

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

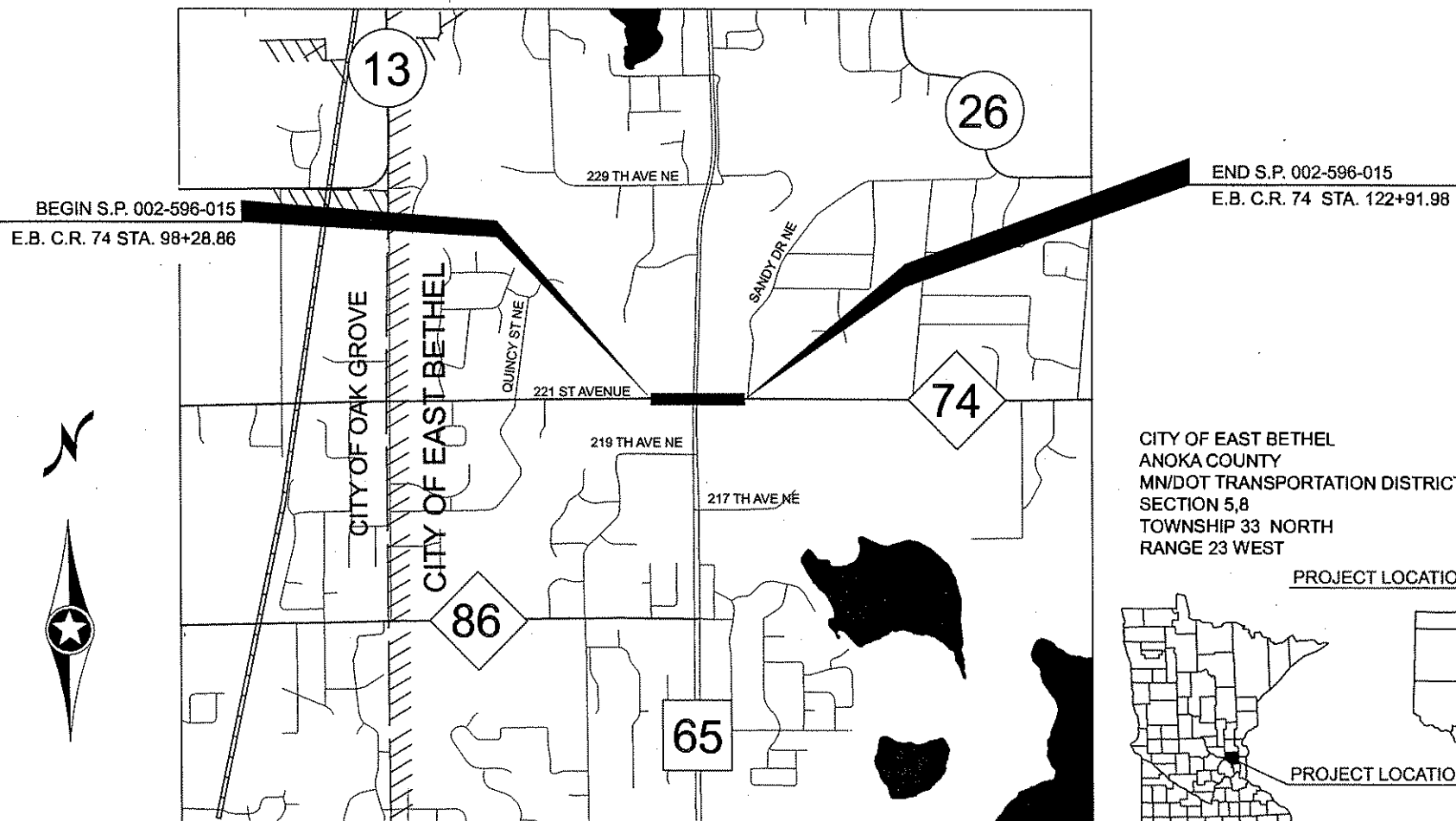
CONSTRUCTION PLAN FOR GRADING, AGG.BASE, BITUMINOUS SURFACING, DRAINAGE, CURB & GUTTER AND SIGNAL SYSTEM

LOCATED ON 221ST AVE NE BETWEEN 1,200' WEST OF TH 65 AND SANDY DRIVE NE

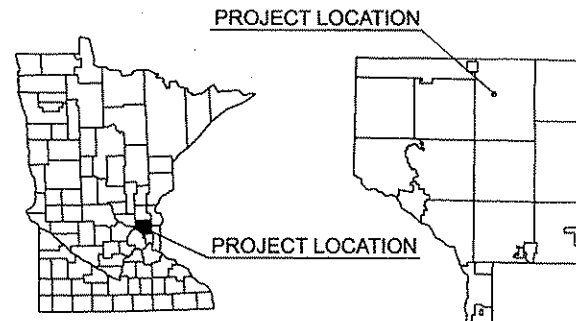
ANOKA COUNTY PROJ. NO. C.P. 002-596-015 STATE OF MN PROJ. NO. S.P. 0208-147
C.R. 74

GROSS LENGTH 2463.12 FEET 0.467 MILES
BRIDGES-LENGTH 0.00 FEET 0.000 MILES
EXCEPTIONS-LENGTH 0.00 FEET 0.000 MILES
NET LENGTH 2463.12 FEET 0.467 MILES

NOTE: LENGTH AND DESCRIPTION BASED ON CR 74 EB
T.H. 65 REF PT. 027+00.409



CITY OF EAST BETHEL
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 5.8
TOWNSHIP 33 NORTH
RANGE 23 WEST



DESIGN DESIGNATION (CR 74)

ESAL 20	683,423	Functional Classification	MAJOR COLLECTOR
R VALUE	40	No. of Traffic Lanes	2 No. of Parking Lanes 0
ADT (2012) =	3,410	Design Speed	55 MPH
Proj. ADT (2032) =	6,797	Based on Stopping Sight Distance	495' (MINIMUM)
Proj. HCADT (2032) =	401	Height of eye	3.5' Height of object 2.0'
Soil Factor	NA	Design Speed not achieved at:	N/A
10 TON DESIGN			

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."

FEDERAL PROJECT NUMBER HSIP 0212 (234)

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 PAR VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

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3 - 5	STATEMENT OF ESTIMATED QUANTITIES
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10	SOILS AND CONSTRUCTION NOTES
11 - 12	EARTHWORK SUMMARY
13 - 14	TYPICAL SECTIONS
15 - 17	MISCELLANEOUS DETAILS
18	ALIGNMENT TABULATION AND PLAN
19 - 20	INPLACE UTILITY PLAN
21 - 22	INPLACE TOPOGRAPHY, AND REMOVAL PLAN
23 - 24	INPLACE SIGN REMOVAL PLAN & TAB
25 - 26	DETOUR PLAN
27 - 29	STAGING PLAN AND DETAILS
30 - 33	CONSTRUCTION PLAN
34 - 36	DRAINAGE PLAN
37	CULVERTS
38 - 51	TRAFFIC CONTROL SIGNAL SYSTEM
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THIS PLAN CONTAINS 87 SHEETS

Approved *[Signature]* 05/04/2012
ANOKA COUNTY ENGINEER

Approved *[Signature]* 5/7/2012
CITY OF EAST BETHEL ENGINEER

Recommended for Approval *[Signature]* 6/1/2012
DISTRICT TRANSPORTATION ENGINEER

Recommended for Approval *[Signature]* 6/1/2012
DISTRICT MATERIALS ENGINEER

Recommended for Approval *[Signature]* 6/1/2012
DISTRICT WATER RESOURCES/HYDRAULICS ENGINEER

Recommended for Approval *[Signature]* 6/1/2012
DISTRICT TRAFFIC ENGINEER

[Signature] 6/1/2012
DISTRICT STATE AID ENGINEER : REVIEWED FOR COMPLIANCE WITH STATE AND FEDERAL AID RULES / POLICY

[Signature] 6/1/2012
STATE AID ENGINEER : APPROVED FOR STATE AND FEDERAL AID FUNDING:

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: 5-3-12 LICENSE NO. 24756

DRAWN BY: NJO DATE: 2-16-12

DESIGN BY: NJO DATE: 11-21-11

CHECKED BY: JEO DATE: 2-21-12



ANOKA COUNTY
HIGHWAY DEPT.

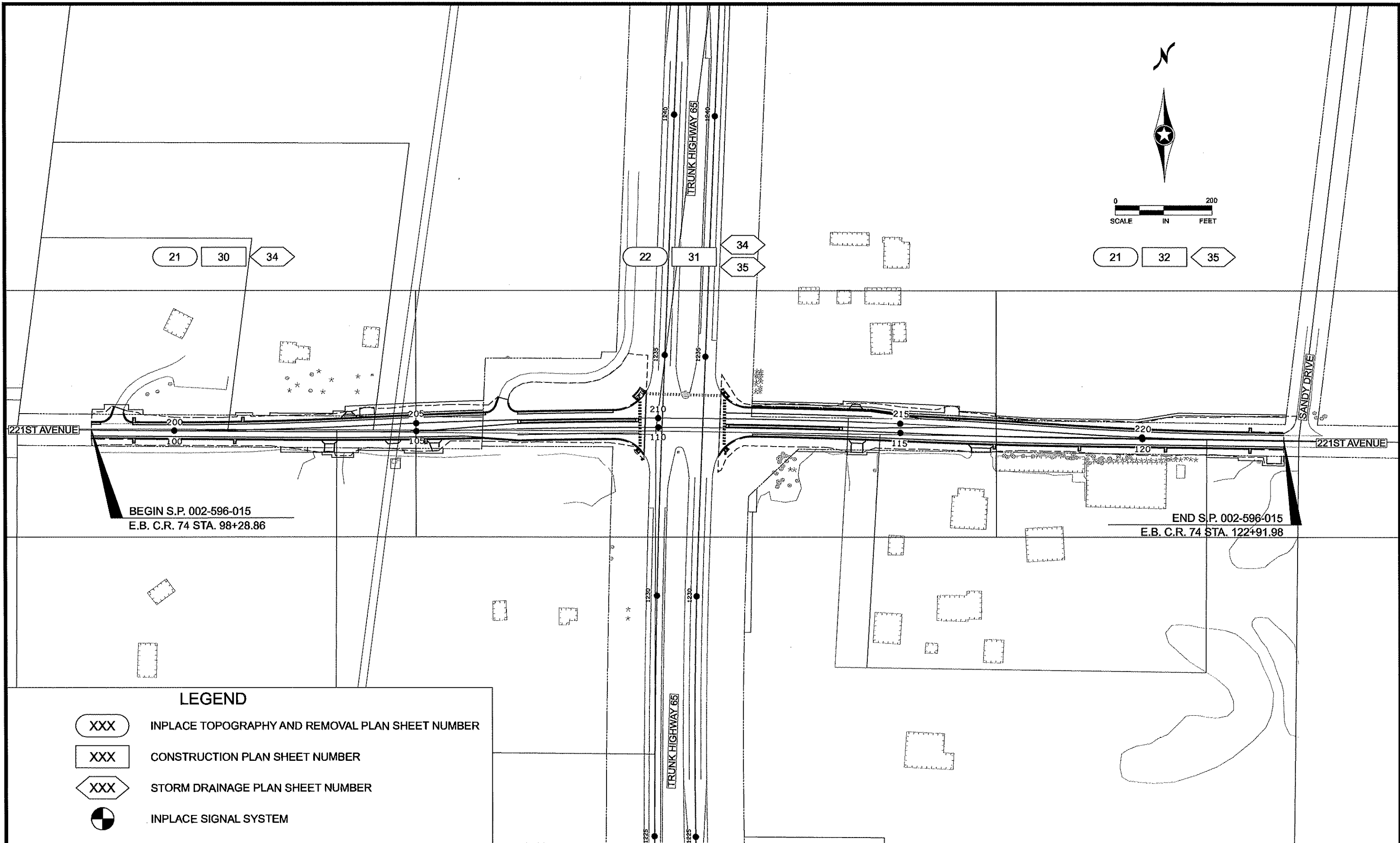
S.P. 002-596-015

S.P. 0208-147 (TH 65 = 005)

C.P. 2012-05

TITLE SHEET

Sheet 1 of 87 Sheets



BEGIN S.P. 002-596-015
E.B. C.R. 74 STA. 98+28.86

END S.P. 002-596-015
E.B. C.R. 74 STA. 122+91.98

LEGEND

- XXX INPLACE TOPOGRAPHY AND REMOVAL PLAN SHEET NUMBER
- XXX CONSTRUCTION PLAN SHEET NUMBER
- XXX STORM DRAINAGE PLAN SHEET NUMBER
-  INPLACE SIGNAL SYSTEM

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-596-15\PLAN\0259615_LO_P1.DGN					
04/30/2012 1:38:32 PM					

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CHECKED BY: JEO DATE: 2-21-12



ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147 (TH 65 = 005)
C.P. 2012-05

TAB / NOTE	ITEM NO.	BACK SLASH	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED	PARTICIPATING- FEDERAL FUNDS		
						ANOKA COUNTY S.P. 002-596-015 ROADWAY ESTIMATED	CITY OF EAST BETHEL ROADWAY ESTIMATED	DRAINAGE
	2021.501	00010	MOBILIZATION	LUMP SUM	1	0.83	0.17	
	2031.501	00040	FIELD OFFICE TYPE D	EACH	1	1		
A	2101.501	00010	CLEARING	ACRE	0.1	0.1		
A	2101.502	00010	CLEARING	TREE	23	23		
A	2101.506	00010	GRUBBING	ACRE	0.1	0.1		
A	2101.507	00010	GRUBBING	TREE	23	23		
B	2104.501	00010	REMOVE PIPE CULVERTS	LIN FT	234	234		
B	2104.501	00036	REMOVE WOVEN WIRE FENCE	LIN FT	120	120		
B	2104.505	00120	REMOVE BITUMINOUS PAVEMENT	SQ YD	7,377	7,377		
B	2104.513	00011	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	135	135		
P [3]	2104.523	00543	SALVAGE SIGN TYPE C	EACH	19	19		
P	2104.523	00560	SALVAGE SIGN TYPE SPECIAL	EACH	1	1		
[3]	2104.601	01011	HAUL SALVAGED MATERIAL	LUMP SUM	1	1		
I	2105.501	00010	COMMON EXCAVATION (P)	CU YD	4,439	4,439		
I	2105.507	00010	SUBGRADE EXCAVATION (P)	CU YD	3,115	3,115		
I	2105.522	00010	SELECT GRANULAR BORROW (LV)	CU YD	5,840	5,840		
C , 1	2118.501	00020	AGGREGATE SURFACING CLASS 2	TON	41	41		
C , G	2211.503	00050	AGGREGATE BASE (CV) CLASS 5 (P)	CU YD	2,563	2,563		
G	2221.501	00050	AGGREGATE SHOULDERING CLASS 5	TON	64	64		
D	2357.502	00010	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	826	826		
C , D	2360.501	23500	TYPE SP 12.5 WEARING COURSE MIX (3,E)	TON	2,029	2,029		
D	2360.502	23500	TYPE SP 12.5 NON WEAR COURSE MIX (3,E)	TON	1,320	1,320		
O , 2	2411.507	00009	CONCRETE FLUME	EACH	10	10		
L	2501.511	20180	18" CS PIPE CULVERT	LIN FT	102	102		
L	2501.515	01918	18" CS PIPE APRON	EACH	4	4		
J	2501.515	90150	15" RC PIPE APRON	EACH	3			3
J	2501.515	90180	18" RC PIPE APRON	EACH	2			2
J	2501.567	08150	15" RC SAFETY APRON & GRATE DES 3128	EACH	1			1
J	2501.602	08015	TRASH GUARD FOR 15" PIPE APRON	EACH	2			2
J	2503.511	90155	15" RC PIPE SEWER CLASS V	LIN FT	774			774
J	2503.511	90183	18" RC PIPE SEWER CLASS III	LIN FT	499			499
J	2506.501	00080	CONST DRAINAGE STRUCTURE DESIGN H	LIN FT	9.1			9
J	2506.501	02420	CONST DRAINAGE STRUCTURE DES 48-4020	LIN FT	26.8			27
J	2506.516	00010	CASTING ASSEMBLY	EACH	10			10
J , M	2511.501	00012	RANDOM RIPRAP CLASS II	CU YD	55.1	55.1		

NOTES

- [1] QUANTITY FOR DRIVEWAY SURFACING
[2] SEE STANDARD DETAILS FOR FLUME DETAIL
[3] THESE ITEMS SHALL BE PAID FOR AS ANOKA COUNTY LOCAL FUNDS.
[4] SEE SIGN PANELS TYPE C TAB PAGE 55
[5] SEE SHEET 53 -54 FOR FINAL LOCATION OF THESE SIGNS
[6] QUANTITY FOR MEDIAN NOSE
[7] SEE MISCELLANEOUS DETAIL SHEET 15 FOR MODIFIED CURB DETAIL

NO	DATE	BY	CKD	APPR	REVISION				
NAME: P:\02-596-15\Plan\0259615_SEQ_P1.dgn						04/30/2012	2:20:21 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. KOBILARCSIK
SIGNATURE: 
DATE: 5-3-12 LICENSE NO. 24756

DRAWN BY: NJD DATE: 12-18-12
DESIGN BY: NJD DATE: 11-21-11
CHECKED BY: JEO DATE: 2-21-12



ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147 (TH 65 = 005)
C.P. 2012-05

STATEMENT OF
ESTIMATED QUANTITIES

Sheet 3 of 87 Sheets

TAB / NOTE	ITEM NO.	BACK SLASH	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED	PARTICIPATING- FEDERAL FUNDS		
						ANOKA COUNTY S.P. 002-596-015 ROADWAY ESTIMATED	CITY OF EAST BETHEL ROADWAY ESTIMATED	DRAINAGE
E	2521.501	00040	4" CONCRETE WALK	SQ FT	1,863	1,863		
E, [7]	2521.501	00042	4" CONCRETE WALK SPECIAL	SQ FT	169	169		
E	2521.501	00060	6" CONCRETE WALK	SQ FT	622	622		
E, [8]	2531.501	02080	CONCRETE CURB & GUTTER DESIGN B418 (MOD)	LIN FT	985	985		
E	2531.501	02120	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	3,989	1,995	1,995	
C	2531.507	00040	4" CONCRETE DRIVEWAY PAVEMENT	SQ YD	159	159		
E	2531.618	00010	TRUNCATED DOMES	SQ FT	96	96		
N	2540.602	00150	MAILBOX SUPPORT	EACH	5	5		
	2563.601	00010	TRAFFIC CONTROL	LUMP SUM	1	1		
[5]	2564.531	00130	SIGN PANELS TYPE C	SQ FT	195.8	195.8		
P [6]	2564.537	00013	INSTALL SIGN TYPE C	EACH	1	1		
P [6]	2564.537	00030	INSTALL SIGN TYPE SPECIAL	EACH	1	1		
SS	2565.511	00010	TRAFFIC CONTROL SIGNAL SYSTEM	SIG SYS	1	0.5	0.5	
SS	2565.601	00040	EMERGENCY VEHICLE PREEMPTION SYSTEM	LUMP SUM	1	0.5	0.5	
M	2573.502	00040	SILT FENCE, TYPE MACHINE SLICED	LIN FT	3,807	3,807		
M	2573.512	00012	TEMPORARY DITCH CHECK TYPE 2	LIN FT	136	136		
M	2573.530	00010	STORM DRAIN INLET PROTECTION	EACH	11	11		
M	2573.602	00015	ROCK DITCH CHECK	EACH	4	4		
M	2575.501	00010	SEEDING	ACRE	1.8	1.8		
M	2575.502	00240	SEED MIXTURE 240	POUND	64.3	64.3		
M	2575.502	00280	SEED MIXTURE 280	POUND	11.5	11.5		
M	2575.502	00328	SEED MIXTURE 328	POUND	55.6	55.6		
M	2575.511	00030	MULCH MATERIAL TYPE 3	TON	3.6	3.6		
M	2575.519	00010	DISK ANCHORING	ACRE	1.8	1.8		
J, L	2575.523	00013	EROSION CONTROL BLANKETS CATEGORY 3	SQ YD	12	12		
M	2575.532	00030	FERTILIZER TYPE 3	POUND	465.4	465.4		
M	2575.532	00040	FERTILIZER TYPE 4	POUND	206.0	206.0		
	2575.535	00010	WATER	MGALLON	20	20		
M	2575.571	00010	RAPID STABILIZATION METHOD 3	MGALLON	14.0	14.0		
[4]	2582.502	41104	4" SOLID LINE WHITE - EPOXY	LIN FT	5,297	5,297		
[4]	2582.502	42104	4" SOLID LINE YELLOW - EPOXY	LIN FT	2,100	2,100		
[4]	2582.502	42204	4" BROKEN LINE YELLOW - EPOXY	LIN FT	200	200		
[4]	2582.502	42404	4" DOUBLE SOLID LINE YELLOW - EPOXY	LIN FT	3,239	3,239		
[4]	2582.502	21124	24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC	LIN FT	96	96		
[4]	2582.502	22124	24" SOLID LINE YELLOW - PREFORMED THERMOPLASTIC	LIN FT	929	929		
[4]	2582.602	02001	PAVEMENT MESSAGE (LT ARROW) PREFORMED THERMOPLASTIC	EACH	4	4		
[4]	2582.602	02002	PAVEMENT MESSAGE (RT ARROW) PREFORMED THERMOPLASTIC	EACH	4	4		
[4]	2582.503	00120	CROSSWALK MARKING - WHITE PREFORMED THERMOPLASTIC	SQ FT	1,044	1,044		

NOTES

- [1] QUANTITY FOR DRIVEWAY SURFACING
 [2] SEE STANDARD DETAILS FOR FLUME DETAIL
 [3] THESE ITEMS SHALL BE PAID FOR AS ANOKA COUNTY LOCAL FUNDS.
 [4] SEE SIGN PANELS TYPE C TAB PAGE 55
 [5] SEE SHEET 53 -54 FOR FINAL LOCATION OF THESE SIGNS
 [6] QUANTITY FOR MEDIAN NOSE
 [7] SEE MISCELLANEOUS DETAIL SHEET 15 FOR MODIFIED CURB DETAIL

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-596-15\Plan\0259615_SEQ_P1.dgn	04/30/2012	2:20:28 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. KOBILARCSIK
 SIGNATURE: *Curt A. Kobilarsik*
 DATE: 5-3-12 LICENSE NO. 24756

DRAWN BY: NJD DATE: 2-18-12
 DESIGN BY: NJD DATE: 11-21-11
 CHECKED BY: JEO DATE: 2-21-12



ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
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 C.P. 2012-05

STATEMENT OF
ESTIMATED QUANTITIES

Sheet 4 of 87 Sheets

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

STANDARD PLATES		
PLATE NO.		DESCRIPTION
3000	L	REINFORCED CONCRETE PIPE
3006	G	GASKET JOINT FOR R.C. PIPE
3100	G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133	C	RIPRAP AT RCP OUTLETS
3145	F	CONCRETE PIPE TIES
4006	L	MANHOLE OR CATCH BASIN
4011	E	PRECAST CONCRETE BASE
4020	J	MANHOLE OR CATCH BASIN COVER
4026	A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101	D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110	F	COVER CASTING FOR MANHOLE
4132	F	CATCH BASIN FRAME CASTING
4143	E	STOOL GRATE AND CONCRETE FRAME
4154	B	CATCH BASIN GRATE CASTING
7035	N	CONCRETE WALK AND CURB RETURNS AND ENTRANCES
7036	G	TRUNCATED DOMES
7100	H	CONCRETE CURB AND GUTTER
7111	J	INSTALLATION OF CATCH BASIN CASTINGS
7113	A	CONCRETE APPROACH NOSE DETAIL
8120	P	POLE FOUNDATION
8121	G	TRANSFORMER BASE & POLE BASE PLATE
8122	F	PEDESTAL & PEDESTAL BASE
8123	G	POLE & MAST ARM
8126	J	POLE FOUNDATION
8130	E	SAW CUT LOOP DETECTORS
8132	B	PREFORMED RIGID PVD CONDUIT
8150	C	INSTALLATION OF CULVERT MARKERS
8337	C	TEMPORARY PRECAST PORTABLE BARRIERS (TYPE F)
9102	D	TURF ESTABLISHMENT AREAS

BASIS OF QUANTITIES

SPEC NO	DESCRIPTION	RATE
2211.503	AGGREGATE BASE	135 LBS / CU FT
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	0.07 GAL / SQ YD / LIFT
2360.501	TYPE SP12.5 WEARING COURSE MIXTURE	113 LBS / SQ YD / IN
2360.502	TYPE SP12.5 NON-WEARING COURSE MIXTURE	113 LBS / SQ YD / IN
2575.300	RAPID STABILIZATION METHOD 3	6 MGAL / ACRE
2575.502	SEED MIXTURE 240	75 LBS / ACRE
2575.502	SEED MIXTURE 280	50 LBS / ACRE
2575.502	SEED MIXTURE 328	88 LBS / ACRE
2575.511	MULCH MATERIAL TYPE 3	2 TONS / ACRE
2575.532	COMMERCIAL FERTILIZER TYPE 3 (22-5-10)	400 LBS / ACRE
2575.532	COMMERCIAL FERTILIZER TYPE 4 (17-10-7)	120 LBS / ACRE

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NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\02-596-15\Plan\0259615_SEQ_P1.dgn	05/03/2012				2:43:43 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME
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ANOKA COUNTY
HIGHWAY DEPT.

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C.P. 2012-05

STATEMENT OF
ESTIMATED QUANTITIES

Sheet 5 of 87 Sheets

CLEARING & GRUBBING SPEC (2101)								A
ALIGNMENT	STATION TO STATION	OFFSET		CLEARING		GRUBBING		
		LEFT	RIGHT	(TREE)	(ACRE)	(TREE)	(ACRE)	
EB	102+22 - 103+79		40	.	0.05		0.05	
EB	105+05	35		1		1		
EB	105+05	44		1		1		
EB	105+98	44		1		1		
EB	106+01	46		1		1		
EB	106+04	46		1		1		
EB	106+19	29		1		1		
EB	106+26	33		1		1		
EB	106+33	33		1		1		
EB	106+43	39		1		1		
EB	112+00	51		1		1		
EB	111+98	45		1		1		
EB	112+09	54		1		1		
EB	112+08	46		1		1		
EB	112+51		69	1		1		
EB	112+49		61	1		1		
EB	112+54		62	1		1		
EB	112+53		58	1		1		
EB	112+59		57	1		1		
EB	112+59		55	1		1		
EB	112+65		56	1		1		
EB	112+58		51	1		1		
EB	116+07		32	1		1		
EB	120+69		36	1		1		
EB	121+33 - 122+08		36		0.05		0.05	
PROJECT TOTAL				23	0.10	23	0.10	

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

DRIVEWAYS									C	
ALIGNMENT	APRON CENTERLINE STATION	OFFSET	DRIVEWAY TYPE	APRON WIDTH	AGGREGATE		TYPE SP 12.5 WEARING COURSE MIX (3,E)	4" CONCRETE DRIVEWAY PAVEMENT [3]	NOTES	
					AGGREGATE SURFACING CLASS 2	AGGREGATE BASE CLASS 5				
				FT	TON	CU YD	TON	SQ YD		
EB	98+86	L	BITUMINOUS	20		14	22		[1]	
EB	103+21	R	CONC. APRON	20	11			21	[2]	
EB	103+61	L	CONC. APRON	20	3			21	[2]	
EB	104+51	R	CONC. APRON	20				21	[2]	
EB	105+37	R	CONC. APRON	20	9			21	[2]	
EB	106+82	L	BITUMINOUS	20		14	22		[1]	
EB	114+06	L	CONC. APRON	20	3			21	[2]	
EB	114+12	R	CONC. APRON	20	15			21	[2]	
EB	116+67	R	CONC. APRON	40		4	6	36	[2]	
PROJECT TOTAL						41	32	49	159	

DRIVEWAY NOTES

- [1] RURAL BITUMINOUS APRON - SEE MISCELLANEOUS DETAILS SHEET 15
[2] URBAN CONCRETE APRON - SEE MISCELLANEOUS DETAILS SHEET 15
[3] 4.0" CLASS 5 AGGREGATE INCIDENTAL

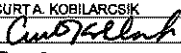
TURF ESTABLISHMENT NOTES

- [1] THIS ITEM INCLUDED FOR TEMPORARY WINTER SEEDING OF AREAS THAT WILL NOT BE COMPLETED BEFORE WINTER AND WILL BE RE-DISTURBED IN THE SPRING
[2] QUANTITY INCREASED BY 30% TO ACCOMMODATE MISCELLANEOUS COVERAGE DURING CONSTRUCTION
[3] SEE STANDARD PLATE 3133 FOR PLACEMENT. ASSUMED 15" DIAMETER PIPE QUANTITY FOR FLUMES.

TURF ESTABLISHMENT AND EROSION CONTROL																	M	
				TEMPORARY EROSION CONTROL				PERMANENT EROSION CONTROL										
ALIGNMENT	LOCATION			OFFSET	SILT FENCE TYPE MACHINE SLICED	RAPID STABILIZATION METHOD 3 [1] [2]	TEMP. DITCH CHECK TYPE 2	STORM DRAIN INLET PROTECTION	SEEDING	SEED MIXTURE 240	SEED MIXTURE 280	SEED MIXTURE 328	PERM. DITCH CHECK TYPE 7	RIPRAP CL II	MULCH MATERIAL TYPE 3	DISK ANCHORING	FERTILIZER TYPE 3	FERTILIZER TYPE 4
	STATION	TO	STATION		LIN FT	MGAL	LIN FT	EACH	ACRE	POUND	POUND	POUND	EACH	CU YD	TON	ACRE	POUND	POUND
EB	98+29	-	98+74	L	50	0.1			0.02	1.4					0.04	0.02	7.2	
EB	98+97	-	103+57	L	464	0.9			0.11	8.4				5.6 [3]	0.22	0.11	44.6	
EB	103+65	-	106+70	L	174	0.9		2	0.11	8.6					0.23	0.11	45.6	
EB	106+91	-	109+79	L		3.4		2	0.44			38.7		2.9	0.88	0.44		52.8
EB	98+30	-	103+09	R	475	1.2	48		0.15	11.3				5.6 [3]	0.30	0.15	60.2	
EB	103+30	-	105+32	R	214	0.7	16	1	0.09	7.0				5.6 [3]	0.19	0.09	37.1	
EB	105+44	-	109+68	R	448	0.4		1	0.05	3.9					0.10	0.05	20.9	
EB	111+30	-	113+98	L	296	0.4		2	0.06		2.8				0.11	0.06	22.8	
EB	114+14	-	120+23	L	222	1.3	24	3	0.17		8.6				0.34	0.17	69.0	
EB	120+23	-	123+17	L	313	1.5			0.19			16.8		6.7 [3]	0.38	0.19		153.1
EB	111+25	-	113+99	R	302	1.0			0.12	9.3					0.25	0.12	49.4	
EB	114+24	-	116+48	R	227	0.6			0.08						0.15	0.08	30.9	
EB	116+87	-	122+92	R	622	1.5	48		0.19	14.6			4	15.1 [3]	0.39	0.19	77.7	
PROJECT TOTAL					3807	14.0	136	11	1.80	64.3	11.5	55.6	4	41.5	3.6	1.80	465.4	206.0

1 OF 3

NO	DATE	BY	CKD	APPR	REVISION
NAME: p102-596-15\plan10259615_TABS_P1.dgn	04/30/2012	1:38:40 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. KOBILARCSIK
SIGNATURE: 
DATE: 5-3-12 LICENSE NO. 24756

DRAWN BY: NJD DATE: 2-16-12
DESIGN BY: NJD DATE: 11-21-11
CHECKED BY: JEO DATE: 2-21-12



ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147 (TH 65 = 005)
C.P. 2012-05

TABULATIONS

Sheet 6 of 87 Sheets

J

PROJECT TOTAL	9	27	10					774	499	3	2	1	2	6	13.6	
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K

BITUMINOUS SUMMARY

D

MAILBOX	N
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N

PROJECT TOTAL	5	
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CONCRETE FLUMES

O

PROJECT TOTAL	10	
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L

PROJECT TOTAL	102	4	6
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[1] SEEDING MIX 240 (75 LB / AC) & FERTILIZER TYPE 3 (22-5-10 @ 400 LBS / AC) INCIDENTAL

Sheet 7 of 87 Sheets

AGGREGATE SUMMARY		G
STATION	AGGREGATE VOLUMES	
	AGG SHLD	AGG BASE
	TON	CY
98+28.86		
98+50.00	5	19
98+80.00	5	26
99+00.00	2	16
99+50.00	2	40
100+00.00	0	39
100+50.00	0	40
101+00.00	0	41
101+50.00	0	42
102+00.00	0	43
102+50.00	0	45
103+00.00	0	45
103+24.00	0	21
103+61.00	0	36
104+00.00	0	41
104+50.00	0	55
105+00.00	0	58
105+37.00	0	42
105+70.00	0	27
106+00.00	0	25
106+50.00	0	57
106+80.00	0	35
107+00.00	0	26
107+50.00	5	72
108+00.00	5	75
108+50.00	5	75
109+00.00	5	75
109+50.00	5	79
109+72.77	2	38
WEST SUBTOTAL	42	1233

AGGREGATE SUMMARY		G
STATION	AGGREGATE VOLUMES	
	AGG SHLD	AGG BASE
	TON	CY
111+26.69	0	
111+50.00	5	44
112+00.00	5	80
112+50.00	0	67
113+00.00	0	67
113+50.00	0	67
114+07.00	0	77
114+50.00	0	57
115+00.00	0	63
115+50.00	0	60
116+00.00	0	59
116+25.00	0	29
116+67.00	0	49
117+00.00	0	38
117+50.00	0	55
118+00.00	0	53
118+50.00	0	51
119+00.00	0	48
119+50.00	0	46
120+00.00	0	44
120+50.00	0	42
121+00.00	0	41
121+50.00	0	40
122+00.00	0	40
122+50.00	5	43
122+90.00	7	36
122+91.98	0	2
EAST SUBTOTAL	22	1298
PROJECT TOTAL	64	2531

AGGREGATE SUMMARY				G
ALIGNMENT	STATION	TO	STATION	NOTES
EB	98+28.86	-	109+72.77	[1]
EB	111+26.69	-	122+91.98	[1]
PROJECT TOTAL				

AGGREGATE NOTES:
[1] SEE AGGREGATE SUMMARY TAB G PAGE 8 FOR STATION TO STATION BREAKDOWN

REMOVALS, SAWING AND MILLING						B
ALIGNMENT	STATION	TO	STATION	REMOVE (SPEC. 2104)		SAWING (SPEC. 2104)
				BITUMINOUS PAVEMENT (SQ YD)	PIPE CULVERT (LIN FT)	
EB	98+29	-	109+72	3642		120
EB	111+26	-	122+92	3260		
EB	98+48	-	99+07	112	70	19
EB	106+54	-	107+05	165	72	20
EB	116+22	-	117+15	198		40
EB	103+38	-	103+88		50	
EB	113+89	-	114+29		42	
EB	104+56	-	106+14			
EB	111+92	-	122+95			
EB			98+29			28
EB			122+92			28
PROJECT TOTAL				7377	234	120

NOTES
CULVERTS ARE BURIED. LENGTH HAS BEEN ESTIMATED. CONTRACTOR TO VERIFY

CONCRETE										E
ALIGNMENT	STATION		OFFSET	CONCRETE C & G		[1] 4" CONCRETE WALK	[3] 4" CONCRETE WALK SPECIAL	PEDESTRIAN CURB RAMP		
	BEGIN	END		B-424	B-418 (MOD)			6" CONCRETE WALK [2]	RADIAL TRUNCATED DOMES	
				LIN FT	LIN FT	SQ FT	SQ FT	SQ FT	SQ FT	LENGTH [FT]
EB	99+19	109+07	L	924						
EB	99+14	109+11	R	1000						
EB	107+10	109+59	L		500	948	84			
EB	111+86	122+25	L	1035						
EB	111+95	122+20	R	1030						
EB	111+40	113+50	L		485	915	84			
EB	109+60		R					50	12	70
EB	109+60		L					300	24	80
EB	111+30		R					120	24	70
EB	111+30		L					50	12	80
EB	110+56		L				1	102	24	SQUARE DOMES
PROJECT TOTAL				3989	985	1863	169	622	96	

CONCRETE NOTES:
[1] QUANTITY FOR CONCRETE MEDIAN
[2] 4" CLASS 5 AGGREGATE INCIDENTAL AND TO EXTEND 6" BEYOND CONCRETE PAVEMENT
[3] QUANTITY FOR CONCRETE ENTRANCE NOSES (STD PLATE 7113)
FOR CONCRETE FLUMES SEE CONCRETE FLUMES TAB O PAGE 7 & DETAIL SHEET 15
FOR CONCRETE DRIVEWAY APRONS SEE DRIVEWAY TAB C PAGE 6 AND DETAIL SHEET 15

NO	DATE	BY	CKD	APPR	REVISION
NAME: p102-596-15\plan\0259615_TABS_P1.dgn	04/30/2012	1:38:42 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. KOBILARCSIK
SIGNATURE: *Curt Kobilarsik*
DATE: 5-3-12 LICENSE NO. 24756

DRAWN BY: NJD DATE: 2-16-12
DESIGN BY: NJD DATE: 11-21-11
CHECKED BY: JEO DATE: 2-21-12



ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147 (TH 65 = 005)
C.P. 2012-05

TABULATIONS
Sheet 8 of 87 Sheets

PRIVATE UTILITY OWNERS		AA
CONNEXUS ENERGY 14601 RAMSEY BLVD RAMSEY, MN 55303 CONTACT JOHN LARSON TEL. 763-323-2700	CENTERPOINT ENERGY 700 WEST LINDEN AVE P.O. BOX 1165 MINNAPOLIS, MN 55440-1165 CONTACT STEVE GUHANICK TEL 612-321-5421	
GREAT RIVER ENERGY 12300 ELM CREEK BLVD MAPLE GROVE, MN 55369 CONTACT: MICHELLE MACMILLAN TEL: 763-445-5984	CENTURYLINK 425 MONROE ANOKA, MN 55303 SCOTT KUNZMAN TEL. 763-712-5019	
XCEL ENERGY 5363 260TH ST N WYOMING MN, 55092 CONTACT KATHY RONNING TEL: 651-462-6201	MIDCONTINENT 410 S PHILLIPS AVE SIOUX FALLS, SD 57104 CONTACT JERRY OWENS TEL: 612-221-6455	

GAS - CENTER POINT ENERGY			BB
STATION		SIZE & ITEMS	REMARKS
BEGIN	END		
98+28	109+47	25 L	8" MAIN
109+47		N - S LINE	8" MAIN

GAS - XCEL ENERGY			CC
STATION		SIZE & ITEMS	REMARKS
BEGIN	END		
111+78		N - S LINE	4" PLASTIC
111+78	124+00	16 L	4" PLASTIC

OH POWER - GREAT RIVER ENERGY			DD
STATION		SIZE & ITEM	REMARKS
BEGIN	END		
100+96		34 L	POLE
104+98		37 L	POLE
108+34		28 L	POLE
111+93		28 L	POLE
112+27		25 L	POLE

OH POWER - CONNEXUS			EE
STATION		SIZE & ITEM	REMARKS
BEGIN	END		
101+00		35 R	POLE
103+00		34 R	POLE
104+68		36 R	POLE
105+94		38 R	POLE
107+06		41 R	POLE
108+21		41 R	POLE
109+41		42 R	POLE / MULTIPLE LINES
111+90		83 R	POLE
114+31		25 L	POLE
116+48		31 L	POLE / CROSSING
116+39		46 R	POLE / CROSSING
117+74		33 L	UNDERGROUND CROSSING HERE
118+87		31 L	POLE
121+44		31 L	POLE
123+59		29 L	POLE W / LIGHT
123+00		L	BURIED CABLE

TELEPHONE - CENTURYLINK			FF
STATION		SIZE & ITEM	REMARKS
BEGIN	END		
100+92		36 R	SPLICE BOX
100+92	102+96	23 R	UNDERGROUND CABLE
102+96		36 R	SPLICE BOX
104+39		21 R	VAULT WITH CROSSING
104+58		49 R	SPLICE BOX
104+58	105+90	20 R	UNDERGROUND CABLE
105+90		36 R	SPLICE BOX
105+90	108+30	20 R	UNDERGROUND CABLE
108+30		40 R	SPLICE BOX
109+10		37 R	VAULT WITH CROSSING
109+16		44 R	SPLICE BOX WITH CROSSING
109+16	111+85	20 R	UNDERGROUND CABLE
111+85		101 R	SPLICE BOX WITH CROSSING
111+84		21 L	SPLICE BOX WITH CROSSING
112+30		21 R	SPLICE BOX
112+69		45 R	SPLICE BOX WITH CROSSING
113+67		39 R	SPLICE BOX
111+85	113+67	20 R	UNDERGROUND CABLE
112+72	122+92	20 L	UNDERGROUND CABLE
114+34		25 L	SPLICE BOX
117+35		32 R	SPLICE BOX
112+69	117+35	20 R	UNDERGROUND CABLE
117+35	122+69	20 R	UNDERGROUND CABLE
122+69		20 R	SPLICE BOX
123+13		29 R	SPLICE BOX
122+69	123+13	20 R	UNDERGROUND CABLE
123+13	END	20 R	UNDERGROUND CABLE
123+82		29 R	SPLICE BOX
123+03		77 L	SPLICE BOX

TELEPHONE - MID CONTINENT			GG
STATION		SIZE & ITEM	REMARKS
BEGIN	END		
WEST OF TH 65	NORTH OF CR 74	UNDERGROUND CABLE	RELOCATE
WEST OF TH 65	SOUTH OF CR 74	UNDERGROUND CABLE	RELOCATE
EAST OF TH 65	NORTH OF CR 74	UNDERGROUND CABLE	RELOCATE
EAST OF TH 65	SOUTH OF CR 74	UNDERGROUND CABLE	RELOCATE

UTILITY NOTES

- ALL UTILITY WORK SHOWN ON THESE SHEETS SHALL BE DONE BY OTHERS UNLESS OTHERWISE NOTED
- ALL RELOCATES AND ADJUSTMENTS SUBJECT TO MN/DOT / ANOKA COUNTY RIGHT OF WAY
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM REQUIRED BY MINNESOTA STATUE, CHAPTER 216D FOR ALL UNDERGROUND UTILITY LOCATIONS
- 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.
- THE REMARKS COLUMN IS BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATIONS WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-596-15\plan\0259615_TABS_P1.dgn					
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: CURT A. KOBIARCSIK

SIGNATURE: *Curt A. Kobiarcsik*

DATE: 5-3-12 LICENSE NO. 24766

DRAWN BY NJD DATE 2-16-12

DESIGN BY NJD DATE 11-21-11

CHECKED BY JEO DATE 12-21-12



ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147 (TH 65 = 005)
C.P. 2012-05

UTILITY TABULATIONS

Sheet 9 of 87 Sheets

- 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 3149.2B1 AND SHALL BE USED AS EMBANKMENT MATERIAL ON THE PROJECT ANYWHERE BELOW THE SUBGRADE 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 3149.2B2.
- 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 & SHOULDER MATERIAL SHALL BE 100% CRUSHED AND MEET THE REQUIREMENTS OF MN/DOT SPEC. 3138, CLASS 5.
- 15 WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THIS 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. 2104.3C3.
- 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 SURFACING 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 RC 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 2105.3D.
- 23 INPLACE BITUMINOUS PAVEMENT RANGES FROM 4" TO 8" THICK. (AVERAGE 6"). FOR INFORMATION ONLY, CONTRACTOR TO VERIFY PAVEMENT DEPTH PRIOR TO PLACING BID

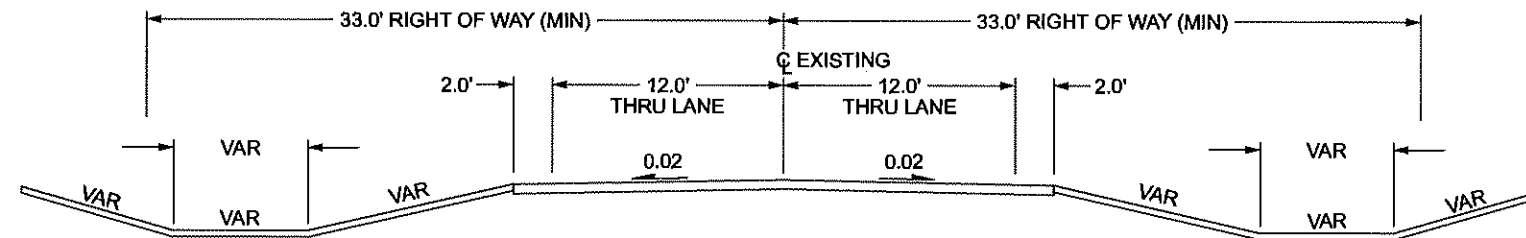
					I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		DRAWN BY <u>NJD</u> DATE <u>2-16-12</u>			ANOKA COUNTY HIGHWAY DEPT.	S.P. 002-596-015 S.P. 0208-147 (TH 65 = 005) C.P. 2012-05 ***	SOILS AND CONSTRUCTION NOTES
					PRINT NAME: <u>CURT A. KOBILARCSIK</u>		DESIGN BY <u>NJD</u> DATE <u>11-21-11</u>					
					SIGNATURE: 		CHECKED BY <u>JEO</u> DATE <u>2-21-12</u>					
NO	DATE	BY	CHKD	APPR	REVISION	DATE	LICENSE NO.					
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NAME: p:\02-596-15\plan\0259615_SCN_P1.dgn												

EARTHWORK SUMMARY					F
STATION	EXCAVATION TOTALS		EMBANKMENT VOLUMES		
	COMMON	SUBGRADE	TOPSOIL	SUITABLE GRADING	SELECT GRANULAR
	CY	CY	CY	CY	CY
98+28.86					
98+50.00	26	32	7	1	32
98+80.00	30	43	7	1	43
99+00.00	15	27	2	1	27
99+50.00	50	69	12	17	70
100+00.00	59	71	15	30	71
100+50.00	55	71	13	28	72
101+00.00	51	71	12	27	74
101+50.00	48	72	13	30	76
102+00.00	49	73	13	30	78
102+50.00	63	74	14	27	81
103+00.00	107	73	19	24	81
103+24.00	41	34	7	10	39
103+61.00	95	61	9	8	64
104+00.00	116	63	15	28	73
104+50.00	69	68	19	80	99
105+00.00	80	68	22	107	102
105+37.00	56	49	13	89	76
105+70.00	40	41	6	76	69
106+00.00	38	36	5	74	63
106+50.00	70	61	10	133	103
106+80.00	50	49	4	40	61
107+00.00	62	38	6	8	44
107+50.00	240	77	32	153	124
108+00.00	270	69	36	224	129
108+50.00	282	70	36	164	128
109+00.00	360	71	42	136	128
109+50.00	292	77	35	113	133
109+72.77	68	38	11	45	63
WEST SUBTOTAL	2782	1646	435	1704	2203

EARTHWORK SUMMARY					F
STATION	EXCAVATION TOTALS		EMBANKMENT VOLUMES		
	COMMON	SUBGRADE	TOPSOIL	SUITABLE GRADING	SELECT GRANULAR
	CY	CY	CY	CY	CY
111+26.69					
111+50.00	19	40	5	43	73
112+00.00	44	66	9	67	138
112+50.00	44	24	12	79	119
113+00.00	40	1	16	125	118
113+50.00	39	15	15	104	118
114+07.00	69	77	8	52	135
114+50.00	57	74	6	24	101
115+00.00	59	61	19	83	112
115+50.00	74	59	20	116	107
116+00.00	88	65	16	91	105
116+25.00	50	35	7	38	52
116+67.00	83	59	9	45	87
117+00.00	63	51	6	15	67
117+50.00	95	86	10	7	98
118+00.00	78	86	9	8	95
118+50.00	59	75	10	20	90
119+00.00	46	65	13	48	86
119+50.00	45	64	16	64	82
120+00.00	49	65	16	60	79
120+50.00	87	67	20	46	76
121+00.00	131	68	23	39	74
121+50.00	122	68	24	48	72
122+00.00	91	69	27	66	72
122+50.00	75	70	30	62	72
122+90.00	48	56	18	43	58
122+91.98	2	3	1	2	3
EAST SUBTOTAL	1657	1469	365	1395	2289
PROJECT TOTAL	4439	3115	800	3099	4492

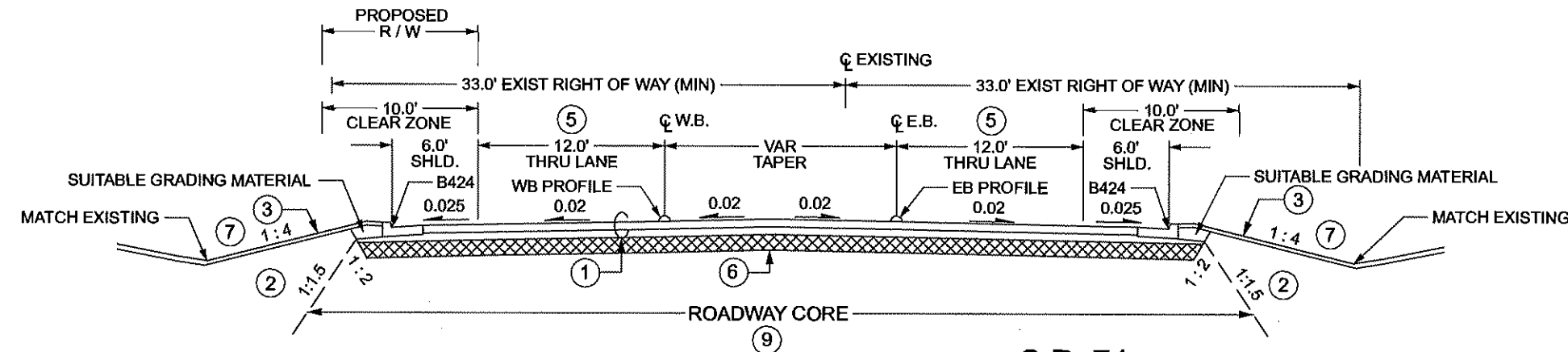
C.R. 74

EXISTING SECTION



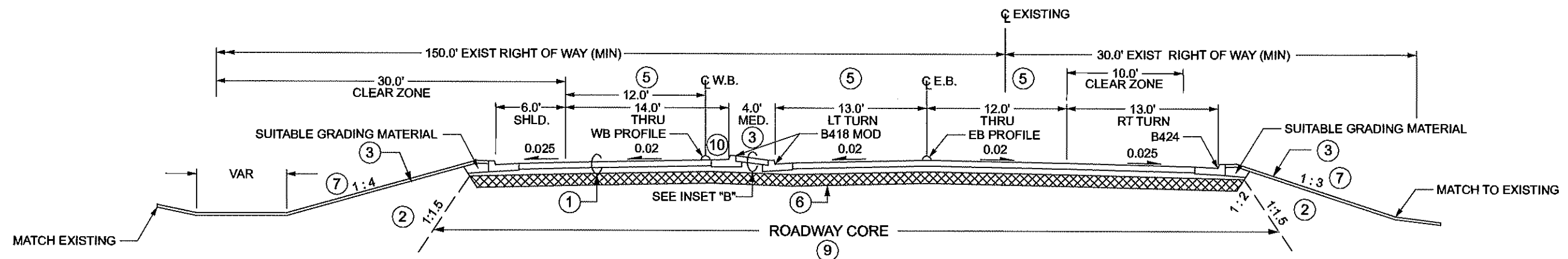
C.R. 74

STA. 98+29 - STA. 107+10



C.R. 74

STA. 107+10 - STA. 109+59



SPECIFIC NOTES:

- ① SEE INSET "A" ON PAGE 14
- ② SUITABLE GRADING MATERIAL OR UNSUITABLE SOILS
- ③ PAID FOR AS 4.0" CONCRETE WALK
- ④ 2.0' AGGREGATE SHOULDERING, CLASS 5 MNDOT SPEC. 2221
- ⑤ SEE CONSTRUCTION PLANS AND STRIPING PLANS FOR LANE WIDTHS AND LOCATIONS
- ⑥ 1.0' SUBGRADE EXCAVATION - PAID FOR AS ITEM 2105.501 SUBGRADE EXCAVATION. BACKFILL WITH SELECT GRANULAR MATERIAL ONLY PAID FOR AS ITEM 2105.522 SELECT GRANULAR BORROW.
- ⑦ MAINTAIN 1 : 4 SLOPE WITHIN CLEAR ZONE AND A 1 : 3 SLOPE OUTSIDE CLEAR ZONE UNLESS OTHERWISE INDICATED IN PLAN
- ⑧ WHERE EXISTING R/W NOT ADEQUATE, RIGHT OF WAY TO BE PURCHASED TO CLEAR ZONE OR TWO FEET BEHIND FLOW LINE, WHICHEVER IS FURTHER
- ⑨ SUITABLE GRADING MATERIAL (OR BETTER) ONLY
- ⑩ TIP OUT GUTTER 0.02 FT / FT

GENERAL NOTES:

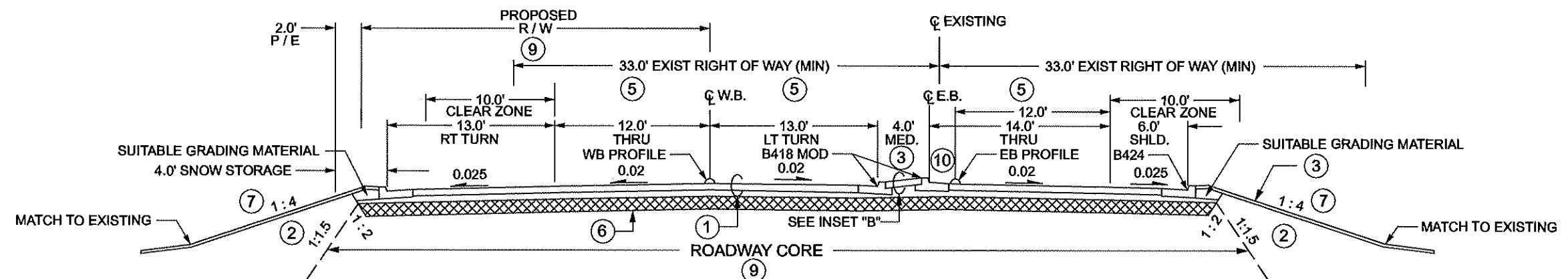
- ALL CROSS SLOPES ARE EXPRESSED IN FT / FT
- UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE OF THE MAINLINE.
- UNLESS OTHERWISE SPECIFIED, CLASS 5 AGGREGATE WILL EXTEND 1' BEYOND BACK OF CURB.

1 OF 2

NO. DATE BY CKD APPR NAME: p:\02-596-15\plan\0259615_TS_P1.dgn REVISION 04/30/2012 1:38:53 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>Curt A. Kobiarsik</i> DATE: 5-3-12 LICENSE NO. 24756		DRAWN BY: NJD DATE: 2-16-12 DESIGN BY: NJD DATE: 11-21-11 CHECKED BY: JEO DATE: 2-21-12		ANOKA COUNTY HIGHWAY DEPT.		S.P. 002-596-015 S.P. 0208-147 (TH 65 = 005) C.P. 2012-05 ***		TYPICAL SECTIONS Sheet 13 of 87 Sheets	
--	--	--	--	--	--	--	---	--	-------------------------------	--	--	--	---	--

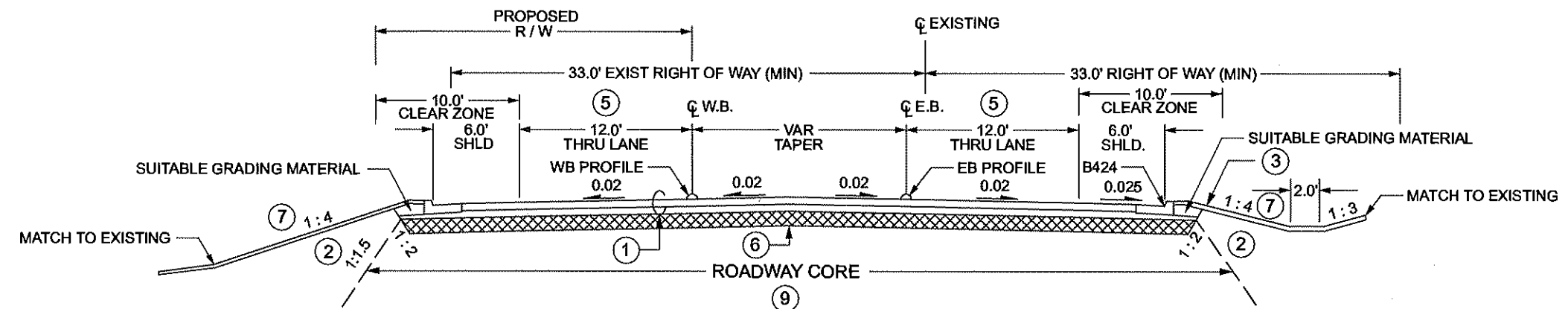
C.R. 74

STA. 111+40 - STA. 113+80

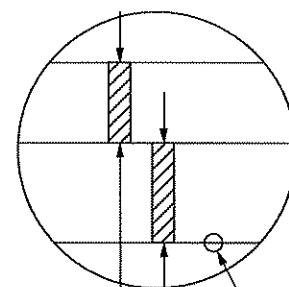


C.R. 74

STA. 113+80 - STA. 122+92

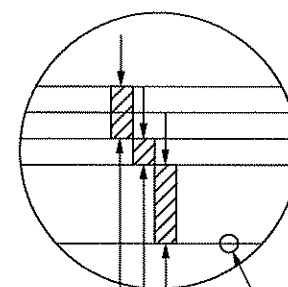


INSET "B" MEDIAN DESIGN



4" CONCRETE WALK
(DEPTH VARIES) AGGREGATE BASE, CLASS 5
GRADING GRADE
3.0" (2 1.5" LIFTS) SPWEB340E
2.0" SPNWB330E
7.0" AGGREGATE BASE, CLASS 5

INSET "A" MAINLINE PAVEMENT DESIGN



GRADING GRADE

SPECIFIC NOTES:

- ① SEE INSET "A" ON PAGE 14
- ② SUITABLE GRADING MATERIAL OR UNSUITABLE SOILS
- ③ PAID FOR AS 4.0" CONCRETE WALK
- ④ 2.0' AGGREGATE SHOULDERING, CLASS 5 MNDOT SPEC. 2221
- ⑤ SEE CONSTRUCTION PLANS AND STRIPING PLANS FOR LANE WIDTHS AND LOCATIONS
- ⑥ 1.0' SUBGRADE EXCAVATION - PAID FOR AS ITEM 2105.501 SUBGRADE EXCAVATION. BACKFILL WITH SELECT GRANULAR MATERIAL ONLY PAID FOR AS ITEM 2105.522 SELECT GRANULAR BORROW.

- ⑦ MAINTAIN 1 : 4 SLOPE WITHIN CLEAR ZONE AND A 1 : 3 SLOPE OUTSIDE CLEAR ZONE UNLESS OTHERWISE INDICATED IN PLAN
- ⑧ WHERE EXISTING R/W NOT ADEQUATE, RIGHT OF WAY TO BE PURCHASED TO CLEAR ZONE OR TWO FEET BEHIND FLOW LINE, WHICHEVER IS FURTHER
- ⑨ SUITABLE GRADING MATERIAL (OR BETTER) ONLY
- ⑩ TIP OUT GUTTER 0.02 FT / FT

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.
- UNLESS OTHERWISE SPECIFIED, CLASS 5 AGGREGATE WILL EXTEND 1' BEYOND BACK OF CURB.

2 OF 2

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: 5-3-12 LICENSE NO. 24756

DRAWN BY: NJD DATE: 2-16-12
DESIGN BY: NJD DATE: 11-21-11
CHECKED BY: JEO DATE: 2-21-12



ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147 (TH 65 = 005)
C.P. 2012-05

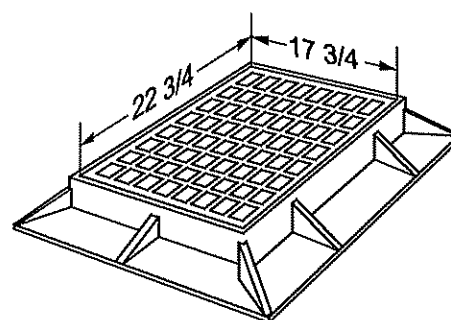
TYPICAL SECTIONS

Sheet 14 of 87 Sheets

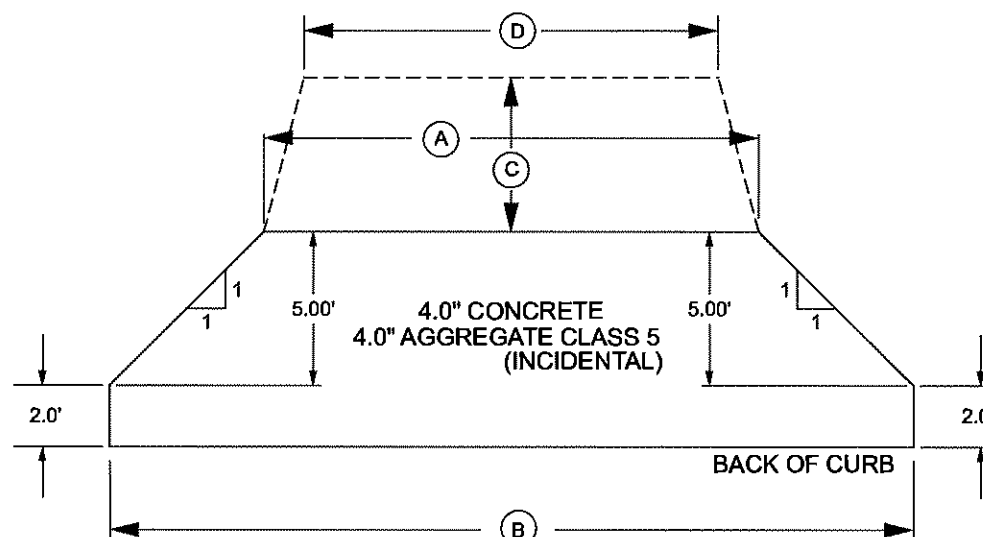
AGGREGATE / BITUMINOUS DRIVEWAY



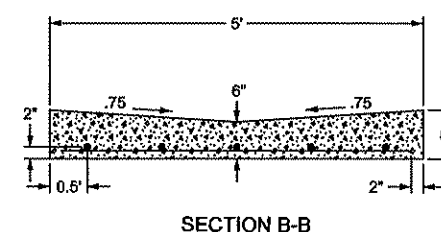
GRATE DIMENSIONS



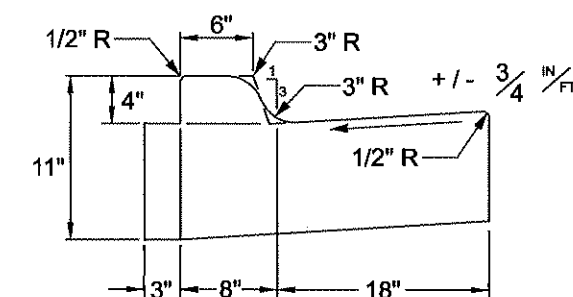
AGGREGATE / BITUMINOUS DRIVEWAY



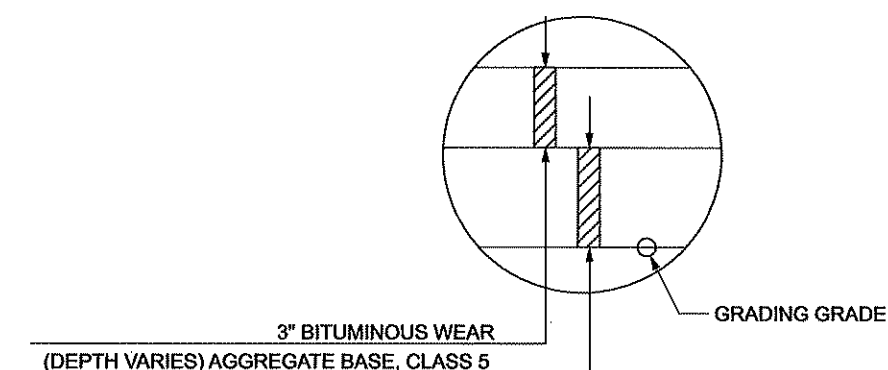
CONCRETE FLUME



B4 MODIFIED CURB & GUTTER

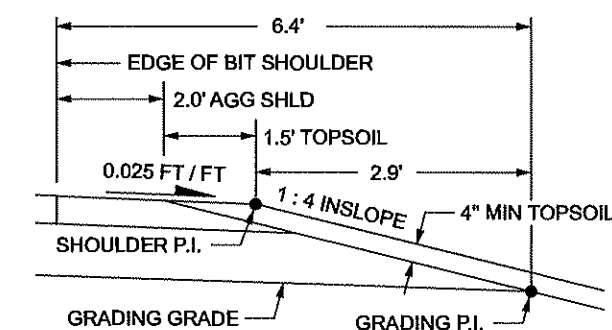


SHOULDER DESIGN



DETAIL "C"

SHOULDER / GRADING P.I.



SPECIFIC NOTES:

- (A) VARIES BASED ON EXISTING DRIVEWAY WIDTH (15.0' MINIMUM)
- (B) VARIES BASED ON EXISTING DRIVEWAY WIDTH (20.0' MINIMUM)
- (C) 6" AGGREGATE SURFACING CLASS 5
OR 3" BIT WEAR OVER 4.0" AGG CLASS 5 - MATCH EXISTING DRIVEWAY MATERIAL
TAPER TO EXISTING DRIVEWAY WIDTH AT CONSTRUCTION LIMITS
- (D) VARIES BASED ON EXISTING DRIVEWAY

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.

THE STATE OF MINNESOTA
PRINT NAME: CURT A. KOBIARCSIK
SIGNATURE: *Curt Koblarcsik*
DATE: 5-3-12 LICENSE NO. 24758

DRAWN BY NJD DATE 2-16-12

DESIGN BY NJD DATE 11-21-11

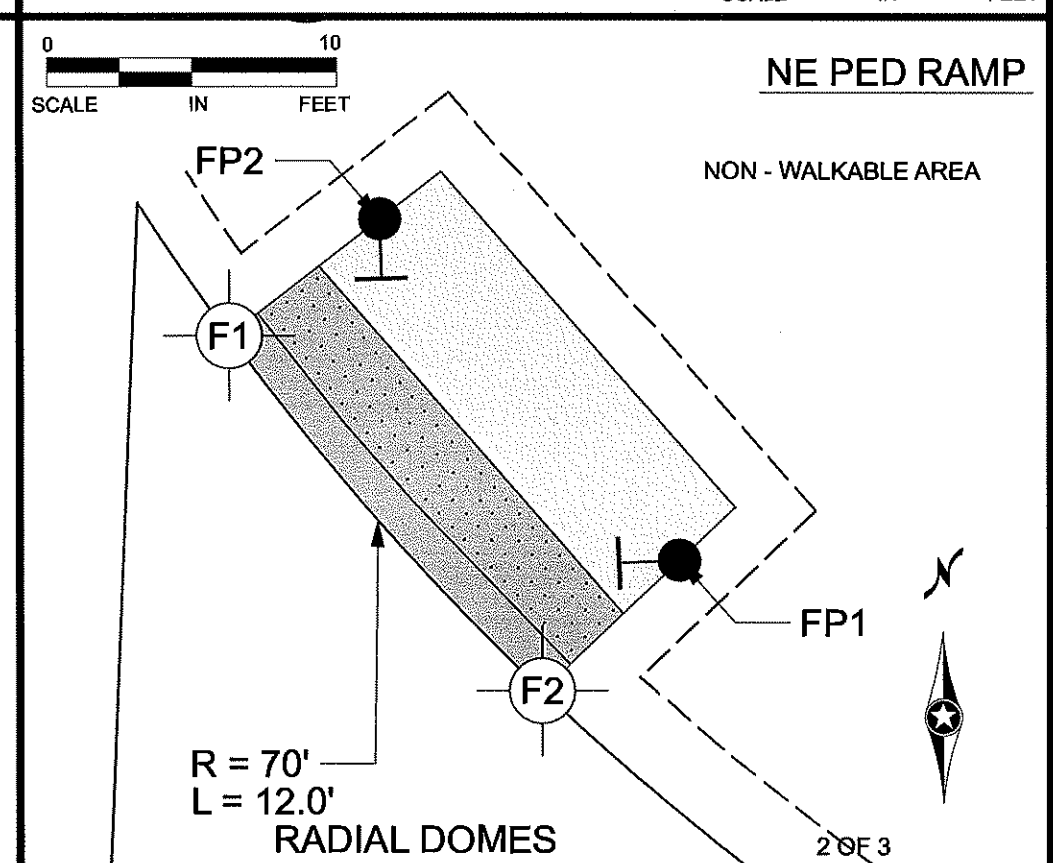
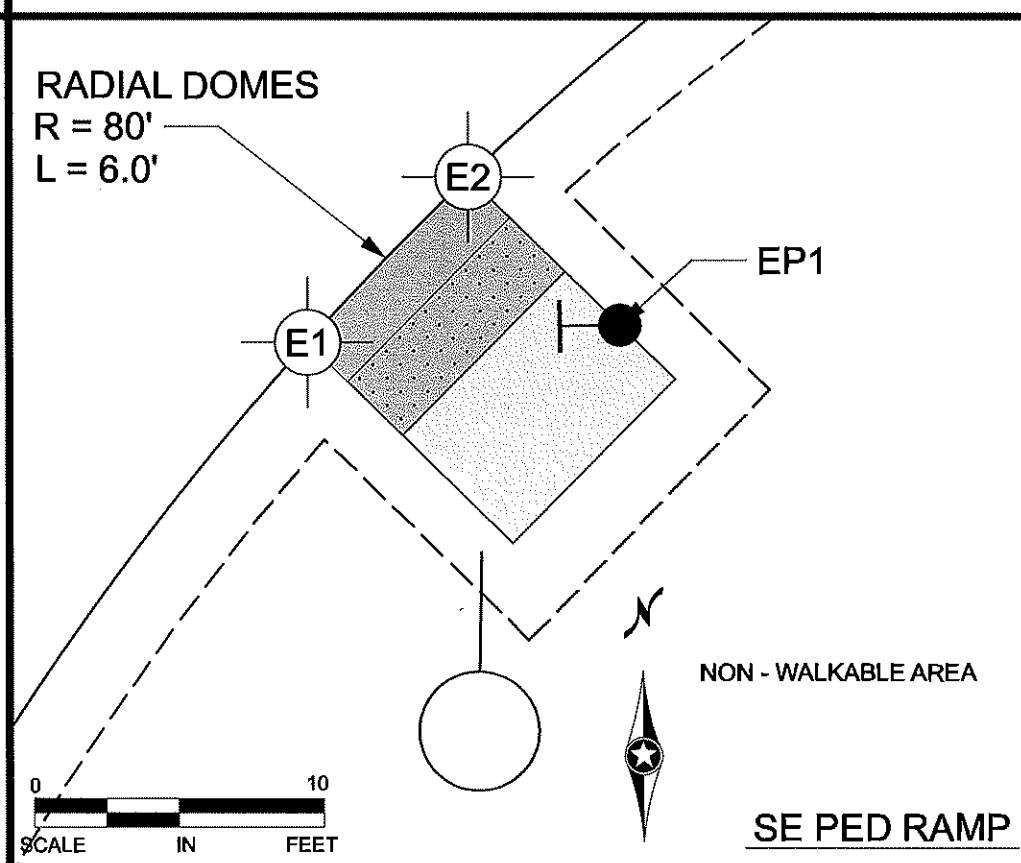
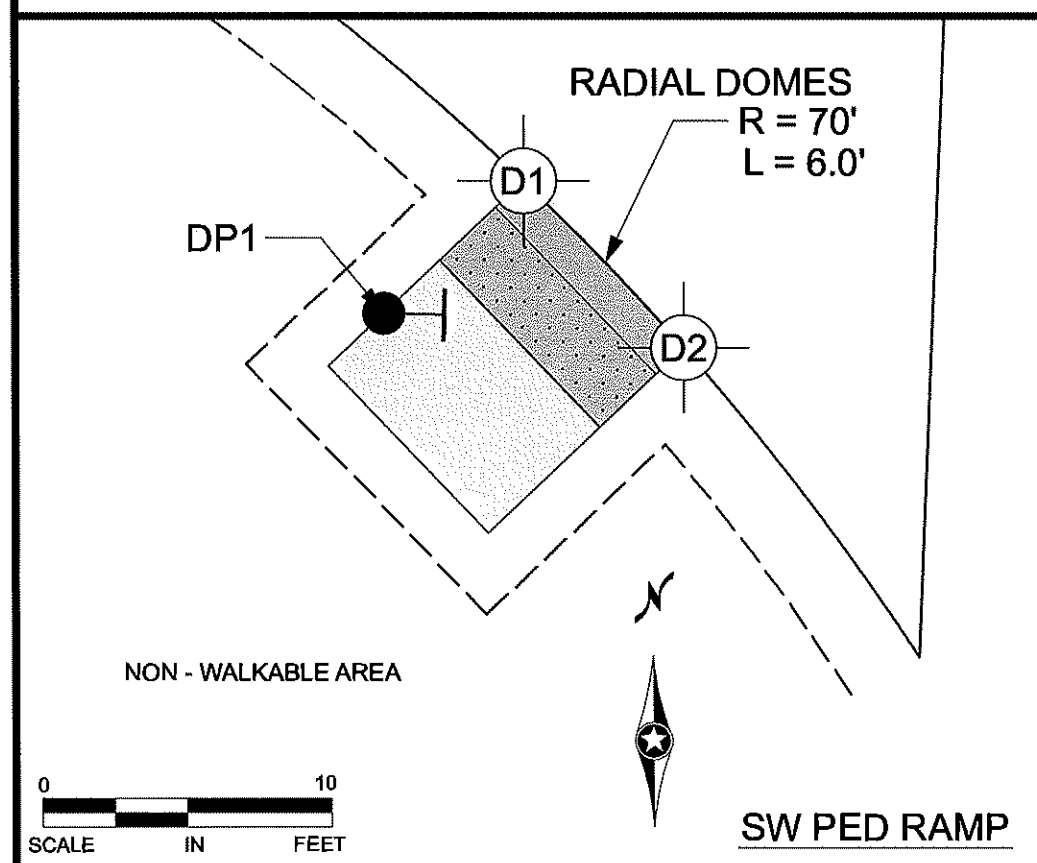
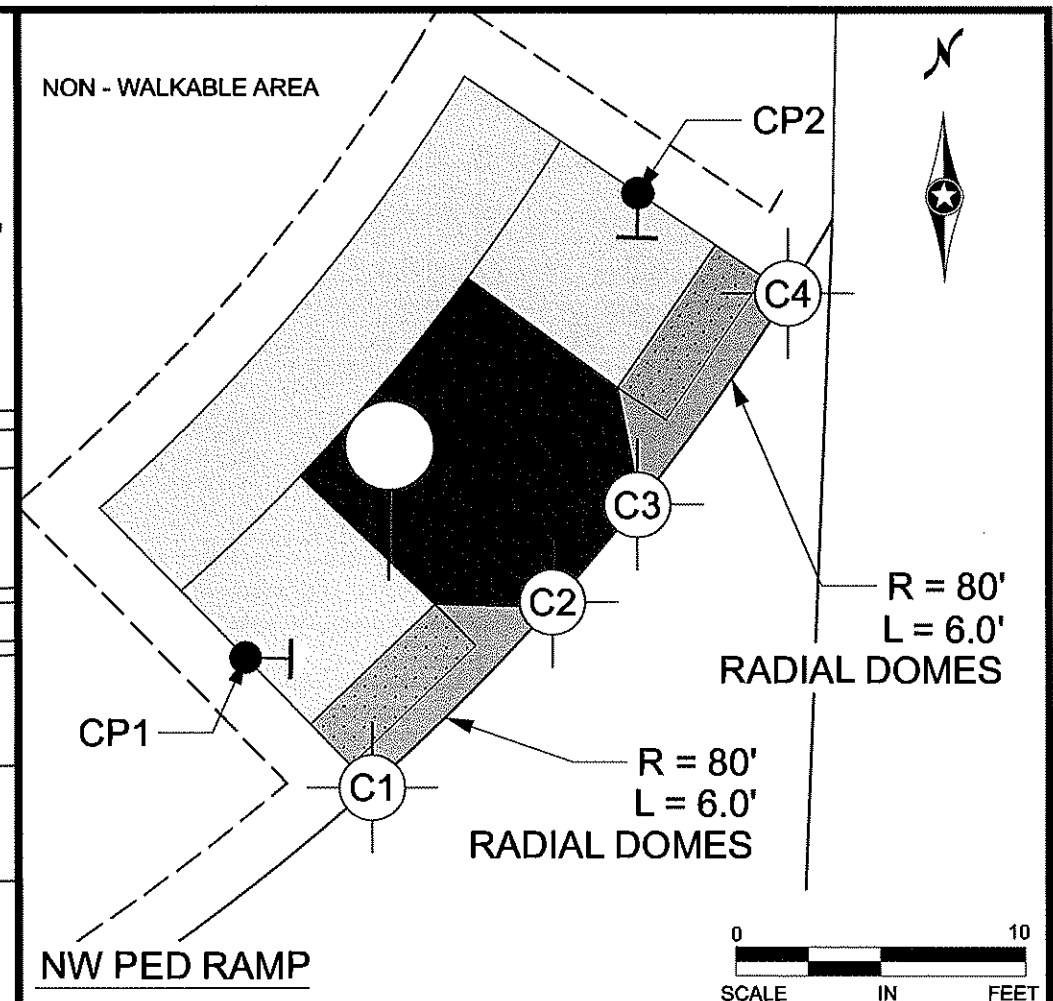
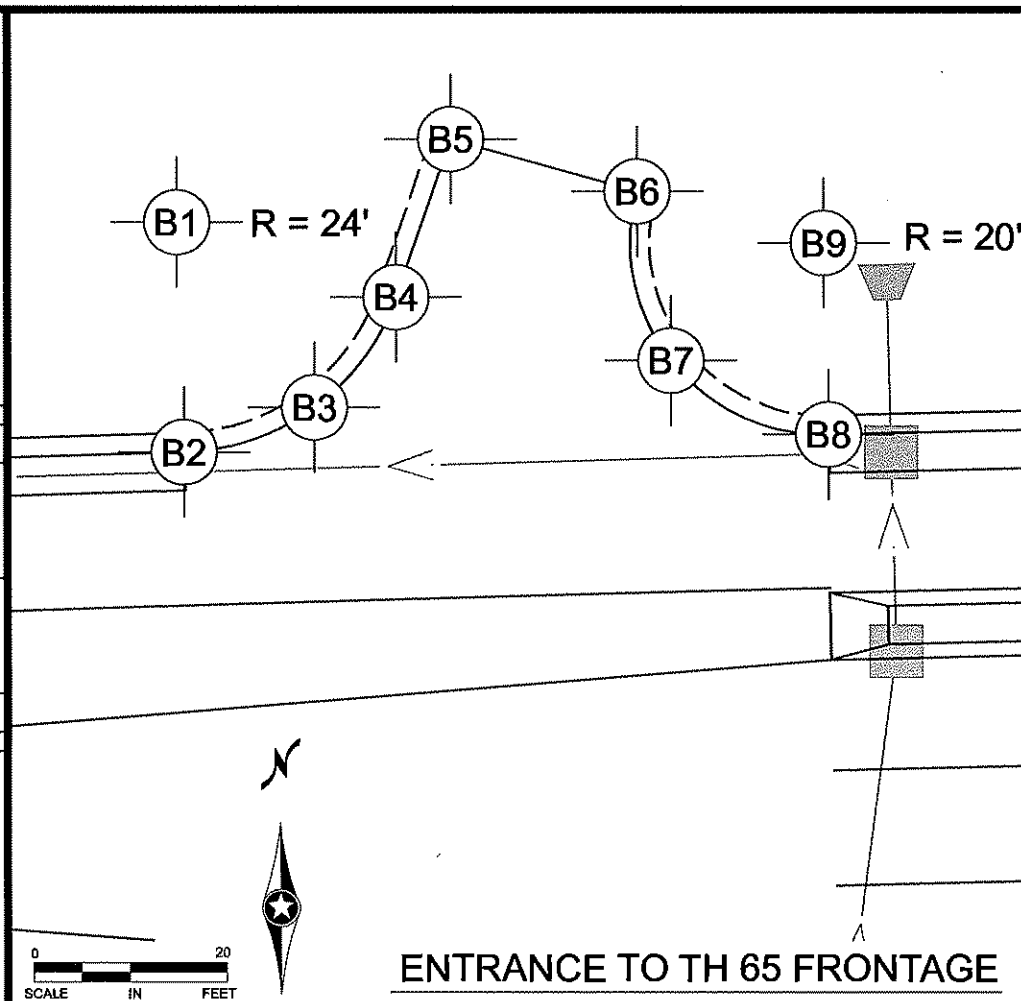
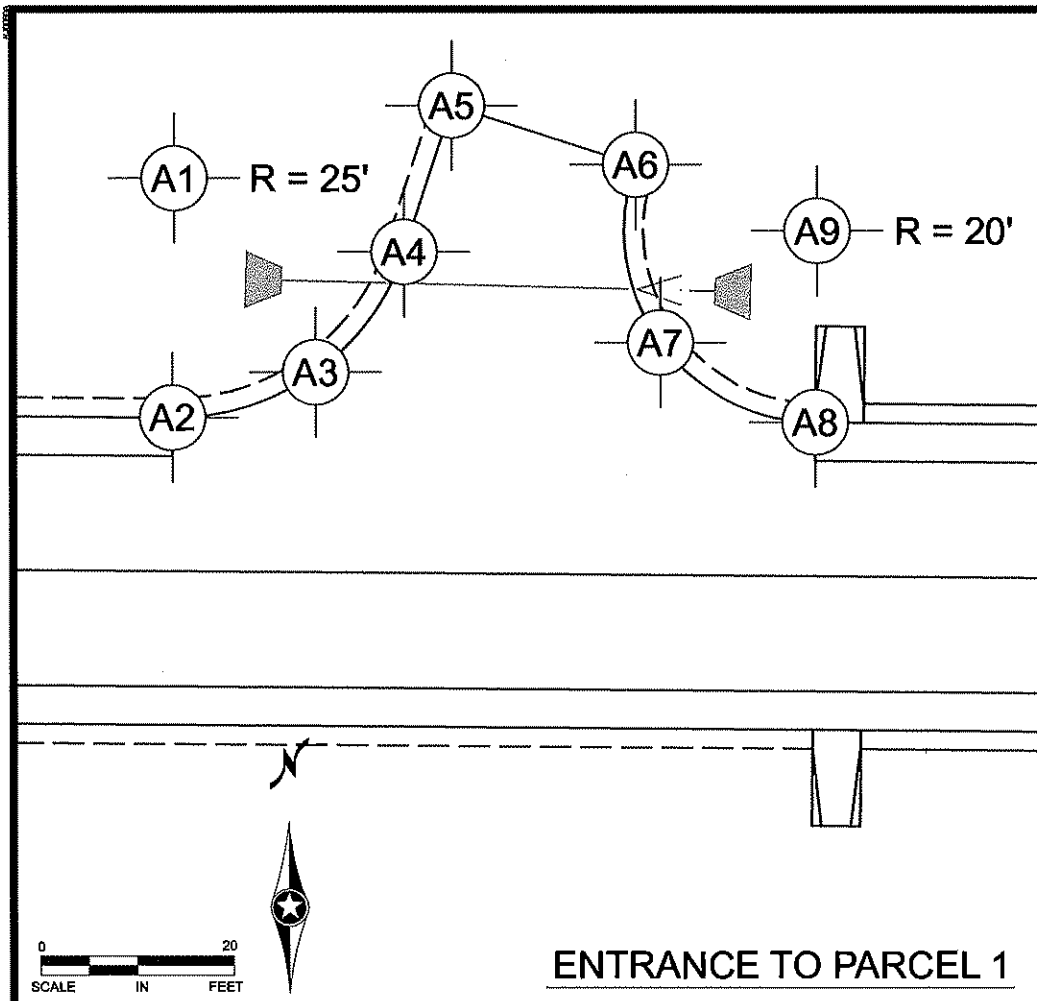
CHECKED BY JEO DATE 2-21-12

ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147 (TH 65 = 005)
C.P. 2012-05

MISCELLANEOUS DETAILS

Sheet 15 of 87 Sheets



NO	DATE	BY	CKD	APPR	REVISION
NAME: p:\02-596-015\plan\02596015_IN_P1.dgn					
04/30/2012 1:39:00 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. KOBILARCSIK

SIGNATURE: *Curt A. Kobilarsik*

DATE: 5-3-12 LICENSE NO. 24756

DRAWN BY: NJD DATE: 2-10-12

DESIGN BY: NJD DATE: 11-21-11

CHECKED BY: JEO DATE: 2-21-12



ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147 (TH 65 = 005)
C.P. 2012-05

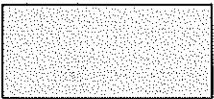
MISC DETAILS

Sheet 16 of 87 Sheets

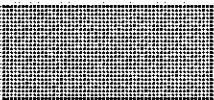
RADIUS POINTS						
POINT NAME	TYPE	STATION [EB]	OFFSET	ELEVATION	SLOPE %	
A1	RADIUS PT	98+47.50	-41.00			
A2	BEGIN RAD	97+47.50	-16.00	912.74		
A3	MIDPOINT	98+62.27	-20.84	913.47	A2 - A3	4.61
A4	END RAD	97+71.34	-33.47	914.20	A3 - A4	4.61
A5	TOUCHDOWN	98+76.19	-48.82	914.94	A4 - A5	4.61
A6	TOUCHDOWN	98+95.27	-42.80	915.21	A5 - A6	1.35
A7	MIDPOINT	98+97.95	-24.24	914.41	A6 - A7	-4.08
A8	END RAD	99+14.04	-16.04	913.69	A7 - A8	-4.08
A9	RADIUS PT	99+14.10	-36.04			
B1	RADIUS PT	106+43.67	-58.85			
B2	BEGIN RAD	106+43.79	-34.85	925.38		
B3	MIDPOINT	106+57.40	-39.17	925.82	B2 - B3	3.01
B4	END RAD	106+66.15	-50.45	926.25	B3 - B4	3.01
B5	TOUCHDOWN	106+72.27	-66.83	926.78	B4 - B5	3.01
B6	TOUCHDOWN	106+91.40	-60.86	925.98	B5 - B6	-4.00
B7	MIDPOINT	106+94.43	-43.11	926.15	B6 - B7	0.88
B8	END RAD	107+10.48	-35.00	926.31	B7 - B8	0.88
B9	RADIUS PT	107+10.48	-55.00			

PUSHBUTTONS [1]		
POINT NAME	NORTHING(y)	EASTING(x)
CP1	222341.62	507638.95
CP2	222357.77	507652.51
DP1	222235.66	507640.09
EP1	222238.13	507825.58
FP1	222345.19	507827.24
FP2	222354.08	507819.50
GP1	222353.14	507739.87

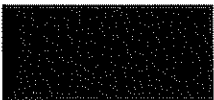
PED RAMP CRITICAL POINTS		
POINT NAME	NORTHING(y)	EASTING(x)
C1	222337.10	507643.31
C2 [A]	222343.54	507649.58
C3 [A]	222346.93	507652.48
C4	222354.25	507657.71
D1	222239.10	507643.71
D2	222234.76	507647.85
E1	222237.68	507817.49
E2	222241.99	507821.66
F1	222351.04	507815.60
F2	222341.79	507823.69
G1	222346.46	507733.30
G2 [B]	222346.34	507737.83
G3 [C]	222346.23	507741.83
G4	222346.11	507746.47



PEDESTRIAN LANDING
(0.02 FT / FT OR FLATTER IN ALL DIRECTIONS)
4.0' X 4.0' MINIMUM AREA



PEDESTRIAN RAMP / SECONDARY RAMP / PEDESTRIAN ACCESS
ROUTE (PAR) (0.08 FT / FT OR FLATTER ALONG PAR, 0.02 MAXIMUM
CROSS SLOPE ACROSS PAR) MINIMUM 4.0' WIDTH



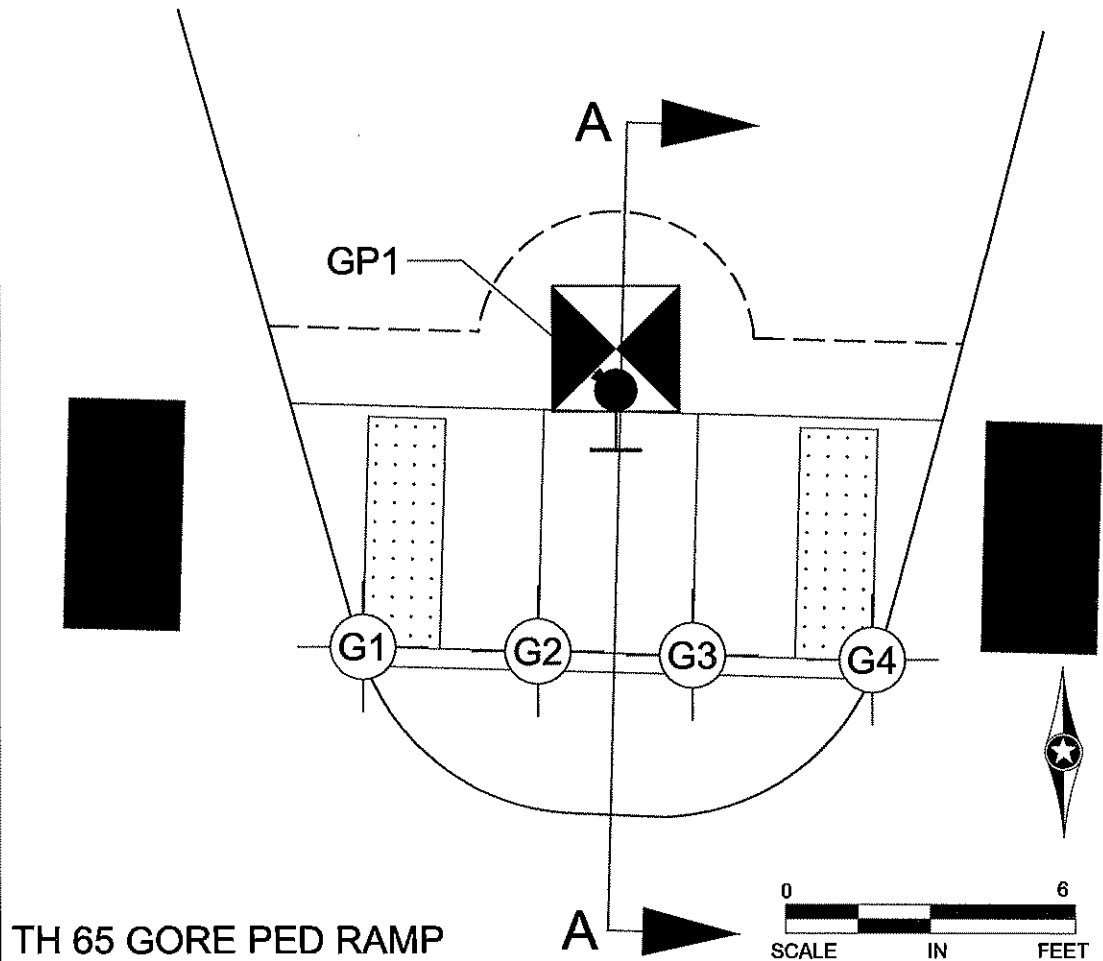
VARIABLE AREA
(NO SLOPE REQUIREMENTS)

[A] 4.45' X 4.0' RAISED CURB BETWEEN POINTS C2 & C3

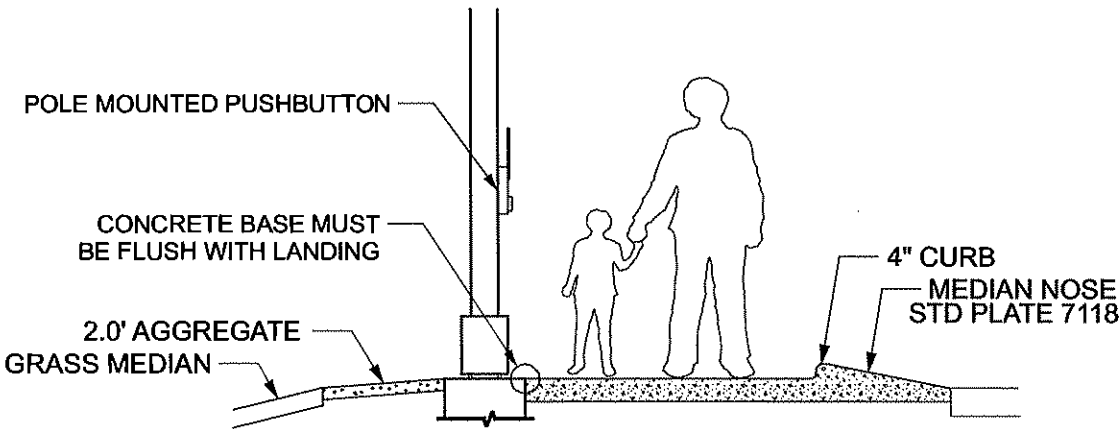
[B] POINT G2 TO BE 0.25' HIGHER THEN POINT G1

[C] POINT G3 TO BE 0.25' HIGHER THEN POINT G4

[1] PUSHBUTTON NORTHINGS & EASTINGS ARE APPROXIMATE. CONTRACTOR TO VERIFY
PUSHBUTTON LOCATIONS COMPLY WITH ADA AND MN/DOT PROWAG REQUIREMENTS
PRIOR TO PLACEMENT.



TH 65 GORE PED RAMP



SECTION A-A

NO	DATE	BY	CHKD	APPR	REVISION
1	04/30/2012				1:39:02 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. KOBLARCSIK
SIGNATURE: *Curt A. Koblarczik*
DATE: 5-3-12 LICENSE NO. 24756

DRAWN BY: NJD DATE: 2-10-12
DESIGN BY: NJD DATE: 11-21-11
CHECKED BY: JEO DATE: 2-21-12

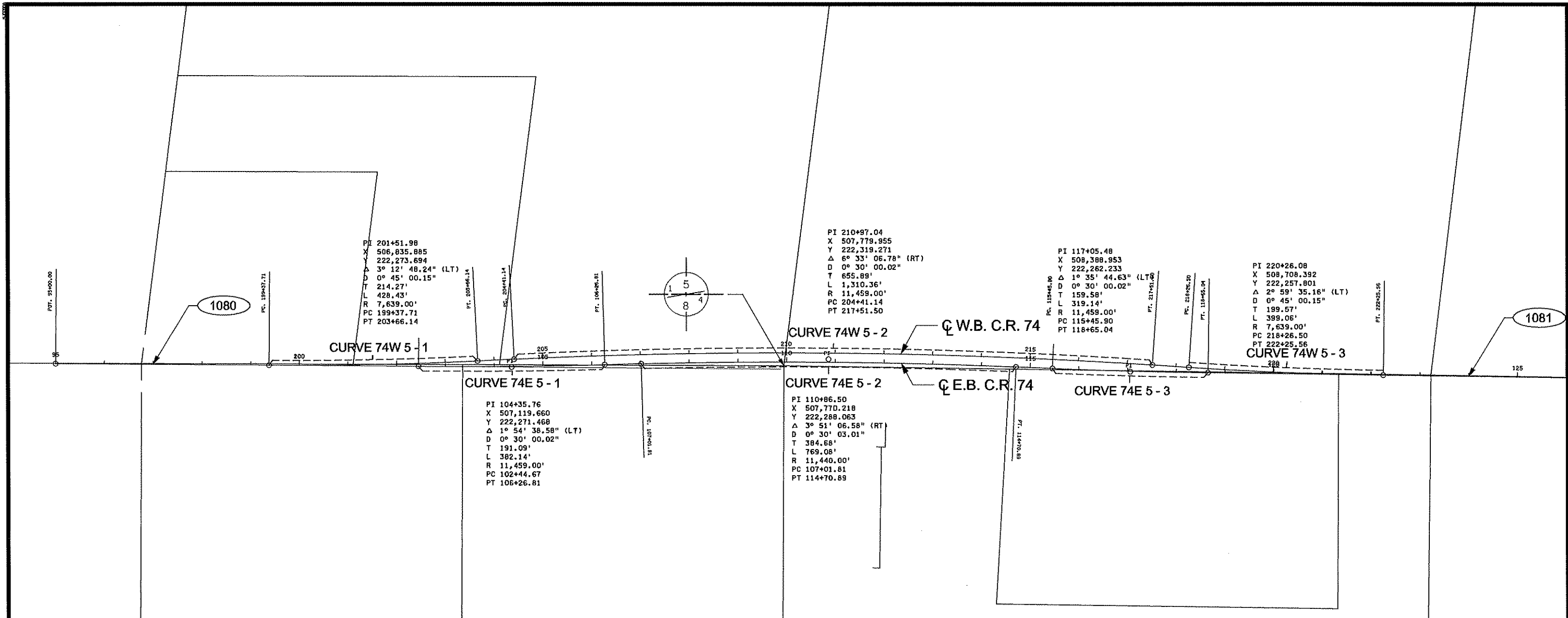


ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147 (TH 65 = 005)
C.P. 2012-05

MISC DETAILS

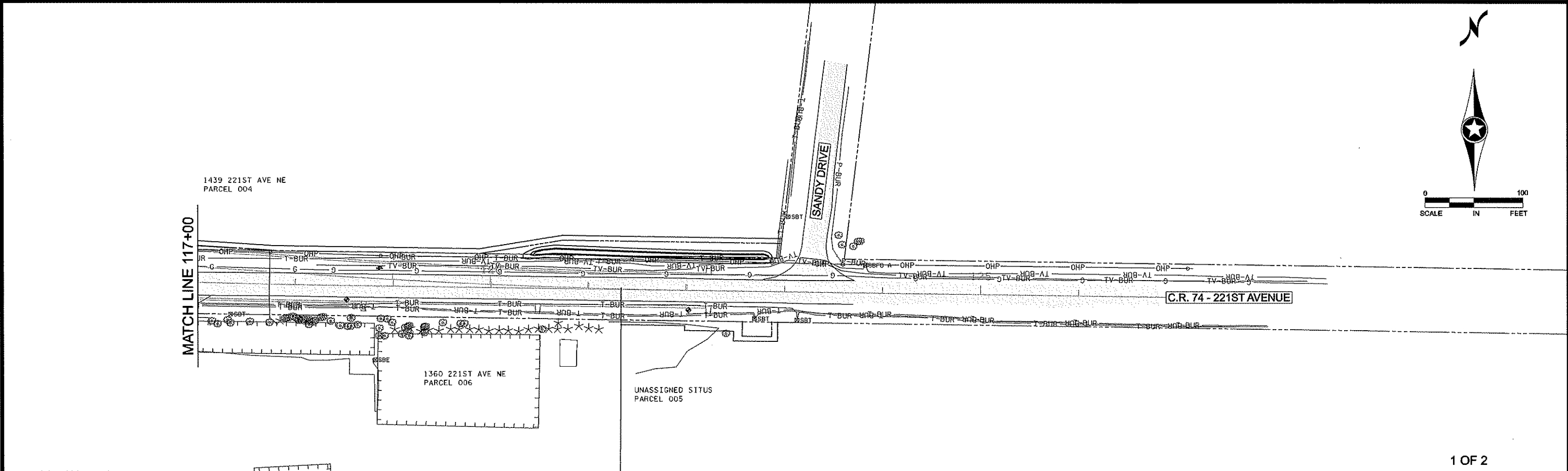
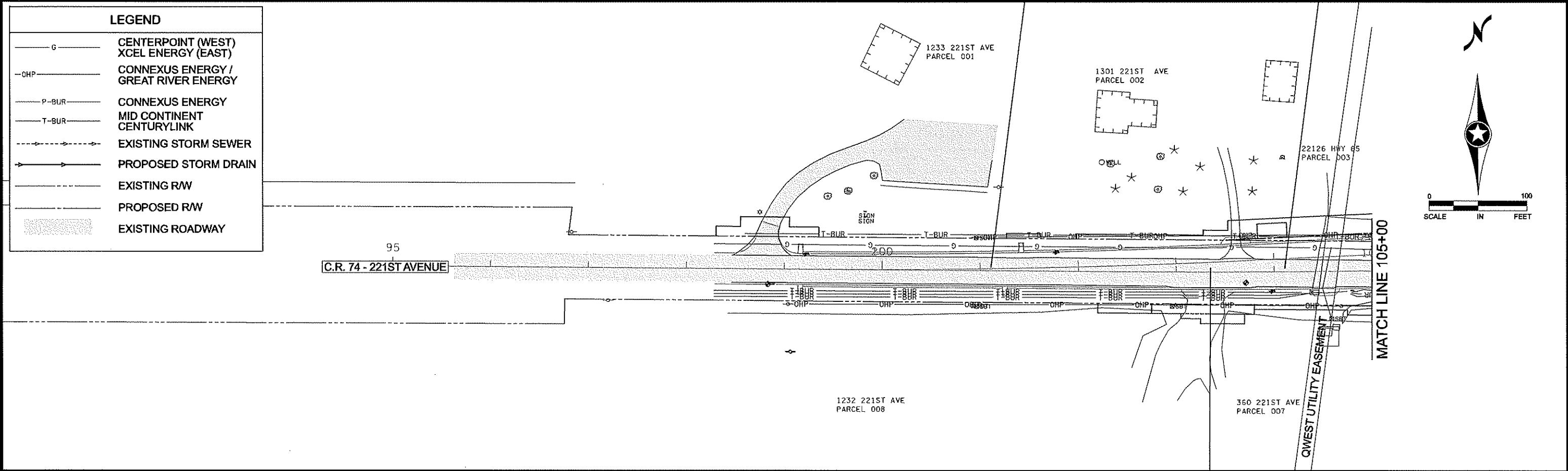
Sheet 17 of 87 Sheets



ALIGNMENT TABULATION											
POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N		
C E.B. C.R. 74 <74E_5>											
1080	POT	C E.B. C.R. 74	97+00.000						506,383.9211	222,277.2388	
	PC		102+44.675						506,928.5793	222,272.9664	S 89° 33' 02.05" E
74E_5-1	PI		104+35.762	1° 54' 38.58" LT	0° 30' 00.02"	11,459.000'	191.087'	382.138'	507,119.6600	222,271.4675	PI
	CC								507,018.4631	233,731.6139	
	PT		106+26.813						507,310.6845	222,276.3405	N 88° 32' 19.37" E
	PC		107+01.812						507,385.6589	222,278.2531	N 88° 32' 19.37" E
74E_5-2	PI		110+86.495	3° 51' 06.58" RT	0° 30' 03.01"	11,440.000'	384.684'	769.078'	507,770.2177	222,288.0631	PI
	CC								507,677.3959	210,841.9736	
	PT		114+70.890						508,154.5668	222,272.0177	S 87° 36' 34.04" E
	PC		115+45.899						508,229.5109	222,268.8890	S 87° 36' 34.04" E
74E_5-3	PI		117+05.480	1° 35' 44.63" LT	0° 30' 00.02"	11,459.000'	159.581'	319.142'	508,388.9530	222,262.2327	PI
	CC								508,707.4743	233,717.9165	
	PT		118+65.040						508,548.5188	222,260.0191	S 89° 12' 18.67" E
1081	POT		124+00.103						509,083.5295	222,252.5969	

ALIGNMENT TABULATION											
POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH	
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N		
Q W.B. C.R. 74 <74W_5>											
	PC	Q W.B. C.R. 74	199+37.710						506,621.6212	222,275.3742	S 89° 33' 02.05" E
74W_5-1	PI		201+51.981	3° 12' 48.24" LT	0° 45' 00.15"	7,639.000'	214.271'	428.429'	506,835.8852	222,273.6935	PI
	CC								506,681.5412	229,914.1392	
	PT		203+66.139						507,049.9064	222,284.0260	N 87° 14' 09.71" E
	PC		204+41.143						507,124.8238	222,287.6429	N 87° 14' 09.71" E
74W_5-2	PI		210+97.038	6° 33' 06.78" RT	0° 30' 00.02"	11,459.000'	655.894'	310.359'	507,779.9552	222,319.2712	PI
	CC								507,677.3959	210,841.9736	
	PT		217+51.502						508,434.4168	222,275.9405	S 86° 12' 43.51" E
	PC		218+26.504						508,509.2543	222,270.9857	S 86° 12' 43.51" E
74W_5-3	PI		220+26.078	2° 59' 35.16" LT	0° 45' 00.15"	7,639.000'	199.574'	399.057'	508,708.3923	222,257.8011	PI
	CC								509,013.9129	229,893.2977	
	PT		222+25.561						508,907.9471	222,255.0327	S 89° 12' 18.67" E

NO					DATE	BY	CKD	APPR	REVISION	1:30:05 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>Curt A. Kobiarsik</i> DATE: 5-3-12 LICENSE NO. 24758		DRAWN BY: NJD DATE: 2-16-12 DESIGN BY: NJD DATE: 11-21-11 CHECKED BY: JEO DATE: 2-21-12	ANOKA COUNTY HIGHWAY DEPT.		S.P. 002-596-015 S.P. 0208-147 (TH 65 = 005) C.P. 2012-05 ***	ALIGNMENT PLAN Sheet 18 of 87 Sheets	
NAME: p:\02-596-15\plan\0259615_ALI.dgn										04/30/2012								



LEGEND

CENTERPOINT (WEST)
XCEL ENERGY (EAST)

CONNEXUS ENERGY /
GREAT RIVER ENERGY

CONNEXUS ENERGY

MID CONTINENT
CENTURYLINK

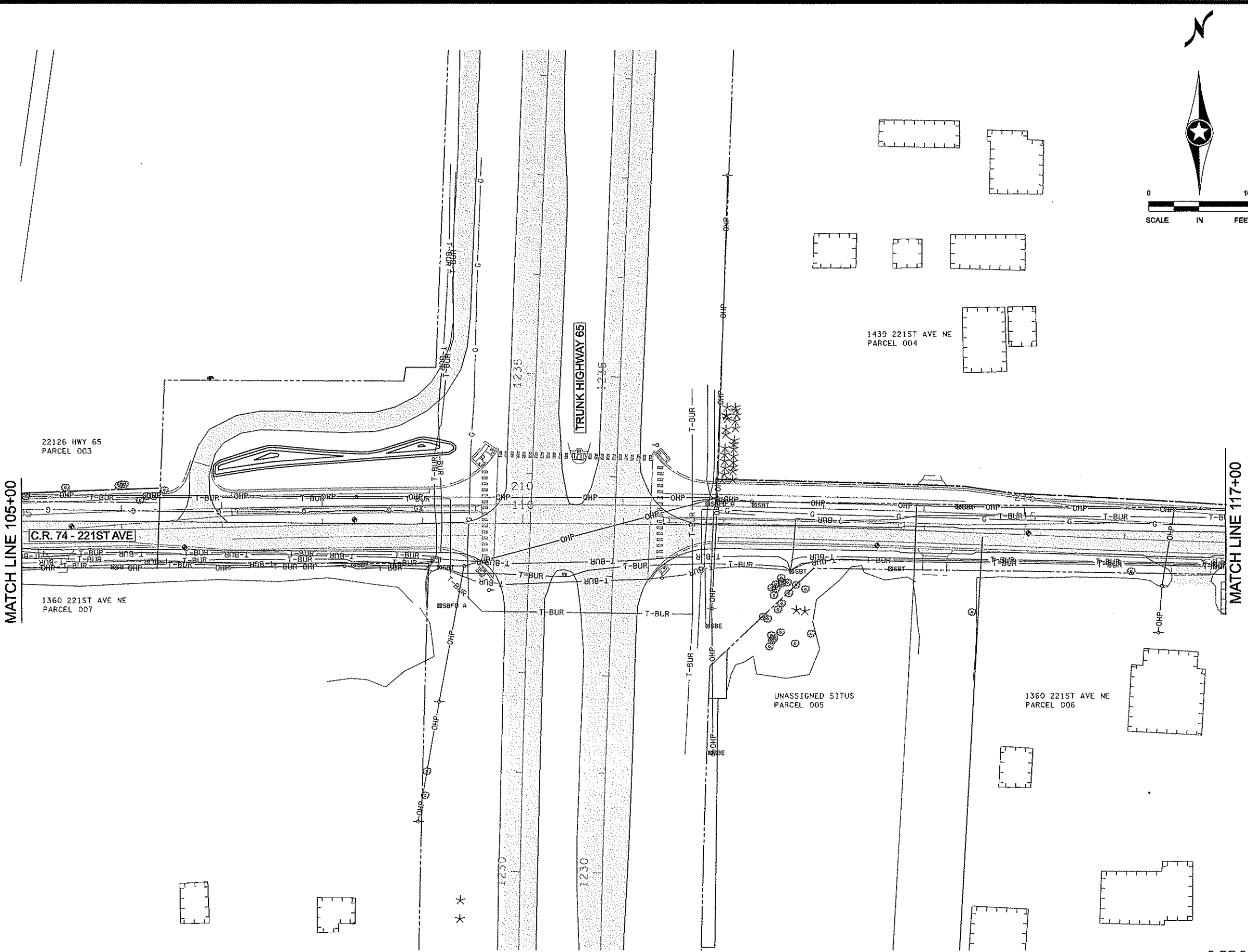
EXISTING STORM SEWER

PROPOSED STORM DRAIN

EXISTING R/W

PROPOSED R/W

EXISTING ROADWAY



2 OF 2

NO	DATE	BY	CKD	APPR	REVISION				
NAME: p:02-596-15\plant\0259615_UT_P2.dgn						04/30/2012	1:39:13 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. KOBILARCSIK

SIGNATURE: *Curt Kobilarsik*

DATE: 5-3-12 LICENSE NO. 24756

DRAWN BY: NJD DATE: 2-16-12

DESIGN BY: NJD DATE: 11-21-11

CHECKED BY: JEO DATE: 2-21-12

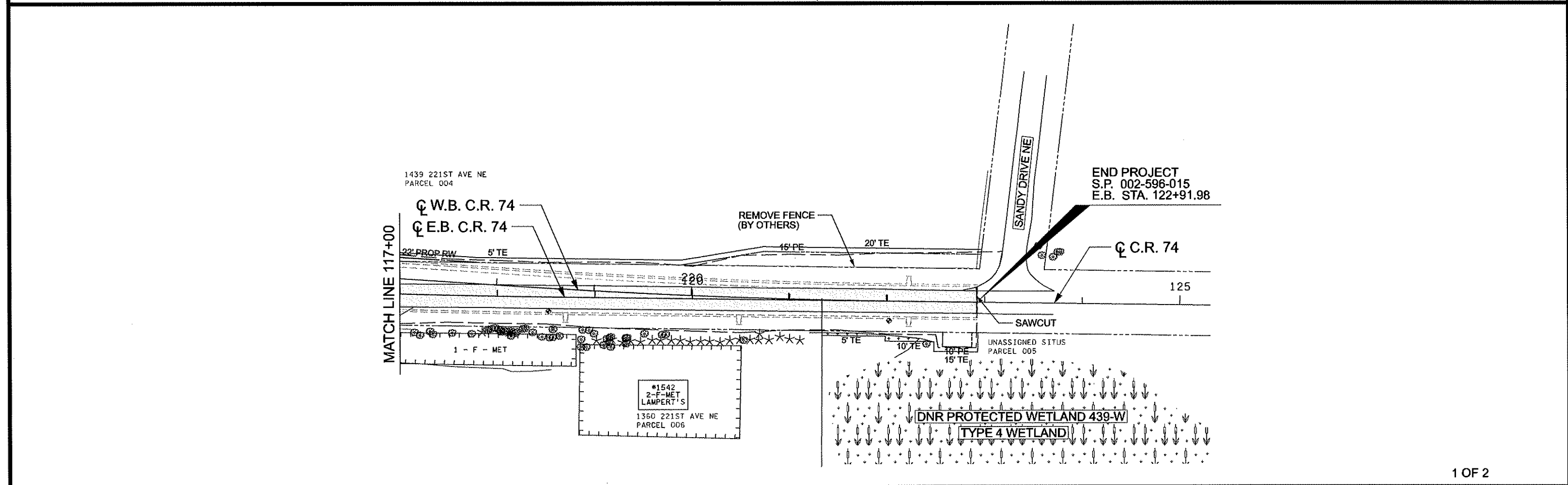
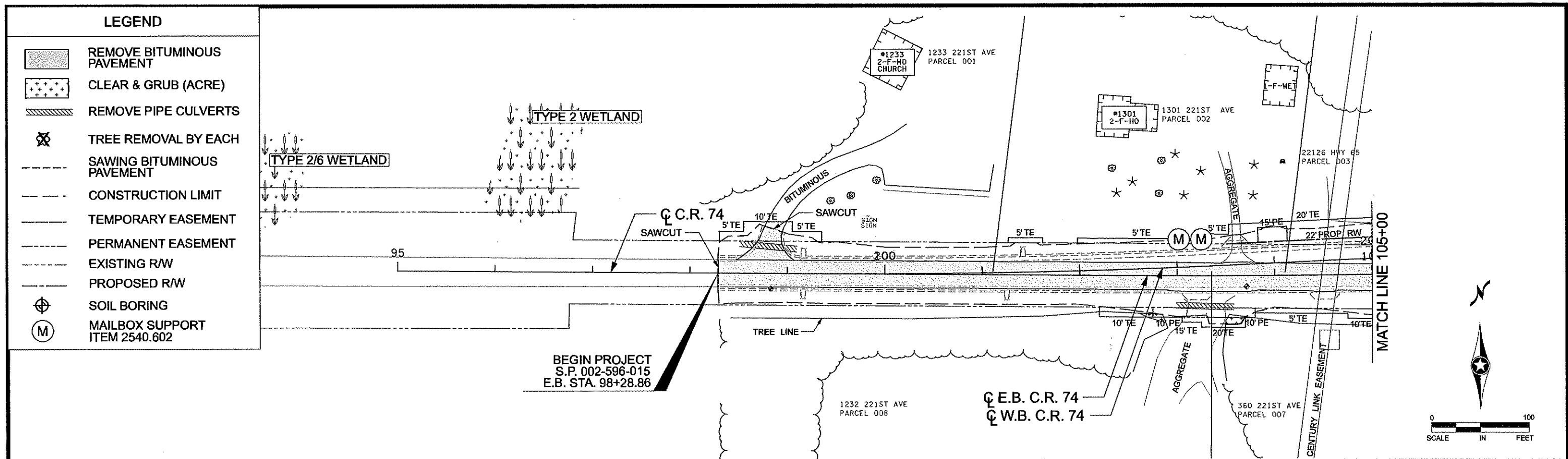


ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147 (TH 65 = 005)
C.P. 2012-05

EXISTING UTILITY LAYOUT

Sheet 20 of 87 Sheets



1 OF 2

NO. DATE BY CKD APPR NAME: p:\02-596-15\plan\0259615_RM_P1.dgn					REVISION 04/30/2012 1:39:16 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. KOBILARCSIK SIGNATURE: <i>Curt A. Kobilarsik</i> DATE: 5-3-12 LICENSE NO. 24758		DRAWN BY: NJD DATE: 2-16-12 DESIGN BY: NJD DATE: 11-21-11 CHECKED BY: JEO DATE: 2-21-12		ANOKA COUNTY HIGHWAY DEPT.		S.P. 002-596-015 S.P. 0208-147 (TH 65 = 005) C.P. 2012-05 ***		REMOVAL PLAN STA 97+00.00 TO 105+00.00 STA 117+00.00 TO 123+00.00 Sheet 21 of 87 Sheets	
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LEGEND

	REMOVE BITUMINOUS PAVEMENT
	CLEAR & GRUB (ACRE)
	REMOVE PIPE CULVERTS
	TREE REMOVAL BY EACH
	SAWING BITUMINOUS PAVEMENT
	CONSTRUCTION LIMIT
	TEMPORARY EASEMENT
	PERMANENT EASEMENT
	EXISTING R/W
	PROPOSED R/W
	SOIL BORING
	MAILBOX SUPPORT ITEM 2540.602



DRAWN BY NJD DATE 2-16-12
DESIGN BY NJD DATE 11-21-11
CHECKED BY JEO DATE 2-21-12



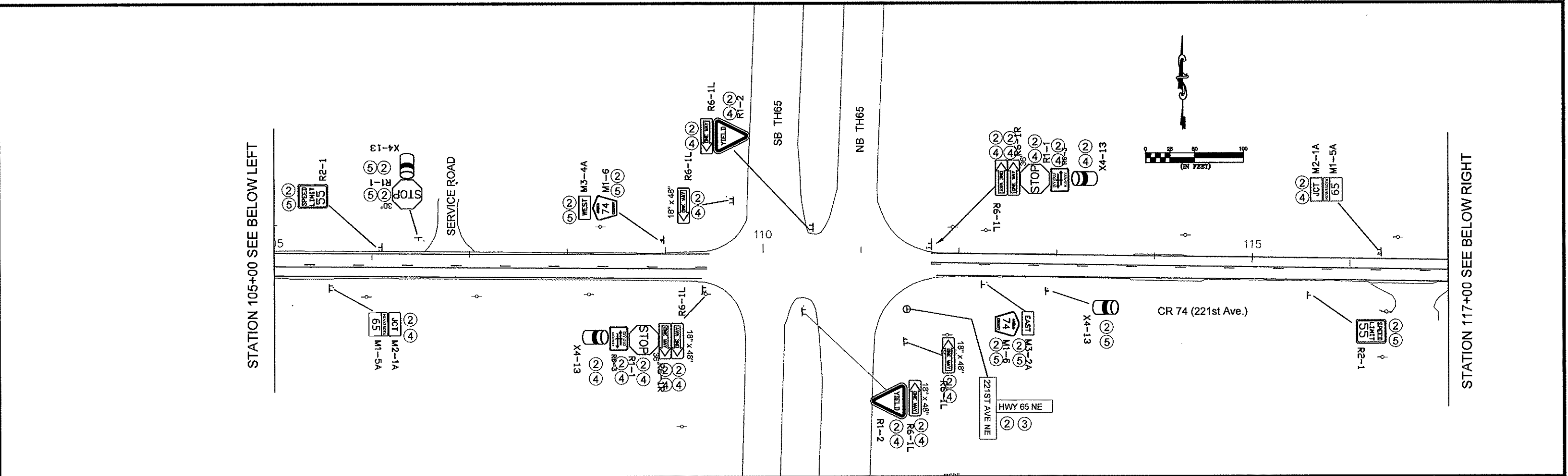
ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147 (TH 65 = 005)
C.P. 2012-05

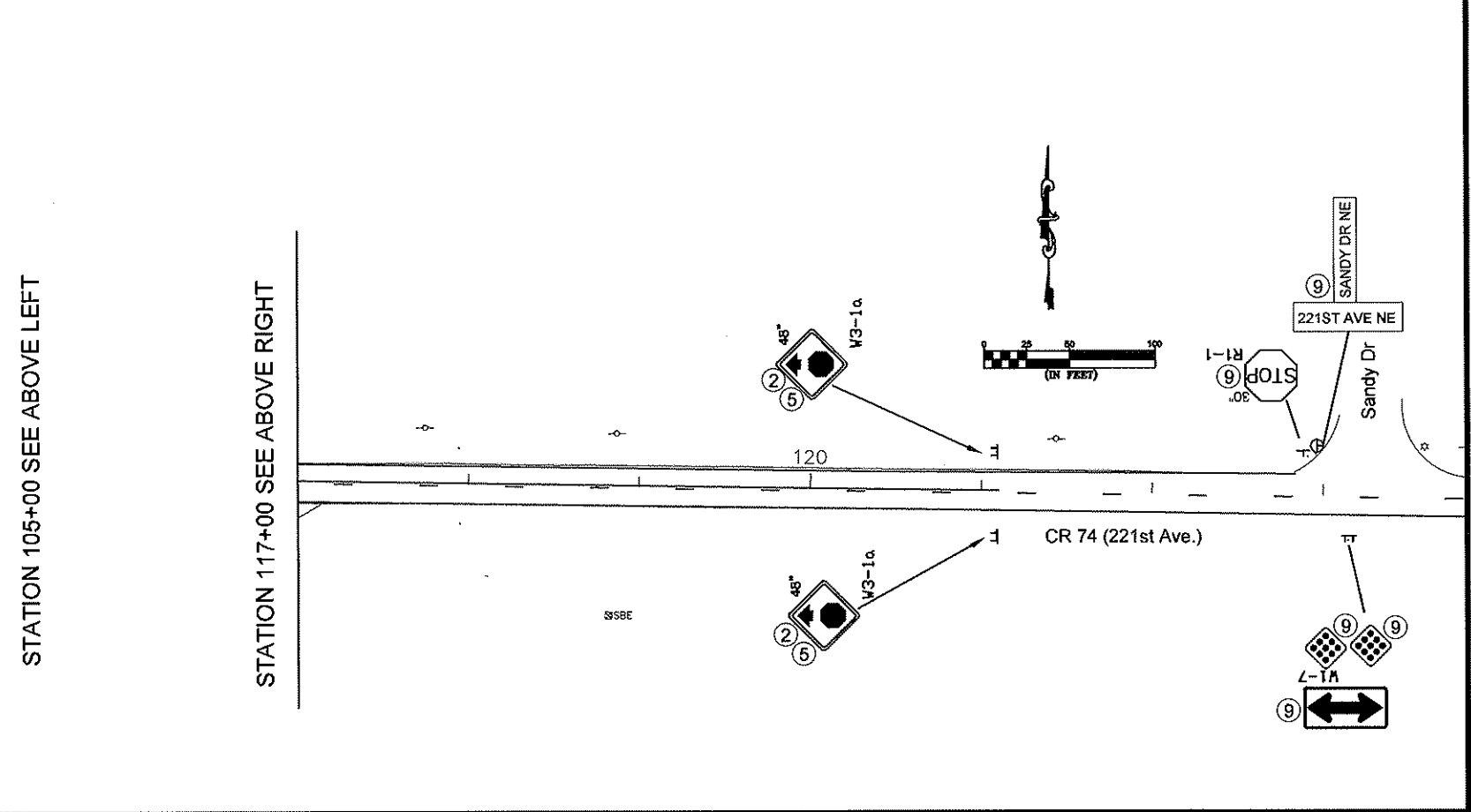
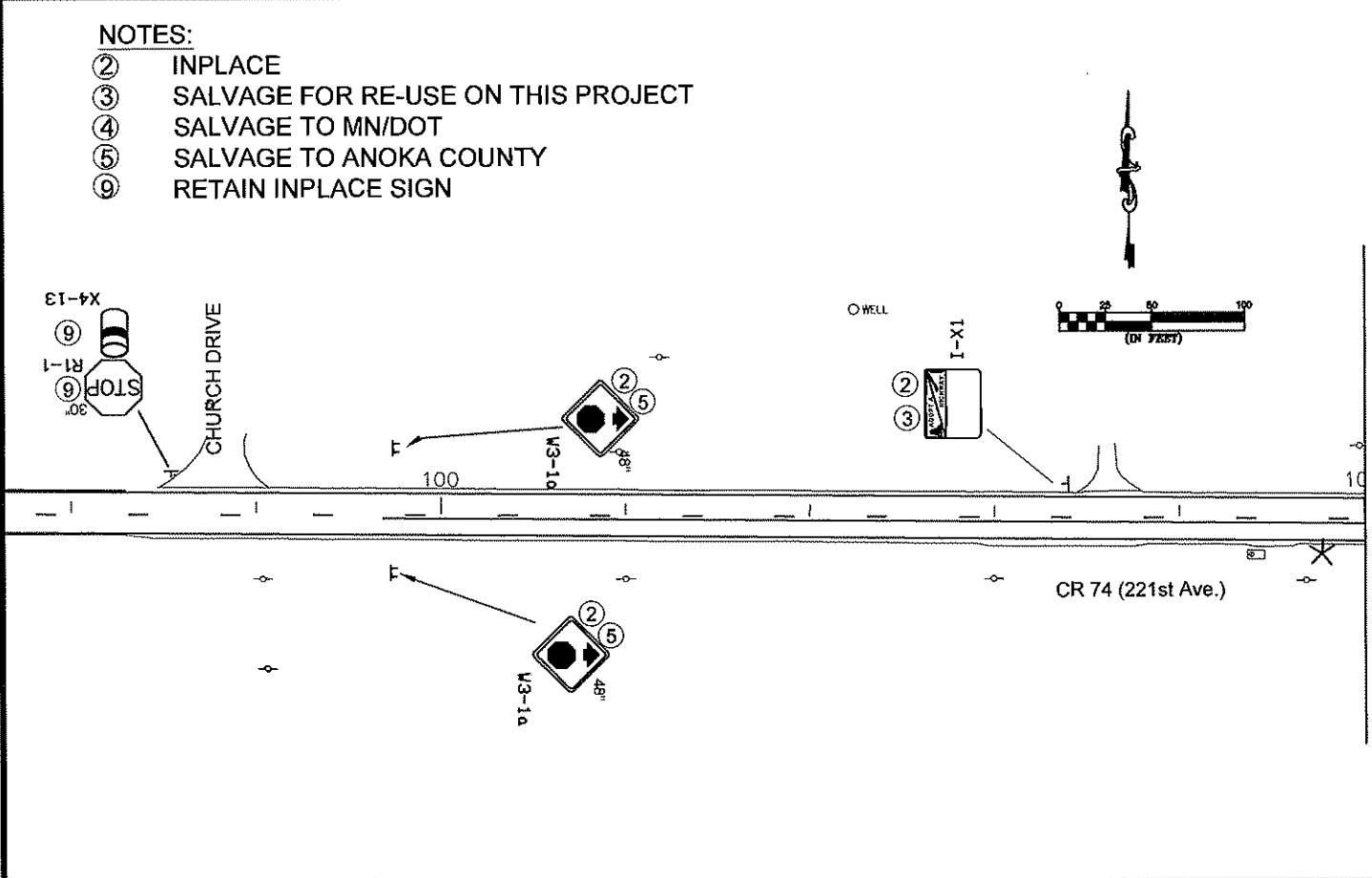
REMOVAL PLAN

STA 105+00.00 TO 117+00.00

Sheet 22 of 87 Sheets



- NOTES:
- ② INPLACE
 - ③ SALVAGE FOR RE-USE ON THIS PROJECT
 - ④ SALVAGE TO MN/DOT
 - ⑤ SALVAGE TO ANOKA COUNTY
 - ⑥ RETAIN INPLACE SIGN



P SALVAGE SIGNS							
STATION		SALVAGE SIGN TYPE C to ACHD	SALVAGE SIGN TYPE C to MNDOT	SALVAGE SIGN TYPE SPECIAL	INSTALL SIGN TYPE C	INSTALL SIGN TYPE SPECIAL	SIGN NUMBER
		EACH	EACH	EACH	EACH	EACH	
Project Number 02-596-15 CR 74 (221st Avenue) from 1200' west of TH 65 to 1200' east of TH 65							
99+70	Rt	1					W3-1
99+70	Lt	1					W3-1
103+40	Lt	1			1		Adopt
105+60	Rt		1				M2-1a
							M1-6a
106+10	Lt	1					R2-1
106+50	Lt	1					R1-1
							x4-13
109+00	Lt	1					M3-4a
							M1-6a
109+35	Rt		1				R1-1
							R6-1R
							R6-1L
							R6-3
							x4-13
109+65	Lt		1				R6-1L
110+30	Rt		1				R6-1L
							R1-2
110+50	Lt		1				R6-1L
							R1-2
111+40	Rt			1		1	HWY 65/221st Ave
111+40	Rt		1				R6-1L
111+65	Lt		1				R1-1
							R6-1R
							R6-1L
							R6-3
							x4-13
112+25	Rt	1					M3-2a
							M1-6a
112+90	Rt	1					x-13
115+55	Rt	1					R2-1
116+30	Lt		1				M2-1a
							M1-6a
121+10	Rt	1					W3-1
121+10	Lt	1					W3-1
		11	8	1	1	1	

NO	DATE	BY	CKD	APPR	REVISION				
NAME:	P:\02-596-15\02-596-15\TRAFFIC\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: 

DATE: 5-3-12 REG. NO. 24756

DRAWN BY: MTH DATE 3/26/12

DESIGN BY: MTH DATE 3/26/12

CHECKED BY: JR DATE 3/26/12

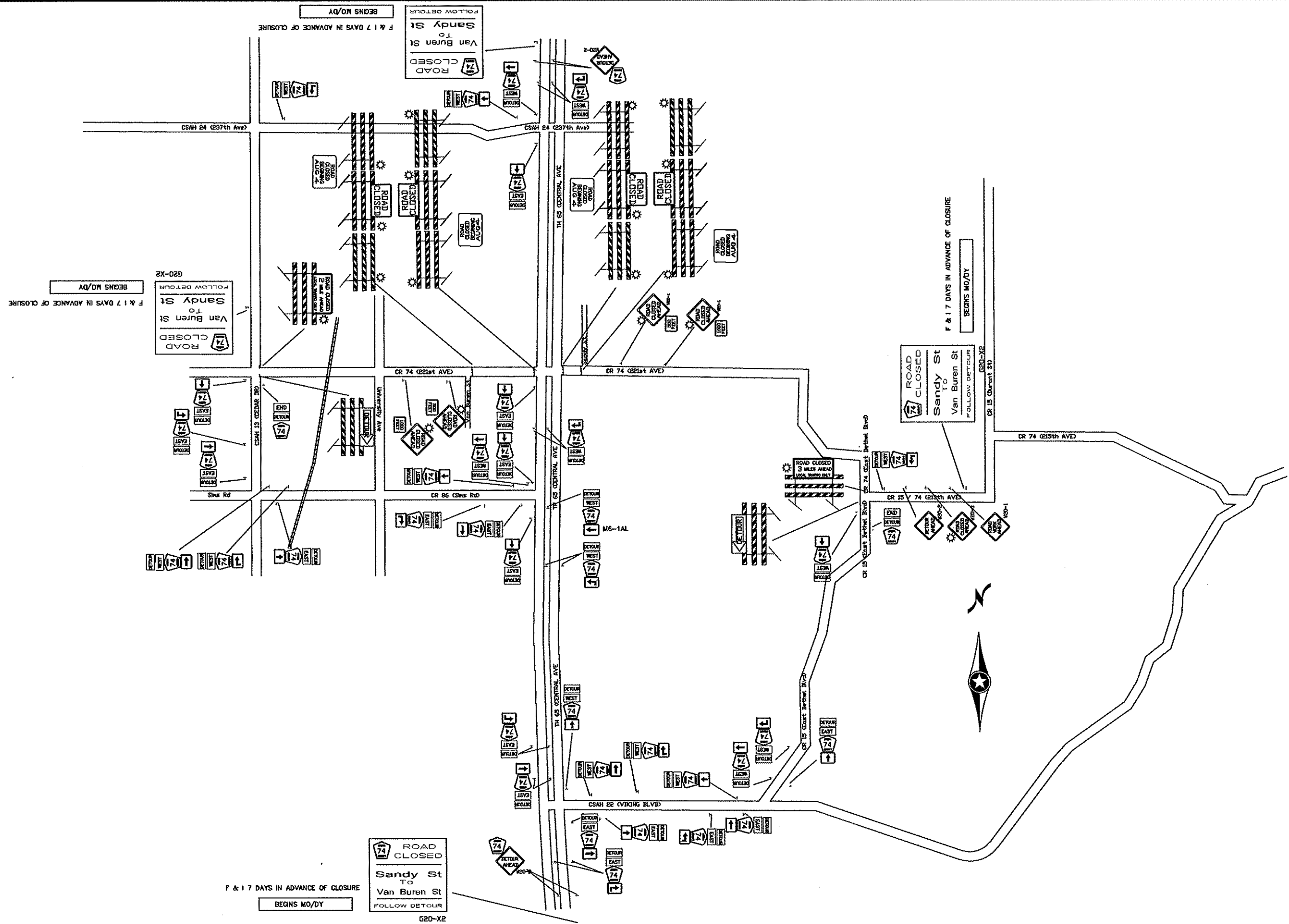


ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147
C.P. 2012-05

EXISTING SIGNING &
STRIPING

Sheet 24 of 87 Sheets



1	4/27/2012	MTH			MN/DOT redline edits
NO	DATE	BY	CKD	APPR	REVISION
NAME: T:\Traffic\dwg\CR 74\02-596-15 Detour at TH 65.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. KOBILARSIK

SIGNATURE: *Curt Kobilarsik*

DATE: 5-3-12 LICENSE NO. 24756

DRAWN BY: MTH DATE 01/30/12

DESIGN BY: MTH DATE 01/30/12

CHECKED BY: JR DATE 01/30/12



ANOKA COUNTY
HIGHWAY DEPT.

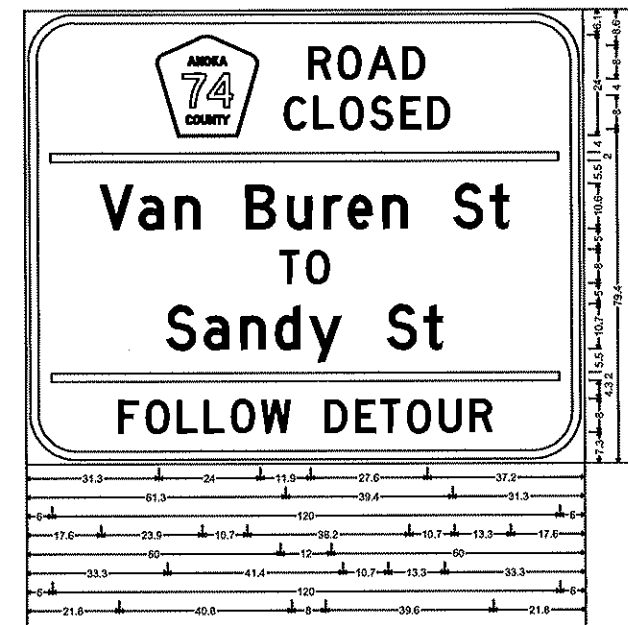
S.P. 002-596-015
S.P. 0208-147
C.P. 2012-05

CR 74 (221st Ave) DETOUR
FROM VAN BUREN ST
TO SANDY ST

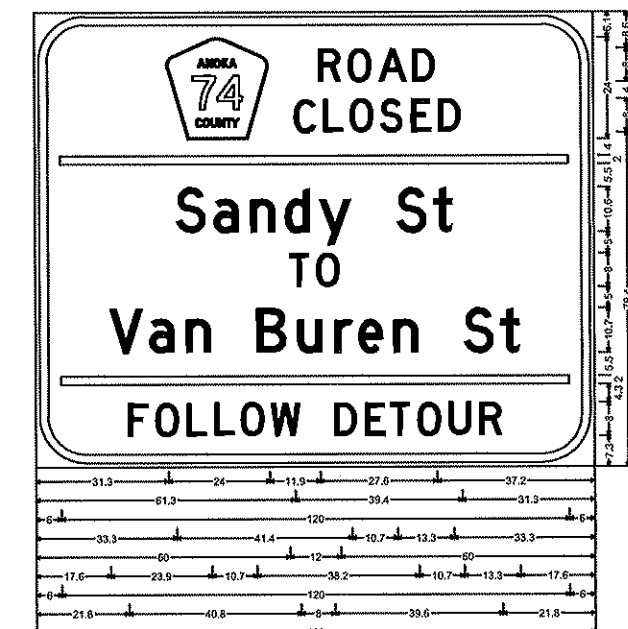
Sheet 25 of 87 Sheets

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
W20-1	48" x 48"		• 1	TYPE III	8 FOOT		• 4
W20-2	48" x 48"		• 1	TYPE III	8 FOOT		• 4
W20-3	48" x 48"		• 5	G20-X2	132"x 108"		• 3
W20-100P	24" x 18"		• 2				
W20-100P	24" x 18"		• 2				
M4-10R	48" x 18"		SEE NOTE ②	G20-X2	132"x 108"		• 1
TYPE III	8 FOOT		• 1				
M4-10L	48" x 18"		SEE NOTE ②				
TYPE III	8 FOOT		• 1				
R11-2	48" x 30"		SEE NOTE ②	M4-8A	24" x 12"		• 3
TYPE III	8 FOOT		• 4	M3-4A	24" x 12"		• 2
				M1-6A	24" x 24"		• 4
					21" x 15"		• 4
							• 8
R11-3	48" x 30"		SEE NOTE ②	M4-8A	24" x 12"		• 7
TYPE III	8 FOOT		• 1	M3-2A	24" x 12"		• 5
				M1-6A	24" x 24"		• 4
					21" x 15"		• 1
							• 5
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

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.



G20-X2, 132x108; 12.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[ROAD] D; [CLOSED] D; [Van Buren St] D; [TO] D; [Sandy St] D; [FOLLOW] D; [DETOUR] D;



G20-X2, 132x108; 12.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[ROAD] D; [CLOSED] D; [Sandy St] D; [TO] D; [Van Buren St] D; [FOLLOW] D; [DETOUR] D;

NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED FEBRUARY 2011
- ALL TYPE III BARICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M.U.T.C.D.

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. KOBLARCSIK
 SIGNATURE:
 DATE: 5-3-12 REG. NO. 24756

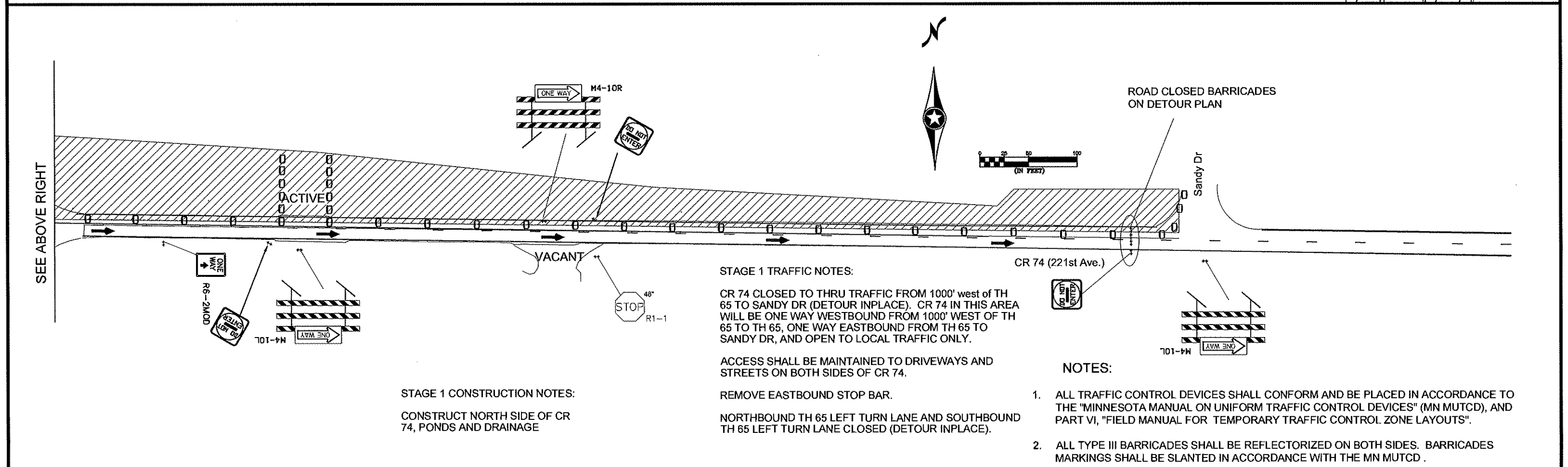
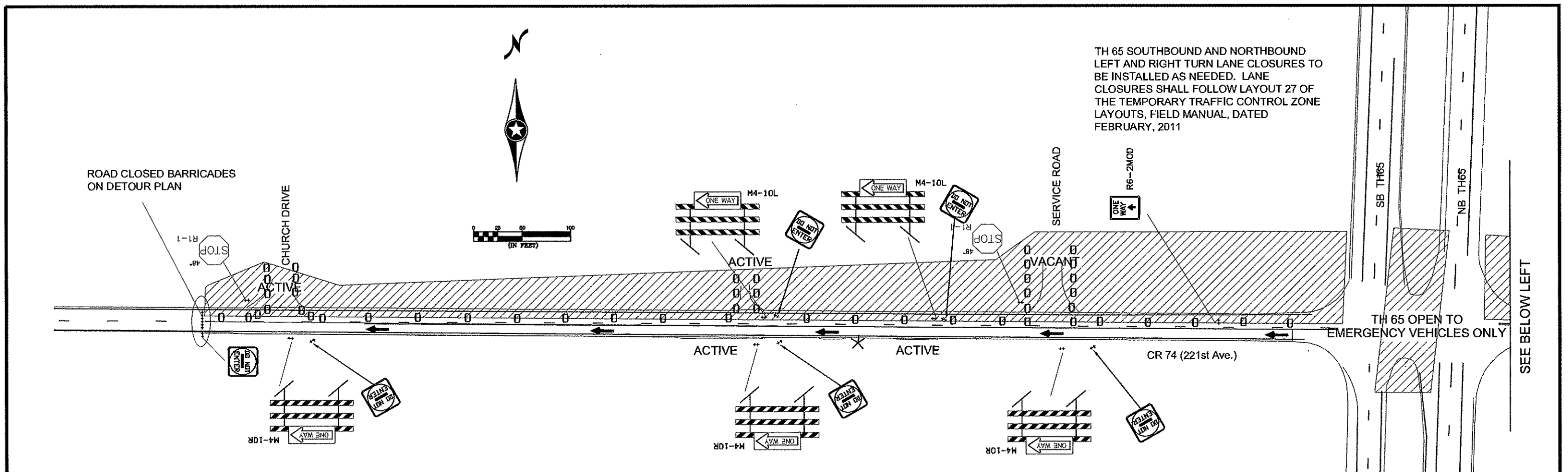
DRAWN BY: MTH DATE 01/30/12
 DESIGN BY: MTH DATE 01/30/12
 CHECKED BY: JR DATE 03/23/12



ANOKA COUNTY
 HIGHWAY DEPT.

S.P. 002-596-015
 S.P. 0208-147
 C.P. 2012-05

DETOUR
 SIGN QUANTITIES



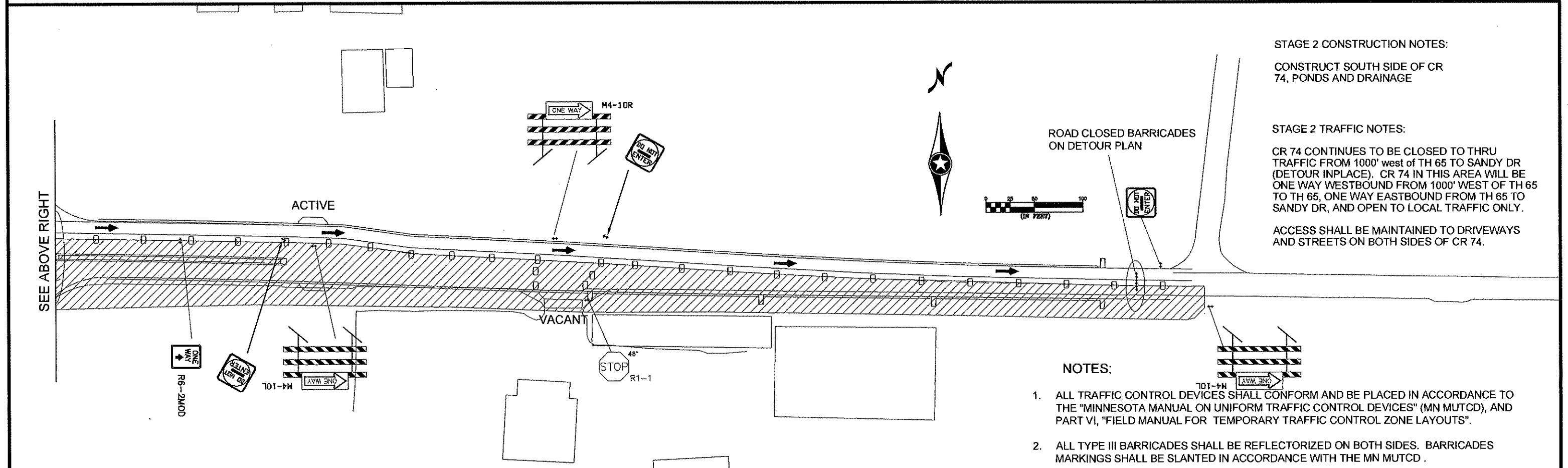
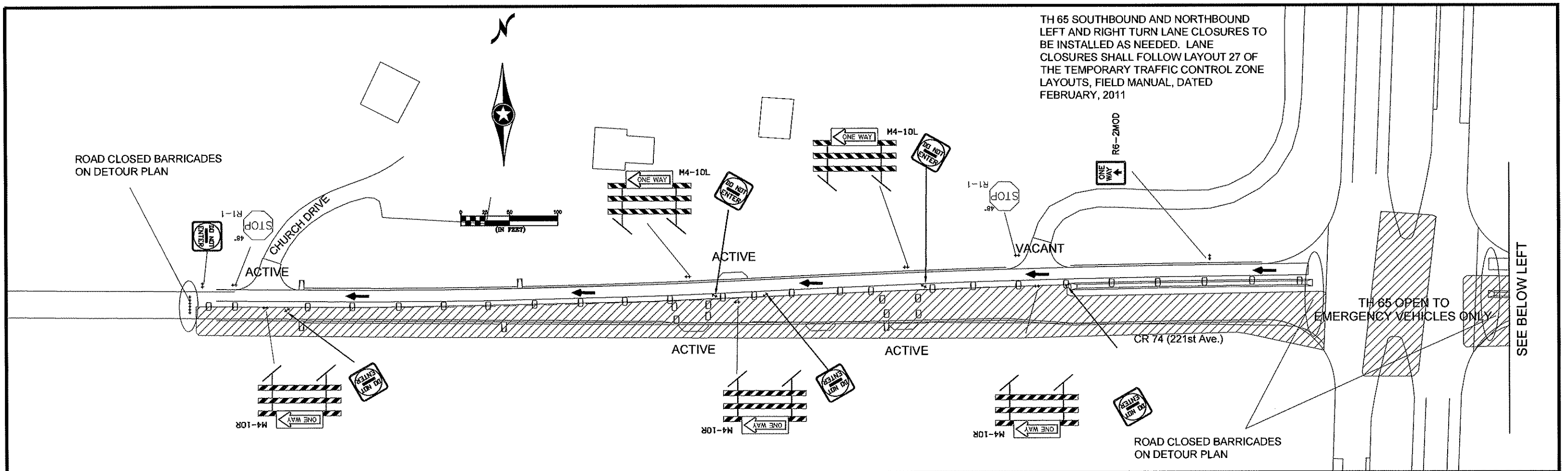
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NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-617-18\Bose\TRAFFIC\0261718_ST02.dwg					

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: 5-3-12	REG. NO. 24756

DRAWN BY: MTH	DATE: 3/21/12
DESIGN BY: MTH	DATE: 3/21/12
CHECKED BY: JR	DATE: 3/23/12

ANOKA COUNTY HIGHWAY DEPT.	S.P. 002-596-015
	S.P. 0208-147
	C.P. 2012-05

CONSTRUCTION STAGING / TRAFFIC CONTROL LAYOUT STAGE 1
Sheet 27 of 87 Sheets



1	4/27/2012	MTH			MN/DOT redline edit
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-596-15\Bases\TRAFFIC\0259615_STG2.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 Kobilarsik*

DATE: 5-3-12 REG. NO. 24756

DRAWN BY: MTH DATE: 3/21/12

DESIGN BY: MTH DATE: 3/21/12

CHECKED BY: JR DATE: 3/23/12

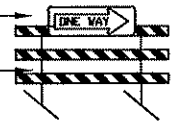
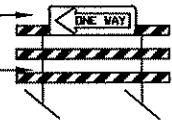


ANOKA COUNTY
HIGHWAY DEPT.

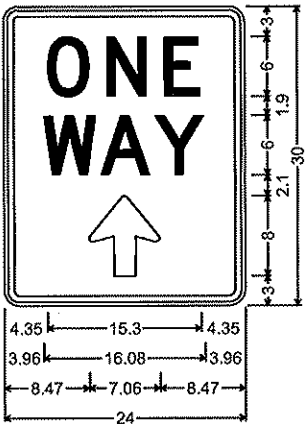
S.P. 002-596-015
S.P. 0208-147
C.P. 2012-05

CONSTRUCTION STAGING /
TRAFFIC CONTROL
LAYOUT STAGE 2

Sheet 28 of 87 Sheets

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2
R1-1	48" x 48"		3	3
R5-1	30" x 30"		7	7
R6-2 MOD	24" x 30"		2	2
R6-1R TYPE III	48" x 18" 8 FOOT		4	4
R6-1L TYPE III	48" x 18" 8 FOOT		4	4
REFLECTORIZED REBOUNDABLE DRUM			85	64

CUSTOM SIGN DETAILS



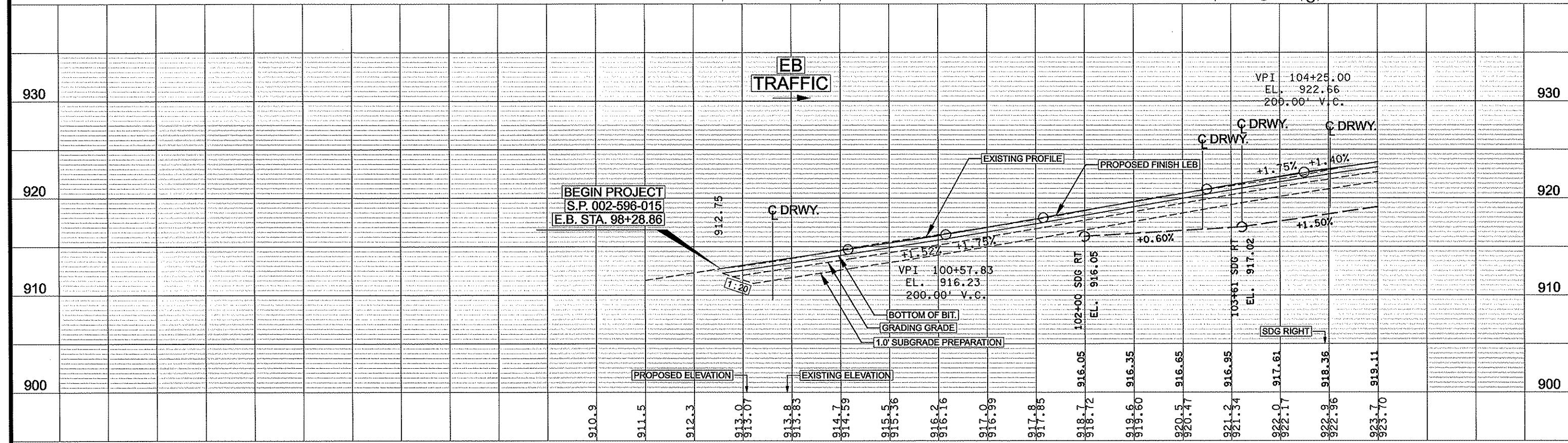
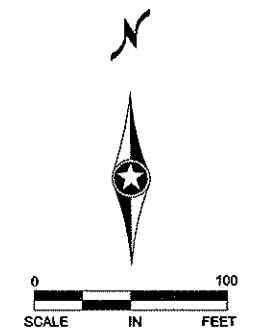
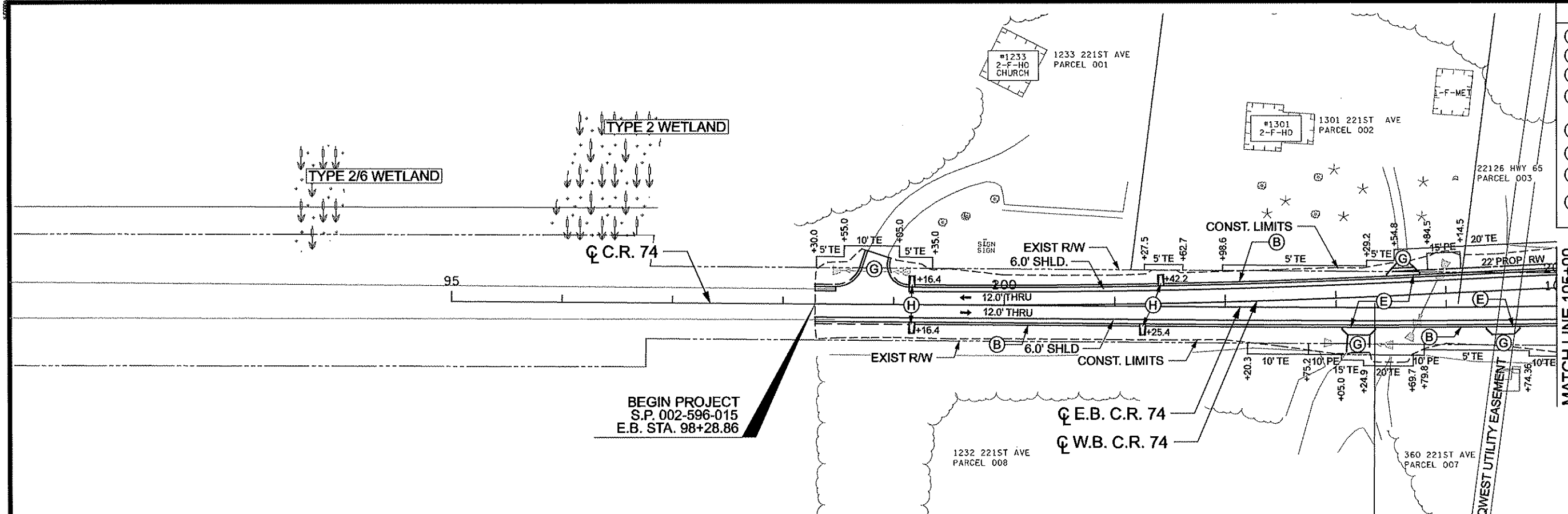
R6-2_MOD;
1.50" Radius, 0.63" Border, 0.38" Indent, Black on White;
[ONE] D specified length;
[WAY] D;
Arrow Custom - 8.00" 90°;

NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD), AND PART IV, "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.

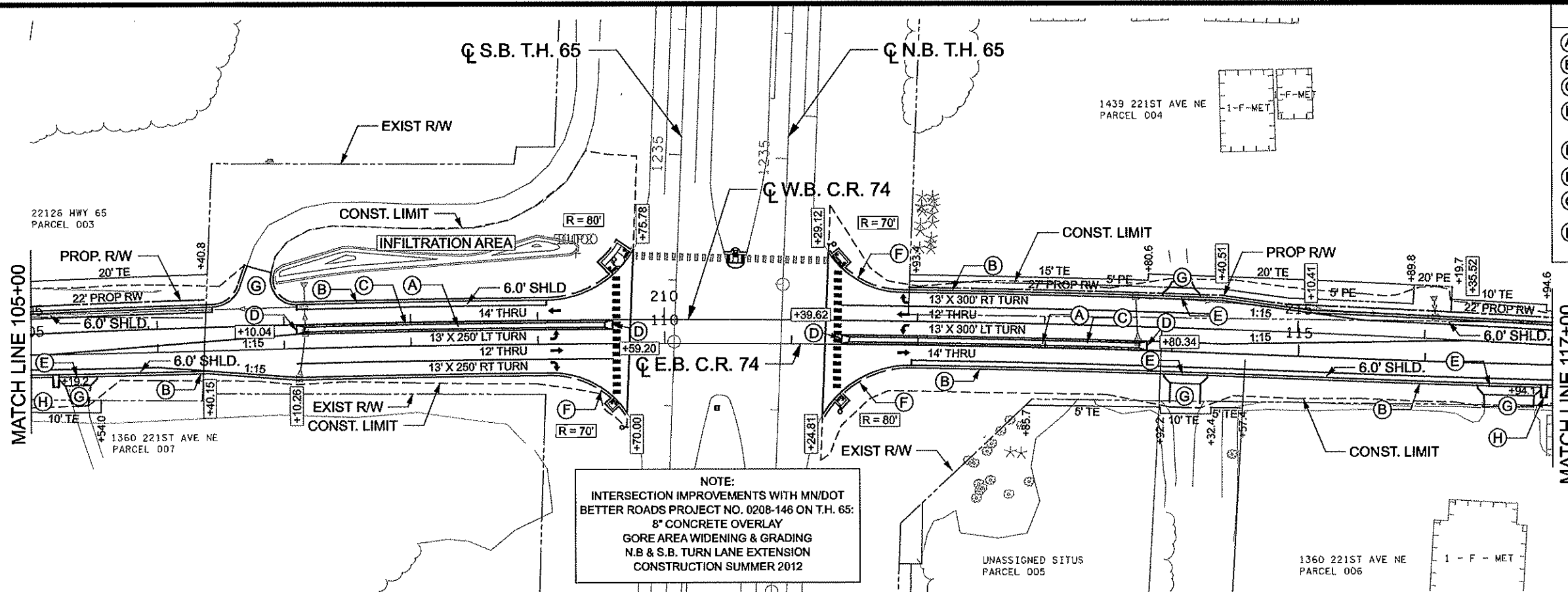
CONSTRUCTION NOTES:

- (A) CONCRETE WALK
- (B) B424 CURB & GUTTER
- (C) B418 MOD CURB & GUTTER
- (D) CONCRETE APPROACH NOSE STD. PLATE 7113
- (E) CURB DROP
- (F) 2' AGGREGATE SHOULDER
- (G) SEE DRIVEWAY DET. PAGE 15 & DRIVEWAY TAB PAGE 6
- (H) CONCRETE FLUME SEE PAGE 15 FOR DETAILS

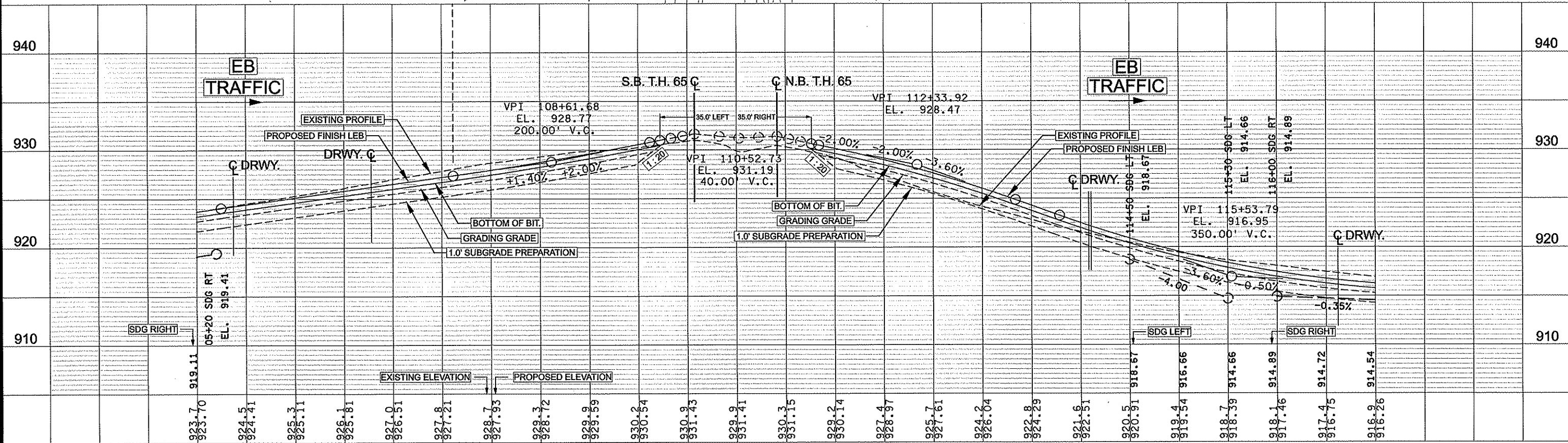
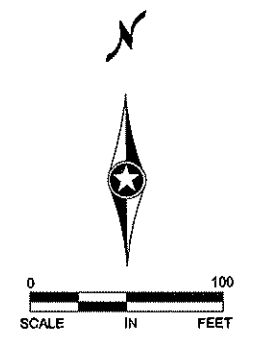


97+00	98+00	99+00	100+00	101+00	102+00	103+00	104+00	105+00	1 OF 3
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NO DATE BY CKD APPR NAME: p102-596-15plan10259615_PP_P1.dgn 04/30/2012 1:39:23 PM					I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: CURT A. KOBLARCSIK SIGNATURE: <i>[Signature]</i> DATE: 5-3-12 LICENSE NO. 24756					DRAWN BY: NJD DATE: 2-18-12 DESIGN BY: NJD DATE: 11-21-11 CHECKED BY: JEO DATE: 2-21-12					ANOKA COUNTY HIGHWAY DEPT.					S.P. 002-596-015 S.P. 0208-147 (TH 65 = 005) C.P. 2012-05 ***					CONSTRUCTION PLAN STA 97+00.00 TO 105+00.00 Sheet 30 of 87 Sheets				
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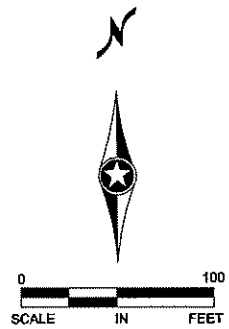
- CONSTRUCTION NOTES:**
- (A) CONCRETE WALK
 - (B) B424 CURB & GUTTER
 - (C) B418 MOD CURB & GUTTER
 - (D) CONCRETE APPROACH NOSE STD. PLATE 7113
 - (E) CURB DROP
 - (F) 2' AGGREGATE SHOULDER
 - (G) SEE DRIVEWAY DET. PAGE 15 & DRIVEWAY TAB PAGE 6
 - (H) CONCRETE FLUME SEE PAGE 15 FOR DETAILS



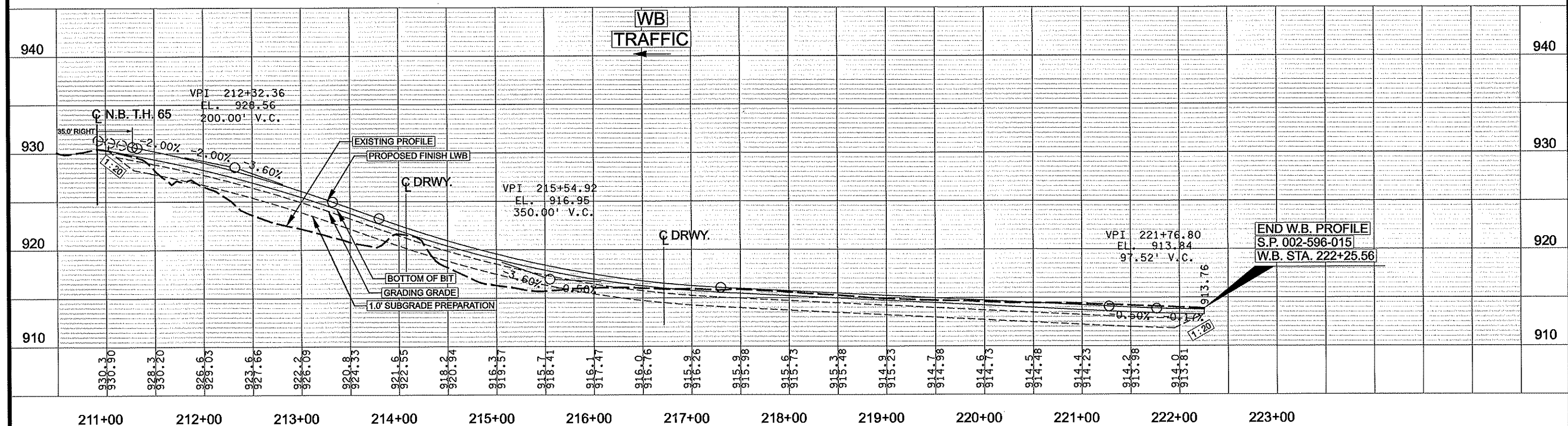
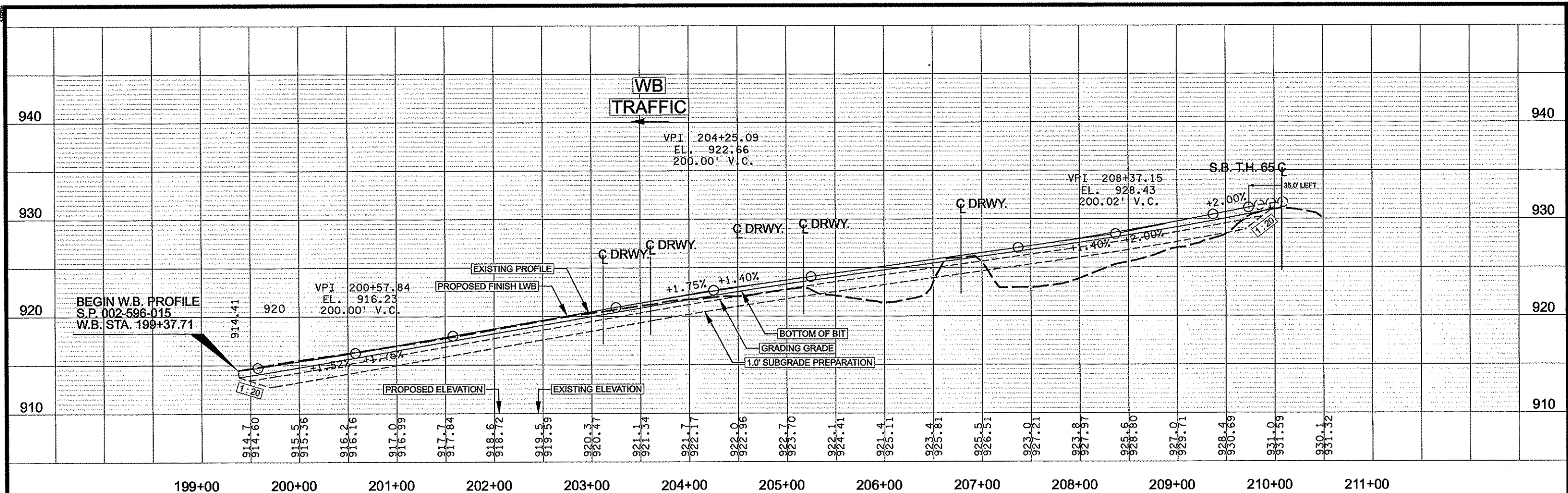
105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00 116+00 117+00

NO DATE BY CKD APPR NAME: p302-596-15\plant0259615_PP_P2.dgn					REVISION 04/30/2012 1:39:27 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>Curt A. Kobiarsik</i> DATE: 5-3-12 LICENSE NO. 24756					DRAWN BY: NJD DATE: 2-16-12 DESIGN BY: NJD DATE: 11-21-11 CHECKED BY: JEO DATE: 2-21-12					 ANOKA COUNTY HIGHWAY DEPT.					S.P. 002-596-015 S.P. 0208-147 (TH 65 = 005) C.P. 2012-05 ***					CONSTRUCTION PLAN STA 105+00.00 TO 117+00.00 Sheet 31 of 87 Sheets				
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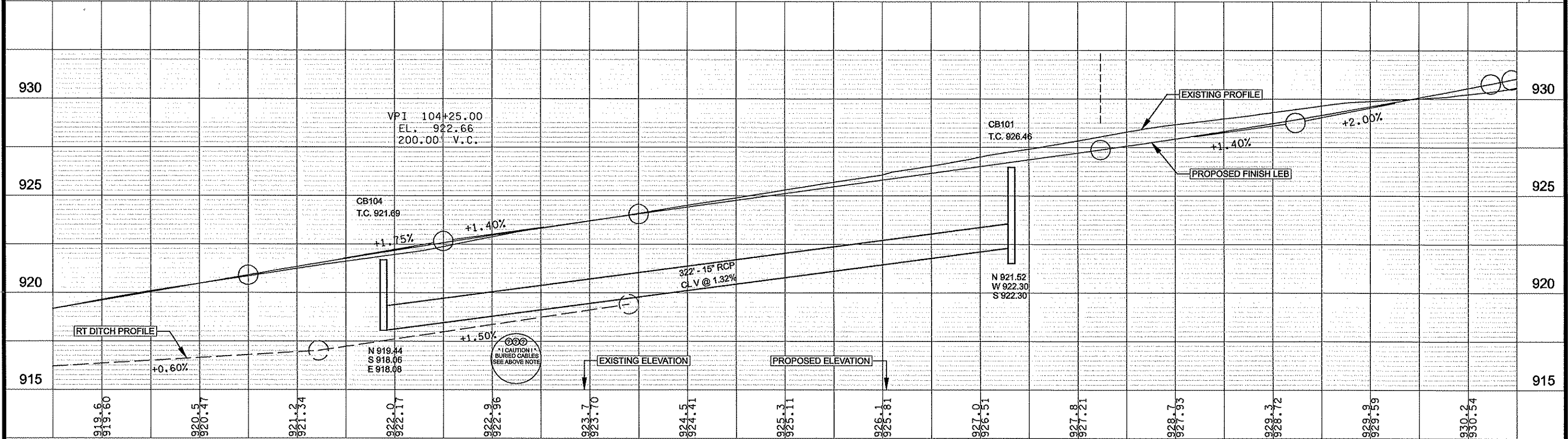
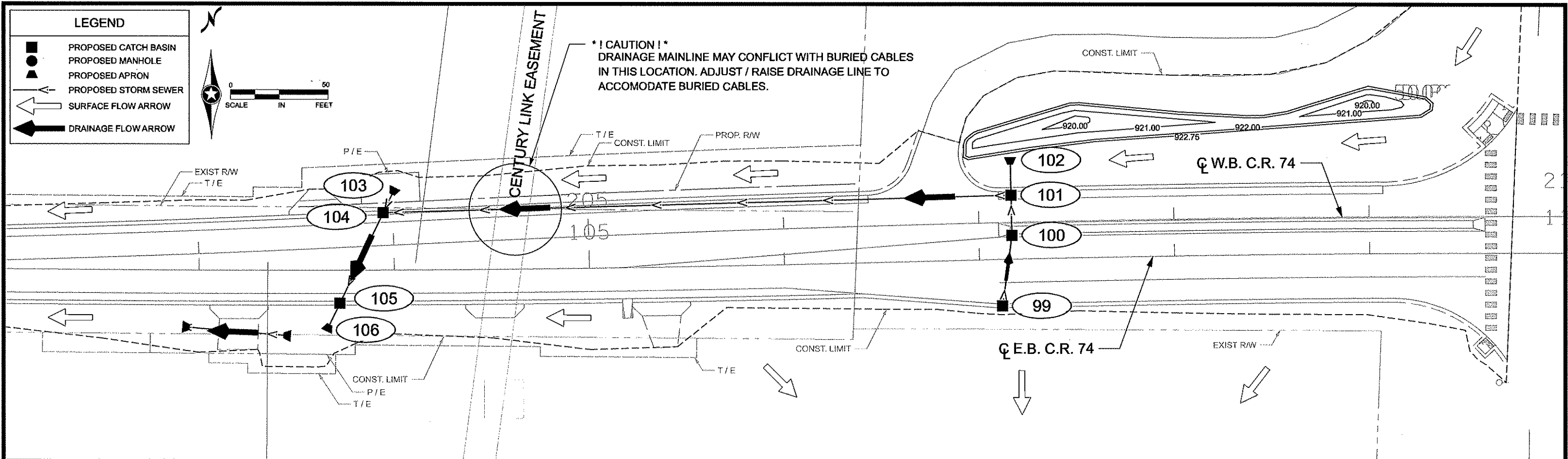
- (A) CONCRETE WALK
- (B) B424 CURB & GUTTER
- (C) B418 CURB & GUTTER MOD
- (D) CONCRETE APPROACH
NOSE STD. PLATE 7113
- (E) CURB DROP
- (F) 2' AGGREGATE SHOULDER
- (G) SEE DRIVEWAY DET. PAGE 15
& DRIVEWAY TAB PAGE 6
- (H) CONCRETE FLUME
SEE PAGE 15 FOR DETAILS



					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>2-18-12</u>			ANOKA COUNTY HIGHWAY DEPT.	S.P. 002-596-015 S.P. 0208-147 (TH 65 = 005) C.P. 2012-05 ***		CONSTRUCTION PLAN STA <u>117+00.00</u> TO <u>122+91.98</u>	
					PRINT NAME: <u>CURT A. KOBIARCSIK</u>		DESIGN BY <u>NJD</u> DATE <u>11-21-11</u>							
					SIGNATURE: <u><i>Curt A. Kobiarcsik</i></u> DATE: <u>5-3-12</u> LICENSE NO. <u>24756</u>		CHECKED BY <u>JEO</u> DATE <u>2-21-12</u>						Sheet <u>32</u> of <u>87</u> Sheets	
NO	DATE	BY	CKD	APPR	REVISION									
NAME: p:\02-596-15\plant\0259615_PP_P3.dgn					04/30/2012	1:39:30 PM								

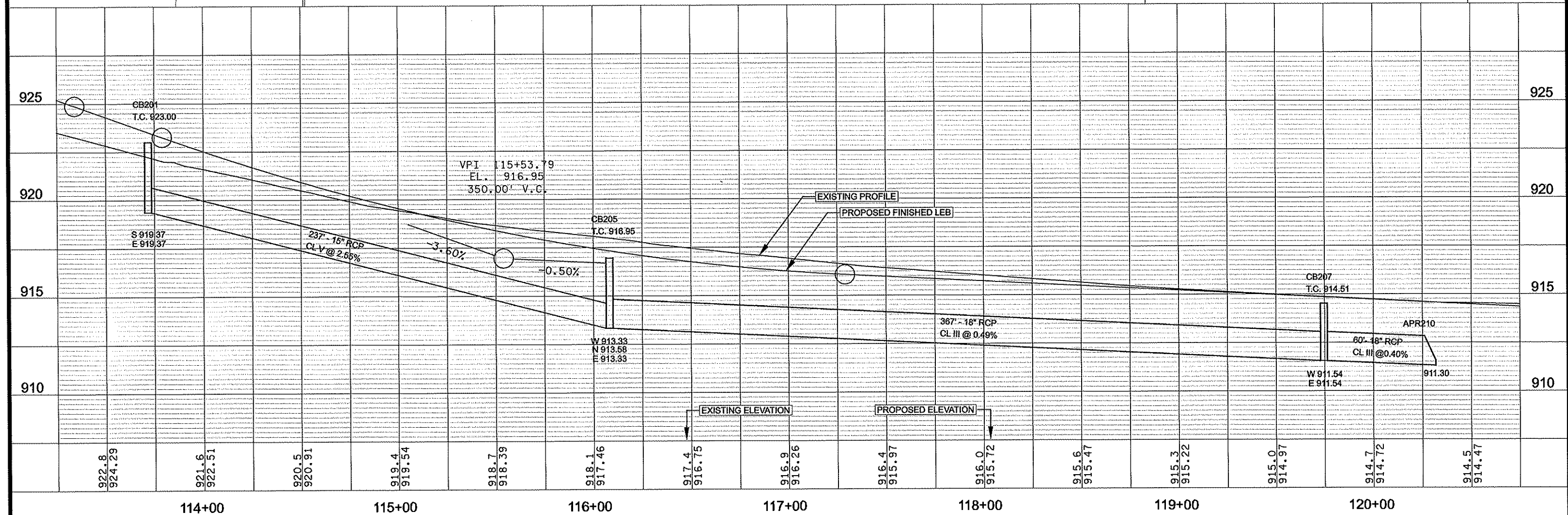
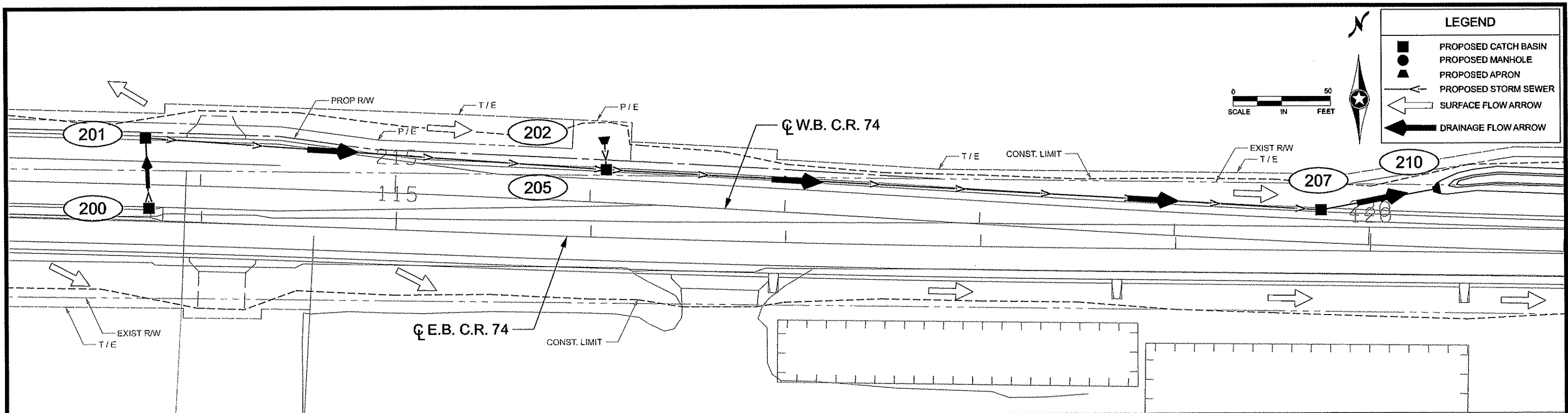


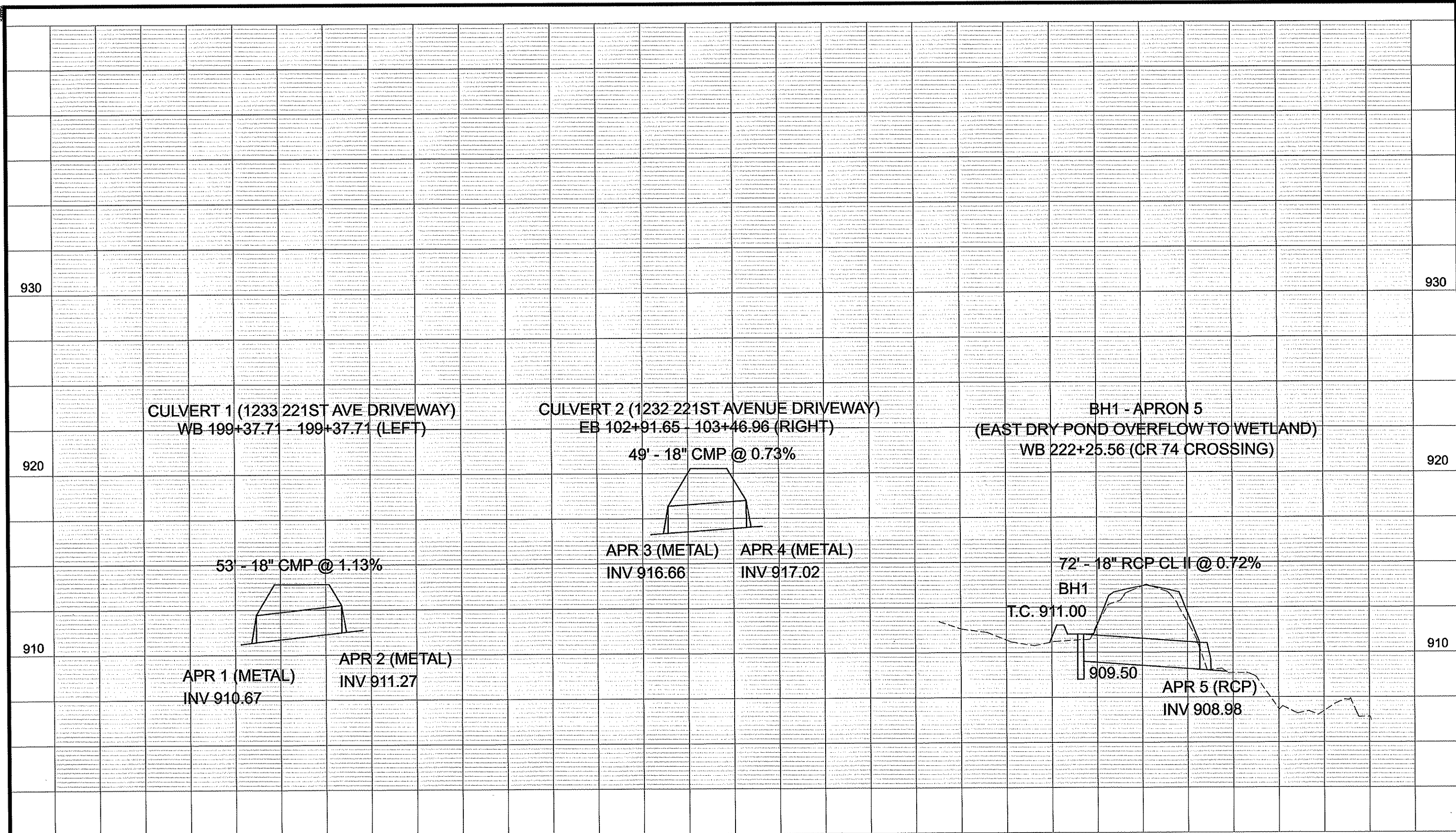
NO. DATE BY CKD APPR NAME: p:02-596-15\plant0259615_PP_P4.dgn					REVISION 04/30/2012 1:39:33 PM		I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: CURT A. KOBLARCSIK SIGNATURE: <i>Curt A. Koblarsik</i> DATE: 5-3-12 LICENSE NO. 24756		DRAWN BY: NJD DATE: 2-16-12 DESIGN BY: NJD DATE: 11-21-11 CHECKED BY: JEO DATE: 2-21-12		ANOKA COUNTY HIGHWAY DEPT.		S.P. 002-596-015 S.P. 0208-147 (TH 65 = 005) C.P. 2012-05 ***		WEST BOUND PROFILE Sheet 33 of 87 Sheets	
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103+00	104+00	105+00	106+00	107+0	108+00	109+00	1 OF 2
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NO DATE BY CKD APPR NAME: P:\02-596-15\Plan\0259615_DR_P1.dgn					REVISION 04/30/2012 2:38:28 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. KOBILARCSIK SIGNATURE: <i>[Signature]</i> DATE: 5-3-12 LICENSE NO. 24758					DRAWN BY: NJD DATE: 2-16-12 DESIGN BY: NJD DATE: 11-21-11 CHECKED BY: JEO DATE: 2-21-12					ANOKA COUNTY HIGHWAY DEPT.					S.P. 002-596-015 S.P. 0208-147 (TH 65 = 005) C.P. 2012-05 ***					DRAINAGE PLAN Sheet 34 of 87 Sheets				
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NO					DATE					BY					CKD					APPR					REVISION					NAME: p102-596-15plan10259615_DR_CULVERTS.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.																									DRAWN BY <u>NJD</u> DATE <u>2-16-12</u>					 ANOKA COUNTY HIGHWAY DEPT.					S.P. 002-596-015 S.P. 0208-147 (TH 65 = 005) C.P. 2012-05 ***					CULVERTS				
PRINT NAME: <u>CURT A. KOBLARCSIK</u>																									DESIGN BY <u>NJD</u> DATE <u>11-21-11</u>										Sheet <u>37</u> of <u>87</u> Sheets									
SIGNATURE: <u></u>																									CHECKED BY <u>JEO</u> DATE <u>2-21-12</u>																			
DATE: <u>5-3-12</u> LICENSE NO. <u>24756</u>																																												

ABBREVIATIONS

APS	ACCESSIBLE PEDESTRIAN SIGNAL
AWF	ADVANCE WARNING FLASHER
C.D.	COUNT DOWN
D2-1 (e.g.)	DETECTOR (PHASE 2, NO. 1)
DEG	DEGREES
DWK	DON'T WALK
EO.G	EQUIPMENT GROUND
EVP	EMERGENCY VEHICLE PRE-EMPTION
F&I	FURNISH AND INSTALL
FL	FLASH/FLASHING
FYA	FLASHING YELLOW ARROW
FYLA	FLASHING YELLOW LEFT ARROW
GLA	GREEN LEFT ARROW
GRN	GREEN INDICATION
GR. RD.	GROUND ROD
GRA	GREEN RIGHT ARROW
GTA	GREEN THRU ARROW
HH	HANDHOLE
HPS	HIGH PRESSURE SODIUM
IND	INDICATION
IMC	INTERMEDIATE METAL CONDUIT
INP	INPLACE
INS. GR.	INSULATED GROUND
JB	JUNCTION BOX
LED	LIGHT EMITTING DIODE
LUM	LUMINAIRE
NEU	NEUTRAL
NMC	NONMETALLIC CONDUIT
P1-1 (e.g.)	PEDESTRIAN INDICATION (PHASE 1, NO. 1)
PB	PUSH BUTTON
PB2-1 (e.g.)	PUSH BUTTON (PHASE 2, NO. 1)
PEC	PHOTOELECTRIC CELL
PED	PEDESTRIAN
PVC	POLYVINYL CHLORIDE (CONDUIT)
REO	RED INDICATION
R&S	REMOVE AND SALVAGE
RLA	RED LEFT ARROW
RSC	RIGID STEEL CONDUIT
S&I	SALVAGE AND INSTALL
SOP	SOURCE OF POWER
SPR	SPARE
STA	STATION
WLK	WALK
YEL	YELLOW INDICATION
YLA	YELLOW LEFT ARROW
YRA	YELLOW RIGHT ARROW

SYMBOLS

	EO.G CONNECTION
	EVP CONFIRMATORY LIGHT
	EVP DETECTOR
	EVP DETECTOR AND CONFIRMATORY LIGHT
	FIBER OPTIC VAULT
	LUMINAIRE NO.
	SIGNAL BASE NO.
	SIGNAL FACE NO./FLASHER FACE NO.
	BARREL MOUNT BASE NO.
	WOOD POLE NO.
	SPICE
	VIDEO DETECTION
	MICROWAVE DETECTION
	SONIC DETECTION

FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

STANDARD PLATES - SIGNAL SYSTEMS

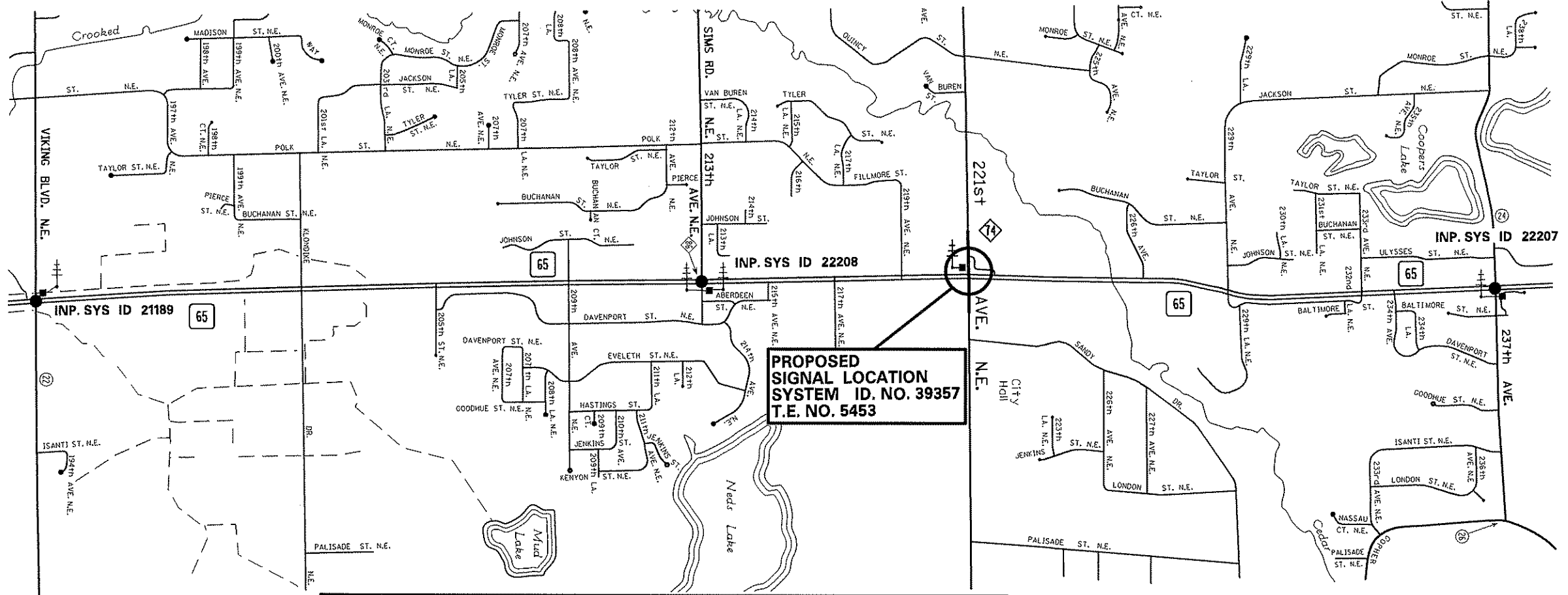
THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT

PLATE NO.	DESCRIPTION	PLATE NO.	DESCRIPTION
8110	E TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)	8123	G POLE AND MAST ARM
8111	E TRAFFIC SIGNAL BRACKETING (PEDESTAL MOUNTED)	8126	J POLE FOUNDATION (PA90 AND PA100)
8112	F PEDESTAL FOUNDATION	8130	E SAW CUT LOOP DETECTORS
8114	A PVC HANDHOLE/PULLBOX	8132	B PREFORMED RIGID PVC CONDUIT LOOP DETECTOR
8117	F PRECAST CONCRETE HAND HOLE		
8118	D SERVICE EQUIPMENT AND POLE		
8119	C GROUND MOUNTED CABINET FOUNDATION		
8120	P POLE FOUNDATION (PA-85)		
8121	G TRANSFORMER BASE AND POLE BASE PLATE		
8122	E PEDESTAL AND PEDESTAL BASE		

STANDARD PLATES APPLICABLE TO THIS PROJECT

TRAFFIC CONTROL SIGNAL SYSTEM

LOCATED ON T.H. 65 AT THE INTERSECTION OF
221st AVE. (C.R. 74) IN EAST BETHEL, ANOKA COUNTY.



TABULATED SIGNAL SYSTEM QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITIES
2565	TRAFFIC CONTROL SIGNAL SYSTEM	SIG SYS	1
2565	EMERGENCY VEHICLE PREEMPTION SYSTEM	LUMP SUM	1

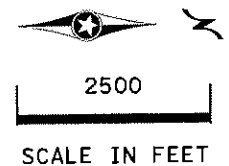
INDEX

SHEET NO.	DESCRIPTION
38	TITLE SHEET- INDEX MAP, SIGNATURE, ABBREVIATIONS, SYMBOLS, STANDARD PLATES, AND TABULATED QUANTITIES
39 - 45	DETAIL SHEETS
46 - 49	INTERSECTION LAYOUT, MATCH LINE, AND POLE NOTES
50	FIELD WIRING DIAGRAM
51	SIGN DETAILS

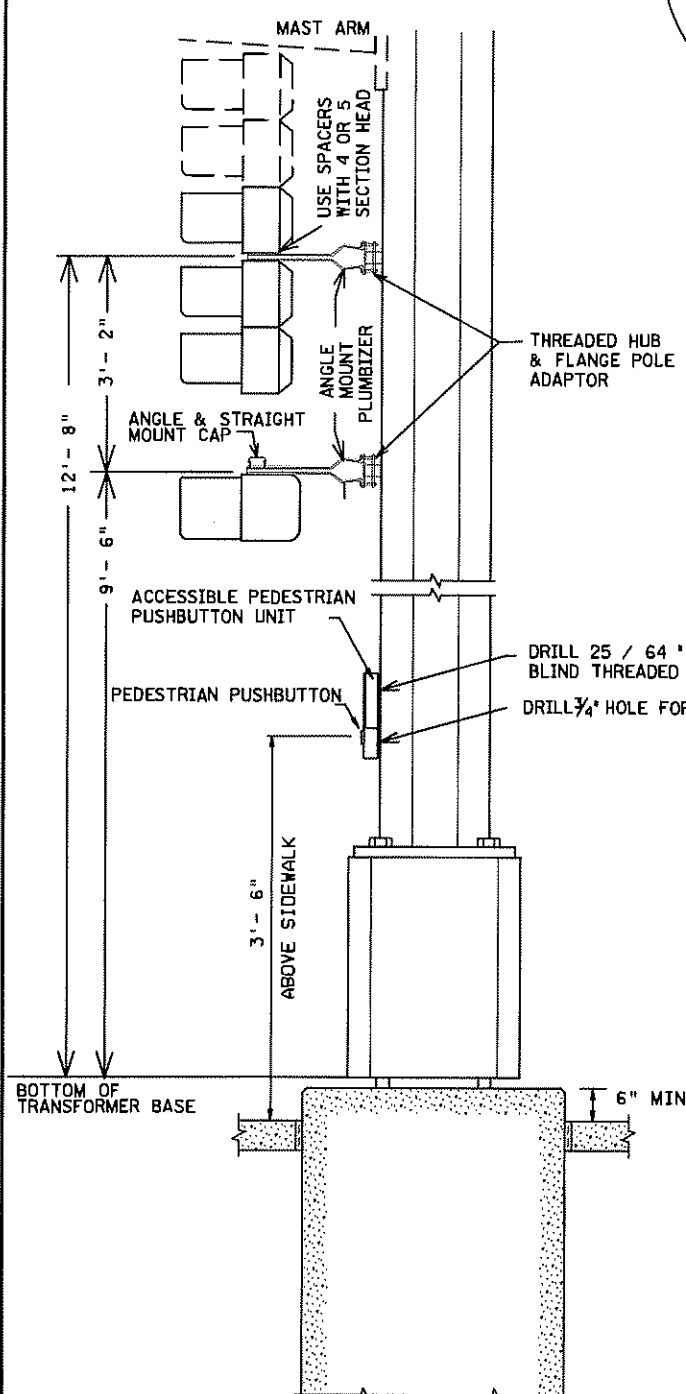
I HEREBY CERTIFY THAT SHEETS 38 THROUGH 51 OF THIS PLAN WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Michael P. Gerbensky LIC. NO. 19863 DATE 5-3-2012
MICHAEL GERBENSKY

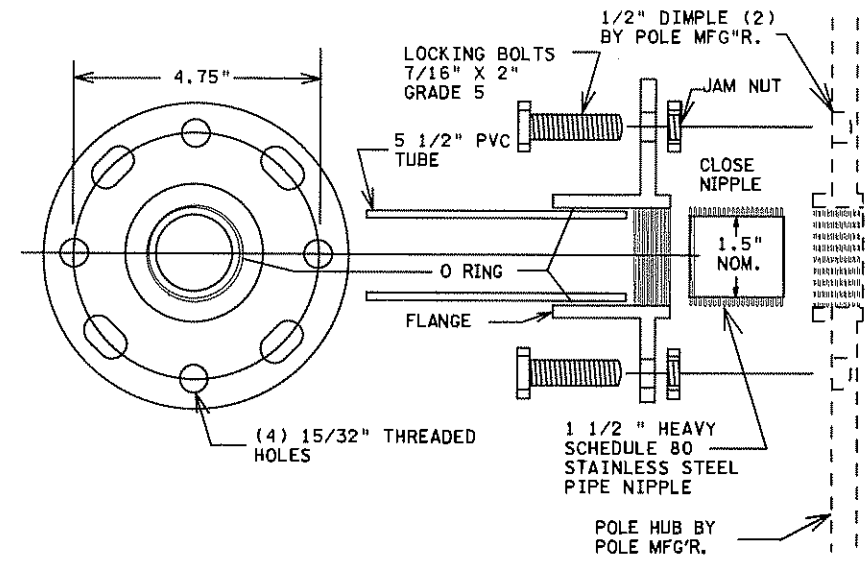
DESIGNER CHRIS BOSAK, BETH MEHSIKOMER



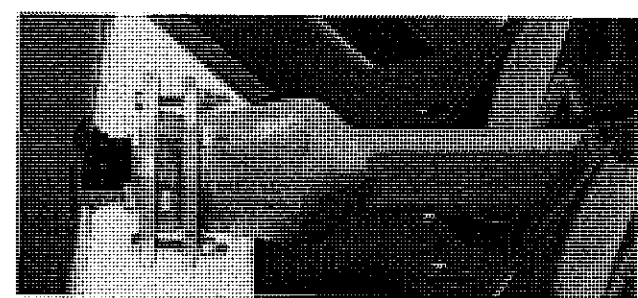
DISTRICT #: METRO
PLOT NAME: pole mount detail
PATH & FILENAME: IP_FWP-d14152141T 39357.sgl.dgn
PLOTTED/REVISED: 4/26/2012



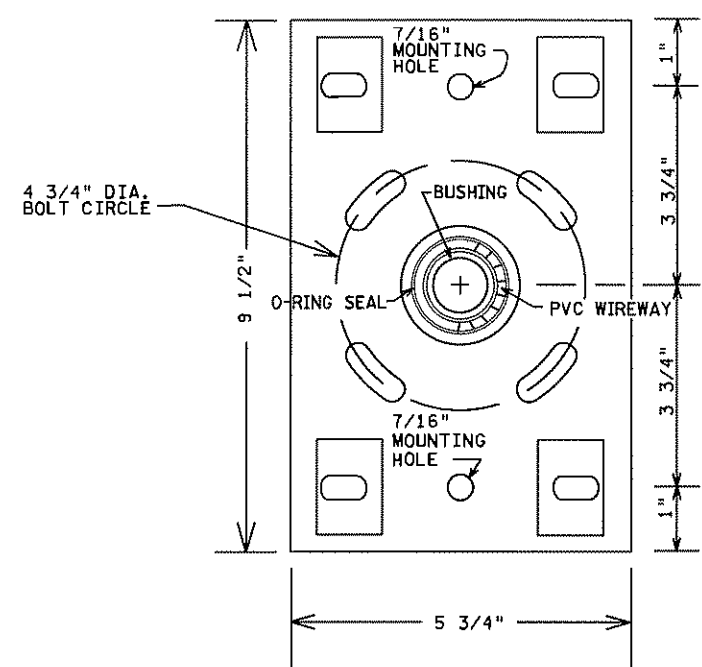
TYPICAL SIGNAL POLE MOUNTING
NOT TO SCALE



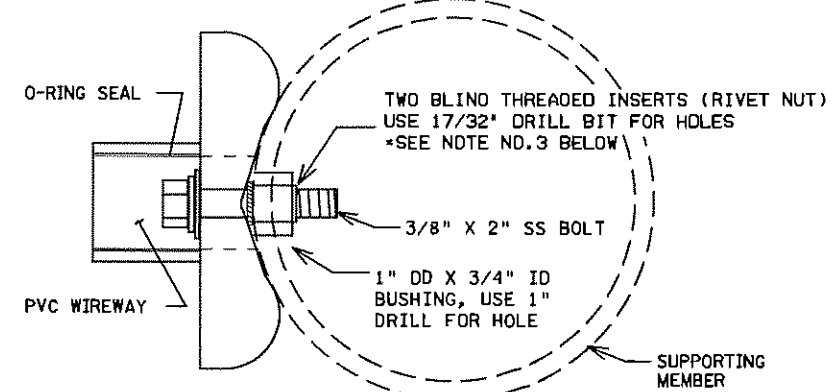
THREADED HUB AND FLANGE POLE ADAPTOR



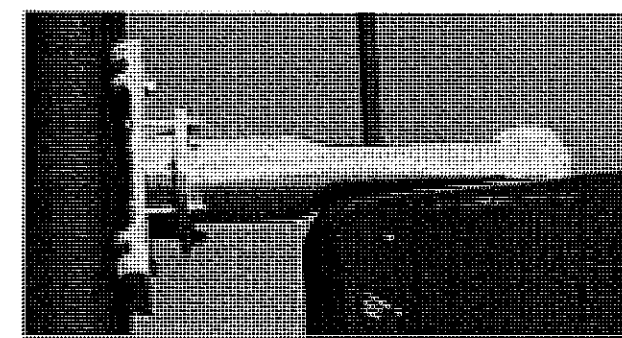
- NOTE:
- 1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
 - 2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 & 5 SECTION POLY HEADS.
 - 3. SEE STANDARD PLATE NUMBER 8123 FOR ADDITIONAL SIGNAL POLE DETAILS.



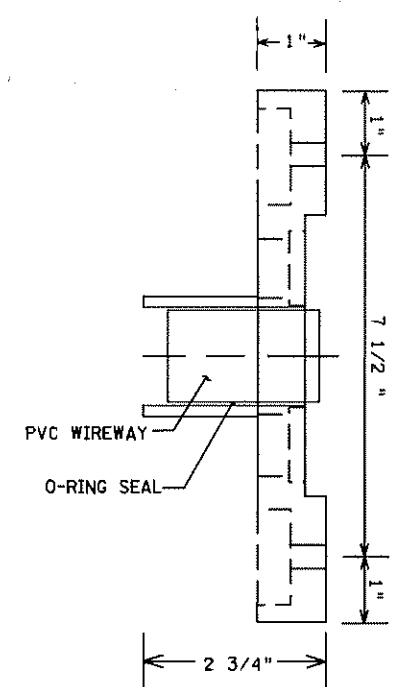
BOLT ON HUB & FLANGE



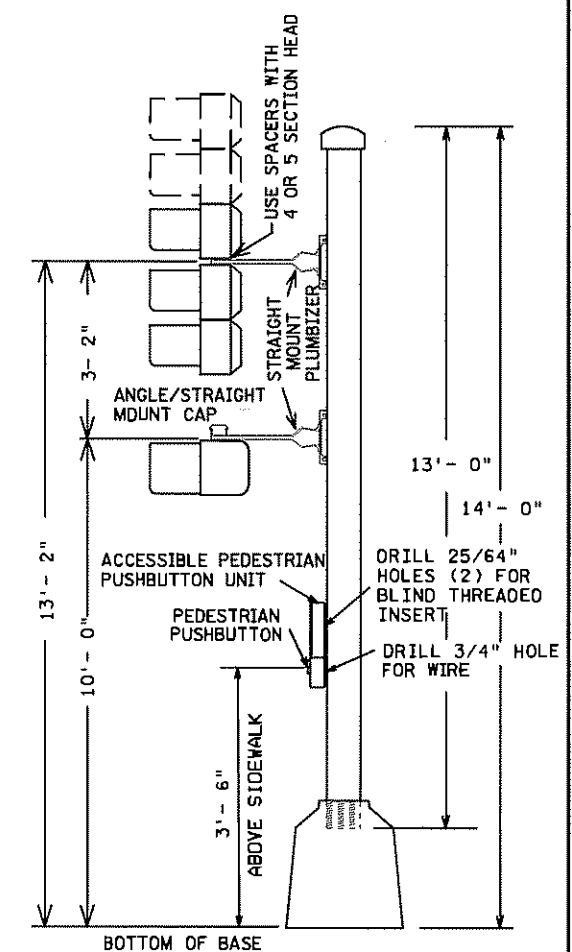
TOP VIEW



- NOTE:
- 1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
 - 2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 & 5 SECTION POLY HEADS.
 - 3. BLIND THREADED INSERTS (RIVET NUT) MUST BE INSERTED USING MANUFACTURERS SPECIFIC INSTALLATION TOOL. NO OTHER METHOD OF INSTALLATION IS ACCEPTABLE.
 - 4. SEE STANDARD PLATE NUMBER 8122 FOR ADDITIONAL PEDESTAL POLE DETAILS.



SIDE VIEW



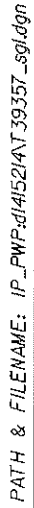
TYPICAL PEDESTAL MOUNTING
NOT TO SCALE

BY	DATE	REVISIONS

POLE MOUNT DETAIL

S.P. NO. 002-596-015	C.P. 2012-05	DRAWN BY: BAM	CKD BY: CDB	DATE: 4-20-12
CERTIFIED BY: <i>Michael P. Subarsky</i>		LIC. NO. 19863	DATE: 4-23-12	
STATE PROJ. NO. 0208-147 (T.H.65)		SHEET NO. 39 OF 87 SHEETS		

PLOTTED/REVISED: 4/26/2012



- PLACEMENT AND ORIENTATION OF THE PUSH BUTTON STATION IS CRITICAL. MOUNT THE BUTTON SO THAT THE FACE IS PARALLEL WITH THE ASSOCIATED CROSSWALK. SCREW IN POST TO A TIGHTENED POSITION BEFORE MOUNTING ACCESSIBLE PEDESTRIAN PUSH BUTTON UNIT TO THE POST.
- BLIND THREADED INSERTS (RIVET NUT) MUST BE INSERTED USING MANUFACTURERS SPECIFIC INSTALLATION TOOL. NO OTHER METHOD OF INSTALLATION IS ACCEPTABLE.
- BLIND THREADED INSERTS SHALL BE ZINC PLATED STEEL WITH 1/4 - 20 UNC THREADS. INSERT SHALL BE SUITABLE FOR USE ON A MOUNTING SURFACE WALL THICKNESS OF .337". APPROVED BLIND THREADED INSERTS CAN BE FOUND ON THE MN/DOT QUALIFIED PRODUCTS LIST.
- MOUNTING BOLTS SHALL BE 1/4 - 20 STAINLESS STEEL. APPLY BRUSH ON ANTI SEIZE COMPOUND TO BOLTS PRIOR TO ASSEMBLY.
- APPLY A BEAD OF 100% SILICONE SEALANT ALONG THE TOP OF THE PUSH BUTTON UNIT WHERE IT COMES IN CONTACT WITH THE 4" POST.
- THE REFLECTIVE SHEETING SHALL BE WHITE AT INTERSECTION CORNERS AND SHALL BE YELLOW WHEN USED IN CENTER MEDIANS. SEE MN/DOT SIGNING QUALIFIED PRODUCTS LIST (QPL) FOR APPROVED TUBE DELINEATOR SHEETING.
- ANTI-SEIZE COMPOUND MUST BE USED ON THE MOUNTING BOLTS WHEN THE PEDESTRIAN SIGN IS MOUNTED.

- GUIDELINES FOR LOCATING APS PUSH BUTTONS:

-
- The diagrams illustrate the design of a curb ramp at a street intersection, showing the relationship between the sidewalk, crosswalk, and the ramp itself. Key dimensions and labels include:
- 6' CROSSWALK**: The width of the crosswalk on the intersecting street.
 - 5' MAX**: The maximum width of the ramp at the top, where it meets the crosswalk.
 - C&G**: Centerline and gutter line, indicating the road's edge.
 - 6' WALK**: The width of the sidewalk on the main street.
 - 10' MIN**: The minimum width of the ramp.
 - 6.75'**: A specific dimension related to the ramp's slope or width.
 - 10' MAX**: The maximum width of the ramp at the bottom, where it meets the sidewalk.
 - CURB IF NEEDED**: A note indicating that a curb may be required on the main street sidewalk.

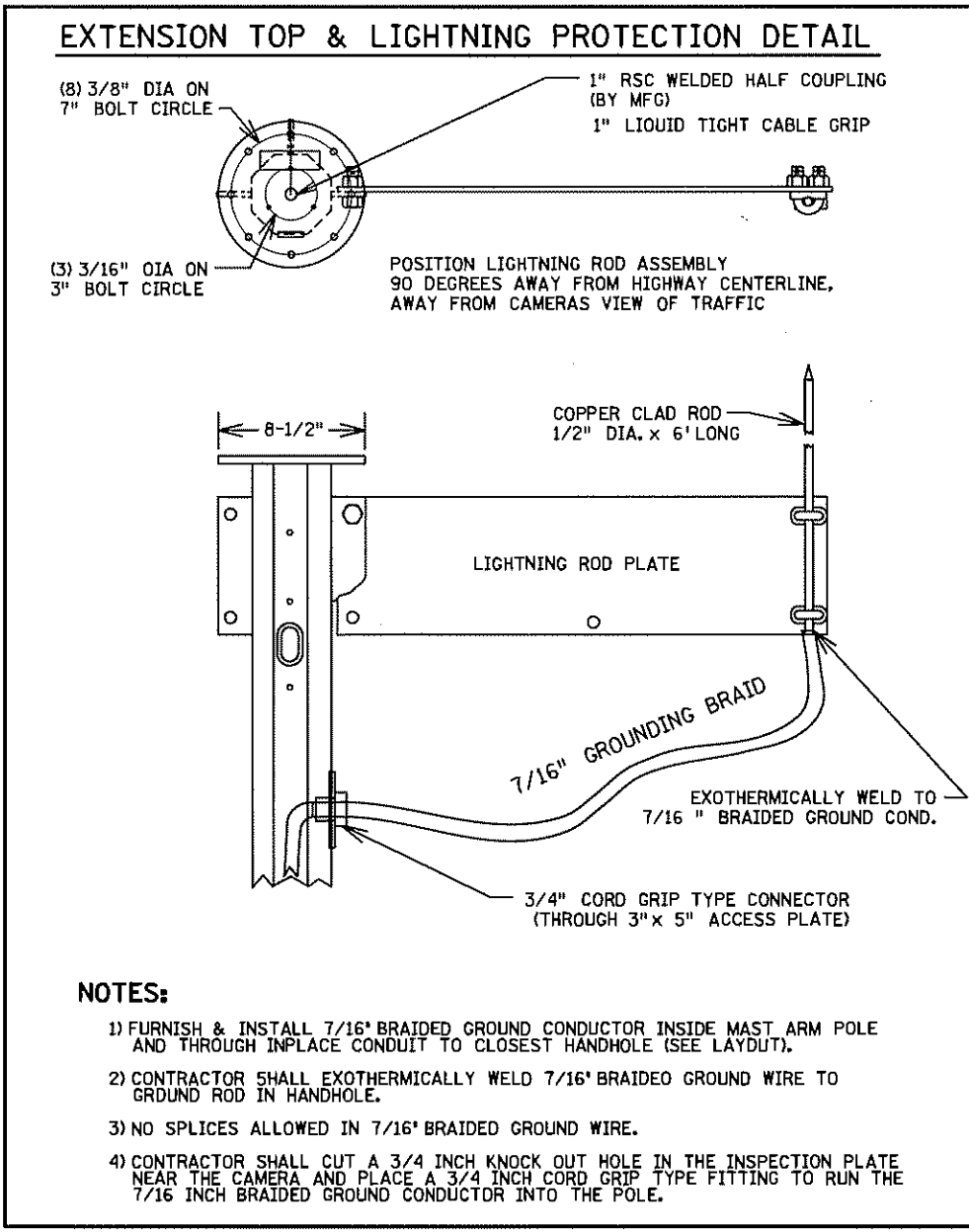
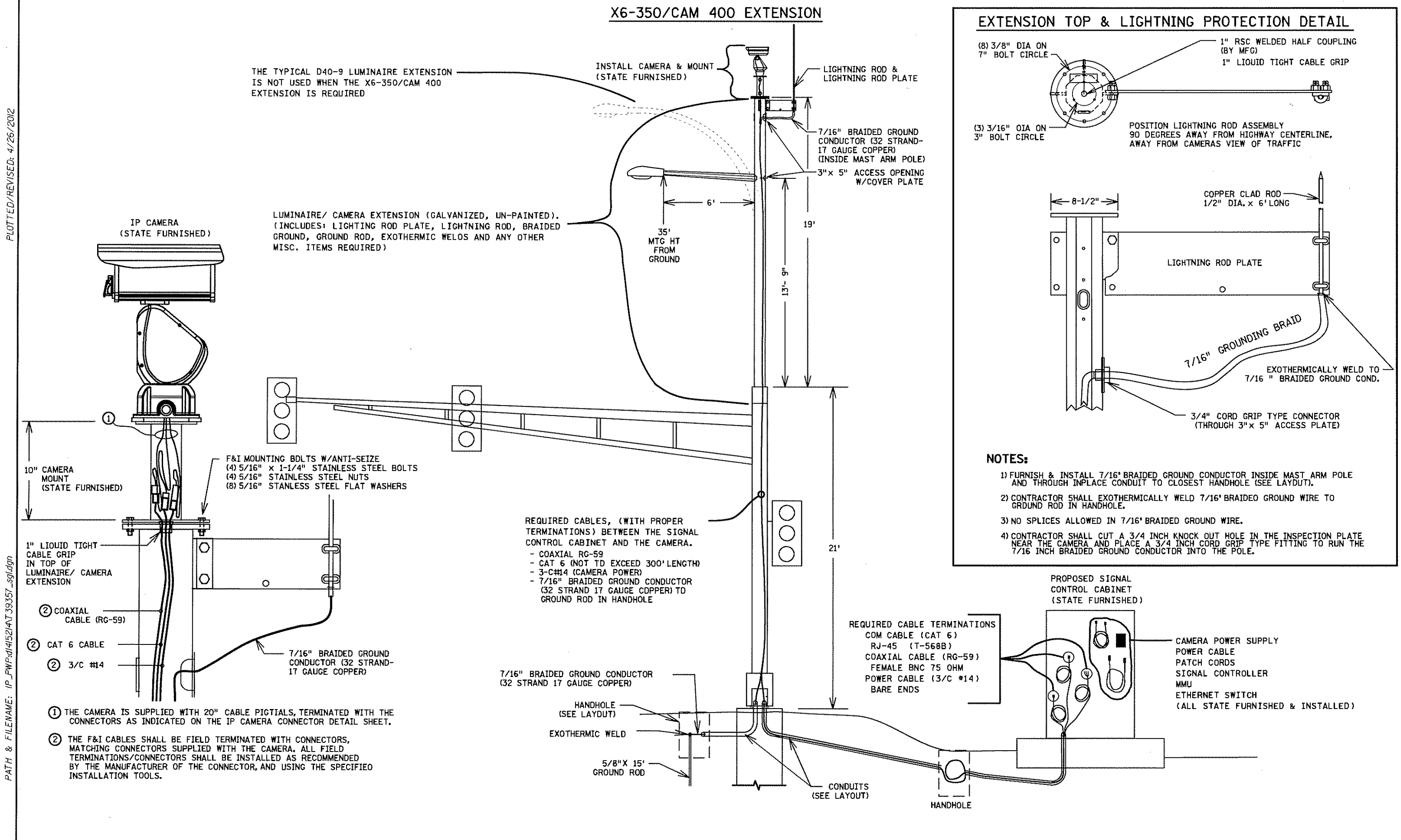
- ### TYPICAL APS PEDESTRIAN PUSH BUTTON LOCATION

BY	DATE	REVISIONS

ACCESSIBLE PEDESTRIAN SIGNAL (APS)
PEDESTRIAN PUSH BUTTON STATION
TYPICAL APS PUSH BUTTON LOCATION DETAIL

S.P. NO. 002-596-015		C.P. 2012-05	DRAWN BY: BAM	CKD BY: CDB	DATE: 4-20-12
CERTIFIED BY 		LIC. NO. 19863	DATE: 4-23-12		
STATE PROJ. NO. 0208-147 (T.H.65)		SHEET NO. 40 OF 87 SHEETS			

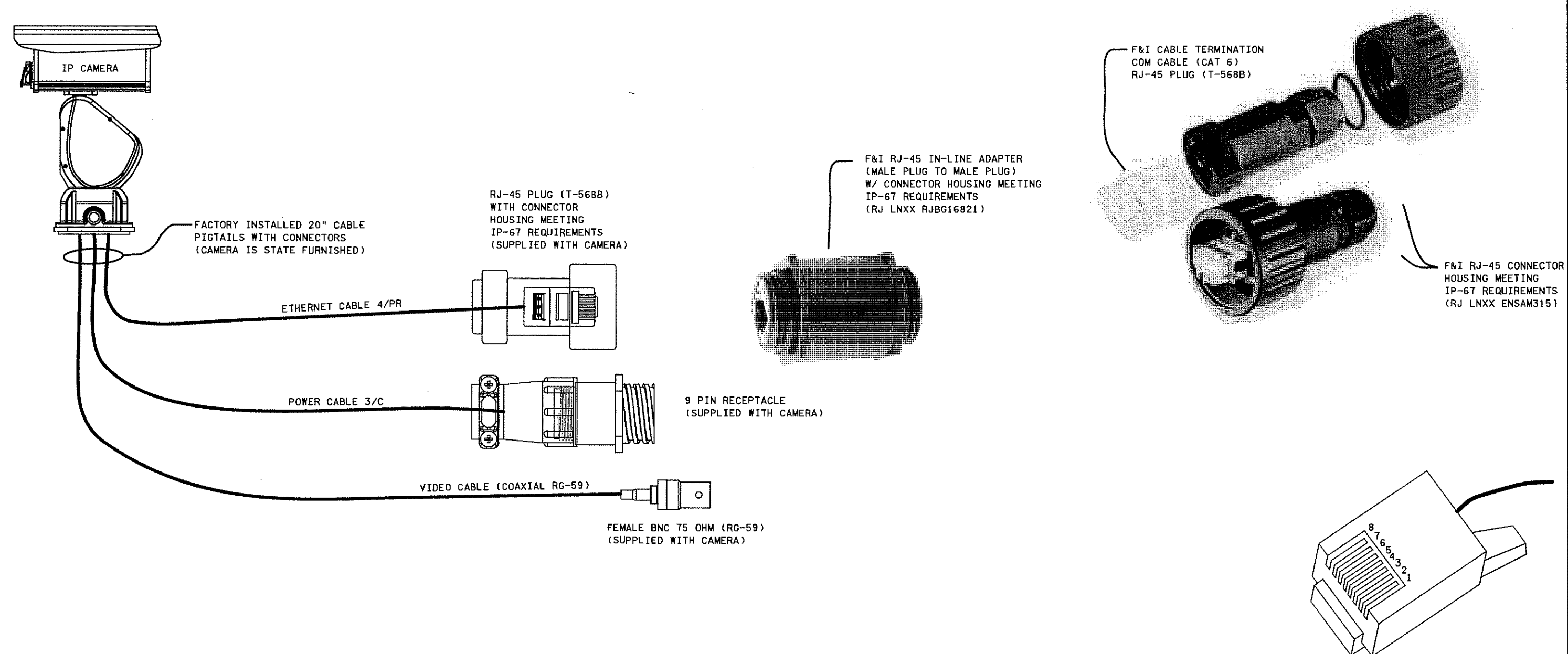
DISTRICT #: METRO
PLOT NAME: camera extension
PATH & FILENAME: IP_PWP-d1415214T 39357.sldgn



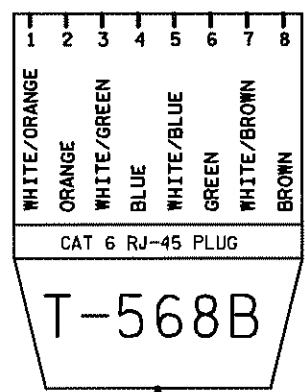
BY	DATE	REVISIONS	SYSTEM ID: 39357	T.E. 5453	S.P. NO. 002-596-015	C.P. 2012-05	DRAWN BY: BAM	CKD BY: CDB	DATE: 4-20-12
			METER ADDRESS: XXXX HIGHWAY 65		CERTIFIED BY: <i>Michael P. Lubinsky</i>	LIC. NO. 19863	DATE: 4-23-12		
			MASTER ID:	T.E.	STATE PROJ. NO. 0208-147 (TH 65)				
			LUMINAIRE/CAMERA EXTENSION DETAIL TYPE X6-350/CAM400 LUMINAIRE EXTENSION			SHEET NO. 41 OF 87 SHEETS			

DISTRICT #: METRO
PLOT NAME: camera connectors
PATH & FILENAME: IP_FWP-d14152141 39357.sgl.dgn

PLOTTED/REVISED: 4/26/2012



CABLE TYPE	CAMERA SIDE CONNECTOR (SUPPLIED WITH CAMERA)	MATING CONNECTOR (FURNISH & INSTALL)
VIDEO CABLE (COAXIAL RG-59)	(RG-59) 75 OHM FEMALE BNC	(RG-59) 75 OHM MALE BNC
POWER CABLE (3/C#14)	AMP PART 206705-2 RECEPTACLE AMP PART 66103-4 24-20 AWG MALE CONTACT (YELLOW DOT) AMP PART 66099-4 18-16 AWG MALE CONTACT (BLUE DOT) AMP PART206966-7 CABLE CLAMP KIT	AMP PART 206708-1 PLUG AMP PART 66105-4 24-20 AWG FEMALE CONTACT (YELLOW DOT) AMP PART 66101-4 18-16 AWG FEMALE CONTACT (BLUE DOT) AMP PART206966-7 CABLE CLAMP KIT
COMMUNICATIONS & CONTROL CABLE (CATEGORY 6)	RJ LYNXX INDUSTRIAL FEMALE-FREE END (RJ-45 JACK WITH HOUSING MEETING IP-67 REQUIREMENTS)	RJ LYNXX PART ENSAM315 (RJ-45 PLUG WITH HOUSING MEETING IP-67 REQUIREMENTS)



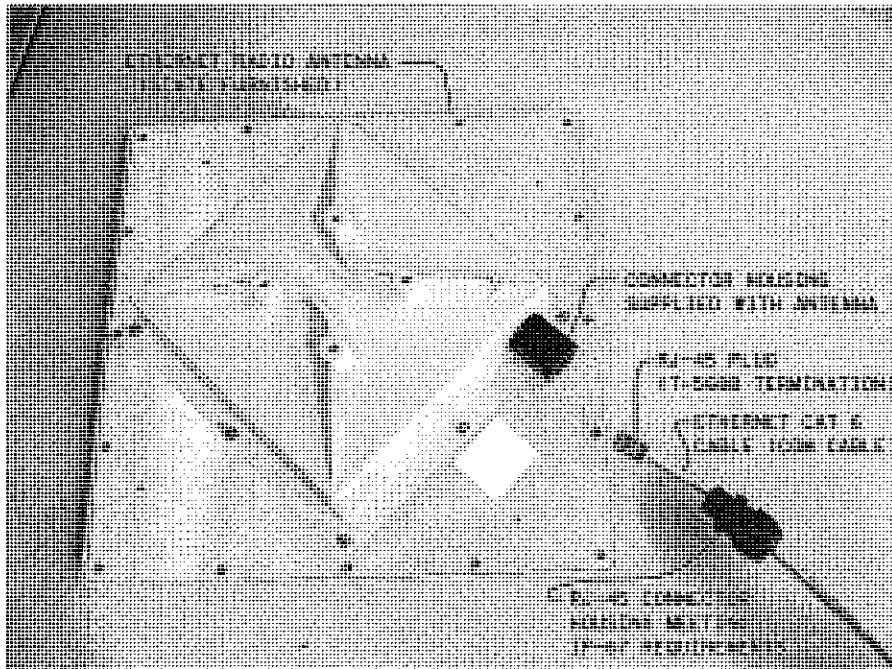
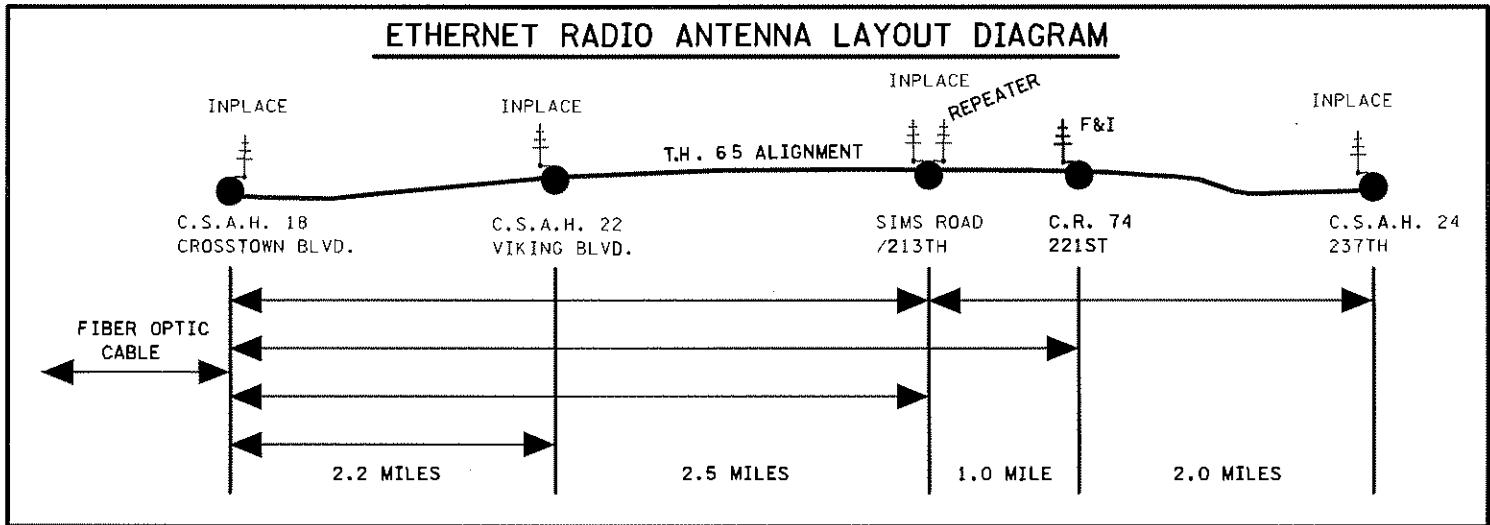
BY	DATE	REVISIONS	SYSTEM ID: 39357	T.E. 5453	DETAIL IP CAMERA CONNECTORS	S.P. NO. 002-596-015	C.P. 2012-05	DRAWN BY:BAM	CKD BY:CDB	DATE:54-20-12
			METER ADDRESS: XXXX HIGHWAY 65			CERTIFIED BY 	LIC. NO. 19863	DATE: 4-23-12		
			MASTER ID:	T.E.		STATE PROJ.NO. 0208-147 (TH 65)				

ETHERNET RADIO ANTENNA (5.8 GHZ)

THE FIBER OPTIC CABLE NORTHERN TERMINOUS IS AT CROSTOWN BLVD.
INTERCONNECTION NORTH OF CROSTOWN IS PROVIDED BY ETHERNET RADIO.
ETHERNET RADIO ANTENNAS ARE CURRENTLY INSTALLED AT THE
FOLLOWING INTERSECTIONS: - CROSTOWN BLVD.
- VIKING BLVD.
- 213th/SIMS ROAD
- 221st AVE. (TO BE INSTALLED AS PART OF THIS PROJECT)
- 237th AVE.

- INSTALL A ETHERNET RADIO ANTENNA WITH ARTICULATING BRACKET (ANTENNA & BRACKET ARE STATE FURNISHED). ①
- FURNISH & INSTALL CDM CABLE (CAT 6) TO THE SIGNAL CABINET.
- FURNISH & INSTALL FIELD CABLE TERMINATIONS. (RJ-45 PLUGS TO BOTH ENDS, AND A CONNECTOR HOUSING ON THE ANTENNA END TO MATCH THE CONNECTOR SUPPLIED WITH THE ANTENNA AND MEETING IP-67 REQUIREMENTS TO PROVIDE A SEALED WEATHER PROOF CONNECTION)

① THE CONTRACTOR SHALL AIM THE ANTENNA FOR OPTIMAL PERFORMANCE. THE EXPERTISE AND EQUIPMENT NECESSARY TO AIM THE ANTENNAS FOR OPTIMAL PERFORMANCE ARE TO BE SUPPLIED BY THE CONTRACTOR. THE RECEPTOR ANTENNA IS LOCATED AT CROSTOWN BLVD.



F&I CDM CABLE (CAT 6) TO SIGNAL CONTROL CABINET THROUGH INPLACE CONDUITS & HANDHOLES (CABLE LENGTH NOT TO EXCEED 300')

PROPOSED SIGNAL CONTROL CABINET (STATE FURNISHED)

POWER SUPPLY/POWER INSERTER (POWER OVER ETHERNET)
POWER CABLE
PATCH CORDS
(ALL STATE FURNISHED & INSTALLED)

F&I
RJ-45 TERMINATION
T-568B
COM CABLE (CAT 6)

PVC CONDUIT

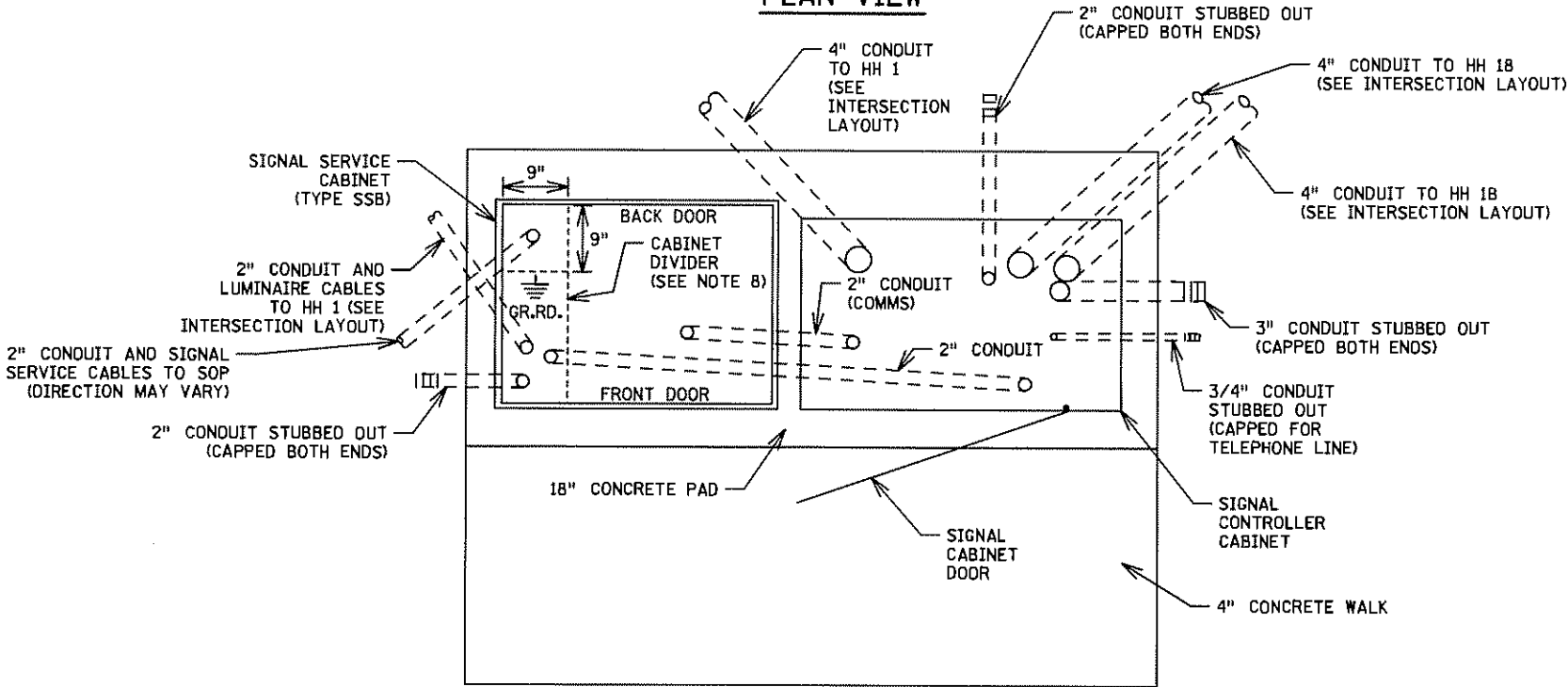
PVC HANDHOLE

BY	DATE	REVISIONS	SYSTEM ID: 39357	T.E. 5453	DETAIL RADIO ANTENNA MOUNTED TO LUMINAIRE EXTENSION	S.P. NO. 002-596-015	C.P. 2012-05	DRAWN BY: BAM	CKD BY: CDB	DATE: 4-20-12
			METER ADDRESS: XXXX HIGHWAY 65			CERTIFIED BY: <i>Michael P. Subashy</i>	LIC. NO. 19863	DATE: 4-23-12		
			MASTER ID:	T.E.		STATE PROJ. NO. 0208-147 (TH 65)	SHEET NO. 43 OF 87 SHEETS			

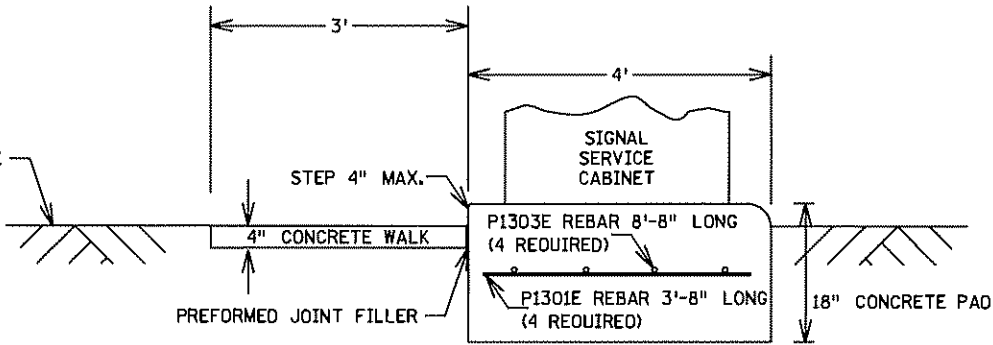
TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

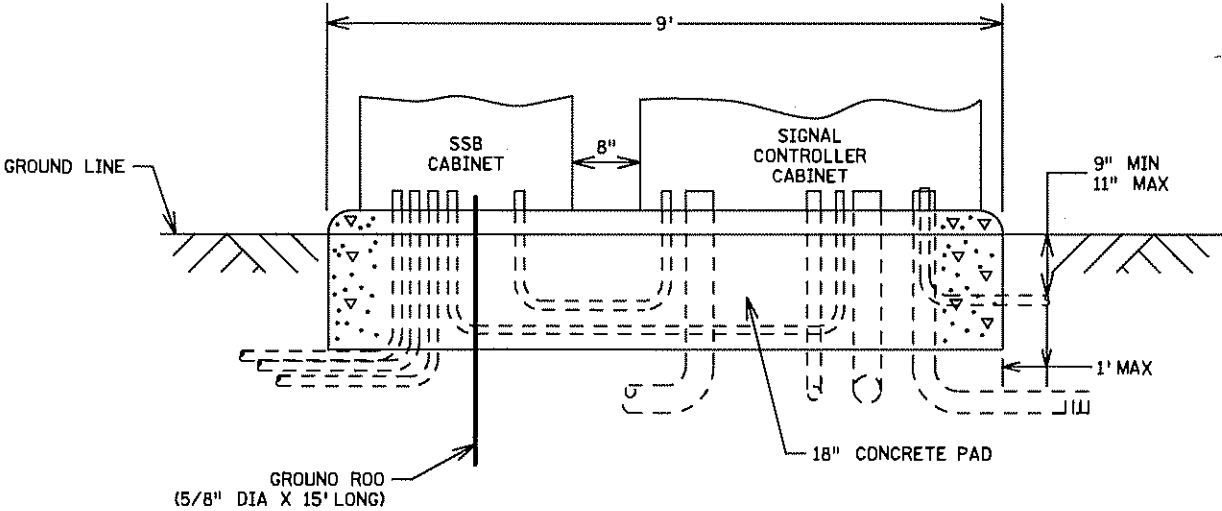
PLAN VIEW



SIDE VIEW



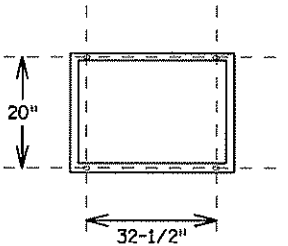
FRONT VIEW



NOTES:

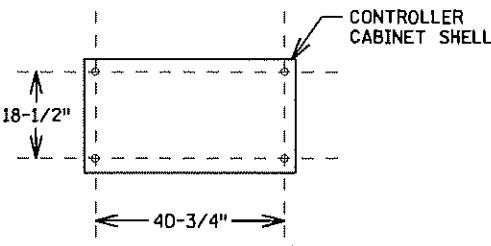
1. THE ANCHOR RODS, NUTS, WASHERS AND RUBBER GASKET FOR THE CONTROLLER CABINET SHALL BE FURNISHED BY MNDOT.
2. THE OUTER EDGE OF THE ENTIRE EQUIPMENT PAD AND CONCRETE WALK SHALL BE BEVELED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER.
3. THE TOP OF THE CONDUITS SHALL BE CAPPED AFTER INSTALLATION (UNTIL CABLES ARE PULLED IN).
4. CONDUIT SHALL PROJECT A MINIMUM OF 2" ABOVE THE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER, BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
5. CONCRETE MIX 3A32 OR EQUAL SHALL BE USED FOR THE EQUIPMENT PAD AND SIDEWALK.
6. CONDUITS WITH BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE PLACED BELOW THE CONCRETE.
7. THE EXACT LOCATION OF CONDUITS WITHIN THE PAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
8. CORRECT PLACEMENT OF CONDUIT TO THE LEFT OF THE CABINET DIVIDER IS CRITICAL.
9. ANCHOR RODS SHALL PROJECT A MINIMUM OF 3" ABOVE THE CONCRETE BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
10. CABINETS TO BE CENTERED (LEFT & RIGHT) ON THE PAD.
11. BRUSH ON ANTI-SEIZE LUBRICANT MUST BE APPLIED TO ALL ANCHOR ROD THREADS PROTRUDING ABOVE THE CONCRETE PAD BEFORE THE CABINET IS SET.

S.S.B. SERVICE CABINET
BOLT PATTERN



DIMENSION SHOWN ARE
CENTER ROD TO CENTER ROD

CONTROLLER CABINET
TYPE "P" & "R"
BOLT PATTERN



DIMENSION SHOWN ARE
CENTER ROD TO CENTER ROD

BY	DATE	REVISIONS	SYSTEM ID: 39357	T.E. 5453	EQUIPMENT PAD LAYOUT	S.P. NO. 002-596-015	C.P. 2012-05	DRAWN BY: BAM	CKD BY: CDB	DATE: 4-20-12
			METER ADDRESS: XXXX HIGHWAY 65		TRAFFIC CONTROL SIGNAL SYSTEM	CERTIFIED BY	<i>Michael P. Lubinsky</i>	LIC. NO. 19863	DATE: 4-23-12	
			MASTER ID:	T.E.	T.H. 65 AT 221st AVE (C.R. 74)	STATE PROJ. NO. 0208-147 (T.H. 65)				
					IN EAST BETHEL, ANOKA CO.	SHEET NO. 44 OF 87 SHEETS				

DISTRICT #: METRO
IPLOT NAME: connector detail
PATH & FILENAME: IP_PWP-d/452/4T 39357_sgl.dgn

PLOTTED/REVISED: 4/26/2012

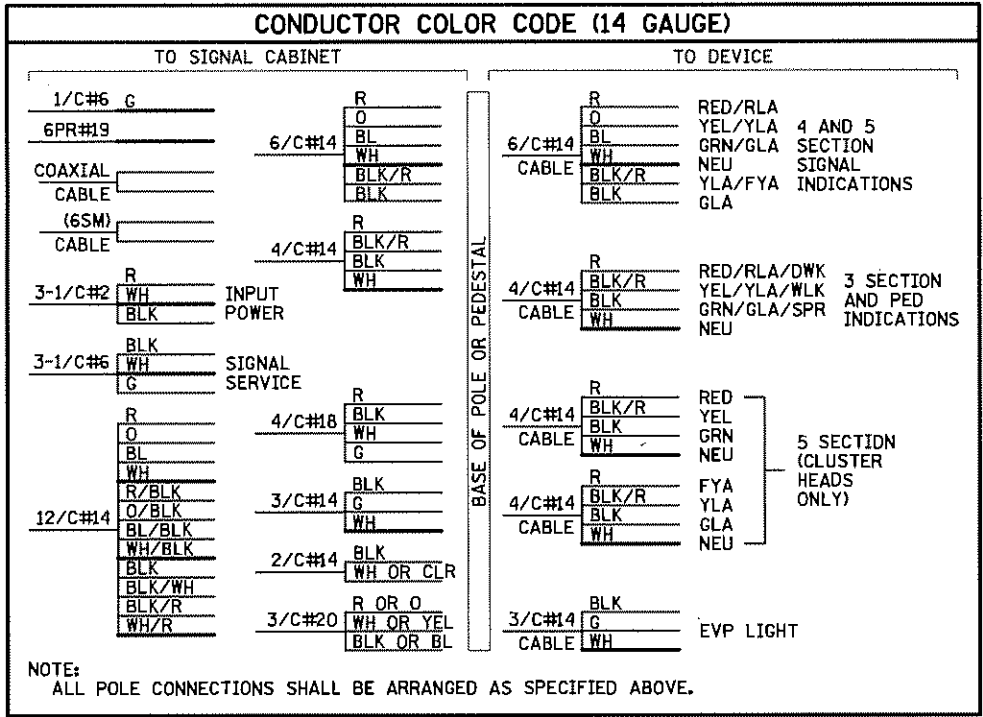
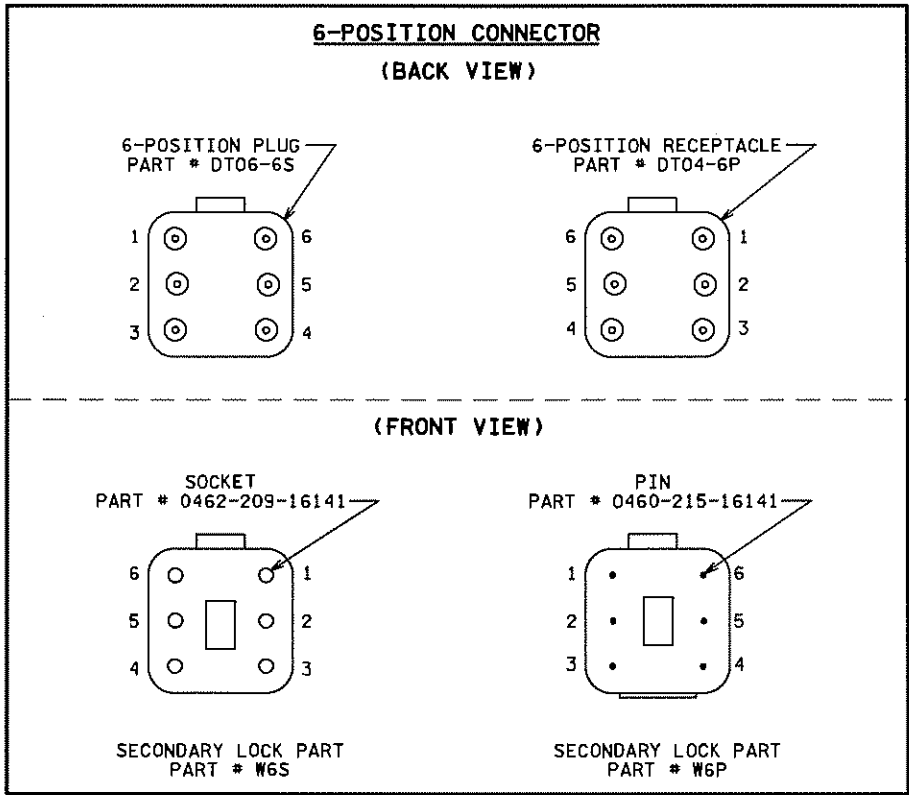
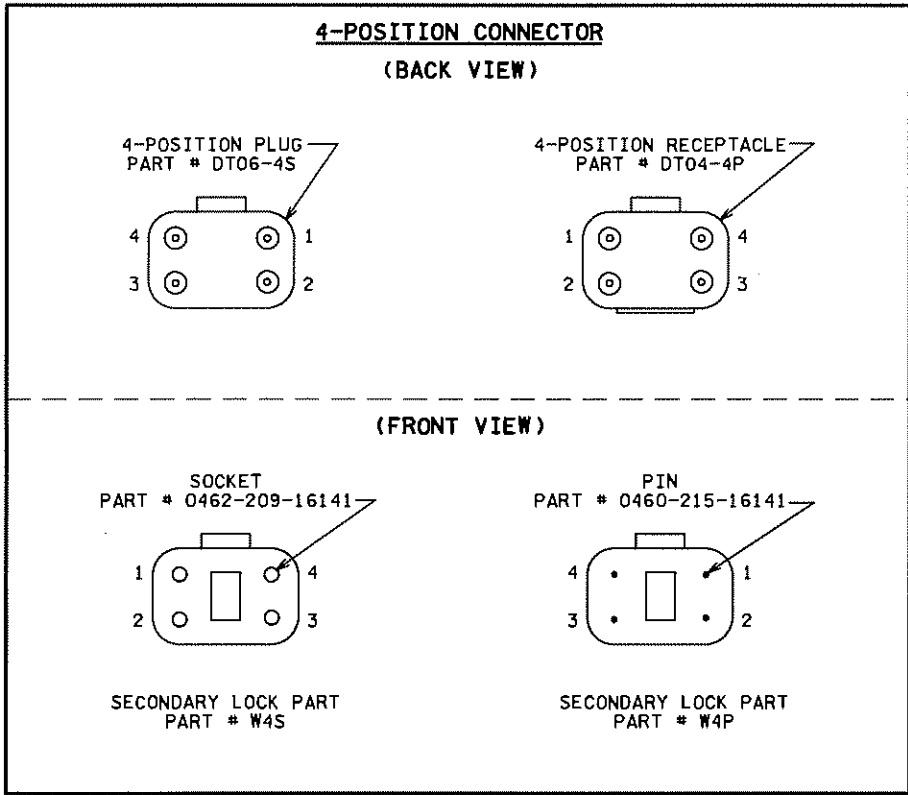


TABLE 1a 4 Position DT Connector (3 Section Head/DWK/WLK)			
Wire to Control Cabinet	Connector pin #	Wire to Signal Indication	Signal Indication
R or R/BLK or BLK	1	R	RED or RLA or DWK
O or O/BLK or BLK/WH or BLK	2	BLK/R	YEL or YLA or WLK
BL or BL/BLK or BLK/R or BLK	3	BLK	GRN or GLA or SPR
WH or WH/BLK or WH/R	4	WH	NEU

TABLE 2 6 Position DT Connector (Standard 4 and 5 Section Heads)			
Wire to Control Cabinet	Connector pin #	Wire to Signal Indication	Signal Indication
R	1	R	RED
O	2	O	YEL
BL	3	BL	GRN
WH	4	WH	NEU
O/BLK or BLK/R (6/C)	5	BLK/R	YLA or FYA
BL/BLK or BLK (6/C)	6	BLK	GLA

TABLE 1b 4 Position DT Connector (Used with 3 Conductor Cable Only) (EVP LHT/ANF)			
Wire to Control Cabinet	Connector pin #	Wire to Signal Indication	Signal Indication
BLK	1	BLK	EVP LHT or YEL
(Not Used)	2	(Not Used)	(Not Used) (See Note #8)
G	3	G	EQ.G
WH	4	WH	NEU

TABLE 1c 4 Position DT Connectors (Use Two Connectors for 5 Section FYA Cluster Heads)			
12 Conductor Wire to Control Cabinet	Connector pin #	4 Conductor to Signal Indication	Signal Indication
R	1	R	RED
O	2	BLK/R	YEL
BL	3	BLK	GRN
WH	4	WH	NEU
R/BLK	1	R	FYA
O/BLK	2	BLK/R	YLA
BL/BLK	3	BLK	GLA
WH/BLK	4	WH	NEU

Wire Color Code Key	
R	Red
O	Orange
BL	Blue
WH	White
BLK	Black
BRN	Brown
CL	Clear
G	Green
R/BLK	Red with Black Stripe
O/BLK	Orange with Black Stripe
BL/BLK	Blue with Black Stripe
WH/BLK	White with Black Stripe
WH/R	White with Red Stripe
BLK/WH	Black with White Stripe
BLK/R	Black with Red Stripe

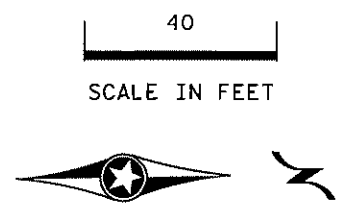
- NOTES:**
- DT04-P RECEPTACLE SHALL BE TERMINATED TO THE WIRING HARNESS RUNNING FROM THE BASE/JUNCTION BOX OF THE POLE TO SIGNAL INDICATIONS.
 - DT06-S PLUG SHALL BE TERMINATED TO THE CABLES RUNNING FROM THE TRAFFIC SIGNAL CABINET TO THE BASE/JUNCTION BOX OF THE POLE.
 - THERE SHALL BE A MINIMUM OF 24 INCHES OF SLACK ON EACH CABLE IN EVERY POLE BASE /JUNCTION BOX.
 - STRIP A MAXIMUM OF 6 INCHES OF THE OUTER JACKET OF EACH SIGNAL CABLE.
 - STRIP .250 INCHES OF INSULATION FROM EACH INDIVIDUAL CONDUCTOR.
 - CRIMP PINS OR SOCKETS USING RATCHETING TYPE CRIMPING TOOL HDT-48-00. NO OTHER CRIMPING TOOL WILL BE ALLOWED.
 - WIRES MUST BE TERMINATED AS DETAILED IN TABLES 1 THRU 3 DEPENDING ON WIRE COUNT.
 - ANY UNUSED PIN MUST HAVE A SEALING PLUG PLACED IN BOTH THE PLUG & RECEPTACLE (PART # 114017).
 - LABEL EACH HALF OF THE CONNECTOR (PLUG AND RECEPTACLE) WITH THE DEVICE DESIGNATION (AS INDICATED IN THE WIRING DIAGRAM) USING A PERMANENT BLACK MARKER.

PLOTTED/REVISED: 5/3/2012

DISTRICT #: METRO
PLOT NAME: T39357.sgl
PATH & FILENAME: IP_PWP-df4524739357.sgl.dgn

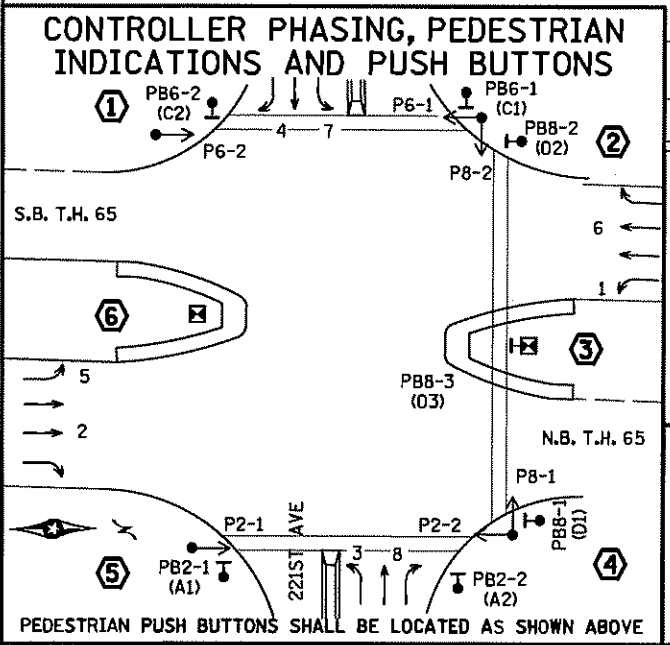
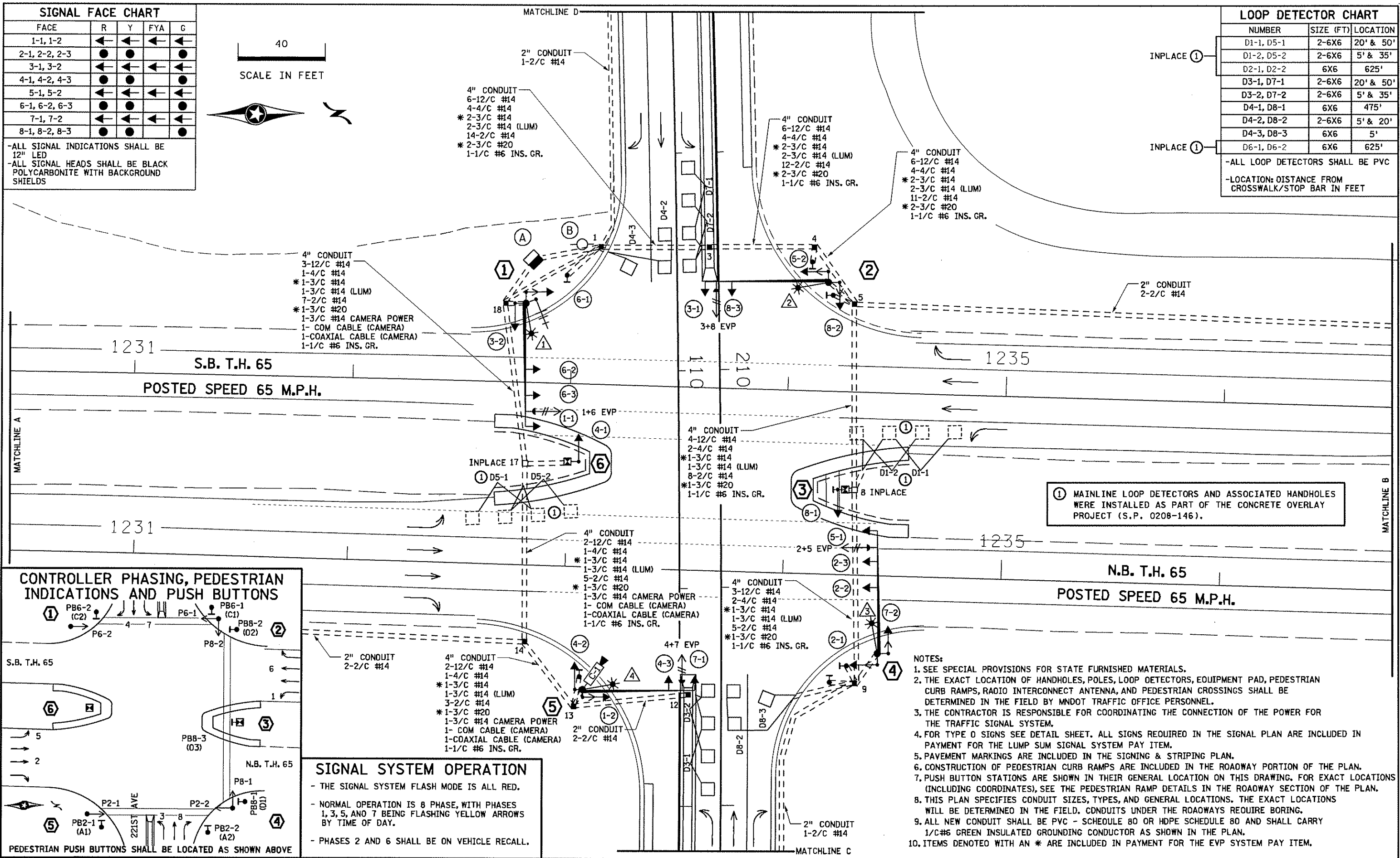
SIGNAL FACE CHART				
FACE	R	Y	FYA	G
1-1, 1-2	●	●	●	●
2-1, 2-2, 2-3	●	●	●	●
3-1, 3-2	●	●	●	●
4-1, 4-2, 4-3	●	●	●	●
5-1, 5-2	●	●	●	●
6-1, 6-2, 6-3	●	●	●	●
7-1, 7-2	●	●	●	●
8-1, 8-2, 8-3	●	●	●	●

-ALL SIGNAL INDICATIONS SHALL BE 12" LED
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONITE WITH BACKGROUND SHIELDS



LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1, D5-1	2-6X6	20' & 50'
D1-2, D5-2	2-6X6	5' & 35'
D2-1, D2-2	6X6	625'
D3-1, D7-1	2-6X6	20' & 50'
D3-2, D7-2	2-6X6	5' & 35'
D4-1, D8-1	6X6	475'
D4-2, D8-2	2-6X6	5' & 20'
D4-3, D8-3	6X6	5'
D6-1, D6-2	6X6	625'

-ALL LOOP DETECTORS SHALL BE PVC
-LOCATION: OISTANCE FROM CROSSWALK/STOP BAR IN FEET



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5, AND 7 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

① MAINLINE LOOP DETECTORS AND ASSOCIATED HANDHOLES WERE INSTALLED AS PART OF THE CONCRETE OVERLAY PROJECT (S.P. 0208-146).

- NOTES:
- SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
 - THE EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS, EQUIPMENT PAD, PEDESTRIAN CURB RAMPS, RADIO INTERCONNECT ANTENNA, AND PEDESTRIAN CROSSINGS SHALL BE DETERMINED IN THE FIELD BY MNDOT TRAFFIC OFFICE PERSONNEL.
 - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM.
 - FOR TYPE O SIGNS SEE DETAIL SHEET. ALL SIGNS REQUIRED IN THE SIGNAL PLAN ARE INCLUDED IN PAYMENT FOR THE LUMP SUM SIGNAL SYSTEM PAY ITEM.
 - PAVEMENT MARKINGS ARE INCLUDED IN THE SIGNING & STRIPING PLAN.
 - CONSTRUCTION OF PEDESTRIAN CURB RAMPS ARE INCLUDED IN THE ROADWAY PORTION OF THE PLAN.
 - PUSH BUTTON STATIONS ARE SHOWN IN THEIR GENERAL LOCATION ON THIS DRAWING. FOR EXACT LOCATIONS (INCLUDING COORDINATES), SEE THE PEDESTRIAN RAMP DETAILS IN THE ROADWAY SECTION OF THE PLAN.
 - THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS REQUIRE BORING.
 - ALL NEW CONDUIT SHALL BE PVC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C#6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
 - ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.

BY	DATE	REVISIONS	SYSTEM ID: 39357	T.E. 5453	INTERSECTION LAYOUT TRAFFIC CONTROL SIGNAL SYSTEM TH 65 AT 221st AVE. (C.R. 74) IN EAST BETHEL, ANOKA COUNTY	S.P. NO. 002-596-015	C.P. 2012-05	DRAWN BY: BAM	CKD BY: CDB	DATE: 4-20-12
			METER ADDRESS: XXXX HIGHWAY 65			CERTIFIED BY: <i>Michael P. Subrinsky</i>		LIC. NO. 19863	DATE: 4-23-12	
			MASTER ID:	T.E.						
						STATE PROJ. NO. 0208-147 (T.H. 65) SHEET NO. 46 OF 87 SHEETS				

DISTRICT #: METRO
PLOT NAME: notes
PATH & FILENAME: IP_PWP:d44524\T 39357_sgl.dgn

POLE AND CABINET NOTES

① X,Y= 507652.1125, 222212.2406
PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9 (DAVIT AT 350 DEG)
2-SWING AWAY HINGES
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS OVERHEAD
AT 13' AND 25'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
1-ANGLE MOUNT C.O.PED IND
AT 180 DEG
*1-ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASES 6+1)
LUMINAIRE-250W HPS
1-RADIO INTERCONNECT ANTENNA
1-R6-1R SIGN (ONE WAY)
1-R6-1L SIGN (ONE WAY)
1-R10-X12 (YIELD ON FLASHING YELLOW ARROW)
1-R9-3a (NO PED) FACING POLE 6
1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)
1-TYPE D SIGN (D-3) (SEE SIGN DETAILS)
3" CONDUIT TO HH 18:
3-12/C #14
1-4/C #14
*1-3/C #14
1-3/C #14 (LUM)
1-COM CABLE (ANTENNA)
*1-3/C #20
1-1/C #6 INS. GR.

PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB6-2)
EXTEND INTO HH 1:
2" CONDUIT
1-2/C #14

⑥ X,Y= 507725.0315, 222235.6839
PEDESTAL FOUNDATION
13' PEDESTAL POLE PLUS BASE
1-STRAIGHT MOUNT SIGNAL
AT 90 DEG
2-R9-3a (NO PED) FACING POLES 1 AND 5
3" CONDUIT TO HH 17:
1-12/C #14

② X,Y= 507643.8127, 222351.3157
PA100 POLE FOUNDATION
TYPE PA100-A-55-D30-9 (DAVIT AT 350 DEG)
2-SWING AWAY HINGES
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
2-ANGLE MOUNT C.O.PED IND AT 90 AND 180 DEG
*1-ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASES 4+7)
LUMINAIRE-250W HPS
1-R10-X12 (YIELD ON FLASHING YELLOW ARROW)
1-TYPE D SIGN (D-2) (SEE SIGN DETAILS)
3" CONDUIT TO HH 5:
2-12/C #14
2-4/C #14
*1-3/C #14
1-3/C #14 (LUM)
*1-3/C #20
1-1/C #6 INS. GR.

PED PB STATION
1-APS PB AND SIGN
(LT ARROW) (PB6-1)
EXTEND INTO HH 4:
2" CONDUIT
1-2/C #14

PEO PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB8-2)
EXTEND INTO HH 5:
2" CONDUIT
1-2/C #14

⑤ X,Y= 507829.9348, 222236.3553
PA100 POLE FOUNDATION
TYPE PA100-A-50-X6-350/CAM 400 EXTENSION
2-SWING AWAY HINGES
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
1-ANGLE MOUNT C.O.PED IND AT 90 DEG
*1-ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASES 3+8)
LUMINAIRE-250Z HPS
1-VIDEO CAMERA
1-R10-X12 (YIELD ON FLASHING YELLOW ARROW)
1-R9-3a (NO PED) FACING POLE 6
1-TYPE D SIGN (D-2) (SEE SIGN DETAILS)
3" CONDUIT TO HH 13:
2-12/C #14
1-4/C #14
*1-3/C #14
1-3/C #14 (LUM)
*1-3/C #20
1-3/C #14 (CAMERA POWER)
1-COM CABLE (CAMERA)
1-COAXIAL CABLE (CAMERA)
1-7/16" GROUNDING BRAID TO GROUND ROD IN HH 18
1-1/C #6 INS. GR.

PED PB STATION
1-APS PB AND SIGN
(LT ARROW) (PB2-2)
EXTEND INTO HH 13:
2" CONDUIT
1-2/C #14

③ X,Y= 507739.0793, 222355.6408
PEDESTAL FOUNDATION
13' PEDESTAL POLE PLUS BASE
1-STRAIGHT MOUNT SIGNAL
AT 90 DEG
1-APS PB AND SIGN (DBL ARROW) (PB8-3)
3" CONDUIT TO HH 8:
1-12/C #14
1-2/C #14

Ⓐ EQUIPMENT PAD (SEE DETAIL SHEET)
SERVICE CABINET (SSB)
CONTROLLER AND CABINET (STATE FURNISHED)

4" CONDUIT TO HH 18:	4" CONDUIT TO HH 1:
6-12/C #14	6-12/C #14
2-4/C #14	2-4/C #14
*2-3/C #14	*2-3/C #14
1-3/C #14 (CAMERA POWER)	*11-2/C #14
7-2/C #14	*2-3/C #20
*2-3/C #20	1-COM CABLE (ANTENNA)
1-COM CABLE (CAMERA)	1-1/C #6 INS. GR.
1-COAXIAL CABLE (CAMERA)	
1-1/C #6 INS. GR.	

2-2" AND 3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)
3/4" NMC STUBBED OUT (FOR TELEPHONE LINE)

CONTROLLER CABINET TO SERVICE CABINET:
2" CONDUIT
2-1/C #6
1-1/C #6 INS. GR.

CONTROLLER CABINET TO SERVICE CABINET (COMMS):
2" CONDUIT

SERVICE CABINET TO GROUND MOUNTED TRANSFORMER:
2" CONDUIT
3-1/C #2

SERVICE CABINET TO HH 18:
2" CONDUIT
4-3/C #14 (LUM)

HH 18 TO HH 1:
2" CONDUIT
2-3/C #14 (LUM)

Ⓑ SOP-WOOD POLE MOUNTED
TRANSFORMER (CONNEXUS ENERGY)
2" RSC CONDUIT RISER, WEATHERHEAD AND
2" CONDUIT TO SERVICE CABINET:
3-1/C #2

④ X,Y= 507814.7425, 222371.5119
PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9 (DAVIT AT 350 DEG)
2-SWING AWAY HINGES
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS OVERHEAD
AT 13' AND 25'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
2-ANGLE MOUNT C.O.PED IND
AT 90 AND 180 DEG
*1-ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASES 2+5)
LUMINAIRE-250W HPS
1-R6-1R SIGN (ONE WAY)
1-R6-1L SIGN (ONE WAY)
1-R10-X12 (YIELD ON FLASHING YELLOW ARROW)
1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)
1-TYPE D SIGN (D-3) (SEE SIGN DETAILS)
3" CONDUIT TO HH 9:
3-12/C #14
2-4/C #14
*1-3/C #14
1-3/C #14 (LUM)
*1-3/C #20
1-1/C #6 INS. GR.

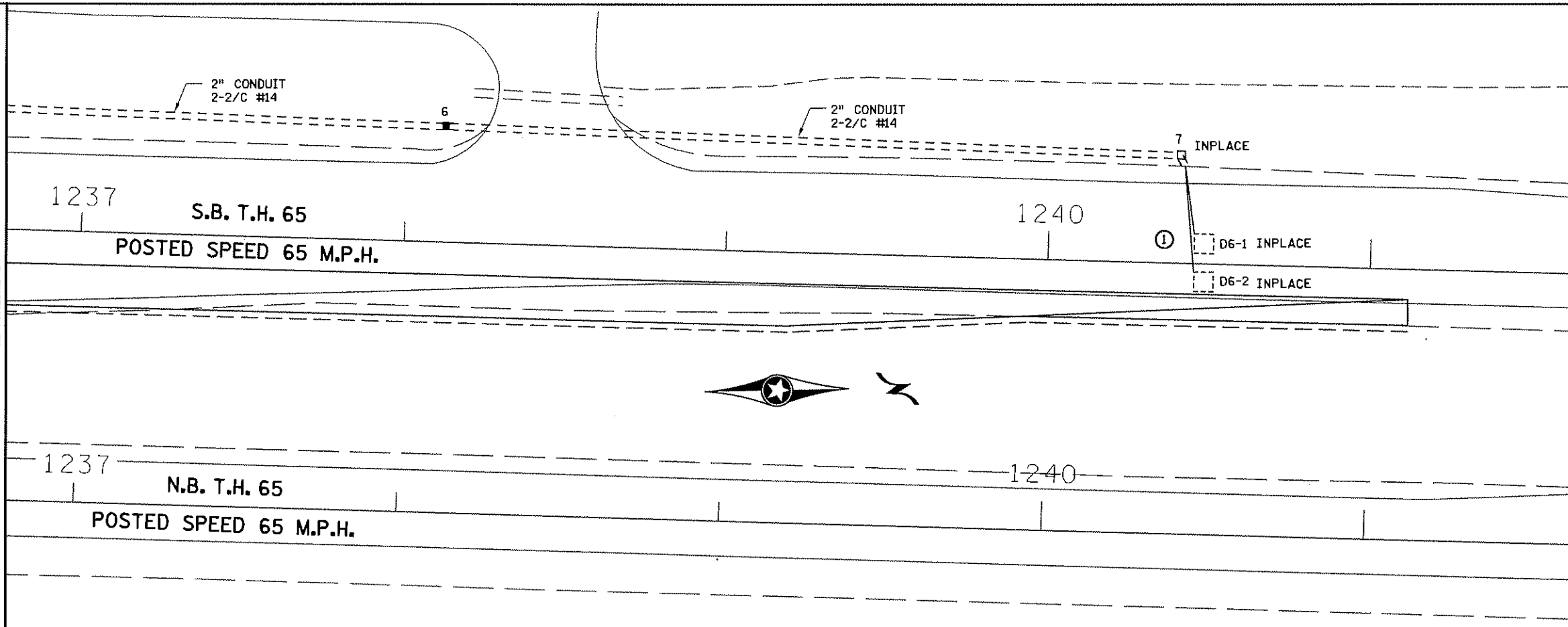
PEO PB STATION
1-APS PB AND SIGN
(LT ARROW) (PB8-1)
EXTEND INTO HH 9:
2" CONDUIT
1-2/C #14

PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB2-2)
EXTEND INTO HH 9:
2" CONDUIT
1-2/C #14

BY	DATE	REVISIONS	SYSTEM ID: 39357	T.E. 5453	POLE AND CABINET NOTES	S.P. NO. 002-596-015	C.P. 2012-05	DRAWN BY: BAM	CKD BY: CDB	DATE: 4-20-12
			METER ADDRESS: XXXX HIGHWAY 65		TRAFFIC CONTROL SIGNAL SYSTEM	CERTIFIED BY	<i>Michael P. Lubinsky</i>	LIC. NO. 19863	DATE: 4-23-12	
			MASTER ID:	T.E.	TH 65 AT 221st AVE. (C.R. 74)					
					IN EAST BETHEL, ANOKA COUNTY					
						STATE PROJ. NO. 0208-147 (T.H. 65)	SHEET NO. 47 OF 87 SHEETS			

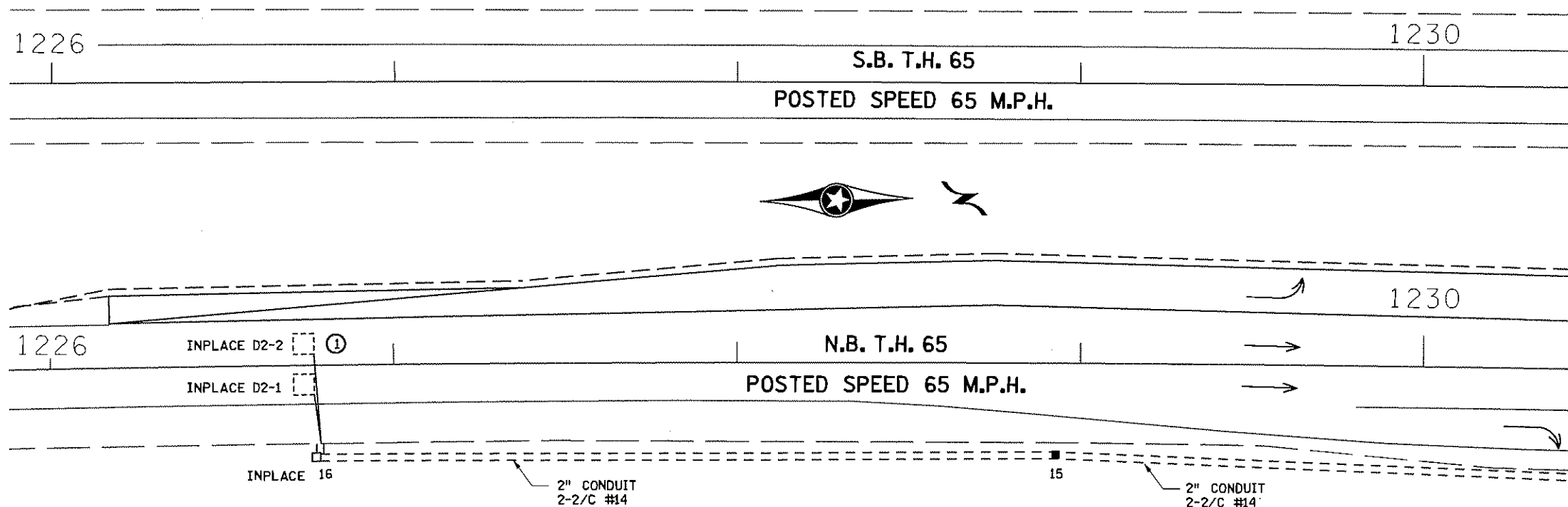
DISTRICT #: METRO
PLOT NAME: matchline 1
PATH & FILENAME: IP_PWP-d1415214T 39357_sq1.dgn

MATCHLINE B



① MAINLINE LOOP DETECTORS AND ASSOCIATED HANDHOLES WERE INSTALLED
AS PART OF THE CONCRETE OVERLAY PROJECT (S.P. 0208-146).

40
SCALE IN FEET

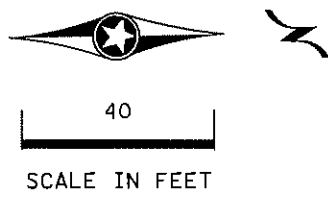
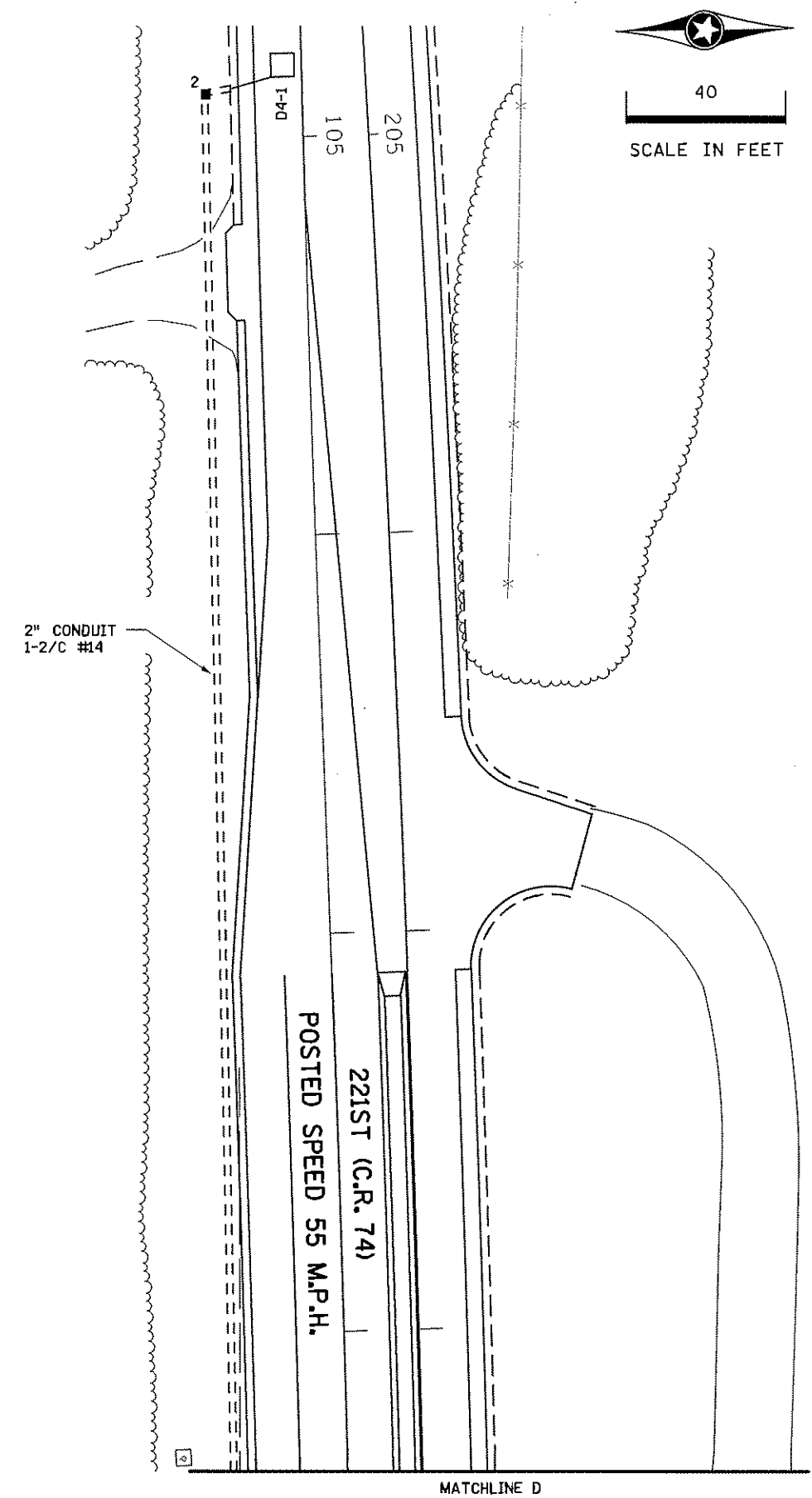
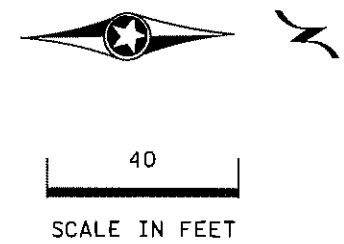
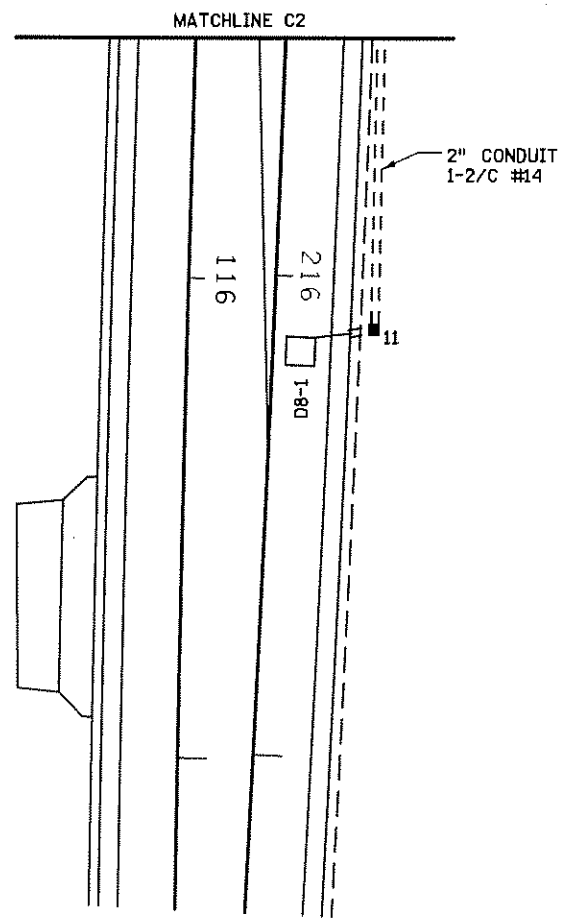
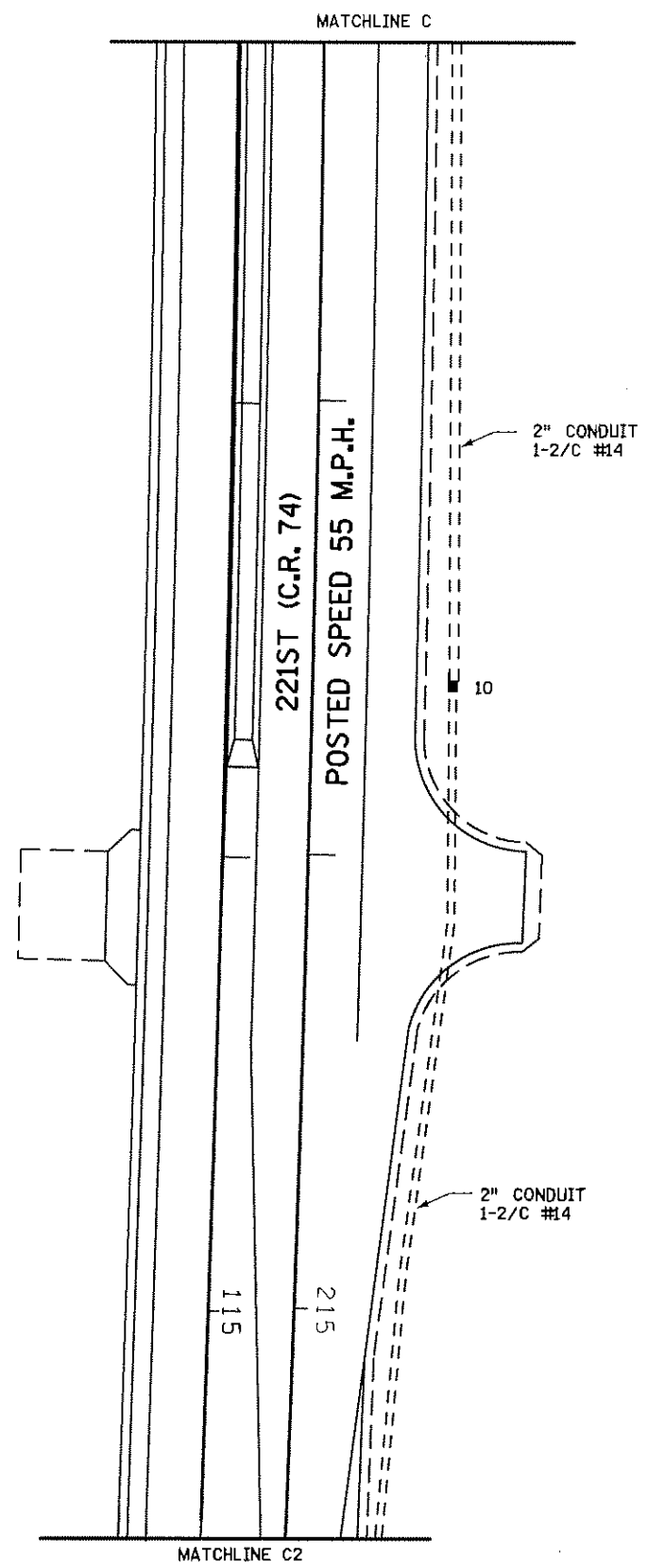


MATCHLINE A

BY	DATE	REVISIONS	SYSTEM ID: 39357	T.E. 5453	MATCH LINE LAYOUT (1 of 2)	S.P. NO. 002-596-015	C.P. 2012-05	DRAWN BY: BAM	CKD BY: CDB	DATE: 4-20-12
			METER ADDRESS: XXXX HIGHWAY 65		TRAFFIC CONTROL SIGNAL SYSTEM	CERTIFIED BY: <i>Michael P. Subashy</i>		LIC. NO. 19863	DATE: 4-23-12	
			MASTER ID:	T.E.	T.H. 65 AT 221st AVE (C.R. 74)					
					IN EAST BETHEL, ANOKA CO.					
						STATE PROJ. NO. 0208-147 (T.H. 65)	SHEET NO. 48	OF 87	SHEETS	

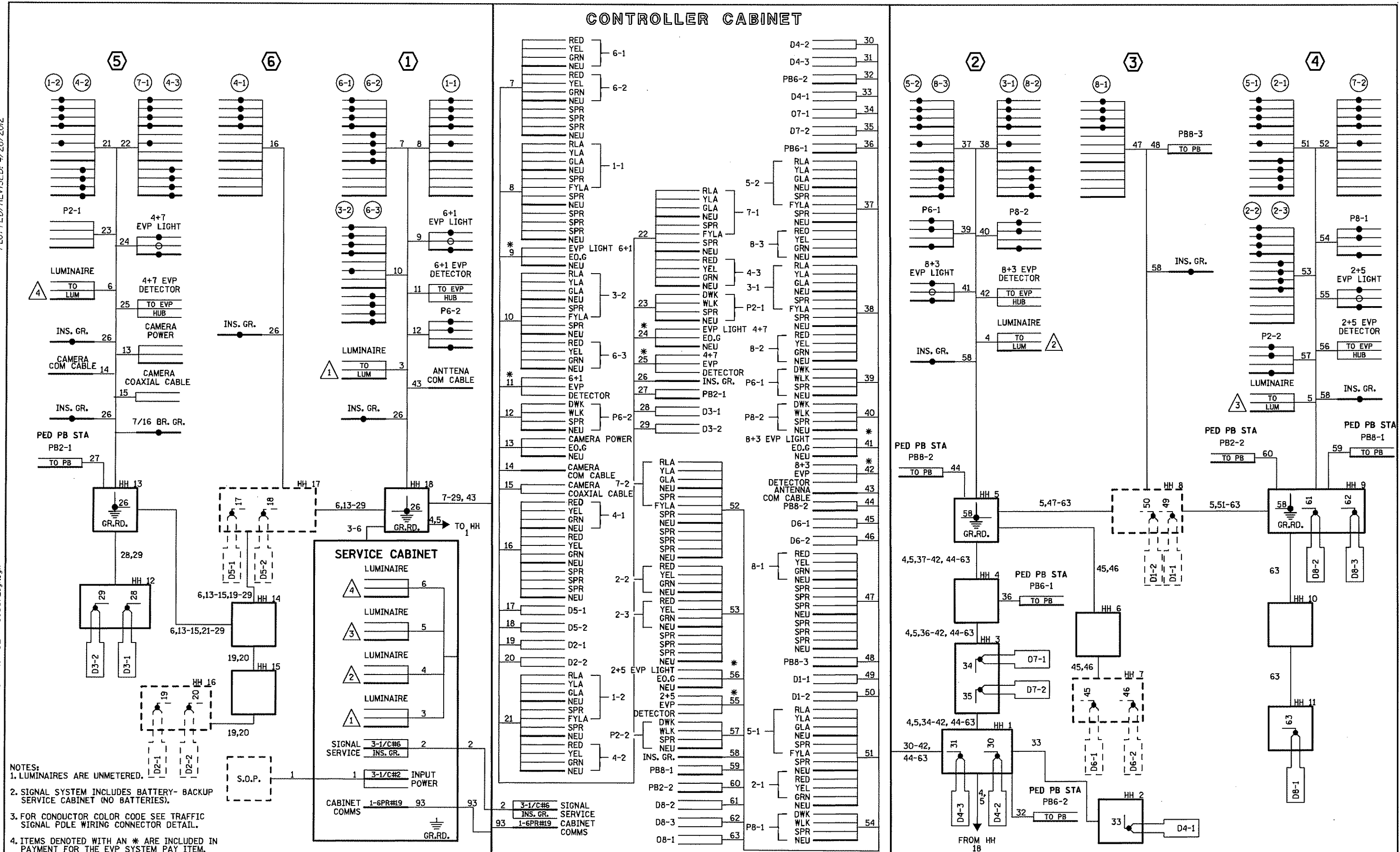
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PLOT NAME: matchline 2
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PLOTTED/REVISED: 4/26/2012



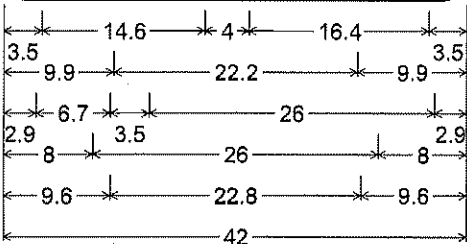
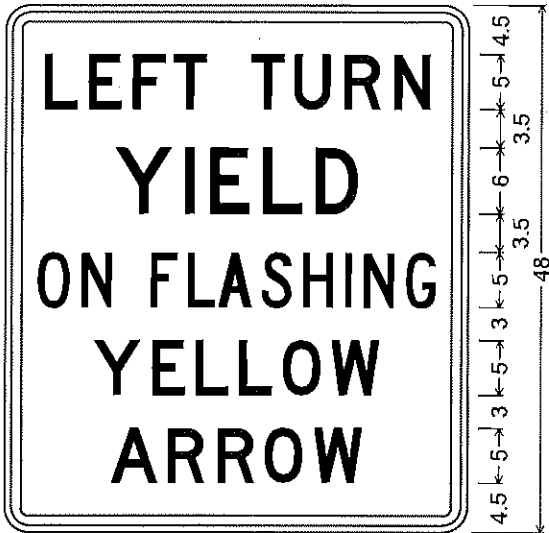
BY	DATE	REVISIONS	SYSTEM ID: 39357	T.E. 5453	MATCH LINE LAYOUT (2 of 2)	S.P. NO. 002-596-015	C.P. 2012-05	DRAWN BY: BAM	CKD BY: CDB	DATE: 4-20-12
			METER ADDRESS: XXXX HIGHWAY 65		TRAFFIC CONTROL SIGNAL SYSTEM	CERTIFIED BY: <i>Michael P. Delinsky</i>	LIC. NO. 19863	DATE: 4-23-12		
			MASTER ID:	T.E.	T.H. 65 AT 221st AVE (C.R. 74)	STATE PROJ. NO. 0208-147 (T.H. 65) SHEET NO. 49 OF 87 SHEETS				
					IN EAST BETHEL, ANOKA CO.					

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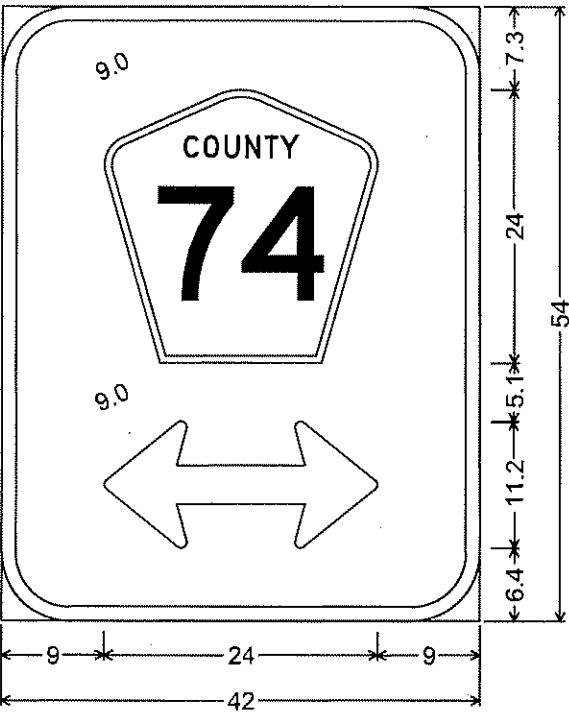


BY	DATE	REVISIONS	SYSTEM ID: 39357	T.E. 5453	FIELD WIRING DIAGRAM TRAFFIC CONTROL SIGNAL SYSTEM TH 65 AT 221st AVE (C.R. 74) IN EAST BETHEL, ANOKA COUNTY	S.P. NO. 002-596-015	C.P. 2012-20	DRAWN BY: BAM	CKD BY: CDB	DATE: 4-20-12	
			METER ADDRESS: XXXX HIGHWAY 65			CERTIFIED BY 	LIC. NO. 19863	DATE: 4-23-12			
			MASTER ID:	T.E.		STATE PROJ. NO. 0208-147 (T.H. 65)	SHEET NO. 50 OF 87 SHEETS				

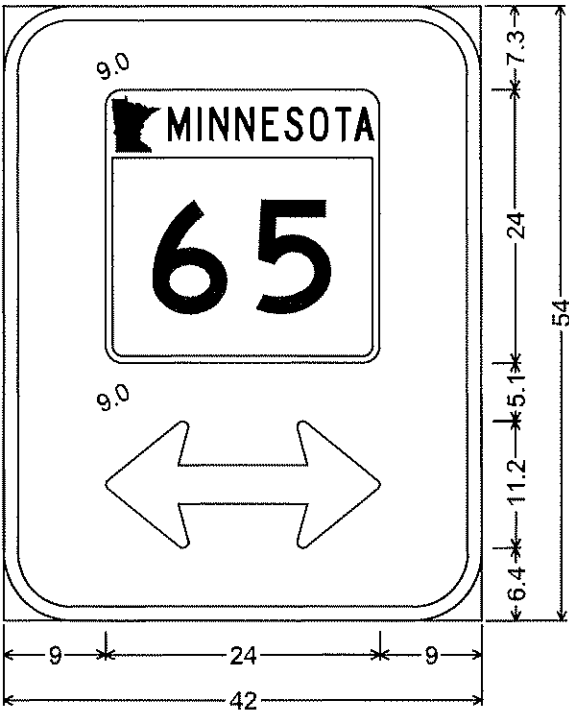
SIGN DETAILS



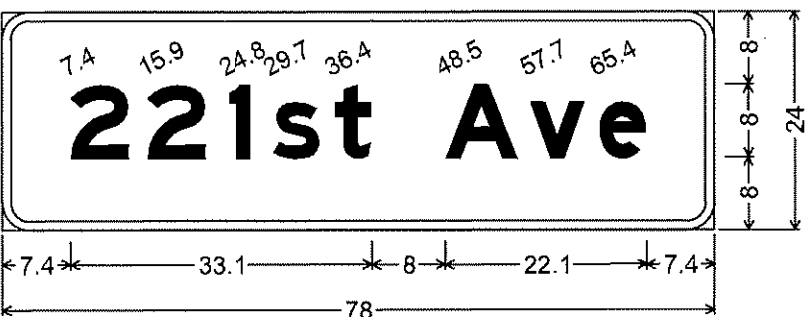
LEFT TURN YIELD ON FLASHING YELLOW ARROW 42X48;
2.3" Radius, 0.9" Border, 0.6" Indent, Black on White;
[LEFT TURN] D; [YIELD] D;
[ON FLASHING] C; [YELLOW] D;
[ARROW] D;



D-1;
6.0" Radius, 1.3" Border, White on Green;
Double Headed Arrow 5 - 24.0" 0°;



D-2;
6.0" Radius, 1.3" Border, White on Green;
Double Headed Arrow 5 - 24.0" 0°;

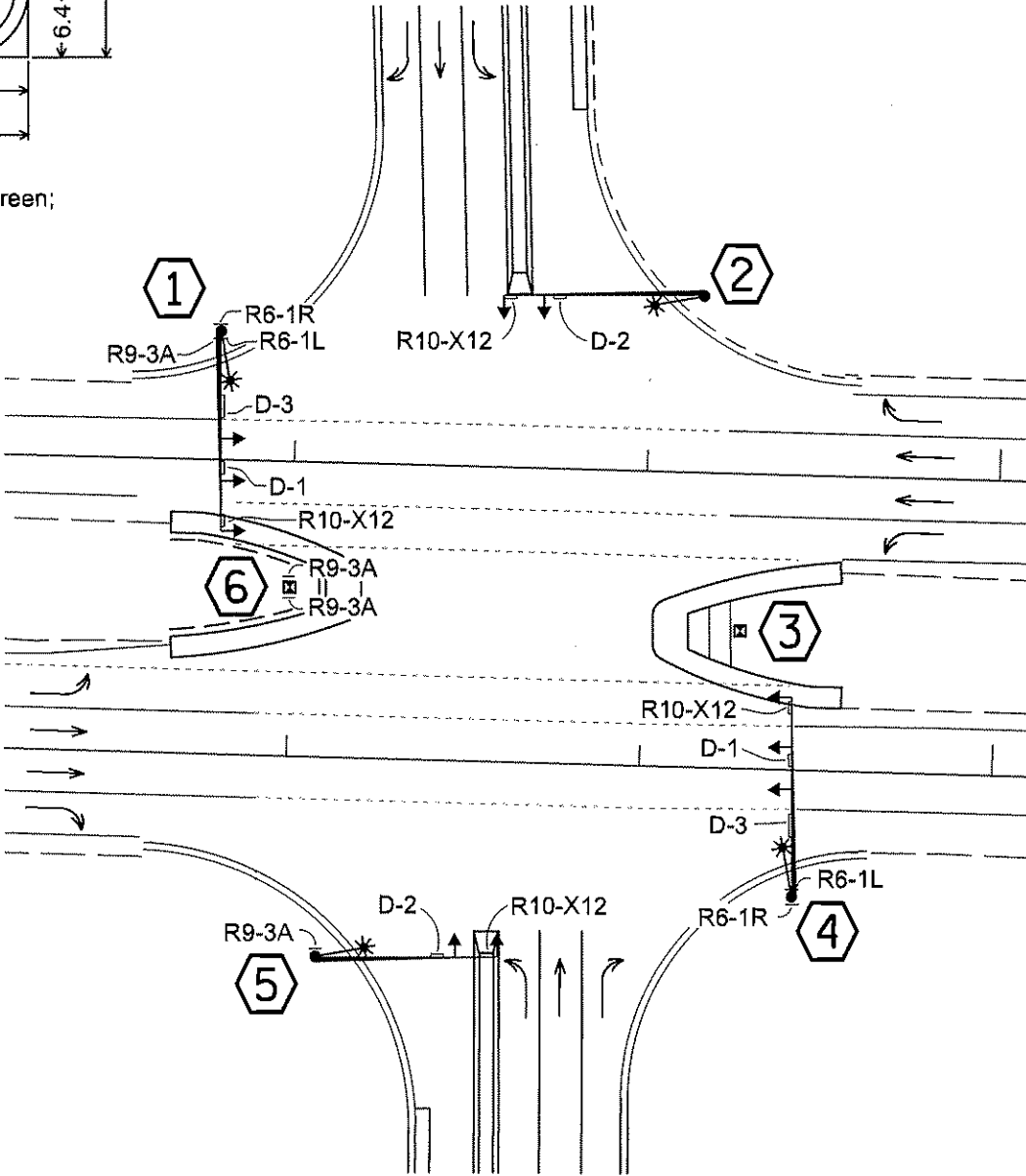
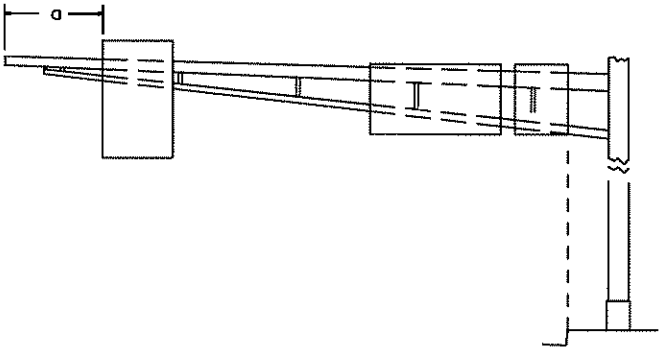


D-3; 3.0" Radius, 1.0" Border, White on Green;
[221st Ave] E Mod;

MAST ARM MOUNTED SIGNS										
SIGN NO	POLE NO	QTY	a	PANEL			MOUNTING BRACKET		PANEL LEGEND	
				SIZE	AREA	TOTAL AREA	NUMBER	SPACING (1)		
			FEET	INCH	SQ FT	SQ FT				
R10-X12	1,2,4,5	4	0	42 x 48	14.00	14.00	2	30	LEFT TURN YIELD ON FLASHING YELLOW ARROW	
D-1	1	1	15	42 x 54	15.75	15.75	2	30	COUNTY 74 DBL ARROW	
D-1	4	1	15	42 x 54	15.75	15.75	2	30	COUNTY 74 DBL ARROW	
D-2	2,5	2	14	42 x 54	15.75	15.75	2	30	MN 65 DBL ARROW	
D-3	1	1	32	78 x 24	13.00	13.00	3	33	221st Ave	
D-3	4	1	32	78 x 24	13.00	13.00	3	33	221st Ave	

- SPECIFIC NOTES:
(1) SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED.
SEE STANDARD SIGNS MANUAL, PAGE 105A FOR BRACKET SPACING REQUIREMENTS.
- GENERAL NOTES:
1. CORNERS OF STANDARD SIGN PANELS WITH MARGINS SHALL BE TRIMMED.
2. TYPE D SIGN PANELS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
3. FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS SEE STANDARD SIGNS MANUAL, PAGE 105A.
4. FOR TYPE D STRINGER AND PANEL JOINT DETAILS SEE STANDARD SIGNS MANUAL, PAGE 105.
5. THE MAST ARM MOUNTED SIGNS ARE INCLUDED IN THE SIGNAL SYSTEM PAY ITEM.

SIGNAL POLE MOUNTED SIGNS					
SIGN NO	POLE NO	QTY	PANEL		
			SIZE		LEGEND
			INCH		
R9-3A	1,5,6	4	18	x 18	NO PEDESTRIANS
R6-1R	1,4	2	48	x 18	ONE WAY (RIGHT ARROW)
R6-1L	1,4	2	48	x 18	ONE WAY (LEFT ARROW)



BY	DATE	REVISIONS	SYSTEM ID: 39357	T.E. 5453	TYPE "D" SIGNS DETAIL	S.P. NO. 002-596-015	C.P. 2012-05	DRAWN BY: BAM	CKD BY: CDB	DATE: 4-20-12
			METER ADDRESS: XXXX HIGHWAY 65		TRAFFIC CONTROL SIGNAL SYSTEM	CERTIFIED BY: <i>Michael P. Selinsky</i>	LIC. NO. 19863			DATE: 4-23-12
			MASTER ID:	T.E.	T.H. 65 AT 221st AVE (C.R. 74)	LICENSED PROFESSIONAL ENGINEER				
					IN EAST BETHEL, ANOKA CO.					
						STATE PROJ. NO. 0208-147 (T.H. 65)		SHEET NO. 51 OF 87 SHEETS		

PERMANENT PAVEMENT MARKING PLAN
NOTES AND GUIDELINES

GENERAL INFORMATION:

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

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

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

EPOXY:

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

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

AN 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.

Q PERMANENT PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
PAVEMENT MARKING REMOVAL	LIN FT	
PAVEMENT MSSG (LT ARROW) PREFORMED THERMOPLASTIC	EACH	4
PAVEMENT MSSG (RT ARROW) PREFORMED THERMOPLASTIC	EACH	4
24" SOLID LINE YELLOW - PREFORMED THERMOPLASTIC	LIN FT	929
24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC	LIN FT	96
3' x 6' CROSSWALK MARKING - PREFORMED THERMOPLASTIC	SQ FT	1044
4" SOLID LINE WHITE - EPOXY	LIN FT	5297
4" SOLID LINE YELLOW - EPOXY	LIN FT	2100
4" BROKEN LINE YELLOW - EPOXY (10' STRIPE / 40' GAP)	LIN FT	200
4" DOUBLE SOLID LINE YELLOW - EPOXY	LIN FT	3239

SYMBOLS & MATERIALS LEGEND

■ CROSSWALK BLOCK WHITE-POLY PREFORM

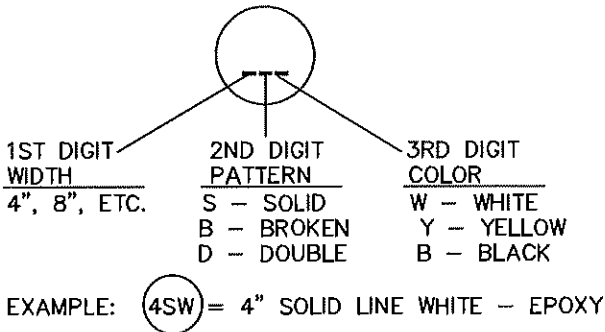
↩ PAVEMENT MESSAGE (LEFT ARROW)
POLY PREFORM

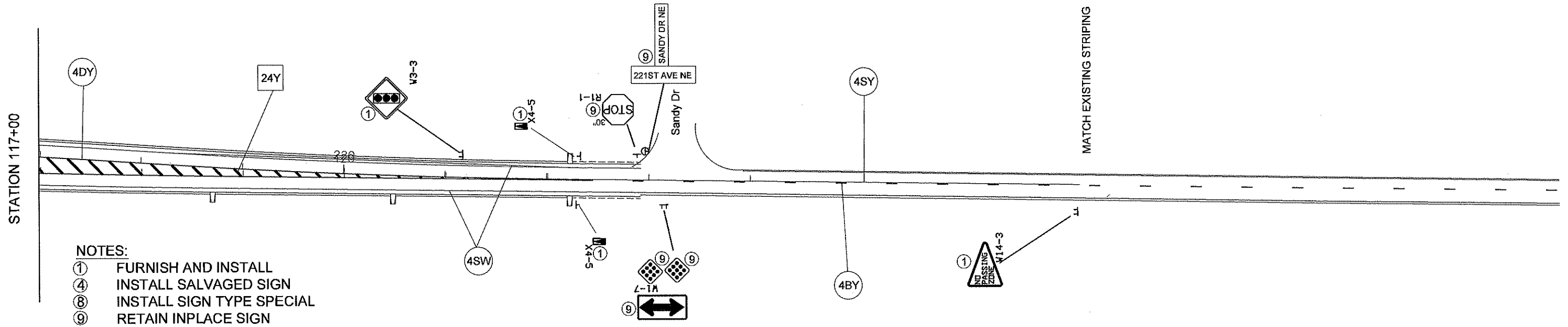
STRIPING KEY

○ CIRCLE - EPOXY □ SQUARE - PREFORMED THERMOPLASTIC

△ TRIANGLE - PAINT

⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING





NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-596-15\Bases\TRAFFIC\Permanent 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: 5-3-12 REG. NO. 24756

DRAWN BY: MTH DATE 11/29/11

DESIGN BY: MTH DATE 11/29/11

CHECKED BY: JR DATE 3/23/12



ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147
C.P. 2012-05

PERMANENT SIGNING & STRIPING

Sheet 54 of 87 Sheets

SIGN PANELS TYPE C

M.U.T.C.D. CODE	SIZE	INSERT	QTY	SQ FT PANEL AREA	SQ FT TOTAL AREA	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT
R6-1L	36" x 12"		1	3.00	3.00	1	7.0'
R6-1R	36" x 12"		2	3.00	6.00		
R1-1	30" x 30"		2	6.25	12.50		
X4-13	4" diameter x 15"		2	1.31	2.62		
R2-1	24" x 30"		2	5.00	10.00	1	7.0'
R3-30ACA	54" x 30"		2	11.25	25.00	2	7.0'
R5-1	30" x 30"		4	6.25	25.00	1	7.0'
R3-4	24" x 24"		2	4.00	8.00	1	7.0'
R4-7	24" x 30"		4	5.00	20.00		
X4-2	18" x 18"		4	2.25	9.00		
R6-1L	48" x 18"		1	6.00	6.00	2	7.0'

SIGN PANELS TYPE C

M.U.T.C.D. CODE	SIZE	INSERT	QTY	SQ FT PANEL AREA	SQ FT TOTAL AREA	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT
W3-3	48" x 48"		2	16.00	32.00	2	7.0'
W14-3	48" x 36"		2	6.00	12.00	2	7.0'
M3-4	24" x 12"		1	2.00	2.00	1	7.0'
M3-2	24" x 12"		1	2.00	2.00		
M1-6	24" x 24"		2	4.00	8.00		
M2-1	21" x 15"		2	2.19	4.38	1	7.0'
M1-5	24" x 24"		4	4.00	16.00		
M6-4A	21" x 15"		2	2.19	4.38		
X4-5	6" x 12"		4	0.50	2.00	1	4.0'
X4-5	6" x 12"		4	0.50	2.00	1	4.0'

TOTAL

195.76

NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE FIELD MANUAL DATED JANUARY, 2011
- LOCATIONS OF ALL PERMANENT STRIPING AND PAVEMENT MESSAGES ARE APPROXIMATE. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ALL MAINLINE PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.
- ALL SEGMENT STRIPE LINES SHALL BE EPOXY. PERMANENT MESSAGES AND ARROWS SHALL BE PREFORMED THERMOPLASTIC.
- ALL SIGNS SHALL BE FURNISHED AND INSTALLED UNLESS OTHERWISE NOTED.

1	4/27/2012	MTH			MN/DOT redline edits
NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-596-15\Bases\TRAFFIC\Permanent 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. KOBLARCSIK
SIGNATURE: 
DATE: 5-3-12 REG. NO. 24756

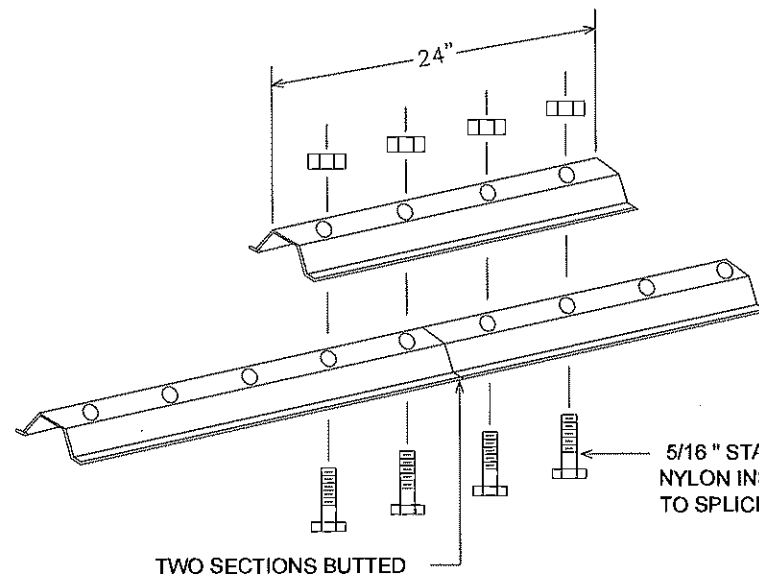
DRAWN BY: MTH DATE: 11/29/11
DESIGN BY: MTH DATE: 11/29/11
CHECKED BY: JR DATE: 3/23/12



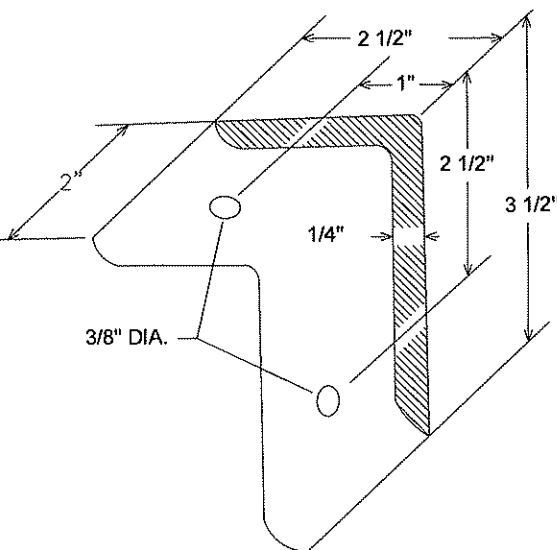
ANOKA COUNTY
HIGHWAY DEPT.

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S.P. 0208-147
C.P. 2012-05

PERMANENT SIGNING
QUANTITY
Sheet 55 of 87 Sheets

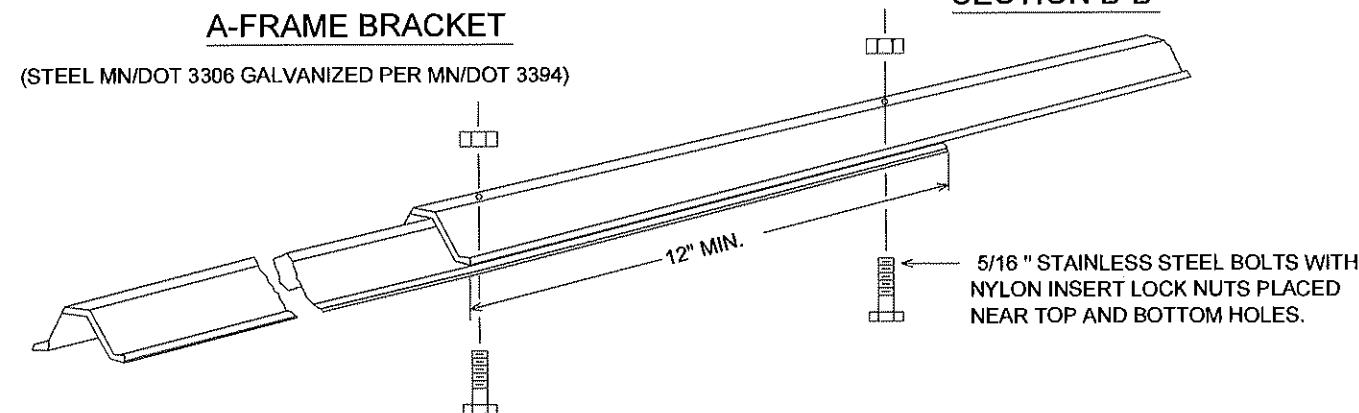


LATERAL BRACE OR STRINGER
SPlice DETAIL (EXPLODED VIEW)



A-FRAME BRACKET

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



KNEE BRACE SPLICE

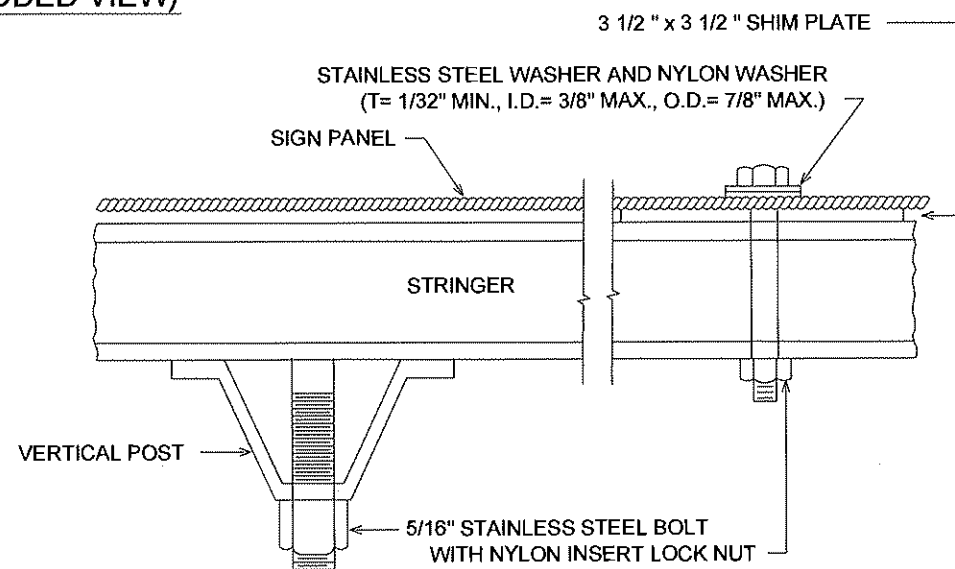
5/16" STAINLESS STEEL
BOLTS WITH NYLON
INSERT LOCK NUTS

BRACKET

VERTICAL POST

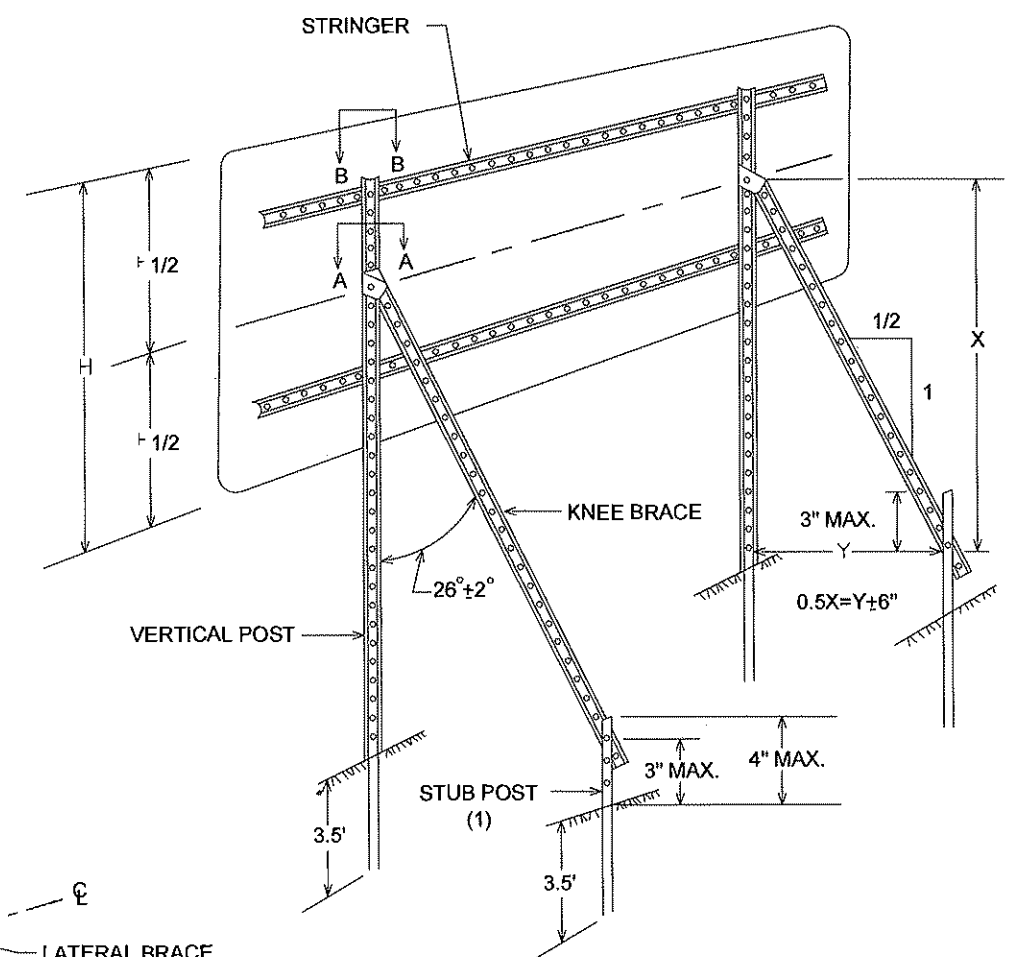
KNEE BRACE

SECTION A-A

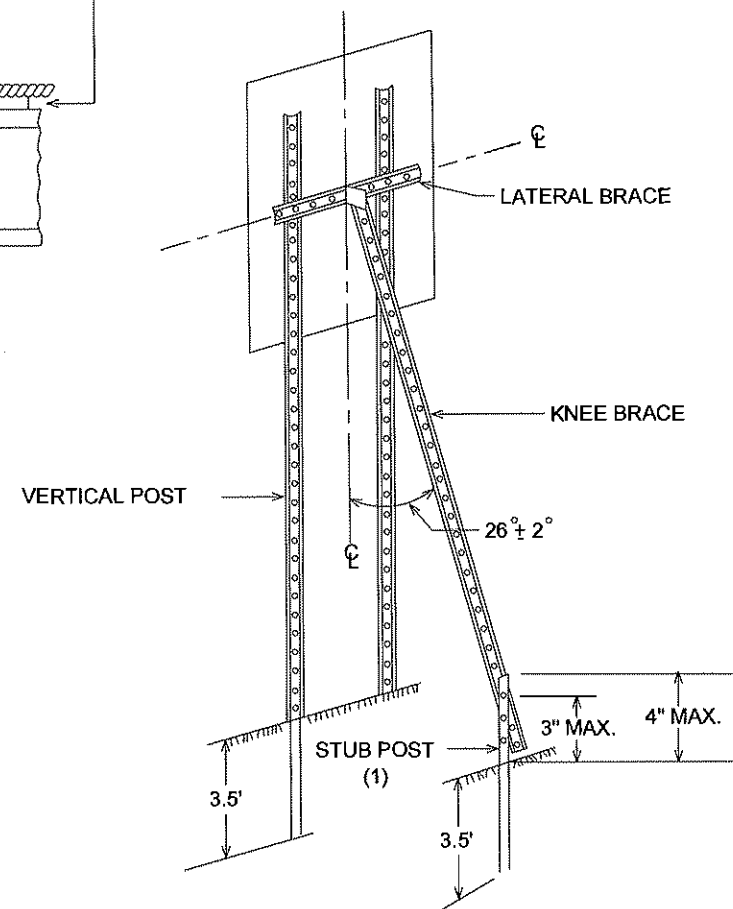


SECTION B-B

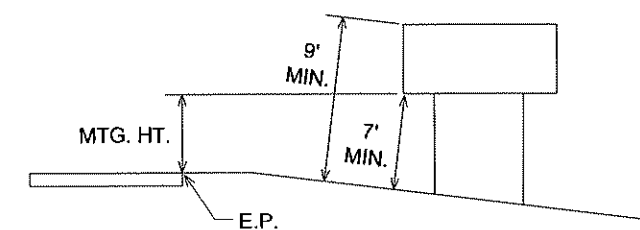
VERTICAL POST



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



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



TYPICAL MOUNTING

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

TYPE C & D SIGN
STRUCTURAL DETAILS

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-596-15\Bose\TRAFFIC\Sign&Stripe_Details.dwg

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME
OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY
LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF
THE STATE OF MINNESOTA.
PRINT NAME: CURT A. KOBIARCSIK
SIGNATURE: *Curt A. Kobilarcsik*
DATE: 5-3-12 LICENSE NO. 247546

DRAWN BY: MTH DATE: 12-01-11
DESIGN BY: MTH DATE: 12-01-11
CHECKED BY: JR DATE: 3-23-12



ANOKA COUNTY
HIGHWAY DEPT.

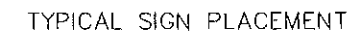
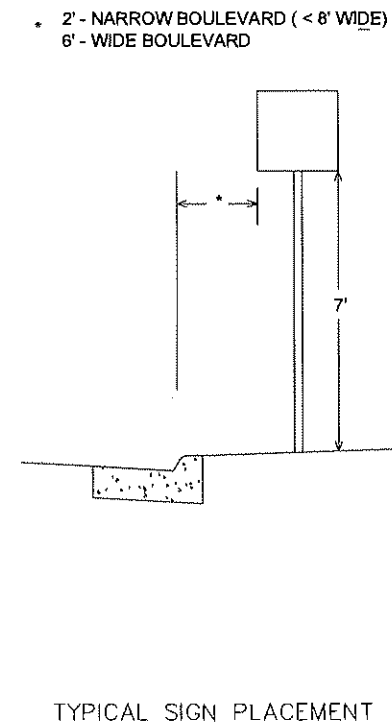
S.P. 002-596-015
S.P. 0208-147
C.P. 2012-05

SIGNING & STRIPING DETAILS

Sheet 56 of 87 Sheets

Sheet 57 of 87 Sheets

URBAN



- 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: <u>CURT A. KOBILARCSIK</u> SIGNATURE: <u><i>Curt Kobilarcsik</i></u> DATE: <u>5-3-12</u> LICENSE NO. <u>247546</u>										DRAWN BY <u>MTH</u> DATE <u>12-01-11</u> DESIGN BY <u>MTH</u> DATE <u>12-01-11</u> CHECKED BY <u>JR</u> DATE <u>3-23-12</u>										 ANOKA COUNTY HIGHWAY DEPT.										S.P. 002-596-015 S.P. 0208-147 C.P. 2012-05 ***										SIGNING & STRIPING DETAILS Sheet <u>58</u> of <u>87</u> Sheets											
<table><tr><td>NO</td><td>DATE</td><td>BY</td><td>CHKD</td><td>APPR</td><td>REVISION</td></tr><tr><td colspan="6">NAME: P:\02-596-15\Bases\TRAFFIC\Sign&Stripe_Details.dwg</td></tr></table>						NO	DATE	BY	CHKD	APPR	REVISION	NAME: P:\02-596-15\Bases\TRAFFIC\Sign&Stripe_Details.dwg																																													
NO	DATE	BY	CHKD	APPR	REVISION																																																				
NAME: P:\02-596-15\Bases\TRAFFIC\Sign&Stripe_Details.dwg																																																									

Diagram illustrating the minimum width of dual left turn lanes. The diagram shows a cross-section of a road with two left-turn lanes. The width of the lanes is labeled as "200' OR LESS" and "OVER 200'". The width of the travel lanes is labeled as "ARROWS = 8' 0"

TYPICAL MARKINGS FOR LEFT TURN ISLANDS

20°

45°

4" SOLID LINE YELLOW

24" SOLID LINE YELLOW

500' SOLID YELLOW

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. KOLBARCISK

SIGNATURE: *Curt Kolbarcisk*

DATE: 5-3-12 LICENSE NO. 247546



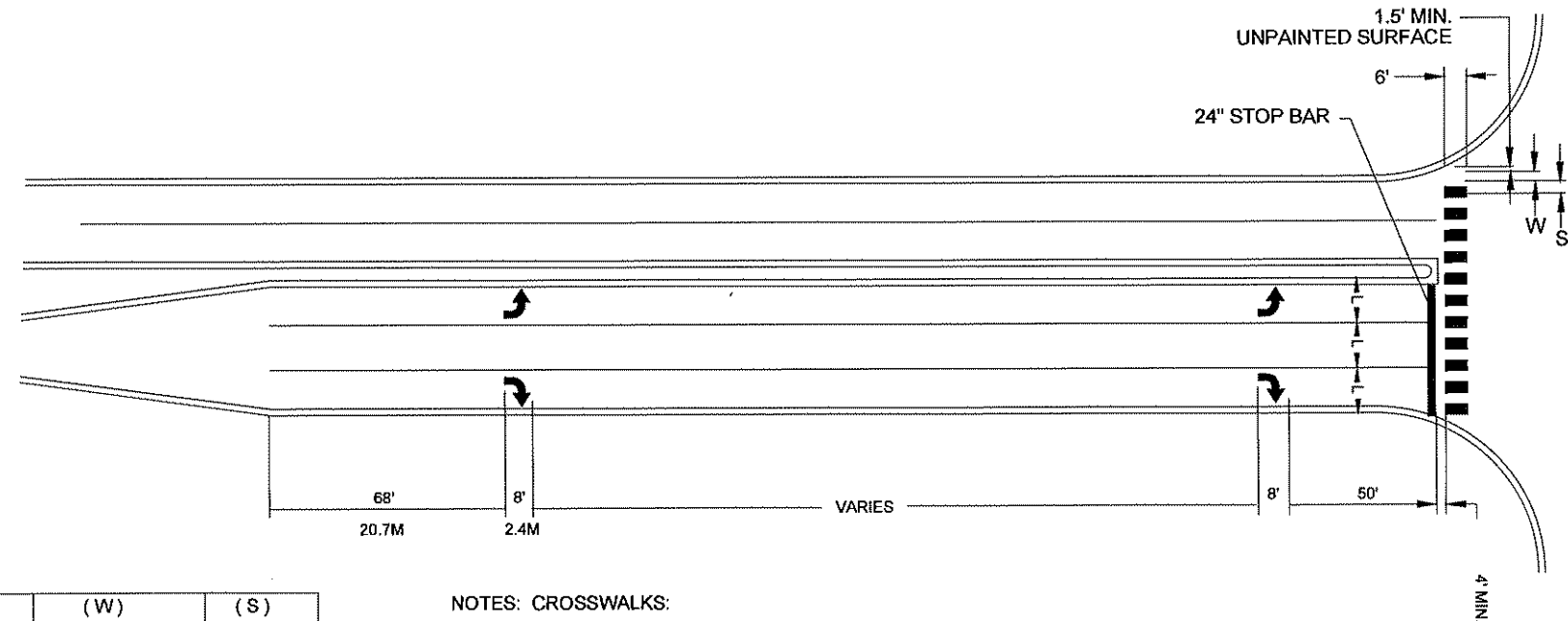
**ANOKA
COUNTY**

S.P. 002-596-015
S.P. 0208-147
C.P. 2012-05

SIGNING & STRIPING DETAILS

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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:\02-596-15\Bose\TRAFFIC\Sign&Stripe_Details.dwg

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

PRINT NAME: CURT A. KOBILARCSIK

SIGNATURE: *Curt A. Kobilarsik*

DATE: 5-3-12 LICENSE NO. 247546

DRAWN BY MTH DATE 12-01-11

DESIGN BY MTH DATE 12-01-11

CHECKED BY JR DATE 3-23-12



ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147
C.P. 2012-05

SIGNING & STRIPING DETAILS

Sheet 60 of 87 Sheets

PROJECT LOCATION AND GENERAL INFORMATION

THE ADDITIONAL IMPERVIOUS AREA FOR THIS PROJECT INCLUDES A 6.0' SHOULDER FOR THE LENGTH OF THE PROJECT, LANE DEVELOPMENT FOR LEFT AND RIGHT TURN LANES, AS WELL AS LEFT AND RIGHT TURN LANES WITH A 4.0' RAISED CONCRETE MEDIAN APPROACHING THE INTERESEION OF TH 65.

A SMALL RETENTION / SEDIMENTATON POND WILL BE CONSTRUCTED ON THE NORTH EAST CORNER OF THE PROJECT, WEST OF SANDY DRIVE NE

THIS PROJECT WILL REQUIRE THE DISTURBANCE OF 4.7 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 CITY OF EAST BETHEL STREETS DIVISION WILL BE RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT AND SNOW REMOVAL OPERATIONS ALONG THE PROPOSED WALK.

UNKNOWN NAME
CITY OF HAM LAKE PUBLIC WORKS
2375 221ST AVENUE NORTHEAST
EAST BETHEL, MN 55011
OFFICE - (763) 367 -7875

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		
DNR PROTECTED WETLAND 439-W CEDAR CREEK	NO	NO

DISTURBED SOIL AREA

TOTAL DISTURBED SOILS AREA FOR THIS PROJECT IS 4.7 ACRES

IMPERVIOUS SOIL AREA

EXISTING AREA OF IMPERVIOUS SURFACE IS 1.57 ACRES.
POST CONSTRUCTION AREA OF IMPERVIOUS SURFACE 2.91 ACRES.

SOIL TYPES

THE PREDOMINANT SOIL TYPE FOUND ON THIS PROJECT IS SAND.

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 VEGATION 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 14 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 LESS THEN 1 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
DNR	NOT REQUIRED		
COE	NOT REQUIRED		
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 5/12	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. STREET SWEEPING MUST BE USED IF SEDIMENT IS BEING TRACKED OFF THE CONSTRUCTION SITE

POLLUTION PREVENTION 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 MAY ALSO REQUIRE DNR PERMIT. NO DEWATERING IS ANTICIPATED FOR THIS PROJECT
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:\02-596-15\plan\0259614_SWPPP.dgn						04/30/2012	1:46:19 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. KOBILARCSIK
SIGNATURE: 
DATE: 5-3-12 LICENSE NO. 24756

DRAWN BY NJD DATE 2-16-12
DESIGN BY NJD DATE 11-21-11
CHECKED BY JEO DATE 2-21-12



ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
C.P. 0208-147 (TH 65 = 005)
C.P. 2012-05

SWPPP NARRATIVE

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Training	
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Individual revising or amending the SWPPP and individuals performing inspections must fill in the following table.

Name of on-site personel trained	
Dates of training	
Name of instructor(s)	
Entity providing training	
Content of training course or workshop	

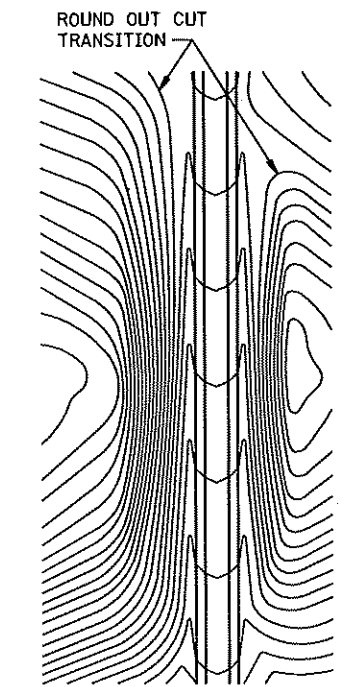
Amending the SWPPP

The SWPPP must be amended to record changes or modifications to permanent BMP's or other storm water treatment systems and removals of temporary BMP's. Changes to temporary BMP's may be recorded on this sheet. Include a brief description of the problem, location, nature of alteration, and comments. This record is to be retained for three years after project completion.

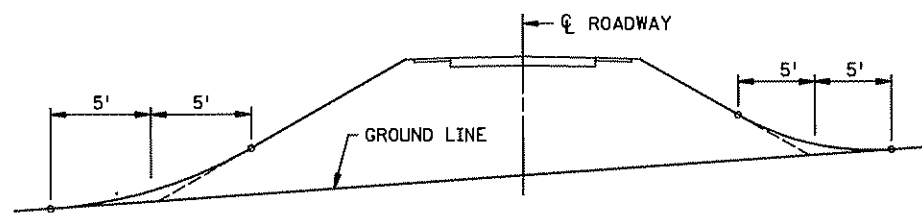
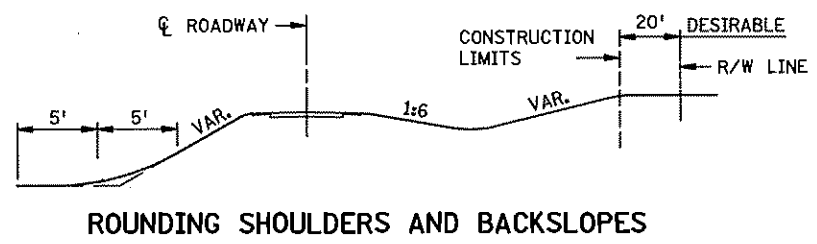
Date Reported	Plan Location (sheet)	Project Location (station)	Problem, solution, and notes

						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: <u>CURT A. KOBILARCSIK</u> SIGNATURE: <u><i>Curt Kobilarcsik</i></u> DATE: <u>5-3-12</u> LICENSE NO. <u>24758</u>		DRAWN BY <u>NJD</u> DATE <u>2-16-12</u> DESIGN BY <u>NJD</u> DATE <u>11-21-11</u> CHECKED BY <u>JEO</u> DATE <u>2-21-12</u>		 ANOKA COUNTY HIGHWAY DEPT.		S.P. 002-596-015 S.P. 0208-147 (TH 65 = 005) C.P. 2012-05 ***		SWPPP NARRATIVE									
<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 colspan="5">NAME: p:\02-596-15\plan\0259614 SWPPP.dgn</td> <td>04/30/2012 1:46:20 PM</td> </tr> </tbody> </table>						NO	DATE	BY	CKD	APPR	REVISION	NAME: p:\02-596-15\plan\0259614 SWPPP.dgn					04/30/2012 1:46:20 PM					Sheet <u>62</u> of <u>87</u> Sheets	
NO	DATE	BY	CKD	APPR	REVISION																		
NAME: p:\02-596-15\plan\0259614 SWPPP.dgn					04/30/2012 1:46:20 PM																		

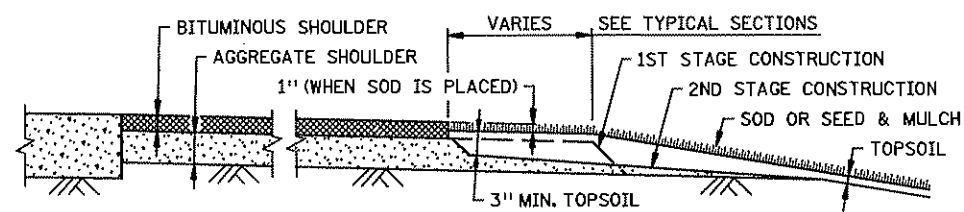
PLOTTED/REVISED:
04/30/2012



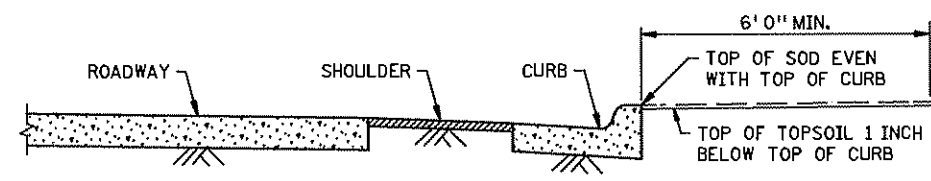
CONTOURING ROAD CUTS



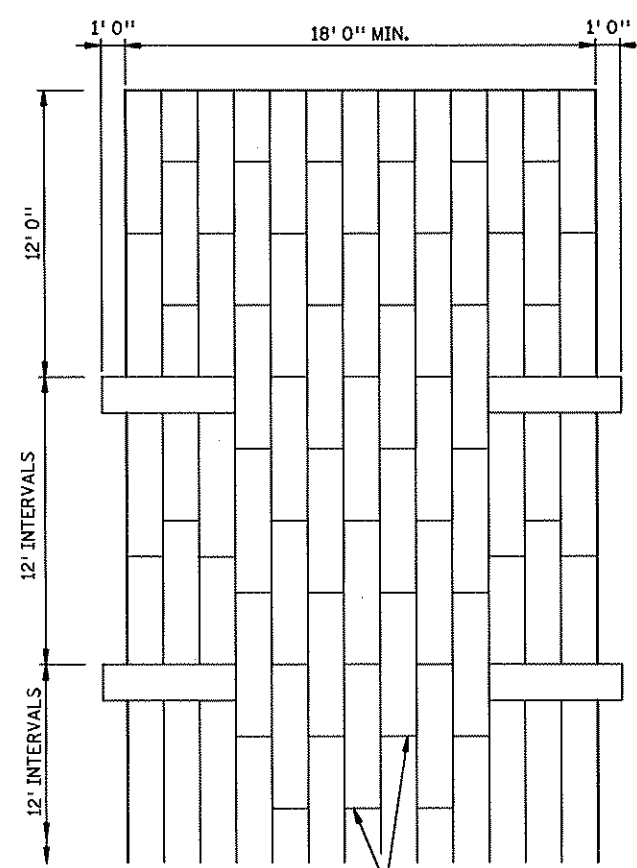
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



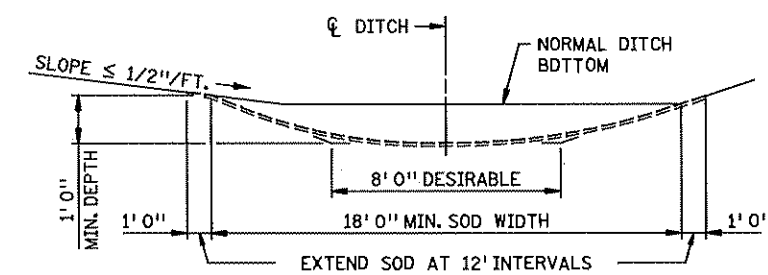
SHAPING AND TOPSOILING INSLOPES



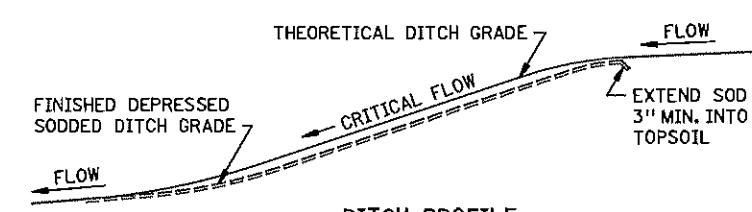
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



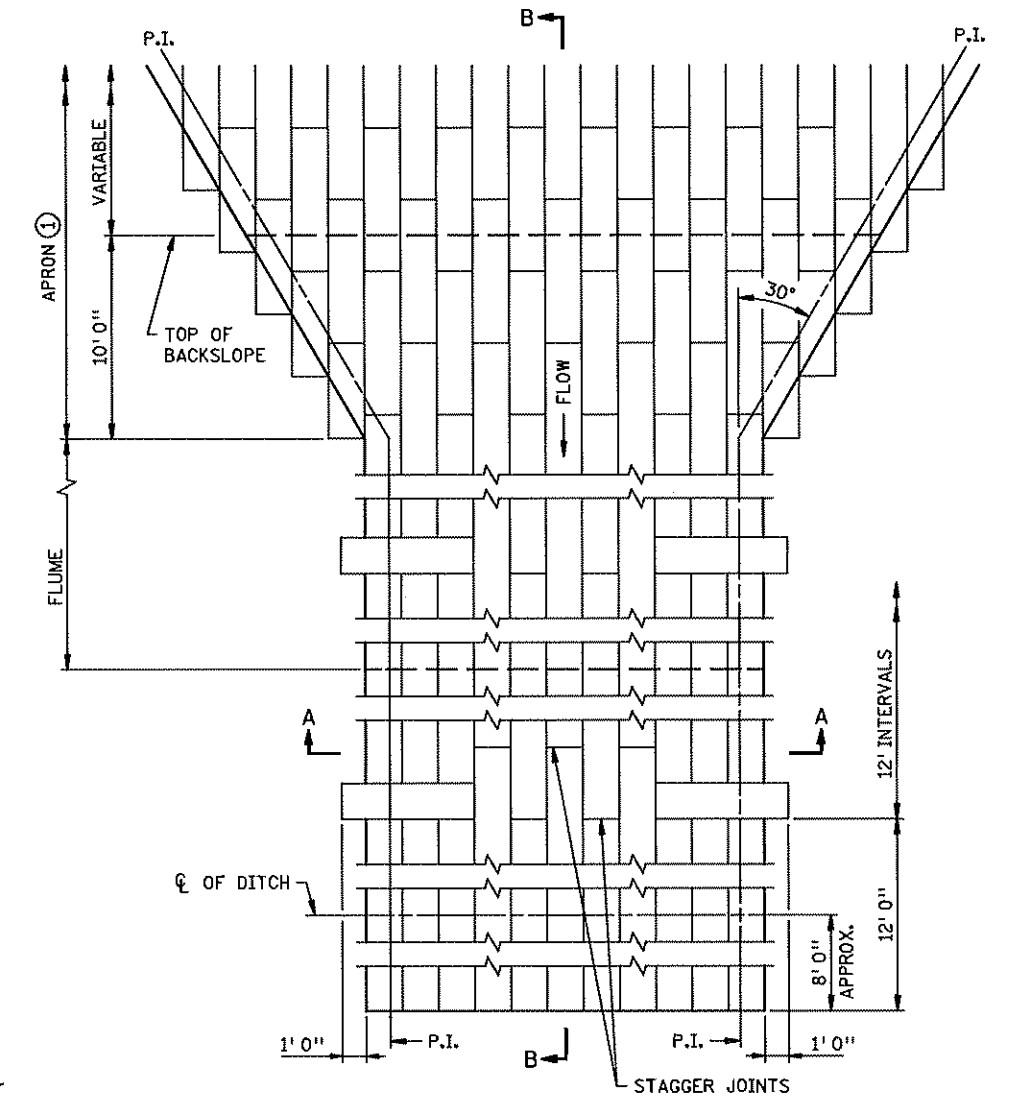
PLAN VIEW



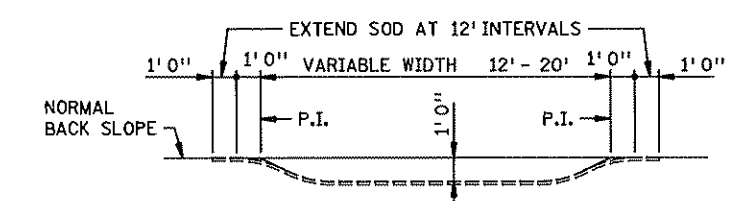
SODDED DITCH CROSS SECTION
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.),
FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



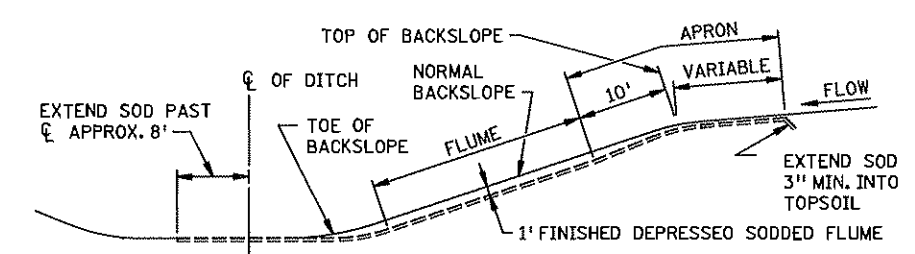
DITCH PROFILE
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A

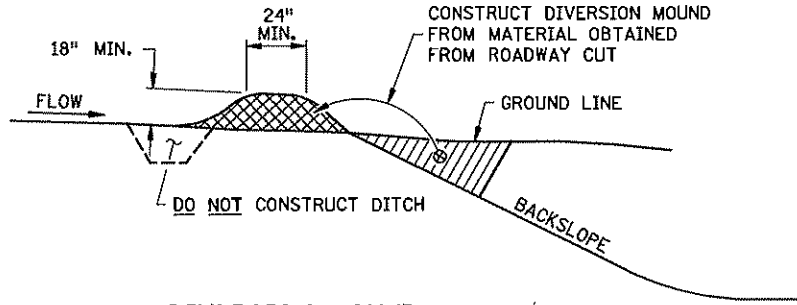


SECTION B-B
SODDED FLUME DETAILS

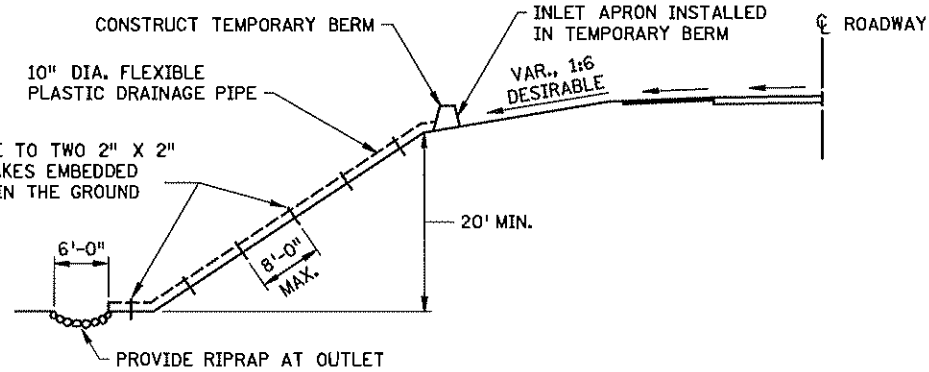
NOTES:
SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
① CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

STANDARD SHEET NO. 5-297.404	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED: NOVEMBER 20, 2002	
S.P. 002-596-015	SHEET NO. 63 OF 87 SHEETS

FILE NAME:
p:\02-596-015\plan\404.J_sprndgn

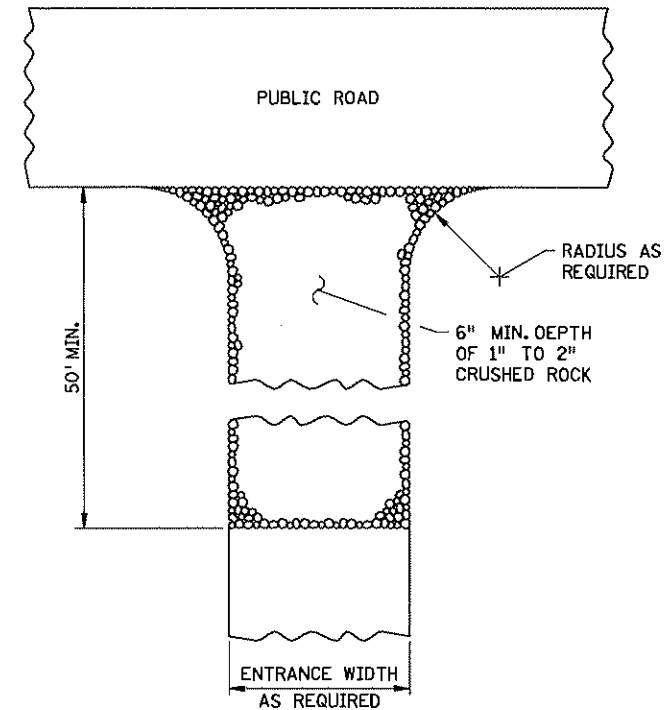


DIVERSION MOUND
DESIGN GUIDELINES:
STORM FREQUENCY: 10 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 5 ACRES
MAXIMUM DIVERSION: GRADE 5%

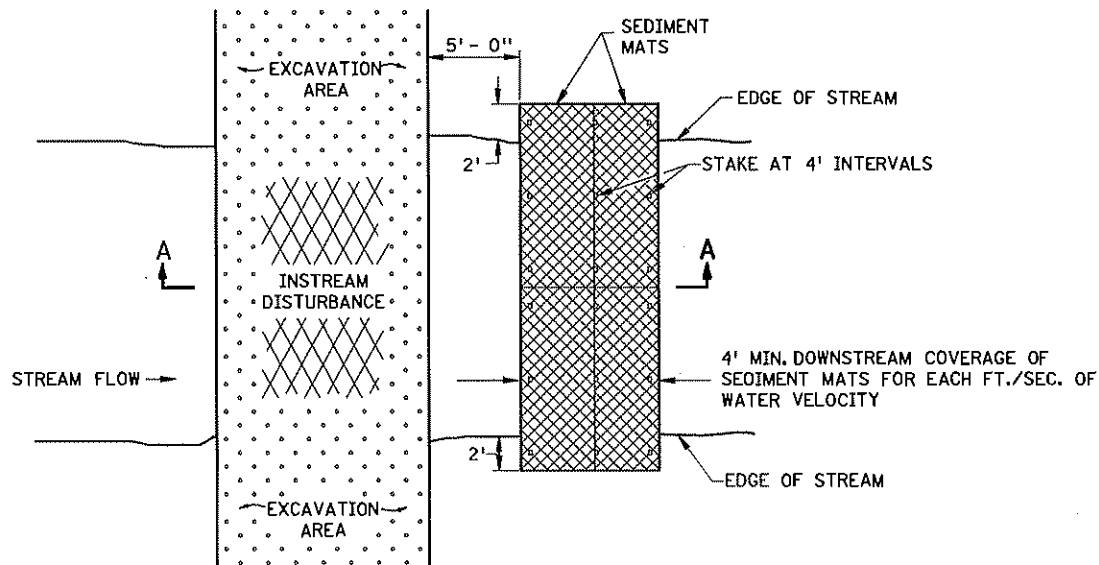


TEMPORARY DOWN DRAIN ON FILL SLOPE

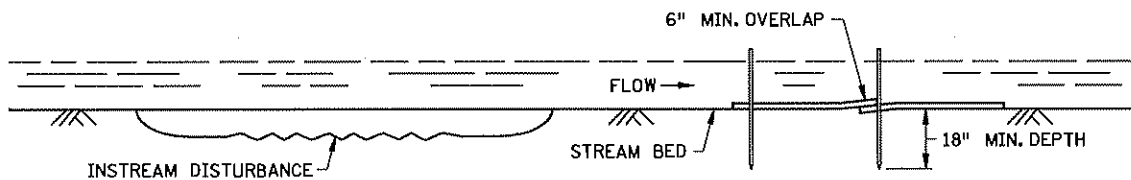
DESIGN GUIDELINES:
STORM FREQUENCY: 2 YEAR - 24 HOUR
MAXIMUM DRAINAGE AREA: 3 ACRES



ROCK CONSTRUCTION ENTRANCE ①



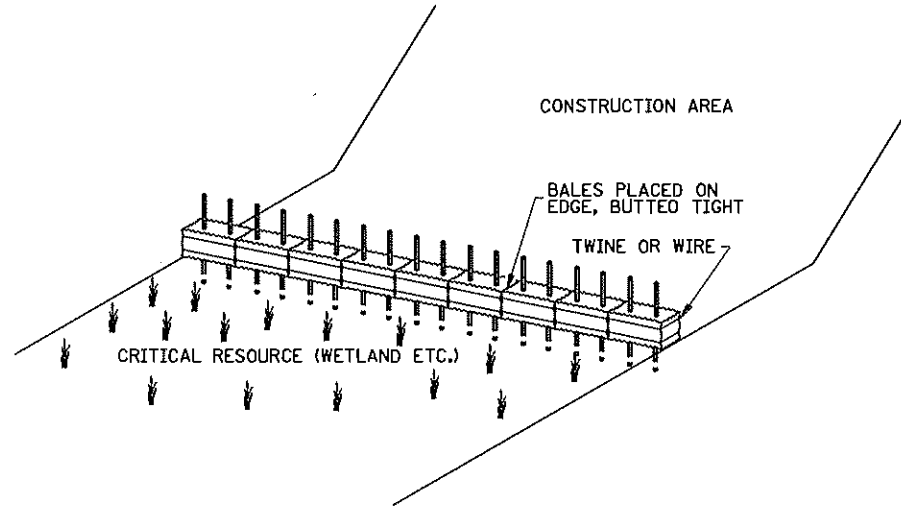
PLAN VIEW



SECTION A-A

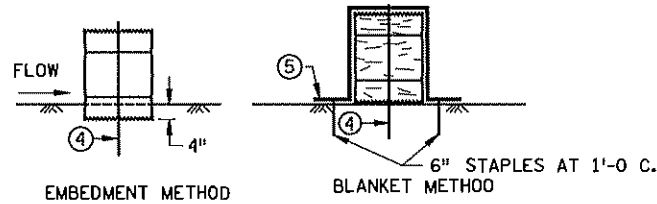
SEDIMENT MAT ⑥
TYPICAL STREAM BED INSTALLATION

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



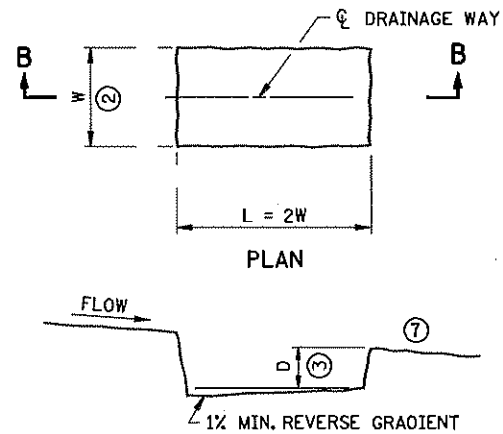
BALE BARRIERS

TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS



BALE BARRIER DETAIL

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



SECTION B-B
SEDIMENT TRAP DETAIL

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.

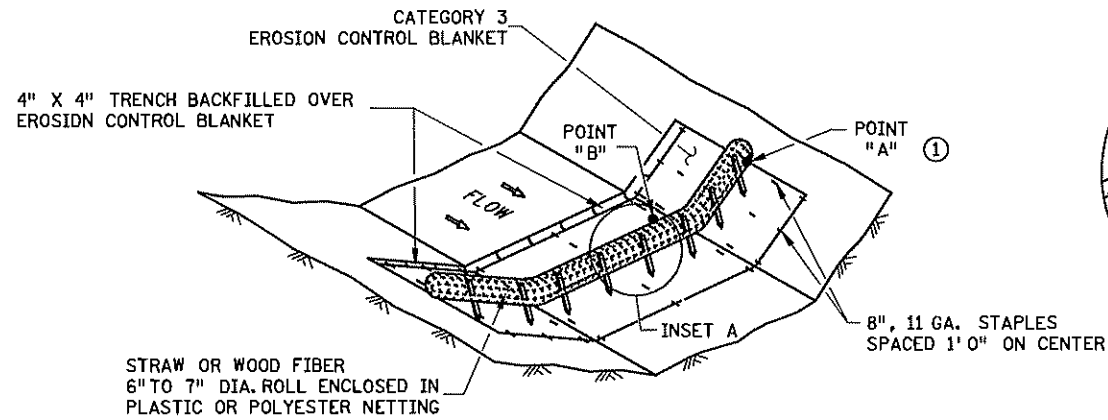
STANDARD SHEET NO.
5-297.405 (2 OF 4)

STANDARD APPROVED:
MARCH 29, 2012

S.P. 002-596-015

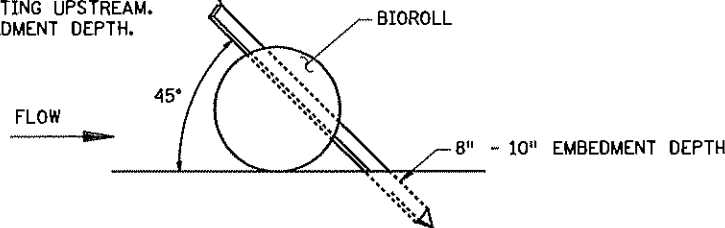
TEMPORARY SEDIMENT CONTROL
MISCELLANEOUS DETAILS

SHEET NO. 64 OF 87 SHEETS

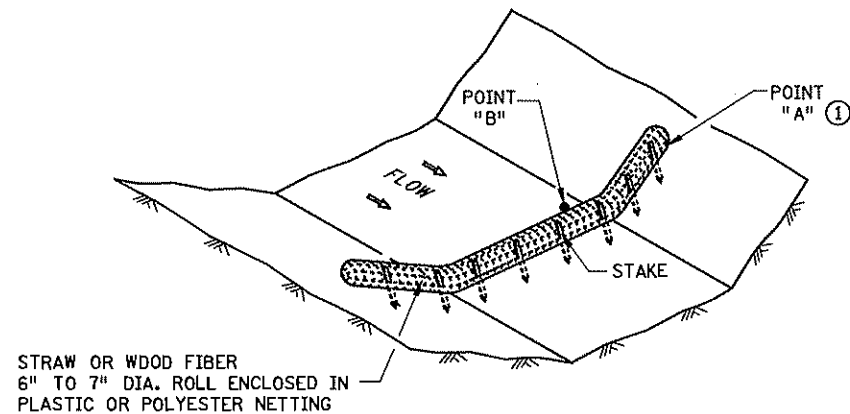


TYPE 3: BIOROLL BLANKET SYSTEM DITCH CHECK

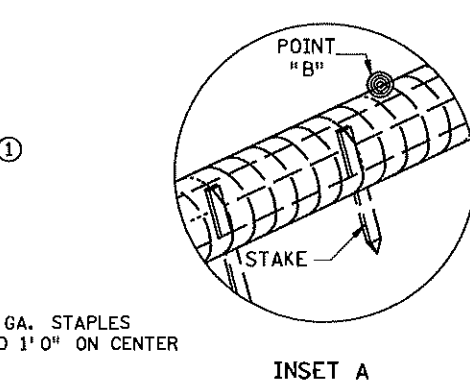
1" X 2" X 18" LONG WOODEN STAKES AT 1' 0" SPACING MAXIMUM. STAKES SHALL BE DRIVEN THROUGH THE BACK HALF OF THE BIOROLL AT AN ANGLE OF 45 DEGREES WITH THE TDP OF THE STAKE POINTING UPSTREAM. PROVIDE 8" TO 10" OF EMBEDMENT DEPTH.



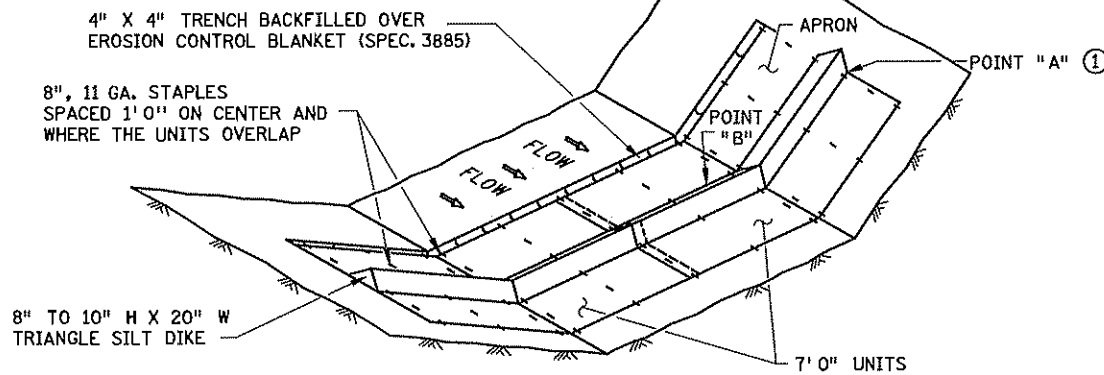
BIOROLL STAKING DETAIL



TYPE 2: BIOROLL DITCH CHECK
USE ON ROUGH GRADED AREAS

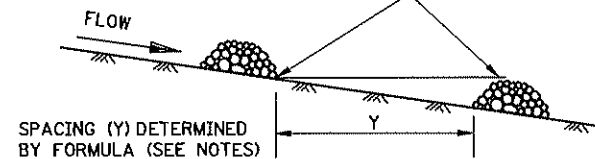


INSET A

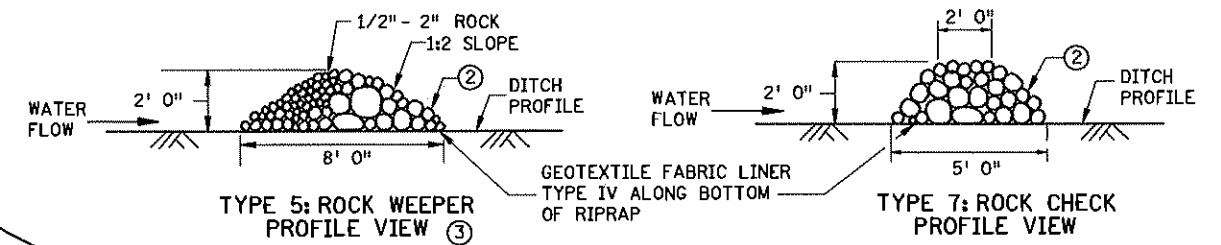
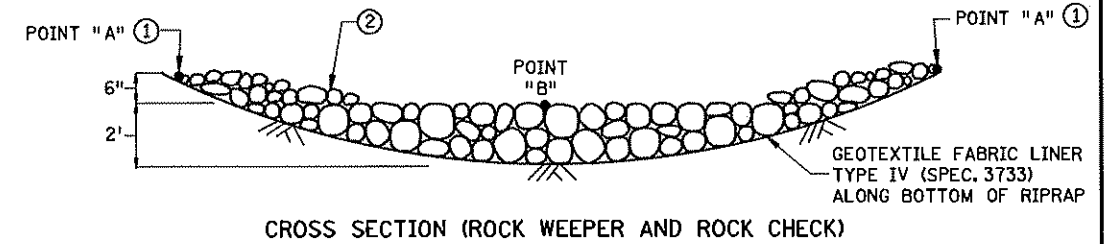


TYPE 6: GEOTEXTILE TRIANGULAR DIKE DITCH CHECK

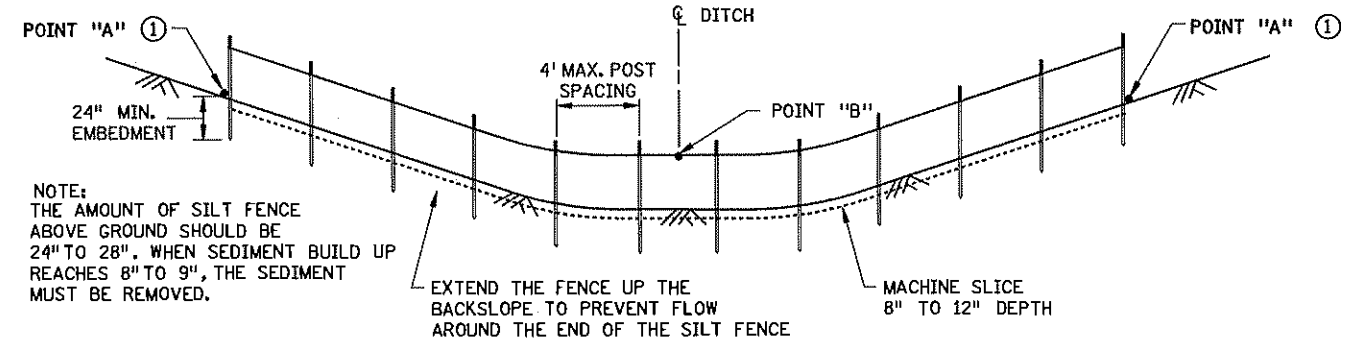
BOTTOM OF UPPER CHECK SHOULD BE SAME ELEVATION AS THE TOP OF THE LOWER CHECK TO PROVIDE FOR POOLING.



DITCH CHECK SPACING ④



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:

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

- 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

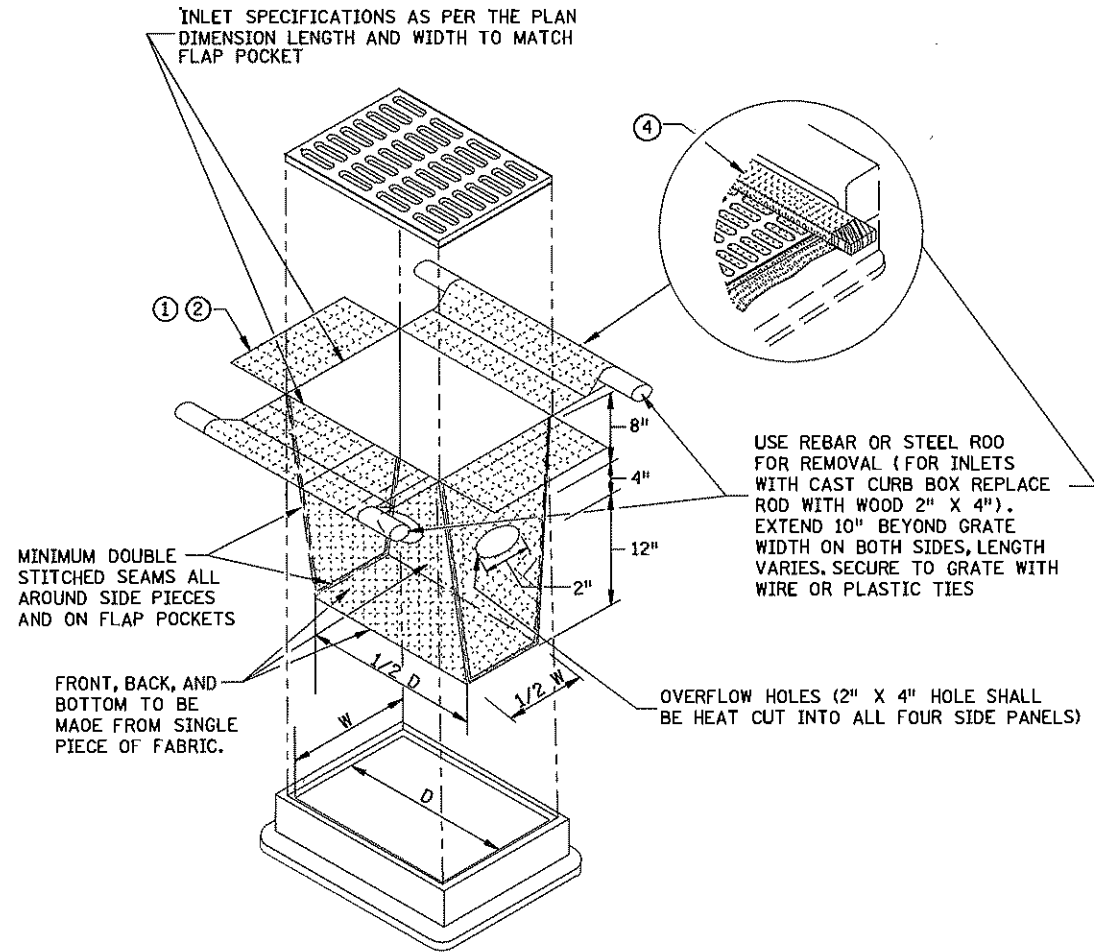
STANDARD SHEET NO.
5-297.405 (3 OF 4)

STANDARD APPROVED:
MARCH 29, 2012

S.P. 002-596-015

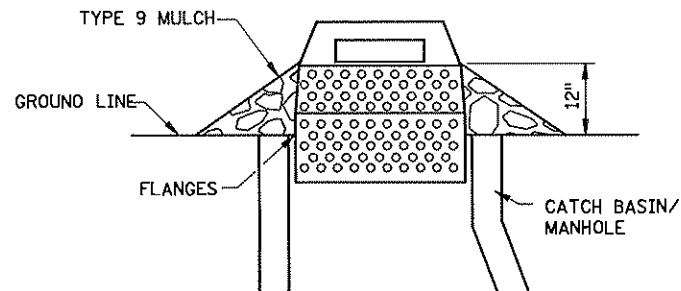
**TEMPORARY SEDIMENT CONTROL
DITCH CHECK/BARRIER**

SHEET NO. 65 OF 87 SHEETS



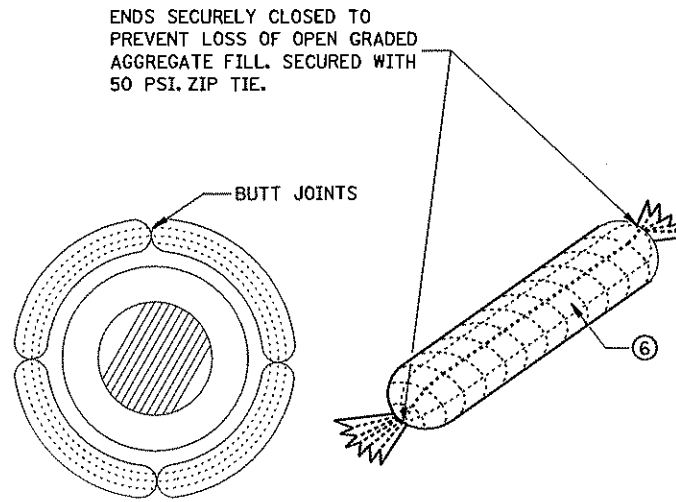
FILTER BAG INSERT ③

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

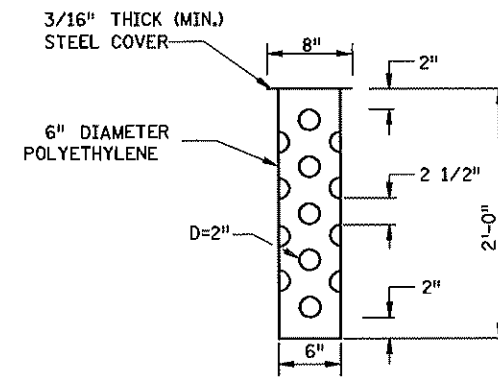


SEDIMENT CONTROL INLET HAT

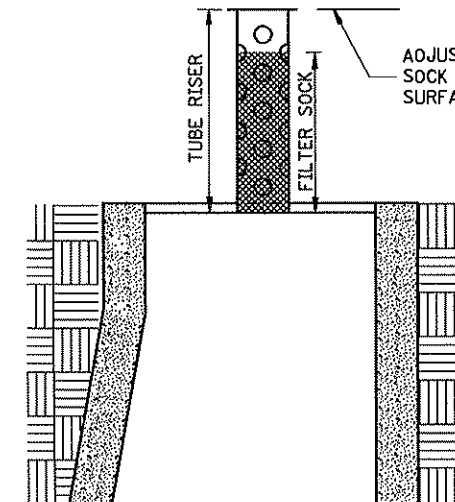
NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.



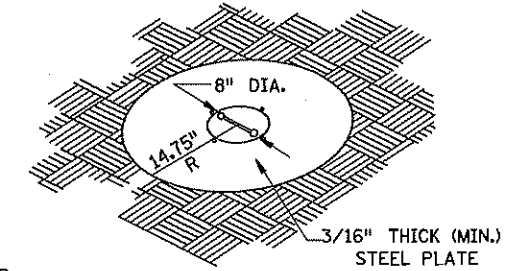
ROCK LOG/COMPOST LOG



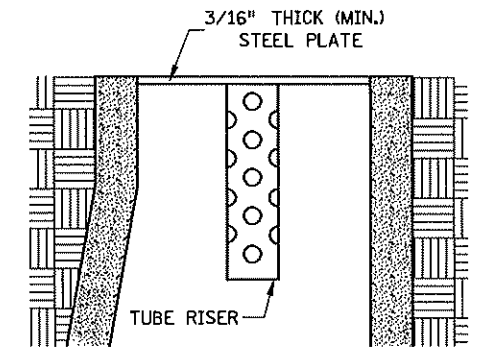
TUBE RISER



SECTION (UP POSITION)

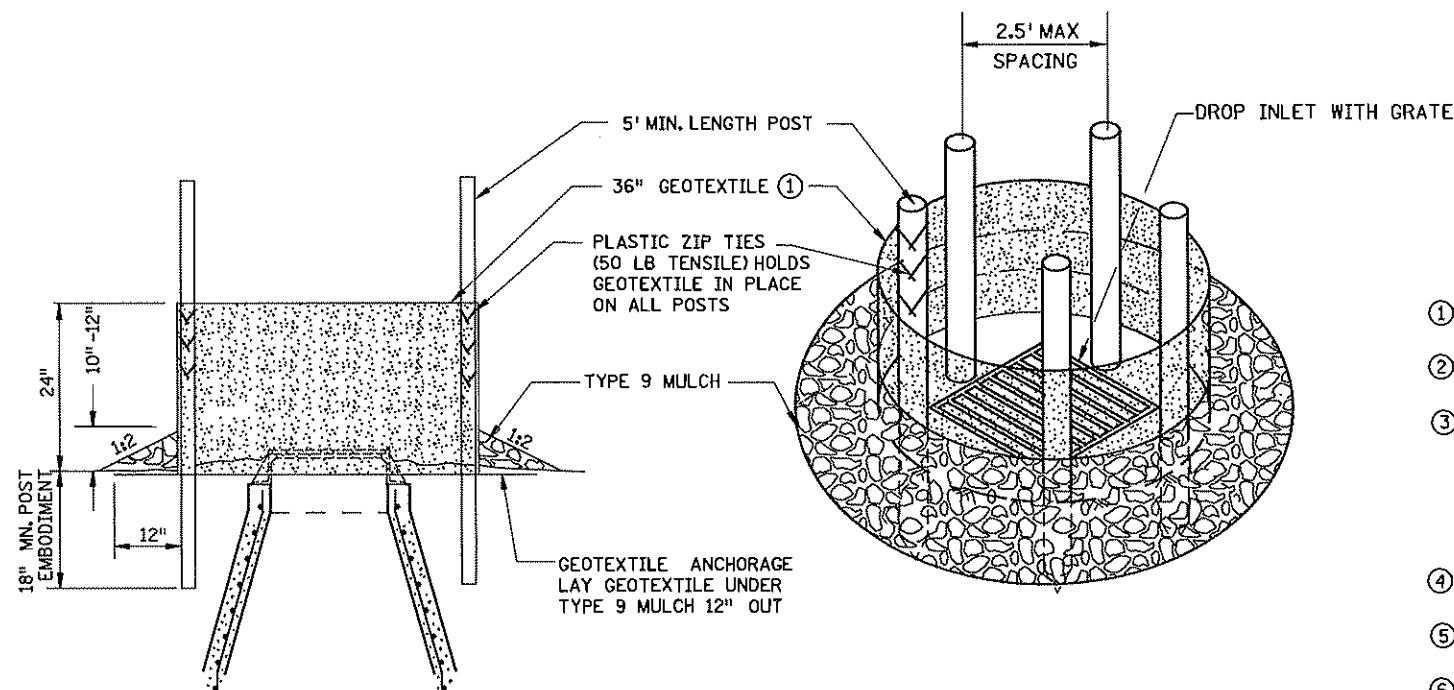


PERSPECTIVE VIEW



SECTION (DOWN POSITION)

POP-UP HEAD



SILT FENCE RING AND ROCK FILTER BERM
USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS

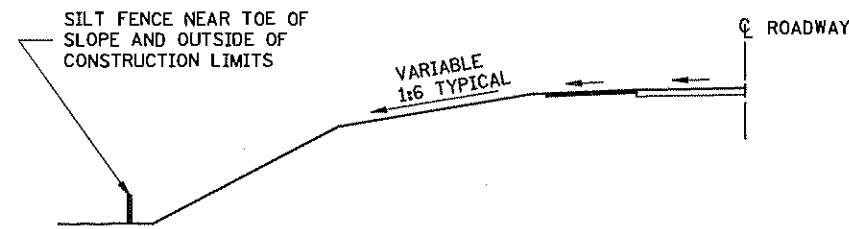
NOTES:

SEE SPECS. 2573, 3137, 3886 & 3891.

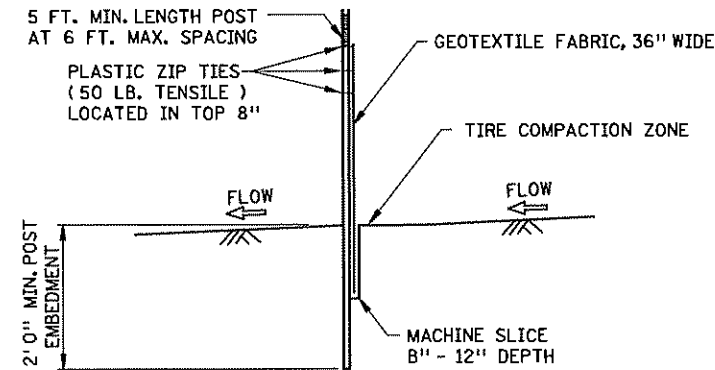
MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.

- 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.

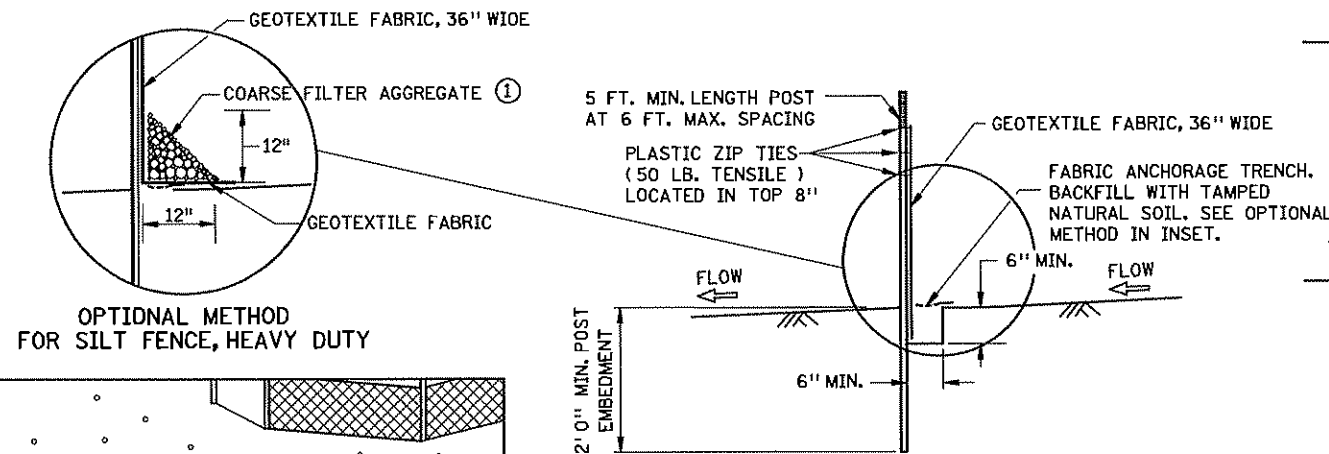
STANDARD SHEET NO. 297.405 (4 OF 4)	TITLE: TEMPORARY SEDIMENT CONTROL STORM DRAIN INLET PROTECTION
STANDARD APPROVED: MARCH 29, 2012	
S.P. 002-596-015	SHEET NO. 66 OF 87 SHEETS



LOCATION OF SILT FENCE
 AT TOE OF ROADWAY EMBANKMENT

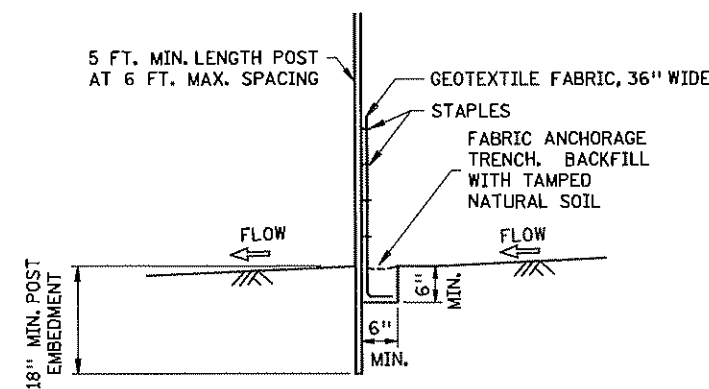


SILT FENCE, MACHINE SLICED
 DESIGN GUIDELINES:
 TO PROTECT AREAS FROM SHEET FLOW.
 MAXIMUM CONTRIBUTING AREA: 1 ACRE.



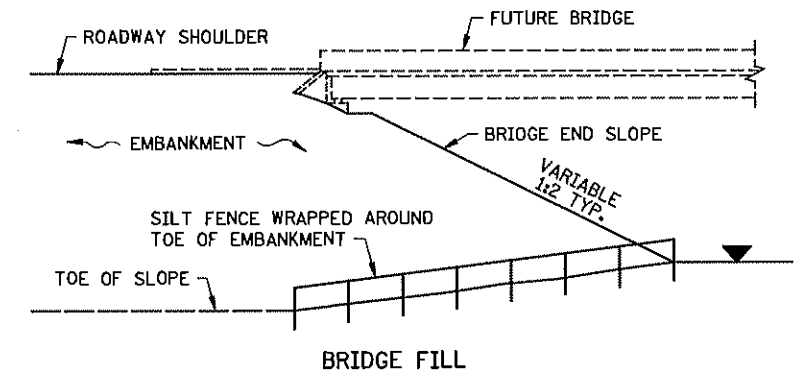
SILT FENCE, HEAVY DUTY
 (HAND INSTALLED)

DESIGN GUIDELINES:
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 MAXIMUM CONTRIBUTING AREA: 1 ACRE.

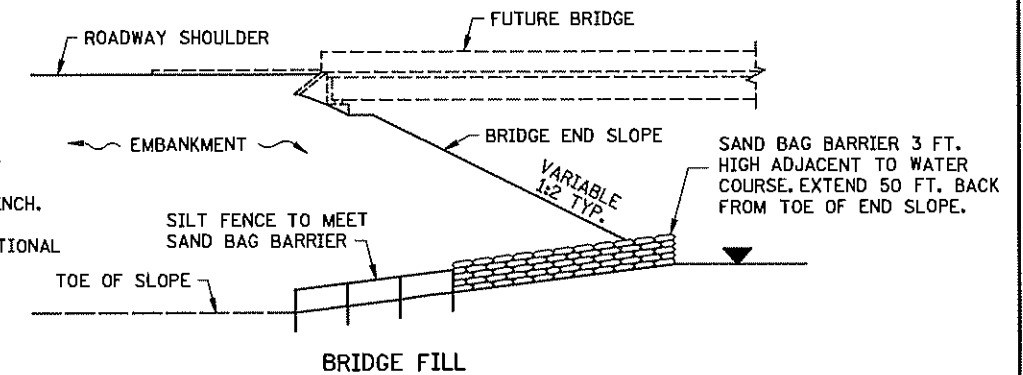


SILT FENCE, PREASSEMBLED

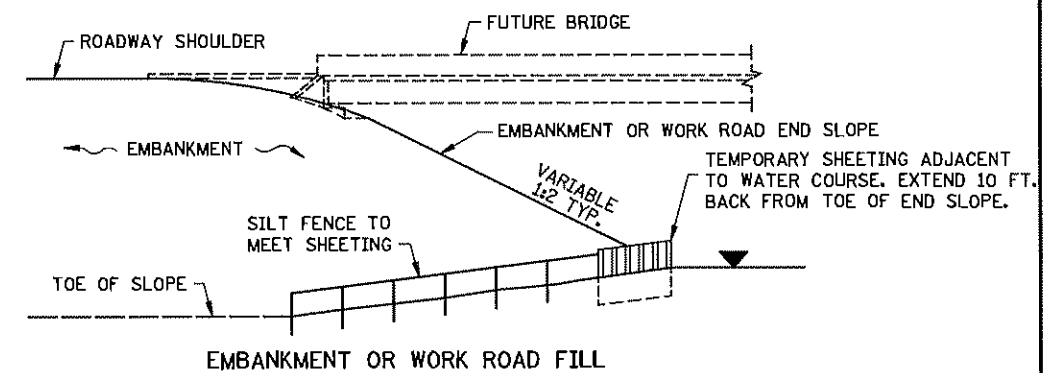
DESIGN GUIDELINES:
 TO PROTECT AREAS FROM SHEET FLOW.
 MAXIMUM CONTRIBUTING AREA: 1 ACRE.



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



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



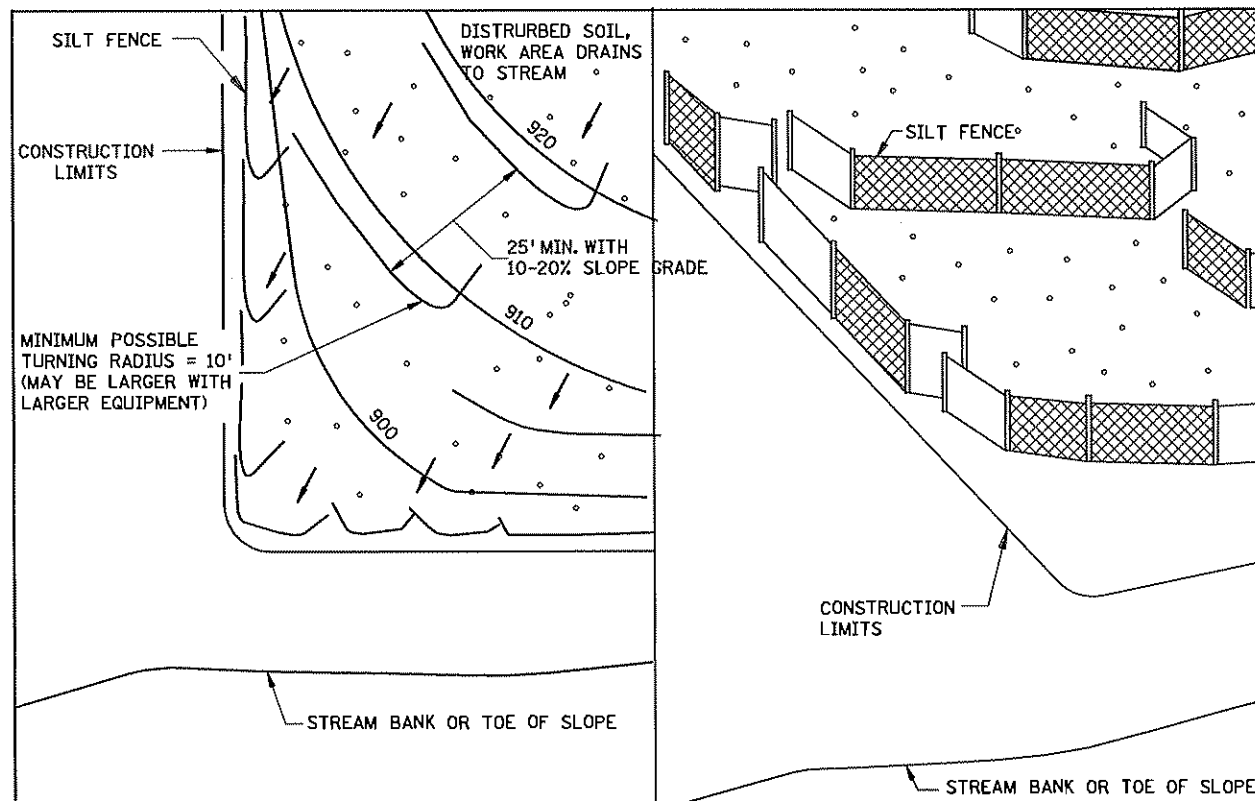
DESIGN GUIDELINES:
 WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC.
 CONTRIBUTING SLOPE AREA: 3 ACRES

SILT FENCE AT BRIDGE EMBANKMENT ADJACENT TO WATER

NOTES:

SEE SPECS. 2573, 3149 & 3886.

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

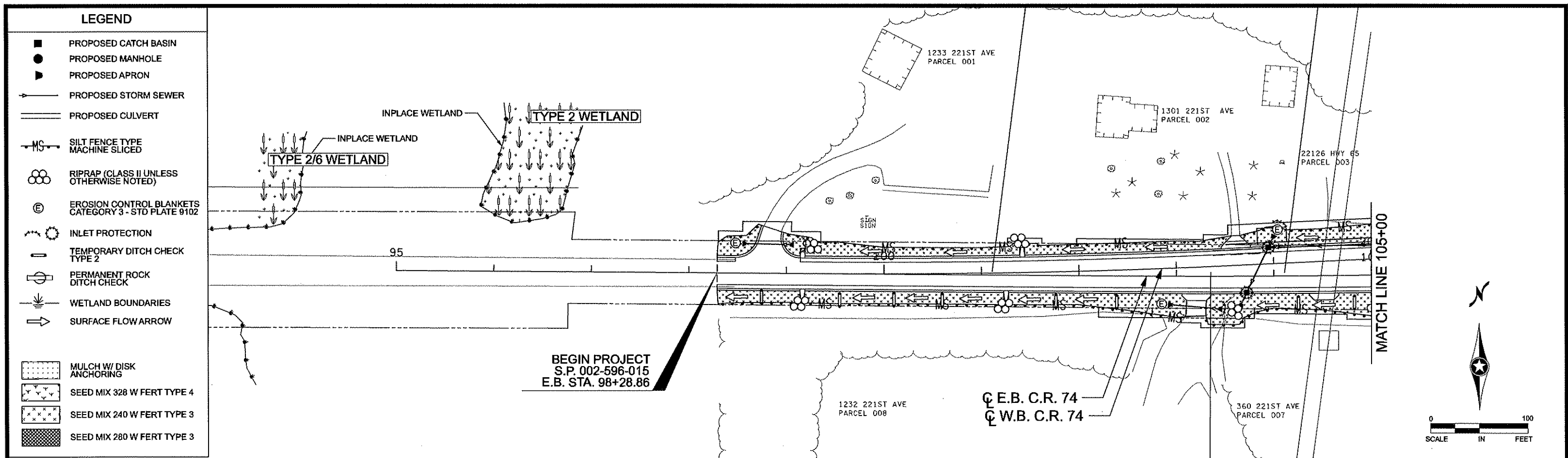


PLAN VIEW

SIDE VIEW

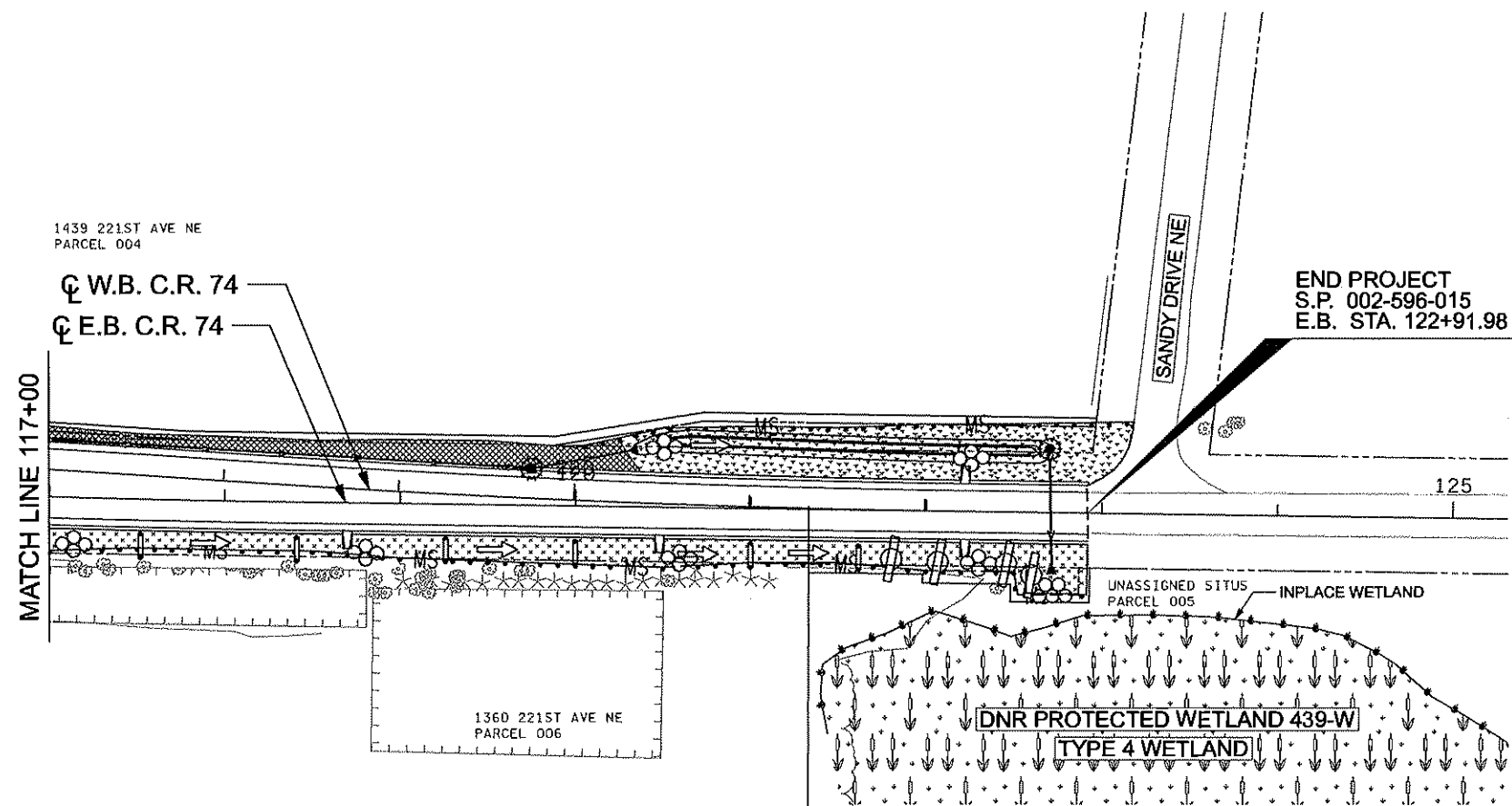
SILT FENCE, J-HOOK INSTALLATION

STANDARD SHEET NO. 5-297.408 (1 OF 2)	TITLE: TEMPORARY SEDIMENT CONTROL SILT FENCE
STANDARD APPROVED: SEPTEMBER 27, 2006	
S.P. 002-596-015	SHEET NO. 67 OF 87 SHEETS



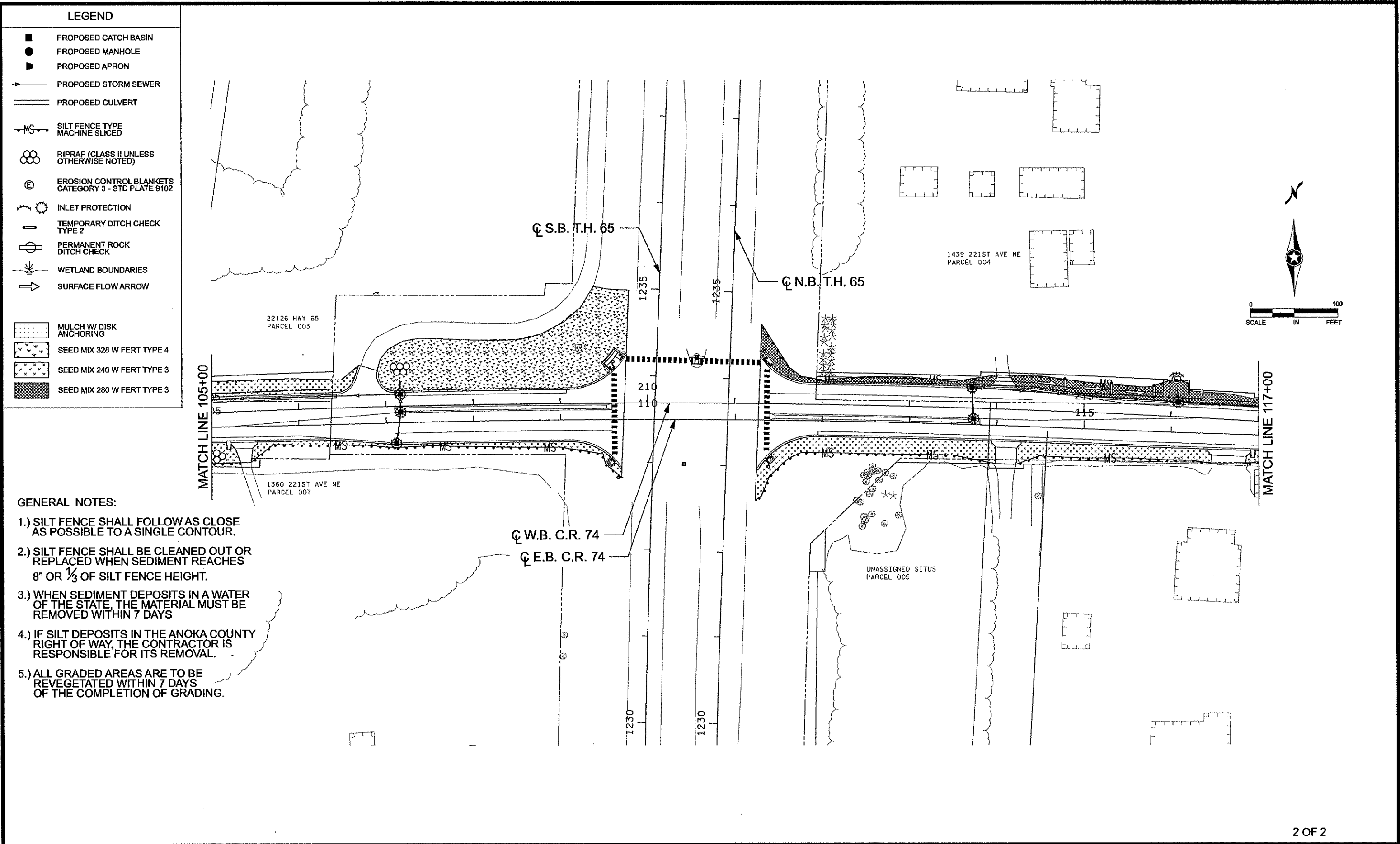
GENERAL NOTES:

- 1.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE TO 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 7 DAYS OF THE COMPLETION OF GRADING.

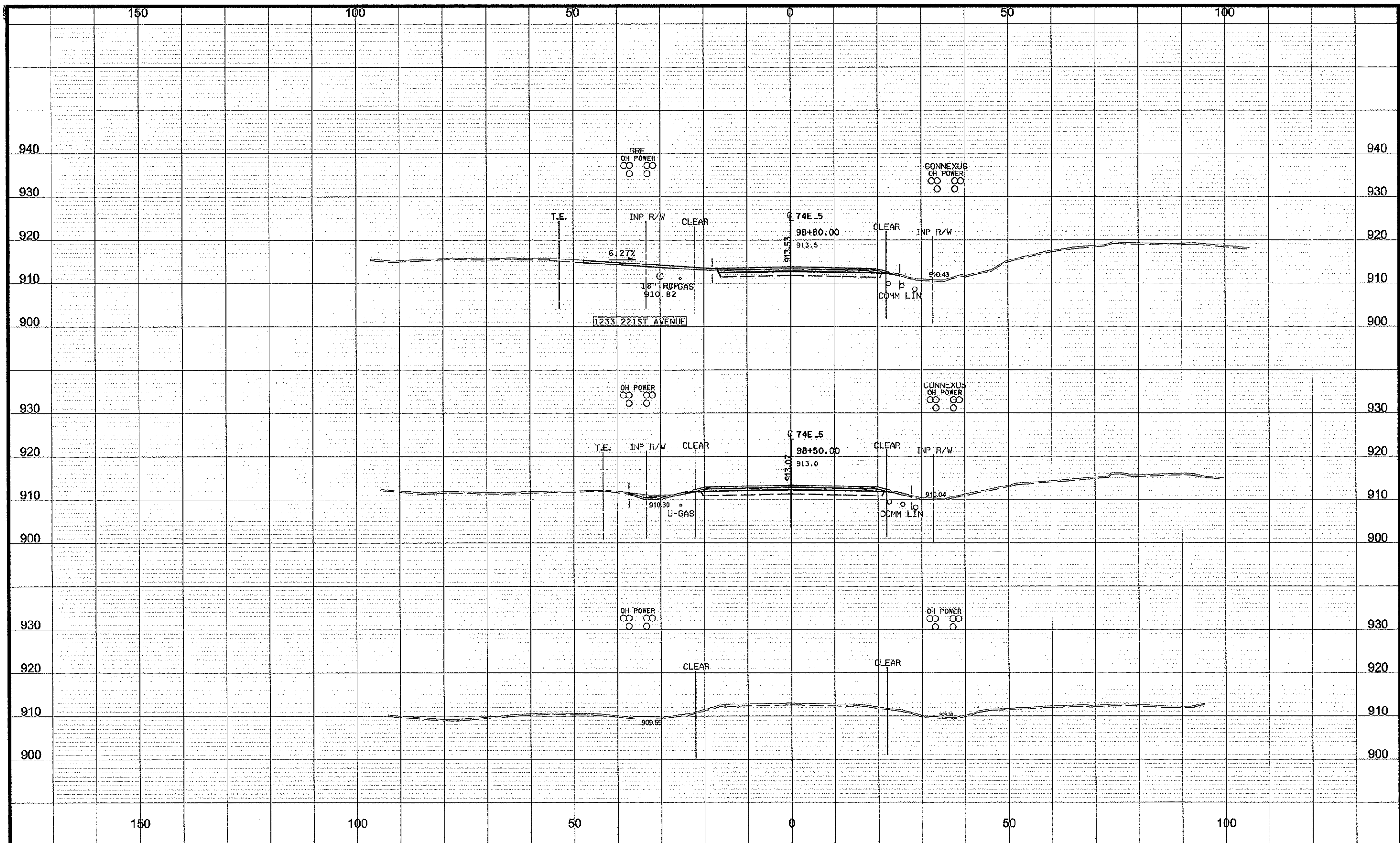


1 OF 2

NO DATE BY OKD APPR REVISION NAME: p102-596-15\plan\0259615_EC_P1.dgn 04/30/2012 1:48:39 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. KOBIARCSIK SIGNATURE: <i>Curt Kobiarcsik</i> DATE: 5-3-12 LICENSE NO. 24756		DRAWN BY: NJD DATE: 2-16-12 DESIGN BY: NJD DATE: 11-21-11 CHECKED BY: JEQ DATE: 2-21-12		ANOKA COUNTY HIGHWAY DEPT.		S.P. 002-596-015 S.P. 0208-147 (TH 65 = 005) C.P. 2012-05 ***		EROSION CONTROL PLAN STA 97+00.00 TO 105+00.00 STA 117+00.00 TO 123+00.00 Sheet 68 of 87 Sheets	
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NAME: p:\02-596-15\plan\0259615_EC_P2.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. KOBILARCSIK SIGNATURE: <i>Curt Kobilarsik</i> DATE: 5-3-12 LICENSE NO. 24756						DRAWN BY: NJD DATE: 2-16-12 DESIGN BY: NJD DATE: 11-21-11 CHECKED BY: JEO DATE: 2-21-12						ANOKA COUNTY HIGHWAY DEPT.						S.P. 002-596-015 S.P. 0208-147 (TH 65 = 005) C.P. 2012-05 ***						EROSION CONTROL PLAN STA 105+00.00 TO 117+00.00 Sheet 69 of 87 Sheets					
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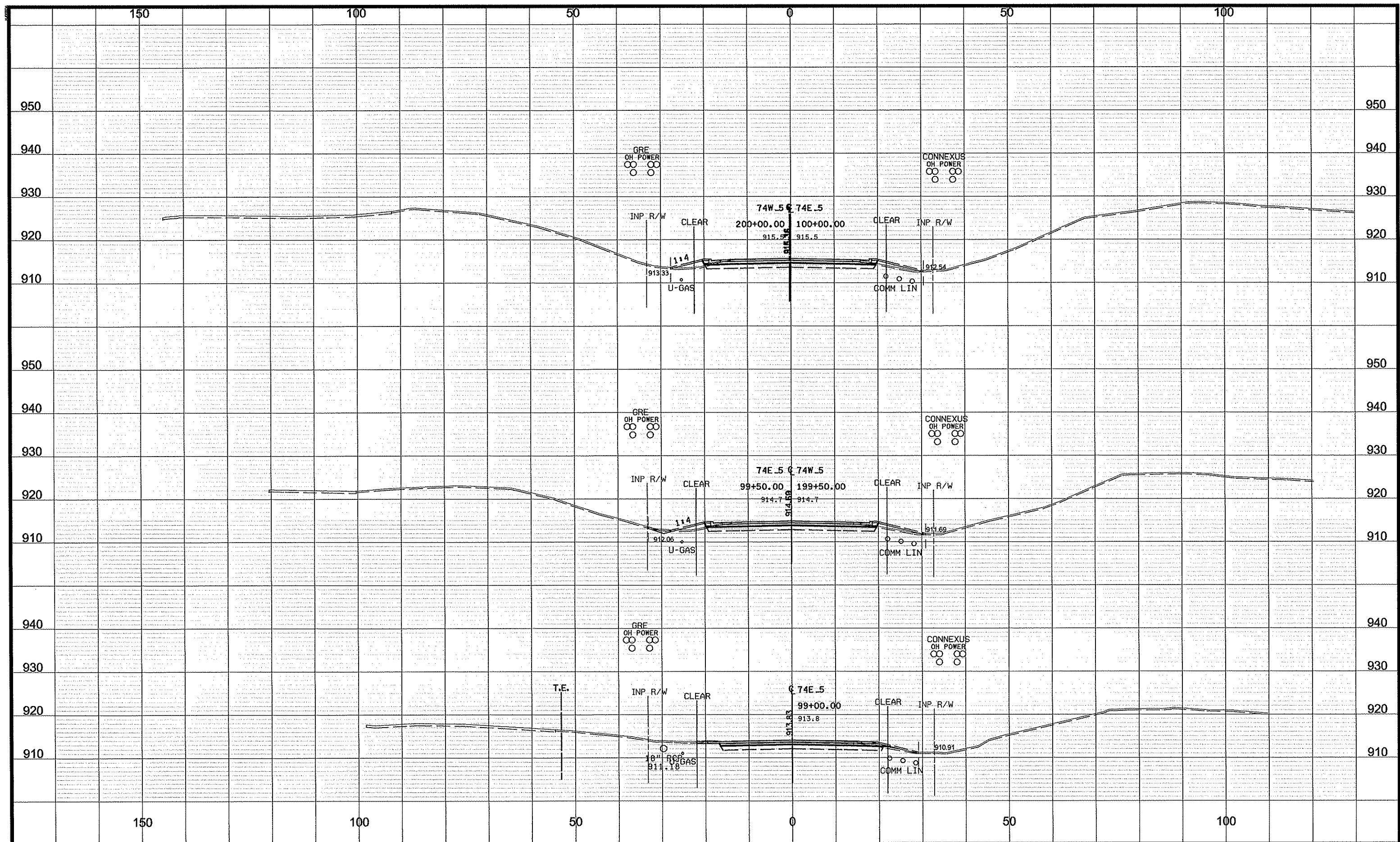
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DESIGN BY NJD DATE 11-21-11
CHECKED BY JEO DATE 2-21-12



ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147 (TH 65 = 005)
C.P. 2012-05

CROSS SECTIONS
STA 98+30.00 TO 98+80.00
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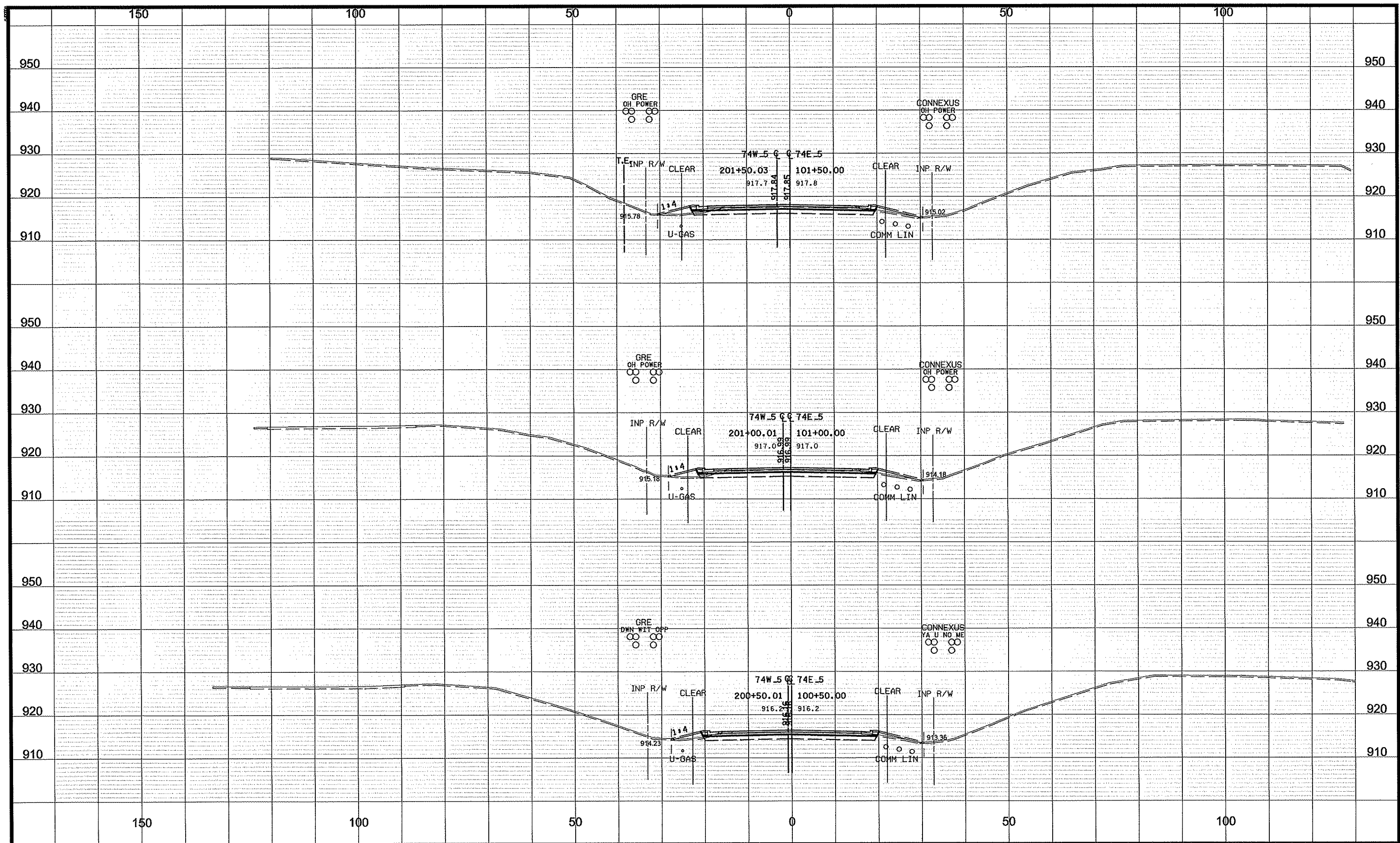
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CHECKED BY JEO DATE 2-21-12



ANOKA COUNTY
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STA 99+00.00 TO 100+00.00
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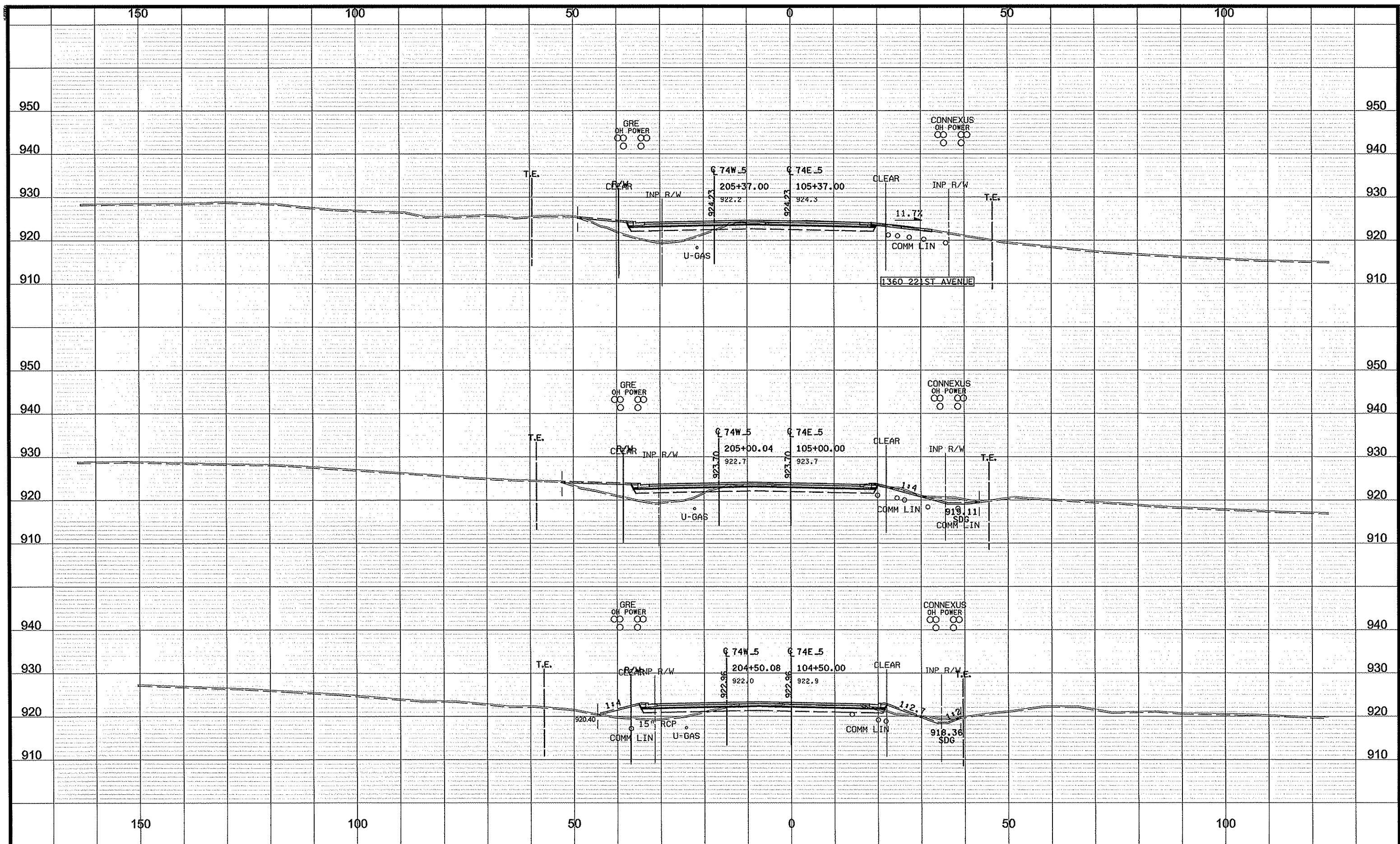
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ANOKA COUNTY
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CROSS SECTIONS
STA 100+50.00 TO 101+50.00
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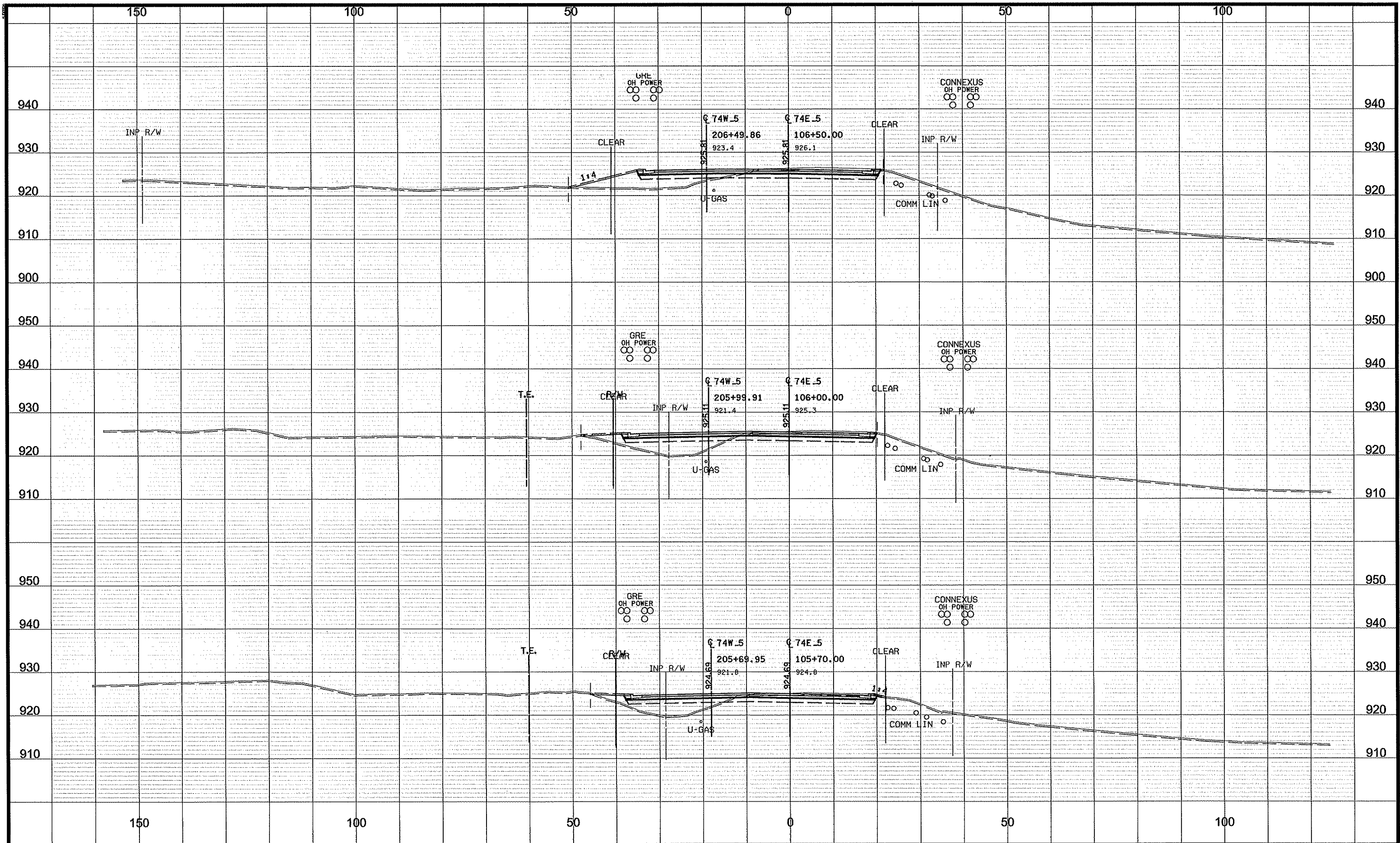
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ANOKA COUNTY
HIGHWAY DEPT.

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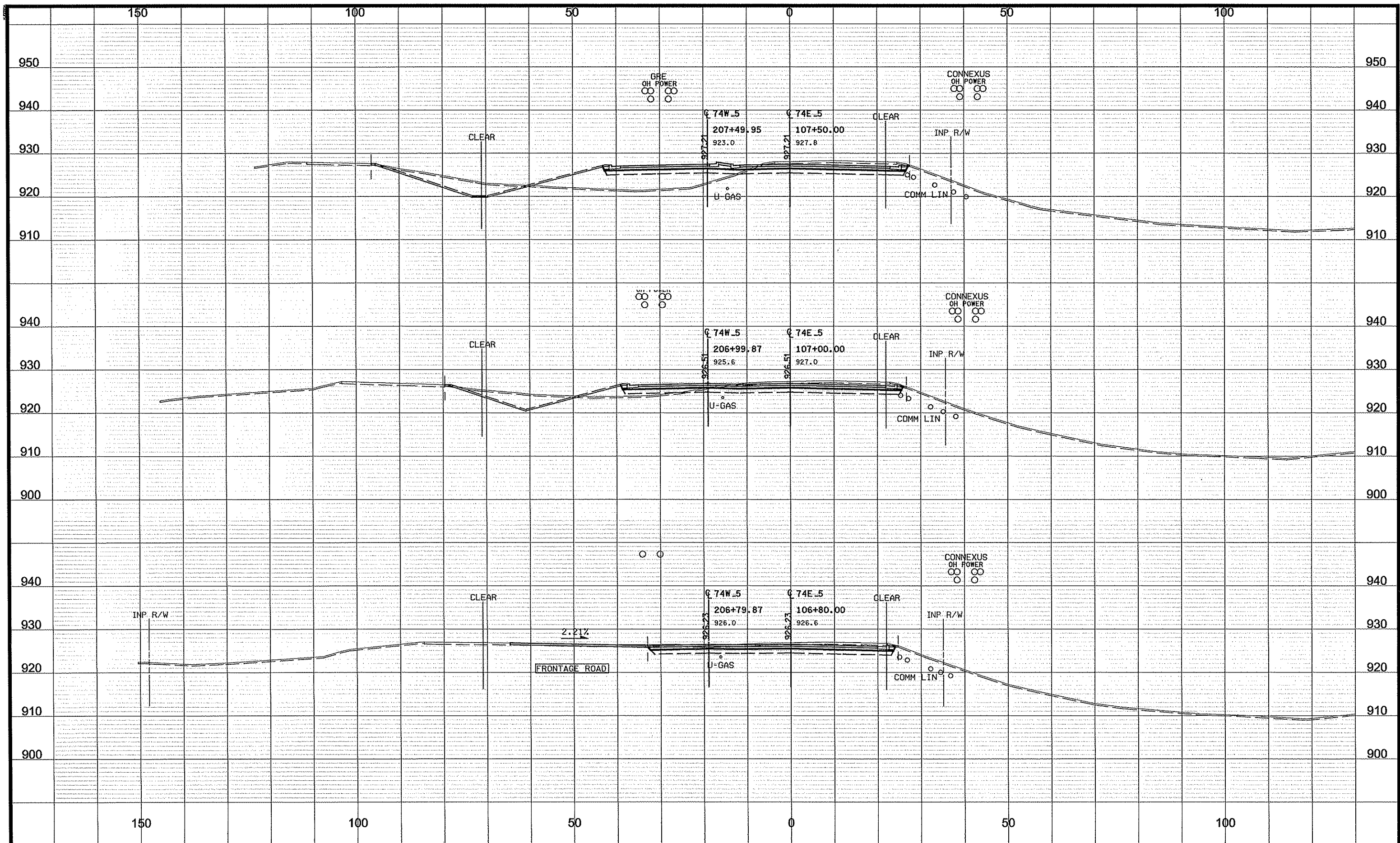
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ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
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STA 105+70.00 TO 106+50.00
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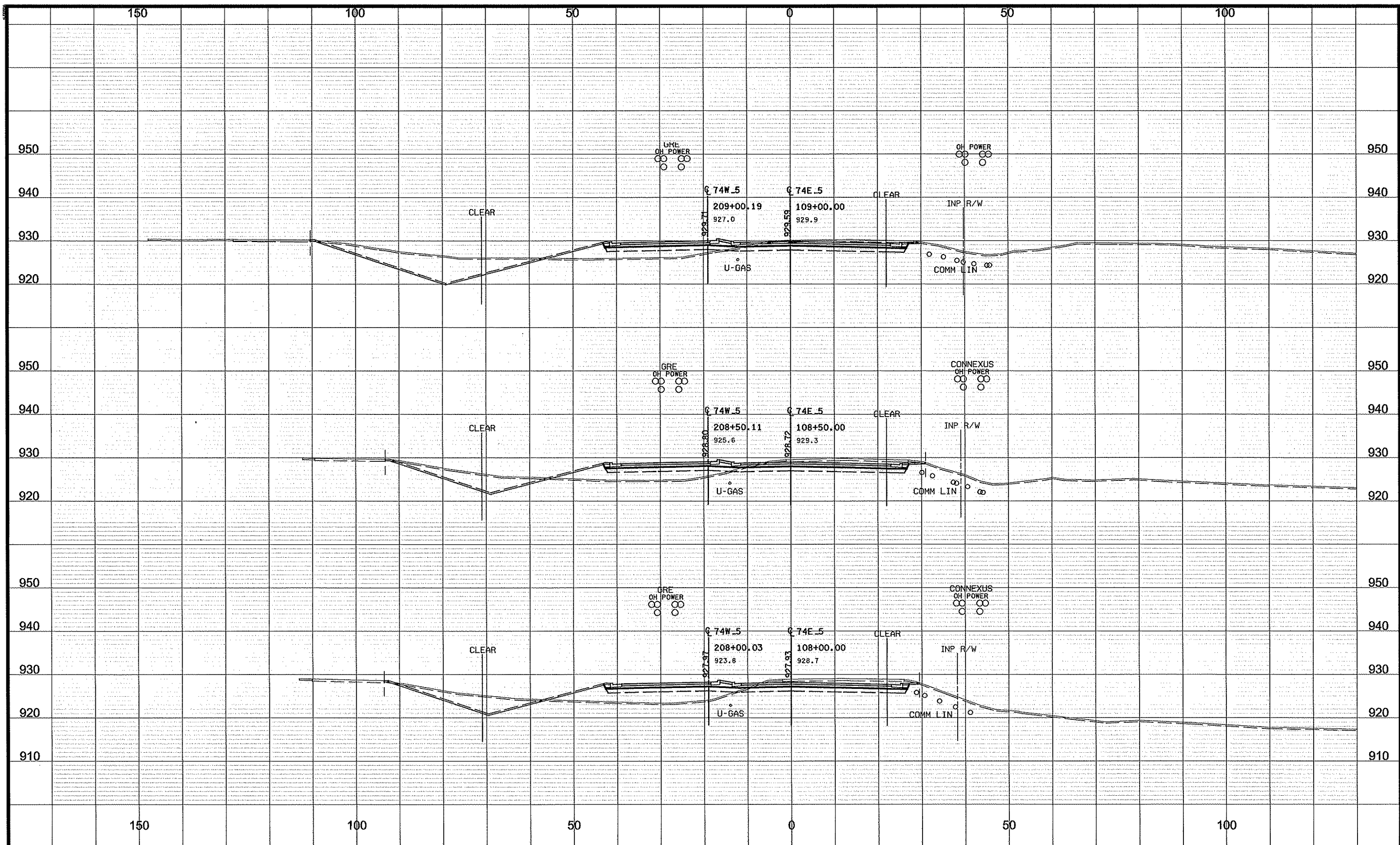
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ANOKA COUNTY
HIGHWAY DEPT.

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STA 106+80.00 TO 107+50.00
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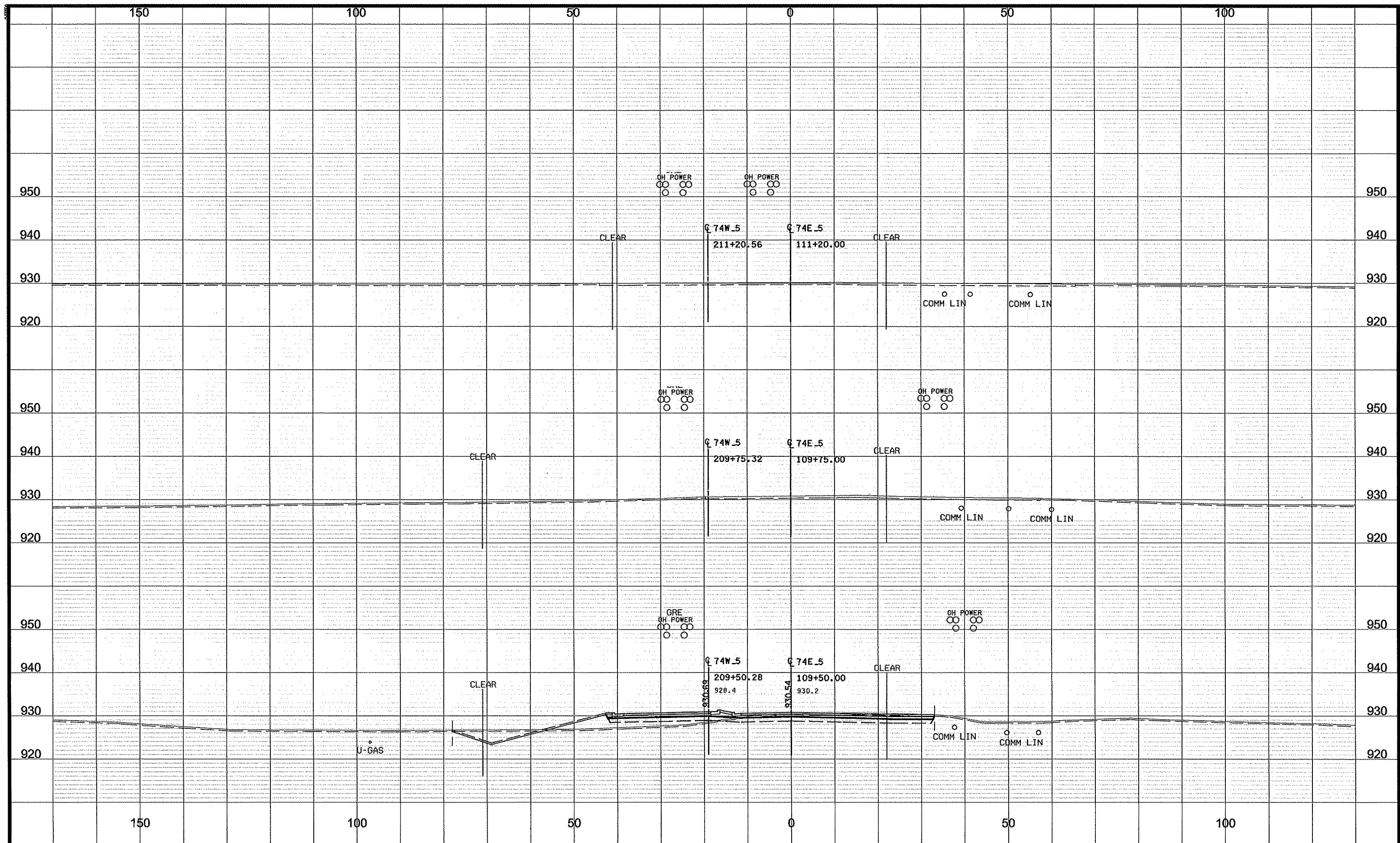
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ANOKA COUNTY
HIGHWAY DEPT.

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S.P. 0208-147 (TH 65 = 005)
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STA 108+00.00 TO 109+00.00
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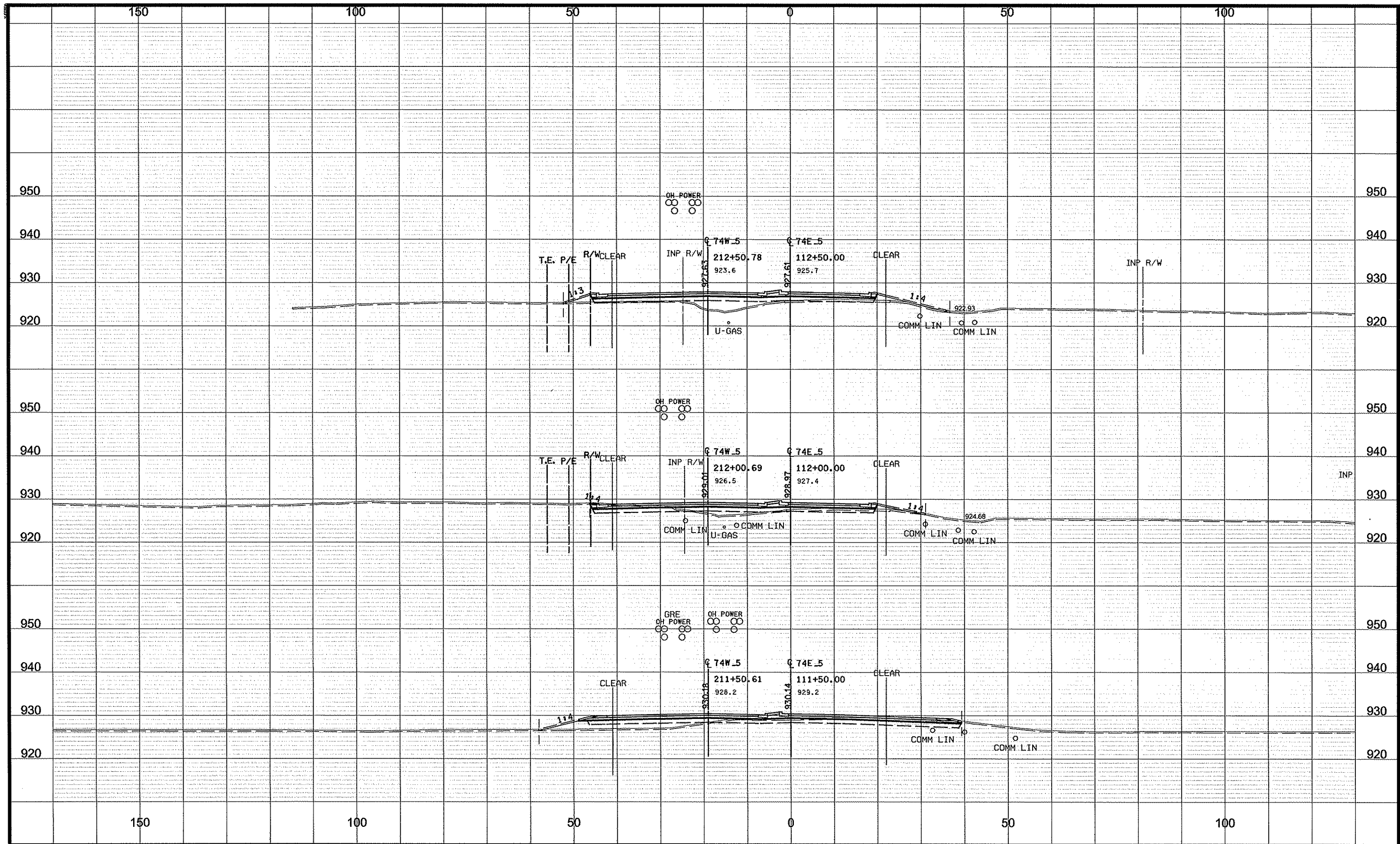
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ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
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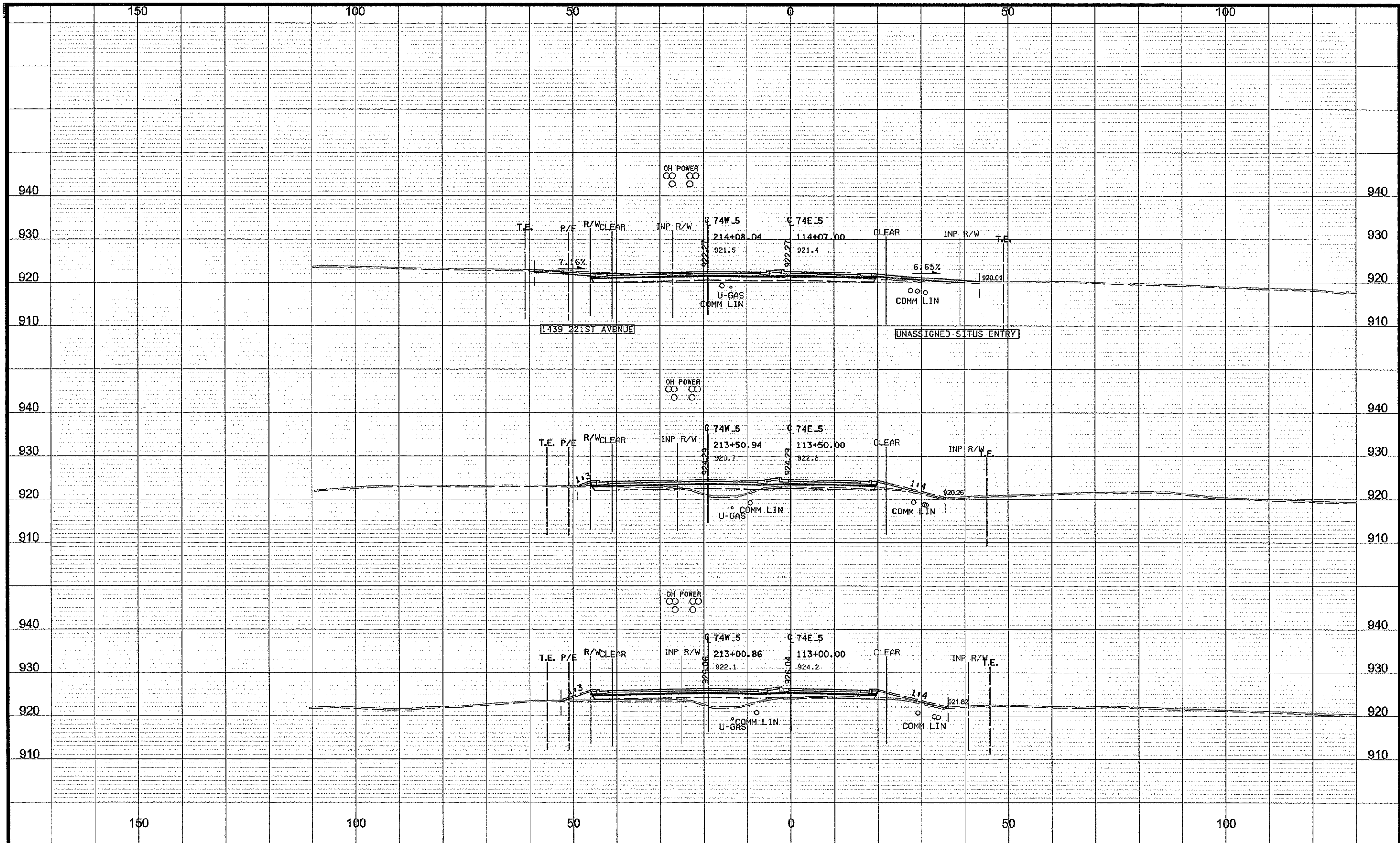
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ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147 (TH 65 = 005)
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STA 111+50.00 TO 112+50.00
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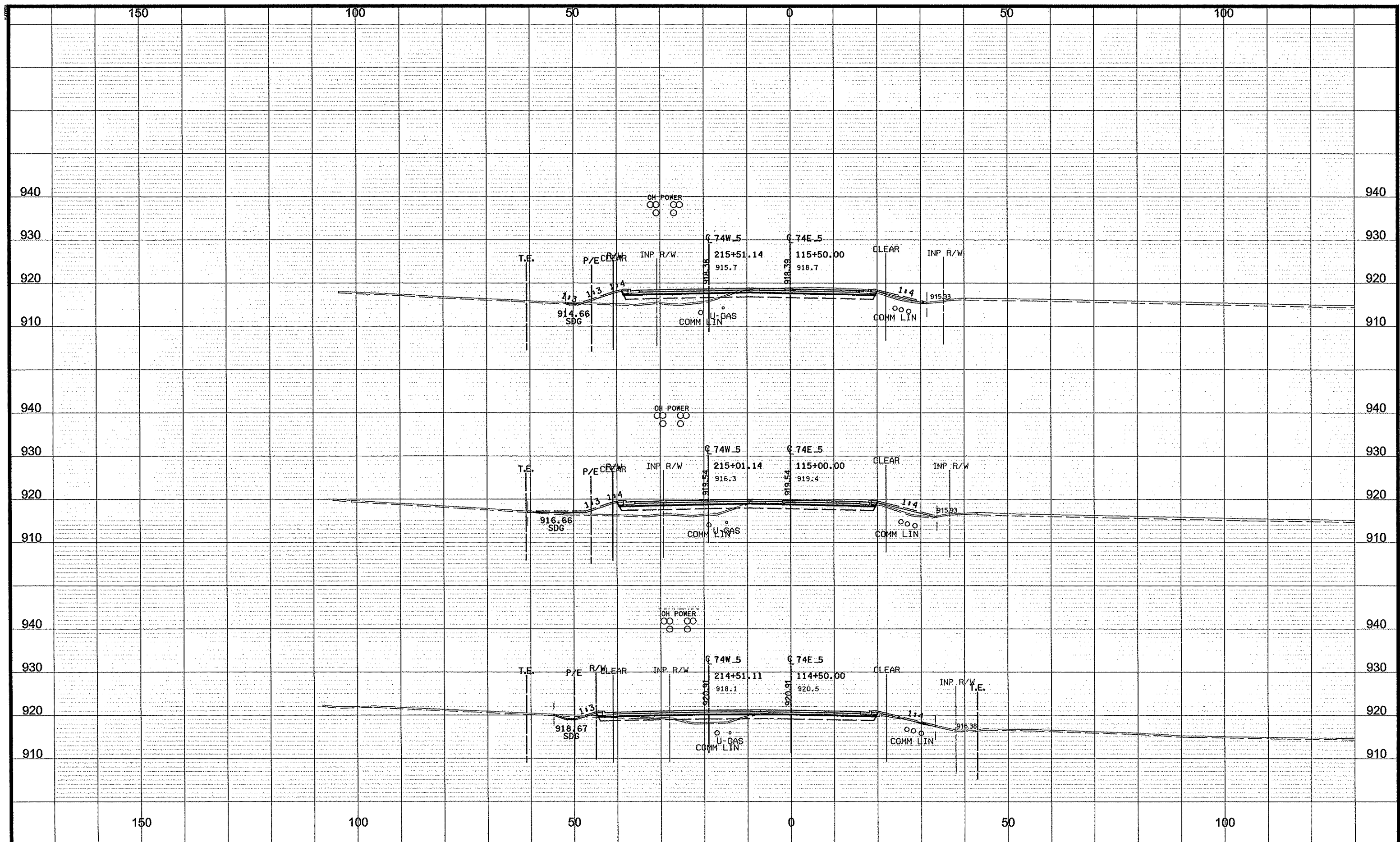
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ANOKA COUNTY
HIGHWAY DEPT.

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S.P. 0208-147 (TH 65 = 005)
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STA 113+00.00 TO 114+07.00
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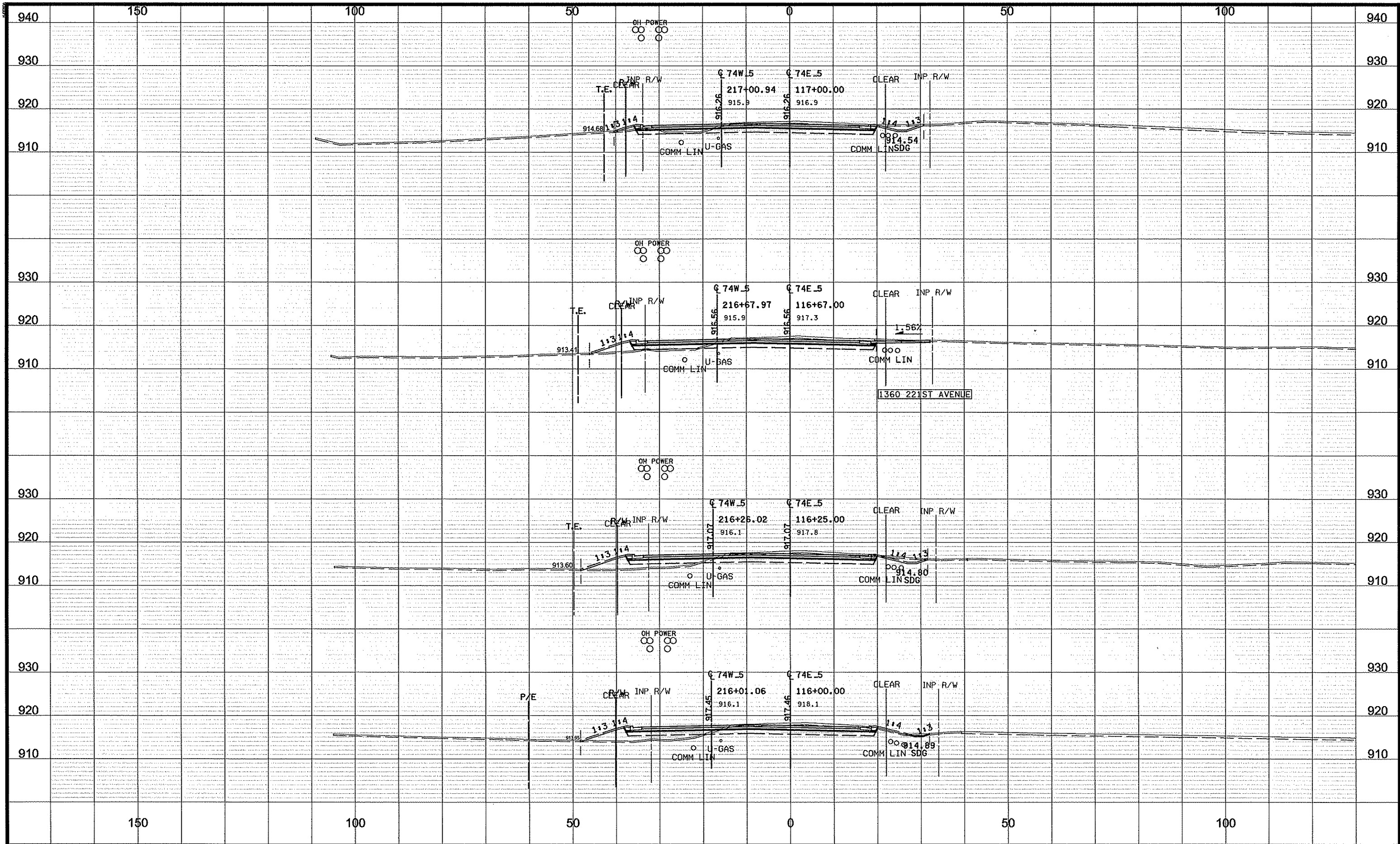
ANOKA COUNTY
HIGHWAY DEPT.

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CROSS SECTIONS

STA 114+50.00 TO 115+50.00

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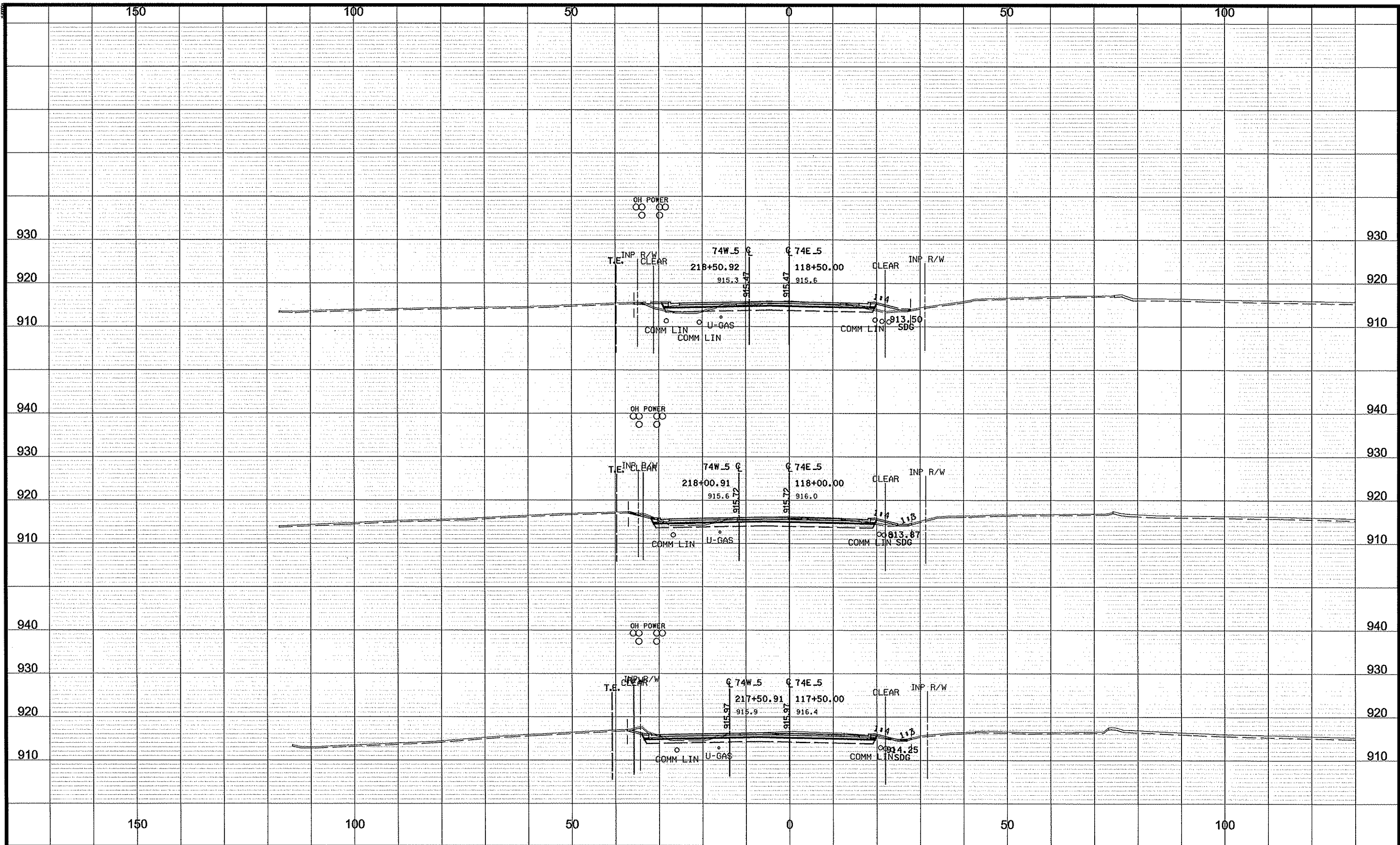
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HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147 (TH 65 = 005)
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STA 116+00.00 TO 117+00.00
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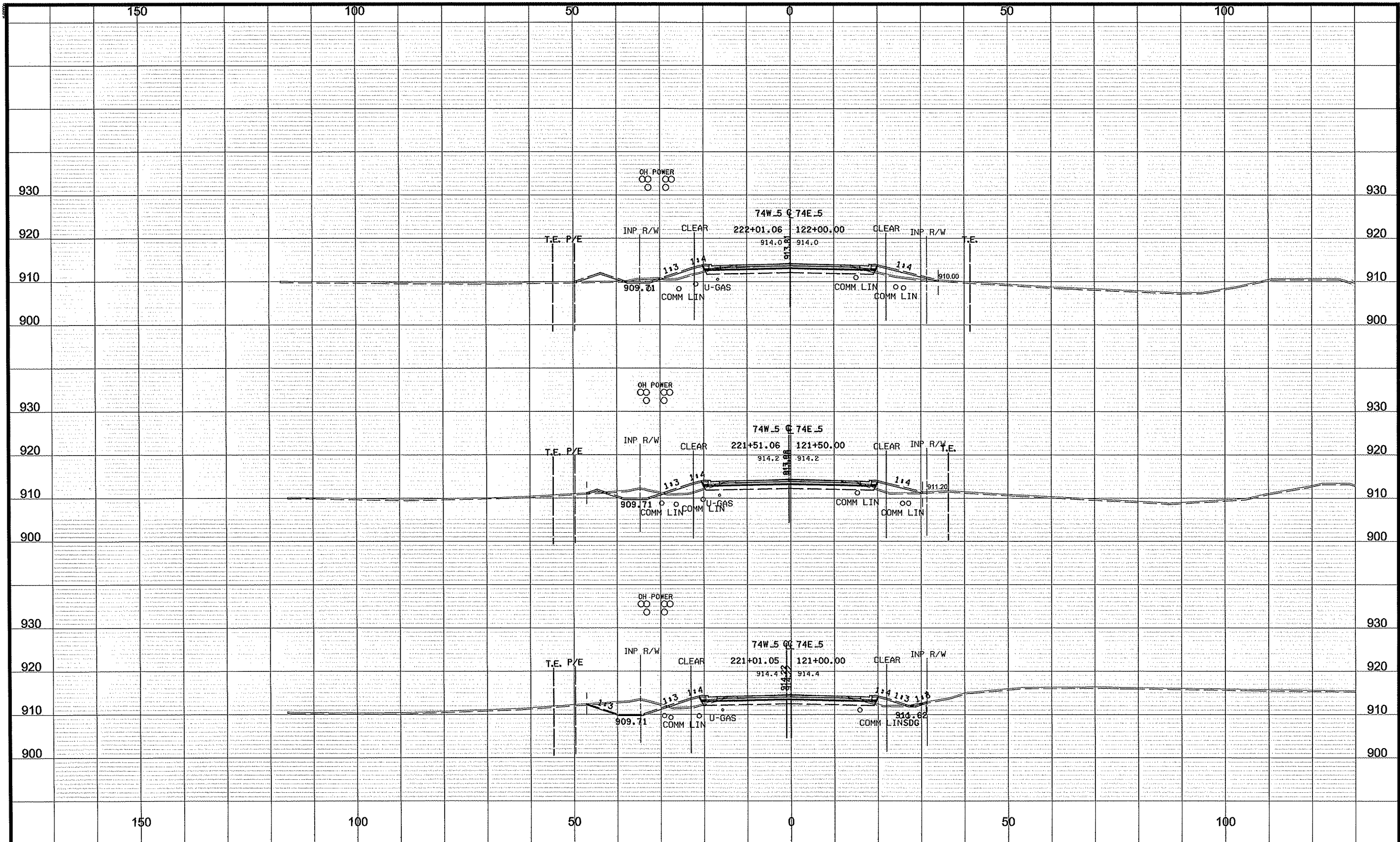
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ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
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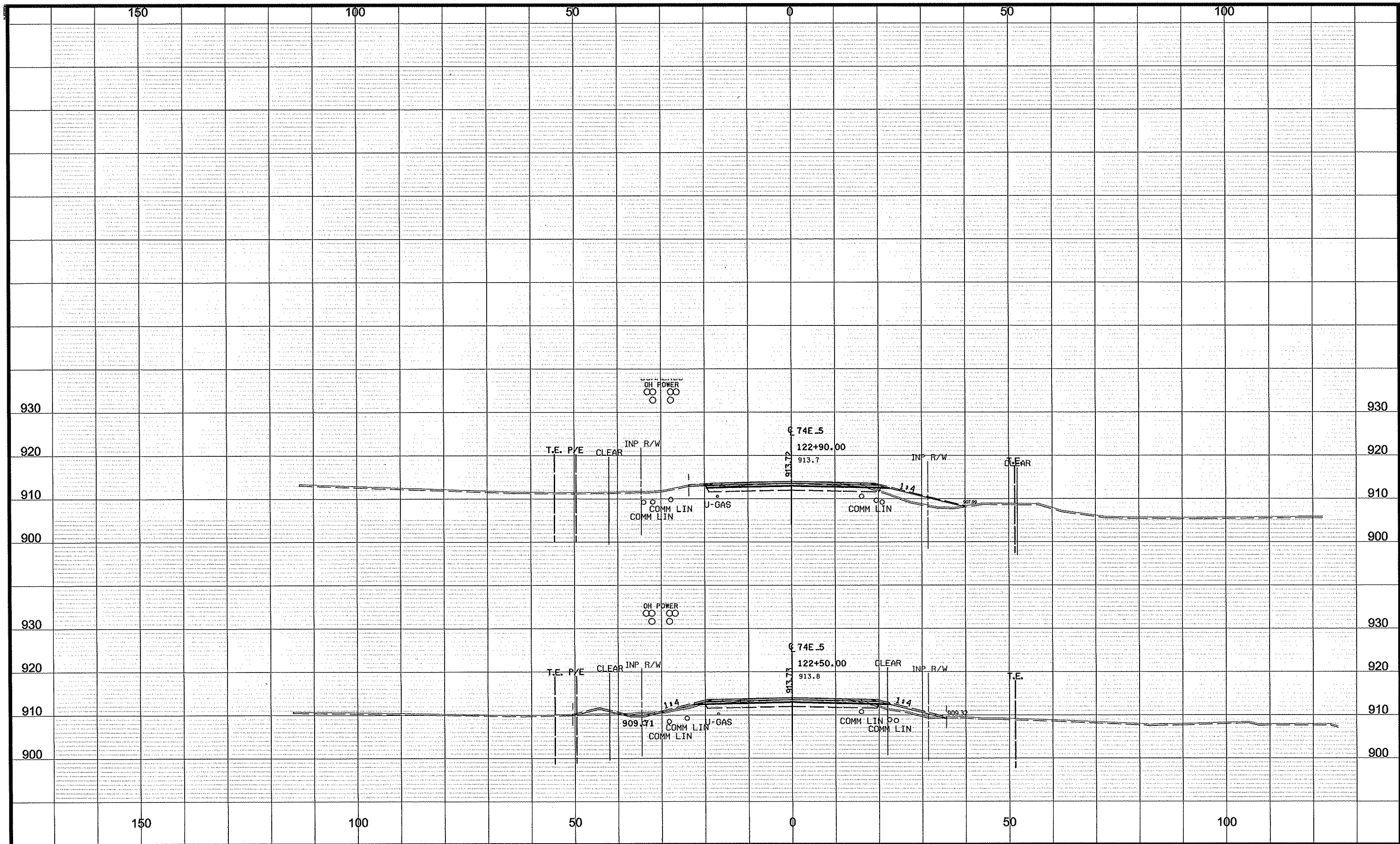
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ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-596-015
S.P. 0208-147 (TH 65 = 005)
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CROSS SECTIONS
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ANOKA COUNTY
HIGHWAY DEPT.

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S.P. 0208-147 (TH 65 = 005)
C.P. 2012-05

CROSS SECTIONS
STA 122+50.00 TO 122+90.00
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