

## 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

PLAN  
PROFILE  
HORIZONTAL  
VERTICAL  
X-SECTIONS  
HORIZONTAL  
VERTICAL  
INDEX MAP

MINNESOTA DEPARTMENT OF TRANSPORTATION  
ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING, AGG.BASE, CONCRETE &amp; BITUMINOUS SURFACING, BOX CULVERT, DRAINAGE

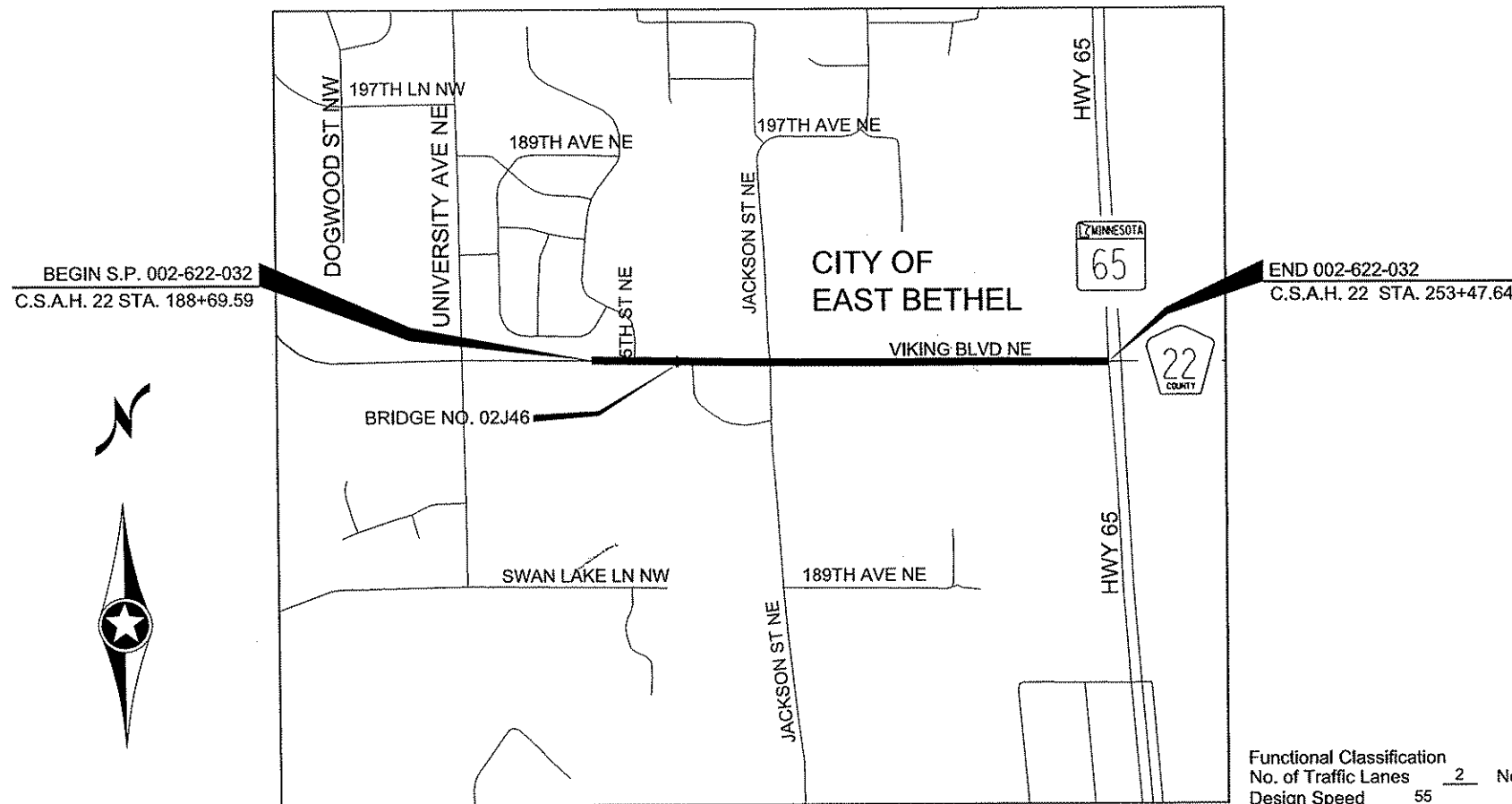
LOCATED ON C.S.A.H. 22 BETWEEN 1365' E OF UNIVERSITY AVE AND MN TRUNK HIGHWAY 65

STATE PROJ. NO. 002-622-032

C.S.A.H. 22

GROSS LENGTH	6478.05 FEET	1.227 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	6478.05 FEET	1.227 MILES

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS  
UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL  
WAS DETERMINED ACCORDING TO THE GUIDELINES OF  
CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR  
THE COLLECTION AND DEPICTION OF EXISTING  
SUBSURFACE UTILITY DATA.



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

DESIGN DESIGNATION  
CESAL 35 6,226,000  
R VALUE 30  
ADT (2013) = 7,190  
Proj. ADT (2033) = 11,460  
Proj. HCADT (2033) = 987  
Soil Factor NA  
10 TON DESIGN

## 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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87 - 106	CROSS SECTIONS

THIS PLAN CONTAINS 106 SHEETS

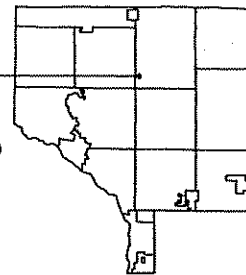
Approved: [Signature] 2/8/2013  
ANOKA COUNTY ENGINEERApproved: [Signature] 2/8/2013  
CITY OF EAST BETHEL ENGINEER

REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY DISTRICT STATE AID ENGINEER

APPROVED FOR STATE AID FUNDING STATE AID ENGINEER

## PROJECT LOCATION

CITY OF EAST BETHEL  
ANOKA COUNTY  
MN/DOT TRANSPORTATION DISTRICT - METRO  
SECTION 29,30  
TOWNSHIP 33 NORTH  
RANGE 23 WEST



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: CURT A. KOBLARCSIK  
SIGNATURE: [Signature]  
DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY ZDC DATE 12-07-12

DESIGN BY NJD DATE 12-07-12

CHECKED BY GMP DATE 12-07-12



ANOKA COUNTY  
HIGHWAY DEPT.

SAP 002-622-032

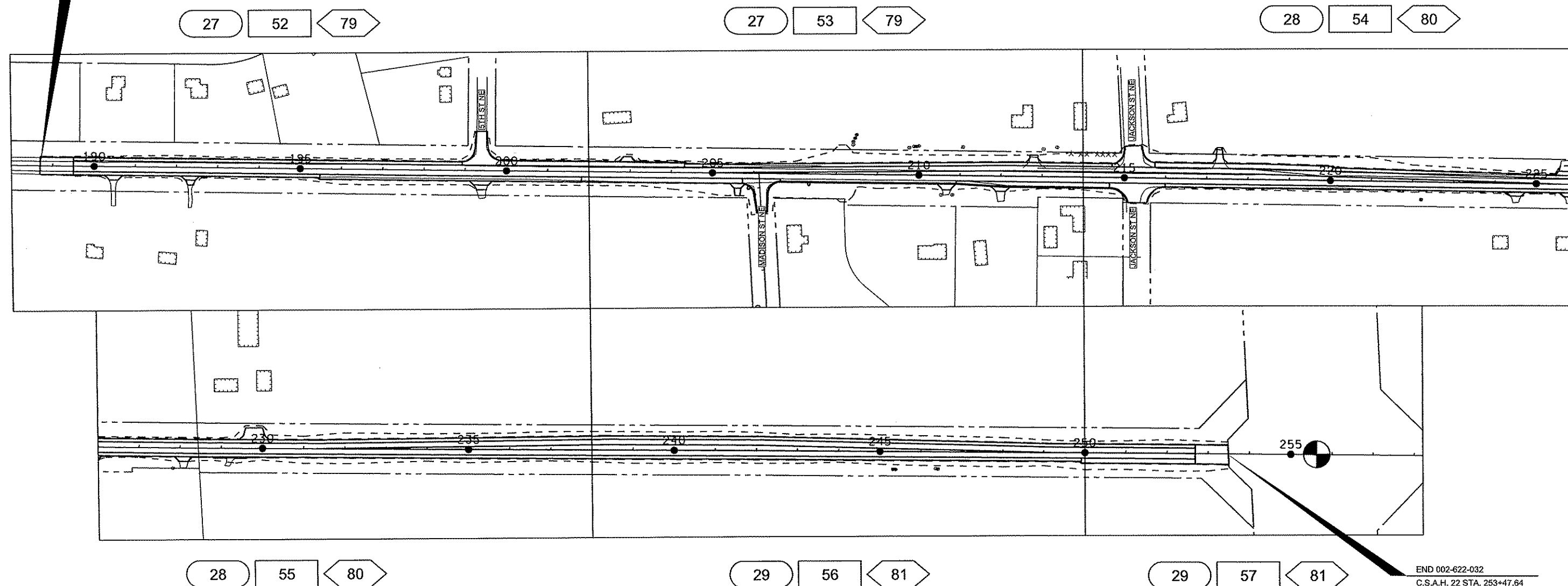
TITLE SHEET

Sheet 1 of 106 Sheets

NO	DATE	BY	CKD	APPR	REVISION

NAME: p002-622-32plan1title.dgn 02/06/2013 10:17:44 AM

BEGIN 002-622-032  
C.S.A.H. 22 STA. 188+69.59



END 002-622-032  
C.S.A.H. 22 STA. 253+47.64

### LEGEND

- XXX INPLACE TOPOGRAPHY AND REMOVAL PLAN SHEET NUMBER
- XXX CONSTRUCTION PLAN SHEET NUMBER
- XXX EROSION CONTROL PLAN SHEET NUMBER
- INPLACE SIGNAL SYSTEM

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:02-622-32\plan\0262232-GEN.dgn 02/06/2013 10:17:48 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: CURT A. KOBIARCSIK  
SIGNATURE: *Curt A. Kobiarsik*  
DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY ZDC DATE 12-07-12  
DESIGN BY NJD DATE 12-07-12  
CHECKED BY GMP DATE 12-07-12



ANOKA COUNTY  
HIGHWAY DEPT.

SAP 002-622-032

GENERAL LAYOUT

Sheet 2 of 106 Sheets







CLEARING & GRUBBING					A
ALIGNMENT	STATION	OFFSET	CLEARING [TREE]	GRUBBING [TREE]	NOTES
EB 22	195+45	54	1	1	
EB 22	195+83	49	1	1	
EB 22	195+99	50	1	1	
EB 22	196+63	52	1	1	
EB 22	196+66	58	1	1	
EB 22	196+76	52	1	1	
EB 22	197+00	42	1	1	
EB 22	196+99	46	1	1	
EB 22	197+02	54	2	1	
EB 22	197+09	43	1	1	
EB 22	197+15	47	1	1	
EB 22	197+18	42	1	1	
EB 22	197+21	47	1	1	
EB 22	200+74	54	1	1	
EB 22	201+68	46	1	1	
EB 22	201+74	47	1	1	
EB 22	201+75	48	1	1	
EB 22	204+77	48	1	1	
EB 22	201+79	46	1	1	
EB 22	201+54	48	1	1	
EB 22	208+41	-71	1	1	
EB 22	208+41	-80	2	1	
EB 22	208+45	-88	5	1	
EB 22	210+81	47	1	1	
EB 22	222+20	43	5	1	
PROJECT TOTAL			35	25	

CLEARING & GRUBBING GENERAL NOTES:  
TREES WITHIN THE CONSTRUCTION LIMITS WILL BE DESIGNATED FOR REMOVAL BY THE  
REMOVAL OF MISCELLANEOUS SHRUBS AND LANDSCAPING SHALL BE CONSIDERED INCIDENTAL.

REMOVALS, SAWING, MILLING & RECLAIMING										B
ALIGNMENT	STATION TO STATION	OFFSET	SPEC. 2104			SPEC. 2232		SPEC. 2104	NOTES	
			REMOVE			MILL	RECLAIM	SAWCUT		
			BITUMINOUS CURB	BITUMINOUS PAVEMENT	BITUMINOUS FLUME	BITUMINOUS SURFACE	BITUMINOUS PAVEMENT	BITUMINOUS PAVEMENT		
			[LIN FT]	[SQ YD]	[EACH]	[SQ YD]	[SQ YD]	[LIN FT]		
EB 22	188+69 - 202+00	C/L				4195	1323	45		
EB 22	202+00 - 216+00	C/L	1336	2376	2	3711	564	209	[1], [2]	
EB 22	216+00 - 230+00	C/L		1397		3528	1491	102	[1]	
EB 22	190+27 - 190+70	R		43					DRIVEWAY	
EB 22	195+78 - 201+82	R		510					BYPASS LANE	
EB 22	198+63 - 200+18	L		281					5TH ST NE	
EB 22	202+72 - 203+15	L		43					DRIVEWAY	
EB 22	205+35 - 205+78	R		308				46	DRIVEWAY	
EB 22	210+44 - 210+88	R		44					DRIVEWAY	
EB 22	211+68 - 212+28	R		62					DRIVEWAY	
EB 22	212+51 - 213+10	L		93					DRIVEWAY	
EB 22	214+73 - 215+80	L		327					JACKSON ST NE	
EB 22	214+71 - 215+79	R		271					JACKSON ST NE	
EB 22	217+12 - 217+54	L		111					DRIVEWAY	
EB 22	224+28 - 224+76	R		30					DRIVEWAY	
EB 22	225+52 - 226+08	R		42					DRIVEWAY	
EB 22	227+89 - 228+31	R		41					DRIVEWAY	
EB 22	229+45 - 231+19	R		168					DRIVEWAY	
EB 22	205+78 - 206+50	R	60	237	2			20	MADISON ST	
PROJECT TOTAL				1396	6385	4	11433	3378	422	

REMOVALS NOTES:  
[1] REMOVE BITUMINOUS PAVEMENT WHERE SHIFTED THRU LANE WILL BE CONSTRUCTED APPROX. STA. 209+16 TO 225+40 (SEE REMOVAL PLAN)  
[2] PAVEMENT BETWEEN STA. 207+16 AND 209+16 WILL BE REMOVED FOR CULVERT REPLACEMENT

CONCRETE PAVEMENT SUMMARY												D
ALIGNMENT	STATION TO STATION	OFFSET	SPEC. 2301						SPEC. 2531			NOTES
			CONCRETE PAVEMENT (6.0") [1]	CONCRETE PAVEMENT (6.0") [7]	CONCRETE PAVEMENT (7.5") [2]	CONCRETE PAVEMENT (8") [6]	1.0" DOWEL BAR	INTEGRANT CURB DESIGN B4	CONCRETE FLUME	B424 CONCRETE C & G	B624 CONCRETE C & G	
			[SQ YD]	[SQ YD]	[SQ YD]	[SQ YD]	[EACH]	[LIN FT]	[EACH]	[LIN FT]	[LIN FT]	
EB 22	189+50 - 204+32	C / L	4282	225								
EB 22	204+32 - 207+16	C / L		898								[3]
EB 22	206+13.21	R							1			
EB 22	205+93.04	R							1			
EB 22	207+16 - 209+16	C / L				835	367	252				
EB 22	209+16 - 225+40	C / L	4194	2345				174		455		[4]
EB 22	225+40 - 230+00	C / L	1330									
EB 22	230+00 - 249+25	C / L			7120		3615					[5]
EB 22	249+25 - 252+69	C / L			992		525					
EB 22	205+78 - 206+50	R							1		162	MADISON ST
PROJECT TOTAL			9806	3468	8112	835	4506	426	3	455	162	

CONCRETE SUMMARY NOTES:  
[1] CONCRETE OVERLAY - 13.0' WIDTH  
[2] CONCRETE RECONSTRUCT - 13.0' WIDTH  
[3] INCLUDES 43 SQ YD OF IRREGULAR WIDTH PAVEMENT  
[4] INCLUDES 1849 SQ YD OF IRREGULAR WIDTH PAVEMENT  
[5] INCLUDES 1559 SQ YD OF IRREGULAR WIDTH PAVEMENT  
[6] CONCRETE RECONSTRUCT (CULVERT REPLACEMENT 207+16 TO 209+16)  
[7] 6" CONCRETE RECONSTRUCT AT WIDENING FOR JACKSON STREET

BITUMINOUS SUMMARY								E
ALIGNMENT	STATION TO STATION		OFFSET	BITUMINOUS			AGGREGATE	NOTES
				TYPE SP 12.5 WEARING COURSE MIX (4.F)	TYPE SP 12.5 NON WEAR COURSE MIX (3.B)	BITUMINOUS MATERIAL FOR TACK COAT GALLON	AGGREGATE SHOULDERING CLASS 5 [1]	
				TON	TON		TON	
EB 22	188+69	- 189+49	C / L	86	43		1	TRANSITION
EB 22	195+48	- 201+82	R	194	97	85	5	BYPASS LANE
EB 22	189+50	- 195+48	R	92			4	SHOULDER
EB 22	189+50	- 198+93	L	145			8	SHOULDER
EB 22	198+93	- 199+85	L	89	44	39	1	5TH ST NE
EB 22	199+85	- 204+32	L	137	68	60	3	TURN LANE
EB 22	201+82	- 207+29	R	120	60	52	3	TURN LANE
EB 22	204+32	- 214+70	L	159			8	SHOULDER
EB 22	210+91	- 214+64	R	105	53	46		TURN LANE
EB 22	214+70	- 215+74	L	82	41	36	1	JACKSON STREET
EB 22	214+64	- 215+99	R	94	47	41	0	JACKSON STREET
EB 22	215+74	- 220+05	L	132	66	57	3	TURN LANE
EB 22	220+05	- 252+69	L	497			26	SHOULDER
EB 22	215+99	- 249+91	R	520			27	SHOULDER
EB 22	249+91	- 252+69	R	85	43	37	2	TURN LANE
EB 22	253+27	- 253+27	C / L	94	47	41	1	TRANSITION
EB 22	205+78	- 206+50	R	84	42	36		MADISON ST
PROJECT TOTAL				2716	651	529	95	

BITUMINOUS SUMMARY NOTES:  
[1] 1' AGGREGATE SHOULDERS

DRIVEWAYS							F
APRON CENTERLINE STATION	OFFSET	DRIVEWAY TYPE	APRON WIDTH [3]	AGGREGATE		TYPE SP 12.5 WEARING COURSE MIX (4,E)	NOTES
				AGGREGATE SURFACING CLASS 5 [1]	AGGREGATE BASE CLASS 5 [2]		
			FT	TON	CU YD	TON	
190+47	R	BITUMINOUS	23.7		5	5	
192+34	R	AGGREGATE	24.1	1.5	2	4	
199+38	R	AGGREGATE	35.3	2.3	3	6	
202+93	L	BITUMINOUS	21.3		2	5	
205+61	R	BITUMINOUS	35.0		4	7	
210+67	R	BITUMINOUS	24.6		3	6	
211+99	R	BITUMINOUS	25.9		2	5	
212+79	L	BITUMINOUS	19.9		3	6	
217+30	L	BIT / AGG	17.2	0.4	4	8	
224+51	R	BITUMINOUS	25.9		2	5	
225+84	R	BITUMINOUS	32.0		3	5	
225+71	L	AGGREGATE	34.8	2.7	3	6	
228+09	R	BITUMINOUS	24.3		2	5	
229+79	L	BITUMINOUS	51.8		9	19	
229+23	R	AGGREGATE	80.0		1	2	[4]
PROJECT TOTAL				6.9	46	91	

DRIVEWAY NOTES  
[1] AGGREGATE DRIVEWAYS SHALL BE CONSTRUCTED OF 4" OF CLASS 5 AGGREGATE  
[2] ASSUMES 4 INCHES OF AGGREGATE BENEATH NEW BITUMINOUS DRIVEWAY  
[3] REFER TO NOTE "A" ON AGGREGATE/ BITUMINOUS DRIVEWAY DETAIL  
[4] FIELD ENTRANCE

CULVERT SUMMARY																			G	
ALIGNMENT	INVERT A [2]		INVERT B [2]		OFFSET	REMOVE (SPEC. 2104)	UPSTREAM INVERT	DOWNSTREAM INVERT	LENGTH	SLOPE	15" CS PIPE CULVERT	15" RC PIPE SEWER CLASS V	42" PLASTIC CULVERT	15" RC PIPE APRON	15" CS PIPE APRON	42" GS APRONS	PAY HEIGHT  48" 4020	CASTING ASSEMBLY TYPE	NOTES	
	STATION	OFFSET [FEET]	STATION	OFFSET [FEET]		CULVERTS [1]														
						[LIN FT]														
EB 22	204+72	42.05 L	- 204+76	49.99 R	L/R	92	888.42	888.11	92	0.34%			92			2			[3]	
EB 22	205+20	43.00	- 205+84	43.00	R		892.50	892.00	57	0.88%		60		1			2.7	[4]		
EB 22	212+52	46.50	- 213+08	46.50	L		897.01	896.60	56	0.73%	56				2					
EB 22	215+43	72.20	- 215+73	50.12	L	31	899.34	899.06	38	0.74%		38		1						
EB 22	217+03	48.00	- 217+59	48.00	L	32	898.61	898.43	56	0.32%	56				2					
EB 22	192+09	42.81	- 192+58	42.59	R	LEAVE AS IS														
EB 22	199+05	47.24	- 199+71	45.47	R	LEAVE AS IS														
EB 22	202+79	37.45	- 203+13	37.02	L	LEAVE AS IS														
EB 22	210+48	41.06	- 210+85	36.39	R	LEAVE AS IS														
EB 22	224+33	36.86	- 224+70	36.27	R	LEAVE AS IS														
PROJECT TOTAL						155					112	98	92	2	4	2	2.7	1		

CULVERT NOTES:  
[1] REMOVAL OF APRONS INCIDENTAL (APRONS INCLUDED IN REMOVAL LENGTH)  
[2] STATION, OFFSET, & ELEVATION OF CENTER LIP OF APRON.  
[3] 42" PLASTIC PIPE AND 2 GALVANIZED APRONS WILL BE PROVIDED BY THE ANOKA COUNTY HIGHWAY DEPARTMENT. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.  
[4] GRATE CASTING 731, STANDARD PLATE 4143 (BEEHIVE)

TURF ESTABLISHMENT AND EROSION CONTROL																	I	
				TEMPORARY EROSION CONTROL				PERMANENT EROSION CONTROL										
ALIGNMENT	LOCATION			OFFSET	SILT FENCE, TYPE MACHINE SLICED	RAPID STABILIZATION METHOD 3	CULVERT PROTECTION	STORM DRAIN INLET PROTECTION	SEED MIXTURE 325	SEED MIXTURE 250	SEEDING	MULCH MATERIAL TYPE 3	DISK ANCHORING	FERTILIZER TYPE 3	FERTILIZER TYPE 4	EROSION CONTROL BLANKET TYPE 3	RANDOM RIPRAP CLASS II	CULVERT END PROTECTION
	STATION TO STATION	LIN FT	MGAL		EACH	EACH	[2]	[3]				[5]	ACRE	POUND	[7]	[10]	[9]	[8]
EB 22	189+50	- 199.28	L	172	0.60					7.3	0.10	0.20	0.1	36				
EB 22	189+50	- 199+27	R	431	0.84	2				10.1	0.14	0.30	0.1	51				
EB 22	199+52	- 202+84	L	93	0.18	1				2.3	0.03	0.10	0.0	12				
EB 22	199+52	- 210+56	R	608	2.64		1	4.4	28.2	0.44	0.80	0.4	141	5	142	1.8	102	
EB 22	203+04	- 212+69	L	43	1.56			5.0	15.0	0.26	0.50	0.2	75	5	39		102	
EB 22	210+77	- 211+86	R	0	0.12	1			1.5	0.02	0.00	0.0	8					
EB 22	212+12	- 215+05	R	119	0.24		1 [4]		2.7	0.04	0.10	0.0	13					
EB 22	212+89	- 215+01	L	223	0.54	1	1		6.0	0.09	0.10	0.0	30		178		9	
EB 22	215+54	- 224+36	R	58	0.48	1	1 [4]		5.7	0.08	0.20	0.1	28					
EB 22	215+42	- 217+24	L	0	0.54	1	1		6.1	0.09	0.10	0.1	30		148		17	
EB 22	217+38	- 225+57	L	775	1.20				14.0	0.20	0.40	0.2	70		39		9	
EB 22	225+83	- 229+58	L	0	0.24	1			2.5	0.04	0.10	0.0	12					
EB 22	224+64	- 225+67	R	0	0.06				0.5	0.01	0.00	0.0	2					
EB 22	226+01	- 227+97	R	97	0.12				1.3	0.02	0.00	0.0	6					
EB 22	230+01	- 253+47	L	1010	3.24	2		62.7		0.54	1.10	0.5		65				
EB 22	250+00	- 253+47	R	1231	3.60			64.9	2.5	0.60	1.20	0.6	13	67				
PROJECT TOTAL				4860	16.2	10	4	137	106	2.7	5.2	2.3	528	142	547	1.8	239	

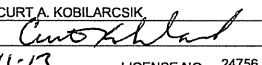
TURF ESTABLISHMENT AND EROSION CONTROL NOTES:																
[1] RAPID STABILIZATION METHOD 3 (6 MGAL / AC) - MULCH ONLY - NO SEED																
[2] SEEDING MIX 325 (116 LBS / AC)																
[3] SEEDING MIX 250 (70 LBS / AC)																
[4] STORM DRAIN INLET PROTECTION LOCATED SOUTH OF CSAH 22 ALONG JACKSON STREET																
[5] MULCH MATERIAL TYPE 3 TO BE APPLIED AT A RATE OF 2 TONS PER ACRE																
[6] FERTILIZER TYPE 3 FOR SEED TYPE 250 (22-5-10 @ 350 LBS / AC)																
[7] FERTILIZER TYPE 4 FOR SEED TYPE 325 (18-1-18 @ 120 LBS / AC)																
[8] EROSION CONTROL BLANKET CATEGORY 3 TO BE USED AT EACH NEW CULVERT INLET AND OUTLET - SEE STANDARD PLATE 9102D																
[9] ASSUME 1.8 CU YDS PER CONCRETE FLUME. REFER TO STANDARD PLATE 3139A FOR PLACEMENT AND FOLLOW 15" DIA. PIPE AT A 6" DEPTH AND A 6:1 SLOPE																
[10] EROSION CONTROL BLANKET TO BE PLACED WITHIN THE SPECIAL DITCH GRADE. PLACE SEED MIX 250 AND FERTILIZER TYPE 3 BELOW BLANKET																

PAVEMENT REINFORCEMENT						H
ALIGNMENT	STATION OR			OFFSET	REINFORCEMENT [POUNDS]	NOTES
	STATION	TO	STATION			
EB 22	204+66	-	204+84	C/L	323	
EB 22	205+99	-	206+33	C/L	726	
EB 22	241+69	-	241+81	C/L	191	
PROJECT TOTAL					1240	

PAVEMENT REINFORCEMENT NOTES: REFER TO STANDARD PLATE 1070M
--

MAILBOXES				M
ALIGN	STATION	OFFSET	MAILBOXES	
EB 22	190+74	R	1	
EB 22	192+61	R	1	
EB 22	199+01	R	1	
EB 22	210+86	L	1	
EB 22	203+15	L	1	
EB 22	225+46	R	1	
EB 22	224+22	R	1	
PROJECT TOTAL			7	

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-622-32\Plan\0262232-TABS.dgn					
02/11/2013 8:20:18 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:	CURT A. KOBILARCSIK
SIGNATURE:	
DATE:	2-11-13
LICENSE NO.	24756

DRAWN BY	ZDC	DATE	9-4-12
DESIGN BY	NJD	DATE	9-4-12
CHECKED BY	GMP	DATE	9-4-12



ANOKA COUNTY  
HIGHWAY DEPT.

SAP 002-622-032
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TABULATIONS
Sheet 7 of 106 Sheets

UTILITY CONTACTS		AA
CITY OF EAST BETHEL 3601 THURSTON AVE ANOKA, MN 55303 CONTACT CRAIG JOCHUM CITY ENGINEER TEL: 763-427-5860		CONNEXUS ENERGY 14601 RAMSEY BLVD RAMSEY, MN 55303 CONTACT DOUG CABAK TEL 763-323-2710
CENTURYLINK 425 MONROE ST ANOKA, MN 55303 CONTACT BILL BYERS TEL. 763-712-5002		CENTERPOINT ENERGY 700 WEST LINDEN AVE P.O. BOX 1165 MINNAPOLIS, MN 55440-1165 CONTACT STEVE GUHANICK TEL 612-321-5421
		MNDOT TRAFFIC SIGNALS PETER L. ELLWANGER 1500 WEST COUNTY ROAD B2 ROSEVILLE, MN 55113 TEL. 651-775-1279


OVERHEAD POWER - CONNEXUS					BB
STATION		OFFSET FROM LNB	SIZE & ITEM	DEPTH	REMARK
BEGIN	END				
185+57		43' LEFT	POLE		LEAVE AS IS
192+08		44' LEFT	POLE		LEAVE AS IS
192+08	192+62	44' LEFT - 48' RIGHT	POLE		LEAVE AS IS
194+87		44' LEFT	POLE		LEAVE AS IS
197+39		44' LEFT	POLE		LEAVE AS IS
199+82		44' LEFT	POLE		LEAVE AS IS
199+82	199+84	CROSSING	POLE		LEAVE AS IS
202+16		44' LEFT	POLE		LEAVE AS IS
204+31		45' LEFT	POLE		LEAVE AS IS
206+45		44' LEFT	POLE		LEAVE AS IS
206+45	206+58	47' LEFT - 150' RIGHT	POLE		RELOCATE
209+08		CROSSING	POLE		RELOCATE
212+24		45' LEFT	POLE		LEAVE AS IS
212+57		42' RIGHT	POLE		LEAVE AS IS
214+95		45' LEFT	POLE		LEAVE AS IS
214+95	214+91	45' LEFT - 213' LEFT	POLE		LEAVE AS IS
214+95	215+06	45' LEFT - 190' RIGHT	POLE		LEAVE AS IS
215+69		46' LEFT	POLE		LEAVE AS IS
217+90	218+27	44' LEFT - 44' RIGHT	POLE		LEAVE AS IS
220+69		45' LEFT	POLE		LEAVE AS IS
223+47	223+63	44' LEFT - 48' RIGHT	POLE		LEAVE AS IS
226+19	226+60	45' LEFT - 42' RIGHT	POLE		LEAVE AS IS
227+97		45' LEFT	POLE		LEAVE AS IS
228+21		45' LEFT	POLE		LEAVE AS IS
228+44		45' LEFT	POLE		LEAVE AS IS
230+37	230+38	44' LEFT - 45' RIGHT	POLE		RELOCATE
233+38		43' LEFT	POLE		RELOCATE
236+41		43' LEFT	POLE		RELOCATE
239+39		42' LEFT	POLE		RELOCATE
242+29		43' LEFT	POLE		RELOCATE
245+24		43' LEFT	POLE		RELOCATE
248+11		44' LEFT	POLE		RELOCATE
251+09		44' LEFT	POLE		RELOCATE
253+57		44' LEFT	POLE		RELOCATE
228+46	230+69	49' RIGHT - 42' RIGHT	UNDERGROUND		LEAVE AS IS
230+69		CROSSING	UNDERGROUND		LEAVE AS IS
230+80	254+58	42' LEFT - 34' LEFT	UNDERGROUND		RELOCATE

GAS - CENTERPOINT ENERGY					CC
STATION		OFFSET FROM LNB	SIZE & ITEM	DEPTH	REMARK
BEGIN	END				
188+74	199+27	40' LEFT		3' MIN	LEAVE AS IS
199+27	199+27	40' LEFT - 355' LEFT		3' MIN	LEAVE AS IS
202+52	202+51	40' LEFT - 125' LEFT		3' MIN	LEAVE AS IS
202+52	205+91	40' LEFT		3' MIN	LEAVE AS IS
205+91	206+03	CROSSING		3' MIN	LEAVE AS IS
205+91	207+85	40' LEFT		3' MIN	RELOCATE
207+85	208+56	26' LEFT - 40' LEFT		3' MIN	RELOCATE
208+56	215+53	40' LEFT		3' MIN	RELOCATE
215+53	215+50	CROSSING		3' MIN	LEAVE AS IS
215+53	215+44	40' LEFT - 187' LEFT		3' MIN	LEAVE AS IS
215+53	228+61	40' LEFT		3' MIN	LEAVE AS IS

CABLE - MIDCONTINENT					DD
STATION		OFFSET FROM LNB	SIZE & ITEM	DEPTH	REMARK
BEGIN	END				
200+40	214+73	50' LEFT	BURIED F/O		RELOCATE
214+82	250+74	75' LEFT	BURIED F/O		LEAVE AS IS
214+99		CROSSING	BURIED F/O		LEAVE AS IS
214+96	214+95	54' RIGHT - 181' RIGHT	BURIED F/O		LEAVE AS IS
214+81	226+67	45' LEFT	BURIED CABLE		LEAVE AS IS
226+71		CROSSING	BURIED CABLE		LEAVE AS IS
226+82	253+50	35' LEFT	BURIED CABLE		LEAVE AS IS
203+62		50' LEFT	SPLICE BOX		LEAVE AS IS
212+27		53' LEFT	SPLICE BOX		LEAVE AS IS
214+92		43' LEFT	SPLICE BOX		LEAVE AS IS
214+97		54' RIGHT	SPLICE BOX		LEAVE AS IS
226+67		45' RIGHT	SPLICE BOX		LEAVE AS IS

TELEPHONE - CENTURYLINK				EE	
STATION		OFFSET FROM LNB	SIZE & ITEM	DEPTH	REMARK
BEGIN	END				
186+49	200+57	38' LEFT	UNDERGROUND LINE		LEAVE AS IS
191+16	199+26	63' RIGHT	UNDERGROUND LINE		LEAVE AS IS
199+22		CROSSING	UNDERGROUND LINE		LEAVE AS IS
199+21	199+99	62' LEFT	UNDERGROUND LINE		LEAVE AS IS
199+99	214+91	45' LEFT	UNDERGROUND LINE		LEAVE AS IS
200+81	215+02	37' LEFT	UNDERGROUND LINE		RELOCATE
199+94	214+81	97' LEFT - 42' LEFT	UNDERGROUND LINE		LEAVE AS IS
215+02	225+73	45' LEFT	UNDERGROUND LINE		LEAVE AS IS
215+02	214+98	37' LEFT - 325' LEFT	UNDERGROUND LINE		LEAVE AS IS
214+86		CROSSING	UNDERGROUND LINE		LEAVE AS IS
225+72		CROSSING	UNDERGROUND LINE		LEAVE AS IS
225+73	254+12	40' LEFT	UNDERGROUND LINE		LEAVE AS IS
226+91	231+96	34' LEFT	UNDERGROUND LINE		LEAVE AS IS
231+96	231+85	34' LEFT - 275' LEFT	UNDERGROUND LINE		LEAVE AS IS
225+90	231+84	82' LEFT	UNDERGROUND LINE		LEAVE AS IS
250+91		CROSSING	UNDERGROUND LINE		LEAVE AS IS
251+12		CROSSING	UNDERGROUND LINE		LEAVE AS IS
251+12	254+52	67' RIGHT	UNDERGROUND LINE		LEAVE AS IS
251+12	254+52	72' RIGHT	UNDERGROUND LINE		LEAVE AS IS
189+99		54' LEFT	SPLICE BOX		LEAVE AS IS
191+16		62' RIGHT	SPLICE BOX		LEAVE AS IS
199+17		45' LEFT	SPLICE BOX		LEAVE AS IS
199+26		63' RIGHT	SPLICE BOX		LEAVE AS IS
199+88		67' LEFT	SPLICE BOX		LEAVE AS IS
214+81		42' LEFT	SPLICE BOX		RELOCATE
214+94		50' RIGHT	SPLICE BOX		RELOCATE
226+67		45' LEFT	SPLICE BOX		LEAVE AS IS
253+11		45' LEFT	SPLICE BOX		LEAVE AS IS

NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-622-32\plan\0262232-TABS.dgn					
02/06/2013 10:19:21 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: CURT A. KOBIARCSIK  
SIGNATURE:   
DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY ZDC DATE 9-4-12  
DESIGN BY NJD DATE 9-4-12  
CHECKED BY GMP DATE 9-4-12





ANOKA COUNTY  
HIGHWAY DEPT.

SAP 002-622-032

TABULATIONS

## SOILS AND CONSTRUCTION NOTES

- 1 THE GRADING GRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE LAYER.
- 2 THE SUB-GRADE IS DEFINED AS THE BOTTOM OF THE SUBGRADE EXCAVATION LAYER.
- 3 SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL GRANULAR AND FINER GRAINED SOILS THAT MEET THE REQUIREMENTS OF MN/DOT SPEC 3149 AND SHALL BE USED AS EMBANKMENT MATERIAL ON THE PROJECT ANYWHERE BELOW THE SUBRAGE AND AS APPROVED BY THE ENGINEER.
- 4 WITH THE EXCEPTION OF TOPSOIL, IT IS ASSUMED THAT ALL COMMON EXCAVATION MEETS THE REQUIREMENTS OF SUITABLE GRADING MATERIAL.
- 5 SOILS EXCAVATED BETWEEN THE SUB-GRADE AND GRADING GRADE (SUBGRADE EXCAVATION) CAN BE RE-USED AS EMBANKMENT WITHIN THE PROJECT AS SUITABLE GRADING MATERIAL.
- 6 SELECT GRANULAR MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL GRANULAR MATERIAL THAT MEET THE REQUIREMENTS OF MN/DOT SPEC 3149.
- 7 SOILS PLACED BETWEEN THE SUB-GRADE AND GRADING GRADE MUST MEET REQUIREMENTS FOR SELECT GRANULAR MATERIAL.
- 8 ANY SOILS EXCAVATED ON SITE THAT MEET THE REQUIREMENTS FOR SELECT GRANULAR MATERIAL CAN BE USED AS EMBANKMENT BETWEEN THE SUB-GRADE AND GRADING GRADE.
- 9 THE ROADWAY CORE IS DEFINED AS THE AREA BENEATH THE ROADWAY AND BETWEEN LIES EXTENDING DOWN FROM THE GRADING GRADE P.I. AT A RATE OF 1.5:1.
- 10 UNSUITABLE SOILS ARE DEFINED AS SOILS WHICH DO NOT MEET OR ARE NOT MANUFACTURED TO MEET ANY OF THE ABOVE DEFINED CATEGORIES, AND ARE THEREFORE NOT REUSABLE AS STRUCTURAL BACKFILL OR EMBANKMENT WITHIN THE ROADWAY CORE. UNSUITABLE MATERIALS INCLUDE TOPSOILS, PAVEMENT OR CONCRETE DEBRIS, PEAT, MUCK AND ORGANIC MATERIAL. UNSUITABLE SOILS CAN HOWEVER BE USED AS EMBANKMENT OUTSIDE THE ROADWAY CORE.
- 11 UNSUITABLE SOILS AND DEBRIS WHICH MAY BE ENCOUNTERED DURING CONSTRUCTION NOT USED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE PROJECT AND DISPOSED OF OR REUSED IN ACCORDANCE WITH MN/DOT SPECIFICATIONS.
- 12 ALL TOPSOIL STRIPPING IS CONSIDERED TO BE COMMON EXCAVATION.
- 13 STRIP ALL TOPSOIL WHERE PRESENT IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS TOPSOIL THROUGHOUT THE PROJECT AS DIRECTED BY THE ENGINEER. FOR ESTIMATING PURPOSES, THE DEPTH OF TOPSOIL AVAILABLE IS CONSIDERED TO BE 4 INCHES. CONTRACTOR TO VERIFY TOPSOIL DEPTH PRIOR TO PLACING BID.
- 14 AGGREGATE BASE & SHOULEDER MATERIAL SHALL MEET THE REQUIREMENTS OF MN/DOT SPEC. 3138, CLASS 5.
- 15 WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THE WORK WILL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
- 16 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.
- 17 UNLESS OTHERWISE REQUIRED, IN ALL TREATMENTS, THE CONTRACTOR SHOULD STRIVE TO SUBSTANTIALLY MATCH THE SOILS INPLACE IN THE UPPER 5.0 FEET OF THE ROADWAY.
- 18 WHERE CONNECTING NEW SURFACE ADJACENT TO ANY INPLACE PAVEMENTS TO BE WIDENED, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT 1:2 SLOPE TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
- 19 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 RD LIQUID ASPHALTS. THE ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPECIFICATION 2357.
- 20 PROVIDE A SAWCUT WHERE PLACING NEW PAVEMENT ADJACENT TO INPLACE PAVEMENT TO ENSURE A UNIFORM JOINT.
- 21 EMBANKMENT QUANTITIES SHOWN ON THE EARTHWORK TABULATION REPRESENT ALL EARTHWORK QUANTITIES BELOW THE PROPOSED GRADING GRADE OF ALL PERMANENT ROADWAYS. QUANTITIES REQUIRED ABOVE THE GRADING GRADE OR FOR TEMPORARY CONSTRUCTION ARE PROVIDED IN DETAIL ON THE BITUMINOUS SUMMARY OR AGGREGATE TAB.
- 22 DISPOSITION OF EXCAVATED MATERIAL SHALL BE IN ACCORDANCE WITH SPECIFICATION 2105.

						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.		DRAWN BY <u>NJD</u> DATE <u>9-4-12</u>		 <b>ANOKA COUNTY HIGHWAY DEPT.</b>		SAP 002-622-032		SOILS AND CONSTRUCTION NOTES	
						PRINT NAME: <u>CURT A. KOBILARCSIK</u>		DESIGN BY <u>NJD</u> DATE <u>9-4-12</u>				-	-		
						SIGNATURE: 		CHECKED BY <u>DFF</u> DATE <u>9-4-12</u>				-	-		
NO	DATE	BY	CKD	APPR	REVISION	DATE: <u>2-7-13</u> LICENSE NO. <u>24756</u>						Sheet <u>9</u> of <u>106</u> Sheets			
NAME: p:\02-622-32\plan\0262232-TAB5.dgn						02/06/2013 10:18:55 AM									



EARTHWORK SUMMARY			L
STATION	EXCAVATION TOTALS		EMBANKMENT
	COMMON	SUBGRADE	SELECT GRANULAR
	CY	CY	CY
195+48.00	0	0	0
196+00.00	8	54	58
197+00.00	20	111	111
198+00.00	31	124	111
199+00.00	39	130	111
200+00.00	30	122	111
201+82.00	44	222	202
BYPASS LANE SUBTOTAL (A)	172	763	704

AGGREGATE	J
STATION	AGGREGATE
	AGG BASE
	CY
195+48.00	0
196+00.00	17
197+00.00	32
198+00.00	32
199+00.00	32
200+00.00	32
201+82.00	59
BYPASS (A)	204

AGGREGATE	J
STATION	AGGREGATE
	AGG BASE
	CY
205+00.00	0
206+00.00	106
207+00.00	106
207+16.00	17
209+00.00	144
209+16.00	8
210+00.00	44
211+00.00	52
212+00.00	52
213+00.00	51
214+00.00	51
215+00.00	39
216+00.00	37
217+00.00	49
218+00.00	49
219+00.00	49
220+00.00	49
221+00.00	49
222+00.00	48
223+00.00	46
224+00.00	44
225+00.00	49
226+00.00	27
JACKSON (B)	1166

AGGREGATE	J
STATION	AGGREGATE
	AGG BASE
	CY
230+00.00	0
231+00.00	45
232+00.00	91
233+00.00	94
234+00.00	96
235+00.00	98
236+00.00	101
237+00.00	103
238+00.00	105
239+00.00	107
240+00.00	109
241+00.00	111
242+00.00	111
243+00.00	108
244+00.00	104
245+00.00	102
246+00.00	100
247+00.00	97
248+00.00	95
249+00.00	92
250+00.00	89
251+00.00	87
252+00.00	87
253+00.00	87
254+00.00	43
MUCK (.C)	2262
PROJECT TOTAL (A+C)	2466

EARTHWORK SUMMARY			L
STATION	EXCAVATION TOTALS		EMBANKMENT
	COMMON	SUBGRADE	SELECT GRANULAR
	CY	CY	CY
205+00.00	70	167	0
206+00.00	47	173	175
207+00.00	67	170	172
207+16.00	67	170	28
209+00.00	76	231	297
209+16.00	3	12	24
210+00.00	17	54	137
211+00.00	11	44	175
212+00.00	19	59	128
213+00.00	72	79	79
214+00.00	199	79	79
215+00.00	155	66	66
216+00.00	30	83	90
217+00.00	30	108	132
218+00.00	20	104	138
219+00.00	22	97	157
220+00.00	20	87	180
221+00.00	30	84	155
222+00.00	39	81	127
223+00.00	28	82	112
224+00.00	21	83	87
225+00.00	34	83	83
226+00.00	23	41	41
JACKSON EXPANSION SUBTOTAL (B)	1100	2237	2662


EARTHWORK SUMMARY			L
STATION	EXCAVATION TOTALS		EMBANKMENT
	COMMON	SUBGRADE	SELECT GRANULAR
	CY	CY	CY
230+00.00	0	0	0
231+00.00	0	0	103
232+00.00	0	0	210
233+00.00	0	0	216
234+00.00	0	0	223
235+00.00	0	0	230
236+00.00	0	0	237
237+00.00	0	0	244
238+00.00	0	0	250
239+00.00	0	0	255
240+00.00	0	0	256
241+00.00	0	0	256
242+00.00	0	0	177
243+00.00	0	0	174
244+00.00	0	0	247
245+00.00	0	0	240
246+00.00	0	0	233
247+00.00	0	0	227
248+00.00	0	0	220
249+00.00	0	0	213
250+00.00	0	0	217
251+00.00	0	0	225
252+00.00	0	0	225
253+00.00	0	0	225
254+00.00	0	0	112
MUCK RECONSTRUCT SUBTOTAL (.C)	0	0	5215
PROJECT TOTAL (A+B+C)	1190	2743	8491

ADDITIONAL EARTHWORK			P
LOCATION	EXCAVATION TOTALS		AGGREGATE
	COMMON	SUBGRADE	CLASS 5 BASE
	CY	CY	CY
5TH STREET	65	130	65
MADISON STREET	60	120	60
JACKSON ST. NORTH	60	120	60
JACKSON ST. SOUTH	73	145	145
ADDITIONAL TOTALS	258	515	330

THESE QUANTITIES SHALL BE CLASS 5 AGGREGATE BASE

THIS QUANTITY SHALL BE CLASS 6 AGGREGATE BASE

NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-622-32\plan\0262232-TABS.dgn					
202/06/2013 10:18:30 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: CURT A. KOBILARCSIK  
SIGNATURE:   
DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY: NJD DATE: 9-4-12  
DESIGN BY: NJD DATE: 9-4-12  
CHECKED BY: DFF DATE: 9-4-12



ANOKA COUNTY  
HIGHWAY DEPT.

SAP 002-622-032

EARTHWORK SUMMARY

Sheet 10 of 106 Sheets

## K

COMMON (EV) (1) —  $\boxed{\begin{array}{c} \text{TOTAL} \\ 1,530 \end{array}} = \boxed{\begin{array}{c} \text{TAB L} \\ 1272 \end{array}} + \boxed{\begin{array}{c} \text{TAB P} \\ 258 \end{array}} \text{ — COMMON — } \boxed{1,530} \text{ (EV) / 1.2 = } \boxed{1,275} \text{ (CV) (3)}$

SUBGRADE (EV) —  $\boxed{\begin{array}{c} \text{TOTAL} \\ 3,515 \end{array}} = \boxed{\begin{array}{c} \text{TAB L} \\ 3000 \end{array}} + \boxed{\begin{array}{c} \text{TAB P} \\ 515 \end{array}} \text{ — SUBGRADE EXCAVATION — } \boxed{3,515} \text{ (EV) / 1.2 = } \boxed{2,929} \text{ (CV) (3)}$

SELECT GRANULAR	TAB L 8581	+	TAB P 443	=	TOTAL 9,024 (CV)
-----------------	---------------	---	--------------	---	---------------------

	<u>NEEDED</u>		<u>AVAILABLE</u> <u>COMMON</u>		<u>AVAILABLE</u> <u>SUBGRADE</u>						
SELECT GRANULAR_____	9,024 (CV)	-	1,275 (CV)	-	2,929 (CV)	=	4,820 (CV)	X	1.4	=	6748 (LV)(2)

- (1) TOTAL COMMON EXCAVATION FOR PROJECT (INCLUDING TOPSOIL)  
(2) TOTAL SELECT GRANULAR BORROW FOR PROJECT  
(3) SUBGRADE EXCAVATION & COMMON MATERIAL IS ASSUMED TO MEET REQUIREMENTS FOR SELECT GRANULAR MATERIAL AND CAN THEREFORE BE RE-USED AS EMBANKMENT WITHIN THE PROJECT AS SELECT GRANULAR MATERIAL.

[illegible]

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: CURT A. KOBLARCSIK

SIGNATURE: *Curt A. Koblarczik*

DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY NJD DATE 9-4-12  
DESIGN BY NJD DATE 9-4-12  
CHECKED BY DFF DATE 9-4-12

ANOKA COUNTY  
HIGHWAY DEPT.

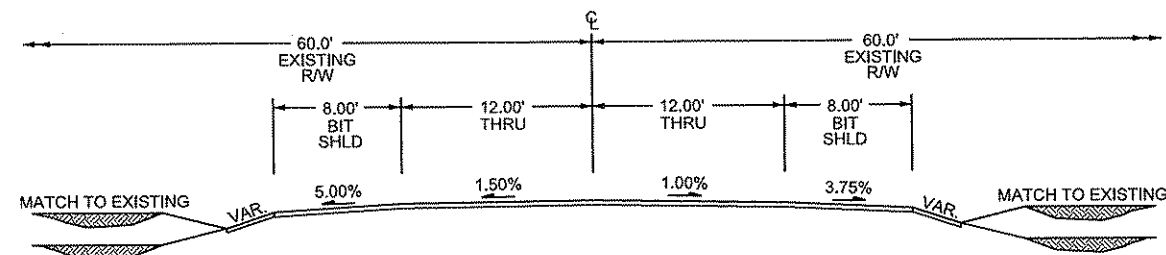
SAP 002-622-032

### EARTHWORK BALANCE

Sheet 11 of 106 Sheets

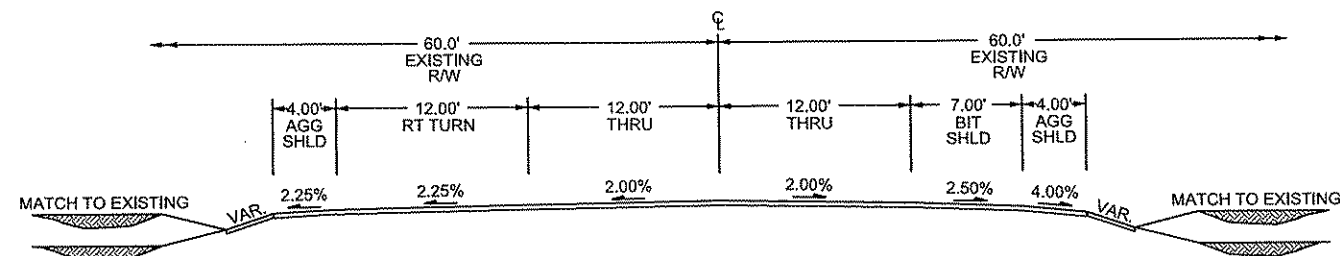
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STA. 188+70 - STA. 197+43



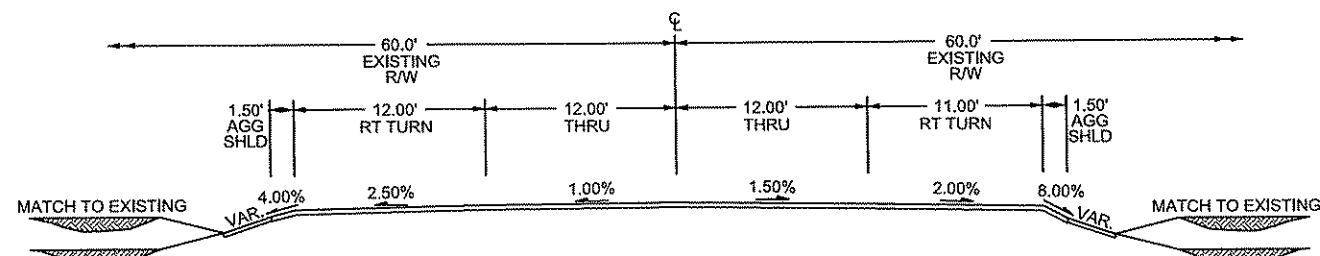
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STA. 197+43 - STA. 198+84



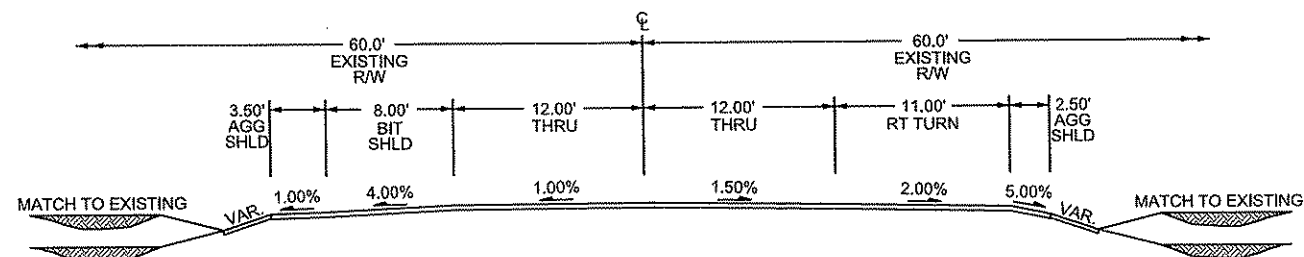
# C.S.A.H. 22 (VIKING BOULEVARD)

STA. 198+84 - STA. 203+28



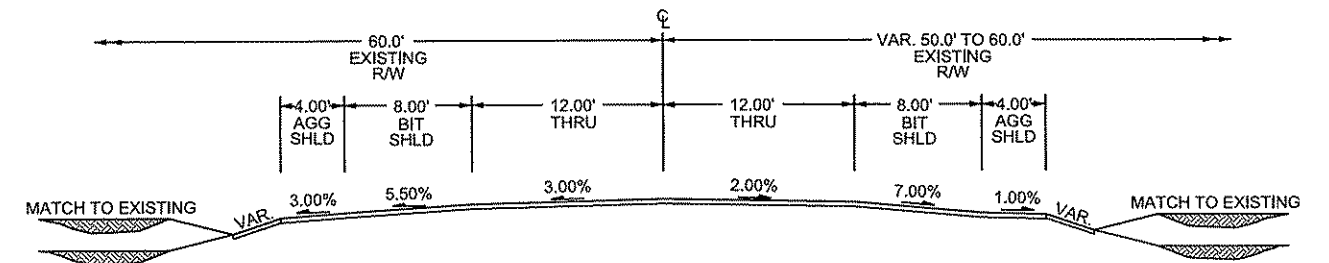
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STA. 203+28 - STA. 205+03  
STA. 248+93 - STA. 253+47



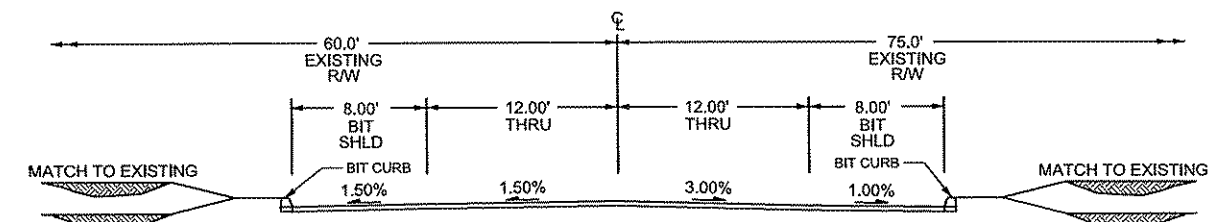
# C.S.A.H. 22 (VIKING BOULEVARD)

STA. 205+03 - STA. 206+02  
STA. 218+16 - STA. 248+93



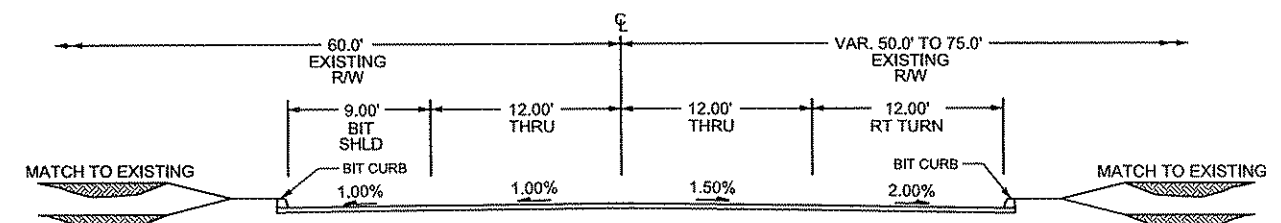
# C.S.A.H. 22 (VIKING BOULEVARD)

STA. 206+02 - STA. 209+49



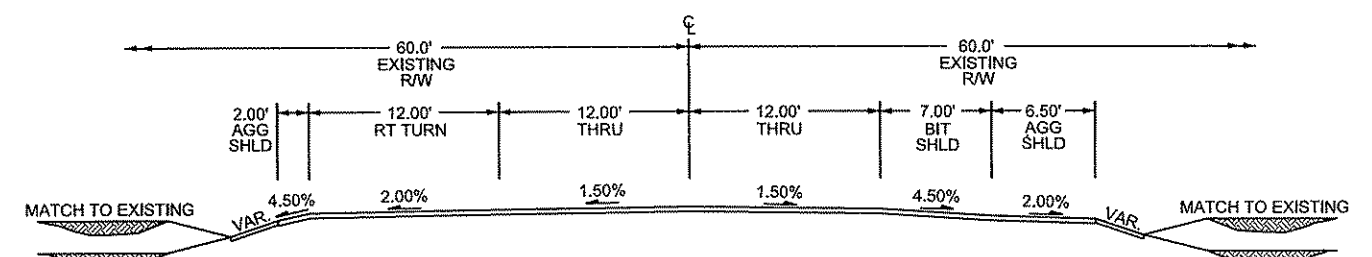
# C.S.A.H. 22 (VIKING BOULEVARD)

STA. 209+49 - STA. 213+68



# C.S.A.H. 22 (VIKING BOULEVARD)

STA. 213+68 - STA. 218+16



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: CURT A. KOBIARCSIK

SIGNATURE: *Curt A. Kobiarcsik*

DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY: ZDC DATE 12-07-12

DESIGN BY: NJD DATE 12-07-12

CHECKED BY: DFF DATE 12-07-12



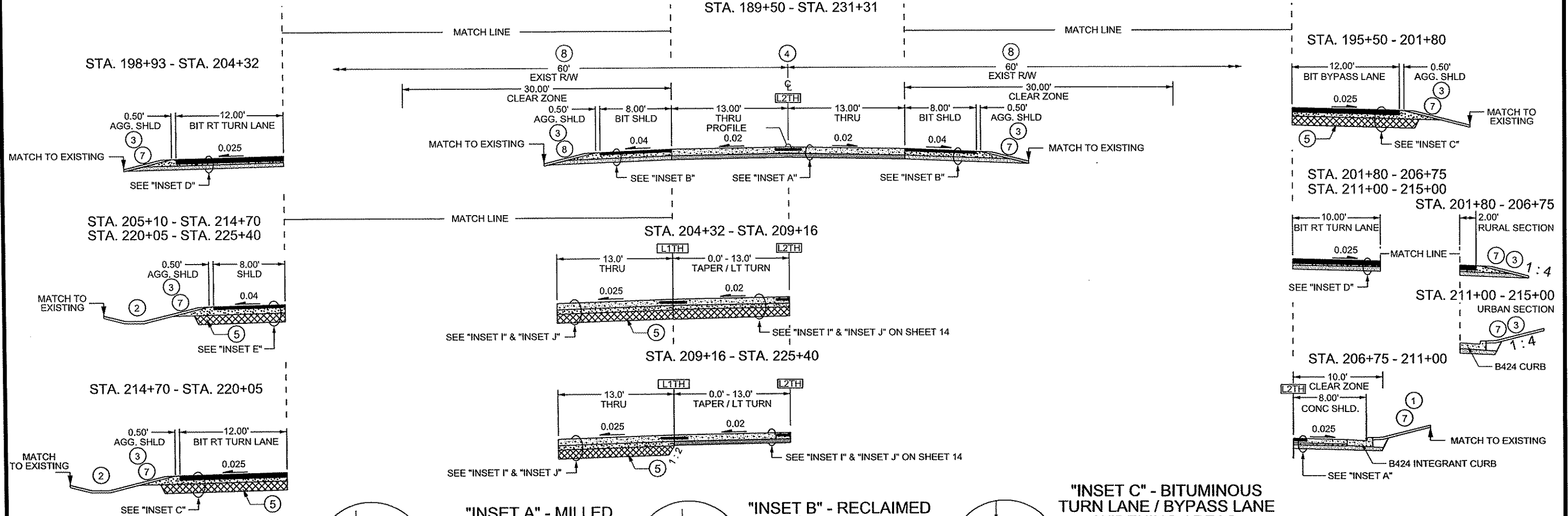
ANOKA COUNTY  
HIGHWAY DEPT.

SAP 002-622-032

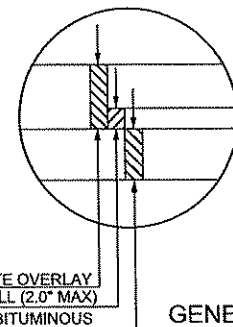
EXISTING  
TYPICAL SECTIONS

Sheet 12 of 106 Sheets

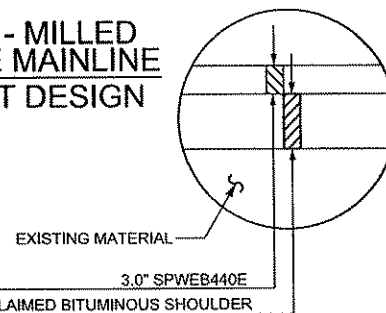
**C.S.A.H. 22**  
**OVERLAY - MAINLINE ROADWAY**  
**STA. 189+50 - STA. 231+31**



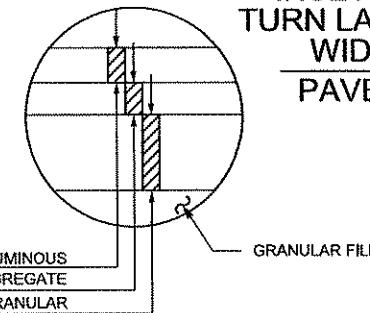
**"INSET A" - MILLED  
 CONCRETE MAINLINE  
 PAVEMENT DESIGN**



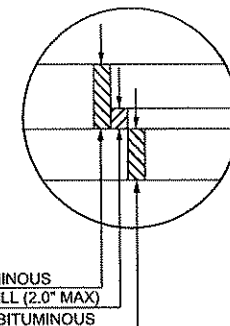
**"INSET B" - RECLAIMED  
 BITUMINOUS SHOULDER  
 PAVEMENT DESIGN**



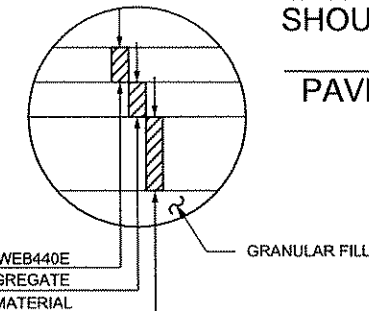
**"INSET C" - BITUMINOUS  
 TURN LANE / BYPASS LANE  
 WIDENING AREAS  
 PAVEMENT DESIGN**



**"INSET D" - MILLED  
 BITUMINOUS RT TURN  
 PAVEMENT DESIGN**



**"INSET E" BITUMINOUS  
 SHOULDER WIDENING  
 AREAS  
 PAVEMENT DESIGN**



**SPECIFIC NOTES:**

- ① SUITABLE GRADING MATERIAL
- ② DITCH WIDTH VARIES (2.0' MINIMUM)  
4.0" SLOPE DRESSING MINIMUM
- ③ AGGREGATE SHOULDERING, CLASS 5  
MNDOT SPEC. 2221
- ④ PROPOSED CENTERLINE IS IN THE SAME LOCATION  
AS THE EXISTING CENTERLINE.
- ⑤ 12.0" SUBGRADE EXCAVATION - PAID FOR AS  
ITEM 2105.501 SUBGRADE EXCAVATION. EXCAVATION AREA NOT INCLUDED  
FOR FILL SECTIONS. BACKFILL WITH SELECT GRANULAR MATERIAL.
- ⑦ MAINTAIN 1 : 4 SLOPE WITHIN CLEAR ZONE AND  
A 1 : 3 SLOPE MINIMUM OUTSIDE CLEAR ZONE UNLESS  
OTHERWISE INDICATED IN PLAN
- ⑧ 60' OF RIGHT OF WAY FOR THE MAJORITY OF THE PROJECT.  
SEE SEE CONSTRUCTION PLAN AND CROSS SECTIONS  
FOR EXACT RIGHT OF WAY LOCATION.

**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.
- CONCRETE LANE WIDTH DIMENSIONS ARE MEASURED FROM  
JOINT TO JOINT
- BITUMINOUS AND AGGREGATE DIMENSIONS ARE MEASURED  
ACROSS SURFACE WIDTH

NO	DATE	BY	CKD	APPR	REVISION

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 LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF  
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 PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: \_\_\_\_\_  
 DATE: \_\_\_\_\_ LICENSE NO. 24756

DRAWN BY ZDC DATE 12-07-12  
 DESIGN BY NJD DATE 12-07-12  
 CHECKED BY DFF DATE 12-07-12



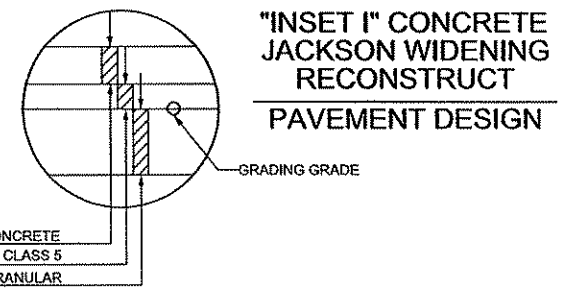
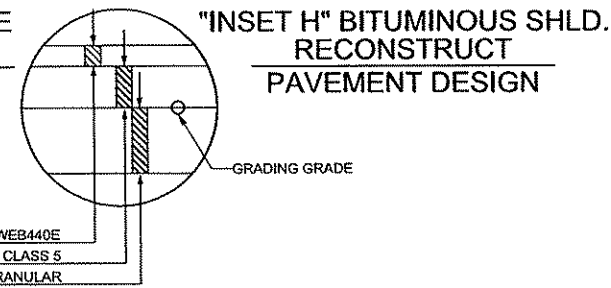
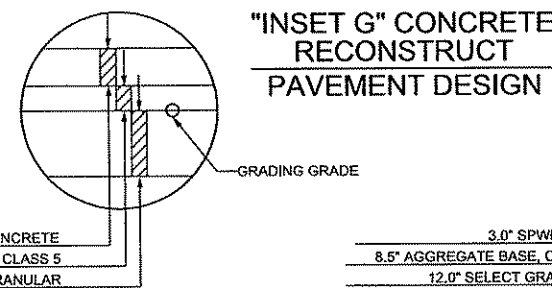
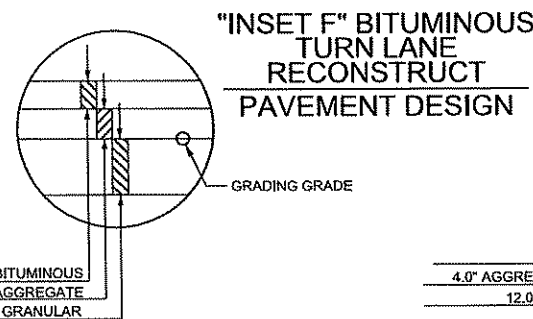
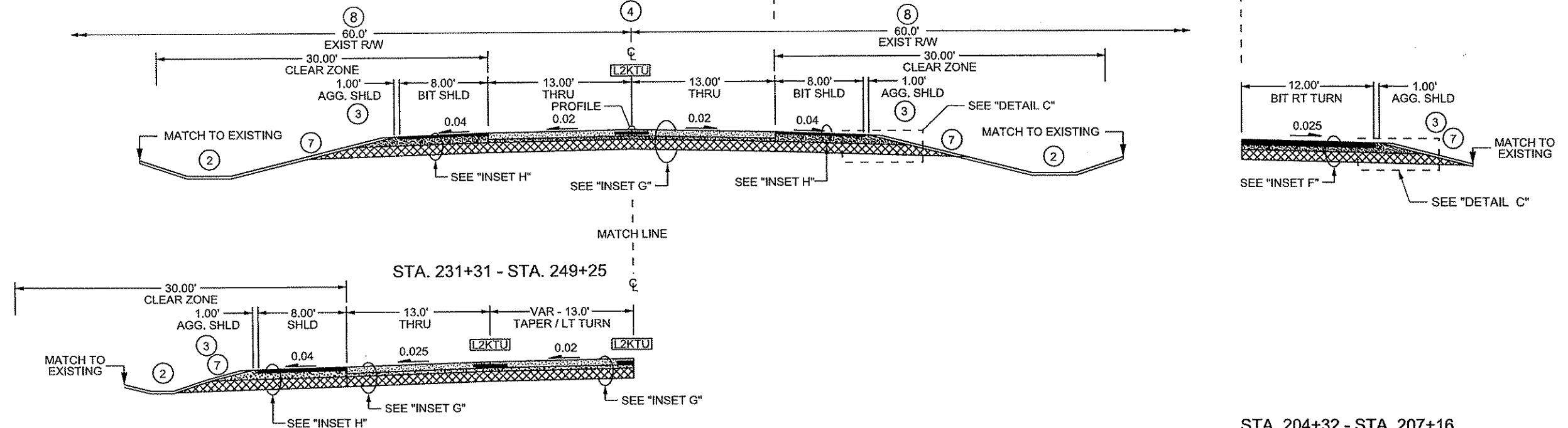
**ANOKA COUNTY  
 HIGHWAY DEPT.**

SAP 002-622-032

**PROPOSED OVERLAY  
 TYPICAL SECTIONS**

Sheet 13 of 106 Sheets

**C.S.A.H. 22**  
**RECONSTRUCT - MAINLINE ROADWAY**  
 STA. 231+31 - STA. 253+27



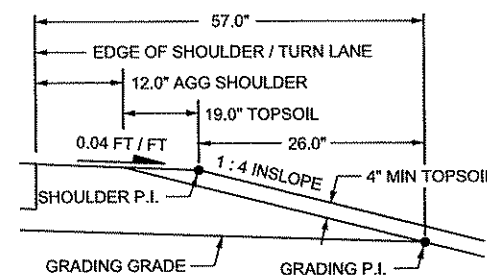
**SPECIFIC NOTES:**

- ① SUITABLE GRADING MATERIAL
- ② DITCH WIDTH VARIES (2.0' MINIMUM)  
4.0' SLOPE DRESSING MINIMUM
- ③ AGGREGATE SHOULDERING, CLASS 5  
MNDOT SPEC. 2221
- ④ PROPOSED CENTERLINE IS IN THE SAME LOCATION  
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- ⑤ 12.0\" SUBGRADE EXCAVATION - PAID FOR AS  
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FOR FILL SECTIONS. BACKFILL WITH SELECT GRANULAR MATERIAL.
- ⑦ MAINTAIN 1 : 4 SLOPE WITHIN CLEAR ZONE AND  
A 1 : 3 SLOPE MINIMUM OUTSIDE CLEAR ZONE UNLESS  
OTHERWISE INDICATED IN PLAN
- ⑧ 60' OF RIGHT OF WAY FOR THE MAJORITY OF THE PROJECT.  
SEE SEE CONSTRUCTION PLAN AND CROSS SECTIONS  
FOR EXACT RIGHT OF WAY LOCATION.

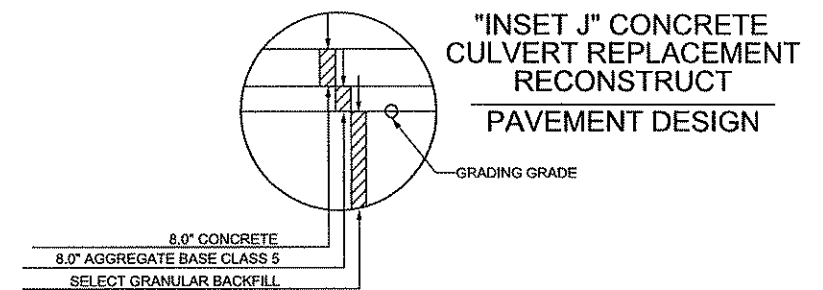
**GENERAL NOTES:**

- 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.
- CONCRETE LANE WIDTH DIMENSIONS ARE MEASURED FROM  
JOINT TO JOINT
- BITUMINOUS AND AGGREGATE DIMENSIONS ARE MEASURED  
ACROSS SURFACE WIDTH

**"DETAIL C"  
SHOULDER / GRADING P.I.  
RECONSTRUCT SEGMENT**



**STA. 207+16 - STA. 209+16**



NO	DATE	BY	CKD	APPR	REVISION

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 THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A. KOBLARCSIK  
 SIGNATURE: *Curt A. Koblarczik*  
 DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY: ZDC DATE: 12-07-12  
 DESIGN BY: NJD DATE: 12-07-12  
 CHECKED BY: DFF DATE: 12-07-12



**ANOKA COUNTY  
HIGHWAY DEPT.**

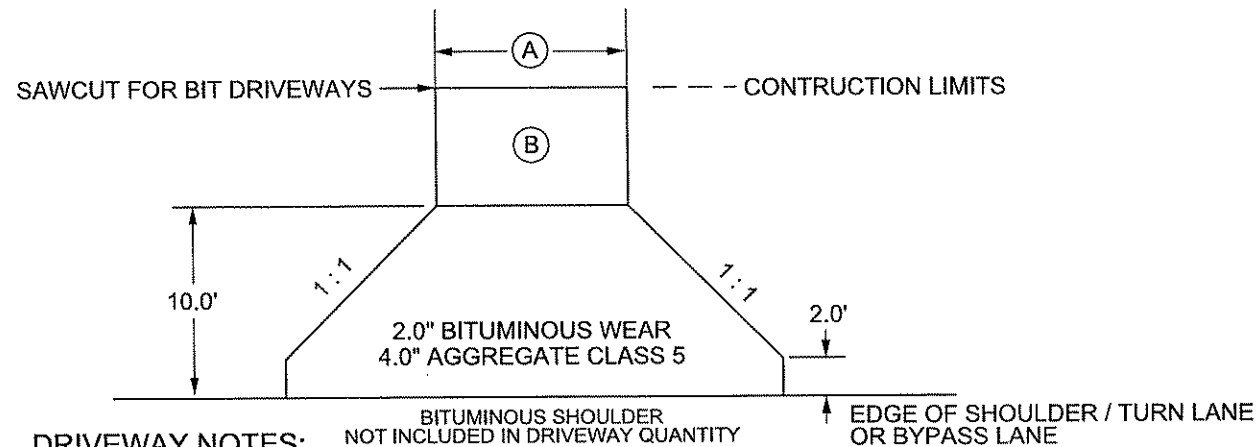
SAP 002-622-032

**PROPOSED RECONSTRUCT  
TYPICAL SECTIONS**

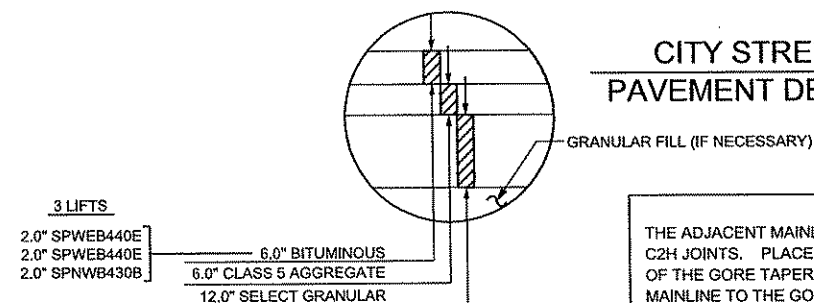
Sheet 14 of 106 Sheets



# BITUMINOUS APRON AGGREGATE / BITUMINOUS DRIVEWAY

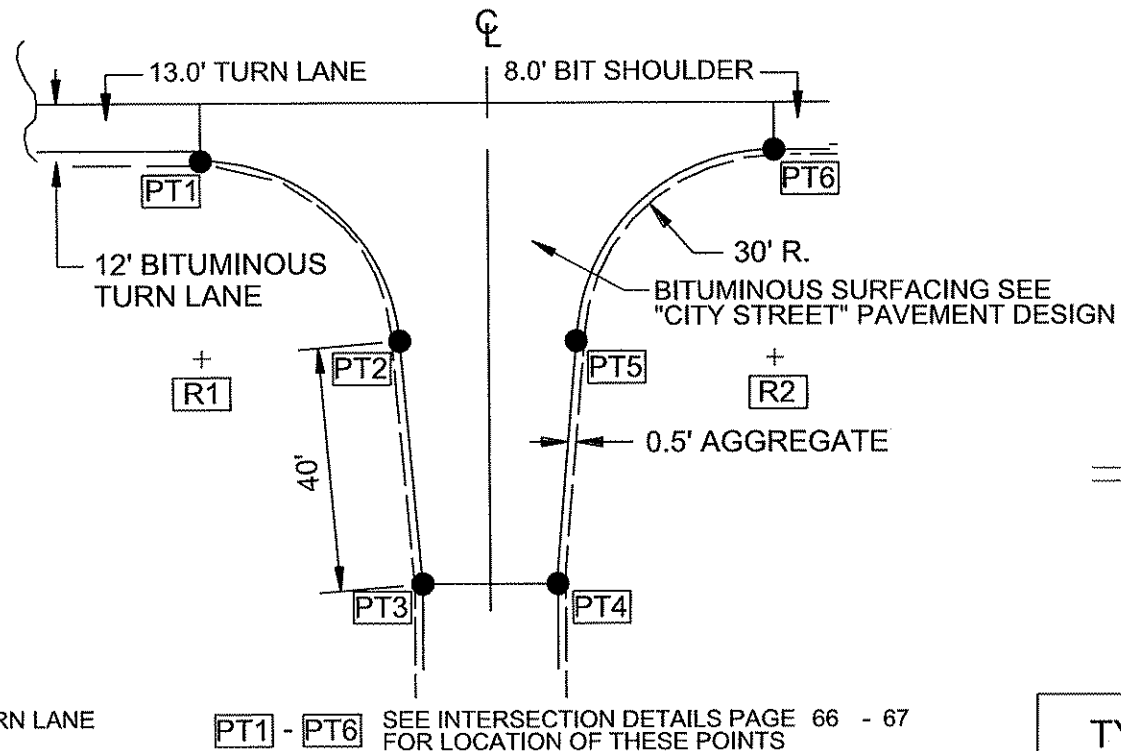


- DRIVEWAY NOTES:
- (A) VARIES BASED ON EXISTING DRIVEWAY WIDTH (16.0' MINIMUM)
  - (B) MATCH INPLACE MATERIAL (2\"/>



## CITY STREET PAVEMENT DESIGN

THE ADJACENT MAINLINE C2H-D JOINTS SHALL BE EXTENDED THROUGH THE GORE AREA AS C2H JOINTS. PLACE A NO. 13 REINFORCEMENT BAR 4 INCHES FROM AND ALONG EACH EDGE OF THE GORE TAPER. WHEN GORE AREAS ARE GREATER THAN 6 FEET WIDE, TIE THE MAINLINE TO THE GORE WITH AN L2KTU JOINT.



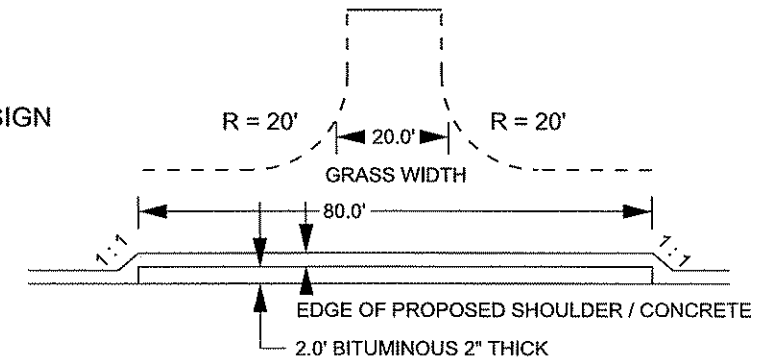
## BITUMINOUS APRON CITY STREET

### TAPER DETAIL

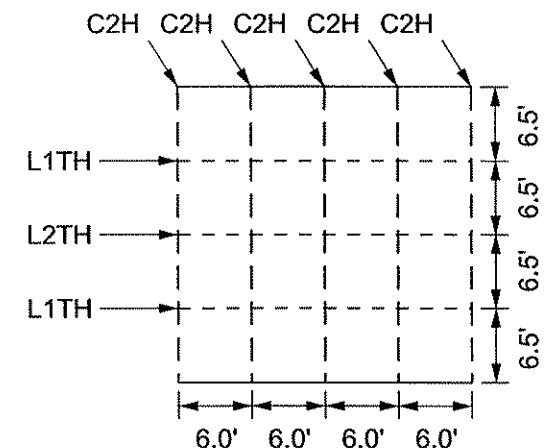
PLACE TWO NO. 13 X 18\"/>

CONSTRUCT 15 FOOT PANELS (MAINLINE THICKNESS) WHERE GORE WIDTH IS 6 FEET OR GREATER.

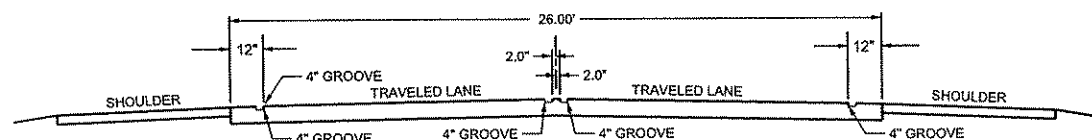
## BITUMINOUS APRON GRASS FIELD ENTRANCE



## TYPICAL OVERLAY SAWING DETAIL

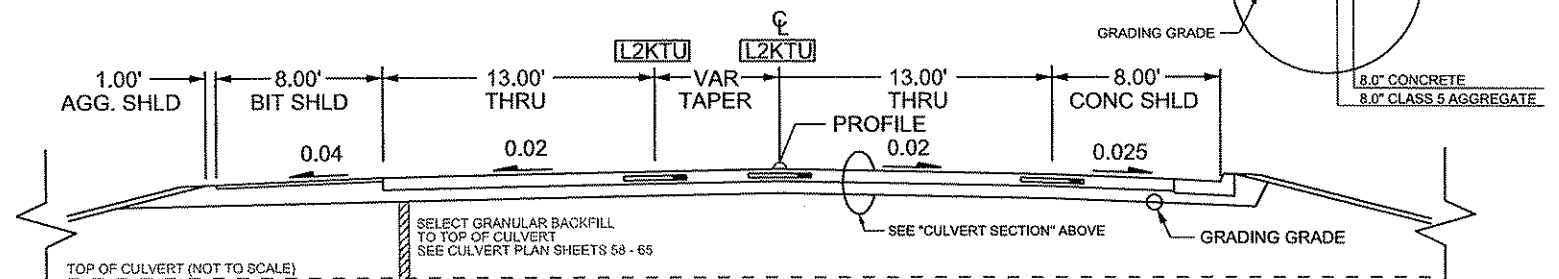


## GROOVED PAINT STRIPE DETAIL



- GROOVED PAINT AREA SHALL BE A MINIMUM OF 0.10 INCH TO A MAXIMUM OF 0.20 INCH IN DEPTH.
- CONTRACTOR HAS THE OPTION OF GRINDING THE CONCRETE SURFACE OR FORMING A GROOVE IN THE FINISHING OPERATIONS.
- 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.
- 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.
- THE CONTRACTOR SHALL ELIMINATE CONCRETE EDGELINE GROOVES AT INTERSECTIONS AS DIRECTED BY THE ENGINEER IN THE FIELD.
- CENTERLINE GROOVES WILL BE SEPARATED, ONE ON EACH SIDE OF CENTERLINE.

## C.S.A.H. 22 RECONSTRUCT - CULVERT SECTION STA. 207+16- STA. 209+16



NOTES:  
THIS PAVEMENT SECTION TO CONTAIN  
SUPPLEMENTAL REINFORCEMENT  
SEE MNDOT STANDARD PLATE 1070 M

NO	DATE	BY	CKD	APPR	REVISION
1	02/06/2013				
2	02/06/2013				
3	02/06/2013				
4	02/06/2013				
5	02/06/2013				
6	02/06/2013				
7	02/06/2013				
8	02/06/2013				
9	02/06/2013				
10	02/06/2013				

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: CURT A. KOBILARCSIK  
SIGNATURE: *[Signature]*  
DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY: ZDC DATE:   
DESIGN BY: NJD DATE:   
CHECKED BY: GMP DATE:

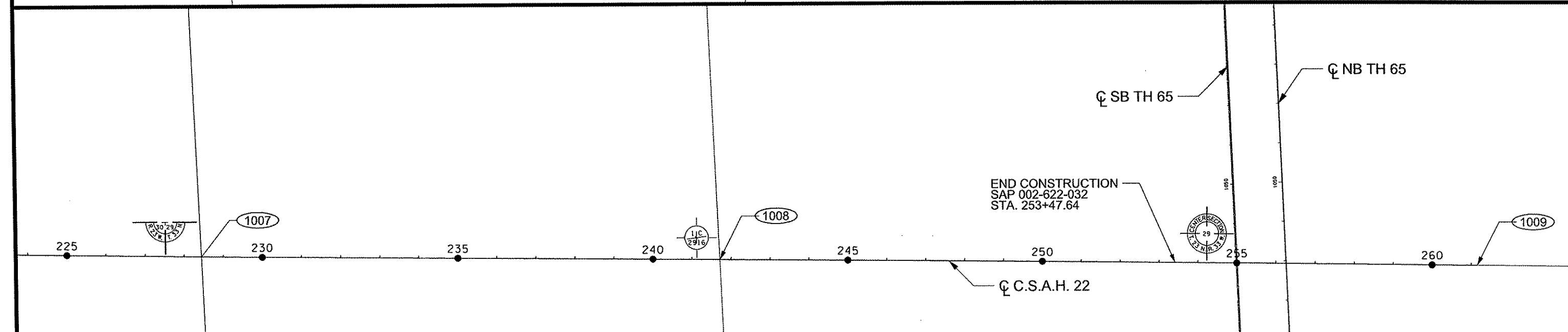


ANOKA COUNTY  
HIGHWAY DEPT.

SAP 002-622-032

TYPICAL SECTION &  
MISCELLANEOUS DETAILS

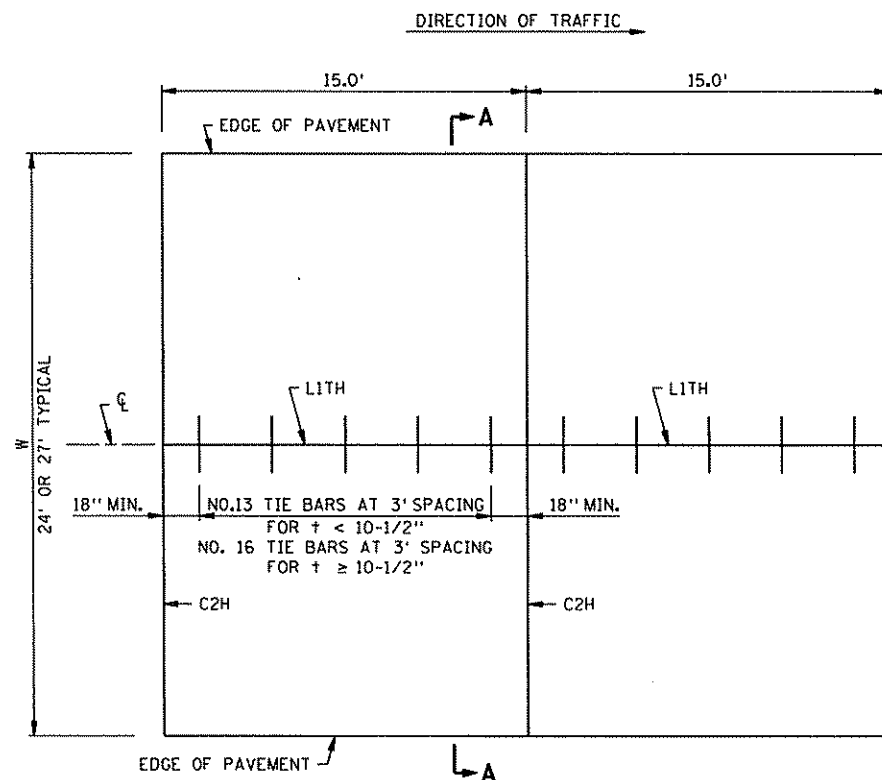
Sheet 15 of 106 Sheets



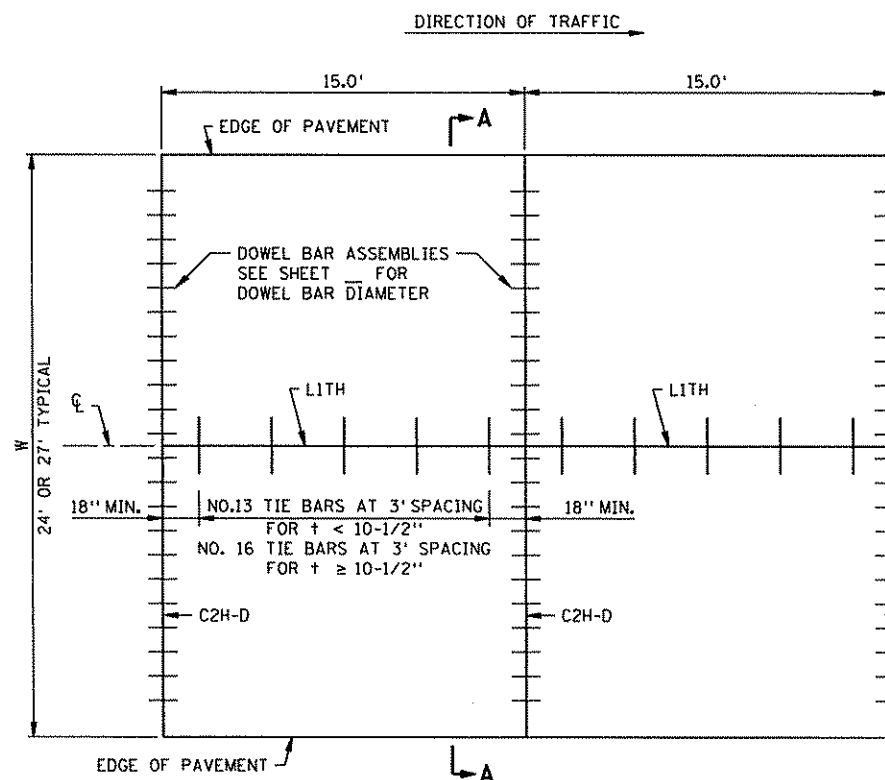
ALIGNMENT TABULATION											
POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N		
Q MADISON ST NE <CL_MADISON>											
2019	POT	Q MADISON ST NE	15+00.000						502,942.1958	203,421.4645	
2020	POT		18+35.359						502,926.6587	203,756.4637	

ALIGNMENT TABULATION  
AND PLAN

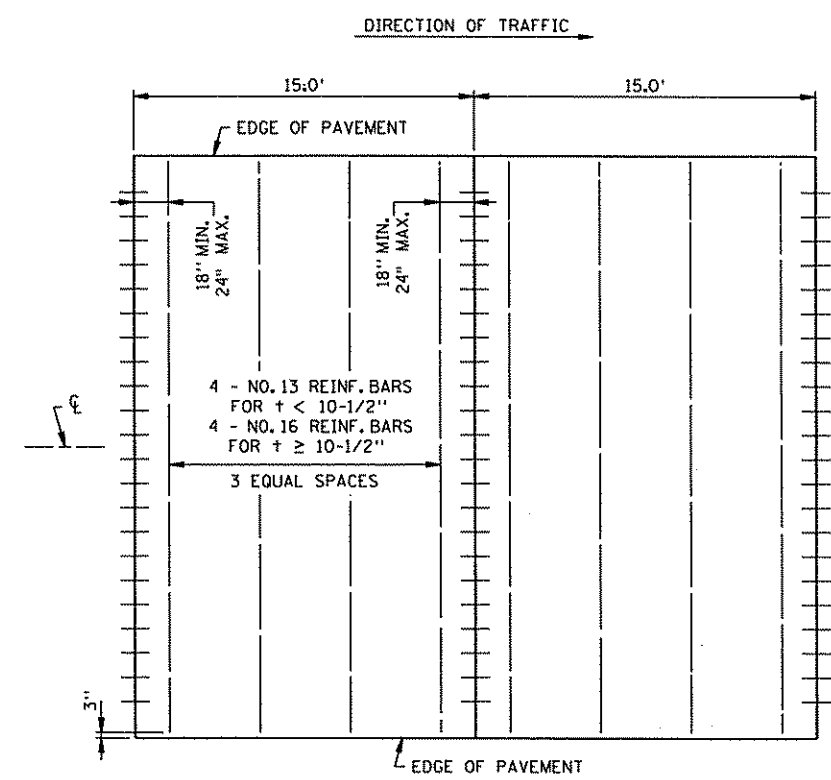
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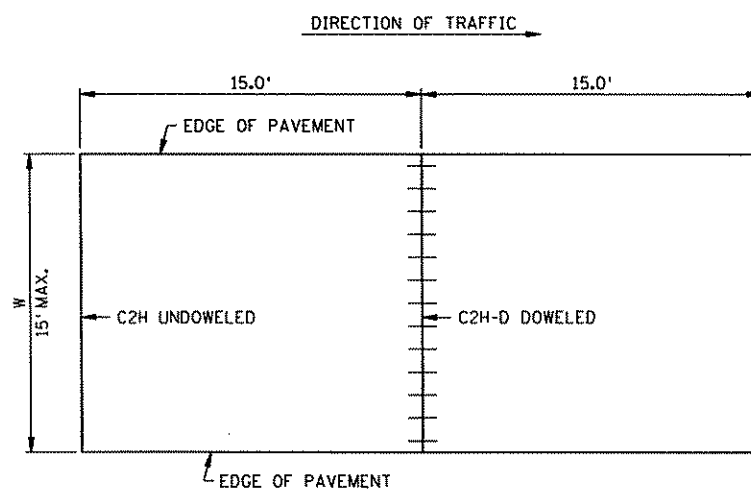
MAINLINE PAVEMENT  
UNDOWELED



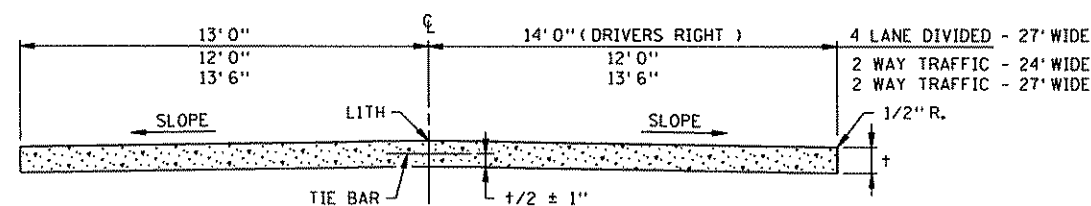
MAINLINE PAVEMENT  
DOWELED



PANEL REINFORCEMENT



PAVEMENT 2 FT. THRU 15 FT. WIDTH  
UNDOWELED OR DOWELED



SECTION A-A

#### GENERAL NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CROSS SLOPES AND PAVEMENT THICKNESS,  $t$ .

DOWEL BAR ASSEMBLIES, WHEN REQUIRED, SHALL BE SIMILAR TO THOSE SHOWN ON STANDARD PLATE 1103.

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

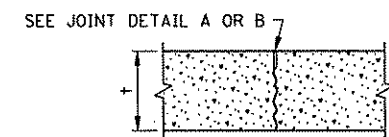
FOR SUPPLEMENTAL PAVEMENT REINFORCEMENT, SEE STANDARD PLATE 1070.

PANEL REINFORCEMENT:  
PLACE IN PANELS WHERE PAVEMENT WIDTH EXCEEDS 15.0' WITHOUT A LONGITUDINAL JOINT. PLACEMENT DEPTH SHALL BE PLANNED  $t/2 \pm 1"$ . IT IS PREFERRED TO ADD A LONGITUDINAL JOINT RATHER THAN PAVE GREATER THAN 15' IN WIDTH.

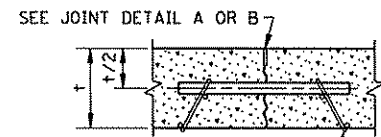
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STANDARD SHEET NO. 5-297.217 (1 OF 2)	TITLE: CONCRETE MAINLINE PAVEMENT 15.0 FT. PANEL LENGTH RURAL
STANDARD APPROVED: APRIL 14, 2010	
STATE AID PROJ. NO. 002-622-032	SHEET NO. 17 OF 106 SHEETS

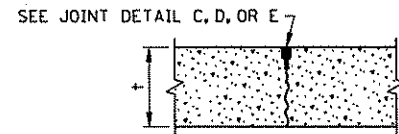
PLOTTED/REVISED:  
02/06/2013



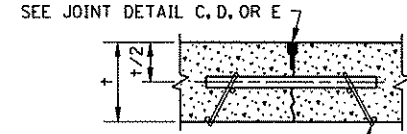
C1U & C2H



C1U-D & C2H-D



C3P, C4S, C5H



C3P-D, C4S-D, C5H-D

### CONTRACTION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE

JOINT REFERENCE		JOINT DETAIL	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
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		EXAMPLE
C = CONTRACTION JOINT	— C2H-D	
NO. = JOINT REFERENCE		
U = UNSEALED		
H = HOT POURED		
P = PREFORMED		
S = SILICONE		
-D = DOWEL BARS		

### 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"

### 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.

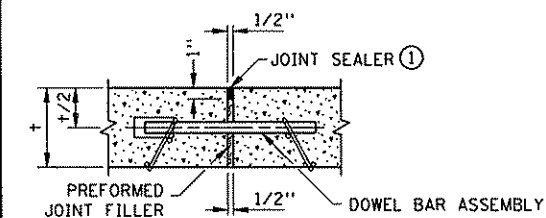
SEE PAVING LAYOUTS IN THE PLANS FOR JOINT  
CLASS DESIGNATION TO BE USED AND SPECIAL  
REINFORCEMENT REQUIRED.

- JOINT DEPTH SHALL BE:  
FOR CONCRETE OVERLAYS - 1/3 THE PAVEMENT THICKNESS  
FOR CONCRETE PAVEMENT - 1/4 THE PAVEMENT THICKNESS
- SEE CONTRACTION JOINT SEALER DETAIL.  
WHEN USING PREFORMED JOINT SEALER, THE DEPTH  
SHALL BE 1/4" MORE THAN THE PREFORMED SEALER.  
WHEN COMPRESSED, TO FIT THE JOINT DESIGN WIDTH.  
"a" DIMENSION SHALL APPLY AT ANY POINT THROUGHOUT  
"c" DEPTH. SHARP INTERNAL CORNERS WILL NOT BE  
PERMITTED. ALL CORNERS SHALL BE PROVIDED WITH  
SUITABLE FILLET.
- WHEN SEALING, THE JOINT FACES SHALL BE CLEANED  
AND DRIED BY SANDBLASTING AND AIR BLASTING.
- PRIOR TO SEALING THE JOINT, A 1/2" DIA. CLOSED  
CELL BACKER ROD SHALL BE PLACED SUCH THAT THE  
TOP OF THE BACKER ROD IS 1/2" BELOW THE SURFACE  
OF THE PAVEMENT. NON SELF-LEVELING SILICONE  
SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEAL  
AND BEAD THICKNESS OF 1/4".
- PRIOR TO SEALING THE JOINT, A 1/2" DIA. CLOSED  
CELL BACKER ROD CAPABLE OF WITHSTANDING  
SEALANT TEMPERATURES OF 400 DEGREES F. SHALL  
BE PLACED 1/2" BELOW THE TOP OF PAVEMENT.

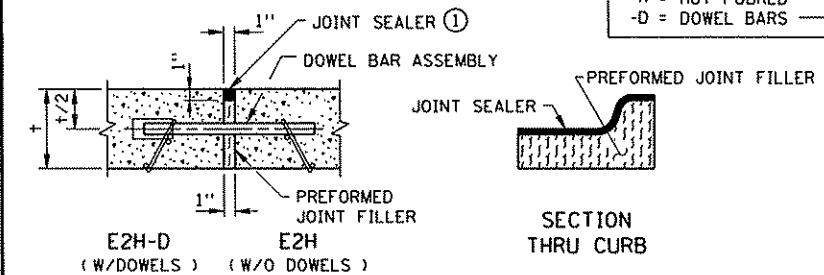
### EXPANSION JOINT REFERENCE, DETAIL & SEALER SPEC. TABLE

JOINT REFERENCE		JOINT DETAIL	JOINT SEALER SPEC.	JOINT WIDTH
WITHOUT DOWELS	WITH DOWELS			
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"

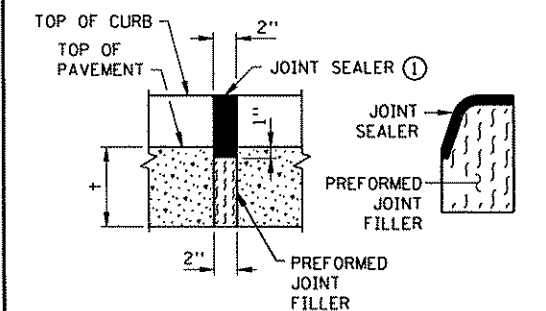
LEGEND		EXAMPLE
E = EXPANSION JOINT	— E4H-D	
NO. = JOINT REFERENCE		
H = HOT POURED		
-D = DOWEL BARS		



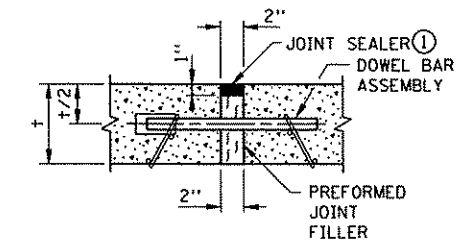
E1H-D E1H  
(W/DOWELS) (W/O DOWELS)  
JOINT DETAIL A



E2H-D E2H  
(W/DOWELS) (W/O DOWELS)  
JOINT DETAIL B

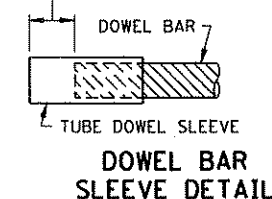


E4H  
(W/O DOWELS)  
JOINT DETAIL C



E4H-D  
(W/DOWELS)  
JOINT DETAIL D

SPACE FROM END OF DOWEL BAR  
TO END OF SLEEVE TO BE EQUAL  
TO EXPANSION JOINT WIDTH (1" MIN.)



DOWEL BAR  
SLEEVE DETAIL

### NOTES:

PREFORMED JOINT FILLER MATERIAL, SPEC. 3702.

FOR DOWEL BAR ASSEMBLY, SEE STANDARD PLATE 1103.

- 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

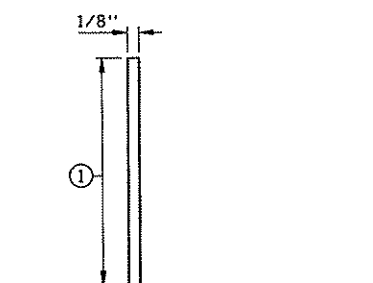
STANDARD SHEET NO.  
5-297.221 (1 OF 2)  
STANDARD APPROVED:  
APRIL 14, 2010

TITLE:  
PAVEMENT JOINTS  
CONTRACTION (DESIGN C) AND EXPANSION (DESIGN E)

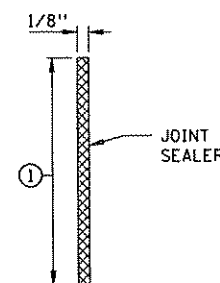
STATE PROJ. NO. 002-622-032

SHEET NO. 18 OF 106 SHEETS

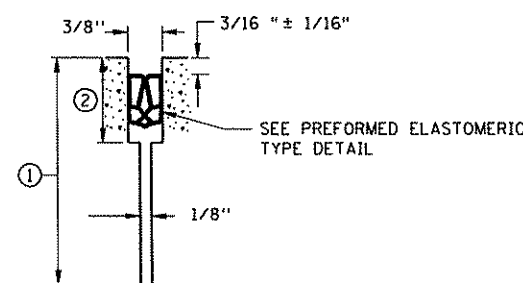
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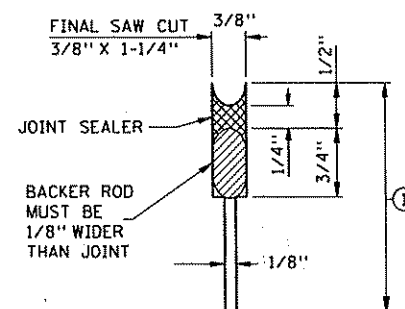
JOINT DETAIL A  
SAWED & UNSEALED



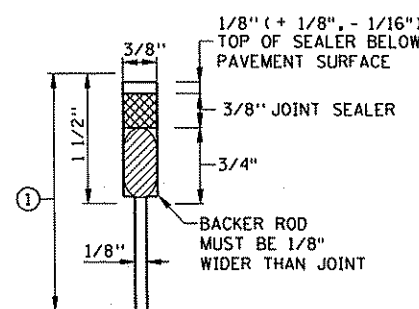
JOINT DETAIL B<sup>③</sup>  
SAWED & SEALED



JOINT DETAIL C<sup>③</sup>  
SAWED AND SEALED



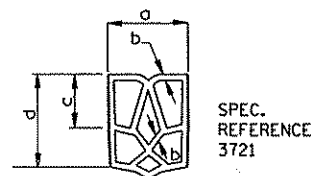
JOINT DETAIL D<sup>③④</sup>  
SAWED AND SEALED



JOINT DETAIL E<sup>③⑤</sup>  
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.)

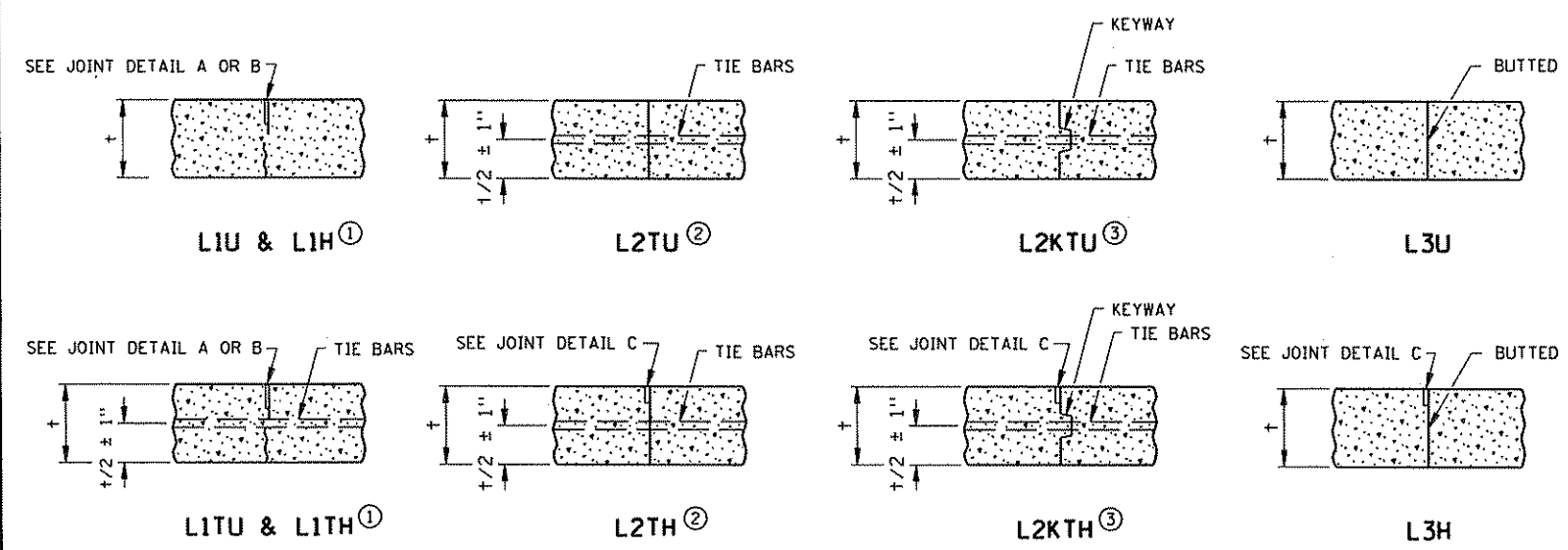
### PREFORMED ELASTOMERIC TYPE DETAIL

### CONTRACTION JOINTS DESIGN C

PLOTTED/REVISED:  
\$\$\$\$DATE\$\$\$\$

DISTRICT #: \$@DISTRICT@  
USER NAME: \$@USER\$NAME\$\$\$  
PATH & FILENAME: \$\$\$@PATH\$FILENAME\$\$\$

FILE NAME:  
@FILENAME@



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"

ALL REBARS ARE IN METRIC DESIGNATIONS

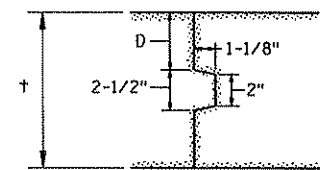
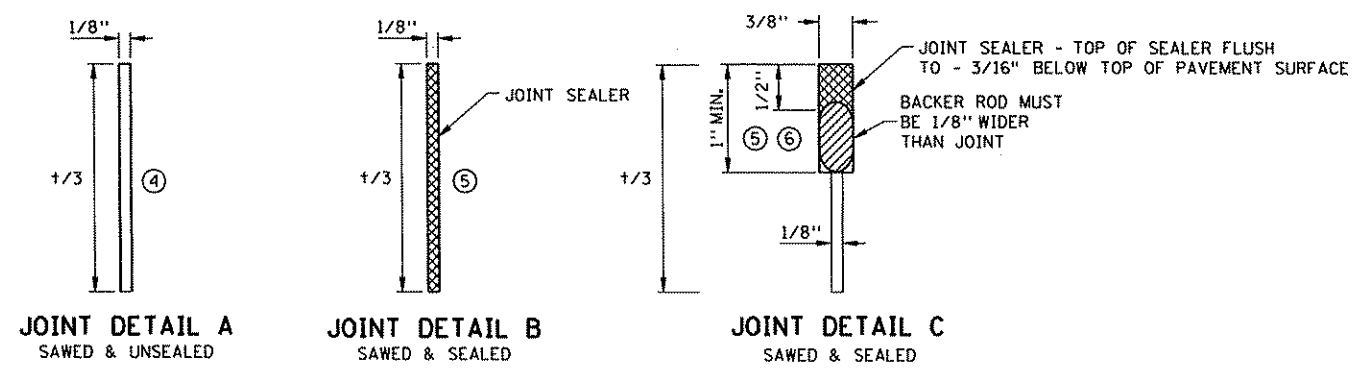
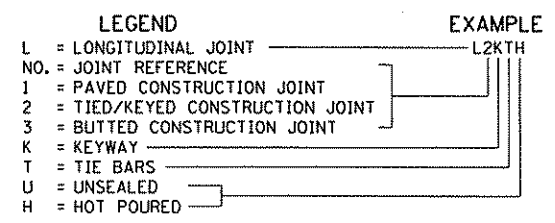
THE TIE BAR SPACING FOR ALL L2T AND L2KT JOINTS SHALL BE 3'-0" CENTER TO CENTER AND BENT 60° AS SHOWN, EXCEPT WHEN NOTED OTHERWISE IN THE PLANS.

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.

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	L1TU		A	UNSEALED	1/8"
L1H	L1TH		B	3725	1/8"
	L2TU	L2KTU	NONE	UNSEALED	
	L2TH	L2KTH	C	3725	3/8"
L3U			NONE	UNSEALED	
L3H			C	3725	3/8"



PAVEMENT KEYWAY DETAIL

KEYWAY DIMENSION TABLE

t	D
PAVEMENT THICKNESS	(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.

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.

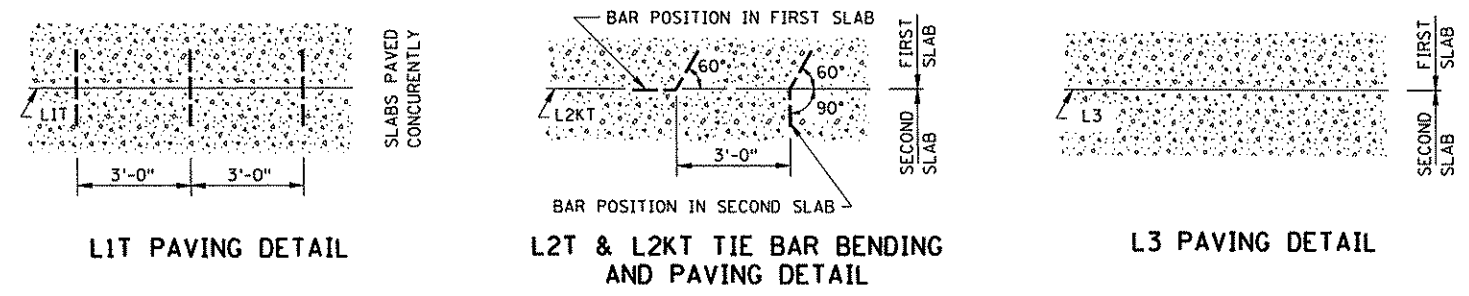
TIED/KEYED AND BUTTED CONSTRUCTION JOINTS SHALL BE UNSEALED EXCEPT AS OTHERWISE NOTED IN THE PLAN OR REQUIRED BY THE ENGINEER.

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.

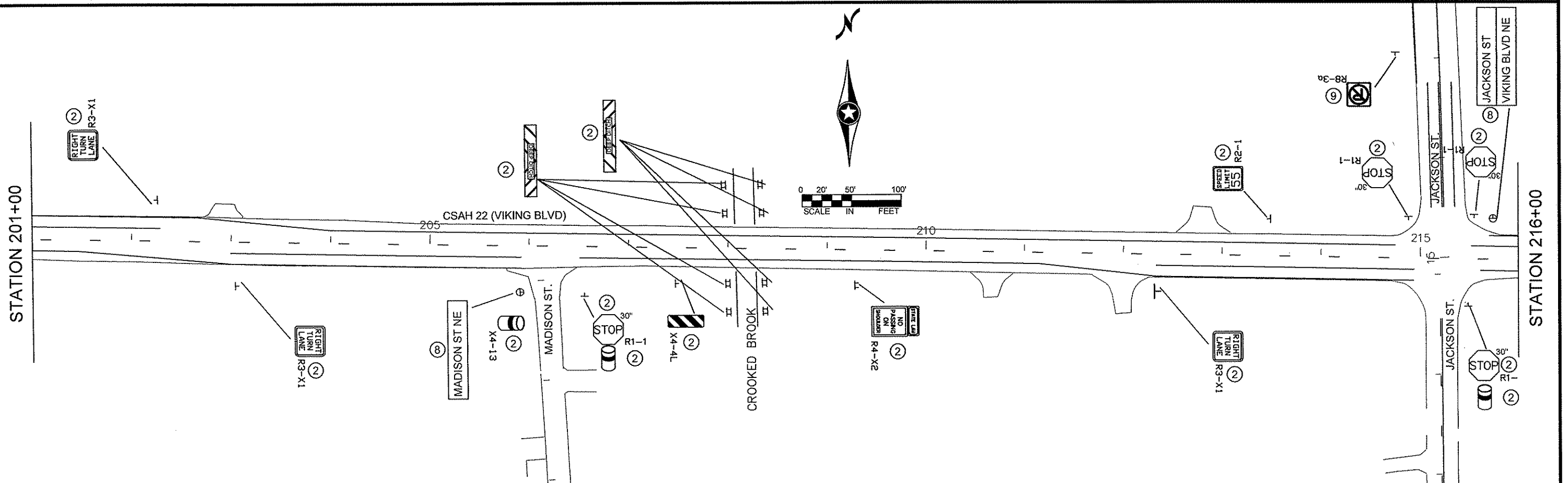
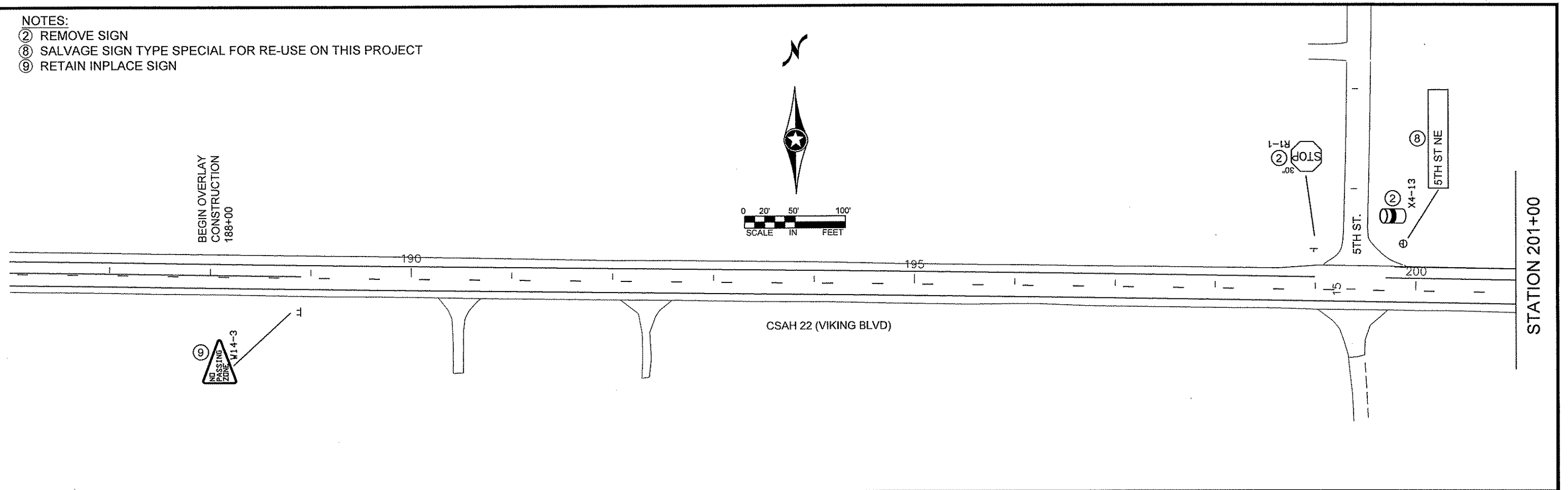
WHEN CURB AND GUTTER IS PLACED ADJACENT TO CONCRETE MAINLINE, THE TIEBARS SHALL BE PLACED A MINIMUM OF 2" ABOVE THE CURB AND GUTTER GRADE.

- SEE THE LONGITUDINAL JOINT REFERENCE, DETAIL & SEALER SPECIFICATION TABLE TO DETERMINE JOINT DETAIL.
- CONCRETE PAVEMENTS LESS THAN 7" SHALL USE L2TU AND L2TH JOINTS UNLESS OTHERWISE ALLOWED BY THE ENGINEER.
- CONCRETE PAVEMENTS GREATER THAN OR EQUAL TO 7" SHALL USE L2KTU AND L2KTH JOINTS UNLESS OTHERWISE ALLOWED BY THE ENGINEER.
- THE JOINT FACES SHALL BE CLEANED WITH WATER DURING THE SAW CUTTING OPERATION OR BY WATER BLASTING AFTER SAWING.
- THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING.
- 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.






- NOTES:  
② REMOVE SIGN  
⑧ SALVAGE SIGN TYPE SPECIAL FOR RE-USE ON THIS PROJECT  
⑨ RETAIN INPLACE SIGN



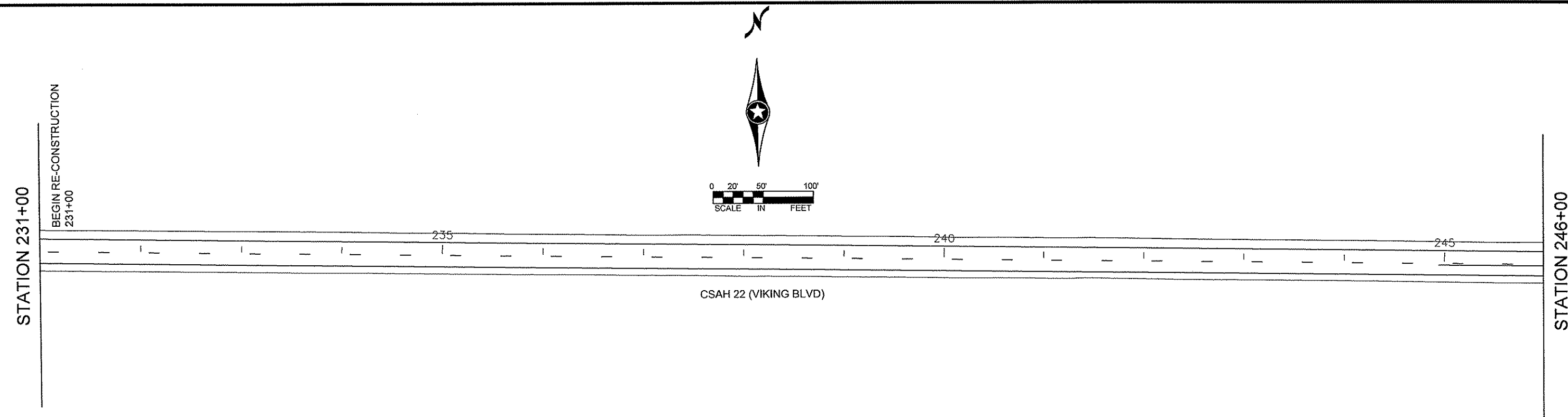
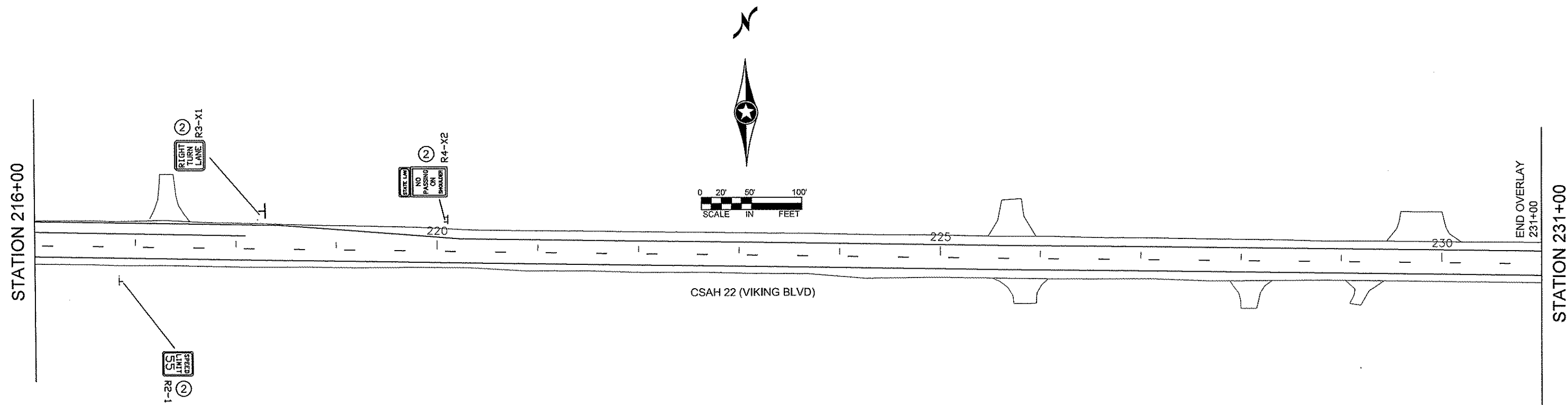
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NAME: P:\02-622-32\Bases\TRAFFIC\0262232_EXISTING_SIGNING_STRIPING.dwg									

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		DRAWN BY: MTH	DATE: 08/29/12
PRINT NAME: CURT A. KOBILARCSIK		DESIGN BY: MTH	DATE: 08/29/12
SIGNATURE: <i>Curt A. Kobilarsik</i>		CHECKED BY: JR	DATE: 01/04/13
DATE: 2-7-13		REG. NO. 24756	

	ANOKA COUNTY	STATE PROJECT NO. _____
	HIGHWAY DEPT.	STATE AID PROJECT NO. 002-622-032
		STATE AID PROJECT NO. _____
		COUNTY PROJECT NO. _____

EXISTING SIGNING & STRIPING PLAN
Sheet 20 of 106 Sheets

NOTES:  
② REMOVE SIGN



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: CURT A. KOBILARCSIK  
SIGNATURE: *Curt A. Kobilarsik*  
DATE: 2-7-13 REG. NO. 24756

DRAWN BY: MTH DATE 08/29/12  
DESIGN BY: MTH DATE 08/29/12  
CHECKED BY: JR DATE 01/04/13



ANOKA COUNTY  
HIGHWAY DEPT.

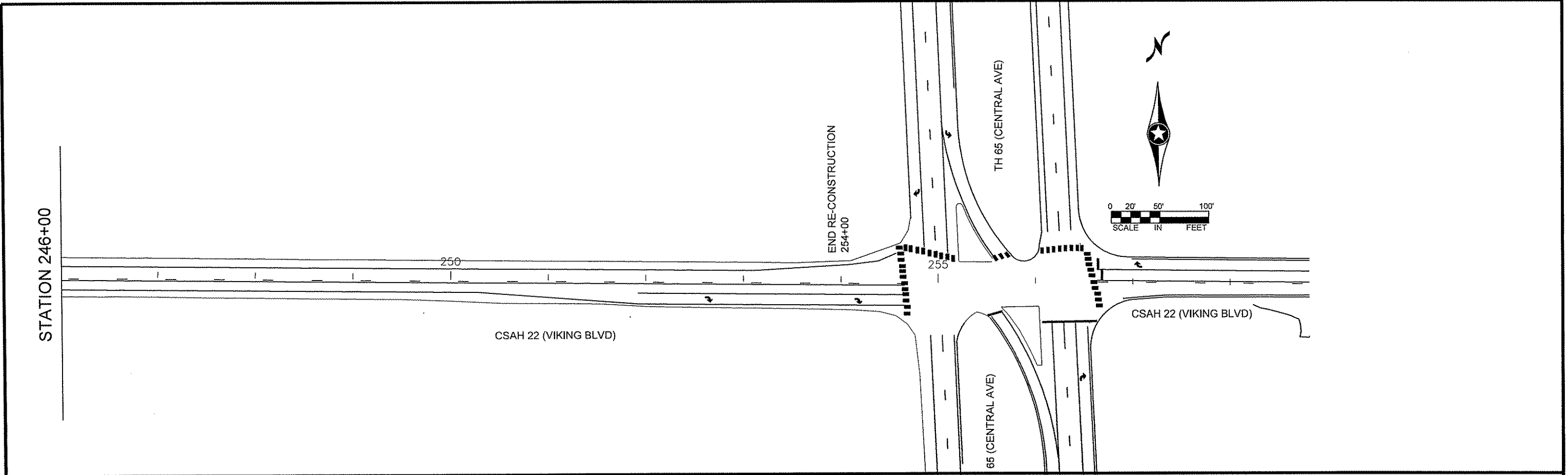
STATE PROJECT NO. \_\_\_\_\_  
STATE AID PROJECT NO. 002-622-032  
STATE AID PROJECT NO. \_\_\_\_\_  
COUNTY PROJECT NO. \_\_\_\_\_

EXISTING SIGNING &  
STRIPING PLAN

Sheet 21 of 106 Sheets

NO	DATE	BY	CKD	APPR	REVISION
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

NAME: P:\02-622-32\Base\TRAFFIC\0262232\_EXISTING SIGNING & STRIPING.dwg



NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-622-32\Bases\TRAFFIC\0262232_EXISTING SIGNING & STRIPING.dwg					

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME  
OR UNDER MY DIRECT SUPERVISION AND THAT I AM A  
DULY REGISTERED PROFESSIONAL ENGINEER UNDER  
THE LAWS OF THE STATE OF MINNESOTA.  
PRINT NAME: CURT A. KOBILARCSIK  
SIGNATURE: *Curt A. Kobilarsik*  
DATE: 2-7-13 REG. NO. 24756

DRAWN BY: MTH DATE 08/29/12  
DESIGN BY: MTH DATE 08/29/12  
CHECKED BY: JR DATE 01/04/13



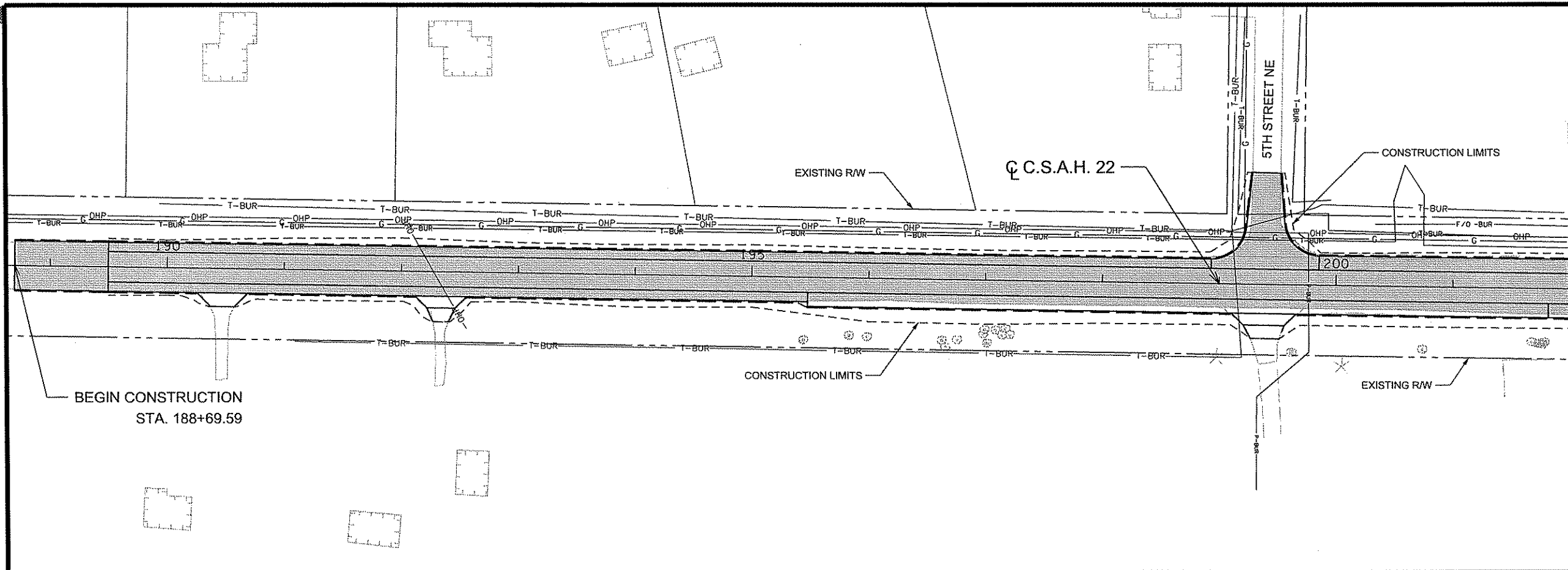
ANOKA COUNTY  
HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_  
STATE AID PROJECT NO. 002-622-032  
STATE AID PROJECT NO. \_\_\_\_\_  
COUNTY PROJECT NO. \_\_\_\_\_

EXISTING SIGNING &  
STRIPING PLAN  
Sheet 22 of 106 Sheets

B	SIGN REMOVAL TAB					
STATION	ADDRESS/ DESCRIPTION (NOTES)	SALVAGE SIGN TYPE C	SALVAGE SIGN TYPE SPECIAL	INSTALL SIGN TYPE SPECIAL	SIGN NUMBER	SIGN LEGEND
		EACH	EACH	EACH		
199+00		1			R1-1	STOP
199+70			1	1	D3-2	5TH ST NE
199+80		1			delineator	DELINEATOR
202+30		1			R3-X1	RIGHT TURN LANE
203+00		1			R3-X1	RIGHT TURN LANE
205+80			1	1	D3-2	MADISON ST NE
205+90		1			delineator	DELINEATOR
206+50		1			R1-1	STOP
207+40		1			X4-4L	CLEARANCE MARKER
208+00		1				DEEP DITCH
208+40		1				DEEP DITCH
209+30		1			R4-X2	NO PASSING ON SHOULDER
212+30		1			R3-X1	RIGHT TURN LANE
213+50		1			R2-1	SPEED LIMIT 55
215+00		1			R1-1	STOP
215+50		1			R1-1	STOP
215+50		1			R1-1	STOP
					delineator	DELINEATOR
215+60			1	1	D3-2	JACKSON ST/VIKING BLVD
216+90		1			R2-1	SPEED LIMIT 55
218+10		1			R3-X1	RIGHT TURN LANE
220+10		1			R4-X2	NO PASSING ON SHOULDER
TOTAL		18	3	3		

CONSTRUCTION NOTES:  
1. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER. RELOCATION INCIDENTAL TO TRAFFIC CONTROL.

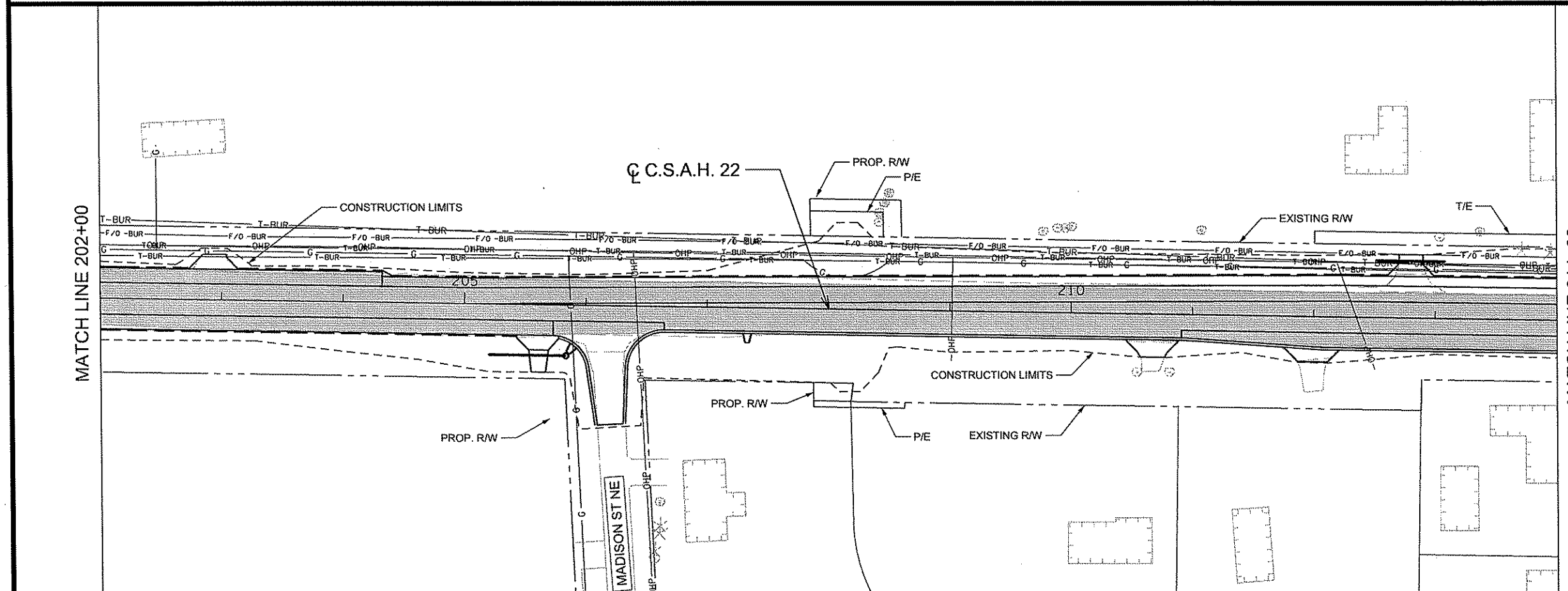


**LEGEND**

- G — CENTERPOINT ENERGY
- TV-BUR — MIDCONTINENT COMMUNICATIONS
- P-BUR — CONNEXUS ENERGY
- T-BUR — CENTURY LINK CORPORATION
- SIG-BUR — TRAFFIC SIGNAL
- — EXISTING STORM SEWER
- — PROPOSED STORM DRAIN
- — EXISTING R/W
- — PROPOSED R/W
- — EXISTING ROADWAY

MATCH LINE 202+00

0 100  
SCALE IN FEET



THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

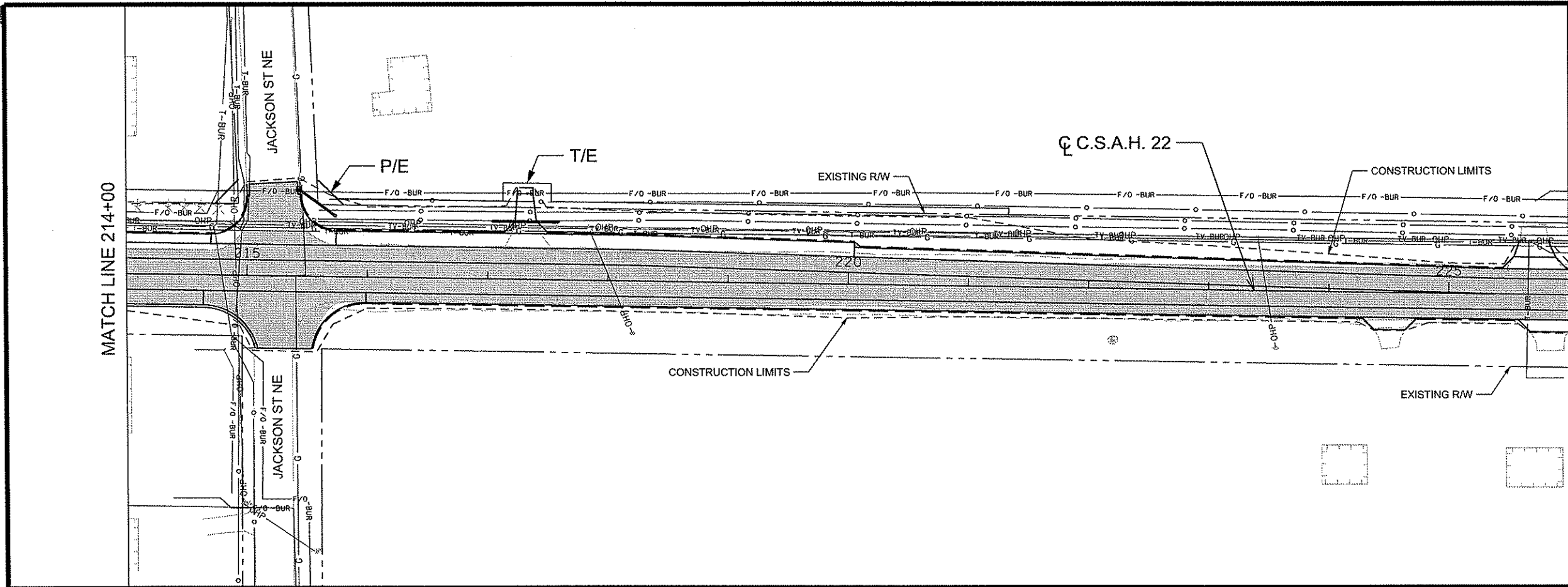
IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM REQUIRED BY MINNESOTA STATUTE, CHAPTERS 216D FOR ALL UNDERGROUND UTILITY LOCATIONS.

MATCH LINE 214+00

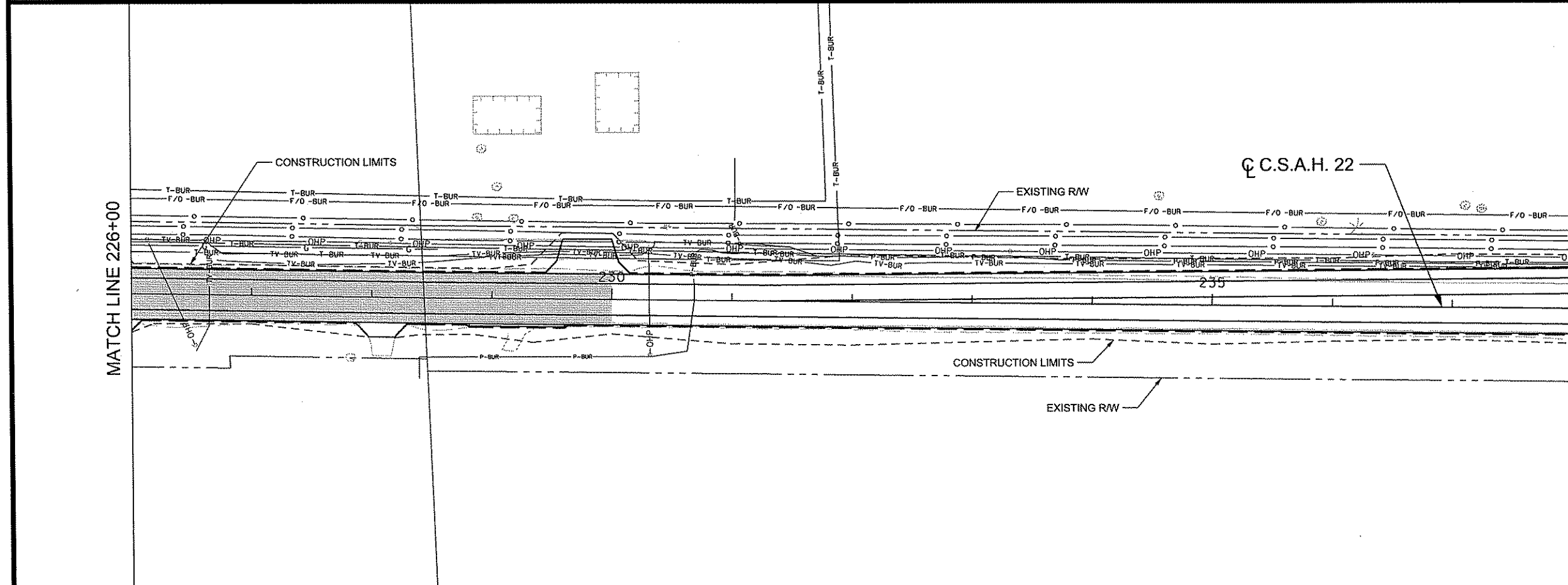
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SCALE IN FEET

NO    DATE    BY    CKD    APPR    REVISION NAME: P:\02-622-32\Plan\0262232_UT1.dgn    02/06/2013    1:26:39 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: CURT A. KOBIAROSIK SIGNATURE: <i>Curt A. Kobiarosik</i> DATE: 2-7-13    LICENSE NO. 24756		DRAWN BY: ZDC    DATE: 12-07-12 DESIGN BY: NJD    DATE: 12-07-12 CHECKED BY: GMP    DATE: 12-07-12		 <b>ANOKA COUNTY</b> <b>HIGHWAY DEPT.</b>		SAP 002-622-032 - - -		<b>UTILITY PLAN</b> STA 189+69.59 TO 214+00 Sheet 24 of 106 Sheets	
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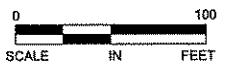



LEGEND	
— G —	CENTERPOINT ENERGY
— TV-BUR —	MIDCONTINENT COMMUNICATIONS
— P-BUR —	CONNEXUS ENERGY
— T-BUR —	CENTURY LINK CORPORATION
— OHP —	TRAFFIC SIGNAL
— SIG-BUR —	TRAFFIC SIGNAL
—	EXISTING STORM SEWER
—	PROPOSED STORM DRAIN
—	EXISTING R/W
—	PROPOSED R/W
—	EXISTING ROADWAY



THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

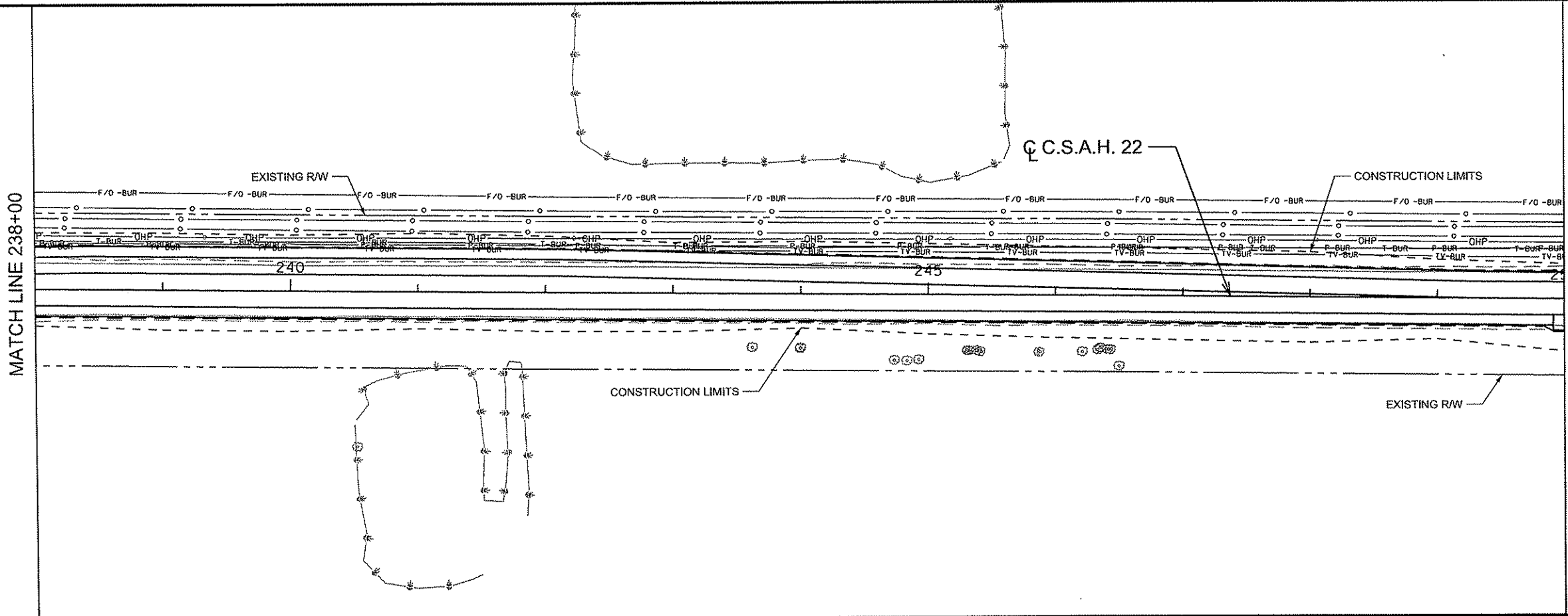
IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM REQUIRED BY MINNESOTA STATUTE, CHAPTERS 216D FOR ALL UNDERGROUND UTILITY LOCATIONS.



NO    DATE    BY    CKD    APPR    REVISION NAME: P:02-622-32\Plan\0262232_UT2.dgn    02/06/2013    1:26:50 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: CURT A. KOBIARCSIK SIGNATURE: <i>[Signature]</i> DATE: 2-7-13    LICENSE NO. 24756		DRAWN BY: ZDC    DATE: 12-07-12 DESIGN BY: NJD    DATE: 12-07-12 CHECKED BY: GMP    DATE: 12-07-12		 <b>ANOKA COUNTY HIGHWAY DEPT.</b>		SAP 002-622-032 - - -		<b>UTILITY PLAN</b> STA 189+69.59 TO 214+00 Sheet 25 of 106 Sheets	
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MATCH LINE 238+00

MATCH LINE 250+00

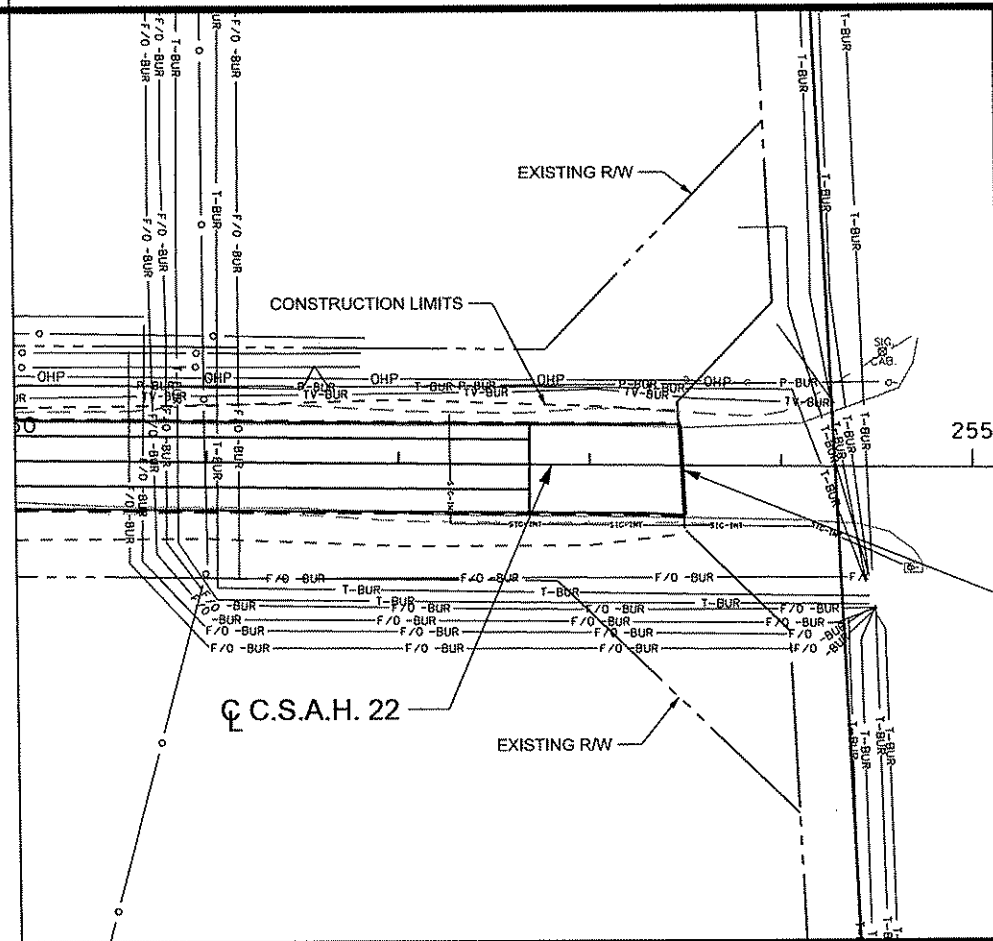


**LEGEND**

- C — CENTERPOINT ENERGY
- TV-BUR — MIDCONTINENT COMMUNICATIONS
- P-BUR — CONNEXUS ENERGY
- OHP — CENTURY LINK CORPORATION
- T-BUR —
- OHU —
- SIG-BUR — TRAFFIC SIGNAL
- EXISTING STORM SEWER
- PROPOSED STORM DRAIN
- EXISTING R/W
- PROPOSED R/W
- EXISTING ROADWAY

0 100  
SCALE IN FEET

MATCH LINE 250+00



END CONSTRUCTION  
STA. 253+47.64

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM REQUIRED BY MINNESOTA STATUTE, CHAPTERS 216D FOR ALL UNDERGROUND UTILITY LOCATIONS.

0 100  
SCALE IN FEET

3 OF 3

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-622-32\Plan\0262232_UT3.dgn 02/06/2013 10:20:44 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: CURT A. KOBILARCSIK

SIGNATURE: *[Signature]*

DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY ZDC DATE 12-07-12

DESIGN BY NJD DATE 12-07-12

CHECKED BY GMP DATE 12-07-12



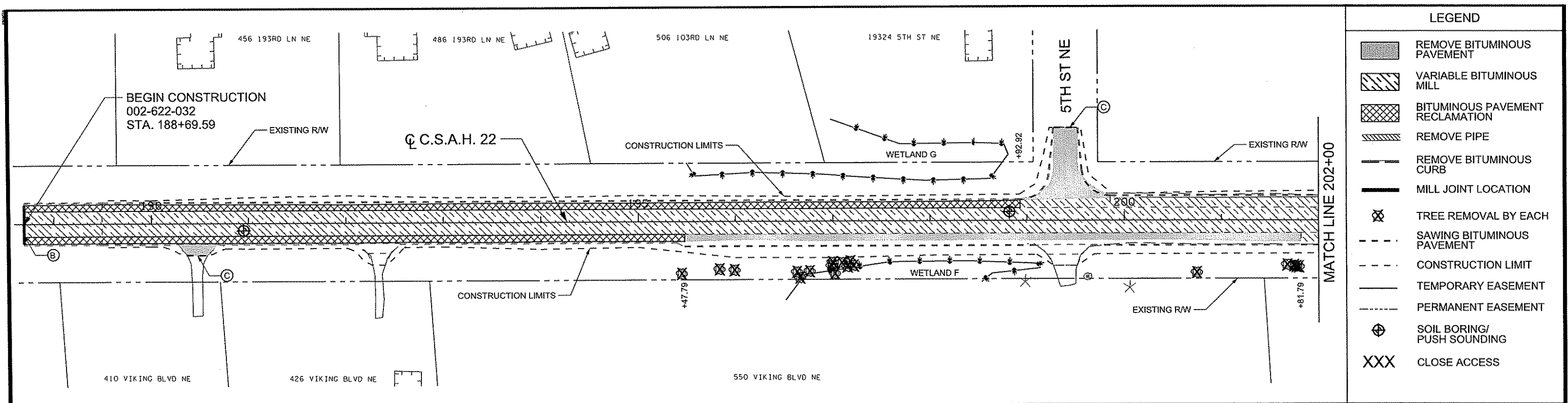
ANOKA COUNTY  
HIGHWAY DEPT.

SAP 002-622-032

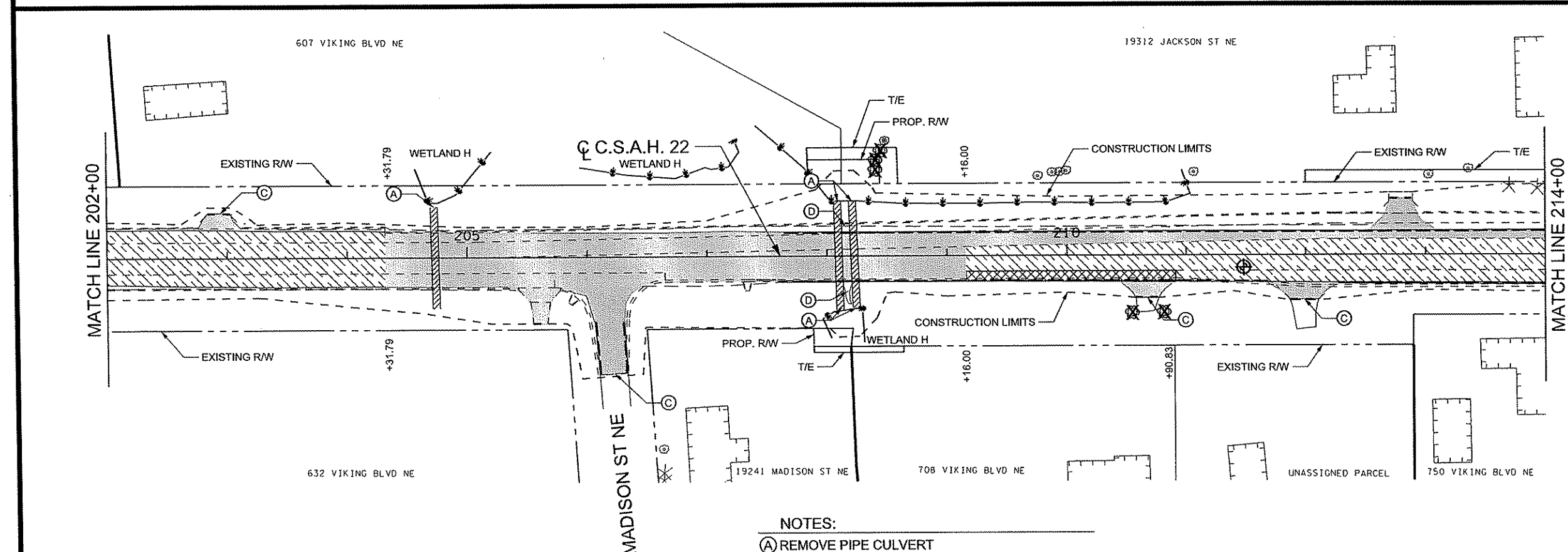
UTILITY PLAN

STA 238+00 TO 253+47.64

Sheet 26 of 106 Sheets



LEGEND	
	REMOVE BITUMINOUS PAVEMENT
	VARIABLE BITUMINOUS MILL
	BITUMINOUS PAVEMENT RECLAMATION
	REMOVE PIPE
	REMOVE BITUMINOUS CURB
	MILL JOINT LOCATION
	TREE REMOVAL BY EACH
	SAWING BITUMINOUS PAVEMENT
	CONSTRUCTION LIMIT
	TEMPORARY EASEMENT
	PERMANENT EASEMENT
	SOIL BORING/ PUSH SOUNDING
	CLOSE ACCESS



#### REMOVAL NOTES

THE CONTRACTOR SHALL PERFORM ALL CLEARING AND GRUBBING AS DIRECTED AND MARKED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL OTHERWISE PROTECT ALL EXISTING TREES NOT SPECIFICALLY MARKED FOR REMOVAL.

ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE IN PLACE UTILITY TABULATION FOR MORE INFORMATION.

SEE EXISTING SIGNING & STRIPING PLAN AND SIGN REMOVAL TAB FOR SIGN REMOVALS/ SALVAGES

#### NOTES:

- (A) REMOVE PIPE CULVERT
- (B) 2' WIDE MILL JOINT
- (C) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
- (D) REMOVE BITUMINOUS FLUME
- (E) REMOVE SEWER PIPE (STORM)



1 OF 3

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: CURT A. KOBLARCSEK

SIGNATURE:

DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY: ZDC DATE: 12-07-12

DESIGN BY: NJD DATE: 12-07-12

CHECKED BY: GMP DATE: 12-07-12



ANOKA COUNTY  
HIGHWAY DEPT.














SAP 002-622-032

REMOVAL PLAN

STA 188+69.59 TO 214+00

Sheet 27 of 106 Sheets

LEGEND

-  REMOVE BITUMINOUS PAVEMENT
-  VARIABLE BITUMINOUS MILL
-  BITUMINOUS PAVEMENT RECLAMATION
-  REMOVE PIPE
-  REMOVE BITUMINOUS CURB
-  MILL JOINT LOCATION
-  TREE REMOVAL BY EACH
-  SAWING BITUMINOUS PAVEMENT
-  CONSTRUCTION LIMIT
-  TEMPORARY EASEMENT
-  PERMANENT EASEMENT
-  SOIL BORING/ PUSH SOUNDING
-  CLOSE ACCESS

REMOVAL NOTES

THE CONTRACTOR SHALL PERFORM ALL CLEARING AND GRUBBING AS DIRECTED AND MARKED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL OTHERWISE PROTECT ALL EXISTING TREES NOT SPECIFICALLY MARKED FOR REMOVAL.

ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE IN PLACE UTILITY TABULATION FOR MORE INFORMATION.

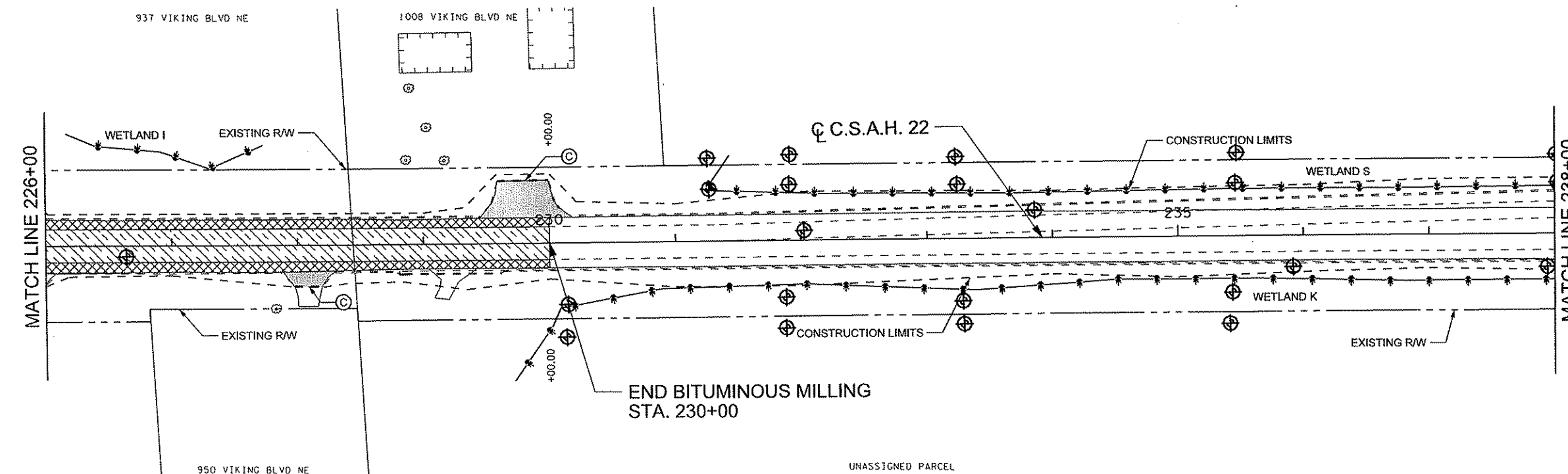
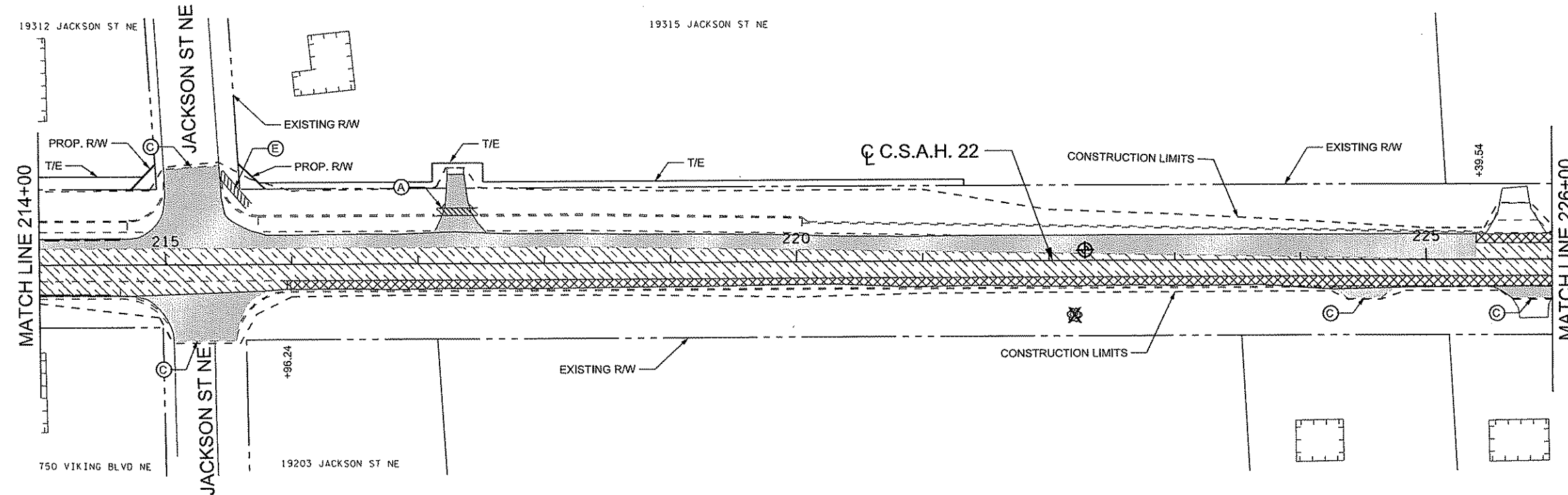
SEE EXISTING SIGNING & STRIPING PLAN AND SIGN REMOVAL TAB FOR SIGN REMOVAL/ SALVAGES

2 OF 3

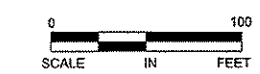
REMOVAL PLAN

STA 214+00 TO 238+00

Sheet 28 of 106 Sheets
















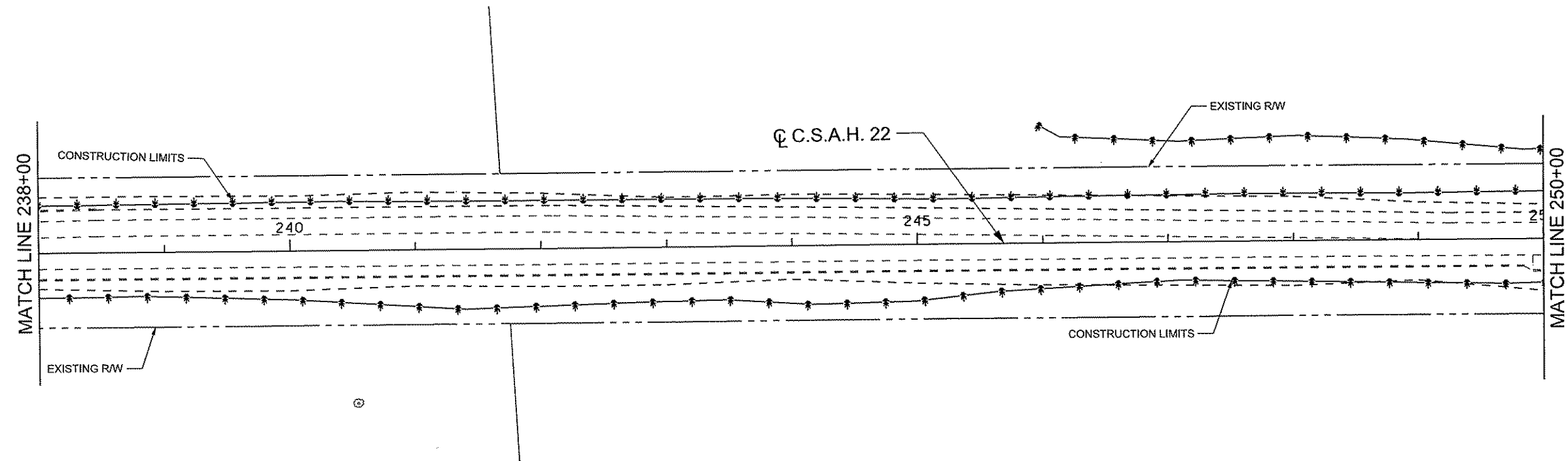
- NOTES:
- (A) REMOVE PIPE CULVERT
  - (B) 2' WIDE MILL JOINT
  - (C) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
  - (D) REMOVE BITUMINOUS FLUME
  - (E) REMOVE SEWER PIPE (STORM)



NO    DATE    BY    CKD    APPR    REVISION NAME: p302-622-32\plan\0262232_REM2.dgn    02/06/2013    10:21:01 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: CURT A. KOBIARCSIK SIGNATURE: <i>[Signature]</i> DATE: 2-7-13    LICENSE NO. 24756					DRAWN BY: ZDC    DATE: 12-07-12 DESIGN BY: NJD    DATE: 12-07-12 CHECKED BY: GMP    DATE: 12-07-12					ANOKA COUNTY HIGHWAY DEPT.					SAP 002-622-032 - - -					REMOVAL PLAN STA 214+00 TO 238+00 Sheet 28 of 106 Sheets				
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LEGEND

-  REMOVE BITUMINOUS PAVEMENT
-  VARIABLE BITUMINOUS MILL
-  BITUMINOUS PAVEMENT RECLAMATION
-  REMOVE PIPE
-  REMOVE BITUMINOUS CURB
-  MILL JOINT LOCATION
-  TREE REMOVAL BY EACH
-  SAWING BITUMINOUS PAVEMENT
-  CONSTRUCTION LIMIT
-  TEMPORARY EASEMENT
-  PERMANENT EASEMENT
-  SOIL BORING/PUSH SOUNDING
-  CLOSE ACCESS

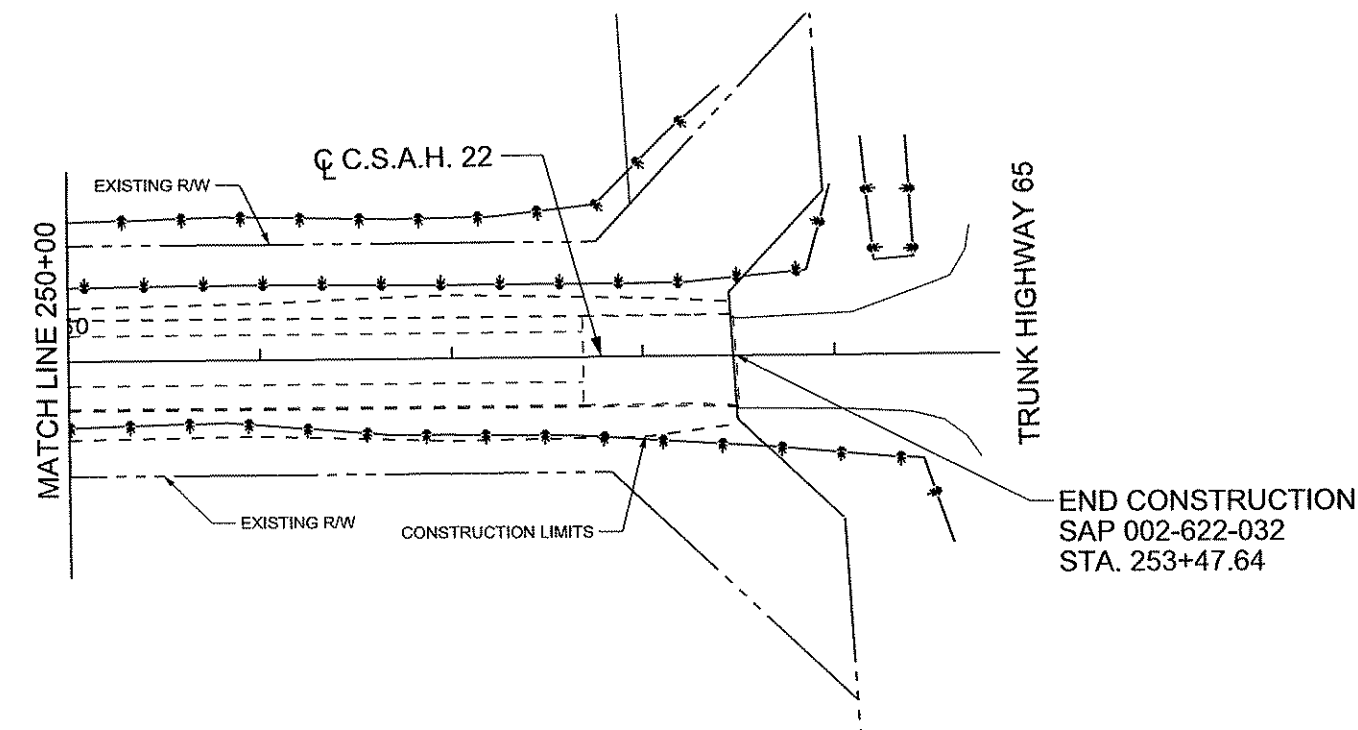


REMOVAL NOTES

THE CONTRACTOR SHALL PERFORM ALL CLEARING AND GRUBBING AS DIRECTED AND MARKED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL OTHERWISE PROTECT ALL EXISTING TREES NOT SPECIFICALLY MARKED FOR REMOVAL.

ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE IN PLACE UTILITY TABULATION FOR MORE INFORMATION.

SEE EXISTING SIGNING & STRIPING PLAN AND SIGN REMOVAL TAB FOR SIGN REMOVALS/ SALVAGES



- NOTES:
- (A) REMOVE PIPE CULVERT
  - (B) 2' WIDE MILL JOINT
  - (C) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
  - (D) REMOVE BITUMINOUS FLUME
  - (E) REMOVE SEWER PIPE (STORM)



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: CURT A. KOBILARCSIK

SIGNATURE: *Curt A. Kobilarsik*

DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY: ZDC DATE: 12-07-12

DESIGN BY: NJD DATE: 12-07-12

CHECKED BY: GMP DATE: 12-07-12



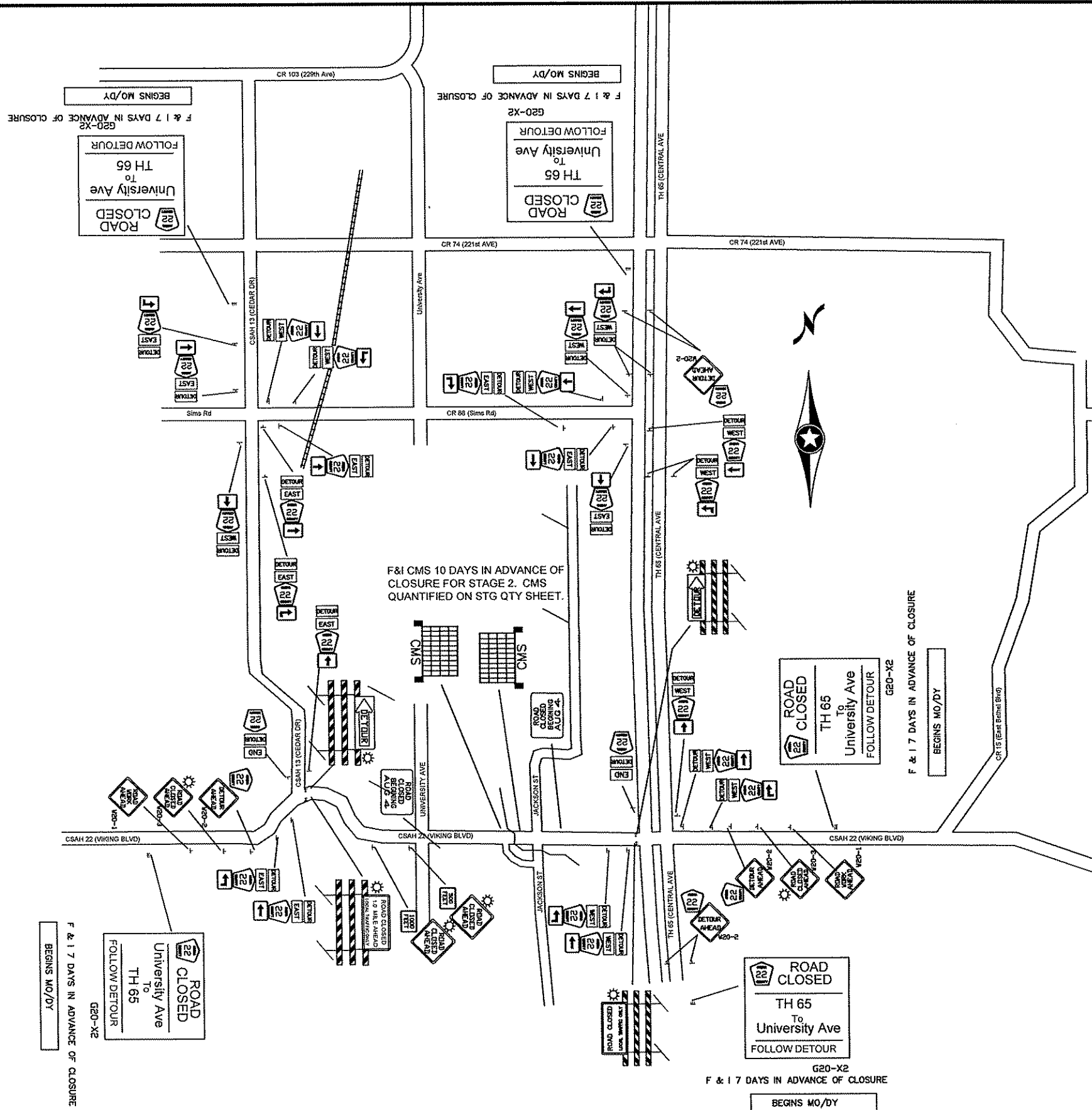
ANOKA COUNTY  
HIGHWAY DEPT.

SAP 002-622-032

REMOVAL PLAN

STA 238+00 TO 253+47.64

Sheet 29 of 106 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: CURT A KOBIARCSIK

SIGNATURE: *Curt A Kobilarsik*

DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY: MTH DATE 10/18/12

DESIGN BY: MTH DATE 10/18/12

CHECKED BY: RB DATE 01/04/13




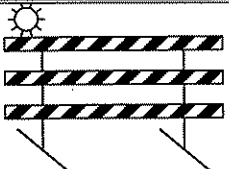

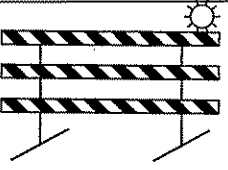




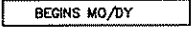

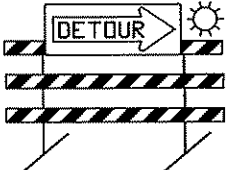

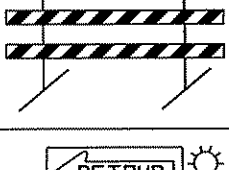
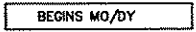
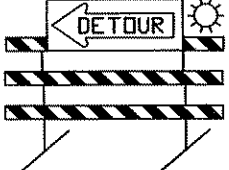

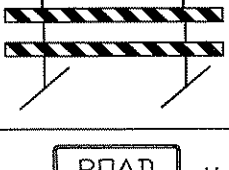



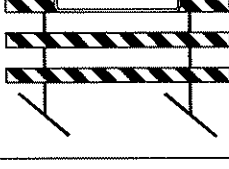
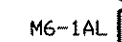



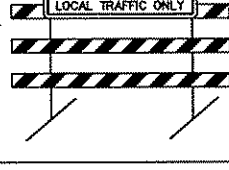


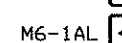

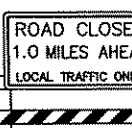

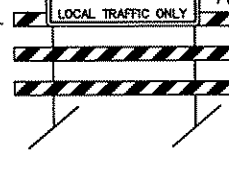



ANOKA COUNTY  
HIGHWAY DEPT.

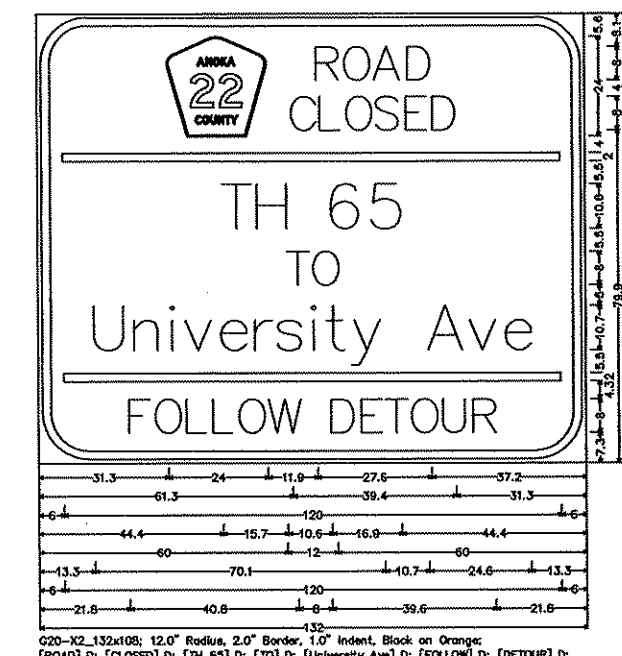
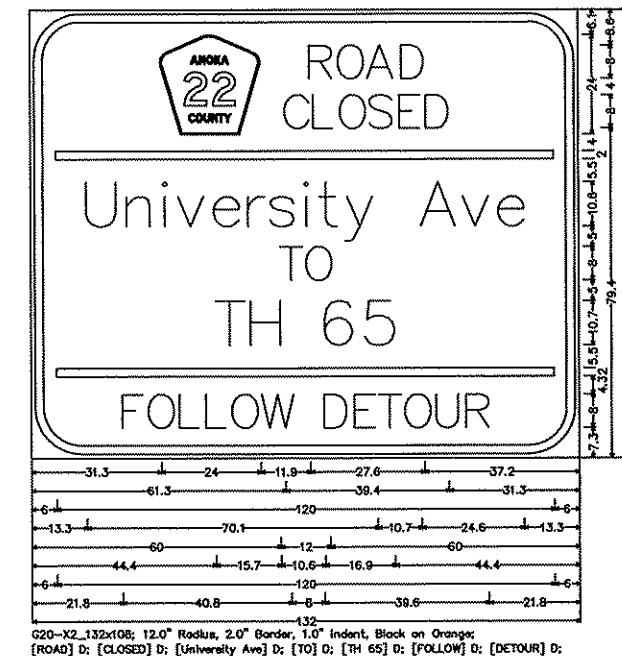
S.A.P. 002-622-032

DETOUR PLAN

Sheet 30 of 106 Sheets



M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
W20-1	48" x 48"		• 2	TYPE III	8 FOOT		• 2
M1-6A	24" x 24"		• 6	TYPE III	8 FOOT		• 4
W20-2	48" x 48"		• 6				
W20-3	48" x 48"		• 4	G20-X2	132"x 108"		• 2
W20-100P	24" x 18"		• 1				*
W20-100P	24" x 18"		• 1				
M4-10R	48" x 18"		SEE NOTE ②	G20-X2	132"x 108"		• 3
TYPE III	8 FOOT		• 1				*
M4-10L	48" x 18"		SEE NOTE ②	M4-8A	24" x 12"		• 2
TYPE III	8 FOOT		• 1	M3-4A	24" x 12"		• 2
R11-2	48" x 30"		SEE NOTE ②	M1-6A	24" x 24"		• 2
TYPE III	8 FOOT		• 2		21" x 15"		• 2
							• 3
R11-3	48" x 30"		SEE NOTE ②	M4-8A	24" x 12"		• 3
TYPE III	8 FOOT		• 1	M3-2A	24" x 12"		• 2
				M1-6A	24" x 24"		• 4
					21" x 15"		• 3
							• 3
R11-3	48" x 30"		SEE NOTE ②	M4-6A	24" x 12"		
TYPE III	8 FOOT		• 1	M4-8A	24" x 12"		• 2
				M1-6A	24" x 24"		
				G20-X1	60" x 48"		• 2




NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS
- ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M.U.T.C.D.

\* SIGN TO BE INSTALLED 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.

1	4/27/2012	MTH			MN/DOT redline edits
2	5/09/2012	RLB			JR redlines
NO	DATE	BY	CKD	APPR	REVISION
NAME:	P:\02-622-32\Base\TRAFFIC\0262232 Detour.dwg				

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A KOBIJARCSIK  
 SIGNATURE:   
 DATE: 2-7-13 REG. NO. 24756

DRAWN BY: MTH DATE: 07/17/12  
 DESIGN BY: MTH DATE: 07/17/12  
 CHECKED BY: JR DATE: 07/XX/12

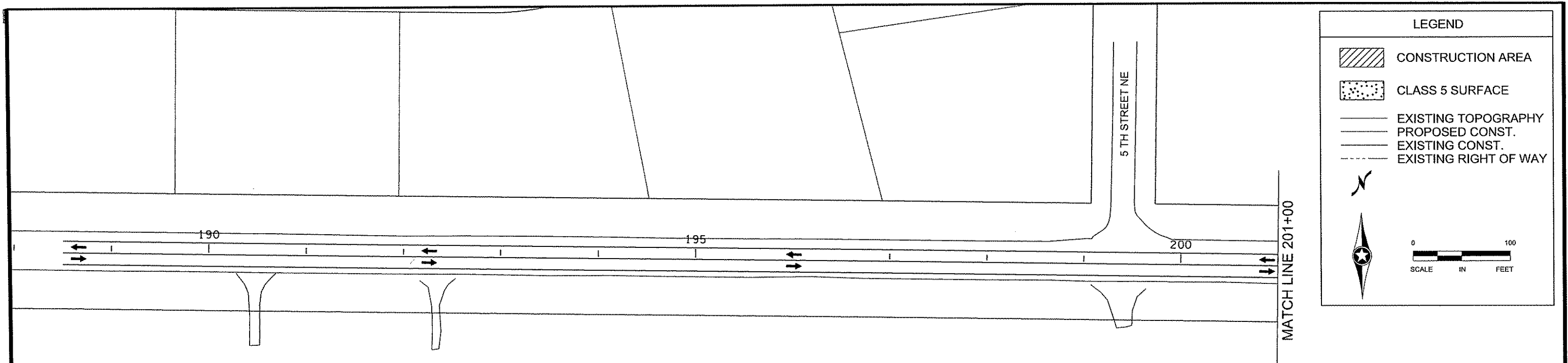


ANOKA COUNTY  
 HIGHWAY DEPT.

S.A.P. 002-622-032

DETOUR  
 SIGN QUANTITIES

Sheet 31 of 106 Sheets



#### STAGE 1 CONSTRUCTION NOTES:

CONSTRUCT ROADWAY BASE ACROSS MUCK SECTION  
1.0' SELECT GRANULAR  
4.0" CLASS 5 AGGREGATE BASE  
MILL MAINLINE PAVEMENT ACROSS OVERLAY SECTION

#### STAGE 2 CONSTRUCTION NOTES:

CONSTRUCT CULVERT FOR CROOKED BROOK  
OPEN CUT CSAH 22 AND REPLACE ALL AT ONCE  
CONSTRUCT SUB-BASE AND BASE FOR NORTH WIDENING  
FOR OPPOSING LEFT TURNS AT JACKSON STREET

#### STAGE 3 CONSTRUCTION NOTES:

STAGE 3: PAVE WESTBOUND CONCRETE THROUGH LANES,  
LEFT TURN LANES, AND IRREGULAR CONCRETE  
TAPER SECTIONS  
STAGE 3: PAVE WESTBOUND BITUMINOUS SHOULDERS  
AND TURN LANES

#### STAGE 4 CONSTRUCTION NOTES:

STAGE 4: PAVE EASTBOUND CONCRETE THROUGH LANES,  
LEFT TURN LANES, AND IRREGULAR CONCRETE  
TAPER SECTIONS  
STAGE 4: PAVE EASTBOUND BITUMINOUS SHOULDERS  
AND TURN LANES

#### STAGE 1 TRAFFIC NOTES:

ROADWAY CLOSED ACROSS MUCK SECTION  
MILLING OPERATIONS TO BE DONE USING  
FLAGGING OPERATIONS.

#### STAGE 2 CONSTRUCTION NOTES:

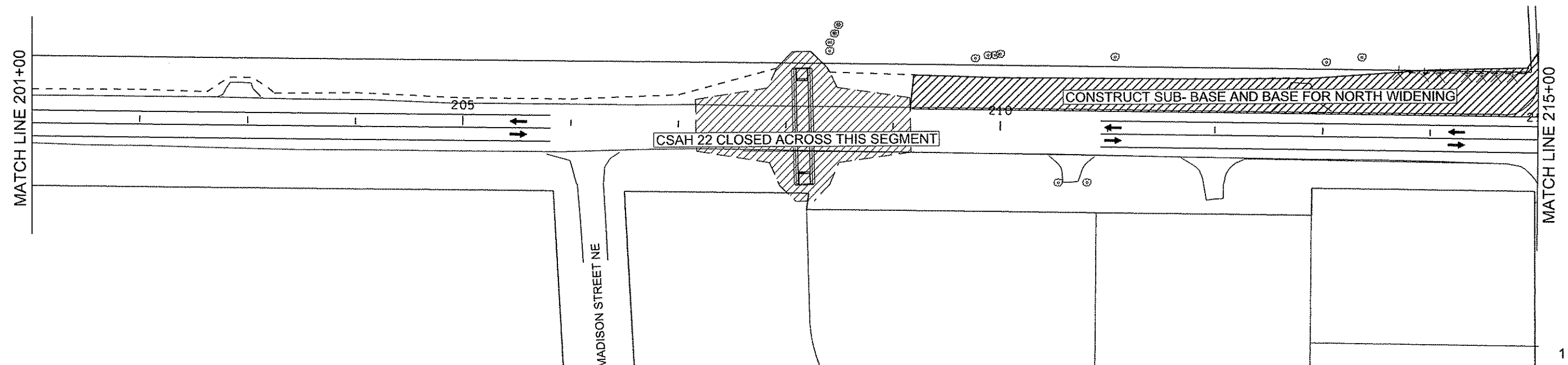
CSAH 22 CLOSED ACROSS THE CULVERT SECTION.  
LOCAL TWO WAY DETOUR ATOP MILLED SURFACE WEST  
OF CSAH 22 CLOSURE  
LOCAL TWO WAY DETOUR CONTINUES ATOP CLASS 5  
AGGREGATE ALONG MUCK SECTION TO TH 65.

#### STAGE 3 CONSTRUCTION NOTES:

STAGE 3: ONE WAY DETOUR ATOP MILLED & AGGREGATE  
SURFACE SOUTH SIDE OF THE ROAD

#### STAGE 4 CONSTRUCTION NOTES:

STAGE 4: ONE WAY DETOUR ATOP MILLED & AGGREGATE  
SURFACE NORTH SIDE OF THE ROAD



1 OF 3

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: CURT A. KOBIARCSIK  
SIGNATURE: *Curt A. Kobiarsik*  
DATE: 2-7-13 LICENSE NO. 24755

DRAWN BY ZDC DATE 12-07-12  
DESIGN BY NJD DATE 12-07-12  
CHECKED BY GMP DATE 12-07-12

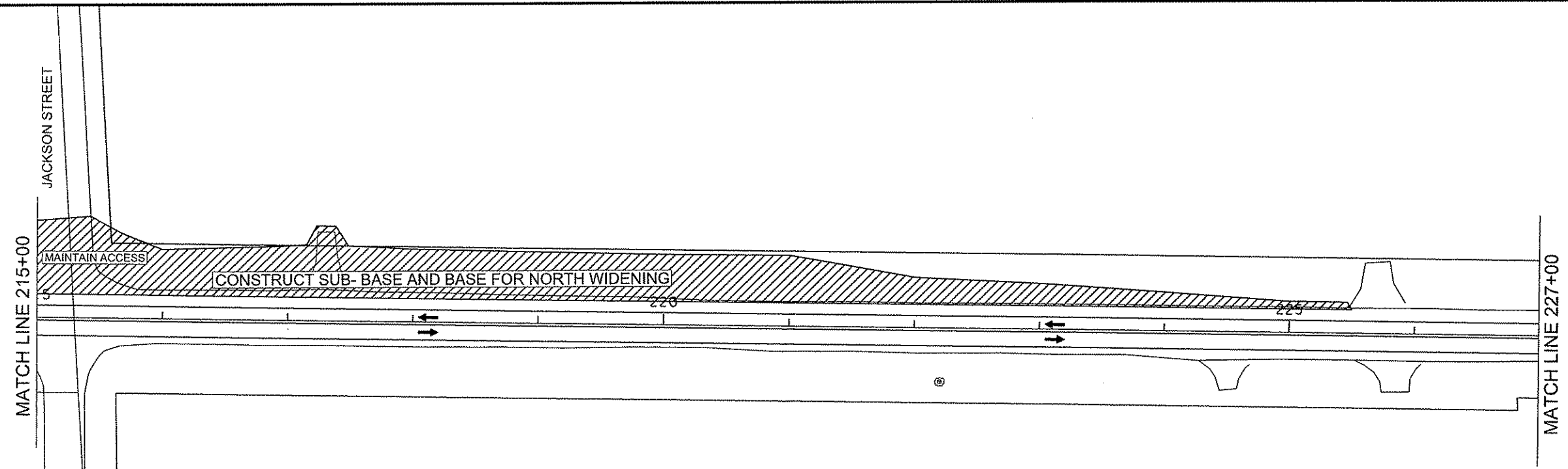


ANOKA COUNTY  
HIGHWAY DEPT.

SAP 002-622-032

CONSTRUCTION STAGING PLAN  
STAGE 2

Sheet 32 of 106 Sheets



**LEGEND**

CONSTRUCTION AREA

CLASS 5 SURFACE

EXISTING TOPOGRAPHY

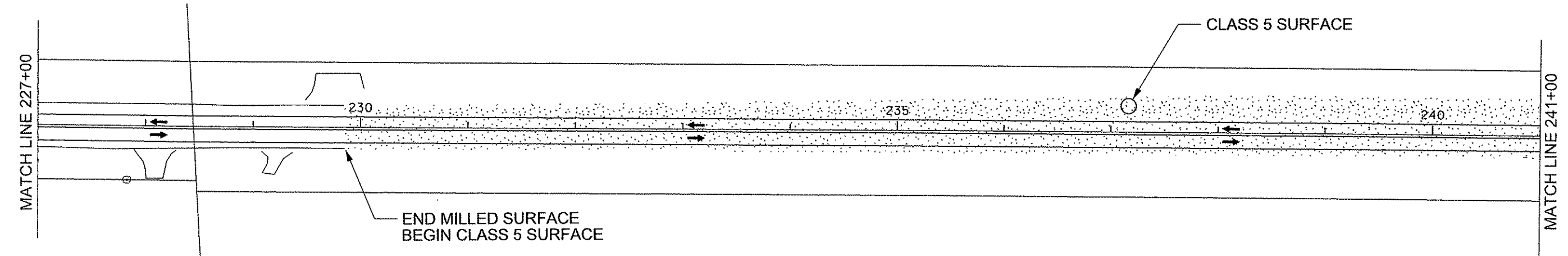
PROPOSED CONST.

EXISTING CONST.

EXISTING RIGHT OF WAY

<p><u>STAGE 1 CONSTRUCTION NOTES:</u></p> <p>CONSTRUCT ROADWAY BASE ACROSS MUCK SECTION 1.0' SELECT GRANULAR 4.0" CLASS 5 AGGREGATE BASE MILL MAINLINE PAVEMENT ACROSS OVERLAY SECTION</p>	<p><u>STAGE 2 CONSTRUCTION NOTES:</u></p> <p>CONSTRUCT CULVERT FOR CROOKED BROOK OPEN CUT CSAH 22 AND REPLACE ALL AT ONCE CONSTRUCT SUB-BASE AND BASE FOR NORTH WIDENING FOR OPPOSING LEFT TURNS AT JACKSON STREET</p>	<p><u>STAGE 3 CONSTRUCTION NOTES:</u></p> <p>STAGE 3: PAVE WESTBOUND CONCRETE THROUGH LANES, LEFT TURN LANES, AND IRREGULAR CONCRETE TAPER SECTIONS STAGE 3: PAVE WESTBOUND BITUMINOUS SHOULDERS AND TURN LANES</p>	<p><u>STAGE 4 CONSTRUCTION NOTES:</u></p> <p>STAGE 4: PAVE EASTBOUND CONCRETE THROUGH LANES, LEFT TURN LANES, AND IRREGULAR CONCRETE TAPER SECTIONS STAGE 4: PAVE EASTBOUND BITUMINOUS SHOULDERS AND TURN LANES</p>
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<p><u>STAGE 1 TRAFFIC NOTES:</u></p> <p>ROADWAY CLOSED ACROSS MUCK SECTION MILLING OPERATIONS TO BE DONE USING FLAGGING OPERATIONS.</p>	<p><u>STAGE 2 CONSTRUCTION NOTES:</u></p> <p>CSAH 22 CLOSED ACROSS THE CULVERT SECTION. LOCAL TWO WAY DETOUR ATOP MILLED SURFACE WEST OF CSAH 22 CLOSURE LOCAL TWO WAY DETOUR CONTINUES ATOP CLASS 5 AGGREGATE ALONG MUCK SECTION TO TH 65.</p>	<p><u>STAGE 3 CONSTRUCTION NOTES:</u></p> <p>STAGE 3: ONE WAY DETOUR ATOP MILLED &amp; AGGREGATE SURFACE SOUTH SIDE OF THE ROAD</p>	<p><u>STAGE 4 CONSTRUCTION NOTES:</u></p> <p>STAGE 4: ONE WAY DETOUR ATOP MILLED &amp; AGGREGATE SURFACE NORTH SIDE OF THE ROAD</p>
---	---	---	---



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NO	DATE	BY	CHKD	APPR	REVISION																					
<p>NAME: P:\02-622-32\Plan\0262232-STG-2-P2.dgn 02/06/2013 10:21:12 AM</p>						<p>Sheet <u>33</u> of <u>106</u> Sheets</p>																				

LEGEND

CONSTRUCTION AREA

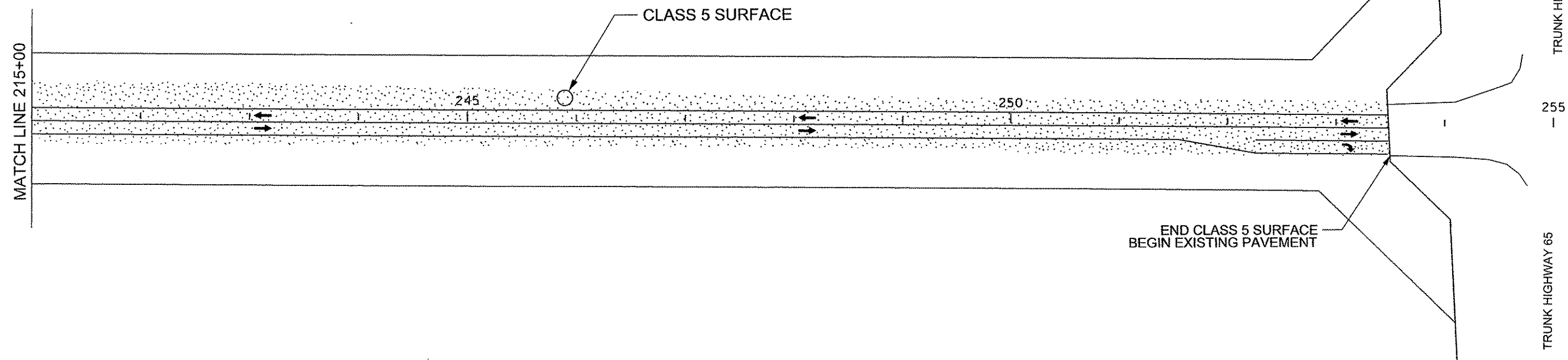
CLASS 5 SURFACE

EXISTING TOPOGRAPHY

PROPOSED CONST.

EXISTING CONST.

EXISTING RIGHT OF WAY



STAGE 1 CONSTRUCTION NOTES:

CONSTRUCT ROADWAY BASE ACROSS MUCK SECTION  
1.0' SELECT GRANULAR  
4.0" CLASS 5 AGGREGATE BASE  
MILL MAINLINE PAVEMENT ACROSS OVERLAY SECTION

STAGE 1 TRAFFIC NOTES:

ROADWAY CLOSED ACROSS MUCK SECTION  
MILLING OPERATIONS TO BE DONE USING  
FLAGGING OPERATIONS.

STAGE 2 CONSTRUCTION NOTES:

CONSTRUCT CULVERT FOR CROOKED BROOK  
OPEN CUT CSAH 22 AND REPLACE ALL AT ONCE  
CONSTRUCT SUB-BASE AND BASE FOR NORTH WIDENING  
FOR OPPOSING LEFT TURNS AT JACKSON STREET

STAGE 2 CONSTRUCTION NOTES:

CSAH 22 CLOSED ACROSS THE CULVERT SECTION.  
LOCAL TWO WAY DETOUR ATOP MILLED SURFACE WEST  
OF CSAH 22 CLOSURE  
LOCAL TWO WAY DETOUR CONTINUES ATOP CLASS 5  
AGGREGATE ALONG MUCK SECTION TO TH 65.

STAGE 3 CONSTRUCTION NOTES:

STAGE 3: PAVE WESTBOUND CONCRETE THROUGH LANES,  
LEFT TURN LANES, AND IRREGULAR CONCRETE  
TAPER SECTIONS  
STAGE 3: PAVE WESTBOUND BITUMINOUS SHOULDERS  
AND TURN LANES

STAGE 3 CONSTRUCTION NOTES:

STAGE 3: ONE WAY DETOUR ATOP MILLED & AGGREGATE  
SURFACE SOUTH SIDE OF THE ROAD

STAGE 4 CONSTRUCTION NOTES:

STAGE 4: PAVE EASTBOUND CONCRETE THROUGH LANES,  
LEFT TURN LANES, AND IRREGULAR CONCRETE  
TAPER SECTIONS  
STAGE 4: PAVE EASTBOUND BITUMINOUS SHOULDERS  
AND TURN LANES

STAGE 4 CONSTRUCTION NOTES:

STAGE 4: ONE WAY DETOUR ATOP MILLED & AGGREGATE  
SURFACE NORTH SIDE OF THE ROAD

3 OF 3

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-622-32\Plan\0262232-STG-2-P3.dgn					
02/06/2013 10:21:15 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: CURT A. KOBIARCSIK

SIGNATURE:

DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY ZDC DATE 12-07-12

DESIGN BY NJD DATE 12-07-12

CHECKED BY GMP DATE 12-07-12

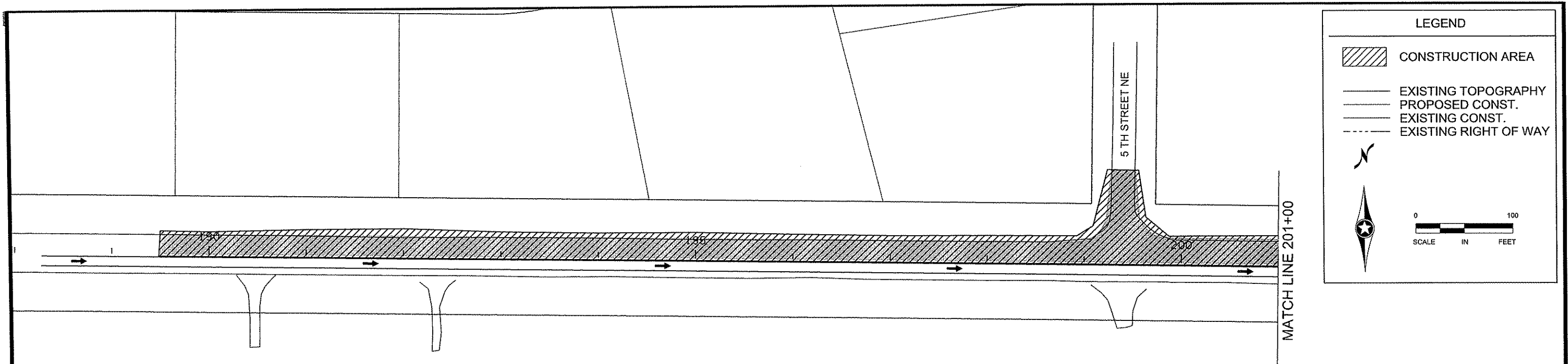


ANOKA COUNTY  
HIGHWAY DEPT.

SAP 002-622-032

CONSTRUCTION STAGING PLAN  
STAGE 2

Sheet 34 of 106 Sheets



#### STAGE 1 CONSTRUCTION NOTES:

CONSTRUCT ROADWAY BASE ACROSS MUCK SECTION  
1.0' SELECT GRANULAR  
4.0" CLASS 5 AGGREGATE BASE  
MILL MAINLINE PAVEMENT ACROSS OVERLAY SECTION

#### STAGE 2 CONSTRUCTION NOTES:

CONSTRUCT CULVERT FOR CROOKED BROOK  
OPEN CUT CSAH 22 AND REPLACE ALL AT ONCE  
CONSTRUCT SUB-BASE AND BASE FOR NORTH WIDENING  
FOR OPPOSING LEFT TURNS AT JACKSON STREET

#### STAGE 3 CONSTRUCTION NOTES:

STAGE 3: PAVE WESTBOUND CONCRETE THROUGH LANES,  
LEFT TURN LANES, AND IRREGULAR CONCRETE  
TAPER SECTIONS  
STAGE 3: PAVE WESTBOUND BITUMINOUS SHOULDERS  
AND TURN LANES

#### STAGE 4 CONSTRUCTION NOTES:

STAGE 4: PAVE EASTBOUND CONCRETE THROUGH LANES,  
LEFT TURN LANES, AND IRREGULAR CONCRETE  
TAPER SECTIONS  
STAGE 4: PAVE EASTBOUND BITUMINOUS SHOULDERS  
AND TURN LANES

#### STAGE 1 TRAFFIC NOTES:

ROADWAY CLOSED ACROSS MUCK SECTION  
MILLING OPERATIONS TO BE DONE USING  
FLAGGING OPERATIONS.

#### STAGE 2 CONSTRUCTION NOTES:

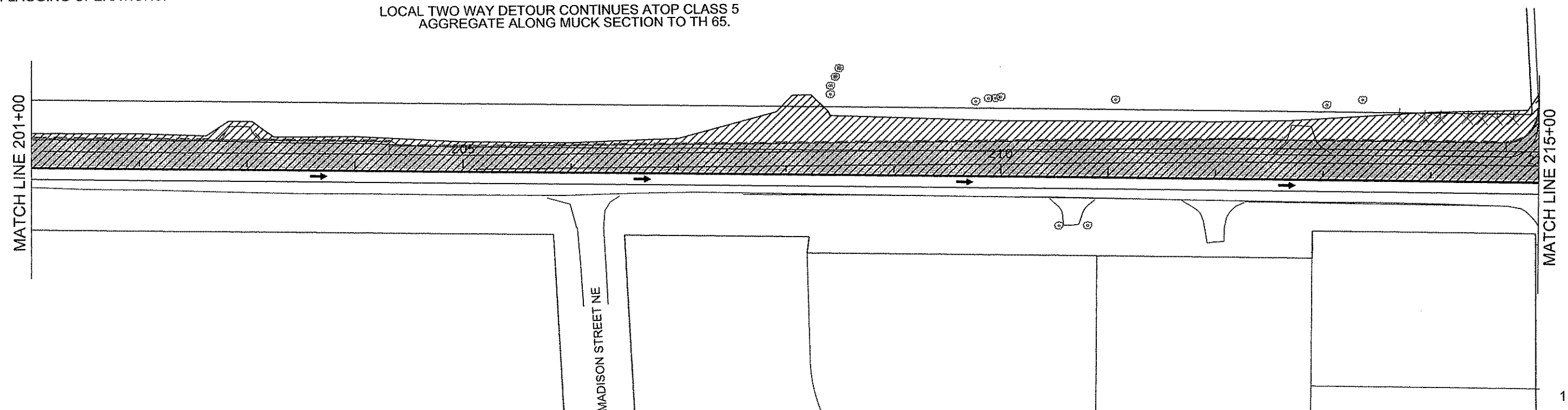
CSAH 22 CLOSED ACROSS THE CULVERT SECTION.  
LOCAL TWO WAY DETOUR ATOP MILLED SURFACE WEST  
OF CSAH 22 CLOSURE  
LOCAL TWO WAY DETOUR CONTINUES ATOP CLASS 5  
AGGREGATE ALONG MUCK SECTION TO TH 65.

#### STAGE 3 CONSTRUCTION NOTES:

STAGE 3: ONE WAY DETOUR ATOP MILLED & AGGREGATE  
SURFACE SOUTH SIDE OF THE ROAD

#### STAGE 4 CONSTRUCTION NOTES:

STAGE 4: ONE WAY DETOUR ATOP MILLED & AGGREGATE  
SURFACE NORTH SIDE OF THE ROAD



1 OF 3

NO	DATE	BY	CKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME  
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THE STATE OF MINNESOTA.  
PRINT NAME: CURT A. KOBIARCSIK  
SIGNATURE: *Curt A. Kobiarcsik*  
DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY ZDC DATE 12-07-12  
DESIGN BY NJD DATE 12-07-12  
CHECKED BY GMP DATE 12-07-12

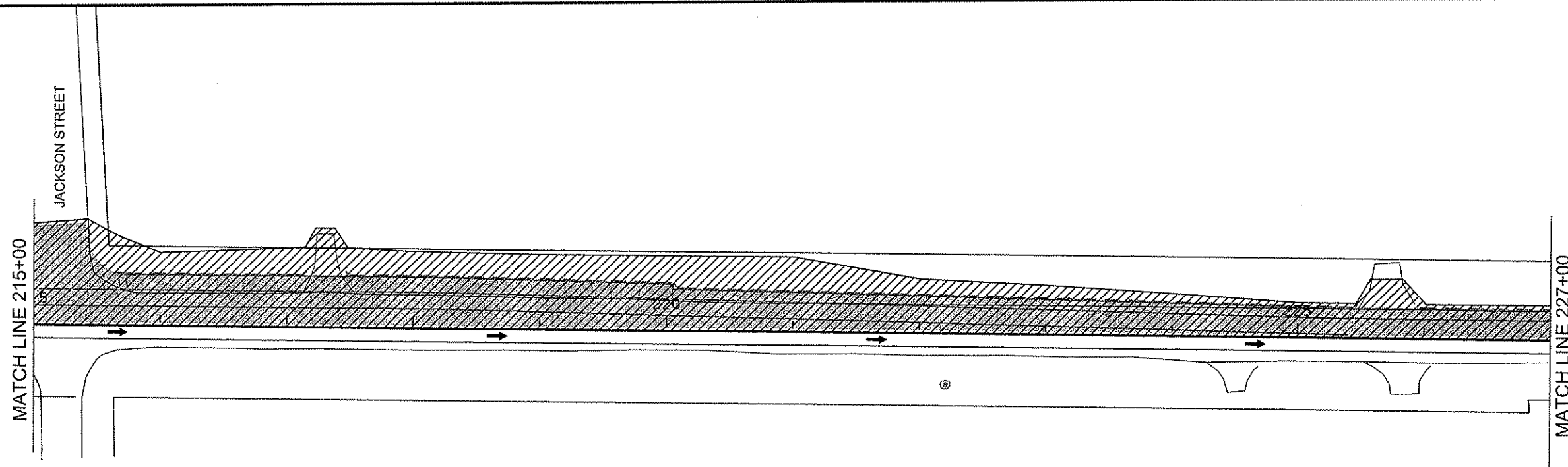


ANOKA COUNTY  
HIGHWAY DEPT.

SAP 002-622-032

CONSTRUCTION STAGING PLAN  
STAGE 3

Sheet 35 of 106 Sheets



**LEGEND**

CONSTRUCTION AREA

EXISTING TOPOGRAPHY

PROPOSED CONST.

EXISTING CONST.

EXISTING RIGHT OF WAY

SCALE IN FEET

**STAGE 1 CONSTRUCTION NOTES:**

CONSTRUCT ROADWAY BASE ACROSS MUCK SECTION  
1.0" SELECT GRANULAR  
4.0" CLASS 5 AGGREGATE BASE  
MILL MAINLINE PAVEMENT ACROSS OVERLAY SECTION

**STAGE 2 CONSTRUCTION NOTES:**

CONSTRUCT CULVERT FOR CROOKED BROOK  
OPEN CUT CSAH 22 AND REPLACE ALL AT ONCE  
CONSTRUCT SUB-BASE AND BASE FOR NORTH WIDENING  
FOR OPPOSING LEFT TURNS AT JACKSON STREET

**STAGE 3 CONSTRUCTION NOTES:**

STAGE 3: PAVE WESTBOUND CONCRETE THROUGH LANES,  
LEFT TURN LANES, AND IRREGULAR CONCRETE  
TAPER SECTIONS  
STAGE 3: PAVE WESTBOUND BITUMINOUS SHOULDERS  
AND TURN LANES

**STAGE 4 CONSTRUCTION NOTES:**

STAGE 4: PAVE EASTBOUND CONCRETE THROUGH LANES,  
LEFT TURN LANES, AND IRREGULAR CONCRETE  
TAPER SECTIONS  
STAGE 4: PAVE EASTBOUND BITUMINOUS SHOULDERS  
AND TURN LANES

**STAGE 1 TRAFFIC NOTES:**

ROADWAY CLOSED ACROSS MUCK SECTION  
MILLING OPERATIONS TO BE DONE USING  
FLAGGING OPERATIONS.

**STAGE 2 CONSTRUCTION NOTES:**

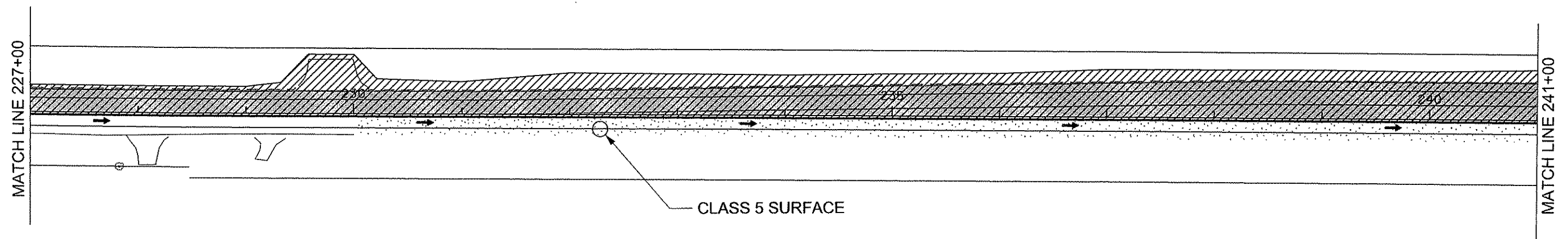
CSAH 22 CLOSED ACROSS THE CULVERT SECTION.  
LOCAL TWO WAY DETOUR ATOP MILLED SURFACE WEST  
OF CSAH 22 CLOSURE  
LOCAL TWO WAY DETOUR CONTINUES ATOP CLASS 5  
AGGREGATE ALONG MUCK SECTION TO TH 65.

**STAGE 3 CONSTRUCTION NOTES:**

STAGE 3: ONE WAY DETOUR ATOP MILLED & AGGREGATE  
SURFACE SOUTH SIDE OF THE ROAD

**STAGE 4 CONSTRUCTION NOTES:**

STAGE 4: ONE WAY DETOUR ATOP MILLED & AGGREGATE  
SURFACE NORTH SIDE OF THE ROAD



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**ANOKA COUNTY  
HIGHWAY DEPT.**

SAP 002-622-032

**CONSTRUCTION STAGING PLAN  
STAGE 3**

Sheet 36 of 106 Sheets



LEGEND

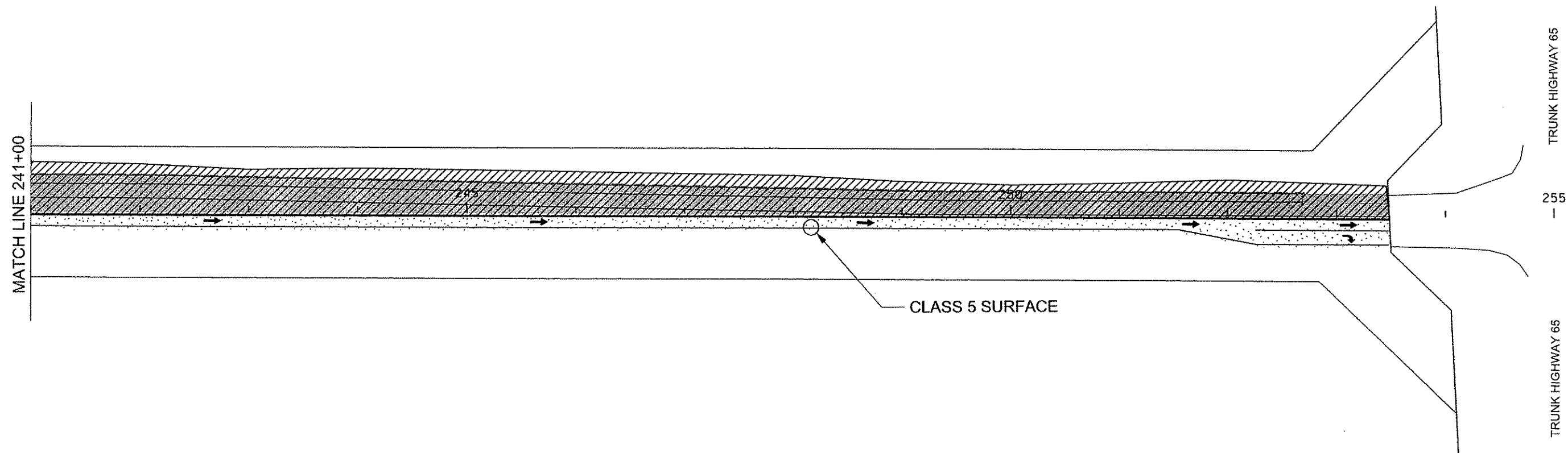
CONSTRUCTION AREA

EXISTING TOPOGRAPHY

PROPOSED CONSTRUCTION

EXISTING CONSTRUCTION

EXISTING RIGHT OF WAY



**STAGE 1 CONSTRUCTION NOTES:**  
 CONSTRUCT ROADWAY BASE ACROSS MUCK SECTION  
 1.0' SELECT GRANULAR  
 4.0" CLASS 5 AGGREGATE BASE  
 MILL MAINLINE PAVEMENT ACROSS OVERLAY SECTION

**STAGE 1 TRAFFIC NOTES:**  
 ROADWAY CLOSED ACROSS MUCK SECTION  
 MILLING OPERATIONS TO BE DONE USING  
 FLAGGING OPERATIONS.

**STAGE 2 CONSTRUCTION NOTES:**  
 CONSTRUCT CULVERT FOR CROOKED BROOK  
 OPEN CUT CSAH 22 AND REPLACE ALL AT ONCE  
 CONSTRUCT SUB-BASE AND BASE FOR NORTH WIDENING  
 FOR OPPOSING LEFT TURNS AT JACKSON STREET

**STAGE 2 CONSTRUCTION NOTES:**  
 CSAH 22 CLOSED ACROSS THE CULVERT SECTION.  
 LOCAL TWO WAY DETOUR ATOP MILLED SURFACE WEST  
 OF CSAH 22 CLOSURE  
 LOCAL TWO WAY DETOUR CONTINUES ATOP CLASS 5  
 AGGREGATE ALONG MUCK SECTION TO TH 65.

**STAGE 3 CONSTRUCTION NOTES:**  
 STAGE 3: PAVE WESTBOUND CONCRETE THROUGH LANES,  
 LEFT TURN LANES, AND IRREGULAR CONCRETE  
 TAPER SECTIONS  
 STAGE 3: PAVE WESTBOUND BITUMINOUS SHOULDERS  
 AND TURN LANES

**STAGE 3 CONSTRUCTION NOTES:**  
 STAGE 3: ONE WAY DETOUR ATOP MILLED & AGGREGATE  
 SURFACE SOUTH SIDE OF THE ROAD

**STAGE 4 CONSTRUCTION NOTES:**  
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 TAPER SECTIONS  
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 AND TURN LANES

**STAGE 4 CONSTRUCTION NOTES:**  
 STAGE 4: ONE WAY DETOUR ATOP MILLED & AGGREGATE  
 SURFACE NORTH SIDE OF THE ROAD

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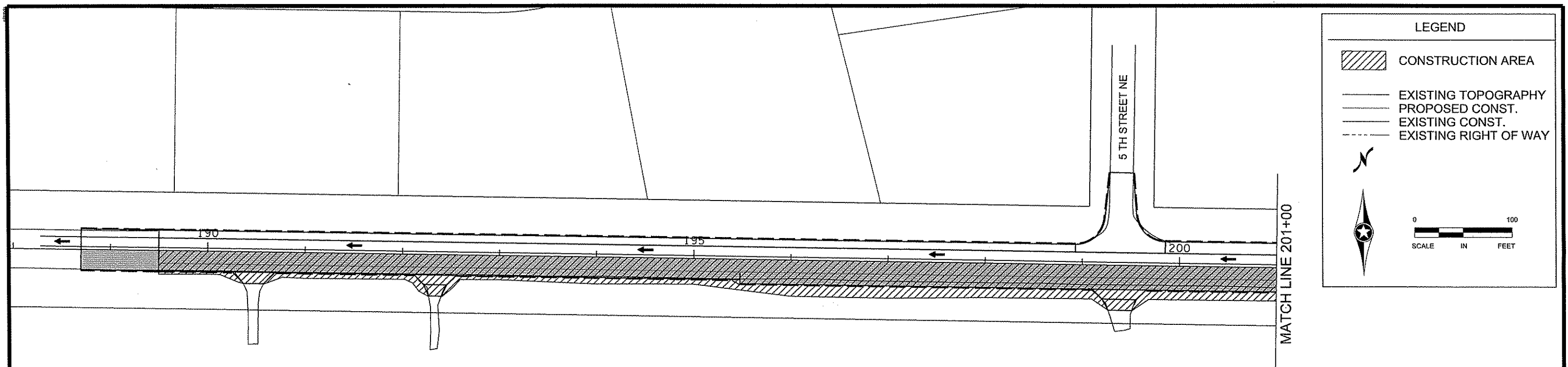
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ANOKA COUNTY  
 HIGHWAY DEPT.

SAP 002-622-032  
 -  
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 -

CONSTRUCTION STAGING PLAN  
 STAGE 3  
 Sheet 37 of 106 Sheets



#### STAGE 1 CONSTRUCTION NOTES:

CONSTRUCT ROADWAY BASE ACROSS MUCK SECTION  
1.0' SELECT GRANULAR  
4.0" CLASS 5 AGGREGATE BASE  
MILL MAINLINE PAVEMENT ACROSS OVERLAY SECTION

#### STAGE 2 CONSTRUCTION NOTES:

CONSTRUCT CULVERT FOR CROOKED BROOK  
OPEN CUT CSAH 22 AND REPLACE ALL AT ONCE  
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STAGE 3: PAVE WESTBOUND CONCRETE THROUGH LANES,  
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STAGE 3: PAVE WESTBOUND BITUMINOUS SHOULDERS  
AND TURN LANES

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STAGE 4: PAVE EASTBOUND CONCRETE THROUGH LANES,  
LEFT TURN LANES, AND IRREGULAR CONCRETE  
TAPER SECTIONS  
STAGE 4: PAVE EASTBOUND BITUMINOUS SHOULDERS  
AND TURN LANES

#### STAGE 1 TRAFFIC NOTES:

ROADWAY CLOSED ACROSS MUCK SECTION  
MILLING OPERATIONS TO BE DONE USING  
FLAGGING OPERATIONS.

#### STAGE 2 CONSTRUCTION NOTES:

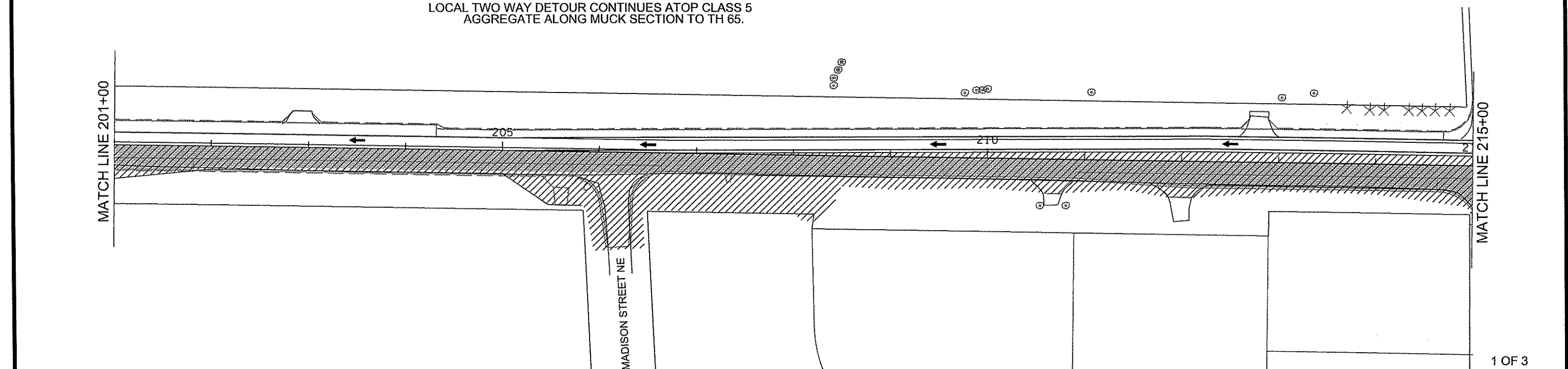
CSAH 22 CLOSED ACROSS THE CULVERT SECTION.  
LOCAL TWO WAY DETOUR ATOP MILLED SURFACE WEST  
OF CSAH 22 CLOSURE  
LOCAL TWO WAY DETOUR CONTINUES ATOP CLASS 5  
AGGREGATE ALONG MUCK SECTION TO TH 65.

#### STAGE 3 CONSTRUCTION NOTES:

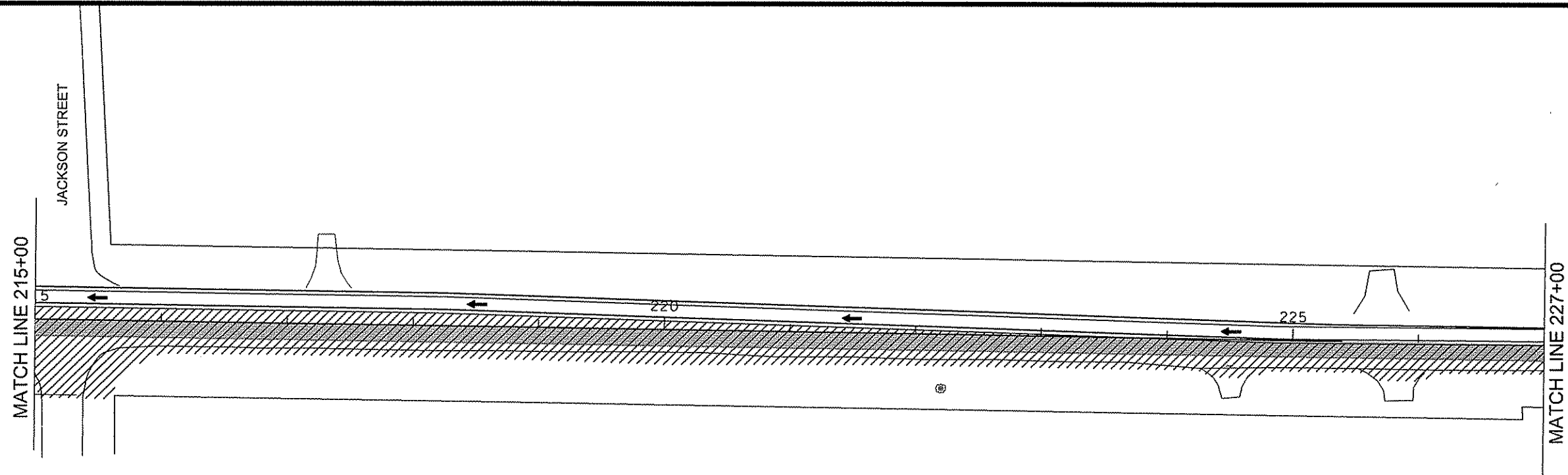
STAGE 3: ONE WAY DETOUR ATOP MILLED & AGGREGATE  
SURFACE SOUTH SIDE OF THE ROAD

#### STAGE 4 CONSTRUCTION NOTES:

STAGE 4: ONE WAY DETOUR ATOP MILLED & AGGREGATE  
SURFACE NORTH SIDE OF THE ROAD



NO DATE BY CKD APPR REVISION NAME: P:\02-622-32\Plan\0262232-STG-3B-P1.dgn 02/08/2013 10:04:28 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: CURT A. KOBILARCSIK SIGNATURE: <i>Curt A. Kobilarsik</i> DATE: 2-8-13 LICENSE NO. 24756		DRAWN BY ZDC DATE 12-07-12 DESIGN BY NJD DATE 12-07-12 CHECKED BY GMP DATE 12-07-12		ANOKA COUNTY HIGHWAY DEPT.		SAP 002-622-032 - - -		CONSTRUCTION STAGING PLAN STAGE 4 Sheet 38 of 106 Sheets	
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**LEGEND**

CONSTRUCTION AREA

EXISTING TOPOGRAPHY

PROPOSED CONST.

EXISTING CONST.

EXISTING RIGHT OF WAY

SCALE IN FEET

**STAGE 1 CONSTRUCTION NOTES:**

CONSTRUCT ROADWAY BASE ACROSS MUCK SECTION  
1.0' SELECT GRANULAR  
4.0" CLASS 5 AGGREGATE BASE  
MILL MAINLINE PAVEMENT ACROSS OVERLAY SECTION

**STAGE 2 CONSTRUCTION NOTES:**

CONSTRUCT CULVERT FOR CROOKED BROOK  
OPEN CUT CSAH 22 AND REPLACE ALL AT ONCE  
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FOR OPPOSING LEFT TURNS AT JACKSON STREET

**STAGE 3 CONSTRUCTION NOTES:**

STAGE 3: PAVE WESTBOUND CONCRETE THROUGH LANES,  
LEFT TURN LANES, AND IRREGULAR CONCRETE  
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STAGE 3: PAVE WESTBOUND BITUMINOUS SHOULDERS  
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STAGE 4: PAVE EASTBOUND CONCRETE THROUGH LANES,  
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STAGE 4: PAVE EASTBOUND BITUMINOUS SHOULDERS  
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**STAGE 1 TRAFFIC NOTES:**

ROADWAY CLOSED ACROSS MUCK SECTION  
MILLING OPERATIONS TO BE DONE USING  
FLAGGING OPERATIONS.

**STAGE 2 CONSTRUCTION NOTES:**

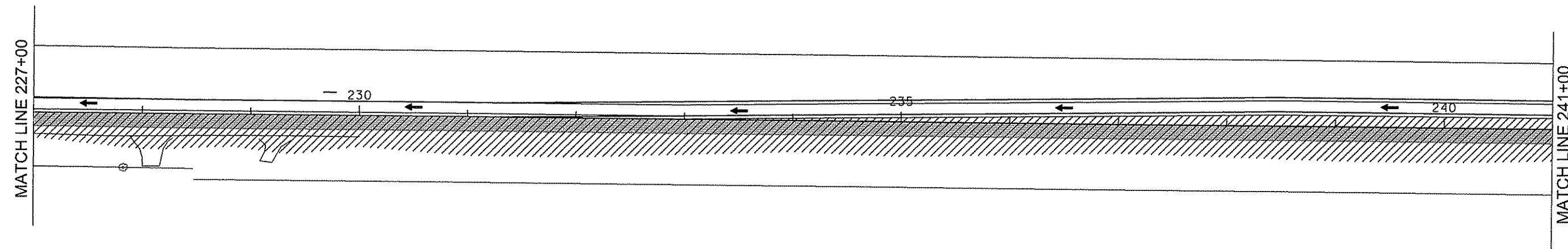
CSAH 22 CLOSED ACROSS THE CULVERT SECTION.  
LOCAL TWO WAY DETOUR ATOP MILLED SURFACE WEST  
OF CSAH 22 CLOSURE  
LOCAL TWO WAY DETOUR CONTINUES ATOP CLASS 5  
AGGREGATE ALONG MUCK SECTION TO TH 65.

**STAGE 3 CONSTRUCTION NOTES:**

STAGE 3: ONE WAY DETOUR ATOP MILLED & AGGREGATE  
SURFACE SOUTH SIDE OF THE ROAD

**STAGE 4 CONSTRUCTION NOTES:**

STAGE 4: ONE WAY DETOUR ATOP MILLED & AGGREGATE  
SURFACE NORTH SIDE OF THE ROAD



NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-622-32\Plan\0262232-STG-3B-P2.dgn					
02/08/2013 10:08:13 AM					

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME  
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DRAWN BY ZDC DATE 12-07-12  
DESIGN BY NJD DATE 12-07-12  
CHECKED BY GMP DATE 12-07-12



**ANOKA COUNTY  
HIGHWAY DEPT.**

SAP 002-622-032  
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**CONSTRUCTION STAGING PLAN  
STAGE 4**  
Sheet 39 of 106 Sheets

LEGEND

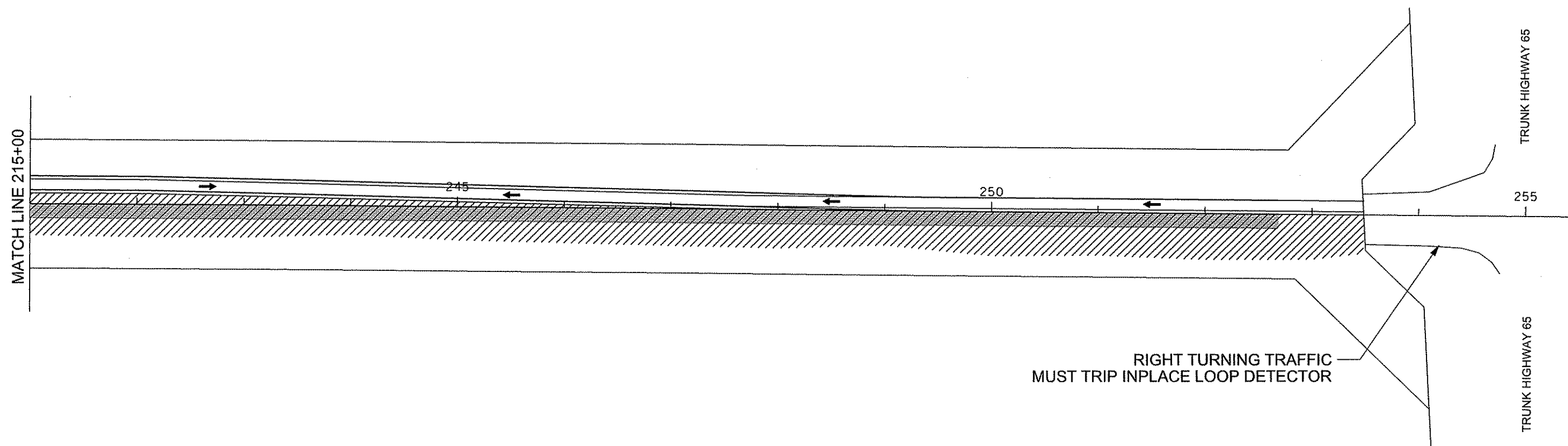
CONSTRUCTION AREA

EXISTING TOPOGRAPHY

PROPOSED CONSTRUCTION

EXISTING CONSTRUCTION

EXISTING RIGHT OF WAY



STAGE 1 CONSTRUCTION NOTES:  
 CONSTRUCT ROADWAY BASE ACROSS MUCK SECTION  
 1.0" SELECT GRANULAR  
 4.0" CLASS 5 AGGREGATE BASE  
 MILL MAINLINE PAVEMENT ACROSS OVERLAY SECTION

STAGE 1 TRAFFIC NOTES:  
 ROADWAY CLOSED ACROSS MUCK SECTION  
 MILLING OPERATIONS TO BE DONE USING  
 FLAGGING OPERATIONS.

STAGE 2 CONSTRUCTION NOTES:  
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STAGE 2 CONSTRUCTION NOTES:  
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 LOCAL TWO WAY DETOUR ATOP MILLED SURFACE WEST  
 OF CSAH 22 CLOSURE  
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STAGE 3 CONSTRUCTION NOTES:  
 STAGE 3: PAVE WESTBOUND CONCRETE THROUGH LANES,  
 LEFT TURN LANES, AND IRREGULAR CONCRETE  
 TAPER SECTIONS  
 STAGE 3: PAVE WESTBOUND BITUMINOUS SHOULDERS  
 AND TURN LANES

STAGE 3 CONSTRUCTION NOTES:  
 STAGE 3: ONE WAY DETOUR ATOP MILLED & AGGREGATE  
 SURFACE SOUTH SIDE OF THE ROAD

STAGE 4 CONSTRUCTION NOTES:  
 STAGE 4: PAVE EASTBOUND CONCRETE THROUGH LANES,  
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 STAGE 4: PAVE EASTBOUND BITUMINOUS SHOULDERS  
 AND TURN LANES

STAGE 4 CONSTRUCTION NOTES:  
 STAGE 4: ONE WAY DETOUR ATOP MILLED & AGGREGATE  
 SURFACE NORTH SIDE OF THE ROAD

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-622-32\Plan\0262232-STG-3B-P3.dgn					
02/08/2013 10:09:38 AM					

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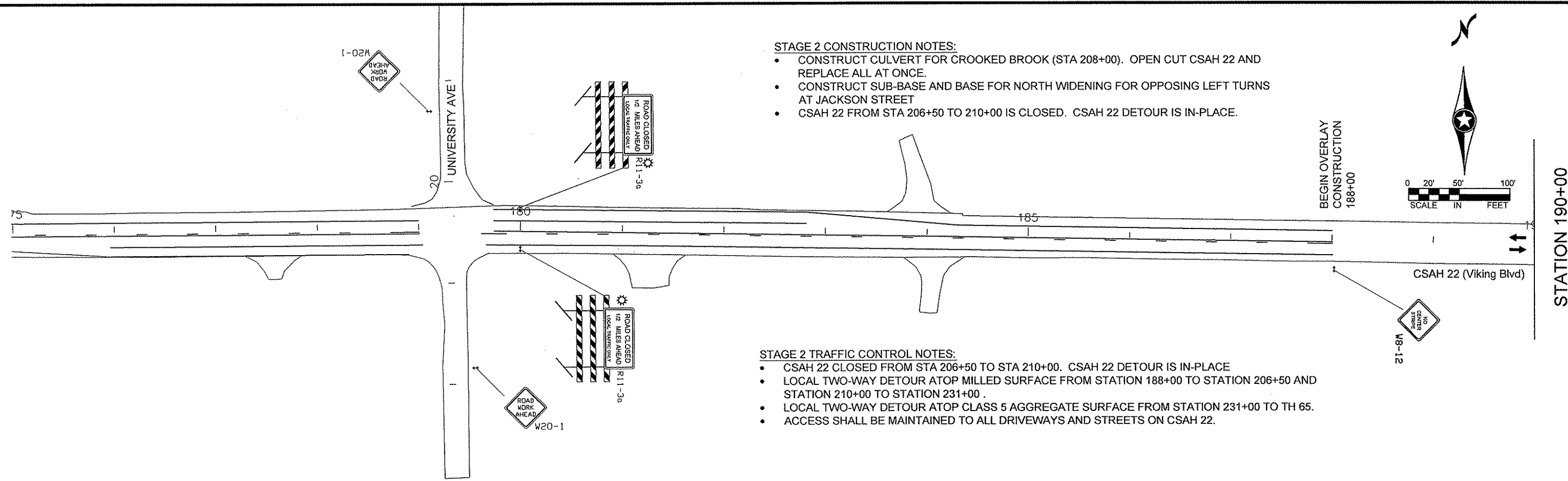
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 DESIGN BY NJD DATE 12-07-12  
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ANOKA COUNTY  
 HIGHWAY DEPT.

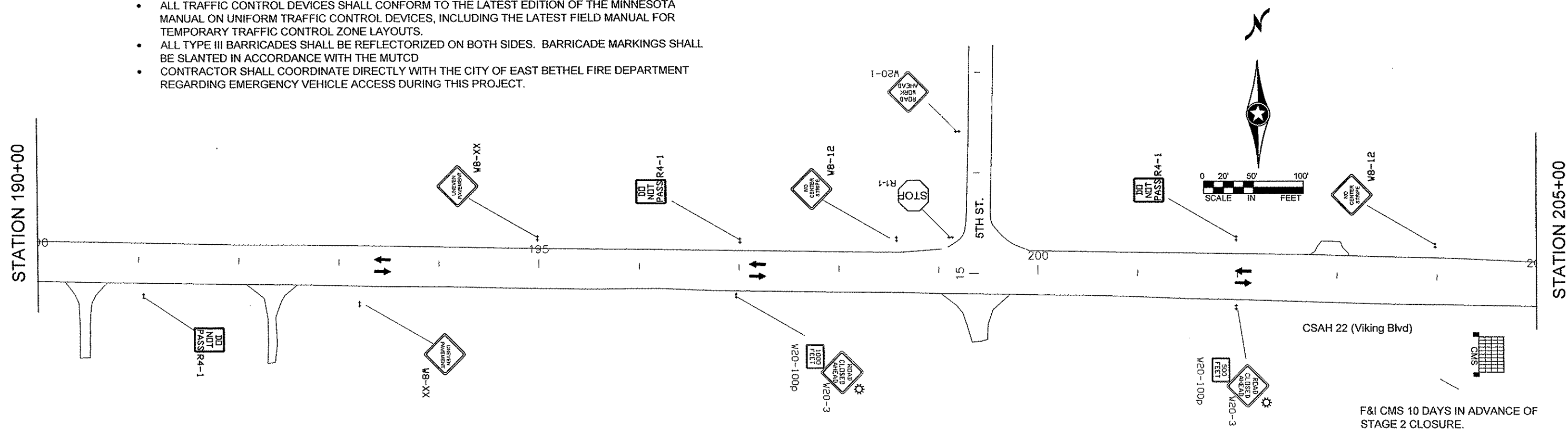
SAP 002-622-032  
 -  
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 -

CONSTRUCTION STAGING PLAN  
 STAGE 4  
 Sheet 40 of 106 Sheets



**NOTES:**

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
- ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MUTCD
- CONTRACTOR SHALL COORDINATE DIRECTLY WITH THE CITY OF EAST BETHEL FIRE DEPARTMENT REGARDING EMERGENCY VEHICLE ACCESS DURING THIS PROJECT.



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PRINT NAME: CURT A KOBILARCSIK

SIGNATURE: *Curt Kobilarsik*

DATE: 2-7-13 REG. NO. 24756

DRAWN BY: MTH DATE 12/17/12

DESIGN BY: MTH DATE 12/17/12

CHECKED BY: RB DATE 12/20/12



ANOKA COUNTY  
HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_

STATE AID PROJECT NO. 002-622-032

STATE AID PROJECT NO. \_\_\_\_\_

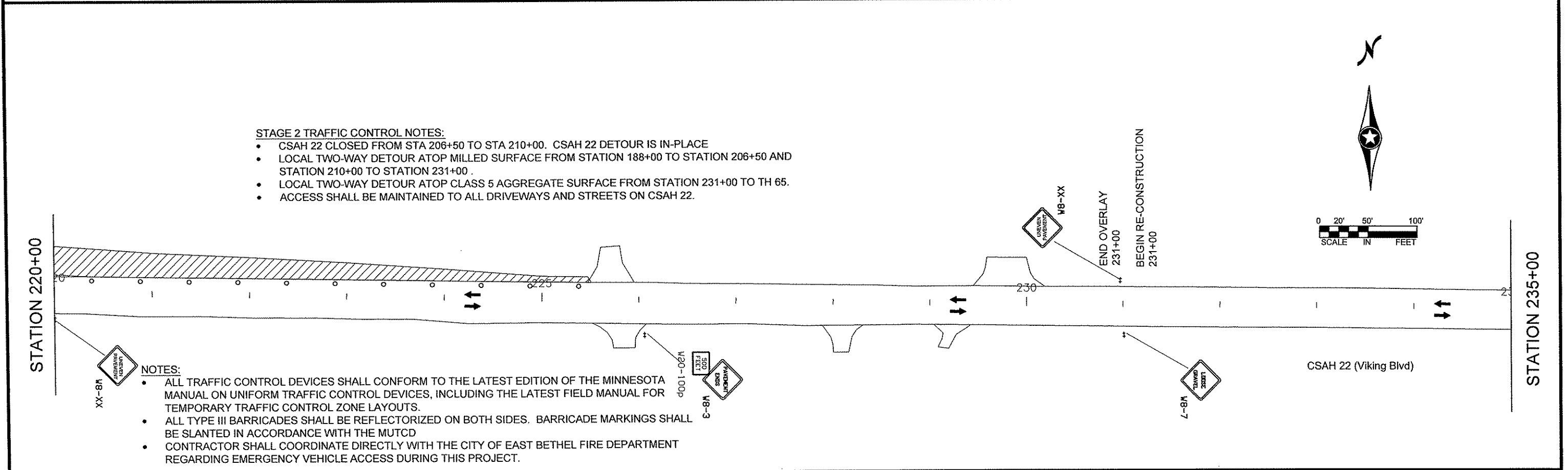
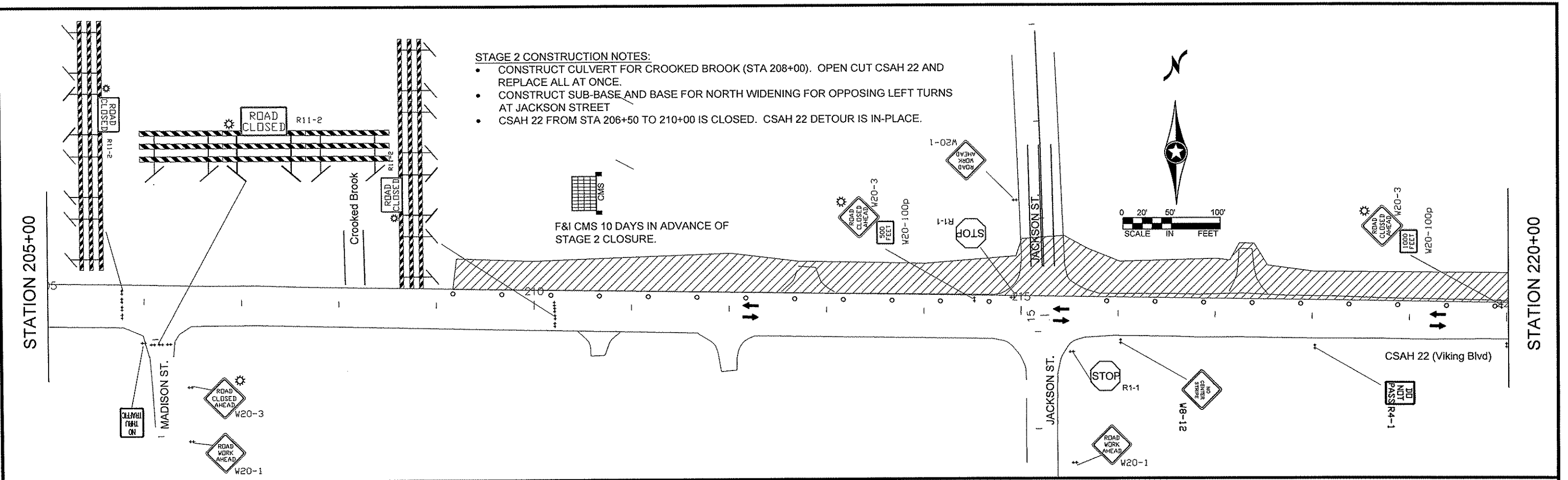
COUNTY PROJECT NO. \_\_\_\_\_

TRAFFIC CONTROL  
STAGE 2 LAYOUT

Sheet 41 of 106 Sheets

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-622-32\Baset\TRAFFIC\0262232\_STAGE-2.dwg



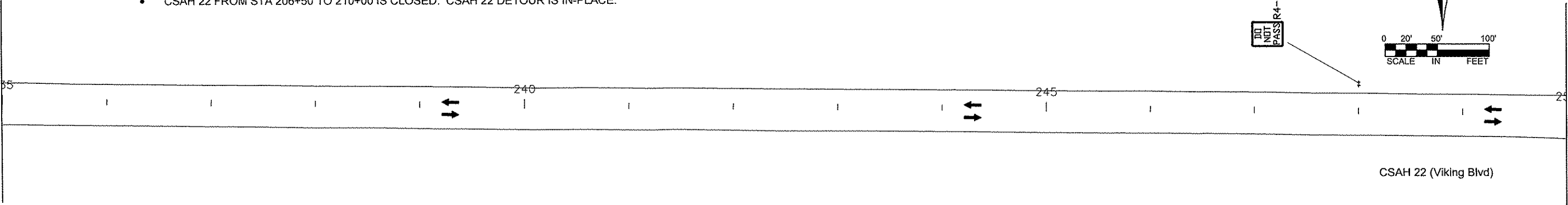
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STAGE 2 CONSTRUCTION NOTES:

- CONSTRUCT CULVERT FOR CROOKED BROOK (STA 208+00). OPEN CUT CSAH 22 AND REPLACE ALL AT ONCE.
- CONSTRUCT SUB-BASE AND BASE FOR NORTH WIDENING FOR OPPOSING LEFT TURNS AT JACKSON STREET
- CSAH 22 FROM STA 206+50 TO 210+00 IS CLOSED. CSAH 22 DETOUR IS IN-PLACE.

STATION 235+00

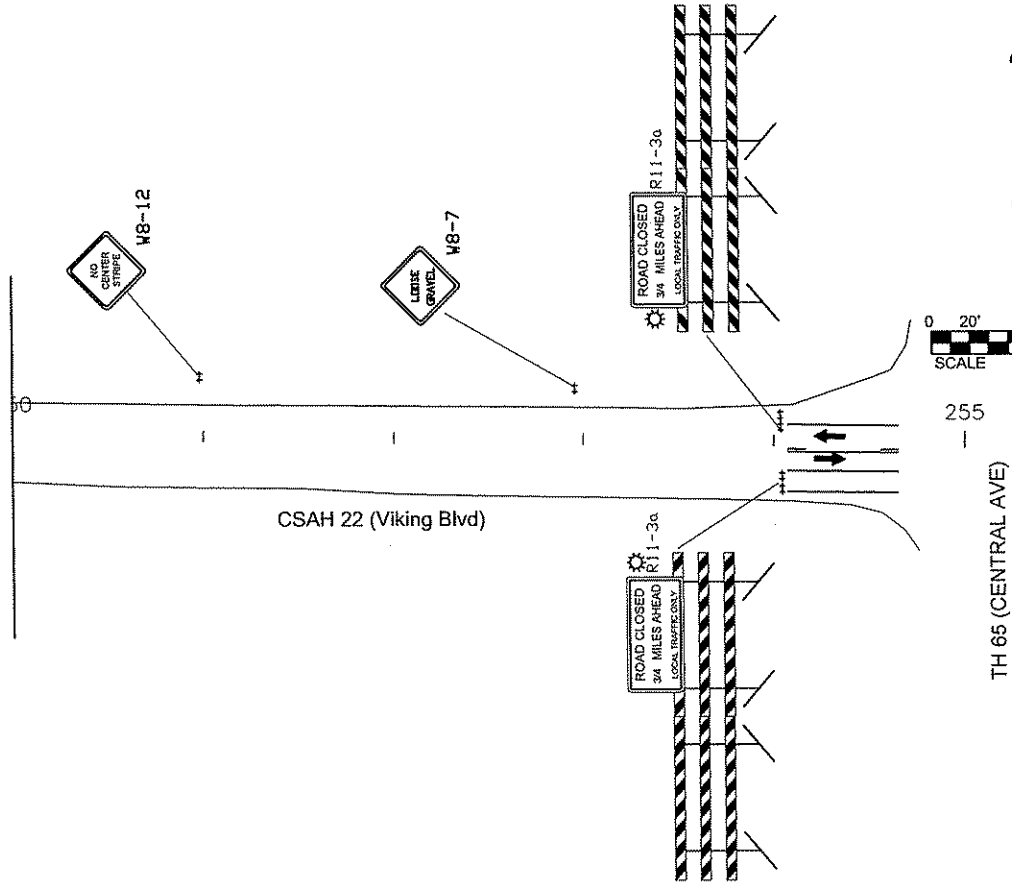


STATION 250+00

STAGE 2 TRAFFIC CONTROL NOTES:

- CSAH 22 CLOSED FROM STA 206+50 TO STA 210+00. CSAH 22 DETOUR IS IN-PLACE
- LOCAL TWO-WAY DETOUR ATOP MILLED SURFACE FROM STATION 188+00 TO STATION 206+50 AND STATION 210+00 TO STATION 231+00 .
- LOCAL TWO-WAY DETOUR ATOP CLASS 5 AGGREGATE SURFACE FROM STATION 231+00 TO TH 65.
- ACCESS SHALL BE MAINTAINED TO ALL DRIVEWAYS AND STREETS ON CSAH 22.

STATION 250+00



NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
- ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MUTCD
- CONTRACTOR SHALL COORDINATE DIRECTLY WITH THE CITY OF EAST BETHEL FIRE DEPARTMENT REGARDING EMERGENCY VEHICLE ACCESS DURING THIS PROJECT.

NO	DATE	BY	CHKD	APPR	REVISION

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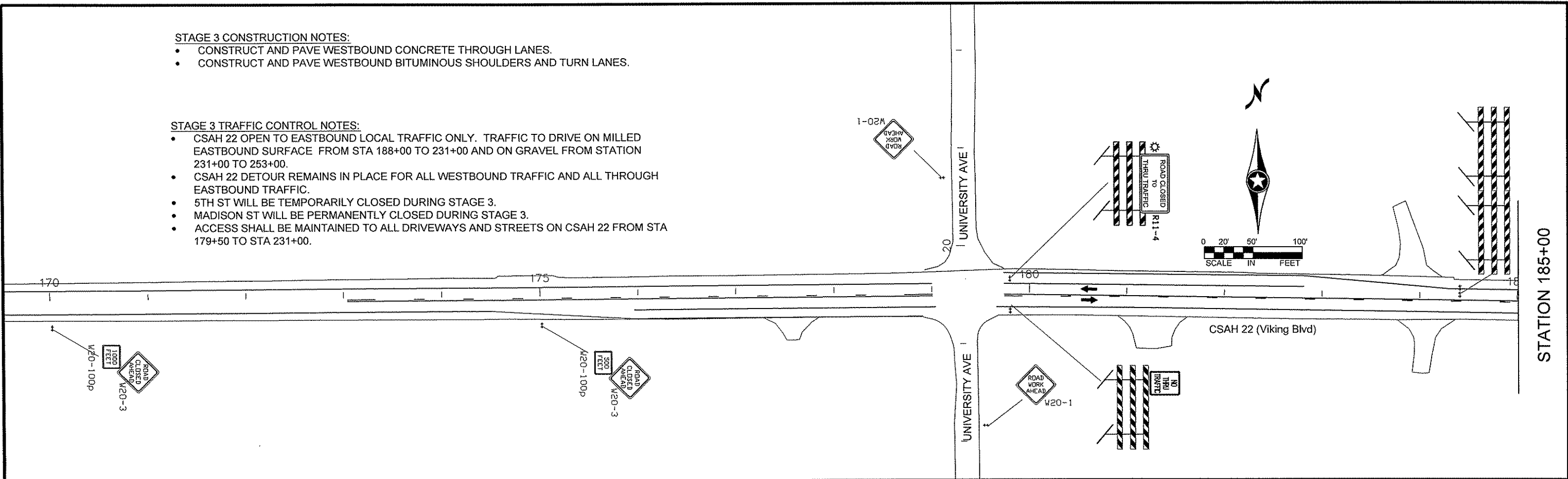
ANOKA COUNTY  
HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_  
STATE AID PROJECT NO. 002-622-032  
STATE AID PROJECT NO. \_\_\_\_\_  
COUNTY PROJECT NO. \_\_\_\_\_

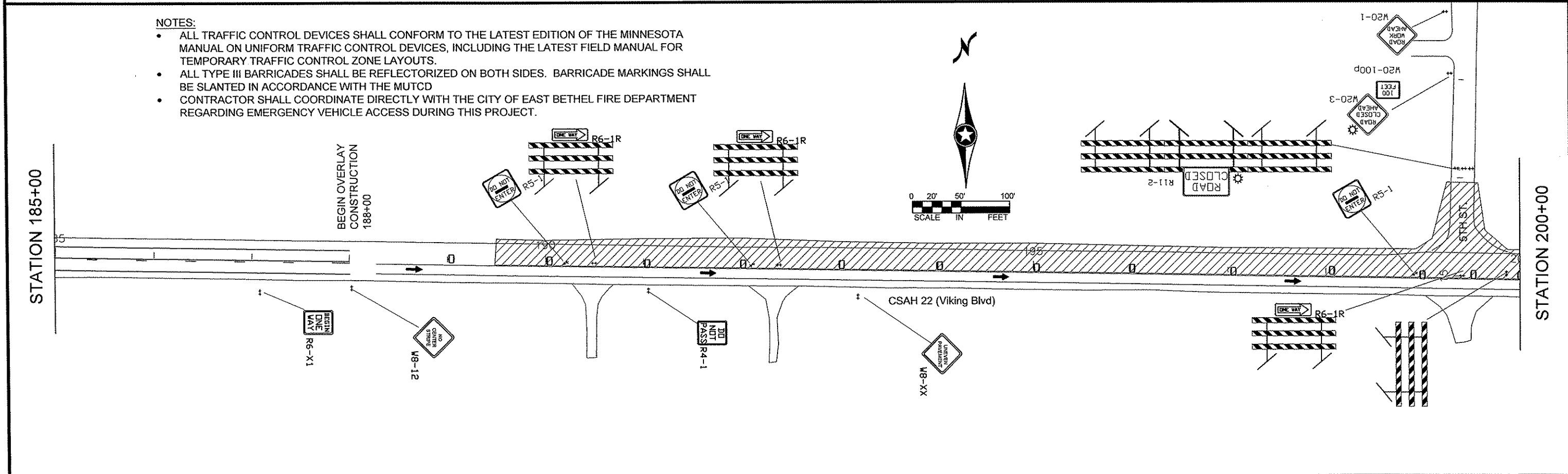
TRAFFIC CONTROL  
STAGE 2 LAYOUT  
Sheet 43 of 106 Sheets

- STAGE 3 CONSTRUCTION NOTES:
- CONSTRUCT AND PAVE WESTBOUND CONCRETE THROUGH LANES.
  - CONSTRUCT AND PAVE WESTBOUND BITUMINOUS SHOULDERS AND TURN LANES.



- STAGE 3 TRAFFIC CONTROL NOTES:
- CSAH 22 OPEN TO EASTBOUND LOCAL TRAFFIC ONLY. TRAFFIC TO DRIVE ON MILLED EASTBOUND SURFACE FROM STA 188+00 TO 231+00 AND ON GRAVEL FROM STATION 231+00 TO 253+00.
  - CSAH 22 DETOUR REMAINS IN PLACE FOR ALL WESTBOUND TRAFFIC AND ALL THROUGH EASTBOUND TRAFFIC.
  - 5TH ST WILL BE TEMPORARILY CLOSED DURING STAGE 3.
  - MADISON ST WILL BE PERMANENTLY CLOSED DURING STAGE 3.
  - ACCESS SHALL BE MAINTAINED TO ALL DRIVEWAYS AND STREETS ON CSAH 22 FROM STA 179+50 TO STA 231+00.



- NOTES:
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
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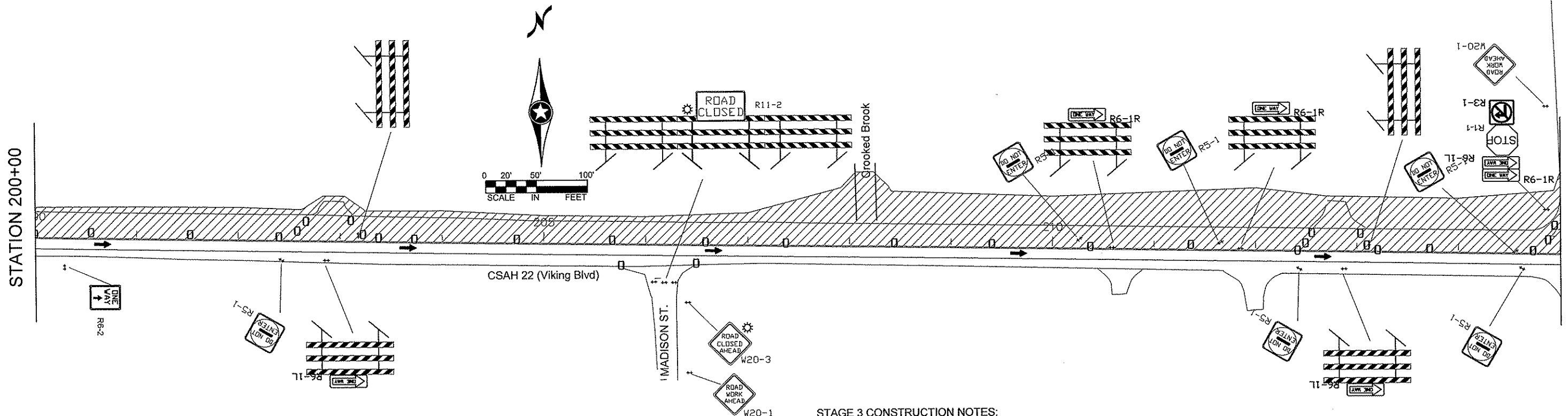


NO					DATE	BY	CKD	APPR	REVISION
NAME: P:\02-622-32\Bases\TRAFFIC\0262232_STAGE-3a.dwg									

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		DESIGNED BY: MTH DATE 12/19/12		ANOKA COUNTY HIGHWAY DEPT.	STATE PROJECT NO. _____	TRAFFIC CONTROL STAGE 3 LAYOUT
PRINT NAME: CURT A KOBILARCSIK		DESIGN BY: MTH DATE 12/19/12			STATE AID PROJECT NO. 002-622-032	
SIGNATURE: 		CHECKED BY: JR/RB DATE 1/04/13			STATE AID PROJECT NO. _____	
DATE: 2-7-13		REG. NO. 24756			COUNTY PROJECT NO. _____	Sheet 44 of 106 Sheets

STATION 200+00

STATION 215+00



## STAGE 3 CONSTRUCTION NOTES:

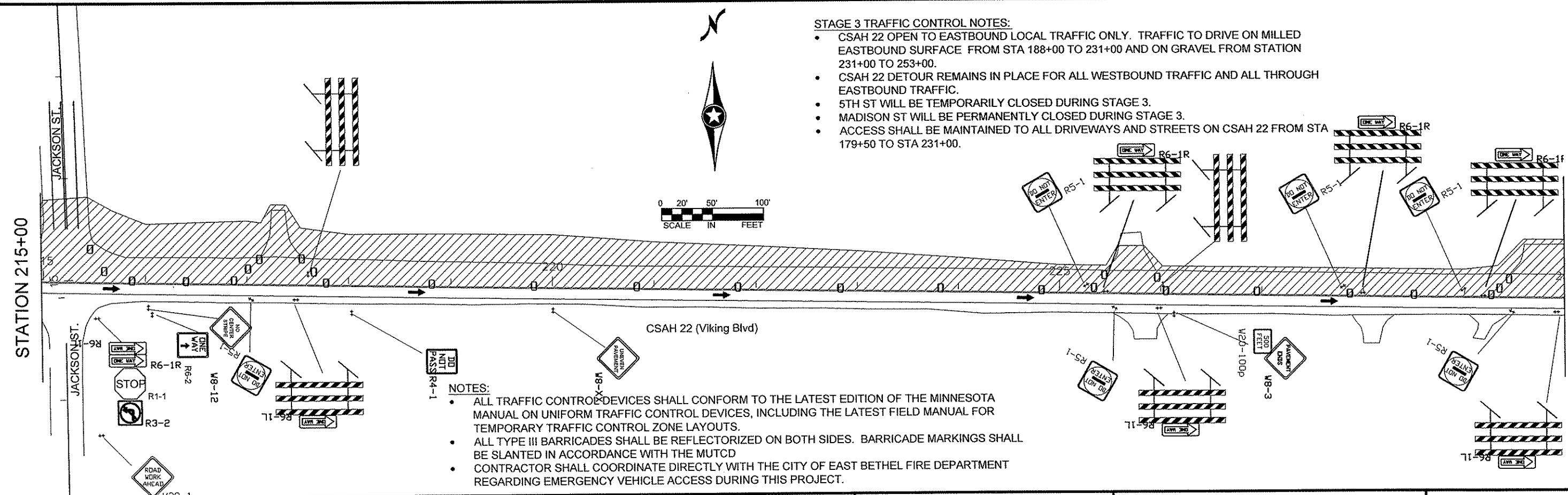
- CONSTRUCT AND PAVE WESTBOUND CONCRETE THROUGH LANES.
- CONSTRUCT AND PAVE WESTBOUND BITUMINOUS SHOULDERS AND TURN LANES.

## STAGE 3 TRAFFIC CONTROL NOTES:

- CSAA 22 OPEN TO EASTBOUND LOCAL TRAFFIC ONLY. TRAFFIC TO DRIVE ON MILLED EASTBOUND SURFACE FROM STA 188+00 TO 231+00 AND ON GRAVEL FROM STATION 231+00 TO 253+00.
- CSAA 22 DETOUR REMAINS IN PLACE FOR ALL WESTBOUND TRAFFIC AND ALL THROUGH EASTBOUND TRAFFIC.
- 5TH ST WILL BE TEMPORARILY CLOSED DURING STAGE 3.
- MADISON ST WILL BE PERMANENTLY CLOSED DURING STAGE 3.
- ACCESS SHALL BE MAINTAINED TO ALL DRIVEWAYS AND STREETS ON CSAA 22 FROM STA 179+50 TO STA 231+00.

STATION 215+00

STATION 230+00



## NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
- ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MUTCD
- CONTRACTOR SHALL COORDINATE DIRECTLY WITH THE CITY OF EAST BETHEL FIRE DEPARTMENT REGARDING EMERGENCY VEHICLE ACCESS DURING THIS PROJECT.

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: CURT A KOBIARCSIK

SIGNATURE: *Curt A Kobiarsik*

DATE: 2-7-13 REG. NO. 24756

DRAWN BY: MTH DATE 12/19/12

DESIGN BY: MTH DATE 12/19/12

CHECKED BY: JR/RB DATE 1/04/13



ANOKA COUNTY  
HIGHWAY DEPT.

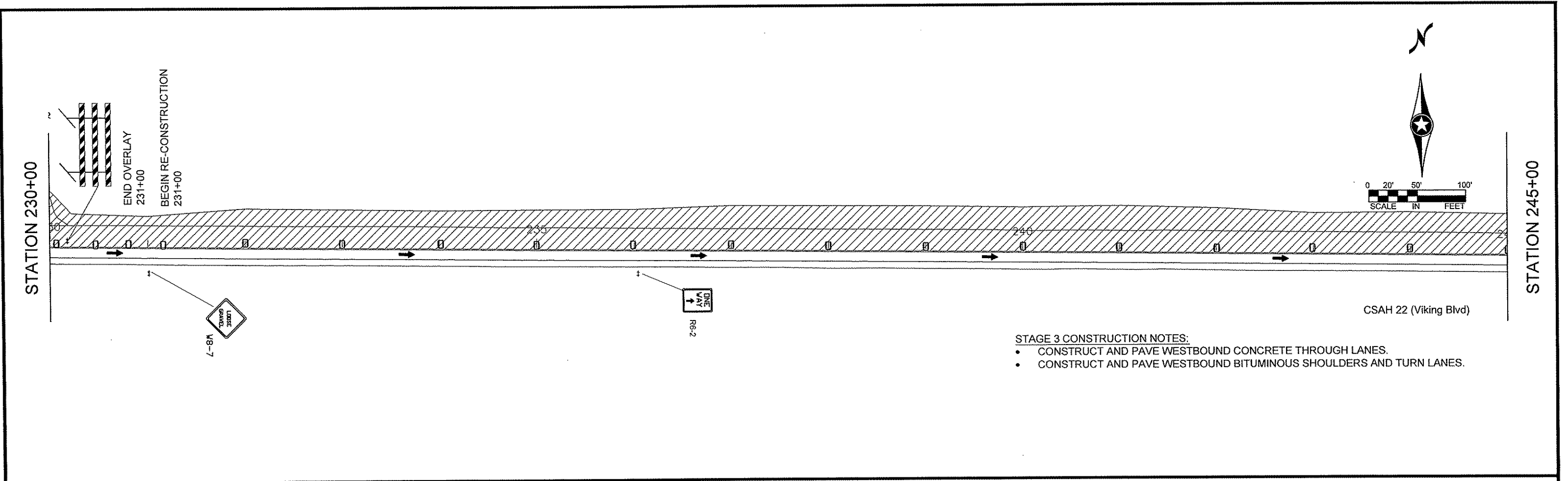
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STATE AID PROJECT NO. 002-622-032  
STATE AID PROJECT NO. \_\_\_\_\_  
COUNTY PROJECT NO. \_\_\_\_\_

TRAFFIC CONTROL  
STAGE 3 LAYOUT

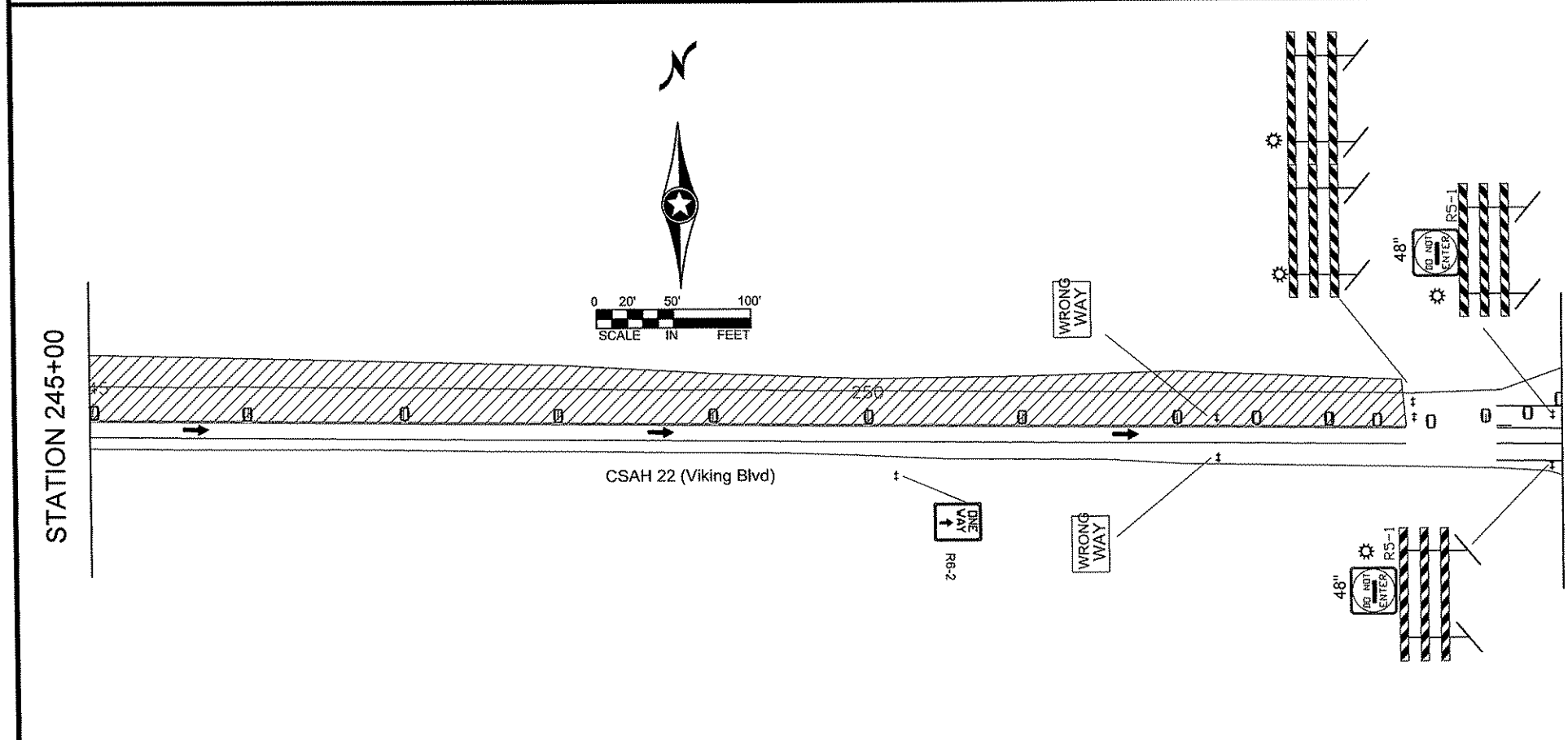
Sheet 45 of 106 Sheets

NO DATE BY CKD APPR REVISION

NAME: P:\02-622-32\Bases\TRAFFIC\0262232\_STAGE-3a.dwg



- STAGE 3 CONSTRUCTION NOTES:**
- CONSTRUCT AND PAVE WESTBOUND CONCRETE THROUGH LANES.
  - CONSTRUCT AND PAVE WESTBOUND BITUMINOUS SHOULDERS AND TURN LANES.

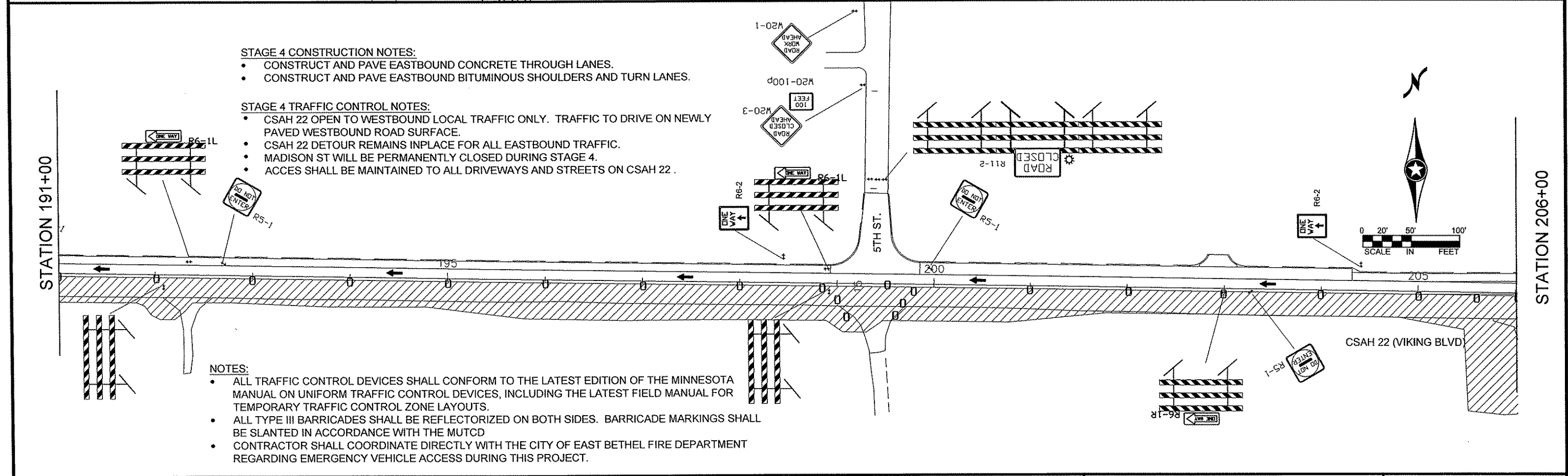
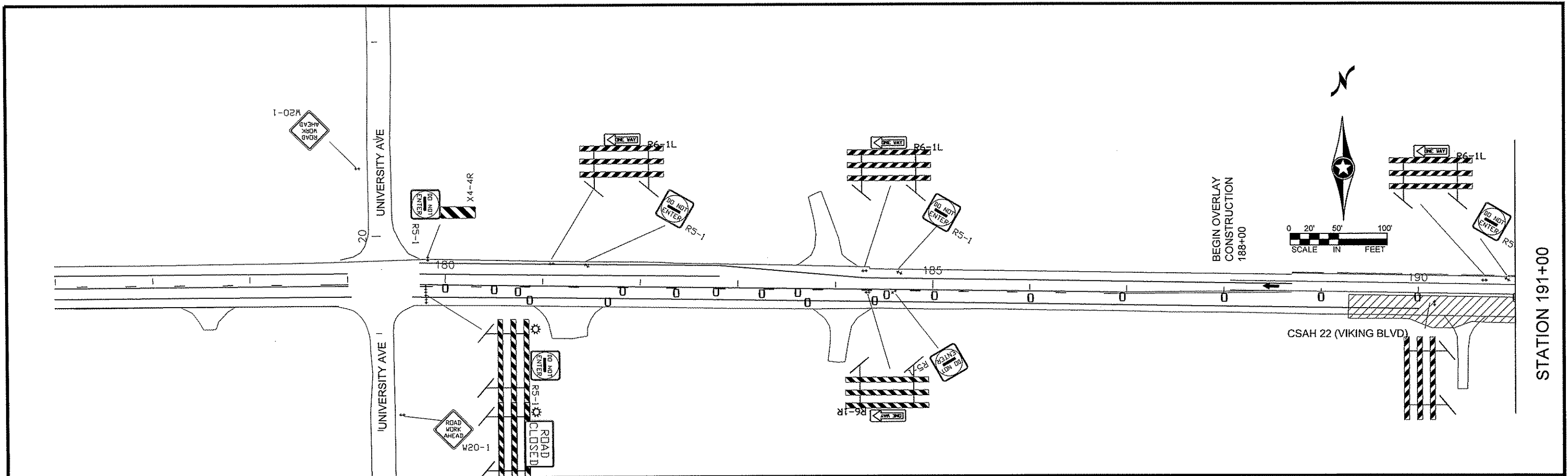


- STAGE 3 TRAFFIC CONTROL NOTES:**
- CSAH 22 OPEN TO EASTBOUND LOCAL TRAFFIC ONLY. TRAFFIC TO DRIVE ON MILLED EASTBOUND SURFACE FROM STA 188+00 TO 231+00 AND ON GRAVEL FROM STATION 231+00 TO 253+00.
  - CSAH 22 DETOUR REMAINS IN PLACE FOR ALL WESTBOUND TRAFFIC AND ALL THROUGH EASTBOUND TRAFFIC.
  - 5TH ST WILL BE TEMPORARILY CLOSED DURING STAGE 3.
  - MADISON ST WILL BE PERMANENTLY CLOSED DURING STAGE 3.
  - ACCESS SHALL BE MAINTAINED TO ALL DRIVEWAYS AND STREETS ON CSAH 22 FROM STA 179+50 TO STA 231+00.

- NOTES:**
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
  - ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MUTCD
  - CONTRACTOR SHALL COORDINATE DIRECTLY WITH THE CITY OF EAST BETHEL FIRE DEPARTMENT REGARDING EMERGENCY VEHICLE ACCESS DURING THIS PROJECT.

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: CURT A KOBILARCSIK SIGNATURE: <i>Curt Kobilarsik</i> DATE: 2-7-13 REG. NO. 24756		DRAWN BY: MTH DATE 12/19/12 DESIGN BY: MTH DATE 12/19/12 CHECKED BY: JR/RB DATE 1/04/13		ANOKA COUNTY HIGHWAY DEPT.		STATE PROJECT NO. _____ STATE AID PROJECT NO. 002-622-032 STATE AID PROJECT NO. _____ COUNTY PROJECT NO. _____		TRAFFIC CONTROL STAGE 3 LAYOUT Sheet 46 of 106 Sheets	
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**STAGE 4 CONSTRUCTION NOTES:**

- CONSTRUCT AND PAVE EASTBOUND CONCRETE THROUGH LANES.
- CONSTRUCT AND PAVE EASTBOUND BITUMINOUS SHOULDERS AND TURN LANES.

**STAGE 4 TRAFFIC CONTROL NOTES:**

- CSAH 22 OPEN TO WESTBOUND LOCAL TRAFFIC ONLY. TRAFFIC TO DRIVE ON NEWLY PAVED WESTBOUND ROAD SURFACE.
- CSAH 22 DETOUR REMAINS INPLACE FOR ALL EASTBOUND TRAFFIC.
- MADISON ST WILL BE PERMANENTLY CLOSED DURING STAGE 4.
- ACCESS SHALL BE MAINTAINED TO ALL DRIVEWAYS AND STREETS ON CSAH 22.

**NOTES:**

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
- ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MUTCD
- CONTRACTOR SHALL COORDINATE DIRECTLY WITH THE CITY OF EAST BETHEL FIRE DEPARTMENT REGARDING EMERGENCY VEHICLE ACCESS DURING THIS PROJECT.

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: CURT A. KOBILARCSIK

SIGNATURE: *Curt A. Kobilarsik*

DATE: 2-7-13 REG. NO. 24756

DRAWN BY: MTH DATE 12/18/12

DESIGN BY: MTH DATE 12/18/12

CHECKED BY: JR/RB DATE 1/04/13



**ANOKA COUNTY  
HIGHWAY DEPT.**

STATE PROJECT NO. \_\_\_\_\_

STATE AID PROJECT NO. 002-622-032

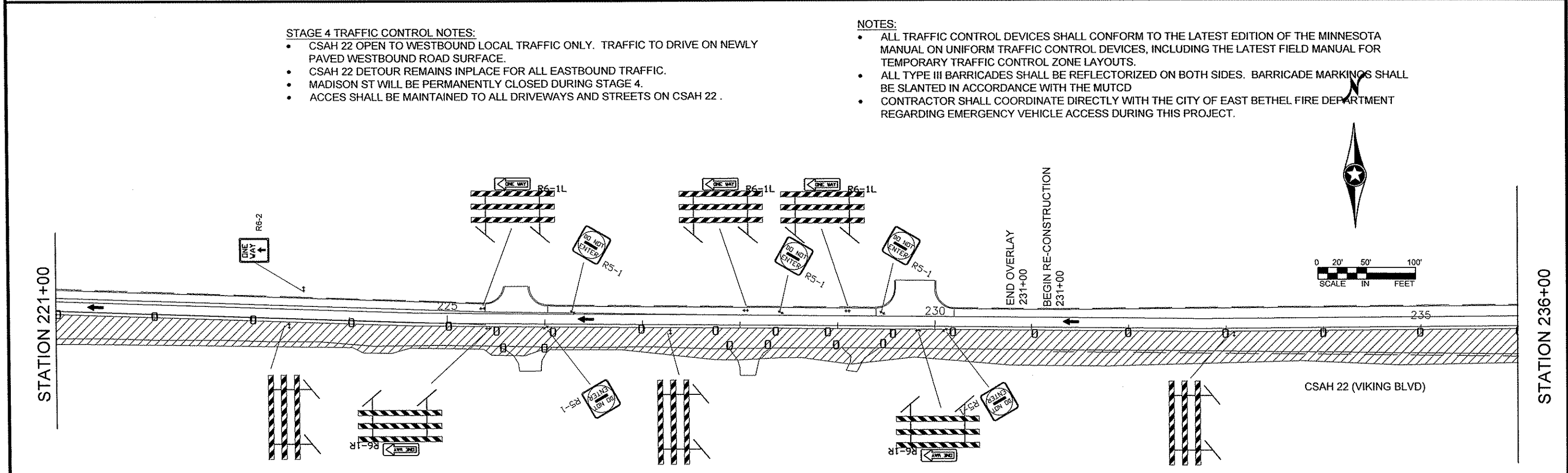
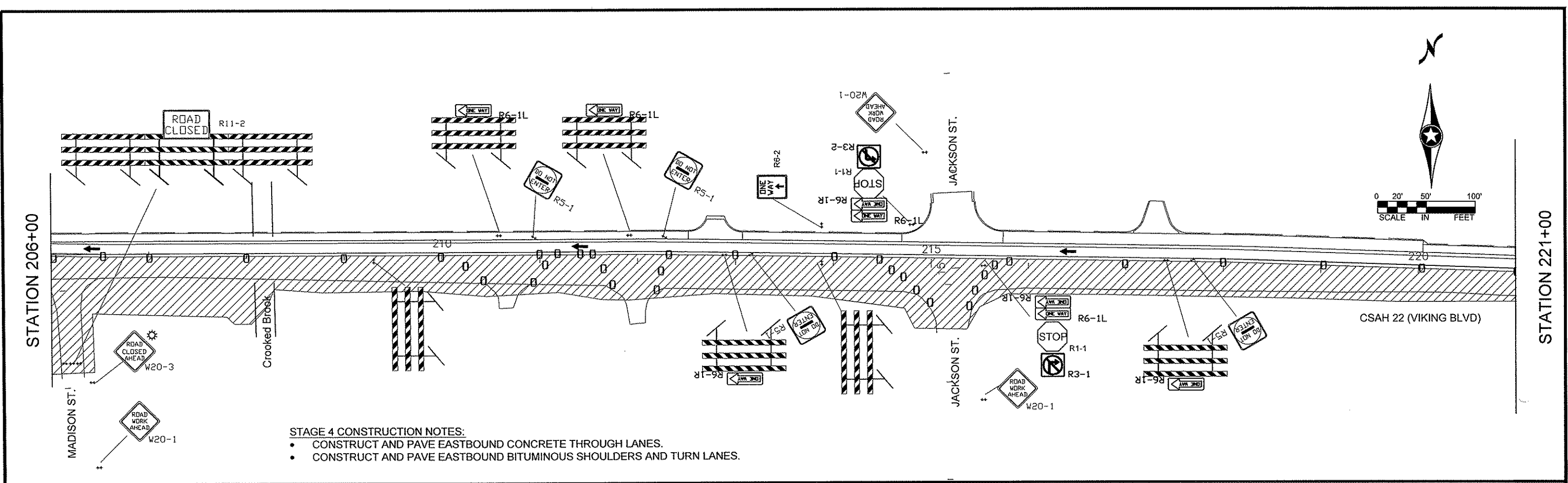
STATE AID PROJECT NO. \_\_\_\_\_

COUNTY PROJECT NO. \_\_\_\_\_

**TRAFFIC CONTROL  
STAGE 4 LAYOUT**

Sheet 48 of 106 Sheets





NO. _____ DATE _____ BY _____ CKD _____ APPR _____ REVISION _____ NAME: P:\02-622-32\Bases\TRAFFIC\0262232_STAGE 3b.dwg					I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: CURT A. KOBILARCSIK SIGNATURE: <i>Curt A. Kobilarsik</i> DATE: 2-7-13 REG. NO. 24756		DRAWN BY: MTH DATE 12/18/12 DESIGN BY: MTH DATE 12/18/12 CHECKED BY: JR/RB DATE 1/04/13		ANOKA COUNTY HIGHWAY DEPT.		STATE PROJECT NO. _____ STATE AID PROJECT NO. 002-622-032 STATE AID PROJECT NO. _____ COUNTY PROJECT NO. _____		TRAFFIC CONTROL STAGE 4 LAYOUT Sheet 49 of 106 Sheets	
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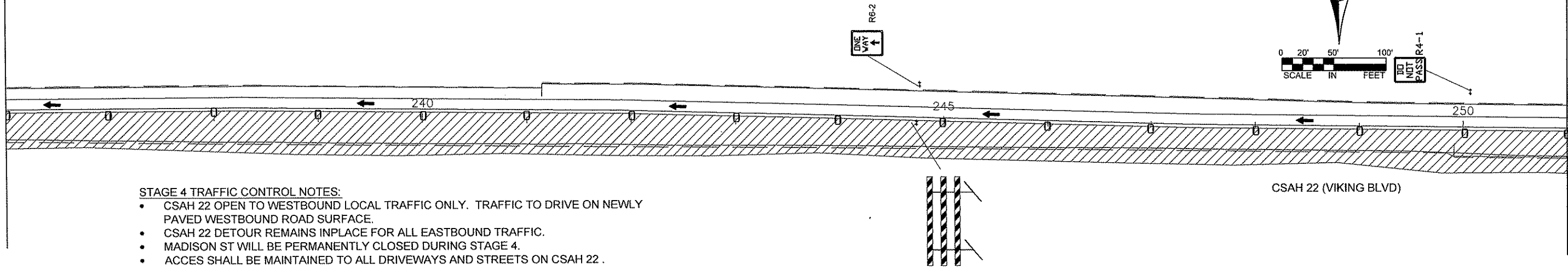
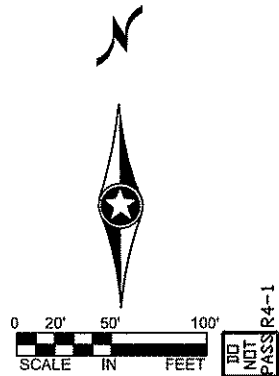
- STAGE 4 CONSTRUCTION NOTES:
- CONSTRUCT AND PAVE EASTBOUND CONCRETE THROUGH LANES.
  - CONSTRUCT AND PAVE EASTBOUND BITUMINOUS SHOULDERS AND TURN LANES.

- STAGE 4 TRAFFIC CONTROL NOTES:
- CSAH 22 OPEN TO WESTBOUND LOCAL TRAFFIC ONLY. TRAFFIC TO DRIVE ON NEWLY PAVED WESTBOUND ROAD SURFACE.
  - CSAH 22 DETOUR REMAINS INPLACE FOR ALL EASTBOUND TRAFFIC.
  - MADISON ST WILL BE PERMANENTLY CLOSED DURING STAGE 4.
  - ACCESS SHALL BE MAINTAINED TO ALL DRIVEWAYS AND STREETS ON CSAH 22 .

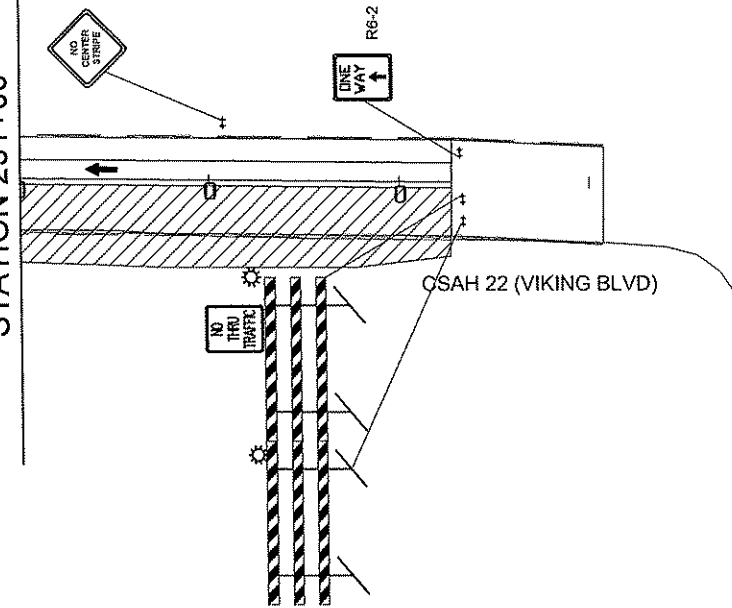
- NOTES:
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  - ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MUTCD
  - CONTRACTOR SHALL COORDINATE DIRECTLY WITH THE CITY OF EAST BETHEL FIRE DEPARTMENT REGARDING EMERGENCY VEHICLE ACCESS DURING THIS PROJECT.

STATION 236+00

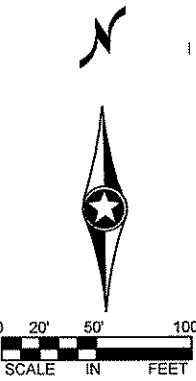
STATION 251+00



STATION 251+00



TH 65 (CENTRAL AVE)



NO	DATE	BY	CKD	APPR	REVISION
1	12/18/12	MTH			DESIGN
2	12/18/12	MTH			CHECKED
3	1/04/13	JR/RB			DATE

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: CURT A. KOBILARCSIK

SIGNATURE: *Curt A. Kobilarsik*

DATE: 2-7-13 REG. NO. 24756

DRAWN BY: MTH DATE 12/18/12

DESIGN BY: MTH DATE 12/18/12

CHECKED BY: JR/RB DATE 1/04/13



ANOKA COUNTY  
HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_

STATE AID PROJECT NO. 002-622-032

STATE AID PROJECT NO. \_\_\_\_\_

COUNTY PROJECT NO. \_\_\_\_\_

TRAFFIC CONTROL  
STAGE 4 LAYOUT

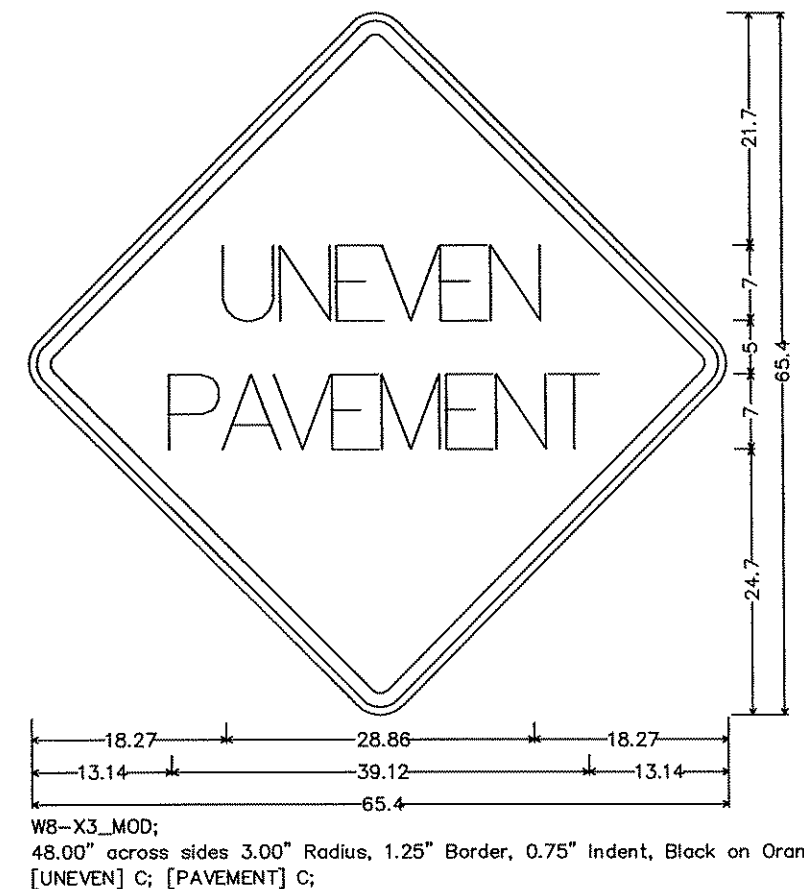
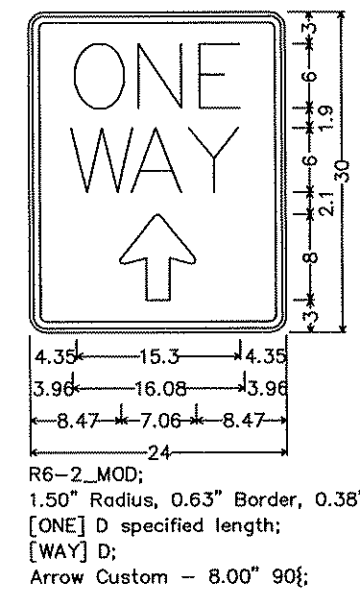
Sheet 50 of 106 Sheets

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 2	QTY. STG. 3a	QTY. STG. 3b
R1-1	48" x 48"		3	2	2
R3-1	24" x 24"		0	1	1
R3-2	24" x 24"		0	2	1
R4-1	24" x 30"		5	2	1
R5-1	30" x 30"		0	15	16
R5-1	48" x 48"		0	2	2
R5-1A	36" x 24"		0	2	0
R5-X4	24" x 30"		0	1	1
R6-1R	48" x 18"		0	2	2
R6-1L	48" x 18"		0	2	2
R6-X1 MOD	24" x 30"		0	1	0
R6-2 MOD	24" x 30"		0	4	6
WX-X	48" x 48"		4	2	0
W8-3	48" x 48"		1	1	0
W8-7	48" x 48"		2	1	0
W20-1	48" x 48"		5	2	1

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 2	QTY. STG. 3a	QTY. STG. 3b
W20-1	48" x 48"		6	6	6
W20-3	48" x 48"		5	4	2
W20-100p	30" x 24"		0	1	1
W20-100p	30" x 24"		2	1	0
W20-100p	30" x 24"		2	1	0
W21-X5	48" x 48"		0	2	0
R6-1R	48" x 18"		0	8	6
TYPE III	8 FOOT		0	8	6
R6-1L	48" x 18"		0	5	10
TYPE III	8 FOOT		0	5	10
R11-2	48" x 30"		3	2	2
TYPE III	8 FOOT		3	2	2
R11-2	48" x 30"		0	0	1
TYPE II	8 FOOT		0	0	1
R11-4	60" x 30"		0	1	0
TYPE III	8 FOOT		0	1	0

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 2	QTY. STG. 3a	QTY. STG. 3b
R11-3a	60" x 30"		1	0	0
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R11-3a	60" x 30"		1	0	0
TYPE III	8 FOOT		1	0	0
R11-3a	60" x 30"		1	0	0
TYPE III	8 FOOT		1	0	0
R11-3a	60" x 30"		1	0	0
TYPE III	8 FOOT		1	0	0
TYPE III	8 FOOT		1	5	3
TYPE III	8 FOOT		9	15	13
REFLECTORIZED REBOUNDABLE DRUM			32	138	115
X4-4R	18" x 48"		0	0	1
CHANGABLE MESSAGE BOARD			2	2	0

# CUSTOM SIGN DETAILS



## NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
- ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M.U.T.C.D.

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: CURT A. KOBILARCSIK  
 SIGNATURE:   
 DATE: 2-7-13 REG. NO. 24756

DRAWN BY: MTH DATE 12/20/12  
 DESIGN BY: DATE  
 CHECKED BY: DATE



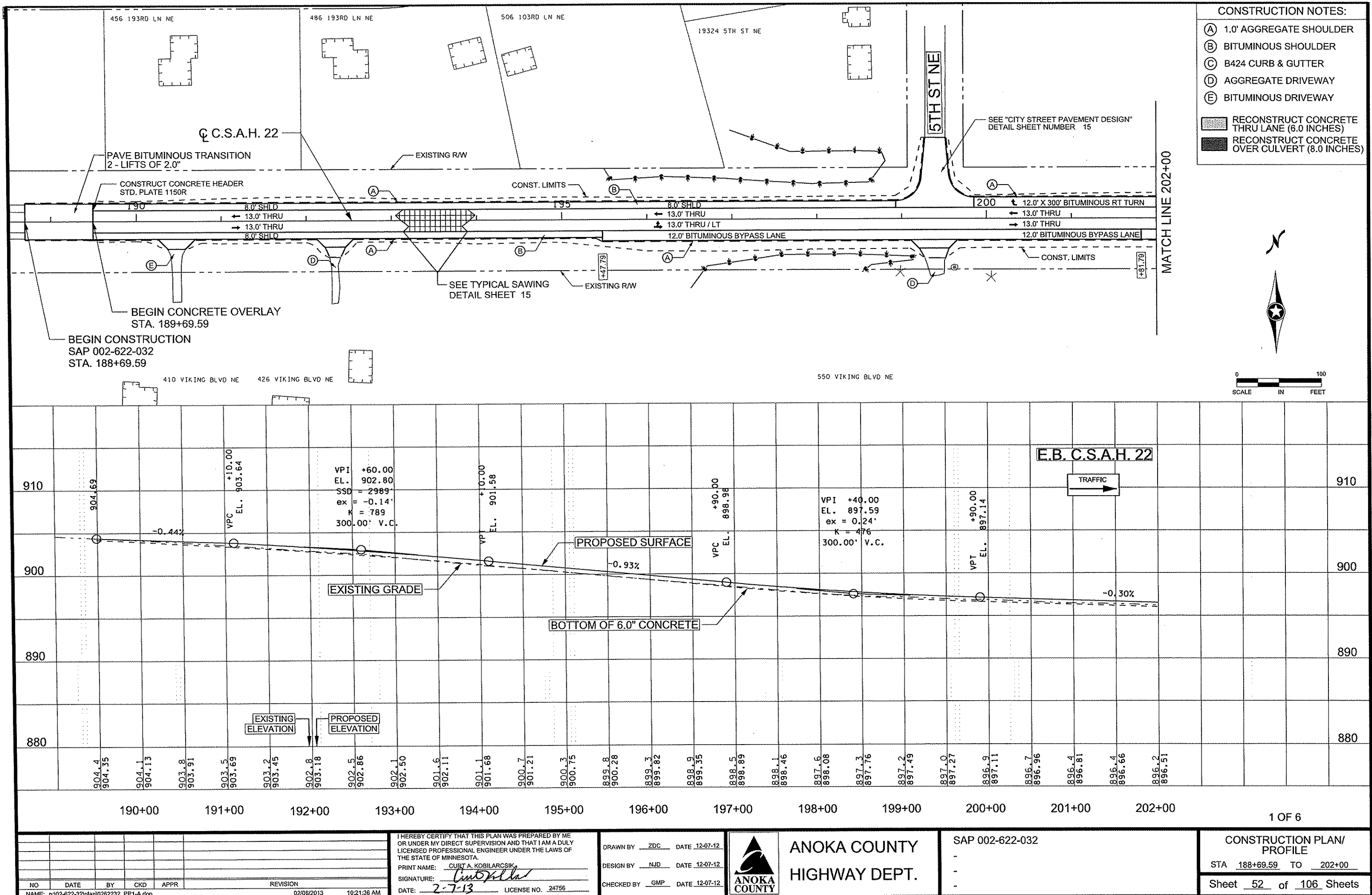
ANOKA COUNTY  
 HIGHWAY DEPT.

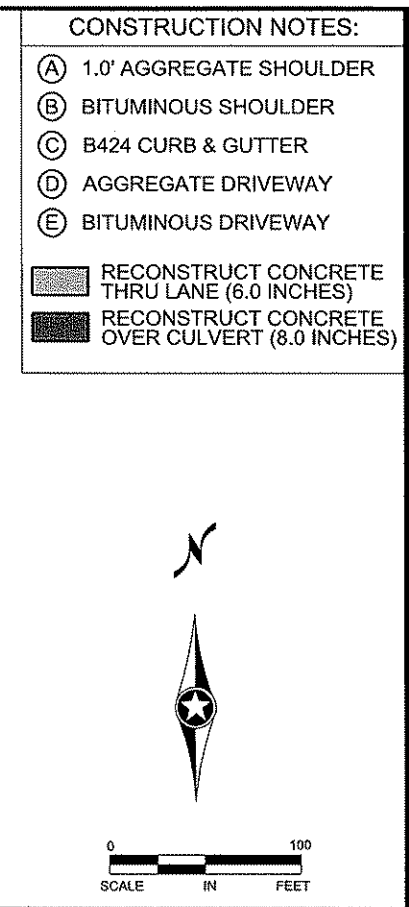
S.A.P. 002-622-032



STAGING  
 SIGN QUANTITIES

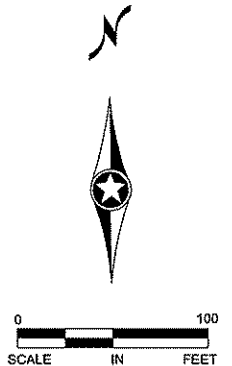
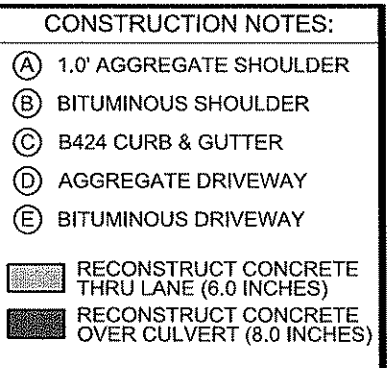
Sheet 51 of 106 Sheets



NO DATE BY CKD 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.		DRAWN BY <u>ZDC</u> DATE <u>12-07-12</u>		 <b>ANOKA COUNTY</b> <b>HIGHWAY DEPT.</b>	SAP 002-622-032		CONSTRUCTION PLAN/ PROFILE												
										PRINT NAME: <u>CURT A. KOBIARCSIK</u>		DESIGN BY <u>NJD</u> DATE <u>12-07-12</u>			STA <u>202+00</u> TO <u>214+00</u>														
										SIGNATURE: 		CHECKED BY <u>GMP</u> DATE <u>12-07-12</u>			- - -														
<table border="1"> <thead> <tr> <th>NO</th> <th>DATE</th> <th>BY</th> <th>CKD</th> <th>APPR</th> <th>REVISION</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>										NO	DATE	BY	CKD		APPR	REVISION							DATE: <u>2-7-13</u> LICENSE NO. <u>24756</u>				Sheet <u>53</u> of <u>106</u> Sheets		
NO	DATE	BY	CKD	APPR	REVISION																								
NAME: p:\02-622-32\plan\0262232_PP2-A.dgn																													



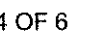
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										PRINT NAME: <u>CURT A. KOBILARCSIK</u>		DESIGN BY <u>NJD</u> DATE <u>12-07-12</u>				STA <u>214+00</u> TO <u>226+00</u>			
										SIGNATURE: 		CHECKED BY <u>GMP</u> DATE <u>12-07-12</u>				Sheet <u>54</u> of <u>106</u> Sheets			
NO	DATE	BY	CKD	APPR	REVISION					DATE:	LICENSE NO.								
										02/06/2013	10:21:42 AM								
NAME: p:102-622-321.dgn 0262232 PP3-A.dgn																			




- (A) 1.0' AGGREGATE SHOULDER
- (B) BITUMINOUS SHOULDER
- (C) B424 CURB & GUTTER
- (D) AGGREGATE DRIVEWAY
- (E) BITUMINOUS DRIVEWAY



THE EXISTING GROUND BEYOND STATION 230+00 WILL BE THE BOTTOM OF THE SUBGRADE  
REGRADING OCCURED WITH COUNTY PROJECT 12-18-22 - WINTER 2013

[illegible]

PRINT NAME: CURT A. KOBILARCSIK  
SIGNATURE:   
DATE: 2-7-13 LICENSE NO. 24756

CHECKED BY GMP DATE 12-07-12



ANOKA COUNTY  
HIGHWAY DEPT.

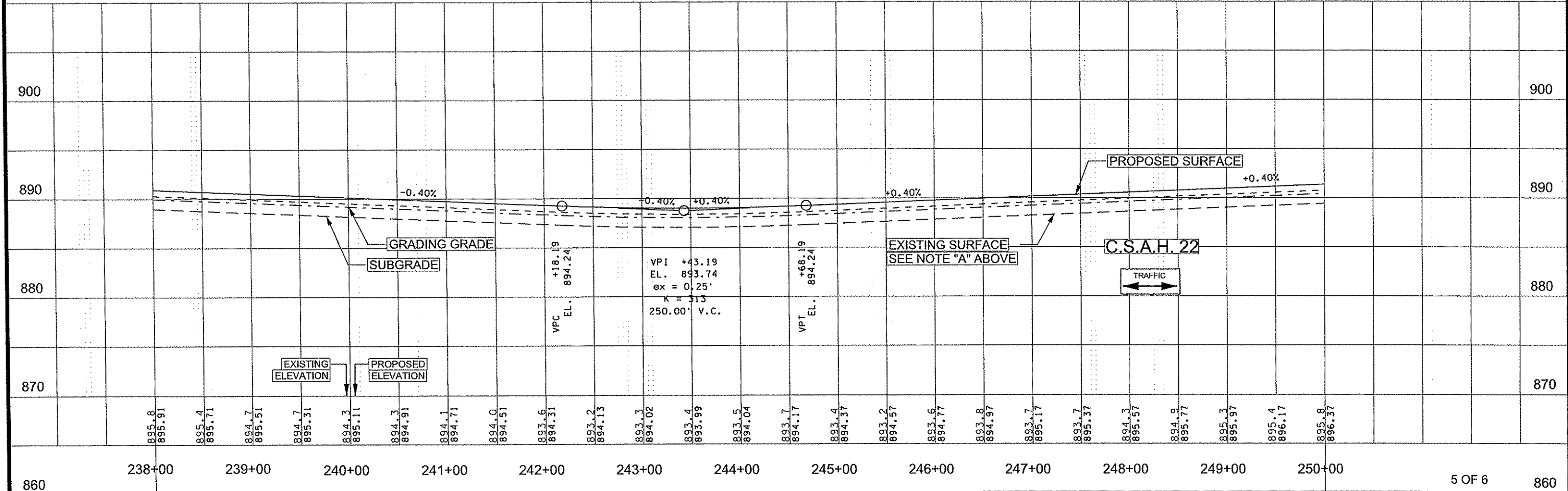
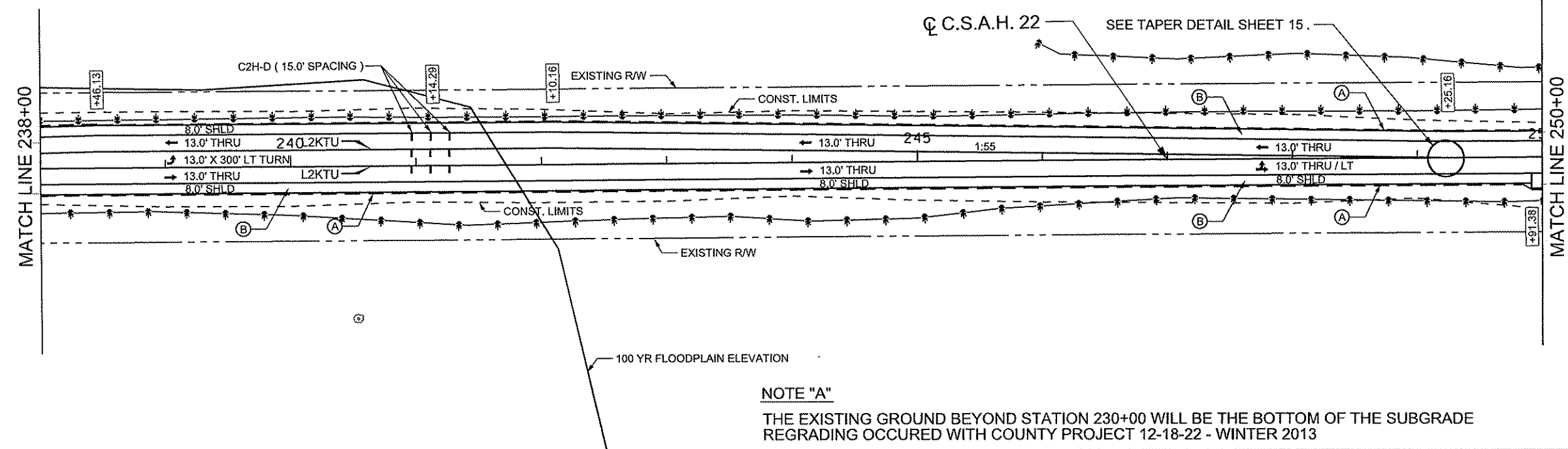
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Sheet 55 of 106 Sheets

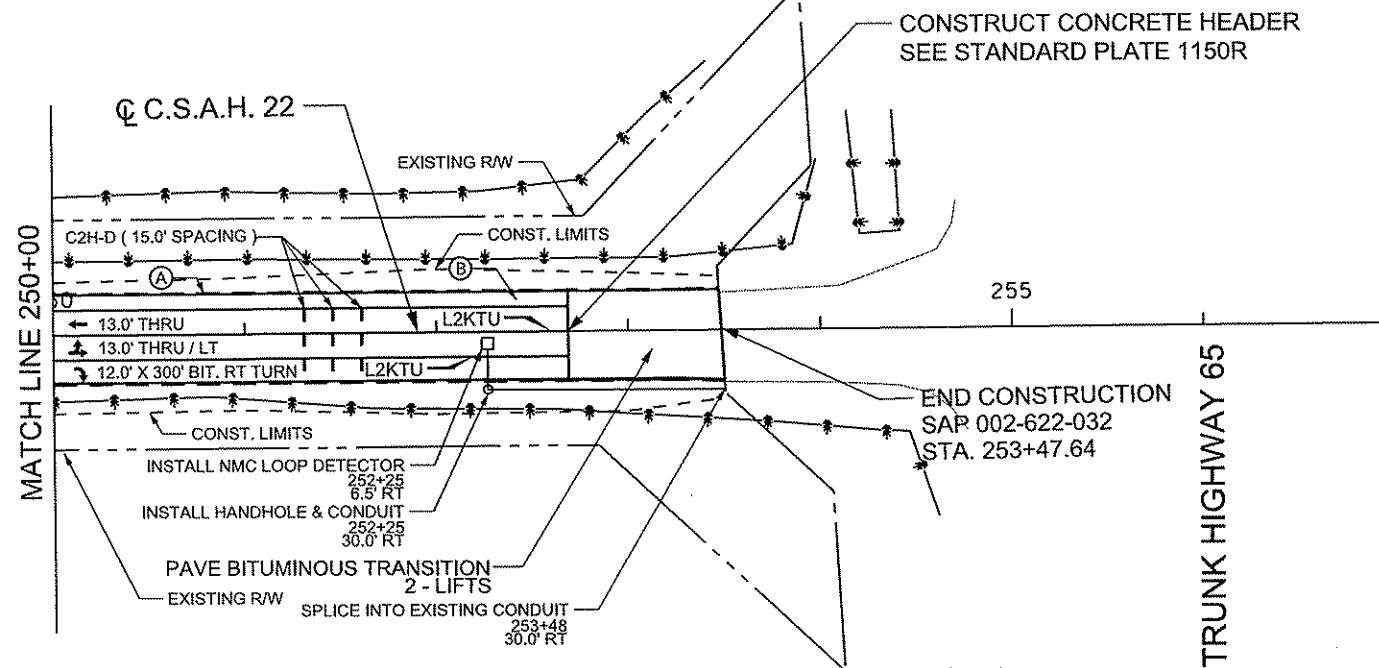


CONSTRUCTION NOTES:

- (A) 1.0' AGGREGATE SHOULDER
  - (B) BITUMINOUS SHOULDER
  - (C) B424 CURB & GUTTER
  - (D) AGGREGATE DRIVEWAY
  - (E) BITUMINOUS DRIVEWAY
- RECONSTRUCT CONCRETE THRU LANE (6.0 INCHES)
  - RECONSTRUCT CONCRETE OVER CULVERT (8.0 INCHES)

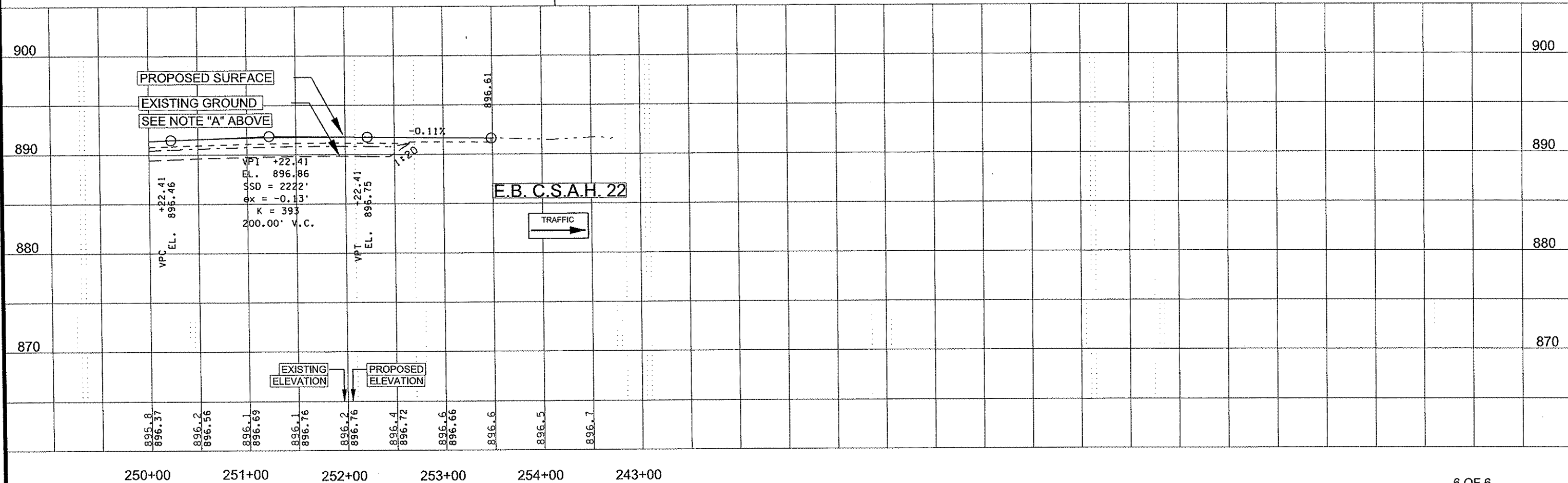
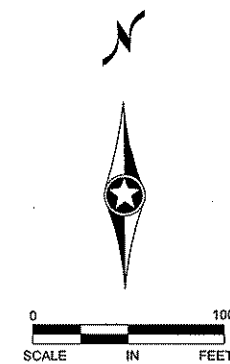


NO. DATE BY CKD APPR REVISION NAME: p:\02-622-32\plan\0262232_PP5-A.dgn 02/06/2013 10:21:49 AM					I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: CURT A. KOBLARCSIK SIGNATURE: <i>Curt A. Koblarczik</i> DATE: 2-7-13 LICENSE NO. 24756					DRAWN BY: ZDC DATE: 12-07-12 DESIGN BY: NJD DATE: 12-07-12 CHECKED BY: #ZCC DATE: 12-07-12					ANOKA COUNTY HIGHWAY DEPT.					SAP 002-622-032 CONSTRUCTION PLAN/ PROFILE STA 238+00 TO 250+00 Sheet 56 of 106 Sheets				
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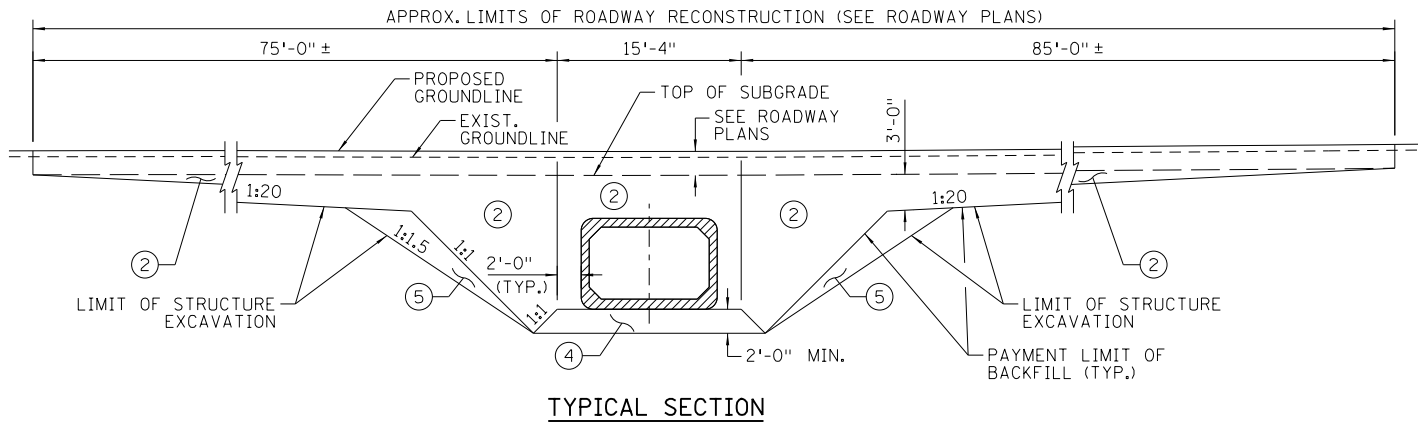


**NOTE "A"**  
 THE EXISTING GROUND BEYOND STATION 230+00 WILL BE THE BOTTOM OF THE SUBGRADE  
 REGRADING OCCURED WITH COUNTY PROJECT 12-18-22 - WINTER 2013

- CONSTRUCTION NOTES:**
- (A) 1.0' AGGREGATE SHOULDER
  - (B) BITUMINOUS SHOULDER
  - (C) B424 CURB & GUTTER
  - (D) AGGREGATE DRIVEWAY
  - (E) BITUMINOUS DRIVEWAY
- RECONSTRUCT CONCRETE THRU LANE (6.0 INCHES)
  - RECONSTRUCT CONCRETE OVER CULVERT (8.0 INCHES)



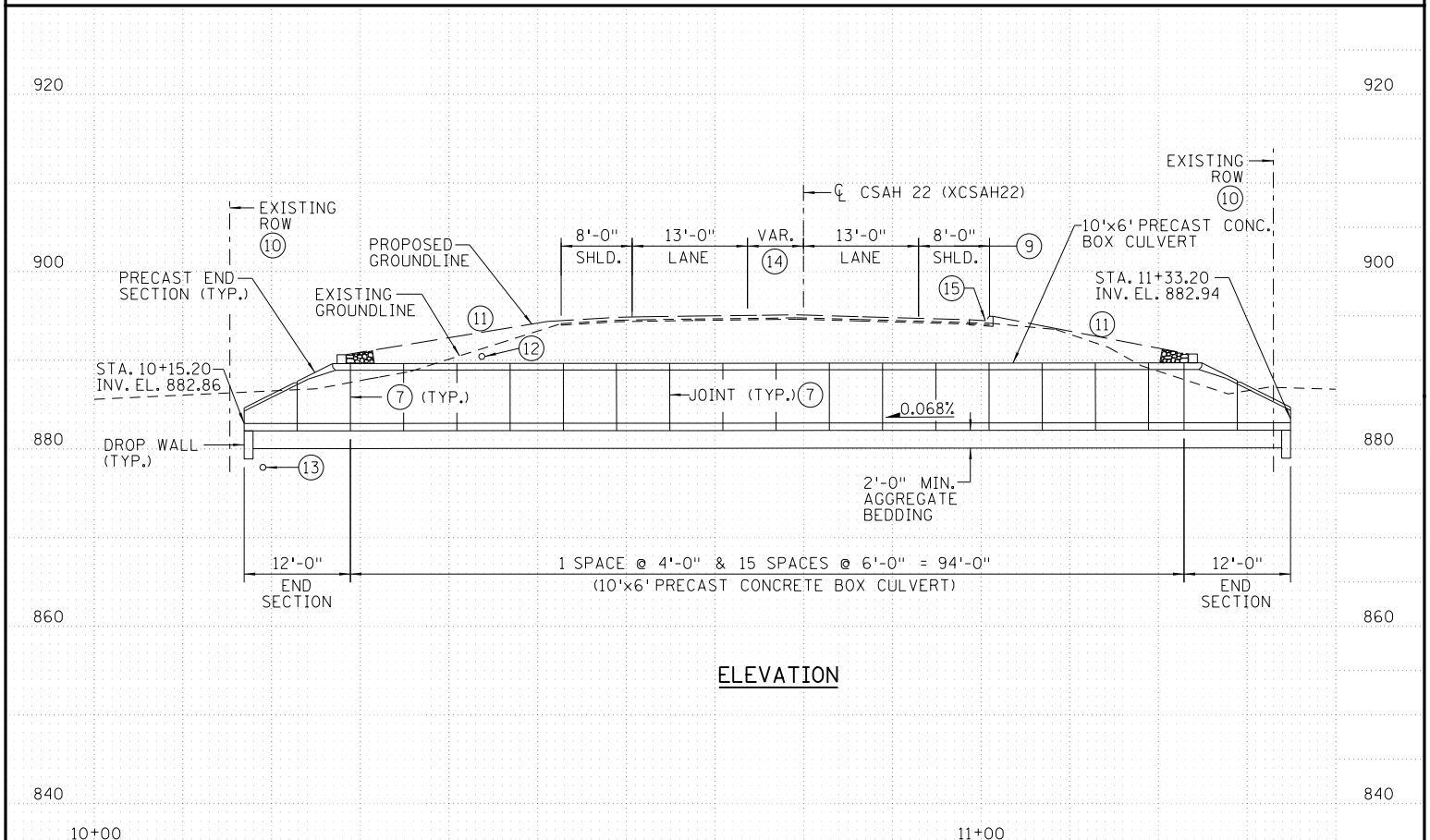
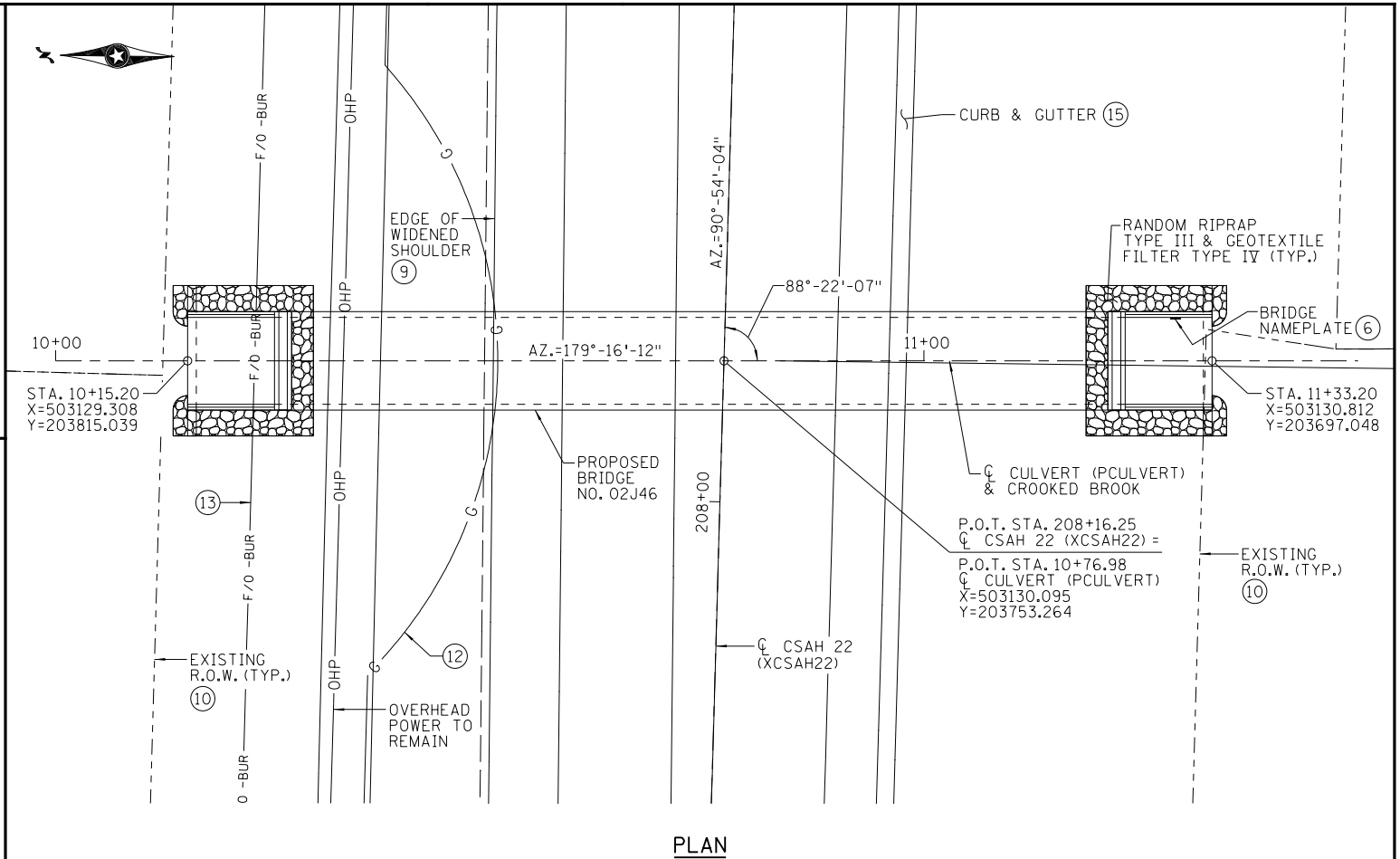
NO    DATE    BY    CKD    APPR NAME: p:02-622-32\plan\0262232_PP6-A.dgn					REVISION 02/06/2013    10:21:52 AM					I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: CURT A. KOBILARCSIK SIGNATURE: <i>[Signature]</i> DATE: 2-7-13    LICENSE NO. 24756					DRAWN BY: ZDC    DATE: 12-07-12 DESIGN BY: NJD    DATE: 12-07-12 CHECKED BY: #ZCC    DATE: 12-07-12					ANOKA COUNTY HIGHWAY DEPT.					SAP 002-622-032 - - -					CONSTRUCTION PLAN/ PROFILE STA 250+00 TO 253+47.64 Sheet 57 of 106 Sheets				
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SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE			
ITEM NO.	ITEM	UNIT	QUANTITY
2104.501	REMOVE PIPE CULVERTS	LIN FT	180
2105.522	SELECT GRANULAR BORROW (LV)	CU YD	2458
2401.601	STRUCTURE EXCAVATION	LUMP SUM	1
2401.601	FOUNDATION PREPARATION	LUMP SUM	1
2412.511	10X6 PRECAST CONCRETE BOX CULVERT	LIN FT	94 (P)
2412.512	10X6 PRECAST CONCRETE BOX CULV END SECT	EACH	2 (P)
2451.509	AGGREGATE BEDDING (CV)	CU YD	153 (P)
2511.501	RANDOM RIPRAP CLASS III	CU YD	16
2511.515	GEOTEXTILE FILTER TYPE IV (MOD)	SQ YD	82

NOTES:

- EMBANKMENT PROTECTION IN THIS PLAN ASSUMES THE USE OF RANDOM RIPRAP TYPE III, WITH GEOTEXTILE FILTER MATERIAL TYPE IV. THE CONTRACTOR HAS THE OPTION TO SUBSTITUTE THE USE OF RANDOM RIPRAP TYPE II ENCLOSED IN GABIONS, WITH GEOTEXTILE FILTER MATERIAL TYPE III. SEE SHEET 4 FOR ADDITIONAL NOTES AND DETAILS. SUBSTITUTION OF EMBANKMENT PROTECTION SHALL BE MADE WITH NO ADDITIONAL COMPENSATION.
- QUANTITY OF SELECT GRANULAR BORROW IS BASED ON DIMENSIONS SHOWN AND A LOOSE VOLUME MULTIPLIER OF 1.4, AND PAYMENT IS BASED ON THIS QUANTITY. SELECT GRANULAR BORROW SHALL COMPLY WITH SPEC. 3149.2B2. IF THE CONTRACTOR CHOOSES TO INCREASE DIMENSIONS IN ORDER TO FACILITATE CONSTRUCTION OPERATIONS, ANY QUANTITY INCREASES SHALL BE CONSIDERED INCIDENTAL.
- SEE ROADWAY PLANS AND SPECIAL PROVISIONS FOR CULVERT END PROTECTION REQUIREMENTS.
- QUANTITY OF AGGREGATE BEDDING IS BASED ON DIMENSIONS SHOWN, AND PAYMENT IS BASED ON THIS QUANTITY. AGGREGATE BEDDING SHALL COMPLY WITH SPEC. 3149.2G. IF THE CONTRACTOR CHOOSES TO INCREASE DIMENSIONS IN ORDER TO FACILITATE CONSTRUCTION OPERATIONS, ANY QUANTITY INCREASES SHALL BE CONSIDERED INCIDENTAL.
- SUITABLE GRADING MATERIAL SHALL HAVE SUITABLE MOISTURE CONTENT DURING PLACEMENT AND SHALL BE COMPACTED PER SPEC. 2105. GRANULAR BACKFILL MAY BE USED IN LIEU OF SUITABLE GRADING MATERIAL.
- PAYMENT FOR BRIDGE NAMEPLATE SHALL BE CONSIDERED INCIDENTAL TO ITEM "10X6 PRECAST CONCRETE BOX CULVERT END SECT".
- JOINTS BETWEEN ALL SECTIONS SHALL BE WRAPPED WITH 3-PLY JOINT WATERPROOFING ON THE TOP AND SIDES, AND HAVE A FLEXIBLE WATER TIGHT JOINT USING MASTIC SEALS ALL AROUND. PAYMENT FOR 3-PLY JOINT WATERPROOFING SHALL BE CONSIDERED INCIDENTAL TO ITEM "10X6 PRECAST CONCRETE BOX CULVERT".
- ALL WORK TO DEWATER, DIVERT, TREAT AND OTHERWISE CONSTRUCT THE CULVERT IN THE WATER COURSE SHALL BE CONSIDERED INCIDENTAL TO ITEM "STRUCTURE EXCAVATION". NO DIRECT COMPENSATION SHALL BE MADE FOR MEETING ANY OF THE PROJECT REQUIREMENTS OR FOR CONFORMING TO THE PROJECT PERMITS. OPTIONS AVAILABLE TO THE CONTRACTOR FOR TEMPORARY STREAM DIVERSION FOR STRUCTURE CONSTRUCTION ARE OUTLINED IN CHAPTER 3 OF THE MANUAL "BEST PRACTICES FOR MEETING DNR GENERAL PUBLIC WATERS WORK PERMIT GP 2004-0001. THIS PUBLICATION CAN BE FOUND AND REVIEWED AT: [www.dnr.state.mn.us/waters/watermgmt\\_section/pwpermits/gp\\_2004-0001\\_manual.html](http://www.dnr.state.mn.us/waters/watermgmt_section/pwpermits/gp_2004-0001_manual.html)
- SEE ROADWAY PLANS FOR DETAILS.
- SEE ROADWAY PLANS FOR LIMITS OF TEMPORARY AND PERMANENT EASEMENTS.
- PROPOSED GRADE 4H TO 1V OR FLATTER TO COVER CULVERT.
- BURIED GAS LINE TO BE RELOCATED BY OTHERS.
- BURIED FIBER OPTIC TO BE LOCATED IN THE FIELD AND RELOCATED BY OTHERS IF FOUND TO CONFLICT WITH THE INTENT OF THIS PLAN.
- STRIPED MEDIAN, SEE ROADWAY PLANS
- CURB AND GUTTER, SEE ROADWAY PLANS.



1	2/11/13	CEB	KLS	CEB	RELEASED FOR CONSTRUCTION
NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CASEY E. BLACK

Date: 2/11/13 License #: 49163

STATE AID PROJECT NO.  
002-622-032

BRIDGE NO.  
**02J46**

DRAWN BY  
J. HOFFMAN

DESIGNED BY  
C. BLACK

CHECKED BY  
K. SWEHLA

COMM. NO. 0127899

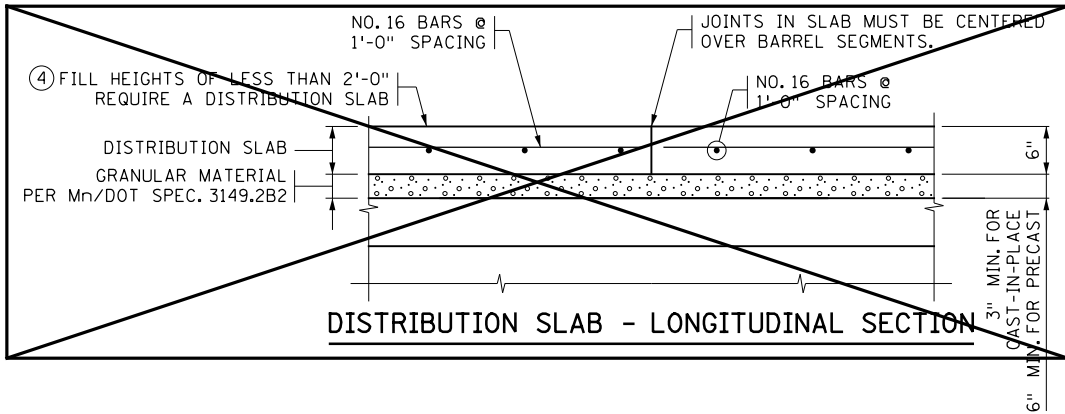
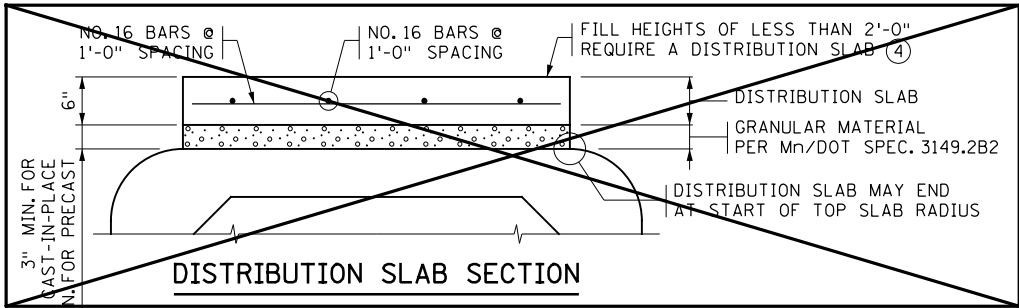


ENGINEERS  
PLANNERS  
DESIGNERS

ANOKA COUNTY

CROOKED BROOK CULVERT REPLACEMENT  
GENERAL PLAN & ELEVATION

SHEET  
**58**  
OF  
**106**



## CONSTRUCTION NOTES

CULVERTS TO BE CONSTRUCTED AS PER Mn/DOT SPEC. 2412 EXCEPT AS NOTED.

~~IF THE DISTANCE BETWEEN DOUBLE BARRELS IS LESS THAN 2'-0" USE EITHER PEA ROCK OR LEAN MIX BACKFILL (Mn/DOT SPEC. 2520) BETWEEN THE CULVERTS AS APPROVED BY THE ENGINEER. IF PEA ROCK IS USED PROVIDE APPROVED GROUT SEEPAGE CUTOFF CORE, MINIMUM 12" THICK, BETWEEN THE CULVERTS TWO ENDS. SEE STANDARD FIGURE 5-395.115 FOR DETAILS. MINIMUM DISTANCE BETWEEN THE BARRELS IS 6".~~

THE WELDED WIRE FABRIC, SHEAR REINFORCEMENT AND REINFORCEMENT BARS SHALL CONFORM TO APPLICABLE REQUIREMENTS OF AASHTO M259.

1 1/2" MIN. AND 2" MAX. CONCRETE COVER ON ALL REINFORCEMENT, INCLUDING SHEAR REINFORCEMENT, EXCEPT FOR TONGUE AND GROOVE DETAIL.

ANY OF THE FOLLOWING COMBINATIONS OF STEEL REINFORCEMENT MAY BE USED:

- (a) 1 OR 2 LAYERS OF WELDED WIRE FABRIC OR
- (b) 1 LAYER OF WELDED WIRE FABRIC AND 1 LAYER OF REINFORCEMENT BARS OR
- (c) 1 LAYER OF REINFORCEMENT BARS.

THE REINFORCEMENT SHALL BE DEVELOPED IN ACCORDANCE WITH AASHTO "LRFD BRIDGE DESIGN SPECIFICATIONS". IF BAR REINFORCEMENT IS SUBSTITUTED FOR WELDED WIRE FABRIC, THE AREAS OF REINFORCEMENT SHALL BE INCREASED BY 8%.

THE MAXIMUM SIZE OF REINFORCEMENT BARS SHALL BE NO. 19. THE MAXIMUM WELDED WIRE FABRIC SIZE SHALL BE A W23 PER LAYER (MAXIMUM OF 2 LAYERS).

THE SPACING CENTER TO CENTER OF THE TRANSVERSE WIRES SHALL NOT BE LESS THAN 2" NOR MORE THAN 4". THE SPACING CENTER TO CENTER OF THE LONGITUDINAL WIRES SHALL NOT BE MORE THAN 8".

WELDING WILL NOT BE ALLOWED ON REINFORCEMENT BARS OR WELDED WIRE FABRIC, EXCEPT THAT THE ORIGINAL WELDING REQUIRED TO MANUFACTURE WIRE FABRIC IS ACCEPTABLE.

WHEN REINFORCEMENT IS CUT, ADDITIONAL REINFORCEMENT SHALL BE ADDED ON BOTH SIDES OF THE CUT MEMBER TO REPLACE OR EXCEED THE CUT STEEL.

CONCRETE SHALL BE MIX NO. 3W36 WITH NO CALCIUM CHLORIDE ALLOWED.

SHOP DRAWING APPROVAL PER Mn/DOT SPEC. 3238.2A IS NOT REQUIRED UNLESS OPENINGS OR ATTACHMENTS ARE PLACED ON A BARREL SEGMENT.

COMPACT THE FIRST 1.5' (LOOSE) OF FILL ABOVE THE BOX WITH LIGHT COMPACTION EQUIPMENT SUCH AS PLATE COMPACTORS OR WALK BEHIND ROLLERS.

TRANSVERSE REINFORCEMENT IS PARALLEL TO THE CULVERT SPAN. LONGITUDINAL REINFORCEMENT IS PERPENDICULAR TO THE CULVERT SPAN.

- ① CULVERT TIES ARE TO BE 1" DIAMETER RODS. SEE STANDARD PLATE NO. 3145 FOR CONNECTION DETAILS.
- ② HAUNCH SIZES ARE TO BE 12" VERTICAL, 12" HORIZONTAL ON ALL BOX SIZES.
- ③ LONGITUDINAL REINFORCEMENT DENOTED AS As5 AND As6 MUST BE PLACED IN ALL SLABS AND WALLS AND MUST BE 0.06 SQ. IN./FT. MIN.

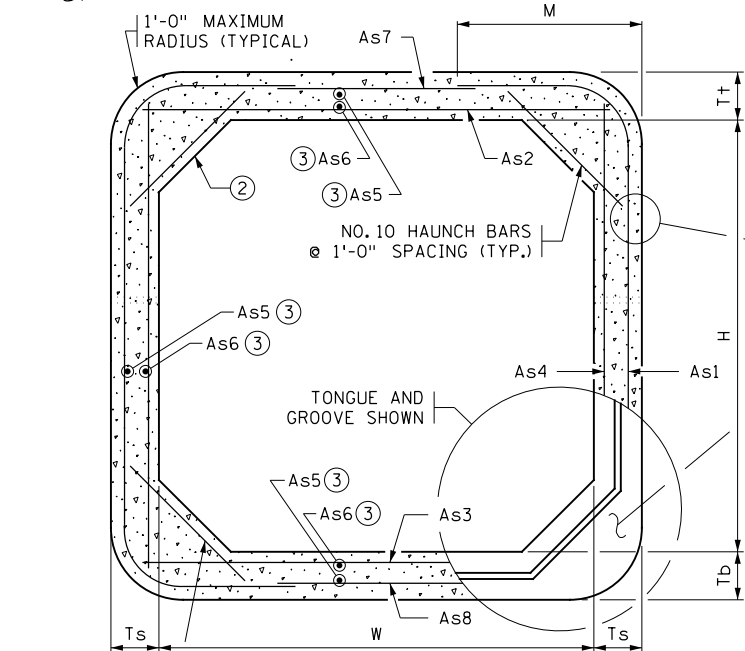
~~④ FILL HEIGHTS OF LESS THAN 2'-0" REQUIRE A DISTRIBUTION SLAB.~~

~~USE 3Y43 CONCRETE FOR THE DISTRIBUTION SLAB.~~

~~CAST-IN-PLACE DISTRIBUTION SLABS SHALL BE 6" THICK. PROVIDE 3" MINIMUM GRANULAR MATERIAL PER Mn/DOT SPEC. 3149.2B2 BETWEEN BARREL AND DISTRIBUTION SLAB.~~

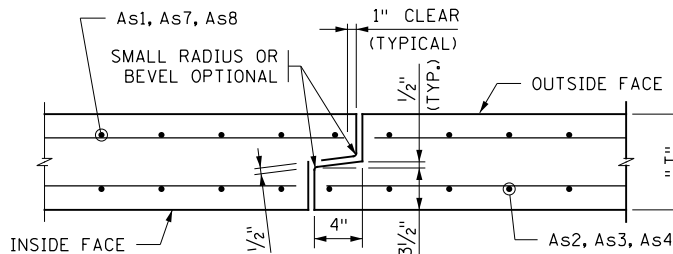
~~PRECAST DISTRIBUTION SLABS SHALL BE 6" THICK AND MAY BE USED FOR FILL HEIGHTS OVER 1'-0". PROVIDE 6" MINIMUM GRANULAR MATERIAL PER Mn/DOT SPEC 3149.2B2 BETWEEN BARREL AND DISTRIBUTION SLAB.~~

~~IF DISTRIBUTION SLAB IS USED AS PAVEMENT SURFACE IT MUST BE REDESIGNED PER THE Mn/DOT PAVEMENT DESIGN MANUAL.~~



## TRANSVERSE BARREL SECTION

BAR REINFORCEMENT OPTION SHOWN

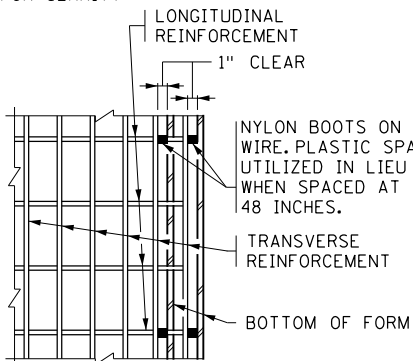


## TONGUE AND GROOVE JOINT DETAIL

HAUNCH BAR TO EXTEND TO, BUT NOT PAST, OUTSIDE REINFORCING (TYP.)

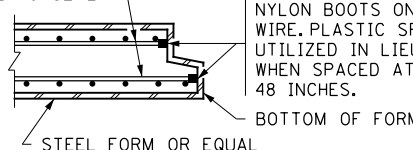
REINFORCEMENT NOT SHOWN FOR CLARITY

CUT OR BEND INSIDE REINFORCEMENT AS NECESSARY TO ACHIEVE COVER REQUIREMENTS



## PLAN

LONGITUDINAL REINFORCEMENT

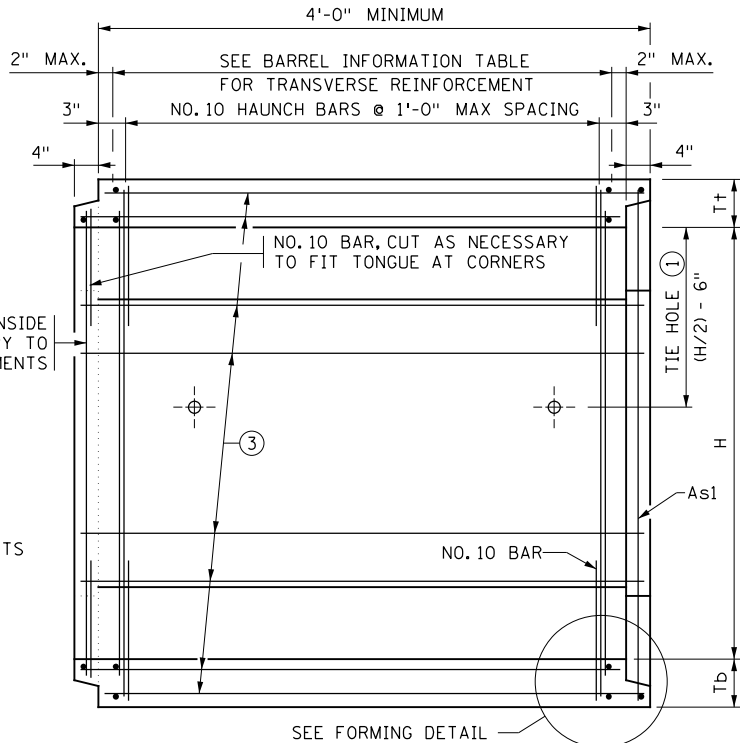


## SECTION FORMING DETAIL

NYLON BOOTS ON EVERY FOURTH WIRE. PLASTIC SPACERS MAY BE UTILIZED IN LIEU OF NYLON BOOTS WHEN SPACED AT A MAXIMUM OF 48 INCHES.

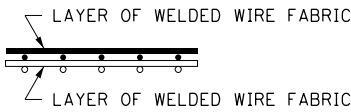
BOTTOM OF FORM

WHEN MORE THAN ONE LAYER OF WELDED WIRE FABRIC IS USED TO OBTAIN THE REQUIRED REINFORCEMENT AREAS, THE WIRES OF THE WELDED WIRE FABRIC SHALL BE PLACED AS SHOWN



## LONGITUDINAL BARREL SECTION

BAR REINFORCEMENT OPTION SHOWN



## FABRIC LAYER DETAIL

## BARREL INFORMATION TABLE \*\*\*

BARREL INFORMATION TABLE ***																									
LOCATION	SIZE	CLASS	f'c (P.S.I.)	FILL HEIGHT RANGE (FT.)	DISTRUBUTION SLAB REQUIRED *	RECESSED TIE RODS REQUIRED **	DIMENSIONS					WEIGHT (LBS./FT.)	WELDED WIRE FABRIC REINFORCEMENT												
													As1			As2		As3		As4		As7		As8	
							W (FT.)	H (FT.)	T+ (IN.)	Tb (IN.)	Ts (IN.)		AREA (IN. <sup>2</sup> /FT.)	LENGTH (FT.)	M (FT.)	AREA (IN. <sup>2</sup> /FT.)	LENGTH (FT.)	AREA (IN. <sup>2</sup> /FT.)	LENGTH (FT.)	AREA (IN. <sup>2</sup> /FT.)	LENGTH (FT.)	AREA (IN. <sup>2</sup> /FT.)	LENGTH (FT.)	AREA (IN. <sup>2</sup> /FT.)	LENGTH (FT.)
STA. 208+16 CSAH 22	10'x6'	2	5000	3-7	NO	NO	10	6	9	10	8	4200	0.45	12'-8"	2'-10"	0.56	10'-6"	0.59	10'-6"	0.20	6'-6"	0.24	8'-3"	0.24	8'-3"

\* ALL CLASS 1 CULVERTS WITH FILL HEIGHTS OF LESS THAN 2'-0" REQUIRE A DISTRIBUTION SLAB. IF A DISTRIBUTION SLAB IS NOT REQUIRED, INDICATE "NO" IN THIS BOX.

\*\* FOR PEDESTRIAN CULVERT APPLICATIONS HIDE-AWAY OR RECESSED TIE CONNECTIONS ARE REQUIRED, SEE MnDOT STANDARD PLATE 3145F. IF REQUIRED, INDICATE "YES" IN THIS BOX.

\*\*\* BOX CULVERTS WITH SPANS FROM 6 TO 14 FT. ARE DESIGNED FOR HL-93 LIVE LOADS (AASHTO LRFD 3.6.2.1) NOT INCLUDING THE DESIGN LANE LOAD. BOXES WITH SPANS OF 16 FT. ARE DESIGNED FOR HL-93 LIVE LOADS INCLUDING THE DESIGN LANE LOAD.

REVISION:  
APPROVED: MARCH 24, 2011  
*Nancy E. Black*  
STATE BRIDGE ENGINEER

MODIFIED

S.A.P. 002-622-032 (CSAH 22) STA. 208+16.00

FIG. 5-395.101(A)

CERTIFIED BY *Casey E. Black*  
REG. NO. 49163 2/11 2013

TITLE:

BARREL DETAILS

DES: CEB  
CHK: KLS

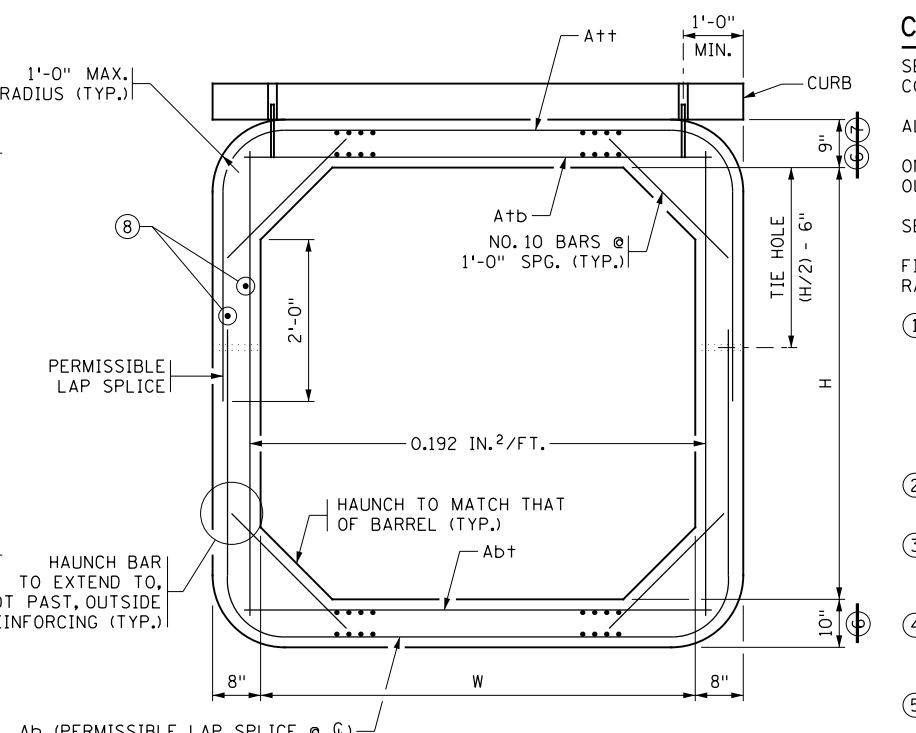
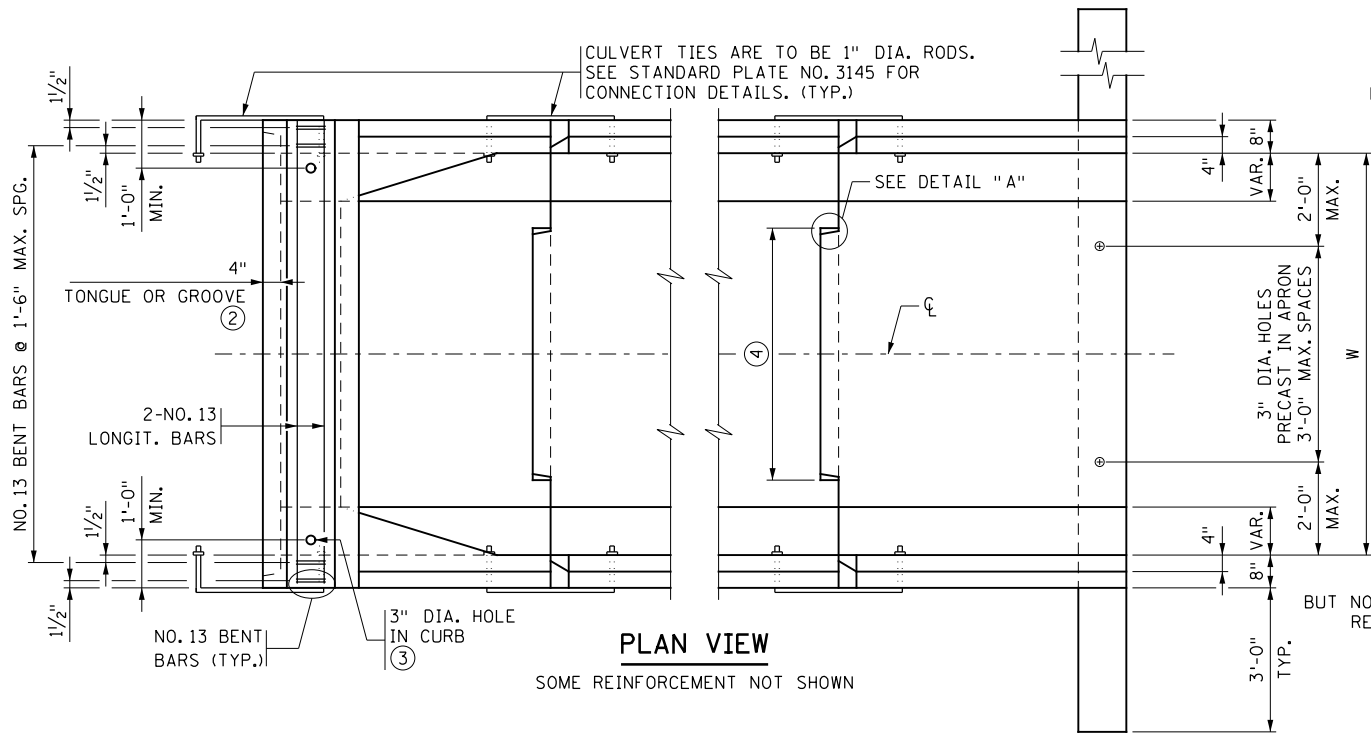
DR: JEH  
CHK: CEB

APPROVED:

CEB

SHEET NO. 59 OF 106 SHEETS

BRIDGE NO. 02J46



## CONSTRUCTION NOTES

SEE FIG. 5-395.101(A) AND FIG. 5-395.101(B) FOR ADDITIONAL DIMENSIONS AND CONSTRUCTION NOTES.

ALL END SECTIONS REQUIRE CURB ON LINTEL BEAM.

ON ALL END SECTIONS FOR WATERWAYS, USE DROPWALLS ON INLET AND OUTLET ENDS.

SEE FIG. 5-395.115 FOR EMBANKMENT PROTECTION.

FINISH ALL EXPOSED EDGES OF CONCRETE WITH  $\frac{1}{2}$ " OR  $\frac{3}{4}$ " CHAMFER OR RADIUS UNLESS OTHERWISE NOTED.

① WITH DOUBLE BOXES LOCATE DROPWALL JOINTS BETWEEN END SECTIONS. SEE FIG. 5-395.111 FOR ALTERNATE DROPWALLS. LIMITS OF EXCAVATION FOR DROPWALL TO BE APPROXIMATELY THE SAME AS DROPWALL DIMENSIONS. DROPWALL TO BE CONCRETE MIX NO. 1A43 OR MIX NO. 3Y43. FURNISHING AND INSTALLATION OF DROPWALL TO BE INCLUDED IN PRICE BID FOR END SECTIONS. ~~DROPWALL NOT REQUIRED FOR NON WATERWAY USE.~~

② CHECK LOCATION TO DETERMINE WHETHER A TONGUE OR A GROOVE IS USED.

③ FILL HOLE WITH GROUT. GROUT SHALL CONSIST OF 1 PART CEMENT AND 2 PARTS SAND. USE TYPE 1A AIR ENTRAINED PORTLAND CEMENT. GROUT MIX SHALL HAVE A MAXIMUM SLUMP OF 4".

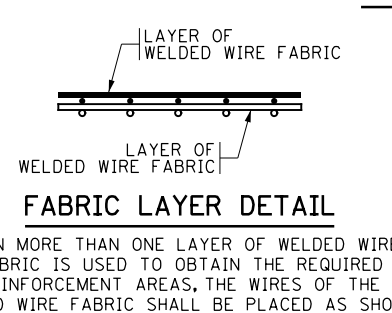
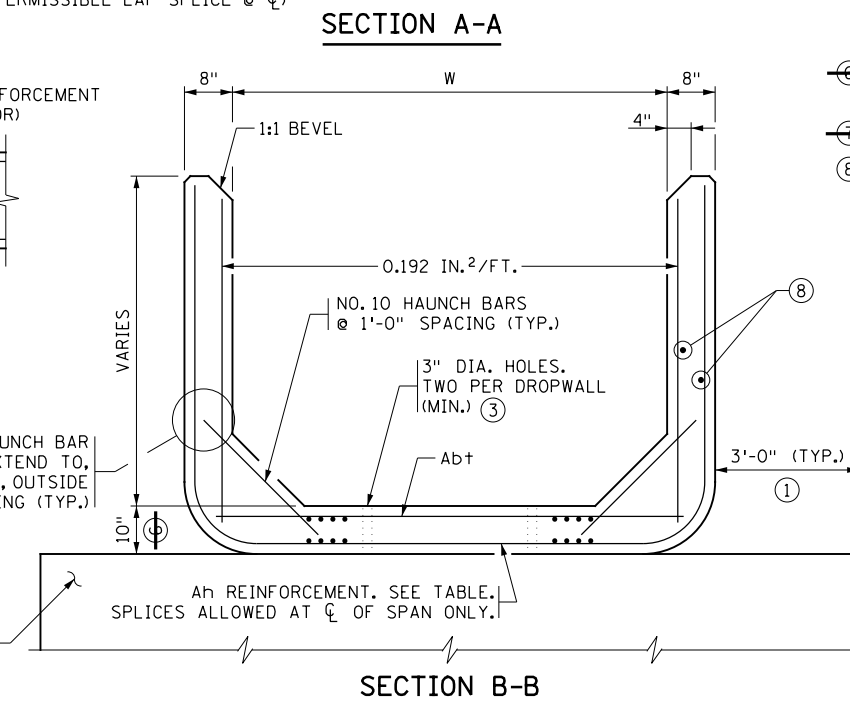
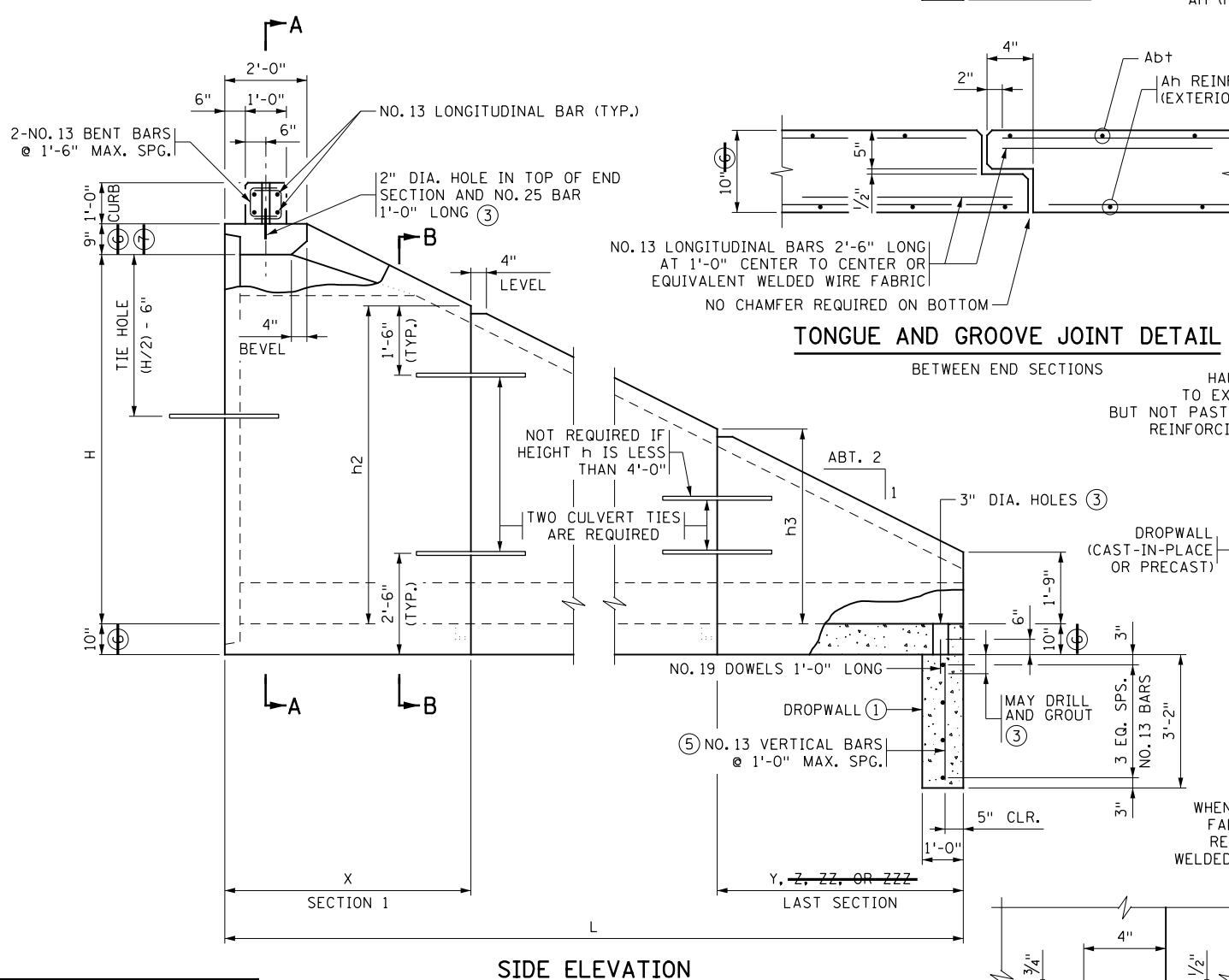
④ ~~3'-6" TONGUE AND 3'-7" GROOVE FOR 6'-0" WIDE CULVERTS. 5'-0" TONGUE AND 5'-1" GROOVE FOR CULVERTS OVER 6'-0" WIDE. CENTER TONGUE AND GROOVE ON  $\phi$  OF EACH APRON JOINT.~~

⑤ AS AN ALTERNATE TO THE ONE LAYER WELDED WIRE FABRIC, PROVIDE TWO LAYERS OF REBAR OR WELDED WIRE FABRIC WITH THE STEEL AREA EQUAL TO HALF OF THE TEMPERATURE STEEL PER CODE REQUIREMENTS IN EACH FACE OF THE DROPWALL.

~~⑥ APRON TOP AND BOTTOM SLAB THICKNESS MAY BE 8" FOR CULVERTS WITH 6' SPANS ONLY.~~

~~⑦ 10" MINIMUM TOP SLAB FOR 14' AND 16' SPANS.~~

⑧ LONGITUDINAL REINFORCEMENT PERPENDICULAR TO THE CULVERT SPAN SHALL HAVE A MINIMUM OF 0.06 SQUARE INCHES PER PERIPHERAL FOOT ON ALL FACES OF THE BARREL.



## A+t, A+b REINFORCEMENT

WIDTH (FT.)	A+t (IN <sup>2</sup> /FT.)	A+b (IN <sup>2</sup> /FT.)
6	0.27	0.44
8	0.47	0.60
10	0.62	0.74
12	0.80	1.06
14	1.20	1.50
16	1.52	2.09

## NO. 13 BENT BAR

Abt REINFORCEMENT	
WIDTH (FT.)	Abt (IN <sup>2</sup> /FT.)
6-10	0.20
12	0.30
14	0.39
16	0.39

## APRON DIMENSIONS & Ah REINFORCEMENT

H FT.	L FT.	SECTION 1 X	h2	SECTION 2 Y	h3	SECTION 3 Z	h4	SECTION 4 ZZ	h5	SECTION 5 ZZZ	h6
4	8	0.192	1'-9"								
5	10	0.192	3'-9"	4'	0.192	1'-9"					
6	12	0.192	4'-9"	6'	0.192	1'-9"					
7	14	0.192	5'-9"	8'	0.192	1'-9"					
8	16	0.20	6'-9"	6'	0.192	3'-9"	4'	0.192	1'-9"		
9	18	0.29	7'-9"	6'	0.20	4'-9"	6'	0.192	1'-9"		
10	20	0.42	8'-9"	6'	0.29	5'-9"	8'	0.192	1'-9"		
11	22	0.60	9'-9"	6'	0.42	6'-9"	6'	0.192	3'-9"	4'	0.192
12	24	0.70	10'-9"	6'	0.60	7'-9"	6'	0.20	4'-9"	6'	0.192
13	26	1.03	11'-9"	6'	0.70	8'-9"	6'	0.28	5'-9"	8'	0.192
14	28	1.38	12'-9"	6'	1.03	9'-9"	6'	0.40	6'-9"	6'	0.192

NOTE: Ah IS AREA OF REINFORCEMENT PER FOOT OF LENGTH (IN<sup>2</sup>/FT.)

MODIFIED

S.A.P. 002-622-032 (CSAH 22) STA. 208+16.00

FIG. 5-395.102

REVISION:

APPROVED: MARCH 24, 2011

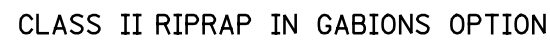
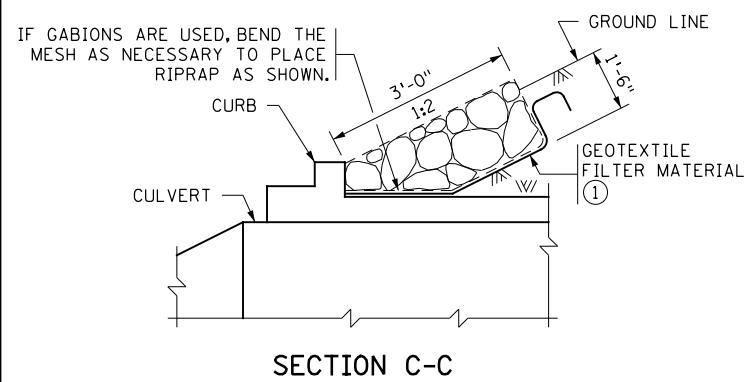
Nancy A. Subenberger  
STATE BRIDGE ENGINEER

TITLE: PRECAST CONCRETE END SECTION  
TYPE I - SINGLE OR DOUBLE BARREL  
FOR SKEWS UP TO 7 1/2°

DES: CEB  
CHK: KLS  
DR: JEH  
CHK: CEB  
APPROVED: CEB

BRIDGE NO.  
02J46

SHEET NO. 60 OF 106 SHEETS



① FOR TYPE OF GEOTEXTILE FILTER MATERIAL REQUIRED, SEE Mn/DOT SPEC. 3733. GEOTEXTILE STRIPS SHOULD BE CONTINUOUS WITHOUT OVERLAPS, EXCEPT FOR THE TOP STRIP, WHICH SHOULD SHINGLE VERTICAL STRIPS. THE TOP EDGE SHOULD BE BURIED TO PREVENT UNDERMINING (Mn/DOT SPEC. 2511.3B).

REVISION:

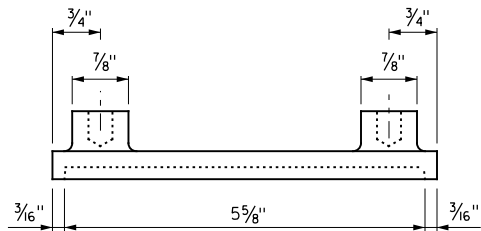
APPROVED: MARCH 24, 2011

*Nancy Dubenberger*

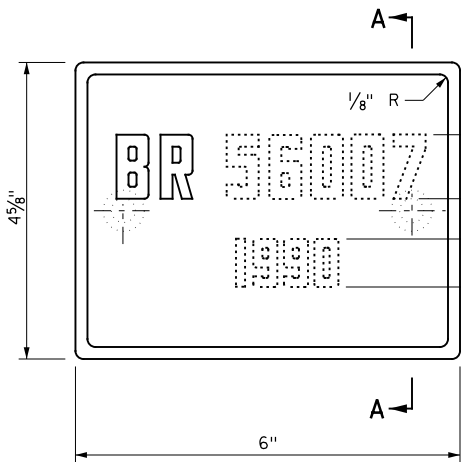
STATE BRIDGE ENGINEER

S.A.P. 002-622-032 (CSAH 22) STA. 208+16.00				FIG. 5-395.115	
	TITLE:  EMBANKMENT PROTECTION FOR BOX CULVERTS	DES: CEB	DR: JEH	APPROVED: CEB	BRIDGE NO.  02J46
		CHK: KLS	CHK: CEB		
		SHEET NO. 61 OF 106 SHEETS			

11/11/2013 11:33:32 AM  
C:\Users\user\AppData\Local\Temp\7899\7899\_det03.dgn

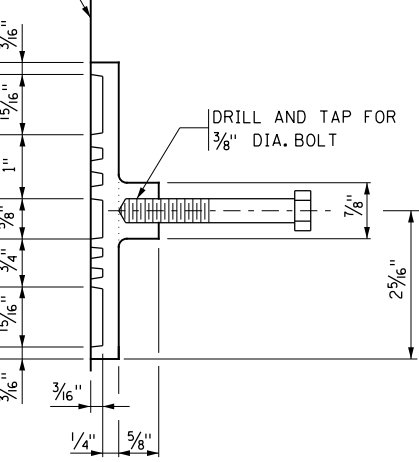


PLAN VIEW



ELEVATION

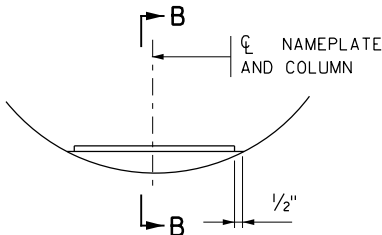
SET NAMEPLATE FLUSH WITH SURFACE OF CONCRETE EXCEPT AT ROUND COLUMNS FOR PIERS.



SECTION A-A

THE DASHED NUMBERS SHOWN ABOVE ARE FOR ILLUSTRATION. DATA TO BE SHOWN ON NAMEPLATE IS AS FOLLOWS:

BRIDGE 02J46  
YEAR 2013



NAMEPLATE PLACEMENT

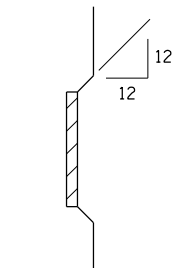
(ROUND CONCRETE PIER COLUMNS)



NUMBERS FOR NAMEPLATE

NOTES:

- NO SHOP DRAWING REQUIRED.
- MATERIAL SHALL COMPLY WITH Mn/DOT SPEC. 3327.
- LETTERS AND NUMBERS SHALL CONFORM TO THOSE SHOWN.
- DRAFT ON LETTERS AND NUMBERS SHALL NOT BE MORE THAN 3" IN 12".
- HORIZONTAL SPACING OF LETTERS AND NUMBERS SHALL PRODUCE A BALANCED LAYOUT IN PROPORTION TO SPACING SHOWN.
- TOP SURFACE OF LETTERS, NUMBERS AND FRAMES SHALL BE BURNISHED.
- FURNISH 2 STEEL BOLTS 3/4" DIA. x 3" LONG WITH EACH PLATE.
- ALL DIMENSIONS FOR 3/4" HIGH LETTERS AND NUMBERS SHALL BE IN DIRECT PROPORTION TO THOSE SHOWN FOR THE 1" HIGH LETTERS AND NUMBERS.



SECTION B-B

APPROVED: NOVEMBER 22, 2002

STATE OF MINNESOTA  
DEPARTMENT OF TRANSPORTATION

REVISION

DETAIL NO.

*Daniel J. Morgan*  
STATE BRIDGE ENGINEER

BRIDGE NAMEPLATE  
(FOR NEW BRIDGES)

B101

NO	DATE	BY	CKD	APPR	REVISION
1	2/11/13	CEB	KLS	CEB	RELEASED FOR CONSTRUCTION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Print Name: CASEY E. BLACK

Date 2/11/13 License # 49163

STATE AID PROJECT NO.  
002-622-032

BRIDGE NO.  
**02J46**

DRAWN BY  
J. HOFFMAN

DESIGNED BY  
C. BLACK

CHECKED BY  
K. SWEHLA

COMM. NO. 0127899



ENGINEERS  
PLANNERS  
DESIGNERS

ANOKA COUNTY

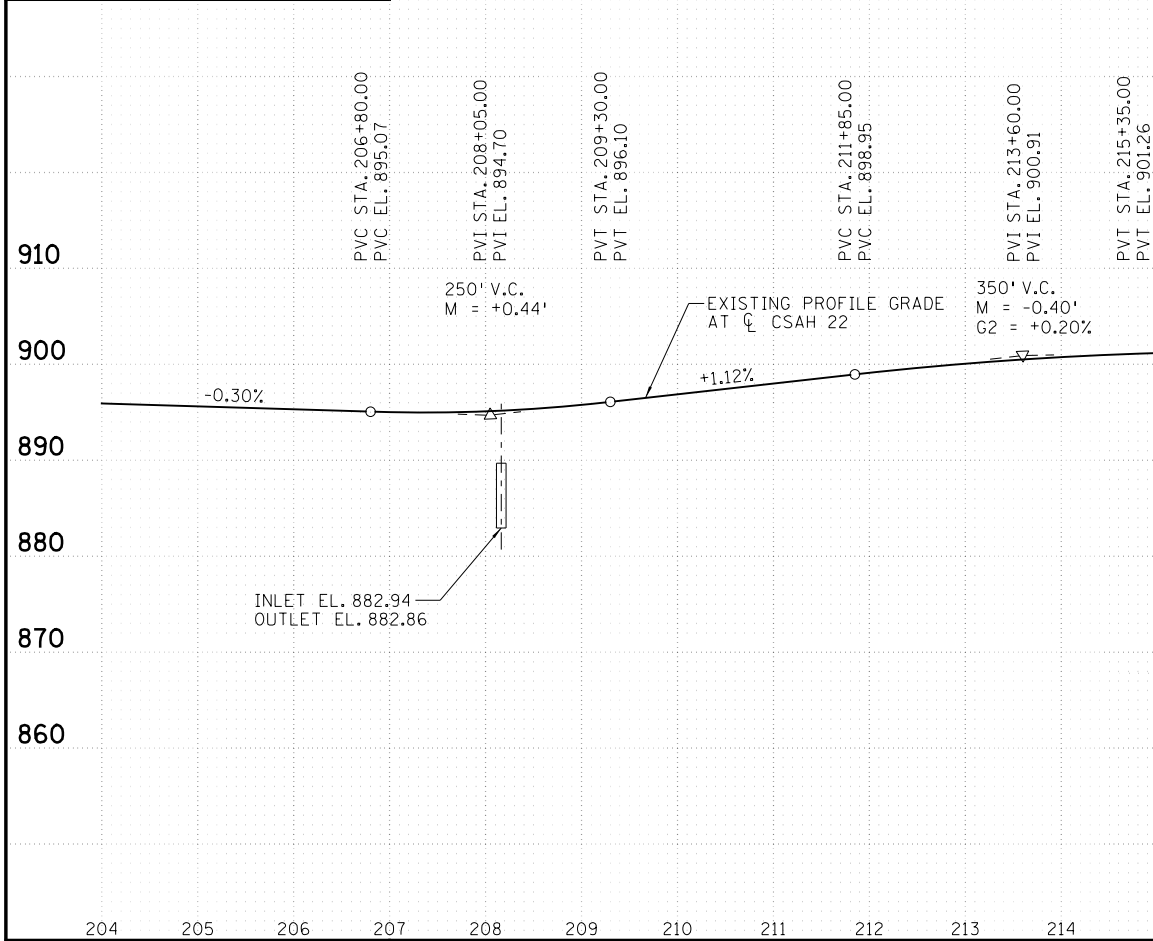
CROOKED BROOK CULVERT REPLACEMENT  
BRIDGE DETAILS

SHEET  
62  
OF  
106

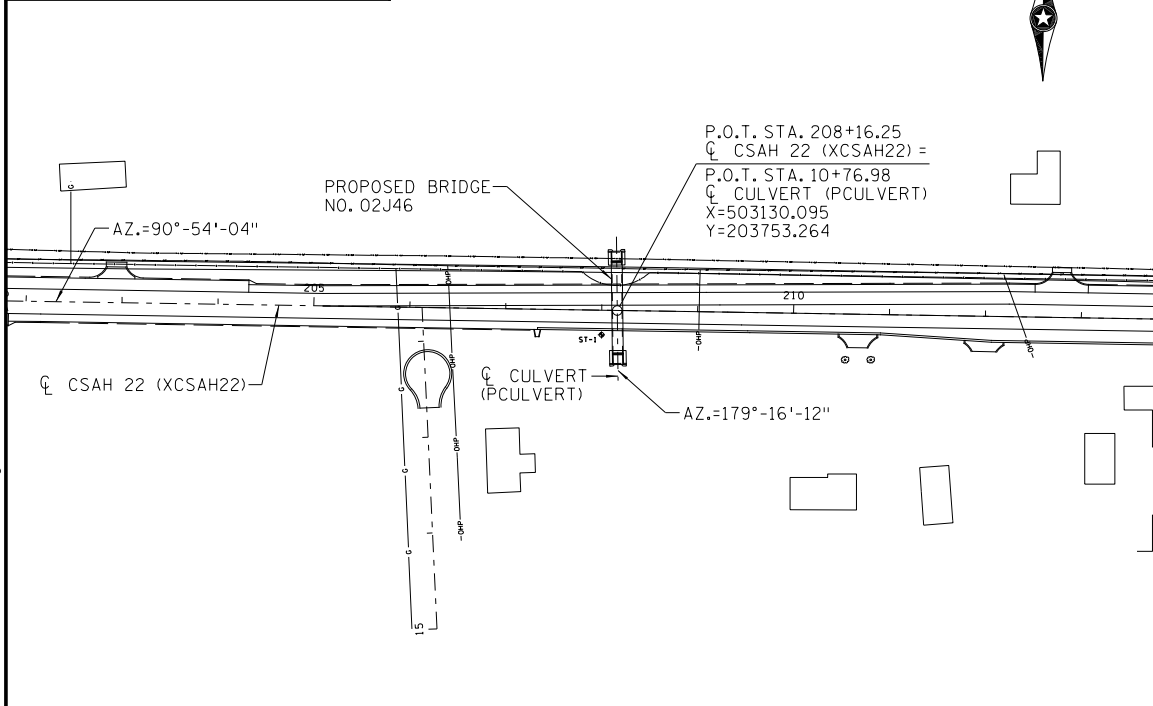


CONTRACTED PROFILE  
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HORIZONTAL VERTICAL

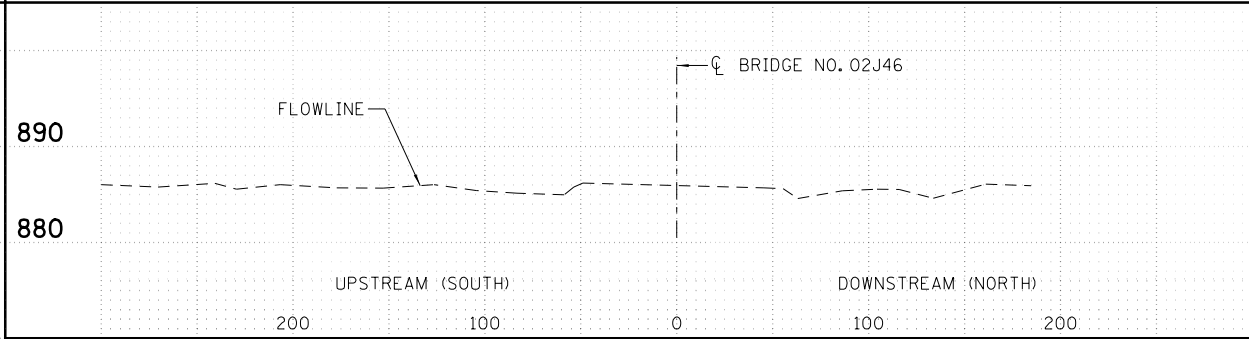
CSAH 22 (XCSAH22)



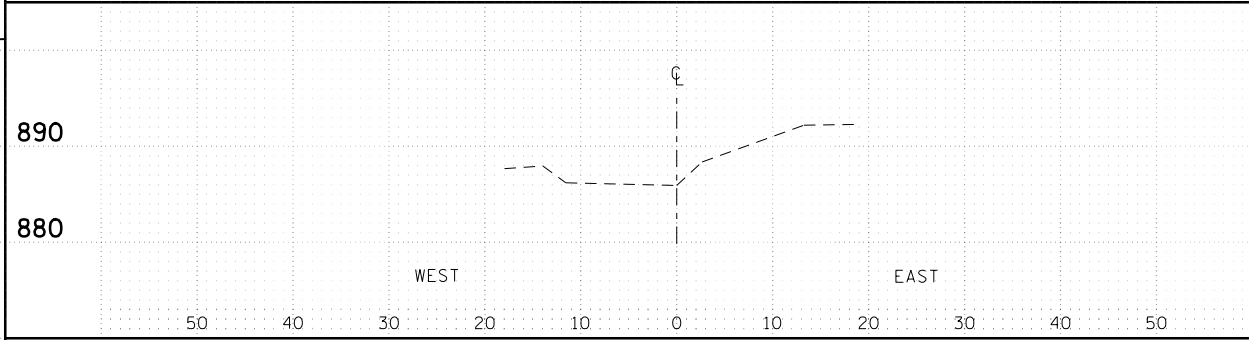
PLAT  
SCALE : 0 50' 100'



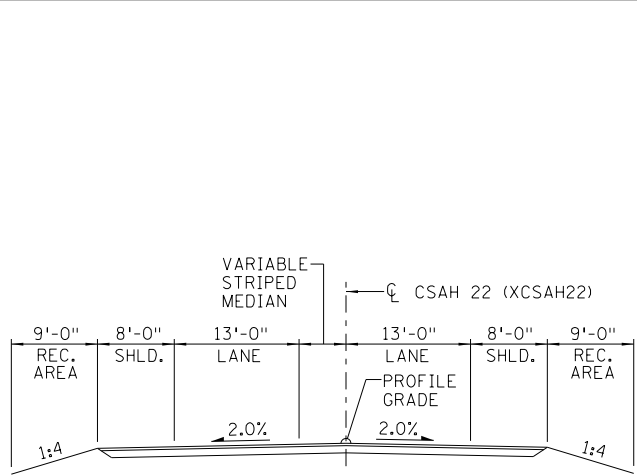
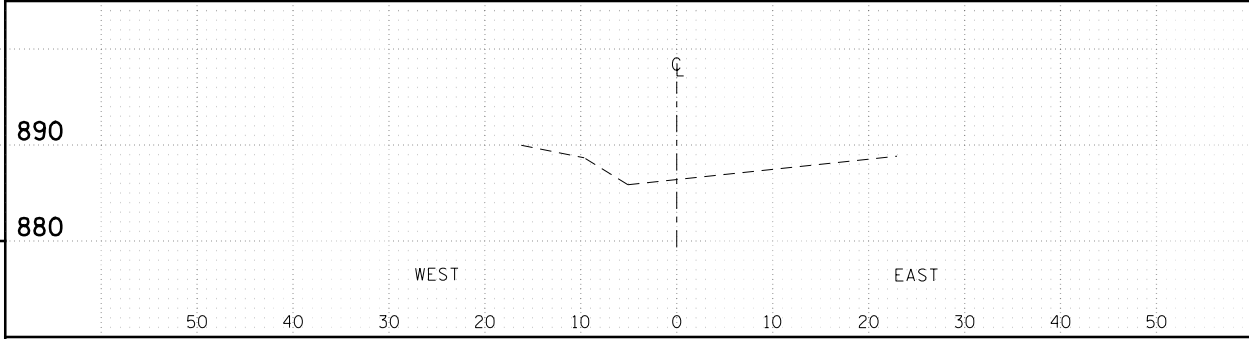
CHANNEL PROFILE



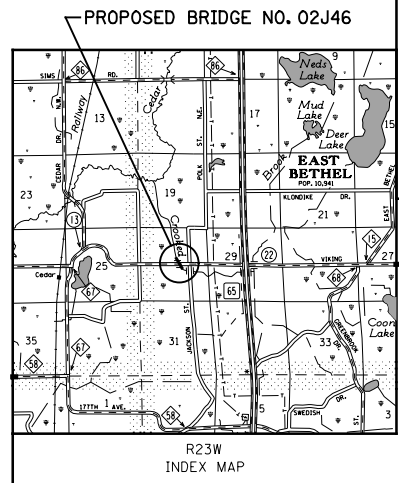
X-SECTION 185' DOWNSTREAM



X-SECTION 285' UPSTREAM



TYPICAL APPROACH SECTION



LOCATION ENGINEER'S OBSERVATIONS  
AT BRIDGE SITE

- SPECIAL FEATURES: WATERFALLS, DAMS, FLOODS, ICE, DEBRIS, SLIDING BANKS, RECREATIONAL BOATING.
- OTHER BRIDGES OR CULVERTS OVER THE SAME STREAM (PARTICULARLY STRUCTURES WHICH CARRY HIGH WATER WITHOUT OVERFLOW OF ROADWAY): GIVEN LOCATION, TYPE, LENGTH, HEIGHT ABOVE HIGH WATER, CROSS-SECTIONAL AREA ETC.
- APPARENT HIGHWATER ELEVATION OBTAINED FROM:
- OTHER DATA: APPROX. VELOCITY OF WATER AT TIME OF SURVEY. N/A

HYDRAULIC ENGINEERS RECOMMENDATION

DATE 12-14-2012  
STREAM OR DITCH DESIGNATION CROOKED BROOK  
DRAINAGE AREA 14.9 SQ. MI.  
MAX. FLOOD ON RECORD N/A  
MAXIMUM OBSERVED HIGHWATER ELEVATION N/A  
DESIGN FLOOD (50 YR. FREQ.) 198 C.F.S.  
HEADWATER ELEVATION 888.84 FT.  
DESIGN MEAN VELOCITY THROUGH STRUCTURE 3.5 F.P.S.  
TOTAL STAGE INCREASE 0.25 FT.  
LOW MEMBER AT OR ABOVE ELEVATION 888.94 FT.  
WATERWAY AREA REQUIRED BELOW ELEVATION 888.94 = 60 SQ.FT. AT RIGHT ANGLES TO CHANNEL  
BASIC FLOOD (100 YR. FREQ.) 231 C.F.S.  
HEADWATER ELEVATION 889.15 FT.  
TOTAL STAGE INCREASE 0.32 FT.  
MEAN VELOCITY THROUGH STRUCTURE 3.9 F.P.S.  
FLOWLINE ELEVATION 886.94 SKEW ANGLE N/A  
ESTIMATED DEPTH OF PIER SCOUR = N/A FT.

SCOUR CONFIRMATION RECOMMENDATION

DATE  
TOTAL SCOUR AT PIER EL. (500 OR 60 YR. FREQ.)  
SCOUR CODE =

BRIDGE SURVEY SHEETS MADE FROM : SURVEY DATA PROVIDED BY ANOKA COUNTY

BENCH MARK ELEVATION 902.38 (NGVD 29)  
LOCATION RAILROAD SPIKE IN POWER POLE IN NW QUAD. OF JCT. CSAH 22 AND JACKSON ST.  
2nd BENCH MARK ELEVATION 896.16 (NGVD 29)  
LOCATION MnDOT BENCH MARK #899 IN TH 65 MEDIAN N OF CSAH 22.



MINNESOTA  
DEPARTMENT OF TRANSPORTATION  
BRIDGE SURVEY  
AT MILE POINT ON C.S.A.H. 22 (T.H. C.S.A.H., C.R., etc.)  
PROPOSED BRIDGE LOCATED 750 FEET WEST OF JCT. CSAH 22 AND JACKSON ST. NE  
SEC 30 TWP. T33N R 23W  
CITY EAST BETHEL COUNTY ANOKA

1	2/11/13	CEB	KLS	CEB	RELEASED FOR CONSTRUCTION
NO	DATE	BY	CKD	APPR	REVISION
...	...	...	...	...	...

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.  
Print Name: CASEY E. BLACK  
Date 2/11/13 License # 49163

STATE AID PROJECT NO. 002-622-032  
BRIDGE NO. 02J46

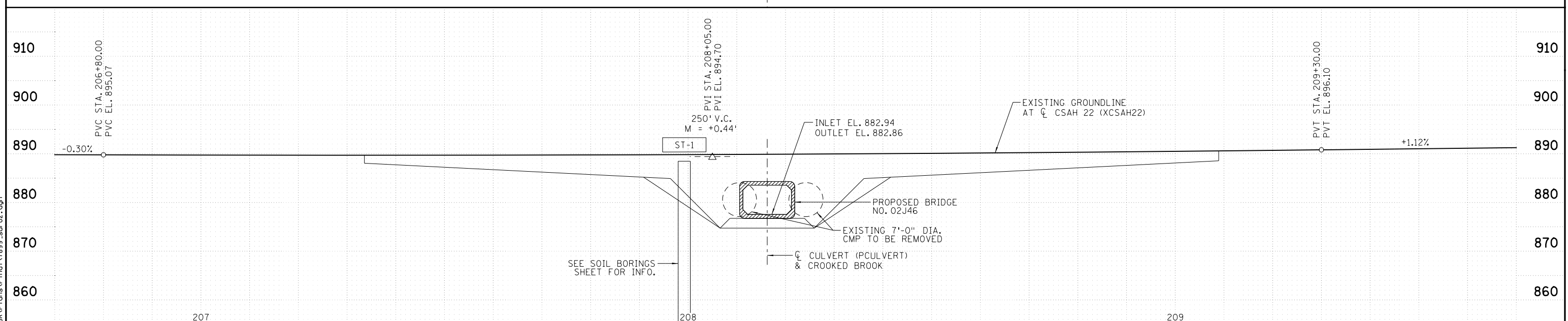
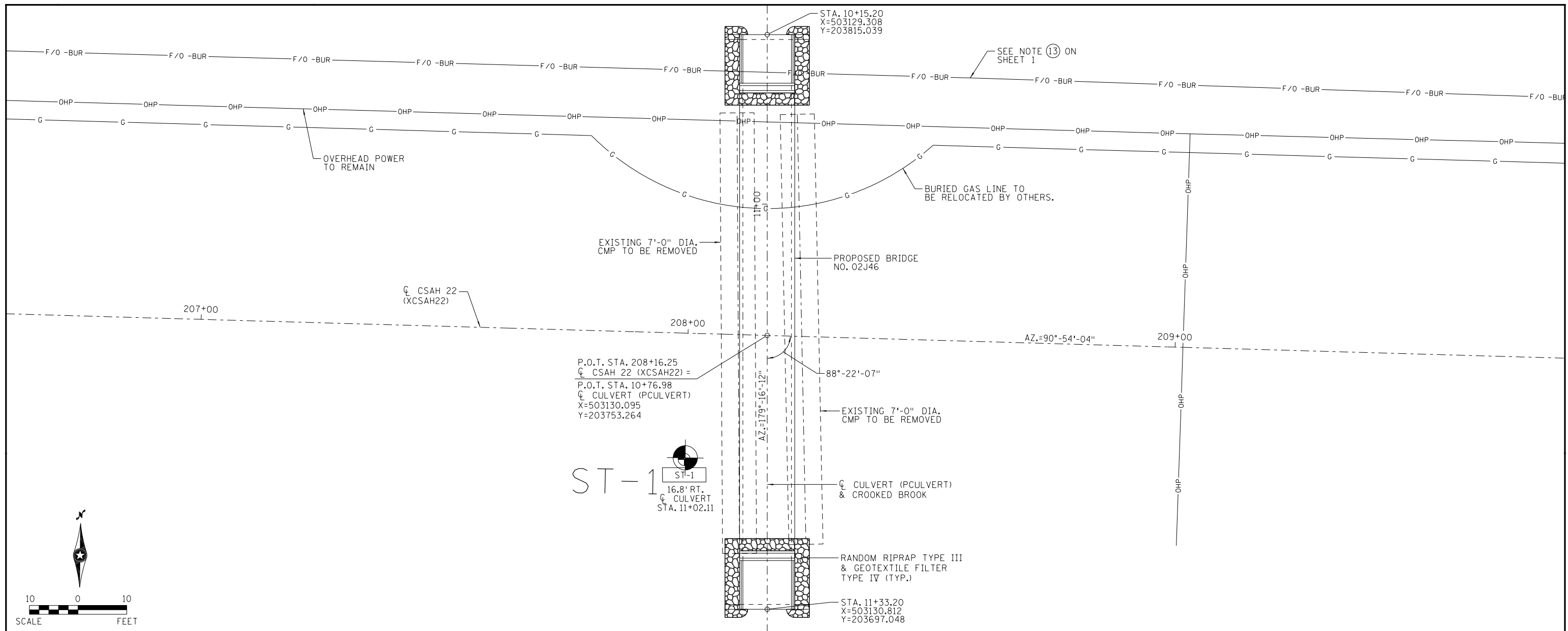
DRAWN BY J. HOFFMAN  
DESIGNED BY C. BLACK  
CHECKED BY K. SWEHLA  
COMM. NO. 0127899

SRF  
Consulting Group, Inc.  
ENGINEERS  
PLANNERS  
DESIGNERS

ANOKA COUNTY  
CROOKED BROOK CULVERT REPLACEMENT  
BRIDGE SURVEY

SHEET 63 OF 106

9:33:33 AM  
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1	2/11/13	CEB	KLS	CEB	RELEASED FOR CONSTRUCTION
NO	DATE	BY	CKD	APPR	REVISION
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Print Name: CASEY E. BLACK

*Casey E. Black*

Date 2/11/13 License # 49163

STATE AID PROJECT NO. 002-622-032
BRIDGE NO. <u>02J46</u>

DRAWN BY J. HOFFMAN
DESIGNED BY C. BLACK
CHECKED BY K. SWEHLA
COMM. NO. 012789



**E**NGINEERS  
**P**LANNERS  
**D**ESIGNERS

ANOKA COUNTY	
CROOKED BROOK CULVERT REPLACEMENT BRIDGE SURVEY PLAN & PROFILE	



1	2/11/13	CEB	KLS	CEB	RELEASED FOR CONSTRUCTION
NO	DATE	BY	CKD	APPR	REVISION

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Date 2/11/13 License # 49163

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002-622-032

BRIDGE NO.  
**02J46**

DRAWN BY  
J. HOFFMAN

DESIGNED BY  
C. BLACK

CHECKED BY  
K. SWEHLA

COMM. NO. 0127899



ENGINEERS  
PLANNERS  
DESIGNERS

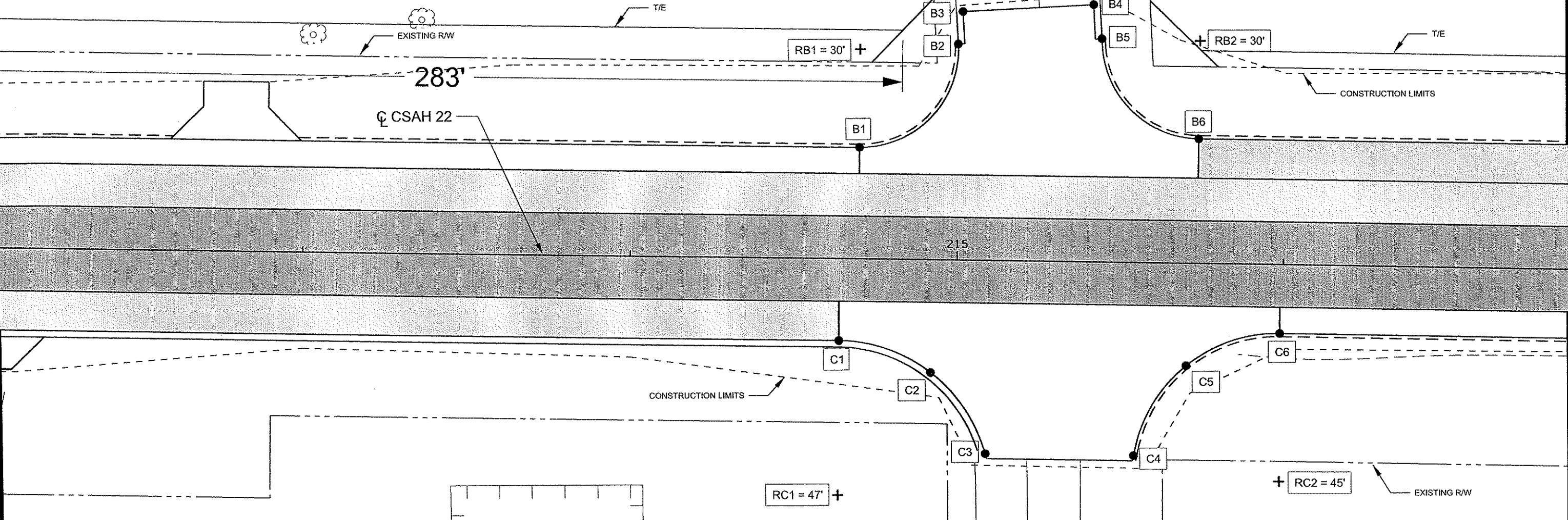
ANOKA COUNTY

CROOKED BROOK CULVERT REPLACEMENT  
SOIL BORINGS

SHEET  
65  
OF  
106



JACKSON STREET NE NORTH							
POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	SLOPE %	FROM - TO	DESCRIPTION
RB1	CSAH 22	214+69.75	64.0' LT	-			RADIUS POINT
B1	CSAH 22	214+69.75	34.0' LT	900.16			BEGIN RADIUS
B2	CSAH 22	214+99.68	65.9' LT	900.42	2.50	B1- B2	END RADIUS
B3	CSAH 22	214+99.03	75.8' LT	901.65	2.50	B2- B3	MATCH POINT
B4	CSAH 22	215+42.99	78.7' LT	901.68			BEGIN RADIUS
B5	CSAH 22	215+43.62	68.2' LT	901.62	-0.59	B4- B5	END RADIUS
B6	CSAH 22	215+73.64	38.0' LT	901.35	-0.59	B5- B6	MATCH POINT
RB2	CSAH 22	215+73.680	68.0' LT	-			RADIUS POINT



JACKSON STREET NE SOUTH							
POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	SLOPE %	FROM - TO	DESCRIPTION
RC1	CSAH 22	214+63.83	72.00' RT	-			RADIUS POINT
C1	CSAH 22	214+63.83	25.00' RT	900.49			BEGIN RADIUS
C2	CSAH 22	214+92.06	34.42' RT	899.82	-2.21		MIDPOINT
C3	CSAH 22	215+08.97	58.90' RT	899.15	-2.21	C2- C3	END RADIUS
C4	CSAH 22	215+54.83	57.23' RT	899.33			BEGIN RADIUS
C5	CSAH 22	215+70.43	31.22' RT	900.08	2.41	C4- C5	MIDPOINT
C6	CSAH 22	215+98.98	21.00' RT	900.82	2.41	C5- C6	END RADIUS
RC2	CSAH 22	215+98.98	66.00' RT	-			RADIUS POINT

NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-622-32\plan\0262232-4IN2.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: CURT A. KOBLARCSIK

SIGNATURE: *Curt A. Koblarczik*

DATE: 2-7-13

LICENSE NO. 24756

DRAWN BY: ZDC

DESIGN BY: NJD

CHECKED BY: GMP

DATE: 12-07-12

ANOKA COUNTY

HIGHWAY DEPT.

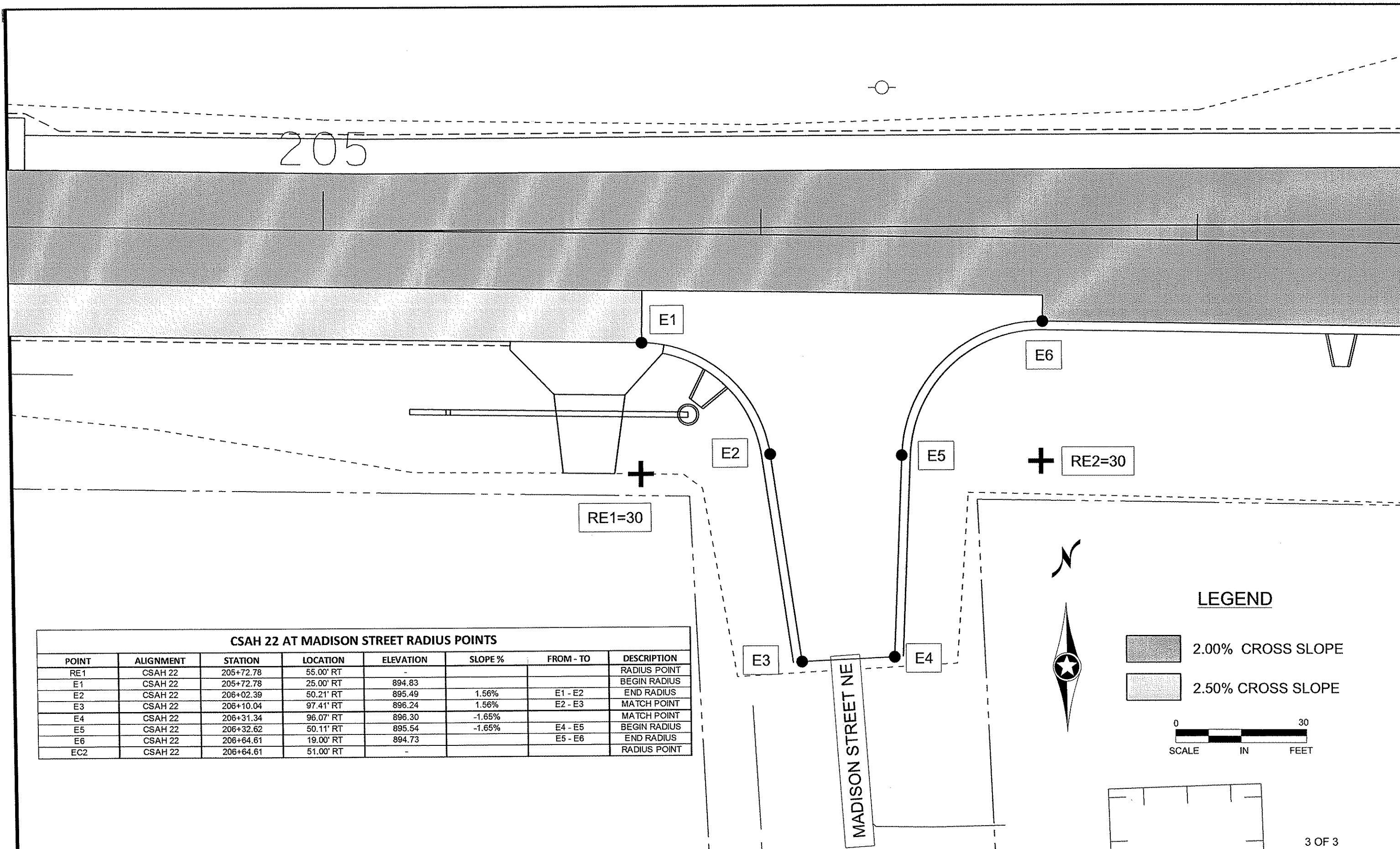
SAP 002-622-032

INTERSECTION DETAILS

JACKSON STREET NE

Sheet 67 of 106 Sheets





CSAH 22 AT MADISON STREET RADIUS POINTS							
POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	SLOPE %	FROM - TO	DESCRIPTION
RE1	CSAH 22	205+72.78	55.00' RT	-			RADIUS POINT
E1	CSAH 22	205+72.78	25.00' RT	894.83			BEGIN RADIUS
E2	CSAH 22	206+02.39	50.21' RT	895.49	1.56%	E1 - E2	END RADIUS
E3	CSAH 22	206+10.04	97.41' RT	896.24	1.56%	E2 - E3	MATCH POINT
E4	CSAH 22	206+31.34	96.07' RT	896.30	-1.65%		MATCH POINT
E5	CSAH 22	206+32.62	50.11' RT	895.54	-1.65%	E4 - E5	BEGIN RADIUS
E6	CSAH 22	206+64.61	19.00' RT	894.73		E5 - E6	END RADIUS
EC2	CSAH 22	206+64.61	51.00' RT	-			RADIUS POINT

LEGEND

- 2.00% CROSS SLOPE
- 2.50% CROSS SLOPE



3 OF 3

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-622-32\Plan\0262232-IN3.dgn					
02/06/2013 10:22:07 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: CURT A. KOBLARCSIK  
SIGNATURE: *[Signature]*  
DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY: ZDC DATE: 12-07-12  
DESIGN BY: NJD DATE: 12-07-12  
CHECKED BY: GMP DATE: 12-07-12



ANOKA COUNTY  
HIGHWAY DEPT.

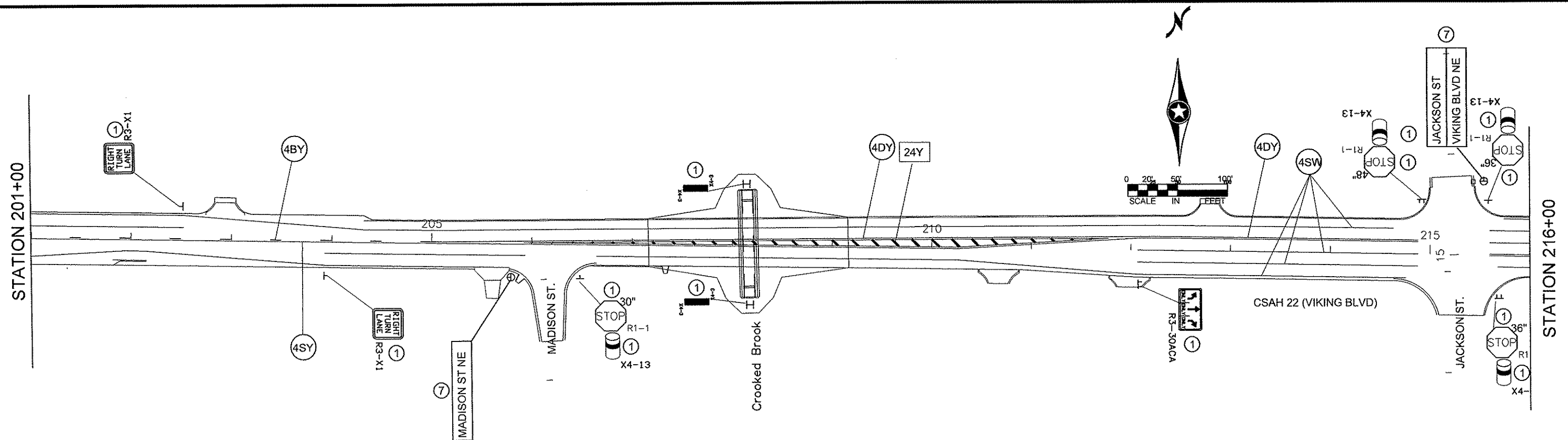
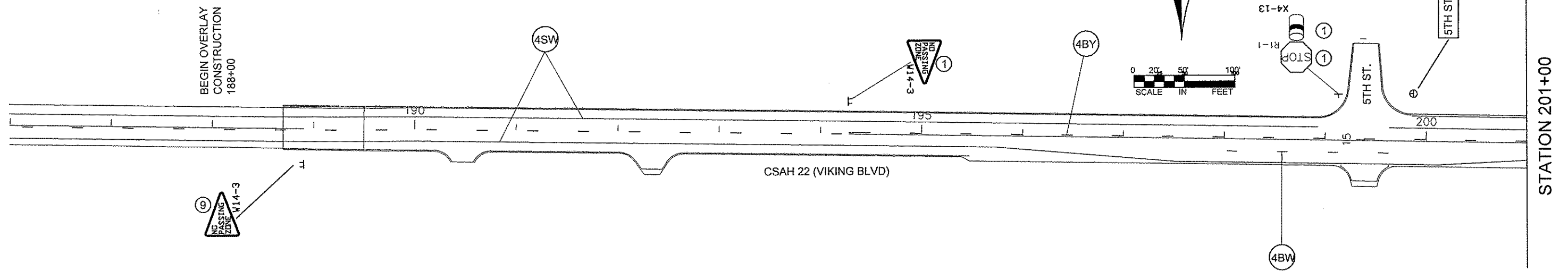
SAP 002-622-032

INTERSECTION DETAIL  
MADISON STREET

Sheet 68 of 106 Sheets

NOTES:

- ① F & I
- ⑦ INSTALL SALVAGED SIGN TYPE SPECIAL
- ⑨ RETAIN INPLACE SIGN



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: CURT A. KOBILARCSIK  
 SIGNATURE: *Curt A. Kobilarsik*  
 DATE: 2-7-13 REG. NO. 24756

DRAWN BY: MTH DATE 08/29/12  
 DESIGN BY: MTH DATE 08/29/12  
 CHECKED BY: JR DATE 11/21/12



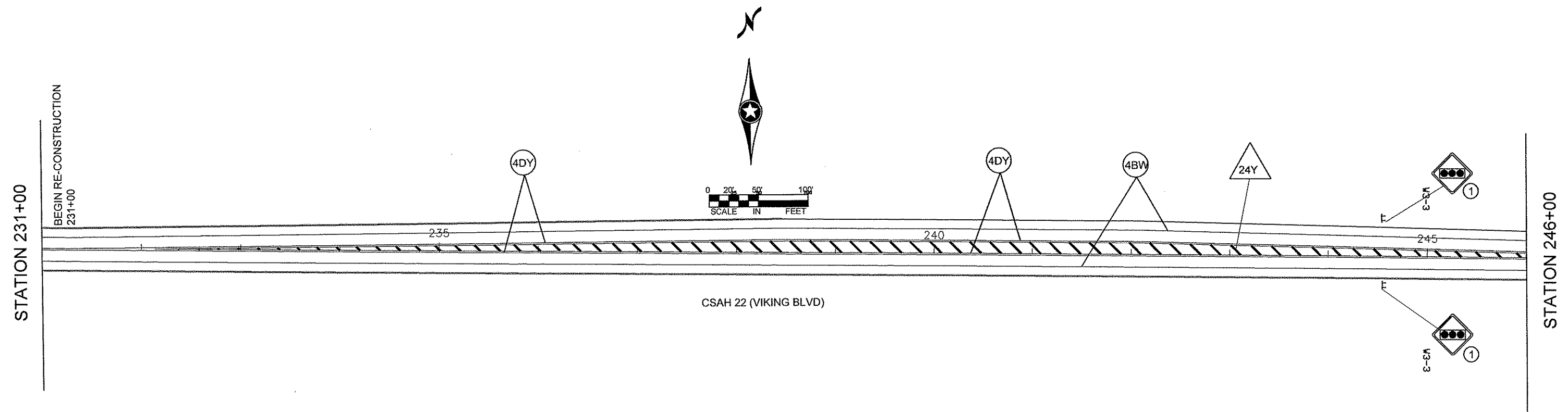
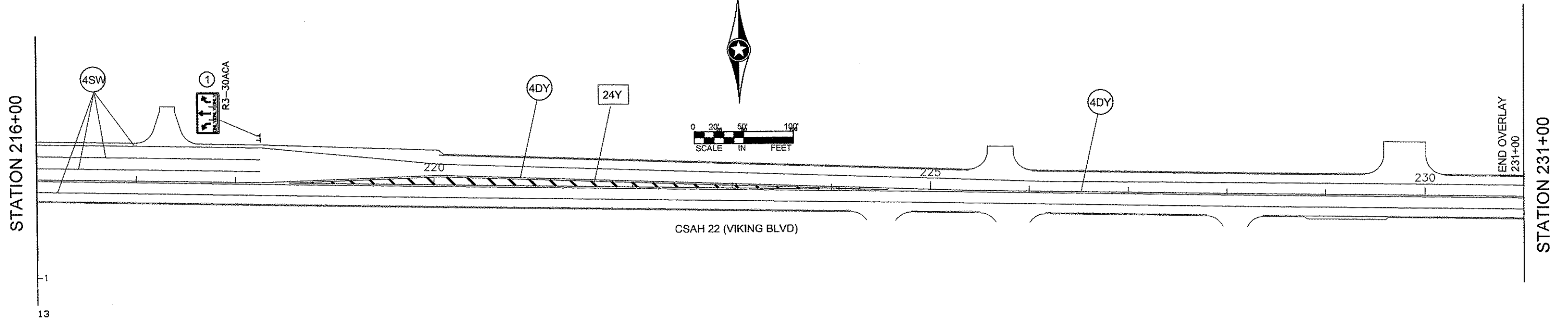
ANOKA COUNTY  
 HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. 002-622-032  
 STATE AID PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. \_\_\_\_\_

PERMANENT SIGNING &  
 STRIPING PLAN  
 Sheet 69 of 106 Sheets



NOTES:  
① F & I



NO	DATE	BY	CKD	APPR	REVISION

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DRAWN BY: MTH DATE 08/29/12  
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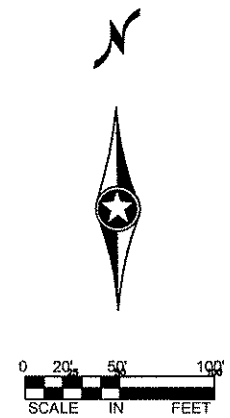
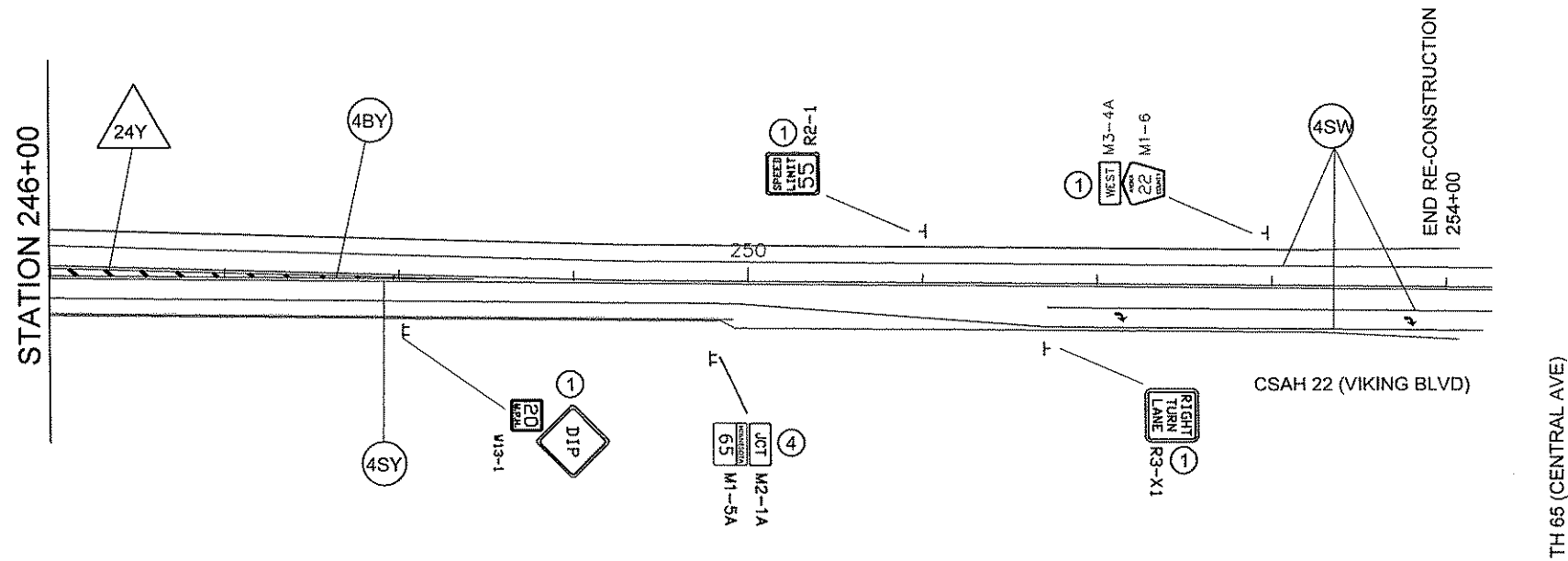
ANOKA COUNTY  
HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_  
STATE AID PROJECT NO. 002-622-032  
STATE AID PROJECT NO. \_\_\_\_\_  
COUNTY PROJECT NO. \_\_\_\_\_

PERMANENT SIGNING &  
STRIPING PLAN  
Sheet 70 of 106 Sheets

NOTES:

- ① F & I
- ④ INSTALL SALVAGED SIGN



<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO</th> <th>DATE</th> <th>BY</th> <th>CKD</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	CKD	APPR	REVISION													<p>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.</p> <p>PRINT NAME: <u>CURT A KOBIARCSIK</u></p> <p>SIGNATURE: <u><i>Curt A. Kobiarsik</i></u></p> <p>DATE: <u>2-7-13</u> REG. NO. <u>24756</u></p>		<p>DRAWN BY <u>MTH</u> DATE <u>08/29/12</u></p> <p>DESIGN BY <u>MTH</u> DATE <u>08/29/12</u></p> <p>CHECKED BY <u>JR</u> DATE <u>11/21/12</u></p>		<div style="text-align: center;">   <b>ANOKA COUNTY</b>  <b>HIGHWAY DEPT.</b> </div>		<p>STATE PROJECT NO. _____</p> <p>STATE AID PROJECT NO. <u>002-622-032</u></p> <p>STATE AID PROJECT NO. _____</p> <p>COUNTY PROJECT NO. _____</p>		<p style="text-align: center;">PERMANENT SIGNING &amp; STRIPING PLAN</p> <p>Sheet <u>71</u> of <u>106</u> Sheets</p>	
NO	DATE	BY	CKD	APPR	REVISION																												

NAME: P:\02-622-32\Baset\TRAFFIC\0262232\_PERMANENT SIGNING & STRIPING.dwg

O	PERMANENT SIGNING TABULATION					
SIGN DESIGNATION	SIGN SIZE	SIZE AREA (FT <sup>2</sup> )	TOTAL INSTALLATIONS	TOTAL AREA (FT <sup>2</sup> )	POSTS PER INSTALLATION	NOTES
R1-1	30" x 30"	6.25	2	12.5	1	
R1-1	36" x 36"	9	2	18	2	
R1-1	48" x 48"	16	1	16	2	
X4-15	4" x 15"	1.31	4		0	A
R2-1	24" x 36"	6	1	6	1	
R3-X1	30" x 30"	6.25	3	18.75	1	
R3-30ACA	54" x 30"	11.25	2	22.5	2	
W3-3	36" x 36"	9	1	9	2	
W3-3	48" x 48"	16	1	16	2	
W8-2	36" x 36"	9	1	9	2	
W13-1	24" x 24"	4	1	4		C
W14-3	48" x 36"	6	1	6	2	
M1-6A	24" x 24"	4	1	4	1	
M3-4A	24" x 12"	2	1	2		B
X4-3	6" x 12"	0.50	4	2.00	1	
Project Totals			26	145.75		

NOTES: THIS TABLE ILLUSTRATES QUANTITIES FOR F& I NEW TYPE "C" SIGNS ONLY  
A DELINEATOR MOUNTED BELOW R1-1 SIGN POST ASSEMBLY  
B SIGN MOUNTED ABOVE M1-6A SIGN POST ASSEMBLY  
C SIGN MOUNTED BELOW W8-2 SIGN POST ASSEMBLY

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
R1-1	30" x 30"		2
R1-1	36" x 36"		2
R1-1	48" x 48"		1
X4-13	4" x 15"		4
R2-1	24" x 36"		1
R3-X1	30" x 30"		3
R3-30ACA	48" x 48"		2
W3-3	36" x 36"		1
W3-3	48" x 48"		1
W8-2	36" x 36"		1
W13-1	24" x 24"		1
W14-3	36" x 48"		1
M3-4A	24" x 12"		1
M1-6	24" x 24"		1
X4-3	6" x 12"		4

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  $\frac{1}{4}$  INCH UNDER OR  $\frac{1}{4}$  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 EPOLY 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 APPLICAITON 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

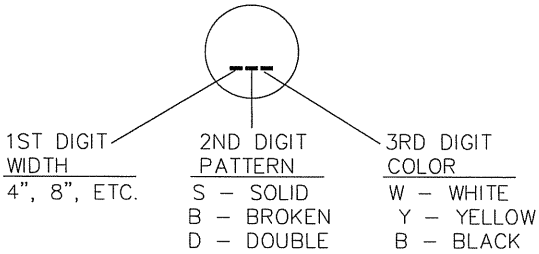
↩ PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

STRIPING KEY

○ CIRCLE - EPOXY    □ SQUARE - PREFORMED THERMOPLASTIC

△ TRIANGLE - PAINT

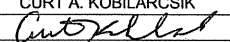
⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



EXAMPLE: (4SW) = 4" SOLID LINE WHITE - EPOXY

N PERMANENT & TEMPORARY PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
PAVEMENT MESSAGE (RT ARROW) PREFORMED THERMOPLASTIC	EACH	2
24" SOLID LINE YELLOW - PREFORMED THERMOPLASTIC	LIN FT	331
4" SOLID LINE WHITE - EPOXY	LIN FT	14800
4" BROKEN LINE WHITE - EPOXY (10' STRIPE, 40' SKIP)	LIN FT	40
4" SOLID LINE YELLOW - EPOXY	LIN FT	1080
4" BROKEN LINE YELLOW - EPOXY (10' STRIPE, 40' SKIP)	LIN FT	300
4" DOUBLE SOLID LINE YELLOW - EPOXY	LIN FT	7282

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-622-32\Bose\Traffic\0262232_Perm Pvmnt Marking Plan.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: CURT A. KOBILARCSIK  
SIGNATURE:   
DATE: 2-11-13 LICENSE NO. 24756

DRAWN BY MTH DATE 9/04/12  
DESIGN BY MTH DATE 5/07/12  
CHECKED BY JR DATE 11/21/12

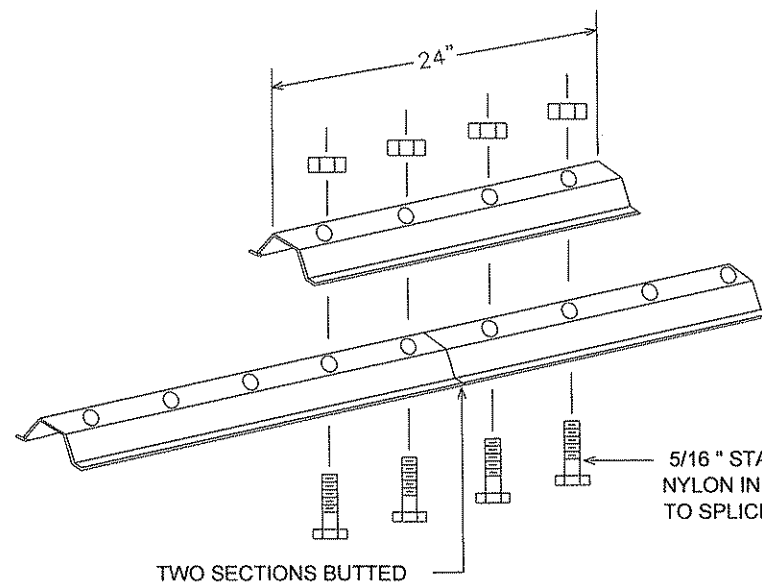


ANOKA COUNTY  
HIGHWAY DEPT.

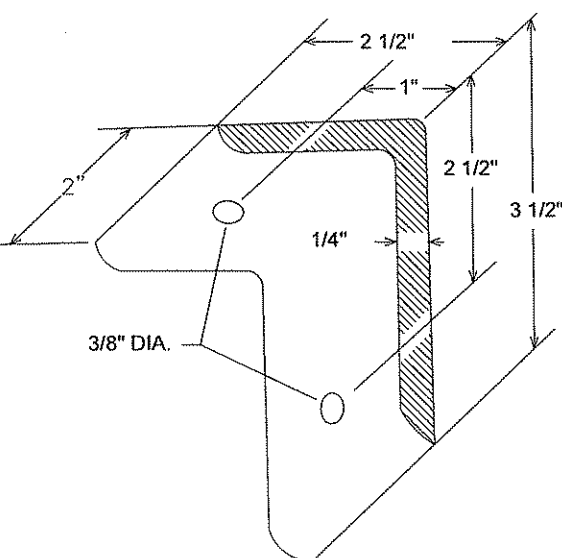
SAP 002-622-032

PERMANENT MARKING  
TABULATION

Sheet 73 of 106 Sheets

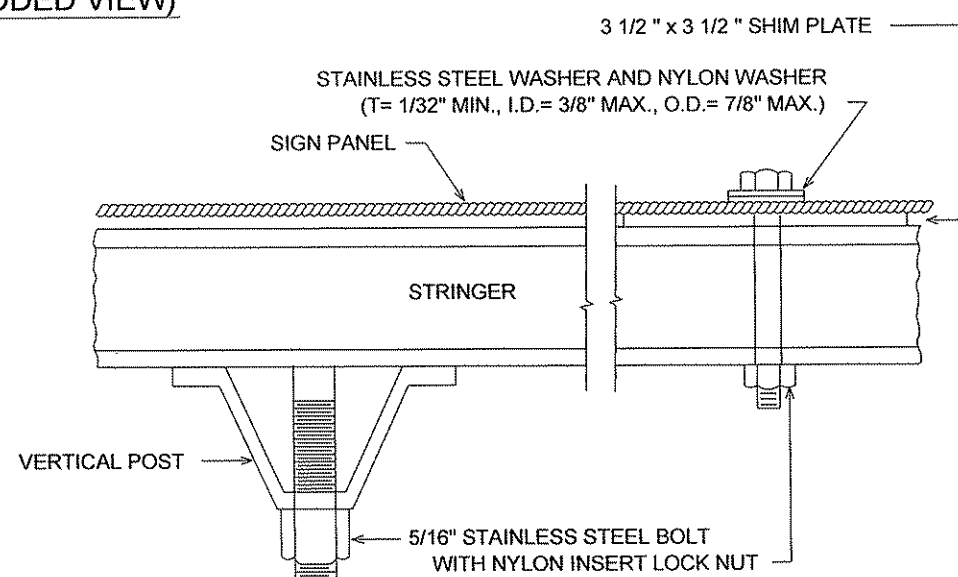


LATERAL BRACE OR STRINGER  
SPlice DETAIL (EXPLODED VIEW)

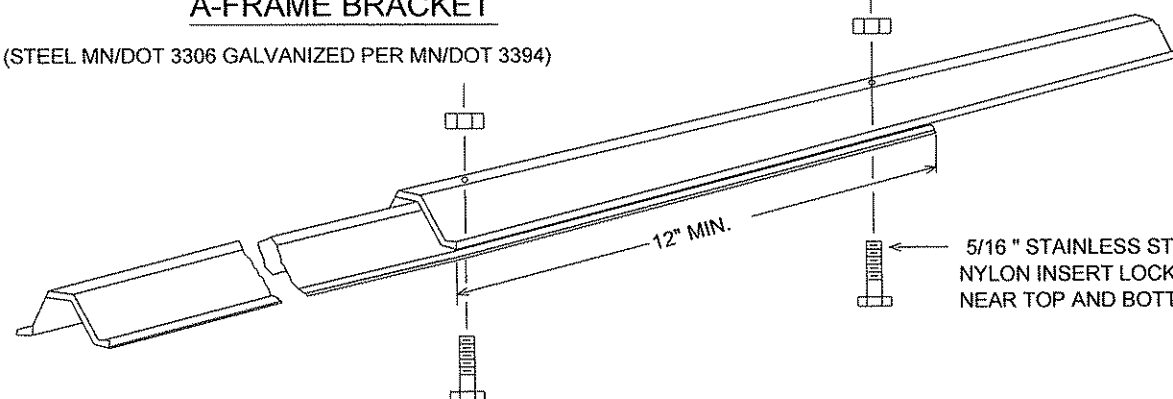


A-FRAME BRACKET

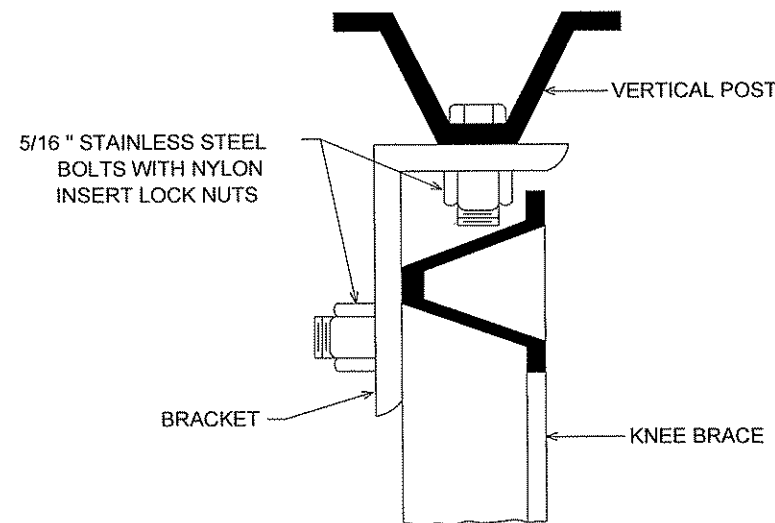
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



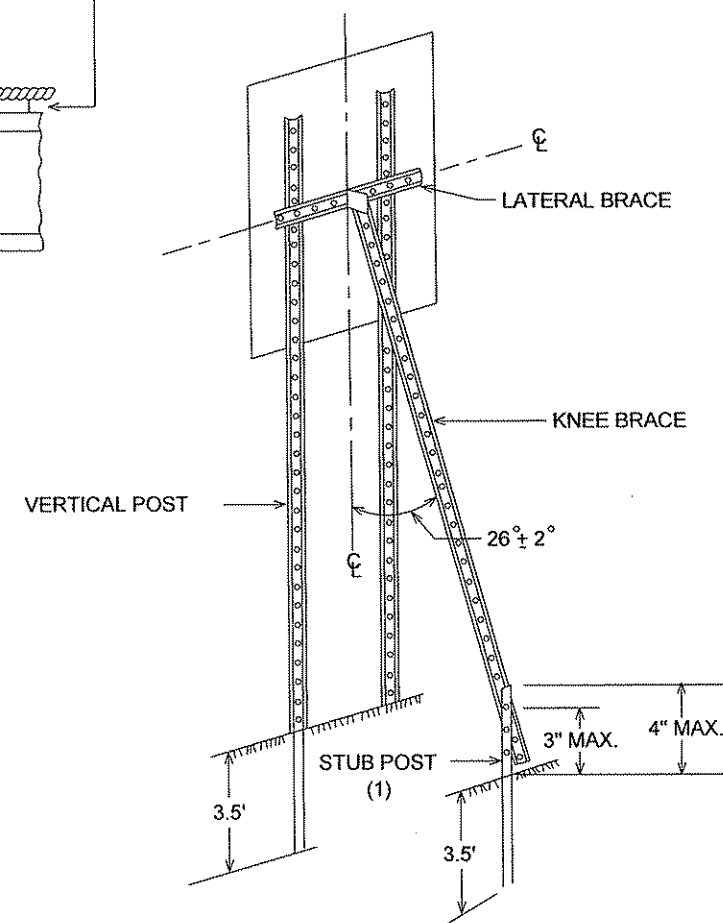
SECTION B-B



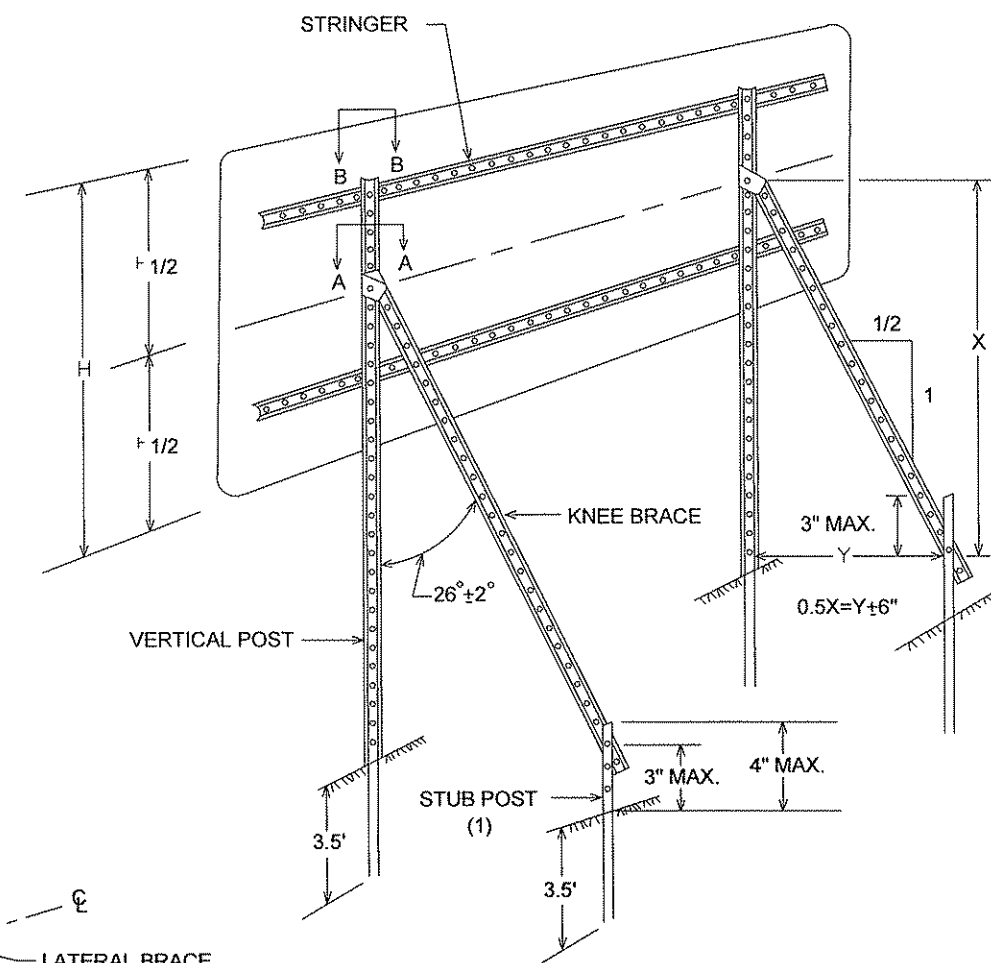
KNEE BRACE SPLICE



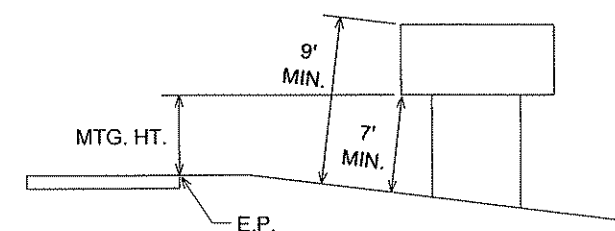
SECTION A-A



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



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



TYPICAL MOUNTING

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

TYPE C & D SIGN  
STRUCTURAL DETAILS

NO	DATE	BY	CKD	APPR	REVISION

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: CURT A. KOBIARCSIK  
SIGNATURE: *Curt A. Kobiarsik*  
DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY MTH DATE 9-10-12  
DESIGN BY MTH DATE 06-06-12  
CHECKED BY JR DATE 06-06-12



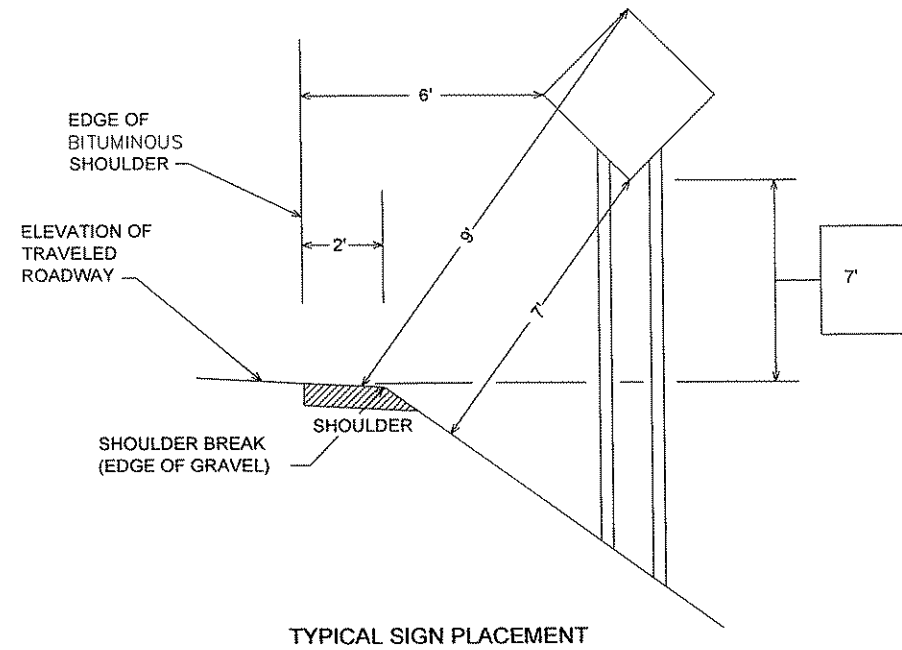
ANOKA COUNTY  
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S.A.P. 002-622-032

SIGNING & STRIPING DETAILS

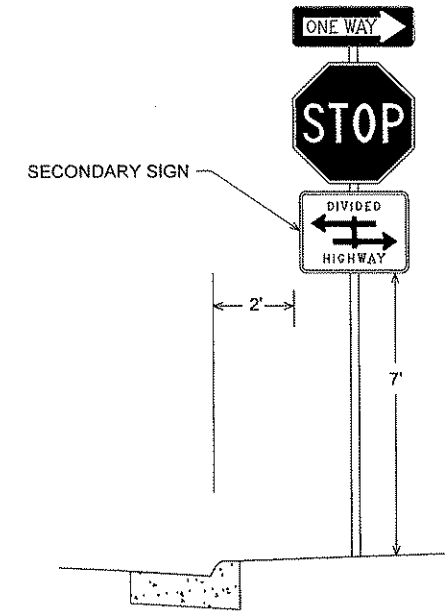
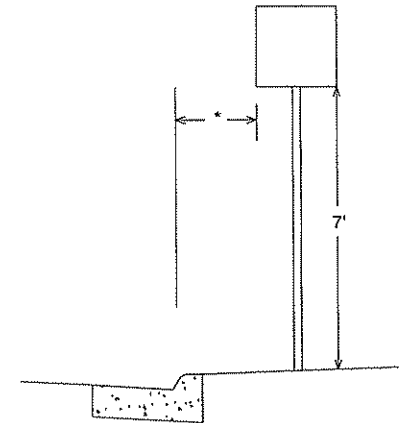
Sheet 74 of 106 Sheets

# RURAL



# URBAN

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

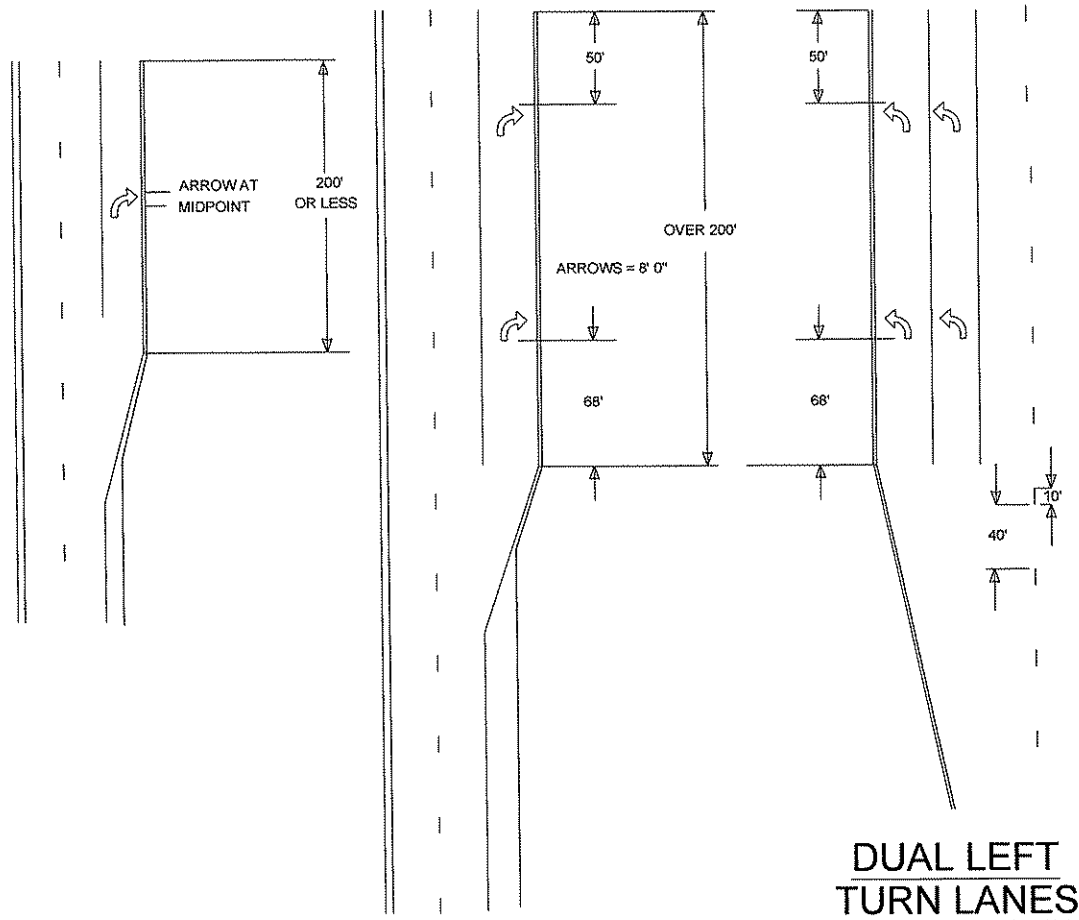


## NOTE:

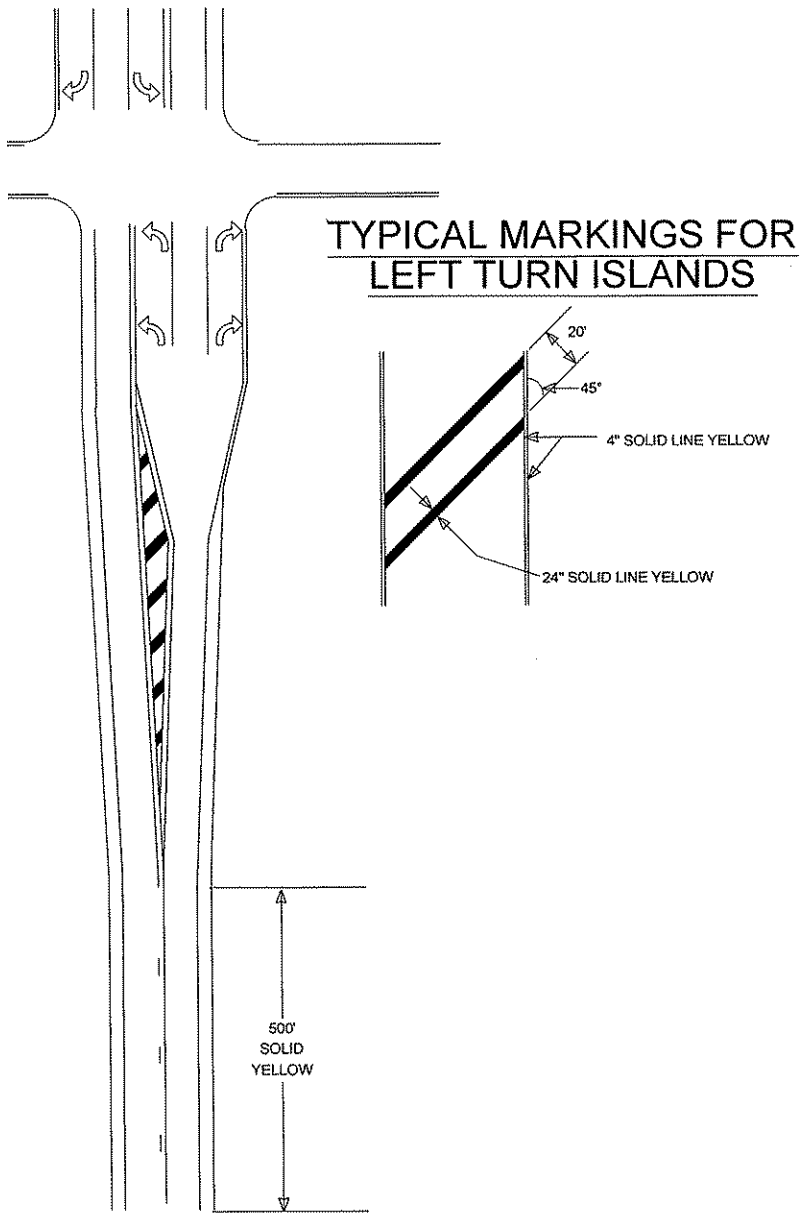
- ALL DIMENSIONS ARE MINIMUMS
- MAINTAIN 2' CLEAR FROM SIGNS TO BITUMINOUS TRAIL

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: CURT A KOBILARCSIK SIGNATURE: <i>Curt A Kobilarsik</i> DATE: 2-7-13 LICENSE NO. 24756						DRAWN BY MTH DATE 9-10-12 DESIGN BY MTH DATE 06-06-12 CHECKED BY JR DATE 06-06-12		ANOKA COUNTY HIGHWAY DEPT.		S.A.P. 002-622-032		SIGNING & STRIPING DETAILS Sheet 75 of 106 Sheets	
NO	DATE	BY	CHKD	APPR	REVISION	NAME: P:\02-622-32\080se\TRAFFIC\0262232_Sign&Stripe_Details.dwg							

**TYPICAL MESSAGE PLACEMENT  
FOR TURN LANES**

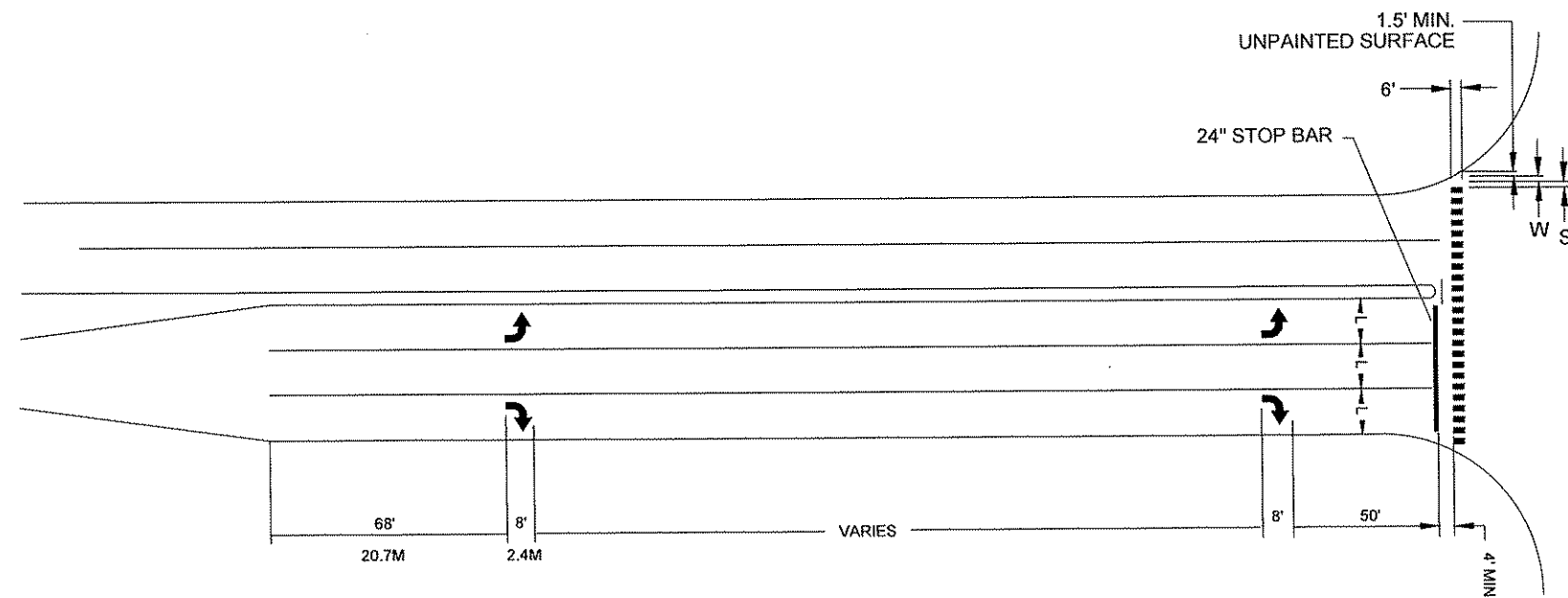


**TYPICAL MARKINGS FOR  
LEFT TURN ISLANDS**





## MARKINGS FOR PEDESTRIAN CROSSWALKS




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

NOTES: CROSSWALKS:

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

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-622-32\Bose\TRAFFIC\0262232_Sign&Stripe_Detolis.dwg					

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DESIGN BY MTH DATE 06-06-12  
CHECKED BY JR DATE 06-06-12



ANOKA COUNTY  
HIGHWAY DEPT.

S.A.P. 002-622-032

### SIGNING & STRIPING DETAILS

Sheet 77 of 106 Sheets

PROJECT LOCATION AND GENERAL INFORMATION

THE ADDITIONAL IMPERVIOUS AREA FOR THIS PROJECT INCLUDE THE ADDITION OF 8' BITUMINOUS SHOULDERS, RIGHT TURN LANES AT 5TH ST AND JACKSON ST, AND A 12' BYPASS LANE AT 5TH ST. A LEFT TURN LANE FOR FUTURE DEVELOPMENT HAS ALSO BEEN DEVELOPED WEST OF TH 65.

THIS PROJECT WILL REQUIRE THE DISTURBANCE OF 10.6 ACRES OF SOILS AND DOES CREATE THE POTENTIAL FOR SEDIMENT DISCHARGE FROM THE SITE.

TRAINING REQUIREMENTS

THE CONTRACTOR WILL ENSURE THAT THE TRAINING REQUIRED IN PART 111.A.2 OF THE GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY IS COMPLIED WITH

THE INDIVIDUALS TRAINED AND THE TRAINING RECEIVED WILL BE RECORDED IN THE SWPPP BEFORE THE START OF CONSTRUCTION OR AS SOON AS PERSONELL FOR THE PROJECT HAVE BEEN DETERMINED.

LONG TERM OPERATION AND MAINTENANCE

THE COUNTY OF ANOKA HIGHWAY DEPARTMENT WILL BE RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT AND SNOW REMOVAL OPERATIONS WITHIN THE PROPOSED MUCK AREA

JIM CHRISTENSON  
ANOKA COUNTY MAINTENANCE SUPERINTENDENT  
1440 BUNKER LAKE BOULEVARD NORTHEAST  
ANDOVER, MN 55304  
OFFICE - (763) 862-4226

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		
COUNTY DITCH 28	NO	YES
CROOKED BROOK	NO	YES

DISTURBED SOIL AREA

TOTAL DISTURBED SOILS AREA FOR THIS PROJECT IS 10.6 ACRES

IMPERVIOUS SOIL AREA

EXISTING AREA OF IMPERVIOUS SURFACE IS 6.4 ACRES.  
POST CONSTRUCTION AREA OF IMPERVIOUS SURFACE 8.2 ACRES.

SOIL TYPES

ZIMMERMAN FINE SAND, 2 TO 6 PERCENT SLOPES	38.4%
MILLERVILLE MUCKY PEAT	33.3%
ISANTI FINE SANDY LOAM	19.5%
LINO LOAMY FINE SAND, 0 TO 4 PERCENT SLOPE	7.0%
MARKEY MUCK	1.8%

CONSTRUCTION PHASING

SILT FENCE AND/OR OTHER SUITABLE PERIMETER BMP'S AS PROVIDED IN THE PLANS WILL BE INSTALLED PRIOR TO THE START OF ANY LAND DISTURBING ACTIVITY. CONSTRUCTION WILL BE REQUIRED TO BE PHASED SO THAT ALL DOWN GRADIENT SEDIMENT CONTROL MEASURES ARE INSTALLED PRIOR TO OR IN CONJUNCTION WITH ANY SOIL DISTURBING ACTIVITIES.

WHEN TOPSOIL IS DISTURBED, THE TOPSOIL WILL BE STRIPPED AND STOCKPILED IN SOIL BERMS AT THE TOE OF THE STRIPPED SLOPES ALONG THE PROJECT LIMITS. TEMPORARY VEGATATION WILL BE ESTABLISHED ON THE STOCKPILED TOPSOIL BERMS WITH SEED MIXTURE 150, TYPE 1 FERTILIZER, AND DISK ANCHORED TYPE 1 MULCH AS PROVIDED IN THE PLAN.

STOCKPILED TOPSOIL BERMS WILL NOT BE PLACED IN ANY STORMWATER CONVEYANCES.

AFTER STRIPING THE TOPSOIL THE EXPOSED SOIL INSLOPES WILL BE STABILIZED WITH DISK ANCHORED TYPE 1 MULCH WITHIN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS BEEN TEMPORARILY OR PERMANENTLY CEASED.

TEMPORARY SEDIMENT BASINS

THIS ROAD CONSTRUCTION PROJECT AS DESIGNED DOES NOT MEET ANY OF THE TEMPORARY SEDIMENT BASIN DISTURBED AREA THRESHOLD REQUIREMENTS AND TEMPORARY SEDIMENT BASINS WILL NOT BE REQUIRED.

PERMANENT STORMWATER MANAGEMENT SYSTEM

ALL STORMWATER MUST BE DISCHARGED IN A MANNER THAT DOES NOT CAUSE NUISANCE CONDITIONS, EROSION IN RECEIVING WATERS OR ON DOWNSLOPE PROPERTIES, OR INUNDATION IN WETLANDS CAUSING A SIGNIFICANT ADVERSE IMPACT TO THE WETLAND.

THIS ROAD CONSTRUCTION PROJECT HAS A 1.8 ACRE INCREASE IN IMPERVIOUS AREA.

EROSION PREVENTION PRACTICES

ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THEN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. FOR ALL AREAS WHERE DISTURBED SOILS DRAIN TO AN IMPAIRED OR SPECIAL WATER THE EXPOSED SOIL MUST BE STABILIZED NO LATER THEN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA CEASED. SEE THE IMPAIRED & SPECIAL WATERS SECTION OF THIS SWPPP FOR ADDITIONAL BMP REQUIREMENTS FOR DISTURBED AREAS THAT DRAIN TO A SPECIAL OR IMPAIRED WATER

THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE THAT DRAIN WATER FROM ANY PORTION OF THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE SITE, MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE POINT OF DISCHARGE INTO ANY SURFACE WATER. STABILIZATION OF THE LAST 200 FEET MUST BE COMPLETED WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER.

PIPE CULVERT OUTLETS MUST BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER. THIS WILL INCLUDE DRAINAGE DITCHES THAT DRAIN WATER FROM ANY PORTION OF THE CONSTRUCTION SITE

PROJECT CONTACTS

MPCA	NPDES	LAURAL MEZNER	218-316-3889
MPCA	EMERGENCY	STATE DUTY OFFICER	800-422-0798
LGU		BECKY WOZNEY	763-852-0496
COE		ANDREW BEAUDET	651-290-5642
ANOKA COUNTY DESIGN SWPPP PREPARATION	U OF MN DESIGN OF SWPPP EXPIRES 5/13	NICK DOBDA	763-862-4261
ANOKA COUNTY PROJECT REPRESENTATIVE	U OF MN SITE MANAGEMENT EXPIRES 5/14	CHRIS OSTERHUS	763-862-4252
EROSION CONTROL SUPERVISOR (CONTRACTOR)			

SEDIMENT CONTROL PRACTICES

TEMPORARY STOCKPILED TOPSOIL BERMS MUST INCLUDE PERIMETER BMP'S AS PROVIDED IN THE PLAN AT LOCATIONS WHERE CONSTRUCTION STORMWATER DRAINS FROM THE PROJECT

IN ORDER TO MAINTAIN SHEET FLOW AND MINIMIZE RILLS AND/OR GULLIES, THERE SHALL BE NO UNBROKEN SLOPE LENGTH OF GRATER THEN 75 FEET FOR SLOPES WITH A GRADE OF 1:3 OR STEEPER

ALL STORM DRAIN INLETS MUST BE PROTECTED BY APPROPRIATE BMP'S DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL DISCHARGE TO THE INLET HAVE BEEN STABILIZED

VEHICLE TRACKING OF SEDIMENT FROM THE CONSTRUCTION SITE MUST BE MINIMIZED. TEMPORARY GRAVEL CONSTRUCTION ENTRANCES MUST BE CONSTRUCTED AT A MINIMUM OF 100' X 30'. STREET SWEEPING MUST BE USED IF SEDIMENT IS BEING TRACKED OFF THE CONSTRUCTION SITE

POLLUTION PROVENTION MEASURES

THE CONTRACTOR WILL IMPLEMENT THE POLLUTION PREVENTION MANAGEMENT MEASURES AS DIRECTED IN THE NPDES PERMIT PART IV.F AS PERTAINING TO SOLID WASTE, HAZARDOUS MATERIALS EXTERNAL TRUCK WASHING, AND CONCRETE WASHOUT ONSITE.

THESE MANAGEMENT MEASURES FOR POLLUTION PREVENTION WILL BE STRICTLY ENFORCED.

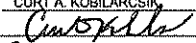
LOCATION OF SWPPP REQUIREMENTS

REQUIREMENT	PLAN		MNDOT SPECIFICATION	SPECIAL PROVISION
	TITLE	LOCATION		
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	AGENCY CONTACTS		1506, 1717, & 2573	
PROJECT SCHEDULE / WEEKLY EROSION & SEDIMENT CONTROL SCHEDULE / COMPLETING INSPECTION / MAINTENANCE LOG	AGENCY CONTACTS		1717 & 2573	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
SWPPP PREPARATION	AGENCY CONTACTS			
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	QUANTITY TABULATIONS		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
FINAL STABILIZATION	QUANTITY TABULATIONS EROSION CONTROL PLAN		1717, 2573, & 2575	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
TEMPORARY EROSION AND SEDIMENT CONTROL DETAILS	QUANTITY TABULATIONS EROSION CONTROL PLAN		2575	2575 (RAPID STABILIZATION SPECIFICATION)
PERMANENT EROSION CONTROL DETAILS	EROSION CONTROL DETAILS		2575	2575 (CONTROLLING EROSION AND ESTABLISHING VEGETATION)

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-622-32\Plan\0262232_SWPPP.dgn					
02/06/2013 1:41:42 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: CURT A. KOBIARCSIK

SIGNATURE: 

DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY ZDC DATE 12-07-12

DESIGN BY NJD DATE 12-07-12

CHECKED BY GMP DATE 12-07-12



ANOKA COUNTY  
HIGHWAY DEPT.

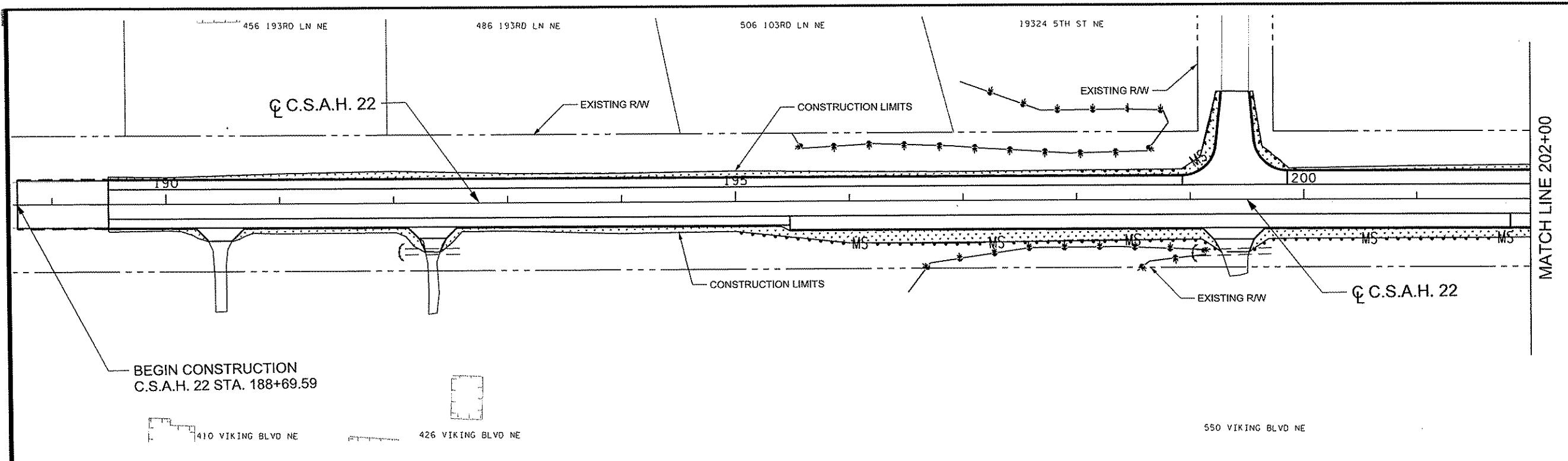
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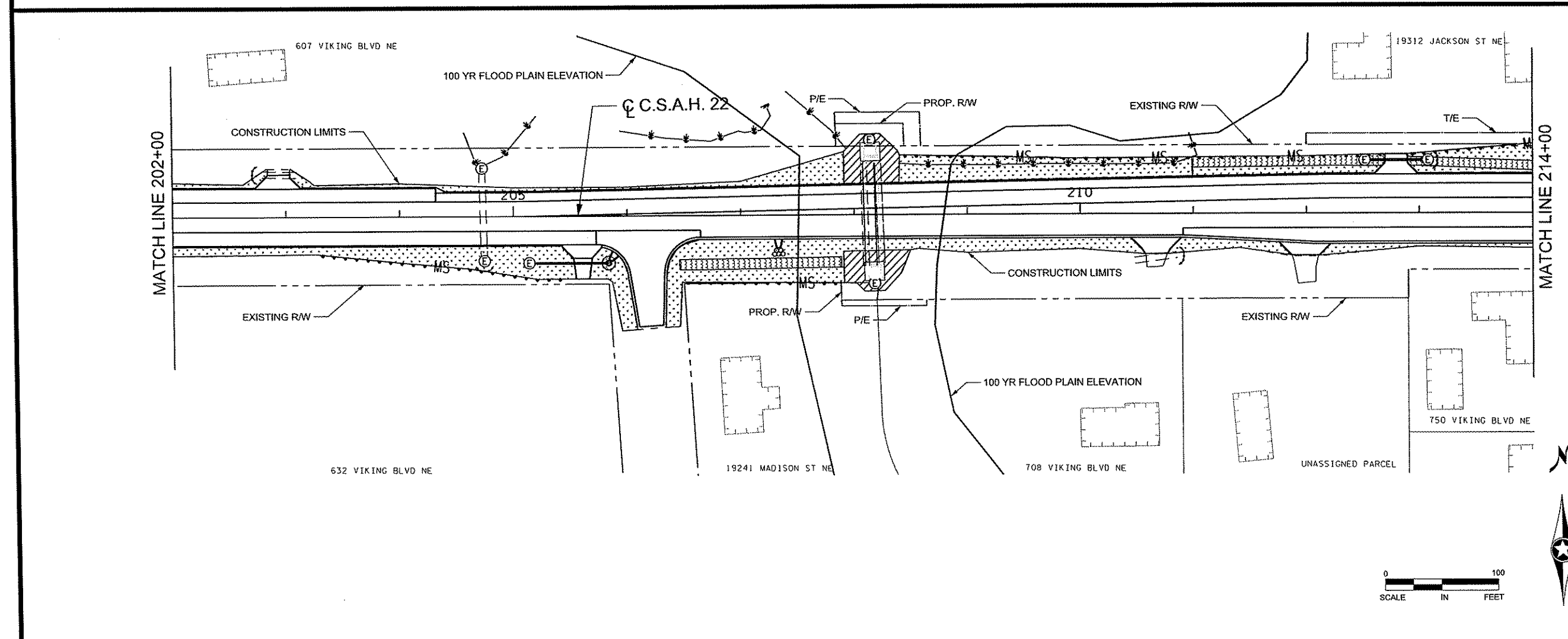
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SWPPP NARRATIVE



### LEGEND

- INPLACE CATCH BASIN
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- INPLACE CULVERT
- PROPOSED CULVERT
- SILT FENCE TYPE MACHINE SLICED
- CULVERT PROTECTION
- CULVERT END PROTECTION
- STORM DRAIN INLET PROTECTION
- WETLAND BOUNDARIES
- RIPRAP CLASS III
- EROSION CONTROL BLANKET CATEGORY 3
- SEEDING MIX TYPE 250
- SEEDING MIX TYPE 325
- FERTILIZER 18-1-18
- RAPID STABILIZATION METH. 3
- SEEDING MIX TYPE 250
- FERTILIZER 22-5-10
- RAPID STABILIZATION METH. 3

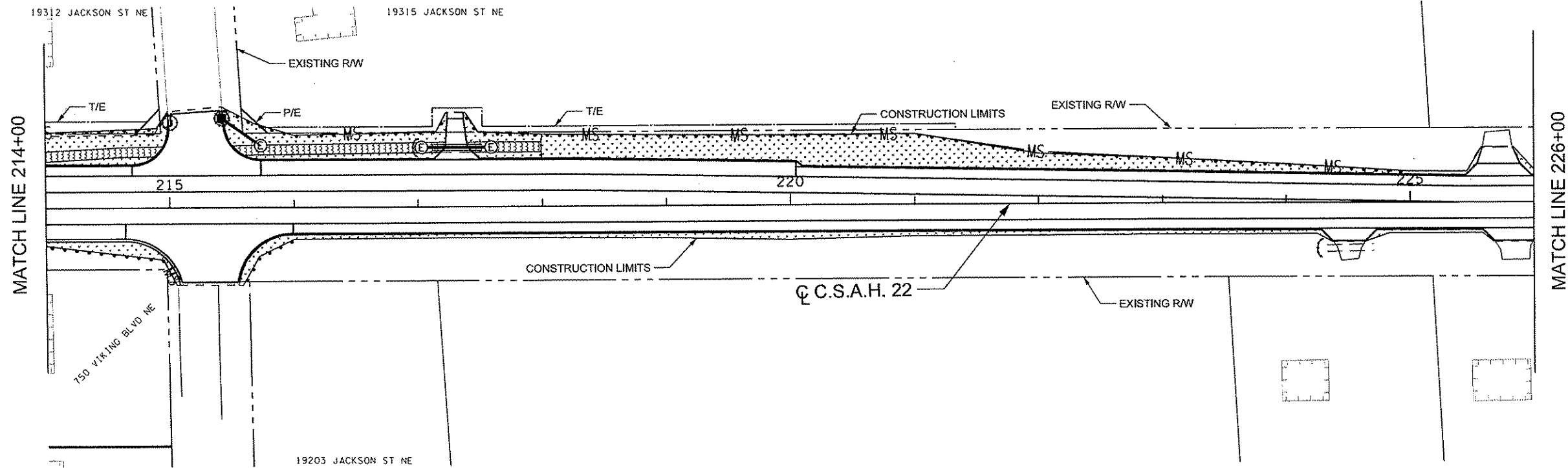


### NOTES

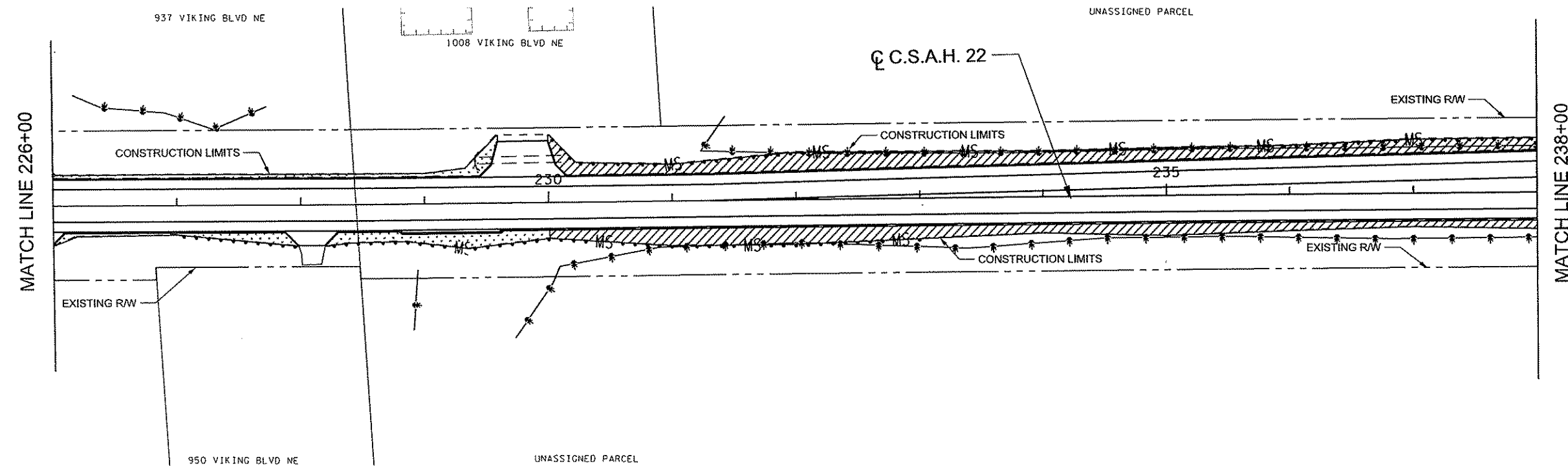
- 1.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR.
- 2.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR  $\frac{1}{3}$  OF SILT FENCE HEIGHT.
- 3.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.
- 4.) IF SILT DEPOSITS IN THE ANOKA COUNTY RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.
- 5.) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 14 DAYS OF THE COMPLETION OF GRADING.

1 OF 3

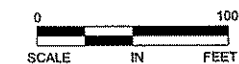
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NO	DATE	BY	CKD	APPR	REVISION																																				
NAME: p:\02-622-32\plan\0262232-EC1.dgn 02/06/2013 10:22:27 AM																																									



LEGEND	
	INPLACE CATCH BASIN
	PROPOSED STORM SEWER
	INPLACE STORM SEWER
	INPLACE CULVERT
	PROPOSED CULVERT
	SILT FENCE TYPE MACHINE SLICED
	EROSION CONTROL BLANKET
	CULVERT END PROTECTION
	STORM DRAIN INLET PROTECTION
	WETLAND BOUNDARIES
	RIPRAP CLASS II
	EROSION CONTROL BLANKET CATEGORY 3
	SEEDING MIX TYPE 250
	SEEDING MIX TYPE 325
	FERTILIZER 18-1-18
	RAPID STABILIZATION METH. 3
	SEEDING MIX TYPE 250
	FERTILIZER 22-5-10
	RAPID STABILIZATION METH. 3



- NOTES
- 1.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR.
  - 2.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR  $\frac{1}{3}$  OF SILT FENCE HEIGHT.
  - 3.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.
  - 4.) IF SILT DEPOSITS IN THE ANOKA COUNTY RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.
  - 5.) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 14 DAYS OF THE COMPLETION OF GRADING.



2 OF 3

NO	DATE	BY	CHKD	APPR	REVISION

NAME: p:\02-622-32\plan\0262232-EC2.dgn 02/06/2013 10:22:40 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: CURT A. KOBIARCSIK

SIGNATURE:

DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY: ZDC DATE: 12-07-12

DESIGN BY: NJD DATE: 12-07-12

CHECKED BY: DFF DATE: 12-07-12



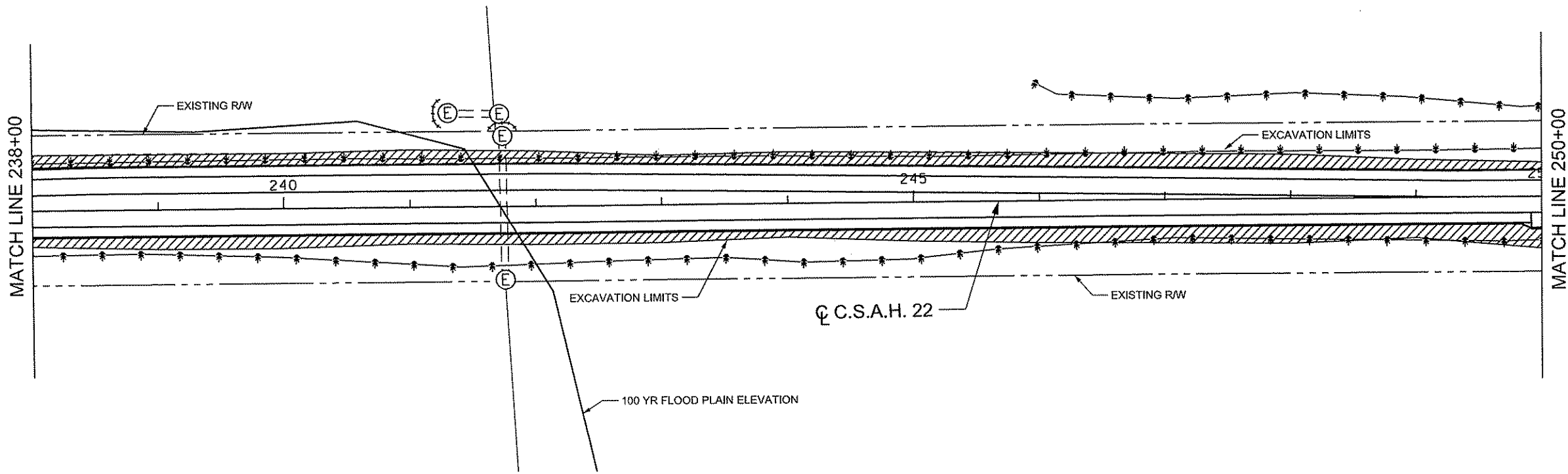
ANOKA COUNTY  
HIGHWAY DEPT.

SAP 002-622-032

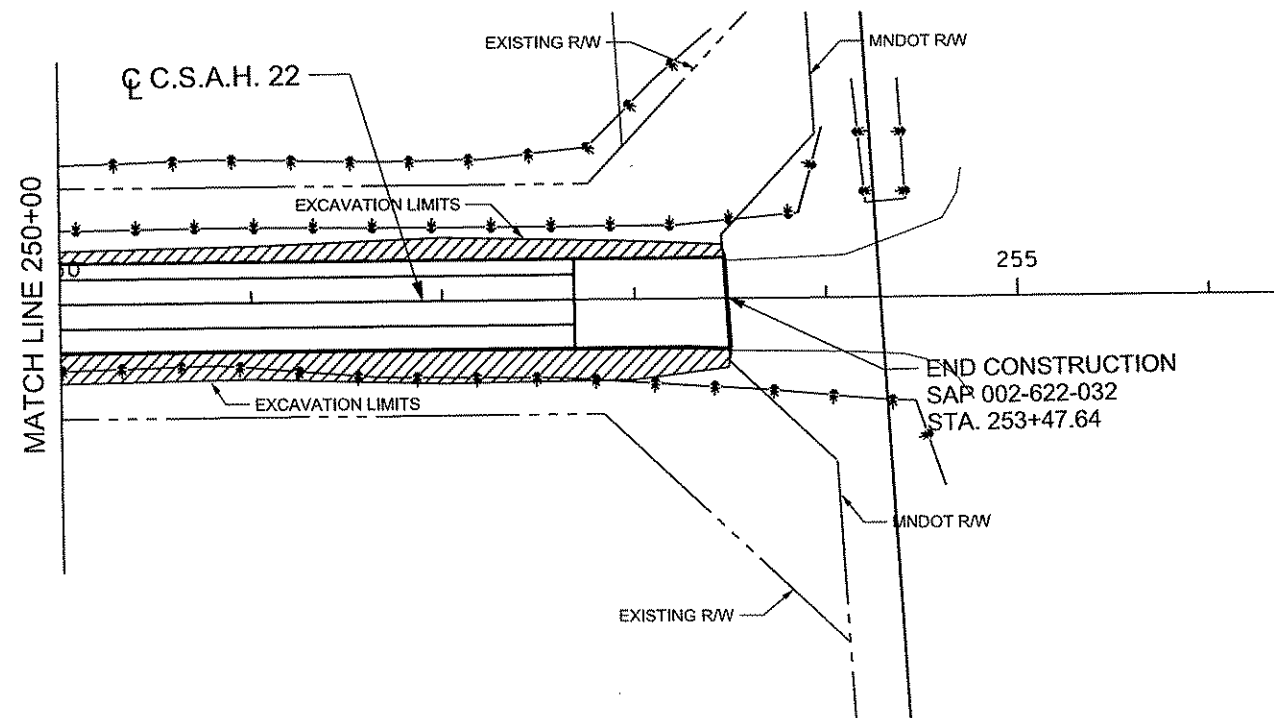
EROSION CONTROL

STA 214+00 TO 238+00

Sheet 80 of 106 Sheets



LEGEND	
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	PROPOSED STORM SEWER
	INPLACE STORM SEWER
	INPLACE CULVERT
	PROPOSED CULVERT
	SILT FENCE TYPE MACHINE SLICED
	EROSION CONTROL BLANKET
	CULVERT END PROTECTION
	STORM DRAIN INLET PROTECTION
	WETLAND BOUNDARIES
	RIPRAP CLASS II
	EROSION CONTROL BLANKET CATEGORY 3 SEEDING MIX TYPE 250 FERTILIZER 18-1-18 RAPID STABILIZATION METH. 3
	SEEDING MIX TYPE 325 FERTILIZER 22-5-10 RAPID STABILIZATION METH. 3



- NOTES
- 1.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR.
  - 2.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR  $\frac{1}{3}$  OF SILT FENCE HEIGHT.
  - 3.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.
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  - 5.) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 14 DAYS OF THE COMPLETION OF GRADING.



3 OF 3

NO	DATE	BY	CHKD	APPR	REVISION
NAME: p:002-622-32\plan\0262232-EC3.dgn 02/08/2013 10:22:45 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: CURT A. KOBILARCSIK

SIGNATURE:

DATE: 2-7-13 LICENSE NO. 24756

DRAWN BY: ZDC DATE: 12-07-12

DESIGN BY: NJD DATE: 12-07-12

CHECKED BY: GMP DATE: 12-07-12



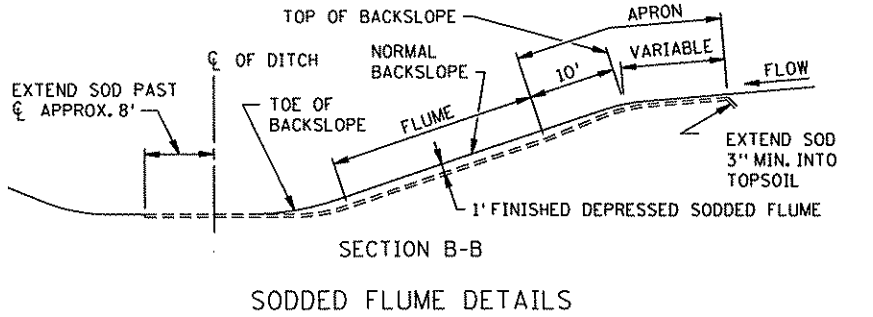
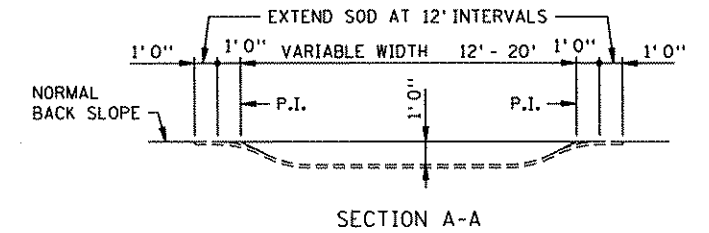
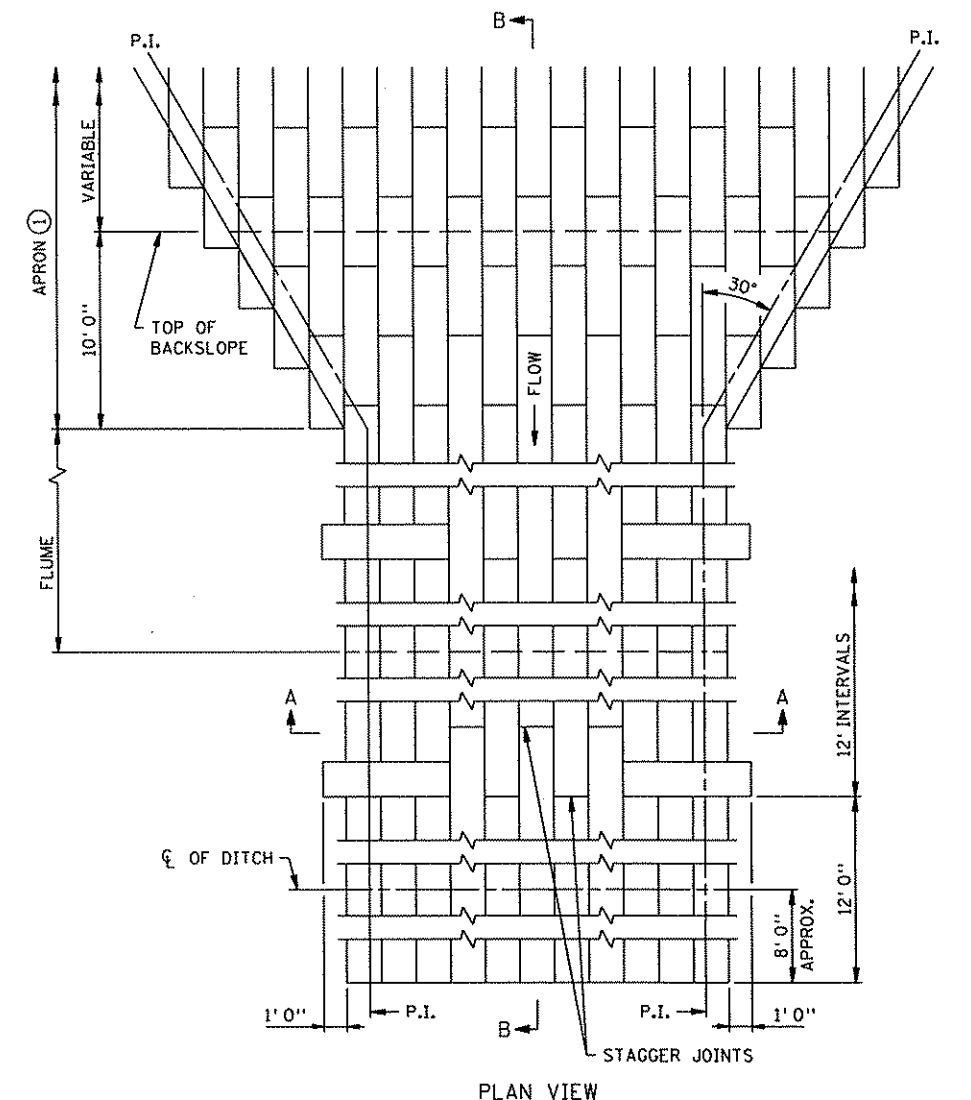
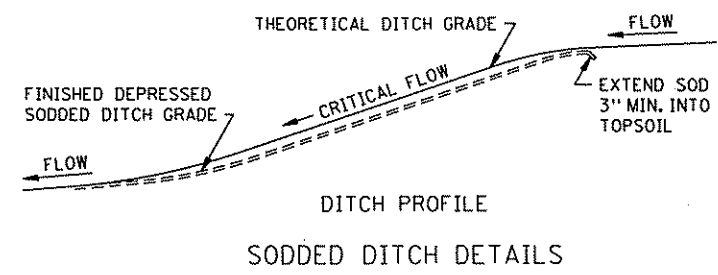
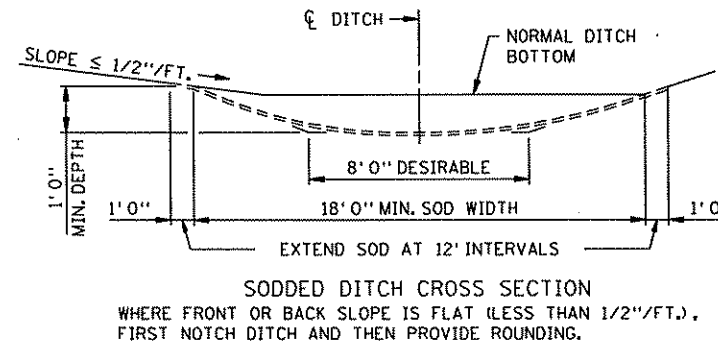
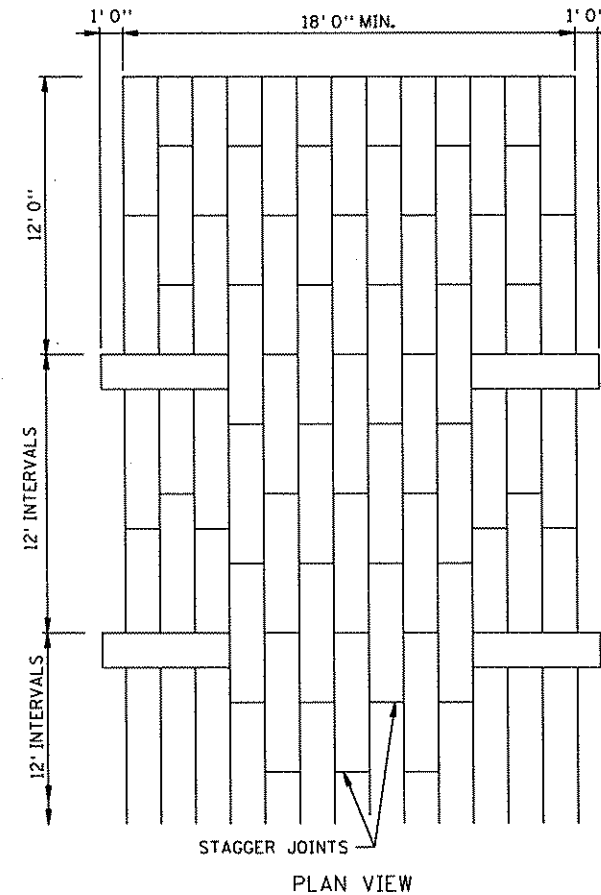
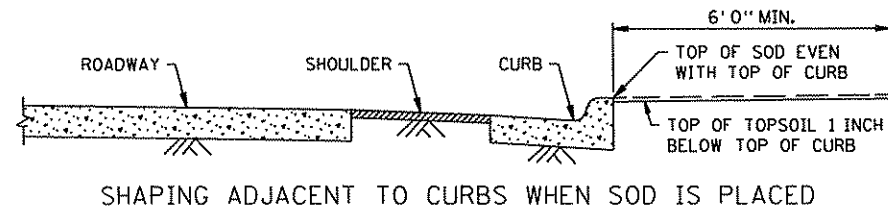
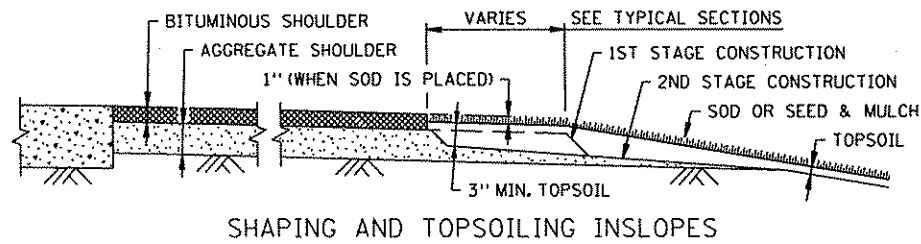
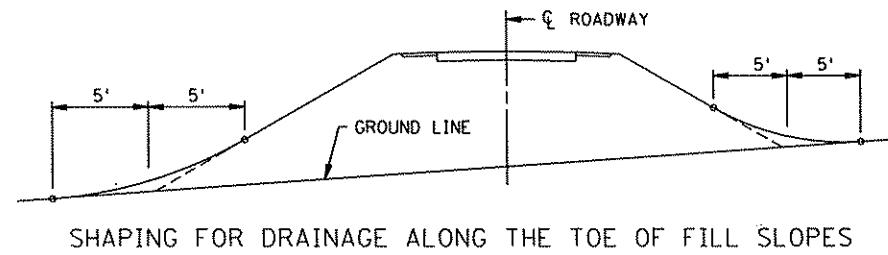
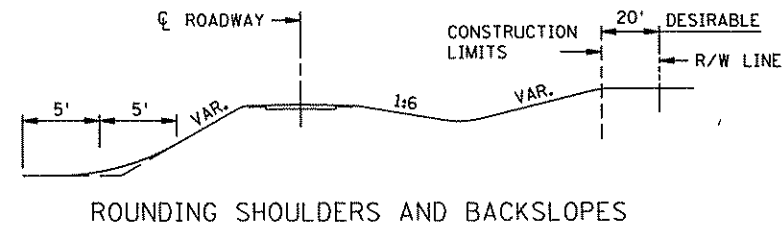
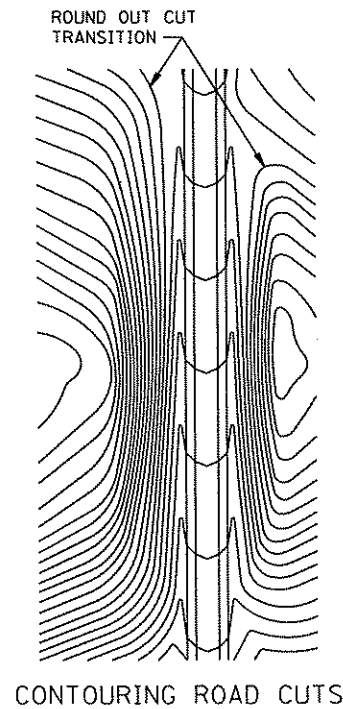
ANOKA COUNTY  
HIGHWAY DEPT.

SAP 002-622-032

EROSION CONTROL

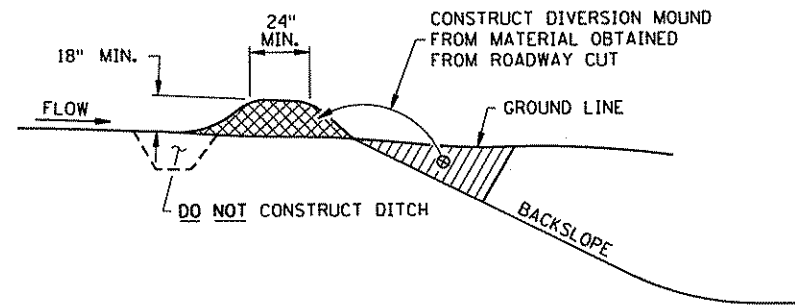
STA 238+00 TO 253+47.64

Sheet 81 of 106 Sheets



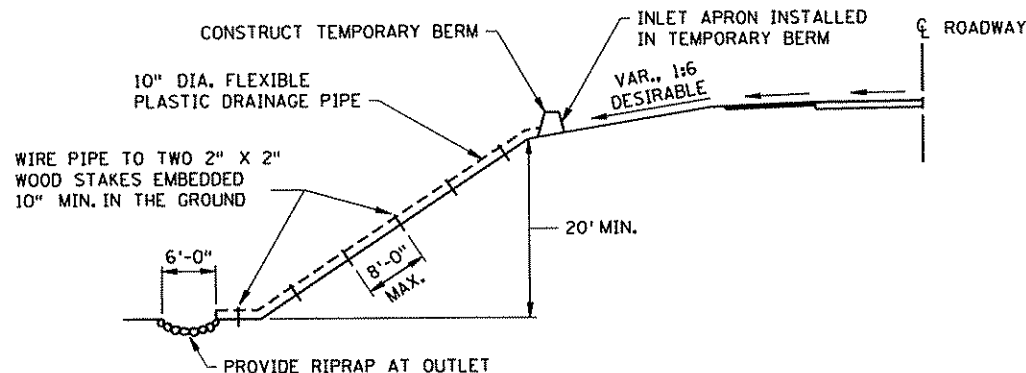
NOTES:  
SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.  
① CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

STANDARD SHEET NO. 5-297.404	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED: NOVEMBER 20, 2002	
S.A.P. 002-622-032	SHEET NO. 82 OF 106 SHEETS



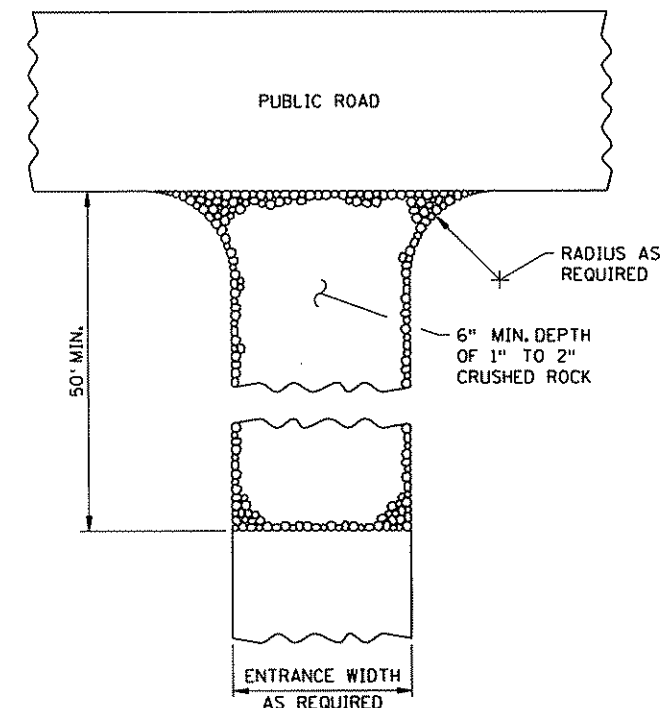
### DIVERSION MOUND

DESIGN GUIDELINES:  
STORM FREQUENCY: 10 YEAR - 24 HOUR  
MAXIMUM DRAINAGE AREA: 5 ACRES  
MAXIMUM DIVERSION: GRADE 5%

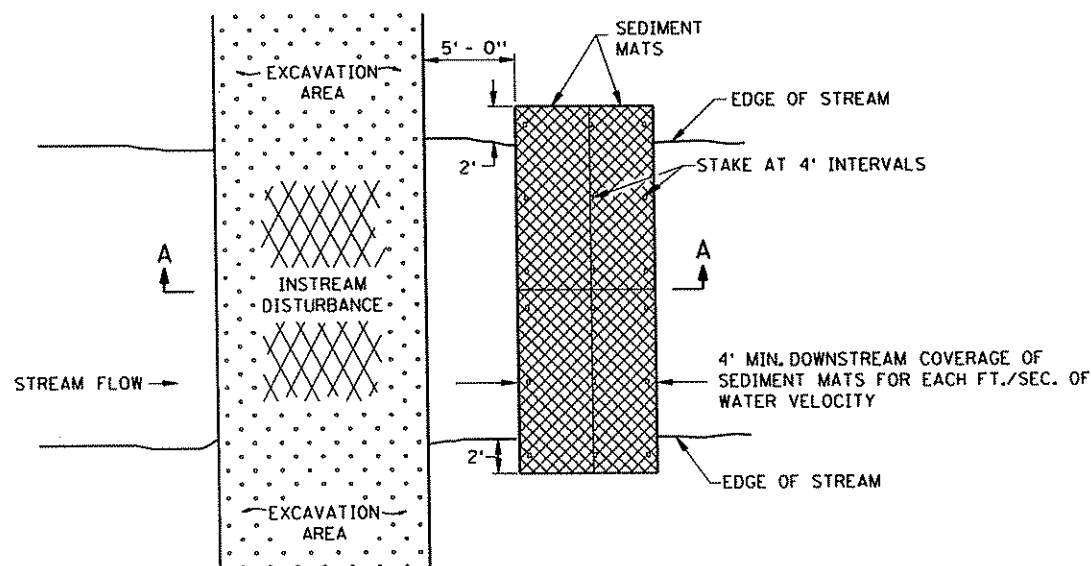


### TEMPORARY DOWN DRAIN ON FILL SLOPE

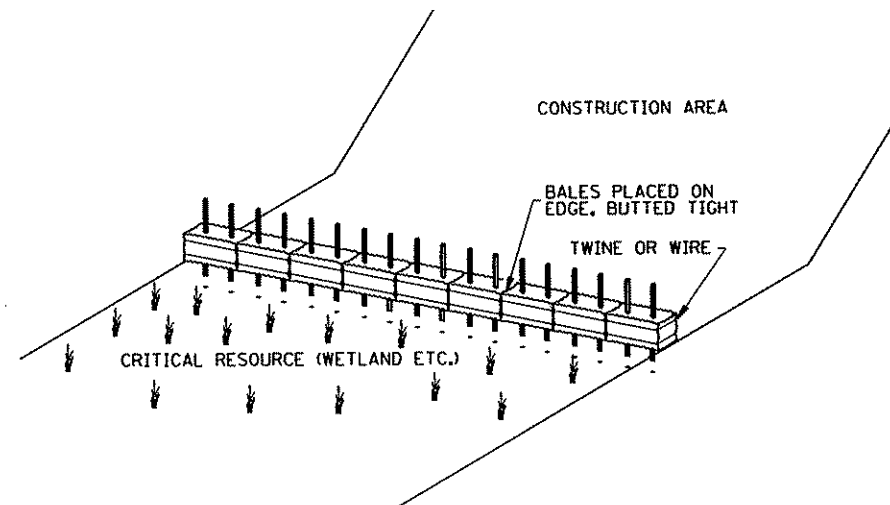
DESIGN GUIDELINES:  
STORM FREQUENCY: 2 YEAR - 24 HOUR  
MAXIMUM DRAINAGE AREA: 3 ACRES



### ROCK CONSTRUCTION ENTRANCE ①

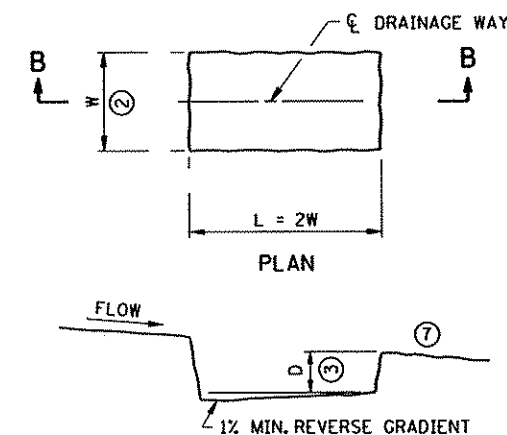


### PLAN VIEW

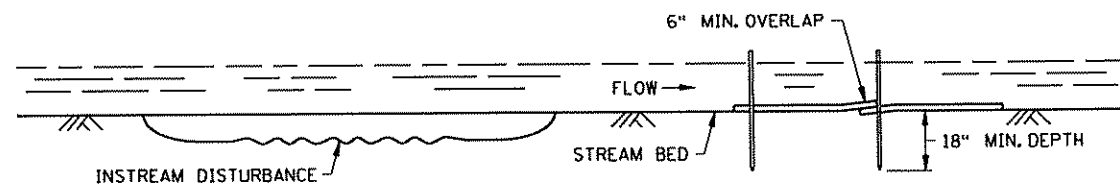


### BALE BARRIERS

TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS



### SECTION B-B SEDIMENT TRAP DETAIL

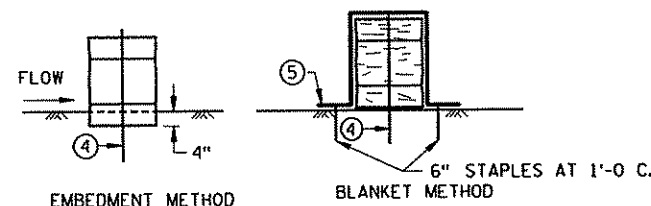


### SECTION A-A

### SEDIMENT MAT ⑥

TYPICAL STREAM BED INSTALLATION

DESIGN GUIDELINES:  
MAXIMUM FLOW VELOCITY: 5 FT./SEC.  
MAXIMUM FLOW DEPTH: 2 FT.



### BALE BARRIER DETAIL

APPROX. BALE SIZE: 14" X 18" X 36" LONG

### NOTES:

SEE SPECS. 2573, 3892, & 3894.

- ① ROCKS AT ENTRANCE CLEAN WORKSITE MUD OFF OF TRUCK TIRES BEFORE TRUCKS ENTER MAIN ROAD. KEEPING MUD OFF THE ROAD WILL PREVENT AUTO DAMAGE AND KEEP CONSTRUCTION SEDIMENT OUT OF DRAINAGE SYSTEMS AND WETLANDS. GEOTEXTILE MAY BE PLACED UNDER THE ROCK TO KEEP ROCKS SEPARATE FROM SOIL.
- ② W = 10 FT. MIN., 20 FT. MAX.
- ③ D = 2 FT.
- ④ TWO 2 IN. X 2 IN. WOOD STAKES OR REINFORCING BARS IN EACH BALE EMBEDDED 10 INCHES MINIMUM IN THE GROUND.
- ⑤ PLACE A CATEGORY 3 EROSION CONTROL BLANKET, 6 FT. WIDE MINIMUM, OVER THE BALE INSTEAD OF TRENCHING.
- ⑥ THIS DETAIL MAY NOT BE ACCEPTABLE FOR WORK ON PUBLIC WATERS, SEE GENERAL PUBLIC WATERS PERMIT (GP) 2004-0001.
- ⑦ LOCATION OF DOWNSTREAM TEMPORARY SEDIMENT CONTROL DEVICE.

STANDARD SHEET NO.  
5-297.405 (2 OF 4)

STANDARD APPROVED:  
MARCH 29, 2012

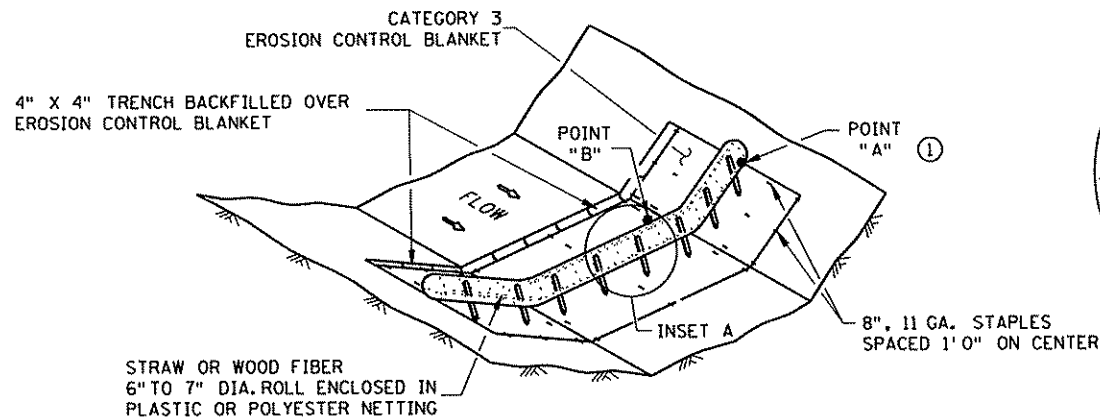
S.A.P. 002-622-032

TITLE:

TEMPORARY SEDIMENT CONTROL  
MISCELLANEOUS DETAILS

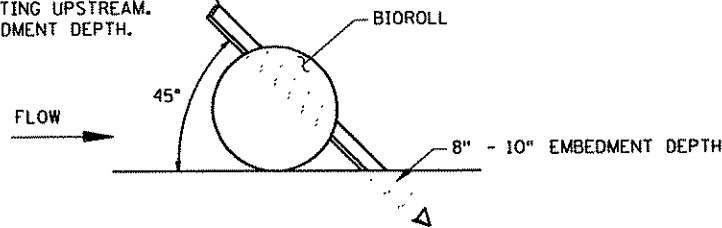
SHEET NO. 83 OF 106 SHEETS



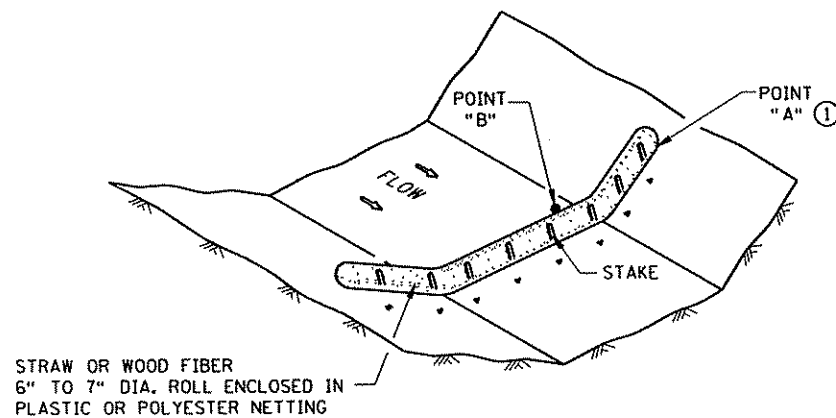


TYPE 3: BIOROLL BLANKET SYSTEM DITCH CHECK

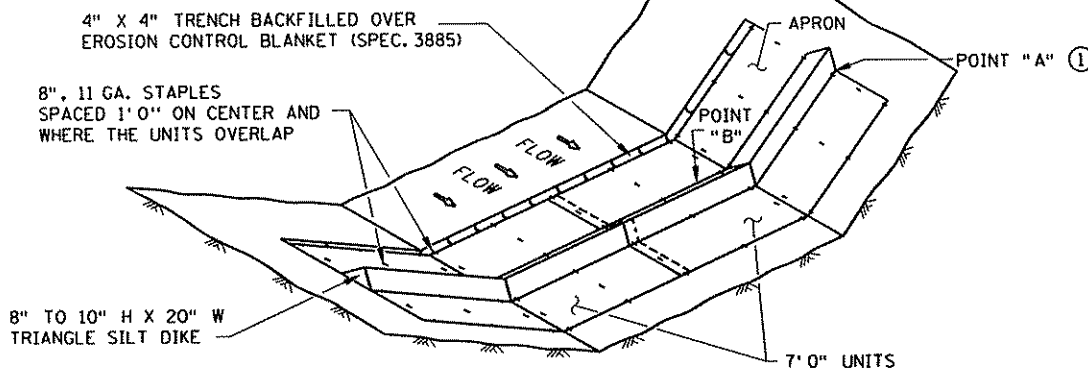
1" X 2" X 18" LONG WOODEN STAKES AT 1'0" SPACING MAXIMUM. STAKES SHALL BE DRIVEN THROUGH THE BACK HALF OF THE BIOROLL AT AN ANGLE OF 45 DEGREES WITH THE TOP OF THE STAKE POINTING UPSTREAM. PROVIDE 8" TO 10" OF EMBEDMENT DEPTH.



BIOROLL STAKING DETAIL

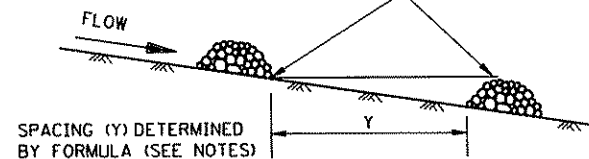


TYPE 2: BIOROLL DITCH CHECK  
USE ON ROUGH GRADED AREAS

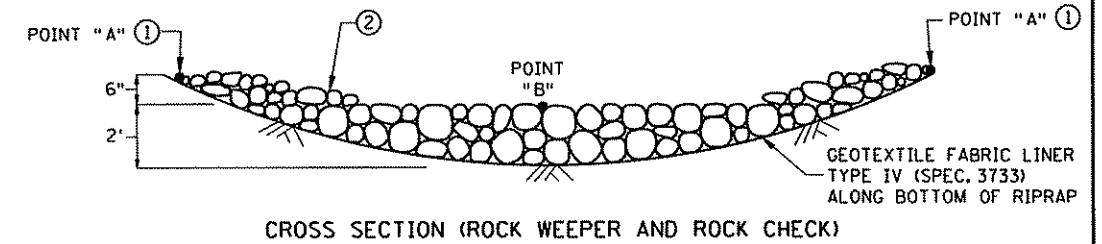


TYPE 6: GEOTEXTILE TRIANGULAR DIKE DITCH CHECK

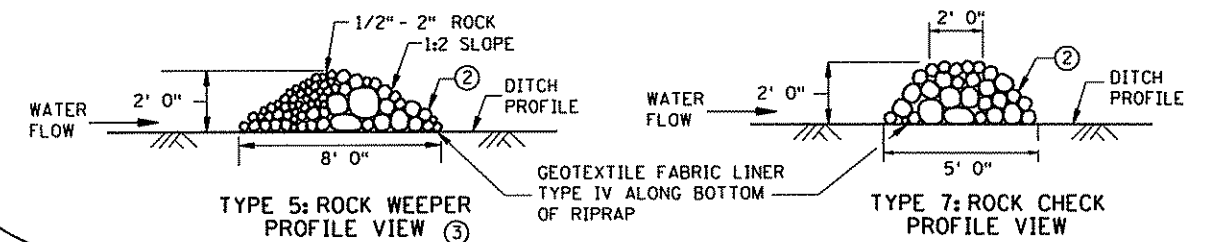
BOTTOM OF UPPER CHECK SHOULD BE SAME ELEVATION AS THE TOP OF THE LOWER CHECK TO PROVIDE FOR POOLING.



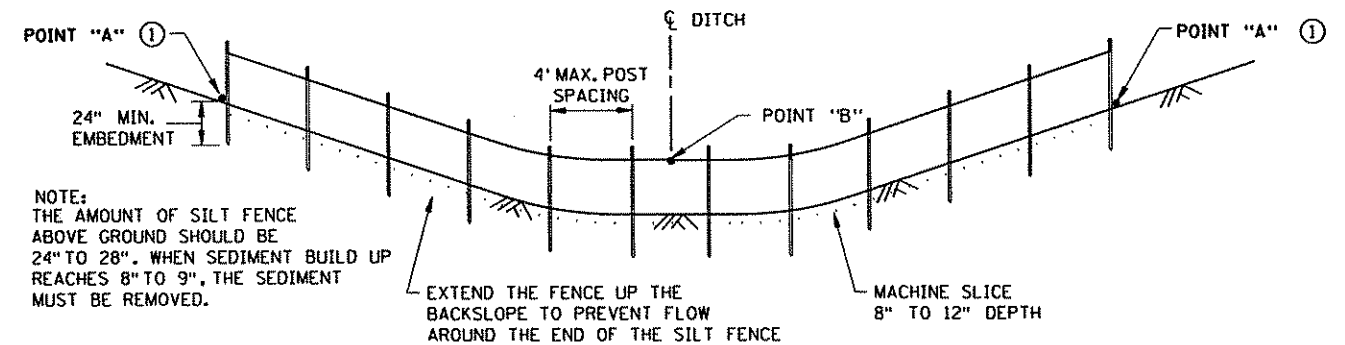
DITCH CHECK SPACING ④



CROSS SECTION (ROCK WEEPER AND ROCK CHECK)



TYPE 5: ROCK WEEPER AND  
TYPE 7: ROCK CHECK DITCH CHECKS ④  
USE ON ROUGH GRADED AREAS



TYPE 1: SLICED IN SILT FENCE DITCH CHECK

NOTES:

SEE SPECS. 2573, 3601, 3733, 3885, 3886 & 3889.

APPROXIMATE SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM THE FOLLOWING SPACING FORMULA:

$$\text{APPROXIMATE SPACING OF DITCH CHECKS (FT.)} = Y = \frac{\text{DITCH CHECK HEIGHT (FT)}}{\frac{1}{2} \text{ CHANNEL SLOPE}} \times 100$$

- ① POINT "A" MUST BE A MINIMUM OF 6 INCHES HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
- ② CLASS I - IV RIPRAP (SPEC. 3601) WITH GEOTEXTILE FABRIC LINER, TYPE IV (SPEC. 3733).
- ③ THE ROCK WEEPER FILTERS SEDIMENT OUT OF THE WATER BETTER THAN THE OTHER DITCH CHECKS. THE ROCK WEEPER COULD BE USED AS A PERMANENT WATER FILTERING FEATURE.
- ④ PERMANENT ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE WILL NEED TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.

GENERAL DESIGN GUIDELINES						
DITCH CHECK TYPE	SILT FENCE	BIOROLL	BIOROLL BLANKET	TRIANGULAR DIKE	ROCK WEEPER	ROCK CHECK
STORM FREQUENCY:	2 YR. - 24 HR.	2 YR. - 24 HR.	2 YR. - 24 HR.	2 YR. - 24 HR.	5 YR. - 24 HR.	5 YR. - 24 HR.
MAX. FLOW VELOCITY:	< 1 FT./SECOND	1.5 FT./SECOND	4.5 FT./SECOND	1.5 FT./SECOND	12 FT./SECOND	12 FT./SECOND
MAX. DITCH GRADE:	0% - 0.5%	1.5% - 3%	1.5% - 3%	1.5% - 2.0%	3% - 5%	3% - 5%
MAX. DRAINAGE AREA:	1 ACRE	2 ACRE	2 ACRE	4 ACRE	4+ ACRE	4+ ACRE

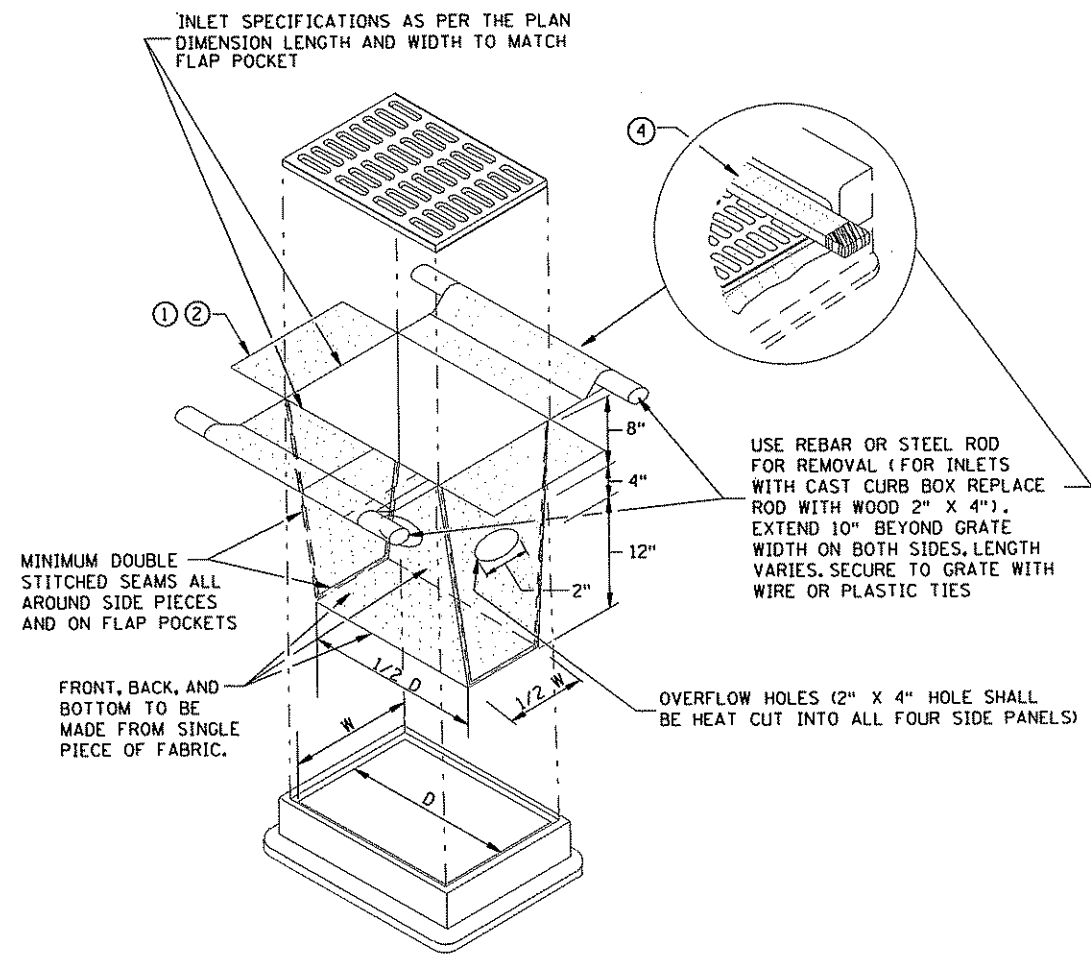
STANDARD SHEET NO.  
5-297.405 (3 OF 4)

STANDARD APPROVED:  
MARCH 29, 2012

S.A.P. 002-622-032

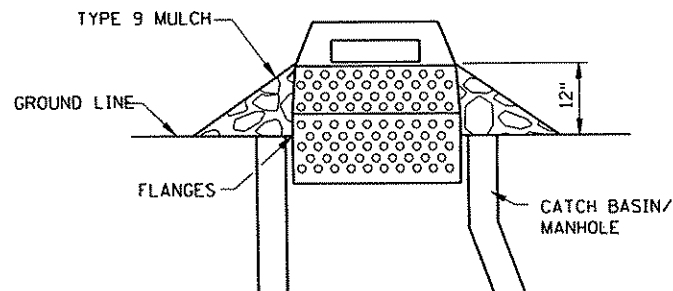
TEMPORARY SEDIMENT CONTROL  
DITCH CHECK/BARRIER

SHEET NO. 84 OF 106 SHEETS



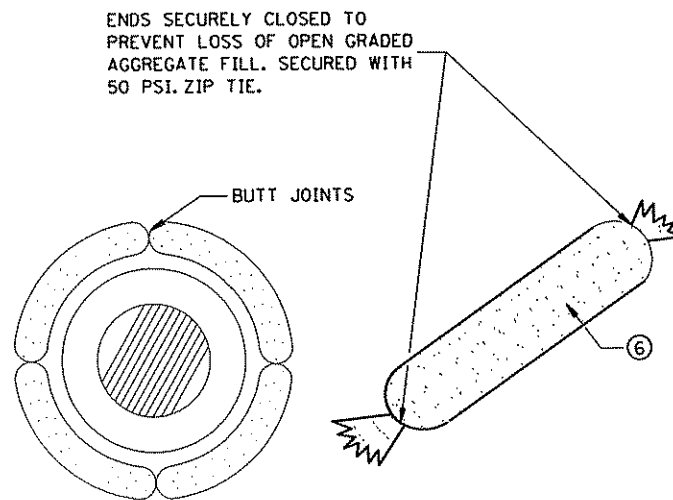
**FILTER BAG INSERT ③**

(CAN BE INSTALLED IN ANY INLET TYPE  
WITH OR WITHOUT A CURB BOX)

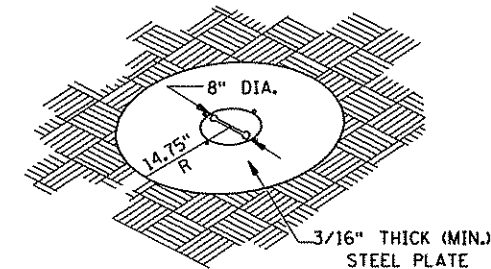
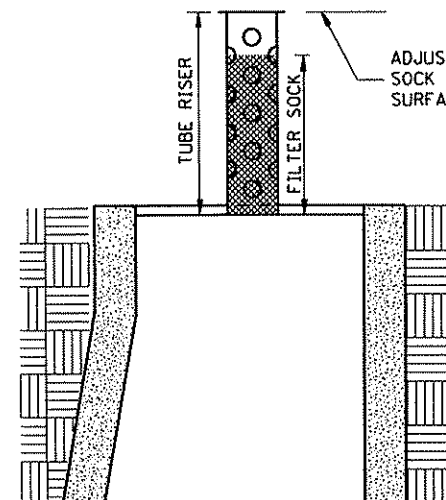
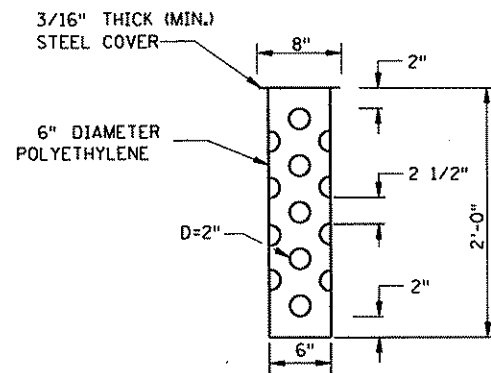


**SEDIMENT CONTROL INLET HAT**

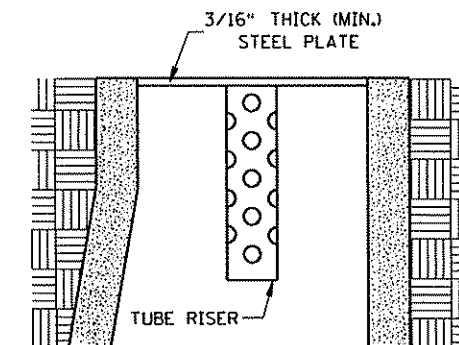
NOTE:  
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL  
OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE  
THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW  
FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING,  
FLANGES AND A LID/COVER.



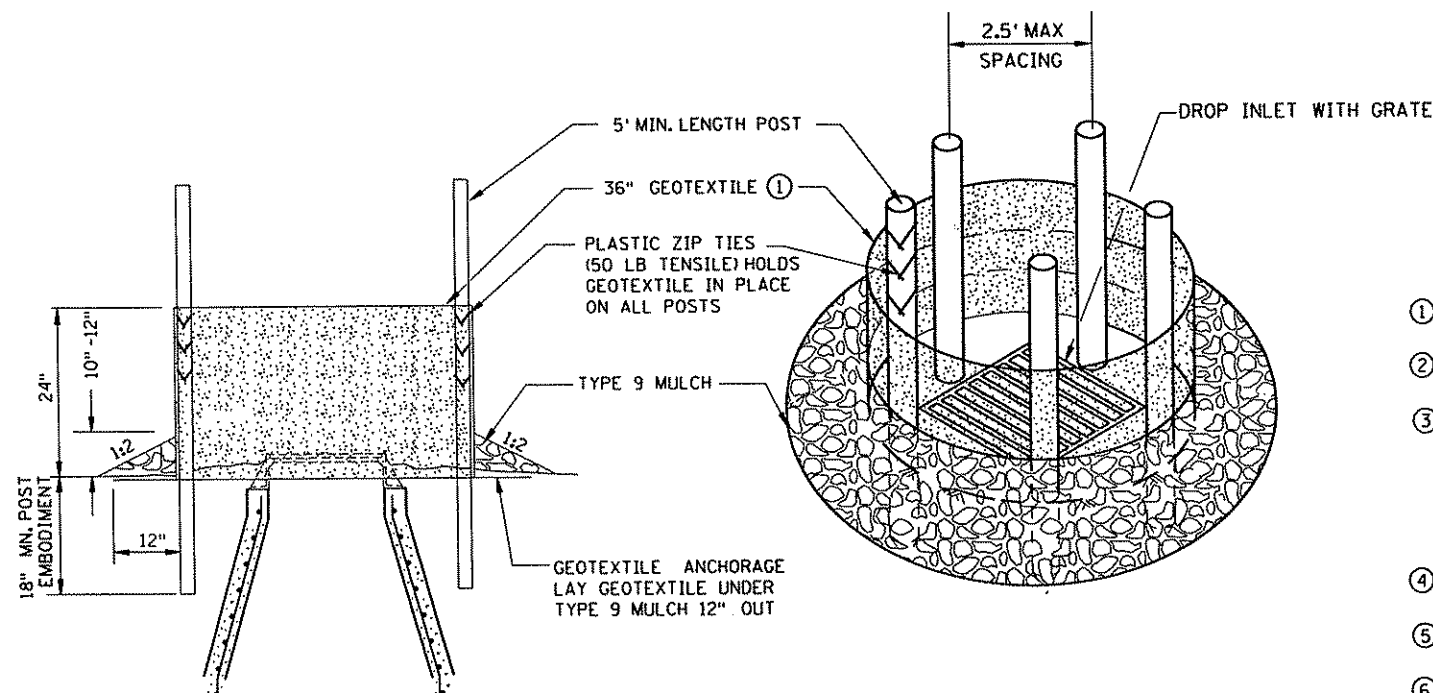
**ROCK LOG/COMPOST LOG**



**PERSPECTIVE VIEW**



**POP-UP HEAD**



**SILTS FENCE RING AND ROCK FILTER BERM**

USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS

**NOTES:**

SEE SPECS. 2573, 3137, 3886 & 3891.

MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST  
MAY BE SUBSTITUTED.

- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH  
DIRECTIONS, MEETING SPEC. 3886.
- ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF  
10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ③ INSTALLATION NOTES:  
DO NOT INSTALL FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES,  
MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE  
INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN  
THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES.  
WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES,  
TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
- ④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A  
ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
- ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE  
FLOODING OF THE ROADWAY.
- ⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE  
JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A  
HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED  
AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE  
CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

STANDARD SHEET NO.  
297.405 (4 OF 4)

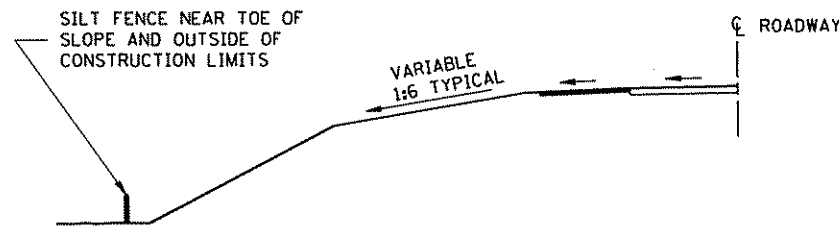
STANDARD APPROVED:  
MARCH 29, 2012

S.A.P. 002-622-032

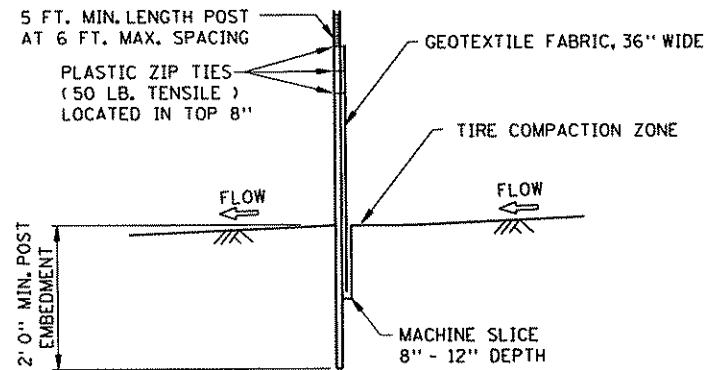
TITLE:

**TEMPORARY SEDIMENT CONTROL  
STORM DRAIN INLET PROTECTION**

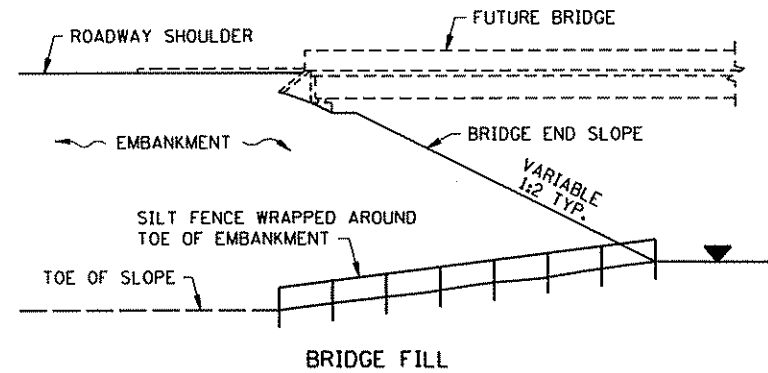
SHEET NO. 85 OF 106 SHEETS



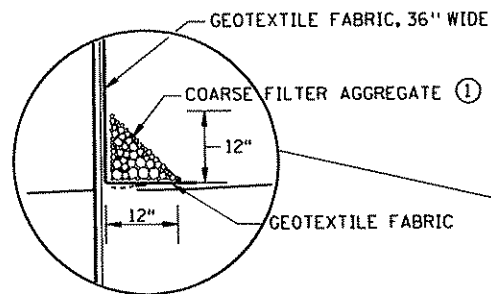
LOCATION OF SILT FENCE  
AT TOE OF ROADWAY EMBANKMENT



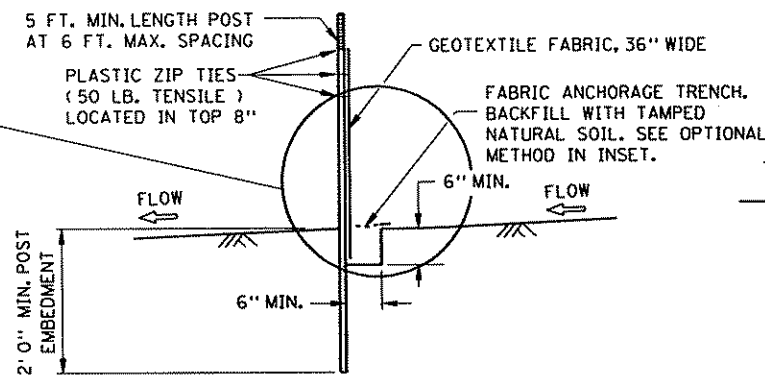
SILT FENCE, MACHINE SLICED  
DESIGN GUIDELINES:  
TO PROTECT AREAS FROM SHEET FLOW.  
MAXIMUM CONTRIBUTING AREA: 1 ACRE.



DESIGN GUIDELINES:  
WATER COURSE FLOW VELOCITY: STAGNANT  
CONTRIBUTING SLOPE AREA: 1/2 ACRE

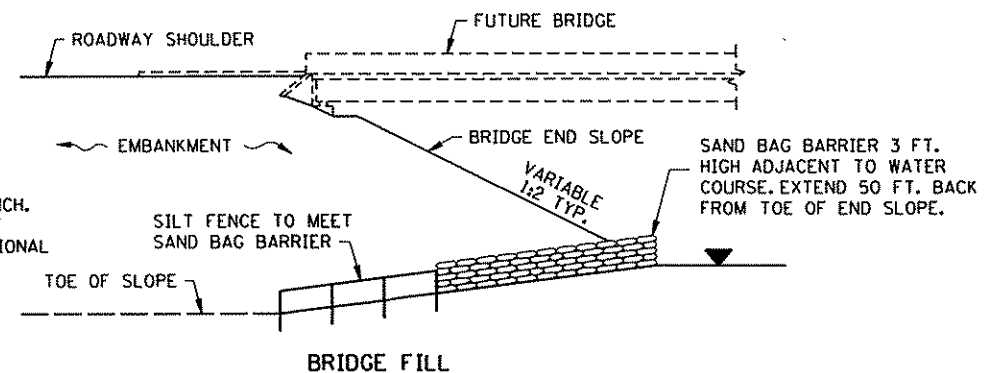


OPTIONAL METHOD  
FOR SILT FENCE, HEAVY DUTY

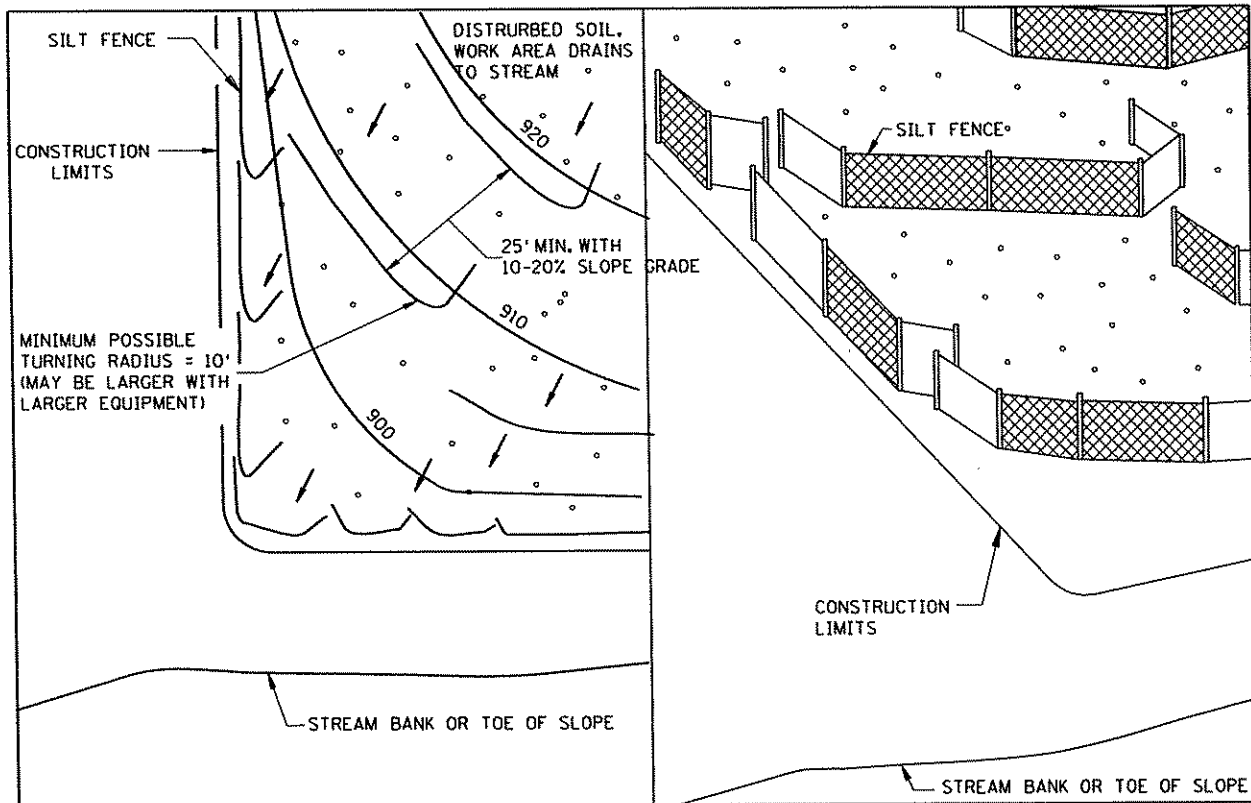


SILT FENCE, HEAVY DUTY  
(HAND INSTALLED)

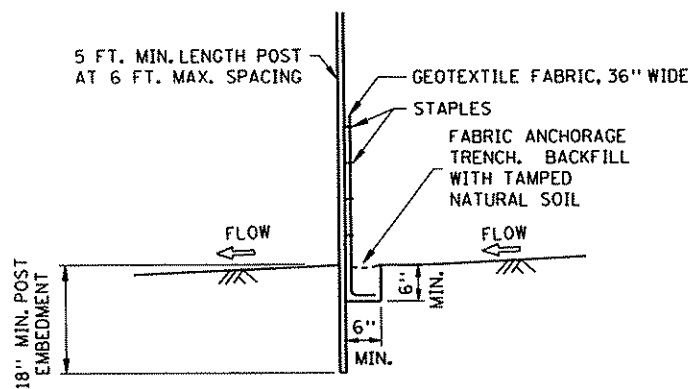
DESIGN GUIDELINES:  
TO PROTECT AREAS FROM SHEET FLOW.  
MAXIMUM CONTRIBUTING AREA: 1 ACRE.



DESIGN GUIDELINES:  
WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC.  
CONTRIBUTING SLOPE AREA: 1 ACRE

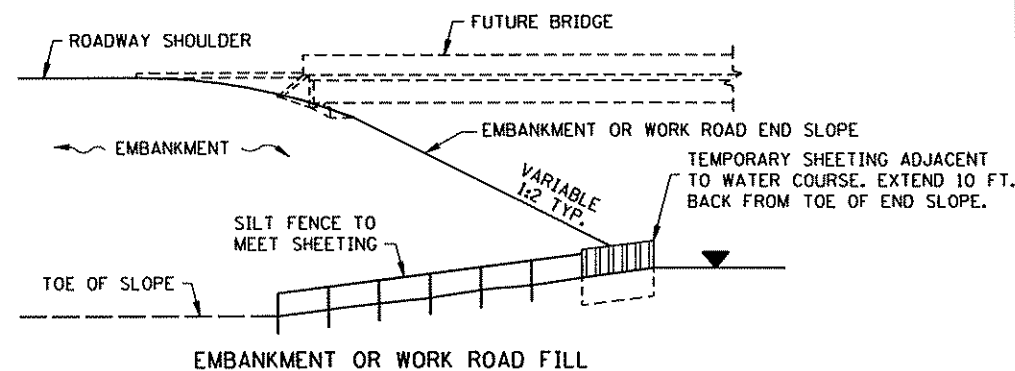


SILT FENCE, J-HOOK INSTALLATION



SILT FENCE, PREASSEMBLED

DESIGN GUIDELINES:  
TO PROTECT AREAS FROM SHEET FLOW.  
MAXIMUM CONTRIBUTING AREA: 1 ACRE.



DESIGN GUIDELINES:  
WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC.  
CONTRIBUTING SLOPE AREA: 3 ACRES

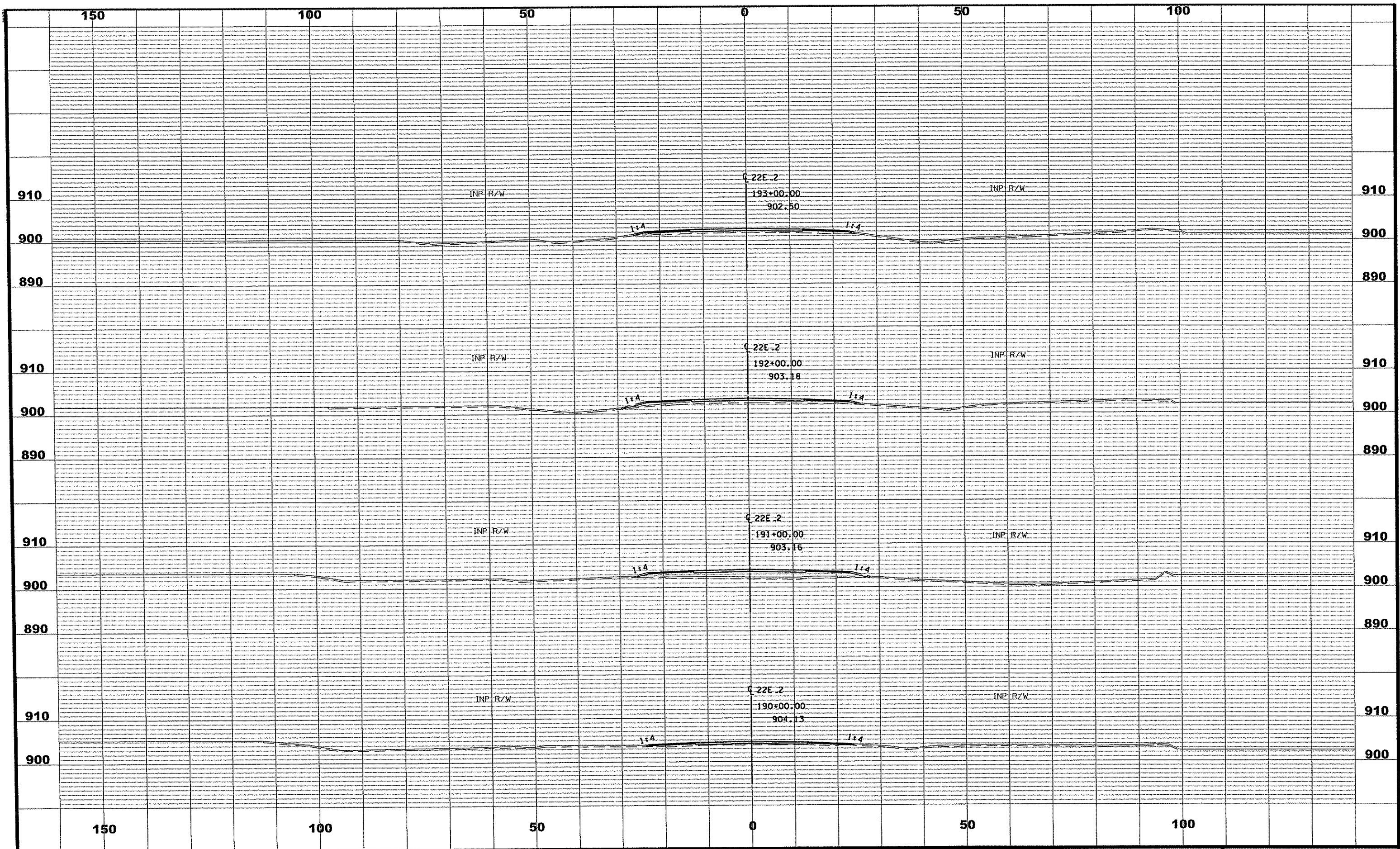
SILT FENCE AT BRIDGE EMBANKMENT ADJACENT TO WATER

NOTES:

SEE SPECS. 2573, 3149 & 3886.

① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.

STANDARD SHEET NO. 5-297.408 (1 OF 2)	TITLE: TEMPORARY SEDIMENT CONTROL SILT FENCE
STANDARD APPROVED: SEPTEMBER 27, 2006	
S.A.P. 002-622-032	SHEET NO. 86 OF 106 SHEETS



NO	DATE	BY	CKD	APPR	REVISION
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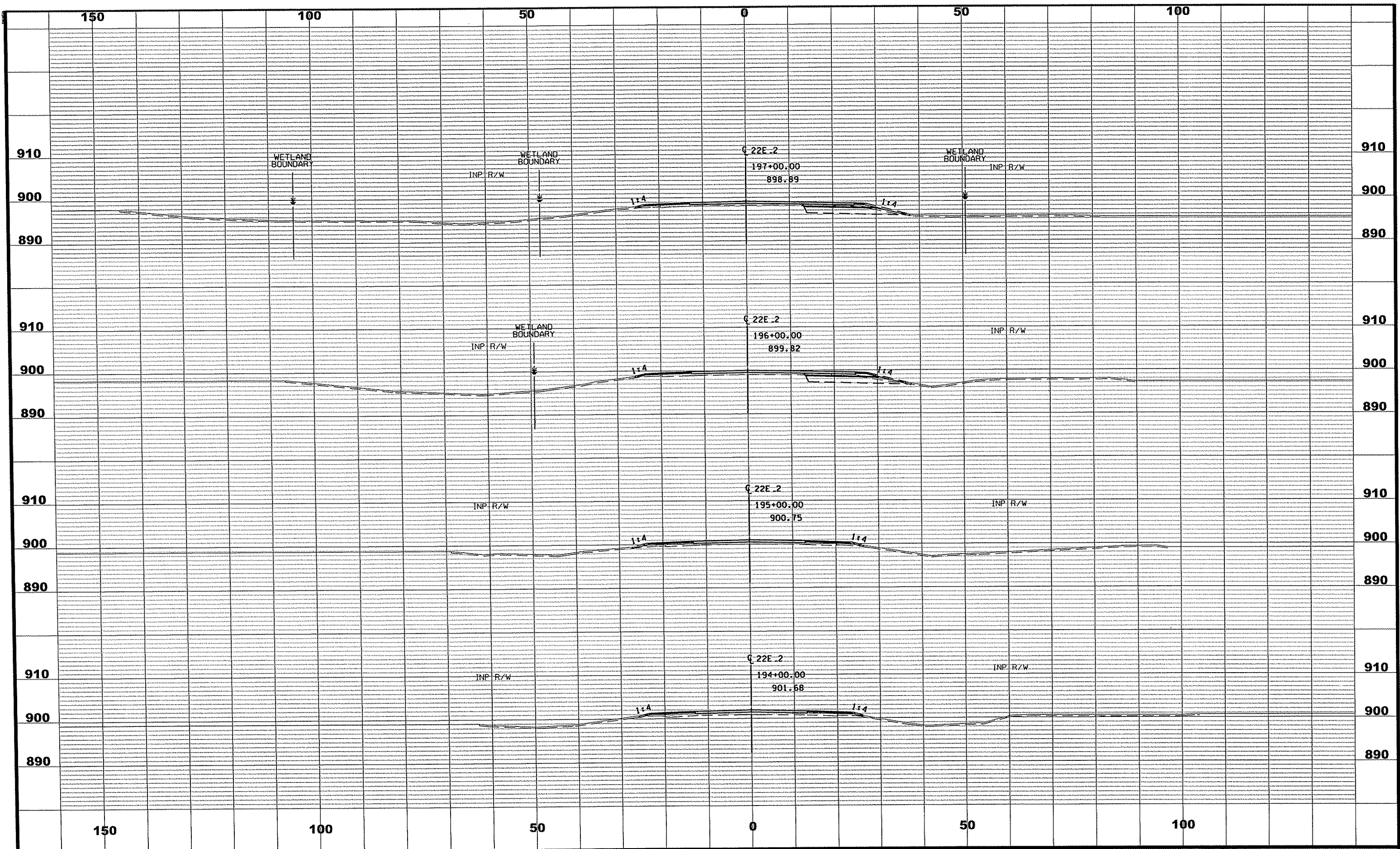


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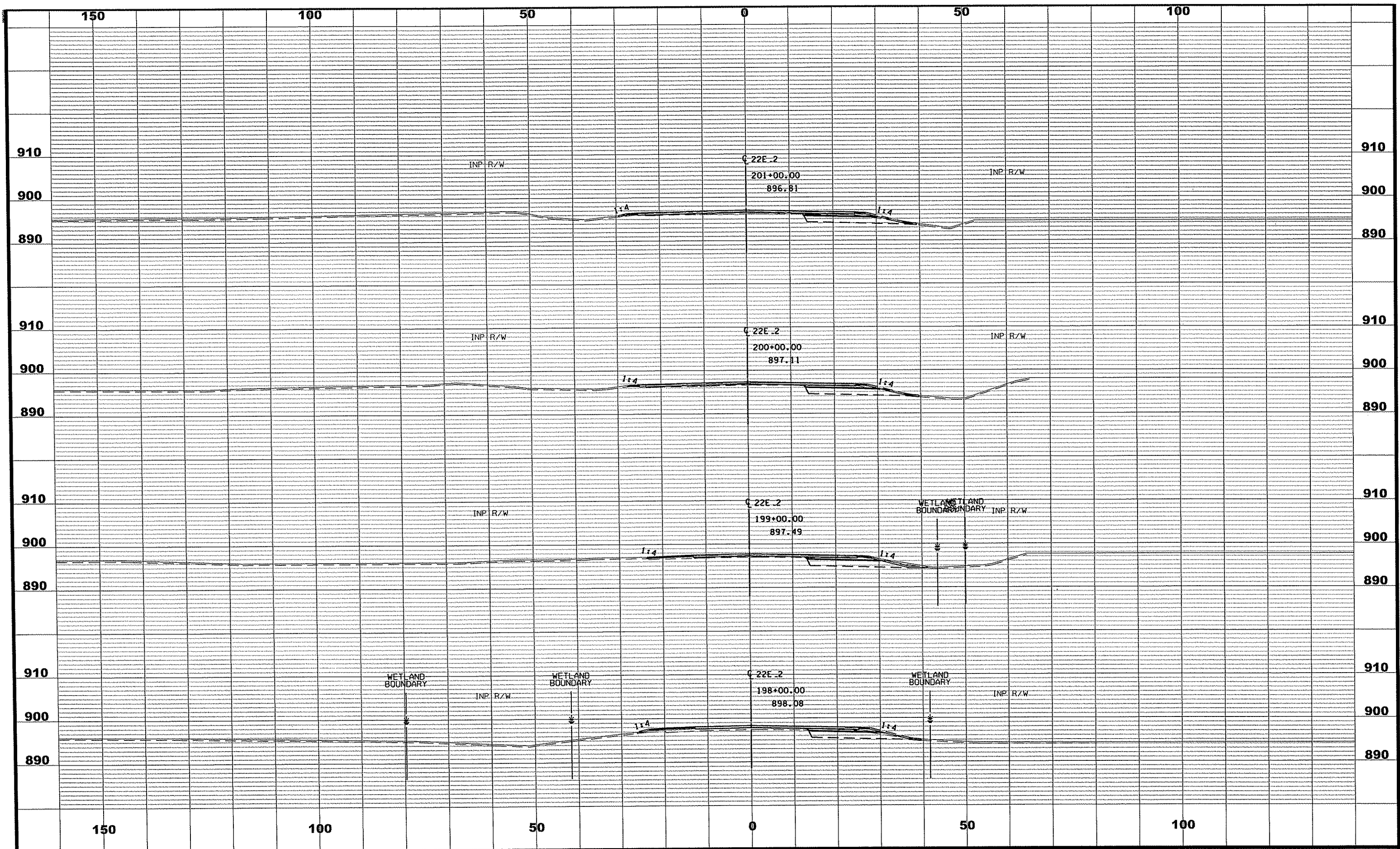
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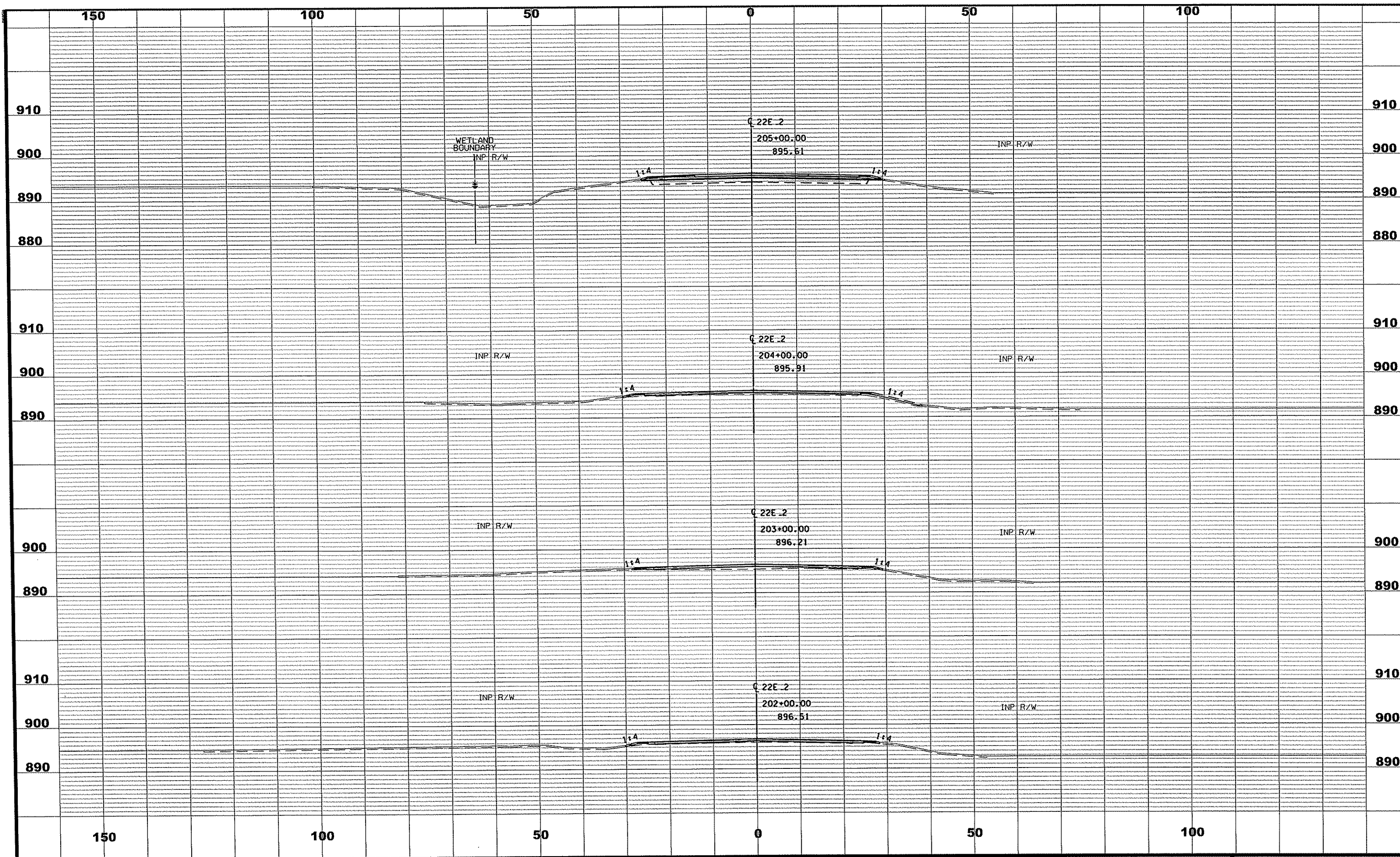


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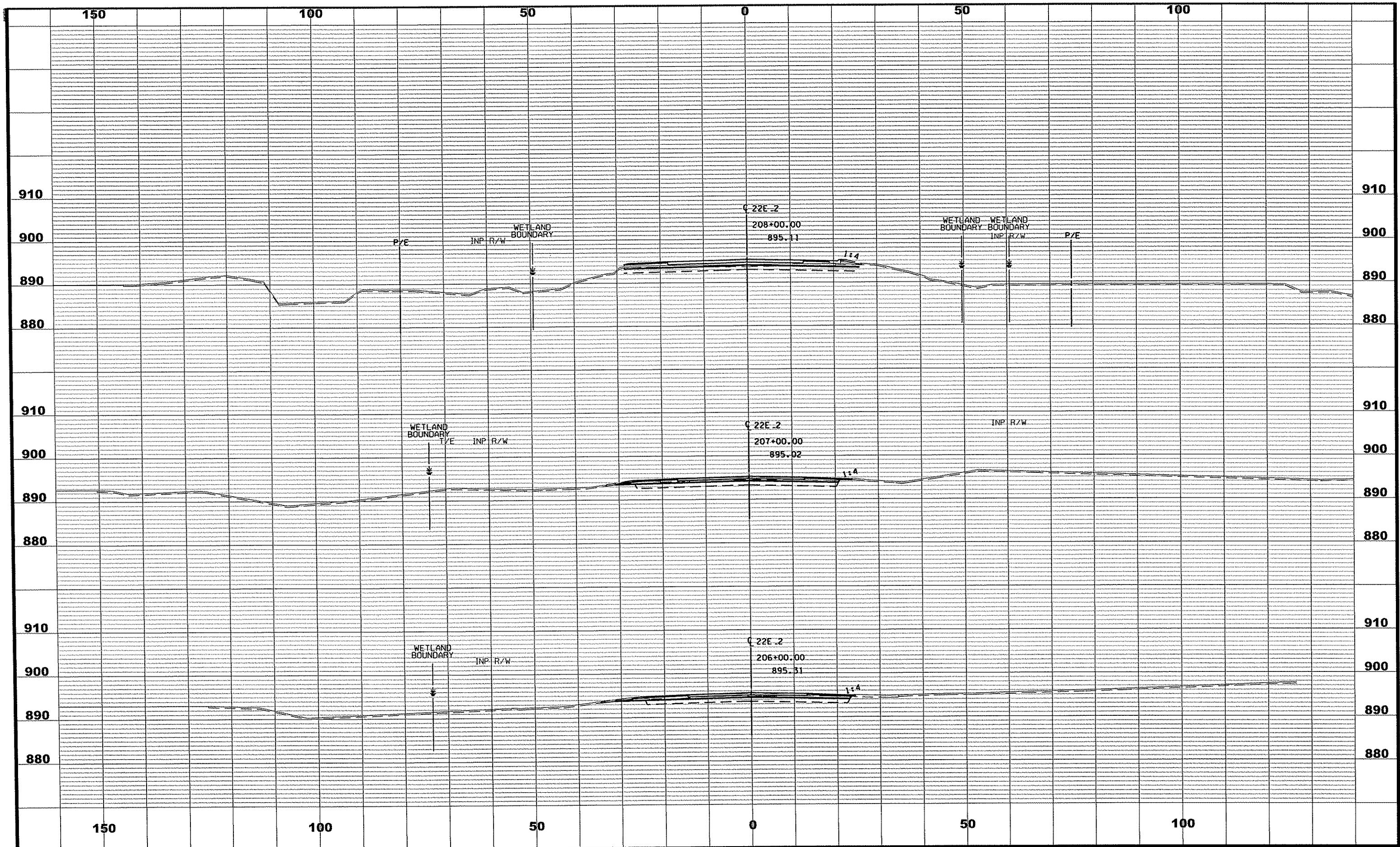


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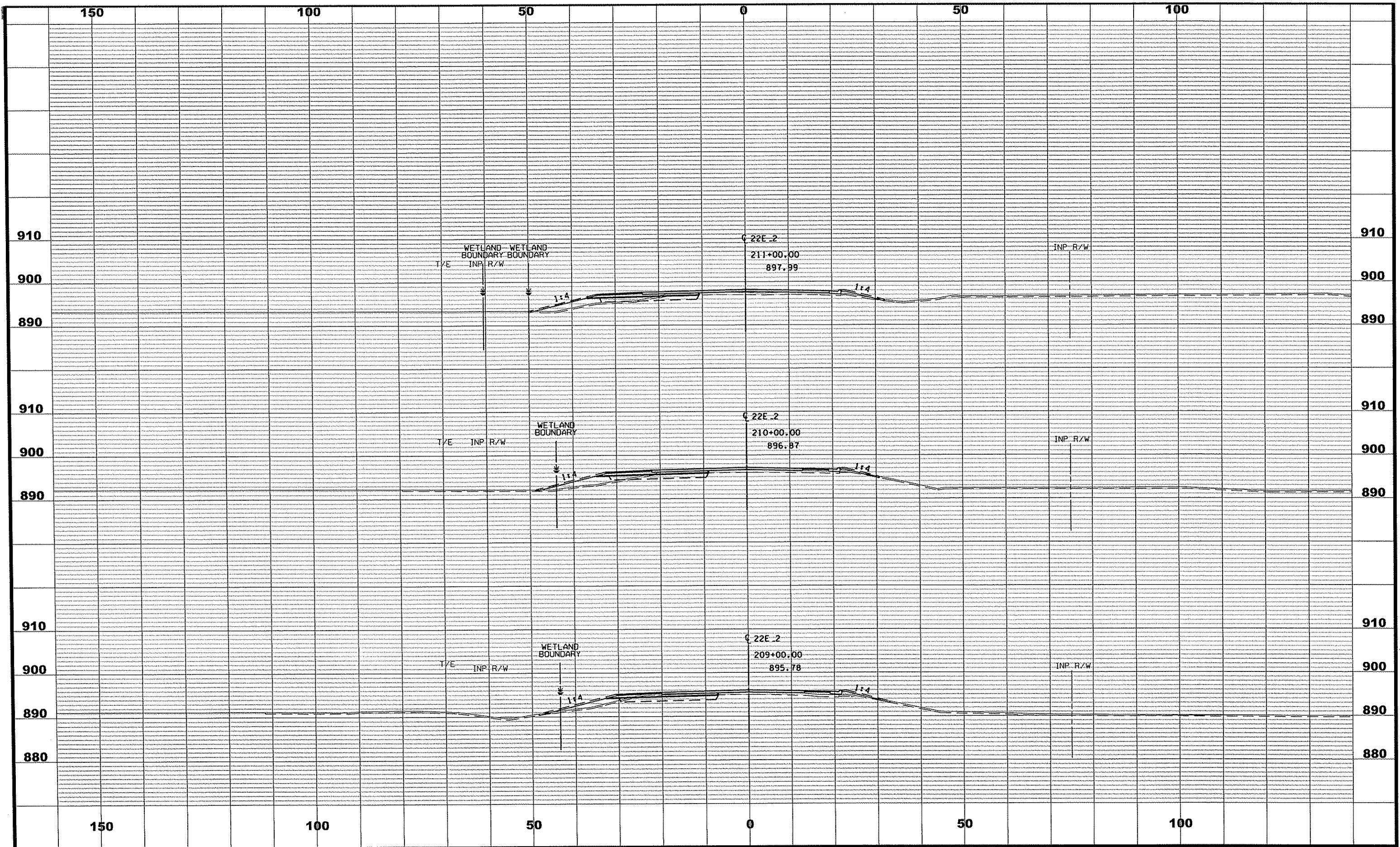
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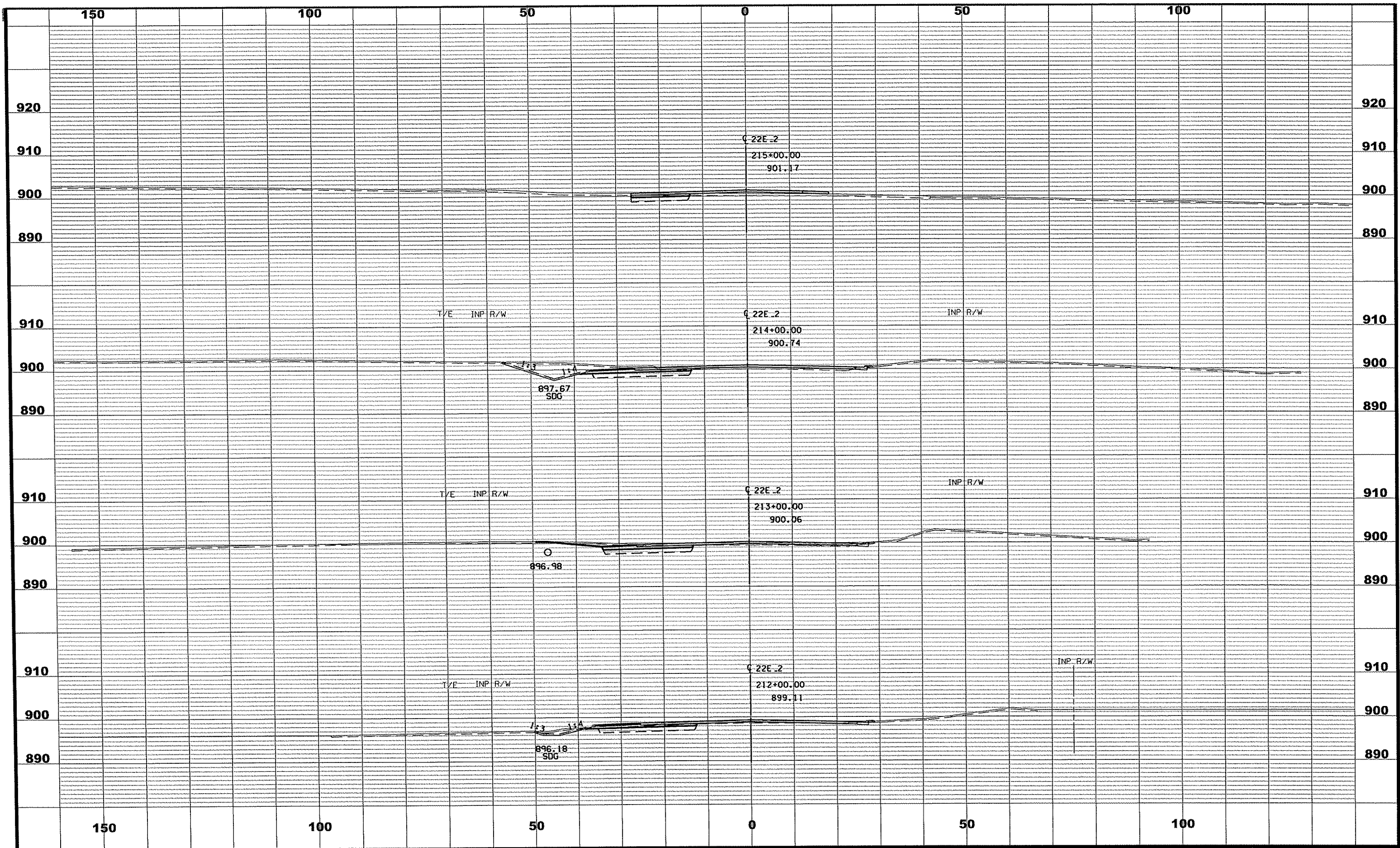
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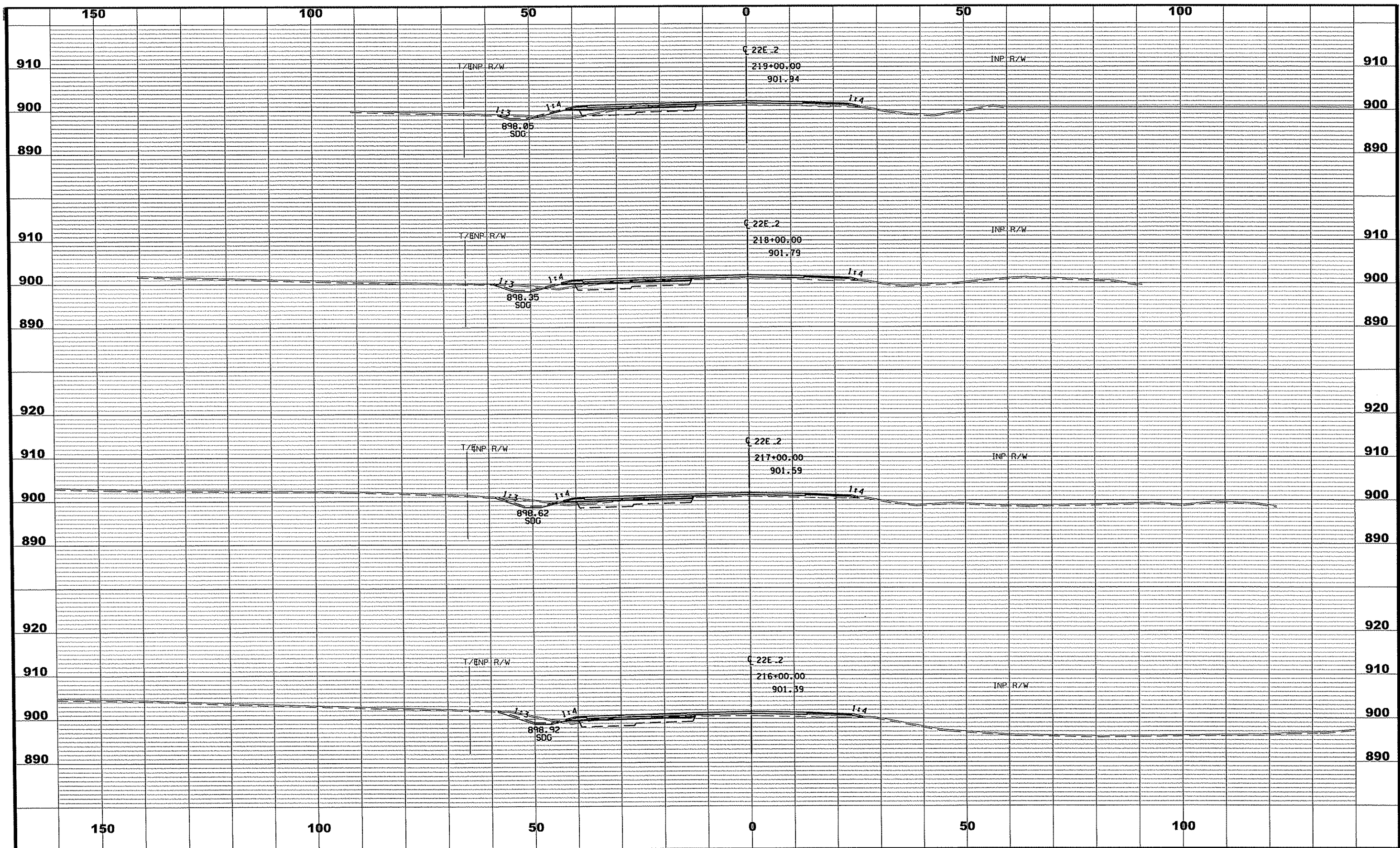
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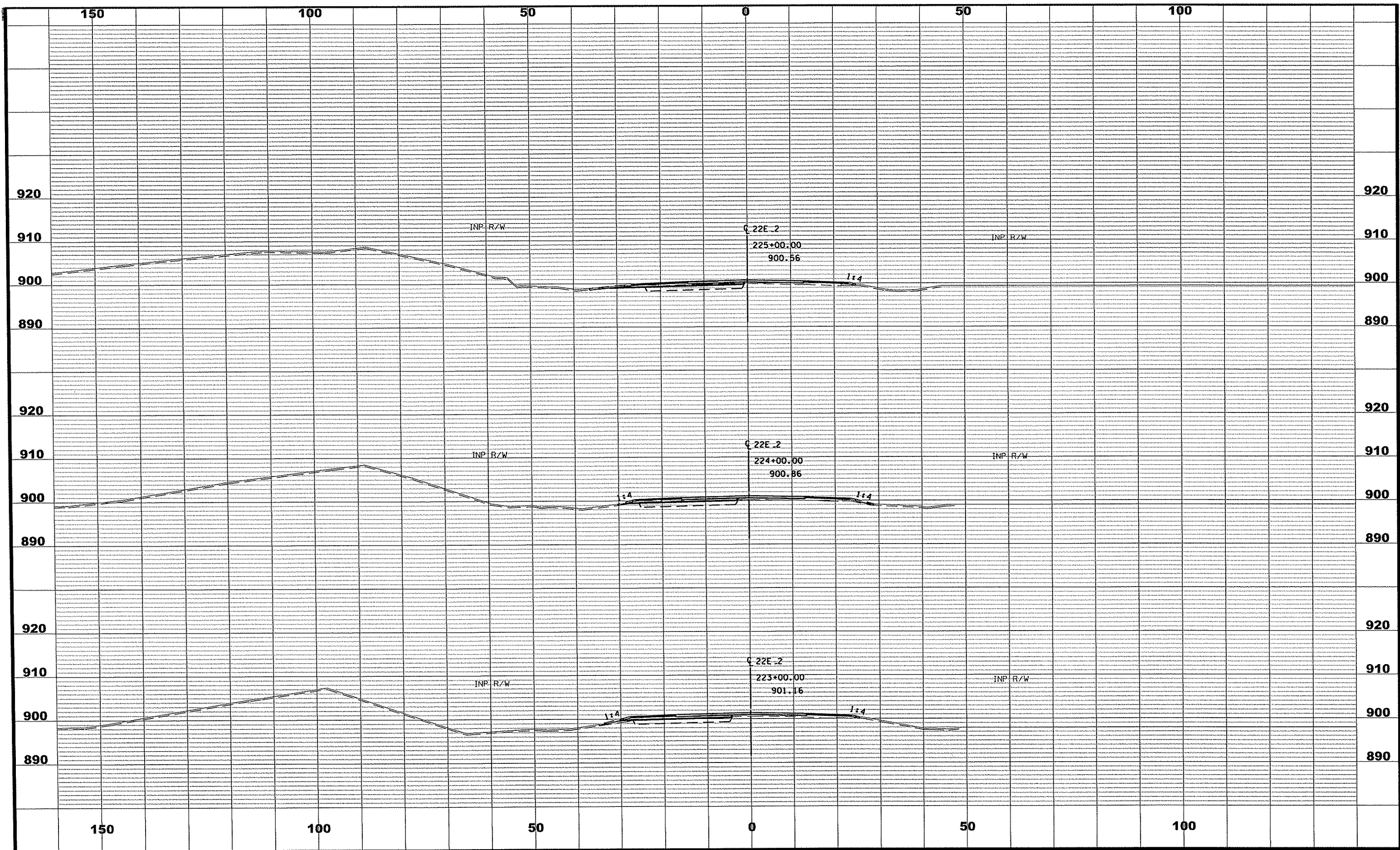
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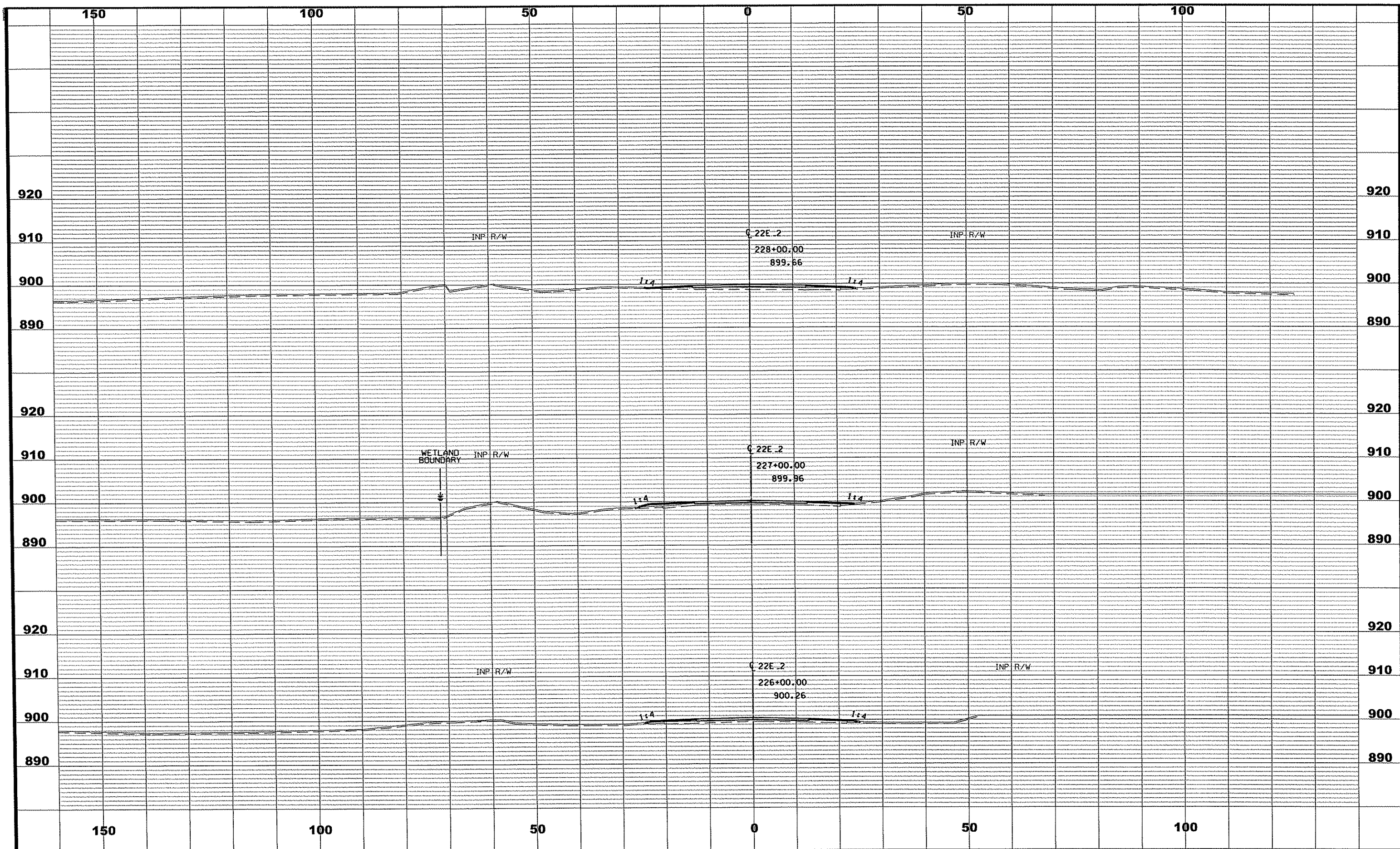
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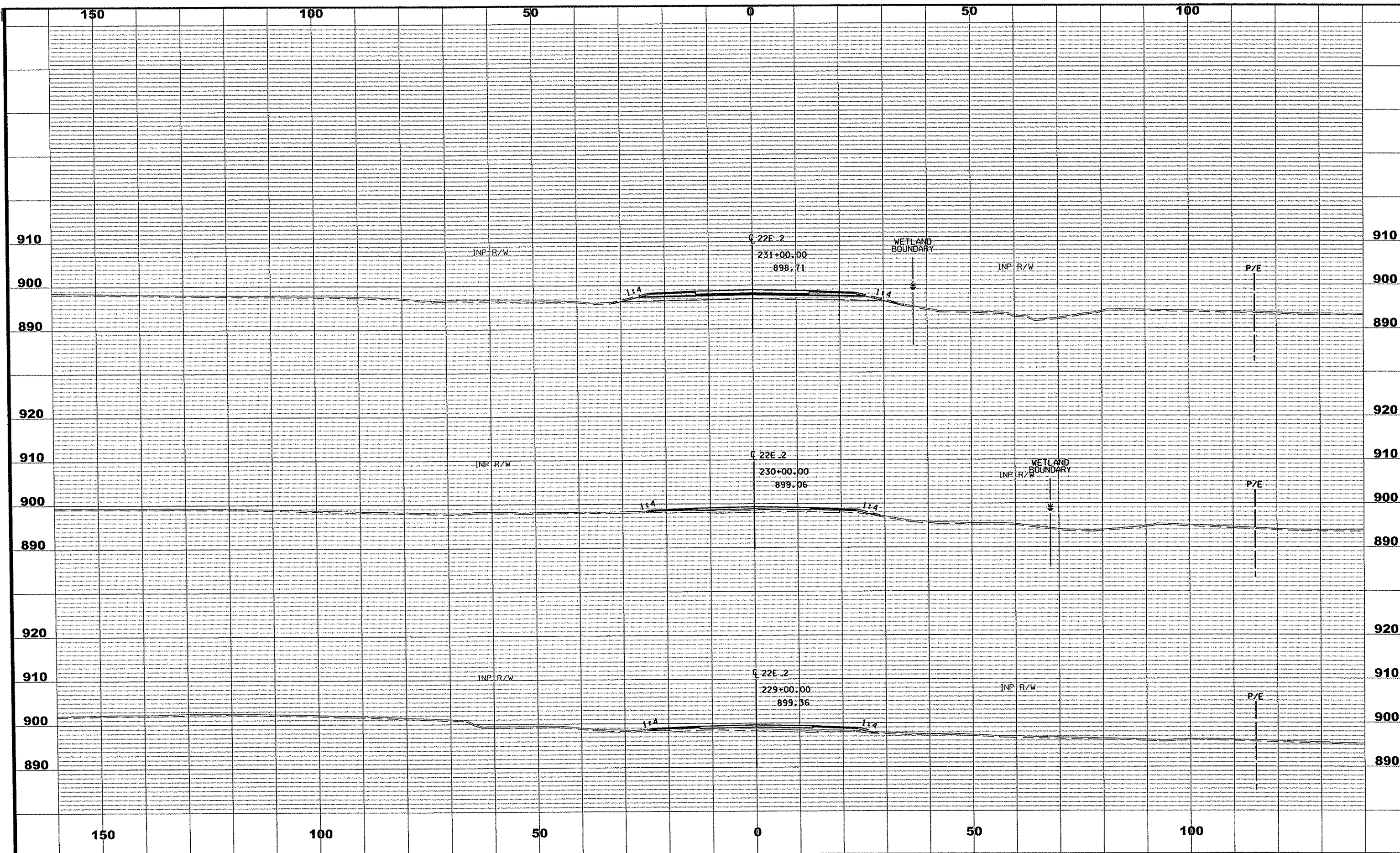


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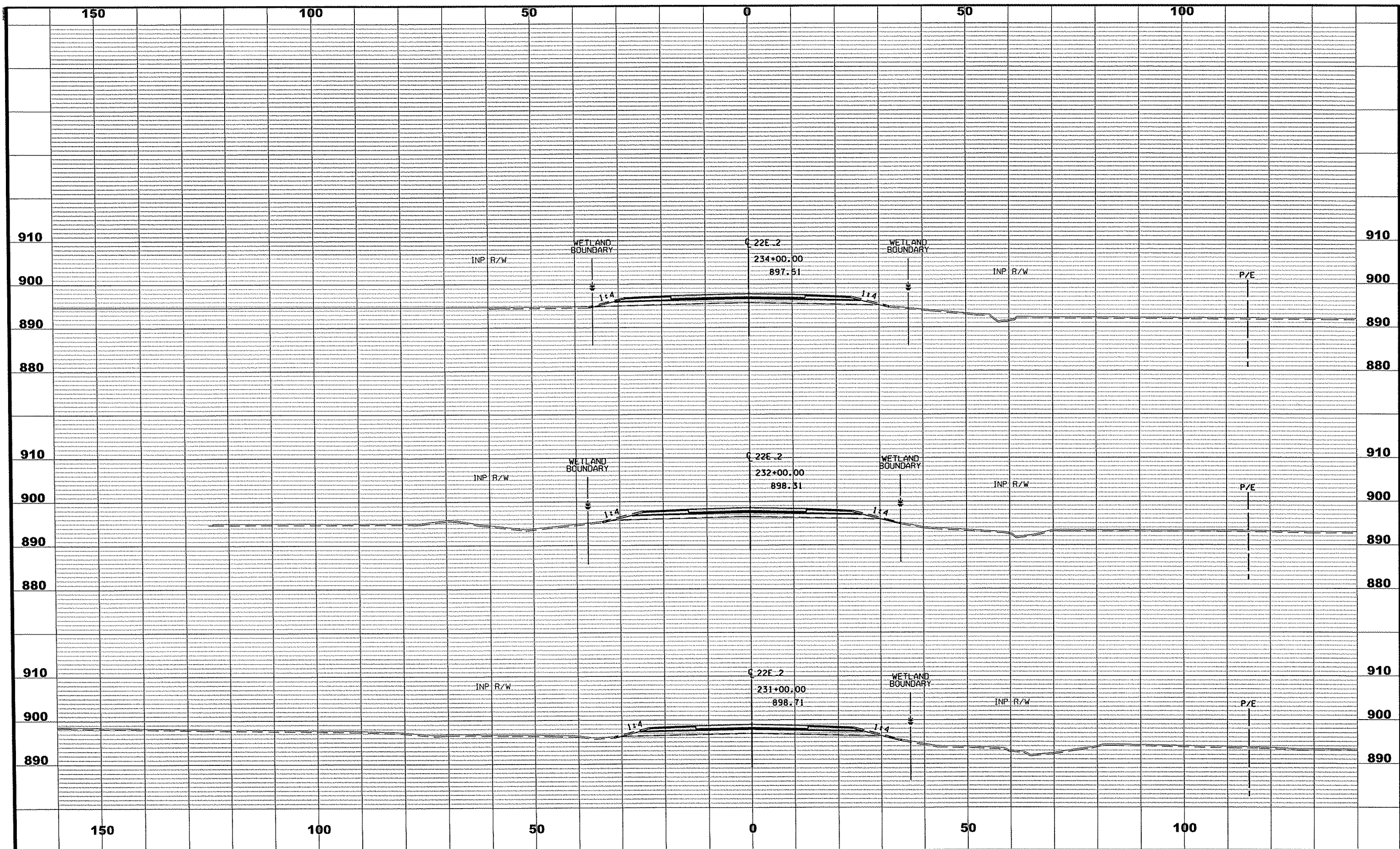
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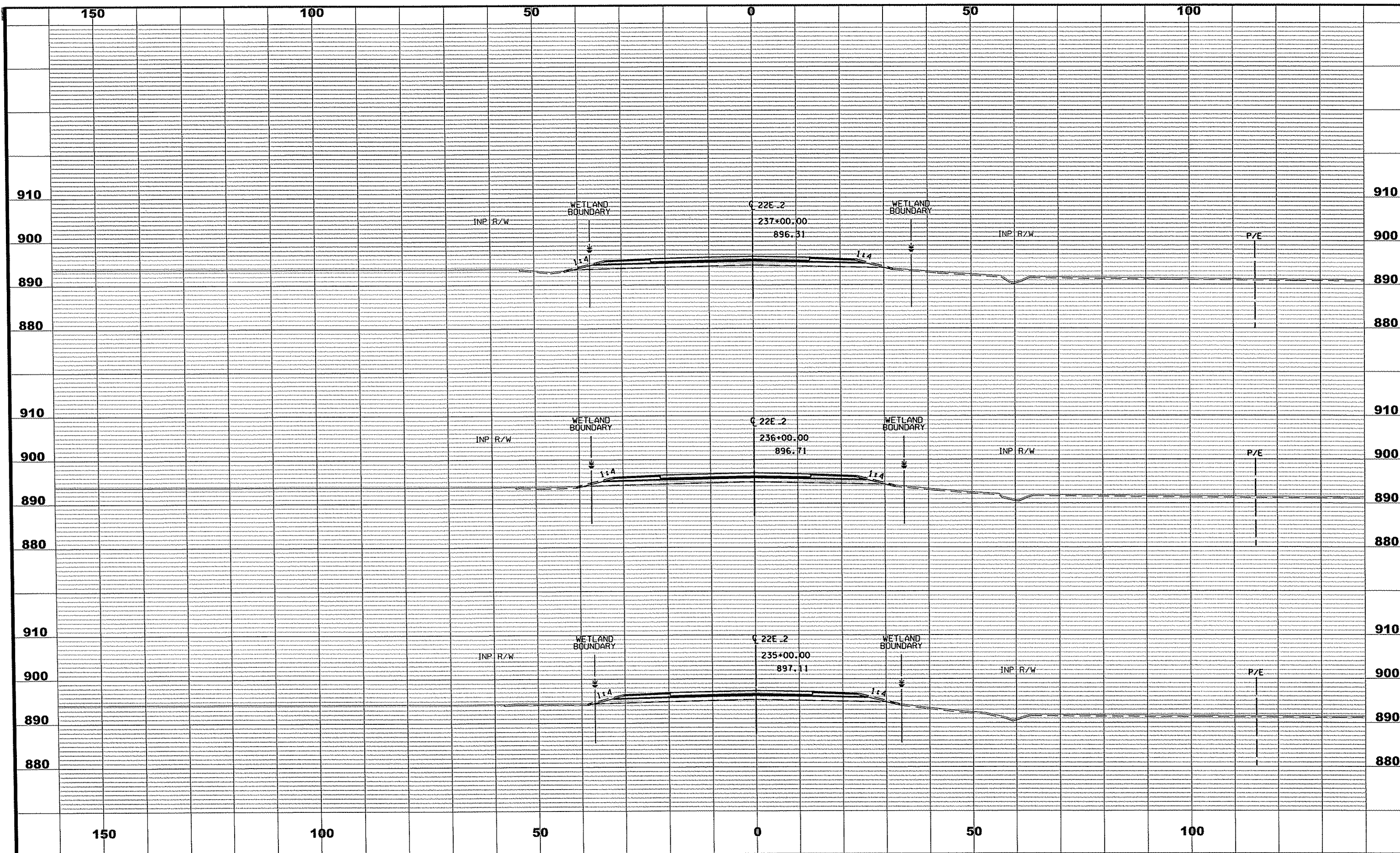
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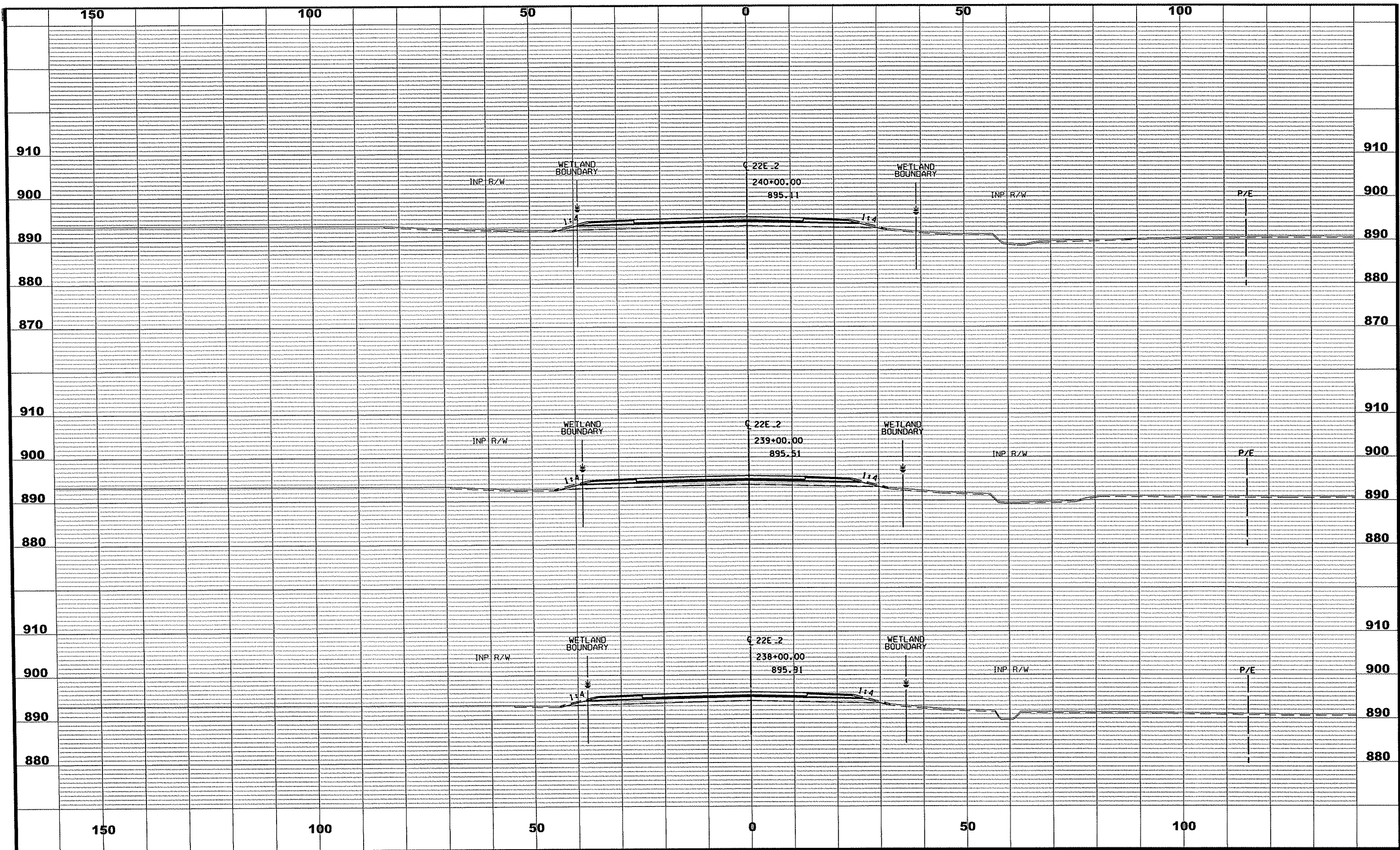
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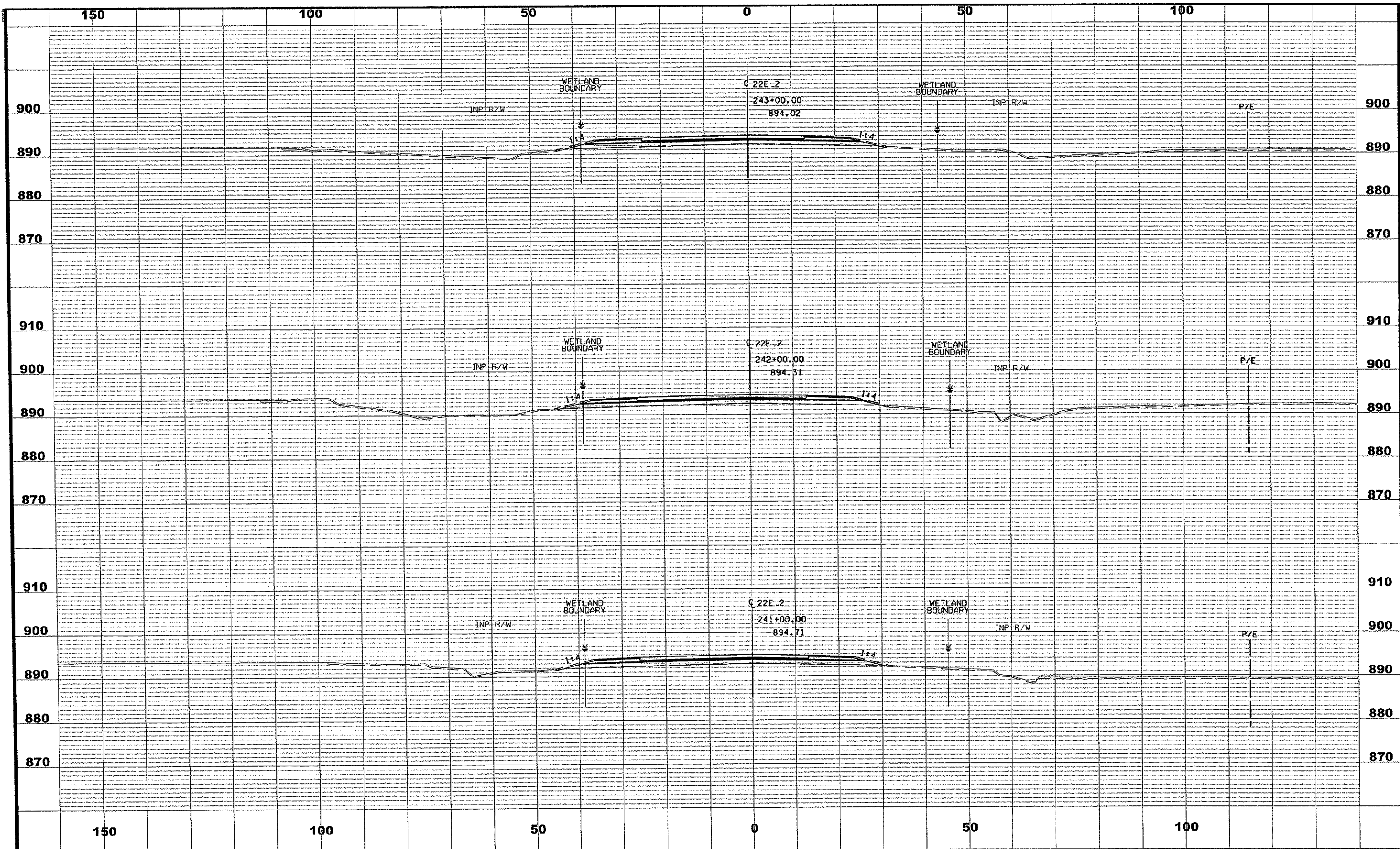
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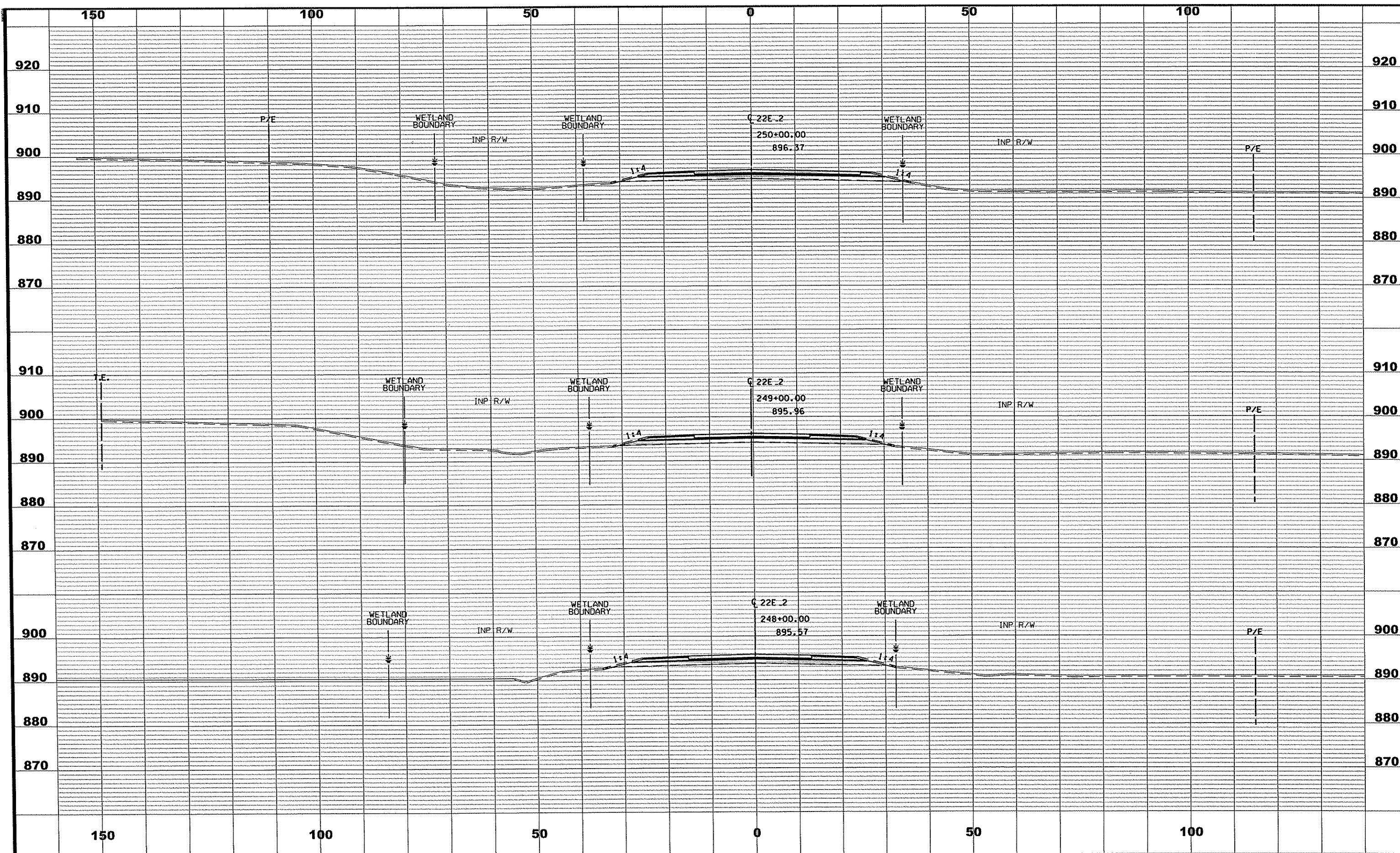
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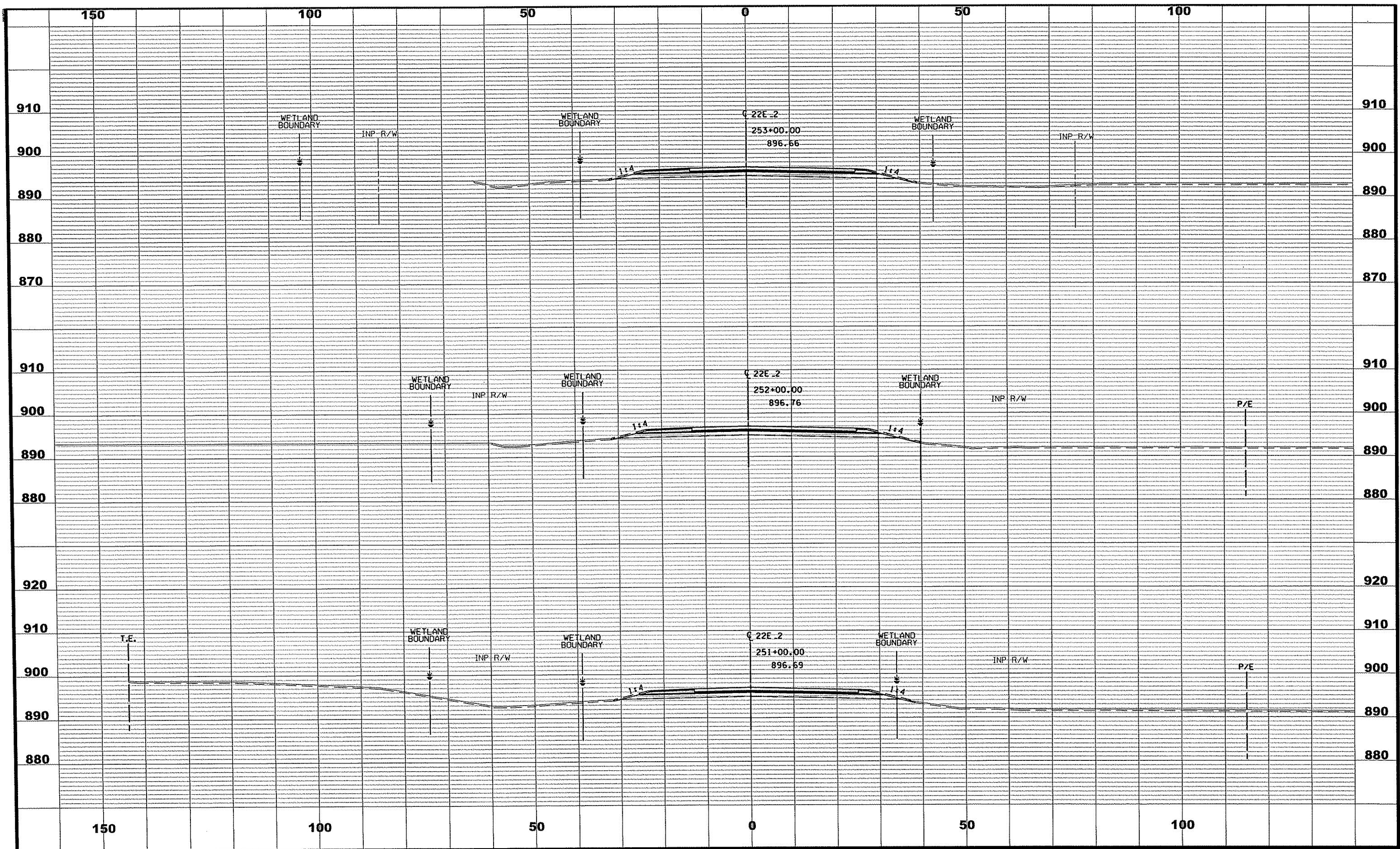


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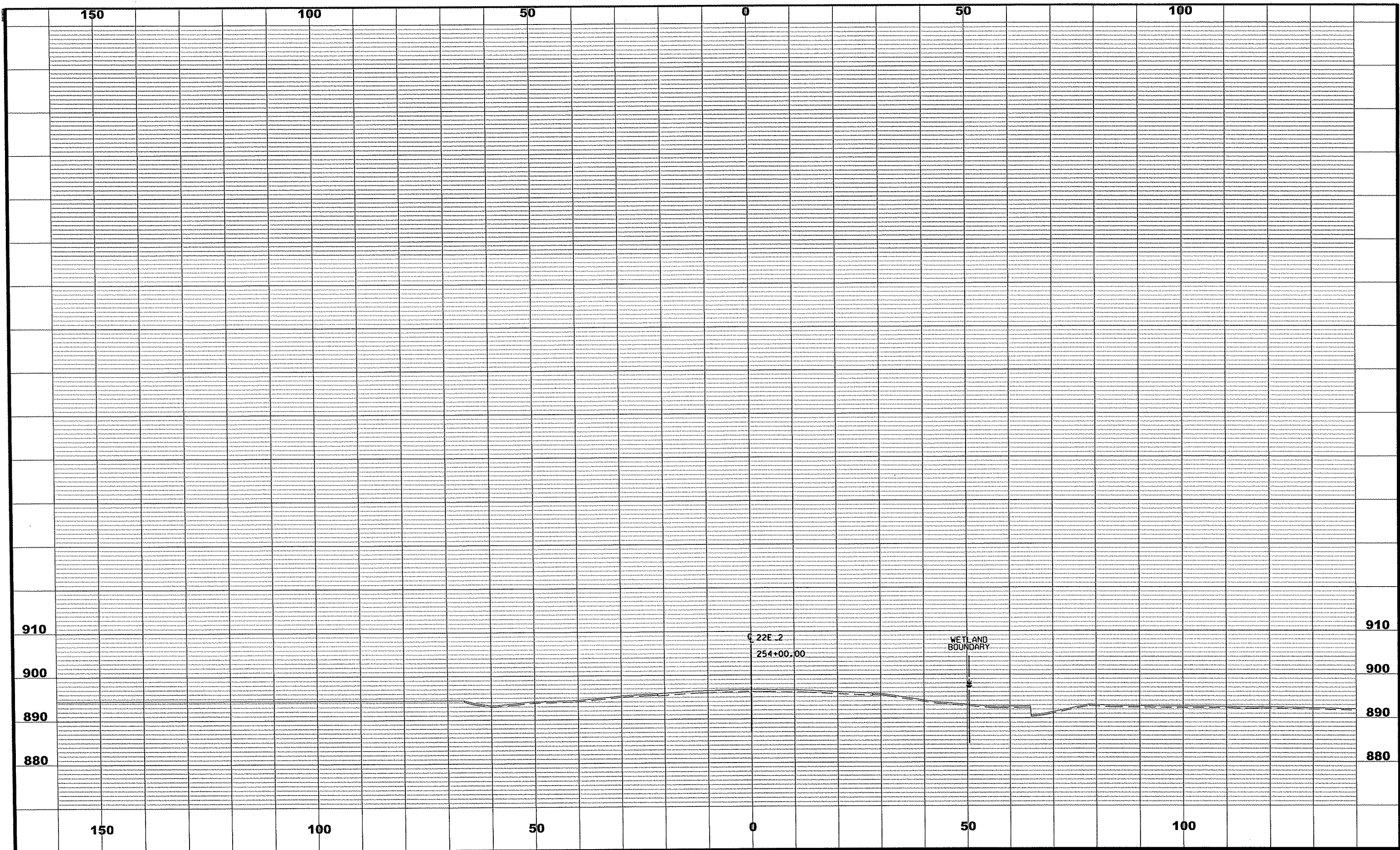
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