MINNESOTA DEPARTMENT OF TRANSPORTATION
ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING, BITUMINOUS SURFACING, STORM SEWER, SIGNAL SYSTEM AND SIGNING

LOCATED ON CSAH 5 BETWEEN 1150 FT SOUTH AND 1800 FT NORTH OF ALPINE DR

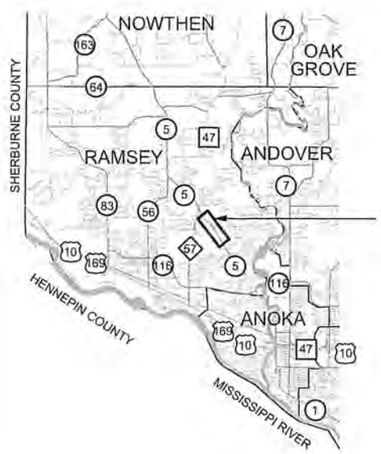
LOCATED ON ALPINE DR NW BETWEEN 750 FT WEST AND 800 FT EAST OF CSAH 5

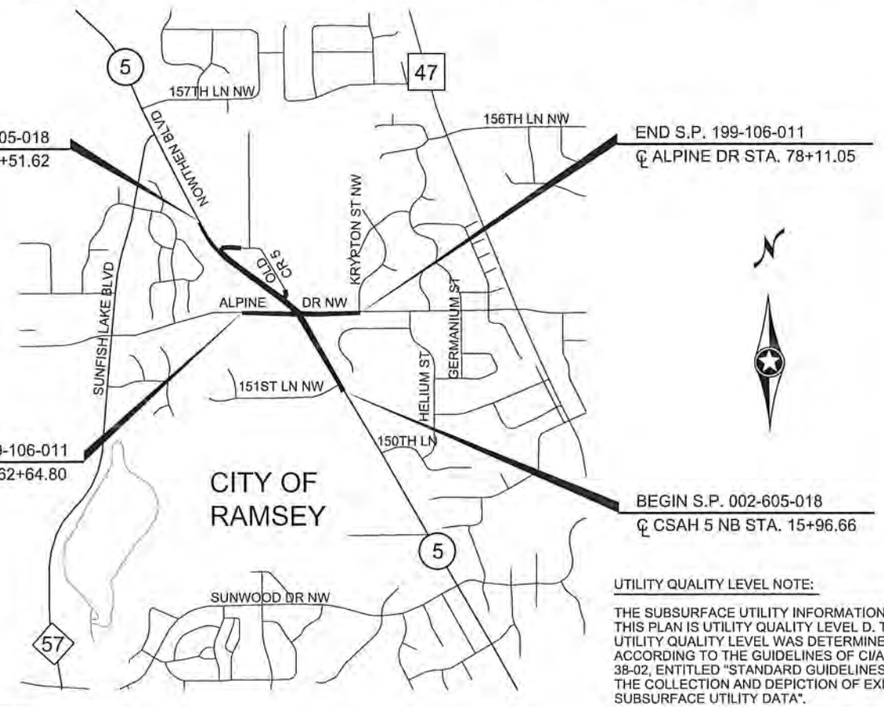
STATE PROJ. NO. 002-605-018

STATE PROJ. NO. 199-106-011

CITY PROJ. NO. 14-20

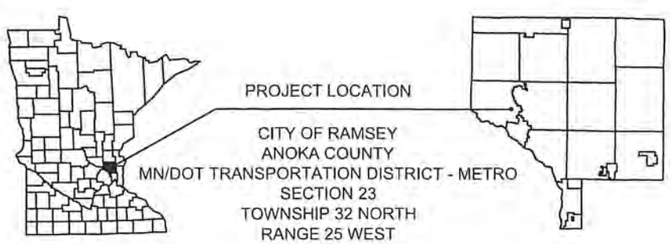
CSAH 5			ALPINE DR		
GROSS LENGTH	2954.96 FEET	0.560 MILES	GROSS LENGTH	1546.25 FEET	0.293 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES	BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES	EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	2954.96 FEET	0.560 MILES	NET LENGTH	1546.25 FEET	0.293 MILES





UTILITY QUALITY LEVEL NOTE:

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".



PROJECT LOCATION

CITY OF RAMSEY
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 23
TOWNSHIP 32 NORTH
RANGE 25 WEST

DESIGN DESIGNATION FOR ALPINE DR NW

ESAL 20	382,490	FUNCTIONAL CLASSIFICATION	COLLECTOR
R VALUE	60	NO. OF TRAFFIC LANES 2	NO. OF PARKING LANES 0
ADT (2014) =	2568	DESIGN SPEED 45 MPH	
PROJ. ADT (2034) =	4108	BASED ON STOPPING SIGHT DISTANCE:	
PROJ. HCADT (2034) =	242	HEIGHT OF EYE 3.5'	HEIGHT OF OBJECT 2.0'
SOIL FACTOR	NA	DESIGN SPEED NOT ACHIEVED AT:	
10 TON DESIGN		STA. 70+71 TO STA. 76+10	MPH 35

MINN. PROJ. NO. HSIP 0214(169)

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

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

INDEX

THIS PLAN CONTAINS 148 SHEETS

DESIGN DESIGNATION FOR CSAH 5

ESAL 20	828,134
R VALUE	60
ADT (2014) =	5559
PROJ. ADT (2034) =	8894
PROJ. HCADT (2034) =	525
SOIL FACTOR	NA

10 TON DESIGN

FUNCTIONAL CLASSIFICATION A MINOR ARTERIAL

NO. OF TRAFFIC LANES 2 NO. OF PARKING LANES 0

DESIGN SPEED 55 MPH NORTH OF STA 27+50

DESIGN SPEED 50 MPH SOUTH OF STA 27+50

BASED ON STOPPING SIGHT DISTANCE:

HEIGHT OF EYE 3.5' HEIGHT OF OBJECT 2.0'

DESIGN SPEED NOT ACHIEVED AT: NA

STA. _____ TO STA. _____ MPH _____

APPROVED _____ 6/3/2014
ANOKA COUNTY ENGINEER

APPROVED _____ 6/4/2014
CITY OF RAMSEY ENGINEER

REVIEWED FOR COMPLIANCE WITH STATE AID AND/OR FEDERAL AID RULES/POLICY _____ 6/17/2014
DISTRICT STATE AID ENGINEER

APPROVED FOR STATE AID AND FEDERAL AID FUNDING _____ 6/17/2014
STATE AID ENGINEER

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) 1-S-F
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 T-BUR
BURIED ELECTRIC CABLE P-BUR
T-AE
SEWER (Sanitary or Storm)
SEWER MANHOLE

SCALES

PLAN 0' 100'
PROFILE HORIZONTAL 0' 100'
VERTICAL 0' 10'
X-SECTIONS HORIZONTAL 0' 10'
VERTICAL 0' 10'
INDEX MAP 0' 2000'

NO	DATE	BY	CKD	APPR	REVISION
1	05/15/2014	EJM	GMP	CAK	REVISED SHEET PER STATE AID COMMENTS.

NAME: P:\02-605-18\Plan\0260518_TITLE.dgn 05/30/2014 1:57:33 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 KOBILARCSIK

SIGNATURE: _____

DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14

DESIGN BY EJM DATE 02-28-14

CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

SP 199-106-011

CP 14-20

TITLE SHEET

Sheet 1 of 148 Sheets

STATEMENT OF ESTIMATED QUANTITIES

TAB	NOTE	ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	PARTICIPATING FEDERAL FUNDS				NON-PARTICIPATING LOCAL FUNDS	
						COUNTY OF ANOKA SP 002-605-018	CITY OF RAMSEY SP 199-106-011	STORM SEWER SP 002-605-018	STORM SEWER SP 199-106-011	COUNTY OF ANOKA	CITY OF RAMSEY CP 14-20
		2021.501	MOBILIZATION	LUMP SUM	1	0.767	0.127	0.075	0.012	0.001	0.018
		2031.501	FIELD OFFICE TYPE D	EACH	1	0.767	0.127	0.075	0.012	0.001	0.018
A	(1), (2)	2101.501	CLEARING	ACRE	1.15	1.15					
A	(1), (2)	2101.502	CLEARING	TREE	62	57					5
A	(1), (2)	2101.506	GRUBBING	ACRE	1.15	1.15					
A	(1), (2)	2101.507	GRUBBING	TREE	53	52					1
B	(3), (4)	2102.501	PAVEMENT MARKING REMOVAL	SQ FT	54	54					
B	(3), (5)	2102.502	PAVEMENT MARKING REMOVAL	LIN FT	10881	10881					
C	(2), (6)	2104.501	REMOVE PIPE CULVERTS	LIN FT	849	784					65
D	(2)	2104.501	REMOVE CURB AND GUTTER	LIN FT	605	605					
E	(2)	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	47	47					
E	(2)	2104.505	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	624	552					72
F	(2)	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	10136	10136					
C	(2)	2104.509	REMOVE CONCRETE APRON	EACH	2	2					
C	(2)	2104.509	REMOVE BITUMINOUS FLUME	EACH	2	2					
E		2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	42	42					
E, F	(7)	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	4230	4189					41
K	(8)	2104.523	SALVAGE SIGN TYPE C	EACH	42					42	
K	(8)	2104.523	SALVAGE SIGN TYPE SPECIAL	EACH	4	4					
	(8)	2104.601	HAUL SALVAGED MATERIAL	LUMP SUM	1					1	
		2104.607	REMOVE TEMPORARY WIDENING	CU YD	385	385					
J	(9), (10)	2105.501	COMMON EXCAVATION (P)	CU YD	10307	9115					1192
J	(10)	2105.505	MUCK EXCAVATION	CU YD	6280	6280					
J	(10)	2105.507	SUBGRADE EXCAVATION (P)	CU YD	5201	5201					
J	(10)	2105.522	SELECT GRANULAR BORROW (LV)	CU YD	13257	13257					
	(11)	2123.509	DOZER	HOUR	25	25					
	(12)	2130.501	WATER	M GALLON	100	100					
E, L	(13)	2211.503	AGGREGATE BASE (CV) CLASS 5 (P)	CU YD	3938	3803					135
L	(14)	2221.503	AGGREGATE SHOULDERING (CV) CLASS 5	CU YD	303	299					4
F		2232.501	MILL BITUMINOUS SURFACE(1.5")	SQ YD	4854	4854					
L		2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	2336	2268					68
E, M		2360.501	TYPE SP 12.5 WEARING COURSE MIX (2,B)	TON	216	216					
L		2360.501	TYPE SP 12.5 WEARING COURSE MIX (3,F)	TON	4026	3911					115
L	(14)	2360.502	TYPE SP 12.5 NON WEAR COURSE MIX (3,B)	TON	3210	3210					
C		2501.511	15" RC PIPE CULVERT CLASS V	LIN FT	180	180					
C		2501.511	18" RC PIPE CULVERT CLASS V	LIN FT	72	0					72
C		2501.511	15" CS PIPE CULVERT	LIN FT	24	24					
C		2501.515	15" GS PIPE APRON	EACH	2	2					
C, N		2501.515	15" RC PIPE APRON	EACH	8	6		2			
C		2501.515	18" RC PIPE APRON	EACH	2						2
N		2501.515	24" RC PIPE APRON	EACH	1			1			
C		2501.521	44" SPAN RC PIPE-ARCH CULVERT CLASS IIA	LIN FT	109	109					
N		2501.525	36" SPAN RC PIPE-ARCH APRON	EACH	1			1			
C		2501.525	44" SPAN RC PIPE-ARCH APRON	EACH	2	2					
N		2503.521	36" SPAN RC PIPE-ARCH SEWER CL IIA	LIN FT	137			137			
N		2503.541	15" RC PIPE SEWER DES 3006 CL V	LIN FT	554			116	438		
N		2503.541	18" RC PIPE SEWER DES 3006 CL V	LIN FT	174			140	34		
N		2503.541	21" RC PIPE SEWER DES 3006 CL V	LIN FT	204			204			
N		2503.541	24" RC PIPE SEWER DES 3006 CL V	LIN FT	157			157			
N		2503.541	27" RC PIPE SEWER DES 3006 CL V	LIN FT	772			772			
DD		2504.602	RELOCATE HYDRANT	EACH	2		2				
DD		2504.602	ADJUST GATE VALVE	EACH	3		3				

NOTES:

(1) CLEARING AND GRUBBING SHALL BE STAKED IN FIELD BY THE ENGINEER.
(2) ALL REMOVAL ITEMS SHALL BE DISPOSED OFF-SITE. NO DISPOSAL SHALL BE ALLOWED WITHIN THE ROADWAY RIGHT-OF-WAY OR EASEMENTS.
(3) FOR TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION STAGING.
(4) FOR REMOVAL OF THERMOPLASTIC CROSSWALK
(5) FOR REMOVAL OF 4" PAVEMENT MARKING
(6) INCLUDES ALL TYPES OF PIPES. CMP APRONS ARE INCIDENTAL TO REMOVAL.
(7) INCLUDES 2500 LIN FT SAWING BIT. PVMT DURING CONSTRUCTION STAGING. PAYMENT FOR SAWING BITUMINOUS WILL ONLY BE PAID WHEN THE CUT IS MADE WITH A SAW. NO PAYMENT SHALL BE MADE FOR CUTS MADE BY A MILLING MACHINE OR RECLAIMER.
(8) SALVAGE TO: ANOKA COUNTY HIGHWAY DEPT, 1440 BUNKER LAKES BLVD NW, ANDOVER, MN.
(9) INCLUDES INPLACE TOPSOIL AND BITUMINOUS PAVEMENT LESS THAN 6" THICK. BITUMINOUS MATERIAL SHALL BE DISPOSED OUTSIDE THE ROADWAY RIGHT-OF-WAY.
(10) SEE SOILS AND CONSTRUCTION NOTES.
(11) SHALL BE USED FOR MISCELLANEOUS GRADING ACTIVITIES AS DIRECTED BY THE ENGINEER.
(12) WATER TO BE USED ONLY FOR DUST CONTROL AS DIRECTED BY THE ENGINEER IN FIELD. WATER USED FOR COMPACTION AND TURF ESTABLISHMENT SHALL BE INCIDENTAL.
(13) INCLUDES QUANTITY FOR GRAVEL DRIVEWAY.
(14) INLUCDES QUANTITY FOR TEMPORARY LANE WIDENING
(15) CB137 PAID FOR AS 2506.501 CONST. DRAINAGE STRUCT. DES. SPECIAL
(16) SEE SHEETS 53-55 FOR LOCATIONS AND SHEET 68 FOR DETAILS.
(P) PLAN QUANTITY.

NO	DATE	BY	CKD	APPR	REVISION
1	05/30/2014	DFF	GMP	CAK	REVISED SHEET PER STATE AID COMMENTS.
2	06/18/2014	EJM	GMP	CAK	UPDATED PAVEMENT MARKING REMOVAL QUANTITY.
3	07/31/2014	EJM	GMP	CAK	ADDED STORM SEWER COLUMN FOR SP 199-106-011 PER SA HYD.

NAME: P:\02-605-18\Plan\0260518_TAB.dgn 07/31/2014 11:52:39 AM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 7-31-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

STATEMENT OF ESTIMATED QUANTITIES

Sheet 2 of 148 Sheets

STATEMENT OF ESTIMATED QUANTITIES

TAB	NOTE	ITEM NO.	ITEM	UNIT	TOTAL QUANTITY	PARTICIPATING FEDERAL FUNDS				NON-PARTICIPATING LOCAL FUNDS	
						COUNTY OF ANOKA SP 002-605-018	CITY OF RAMSEY SP 199-106-011	STORM SEWER SP 002-605-018	STORM SEWER SP 199-106-011	COUNTY OF ANOKA	CITY OF RAMSEY CP 14-20
N		2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN G	LIN FT	9.9			6.8	3.1		
N	(15)	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	57.9			42.6	15.3		
N		2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 54-4020	LIN FT	15.2			15.2			
N		2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020	LIN FT	9.8			9.8			
N		2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 66-4020	LIN FT	13.9			13.9			
N		2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL	LIN FT	5.4			5.4			
N		2506.516	CASTING ASSEMBLY	EACH	26			26			
C, N		2511.501	RANDOM RIPRAP CL II	CU YD	104	66		38			
C, N		2511.515	GEOTEXTILE FILTER TYPE III	SQ YD	359			283			76
P		2521.501	6" CONCRETE WALK	SQ FT	1515	1515					
P		2531.501	CONCRETE CURB & GUTTER DESIGN B418	LIN FT	2414	2414					
P		2531.501	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	1026	513	513				
P		2531.501	CONCRETE CURB & GUTTER DESIGN B612	LIN FT	439						439
P		2531.501	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	1239	620	619				
P		2531.503	CONCRETE MEDIAN	SQ YD	479	479					
E		2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	47	47					
C	(16)	2531.604	CONCRETE DRAINAGE FLUME	SQ YD	27	27					
P		2531.618	TRUNCATED DOMES	SQ FT	100	100					
J		2540.602	MAIL BOX SUPPORT	EACH	6	6					
J		2540.602	RELOCATE MAIL BOX SUPPORT	EACH	4	3					1
		2563.601	TRAFFIC CONTROL	LUMP SUM	1	0.767	0.127	0.075	0.012	0.001	0.018
B	(3)	2563.602	RAISED PAVEMENT MARKER TEMPORARY	EACH	324	324					
Q		2564.531	SIGN PANELS TYPE C	SQ FT	336	336					
K		2564.537	INSTALL SIGN TYPE C	EACH	1	1					
K		2564.537	INSTALL SIGN TYPE SPECIAL	EACH	4	4					
		2565.511	TRAFFIC CONTROL SIGNAL SYSTEM	SIG SYS	1	0.25	0.75				
		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM	LUMP SUM	1		1				
		2565.602	SIGNAL SERVICE CABINET	EACH	1	1					
R		2573.502	SILT FENCE, TYPE MACHINE SLICED	LIN FT	3875	3875					
N,R		2573.530	STORM DRAIN INLET PROTECTION	EACH	58	58					
R		2575.501	SEEDING	ACRE	4.08	3.87					0.21
R		2575.502	SEED MIXTURE 325	POUND	51	51					
R		2575.502	SEED MIXTURE 330	POUND	39	39					
R		2575.502	SEED MIXTURE 350	POUND	256	238					18
C, N		2575.505	SODDING TYPE SALT RESISTANT	SQ YD	92	82					10
R		2575.523	EROSION CONTROL BLANKETS CATEGORY 3	SQ YD	19748	18732					1016
R		2575.532	FERTILIZER TYPE 4	POUND	408	387					21
R		2575.571	RAPID STABILIZATION METHOD 3	M GALLONS	22	20.6					1.8
B	(3)	2581.501	REMOVABLE PREFORMED PLASTIC MARKING	LIN FT	16102	16102					
S		2582.501	PAVT MESSAGE (LT ARROW) PREFORMED THERMOPLASTIC	EACH	8	8					
S		2582.501	PAVT MESSAGE (RT ARROW) PREFORMED THERMOPLASTIC	EACH	7	7					
B	(3)	2582.502	4" SOLID LINE WHITE-PAINT	LIN FT	14555	14555					
B	(3)	2582.502	4" DOUBLE SOLID LINE YELLOW-PAINT	LIN FT	8253	8253					
S		2582.502	24" SOLID LINE WHITE-PREFORMED THERMOPLASTIC	LIN FT	146	146					
S		2582.502	24" SOLID LINE YELLOW-PREFORMED THERMOPLASTIC	LIN FT	676	676					
S		2582.502	4" SOLID LINE WHITE-EPOXY	LIN FT	10882	10882					
S		2582.502	4" SOLID LINE YELLOW-EPOXY	LIN FT	2710	2710					
S		2582.502	4" BROKEN LINE WHITE-EPOXY	LIN FT	60	60					
S		2582.502	4" BROKEN LINE YELLOW-EPOXY	LIN FT	190	190					
S		2582.502	4" DOUBLE SOLID LINE YELLOW-EPOXY	LIN FT	6382	6382					
S		2582.503	CROSSWALK MARKING-PREFORMED THERMOPLASTIC	SQ FT	792	792					

NOTES:

(1) CLEARING AND GRUBBING SHALL BE STAKED IN FIELD BY THE ENGINEER.
(2) ALL REMOVAL ITEMS SHALL BE DISPOSED OFF-SITE. NO DISPOSAL SHALL BE ALLOWED WITHIN THE ROADWAY RIGHT-OF-WAY OR EASEMENTS.
(3) FOR TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION STAGING.
(4) FOR REMOVAL OF THERMOPLASTIC CROSSWALK
(5) FOR REMOVAL OF 4" PAVEMENT MARKING
(6) INCLUDES ALL TYPES OF PIPES. CMP APRONS ARE INCIDENTAL TO REMOVAL.
(7) INCLUDES 2500 LIN FT SAWING BIT. PVMT DURING CONSTRUCTION STAGING. PAYMENT FOR SAWING BITUMINOUS WILL ONLY BE PAID WHEN THE CUT IS MADE WITH A SAW. NO PAYMENT SHALL BE MADE FOR CUTS MADE BY A MILLING MACHINE OR RECLAIMER.
(8) SALVAGE TO: ANOKA COUNTY HIGHWAY DEPT, 1440 BUNKER LAKES BLVD NW, ANDOVER, MN.
(9) INCLUDES INPLACE TOPSOIL AND BITUMINOUS PAVEMENT LESS THAN 6" THICK. BITUMINOUS MATERIAL SHALL BE DISPOSED OUTSIDE THE ROADWAY RIGHT-OF-WAY.
(10) SEE SOILS AND CONSTRUCTION NOTES.
(11) SHALL BE USED FOR MISCELLANEOUS GRADING ACTIVITIES AS DIRECTED BY THE ENGINEER.
(12) WATER TO BE USED ONLY FOR DUST CONTROL AS DIRECTED BY THE ENGINEER IN FIELD. WATER USED FOR COMPACTION AND TURF ESTABLISHMENT SHALL BE INCIDENTAL.
(13) INCLUDES QUANTITY FOR GRAVEL DRIVEWAY.
(14) INLUCDES QUANTITY FOR TEMPORARY LANE WIDENING
(15) CB137 PAID FOR AS 2506.501 CONST. DRAINAGE STRUCT. DES. SPECIAL
(16) SEE SHEETS 53-55 FOR LOCATIONS AND SHEET 68 FOR DETAILS.
(P) PLAN QUANTITY.

NO	DATE	BY	CKD	APPR	REVISION
1	05/30/2014	DFF	GMP	CAK	REVISED SHEET PER STATE AID COMMENTS.
2	06/18/2014	EJM	GMP	CAK	UPDATED C&G B424 AND STRIPING QUANTITIES.
3	07/31/2014	EJM	GMP	CAK	ADDED STORM SEWER COLUMN FOR SP 199-106-011 PER SA HYD.

NAME: P:\02-605-18\Plan\0260518_TAB.dgn 07/31/2014 11:52:40 AM

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

PRINT NAME: CURT KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 7-31-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

STATEMENT OF ESTIMATED QUANTITIES

1. TOP OF THE GRADING SUBGRADE (GRADING GRADE) IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE LAYER.

2. BOTTOM OF THE SUBBASE GRADE SHALL BE DEFINED AS THE BOTTOM OF THE 1' SUBGRADE EXCAVATION.

3. IN AREAS OF MUCK EXCAVATION ANY EXCAVATION ABOVE THE UNSUITABLE ORGANIC MATERIAL IS PAID FOR AND INCLUDED AS COMMON EXCAVATION.

4. SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL GRANULAR AND FINER GRAINED SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, DEBRIS, PEAT, MUCK, ORGANIC MATERIAL AND OTHER UNSTABLE MATERIAL.

5. SELECT GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF MN/DOT SPEC. 3149.2B2

6. ALL TOPSOIL STRIPPING WILL BE CONSIDERED TO BE COMMON EXCAVATION.

7. TOPSOIL SHALL BE DEFINED AS EXISTING SOILS WHICH MEET MN/DOT SPEC. 3877 THAT WOULD BE SUITABLE FOR REUSE.

8. SELECT GRANULAR MATERIAL SHALL BE USED TO BACK FILL THE EMBANKMENT UNDER THE NEW ROADWAY CORE, UP TO THE TOP OF THE GRADING SUBGRADE.

9. SLOPE DRESSING ON THE PROJECT IS DEFINED AS THE TOPSOIL OR OTHER SOIL PLACED DURING PRIOR CONSTRUCTION TO PROVIDE A MEDIUM FOR ESTABLISHING TURF.

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.

11. SUITABLE GRADING MATERIAL OBTAINED FROM COMMON EXCAVATION NOT MEETING THE REQUIREMENTS OF MN/DOT SPEC. 3149.2B1, SHALL BE USED OUTSIDE THE ROADWAY CORE ON THE PROJECT AS APPROVED BY THE ENGINEER.

12. UNSUITABLE MATERIALS ARE TOPSOILS, PAVEMENT OR CONCRETE DEBRIS, PEAT, MUCK AND ORGANIC OR OTHER UNSTABLE SOILS.

13. 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.

14. REGULAR EMBANKMENT SHALL BE DEFINED AS ALL GRADING MATERIALS THAT ARE APPROPRIATE FOR REUSE ON THE PROJECT BUT THAT MAY NOT MEET THE REQUIREMENTS OF SUITABLE GRADING MATERIALS. REGULAR EMBANKMENT MAY CONSIST OF GRADING SOILS NOT MEETING GRANULAR SPECIFICATIONS AND THEREFORE NOT SUITABLE FOR REUSE UNDER ROAD CORE.

15. WHERE CONNECTING TO THE INPLACE ROADWAYS AT THE TERMINI OF PROPOSED NEW CONSTRUCTION, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1:20 TAPER TO THE BOTTOM OF THE RECOMMENED SUBGRADE EXCAVATION.

16. WHERE MATCHING INTO INPLACE CROSSROADS, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1:20 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.

17. WHERE WIDENING ADJACENT TO EXISTING PAVEMENT, CUT VERTICALLY TO THE BOTTOM OF THE CLASS 5 AGGREGATE BASE AND THEN AT A 1V:1/2H SLOPE TO THE BOTTOM OF THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION (AS SHOWN ON THE TYPICAL SECTIONS AND THE CROSS SECTIONS). BACKFILL PROMPTLY TO AVOID UNDERMINING THE EXISTING PAVEMENT.

18. CONTRACTOR SHALL PROVIDE A FULL DEPTH SAWCUT WHERE PLACING NEW PAVEMENT ADJACENT TO INPLACE PAVEMENT TO ENSURE A UNIFORM JOINT. IF NO ITEM FOR THIS WORK IS SPECIFICALLY CALLED OUT FOR, THEN THE WORK SHALL BE INCIDENTAL WITH NO DIRECT COMPENSATION.

19. CONTRACTOR SHALL PROVIDE A UNIFORM BITUMINOUS TACK COAT BETWEEN ALL BITUMINOUS LAYERS AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON EXISTING PAVEMENT IN ACCORDANCE WITH SPEC. 2357.

20. STRIP ALL TOPSOIL AND INPLACE SLOPE DRESSING WHERE PRESENT IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING. FOR ESTIMATING PURPOSES, THE DEPTH OF TOPSOIL AVAILABLE IS CONSIDERED TO BE 4 INCHES. CONTRACTOR TO VERIFY PRIOR TO PLACING BID.

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 ARE PROVIDED IN DETAIL ON THE BITUMINOUS SUMMARY TAB.

22. THE CONSTRUCTION LIMITS AS SHOWN IN THE PLANS REPRESENT THE POINT OF INTERSECTION BETWEEN THE REQUIRED FILL OR CUT SLOPE AND THE EXISTING GROUND LINE AS DEPICTED ON THE CROSS SECTIONS. THE CONSTRUCTION LIMITS DO NOT INCLUDE AREAS REQUIRED FOR SLOPE ROUNDING.

23. DITCH BOTTOMS, TOE OF FILL, CUT RUNOUTS AND THE TOP EDGE OF THE BACKSLOPES SHALL BE ROUNDED REGARDLESS OF THE SECTION USED ON THE CROSS SECTION SHEETS.

24. ANY DEBRIS WHICH MAY BE ENCOUNTERED DURING GRADING SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE PROJECT RIGHT OF WAY IN A SUITABLE DISPOSAL AREA AS APPROVED BY THE ENGINEER.

25. UNSUITABLE SOILS NOT USED ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT AND DISPOSED OFF IN ACCORDANCE WITH MN/DOT SPECIFICATIONS.

26. INPLACE BITUMINOUS PAVEMENT RANGES FROM 5" TO 7" THICK. (AVERAGE 6") FOR INFORMATION ONLY, CONTRACTOR MAY VERIFY PAVEMENT DEPTH PRIOR TO PLACING BID. NO WARRANTY IS MADE OR IMPLIED WITH THIS INFORMATION.

27. AGGREGATE BASE MATERIAL SHALL MEET THE REQUIREMENTS OF MN/DOT SPEC. 3138, CLASS 5.

28. COMPACTION OF AGGREGATE BASE SHOULD BE IN ACCORDANCE WITH MN/DOT "MODIFIED PENETRATION INDEX METHOD". COMPACTION OF SELECT GRANULAR MATERIAL SHOULD BE IN ACCORDANCE WITH MN/DOT "SPECIFIED DENSITY METHOD".

29. COMPACTION OF ALL ROADWAY BITUMINOUS MIXTURES SHALL BE BY THE "MAXIMUM DENSITY METHOD". COMPACTION OF DRIVEWAYS SHALL BE BY THE "ORDINARY COMPACTION METHOD".

30. WET CONDITIONS MAY BE ENCOUNTERED IN THE MUCK EXCAVATION AREAS. DEWATERING WITH SUMP PUMPS CAN ALSO BE EXPECTED. CLEAN CRUSHED ROCK WILL LIKELY BE NECESSARY TO STABILIZE THE BOTTOM OF THE MUCK EXCAVATION FOR PLACEMENT OF FILL. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE EXCAVATION AND BACKFILL.

NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: CURT KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14

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CHECKED BY GMP DATE 04-24-14

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SP 199-106-011

CP 14-20

SOILS AND CONSTRUCTION NOTES

Sheet 4 of 148 Sheets

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

PLATE NO.	STANDARD PLATE TITLE
3000L	REINFORCED CONCRETE PIPE
3006G	GASKET JOINT FOR R.C. PIPE
3007E	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3014J	REINFORCED CONCRETE PIPE ARCH
3040F	CORRUGATED METAL PIPE CULVERT
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3123J	METAL APRON FOR C.S. PIPE
3133D	RIPRAP AT RCP OUTLETS
3145G	CONCRETE PIPE TIES
4006L	MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H
4010H	CONCRETE SHORT CONE & ADJUSTING RING (SECTIONAL CONCRETE)
4011E	PRECAST CONCRETE BASE
4018B	MANHOLE OR CATCH BASIN COVER DESIGN D
4020J	MANHOLE OR CATCH BASIN FOR USE WITH OR WITHOUT TRAFFIC LOADS
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4125D	CATCH BASIN FRAME CASTING - CASTING NO. 806
4132F	CATCH BASIN FRAME CASTING - CASTING NO. 805
4134A	CURB BOX CASTING FOR CATCH BASIN - CASTING NO. 825
4140D	SPECIAL GRATE CASTING FOR CATCH BASIN - CASTING NO. 720 AND 721
4154B	CATCH BASIN GRATE CASTING - CASTING NO. 816
4180J	MANHOLE OR CATCH BASIN STEP
7035N	CONCRETE WALK AND CURB RETURNS AT ENTRANCES
7038A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
7109C	MEDIAN NOSE AND ISLAND
7111J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER)
7113A	CONCRETE APPROACH NOSE DETAIL
8000I	STANDARD BARRICADES
8150C	INSTALLATION OF CULVERT MARKERS
9102E	TURF ESTABLISHMENT AREA (AT PIPE CULVERT ENDS)
9350A	MAILBOX SUPPORT (SWING-AWAY TYPE)

NOTE: SEE SHEET 94 FOR TRAFFIC SIGNAL STANDARD PLATES

INDEX OF TABULATIONS

BASIS OF QUANTITIES

SPEC NO	DESCRIPTION	RATE
2357	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GALLONS / SQ YD / LIFT
2360	TYPE SP12.5 WEARING COURSE MIXTURE	115 POUNDS / SQ YD / IN
2360	TYPE SP12.5 NON-WEARING COURSE MIXTURE	115 POUNDS / SQ YD / IN
2575	SEED MIXTURE 325	84 POUNDS / ACRE
2575	SEED MIXTURE 330	84.5 POUNDS / ACRE
2575	SEED MIXTURE 350	84.5 POUNDS / ACRE
2575	FERTILIZER TYPE 3, 10-10-10	100 POUNDS / ACRE
2575	RAPID STABILIZATION METHOD 3	6000 GALLONS / ACRE

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1	05/30/2014	DFF	GMP	CAK	REVISED SHEET PER STATE AID COMMENTS.

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STANDARD PLATES, INDEX OF TABULATIONS AND BASIS OF QUANTITIES

CLEARING AND GRUBBING — A

STATION TO STATION		LOCATION			CLEAR	CLEAR	GRUB	GRUB
		ALIGN	OFFSET		ACRE	TREE	ACRE	TREE
SP 002-605-018								
26+21		CSAH 5 NB	44			1		1
26+23		CSAH 5 NB	49			1		1
26+28		CSAH 5 NB	53			1		1
27+68		CSAH 5 NB	33			1		1
27+75		CSAH 5 NB	23			1		1
27+88		CSAH 5 NB	25			1		1
27+90		CSAH 5 NB	17			1		1
29+48		CSAH 5 NB	59			1		1
29+65		CSAH 5 NB	66			1		1
33+75		CSAH 5 NB	21			1		1
33+90		CSAH 5 NB	30			2		1
34+20		CSAH 5 NB	26			5		1
36+65	38+12	CSAH 5 NB	30	43	0.10		0.10	
40+86		CSAH 5 NB	68			1		1
40+94		CSAH 5 NB	63			1		1
41+03		CSAH 5 NB	60			1		1
41+10		CSAH 5 NB	47			1		1
41+21		CSAH 5 NB	52			1		1
41+28		CSAH 5 NB	48			1		1
41+37		CSAH 5 NB	47			1		1
41+46		CSAH 5 NB	44			1		1
41+52		CSAH 5 NB	43			1		1
41+58		CSAH 5 NB	43			1		1
41+68		CSAH 5 NB	43			1		1
41+81		CSAH 5 NB	43			1		1
17+31		CSAH 5 SB	-37			1		1
17+43		CSAH 5 SB	-38			1		1
17+56		CSAH 5 SB	-38			1		1
17+70		CSAH 5 SB	-37			1		1
17+84		CSAH 5 SB	-36			1		1
17+97		CSAH 5 SB	-34			1		1
18+08		CSAH 5 SB	-30			1		1
18+21		CSAH 5 SB	-31			1		1
18+36		CSAH 5 SB	-31			1		1
18+85		CSAH 5 SB	-33			1		1
18+95		CSAH 5 SB	-36			1		1
25+85		CSAH 5 SB	-52			1		1
29+74	30+33	CSAH 5 SB	-41	-48	0.05		0.05	
33+00	36+40	CSAH 5 SB	-41	-300	0.75		0.75	
67+00	68+38	ALPINE DR	-48	-54	0.10		0.10	
68+21		ALPINE DR	48			1		1
68+32		ALPINE DR	48			1		1
68+34		ALPINE DR	50			1		1
68+40		ALPINE DR	60			1		1
68+42		ALPINE DR	60			1		1
68+46		ALPINE DR	50			1		1
				SUBTOTAL	1.00	47	1.00	42

CLEARING AND GRUBBING — A

STATION TO STATION		LOCATION			CLEAR	CLEAR	GRUB	GRUB
		ALIGN	OFFSET		ACRE	TREE	ACRE	TREE
SP 002-605-018								
68+47		ALPINE DR	47			1		1
68+52		ALPINE DR	47			1		1
69+27		ALPINE DR	46			1		1
69+33		ALPINE DR	45			1		1
69+45		ALPINE DR	44			1		1
69+50		ALPINE DR	44			1		1
70+90	72+21	ALPINE DR	-36	-61	0.10		0.10	
72+03		ALPINE DR	32			1		1
72+57	73+25	ALPINE DR	-44	-46	0.05		0.05	
72+68		ALPINE DR	34			1		1
74+51		ALPINE DR	32			1		1
74+65		ALPINE DR	32			1		1
				SUBTOTAL	0.15	10	0.15	10
CP 14-20								
101+91		CR 5	-28			5		1
				SUBTOTAL		5		1
				TOTAL	1.15	62	1.15	53

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TABULATIONS

CULVERT AND DRAINAGE FLUME — C

STATION TO STATION		LOCATION			REMOVE			INVERT UPSTREAM	INVERT DOWNSTREAM	FURNISH & INSTALL											
					PIPE CULVERTS	CONCRETE APRON	BIT. FLUME			15" CS PIPE CULVERT	15" GS APRON	15" RCP CULVERT	15" RCP APRON	18" RCP CULVERT	18" RCP APRON	44" SPAN RC PIPE ARCH CULV CL IIA	44" RCP ARCH APRON	CONCRETE FLUME	SODDING	RIPRAP CL II	GEOTEXTILE FILTER TYPE III
		ALIGN	OFFSET		LIN FT	EACH	EACH			LIN FT	LIN FT	LIN FT	EACH	LIN FT	EACH	LIN FT	EACH	SQ YD	SQ YD	CU YD	SQ YD
SP 002-605-018																					
18+37	18+87	CSAH 5 NB	26 RT	26 RT	51																
18+24	18+92	CSAH 5 NB	27 RT	27 RT				880.65	880.31			56	2						13	3.2	18
23+20	23+71	CSAH 5 NB	20 RT	22 RT	51																
26+80	27+65	CSAH 5 NB	18 RT	16 RT	86																
28+11	28+44	CSAH 5 NB	13 RT	14 RT	34																
28+53		CSAH 5 NB	8RT															6		9	27
29+84	30+39	CSAH 5 NB	20 RT	18 RT	55																
29+71	30+28	CSAH 5 NB	31 RT	34 RT				867.50	867.21			47	2						8	3.2	18
33+71	33+71	CSAH 5 NB	17 RT	68 LT	70	2															
35+00	35+00	CSAH 5 NB	36 RT	89 LT				862.20	862.20							109	2		29	7.5	37.3
16+24	16+91	CSAH 5 SB	29 LT	29 LT	68																
16+12	17+00	CSAH 5 SB	25 LT	26 LT				886.80	885.50			77	2						8	3.2	18
16+43		CSAH 5 SB	45 LT				1											6		9	27
16+72		CSAH 5 SB	45 LT				1											6		9	27
23+71	23+93	CSAH 5 SB	23 LT	22 LT	22																
23+69	23+97	CSAH 5 SB	22 LT	22 LT				871.34	870.00	24	2								16		
26+61	26+95	CSAH 5 SB	22 LT	19 LT	33																
27+32	29+28	CSAH 5 SB	18 LT	31 LT	193																
70+55	70+86	ALPINE DR	30 LT	33 LT	31																
72+15	72+46	ALPINE DR	36 LT	38 LT	31																
74+69	74+94	ALPINE DR	40 LT	40 LT	25																
75+87	76+21	ALPINE DR	39 LT	38 LT	34																
				SUBTOTAL	784	2	2			24	2	180	6			109	2	18	74	44.1	172.3
CP 14-20																					
40+34	41+00	CSAH 5 NB	27 RT	26 RT	65																
40+43		CSAH 5 NB	12 RT															4		9	27
40+60	41+30	CSAH 5 NB	30 RT	29 RT										72	2				10	4.3	22.4
41+14		CSAH 5 NB	42 RT															5		9	27
				SUBTOTAL	65									72	2			9	10	22.3	76.4
				TOTAL	849	2	2			24	2	180	6	72	2	109	2	27	84	66.4	248.7

REMOVE CURB AND GUTTER — D

STATION TO STATION		LOCATION		CONCRETE
		ALIGN	OFFSET	LIN FT
SP 002-605-018				
65+59	69+52	ALPINE DR	16 RT	395
67+00	69+10	ALPINE DR	28 LT	210
			TOTAL	605

DRIVEWAY REMOVAL AND CONSTRUCTION — E

STATION	LOCATION			ADDRESS	SAWCUT		REMOVE			CONSTRUCT			
	ALIGNMENT	OFFSET			BIT	CONC	BIT	CONC	CL 5	2.5" BIT		6" CONC	4" CL 5
		FROM	TO		LIN FT	LIN FT	SQ YD	SQ YD	SQ YD	SQ YD	TON (1)	SQ YD	CU YD
SP 002-605-018													
11+80	CSAH 5 NB	10 RT	20 RT	15113						29			
13+59	CSAH 5 NB	1 LT	30 RT	15123		17				25		15	
15+34	CSAH 5 NB	0 LT	31 RT	15133	19					26			
23+50	CSAH 5 NB	1 LT	32 RT	15243	24		135			80	11		9
28+27	CSAH 5 NB	0 RT	37 RT	5859	19		98						
20+60	CSAH 5 SB	4 LT	40 LT	15200	11		60			31	4		3
23+86	CSAH 5 SB	3 LT	31 LT	15220		12		40				32	4
26+75	CSAH 5 SB	4 LT	121 LT	15250	14		204						
70+58	ALPINE DR	37 LT	77 LT	5859		13	55	7					
72+30	ALPINE DR	37 LT	100 LT	5843					96	23	3		5
76+00	ALPINE DR	28 LT	53 LT	5803					69	28	4		3
				SUBTOTAL	87	42	552	47	165	242	22	47	24
CR 5 CP 14-20													
102+29	CR 5	7 RT	38 RT	15451	19		72						
				SUBTOTAL	19		72						
				TOTAL	106	42	624	47	165	242	22	47	24

(1) SEE SHEET 5 FOR 'BASIS OF QUANTITIES'.

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TABULATIONS

Sheet 7 of 148 Sheets

REMOVE BITUMINOUS PAVEMENT — F

STATION TO STATION		LOCATION	DESCRIPTION	REMOVE BITUMINOUS PAVEMENT 6.0" - 7.5"	SAWING BITUMINOUS PAVEMENT	2" MILL
				SQ YD	LIN FT	SQ YD
SP 002-605-018						
15+95	27+50	CSAH 5 NB	Main & Shoulder	2251	44	
18+17	19+03	CSAH 5 NB	FIRE STN		29	
27+50	40+55	CSAH 5 NB	Main & Shoulder	1959		
29+64	30+40	CSAH 5 NB	OLD CR 5		21	
40+55	41+39	CSAH 5 NB	Main & Shoulder	117	33	
41+39	45+52	CSAH 5 NB	Main & Shoulder			1002
15+95	27+75	CSAH 5 SB	Main & Shoulder	1838	22	
16+19	16+99	CSAH 5 SB	151st St		28	
27+75	40+40	CSAH 5 SB	Main & Shoulder	2001	12	
40+40	45+45	CSAH 5 SB	Shoulder		430	
40+40	41+26	CSAH 5 SB	Main	123		
41+26	45+45	CSAH 5 SB	Main			500
62+64	65+59	ALPINE DR	Main & Shoulder			1307
65+59	69+30	ALPINE DR	Main & Shoulder	840	185	316
67+00	69+30	ALPINE DR	Main & Shoulder	310		
70+58	73+00	ALPINE DR	Main & Shoulder	697	26	
73+00	78+11	ALPINE DR	Main & Shoulder		772	1729
			SUBTOTAL	10136	1602	4854
CP 14-20						
38+89	41+04	CSAH 5 NB	OLD CR 5		22	
			SUBTOTAL		22	
			TOTAL	10136	1624	4854

MAILBOX — J

STATION	LOCATION			MAILBOX SUPPORT	RELOCATE MAILBOX SUPPORT
	ALIGN	OFFSET	ADDRESS	EACH	EACH
SP 002-605-018					
13+80	CSAH 5 NB	13 RT	15123		1
15+54	CSAH 5 NB	6 RT	15133	1	
30+22	CSAH 5 NB	71 RT	15337	1	
20+34	CSAH 5 SB	7 LT	15200	1	
23+60	CSAH 5 SB	7 LT	15220		1
26+50	CSAH 5 SB	7 LT	15250		1
71+34	ALPINE DR	23 RT	5859	1	
72+27	ALPINE DR	21 RT	5843	1	
76+05	ALPINE DR	20 LT	5803	1	
			SUBTOTAL	6	3
CP 14-20					
102+08	CR 5	16 RT	15451		1
			SUBTOTAL		1
			TOTAL	6	4

BASE AND BITUMINOUS QUANTITIES — L

STATION TO STATION		LOCATION	DESCRIPTION	BITUMINOUS SURFACE	TYPE SP 12.5 WEAR (SPWEB340F)	TYPE SP 12.5 NON WEAR (SPNWB330B) (1)	TACK COAT	AGGREGATE BASE CLASS 5	AGGREGATE SHOULDERING CLASS 5
				SQ YD	TON	TON	GALLON	CU YD	CU YD
SP 002-605-018									
10+21	26+78	CSAH 5 NB	TEMP WIDEN	1425		205			69
27+67	29+85	CSAH 5 NB	TEMP WIDEN	406		58			9
30+21	40+03	CSAH 5 NB	TEMP WIDEN	1648		237			41
15+95	18+95	CSAH 5 NB	MAIN	409	71	53	41	68	
15+95	18+95	CSAH 5 NB	SHLD	273	47	35	27	58	8
15+95	23+97	CSAH 5 NB	STRIPING	694	120	90	69	128	8
18+05	18+95	CSAH 5 NB	FIRE STN	142	24	18	14	29	4
18+95	27+61	CSAH 5 NB	MAIN	1124	194	145	112	187	
18+95	23+17	CSAH 5 NB	SHLD	368	63	48	37	84	15
22+47	27+68	CSAH 5 NB	LTL	628	108	81	63	106	
23+17	27+27	CSAH 5 NB	RTL	612	106	79	61	119	1
27+61	41+39	CSAH 5 NB	MAIN	1841	318	238	184	307	
28+04	29+63	CSAH 5 NB	RTL	186	32	24	19	34	4
29+63	37+53	CSAH 5 NB	SHLD	676	117	87	68	167	36
35+72	41+39	CSAH 5 NB	RTL	629	109	81	63	122	11
41+39	45+52	CSAH 5 NB	MAIN	536	46		27		
41+39	45+52	CSAH 5 NB	SHLD	471	41		24		
15+94	27+70	CSAH 5 SB	MAIN	1574	272	204	157	263	
15+94	21+25	CSAH 5 SB	RTL	628	108	81	63	121	11
16+13	17+02	CSAH 5 SB	151ST LN	153	26	20	15	31	4
19+71	22+71	CSAH 5 SB	SHLD	158	27	20	16	42	10
21+25	25+96	CSAH 5 SB	BY-PASS	537	93	69	54	104	4
25+96	28+12	CSAH 5 SB	SHLD	205	35	27	21	40	5
27+70	41+26	CSAH 5 SB	MAIN	2185	377	283	219	364	
27+70	33+35	CSAH 5 SB	LTL	579	100	75	58	117	
28+12	33+35	CSAH 5 SB	RTL	694	120	90	69	133	
32+15	39+51	CSAH 5 SB	SHLD	659	114	85	66	148	19
33+35	38+81	CSAH 5 SB	STRIPING	338	58	44	34	61	
38+01	44+21	CSAH 5 SB	BY-PASS	620	107	80	62	125	15
41+26	45+45	CSAH 5 SB	MAIN	464	40		23		
44+21	45+47	CSAH 5 SB	SHLD	138	24	18	14	30	5
62+65	65+59	ALPINE DR	WEST	1600	138		80		
65+59	69+64	ALPINE DR	WEST	1802	311	233	180	327	
70+23	76+89	ALPINE DR	EAST	2445	422	316	245	464	20
73+00	78+11	ALPINE DR	EAST	1663	143		83		
			SUBTOTAL	28510	3911	3124	2268	3779	299
CP 14-20									
100+50	103+11	CR 5	MAIN	676	115	86	68	135	4
			SUBTOTAL	676	115	86	68	135	4
			TOTAL	29186	4026	3210	2336	3914	303

(1) INCLUDES QUANTITY FOR ADDITIONAL 1/4 INCH TO DESIGN PAVEMENT THICKNESS (EXCLUDING TEMPORARY WIDENING) - SEE SHEET 5 FOR 'BASIS OF QUANTITIES'.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_TAB.dgn 05/30/2014 1:58:09 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 KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

TABULATIONS

CONCRETE CURB AND GUTTER, CONCRETE MEDIAN — P

STATION TO STATION		ALIGNMENT	LOCATION	CONCRETE CURB & GUTTER DESIGN B-418	CONCRETE CURB & GUTTER DESIGN B-424	CONCRETE CURB & GUTTER DESIGN B-612	CONCRETE CURB & GUTTER DESIGN B-618	6" CONCRETE WALK	CONCRETE MEDIAN	TRUNCATED DOMES	CONCRETE NOSE DES 7113A (1)
				LIN FT	LIN FT	LIN FT	LIN FT	SQ FT	SQ YD	SQ FT	SQ FT
SP 002-605-018											
23+60	26+75	CSAH 5 NB	SHOULDER		368			299		24	
24+02	26+66	CSAH 5 NB	MEDIAN	260					114		70
27+75	28+57	CSAH 5 NB	SHOULDER		47			392		48	
28+83	34+59	CSAH 5 NB	MEDIAN	568					365		66
18+94	26+61	CSAH 5 SB	MEDIAN	758							
24+00	27+55	CSAH 5 SB	SHOULDER		357			554		24	
24+02	26+61	CSAH 5 SB	MEDIAN	260							
28+68	34+42	CSAH 5 SB	SHOULDER		622			433		28	
28+72	34+42	CSAH 5 SB	MEDIAN	568							
65+59	69+71	ALPINE DR	SHOULDER				412				
67+00	68+65	ALPINE DR	SHOULDER				165				
70+26	76+89	ALPINE DR	SHOULDER				662				
			SUBTOTAL	**2414**	**1026**		**1239**	**1379**	**479**	**100**	**136**
CP 14-20											
100+50	102+75	OCR 5	SHOULDERS			439					
			SUBTOTAL			**439**					
			TOTAL	**2414**	**1026**	**439**	**1239**	**1379**	**479**	**100**	**136**

(1) PAID FOR AS 6" CONCRETE WALK.

BITUMINOUS PATH — M

STATION TO STATION		LOCATION		SURFACE AREA	TYPE SP 12.5 WEAR (SPWEB230B)
				SQ YD	TON
SP 002-605-018					
26+00	26+67	CSAH 5 NB	RT	113	16
18+88	21+02	CSAH 5 SB	LT	189	27
28+80	44+21	CSAH 5 SB	LT	1375	194
67+00	68+87	ALPINE DR	LT	177	25
				TOTAL	194

TURF ESTABLISHMENT AND EROSION CONTROL — R

STA. TO STA.		LOCATION	SILT FENCE	INLET PROTECTION	SEEDING	SEED 325	SEED 330	SEED 350	EROSION CONTROL BLANKET CATEGORY 3	FERTILIZER TYPE 3 (10-10-10)	RAPID STABILIZATION METHOD 3
			LIN FT	EACH	ACRE	POUND	POUND	POUND	SQ YD	POUND	M GALLON
SP 002-605-018											
10+20	18+42	CSAH 5 NB		1	0.22			19	1065	22	1.8
18+75	26+65	CSAH 5 NB		9	0.32			27	1549	32	0.4
27+96	40+45	CSAH 5 NB	1105	4	0.69			58	3340	69	5.7
15+91	27+24	CSAH 5 SB	312	6	0.41			35	1984	41	2.5
28+73	45+48	CSAH 5 SB	2006	6	1.60	51	39	45	7744	160	9.6
65+58	70+11	ALPINE DR EB	172	1	0.14			12	678	14	0.2
71+02	78+10	ALPINE DR EB			0.22			19	1065	22	
67+00	68+86	ALPINE DR WB	144	1	0.07			6	339	7	0.4
70+26	77+58	ALPINE DR WB	136	2	0.20			17	968	20	
		SUBTOTAL	**3875**	**30**	**3.87**	**51**	**39**	**238**	**18732**	**387**	**20.6**
CP 14-20											
100+49	103+11.40	OCR 5		1	0.21			18	1016	21	1.8
		SUBTOTAL		**1**	**0.21**			**18**	**1016**	**21**	**1.8**
			3875	**31**	**4.08**	**51**	**39**	**256**	**19748**	**408**	**22**

NOTES:
- QUANTITIES ARE BASED ON 110% OF THE COMPUTED AREA.
- SEE SHEET 5 FOR 'BASIS OF QUANTITIES'.

NO	DATE	BY	CKD	APPR	REVISION
1	06/18/2014	EJM	GMP	CAK	UPDATED B424 QUANTITY IN TAB P.

NAME: P:\02-605-18\Plan\0260518_TAB.dgn 06/18/2014 1:02:59 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 6-19-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

TABULATIONS

Sheet 9 of 148 Sheets

UTILITY CONTACTS | AA

GOPHER STATE ONE CALL
FIELD UTILITY LOCATE REQUEST
http://www.gopherstateonecall.org
TEL: 651–454-0002 OR
TEL: 1-800-252-1166

CENTERPOINT ENERGY
700 WEST LINDEN AVE
PO BOX 1165
MINNEAPOLIS, MN 55440-1165
CONTACT: STEVE GUHANICK
TEL: 612-321-5421

CENTURYLINK
425 MONROE ST
ANOKA, MN 55303
CONTACT: BRUCE HOLLOWAY
TEL: 763-712-5020

CITY OF RAMSEY
7550 SUNWOOD DR NW
RAMSEY, MN 55303
CONTACT: BRUCE WESTBY
TEL: 763-433-9825

COMCAST CABLE
2611 FAIRVIEW AVE
ROSEVILLE, MN 55113
CONTACT: DOUG ZAHN
TEL: 651-493-5316

CONNEXUS ENERGY
5363 260TH LN N
WYOMING, MN 55096
CONTACT: MAT RAUSCHENDORFER
TEL: 763-323-4259

GREAT RIVER ENERGY
12300 ELM CREEK BLVD
MAPLE GROVE, MN 55369
CONTACT: MICHELLE MACMILLAN
TEL: 763-445-5984

ZAYO FIBER SOLUTIONS
2300 BERKSHIRE LN N, SUITE 4
PLYMOUTH, MN 55441
CONTACT: MICHAEL DAHLE
TEL: 952-857-9383

CENTERPOINT ENERGY - GAS | BB

STATION TO STATION		LOCATION			INPLACE ITEM	REMARKS
		ALIGN	OFFSET			
12+00	16+81	CSAH 5 NB	28 RT	19 RT	4" GAS LINE	LEAVE
16+81		CSAH 5 NB	19 RT	300 LT	2" LINE CROSSING	LEAVE
16+81	18+32	CSAH 5 NB	19 RT	20 RT	4" GAS LINE	LEAVE
18+32		CSAH 5 NB	20 RT	150 RT	2" GAS LINE	LEAVE
18+32	23+50	CSAH 5 NB	20 RT	15 RT	4" GAS LINE	LEAVE
23+50	26+57	CSAH 5 NB	15 RT		4" GAS LINE	RELOCATE
26+57		CSAH 5 NB	15 RT	300 LT	SERVICE	LEAVE
26+57	28+65	CSAH 5 NB	15 RT	20 RT	4" GAS LINE	RELOCATE
28+65		CSAH 5 NB	20 RT	79 LT	4" LINE CROSSING	RELOCATE
28+37	36+44	CSAH 5 NB	35 RT	350 RT	2" GAS LINE	LEAVE
36+44	41+60	CSAH 5 NB	350 RT	32 RT	2" GAS LINE	LEAVE
41+12	44+29	CSAH 5 NB	32 RT	33 RT	2" GAS LINE	LEAVE
62+00	68+93	ALPINE DR	35 LT	40 LT	4" GAS LINE	LEAVE
70+73	80+00	ALPINE DR	28 RT	34 RT	4" GAS LINE	LEAVE

GENERAL NOTES:

ALL UTILITY WORK SHOWN ON THIS SHEET SHALL BE DONE BY OTHERS UNLESS NOTED.

ALL RELOCATES AND ADJUSTMENTS SUBJECT TO ANOKA COUNTY AND/OR CITY OF RAMSEY RIGHT OF WAY POSSESSION.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM REQUIRED BY MINNESOTA STATUTE, 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 UTILITES BY CONSTRUCTION. ACTUAL DETERMINATIONS WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

CENTURYLINK - TELEPHONE | CC

STATION TO STATION		LOCATION			INPLACE ITEM	REMARKS
		ALIGN	OFFSET			
12+00		CSAH 5 NB	37 RT		SPLICE BOX	LEAVE
12+00	16+96	CSAH 5 NB	37 RT	34 RT	T-BUR	ADJUST
16+96		CSAH 5 NB	34 RT		SPLICE BOX	RELOCATE
16+96	26+79	CSAH 5 NB	34 RT	30 RT	T-BUR	LEAVE
25+00			30 RT	51 RT	T-BUR	LEAVE
25+39			28 RT	132 RT	T-BUR	LEAVE
26+79	28+69	CSAH 5 NB	30 RT	41 RT	T-BUR	LEAVE
26+79	27+33		30 RT	89 LT	T-BUR CROSSING	LEAVE
28+69	30+15	CSAH 5 NB	41 RT	39 RT	T-BUR	LEAVE
30+15	36+19	CSAH 5 NB	39 RT	304 RT		LEAVE
36+19	40+51	CSAH 5 NB	304 RT	53 RT		LEAVE
40+51	41+35	CSAH 5 NB	53 RT	56 RT		LEAVE
41+35		CSAH 5 NB	56 RT		SPLICE BOX	LEAVE
41+35	41+40	CSAH 5 NB	56 RT	59 LT	T-BUR CROSSING	LEAVE
12+18		CSAH 5 SB	31 LT		SPLICE BOX	LEAVE
16+30		CSAH 5 SB	66 LT	300 LT	T-BUR	LEAVE
16+30	16+90	CSAH 5 SB	66 LT	67 LT	T-BUR	LEAVE
16+90		CSAH 5 SB	67 LT		SPLICE BOX	LEAVE
16+90		CSAH 5 SB	67 LT	69 RT	T-BUR CROSSING	ADJUST
21+45		CSAH 5 SB	38 LT	70 RT	T-BUR CROSSING	LEAVE
70+88		ALPINE DR	38 RT	38 LT	T-BUR CROSSING	RELOCATE
70+88	79+00	ALPINE DR	39 LT		T-BUR	LEAVE
70+88	71+81	ALPINE DR	38 LT	44 LT	T-BUR	RELOCATE
71+81		ALPINE DR	44 LT		SPLICE BOX	RELOCATE
71+81	74+51	ALPINE DR	44 LT	46 LT	T-BUR	RELOCATE
74+51		ALPINE DR	46 LT		SPLICE BOX	RELOCATE
74+51	76+94	CR 57 NB	46 LT	41 LT	T-BUR	RELOCATE
76+94		CR 57 SB	41 LT		SPLICE BOX	LEAVE

NO	DATE	BY	CKD	APPR	REVISION
1	06/18/2014	EJM	GMP	CAK	ADDED 'GENERAL NOTES'
2	07/03/2014	EJM	GMP	CAK	UPDATED CONTACTS FOR CENTURYLINK AND ZAYO

NAME: P:\02-605-18\Plan\0260518_TAB.dgn 07/03/2014 6:17:59 AM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT KOBILARCSIK
SIGNATURE:
DATE: 7-7-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

TABULATIONS

CITY OF RAMSEY - WATERMAIN — DD

STATION TO STATION		LOCATION ALIGN	OFFSET		INPLACE ITEM	REMARKS
11+29		CSAH 5 SB	37 LT		HYDRANT	LEAVE
11+32		CSAH 5 SB	37 LT		GATE VALVE	LEAVE
11+32	11+50	CSAH 5 SB	37 LT	45 LT	12" DIP	LEAVE
11+50		CSAH 5 SB	45 LT		GATE VALVE	LEAVE
11+50	16+63	CSAH 5 SB	45 LT	22 LT	DIP	LEAVE
16+63		CSAH 5 SB	22 LT		GATE VALVE	ADJUST
16+63	16+93	CSAH 5 SB	22 LT	21 LT	12" DIP	LEAVE
16+67		CSAH 5 SB	32 LT		GATE VALVE	ADJUST
16+75		CSAH 5 SB	66 LT		GATE VALVE	LEAVE
16+93		CSAH 5 SB	21 LT		GATE VALVE	ADJUST
16+93	19+49	CSAH 5 SB	21 LT	15 LT	DIP	LEAVE
19+49		CSAH 5 SB	15 LT	87 RT	DIP CROSSING	LEAVE
19+49	19+55	CSAH 5 SB	15 LT	17 LT	DIP	LEAVE
19-55		CSAH 5 SB	17 LT		GATE VALVE	LEAVE
19+55	19+62	CSAH 5 SB	17 LT	24 LT	DIP	LEAVE
19+62		CSAH 5 SB	24 LT		HYDRANT	RELOCATE
19+55	28+87	CSAH 5 SB	17 LT	19 LT	DIP	LEAVE
28+87	29+26	CSAH 5 SB	19 LT	22 LT	DIP	LEAVE
29+26		CSAH 5 SB	22 LT		GATE VALVE	LEAVE
29+26		CSAH 5 SB	25 LT		HYDRANT	RELOCATE

COMCAST CABLE COMMUNICATIONS — EE

STATION TO STATION		LOCATION ALIGN	OFFSET		INPLACE ITEM	REMARKS
11+60		CSAH 5 NB	44 RT		SPLICE BOX	LEAVE
14+55		CSAH 5 NB	41 RT		SPLICE BOX	LEAVE
18+41		CSAH 5 NB	24 RT	250 RT	TV-BUR CROSSING	LEAVE
8+59	14+25	CSAH 5 SB	35 LT		BURIED	LEAVE
12+18		CSAH 5 SB	31 LT		SPLICE BOX	LEAVE
14+25		CSAH 5 SB	35 LT	100 RT	TV-BUR CROSSING	LEAVE
14+25	21+27	CSAH 5 SB	32 RT		OVERHEAD	LEAVE
18+93		CSAH 5 SB	35 LT	250 RT	TV-BUR CROSSING	LEAVE
21+27	26+00	CSAH 5 SB	28 LT		OVERHEAD	RELOCATE
26+00	36+00	CSAH 5 SB	30 LT		OVERHEAD	RELOCATE
36+00	44+23	CSAH 5 SB	35 LT		OVERHEAD	LEAVE
44+20		CSAH 5 SB	36 LT		SPLICE BOX	LEAVE
69+64	71+83	ALPINE DR	34 RT	21 RT	BURIED	RELOCATE
71+83		ALPINE DR	21 RT	43 LT	TV-BUR CROSSING	LEAVE
71+83		ALPINE DR	43 LT		SPLICE BOX	RELOCATE
71+83	74+52	ALPINE DR	43 LT	46 LT	TV-BUR CROSSING	RELOCATE
74+52		ALPINE DR	46 LT		SPLICE BOX	RELOCATE
74+52	76+94	ALPINE DR	46 LT	41 LT	TV-BUR	ADJUST
76+94		ALPINE DR	41 LT		SPLICE BOX	LEAVE
76+94	78+07	ALPINE DR	41 LT		BURIED	LEAVE
78+07		ALPINE DR	41 LT		SPLICE BOX	LEAVE

CONNEXUS ENERGY & GREAT RIVER ENERGY — FF

STATION TO STATION		LOCATION ALIGN	OFFSET		INPLACE ITEM	REMARKS
11+48		CSAH 5 NB	51 RT		POWER POLE	LEAVE
17+90		CSAH 5 NB	57 RT		POWER POLE	LEAVE
18+89		CSAH 5 NB	25 RT		POWER POLE	RELOCATE
21+03		CSAH 5 NB	23 RT		POWER POLE	LEAVE
26+79		CSAH 5 NB	29 RT		POWER POLE	RELOCATE
29+82		CSAH 5 NB	29 RT		POWER POLE	LEAVE
31+83		CSAH 5 NB	112 RT		POWER POLE	LEAVE
40+14		CSAH 5 NB	72 RT		POWER POLE	LEAVE
40+20		CSAH 5 NB	137 RT		POWER POLE	LEAVE
11+43		CSAH 5 SB	22 LT		POWER POLE	LEAVE
12+26		CSAH 5 SB	35 LT		POWER POLE	LEAVE
14+25		CSAH 5 SB	33 LT		POWER POLE	LEAVE
16+28		CSAH 5 SB	34 LT		POWER POLE	LEAVE
18+92		CSAH 5 SB	29 LT		POWER POLE	RELOCATE
21+26		CSAH 5 SB	31 LT		POWER POLE	RELOCATE
24+08		CSAH 5 SB	29 LT		POWER POLE	LEAVE
26+03		CSAH 5 SB	36 LT		POWER POLE	LEAVE
27+51		CSAH 5 SB	30 LT		POWER POLE	RELOCATE
30+04		CSAH 5 SB	30 LT		POWER POLE	RELOCATE
33+05		CSAH 5 SB	30 LT		POWER POLE	RELOCATE
36+06		CSAH 5 SB	34 LT		POWER POLE	RELOCATE
39+14		CSAH 5 SB	35 LT		POWER POLE	RELOCATE
41+96		CSAH 5 SB	35 LT		POWER POLE	RELOCATE
44+21		CSAH 5 SB	35 LT		POWER POLE	LEAVE
60+00		ALPINE DR	38 RT		POWER POLE	LEAVE
63+46		ALPINE DR	37 RT		POWER POLE	LEAVE
67+24		ALPINE DR	32 RT		POWER POLE	LEAVE
69+37	70+14		28 RT	60 RT	P_BUR	ADJUST
70+14	70+82		60 RT	52 RT	P_BUR	LEAVE
70+82	71+05		52 RT	31 RT	P_BUR	LEAVE
71+05	79+00		31 RT	26 RT	P_BUR	ADJUST
73+30		ALPINE DR	32 RT		POWER POLE	LEAVE
76+79		ALPINE DR	36 RT		POWER POLE	LEAVE

ZAYO COMMUNICATIONS - CABLE — GG

STATION TO STATION		LOCATION ALIGN	OFFSET		INPLACE ITEM	REMARKS
18+98		CSAH 5 NB	27 RT	168 RT	F/O	LEAVE
18+98	26+85	CSAH 5 NB	27 RT	17 RT	F/O	RELOCATE
60+00	69+68	ALPINE DR	36 RT	30 RT	F/O	LEAVE
69+68	70+94	ALPINE DR	30 RT	29 RT	F/O	RELOCATE
70+94	79+00	ALPINE DR	29 RT	30 RT	F/O	LEAVE

GENERAL NOTES:

ALL UTILITY WORK SHOWN ON THIS SHEET SHALL BE DONE BY OTHERS UNLESS NOTED.

ALL RELOCATES AND ADJUSTMENTS SUBJECT TO ANOKA COUNTY AND/OR CITY OF RAMSEY RIGHT OF WAY POSSESSION.

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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 UTILITES BY CONSTRUCTION. ACTUAL DETERMINATIONS WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

NO	DATE	BY	CKD	APPR	REVISION
1	08/18/2014	EJM	GMP	CAK	ADDED 'GENERAL NOTES'.

NAME: P:\02-605-18\Plan\0260518_TAB.dgn 08/18/2014 1:03:01 PM

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

PRINT NAME: CURT KOBILARCSIK
SIGNATURE:
DATE: 6-19-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

TABULATIONS

EARTHWORK TABULATION (CSAH 5) — G

STATION	EXCAVATION TOTALS COMMON (CU YD)	MUCK (CU YD)	SUBGRADE (CU YD)	EMBANKMENT TOTALS (CV) TOPSOIL (CU YD)	SUBGRADE (CU YD)	SUITABLE (CU YD)
16+00.00						
16+50.00	118		121	8	121	
17+00.00	126		123	11	123	
17+50.00	113		97	12	97	1
18+00.00	110		98	10	99	4
18+20.00	48		40	5	40	1
18+50.00	78		58	7	61	2
19+00.00	140		99	11	103	7
19+50.00	160		105	16	105	8
20+00.00	155		106	16	106	7
20+60.00	174		130	19	130	6
21+00.00	111		88	10	88	1
21+50.00	136		113	10	113	
22+00.00	140		116	11	116	2
22+50.00	139		117	10	119	6
23+00.00	131		116	8	121	9
23+50.00	135		141	6	144	6
23+83.00	88		92	9	99	24
24+00.00	39		37	8	46	28
24+50.00	95		97	21	135	113
25+00.00	67		74	20	135	150
25+50.00	64		42	21	134	176
26+00.00	77		14	21	131	193
26+25.00	51		2	7	64	114
26+50.00	57			6	64	142
26+75.00	52			8	69	148
27+00.00	43			9	66	111
27+25.00	31			9	57	115
27+50.00	25			6	56	144
27+75.00	24			4	63	130
28+00.00	24	41		4	64	169
28+50.00	51	188		11	123	433
29+00.00	56	291		15	130	533
29+50.00	62	357	2	21	133	640
30+00.00	62	238	6	21	133	481
30+25.00	30	63	5	9	65	154
30+50.00	30	98	6	11	63	213
31+00.00	63	265	20	25	126	544
31+50.00	63	266	31	26	126	535
32+00.00	63	262	41	26	125	511
32+50.00	63	234	54	27	121	459
33+00.00	62	216	66	24	111	401
33+50.00	67	202	75	22	101	354
33+70.50	32	73	35	9	41	132
34+00.00	56	96	56	13	60	161
34+50.00	133	151	103	46	106	216
35+00.00	510	244	104	123	109	169
35+50.00	860	774	100	168	107	131
36+00.00	785	981	101	136	108	124
36+50.00	395	501	102	75	109	136
37+00.00	78	160	100	29	106	139
37+50.00	75	80	98	19	104	146
38+00.00	82	72	97	19	101	150
38+50.00	97	54	94	21	101	153
SUBTOTAL	6526	5907	3322	1219	5278	8732

EARTHWORK TABULATION (CSAH 5) — G

STATION	EXCAVATION TOTALS COMMON (CU YD)	MUCK (CU YD)	SUBGRADE (CU YD)	EMBANKMENT TOTALS (CV) TOPSOIL (CU YD)	SUBGRADE (CU YD)	SUITABLE (CU YD)
39+00.00	117	21	91	24	101	134
39+50.00	125		88	24	99	103
40+00.00	121		88	22	99	83
40+33.00	79		59	13	66	44
40+68.00	161		67	19	73	39
41+00.00	137		66	15	70	31
41+50.00	65		64	11	110	41
42+00.00	38		24	11	71	33
42+50.00	40		23	12	31	42
43+00.00	37		22	13	31	62
43+50.00	33		20	13	31	72
44+00.00	33		19	12	31	68
44+28.00	19		12	6	17	33
44+50.00	13		10	4	14	14
45+00.00	26		22	6	28	7
45+50.00	28		23	5	24	3
SUBTOTAL	1072	21	698	210	896	809

EARTHWORK TABULATION (ALPINE DR) — G

STATION	EXCAVATION TOTALS COMMON (CU YD)	MUCK (CU YD)	SUBGRADE (CU YD)	EMBANKMENT TOTALS (CV) TOPSOIL (CU YD)	SUBGRADE (CU YD)	SUITABLE (CU YD)
65+60.00						
66+00.00	24		35	3	37	4
66+50.00	34		51	4	53	5
67+00.00	68		80	8	81	15
67+50.00	111		106	16	107	34
68+00.00	132		104	19	107	37
68+27.00	75		53	12	58	21
68+65.00	92		56	14	82	34
69+00.00	61		24	10	76	38
69+50.00	69		6	20	130	94
69+75.00	17			7	38	31
70+00.00						
70+25.00		23				23
70+50.00	13	63		3	31	108
70+75.00	27	73	1	6	61	139
71+00.00	25	58	2	6	64	103
71+25.00	26	48	7	9	64	91
71+59.00	31	47	31	11	80	83
72+00.00	46	30	68	12	94	47
72+30.00	48	9	60	8	66	17
72+50.00	33	1	40	4	43	11
73+00.00	72		97	13	105	36
73+50.00	62		71	12	80	31
74+00.00	51		45	13	56	34
74+50.00	51		45	15	56	47
75+00.00	55		46	15	56	57
75+50.00	50		44	16	56	67
76+00.00	39		44	17	54	48
76+50.00	47		44	14	50	23
77+00.00	32		21	6	24	11
77+50.00						
78+00.00						
SUBTOTAL	1391	352	1181	293	1809	1289

EARTHWORK TABULATION (OLD CR 5) — G

STATION	EXCAVATION TOTALS COMMON (CU YD)	MUCK (CU YD)	SUBGRADE (CU YD)	EMBANKMENT TOTALS (CV) TOPSOIL (CU YD)	SUBGRADE (CU YD)	SUITABLE (CU YD)
90+00.00						
90+30.00	8			4		37
90+50.00	18			6		30
90+60.00	10			4		5
90+70.00	11			4		2
91+00.00	39			9		1
91+37.00	40			9		5
100+00.00						
100+50.00	38			4		
101+00.00	49			7		
101+50.00	152			16		
102+00.00	352			22		
102+30.00	264			14		
102+60.00	211			12		
102+75.00	68			4		
103+00.00	58			6		8
SUBTOTAL	1318			121		88
TOTAL	10307	6280	5201	1843	7983	10918

EARTHWORK SUMMARY — H

	EXCAVATION TOTALS COMMON (CU YD)	MUCK (CU YD)	SUBGRADE (CU YD)	EMBANKMENT TOTALS (CV) TOPSOIL (CU YD)	SUBGRADE (CU YD)	SUITABLE (CU YD)
002-605-018	9115	6280	5201	1758	7983	10910
14-20	1192			85		8
TOTAL	10307	6280	5201	1843	7983	10918

NO	DATE	BY	CKD	APPR	REVISION

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

PRINT NAME: CURT KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

EARTHWORK TABULATION

Sheet 12 of 148 Sheets

EARTHWORK BALANCE

I

EXCAVATION (CU YD)	EMBANKMENT (CU YD)	EXCESS / BORROW (CU YD)
① COMMON EXCAVATION 10307 (EV) → TOPSOIL 1944 (EV) → (1944/ 1.20) = 1620 (CV)	TOPSOIL 1843 (CV)	TOPSOIL (1843 - 1628 - 6280) * 1.30 = (7874) (EXCESS) (LV)
→ PAVEMENT 3120 (EV)		
→ POND 1693 (EV)	SELECT GRANULAR 10918 (CV)	
→ SUITABLE 3550 (EV)		④ SELECT GRANULAR ((10918+ 7983) - 8703) * 1.30 = 13257 (BORROW) (LV)
→ (1693+3550+5201) / 1.20 = 8703 (CV)	SUBGRADE BACKFILL 7983 (CV)	
② SUBGRADE EXCAVATION 5201 (EV)		
③ MUCK EXCAVAION 6280 (EV)		

EARTHWORK BALANCE NOTES:

① IT IS ASSUMED THAT COMMON EXCAVATION AT POND LOCATION ABOVE 865.0 FT MEETS THE REQUIREMENTS OF SELECT GRANULAR BORROW.

② 1' SUBGRADE TREATMENT EXCAVATION PAID FOR AS SUBGRADE EXCAVATION. IT IS ASSUMED THAT SUBGRADE EXCAVATION AND SUITABLE MATERIALS FROM COMMON EXCAVATION MEET THE REQUIREMENTS OF SELECT GRANULAR BORROW. ADDITIONAL MATERIAL NEEDED SHALL BE SELECT GRANULAR.

③ MUCK EXCAVATION INCLUDES EXCAVATION AT POND LOCATION BELOW 865.0 FT.

④ SELECT GRANULAR MATERIAL MEETING THE REQUIREMENTS OF MN/DOT SPEC. 3149.2B2 SHALL BE USED TO BACKFILL COMMON EXCAVATION AND MUCK EXCAVATION (EXCLUDING MUCK DISPOSAL) AREAS.

GENERAL NOTES:

SEE SOILS AND CONSTRUCTION NOTES FOR MATERIAL DEFINITIONS AND ADDITIONAL INFORMATION.

120% SHRINKAGE FACTOR USED FROM EXCAVATED VOLUME (EV) TO COMPACTED VOLUME (CV).
130% SWELL FACTOR USED FROM COMPACTED VOLUME (CV) TO LOOSE VOLUME (LV).
SHRINKAGE FACTORS ARE ASSUMED VALUES, USED ONLY FOR THE PURPOSE OF ESTIMATED QUANTITIES. IT SHALL BE UNDERSTOOD THAT NO WARRANTY IS MADE OR IMPLIED AS TO THE ACCURACY, SUFFICIENCY, OR RELIABILITY OF SHRINKAGE FACTORS.

ALL MATERIAL NOT USED ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT LIMITS WITH NO DIRECT PAYMENT THEREFORE. THE MATERIAL QUANTITY IS BASED ON ESTIMATED QUANTITIES. DISPOSAL SHALL BE IN ACCORDANCE WITH SPEC. 2105

THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER BEFORE HAULING MATERIAL OFF SITE.

NO	DATE	BY	CKD	APPR	REVISION

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SP 002-605-018
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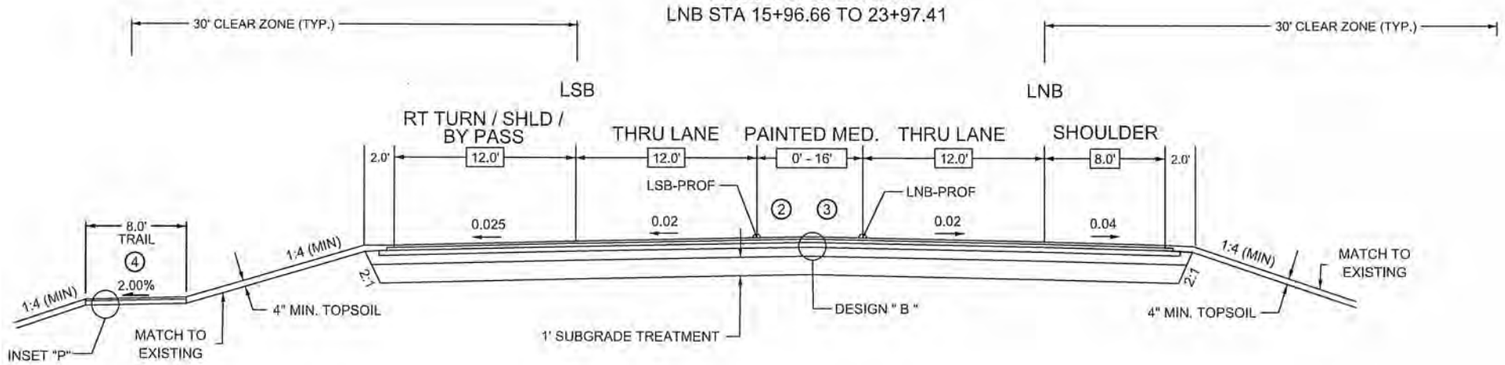
CP 14-20

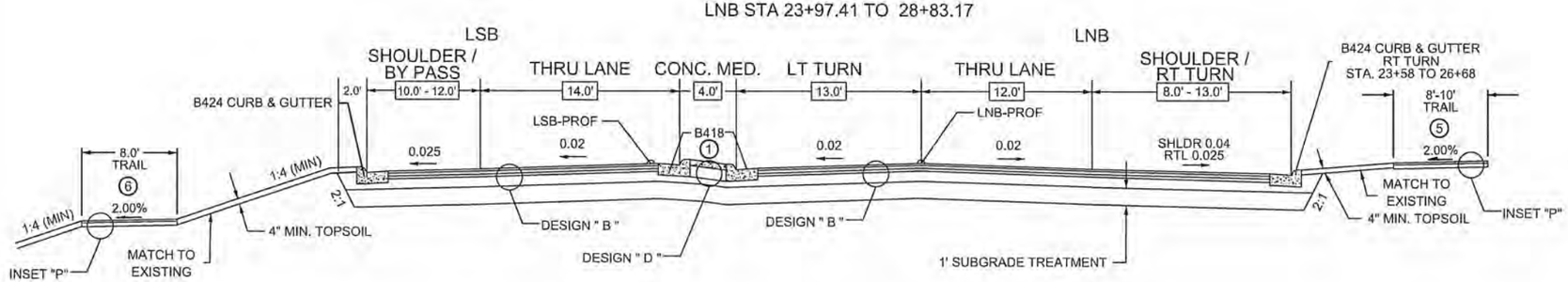
EARTHWORK TABULATION

Sheet 13 of 148 Sheets

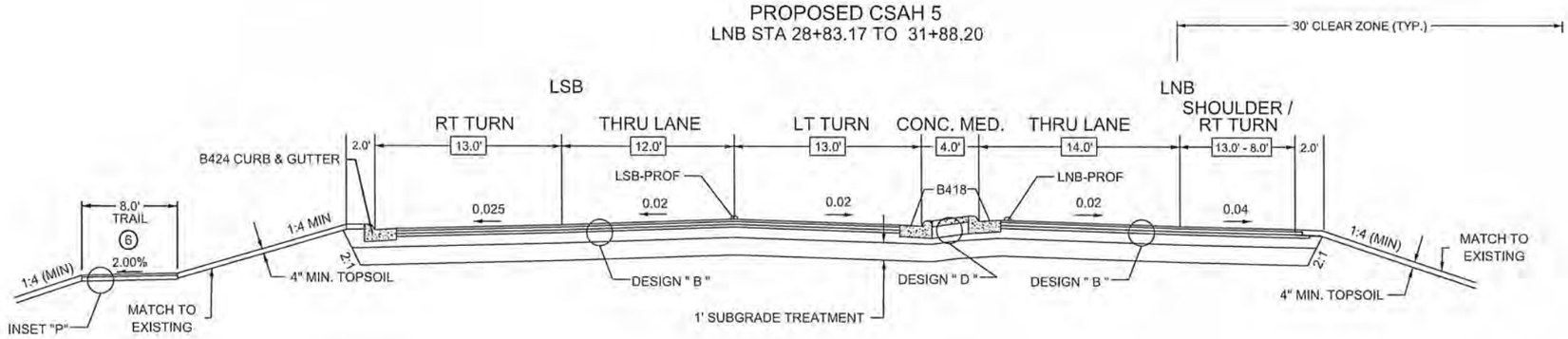
PROPOSED CSAH 5
LNB STA 15+96.66 TO 23+97.41



PROPOSED CSAH 5
LNB STA 23+97.41 TO 28+83.17



PROPOSED CSAH 5
LNB STA 28+83.17 TO 31+88.20



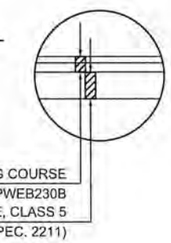
GENERAL NOTES:

1) ALL CROSS SLOPES ARE EXPRESSED IN FT/FT.
2) ALL STATIONINGS ON CSAH 5 BASED ON NORTHBOUND ALIGNMENT.
3) SEE CONSTRUCTION PLAN SHEETS 53 - 59 AND CHART ON SHEET 17 FOR TURN LANE LOCATIONS.
4) SEE SUPERELEVATION PLAN SHEETS 70 - 72 FOR CROSS SLOPE TRANSITION AND SUPERELEVATION.

NOTES:

1. STA. 26+66 TO STA. 28+83, NO MEDIAN
2. STA 15+97 TO STA 22+47, TAPER PAINTED MEDIAN 0' TO 16'
3. STA 22+47 TO STA 23+97, TAPER PAINTED MEDIAN 16' TO 8'
4. STA 18+88 (LSB) TO STA 21+02 (LSB)
5. STA 26+00 TO STA 26+67
6. STA 28+80 (LSB) TO STA 44+21 (LSB)

INSET "P"
BITUMINOUS PATH



NO	DATE	BY	CKD	APPR	REVISION
1	05/30/2014	DFF	GMP	CAK	REVISED SHEET PER STATE AID COMMENTS.

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ANOKA COUNTY HIGHWAY DEPT.

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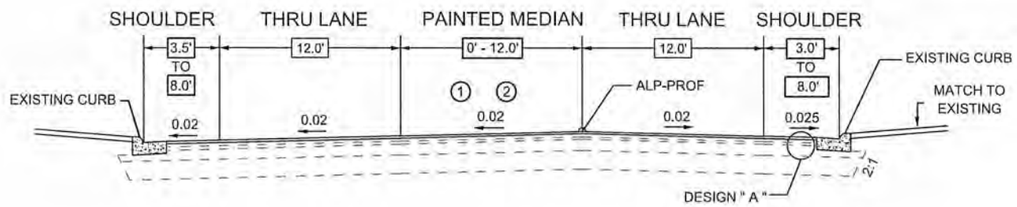
CP 14-20

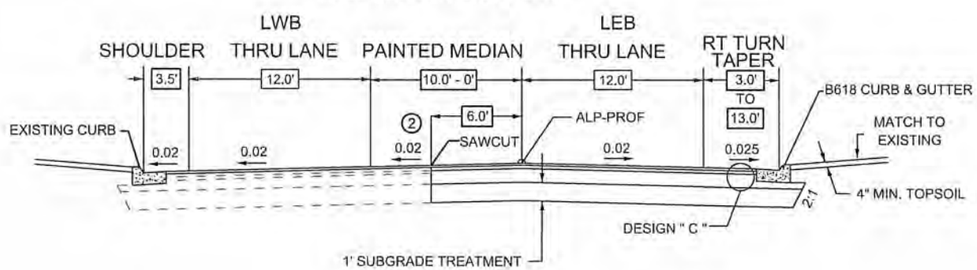
TYPICAL SECTIONS

Sheet 14 of 148 Sheets

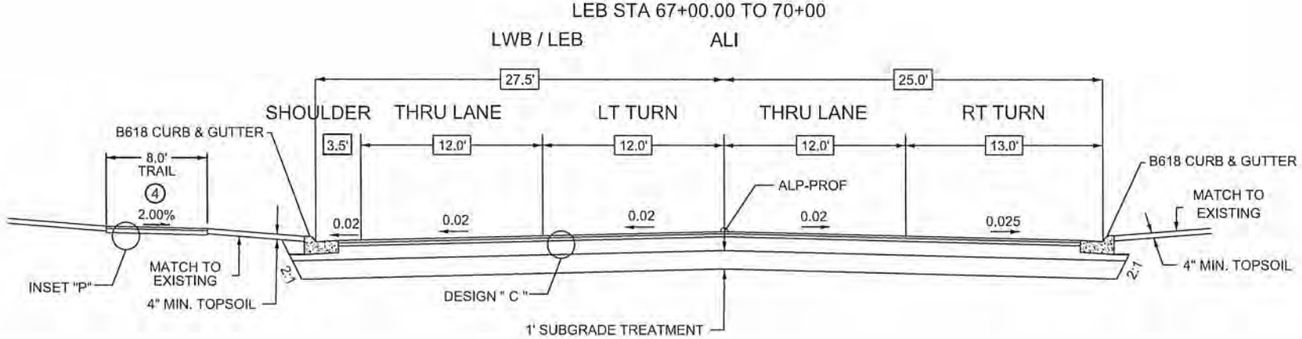
PROPOSED ALPINE DR
2" MILL & OVERLAY
LEB STA 62+64.80 TO 65+58.57
LEB STA 76+89.03 TO 78+11.05



PROPOSED ALPINE DR
LEB STA 65+58.57 TO 67+00.00
2" MILL & OVERLAY LWB
FULL RECONSTRUCT LEB



PROPOSED ALPINE DR
LEB STA 67+00.00 TO 70+00



GENERAL NOTES:

1) ALL CROSS SLOPES ARE EXPRESSED IN FT/FT.
2) ALL STATIONINGS ON CSAH 5 BASED ON NORTHBOUND ALIGNMENT.
3) SEE CONSTRUCTION PLAN SHEETS 53 - 59 AND CHART ON SHEET 17 FOR TURN LANE LOCATIONS.
4) SEE SUPERELEVATION PLAN SHEETS 70 -72 FOR CROSS SLOPE TRANSITION AND SUPERELEVATION.

NOTES:

1. STA. 62+65 TO STA. 65+35, TAPER PAINTED MEDIAN 0' TO 12'
2. STA 65+35 TO STA 67+00, TAPER PAINTED MEDIAN 12' TO 0'
3. STA 22+47 TO 23+97, TAPER PAINTED MEDIAN 16' TO 8'
4. STA 67+00 TO 68+87

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1	05/30/2014	DFF	GMP	CAK	REVISED SHEET PER STATE AID COMMENTS.

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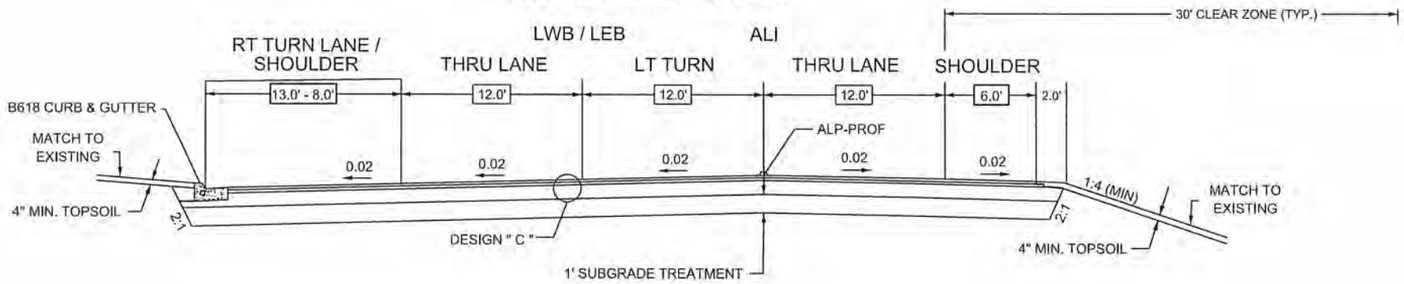
ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

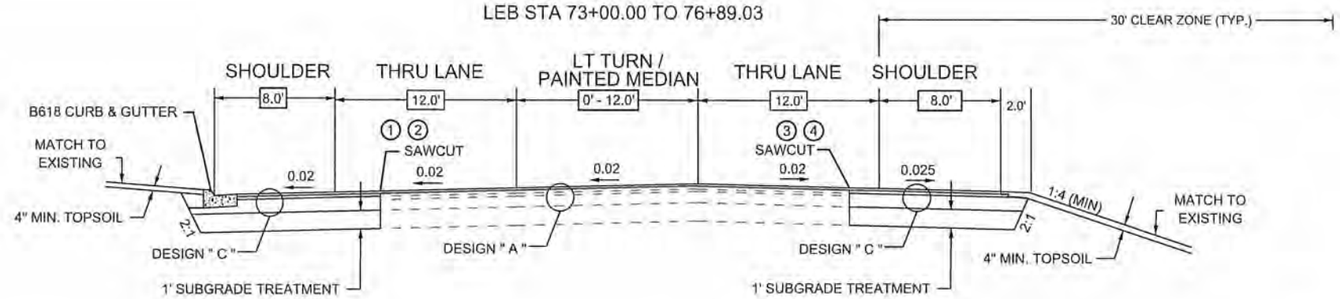
TYPICAL SECTIONS

Sheet 16 of 148 Sheets

PROPOSED ALPINE DR
LEB STA 70+00.00 TO 73+00.00



PROPOSED ALPINE DR
LEB STA 73+00.00 TO 76+89.03



GENERAL NOTES:

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3) SEE CONSTRUCTION PLAN SHEETS 53 - 59 AND CHART BELOW FOR TURN LANE LOCATIONS.
4) SEE SUPERELEVATION PLAN SHEETS 70 -72 FOR CROSS SLOPE TRANSITION AND SUPERELEVATION.

NOTES:

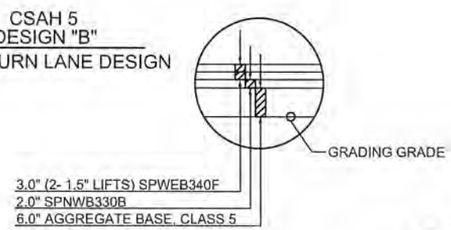
① SAWCUT TO BE MADE ~ 12' NORTH OF EXISTING CENTERLINE

② SAWCUT TO BE MADE FROM STA 73+00 TO STA 76+89, THEN PERPENDICULAR TO THE NORTH TO EXISTING EDGE OF PAVEMENT

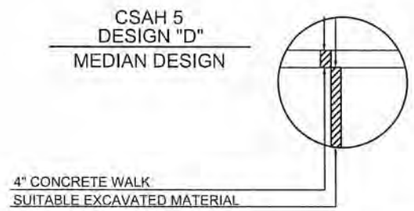
③ SAWCUT TO BE MADE ~ 13' - 14' TO SOUTH OF EXISTING CENTERLINE

④ SAWCUT TO BE MADE FROM STA 73+00 TO STA 76+64, THEN PERPENDICULAR TO THE SOUTH TO EXISTING EDGE OF PAVEMENT

CSAH 5
DESIGN "B"
THRU / TURN LANE DESIGN

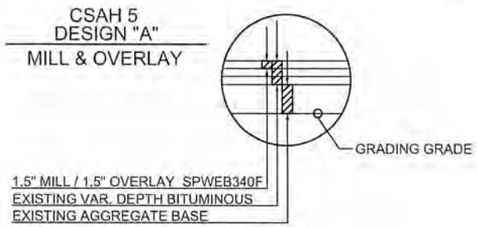


CSAH 5
DESIGN "D"
MEDIAN DESIGN

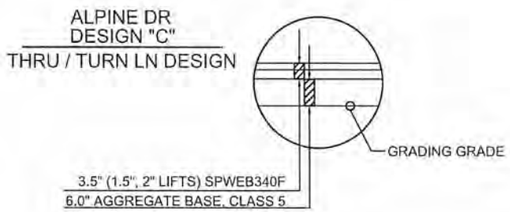


① SUBGRADE EXCAVATION, SELECT GRANULAR BORROW AND AGGREGATE BASE TO BE CARRIED THROUGH ENTIRE WIDTH OF MEDIAN WHEN MEDIAN WIDTH IS LESS THAN 8', MEASURED FROM FACE OF CURB TO FACE OF CURB.

CSAH 5
DESIGN "A"
MILL & OVERLAY



ALPINE DR
DESIGN "C"
THRU / TURN LN DESIGN



TURN LANE LOCATIONS

ALIGNMENT	STA. TO STA. *		LOCATION	DESCRIPTION	TAPER
CSAH 5 NB	22+47	26+62	LT.	LEFT TURN LANE	1:15
CSAH 5 NB	23+80	26+82	RT.	RIGHT TURN LANE	-
CSAH 5 NB	28+12	29+63	RT.	RIGHT TURN LANE	1:10
CSAH 5 NB	35+72	40+45	LT.	LEFT TURN LANE	1:15
CSAH 5 SB	17+00	21+24	LT.	RIGHT TURN LANE	1:15
CSAH 5 SB	21+24	25+98	LT.	BY-PASS LANE	1:15
CSAH 5 SB	28+88	33+54	LT.	RIGHT TURN LANE	1:15
CSAH 5 SB	28+88	33+54	RT.	LEFT TURN LANE	1:15
CSAH 5 SB	38+18	44+23	LT.	BY-PASS LANE	1:15
ALPINE DR	65+35	69+37	LT.	LEFT TURN LANE	1:15
ALPINE DR	65+59	69+49	RT.	RIGHT TURN LANE	1:15
ALPINE DR	70+45	72+56	LT.	RIGHT TURN LANE	1:15
ALPINE DR	70+60	75+41	LT.	LEFT TURN LANE	1:15

* STATION RANGE INCLUDES TAPER SECTION.

NO	DATE	BY	CKD	APPR	REVISION
1	05/30/2014	DFF	GMP	CAK	REVISED SHEET PER STATE AID COMMENTS.

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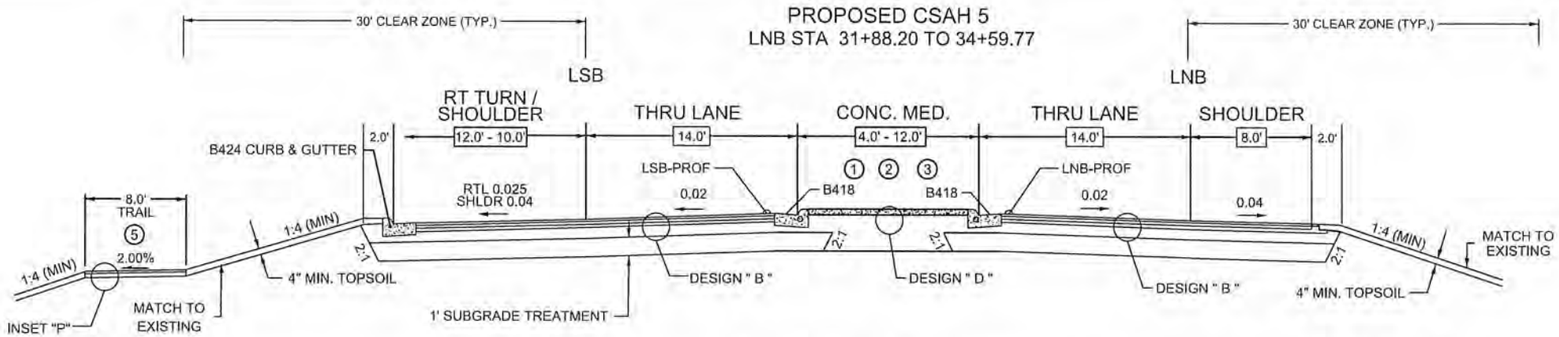
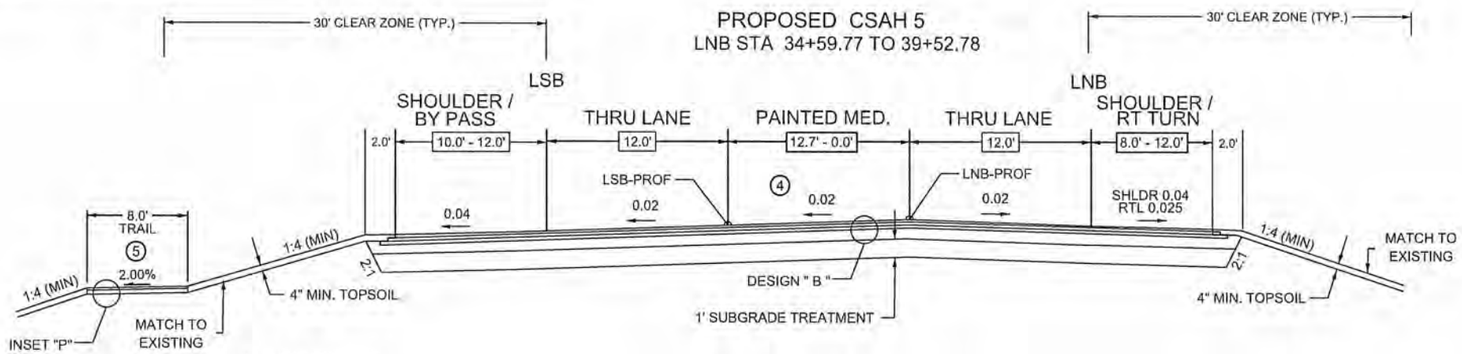
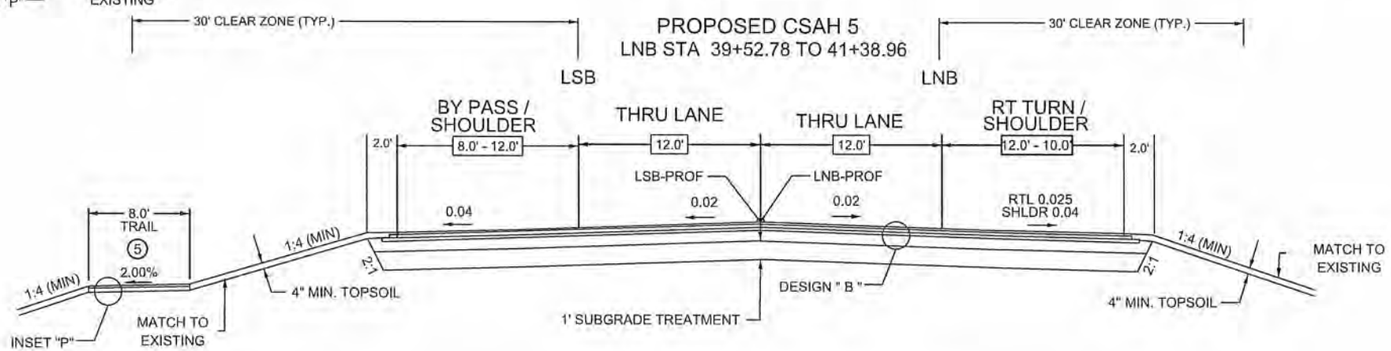
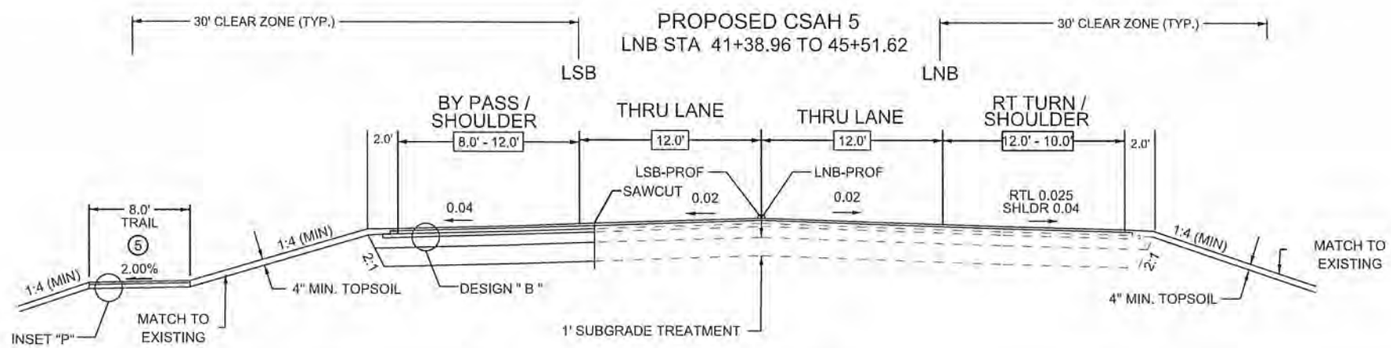
TYPICAL SECTIONS









GENERAL NOTES:

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2) ALL STATIONINGS ON CSAH 5 BASED ON NORTHBOUND ALIGNMENT.
3) SEE CONSTRUCTION PLAN SHEETS 53 - 59 AND CHART ON SHEET 17 FOR TURN LANE LOCATIONS.
4) SEE SUPERELEVATION PLAN SHEETS 70 -72 FOR CROSS SLOPE TRANSITION AND SUPERELEVATION.

NOTES:

1. STA. 31+88 TO STA 33+53, TAPER CONCRETE MEDIAN 4' TO 12'
2. STA 33+53 TO STA 34+59, TAPER CONCRETE MEDIAN 12' TO 3.4'
3. STA 33+53 TO STA 34+59, CONCRETE MEDIAN AND PAINTED MEDIAN OVERLAP (SEE P. #PP3)
4. STA 34+60 TO STA 38+99, TAPER PAINTED MEDIAN 12.7' TO 0'
5. STA 28+80 (LSB) TO STA 44+21 (LSB)

NO	DATE	BY	CKD	APPR	REVISION
1	05/30/2014	DFF	GMP	CAK	REVISED SHEET PER STATE AID COMMENTS.

NAME: P:\02-605-18\Plan\0260518_TS.dgn 05/30/2014 1:58:55 PM

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

PRINT NAME: CURT KOBILARCSIK
SIGNATURE:
DATE: 6-3-14 LICENSE NO. 24756

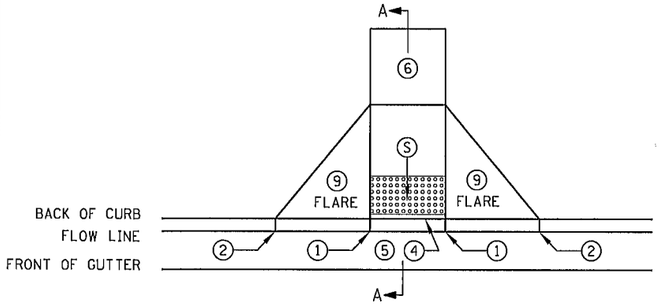
DRAWN BY JF DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

TYPICAL SECTIONS

Sheet 15 of 148 Sheets



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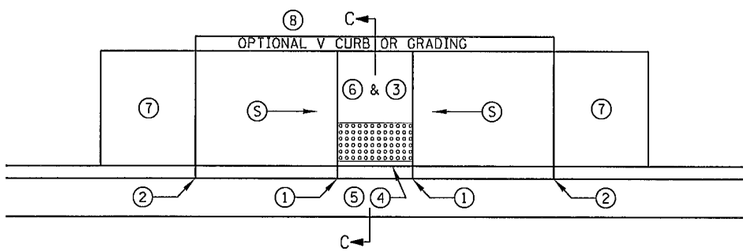

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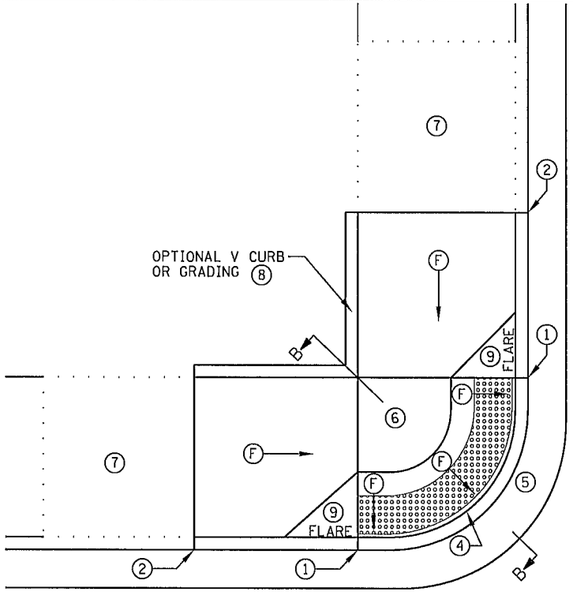

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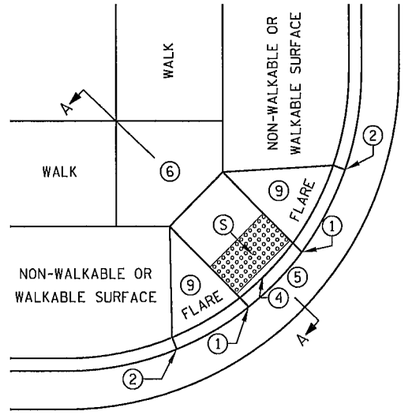
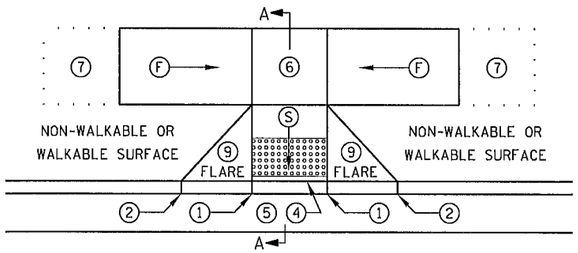
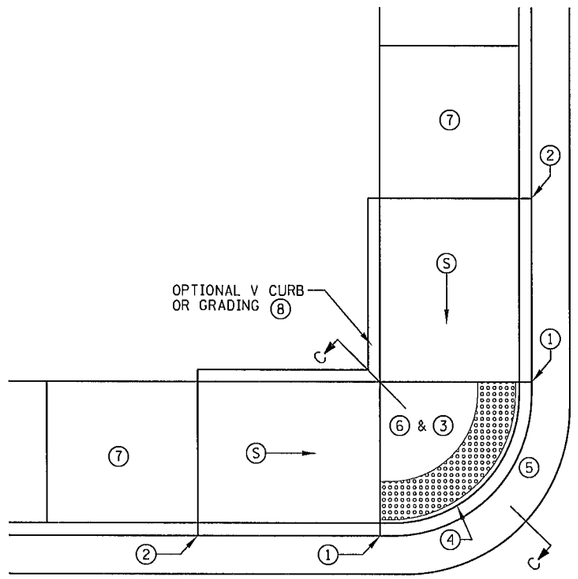


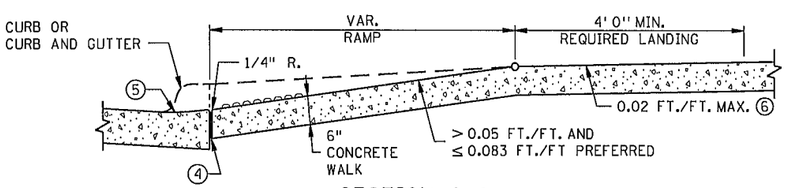
DIAGONAL 10



TIERED PERPENDICULAR

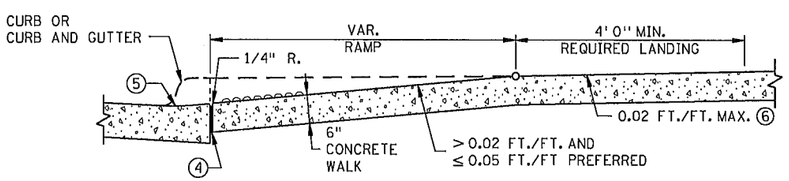


DEPRESSED CORNER



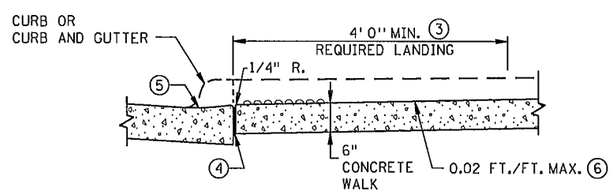
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



SECTION B-B

FAN



SECTION C-C

PARALLEL/DEPRESSED CORNER

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL.

TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONCTRUCTED, LANDINGS MAY BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 5 WHEN LANDINGS ARE CAST SEPARATELY.

ALL SLOPES ARE ABSOLUTE, RATHER THAN RELATIVE TO SIDEWALK/ROADWAY GRADES.

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MINIMUM OF 24" IN THE PATH OF TRAVEL. SHARED USE PATHS SHALL HAVE DETECTABLE WARNING ACROSS THE ENTIRE WIDTH OF PATH WHEN THE PATH CROSSES A ROAD.

SEE STANDARD PLATE 7038 AND SHEET 4 OF 5 FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

1. 0" CURB HEIGHT.
2. FULL CURB HEIGHT.
3. DETECTABLE WARNINGS MAY BE PART OF 4' X 4' LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
4. 1/2" PREFORMED JOINT FILLER MATERIAL AASHTO M 213. JOINT FILLER SHALL BE PLACED FLUSH WITH THE BACK OF CURB AND ADJACENT SIDEWALK. JOINT SHALL BE FREE OF DEBRIS. RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.
5. SEE PEDESTRIAN ACCESS ROUTE CURB AND GUTTER DETAIL FOR INFORMATION ON CONSTRUCTING CURB AND GUTTER AT CURB OPENINGS. SEE SHEET NO. 3 OF 5.
6. 4' BY 4' MIN. LANDING WITH MAX. 2.0% SLOPE IN ALL DIRECTIONS.
7. IF LONGITUDINAL SLOPE IS GREATER THAN 5.0%, 4' X 4' MIN. LANDING WITH MAX 2.0% SLOPE IN ALL DIRECTIONS REQUIRED.
8. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. SEE SHEET 5 OF 5.
9. SEE SHEET 4 OF 5, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.
10. DIAGONAL RAMPS SHOULD ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

S — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%

F — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

STANDARD PLAN SHEET NO. 5-297.250 (1 OF 5)

STANDARD APPROVED: APRIL 10, 2013

PEDESTRIAN CURB RAMP DETAILS

S.P. 002-605-018 S.P. 199-106-011 CP 14-20

PLOTTED/REVISED: 05/30/2014
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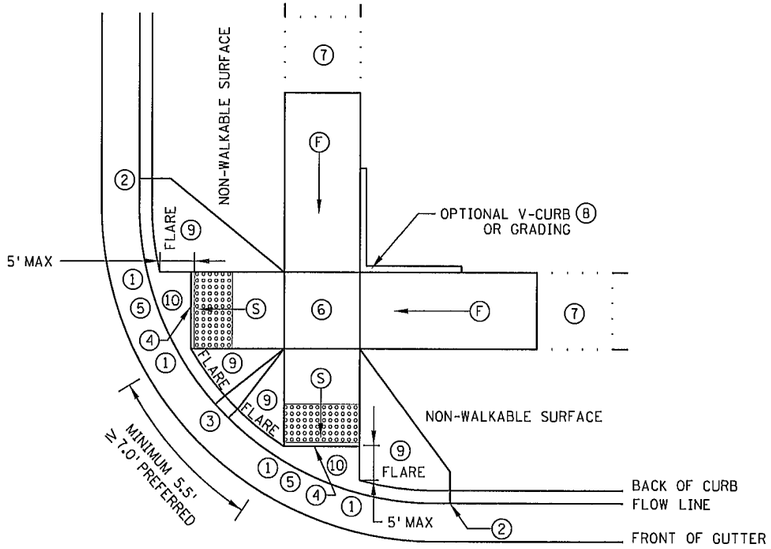
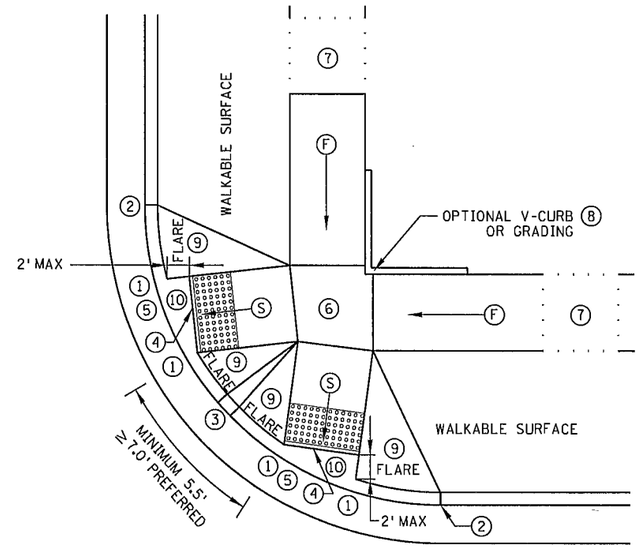
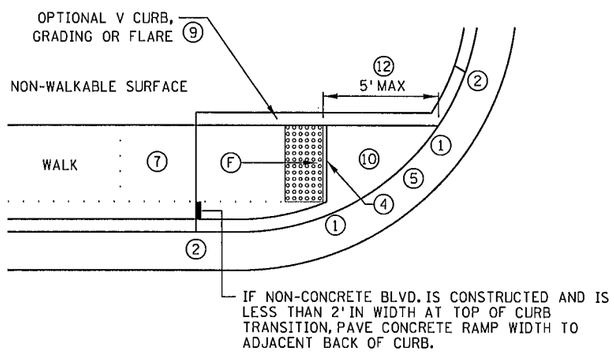


ADJACENT TO NON-WALKABLE SURFACE

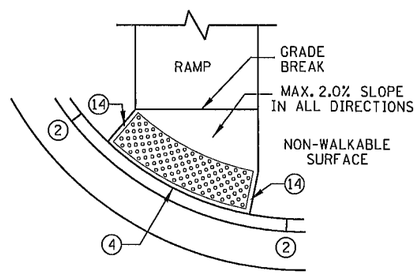


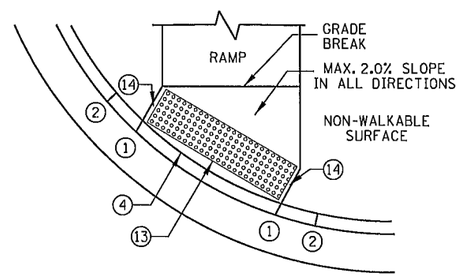
ADJACENT TO WALKABLE SURFACE

COMBINED DIRECTIONAL (15)

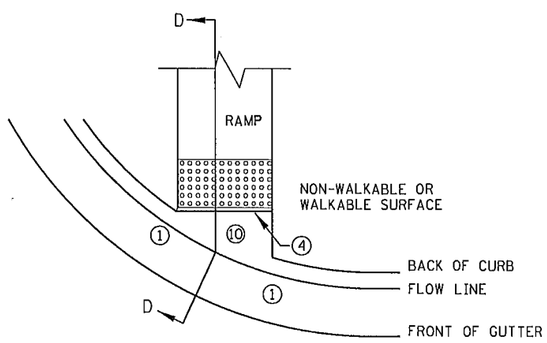


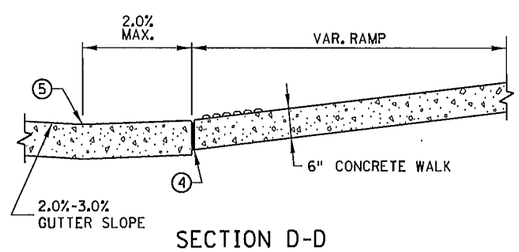
ONE-WAY DIRECTIONAL





DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED





SECTION D-D

CURB FOR DIRECTIONAL RAMPS (11)

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL.

TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONCTRUCTED, LANDINGS MAY BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 5 WHEN LANDINGS ARE CAST SEPARATELY.

ALL SLOPES ARE ABSOLUTE, RATHER THAN RELATIVE TO SIDEWALK/ROADWAY GRADES.

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MINIMUM OF 24" IN THE PATH OF TRAVEL. SHARED USE PATHS SHALL HAVE DETECTABLE WARNING ACROSS THE ENTIRE WIDTH OF PATH WHEN THE PATH CROSSES A ROAD.

SEE STANDARD PLATE 7038 AND SHEET 4 OF 5 FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

(1) 0" CURB HEIGHT.

(2) FULL CURB HEIGHT.

(3) 3" MINIMUM CURB HEIGHT, 4" PREFERRED.

(4) 1/2" PREFORMED JOINT FILLER MATERIAL AASHTO M 213. JOINT FILLER SHALL BE PLACED FLUSH WITH THE BACK OF CURB AND ADJACENT SIDEWALK. JOINT SHALL BE FREE OF DEBRIS. RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MIN. TO 6" MAX. FROM THE BACK OF CURB.

(5) SEE PEDESTRIAN ACCESS ROUTE CURB AND GUTTER DETAIL FOR INFORMATION ON CONSTRUCTING CURB AND GUTTER AT CURB OPENINGS. SEE SHEET NO. 3 OF 5.

(6) 4' BY 4' MIN. LANDING WITH MAX. 2.0% SLOPE IN ALL DIRECTIONS.

(7) IF LONGITUDINAL SLOPE IS GREATER THAN 5.0%, 4' X 4' MIN. LANDING WITH MAX 2.0% SLOPE IN ALL DIRECTIONS REQUIRED.

(8) V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

(9) SEE SHEET 4 OF 5, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS.

(10) MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.

(11) TO BE USED FOR ALL DIRECTIONAL RAMPS.

(12) PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.

(13) RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.

(14) WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

(15) FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. WHETHER A SURFACE IS WALKABLE OR NOT SHALL BE DETERMINED BY THE ENGINEER

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%

(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%

STANDARD PLAN SHEET NO. 5-297.250 (2 OF 5)	PEDESTRIAN CURB RAMP DETAILS
STANDARD APPROVED: APRIL 10, 2013	

S.P. 002-605-018 S.P. 199-106-011 CP 14-20 SHEET NO. 19 OF 148 SHEETS

PLOTTED/REVISED: 05/30/2014
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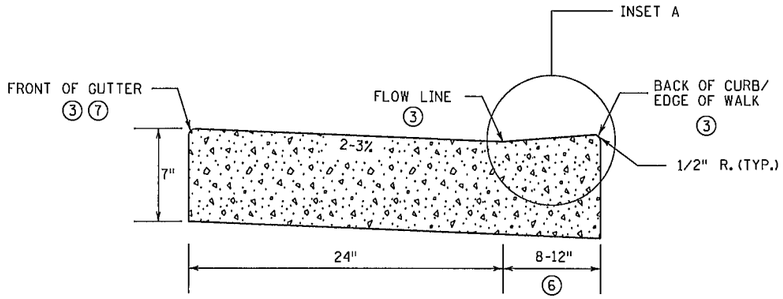
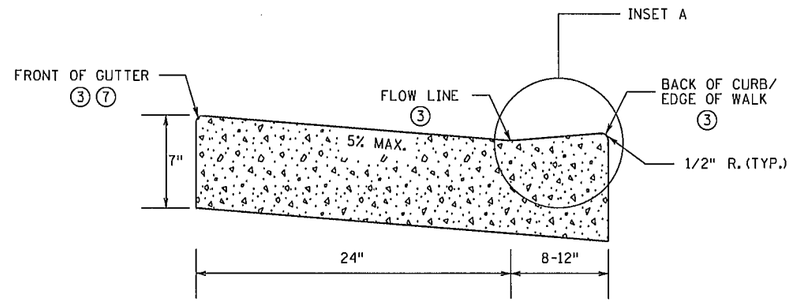
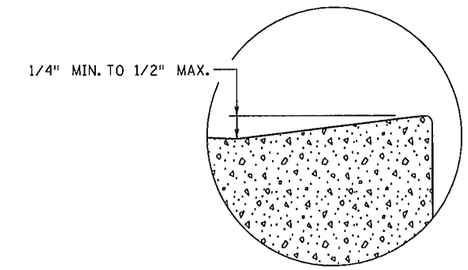


NON PERPENDICULAR ①

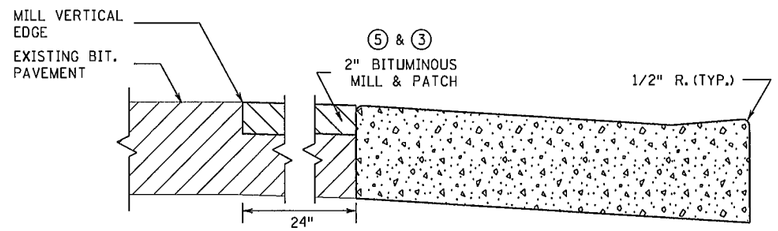


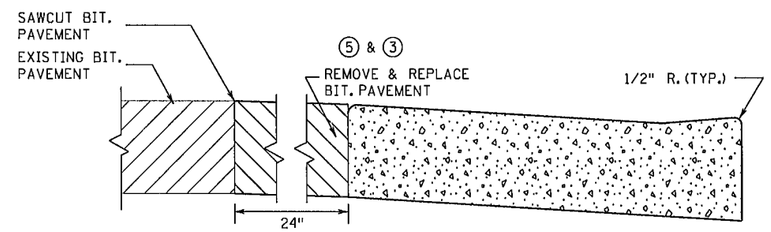
PERPENDICULAR ②

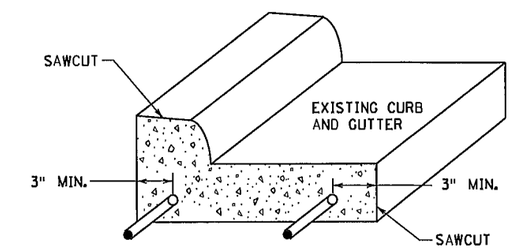


INSET A

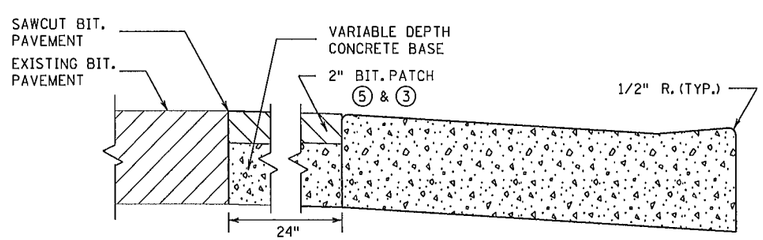
PEDESTRIAN ACCESS ROUTE
CURB & GUTTER DETAIL

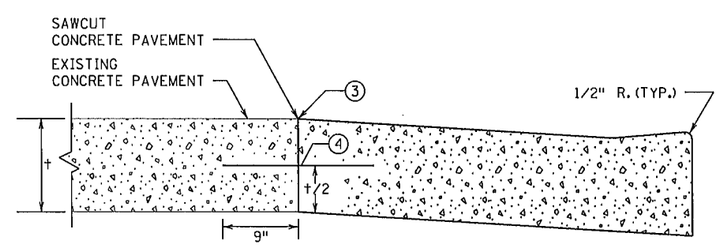






CURB AND GUTTER
REINFORCEMENT ⑧
FOR USE ON CURB RAMP RETROFITS





PAVEMENT TREATMENT OPTIONS
IN FRONT OF CURB & GUTTER
FOR USE ON CURB RAMP RETROFITS

NOTES:

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.

NO PONDING SHALL BE PRESENT IN THE PAR.

ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.

① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMEO NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS, DEPRESSED CORNERS, & ONE WAY AND COMBINED DIRECTIONALS.

② FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.

③ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".

④ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT.

⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.

⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS.

⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. PAR GUTTER SHALL NOT BE OVERLAID.

⑧ WHERE PLAN SPECIFIES, DRILL AND GROUT 2 - NO. 4 X 12" LONG REINFORCEMENT BARS (EPOXY COATED).

STANDARD PLAN SHEET NO. 5-297.250 (3 OF 5)	PEDESTRIAN CURB RAMP DETAILS
STANDARD APPROVED: APRIL 10, 2013	
S.P. 002-605-018 S.P. 199-106-011 CP 14-20	SHEET NO.20 OF 148 SHEETS

PLOTTED/REVISED: 05/30/2014
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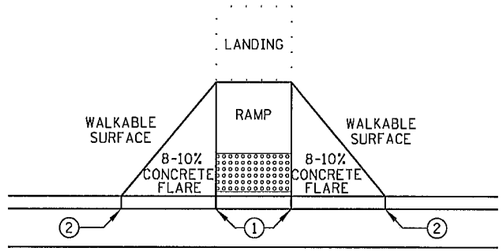
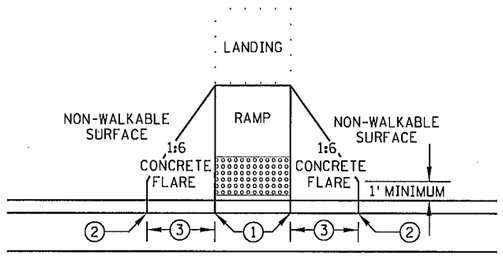
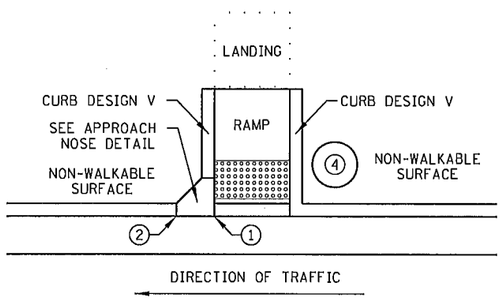


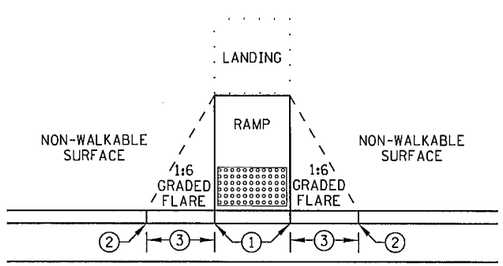
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

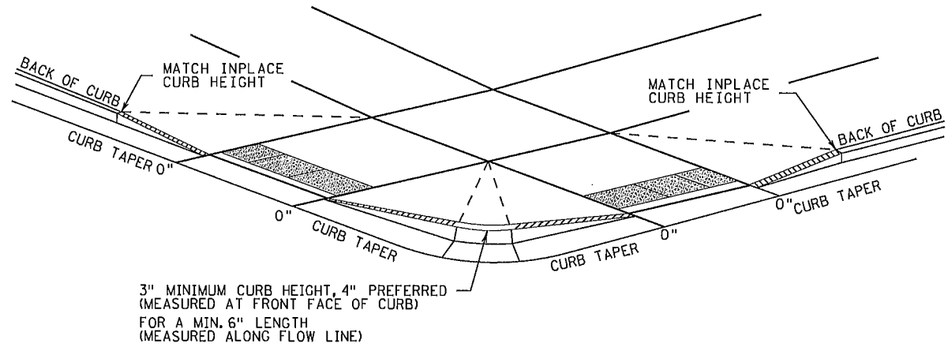


RETURNED CURB

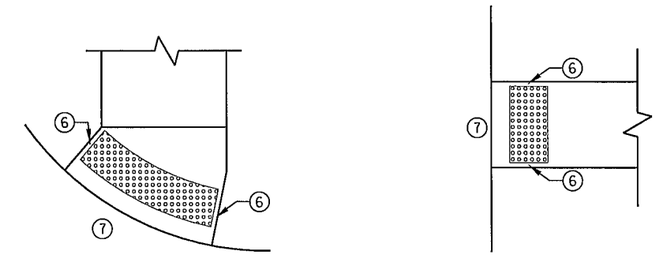


GRADED FLARES

TYPICAL SIDE TREATMENT OPTIONS ⑤



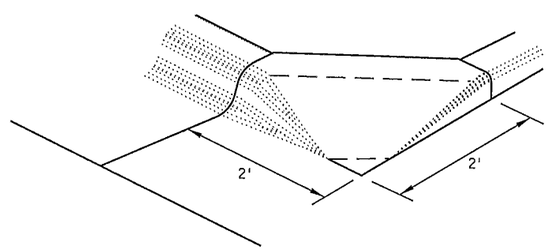
DETECTABLE EDGE WITH
CURB AND GUTTER ⑧

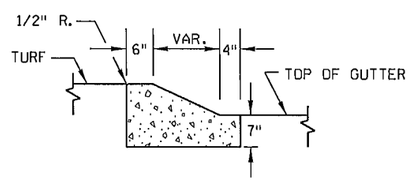


RADIAL DETECTABLE WARNING

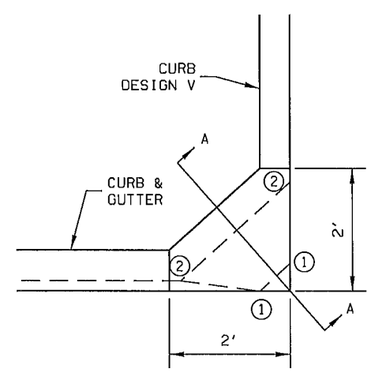
RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER





SECTION A-A



APPROACH NOSE DETAIL
FOR DOWNSTREAM SIDE OF TRAFFIC

NOTES:

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

WHETHER A SURFACE IS WALKABLE OR NOT SHALL BE DETERMINED BY THE ENGINEER.

CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

① 0" CURB HEIGHT.

② FULL CURB HEIGHT.

③ 2' - 3' FLARE.

④ IMMOVABLE OBJECT OR OBSTRUCTION.

⑤ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED ON ALL RAMPS AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.

⑥ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

⑦ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF ROADWAY TO PROVIDE VISUAL CONTRAST.

⑧ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

STANDARD PLAN SHEET NO. 5-297.250 (4 OF 5)	PEDESTRIAN CURB RAMP DETAILS
STANDARD APPROVED: APRIL 10, 2013	

S.P. 002-605-018 S.P. 199-106-011 CP 14-20 SHEET NO. 21 OF 148 SHEETS

PLOTTED/REVISED: 05/30/2014
DISTRICT #:
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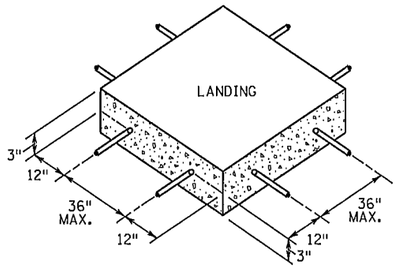
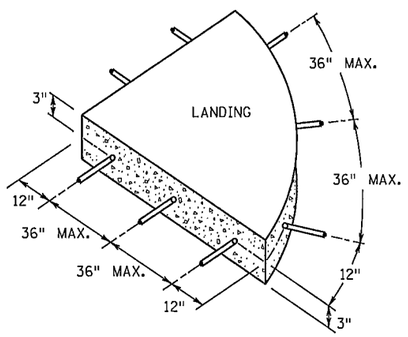
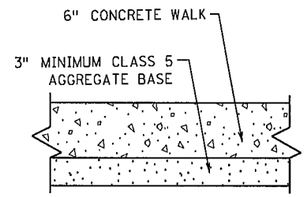
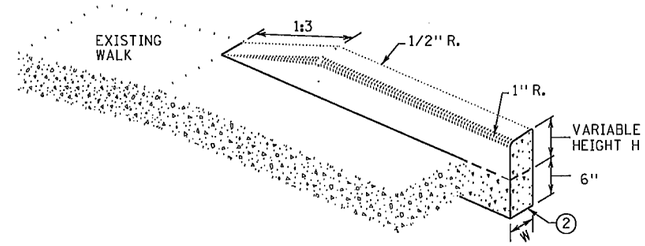




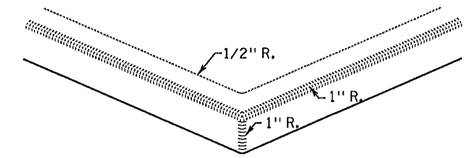
SIDEWALK REINFORCEMENT ⑤ ⑥



TYPICAL SIDEWALK SECTION
WITHIN INTERSECTION CORNER

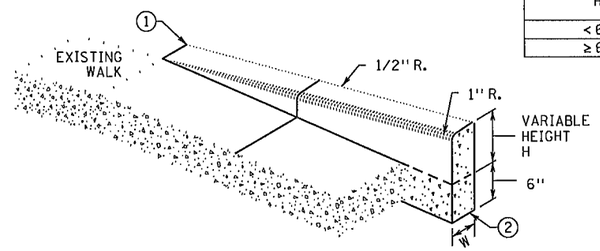


V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS

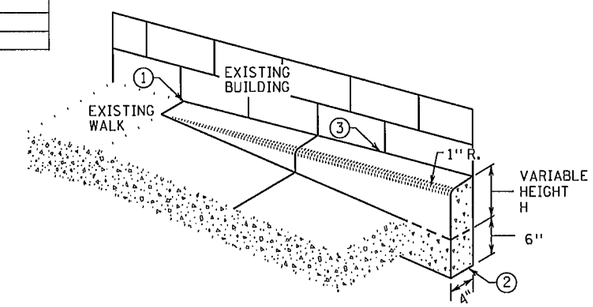


V CURB INTERSECTION

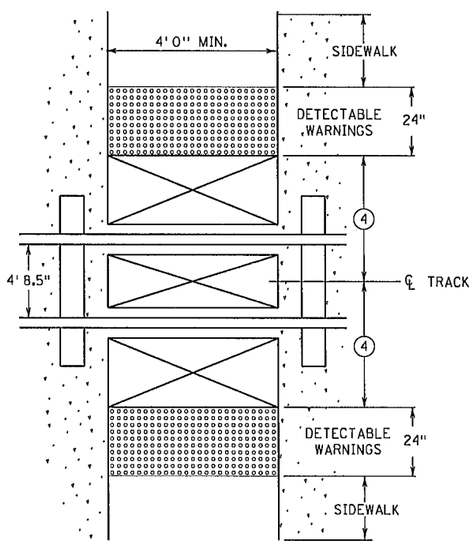
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



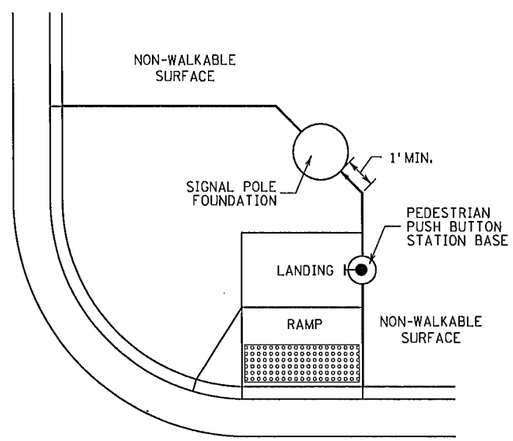
V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS



V CURB ADJACENT TO BUILDING
OR BARRIER



RAILROAD CROSSING
PLAN VIEW



CONCRETE WALK EDGES ADJACENT
TO CONCRETE STRUCTURES

NOTES:

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.

V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.

① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.

② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.

③ EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.

④ EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 15' MAXIMUM FROM THE CENTERLINE OF THE TRACK. WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 17" - 19" FROM THE APPROACHING SIDE OF THE GATE ARM.

⑤ WHEN PLAN SPECIFIES, DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAX. CENTER TO CENTER (EPOXY COATED).

⑥ TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONCTRUCTED, LANDINGS MAY BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET WHEN LANDINGS ARE CAST SEPARATELY.

STANDARD PLAN SHEET NO.
5-297.250 (5 OF 5)
STANDARD APPROVED:
APRIL 10, 2013

PEDESTRIAN CURB RAMP DETAILS

S.P. 002-605-018 S.P. 199-106-011 CP 14-20

PLOTTED/REVISED: 05/30/2014
DISTRICT #:
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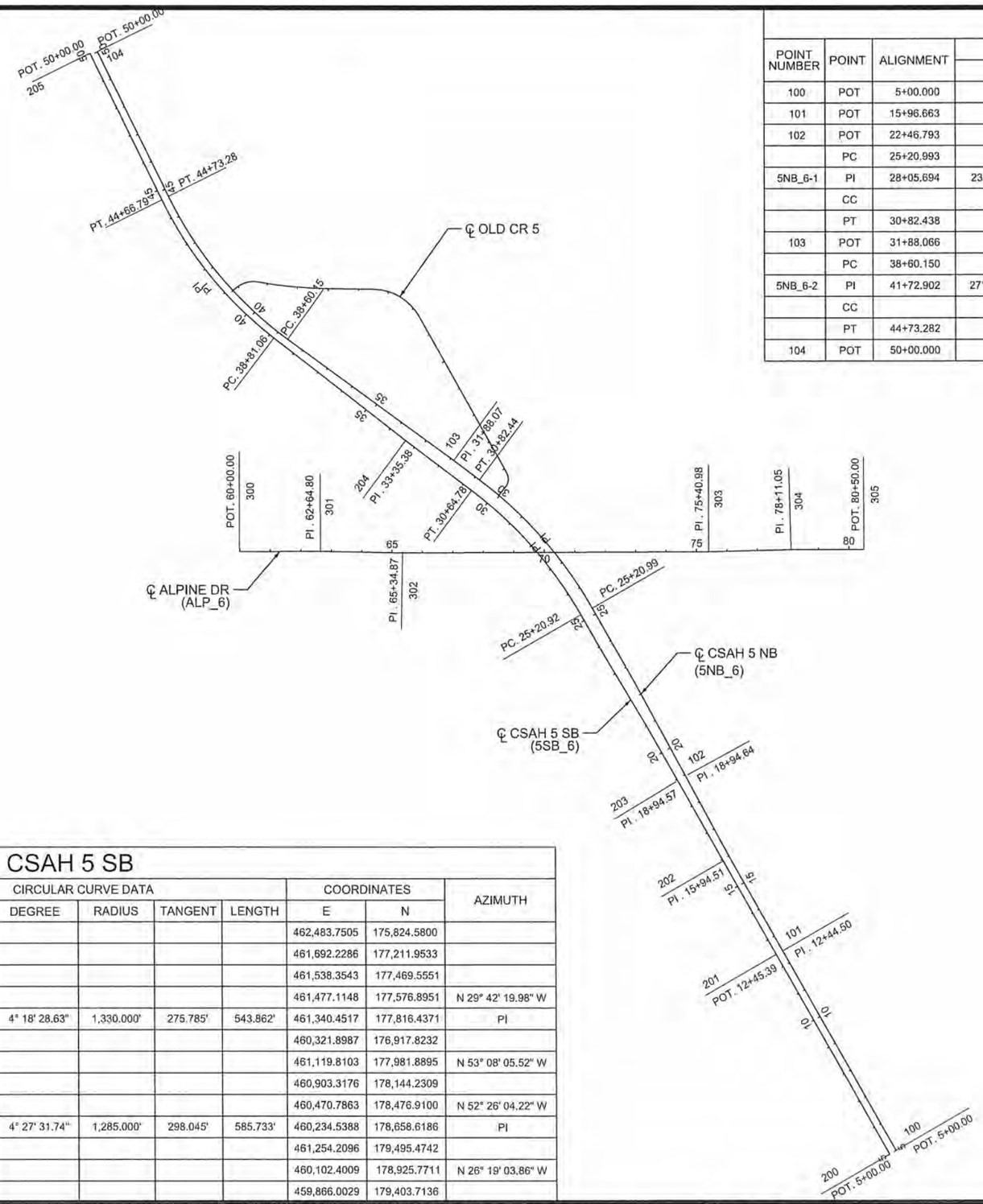
FILE NAME: s250_j_spn.dgn



CSAH 5 NB

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
100	POT	5+00.000						462,504.5965	175,836.4731	
101	POT	15+96.663						461,961.1533	176,789.0161	
102	POT	22+46.793						461,650.3420	177,360.0374	
	PC	25+20.993						461,514.4639	177,598.2035	N 29° 42' 19.98" W
5NB_6-1	PI	28+05.694	23° 25' 45.54" LT	4° 10' 22.93"	1,373.000'	284.701'	561.445'	461,373.3824	177,845.4900	PI
	CC							460,321.8987	176,917.8232	
	PT	30+82.438						461,145.6074	178,016.2917	N 53° 08' 05.52" W
103	POT	31+88.066						461,061.1003	178,079.6610	
	PC	38+60.150						460,516.1584	178,473.0255	N 54° 10' 35.37" W
5NB_6-2	PI	41+72.902	27° 51' 31.51" RT	4° 32' 37.24"	1,261.000'	312.752'	613.132'	460,262.5715	178,656.0763	PI
	CC							461,254.2096	179,495.4742	
	PT	44+73.282						460,123.9133	178,936.4115	N 26° 19' 03.86" W
104	POT	50+00.000						459,890.3936	179,408.5346	

CSAH 5 SB

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
200	POT	5+00.000						462,483.7505	175,824.5800	
201	POT	20+97.283						461,692.2286	177,211.9533	
202	POT	23+97.343						461,538.3543	177,469.5551	
	PC	25+20.923						461,477.1148	177,576.8951	N 29° 42' 19.98" W
5SB_6-1	PI	27+96.708	23° 25' 45.54" LT	4° 18' 28.63"	1,330.000'	275.785'	543.862'	461,340.4517	177,816.4371	PI
	CC							460,321.8987	176,917.8232	
	PT	30+64.785						461,119.8103	177,981.8895	N 53° 08' 05.52" W
203	POT	33+35.384						460,903.3176	178,144.2309	
	PC	38+81.057						460,470.7863	178,476.9100	N 52° 26' 04.22" W
5SB_6-2	PI	41+79.102	26° 07' 00.35" RT	4° 27' 31.74"	1,285.000'	298.045'	585.733'	460,234.5388	178,658.6186	PI
	CC							461,254.2096	179,495.4742	
	PT	44+66.790						460,102.4009	178,925.7711	N 26° 19' 03.86" W
204	POT	50+00.000						459,866.0029	179,403.7136	

N

0 400
SCALE IN FEET

1 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_AL1.dgn 05/30/2014 1:59:04 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 KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 6-3-14 LICENSE NO. 24756

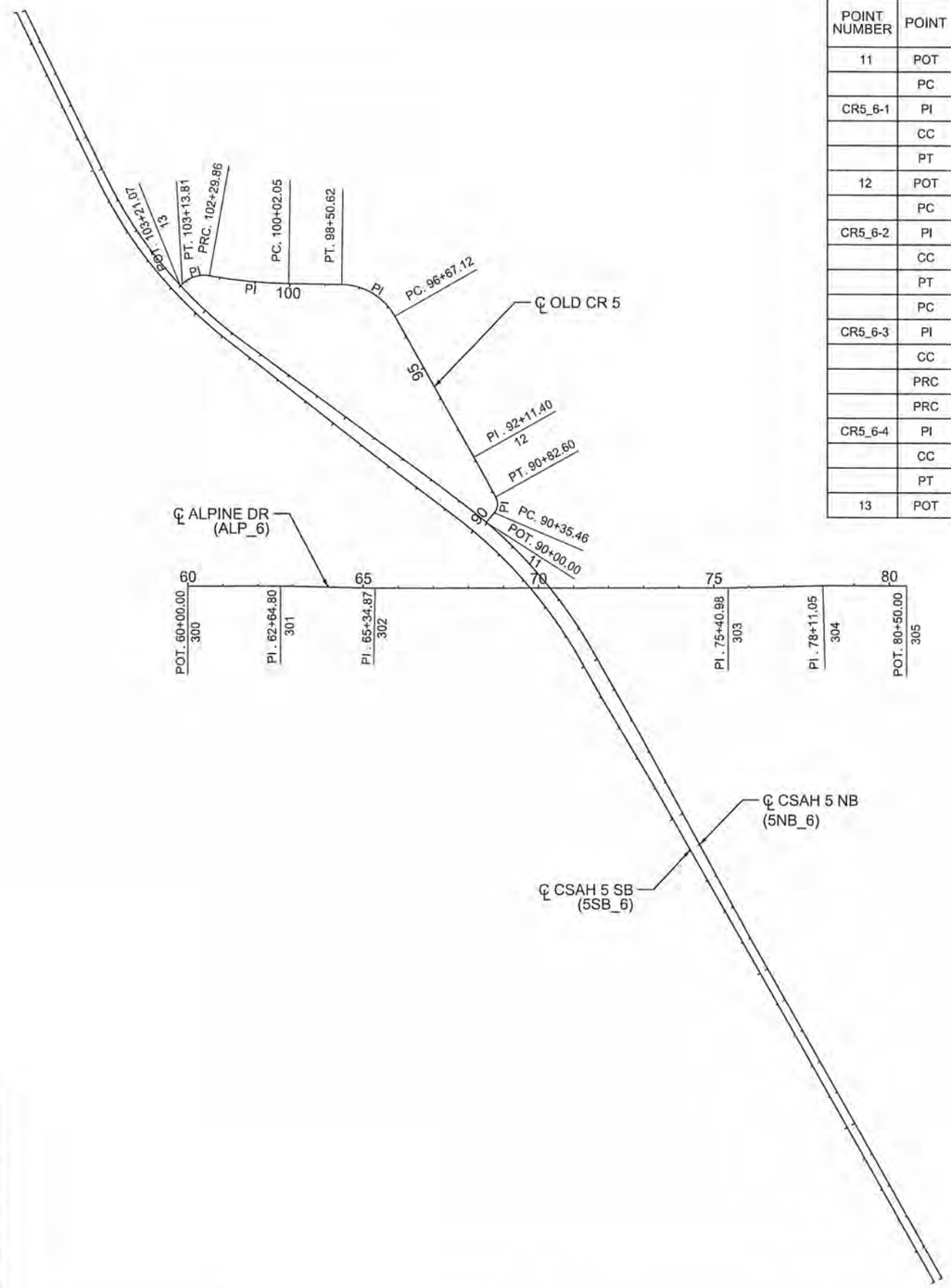
DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

ALIGNMENT TABULATION

Sheet 23 of 148 Sheets



OLD CR 5

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
11	POT	90+00.000						461,208.0866	177,966.5367	
	PC	90+35.460						461,230.9740	177,993.6216	N 40° 11' 54.97" E
CR5_6-1	PI	90+62.391	69° 15' 11.99" LT	146° 54' 44.12"	39.000'	26.931'	47.139'	461,248.3563	178,014.1919	PI
	CC							461,201.1853	178,018.7937	
	PT	90+82.599						461,235.2774	178,037.7339	N 29° 03' 17.01" W
12	POT	92+11.396						461,172.7279	178,150.3225	
	PC	96+67.123						460,947.9384	178,546.7526	N 29° 33' 17.01" W
CR5_6-2	PI	97+68.215	59° 47' 22.80" LT	32° 35' 02.55"	175.840'	101.091'	183.494'	460,898.0746	178,634.6904	PI
	CC							460,794.9778	178,460.0187	
	PT	98+50.617						460,796.9898	178,635.8472	N 89° 20' 39.82" W
	PC	100+02.048						460,645.5689	178,637.5799	N 89° 20' 39.82" W
CR5_6-3	PI	101+16.216	9° 30' 42.81" RT	4° 10' 31.14"	1,372.250'	114.169'	227.812'	460,531.4078	178,638.8862	PI
	CC							460,661.2705	180,009.7400	
	PRC	102+29.860						460,419.0321	178,659.0400	N 79° 49' 57.00" W
	PRC	102+29.860						460,419.0321	178,659.0400	N 79° 49' 57.00" W
CR5_6-4	PI	102+75.171	53° 26' 45.52" LT	63° 39' 43.12"	90.000'	45.311'	83.953'	460,374.4332	178,667.0385	PI
	CC							460,403.1448	178,570.4533	
	PT	103+13.813						460,341.4457	178,635.9761	S 46° 43' 17.47" W
13	POT	103+21.069						460,336.1634	178,631.0020	

ALPINE DR NW

POINT NUMBER	POINT	STATION	COORDINATES	
			E	N
300	POT	60+00.000	460,357.0311	177,783.4400
301	POT	62+64.802	460,621.8315	177,784.2932
302	POT	65+34.868	460,891.8495	177,779.1631
303	POT	75+40.979	461,897.9552	177,782.4047
304	POT	78+11.046	462,167.9344	177,789.2746
305	POT	85+50.000	462,406.8872	177,790.0445

0 400
SCALE IN FEET

2 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_AL1.dgn 05/30/2014 1:59:04 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 KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 6-3-14 LICENSE NO. 24756

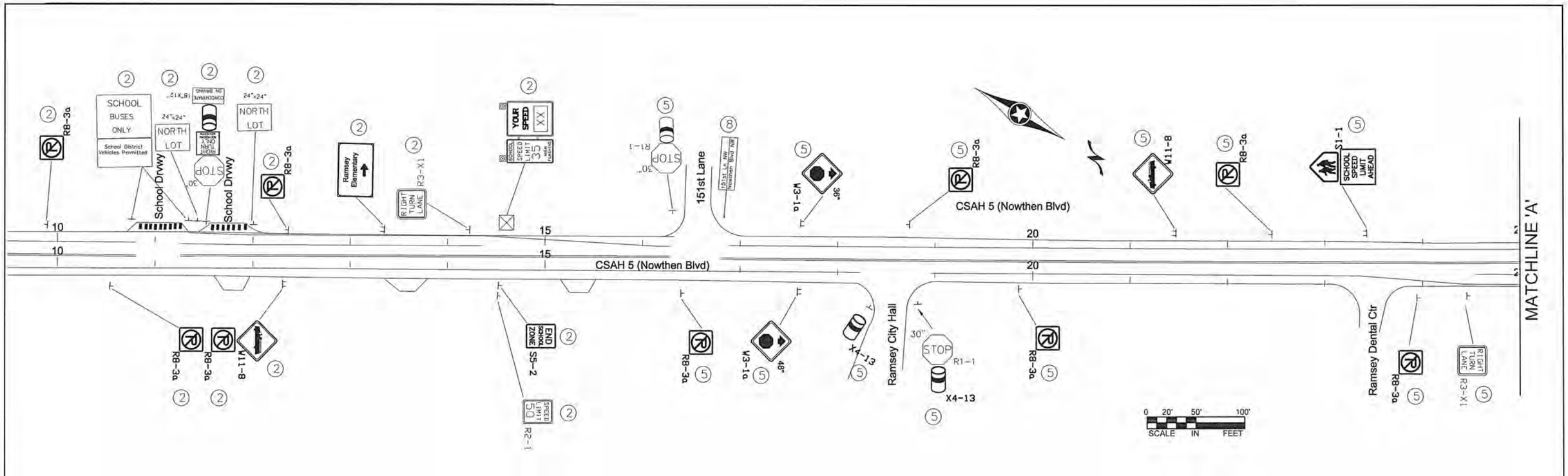
DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

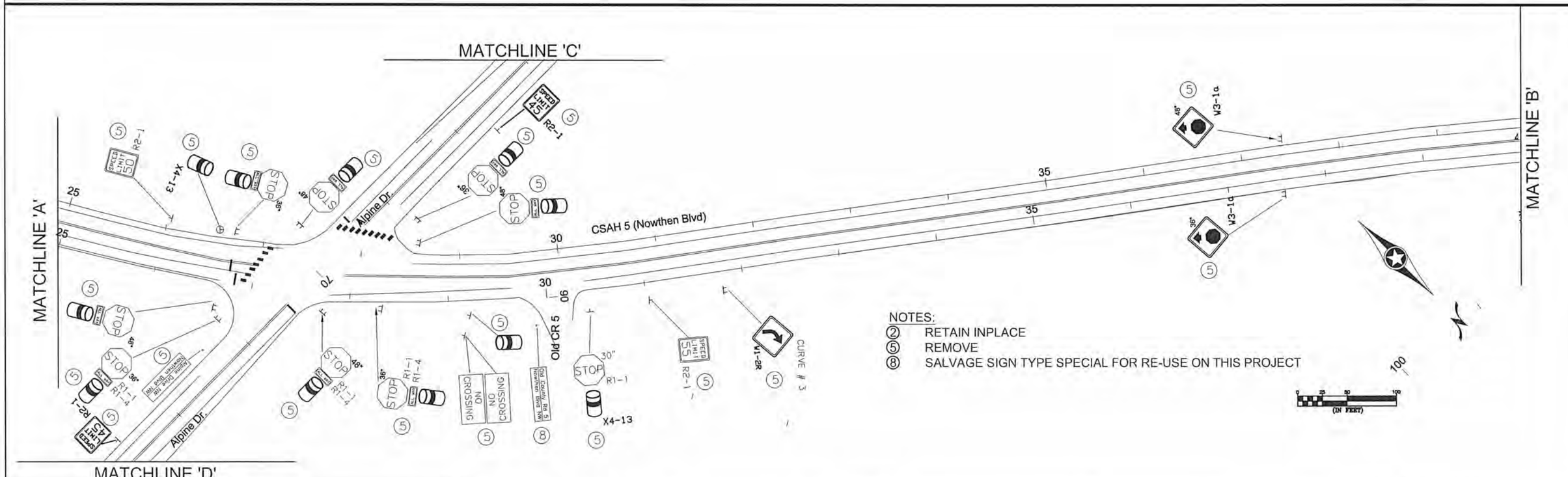
ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

ALIGNMENT TABULATION

Sheet 24 of 148 Sheets





NOTES:

② RETAIN INPLACE

⑤ REMOVE

⑧ SALVAGE SIGN TYPE SPECIAL FOR RE-USE ON THIS PROJECT

NO	DATE	BY	CKD	APPR	REVISION
NAME:					

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 KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 6-3-14 REG. NO. 24756

DRAWN BY TMV DATE 11/04/13

DESIGN BY RB DATE 11/04/13

CHECKED BY RB DATE 11/04/13

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

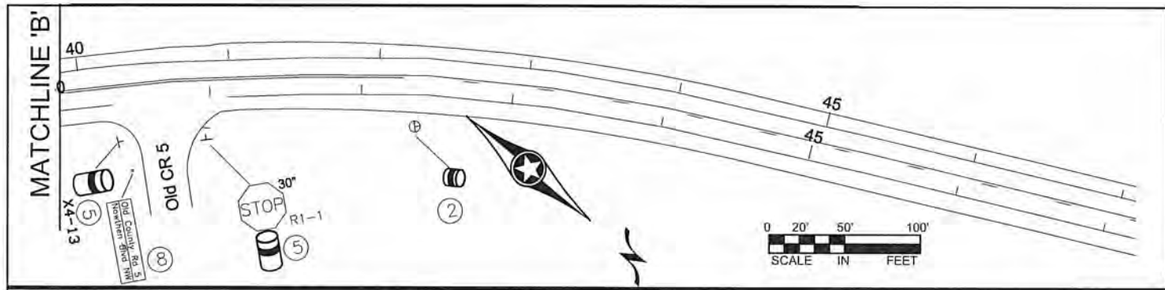
SP 002-605-018

SP 199-106-011

CP 14-21

EXISTING SIGNING & STRIPING PLAN

Sheet 25 of 148 Sheets



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② RETAIN INPLACE
③ SALVAGE FOR RE-USE ON THIS PROJECT
⑤ REMOVE
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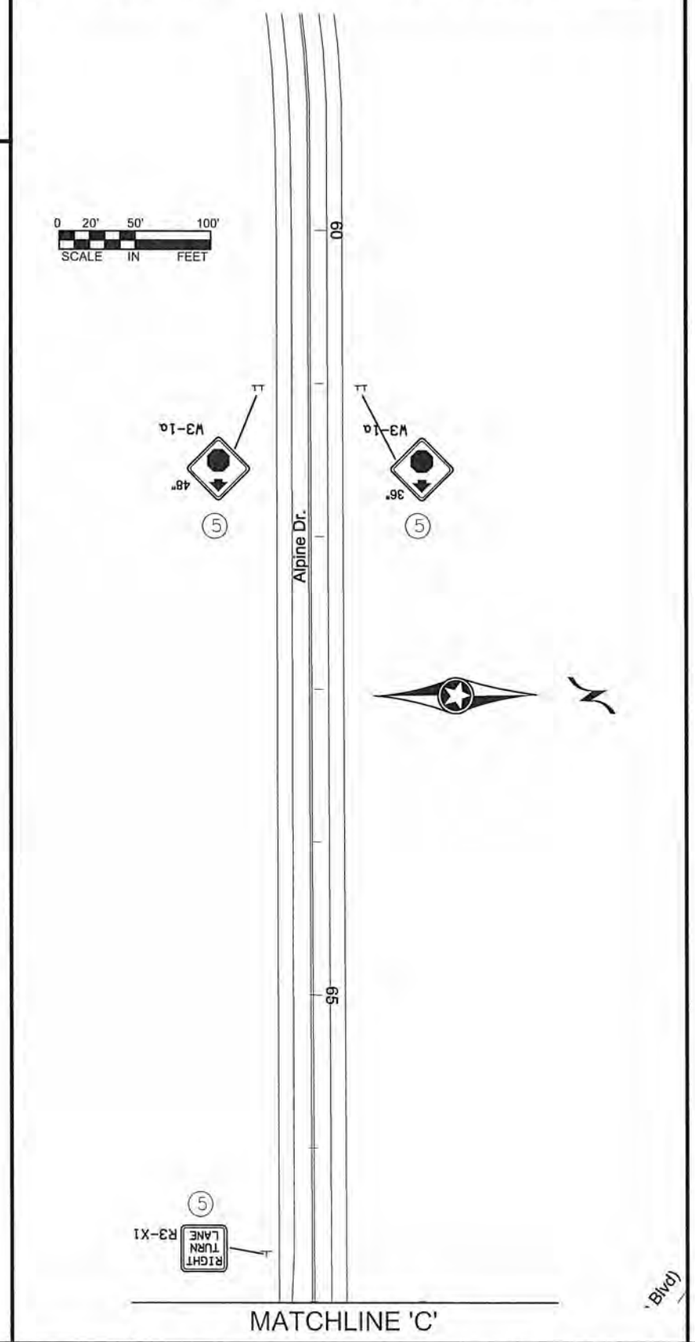
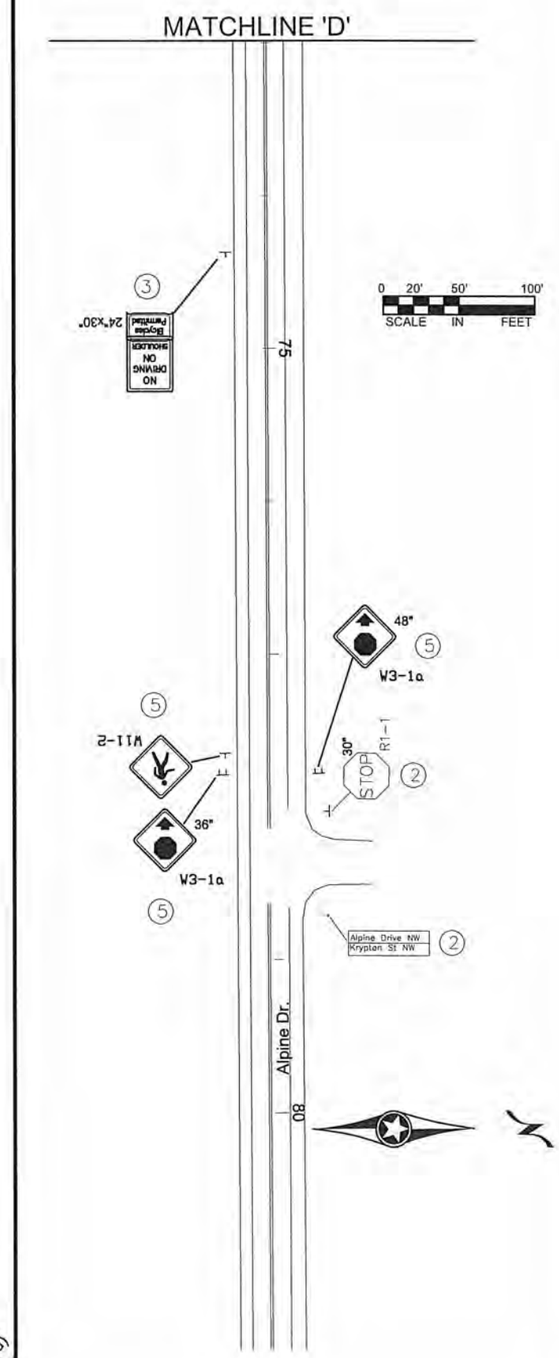




K SIGN REMOVAL TAB

STATION	ADDRESS/ DESCRIPTION (NOTES)	SALVAGE SIGN TYPE C	SALVAGE SIGN TYPE SPECIAL	INSTALL SIGN TYPE C	INSTALL SIGN TYPE SPECIAL [1]	SIGN NUMBER	SIGN LEGEND
			EACH	EACH	EACH		
16+30	Lt	1				R1-1	30" Stop
						delineator	
16+40	Rt	1				R8-3a	No Parking
16+80	Lt		1		1	Street Sign	
17+60	Rt	1				W3-1a	Stop Ahead
17+60	Lt	1				W3-1a	Stop Ahead
18+30	Rt	1				Delineator	
18+72	Lt	1				R8-3a	No Parking
18+82	Rt	1				R1-1	30" Stop
						Delineator	
19+85	Rt	1				R8-3a	No Parking
21+50	Lt	1				W11-8	Fire Station
22+48	Lt	1				R8-3a	No Parking
23+42	Lt	1				S1-1	School Ped Crossing
							Schl Spd Limit Ahead
23+95	Rt	1				R8-3a	No Parking
24+48	Rt	1				R3-x1	Right Turn Lane
26+05	Lt	1				R2-1	Speed Limit 50
26+55	Lt	1				Delineator	
26+65	Rt	1				R1-1	48" Stop
						R1-4	All Way
						Delineator	
26+65	Lt	1				R1-1	36" Stop
						R1-4	All Way
						Delineator	
28+30	Rt	1				R1-1	36" Stop
						R1-4	All Way
						Delineator	
28+60	Lt	1				R1-1	48" Stop
						R1-4	All Way
						Delineator	
29+10	Rt	2					No Crossing
29+10	Rt	1				Delineator	
29+90	Rt		1		1	Street Sign	
30+43	Rt	1				R1-1	30" Stop
						Delineator	
31+0	Rt	1				R2-1	Speed Limit 55
31+79	Rt	1				W1-2R	Curve Ahead
37+45	Lt	1				W3-1a	Stop Ahead
37+60	Rt	1				W3-1a	Stop Ahead
40+40	Rt	1				Delineator	
40+45	Rt		1		1	Street Sign	
41+00	Rt	1				R1-1	30" Stop
						Delineator	
61+00	Lt	1				W3-1a	Stop Ahead
61+-00	Rt	1				W3-1a	Stop Ahead
66+70	Rt	1				R3-x1	Right Turn Lane
67+71	Lt	1				R2-1	Speed Limit 45
69+00	Lt	1				R1-1	36" Stop
						R1-4	All Way
						Delineator	
69+70	Rt	1				R1-1	48" Stop
						R1-4	All Way
						Delineator	
70+25	Lt	1				R1-1	48" Stop
						R1-4	All Way
						Delineator	
71+00	Rt	1				R1-1	36" Stop
						R1-4	All Way
						Delineator	
71+30	Rt		1		1	Street Sign	
72+60	Rt	1				R2-1	Speed Limit 45
74+40	Rt	1		1			No Drvg Shldr/Bicycles
77+65	Rt	1				W11-2	Ped Crossing
77+80	Lt	1				W3-1a	Stop Ahead
77+80	Rt	1				W3-1a	Stop Ahead
	TOTAL	42	4	1	4		

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

NO	DATE	BY	CKD	APPR	REVISION
NAME:					

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 KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 6-3-14 REG. NO. 24756

DRAWN BY TMV DATE 11/04/13
DESIGN BY RB DATE 11/04/13
CHECKED BY RB DATE 11/04/13

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-21

EXISTING SIGNING & STRIPING PLAN

STAGE 1 CONSTRUCTION NOTES:

CSAH 5 SB FROM JUST SOUTH OF 151ST LN TO ~ 450' NORTH OF OLD CR5 (NORTH ENTRANCE): FULL RECONSTRUCTION, CONSTRUCTION OF CURB & GUTTER, PARTIAL MEDIAN ON SOUTH SIDE CULVERTS, STORM SEWER SYSTEM, CROSSING CULVERT @ NB STATION 35+00, AND STORM WATER POND CONSTRUCTION. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTIES.

WEST LEG OF ALPINE DRIVE: FULL CONSTRUCTION, CONSTRUCTION OF CURB & GUTTER, STORM SEWER SYSTEM.

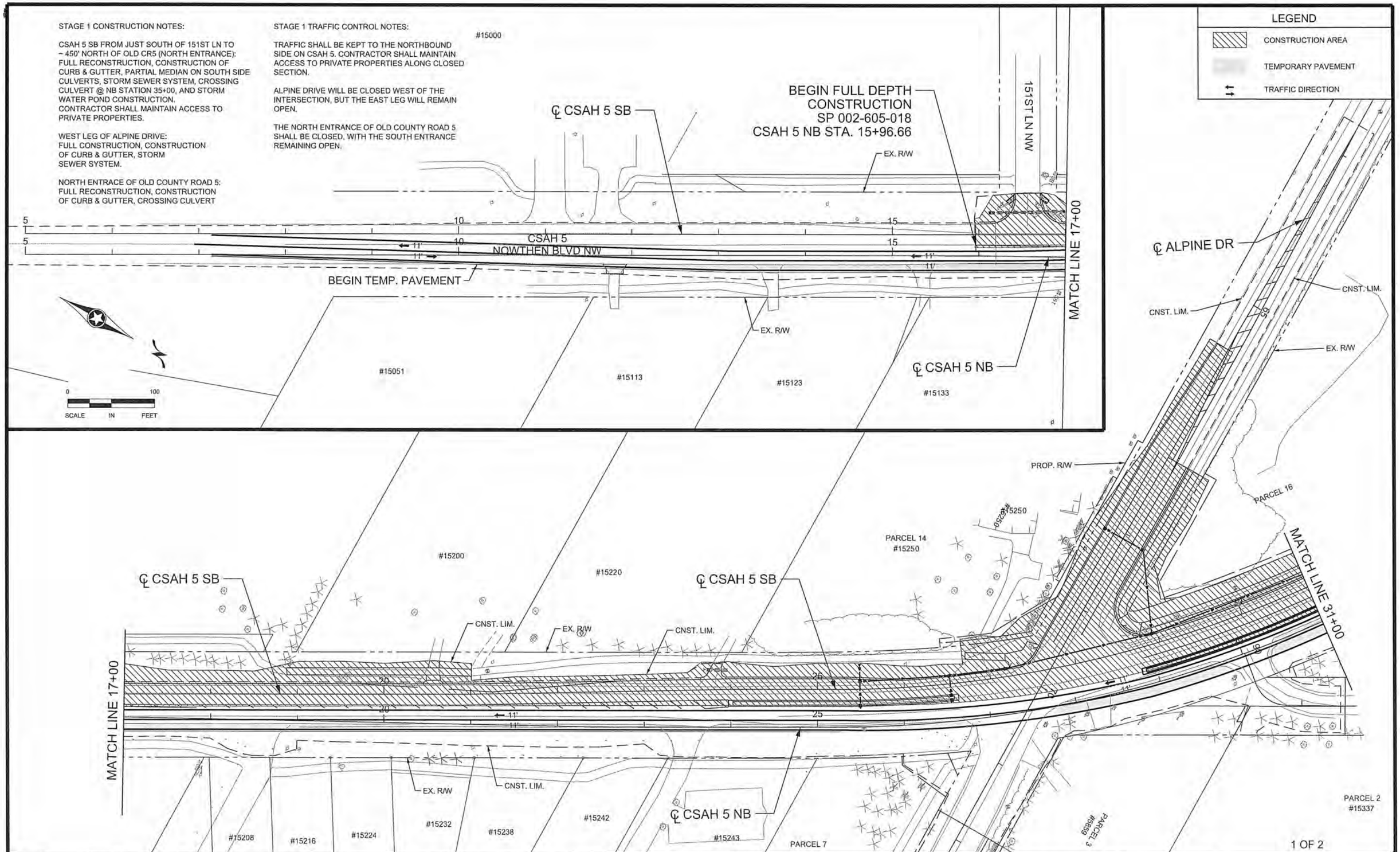
NORTH ENTRACE OF OLD COUNTY ROAD 5: FULL RECONSTRUCTION, CONSTRUCTION OF CURB & GUTTER, CROSSING CULVERT

STAGE 1 TRAFFIC CONTROL NOTES:

TRAFFIC SHALL BE KEPT TO THE NORTHBOUND SIDE ON CSAH 5. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTIES ALONG CLOSED SECTION.

ALPINE DRIVE WILL BE CLOSED WEST OF THE INTERSECTION, BUT THE EAST LEG WILL REMAIN OPEN.

THE NORTH ENTRANCE OF OLD COUNTY ROAD 5 SHALL BE CLOSED, WITH THE SOUTH ENTRANCE REMAINING OPEN.



1 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_STG1_P1.dgn 05/30/2014 1:59:11 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 KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14

DESIGN BY EJM DATE 02-28-14

CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

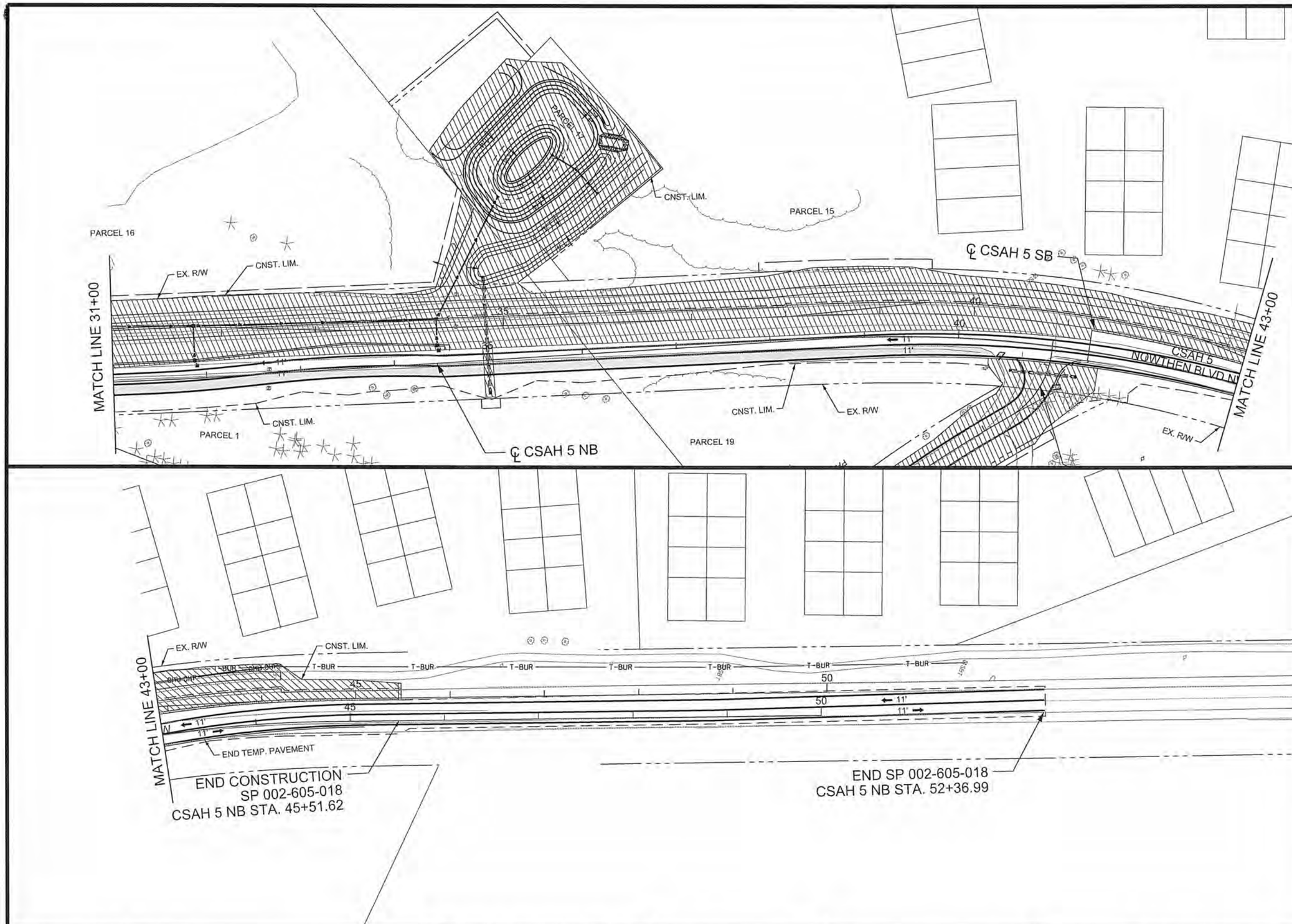
SP 199-106-011

CP 14-20

CONSTRUCTION STAGE 1 PLAN

STA 5+00 TO 31+00

Sheet 27 of 148 Sheets



LEGEND

- CONSTRUCTION AREA
- TEMPORARY PAVEMENT
- TRAFFIC DIRECTION

STAGE 1 CONSTRUCTION NOTES:

CSAH 5 SB FROM JUST SOUTH OF 151ST LN TO ~ 450' NORTH OF OLD CR5 (NORTH ENTRANCE): FULL RECONSTRUCTION, CONSTRUCTION OF CURB & GUTTER, PARTIAL MEDIAN ON SOUTH SIDECULVERTS, STORM SEWER SYSTEM, CROSSING CULVERT @ NB STATION 35+00, AND STORM SEWER POND CONSTRUCTION. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTIES.

WEST LEG OF ALPINE DRIVE: FULL CONSTRUCTION, CONSTRUCTION OF CURB & GUTTER, STORM SEWER SYSTEM.

NORTH ENTRACE OF OLD COUNTY ROAD 5: FULL RECONSTRUCTION, CONSTRUCTION OF CURB & GUTTER, CROSSING CULVERT

STAGE 1 TRAFFIC CONTROL NOTES:

TRAFFIC SHALL BE KEPT TO THE NORTHBOUND SIDE ON CSAH 5. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTIES ALONG CLOSED SECTION.

ALPINE DRIVE WILL BE CLOSED WEST OF THE INTERSECTION, BUT THE EAST LEG WILL REMAIN OPEN.

THE NORTH ENTRANCE OF OLD COUNTY ROAD 5 SHALL BE CLOSED, WITH THE SOUTH ENTRANCE REMAINING OPEN.

0 100
SCALE IN FEET

2 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_STG1_P2.dgn 05/30/2014 1:59:14 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.

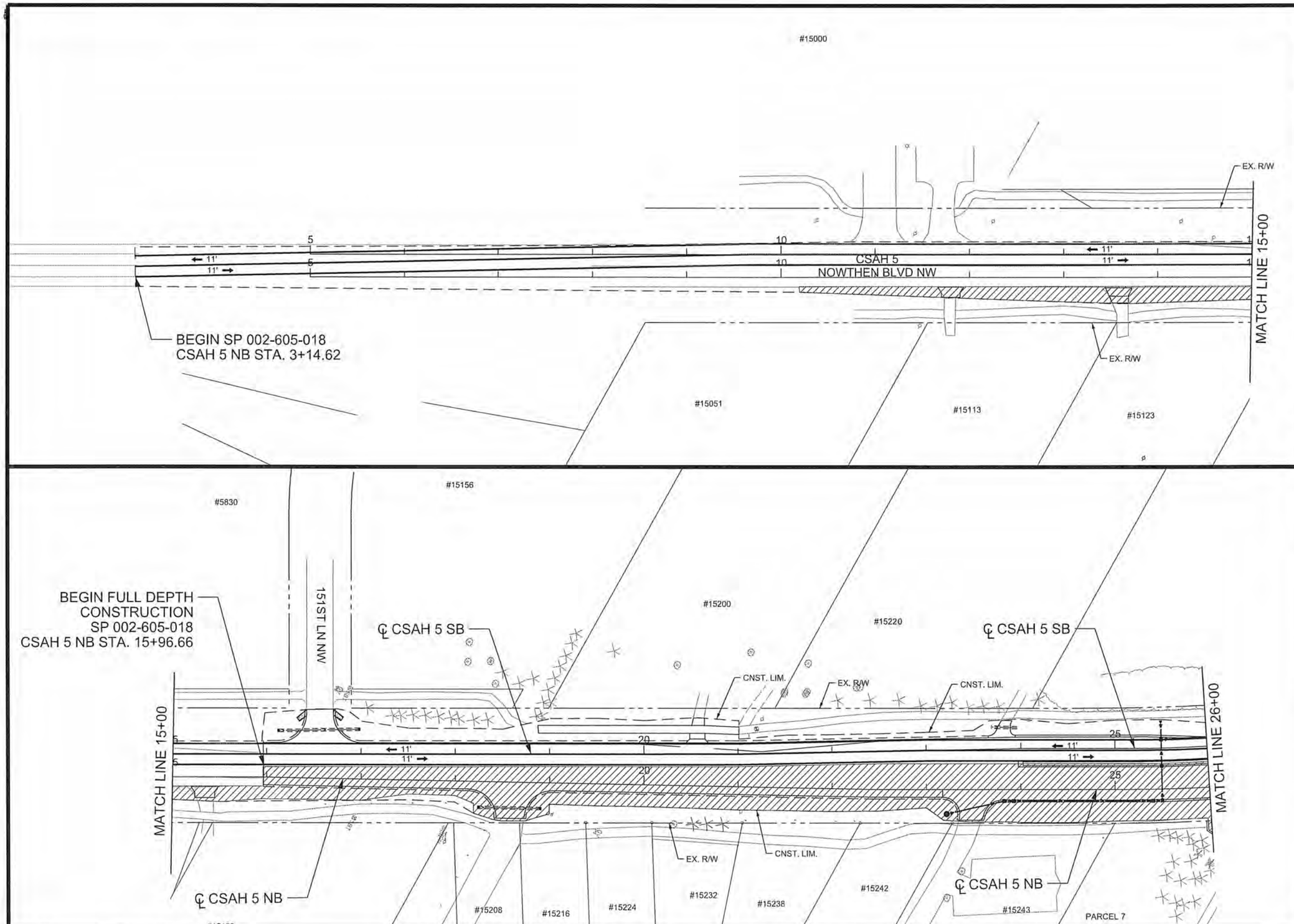
PRINT NAME: CURT KOBILARCSIK
SIGNATURE:
DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CONSTRUCTION STAGE 1 PLAN
STA 31+00 TO 50+00
Sheet 28 of 148 Sheets



LEGEND

CONSTRUCTION AREA

TRAFFIC DIRECTION

STAGE 2 CONSTRUCTION NOTES:

CSAH 5 NB FROM JUST SOUTH OF 151ST LN TO ~ 450' NORTH OF OLD CR5 (NORTH ENTRANCE): FULL RECONSTRUCTION, CONSTRUCTION OF CURB & GUTTER, PARTIAL MEDIAN ON NORTH SIDE, CULVERTS, AND STORM SEWER SYSTEM, CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTIES.

EAST LEG OF ALPINE DRIVE:
FULL CONSTRUCTION, CONSTRUCTION OF CURB & GUTTER, MILLING, AND STORM SEWER SYSTEM.

SOUTH ENTRACE OF OLD COUNTY ROAD 5:
FULL RECONSTRUCTION AND CROSSING CULVERT

STAGE 2 TRAFFIC CONTROL NOTES:

TRAFFIC SHALL BE KEPT TO THE SOUTHBOUND SIDE ON CSAH 5. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTIES ALONG CLOSED SECTION.

ALPINE DRIVE WILL BE CLOSED EAST OF THE INTERSECTION, BUT THE WEST LEG WILL REMAIN OPEN.

THE SOUTH ENTRANCE OF OLD COUNTY ROAD 5 SHALL BE CLOSED, WITH THE NORTH ENTRANCE REMAINING OPEN.

0 100
SCALE IN FEET

1 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_STG2_P1.dgn 05/30/2014 1:59:18 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 KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CONSTRUCTION STAGE 2 PLAN
STA 3+00 TO 26+00
Sheet 29 of 148 Sheets

LEGEND

CONSTRUCTION AREA

TRAFFIC DIRECTION

STAGE 2 TRAFFIC CONTROL NOTES:

TRAFFIC SHALL BE KEPT TO THE SOUTHBOUND SIDE ON CSAH 5. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTIES ALONG CLOSED SECTION.

ALPINE DRIVE WILL BE CLOSED EAST OF THE INTERSECTION, BUT THE WEST LEG WILL REMAIN OPEN.

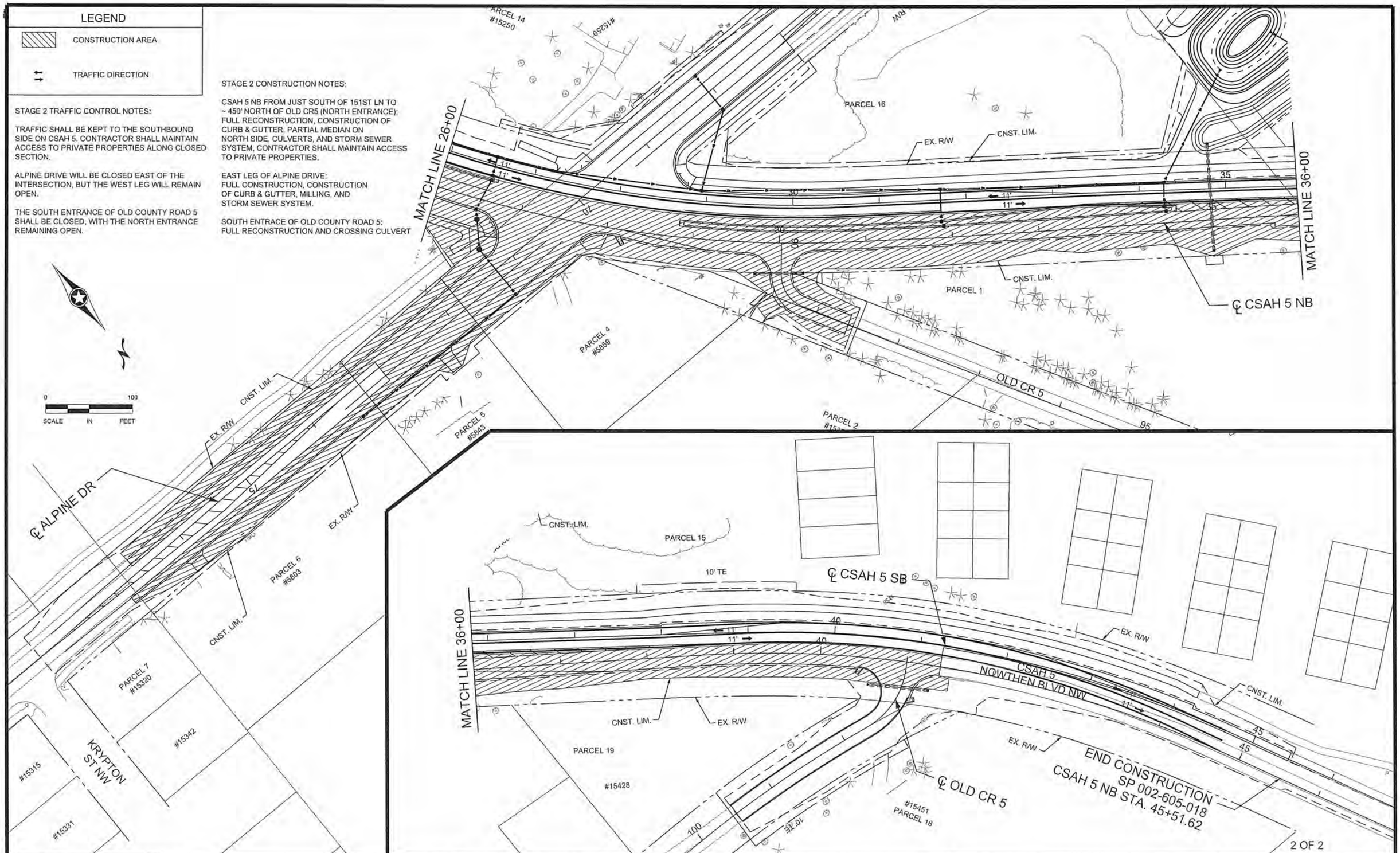
THE SOUTH ENTRANCE OF OLD COUNTY ROAD 5 SHALL BE CLOSED, WITH THE NORTH ENTRANCE REMAINING OPEN.

STAGE 2 CONSTRUCTION NOTES:

CSAH 5 NB FROM JUST SOUTH OF 151ST LN TO ~ 450' NORTH OF OLD CR5 (NORTH ENTRANCE): FULL RECONSTRUCTION, CONSTRUCTION OF CURB & GUTTER, PARTIAL MEDIAN ON NORTH SIDE, CULVERTS, AND STORM SEWER SYSTEM, CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTIES.

EAST LEG OF ALPINE DRIVE: FULL CONSTRUCTION, CONSTRUCTION OF CURB & GUTTER, MILLING, AND STORM SEWER SYSTEM.

SOUTH ENTRACE OF OLD COUNTY ROAD 5: FULL RECONSTRUCTION AND CROSSING CULVERT



0 100
SCALE IN FEET

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_STG2_P2.dgn 05/30/2014 1:59:22 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 KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14

DESIGN BY EJM DATE 02-28-14

CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

SP 199-106-011

CP 14-20

CONSTRUCTION STAGE 2 PLAN

STA 26+00 TO 47+00

Sheet 30 of 148 Sheets

STAGE 3 CONSTRUCTION NOTES:

COMPLETE REMAINING MEDIAN WORK, MILLING, FINAL BITUMINOUS LIFT, AND CLEAN UP

STAGE 3 TRAFFIC CONTROL NOTES:

TRAFFIC SHALL BE OPEN BOTH NB/SB WITH TEMPORARY CLOSURES FOR MILLING

ALPINE DRIVE SHALL BE OPEN WITH TEMPORARY CLOSURES FOR MILLING

LEGEND

CONSTRUCTION AREA

TRAFFIC DIRECTION

1 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_STG3_P1.dgn 05/30/2014 1:59:25 PM

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

PRINT NAME: CURT KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14

DESIGN BY EJM DATE 02-28-14

CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

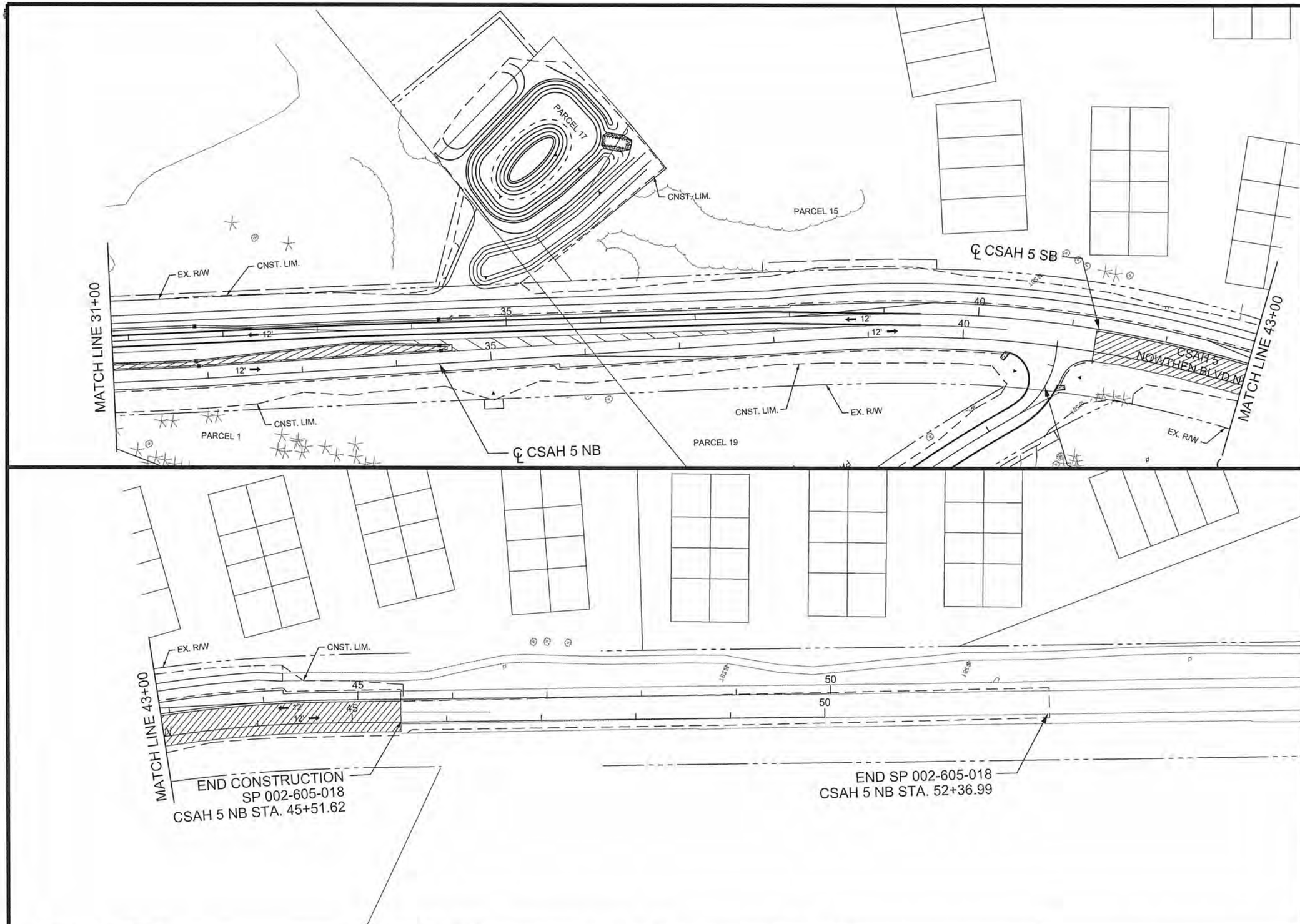
SP 199-106-011

CP 14-20

CONSTRUCTION STAGE 3 PLAN

STA 22+00 TO 31+00

Sheet 31 of 148 Sheets



LEGEND

CONSTRUCTION AREA

TRAFFIC DIRECTION

STAGE 3 CONSTRUCTION NOTES:

COMPLETE REMAINING MEDIAN WORK, MILLING, FINAL BITUMINOUS LIFT, AND CLEAN UP

STAGE 3 TRAFFIC CONTROL NOTES:

TRAFFIC SHALL BE OPEN BOTH NB/SB WITH TEMPORARY CLOSURES FOR MILLING

ALPINE DRIVE SHALL BE OPEN WITH TEMPORARY CLOSURES FOR MILLING

0 100
SCALE IN FEET

2 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_STG3_P2.dgn 05/30/2014 1:59:29 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 KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14

DESIGN BY EJM DATE 02-28-14

CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

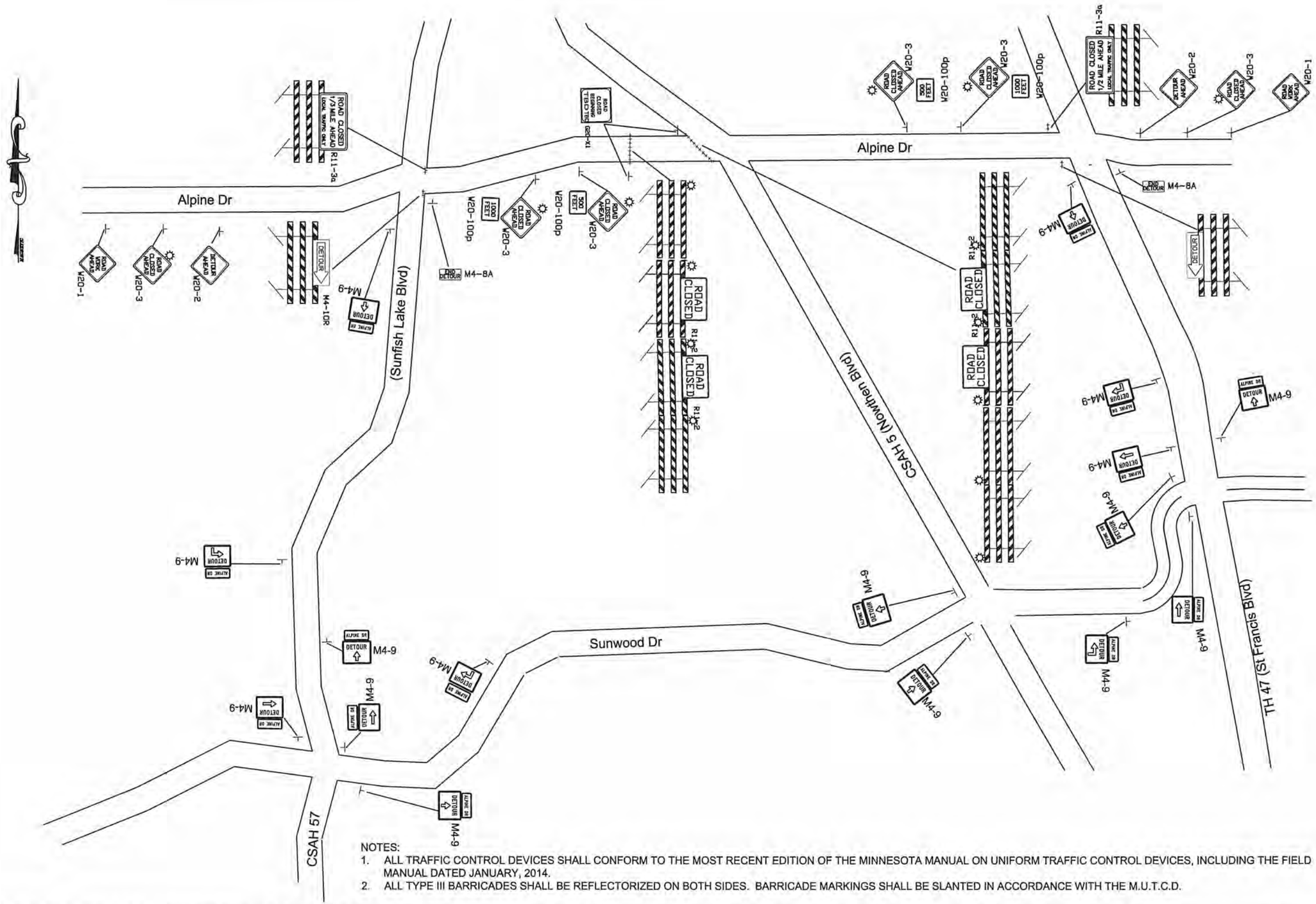
SP 199-106-011

CP 14-20

CONSTRUCTION STAGE 3 PLAN

STA 31+00 TO 50+00

Sheet 32 of 148 Sheets



NOTES:

1. 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, 2014.
2. ALL TYPE III BARRICADES 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
1	3/21/2011	RB	JR	CK	UPDATED TO REFLECT CHANGES TO THE FIELD MANUAL DATED FEBRUARY 2011

NAME: P:\02-596-11\Base\TRAFFIC\ Construction Detour.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 Kobilarcsik

DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY TMV DATE 03/07/14

DESIGN BY RB DATE 03/07/14

CHECKED BY RB DATE 03/07/14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

SP 199-106-011

CP 14-21

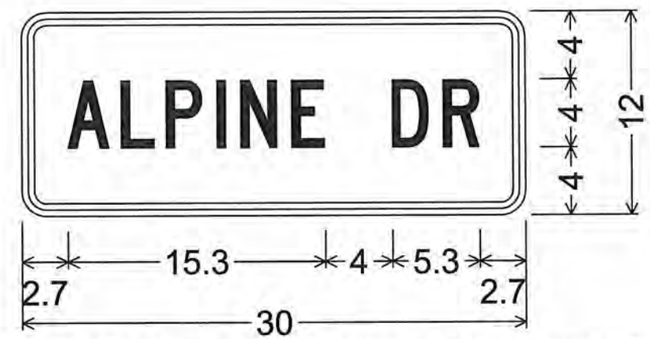
STAGE 1 DETOUR PLAN

Sheet 33 of 148 Sheets

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
W20-1	48" x 48"	ROAD WORK AHEAD	2
W20-2	48" x 48"	DETOUR AHEAD	2
FLASHER W20-3	48" x 48"	ROAD CLOSED AHEAD	6
W20-100P	24" x 18"	500 FEET	2
W20-100P	24" x 18"	1000 FEET	2
M4-9m	30" x 24"	DETOUR	2
			2
			2
			2
			8
	30" x 12"	ALPINE DR	16
M4-8s	24" x 18"	END DETOUR	2
G20-X1	60" x 48"	ROAD CLOSED BEGINING TBD ✳	2

✳ SIGNS 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.

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
M4-10R TYPE III	48" x 18" 8 FOOT	DETOUR	SEE NOTE (2) 1
M4-10L TYPE III	48" x 18" 8 FOOT	DETOUR	SEE NOTE (2) 1
FLASHER R11-2 TYPE III	48" x 30" 8 FOOT	ROAD CLOSED	SEE NOTE (2) 4
R11-3 TYPE III	48" x 30" 8 FOOT	ROAD CLOSED 1/2 MILE AHEAD LOCAL TRAFFIC ONLY	SEE NOTE (2) 1
R11-3 TYPE III	48" x 30" 8 FOOT	ROAD CLOSED 1/3 MILE AHEAD LOCAL TRAFFIC ONLY	SEE NOTE (2) 1
FLASHER TYPE III	8 FOOT		SEE NOTE (2) 2
FLASHER TYPE III	8 FOOT		SEE NOTE (2) 3



1.5" Radius, 0.4" Border, 0.4" Indent, Black on Orange; [ALPINE DR] C;

NOTES:
1. 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, 2014.
2. ALL TYPE III BARRICADES 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
1	3/21/2011	RB	JR	CK	UPDATED TO REFLECT CHANGES TO THE FIELD MANUAL DATED FEBRUARY 2011

NAME: P:\02-596-11\Base\TRAFFIC\ Construction Detour.dwg

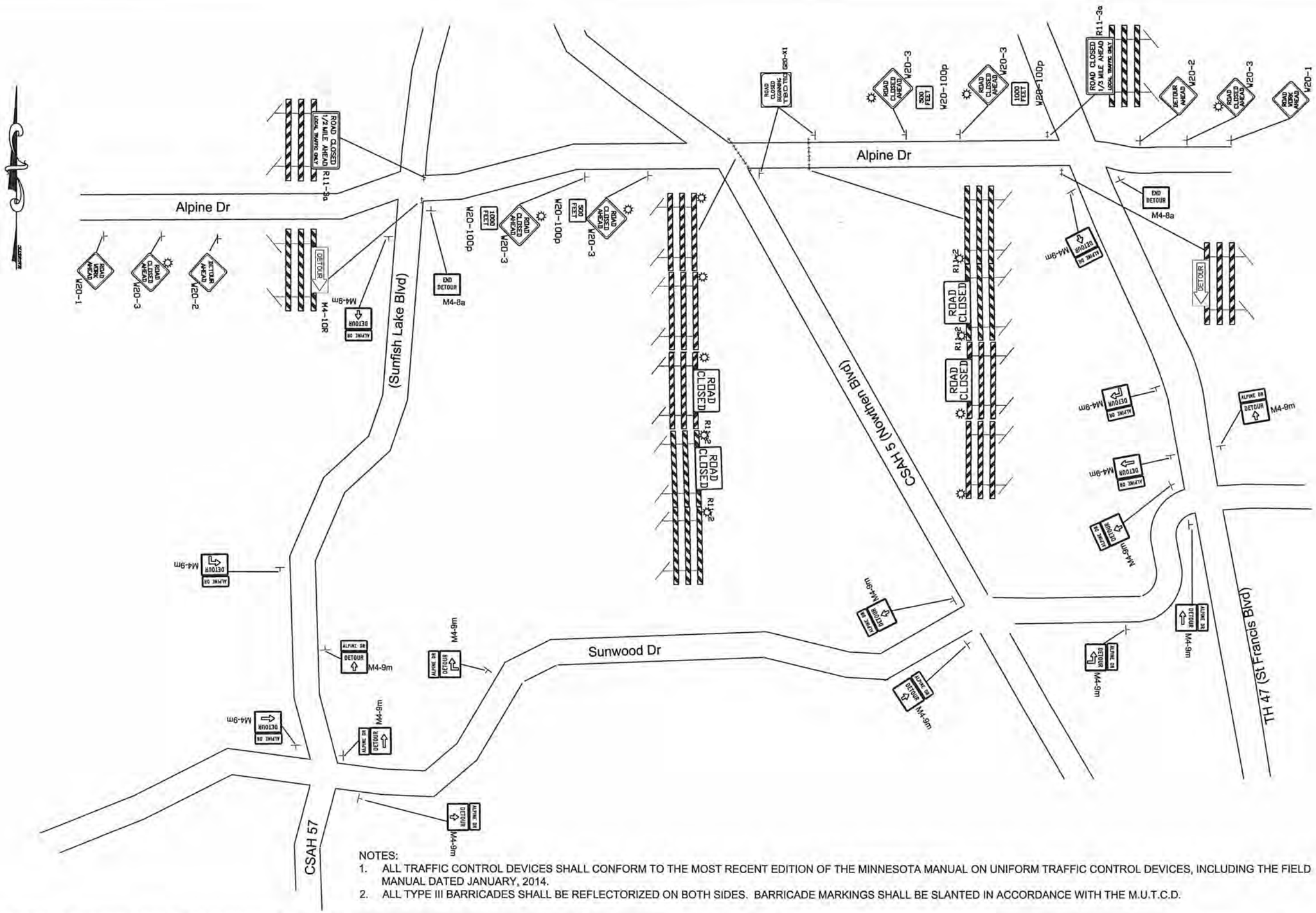
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: [signature]
DATE: 6-3-14 LICENSE NO. 24758

DRAWN BY TMV DATE 03/07/14
DESIGN BY TMV DATE 03/07/14
CHECKED BY RB DATE 03/07/14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-21

STAGE 1 DETOUR QUANTITY SHEET



NOTES:

1. 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, 2014.
2. ALL TYPE III BARRICADES 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
1	3/21/2011	RB	JR	CK	UPDATED TO REFLECT CHANGES TO THE FIELD MANUAL DATED FEBRUARY 2011

NAME: P:\02-596-11\Base\TRAFFIC\ Construction Detour.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. KORILARCSIK

SIGNATURE: [signature]

DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY TMV DATE 03/07/14

DESIGN BY RB DATE 03/07/14

CHECKED BY RB DATE 03/07/14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

SP 199-106-011

CP 14-21

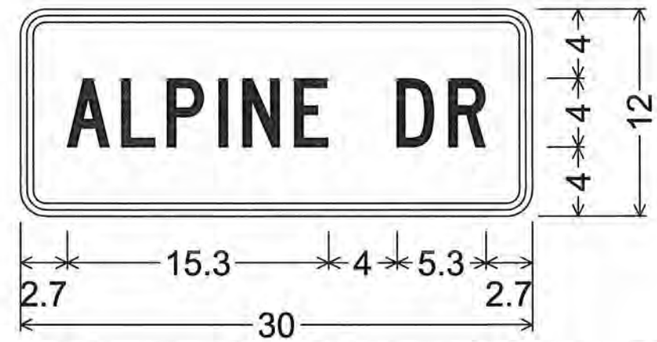
STAGE 2 DETOUR PLAN

Sheet 35 of 148 Sheets

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
W20-1	48" x 48"	ROAD WORK AHEAD	2
W20-2	48" x 48"	DETOUR AHEAD	2
FLASHER		ROAD CLOSED AHEAD	
W20-3	48" x 48"		6
W20-100P	24" x 18"	500 FEET	2
W20-100P	24" x 18"	1000 FEET	2
M4-9m	30" x 24"	DETOUR	
		←	2
		→	2
		↑	8
		↰	2
		↱	2
	30" x 12"	ALPINE DR	16
M4-8a	24" x 18"	END DETOUR	2
G20-X1	60" x 48"	ROAD CLOSED BEGINING TBD ✳	2

✳ SIGNS 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.

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY
M4-10R	48" x 18"	DETOUR	SEE NOTE (2)
TYPE III	8 FOOT		1
M4-10L	48" x 18"	DETOUR	SEE NOTE (2)
TYPE III	8 FOOT		1
FLASHER		ROAD CLOSED	SEE NOTE (2)
R11-2	48" x 30"		
TYPE III	8 FOOT		4
R11-3	48" x 30"	ROAD CLOSED 1/3 MILE AHEAD LOCAL TRAFFIC ONLY	SEE NOTE (2)
TYPE III	8 FOOT		1
R11-3	48" x 30"	ROAD CLOSED 1/2 MILE AHEAD LOCAL TRAFFIC ONLY	SEE NOTE (2)
TYPE III	8 FOOT		1
FLASHER			SEE NOTE (2)
TYPE III	8 FOOT		2
FLASHER			SEE NOTE (2)
TYPE III	8 FOOT		3



1.5" Radius, 0.4" Border, 0.4" Indent, Black on Orange; [ALPINE DR] C;

NOTES:
1. 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, 2014.
2. ALL TYPE III BARRICADES 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
1	3/21/2011	RB	JR	CK	UPDATED TO REFLECT CHANGES TO THE FIELD MANUAL DATED FEBRUARY 2011

NAME: P:\02-596-11\Base\TRAFFIC\ Construction Detour.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 Kobilarcsik
DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY TMV DATE 03/07/14
DESIGN BY TMV DATE 03/07/14
CHECKED BY RB DATE 03/07/14

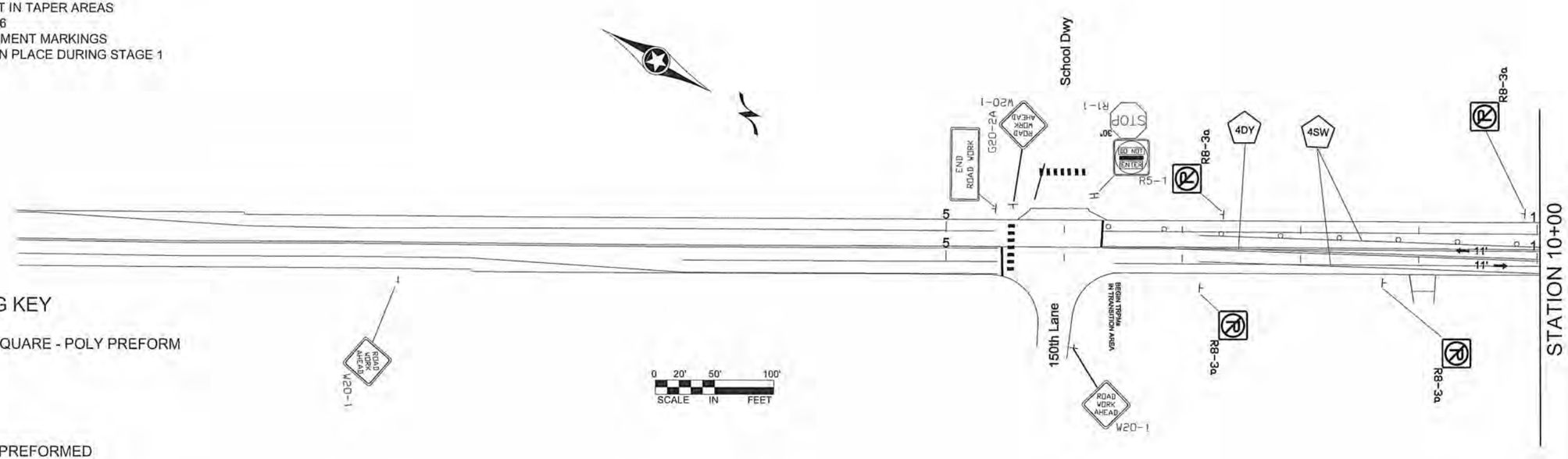
ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-21

STAGE 2 DETOUR QUANTITY SHEET

STAGE 1 TRAFFIC CONTROL NOTES:

- ACCESS SHALL BE MAINTAINED TO ALL STREETS & RESIDENCES
- SB LANE SHIFT FROM STA 6+30 TO 52+00
- ADD TRPM'S SPACED EVERY 10 FEET IN TAPER AREAS
- USE LANE TAPE SOUTH OF STA 15+96
- REMOVE ALL OF CONFLICTING PAVEMENT MARKINGS
- NB EXISTING SIGNS SHALL REMAIN IN PLACE DURING STAGE 1



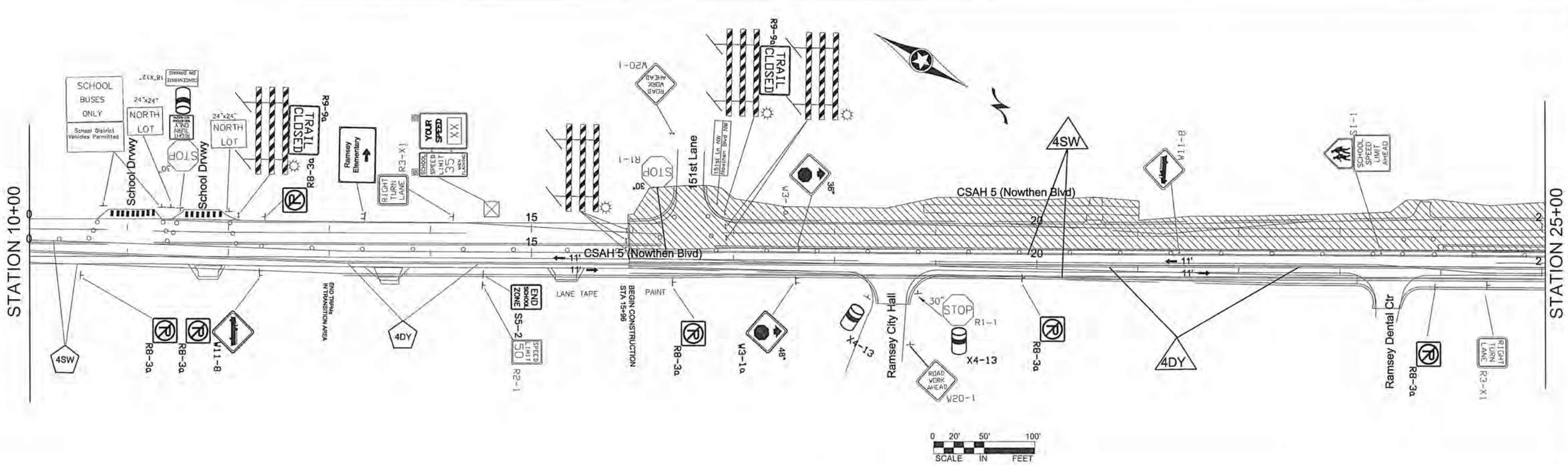
STRIPING KEY

CIRCLE - EPOXY

SQUARE - POLY PREFORM

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



NO	DATE	BY	CKD	APPR	REVISION

NAME:

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 KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 6-3-14 REG. NO. 24756

DRAWN BY T.V. DATE 4/25/14

DESIGN BY T.V. DATE 4/25/14

CHECKED BY RB DATE 4/25/14

ANOKA COUNTY

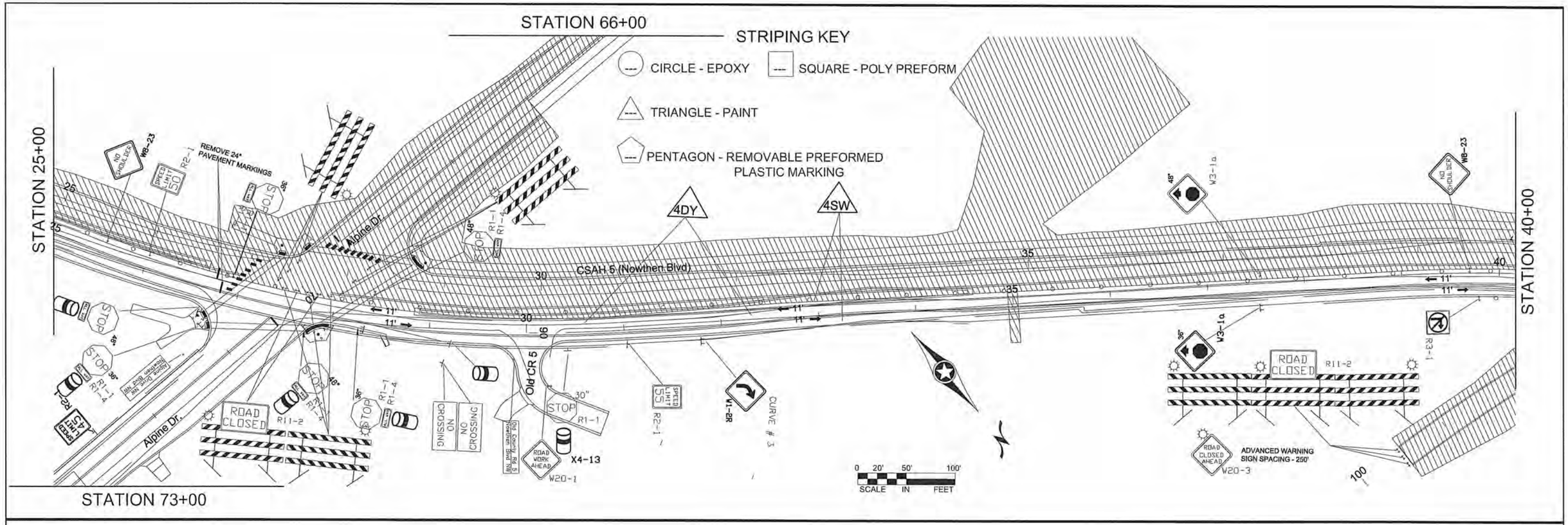
ANOKA COUNTY HIGHWAY DEPT.

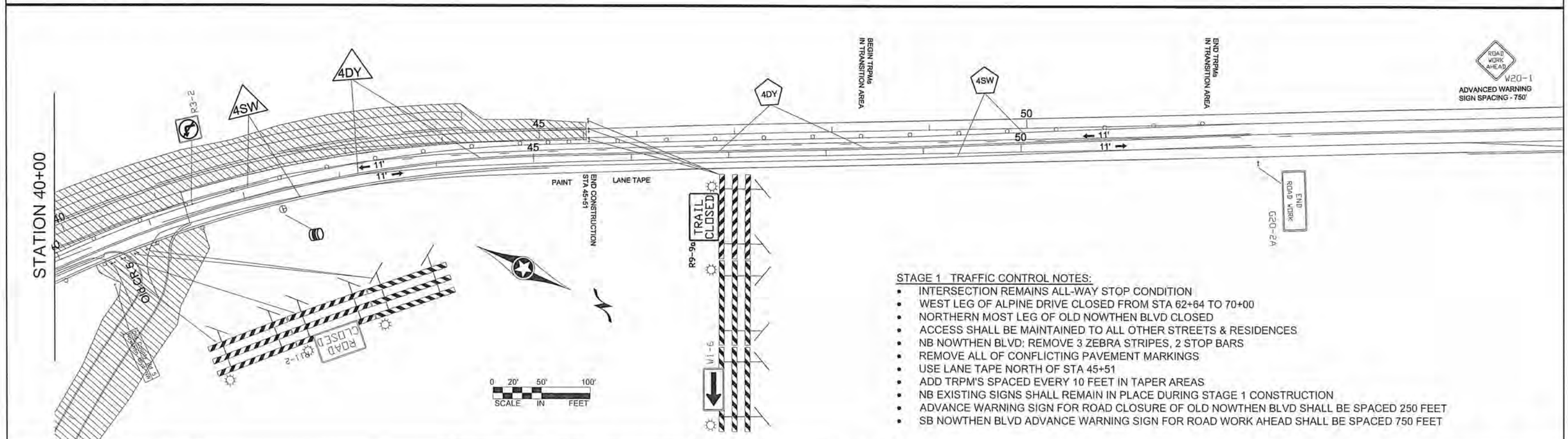
SP 002-605-018

SP 199-106-011

CP 14-21

TRAFFIC CONTROL STAGE 1 LAYOUT





STAGE 1 TRAFFIC CONTROL NOTES:

- INTERSECTION REMAINS ALL-WAY STOP CONDITION
- WEST LEG OF ALPINE DRIVE CLOSED FROM STA 62+64 TO 70+00
- NORTHERN MOST LEG OF OLD NOWTHEN BLVD CLOSED
- ACCESS SHALL BE MAINTAINED TO ALL OTHER STREETS & RESIDENCES
- NB NOWTHEN BLVD: REMOVE 3 ZEBRA STRIPES, 2 STOP BARS
- REMOVE ALL OF CONFLICTING PAVEMENT MARKINGS
- USE LANE TAPE NORTH OF STA 45+51
- ADD TRPM'S SPACED EVERY 10 FEET IN TAPER AREAS
- NB EXISTING SIGNS SHALL REMAIN IN PLACE DURING STAGE 1 CONSTRUCTION
- ADVANCE WARNING SIGN FOR ROAD CLOSURE OF OLD NOWTHEN BLVD SHALL BE SPACED 250 FEET
- SB NOWTHEN BLVD ADVANCE WARNING SIGN FOR ROAD WORK AHEAD SHALL BE SPACED 750 FEET

NO	DATE	BY	CKD	APPR	REVISION
NAME:					

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 KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 6-3-14 REG. NO. 24756

DRAWN BY T.V. DATE 4/25/14
DESIGN BY T.V. DATE 4/25/14
CHECKED BY RB DATE 4/25/14

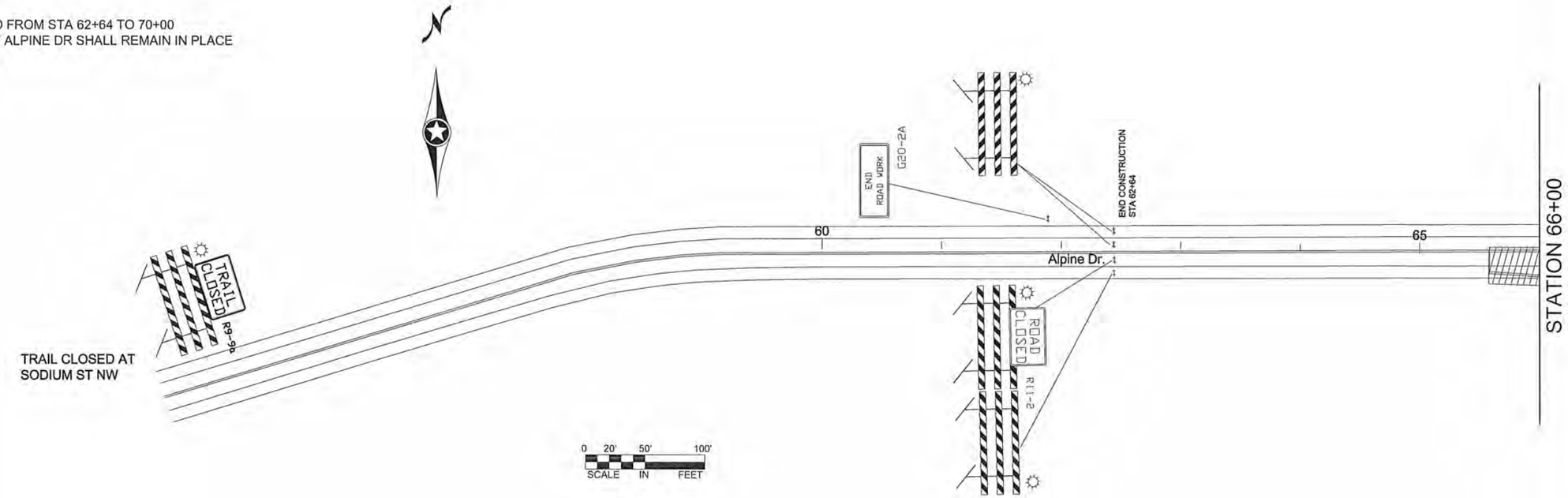
ANOKA COUNTY HIGHWAY DEPT.

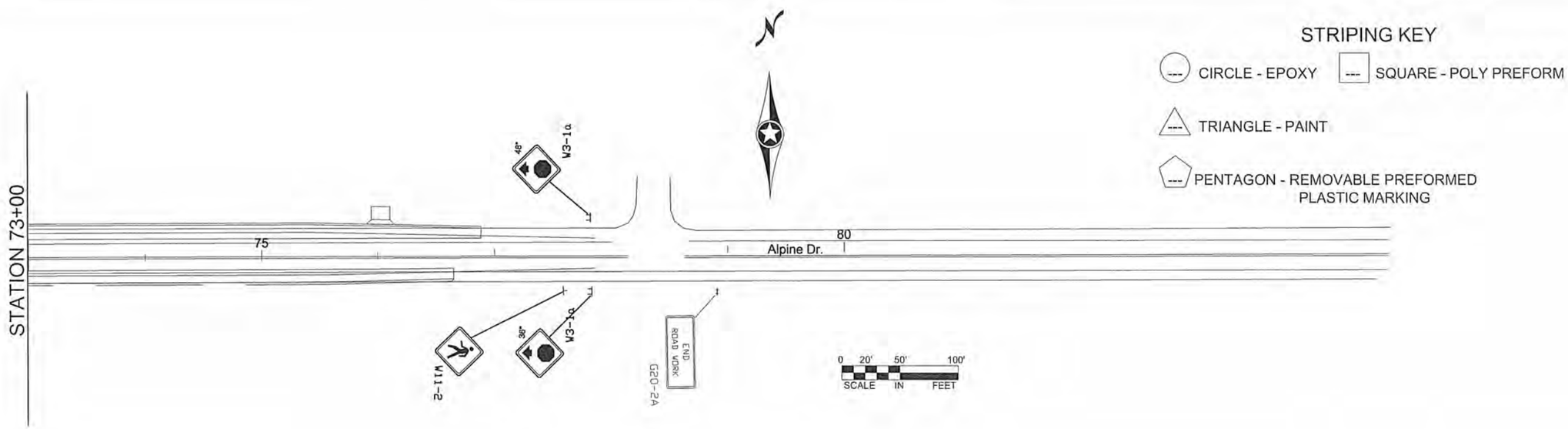
SP 002-605-018
SP 199-106-011
CP 14-21

TRAFFIC CONTROL
STAGE 1 LAYOUT

STAGE 1 TRAFFIC CONTROL NOTES

- WEST LEG OF ALPINE DR CLOSED FROM STA 62+64 TO 70+00
- EXISTING SIGNS ON EAST LEG OF ALPINE DR SHALL REMAIN IN PLACE





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ANOKA COUNTY

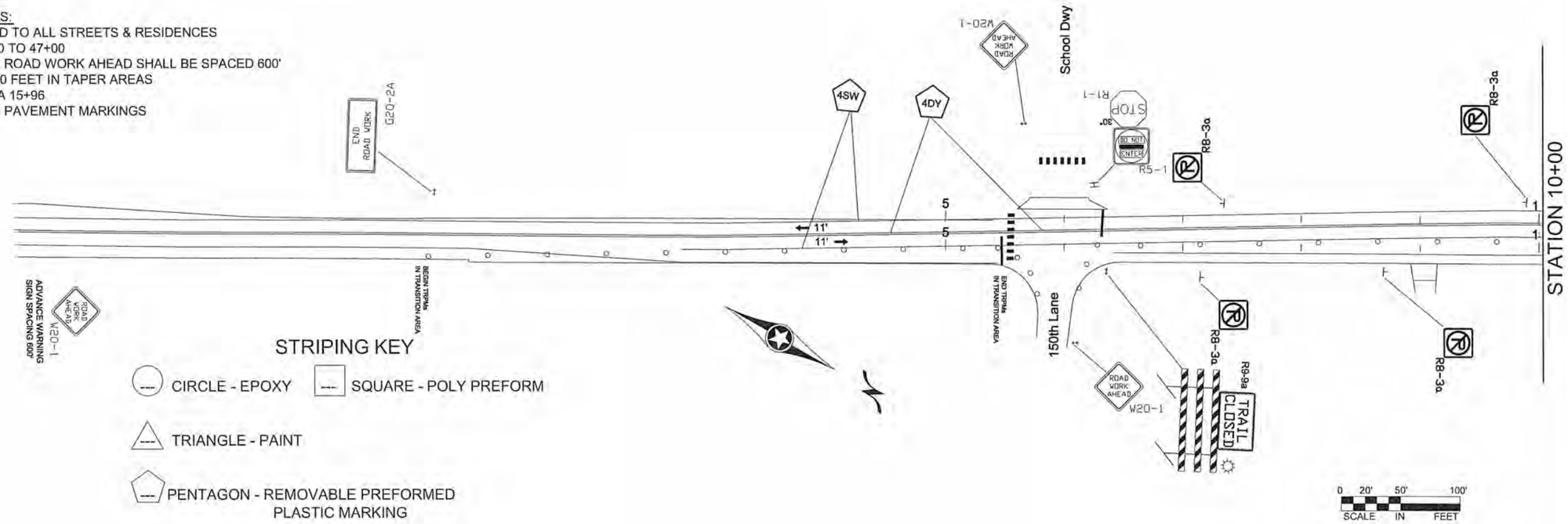
ANOKA COUNTY HIGHWAY DEPT.

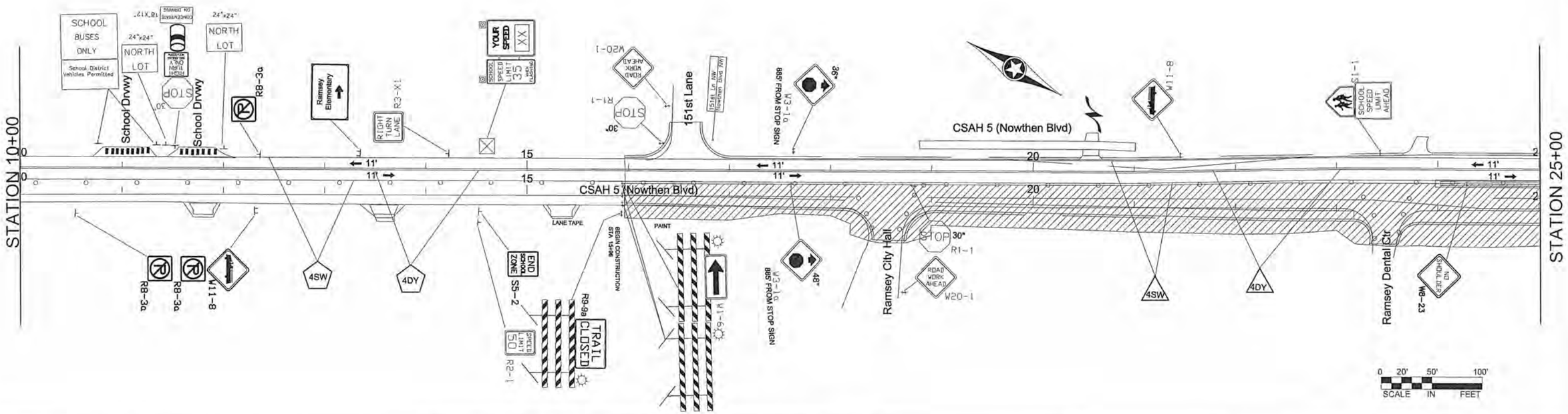
SP 002-605-018
SP 199-106-011
CP 14-21

TRAFFIC CONTROL
STAGE 1 LAYOUT

STAGE 2 TRAFFIC CONTROL NOTES:

- ACCESS SHALL BE MAINTAINED TO ALL STREETS & RESIDENCES
- NB LANE SHIFT FROM STA 1+00 TO 47+00
- ADVANCE WARNING SIGN FOR ROAD WORK AHEAD SHALL BE SPACED 600'
- ADD TRPM'S SPACED EVERY 10 FEET IN TAPER AREAS
- USE LANE TAPE SOUTH OF STA 15+96
- REMOVE ALL OF CONFLICTING PAVEMENT MARKINGS





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ANOKA COUNTY

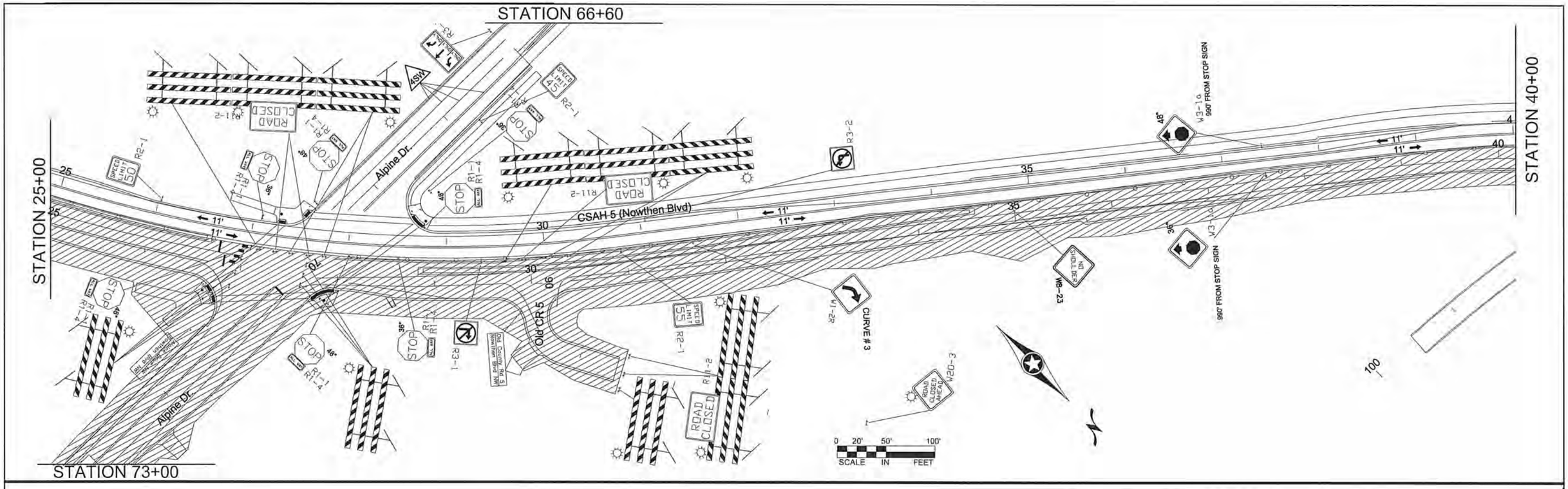
ANOKA COUNTY HIGHWAY DEPT.

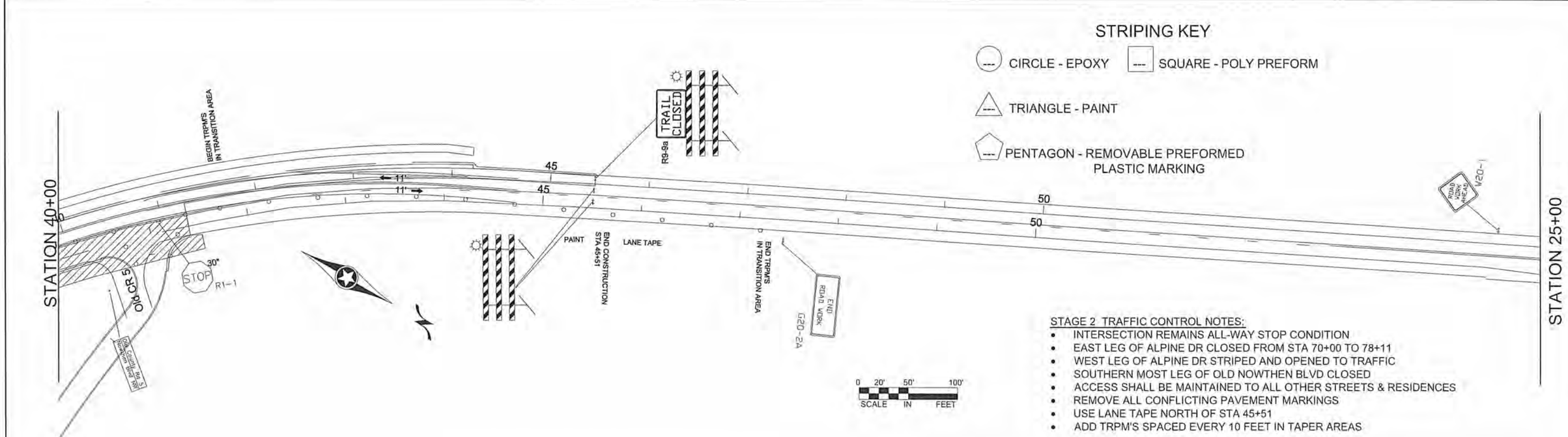
SP 002-605-018

SP 199-106-011

CP 14-21

TRAFFIC CONTROL STAGE 2 LAYOUT





STAGE 2 TRAFFIC CONTROL NOTES:

- INTERSECTION REMAINS ALL-WAY STOP CONDITION
- EAST LEG OF ALPINE DR CLOSED FROM STA 70+00 TO 78+11
- WEST LEG OF ALPINE DR STRIPED AND OPENED TO TRAFFIC
- SOUTHERN MOST LEG OF OLD NOWTHEN BLVD CLOSED
- ACCESS SHALL BE MAINTAINED TO ALL OTHER STREETS & RESIDENCES
- REMOVE ALL CONFLICTING PAVEMENT MARKINGS
- USE LANE TAPE NORTH OF STA 45+51
- ADD TRPM'S SPACED EVERY 10 FEET IN TAPER AREAS

NO	DATE	BY	CKD	APPR	REVISION
NAME:					

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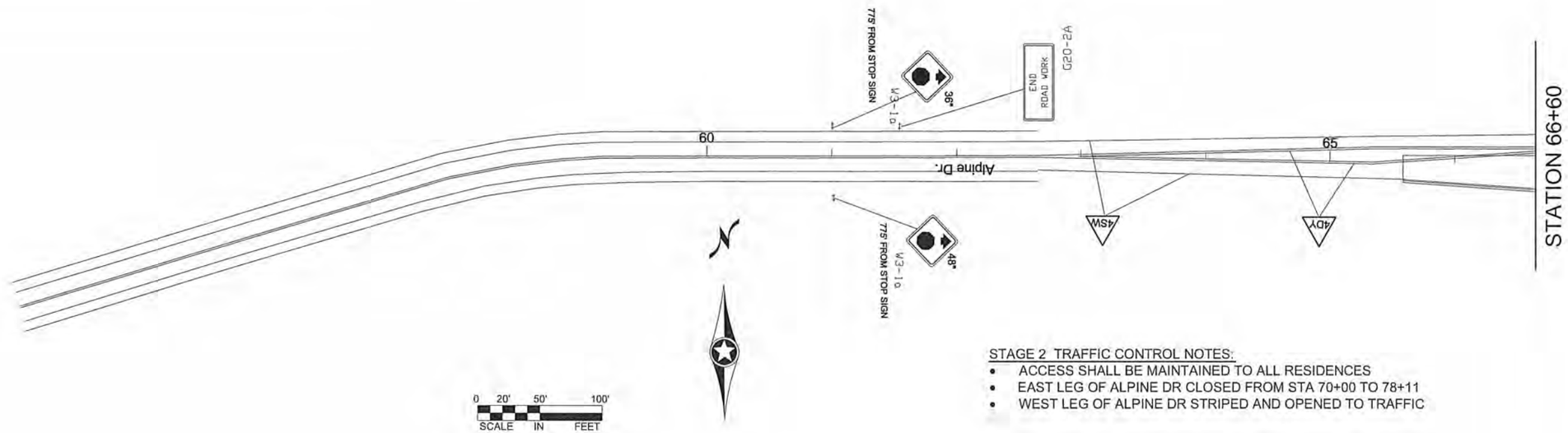
ANOKA COUNTY HIGHWAY DEPT.

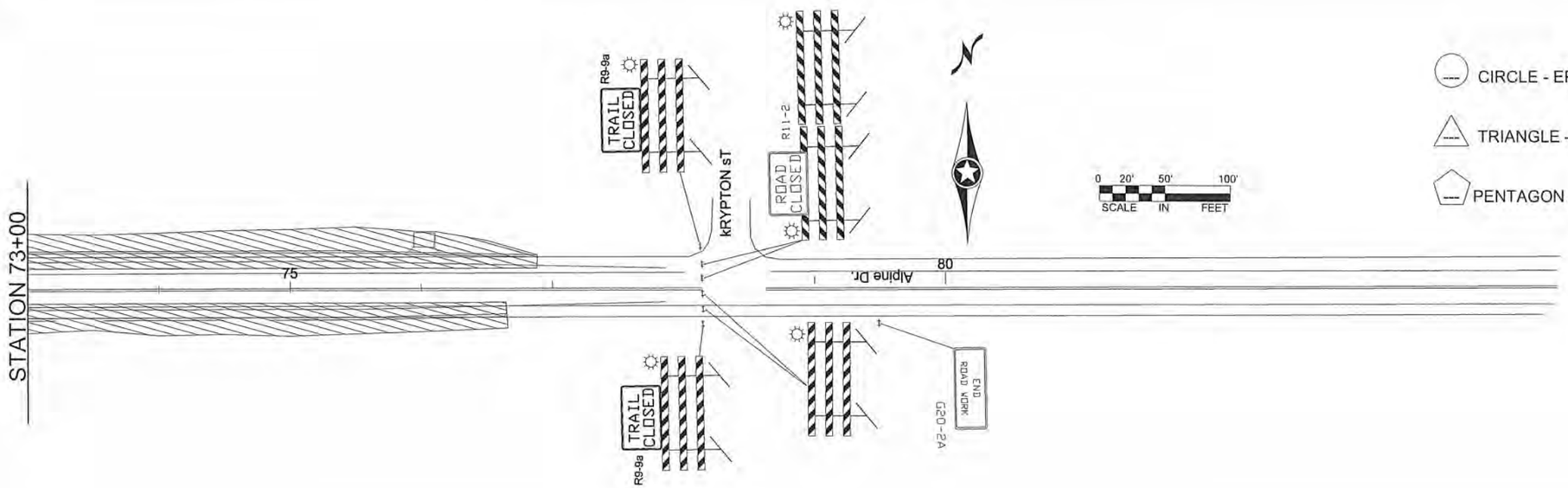
SP 002-605-018
SP 199-106-011
CP 14-21

TRAFFIC CONTROL
STAGE 2 LAYOUT



STAGE 2 TRAFFIC CONTROL NOTES:

- ACCESS SHALL BE MAINTAINED TO ALL RESIDENCES
- EAST LEG OF ALPINE DR CLOSED FROM STA 70+00 TO 78+11
- WEST LEG OF ALPINE DR STRIPED AND OPENED TO TRAFFIC



STRIPING KEY

CIRCLE - EPOXY

SQUARE - POLY PREFORM

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

NO	DATE	BY	CKD	APPR	REVISION
NAME:					

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PRINT NAME: CURT KOBILARCSIK

SIGNATURE: [signature]

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

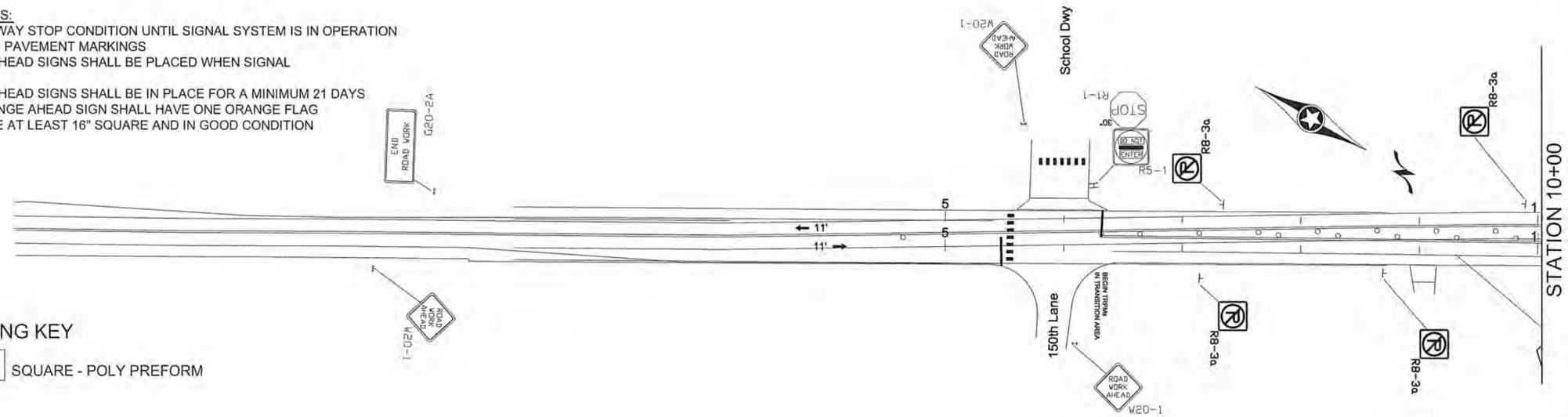
SP 199-106-011

CP 14-21

TRAFFIC CONTROL STAGE 2 LAYOUT

STAGE 3 TRAFFIC CONTROL NOTES:

- INTERSECTION REMAINS ALL-WAY STOP CONDITION UNTIL SIGNAL SYSTEM IS IN OPERATION
- REMOVE ALL OF CONFLICTING PAVEMENT MARKINGS
- TRAFFIC CONTROL CHANGE AHEAD SIGNS SHALL BE PLACED WHEN SIGNAL SYSTEM GOES IN OPERATION
- TRAFFIC CONTROL CHANGE AHEAD SIGNS SHALL BE IN PLACE FOR A MINIMUM 21 DAYS
- EACH TRAFFIC CONTROL CHANGE AHEAD SIGN SHALL HAVE ONE ORANGE FLAG
- EACH ORANGE FLAG SHALL BE AT LEAST 16" SQUARE AND IN GOOD CONDITION



STRIPING KEY

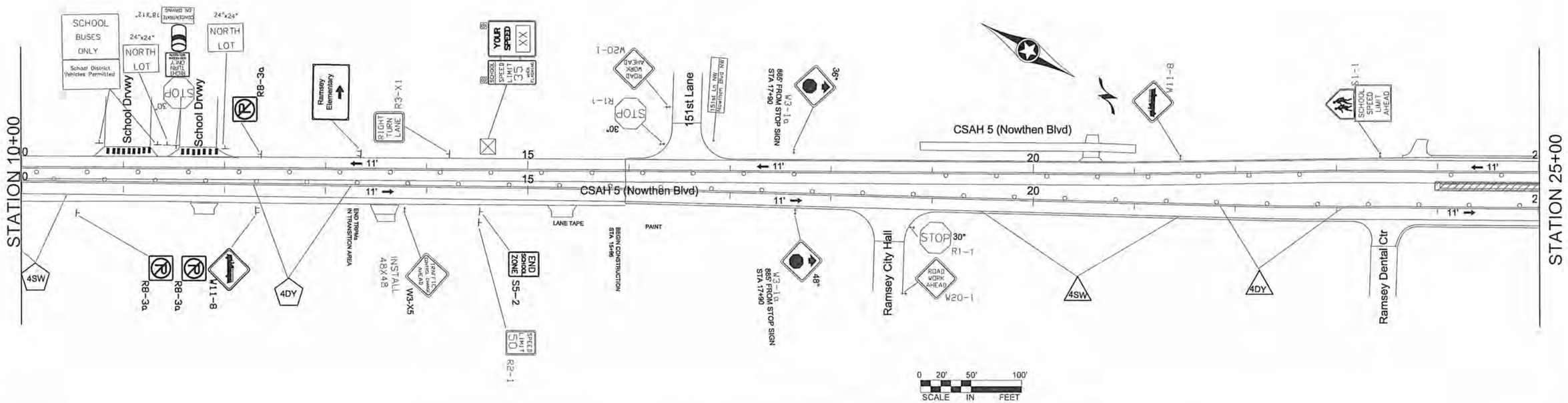
CIRCLE - EPOXY

SQUARE - POLY PREFORM

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

0 20' 50' 100'
SCALE IN FEET



0 20' 50' 100'
SCALE IN FEET

NO	DATE	BY	CKD	APPR	REVISION
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ANOKA COUNTY

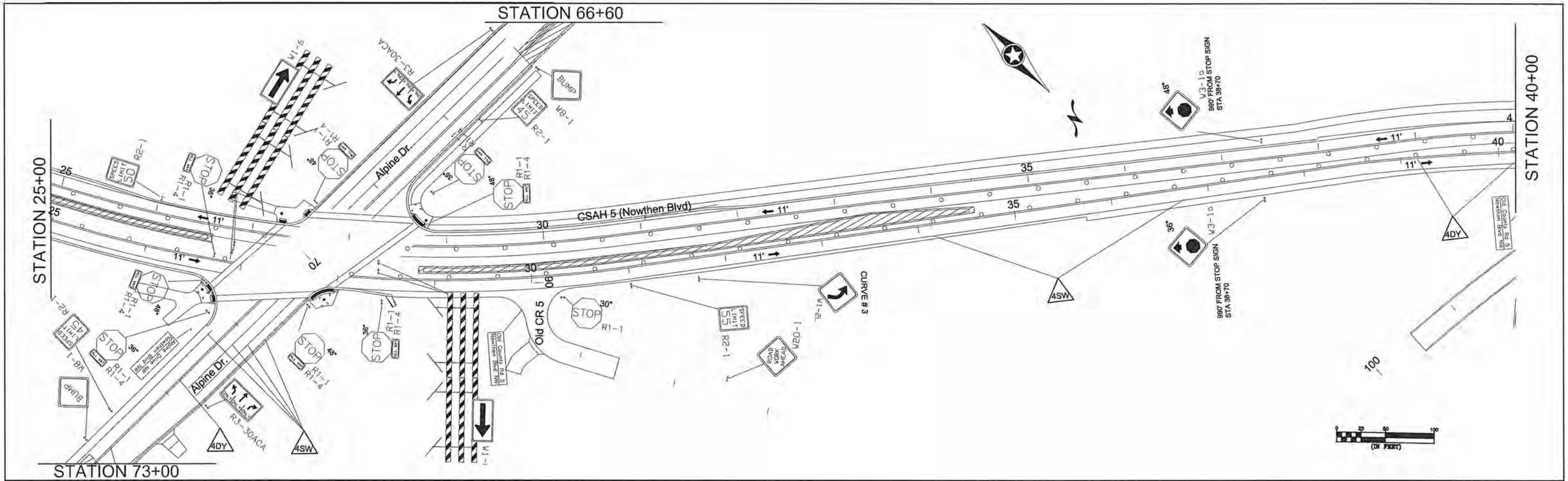
ANOKA COUNTY HIGHWAY DEPT.

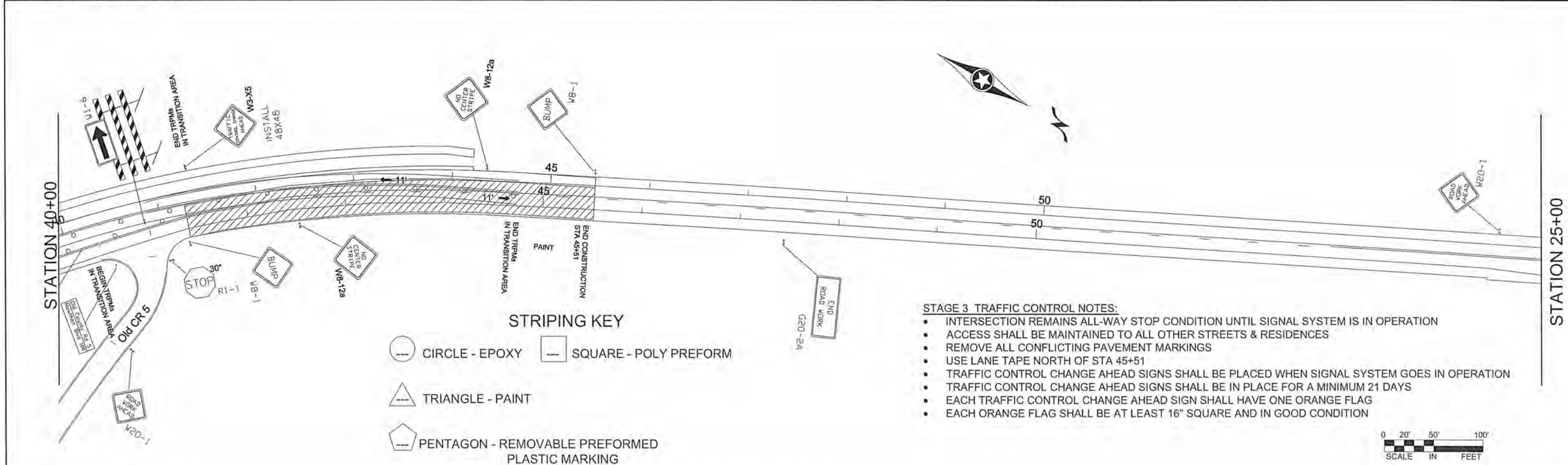
SP 002-605-018

SP 199-106-011

CP 14-21

TRAFFIC CONTROL STAGE 3 LAYOUT





STAGE 3 TRAFFIC CONTROL NOTES:

- INTERSECTION REMAINS ALL-WAY STOP CONDITION UNTIL SIGNAL SYSTEM IS IN OPERATION
- ACCESS SHALL BE MAINTAINED TO ALL OTHER STREETS & RESIDENCES
- REMOVE ALL CONFLICTING PAVEMENT MARKINGS
- USE LANE TAPE NORTH OF STA 45+51
- TRAFFIC CONTROL CHANGE AHEAD SIGNS SHALL BE PLACED WHEN SIGNAL SYSTEM GOES IN OPERATION
- TRAFFIC CONTROL CHANGE AHEAD SIGNS SHALL BE IN PLACE FOR A MINIMUM 21 DAYS
- EACH TRAFFIC CONTROL CHANGE AHEAD SIGN SHALL HAVE ONE ORANGE FLAG
- EACH ORANGE FLAG SHALL BE AT LEAST 16" SQUARE AND IN GOOD CONDITION

NO	DATE	BY	CKD	APPR	REVISION
NAME:					

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ANOKA COUNTY HIGHWAY DEPT.

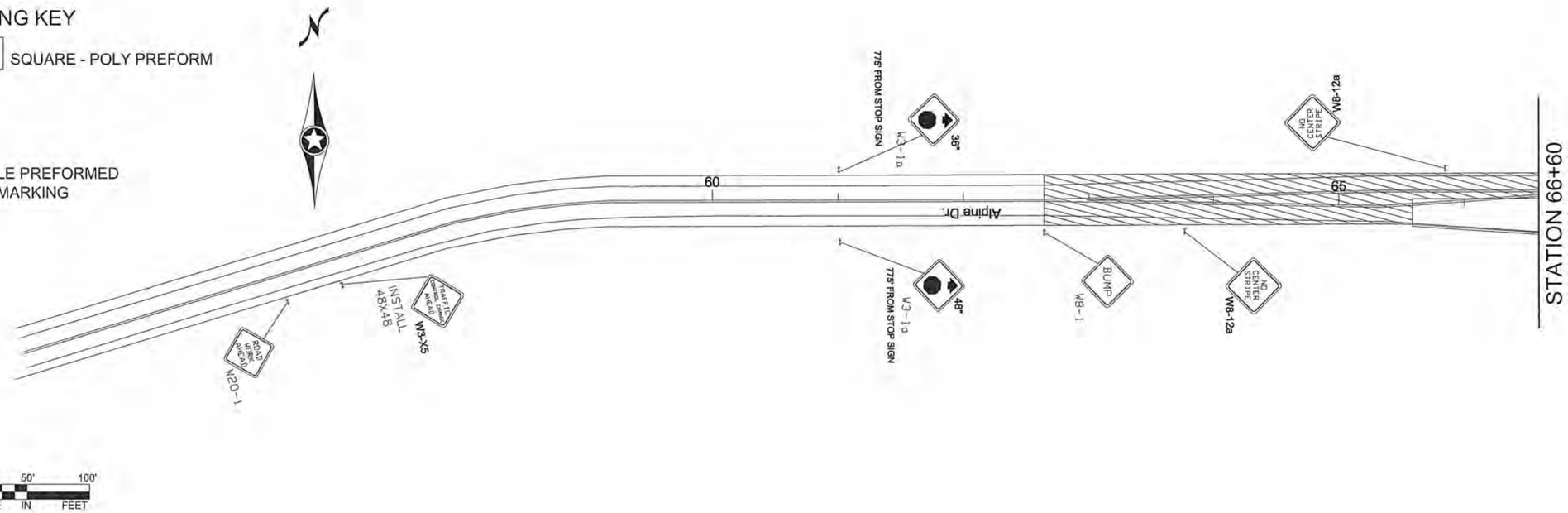
SP 002-605-018
SP 199-106-011
CP 14-21

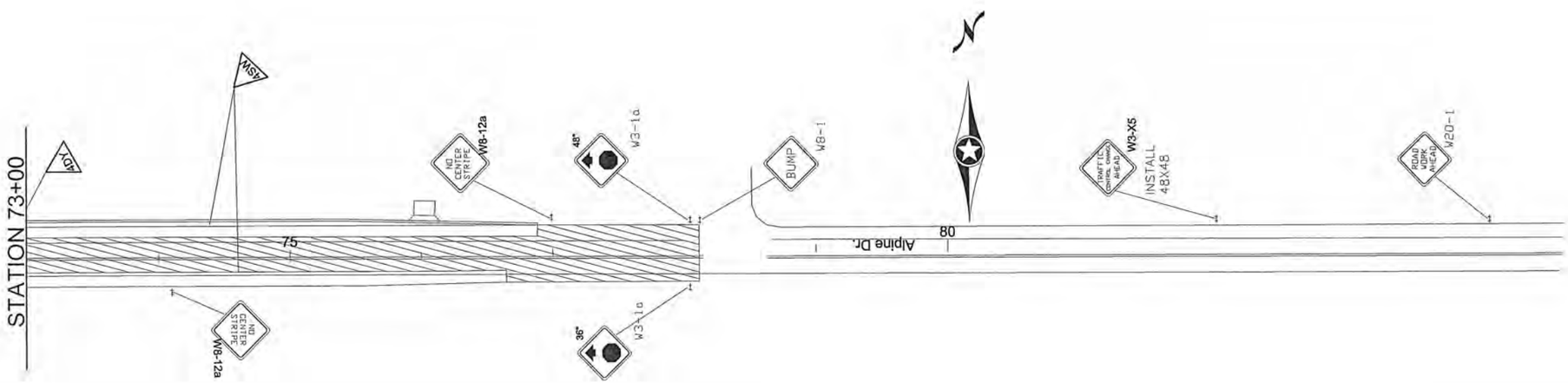
TRAFFIC CONTROL
STAGE 3 LAYOUT

Sheet 44 of 148 Sheets

STRIPING KEY

- CIRCLE - EPOXY
- SQUARE - POLY PREFORM
- TRIANGLE - PAINT
- PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING





STAGE 3 TRAFFIC CONTROL NOTES:

- INTERSECTION REMAINS ALL-WAY STOP CONDITION UNTIL SIGNAL SYSTEM GOES IN OPERATION
- TRAFFIC CONTROL CHANGE AHEAD SIGNS SHALL BE IN PLACE FOR A MINIMUM 21 DAYS
- EACH TRAFFIC CONTROL CHANGE AHEAD SIGN SHALL HAVE ONE ORANGE FLAG
- EACH ORANGE FLAG SHALL BE AT LEAST 16" SQUARE AND IN GOOD CONDITION

0 20' 50' 100'
SCALE IN FEET

NO	DATE	BY	CKD	APPR	REVISION

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-21

TRAFFIC CONTROL
STAGE 3 LAYOUT

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3
R1-1	48" x 48"	STOP ALL WAY	1	4	4
R1-1	36" x 36"		1	3	4
R1-4	18" x 6"		2	7	8
R1-X1	30" x 30"	STOP	1	3	4
W20-1	48" x 48"	ROAD WORK AHEAD	7	6	10
W20-1	48" x 48"	ROAD CLOSED AHEAD	1	1	0
G20-2A	48" X 24"	END ROAD WORK	4	4	4
W1-4L	36" x 36"		1	3	3
W1-4L	48" x 48"		1	3	3
W8-23 Black on Orange	48" x 48"	NO SHOULDER	2	2	0
R3-1	24" x 24"		1	1	0
R3-2	24" x 24"		1	1	0
W3-X5	48" x 48"	TRAFFIC CONTROL CHANGE AHEAD	0	0	4
W8-1	48" x 48"	BUMP	0	0	6
W20-1	48" x 48"	NO CENTER STRIPE	0	0	6

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3
FLASHER		TRAIL CLOSED			
R9-9a	24" x 18"		4	5	0
TYPE III	8 FOOT		4	5	0
FLASHER		ROAD CLOSED			
R11-2	48" X 30"		5	5	0
TYPE III	8 FOOT		5	5	0
W1-6	48" X 24"		1	1	0
TYPE III	8 FOOT		1	1	0
W1-6	48" X 24"				
TYPE III	8 FOOT		0	0	3
FLASHER			7	9	0
TYPE III	8 FOOT		7	9	2
FLASHER			16	12	0
TYPE III	8 FOOT		16	12	2
REFLECTORIZED REBOUNDABLE DRUM			112	114	139

B TEMPORARY PAVEMENT MARKING TABULATION		
4" PAVEMENT MARKING REMOVAL	LIN FT	10881
REMOVE 3' x 6' THERMO-PLASTIC ZEBRA CROSSWALK	SQ FT	54
RAISED PAVEMENT MARKER TEMPORARY	EACH	324
PREFORM PLASTIC MARKING (WHITE)	LIN FT	7566
PREFORM PLASTIC MARKING (YELLOW)	LIN FT	8536
4" SOLID LINE WHITE - PAINT	LIN FT	14555
4" DOUBLE YELLOW PAINT	LIN FT	8253

NOTES:

1. 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, 2014.
2. ALL TYPE III BARRICADES 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

NAME: P:\02-611-33\Base\TRAFFIC\0261133_STGQTY.dwg

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PRINT NAME: CURT A. KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

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ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

SP 199-106-011

CP 14-21

STAGING SIGN QUANTITIES

BEGIN FULL DEPTH CONSTRUCTION
SP 002-605-018
CSAH 5 NB STA. 15+96.66

℄ CSAH 5 SB

℄ CSAH 5 NB

CSAH 5
NOWTHEN BLVD NW

151ST LN NW

MATCH LINE 23+00

MATCH LINE 34+00

OLD CR 5

PARCEL 1

PARCEL 2
#15337

PARCEL 3
#5859

PARCEL 7

PARCEL 14
#15250

PARCEL 16

#15000

#15113

#15123

#15133

#15200

#15220

#15216

#15224

#15232

#15238

#15242

#15243

EX. R/W

CNST. LIM.

LEGEND

G	CENTERPOINT ENERGY
TV-BUR / OHU	COMCAST CABLE COMMUNICATIONS
P-BUR / OHP	CONNEXUS ENERGY/ GREAT RIVER ENERGY
T-BUR / OHU	QWEST CORPORATION
F/O-BUR	ZAYO FIBER
I	EXISTING WATER MAIN
	PROPOSED STORM DRAIN
	EXISTING R/W
	TEMPORARY EASEMENT
	PERMANENT EASEMENT
	EXISTING ROADWAY REMOVAL

SCALE 0 IN 100 FEET

1 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_UT1.dgn 05/30/2014 1:59:32 PM

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PRINT NAME: CURT KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 6-3-14 LICENSE NO. 24756

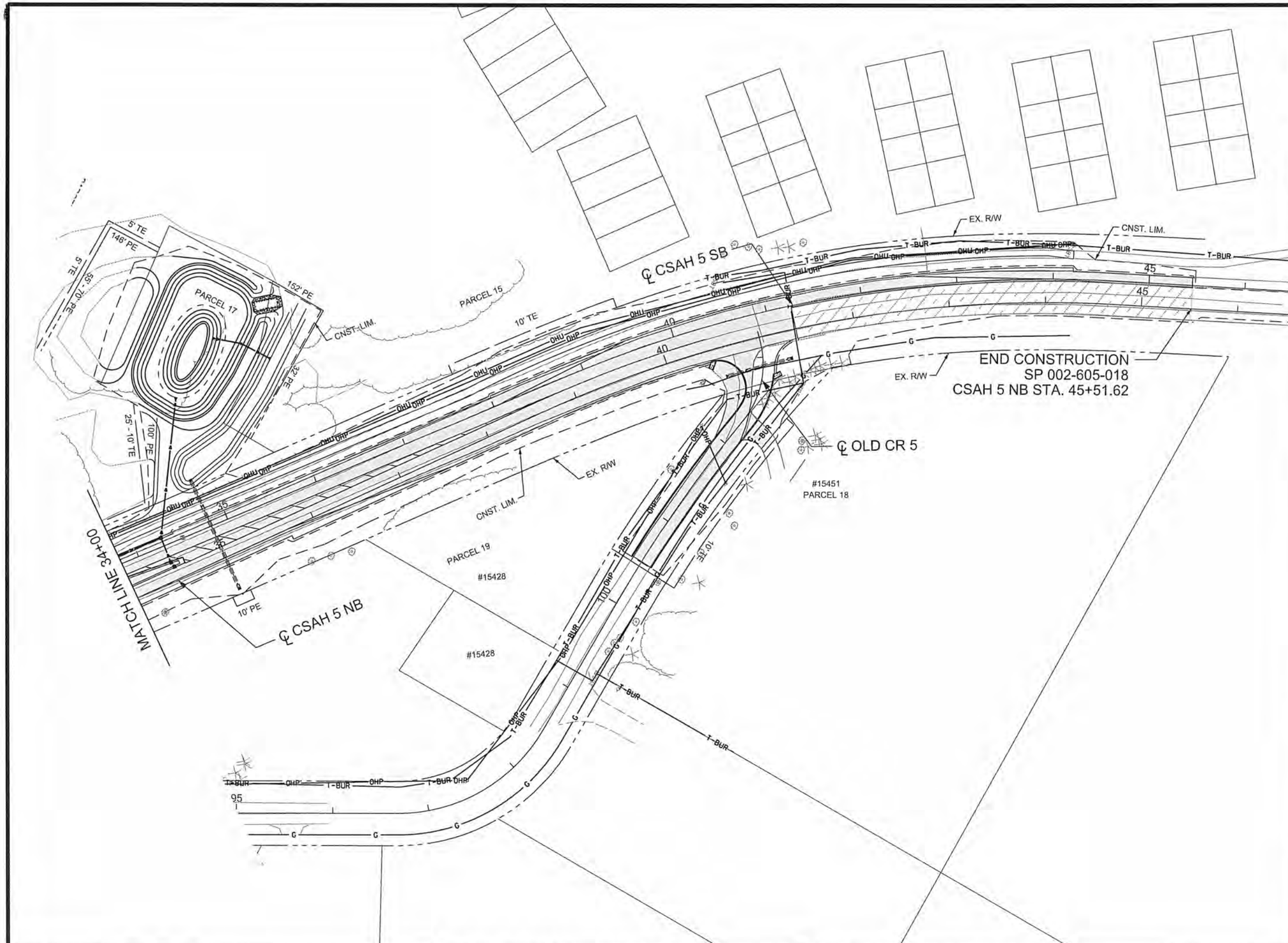
DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

INPLACE UTILITY PLAN
STA 10+00 TO 34+00
Sheet 47 of 148 Sheets



LEGEND

G	CENTERPOINT ENERGY
TV-BUR / OHU	COMCAST CABLE COMMUNICATIONS
P-BUR / OHP	CONNEXUS ENERGY/ GREAT RIVER ENERGY
T-BUR / OHU	QWEST CORPORATION
F/O-BUR	ZAYO FIBER
	EXISTING WATER MAIN
	PROPOSED STORM DRAIN
	EXISTING R/W
	TEMPORARY EASEMENT
	PERMANENT EASEMENT
	EXISTING ROADWAY REMOVAL
	MILL & OVERLAY

0 100
SCALE IN FEET

2 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_UT2.dgn 05/30/2014 1:59:36 PM

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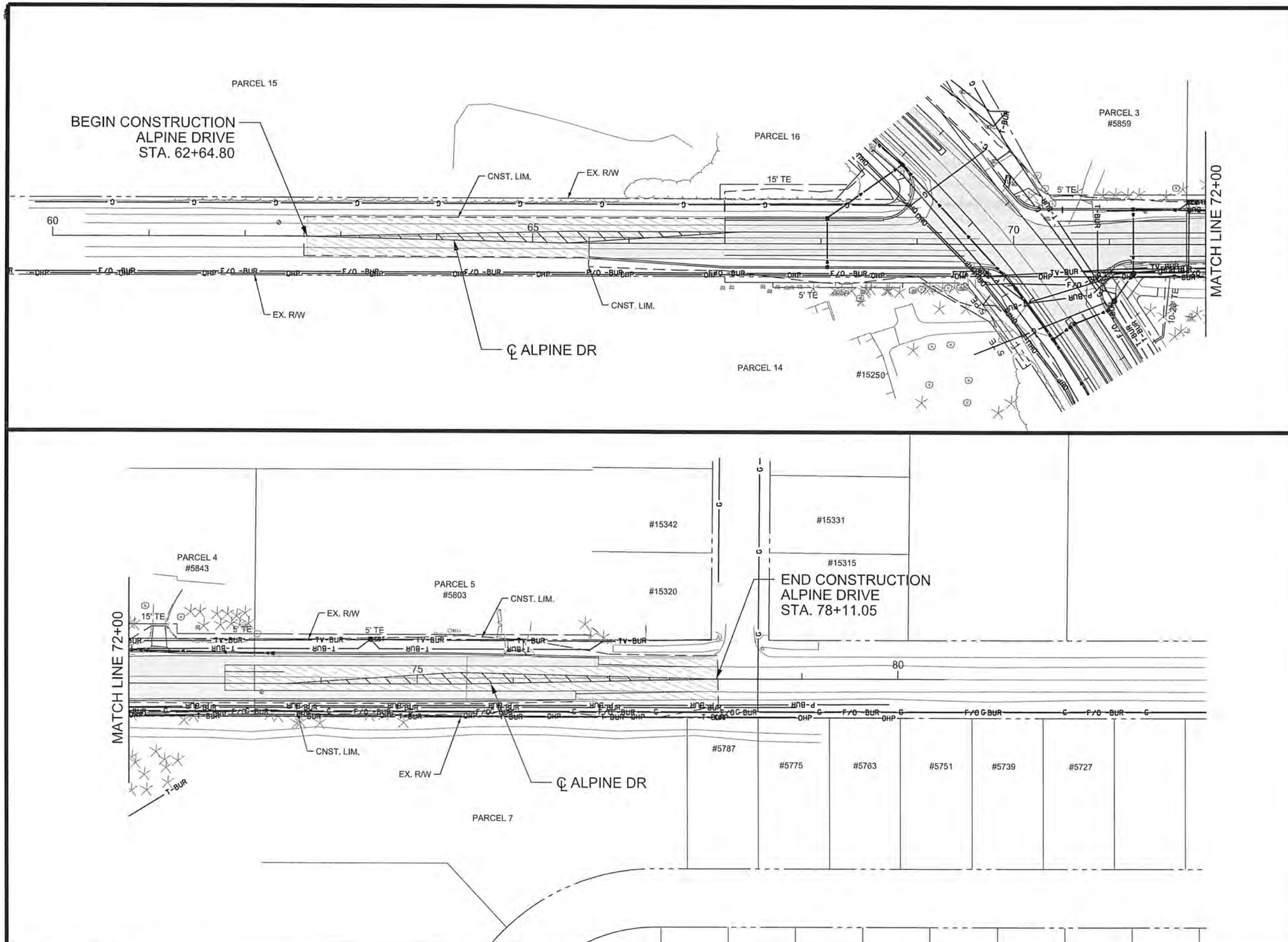
ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

INPLACE UTILITY PLAN
STA 34+00 TO 45+51.62
Sheet 48 of 148 Sheets



LEGEND

—G—	CENTERPOINT ENERGY
—TV-BUR— / —OHU—	COMCAST CABLE COMMUNICATIONS
—P-BUR— / —OHP—	CONNEXUS ENERGY/ GREAT RIVER ENERGY
—T-BUR— / —OHU—	QWEST CORPORATION
—F/O-BUR—	ZAYO FIBER
—I—	EXISTING WATER MAIN
	PROPOSED STORM DRAIN
	EXISTING R/W
	TEMPORARY EASEMENT
	PERMANENT EASEMENT
	EXISTING ROADWAY REMOVAL
	MILL & OVERLAY

N

0 100
SCALE IN FEET

3 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_UT3.dgn 05/30/2014 1:59:39 PM

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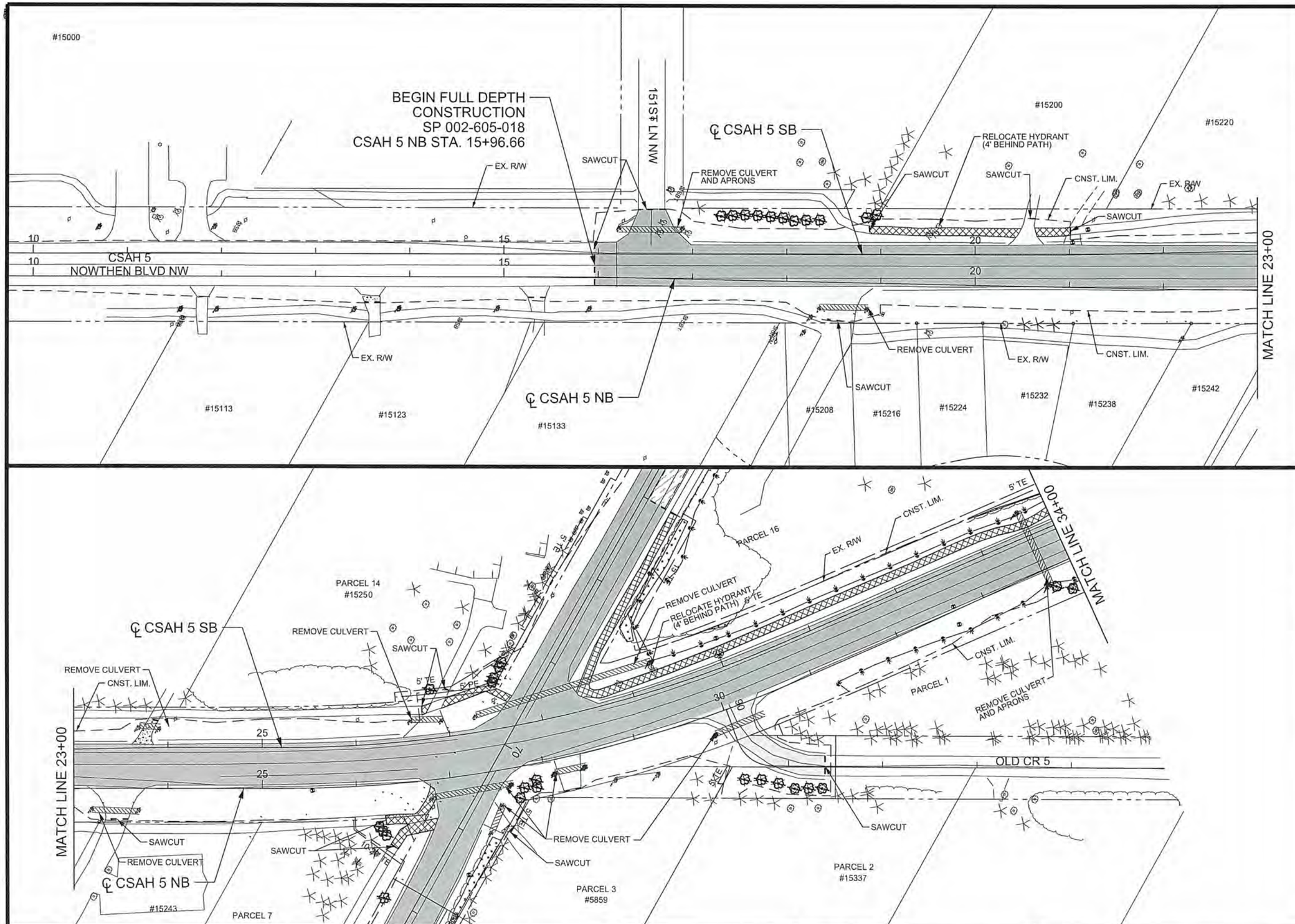
ANOKA COUNTY
HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

INPLACE UTILITY PLAN
STA 62+64.80 TO 78+11.05

Sheet 49 of 148 Sheets



LEGEND

- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE PAVEMENT
- REMOVE BITUMINOUS PATH
- RECLAIM AND OVERLAY BITUMINOUS PAVEMENT
- CLEAR & GRUB (ACRE)
- REMOVE PIPE CULVERTS
- TREE REMOVAL BY EACH
- SAWING BITUMINOUS PAVEMENT
- CONSTRUCTION LIMIT
- TEMPORARY EASEMENT
- PERMANENT EASEMENT
- SOIL BORING
- XX CLOSE DRIVE ACCESS

REMOVAL NOTES

REFER TO TRAFFIC SIGNAL PLANS FOR TRAFFIC SIGNAL REMOVALS.

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

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

ALL ROADWAY SIGNS WITHIN THE CONSTRUCTION LIMITS AND CONFLICTING SIGNS SHALL BE SALVAGED BY THE CONTRACTOR.

0 100
SCALE IN FEET

1 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_REM1.dgn 05/30/2014 1:59:42 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 KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 6-3-14 LICENSE NO. 24756

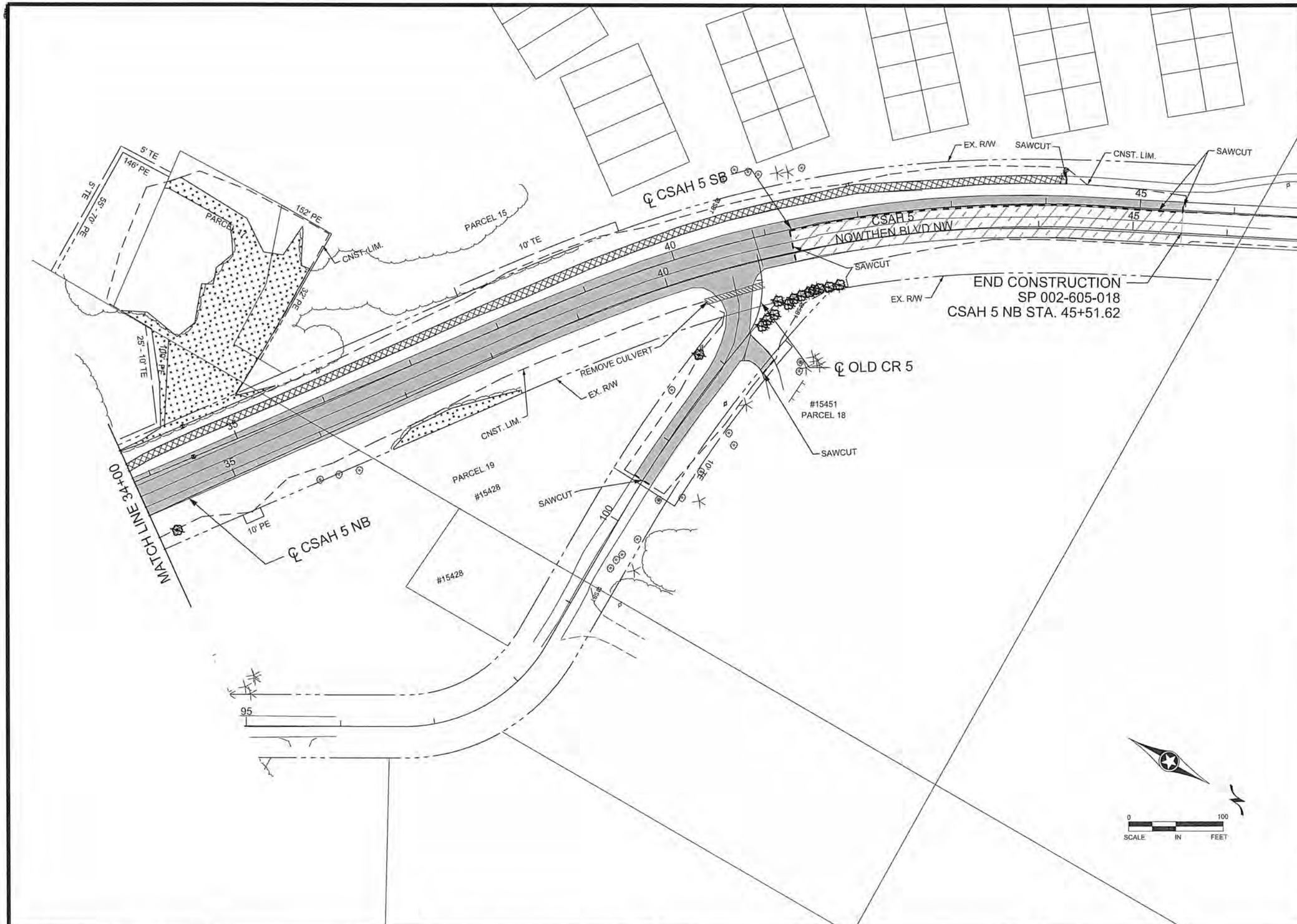
DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY
HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

INPLACE TOPOGRAPHY AND REMOVAL PLAN
STA 10+00 TO 34+00.00

Sheet 50 of 148 Sheets



LEGEND

- REMOVE BITUMINOUS PAVEMENT
- REMOVE BITUMINOUS PATH
- RECLAIM AND OVERLAY BITUMINOUS PAVEMENT
- CLEAR & GRUB (ACRE)
- REMOVE PIPE CULVERTS
- TREE REMOVAL BY EACH
- SAWING BITUMINOUS PAVEMENT
- CONSTRUCTION LIMIT
- TEMPORARY EASEMENT
- PERMANENT EASEMENT
- SOIL BORING
- XX CLOSE DRIVE ACCESS

REMOVAL NOTES

REFER TO TRAFFIC SIGNAL PLANS FOR TRAFFIC SIGNAL REMOVALS.

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NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_REM2.dgn 05/30/2014 1:59:45 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 KOBILARCSIK
SIGNATURE: [signature]
DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14
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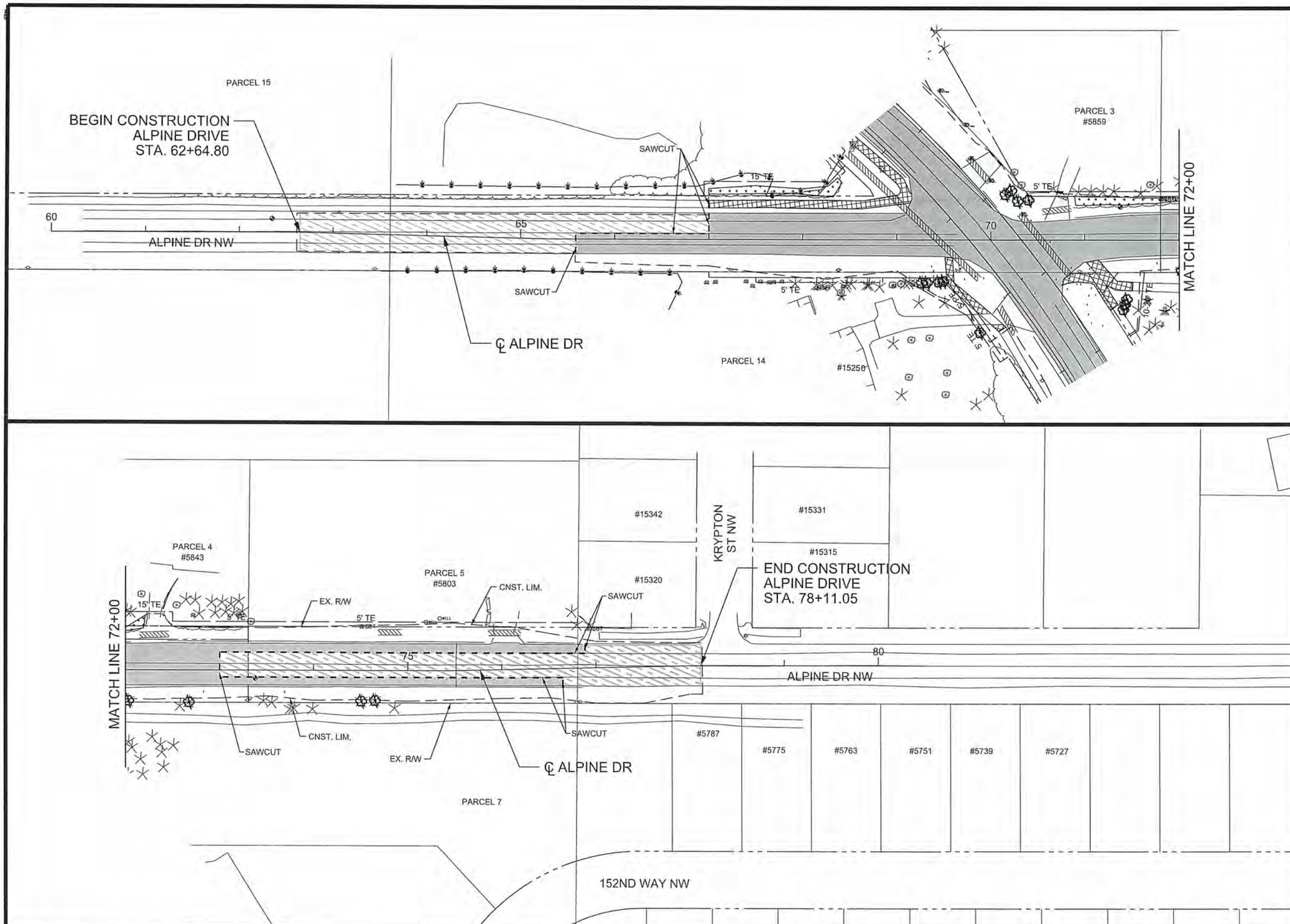
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

INPLACE TOPOGRAPHY AND REMOVAL PLAN
STA 34+00.00 TO 45+51.62



LEGEND

- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE PAVEMENT
- REMOVE BITUMINOUS PATH
- MILL AND OVERLAY BITUMINOUS PAVEMENT
- CLEAR & GRUB (ACRE)
- REMOVE PIPE CULVERTS
- TREE REMOVAL BY EACH
- SAWING BITUMINOUS PAVEMENT
- CONSTRUCTION LIMIT
- TEMPORARY EASEMENT
- PERMANENT EASEMENT
- SOIL BORING
- XX CLOSE DRIVE ACCESS

REMOVAL NOTES

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N

0 100
SCALE IN FEET

3 OF 3

NO	DATE	BY	CKD	APPR.	REVISION

NAME: P:\02-605-18\Plan\0260518_REM3.dgn 05/30/2014 1:59:48 PM

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

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ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

INPLACE TOPOGRAPHY AND REMOVAL PLAN
STA 62+64.80 TO 78+11.05

Sheet 52 of 148 Sheets

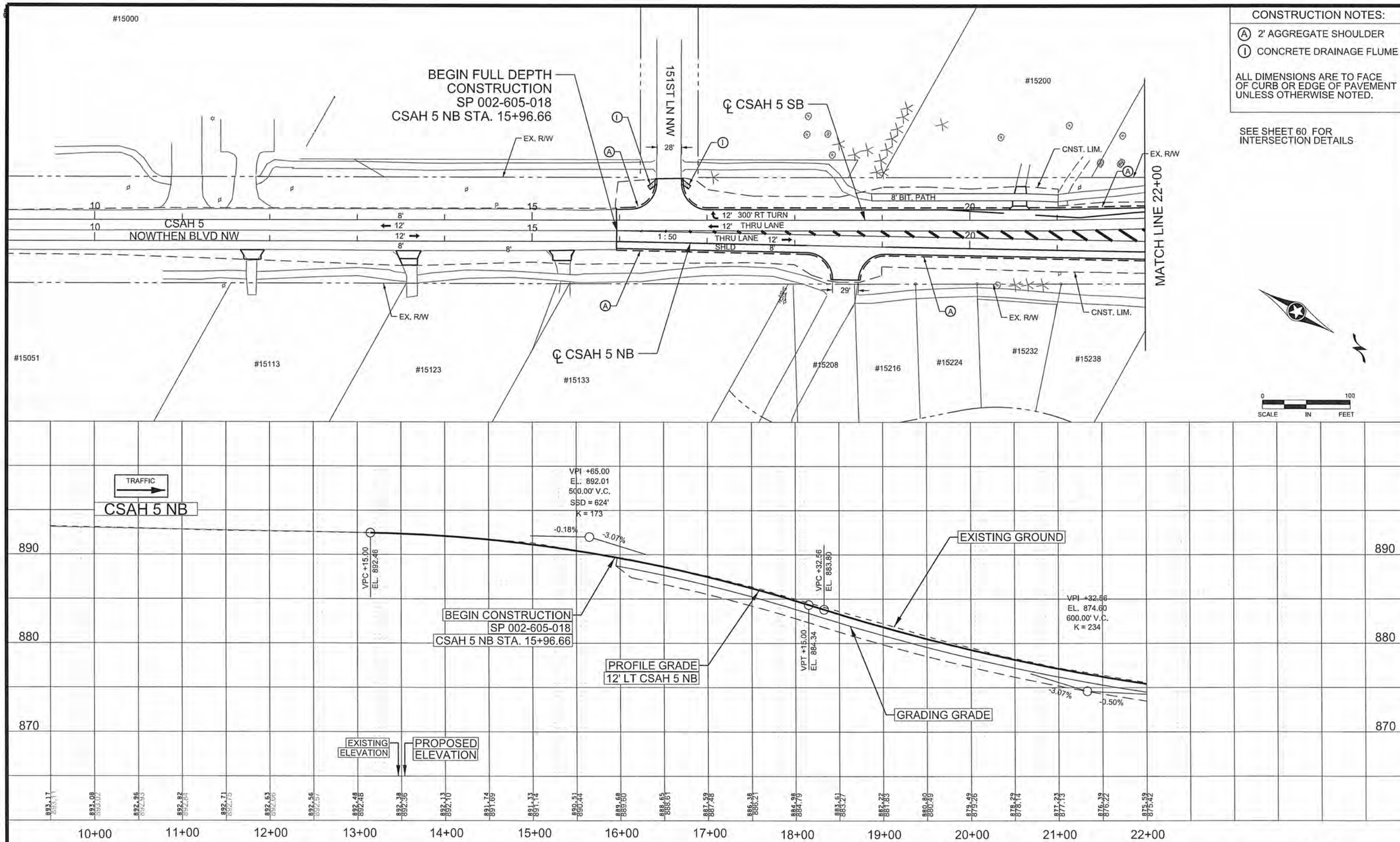
CONSTRUCTION NOTES:

Ⓐ 2' AGGREGATE SHOULDER

Ⓘ CONCRETE DRAINAGE FLUME

ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

SEE SHEET 60 FOR INTERSECTION DETAILS



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_PP1.dgn 05/30/2014 1:59:52 PM

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

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ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

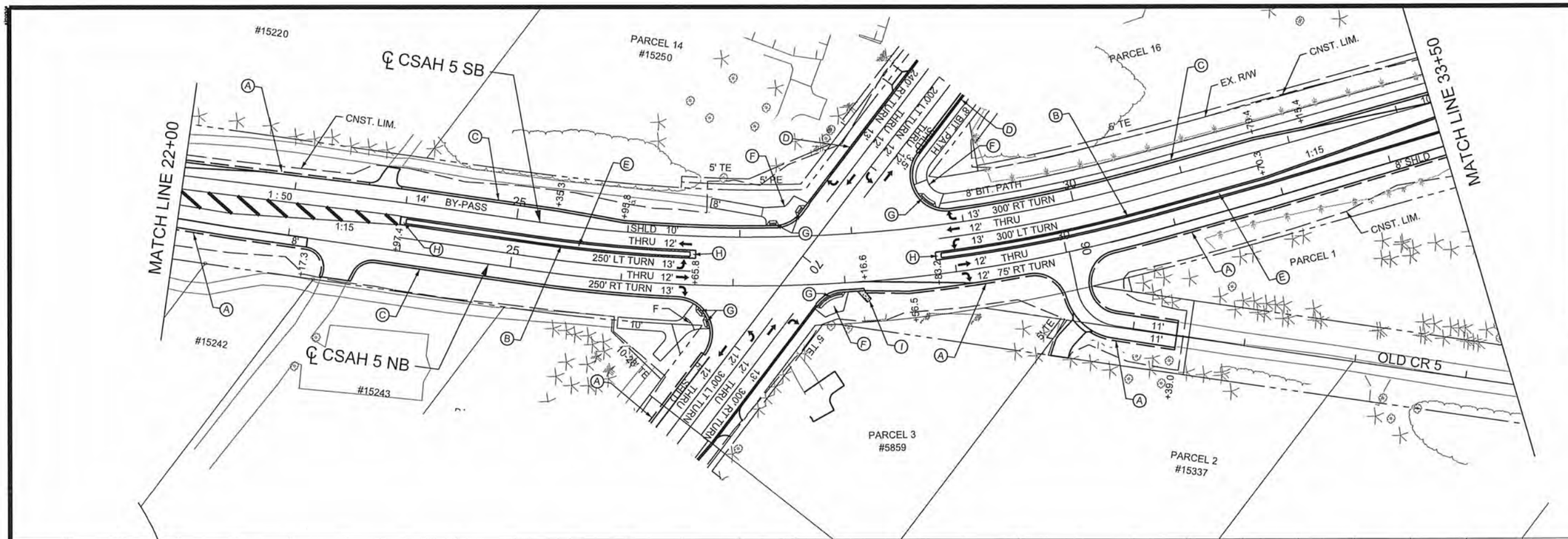
SP 199-106-011

CP 14-20

CONSTRUCTION PLAN
CSAH 5

STA 10+00 TO 22+00

Sheet 53 of 148 Sheets



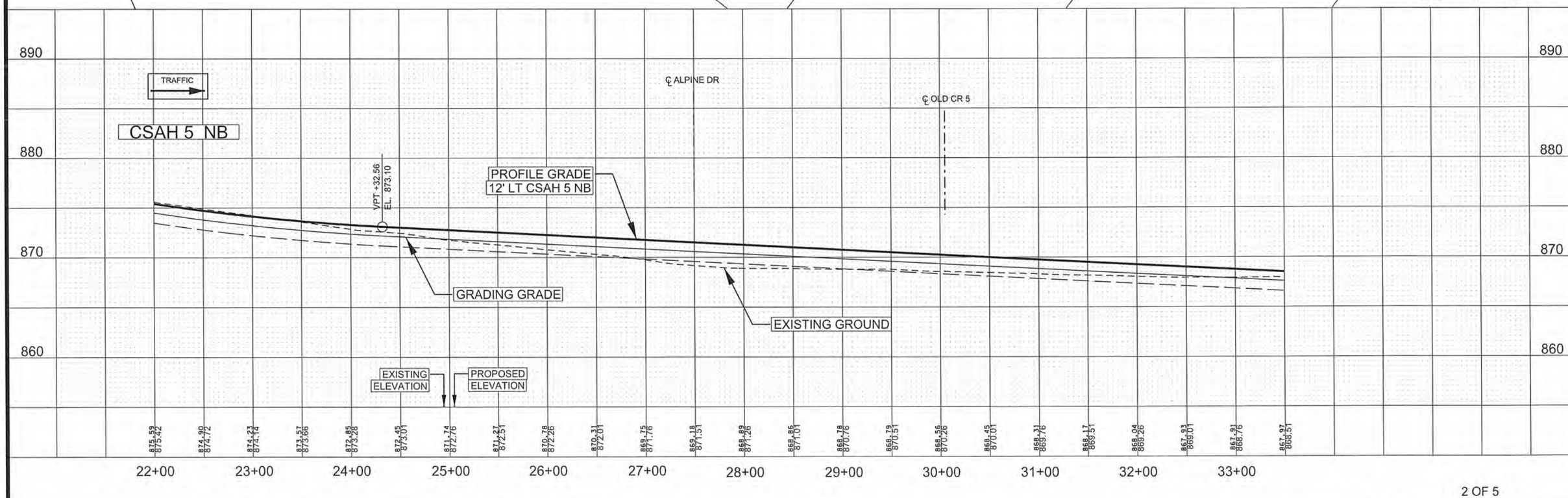
CONSTRUCTION NOTES:

- (A) 2' AGGREGATE SHOULDER
- (B) B418 CURB & GUTTER
- (C) B424 CURB & GUTTER
- (D) B618 CURB & GUTTER
- (E) 4" CONC. MEDIAN
- (F) 6" CONC. WALK
- (G) TRUNCATED DOMES
- (H) CONCRETE APPROACH NOSE STD. PLATE 7113
- (I) CONCRETE DRAINAGE FLUME

ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

SEE SHEETS 61 & 62 FOR INTERSECTION DETAILS

0 100
SCALE IN FEET



NO	DATE	BY	CKD	APPR	REVISION
1	06/17/2014	EJM	GMP	CAK	ADDED STATIONING FOR RIGHT TURN LANE TAPER

NAME: P:\02-605-18\Plan\0260518_PP2.dgn 06/18/2014 1:03:07 PM

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

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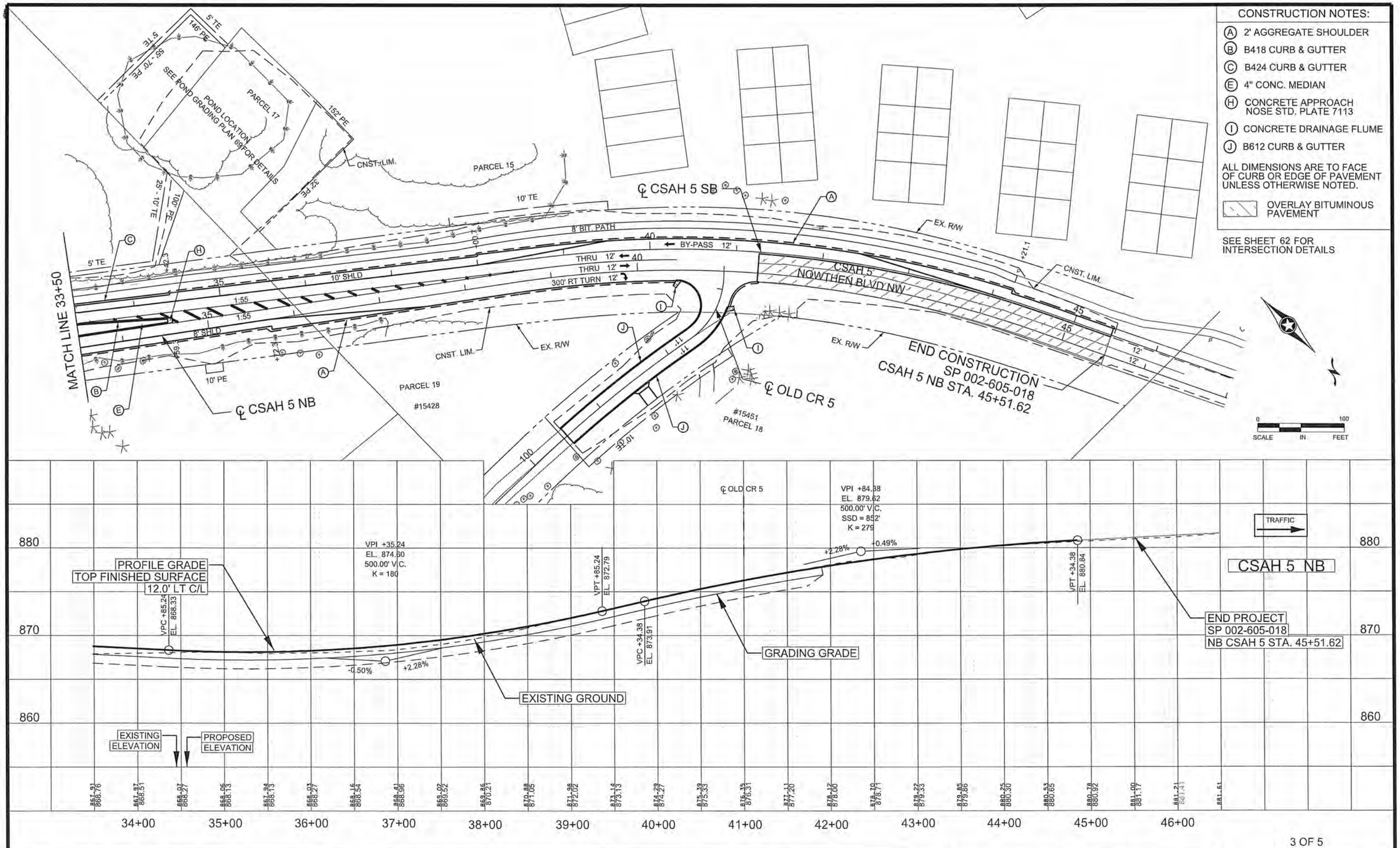
ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CONSTRUCTION PLAN
CSAH 5
STA 22+00 TO 33+50



3 OF 5

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_PP3.dgn 05/30/2014 1:59:59 PM

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

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DESIGN BY EJM DATE 02-28-14

CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

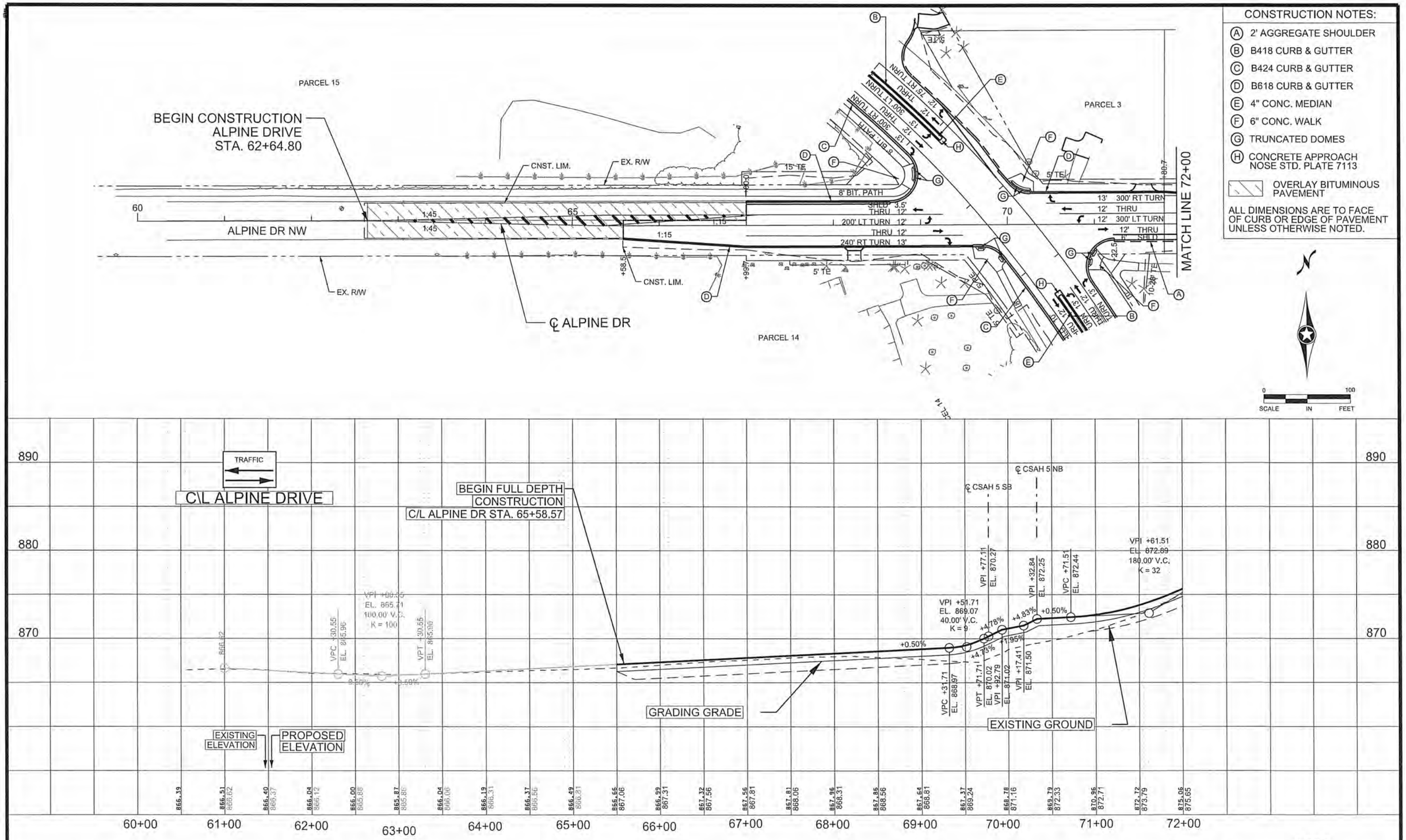
SP 199-106-011

CP 14-20

CONSTRUCTION PLAN
CSAH 5

STA 33+50 TO 46+00

Sheet 55 of 148 Sheets



4 OF 5

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_PP4.dgn 05/30/2014 2:00:03 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.

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DESIGN BY EJM DATE 02-28-14

CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

SP 199-106-011

CP 14-20

CONSTRUCTION PLAN
ALPINE DRIVE
STA 60+00 TO 72+00

Sheet 56 of 148 Sheets

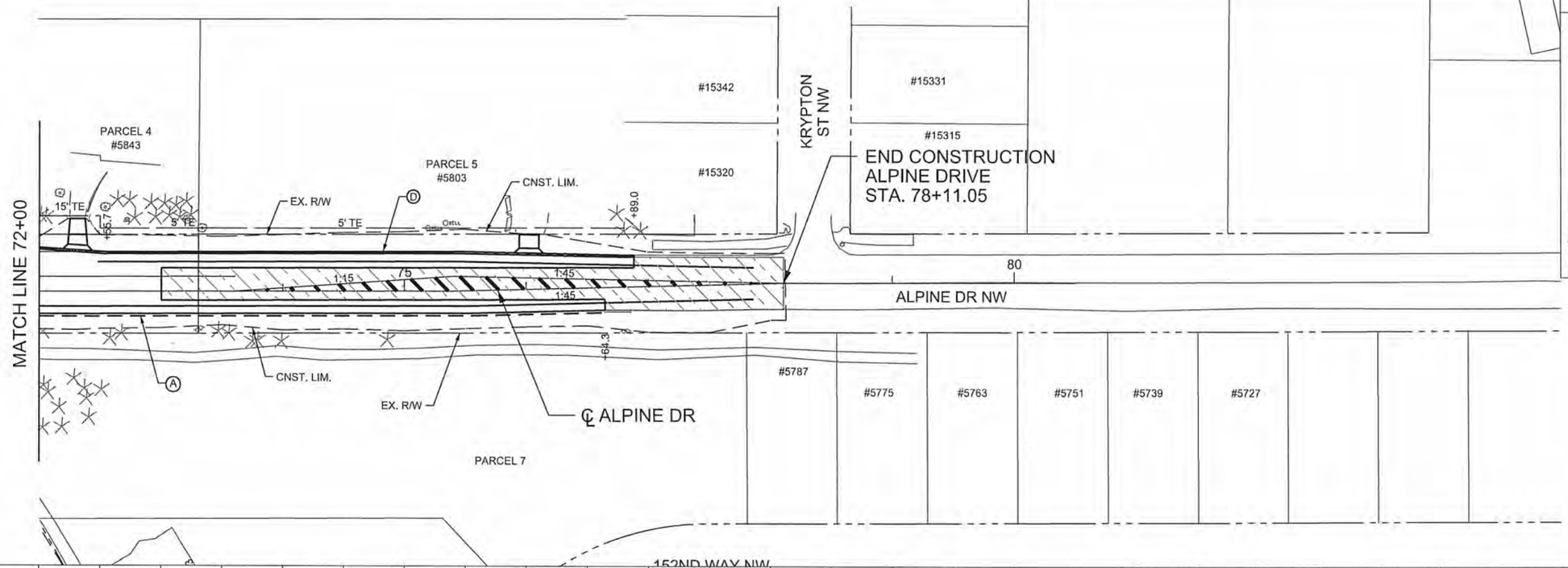
CONSTRUCTION NOTES:

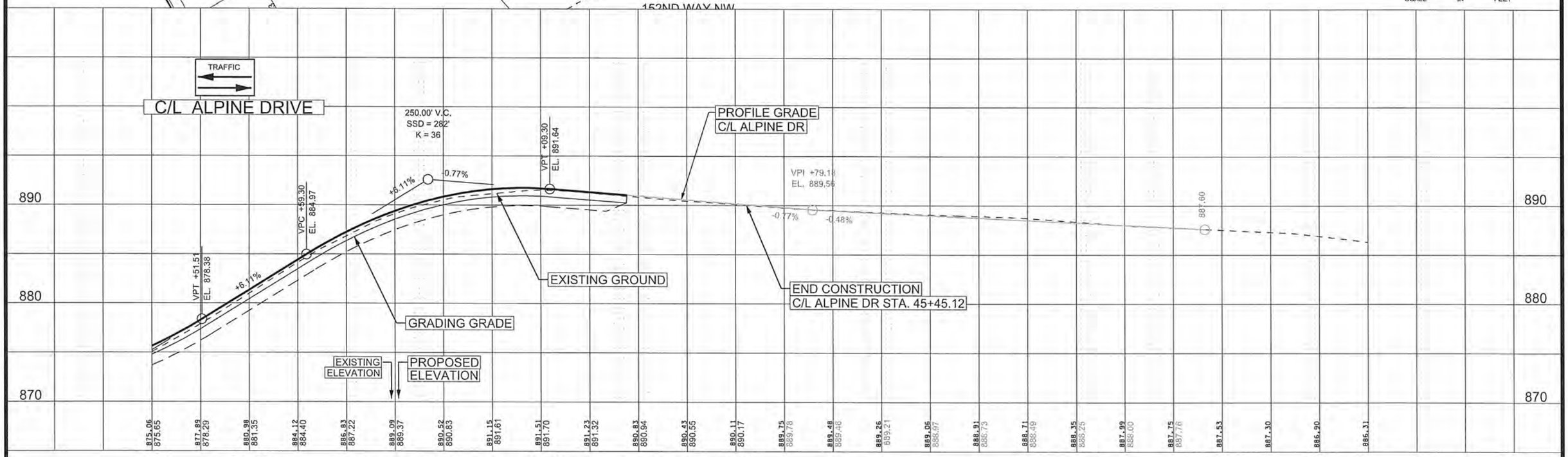
(A) 2' AGGREGATE SHOULDER

(D) B618 CURB & GUTTER

OVERLAY BITUMINOUS PAVEMENT

ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.





NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_PP5.dgn 05/30/2014 2:00:06 PM

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

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SIGNATURE: Curt Kobilarcsik

DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14

DESIGN BY EJM DATE 02-28-14

CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

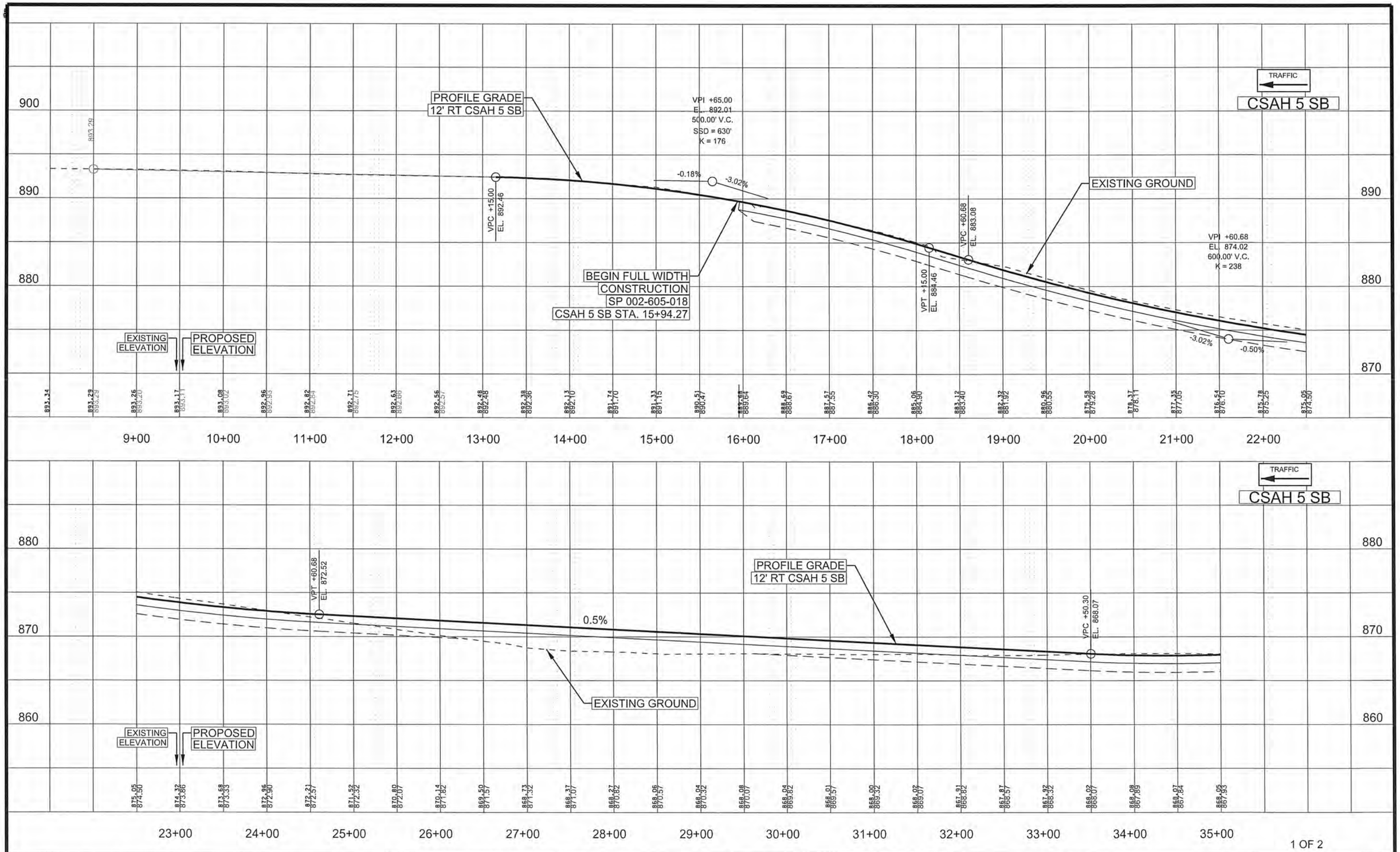
SP 199-106-011

CP 14-20

CONSTRUCTION PLAN
ALPINE DRIVE

STA 72+00 TO 84+00

Sheet 57 of 148 Sheets



1 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_PR1.dgn 05/30/2014 2:00:09 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.

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SIGNATURE:

DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14

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CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

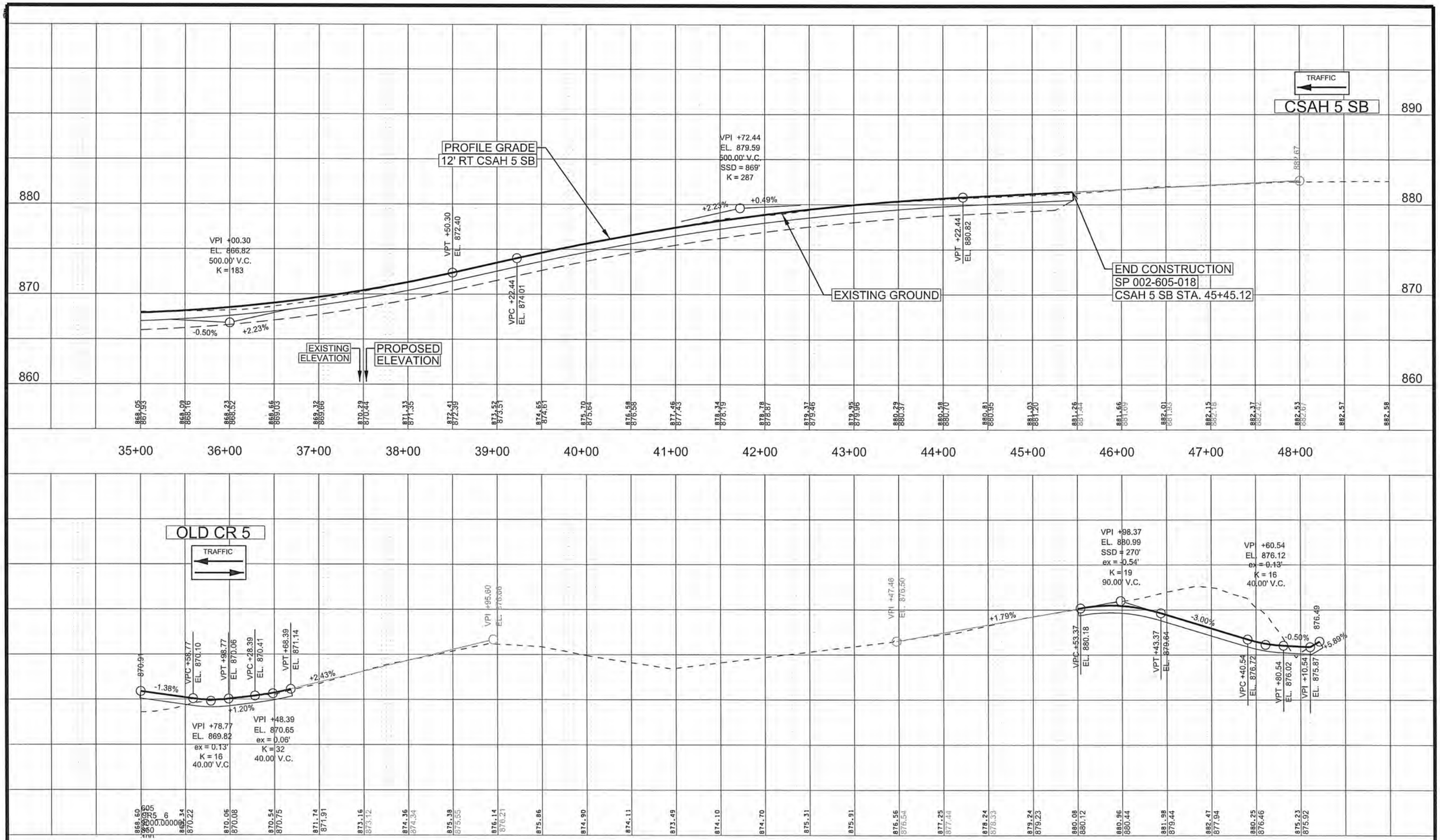
SP 199-106-011

CP 14-20

PROFILE

STA 9+00 TO 35+00

Sheet 58 of 148 Sheets



2 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_PR1.dgn 05/30/2014 2:00:10 PM

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

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

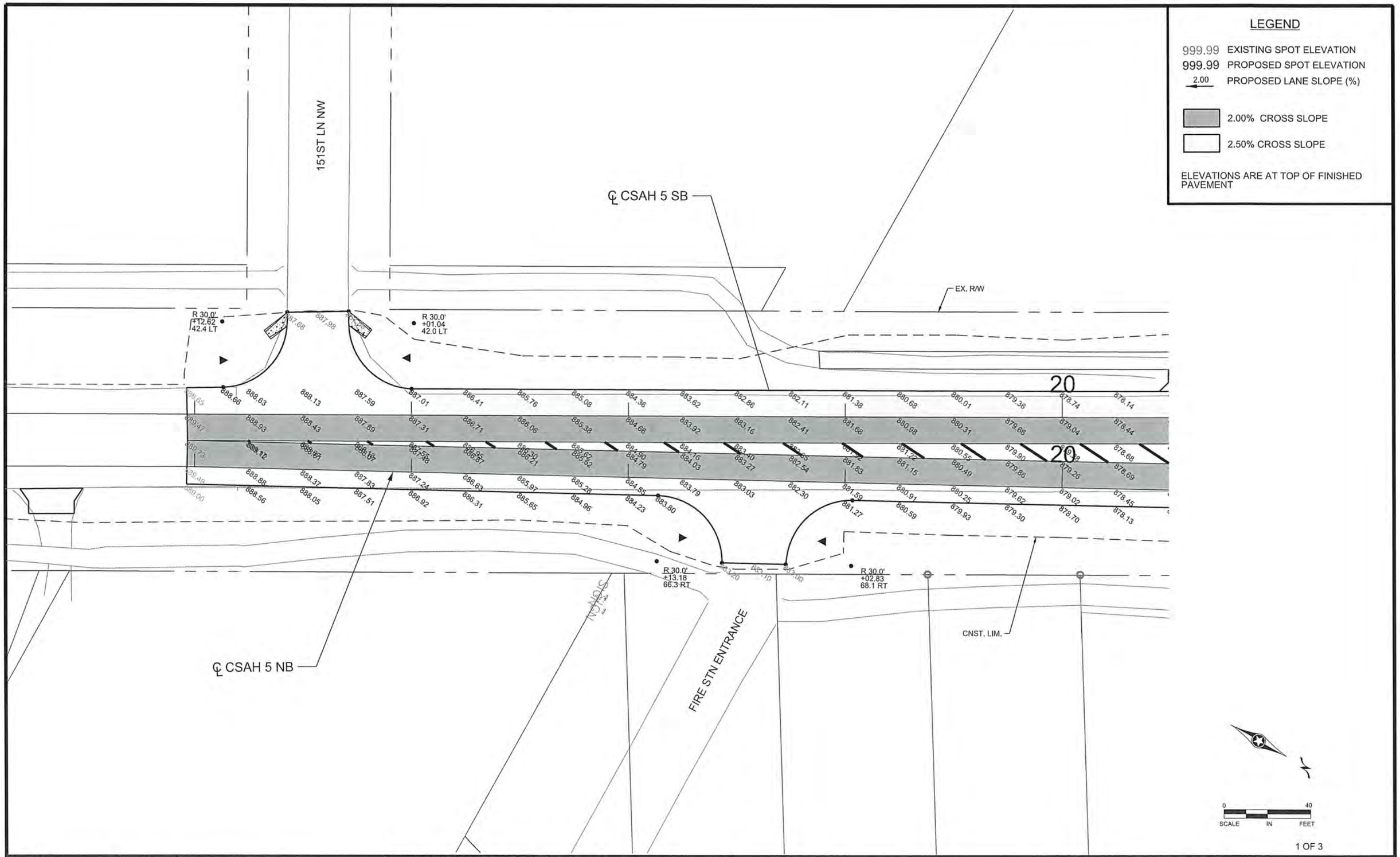
SP 199-106-011

CP 14-20

PROFILE

STA 35+00 TO 48+00

Sheet 59 of 148 Sheets



1 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_IN1.dgn 05/30/2014 2:00:14 PM

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

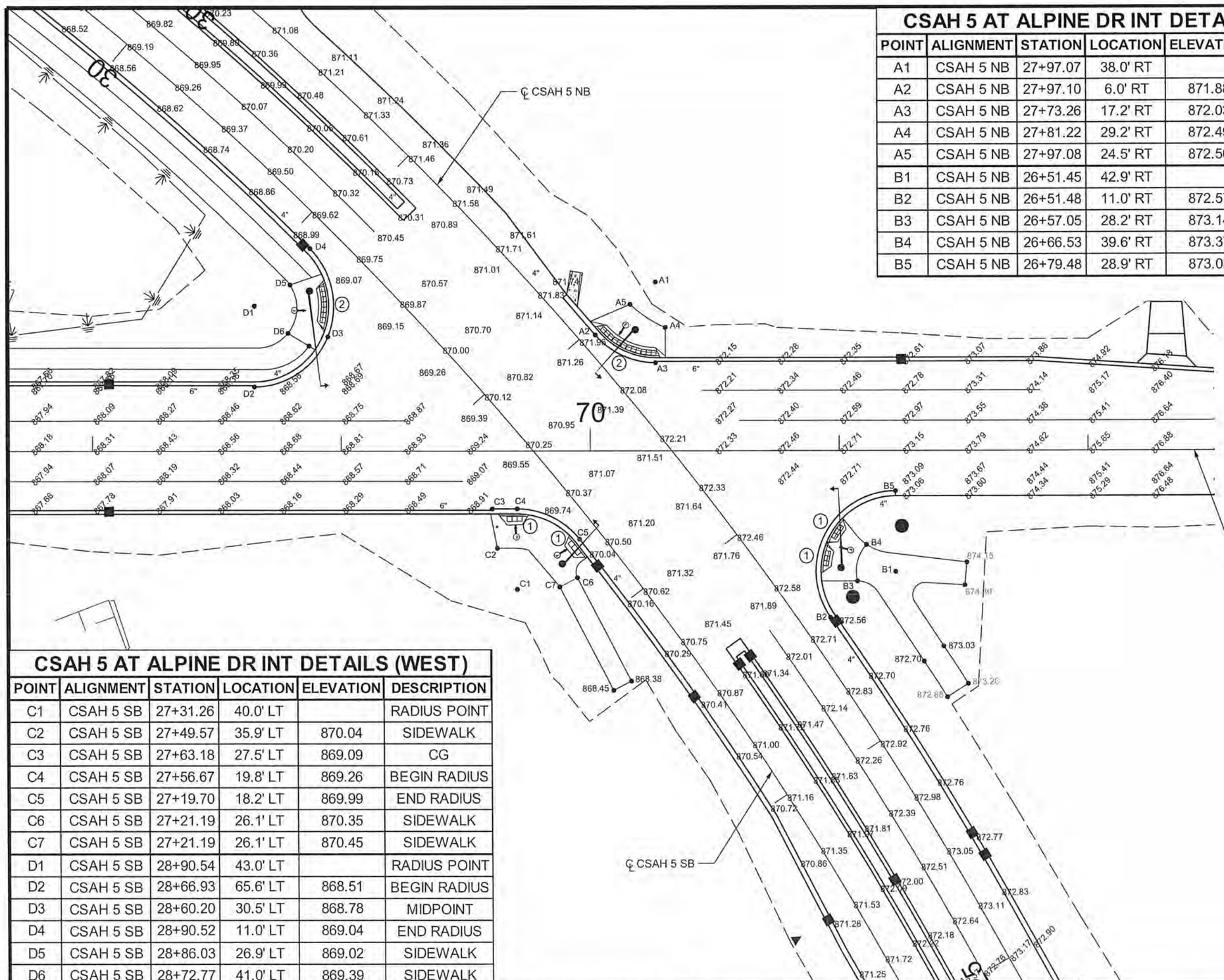
SP 002-605-018

SP 199-106-011

CP 14-20

INTERSECTION DETAILS
CSAH 5 AT 151ST LN & FIRE STN

Sheet 60 of 148 Sheets



CSAH 5 AT ALPINE DR INT DETAILS (EAST)

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
A1	CSAH 5 NB	27+97.07	38.0' RT		RADIUS POINT
A2	CSAH 5 NB	27+97.10	6.0' RT	871.88	BEGIN RADIUS
A3	CSAH 5 NB	27+73.26	17.2' RT	872.03	END RADIUS
A4	CSAH 5 NB	27+81.22	29.2' RT	872.49	SIDEWALK
A5	CSAH 5 NB	27+97.08	24.5' RT	872.50	SIDEWALK
B1	CSAH 5 NB	26+51.45	42.9' RT		RADIUS POINT
B2	CSAH 5 NB	26+51.48	11.0' RT	872.57	BEGIN RADIUS
B3	CSAH 5 NB	26+57.05	28.2' RT	873.14	SIDEWALK
B4	CSAH 5 NB	26+66.53	39.6' RT	873.37	SIDEWALK
B5	CSAH 5 NB	26+79.48	28.9' RT	873.03	END RADIUS

LEGEND

- PROPOSED SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- XX CONTROL POINTS
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- x" CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW ARROW

ELEVATIONS ARE TOP OF FINISHED PAVEMENT

CURB AND GUTTER ELEVATIONS ARE SHOWN AT LIP OF GUTTER UNLESS OTHERWISE NOTED

PEDESTRIAN CURB RAMP TYPE (SEE SHEETS 18 - 22)
(1) COMBINED DIRECTIONAL
(2) FAN

CSAH 5 AT ALPINE DR INT DETAILS (WEST)

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	DESCRIPTION
C1	CSAH 5 SB	27+31.26	40.0' LT		RADIUS POINT
C2	CSAH 5 SB	27+49.57	35.9' LT	870.04	SIDEWALK
C3	CSAH 5 SB	27+63.18	27.5' LT	869.09	CG
C4	CSAH 5 SB	27+56.67	19.8' LT	869.26	BEGIN RADIUS
C5	CSAH 5 SB	27+19.70	18.2' LT	869.99	END RADIUS
C6	CSAH 5 SB	27+21.19	26.1' LT	870.35	SIDEWALK
C7	CSAH 5 SB	27+21.19	26.1' LT	870.45	SIDEWALK
D1	CSAH 5 SB	28+90.54	43.0' LT		RADIUS POINT
D2	CSAH 5 SB	28+66.93	65.6' LT	868.51	BEGIN RADIUS
D3	CSAH 5 SB	28+60.20	30.5' LT	868.78	MIDPOINT
D4	CSAH 5 SB	28+90.52	11.0' LT	869.04	END RADIUS
D5	CSAH 5 SB	28+86.03	26.9' LT	869.02	SIDEWALK
D6	CSAH 5 SB	28+72.77	41.0' LT	869.39	SIDEWALK

N

SCALE 0 IN 40 FEET

2 OF 3

NO	DATE	BY	CKD	APPR	REVISION
1	06/18/2014	EJM	GMP	CAK	ADDED THE MISSING ALIGNMENT NAMES.

NAME: P:\02-605-18\Plan\0260518_IN2.dgn 06/18/2014 1:03:11 PM

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ANOKA COUNTY HIGHWAY DEPT.

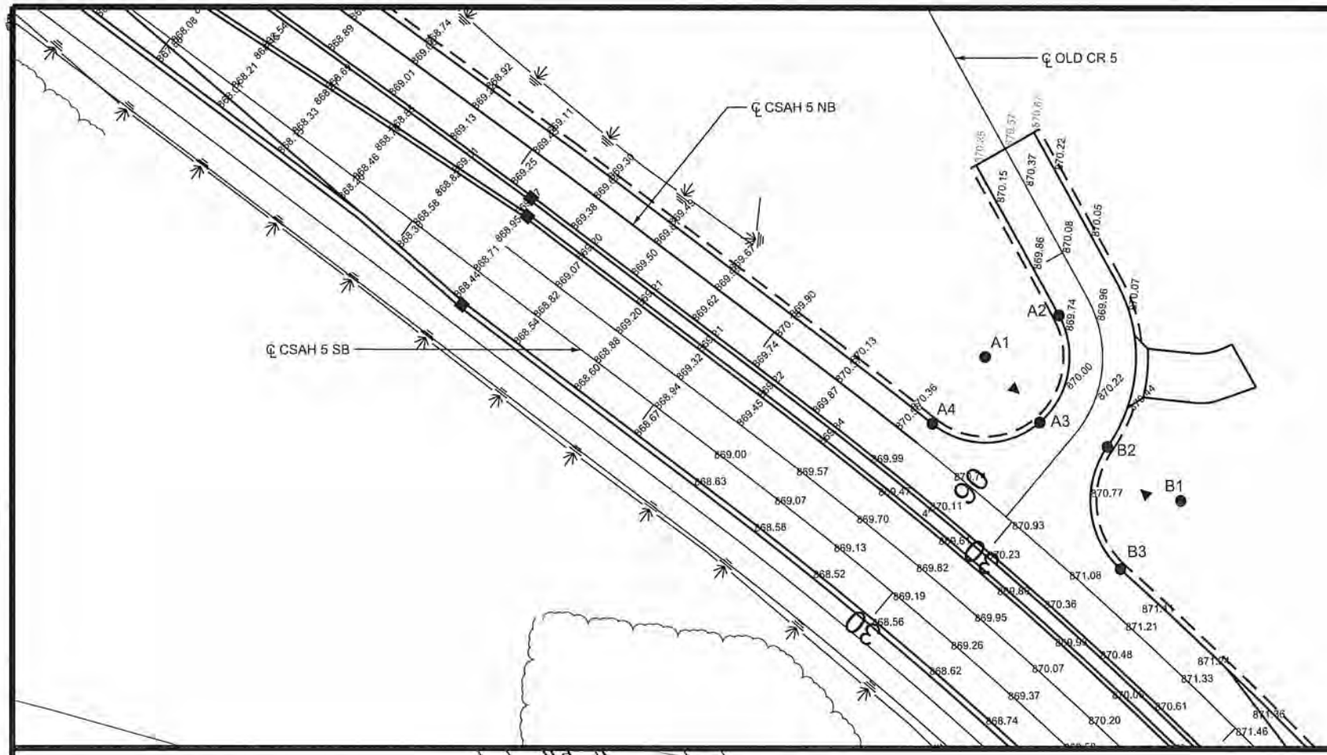
SP 002-605-018

SP 199-106-011

CP 14-20

INTERSECTION DETAILS CSAH 5 AND ALPINE DRIVE

Sheet 61 of 148 Sheets



CSAH 5 AT OLD CR 5 (SOUTH) INTERSECTION DETAILS

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	SLOPE %	FROM - TO	DESCRIPTION
A1	CR 5	90+82.60	39.0' LT				RADIUS POINT
A2	CR 5	90+82.60	11.0' LT	869.77	0.88		BEGIN RADIUS
A3	CR 5	90+30.80	11.4' LT	870.11	0.88	A3 - A2	MIDPOINT
A4	CR 5	90+07.47	38.2' LT	870.45	0.88	A4 - A3	END RADIUS
B1	CR 5	90+38.36	41.0' RT				RADIUS POINT
B2	CR 5	90+38.36	11.0' RT	870.60	0.89	B3 - B2	BEGIN RADIUS
B3	CR 5	90+11.42	39.9' RT	870.99	0.89		END RADIUS

LEGEND

999.99 EXISTING SPOT ELEVATION

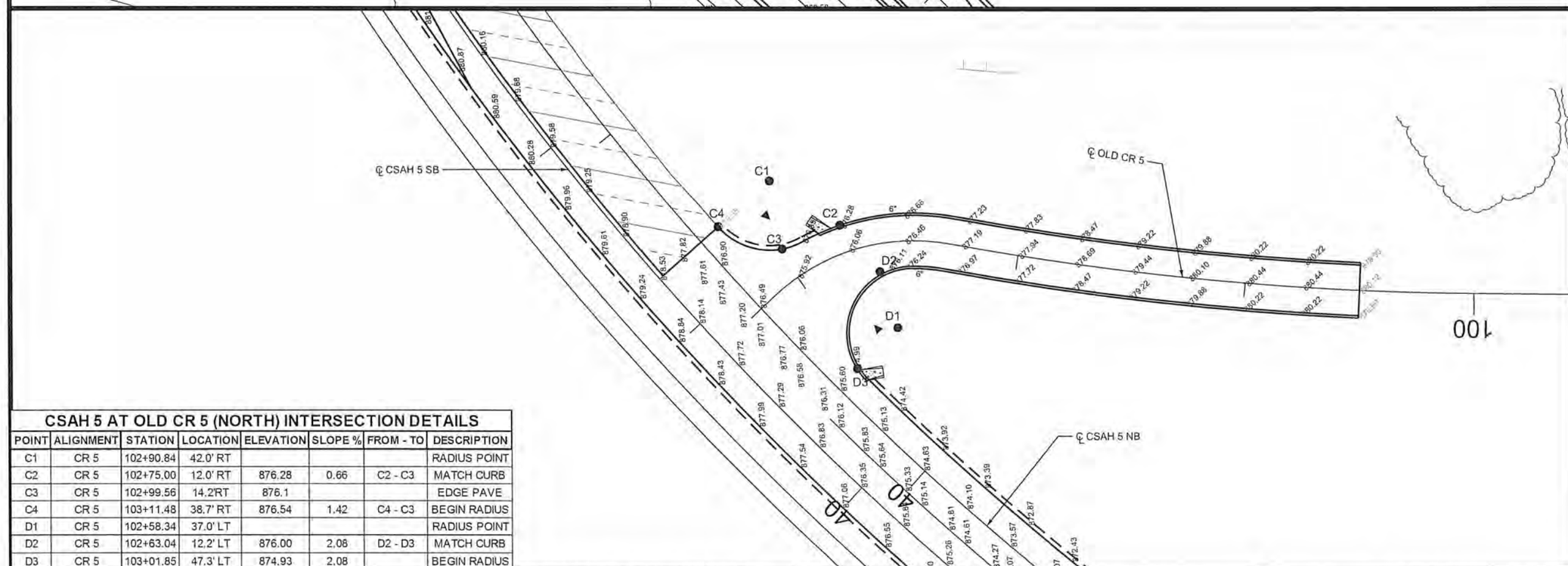
999.99 PROPOSED SPOT ELEVATION

ELEVATIONS ARE TOP OF FINISHED PAVEMENT

CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED

N

0 50
SCALE IN FEET



CSAH 5 AT OLD CR 5 (NORTH) INTERSECTION DETAILS

POINT	ALIGNMENT	STATION	LOCATION	ELEVATION	SLOPE %	FROM - TO	DESCRIPTION
C1	CR 5	102+90.84	42.0' RT				RADIUS POINT
C2	CR 5	102+75.00	12.0' RT	876.28	0.66	C2 - C3	MATCH CURB
C3	CR 5	102+99.56	14.2'RT	876.1			EDGE PAVE
C4	CR 5	103+11.48	38.7' RT	876.54	1.42	C4 - C3	BEGIN RADIUS
D1	CR 5	102+58.34	37.0' LT				RADIUS POINT
D2	CR 5	102+63.04	12.2' LT	876.00	2.08	D2 - D3	MATCH CURB
D3	CR 5	103+01.85	47.3' LT	874.93	2.08		BEGIN RADIUS

N

0 50
SCALE IN FEET

3 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_IN3.dgn 05/30/2014 2:00:23 PM

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CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

SP 199-106-011

CP 14-20

INTERSECTION DETAILS
CSAH 5 AND OLD CR 5

Sheet 62 of 148 Sheets

DRAINAGE TABULATION

N

STRUCTURE NO. FLOWS FROM	STRUCTURE NO. FLOWS TO	CENTER OF CASTING LOCATION ALIGN.	STATION	OFFSET	DRAINAGE STRUCTURES TYPE	DESIGN	G LIN FT	48-4020 LIN FT	54-4020 LIN FT	60-4020 LIN FT	66-4020 LIN FT	CASTING ASSEMBLY TYPE	STEPS REQ'D	TOP OF CASTING ELEV.	OUTLET ELEV.	DOWN-STREAM INLET ELEV.	SLOPE %	15" RCP CL V LIN FT	15" RCP APRON EACH	18" RCP CL V LIN FT	21" RCP CL V LIN FT	24" RCP CL V LIN FT	24" RCP APRON EACH	27" RCP CL V LIN FT	36" RCP-A CL IIA LIN FT	36" RCP-A APRON EACH	SODDING TYPE SALT RESIST. SQ YD	RIPRAP CLASS II CU YD	GEOTEXTILE FILTER TYPE III SQ YD	CULVERT MARKER X4-3 EACH	STORM DRAIN INLET PROTECTION EACH	NOTES
CB106	CB107	5NB_6	23+21.47	25.65	CB	48-4020		2.4				A-7		871.60	869.10	868.91	0.30			63											1	
CB107	CB108	5NB_6	23+82.53	12.00	CB	48-4020		4.3				B-9		873.08	868.66	868.63	0.30				10										1	
CB108	CB110	5NB_6	23+92.53	12.00	CB	48-4020		4.3				B-9		873.04	868.63	868.19	0.30				148										1	
CB110	CB111	5NB_6	25+40.00	12.00	CB	48-4020		4.3				B-9		872.64	868.19	868.16	0.30				10										1	
CB111	CB112	5NB_6	25+50.00	12.00	CB	54-4020			4.3			B-9		872.61	868.16	868.05	0.30				36										1	
CB112	CB113	5NB_6	25+50.00	-24.25	CB	54-4020			5.7			R-3448-C	YES	871.85	866.31	866.23	0.30					31									1	
CB113	CB119	5SB_6	25+49.02	-12.33	CB	66-4020					4.6	B-9	YES	870.90	866.23	865.92	0.30					103									1	
A114	CB113	5SB_6	25+49.02	-28.93	APR									867.85	866.60	866.55	0.30	11	1								8				1	
CB115	CB116	5NB_6	26+53.00	23.00	CB	48-4020		5.2				A-7	YES	872.00	866.65	866.61	0.30			12											1	
CB116	CB117	5NB_6	26+49.00	12.00	CB	48-4020		5.7				B-17	YES	872.42	866.61	866.50	0.30			37											1	
CB117	CB118	5NB_6	26+57.68	-24.25	CB	48-4020		4.8				R-3448-C	YES	871.16	866.50	866.48	0.30			6											1	
CB118	CB119	5SB_6	26+53.21	13.25	CB	48-4020		5.1				R-3448-C	YES	871.44	866.48	866.42	0.30			22											1	
CB119	CB120	5SB_6	26+53.21	-9.00	CB	66-4020					4.5	B-9		870.23	865.67	865.44	0.35							65							1	
CB120	CB128	5SB_6	27+18.54	-9.00	CB	54-4020			5.2			B-17	YES	869.91	864.59	863.98	0.35							174							1	
CB122	CB123	ALP_6	68+06.50	24.25	CB	G	3.1					B-9		867.67	864.42	864.27	0.30	51													1	
CB123	CB128	ALP_6	68+06.50	-26.87	CB	48-4020		3.3				B-9		867.72	864.27	863.98	0.30	96													1	
CB124	CB115	ALP_6	71+25.00	30.00	CB	48-4020		3.4				A-7		870.25	866.75	866.65	0.30			34											1	
CB125	CB124	ALP_6	71+25.00	-36.25	CB	48-4020		3.1				B-17		872.24	868.99	867.00	3.00	66													1	
CB126	CB125	ALP_6	73+50.00	-31.75	CB	48-4020		5.5				B-9	YES	883.61	877.99	868.99	4.00	225												2	1	
CB128	CB131	5SB_6	28+93.55	-12.00	CB	66-4020					4.8	B-9	YES	868.86	863.98	863.15	0.30							275						2	1	
CB129	CB130	5NB_6	31+90.69	-13.25	CB	G	3.4					R-3448-C		869.15	865.90	865.87	0.50	6													1	
CB130	CB131	5SB_6	31+70.29	24.25	CB	48-4020		3.3				R-3448-C		869.05	865.87	865.02	2.36	36													1	
CB131	CB134	5SB_6	31+70.36	-12.00	CB	60-4020				5.0		B-9	YES	868.27	863.15	862.38	0.30							258							1	
CB132	CB133	5NB_6	34+47.87	-13.25	CB	G	3.4					R-3448-C		867.99	864.74	864.72	0.33	6													1	
CB133	CB134	5SB_6	34+28.70	18.41	CB	48-4020		3.2				R-3448-C		867.81	864.72	864.00	2.67	27													1	
CB134	A135	5SB_6	34+28.70	-9.00	CB	60-4020				4.8		B-9	YES	867.25	862.38	862.00	0.26								137						1	
A135	POND	5SB_6	34+98.83	-136.18	APR									863.88	862.00											1		7.5	37.3			
A136	CB137	5SB_6	35+56.89	-176.69	APR									861.00	859.75	859.86	-0.30	30	1												1	(1)
CB137	A138	5SB_6	35+86.37	-156.78	CB	SPECIAL		5.4				SPECIAL	YES	865.40	862.00	861.91	0.30					23									1	(2)
A138	POND	5SB_6	36+04.70	-135.09	APR									863.91	861.91								1					3.2	18			
POND																												27.5	55			
						TOTAL	9.9	63.3	15.2	9.8	13.9	26						554	2	174	204	157	1	772	137	1	8	38.2	110.3	4	28	

CASTING ASSEMBLY DETAILS

ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	STANDARD PLATE NO.	QUANTITY	REMARKS
A-7	700-7	721		4101, 4140	3	CATCH BASIN
B-9	MODIFIED	816		4154	12	
B-17	MODIFIED	816	823A	4154, 4160	3	
R-3448-C					7	

- DETAILS FOR RING OR FRAME CASTING TYPE 'MODIFIED' SHOWN ON SHEET 68

NOTES:
(1) NEGATIVE SLOPE PROVIDED FOR SKIMMING PURPOSE
(2) PAID FOR AS 2506.601 CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL BY LIN FT.

NO	DATE	BY	CKD	APPR	REVISION
1	06/18/2014	EJM	GMP	CAK	UPDATED TABULATIONS AND NOTES.

NAME: P:\02-605-18\Plan\0260518_DRTAB.dgn 06/18/2014 1:27:31 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 KOBILARCSIK
SIGNATURE:
DATE: 6-19-14 LICENSE NO. 24756

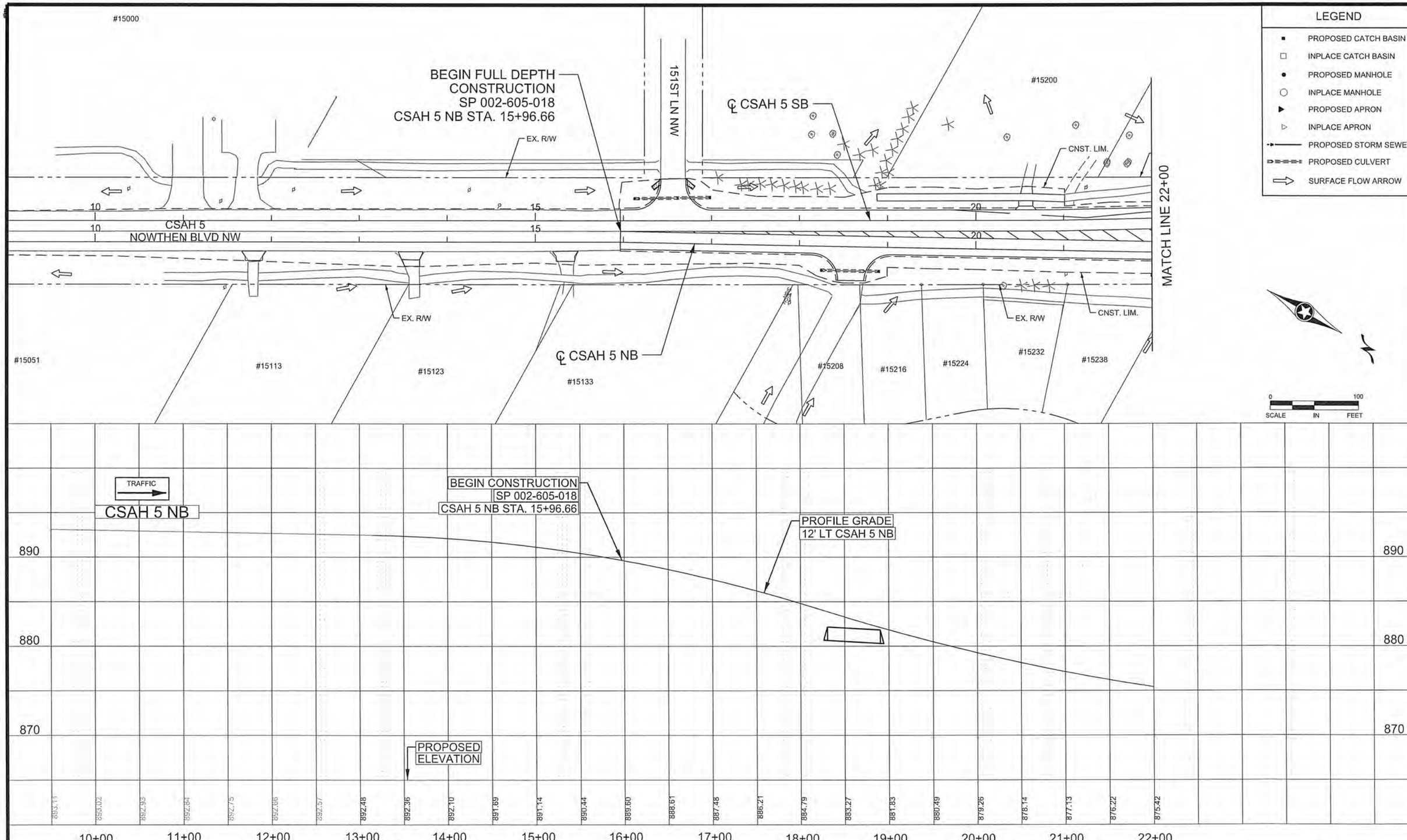
DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

DRAINAGE TABULATION

Sheet 63 of 148 Sheets



1 OF 5

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_DR1.dgn 05/30/2014 2:00:40 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 KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14

DESIGN BY EJM DATE 02-28-14

CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

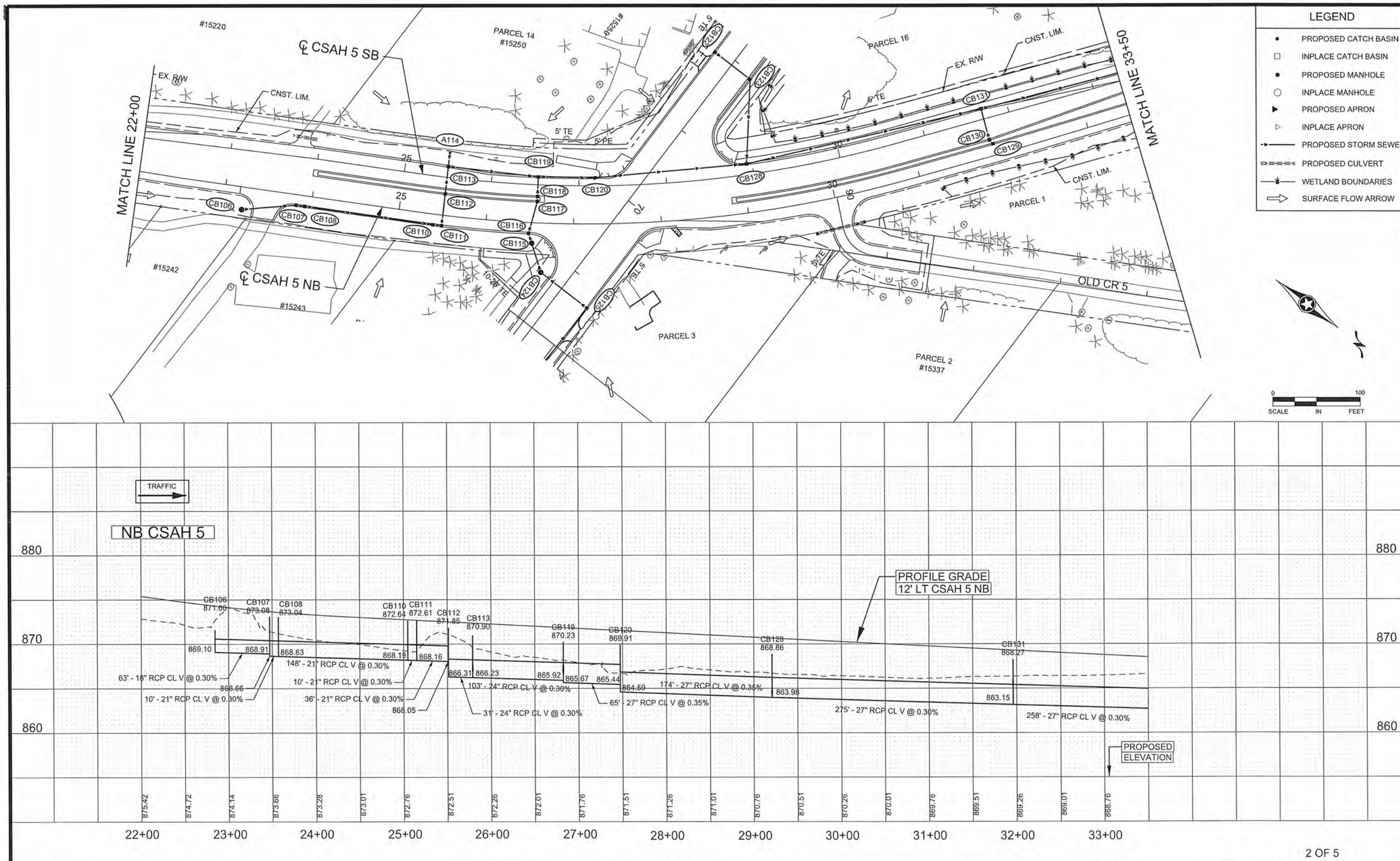
SP 199-106-011

CP 14-20

DRAINAGE PLAN AND PROFILE
CSAH 5

STA 10+00 TO 22+00

Sheet 64 of 148 Sheets



NO	DATE	BY	CKD	APPR	REVISION
1	06/18/2014	EJM	GMP	CAK	UPATED CB113 LOCATION AND INVERTS.

NAME: P:\02-605-18\Plan\0260518_DR2.dgn 06/18/2014 1:03:20 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 KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 6-19-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14

DESIGN BY EJM DATE 02-28-14

CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

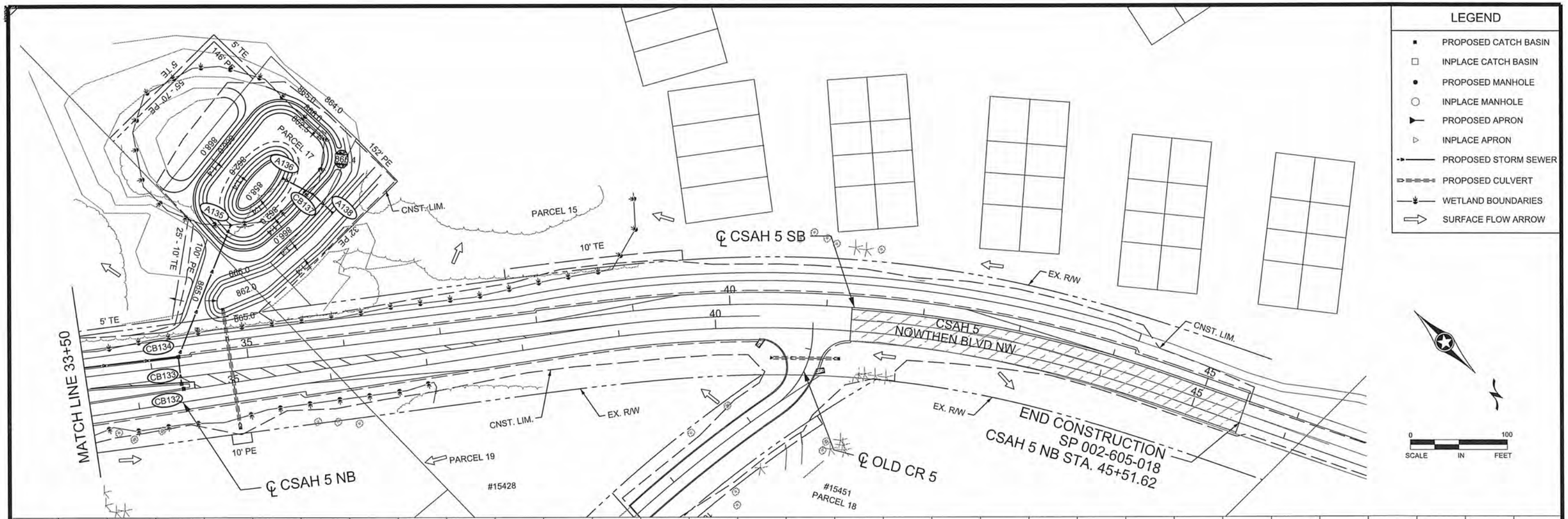
SP 199-106-011

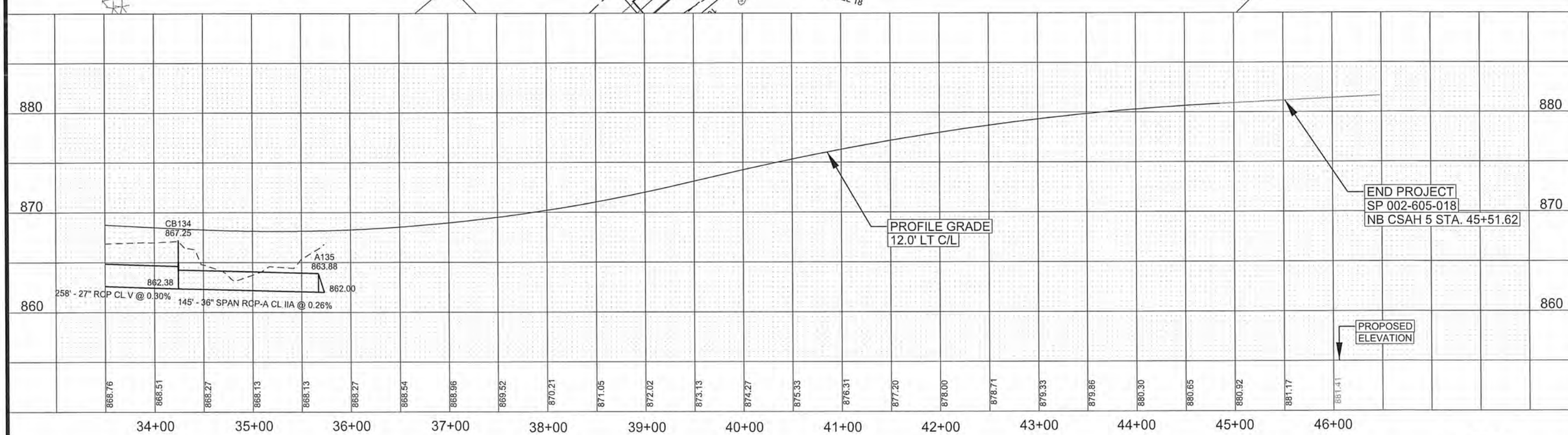
CP 14-20

DRAINAGE PLAN AND PROFILE
CSAH 5

STA 22+00 TO 33+50

Sheet 65 of 148 Sheets





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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 KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 6-19-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14

DESIGN BY EJM DATE 02-28-14

CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

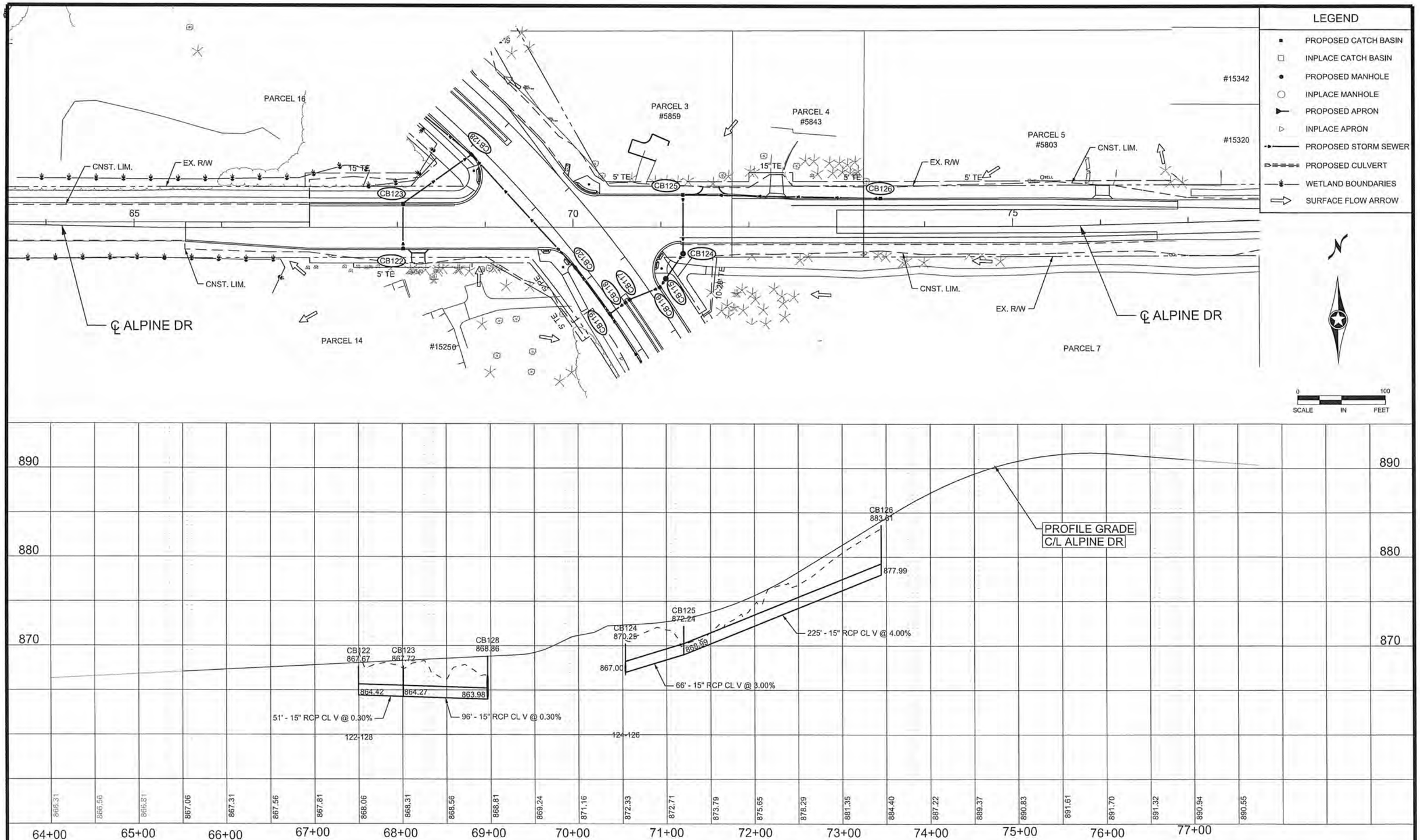
SP 199-106-011

CP 14-20

DRAINAGE PLAN AND PROFILE
CSAH 5

STA 33+50 TO 46+00

Sheet 66 of 148 Sheets



4 OF 5

NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: CURT KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14

DESIGN BY EJM DATE 02-28-14

CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

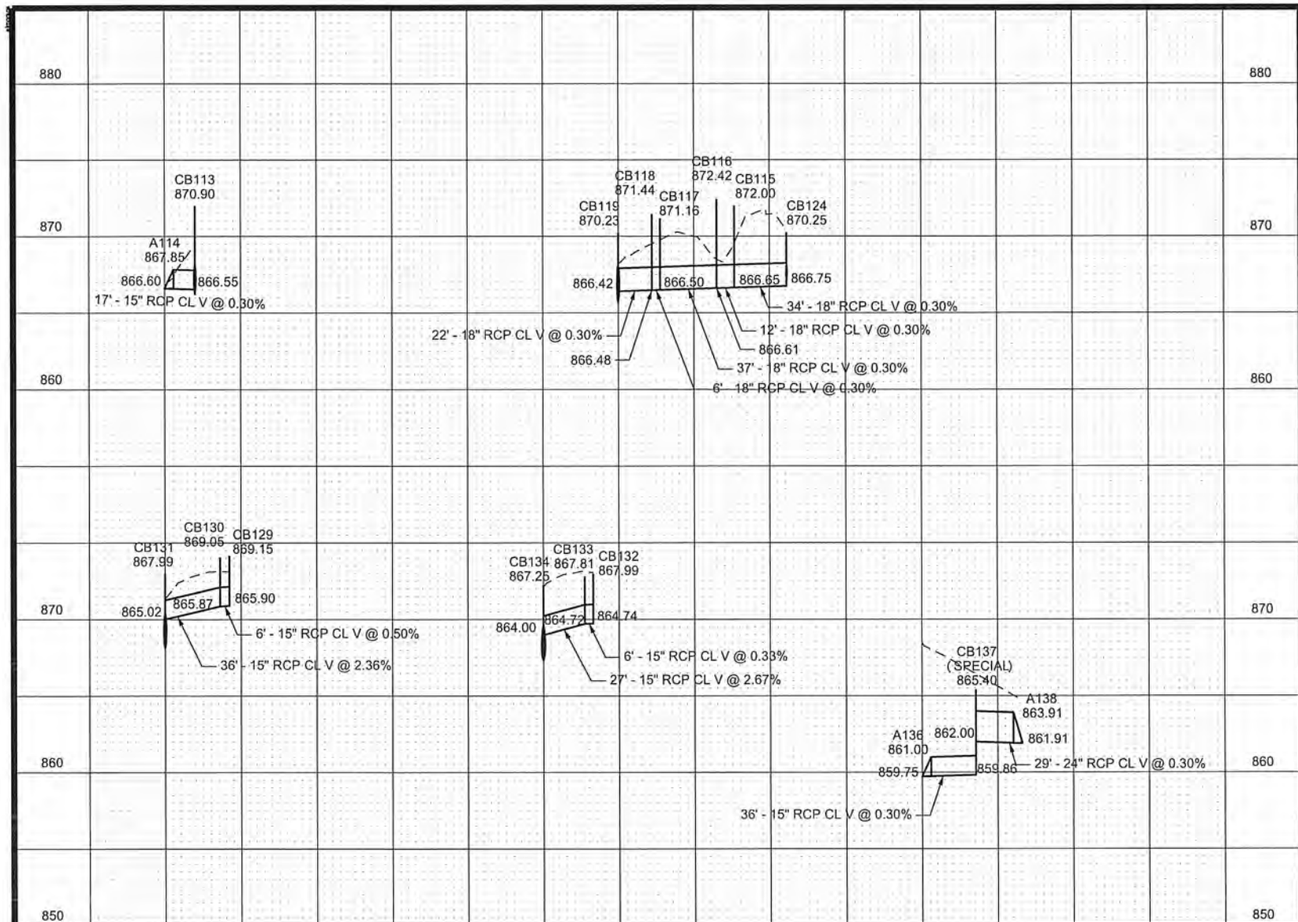
SP 199-106-011

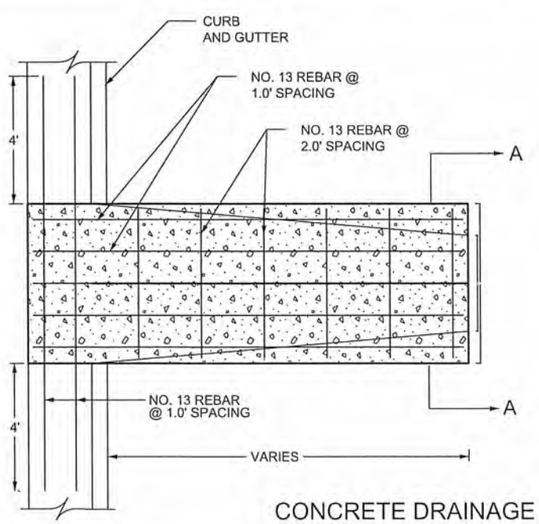
CP 14-20

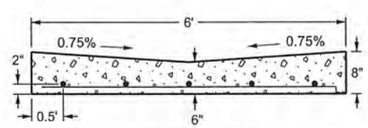
DRAINAGE PLAN AND PROFILE
ALPINE DRIVE

STA 62+00 TO 77+00

Sheet 67 of 148 Sheets

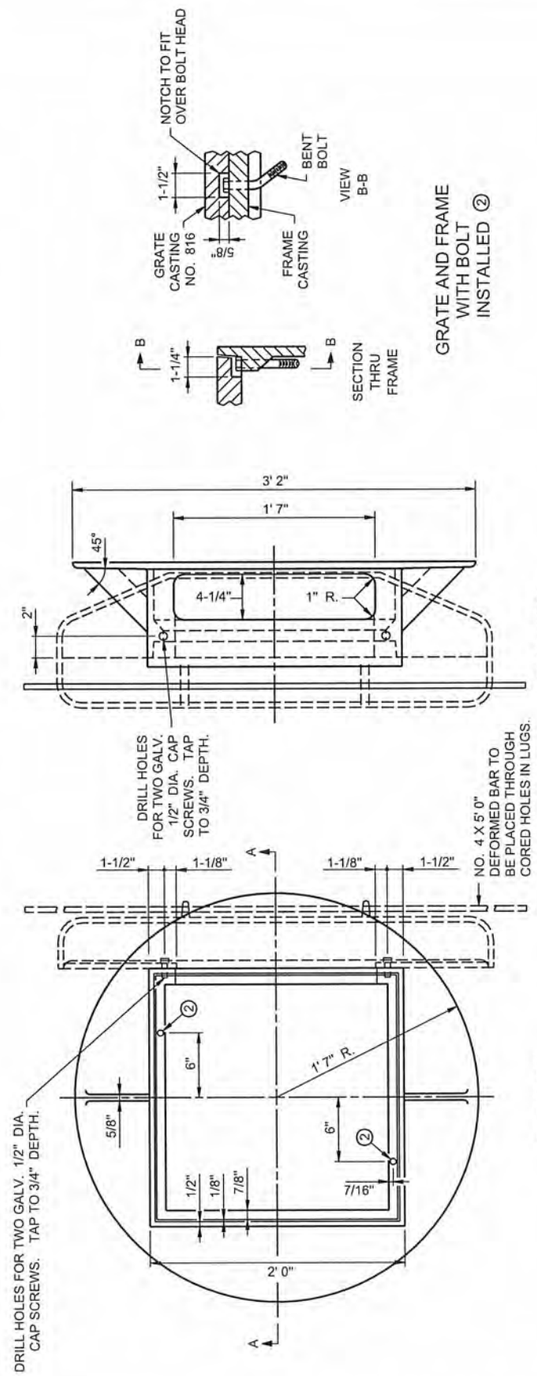






SECTION A-A

CONCRETE DRAINAGE FLUME DETAIL



CASTINGS USED FOR ASSEMBLY	
GRATE	816 (4154)
CURB BOX ①	NO. 823A (4160)

NOTES:
USE 1/4" FILLETS IN ALL CORNERS.
SEE STANDARD PLATE 7111 FOR INSTALLATION REQUIREMENTS.
① APPLIES TO DESIGN B OR V CURB AND CURB AND GUTTER.
② AT LOCATIONS INDICATED IN TOP VIEW, PROVIDE 9/16" DIA. HOLES WHEN GRATE NO. 816 (4154) IS USED WITH THIS FRAME. FIELD PLACE 1/2" DIA. X 4" LONG GALV. BOLT IN UP STREAM SIDE AND BEND UNDERSIDE TO PREVENT REMOVAL. THIS WILL PREVENT GRATE NO. 816 (4154) FROM BEING PLACED IN WRONG DIRECTION AND NOT BEING BICYCLE SAFE.

RING OR FRAME CASTING DETAIL FOR TYPE 'MODIFIED'

NO	DATE	BY	CKD	APPR	REVISION
1	06/18/2014	EJM	GMP	CAK	ADDED DRAINAGE FLUME AND RING/FRAME CASTING DETAILS.

NAME: P:\02-605-18\Plan\0260518_DR5.dgn 06/18/2014 1:27:34 PM

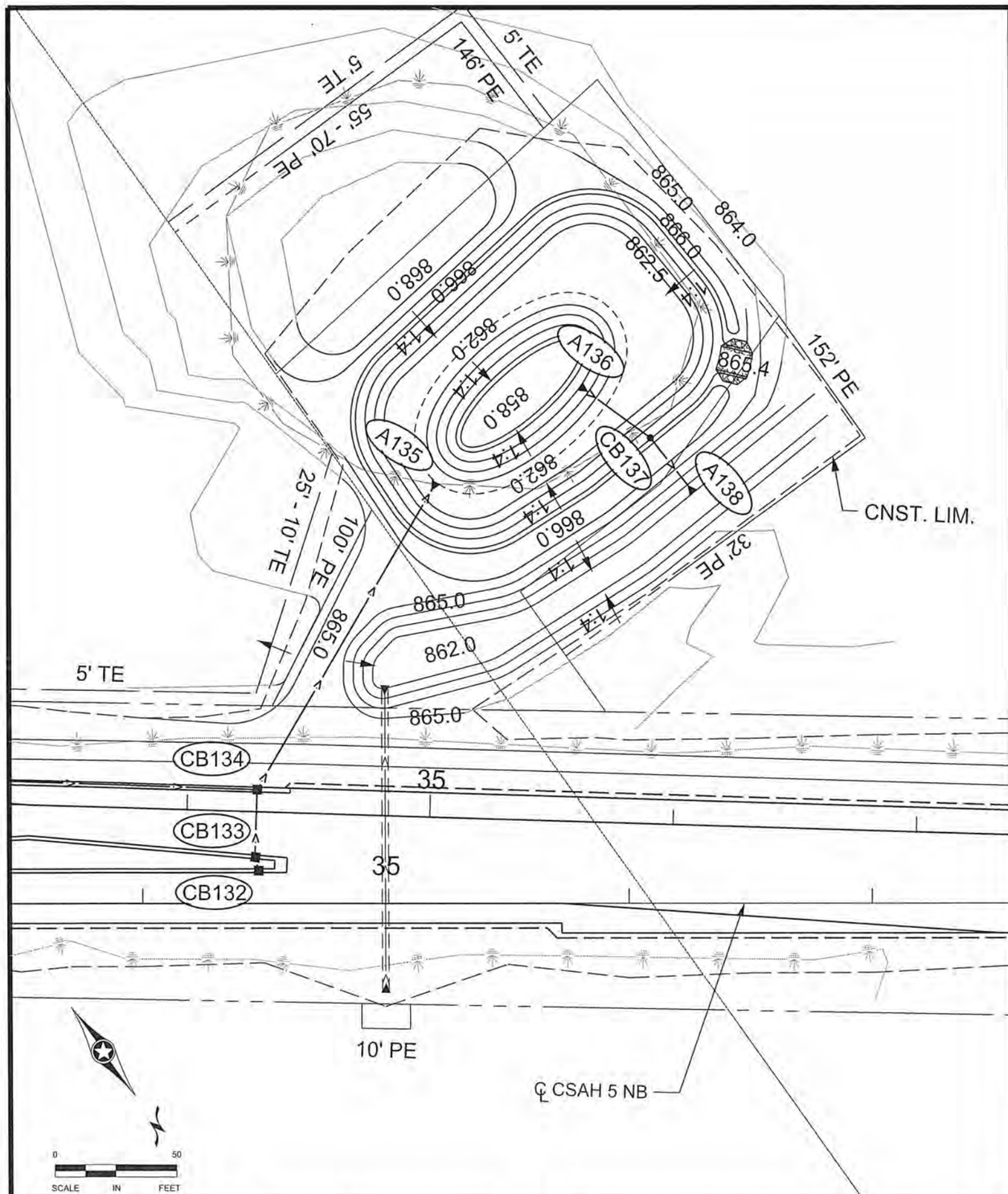
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT KOBILARCSIK
SIGNATURE:
DATE: 6-19-14 LICENSE NO. 24756

DRAWN BY EM DATE #DATE1
DESIGN BY EJM DATE #DATE2
CHECKED BY GMP DATE #DATE3

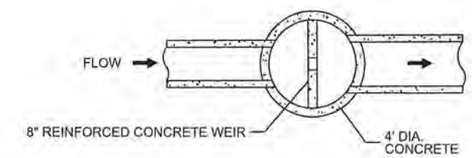
ANOKA COUNTY
HIGHWAY DEPT.

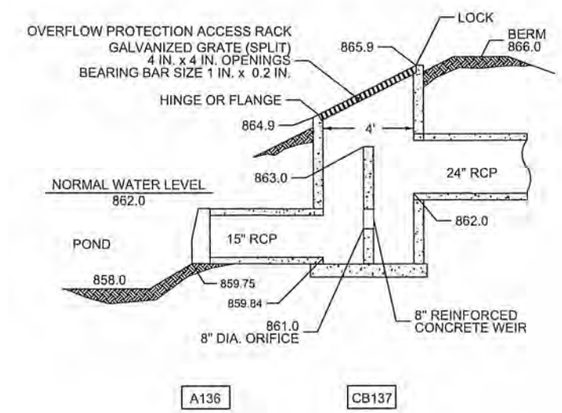
SP 002-605-018
SP 199-106-011
CP 14-20

DRAINAGE LEADS & MISCELLANEOUS DETAILS
STA 25+00 TO 36+00

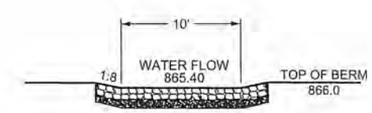


DETAIL : POND OVERFLOW STRUCTURE CB137
DRAINAGE STRUCTURE DESIGN SPECIAL





POND A OVERFLOW TO WETLAND



NO	DATE	BY	CKD	APPR	REVISION
1	06/18/2014	EJM	GMP	CAK	RESIZED POND OUTLET PIPE PER LLRWMO COMMENTS.

NAME: P:\02-605-18\Plan\0260518_DR POND.dgn 06/18/2014 1:03:33 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.

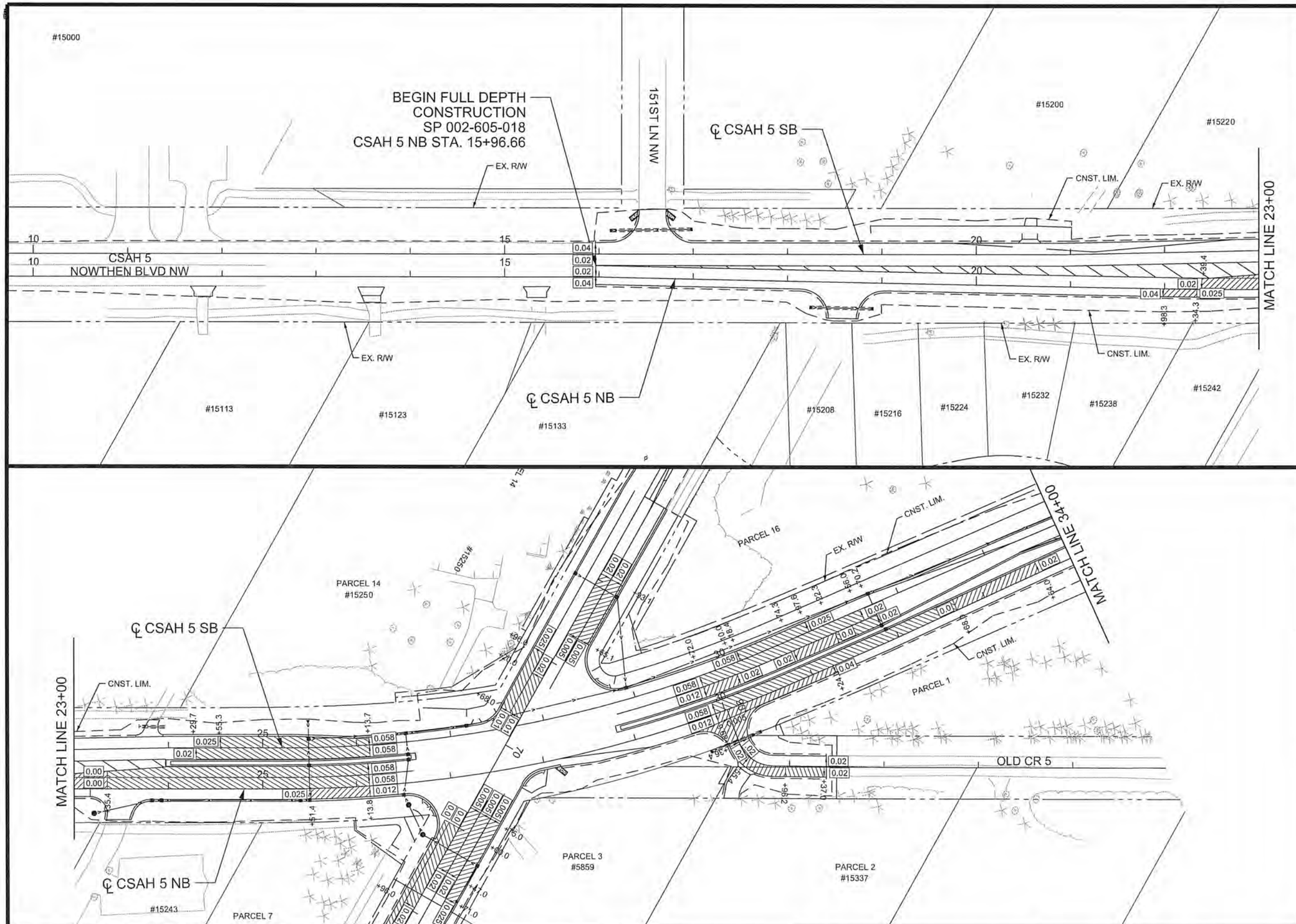
PRINT NAME: CURT KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 6-18-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

POND GRADING PLAN
STA 34+00 TO 37+00
Sheet 69 of 148 Sheets



LEGEND

SUPERELEVATION TRANSITION

NOTES

1.) ALL CROSS SLOPES ARE EXPRESSED AS PERCENTAGE.

0 100
SCALE IN FEET

1 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_SE1.dgn 05/30/2014 2:01:01 PM

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

PRINT NAME: CURT KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14

DESIGN BY EJM DATE 02-28-14

CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

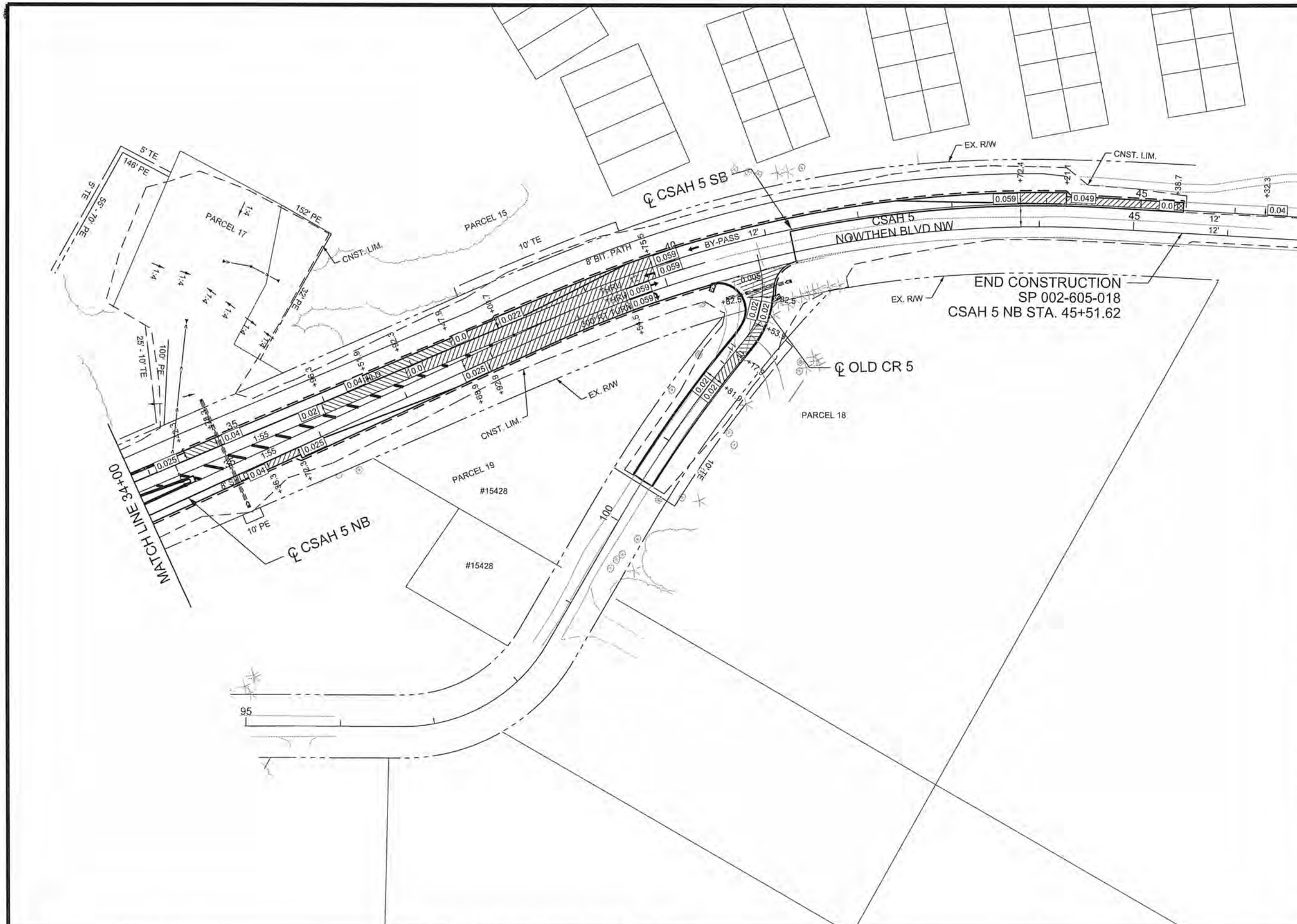
SP 199-106-011

CP 14-20

SUPERELEVATION PLAN

STA 12+45.23 TO 34+00.00

Sheet 70 of 148 Sheets



LEGEND

SUPERELEVATION TRANSITION

NOTES

1.) ALL CROSS SLOPES ARE EXPRESSED AS PERCENTAGE.

0 100
SCALE IN FEET

2 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_SE2.dgn 05/30/2014 2:01:06 PM

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

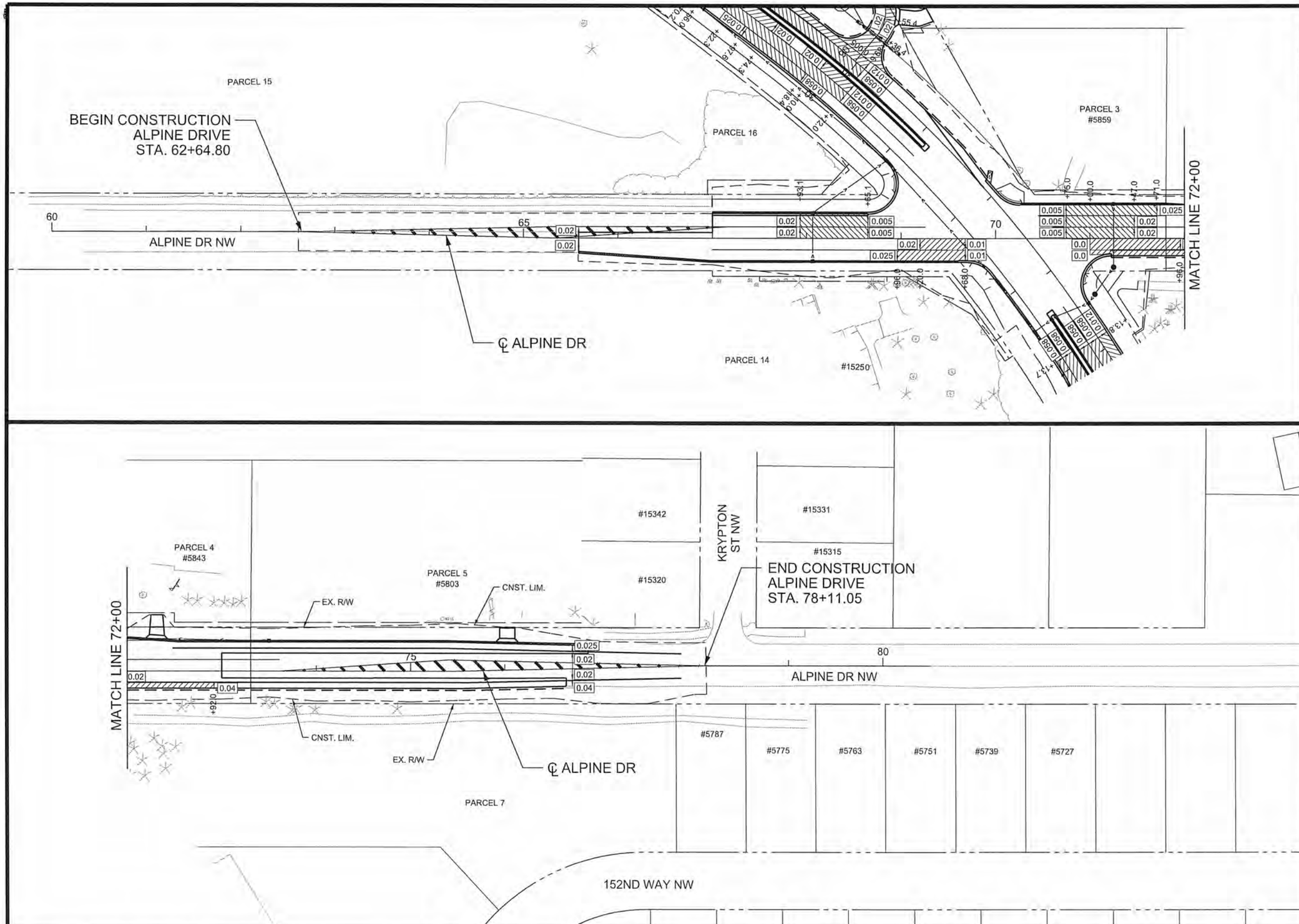
PRINT NAME: CURT KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

SUPERELEVATION PLAN
STA 34+00.00 TO 45+51.62
Sheet 71 of 148 Sheets



LEGEND

SUPERELEVATION TRANSITION

NOTES

1.) ALL CROSS SLOPES ARE EXPRESSED AS PERCENTAGE.

N

0 100
SCALE IN FEET

3 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_SE3.dgn 05/30/2014 2:01:09 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 KOBILARCSIK
SIGNATURE: [signature]
DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

SUPERELEVATION PLAN
STA 62+64.80 TO 78+11.05
Sheet 72 of 148 Sheets

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

PROJECT LOCATION AND GENERAL INFORMATION

SP 02-605-018 IS LOCATED ON CSAH 5 (NOWTHEN BLVD NW) FROM 151ST LN TO 450' NORTH OF OLD COUNTY ROAD 5 AND ALPINE DRIVE IN THE CITY OF RAMSEY.

THE PROPOSED PROJECT WILL INCLUDE INSTALLATION OF TRAFFIC SIGNAL AT CSAH 5/ALPINE DR INTERSECTION, LEFT AND RIGHT TURN LANES, 8 FT SHOULDER, STORM SEWER, AND DRAINAGE DITCHES. THE RECEIVING WATERS WILL DRAIN THROUGH DITCHES AND CULVERTS AND STORM SEWER INTO A COUNTY POND, AND ULTIMATELY TO THE RUM RIVER

THIS PROJECT WILL IMPACT 11.70 ACRES OF SOILS AND CREATE POTENTIAL FOR SEDIMENT DISCHARGE FROM THE SITE.

TRAINING REQUIREMENTS

THE CONTRACTOR SHALL ENSURE COMPLIANCE WITH THE TRAINING REQUIRED IN PART 111.A.2 OF THE GENERAL STORM WATER PERMIT FOR CONSTRUCTION ACTIVITY.

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

LONG TERM OPERATION AND MAINTENANCE

THE STREETS DIVISION OF CITY OF HAM LAKE SHALL BE RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF PERMANENT STORM WATER MANAGEMENT.

RECEIVING SURFACE WATERS, DISCHARGE TO IMPAIRED WATERS & SPECIAL WATERS

THE FOLLOWING TABLE IDENTIFIES ALL SURFACE WATERS WITHIN 1 MILE OF THE PROJECT BOUNDARY, WHICH WILL RECEIVE STORM WATER RUNOFF FROM THE CONSTRUCTION SITE, DURING AND AFTER CONSTRUCTION.

RECEIVING SURFACE WATERS		
NAME OF WATER BODY	SPECIAL WATER	IMPAIRED WATER
RUM RIVER	NO	YES

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

1) ALL EXPOSED SOILS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

2) DITCH BOTTOMS ULTIMATELY DRAIN INTO PUBLIC STORM DRAINAGE SYSTEM. STABILIZATION TO PREVENT EROSION IS REQUIRED WITHIN 24 HOURS OF GRADING OF ALL DITCH BOTTOMS.

DISTURBED AREA

TOTAL PROJECT AREA DISTURBED : 11.27 ACRES
EXISTING IMPERVIOUS AREA : 4.21 ACRES
PROPOSED IMPERVIOUS AREA : 5.14 ACRES
EXISTING PERVIOUS AREA : 7.06 ACRES
PROPOSED PERVIOUS AREA : 6.13 ACRES

CONSTRUCTION PHASING

SILT FENCE AND/OR OTHER SUITABLE PERIMETER BMPS 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 SHALL BE STRIPPED AND STOCKPILED IN SOIL BERMS AT THE TOE OF THE STRIPPED SLOPES ALONG THE PROJECT LIMITS. TEMPORARY VEGETATION WILL BE ESTABLISHED ON THE STOCKPILED TOPSOIL BERMS WITH SEED MIXTURE 150, TYPE 1 FERTILIZER, AND DISK ANCHORING TYPE 1 MULCH. STOCKPILED TOPSOIL BERMS SHALL NOT BE PLACED IN ANY STORM WATER CONVEYANCES.

AFTER STRIPPING THE TOPSOIL THE EXPOSED SOIL SHALL BE STABILIZED WITH DISK ANCHORED TYPE 1 MULCH WITHIN 14 DAYS OF ROUGH GRADING.

TEMPORARY SEDIMENT BASIN

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

PERMANENT STORM WATER MANAGEMENT SYSTEM

ALL STORM WATER 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 0.90 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 THAN 14 DAYS AFTER ROUGH GRADING. FOR ALL AREAS WHERE DISTURBED SOILS DRAIN TO AN IMPAIRED OR SPECIAL WATERS, THE EXPOSED SOIL MUST BE STABLIZED NO LATER THAN 24 HOURS OF GRADING. 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. STABLITIZATION 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.

POLLUTION PREVENTION MEASURES

THE CONTRACTOR SHALL 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 MEASURE FOR POLLUTION PREVENTION SHALL BE STRICTLY ENFORCED.

PROJECT CONTACTS

DNR	NOT REQUIRED		
COE	NOT REQUIRED		
ANOKA COUNTY DESIGN SWPPP PREPARATION	U OF MN DESIGN OF SWPPP EXPIRES 5/14	ELIZABETH MARKOSE	763-862-4222
ANOKA COUNTY PROJECT REPRESENTATIVE	U OF MN SITE MANAGEMENT EXPIRES 5/15	HARRY GRAMS	763-862-4250
EROSION CONTROL SUPERVISOR (CONTRACTOR)			

SEDIMENT CONTROL PRACTICES

TEMPORARY STOCKPILED TOPSOIL BERMS MUST INCLUDE PERIMETER BMPS AS PROVIDED IN THE PLAN AT LOCAITONS WHERE CONSTRUCTION STORM WATER DRAINS FROM THE PROJECT.

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

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

VEHICLE TRACKING OFF SEDIMENT FROM THE CONSTRUCTION SITE MUST BE MINIMIZED. STREET SWEEPING MUST BE USED IF SEDIMENT IS BEING TRACKED OFF THE CONSTRUCTION SITE.

LOCATION OF SWPPP REQUIREMENTS

REQUIREMENT	PLAN TITLE	PLAN LOCATION	MN/DOT SPECIFICATION	SPECIAL PROVISION
NPDES PERMIT COMPLIANCE			1701, 1702, &1717	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
CERTIFIED PERSONNEL IN EROSION AND SEDIMENT CONTROL SITE MANAGEMENT	STORM WATER POLLUTION PREVENTION PLAN	SHEETS 73 - 74	1506, 1717, & 2573	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
CHAIN OF RESPONSIBILITY			1506, 1717, & 2573	
PROJECT SCHEDULE / WEEKLY EROSION & SEDIMENT CONTROL SCHEDULE / COMPLETING INSPECTION / MAINTENANCE LOG			1717 & 2573	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
SWPPP PREPARATION				
SITE MAP / RECEIVING WATERS / DIRECTION OF FLOW	EROSION CONTROL PLAN	SHEETS 80 - 82	1717	
PROJECT SPECIFIC CONSTRUCTION STAGING	CONSTRUCTION STAGING & TRAFFIC CONTROL	SHEETS 27 - 32	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	EROSION CONTROL PLAN, TABULATION CHARTS	SHEETS 9, 75 - 82	2573 & 2525	2575 (RAPID STABILIZATION SPECIFICATION)
ADDITIONAL TEMPORARY AND OR PERMANENT EROSION AND SEDIMENT CONTROL BMP'S NOT PROVIDED OR SHOWN IN THE PLAN	STORM WATER POLLUTION PREVENTION PLAN	SHEETS 73 - 74	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	TURF ESTABLISHMENT PLAN, TABULATION CHARTS	SHEETS 9, 83 - 85	1717, 2573, & 2575	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
TEMPORARY EROSION AND SEDIMENT CONTROL DETAILS	EROSION CONTROL STANDARD PLAN	SHEETS 75 - 79	2575	2575 (RAPID STABILIZATION SPECIFICATION)
PERMANENT EROSION CONTROL DETAILS	TURF ESTABLISHMENT PLAN	SHEETS 83 - 85	2575	2575 (CONTROLLING EROSION AND ESTABLISHING VEGETATION)

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_SWPPP.dgn 05/30/2014 2:01:11 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 KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

STORM WATER POLLUTION PREVENTION PLAN

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

AMENDING THE SWPPP

THE SWPPP MUST BE AMENDED TO RECORD CHANGES OR MODIFICATIONS TO PERMANENT BMPS OR OTHER STORM WATER TREATMENT SYSTEMS AND REMOVALS OF TEMPORARY BMPS. CHANGES TO TEMPORARY BMPS MAY BE RECORDED IN 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	Staff	Plan Location (sheet)	Project Location (station)	Problem, solution, and notes

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_SWPPP.dgn 05/30/2014 2:01:15 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.

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

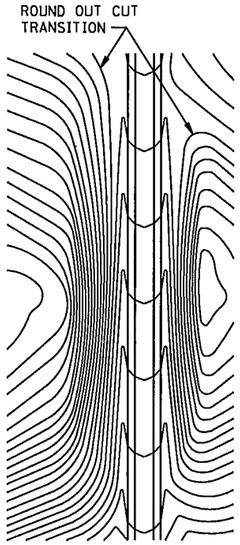
SP 002-605-018

SP 199-106-011

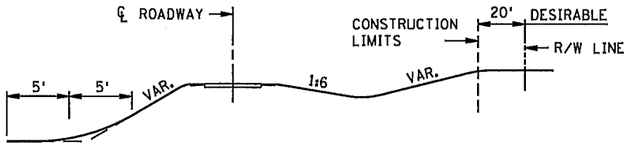
CP 14-20

STORM WATER POLLUTION PREVENTION PLAN

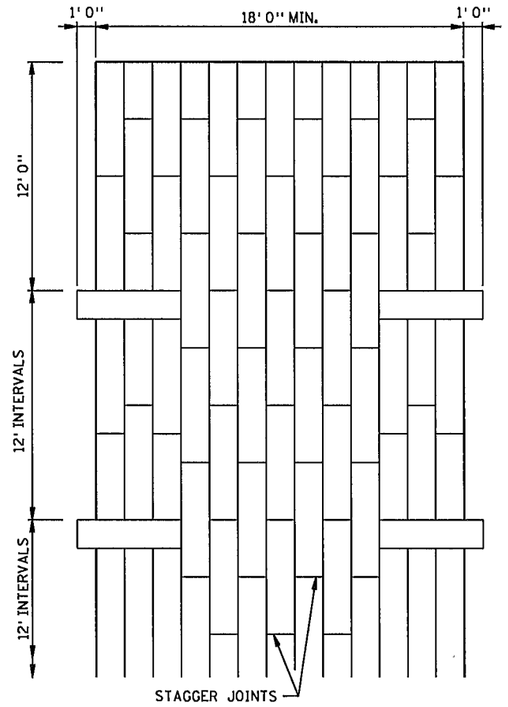
Sheet 74 of 148 Sheets



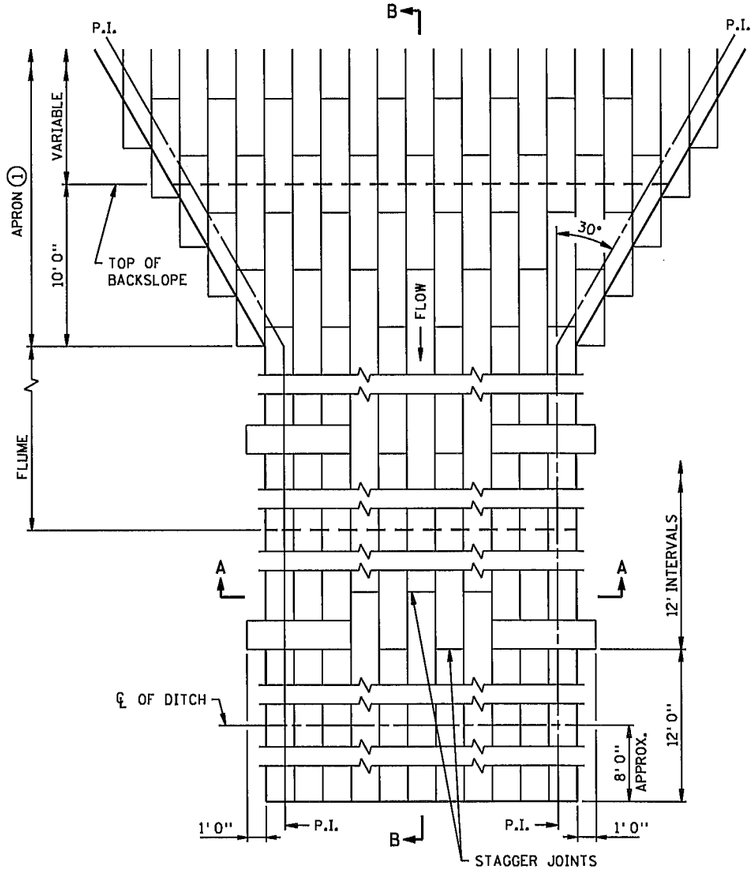
CONTOURING ROAD CUTS



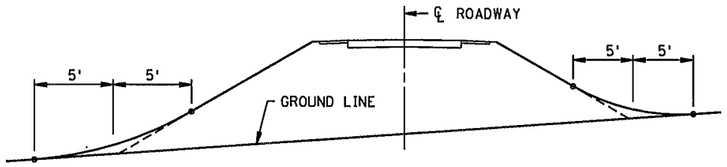
ROUNDING SHOULDERS AND BACKSLOPES



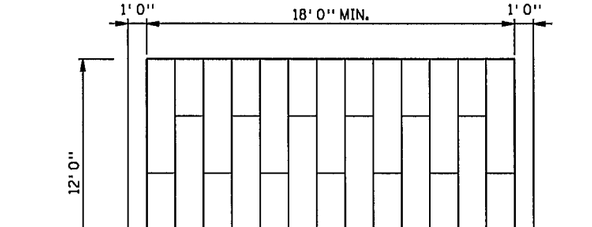
PLAN VIEW



PLAN VIEW

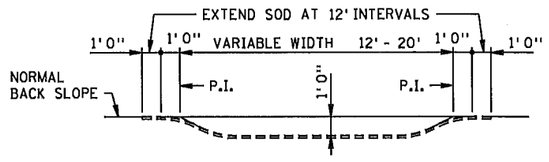


SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES

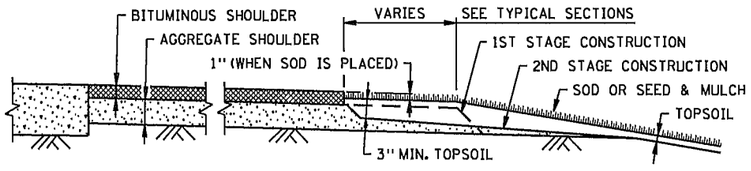


SODDED DITCH CROSS SECTION

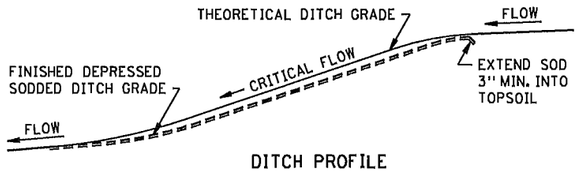
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



SECTION A-A

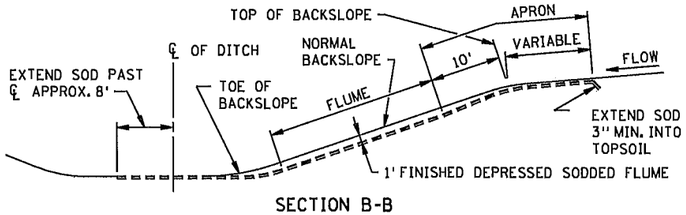


SHAPING AND TOPSOILING INSLOPES



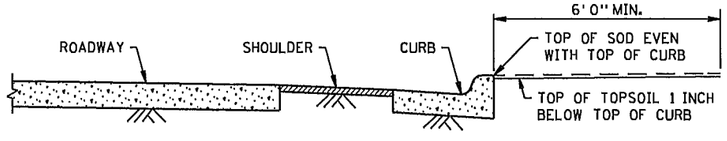
DITCH PROFILE

SODDED DITCH DETAILS



SECTION B-B

SODDED FLUME DETAILS



SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED

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. 002-605-018 S.P. 199-106-011 CP 14-20	SHEET NO. 75 OF 148 SHEETS

PLOTTED/REVISED: 05/30/2014
DISTRICT #:
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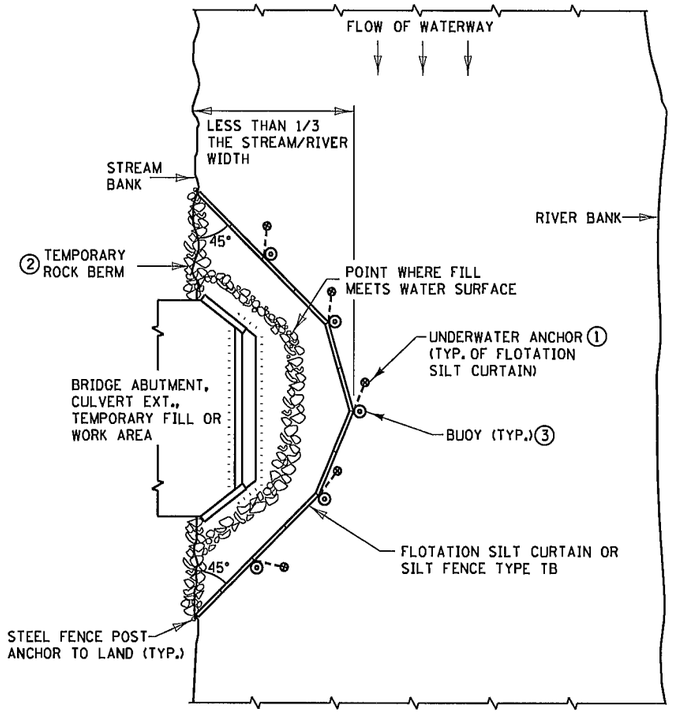
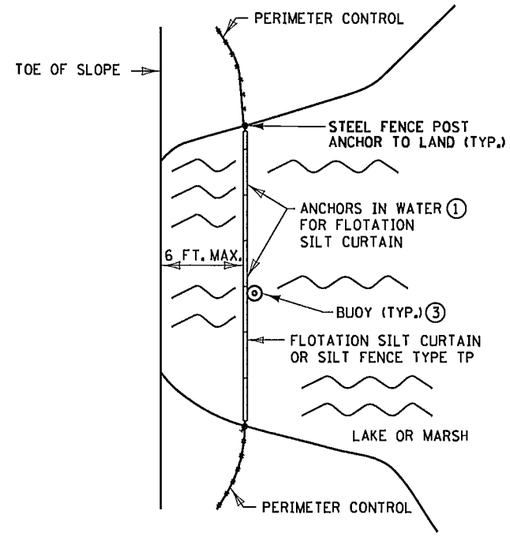
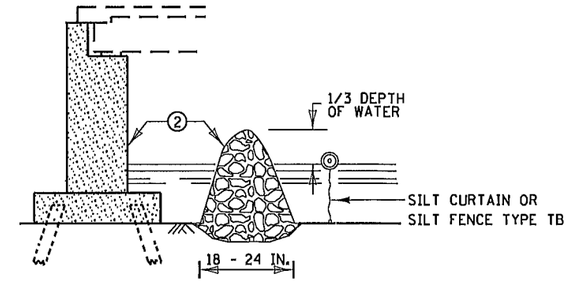


PLAN VIEW FOR STREAM ⑤



PLAN VIEW FOR LAKE OR MARSH ⑤

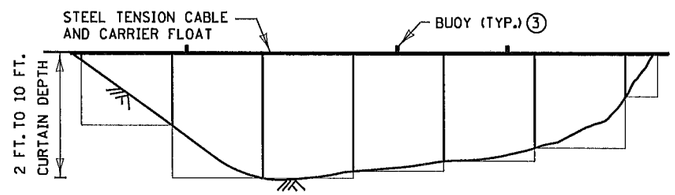


TEMPORARY ROCK BERM
FOR SEDIMENT CONTROL

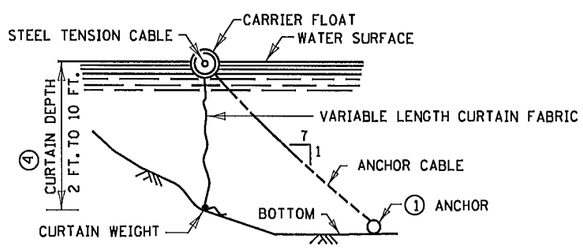
INSTALLATION GUIDELINES
SILT FENCE TYPE TB
MINIMUM WATER DEPTH: 1 FT.
MAXIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER VELOCITY: 5 FT./SEC.

INSTALLATION GUIDELINES ④
FLOTATION SILT CURTAIN
TYPE: STILL WATER
MINIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER DEPTH: 10 FT.
MAXIMUM WATER VELOCITY: 2 FT./SEC.
MAXIMUM WAVE HEIGHT: 1 FT

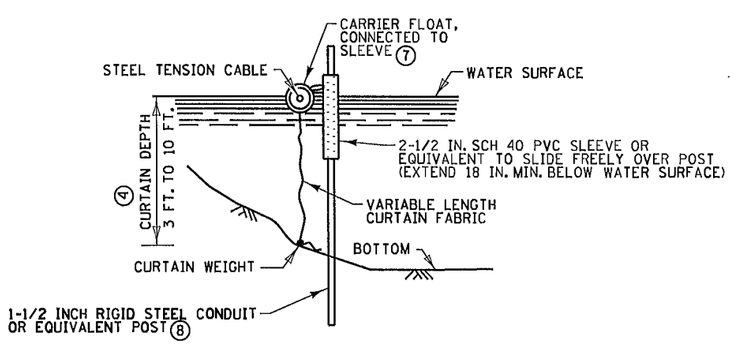
INSTALLATION GUIDELINES ④
FLOTATION SILT CURTAIN
TYPE: MOVING WATER
MINIMUM WATER DEPTH: 3 FT.
MAXIMUM WATER DEPTH: 10 FT.
MAXIMUM WATER VELOCITY: 5 FT./SEC.
MAXIMUM WAVE HEIGHT: 2 FT.



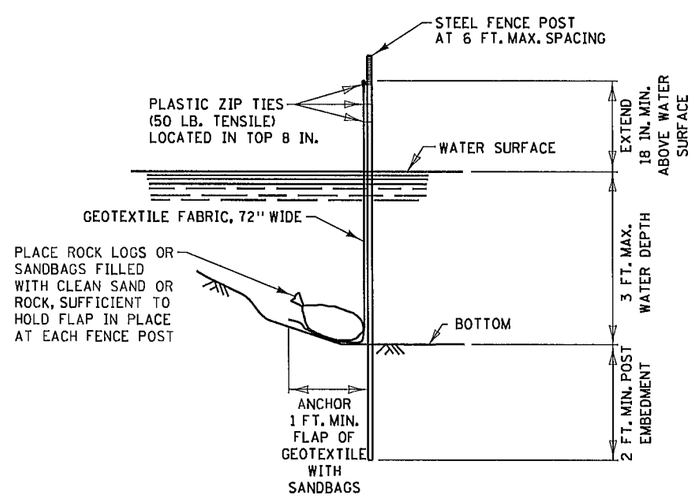
FRONT VIEW FOR FLOTATION SILT CURTAIN



FLOTATION SILT CURTAIN



ALTERNATE FLOTATION SILT CURTAIN



SILT FENCE TYPE TB ⑥

NOTES:

SEE SPECS. 2573, 3886, 3887 & 3893.

① FOR ANCHOR SPACING AND WEIGHT REQUIREMENTS, SEE SPEC. 2573.

② IN AREAS WHERE THE PLAN CALLS FOR RIPRAP AT A BRIDGE, CULVERT, OR SLOPE, A TEMPORARY ROCK BERM CONSTRUCTED FROM THE RIPRAP CAN BE USED TO PROVIDE ADDITIONAL PROTECTION. WHEN THE WORK IS COMPLETE THE RIPRAP CAN THEN BE MOVED TO THE PERMANENT LOCATION INDICATED IN THE PLANS. THE TEMPORARY ROCK BERM IS INCIDENTAL.

③ ON U.S. COAST GUARD OR OTHER MOTORIZED WATERWAYS, BUOYS ARE REQUIRED TO MARK THE ENDS AND SPECIAL AREAS FOR VISIBILITY. PLACE BUOYS AS REQUIRED FOR NAVIGATIONAL PURPOSES.

④ MINIMUM WATER DEPTH APPLIES TO THE DEEPEST POINT ALONG THE FLOTATION SILT CURTAIN OR SILT FENCE TYPE TB FOR DETERMINING APPLICABILITY OF FLOTATION SILT CURTAIN OR SILT FENCE TYPE TB.

⑤ SILT CURTAIN SHOULD BE REMOVED WHEN THE AREA CONTRIBUTING DIRECT RUNOFF HAS BEEN TEMPORARILY OR PERMANENTLY STABILIZED. SILT CURTAIN SHOULD ALSO BE REMOVED BEFORE WINTER IF ICE UP OR ICE FLOW IS ANTICIPATED.

⑥ EMBED POST INTO BOTTOM A MINIMUM OF 40% OF THE WATER DEPTH (INCLUDING WAVE HEIGHT), BUT IN NO CASE SHALL EMBEDMENT BE LESS THAN 2 FEET.

⑦ ANCHOR FLOAT MUST BE CONNECTED SECURELY TO SLEEVE WITH A MINIMUM TENSILE STRENGTH OF 100 LBS. CONNECTION METHOD MUST ALLOW FOR SLEEVE TO MOVE FREELY ON POST.

⑧ PROVIDE SUFFICIENT NUMBER OF POST ANCHORS TO MAINTAIN SILT CURTAIN POSITION.

STANDARD SHEET NO. 5-297.405 (1 OF 7)	TITLE: TEMPORARY SEDIMENT CONTROL SILT CURTAIN OR SILT FENCE TYPE TB
STANDARD APPROVED: DECEMBER 11, 2013	
S.P. 002-605-018 S.P. 199-106-011 CP 14-20	SHEET NO. 76 OF 148 SHEETS

PLOTTED/REVISED: 05/30/2014
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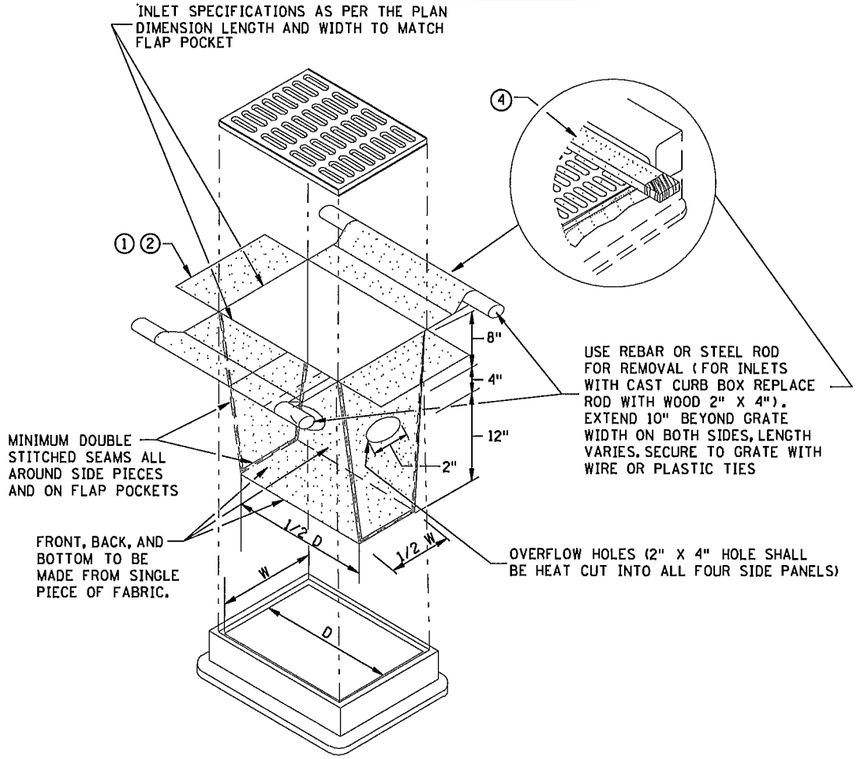
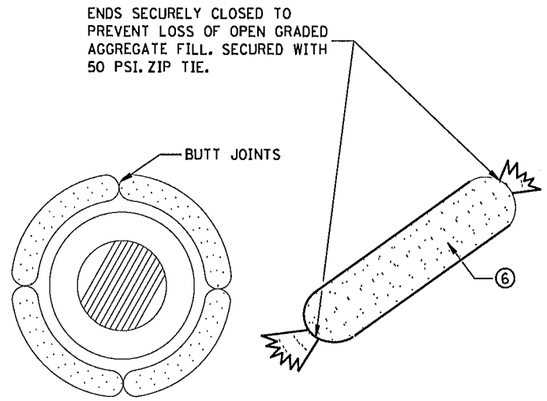
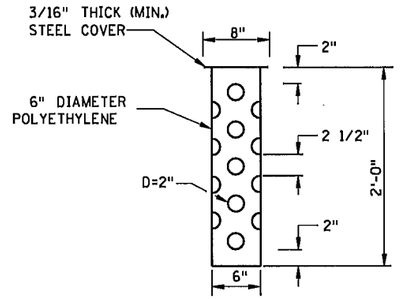


FILTER BAG INSERT ③

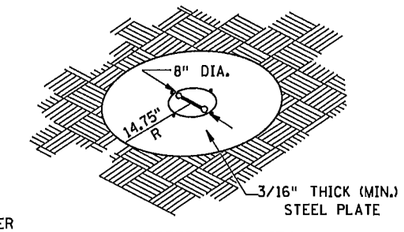
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)



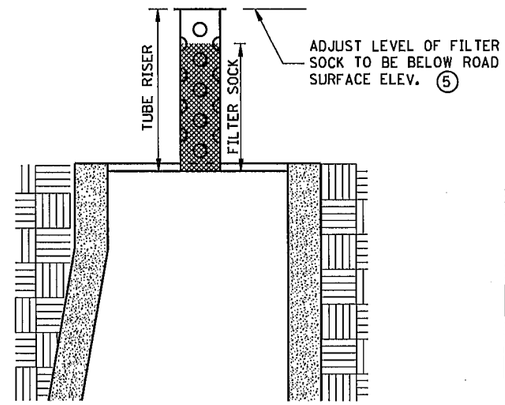
ROCK LOG/COMPOST LOG



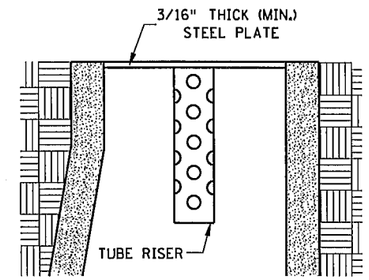
TUBE RISER



PERSPECTIVE VIEW

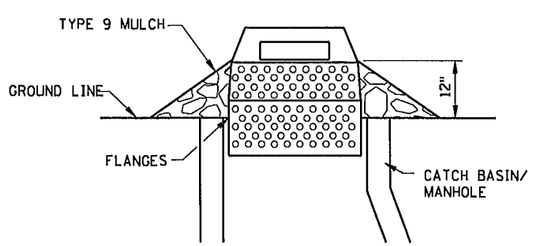


SECTION
(UP POSITION)



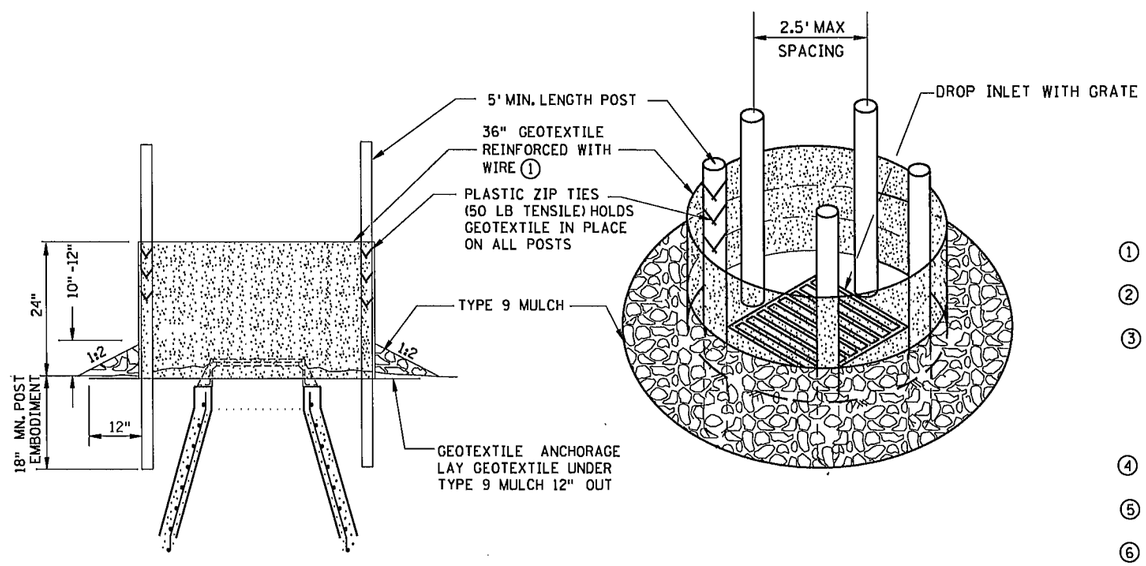
SECTION
(DOWN POSITION)

POP-UP HEAD



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.



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.

DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEED TRAFFIC FLOW.

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 PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED 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. 5-297.405 (4 OF 7)	TITLE: TEMPORARY SEDIMENT CONTROL STORM DRAIN INLET PROTECTION
STANDARD APPROVED: DECEMBER 11, 2013	
S.P. 002-605-018 S.P. 199-106-011 CP 14-20	SHEET NO. 77 OF 148 SHEETS

PLOTTED/REVISED: 05/30/2014
DISTRICT #:
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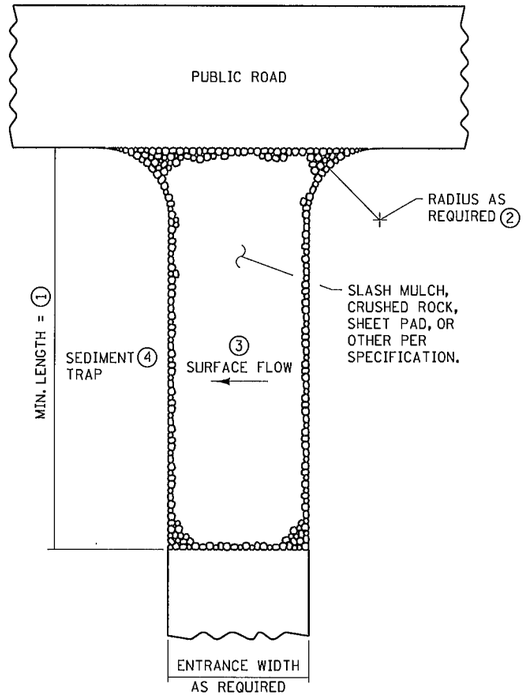
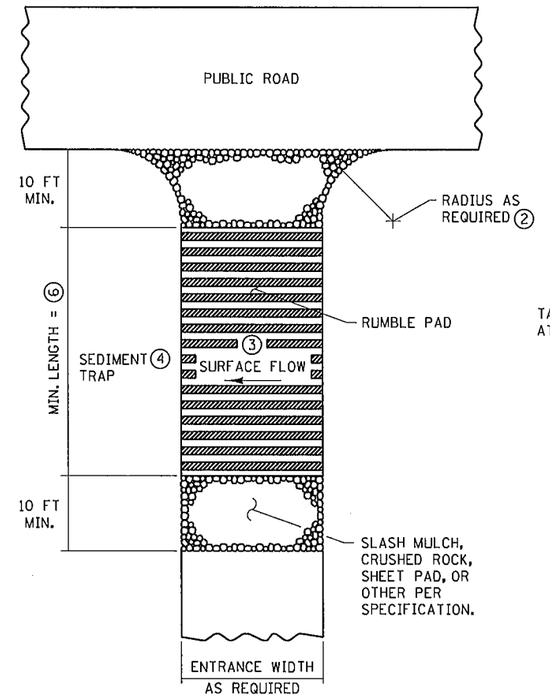
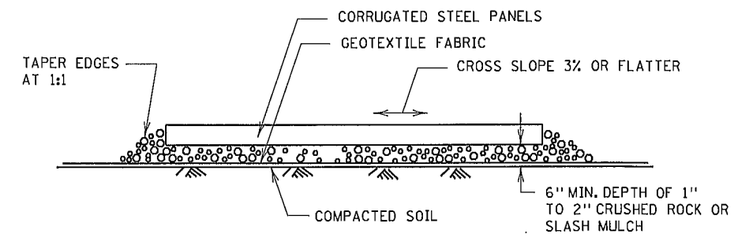


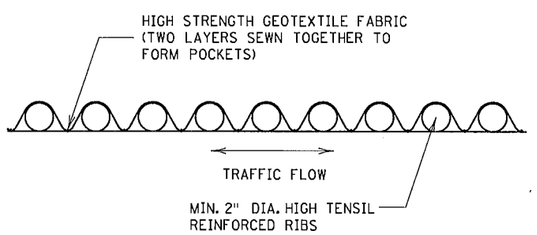
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



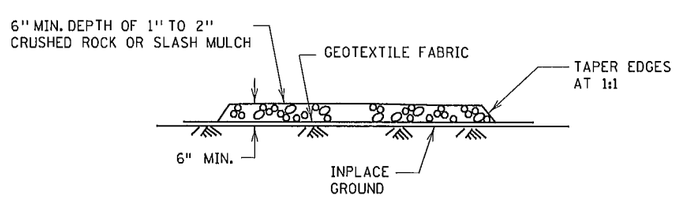
RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



RUMBLE PAD



SHEET PAD



SLASH MULCH OR CRUSHED ROCK

NOTES:

SEE SPECS. 2573 & 3882.

① MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.

② PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.

③ IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.

④ IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.

⑤ IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.

⑥ MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.

⑦ MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

STANDARD SHEET NO. 5-297.405 (5 OF 7)	TITLE: TEMPORARY SEDIMENT CONTROL CONSTRUCTION EXITS
STANDARD APPROVED: DECEMBER 11, 2013	
S.P. 002-605-018 S.P. 199-106-011 CP 14-20	SHEET NO. 78 OF 148 SHEETS

PLOTTED/REVISED: 05/30/2014
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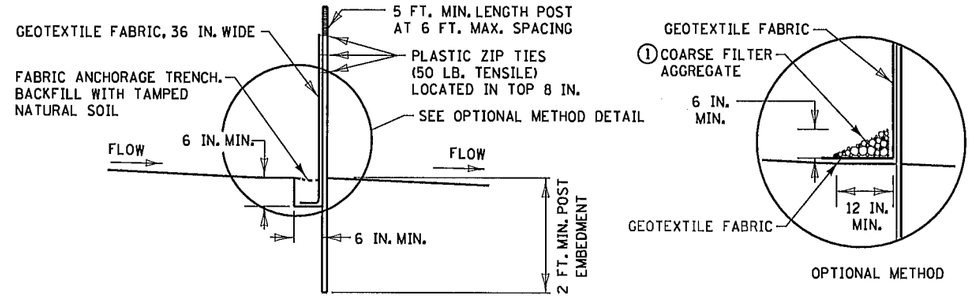
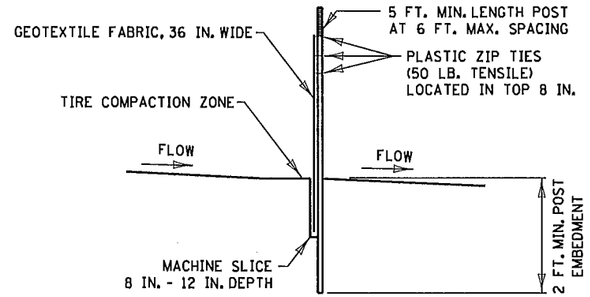
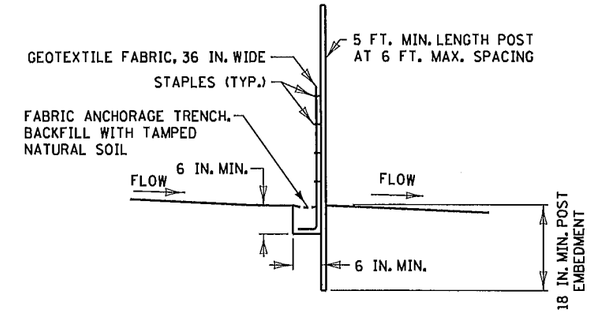


SILT FENCE TYPE HI ②
(HAND INSTALLED)



SILT FENCE TYPE MS ②
(MACHINE SLICED)



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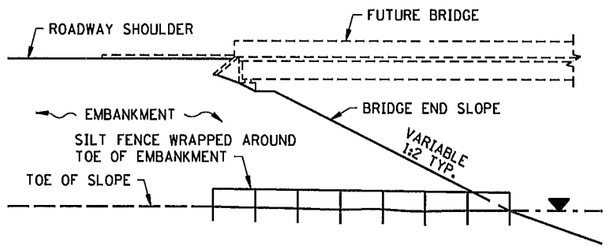
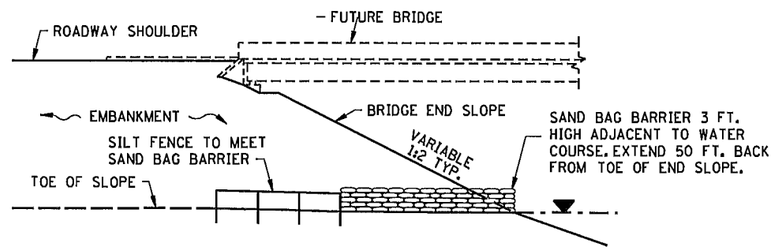
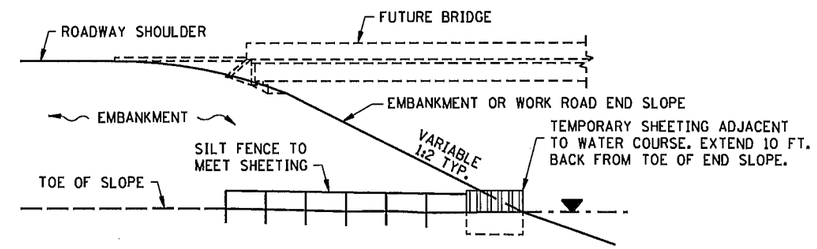
(PREASSEMBLED)



SILT FENCE ONLY ④

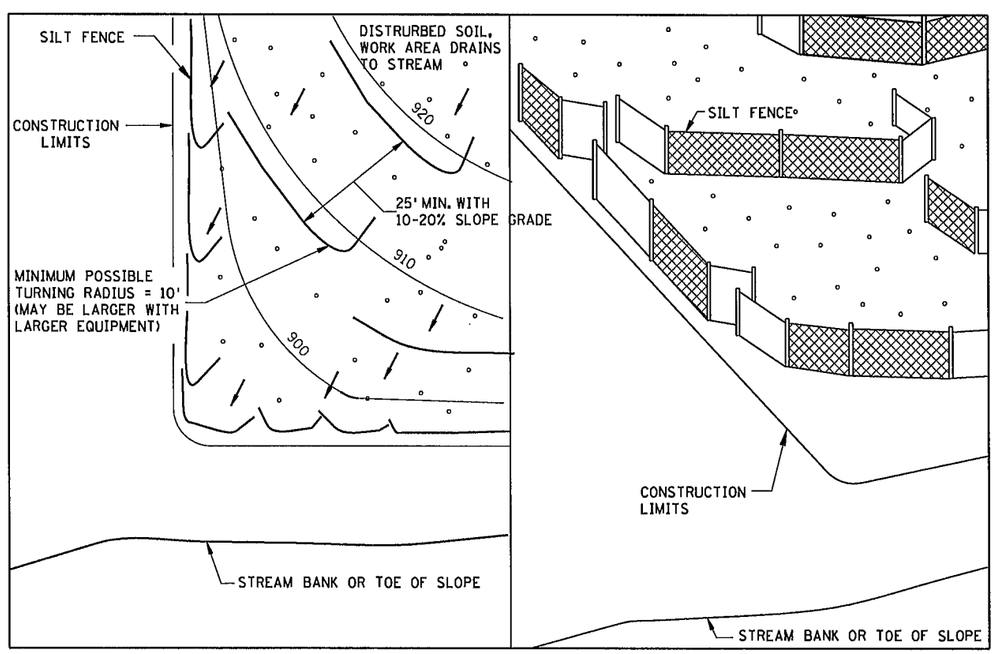


SILT FENCE WITH SAND BAGS ⑤



SILT FENCE WITH SHEETING ⑥

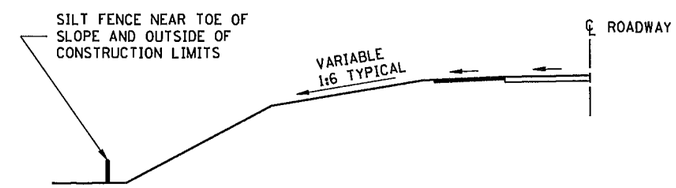
INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



PLAN VIEW

PERSPECTIVE VIEW

J-HOOK INSTALLATION



LOCATION AT TOE OF ROADWAY EMBANKMENT

NOTES:

SEE SPECS. 2573, 3149 & 3886.

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

② TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 1 ACRE.

③ TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 0.25 ACRE.

④ WATER COURSE FLOW VELOCITY: STANDING.
CONTRIBUTING SLOPE AREA: 1./2 ACRE.

⑤ WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC.
CONTRIBUTING SLOPE AREA: 1. ACRE.

⑥ WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC.
CONTRIBUTING SLOPE AREA: 3 ACRES.

STANDARD SHEET NO. 5-297.405 (6 OF 7)	TITLE: TEMPORARY SEDIMENT CONTROL SILT FENCE
STANDARD APPROVED: DECEMBER 11, 2013	

S.P. 002-605-018 S.P. 199-106-011 CP 14-20 SHEET NO. 79 OF 148 SHEETS

PLOTTED/REVISED: 05/30/2014
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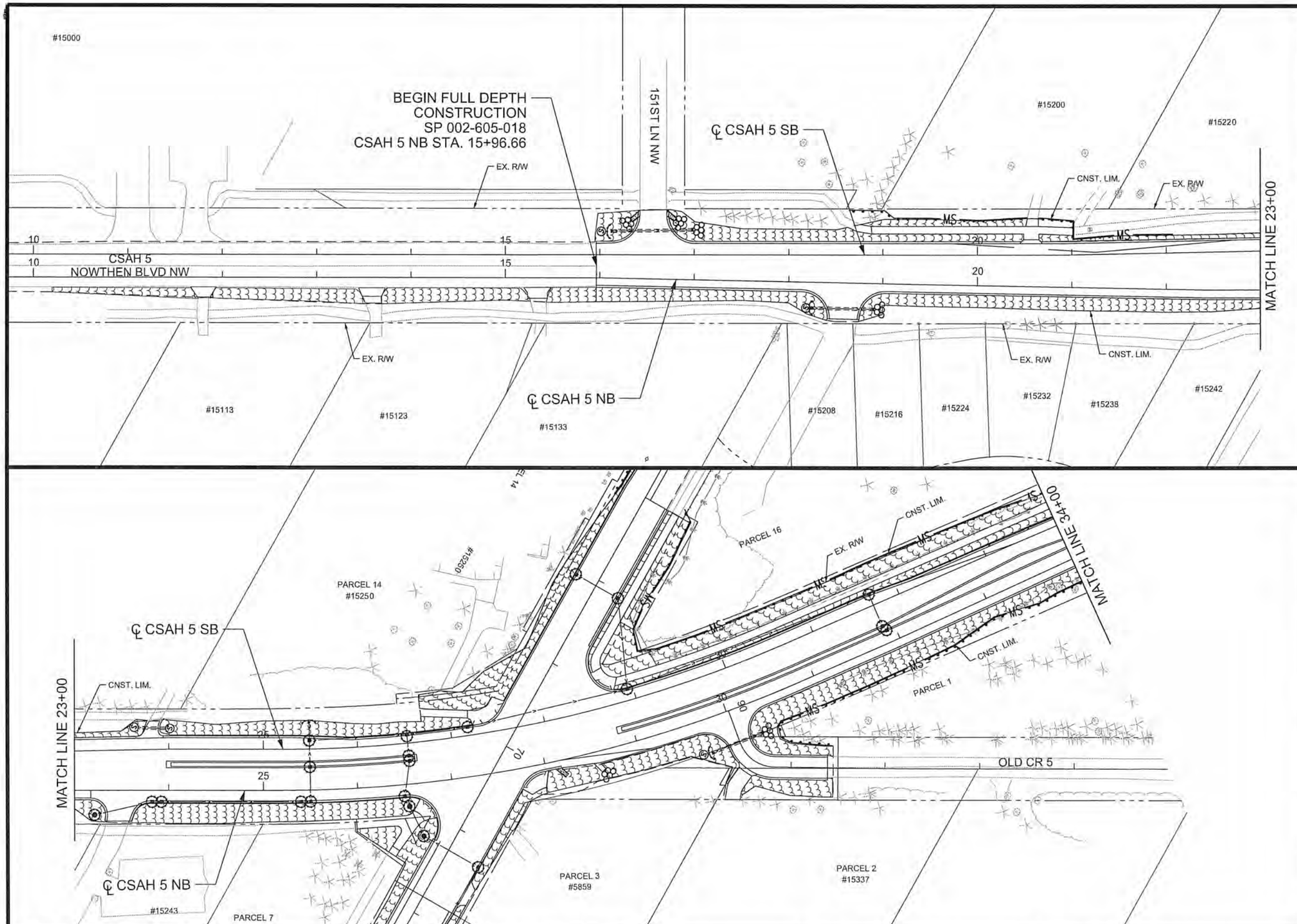

LEGEND

- PROPOSED CATCH BASIN
- PROPOSED APRON
- INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE CULVERT
- PROPOSED CULVERT
- SILT FENCE TYPE MACHINE SLICED
- RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- SOD APRON INLET OR OUTLET
- INLET PROTECTION
- TEMPORARY DITCH CHECK TYPE 2
- WETLAND BOUNDARIES
- SURFACE FLOW ARROW
- EROSION CONTROL BLANKET CATEGORY 3

NOTES

1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.

2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR.

3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR $\frac{1}{3}$ OF SILT FENCE HEIGHT.

4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.

5.) IF SILT DEPOSITS IN THE ANOKA COUNTY RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.

6.) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 14 DAYS OF THE COMPLETION OF GRADING.

0 100
SCALE IN FEET

1 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_EC1.dgn 05/30/2014 2:01:27 PM

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PRINT NAME: CURT KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 6-3-14 LICENSE NO. 24756

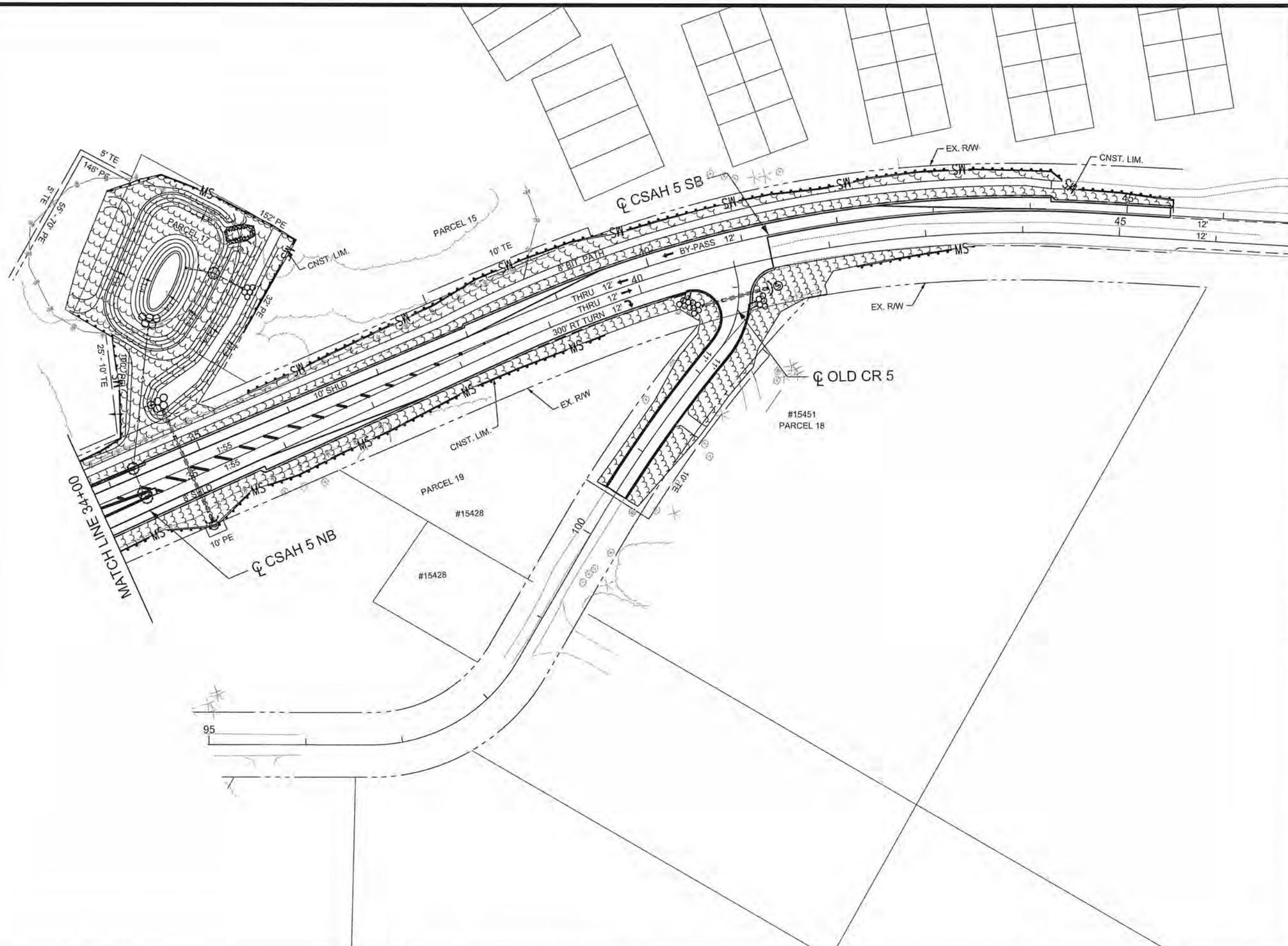
DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY
HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

EROSION CONTROL PLAN
STA 12+45.23 TO 34+00.00

Sheet 80 of 148 Sheets



LEGEND

- PROPOSED CATCH BASIN
- PROPOSED APRON
- INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE CULVERT
- PROPOSED CULVERT
- SILT FENCE TYPE MACHINE SLICED
- RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- SOD APRON INLET OR OUTLET
- INLET PROTECTION
- TEMPORARY DITCH CHECK TYPE 2
- WETLAND BOUNDARIES
- SURFACE FLOW ARROW
- EROSION CONTROL BLANKET CATEGORY 3

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0 100
SCALE IN FEET

2 OF 3

NO	DATE	BY	CKD	APPR	REVISION

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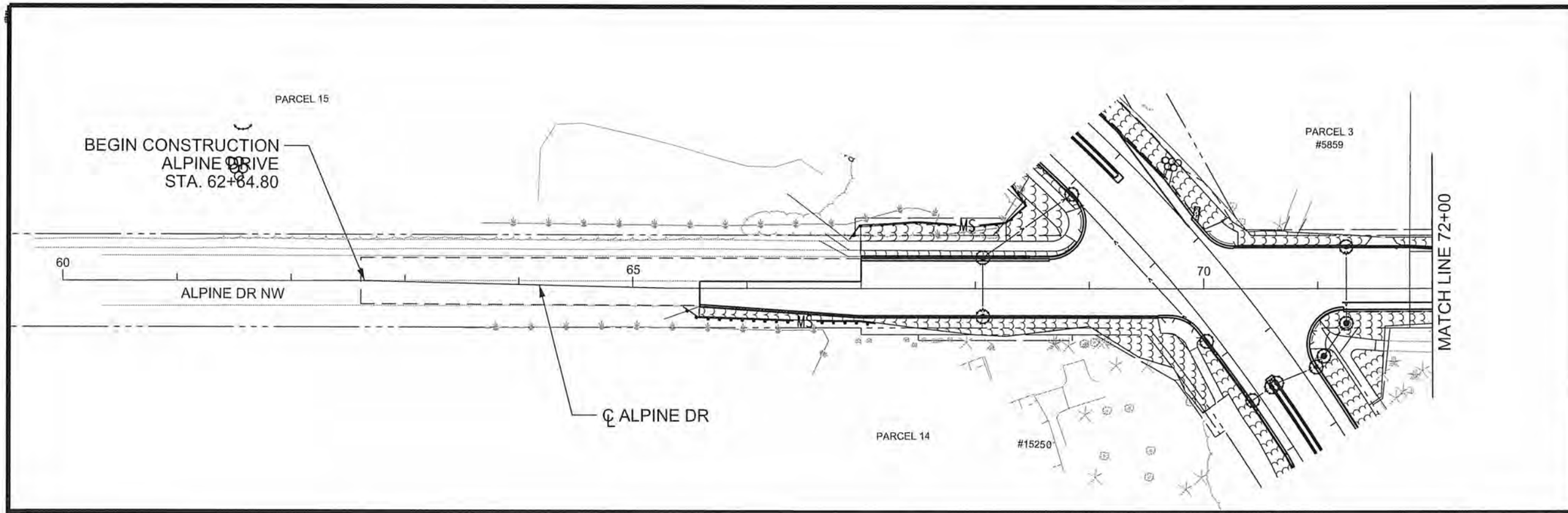
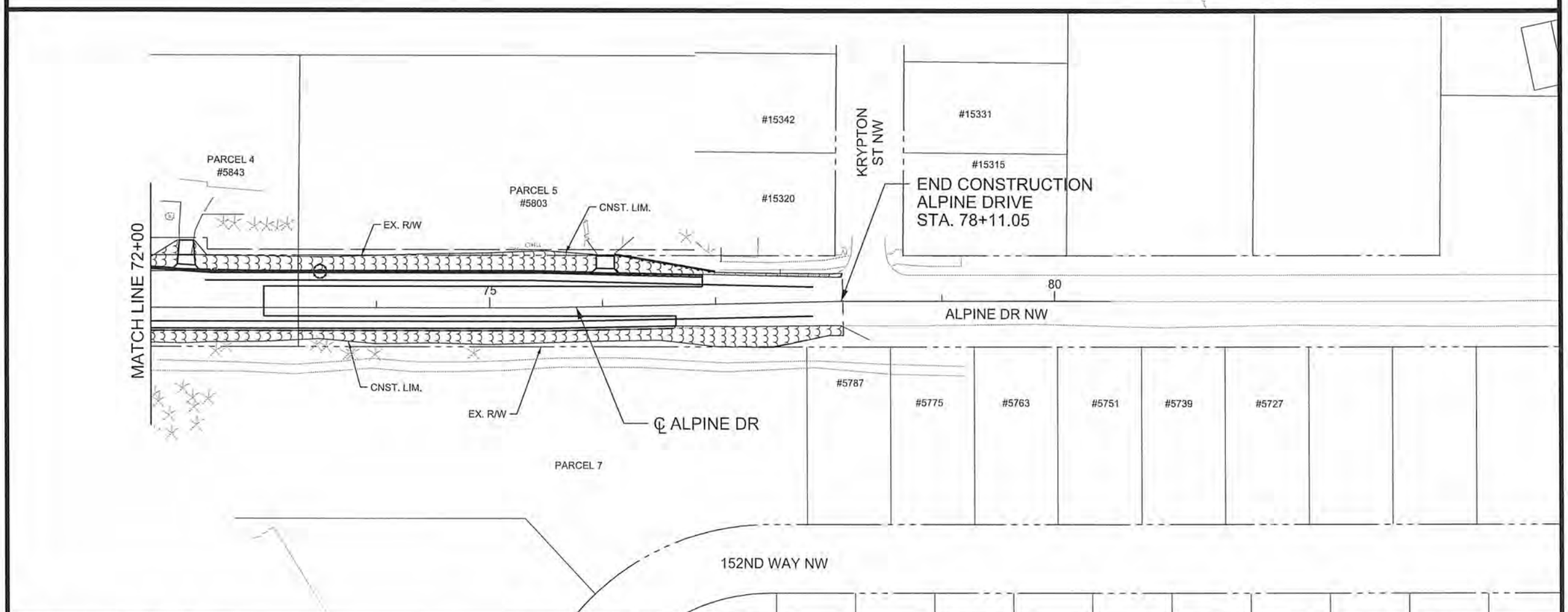
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

EROSION CONTROL PLAN
STA 34+00.00 TO 45+51.62
Sheet 81 of 148 Sheets





LEGEND

- PROPOSED CATCH BASIN
- PROPOSED APRON
- INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE CULVERT
- SILT FENCE TYPE MACHINE SLICED
- RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- SOD APRON INLET OR OUTLET
- INLET PROTECTION
- TEMPORARY DITCH CHECK TYPE 2
- WETLAND BOUNDARIES
- SURFACE FLOW ARROW
- EROSION CONTROL BLANKET CATEGORY 3

NOTES

1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.

2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR.

3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR $\frac{1}{3}$ OF SILT FENCE HEIGHT.

4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.

5.) IF SILT DEPOSITS IN THE ANOKA COUNTY RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.

6.) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 14 DAYS OF THE COMPLETION OF GRADING.

N

SCALE 0 IN 100 FEET

3 OF 3

NO	DATE	BY	CKD	APPR.	REVISION

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

SP 199-106-011

CP 14-20

EROSION CONTROL PLAN

STA 62+64.80 TO 78+11.05

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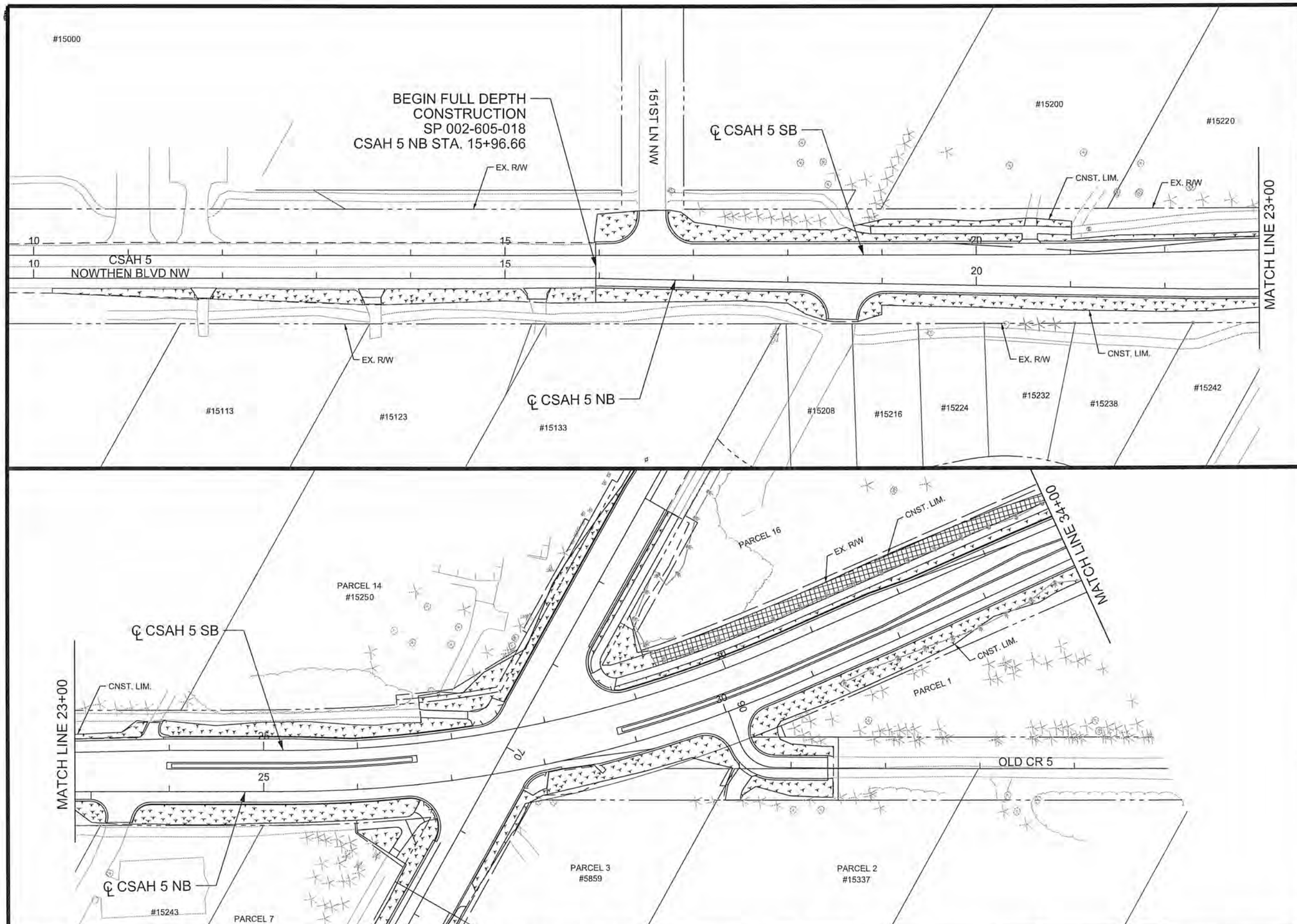

LEGEND

- WETLAND BOUNDARIES
- SEEDING MIX 325 WITH EROSION CONTROL BLANKET
- SEEDING MIX 350 WITH EROSION CONTROL BLANKET

NOTES

1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.

2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR.

3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR $\frac{1}{3}$ OF SILT FENCE HEIGHT.

4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.

5.) IF SILT DEPOSITS IN THE ANOKA COUNTY RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.

6.) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 14 DAYS OF THE COMPLETION OF GRADING.

0 100
SCALE IN FEET

1 OF 3

NO	DATE	BY	CKD	APPR	REVISION

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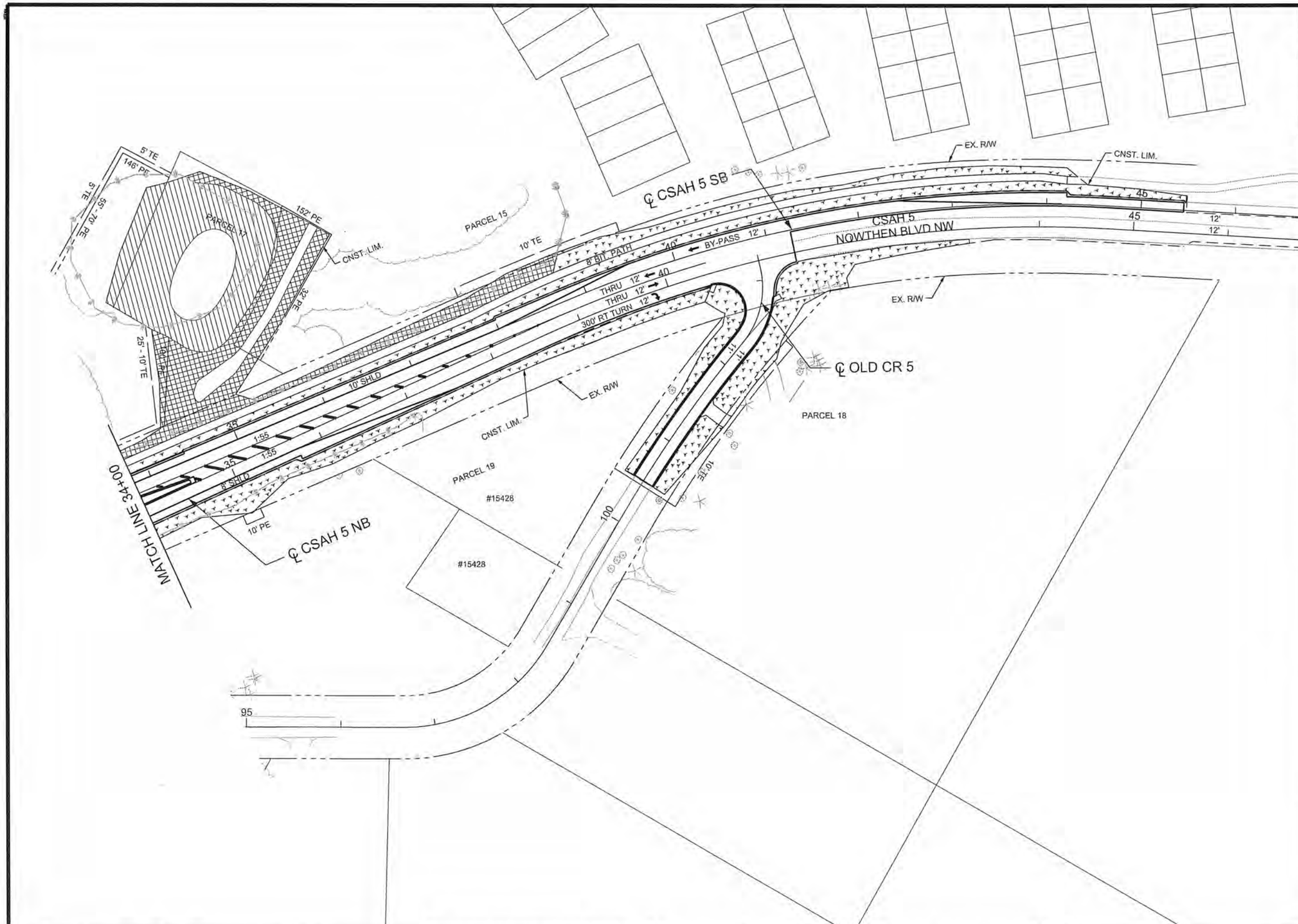
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

TURF ESTABLISHMENT PLAN
STA 12+45.23 TO 34+00.00
Sheet 83 of 148 Sheets



LEGEND

- WETLAND BOUNDARIES
- SEEDING MIX 325 WITH EROSION CONTROL BLANKET
- SEEDING MIX 330 WITH EROSION CONTROL BLANKET
- SEEDING MIX 350 WITH EROSION CONTROL BLANKET

NOTES

1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.

2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR.

3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR $\frac{1}{3}$ OF SILT FENCE HEIGHT.

4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.

5.) IF SILT DEPOSITS IN THE ANOKA COUNTY RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.

6.) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 14 DAYS OF THE COMPLETION OF GRADING.

0 100
SCALE IN FEET

2 OF 3

NO	DATE	BY	CKD	APPR	REVISION

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ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

TURF ESTABLISHMENT PLAN
STA 34+00.00 TO 45+51.62
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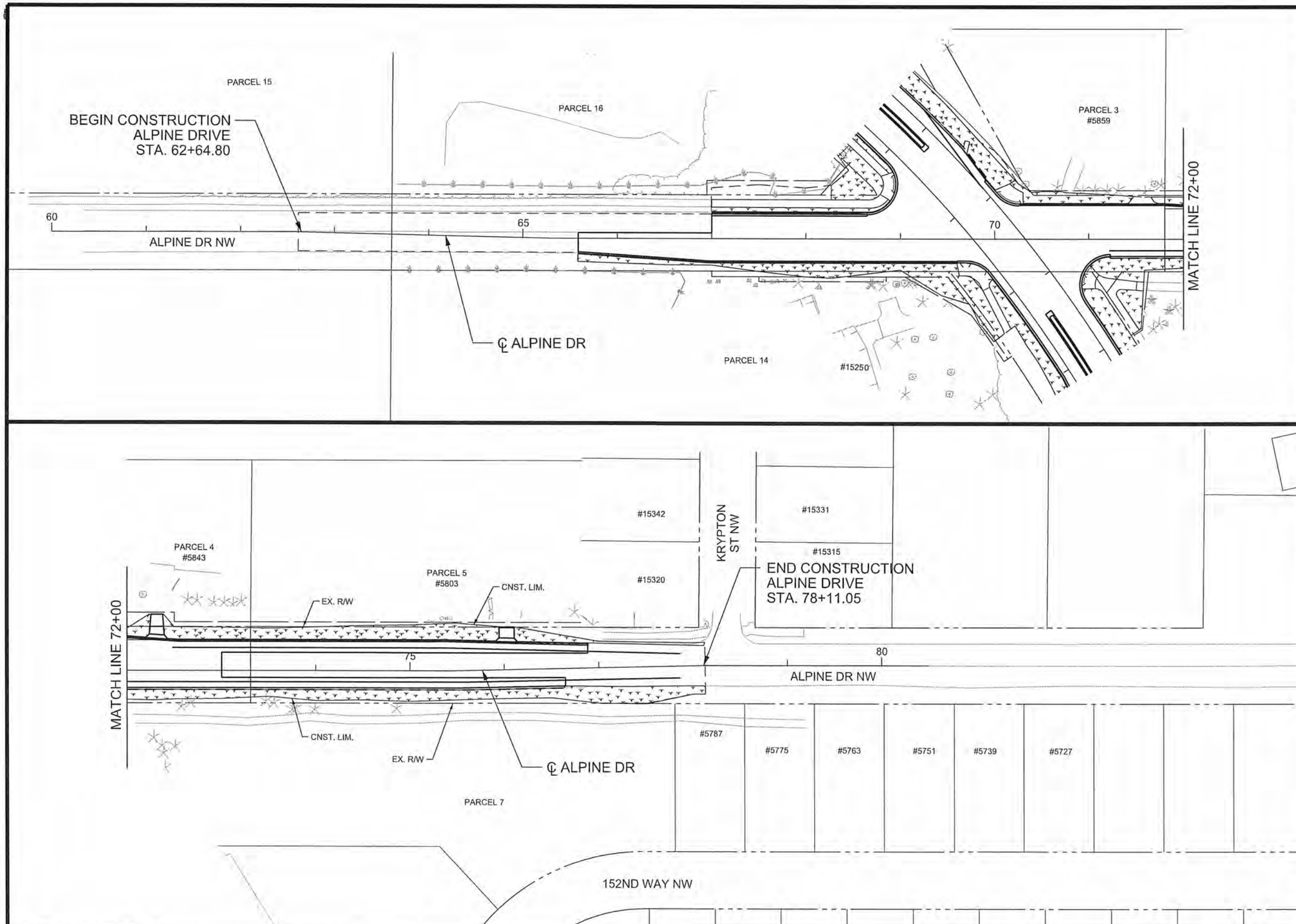


LEGEND

WETLAND BOUNDARIES

SEEDING MIX 350 WITH EROSION CONTROL BLANKET

NOTES

1.) THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.

2.) SILT FENCE SHALL FOLLOW AS CLOSE AS POSSIBLE A SINGLE CONTOUR.

3.) SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR $\frac{1}{3}$ OF SILT FENCE HEIGHT.

4.) WHEN SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.

5.) IF SILT DEPOSITS IN THE ANOKA COUNTY RIGHT-OF-WAY, THE CONTRACTOR IS RESPONSIBLE FOR ITS REMOVAL.

6.) ALL GRADED AREAS ARE TO BE REVEGETATED WITHIN 14 DAYS OF THE COMPLETION OF GRADING.

N

0 100
SCALE IN FEET

3 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_TE3.dgn 05/30/2014 2:01:45 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.

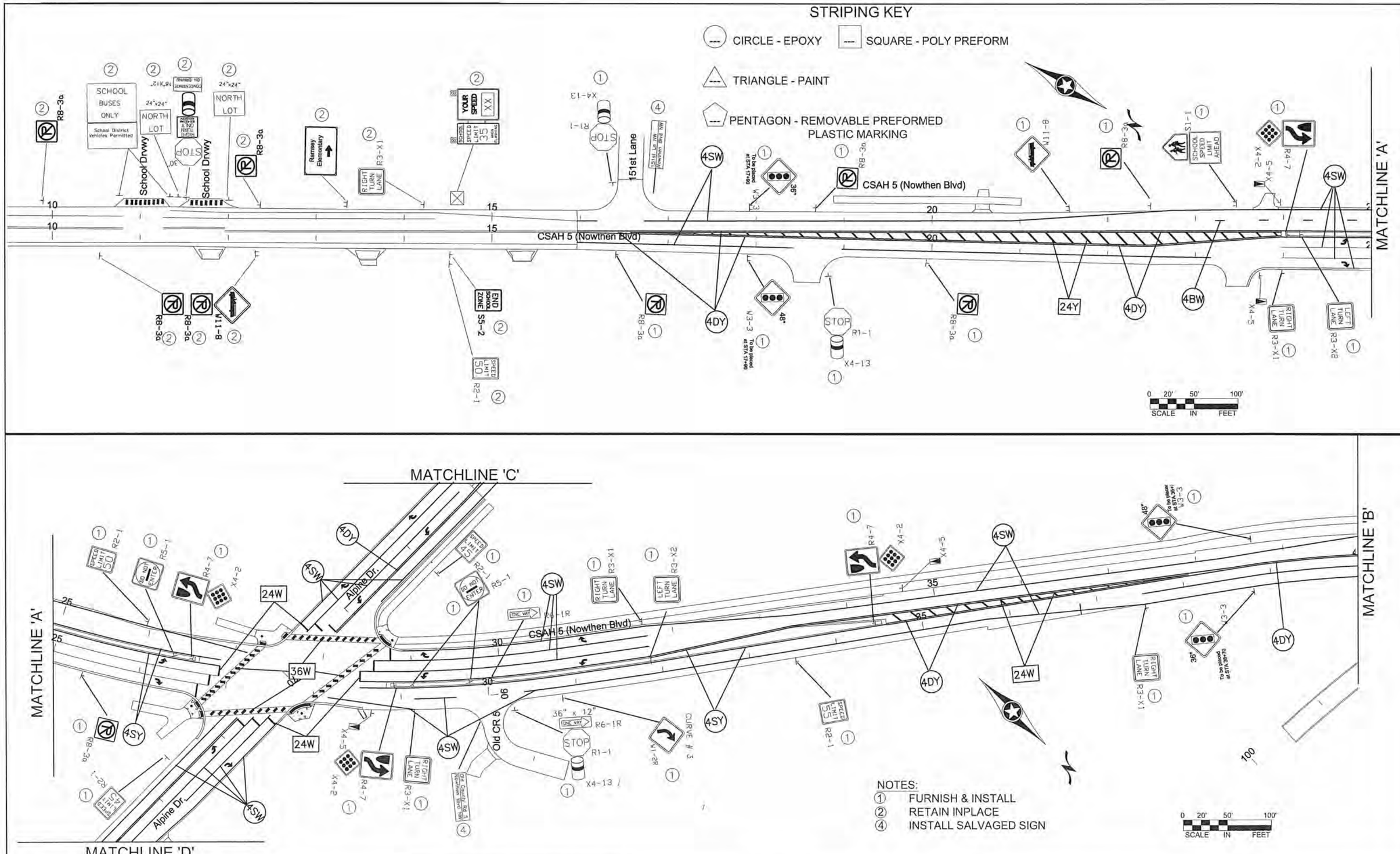
PRINT NAME: CURT KOBILARCSIK
SIGNATURE: [signature]
DATE: 6-3-14 LICENSE NO. 24756

DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

TURF ESTABLISHMENT PLAN
STA 62+64.80 TO 78+11.05
Sheet 85 of 148 Sheets



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SIGNATURE: Curt Kobilarcsik
DATE: 6-3-14 REG. NO. 24756

DRAWN BY TMV DATE 4/24/14
DESIGN BY RB DATE 2/24/14
CHECKED BY RB DATE 2/24/14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-21

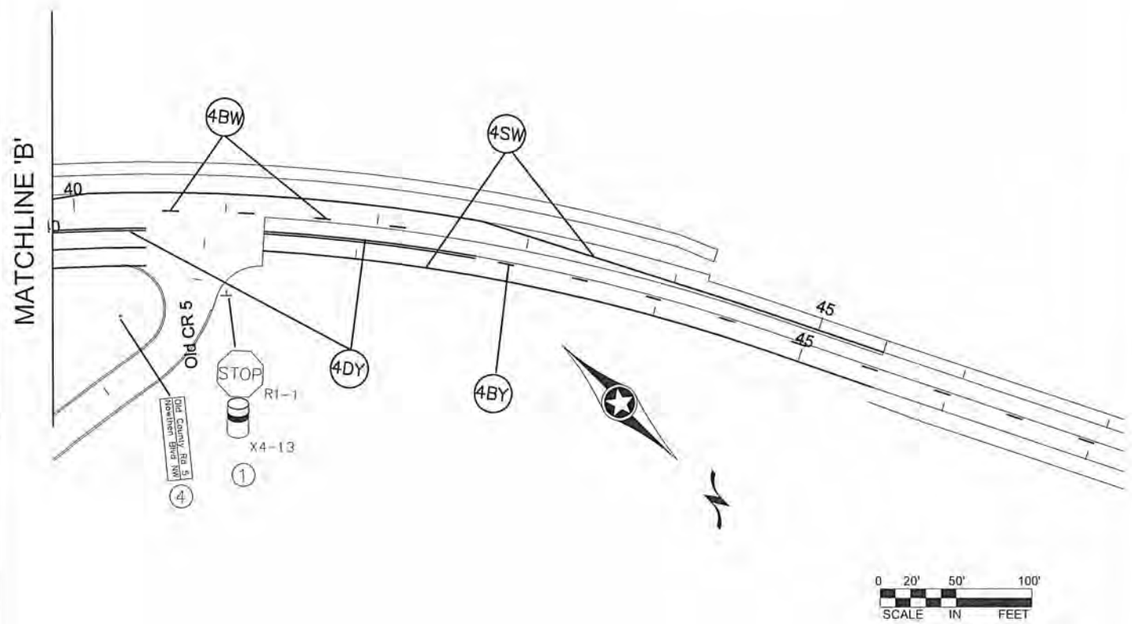
PERMANENT SIGNING & STRIPING PLAN

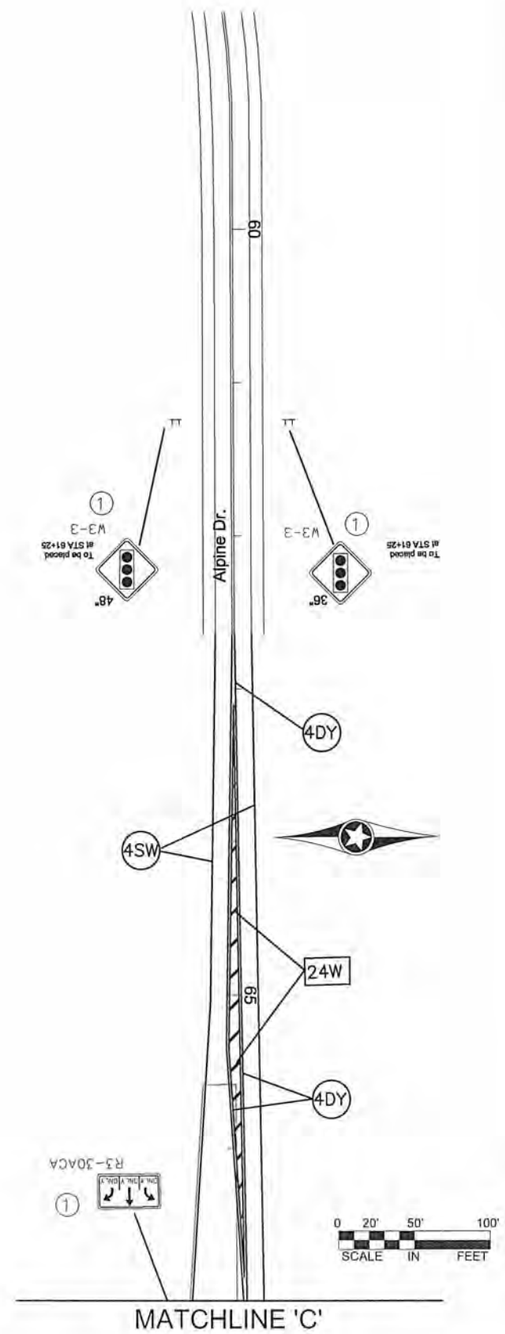
Sheet 86 of 148 Sheets

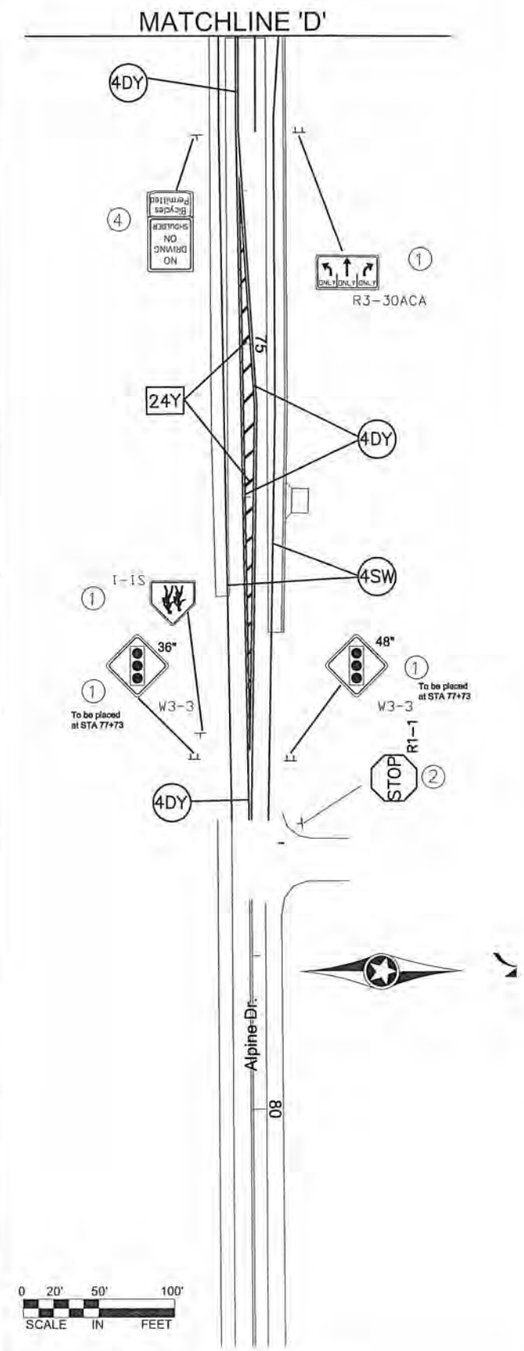
NOTES:
① FURNISH & INSTALL
② RETAIN INPLACE
④ INSTALL SALVAGED SIGN

STRIPING KEY

CIRCLE - EPOXY
SQUARE - POLY PREFORM
TRIANGLE - PAINT
PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING







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ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-21

PERMANENT SIGNING & STRIPING PLAN

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SIGN PANELS TYPE C							
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	SQ FT PANEL AREA	SQ FT TOTAL AREA	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT
R6-1R	36" x 12"	ONE WAY	1	3.00	3.00		
R1-1	30" x 30"	STOP	4	6.25	25.00	1	7.0'
X4-13	4" diameter x 15"		4	1.31	5.24		
R2-1	24" x 30"	SPEED LIMIT 45	2	5.00	10.00	1	7.0'
R2-1	24" x 30"	SPEED LIMIT 50	1	5.00	5.00	1	7.0'
R2-1	24" x 30"	SPEED LIMIT 55	1	5.00	5.00	1	7.0'
R3-X1	30" x 30"	RIGHT TURN LANE	4	6.25	25.00	1	7.0'
R3-X2	30" x 30"	LEFT TURN LANE	2	6.25	12.50	1	7.0'
R4-7	24" x 30"		4	5.00	20.00	1	7.0'
X4-2	18" x 18"		4	2.25	9.00		
R5-1	30" x 30"	DO NOT ENTER	3	6.25	18.75	1	7.0'
R6-1R	48" x 18"	ONE WAY	6	6.00	36.00	2	7.0'
R8-3a	24" x 24"		5	4.00	20.00	1	7.0'
W3-3	36" X 36"		4	9.00	36.00	2	7.0'
W3-3	48" x 48"		4	9.00	36.00	2	7.0'
S1-1	36" x 36"		2	9.00	18.00	2	7.0'
S4-5	36" x 36"	SCHOOL SPEED LIMIT AHEAD	1	9.00	9.00		
R6-1R	36" x 36"		1	9.00	9.00	1	7.0'

SIGN PANELS TYPE C							
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	SQ FT PANEL AREA	SQ FT TOTAL AREA	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT
R1-2R	36" x 36"		1	9.00	9.00	1	7.0'
R3-30ACA	54" x 30"	ONLY ONLY ONLY	2	11.25	22.50	1	7.0'
X4-5	6" x 12"		2	.5	1.0	1	4.0'
X4-5	6" x 12"		2	.5	1.0	1	4.0'
Projects Totals			60		335.99		

S PERMANENT PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
PAVEMENT MESSAGE (RT ARROW) PREFORMED THERMOPLASTIC	EACH	7
PAVEMENT MESSAGE (LT ARROW) PREFORMED THERMOPLASTIC	EACH	8
24" SOLID LINE YELLOW - PREFORMED THERMOPLASTIC	LIN FT	676
24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC	LIN FT	146
3' x 6' CROSSWALK MARKING - PREFORMED THERMOPLASTIC	SQ FT	792
4" SOLID LINE WHITE - EPOXY	LIN FT	10882
4" SOLID LINE YELLOW - EPOXY	LIN FT	2710
4" BROKEN LINE WHITE - EPOXY (10' STRIPE, 40' SKIP)	LIN FT	60
4" DOUBLE SOLID LINE YELLOW - EPOXY	LIN FT	6382
4" BROKEN LINE YELLOW - EPOXY (10' STRIPE, 40' SKIP)	LIN FT	190.00

NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING PART VI, FIELD MANUAL DATED JANUARY 2014.
- LOCATIONS OF ALL PERMANENT STRIPING AND PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ALL MAINLINE PERMANENT STRIPING AND PAVEMENT MARKINGS 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.

NO	DATE	BY	CKD	APPR	REVISION

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CHECKED BY RB DATE 4/24/14

ANOKA COUNTY

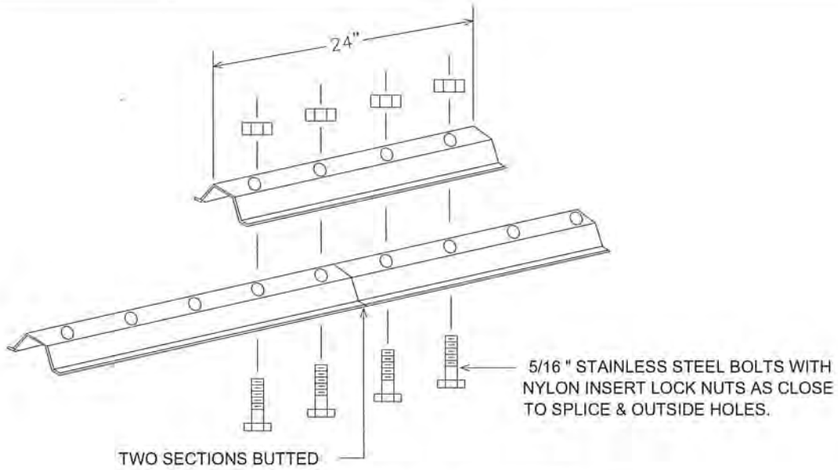
ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018

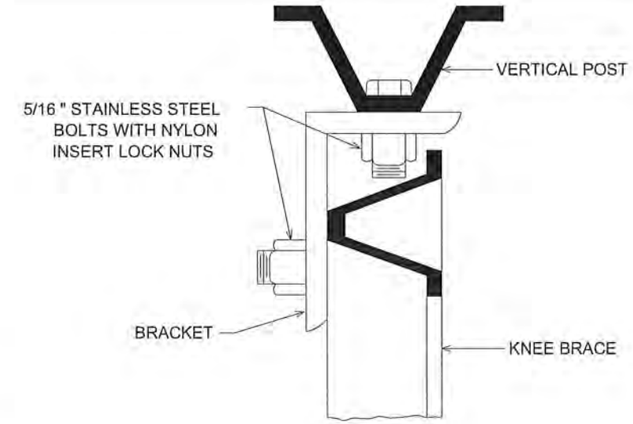
SP 199-106-011

CP 14-21

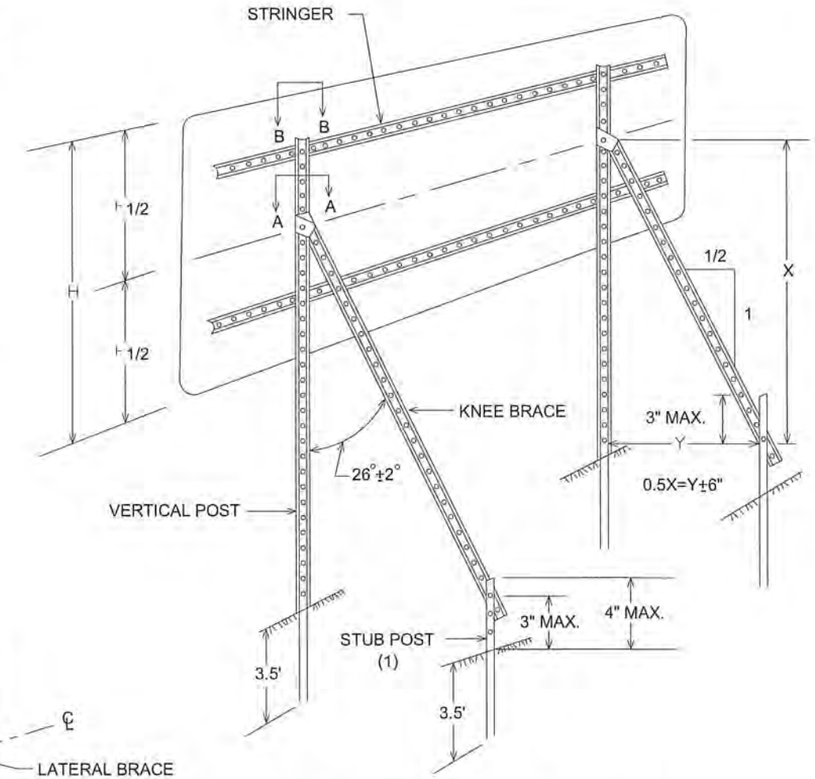
PERMANENT SIGN TABULATION



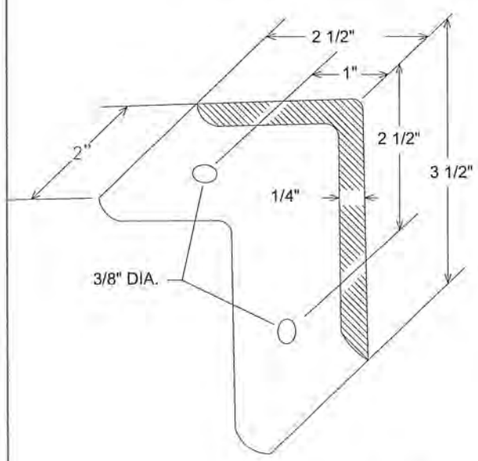
LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

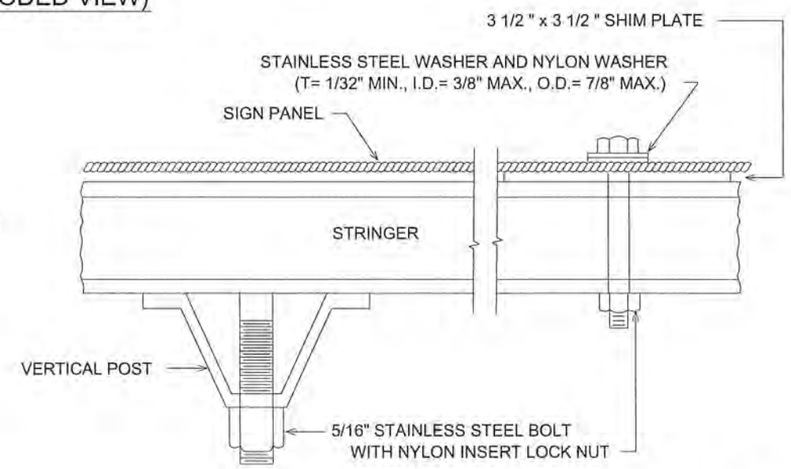


TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS

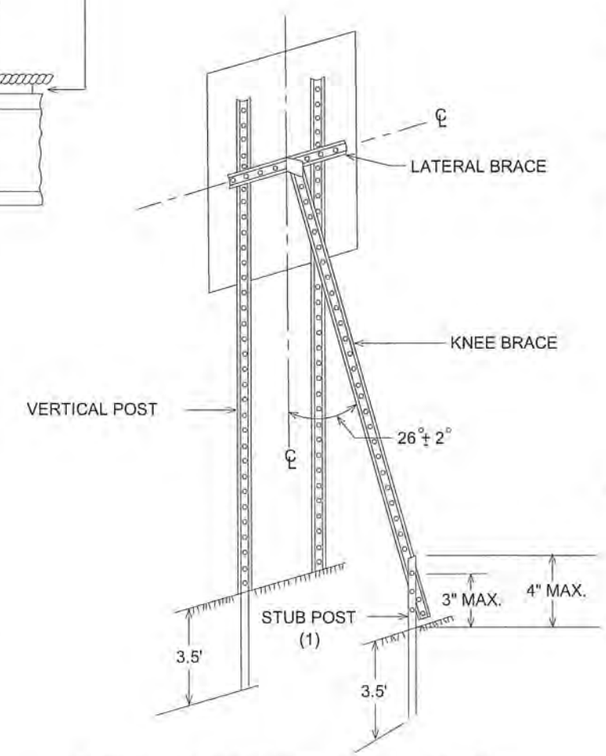


A-FRAME BRACKET

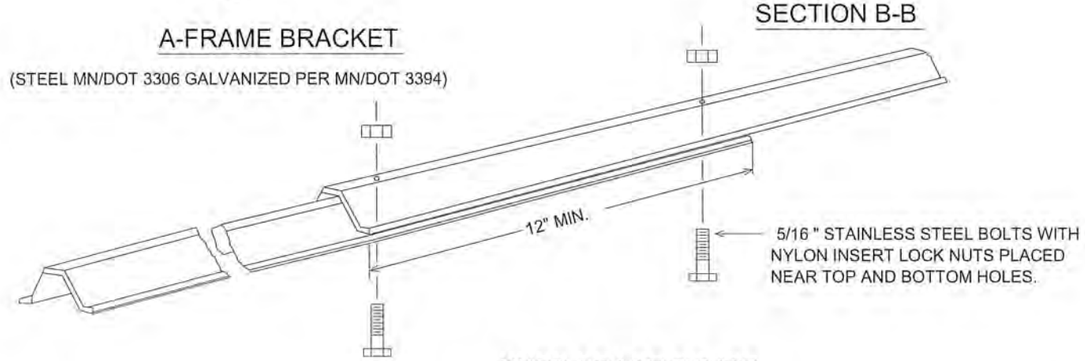
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



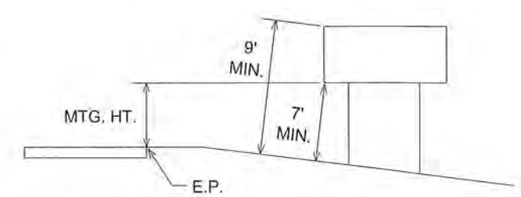
SECTION B-B



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



KNEE BRACE SPLICE



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:\02-605-18\Base\TRAFFIC\Sign&Stripe_Details.dwg

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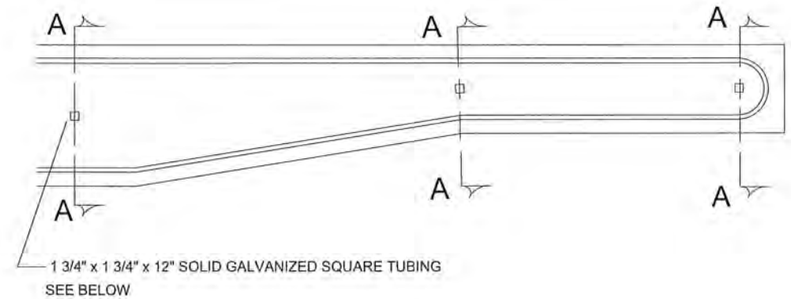
ANOKA COUNTY HIGHWAY DEPT.

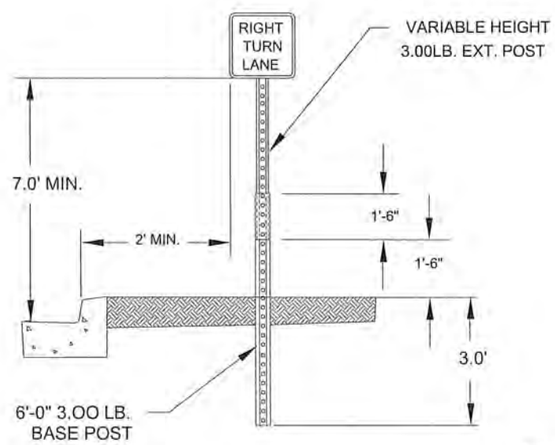
SP 002-605-018
SP 199-106-011
CP 14-21

SIGNING & STRIPING DETAILS

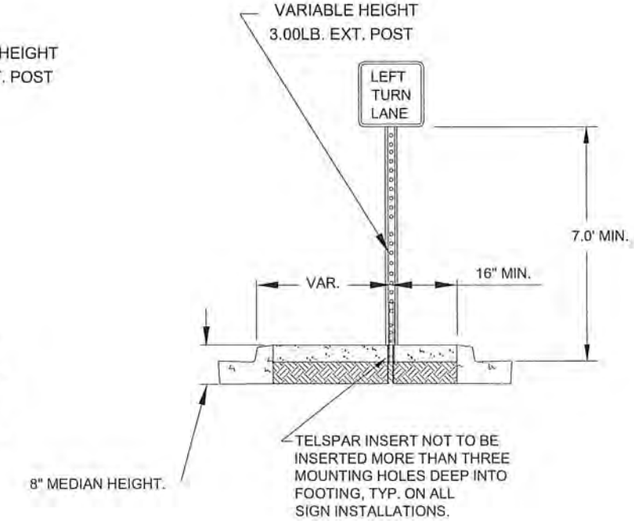
Sheet 89 of 148 Sheets

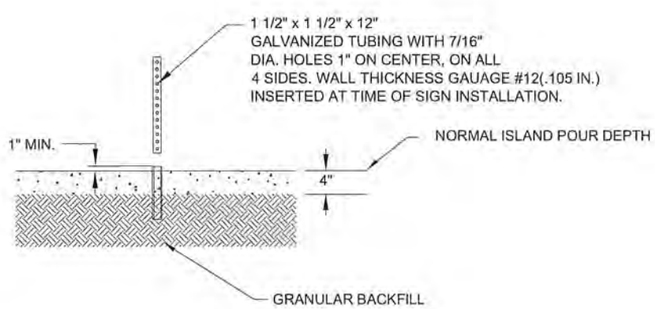


GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL





SECTION A - A

NO	DATE	BY	CKD	APPR	REVISION

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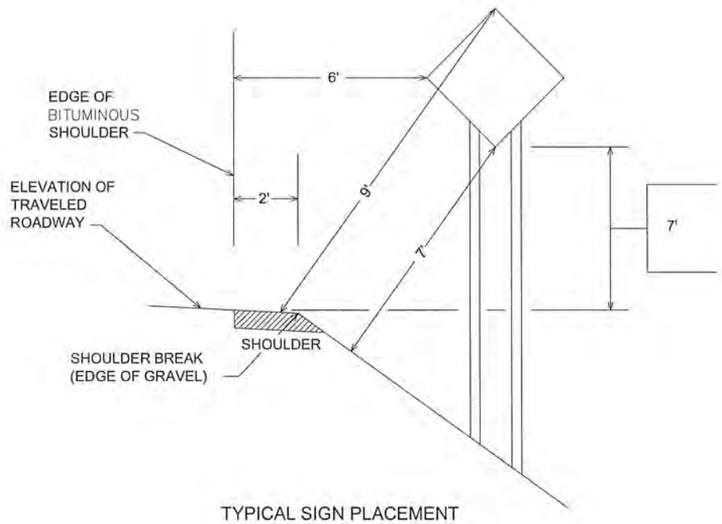
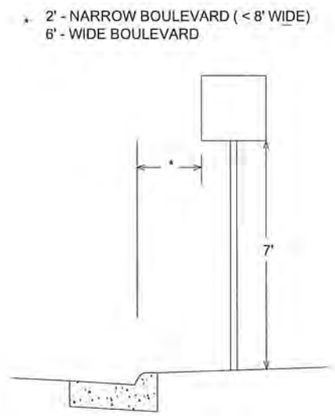
SIGNING & STRIPING DETAILS

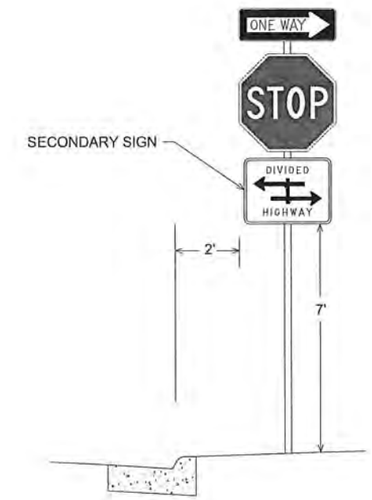
RURAL



TYPICAL SIGN PLACEMENT

URBAN





TYPICAL SIGN PLACEMENT

NOTE:

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

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SIGNING & STRIPING DETAILS

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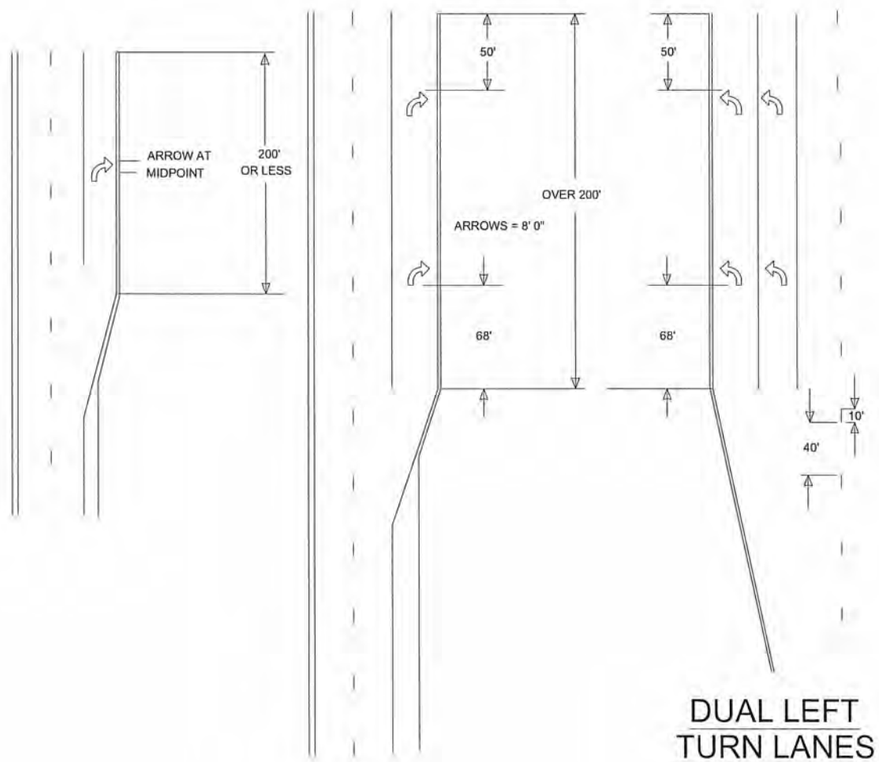
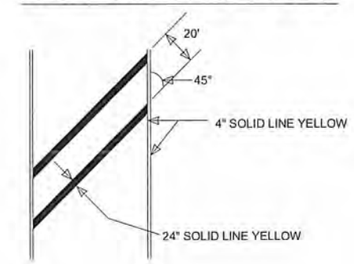
TYPICAL MESSAGE PLACEMENT FOR TURN LANES



DUAL LEFT TURN LANES

TYPICAL MARKINGS FOR LEFT TURN ISLANDS



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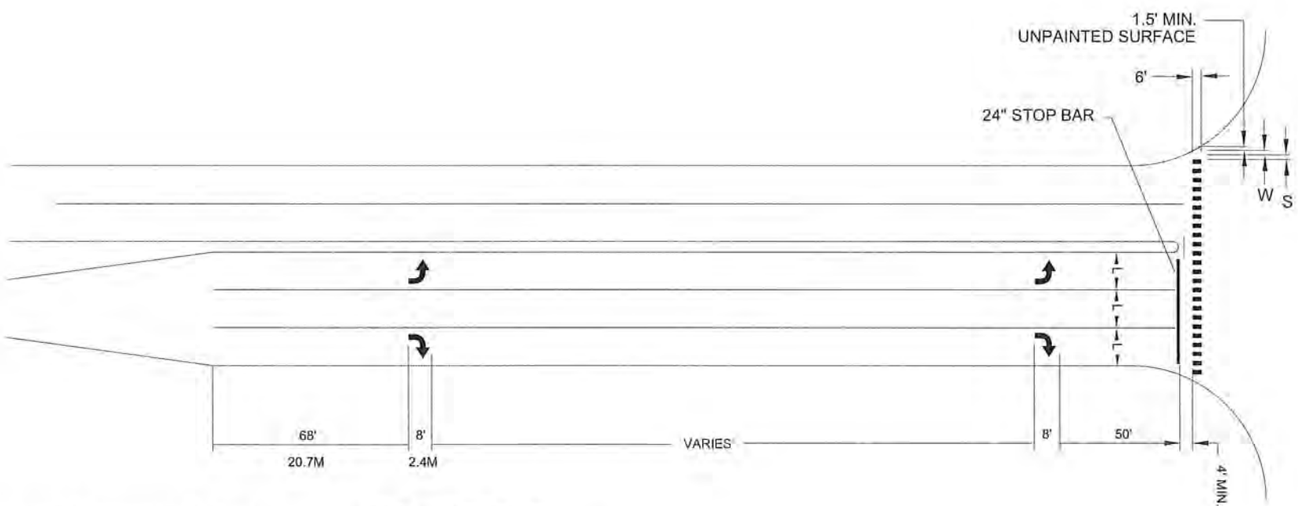
CP 14-21

SIGNING & STRIPING DETAILS

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 VERFIED 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.

NOTES & GUIDELINES

GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR 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 TREATMENTS AND/OR LAITANCE. ON LOW SPEED (SPEED LIMIT 35 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 BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

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

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

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

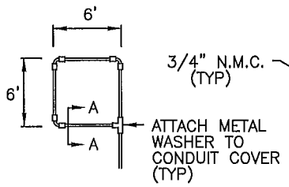
PAINT:

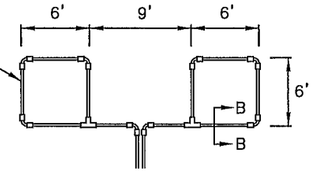
AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.

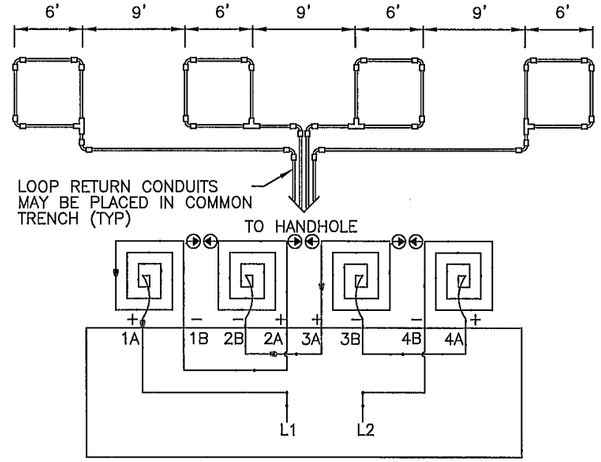
GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

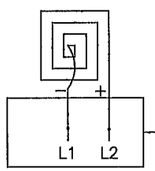
EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50°F OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OF DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL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

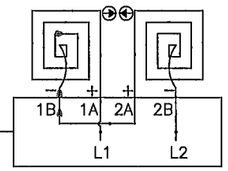








HANDHOLE



LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

L1 TO 1A
1B TO 2A
2B TO L2

LOOP DETECTOR DETAIL 'A'

(LOOP PHASING FOR SINGLE CONNECTION)

LOOP DETECTOR DETAIL 'B'

(LOOP PHASING FOR SERIES CONNECTION)

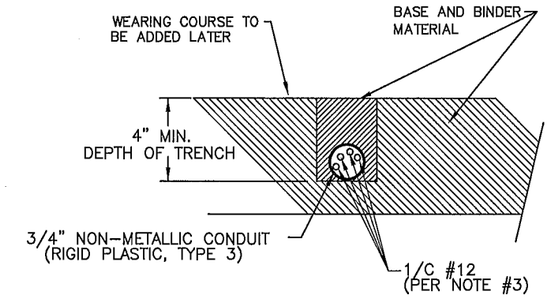
LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

L1 TO 1A
1B TO 2A
2B TO 3A
3B TO 4A
4B TO L2

SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE. ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE (1A, 1B, ECT)

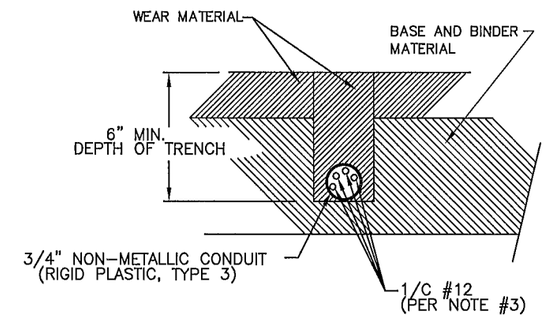
LOOP DETECTOR DETAIL 'C'

(LOOP PHASING FOR SERIES CONNECTION)



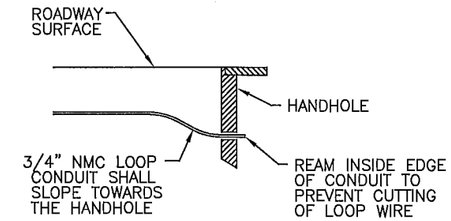
SECTION A–A

DETAIL FOR LOOP INSTALLATION IN NEW ROADWAY



SECTION B–B

DETAIL FOR LOOP INSTALLATION IN EXISTING ROADWAY



DRAINAGE DETAIL

LOOP DETECTOR WIRING

1) ALL CORNERS SHALL BE 90° CONDUIT BENDS.
2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
3) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
6) LOOPS 6' x 6' THRU 6' x 14' SHALL HAVE (4) TURNS.
7) LOOPS 6' x 15' AND LARGER SHALL HAVE (2) TURNS.

LEGEND OF SYMBOLS

- CONTROLLER AND SERVICE EQUIP. NO's
- SIGNAL BASE NO.
- SIGNAL FACE NO.
- LUMINAIRE NO.
- CONTROLLER AND CABINET
- CONTROLLER AND CABINET – IN PLACE
- HANDHOLE
- HANDHOLE – IN PLACE
- RIGID STEEL CONDUIT (RSC)
- RIGID STEEL CONDUIT (RSC) – IN PLACE
- SIGNAL FACE WITH BACKGROUND SHIELD
- SIGNAL FACE W/O BACKGROUND SHIELD
- SIGNAL FACE – IN PLACE
- PEDESTRIAN INDICATORS
- PEDESTRIAN INDICATORS – IN PLACE
- PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE
- PEDESTRIAN PUSH BUTTON STATION
- TRAFFIC SIGNAL PEDESTAL
- TRAFFIC SIGNAL PEDESTAL – INPLACE
- TRAFFIC SIGNAL POLE AND MAST ARM
- TRAFFIC SIGNAL POLE AND MAST ARM – IN PLACE
- STREET LIGHT POLE AND LUMINAIRE
- STREET LIGHT POLE AND LUMINAIRE – IN PLACE
- MAST ARM AND LUMINAIRE
- MAST ARM AND LUMINAIRE – INPLACE
- WOOD POLE
- WOOD POLE – IN PLACE
- SOURCE OF POWER
- RAILROAD SIGNAL – IN PLACE
- RIGHT OF WAY LINE
- CENTERLINE
- EDGE OF ROADWAY
- SHOULDERLINE
- CURB LINE
- STOP BAR
- EMERGENCY VEHICLE PREEMPTION DETECTOR

ABBREVIATIONS

3–1(EG)	SIGNAL HEAD PHASE "3" – NO "1"	P2–1(EG)	PED INDICATION PHASE "2" – NO. "1"
BR. GR.	BARE GROUND	PB	PUSH BUTTON
CH. SW.	CHECK SWITCH	PB2–1(EG)	PUSH BUTTON PHASE "2" – NO. "1"
CLR	CLEAR	PEC	PHOTOELECTRIC CELL
D2–1(EG)	DETECTOR PHASE "2" – NO. "1"	PED	PEDESTRIAN
DWK	DON'T WALK	R	RED
EQG	EQUIPMENT GROUND	R&S	REMOVE AND SALVAGE
EVP	EMERGENCY VEHICLE PRE–EMPTION	RLTA	RED LEFT TURN ARROW
F&I	FURNISH AND INSTALL	RRTA	RED RIGHT TURN ARROW
FL	FLASH/FLASHING	RSC	RIGID STEEL CONDUIT
G	GREEN	SOP	SOURCE OF POWER
GLTA	GREEN LEFT TURN ARROW	SPR	SPARE
GRN	GREEN	ST. LHT	STREET LIGHT
GR. R	GROUND ROD	STA	STATION
GRTA	GREEN RIGHT TURN ARROW	SW	SWITCH
GTHA	GREEN THRU ARROW	SWD	SWITCHED
HH	HANDHOLE	S&R	SALVAGE AND REINSTALL
HPS	HIGH PRESSURE SODIUM	TDW	TELEPHONE DROP WIRE
JB	JUNCTION BOX	WLK	WALK
LUM	LUMINAIRE	YEL	YELLOW
NEU	NEUTRAL	YLTA	YELLOW LEFT TURN ARROW
NMC	NONMETALLIC CONDUIT	YRTA	YELLOW RIGHT TURN ARROW
		YTHA	YELLOW THRU ARROW

CONDUCTOR COLOR CODE

R	RED
O	ORANGE
BL	BLUE
WH	WHITE
R/BLK	RED WITH BLACK TRACER
O/BLK	ORANGE WITH BLACK TRACER
BL/BLK	BLUE WITH BLACK TRACER
WH/BLK	WHITE WITH BLACK TRACER
BLK	BLACK
BLK/WH	BLACK WITH WHITE TRACER
G/BLK	GREEN WITH BLACK TRACER
G	GREEN

T — TRAFFIC SIGNAL TABULATION

ITEM NO	ITEM	UNIT	TOTAL ESTIMATED QUANTITY
2565	TRAFFIC CONTROL SIGNAL SYSTEM	SIG. SYS.	1
2565	EMERGENCY VEHICLE PREEMPTION SYSTEM	LUMP SUM	1
2565	SIGNAL SERVICE CABINET	EACH	1

TRAFFIC SIGNAL STANDARD PLATES

THESE TRAFFIC SIGNAL STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:

PLATE NO.	DESCRIPTION
* 8111 E	TRAFFIC SIGNAL BRACKETING (PEDESTAL MOUNTED) (3 SHEETS)
* 8112 G	PEDESTAL FOUNDATION (TRAFFIC CONTROL SIGNALS)
* 8114 A	PVC HANDHOLE/PULLBOX (NO VEHICLE LOAD) (2 SHEETS)
* 8118 D	SERVICE EQUIPMENT & POLE–TRAFFIC CONTROL SIGNALS
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
* 8121 G	TRANSFORMER BASE & POLE BASE PLATE (2 SHEETS)
* 8122 F	PEDESTAL & PEDESTAL BASE (FOR TRAFFIC CONTROL SIGNALS SUPPORT)
* 8123 G	POLE & MAST ARM–LUMINAIRES & TRAFFIC LIGHTS ASSEMBLY (2 SHEETS)
* 8126 K	POLE FOUNDATION (PA90 & PA100)
* 8129 A	SHIM AND WASHER (TRAFFIC CONTROL SIGNALS AND ROADWAY LIGHTING)

* – APPLIES TO THIS PROJECT

S.P. 002–605–018
S.P. 199–106–011
CITY PROJ. 14–20

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG
DESIGN TEAM

NO.	BY	DATE	REVISIONS

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.

Date: April 24, 2014 Name: John M. Gray, PE Lic. No. 22457

SEH — PHONE: (651) 490–2000, 3535 VADNAIS CENTER DR., ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
CITY OF RAMSEY

TRAFFIC SIGNAL SYSTEM DETAILS AND STANDARD PLATES CSAH 5 (NOWTHEN BLVD NW) AT ALPINE DRIVE NW

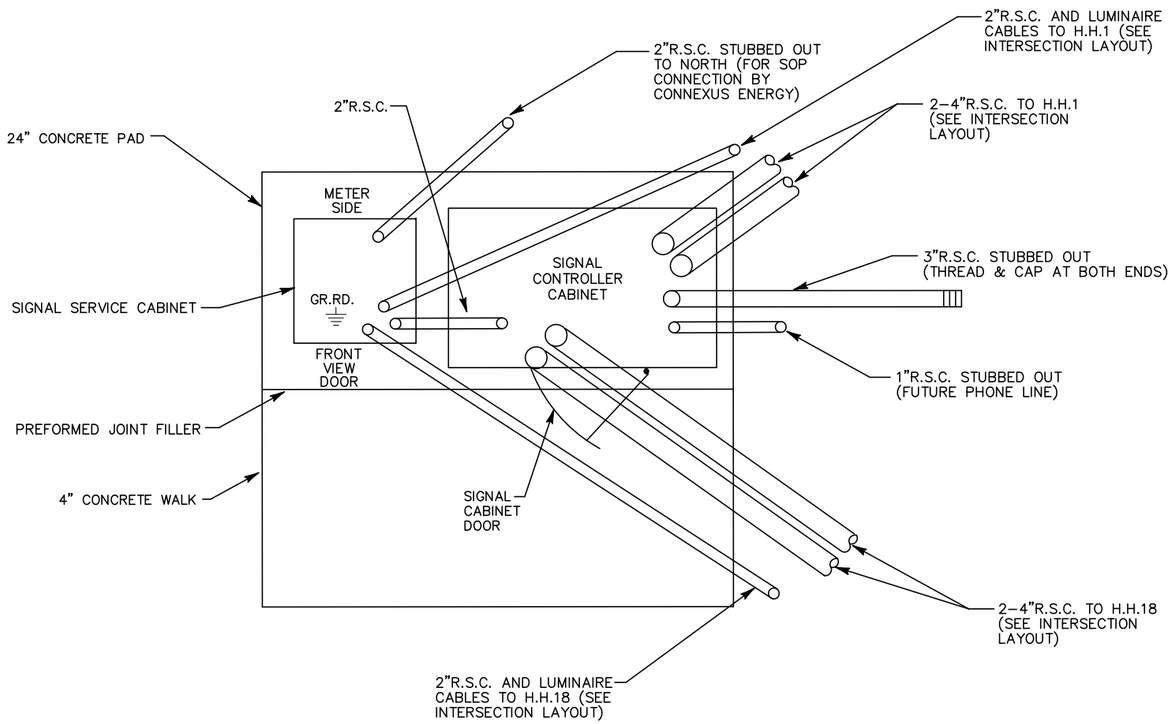
FILE NO. ANOKC 124471
SHEET SG1 OF S12

TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

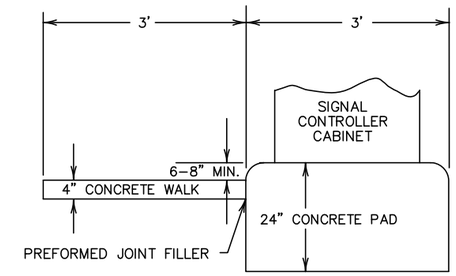
SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

PLAN VIEW

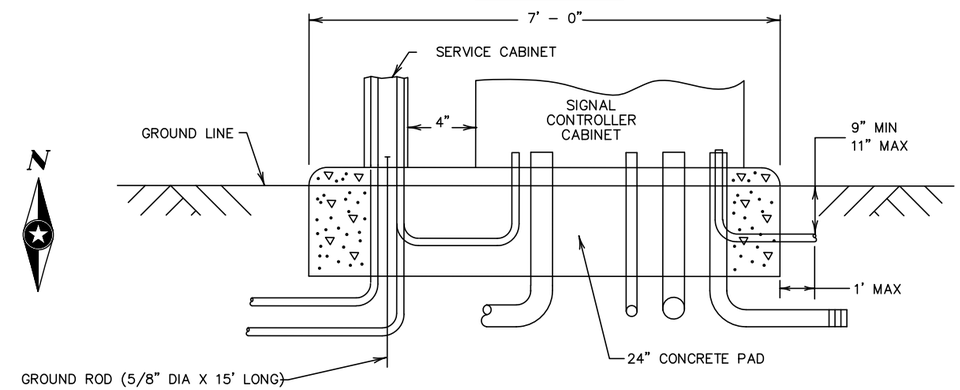
CSAH 5 (NOWTHEN BLVD NW) AT ALPINE DRIVE NW



SIDE VIEW



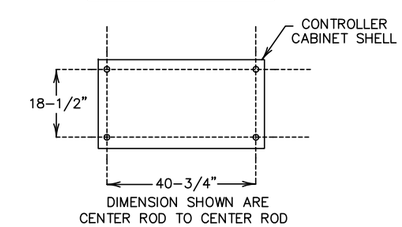
FRONT VIEW



NOTES:

1. THE ANCHOR RODS, NUTS AND WASHERS FOR THE COUNTY FURNISHED CONTROLLER AND CABINET SHALL BE FURNISHED BY THE COUNTY AND INSTALLED BY THE CONTRACTOR.
2. THE UPPER PART OF THE NEW EQUIPMENT PAD SHALL BE BEVELLED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER.
3. THE TOP OF THE CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED).
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 INSTALLED BELOW THE CONCRETE.
7. THE EXACT LOCATION OF CONDUITS WITHIN THE PAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
8. ANCHOR RODS SHALL PROJECT A MINIMUM OF 3" ABOVE THE CONCRETE BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
9. CONTRACTOR SHALL PROVIDE MINIMUM 4-INCH CLEARANCE BETWEEN CONTROLLER AND SERVICE CABINETS ON THE EQUIPMENT PAD FOUNDATION AS SHOWN.

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



S.P. 002-605-018
S.P. 199-106-011
CITY PROJ. 14-20

DRAWN BY: JMG	1	JMG	09/10/14	RELOCATED EQUIPMENT PAD AND SIGNAL CABINETS TO NW QUADRANT	
DESIGNER: JMG					
CHECKED BY: JMG					
DESIGN TEAM	NO.	BY	DATE	REVISIONS	

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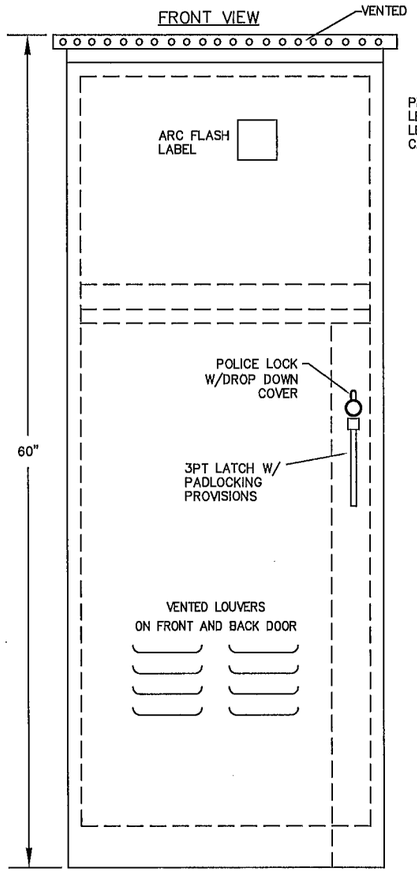
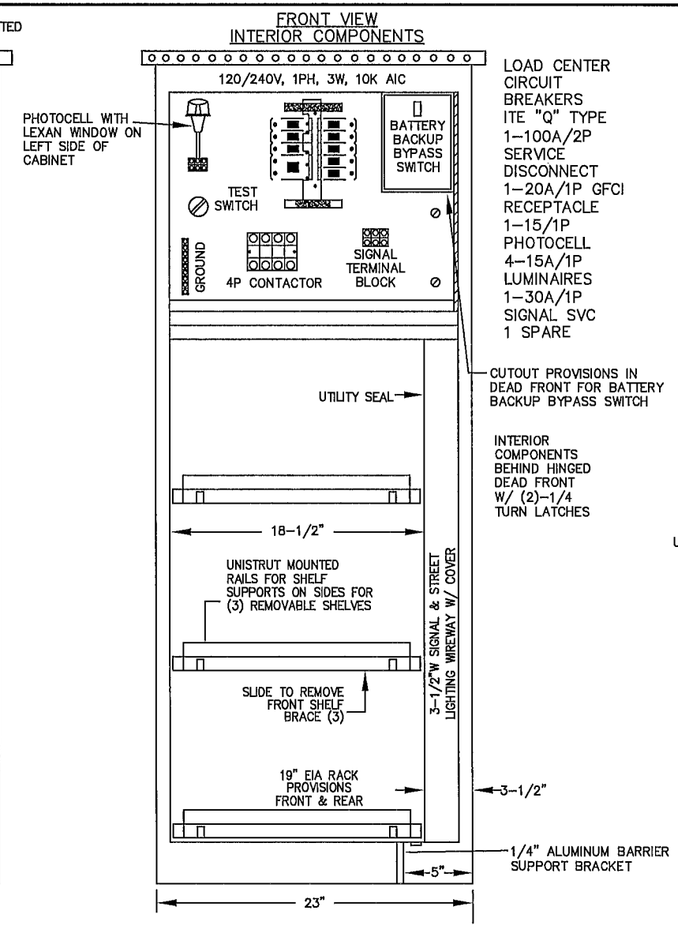
SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110

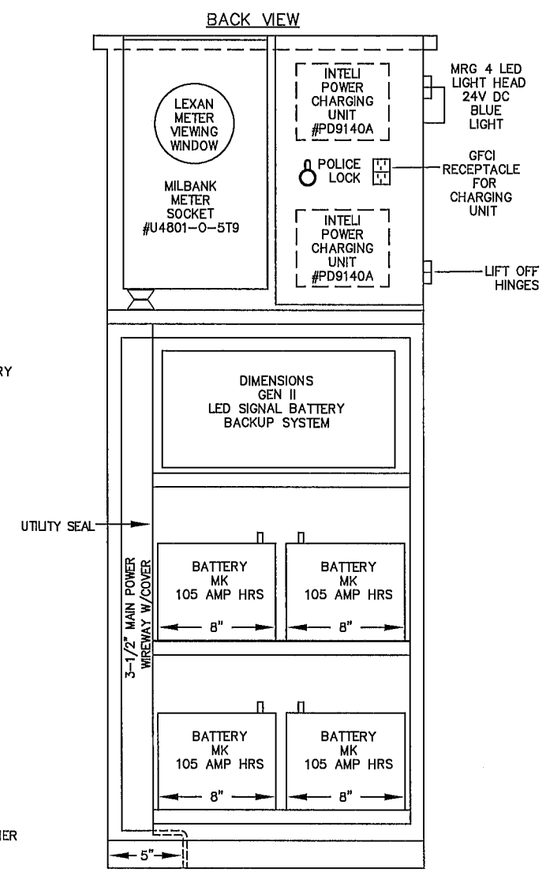
ANOKA COUNTY, MINNESOTA
CITY OF RAMSEY

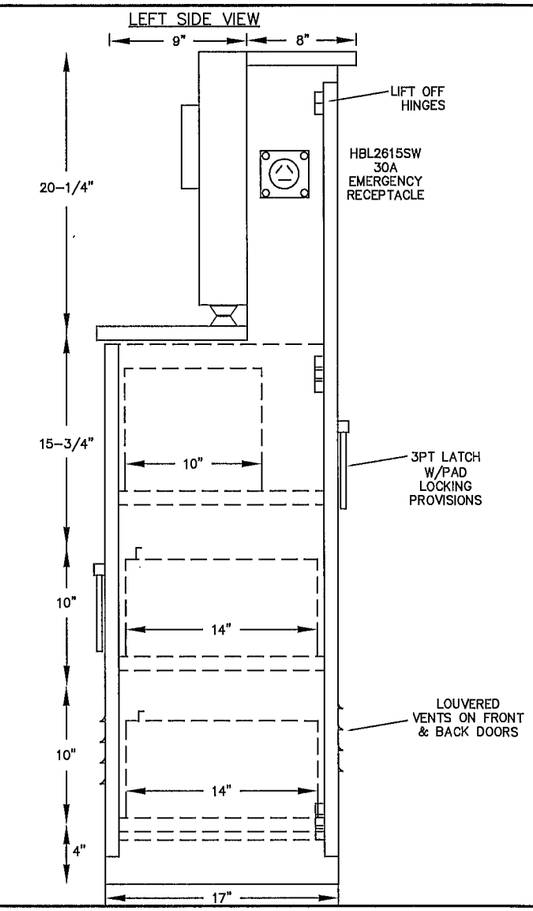
TRAFFIC SIGNAL SYSTEM
EQUIPMENT PAD DETAILS
CSAH 5 (NOWTHEN BLVD NW)
AT ALPINE DRIVE NW

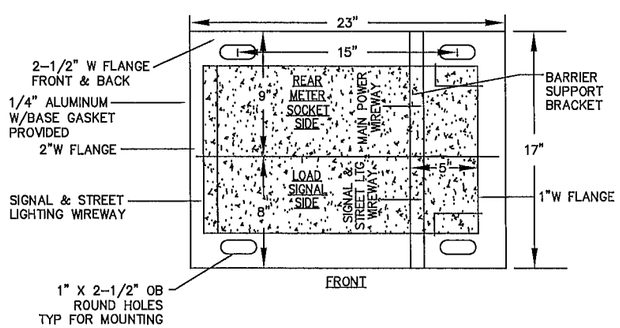
FILE NO. ANOKC 124471
SHEET SG2 OF S12







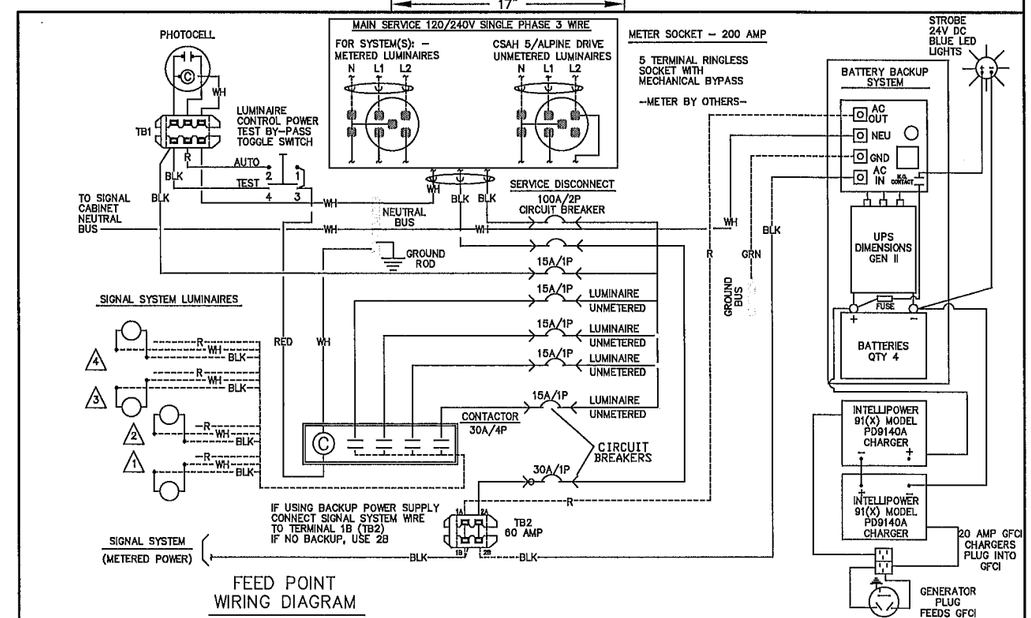




CABINET CONSTRUCTION

- NEMA 3R
- 1/8" ALUMINUM 5052-H32
- ANODIZED 30 MINUTE CLEAR
- NEOPRENE GASKETED DOORS
- NON-CORRODING HARDWARE
- ETL LISTED IN ACCORDANCE W/UL508A

SEE SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES REGARDING SEPARATE PAY ITEM FOR FURNISHING & INSTALLING NEW BATTERY BACK-UP SIGNAL SERVICE CABINET.



FEED POINT WIRING DIAGRAM

S.P. 002-605-018
S.P. 199-106-011
CITY PROJ. 14-20

DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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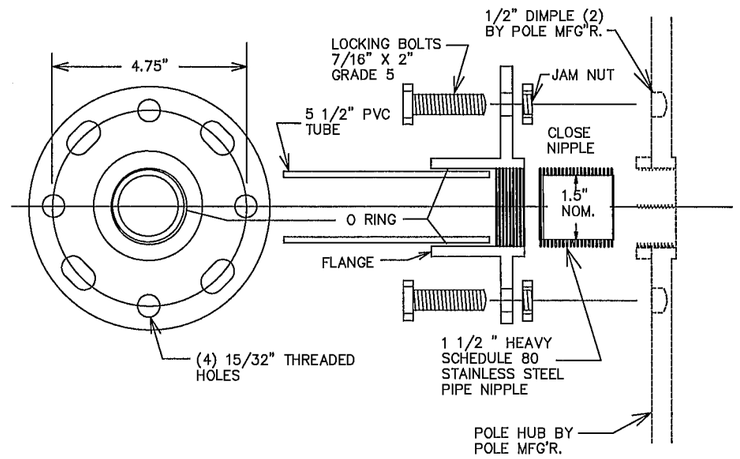
Date: April 24, 2014 Name: John M. Gray, PE Lic. No. 22457

SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110

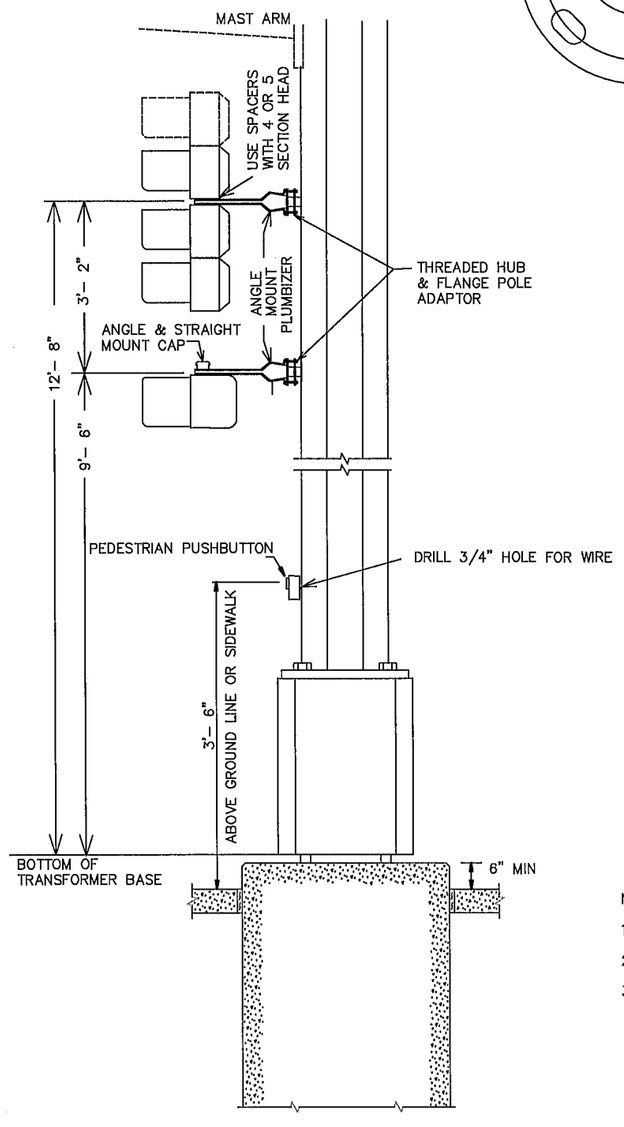
ANOKA COUNTY, MINNESOTA
CITY OF RAMSEY

TRAFFIC SIGNAL SYSTEM
SERVICE CABINET DETAILS
CSAH 5 (NOWTHEN BLVD NW)
AT ALPINE DRIVE NW

FILE NO. ANOKC 124471
SHEET SG3 OF S12

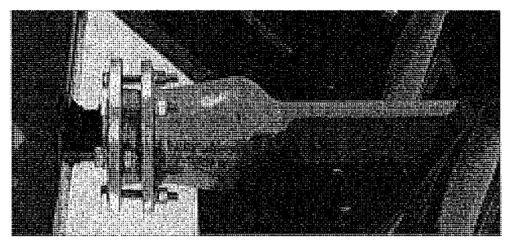


THREADED HUB AND FLANGE POLE ADAPTOR



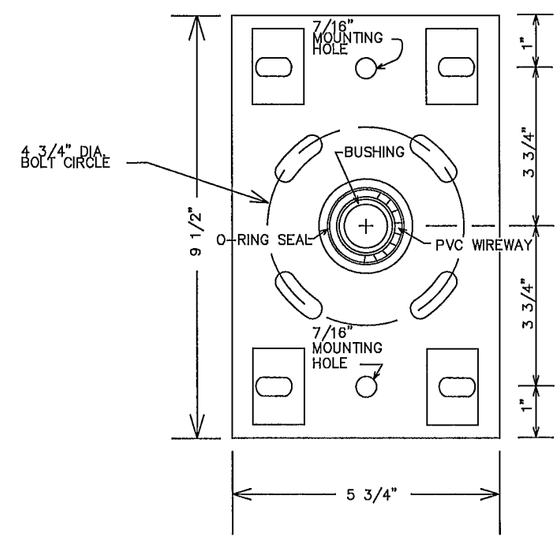
TYPICAL SIGNAL POLE MOUNTING

NOT TO SCALE

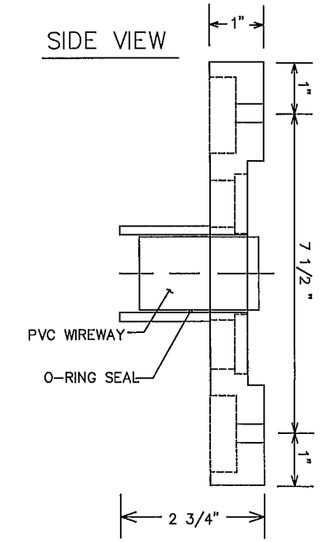


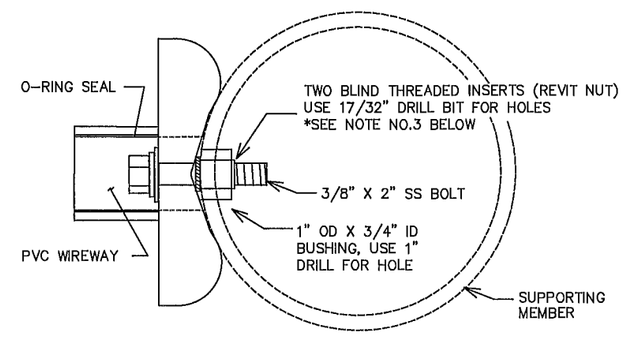
NOTE:

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.

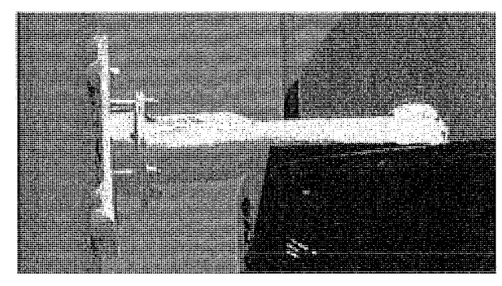


BOLT ON HUB & FLANGE



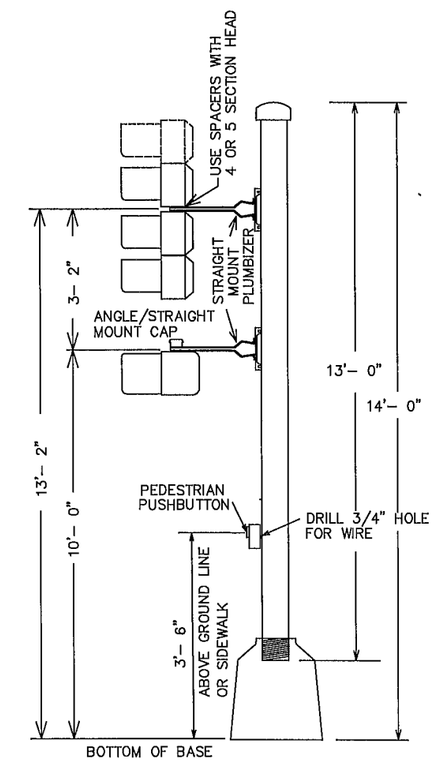


TOP VIEW



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 INSTALLED USING MANUFACTURERS SPECIFIC INSTALLATION TOOL. NO OTHER METHOD OF INSTALLATION IS ACCEPTABLE.
4. SEE STANDARD PLATE NUMBER 8122 FOR ADDITIONAL PEDESTAL POLE DETAILS.



TYPICAL PEDESTAL MOUNTING

NOT TO SCALE

S.P. 002-605-018
S.P. 199-106-011
CITY PROJ. 14-20

DRAWN BY: JMG DESIGNER: JMG CHECKED BY: JMG DESIGN TEAM	NO.	BY	DATE	REVISIONS	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. Date: April 24, 2014 Name: John M. Gray, PE Lic. No. 22457

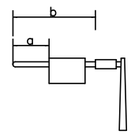
SEH — PHONE: (651) 490-2000, 3535 VADNAIS CENTER DR., ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
CITY OF RAMSEY

TRAFFIC SIGNAL SYSTEM
ONE WAY POLE MOUNT DETAILS
CSAH 5 (NOWTHEN BLVD NW)
AT ALPINE DRIVE NW

FILE NO. ANOKC 124471 — SHEET SG4 OF S12 — 97/148

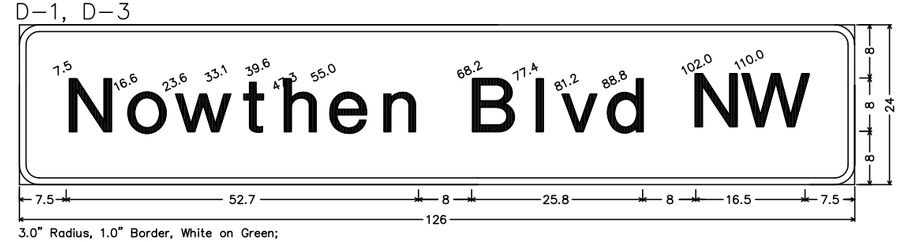
MAST ARM MOUNTED SIGNS								
SIGN PANELS – TYPE D (FURNISH AND INSTALL)								
SIGN PANEL	SIZE (in.)	NO. REQ.	NO. POSTS/ STIFFENERS PER SIGN	BAND SPACING (**)	SQ. FT. PER SIGN	POLE NO.	a	b
D–1	126x24	1	5	–	21.00	1	–	16'
D–2	102x24	1	4	–	17.00	2	–	16'
D–3	126x24	1	5	–	21.00	3	–	16'
D–4	102x24	1	4	–	17.00	4	–	16'
TOTAL QUANTITIES		4			76.00			



(**)= SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE SPECIAL PROVISIONS AND STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE: 7/06/07) FOR BRACKET SPACING REQUIREMENTS.

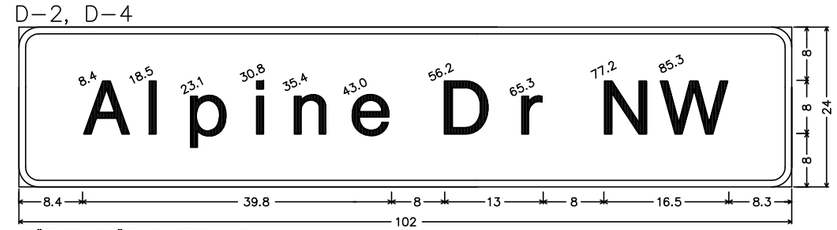
SIGNAL SYSTEM MOUNTED SIGNS								
SIGN PANELS – TYPE C (FURNISH AND INSTALL)								
SIGN PANEL	SIZE (in.)	NO. REQ.	NO. POSTS PER SIGN	POST SPACING (in.)	SQ. FT. PER SIGN	POLE NO.	a	PANEL LEGEND
R6–1L	36x12	2	①	–	3.00	2,4	–	ONE WAY (LEFT)
R6–1R	36x12	2	①	–	3.00	2,4	–	ONE WAY (RIGHT)
R10–X12	36x48	4	2	–	12.00	1,2,3,4	1'	LEFT TURN YIELD ON FLASHING YELLOW ARROW
W3–3	36x36	2	②	–	9.00	6,7	–	SIGNAL AHEAD
TOTALS		10			78.00			

D–1, D–3



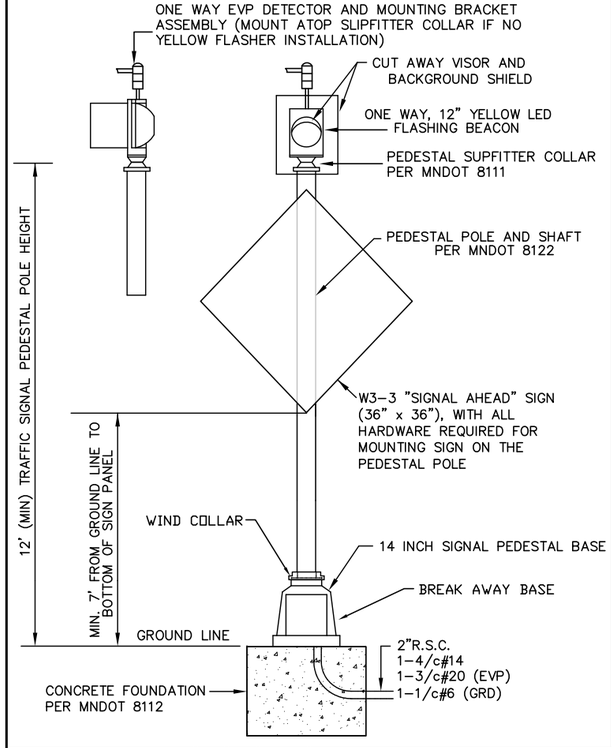
3.0" Radius, 1.0" Border, White on Green;
[Nowthen Blvd NW] E Mod;

D–2, D–4



3.0" Radius, 1.0" Border, White on Green;
[Alpine Dr NW] E Mod;

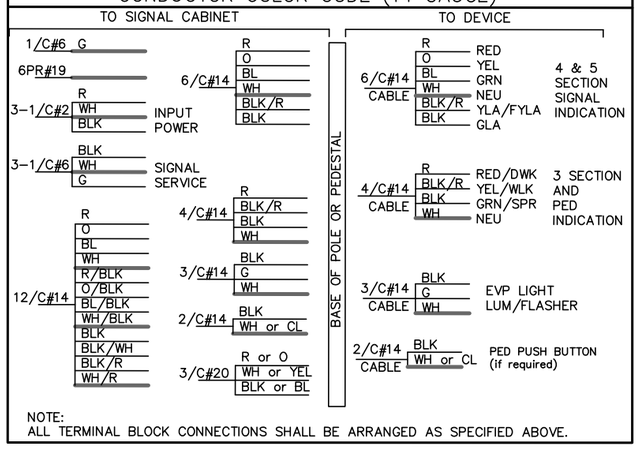
PEDESTAL POLE MOUNTED EVP OR ADVANCE FLASHER



GENERAL SIGNING NOTES:

1) COLOR FOR ALL TYPE D SIGNS SHOWN SHALL BE WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED.
2) CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
3) FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS, SEE STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE: 7/06/07), AND SPECIAL PROVISIONS.
4) SEE STANDARD SIGNS MANUAL FOR DETAILED DRAWINGS OF TYPE C SIGN PANELS.
5) FURNISHING AND INSTALLING TYPE C AND D SIGNS AS SHOWN SHALL BE INCLUDED UNDER ITEM NO. 2565 (TRAFFIC CONTROL SIGNAL SYSTEM). SEE SPECIAL PROVISIONS.
6) ALL NEW TYPE C AND D SIGN PANELS SHOWN SHALL BE FABRICATED USING DG3 SHEETING. SEE SPECIAL PROVISIONS.
7) ① = INSTALL SIGN PANEL ON TRAFFIC SIGNAL MAST ARM POLE.
8) ② = INSTALL SIGN PANEL ON TRAFFIC SIGNAL PEDESTAL POLE.

CONDUCTOR COLOR CODE (14 GAUGE)



NOTE:
ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

S.P. 002–605–018
S.P. 199–106–011
CITY PROJ. 14–20

DRAWN BY: JMG	1	JMG	09/10/14	RELOCATED EQUIPMENT PAD AND SIGNAL CABINETS TO NW QUADRANT
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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.
Date: April 24, 2014 Name: John M. Gray, PE Lic. No. 22457

SEH PHONE: (651) 490–2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
CITY OF RAMSEY

TRAFFIC SIGNAL SYSTEM
SIGNING AND MISCELLANEOUS DETAILS
CSAH 5 (NOWTHEN BLVD NW)
AT ALPINE DRIVE NW

FILE NO. ANOKC 124471
SHEET SG5 OF S12

NOTES:

1) THE EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD SHALL BE DETERMINED IN FIELD BY ENGINEER.
2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
3) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
4) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM THE END OF EACH MAST ARM, AND ALSO 30 FEET FROM END OF MAST ARM 2 (FOR EVP).
5) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY TO ARRANGE FOR THE POWER CONNECTION.
6) THE CONTRACTOR SHALL LOCATE AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING WORK.
7) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED & INSTALLED BY CONTRACTOR (INCIDENTAL).
8) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION "FILLED" COUNTDOWN TIMER HAND/WALKING PERSON INDICATION.
9) ALL VEHICLE SIGNAL INDICATIONS, AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
10) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
11) SEE DETAILS, SPECIAL PROVISIONS, AND STATEMENT OF ESTIMATED QUANTITIES REGARDING BATTERY BACK-UP SIGNAL SERVICE CABINET TO BE FURNISHED AND INSTALLED BY CONTRACTOR (SEPARATE FROM ITEM NO. 2565 FOR THIS SIGNAL SYSTEM).
12) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
13) ALL VEHICLE AND PEDESTRIAN SIGNAL HOUSINGS, BACKGROUND SHIELDS, AND VISORS SHALL BE FABRICATED USING BLACK POLYCARBONATE MATERIALS. SEE SPECIAL PROVISIONS.
14) (*) DENOTES ITEMS TO BE INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2565 (EMERGENCY VEHICLE PREEMPTION SYSTEM). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
15) CONTRACTOR SHALL COIL & STORE AN EXTRA 25' OF 1-2/c#14 IN HANDHOLES 1 AND 12 (FOR FUTURE USE BY OTHERS). SEE FIELD WIRING DIAGRAM FOR FURTHER INFORMATION.

PVC LOOP DETECTORS

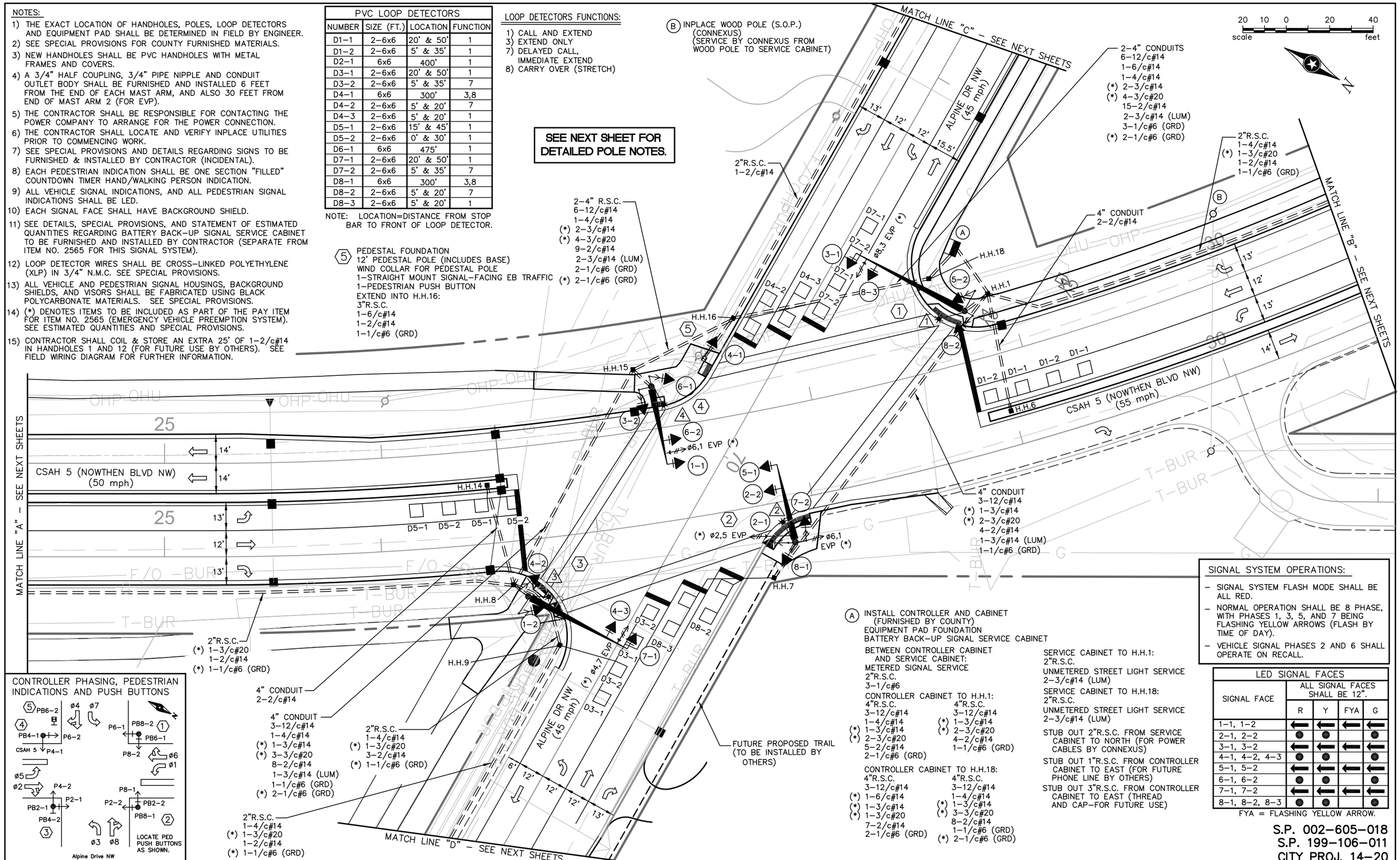
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	20' & 50'	1
D1-2	2-6x6	5' & 35'	1
D2-1	6x6	400'	1
D3-1	2-6x6	20' & 50'	1
D3-2	2-6x6	5' & 35'	7
D4-1	6x6	300'	3,8
D4-2	2-6x6	5' & 20'	7
D4-3	2-6x6	5' & 20'	1
D5-1	2-6x6	15' & 45'	1
D5-2	2-6x6	0' & 30'	1
D6-1	6x6	475'	1
D7-1	2-6x6	20' & 50'	1
D7-2	2-6x6	5' & 35'	7
D8-1	6x6	300'	3,8
D8-2	2-6x6	5' & 20'	7
D8-3	2-6x6	5' & 20'	1

NOTE: LOCATION=DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

LOOP DETECTORS FUNCTIONS:

1) CALL AND EXTEND
3) EXTEND ONLY
7) DELAYED CALL, IMMEDIATE EXTEND
8) CARRY OVER (STRETCH)

SEE NEXT SHEET FOR DETAILED POLE NOTES.



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

(A) INSTALL CONTROLLER AND CABINET (FURNISHED BY COUNTY)
EQUIPMENT PAD FOUNDATION
BATTERY BACK-UP SIGNAL SERVICE CABINET

BETWEEN CONTROLLER CABINET AND SERVICE CABINET:
METERED SIGNAL SERVICE
2"R.S.C.
3-1/c#6

CONTROLLER CABINET TO H.H.1:
4"R.S.C.
3-12/c#14
1-4/c#14
(*) 1-3/c#14
(*) 2-3/c#20
5-2/c#14
2-1/c#6 (GRD)

4"R.S.C.
3-12/c#14
(*) 1-3/c#14
(*) 2-3/c#20
4-2/c#14
1-1/c#6 (GRD)

CONTROLLER CABINET TO H.H.18:
4"R.S.C.
3-12/c#14
(*) 1-6/c#14
(*) 1-3/c#14
(*) 1-3/c#20
7-2/c#14
2-1/c#6 (GRD)

4"R.S.C.
3-12/c#14
1-4/c#14
(*) 1-3/c#14
(*) 3-3/c#20
8-2/c#14
1-1/c#6 (GRD)
(*) 2-1/c#6 (GRD)

SERVICE CABINET TO H.H.1:
2"R.S.C.
UNMETERED STREET LIGHT SERVICE
2-3/c#14 (LUM)

SERVICE CABINET TO H.H.18:
2"R.S.C.
UNMETERED STREET LIGHT SERVICE
2-3/c#14 (LUM)

STUB OUT 2"R.S.C. FROM SERVICE CABINET TO NORTH (FOR POWER CABLES BY CONNEXUS)

STUB OUT 1"R.S.C. FROM CONTROLLER CABINET TO EAST (FOR FUTURE PHONE LINE BY OTHERS)

STUB OUT 3"R.S.C. FROM CONTROLLER CABINET TO EAST (THREAD AND CAP-FOR FUTURE USE)

SIGNAL SYSTEM OPERATIONS:

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

LED SIGNAL FACES

SIGNAL FACE	ALL SIGNAL FACES SHALL BE 12". R	Y	FYA	G
1-1, 1-2	←	←	←	←
2-1, 2-2	●	●		●
3-1, 3-2	←	←	←	←
4-1, 4-2, 4-3	●	●		●
5-1, 5-2	←	←	←	←
6-1, 6-2	●	●		●
7-1, 7-2	←	←	←	←
8-1, 8-2, 8-3	●	●		●

FYA = FLASHING YELLOW ARROW.

S.P. 002-605-018
S.P. 199-106-011
CITY PROJ. 14-20

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG
DESIGN TEAM

NO.	BY	DATE	REVISIONS
1	JMG	09/10/14	RELOCATED EQUIPMENT PAD AND SIGNAL CABINETS TO NW QUADRANT

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Date: April 24, 2014 Name: John M. Gray, PE Lic. No. 22457

SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
CITY OF RAMSEY

TRAFFIC SIGNAL SYSTEM INTERSECTION LAYOUT
CSAH 5 (NOWTHEN BLVD NW) AT ALPINE DRIVE NW

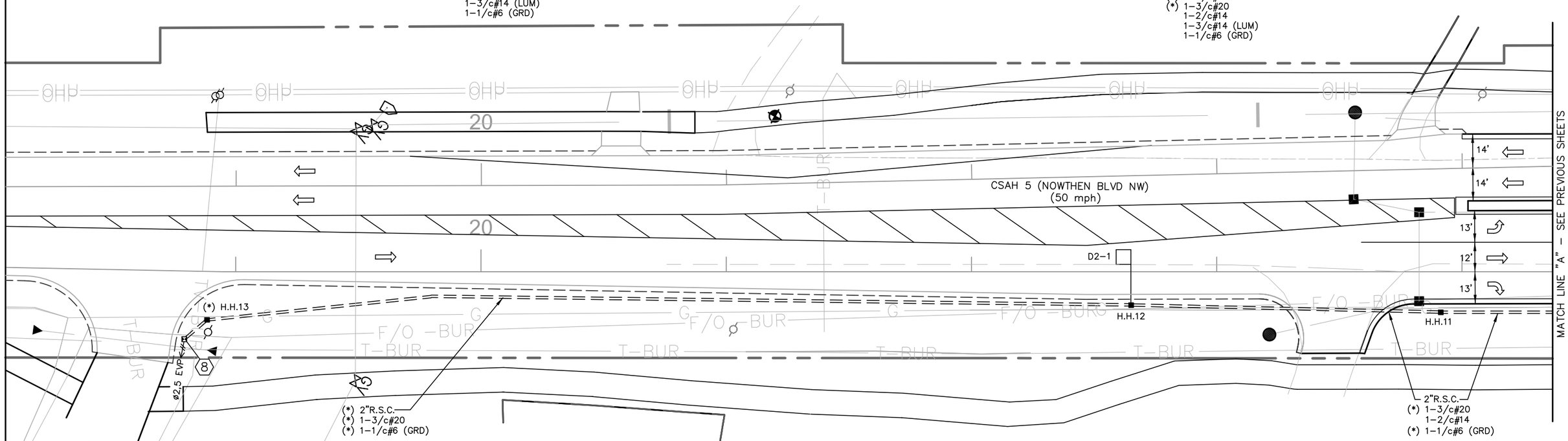
FILE NO. ANOKC 124471
SHEET SG6 OF S12
99 / 148

(1) PA100 POLE FOUNDATION
INSTALL TYPE PA100–A–55–D30–9 (DAVIT AT 350°)
(FURNISHED BY COUNTY)
LUMINAIRE–COBRAHEAD LED
1–ANGLE MOUNT SIGNAL–OVERHEAD AT 0'
1–STRAIGHT MOUNT SIGNAL–OVERHEAD AT 11'
2–ANGLE MOUNT SIGNALS–POLE MOUNTED 90° & 180°
2–ANGLE MOUNT C.D. PED INDICATIONS–POLE MOUNTED 90° & 180°
2–PEDESTRIAN PUSH BUTTONS
R10–X12 SIGN PANEL–ADJACENT TO 3–1
TYPE D SIGN PANEL–OVERHEAD (D–1)
(*) INSTALL ONE WAY EVP DETECTOR (FURNISHED BY COUNTY (ø8,3)
(*) ONE WAY EVP LED CONFIRMATION LIGHT AND MOUNTING BRACKET (ø8,3)
EXTEND INTO H.H.1:
3"R.S.C.
3–12/c#14
(*) 1–3/c#14
(*) 1–3/c#20
2–2/c#14
1–3/c#14 (LUM)
1–1/c#6 (GRD)

(2) PA90 POLE FOUNDATION
INSTALL TYPE PA90–A–35–D30–9 (DAVIT AT 350°)
(FURNISHED BY COUNTY)
LUMINAIRE–COBRAHEAD LED
1–ANGLE MOUNT SIGNAL–OVERHEAD AT 0'
1–STRAIGHT MOUNT SIGNAL–OVERHEAD AT 11'
3–ANGLE MOUNT SIGNALS–POLE MOUNTED 90°, 180°, 270°
2–ANGLE MOUNT C.D. PED INDICATIONS–POLE MOUNTED 90° & 270°
2–PEDESTRIAN PUSH BUTTONS
2–R6–1 SIGN PANELS–POLE MOUNTED 0° & 180°
R10–X12 SIGN PANEL–ADJACENT TO 5–1
TYPE D SIGN PANEL–OVERHEAD (D–2)
(*) INSTALL 2–ONE WAY EVP DETECTORS (FURNISHED BY COUNTY (ø2,5, AND ø6,1)
(*) ONE WAY EVP LED CONFIRMATION LIGHT & MOUNTING BRACKET (ø2,5)–30' FROM END OF MAST ARM
(*) EVP MOUNTING BRACKET AND HARDWARE–MAST ARM POLE MOUNTED AT 90° (ø6,1)
EXTEND INTO H.H.7:
3"R.S.C.
3–12/c#14
(*) 1–3/c#14
(*) 2–3/c#20
2–2/c#14
1–3/c#14 (LUM)
1–1/c#6 (GRD)

(3) PA100 POLE FOUNDATION
INSTALL TYPE PA100–A–50–D30–9 (DAVIT AT 350°)
(FURNISHED BY COUNTY)
LUMINAIRE–COBRAHEAD LED
1–ANGLE MOUNT SIGNAL–OVERHEAD AT 0'
1–STRAIGHT MOUNT SIGNAL–OVERHEAD AT 11'
2–ANGLE MOUNT SIGNALS–POLE MOUNTED 90° & 180°
2–ANGLE MOUNT C.D. PED INDICATIONS–POLE MOUNTED 90° & 180°
2–PEDESTRIAN PUSH BUTTONS
R10–X12 SIGN PANEL–ADJACENT TO 7–1
TYPE D SIGN PANEL–OVERHEAD (D–3)
(*) INSTALL ONE WAY EVP DETECTOR (FURNISHED BY COUNTY (ø4,7)
(*) ONE WAY EVP LED CONFIRMATION LIGHT AND MOUNTING BRACKET (ø4,7)
EXTEND INTO H.H.8:
3"R.S.C.
3–12/c#14
(*) 1–3/c#14
(*) 1–3/c#20
2–2/c#14
1–3/c#14 (LUM)
1–1/c#6 (GRD)

(4) PA90 POLE FOUNDATION
INSTALL TYPE PA90–A–35–D30–9 (DAVIT AT 350°)
(FURNISHED BY COUNTY)
LUMINAIRE–COBRAHEAD LED
1–ANGLE MOUNT SIGNAL–OVERHEAD AT 0'
1–STRAIGHT MOUNT SIGNAL–OVERHEAD AT 11'
2–ANGLE MOUNT SIGNALS–POLE MOUNTED 90° & 180°
2–ANGLE MOUNT C.D. PED INDICATIONS–POLE MOUNTED 90° & 180°
1–PEDESTRIAN PUSH BUTTON
2–R6–1 SIGN PANELS–POLE MOUNTED 0° & 180°
R10–X12 SIGN PANEL–ADJACENT TO 1–1
TYPE D SIGN PANEL–OVERHEAD (D–4)
(*) INSTALL ONE WAY EVP DETECTOR (FURNISHED BY COUNTY (ø6,1)
(*) ONE WAY EVP LED CONFIRMATION LIGHT AND MOUNTING BRACKET (ø6,1)
EXTEND INTO H.H.15:
3"R.S.C.
3–12/c#14
(*) 1–3/c#14
(*) 1–3/c#20
1–2/c#14
1–3/c#14 (LUM)
1–1/c#6 (GRD)



(8) (*) PEDESTAL FOUNDATION
(*) 12' PEDESTAL POLE (INCLUDES BASE)
(*) WIND COLLAR FOR PEDESTAL POLE
(*) INSTALL ONE WAY EVP DETECTOR (FURNISHED BY COUNTY (ø2,5)
(*) EVP MOUNTING HARDWARE–FOR MOUNTING OF EVP DETECTOR ATOP PEDESTAL POLE (ø2,5)
EXTEND INTO H.H.13:
(*) 2"R.S.C.
(*) 1–3/c#20
(*) 1–1/c#6 (GRD)

S.P. 002–605–018
S.P. 199–106–011
CITY PROJ. 14–20

DRAWN BY: JMG	1	JMG	09/10/14	RELOCATED EQUIPMENT PAD AND SIGNAL CABINETS TO NW QUADRANT
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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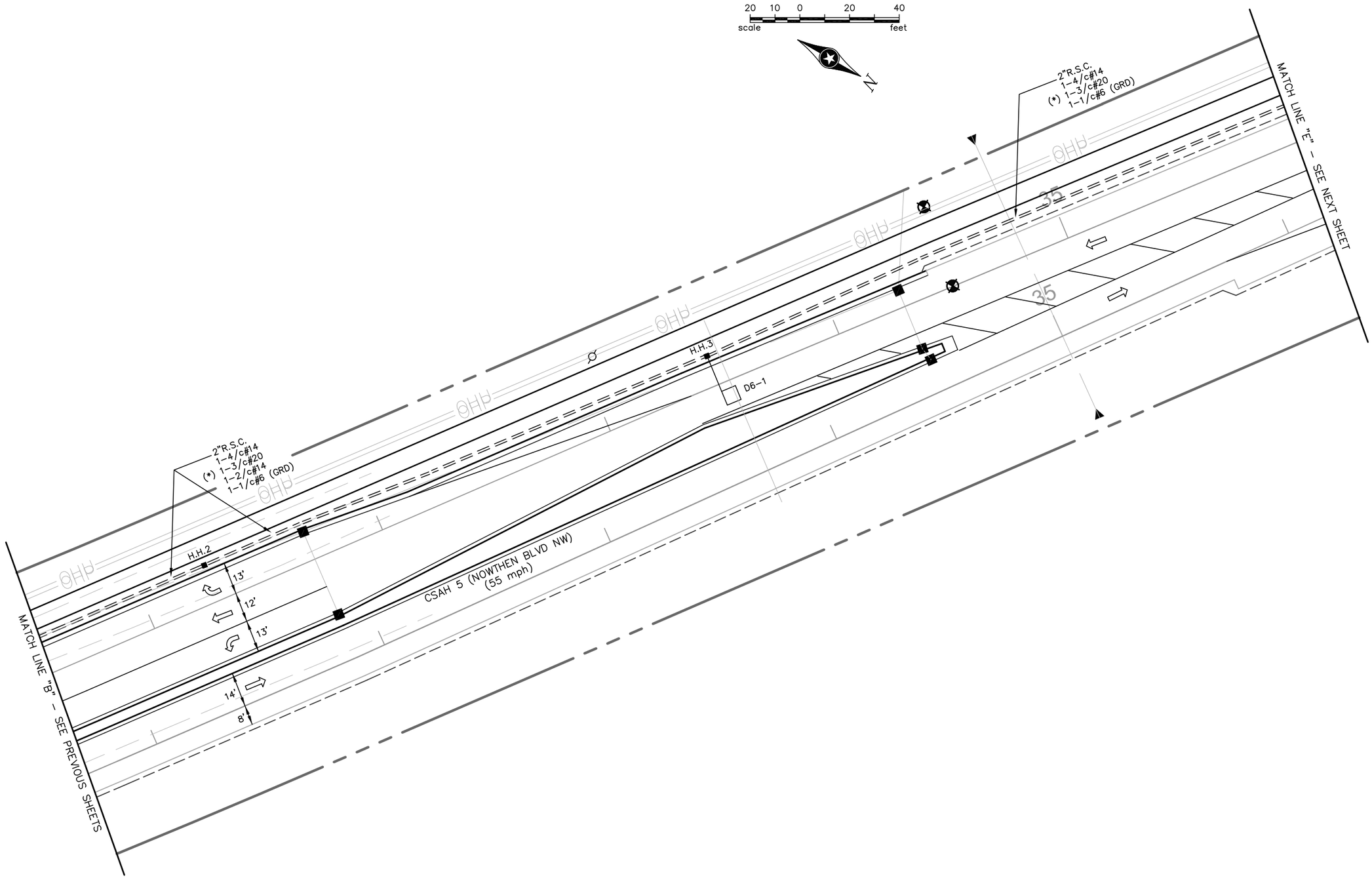
Date: April 24, 2014 Name: John M. Gray, PE Lic. No. 22457

SEH PHONE: (651) 490–2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110

ANOKA COUNTY, MINNESOTA
CITY OF RAMSEY

TRAFFIC SIGNAL SYSTEM
INTERSECTION LAYOUT
CSAH 5 (NOWTHEN BLVD NW)
AT ALPINE DRIVE NW

FILE NO. ANOKC 124471
SHEET SG7 OF S12
100/148



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S.P. 199-106-011
CITY PROJ. 14-20

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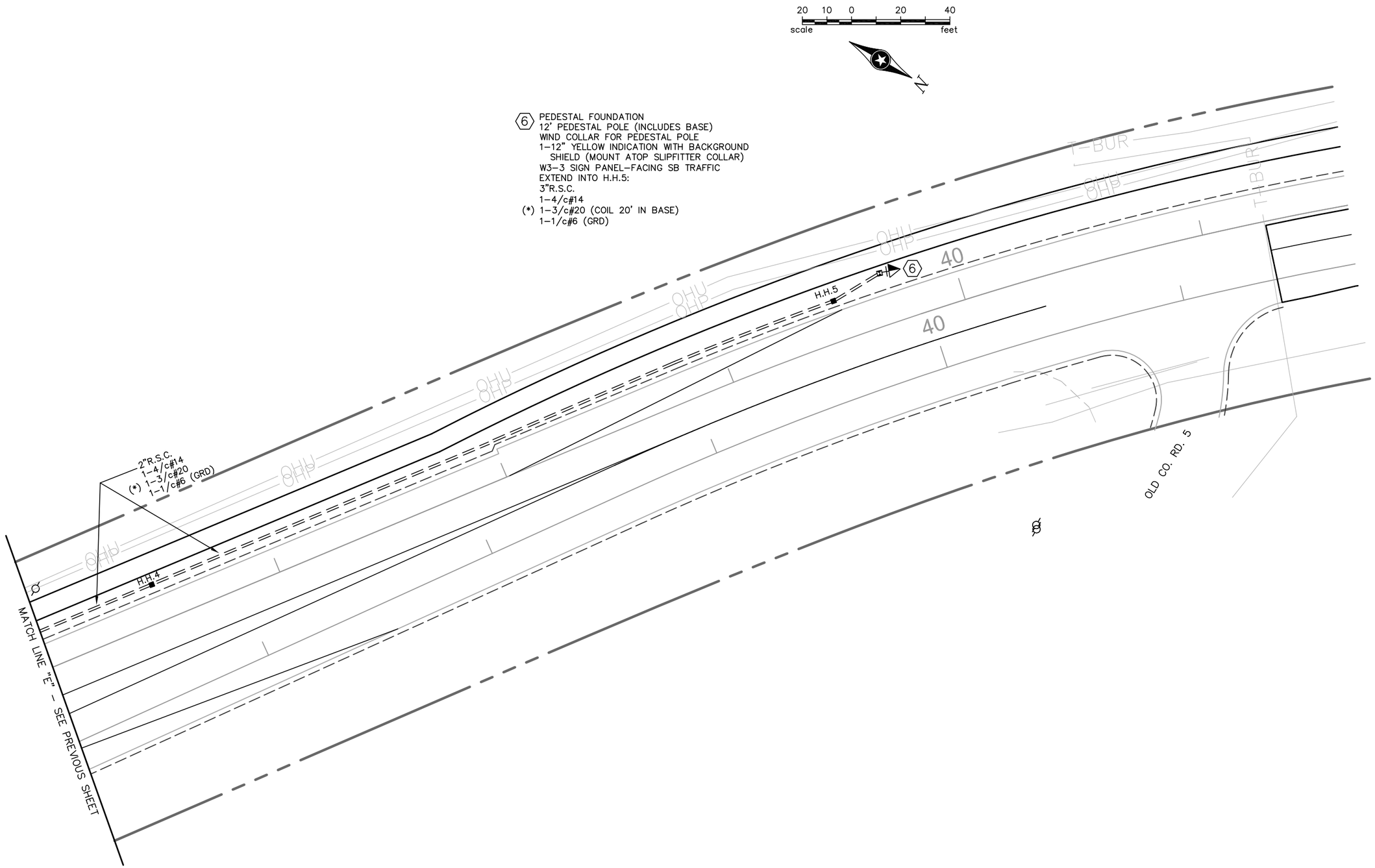
ANOKA COUNTY, MINNESOTA
CITY OF RAMSEY

TRAFFIC SIGNAL SYSTEM
INTERSECTION LAYOUT
CSAH 5 (NOWTHEN BLVD NW)
AT ALPINE DRIVE NW

FILE NO. ANOKC 124471

SHEET SGB OF S12

101/148



S.P. 002-605-018
S.P. 199-106-011
CITY PROJ. 14-20

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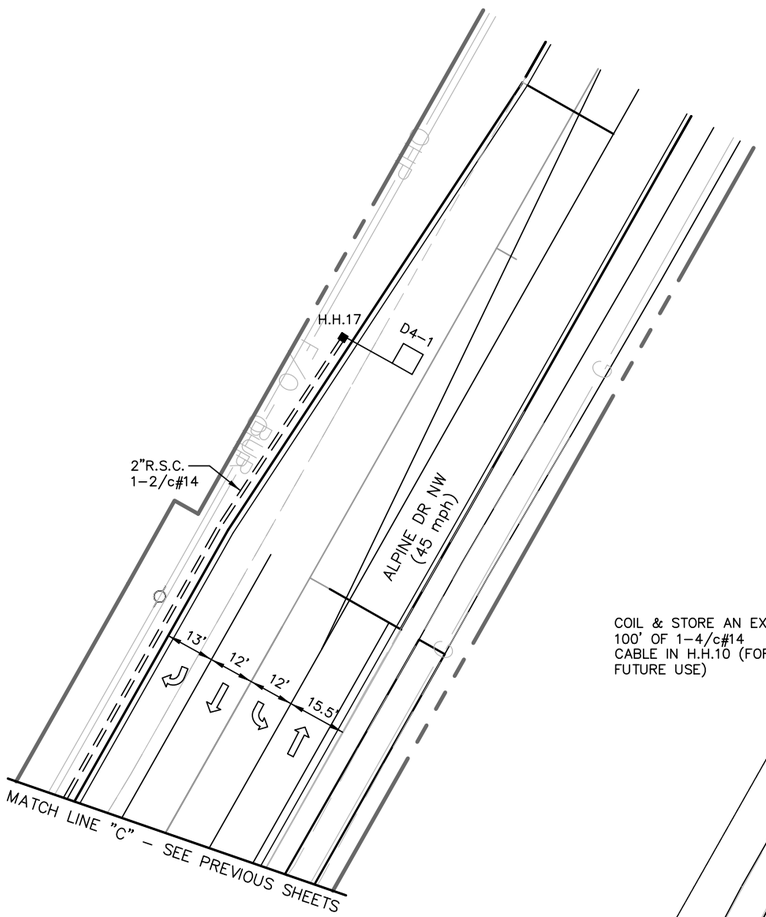
ANOKA COUNTY, MINNESOTA
CITY OF RAMSEY

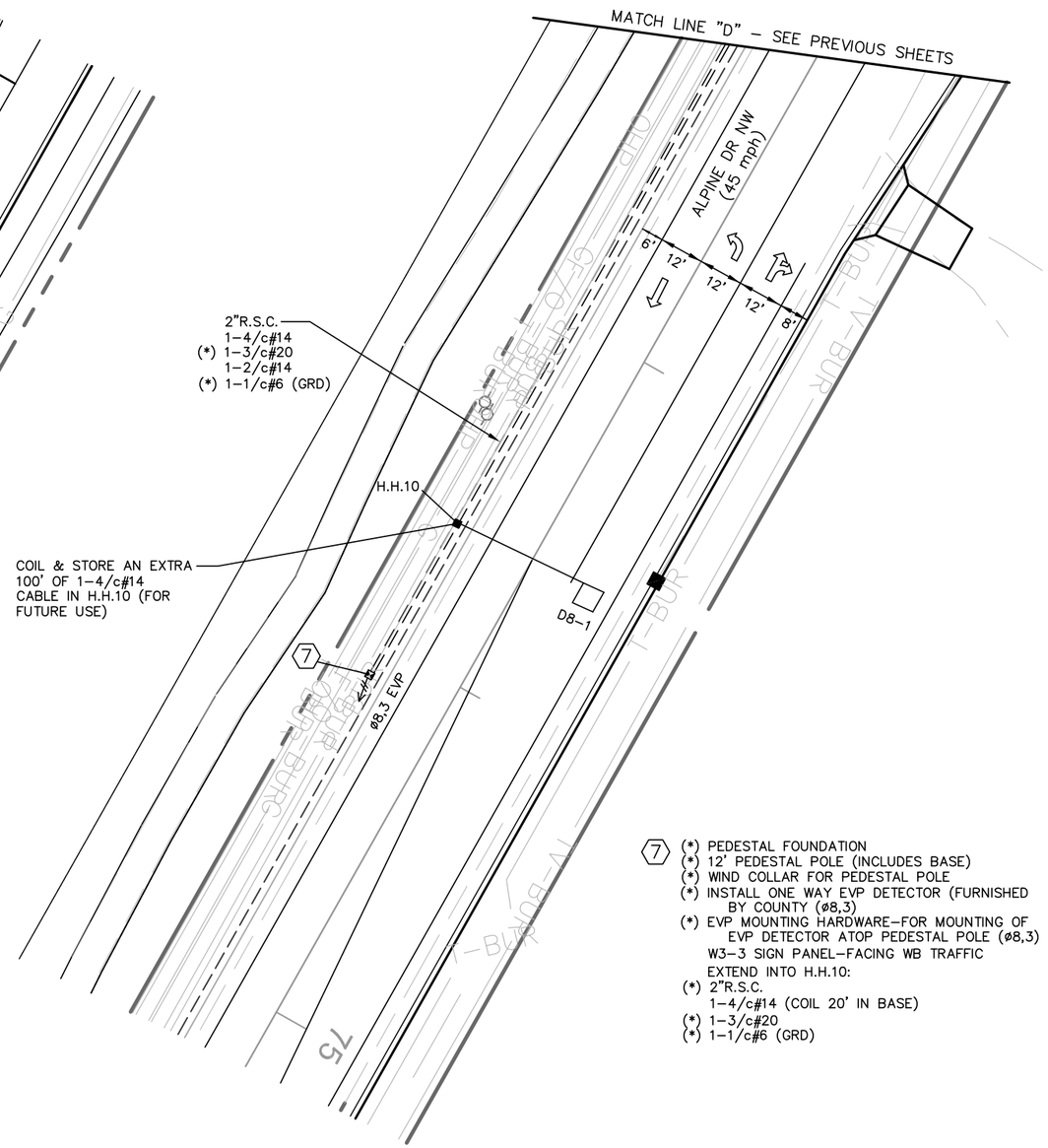
TRAFFIC SIGNAL SYSTEM
INTERSECTION LAYOUT
CSAH 5 (NOWTHEN BLVD NW)
AT ALPINE DRIVE NW

FILE NO. ANOKC 124471

SHEET SG9 OF S12

102/148





7
(*) PEDESTAL FOUNDATION
(*) 12' PEDESTAL POLE (INCLUDES BASE)
(*) WIND COLLAR FOR PEDESTAL POLE
(*) INSTALL ONE WAY EVP DETECTOR (FURNISHED BY COUNTY (ø8,3)
(*) EVP MOUNTING HARDWARE-FOR MOUNTING OF EVP DETECTOR ATOP PEDESTAL POLE (ø8,3)
W3-3 SIGN PANEL-FACING WB TRAFFIC
EXTEND INTO H.H.10:
(*) 2"R.S.C.
1-4/c#14 (COIL 20' IN BASE)
(*) 1-3/c#20
(*) 1-1/c#6 (GRD)

S.P. 002-605-018
S.P. 199-106-011
CITY PROJ. 14-20

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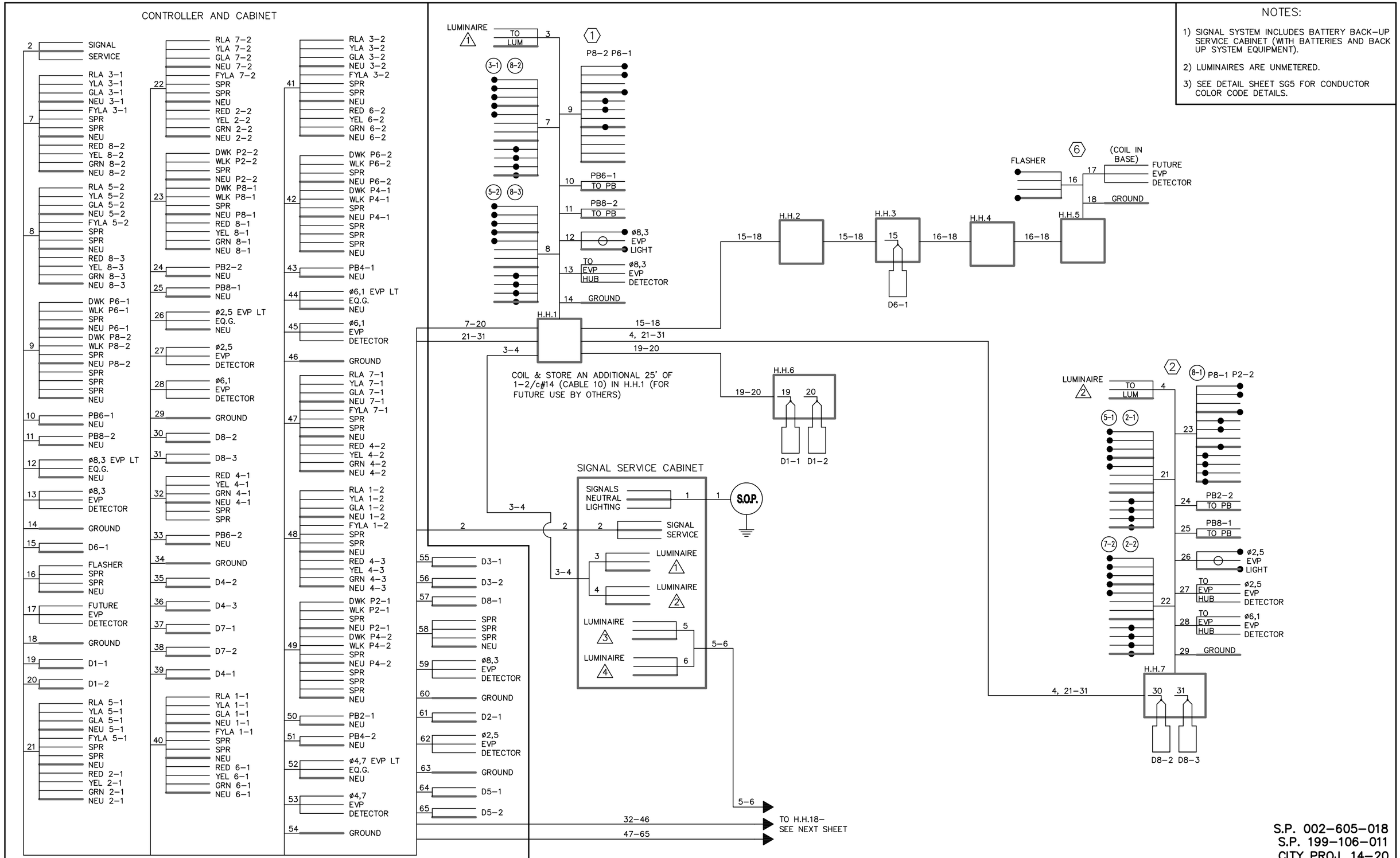
ANOKA COUNTY, MINNESOTA
CITY OF RAMSEY

TRAFFIC SIGNAL SYSTEM
INTERSECTION LAYOUT
CSAH 5 (NOWTHEN BLVD NW)
AT ALPINE DRIVE NW

FILE NO. ANOKC 124471
SHEET SG10 OF S12
103/148

NOTES:

1) SIGNAL SYSTEM INCLUDES BATTERY BACK-UP SERVICE CABINET (WITH BATTERIES AND BACK UP SYSTEM EQUIPMENT).
2) LUMINAIRES ARE UNMETERED.
3) SEE DETAIL SHEET SG5 FOR CONDUCTOR COLOR CODE DETAILS.



S.P. 002-605-018
S.P. 199-106-011
CITY PROJ. 14-20

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ANOKA COUNTY, MINNESOTA
CITY OF RAMSEY

TRAFFIC SIGNAL SYSTEM
FIELD WIRING DIAGRAM
CSAH 5 (NOWTHEN BLVD NW)
AT ALPINE DRIVE NW

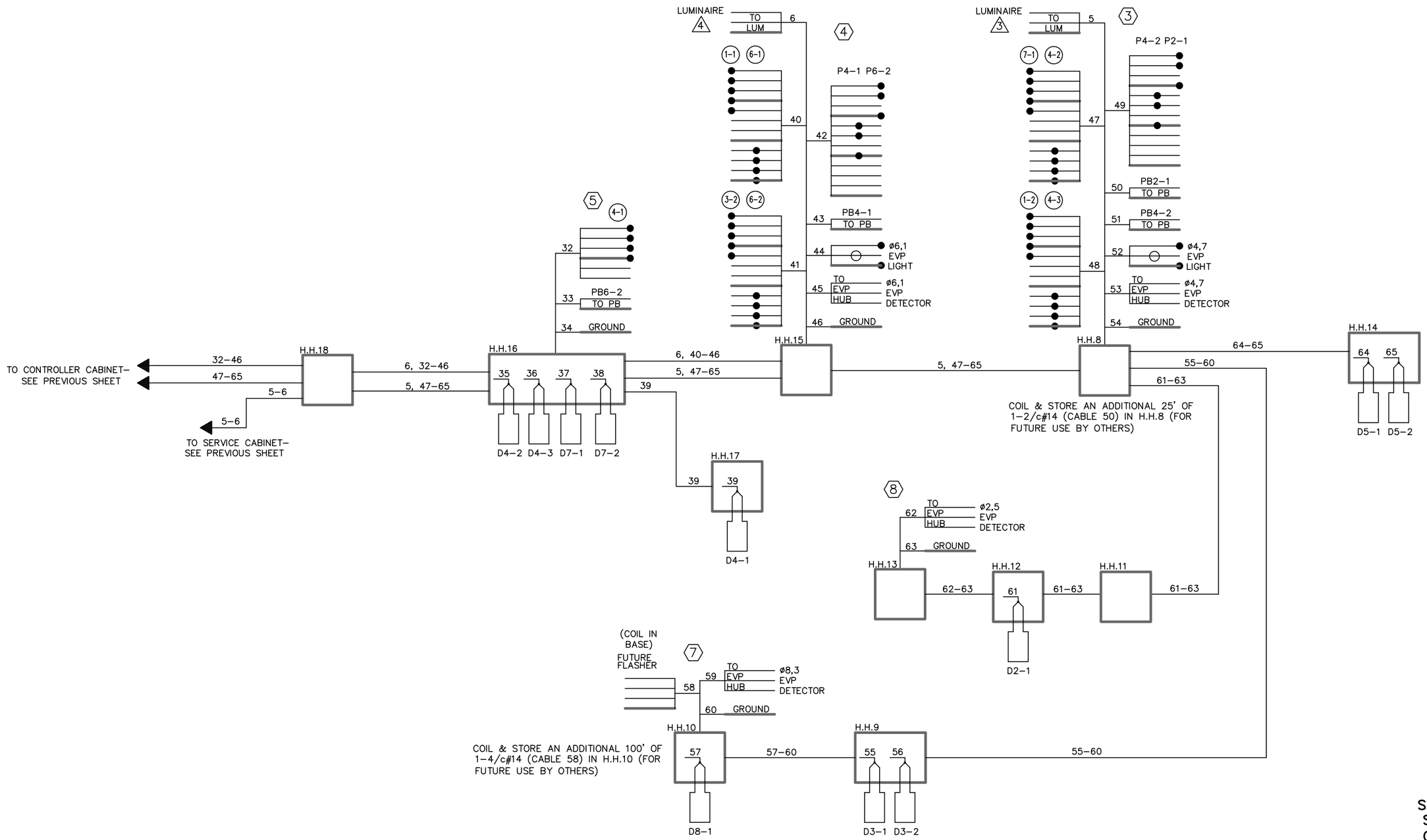
FILE NO. ANOKC 124471
SHEET SG11 OF S12
104/148

NOTES:

1) SIGNAL SYSTEM INCLUDES BATTERY BACK-UP SERVICE CABINET (WITH BATTERIES AND BACK UP SYSTEM EQUIPMENT).

2) LUMINAIRES ARE UNMETERED.

3) SEE DETAIL SHEET SG5 FOR CONDUCTOR COLOR CODE DETAILS.



S.P. 002-605-018
S.P. 199-106-011
CITY PROJ. 14-20

DRAWN BY: JMG	1	JMG	09/10/14	RELOCATED EQUIPMENT PAD AND SIGNAL CABINETS TO NW QUADRANT	
DESIGNER: JMG					
CHECKED BY: JMG					
DESIGN TEAM	NO.	BY	DATE	REVISIONS	

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.

Date: April 24, 2014 Name: John M. Gray, PE Lic. No. 22457

SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110

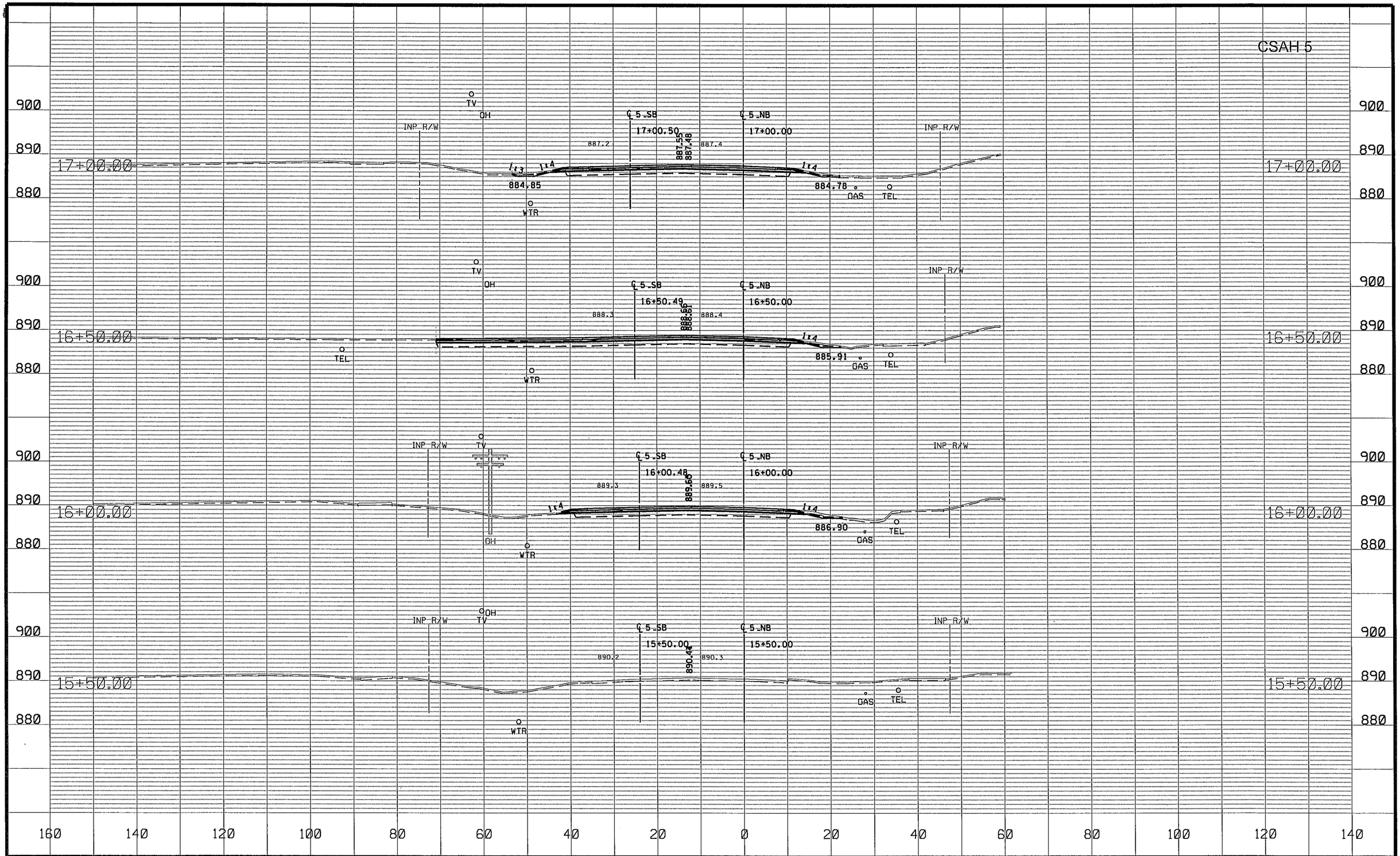
ANOKA COUNTY, MINNESOTA
CITY OF RAMSEY

TRAFFIC SIGNAL SYSTEM
FIELD WIRING DIAGRAM
CSAH 5 (NOWTHEN BLVD NW)
AT ALPINE DRIVE NW

FILE NO. ANOKC 124471

SHEET SG12 OF S12

105/148



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-605-18\Plan\0260518_XS.dgn 05/30/2014 2:01:49 PM

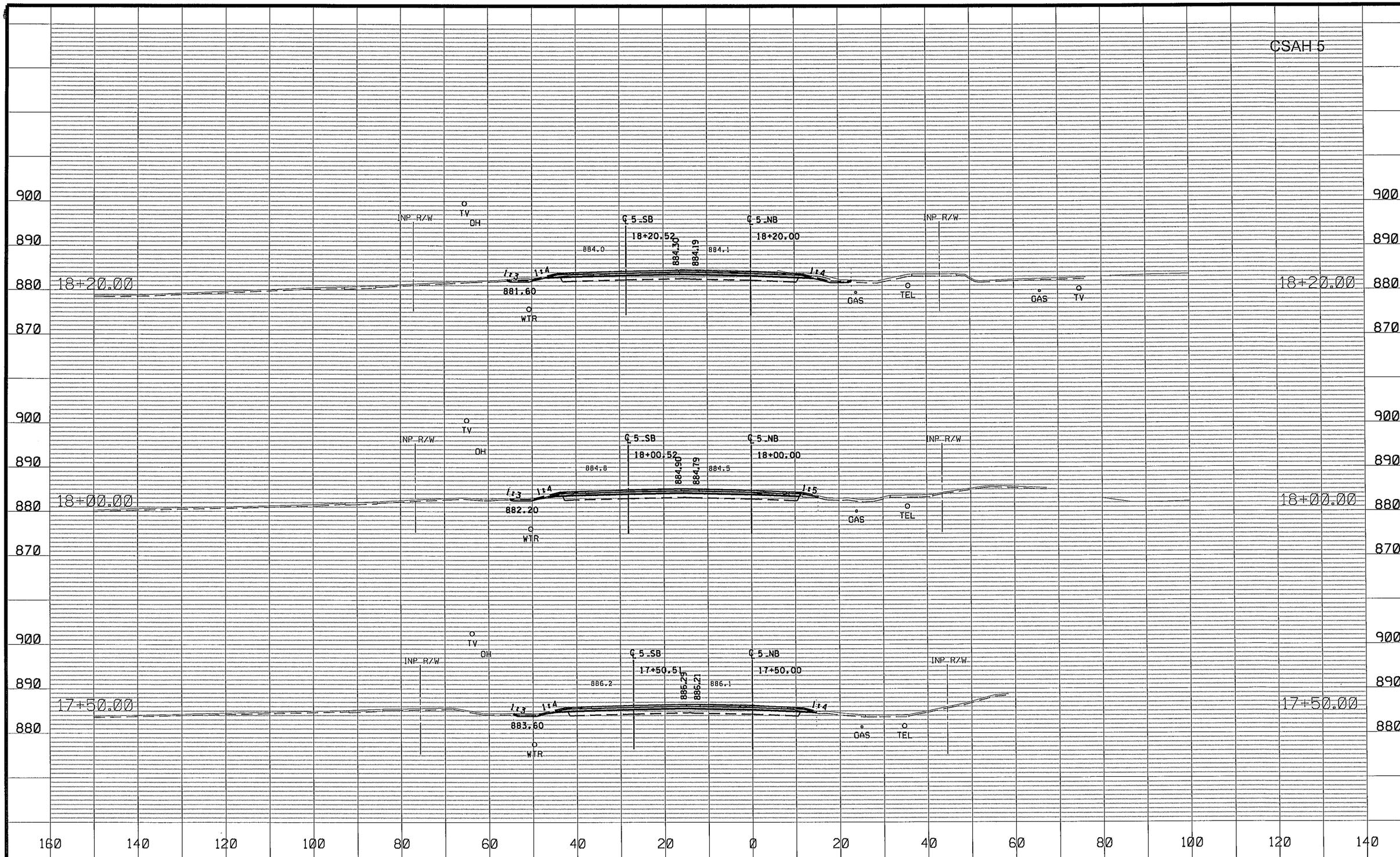
DRAWN BY EJM DATE 04-16-14
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 15+95.00 TO 17+00.00

Sheet 106 of 148 Sheets



NO	DATE	BY	CKD	APPR	REVISION

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DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

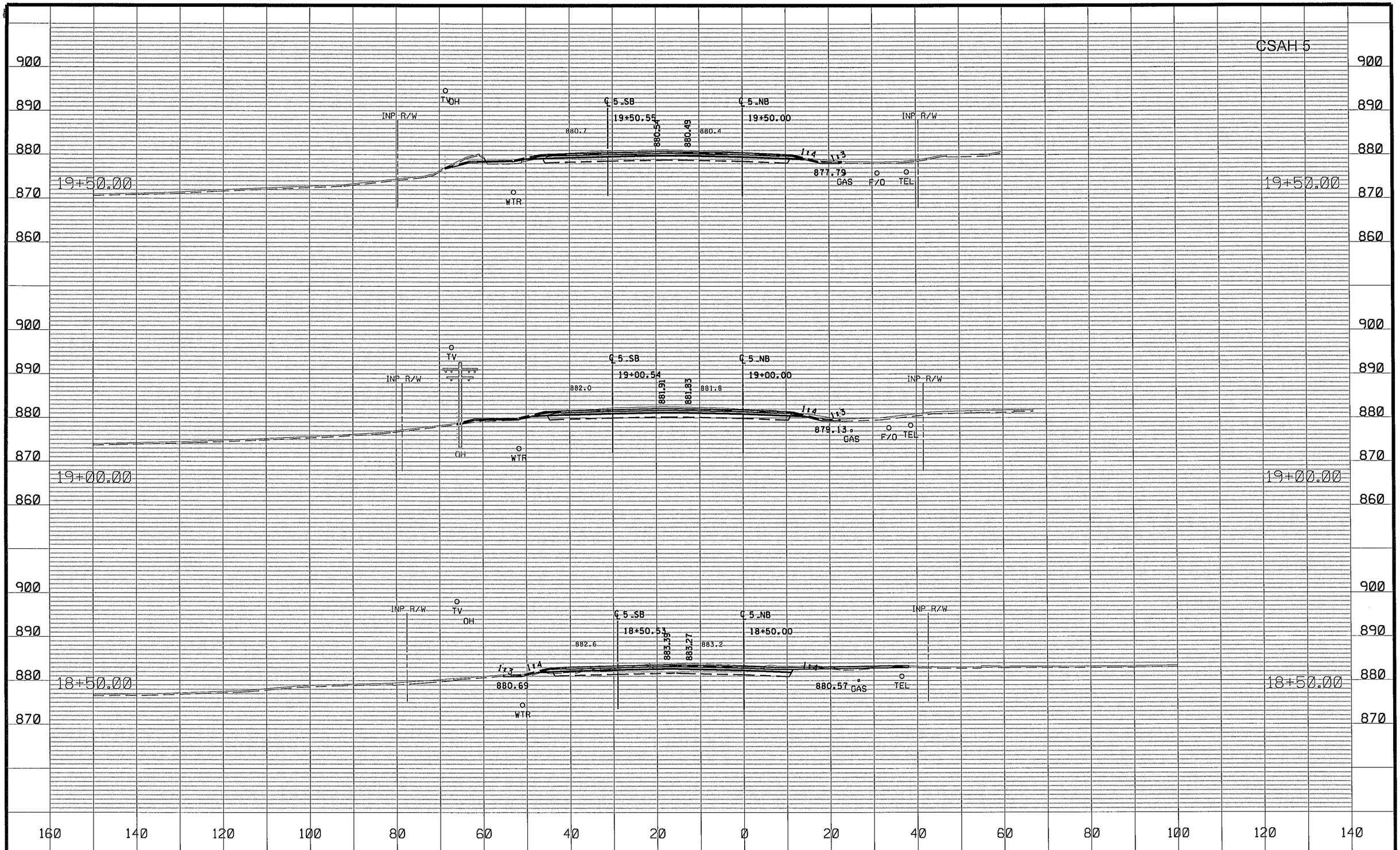
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 17+50.00 TO 18+20.00

Sheet 107 of 148 Sheets



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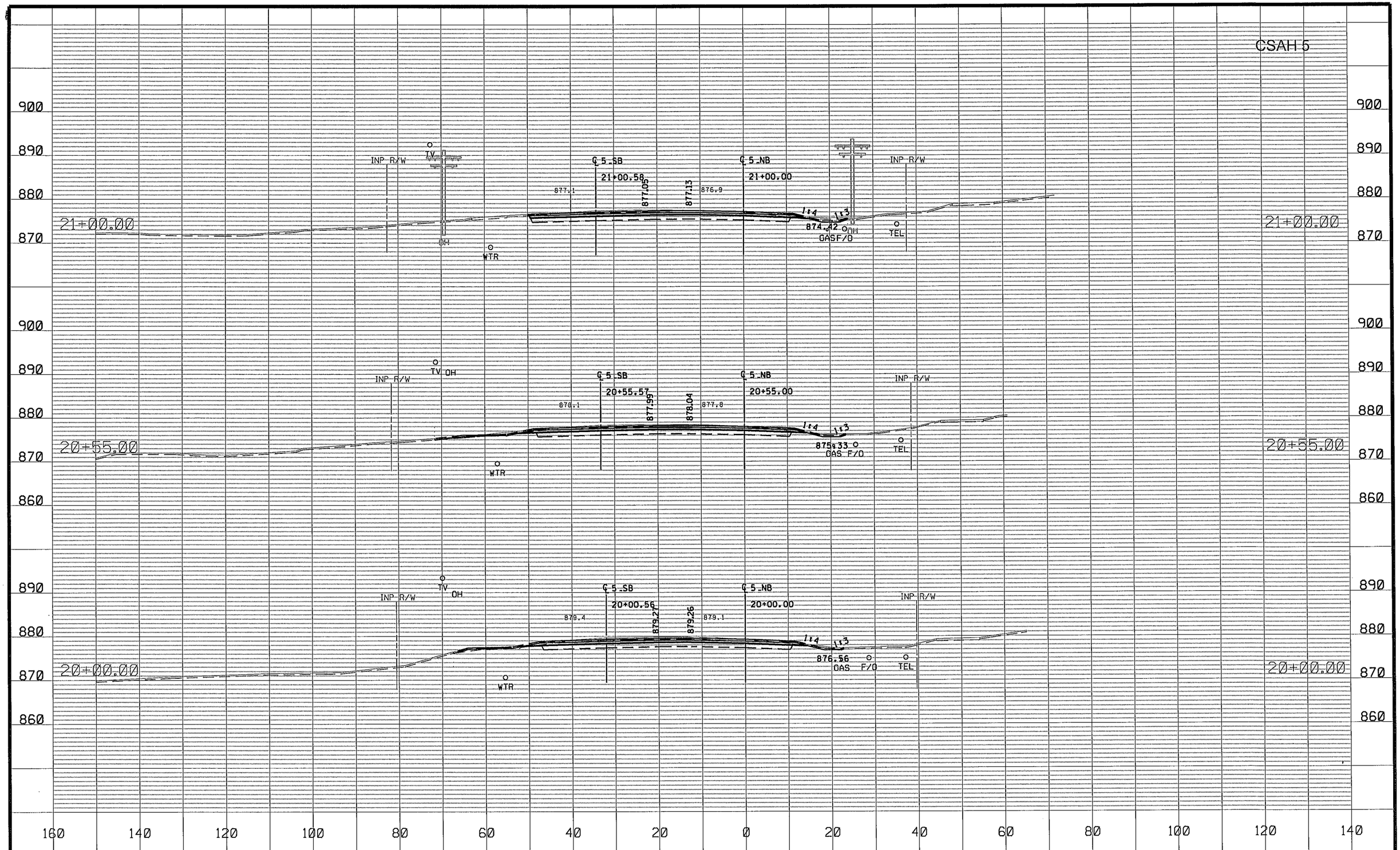
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 18+50.00 TO 19+50.00



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DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

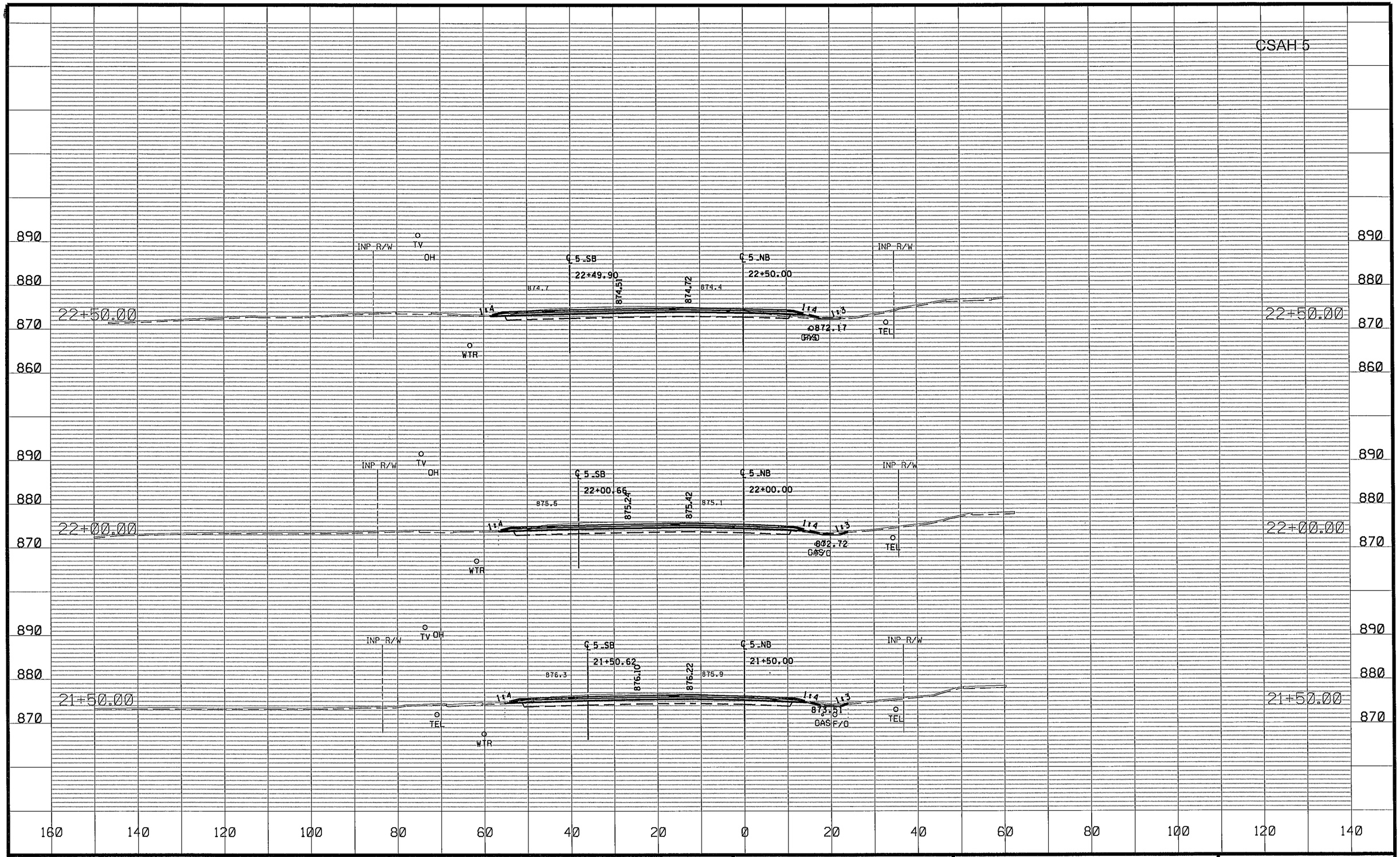
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 20+00.00 TO 21+00.00

Sheet 109 of 148 Sheets



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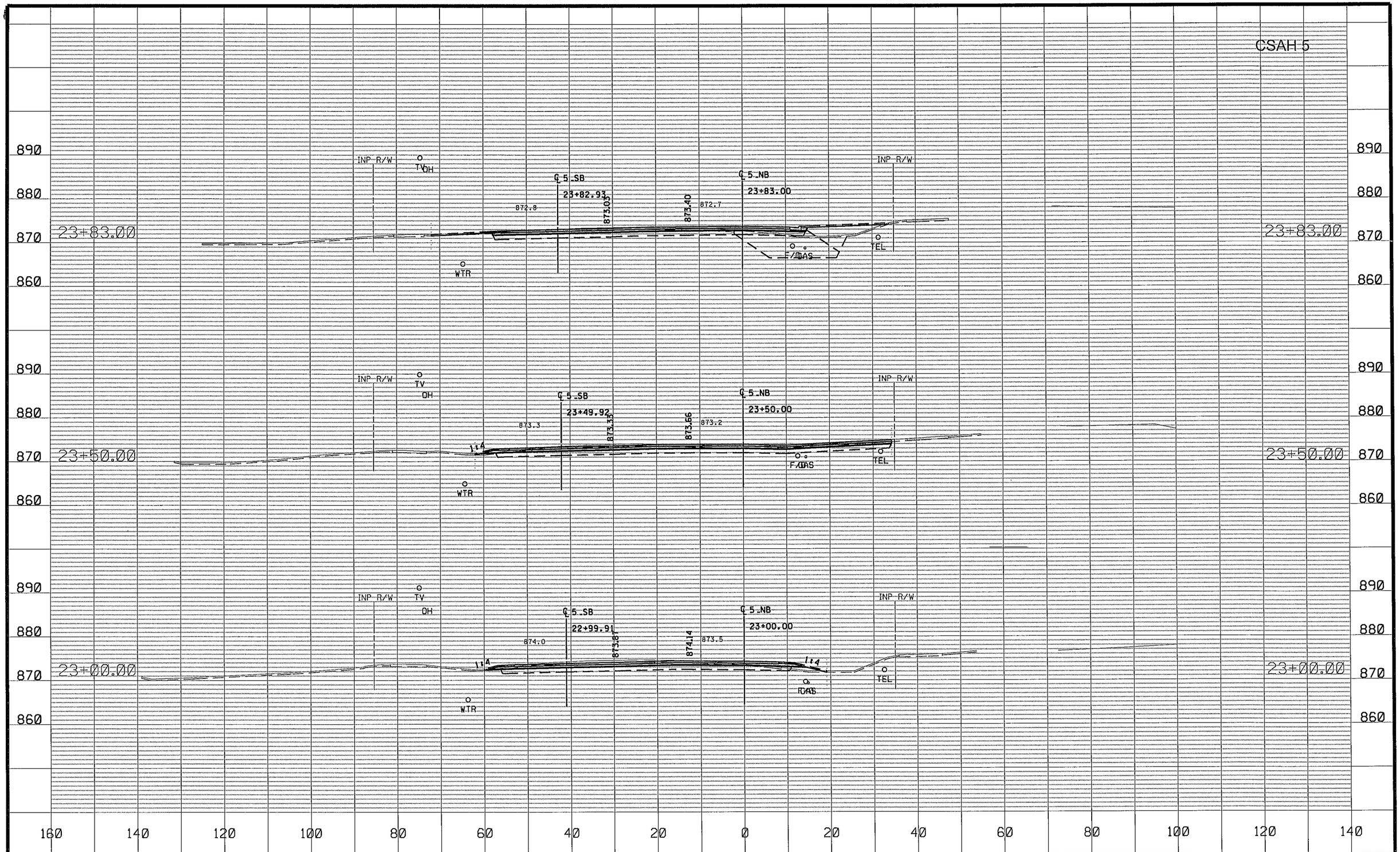
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 21+50.00 TO 22+50.00
Sheet 110 of 148 Sheets



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DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

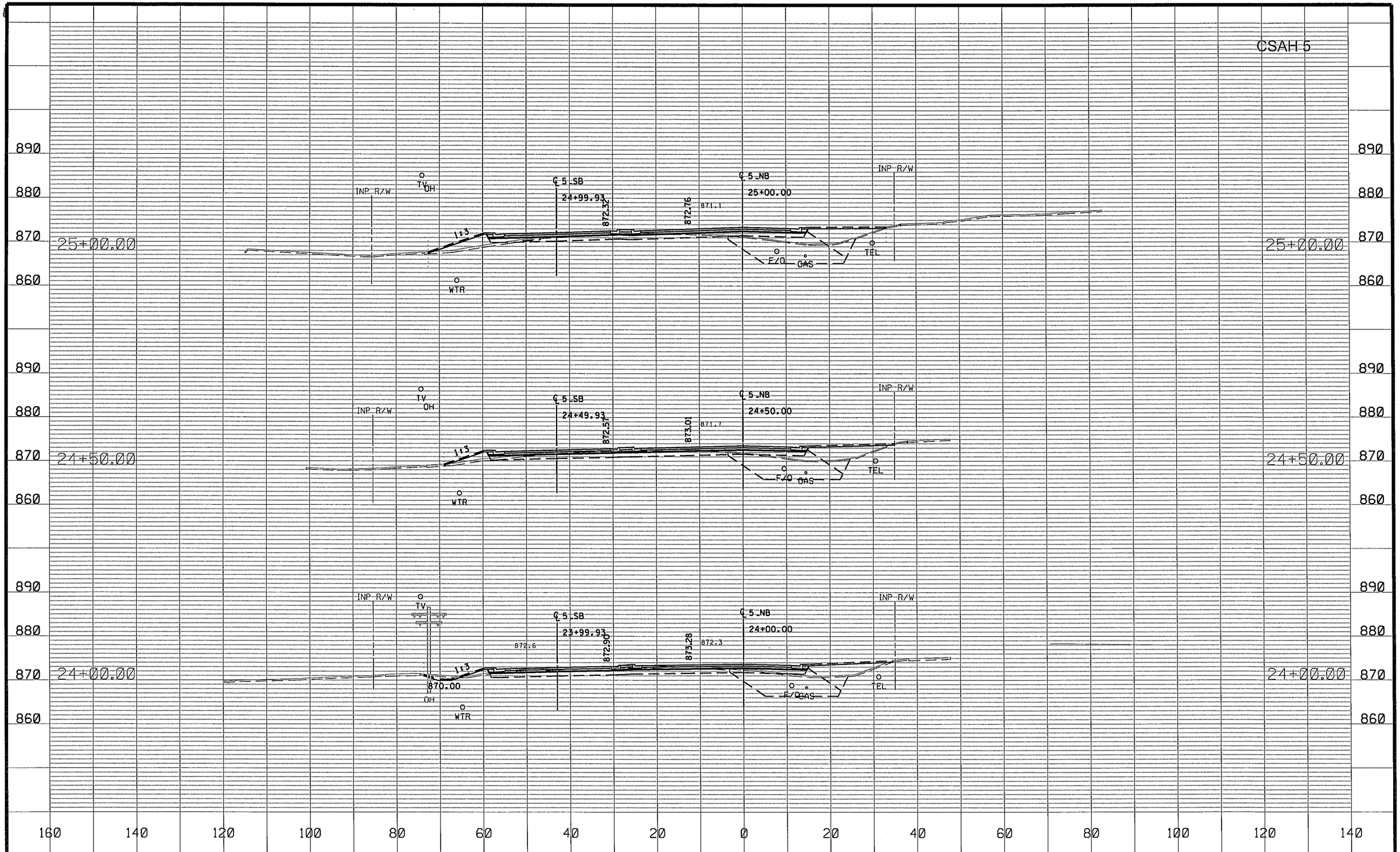
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 23+00.00 TO 23+83.00

Sheet 111 of 148 Sheets



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DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

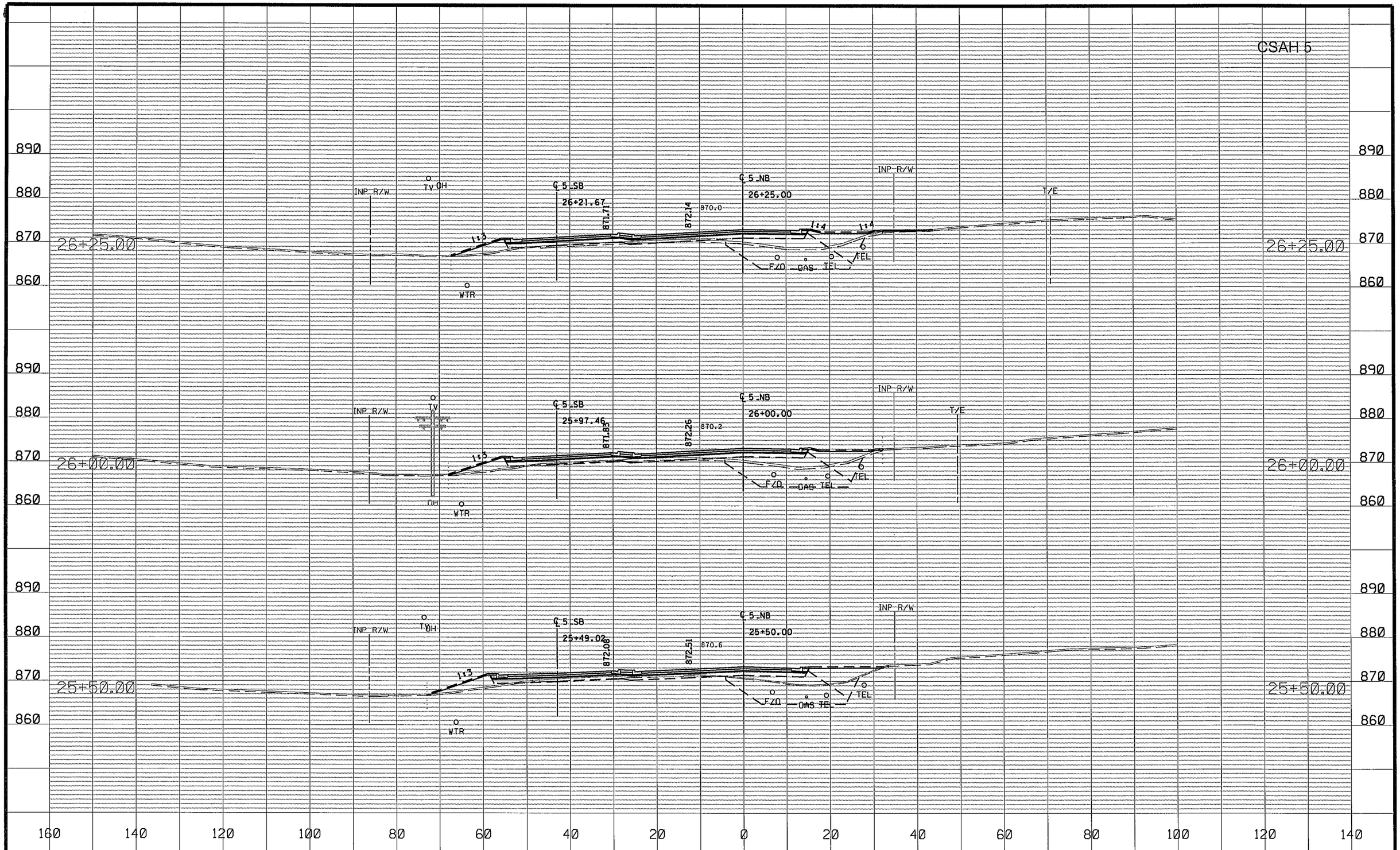
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 24+00.00 TO 25+00.00

Sheet 112 of 148 Sheets



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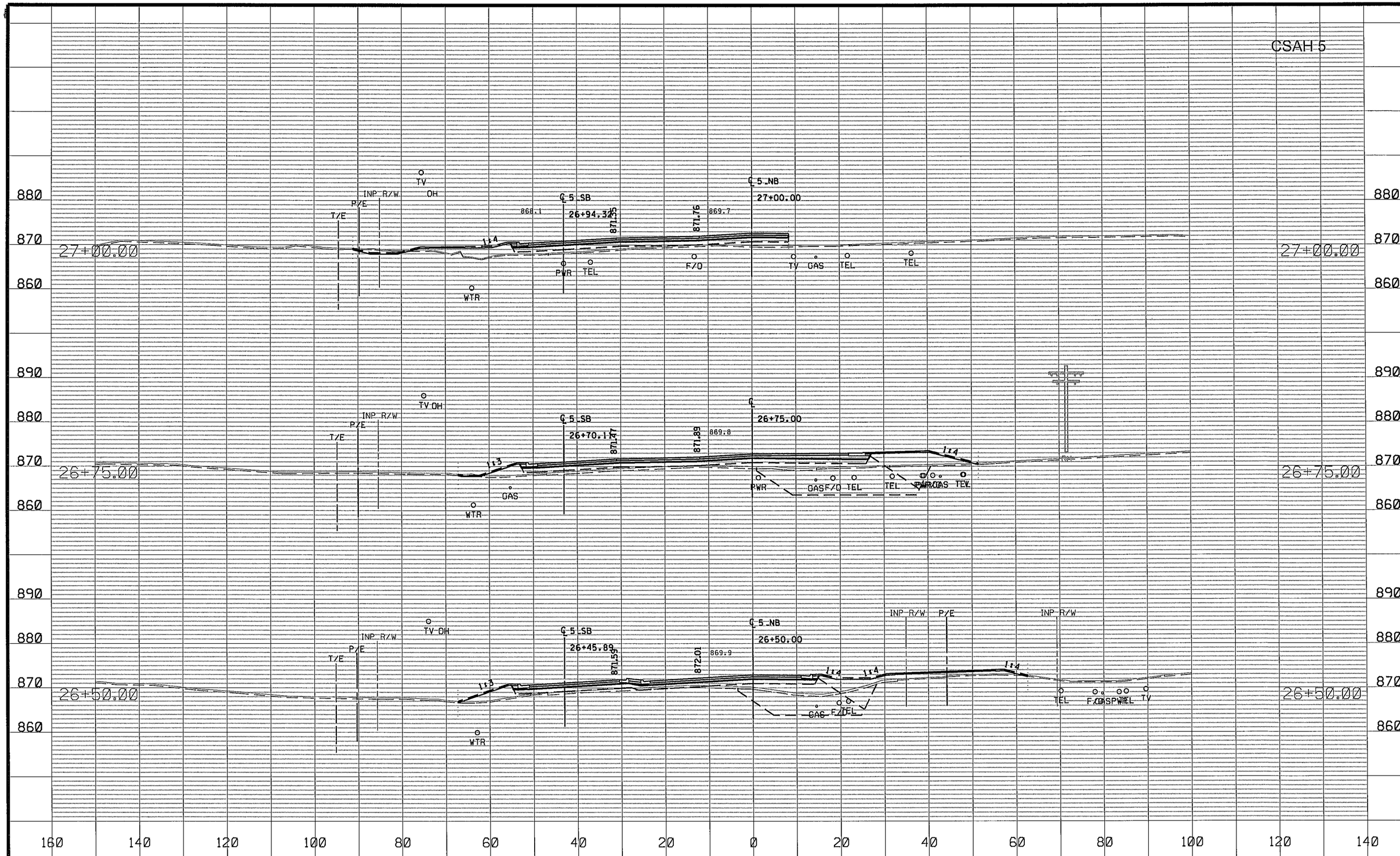
DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 25+50.00 TO 26+25.00
Sheet 113 of 148 Sheets



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DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

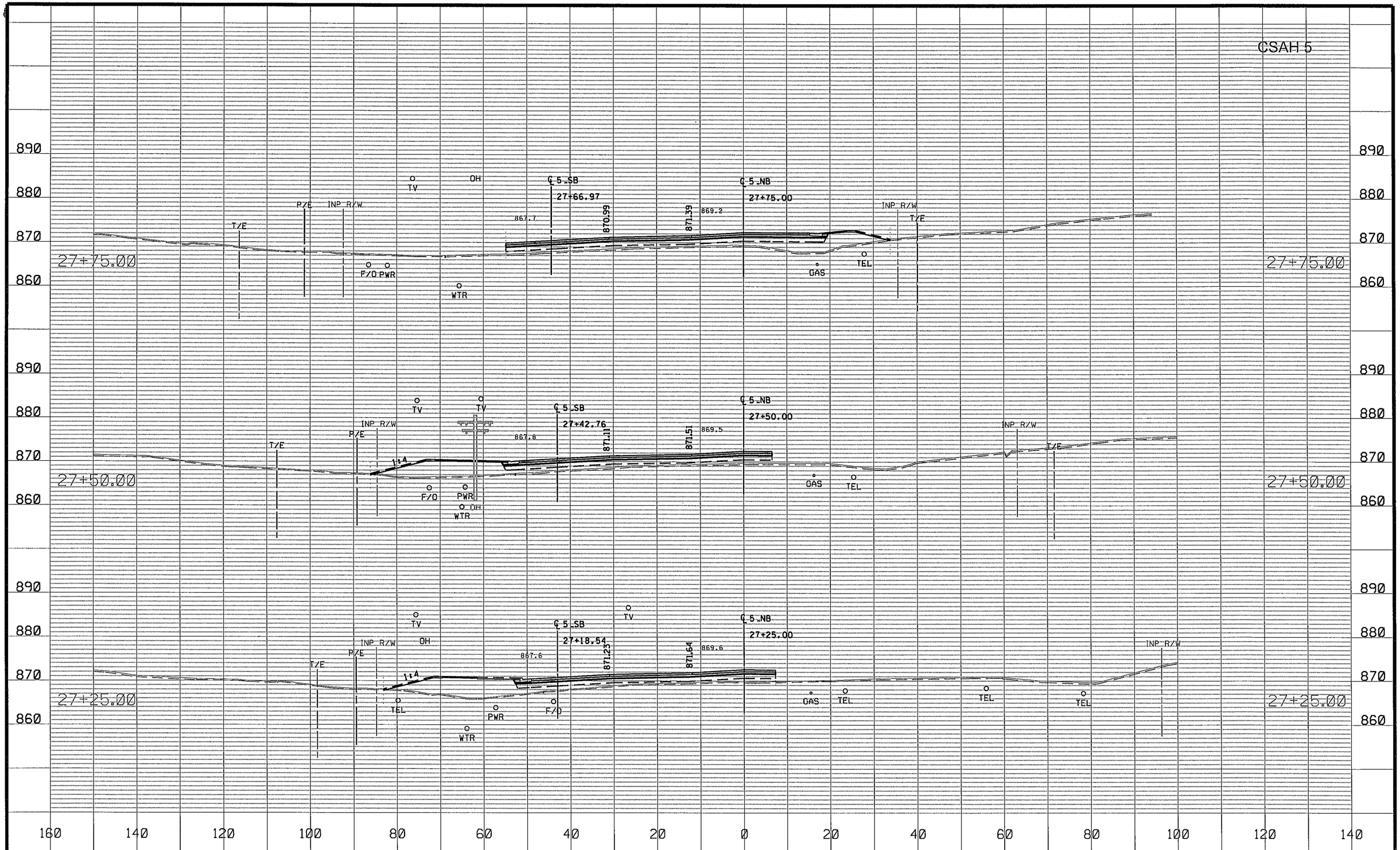
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 26+50.00 TO 27+00.00

Sheet 114 of 148 Sheets



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DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

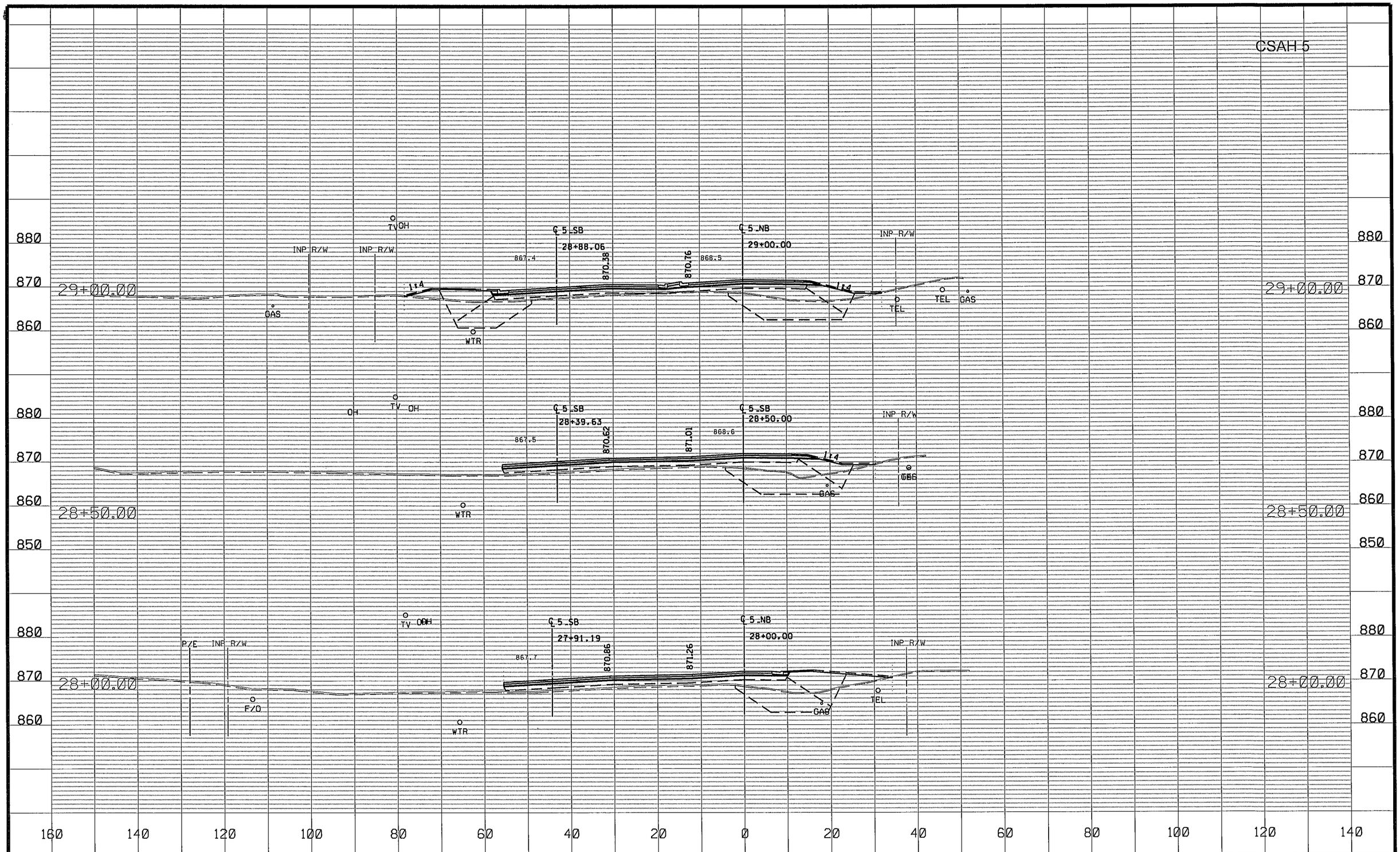
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 27+25.00 TO 27+75.00

Sheet 115 of 148 Sheets



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DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 28+00.00 TO 29+00.00

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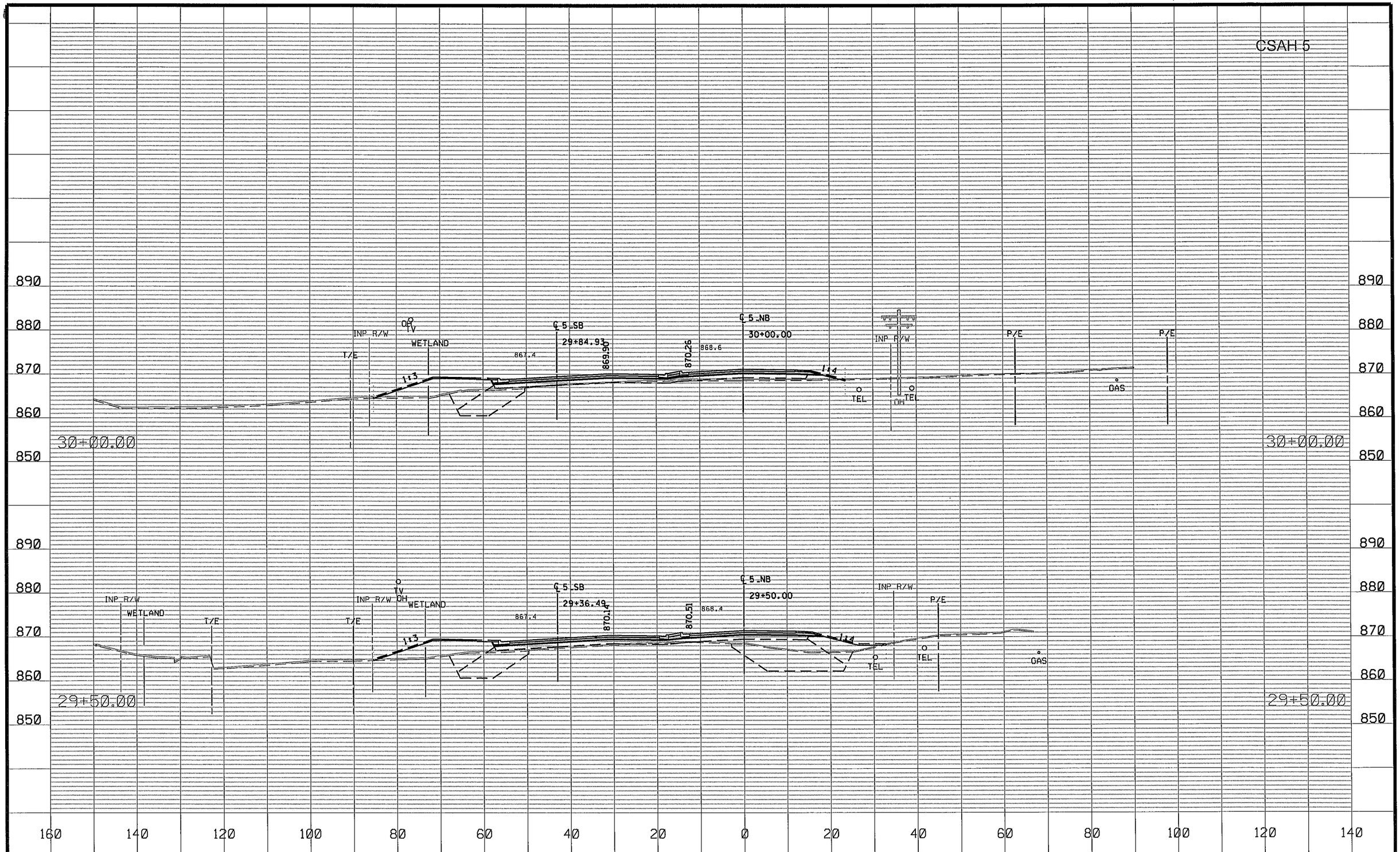

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CHECKED BY GMP DATE 04-24-14

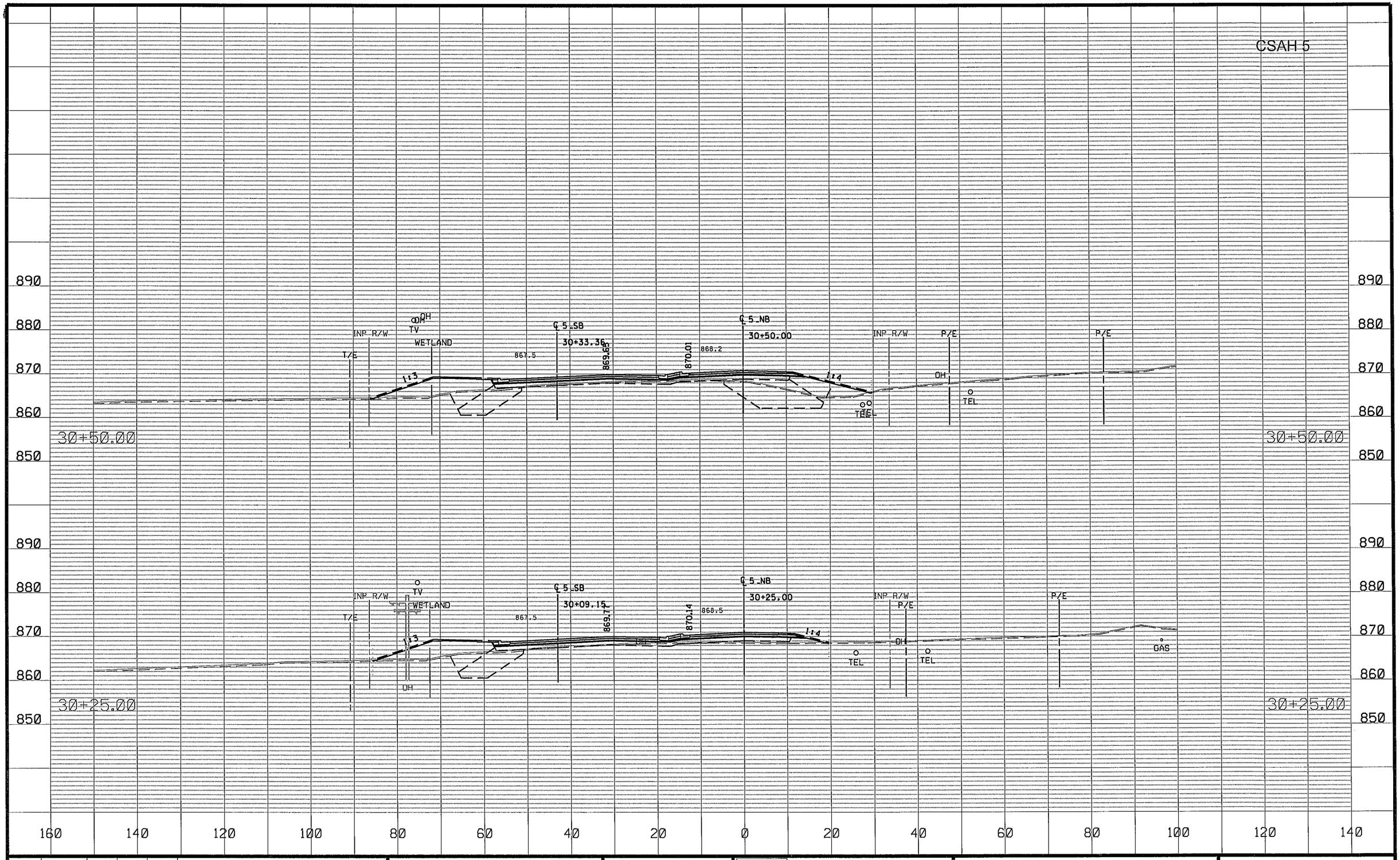
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 29+50.00 TO 30+00.00

Sheet 117 of 148 Sheets



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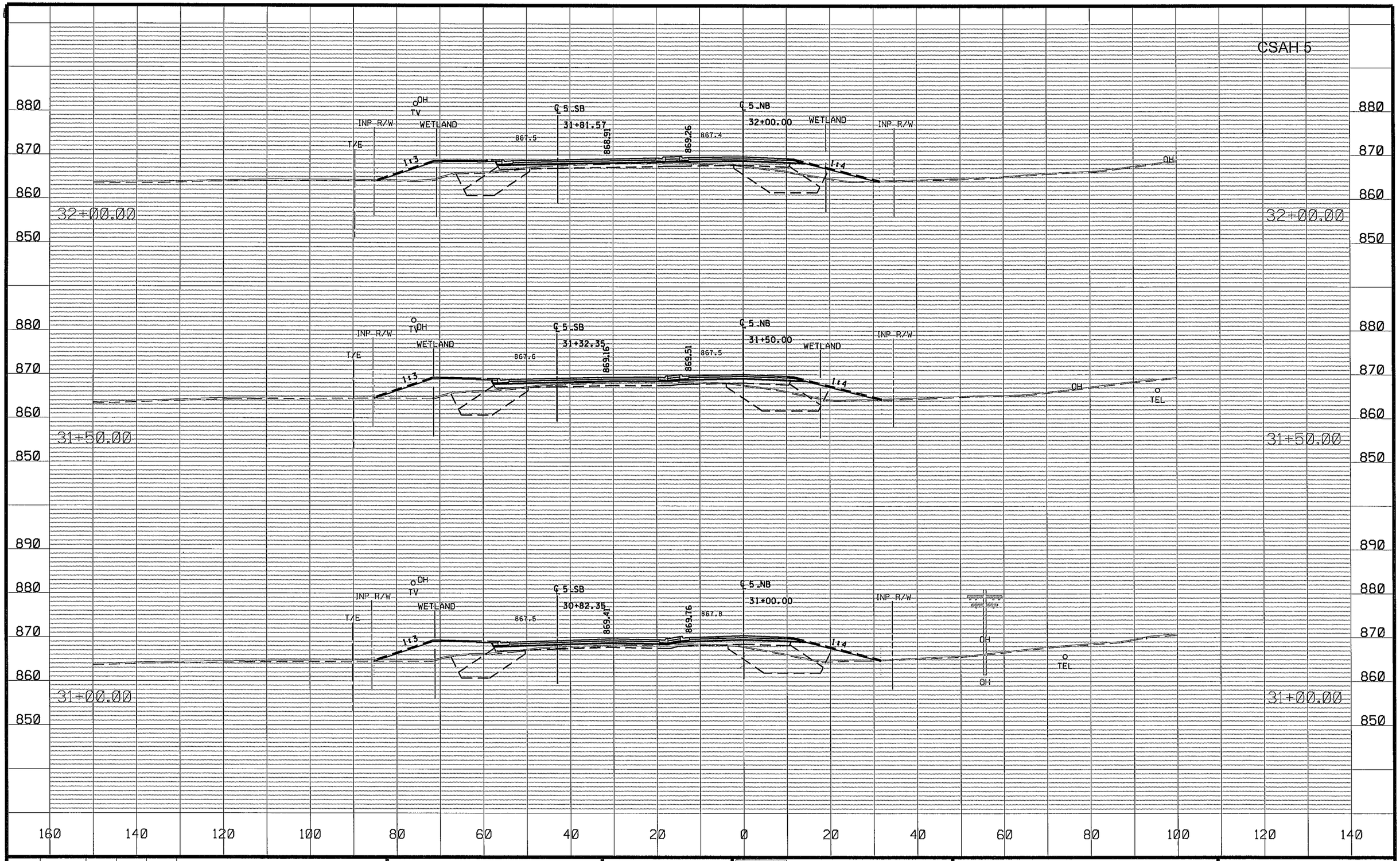
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA. 30+25.00 TO 30+50.00

Sheet 118 of 148 Sheets



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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 31+00.00 TO 32+00.00

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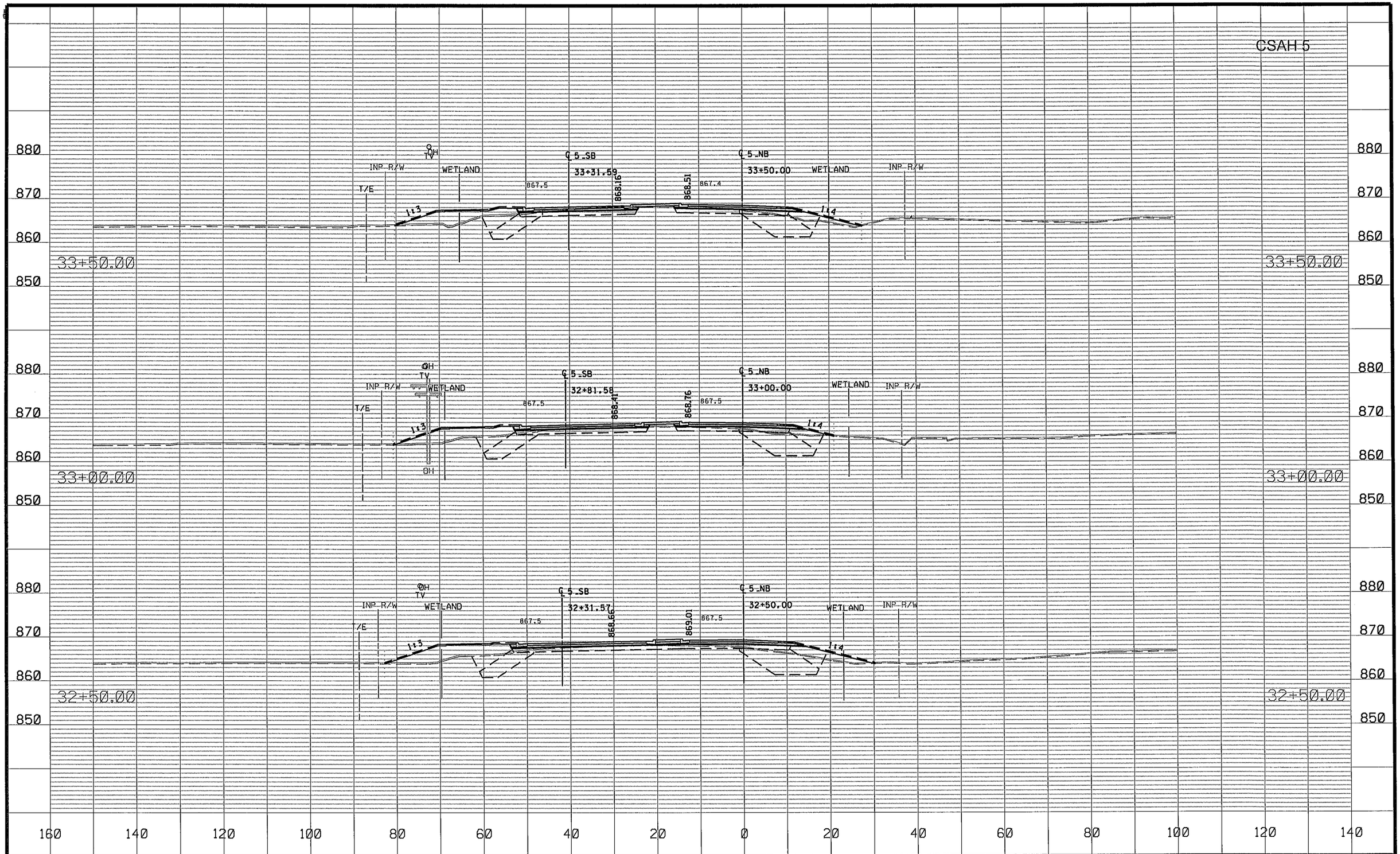

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DESIGN BY EJM DATE 02-28-14
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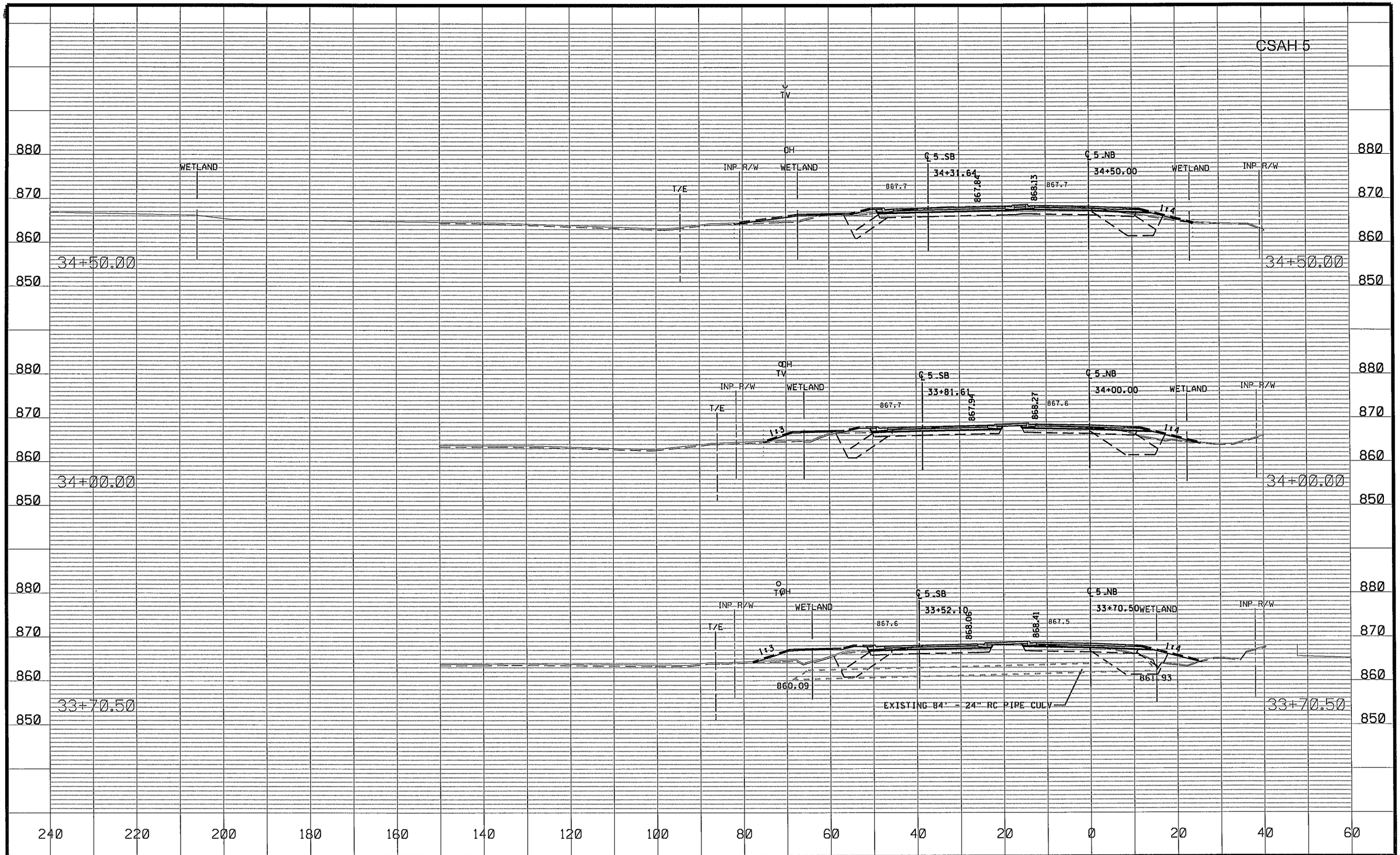
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 32+50.00 TO 33+50.00



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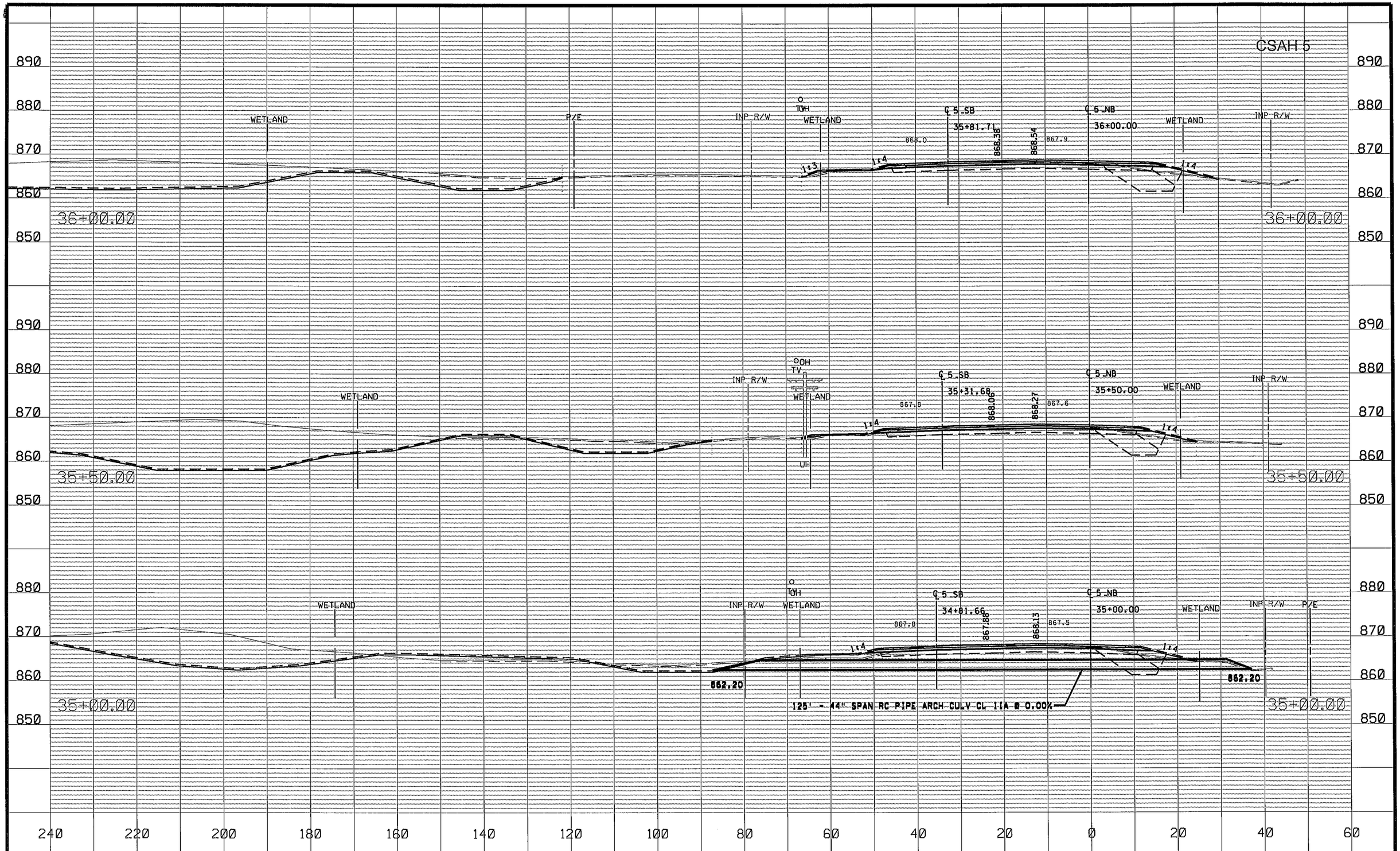
ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 33+70.50 TO 34+50.00



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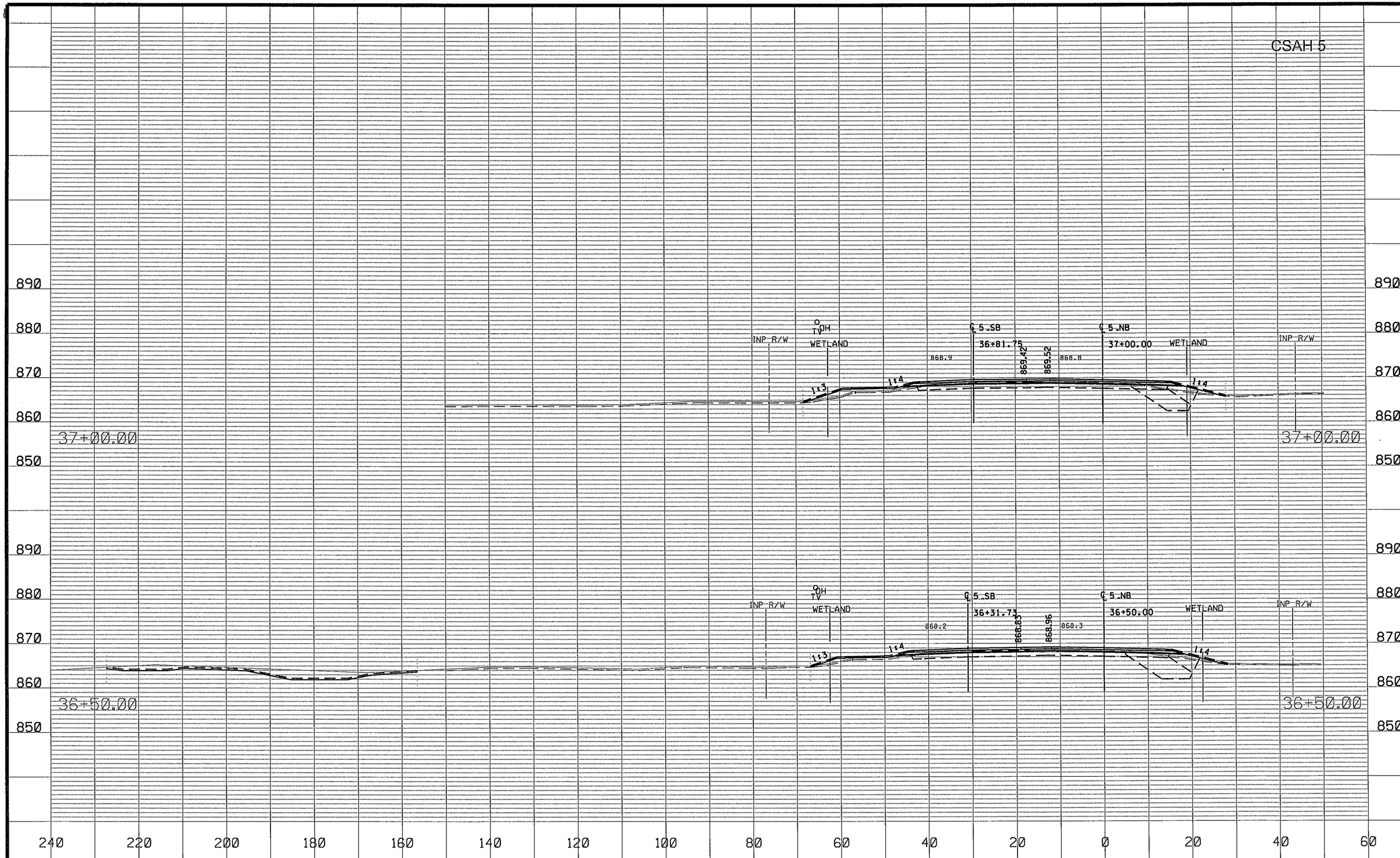
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 35+00.00 TO 36+00.00

Sheet 122 of 148 Sheets



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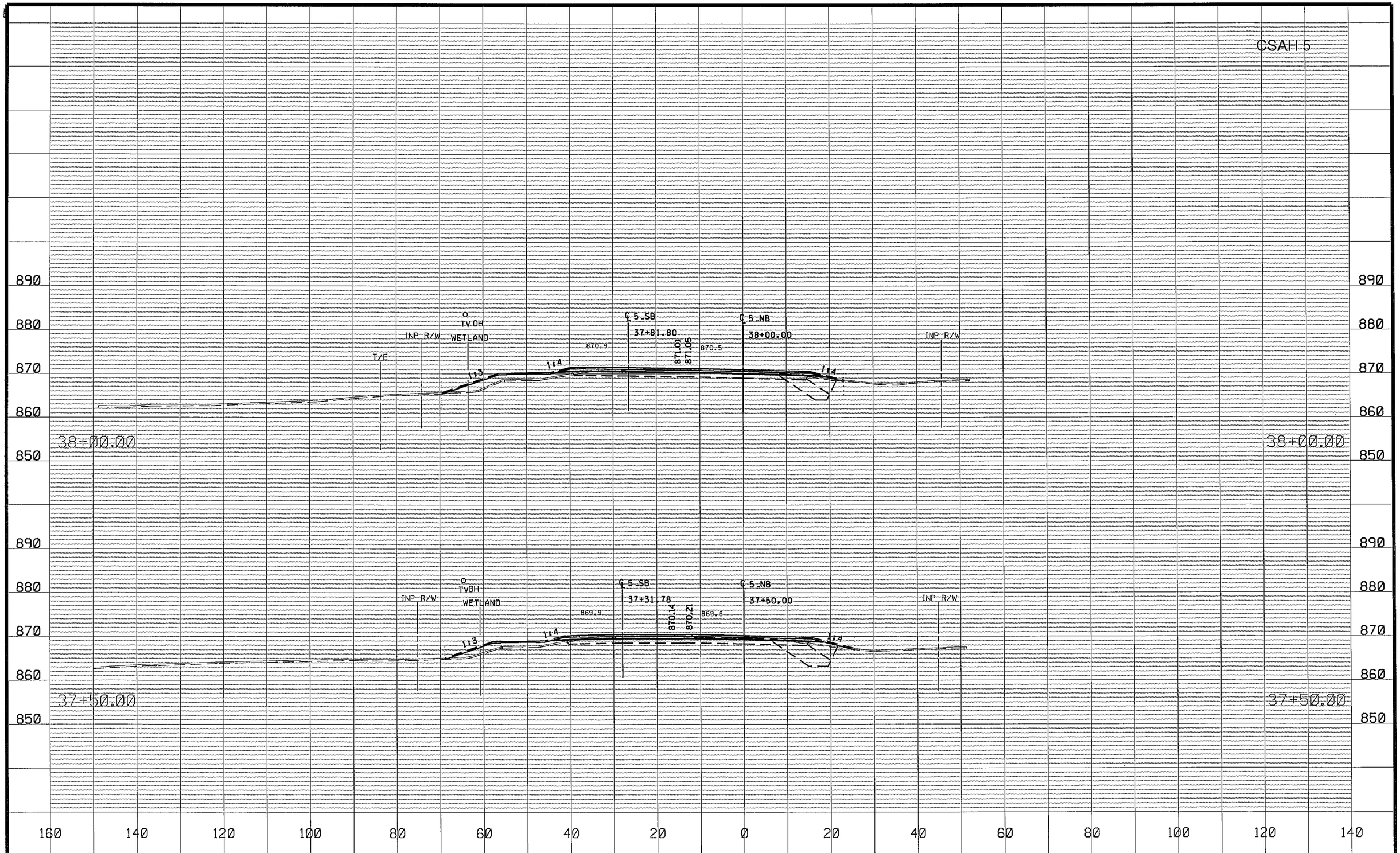
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 36+50.00 TO 37+00.00



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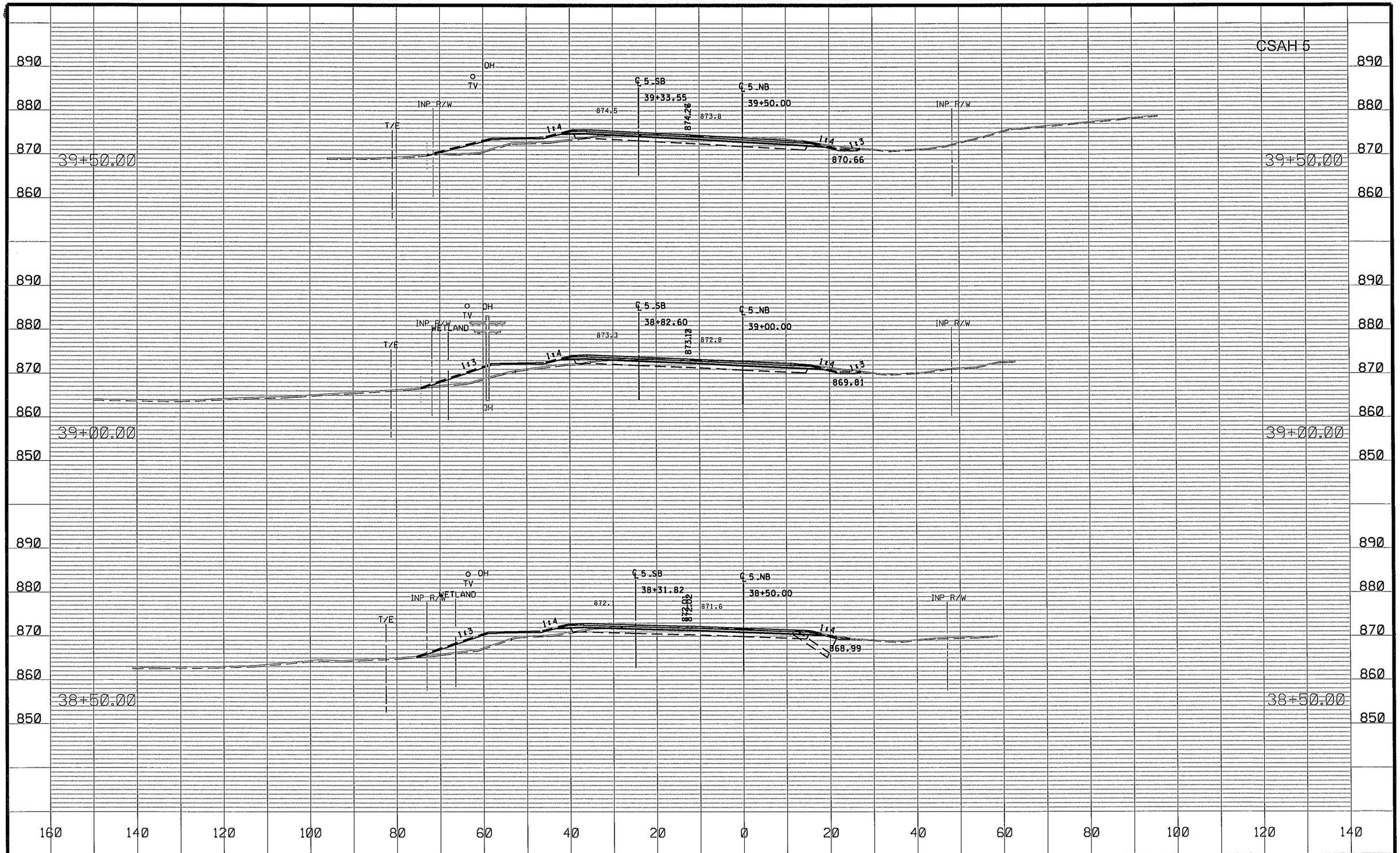
ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 37+50.00 TO 38+00.00

Sheet 124 of 148 Sheets



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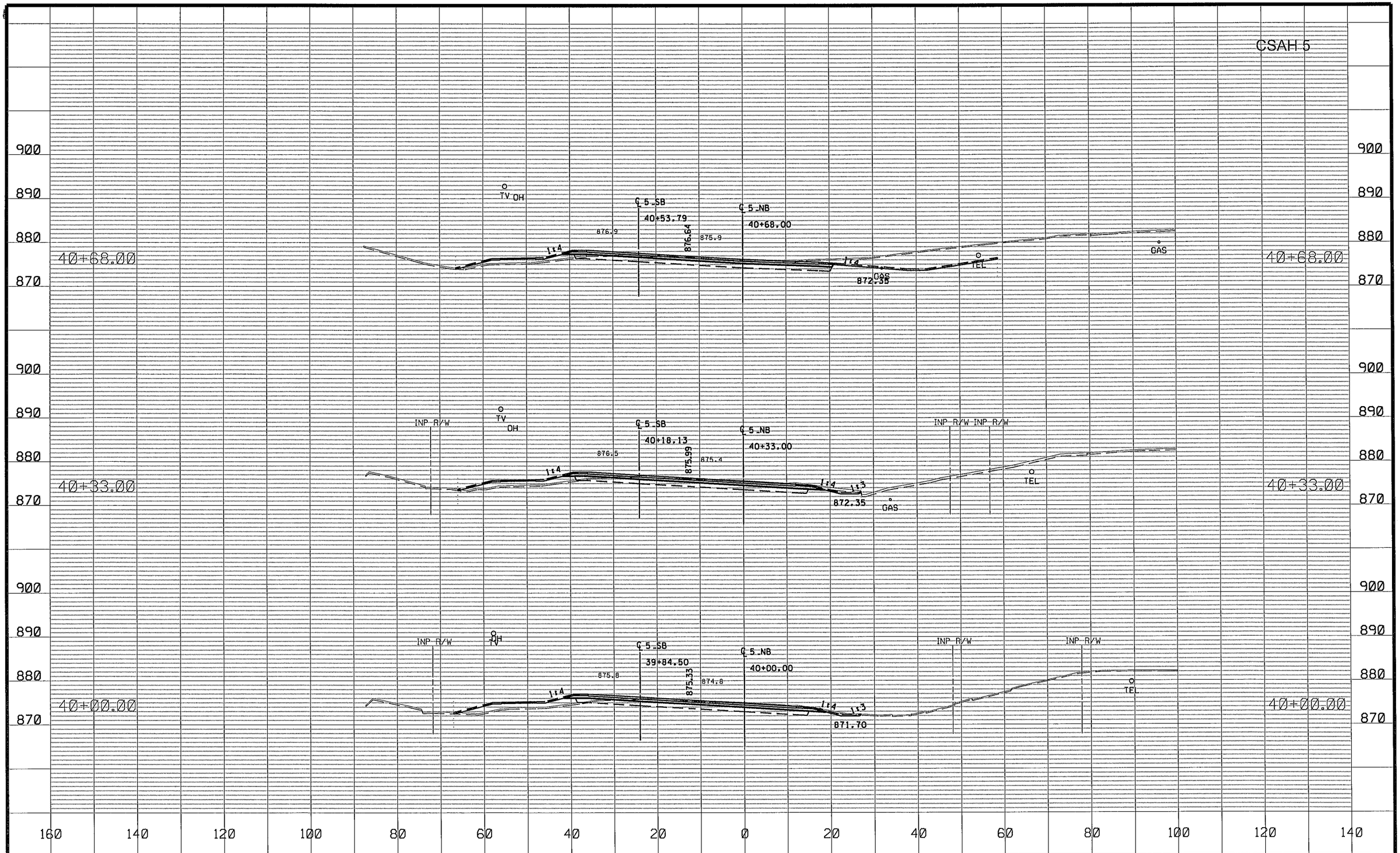
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 38+50.00 TO 39+50.00



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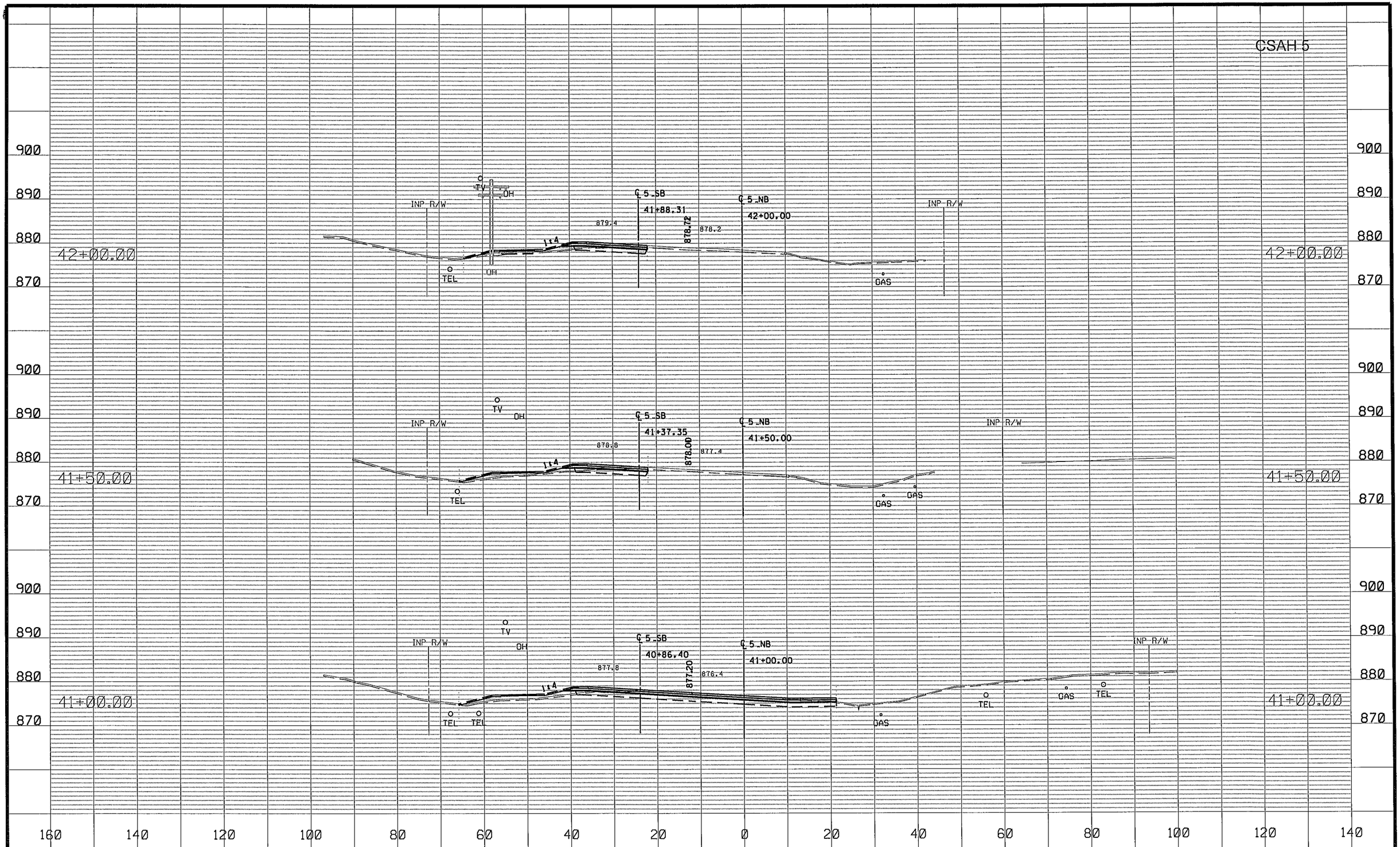
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 40+00.00 TO 40+68.00

Sheet 126 of 148 Sheets



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ANOKA COUNTY
HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 41+00.00 TO 42+00.00

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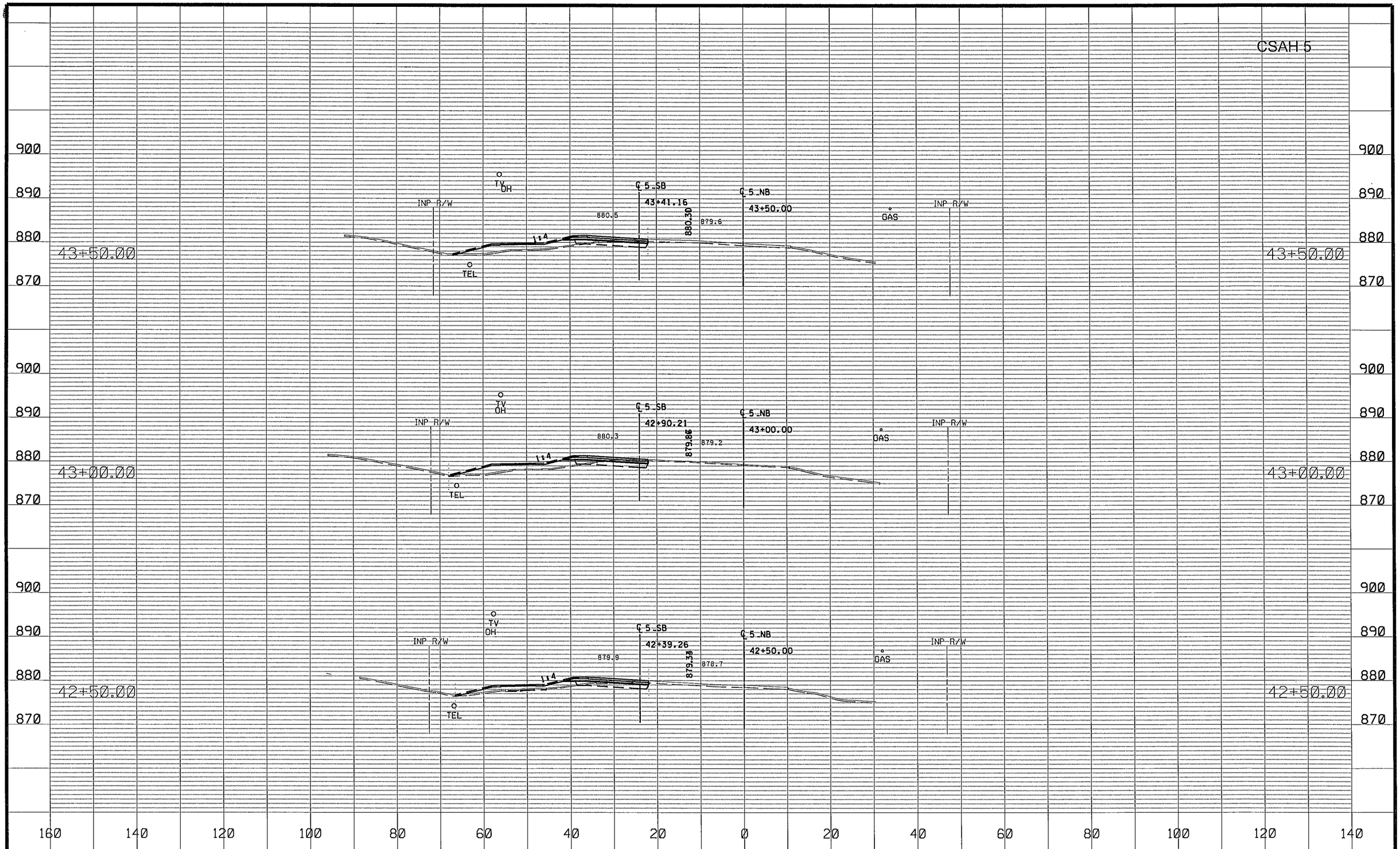

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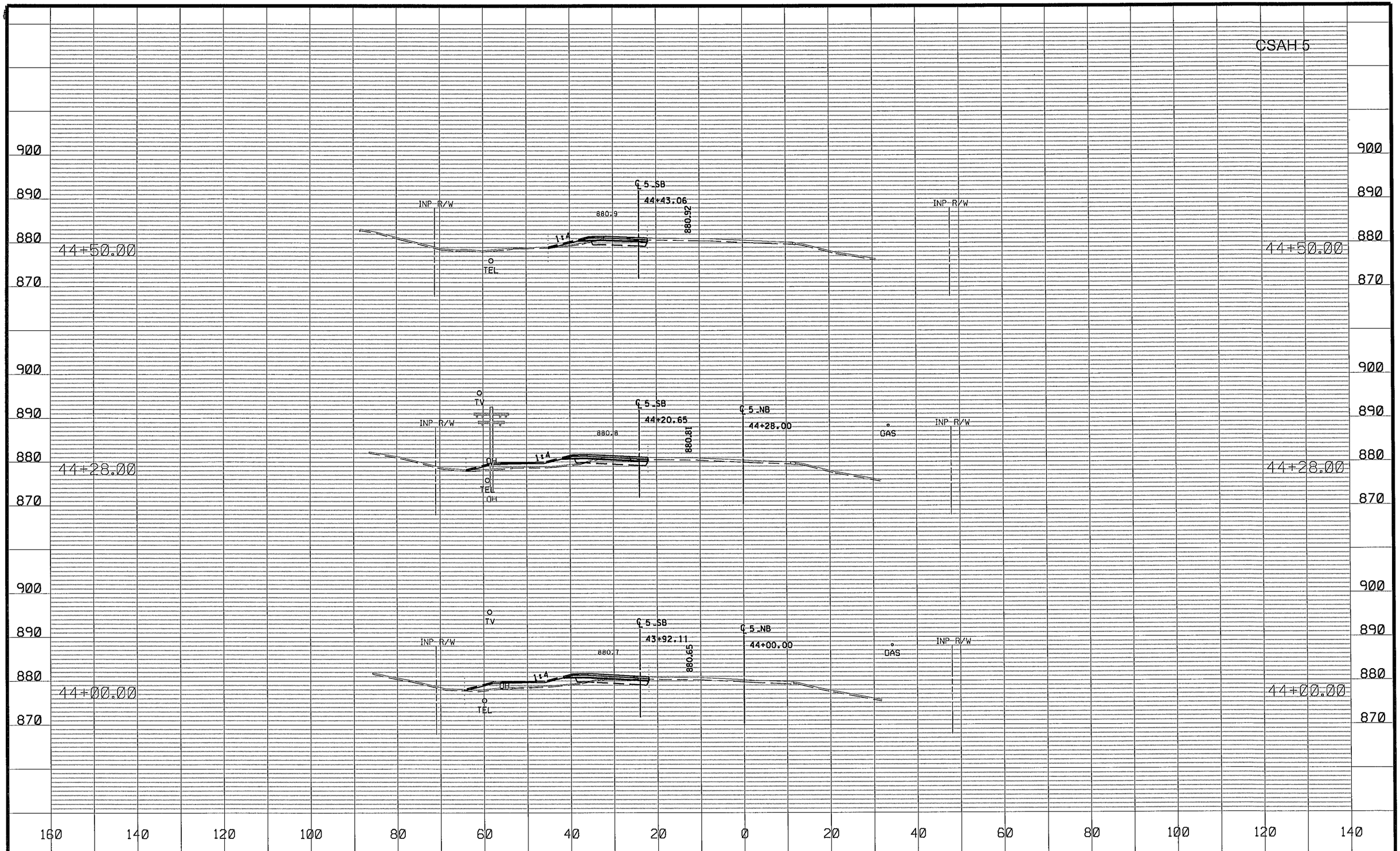
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 42+50.00 TO 43+50.00



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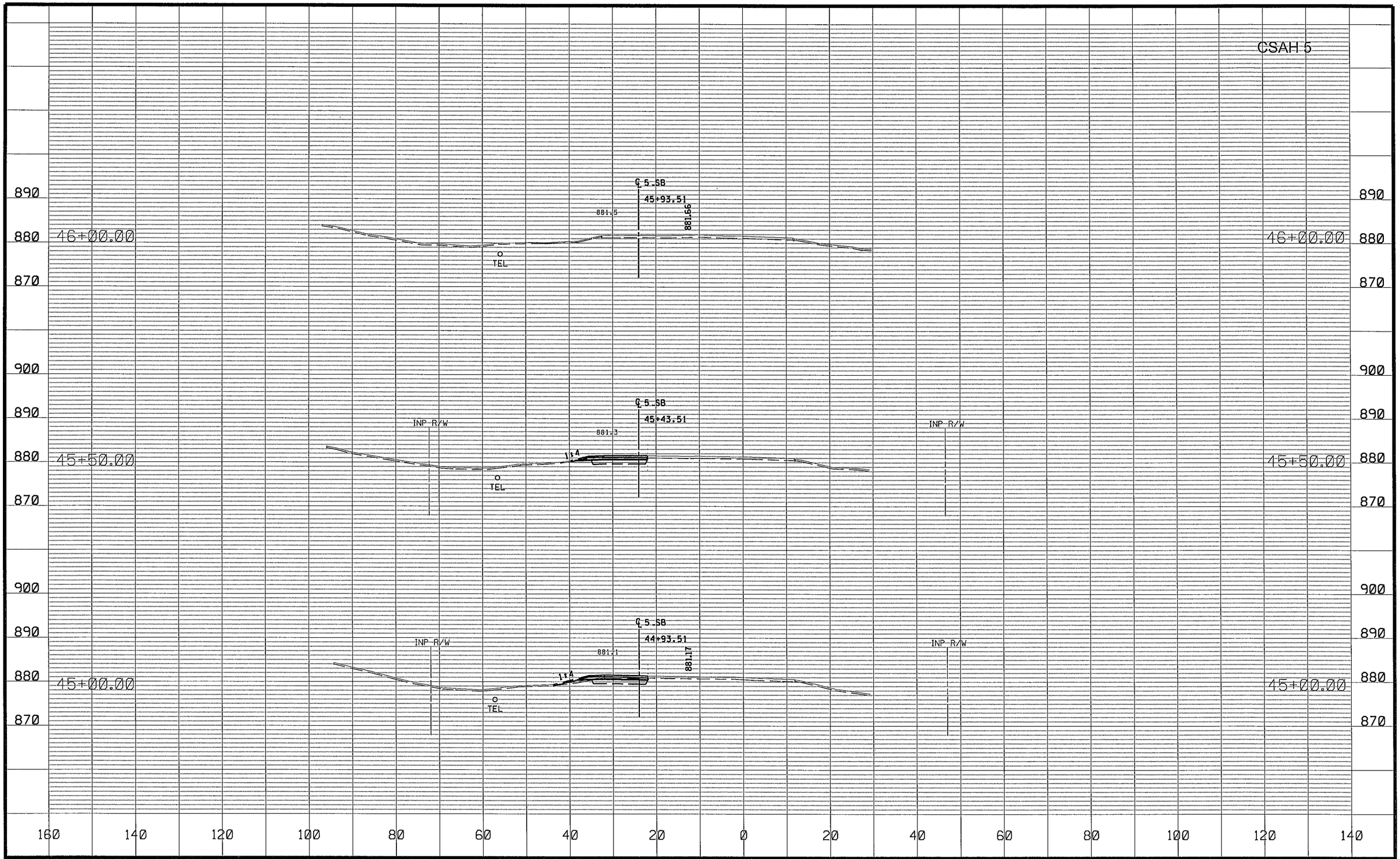
ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 44+00.00 TO 44+50.00



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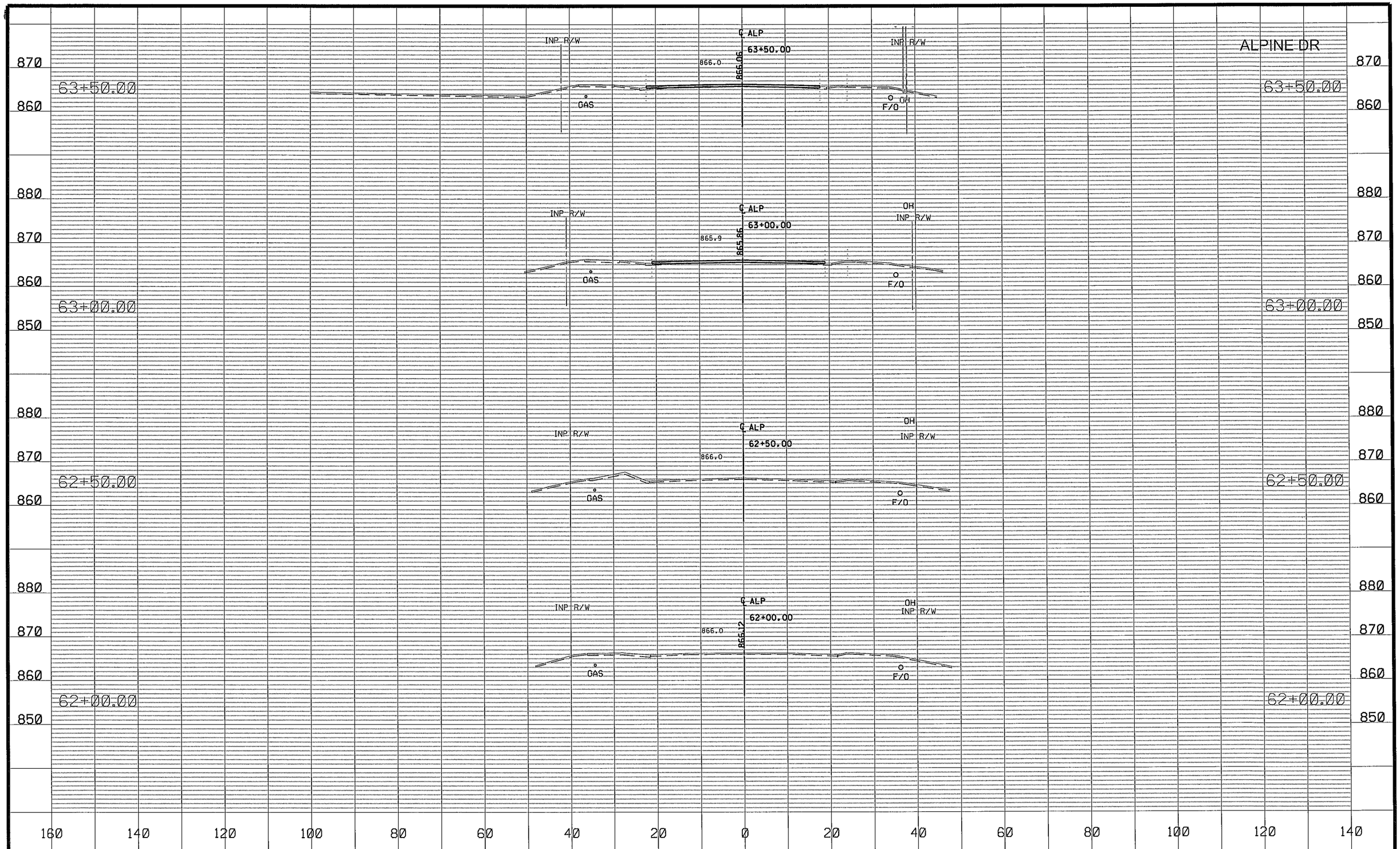
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 45+00.00 TO 46+00.00



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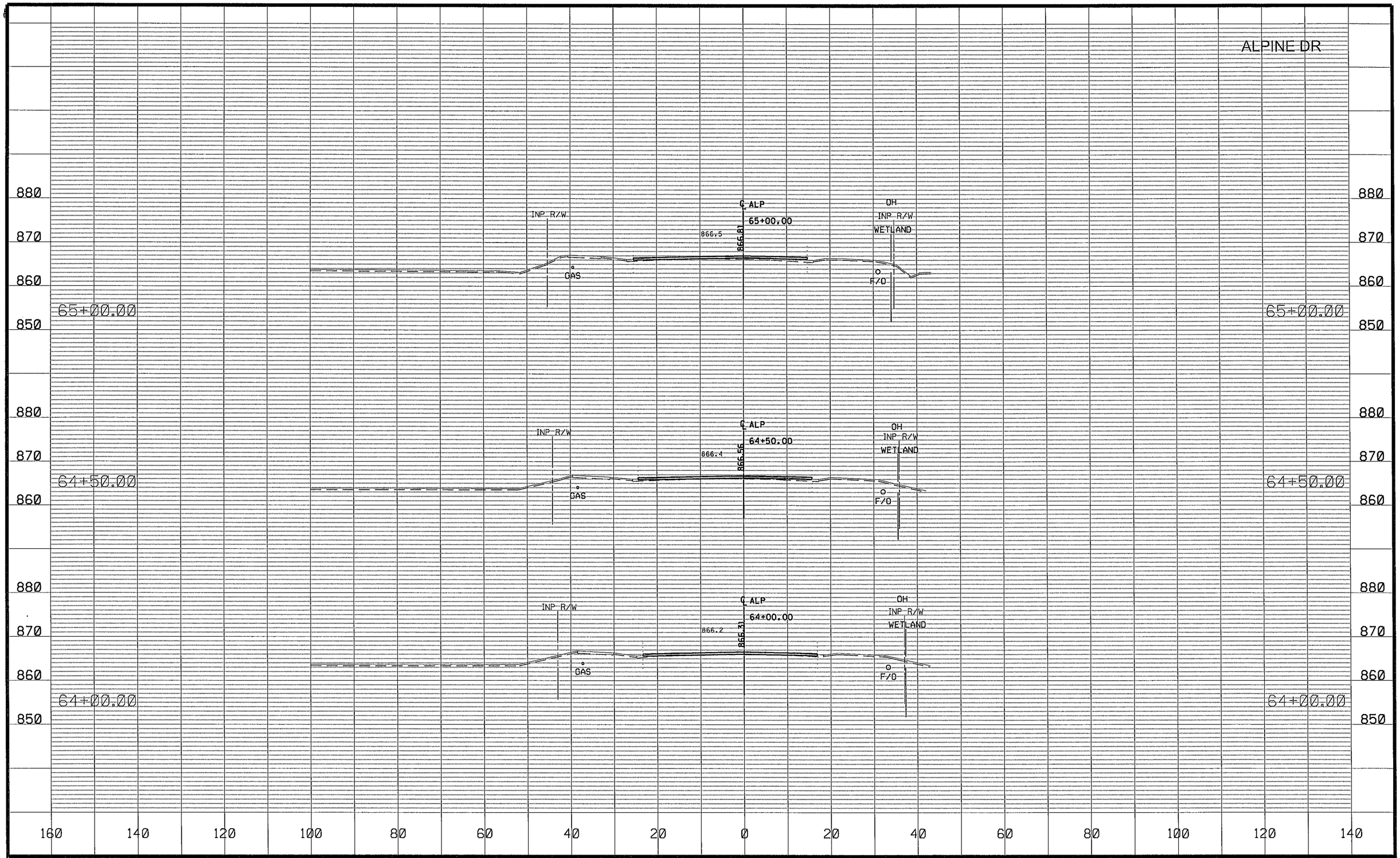
CHECKED BY GMP DATE 04-24-14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 62+00.00 TO 63+50.00



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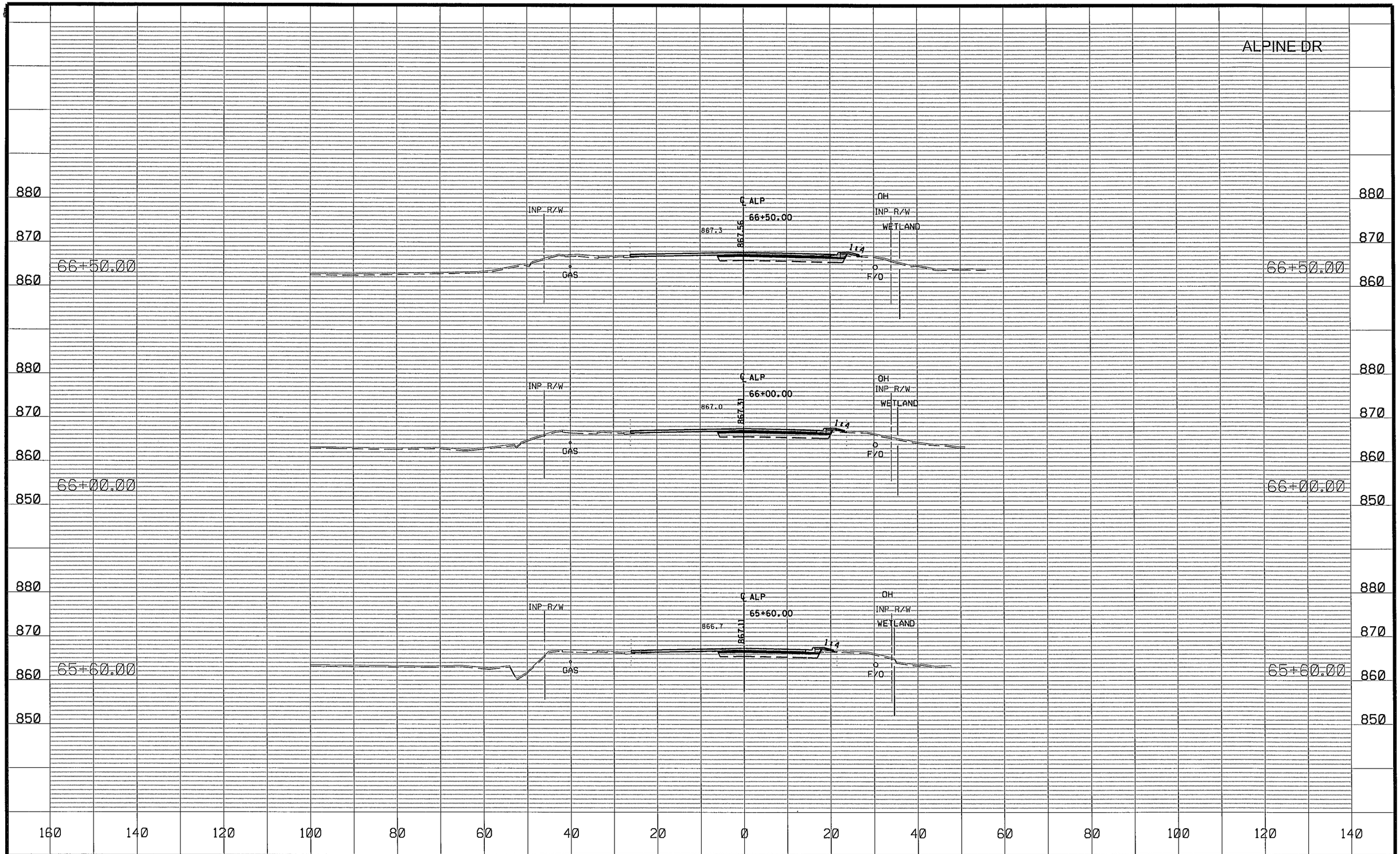
ANOKA COUNTY
HIGHWAY DEPT.

SP 002-605-018
SP 199-106-011
CP 14-20

CROSS SECTIONS
STA 64+00.00 TO 65+00.00



NO	DATE	BY	CKD	APPR	REVISION

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DRAWN BY EJM DATE 04-16-14
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CROSS SECTIONS
STA 65+60.00 TO 66+50.00

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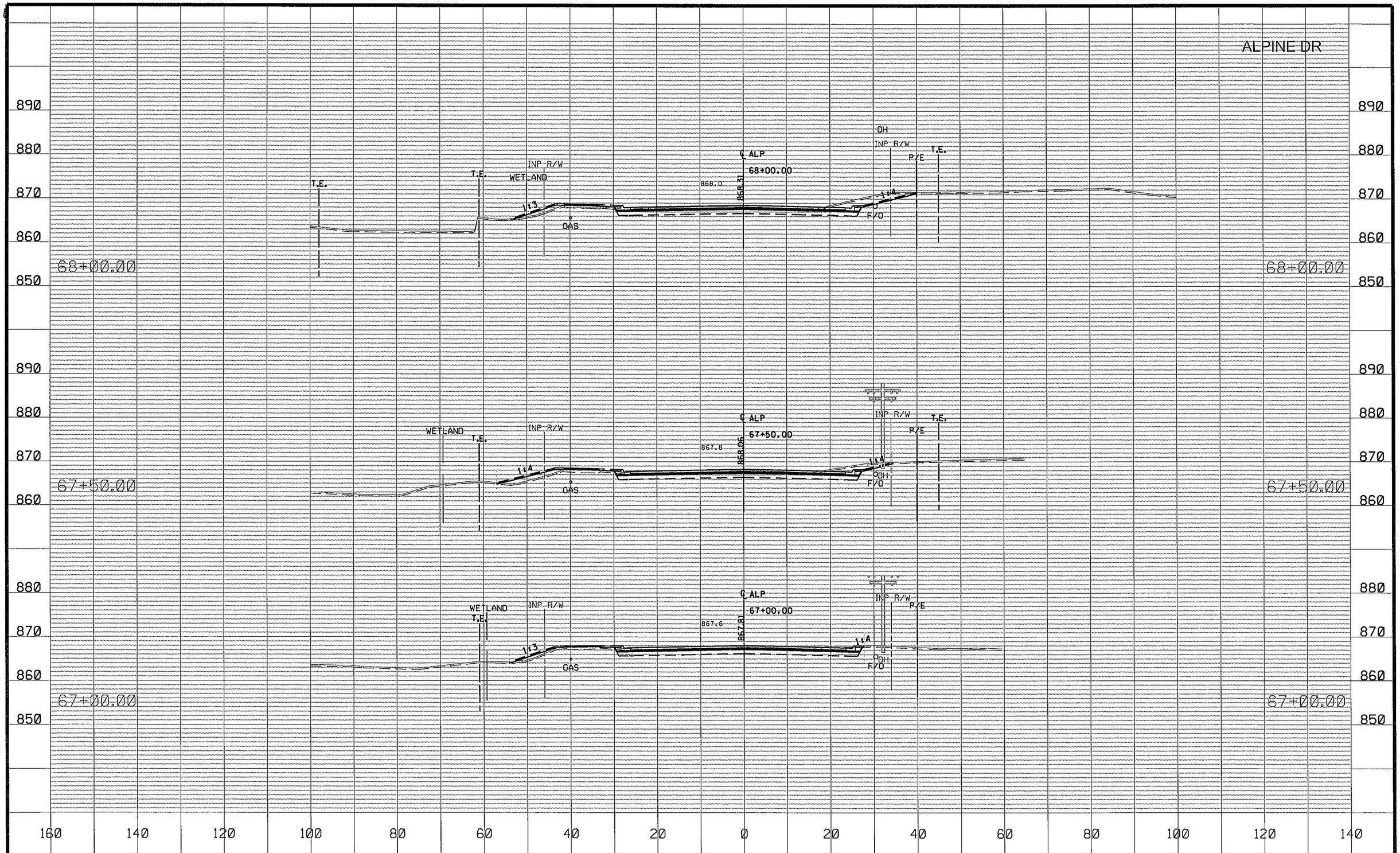

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ANOKA COUNTY
HIGHWAY DEPT.

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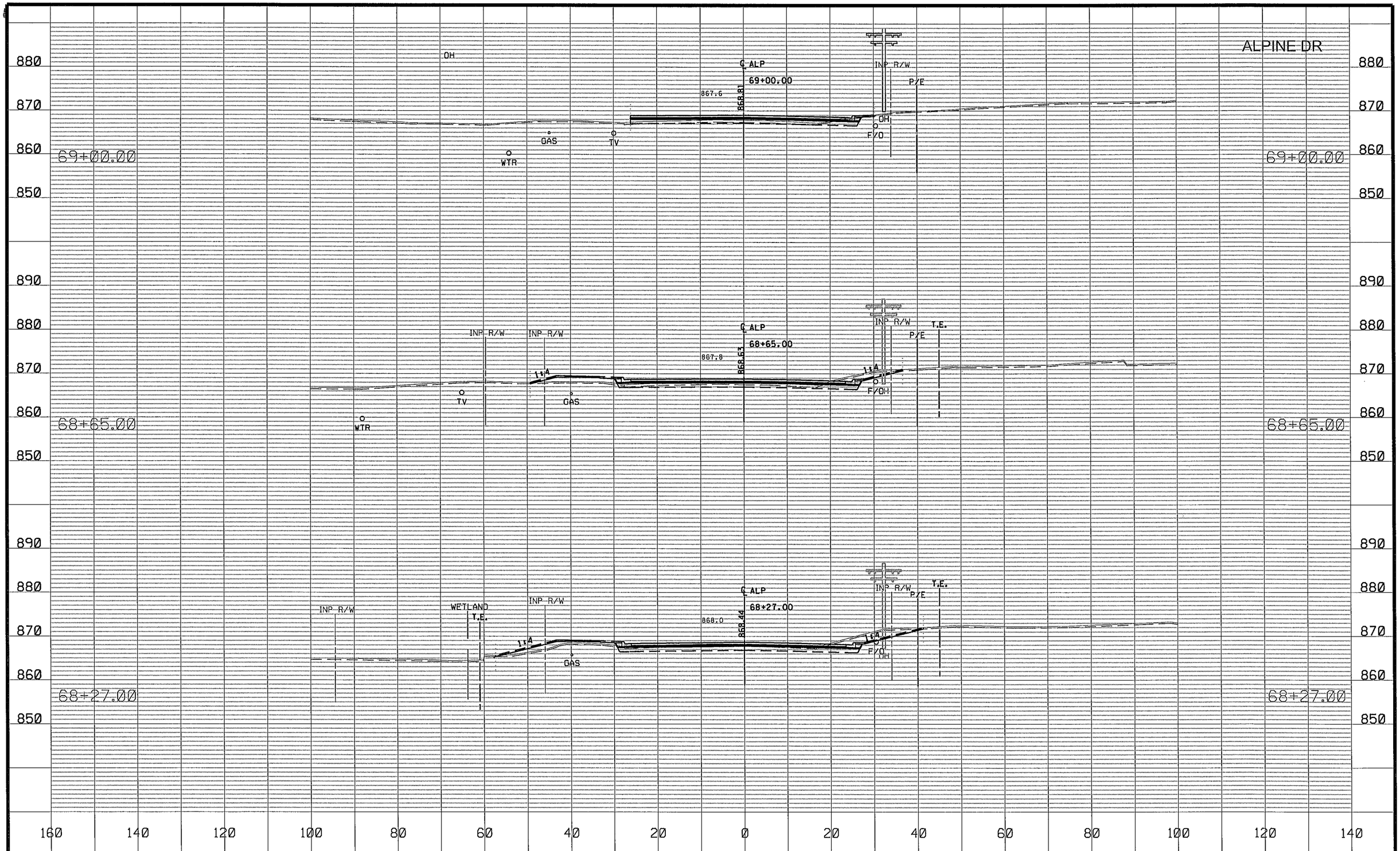
CP 14-20

CROSS SECTIONS
STA 67+00.00 TO 68+00.00



NO	DATE	BY	CKD	APPR	REVISION

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DESIGN BY EJM DATE 02-28-14
CHECKED BY GMP DATE 04-24-14

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CROSS SECTIONS
STA 68+27.00 TO 69+00.00

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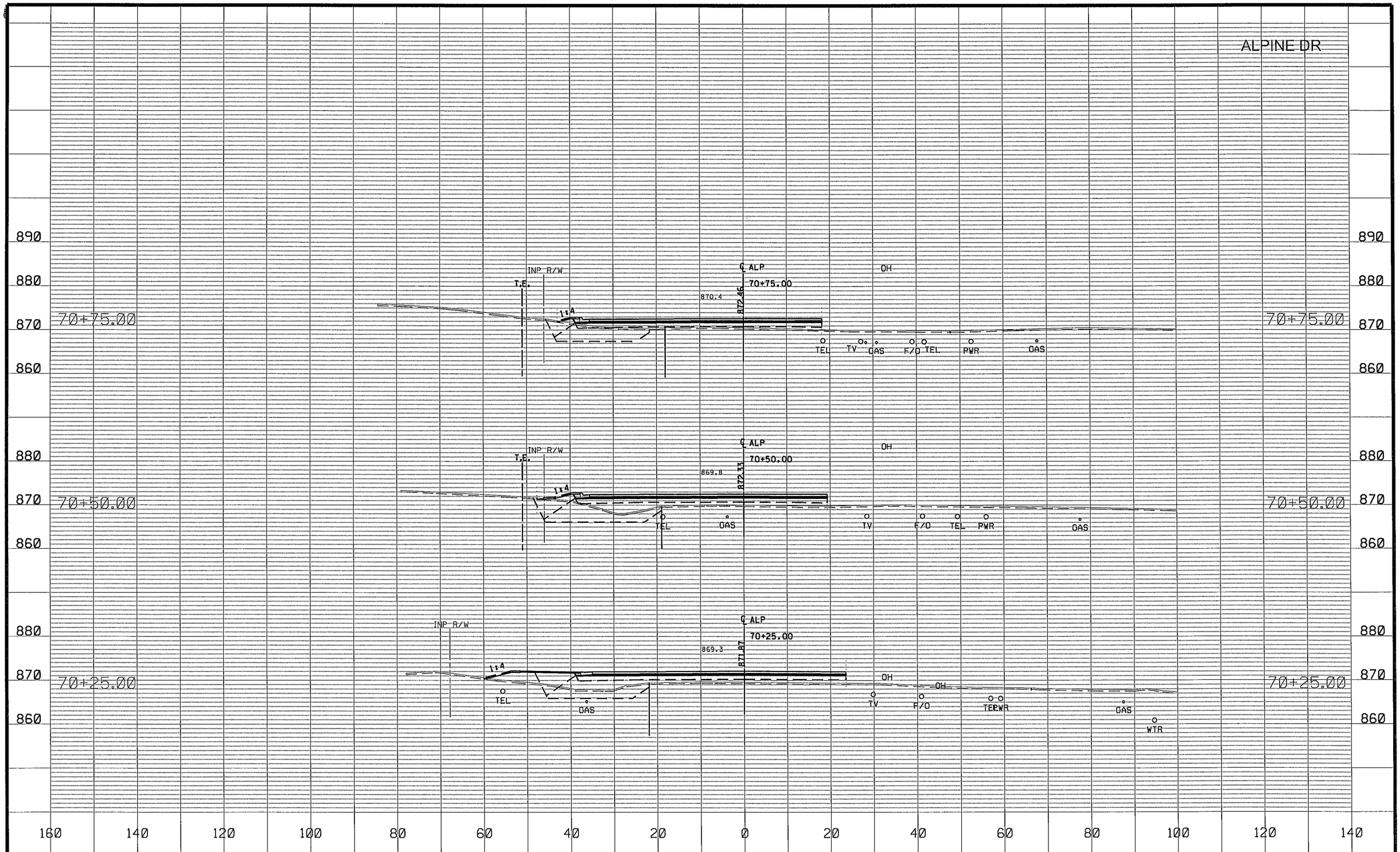
CROSS SECTIONS
STA 69+50.00 TO 70+00.00



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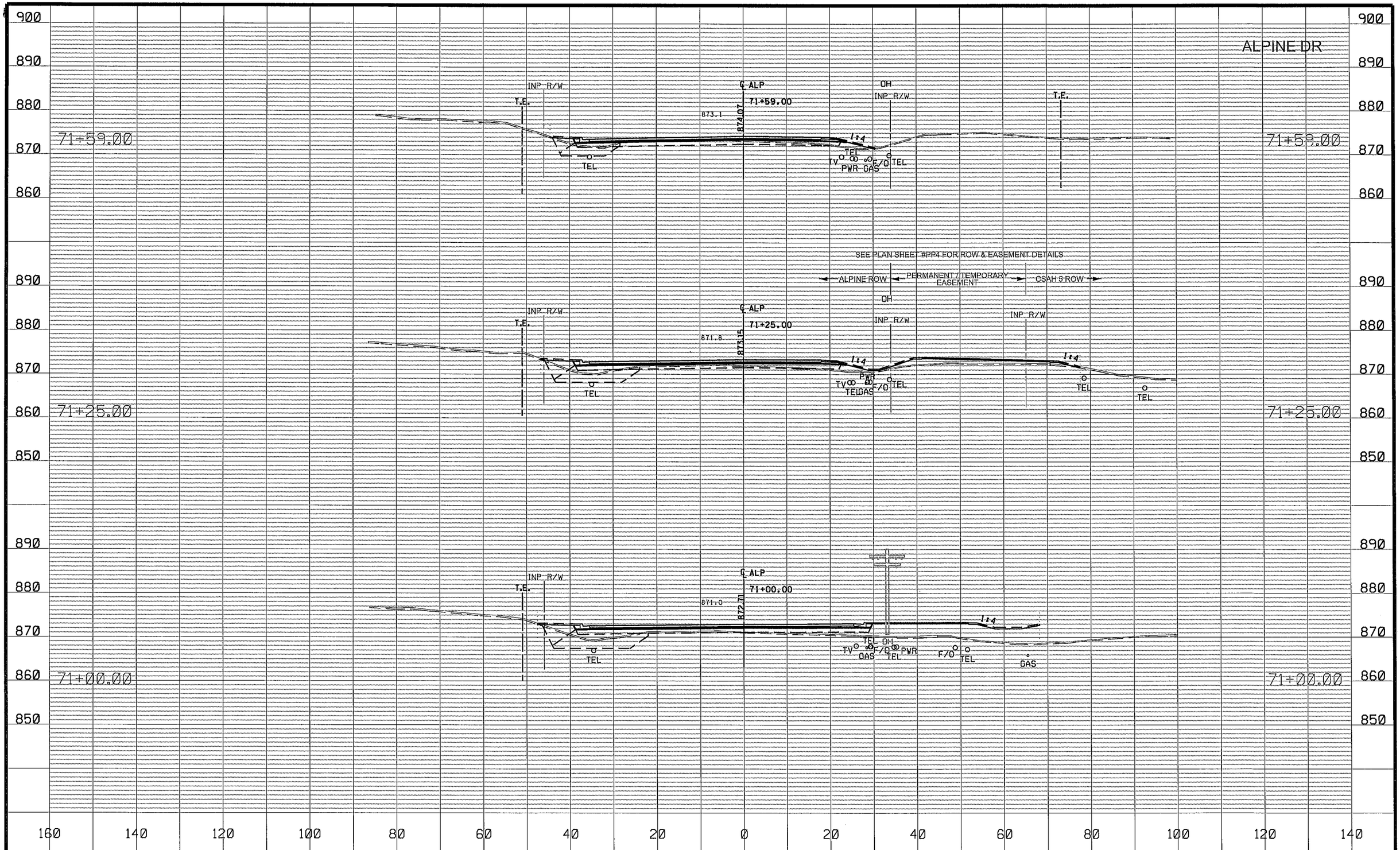
CROSS SECTIONS
STA 70+25.00 TO 70+75.00



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ANOKA COUNTY HIGHWAY DEPT.

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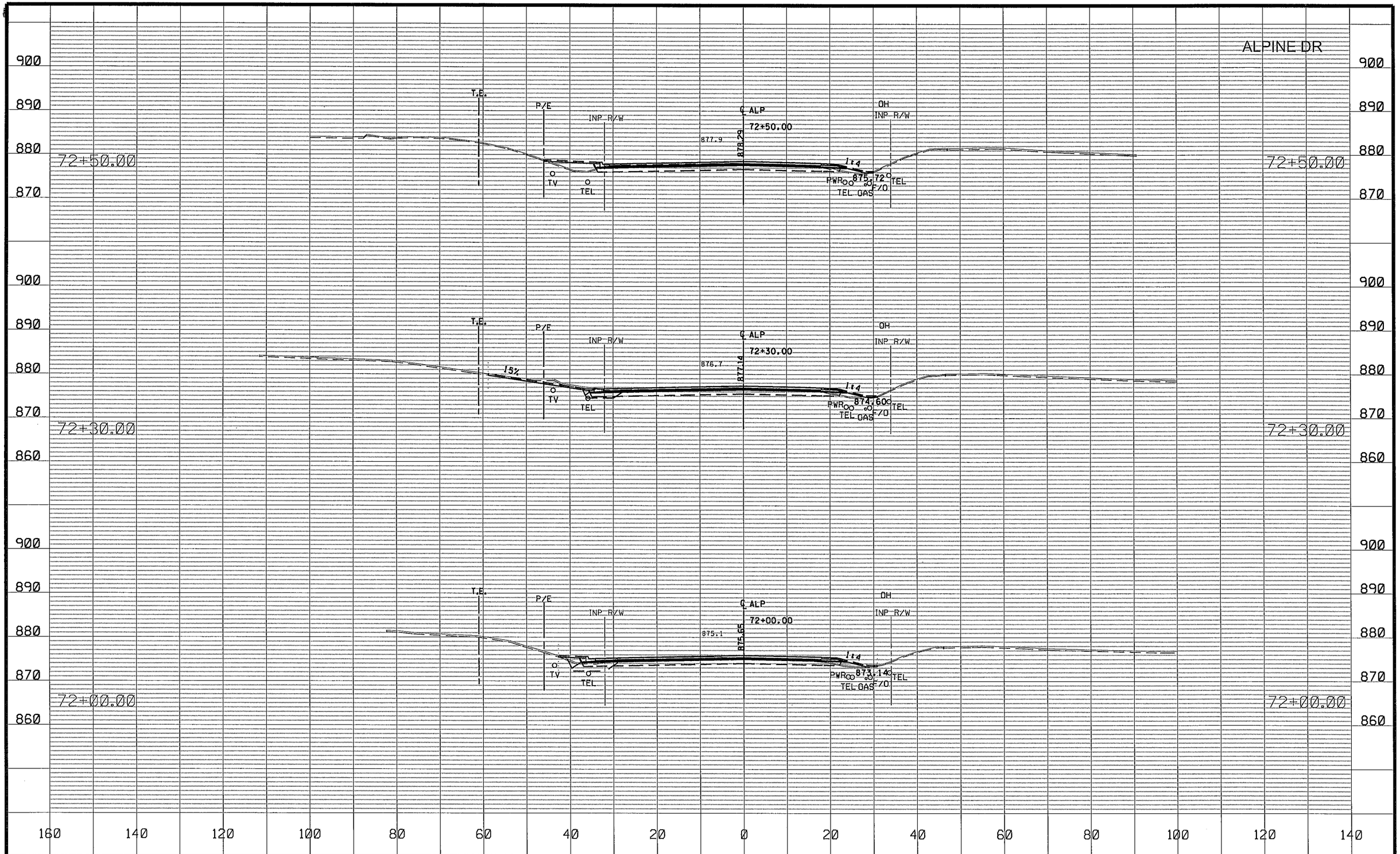
CROSS SECTIONS
STA 71+00.00 TO 71+59.00



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CROSS SECTIONS
STA 72+00.00 TO 72+50.00
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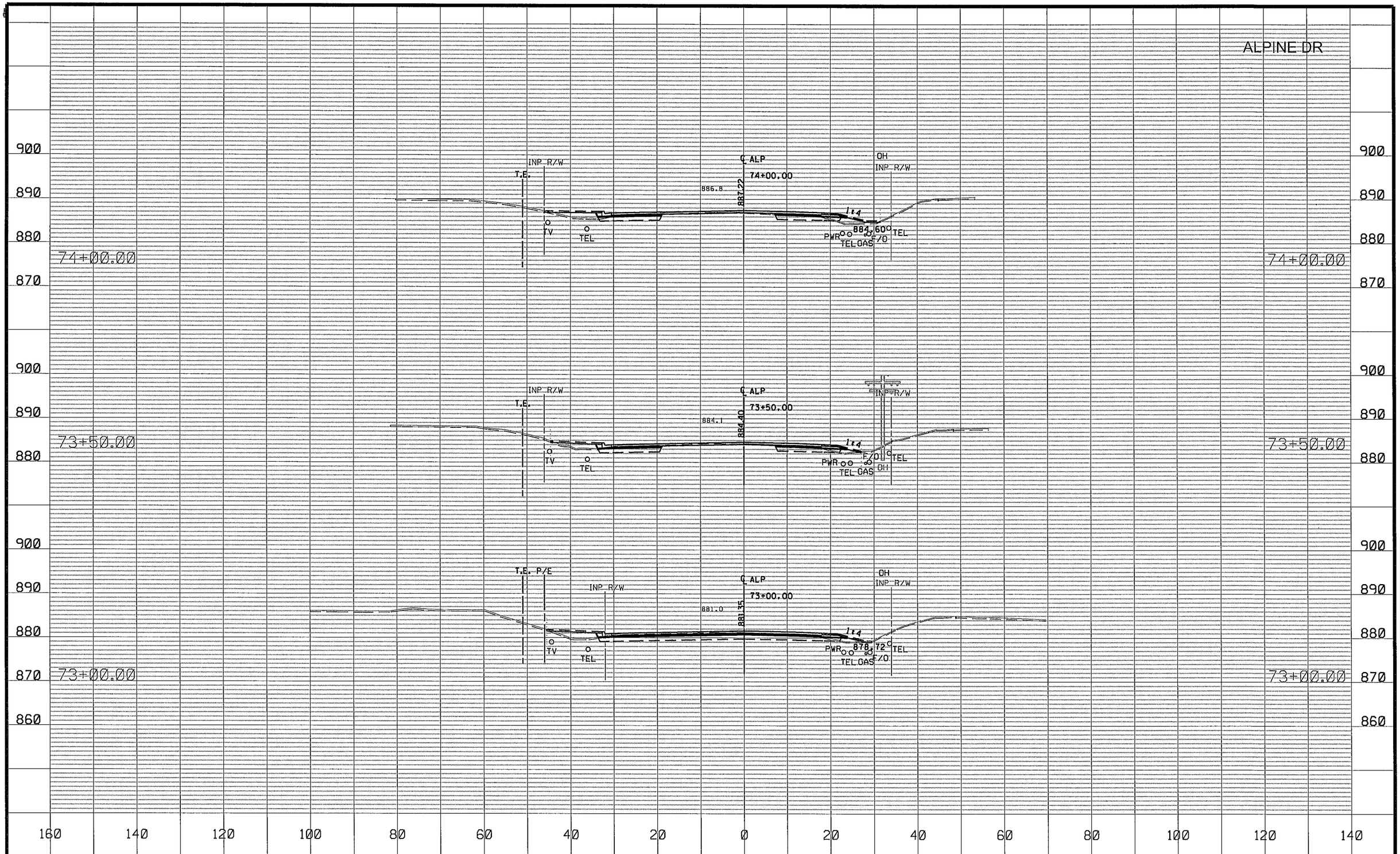

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ANOKA COUNTY HIGHWAY DEPT.

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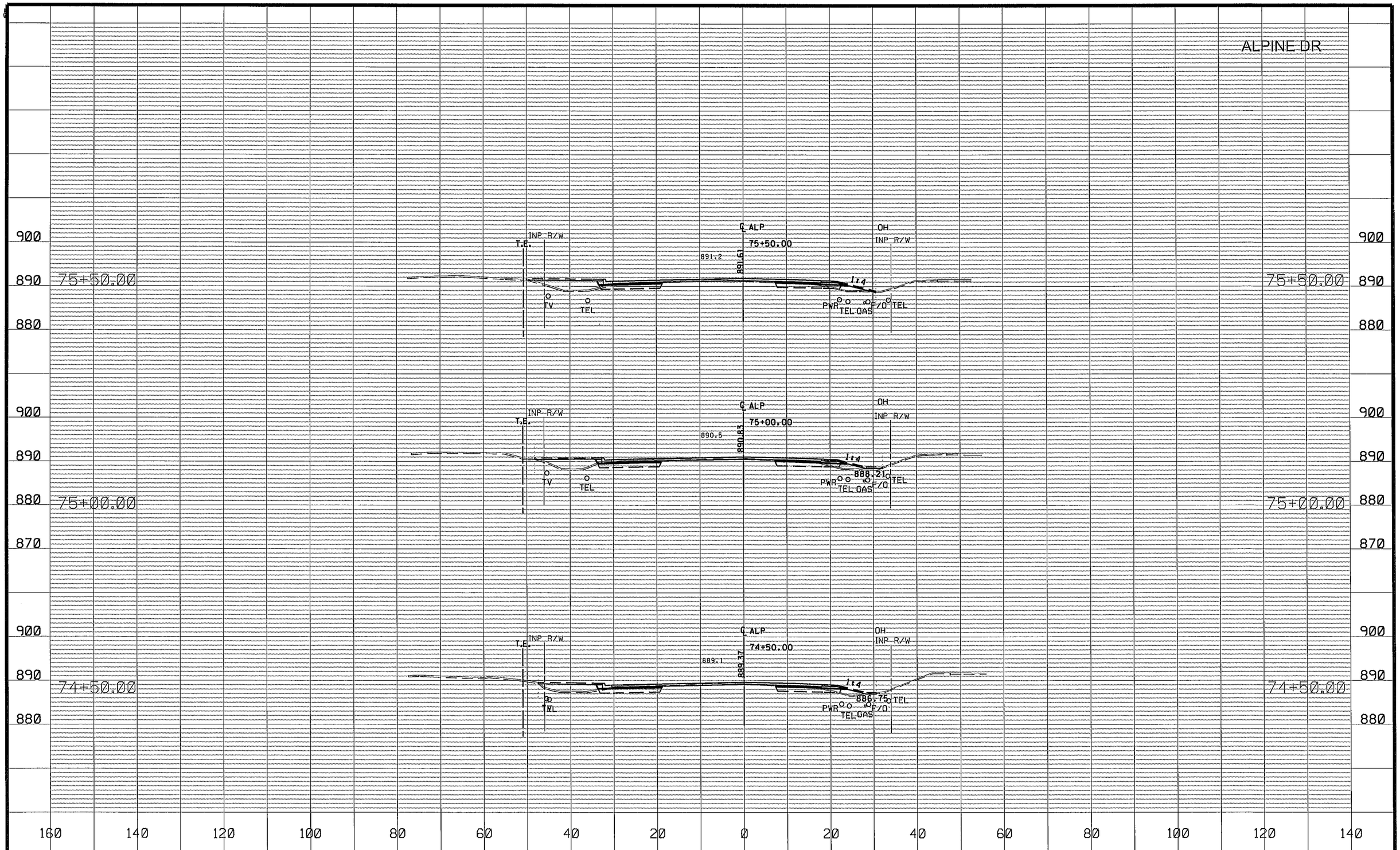
CROSS SECTIONS
STA 73+00.00 TO 74+00.00



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CROSS SECTIONS
STA 74+50.00 TO 75+50.00

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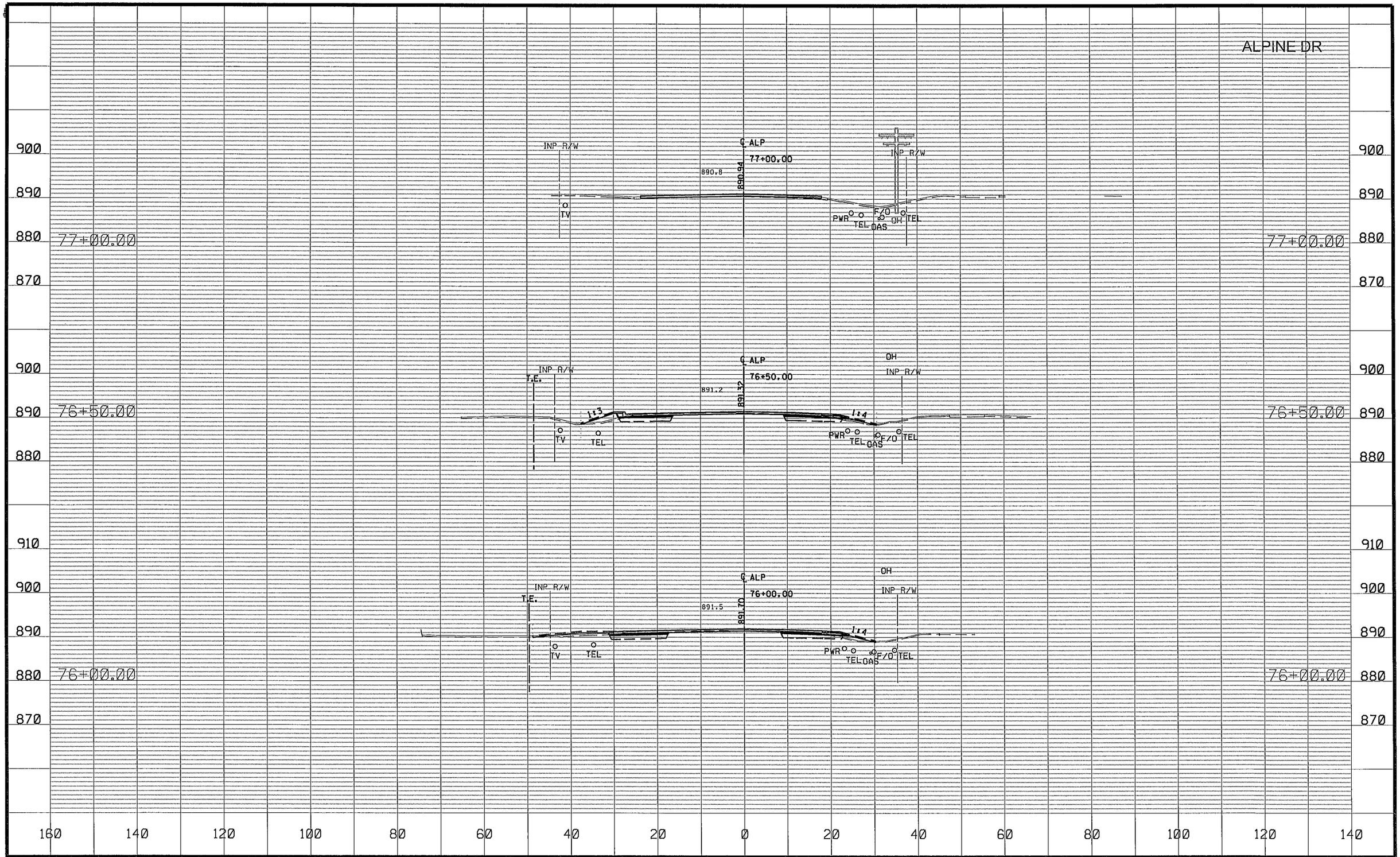

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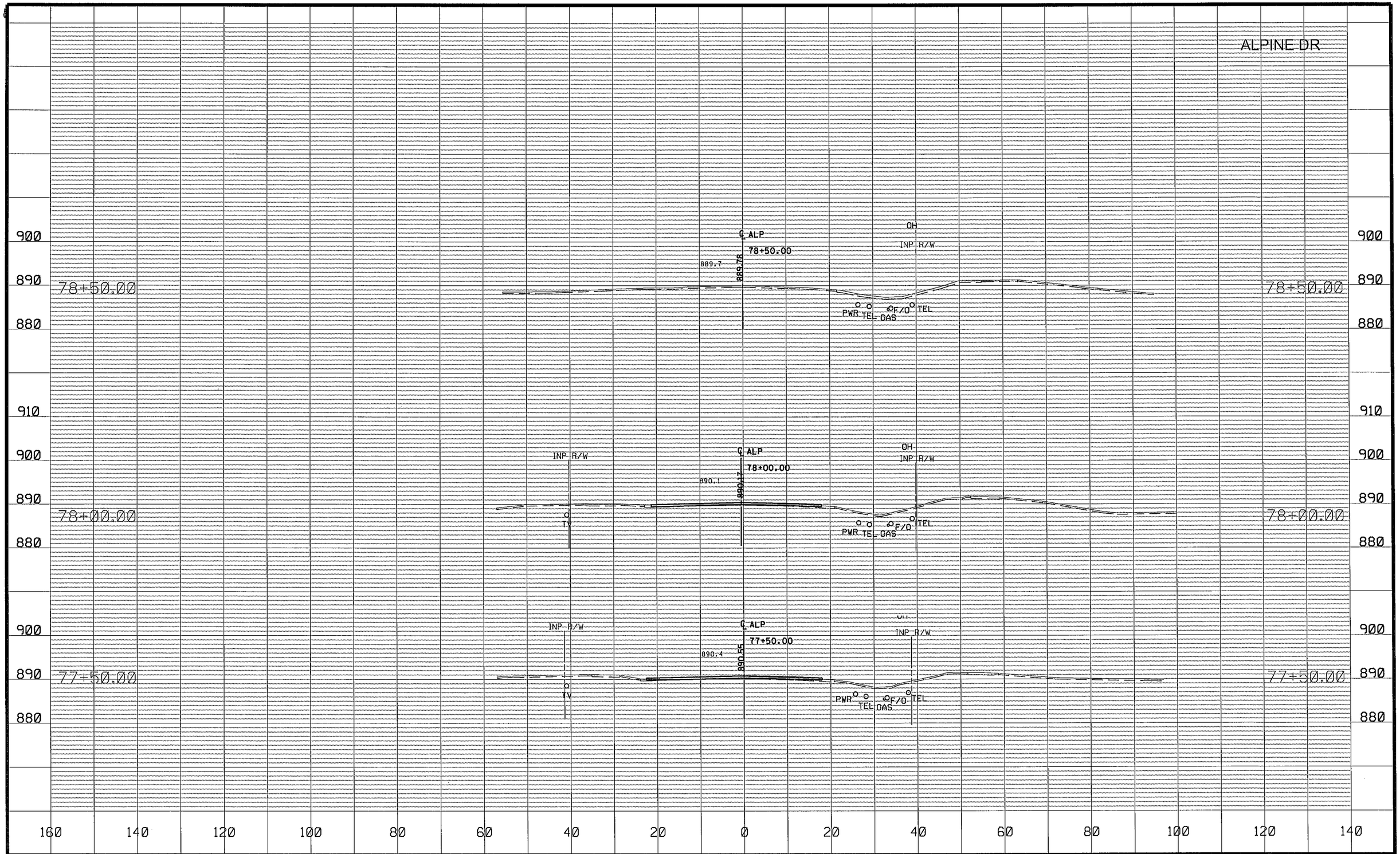
CROSS SECTIONS
STA 76+00.00 TO 77+00.00



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CROSS SECTIONS
STA 77+50.00 TO 78+50.00

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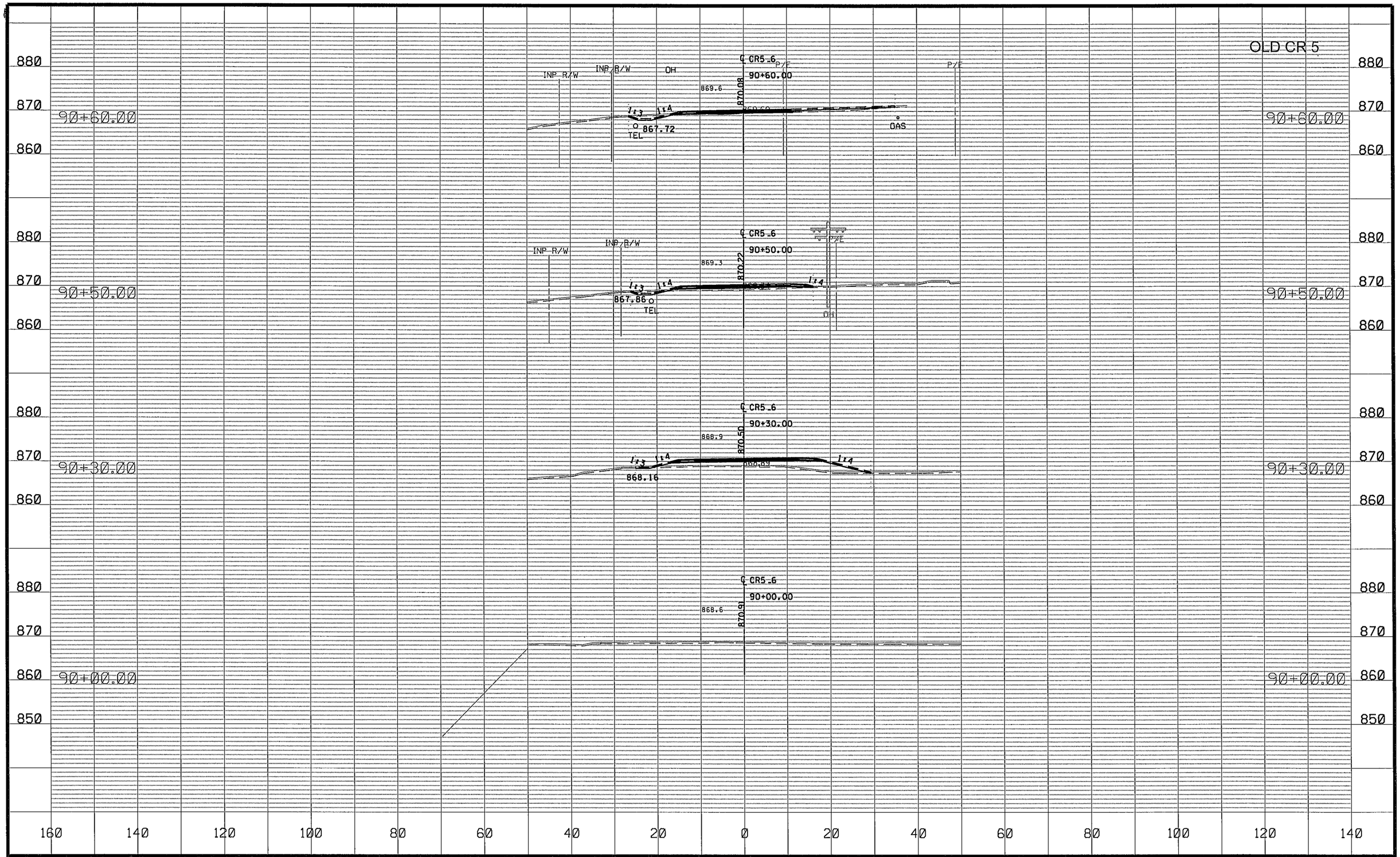

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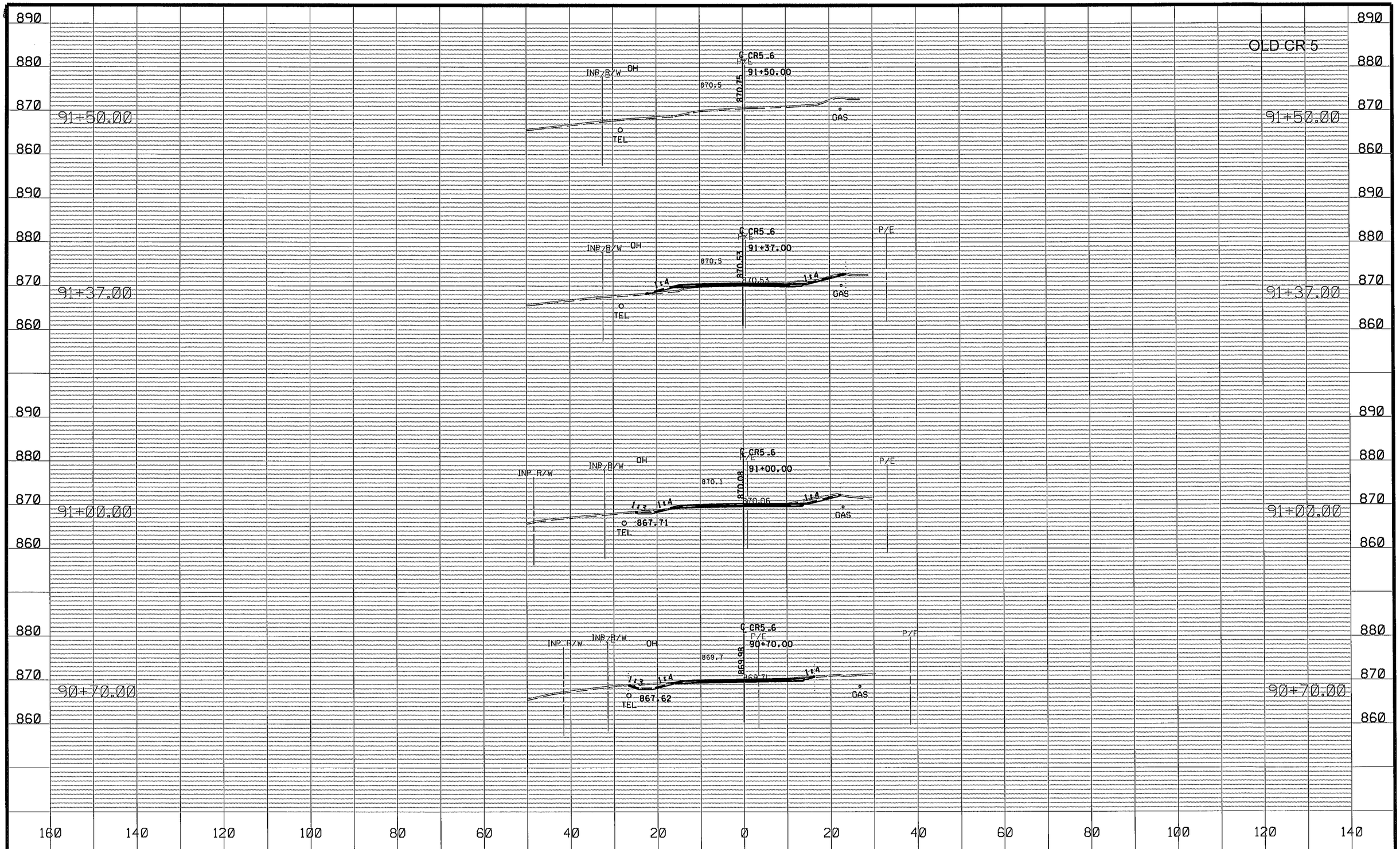
CROSS SECTIONS
STA 90+00.00 TO 90+60.00



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CROSS SECTIONS
STA 90+60.00 TO 90+60.00

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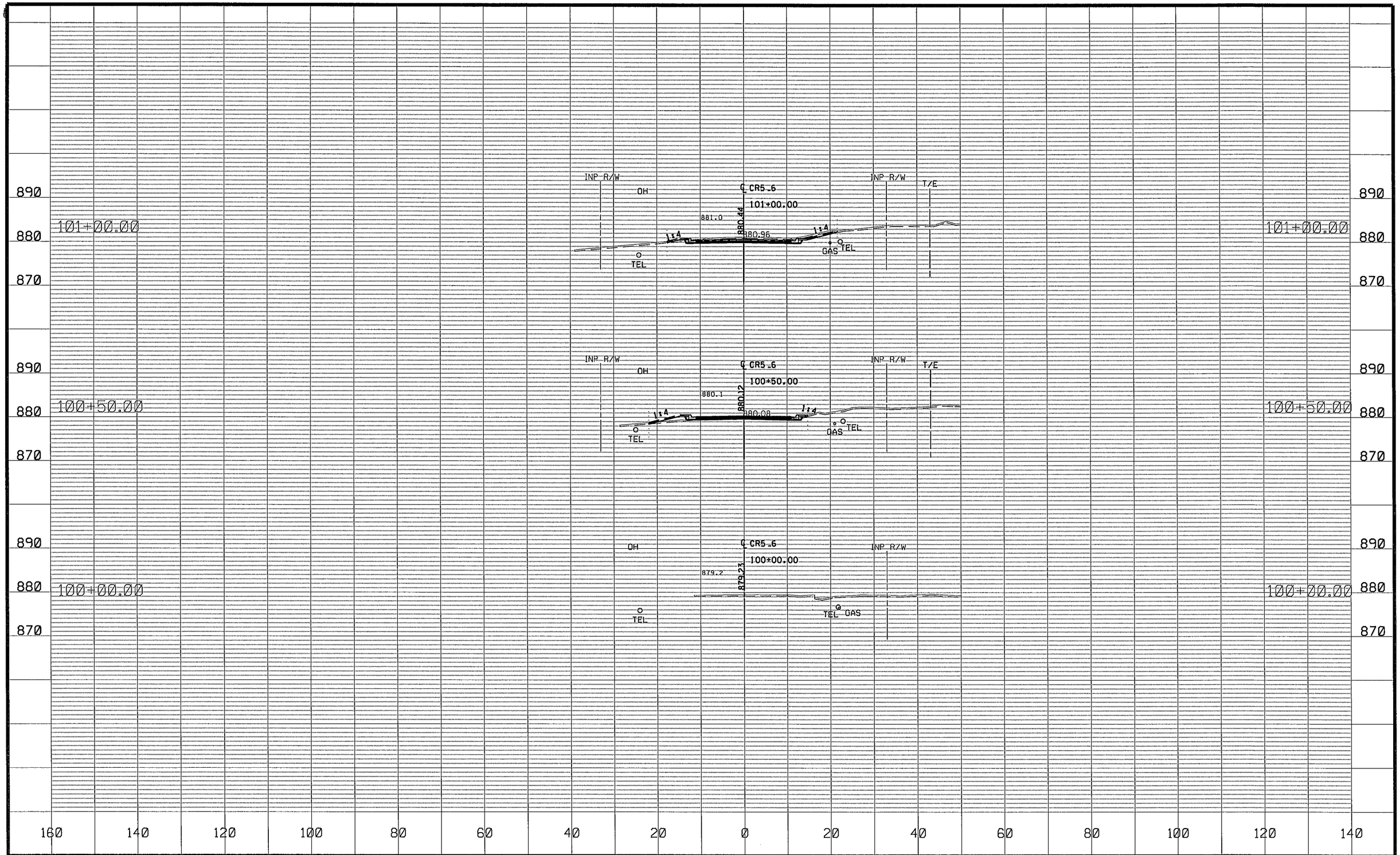

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ANOKA COUNTY HIGHWAY DEPT.

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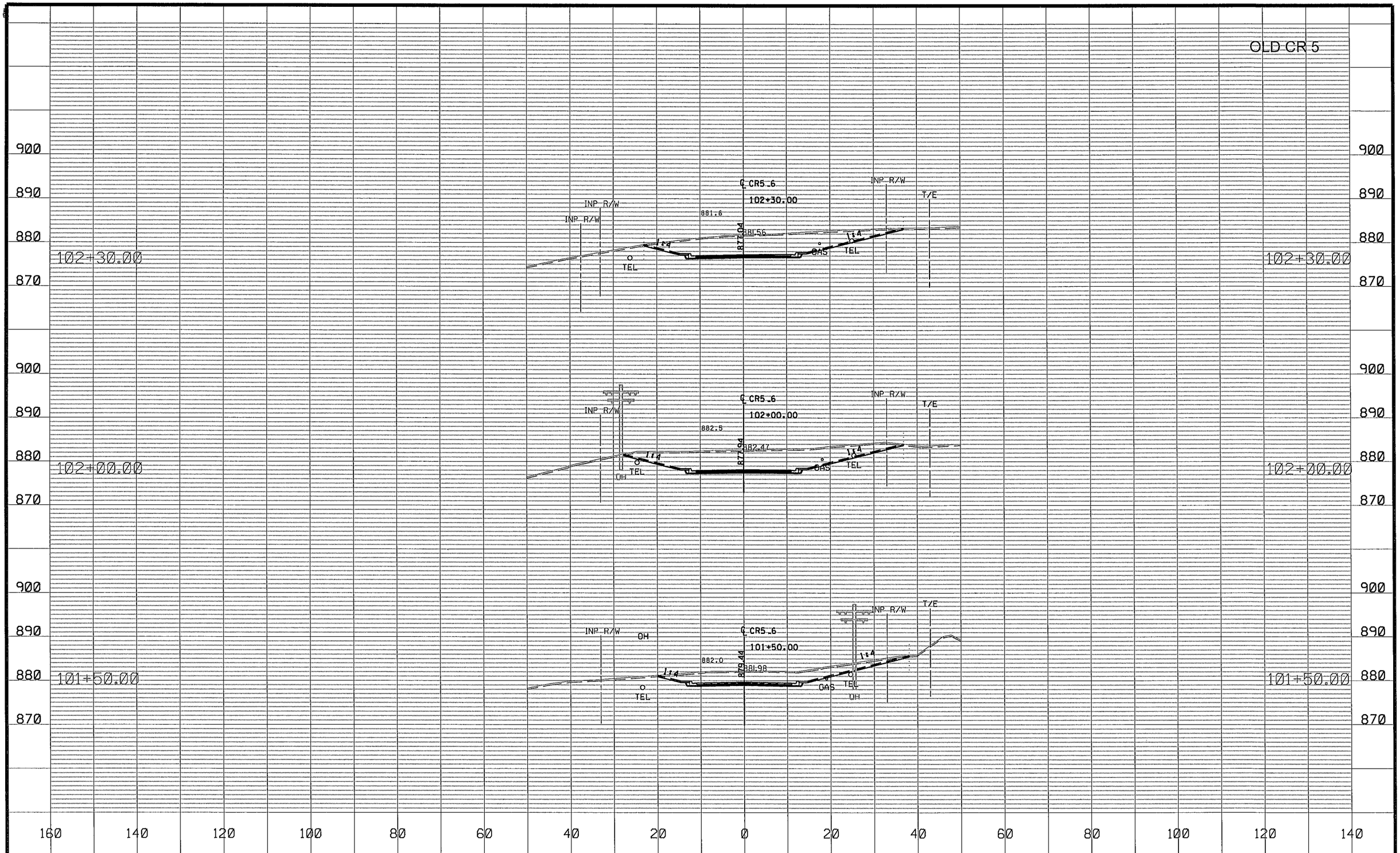
CROSS SECTIONS
STA 90+60.00 TO 90+60.00



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ANOKA COUNTY HIGHWAY DEPT.

SP 002-605-018
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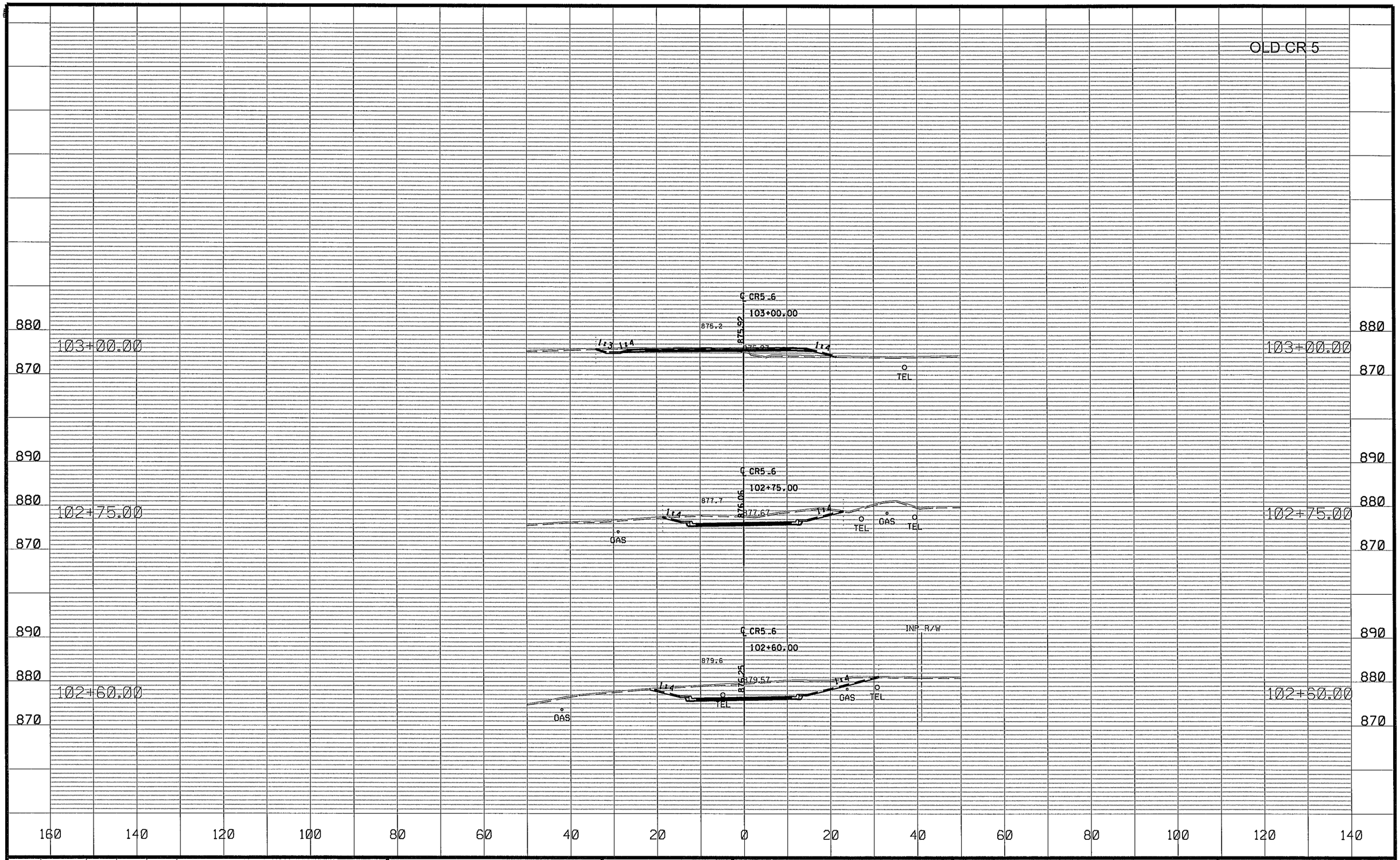
CROSS SECTIONS
STA 90+60.00 TO 90+60.00



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CROSS SECTIONS
STA 90+60.00 TO 90+60.00
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