESSAGE SIGN (CMS) MAY BE USED IN PLACE OF THE G20-X2 GUIDANCE SIGN.



NO	DATE	BY	CKD	APPR	REVISION

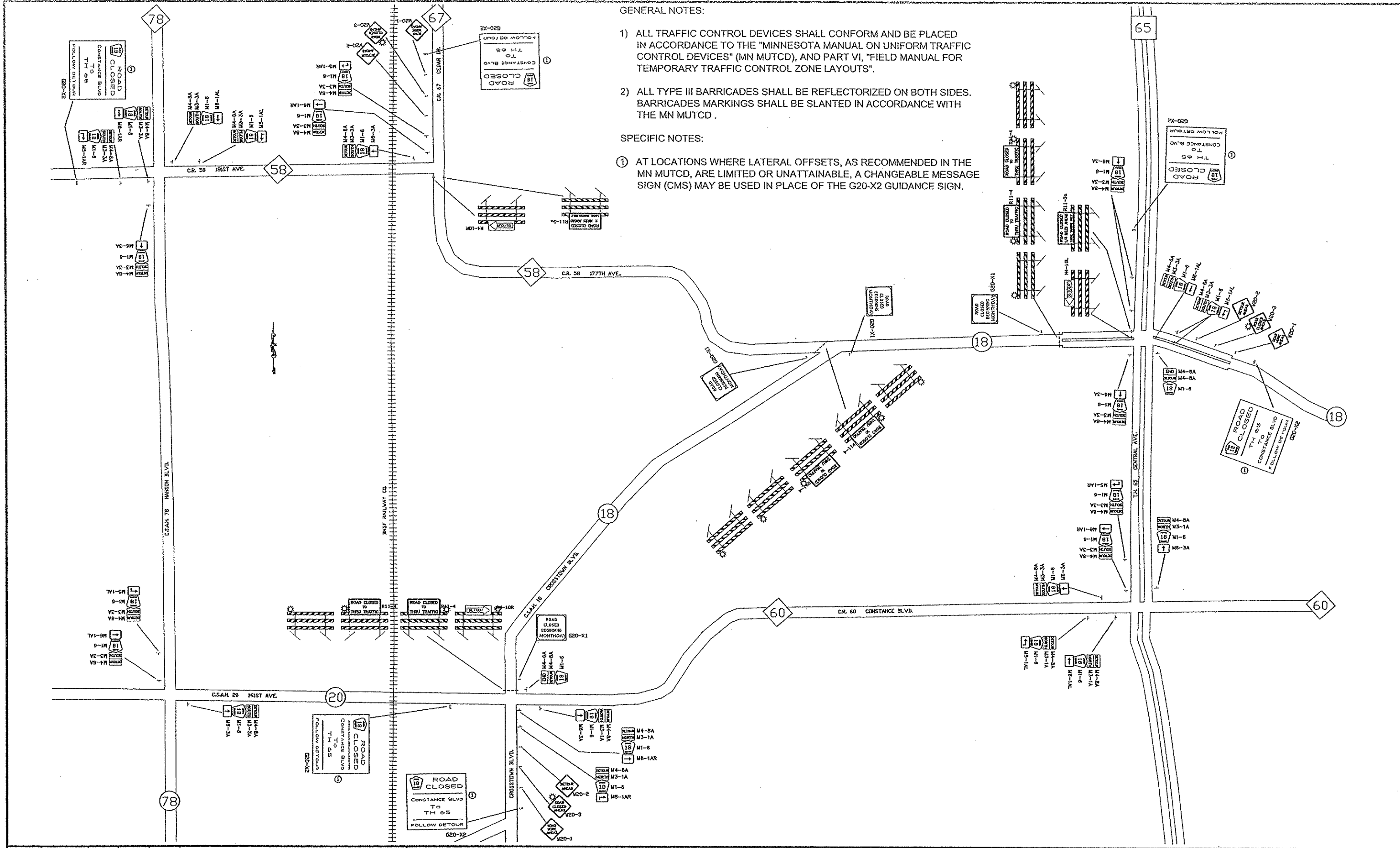
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT-NAME: CHARLES M. CADENHEAD JR.
 SIGNATURE: *[Signature]*
 DATE: 6/2/11 REG. NO. 40415

DRAWN BY: S.T. DATE 04/01/11
 DESIGN BY: S.T. DATE 04/01/11
 CHECKED BY: R.B. DATE 04/04/11

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

11-14-18
 DETOUR
 Sheet 12 of 58 Sheets



GENERAL NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MN MUTCD.

SPECIFIC NOTES:

- ① AT LOCATIONS WHERE LATERAL OFFSETS, AS RECOMMENDED IN THE MN MUTCD, ARE LIMITED OR UNATTAINABLE, A CHANGEABLE MESSAGE SIGN (CMS) MAY BE USED IN PLACE OF THE G20-X2 GUIDANCE SIGN.

NO	DATE	BY	CHKD	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: CHARLES M. CADENHEAD JR.
 SIGNATURE: *[Signature]*
 DATE: 04/21/11 REG. NO. 40416

DRAWN BY: S.T. DATE 04/01/11
 DESIGN BY: S.T. DATE 04/01/11
 CHECKED BY: R.B. DATE 04/04/11



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

11-14-18
 DETOUR
 Sheet 12 of 58 Sheets

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
W20-1	48' x 48'		3
W20-2	48' x 48'		3
W20-3 w/ FLASHER	48' x 48'		3
FLASHER			
R11-4	60' x 30'		3
TYPE III	8 FOOT		
FLASHER			
R11-4	60' x 30'		3
TYPE III	8 FOOT		
M4-10R	48' x 18'		1
TYPE III	8 FOOT		
M4-10L	48' x 18'		1
TYPE III	8 FOOT		
FLASHER			
TYPE III	8 FOOT		3
FLASHER			
TYPE III	8 FOOT		3

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
M4-8	24' x 12'	M6-3A	2
M3-1A	24' x 12'	DETOUR NORTH	1
M1-6	24' x 24'	M6-1AL	1
	21' x 15'	M5-1AR	1
		M6-1AR	1
M4-8	24' x 12'	M6-3A	7
M3-3A	24' x 12'	DETOUR SOUTH	4
M1-6	24' x 24'	M6-1AL	3
	21' x 15'	M5-1AR	3
		M6-1AR	3
M4-6A	24' x 12'	END	
M4-8	24' x 12'	DETOUR	
M1-6	24' x 24'	ANOKA 18 COUNTY	2

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
G20-X2	132' x 108'	ROAD CLOSED TH 65 TO CONSTANCE BLVD TO BEGIN MONTH DAY FOLLOW DETOUR	2
G20-X2	132' x 108'	ROAD CLOSED CONSTANCE BLVD TO TH 65 TO BEGIN MONTH DAY FOLLOW DETOUR	4
G20-X1	72' x 60'	ROAD CLOSED BEGINNING MONTH DAY	2

* SIGN TO BE PLACED A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL CLOSING DATE OF ROAD CLOSURE AND IMPLEMENTATION OF DETOUR SIGNING. USE FOLLOW DETOUR PANEL UPON CLOSURE.

* SIGN TO BE PLACED A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL CLOSING DATE OF ROAD CLOSURE AND IMPLEMENTATION OF DETOUR SIGNING. USE FOLLOW DETOUR PANEL UPON CLOSURE.

* SIGN TO BE PLACED A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL CLOSING DATE OF ROAD CLOSURE AND IMPLEMENTATION OF DETOUR SIGNING. SIGNS TO BE REMOVED AT TIME OF DETOUR INSTALLATION.

GENERAL NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MN MUTCD.

SPECIFIC NOTES:

- ① AT LOCATIONS WHERE LATERAL OFFSETS, AS RECOMMENDED IN THE MN MUTCD, ARE LIMITED OR UNATTAINABLE, A CHANGEABLE MESSAGE SIGN (CMS) MAY BE USED IN PLACE OF THE G20-X2 GUIDANCE SIGN.



NO	DATE	BY	CHKD	APPR	REVISION

NAME: PA11-01-00ICSAH_18_(CSAH20-TH65)@baseITRAFFIC11-14-18_detour.dwg, 05/26/2011 5:28:18 PM

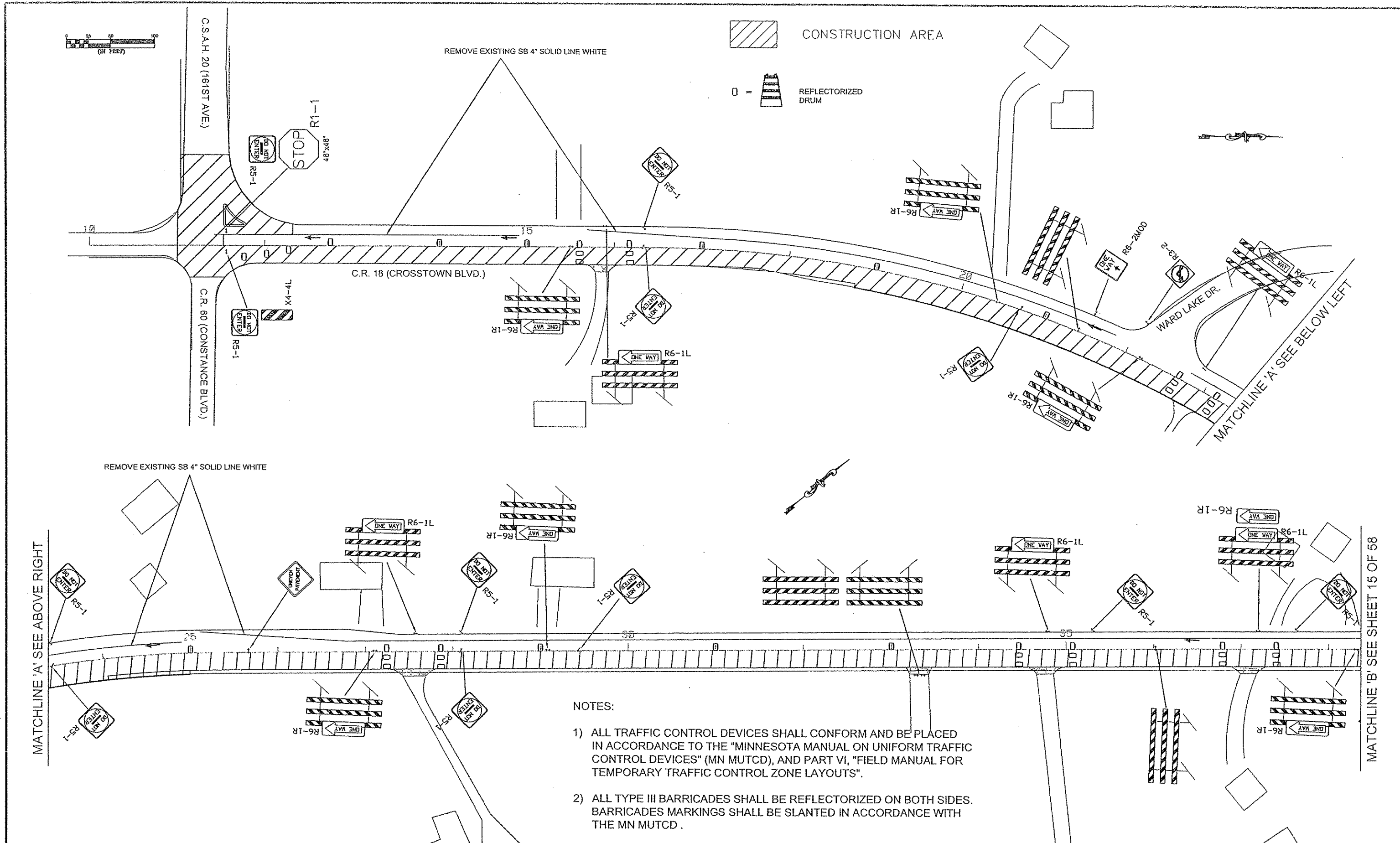
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CHARLES M. PADENHEAD JR.
SIGNATURE:

DRAWN BY: S.T. DATE: 04/01/11
DESIGN BY: S.T. DATE: 04/01/11
CHECKED BY: R.B. DATE: 04/04/11

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. _____
STATE AID PROJECT NO. _____
COUNTY PROJECT NO. 11-14-18

11-14-18
DETOUR
Sheet 13 of 58 Sheets



 CONSTRUCTION AREA
 REFLECTORIZED DRUM

REMOVE EXISTING SB 4" SOLID LINE WHITE

REMOVE EXISTING SB 4" SOLID LINE WHITE

NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
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NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\11-01-00\CSAH_18_(CSAH20-TH65)\Base\TRAFFIC\stage1.dwg, 05/25/2011 11:59:06 AM

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: CHARLES M. GADEHEAD JR.
 SIGNATURE: *Charles M. Gadehead Jr.*
 DATE: 5/2/11 REG. NO. 40416

DRAWN BY: S.T. DATE 05/18/11
 DESIGN BY: S.T. DATE 05/18/11
 CHECKED BY: R.B. DATE 05/20/11



ANOKA COUNTY
HIGHWAY DEPT.

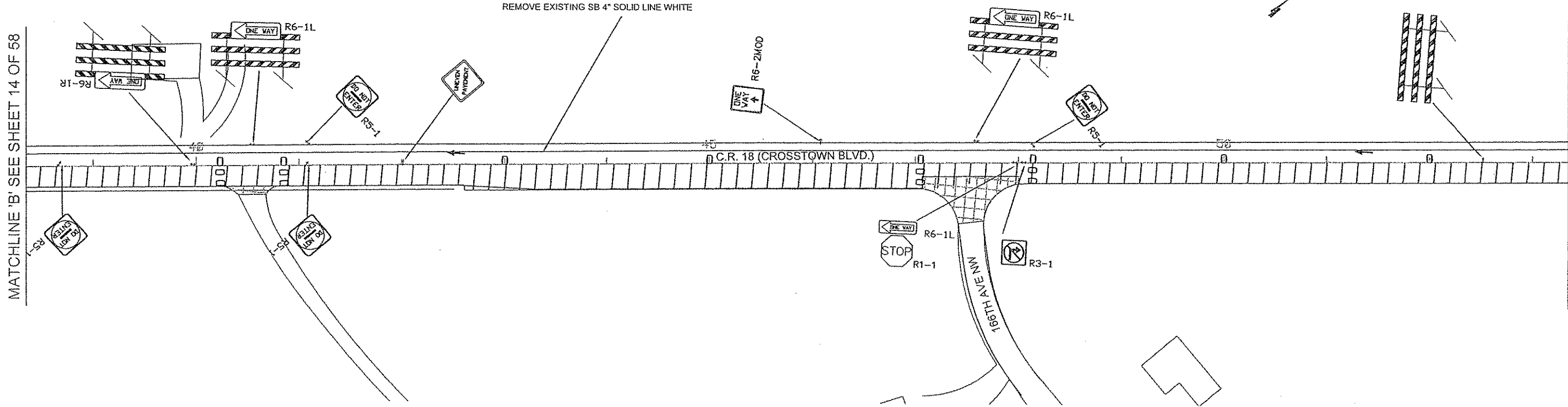
STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

STAGE 1
 CONSTRUCTION STAGING
 AND TRAFFIC CONTROL
 Sheet 14 of 58 Sheets



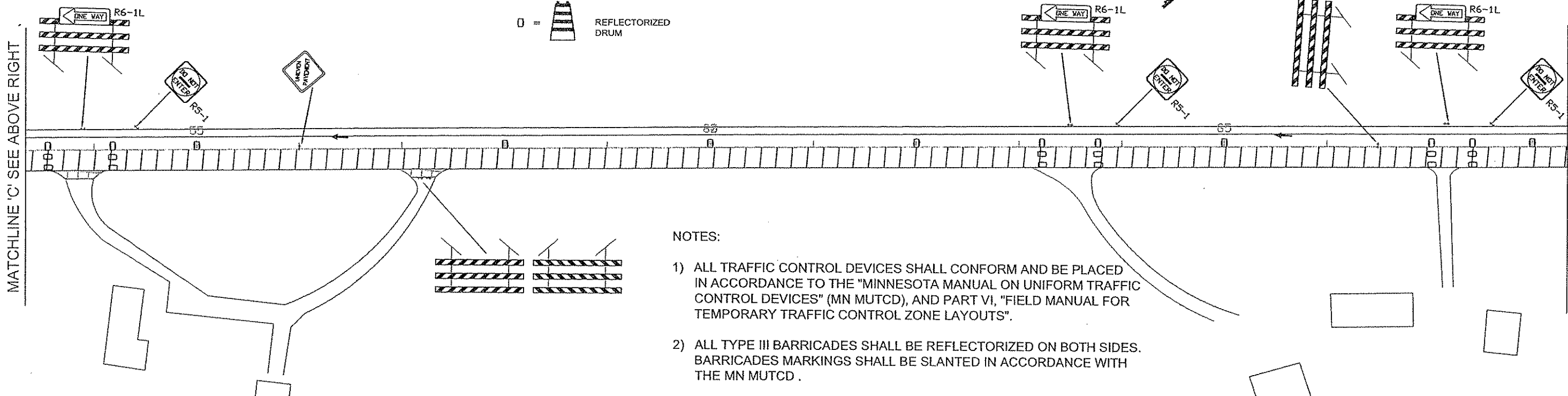
MATCHLINE 'B' SEE SHEET 14 OF 58

MATCHLINE 'C' SEE BELOW LEFT



MATCHLINE 'C' SEE ABOVE RIGHT

MATCHLINE 'D' SEE SHEET 16 OF 58



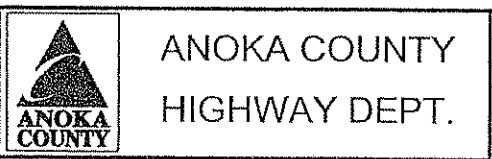
NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MN MUTCD.

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\11-01-00\CSAH_18_(CSAH20-TH55)\Base\TRAFFICstage1.dwg, 05/25/2011 11:58:50 AM					

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: CHARLES M. GADENHEAD JR.
 SIGNATURE: *[Signature]*
 DATE: 6/2/11 REG. NO. 40416

DRAWN BY: S.T. DATE: 05/18/11
 DESIGN BY: S.T. DATE: 05/18/11
 CHECKED BY: R.B. DATE: 05/20/11



STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

STAGE 1
 CONSTRUCTION STAGING
 AND TRAFFIC CONTROL
 Sheet 15 of 58 Sheets



REMOVE EXISTING SB 4" SOLID LINE WHITE

MATCHLINE 'D' SEE SHEET 15 OF 58

MATCHLINE 'E' SEE BELOW LEFT

NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MN MUTCD.

MATCHLINE 'E' SEE ABOVE RIGHT

MATCHLINE 'F' SEE SHEET 17 OF 58

CONSTRUCTION AREA

REFLECTORIZED DRUM

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: CHARLES M. CADENHEAD JR.
SIGNATURE: [Signature]
DATE: 05/21/11 REG. NO. 40416

DRAWN BY: S.T. DATE 05/18/11
DESIGN BY: S.T. DATE 05/18/11
CHECKED BY: R.B. DATE 05/20/11



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
STATE AID PROJECT NO. _____
STATE AID PROJECT NO. _____
COUNTY PROJECT NO. 11-14-18

STAGE 1
CONSTRUCTION STAGING
AND TRAFFIC CONTROL

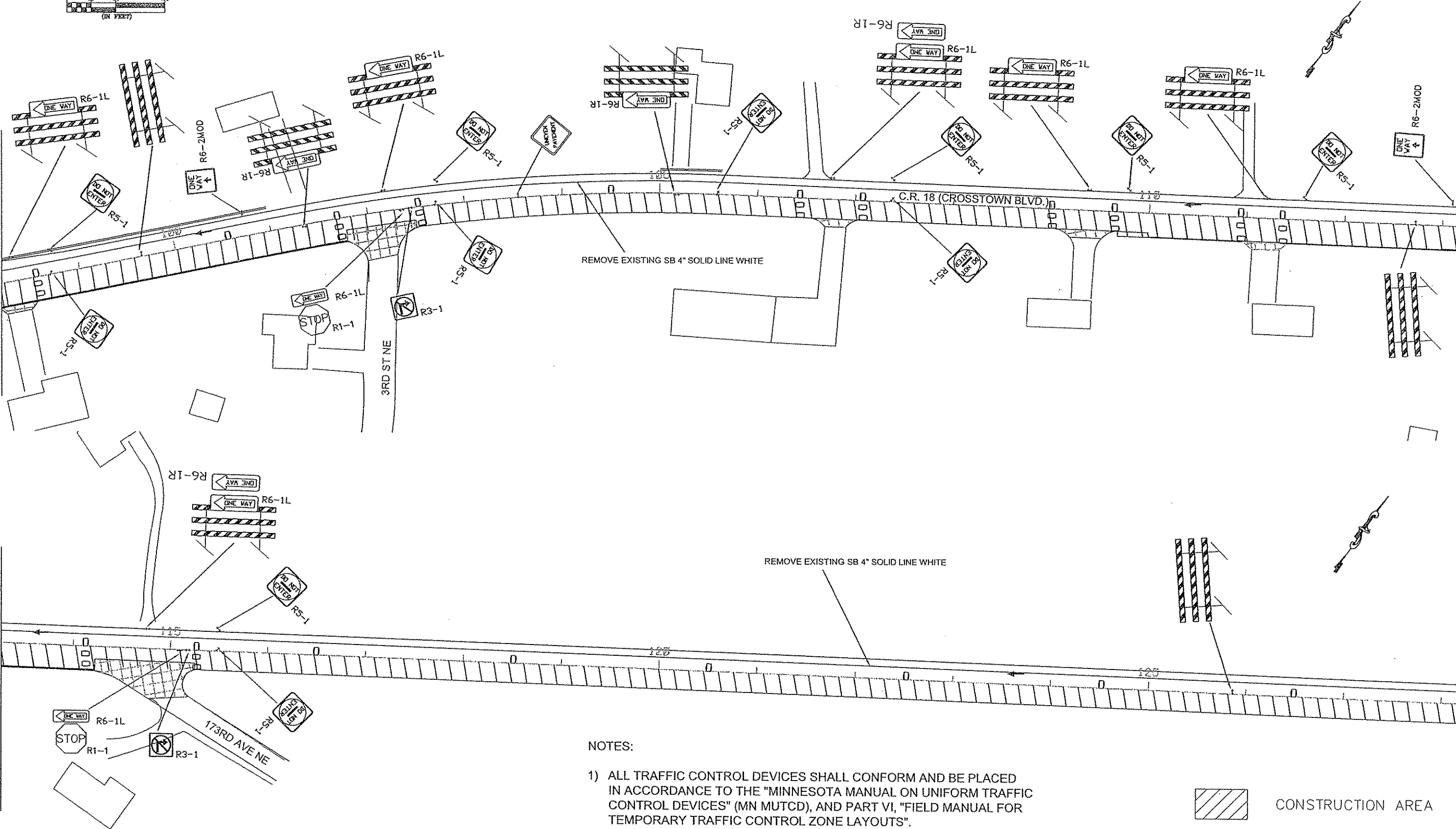


MATCHLINE 'F' SEE SHEET 16 OF 58

MATCHLINE 'G' SEE ABOVE RIGHT

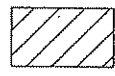
MATCHLINE 'I' SEE BELOW LEFT

MATCHLINE 'H' SEE SHEET 18 OF 58

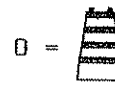


NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MN MUTCD.



CONSTRUCTION AREA



REFLECTORIZED DRUM

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\11-01-00\CSAH_18 (CSAH20-TH65)\Base\TRAFFIC\stage1.dwg, 05/25/2011 11:59:27 AM					

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: CHARLES M. CADENHEM JR
 SIGNATURE: *[Signature]*
 DATE: 6/2/11 REG. NO. 40416

DRAWN BY: S.T. DATE: 05/18/11
 DESIGN BY: S.T. DATE: 05/18/11
 CHECKED BY: R.B. DATE: 05/20/11



**ANOKA COUNTY
 HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

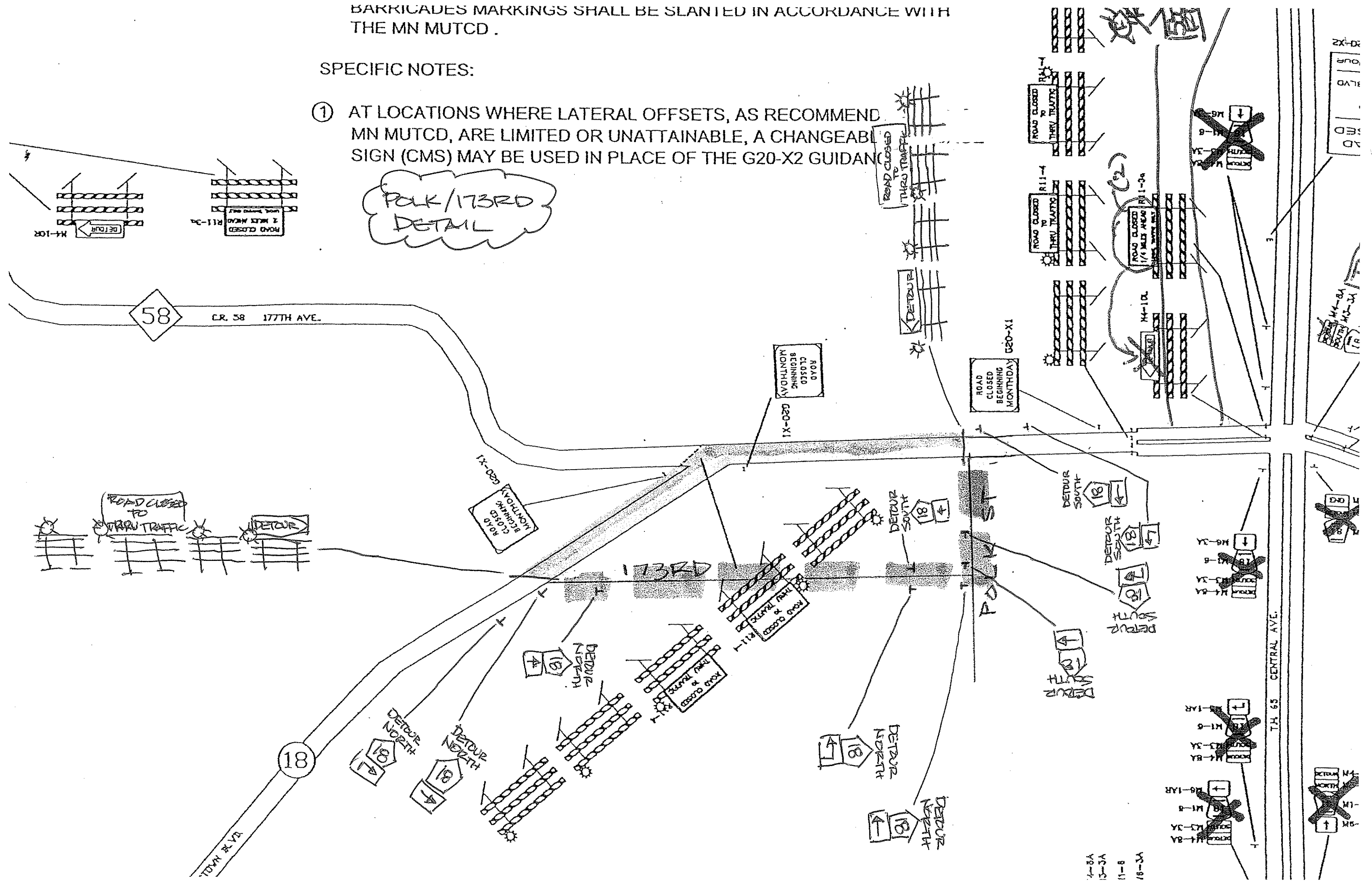
STAGE 1
 CONSTRUCTION STAGING
 AND TRAFFIC CONTROL
 Sheet 17 of 58 Sheets

BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MN MUTCD .

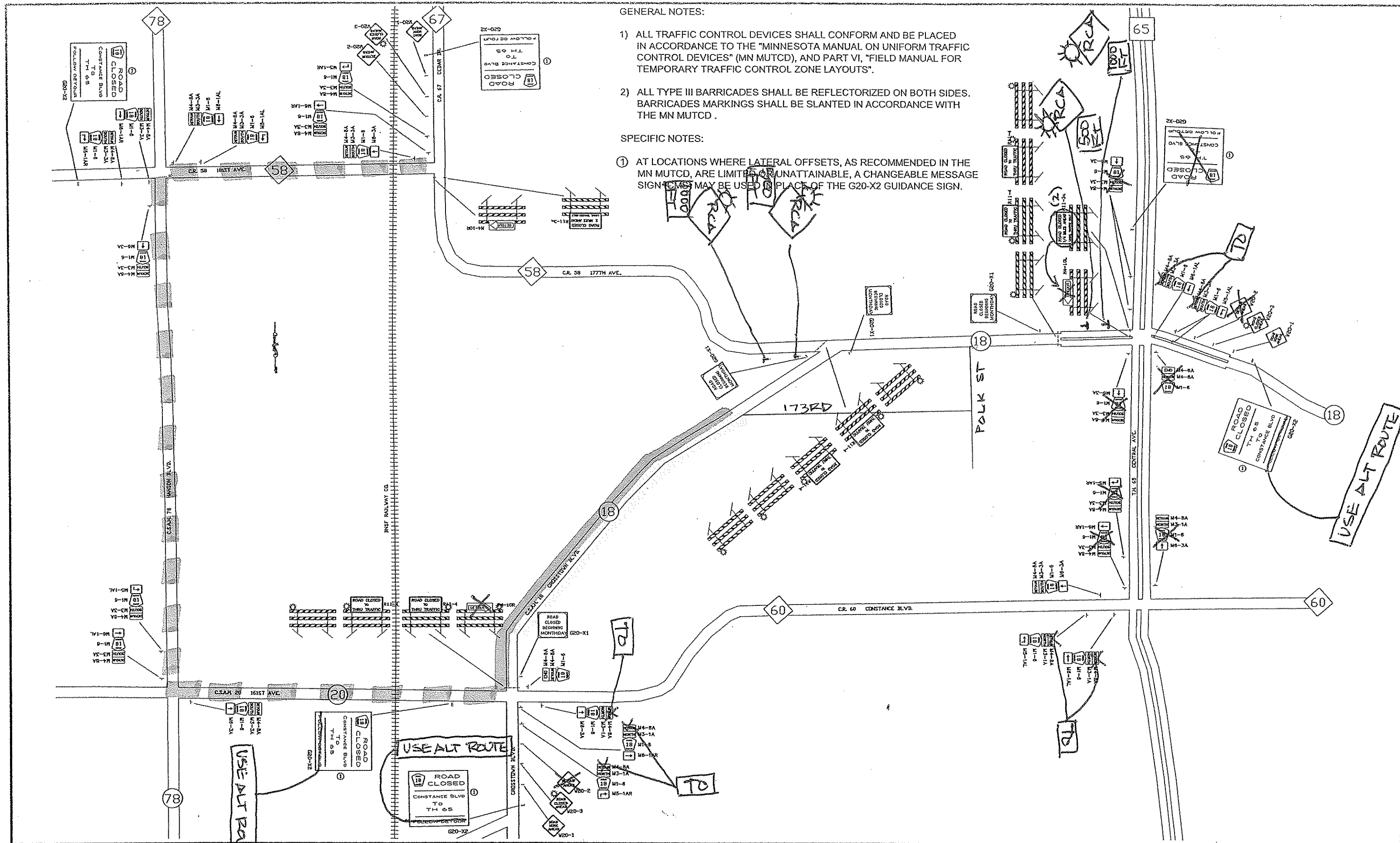
SPECIFIC NOTES:

- ① AT LOCATIONS WHERE LATERAL OFFSETS, AS RECOMMEND MN MUTCD, ARE LIMITED OR UNATTAINABLE, A CHANGEABLE SIGN (CMS) MAY BE USED IN PLACE OF THE G20-X2 GUIDANCE

POLK/173RD
DETAIL



4-8A
13-3A
11-8
18-3A



GENERAL NOTES:

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

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NO	DATE	BY	CKD	APPR	REVISION

NAME: PA11-01-00(CSAH_18_(CSAH20-TH65))Base\TRAFFIC\11-14-18_detour.dwg, 05/26/2011 5:27:53 PM

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: CHARLES M. GADENHEAD JR.
 SIGNATURE: *[Signature]*
 DATE: 6/2/11 REG. NO. 40416

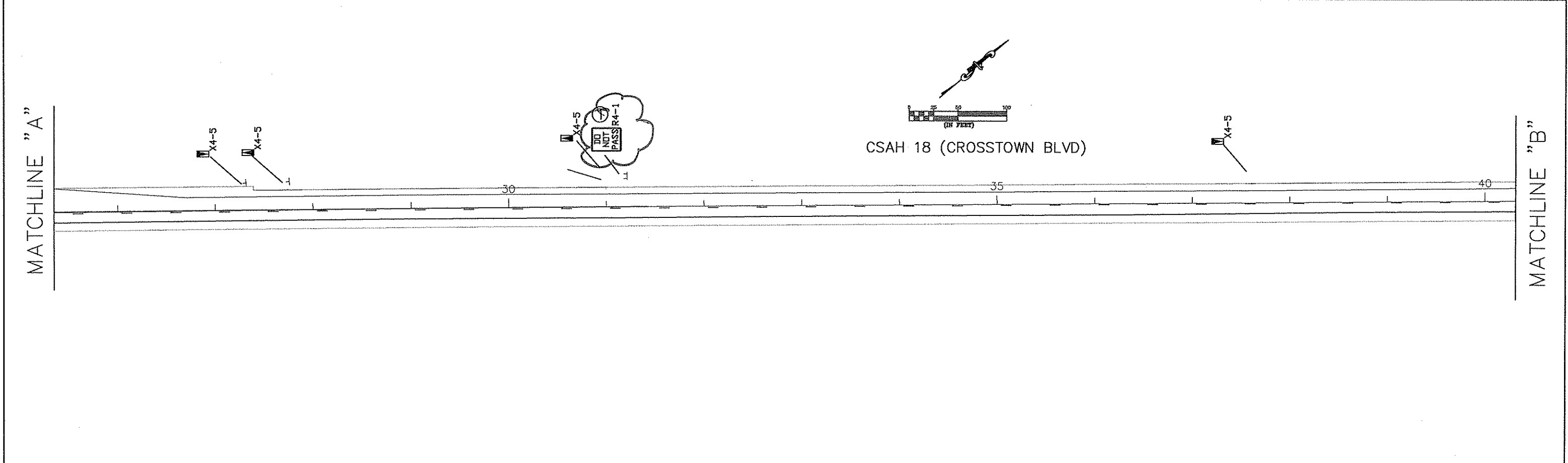
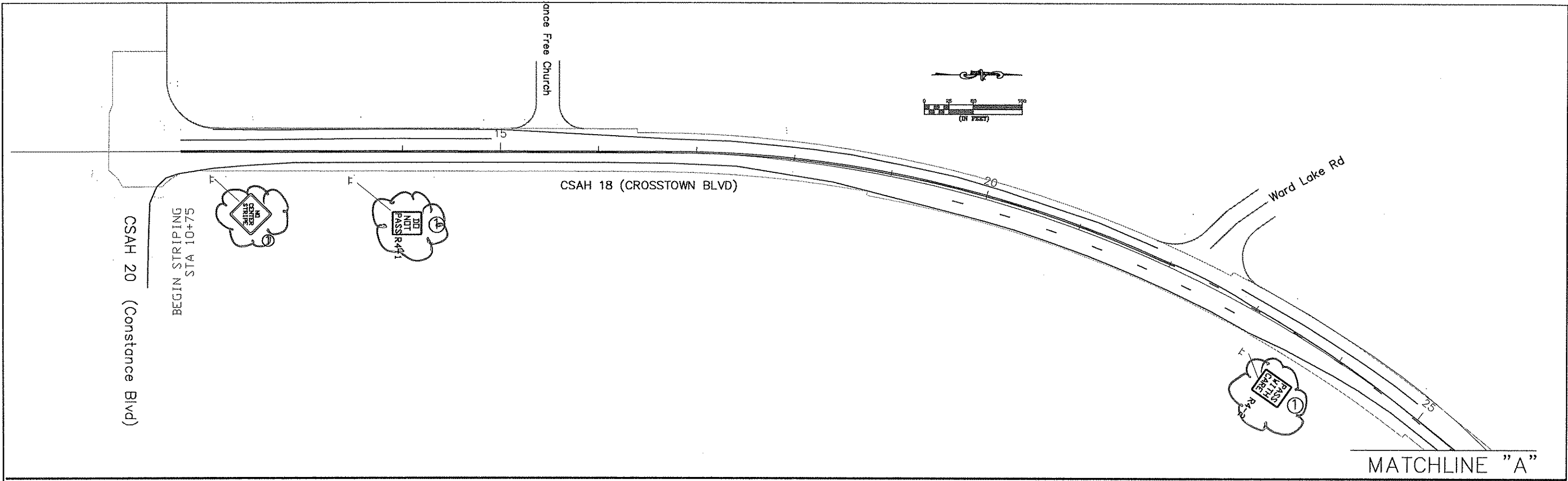
DRAWN BY: S.T. DATE 04/01/11
 DESIGN BY: S.T. DATE 04/01/11
 CHECKED BY: R.B. DATE 04/04/11



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

11-14-18
DETOUR
Sheet 12 of 58 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: T:\Traffic\dwg\CSAH 18 (Crosstown Blvd)\11-15-18.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: CHARLES CADENHEAD
 SIGNATURE: _____
 DATE: _____ LICENSE NO. 40416

DRAWN BY: MTH DATE 01/20/11
 DESIGN BY: MTH DATE 01/20/11
 CHECKED BY: JR DATE 03/01/11

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

CSAH 18 (CROSSTOWN BLVD)
 ADDITIONAL TEMPORARY SIGNING
 FOR CONCRETE OVERLAY

Sheet 27 of 58 Sheets

MATCHLINE "B"

X4-5

PASS WITH CARE

CSAH 18 (CROSSTOWN BLVD)

DO NOT PASS

MATCHLINE "C"

MATCHLINE "C"

CSAH 18 (CROSSTOWN BLVD)

MATCHLINE "D"

DO NOT PASS R4-1

NO	DATE	BY	CHKD	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: CHARLES CADENHEAD

SIGNATURE: _____

DATE: _____ LICENSE NO. 40416

DRAWN BY: MTH DATE 01/20/11

DESIGN BY: MTH DATE 01/20/11

CHECKED BY: JR DATE 03/01/11



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

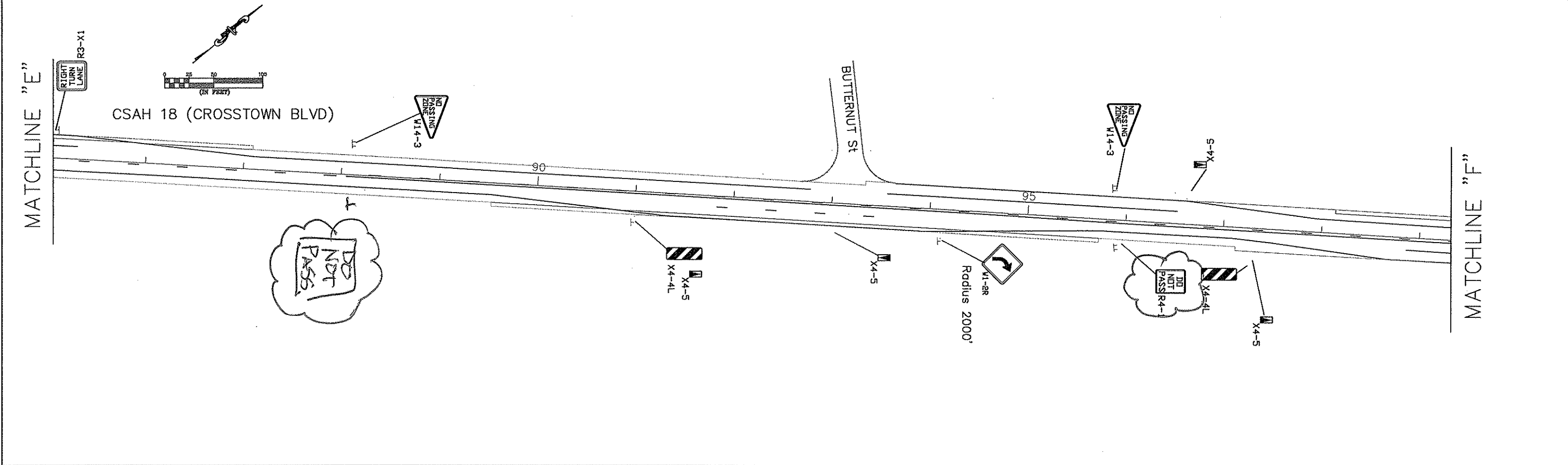
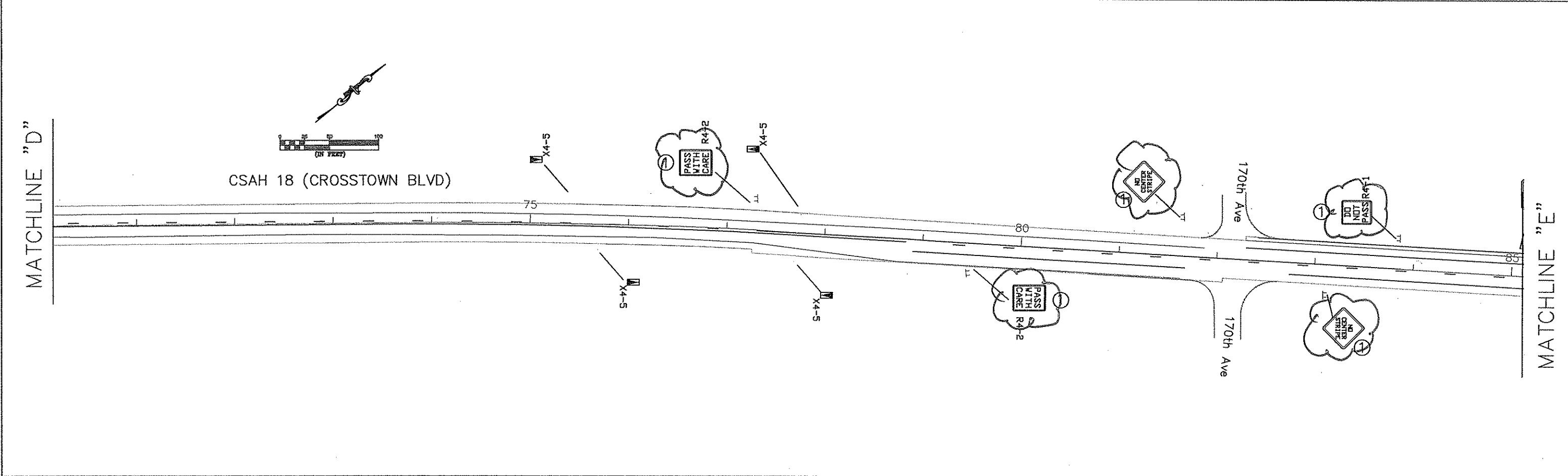
STATE AID PROJECT NO. _____

CITY PROJECT NO. _____

COUNTY PROJECT NO. 11-14-18

CSAH 18 (CROSSTOWN BLVD)
ADDITIONAL TEMPORARY SIGNING
FOR CONCRETE OVERLAY

Sheet 28 of 58 Sheets



NO	DATE	BY	CKD	APPR	REVISION
NAME: T:\Traffic\dwg\CSAH 18 (Crosstown Blvd)\11-15-18.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: CHARLES CADENHEAD
 SIGNATURE: _____
 DATE: _____ LICENSE NO. 40416

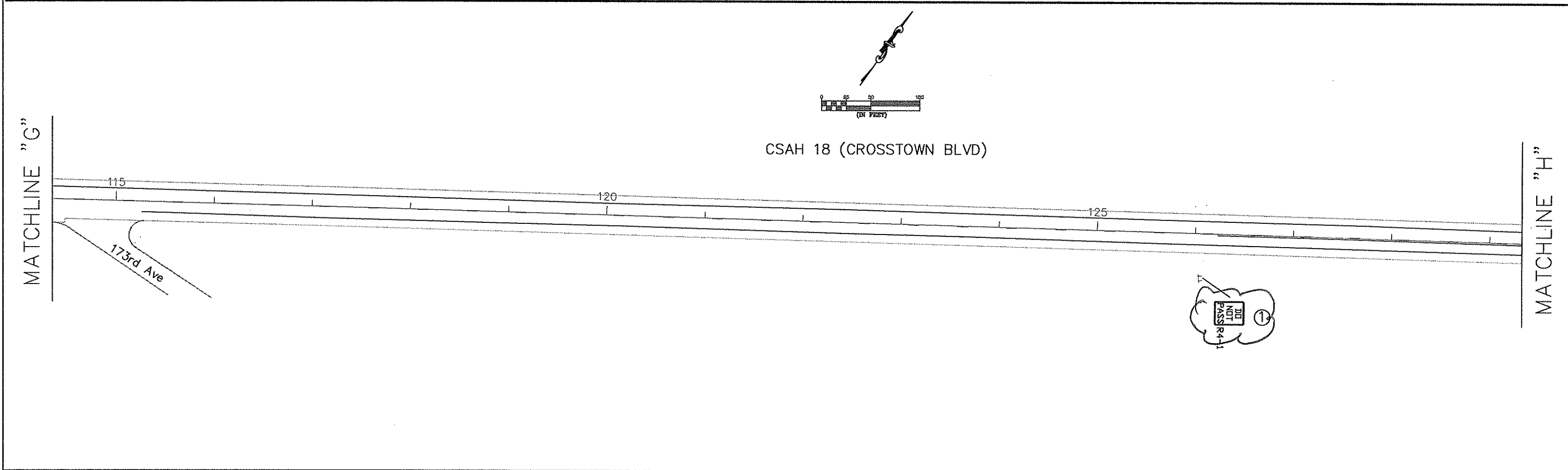
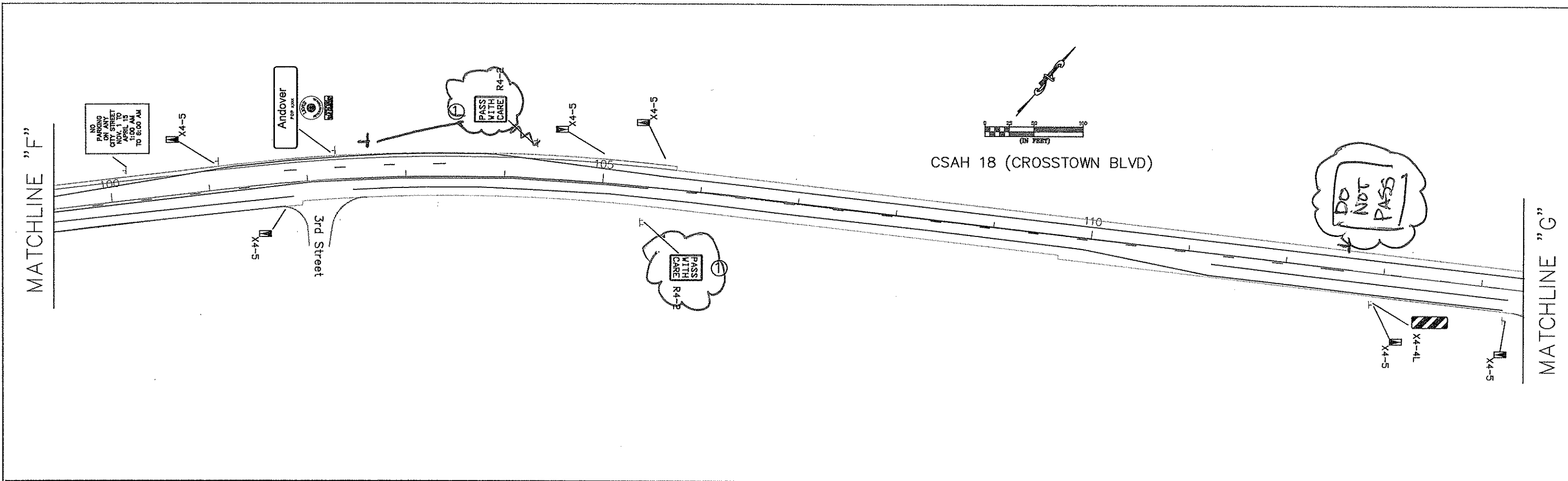
DRAWN BY: MTH DATE 01/20/11
 DESIGN BY: MTH DATE 01/20/11
 CHECKED BY: JR DATE 03/01/11



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

CSAH 18 (CROSSTOWN BLVD)
 ADDITIONAL TEMPORARY SIGNING
 FOR CONCRETE OVERLAY
 Sheet 29 of 58 Sheets



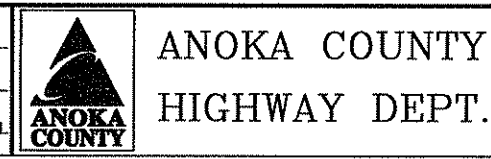
NO	DATE	BY	CKD	APPR	REVISION

NAME: T:\Traffic\dwg\CSAH 18 (Crosstown Blvd)\11-15-18.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: CHARLES CADENHEAD
 SIGNATURE: _____
 DATE: _____ LICENSE NO. 40416

DRAWN BY: MTH DATE 01/20/11
 DESIGN BY: MTH DATE 01/20/11
 CHECKED BY: JR DATE 03/01/11

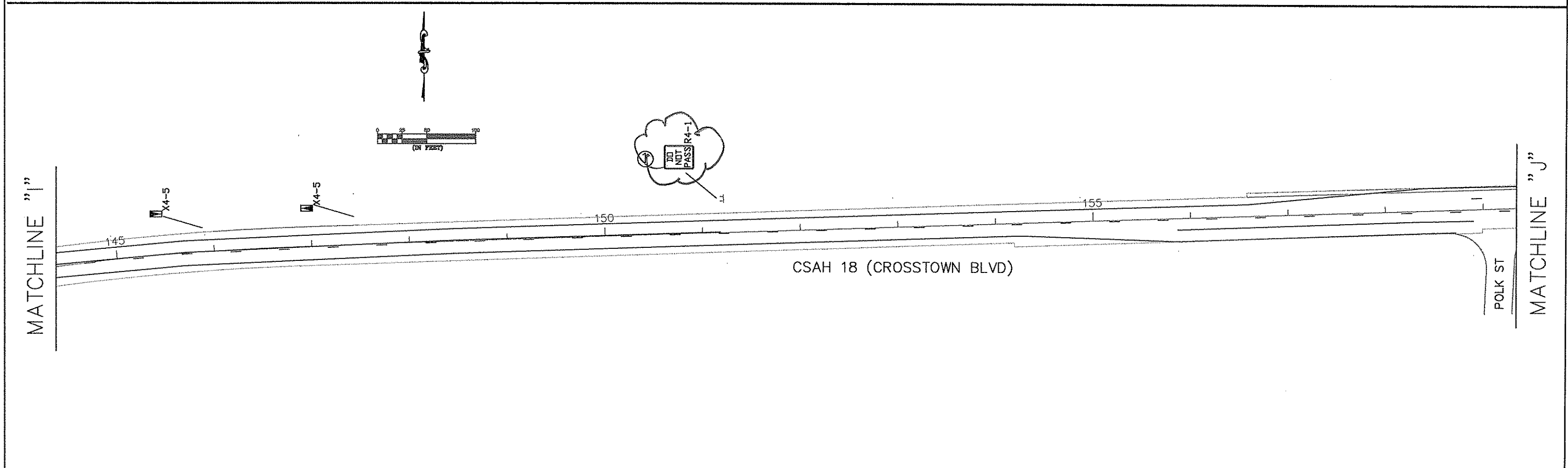
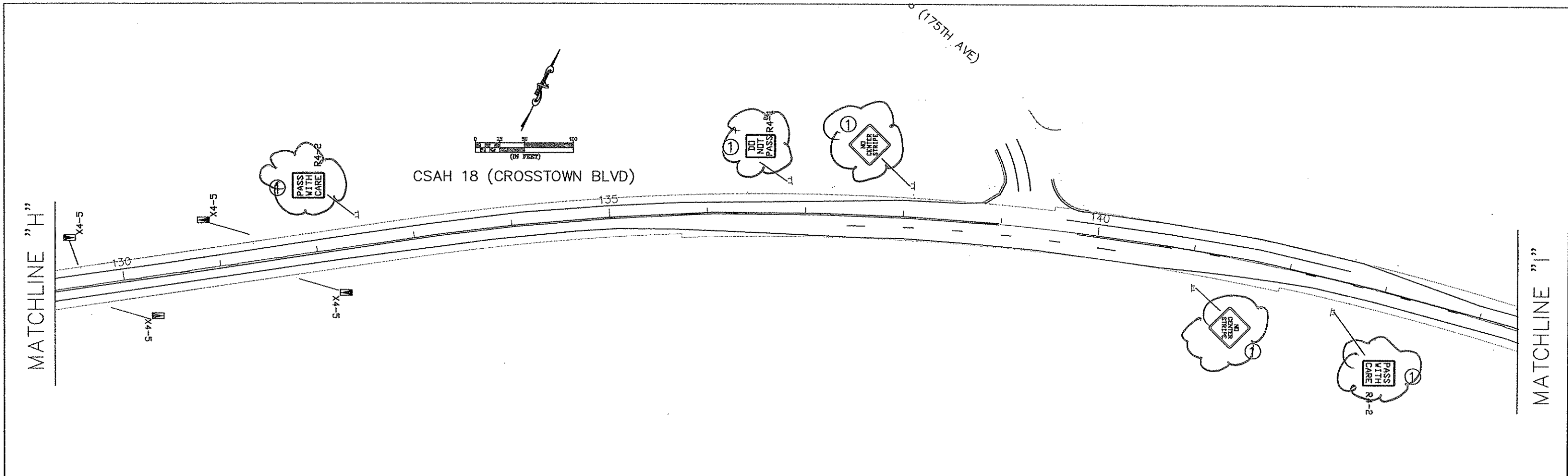


ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

CSAH 18 (CROSSTOWN BLVD)
 ADDITIONAL TEMPORARY SIGNING
 FOR CONCRETE OVERLAY

Sheet 30 of 58 Sheets




NO	DATE	BY	CKD	APPR	REVISION
NAME: T:\Traffic\dwg\CSAH 18 (Crosstown Blvd)\11-15-18.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: CHARLES CADENHEAD
 SIGNATURE: _____
 DATE: _____ LICENSE NO. 40416

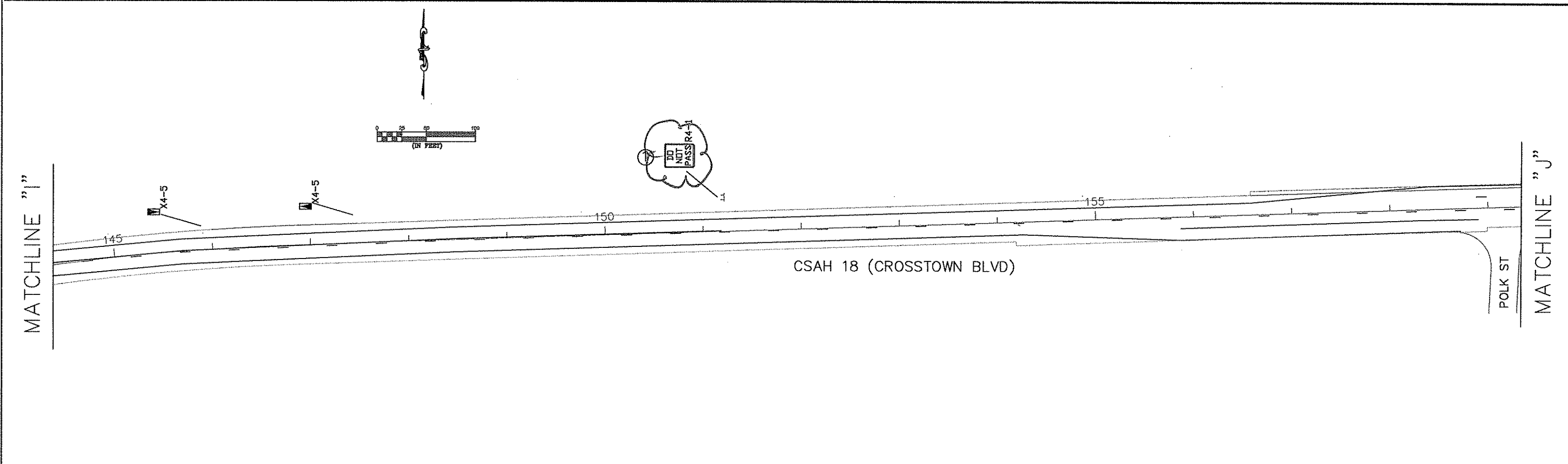
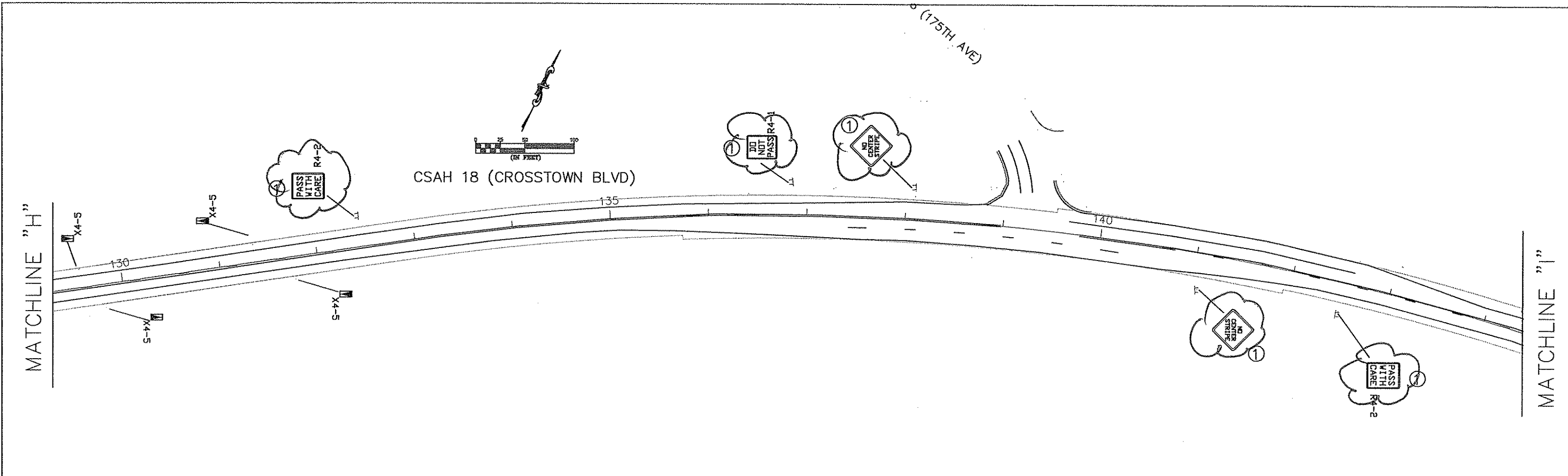
DRAWN BY: MTH DATE 01/20/11
 DESIGN BY: MTH DATE 01/20/11
 CHECKED BY: JR DATE 03/01/11

ANOKA COUNTY
HIGHWAY DEPT.



STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

CSAH 18 (CROSSTOWN BLVD)
 ADDITIONAL TEMPORARY SIGNING
 FOR CONCRETE OVERLAY
 Sheet 31 of 58 Sheets



NO	DATE	BY	CKD	APPR	REVISION
NAME: T:\Traffic\dwg\CSAH 18 (Crosstown Blvd)\11-15-18.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: CHARLES CADENHEAD
 SIGNATURE: _____
 DATE: _____ LICENSE NO. 40416

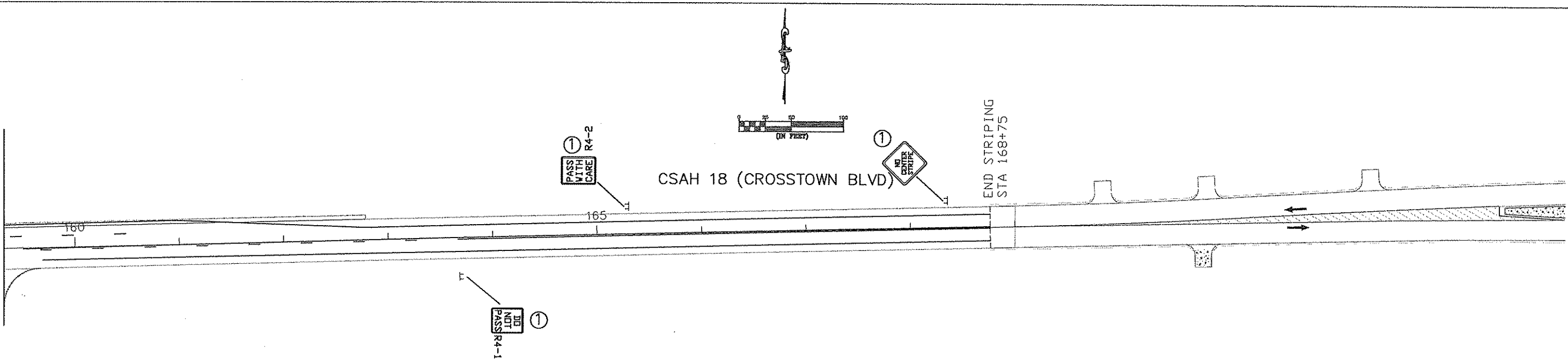
DRAWN BY: MJH DATE 01/20/11
 DESIGN BY: MJH DATE 01/20/11
 CHECKED BY: JR DATE 03/01/11

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

CSAH 18 (CROSSTOWN BLVD)
 ADDITIONAL TEMPORARY SIGNING
 FOR CONCRETE OVERLAY
 Sheet 31 of 58 Sheets

MATCHLINE "J"



Item	Quantity	Units
4" Double Yellow Striping	2683	Lin Ft
4" Solid Yellow Striping	7016	Lin Ft
4" Broken Yellow Striping	2580	Lin Ft
4" Solid White Striping	33444	Lin Ft
4" Broken White Striping	290	Lin Ft
24" Yellow Thermoplastic	0	Lin Ft
24" White Thermoplastic	0	Lin Ft
3'x6' Zebra Crosswalk Thermoplastic	0	SQ.FT
Right Turn Arrow Thermoplastic	0	Each
Left Turn Arrow Thermoplastic	0	Each
Thru/Right Turn Arrow Thermoplastic	0	Each
Thru Arrow Thermoplastic	0	Each

TEMPORARY TRAFFIC CONTROL SIGNS						
M. U. T. C. D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY No. Post	MOUNTING HEIGHT (To Panel Edge) FT.	
WB-12	48" x 48"	16.00	NO CENTER STRIPE	6 2	7.0'	
R4-1	24" x 30"	5.00	DO NOT PASS R4-1	1 15	7.0'	
R4-2	24" x 30"	5.00	PASS WITH CARE R4-2	1 10	7.0'	
WB-1A	48" x 48"	16.00	BUMP AHEAD WB-1A	AS NEEDED		
WB-1A	48" x 48"	16.00	BUMP WB-1A	AS NEEDED		
WB-8	48" x 48"	16.00	ROUGH ROAD WB-8	AS NEEDED		
WB-11	48" x 48"	16.00	UNEVEN LANES WB-11	AS NEEDED		

4DY	4" SOLID LINE DOUBLE YELLOW PAINT	➔	PAVEMENT MESSAGE RIGHT
4SY	4" SOLID LINE YELLOW PAINT	➜	PAVEMENT MESSAGE LEFT
4BY	4" BROKEN LINE YELLOW PAINT	➔➜	PAVEMENT MESSAGE THRU/RIGHT
4SW	4" SOLID LINE WHITE PAINT	↑	PAVEMENT MESSAGE THRU
4BW	4" BROKEN LINE WHITE PAINT		SEE SPECIAL PROVISIONS
24Y	24" YELLOW PERMANENT PAVEMENT MESSAGE	①	TEMPORARY TRAFFIC CONTROL SIGN
24W	24" WHITE PERMANENT PAVEMENT MESSAGE	②	F & I PERMANENT SIGN
3CW	3' x 6' ZEBRA CROSSWALK	③	SALVAGE PERMANENT SIGN
		④	RE-INSTALL PERMANENT SIGN

NO	DATE	BY	CKD	APPR	REVISION

NAME: T:\Traffic\dwg\CSAH 18 (Crosstown Blvd)\11-15-18.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: CHARLES CADENHEAD

SIGNATURE: _____

DATE: _____ LICENSE NO. 40416

DRAWN BY: MTH DATE 01/20/11

DESIGN BY: MTH DATE 01/20/11

CHECKED BY: JR DATE 03/01/11



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

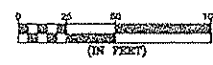
STATE AID PROJECT NO. _____

CITY PROJECT NO. _____

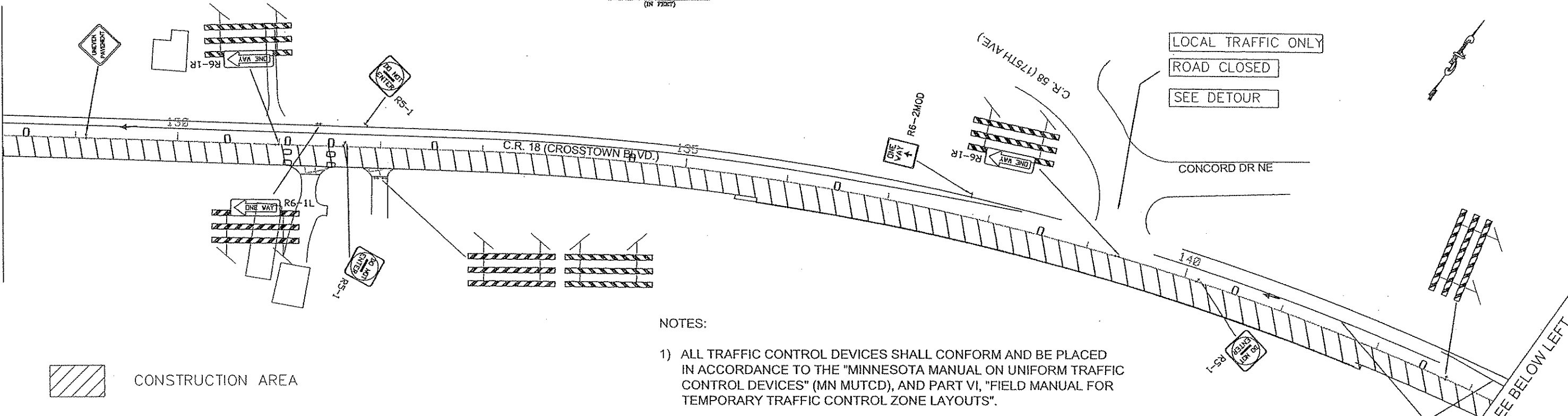
COUNTY PROJECT NO. 11-14-18

CSAH 18 (CROSSTOWN BLVD)
ADDITIONAL TEMPORARY SIGNING
FOR CONCRETE OVERLAY

Sheet 32 of 58 Sheets



MATCHLINE 'H' SEE SHEET 17 OF 58



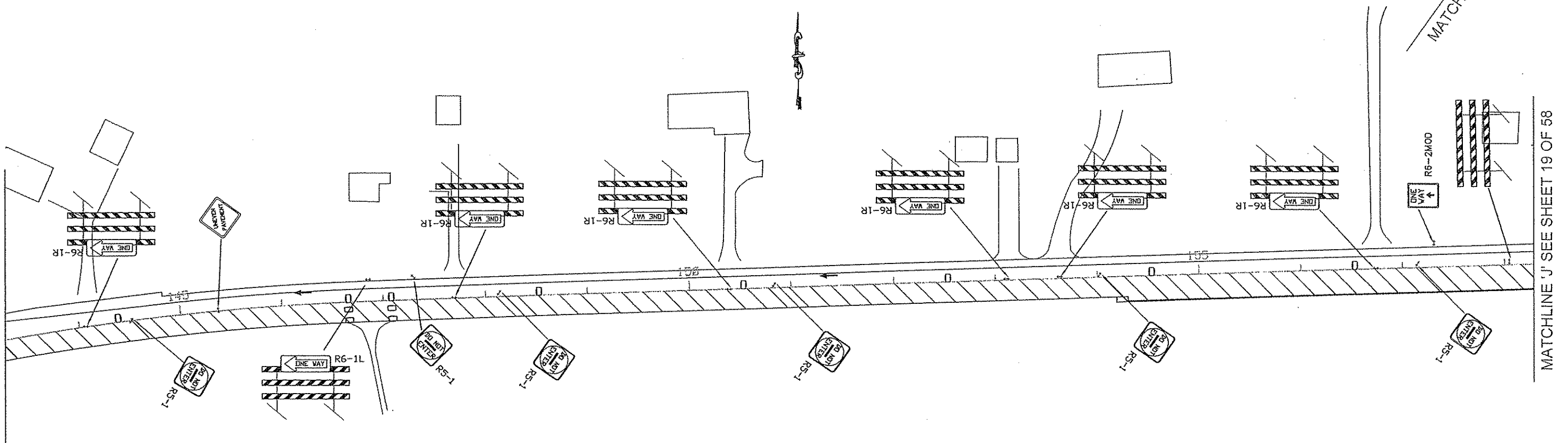
NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MN MUTCD.

REMOVE EXISTING SB 4" SOLID LINE WHITE

MATCHLINE 'I' SEE BELOW LEFT

MATCHLINE 'I' SEE ABOVE RIGHT



MATCHLINE 'J' SEE SHEET 19 OF 58

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\11-01-00\CSAH_18_(CSAH20-TN65)\Base\TRAFFIC\stage1.dwg, 05/25/2011 11:59:35 AM

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: CHARLES M. SADENHEAD JR.

SIGNATURE: *[Signature]*

DATE: 5/25/11 REG. NO. 40416

DRAWN BY: S.T. DATE: 05/18/11

DESIGN BY: S.T. DATE: 05/18/11

CHECKED BY: R.B. DATE: 05/20/11



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

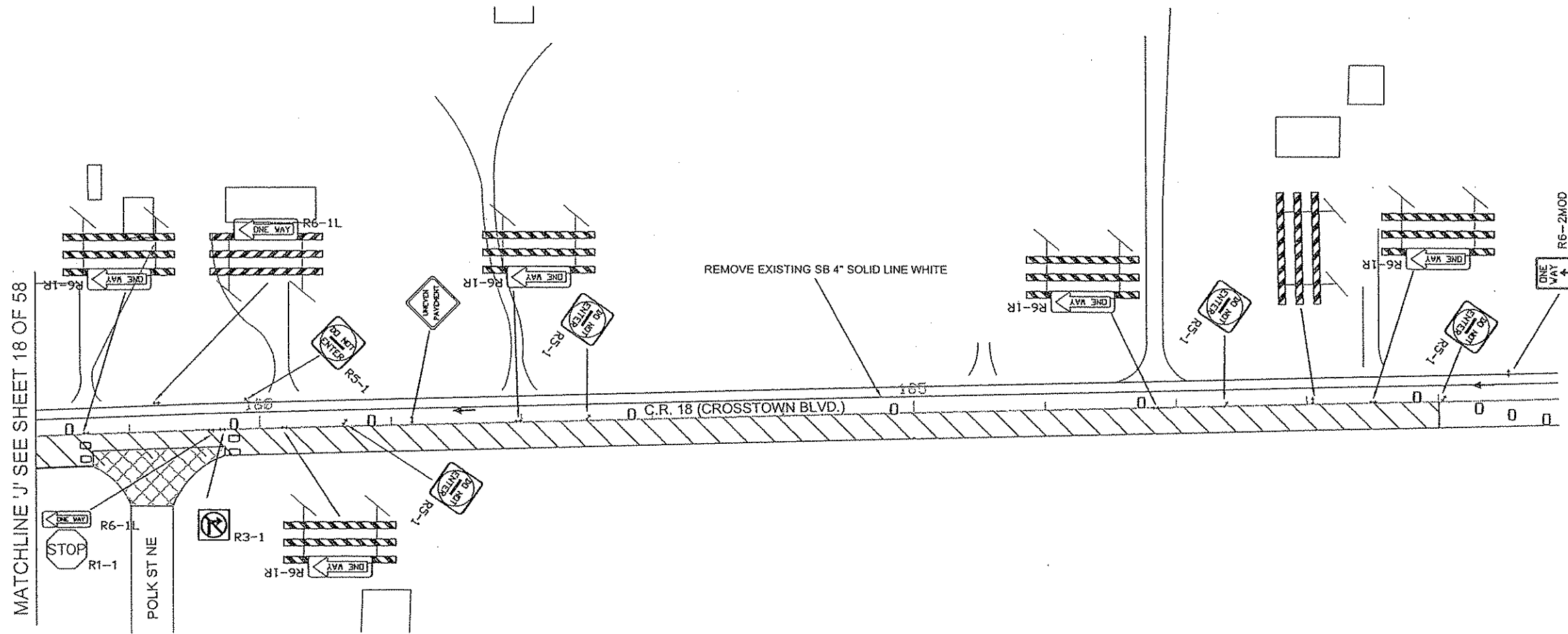
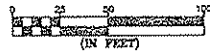
STATE AID PROJECT NO. _____

STATE AID PROJECT NO. _____

COUNTY PROJECT NO. 11-14-18

STAGE 1
CONSTRUCTION STAGING
AND TRAFFIC CONTROL

Sheet 18 of 58 Sheets



MATCHLINE 'J' SEE SHEET 18 OF 58

POLK ST NE

REMOVE EXISTING SB 4" SOLID LINE WHITE

NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MN MUTCD .

CONSTRUCTION AREA

REFLECTORIZED DRUM

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: CHARLES M. CADENHEAD JR.
 SIGNATURE: *Charles M. Cadenhead Jr.*
 DATE: 6/2/11 REG. NO. 10416

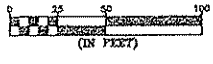
DRAWN BY: S.T. DATE 05/18/11
 DESIGN BY: S.T. DATE 05/18/11
 CHECKED BY: R.B. DATE 05/20/11



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

STAGE 1
 CONSTRUCTION STAGING
 AND TRAFFIC CONTROL
 Sheet 19 of 58 Sheets



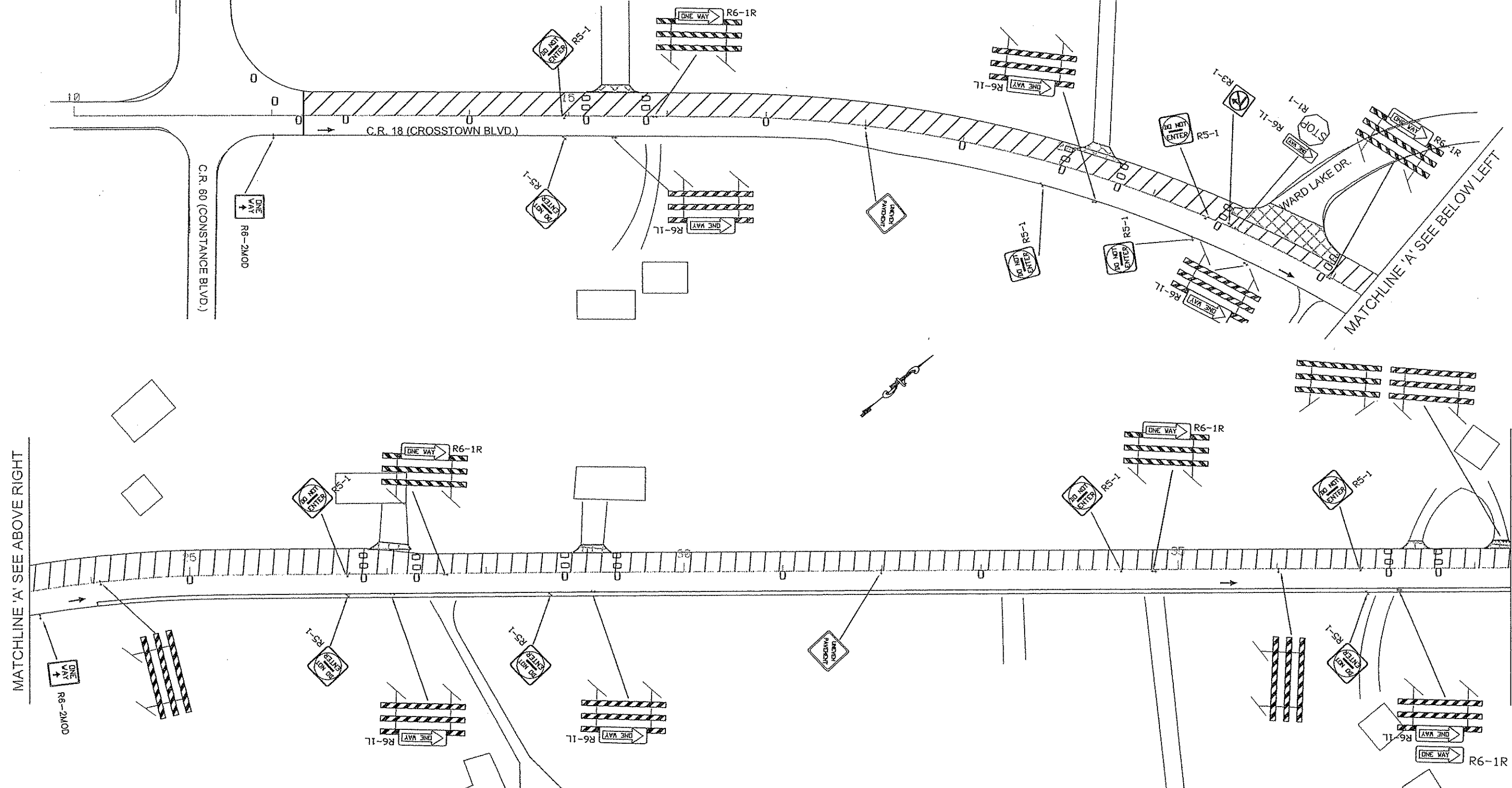
C.S.A.H. 20 (181ST AVE.)

NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MN MUTCD.

CONSTRUCTION AREA

REFLECTORIZED DRUM



MATCHLINE 'A' SEE ABOVE RIGHT

MATCHLINE 'B' SEE SHEET 21 OF 58

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\11-01-00\CSAH_18_(CSAH20-TH65)\Base\TRAFFICstage2.dwg, 05/25/2011 11:02:37 AM

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: CHARLES M. GADENHEAD JR.
 SIGNATURE:
 DATE: 5/23/11 REG. NO. 40416

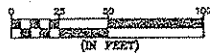
DRAWN BY: S.T. DATE 05/23/11
 DESIGN BY: S.T. DATE 05/23/11
 CHECKED BY: R.B. DATE 05/24/11



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

STAGE 2
 CONSTRUCTION STAGING
 AND TRAFFIC CONTROL
 Sheet 20 of 58 Sheets



CONSTRUCTION AREA

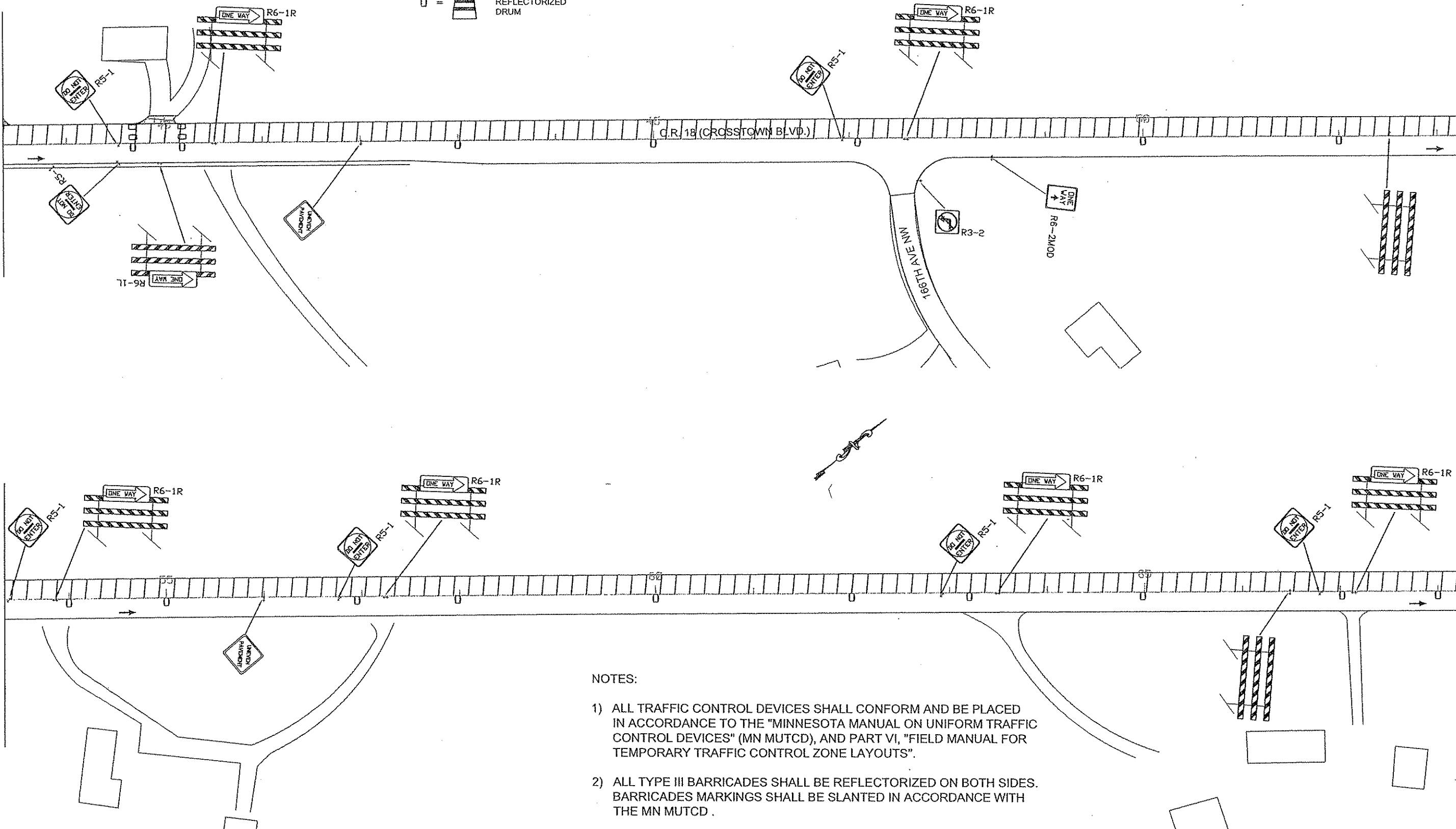
REFLECTORIZED DRUM

MATCHLINE 'B' SEE SHEET 20 OF 58

MATCHLINE 'C' SEE BELOW LEFT

MATCHLINE 'C' SEE ABOVE RIGHT

MATCHLINE 'D' SEE SHEET 22 OF 58



NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MN MUTCD.

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: CHARLES M. CADENHEAD
 SIGNATURE: *Charles M. Cadenhead*
 DATE: 5/23/11 REG. NO. 40416

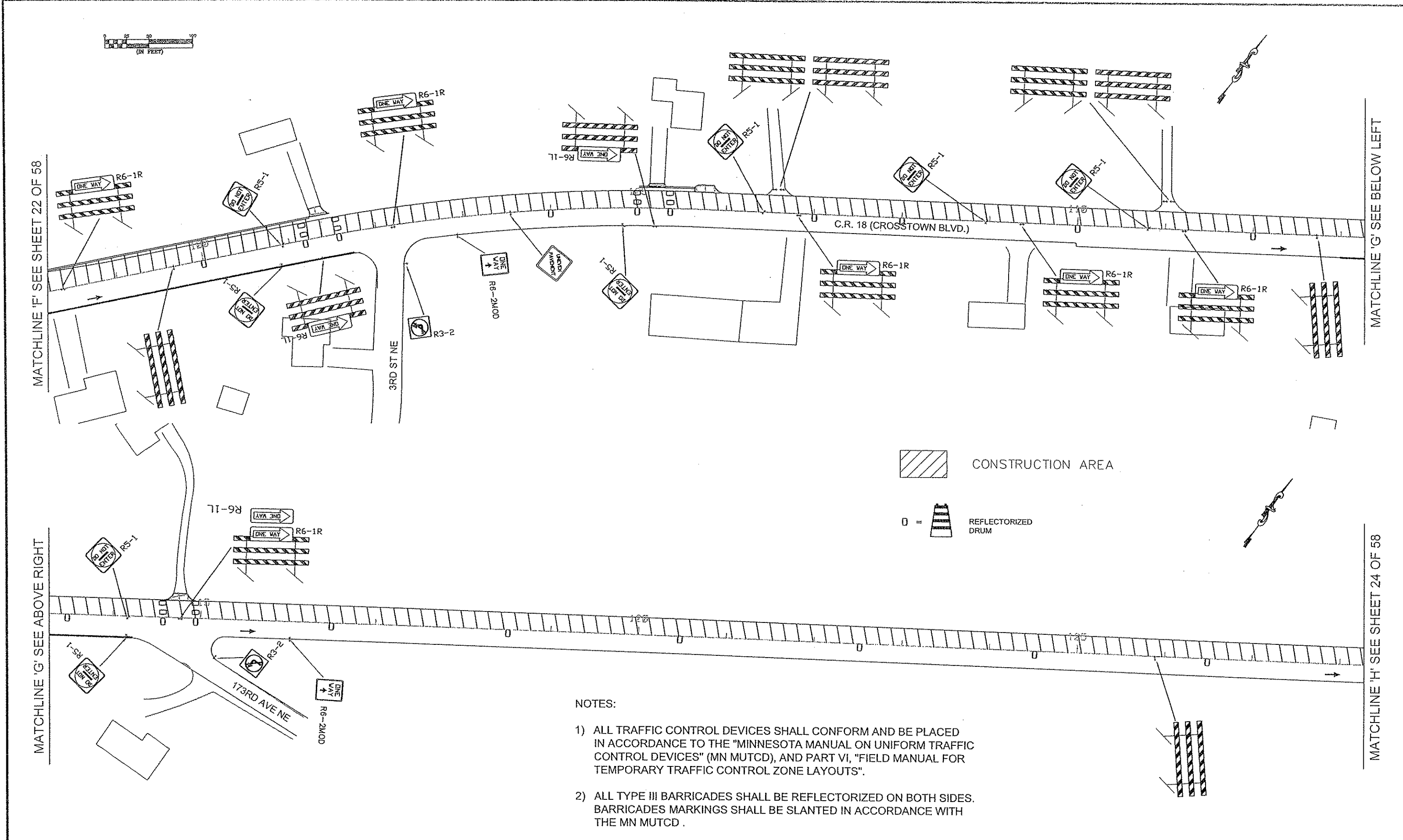
DRAWN BY: S.T. DATE 05/23/11
 DESIGN BY: S.T. DATE 05/23/11
 CHECKED BY: R.B. DATE 05/24/11

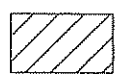



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

STAGE 2
 CONSTRUCTION STAGING
 AND TRAFFIC CONTROL
 Sheet 21 of 58 Sheets



 CONSTRUCTION AREA
 REFLECTORIZED DRUM

NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
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NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\11-01-00(CSAH_18_(CSAH20-TH65)Base\TRAFFICstage2.dwg, 05/25/2011 11:01:50 AM

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.

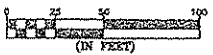
PRINT-NAME: CHARLES M. CADENHEAD JR.
 SIGNATURE: *Charles M. Cadenhead Jr.*
 DATE: 6/2/11 REG. NO. 40416

DRAWN BY: S.T. DATE 05/23/11
 DESIGN BY: S.T. DATE 05/23/11
 CHECKED BY: R.B. DATE 05/24/11

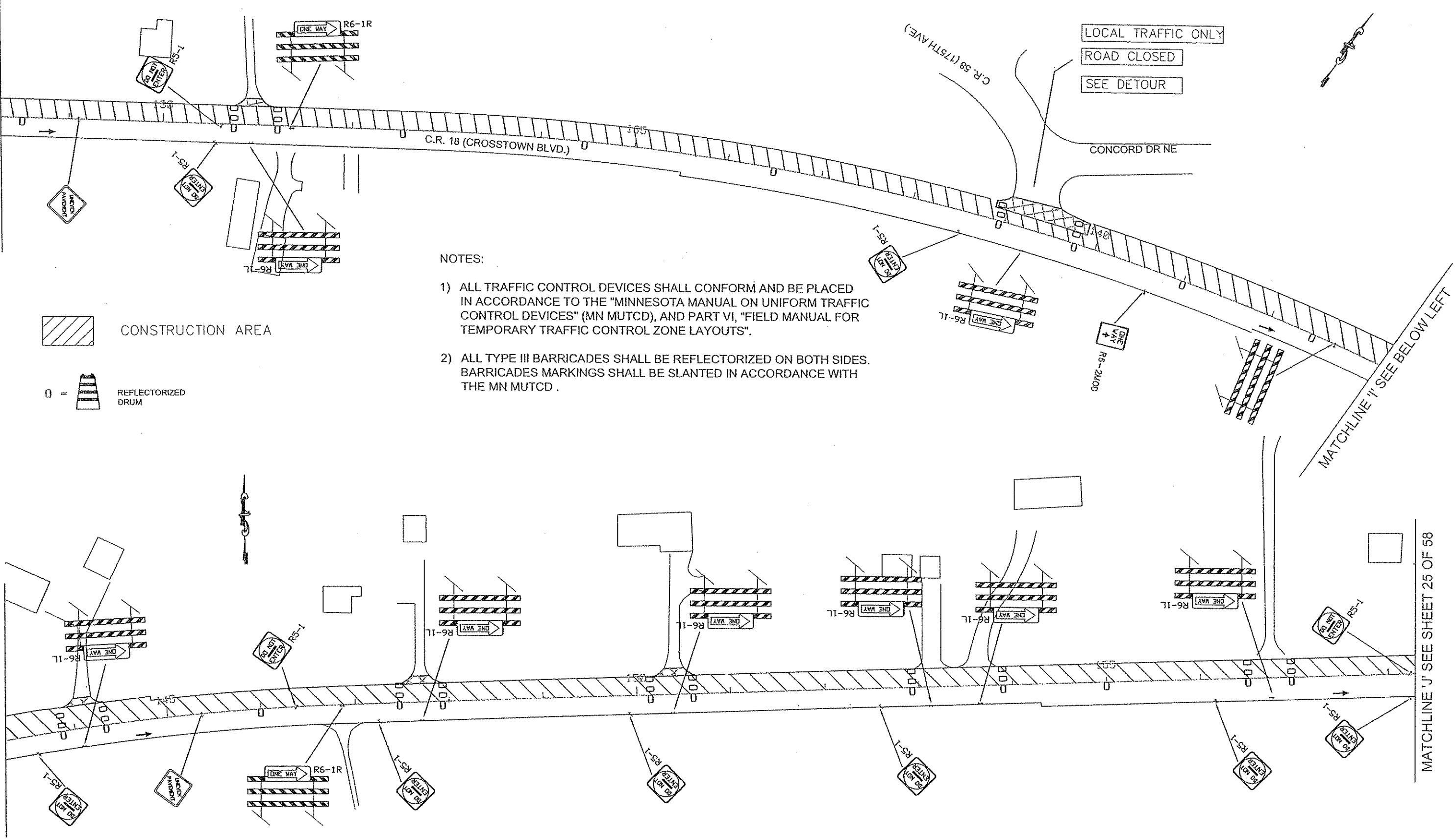
 ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

STAGE 2
 CONSTRUCTION STAGING
 AND TRAFFIC CONTROL
 Sheet 23 of 58 Sheets



MATCHLINE 'H' SEE SHEET 23 OF 58



NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MN MUTCD .



MATCHLINE 'I' SEE ABOVE RIGHT

MATCHLINE 'J' SEE SHEET 25 OF 58

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\11-01-00\CSAH_18 (CSAH20-TH65)\Base\TRAFFIC\stage2.dwg, 05/25/2011 10:59:19 AM

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: CHARLES M. CADENHEAD JR.

SIGNATURE: *Charles M. Cadenhead Jr.*

DATE: 5/2/11 REG. NO. 40416

DRAWN BY: S.T. DATE: 05/23/11

DESIGN BY: S.T. DATE: 05/23/11

CHECKED BY: R.B. DATE: 05/24/11



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

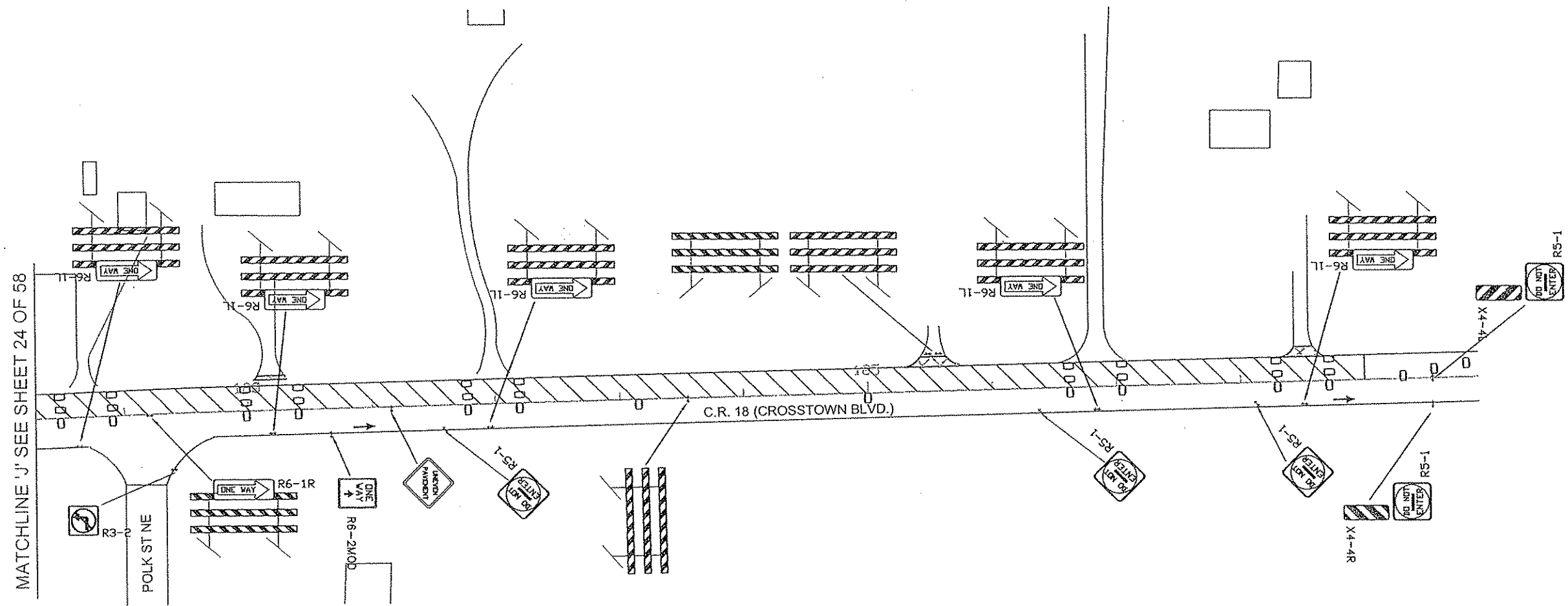
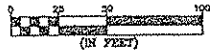
STATE AID PROJECT NO. _____

STATE AID PROJECT NO. _____

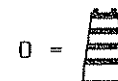
COUNTY PROJECT NO. 11-14-18

STAGE 2
CONSTRUCTION STAGING
AND TRAFFIC CONTROL

Sheet 24 of 58 Sheets



 CONSTRUCTION AREA

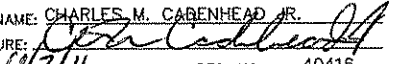
 REFLECTORIZED DRUM

NOTES:


- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
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NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\11-01-00\CSAH_18_(CSAH20-TH65)\Base\TRAFFIC\stage2.dwg, 05/26/2011 10:23:36 AM

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: CHARLES M. CARENHEAD JR.
 SIGNATURE: 
 DATE: 05/27/11 REG. NO. 40416

DRAWN BY: S.T. DATE 05/23/11
 DESIGN BY: S.T. DATE 05/23/11
 CHECKED BY: R.B. DATE 05/24/11

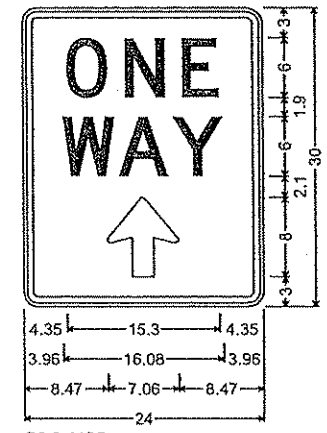
 ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

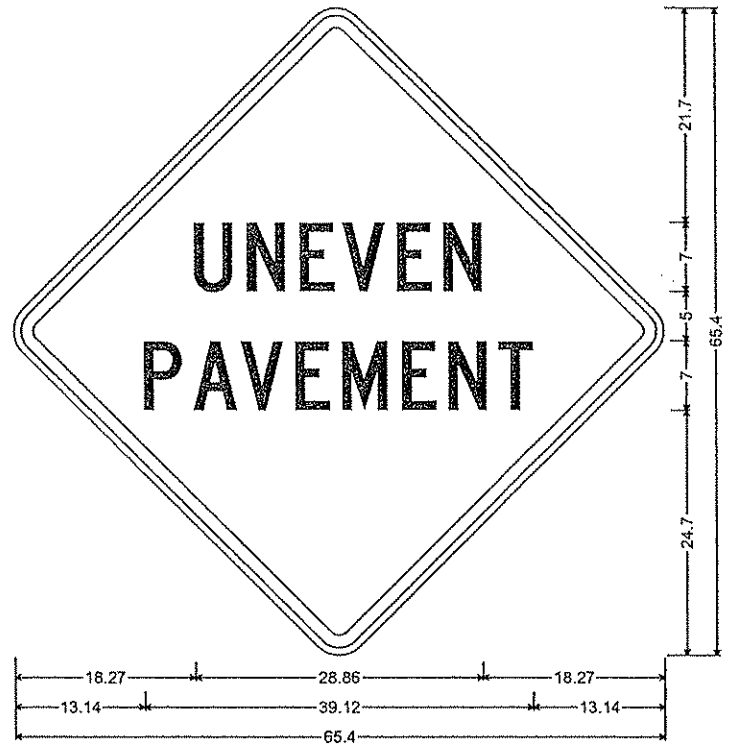
M. U. T. C. D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2
R1-1	48" x 48"		1	0
R1-1	30" x 30"		5	3
R3-1	24" x 24"		5	3
R3-2	24" x 24"		3	5
R5-1	30" x 30"		54	54
R6-1R	36" x 12"		2	2
	48" x 18"		4	3
R6-1R	36" x 12"		6	4
	48" x 18"		1	1
R6-2 MOD	24" x 30"		9	9
W8-X3 MOD	48" x 48"		9	10
X4-4L	12" x 36"		1	1
X4-4R	12" x 36"		0	1

M. U. T. C. D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2
R6-1R	48" x 18"		27	22
TYPE III	8 FOOT			
R6-1L	48" x 18"		23	28
TYPE III	8 FOOT			
TYPE III	8 FOOT		3	4
TYPE III	8 FOOT		14	14
REFLECTORIZED REBOUNDABLE DRUM			202	233

CUSTOM SIGN DETAILS



R6-2_MOD;
 1.50" Radius, 0.63" Border, 0.38" Indent, Black on White;
 [ONE] D specified length;
 [WAY] D;
 Arrow Custom - 8.00" 90";



W8-X3_MOD;
 48.00" across sides 3.00" Radius, 1.25" Border, 0.75" Indent, Black on Orange;
 [UNEVEN] C; [PAVEMENT] C;

NOTES:

- 1) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- 2) ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADES MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MN MUTCD.

NO	DATE	BY	CKD	APPR	REVISION

NAME: PA11-01-00\CSAH_18_(CSAH20-TH55)\Base\TRAFFIC\STGQTY.dwg, 05/26/2011 10:34:48 AM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT-NAME: CHARLES M. CADENHEAD JR.
 SIGNATURE:

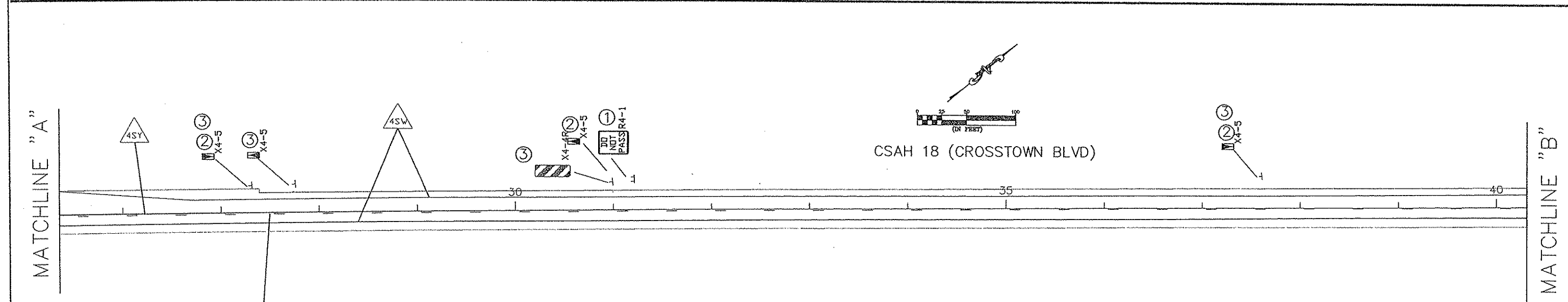
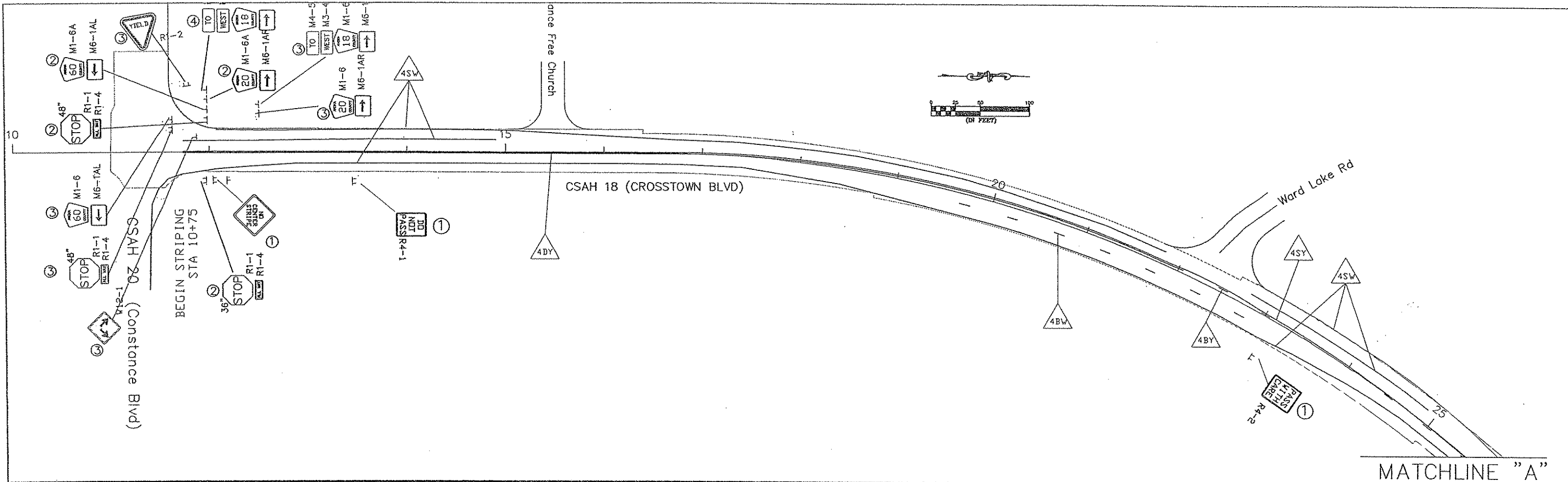
DRAWN BY: ST DATE 05/23/11
 DESIGN BY: ST DATE 05/23/11
 CHECKED BY: RR DATE 05/24/11



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE PROJECT NO. 11-14-18

STAGING
 SIGN QUANTITIES
 Sheet 26 of 58 Sheets



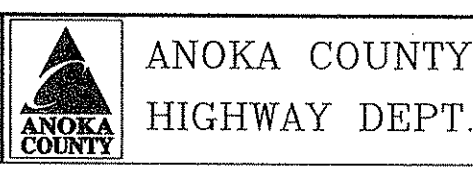
- NOTES:
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNU TCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
 2. LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 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. ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
 5. ALL PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING.

NO	DATE	BY	CHKD	APPR	REVISION
NAME: T:\Traffic\dwg\CSAH 18 (Crosstown Blvd)\11-15-18.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: CHARLES CADENHEAD
 SIGNATURE: *Charles Cadenhead*
 DATE: 10/2/11 LICENSE NO. 40416

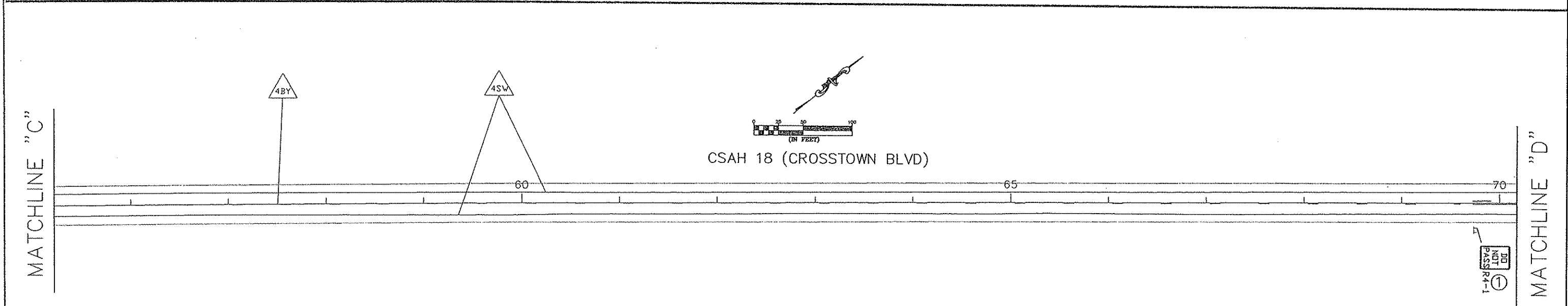
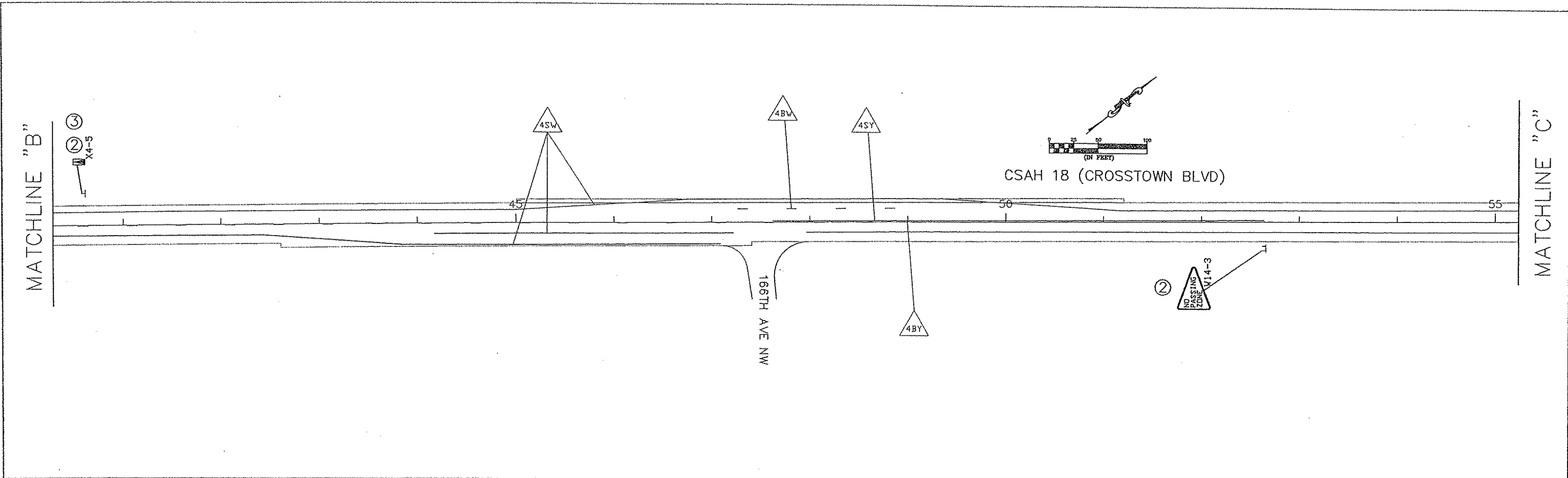
DRAWN BY: MJH DATE 01/20/11
 DESIGN BY: MJH DATE 01/20/11
 CHECKED BY: JR DATE 03/01/11



STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

CSAH 18 (CROSSTOWN BLVD)
 TEMPORARY SIGNING
 PERMANENT SIGNING, STRIPING
 AND PAVEMENT MESSAGES

Sheet 27 of 58 Sheets



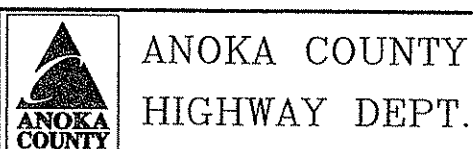
- NOTES:
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
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NO	DATE	BY	CKD	APPR	REVISION

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: CHARLES CADENHEAD
 SIGNATURE: *[Signature]*
 DATE: 11/2/11 LICENSE NO. 40416

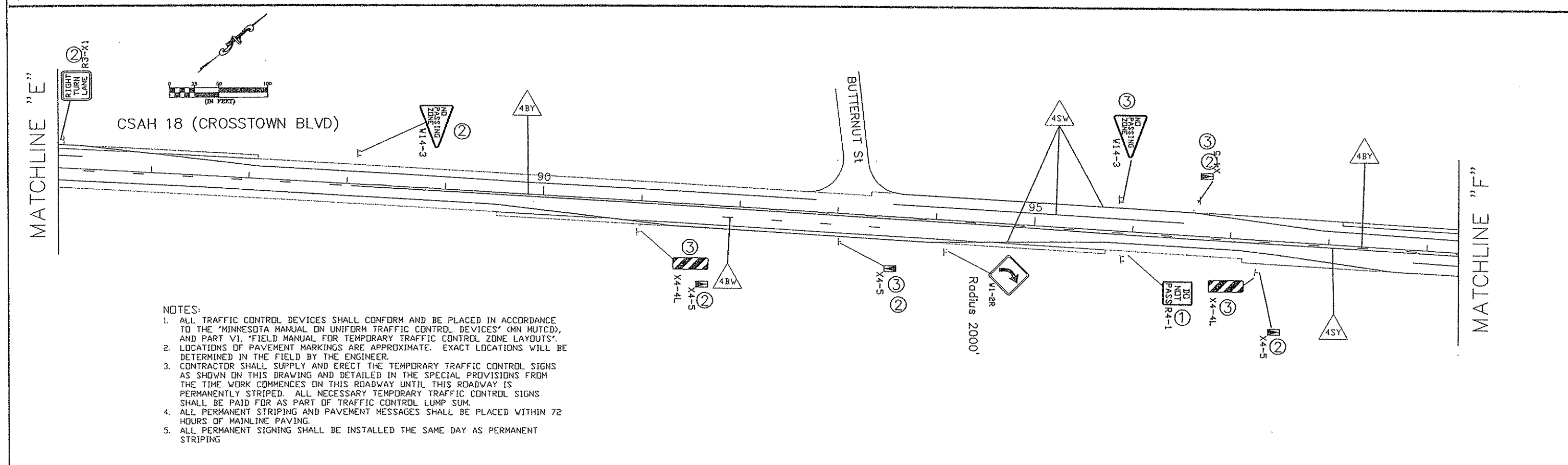
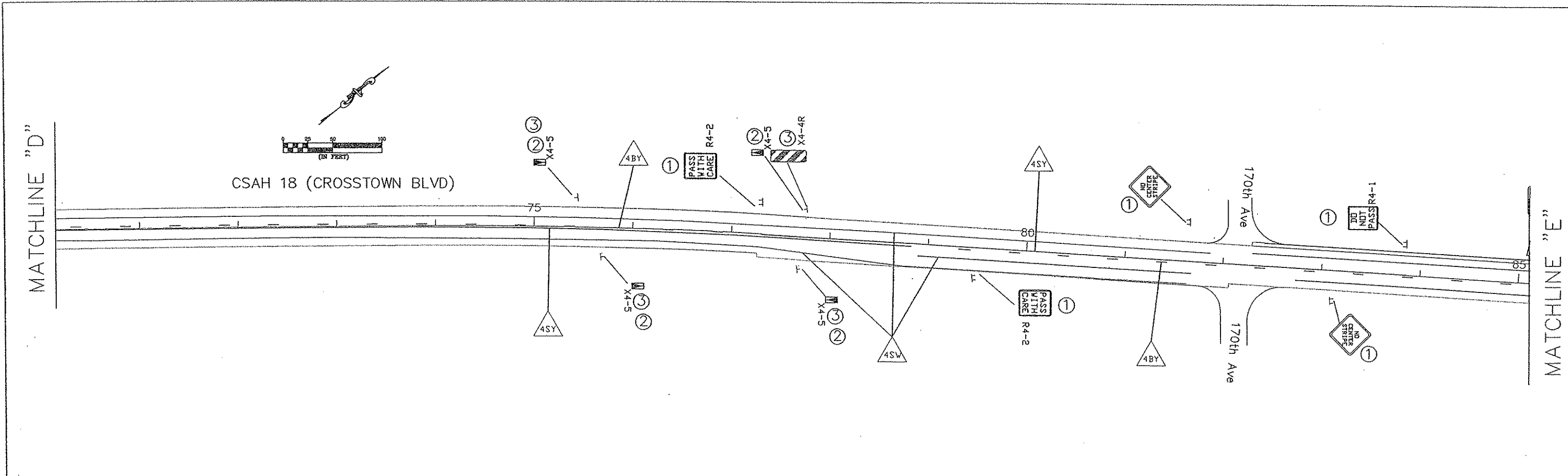
DRAWN BY: MTH DATE 01/20/11
 DESIGN BY: MTH DATE 01/20/11
 CHECKED BY: JR DATE 03/01/11



STATE PROJECT NO. _____
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 COUNTY PROJECT NO. 11-14-18

CSAH 18 (CROSSTOWN BLVD)
 TEMPORARY SIGNING
 PERMANENT SIGNING, STRIPING
 AND PAVEMENT MESSAGES

Sheet 28 of 58 Sheets



- NOTES:
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE 'MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' (MN MUTCD), AND PART VI, 'FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS'.
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NO	DATE	BY	CKD	APPR	REVISION
NAME: T:\Traffic\dwg\CSAH 18 (Crosstown Blvd)\11-15-18.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: CHARLES CADENHEAD
 SIGNATURE: *[Signature]*
 DATE: 8/2/11 LICENSE NO. 40716

DRAWN BY: MTH DATE 01/20/11
 DESIGN BY: MTH DATE 01/20/11
 CHECKED BY: JR DATE 03/01/11

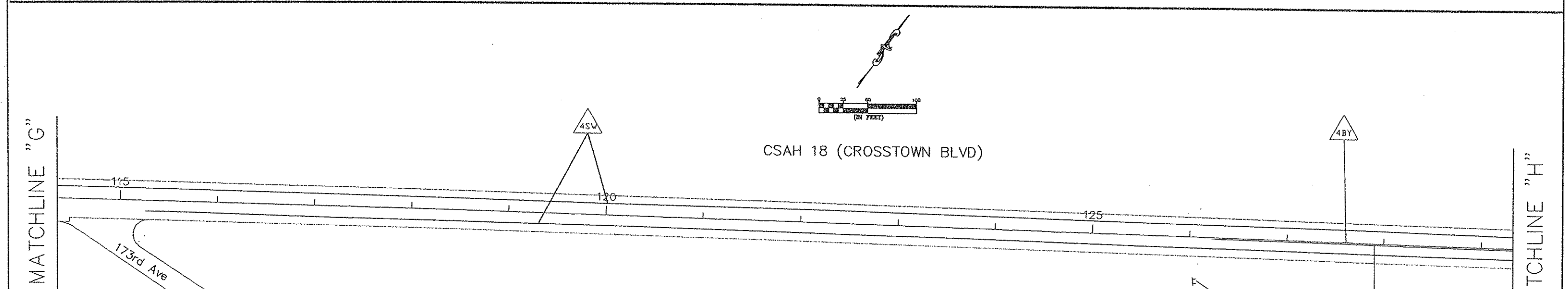
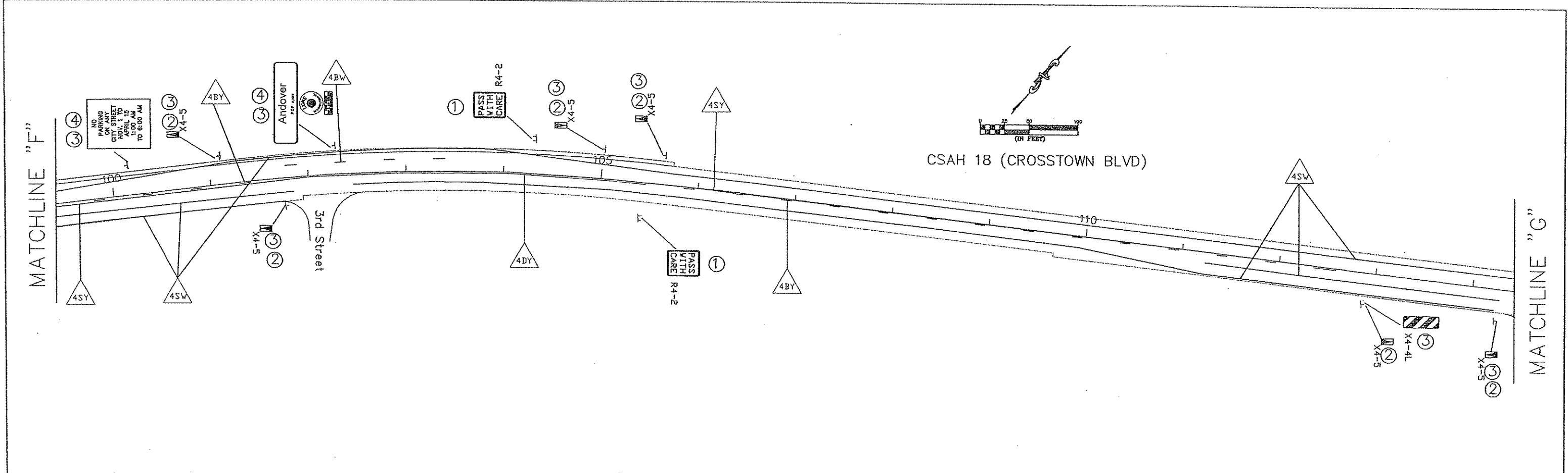
ANOKA COUNTY
HIGHWAY DEPT.



STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

CSAH 18 (CROSSTOWN BLVD)
 TEMPORARY SIGNING
 PERMANENT SIGNING, STRIPING
 AND PAVEMENT MESSAGES

Sheet 29 of 58 Sheets



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NO	DATE	BY	CHKD	APPR	REVISION

NAME: T:\Traffic\dwg\CSAH 18 (Crosstown Blvd)\11-15-18.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: CHARLES CADENHEAD

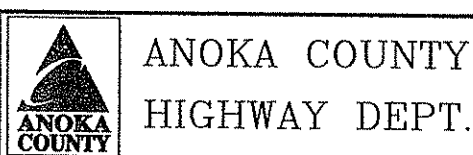
SIGNATURE: *[Signature]*

DATE: 6/2/11 LICENSE NO. 40416

DRAWN BY: MJH DATE 01/20/11

DESIGN BY: MJH DATE 01/20/11

CHECKED BY: JR DATE 03/01/11



STATE PROJECT NO. _____

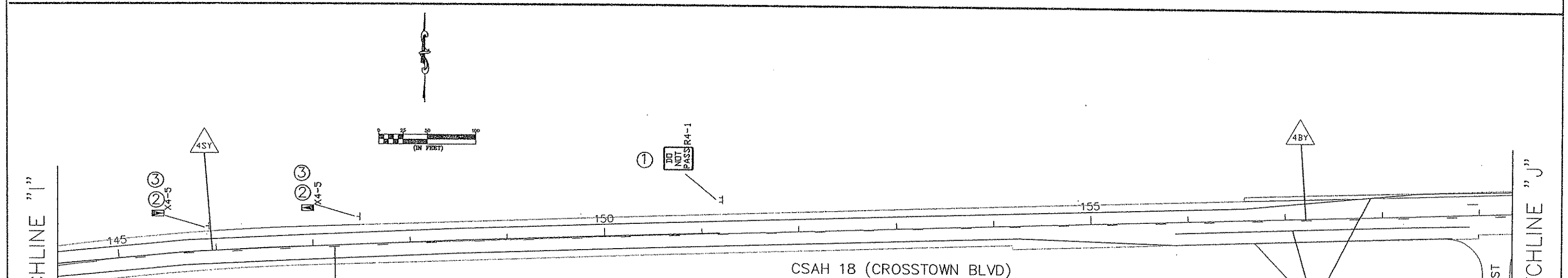
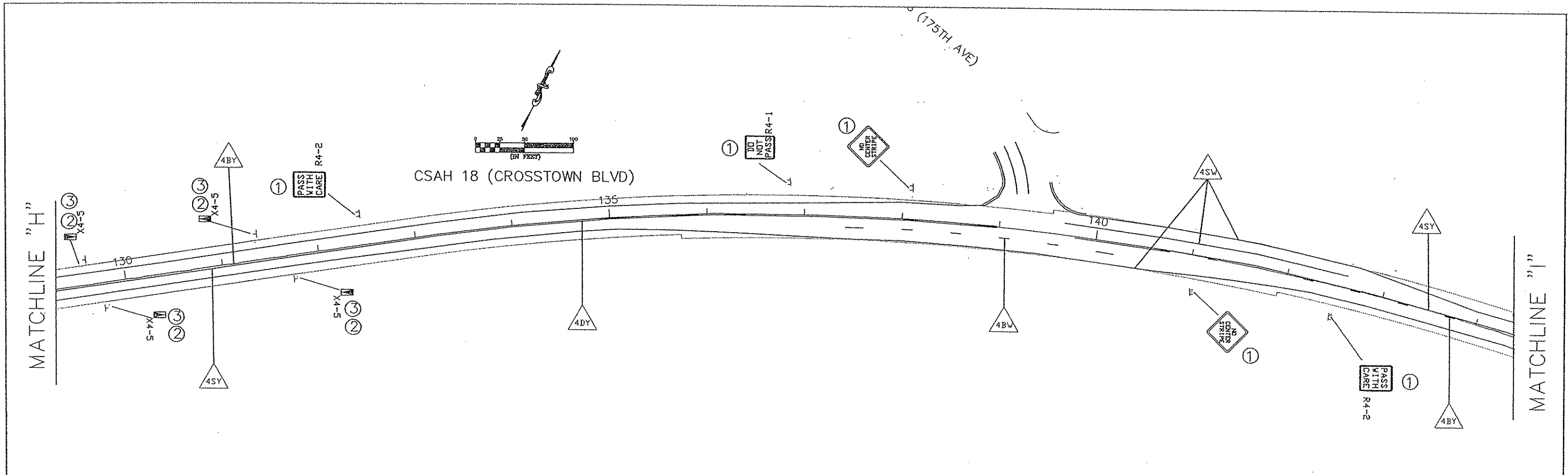
STATE AID PROJECT NO. _____

CITY PROJECT NO. _____

COUNTY PROJECT NO. 11-14-18

CSAH 18 (CROSSTOWN BLVD)
TEMPORARY SIGNING
PERMANENT SIGNING, STRIPING
AND PAVEMENT MESSAGES

Sheet 30 of 58 Sheets



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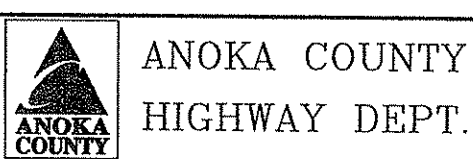
NO	DATE	BY	CKD	APPR	REVISION

NAME: T:\Traffic\dwg\CSAH 18 (Crosstown Blvd)\11-15-18.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: CHARLES BADENHEAD
 SIGNATURE: *Charles Badenhead*
 DATE: 12/11 LICENSE NO. 40416

DRAWN BY: MTH DATE 01/20/11
 DESIGN BY: MTH DATE 01/20/11
 CHECKED BY: JR DATE 03/01/11

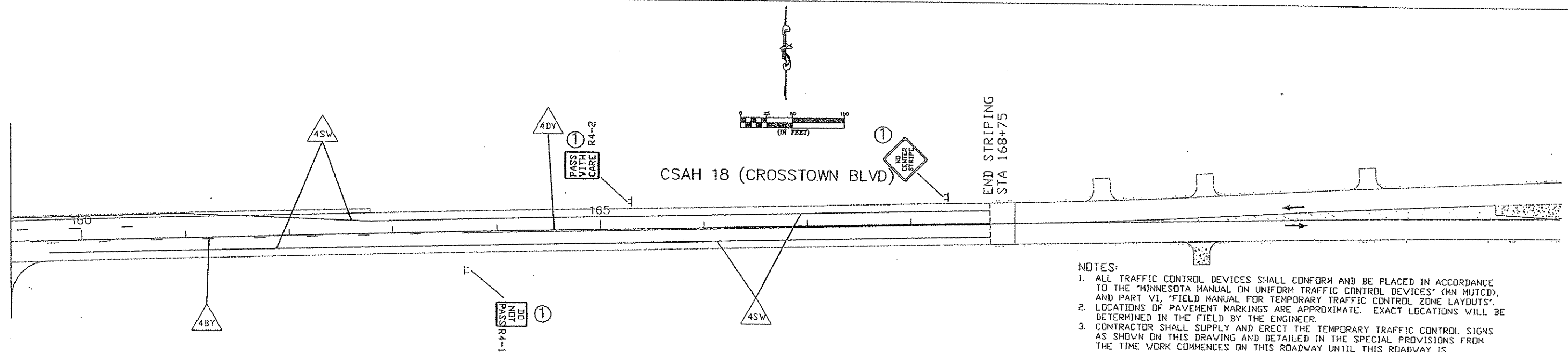


STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

CSAH 18 (CROSSTOWN BLVD)
 TEMPORARY SIGNING
 PERMANENT SIGNING, STRIPING
 AND PAVEMENT MESSAGES

Sheet 31 of 58 Sheets

MATCHLINE "J"



- NOTES:
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
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Item	Quantity	Units
4" Double Yellow Striping	2683	Lin Ft
4" Solid Yellow Striping	7016	Lin Ft
4" Broken Yellow Striping	2580	Lin Ft
4" Solid White Striping	33444	Lin Ft
4" Broken White Striping	290	Lin Ft
24" Yellow Thermoplastic	0	Lin Ft
24" White Thermoplastic	0	Lin Ft
3'x6' Zebra Crosswalk Thermoplastic	0	SQ.FT
Right Turn Arrow Thermoplastic	0	Each
Left Turn Arrow Thermoplastic	0	Each
Thru/Right Turn Arrow Thermoplastic	0	Each
Thru Arrow Thermoplastic	0	Each

TEMPORARY TRAFFIC CONTROL SIGNS						
M. U. T. C. D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY No. Post	MOUNTING HEIGHT (To Panel Top) FT.	
WB-12	48" x 48"	16.00	NO CENTER STRIPE	6 2	7.0'	
R4-1	24" x 30"	5.00	DO NOT PASS R4-1	3 1	7.0'	
R4-2	24" x 30"	5.00	PASS WITH CARE R4-2	6 1	7.0'	
WB-1A	48" x 48"	16.00	BUMP AHEAD WB-1A	AS NEEDED		
WB-1A	48" x 48"	16.00	BUMP WB-1A	AS NEEDED		
WB-8	48" x 48"	16.00	ROUGH ROAD WB-8	AS NEEDED		
WB-11	48" x 48"	16.00	UNEVEN LANES WB-11	AS NEEDED		

PERMANENT SIGNS						
M. U. T. C. D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY No. Post	MOUNTING HEIGHT (To Panel Top) FT.	
R1-1	48" x 48"	16.00	STOP R1-1	1 2	7.0'	
R1-1	36" x 36"	9.00	STOP R1-1	1 2	7.0'	
R1-4	18" x 6"	0.75	NO LEFT TURN R1-4	2 0	7.0'	
R3-X1	24" x 30"	5.00	RIGHT TURN LANE	1 1	7.0'	
W14-3	36" x 48"	11.125	NO PASSING ZONE	2 2	7.0'	
M1-6	24" x 24"	4.00	CONVEYANCE	1 1	7.0'	20
M1-6	24" x 24"	4.00	CONVEYANCE	1 1	7.0'	60
M6-1AR	21" x 15"	2.19	RIGHT TURN	1 0	7.0'	
MV-1AL	21" x 15"	2.19	LEFT TURN	1 0	7.0'	
X4-5	6" x 12"	0.50	PAVEMENT MESSAGE	12 1	5.0'	
X4-5	6" x 12"	0.50	PAVEMENT MESSAGE	12 1	5.0'	
TOTAL	PANEL AREA	78.13				

	4' SOLID LINE DOUBLE YELLOW PAINT		PAVEMENT MESSAGE RIGHT
	4' SOLID LINE YELLOW PAINT		PAVEMENT MESSAGE LEFT
	4' BROKEN LINE YELLOW PAINT		PAVEMENT MESSAGE THRU/RIGHT
	4' SOLID LINE WHITE PAINT		PAVEMENT MESSAGE THRU
	4' BROKEN LINE WHITE PAINT	SEE SPECIAL PROVISIONS	
	24" YELLOW PERMANENT PAVEMENT MESSAGE	①	TEMPORARY TRAFFIC CONTROL SIGN
	24" WHITE PERMANENT PAVEMENT MESSAGE	②	F & I PERMANENT SIGN
	3' x 6' ZEBRA CROSSWALK	③	SALVAGE PERMANENT SIGN
		④	RE-INSTALL PERMANENT SIGN

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: CHARLES CADENHEAD
 SIGNATURE: *[Signature]*
 DATE: 01/20/11 LICENSE NO. 40416

ANOKA COUNTY HIGHWAY DEPT.

DRAWN BY: MJD DATE 01/20/11
 DESIGN BY: MJD DATE 01/20/11
 CHECKED BY: JR DATE 03/01/11

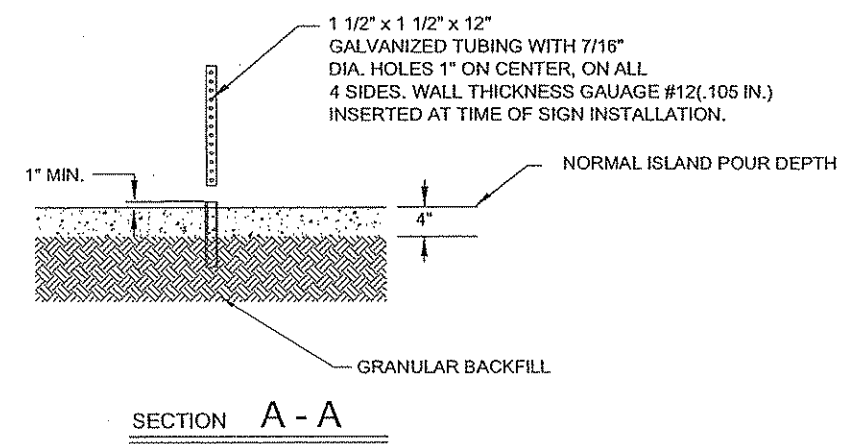
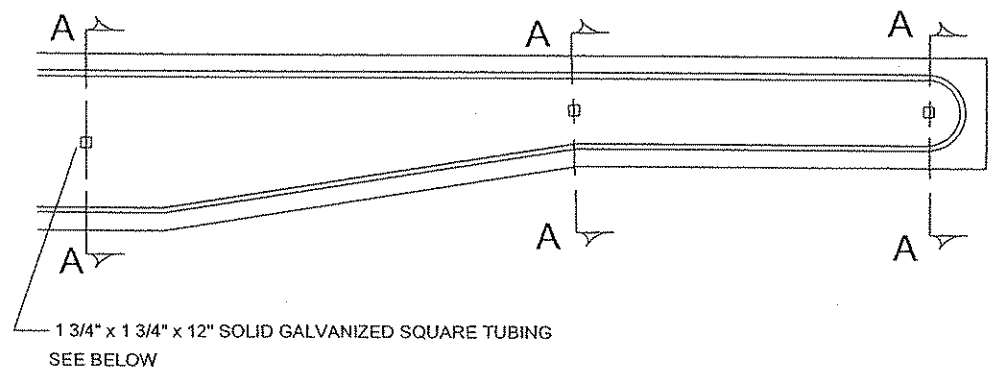
STATE PROJECT NO. _____
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CSAH 18 (CROSSTOWN BLVD)
 TEMPORARY SIGNING
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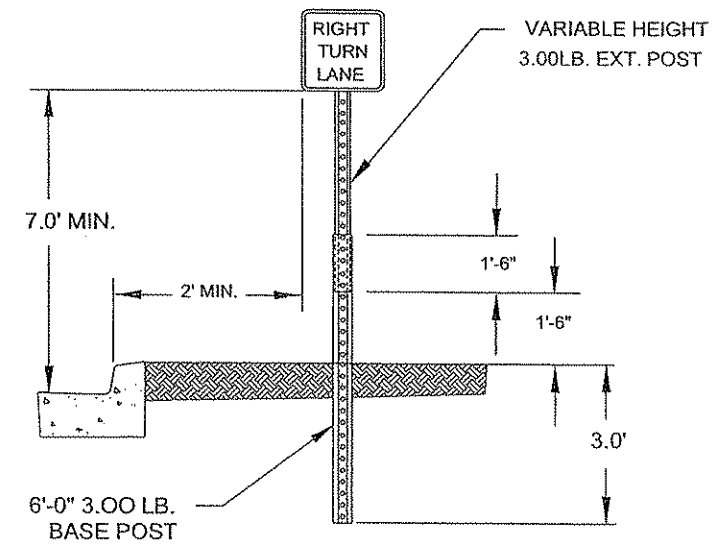
Sheet 32 of 58 Sheets

NO	DATE	BY	CKD	APPR	REVISION

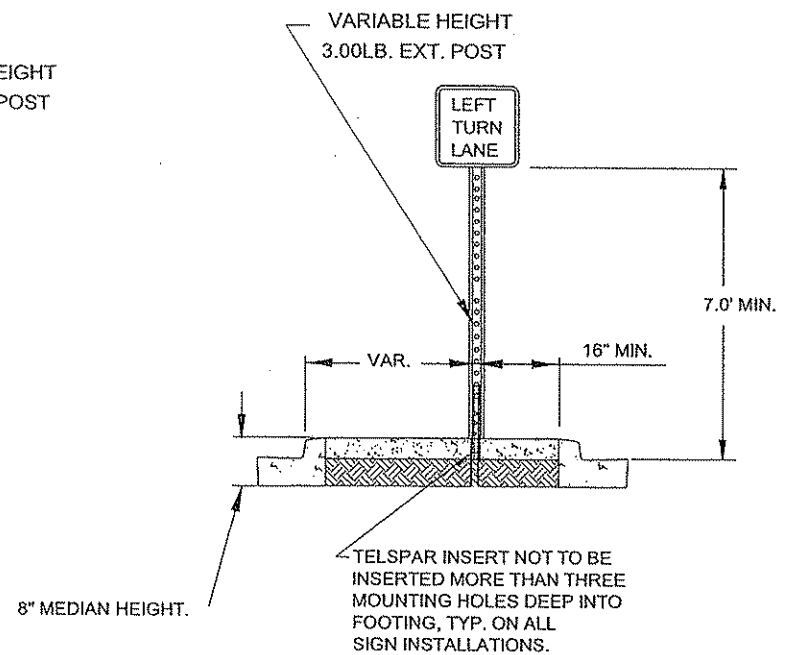
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GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL



NO	DATE	BY	CHKD	APPR	REVISION

NAME: T:\Traffic\Dwg\CSAH 18 (Crosstown Blvd)\Sign&Stripe_Details.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: THOMAS CADENHEAD
 SIGNATURE: *[Signature]*
 DATE: 1/21/11 LICENSE NO. 4416

DRAWN BY: MTH DATE: 1-21-11
 DESIGN BY: MTH DATE: 1-21-11
 CHECKED BY: JR DATE: 1-21-11



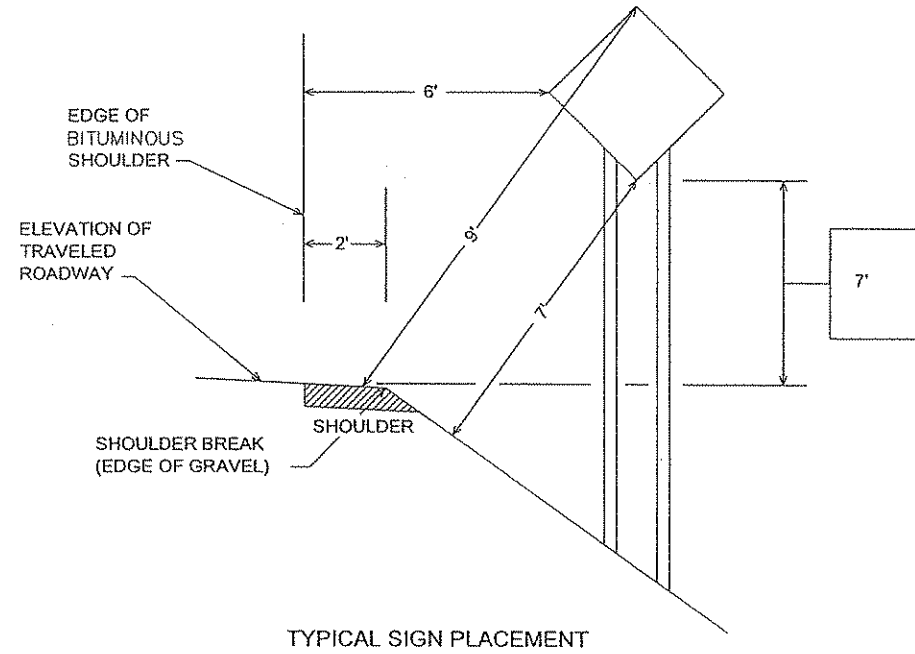
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE PROJECT NO. _____
 STATE PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

SIGNING & STRIPING DETAILS

Sheet 33 of 58 Sheets

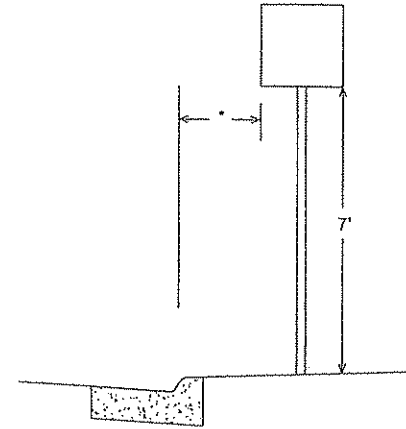
RURAL



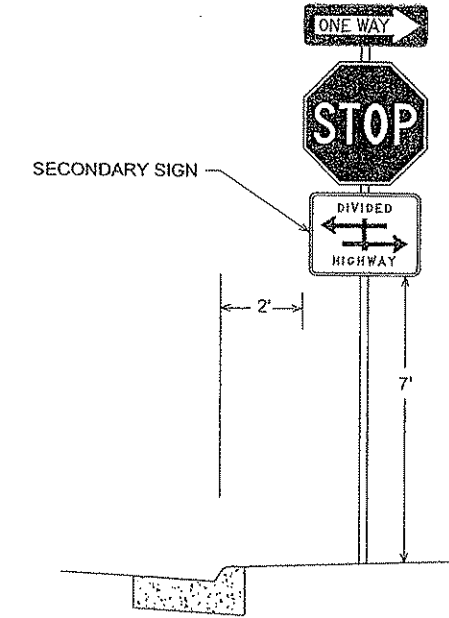
TYPICAL SIGN PLACEMENT

URBAN

- 2' - NARROW BOULEVARD (< 8' WIDE)
- 6' - WIDE BOULEVARD



TYPICAL SIGN PLACEMENT



NOTE:

- ALL DIMENSIONS ARE MINIMUMS
- MAINTAIN 2' CLEAR FROM SIGNS TO BITUMINOUS TRAIL

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: CHARLES CADENHEAD
 SIGNATURE: *Charles Cadenhead*
 DATE: 6/2/11 LICENSE NO. 40416

DRAWN BY MTH DATE 1-21-11
 DESIGN BY MTH DATE 1-21-11
 CHECKED BY JR DATE 1-21-11



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE PROJECT NO. _____
 STATE PROJECT NO. _____
 COUNTY PROJECT NO. 11-14-18

SIGNING & STRIPING DETAILS
 Sheet 34 of 58 Sheets

ALIGNMENT TABULATION											
POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N		
C C.S.A.H. 18											
2000	POT	C C.S.A.H. 18	10+00.000						495,134.4980	182,633.8170	
	PC		16+54.149						495,136.0892	183,287.9645	N 0° 08' 21.75" E
CL18-1	PI		21+08.743	39° 23' 22.05" RT	4° 30' 41.32"	1,270.000'	454.594'	873.094'	495,137.1951	183,742.5572	PI
	CC								496,406.0855	183,284.8752	
	PT		25+27.244						495,426.5289	184,093.1876	N 39° 31' 43.80" E
	PC		72+56.172						498,436.3332	187,740.6308	N 39° 31' 43.80" E
CL18-2	PI		72+95.563	0° 28' 30.52" RT	0° 36' 11.21"	9,500.000'	39.391'	78.782'	498,461.4044	187,771.0135	PI
	CC								505,763.7249	181,694.1995	
	PT		73+34.954						498,486.7267	187,801.1872	N 40° 00' 14.32" E
	PC		74+82.966						498,581.8749	187,914.5643	N 40° 00' 14.32" E
CL18-3	PI		75+51.279	2° 36' 32.12" RT	1° 54' 35.49"	3,000.000'	68.313'	136.603'	498,625.7894	187,966.8922	PI
	CC								500,879.8743	185,986.0419	
	PT		76+19.569						498,672.0402	188,017.1669	N 42° 36' 46.44" E
	PC		77+67.581						498,772.2505	188,126.0955	N 42° 36' 46.44" E
CL18-4	PI		78+24.314	0° 41' 03.55" RT	0° 36' 11.21"	9,500.000'	56.733'	113.464'	498,810.6610	188,167.8477	PI
	CC								505,763.7249	181,694.1995	
	PT		78+81.045						498,849.5674	188,209.1382	N 43° 17' 49.99" E
	PC		101+16.421						500,382.5504	189,836.0585	N 43° 17' 49.99" E
CL18-5	PI		103+44.584	13° 20' 50.14" RT	2° 56' 17.68"	1,950.000'	228.163'	454.260'	500,539.0204	190,002.1166	PI
	CC								501,801.7722	188,498.7816	
	PT		105+70.681						500,729.5988	190,127.5677	N 56° 38' 40.12" E
	PC		132+94.185						503,004.4739	191,625.0390	N 56° 38' 40.12" E
CL18-6	PI		138+94.611	26° 35' 59.27" RT	2° 15' 20.66"	2,540.000'	600.426'	179.205'	503,505.9945	191,955.1726	PI
	CC								504,401.0484	189,503.4406	
	PT		144+73.390						504,102.2513	192,025.8046	N 83° 14' 39.39" E
	PC		144+74.962						504,103.8124	192,025.9896	N 83° 14' 39.39" E
CL18-7	PI		145+81.092	4° 51' 42.17" RT	2° 17' 30.59"	2,500.000'	106.130'	212.132'	504,209.2053	192,038.4743	PI
	CC								504,397.9040	189,543.3478	
	PT		146+87.095						504,315.2771	192,041.9820	N 88° 06' 21.55" E
2001	POT		160+45.885						505,673.3253	192,086.8910	
2002	POT	C C.S.A.H. 18	169+90.381						506,617.5190	192,110.7820	

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\11-01-00\CSAH_18_(CSAH20-TH65)\Plan\CONCRETE\B Alignment Tabulation C00122011 1:34:54 PM

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: CHARLES M. CADENHEAD JR.
 SIGNATURE: *[Signature]*
 DATE: 6/27/11 LICENSE NO. 40416

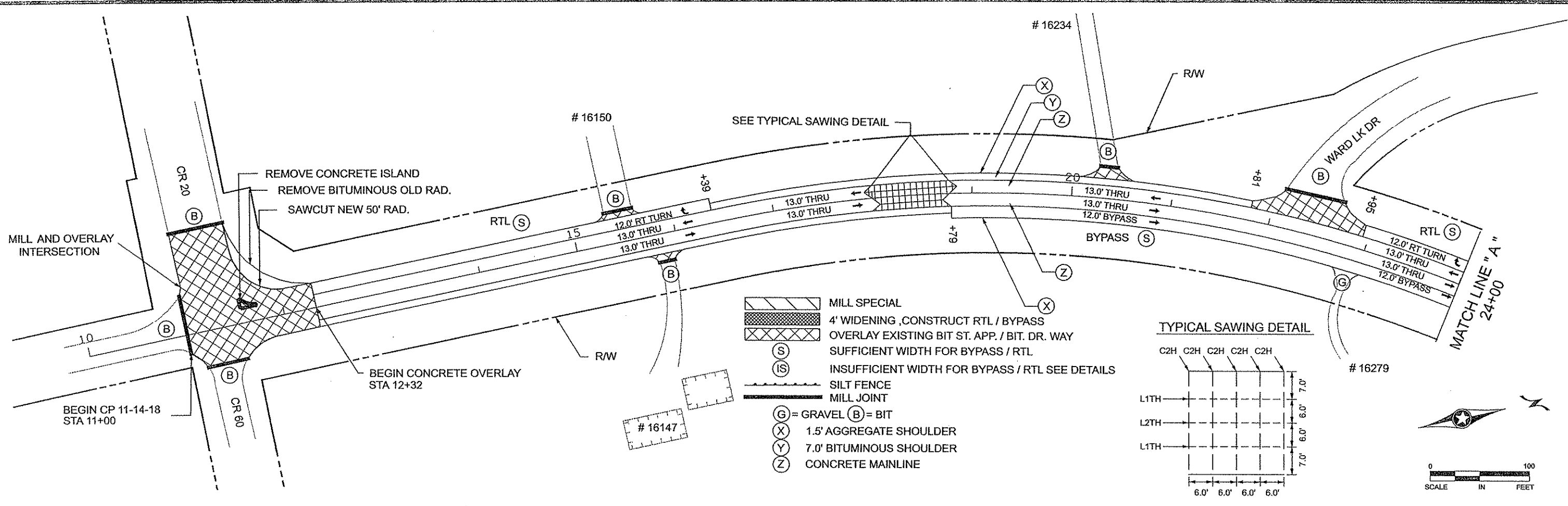
DRAWN BY JF DATE 4/1/2011
 DESIGN BY JF DATE 4/1/2011
 CHECKED BY BV DATE 5/30/2011



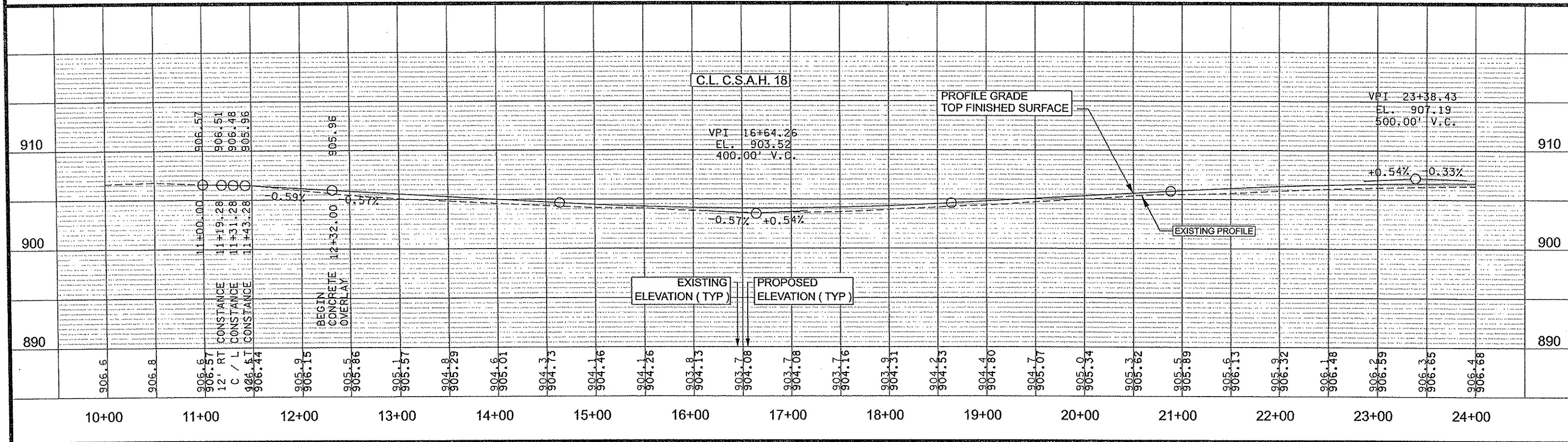
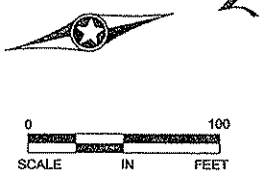
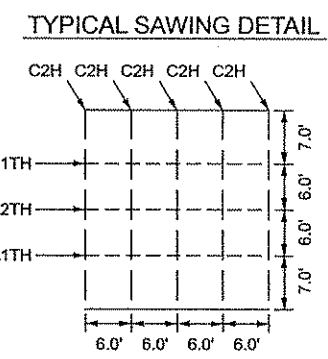
ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

ALIGNMENT TABULATION
 Sheet 35 of 58 Sheets



- MILL SPECIAL
- 4' WIDENING, CONSTRUCT RTL / BYPASS
- OVERLAY EXISTING BIT ST. APP. / BIT. DR. WAY
- SUFFICIENT WIDTH FOR BYPASS / RTL
- INSUFFICIENT WIDTH FOR BYPASS / RTL SEE DETAILS
- SILT FENCE
- MILL JOINT
- G = GRAVEL
- B = BIT
- X = 1.5' AGGREGATE SHOULDER
- Y = 7.0' BITUMINOUS SHOULDER
- Z = CONCRETE MAINLINE



NO	DATE	BY	CKD	APPR	REVISION

NAME: P311-01-00CSAH_18_(CSAH20-TH65)PlanCONCRETE@ Construction Plan CON... 1:38:50 PM

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.

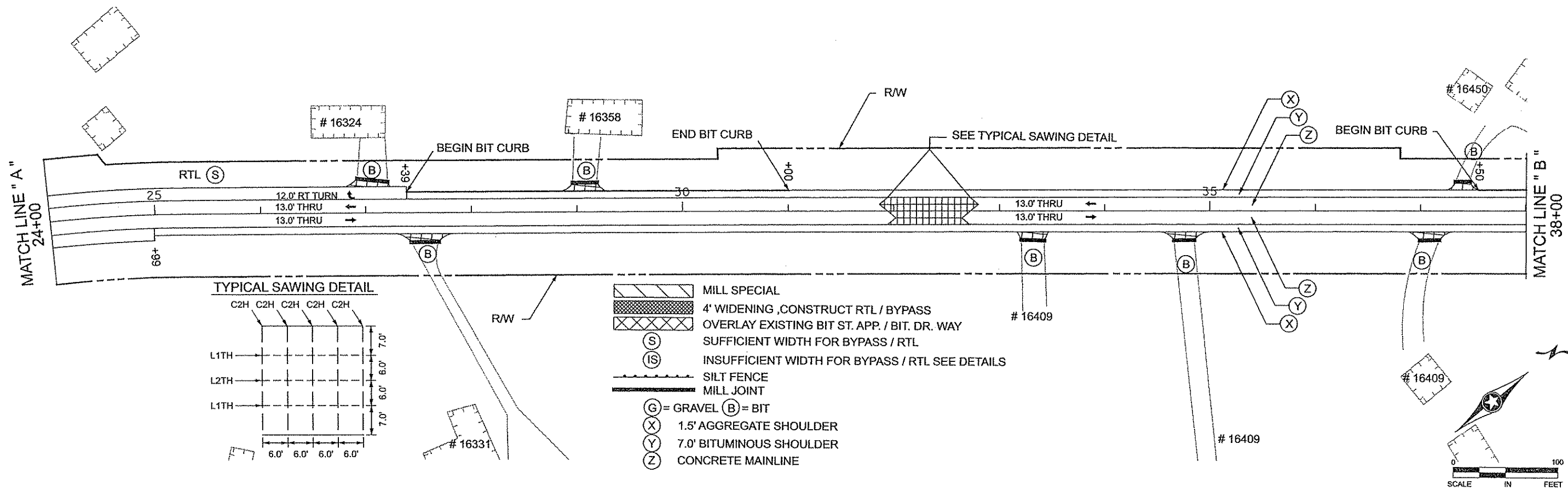
PRINT NAME: CHARLES M. CADENHEAD JR.
 SIGNATURE: *[Signature]*
 DATE: 9/2/11 LICENSE NO. 40415

DRAWN BY: JF DATE: 4/1/2011
 DESIGN BY: JF DATE: 4/1/2011
 CHECKED BY: BV DATE: 5/30/2011

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

CONSTRUCTION PLAN AND PROFILE
 STA 11+00 TO 24+00
 Sheet 36 of 58 Sheets



		CL. C.S.A.H. 18																																																				
		PROFILE GRADE TOP FINISHED SURFACE																																																				
910																																910																						
		VPI 33+34.89 EL. 903.94 200.00' V.C.																																																				
		0.33% 0.33% 0.07%																																																				
900		EXISTING PROFILE																														900																						
		EXISTING ELEVATION (TYP)															PROPOSED ELEVATION (TYP)																																					
890																																890																						
		906.4	906.68	906.4	906.66	906.3	906.89	906.1	906.48	906.0	906.33	905.9	906.17	905.7	906.01	905.4	905.84	905.3	905.68	905.2	905.62	905.0	905.36	904.8	905.19	904.6	905.03	904.5	904.87	904.4	904.70	904.2	904.54	904.0	904.38	903.9	904.22	903.8	904.08	903.7	903.97	903.6	903.90	903.5	903.86	903.4	903.82	903.3	903.78	903.2	903.64	903.1	903.60	
		24+00	25+00	26+00	27+00	28+00	29+00	30+00	31+00	32+00	33+00	34+00	35+00	36+00	37+00	38+00																																						

NO	DATE	BY	CRD	APPR	REVISION

NAME: P111-01-001CSAH_18_(CSAH20-TH65)Plan/CONCRETE Construction Plan CON 2011 1:38:59 PM

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.

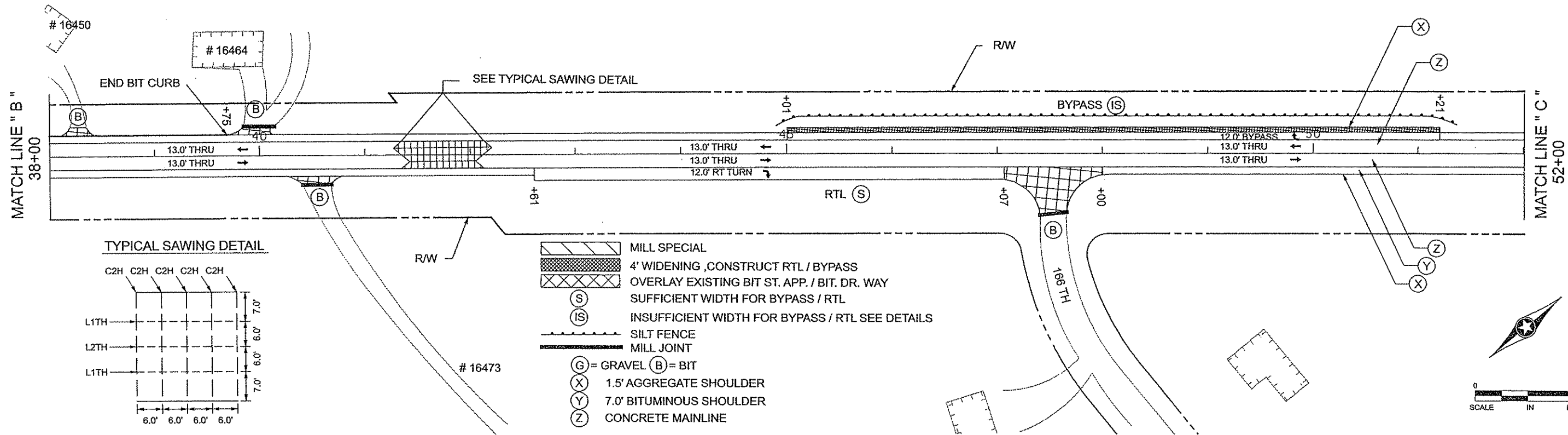
PRINT NAME: CHARLES M. ZDENENSKI JR.
 SIGNATURE: *[Signature]*
 DATE: 4/27/11 LICENSE NO. 40415

DRAWN BY: JF DATE: 4/1/2011
 DESIGN BY: JF DATE: 4/1/2011
 CHECKED BY: BV DATE: 5/30/2011

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

CONSTRUCTION PLAN AND PROFILE
 STA 24+00 TO 38+00
 Sheet 37 of 58 Sheets



Station	910	900	890
38+00	903.20	903.57	903.60
39+00	903.53	903.50	903.46
40+00	903.42	903.39	903.35
41+00	903.32	903.28	903.24
42+00	903.19	903.15	903.11
43+00	903.09	903.05	903.01
44+00	902.92	902.88	902.84
45+00	902.71	902.67	902.63
46+00	902.52	902.48	902.44
47+00	902.34	902.30	902.26
48+00	902.15	902.11	902.07
49+00	901.95	901.91	901.87
50+00	901.78	901.74	901.70
51+00	901.63	901.59	901.55
52+00	901.49	901.45	901.41

C.L. C.S.A.H. 18

PROFILE GRADE TOP FINISHED SURFACE

EXISTING PROFILE

EXISTING ELEVATION (TYP.) **PROPOSED ELEVATION (TYP.)**

VPI - 42+48.99 EL. 903.28

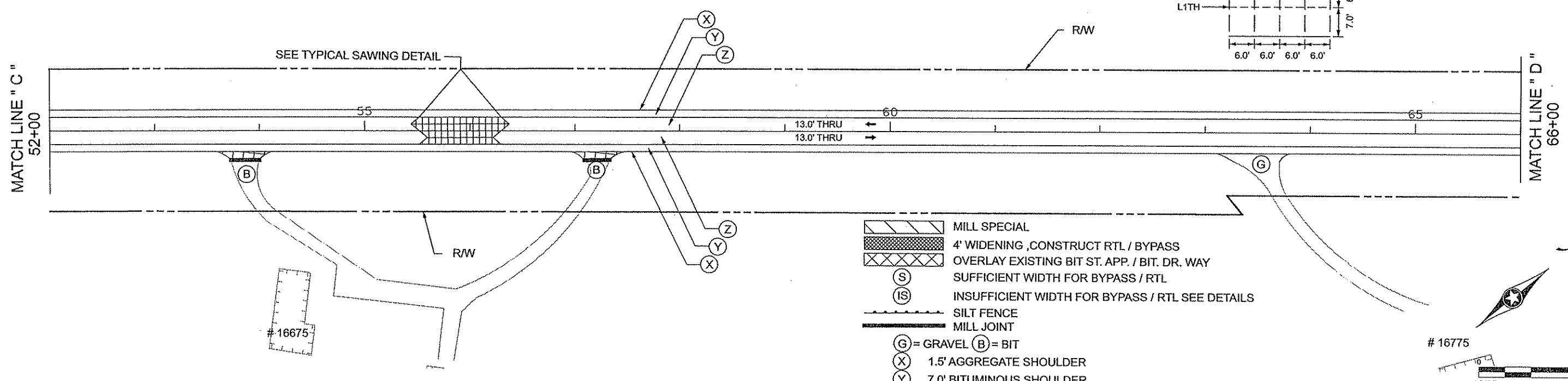
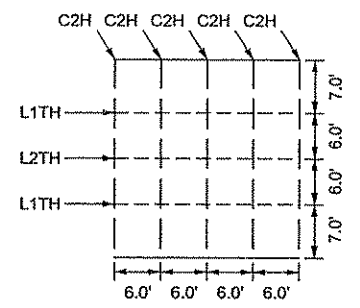
VPI - 48+71.09 EL. 904.60

10.21% 10.54%

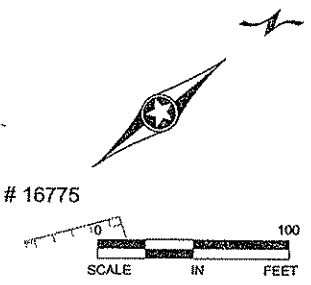
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: CHARLES M. CAPENHEAD JR. SIGNATURE: <i>[Signature]</i> DATE: 10/27/11 LICENSE NO. 40418		DRAWN BY: JF DATE: 4/1/2011 DESIGN BY: JF DATE: 4/1/2011 CHECKED BY: BV DATE: 5/30/2011	ANOKA COUNTY HIGHWAY DEPT.	COUNTY PROJECT NO. CP 11-14-18 PREVIOUSLY CONST. UNDER 02-618-16 (1986)	CONSTRUCTION PLAN AND PROFILE STA 38+00 TO 52+00 Sheet 38 of 58 Sheets
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NAME: P11-01-00CSAH_18_(CSAH20-TH65)Plan/CONCRETE/9 Construction Plan CONG 10/2011 1:38:56 PM

TYPICAL SAWING DETAIL



- MILL SPECIAL
- 4' WIDENING, CONSTRUCT RTL / BYPASS
- OVERLAY EXISTING BIT ST. APP. / BIT. DR. WAY
- SUFFICIENT WIDTH FOR BYPASS / RTL
- INSUFFICIENT WIDTH FOR BYPASS / RTL SEE DETAILS
- SILT FENCE
- MILL JOINT
- G = GRAVEL
- B = BIT
- X = 1.5' AGGREGATE SHOULDER
- Y = 7.0' BITUMINOUS SHOULDER
- Z = CONCRETE MAINLINE



Station	Existing Elevation (Typ)	Proposed Elevation (Typ)
52+00	906.39	906.39
53+00	906.66	906.66
54+00	907.20	907.20
55+00	907.85	907.85
56+00	907.98	907.98
57+00	907.87	907.87
58+00	907.78	907.78
59+00	907.48	907.48
60+00	907.29	907.29
61+00	906.80	906.80
62+00	906.60	906.60
63+00	906.40	906.40
64+00	906.51	906.51
65+00	906.42	906.42
66+00	906.12	906.12

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: CHARLES M. CAPSHEAD JR.
 SIGNATURE: *[Signature]*
 DATE: 9/27/14 LICENSE NO. 40416

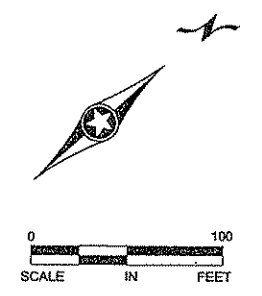
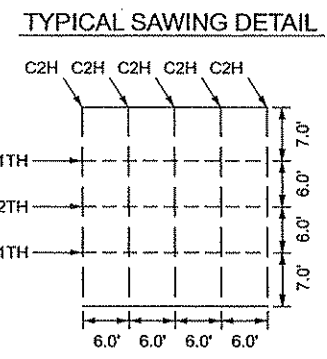
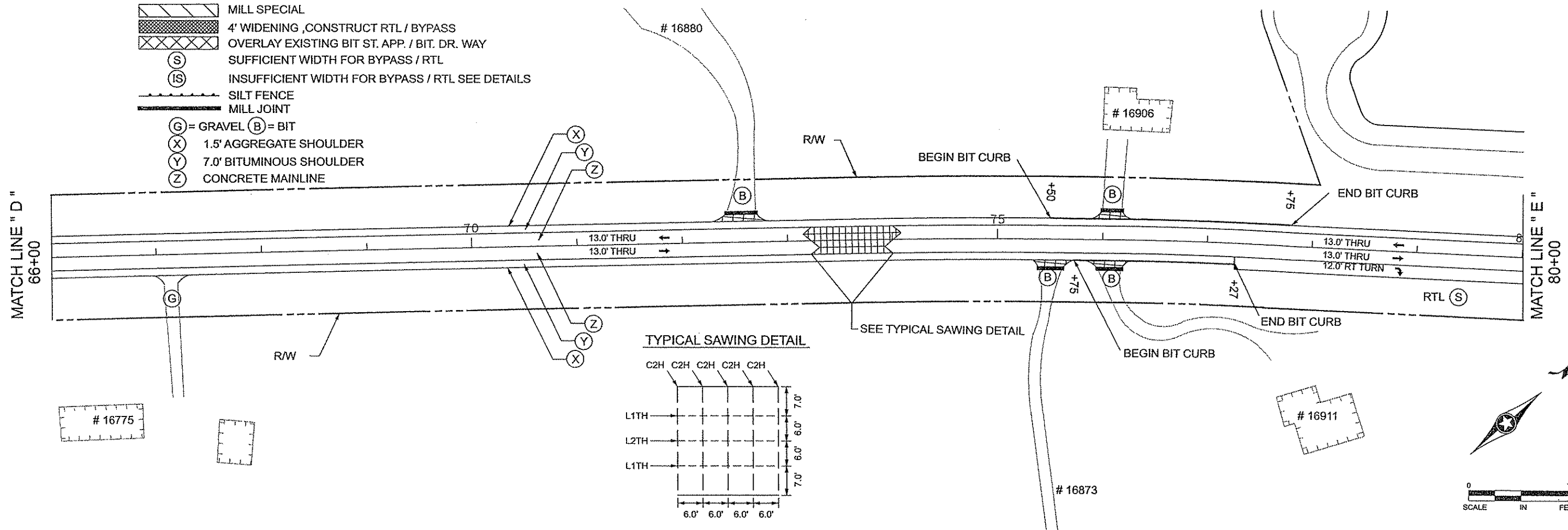
DRAWN BY: JF DATE: 4/1/2011
 DESIGN BY: JF DATE: 4/1/2011
 CHECKED BY: BV DATE: 5/30/2011

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

CONSTRUCTION PLAN AND PROFILE
 STA 52+00 TO 66+00
 Sheet 39 of 58 Sheets

- MILL SPECIAL
- 4' WIDENING, CONSTRUCT RTL / BYPASS
- OVERLAY EXISTING BIT ST. APP. / BIT. DR. WAY
- SUFFICIENT WIDTH FOR BYPASS / RTL
- INSUFFICIENT WIDTH FOR BYPASS / RTL SEE DETAILS
- SILT FENCE
- MILL JOINT
- G = GRAVEL
- B = BIT
- X = 1.5' AGGREGATE SHOULDER
- Y = 7.0' BITUMINOUS SHOULDER
- Z = CONCRETE MAINLINE



Station	Existing Elevation (Typ)	Proposed Elevation (Typ)
66+00	905.72	906.12
66+10	905.80	906.20
66+20	905.88	906.28
66+30	905.96	906.36
66+40	906.04	906.44
66+50	906.12	906.52
66+60	906.20	906.60
66+70	906.28	906.68
66+80	906.36	906.76
66+90	906.44	906.84
67+00	906.52	906.92
67+10	906.60	907.00
67+20	906.68	907.08
67+30	906.76	907.16
67+40	906.84	907.24
67+50	906.92	907.32
67+60	907.00	907.40
67+70	907.08	907.48
67+80	907.16	907.56
67+90	907.24	907.64
68+00	907.32	907.72
68+10	907.40	907.80
68+20	907.48	907.88
68+30	907.56	907.96
68+40	907.64	908.04
68+50	907.72	908.12
68+60	907.80	908.20
68+70	907.88	908.28
68+80	907.96	908.36
68+90	908.04	908.44
69+00	908.12	908.52
69+10	908.20	908.60
69+20	908.28	908.68
69+30	908.36	908.76
69+40	908.44	908.84
69+50	908.52	908.92
69+60	908.60	909.00
69+70	908.68	909.08
69+80	908.76	909.16
69+90	908.84	909.24
70+00	908.92	909.32
70+10	909.00	909.40
70+20	909.08	909.48
70+30	909.16	909.56
70+40	909.24	909.64
70+50	909.32	909.72
70+60	909.40	909.80
70+70	909.48	909.88
70+80	909.56	909.96
70+90	909.64	910.04
71+00	909.72	910.12
71+10	909.80	910.20
71+20	909.88	910.28
71+30	909.96	910.36
71+40	910.04	910.44
71+50	910.12	910.52
71+60	910.20	910.60
71+70	910.28	910.68
71+80	910.36	910.76
71+90	910.44	910.84
72+00	910.52	910.92
72+10	910.60	911.00
72+20	910.68	911.08
72+30	910.76	911.16
72+40	910.84	911.24
72+50	910.92	911.32
72+60	911.00	911.40
72+70	911.08	911.48
72+80	911.16	911.56
72+90	911.24	911.64
73+00	911.32	911.72
73+10	911.40	911.80
73+20	911.48	911.88
73+30	911.56	911.96
73+40	911.64	912.04
73+50	911.72	912.12
73+60	911.80	912.20
73+70	911.88	912.28
73+80	911.96	912.36
73+90	912.04	912.44
74+00	912.12	912.52
74+10	912.20	912.60
74+20	912.28	912.68
74+30	912.36	912.76
74+40	912.44	912.84
74+50	912.52	912.92
74+60	912.60	913.00
74+70	912.68	913.08
74+80	912.76	913.16
74+90	912.84	913.24
75+00	912.92	913.32
75+10	913.00	913.40
75+20	913.08	913.48
75+30	913.16	913.56
75+40	913.24	913.64
75+50	913.32	913.72
75+60	913.40	913.80
75+70	913.48	913.88
75+80	913.56	913.96
75+90	913.64	914.04
76+00	913.72	914.12
76+10	913.80	914.20
76+20	913.88	914.28
76+30	913.96	914.36
76+40	914.04	914.44
76+50	914.12	914.52
76+60	914.20	914.60
76+70	914.28	914.68
76+80	914.36	914.76
76+90	914.44	914.84
77+00	914.52	914.92
77+10	914.60	915.00
77+20	914.68	915.08
77+30	914.76	915.16
77+40	914.84	915.24
77+50	914.92	915.32
77+60	915.00	915.40
77+70	915.08	915.48
77+80	915.16	915.56
77+90	915.24	915.64
78+00	915.32	915.72
78+10	915.40	915.80
78+20	915.48	915.88
78+30	915.56	915.96
78+40	915.64	916.04
78+50	915.72	916.12
78+60	915.80	916.20
78+70	915.88	916.28
78+80	915.96	916.36
78+90	916.04	916.44
79+00	916.12	916.52
79+10	916.20	916.60
79+20	916.28	916.68
79+30	916.36	916.76
79+40	916.44	916.84
79+50	916.52	916.92
79+60	916.60	917.00
79+70	916.68	917.08
79+80	916.76	917.16
79+90	916.84	917.24
80+00	916.92	917.32

NO. DATE BY CKD APPR REVISION

NAME: P411-01-00CSAH_18_CSAH20-TH651PlanCONCRETE19 Construction Plan CONE 04/2011 1:38:52 PM

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: CHARLES M. CADENHEAD JR.

SIGNATURE: *Charles M. Cadenhead Jr.*

DATE: 4/27/11 LICENSE NO. 40418

DRAWN BY: JF DATE: 4/12/11

DESIGN BY: JF DATE: 4/12/11

CHECKED BY: BV DATE: 5/30/2011

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT NO. CP 11-14-18

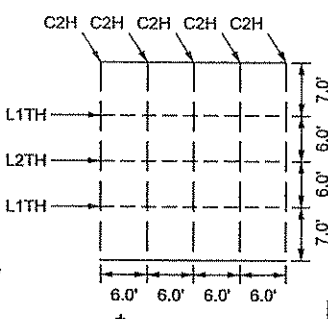
PREVIOUSLY CONST. UNDER 02-618-16 (1986)

CONSTRUCTION PLAN AND PROFILE

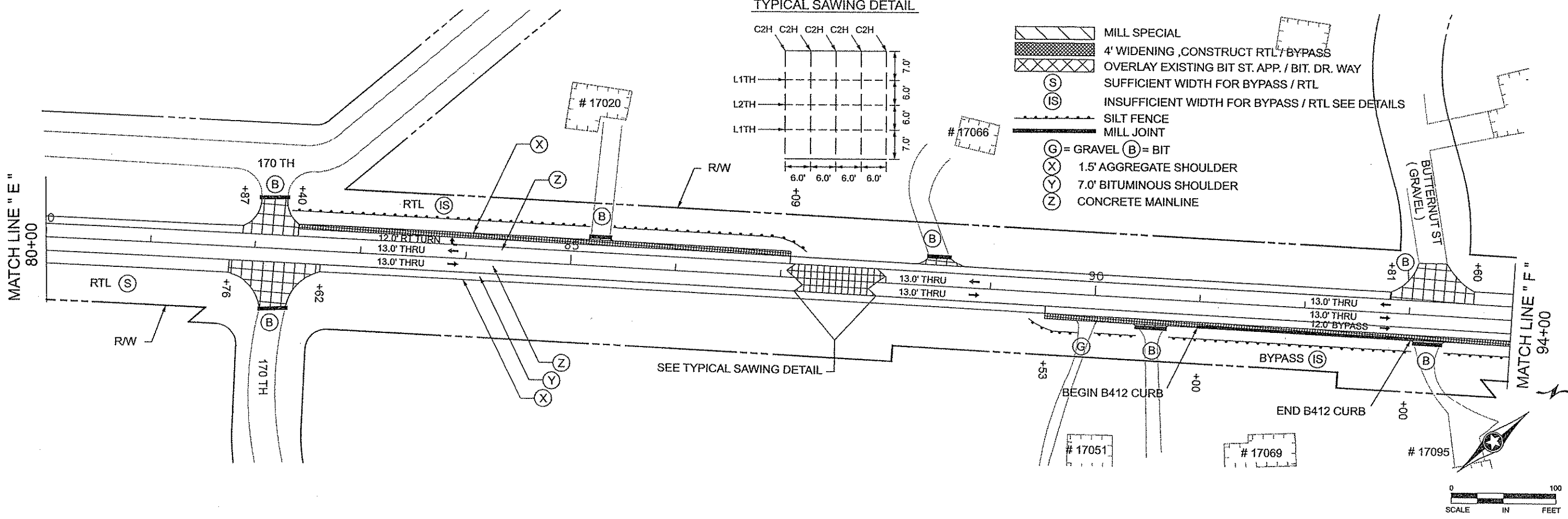
STA 66+00 TO 80+00

Sheet 40 of 58 Sheets

TYPICAL SAWING DETAIL



- MILL SPECIAL
- 4' WIDENING, CONSTRUCT RTL / BYPASS
- OVERLAY EXISTING BIT ST. APP. / BIT. DR. WAY
- SUFFICIENT WIDTH FOR BYPASS / RTL
- INSUFFICIENT WIDTH FOR BYPASS / RTL SEE DETAILS
- SILT FENCE
- MILL JOINT
- G = GRAVEL
- B = BIT
- X = 1.5' AGGREGATE SHOULDER
- Y = 7.0' BITUMINOUS SHOULDER
- Z = CONCRETE MAINLINE



Station	Existing Elevation (Typ)	Proposed Elevation (Typ)
80+00	914.30	914.30
81+00	914.34	914.34
82+00	914.88	914.88
83+00	913.5	913.5
84+00	913.36	913.36
85+00	913.29	913.29
86+00	913.03	913.03
87+00	912.77	912.77
88+00	912.3	912.3
89+00	912.25	912.25
90+00	911.98	911.98
91+00	911.72	911.72
92+00	911.46	911.46
93+00	911.20	911.20
94+00	910.94	910.94
95+00	910.67	910.67
96+00	910.41	910.41
97+00	909.8	909.8
98+00	909.15	909.15
99+00	908.59	908.59
100+00	909.3	909.3
101+00	909.63	909.63
102+00	909.42	909.42
103+00	909.0	909.0
104+00	908.30	908.30
105+00	908.0	908.0
106+00	908.27	908.27
107+00	908.0	908.0
108+00	908.32	908.32
109+00	908.46	908.46
110+00	908.3	908.3
111+00	908.68	908.68
112+00	908.7	908.7
113+00	908.99	908.99
114+00	910.1	910.1
115+00	910.38	910.38
116+00	910.67	910.67

PROFILE GRADE
TOP FINISHED SURFACE

C.L. CSAH 18

VPI = 91+82.41
BL = 908.41
480.00' V.C.

EXISTING PROFILE

EXISTING ELEVATION (TYP)

PROPOSED ELEVATION (TYP)

NO	DATE	BY	CRD	APPR	REVISION

NAME: PA11-01-001CSAH_18_(CSAH20-TH85)Plan/CONCRETE Construction Plan CON-03-2011 1:39:01 PM

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.

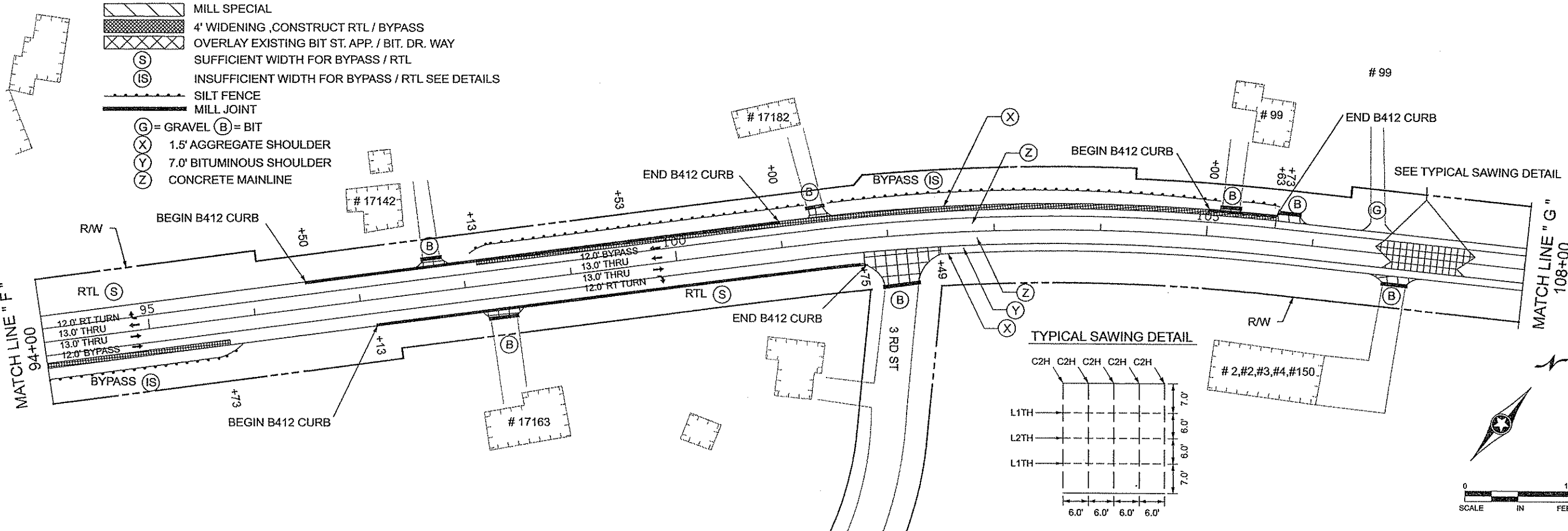
PRINT NAME: CHARLES M. WADENHEAD JR
SIGNATURE: *[Signature]*
DATE: 6/11/11 LICENSE NO: 40416

DRAWN BY: JF DATE: 4/1/2011
DESIGN BY: JF DATE: 4/1/2011
CHECKED BY: BV DATE: 5/30/2011

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT NO. CP 11-14-18
PREVIOUSLY CONST. UNDER 02-618-16 (1986)

CONSTRUCTION PLAN AND PROFILE
STA 80+00 TO 94+00
Sheet 41 of 58 Sheets

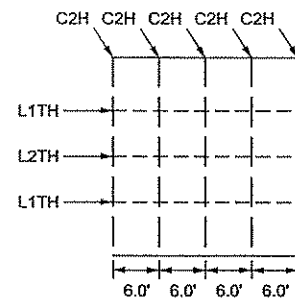


		C.L. CSAH 18																										
		VPI 98+26.00 EL. 915.65 450.00' V.C.																										
		PROFILE GRADE TOP FINISHED SURFACE																										
		EXISTING PROFILE																										
		EXISTING ELEVATION (TYP)																										
		PROPOSED ELEVATION (TYP)																										
		-1.2% +0.30%																										
		VPI 106+14.37 EL. 918.01 94.20' V.C.																										
		+0.30% -0.69%																										
920																				920								
910																				910								
900																				900								
		94+00	95+00	96+00	97+00	98+00	99+00	100+00	101+00	102+00	103+00	104+00	105+00	106+00	107+00	108+00												
	EXISTING ELEVATION (TYP)	910.81	911.42	911.98	912.34	913.11	913.65	914.14	914.59	914.79	915.35	915.66	915.83	916.74	916.82	916.77	916.82	916.81	917.22	916.8	917.51	917.56	917.81	917.91	917.45	917.42	916.8	916.70
	PROPOSED ELEVATION (TYP)																											

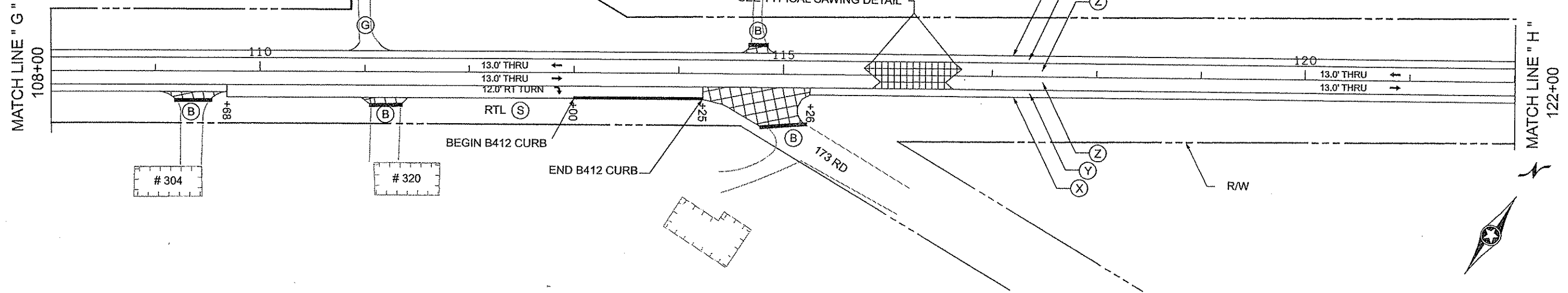
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: CHARLES M. CADENHEAD JR. SIGNATURE: <i>[Signature]</i> DATE: 4/27/11 LICENSE NO. 40416		DRAWN BY: JF DATE: 4/12/2011 DESIGN BY: JF DATE: 4/12/2011 CHECKED BY: BV DATE: 5/30/2011	ANOKA COUNTY HIGHWAY DEPT.	COUNTY PROJECT NO. CP 11-14-18 PREVIOUSLY CONST. UNDER 02-618-16 (1986)	CONSTRUCTION PLAN AND PROFILE STA 94+00 TO 108+00 Sheet 42 of 58 Sheets
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NAME: P11-01-00ICSAH_18_(CSAH20-TH65)Plan/CONCRETE Construction Plan CONDATE: 4/27/2011 1:38:53 PM

TYPICAL SAWING DETAIL







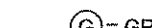







- MILL SPECIAL
- 4' WIDENING, CONSTRUCT RTL / BYPASS
- OVERLAY EXISTING BIT ST. APP. / BIT. DR. WAY
- SUFFICIENT WIDTH FOR BYPASS / RTL
- INSUFFICIENT WIDTH FOR BYPASS / RTL SEE DETAILS
- SILT FENCE
- MILL JOINT
- G = GRAVEL
- B = BIT
- X = 1.5' AGGREGATE SHOULDER
- Y = 7.0' BITUMINOUS SHOULDER
- Z = CONCRETE MAINLINE

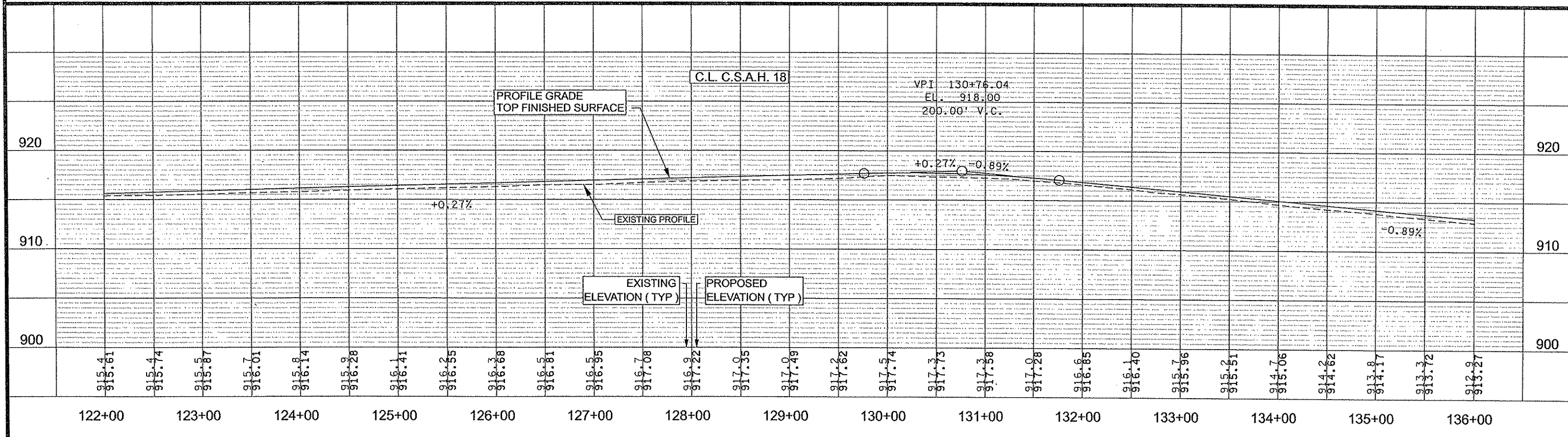
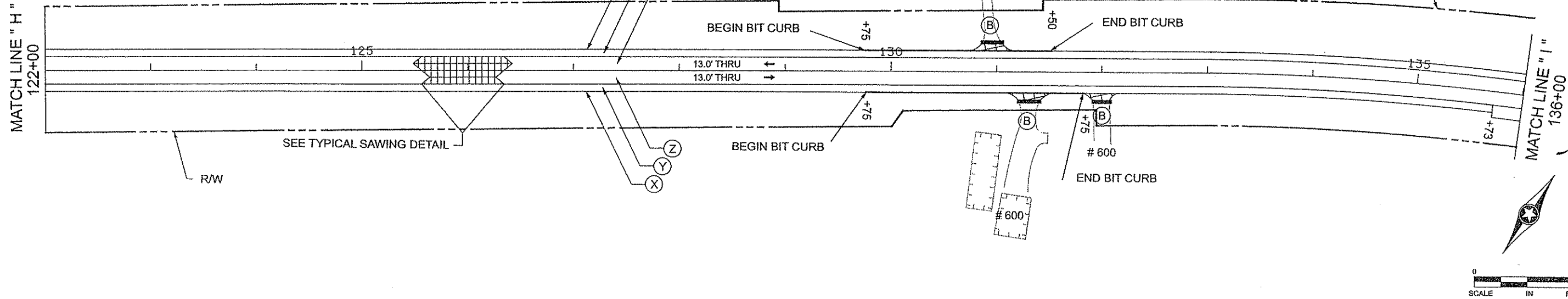
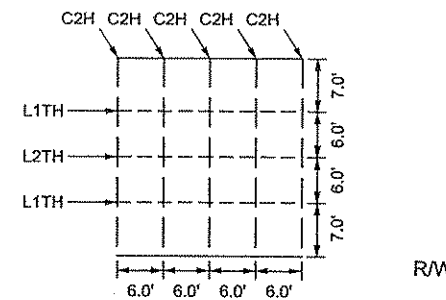


STATION	EXISTING ELEVATION (TYP)	PROPOSED ELEVATION (TYP)
108+00	916.47	916.47
108+10	915.24	915.24
108+20	915.68	915.68
108+30	914.60	914.60
108+40	914.37	914.37
108+50	913.83	913.83
108+60	913.43	913.43
108+70	912.97	912.97
108+80	913.74	913.74
108+90	912.86	912.86
109+00	913.19	913.19
109+10	913.32	913.32
109+20	913.46	913.46
109+30	913.59	913.59
109+40	913.72	913.72
109+50	913.86	913.86
109+60	913.7	913.7
109+70	914.13	914.13
109+80	913.26	913.26
109+90	914.40	914.40
110+00	914.63	914.63
110+10	914.67	914.67
110+20	914.80	914.80
110+30	914.93	914.93
110+40	915.07	915.07
110+50	915.20	915.20
110+60	915.34	915.34
110+70	915.47	915.47
110+80	915.61	915.61
110+90		
111+00		
111+10		
111+20		
111+30		
111+40		
111+50		
111+60		
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121+80		
121+90		
122+00		

<p>NO. DATE BY CKD APPR REVISION</p> <p>NAME: P:111-01-00/CSAH 18 (CSAH20-1165) Plan/CONCRETE9 Construction Plan CON-09-2011 1:39:03 PM</p>	<p>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.</p> <p>PRINT NAME: CHARLES M. CADENHEAD JR.</p> <p>SIGNATURE: <i>Charles M. Cadenhead Jr.</i></p> <p>DATE: 6/2/11 LICENSE NO. 40415</p>	<p>DRAWN BY: JF DATE: 4/1/2011</p> <p>DESIGN BY: JF DATE: 4/1/2011</p> <p>CHECKED BY: BV DATE: 5/30/2011</p>	<p>ANOKA COUNTY HIGHWAY DEPT.</p> <p>COUNTY PROJECT NO. CP 11-14-18</p> <p>PREVIOUSLY CONST. UNDER 02-618-16 (1986)</p> <p style="text-align: right;">CONSTRUCTION PLAN AND PROFILE</p> <p>STA 108+00 TO 122+00</p> <p>Sheet 43 of 58 Sheets</p>
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-  MILL SPECIAL
-  4' WIDENING, CONSTRUCT RTL / BYPASS
-  OVERLAY EXISTING BIT ST. APP. / BIT. DR. WAY
-  SUFFICIENT WIDTH FOR BYPASS / RTL
-  INSUFFICIENT WIDTH FOR BYPASS / RTL SEE DETAILS
-  SILT FENCE
-  MILL JOINT
-  G = GRAVEL
-  B = BIT
-  X = 1.5' AGGREGATE SHOULDER
-  Y = 7.0' BITUMINOUS SHOULDER
-  Z = CONCRETE MAINLINE

TYPICAL SAWING DETAIL



NO	DATE	BY	CKD	APPR	REVISION

NAME: P11-01-00CSAH_18_(CSAH20-TH65)PlanCONCRETE@ Construction Plan CON 02/01/11 1:38:55 PM

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.

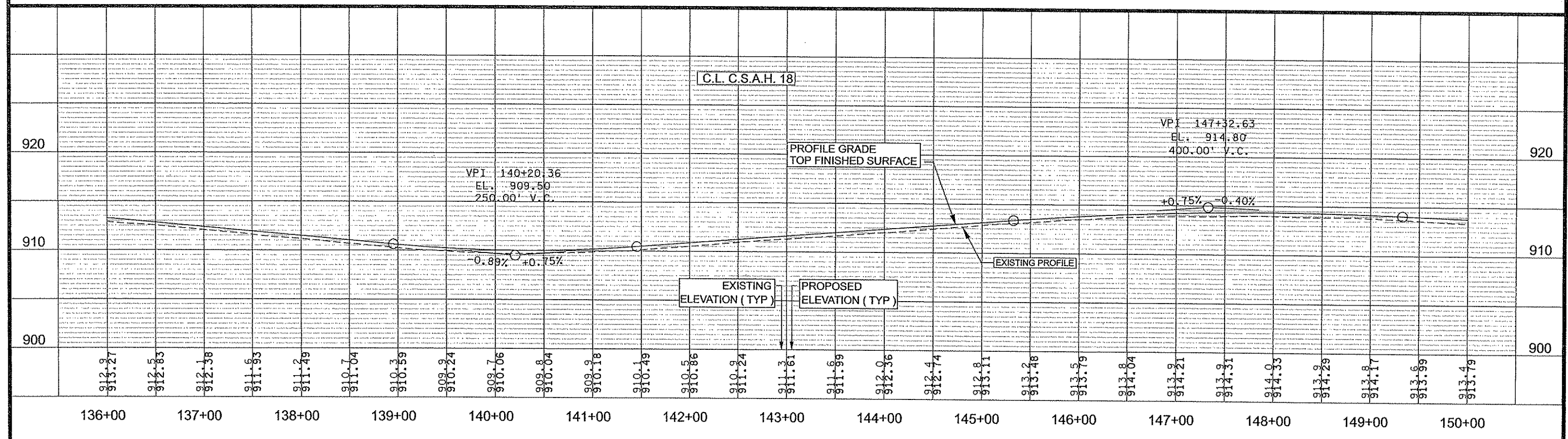
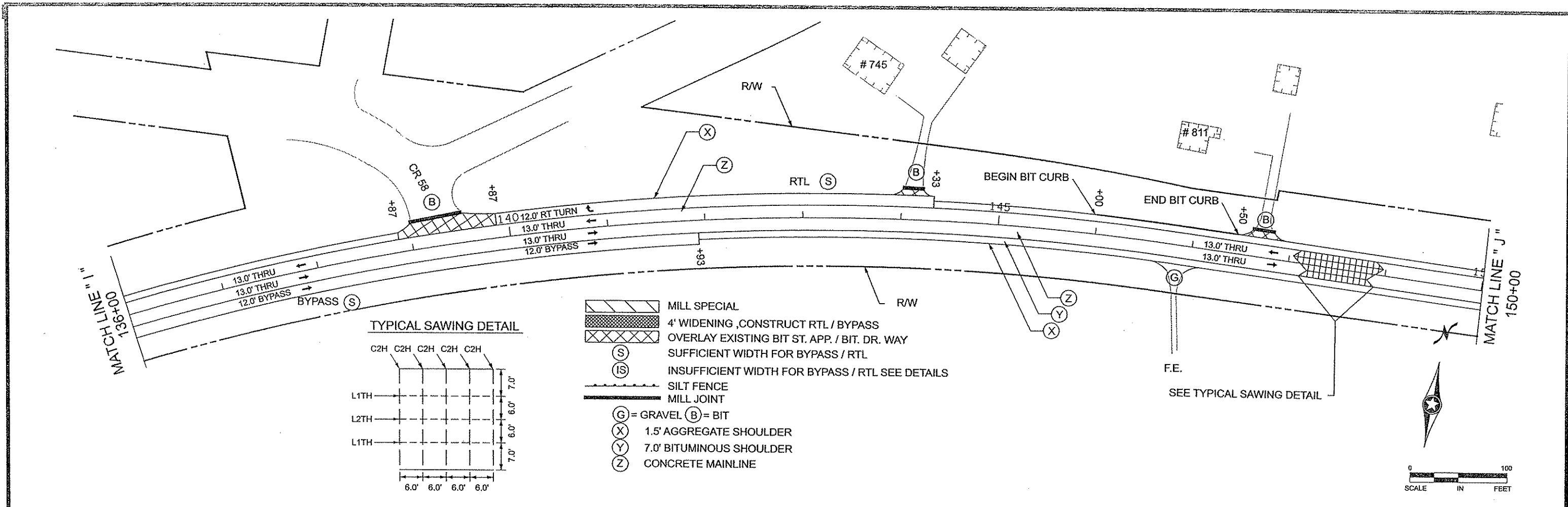
PRINT NAME: CHARLES M. CADEKHEAD JR.
 SIGNATURE: *[Signature]*
 DATE: 4/21/11 LICENSE NO. 00416

DRAWN BY: JF DATE: 4/1/2011
 DESIGN BY: JF DATE: 4/1/2011
 CHECKED BY: BV DATE: 5/30/2011

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

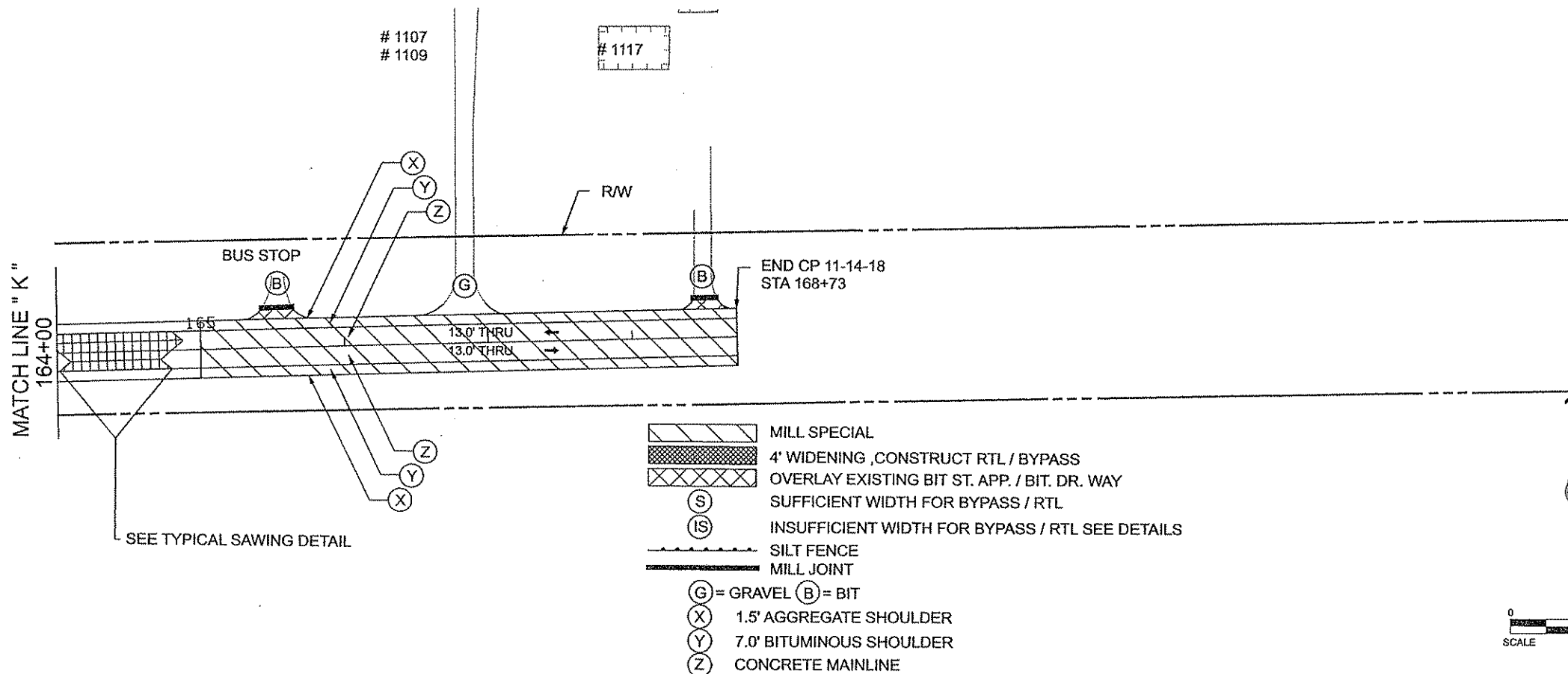
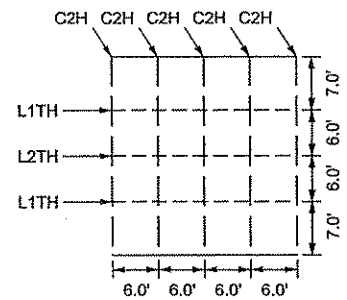
CONSTRUCTION PLAN AND PROFILE
 STA 122+00 TO 136+00
 Sheet 44 of 58 Sheets



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: CHARLES M. CADENHEAD, JR. SIGNATURE: <i>Charles M. Cadenhead, Jr.</i> DATE: 4/2/11 LICENSE NO. 40416					DRAWN BY: JF DATE: 4/1/2011 DESIGN BY: JF DATE: 4/1/2011 CHECKED BY: BV DATE: 5/30/2011		ANOKA COUNTY HIGHWAY DEPT.		COUNTY PROJECT NO. CP 11-14-18 PREVIOUSLY CONST. UNDER 02-618-16 (1986)		CONSTRUCTION PLAN AND PROFILE STA 136+00 TO 150+00 Sheet 45 of 58 Sheets	
NO	DATE	BY	CKD	APPR	REVISION							

NAME: P:11-01-00/CSAH_18_(CSAH20-TH65) Plan CONCRETE Construction Plan CON 04/2011 1:39:04 PM

TYPICAL SAWING DETAIL



Station	920	910	900
164+00			908.39
165+00			908.29
166+00			908.20
167+00			908.13
168+00			908.09
169+00			908.06

VPI 165+22.96
 EL. 907.70
 700.00' V.C.
 0.40% -0.13%
 C.L. C.S.A.H. 18
 END CONG. OVERLAY
 168+72.96
 908.16

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P411-01-00CSAH_18 (CSAH20-TH65)Plan/CONCRETES Construction Plan CON011
 1:39:06 PM

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: CHARLES M. CADENHEAD JR
 SIGNATURE: _____
 DATE: _____ LICENSE NO. 40416

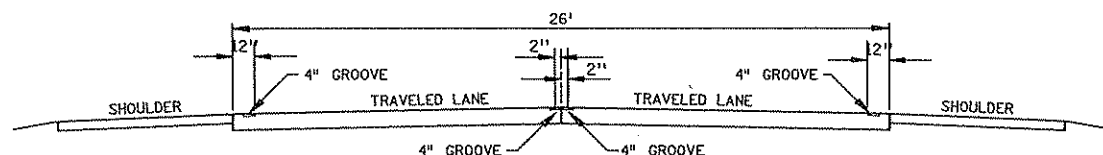
DRAWN BY JF DATE 4/1/2011
 DESIGN BY JF DATE 4/1/2011
 CHECKED BY BV DATE 5/30/2011

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

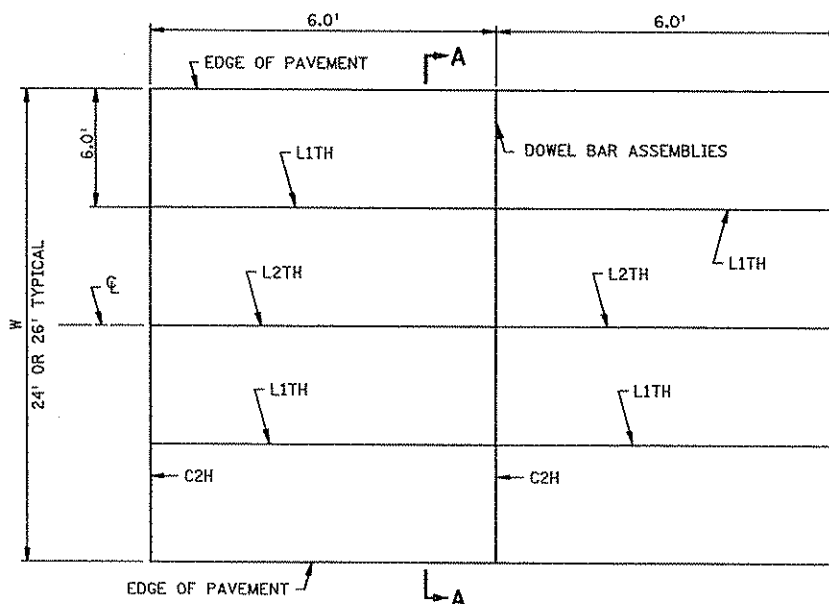
CONSTRUCTION PLAN AND PROFILE
 STA 164+00 TO 168+73
 Sheet 47 of 58 Sheets

GROOVED PAINT STRIPE DETAIL



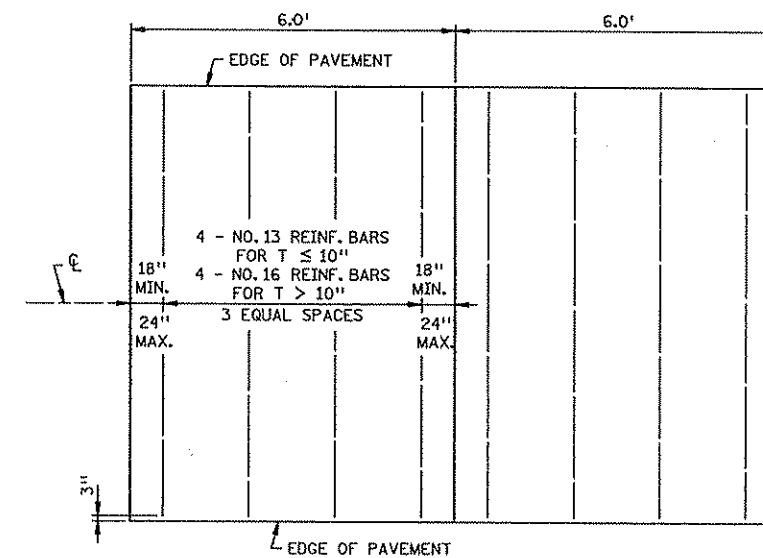
- 1) GROOVED PAINT AREA SHALL BE A MINIMUM OF 0.10 INCH TO A MAXIMUM OF 0.20 INCH IN DEPTH.
- 2) CONTRACTOR HAS THE OPTION OF GRINDING THE CONCRETE SURFACE OR FORMING A GROOVE IN THE FINISHING OPERATIONS.
- 3) THE CONTRACTOR SHALL BE REQUIRED TO HALT OPERATIONS AND MAKE ADJUSTMENTS WHEN THE GROOVE DEPTH MEASURES GREATER THAN THE MAXIMUM TOLERANCE OF 0.20 INCH.
- 4) IF CONTRACTOR CHOOSES TO USE A GROOVED FORM, AREAS OUTSIDE OF THE GROOVE TOLERANCE SHALL BE GROUND TO AN ACCEPTABLE DEPTH. DEPTH MEASUREMENT OF GROOVES FOR ACCEPTANCE SHALL BE MADE AFTER THE CONCRETE PAVEMENT HAS CURED.
- 5) THE CONTRACTOR SHALL ELIMINATE CONCRETE EDGELINE GROOVES AT INTERSECTIONS AS DIRECTED BY THE ENGINEER IN THE FIELD.
- 6) CENTERLINE GROOVES WILL BE SEPARATED, ONE ON EACH SIDE OF CENTERLINE.

DIRECTION OF TRAFFIC →

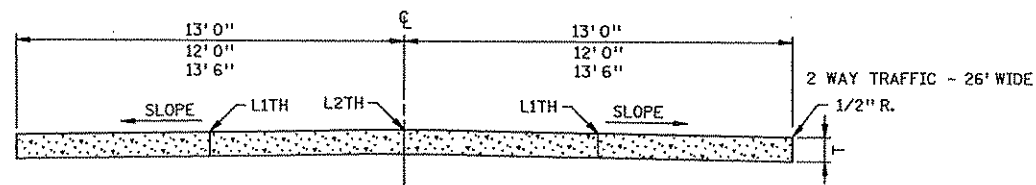


MAINLINE PAVEMENT
DOWELED

DIRECTION OF TRAFFIC →



SUPPLEMENTAL PANEL REINFORCEMENT



SECTION A-A

NOTE: L2TH IS CALLED OUT DUE TO PAVEMENT BEING PLACE HALF AT A TIME

GENERAL NOTES:

- ALL REBARS ARE IN METRIC DESIGNATIONS
- SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CROSS SLOPES AND PAVEMENT THICKNESS, T.
- WHEN RIGID PAVEMENT ADJOINS FLEXIBLE PAVEMENT, BRIDGE APPROACHES, R. R. CROSSINGS OR OTHER TYPES OF FREE ENDS, THE FOLLOWING MODIFICATIONS SHALL BE MADE: THE FIRST OR LAST 10 JOINTS SHALL BE DOWELED CONTRACTION JOINTS, C4E-D.
- DOWEL BAR ASSEMBLIES, WHEN REQUIRED, SHALL BE SIMILAR TO THOSE SHOWN ON STANDARD PLATE 1103.
- ALL REINFORCING BARS SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301 AND SHALL MEET THE REQUIREMENTS OF GRADE 60 FOR AASHTO M-31 OR M-53. FOR ADDITIONAL REINFORCEMENT OVER CULVERTS, SEE STANDARD PLATE 1070.
- TIE BARS:
USE NO. 13 BARS 2' 6" LONG, AT 2' 6" SPACING. FOR T ≤ 10" USE NO. 16 BARS 3' 0" LONG AT 2' 6" SPACING FOR T > 10".
- SUPPLEMENTAL PANEL REINFORCEMENT:
PLACE IN PANELS WHERE PAVEMENT WIDTH EXCEEDS 15.0' WITHOUT A LONGITUDINAL JOINT, AND IN THE MIDDLE LANE(S) WHERE TIED PAVEMENT WIDTH EXCEEDS 4 LANES. USE NO. 13 BARS FOR PAVEMENT THICKNESS 10" OR LESS. USE NO. 16 BARS FOR PAVEMENT THICKNESS GREATER THAN 10". PLACEMENT DEPTH SHALL BE PLANNED T/2 ± 1".
- NO MORE THAN TWO LANES SHALL BE PAVED AT THE SAME TIME.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\11-01-00\CSAH_18 (CSAH20-TH65)\Plan\CONCRETE\10 Concrete Pavement\02-09-20\0NC.dgn 1:47:10 PM

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: CHARLES M. CADENHEAD JR.
SIGNATURE: *[Signature]*
DATE: 4/2/11 LICENSE NO. 40416

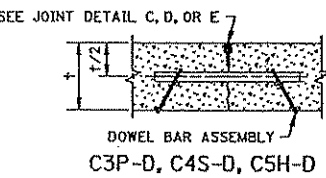
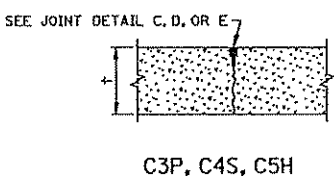
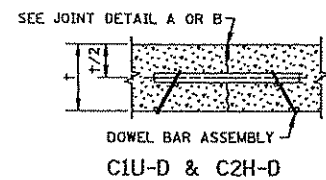
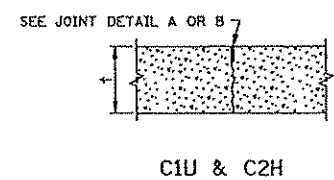
DRAWN BY JF DATE 4-1-2011
DESIGN BY JF DATE 4-1-2011
CHECKED BY BV DATE 5-30-2011



ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT NO. CP 11-14-18
PREVIOUSLY CONST. UNDER 02-618-16 (1986)

CONCRETE DETAILS



CONTRACTION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE

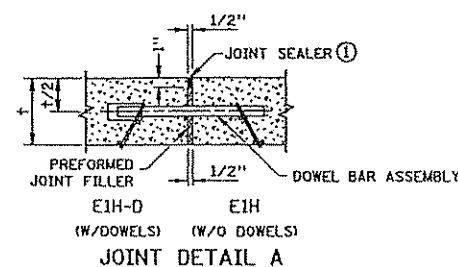
WITHOUT DOWELS	WITH DOWELS	JOINT DETAIL	JOINT SEALER SPEC.	JOINT WIDTH
C1U	C1U-D	A	UNSEALED	1/8"
C2H	C2H-D	B	3725	1/8"
C3P	C3P-D	C	3721	3/8"
C4S	C4S-D	D	3722	3/8"
C5H	C5H-D	E	3725	3/8"

LEGEND

C = CONTRACTION JOINT
 NO. = JOINT REFERENCE
 U = UNSEALED
 H = HOT POURED
 P = PREFORMED
 S = SILICONE
 -D = DOWEL BARS

EXAMPLE

C2H-D



EXPANSION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE

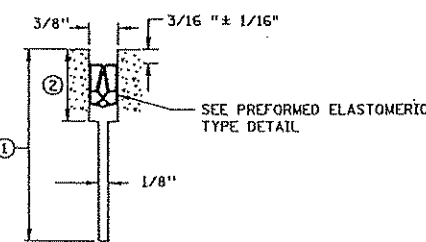
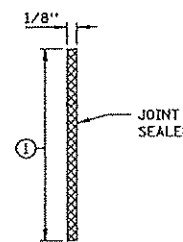
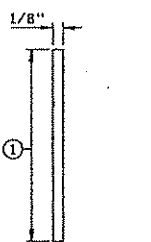
WITHOUT DOWELS	WITH DOWELS	JOINT DETAIL	JOINT SEALER SPEC.	JOINT WIDTH
E1H	E1H-D	A	3725	1/2"
E2H	E2H-D	B	3725	1"
E4H		C	3725	2"
	E4H-D	D	3725	2"
E8H		STANDARD PLAN 5-297.229	3725	4"

LEGEND

E = EXPANSION JOINT
 NO. = JOINT REFERENCE
 H = HOT POURED
 -D = DOWEL BARS

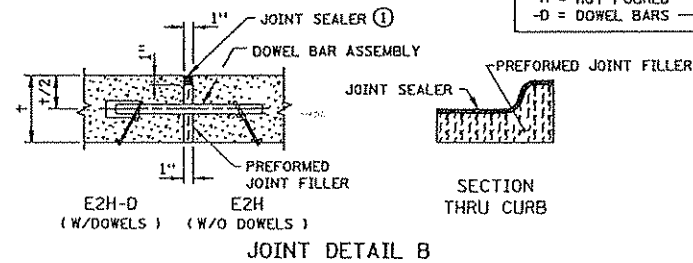
EXAMPLE

E4H-D



DOWEL BAR DIAMETER TABLE

PAVEMENT THICKNESS ±	DOWEL BAR DIAMETER
LESS THAN 6"	NONE
6" - 6 1/2"	1"
7" - 10"	1 1/4"
10 1/2" - 14"	1 1/2"



JOINT DETAIL A
SAWED & UNSEALED

JOINT DETAIL B ③
SAWED & SEALED

JOINT DETAIL C ③
SAWED AND SEALED

NOTES:

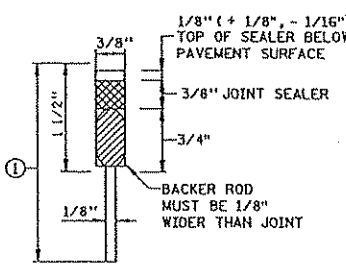
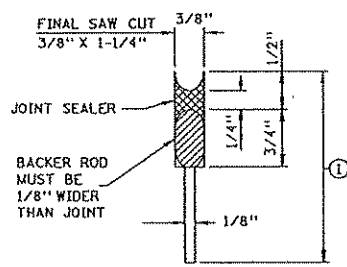
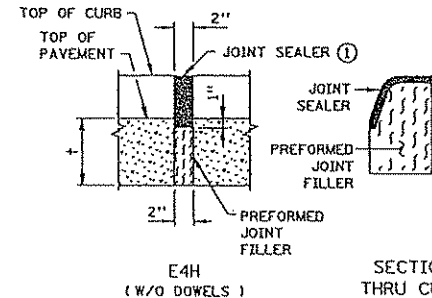
SEE STANDARD PLATE 1103 FOR DOWEL BAR ASSEMBLY. SEE STANDARD PLATE 1150 FOR CONSTRUCTION OF HEADER JOINTS.

JOINT WIDTH TOLERANCE IS + 1/16" TO - 1/32"

FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE/RAMP PAVEMENT.

SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.

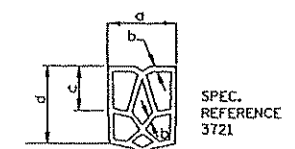


JOINT DETAIL D ③ ④
SAWED AND SEALED

JOINT DETAIL E ③ ⑤
SAWED AND SEALED

REQUIRED DIMENSIONS

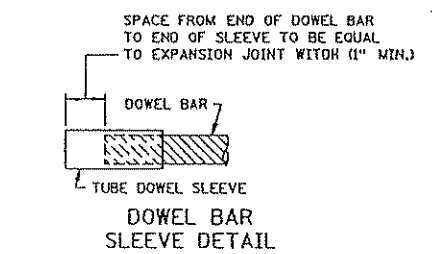
JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	1 1/16"
a	0.69" + 0.13" - 0.05"
b	0.08" ± 0.02"
c	0.25" MIN.
d	0.63" MIN.



TYPICAL SHAPE FOR SATISFACTORY INSTALLATION IN JOINT (5 CELL MIN.)

PREFORMED ELASTOMERIC TYPE DETAIL

CONTRACTION JOINTS
DESIGN C



NOTES:

PREFORMED JOINT FILLER MATERIAL, SPEC. 3702.

FOR DOWEL BAR ASSEMBLY, SEE STANDARD PLATE 1103.

① JOINT SEALER SPEC. 3725, THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING, TOP OF SEALER, FLUSH TO 1/8" BELOW TOP OF PAVEMENT SURFACE. MAKE TOP OF SEALER FOR CURB SECTION D JOINTS FLUSH WITH SURFACE ± 1/8".

EXPANSION JOINTS
DESIGN E

STANDARD SHEET NO. 5-297.221 (1 OF 2)	TITLE PAVEMENT JOINTS CONTRACTION (DESIGN C) AND EXPANSION (DESIGN E)
STANDARD APPROVED: APRIL 14, 2010	
STATE PROJ. NO.	(TH) SHEET NO. OF SHEETS

NO	DATE	BY	CKD	APPR	REVISION

NAME: SDGNS

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: Charles Cadenhead

SIGNATURE: *Charles Cadenhead*

DATE: 10/2/11 LICENSE NO. 40416

DRAWN BY: JF DATE: 4-1-2011

DESIGN BY: JF DATE: 4-1-2011

CHECKED BY: BV DATE: 5-30-2011

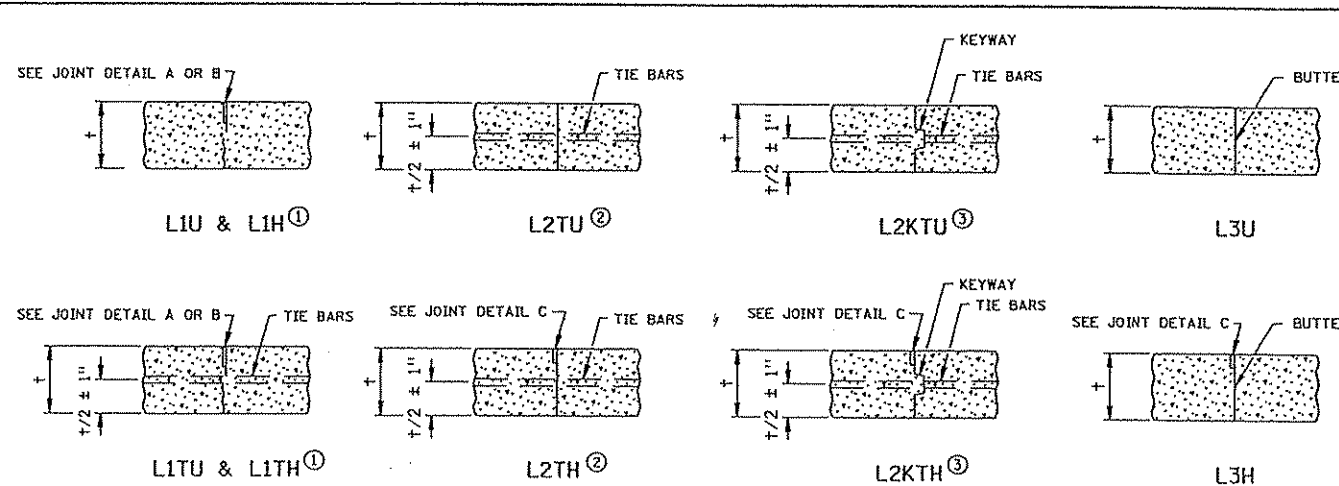


ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT NO. CP 11-14-18

PREVIOUSLY CONST. UNDER 02-618-16 (1986)

CONCRETE DETAILS



TIEBAR TABLE

PAVEMENT THICKNESS	TIEBAR SIZE	LENGTH
< 10-1/2"	NO. 13	30"
≥ 10-1/2"	NO. 16	36"
ALL THICKNESS WHEN TYING TO CURB AND GUTTER	NO. 13	30"

LONGITUDINAL JOINT REFERENCE, DETAIL & SEALER SPECIFICATION TABLE

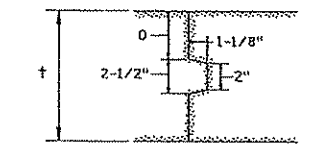
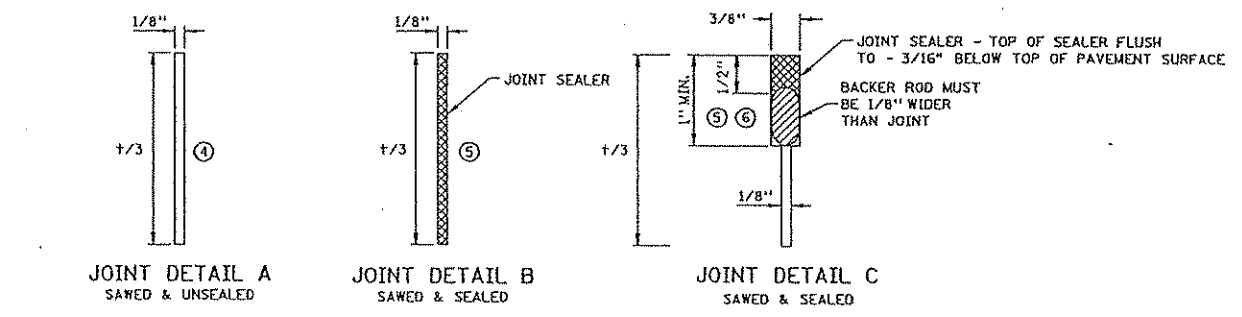
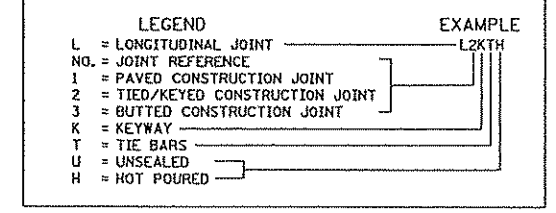
JOINT REFERENCE			JOINT DETAIL	JOINT SEALER SPEC	JOINT WIDTH
WITHOUT TIE BARS	WITH TIE BARS	WITH KEYWAY & TIE BARS			
L1U	L1U		A	UNSEALED	1/8"
L1H	L1H		B	3725	1/8"
	L2TU	L2KTU	NONE	UNSEALED	
	L2TH	L2KTH	C	3725	3/8"
L3U			NONE	UNSEALED	
L3H			C	3725	3/8"

ALL REBARS ARE IN METRIC DESIGNATIONS

THE TIE BAR SPACING FOR ALL L2T AND L2KT JOINTS SHALL BE 3'-0" CENTER TO CENTER AND BENT 60° AS SHOWN, EXCEPT WHEN NOTED OTHERWISE IN THE PLANS.

TIE BARS IN THE L2T AND L2KT JOINTS SHALL BE THE SAME SIZE AND LENGTH AS USED FOR THE L1T JOINTS, WHEN TYING PAVEMENT TO PAVEMENT. TIE BARS IN THE L2KT JOINTS SHALL BE NO. 13 X 2' - 6", WHEN TYING CURB & GUTTER TO PAVEMENT.

ALL TIE BARS SHALL BE EPOXY COATED AND COMPLY WITH SPEC. 3301.

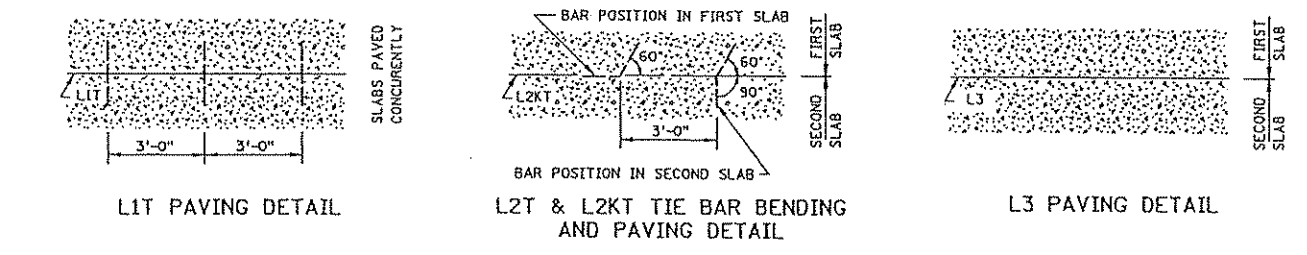


PAVEMENT KEYWAY DETAIL

KEYWAY DIMENSION TABLE

PAVEMENT THICKNESS	KEYWAY DIMENSIONS (TOLERANCE ± 1/4")
< 7"	NO KEYWAY
7" TO 7-1/2"	3"
8" TO 10"	4"
≥ 10-1/2"	5"

KEYWAY (1-1/8" x 2" x 2-1/2") MAY BE FORMED WITH MOLD OR METAL FORM. OTHER APPROVED KEYWAY SHAPES GIVING EQUIVALENT CONSTRUCTION FEATURES MAY BE USED WITH APPROVAL OF THE ENGINEER.



L1T PAVING DETAIL

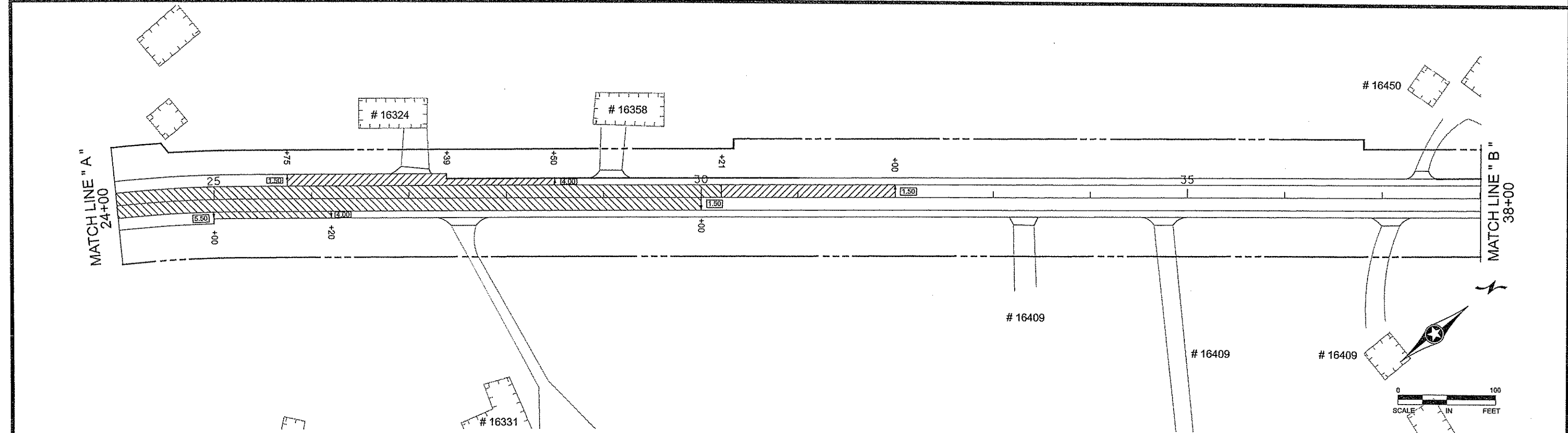
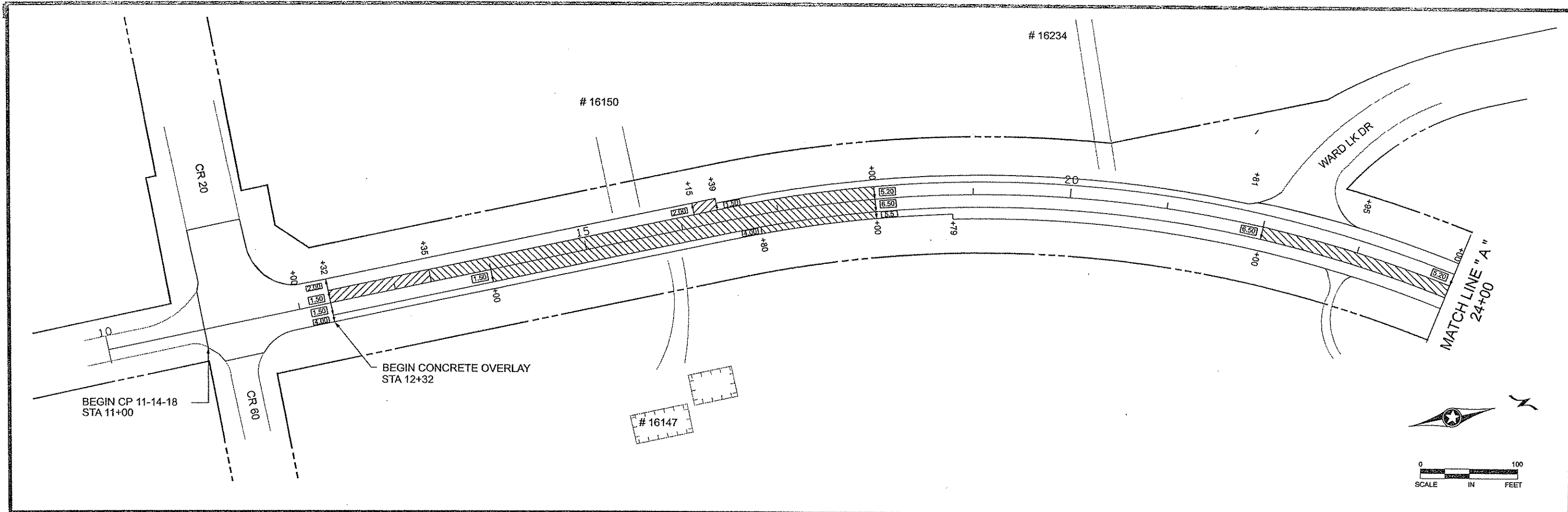
L2T & L2KT TIE BAR BENDING AND PAVING DETAIL

L3 PAVING DETAIL

NOTES:

- NORMALLY, TIED PAVEMENT WIDTHS SHALL NOT EXCEED FOUR LANES, EXCEPT BRIDGE APPROACH PANELS AND PAVEMENT TAPERS.
 - JOINT WIDTH TOLERANCE IS + 1/16 IN. TO - 1/32 IN.
 - FURNISH AND INSTALL ALL JOINT SEALER IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - TIED/KEYED AND BUTTED CONSTRUCTION JOINTS SHALL BE UNSEALED EXCEPT AS OTHERWISE NOTED IN THE PLAN OR REQUIRED BY THE ENGINEER.
 - SEE STANDARD PLANS 5-297.217 AND 5-297.219 FOR CONCRETE MAINLINE AND RAMP PAVEMENT.
 - SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATIONS TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.
 - WHEN CURB AND GUTTER IS PLACED ADJACENT TO CONCRETE MAINLINE, THE TIEBARS SHALL BE PLACED A MINIMUM OF 2" ABOVE THE CURB AND GUTTER GRADE.
- ① SEE THE LONGITUDINAL JOINT REFERENCE, DETAIL & SEALER SPECIFICATION TABLE TO DETERMINE JOINT DETAIL.
 - ② CONCRETE PAVEMENTS LESS THAN 7" SHALL USE L2TU AND L2TH JOINTS UNLESS OTHERWISE ALLOWED BY THE ENGINEER.
 - ③ CONCRETE PAVEMENTS GREATER THAN OR EQUAL TO 7" SHALL USE L2KTU AND L2KTH JOINTS UNLESS OTHERWISE ALLOWED BY THE ENGINEER.
 - ④ THE JOINT FACES SHALL BE CLEANED WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING.
 - ⑤ THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING.
 - ⑥ PRIOR TO SEALING THE JOINT, A 1/2" DIAMETER CLOSED CELL BACKER ROD CAPABLE OF WITHSTANDING SEALANT TEMPERATURES OF 400 DEGREES F. SHALL BE PLACED 1/2" BELOW THE TOP OF THE PAVEMENT.

STANDARD SHEET NO. 5-297.221 (2 OF 2)	TITLE: PAVEMENT JOINTS LONGITUDINAL (DESIGN L)
STANDARD APPROVED: APRIL 14, 2010	
STATE PROJ. NO.	(TH) SHEET NO. OF SHEETS



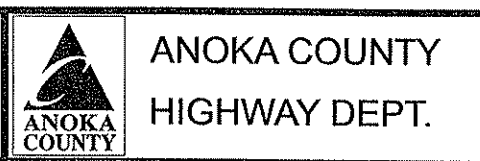
NO	DATE	BY	CHKD	APPR	REVISION

NAME: PA11-01-00\CSAH_18_(CSAH20-TH85)\Plan\CONCRETE\11 Superlevation Plan 001028941
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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: CHARLES M. CADENHEAD JR.
SIGNATURE: *[Signature]*
DATE: 6/2/11 LICENSE NO. 40416

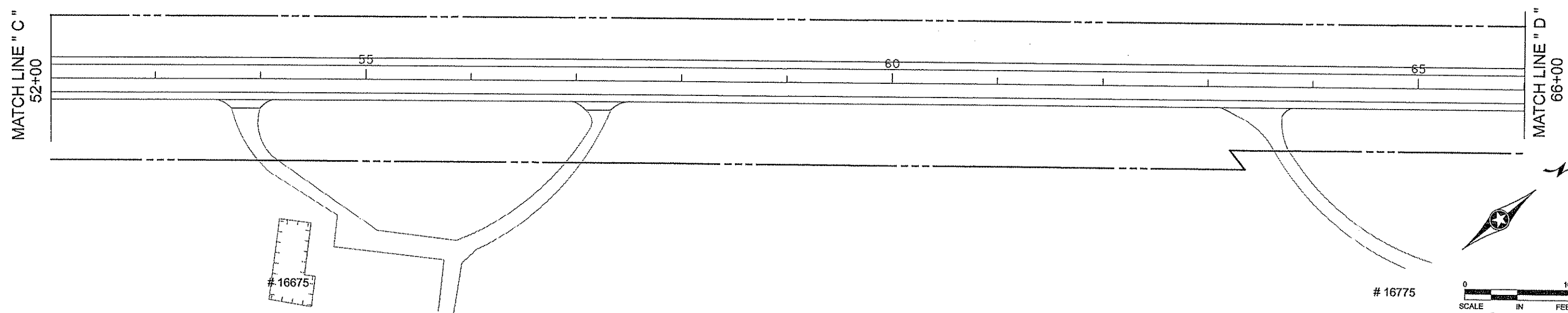
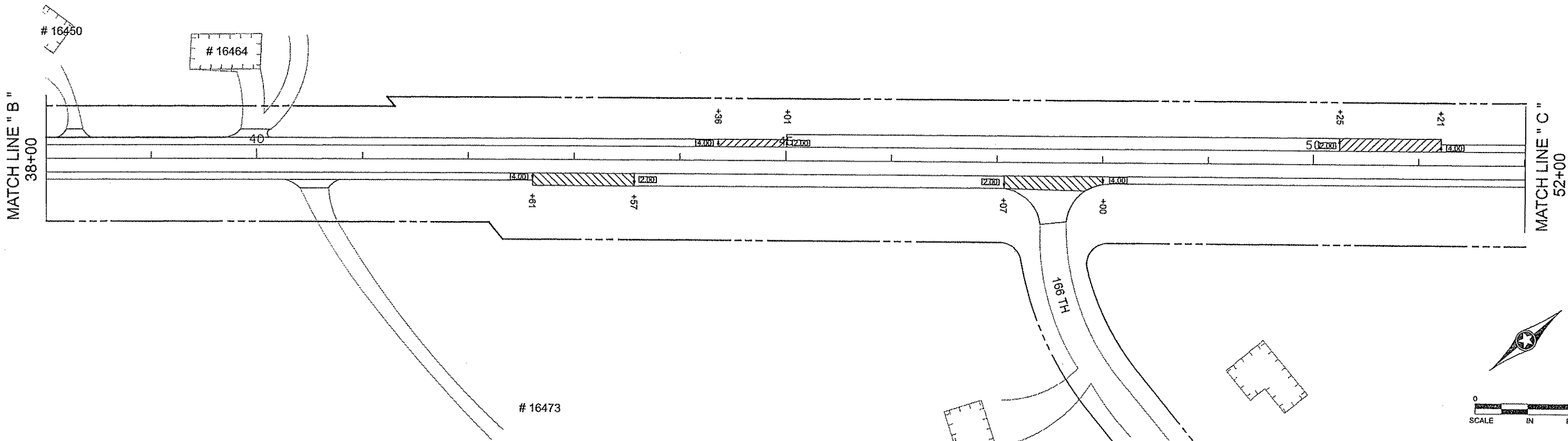
DRAWN BY: JF DATE: 4/1/2011
DESIGN BY: JF DATE: 4/1/2011
CHECKED BY: BV DATE: 5/30/2011



ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT NO. CP 11-14-18
PREVIOUSLY CONST. UNDER 02-618-16 (1986)

SUPERELEVATION PLAN
STA 11+00 TO 38+00
Sheet 51 of 58 Sheets



NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: CHARLES M. CADENHEAD JR.
 SIGNATURE: *[Signature]*
 DATE: 4/2/11 LICENSE NO. 40418

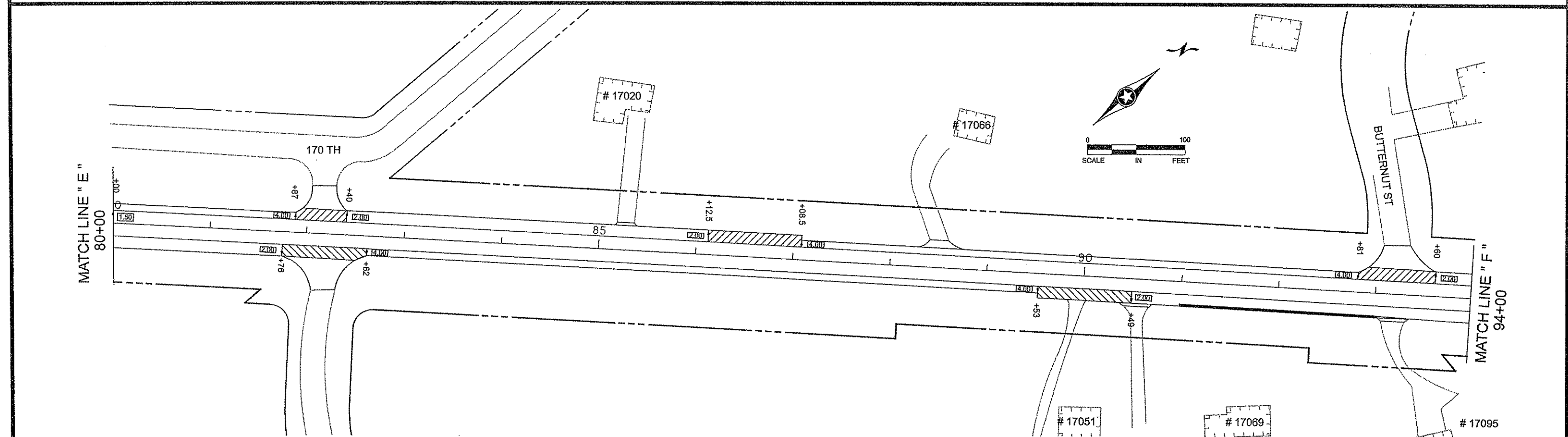
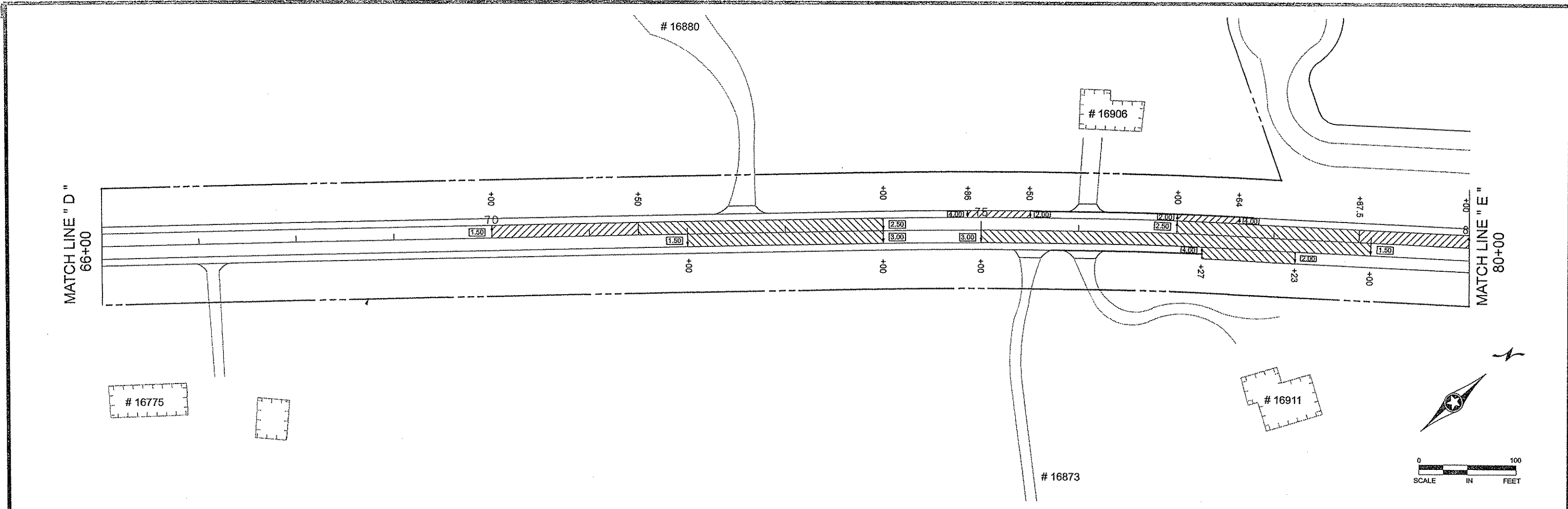
DRAWN BY JF DATE 4/1/2011
 DESIGN BY JF DATE 4/1/2011
 CHECKED BY BV DATE 5/30/2011



ANOKA COUNTY
 HIGHWAY DEPT.

COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

SUPERELEVATION PLAN
 STA 38+00 TO 66+00
 Sheet 52 of 58 Sheets



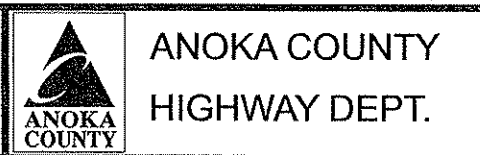
NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\11-01-00\CSAH_18_CS\SAH20-TH65\Plan\CONCRETE\11 Superlevation Plan 00102.dwg 1:49:58 PM

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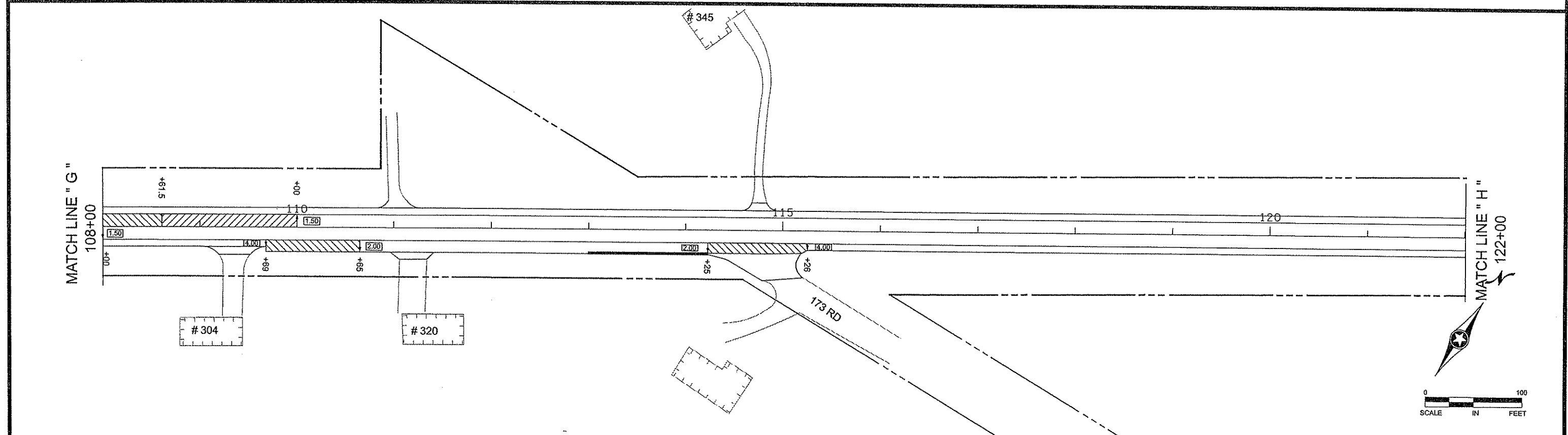
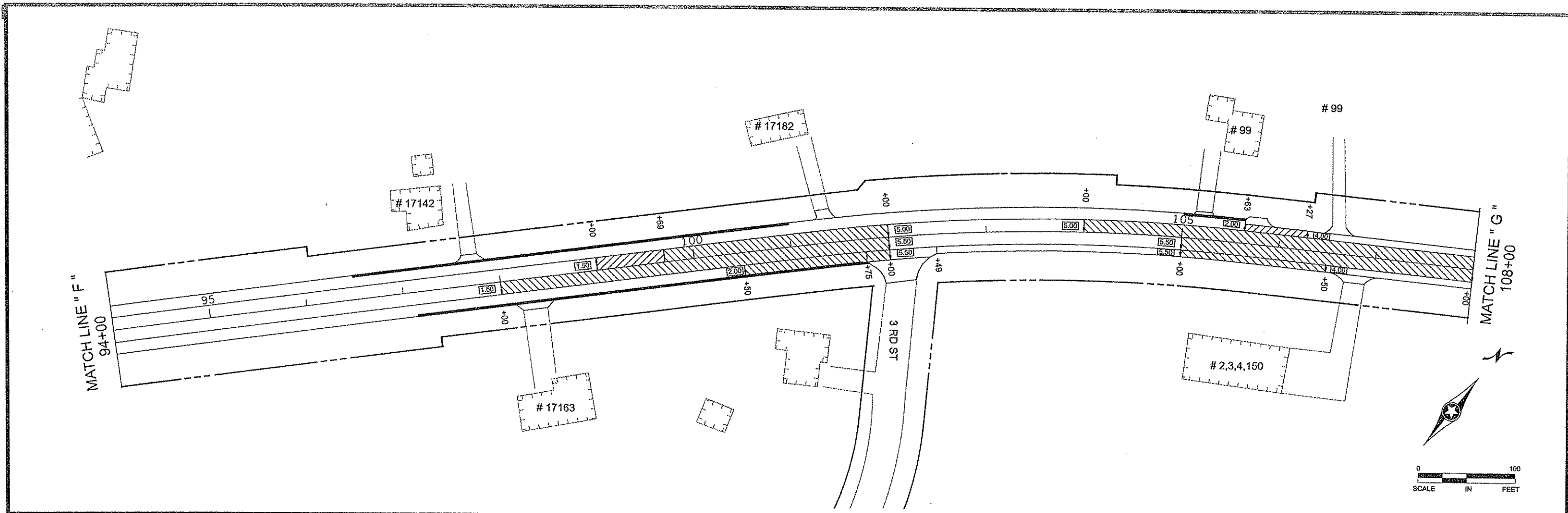
PRINT NAME: CHARLES W. CADENHEAD JR.
 SIGNATURE: *[Signature]*
 DATE: 4/27/11 LICENSE NO. 40416

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COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

SUPERELEVATION PLAN
 STA 66+00 TO 94+00
 Sheet 53 of 58 Sheets

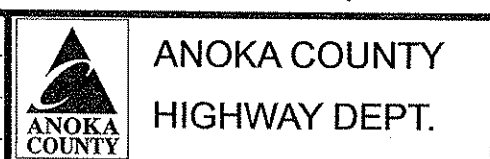


NO	DATE	BY	CKD	APPR	REVISION

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: CHARLES M. CADENHEAR JR.
 SIGNATURE: *[Signature]*
 DATE: 4/2/11 LICENSE NO. 40416

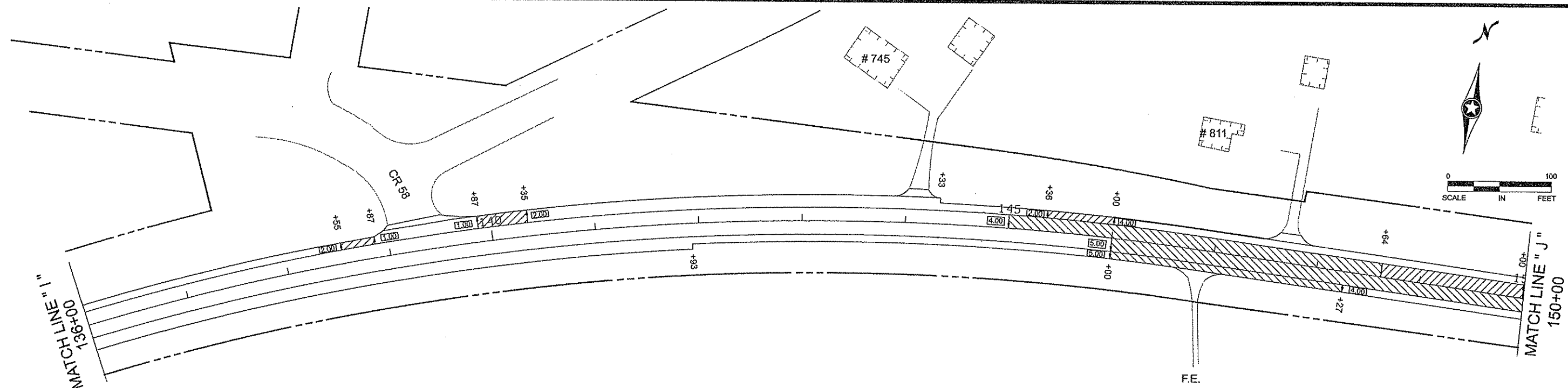
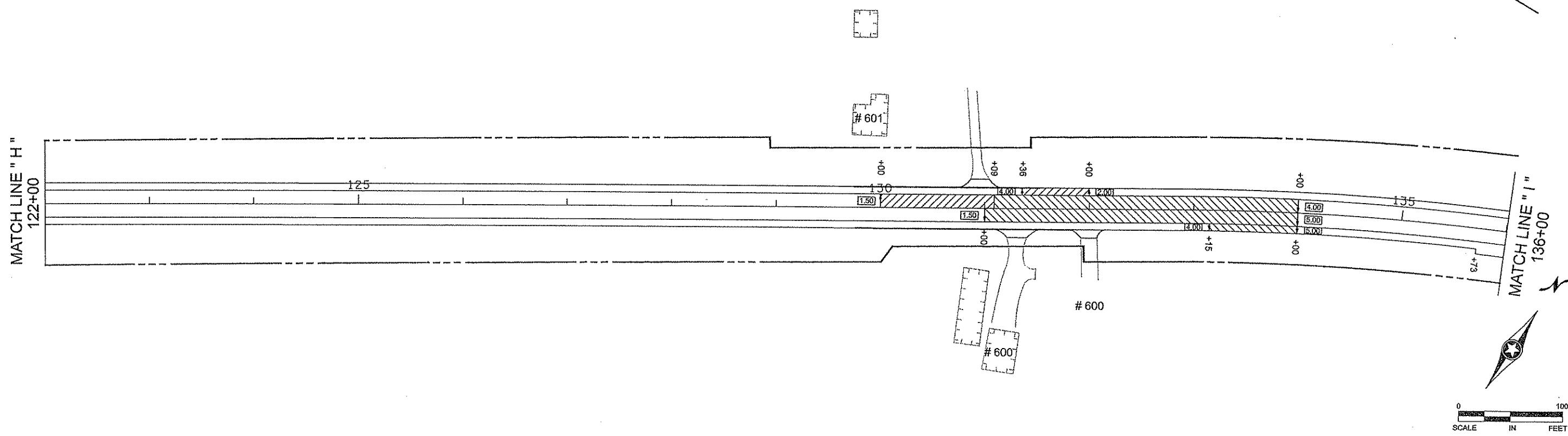
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 DESIGN BY: JF DATE: 4/1/2011
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ANOKA COUNTY
 HIGHWAY DEPT.

COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

SUPERELEVATION PLAN
 STA 94+00 TO 122+00
 Sheet 54 of 58 Sheets



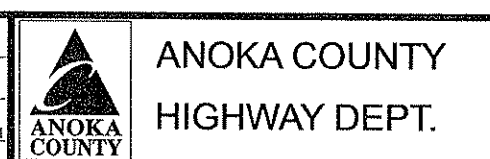
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\11-01-00\CSAH_18 (CSAH20-TH65)\Plan\CONCRETE\11 Super-elevation Plan (08/02/08).dwg 1:50:00 PM

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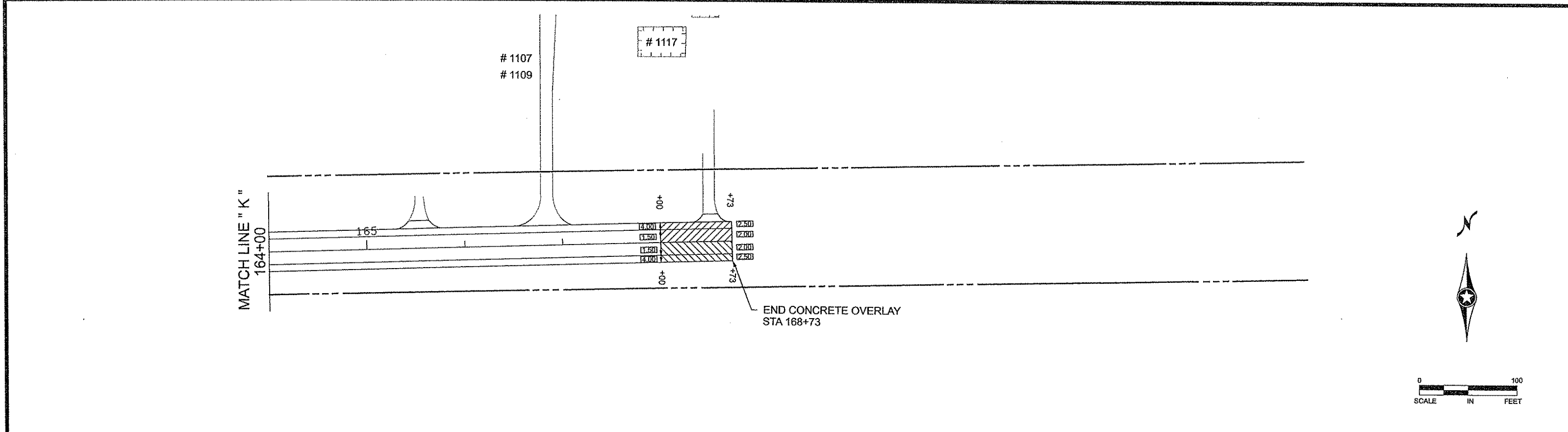
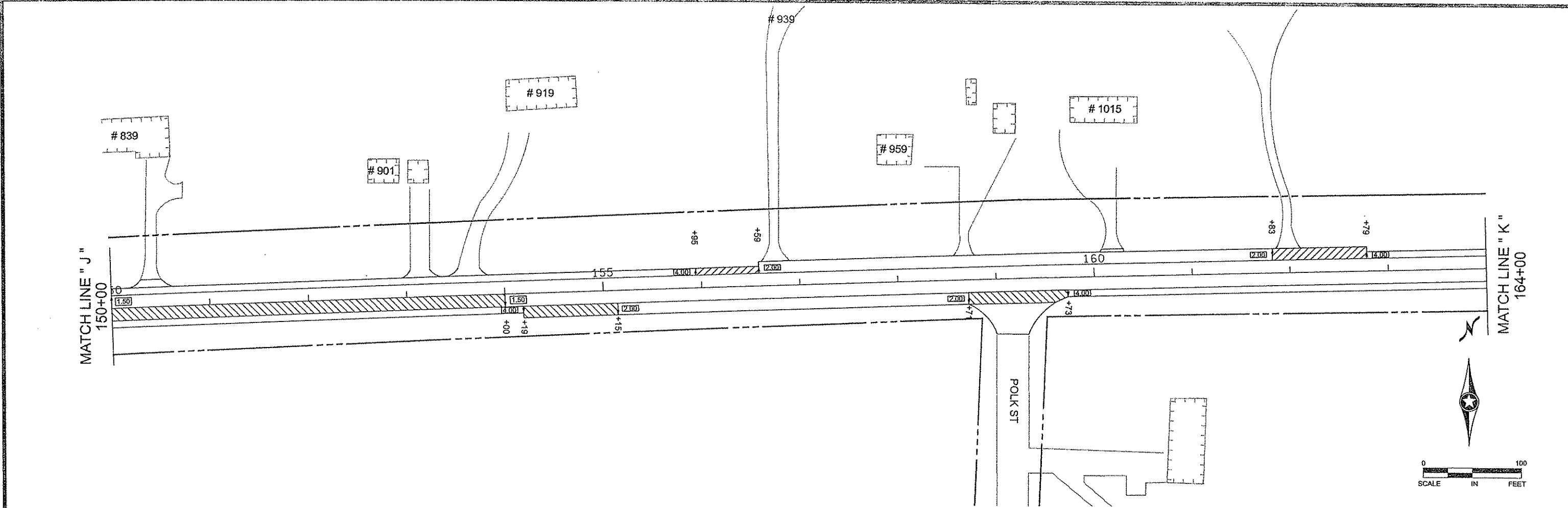
PRINT NAME: CHARLES M. CADENHEAD JR.
 SIGNATURE: *[Signature]*
 DATE: 4/11/11 LICENSE NO. 54416

DRAWN BY JF DATE 4/1/2011
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 CHECKED BY BV DATE 5/30/2011



COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

SUPERELEVATION PLAN
 STA 122+00 TO 150+00
 Sheet 55 of 58 Sheets



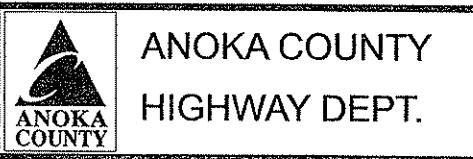
NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\11-01-00\CSAH_18_(CSAH20-TH65)\Plan\CONCRETE\11 Superlevation Plan 00702.00.dwg 1:50:02 PM

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COUNTY PROJECT NO. CP 11-14-18
 PREVIOUSLY CONST. UNDER 02-618-16 (1986)

SUPERELEVATION PLAN
 STA 150+00 TO 168+73
 Sheet 56 of 58 Sheets

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Project Contacts

The Project Engineer and the Contractor are responsible for implementation of the SWPPP and the installation, inspection, and maintenance of the erosion prevention and sediment control BMP's before and during construction. Anoka County and the city of Ramsey are responsible for long term operation and maintenance of the permanent storm water management system.

Anoka County Project Manager;
Douglas W. Fischer, PE
Anoka County Engineer
1440 Bunker Lake Boulevard NW
Andover, MN 55304
(763) 862-4200

MPCA 24-HOUR EMERGENCY NOTIFICATION : 651-649-5451 / 800-422-0798

Project Description

CP 11-14-18 consists of milling and concrete overlay of the existing roadway , 4' widening construction for additional right turn lane / by-pass lanes in the cities of Andover and Ham lake. Construction activities include milling, excavation and grading / concrete overlay of CSAH 18. The receiving waters for storm water from this project include County ditches and Lake Leeman.

Site Maps

No site plan Required

Environmentally Sensitive Areas

Wetlands are impacted within the project limits, however none has been identified as Impaired or Special Waters, thus no wetlands have been identified as Environmentally Sensitive.

Outstanding Resource Value Waters

There are no outstanding resource value waters within the project limits.

Calcareous Fens

There are no calcareous fens within the project limits.

TMDL Implementation Plans Containing Storm Water Requirements

No TMDL Implementation Plans currently exist for the receiving waters on this project.

Land Feature Changes

Total Project Existing Area Of Impervious Surface: 15.682 Acres
Total Post Project Area Of Impervious Surface: 15.953 Acres
Total increase in Impervious Surface: 0.271 Acres
Total Project Area Disturbed: 16.50 Acres
This Road Project Has Less Than 1 Acre Of Increased Impervious surface area.

Timing of BMP Installation

The erosion prevention and sediment control BMP's shall be installed as necessary to minimize erosion from disturbed surfaces and capture sediment on site, and shall meet the NPDES Permit Part IV Construction Activity Requirements. All silt fence used for contamination shall be installed prior to grading operations.

Hazardous Materials

Hazardous materials such as oil, gasoline, and paint must be properly stored, including secondary containment, to prevent spills, leaks or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with MPCA Regulations.

Construction Notes

Construction shall be governed by MN/DOT Standard Specifications for Construction, 2005 edition and the Special Provisions. The Contractor shall keep the inspection and maintenance log.

Description	Plan Sheet Title	Location
Erosion Control Items	Statement Of Estimated Quantities / Tabs	Sheet No. 2-4
Erosion Control Notes	Statement Of Estimated Quantities	Sheet No. 2
Erosion Control Details	Calculations For Right Turn Lane By-pass lanes	Sheet No. 6
Erosion Control Layout	Construction Plan	Sheet No. 36-47

RECEIVING SURFACE WATERS, DISCHARGE TO IMPAIRED WATERS & SPECIAL WATERS

THE FOLLOWING TABLE BELOW IDENTIFIES ALL SURFACE WATERS WITHIN 1 MILE OF THE DISTURBED SOIL PROJECT BOUNDARIES, WHICH WILL RECEIVE STORMWATER RUNOFF FROM THE CONSTRUCTION SITE, DURING OR AFTER CONSTRUCTION.

STORMWATER FROM A DISCHARGE POINT ON THE PROJECT THAT FLOWS TO A SURFACE WATER IDENTIFIED AS IMPAIRED AND/OR SPECIAL MUST INCLUDE THE FOLLOWING ADDITIONAL BMP REQUIREMENTS:

- 1) ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THEN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
- 2) TEMPORARY SEDIMENT BASINS MUST BE USED FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH FIVE (5) OR MORE ACRES DISTURBED AT ONE TIME. THIS PROJECT AS DESIGNED DOES NOT HAVE FIVE (5) DISTURBED ACRES DRAINING TO A COMMON LOCATION AND TEMPORARY SEDIMENT BASINS WILL NOT BE REQUIRED.

RECEIVING SURFACE WATERS		
NAME OF WATER BODY	SPECIAL WATER	IMPAIRED WATER
ANOKA COUNTY		
C.D. NO. #29 & #34	NO	NO
LAKE LEEMAN	NO	NO

LOCATION OF SWPPP REQUIREMENTS		
REQUIREMENT	MN/DOT SPECIFICATION	SPECIAL PROVISION
NPDES PERMIT COMPLIANCE	1701, 1702, & 1717	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
CERTIFIED PERSONNEL IN EROSION AND SEDIMENT CONTROL SITE MANAGEMENT	1506, 1717, & 2573	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
CHAIN OF RESPONSIBILITY	1506, 1717, & 2573	
PROJECT SCHEDULE / WEEKLY EROSION & SEDIMENT CONTROL SCHEDULE / COMPLETING INSPECTION / MAINTENANCE LOG	1717 & 2573	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
SITE MAP / RECEIVING WATERS / DIRECTION OF FLOW	1717	
PROJECT SPECIFIC CONSTRUCTION STAGING	1717	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT) 1806 (DETERMINATION AND EXTENSION OF CONTRACT TIME)
TEMPORARY EROSION AND SEDIMENT CONTROL BMP LOCATIONS, INSTALLATION, TIMING OF INSTALLATION AND TYPE OF BMP	2573 & 2525	2575 (RAPID STABILIZATION SPECIFICATION)
ADDITIONAL TEMPORARY AND OR PERMANENT EROSION AND SEDIMENT CONTROL BMP'S NOT PROVIDED OR SHOWN IN THE PLAN	1717, 2573, & 2575	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT) 2575 (RAPID STABILIZATION SPECIFICATION)
MAINTENANCE OF EROSION AND SEDIMENT CONTROL DEVICES, REMOVAL OF TRACKED SEDIMENT, REMOVAL OF DEVICES	1717 & 2573	1514 (MAINTENANCE DURING CONSTRUCTION) 1717 (LAND AIR & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
DEWATERING	2105.3B, & 2451.3C	DEWATERING MAY ALSO REQUIRE DNR PERMIT. NO DEWATERING IS ANTICIPATED FOR THIS PROJECT
FINAL STABILIZATION	1717, 2573, & 2575	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
TEMPORARY EROSION AND SEDIMENT CONTROL DETAILS	2575	2575 (RAPID STABILIZATION SPECIFICATION)
PERMANENT EROSION CONTROL DETAILS	2575	2575 (CONTROLLING EROSION AND ESTABLISHING VEGETATION)

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\11-01-00\CSAH_18 (CSAH20-TH85)\Plan\CONCRETE\12 Swppp CONC.dgn 06/02/2011 1:59:07 PM

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: CHARLES M. CADENHEAD JR.
SIGNATURE: *[Signature]*
DATE: 6/2/11 LICENSE NO. 40416

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**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT NO. CP 11-14-18
PREVIOUSLY CONST. UNDER 02-618-16 (1986)

**STORMWATER POLLUTION
PREVENTION PLAN**

