

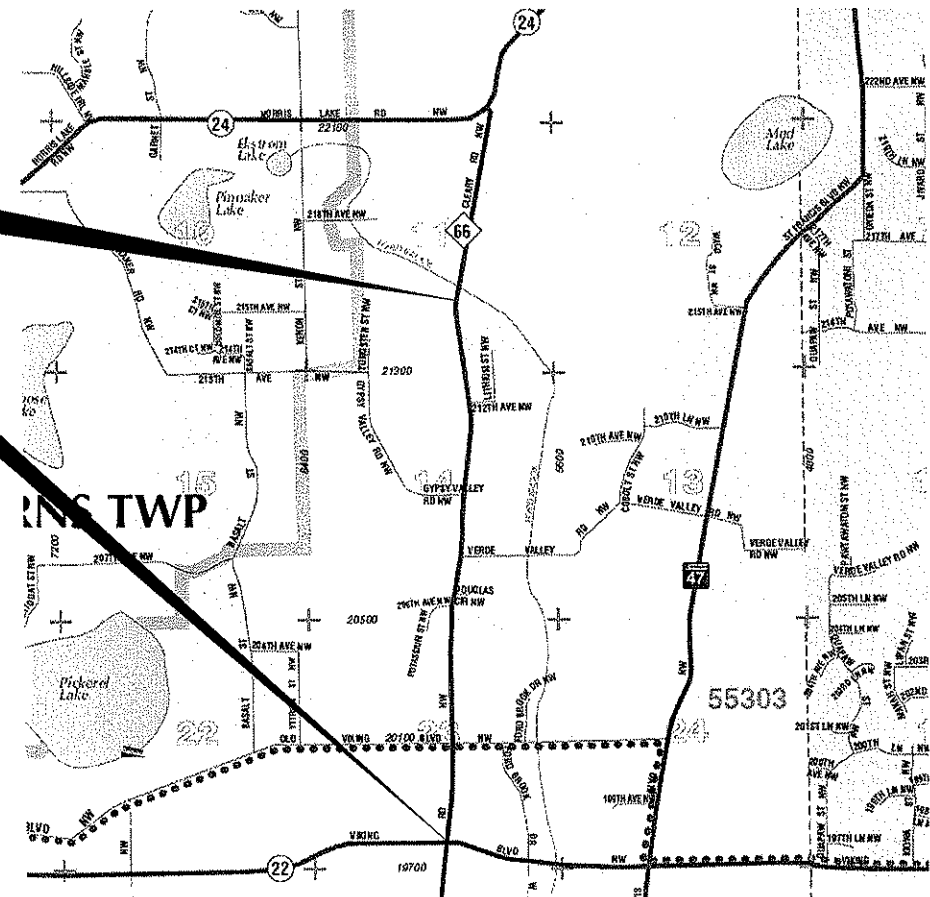
MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR RECLAIM BITUMINOUS SURFACING & OVERLAY
 LOCATED ON C.R. 66 BETWEEN C.S.A.H 22 (VIKING BLVD) AND 2000' NORTH OF 212TH STREET

COUNTY PROJ. NO. 12-16-66
C.R. 66

GROSS LENGTH	11240 FEET	2.13 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	11240 FEET	2.13 MILES

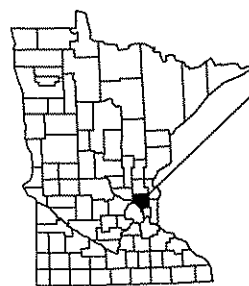


CITY OF
NOWTHEN



END COUNTY PROJECT 12-16-66
 C.R. 66 STA. 122+40

BEGIN COUNTY PROJECT 12-16-66
 C.R. 66 STA. 10+00



PROJECT LOCATION
 CITY OF NOWTHEN
 ANOKA COUNTY
 MN/DOT TRANSPORTATION DISTRICT - METRO
 SECTION 23 & 14
 TOWNSHIP 33 NORTH
 RANGE 25 WEST

PLAN SYMBOLS

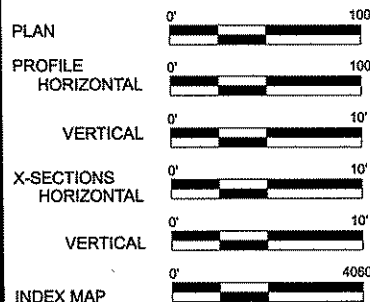
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- SLOPE EASEMENT
- EXISTING RIGHT OF WAY
- PROPERTY LINE
- CORPORATE OR CITY LIMITS
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY
- RIVER OR CREEK
- DRAINAGE DITCH
- CULVERT
- DROP INLET
- 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



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."

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES,
3-5	MISCELLANEOUS DETAILS
6	TYPICAL SECTIONS
7-10	CONSTRUCTION PLAN
11	PERMANENT MARKING TABULATION
12-16	TEMPORARY SIGNING, PERMANENT STRIPPING, PAVEMENT MESSAGES
17	SIGNING & STRIPING PLAN, TAB, & DETAILS

THIS PLAN CONTAINS 17 SHEETS
 DESIGN DESIGNATION

ESAL 20	000
R VALUE	000
ADT (2011) =	000
Proj. ADT (2031) =	000
Proj. HCADT (2031) =	000
Soil Factor	NA
10 TON DESIGN	

Functional Classification MAJOR COLLECTOR
 No. of Traffic Lanes 2 No. of Parking Lanes 0
 Design Speed 55 MPH
 Based on Stopping Sight Distance N/A
 Height of eye 3.5' Height of object 2.0'
 Design Speed not achieved at:
 STA. _____ TO STA. _____ MPH _____

Approved: 3/4/12
 ANOKA COUNTY ENGINEER

NO.	DATE	BY	CKD	APPR	REVISION

NAME: P:\12-01-00\CR_66_CSAH22-So(NorrisLake)\Plan1_Title.dgn
 02/27/2012 10:33:17 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 CADENHEAD
 SIGNATURE:
 DATE: 3/2/12 LICENSE NO. 40416

DRAWN BY CSO DATE 1/3/2012
 DESIGN BY CSO DATE 1/3/2012
 CHECKED BY JO DATE _____



**ANOKA COUNTY
 HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 12-16-66

TITLE SHEET

Sheet 1 of 17 Sheets

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	NOTES	UNIT	TOTAL EST. QUANT.
2011.601	CONSTRUCTION SURVEY		LUMP SUM	1
2021.501	MOBILIZATION		LUMP SUM	1
2101.502	CLEARING		TREE	1
2101.507	GRUBBING		TREE	1
2104.501	REMOVE PIPE CULVERTS	15	LIN FT	241
2104.503	REMOVE CONCRETE DRIVEWAY PAVEMENT	11	SQ FT	335
2104.503	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	11	SQ FT	3759
2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN FT	10
2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LIN FT	313
2104.523	SALVAGE SIGN TYPE C		EACH	4
2105.525	TOPSOIL BORROW (LV)	5	CU YD	107
2105.602	CONSTRUCT TURN LANE	12	EACH	4
2123.503	MOTOR GRADER	13	HOUR	10
2130.501	WATER	14	M-GAL	112
2211.501	AGGREGATE BASE CLASS 5	10.9	TON	180
2221.501	AGGREGATE SHOULDERING CLASS 5	9	TON	700
2232.501	MILL BITUMINOUS SURFACE (2.0")		SQ YD	50
2331.604	BITUMINOUS PAVEMENT RECLIMATION	2	SQ YD	30517
2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GAL	1499
2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,B)	1,11.9	TON	131
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE(4,B)	7,18	TON	7914
2501.515	18" CS PIPE APRON		EACH	6
2503.603	18" HDPE PIPE SEWER		LIN FT	192
2511.501	RANDOM RIPRAP CLASS II	16	CU YD	10
2531.507	6" CONCRETE DRIVEWAY PAVEMENT	11	SQ YD	37
2535.501	BITUMINOUS CURB (MODIFIED)	6.7	LIN FT	740
2540.602	INSTALL MAIL BOX SUPPORTS		EACH	13
2563.601	TRAFFIC CONTROL	3.4	LUMP SUM	1
2564.533	FURNISH SIGN PANNEL TYPE C		SQ FT	47.93
2564.536	INSTALL SIGN PANEL TYPE C		EACH	2
2564.550	DELINEATOR TYPE X4-13		EACH	1
2573.508	BITUMINOUS LINED FLUME	16	SQ YD	16
2575.523	EROSION CONTROL BLANKET, CATEGORY 3	5, 17	SQ YD	28
2575.571	RAPID STABILIZATION METHOD 3	5	M-GAL	6
2581.501	REMOVABLE PREFORMED PLASTIC MARKING	8	LIN FT	900
2582.502	4" SOLID LINE WHITE-EPOXY	9	LIN FT	23010
2582.502	4" SOLID LINE YELLOW - EPOXY	9	LIN FT	6350
2582.502	4" BROKEN YELLOW LINE-EPOXY	9	LIN FT	1730
2582.502	4" DOUBLE SOLID LINE YELLOW-EPOXY	9	LIN FT	2535

NOTES:

- 1 USED FOR PAVING DRIVEWAYS AND STREET APPROACHES
- 2 ITEM INCLUDES THE REMOVAL OF BITUMINOUS CURB
- 3 ALL TRAFFIC CONTROL DEVICES AND METHODS SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL
- 4 ROAD WORK AHEAD, DO NOT PASS, PASS WITH CARE, NO CENTERLINE STRIPE, BUMP AND BUMP AHEAD SIGNS TO BE INPLACE AT THE START OF RECLAIM AND OVERLAY OPERATIONS
- 5 ITEM FOR BACK FILLING BITUMINOUS CURB & SLOPE IMPROVEMENT AS DIRECTED BY THE ENGINEER.
- 6 SHALL BE INSTALLED WITH SAME OPERATION AS MAINLINE BITUMINOUS WEAR COURSE
- 7 BITUMINOUS TONS TO CREATE BIT CURB SHALL BE PAID UNDER 2360.501 WEARING COURSE MIX (4,E)
- 8 SHALL BE PLACED AFTER EACH DAYS PAVING OPERATION
- 9 SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING
- 10 ITEM SHALL BE USED FOR GRAVEL DRIVEWAYS AND STREET APPROACHES, ALSO BASE AGGREGATE FOR BIT DRIVEWAYS
- 11 CONTRACTORS RESPONSIBILITY TO CONTACT OWNER 48 HOURS BEFORE STARTING OPERATION
- 12 INCLUDES TIME AND MATERIAL TO CONSTRUCT ITEM. COMMON EXCAVATION, SELECT GRANULAR, AGGREGATE BASE CLASS 5, SILT FENCE, EROSION CONTROL BLANKET CATEGORY 3 & DOZER / MOTOR GRADER TIME TO CONSTRUCT TURN LANE (NOTE - BITUMINOUS BASE AND WEAR COURSE IS NOT INCLUDED IN THIS ITEM)
- 13 INCLUDES TIME TO REMOVE EXCESS RECLAIMED MATERIAL AT BEGINNING AND END OF RECLAIM AREAS TO MATCH EXISTING BITUMINOUS HEIGHT
- 14 DUST CONTROL, AS DIRECTED BY THE FIELD ENGINEER
- 15 INCLUDES APRON IN LENGTH
- 16 INSTALL AT END OF BITUMINOUS CURB (MODIFIED)
- 17 SHALL BE INSTALLED AT APRON ENDS
- 18 INCLUDES SAFETY EDGE CONSTRUCTION

BASIS OF PLANNED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	.05 GAL / SQ YD
2360.501	TYPE SP 12.5 WEARING COURSE MIX (4, E)	115/SQ.YD./IN THICKNESS
2211.501	AGGREGATE BASE CLASS 5	CU YDS * 1.8 = TONS
2221.501	AGGREGATE SHOULDERING CLASS 5	CU YDS * 1.8 = TONS
2581.501	REMOVABLE PREFORMED PLASTIC MARKING	2' AT 50' INTERVALS FOR SKIPS

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\12-01-00\CR_66_(CSAH22-SoiNorrisLake)\Plant2_SEQ.dgn 02/27/2012 10:38:33 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 CADENHEAD

SIGNATURE: *[Signature]*

DATE: 2/2/12 LICENSE NO. 40416

DRAWN BY: CSO DATE: 1/3/2012

DESIGN BY: CSO DATE: 1/3/2012

CHECKED BY: JO DATE: _____



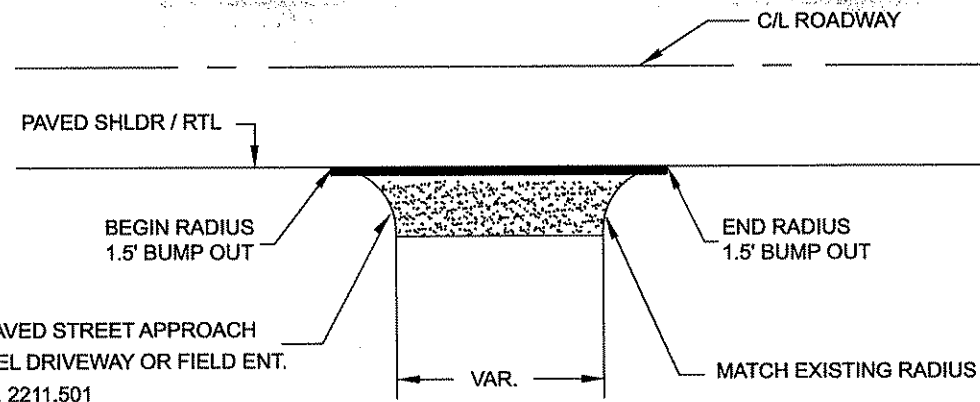
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STATE AID PROJECT NO. _____

CITY PROJECT NO. _____

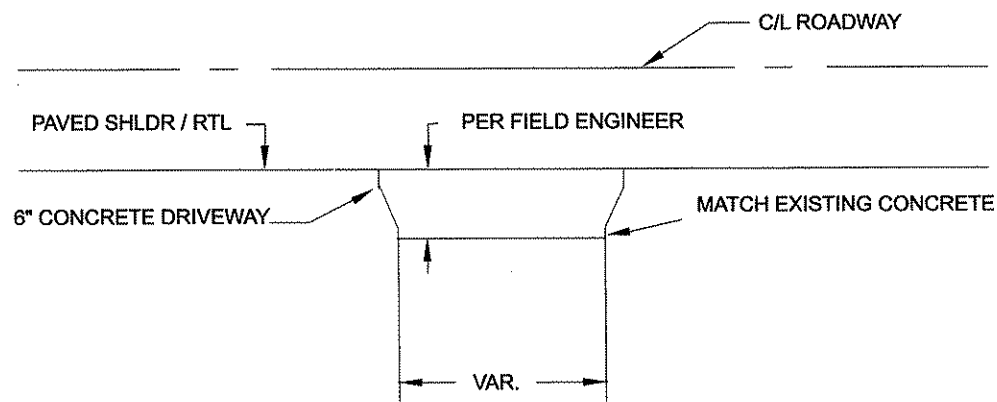
COUNTY PROJECT NO. 12-16-66

UNPAVED STREET APPROACHES, GRAVEL DRIVEWAYS AND FIELD ENT.



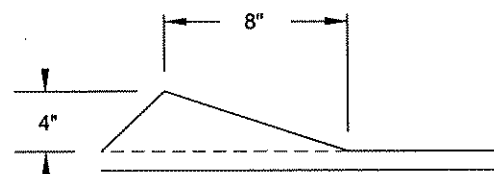
10 TON CL 5 PER UNPAVED STREET APPROACH
 5 TON CL 5 PER GRAVEL DRIVEWAY OR FIELD ENT.
 PAID FOR AS ITEM NO. 2211.501
 AGGREGATE BASE CL 5 (TON)

CONCRETE DRIVEWAYS



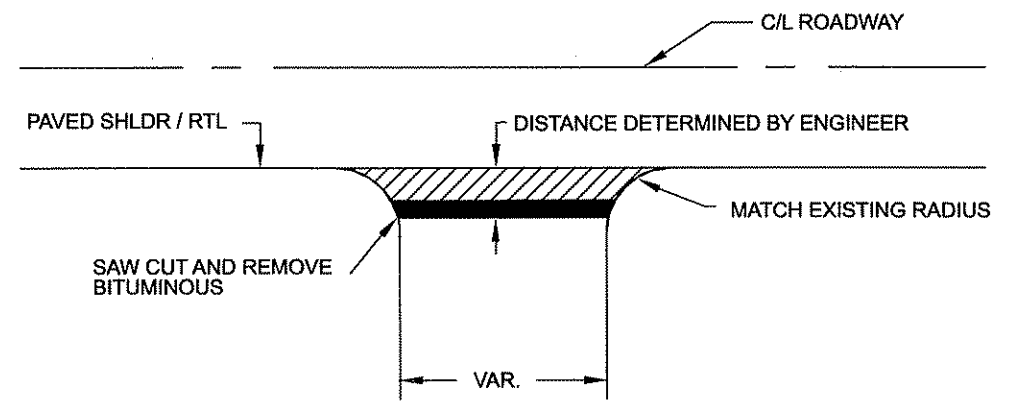
BITUMINOUS CURB

(PLACED DURING THE PAVING OF MAIN LINE WEAR COURSE)



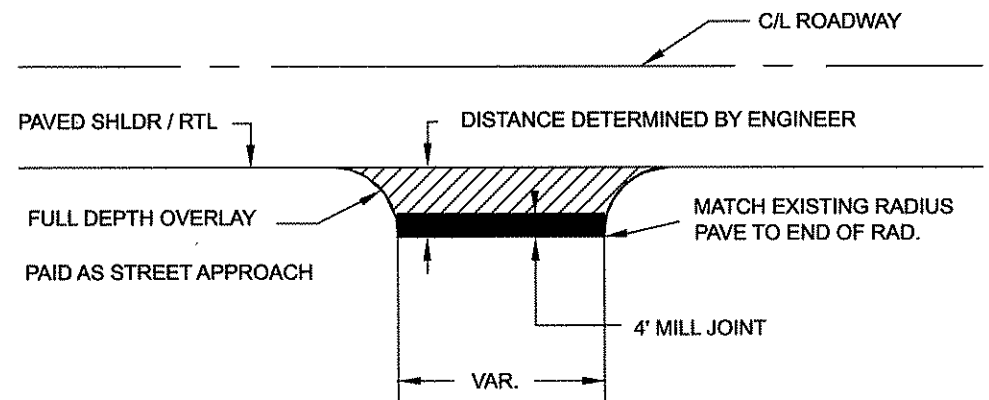
EXISTING BITUMINOUS CURB (LIP) TO BE RECLAIMED WITH SHOULDER
 PROPOSED BITUMINOUS CURB (LIP) TO BE PAID UNDER ITEM NO. 2535.501

PAVED DR. WAYS



SAW CUT AND REMOVE BITUMINOUS

PAVED STREET APPROACHES



FULL DEPTH OVERLAY

PAID AS STREET APPROACH

DRIVEWAYS TO BE PAVED IN SEPERATE OPERATION OTHER THAN MAINLINE WEAR.
 PAID AS STREET APPROACH WEAR

NO	DATE	BY	CHKD	APPR	REVISION

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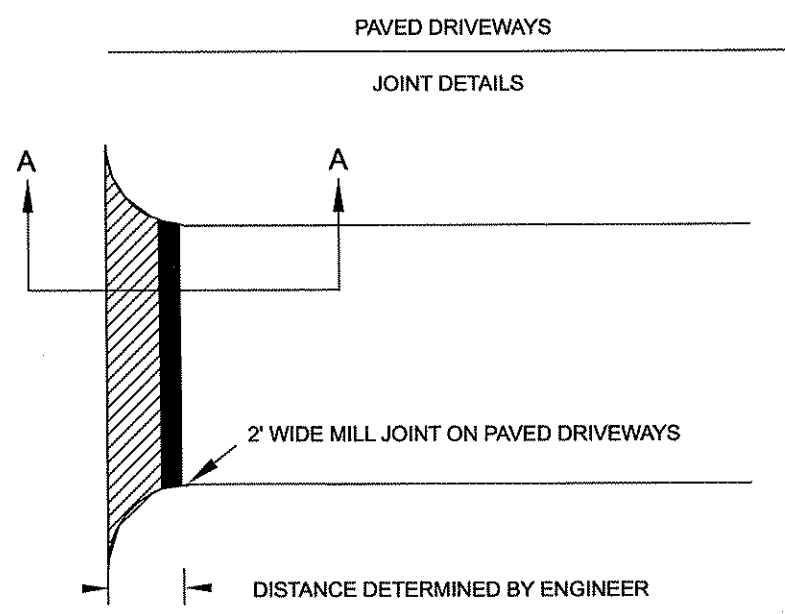
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: CHARLES CADENHEAD
 SIGNATURE: *[Signature]*
 DATE: 2/27/12 LICENSE NO. #40416

DRAWN BY CSO DATE 12/20/2011
 DESIGN BY CSO DATE 12/20/2011
 CHECKED BY JO DATE

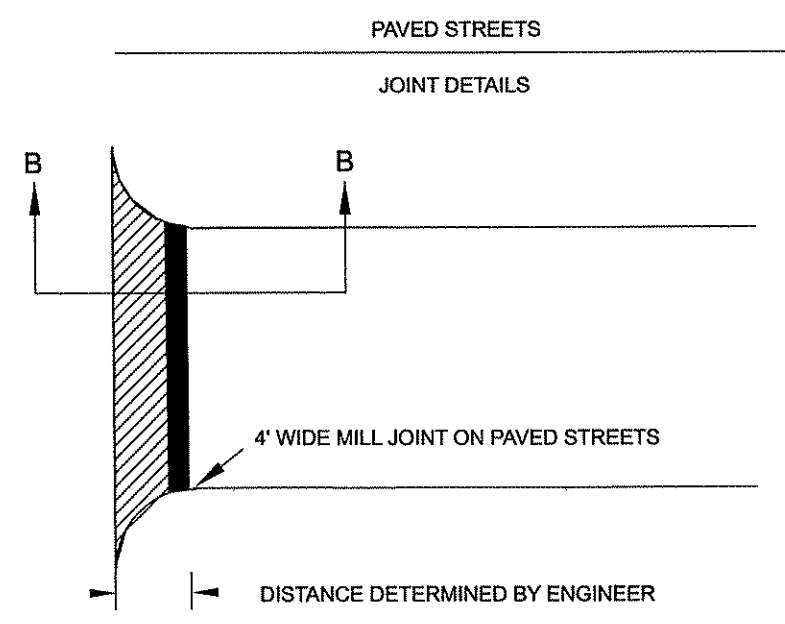


ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 12-16-66



DRIVEWAYS TO BE PAVED IN SEPERATE OPERATION OTHER THAN MAINLINE WEAR.
PAID AS DRIVEWAY/STREET APPROACH WEAR



OVERLAY EXISTING STEET APPROACH, DO NOT RECLAIM
STREETS TO BE PAVED IN SEPERATE OPERATION OTHER THAN MAINLINE WEAR.
PAID AS DRIVEWAY/STREET APPROACH WEAR

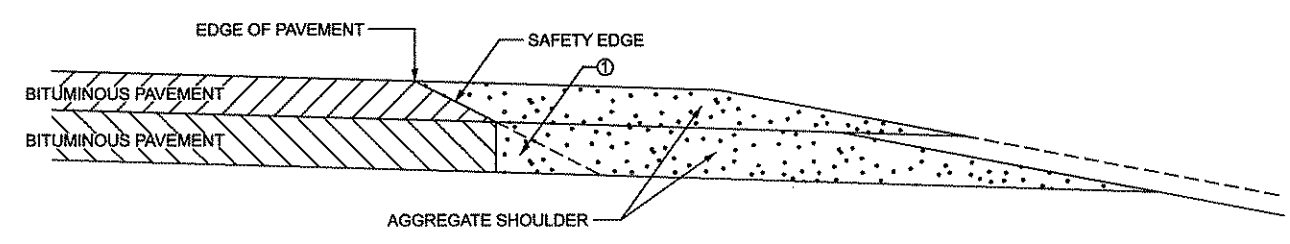
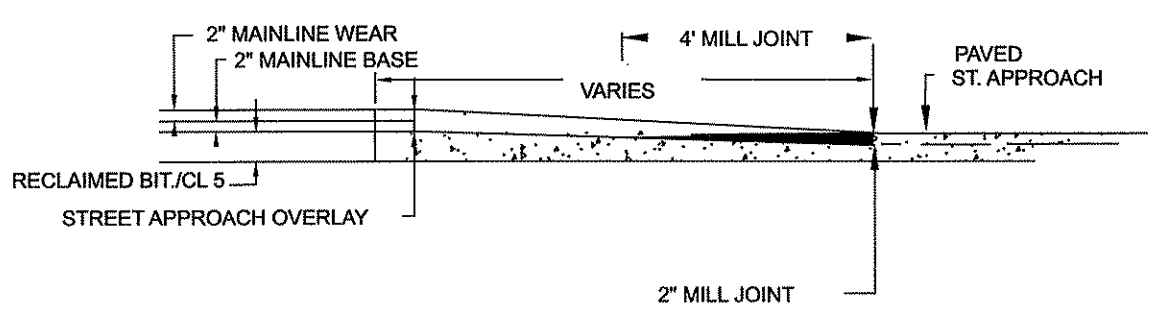
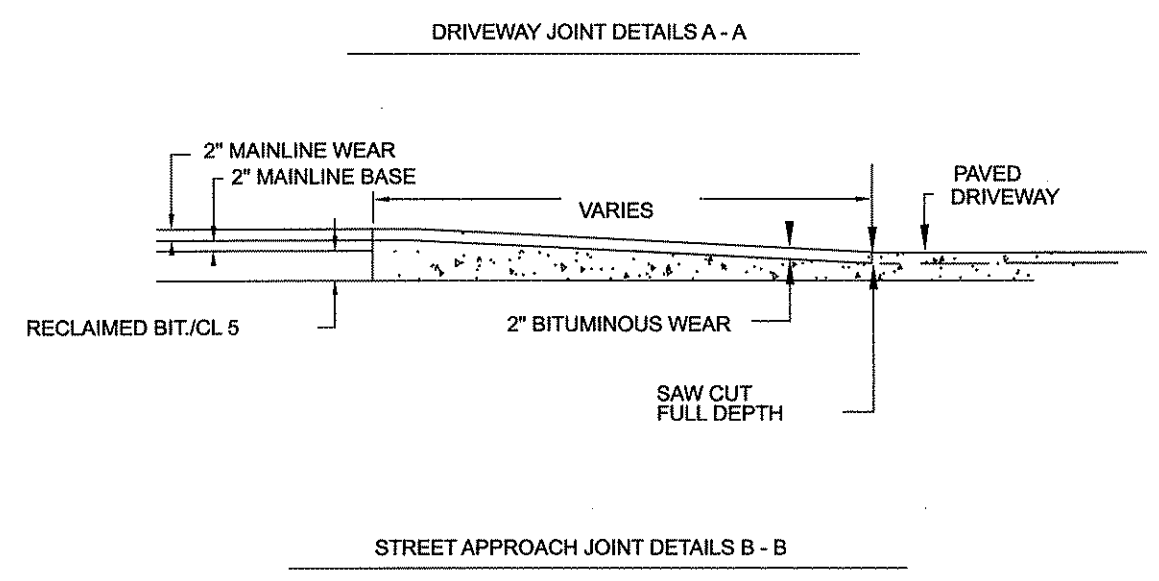


FIGURE B
BITUMINOUS PAVEMENT

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

NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\12-01-00\CR_66_(CSAH22-So\NorrisLake)\Plan3_Details.dgn					
02/27/2012 10:41:20 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 CADENHEAD

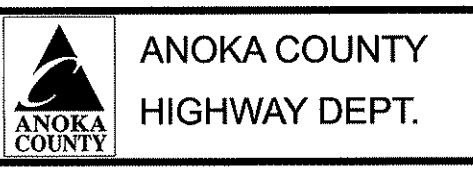
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DATE: 3/2/12 LICENSE NO. #40416

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DESIGN BY CSO DATE 12/20/2011

CHECKED BY JO DATE



STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

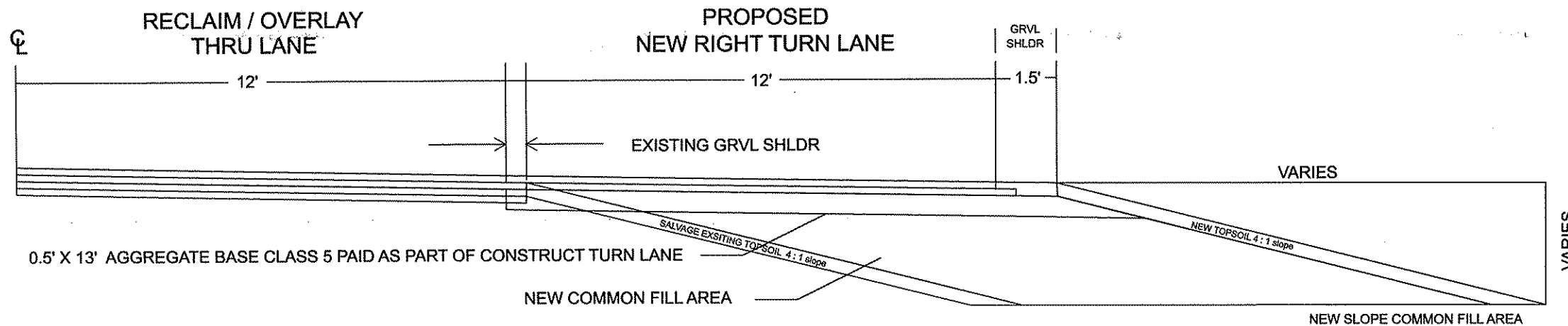
CITY PROJECT NO. _____

COUNTY PROJECT NO. 12-16-66

MISCELLANEOUS DETAILS

Sheet 4 of 17 Sheets

R.T.L. LOCATIONS
 S.B. 66 @ CSAH 22
 N.B. 66 @ OLD VIKING BLVD
 S.B. 66 @ 206TH
 S.B. 66 @ GYPSY



* NOTE: CALC. BASED ON AVERAGE DITCH DEPTH ELEVATION & AVERAGE EXISTING EDGE OF BITUMINOUS ELEVATION

RIGHT TURN LANE LOCATIONS	EXISTING AVG EDGE OF BIT ELEV	EXISTING AVG DITCH ELEV	LANE LENGTH	LANE WIDTH	ESTIMATED SELECT GRANULAR FILL (CU YD)	ESTIMATED EXCESS (CU YD)	TURF EST. EROSION CONTROL BLANKET TYPE III (SQ YD)	AGGREGATE BASE CLASS 5 (CU YD)
SB 66 @ CSAH 22	911.79	908.84	480.00	12	524	0	640	107
NB 66 @ OLD VIKING	916.27	915.72	480.00	12	11	0	107	107
SB 66 @ 206TH	931.64	929.35	480.00	12	382	0	533	107
SB 66 @ GYPSY	925.70	923.03	480	12	462	0	587	107
TOTALS					1379	0		427

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\12-01-00\CR_66_CSAH22-Soi(NorrisLake)\Plant3_Details.dgn 02/27/2012 10:41:24 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 CADENHEAD
 SIGNATURE: *[Signature]*
 DATE: 3/2/12 LICENSE NO. #48416

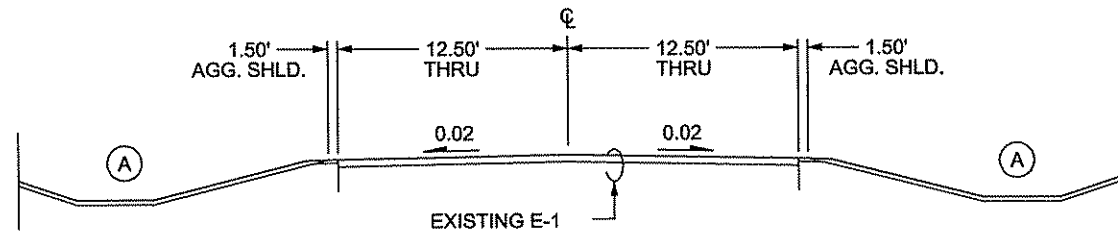
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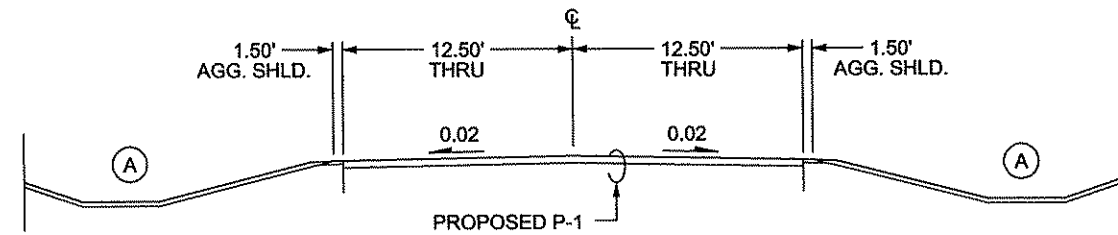
STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 12-16-66

MISCELLANEOUS DETAILS
 Sheet 5 of 17 Sheets

C.R 66
EXISTING SECTION
 STA. 10+00.00 - STA. 122+40.00

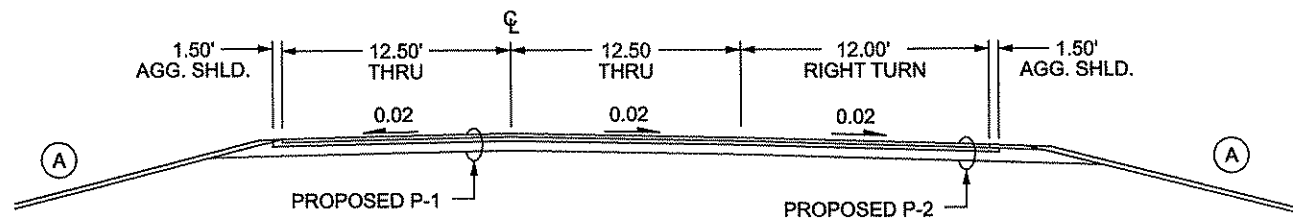


C.R 66
PROPOSED SECTION
 STA. 10+00.00 - STA. 122+40.00
 EXCEPT TURN LANE AREAS



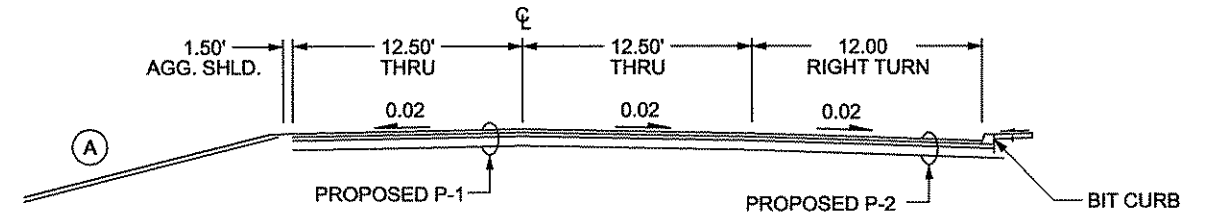
C.R. 66
PROPOSED RIGHT TURN LANE

S.B. @ 206TH
 S.B. @ GYPSY



C.R. 66
PROPOSED RIGHT TURN LANE
WITH BIT CURB

STA. 10+75 - STA. 14+00 LT
 STA. 25+35 - STA. 29+50 RT



DESIGN "P-1" MAINLINE
PAVEMENT DESIGN

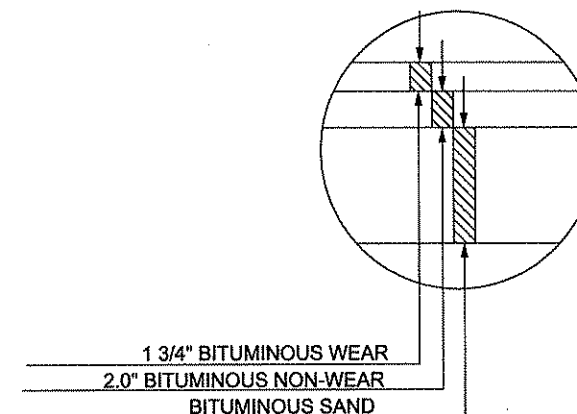
2" BITUMINOUS WEAR (SPWEB440B)
 2" BITUMINOUS WEAR (SPWEB440B)
 RECLAIM AGGREGATE BASE, CLASS 5

DESIGN "P-2" MAINLINE
PAVEMENT DESIGN

2" BITUMINOUS WEAR (SPWEB440E)
 2" BITUMINOUS WEAR (SPWEB440B)
 6" AGGREGATE BASE, CLASS 5

(INCLUDED IN BID PRICE FOR CONSTRUCT TURN LANE)

EXISTING "E-1" MAINLINE
PAVEMENT



SPECIFIC NOTES:

- (A) DITCH SLOPES VARY 1:1 - 6:1
- DITCH DEPTH VARIES 2.0' - 8.0'
- DITCH WIDTH VARIES 0.0' - 10.0'

GENERAL NOTES:

- ALL CROSS SLOPES ARE EXPRESSED IN FT / FT
- UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE OF THE MAINLINE.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\12-01-00\CR_66_CSAH22-SoilNormisLake\Plan\4_TS.dgn 02/27/2012 10:53:03 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 CADENHEAD
 SIGNATURE: *[Signature]*
 DATE: 3/2/12 LICENSE NO. 40416

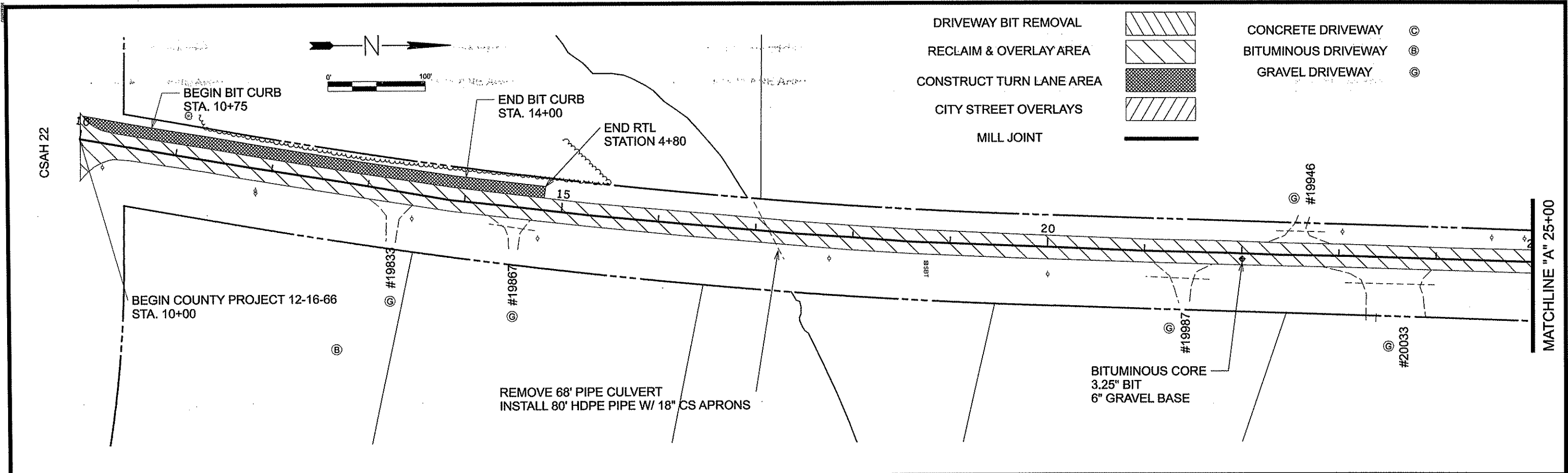
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 CHECKED BY: JO DATE: _____



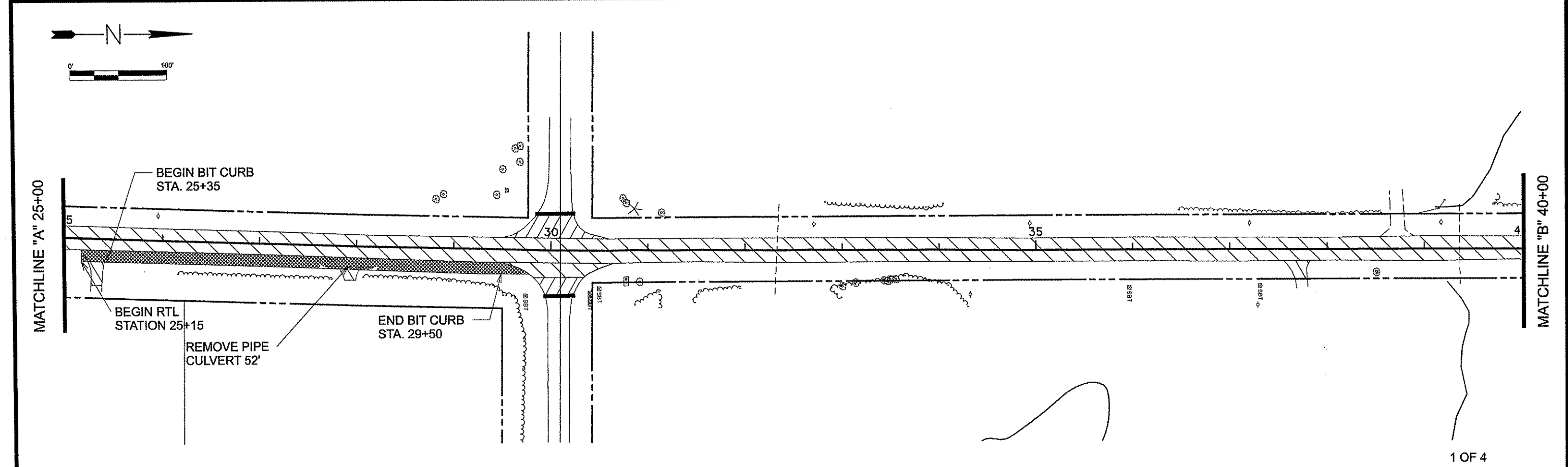
STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 12-16-66

TYPICAL SECTIONS

Sheet 6 of 17 Sheets



- DRIVEWAY BIT REMOVAL
- RECLAIM & OVERLAY AREA
- CONSTRUCT TURN LANE AREA
- CITY STREET OVERLAYS
- MILL JOINT
- CONCRETE DRIVEWAY
- BITUMINOUS DRIVEWAY
- GRAVEL DRIVEWAY



1 OF 4

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\12-01-00\CR_66_CSAH22-SoftNorrisLake\Plan15_PLAN.dgn					

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

PRINT NAME: CHARLES CAPENHEAD

SIGNATURE:

DATE: 3/2/12 LICENSE NO. 40416

DRAWN BY: CSO DATE: 12/20/2011

DESIGN BY: CSO DATE: 12/20/2011

CHECKED BY: JO DATE: _____



STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

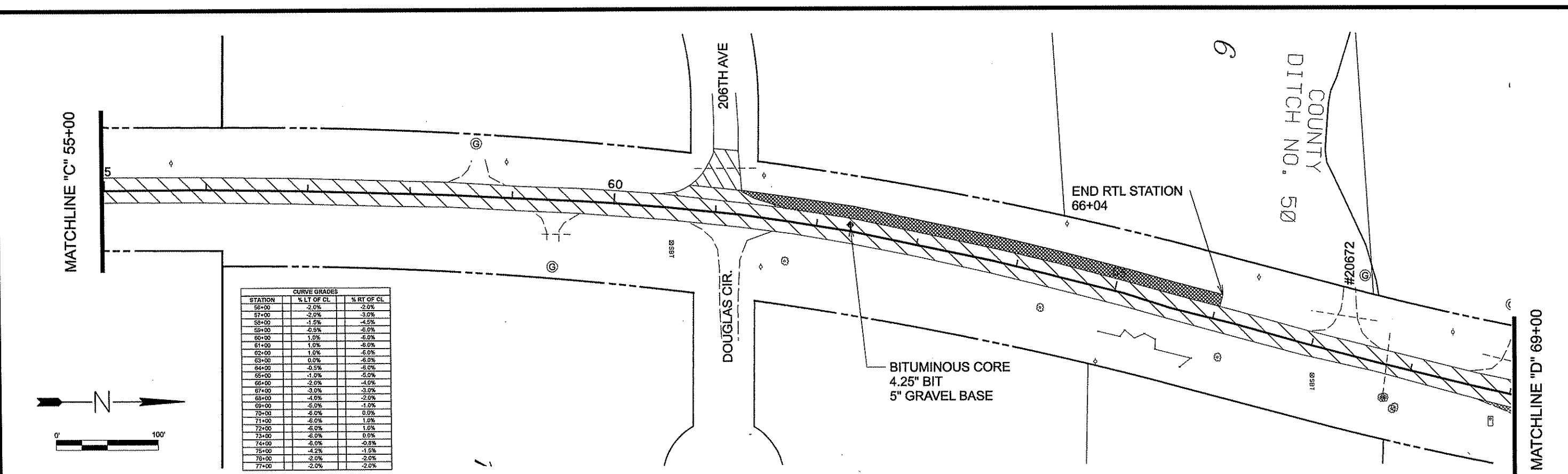
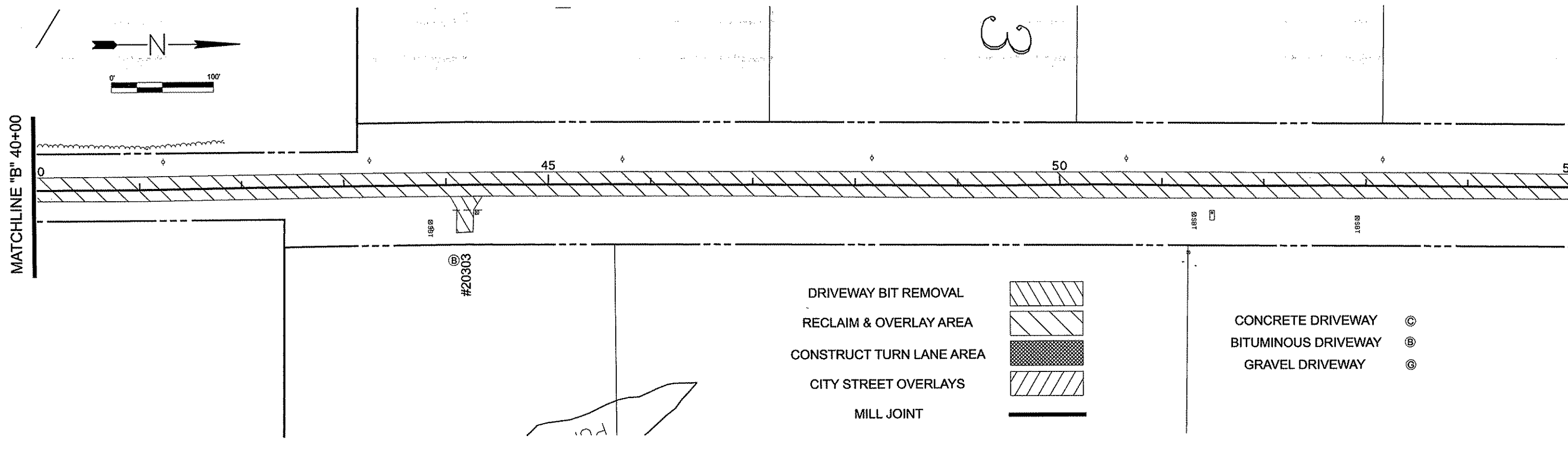
CITY PROJECT NO. _____

COUNTY PROJECT NO. 12-16-66

CONSTRUCTION PLAN

STA 10+00 TO 40+00

Sheet 7 of 17 Sheets



STATION	V. LT OF CL	% RT OF CL
56+00	-2.0%	-2.0%
57+00	-2.0%	-3.0%
58+00	-1.5%	-4.5%
59+00	-0.5%	-6.0%
60+00	1.0%	-8.0%
61+00	1.0%	-6.0%
62+00	1.0%	-6.0%
63+00	0.0%	-6.0%
64+00	-0.5%	-6.0%
65+00	-1.0%	-6.0%
66+00	-2.0%	-4.0%
67+00	-3.0%	-3.0%
68+00	-4.0%	-2.0%
69+00	-6.0%	-1.0%
70+00	-6.0%	0.0%
71+00	-6.0%	1.0%
72+00	-6.0%	1.0%
73+00	-6.0%	0.0%
74+00	-6.0%	-0.8%
75+00	-4.2%	-1.5%
76+00	-2.0%	-2.0%
77+00	-2.0%	-2.0%

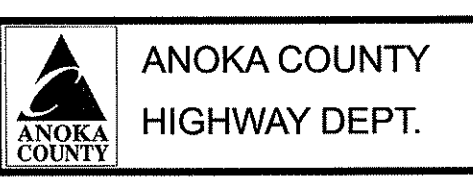
NO.	DATE	BY	CKD	APPR	REVISION

NAME: P:\12-01-00\CR_06_CSAH22-So\NorrisLake\Plan5_PLAN.dgn
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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.

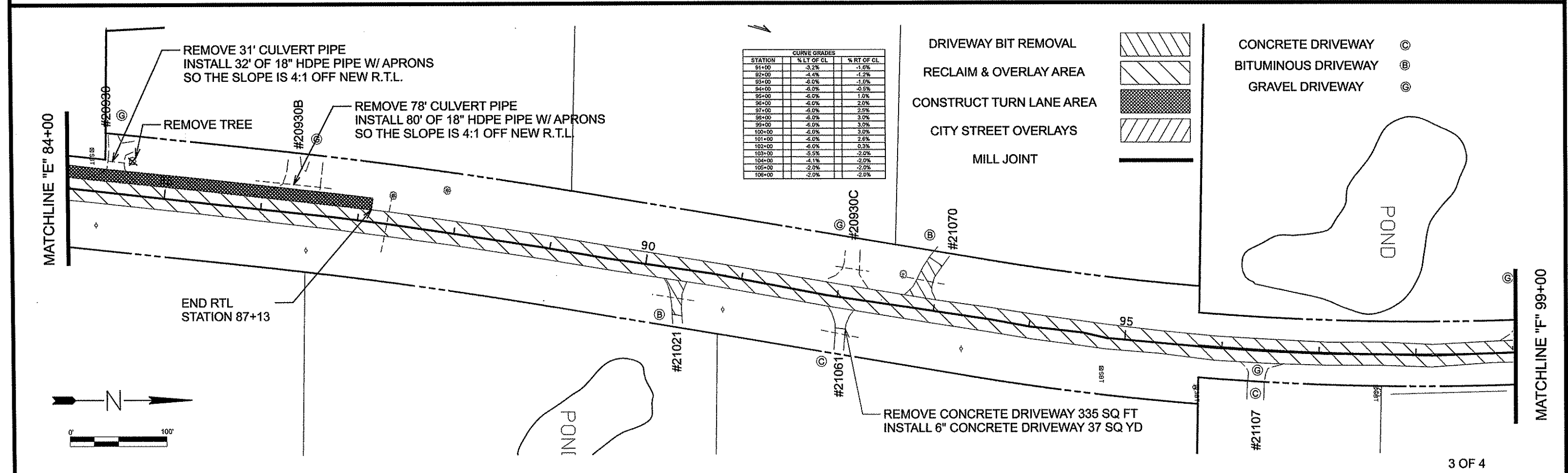
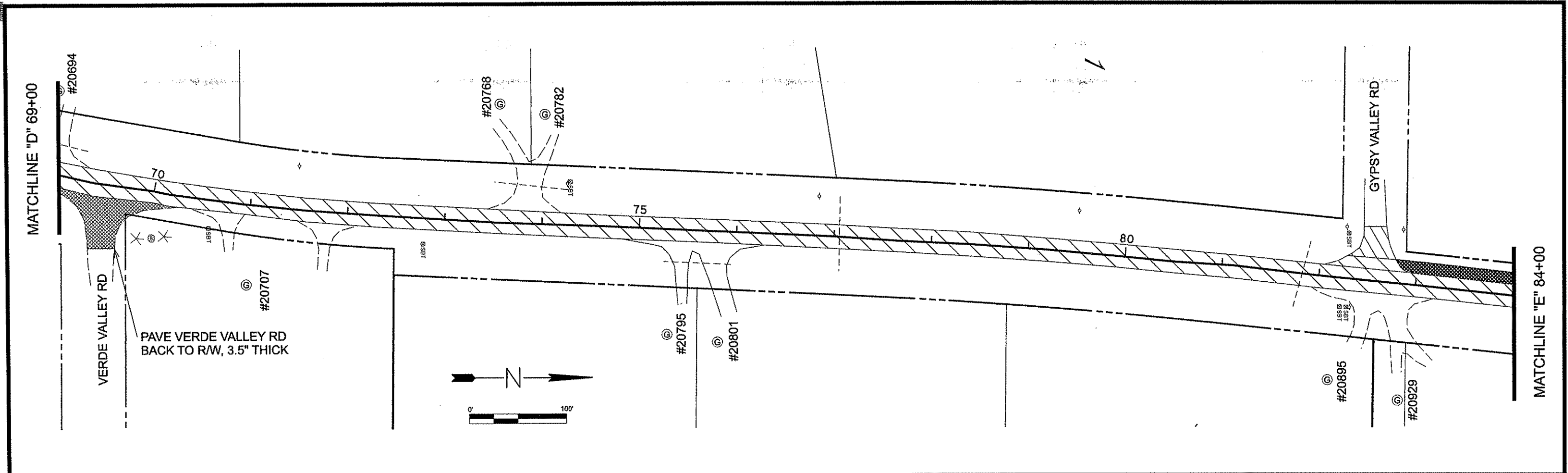
PRINT NAME: CHARLES CADENHEAD
 SIGNATURE: *[Signature]*
 DATE: 3/2/12 LICENSE NO. 40416

DRAWN BY: CSO DATE: 12/20/2011
 DESIGN BY: CSO DATE: 12/20/2011
 CHECKED BY: JO DATE: _____



STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 12-16-66

CONSTRUCTION PLAN
 STA 40+00 TO 69+00
 Sheet 8 of 17 Sheets



STATION	% LT OF CL	% RT OF CL
91+00	-3.2%	-1.6%
92+00	-4.4%	-1.2%
93+00	-5.0%	-1.0%
94+00	-5.0%	-0.5%
95+00	-6.0%	1.0%
96+00	-6.0%	2.0%
97+00	-6.0%	2.5%
98+00	-6.0%	3.0%
99+00	-6.0%	3.0%
100+00	-6.0%	3.0%
101+00	-6.0%	2.6%
102+00	-6.0%	0.3%
103+00	-5.5%	-2.0%
104+00	-4.1%	-2.0%
105+00	-2.0%	-2.0%
106+00	-2.0%	-2.0%

- DRIVEWAY BIT REMOVAL
- RECLAIM & OVERLAY AREA
- CONSTRUCT TURN LANE AREA
- CITY STREET OVERLAYS
- MILL JOINT

- CONCRETE DRIVEWAY
- BITUMINOUS DRIVEWAY
- GRAVEL DRIVEWAY

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\12-01-00\CR_66 (CSAH22-SoftNorrisLake)\Plan5_PLAN.dgn 02/27/2012 10:57:38 AM

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PRINT NAME: CHARLES CADEM HEAD

SIGNATURE:

DATE: 2/2/12 LICENSE NO. 40416

DRAWN BY: CSO DATE: 12/20/2011

DESIGN BY: CSO DATE: 12/20/2011

CHECKED BY: JO DATE: _____

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

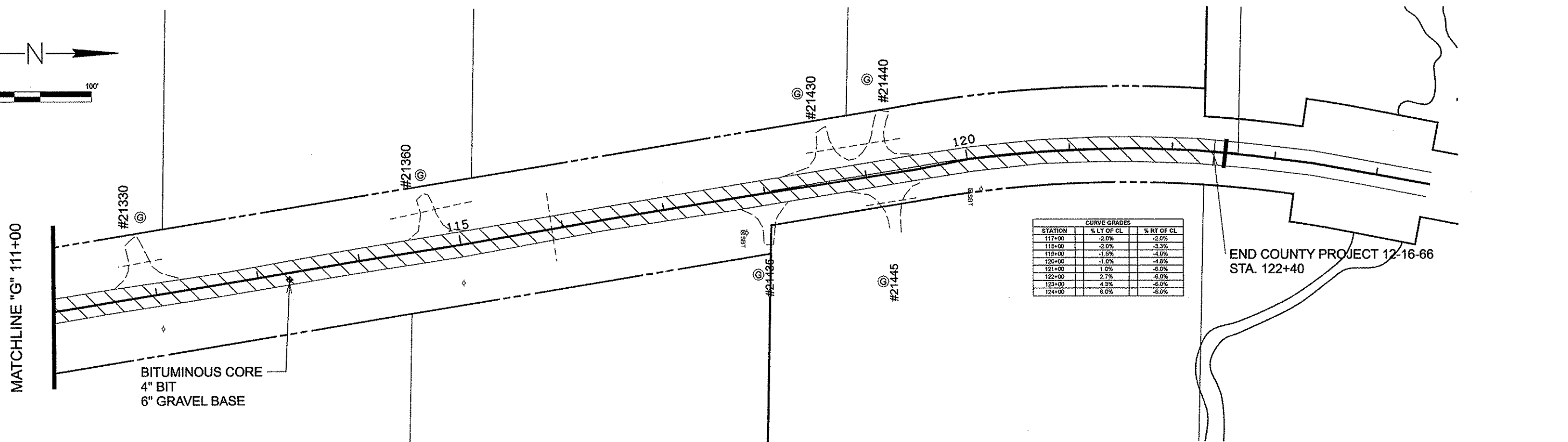
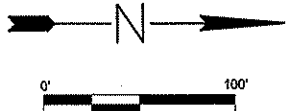
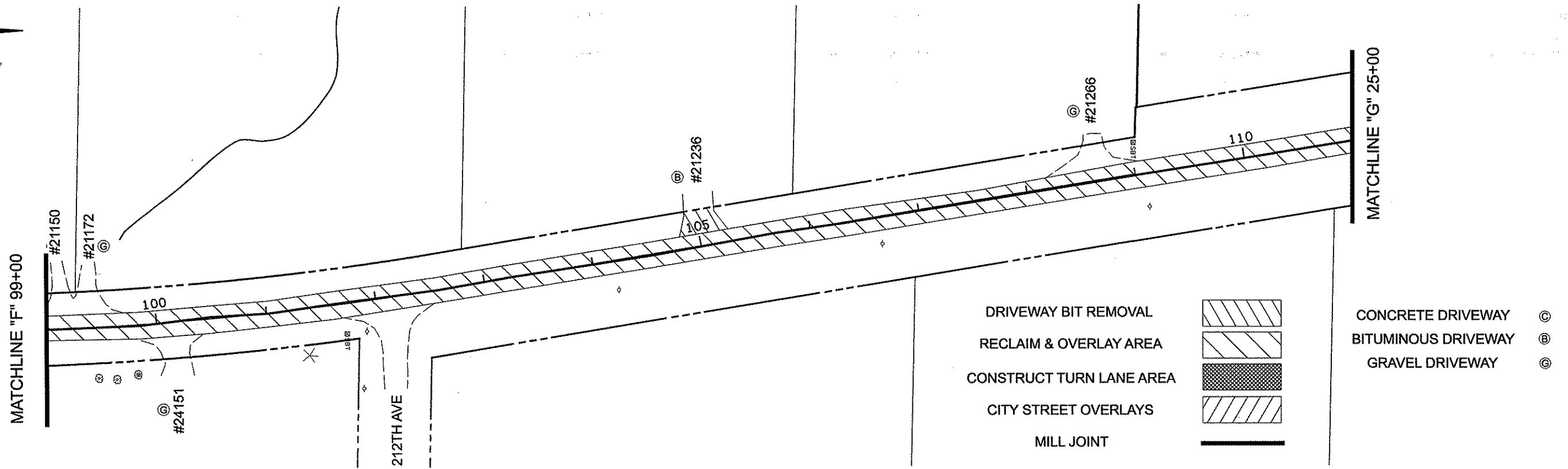
CITY PROJECT NO. _____

COUNTY PROJECT NO. 12-16-66

CONSTRUCTION PLAN

STA 69+00 TO 99+00

Sheet 9 of 17 Sheets



CURVE GRADES		
STATION	% LT OF CL	% RT OF CL
117+00	-2.0%	-2.0%
118+00	-2.0%	-3.3%
119+00	-1.5%	-4.0%
120+00	-1.0%	-4.8%
121+00	1.0%	-6.0%
122+00	2.7%	-6.0%
123+00	4.3%	-6.0%
124+00	6.0%	-6.0%

END COUNTY PROJECT 12-16-66
STA. 122+40

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\12-01-00\CR_06_(CSAH22-SoftNorrisLake)\Plan5_PLAN.dgn 02/27/2012 10:54:56 AM

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 PRINT NAME: CHARLES CADENHEAD
 SIGNATURE: *[Signature]*
 DATE: 3/2/12 LICENSE NO. 40416

DRAWN BY CSO DATE 12/20/2011
 DESIGN BY CSO DATE 12/20/2011
 CHECKED BY JO DATE



STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 12-16-66

CONSTRUCTION PLAN
 STA 99+00 TO 122+40
 Sheet 10 of 17 Sheets

PERMANENT PAVEMENT MARKING PLAN
NOTES AND GUIDELINES

GENERAL INFORMATION:

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

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

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

EPOXY:

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

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

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

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

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

PREFORMED THERMOPLASTIC:

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

PAINT:

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

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

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

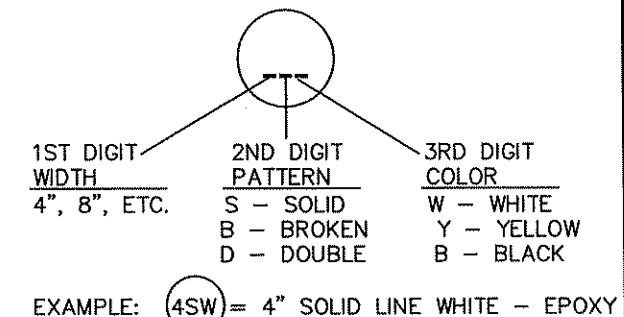
THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

SYMBOLS & MATERIALS LEGEND

- CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC
- ← PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

STRIPING KEY

- CIRCLE - EPOXY
- SQUARE PREFORMED THERMOPLASTIC
- △ TRIANGLE - PAINT
- ⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



PAVEMENT MARKING QUANTITIES

Item	Quantity	Units
4" Double Solid Line Yellow - Epoxy	2535	Lin Ft
4" Solid Line Yellow - Epoxy	6350	Lin Ft
4" Broken Yellow Line - Epoxy (10 ft stripe / 40 ft gap)	1730	Lin Ft
4" Solid Line White - Epoxy	23010	Lin Ft

NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: CHARLES CADENHEAD
SIGNATURE: *[Signature]*
DATE: 3/9/12 LICENSE NO. 40416

DRAWN BY: ST DATE 02/03/2012
DESIGN BY: ST DATE 02/03/2012
CHECKED BY: JR DATE 02/03/2012



ANOKA COUNTY
HIGHWAY DEPT.

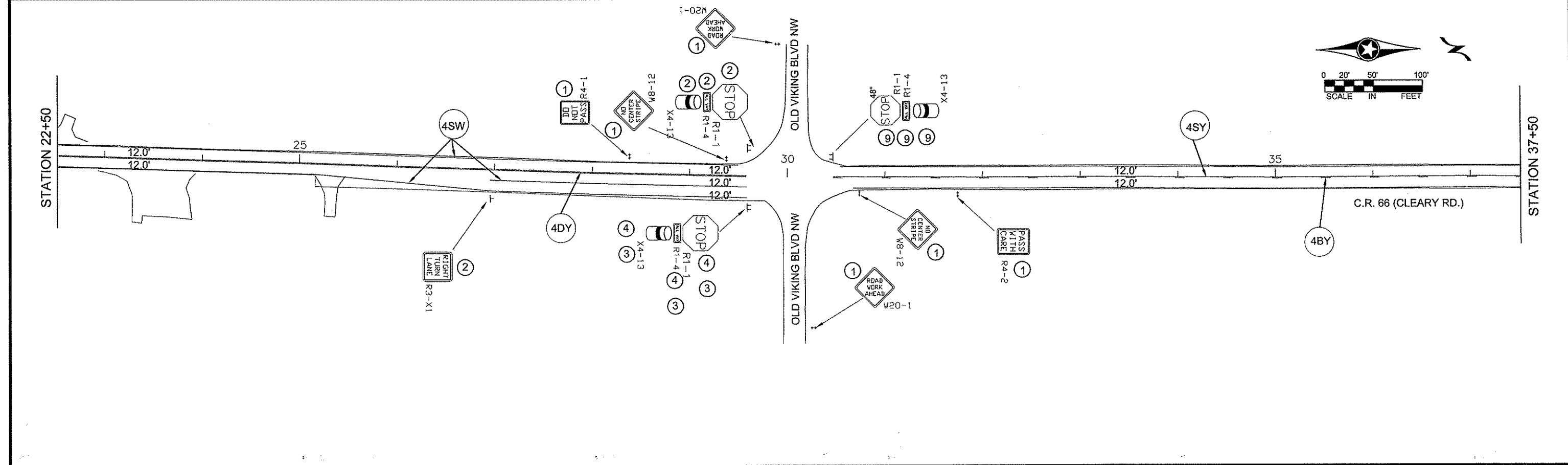
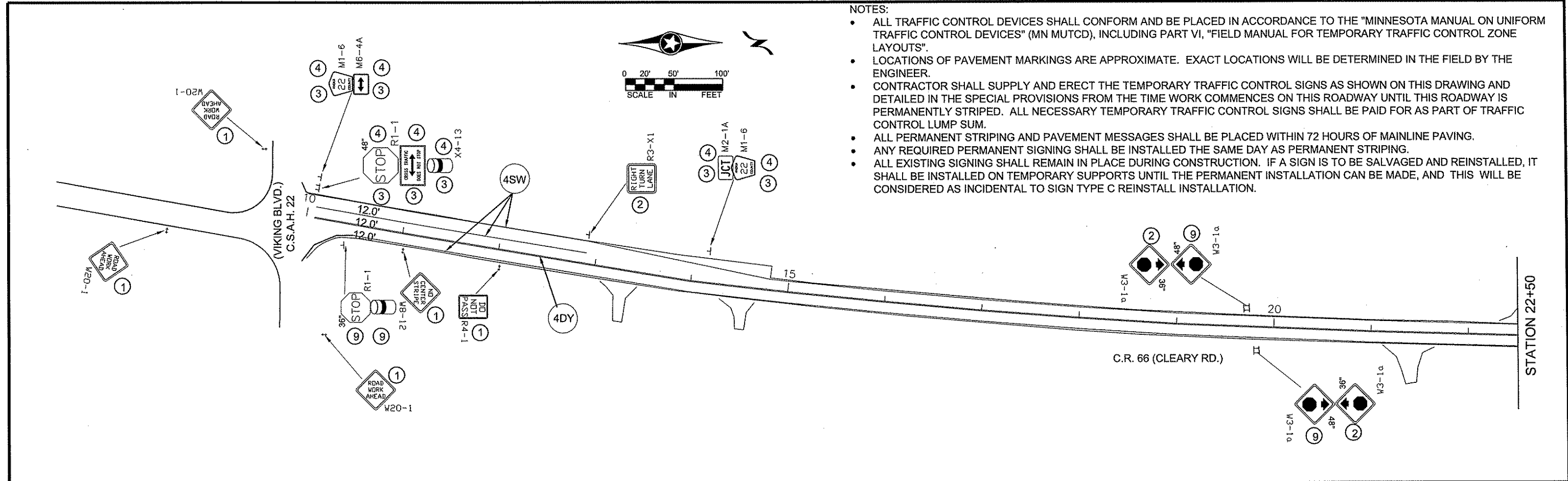
STATE PROJECT NO. _____
STATE AID PROJECT NO. _____
STATE AID PROJECT NO. _____
COUNTY PROJECT NO. 12-16-66

PERMANENT MARKING
TABULATION

Sheet 11 of 17 Sheets

NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
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 DATE: 3/2/12 REG. NO. 40416

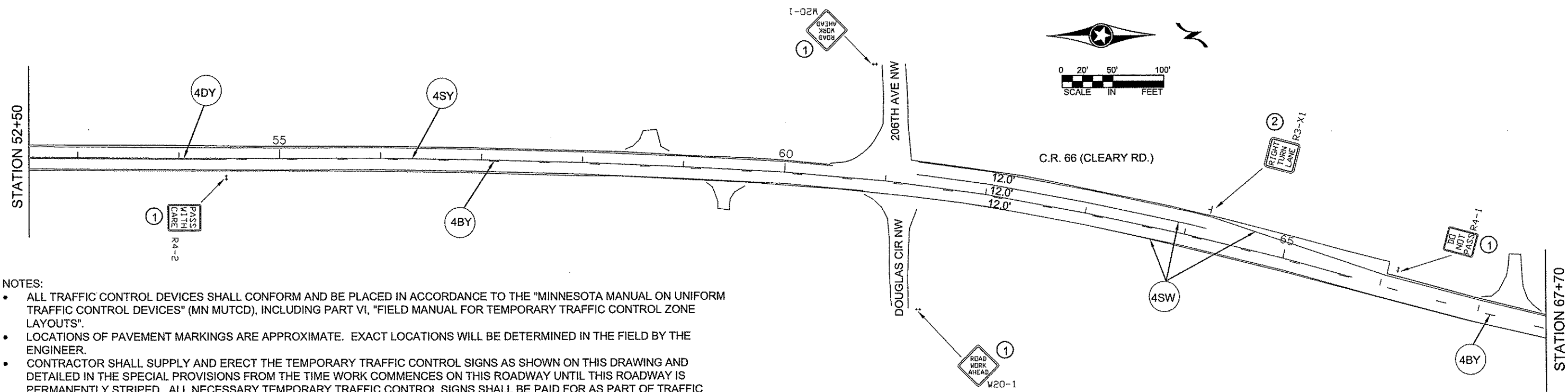
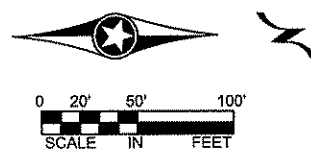
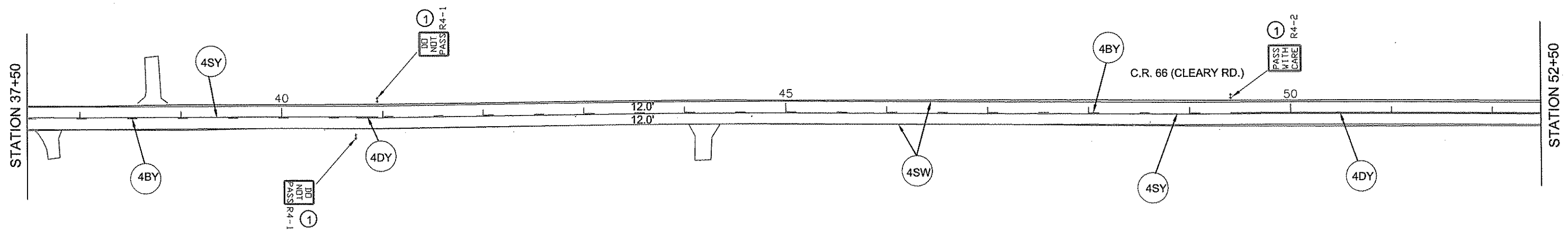
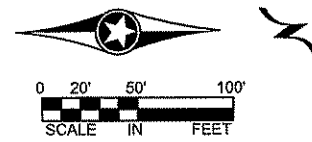
DRAWN BY: S.T. DATE 02/03/12
 DESIGN BY: S.T. DATE 02/03/12
 CHECKED BY: J.R. DATE 02/14/12



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 12-16-66

CR 66 (CLEARY RD)
 TEMPORARY SIGNING
 PERMANENT STRIPING
 AND PAVEMENT MESSAGES
 Sheet 12 of 17 Sheets



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NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: CHARLES CADENHEAD

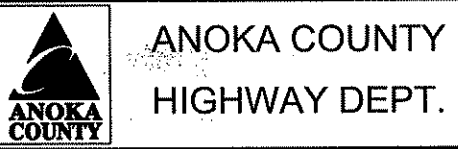
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DATE: 12/12 REG. NO. 40416

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CHECKED BY: J.R. DATE: 02/14/12



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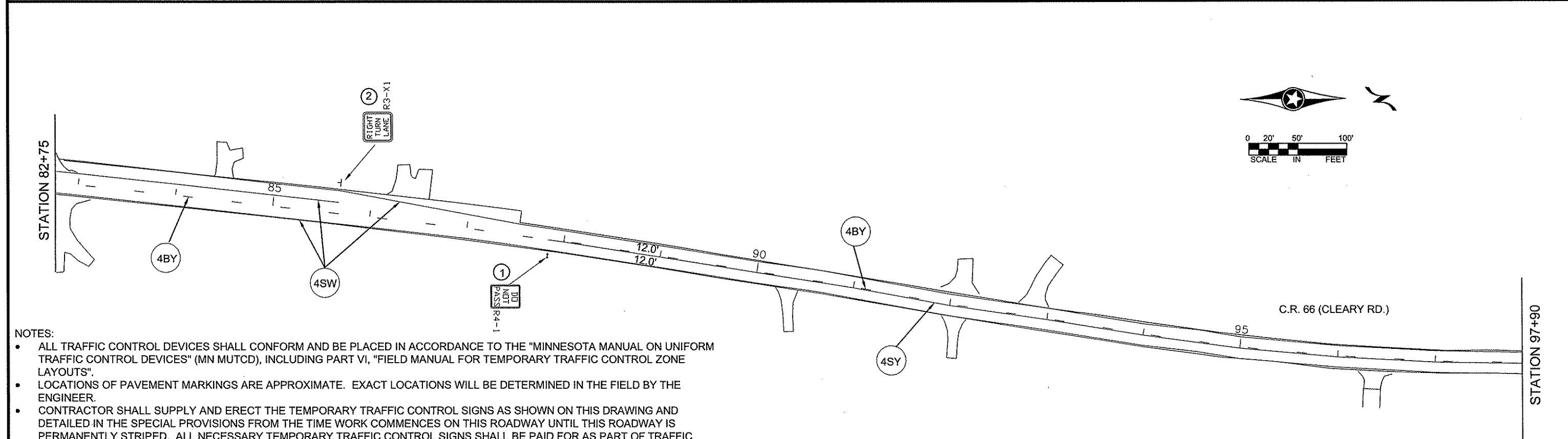
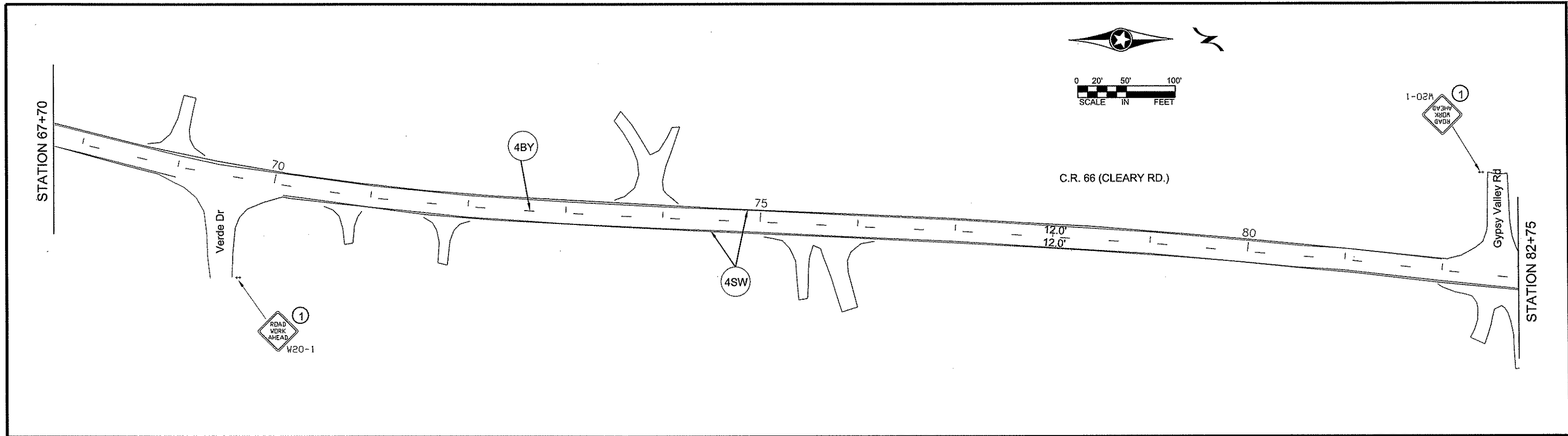
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CR 66 (CLEARY RD)
TEMPORARY SIGNING
PERMANENT STRIPING
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Sheet 13 of 17 Sheets



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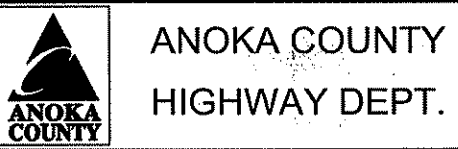
SIGNATURE: *Charles Badenhead*

DATE: 7/12 REG. NO. 40416

DRAWN BY S.T. DATE 02/03/12

DESIGN BY S.T. DATE 02/03/12

CHECKED BY J.R. DATE 02/14/12



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

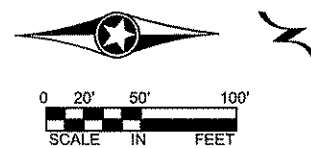
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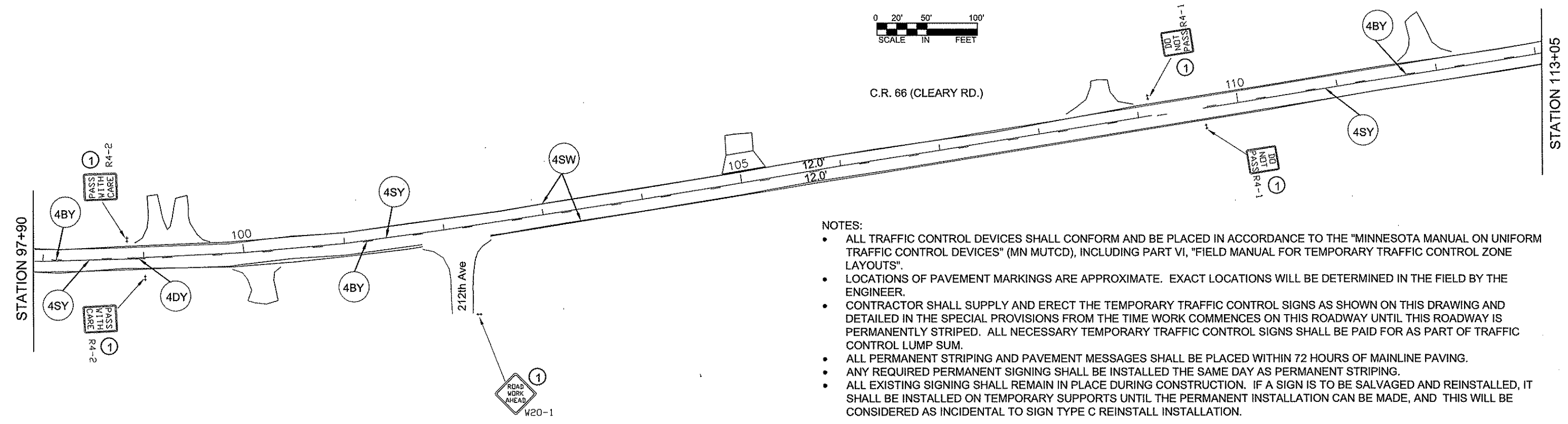
COUNTY PROJECT NO. 12-16-66

CR 66 (CLEARY RD)
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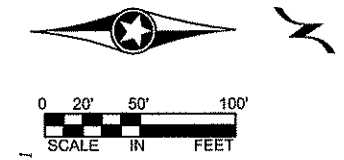
Sheet 14 of 17 Sheets



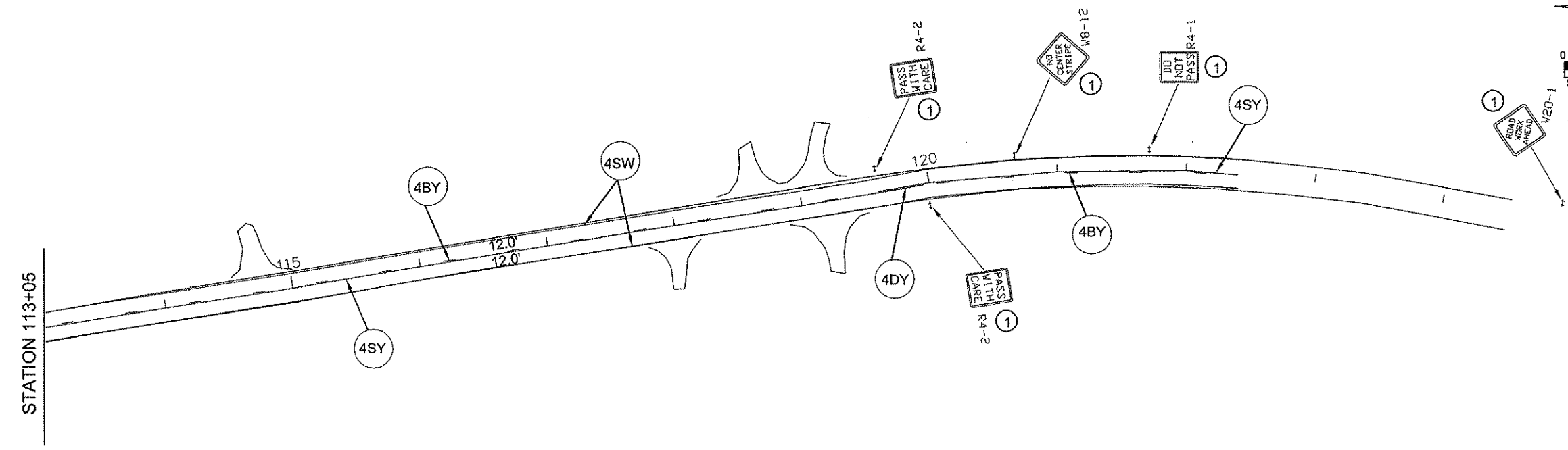
C.R. 66 (CLEARY RD.)



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DRAWN BY: S.T. DATE 02/03/12
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ANOKA COUNTY
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CR 66 (CLEARY RD)
 TEMPORARY SIGNING
 PERMANENT STRIPING
 AND PAVEMENT MESSAGES
 Sheet 15 of 17 Sheets

TEMPORARY TRAFFIC CONTROL SIGNS				
M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY
W8-12	48" x 48"	16.00		2
R4-1	24" x 30"	5.00		9
R4-2	24" x 30"	5.00		7
W8-1A	48" x 48"	16.00		AS NEEDED
W8-1A	48" x 48"	16.00		AS NEEDED
W8-8	48" x 48"	16.00		AS NEEDED
W8-11	48" x 48"	16.00		AS NEEDED
W20-1	48" x 48"	16.00		AS NEEDED (ESTIMATED 11)

F & I PERMANENT SIGNS							
M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	No. GROUND POST MOUNT INSTALL		MOUNTING HEIGHT FT.	TOTAL AREA FT. ²
				No.	POST		
R1-1	36" x 36"	9.00		1	2	7.0'	9.00
R1-4	18" x 6"	0.75		1			0.75
DELINEATOR X4-13	8" DIA x 12"			1		4.0'	
R3-X1	30" x 30"	6.25		4	1	7.0'	25.00
W3-1a	36" x 36"	9.00		2	2	7.0'	18.00
TOTAL PANEL AREA							52.75

- SEE SPECIAL PROVISIONS
- ① TEMPORARY TRAFFIC CONTROL SIGN
 - ② F & I PERMANENT SIGN
 - ③ SALVAGE PERMANENT SIGN
 - ④ RE-INSTALL PERMANENT SIGN
 - ⑨ INPLACE - RETAIN

SALVAGE & RE-INSTALL PERMANENT SIGNS				
STATION		SALVAGE	INSTALL	SIGN NUMBER
		SIGN TYPE C EACH	SIGN TYPE C EACH	
10+15	Lt			R1-1
10+15	Lt	1	1	R1-X2
10+15	Lt			X4-13
10+15	Lt	1	1	M4-6a
10+15	Lt			M1-6
14+15	Lt	1	1	M2-1a
14+15	Lt			M1-6
29+60	Rt			R1-1
29+60	Rt	1	1	R1-4
29+60	Rt			X4-13
TOTAL		4	4	

NOTES:

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

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 CADENHEAD

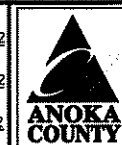
SIGNATURE:

DATE: 3/2/12 REG. NO. 40416

DRAWN BY: S.T. DATE: 02/03/12

DESIGN BY: S.T. DATE: 02/03/12

CHECKED BY: J.R. DATE: 02/14/12



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

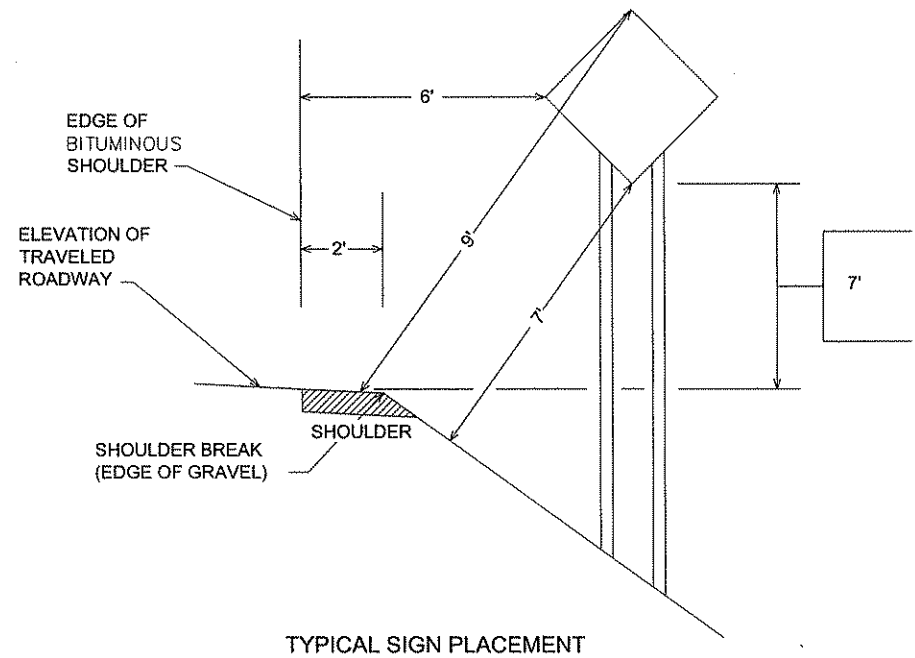
STATE AID PROJECT NO. _____

COUNTY PROJECT NO. 12-16-66

CR 66 (CLEARY RD)
TEMPORARY SIGNING
PERMANENT STRIPING
AND PAVEMENT MESSAGES

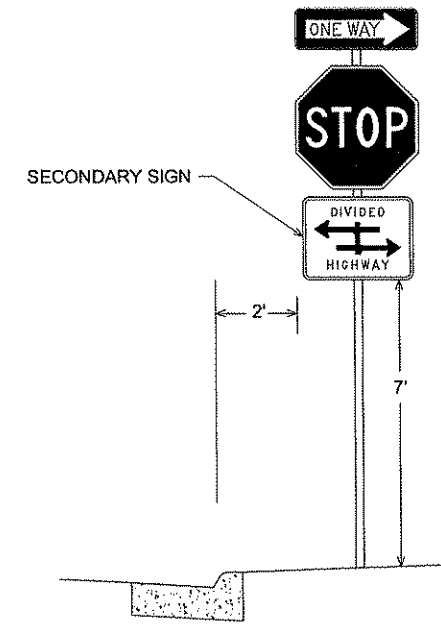
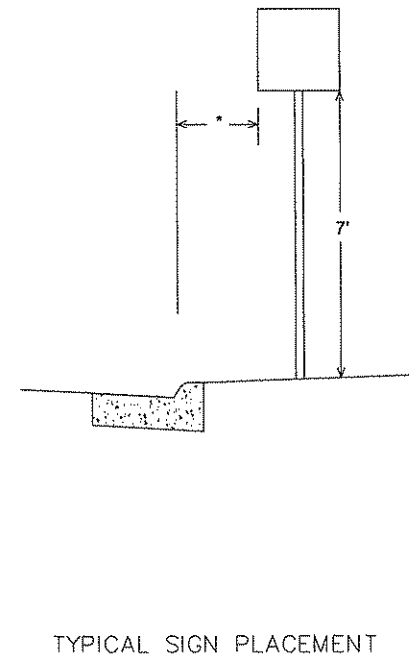
Sheet 16 of 17 Sheets

RURAL



URBAN

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



- 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: 3/2/12 LICENSE NO. 40416

DRAWN BY: ST DATE: 02-03-12

DESIGN BY: ST DATE: 02-03-12

CHECKED BY: JR DATE: 02-14-12



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE PROJECT NO. _____

STATE PROJECT NO. _____

COUNTY PROJECT NO. 12-16-66

SIGNING & STRIPING DETAILS

Sheet 17 of 17 Sheets