MINNESOTA DEPARTMENT OF TRANSPORTATION
ANOKA COUNTY

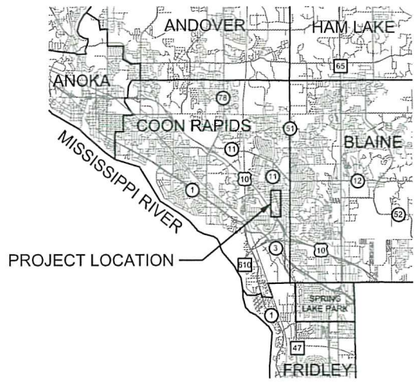
CONSTRUCTION PLAN FOR GRADING, BITUMINOUS SURFACING, DRAINAGE, SIGNAL SYSTEM AND SIGNING

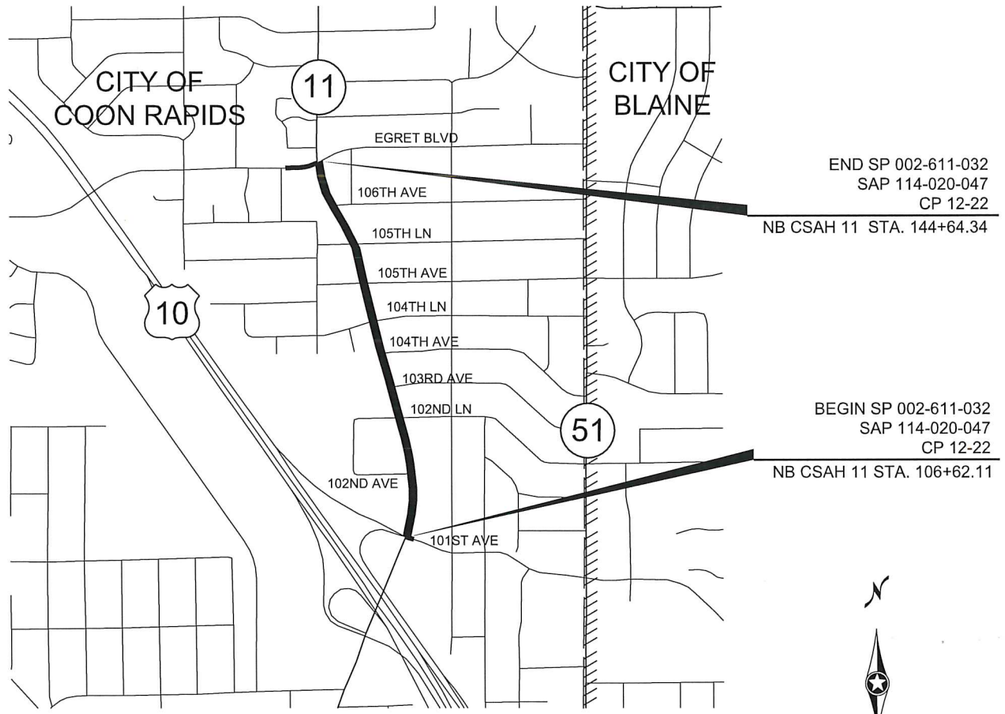
LOCATED ON CSAH 11 BETWEEN TRUNK HIGHWAY 10 RAMP/101ST AVE NW AND EGRET BLVD NW

STATE PROJ. NO. 002-611-032

C.S.A.H. 11

GROSS LENGTH	3802.23 FEET	0.720 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	3802.23 FEET	0.720 MILES



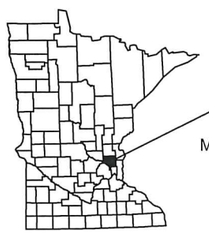


END SP 002-611-032
SAP 114-020-047
CP 12-22
NB CSAH 11 STA. 144+64.34

BEGIN SP 002-611-032
SAP 114-020-047
CP 12-22
NB CSAH 11 STA. 106+62.11

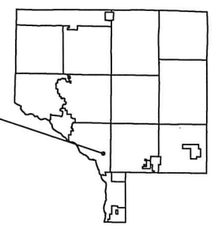
N

0 1500
SCALE IN FEET



PROJECT LOCATION

CITY OF COON RAPIDS
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 24
TOWNSHIP 31 NORTH
RANGE 24 WEST



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".

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 M.H.
CATCH BASIN C.B.
FIRE HYDRANT
CAST IRON MONUMENT
IRON PIN
GRAVEL PIT G
SAND PIT S
BORROW PIT B
ROCK QUARRY Q

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 G-G
WATERMAIN W-W
TELEPHONE CABLE IN CONDUIT T
ELECTRIC CABLE IN CONDUIT P
TELEPHONE MANHOLE T
ELECTRIC MANHOLE P
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'	1500'

MINN. PROJ. NO. STPM 0214 (049)

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 200 SHEETS

DESIGN DESIGNATION

ESAL 20	2,380,260
R VALUE	70
ADT (2014)	23,171
PROJ. ADT (2034)	34,757
PROJ. HCADT (2034)	1356
SOIL FACTOR	NA

10 TON DESIGN

FUNCTIONAL CLASSIFICATION: A MINOR EXPANDER

NO. OF TRAFFIC LANES 4 NO. OF PARKING LANES 0

DESIGN SPEED 40 MPH

BASED ON STOPPING SIGHT DISTANCE:

HEIGHT OF EYE 3.5' HEIGHT OF OBJECT 2.0'

DESIGN SPEED NOT ACHIEVED AT: N/A

STA. _____ TO STA. _____ MPH _____

APPROVED _____ 3/13/ ,2014
ANOKA COUNTY ENGINEER

APPROVED _____ 3/14 ,2014
CITY OF COON RAPIDS ENGINEER

REVIEWED FOR COMPLIANCE WITH STATE AID AND/OR FEDERAL AID RULES/POLICY 4/10/ ,2014
DISTRICT STATE AID ENGINEER

APPROVED FOR STATE AID AND FEDERAL AID FUNDING 4/10/ ,2014
STATE AID ENGINEER

NO	DATE	BY	CKD	APPR	REVISION
1	02/24/2014	EM	GMP	CAK	REVISED PER STATE AID REVIEW COMMENTS.

NAME: P:\02-611-32\Plan\002-611-032_TSH.dgn 03/11/2014 2:14:54 PM

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

PRINT NAME: CURT KOBILARCSIK

SIGNATURE:

DATE: 3-12-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

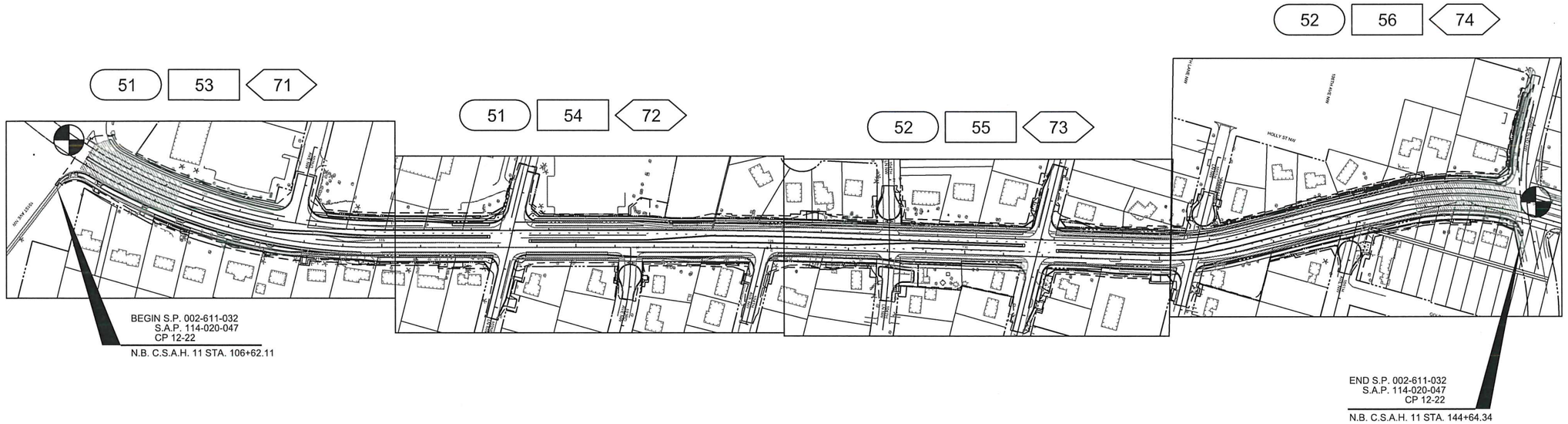
S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

TITLE SHEET

Sheet 1 of 196 Sheets



LEGEND

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

0 300
SCALE IN FEET

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_GL_P1.dgn 01/16/2014 10:48:15 AM

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

PRINT NAME: CURT KOBILARCSIK

SIGNATURE:

DATE: 1-16-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

GENERAL LAYOUT

Sheet 2 of 196 Sheets

STATEMENT OF ESTIMATED QUANTITIES

TAB	NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITY	PARTICIPATING FEDERAL FUNDS			NON-PARTICIPATING LOCAL FUNDS	
						COUNTY OF ANOKA SP 002-611-032	CITY OF COON RAPIDS SAP 114-020-047	STORM SEWER	COUNTY OF ANOKA	CITY OF COON RAPIDS CP 12-22
		2021.501	MOBILIZATION	LUMP SUM	1	0.590	0.116	0.089	0.001	0.204
		2031.501	FIELD OFFICE TYPE D	EACH	1	0.590	0.116	0.089	0.001	0.204
		2041.610	TRAINEES	HOUR	600	600				
A	(1),(2)	2101.501	CLEARING	ACRE	0.10	0.10				
A	(1),(2)	2101.502	CLEARING	TREE	233	233				
A	(1),(2)	2101.506	GRUBBING	ACRE	0.10	0.10				
A	(1),(2)	2101.507	GRUBBING	TREE	209	209				
	(3),(4)	2102.502	PAVEMENT MARKING REMOVAL	LIN FT	8,160	8,160				
	(5),(6)	2103.507	DISCONNECT WATER SERVICE	EACH	3					3
	(7)	2104.501	REMOVE WATER MAIN	LIN FT	595					595
C	(2),(8)	2104.501	REMOVE PIPE SEWERS	LIN FT	3,161	3,161				
B	(2)	2104.501	REMOVE CURB AND GUTTER	LIN FT	12,303	12,303				
G	(2)	2104.501	REMOVE GUARD RAIL	LIN FT	103	103				
L	(2)	2104.501	REMOVE RETAINING WALL	LIN FT	699	699				
B	(2)	2104.503	REMOVE CONCRETE WALK	SQ FT	30,828	30,828				
B	(2)	2104.503	REMOVE CONCRETE MEDIAN	SQ FT	5,676	5,676				
D	(2)	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	736	736				
D	(2)	2104.505	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SQ YD	1,351	1,351				
B	(2)	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	26,146	26,146				
C	(2)	2104.509	REMOVE PIPE APRON	EACH	2	2				
	(2),(9)	2104.509	REMOVE CONCRETE STRUCTURE	EACH	1					1
C	(2)	2104.509	REMOVE MANHOLE OR CATCH BASIN	EACH	36	36				
JJ	(2)	2104.509	REMOVE GATE VALVE	EACH	5					5
JJ	(2)	2104.509	REMOVE VALVE BOX	EACH	23					23
JJ	(2)	2104.509	REMOVE HYDRANT	EACH	9					9
B,D		2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	262	262				
B,D	(10)	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	6,846	6,846				
		2104.523	SALVAGE HYDRANT & VALVE	EACH	1					1
F	(11)	2104.523	SALVAGE SIGN TYPE C	EACH	48	1			47	
F	(11)	2104.523	SALVAGE SIGN TYPE D	EACH	4	1			3	
F		2104.523	SALVAGE SIGN TYPE SPECIAL	EACH	12	12				
I	(11),(12)	2104.523	SALVAGE MAIL BOX SUPPORT	EACH	24				24	
		2104.525	ABANDON WATER MAIN	EACH	1					1
	(11)	2104.601	HAUL SALVAGED MATERIAL	LUMP SUM	1				1	
V	(13),(14)	2105.501	COMMON EXCAVATION (EV) (P)	CU YD	22,435	22,435				
V	(13)	2105.507	SUBGRADE EXCAVATION (EV) (P)	CU YD	12,826	12,826				
W	(14)	2105.522	SELECT GRANULAR BORROW (LV)	CU YD	2,629	2,629				
	(15)	2130.501	WATER	M GALLON	500	500				
D,K		2211.501	AGGREGATE BASE CLASS 5	TON	1,014	1,014				
		2211.502	AGGREGATE BASE (LV) CLASS 5	CU YD	120					120
J		2211.503	AGGREGATE BASE (CV) CLASS 5 (P)	CU YD	6,380	6,380				
	(16)	2231.501	BITUMINOUS PATCHING MIXTURE	TON	433	241				192
B		2232.501	MILL BITUMINOUS SURFACE (2.0")	SQ YD	4,079	4,079				

NOTES:

(1) CLEARING AND GRUBBING SHALL BE STAKED IN FIELD BY THE ENGINEER.
(2) ALL REMOVAL ITEMS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND 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) SEE SHEET 48 FOR 4" AND DOUBLE 4" PAVEMENT MARKING REMOVAL QUANTITIES.
(5) DISCONNECT AT MAIN AND ABANDON.
(6) INCLUDES EXCAVATION, FITTINGS, PIPE, LABOR AND EQUIPMENT.
(7) INCLUDES 500 LIN FT 6", 60 LIN FT 14" AND 35 LIN FT 18" WATER MAIN.
(8) REMOVAL INCLUDES ALL TYPES OF PIPES AND CMP APRONS.
(9) WATER MAIN VALVE PIT STRUCTURE.
(10) INCLUDES 3210 LIN FT FOR SAWING BITUMINOUS PAVEMENT DURING CONSTRUCTION STAGING AND 51 LIN FT FOR STORM SEWER TRENCH.
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.
(11) SALVAGE TO: ANOKA COUNTY HIGHWAY DEPT, 1440 BUNKER LAKES BLVD NW, ANDOVER, MN.
(12) SALVAGE MAIL BOX TO OWNER.
(13) INCLUDES INPLACE TOPSOIL.
(14) SEE SOILS AND CONSTRUCTION NOTES.
(15) 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.
(16) FOR MEDIAN REMOVAL AREA, MISCELLANEOUS GRADE CORRECTION AND WATER MAIN TRENCH PATCHING WORK.
(17) SEE WATER MAIN PLAN AND SPECIFICATION FOR MORE INFORMATION.
(18) FOR SEALING OPENINGS IN EXISTING MANHOLE AFTER REMOVAL OF CONNECTING PIPES.
(19) SEE SPECIAL PROVISIONS FOR INTEGRALLY COLORED AND STAMPED CONCRETE MEDIAN SPECIFICATIONS.
(20) FOR STRIPING BITUMINOUS TRAIL WHERE IT EXTENDS TO THE BACK OF CURB. SEE STRIPING PLAN SHEETS 90 - 91.
(P) PLAN QUANTITY.

NO	DATE	BY	CKD	APPR	REVISION
1	02/27/2014	EJM	GMP	CAK	UPDATED SEQ AND NOTES PER STATE AID COMMENTS
2	05/15/2014	EJM	GMP	CAK	UPDATED DRAINAGE AND WATERMAIN QUANTITIES, AND NOTES

NAME: P:\02-611-32\Plan\002-611-032_SEQ.dgn 05/20/2014 2:48:44 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

STATEMENT OF ESTIMATED QUANTITIES

Sheet 3 of 196 Sheets

STATEMENT OF ESTIMATED QUANTITIES

TAB	NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITY	PARTICIPATING FEDERAL FUNDS			NON-PARTICIPATING LOCAL FUNDS	
						COUNTY OF ANOKA SP 002-611-032	CITY OF COON RAPIDS SAP 114-020-047	STORM SEWER	COUNTY OF ANOKA	CITY OF COON RAPIDS CP 12-22
J		2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	3,590	3,590				
D,K		2360.501	TYPE SP 12.5 WEARING COURSE MIX (2,B)	TON	600	600				
J		2360.501	TYPE SP 12.5 WEARING COURSE MIX (3,F)	TON	8,259	8,259				
J		2360.502	TYPE SP 12.5 NON WEAR COURSE MIX (3,B)	TON	4,395	4,395				
L		2411.618	MODULAR BLOCK RETAINING WALL	SQ FT	2,154	2,154				
S		2501.515	15" RC PIPE APRON	EACH	3			3		
S		2501.515	21" RC PIPE APRON	EACH	1			1		
S		2501.515	66" RC PIPE APRON	EACH	1			1		
S		2503.541	15" RC PIPE SEWER DESIGN 3006 CL V	LIN FT	3,175			3,175		
S		2503.541	18" RC PIPE SEWER DESIGN 3006 CL III	LIN FT	122			122		
S		2503.541	21" RC PIPE SEWER DESIGN 3006 CL III	LIN FT	320			320		
S		2503.541	21" RC PIPE SEWER DESIGN 3006 CL V	LIN FT	150			150		
S		2503.541	24" RC PIPE SEWER DESIGN 3006 CL III	LIN FT	121			121		
S		2503.541	27" RC PIPE SEWER DESIGN 3006 CL III	LIN FT	617			617		
S		2503.541	30" RC PIPE SEWER DESIGN 3006 CL III	LIN FT	489			489		
S		2503.541	33" RC PIPE SEWER DESIGN 3006 CL III	LIN FT	115			115		
S		2503.541	66" RC PIPE SEWER DESIGN 3006 CL III	LIN FT	48			48		
	(6),(17)	2504.602	CONNECT TO EXISTING WATER MAIN	EACH	15					15
	(6),(17)	2504.602	CONNECT TO EXISTING WATER SERVICE	EACH	26					26
M	(17)	2504.602	HYDRANT	EACH	9					9
JJ	(17)	2504.602	RELOCATE HYDRANT & VALVE	EACH	1					1
	(17)	2504.602	INSTALL HYDRANT & VALVE	EACH	1					1
M	(17)	2504.602	14" BUTTERFLY VALVE AND BOX	EACH	2					2
M	(17)	2504.602	18" BUTTERFLY VALVE AND BOX	EACH	18					18
M	(17)	2504.602	6" GATE VALVE AND BOX	EACH	16					16
M	(17)	2504.602	8" GATE VALVE AND BOX	EACH	2					2
	(17)	2504.602	6" GATE VALVE	EACH	9					9
	(17)	2504.602	1" CORPORATION STOP	EACH	26					26
	(17)	2504.602	CURB STOP & BOX	EACH	26					26
	(6),(17)	2504.602	ADJUST AROUND WATER MAIN OR STORM SEWER	EACH	9					9
	(17)	2504.603	HYDRANT EXTENSION	LIN FT	2					2
	(17)	2504.603	TAP SERVICE PIPING 1"	LIN FT	1,070					1,070
	(17)	2504.603	6" WATERMAIN DUCTILE IRON CL 52	LIN FT	1,150					1,150
	(17)	2504.603	8" WATERMAIN DUCTILE IRON CL 52	LIN FT	180					180
	(17)	2504.603	14" PVC WATER MAIN	LIN FT	85					85
	(17)	2504.603	18" PVC WATER MAIN	LIN FT	3,820					3,820
	(17)	2504.604	4" POLYSTYRENE INSULATION	SQ YD	70					70
	(17)	2504.608	DUCTILE IRON FITTINGS	POUND	32,000					32,000

NOTES:

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(3) FOR TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION STAGING.
(4) SEE SHEET 48 FOR 4" AND DOUBLE 4" PAVEMENT MARKING REMOVAL QUANTITIES.
(5) DISCONNECT AT MAIN AND ABANDON.
(6) INCLUDES EXCAVATION, FITTINGS, PIPE, LABOR AND EQUIPMENT.
(7) INCLUDES 500 LIN FT 6", 60 LIN FT 14" AND 35 LIN FT 18" WATER MAIN.
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(9) WATER MAIN VALVE PIT STRUCTURE.
(10) INCLUDES 3210 LIN FT FOR SAWING BITUMINOUS PAVEMENT DURING CONSTRUCTION STAGING AND 51 LIN FT FOR STORM SEWER TRENCH.
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.
(11) SALVAGE TO: ANOKA COUNTY HIGHWAY DEPT, 1440 BUNKER LAKES BLVD NW, ANDOVER, MN.
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(13) INCLUDES INPLACE TOPSOIL.
(14) SEE SOILS AND CONSTRUCTION NOTES.
(15) 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.
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(20) FOR STRIPING BITUMINOUS TRAIL WHERE IT EXTENDS TO THE BACK OF CURB. SEE STRIPING PLAN SHEETS 90 - 91.
(P) PLAN QUANTITY.

NO	DATE	BY	CKD	APPR	REVISION
1	02/27/2014	EJM	GMP	CAK	UPDATED SEQ AND NOTES PER STATE AID COMMENTS
2	05/15/2014	EJM	GMP	CAK	UPDATED DRAINAGE AND WATERMAIN QUANTITIES, AND NOTES
3	06/27/2014	EJM	GMP	CAK	REPLACED 14" GATE VALVE & BOX W/ 14" BUTTERFLY VALVE & BOX

NAME: P:\02-611-32\Plan\002-611-032_SEQ.dgn 06/27/2014 12:51:48 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT KOBILARCSIK
SIGNATURE:
DATE: 6-27-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

STATEMENT OF ESTIMATED QUANTITIES

Sheet 4 of 196 Sheets

STATEMENT OF ESTIMATED QUANTITIES

TAB	NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITY	PARTICIPATING FEDERAL FUNDS			NON-PARTICIPATING LOCAL FUNDS	
						COUNTY OF ANOKA SP 002-611-032	CITY OF COON RAPIDS SAP 114-020-047	STORM SEWER	COUNTY OF ANOKA	CITY OF COON RAPIDS CP 12-22
S		2506.501	CONST. DRAINAGE STRUCTURE DESIGN G	LIN FT	100.5			100.5		
S		2506.501	CONST. DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	209.3			209.3		
S		2506.501	CONST. DRAINAGE STRUCTURE DESIGN 54-4020	LIN FT	81.4			81.4		
S		2506.501	CONST. DRAINAGE STRUCTURE DESIGN 60-4020	LIN FT	21.7			21.7		
S		2506.501	CONST. DRAINAGE STRUCTURE DESIGN 66-4020	LIN FT	8.9			8.9		
S		2506.501	CONST. DRAINAGE STRUCTURE DESIGN 120-4020	LIN FT	13.0			13.0		
S		2506.516	CASTING ASSEMBLY	EACH	108			108		
HH, II		2506.522	ADJUST FRAME & RING CASTING	EACH	18	18				
S		2506.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	4	4				
S		2506.602	CONNECT INTO EXISTING STORM SEWER	EACH	2	2				
	(18)	2506.602	REPAIR DRAINAGE STRUCTURE	EACH	2	2				
R,S		2511.501	RANDOM RIPRAP CLASS II	CU YD	26.3	26.3				
R,S		2511.515	GEOTEXTILE FILTER TYPE III	SQ YD	98	98				
N		2521.501	4" CONCRETE WALK	SQ FT	19,342	14288	5054			
N		2521.501	6" CONCRETE WALK	SQ FT	3,311	2828	483			
	(19)	2521.618	SPECIAL SURFACE TREATMENT	SQ FT	21,465					21,465
N		2531.501	CONCRETE CURB & GUTTER DESIGN B418	LIN FT	5,915	5915				
N		2531.501	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	7,286	3643	3643			
N		2531.501	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	2,852	2852				
N		2531.501	CONCRETE CURB & GUTTER DESIGN B624	LIN FT	78	78				
N		2531.501	CONCRETE CURB & GUTTER DESIGN S518	LIN FT	564	564				
N		2531.503	CONCRETE MEDIAN	SQ YD	2,385	2385				
N		2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	529	529				
N		2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SQ YD	14	14				
R		2531.604	CONCRETE DRAINAGE FLUME	SQ YD	20	20				
N		2531.618	TRUNCATED DOMES	SQ FT	352	352				
	(3)	2533.507	PORTABLE PRECAST CONCRETE BARRIER DES 8337	LIN FT	3,500	3500				
	(3)	2533.508	RELOCATE PORTABLE PRECAST CONCRETE BARRIER DES 8337	LIN FT	3,500	3500				
I		2540.602	INSTALL MAIL BOX SUPPORT	EACH	24	24				
	(3)	2554.615	IMPACT ATTENUATOR	ASSEMBLY	6	6				
	(3)	2554.615	RELOCATE IMPACT ATTENUATOR	ASSEMBLY	6	6				
H		2557.602	VEHICULAR GATE-SPECIAL	EACH	10	10				
		2563.601	TRAFFIC CONTROL	LUMP SUM	1	0.590	0.116	0.089	0.001	0.204
	(3)	2563.602	RAISED PAVEMENT MARKER TEMPORARY	EACH	505	505				
		2563.610	POLICE OFFICER	HOUR	30	30				
E		2564.531	SIGN PANELS TYPE C	SQ FT	537	537				
F		2564.537	INSTALL SIGN TYPE C	EACH	1	1				
F		2564.537	INSTALL SIGN TYPE D	EACH	1	1				
F		2564.537	INSTALL SIGN TYPE SPECIAL	EACH	12	12				

NOTES:

(1) CLEARING AND GRUBBING SHALL BE STAKED IN FIELD BY THE ENGINEER.
(2) ALL REMOVAL ITEMS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND 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) SEE SHEET 48 FOR 4" AND DOUBLE 4" PAVEMENT MARKING REMOVAL QUANTITIES.
(5) DISCONNECT AT MAIN AND ABANDON.
(6) INCLUDES EXCAVATION, FITTINGS, PIPE, LABOR AND EQUIPMENT.
(7) INCLUDES 500 LIN FT 6", 60 LIN FT 14" AND 35 LIN FT 18" WATER MAIN.
(8) REMOVAL INCLUDES ALL TYPES OF PIPES AND CMP APRONS.
(9) WATER MAIN VALVE PIT STRUCTURE.
(10) INCLUDES 3210 LIN FT FOR SAWING BITUMINOUS PAVEMENT DURING CONSTRUCTION STAGING AND 51 LIN FT FOR STORM SEWER TRENCH. 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.
(11) SALVAGE TO: ANOKA COUNTY HIGHWAY DEPT, 1440 BUNKER LAKES BLVD NW, ANDOVER, MN.
(12) SALVAGE MAIL BOX TO OWNER.
(13) INCLUDES INPLACE TOPSOIL.
(14) SEE SOILS AND CONSTRUCTION NOTES.
(15) 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.
(16) FOR MEDIAN REMOVAL AREA, MISCELLANEOUS GRADE CORRECTION AND WATER MAIN TRENCH PATCHING WORK.
(17) SEE WATER MAIN PLAN AND SPECIFICATION FOR MORE INFORMATION.
(18) FOR SEALING OPENINGS IN EXISTING MANHOLE AFTER REMOVAL OF CONNECTING PIPES.
(19) SEE SPECIAL PROVISIONS FOR INTEGRALLY COLORED AND STAMPED CONCRETE MEDIAN SPECIFICATIONS.
(20) FOR STRIPING BITUMINOUS TRAIL WHERE IT EXTENDS TO THE BACK OF CURB. SEE STRIPING PLAN SHEETS 90 - 91.
(P) PLAN QUANTITY.

NO	DATE	BY	CKD	APPR	REVISION
1	02/27/2014	EJM	GMP	CAK	UPDATED SEQ AND NOTES PER STATE AID COMMENTS
2	05/15/2014	EJM	GMP	CAK	UPDATED DRAINAGE AND WATERMAIN QUANTITIES, AND NOTES

NAME: P:\02-611-32\Plan\002-611-032_SEQ.dgn 05/20/2014 2:48:46 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

STATEMENT OF ESTIMATED QUANTITIES

Sheet 5 of 196 Sheets

STATEMENT OF ESTIMATED QUANTITIES

TAB	NOTES	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITY	PARTICIPATING FEDERAL FUNDS			NON-PARTICIPATING LOCAL FUNDS	
						COUNTY OF ANOKA SP 002-611-032	CITY OF COON RAPIDS SAP 114-020-047	STORM SEWER	COUNTY OF ANOKA	CITY OF COON RAPIDS CP 12-22
X		2565.511	TRAFFIC CONTROL SIGNAL SYSTEM B	SIG SYS	1	0.25	0.75			
X		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM B	LUMP SUM	1		1			
X		2565.601	REVISE EMERGENCY VEHICLE PREEMPTION SYSTEM A	LUMP SUM	1		1			
X		2565.601	REVISE EMERGENCY VEHICLE PREEMPTION SYSTEM C	LUMP SUM	1		1			
X		2565.601	TRAFFIC CONTROL INTERCONNECTION	LUMP SUM	1	1				
X		2565.602	PEDESTRIAN PUSH BUTTON (APS)	EACH	2	2				
X		2565.602	SIGNAL SERVICE CABINET	EACH	1	0.25	0.75			
X		2565.602	PAINT SIGNAL SYSTEM	EACH	2	2				
X		2565.616	TEMPORARY SIGNAL SYSTEM A	SYSTEM	1	0.25	0.75			
X		2565.616	TEMPORARY SIGNAL SYSTEM C	SYSTEM	1	0.25	0.75			
X		2565.616	REVISE SIGNAL SYSTEM A	SYSTEM	1	0.25	0.75			
X		2565.616	REVISE SIGNAL SYSTEM C	SYSTEM	1	0.25	0.75			
P		2573.502	SILT FENCE, TYPE MACHINE SLICED	LIN FT	3,012	3,012				
P,S		2573.530	STORM DRAIN INLET PROTECTION	EACH	130	130				
		2573.550	EROSION CONTROL SUPERVISOR	LUMP SUM	1	1				
P		2575.501	SEEDING	ACRE	1.4	1.4				
P		2575.502	SEED MIXTURE 270	POUND	100	100				
P		2575.502	SEED MIXTURE 310	POUND	46	46				
P,S		2575.505	SODDING TYPE SALT RESISTANT	SQ YD	7,069	7,069				
P		2575.523	EROSION CONTROL BLANKETS CATEGORY 3	SQ YD	6,763	6,763				
P		2575.532	FERTILIZER TYPE 3	POUND	511	511				
P		2575.532	FERTILIZER TYPE 4	POUND	212	212				
P		2575.571	RAPID STABILIZATION METHOD 3	M GALLON	0.6	0.6				
O	(3)	2581.603	REMOVABLE PREFORMED PLASTIC MASK (BLACK)	LIN FT	200	200				
O	(3)	2581.603	REMOVABLE PREFORMED PLASTIC MASK (WHITE)	LIN FT	3,070	3,070				
O	(3)	2581.603	REMOVABLE PREFORMED PLASTIC MASK (YELLOW)	LIN FT	420	420				
O	(3)	2582.501	PAVEMENT MESSAGE (LT ARROW) PAINT	EACH	3	3				
O	(3)	2582.501	PAVEMENT MESSAGE (RT ARROW) PAINT	EACH	1	1				
Q		2582.501	PAVEMENT MESSAGE (LT ARROW) PREFORMED THERMOPLASTIC	EACH	9	9				
Q		2582.501	PAVEMENT MESSAGE (RT ARROW) PREFORMED THERMOPLASTIC	EACH	12	12				
O	(3)	2582.502	4" SOLID LINE WHITE - PAINT	LIN FT	22,120	22,120				
Q	(20)	2582.502	4" SOLID LINE WHITE - PAINT	LIN FT	1,895	1,895				
O	(3)	2582.502	4" SOLID LINE YELLOW - PAINT	LIN FT	5,560	5,560				
O	(3)	2582.502	4" DOUBLE SOLID LINE YELLOW - PAINT	LIN FT	10,500	10,500				
Q		2582.502	24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC	LIN FT	337	337				
Q		2582.502	4" SOLID LINE WHITE - EPOXY	LIN FT	10,552	10,552				
Q		2582.502	4" BROKEN LINE WHITE - EPOXY	LIN FT	1,460	1,460				
Q		2582.502	4" SOLID LINE YELLOW - EPOXY	LIN FT	7,070	7,070				
Q		2582.502	4" DOUBLE SOLID LINE YELLOW - EPOXY	LIN FT	300	300				
Q		2582.503	CROSSWALK MARKING - PREFORMED THERMOPLASTIC	SQ FT	1,800	1,800				

NOTES:

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(6) INCLUDES EXCAVATION, FITTINGS, PIPE, LABOR AND EQUIPMENT.
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(12) SALVAGE MAIL BOX TO OWNER.
(13) INCLUDES INPLACE TOPSOIL.
(14) SEE SOILS AND CONSTRUCTION NOTES.
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(18) FOR SEALING OPENINGS IN EXISTING MANHOLE AFTER REMOVAL OF CONNECTING PIPES.
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(20) FOR STRIPING BITUMINOUS TRAIL WHERE IT EXTENDS TO THE BACK OF CURB. SEE STRIPING PLAN SHEETS 90 - 91.
(P) PLAN QUANTITY.

NO	DATE	BY	CKD	APPR	REVISION
1	02/27/2014	EJM	GMP	CAK	UPDATED SEQ AND NOTES PER STATE AID COMMENTS
2	05/15/2014	EJM	GMP	CAK	UPDATED DRAINAGE AND WATERMAIN QUANTITIES, AND NOTES

NAME: P:\02-611-32\Plan\002-611-032_SEQ.dgn 05/20/2014 2:48:47 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

STATEMENT OF ESTIMATED QUANTITIES

Sheet 6 of 196 Sheets

SOILS AND CONSTRUCTION NOTES:

1. TOP OF THE GRADING SUBGRADE (GRADING GRADE) IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE LAYER.
2. BOTTOM OF SUBBASE GRADE SHALL BE DEFINED AS THE BOTTOM OF THE 1' SUBGRADE EXCAVATION.
3. 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.
4. NO OVER EXCAVATION WILL BE ALLOWED.
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. COMMON BORROW MEETING THE REQUIREMENTS OF SELECT GRANULAR BORROW SHALL BE USED TO BACK FILL THE EMBANKMENT UNDER THE NEW ROADWAY CORE, UP TO THE TOP OF THE GRADING SUBGRADE AS APPROVED BY THE ENGINEER.
8. WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT SHALL MEAN THIS WORK WILL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
9. TOPSOIL SHALL BE DEFINED AS EXISTING SOILS WHICH MEET MN/DOT SPECIFICATION 3877 THAT WOULD BE SUITABLE FOR REUSE.
10. SUITABLE GRADING MATERIAL OBTAINED FROM COMMON EXCAVATION NOT MEETING THE REQUIREMENTS OF MN/DOT SPEC 3149.2B1, SHALL BE USED AS EMBANKMENT MATERIAL ON THE PROJECT AS APPROVED BY THE ENGINEER.
11. UNSUITABLE MATERIALS ARE TOPSOILS, PAVEMENT OR CONCRETE DEBRIS, PEAT, MUCK AND ORGANIC OR OTHER UNSTABLE SOILS.
12. EXCESS TOPSOIL AND MUCK MATERIAL SHALL BE USED THROUGHOUT THE PROJECT AND AS DIRECTED BY THE ENGINEER.
13. 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. REGULAR EMBANKMENT MAY CONSIST OF TOPSOIL AND ORGANIC SOILS; UNLESS THE ENGINEER DETERMINES THESE SOILS ARE NOT REUSABLE, IN WHICH CASE THE CONTRACTOR SHALL REMOVE THEM FROM THE PROJECT LIMITS. REGULAR EMBANKMENT SHALL NOT CONSIST OF DEBRIS.
14. 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.
15. UNLESS OTHERWISE REQUIRED, IN ALL TREATMENTS, THE CONTRACTOR SHOULD STRIVE TO SUBSTANTIALLY MATCH THE SOILS INPLACE IN THE UPPER 5.0 FEET OF THE ROADWAY.
16. WHERE CONNECTING NEW SURFACING ADJACENT TO ANY INPLACE PAVEMENTS TO BE WIDENED, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT 1:2 SLOPE TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
17. 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 RECOMMENDED SUBGRADE EXCAVATION.
18. WHERE MATCHING INTO INPLACE CROSSROADS, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1:4 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
19. USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON THE EXISTING PAVEMENT. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT A UNIFORM RATE OF 0.03 TO 0.05 GALLONS/SQ. YD. BETWEEN BITUMINOUS LAYERS AND 0.07 TO 0.10 GALLONS/SQ. YD. ON CONCRETE OR MILLED BITUMINOUS SURFACES PRIOR TO BEING OVERLAID. THE APPLICATION RATES ARE FOR UNDILUTED EMULSIONS (AS SUPPLIED FROM THE REFINERY) OR MC AND RC LIQUID ASPHALTS. THE ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPECIFICATION 2357.
20. PROVIDE A SAWCUT WHERE PLACING NEW PAVEMENT ADJACENT TO INPLACE PAVEMENT TO ENSURE A UNIFORM JOINT.
21. STRIP ALL TOPSOIL WHERE PRESENT IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS TOPSOIL. FOR ESTIMATING PURPOSES, THE DEPTH OF TOPSOIL AVAILABLE IS CONSIDERED TO BE 4 INCHES.
22. EMBANKMENT QUANTITIES SHOWN ON THE EARTHWORK TABULATION REPRESENT ALL EARTHWORK QUANTITIES BELOW THE PROPOSED GRADING GRADE OF ALL PERMANENT ROADWAYS. QUANTITIES REQUIRED ABOVE THE GRADING GRADE OR FOR TEMPORARY CONSTRUCTION ARE PROVIDED IN DETAIL ON THE BITUMINOUS SUMMARY TAB.
23. 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.
24. 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.
25. 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.
26. UNSUITABLE SOILS NOT USED ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE PROJECT AND DISPOSED OF IN ACCORDANCE WITH MN/DOT SPECIFICATIONS.
27. DISPOSITION OF EXCAVATED MATERIAL SHALL BE IN ACCORDANCE WITH SPECIFICATION 2105.3D.
28. INPLACE BITUMINOUS PAVEMENT RANGES FROM 6" TO 10" THICK. FOR INFORMATION ONLY, IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY PAVEMENT DEPTH PRIOR TO PLACING BID. PAYMENT FOR BITUMINOUS REMOVAL IS BY THE SQUARE YARD REGARDLESS OF THE DEPTH.
29. AGGREGATE BASE MATERIAL SHALL MEET THE REQUIREMENTS OF MN/DOT SPEC. 3138, CLASS 5.

NO	DATE	BY	CKD	APPR	REVISION
1	5/7/12	GMP	JEO	CAK	REVISED NOTE 26 TO REMOVE 100% CRUSHED

NAME: P:\02-611-32\Plan\002-611-032_SCN.dgn 01/16/2014 10:48:17 AM

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

PRINT NAME: CURT KOBILARCSIK

SIGNATURE:

DATE: 1-16-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

SOILS AND CONSTRUCTION NOTES

Sheet 7 of 196 Sheets

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STANDARD PLATES

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

PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE
3006G	GASKET JOINT FOR R.C. PIPE
3007E	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3022C	PRECAST CONCRETE SAFETY APRON
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133D	RIPRAP AT RCP OUTLETS
3145G	CONCRETE PIPE TIES
4005L	MANHOLE OR CATCH BASIN TYPE A & B CONE SECTIONS PRECAST - DESIGN F
4006L	MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H
4010H	CONCRETE SHORT CONE & ADJUSTING RING (SECTIONAL CONCRETE)
4011E	PRECAST CONCRETE BASE
4018A	MANHOLE OR CATCH BASIN (REDUCER CONE SECTION PRECAST) - 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 (FOR SQUARE GRATE) – CASTING NO. 806
4134A	CURB BOX CASTING FOR CATCH BASIN (FOR DESIGN B CURBS)- CASTING NO. 825
4143E	STOOL GRATE & CONCRETE FRAME (MEDIAN DRAINS) - CASTING NO. 731
4154B	CATCH BASIN GRATE CASTING - CASTING NO. 816
4180J	MANHOLE OR CATCH BASIN STEP
7035N	CONCRETE WALK & CURB RETURNS AT ENTRANCES
7038A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100H	CONCRETE CURB AND GUTTER (DESIGN B and DESIGN V)
7102J	CONCRETE CURB AND GUTTER (DESIGN BR, D, S, B4, B5, & D3)
7111J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER)
7113A	CONCRETE APPROACH NOSE DETAIL
8000I	STANDARD BARRICADES
8110E	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
8114A	P.V.C. HANDHOLE/PULLBOX (NO VEHICLE LOAD)
8118D	SERVICE EQUIPMENT & POLE TRAFFIC CONTROL SIGNALS
8119C	GROUND MOUNTED CABINET FOUNDATION
8121H	TRANSFORMER BASE AND POLE BASE PLATE (PA85M, PA90 AND PA100)
8123G	POLE AND MAST ARM - LUMINAIRES AND TRAFFIC LIGHTS ASSEMBLY
8126K	POLE FOUNDATION (PA90 AND PA100)
8150C	INSTALLATION OF CULVERT MARKERS
8337C	TEMPORARY PORTABLE PRECAST CONCRETE BARRIER (TYPE "F")
9102D	TURF ESTABLISHMENT AREAS (AT PIPE CULVERT ENDS)
9321E	WOVEN WIRE FENCE (STEEL POST)

BASIS OF QUANTITIES

SPEC NO	DESCRIPTION	RATE
2211	AGGREGATE BASE CLASS 5	2 TONS / CU YD
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 270	120.0 POUNDS / ACRE
2575	SEED MIXTURE 310	82.0 POUNDS / ACRE
2575	FERTILIZER TYPE 3, 22-5-10 FOR SOD	350 POUNDS / ACRE
2575	FERTILIZER TYPE 4, 18-1-8 FOR SEED	150 POUNDS / ACRE
2575	RAPID STABILIZATION METHOD 3	6000 GALLONS / ACRE

NO	DATE	BY	CKD	APPR	REVISION
1	02/27/2014	EJM	GMP	CAK	UPDATED STANDARD PLATES TAB PER STATE AID COMMENTS
2	05/12/2014	EJM	GMP	CAK	ADDED TAB CC TO INDEX OF TABULATION

NAME: p:\02-611-32\plan\002-611-032_TAB.dgn 05/15/2014 2:03:46 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

TABULATIONS

Sheet 8 of 196 Sheets

CLEARING & GRUBBING SPEC (2101)							A
ALIGNMENT	STATION TO STATION	OFFSET	CLEARING		GRUBBING		NOTES
			(TREE)	(ACRE)	(TREE)	(ACRE)	
CSAH NB 11	108+56.62	52.11 RT	1		1		
CSAH NB 11	108+72.82	47.51 RT	1		1		
CSAH NB 11	110+40.07	29.32 RT	1		1		
CSAH NB 11	110+65.05	29.70 RT	1		1		
CSAH NB 11	112+04.82	44.16 RT	1		1		
CSAH NB 11	112+31.73	37.79 RT	1		1		
CSAH NB 11	113+38.63	43.64 RT	1		1		
CSAH NB 11	113+61.96	30.70 RT	1		1		
CSAH NB 11	114+94.06	29.62 RT	1		1		
CSAH NB 11	115+27.93	24.78 RT	1		1		
CSAH NB 11	115+85.50	32.30 RT	1		1		
CSAH NB 11	115+85.59	30.24 RT	2		1		
CSAH NB 11	115+92.25	32.31 RT	1		1		
CSAH NB 11	115+92.70	42.17 RT			1		STUMP
CSAH NB 11	116+23.19	30.88 RT	1		1		
CSAH NB 11	116+40.08	30.89 RT	1		1		
CSAH NB 11	116+79.54	28.55 RT			1		STUMP
CSAH NB 11	117+34.58	26.85 RT	3		1		
CSAH NB 11	117+49.07	26.63 RT	1		1		
CSAH NB 11	117+57.20	27.39 RT	1		1		
CSAH NB 11	118+36.29	77.17 RT	5		1		
CSAH NB 11	118+54.74	44.36 RT	1		1		
CSAH NB 11	118+81.12	44.68 RT	1		1		
CSAH NB 11	119+53.45	40.54 RT	1		1		
CSAH NB 11	119+93.45	40.46 RT	1		1		
CSAH NB 11	119+98.02	36.42 RT	1		1		
CSAH NB 11	120+95.68	42.94 RT	4		1		
CSAH NB 11	122+21.24	36.55 RT	1		1		
CSAH NB 11	122+23.40	35.01 RT	1		1		
CSAH NB 11	122+24.95	39.05 RT	1		1		
CSAH NB 11	122+25.33	36.69 RT	1		1		
CSAH NB 11	122+87.74	42.88 RT	1		1		
CSAH NB 11	122+93.12	46.13 RT	1		1		
CSAH NB 11	123+83.01	31.33 RT	1		1		
CSAH NB 11	123+89.08	29.71 RT	2		1		
CSAH NB 11	124+14.34	35.97 RT	4		1		
CSAH NB 11	125+09.84	26.21 RT	1		1		
CSAH NB 11	125+14.12	28.39 RT	1		1		
CSAH NB 11	125+14.65	45.03 RT	1		1		
CSAH NB 11	125+15.02	26.16 RT	1		1		
CSAH NB 11	125+40.61	26.81 RT	1		1		
CSAH NB 11	125+52.17	27.54 RT	1		1		
CSAH NB 11	125+71.51	30.24 RT			1		STUMP
CSAH NB 11	125+84.92	32.78 RT			1		STUMP
CSAH NB 11	125+94.01	41.90 RT			1		STUMP
CSAH NB 11	125+96.61	40.42 RT			1		STUMP
CSAH NB 11	126+20.45	34.36 RT			1		STUMP
CSAH NB 11	126+22.05	39.30 RT			1		STUMP
CSAH NB 11	126+24.62	35.86 RT			1		STUMP
CSAH NB 11	127+14.88	30.27 RT	1		1		
CSAH NB 11	127+33.21	24.24 RT	1		1		
CSAH NB 11	128+40.76	30.52 RT			1		STUMP
CSAH NB 11	128+44.48	29.56 RT			1		STUMP
CSAH NB 11	128+68.91	21.06 RT	1		1		
CSAH NB 11	129+51.90	28.75 RT	1		1		
CSAH NB 11	130+23.92	38.05 RT	2		1		
CSAH NB 11	130+35.13	37.89 RT	2		1		
		SUBTOTAL	62		57		

CLEARING & GRUBBING SPEC (2101)							A
ALIGNMENT	STATION TO STATION	OFFSET	CLEARING		GRUBBING		NOTES
			(TREE)	(ACRE)	(TREE)	(ACRE)	
CSAH NB 11	132+03.25	84.72 RT	1		1		
CSAH NB 11	132+11.28	69.64 RT	1		1		
CSAH NB 11	132+31.90	32.68 RT	1		1		
CSAH NB 11	132+61.84	32.25 RT	2		1		
CSAH NB 11	135+30.29	35.29 RT	3		1		
CSAH NB 11	135+99.87	38.60 RT	1		1		
CSAH NB 11	136+12.14	24.44 RT	1		1		
CSAH NB 11	136+40.29	21.77 RT	1		1		
CSAH NB 11	136+48.72	20.80 RT	3		1		
CSAH NB 11	136+55.49	87.56 RT	1		1		
CSAH NB 11	136+59.26	22.43 RT	1		1		
CSAH NB 11	136+63.12	23.40 RT	1		1		
CSAH NB 11	136+93.62	55.47 RT	1		1		
CSAH NB 11	137+06.68	66.13 RT	1		1		
CSAH NB 11	137+09.39	36.53 RT	1		1		
CSAH NB 11	137+20.48	32.97 RT	1		1		
CSAH NB 11	137+25.17	37.56 RT	1		1		
CSAH NB 11	137+25.38	120.59 RT	1		1		
CSAH NB 11	137+41.53	78.36 RT	1		1		
CSAH NB 11	137+48.39	35.82 RT	3		1		
CSAH NB 11	138+04.85	42.10 RT			1		STUMP
CSAH NB 11	138+06.87	35.72 RT	1		1		
CSAH NB 11	138+08.33	37.05 RT	1		1		
CSAH NB 11	138+10.72	36.60 RT	1		1		
CSAH NB 11	138+62.96	35.16 RT			1		STUMP
CSAH NB 11	138+82.27	45.20 RT			1		STUMP
CSAH NB 11	139+51.56	46.31 RT			1		STUMP
CSAH NB 11	140+00.24	96.41 RT	1		1		
CSAH NB 11	140+03.91	86.41 RT	1		1		
CSAH NB 11	140+48.06	30.03 RT	1		1		
CSAH NB 11	140+80.72	37.21 RT	1		1		
CSAH NB 11	141+17.80	37.66 RT	2		1		
CSAH NB 11	141+44.24	46.44 RT	1		1		
CSAH NB 11	142+48.50	23.59 RT	1		1		
CSAH NB 11	142+59.79	37.43 RT	1		1		
CSAH NB 11	142+67.83	27.16 RT	2		1		
CSAH NB 11	143+53.61	32.02 RT	1		1		
CSAH NB 11	143+54.82	38.85 RT	1		1		
CSAH NB 11	143+62.48	28.40 RT	1		1		
CSAH NB 11	143+63.21	27.50 RT	1		1		
CSAH NB 11	144+04.82	27.22 RT	4		1		
CSAH NB 11	144+28.41	31.28 RT	1		1		
CSAH NB 11	144+55.74	50.51 RT	1		1		
CSAH SB 11	108+20.59	40.65 LT	1		1		
CSAH SB 11	113+27.74	39.45 LT	1		1		
CSAH SB 11	114+00.30	44.03 LT	1		1		
CSAH SB 11	115+02.44	28.16 LT	3		1		STUMP
CSAH SB 11	115+29.66	24.24 LT	1		1		
CSAH SB 11	116+06.24	42.44 LT	1		1		
CSAH SB 11	116+84.02	41.74 LT	1		1		
CSAH SB 11	118+61.93	50.52 LT	1		1		
CSAH SB 11	118+86.76	44.89 LT	1		1		
CSAH SB 11	119+26.55	33.80 LT	1		1		
CSAH SB 11	119+95.08	32.94 LT	1		1		
CSAH SB 11	120+29.81	32.79 LT	1		1		
CSAH SB 11	121+19.67	58.56 LT	1		1		
CSAH SB 11	121+20.97	53.80 LT	1		1		
		SUBTOTAL	67		57		

CLEARING & GRUBBING SPEC (2101)							A
ALIGNMENT	STATION TO STATION	OFFSET	CLEARING		GRUBBING		NOTES
			(TREE)	(ACRE)	(TREE)	(ACRE)	
CSAH SB 11	121+22.70	49.00 LT	1		1		
CSAH SB 11	121+27.81	48.09 LT	1		1		
CSAH SB 11	121+29.76	45.57 LT	1		1		
CSAH SB 11	121+32.46	47.29 LT	1		1		
CSAH SB 11	121+41.25	42.00 LT			1		STUMP
CSAH SB 11	121+45.56	42.00 LT	1		1		
CSAH SB 11	121+48.61	42.84 LT	2		1		
CSAH SB 11	123+32.22	29.21 LT	1		1		
CSAH SB 11	123+45.65	34.54 LT	1		1		
CSAH SB 11	123+54.23	23.67 LT	1		1		
CSAH SB 11	123+98.27	29.20 LT	1		1		
CSAH SB 11	124+12.06	25.04 LT	1		1		
CSAH SB 11	124+12.62	30.92 LT	1		1		
CSAH SB 11	124+22.14	28.47 LT	1		1		
CSAH SB 11	124+27.33	29.75 LT	1		1		
CSAH SB 11	124+40.95 - 125+76.72	20.00 LT		0.10		0.10	
CSAH SB 11	126+05.92	47.41 LT	1		1		
CSAH SB 11	126+11.21	38.67 LT	1		1		
CSAH SB 11	126+24.40	42.62 LT	1		1		
CSAH SB 11	126+32.50	31.23 LT	1		1		
CSAH SB 11	126+55.17	23.20 LT	1		1		
CSAH SB 11	126+55.28	37.99 LT	1		1		
CSAH SB 11	126+57.00	43.54 LT	1		1		
CSAH SB 11	126+63.42	42.33 LT	1		1		
CSAH SB 11	126+65.71	23.60 LT	1		1		
CSAH SB 11	126+66.29	34.30 LT	1		1		
CSAH SB 11	126+70.10	41.96 LT	1		1		
CSAH SB 11	126+73.75	30.01 LT	1		1		
CSAH SB 11	126+80.61	36.11 LT	1		1		
CSAH SB 11	126+84.79	20.74 LT	1		1		
CSAH SB 11	126+85.38	24.88 LT	1		1		
CSAH SB 11	126+86.02	21.47 LT	1		1		
CSAH SB 11	126+87.86	37.46 LT	1		1		
CSAH SB 11	126+89.87	42.43 LT	1		1		
CSAH SB 11	126+90.03	23.32 LT	1		1		
CSAH SB 11	126+91.53	44.35 LT	1		1		
CSAH SB 11	128+05.15	45.58 LT	1		1		
CSAH SB 11	128+32.31	31.59 LT	1		1		
CSAH SB 11	128+34.65	24.45 LT	1		1		
CSAH SB 11	128+45.05	27.49 LT	1		1		
CSAH SB 11	128+70.25	24.93 LT	1		1		
CSAH SB 11	128+72.10	28.76 LT	1		1		
CSAH SB 11	128+82.45	24.84 LT	1		1		
CSAH SB 11	128+82.64	30.11 LT	1		1		
CSAH SB 11	129+99.17	35.52 LT	1		1		
CSAH SB 11	130+25.66	25.96 LT	1		1		
CSAH SB 11	130+52.37	27.93 LT			1		STUMP
CSAH SB 11	130+80.17	28.15 LT	1		1		
CSAH SB 11	131+32.86	26.05 LT	1		1		
CSAH SB 11	131+62.61	106.44 LT	1		1		
CSAH SB 11	132+03.06	35.56 LT	1		1		
CSAH SB 11	132+39.99	48.74 LT	3		1		
CSAH SB 11	132+69.60	27.16 LT	2		1		
CSAH SB 11	132+81.20	22.99 LT	1		1		
CSAH SB 11	132+97.68	25.05 LT	1		1		
CSAH SB 11	133+41.85	36.02 LT	1		1		
CSAH SB 11	133+63.49	35.01 LT	1		1		
		SUBTOTAL	58	0.10	56	0.10	

NO	DATE	BY	CKD	APPR	REVISION
1	05/12/2014	EJM	GMP	CAK	UPDATED THE QUANTITY IN TAB A.

NAME: p:\02-611-32\plan\002-611-032_TAB.dgn 05/15/2014 2:03:47 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

TABULATIONS

Sheet 9 of 196 Sheets

CLEARING & GRUBBING SPEC (2101) — A

ALIGNMENT	STATION TO STATION	OFFSET	CLEARING (TREE)	CLEARING (ACRE)	GRUBBING (TREE)	GRUBBING (ACRE)	NOTES
CSAH SB 11	133+95.12	42.05 LT	1		1		
CSAH SB 11	134+27.53	30.03 LT	1		1		
CSAH SB 11	134+43.62	32.24 LT	1		1		
CSAH SB 11	134+69.59	22.97 LT			1		STUMP
CSAH SB 11	134+81.99	42.52 LT	1		1		
CSAH SB 11	134+89.28	27.51 LT	1		1		
CSAH SB 11	135+19.62	45.93 LT	1		1		
CSAH SB 11	135+30.32	32.73 LT			1		STUMP
CSAH SB 11	136+17.50	34.86 LT	1		1		
CSAH SB 11	136+25.14	32.61 LT	1		1		
CSAH SB 11	136+31.77	32.97 LT	1		1		
CSAH SB 11	136+37.81	33.01 LT	1		1		
CSAH SB 11	136+46.35	32.82 LT	1		1		
CSAH SB 11	136+53.78	33.23 LT	1		1		
CSAH SB 11	136+60.31	40.28 LT	1		1		
CSAH SB 11	136+64.05	32.55 LT	1		1		
CSAH SB 11	136+70.70	36.28 LT	1		1		
CSAH SB 11	136+94.98	32.72 LT	1		1		
CSAH SB 11	137+11.30	55.71 LT	1		1		
CSAH SB 11	137+14.20	26.64 LT	1		1		
		SUBTOTAL	18		20		

CLEARING & GRUBBING SPEC (2101) — A

ALIGNMENT	STATION TO STATION	OFFSET	CLEARING (TREE)	CLEARING (ACRE)	GRUBBING (TREE)	GRUBBING (ACRE)	NOTES
CSAH SB 11	137+53.30	31.42 LT	1		1		
CSAH SB 11	138+11.50	22.13 LT	1		1		
CSAH SB 11	138+34.27	22.00 LT	2		1		
CSAH SB 11	138+60.49	20.24 LT	1		1		
CSAH SB 11	138+69.41	30.95 LT	1		1		
CSAH SB 11	138+77.31	20.99 LT	1		1		
CSAH SB 11	140+64.23	31.26 LT	1		1		
CSAH SB 11	140+65.59	32.33 LT	1		1		
CSAH SB 11	140+69.16	35.26 LT	1		1		
CSAH SB 11	141+07.91	23.85 LT	1		1		
CSAH SB 11	141+26.52	25.31 LT	1		1		
CSAH SB 11	141+67.29	23.85 LT	1		1		
CSAH SB 11	142+01.00	35.71 LT	5		1		
CSAH SB 11	142+51.13	34.25 LT	1		1		
CSAH SB 11	142+64.33	39.60 LT	1		1		
CSAH SB 11	143+02.70	28.79 LT	3		1		
CSAH SB 11	143+34.36	25.59 LT	3		1		
CSAH SB 11	143+49.03	34.33 LT	1		1		
CSAH SB 11	143+86.97	98.84 LT	1		1		
		SUBTOTAL	28		19		
		TOTAL	233	0.10	209	0.10	

EXISTING STORM SEWER REMOVAL — C

ALIGNMENT	STATION TO STATION	OFFSET LEFT (LIN FT)	OFFSET RIGHT (LIN FT)	REMOVE (SPEC. 2104) MANHOLE OR CATCH BASIN (EACH)	REMOVE (SPEC. 2104) PIPE APRON (EACH)	REMOVE (SPEC. 2104) PIPE SEWERS (LIN FT)
CSAH NB 11	110+84.77 - 112+04.80	25		2		252
CSAH NB 11	110+84.77	25 - 71				46
CSAH SB 11	110+65.74 - 111+67.98	27		2		101
CSAH NB 11	114+71.34 - 115+82.76	18	13	2		112
CSAH NB 11	115+78.46 - 115+82.76	49	13	1		59
CSAH NB 11	115+82.76 - 117+79.03		13	1		192
CSAH NB 11	117+79.03 - 118+41.76		13	1		61
CSAH NB 11	118+02.89 - 118+31.98		44 - 41	1		26
CSAH NB 11	118+31.98 - 118+41.76		41 - 12	1		28
CSAH NB 11	118+41.76 - 120+98.95		13	1		255
CSAH NB 11	120+98.95 - 121+57.88		44 - 41	1		55
CSAH NB 11	121+18.66 - 121+46.97		101	1		
CSAH NB 11	121+46.97 - 121+57.88		105 - 8	1		93
CSAH NB 11	121+30.10 - 121+36.37	50		1		3
CSAH NB 11	121+36.37 - 121+70.91	50 - 108		1	1	66
CSAH NB 11	121+57.88 - 121+77.82		8 - 6			16
CSAH SB 11	121+39.81 - 121+46.16	24 - 63			1	40
CSAH NB 11	121+77.82 - 121+86.74		12 - 6			7
CSAH NB 11	121+86.74 - 125+23.34		6 - 1	1		342
CSAH NB 11	125+23.34 - 125+25.42		1 - 9	1		4
CSAH NB 11	125+23.34 - 125+30.81	45	1	1		39
CSAH NB 11	125+30.81 - 125+31.35	45 - 41		1		4
CSAH NB 11	125+23.34 - 128+40.25	3	1	1		313
CSAH NB 11	127+90.42 - 128+17.95		31	1		24
CSAH NB 11	128+17.95 - 128+40.25	3	31	1		35
CSAH NB 11	128+40.25 - 128+43.77	3	5	1		5
CSAH NB 11	128+40.25 - 131+49.94	3 - 5		1		306
CSAH NB 11	131+39.53 - 131+49.94	5	5	1		10
CSAH NB 11	131+49.94 - 131+65.12	5	26	1		32
CSAH NB 11	131+65.12 - 131+92.31		26 - 34	1		24
CSAH NB 11	131+49.94 - 133+53.87	5	3	1		200
CSAH NB 11	133+53.87 - 133+53.87	48	3	1		47
CSAH NB 11	133+53.87 - 135+58.22		3	1		200
CSAH NB 11	135+58.22 - 135+62.63		3 - 29	1		23
CSAH NB 11	135+62.63 - 135+92.48		29 - 25	1		28
CSAH NB 11	135+58.22 - 136+22.80		3	1		61
CSAH NB 11	136+22.80 - 136+50.47	46	3	1		52
			TOTAL	36	2	3161

BITUMINOUS AND CONCRETE REMOVALS, SAWING AND MILL — B

ALIGNMENT	STATION TO STATION	REMOVE (SPEC. 2104) BITUMINOUS PAVEMENT (SQ YD)	REMOVE (SPEC. 2104) CONCRETE WALK (SQ FT)	REMOVE (SPEC. 2104) CONCRETE MEDIAN (SQ FT)	REMOVE (SPEC. 2104) CONC. CURB & GUTTER (LIN FT)	SAWING (SPEC. 2104) BITUMINOUS PAVEMENT (LIN FT)	SAWING (SPEC. 2104) CONCRETE PAVEMENT (LIN FT)	MILL (SPEC. 2232) BITUMINOUS SURFACE (2") (SQ YD)
CSAH NB 11	105+50 - 118+38	8325	5829	3401	2258	684	17	2270
CSAH NB 11	118+38 - 121+56	2467	1405		561	26	3	
CSAH NB 11	121+56 - 124+98	2712	1470		589	25	3	
CSAH NB 11	124+98 - 128+22	2539	1406		763	26	3	
CSAH NB 11	128+22 - 131+98	3259	1641		644	26	3	
CSAH NB 11	131+98 - 135+99	2986	1767		670	26	3	
CSAH NB 11	135+99 - 140+25	2789	1919	714	882	29	3	
CSAH NB 11	140+25 - 141+76	1069	847	1213	495	37	2	1809
CSAH NB 11	141+76 - 144+63		1626		560	571	14	
CSAH SB 11	106+64 - 112+74			348	417	402	13	
CSAH SB 11	112+74 - 118+40				741	38	3	
CSAH SB 11	118+40 - 127+92		4393		1075	26	3	
CSAH SB 11	127+92 - 131+87		1718		573	26	3	
CSAH SB 11	131+87 - 135+93		1820		656	26	3	
CSAH SB 11	135+93 - 141+39		4987		660	51	8	
CSAH SB 11	141+39 - 143+96				759	754	6	
	TOTAL	26146	30828	5676	12303	2773	90	4079

NO	DATE	BY	CKD	APPR	REVISION
1	02/27/2014	EJM	GMP	CAK	UPDATED TAB B
2	05/12/2014	EJM	GMP	CAK	UPDATED TAB B TO INCLUDE NB STATION 105+50, AND TAB A

NAME: p:\02-611-32\plan\002-611-032_TAB.dgn 05/15/2014 2:03:48 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT KOBILARCSIK
SIGNATURE:
DATE: 5-2-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

TABULATIONS

Sheet 10 of 196 Sheets

DRIVEWAY REMOVAL AND CONSTRUCTION

D

STATION	LOCATION			DESCRIPTION	SAWCUT		REMOVE		CONSTRUCT				
	ALIGNMENT	OFFSET			BIT	CONC	BIT	CONC	WIDTH	2.5" BIT (1)	6" CONC	8" CONC	4" AGG CL 5
		FROM	TO		LIN FT	LIN FT	SQ YD	SQ YD	LIN FT	TON (2)	SQ YD	SQ YD	TON
107+51.15	CSAH 11 NB	20	40	BIT DRIVE	12		14	30	17	3	8		4
108+84.10	CSAH 11 NB	20	40	BIT DRIVE	12		9	35	17	2	8		4
109+78.91	CSAH 11 NB	20	40	BIT DRIVE	34		24	43	17	6	12		9
110+88.01	CSAH 11 NB	20	40	BIT DRIVE	17		5	41	17	2	12		4
111+27.54	CSAH 11 NB	20	40	BIT DRIVE	18		12	41	17	4	12		5
111+83.95	CSAH 11 NB	15	44	BIT DRIVE	16		9	28					
112+14.04	CSAH 11 NB	20	40	BIT DRIVE	11		9	25	12	2	9		3
113+05.37	CSAH 11 NB	20	40	BIT DRIVE	10		23	19	12	4			7
114+01.35	CSAH 11 NB	15	41	CONC DRIVE		18		31					
114+65.40	CSAH 11 NB	22	42	CONC DRIVE		38		65	12		36		
115+11.75	CSAH 11 NB	25	45	BIT DRIVE	29		43	6	12	3			4
116+60.55	CSAH 11 NB	25	45	CONC DRIVE		20		66	12		29		
116+99.39	CSAH 11 NB	25	45	BIT DRIVE	24		62	9	12	5			8
21+94.20	102ND LANE	24	36	CONC DRIVE	28								
24+03.40	102ND LANE	16	39	BIT DRIVE	17		74		16	7	9		11
24+80.76	102ND LANE	16	40	BIT DRIVE	22		96		20	14	10		22
30+74.13	103RD AVE	16	41	BIT DRIVE	11		38			2	6		3
30+76.64	103RD AVE	15	37	BIT DRIVE	21		52			1	10		2
121+81.21	CSAH 11 SB	16	36	BIT DRIVE	13		31			3			4
40+87.20	104TH AVE	15	20	BIT DRIVE	17		35			4	10		7
126+11.60	CSAH 11 NB	20	40	CONC DRIVE		15		45	12		18		
126+51.96	CSAH 11 NB	20	40	BIT DRIVE	15		42	10	12	3			5
81+41.81	104TH LANE	17	27	BIT DRIVE	19		27		19	3			5
83+77.00	104TH LANE	15	29	BIT DRIVE	15		24	7		2	11		4
51+21.60	105TH AVE	15	20	BIT DRIVE	16		15			1	9		2
52+15.08	105TH AVE	15	22	BIT DRIVE	16		18			2	8		3
52+25.52	105TH AVE	16	36	BIT DRIVE	21		62			4	11		6
53+94.93	105TH AVE	15	40	CONC DRIVE		34		138			108		
54+65.43	105TH AVE	16	37	BIT DRIVE	18		53	8		5	9		7
55+13.96	105TH AVE	15	27	CONC DRIVE		16		17			19		
55+28.42	105TH AVE	16	25	CONC DRIVE		13		17			17		
133+87.20	CSAH 11 NB	20	41	BIT DRIVE	162		329	12					
134+93.39	CSAH 11 NB	1	14	BIT DRIVE			23	12		7			11
71+11.41	105TH LANE	16	37	BIT DRIVE	16					3	15		5
71+12.34	105TH LANE	20	25	BIT DRIVE	16						17		
71+69.21	105TH LANE	20	31	BIT DRIVE	9					1	9		2
73+42.81	105TH LANE	15	36	CONC DRIVE		13					35		
73+68.86	105TH LANE	16	22	BIT DRIVE	27					4		14	6
141+48.82	CSAH 11 SB	21	43	BIT DRIVE	34		68		27	6	31		9
142+18.57	CSAH 11 NB	21	40	BIT DRIVE	61		30			1			2
142+93.28	CSAH 11 NB	23	50	BIT DRIVE	20		87			7			10
203+04.54	EGRET BLVD	27	49	BIT DRIVE	19		17	16		1	14		2
204+00.00	EGRET BLVD	26	51	BIT DRIVE	16	5	20	15			27		
				TOTAL	812	172	1351	736		112	529	14	176

NOTE :
(1) TYPE SP 12.5 WEAR (SPWEB230B).
(2) SEE SHEET 8 FOR 'BASIS OF QUANTITIES'.

NO	DATE	BY	CKD	APPR	REVISION
1	05/15/2014	EJM	GMP	CAK	UPDATED TAB D

NAME: p:\02-611-32\plan\002-611-032_TAB.dgn 05/15/2014 2:03:49 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

TABULATIONS

Sheet 11 of 196 Sheets

SALVAGE & INSTALL SIGNS — F

STATION	LOCATION	SALVAGE SIGN TYPE C	SALVAGE SIGN TYPE D	SALVAGE SIGN TYPE SPECIAL (1)	INSTALL SIGN TYPE C	INSTALL SIGN TYPE D	INSTALL SIGN TYPE SPECIAL	SIGN NUMBER	SIGN LEGEND
		EACH	EACH	EACH	EACH	EACH	EACH		
CSAH 11 (FOLEY BLVD.)									
106+80	Rt			1			1	101st Ave/Foley Blvd	
106+95	Lt	1						R4-7	Keep Right
								x4-2	9-button
107+05	Lt	1						R5-1	Do Not Enter
107+35	Rt	1						M3-1A	NORTH
								M1-6	11
108+50	Rt	1						R2-1	SL 40
109+95	Lt	1						R3-X2	Left Turn Lane
110+60	Lt		1					Mast Arm Signing	
110+60	Lt	1						R3-X1	Right Turn Lane
110+80	Lt	1						R3-X2	Left Turn Lane
111+50	Lt		1					101st Ave Guide Sign	
112+10	Lt	1						R4-7	Keep Right
								x4-2	9-button
112+30	Lt	1						R1-1	Stop
								x4-15	delineator
113+00	Lt			1			1	102nd Ave/Foley Blvd	
113+20	Lt	1						R4-7	Keep Right
								x4-2	9-button
113+70	Lt	1						R5-1	Do Not Enter
114+00	Lt	1						X4-4R	Clearance
114+70	Lt	1						R4-7	Keep Right
								x4-2	9-button
116+40	Lt		1					Mast Arm signing	
117+10	Lt	1						X4-4R	Clearance
118+00	Lt	1						R1-1	Stop
118+40	Rt	1						R1-1	Stop
118+42	Rt			1			1	102nd Lane/Foley Blvd	
118+50	Lt			1			1	102nd Lane/Foley Blvd	
119+00	Lt	1						R8-3a	No Parking
								W14-3	No Passing Zone
119+10	Lt	1						R8-3a	No Parking
121+10	Rt			1			1	103RD AVE NW/FOLEY BLVD	
121+50	Lt	1						x4-15	delineator
								x4-15	delineator
121+60	Rt	1						R1-1	Stop
								x4-15	delineator
122+30	Rt	1						R8-3a	No Parking
125+00	Rt	1						R1-1	Stop
								x4-15	delineator
125+05	Rt			1			1	104TH AVE/FOLEY BLVD	
125+70	Lt		1			1		Mn/DOT Jct Guide Sign	
125+80	Rt	1						R8-3a	No Parking
126+40	Lt	1						R8-3a	No Parking
127+85	Rt			1			1	104TH LANE/FOLEY BLVD	
127+90	Lt	1						R1-1	Stop

NOTES:
(1) SIGN TYPE SPECIAL SHALL BE VISIBLE AT ALL TIMES. ITEM SHALL BE PAID BY EACH, WHEN RELOCATION IS REQUIRED.

SALVAGE & INSTALL SIGNS — F

STATION	LOCATION	SALVAGE SIGN TYPE C	SALVAGE SIGN TYPE D	SALVAGE SIGN TYPE SPECIAL (1)	INSTALL SIGN TYPE C	INSTALL SIGN TYPE D	INSTALL SIGN TYPE SPECIAL	SIGN NUMBER	SIGN LEGEND
		EACH	EACH	EACH	EACH	EACH	EACH		
CSAH 11 (FOLEY BLVD.)									
128+30	Lt			1			1	104TH LANE/FOLEY BLVD	
128+30	Rt	1						R1-1	Stop
								x4-15	delineator
128+90	Rt	1						R8-3a	No Parking
131+15	Lt	1						R8-3a	No Parking
131+50	Rt			1			1	105th Ave/Foley Blvd	
131+75	Lt	1						R1-1	Stop
								x4-15	delineator
132+00	Rt	1						R1-1	Stop
								x4-15	delineator
132+20	Lt			1			1	105th Ave/Foley Blvd	
132+80	Rt	1						R8-3a	No Parking
134+10	Rt	1						R1-1	Stop
								x4-15	delineator
134+80	Lt	1			1			I-X1	Adopt
								R8-3a	No Parking
135+10	Rt	1						R1-1	Stop
								x4-15	delineator
135+75	Lt	1						R1-1	Stop
136+10	Rt	1						R1-1	Stop
								x4-15	delineator
136+15	Rt			1			1	105th Lane/Foley Blvd	
137+40	Rt	1						R8-3a	No Parking
								W14-3	No Passing Zone
139+05	Lt	1						R4-7	Keep Right
								x4-2	9-button
139+60	Lt	1						X4-4R	Clearance
139+70	Lt	1						R5-1	Do Not Enter
139+80	Lt	1						R4-7	Keep Right
								x4-2	9-button
140+30	Rt	1						R6-1R	One-Way
								R1-1	Stop
140+35	Rt			1			1	106th Ave/Foley Blvd	
140+60	Lt	1						R4-7	Keep Right
								x4-2	9-button
140+90	Lt	1						R3-X2	Left Turn Lane
141+60	Lt	1						R3-X2	Left Turn Lane
142+50	Lt	1						R2-1	SL 40
								R8-3a	No Parking
143+90	Lt	1						R5-1	Do Not Enter
144+10	Lt	1						R4-7	Keep Right
								x4-2	9-button
	TOTAL	48	4	12	1	1	12		

NOTES:
(1) SIGN TYPE SPECIAL SHALL BE VISIBLE AT ALL TIMES. ITEM SHALL BE PAID BY EACH, WHEN RELOCATION IS REQUIRED.

NO	DATE	BY	CKD	APPR	REVISION

NAME: p:\02-611-32\plan\002-611-032_TAB.dgn 01/16/2014 10:48:26 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: 1-16-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

TABULATIONS

Sheet 12 of 196 Sheets

REMOVE GUARD RAIL — G

ALIGNMENT	STATION START	STATION END	OFFSET	LENGTH LIN FT
CSAH SB 11	115+75.91	116+79.15	7 - 11 LT	103
			TOTAL	103

VEHICULAR GATE — H

STATION	LOCATION ALIGNMENT	LT/RT	OFFSET	GATE & POST EACH
121+30	CSAH NB 11	RT	39	1
121+50	CSAH NB 11	RT	39	1
127+96	CSAH NB 11	RT	36	1
128+15	CSAH NB 11	RT	38	1
127+64	CSAH SB 11	LT	34	1
127+84	CSAH SB 11	LT	34	1
135+70	CSAH SB 11	LT	39	1
135+90	CSAH SB 11	LT	32	1
139+85	CSAH NB 11	RT	35	1
140+05	CSAH NB 11	RT	35	1
			TOTAL	10

MAILBOX — I

ALIGNMENT	STATION	OFFSET LEFT	OFFSET RIGHT	SALVAGE MAIL BOX SUPPORT (SPEC 2104) (EACH)	INSTALL MAIL BOX SUPPORT (SPEC 2540) (EACH)
CSAH NB 11	107+68		18	1	1
CSAH NB 11	108+99		18	1	1
CSAH NB 11	109+97		18	1	1
CSAH NB 11	111+01		16	1	1
CSAH NB 11	111+40		16	1	1
CSAH NB 11	112+24		17	1	1
CSAH NB 11	113+17		16	1	1
CSAH NB 11	114+80		16	1	1
CSAH NB 11	115+22		16	1	1
CSAH NB 11	116+72		16	1	1
CSAH NB 11	117+11		16	1	1
102ND LN	24+18	18		1	1
102ND LN	24+66	17		1	1
103RD AVE	30+98		18	1	1
104TH AVE	40+77		16	1	1
CSAH NB 11	125+92		9	1	1
104TH LN	81+30	17		1	1
104TH LN	83+65	17		1	1
105TH AVE	52+40		17	1	1
105TH AVE	54+06		18	2	2
105TH AVE	55+58		17	1	1
CSAH NB 11	143+17		16	1	1
CSAH SB 11	141+77	14		1	1
			TOTAL	24	24

BASE AND BITUMINOUS QUANTITIES — J

LOCATION STA.	TO STA.	ALIGNMENT	DESCRIPTION	BITUMINOUS SURFACE SQ YD	TYPE SP 12.5 WEAR (SPWEB340F) TON	TYPE SP 12.5 NON WEAR (SPNWB330B) TON (1)	TACK COAT GALLON	AGGREGATE BASE CLASS 5 CU YD
106+66	109+50	CSAH NB 11	SHOULDER	204	47	26	20	75
106+88	109+37	CSAH SB 11	OVERLAY	1379	159	0	69	
106+93	109+50	CSAH NB 11	OVERLAY	705	81	0	35	
109+37	117+47	CSAH SB 11	MAINLINE	3872	891	501	387	696
109+50	114+47	CSAH NB 11	MAINLINE	1906	438	247	191	349
114+47	118+72	CSAH NB 11	MAINLINE	2319	533	300	232	413
117+47	131+19	CSAH SB 11	MAINLINE	5690	1309	736	569	1034
118+72	125+20	CSAH NB 11	MAINLINE	2548	586	330	255	465
125+20	132+31	CSAH NB 11	MAINLINE	3339	768	432	334	601
131+19	135+44	CSAH SB 11	MAINLINE	2300	529	298	230	410
132+31	136+14	CSAH NB 11	MAINLINE	1574	362	204	157	286
135+44	141+39	CSAH SB 11	MAINLINE	2047	471	265	205	378
136+14	141+76	CSAH NB 11	MAINLINE	2205	507	285	221	403
141+39	143+94	CSAH SB 11	SHOULDER	144	33	19	14	40
141+39	143+94	CSAH SB 11	OVERLAY	743	85	0	37	
141+76	144+53	CSAH NB 11	RT TURN LANE	367	84	47	37	79
141+76	144+53	CSAH NB 11	OVERLAY	1066	123	0	53	
10+75	11+75	LT LWB	102ND AVE	538	124	70	54	89
21+50	22+79	LT CSAH SB 11	102ND LANE	390	90	50	39	71
23+65	25+30	RT CSAH NB 11	102ND LANE	491	113	64	49	102
CUL DE SAC			103RD AVE	414	95	54	41	85
40+21	41+94	RT	104TH AVE	381	88	49	38	65
CUL DE SAC (RT CSAH NB 11)			104TH LANE	465	107	60	47	91
CUL DE SAC (LT CSAH SB 11)			104TH LANE	383	88	50	38	53
51+09	52+82	LT	105TH AVE	533	123	69	53	102
53+68	55+44	RT	105TH AVE	542	125	70	54	112
CUL DE SAC			105TH LANE	400	92	52	40	84
72+89	73+90	RT	105TH LANE	190	44	25	19	26
CUL DE SAC			106TH AVE	377	87	49	38	52
202+09	204+70	RT	EGRET BLVD	336	77	43	34	64
			TOTAL	8259	4395	3590	6225	

(1) INCLUDES QUANTITY FOR ADDITIONAL 1/4 INCH TO DESIGN PAVEMENT THICKNESS.
SEE SHEET 8 FOR 'BASIS OF QUANTITIES'.

RETAINING WALL REMOVAL AND CONSTRUCTION — L

CSAH 11

ALIGNMENT	STATION START	STATION END	LOCATION	REMOVAL HEIGHT LIN FT	REMOVAL LENGTH LIN FT	CONSTRUCTION LENGTH LIN FT	CONSTRUCTION HEIGHT LIN FT	CONSTRUCTION BLOCK SQ FT	NOTES
CSAH NB 11	109+89	109+90	41 RT TO 47 RT		6				
CSAH NB 11	113+14	113+70	30 RT TO 26 RT		58				
CSAH NB 11	114+12	114+43	38 RT TO 24 RT		48				
CSAH NB 11	124+06	124+51	28 RT TO 35 RT		48				
104TH AVE	40+42	40+78	26 RT TO 16 RT		46				
104TH AVE	40+97	40+99	16 RT TO 24 RT		10				
CSAH NB 11	125+06	125+41	23 RT TO 23 RT		35				
CSAH NB 11	126+58	127+56	50 RT TO 18 RT	2 - 3	125				
CSAH SB 11	129+12	129+88	32 LT TO 35 LT		79				
105TH AVE	54+24	54+26	28 LT TO 53 LT		29				
106TH AVE	90+24	90+31	33 LT TO 48 LT		17				
106TH AVE	90+71	90+76	49 LT TO 33 LT		19				
CSAH SB 11	140+10	141+36	22 LT TO 33 LT	2 - 3	139				
CSAH SB 11	141+62	141+73	31 LT TO 21 LT	1 - 2	19				
EGRET	202+76	202+76	40 RT TO 49 RT		9				
EGRET	202+48	202+49	41 RT TO 53 RT		12				
CSAH NB 11	123+50	124+40	38 RT TO 38 RT			90	4.3' -5.7'	463	(1)
104TH AVE	40+41	41+25	20 LT TO 19 LT			84	4.3' - 3.4'	336	(1)
CSAH NB 11	126+61	127+74	33 RT TO 33 RT			113	4.1' - 6.0'	602	(1)
CSAH SB 11	139+60	141+35	32 LT TO 32 LT			175	4.9' - 5.6'	753	(1)
			TOTAL		699			2154	

NOTE: (1) SEE SHEETS 65-68 FOR RETAINING WALL DETAILS

CONSTRUCT BITUMINOUS TRAIL — K

STATION TO STATION	ALIGNMENT	SURFACE AREA SQ YD	TYPE SP 12.5 WEAR (SPWEB230B) TON	AGGREGATE BASE CLASS 5 TON
106+70.73 - 117+67.97	CSAH NB 11	1091	157	269
118+72.29 - 124+30.46	CSAH NB 11	565	81	139
125+15.25 - 131+35.10	CSAH NB 11	619	89	153
132+26.98 - 135+27.20	CSAH NB 11	335	48	82
136+05.76 - 144+19.49	CSAH NB 11	788	113	195
	TOTAL	488		838

NOTES:
- 2.5" BITUMINOUS TRAIL TYPE SPWEB230B
- 4" AGGREGATE BASE CL 5 TO EXTEND 6" BEYOND THE EDGE OF TRAIL

NO	DATE	BY	CKD	APPR	REVISION
1	02/27/2014	EJM	GMP	CAK	UPDATED TAB L PER MNDOT COMMENTS

NAME: p:\02-611-32\plan\002-611-032_TAB.dgn 02/27/2014 10:20:29 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: 3-17-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

TABULATIONS

CONCRETE CURB AND GUTTER, MEDIAN, SIDEWALK

N

STATION TO STATION		LOCATION	DESCRIPTION	CONCRETE CURB & GUTTER DES. B418	CONCRETE CURB &GUTTER DES. B424	CONCRETE CURB & GUTTER DES. B618	CONCRETE CURB & GUTTER DES. B624	CONCRETE CURB & GUTTER DES. S518	CONCRETE MEDIAN (1)	4" CONCRETE WALK	6" CONCRETE WALK (2)	TRUNCATED DOMES
				LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ YD	SQ FT	SQ FT	SQ FT
105+60.72	105+93.93	RT CSAH NB 11	RTL				46			168	173	16
106+62.11	117+99.08	RT CSAH NB 11	SHOULDER		1208						433	40
118+40.86	124+57.95	RT CSAH NB 11	SHOULDER		648						441	40
124+88.46	131+58.52	RT CSAH NB 11	SHOULDER		702						240	32
132+00.07	135+53.03	RT CSAH NB 11	SHOULDER		389						259	32
135+85.40	144+61.99	RT CSAH NB 11	SHOULDER		885						400	40
106+93.00	117+62.13	LT CSAH NB 11	MEDIAN	815					503			
118+85.11	131+57.09	LT CSAH NB 11	MEDIAN	1264					1025			
132+41.89	141+76.25	LT CSAH NB 11	MEDIAN	880					818			
109+36.63	117+31.79	RT CSAH SB 11	MEDIAN	814								
118+54.76	131+28.07	RT CSAH SB 11	MEDIAN	1264								
132+12.87	141+39.10	RT CSAH SB 11	MEDIAN	878								
106+64.45	112+28.52	LT CSAH SB 11	SHLD/ISLAND		305	16	32		39			24
112+72.01	117+97.13	LT CSAH SB 11	SHOULDER		563							
118+40.41	131+31.54	LT CSAH SB 11	SHOULDER		1345							
131+91.88	143+95.30	LT CSAH SB 11	SHOULDER		1241							
10+75.00	11+27.60	LT 102ND AVE	CSAH SB 11			53						
10+75.00	11+38.71	RT 102ND AVE	CSAH SB 11			53						
21+50.00	22+30.87	LT 102ND LANE	CSAH SB 11			101						
21+50.00	22+47.05	RT 102ND LANE	CSAH SB 11			117				309	120	
23+81.73	25+29.75	LT 102ND LANE	LNB			149						
24+11.98	25+29.75	RT 102ND LANE	LNB			118						
CUL DE SAC		103RD AVE				220						
40+40.66	41+65.05	LT 104TH AVE	LNB					153				
40+66.99	41+65.05	RT 104TH AVE	LNB					127				
CUL DE SAC (LT CSAH SB 11)		104TH LANE				216						
CUL DE SAC (RT CSAH NB 11)		104TH LANE				299						
51+09.00	52+36.89	LT 105TH AVE	LNB					128				
51+09.00	52+63.75	RT 105TH AVE	LNB					156				
53+85.41	55+44.00	LT 105TH AVE	CSAH SB 11			160						
54+12.83	55+44.00	RT 105TH AVE	CSAH SB 11			131						
CUL DE SAC		105TH LANE				215						
73+05.48	73+90.04	LT 105TH LANE	LNB			85						
73+39.56	73+90.04	RT 105TH LANE	LNB			483						
CUL DE SAC		106TH AVE				210						
202+00.00	204+16.92	EGRET BLVD				226				1152		
107+13.98	112+12.63	CSAH SB 11	SIDEWALK							2315	185	24
112+88.23	117+76.77	CSAH SB 11	SIDEWALK							2739	298	48
118+49.08	131+41.61	CSAH SB 11	SIDEWALK							6323	276	28
132+03.27	135+73.42	CSAH SB 11	SIDEWALK							2389	90	12
135+73.42	143+88.52	CSAH SB 11	SIDEWALK							3947	396	16
			TOTAL	5915	7286	2852	78	564	2385	19342	3311	352

NOTE:
(1) COLORED CONCRETE MEDIAN. ITEM NO. 2521.618 SPECIAL SURFACE TREATMENT APPLIES ONLY TO COLORED CONCRETE MEDIAN AND IS PAID SEPERATELY AS STATED IN SEQ.
(2) CONCRETE APPROACH NOSE AND PEDESTRIAN CURB RAMP PAID FOR AS 6" CONCRETE WALK

NO	DATE	BY	CKD	APPR	REVISION
1	02/27/2014	EJM	GMP	CAK	UPDATED TAB N
2	05/12/2014	EJM	GMP	CAK	UPDATED TAB N TO INCLUDE NB STATION 105+50
2	06/26/2014	EJM	GMP	CAK	UPDATED NOTE (1)

NAME: P:\02-611-32\Plan\002-611-032_TAB.dgn 06/26/2014 12:41:42 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT KOBILARCSIK
SIGNATURE:
DATE: 6-26-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

TABULATIONS

Sheet 14 of 196 Sheets

TURF ESTABLISHMENT AND EROSION CONTROL — P

LOCATION			SILT FENCE	STORM DRAIN INLET PROTECTION (1)	SEEDING	SEEDING	SEED MIXTURE		SODDING	EROSION CONTROL BLANKET CAT. 3	FERTILIZER TYPE 3 22-5-10	FERTILIZER TYPE 4 18-1-8	RAPID STABILIZATION METHOD 3
							270	310	TYPE SALT RESISTANT				
BEG. STA.	END STA.	ALIGNMENT	LIN FT	EACH	SQ FT	ACRE	POUND	POUND	SQ YD	SQ YD	POUND	POUND	M GAL
105+50	117+97	CSAH NB 11	47	3	5631	0.14	17		761	688	55	21	
106+64	112+27	CSAH SB 11		2	2120	0.05	6		368	259	27	8	
112+74	117+95	CSAH SB 11	200	3	2689	0.07	8		407	329	29	11	
118+42	131+49	CSAH SB 11	973	3	8174	0.21	19	4	1238	999	90	32	0.6
118+72	124+56	CSAH NB 11			1313	0.03	4		929	160	67	5	
124+90	131+56	CSAH NB 11	647		17058	0.43	18	23	768	2085	56	65	
131+94	141+36	CSAH SB 11	375	3	3078	0.08	9		1055	376	76	12	
132+02	135+51	CSAH NB 11							551		40		
135+87	144+60	CSAH NB 11	594	3	14128	0.36	15	19	690	1727	50	54	
141+62	143+83	CSAH SB 11	176		972	0.02	3		187	119	14	3	
201+99	204+17	EGRET		1	173	0.004	1		99	21	7	1	
		TOTAL	3012	18	55336	1.4	100	46	7053	6763	511	212	0.6

NOTES:
- SEE SHEET 8 FOR 'BASIS OF QUANTITIES'.
1) REQUIRED OUTSIDE PROJECT LIMITS.

PERMANENT PAVEMENT MARKINGS — Q

	PAVEMENT MESSAGE (LT ARROW) (PREFORMED THERMOPLASTIC)	PAVEMENT MESSAGE (RT ARROW) (PREFORMED THERMOPLASTIC)	24" SOLID LINE WHITE (PREFORMED THERMOPLASTIC)	4" SOLID LINE WHITE (PAINT)	4" SOLID LINE WHITE (EPOXY)	4" BROKEN LINE WHITE (EPOXY)	4" SOLID LINE YELLOW (EPOXY)	4" DOUBLE SOLID LINE YELLOW (EPOXY)	CROSSWALK MARKING (PREFORMED THERMOPLASTIC)
	EACH	EACH	SQ FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ FT
CSAH 11 NB	4	5	161	1895	5201	730	3531		
CSAH 11 SB	5	7	176		5351	730	3539		
TOTAL	9	12	337	1895	10552	1460	7070	300	1800

NOTES:
ALL PERMANENT PAVEMENT MARKINGS SHALL BE EPOXY UNLESS OTHERWISE NOTED.
SEE TEMPORARY PAVEMENT MARKINGS FOR ALL MARKINGS RELATED TO STAGING.
BROKEN LINES SHALL BE 10' SOLID WITH 40' GAP.

CONCRETE DRAINAGE FLUME — R

STATION	LOCATION		CONCRETE FLUME	RIPRAP CL II	GEOTEXTILE FILTER TYPE III
	ALIGNMENT	OFFSET	SQ YD	CU YD	SQ YD
128+75	CSAH 11 NB	56 RT	7	9.2	28
131+45	CSAH 11 NB	61 RT	13	9.2	28
		TOTAL	20	18.4	56

NO	DATE	BY	CKD	APPR	REVISION
1	02/27/2014	EJM	GMP	CAK	UPDATED TABS P & Q PER STATE AID COMMENTS
2	05/12/2014	EJM	GMP	CAK	UPDATED TAB P TO INCLUDE NB STATION 105+50

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DATE: 5-21-14 LICENSE NO. 24756

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S.A.P. 114-020-047
C.P. 12-22

TABULATIONS

Sheet 15 of 196 Sheets

EARTHWORK TABULATION — U

CSAH 11 STATION	EXCAVATION		EMBANKMENT VOLUMES		
	COMMON (CU YD)	SUBGRADE (CU YD)	TOPSOIL (CU YD)	SUITABLE (CU YD)	SEL. GRAN. (CU YD)
108+50.00	122	153	21	28	153
109+00.00	134	153	23	26	153
109+50.00	171	164	21	13	164
109+79.10	114	102	8	0	102
110+00.00	83	73	6	0	73
110+50.00	200	175	15	0	175
110+88.00	153	133	9	0	133
111+00.00	51	42	3	0	42
111+27.58	123	97	7	0	97
111+50.00	107	79	6	0	79
112+00.00	258	175	16	0	175
112+14.00	81	49	4	0	49
112+50.00	212	125	9	0	125
112+81.00	178	105	7	0	105
113+00.00	111	64	3	0	64
113+05.37	30	18	1	0	18
113+50.00	245	153	8	0	153
114+00.00	265	172	13	0	172
114+50.00	249	171	12	0	171
114+64.00	70	48	2	0	48
115+00.00	175	126	6	0	126
115+12.00	56	43	2	0	43
115+50.00	178	135	5	0	135
116+00.00	244	177	8	0	177
116+50.00	272	175	9	5	175
116+61.00	67	38	2	2	38
117+00.00	265	132	5	7	132
117+50.00	372	168	7	5	168
118+00.00	399	173	10	0	173
118+50.00	449	174	9	0	174
119+00.00	459	169	10	0	169
119+50.00	425	168	13	0	168
120+00.00	377	168	12	0	168
120+50.00	309	168	11	0	168
121+00.00	223	169	10	1	169
121+50.00	127	171	10	19	173
122+00.00	110	172	10	19	175
122+50.00	165	170	9	1	171
123+00.00	212	168	9	0	168
123+50.00	249	168	12	17	168
124+00.00	285	168	13	21	168
124+50.00	314	166	12	3	166
124+70.00	135	66	4	0	66
125+00.00	219	101	8	0	101
125+50.00	308	165	16	0	165
126+00.00	214	158	16	32	158
126+12.00	45	38	4	15	38
126+50.00	135	120	10	41	120
127+00.00	183	158	11	28	158
127+50.00	200	155	11	7	159
128+00.00	109	144	10	17	160
128+50.00	72	144	10	17	164
129+00.00	183	160	14	0	168
129+50.00	250	168	14	0	168
130+00.00	276	168	12	0	168
130+50.00	310	168	13	0	168
131+00.00	330	168	15	0	168
131+50.00	316	166	13	0	166
131+72.00	116	78	5	0	78

EARTHWORK TABULATION — U

CSAH 11 STATION	EXCAVATION		EMBANKMENT VOLUMES		
	COMMON (CU YD)	SUBGRADE (CU YD)	TOPSOIL (CU YD)	SUITABLE (CU YD)	SEL. GRAN. (CU YD)
132+00.00	163	100	6	0	100
132+09.00	55	31	2	0	31
132+50.00	228	138	8	13	138
133+00.00	305	168	13	22	168
133+50.00	295	170	9	7	170
133+87.00	210	129	4	1	129
134+00.00	77	46	2	1	46
134+50.00	312	177	7	4	177
135+00.00	316	177	7	7	177
135+50.00	313	174	11	13	174
136+00.00	262	168	12	10	168
136+50.00	221	162	11	2	162
137+00.00	217	158	12	2	158
137+50.00	204	158	11	4	158
138+00.00	209	158	10	2	158
138+50.00	209	158	10	3	158
139+00.00	245	158	0	0	0
139+50.00	231	159	14	28	159
140+00.00	142	158	12	1	162
140+50.00	122	158	12	1	166
CSAH 11 TOTAL	**16426**	**10847**	**747**	**445**	**10755**

CROSSING STREETS STATION	EXCAVATION		EMBANKMENT VOLUMES		
	COMMON (CU YD)	SUBGRADE (CU YD)	TOPSOIL (CU YD)	SUITABLE (CU YD)	SEL. GRAN. (CU YD)
10+75.00					
11+00.00	33	44	1		44
11+25.00	45	44	1		43
11+50.00	63	48	2		43
102ND AVE TOTAL	**141**	**136**	**4**		**130**
21+50.00					
21+75.00	32	41	1		41
22+00.00	39	42	1		42
22+25.00	52	43	2		43
22+50.00	81	47	3		47
24+00.00					
24+25.00	124	40	3	1	40
24+50.00	102	39	4		39
24+75.00	98	39	3	1	39
25+00.00	76	37	2	1	37
25+25.00	37	32	2		32
25+29.75	4	6			6
102ND LN TOTAL	**645**	**366**	**21**	**3**	**366**
30+50.00					
30+75.00	41	49	1		49
31+00.00	46	48	2		48
31+25.00	24	34	3		34
31+32.00	5	8	1		8
103RD AVE TOTAL	**116**	**139**	**7**		**139**
40+50.00					
40+75.00	73	32	6		32
40+87.34	31	14	2		14
41+00.00	29	15	2		15
41+25.00	45	29	4		29
41+50.00	39	29	4		29
41+65.05	22	17	2		17
41+75.00	13	11	1		11
41+94.00	19	21	1		21
104TH AVE TOTAL	**271**	**168**	**22**		**168**

EARTHWORK TABULATION — U

CROSSING STREETS STATION	EXCAVATION		EMBANKMENT VOLUMES		
	COMMON (CU YD)	SUBGRADE (CU YD)	TOPSOIL (CU YD)	SUITABLE (CU YD)	SEL. GRAN. (CU YD)
81+15.60					
81+25.00	9	11	1		11
81+41.00	17	20	1		20
81+50.00	12	14			14
81+75.00	61	50	4		50
81+95.00	44	39	3		39
83+25.00					
83+28.41	19	8	1		8
83+50.00	180	66	7		66
83+75.00	136	56	4		56
84+00.00	33	31	2		31
84+08.00	8	9	1		9
104TH LN TOTAL	**519**	**304**	**24**		**304**
51+08.91					
51+25.00	18	20	1		20
51+50.00	36	34	1		34
51+75.00	48	38	2		38
52+00.00	54	40	2		40
52+15.20	40	24	1		24
52+25.00	29	16			16
52+50.00	65	41	1		41
54+00.00					
54+25.00	118	41	5		41
54+50.00	97	40	7		40
54+65.15	49	24	4		24
54+75.00	29	16	2		16
55+00.00	58	38	5		38
55+14.00	24	20	2		20
55+25.00	15	14	1		14
55+43.94	21	23	2		23
105TH AVE TOTAL	**701**	**429**	**36**		**429**
71+00.00					
71+12.00	14	15	1		15
71+25.00	19	18	1		18
71+50.00	53	49	5	4	49
71+75.00	53	47	4	4	47
73+25.00					
73+42.50	57	22	3		22
73+50.00	21	9	1		9
73+75.00	54	30	4		30
73+90.04	23	18	2		18
105TH LN TOTAL	**294**	**208**	**21**	**8**	**208**
90+62.50					
90+75.00	14	14	1	2	26
91+00.00	42	43	3		51
91+25.00	36	38	2		38
106TH AVE TOTAL	**92**	**95**	**6**	**2**	**115**
202+00.00					
202+50.00	31	18	3	11	18
203+00.00	52	27			27
203+50.00	65	26	2		26
204+00.00	69	26	2		26
204+50.00	66	37			
EGRET BLVD TOTAL	**283**	**134**	**7**	**11**	**97**
CROSSING STREETS TOTAL	**3062**	**1979**	**148**	**24**	**1956**

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_EW.dgn 01/16/2014 10:48:34 AM

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SIGNATURE:

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

EARTHWORK TABULATION

Sheet 16 of 196 Sheets

EARTHWORK SUMMARY					V
LOCATION	EXCAVATION TOTALS		EMBANKMENT VOLUMES		
	COMMON (CU YD)	SUBGRADE (CU YD)	TOPSOIL (CU YD)	SUITABLE (CU YD)	SEL. GRAN. (CU YD)
CSAH 11	16426	10847	747	445	10755
CROSSING STREETS	3062	1979	148	24	1956
POND A	1224				
POND B	1723				
TOTAL	**22435**	**12826**	**895**	**469**	**12711**

EARTHWORK BALANCE — W

EXCAVATION (CU YD)

COMMON (EV) (1)	22,435	SUITABLE	15,124	(EV) /	1.2	=	12,604	(CV)
		EXISTING PAVEMENT	4,358	(3)				
		EXISTING TOPSOIL	2,953	(EV) /	1.2	=	2,461	(CV)
SUBGRADE EX (EV) (P) (2)	12,826	SUBGRADE	12,826	(EV) /	1.2	=	10,688	(CV) (4)

EMBANKMENT (CU YD)

SUITABLE	469	(CV)	469	(CV)
TOPSOIL	895	(CV)	895	(CV)
SELECT GRANULAR	12,711	(CV)	12,711	(CV)

EXCESS (CU YD)

TOPSOIL	2,461	(CV)	-	895	(CV)	=	1,566	(CV) (5)
SUITABLE	12,604	(CV)	-	469	(CV)	=	12,135	(CV) (6)

BORROW (CU YD)

SELECT GRANULAR	12,711	(CV)	-	10,688	(CV)	=	2,023	(CV)	2023 * 1.3 =	2629 (LV) (7)

EARTHWORK BALANCE NOTES:

(1) TOTAL COMMON EXCAVATION FOR THE PROJECT (INCLUDING TOPSOIL)
(2) TOTAL SUBGRADE EXCAVATION FOR THE PROJECT
(3) QUANTITY BASED ON 6.0" THICK (VARIES 6" - 10") EXISTING BITUMINOUS PAVEMENT FOR THE PROJECT
(4) ALL SUBGRADE EXCAVATION ASSUMED TO MEET REQUIREMENTS FOR SELECT GRANULAR BORROW
(5) TOTAL TOPSOIL EXCESS FOR THE PROJECT
(6) TOTAL SUITABLE GRADING EXCESS FOR THE PROJECT
(7) TOTAL SELECT GRANULAR BORROW FOR THE PROJECT

NO	DATE	BY	CKD	APPR	REVISION

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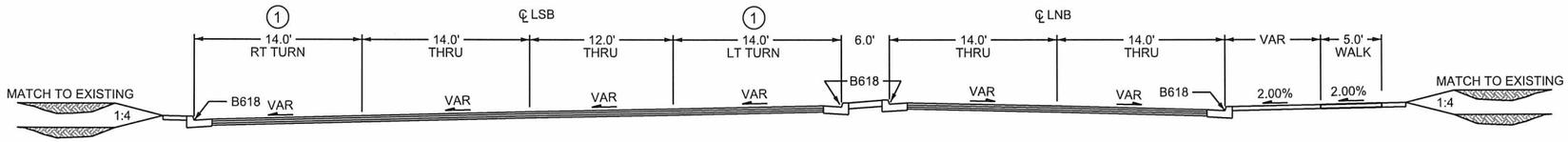
C.P. 12-22

EARTHWORK TABULATION

Sheet 17 of 196 Sheets

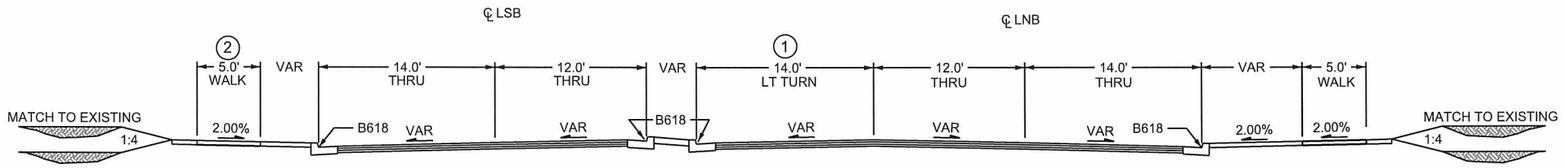
EXISTING C.S.A.H. 11 (FOLEY BLVD)

N.B. STA. 106+94 - STA. 110+25



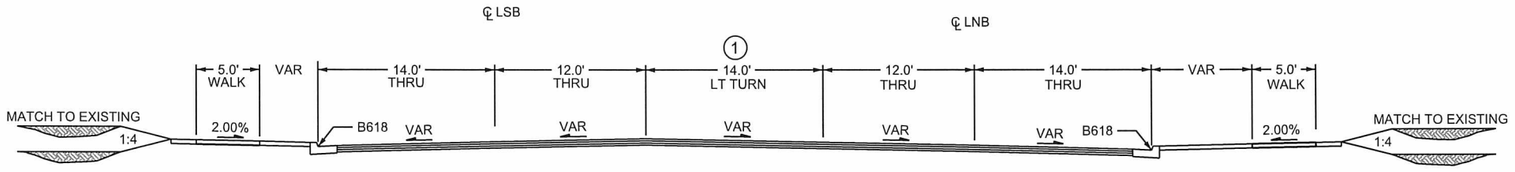
EXISTING C.S.A.H. 11 (FOLEY BLVD)

N.B. STA. 110+25 - STA. 114+10



EXISTING C.S.A.H. 11 (FOLEY BLVD)

N.B. STA. 114+10 - STA. 118+32



GENERAL NOTES:

- SEE CONSTRUCTION PLANS FOR TURN LANE LOCATIONS
- ALL CROSS SLOPES ARE EXPRESSED AS A PERCENT
- 4.0" TOPSOIL & SEED ON ALL DISTURBED AREAS
- ALL STATIONING BASED ON ALIGNMENT 11_NB_3 (NB CSAH 11) UNLESS OTHERWISE NOTED
- UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE OF THE MAINLINE.
- UNLESS OTHERWISE SPECIFIED, CLASS 5 AGGREGATE WILL EXTEND 1' BEYOND BACK OF CURB.

NOTES:

(1) INCLUDES TURN LANE TAPERS

(2) NO SIDEWALK SOUTH OF 112+50 ON WEST SIDE

NO	DATE	BY	CKD	APPR	REVISION

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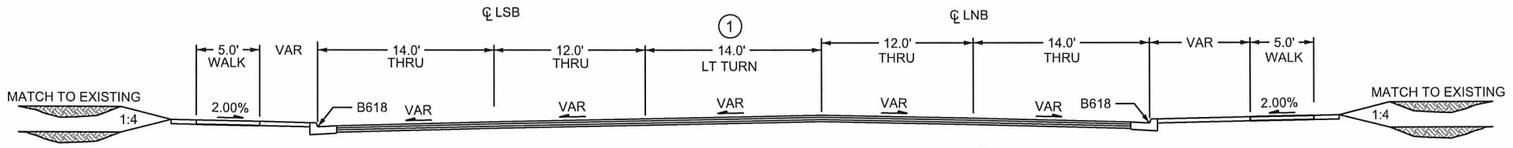
C.P. 12-22

EXISTING TYPICAL SECTIONS

Sheet 18 of 196 Sheets

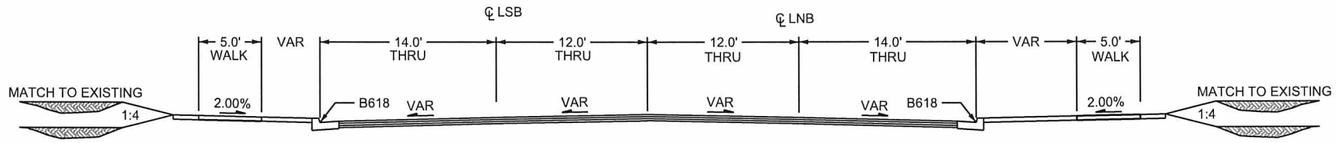
EXISTING C.S.A.H. 11 (FOLEY BLVD)

N.B. STA. 118+32 - STA. 124+59



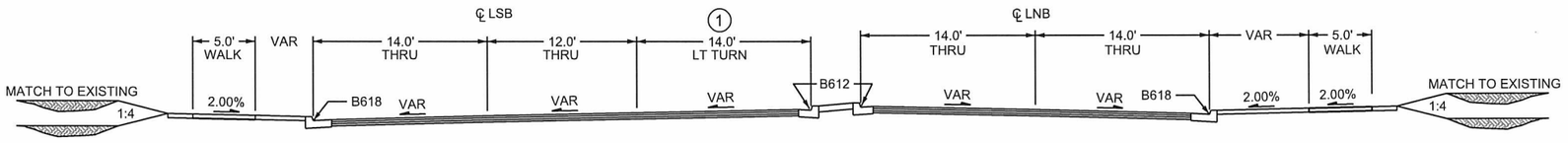
EXISTING C.S.A.H. 11 (FOLEY BLVD)

N.B. STA. 124+59 - STA. 137+30



EXISTING C.S.A.H. 11 (FOLEY BLVD)

N.B. STA. 137+30 - STA. 144+65



GENERAL NOTES:

- SEE CONSTRUCTION PLANS FOR TURN LANE LOCATIONS
- ALL CROSS SLOPES ARE EXPRESSED AS A PERCENT
- 4.0" TOPSOIL & SEED ON ALL DISTURBED AREAS
- ALL STATIONING BASED ON ALIGNMENT 11_NB_3 (NB CSAH 11) UNLESS OTHERWISE NOTED
- UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE OF THE MAINLINE.
- UNLESS OTHERWISE SPECIFIED, CLASS 5 AGGREGATE WILL EXTEND 1' BEYOND BACK OF CURB.

NOTES:

(1) INCLUDES TURN LANE TAPERS

(2) NO SIDEWALK SOUTH OF 112+50 ON WEST SIDE

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_TS_P1.dgn 01/16/2014 8:48:34 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: 1-16-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

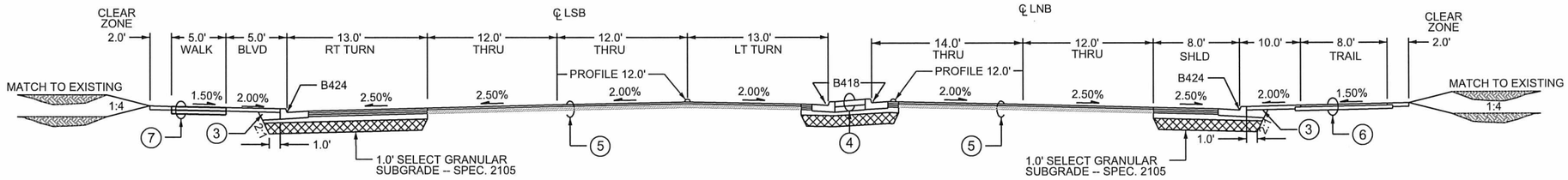
C.P. 12-22

EXISTING TYPICAL SECTIONS

Sheet 19 of 196 Sheets

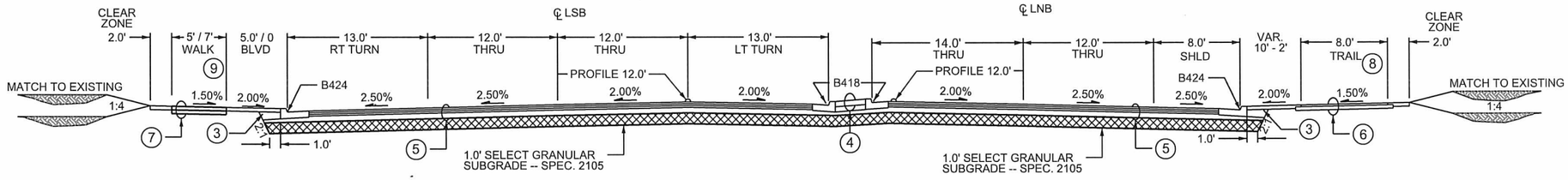
C.S.A.H. 11 (FOLEY BLVD)

NB STA. 106+62 - STA. 109+50



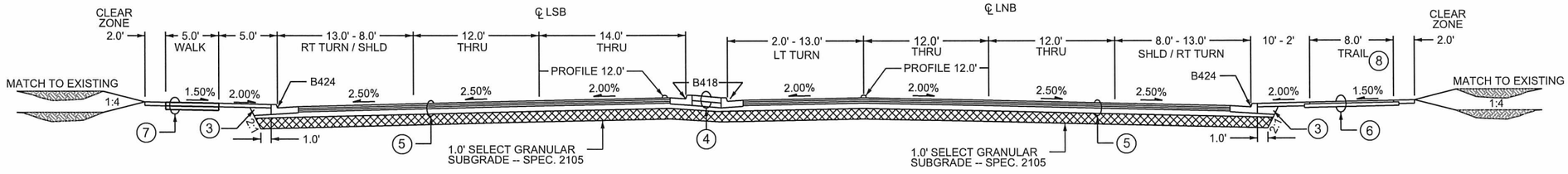
C.S.A.H. 11 (FOLEY BLVD)

NB STA. 109+50 - STA. 112+05
NB STA. 118+30 - STA. 120+81
NB STA. 131+98 - STA. 133+13



C.S.A.H. 11 (FOLEY BLVD)

NB STA. 112+05 - STA. 118+30



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- 4.0" TOPSOIL & SEED ON ALL DISTURBED AREAS
- ALL STATIONING BASED ON ALIGNMENT 11_NB_3 (NB CSAH 11) UNLESS OTHERWISE NOTED
- UNLESS OTHERWISE SPECIFIED CLASS 5 AGGREGATE WILL EXTEND 6" BEYOND THE EDGE OF BITUMINOUS TRAIL

NOTES:

(3) SUITABLE MATERIAL
(4) SEE DETAIL "A" PAGE 22
(5) SEE INSET "B" PAGE 21
(6) SEE INSET "A" PAGE 21
(7) SEE INSET "C" PAGE 22
(8) A 2.0' CLEAR ZONE SHALL BE STRIPED, WHERE BITUMINOUS TRAIL IS ADJACENT TO BACK OF CURB.
(9) 7.0' WALK WHERE BOULEVARD WIDTH IS 0

NO	DATE	BY	CKD	APPR	REVISION
1	02/27/2014	EJM	GMP	CAK	UPDATED SECTIONS AND NOTE (8) PER STATE AID COMMENTS

NAME: P:\02-611-32\Plan\002-611-032_TS_P1.dgn 03/18/2014 12:44:46 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
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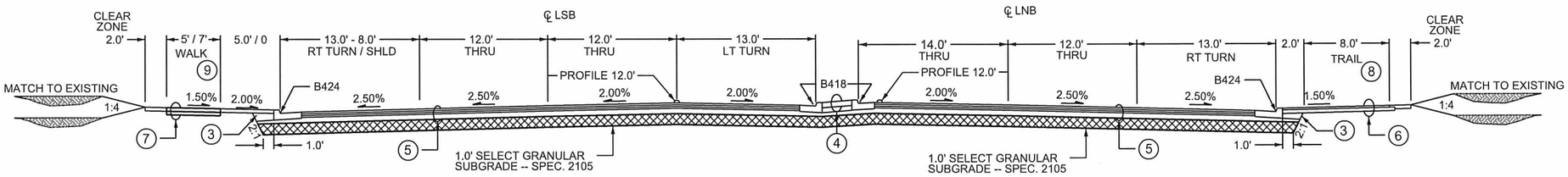
S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

PROPOSED TYPICAL SECTIONS

Sheet 20 of 196 Sheets

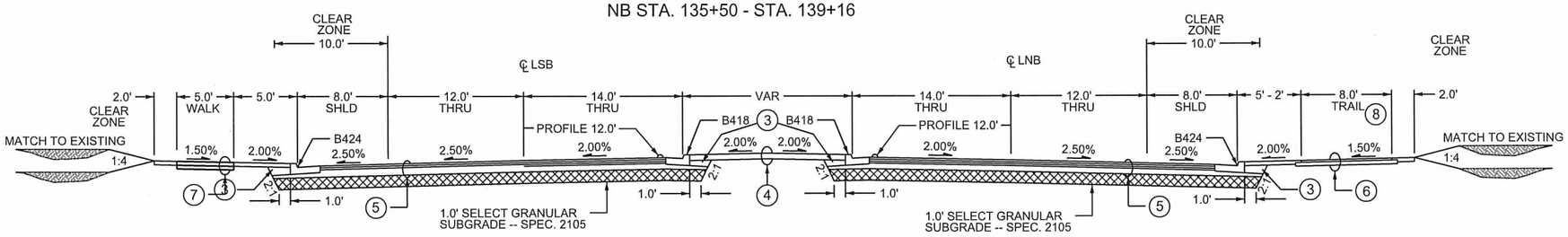
C.S.A.H. 11 (FOLEY BLVD)

NB STA. 120+81 TO STA. 124+50
NB STA. 133+13 TO STA. 135+50

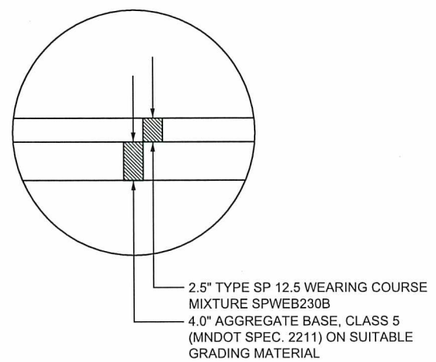


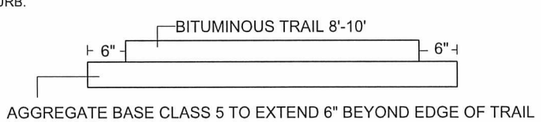
C.S.A.H. 11 (FOLEY BLVD)

NB STA. 124+50 - STA. 126+98
NB STA. 135+50 - STA. 139+16

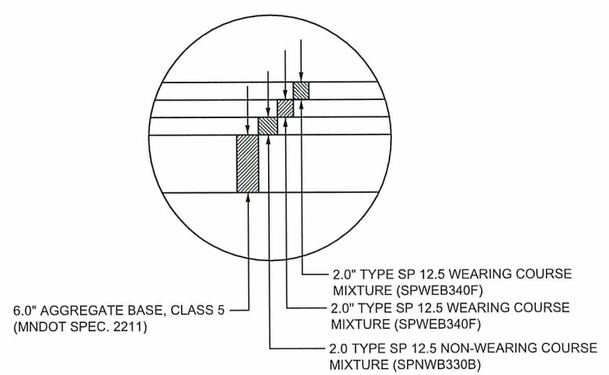


INSET "A" BITUMINOUS PATH





INSET "B" PAVEMENT DESIGN



GENERAL NOTES:

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NOTES:

(3) SUITABLE MATERIAL
(4) SEE DETAIL "A" PAGE 22
(5) SEE INSET "B" PAGE 21
(6) SEE INSET "A" PAGE 21
(7) SEE INSET "C" PAGE 22
(8) A 2.0' CLEAR ZONE SHALL BE STRIPED, WHERE BITUMINOUS TRAIL IS ADJACENT TO BACK OF CURB.
(9) 7.0' WALK WHERE BOULEVARD WIDTH IS 0

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1	02/27/2014	EJM	GMP	CAK	UPDATED SECTIONS AND NOTE (8) PER STATE AID COMMENTS

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ANOKA COUNTY
ANOKA COUNTY HIGHWAY DEPT.

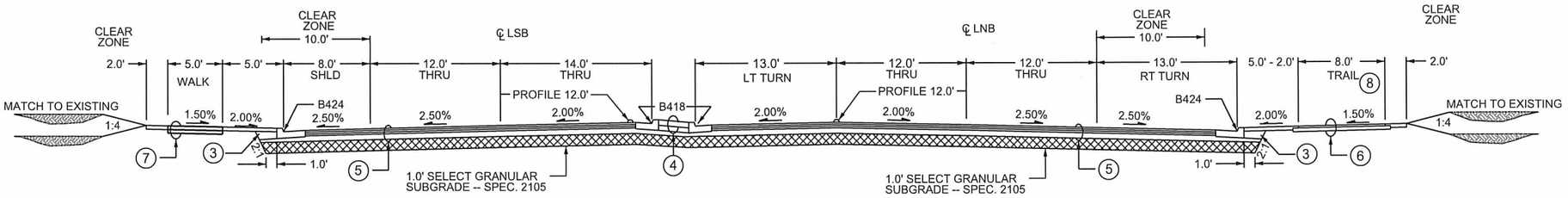
S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

PROPOSED TYPICAL SECTIONS

Sheet 21 of 196 Sheets

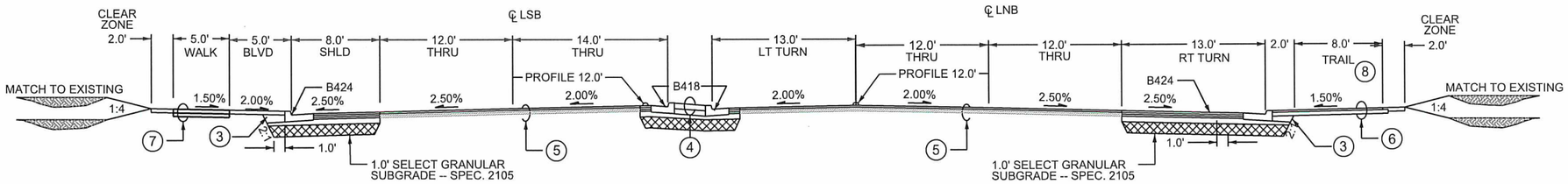
C.S.A.H. 11 (FOLEY BLVD)

NB STA. 126+98 - STA. 131+98
NB STA. 139+16 - STA. 141+76

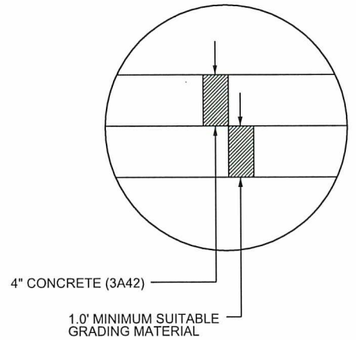


C.S.A.H. 11 (FOLEY BLVD)

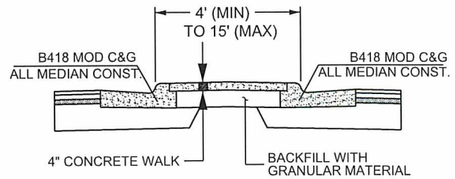
NB STA. 141+76 - STA. 144+64



INSET "C" CONCRETE SIDEWALK



DETAIL "A" MEDIAN



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NAME: P:\02-611-32\Plan\002-611-032_TS_P1.dgn 03/18/2014 12:44:48 PM

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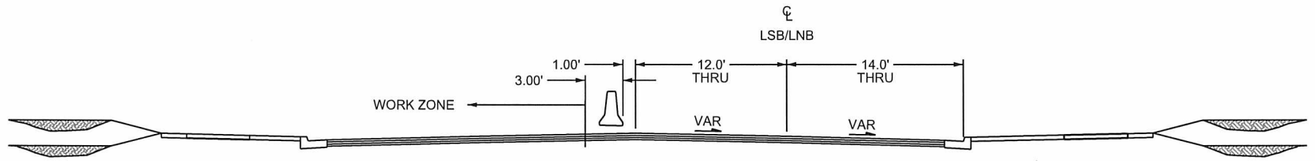
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

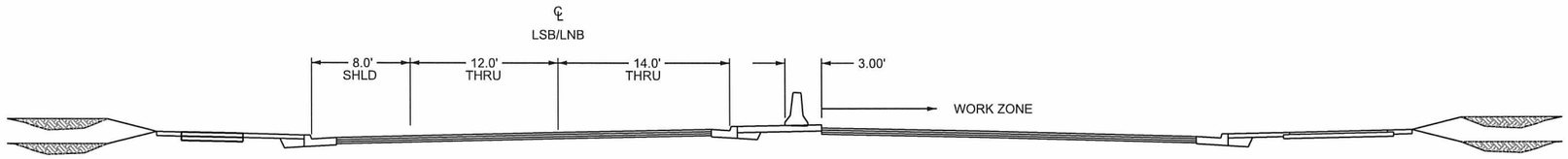
PROPOSED TYPICAL SECTIONS

Sheet 22 of 196 Sheets

STAGE 1 TYPICAL SECTION



STAGE 2 TYPICAL SECTION



1 OF 1

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_TS_P1.dgn 01/16/2014 8:48:37 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.

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

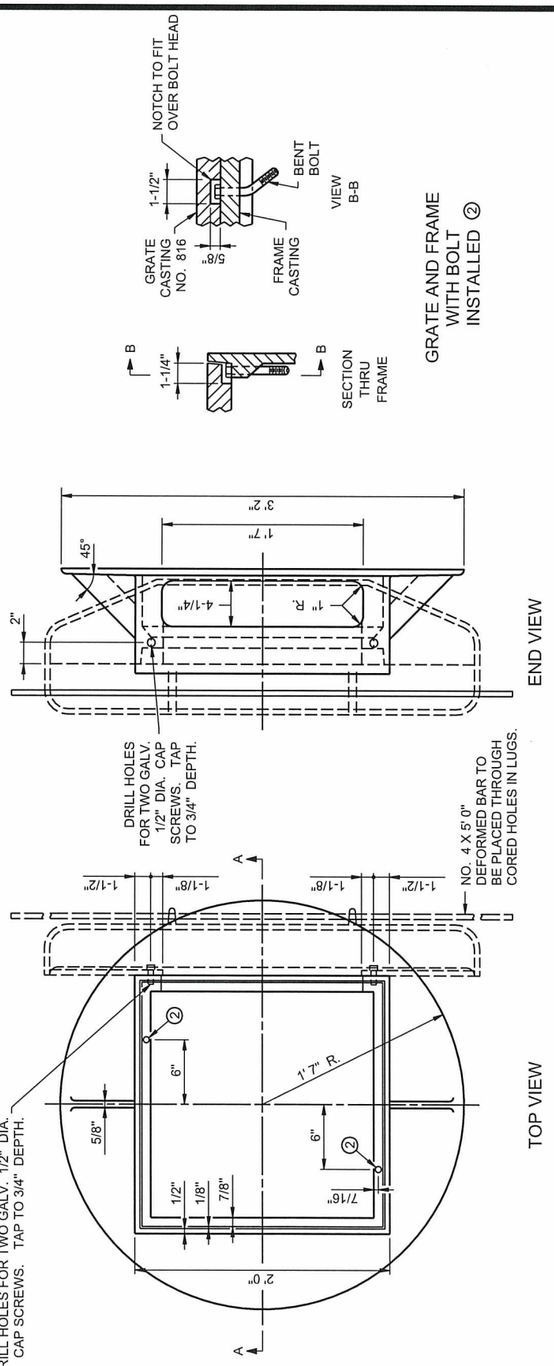
S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

STAGING TYPCIAL SECTIONS

Sheet 23 of 196 Sheets



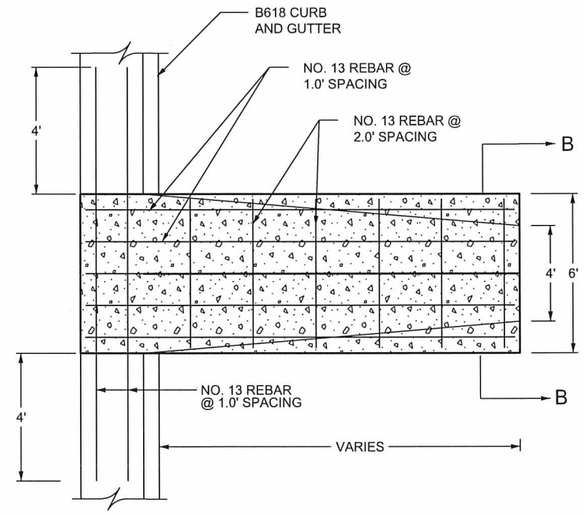
GRATE AND FRAME WITH BOLT INSTALLED ②

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

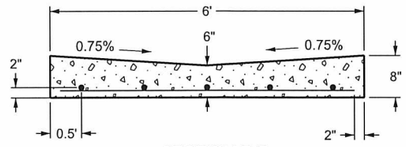
NOTES:

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.

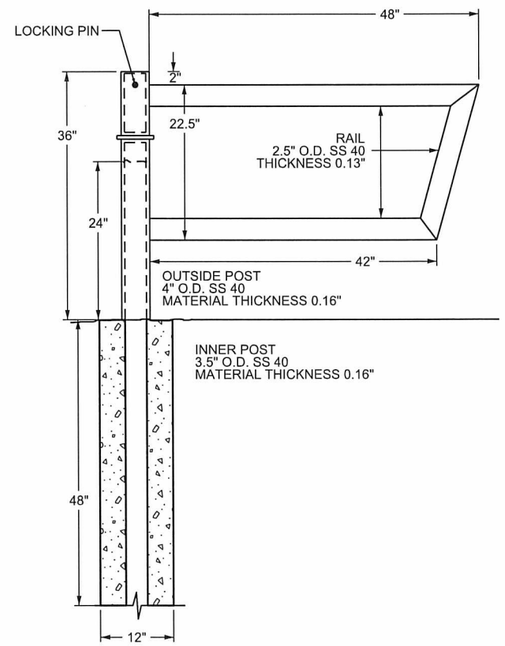
GRATE AND FRAME CASTING DETAIL FOR TYPE 'SPECIAL'



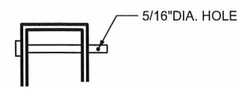
CONCRETE DRAINAGE FLUME DETAIL



SECTION B-B



CONCRETE FOOTING



LOCKING PIN DETAIL
6"X0.75" STAINLESS STEEL
PIN WITH HOLE FOR LOCK

CUL-DE-SAC GATE DETAIL

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_TS_P1.dgn 01/16/2014 8:48:38 AM

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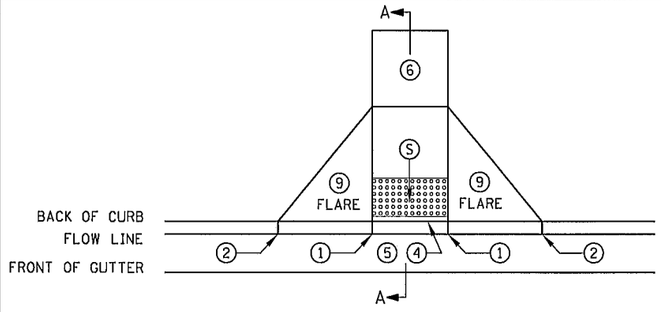
S.A.P. 114-020-047

C.P. 12-22

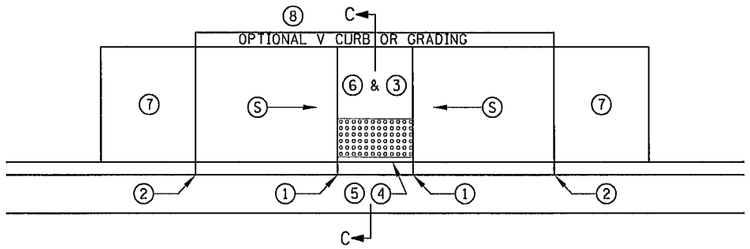
MISCELLANEOUS DETAILS

Sheet 24 of 196 Sheets

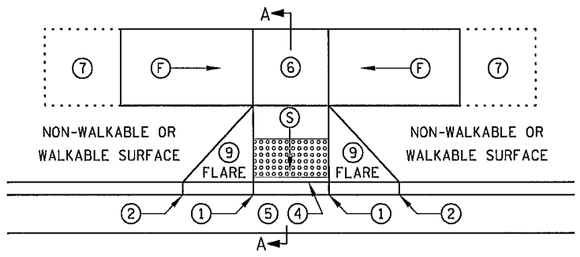
PLOTTED/REVISED:
$$$$@DATE@$$$$



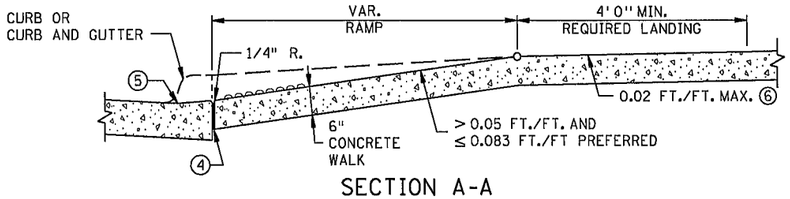
PERPENDICULAR



PARALLEL

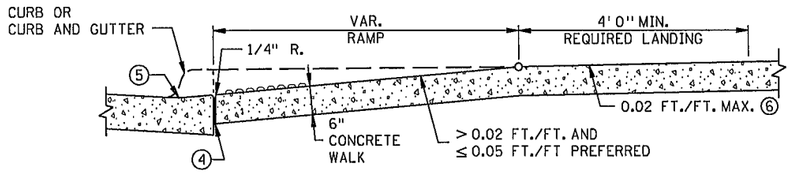


TIERED PERPENDICULAR



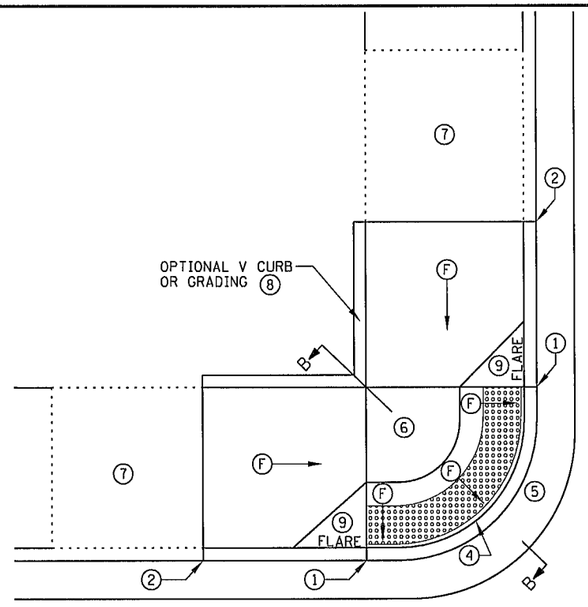
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL

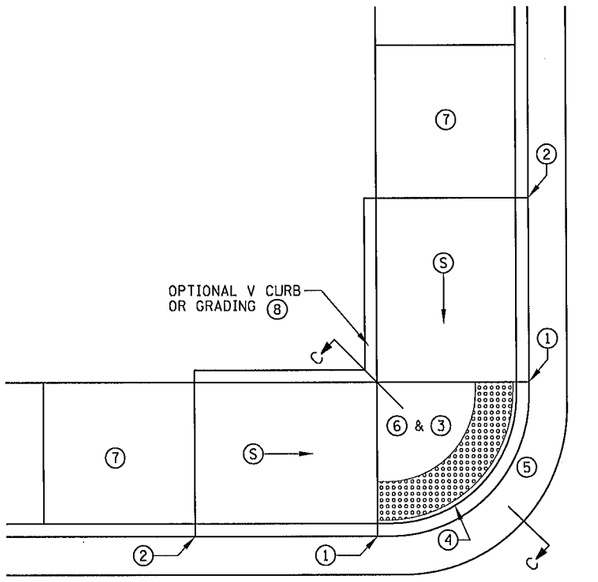


SECTION B-B

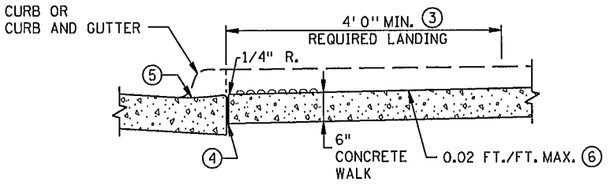
FAN



FAN

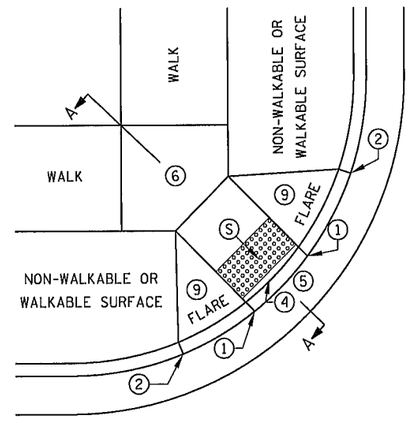


DEPRESSED CORNER



SECTION C-C

PARALLEL/DEPRESSED CORNER



DIAGONAL ⑩

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. 002-611-032 S.A.P. 114-020-047 CP 12-22

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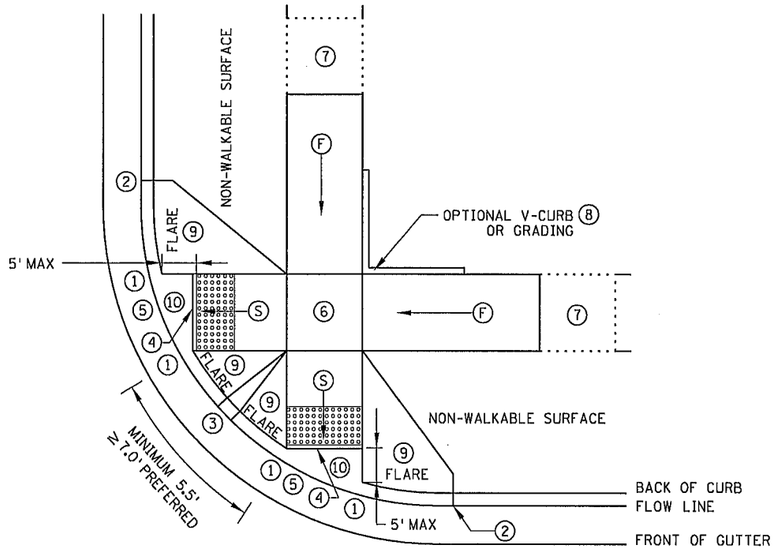
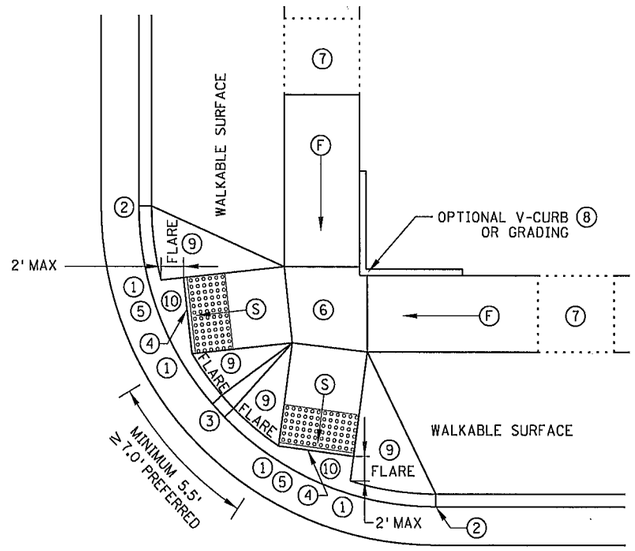
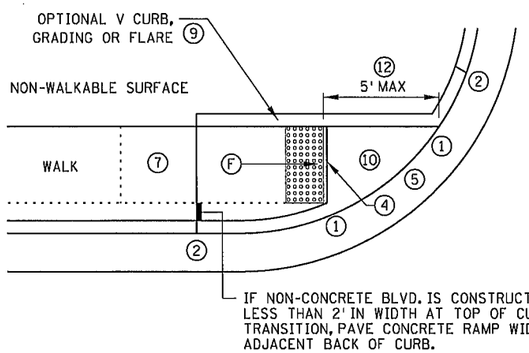


ADJACENT TO NON-WALKABLE SURFACE

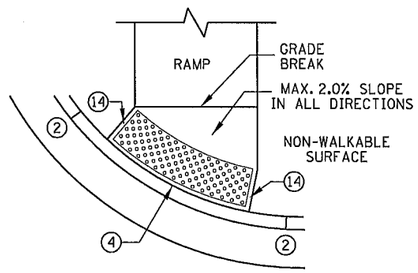


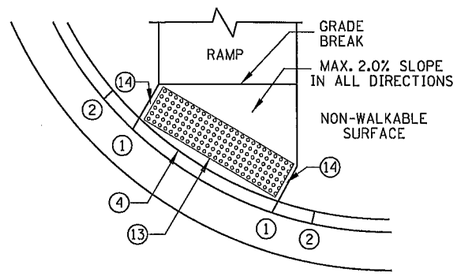
ADJACENT TO WALKABLE SURFACE

COMBINED DIRECTIONAL ⑮

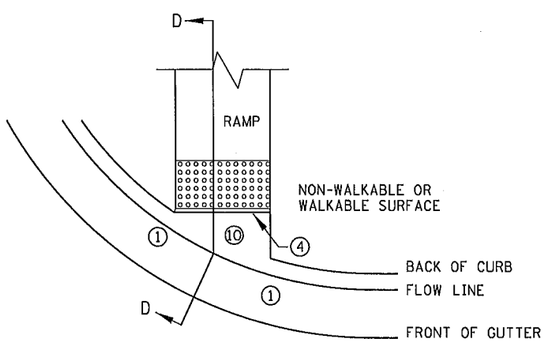


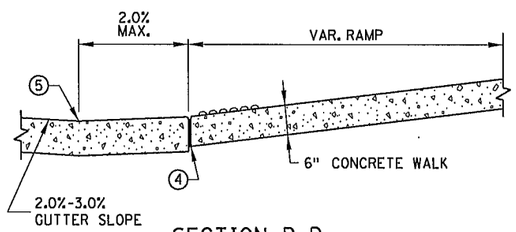
ONE-WAY DIRECTIONAL





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)
STANDARD APPROVED: APRIL 10, 2013

PEDESTRIAN CURB RAMP DETAILS

S.P. 002-611-032 S.A.P. 114-020-047 CP 12-22

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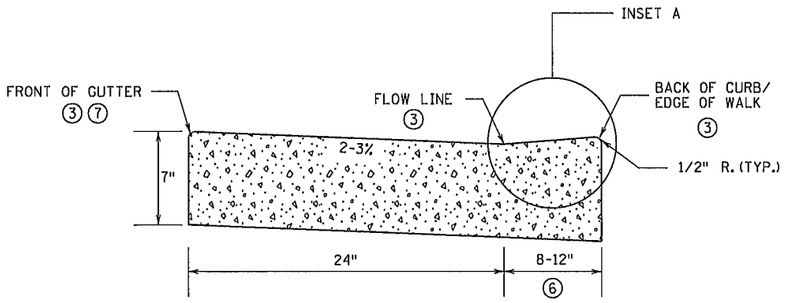
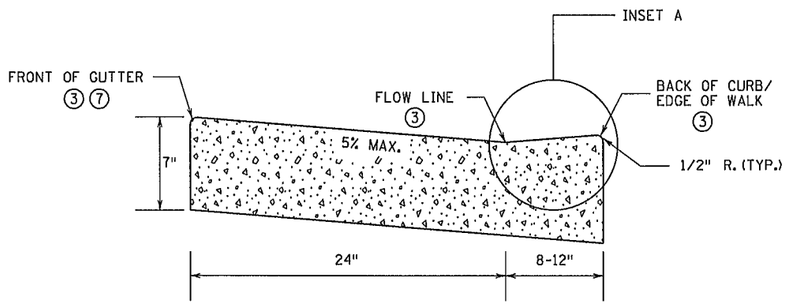
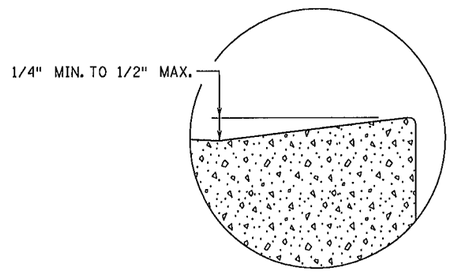


NON PERPENDICULAR ①

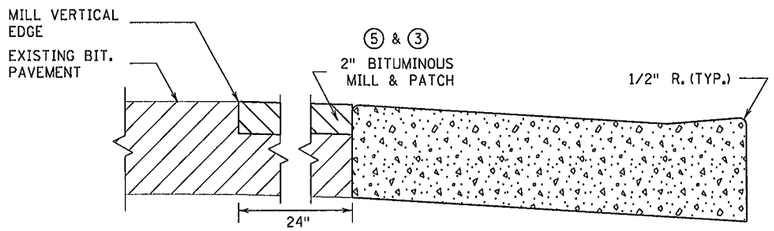


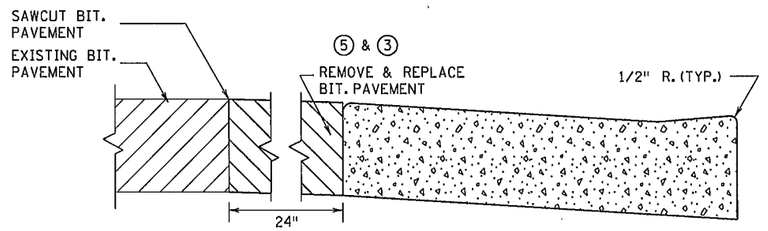
PERPENDICULAR ②

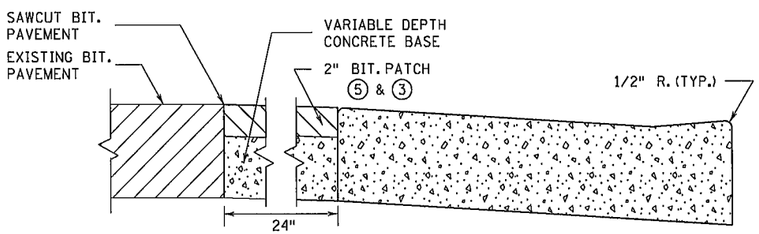


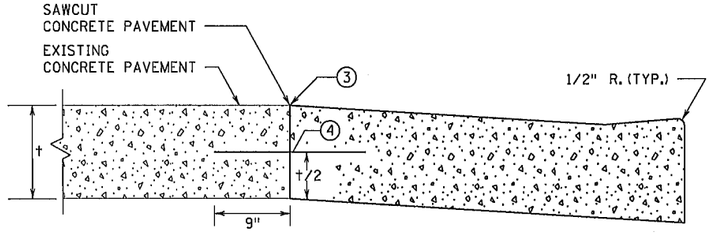
INSET A

PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



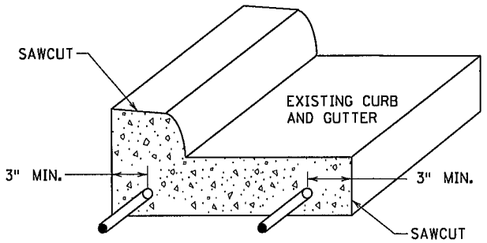






PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

FOR USE ON CURB RAMP RETROFITS



CURB AND GUTTER REINFORCEMENT ⑧

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 ASSUMED 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. 002-611-032 S.A.P. 114-020-047 CP 12-22	SHEET NO. 27 OF 196 SHEETS

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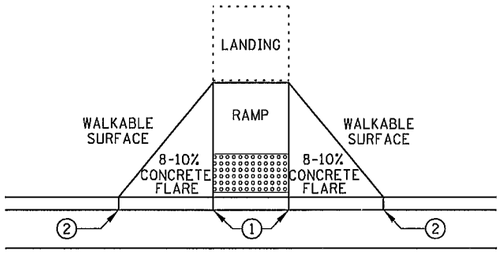
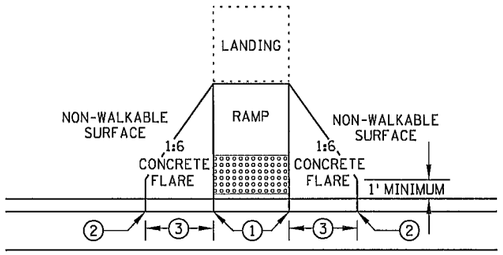
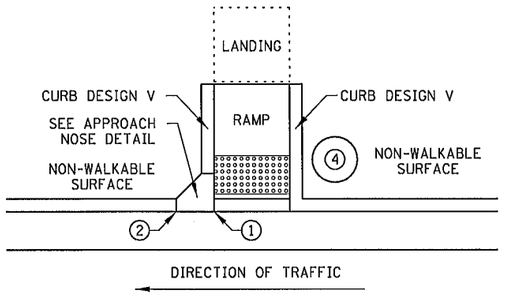


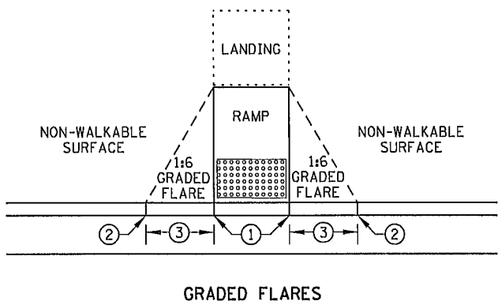
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

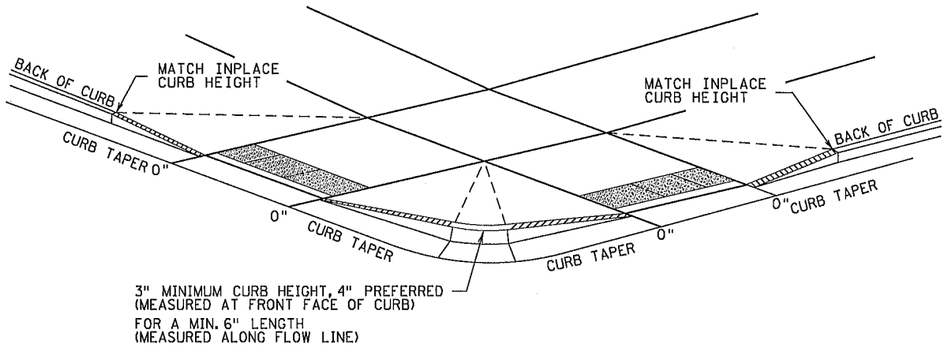


RETURNED CURB

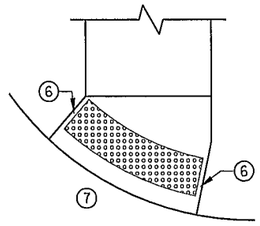


GRADED FLARES

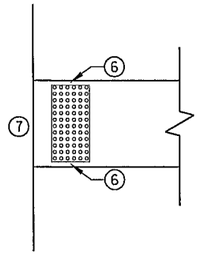
TYPICAL SIDE TREATMENT OPTIONS ⑤



DETECTABLE EDGE WITH
CURB AND GUTTER ⑧

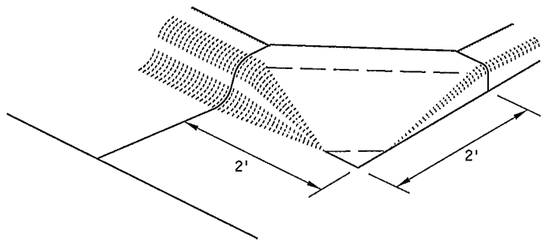


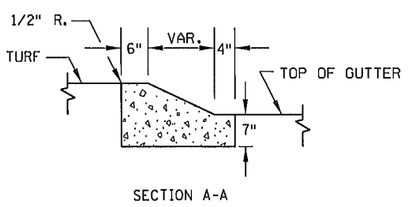
RADIAL DETECTABLE WARNING



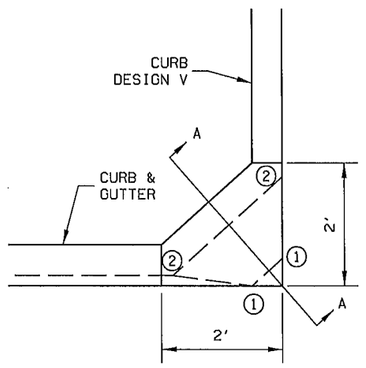
RECTANGULAR DETECTABLE WARNING

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. 002-611-032 S.A.P. 114-020-047 CP 12-22	SHEET NO.28 OF 196 SHEETS

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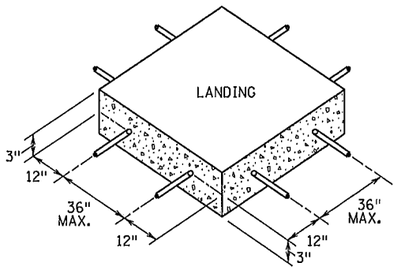
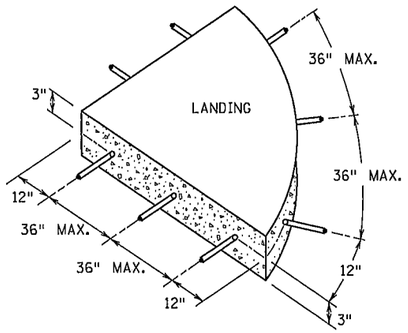
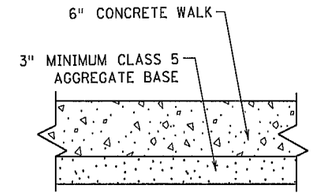
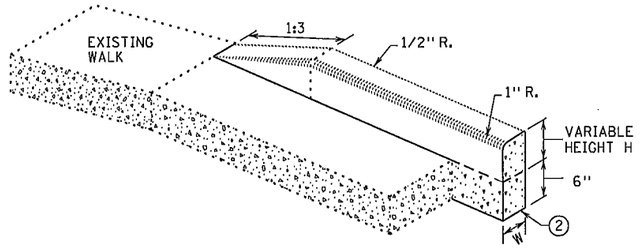




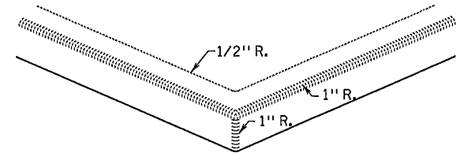
SIDEWALK REINFORCEMENT ⑤ ⑥



TYPICAL SIDEWALK SECTION
WITHIN INTERSECTION CORNER

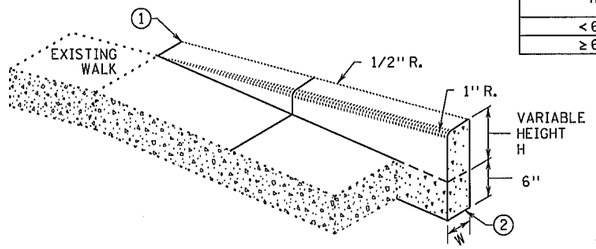


V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS

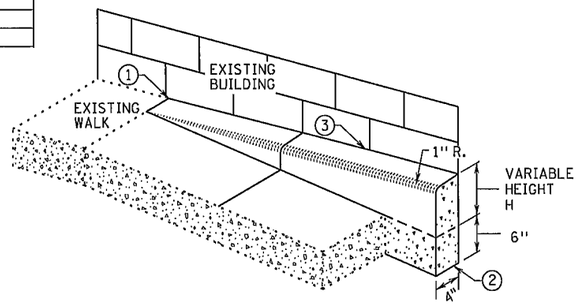


V CURB INTERSECTION

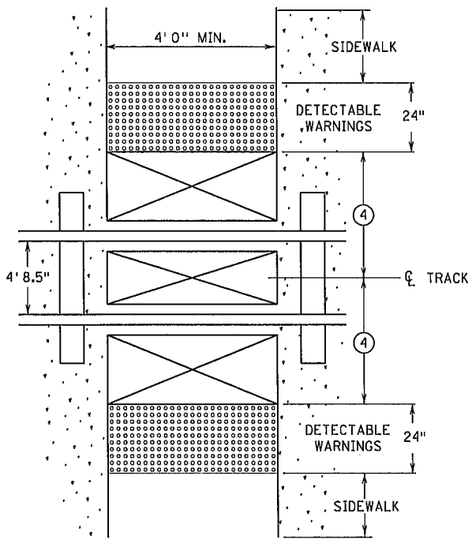
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



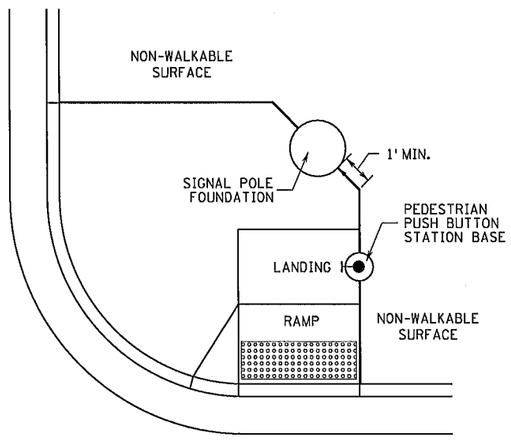
V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS



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)	PEDESTRIAN CURB RAMP DETAILS
STANDARD APPROVED: APRIL 10, 2013	
S.P. 002-611-032 S.A.P. 114-020-047 CP 12-22	SHEET NO.29 OF 196 SHEETS

DISTRICT #: $@DISTRICT@$
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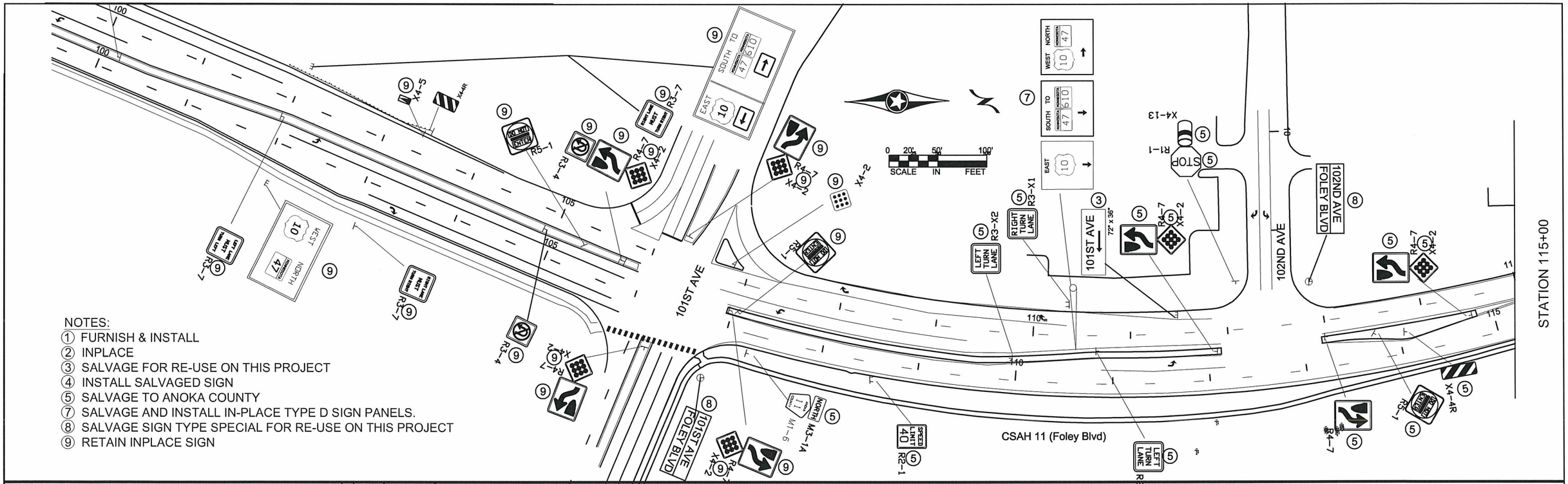
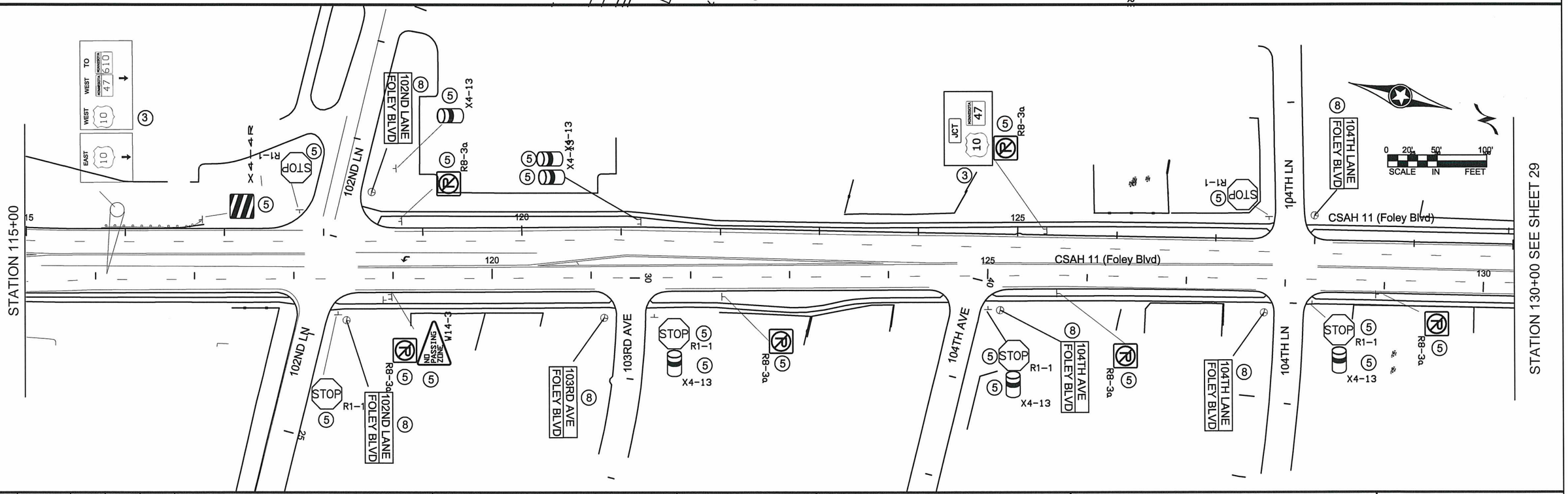
PATH & FILENAME: $$$@PATHFILENAME@$$$
FILE NAME: @FILENAME@





NO	DATE	BY	CKD	APPR	REVISION
NAME:	P:\02-611-32\Base\TRAFFIC\0261132_EXISTING SIGNING & STRIPING.dwg				

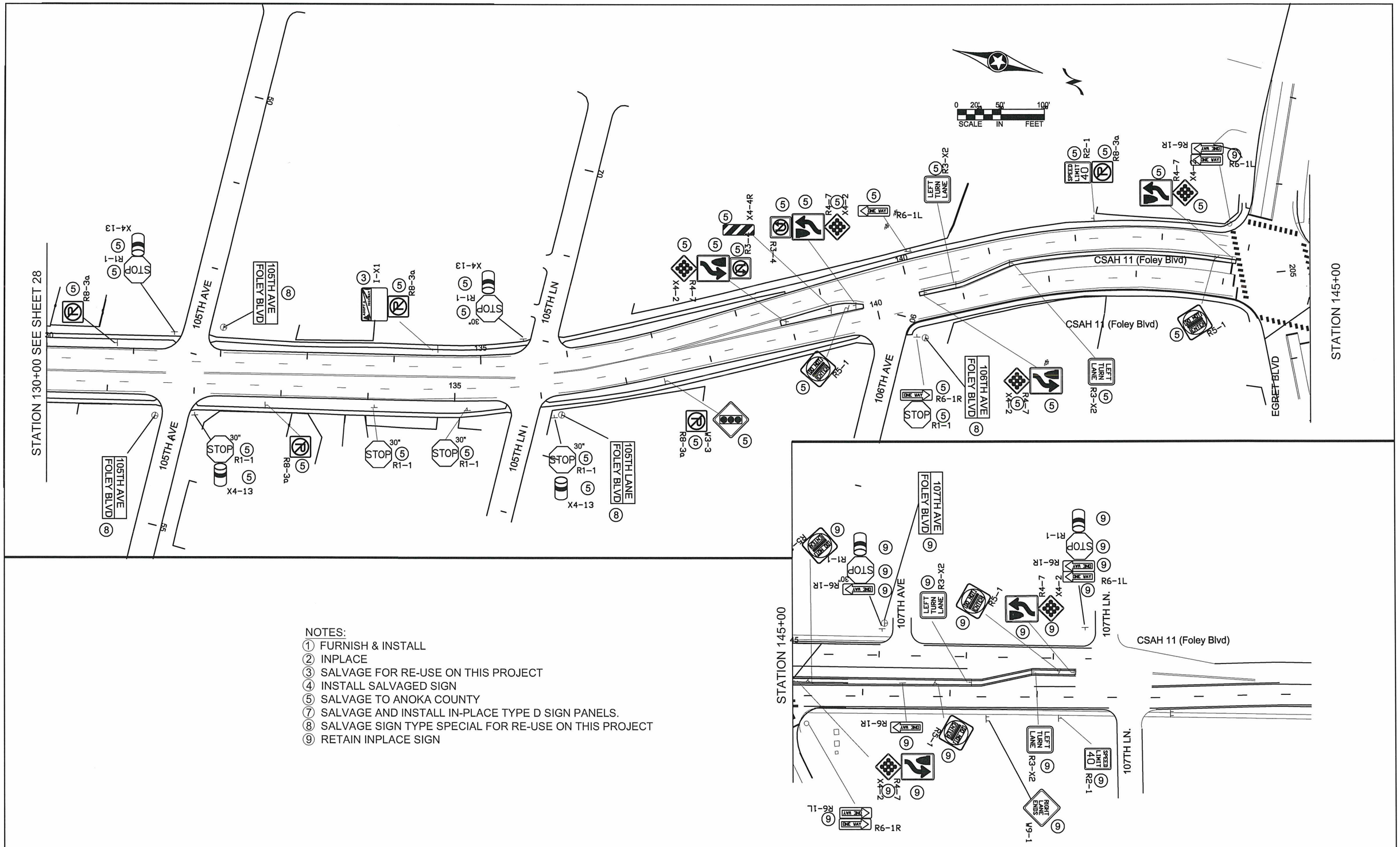
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE:
DATE: 1-16-14 REG. NO. 24756

DRAWN BY RLB DATE 1/15/14
DESIGN BY RLB DATE 1/15/14
CHECKED BY JR DATE 1/15/14

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
M.S.A.P. 114-020-047

EXISTING SIGNING & STRIPING PLAN
Sheet 30 of 196 Sheets



NOTES:
① FURNISH & INSTALL
② INPLACE
③ SALVAGE FOR RE-USE ON THIS PROJECT
④ INSTALL SALVAGED SIGN
⑤ SALVAGE TO ANOKA COUNTY
⑦ SALVAGE AND INSTALL IN-PLACE TYPE D SIGN PANELS.
⑧ SALVAGE SIGN TYPE SPECIAL FOR RE-USE ON THIS PROJECT
⑨ RETAIN INPLACE SIGN

NO	DATE	BY	CKD	APPR	REVISION
NAME:	P:\02-611-32\Base\TRAFFIC\0261132_EXISTING SIGNING & STRIPING.dwg				

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: [signature]
DATE: 1-16-14 REG. NO. 24756

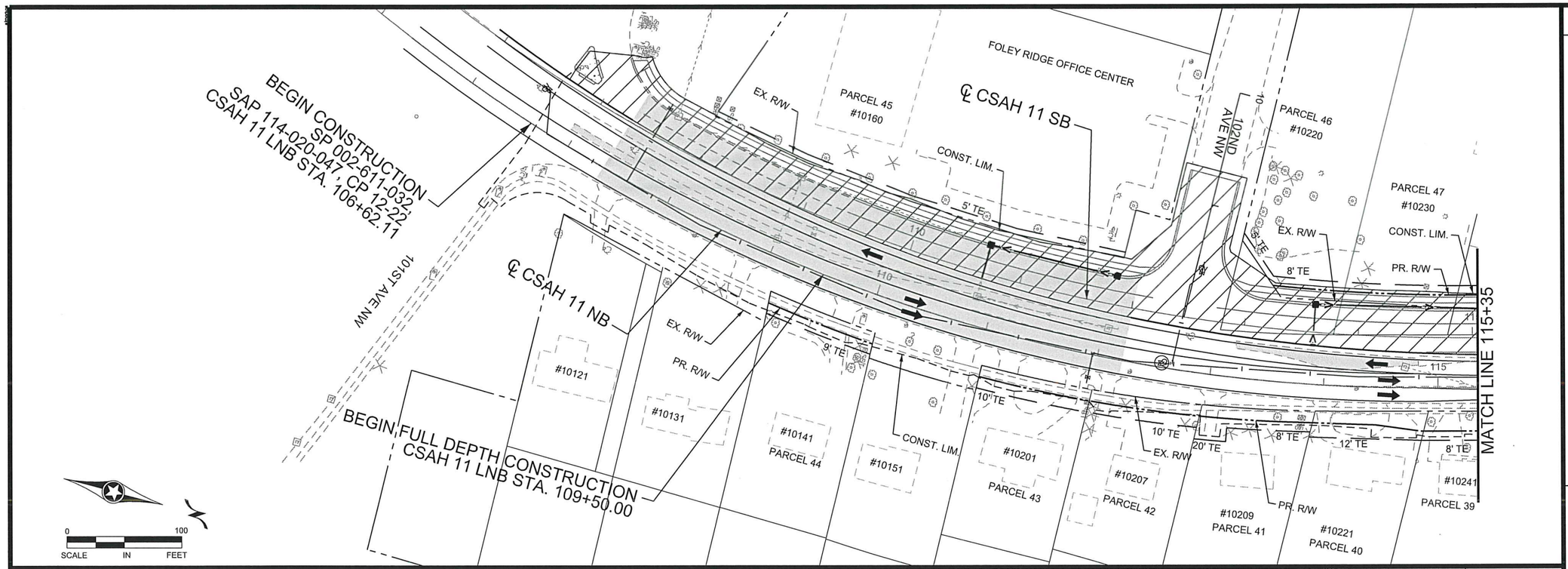
DRAWN BY RLB DATE 1/15/14
DESIGN BY RLB DATE 1/15/14
CHECKED BY JR DATE 1/15/14

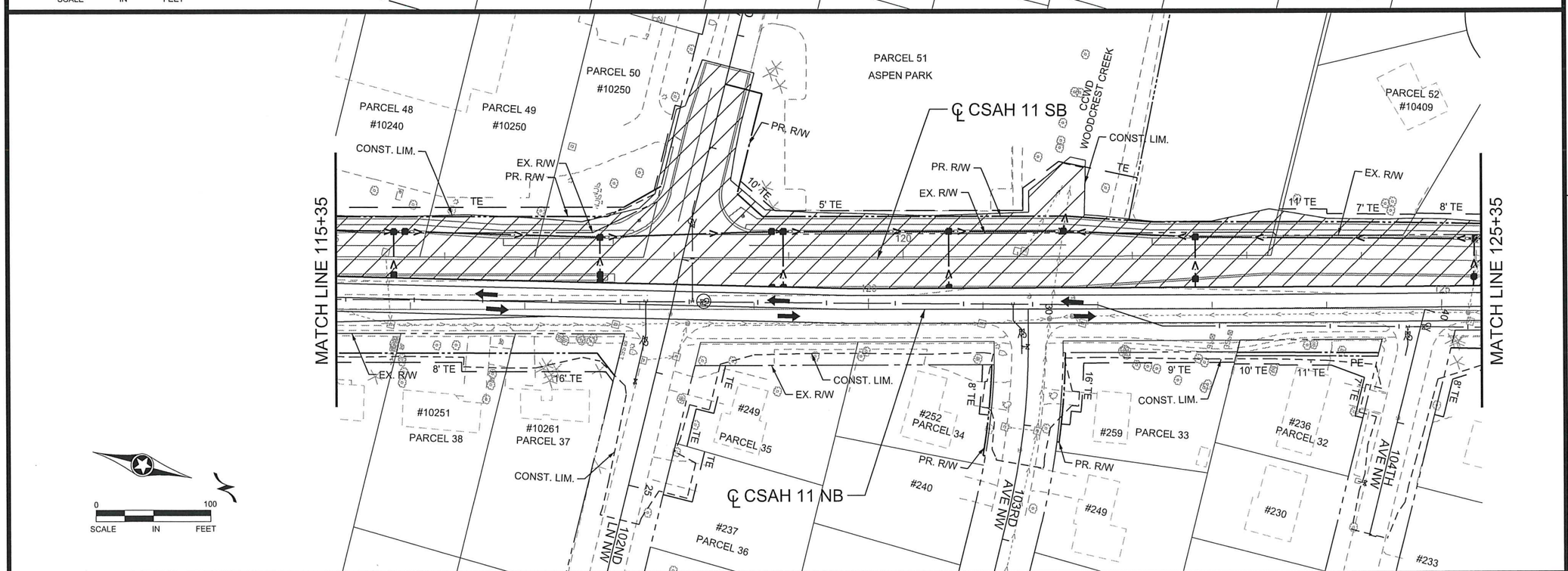
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
M.S.A.P. 114-020-047

EXISTING SIGNING & STRIPING PLAN

Sheet 31 of 196 Sheets





LEGEND

- WORK AREA
- PRE STAGE 1 CONSTRUCTION AREA FOR WATERMAIN RELOCATION TRANSITION AND MEDIAN/CURB REMOVAL
- EXISTING TOPOGRAPHY
- CONSTRUCTION TO BE COMPLETED DURING CURRENT STAGE
- COMPLETED CONSTRUCTION
- TRAFFIC SHIFT LANES
- TRAFFIC FLOW DIRECTION
- DRAINAGE TO BE COMPLETED DURING CURRENT STAGE
- PROPOSED WATERMAIN
- INPLACE DRAINAGE PIPES

PRE STAGE 1 CONSTRUCTION NOTES:

REMOVE CENTER MEDIAN AND PATCH.

SEE WATERMAIN CONSTRUCTION SPECIFICATION FOR TRANSITION WORK TO BE DONE BEFORE STAGE 1 IMPLEMENTATION.

THE CONTRACTOR SHALL MAINTAIN PRIVATE ACCESSES OPEN AT ALL TIMES.

PRE STAGE 1 TRAFFIC NOTES:

TEMPORARY TRAFFIC CONTROL ZONE LAYOUT SHALL FOLLOW FIELD MANUAL.

STAGE 1 CONSTRUCTION NOTES:

CONSTRUCT SOUTHBOUND LANES OF CSAH 11, BASE, BITUMINOUS, CURB & GUTTER, AND PARTIAL MEDIAN CURB, AND STORM SEWER MAIN, LEADS, AND STRUCTURES.

THE CONTRACTOR SHALL MAINTAIN PRIVATE ACCESSES OPEN AT ALL TIMES.

STAGE 1 TRAFFIC NOTES:

SHIFT TRAFFIC TO EXISTING NORTH-BOUND CSAH 11 (FOLEY BLVD).

1 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_STG1_P1.dgn 03/14/2014 10:36:26 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: [signature]

DATE: 3-17-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

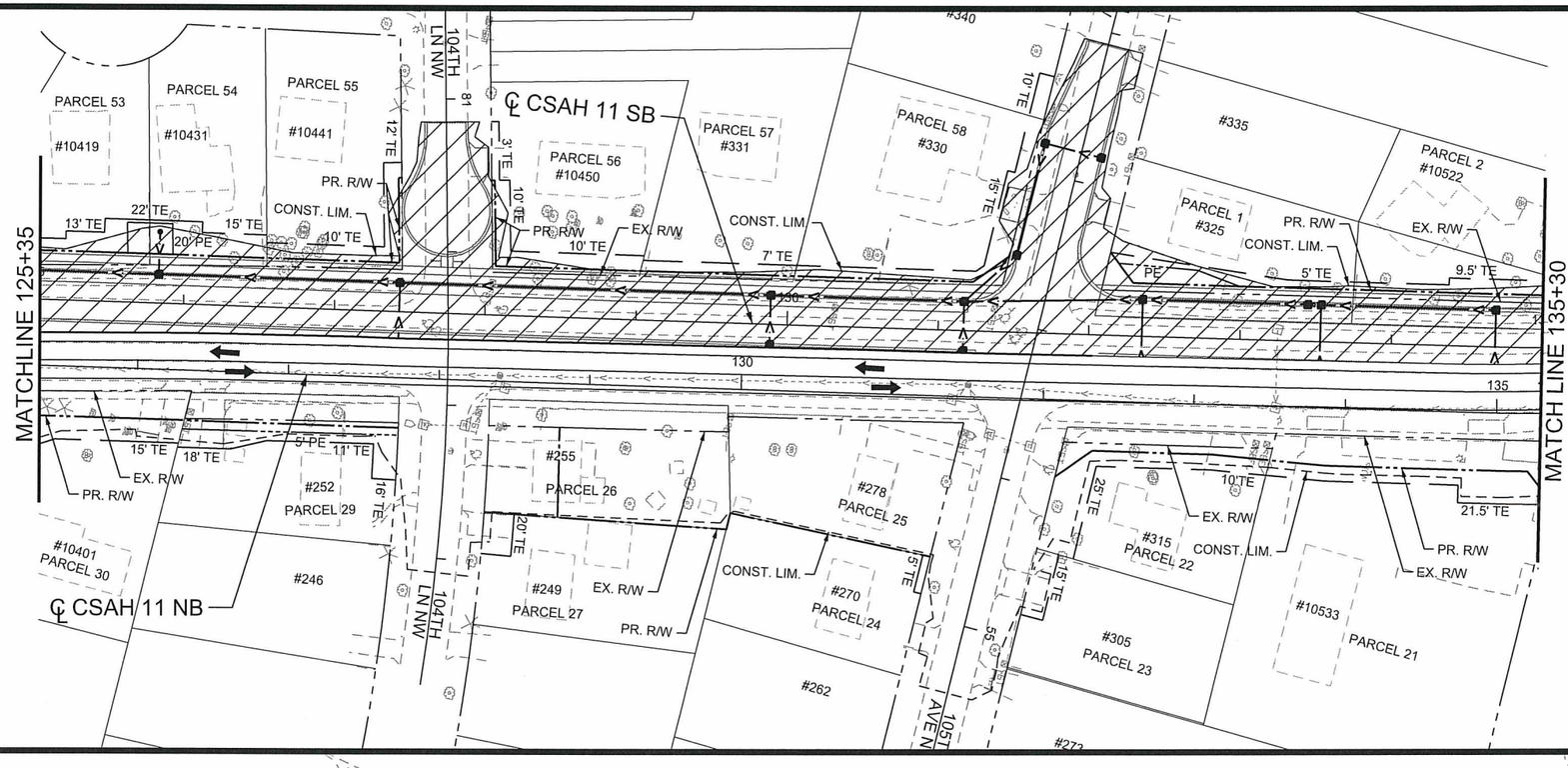
S.A.P. 114-020-047

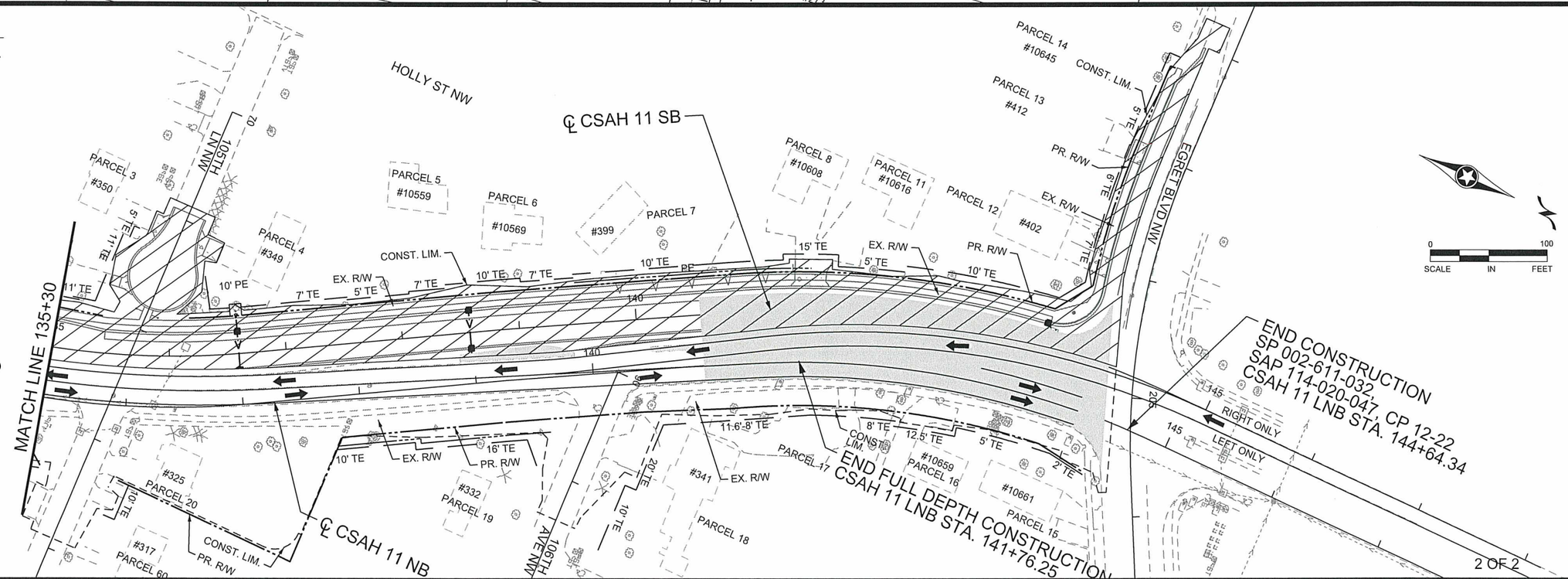
C.P. 12-22

STAGING PLANS
STAGE 1

STA 106+64 TO 125+35

Sheet 32 of 196 Sheets





LEGEND

- WORK AREA
- PRE STAGE 1 CONSTRUCTION AREA FOR WATERMAIN RELOCATION TRANSITION AND MEDIAN/CURB REMOVAL
- EXISTING TOPOGRAPHY
- CONSTRUCTION TO BE COMPLETED DURING CURRENT STAGE
- COMPLETED CONSTRUCTION
- TRAFFIC SHIFT LANES
- TRAFFIC FLOW DIRECTION
- DRAINAGE TO BE COMPLETED DURING CURRENT STAGE
- INPLACE DRAINAGE PIPES

PRE STAGE 1 CONSTRUCTION NOTES:

REMOVE CENTER MEDIAN AND PATCH.

SEE WATERMAIN CONSTRUCTION SPECIFICATION FOR TRANSITION WORK TO BE DONE BEFORE STAGE 1 IMPLEMENTATION.

THE CONTRACTOR SHALL MAINTAIN PRIVATE ACCESSES OPEN AT ALL TIMES.

PRE STAGE 1 TRAFFIC NOTES:

TEMPORARY TRAFFIC CONTROL ZONE LAYOUT SHALL FOLLOW FIELD MANUAL.

STAGE 1 CONSTRUCTION NOTES:

CONSTRUCT SOUTHBOUND LANES OF CSAH 11, BASE, BITUMINOUS, CURB & GUTTER, AND PARTIAL MEDIAN CURB, AND STORM SEWER MAIN, LEADS, AND STRUCTURES.

THE CONTRACTOR SHALL MAINTAIN PRIVATE ACCESSES OPEN AT ALL TIMES.

STAGE 1 TRAFFIC NOTES:

SHIFT TRAFFIC TO EXISTING NORTH-BOUND CSAH 11 (FOLEY BLVD).

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_STG1_P2.dgn 01/16/2014 8:48:47 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: 1-16-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

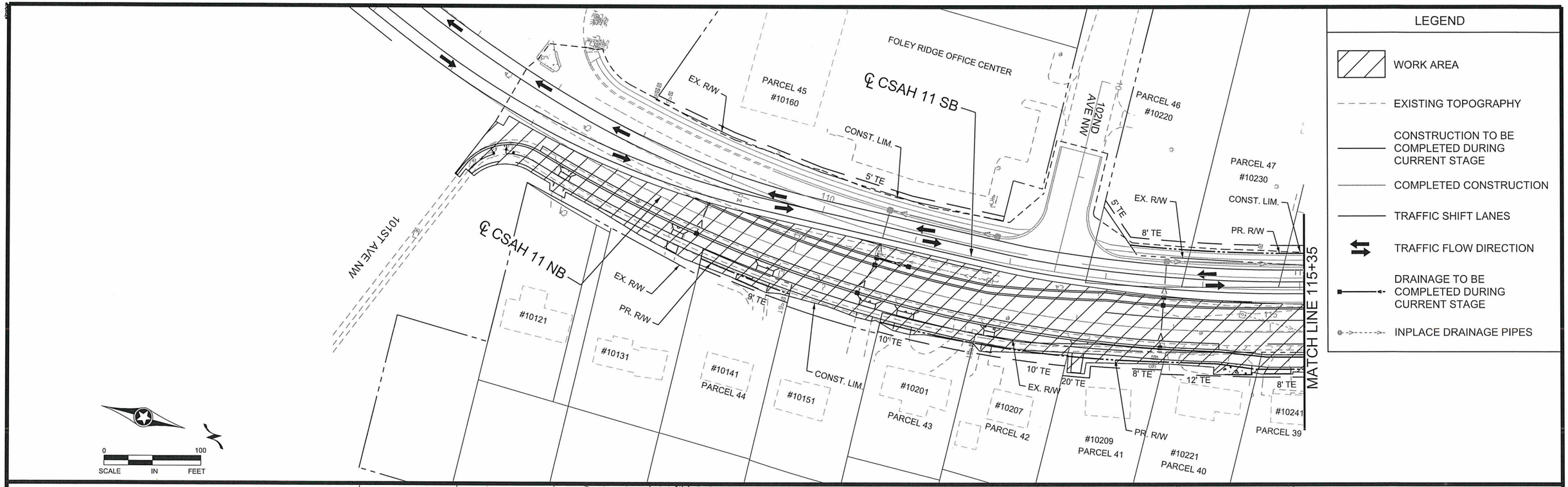
S.A.P. 114-020-047

C.P. 12-22

STAGING PLANS
STAGE 1

STA 125+35 TO 145+00

Sheet 33 of 196 Sheets



STAGE 2 CONSTRUCTION NOTES:

CONSTRUCT NORTHBOUND LANES OF CSAH 11, BASE, BITUIMNOUS, CURB & GUTTER, AND PARTIAL MEDIAN CURB, POND A, B AND STORM SEWER MAIN, LEADS AND STRUCTURES

STAGE 2 TRAFFIC NOTES:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED SOUTHBOUND CSAH 11 (FOLEY BLVD).

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_STG2_P1.dgn 03/14/2014 9:48:41 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: 3-17-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

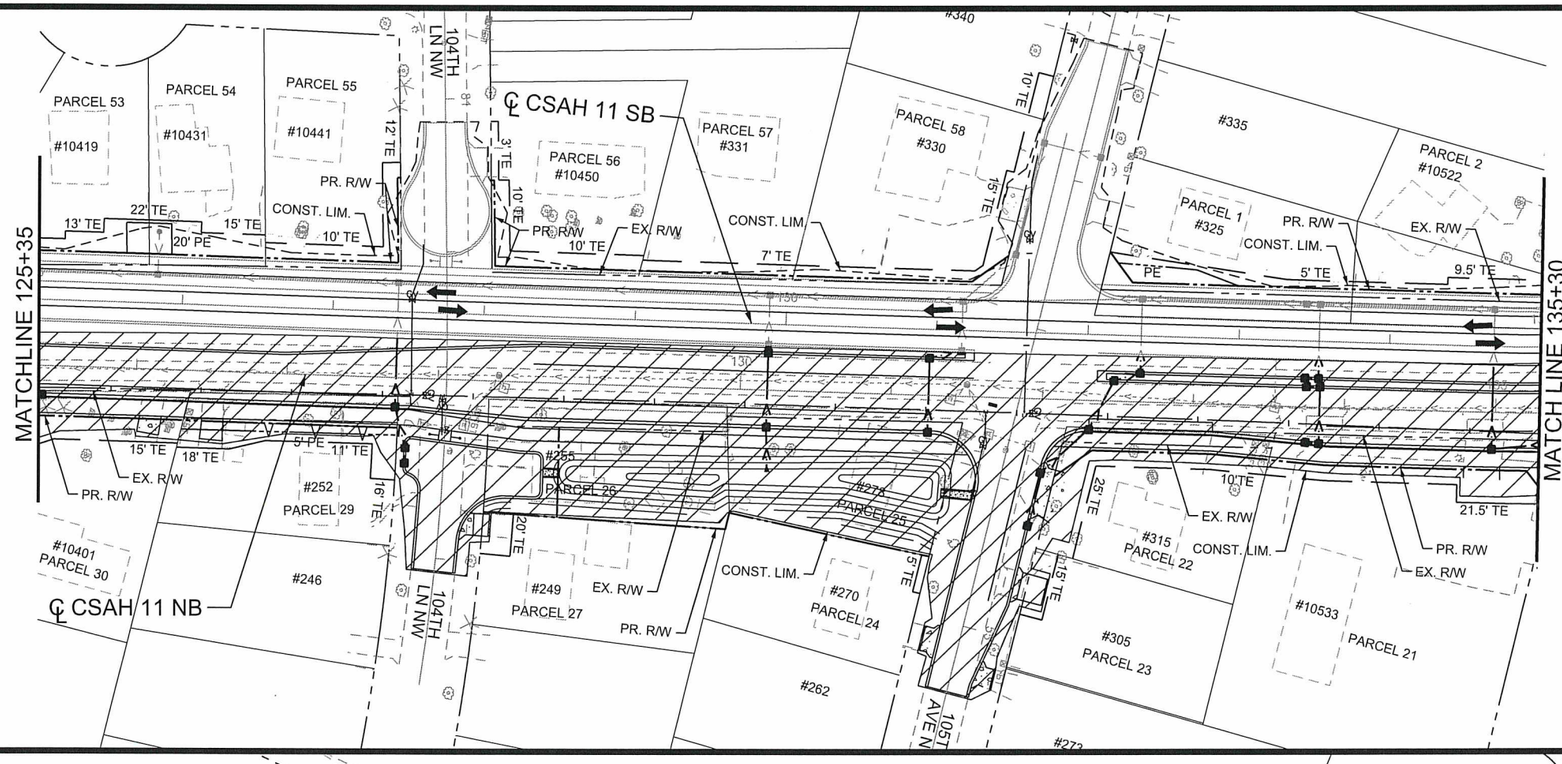
S.A.P. 114-020-047

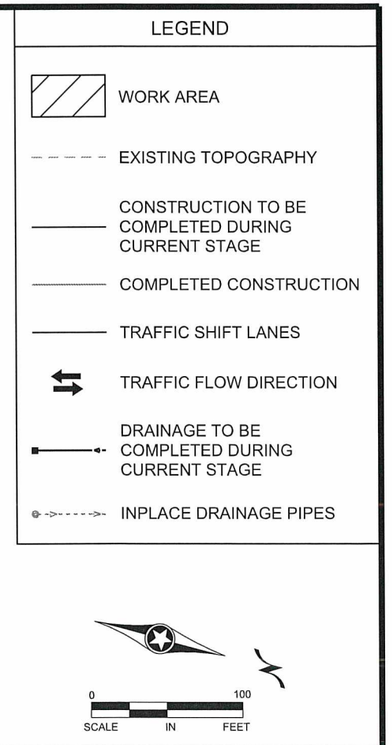
C.P. 12-22

STAGING PLANS
STAGE 2

STA 106+64 TO 125+35

Sheet 34 of 196 Sheets



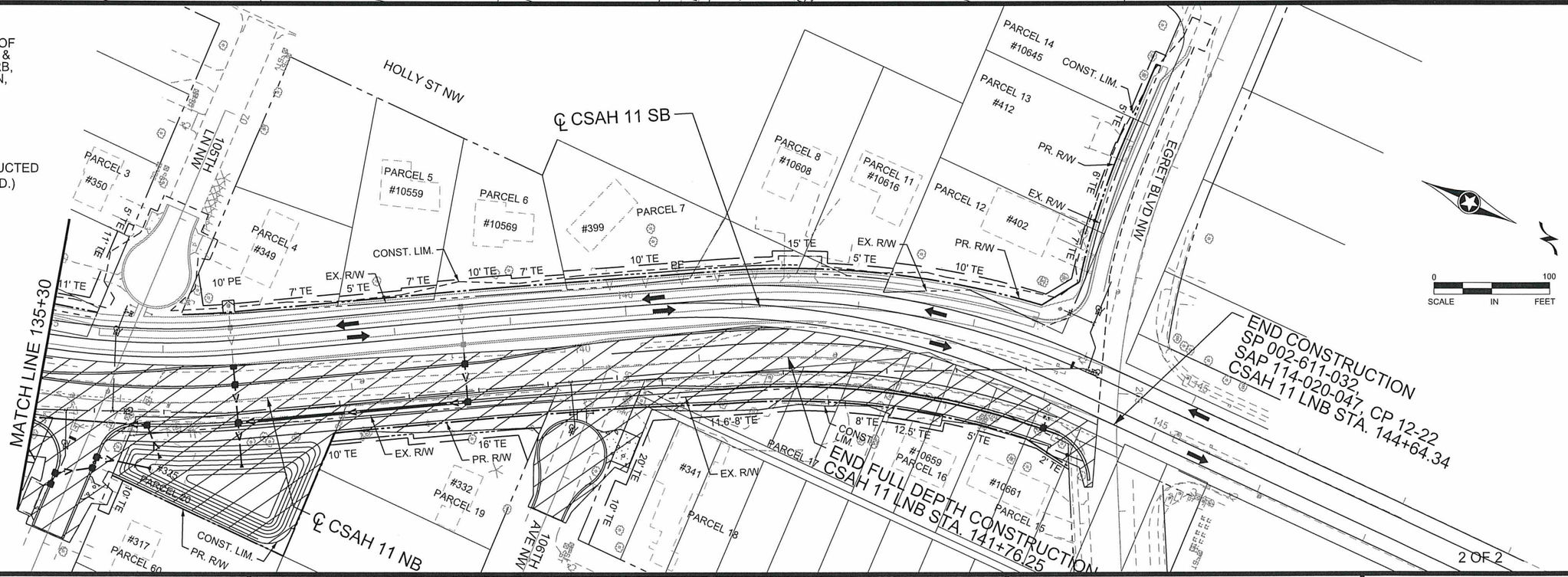


STAGE 2 CONSTRUCTION NOTES:

CONSTRUCT NORTHBOUND LANES OF CSAH 11, BASE, BITUIMNOUS, CURB & GUTTER, AND PARTIAL MEDIAN CURB, POND A, B AND STORM SEWER MAIN, LEADS AND STRUCTURES

STAGE 2 TRAFFIC NOTES:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED SOUTHBOUND CSAH 11 (FOLEY BLVD.)



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_STG2_P2.dgn 01/16/2014 8:49:00 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: [signature]

DATE: 1-16-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

STAGING PLANS
STAGE 2

STA 125+35 TO 145+00

LEGEND

- WORK AREA
- EXISTING TOPOGRAPHY
- CONSTRUCTION TO BE COMPLETED DURING CURRENT STAGE
- COMPLETED CONSTRUCTION
- TRAFFIC SHIFT LANES
- TRAFFIC FLOW DIRECTION
- DRAINAGE TO BE COMPLETED DURING CURRENT STAGE

STAGE 3 CONSTRUCTION NOTES:

COMPLETE MEDIAN RECONSTRUCTION, AND MILL AND OVERLAY

STAGE 3 TRAFFIC NOTES:

SHIFT TRAFFIC TO OUTSIDE LANES OF CSAH 11 (FOLEY BLVD)

1 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_STG3_P1.dgn 03/14/2014 9:48:46 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: 3-17-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

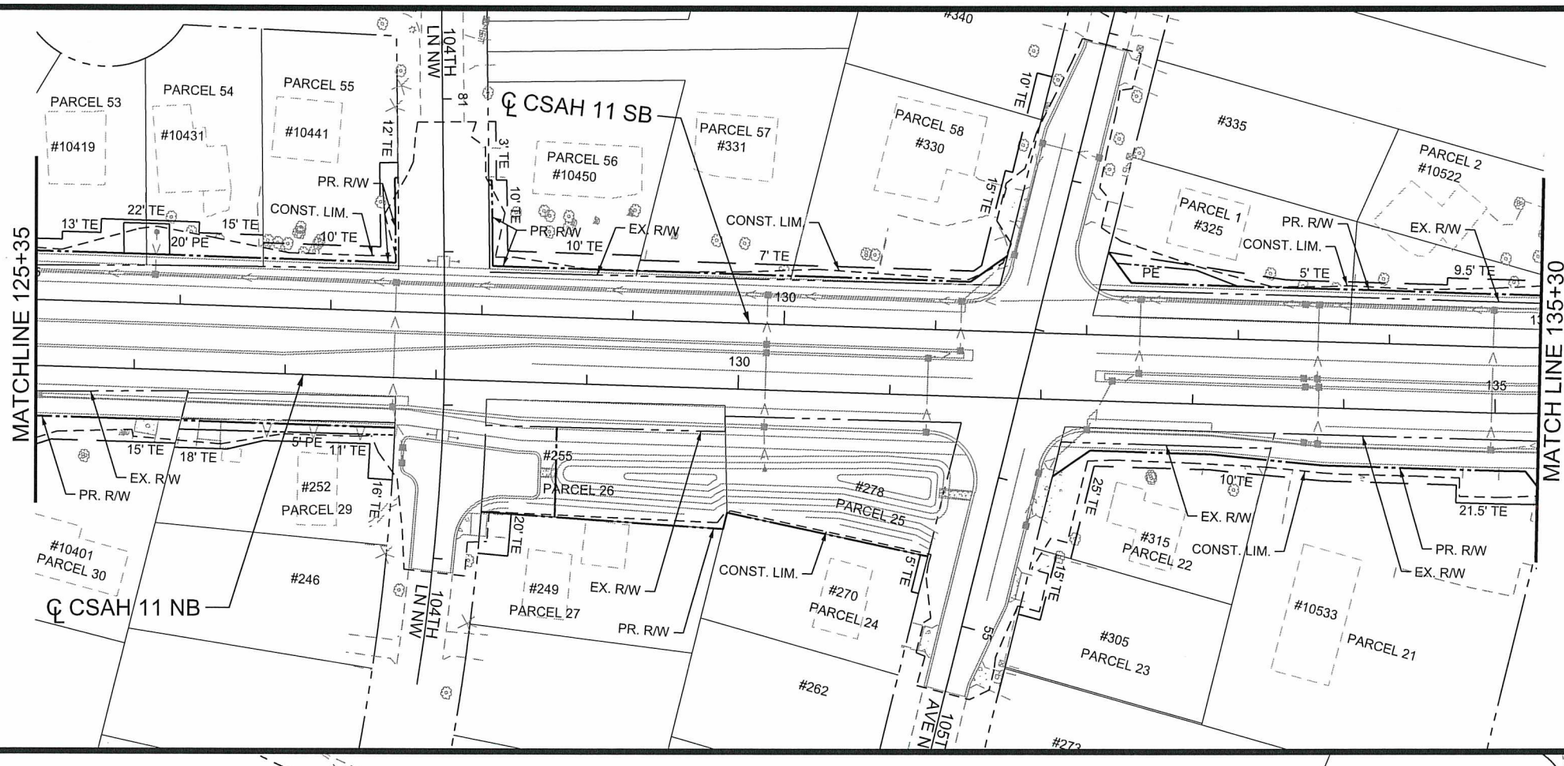
S.A.P. 114-020-047

C.P. 12-22

STAGING PLANS
STAGE 3

STA 106+64 TO 125+35

Sheet 36 of 196 Sheets

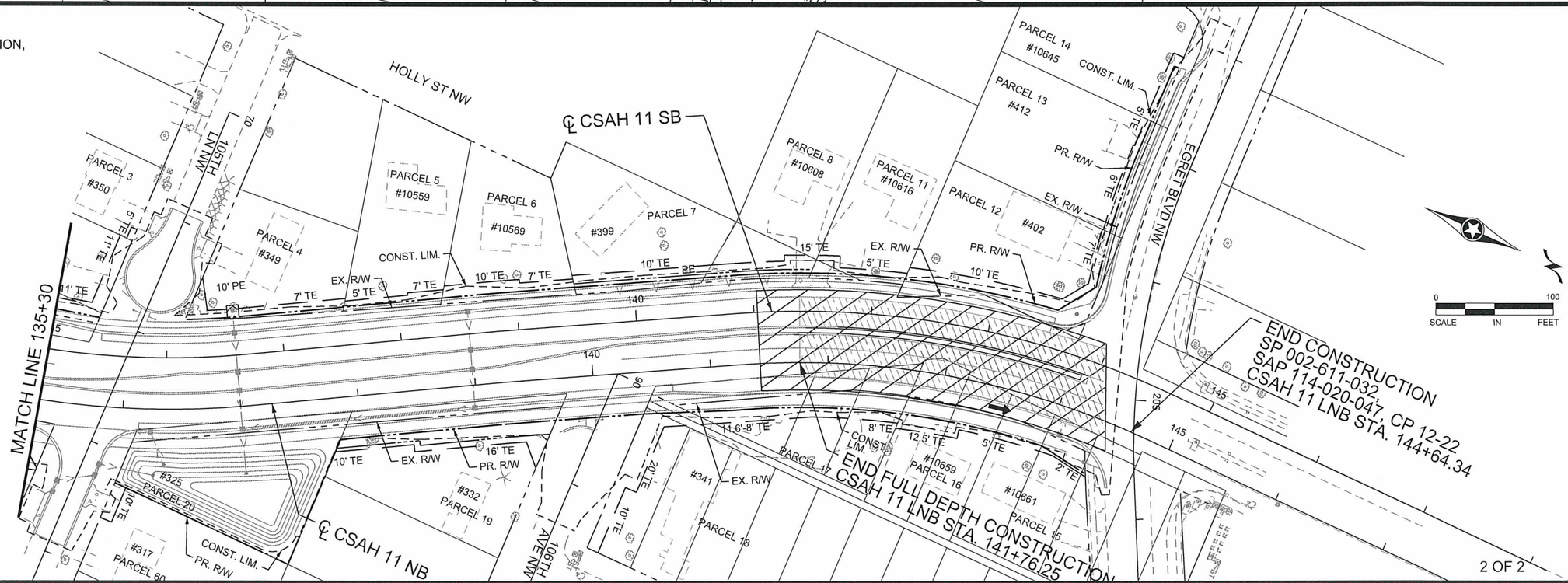


STAGE 3 CONSTRUCTION NOTES:

COMPLETE MEDIAN RECONSTRUCTION, AND MILL AND OVERLAY

STAGE 3 TRAFFIC NOTES:

SHIFT TRAFFIC TO OUTSIDE LANES OF CSAH 11 (FOLEY BLVD)



2 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_STG3_P2.dgn 01/16/2014 8:49:08 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: 1-16-14 LICENSE NO. 24756

DRAWN BY	EJM	DATE	01-09-2014
DESIGN BY	EJM	DATE	11-12-2013
CHECKED BY	GMP	DATE	01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

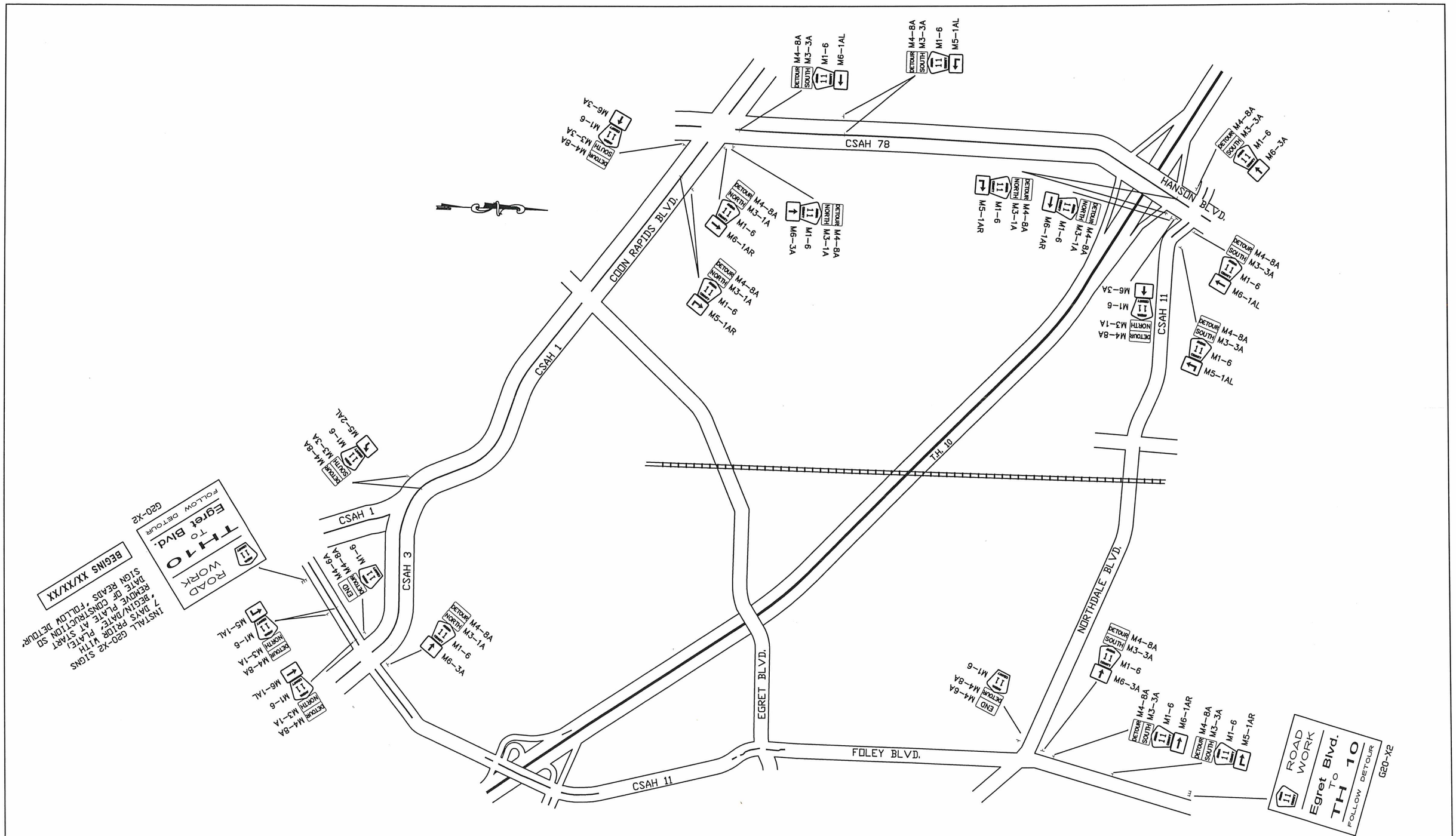
S.A.P. 114-020-047

C.P. 12-22

STAGING PLANS
STAGE 3

STA 125+35 TO 145+00

Sheet 37 of 196 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-032\Base\TRAFFIC\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 KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 1-16-14 LICENSE NO. 24756

DRAWN BY JS DATE 02/01/13

DESIGN BY JS DATE 02/01/13

CHECKED BY JR DATE 02/01/13

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

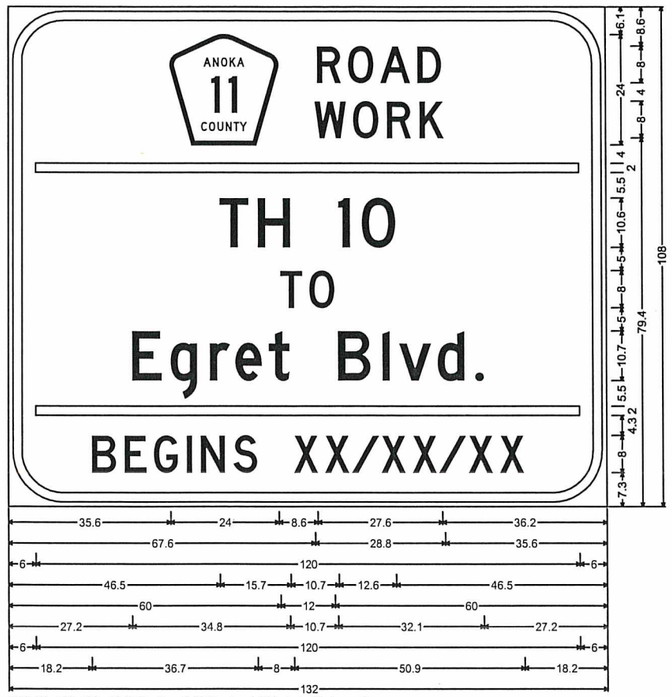
S.P. 002-611-032

M.S.A.P. 114-020-047

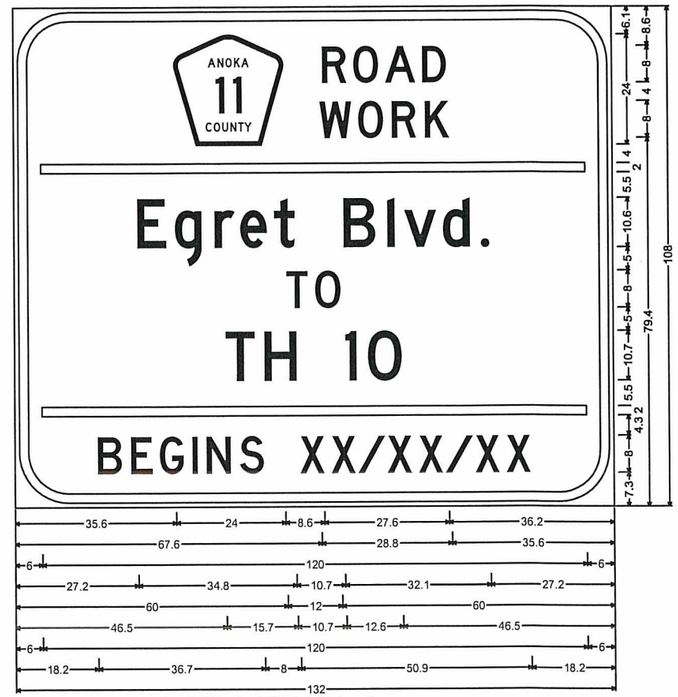
DETOUR
CSAH 11

M.U.T.C.D. CODE	SIZE	INSERT	QTY.
M4-8	24"x12"	DETOUR NORTH ANOKA 11 COUNTY	
M3-4A	24"x12"	M4-6 END	• 1
M1-6A	24"x24"	M5-1AL	• 1
	21"x15"	M5-1AR	• 2
		M6-1AL	• 1
		M6-1AR	• 2
		M6-3A	• 3
M4-8	24"x12"	DETOUR SOUTH ANOKA 11 COUNTY	
M3-2A	24"x12"	M4-6 END	• 1
M1-6A	24"x24"	M5-1AL	• 2
	21"x15"	M5-2AL	• 1
		M5-1AR	• 2
		M6-1AL	• 2
		M6-3A	• 3
G20-X2	132"x108"	ANOKA 11 COUNTY ROAD WORK / TH 10 To Egret Blvd. / FOLLOW DETOUR	• 1
G20-X2	132"x108"	ANOKA 11 COUNTY ROAD WORK / Egret Blvd. To TH 10 / FOLLOW DETOUR	• 1
G20-X2	114"x20"	BEGINS XX/XX/XX	• 2

INSTALL G20-X2 SIGNS 7 DAYS PRIOR WITH "BEGIN/DATE" PLATE; REMOVE PLATE AT START DATE OF CONSTRUCTION SO SIGN READS "FOLLOW DETOUR"



G20-X2_132x108; 12.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[ROAD] D; [WORK] D; [TH 10] D; [TO] D; [Egret Blvd.] D; [BEGINS] D; [XX/XX/XX] D;



G20-X2_132x108; 12.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[ROAD] D; [WORK] D; [Egret Blvd.] D; [TO] D; [TH 10] D; [BEGINS] D; [XX/XX/XX] D;

STANDARD TRAFFIC CONTROL NOTES

1) LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2) ALL BARRICADES AND SIGNS SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.
3) ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
4) ALL BARRICADE MARKINGS SHALL BE SLANTED INACCORDANCE WITH THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
5) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6) ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-032\Base\TRAFFIC\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 KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 1-16-14 LICENSE NO. 24756

DRAWN BY JS DATE 02/01/13
DESIGN BY JS DATE 02/01/13
CHECKED BY JR DATE 02/01/13

ANOKA COUNTY HIGHWAY DEPT.

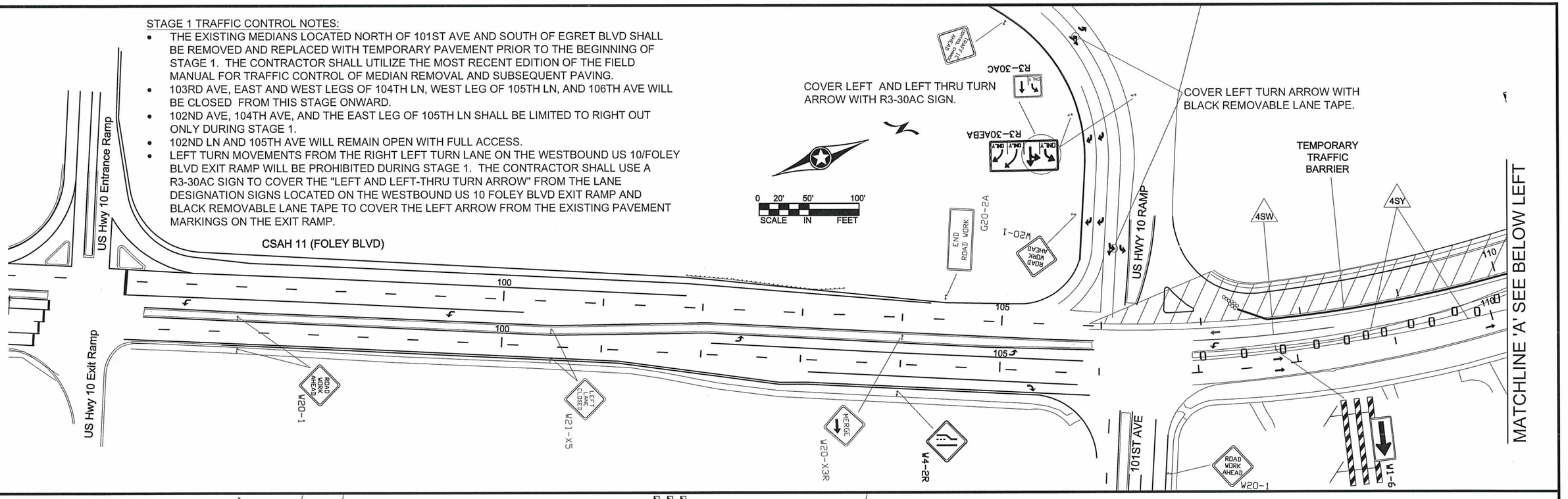
S.P. 002-611-032
M.S.A.P. 114-020-047

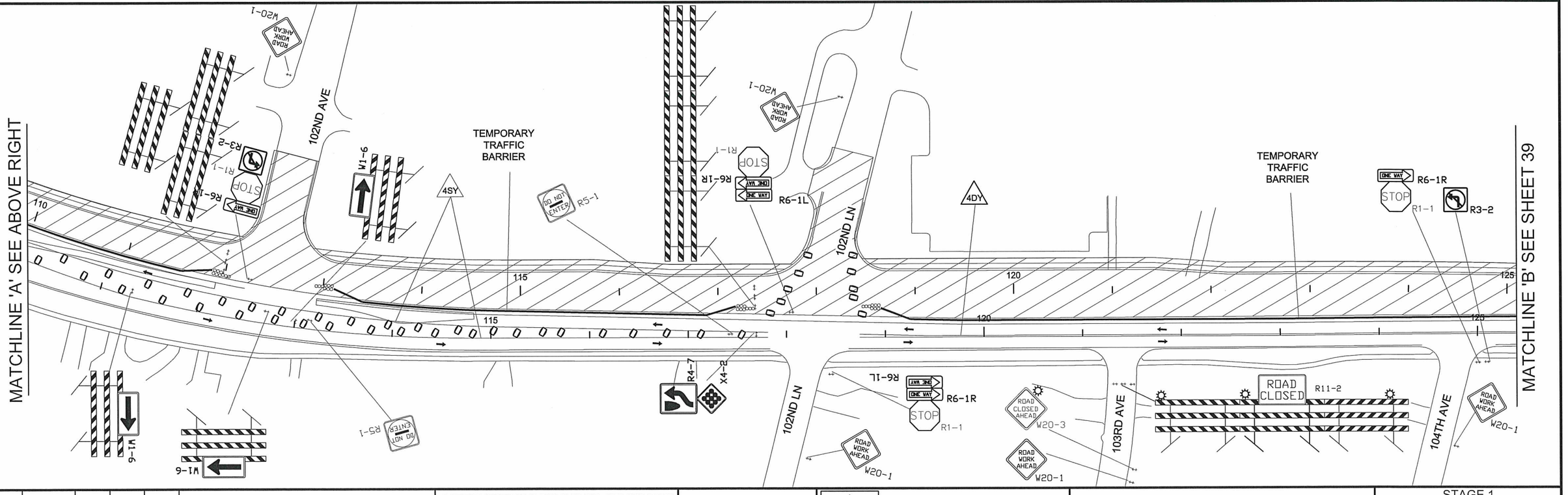
DETOUR QUANTITIES

Sheet 39 of 196 Sheets

STAGE 1 TRAFFIC CONTROL NOTES:

- THE EXISTING MEDIANS LOCATED NORTH OF 101ST AVE AND SOUTH OF EGRET BLVD SHALL BE REMOVED AND REPLACED WITH TEMPORARY PAVEMENT PRIOR TO THE BEGINNING OF STAGE 1. THE CONTRACTOR SHALL UTILIZE THE MOST RECENT EDITION OF THE FIELD MANUAL FOR TRAFFIC CONTROL OF MEDIAN REMOVAL AND SUBSEQUENT PAVING.
- 103RD AVE, EAST AND WEST LEGS OF 104TH LN, WEST LEG OF 105TH LN, AND 106TH AVE WILL BE CLOSED FROM THIS STAGE ONWARD.
- 102ND AVE, 104TH AVE, AND THE EAST LEG OF 105TH LN SHALL BE LIMITED TO RIGHT OUT ONLY DURING STAGE 1.
- 102ND LN AND 105TH AVE WILL REMAIN OPEN WITH FULL ACCESS.
- LEFT TURN MOVEMENTS FROM THE RIGHT LEFT TURN LANE ON THE WESTBOUND US 10/FOLEY BLVD EXIT RAMP WILL BE PROHIBITED DURING STAGE 1. THE CONTRACTOR SHALL USE A R3-30AC SIGN TO COVER THE "LEFT AND LEFT-THRU TURN ARROW" FROM THE LANE DESIGNATION SIGNS LOCATED ON THE WESTBOUND US 10 FOLEY BLVD EXIT RAMP AND BLACK REMOVABLE LANE TAPE TO COVER THE LEFT ARROW FROM THE EXISTING PAVEMENT MARKINGS ON THE EXIT RAMP.





NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Base\TRAFFIC\002-611-032_STG1.dwg

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

PRINT NAME: CURT A. KOBILARCSIK

SIGNATURE: [signature]

DATE: 3-12-14 REG. NO. 24756

DRAWN BY MTH DATE 2/13/13

DESIGN BY MTH DATE 2/13/13

CHECKED BY RB DATE 2/13/13

ANOKA COUNTY

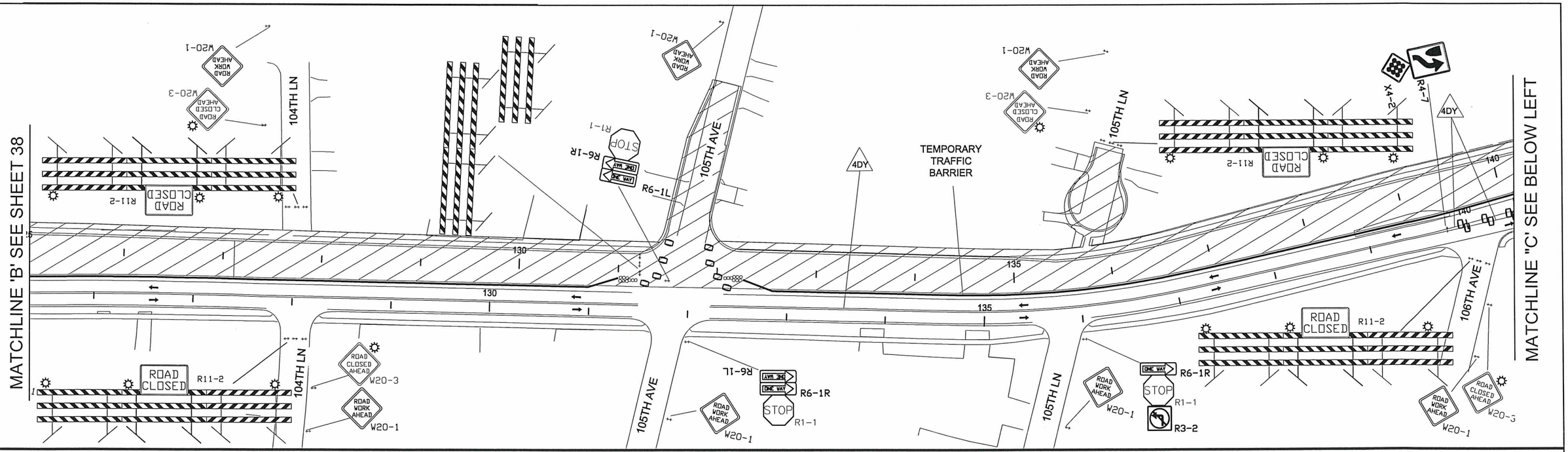
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

M.S.A.P. 114-020-047

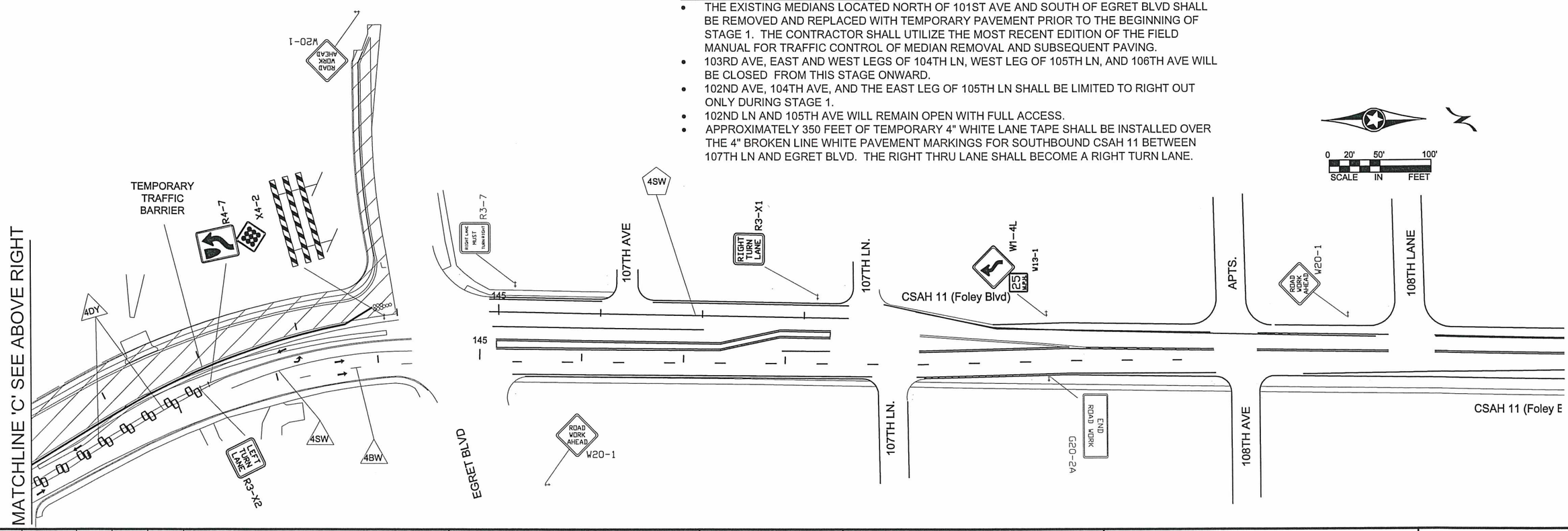
STAGE 1 TRAFFIC CONTROL LAYOUT

Sheet 40 of 196 Sheets



STAGE 1 TRAFFIC CONTROL NOTES:

- THE EXISTING MEDIANS LOCATED NORTH OF 101ST AVE AND SOUTH OF EGRET BLVD SHALL BE REMOVED AND REPLACED WITH TEMPORARY PAVEMENT PRIOR TO THE BEGINNING OF STAGE 1. THE CONTRACTOR SHALL UTILIZE THE MOST RECENT EDITION OF THE FIELD MANUAL FOR TRAFFIC CONTROL OF MEDIAN REMOVAL AND SUBSEQUENT PAVING.
- 103RD AVE, EAST AND WEST LEGS OF 104TH LN, WEST LEG OF 105TH LN, AND 106TH AVE WILL BE CLOSED FROM THIS STAGE ONWARD.
- 102ND AVE, 104TH AVE, AND THE EAST LEG OF 105TH LN SHALL BE LIMITED TO RIGHT OUT ONLY DURING STAGE 1.
- 102ND LN AND 105TH AVE WILL REMAIN OPEN WITH FULL ACCESS.
- APPROXIMATELY 350 FEET OF TEMPORARY 4" WHITE LANE TAPE SHALL BE INSTALLED OVER THE 4" BROKEN LINE WHITE PAVEMENT MARKINGS FOR SOUTHBOUND CSAH 11 BETWEEN 107TH LN AND EGRET BLVD. THE RIGHT THRU LANE SHALL BECOME A RIGHT TURN LANE.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Base\TRAFFIC\002-611-032_STG1.dwg

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

PRINT NAME: CURT A. KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 1-16-14 REG. NO. 24756

DRAWN BY MTH DATE 2/13/13

DESIGN BY MTH DATE 2/13/13

CHECKED BY RB DATE 2/13/13

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

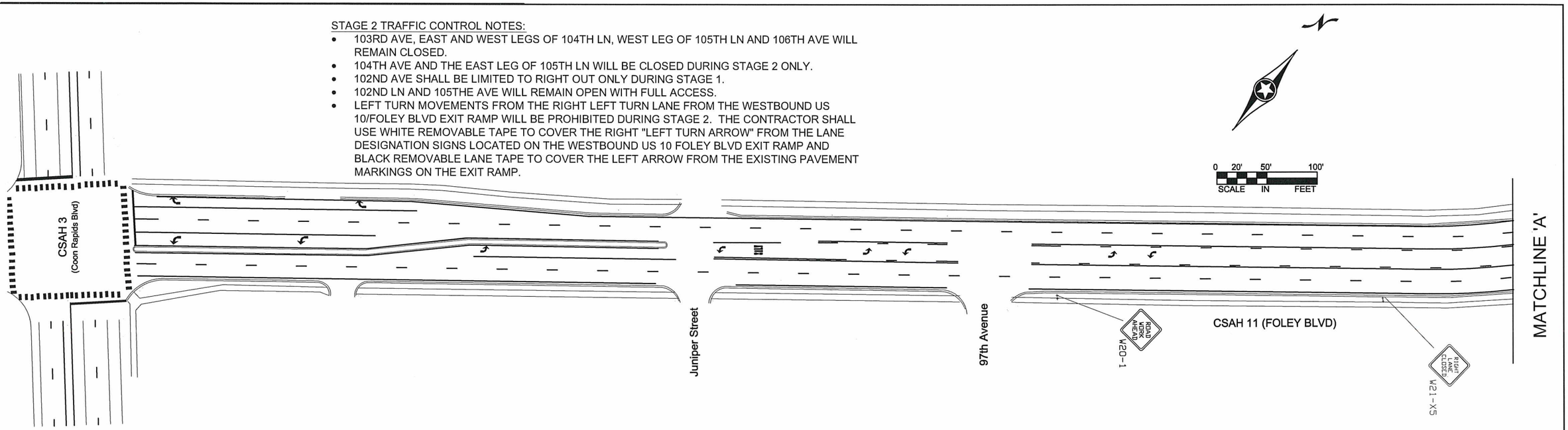
M.S.A.P. 114-020-047

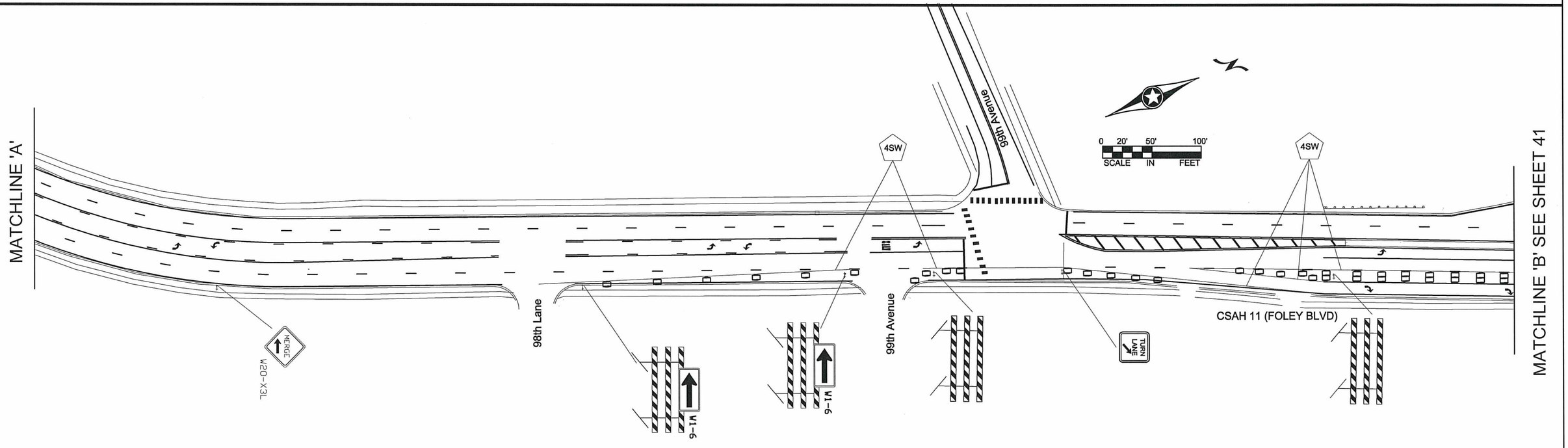
STAGE 1
TRAFFIC CONTROL
LAYOUT

Sheet 41 of 196 Sheets

STAGE 2 TRAFFIC CONTROL NOTES:

- 103RD AVE, EAST AND WEST LEGS OF 104TH LN, WEST LEG OF 105TH LN AND 106TH AVE WILL REMAIN CLOSED.
- 104TH AVE AND THE EAST LEG OF 105TH LN WILL BE CLOSED DURING STAGE 2 ONLY.
- 102ND AVE SHALL BE LIMITED TO RIGHT OUT ONLY DURING STAGE 1.
- 102ND LN AND 105THE AVE WILL REMAIN OPEN WITH FULL ACCESS.
- LEFT TURN MOVEMENTS FROM THE RIGHT LEFT TURN LANE FROM THE WESTBOUND US 10/FOLEY BLVD EXIT RAMP WILL BE PROHIBITED DURING STAGE 2. THE CONTRACTOR SHALL USE WHITE REMOVABLE TAPE TO COVER THE RIGHT "LEFT TURN ARROW" FROM THE LANE DESIGNATION SIGNS LOCATED ON THE WESTBOUND US 10 FOLEY BLVD EXIT RAMP AND BLACK REMOVABLE LANE TAPE TO COVER THE LEFT ARROW FROM THE EXISTING PAVEMENT MARKINGS ON THE EXIT RAMP.





NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-611-3-032\Base\TRAFFIC\002-611-032_STG2a.dwg

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

PRINT NAME: CURT A KOBILARCSIK

SIGNATURE: Curt A Kobilarcsik

DATE: 1-17-14 REG. NO. 24756

DRAWN BY RLB DATE 1/15/14

DESIGN BY RLB DATE 1/15/14

CHECKED BY JR DATE 1/15/14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

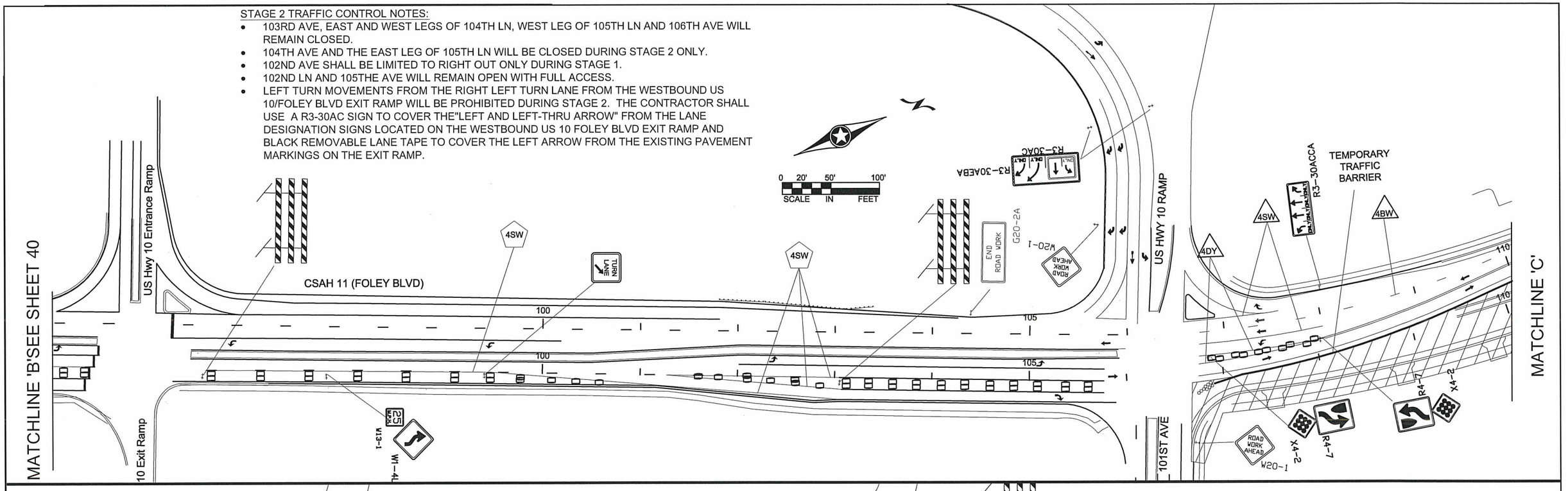
M.S.A.P. 114-020-047

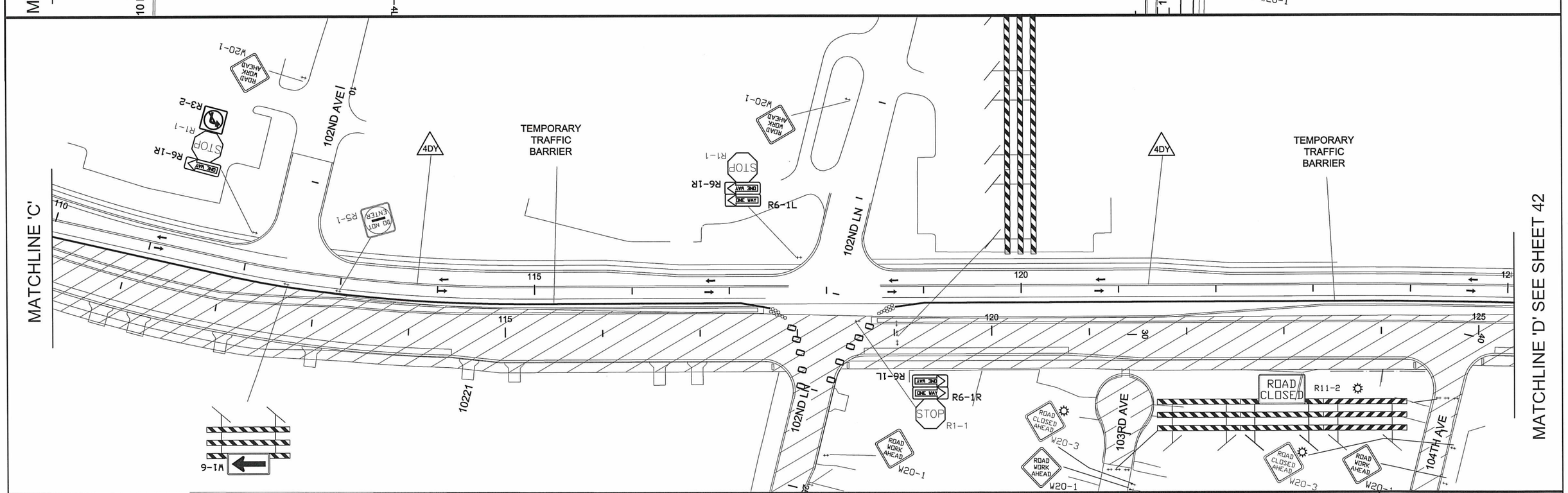
STAGE 2
TRAFFIC CONTROL
LAYOUT

Sheet 42 of 196 Sheets

STAGE 2 TRAFFIC CONTROL NOTES:

- 103RD AVE, EAST AND WEST LEGS OF 104TH LN, WEST LEG OF 105TH LN AND 106TH AVE WILL REMAIN CLOSED.
- 104TH AVE AND THE EAST LEG OF 105TH LN WILL BE CLOSED DURING STAGE 2 ONLY.
- 102ND AVE SHALL BE LIMITED TO RIGHT OUT ONLY DURING STAGE 1.
- 102ND LN AND 105THE AVE WILL REMAIN OPEN WITH FULL ACCESS.
- LEFT TURN MOVEMENTS FROM THE RIGHT LEFT TURN LANE FROM THE WESTBOUND US 10/FOLEY BLVD EXIT RAMP WILL BE PROHIBITED DURING STAGE 2. THE CONTRACTOR SHALL USE A R3-30AC SIGN TO COVER THE"LEFT AND LEFT-THRU ARROW" FROM THE LANE DESIGNATION SIGNS LOCATED ON THE WESTBOUND US 10 FOLEY BLVD EXIT RAMP AND BLACK REMOVABLE LANE TAPE TO COVER THE LEFT ARROW FROM THE EXISTING PAVEMENT MARKINGS ON THE EXIT RAMP.





NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-611-3-032\Base\TRAFFIC\002-611-032_STG2a.dwg

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

PRINT NAME: CURT A KOBILARCSIK

SIGNATURE: [signature]

DATE: 3-12-14 REG. NO. 24756

DRAWN BY RLB DATE 1/15/14

DESIGN BY RLB DATE 1/15/14

CHECKED BY JR DATE 1/15/14

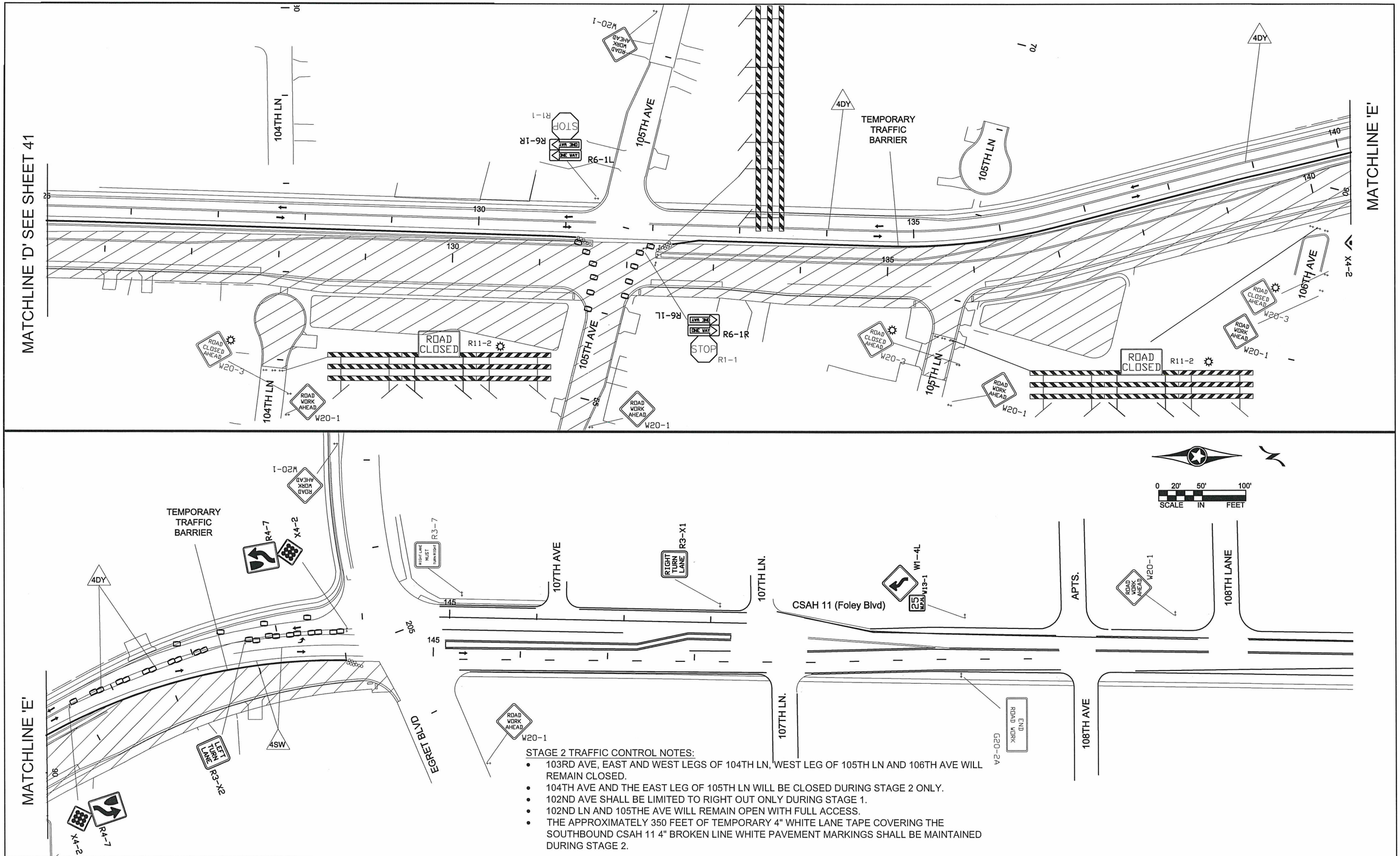
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

M.S.A.P. 114-020-047

STAGE 2 TRAFFIC CONTROL LAYOUT

Sheet 43 of 196 Sheets



STAGE 2 TRAFFIC CONTROL NOTES:

- 103RD AVE, EAST AND WEST LEGS OF 104TH LN, WEST LEG OF 105TH LN AND 106TH AVE WILL REMAIN CLOSED.
- 104TH AVE AND THE EAST LEG OF 105TH LN WILL BE CLOSED DURING STAGE 2 ONLY.
- 102ND AVE SHALL BE LIMITED TO RIGHT OUT ONLY DURING STAGE 1.
- 102ND LN AND 105THE AVE WILL REMAIN OPEN WITH FULL ACCESS.
- THE APPROXIMATELY 350 FEET OF TEMPORARY 4" WHITE LANE TAPE COVERING THE SOUTHBOUND CSAH 11 4" BROKEN LINE WHITE PAVEMENT MARKINGS SHALL BE MAINTAINED DURING STAGE 2.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-611-3-032\Base\TRAFFIC\002-611-032_STG2a.dwg

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

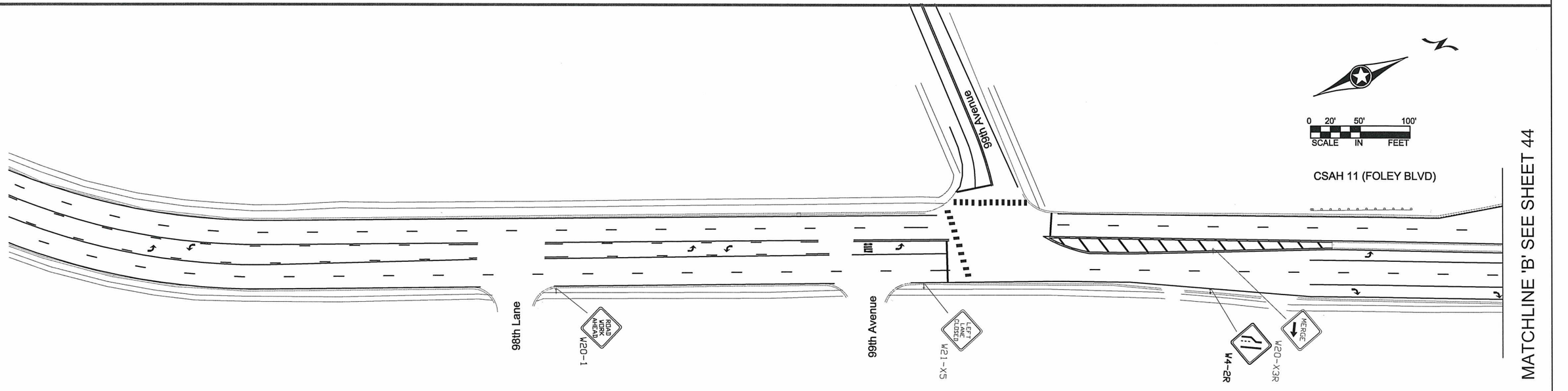
M.S.A.P. 114-020-047

STAGE 2 TRAFFIC CONTROL LAYOUT

Sheet 44 of 196 Sheets

STAGE 3 TRAFFIC CONTROL NOTES:

- 103RD AVE, EAST AND WEST LEGS OF 104TH LN, WEST LEG OF 105TH LN AND 106TH AVE WILL REMAIN CLOSED.
- 102ND AVE, 104TH AVE, EASTBOUND 104TH LN, AND 105TH LN SHALL BE LIMITED TO RIGHT OUT ONLY.
- 102ND LN AND 105THE AVE WILL REMAIN OPEN WITH FULL ACCESS.
- LEFT TURN MOVEMENTS FROM THE RIGHT LEFT TURN LANE FROM THE WESTBOUND US 10/FOLEY BLVD EXIT RAMP WILL BE PROHIBITED DURING STAGE 1. THE CONTRACTOR SHALL USE WHITE REMOVABLE TAPE TO COVER THE RIGHT "LEFT TURN ARROW" FROM THE LANE DESIGNATION SIGNS LOCATED ON THE WESTBOUND US 10 FOLEY BLVD EXIT RAMP AND BLACK REMOVABLE LANE TAPE TO COVER THE LEFT ARROW FROM THE EXISTING PAVEMENT MARKINGS ON THE EXIT RAMP.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-611-032\Base\TRAFFIC\002-611-032_STG3b.dwg

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

PRINT NAME: CURT A KOBILARCSIK

SIGNATURE: [signature]

DATE: 1-17-14 REG. NO. 24756

DRAWN BY RLB DATE 1/15/14

DESIGN BY RLB DATE 1/15/14

CHECKED BY JR DATE 1/15/14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

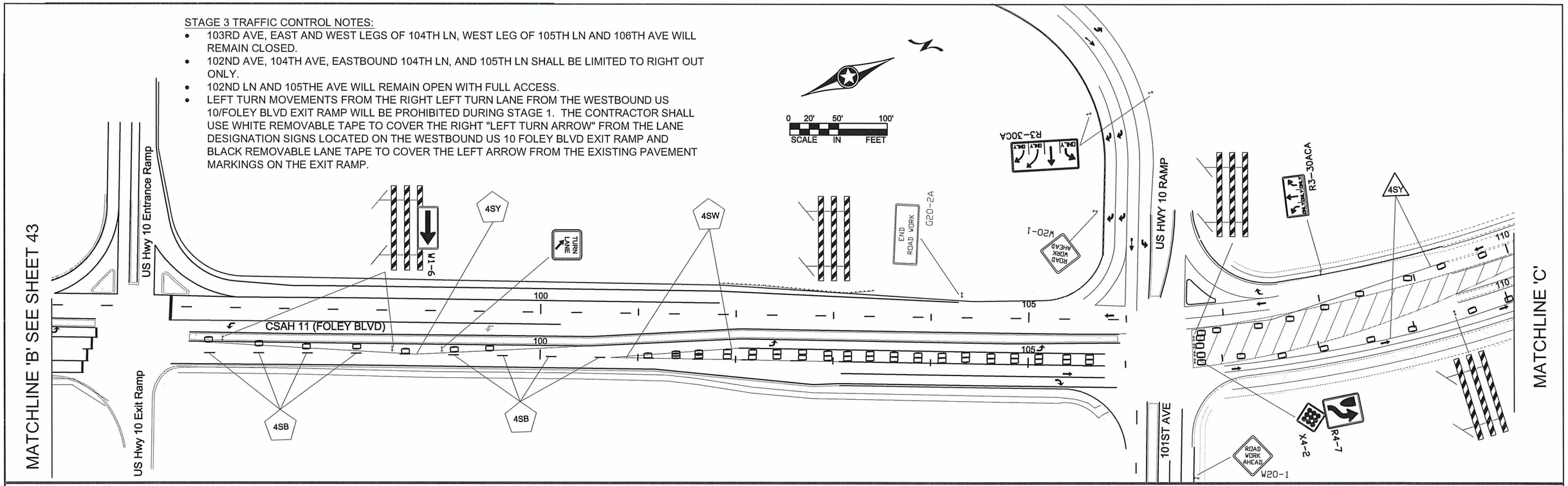
M.S.A.P. 114-020-047

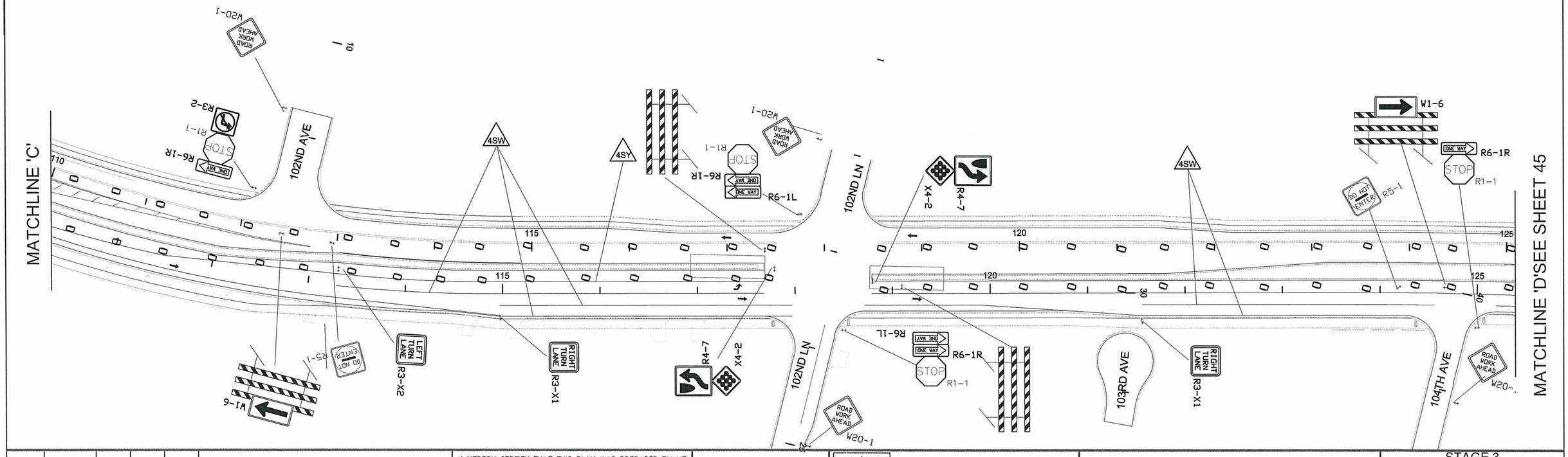
STAGE 3 TRAFFIC CONTROL LAYOUT

Sheet 45 of 196 Sheets

STAGE 3 TRAFFIC CONTROL NOTES:

- 103RD AVE, EAST AND WEST LEGS OF 104TH LN, WEST LEG OF 105TH LN AND 106TH AVE WILL REMAIN CLOSED.
- 102ND AVE, 104TH AVE, EASTBOUND 104TH LN, AND 105TH LN SHALL BE LIMITED TO RIGHT OUT ONLY.
- 102ND LN AND 105THE AVE WILL REMAIN OPEN WITH FULL ACCESS.
- LEFT TURN MOVEMENTS FROM THE RIGHT LEFT TURN LANE FROM THE WESTBOUND US 10/FOLEY BLVD EXIT RAMP WILL BE PROHIBITED DURING STAGE 1. THE CONTRACTOR SHALL USE WHITE REMOVABLE TAPE TO COVER THE RIGHT "LEFT TURN ARROW" FROM THE LANE DESIGNATION SIGNS LOCATED ON THE WESTBOUND US 10 FOLEY BLVD EXIT RAMP AND BLACK REMOVABLE LANE TAPE TO COVER THE LEFT ARROW FROM THE EXISTING PAVEMENT MARKINGS ON THE EXIT RAMP.





NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-611-032\Base\TRAFFIC\002-611-032_STG3b.dwg

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ANOKA COUNTY

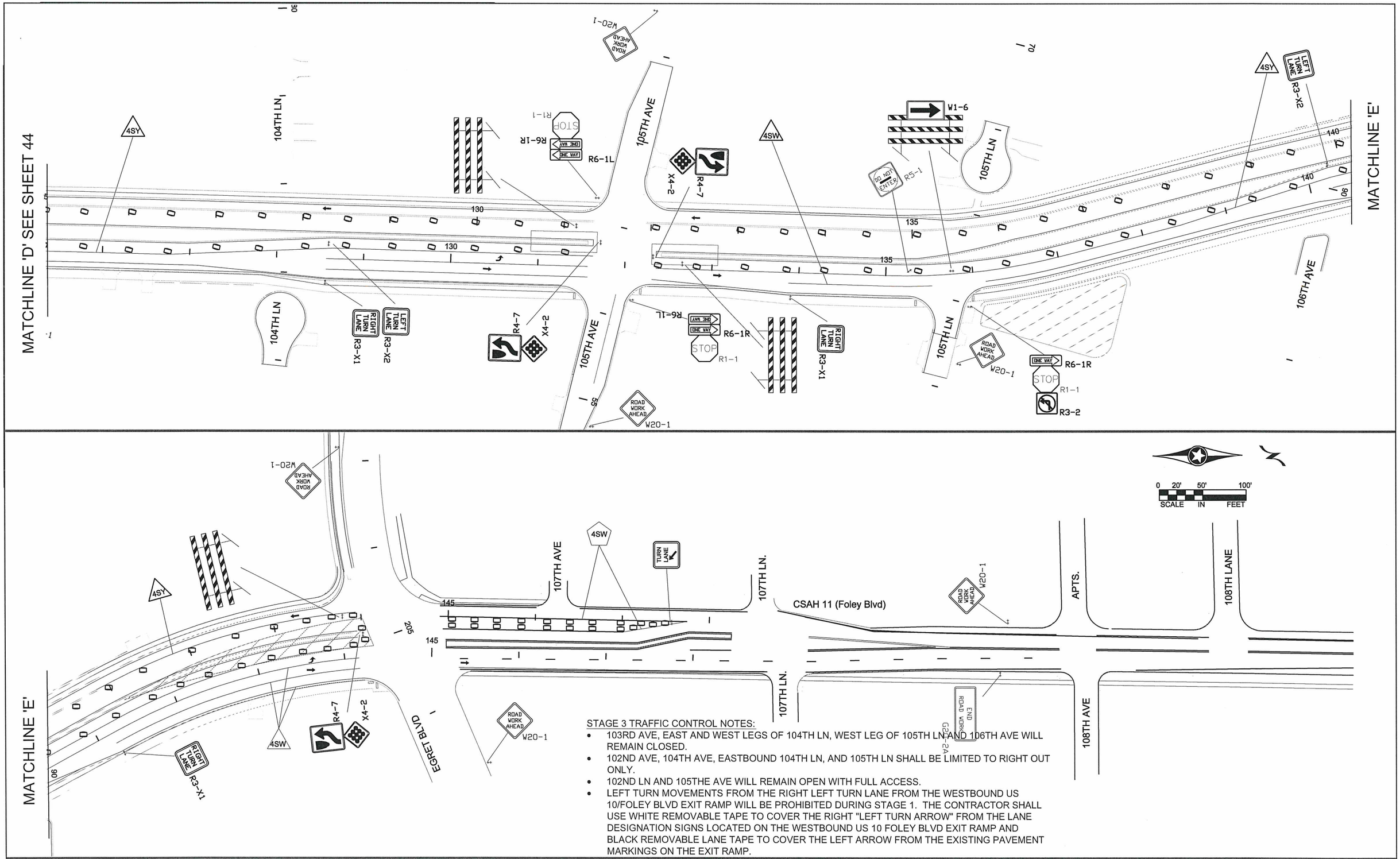
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

M.S.A.P. 114-020-047

STAGE 3 TRAFFIC CONTROL LAYOUT

Sheet 46 of 196 Sheets



STAGE 3 TRAFFIC CONTROL NOTES:

- 103RD AVE, EAST AND WEST LEGS OF 104TH LN, WEST LEG OF 105TH LN AND 106TH AVE WILL REMAIN CLOSED.
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NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-611-032\Base\TRAFFIC\002-611-032_STG3b.dwg

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CHECKED BY JR DATE 1/15/14

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

M.S.A.P. 114-020-047

STAGE 3 TRAFFIC CONTROL LAYOUT

Sheet 47 of 196 Sheets

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3
R6-1L	48" x 18"	ONE WAY	4	4	4
R6-1R	48" x 18"	ONE WAY	7	7	7
R1-1	48" x 48"	STOP	7	7	7
R1-4	48" x 12"	ALL WAY	0	0	0
R3-2	24" x 24"		3	1	2
R3-7	30" x 30"	RIGHT LANE MUST TURN RIGHT	1	1	0
R3-X1	30" x 30"	RIGHT TURN LANE	1	1	5
R3-X2	30" x 30"	LEFT TURN LANE	1	1	5
R5-1	30" x 30"	DO NOT ENTER	2	1	3
W4-2R	48" x 48"		1	0	1
W20-X3R	48" x 48"	MERGE	1	0	1
W20-X3L	48" x 48"	MERGE	0	1	0
W21-X5	48" x 48"	LEFT LANE CLOSED	2	0	1
W21-X5	48" x 48"	RIGHT LANE CLOSED	0	1	0
R4-8	24" x 30"		3	4	6
X4-2	18" x 18"		3	4	6
W1-4L	48" x 48"		1	2	0
W13-1	30" x 30"	25 MPH	1	2	0
G20-X9	30" x 36"	TURN LANE Variable arrow angle	0	2	2
W3-X5	48" x 48"	BRIDGE NARROW AHEAD	1	0	0

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3
W20-1	48" x 48"	ROAD WORK AHEAD	19	16	13
W20-3	48" x 48"	ROAD CLOSED AHEAD	5	5	0
W1-1R	48" x 18"		5	1	4
TYPE III	8 FOOT		5	1	4
W1-6L	48" x 18"		0	2	0
TYPE III	8 FOOT		0	2	0
R11-2	48" x 30"	ROAD CLOSED	5	3	0
TYPE III	8 FOOT		5	3	0
TYPE III	8 FOOT		15	8	0
TYPE III	8 FOOT		2	2	8
REFLECTORIZED REBOUNDABLE DRUM			85	145	223
G20-2A	48" x 24"	END ROAD WORK	2	2	2
R3-30ACCA	66" x 30"	ONLY ONLY ONLY ONLY	0	1	0
R3-30ACA	54" x 30"	ONLY ONLY ONLY	0	0	1
R3-30AC	36" x 30"	ONLY	1	1	1

TEMPORARY PAVEMENT MARKING TABULATION

ITEM	UNIT	TOTAL QUANTITY
PAVEMENT MARKING REMOVAL 4"	LIN FT	4730
PAVEMENT MARKING REMOVAL DOUBLE 4"	LIN FT	3430
TEMPORARY RAISED PAVEMENT MARKER	EACH	505
REMOVABLE PREFORM PLASTIC MARKING (BLACK)	LIN FT	200
REMOVABLE PREFORM PLASTIC MARKING (WHITE)	LIN FT	3070
REMOVABLE PREFORM PLASTIC MARKING (YELLOW)	LIN FT	420
4" SOLID LINE WHITE - LATEX PAINT	LIN FT	22120
4" SOLID LINE YELLOW - LATEX PAINT	LIN FT	5560
4" DOUBLE YELLOW - LATEX PAINT	LIN FT	10500
PAVEMENT MESSAGE (LT ARROW) PAINT	EACH	3
PAVEMENT MESSAGE (RT ARROW) PAINT	EACH	1

NOTES:

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

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-032\Base\TRAFFIC\STGQTY.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: 3-17-14 REG. NO. 24756

DRAWN BY RB DATE 12/26/13

DESIGN BY RB DATE 12/26/13

CHECKED BY JR DATE 2/XX/13

ANOKA COUNTY

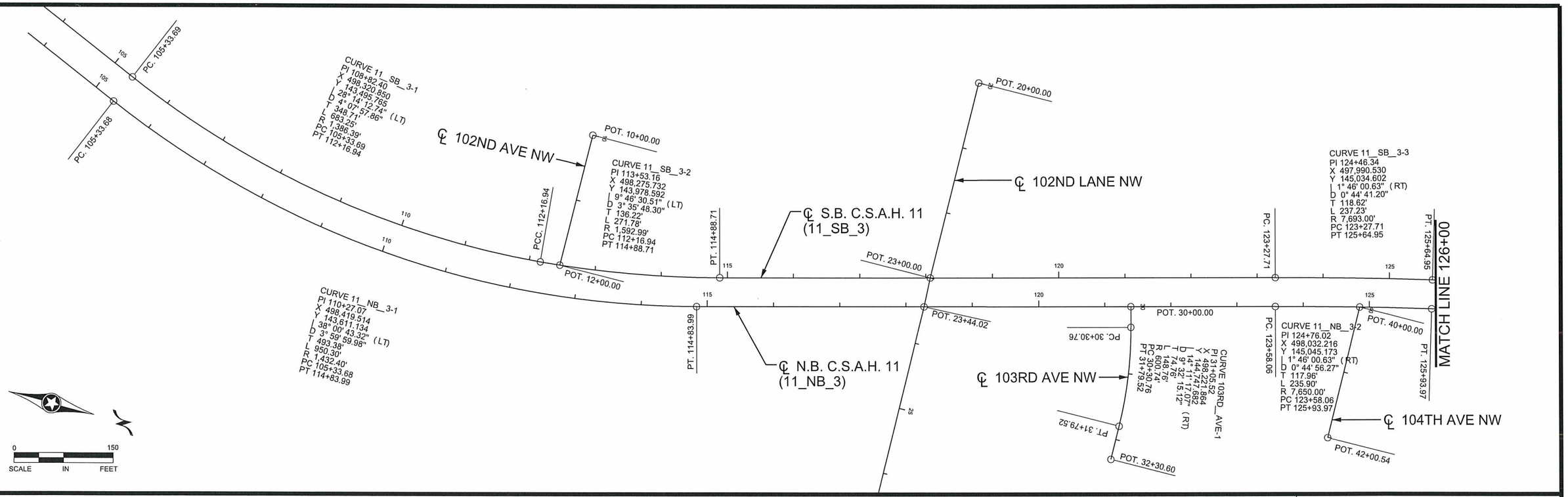
ANOKA COUNTY HIGHWAY DEPT.

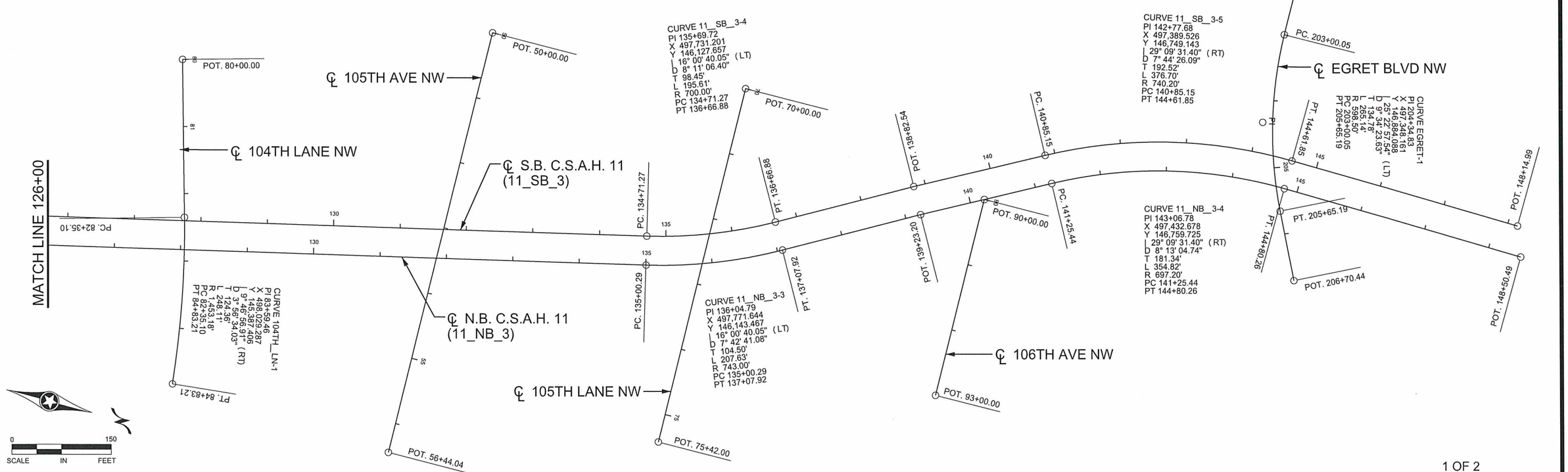
S.P. 002-611-032

M.S.A.P. 114-020-047

STAGING SIGN QUANTITIES

Sheet 48 of 196 Sheets





1 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_AL_P1.dgn 01/16/2014 8:51:23 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: [signature]

DATE: 1-16-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

ALIGNMENT PLAN

Sheet 49 of 196 Sheets

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ C.S.A.H. 11 <11_NB_3>										
13000	POT	100+00.000						498,019.8839	142,665.0043	
	PC	105+33.684						498,227.5399	143,156.6323	N 22° 53' 54.38" E
11_NB_3-1	PI	110+27.066	38° 00' 43.32" LT	3° 59' 59.98"	1,432.397'	493.382'	950.302'	498,419.5143	143,611.1338	PI
	CC							496,908.0218	143,713.9762	
	PT	114+83.987						498,290.8731	144,087.4501	N 15° 06' 48.94" W
	PC	123+58.062						498,062.9724	144,931.2915	N 15° 06' 48.94" W
11_NB_3-2	PI	124+76.023	1° 46' 00.63" RT	0° 44' 56.27"	7,650.000'	117.962'	235.905'	498,032.2158	145,045.1730	PI
	CC							505,448.3650	146,925.9033	
	PT	125+93.966						498,004.9851	145,159.9486	N 13° 20' 48.31" W
	PC	135+00.291						497,795.7657	146,041.7942	N 13° 20' 48.31" W
11_NB_3-3	PI	136+04.786	16° 00' 40.05" LT	7° 42' 41.08"	743.000'	104.495'	207.629'	497,771.6436	146,143.4672	PI
	CC							497,072.8335	145,870.2773	
	PT	137+07.920						497,720.4134	146,234.5428	N 29° 21' 28.36" W
13001	POT	139+23.200						497,614.8694	146,422.1755	
	PC	141+25.441						497,518.8097	146,600.1468	N 28° 21' 28.36" W
11_NB_3-4	PI	143+06.780	29° 09' 31.40" RT	8° 13' 04.74"	697.200'	181.339'	354.816'	497,432.6779	146,759.7246	PI
	CC							498,132.3443	146,931.3010	
	PT	144+80.257						497,435.2124	146,941.0457	N 0° 48' 03.04" E
13002	POT	148+50.488						497,440.3872	147,311.2412	
℄ C.S.A.H. 11 <11_SB_3>										
23000	POT	100+00.000						497,977.5094	142,682.9026	
	PC	105+33.688						498,185.1668	143,174.5343	N 22° 53' 54.32" E
11_SB_3-1	PI	108+82.399	28° 14' 12.74" LT	4° 07' 57.86"	1,386.387'	348.711'	683.248'	498,320.8497	143,495.7652	PI
	CC							496,908.0321	143,713.9756	
	PCC	112+16.937						498,288.4060	143,842.9635	N 5° 20' 18.43" W
	PCC	112+16.937						498,288.4060	143,842.9635	N 5° 20' 18.43" W
11_SB_3-2	PI	113+53.156	9° 46' 30.51" LT	3° 35' 48.30"	1,592.988'	136.219'	271.777'	498,275.7324	143,978.5917	PI
	CC							496,702.3281	143,694.7538	
	PT	114+88.714						498,240.2155	144,110.0991	N 15° 06' 48.94" W
	PC	123+27.715						498,021.4597	144,920.0799	N 15° 06' 48.94" W
11_SB_3-3	PI	124+46.340	1° 46' 00.63" RT	0° 44' 41.20"	7,693.000'	118.625'	237.231'	497,990.5303	145,034.6015	PI
	CC							505,448.3650	146,925.9033	
	PT	125+64.946						497,963.1465	145,150.0223	N 13° 20' 48.31" W
	PC	134+71.270						497,753.9271	146,031.8679	N 13° 20' 48.31" W
11_SB_3-4	PI	135+69.718	16° 00' 40.05" LT	8° 11' 06.40"	700.000'	98.448'	195.613'	497,731.2010	146,127.6568	PI
	CC							497,072.8335	145,870.2773	
	PT	136+66.883						497,682.9357	146,213.4614	N 29° 21' 28.36" W
23001	POT	138+82.539						497,577.2078	146,401.4212	
	PC	140+85.154						497,480.9698	146,579.7227	N 28° 21' 28.36" W
11_SB_3-5	PI	142+77.677	29° 09' 31.40" RT	7° 44' 26.09"	740.200'	192.523'	376.699'	497,389.5258	146,749.1426	PI
	CC							498,132.3443	146,931.3010	
	PT	144+61.854						497,392.2166	146,941.6467	N 0° 48' 03.04" E
23002	POT	148+14.991						497,397.1524	147,294.7494	

ALIGNMENT TABULATION

POINT NUMBER	POINT	ALIGNMENT	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ EGRET BLVD <EGRET>										
20000	POT	200+00.000						496,913.3749	146,877.9943	
	PC	203+00.047						497,213.3921	146,882.1989	N 89° 11' 49.49" E
EGRET-1	PI	204+34.829	25° 22' 57.54" LT	9° 34' 23.63"	598.500'	134.783'	265.142'	497,348.1614	146,884.0876	PI
	CC							497,205.0052	147,480.6401	
	PT	205+65.189						497,469.1112	146,943.5645	N 63° 48' 51.95" E
20001	POT	206+70.438						497,563.5590	146,990.0090	
℄ 102ND AVE <102ND _AVE_NW>										
1000	POT	10+00.000						498,085.3913	143,869.8785	
1001	POT	12+00.000						498,285.3749	143,872.4393	
℄ 102ND LN <102ND _LN_NW>										
2000	POT	20+00.000						497,857.3155	144,412.3702	
2001	POT	23+00.000						498,157.2767	144,417.1941	
2002	POT	23+44.016						498,201.2407	144,419.3294	
2003	POT	26+44.016						498,501.1960	144,424.5064	
℄ 103RD AVE <103RD _AVE_NW>										
3000	POT	30+00.000						498,119.9914	144,720.1687	
	PC	30+30.759						498,149.6869	144,728.1887	N 74° 53' 11.06" E
103RD_AVE-1	PI	31+05.522	14° 11' 17.07" RT	9° 32' 15.12"	600.740'	74.763'	148.760'	498,221.8635	144,747.6818	PI
	CC							498,306.3199	144,148.2278	
	PT	31+79.520						498,296.6164	144,748.8894	N 89° 04' 28.13" E
3001	POT	32+30.598						498,347.6882	144,749.7145	
℄ 104TH AVE <104TH _AVE_NW>										
4000	POT	40+00.000						498,030.7682	145,054.6047	
4001	POT	42+00.535						498,231.2773	145,057.8439	
℄ 104TH LN <104TH _LN_NW>										
8000	POT	80+00.000						497,683.3890	145,289.5952	
	PC	82+35.103						497,909.6214	145,353.5681	N 74° 12' 37.48" E
104TH_LN-1	PI	83+59.461	9° 46' 56.91" RT	3° 56' 34.03"	1,453.180'	124.358'	248.111'	498,029.2867	145,387.4065	PI
	CC							498,305.0395	143,955.2203	
	PT	84+83.214						498,152.9615	145,400.4207	N 83° 59' 34.39" E
℄ 105TH AVE <105TH _AVE_NW>										
5000	POT	50+00.000						497,521.9778	145,729.8668	
5001	POT	56+44.042						498,165.9483	145,739.4914	
℄ 105TH LN <105TH _LN_NW>										
7000	POT	70+00.000						497,502.6969	146,118.9129	
7001	POT	75+42.002						498,044.6322	146,127.4095	
℄ 106TH AVE <106TH _AVE_NW>										
9000	POT	90+00.000						497,568.2658	146,508.5187	
9001	POT	93+00.000						497,868.2337	146,512.9078	

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_AL_P1.dgn 01/16/2014 8:51:24 AM

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

PRINT NAME: CURT KOBILARCSIK

SIGNATURE:

DATE: 1-16-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

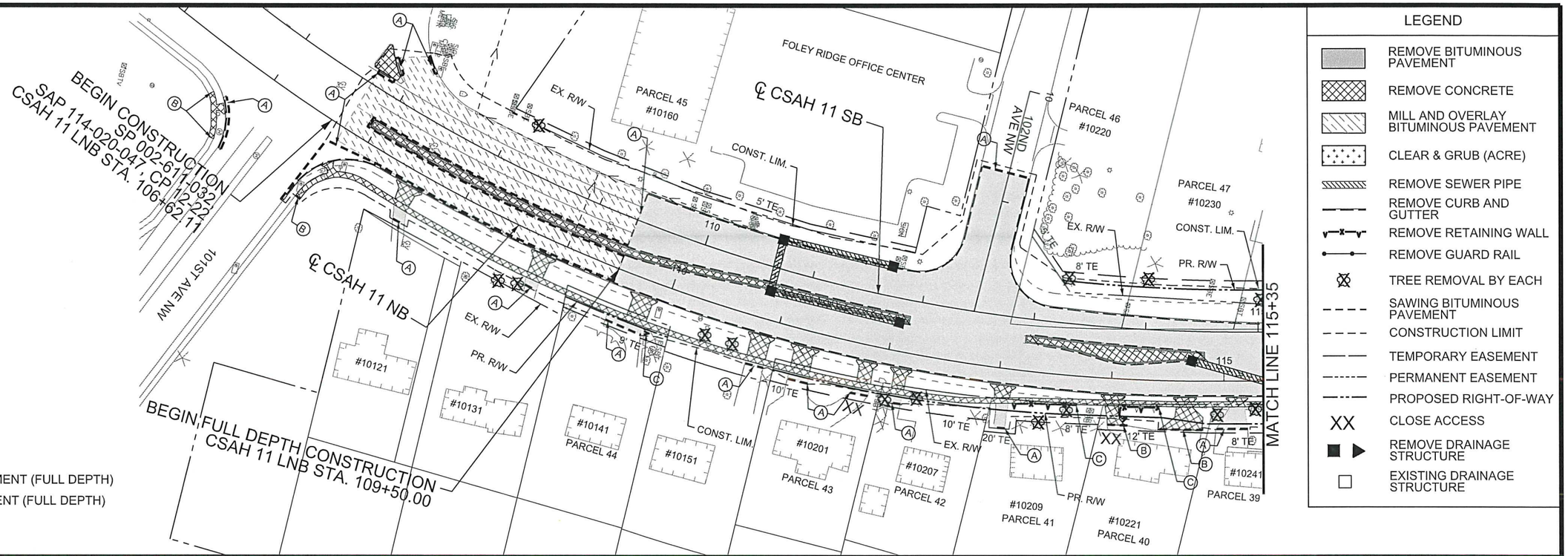
S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

ALIGNMENT PLAN

Sheet 50 of 196 Sheets



NOTES:

(A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
(B) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
(C) REMOVE RETAINING WALL
(D) REMOVE GUARD RAIL

LEGEND

- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE
- MILL AND OVERLAY BITUMINOUS PAVEMENT
- CLEAR & GRUB (ACRE)
- REMOVE SEWER PIPE
- REMOVE CURB AND GUTTER
- REMOVE RETAINING WALL
- REMOVE GUARD RAIL
- TREE REMOVAL BY EACH
- SAWING BITUMINOUS PAVEMENT
- CONSTRUCTION LIMIT
- TEMPORARY EASEMENT
- PERMANENT EASEMENT
- PROPOSED RIGHT-OF-WAY
- XX CLOSE ACCESS
- REMOVE DRAINAGE STRUCTURE
- EXISTING DRAINAGE STRUCTURE

REMOVAL NOTES

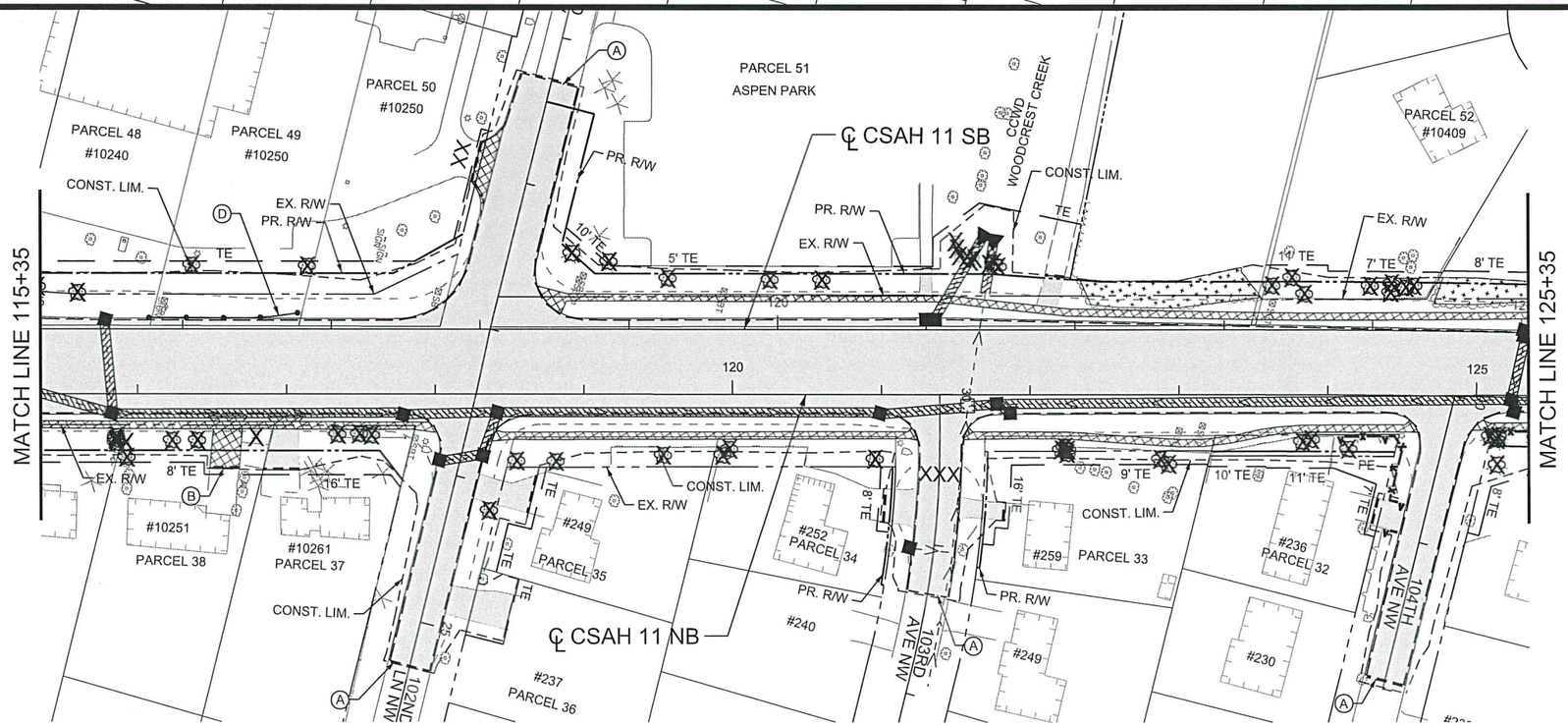
REFER TO TRAFFIC SIGNAL PLANS FOR TRAFFIC SIGNAL REMOVALS.

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.

SEE CITY WATERMAIN AND SEWERS PLANS FOR WATERMAIN, HYDRANT, AND SEWER REMOVAL ITEMS.



0 100
SCALE IN FEET

1 OF 2

NO	DATE	BY	CKD	APPR	REVISION
1	05/09/2014	EJM	GMP	CAK	MODIFIED SE QUAD OF 101ST AVE INTERSECTION PER SA COMMENTS

NAME: P:\02-611-32\Plan\002-611-032_RM_P1.dgn 05/15/2014 2:03:55 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

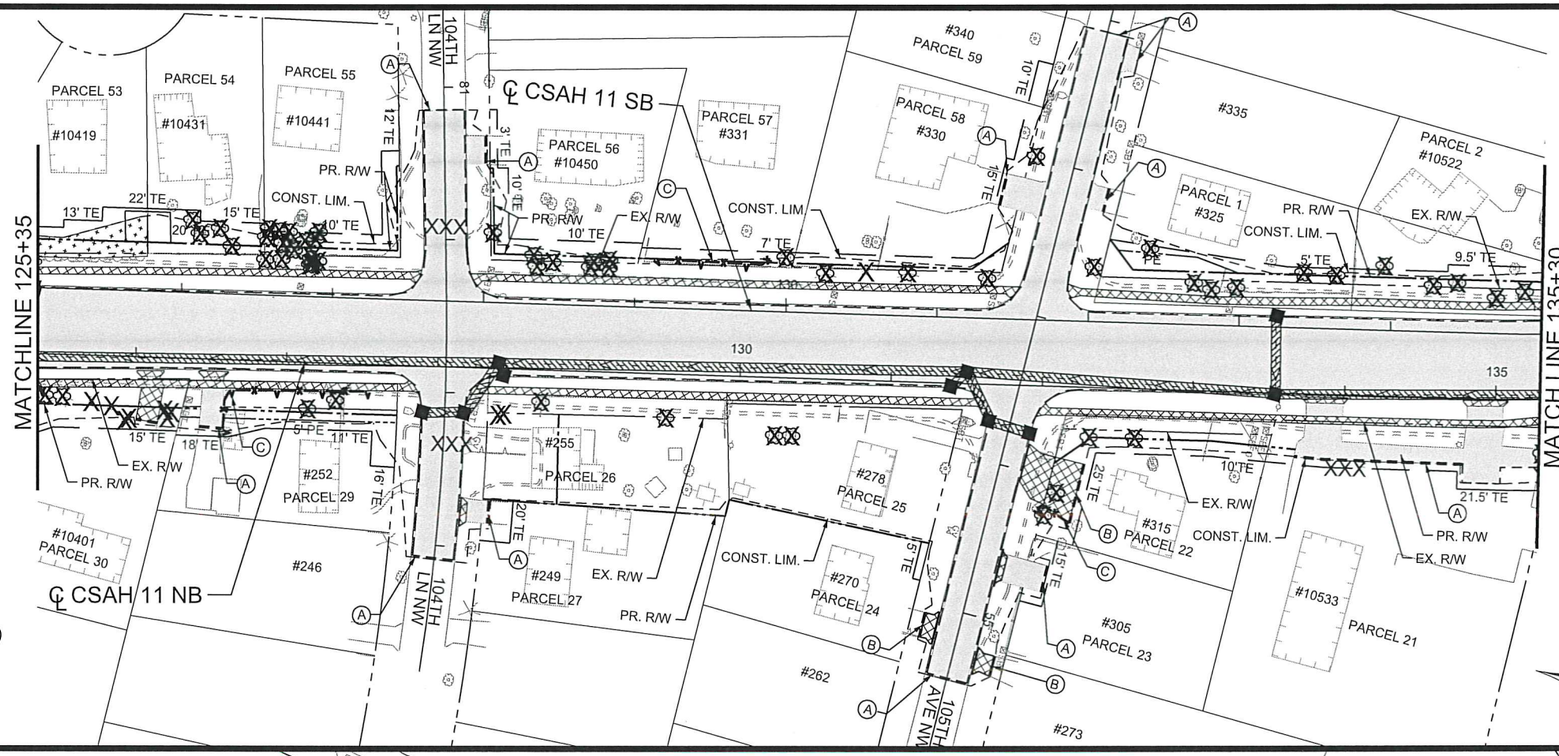
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

REMOVAL PLAN
STA 106+61 TO 125+35
Sheet 51 of 196 Sheets

NOTES:

(A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
(B) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
(C) REMOVE RETAINING WALL



LEGEND

- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE
- MILL AND OVERLAY BITUMINOUS PAVEMENT
- CLEAR & GRUB (ACRE)
- REMOVE SEWER PIPE
- REMOVE CURB AND GUTTER
- REMOVE RETAINING WALL
- TREE REMOVAL BY EACH
- SAWING BITUMINOUS PAVEMENT
- CONSTRUCTION LIMIT
- TEMPORARY EASEMENT
- PERMANENT EASEMENT
- PROPOSED RIGHT-OF-WAY
- XX CLOSE ACCESS
- REMOVE DRAINAGE STRUCTURE
- EXISTING DRAINAGE STRUCTURE

REMOVAL NOTES

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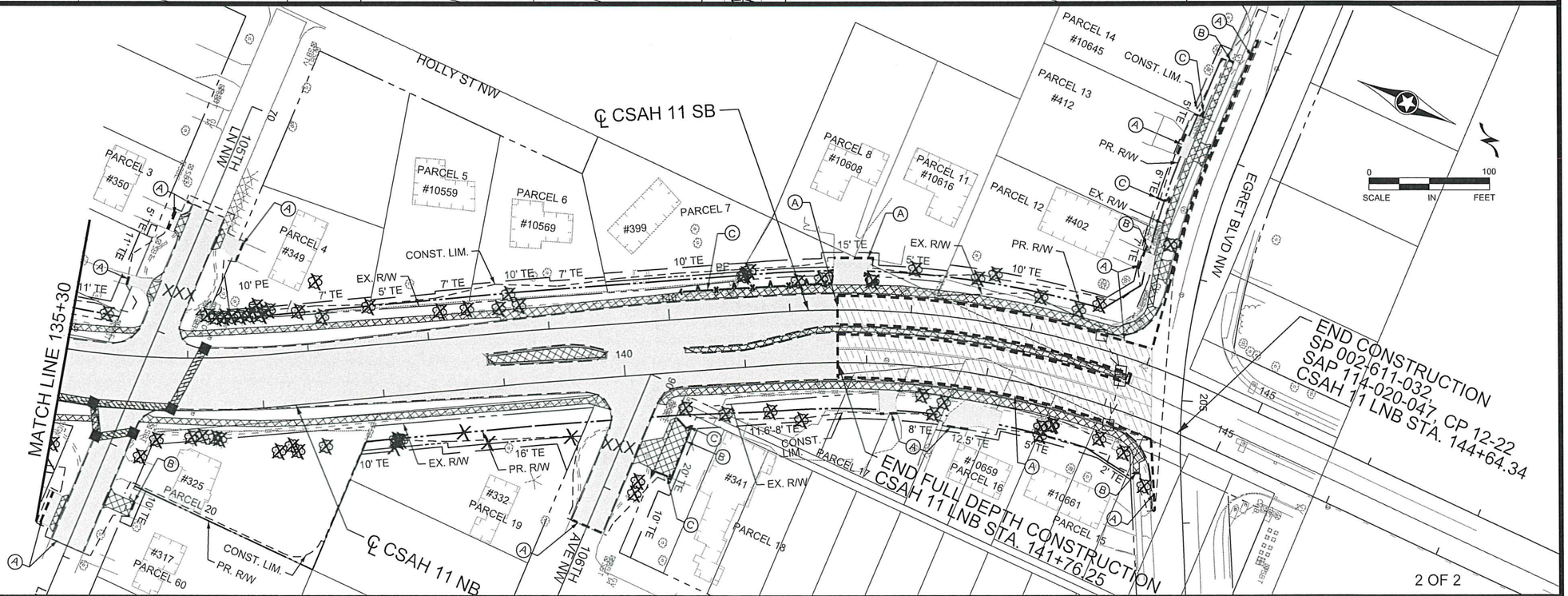
SEE CITY WATERMAIN AND SEWERS PLANS FOR WATERMAIN, HYDRANT, AND SEWER REMOVAL ITEMS.



NO	DATE	BY	CKD	APPR	REVISION
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NAME: P:\02-611-32\Plan\002-611-032_RM_P2.dgn 05/12/2014 12:44:31 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.

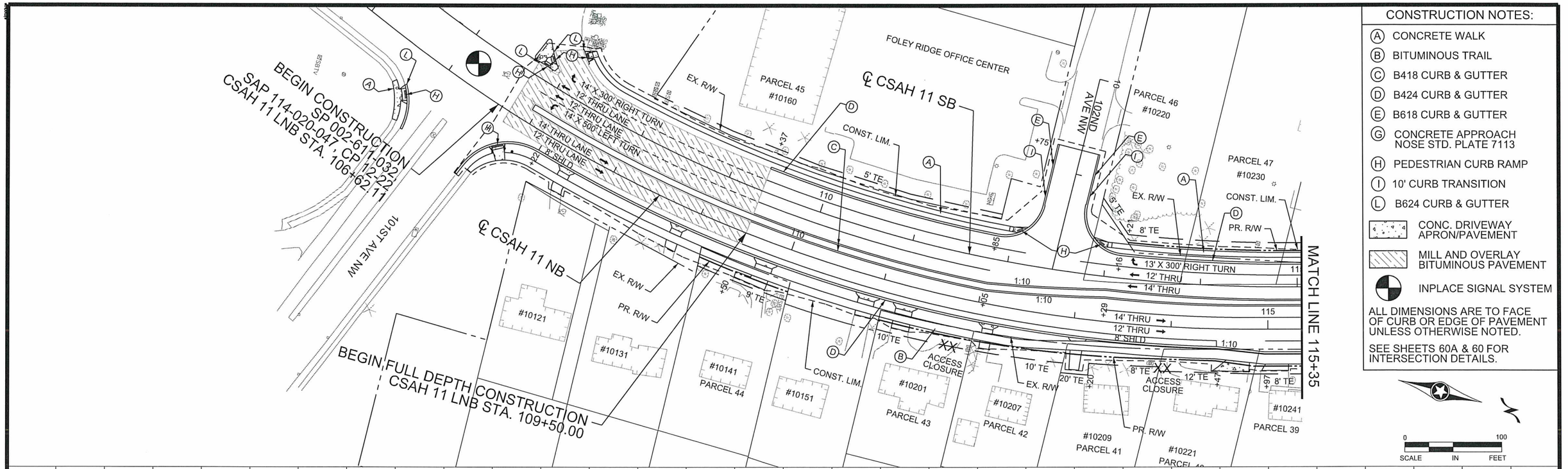
PRINT NAME: CURT KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 5-21-14 LICENSE NO. 24756

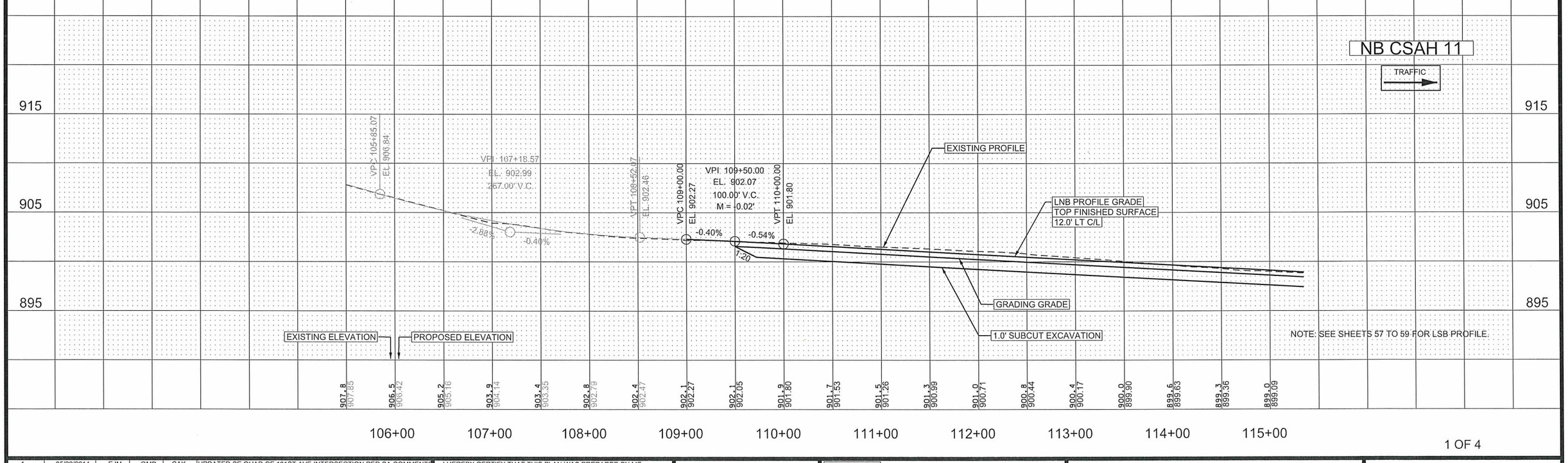
DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

REMOVAL PLAN
STA 125+35 TO 145+00
Sheet 52 of 196 Sheets





1 OF 4

NO	DATE	BY	CKD	APPR	REVISION
1	05/09/2014	EJM	GMP	CAK	UPDATED SE QUAD OF 101ST AVE INTERSECTION PER SA COMMENTS

NAME: P:\02-611-32\Plan\002-611-032_PP_P1.dgn 05/12/2014 12:44:35 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

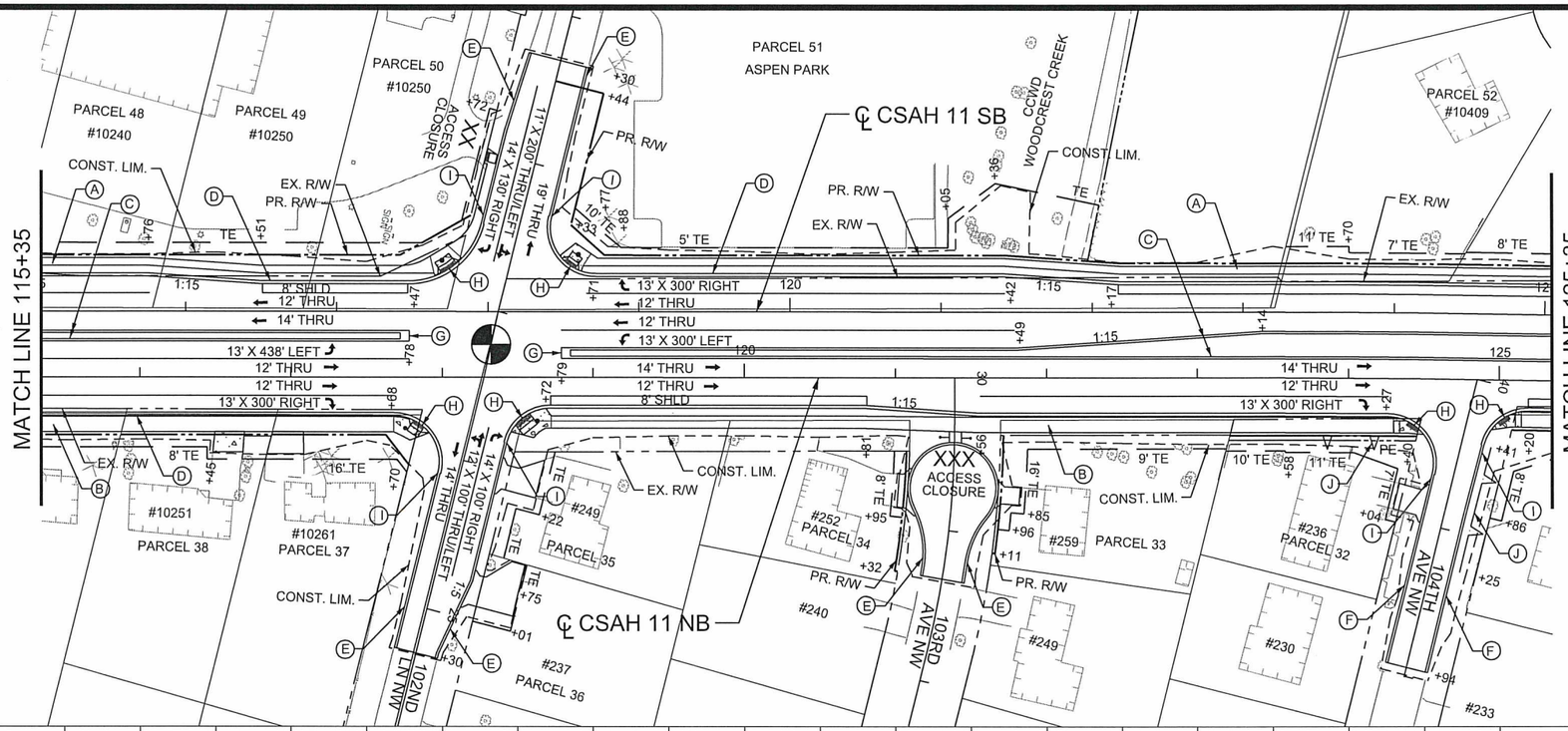
S.A.P. 114-020-047

C.P. 12-22

CONSTRUCTION PLAN & PROFILE

STA 106+00 TO 115+35

Sheet 53 of 196 Sheets



CONSTRUCTION NOTES:

- (A) CONCRETE WALK
- (B) BITUMINOUS TRAIL
- (C) B418 CURB & GUTTER
- (D) B424 CURB & GUTTER
- (E) B618 CURB & GUTTER
- (F) S518 CURB & GUTTER
- (G) CONCRETE APPROACH NOSE STD. PLATE 7113
- (H) PEDESTRIAN CURB RAMP
- (I) 10' CURB TRANSITION
- (J) MODULAR BLOCK RET. WALL

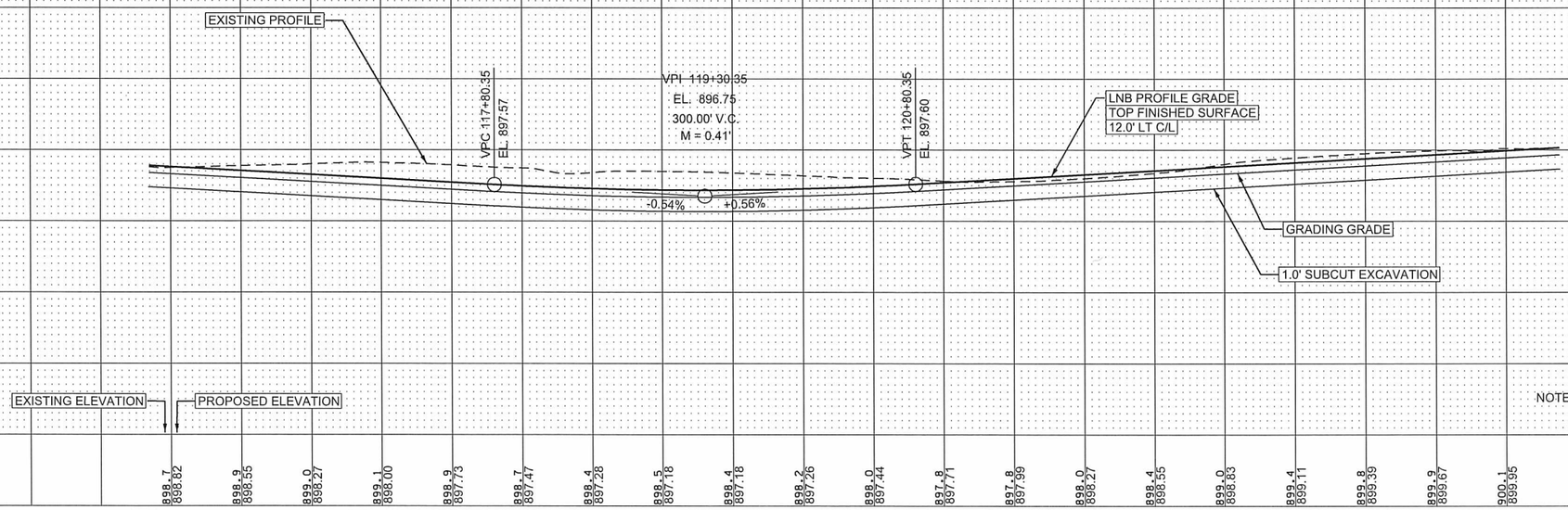
ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

SEE SHEETS 61 & 62 FOR INTERSECTION DETAILS.

CONC. DRIVEWAY PAVEMENT

NEW TRAFFIC SIGNAL

SCALE 0 100 IN FEET



NOTE: SEE SHEETS 57 TO 59 FOR SB PROFILE.

NO	DATE	BY	CKD	APPR	REVISION
1	04/09/2014	EJM	GMP	CAK	UPDATED CURB & GUTTER NOTE FOR 104TH AVE NW TO (F)

NAME: P:\02-611-32\Plan\002-611-032_PP_P2.dgn 05/15/2014 2:04:00 PM

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

PRINT NAME: CURT KOBILARCSIK

SIGNATURE:

DATE: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

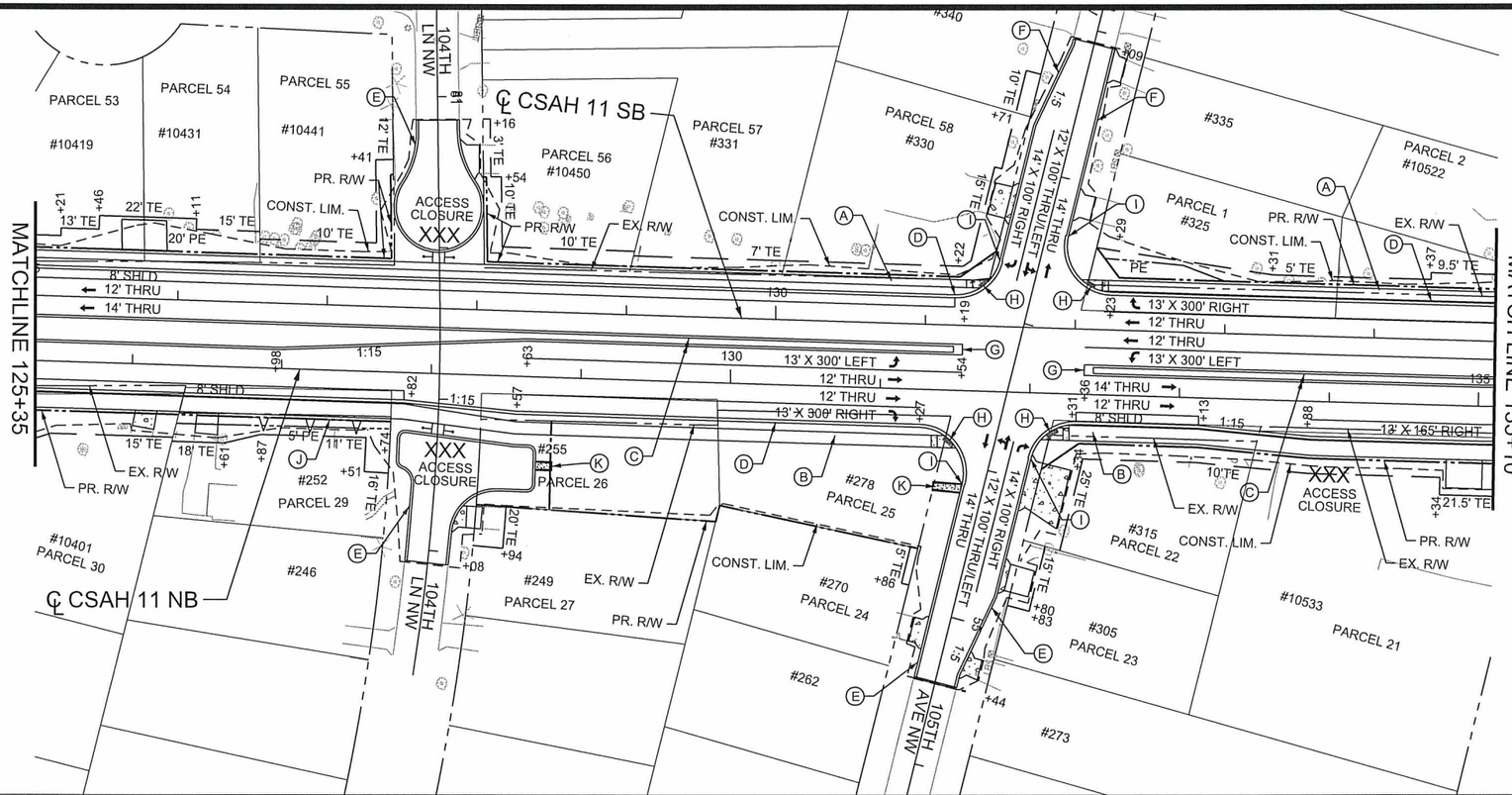
S.A.P. 114-020-047

C.P. 12-22

CONSTRUCTION PLAN & PROFILE

STA 115+35 TO 125+35

Sheet 54 of 196 Sheets



CONSTRUCTION NOTES:

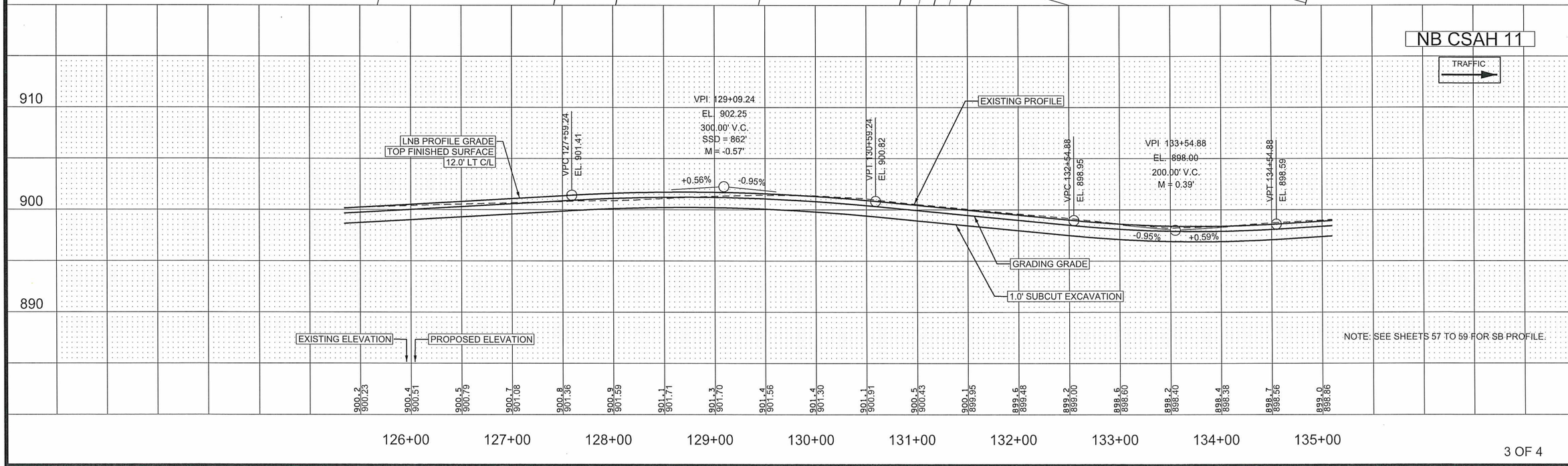
- (A) CONCRETE WALK
- (B) BITUMINOUS TRAIL
- (C) B418 CURB & GUTTER
- (D) B424 CURB & GUTTER
- (E) B618 CURB & GUTTER
- (F) S518 CURB & GUTTER
- (G) CONCRETE APPROACH NOSE STD. PLATE 7113
- (H) PEDESTRIAN CURB RAMP
- (I) 10' CURB TRANSITION
- (J) MODULAR BLOCK RET. WALL
- (K) CONCRETE DRAINAGE FLUME

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

SEE SHEETS 62 & 63 FOR INTERSECTION DETAILS.

CONC. DRIVEWAY PAVEMENT

0 100
SCALE IN FEET



NOTE: SEE SHEETS 57 TO 59 FOR SB PROFILE.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_PP_P3.dgn 05/12/2014 12:44:43 PM

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

PRINT NAME: CURT KOBILARCSIK

SIGNATURE:

DATE: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

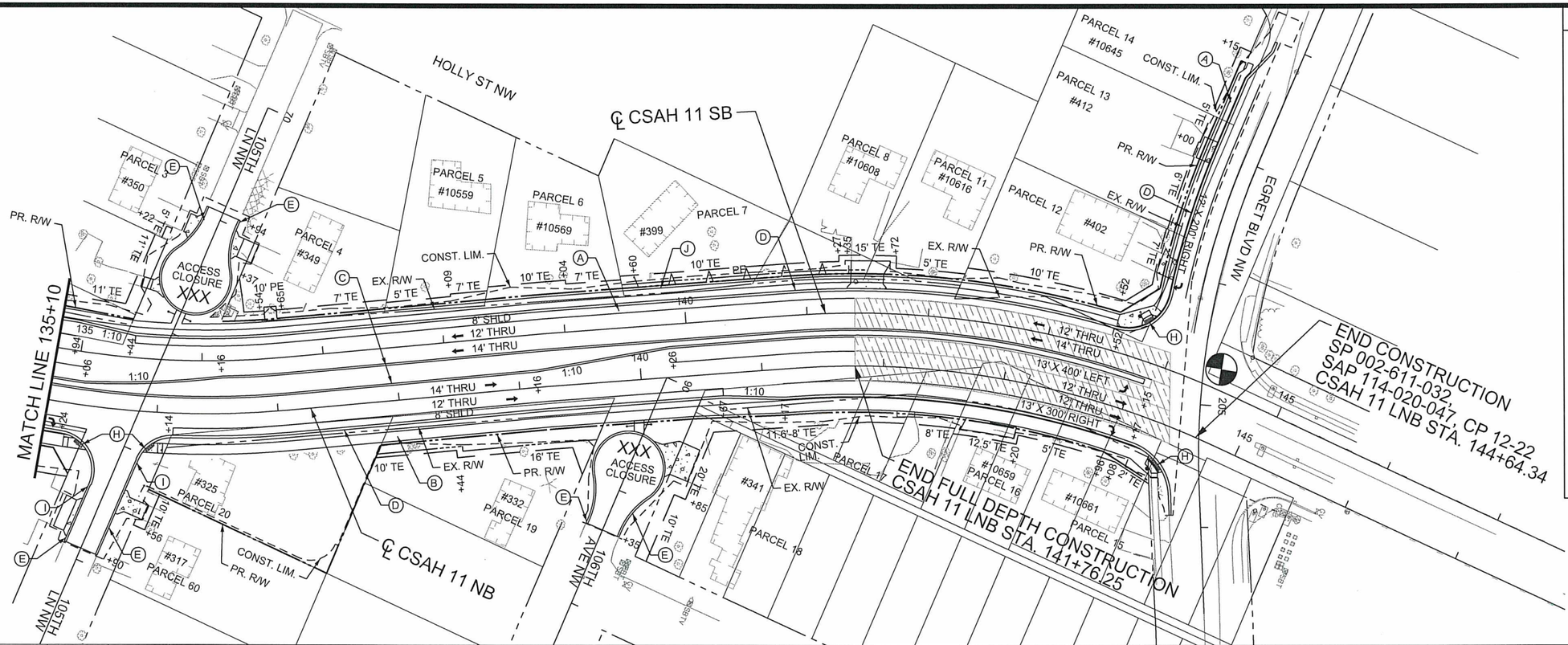
S.A.P. 114-020-047

C.P. 12-22

CONSTRUCTION PLAN & PROFILE

STA 125+35 TO 135+30

Sheet 55 of 196 Sheets



CONSTRUCTION NOTES:

- (A) CONCRETE WALK
- (B) BITUMINOUS TRAIL
- (C) B418 CURB & GUTTER
- (D) B424 CURB & GUTTER
- (E) B618 CURB & GUTTER
- (G) CONCRETE APPROACH NOSE STD. PLATE 7113
- (H) PEDESTRIAN CURB RAMP
- (I) 10' CURB TRANSITION
- (J) MODULAR BLOCK RET. WALL

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

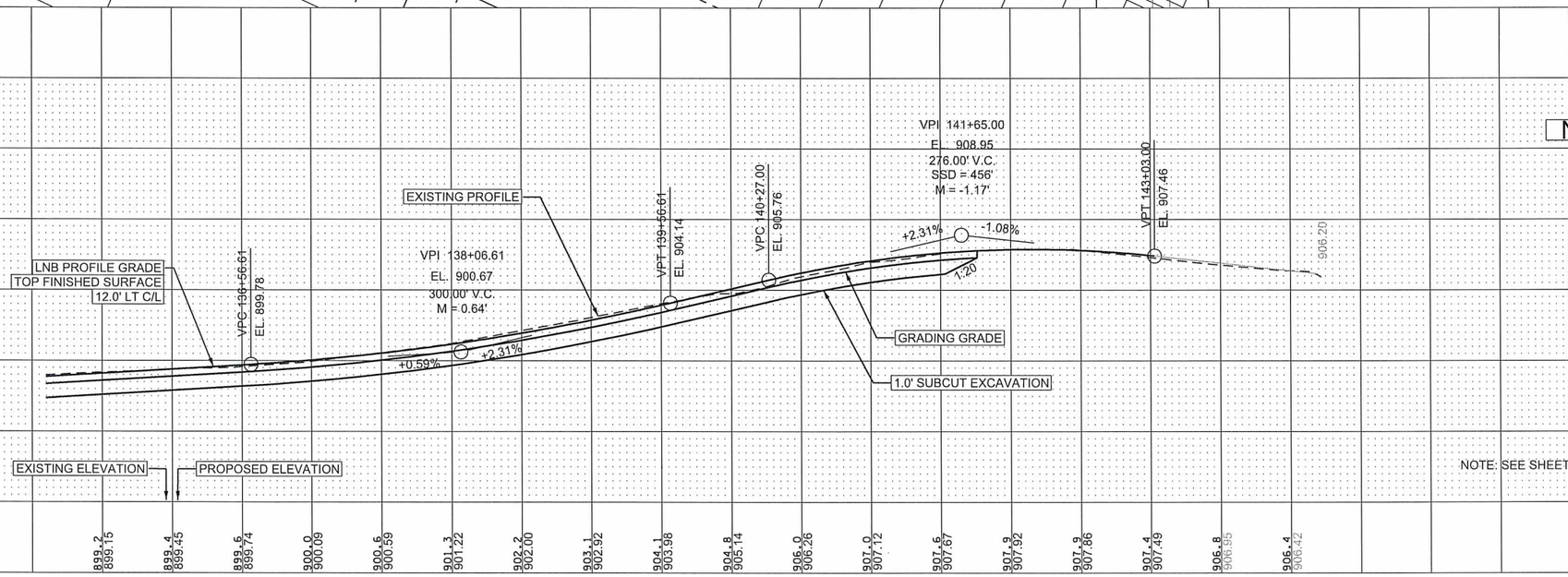
SEE SHEETS 63 & 64 FOR INTERSECTION DETAILS.

CONC. DRIVEWAY PAVEMENT

MILL AND OVERLAY BITUMINOUS PAVEMENT

INPLACE SIGNAL SYSTEM

0 100
SCALE IN FEET



NOTE: SEE SHEETS 57 TO 59 FOR SB PROFILE.

NO	DATE	BY	CKD	APPR	REVISION
1	05/09/2014	EJM	GMP	CAK	MODIFIED SE QUAD OF EGRET INTERSECTION PER SA COMMENTS

NAME: P:\02-611-32\Plan\002-611-032_PP_P4.dgn 05/12/2014 12:44:47 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

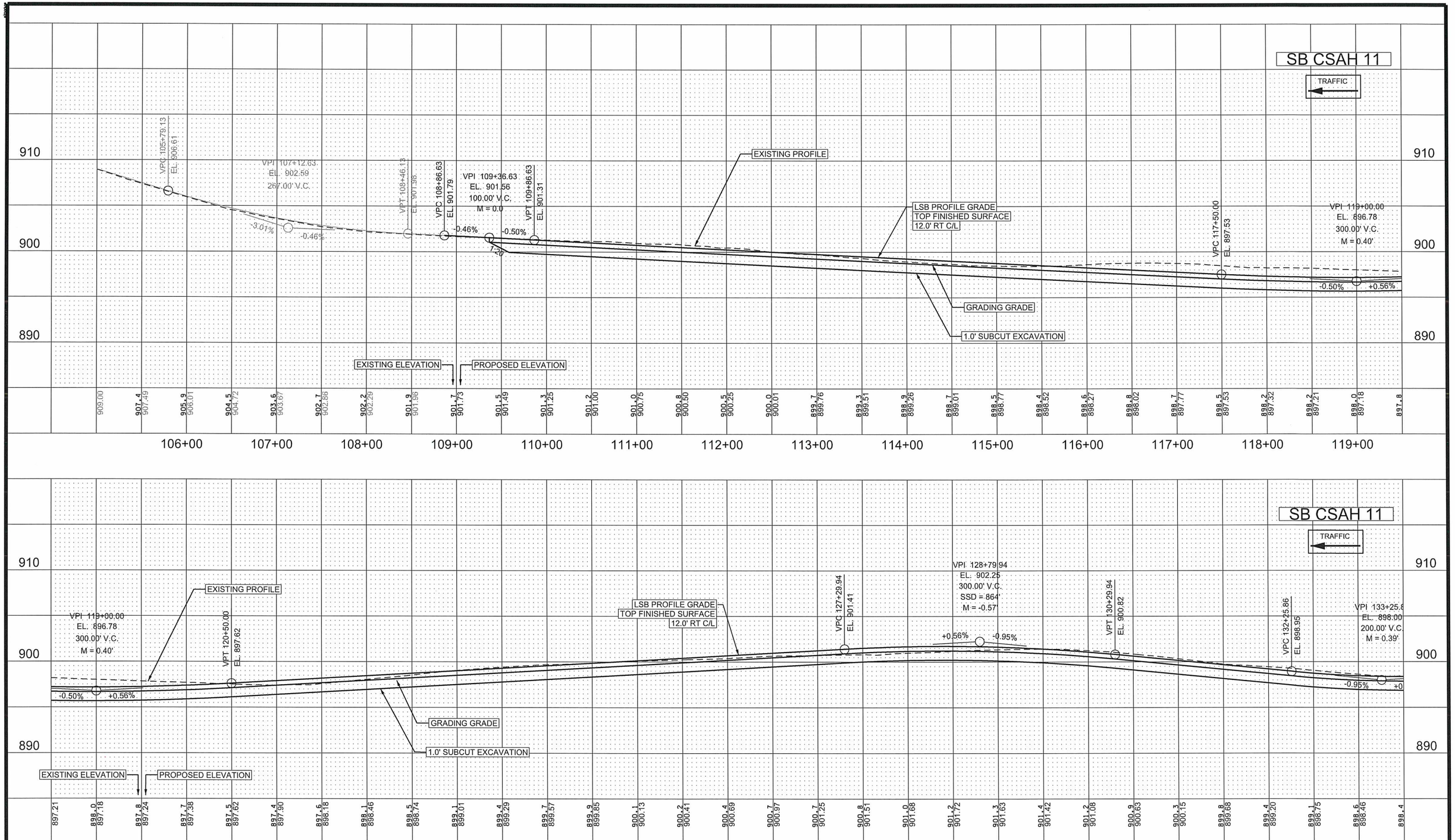
S.A.P. 114-020-047

C.P. 12-22

CONSTRUCTION PLAN & PROFILE

STA 135+30 TO XX+XX

Sheet 56 of 196 Sheets



1 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_PROFILES.dgn 01/16/2014 8:51:52 AM

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

PRINT NAME: CURT KOBILARCSIK

SIGNATURE:

DATE: 1-16-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

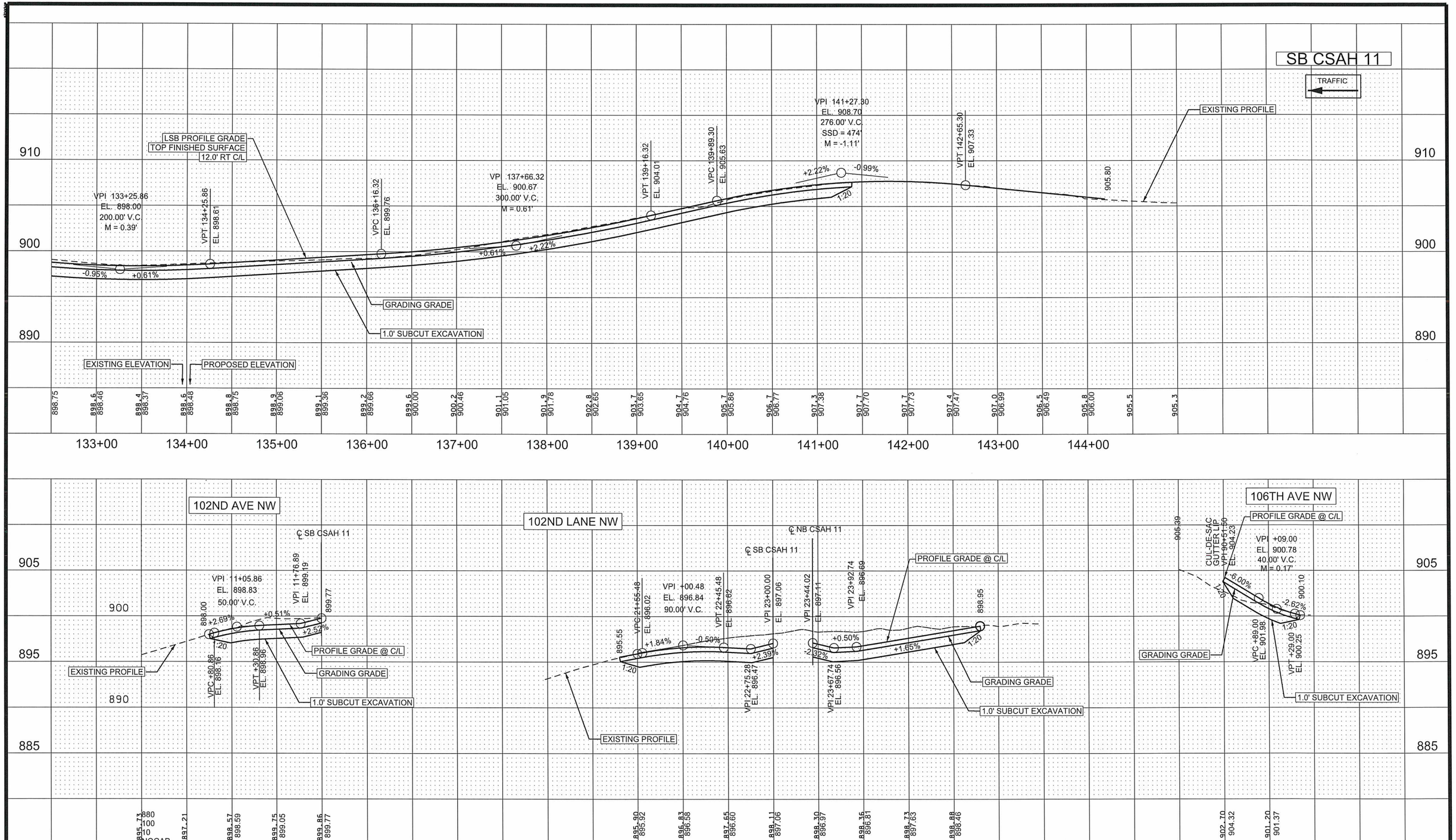
S.A.P. 114-020-047

C.P. 12-22

PROFILES

STA 106+00 TO 133+00

Sheet 57 of 196 Sheets



2 OF 3

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:

DATE: 1-16-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

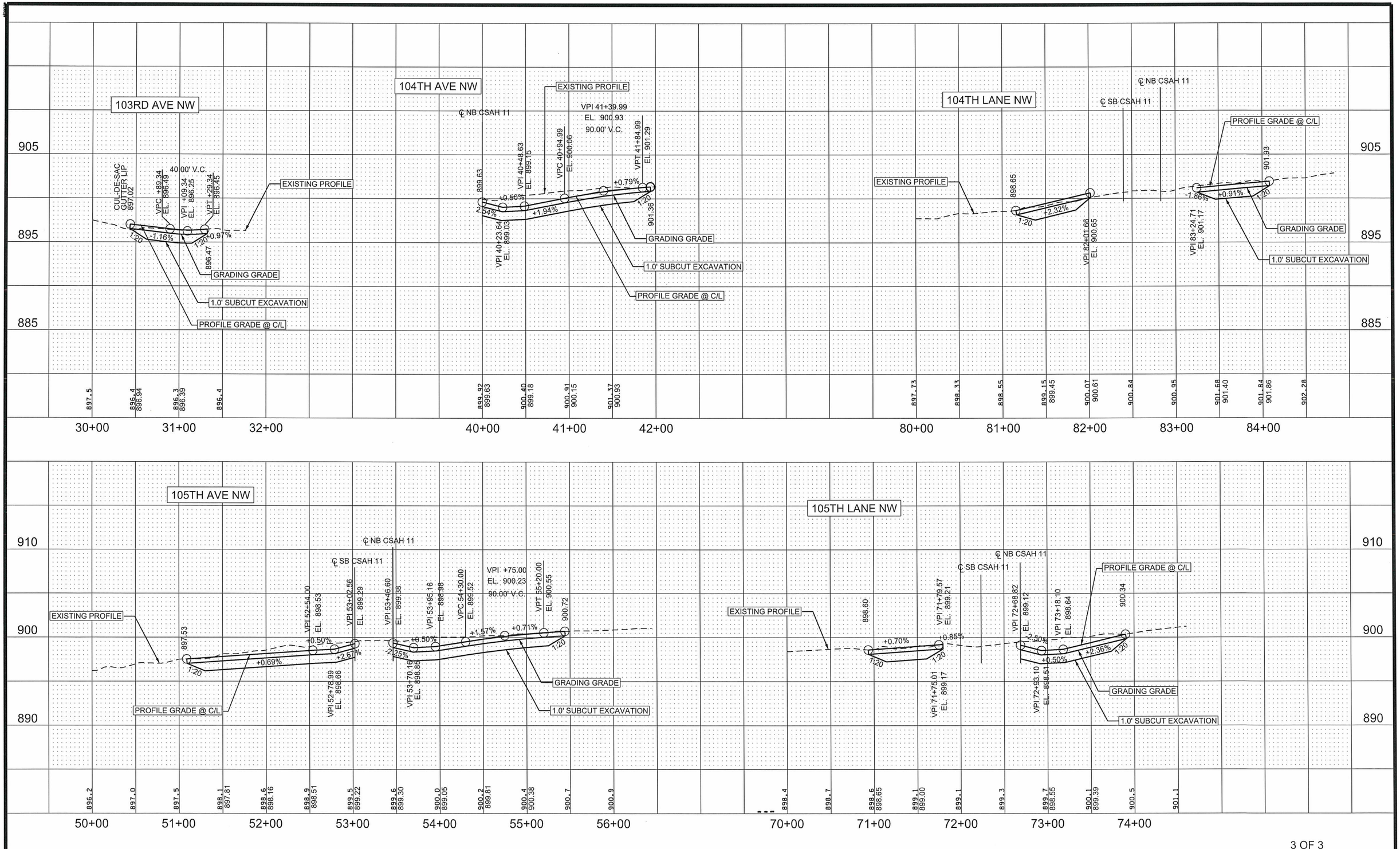
S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

PROFILES

Sheet 58 of 196 Sheets



3 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_PROFILES.dgn 01/16/2014 8:51:55 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: 1-16-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

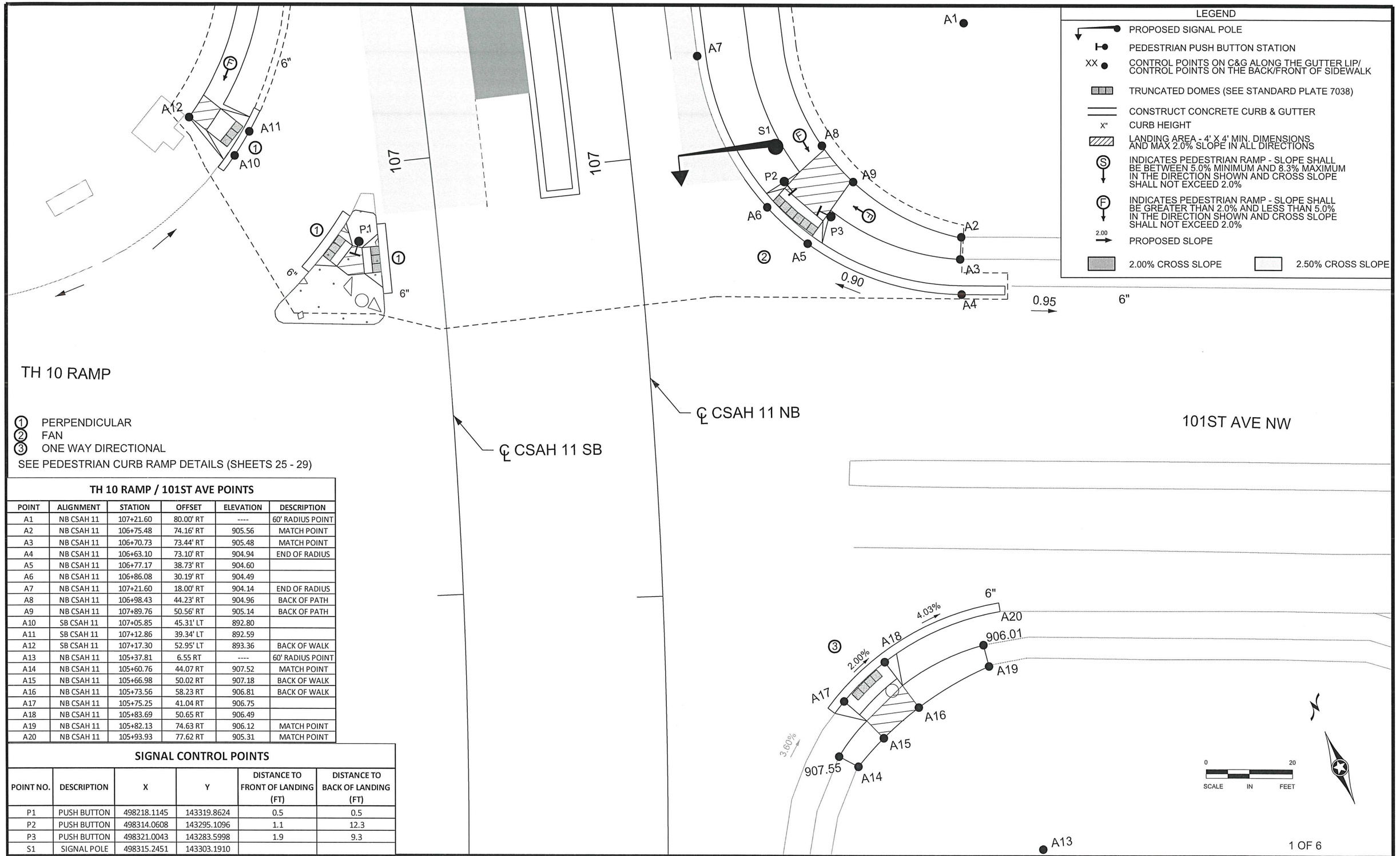
S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

PROFILES

Sheet 59 of 196 Sheets



TH 10 RAMP / 101ST AVE POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
A1	NB CSAH 11	107+21.60	80.00' RT	----	60' RADIUS POINT
A2	NB CSAH 11	106+75.48	74.16' RT	905.56	MATCH POINT
A3	NB CSAH 11	106+70.73	73.44' RT	905.48	MATCH POINT
A4	NB CSAH 11	106+63.10	73.10' RT	904.94	END OF RADIUS
A5	NB CSAH 11	106+77.17	38.73' RT	904.60	
A6	NB CSAH 11	106+86.08	30.19' RT	904.49	
A7	NB CSAH 11	107+21.60	18.00' RT	904.14	END OF RADIUS
A8	NB CSAH 11	106+98.43	44.23' RT	904.96	BACK OF PATH
A9	NB CSAH 11	107+89.76	50.56' RT	905.14	BACK OF PATH
A10	SB CSAH 11	107+05.85	45.31' LT	892.80	
A11	SB CSAH 11	107+12.86	39.34' LT	892.59	
A12	SB CSAH 11	107+17.30	52.95' LT	893.36	BACK OF WALK
A13	NB CSAH 11	105+37.81	6.55 RT	----	60' RADIUS POINT
A14	NB CSAH 11	105+60.76	44.07 RT	907.52	MATCH POINT
A15	NB CSAH 11	105+66.98	50.02 RT	907.18	BACK OF WALK
A16	NB CSAH 11	105+73.56	58.23 RT	906.81	BACK OF WALK
A17	NB CSAH 11	105+75.25	41.04 RT	906.75	
A18	NB CSAH 11	105+83.69	50.65 RT	906.49	
A19	NB CSAH 11	105+82.13	74.63 RT	906.12	MATCH POINT
A20	NB CSAH 11	105+93.93	77.62 RT	905.31	MATCH POINT

SIGNAL CONTROL POINTS

POINT NO.	DESCRIPTION	X	Y	DISTANCE TO FRONT OF LANDING (FT)	DISTANCE TO BACK OF LANDING (FT)
P1	PUSH BUTTON	498218.1145	143319.8624	0.5	0.5
P2	PUSH BUTTON	498314.0608	143295.1096	1.1	12.3
P3	PUSH BUTTON	498321.0043	143283.5998	1.9	9.3
S1	SIGNAL POLE	498315.2451	143303.1910		

NO	DATE	BY	CKD	APPR	REVISION
1	03/18/2014	EJM	GMP	CAK	REVISED BASED ON STATE AID COMMENTS
2	04/14/2014	EJM	GMP	CAK	INCLUDED SE QUADRANT PER STATE AID COMMENTS

NAME: P:\02-611-32\Plan\002-611-032_IN_10 TH.dgn 04/14/2014 8:13:01 AM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT KOBILARCSIK
SIGNATURE:
DATE: 4-14-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

INTERSECTION DETAILS
TH 10 RAMP / 101ST AVE NW

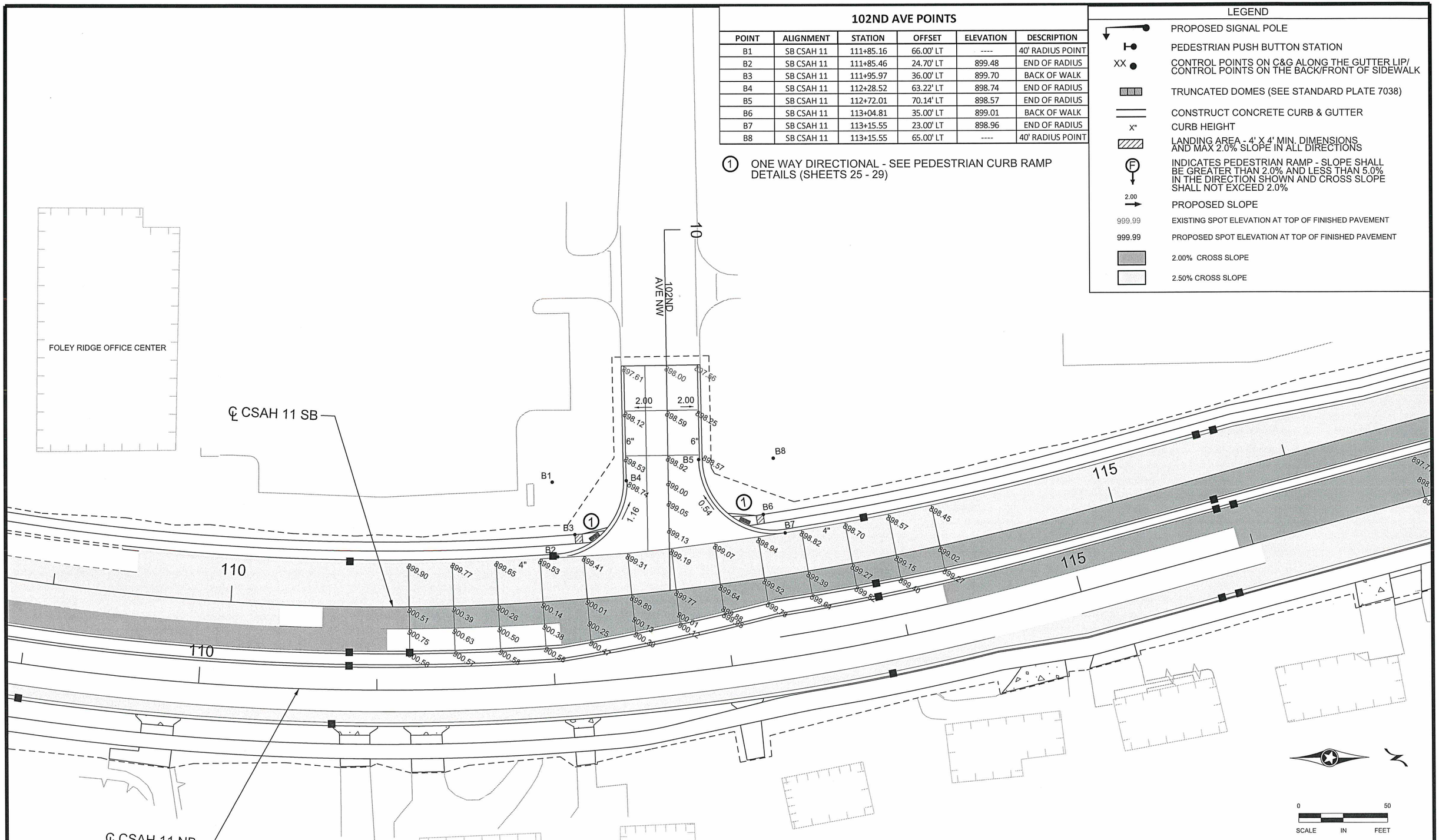
102ND AVE POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
B1	SB CSAH 11	111+85.16	66.00' LT	----	40' RADIUS POINT
B2	SB CSAH 11	111+85.46	24.70' LT	899.48	END OF RADIUS
B3	SB CSAH 11	111+95.97	36.00' LT	899.70	BACK OF WALK
B4	SB CSAH 11	112+28.52	63.22' LT	898.74	END OF RADIUS
B5	SB CSAH 11	112+72.01	70.14' LT	898.57	END OF RADIUS
B6	SB CSAH 11	113+04.81	35.00' LT	899.01	BACK OF WALK
B7	SB CSAH 11	113+15.55	23.00' LT	898.96	END OF RADIUS
B8	SB CSAH 11	113+15.55	65.00' LT	----	40' RADIUS POINT

① ONE WAY DIRECTIONAL - SEE PEDESTRIAN CURB RAMP DETAILS (SHEETS 25 - 29)

LEGEND

- PROPOSED SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- XX ● CONTROL POINTS ON C&G ALONG THE GUTTER LIP/ CONTROL POINTS ON THE BACK/FRONT OF SIDEWALK
- 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
- (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%
- 2.00 PROPOSED SLOPE
- 999.99 EXISTING SPOT ELEVATION AT TOP OF FINISHED PAVEMENT
- 999.99 PROPOSED SPOT ELEVATION AT TOP OF FINISHED PAVEMENT
- 2.00% CROSS SLOPE
- 2.50% CROSS SLOPE



2 OF 6

NO	DATE	BY	CKD	APPR	REVISION
1	03/18/2014	EJM	GMP	CAK	REVISED BASED ON STATE AID COMMENTS

NAME: p:\02-611-32\plan\002-611-032_IN_1.dgn 03/18/2014 1:22:16 PM

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

PRINT NAME: CURT KOBILARCSIK

SIGNATURE:

DATE: 3-18-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

INTERSECTION DETAILS
102ND AVE NW

Sheet 60 of 196 Sheets

102ND LANE POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
C12	SB CSAH 11	117+46.77	70.00' LT	----	50' RADIUS POINT
C13	SB CSAH 11	117+46.77	18.00' LT	896.86	BEGIN RADIUS
C14	SB CSAH 11	117+46.77	30.25' LT	897.25	BACK OF WALK
C15	SB CSAH 11	117+89.69	59.24' LT	896.66	BACK OF WALK
C16	SB CSAH 11	117+97.13	57.07' LT	896.35	END RADIUS
C17	SB CSAH 11	118+40.41	62.81' LT	896.34	BEGIN RADIUS
C18	SB CSAH 11	118+46.20	35.33' LT	896.52	MIDPOINT
C19	SB CSAH 11	118+58.41	44.91' LT	896.87	BACK OF WALK
C20	SB CSAH 11	118+71.44	23.00' LT	896.37	END RADIUS
C21	SB CSAH 11	118+72.85	35.00' LT	896.79	BACK OF WALK
C22	SB CSAH 11	118+71.44	55.00' LT	----	30' RADIUS POINT

① FAN - SEE PEDESTRIAN CURB RAMP DETAILS (SHEETS 25 - 29)

SIGNAL CONTROL POINTS

POINT NO.	DESCRIPTION	X	Y
S1	SIGNAL POLE	498107.3459	144458.8967
S2	SIGNAL POLE	498219.5514	144460.8377
S3	SIGNAL POLE	498246.958	144377.6121
S4	SIGNAL POLE	498134.6744	144372.4257

LEGEND

- PROPOSED SIGNAL POLE
- XX ● CONTROL POINTS ON C&G ALONG THE GUTTER LIP/ CONTROL POINTS ON THE BACK/FRONT OF SIDEWALK
- 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
- (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%
- 2.00 PROPOSED SLOPE
- 999.99 EXISTING SPOT ELEVATION AT TOP OF FINISHED PAVEMENT
- 999.99 PROPOSED SPOT ELEVATION AT TOP OF FINISHED PAVEMENT
- 2.00% CROSS SLOPE
- 2.50% CROSS SLOPE

℄ CSAH 11 SB

℄ CSAH 11 NB

R 60.0'
+25.44
74.65 RT

R 30.0'
+72.03
0.20 LT

R 60.0'
+19.60
74.74 LT

102ND LN NW

103RD AVE NW

SCALE 0 50 IN FEET

102ND LANE POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
C1	NB CSAH 11	117+68.06	55.00' RT	----	30' RADIUS POINT
C2	NB CSAH 11	117+67.97	35.61' RT	897.23	BACK OF PATH
C3	NB CSAH 11	117+68.06	23.00' RT	896.82	BEGIN RADIUS
C4	NB CSAH 11	117+78.65	41.02' RT	897.33	BACK OF PATH
C5	NB CSAH 11	117+93.31	35.35' RT	896.99	MIDPOINT
C6	NB CSAH 11	117+99.08	62.86' RT	896.85	END RADIUS
C7	NB CSAH 11	118+40.86	42.19' RT	896.27	BEGIN RADIUS
C8	NB CSAH 11	118+60.68	39.24' RT	896.94	BACK OF PATH
C9	NB CSAH 11	118+68.75	33.00' RT	897.00	BACK OF PATH
C10	NB CSAH 11	118+71.89	18.00' RT	896.53	END RADIUS
C11	NB CSAH 11	118+71.89	50.00' RT	----	30' RADIUS POINT

NO	DATE	BY	CKD	APPR	REVISION
1	03/18/2014	EJM	EMP	CAK	REVISED BASED ON STATE AID COMMENTS

NAME: P:\02-611-32\Plan\002-611-032_IN_2.dgn 03/18/2014 1:51:08 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: 3-18-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

INTERSECTION DETAILS
102ND LANE & 103RD AVE NW

Sheet 61 of 196 Sheets

LEGEND

- XX ● — CONTROL POINTS ON C&G ALONG THE GUTTER LIP/ CONTROL POINTS ON THE BACK/FRONT OF SIDEWALK
- 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
- (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%
- 2.00 → PROPOSED SLOPE
- 999.99 — EXISTING SPOT ELEVATION AT TOP OF FINISHED PAVEMENT
- 999.99 — PROPOSED SPOT ELEVATION AT TOP OF FINISHED PAVEMENT
- 2.00% CROSS SLOPE
- 2.50% CROSS SLOPE

① ONE WAY DIRECTIONAL - SEE PEDESTRIAN CURB RAMP DETAILS (SHEETS 25 - 29)

℄ CSAH 11 SB

℄ CSAH 11 NB

CONST. LIM.

104TH AVE NW

104TH LN NW

#10419 #10431 #10441 #10450 #236 #230 #10401 #252 #249

R 60.0' +22.57 74.43 RT

R 60.0' +22.51 74.39 LT

R 30.0' +73.17 0.00 RT

R 10.0' +56.84 25.50 RT

R 30.0' +86.57 43.82 LT

104TH AVE POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
D1	NB CSAH 11	124+26.57	55.00' RT	----	30' RADIUS POINT
D2	NB CSAH 11	124+26.57	23.00' RT	898.72	BEGIN RADIUS
D3	NB CSAH 11	124+30.10	35.61' RT	899.15	BACK OF PATH
D4	NB CSAH 11	124+57.95	62.34' RT	899.27	END RADIUS
D5	NB CSAH 11	124+88.46	42.46' RT	899.09	BEGIN RADIUS
D6	NB CSAH 11	125+15.19	30.61' RT	899.77	BACK OF PATH
D7	NB CSAH 11	125+19.75	18.00' RT	899.37	END RADIUS
D8	NB CSAH 11	125+19.75	50.00' RT	----	30' RADIUS POINT

SCALE 0 50 IN FEET

4 OF 6

NO	DATE	BY	CKD	APPR	REVISION
1	03/18/2014	EJM	GMP	CAK	REVISED BASED ON STATE AID COMMENTS

NAME: p:\02-611-32\plan\002-611-032_IN_3.dgn 03/18/2014 1:22:22 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: 3-18-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

INTERSECTION DETAILS
104TH AVE & 104TH LN NW

Sheet 62 of 196 Sheets

105TH AVE POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
E9	SB CSAH 11	131+19.25	50.00' LT	----	30' RADIUS POINT
E10	SB CSAH 11	131+19.25	18.00' LT	899.26	BEGIN RADIUS
E11	SB CSAH 11	131+26.67	30.00' LT	899.61	BACK OF WALK
E12	SB CSAH 11	131+50.49	43.08' LT	898.64	END RADIUS
E13	SB CSAH 11	131+91.88	61.42' LT	898.16	BEGIN RADIUS
E14	SB CSAH 11	131+98.45	34.75' LT	898.33	MIDPOINT
E15	SB CSAH 11	132+23.23	23.00' LT	898.14	END RADIUS
E16	SB CSAH 11	132+21.52	32.61' LT	898.53	BACK OF WALK
E17	SB CSAH 11	132+23.23	55.00' LT	----	30' RADIUS POINT

LEGEND

- XX ● — CONTROL POINTS ON C&G ALONG THE GUTTER LIP/ CONTROL POINTS ON THE BACK/ FRONT OF SIDEWALK
- 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
- (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%
- 2.00 → — PROPOSED SLOPE
- 999.99 — EXISTING SPOT ELEVATION AT TOP OF FINISHED PAVEMENT
- 999.99 — PROPOSED SPOT ELEVATION AT TOP OF FINISHED PAVEMENT
- 2.00% CROSS SLOPE
- 2.50% CROSS SLOPE

(1) ONE WAY DIRECTIONAL - SEE PEDESTRIAN CURB RAMP DETAILS (SHEETS 25 - 29)

℄ CSAH 11 SB

℄ CSAH 11 NB

105TH AVE NW

105TH LN NW

#330 #325 #10522 #350 #349 #315 #10533 #270 #317

R 60.0' +00.49 74.35 RT

R 60.0' +01.60 75.28 LT

R 30.0' +51.07 0.09 LT

0 50
SCALE IN FEET

105TH AVE POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
E1	NB CSAH 11	131+27.29	55.00' RT	----	30' RADIUS POINT
E2	NB CSAH 11	131+25.00	23.00' RT	899.38	BEGIN RADIUS
E3	NB CSAH 11	131+35.10	38.00' RT	899.73	BACK OF PATH
E4	NB CSAH 11	131+58.52	61.96' RT	899.17	END RADIUS
E5	NB CSAH 11	132+00.07	43.08' RT	898.55	BEGIN RADIUS
E6	NB CSAH 11	132+26.98	30.61' RT	898.92	BACK OF PATH
E7	NB CSAH 11	132+31.31	18.00' RT	898.49	END RADIUS
E8	NB CSAH 11	132+31.31	50.00' RT	----	30' RADIUS POINT

105TH LANE POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
F1	NB CSAH 11	135+24.47	55.00' RT	----	30' RADIUS POINT
F2	NB CSAH 11	135+24.47	23.00' RT	898.19	BEGIN RADIUS
F3	NB CSAH 11	135+27.20	35.61' RT	898.63	BACK OF PATH
F4	NB CSAH 11	135+52.50	65.50' RT	898.93	END RADIUS
F5	NB CSAH 11	135+85.40	38.84' RT	898.66	BEGIN RADIUS
F6	NB CSAH 11	136+05.76	33.00' RT	899.09	BACK OF PATH
F7	NB CSAH 11	136+13.70	18.00' RT	898.84	END RADIUS
F8	NB CSAH 11	136+13.70	50.00' RT	----	30' RADIUS POINT

5 OF 6

NO	DATE	BY	CKD	APPR	REVISION
1	03/18/2014	EJM	GMP	CAK	REVISED BASED ON STATE AID COMMENTS

NAME: p:\02-611-32\plan\002-611-032_IN_4.dgn 03/18/2014 1:22:26 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: 3-18-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

INTERSECTION DETAILS
105TH AVE & 105TH LN NW

Sheet 63 of 196 Sheets

LEGEND

- PROPOSED SIGNAL POLE
- XX ● CONTROL POINTS ON C&G ALONG THE GUTTER LIP/ CONTROL POINTS ON THE BACK/FRONT OF SIDEWALK
- 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
- (S) 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%
- (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%
- 2.00 PROPOSED SLOPE
- 2.00% CROSS SLOPE
- 2.50% CROSS SLOPE

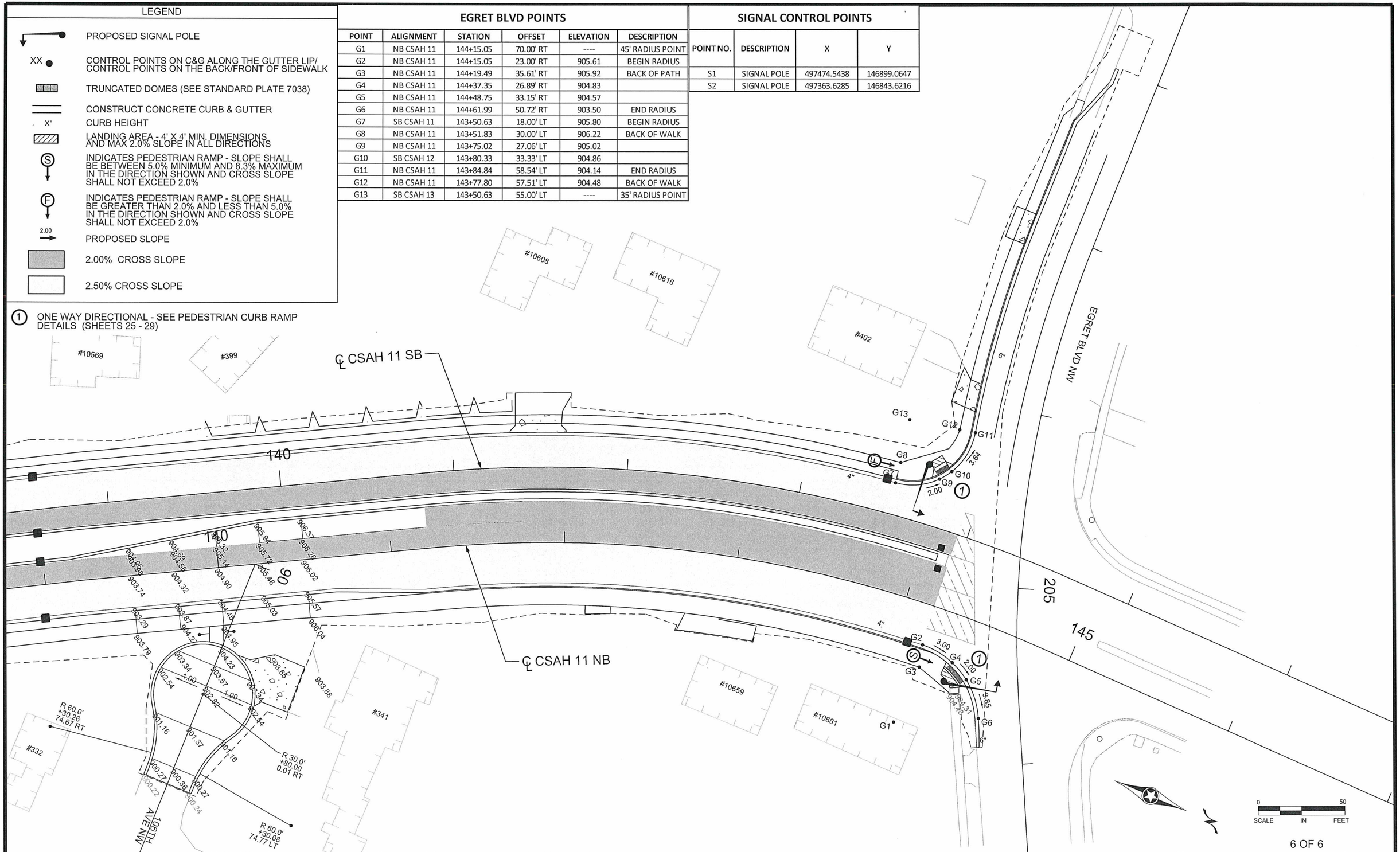
(1) ONE WAY DIRECTIONAL - SEE PEDESTRIAN CURB RAMP DETAILS (SHEETS 25 - 29)

EGRET BLVD POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
G1	NB CSAH 11	144+15.05	70.00' RT	----	45' RADIUS POINT
G2	NB CSAH 11	144+15.05	23.00' RT	905.61	BEGIN RADIUS
G3	NB CSAH 11	144+19.49	35.61' RT	905.92	BACK OF PATH
G4	NB CSAH 11	144+37.35	26.89' RT	904.83	
G5	NB CSAH 11	144+48.75	33.15' RT	904.57	
G6	NB CSAH 11	144+61.99	50.72' RT	903.50	END RADIUS
G7	SB CSAH 11	143+50.63	18.00' LT	905.80	BEGIN RADIUS
G8	NB CSAH 11	143+51.83	30.00' LT	906.22	BACK OF WALK
G9	NB CSAH 11	143+75.02	27.06' LT	905.02	
G10	SB CSAH 12	143+80.33	33.33' LT	904.86	
G11	NB CSAH 11	143+84.84	58.54' LT	904.14	END RADIUS
G12	NB CSAH 11	143+77.80	57.51' LT	904.48	BACK OF WALK
G13	SB CSAH 13	143+50.63	55.00' LT	----	35' RADIUS POINT

SIGNAL CONTROL POINTS

POINT NO.	DESCRIPTION	X	Y
S1	SIGNAL POLE	497474.5438	146899.0647
S2	SIGNAL POLE	497363.6285	146843.6216



6 OF 6

NO	DATE	BY	CKD	APPR	REVISION
1	03/18/2014	EJM	GMP	CAK	REVISED BASED ON STATE AID COMMENTS

NAME: p:\02-611-32\plan\002-611-032_IN_5.dgn 05/12/2014 12:44:50 PM

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

PRINT NAME: CURT KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

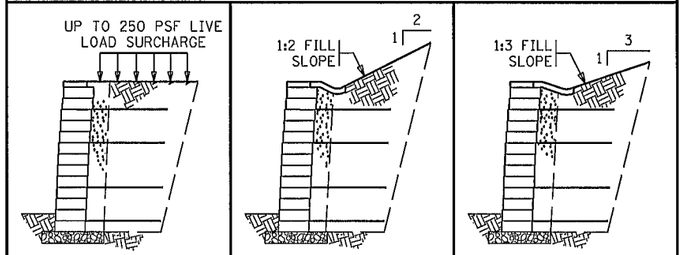
C.P. 12-22

INTERSECTION DETAILS
106TH AVE & EGRET BLVD NW

Sheet 64 of 196 Sheets

PLOTTED/REVISED:
$$$$@DATE@$$$$$

LOADING CASES



250 PSF - LL SURCHARGE
CASE 1

1:2 SLOPED FILL
CASE 3

1:3 SLOPED FILL
CASE 4

CASE 2 IS OMITTED INTENTIONALLY FOR FUTURE RECONSIDERATION

NOTES TO CONTRACTOR:

APPROVED COMBINATIONS OF MODULAR BLOCK UNIT AND SOIL REINFORCEMENT PRODUCTS LIST WITH MBW REINFORCEMENT CLASS NOTED ARE HELD AND MAINTAINED BY THE FOUNDATIONS UNIT, AND POSTED AT www.mrr.dot.state.mn.us/geotechnical/foundations/foundations.asp UNDER FOUNDATIONS UNIT. ONLY APPROVED PRODUCT COMBINATIONS, INCLUDING BLOCK PRODUCED FROM APPROVED SOURCES MEETING DURABILITY AND QUALITY CONTROL REQUIREMENTS, MAY BE USED IN STANDARD DESIGNS.

PROVIDE DETAILED DRAWINGS FOR CONSTRUCTION CONTAINING:

- ☐ SUBMIT, WITH THE DETAILED DRAWINGS, A COPY OF Mn/DOT STANDARD SHEETS FOR LOADING CASE(S) USED WITH OPTIONS USED MARKED IN THE TABLE.
- ☐ ELEVATION VIEW WITH REINFORCEMENT PLACEMENT REQUIREMENTS, WALL FACING LAYOUT, AND GEOMETRIC INFORMATION. TOP OF WALL MAY EXTEND UP TO 4" ABOVE PLAN TOP OF WALL ELEVATION.
- ☐ PLAN VIEW WITH BOTTOM AND TOP OF WALL ALIGNMENT, AND PLAN LIMITS OF WALL ALIGNMENT.
- ☐ CROSS SECTIONS DETAILING BATTER, REINFORCEMENT, VERTICAL SPACING, REINFORCEMENT LENGTHS, SUBSURFACE DRAINAGE, SURFACE DRAINAGE, AND WATER RUNOFF COLLECTION ABOVE WALL.
- ☐ REINFORCEMENT LAYOUT: REINFORCEMENT SHALL BE PLACED AT 100% COVERAGE RATIO. REINFORCEMENT ELEVATIONS SHALL BE CONSISTENT ACROSS LENGTH OF WALL STRUCTURE.
- ☐ NOTE BLOCK, REINFORCEMENT, AND FILL PLACEMENT METHODS AND REQUIREMENTS.
- ☐ DETAIL ALL WALL FILL PENETRATIONS AND WALL FACE PENETRATIONS. DETAIL REINFORCEMENT AND/OR WALL FACING UNIT PLACEMENT AROUND PENETRATIONS.
- ☐ DETAILS THAT ARE SPECIFIC TO VENDOR PRODUCTS AND THEIR INTERACTION WITH OTHER PROJECT COMPONENTS.
- ☐ LIST INFORMATION ON APPROVED COMBINATION OF MBW UNIT AND GEOSYNTHETIC REINFORCEMENT, INCLUDING Mn/DOT CLASSIFICATION CODE, NOMINAL BLOCK WIDTH, PROPERTIES FOR FIELD IDENTIFICATION, AND INSTALLATION INSTRUCTIONS.
- ☐ DETAILS OF CAP UNITS AND INSTALLATION/FASTENING INSTRUCTIONS FOR THE CAPS. CAP UNITS SHALL BE SET IN A BED OF ADHESIVE DESIGNED TO WITHSTAND MOISTURE AND TEMPERATURE EXTREMES, REMAIN FLEXIBLE, AND SHALL BE SPECIFICALLY FORMULATED FOR BONDING MASONRY TO MASONRY.
- ☐ CERTIFICATION BY PROFESSIONAL ENGINEER THAT THE CONSTRUCTION LAYOUT MEETS THE REQUIREMENTS OF PLANS AND Mn/DOT MSEW STANDARDS. DEVIATION FROM STANDARD DESIGN TABLES ARE PERMITTED BY VALUE ENGINEERING SUBMITTAL ONLY ON PROJECTS WITH OVER 5000 SQ. FT. OF WALL.

DEFINITION OF TERMS

MBW	=	MODULAR BLOCK WALL
LL	=	LIVE LOAD
C.I.P.	=	CAST-IN-PLACE
H	=	WALL HEIGHT
S	=	VERTICAL REINFORCEMENT SPACING
REINFORCEMENT COVERAGE RATIO	=	WIDTH OF SOIL REINFORCEMENTS TO HORIZONTAL SPACING (100% COVERAGE RATIO REQUIRED)

DESIGN CRITERIA

DESIGN CRITERIA FOLLOWS THE AASHTO SPECIFICATION FOR HIGHWAY BRIDGES (16TH EDITION WITH 1998 INTERIMS) EXCEPT FOR THE DEVIATIONS NOTED BELOW. DESIGN CRITERIA ARE IN ACCORDANCE WITH Mn/DOT POLICY, AS RECORDED IN THE Mn/DOT ROAD DESIGN MANUAL.

A. THE MINIMUM REINFORCEMENT LENGTH IS 4 FT. OR 0.7H, WHICHEVER IS GREATER.
B. THE REINFORCEMENT FILL FRICTION ANGLE IS 35°.
C. THE ALLOWABLE CONNECTION LOAD, AT A GIVEN NORMAL LOAD, IS COMPUTED AS THE ULTIMATE CONNECTION STRENGTH REDUCED BY A SAFETY FACTOR EQUAL TO 2.0.
D. THE LATERAL EARTH PRESSURE COMPUTATION FOR EXTERNAL STABILITY CALCULATIONS USES AN INTERFACE ANGLE SET EQUAL TO THE RETAINED BACKFILL ANGLE.
E. THE LATERAL EARTH PRESSURE COMPUTATION FOR INTERNAL STABILITY CALCULATIONS INCORPORATES THE EFFECTS OF WALL FACE BATTER.

MINIMUM FACTORS OF SAFETY:
OVERTURNING: 2.0
SLIDING: 1.5
ECCENTRICITY: $e < L/6$
BEARING CAPACITY: 2.5
DEEP SEATED STABILITY: 1.3

BEARING:
A. SEE FOUNDATION REPORT FOR ALLOWABLE SOIL BEARING PRESSURE.
B. CASES 1 AND 4 - ALLOWABLE SOIL BEARING CAPACITY (ULTIMATE BEARING CAPACITY REDUCED BY A SAFETY FACTOR OF 2.5) OF 2000 PSF IS REQUIRED FOR WALLS UP TO 10 FT. IN HEIGHT. FOR WALLS GREATER THAN 10 FT. IN HEIGHT, THE REQUIRED ALLOWABLE BEARING CAPACITY IS EQUAL TO: 2000 PSF + (H-10)(625 PSF) WITH H IN FEET.
C. CASE 3 - ALLOWABLE SOIL BEARING CAPACITY (ULTIMATE BEARING CAPACITY REDUCED BY A SAFETY FACTOR OF 2.5) OF 2500 PSF IS REQUIRED FOR WALLS UP TO 10 FT. IN HEIGHT. FOR WALLS GREATER THAN 10 FT. IN HEIGHT, THE REQUIRED ALLOWABLE BEARING CAPACITY IS EQUAL TO: 2500 PSF + (H-10)(850 PSF) WITH H IN FEET.

REINFORCED WALL FILL CHARACTERISTICS:
A. SELECT GRANULAR BORROW MODIFIED FOLLOWING SPEC. 3149.2B2. MODIFICATION: SELECT GRANULAR BORROW MODIFIED, FOR SPECIAL USE IN EMBANKMENT OR BACKFILL CONSTRUCTION OR OTHER SPECIFIED PURPOSES, MAY BE ANY PIT-RUN OR CRUSHER-RUN MATERIAL THAT IS GRADED FROM COARSE TO FINE, SUCH THAT 100% OF THE MATERIAL MUST PASS THE 2" SIEVE, AND THAT THE RATIO OF THE PORTION PASSING THE #200 SIEVE DIVIDED BY THE PORTION PASSING THE 1" SIEVE MAY NOT EXCEED 10% BY MASS (THAT IS: #200/1" RATIO)
B. INTERNAL ANGLE OF FRICTION (Φ_r) = 35°
C. COHESION (C) = 0
D. MOIST UNIT WEIGHT (γ_r) = 125 PSF

COARSE FILTER AGGREGATE CHARACTERISTICS:
A. COARSE FILTER AGGREGATE TO MEET SPEC. 3149.2H. INCIDENTAL, NO DIRECT PAYMENT WILL BE MADE.

RETAINED BACKFILL CHARACTERISTICS:
A. INTERNAL ANGLE OF FRICTION (Φ_b) = 30°
B. COHESION (C) = 0
C. MOIST UNIT WEIGHT (γ_b) = 120 PSF

FOUNDATION SOILS CHARACTERISTICS:
A. INTERNAL ANGLE OF FRICTION (Φ_f) = 30°
B. COHESION (C) = 0
C. UNIT WEIGHT (γ_f) = 120 PSF

SUMMARY OF ESTIMATED QUANTITIES FOR MBW WALLS

	UNIT	QUANTITY
STRUCTURE EXCAVATION CLASS ___	CU. YD.	_____
STRUCTURE EXCAVATION CLASS ___	CU. YD.	_____
REINFORCED WALL FILL (CV)	CU. YD.	_____
STRUCTURAL CONCRETE (1A43)	CU. YD.	_____
(1)(2) MBW WALL	SQ. FT.	_____
TYPE I GEOTEXTILE	SQ. YD.	_____

(1) VERTICAL FACE AREA OF MODULAR BLOCK AS MEASURED FROM PLAN TOP OF WALL TO 2 FT. BELOW FINISHED GRADE AT BOTTOM OF WALL.

(2) PAY ITEM FOR MBW WALLS SHALL BE 2411.

NOTES TO DESIGNER:

HEIGHT AND LOCATION RESTRICTIONS FOR ISSUES SUCH AS FREEZE-THAW DURABILITY ARE GOVERNED BY APPROPRIATE TECHNICAL MEMORANDUMS. CURRENT GOVERNING TECH. MEMO. NO.: 01-05-MRR-01 MAY BE FOUND AT www.dot.state.mn.us/tecsup/tmemo/index.html.

IN ADDITION TO THE STANDARD SHEETS, PLAN AND FRONT ELEVATION VIEWS OF THE MODULAR BLOCK RETAINING WALLS SHALL BE INCLUDED IN THE PLANS. THE PLAN VIEW MUST SHOW ALIGNMENT BASELINE, LIMITS OF BOTTOM OF WALL ALIGNMENT, AND LIMITS OF TOP OF WALL ALIGNMENT AS ALIGNMENTS VARY WITH BATTER OF WALL SYSTEM ACTUALLY SUPPLIED. THE FRONT ELEVATION MUST IDENTIFY BOTTOM AND TOP OF WALL ELEVATIONS, EXISTING GRADES, AND FINISHED GRADES.

IF THE WALL IS CURVED, THE RADIUS AT THE BOTTOM AND THE TOP OF EACH WALL SEGMENT AND THE P.C. AND P.T. STATION POINTS OFF OF BASELINE AND LIMITS OF BOTTOM AND TOP OF WALL ALIGNMENT MUST BE SHOWN.

REFERENCE STANDARD PLATES AND PROVIDE DETAILS FOR TRAFFIC BARRIERS, CURB AND GUTTER, HANDRAILS AND FENCING AS REQUIRED BY PROJECT CONDITIONS. SEE AASHTO AND Mn/DOT DESIGN MANUALS, STANDARD PLATES AND DETAILS FOR REQUIREMENTS.

SURFACE DRAINAGE PATTERNS SHALL BE SHOWN IN THE PLAN VIEW. PROVIDE DIMENSIONS FOR WIDTH AND DEPTH OF THE DRAINAGE SWALE AS WELL AS THE TYPE OF IMPERVIOUS LINER MATERIAL. SURFACE WATER RUNOFF SHOULD BE COLLECTED ABOVE AND DIVERTED AROUND WALL FACE.

DETAIL LINES AND GRADES OF THE INTERNAL DRAINAGE COLLECTION PIPE. DETAIL OR NOTE THE DESTINATION OF INTERNAL WALL DRAINS AS WELL AS THE METHOD OF TERMINATION (DAYLIGHT END OF PIPE OR CONNECTION INTO HYDRAULIC STRUCTURE). THE SPACING FOR DRAIN PIPE OUTLET SHALL NOT BE MORE THAN 250 FT.

SOFT SOILS AND/OR HIGH WATER CONDITIONS (DEFINED AS GROUNDWATER WITHIN A DEPTH EQUAL TO THE WALL HEIGHT H) MAY NOT BE SUITABLE FOR APPLICATION OF STANDARD DESIGNS AND REQUIRE SPECIAL CONSIDERATION BY THE FOUNDATIONS UNIT.

STANDARD DESIGN CHARTS ARE NOT APPLICABLE TO:
- ☐ PROJECT/SITES WHERE FOUNDATION SOILS SHEAR STRENGTH AND/OR BEARING CAPACITY DO NOT MEET OR EXCEED VALUES USED IN THE DEVELOPMENT OF STANDARD DESIGN CHARTS.
- ☐ PROJECTS WITH A LARGE QUANTITY OF FACE AREA WHERE PROJECT SPECIFIC DESIGNS ARE RECOMMENDED, AS DEFINED IN Mn/DOT ROAD DESIGN MANUAL.
- ☐ WHERE SLOPES IN FRONT OF WALL ARE STEEPER THAN 1:3.
- ☐ WHERE MAXIMUM WALL HEIGHT EXCEEDS 12 FT.
- ☐ WHERE WALLS ARE TIERED.
- ☐ WALLS WITH NOISE WALLS.

IF USING CONCRETE RAILING, INCLUDE STANDARD BRIDGE DETAIL "CONCRETE RAILING (TYPE F)" IN PLAN SET.

PROVIDE PROJECT SPECIFIC AESTHETIC REQUIREMENTS INCLUDING COLOR AND FASCIA SURFACING IN THE SPECIAL PROVISIONS.

CHAPTER 9 OF THE Mn/DOT "ROAD DESIGN MANUAL" CONTAINS GUIDELINES, TRAFFIC SAFETY AND OTHER ASPECTS.

GENERAL NOTES:

UTILITIES:

EXISTING AND PROPOSED UTILITIES ARE SHOWN IN THE GRADING PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING FACILITIES AND SHALL EXERCISE CARE IN ADJACENT CONSTRUCTION.

EXCAVATION AND EARTHWORK:

ALL EXCAVATION AND EMBANKMENT WORK SHALL CONFORM TO Mn/DOT 2451.

CAST-IN-PLACE CONCRETE:

ALL CONCRETE SHALL CONFORM TO Mn/DOT 2461, EXCEPT AS NOTED.

CONSTRUCTION:

CONSTRUCTION SHALL BE IN ACCORDANCE WITH Mn/DOT 2411, EXCEPT AS NOTED.

GEOMETRICS AND GRADES:

DATA FOR BASELINE GEOMETRY IS TABULATED FOR WALL ALIGNMENT, SEE LAYOUT SHEETS. WALL ALIGNMENT REFERENCE IS ALONG FRONT FACE OF WALL.

THE FILL SLOPE CONVENTION OF 1 VERTICAL TO HORIZONTAL IS USED IN THIS PLAN.

COMPACTION REQUIREMENTS:

COMPACT REINFORCED WALL FILL IN ACCORDANCE WITH Mn/DOT SPEC. 2105.3F1 UNLESS RECOMMENDED OTHERWISE BY THE SOILS ENGINEER.

COMPACT GRANULAR BEDDING IN ACCORDANCE WITH Mn/DOT SPEC. 2105.3F1 UNLESS RECOMMENDED OTHERWISE BY THE SOILS ENGINEER.

DISTRICT #: $@DISTRICT@$
USER NAME: $$@USER$NAME@$$
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FILE NAME: @FILENAME@

REVISED: 11-12-02
APPROVED: JULY 12, 2002
STATE BRIDGE ENGINEER

REVISION DATE 11-12-02

STANDARD SHEET NO. 5-297.640
STANDARD APPROVED: JULY 12, 2002

TITLE: MODULAR BLOCK RETAINING WALL GENERAL NOTES AND SUMMARY OF QUANTITIES

S.P. 002-611-032 S.A.P. 114-020-047 CP 12-22

SHEET NO 65A OF 196 SHEETS

PLOTTED/REVISED: $$$$@DATE@$$$$

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

FILE NAME: @FILENAME@

MODULAR BLOCK WALL REINFORCEMENT LAYOUT

CASE 1 - LEVEL BACKFILL WITH 250 PSF SURCHARGE

MBW REINFORCEMENT CLASS	STRENGTH OF SOIL REINF. (PLF) LG. TERM (T_{al})	STRENGTH OF SOIL REINF. (PLF) DESIGN (T_a)	① MINIMUM REINFORCEMENT LENGTH, L (FT.)	MAXIMUM WALL HEIGHT (FT.)	② NOMINAL BLOCK WIDTH (IN.)	WALL BATTER RANGE (DEGREES)		③ MAXIMUM UNREINFORCED WALL HT, A (IN.)	ZONE 1 H1 (FT.)	ZONE 1 $S1_{MAX}$ (IN.)	ZONE 2 H2 (FT.)	ZONE 2 $S2_{MAX}$ (IN.)	ZONE 3 H3 (FT.)	ZONE 3 $S3_{MAX}$ (IN.)
							<							
MBW-700	1050	700	0.7 H	12.0	12	0	3	15	7.9	24	4.1	16		
						3	7	16	9.8	24	2.2	16		
						7	10	18	11.5	24	0.5	16		
						10	15	18	12.0	24				
					21	0	3	32	4.9	32	3.0	24	4.1	16
						3	7	32	4.9	32	4.9	24	2.2	16
						7	10	32	5.9	32	6.1	24		
						10	15	32	7.2	32	4.8	24		
MBW-1050	1575	1050	0.7 H	12.0	12	0	3	15	12.0	24				
						3	7	16	12.0	24				
						7	10	18	12.0	24				
						10	15	18	12.0	24				
					21	0	3	36	5.9	42	4.9	32	1.2	24
						3	7	40	8.5	42	3.5	32		
						7	10	42	9.8	42	2.2	32		
						10	15	42	9.8	42	2.2	32		
MBW-1400	2100	1400	0.7 H	12.0	12	0	3	15	12.0	24				
						3	7	16	12.0	24				
						7	10	18	12.0	24				
						10	15	18	12.0	24				
					21	0	3	36	6.6	48	3.3	42	2.1	32
						3	7	40	8.2	48	3.8	42		
						7	10	48	9.8	48	2.2	42		
						10	15	48	9.8	48	2.2	42		

NOTES TO CONTRACTOR:

① OR 4 FT. MINIMUM, WHICHEVER IS GREATER.

② WIDTH - AS MEASURED FROM FRONT TO BACK FACE OF BLOCK UNIT.

③ MAXIMUM DISTANCE FROM TOP OF WALL TO FIRST REINFORCEMENT LAYER. UNREINFORCED WALLS ARE NOT INCLUDED IN THIS STANDARD BUT MAY BE CONSTRUCTED UP TO AT LEAST THE HEIGHT GIVEN IN THE TABLE FOR A GIVEN NOMINAL BLOCK WIDTH AND THE SPECIFIED FILL MATERIALS CONTAINED IN THIS STANDARD.

④ PAY LIMITS OF STRUCTURAL EXCAVATION. ACTUAL EXCAVATION SLOPE IS DETERMINED BY OSHA REGULATIONS AND IN-SITU SOILS; EXCAVATION BEYOND "LIMITS OF STRUCTURAL EXCAVATION" AT CONTRACTOR'S EXPENSE.

⑤ THE WRAP LENGTH FOR GEOTEXTILE FABRIC SHALL NOT BE MORE THAN 6".

⑥ INSPECT EXCAVATION SLOPES FOR ACTIVE SEEPAGE AND PLACE ADDITIONAL DRAINS WHERE SEEPAGE OCCURS AS DIRECTED BY THE ENGINEER.

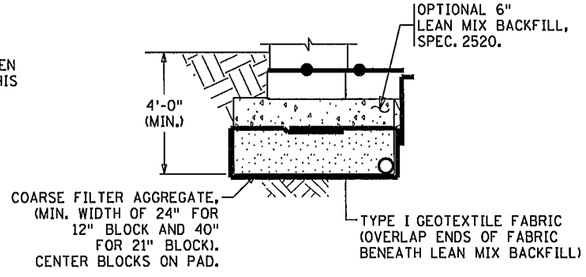
⑦ PLACE DRAIN AT BOTTOM OF REINFORCED SOIL IF PIPE CAN BE SLOPED TO OUTLET. DO NOT OUTLET ONTO A SIDEWALK.

⑧ IF PIPE AT THIS ELEVATION CANNOT BE SLOPED TO DRAIN, OMIT DRAIN AND USE "CONCRETE PAD WITHOUT DRAIN" DETAIL.

⑨ 4" THERMOPLASTIC PERFORATED PIPE, SPEC. 3245, WRAP WITH TYPE I GEOTEXTILE, SPEC. 3733 (TYP.) INSTALLATION AS PER SPEC. 2502, WITH PRECAST CONCRETE HEAD WALL AT OUTLET.

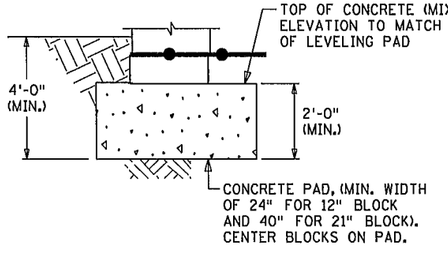
⑩ S_{MAX} = 0.5 $S1_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 1.
S_{MAX} = 0.5 $S2_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 2.
S_{MAX} = 0.5 $S3_{MAX}$ IF THE WALL HEIGHT IS WITHIN ZONE 3.

⑪ THE REINFORCED WALL FILL DRAIN MAY BE CONNECTED INTO FOOTING DRAIN, INSTEAD OF OUT LETTING THROUGH THE WALL, IF CAPACITY IS ADEQUATE TO TRANSMIT THE FLOW.



OPTIONAL CONCRETE LEVELING PAD

NOT TO SCALE



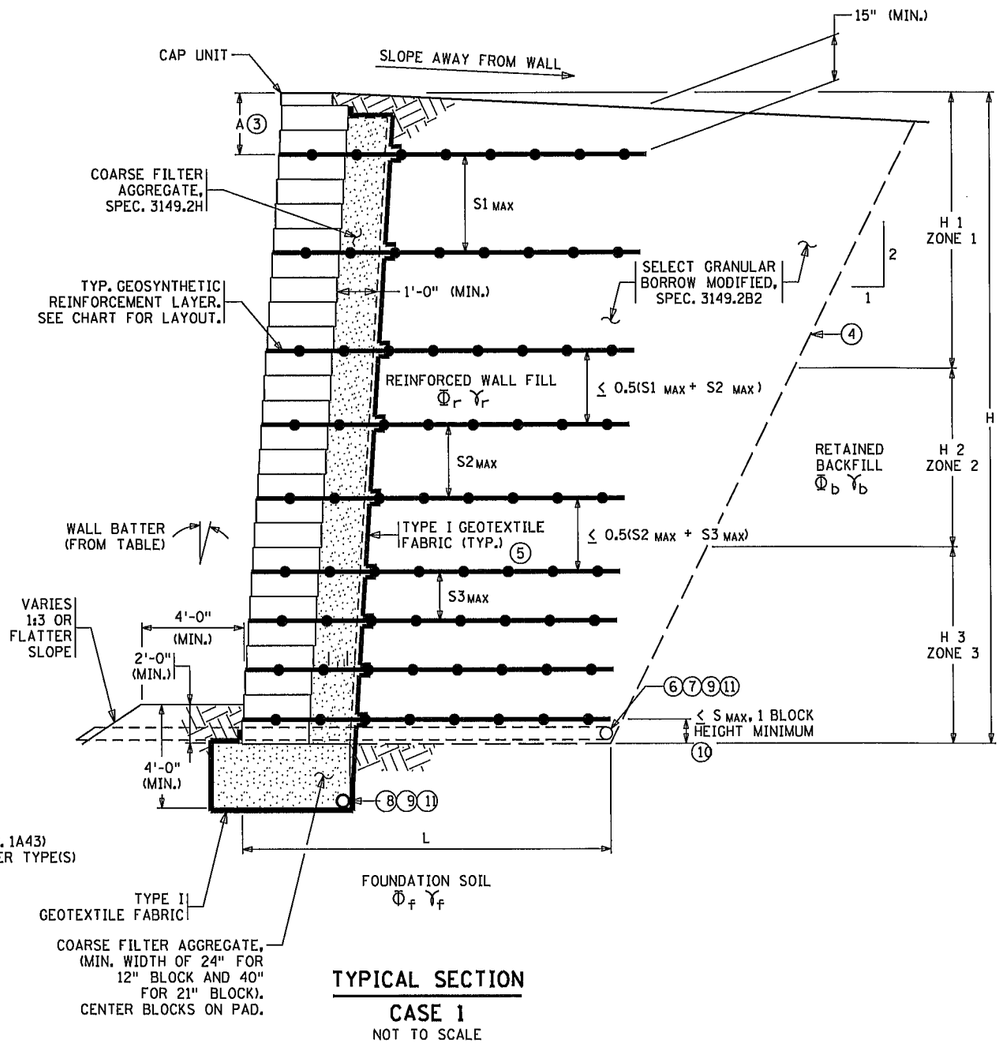
CONCRETE PAD WITHOUT DRAIN

NOT TO SCALE

INSTRUCTIONS TO CONTRACTOR:

USE AS MANY ZONES AS WALL HEIGHT REQUIRES, STARTING WITH ZONE 1 AND ADDING ADDITIONAL ZONES TO THE BOTTOM OF THE WALL AS NEEDED TO MAKE UP THE TOTAL WALL HEIGHT (H) NEEDED.

REINFORCEMENT CLASS, NOMINAL BLOCK WIDTH AND WALL BATTER ARE GENERALLY THE CONTRACTOR'S OPTION TO SELECT FROM Mn/DOT APPROVED PRODUCTS LISTS LOCATED AT www.mrr.dot.state.mn.us/geotechnical/foundations/foundations.asp.



TYPICAL SECTION

CASE 1

NOT TO SCALE

REVISED: 11-12-02

APPROVED: JULY 12, 2002

Daniel C. Krom
STATE BRIDGE ENGINEER

REVISION DATE 11-12-02

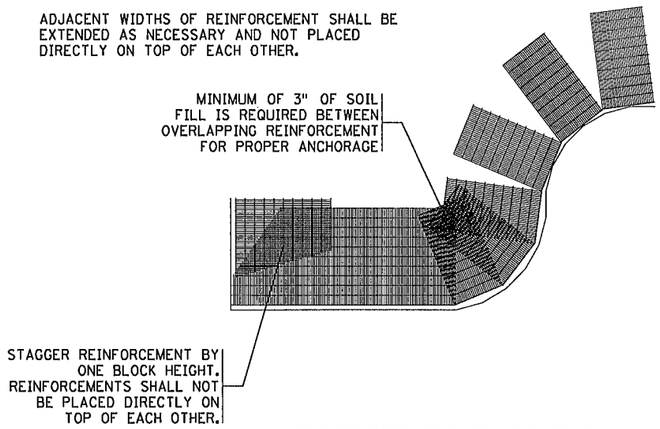
STANDARD SHEET NO.	TITLE:
5-297.641	MODULAR BLOCK RETAINING WALL SOIL REINFORCEMENT FOR LEVEL FILL, CASE 1
STANDARD APPROVED: JULY 12, 2002	
S.P. 002-611-032 S.A.P. 114-020-047 CP 12-22	SHEET NO 65 B OF 196 SHEETS

PLOTTED/REVISED:
$$$$@DATE@$$$$

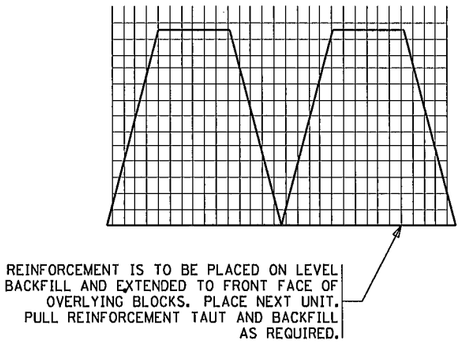
NOTES:

CORRECT ORIENTATION OF GEOSYNTHETIC TO OBTAIN PROPER STRENGTH SHALL BE DETAILED ON CONTRACTOR DRAWINGS.

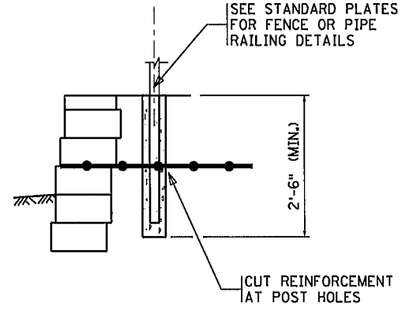
ADJACENT WIDTHS OF REINFORCEMENT SHALL BE EXTENDED AS NECESSARY AND NOT PLACED DIRECTLY ON TOP OF EACH OTHER.



REINFORCEMENT PLACEMENT AROUND CURVES AND CORNERS

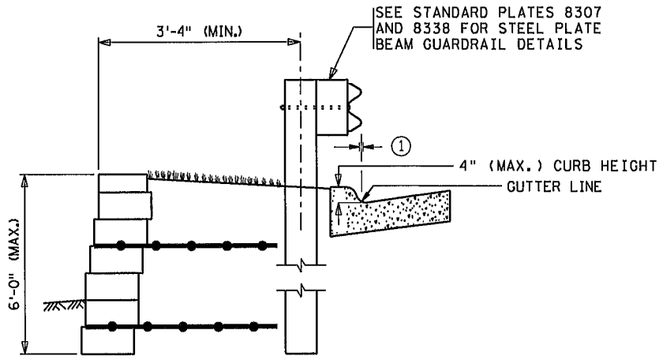


REINFORCEMENT PLACEMENT BETWEEN BLOCK UNITS

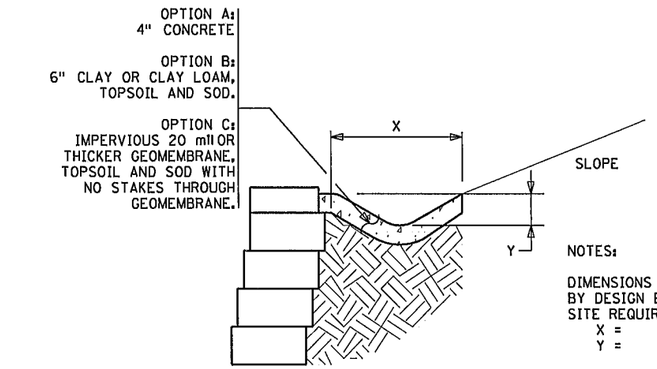


POST DETAIL

TYPICAL HANDRAIL AND/OR FENCE POST



STEEL PLATE BEAM GUARDRAIL DETAIL 1

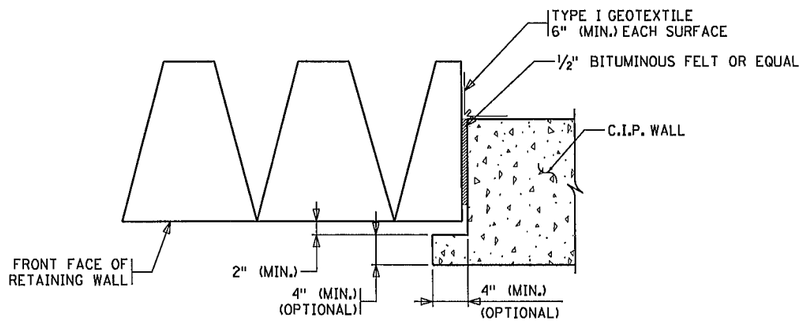


NOTES:

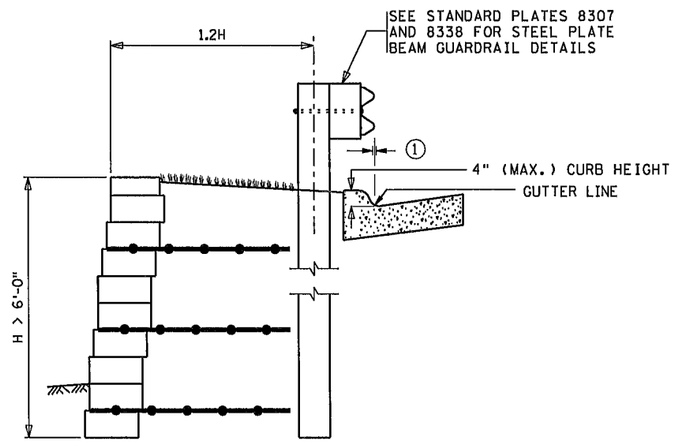
DIMENSIONS TO BE DETERMINED BY DESIGN ENGINEER BASED ON SITE REQUIREMENTS.
X =
Y =

SEE PLAN VIEW FOR SURFACE DRAINAGE PATTERNS.

TYPICAL DRAIN SWALE DETAIL



CONNECTION DETAIL AT JUNCTURE OF MSEW AND C.I.P. STRUCTURE



STEEL PLATE BEAM GUARDRAIL DETAIL 2

(AADT SHALL BE LESS THAN 5000)
STEEL PLATE BEAM GUARDRAIL SHOWN.

NOTES:

(1) USE CAUTION WHEN PLACING CURB WITH GUARDRAIL. CURBS ADVERSELY AFFECT THE PERFORMANCE OF THE GUARDRAIL. GENERALLY PLACE CURB DIRECTLY BELOW GUARDRAIL. SEE PLANS OR REFER TO STANDARD PLAN 5-297.601 (2). FOR CURB LOCATIONS ON NCHRP REPORT NO. 350 APPROVED BRIDGE TRANSITIONS, SEE STANDARD PLANS 5-297.603, .605, .606 ETC..

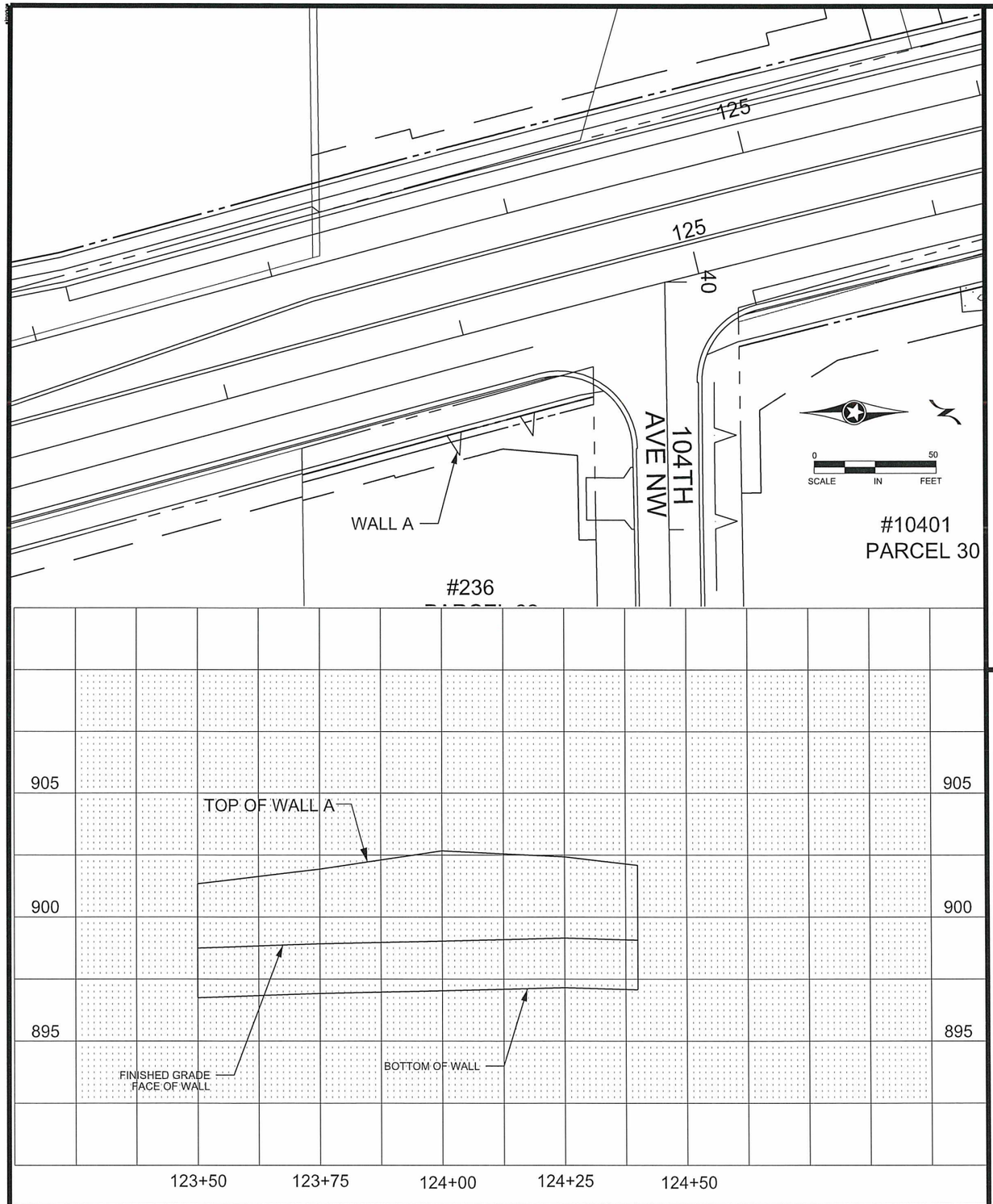
DISTRICT #: $@DISTRICT@$
USER NAME: $$@USER$NAME@$$
PATH & FILENAME: $$$@PATHFILENAME@$$$
FILE NAME: @FILENAME@

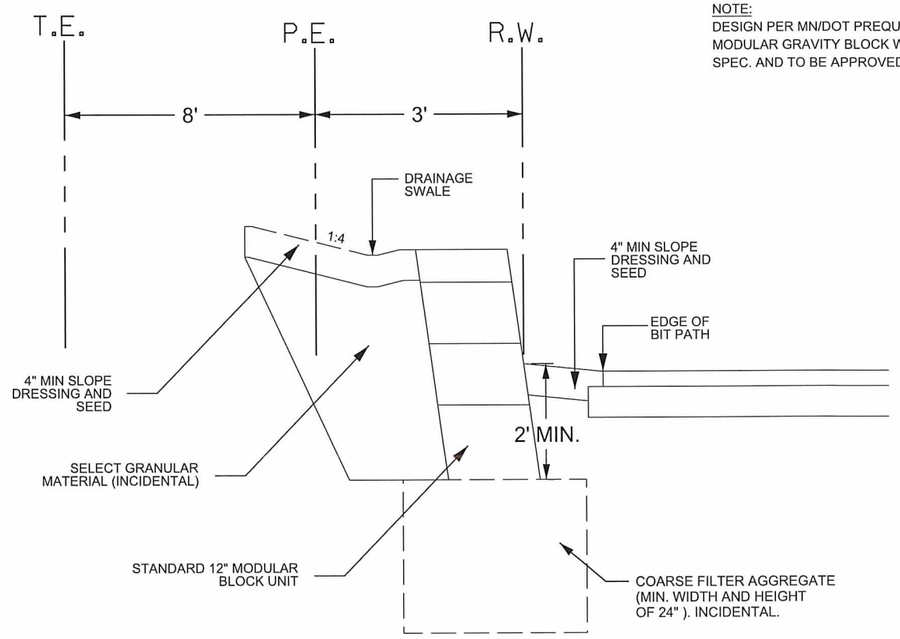
REVISED:

APPROVED:

David L. Hanson
STATE BRIDGE ENGINEER

STANDARD SHEET NO. 5-297.645	TITLE: MODULAR BLOCK RETAINING WALL DETAILS
STANDARD APPROVED: MARCH 19, 2003	
S.P. 002-611-032 S.A.P. 114-020-047 CP 12-22	SHEET NO 65 OF 196 SHEETS





NOTE:
DESIGN PER MN/DOT PREQUALIFIED MODULAR GRAVITY BLOCK WALL MANUFACTURER SPEC. AND TO BE APPROVED BY THE ENGINEER.

MODULAR BLOCK WALL SECTION (NOT TO SCALE)

MODULAR BLOCK WALL DATA - WALL A

STATION	OFFSET	ALIGN	FINISHED GRADE (FRONT FACE)	TOP OF WALL	BOTTOM OF WALL (1)	HEIGHT	AREA (SQ FT)
123+50.00	37.61	NB	898.75	901.05	896.75	4.30'	
123+75.00	37.61	NB	898.89	901.89	896.89	5.00'	116
124+00.00	37.61	NB	899.03	902.69	897.03	5.66'	133
124+25.00	37.61	NB	899.17	902.43	897.17	5.26'	137
124+40.00	37.61	NB	899.04	902.09	897.04	5.05'	77
RETAINING WALL TOTAL AREA							**463**

NOTES: (1) BOTTOM OF WALL 2.0' BELOW GROUND ELEVATION

NO	DATE	BY	CKD	APPR	REVISION
1	2/27/14	EJM	GMP	CAK	UPDATED PER MN/DOT COMMENTS

NAME: P:\02-611-32\Plan\002-611-032_RWALL.dgn 02/27/2014 10:20:54 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: [signature]
DATE: 3-17-14 LICENSE NO. 24756

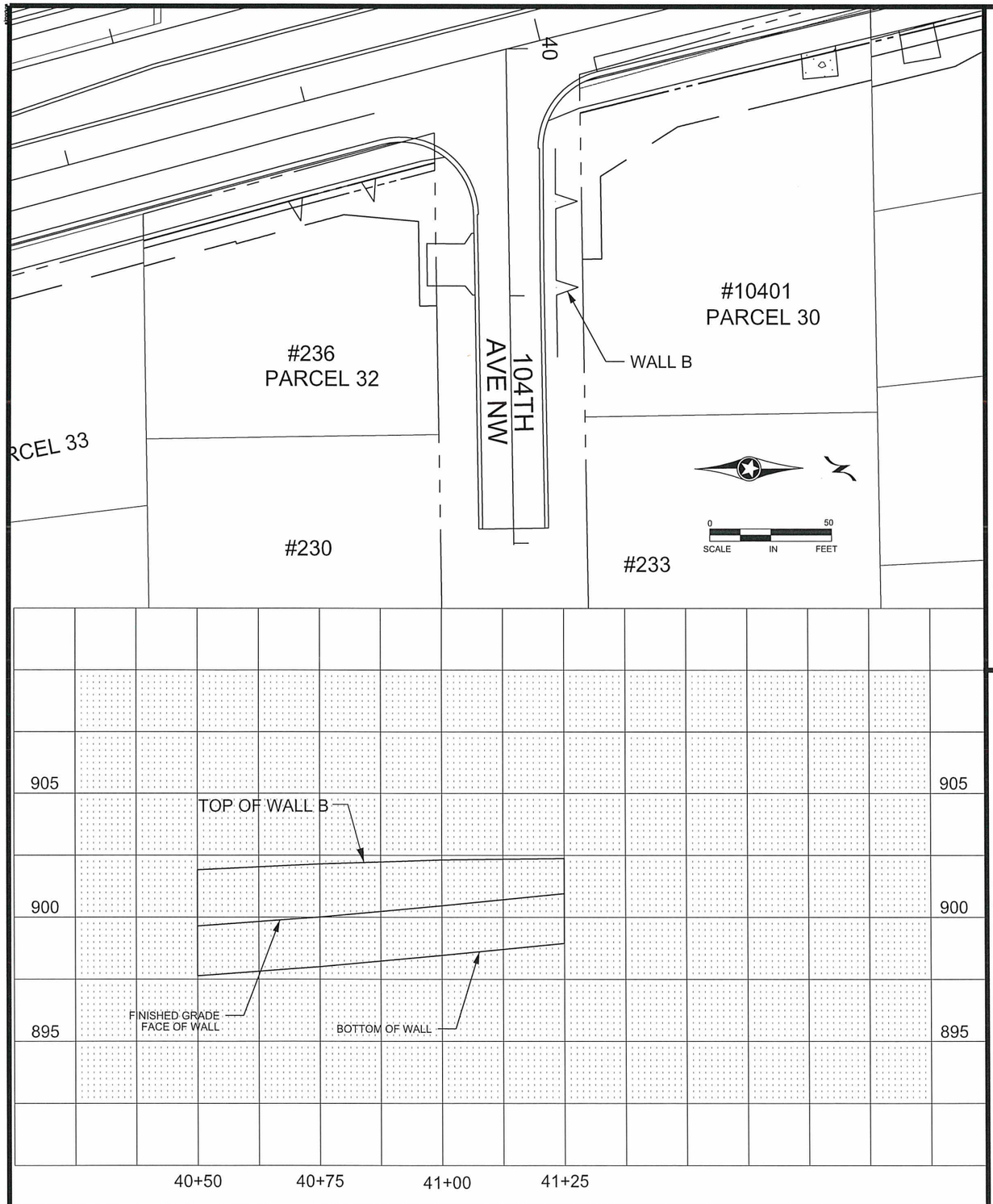
DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

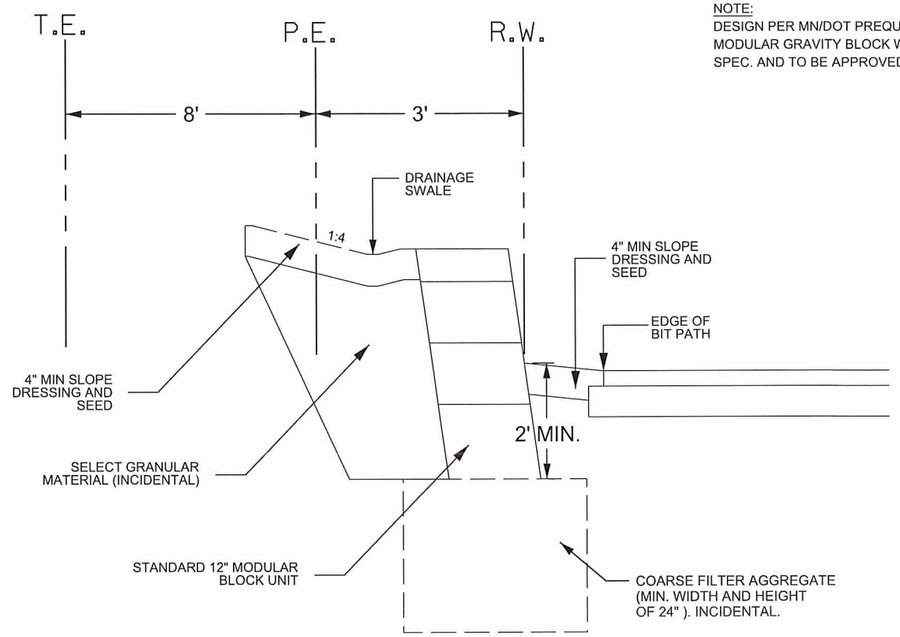
S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

RETAINING WALL DETAILS WALL A

Sheet 65 of 196 Sheets



NOTE:
DESIGN PER MN/DOT PREQUALIFIED MODULAR GRAVITY BLOCK WALL MANUFACTURER SPEC. AND TO BE APPROVED BY THE ENGINEER.



MODULAR BLOCK WALL SECTION (NOT TO SCALE)

MODULAR BLOCK WALL DATA - WALL B

STATION	OFFSET	ALIGN	FINISHED GRADE (FRONT FACE)	TOP OF WALL	BOTTOM OF WALL (1)	HEIGHT	AREA (SQ FT)
40+41.00	19.11	104TH AVE	899.65	901.92	897.65	4.27'	
40+50.00	19.11	104TH AVE	899.65	901.92	897.65	4.27'	38
40+75.00	19.11	104TH AVE	900.01	902.21	898.01	4.20'	106
41+00.00	19.11	104TH AVE	900.47	902.32	898.47	3.85'	101
41+25.00	19.11	104TH AVE	900.96	902.38	898.96	3.42'	91
RETAINING WALL TOTAL AREA							**336**

NOTES: (1) BOTTOM OF WALL 2.0' BELOW GROUND ELEVATION

NO	DATE	BY	CKD	APPR	REVISION
1	2/27/14	EJM	GMP	CAK	UPDATED PER MN/DOT COMMENTS

NAME: P:\02-611-32\Plan\002-611-032_RWALL.dgn 02/27/2014 10:20:55 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: 3-17-14 LICENSE NO. 24756

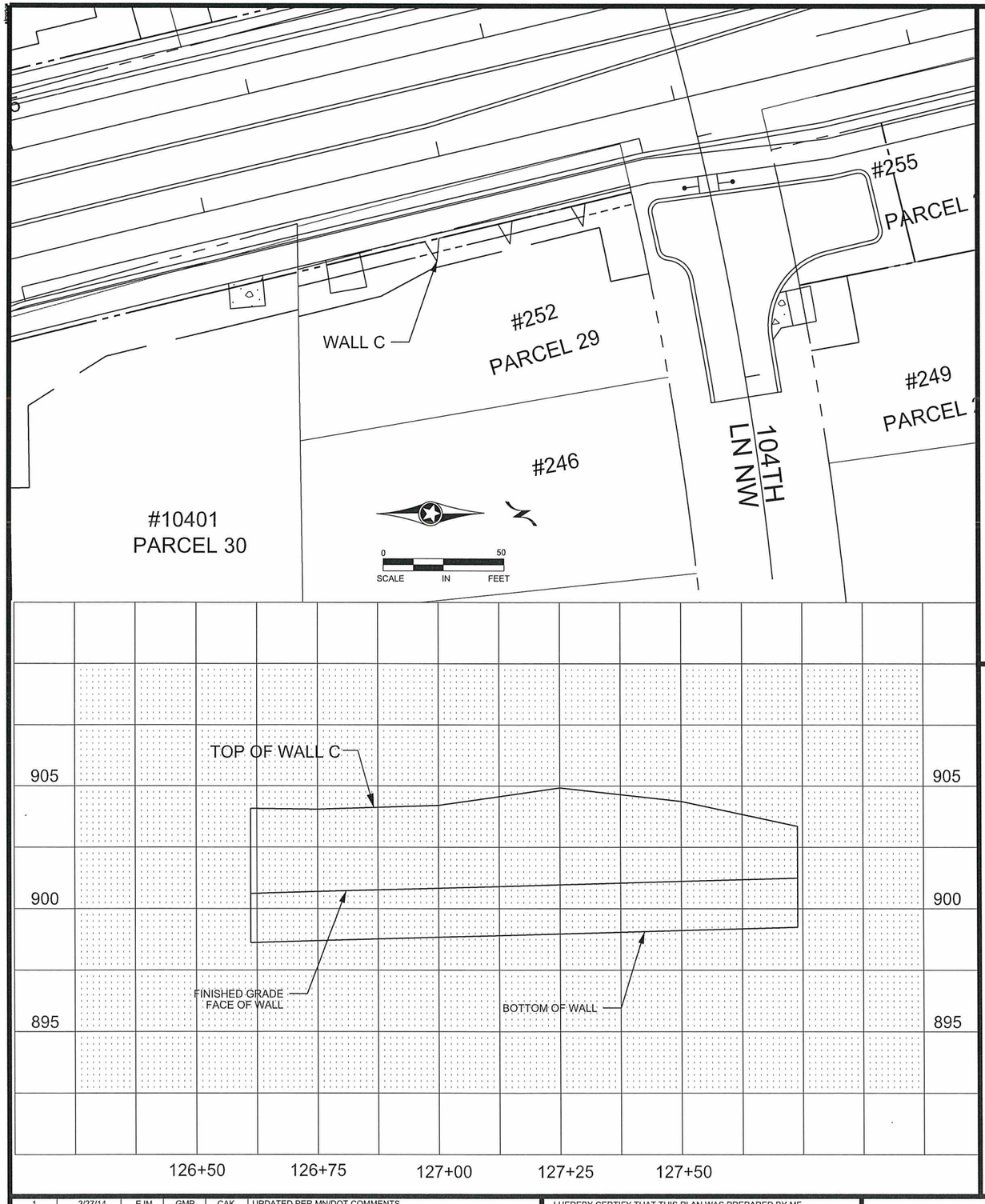
DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

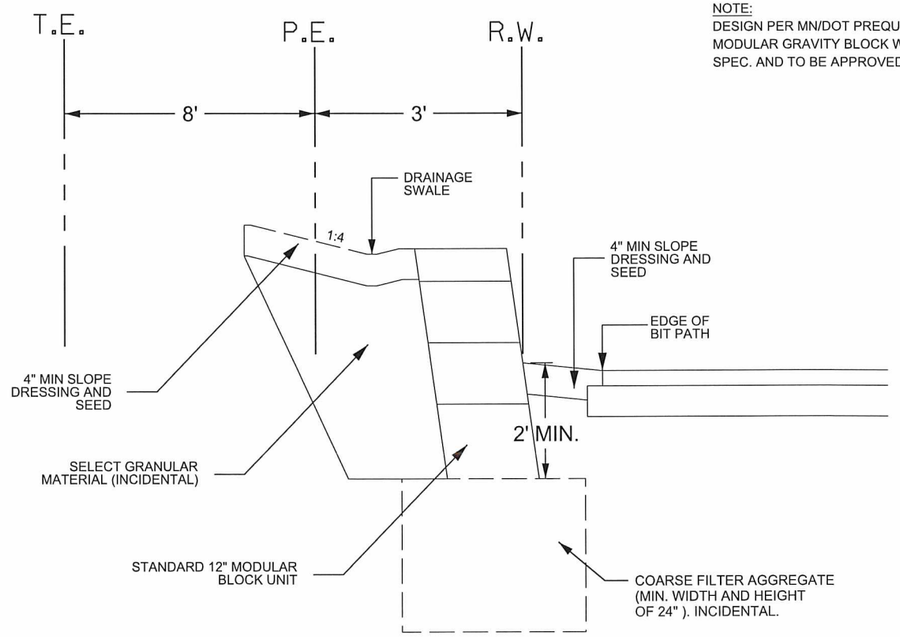
ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

RETAINING WALL DETAILS
WALL B

Sheet 66 of 196 Sheets





NOTE:
DESIGN PER MN/DOT PREQUALIFIED MODULAR GRAVITY BLOCK WALL MANUFACTURER SPEC. AND TO BE APPROVED BY THE ENGINEER.

MODULAR BLOCK WALL SECTION (NOT TO SCALE)

MODULAR BLOCK WALL DATA - WALL C

STATION	OFFSET	ALIGN	FINISHED GRADE (FRONT FACE)	TOP OF WALL	BOTTOM OF WALL (1)	HEIGHT	AREA (SQ FT)
126+61.19	32.61	NB	900.62	904.09	898.62	5.47'	
126+75.00	32.61	NB	900.70	904.05	898.70	5.35'	75
127+00.00	32.61	NB	900.84	904.21	898.84	5.37'	134
127+25.00	32.61	NB	900.98	904.93	898.98	5.95'	141
127+50.00	32.61	NB	901.12	904.38	899.12	5.26'	140
127+73.92	32.61	NB	901.25	903.36	899.25	4.11'	112
RETAINING WALL TOTAL AREA							**602**

NOTES: (1) BOTTOM OF WALL 2.0' BELOW GROUND ELEVATION

NO	DATE	BY	CKD	APPR	REVISION
1	2/27/14	EJM	GMP	CAK	UPDATED PER MN/DOT COMMENTS

NAME: P:\02-611-32\Plan\002-611-032_RWALL.dgn 02/27/2014 10:20:56 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: 3-17-14 LICENSE NO. 24756

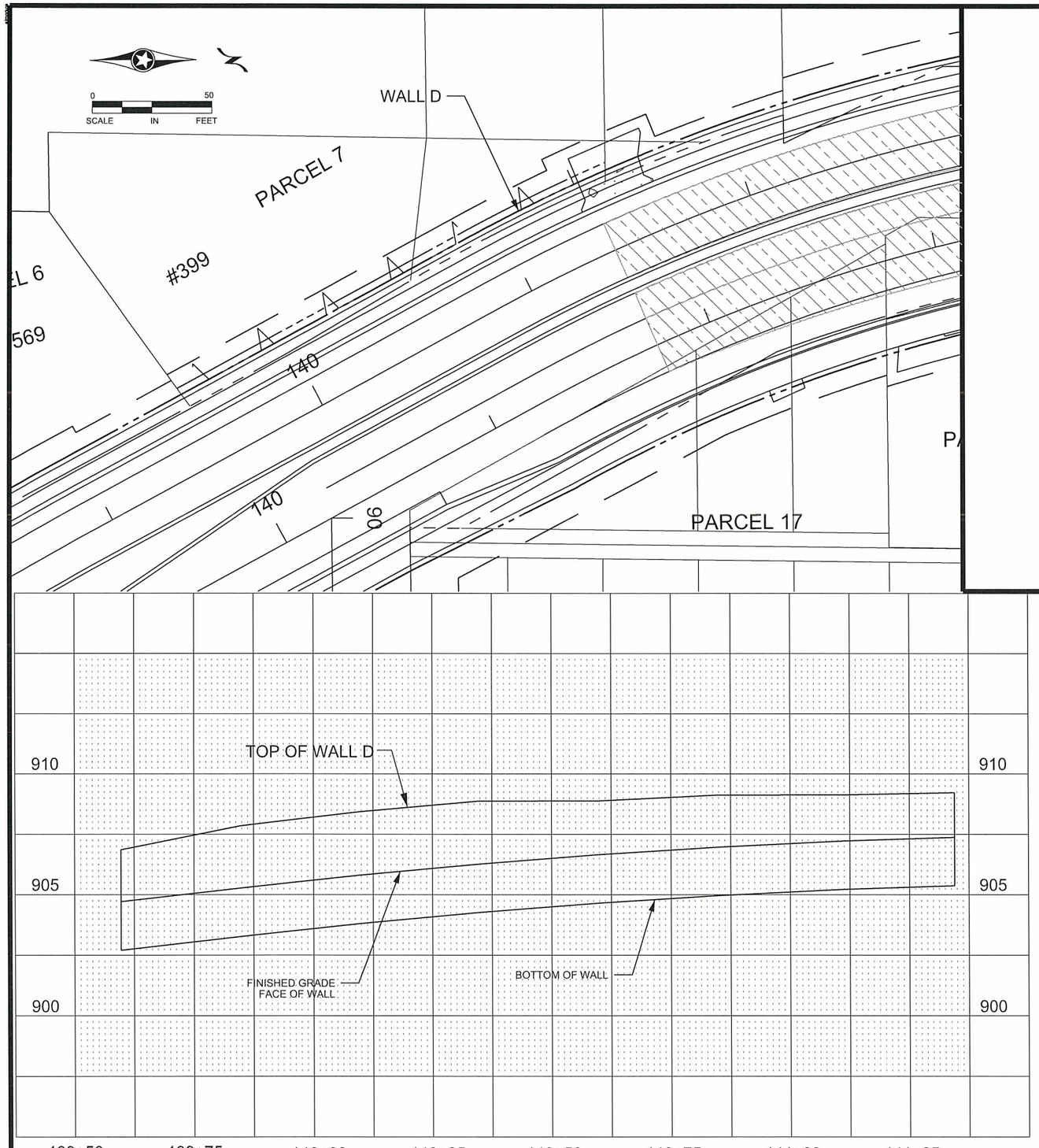
DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

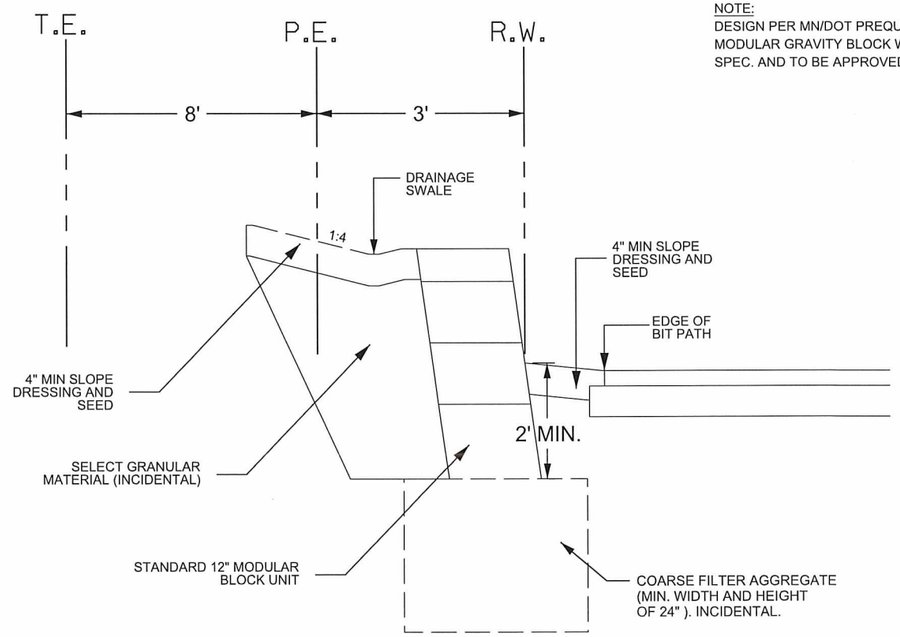
ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

RETAINING WALL DETAILS
WALL C

Sheet 67 of 196 Sheets





NOTE:
DESIGN PER MN/DOT PREQUALIFIED MODULAR GRAVITY BLOCK WALL MANUFACTURER SPEC. AND TO BE APPROVED BY THE ENGINEER.

MODULAR BLOCK WALL SECTION (NOT TO SCALE)

MODULAR BLOCK WALL DATA - WALL D

STATION	OFFSET	ALIGN	FINISHED GRADE	TOP OF WALL	BOTTOM OF WALL (1)	HEIGHT	AREA (SQ FT)
139+59.71	-32.00	SB	904.72	906.86	902.72	4.14'	
139+84.71	-32.00	SB	905.28	907.85	903.28	4.57'	109
140+09.71	-32.00	SB	905.81	908.44	903.81	4.63'	115
140+34.71	-32.00	SB	906.27	908.88	904.27	4.61'	116
140+59.71	-32.00	SB	906.66	908.89	904.66	4.23'	111
140+84.71	-32.00	SB	906.97	909.13	904.97	4.16'	105
141+11.23	-32.00	SB	907.23	909.14	905.23	3.91'	107
141+34.50	-32.00	SB	907.38	909.23	905.38	3.85'	90
RETAINING WALL TOTAL AREA							**753**

NOTES: (1) BOTTOM OF WALL 2.0' BELOW GROUND ELEVATION

NO	DATE	BY	CKD	APPR	REVISION
1	2/27/14	EJM	GMP	CAK	UPDATED PER MN/DOT COMMENTS

NAME: P:\02-611-32\Plan\002-611-032_RWALL.dgn 02/27/2014 10:20:58 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: 3-17-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

RETAINING WALL DETAILS
WALL D

Sheet 68 of 196 Sheets

DRAINAGE TABULATION

S

STRUCTURE NO.		CENTER OF CASTING LOCATION			DRAINAGE STRUCTURES									TOP OF CASTING	OUTLET	DOWN-STREAM INLET	SLOPE	15" RCP CL V	15" RCP APRON	18" RCP CL III	21" RCP CL III	21" RCP CL V	21" RCP APRON	24" RCP CL III	27" RCP CL III	30" RCP CL III	33" RCP CL III	66" RCP CL III	66" RCP APRON	SODDING TYPE SALT RESIST.	RIPRAP CLASS II	GEOTEXTILE FILTER TYPE III	CONNECT INTO EX. DRAINAGE STRUCTURE	CONNECT INTO EX. STORM SEWER	STORM DRAIN INLET PROTECTION	NOTES
FLOWS FROM	FLOWS TO	ALIGN.	STATION	OFFSET	DESIGN	G LIN FT	48-4020 LIN FT	54-4020 LIN FT	60-4020 LIN FT	66-4020 LIN FT	120-4020 LIN FT	CASTING ASSEMBLY TYPE	STEPS REQ'D	ELEV.	ELEV.	ELEV.	%	CL V LIN FT	APRON EACH	CL III LIN FT	CL III LIN FT	CL V LIN FT	APRON EACH	CL III LIN FT	CL III LIN FT	CL III LIN FT	CL III LIN FT	CL III LIN FT	APRON EACH	RESIST. SQ YD	II CU YD	TYPE III SQ YD	STRUCTURE EACH	SEWER EACH	PROTECTION EACH	
EX2	EX1	11_SB_3	107+65.21	-25.00										901.78	892.59	892.02	0.45																		1	
EX3	EX2	11_SB_3	108+87.54	-25.00										900.95	893.70	892.59	0.92																		1	
EX6	EX3	11_NB_3	109+00.90	-13.25										902.07	897.39	896.27	1.94																		1	
CB101	EX6	11_NB_3	109+00.90	19.00	G	3.1						B - 7		902.32	899.07	898.74	1.00	32															1		1	(1)
CB102	CB103	11_NB_3	110+64.00	19.00	G	3.1						B - 7		901.74	898.49	897.95	1.42	38																	1	
CB103	CB104	11_NB_3	110+84.30	-13.25	48-4020		4.3					R-3448-C		901.20	897.00	896.95	0.72	8																	1	
CB104	CB106	11_SB_3	110+66.61	25.25	48-4020		3.7					R-3448-C		900.54	896.95	896.59	0.72	50																	1	
CB105	CB104	11_SB_3	111+00.00	25.25	G	3.4						R-3448-C		900.37	897.12	896.95	0.50	34																	1	
CB106	EX3	11_SB_3	110+66.61	-25.00	48-4020		4.9					B - 7	YES	899.90	894.85	894.05	0.46																	1	1	(2)
CB107	CB106	11_SB_3	111+80.11	-25.00	G	3.8						B - 15		899.39	895.46	894.85	0.55	111																	1	
CB201	CB203	11_NB_3	113+77.58	-24.25	G	3.4						R-3448-C		899.39	896.14	896.09	0.50	10																	1	
CB202	CB203	11_NB_3	113+87.69	19.00	G	3.1						B - 7		899.96	896.71	896.09	1.43	43																	1	
CB203	CB204	11_NB_3	113+87.69	-24.25	48-4020		3.4					R-3448-C		899.34	896.09	896.05	0.50	8																	1	
CB204	CB205	11_SB_3	113+61.00	13.25	48-4020		3.4					R-3448-C		899.34	896.05	895.23	2.20	37																	1	
CB205	CB210	11_SB_3	113+61.00	-24.00	48-4020		3.1					B - 7		898.48	895.23	894.12	0.58	192																	1	
CB206	CB207	11_NB_3	115+75.39	24.00	G	3.2						B - 7		897.97	894.63	894.58	0.50	10																	1	
CB207	CB208	11_NB_3	115+85.39	24.00	48-4020		3.1					B - 7		897.83	894.58	894.34	0.50	48																	1	
CB208	CB209	11_NB_3	115+85.37	-24.25	54-4020			4.0				R-3448-C		898.27	894.34	894.31	0.50	6																	1	
CB208A	CB208	11_NB_3	115+95.37	-24.25	G	3.7						R-3448-C		898.21	894.39	894.34	0.50	10																	1	
CB209	CB210	11_SB_3	115+55.02	13.25	48-4020		4.2					R-3448-C		898.37	894.31	894.12	0.50	37																	1	
CB210	CB211	11_SB_3	115+55.00	-24.00	54-4020			3.5				B - 7		897.52	893.87	893.82	0.50			10															1	
CB211	CB216	11_SB_3	115+65.00	-24.00	48-4020		3.8					B - 7		897.47	893.57	892.72	0.50				170														1	
CB212	CB213	11_NB_3	117+53.06	24.00	G	3.1						B - 15		896.74	893.48	893.42	0.60	10																	1	
CB213	CB214	11_NB_3	117+63.06	24.00	48-4020		3.1					B - 15		896.68	893.42	893.22	0.42	48																	1	
CB214	CB215	11_NB_3	117+63.06	-24.25	48-4020		4.3					R-3448-C		897.37	893.22	893.19	0.50	6																	1	
CB215	CB216	11_SB_3	117+35.21	13.25	48-4020		4.4					R-3448-C		897.48	893.19	893.03	0.50	32																	1	
CB216	CB227	11_SB_3	117+35.21	-19.00	54-4020			4.1				B - 15		896.75	892.49	891.41	0.72					150													1	
CB217	CB221	102ND_LN	23+86.73	-24.25	48-4020		3.1					B - 15		896.22	892.97	892.50	0.53	88																	1	
CB218	CB219	102ND_LN	24+16.97	13.73	G	3.2						B - 15		896.74	893.45	893.40	0.50	10																	1	
CB219	CB220	102ND_LN	24+26.97	13.75	48-4020		3.4					B - 7		896.89	893.40	893.21	0.50	38																	1	
CB220	CB217	102ND_LN	24+26.97	-24.25	48-4020		3.3					B - 7		896.66	893.21	892.97	0.60	40																	1	
CB221	CB223	11_NB_3	119+23.74	19.00	48-4020		3.7					B - 15		896.32	892.50	892.34	0.50	32																	1	
CB222	CB221	11_NB_3	119+33.74	19.00	G	3.1						B - 15		896.32	893.07	893.02	0.50	10																	1	
CB223	CB226	11_NB_3	119+23.74	-13.25	60-4020				5.1			R-3448-C		897.05	892.09	892.06	0.50			6															1	
CB224	CB223	11_NB_3	119+33.74	-13.25	G	3.6						R-3448-C		897.05	893.59	893.54	0.50	10																	1	
CB225	CB226	11_SB_3	118+85.17	24.25	G	3.4						R-3448-C		896.82	893.56	893.51	0.50	10																	1	
CB226	CB228	11_SB_3	118+95.17	24.25	60-4020				4.9			R-3448-C	YES	896.82	892.06	891.82	0.50			48															1	
CB227	CB228	11_SB_3	118+85.17	-24.00	48-4020		4.7					B - 15	YES	896.20	891.41	891.34	0.72				10														1	
CB228	CB232	11_SB_3	118+95.17	-24.00	60-4020				5.3			B - 15	YES	896.20	890.84	890.12	0.50							145											1	
CB229	CB230	11_NB_3	120+70.24	19.00	G	3.1						B - 7		896.69	893.44	893.28	0.50	32																	1	
CB230	CB231	11_NB_3	120+70.24	-13.25	48-4020		4.2					R-3448-C		897.42	893.28	893.25	0.50	6																	1	
CB231	CB232	11_SB_3	120+39.88	24.25	48-4020		4.1					R-3448-C		897.20	893.25	893.01	0.50	48																	1	
CB232	CB235	11_SB_3	120+39.86	-24.00	60-4020				6.4			B - 7	YES	896.59	890.12	889.62	0.50							100											1	
CB233	EX20	103RD_AVE	31+05.05	16.89	48-4020		5.3					B - 15	YES	896.03	890.65	889.65																		1	1	(2)
CB234	EX20	103RD_AVE	31+05.00	-16.05	G	3.3						B - 15		896.04	892.68	892.66	0.50	4															1		1	(1)
EX20	EX21	103RD_AVE	31+03.69	-12.11								A - 7		896.25	885.88	885.37	0.53																			(3), (4)
EX21	CB235	11_NB_3	121+57.88	8.47										897.59	885.37	885.00	0.48																			(2), (4)
CB235	A236	11_SB_3	121+39.81	-24.00	120-4020						13.0	B - 7		897.15	884.00	883.83	0.30											48							1	
A236		11_SB_3	121+48.52	-79.47	APR									889.33	883.83														1						
CB237	CB238	11_NB_3	122+85.39	24.00	48-4020		3.1					B - 7		897.77	894.52	894.34	0.50	37																	1	
CB238	CB239	11_NB_3	122+85.37	-13.25	48-4020		4.4					R-3448-C		898.63	894.34	894.27	0.50	13																	1	
CB239	CB240	11_SB_3	122+55.02	17.16	48-4020		4.6					R-3448-C	YES	898.73	894.27	894.09	0.50	36																	1	
CB240	CB235	11_SB_3	122+55.00	-19.00	66-4020					8.9		B - 7	YES	897.91	888.88	888.54	0.30										115								1	
CB241	CB237	11_NB_3	124+00.00	24.00	G	3.1						B - 7		898.42	895.17	894.52	0.56	114																	1	
CB242	CB243	104TH_AVE	40+62.00	13.76	G	3.1						B - 7		899.06	895.81	895.68	0.41	32																	1	
CB243	CB243A	104TH_AVE	40+45.66	-13.77	48-4020		3.2					B - 15		898.96	895.68	895.37	0.50	61																	1	
CB243A	CB245	11_NB_3	124+88.44	-13.25	48-4020		4.3					R-3448-C		899.77	895.37	895.18	0.50	39																	1	
CB244	CB245	11_NB_3	125+27.65	19.00	48-4020		3.2					B - 7		899.26	895.95	895.79	0.50	32																	1	
CB245	CB246	11_NB_3	125+27.68	-13.25	48-4020		4.9					R-3448-C	YES	899.99	895.18	895.09	0.50	17																	1	
CB246	CB247	11_SB_3	124+98.29	13.25	48-4020		5.0					R-3448-C	YES	900.00	895.09	894.93	0.50	32																	1	
CB247	CB240	11_SB_3	124+98.29	-19.00	54-4020			9.3				B - 7	YES	899.27	889.87	889.13	0.30								244										1	
CB248	CB244	11_NB_3	125+37.65	19.00	G	3.2						B - 7		899.31	896.00	895.95	0.50	10																	1	
CB249	CB247	11_SB_3	125+83.00	-19.00	54-4020			9.5				B - 7	YES	899.74	890.12	889.87	0.30								85										1	
CB250	CB249	11_SB_3	125+83.00	-46.53	G	3.1						M - 7		897.17	893.92	893.78	0.50	28																	1	
CB251	CB249	11_SB_3	127+42.98	-19.00	54-4020			9.9				B - 7	YES	900.63	890.60	890.12	0.30								160										1	
CB252	CB251	11_NB_3	127+72.00	19.00	48-4020		3.3					B - 7		900.63	897.20	896.80	0.50	81																	1	
CB253	CB252	104TH_LN	83+29.11	25.83	48-4020		3.1					B - 15		900.60	897.34	897.20	0.50	27																	1	
CB254	CB253	104TH_LN	83+39.29	25.72	G	3.1						B - 15		900.64	897.39	897.34	0.50	10																	1	
F255	POND A	104TH_LN	83+39.85	-66.11	FLUME										900.65	899.00																			(5)
					SUBTOTAL	65.2	116.6	40.3	21.7	8.9	13.0	63						1667		64	180	150			245	489	115	48	1					2	2	65	

NO	DATE	BY	CKD	APPR	REVISION
1	02/26/2014	EJM	GMP	CAK	ADDED STRUCTURES CB206 & CB208A PER STATE AID COMMENT.
2	04/11/2014	EJM	GMP	CAK	ADDED STRUCTURES CB201 PER STATE AID COMMENT.

NAME: P:\02-611-32\Plan\002-611-032_TAB_DR.dgn 05/16/2014 9:37:47 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

DRAINAGE TABULATION

Sheet 69 of 196 Sheets

DRAINAGE TABULATION

S

STRUCTURE NO.		CENTER OF CASTING LOCATION			DRAINAGE STRUCTURES																															
FLOWS FROM	FLOWS TO	ALIGN.	STATION	OFFSET	DESIGN	G	48-4020	54-4020	60-4020	66-4020	120-4020	CASTING ASSEMBLY TYPE	STEPS REQ'D	TOP OF CASTING ELEV.	OUTLET ELEV.	DOWN-STREAM INLET ELEV.	SLOPE	15" RCP CL V	15" RCP APRON	18" RCP CL III	21" RCP CL III	21" RCP CL V	21" RCP APRON	24" RCP CL III	27" RCP CL III	30" RCP CL III	33" RCP CL III	66" RCP CL III	66" RCP APRON	SODDING TYPE SALT RESIST.	RIPRAP CLASS II	GEOTEXTILE FILTER TYPE III	CONNECT INTO EX. DRAINAGE STRUCTURE	CONNECT INTO EX. STORM SEWER	STORM DRAIN INLET PROTECTION	NOTES
						LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT						%	LIN FT	EACH	LIN FT	LIN FT	LIN FT	EACH	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	SQ YD	CU YD	SQ YD	EACH	EACH	EACH	
A260	CB261	11_NB_3	130+19.17	53.26	APR									898.75	897.50	897.59	-0.30	23	1											8					1	(6)
CB261	CB262	11_NB_3	130+18.16	24.00	48-4020		3.5					B - 7		900.19	896.62	896.38	0.50	48																	1	
CB262	CB263	11_NB_3	130+17.85	-24.25	48-4020		4.5					R-3448-C		900.81	896.38	896.35	0.50	6																	1	
CB263	CB264	11_SB_3	129+88.79	13.25	48-4020		4.8					R-3448-C		901.05	896.35	896.19	0.50	32																	1	
CB264	CB251	11_SB_3	129+88.58	-19.00	54-4020			8.6				B - 7	YES	900.32	891.59	890.85	0.30								246										1	
CB265	CB266	11_NB_3	131+22.29	24.00	G	3.2						B - 15		899.24	895.97	895.73	0.50	48																	1	
CB266	CB267	11_NB_3	131+22.29	-24.25	48-4020		4.2					R-3448-C		899.86	895.73	895.62	0.50	22																	1	
CB267	CB268	11_SB_3	131+14.25	13.25	48-4020		4.4					R-3448-C		899.90	895.62	895.46	0.50	32																	1	
CB268	CB264	11_SB_3	131+14.25	-19.00	54-4020			7.1				B - 15	YES	899.17	891.96	891.59	0.30								126										1	
CB270	CB271	105TH_AVE	51+81.09	-13.69	G	3.1						B - 7		897.61	894.36	894.13	0.59	39																	1	
CB271	CB272	105TH_AVE	51+81.09	25.25	48-4020		3.1					B - 7		897.38	894.13	893.75	0.50	78																	1	
CB272	CB268	105TH_AVE	52+58.75	25.25	48-4020		4.6					B - 7	YES	898.44	893.75	893.52	0.50	46																	1	
F273	POND A	105TH_AVE	54+15.87	14.48	FLUME										899.17	898.50																				(5)
CB274	CB275	105TH_AVE	54+25.88	-25.25	G	3.4						B - 7		898.85	895.38	895.13	0.52	48																	1	
CB275	CB276	105TH_AVE	53+78.20	-25.85	48-4020		3.1					B - 7		898.38	895.13	894.94	0.51	37																	1	
CB276	CB277	11_NB_3	132+36.31	19.00	48-4020		3.2					B - 7		898.28	894.94	894.76	0.53	34																	1	
CB277	CB278	11_NB_3	132+46.89	-13.25	48-4020		4.3					R-3448-C		898.91	894.76	894.67	0.50	18																	1	
CB278	CB279	11_SB_3	132+35.22	24.25	48-4020		4.2					R-3448-C		898.51	894.42	894.18	0.50			48															1	
CB279	CB268	11_SB_3	132+35.22	-24.00	54-4020			5.2				B - 7	YES	897.89	892.58	892.21	0.30							121											1	
CB280	CB281	11_NB_3	133+73.35	23.08	G	3.1						B - 15		897.41	894.16	894.13	0.30	10																	1	
CB281	CB283	11_NB_3	133+83.35	23.68	48-4020		3.2					B - 15		897.40	894.13	893.95	0.50	37																	1	
CB282	CB283	11_NB_3	133+73.35	-13.25	G	3.4						R-3448-C		898.25	894.95	894.90	0.50	10																	1	
CB283	CB285	11_NB_3	133+83.35	-13.25	54-4020			4.4				R-3448-C		898.25	893.95	893.92	0.50	6																	1	
CB284	CB285	11_SB_3	133+43.06	24.25	G	3.4						R-3448-C		898.01	894.76	894.71	0.50	10																	1	
CB285	CB287	11_SB_3	133+53.06	24.25	54-4020			4.2				R-3448-C		898.01	893.92	893.68	0.50	48																	1	
CB286	CB279	11_SB_3	133+43.06	-24.00	48-4020		4.1					B - 15		897.40	893.15	892.83	0.30				108														1	
CB287	CB286	11_SB_3	133+53.06	-24.00	54-4020			3.9				B - 15		897.40	893.43	893.40	0.30			10															1	
CB288	CB287	11_SB_3	134+88.90	-24.00	48-4020		3.4					B - 7		898.01	894.48	894.07	0.30	135																	1	
CB289	CB288	11_NB_3	135+19.00	24.00	54-4020			3.1				B - 7		898.00	894.75	894.48	0.30	91																	1	
CB290	CB289	11_NB_3	136+23.58	19.00	48-4020		3.1					B - 15		898.74	895.49	894.62	0.67	129																	1	
A291	CB290	11_NB_3	136+34.81	47.01	APR									897.66	896.41	896.50	-0.30	24	1											8					1	(6)
A300		105TH_LN	73+05.65	-58.85	APR									896.25	895.00				1												3.2	18				
CB301	A300	105TH_LN	73+10.50	-14.03	48-4020		3.2					B - 15		898.60	895.25	895.00	0.55	45																	1	
CB302	CB301	105TH_LN	73+20.50	-13.97	48-4020		3.1					B - 15		898.55	895.30	895.25	0.50	10																	1	
CB303	CB302	105TH_LN	73+34.00	14.08	48-4020		3.1					B - 7		898.71	895.46	895.30	0.51	31																	1	
CB304	CB303	105TH_LN	73+44.60	13.83	G	3.1						B - 7		898.90	895.65	895.46	1.79	11																	1	
A305		11_NB_3	137+00.00	57.27	APR									896.04	894.29								1								4.7	24.1				
CB306	A305	11_NB_3	137+00.00	19.00	54-4020			4.6				B - 7		899.24	894.48	894.29	0.50				32														1	
CB307	CB306	11_NB_3	137+00.00	-13.25	48-4020		4.9					R-3448-C	YES	899.97	895.14	894.98	0.50	32																	1	
CB308	CB307	11_SB_3	136+59.42	13.25	48-4020		4.8					R-3448-C	YES	899.95	895.23	895.14	0.50	17																	1	
CB309	CB308	11_SB_3	136+59.42	-19.00	48-4020		3.7					B - 7		899.22	895.39	895.23	0.50	32																	1	
CB310	CB309	11_SB_3	136+59.42	-37.69	G	3.1						M - 7		898.73	895.48	895.39	0.50	19																	1	
CB311	CB306	11_NB_3	138+97.82	19.00	48-4020		3.6					B - 7		902.03	898.30	894.98	1.68	198																	1	
CB312	CB311	11_NB_3	138+98.39	-13.25	48-4020		4.4					R-3448-C		902.77	898.46	898.30	0.50	32																	1	
CB313	CB312	11_SB_3	138+57.63	13.25	48-4020		4.2					R-3448-C		902.67	898.54	898.46	0.50	17																	1	
CB314	CB313	11_SB_3	138+58.20	-19.00	G	3.1						B - 7		901.95	898.70	898.54	0.50	32																	1	
CB401	EX41	11_NB_3	144+08.09	24.00	G	3.2						B - 15		905.23	901.95	901.90	0.50	10															1		1	(1)
EX41	OUT4	11_NB_3	144+08.09	13.73								A - 7		905.95	899.73	899.38	0.50																			(3)
EX42	EX41	11_NB_3	144+03.68	-24.25										906.17	900.09	899.73	0.95																		1	
EX43	EX42	11_SB_3	143+80.13	13.25										906.26	900.38	900.09	4.45																		1	
EX44	EX43	11_SB_3	143+56.18	-12.15								A - 7		905.90	900.51	900.38	0.37																			(3)
CB402	EX44	11_SB_3	143+47.03	-19.00	G	3.2						B - 15		905.67	902.39	902.33	0.50	11															1		1	(1)
					SUBTOTAL	35.3	92.7	41.1				45						1508	3	58	140		1	121	372					16	7.9	42	2		47	
					TOTAL	100.5	209.3	81.4	21.7	8.9	13.0	108						3175	3	122	320	150	1	121	617	489	115	48	1	16	7.9	42	4	2	112	

CASTING ASSEMBLY DETAILS

ASSEMBLY	RING OR FRAME CASTING	CURB BOX	COVER OR GRATE CASTING	STANDARD PLATE NO.	QUANTITY	REMARKS
M-7	700-7		721	4101, 4140	2	CATCH BASIN
B-7	SPECIAL		816	4154	41	
B-15	SPECIAL	825	816	4134, 4154	26	
R-3448-C			816		36	
A-7	700-7		716	4101, 4110	3	MANHOLE

GENERAL NOTES:
1. DETAILS FOR 'SPECIAL' RING OR FRAME CASTING FOR B-7 OR B-15 SHOWN ON SHEET 24.
2. R-3448-C DENOTES NEENAH CASTING ASSEMBLIES OR EAST JORDAN IRON WORKS PRODUCT NO. 00500050C01 OR APPROVED EQUALS.
3. STATION AND OFFSET FOR EACH STRUCTURE GIVEN AT CENTER OF GRATE/CASTING FOR CATCH BASINS AND MANHOLES, AND AT APRON END FOR APRONS. INVERT ELEVATIONS GIVEN AT CENTER OF STRUCTURE OR END OF APRON.
4. IF STEPS REQUIRED, STRUCTURE TO INCLUDE MANHOLE STEPS 16" ON CENTER. SEE MN/DOT STANDARD PLATE 4180.
5. PIPE LENGTH DOES NOT INCLUDE APRON.
6. TIE LAST THREE JOINTS AT APRON END. FURNISHING AND INSTALLING PIPE TIES SHALL BE CONSIDERED INCIDENTAL. SEE MN/DOT STANDARD PLATE 3145.
7. SEE TAB CHART II FOR EXISTING CATCH BASIN ADJUSTMENTS.

NOTES:
(1) CONNECT TO EXISTING DRAINAGE STRUCTURE.
(2) CONNECT TO EXISTING STORM SEWER.
(3) REPLACE EXISTING CATCH BASIN FRAME AND GRATE CASTING, WITH A-7 ASSEMBLY.
(4) STRUCTURE SIZE SHALL BE VERIFIED IN FIELD.
(5) SEE SHEET 24 FOR FLUME DESIGN DETAILS.
(6) BACKSLOPE PROVIDED FOR SKIMMING PURPOSE.

2 OF 2

NO	DATE	BY	CKD	APPR	REVISION
1	02/26/2014	EJM	GMP	CAK	UPDATED TABS (ADDITIONAL STRUCTURES CB206 & CB208A).

NAME: P:\02-611-32\Plan\002-611-032_TAB_DR.dgn 05/16/2014 9:37:48 AM

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

PRINT NAME: CURT KOBILARCSIK
SIGNATURE: Curt Kobilarcsik
DATE: 5-21-14 LICENSE NO. 24756

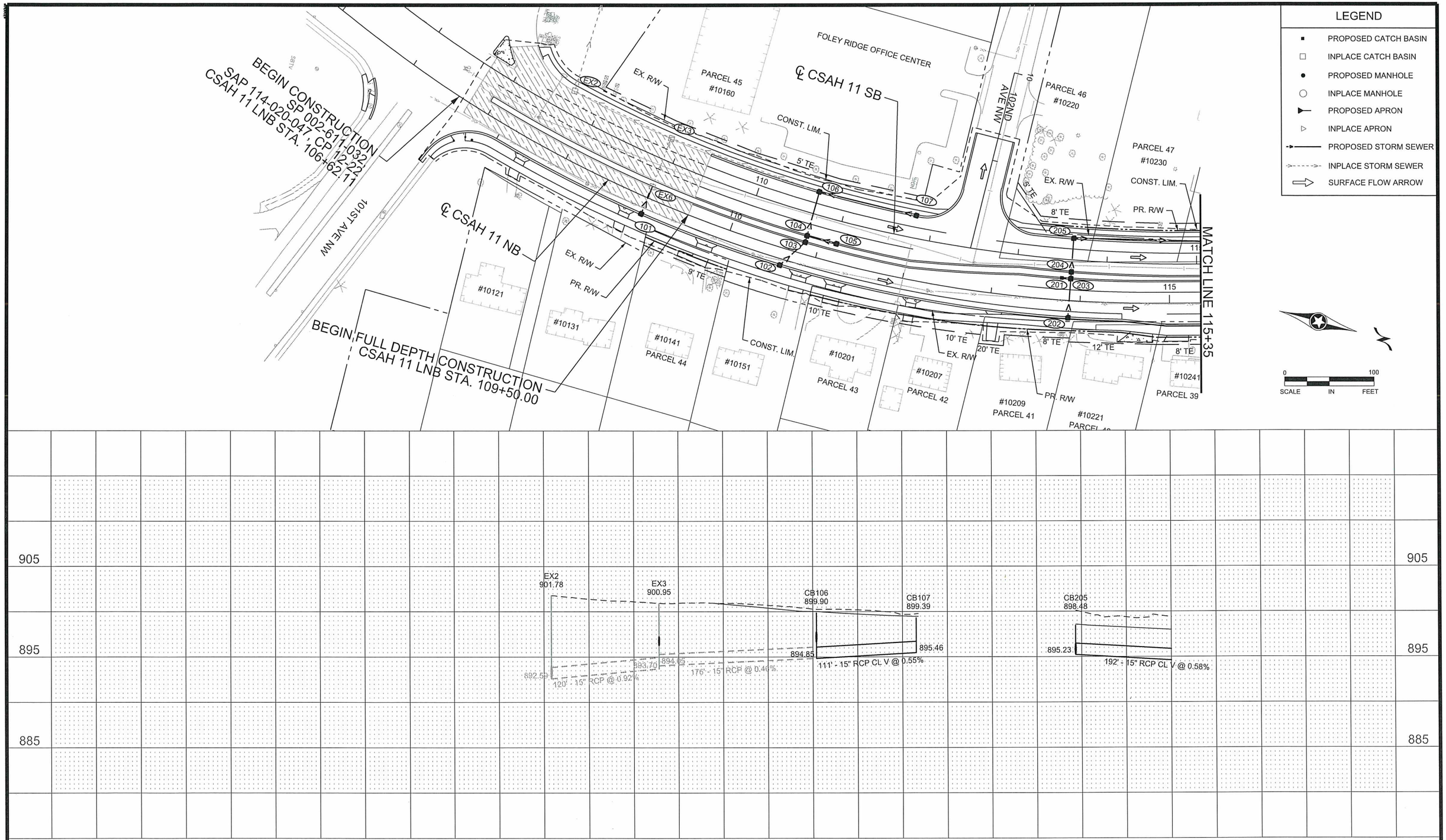
DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

DRAINAGE TABULATION

Sheet 70 of 196 Sheets



1 OF 4

NO	DATE	BY	CKD	APPR	REVISION
1	04/11/2014	EJM	GMP	CAK	ADDED STRUCTURE CB201 PER STATE AID COMMENTS.
2	04/11/2014	EJM	GMP	CAK	MODIFIED SE PED RAMP AT 101ST AVE/FOLEY BLVD.

NAME: P:\02-611-32\Plan\002-611-032_DR_P1.dgn 05/12/2014 12:44:57 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

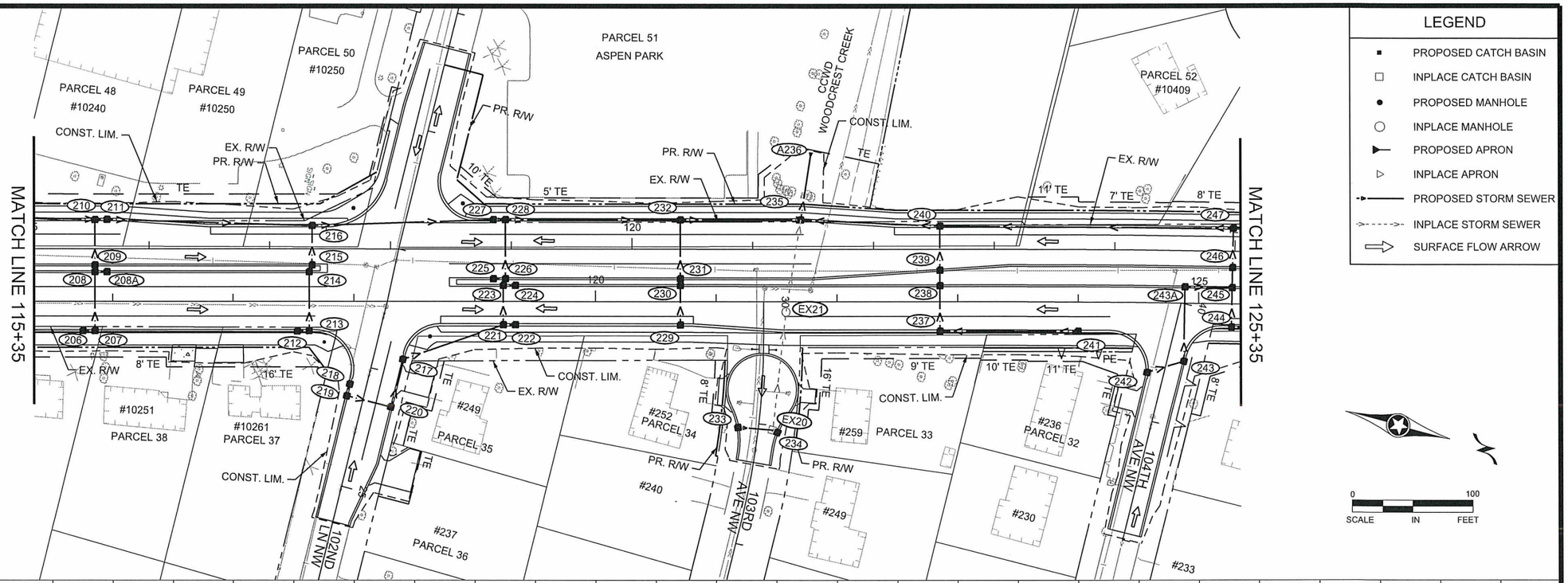
S.A.P. 114-020-047

C.P. 12-22

DRAINAGE PLAN & PROFILE

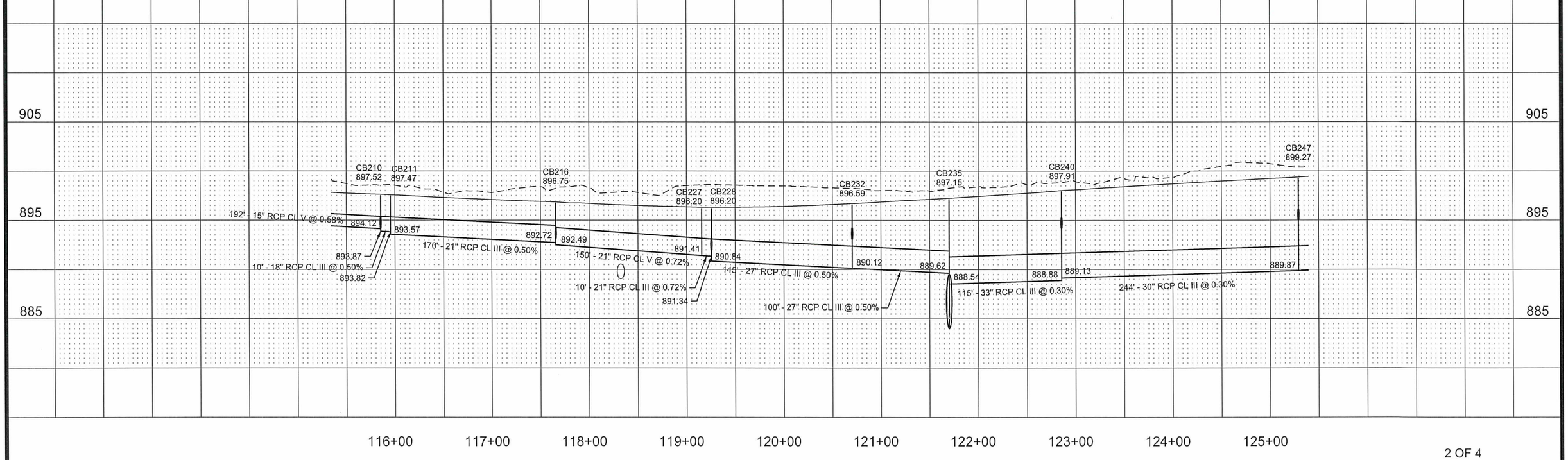
STA 106+62 TO 115+35

Sheet 71 of 196 Sheets



LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- PROPOSED APRON
- INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- SURFACE FLOW ARROW



2 OF 4

NO	DATE	BY	CKD	APPR	REVISION
1	02/27/2014	EJM	GMP	CAK	ADDED STRUCTURES CB206 & CB208A PER STATE AID COMMENTS
2	05/12/2014	EJM	GMP	CAK	PIPE FROM CB216 TO CB227 UPDATED TO CLASS V

NAME: P:\02-611-32\Plan\002-611-032_DR_P2.dgn 05/16/2014 9:37:54 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

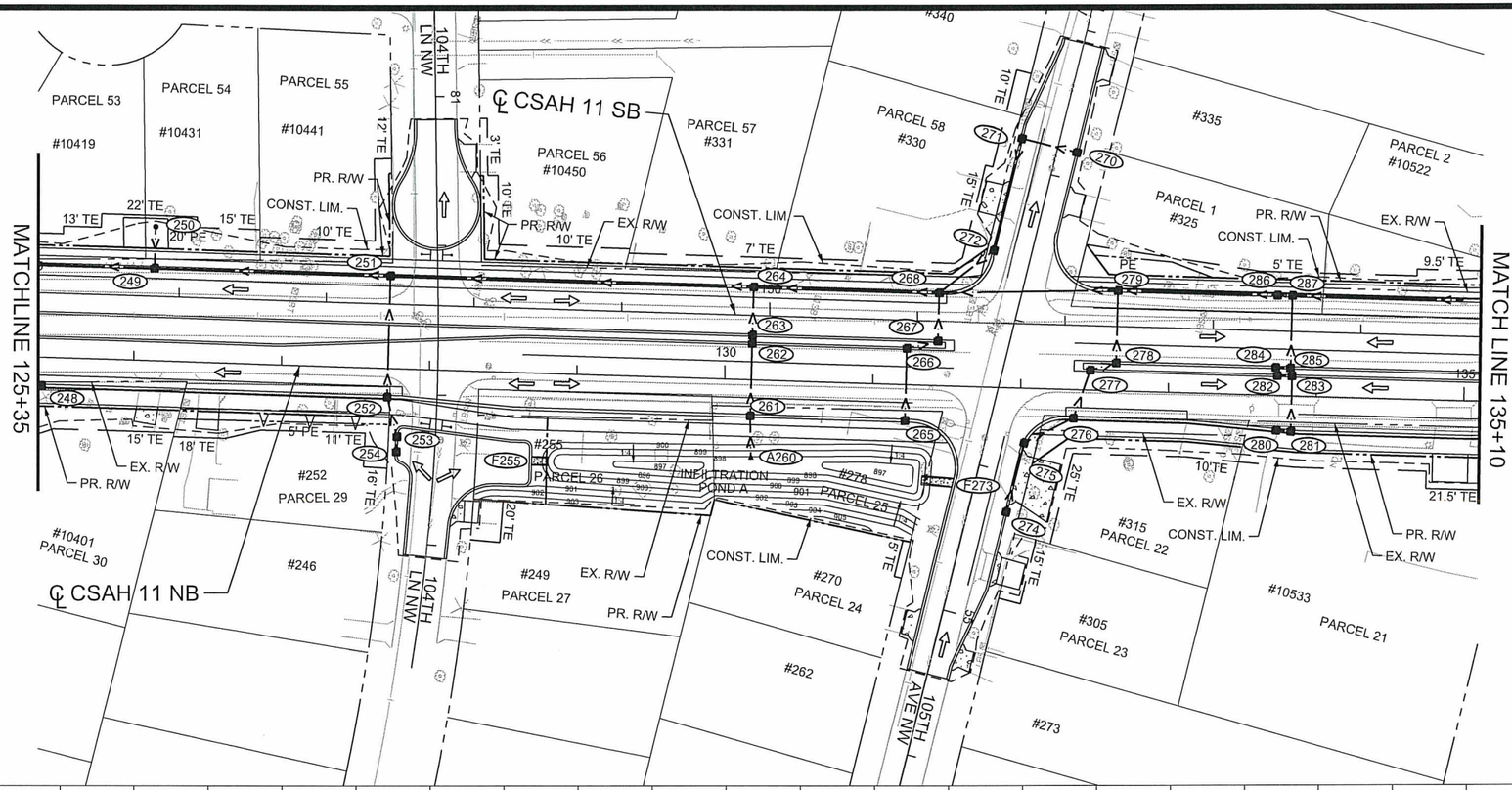
S.A.P. 114-020-047

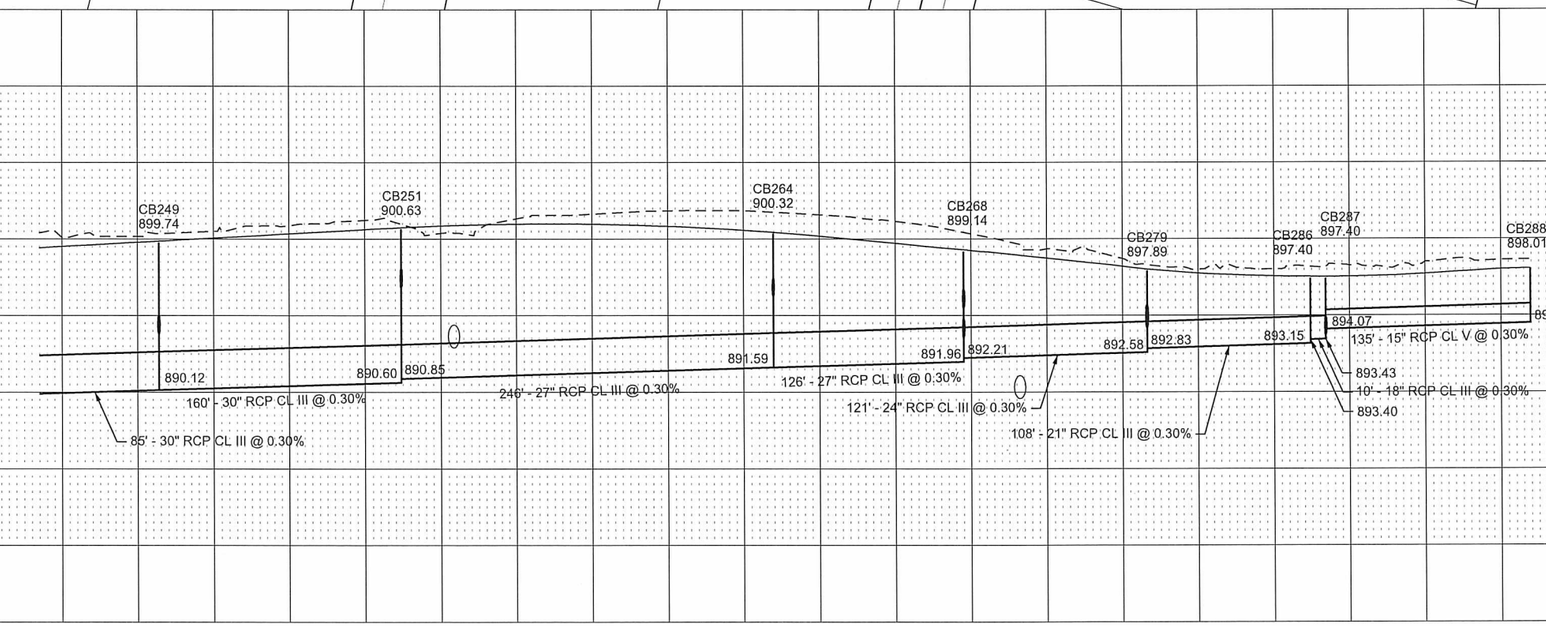
C.P. 12-22

DRAINAGE PLAN & PROFILE

STA 115+35 TO 125+35

Sheet 72 of 196 Sheets





LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- PROPOSED APRON
- INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- SURFACE FLOW ARROW
- CONC. DRAINAGE FLUME

NOTE: SEE SHEET 24 FOR DRAINAGE FLUME DETAILS.

0 100
SCALE IN FEET

NO	DATE	BY	CKD	APPR	REVISION
1	05/12/2014	EJM	GMP	CAK	RAISED PIPE PROFILE BETWEEN CB235 AND CB288

NAME: P:\02-611-32\Plan\002-611-032_DR_P3.dgn 05/12/2014 12:45:05 PM

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

PRINT NAME: CURT KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

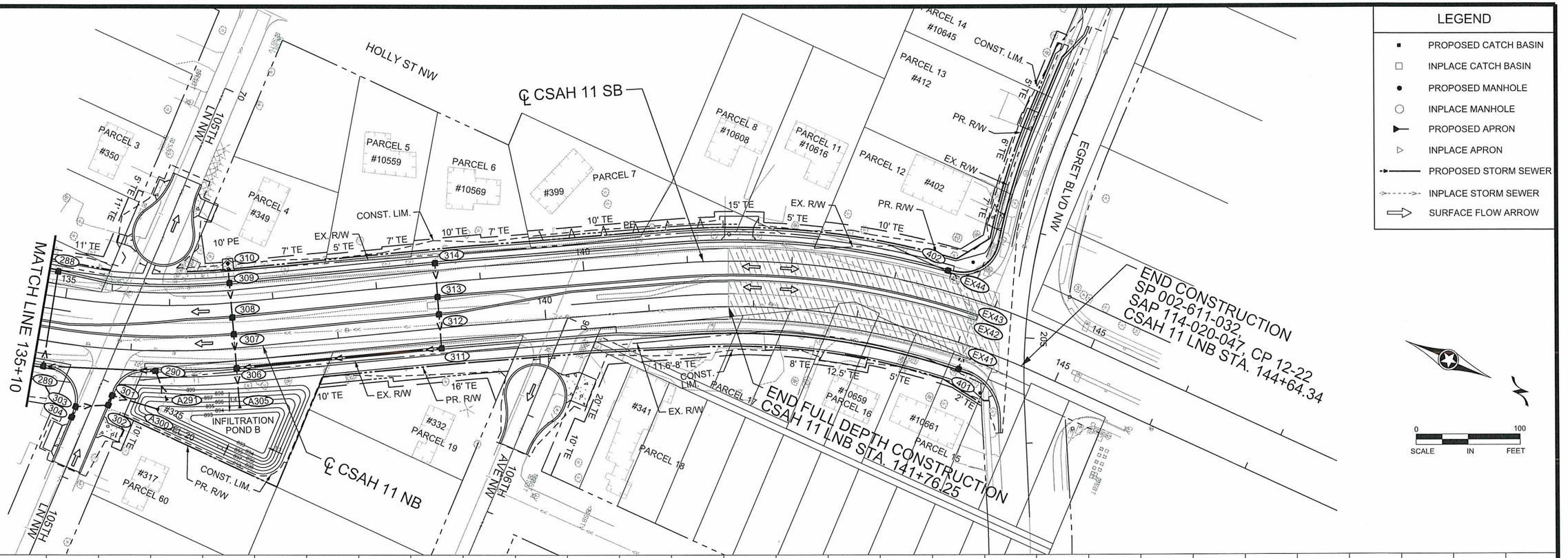
S.A.P. 114-020-047

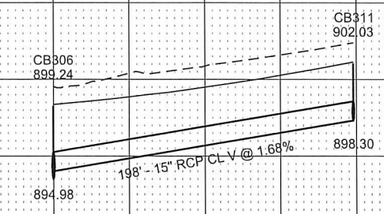
C.P. 12-22

DRAINAGE PLAN & PROFILE

STA 125+35 TO 135+10

Sheet 73 of 196 Sheets





910 900 890

136+00 137+00 138+00 139+00 140+00 141+00 142+00 143+00 144+00 145+00

4 OF 4

NO	DATE	BY	CKD	APPR	REVISION
1	05/12/2014	EJM	GMP	CAK	RELOCATED CB289 AND CB288 TO STATION 135+19

NAME: P:\02-611-32\Plan\002-611-032_DR_P4.dgn 05/12/2014 12:45:09 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

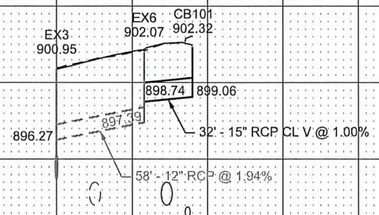
S.A.P. 114-020-047

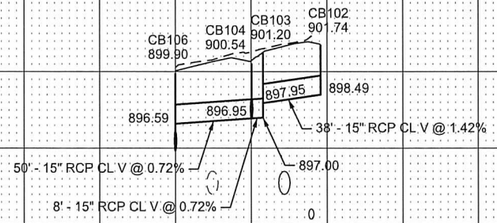
C.P. 12-22

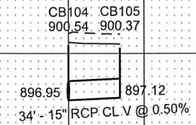
DRAINAGE PLAN & PROFILE

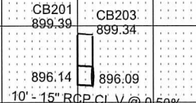
STA 135+10 TO 144+64

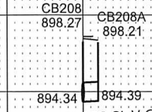
Sheet 74 of 196 Sheets

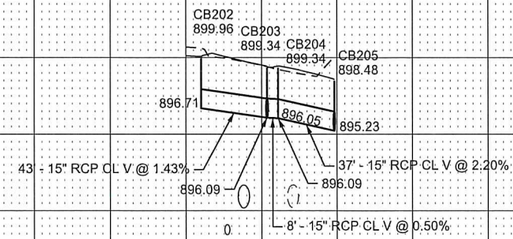


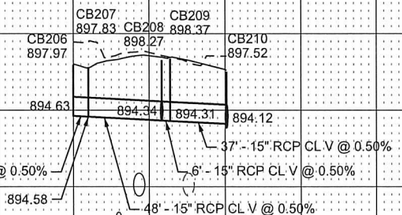


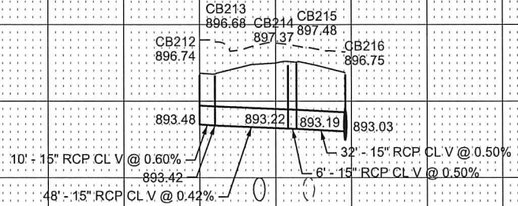


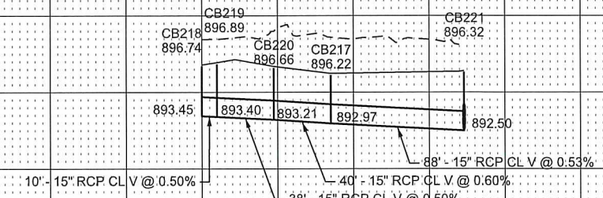


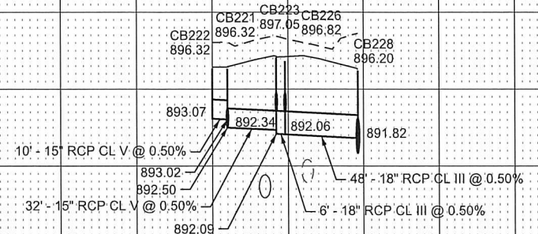


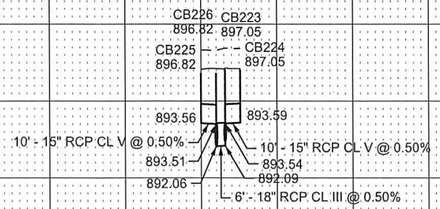


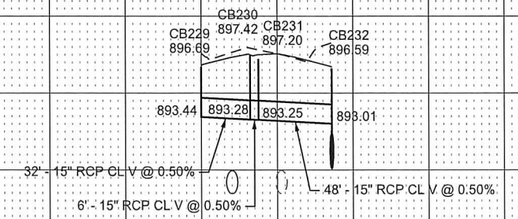


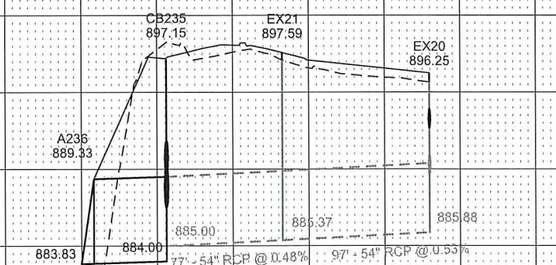












NO	DATE	BY	CKD	APPR	REVISION
1	02/26/2014	EJM	GMP	CAK	ADDED PROFILE FOR NEW STRUCTURES - CB206 & CB208A.
2	04/11/2014	EJM	GMP	CAK	ADDED PROFILE FOR NEW STRUCTURE - CB201.

NAME: P:\02-611-32\Plan\002-611-032_DR_LEADS.dgn 05/16/2014 9:38:01 AM

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

PRINT NAME: CURT KOBILARCSIK

SIGNATURE: [signature]

DATE: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

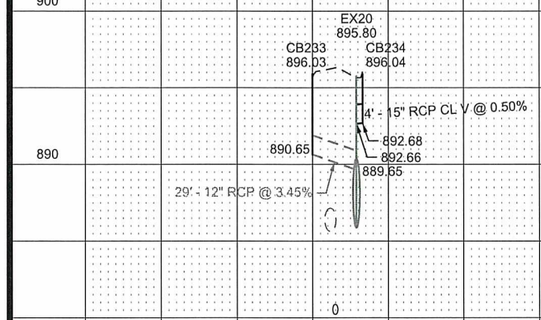
S.A.P. 114-020-047

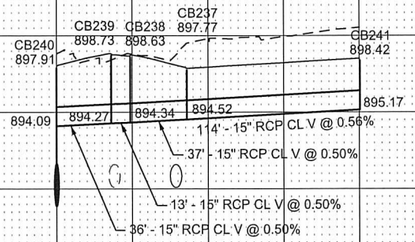
C.P. 12-22

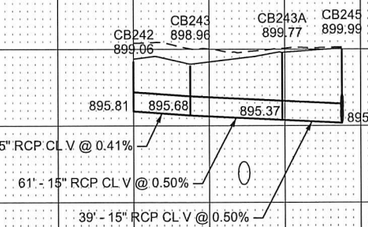
DRAINAGE LEADS

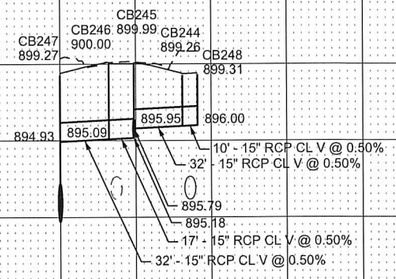
STA 106+00 TO 122+00

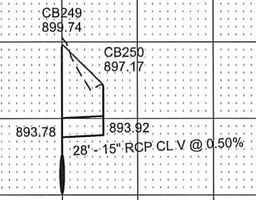
Sheet 75 of 196 Sheets

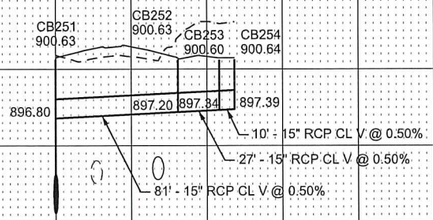


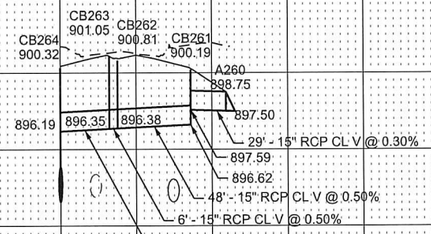


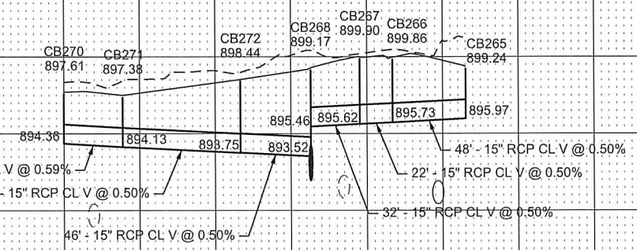


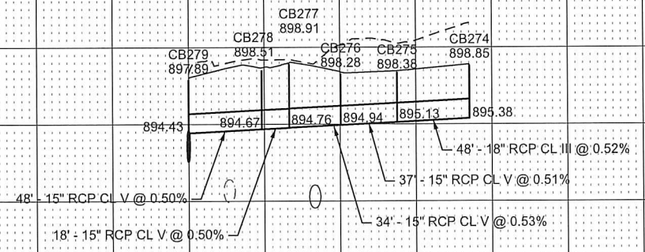












2 OF 3

NO	DATE	BY	CKD	APPR	REVISION
1	05/12/2014	EJM	GMP	CAK	UPDATED PROFILE FOR LEADS

NAME: P:\02-611-32\Plan\002-611-032_DR_LEADS.dgn 05/16/2014 9:37:59 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

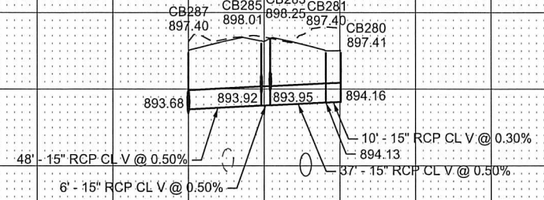
S.A.P. 114-020-047

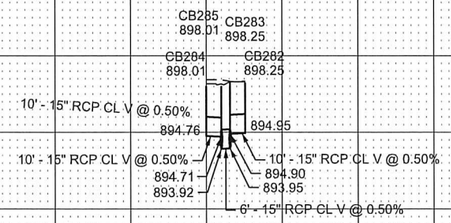
C.P. 12-22

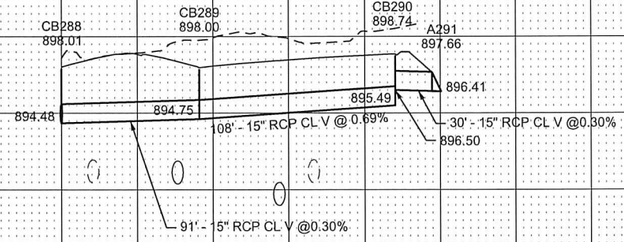
DRAINAGE LEADS

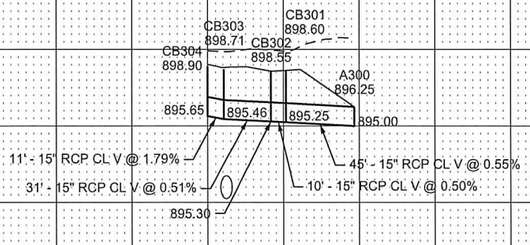
STA 121+00 TO 133+00

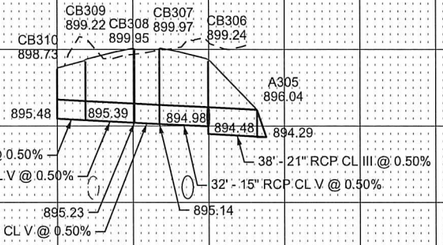
Sheet 76 of 196 Sheets

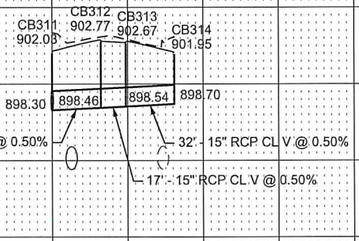


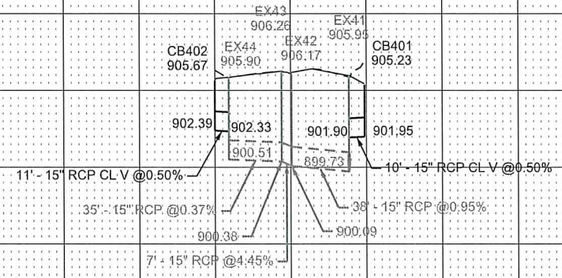












NO	DATE	BY	CKD	APPR	REVISION
1	05/12/2014	EJM	GMP	CAK	UPDATED PROFILE FOR LEADS

NAME: P:\02-611-32\Plan\002-611-032_DR_LEADS.dgn 05/16/2014 9:37:58 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: [signature]

DATE: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

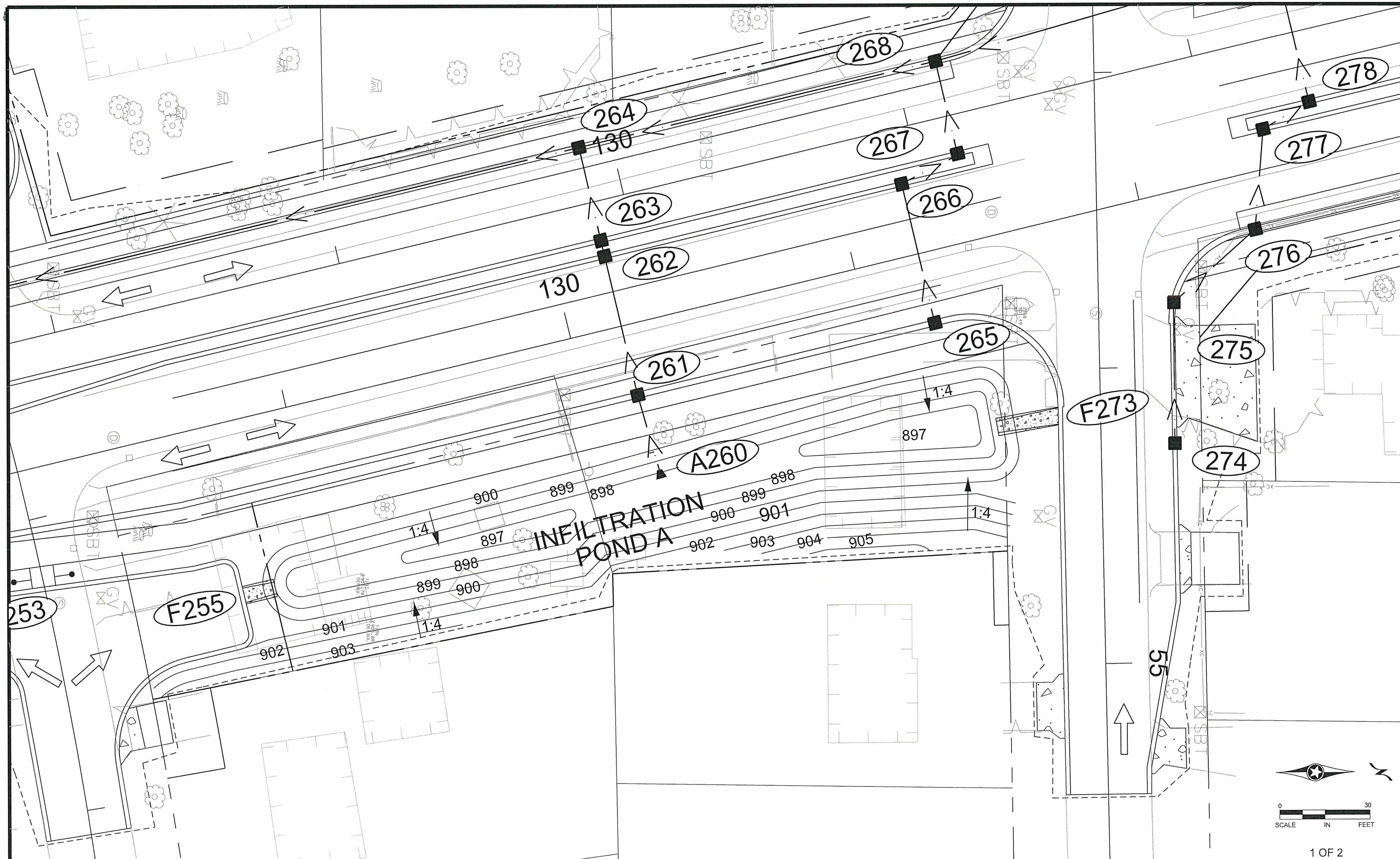
S.A.P. 114-020-047

C.P. 12-22

DRAINAGE LEADS

STA 133+00 TO 145+00

Sheet 77 of 196 Sheets



1 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_PONDA.dgn 06/13/2014 8:14:29 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: [signature]

DATE: 6-13-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

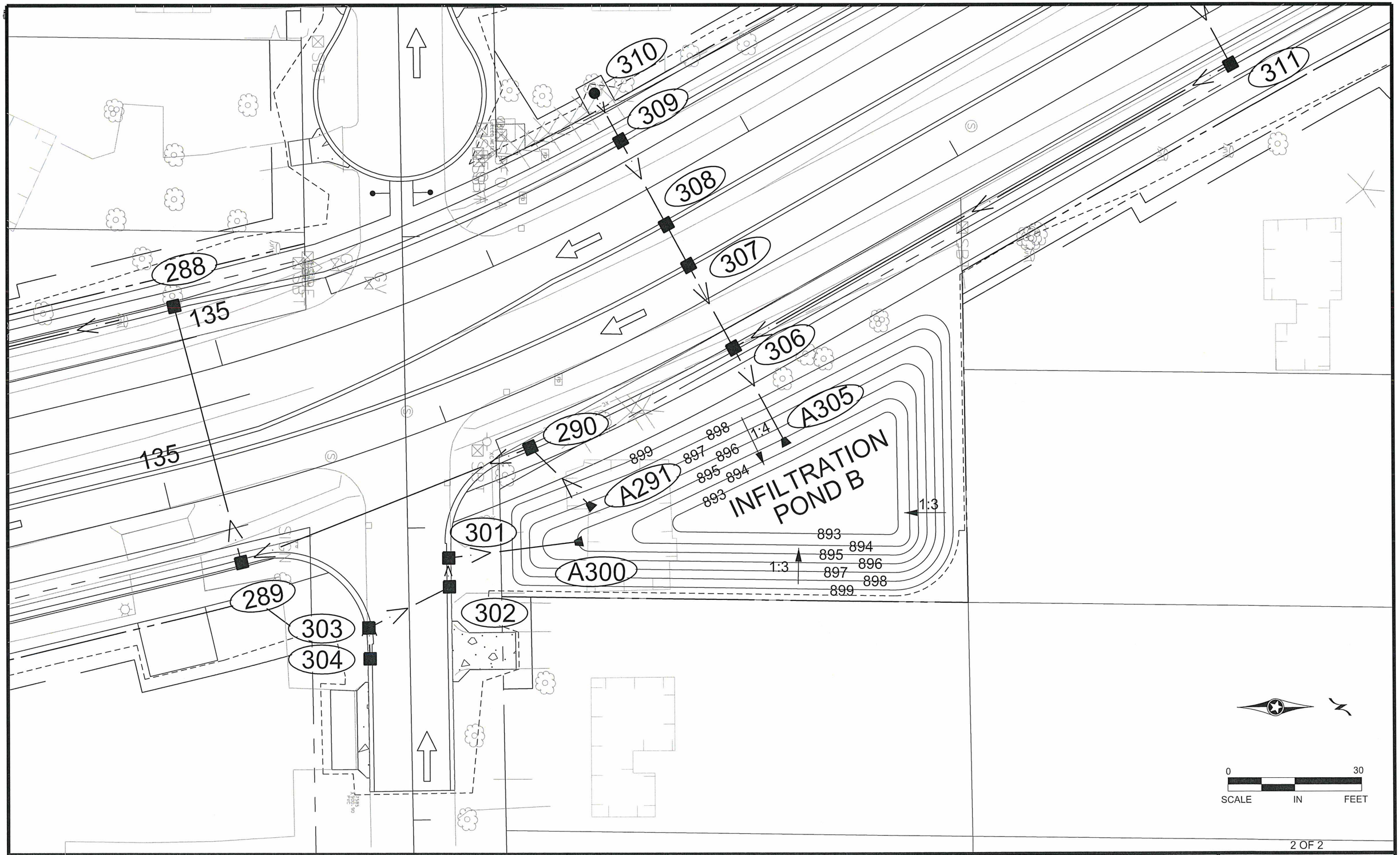
S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

POND GRADING PLAN
POND A

Sheet 78 of 196 Sheets



2 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_PONDB.dgn 06/13/2014 8:14:59 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: [signature]

DATE: 6-13-14 LICENSE NO. 24756

DRAWN BY	EJM	DATE	01-09-2014
DESIGN BY	EJM	DATE	11-12-2013
CHECKED BY	GMP	DATE	01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

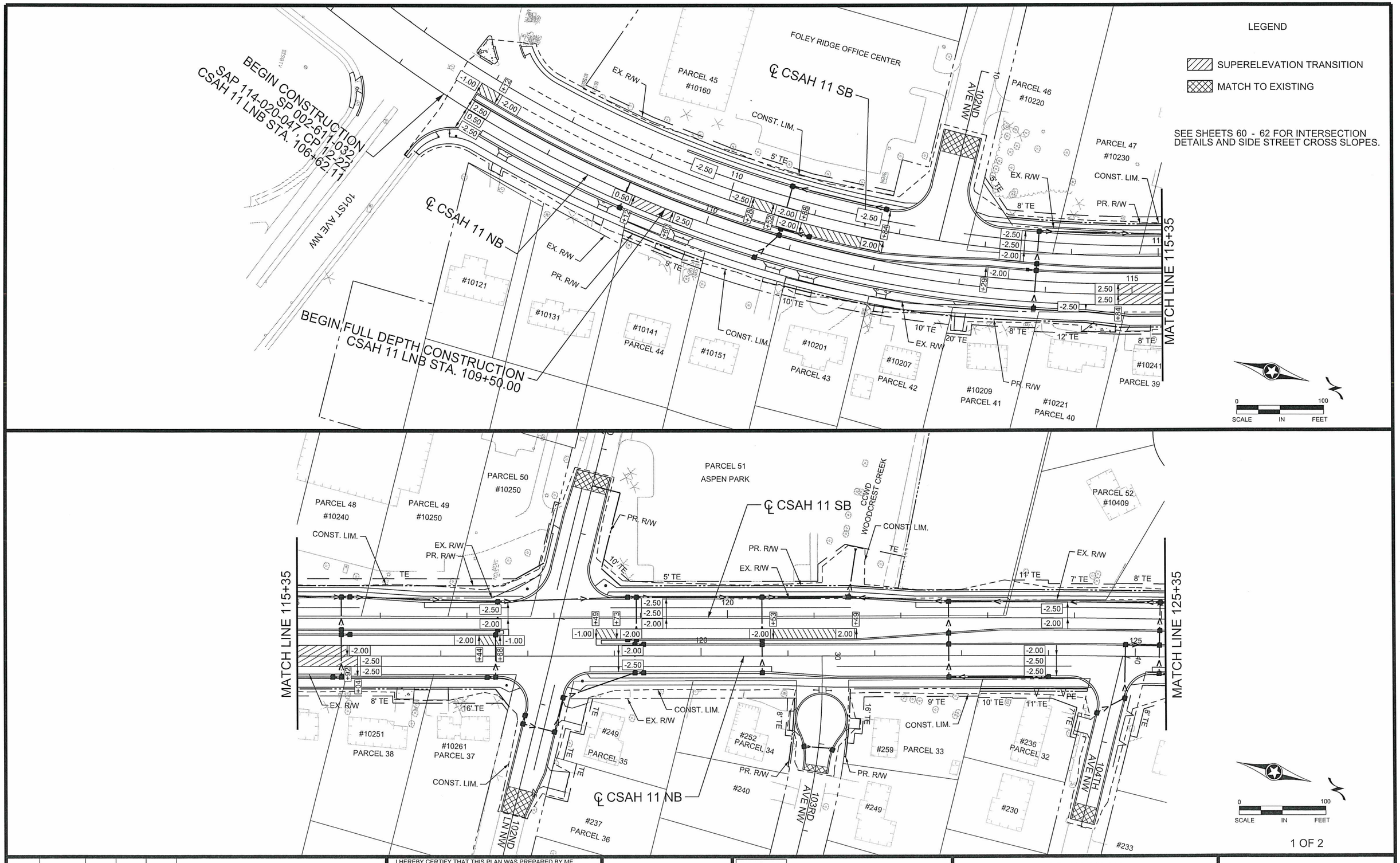
S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

POND GRADING PLAN
POND B

Sheet 79 of 196 Sheets



1 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_SE_P1.dgn 05/12/2014 12:45:24 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

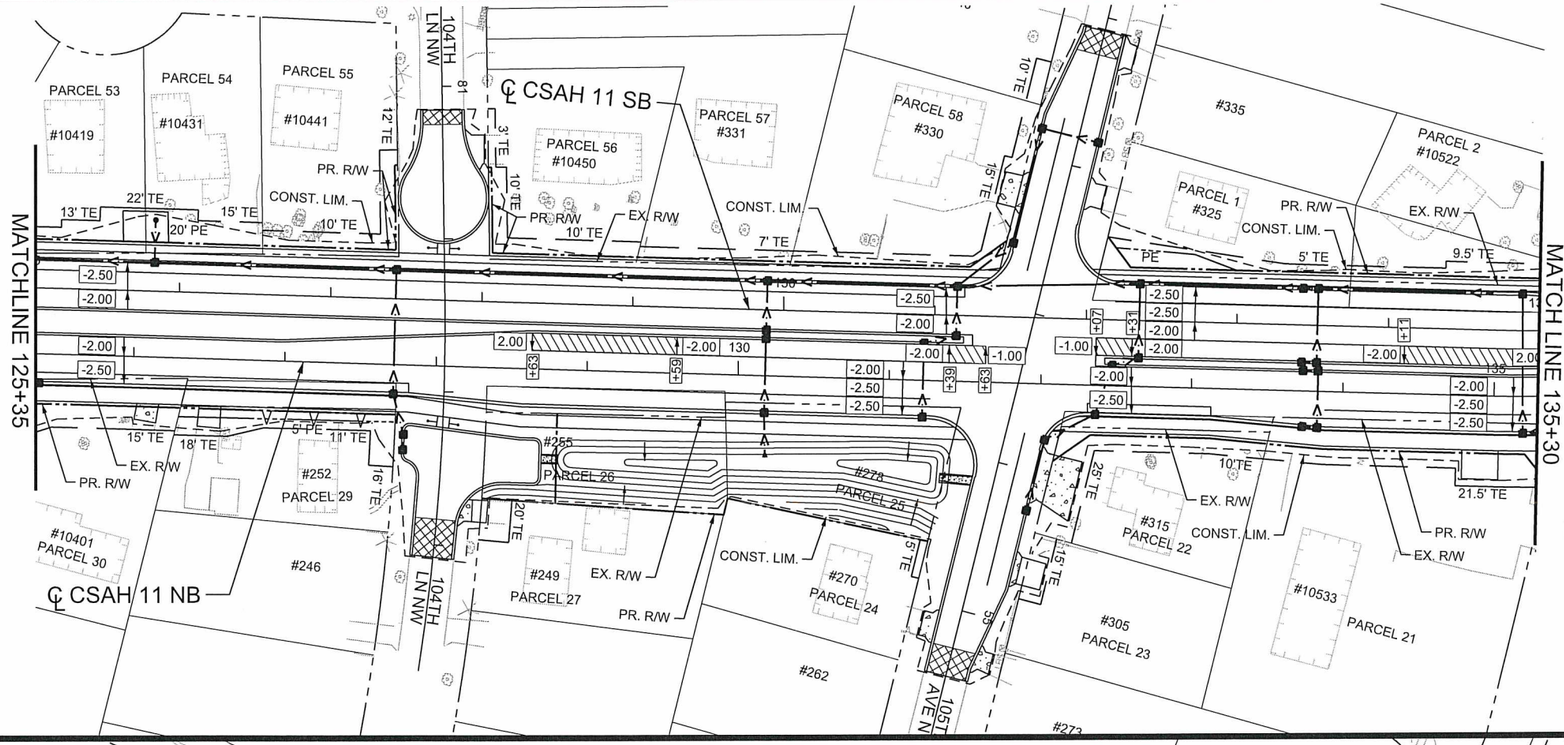
S.A.P. 114-020-047

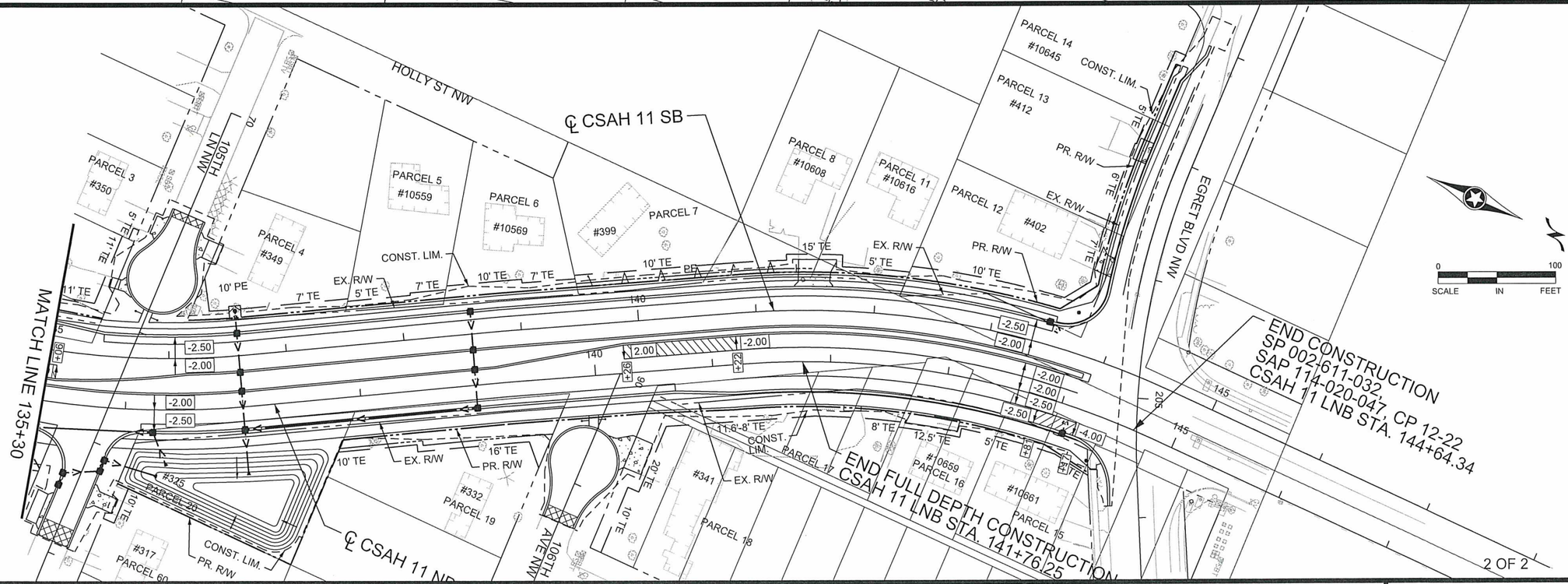
C.P. 12-22

SUPERELEVATION PLAN

STA 106+64 TO 125+35

Sheet 80 of 196 Sheets





2 OF 2

NO	DATE	BY	CKD	APPR	REVISION
1	05/09/2014	EJM	GMP	CAK	ADDED CROSS SLOPE TRANSITION AT RTL OF EGRET/FOLEY BLVD

NAME: P:\02-611-32\Plan\002-611-032_SE_P2.dgn 05/12/2014 12:45:29 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:

DATE: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

SUPERELEVATION PLAN

STA 125+35 TO 144+64

Sheet 81 of 196 Sheets

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 COON RAPIDS RIGHT OF WAY.

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.

UTILITY CONTACTS — AA

CENTURYLINK
425 MONROE ST
ANOKA, MN 55303
CONTACT: BILL BYERS
TEL. 763-712-5002

CENTERPOINT ENERGY
700 WEST LINDEN AVE
P.O. BOX 1165 MINNAPOLIS, MN 55440-1165
CONTACT: STEVE GUHANICK
TEL 763-427-3456

CITY OF COON RAPIDS
11155 ROBINSON DRIVE
COON RAPIDS, MN 55433
CONTACT: TIM HIMMER
TEL 763-767-6494

ZAYO FIBER SOLUTIONS
5005 CHESHIRE LN N
PLYMOUTH, MN 55446
CONTACT: MIKE DAHLE
TEL 763-545-9998

CONNEXUS ENERGY
14601 RAMSEY BLVD
RAMSEY, MN 55303
CONTACT: SHANNON MCDONALD
TEL. 763-323-2695

ANOKA COUNTY
1440 BUNKER LAKE BLVD
ANDOVER, MN 55304
CONTACT: HARRY GRAMS
TEL 763-862-4200

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

MNDOT
6000 MINNEHAHA AVE
ST. PAUL, MN 55111
CONTACT: JIM DEANS
TEL. 651-366-5753

ARVIG COMMUNICATION SYSTEMS
150 2ND ST. SW #100
PERHAM, MN 56573-1461
CONTACT: PATRICK LYNCH
TEL. 320-256-0271

ACCESS COMMUNICATIONS — BB

STATION		LOCATION	INPLACE ITEM	REMARKS
BEGIN	END	OFFSET FROM LNB		
CSAH 11				
131+50		80 RT TO 176 LT	FIBER	RELOCATE

NOTE: CROSSING CSAH 11 AT 105TH AVE. FIELD VERIFY LOCATION.

CENTERPOINT ENERGY - GAS — DD

STATION		LOCATION	INPLACE ITEM	REMARKS
BEGIN	END			
CSAH 11				
109+29		29' LT	VALVE	LEAVE IN PLACE
111+84	111+87	36' RT TO 53' RT	CROSSING	RELOCATE
111+84	112+71	36' RT TO 42' LT	GAS	RELOCATE
112+71	112+70	42' LT TO 41' RT	CROSSING	RELOCATE
112+71	113+60	42' LT TO 45' LT	GAS	RELOCATE
113+60	113+66	45' LT TO 64' RT	CROSSING	RELOCATE
113+60	114+14	45' LT TO 45' LT	GAS	RELOCATE
114+14	114+09	45' LT TO 55' RT	CROSSING	RELOCATE
114+14	115+69	45' LT TO 38' LT	GAS	RELOCATE
115+69	115+62	38' LT TO 46' RT	CROSSING	RELOCATE
115+69	116+05	38' LT TO 36' LT	GAS	RELOCATE
116+05	116+00	36' LT TO 30' RT	CROSSING	RELOCATE
116+05	117+60	36' LT TO 38' LT	GAS	RELOCATE
117+60	117+58	38' LT TO 16' RT	CROSSING	RELOCATE
117+60	127+82	38' LT TO 35' LT	GAS	RELOCATE
127+82	127+84	35' LT TO 32' RT	CROSSING	RELOCATE
127+82	132+18	35' LT TO 49' LT	GAS	RELOCATE
132+18	132+02	49' LT TO 45' RT	CROSSING	RELOCATE
132+18	134+03	49' LT TO 50' LT	GAS	RELOCATE
134+03	133+96	50' LT TO 29' RT	CROSSING	RELOCATE
134+03	135+56	50' LT TO 51' LT	GAS	RELOCATE
136+34	136+01	52' LT TO 16' RT	CROSSING	RELOCATE
136+50		74' LT	VENT	RELOCATE
136+02	139+77	11 RT TO 14 RT	GAS	RELOCATE
139+77	139+40	14 RT TO 110 RT	GAS	RELOCATE
139+63	140+66	157 RT TO 53 LT	GAS	RELOCATE
140+66	144+64	53 LT TO 56 LT	GAS	LEAVE IN PLACE

CENTURYLINK — EE

STATION		OFFSET	INPLACE ITEM	REMARKS
BEGIN	END			
CSAH 11				
107+06	108+09	15 RT TO 13 RT	BURIED FIBER	RELOCATE
108+09	108+73	13 RT TO 76 LT	BURIED FIBER	RELOCATE
108+73	113+18	76 LT TO 74 LT	BURIED FIBER	RELOCATE
109+93		81 LT	SPLICE BOX	RELOCATE
109+92	113+26	76 LT TO 66 LT	BURIED FIBER	RELOCATE
110+17		80 LT	SPLICE BOX	RELOCATE
110+06		49 RT	SPLICE BOX	LEAVE IN PLACE
111+93		79 LT	SPLICE BOX	RELOCATE
111+99		41 RT	SPLICE BOX	RELOCATE
112+44	113+76	27' RT TO 17' RT	BURIED FIBER	RELOCATE
113+76	114+46	17' RT TO 28' RT	BURIED FIBER	RELOCATE
113+81		30 RT	SPLICE BOX	RELOCATE
114+46	116+35	28' RT TO 23' RT	BURIED FIBER	RELOCATE
115+18		71 LT	SPLICE BOX	RELOCATE
115+86		26 RT	SPLICE BOX	RELOCATE
116+35	117+89	23' RT TO 17' RT	BURIED FIBER	RELOCATE
117+87		29 RT	SPLICE BOX	RELOCATE
117+89	117+96	17' RT TO 65' LT	BURIED FIBER	RELOCATE
118+03		68 LT	SPLICE BOX	RELOCATE
119+95		69 LT	SPLICE BOX	RELOCATE

CENTURYLINK — EE

STATION		OFFSET	INPLACE ITEM	REMARKS
BEGIN	END			
123+00		24 RT	SPLICE BOX	RELOCATE
123+63		61 LT	SPLICE BOX	RELOCATE
126+36		27 RT	SPLICE BOX	RELOCATE
127+08		49 LT	SPLICE BOX	RELOCATE
128+27		22 RT	SPLICE BOX	RELOCATE
128+34		63 LT	SPLICE BOX	RELOCATE
129+93		20 RT	SPLICE BOX	RELOCATE
130+62		54 LT	SPLICE BOX	RELOCATE
131+49		26 RT	SPLICE BOX	RELOCATE
131+66		55 LT	SPLICE BOX	RELOCATE
132+15		29 RT	SPLICE BOX	RELOCATE
133+22		51 LT	SPLICE BOX	RELOCATE
133+42		27 RT	SPLICE BOX	RELOCATE
135+69		64 LT	SPLICE BOX	RELOCATE
136+06		13 RT	SPLICE BOX	RELOCATE
136+49		80 LT	SPLICE BOX	RELOCATE
137+89		22 RT	SPLICE BOX	RELOCATE
140+37		25 RT	SPLICE BOX	RELOCATE
140+97		69 LT	SPLICE BOX	RELOCATE
142+55		70 LT	SPLICE BOX	RELOCATE
143+55		25 RT	SPLICE BOX	RELOCATE
144+05		99 LT	SPLICE BOX	RELOCATE
143+98		153 LT	SPLICE BOX	RELOCATE
144+03		248 LT	SPLICE BOX	RELOCATE
113+18	115+17	74' LT TO 64' LT	BURIED FIBER	RELOCATE
113+26	114+29	66' LT TO 52' LT	BURIED FIBER	RELOCATE
114+29	114+90	52' LT TO 55' LT	BURIED FIBER	RELOCATE
114+90	115+30	55' LT TO 63' LT	BURIED FIBER	RELOCATE
115+30	117+96	63' LT TO 65' LT	BURIED FIBER	RELOCATE
117+96	118+81	65' LT TO 60' LT	BURIED FIBER	RELOCATE
118+81	121+11	60' LT TO 60' LT	BURIED FIBER	RELOCATE
121+11	122+35	60' LT TO 51' LT	BURIED FIBER	RELOCATE
122+35	123+04	51' LT TO 50' LT	BURIED FIBER	RELOCATE
123+04	123+63	50' LT TO 61' LT	BURIED FIBER	RELOCATE
123+63	124+23	61' LT TO 56' LT	BURIED FIBER	RELOCATE
124+23	125+48	56' LT TO 47' LT	BURIED FIBER	RELOCATE
119+94	121+36	68' LT TO 68' LT	BURIED FIBER	RELOCATE
121+36	123+63	68' LT TO 61' LT	BURIED FIBER	RELOCATE
128+28	129+95	53' LT TO 54' LT	BURIED FIBER	RELOCATE
129+95	130+62	54' LT TO 54' LT	BURIED FIBER	RELOCATE
130+62	130+88	54' LT TO 58' LT	BURIED FIBER	RELOCATE
130+88	132+20	58' LT TO 54' LT	BURIED FIBER	RELOCATE
132+20	132+90	54' LT TO 52' LT	BURIED FIBER	RELOCATE
132+90	135+14	52' LT TO 62' LT	BURIED FIBER	RELOCATE
135+14	135+69	62' LT TO 64' LT	BURIED FIBER	RELOCATE
135+69	136+79	64' LT TO 58' LT	BURIED FIBER	RELOCATE
136+79	142+35	58' LT TO 61' LT	BURIED FIBER	RELOCATE
142+35	143+97	61' LT TO 67' LT	BURIED FIBER	RELOCATE
138+35	137+83	61' LT TO 40' RT	BURIED FIBER	RELOCATE
140+41	139+83	67' LT TO 134' RT	BURIED FIBER	RELOCATE
136+42	138+26	3' RT TO 21' RT	BURIED FIBER	RELOCATE
138+26	143+88	21' RT TO 19' RT	BURIED FIBER	RELOCATE

NO	DATE	BY	CKD	APPR	REVISION
1	02/27/2014	EJM	GMP	CAK	UPDATED UTILITY CONTACT FOR MNDOT
2	05/09/2014	EJM	GMP	CAK	ADDED UTILITY CONTACT FOR ARVIG COMMUNICATION

NAME: P:\02-611-32\Plan\002-611-032_TAB_UTIL.dgn 05/12/2014 12:45:32 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

UTILITY TABULATION

Sheet 82 of 196 Sheets

COMCAST CABLE — FF

STATION BEGIN	STATION END	LOCATION	INPLACE ITEM	REMARKS
CSAH 11				
107+25	110+06	28' RT TO 49' RT	BURIED	RELOCATE
110+06		49' RT	SPLICE BOX	
110+06	111+99	49' RT TO 41' RT	BURIED	RELOCATE
111+99		41' RT	SPLICE BOX	RELOCATE
111+99	113+81	41' RT TO 30' RT	BURIED	RELOCATE
113+81		30' RT	SPLICE BOX	RELOCATE
113+81	115+86	30' RT TO 26' RT	BURIED	RELOCATE
115+86		26' RT	SPLICE BOX	RELOCATE
115+86	117+87	26' RT TO 29' RT	BURIED	RELOCATE
117+87		29' RT	SPLICE BOX	RELOCATE
117+87	120+44	29' RT TO 27' RT	BURIED	RELOCATE
120+44	123+00	27' RT TO 24' RT	BURIED	RELOCATE
123+00		24' RT	SPLICE BOX	RELOCATE
120+44	125+15	27' RT TO 25' RT	BURIED	RELOCATE
125+15	126+36	25' RT TO 27' RT	BURIED	RELOCATE
126+36		27' RT	SPLICE BOX	RELOCATE
126+36	128+27	25' RT TO 24' RT	BURIED	RELOCATE
128+27		24' RT	SPLICE BOX	RELOCATE
128+27	128+34	24' RT TO 63' LT	CROSSING	RELOCATE
128+27	129+93	25' RT TO 20' RT	BURIED	RELOCATE
129+93		20' RT	SPLICE BOX	RELOCATE
129+93	131+49	25' RT TO 26' RT	BURIED	RELOCATE
131+49		26' RT	SPLICE BOX	RELOCATE
131+49	132+00	26' RT TO 189' LT	CROSSING	RELOCATE
132+00		189' LT TO	SPLICE BOX	RELOCATE
132+59		231' LT	SPLICE BOX	LEAVE IN PLACE
131+49	132+15	25' RT TO 29' RT	BURIED	RELOCATE
132+15	133+42	25' RT TO 25' RT	BURIED	RELOCATE
133+42		25' RT	SPLICE BOX	RELOCATE
133+42	134+75	25' RT TO 15' RT	BURIED	RELOCATE
134+75	136+07	15' RT TO 13' RT	BURIED	RELOCATE
136+07		13' RT	SPLICE BOX	RELOCATE
136+07	136+52	13' RT TO 83' LT	CROSSING	RELOCATE
136+06	136+58	13' RT TO 78' LT	CROSSING	RELOCATE
136+06	137+88	13' RT TO 22' RT	BURIED	RELOCATE
137+88		22' RT	SPLICE BOX	RELOCATE
137+88	139+12	24' RT TO 24' RT	BURIED	RELOCATE
139+12	140+35	24' RT TO 24' RT	BURIED	RELOCATE
139+73		148' RT	SPLICE BOX	LEAVE IN PLACE
140+37		24' RT	SPLICE BOX	RELOCATE
140+37	142+59	24' RT TO 15' RT	BURIED	RELOCATE
142+59	143+53	15' RT TO 25' RT	BURIED	RELOCATE
143+53		25' RT	SPLICE BOX	RELOCATE
143+53	143+59	25' RT TO 64' LT	CROSSING	RELOCATE
143+59	144+05	64' LT TO 97' LT	BURIED	RELOCATE
143+53	145+65	25' RT TO 26' RT	BURIED	RELOCATE
144+05	143+98	97' LT TO 153' LT	BURIED	RELOCATE
143+98		153' LT	SPLICE BOX	RELOCATE
143+98	144+03	153' LT TO 248' LT	BURIED	RELOCATE
144+03		248' LT	SPLICE BOX	RELOCATE

CONNEXUS ENERGY — GG

STATION BEGIN	STATION END	OFFSET	INPLACE ITEM	REMARKS
CSAH 11				
106+60		154 RT NB	MANHOLE	LEAVE IN PLACE
106+70		63 RT NB	MANHOLE	LEAVE IN PLACE
106+91		31 RT NB	SIGNAL POLE	RELOCATE
106+92		28 RT NB	MANHOLE	RELOCATE
109+96		21 RT NB	MANHOLE	RELOCATE
110+40		23 RT NB	SIGNAL POLE	RELOCATE
114+81		64 RT NB	POWER POLE	LEAVE IN PLACE
115+83		44 RT NB	POWER POLE	RELOCATE
117+94		32 RT NB	LIGHT POLE	RELOCATE
121+13		32 RT NB	LIGHT POLE	RELOCATE
123+16		21 RT NB	SPLICE BOX	RELOCATE
124+50		27 RT NB	LIGHT POLE	RELOCATE
128+27		23 RT NB	POWER POLE	RELOCATE
129+96		45 RT NB	LIGHT POLE	RELOCATE
131+48		24 RT NB	LIGHT POLE	RELOCATE
133+49		25 RT NB	SPLICE BOX	RELOCATE
133+51		39 RT NB	POWER POLE	RELOCATE
133+57		9 RT NB	LIGHT POLE	RELOCATE
134+77		30 RT NB	LIGHT POLE	RELOCATE
136+10		12 RT NB	LIGHT POLE	RELOCATE
139+76		150 RT NB	POWER POLE	LEAVE IN PLACE
140+34		27 RT NB	SPLICE BOX	RELOCATE
140+39		27 RT NB	POWER POLE	RELOCATE
141+60		17 RT NB	MANHOLE	RELOCATE
142+74		17 RT NB	MANHOLE	RELOCATE
143+52		24 RT NB	SPLICE BOX	RELOCATE
144+20		25 RT NB	MANHOLE	RELOCATE
144+35		27 RT NB	SIGNAL POLE	RELOCATE
107+17		43 LT SB	MANHOLE	ADJUST
107+90		55 LT SB	SPLICE BOX	LEAVE IN PLACE
107+91		49 LT SB	SPLICE BOX	LEAVE IN PLACE
108+05		52 LT SB	SPLICE BOX	LEAVE IN PLACE
109+25		34 LT SB	LIGHT POLE	RELOCATE
109+88		34 LT SB	SPLICE BOX	RELOCATE
111+69		94 LT SB	LIGHT POLE	LEAVE IN PLACE
111+77		35 LT SB	SPLICE BOX	RELOCATE
111+91		35 LT SB	LIGHT POLE	RELOCATE
113+57		137 LT SB	LIGHT POLE	LEAVE IN PLACE
113+83		20 LT SB	SPLICE BOX	RELOCATE
114+59		44 LT SB	SPLICE BOX	LEAVE IN PLACE
114+84		20 LT SB	LIGHT POLE	RELOCATE
114+76		105 LT SB	LIGHT POLE	LEAVE IN PLACE
115+61		58 LT SB	MANHOLE	LEAVE IN PLACE
115+88		19 LT SB	SPLICE BOX	RELOCATE
116+10		50 LT SB	LIGHT POLE	LEAVE IN PLACE
117+10		68 LT SB	LIGHT POLE	LEAVE IN PLACE
117+92		140 LT SB	LIGHT POLE	LEAVE IN PLACE
118+15		228 LT SB	LIGHT POLE	LEAVE IN PLACE
118+67		33 LT SB	SPLICE BOX	RELOCATE
135+40		26 LT SB	SPLICE BOX	RELOCATE
136+23		44 LT SB	ELEC METER	RELOCATE

CONNEXUS ENERGY — GG

STATION BEGIN	STATION END	OFFSET	INPLACE ITEM	REMARKS
140+53		26 LT SB	POWER POLE	RELOCATE
143+76		25 LT SB	SIGNAL POLE	RELOCATE
143+83		32 LT SB	MANHOLE	RELOCATE
143+77		107 LT SB	SPLICE BOX	RELOCATE
143+88		129 LT SB	HANDHOLE	RELOCATE
143+92		240 LT SB	HANDHOLE	RELOCATE

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 COON RAPIDS RIGHT OF WAY.

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.

NO	DATE	BY	CKD	APPR	REVISION
1	05/09/2014	EJM	GMP	CAK	UPDATED UTILITY NOTES

NAME: P:\02-611-32\Plan\002-611-032_TAB_UTIL.dgn 05/12/2014 12:45:33 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: 5-2-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

UTILITY TABULATION

Sheet 83 of 196 Sheets

EXISTING SANITARY SEWER — HH

STATION	LOCATION			INPLACE ITEM	ADJUST FRAME & RING CASTING (EACH)	EXISTING TOP OF CASTING	PROPOSED TOP OF CASTING	REMARKS
CSAH 11								
108+32	14	RT	NB	SAN MH	1	902.85	902.90	ADJUST
110+32	17	RT	NB	SAN MH	1	902.62	902.07	ADJUST
112+30	8	RT	NB	SAN MH	1	901.29	901.00	ADJUST
114+29	2	RT	NB	SAN MH	1	899.68	899.75	ADJUST
118+27	4	RT	NB	SAN MH	1	898.29	897.08	ADJUST
121+32	121	RT	NB	SAN MH	1	896.40	896.37	ADJUST
121+40	11	LT	NB	SAN MH	1	897.71	897.93	ADJUST
121+78	9	LT	NB	SAN MH	1	897.83	898.15	ADJUST
124+64	93	RT	NB	SAN MH	1	900.91	900.05	ADJUST
128+09	47	RT	NB	SAN MH	1	901.49	901.17	ADJUST
131+77	36	RT	NB	SAN MH	1	899.90	898.95	ADJUST
132+17	145	LT	NB	SAN MH	1	898.47	898.10	ADJUST
135+59	2	LT	NB	SAN MH	1	899.38	899.00	ADJUST
135+88	8	LT	NB	SAN MH	1	899.40	889.30	ADJUST
138+08	5	LT	NB	SAN MH	1	901.33	901.25	ADJUST
140+20	1	LT	NB	SAN MH	1	905.16	905.41	ADJUST
142+15	3	LT	NB	SAN MH		907.77		LEAVE
144+22	1	LT	NB	SAN MH		906.06		LEAVE
					TOTAL	16		

EXISTING STORM SEWER — II

STATION	LOCATION			INPLACE ITEM	ADJUST FRAME & RING CASTING (EACH)	EXISTING TOP OF CASTING	PROPOSED TOP OF CASTING	REMARKS
CSAH 11								
107+65.15	25	LT	SB	CB		901.78		LEAVE
108+87.42	25	LT	SB	CB		900.95		LEAVE
109+00.96	13	LT	NB	CB		902.07		LEAVE
121+46.99	105	RT	NB	CB	1	895.65	896.25	ADJUST
121+57.93	8	RT	NB	MH	1	897.10	897.59	ADJUST
143+54.69	13	LT	SB	CB		905.85		LEAVE
143+78.57	12	RT	SB	CB		906.26		LEAVE
143+78.98	19	RT	SB	CB		906.17		LEAVE
144+08.00	15	RT	NB	CB		905.88		LEAVE
					TOTAL	2		

EXISTING WATERMAIN — JJ

STATION	LOCATION			INPLACE ITEM	REMARKS
CSAH 11					
106+50	29	LT	NB	GATE VALVE	LEAVE
107+50	26	LT	NB	GATE VALVE	LEAVE
107+53	80	LT	NB	HYDRANT	LEAVE
107+70	62	RT	NB	GATE VALVE	LEAVE
111+99	28	RT	NB	HYDRANT	REMOVE
112+76	30	LT	NB	GATE VALVE	REMOVE
117+94	37	RT	NB	HYDRANT	REMOVE
118+10	30	LT	NB	WATER MH	REMOVE
118+18	29	LT	NB	GATE VALVE	REMOVE
118+34	34	LT	NB	GATE VALVE	REMOVE
121+16	38	RT	NB	HYDRANT	REMOVE
121+32	27	LT	NB	GATE VALVE	REMOVE
121+18	82	RT	NB	GATE VALVE	REMOVE
121+58	75	RT	NB	GATE VALVE	REMOVE
124+78	27	LT	NB	GATE VALVE	REMOVE
127+81	30	RT	NB	HYDRANT	REMOVE
127+89	35	LT	NB	GATE VALVE	REMOVE
127+94	31	LT	NB	GATE VALVE	REMOVE
128+23	49	RT	NB	GATE VALVE	REMOVE
128+38	45	LT	NB	GATE VALVE	REMOVE
131+52	27	RT	NB	HYDRANT	REMOVE
131+70	49	LT	NB	GATE VALVE	REMOVE
131+82	41	LT	NB	GATE VALVE	REMOVE
131+77	36	LT	NB	GATE VALVE	REMOVE
131+41	99	RT	NB	GATE VALVE	REMOVE
132+02	48	RT	NB	GATE VALVE	REMOVE
132+07	191	LT	NB	HYDRANT	REMOVE
135+73	61	LT	NB	HYDRANT	REMOVE
135+82	59	LT	NB	GATE VALVE	REMOVE
135+92	49	LT	NB	GATE VALVE	REMOVE
139+98	27	RT	NB	GATE VALVE	REMOVE
142+24	61	LT	NB	GATE VALVE	REMOVE
142+97	22	RT	NB	GATE VALVE	REMOVE
144+03	75	LT	NB	GATE VALVE	ADJUST
144+02	76	LT	NB	HYDRANT	RELOCATE
144+17	42	LT	NB	GATE VALVE	ADJUST
202+20	36	RT	EGRET	GATE VALVE	LEAVE
204+14	37	RT	EGRET	GATE VALVE	ADJUST

NOTES:
- SEE SHEETS 138 - 141 FOR PROPOSED WATER MAIN PLAN SHEETS AND TABULATION.

ARVIG COMMUNICATION — CC

STATION	LOCATION			INPLACE ITEM	REMARKS
CSAH 11					
101+00 TO 105+65	70 LT	TO	66 LT	FIBER	LEAVE
105+65 TO 105+65	66 LT	TO	250 RT	FIBER	LEAVE

GENERAL NOTES:

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NO	DATE	BY	CKD	APPR	REVISION
1	02/27/2014	EJM	GMP	CAK	UPDATED WATERMAIN NOTE PER STATE AID COMMENTS
2	05/09/2014	EJM	GMP	CAK	ADDED TABULATION CC FOR ARVIG COMMUNICATION

NAME: P:\02-611-32\Plan\002-611-032_TAB_UTIL.dgn 05/20/2014 2:49:00 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT KOBILARCSIK
SIGNATURE:
DATE: 5-21-14 LICENSE NO. 24756

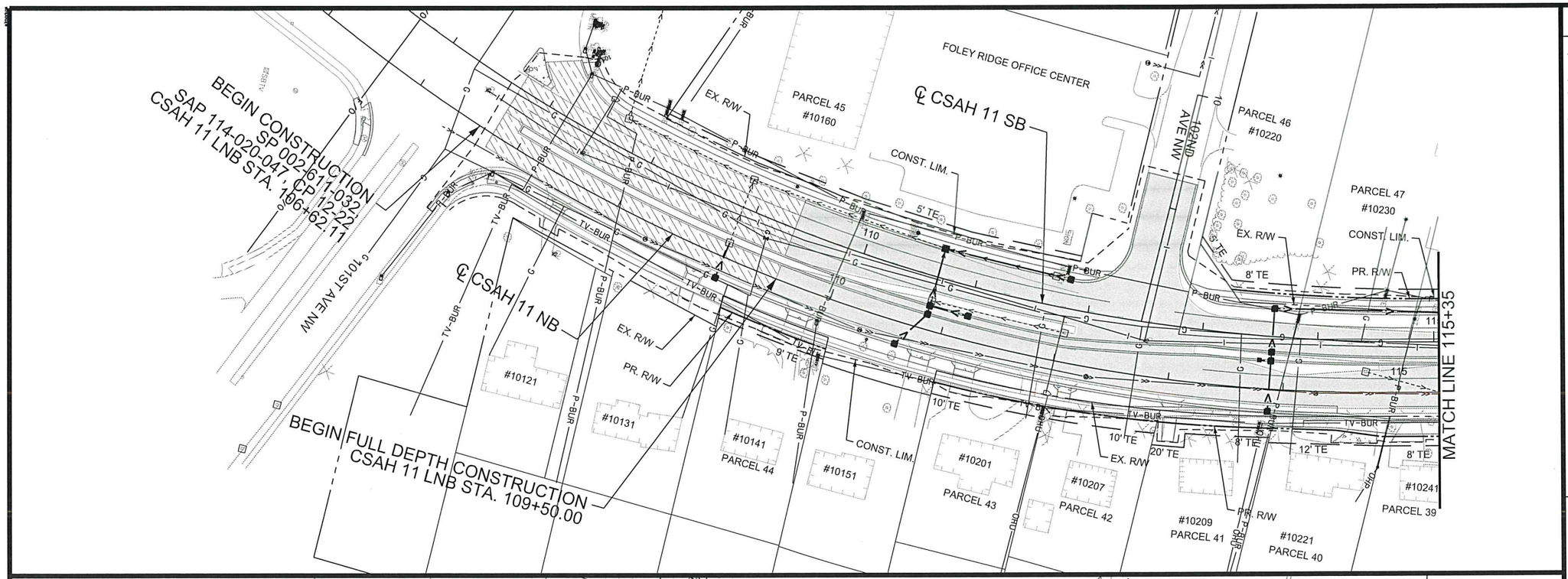
DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

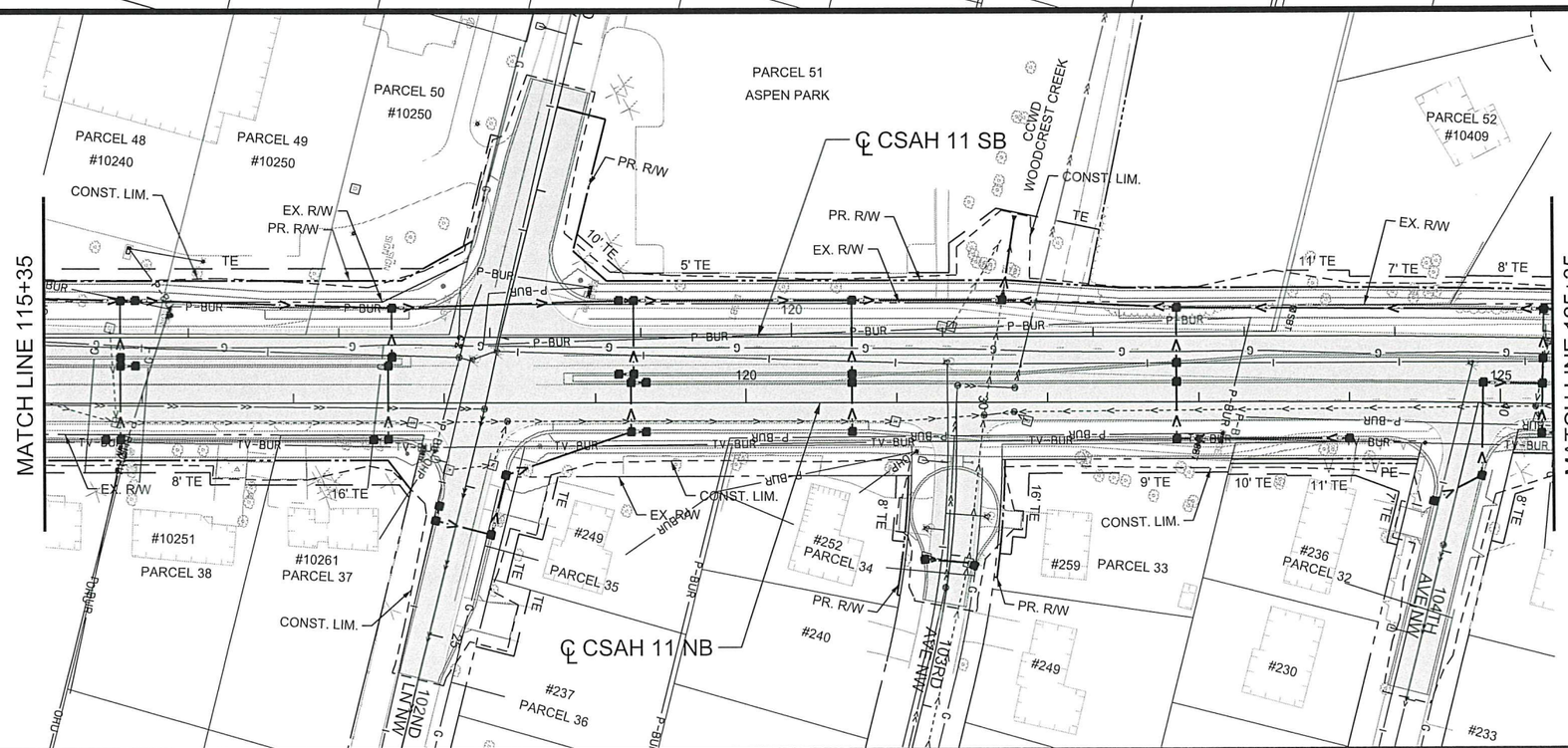
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

UTILITY TABULATION

Sheet 84 of 196 Sheets





LEGEND

- CENTERPOINT ENERGY
- COMCAST CABLE COMMUNICATIONS
- CONNEXUS ENERGY
- CENTURYLINK
- TRAFFIC SIGNAL
- EXISTING STORM SEWER
- EXISTING SAN SEWER
- EXISTING WATER MAIN
- PROPOSED STORM DRAIN
- EXISTING R/W
- PROPOSED R/W
- EXISTING ROADWAY REMOVAL
- MILL & OVERLAY

0 100
SCALE IN FEET

1 OF 2

NO	DATE	BY	CKD	APPR	REVISION
1	05/09/2014	EJM	GMP	CAK	MODIFIED SE QUAD OF 101ST AVE INTERSECTION PER SA COMMENTS

NAME: P:\02-611-32\Plan\002-611-032_UT_P1.dgn 05/12/2014 12:45:38 PM

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ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

EXISTING UTILITY PLAN
STA 106+64 TO 125+35
Sheet 85 of 196 Sheets

2 OF 2

NO	DATE	BY	CKD	APPR	REVISION
1	05/09/2014	EJM	GMP	CAK	MODIFIED SE QUADRANT OF EGRET BLVD INTERSECTION.

NAME: P:\02-611-32\Plan\002-611-032_UT_P2.dgn 05/12/2014 12:45:42 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:

DATE: LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

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ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

EXISTING UTILITY PLAN

STA 125+35 TO 145+00

Sheet 86 of 196 Sheets

PROJECT LOCATION AND GENERAL INFORMATION

THIS ROAD CONSTRUCTION PROJECT CONSISTS OF RECONSTRUCTING CSAH 11 (FOLEY BLVD.) FROM 101ST AVE NW TO EGRET BLVD NW IN THE CITY OF COON RAPIDS. CSAH 11 WILL BE A FOUR LANE DIVIDED ROADWAY WITH LEFT AND RIGHT TURN LANES, SIDEWALK AND TRAIL ALONG THE CORRIDOR.

THE PROJECT WILL PRIMARILY CONSIST OF GRADING, PLACING OF AGGREGATE BASE, BITUMINOUS PAVING, CURB AND GUTTER, STORM SEWER AND POND CONSTRUCTION.

THIS PROJECT WILL REQUIRE THE DISTURBANCE OF 14 ACRES OF SOILS AND DOES CREATE THE POTENTIAL FOR SEDIMENT DISCHARGE FROM THE SITE.

TRAINING REQUIREMENTS

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

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

LONG TERM OPERATION AND MAINTENANCE

THE CITY OF COON RAPIDS STREETS DIVISION WILL BE RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT.

TIM HIMMER
CITY OF COON RAPIDS ENGINEERING DIVISION
11155 ROBINSON DRIVE
COON RAPIDS, MN 55433
PHONE: (763) 767-6494

RECEIVING SURFACE WATERS, DISCHARGE TO IMPAIRED WATERS & SPECIAL WATERS

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

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

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

2) TEMPORARY SEDIMENT BASINS MUST BE USED FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH FIVE (5) OR MORE ACRES DISTURBED AT ONE TIME. THIS PROJECT AS DESIGNED DOES NOT HAVE FIVE (5) DISTURBED ACRES DRAINING TO A COMMON LOCATION AND TEMPORARY SEDIMENT BASINS WILL NOT BE REQUIRED.

RECEIVING SURFACE WATERS			
NAME OF WATER BODY		SPECIAL WATER	IMPAIRED WATER
ANOKA COUNTY			
COON CREEK		NO	YES

DISTURBED SOIL AREA

TOTAL DISTURBED SOILS AREA FOR THIS PROJECT IS 14 ACRES

IMPERVIOUS SOIL AREA

EXISTING AREA OF IMPERVIOUS SURFACE IS 8.2 ACRES.
POST CONSTRUCTION AREA OF IMPERVIOUS SURFACE 10.6 ACRES.

SOIL TYPES

THE PREDOMINANT SOIL TYPE FOUND ON THIS PROJECT IS SAND.

INFILTRATION PONDS

A POST CONSTRUCTION INFILTRATION TEST SHALL BE PERFORMED AT ALL POND LOCATIONS BY FILLING THE BASIN TO A MINIMUM DEPTH OF 6 INCHES WITH WATER AND MONITORING THE TIME TO DRAIN. THE COON CREEK WATERSHED DISTRICT SHALL BE NOTIFIED PRIOR TO THE TEST TO WITNESS THE RESULTS.

CONSTRUCTION PHASING

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

WHEN TOPSOIL IS DISTURBED, THE TOPSOIL WILL BE STRIPPED AND STOCKPILED IN SOIL BERMS AT THE TOE OF THE STRIPPED SLOPES ALONG THE PROJECT LIMITS. TEMPORARY VEGETATION WILL BE ESTABLISHED ON THE STOCKPILED TOPSOIL BERMS WITH HYDROMULCH AS NEEDED.
STOCKPILED TOPSOIL BERMS WILL NOT BE PLACED IN ANY STORMWATER CONVEYANCES.

AFTER STRIPING THE TOPSOIL THE EXPOSED SOIL INSLOPES WILL BE STABILIZED WITH SEED AND EROSION CONTROL BLANKET WITHIN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS BEEN TEMPORARILY OR PERMANENTLY CEASED.

TEMPORARY SEDIMENT BASINS

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

PERMANENT STORMWATER MANAGEMENT SYSTEM

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

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 THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. FOR ALL AREAS WHERE DISTURBED SOILS DRAIN TO AN IMPAIRED OR SPECIAL WATER THE EXPOSED SOIL BUST BE STABILIZED NO LATER THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA CEASED. SEE THE IMPAIRED & SPECIAL WATERS SECTION OF THIS SWPPP FOR ADDITIONAL BMP REQUIREMENTS FOR DISTURBED AREAS THAT DRAIN TO A SPECIAL OR IMPAIRED WATER

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

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

AGENCY CONTACTS

MPCA	NPDES	LAURAL MEZNER	218-316-3889
MPCA	EMERGENCY	STATE DUTY OFFICER	800-422-0798
DNR	NOT REQUIRED		
COE	NOT REQUIRED		
ANOKA COUNTY DESIGN SWPPP PREPARATION	U OF MN DESIGN OF SWPPP EXPIRES 5/14	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 BMP'S (SILT FENCE AND BERM) AT LOCATIONS WHERE CONSTRUCTION STORMWATER DRAINS FROM THE PROJECT

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

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

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

DUST SHALL BE CONTROLLED PER MNDOT SPEC. 2130.

POLLUTION PROVENTION MEASURES

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

THESE MANAGEMENT MEASURES FOR POLLUTION PREVENTION WILL BE STRICTLY ENFORCED.

LOCATION OF SWPPP REQUIREMENTS

REQUIREMENT	PLAN		MN/DOT SPECIFICATION	SPECIAL PROVISION
	TITLE	LOCATION		
NPDES PERMIT COMPLIANCE			1701, 1702, &1717	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
CERTIFIED PERSONNEL IN EROSION AND SEDIMENT CONTROL SITE MANAGEMENT	STORM WATER POLLUTION PREVENTION PLAN	SHEETS 87 - 88	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 97 - 98	1717	
PROJECT SPECIFIC CONSTRUCTION STAGING	STAGING PLANS	SHEETS 32 - 37	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 AND TABULATION CHARTS	SHEETS 15, 97, 98	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 87 - 88	1717, 2573, & 2575	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT) 2575 (RAPID STABILIZATION SPECIFICATION)
MAINTENANCE OF EROSION AND SEDIMENT CONTROL DEVICES, REMOVAL OF TRACKED SEDIMENT, REMOVAL OF DEVICES			1717 & 2573	1514 (MAINTENANCE DURING CONSTRUCTION) 1717 (LAND AIR & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
DEWATERING			2105.3B, & 2451.3C	DEWATERING MAY ALSO REQUIRE DNR PERMIT. NO DEWATERING IS ANTICIPATED FOR THIS PROJECT
FINAL STABILIZATION	QUANTITY TABULATIONS TURF ESTABLISHMENT PLAN	SHEETS 15, 104, 105	1717, 2573, & 2575	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
TEMPORARY EROSION AND SEDIMENT CONTROL DETAILS	QUANTITY TABULATIONS EROSION CONTROL PLAN	SHEETS 15, 97, 98	2575	2575 (RAPID STABILIZATION SPECIFICATION)
PERMANENT EROSION CONTROL DETAILS	TURF ESTABLISHMENT PLAN	SHEETS 104 - 105	2575	2575 (CONTROLLING EROSION AND ESTABLISHING VEGETATION)

NO	DATE	BY	CKD	APPR	REVISION
1	05/07/2014	EJM	GMP	CAK	ADDED 'INFILTRATION PONDS' NOTE BASED ON CCWD COMMENTS.

NAME: P:\02-611-32\Plan\002-611-032_SWPPP.dgn 05/07/2014 1:23:50 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT KOBILARCSIK
SIGNATURE:
DATE: 6-13-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014
DESIGN BY EJM DATE 11-12-2013
CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

STORM WATER POLLUTION PREVENTION PLAN

Sheet 87 of 196 Sheets

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Training

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

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

Amending the SWPPP

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

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

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Plan\002-611-032_SWPPP.dgn 01/16/2014 9:05:02 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: 1-16-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

STORM WATER POLLUTION PREVENTION PLAN

Sheet 88 of 196 Sheets

PERMANENT PAVEMENT MARKING PLAN
NOTES AND GUIDELINES

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

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

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

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

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

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

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

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

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

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

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

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

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

SYMBOLS & MATERIALS LEGEND

CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC

PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

STRIPING KEY

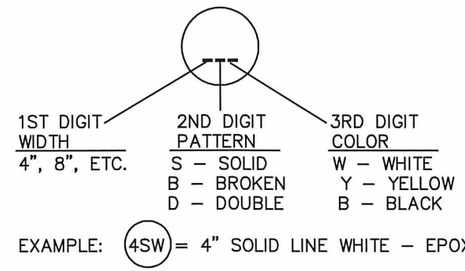
(---) CIRCLE - EPOXY

[---] SQUARE PREFORMED THERMOPLASTIC

TRIANGLE - PAINT

[RxR] PREFORMED THERMOPLASTIC

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



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

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Base\TRAFFIC\Perm pvmt mrkg guide notes_guidelines.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: 3-17-14 LICENSE NO. 24756

DRAWN BY MTH DATE 08/08/12
DESIGN BY MTH DATE 08/08/12
CHECKED BY JR DATE 8/08/12

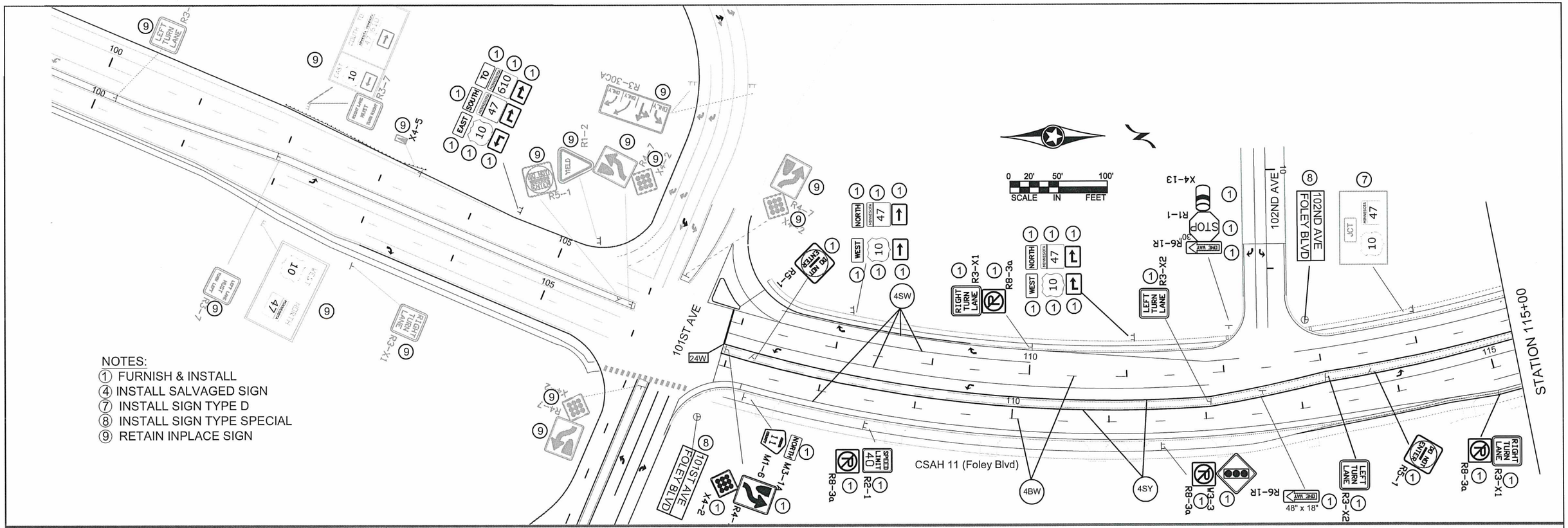
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
M.S.A.P. 114-020-047

PERMANENT MARKING TABULATION

Sheet 89 of 196 Sheets

NOTES:
① FURNISH & INSTALL
④ INSTALL SALVAGED SIGN
⑦ INSTALL SIGN TYPE D
⑧ INSTALL SIGN TYPE SPECIAL
⑨ RETAIN INPLACE SIGN



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Base\TRAFFIC\0261132_EXISTING SIGNING & STRIPING.dwg

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: [signature]
DATE: 3-17-14 REG. NO. 24756

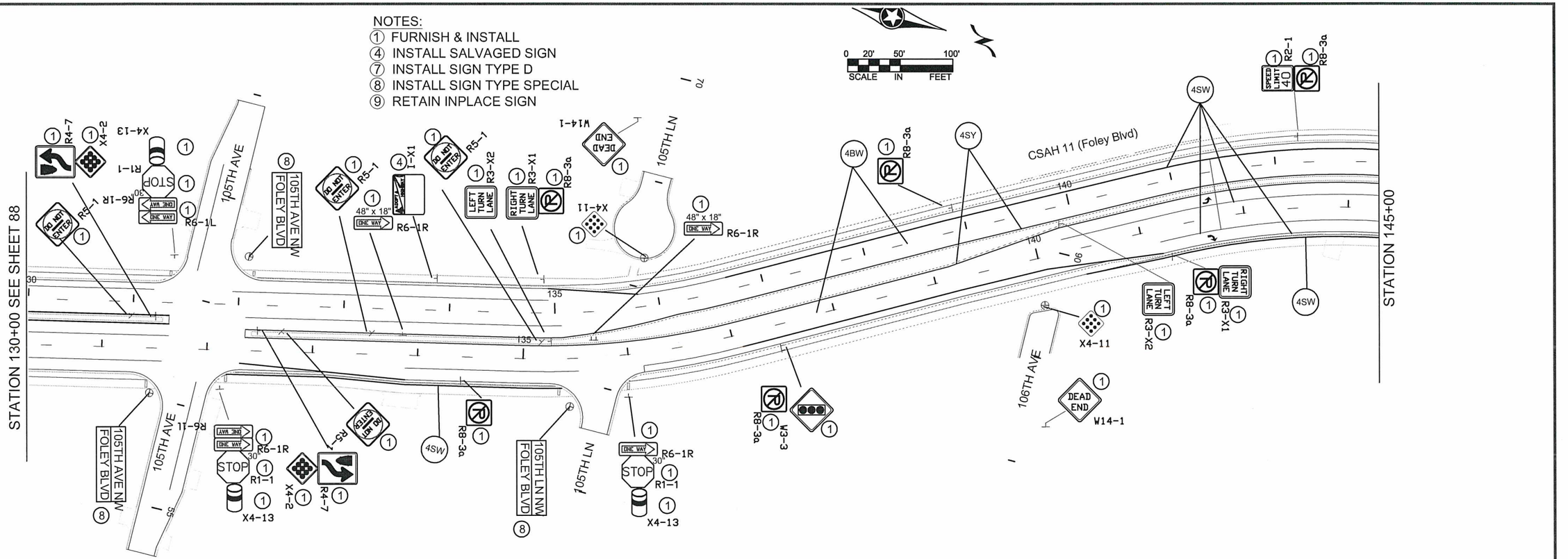
DRAWN BY MTH DATE 10/29/12
DESIGN BY MTH DATE 10/29/12
CHECKED BY RB DATE 02/08/13

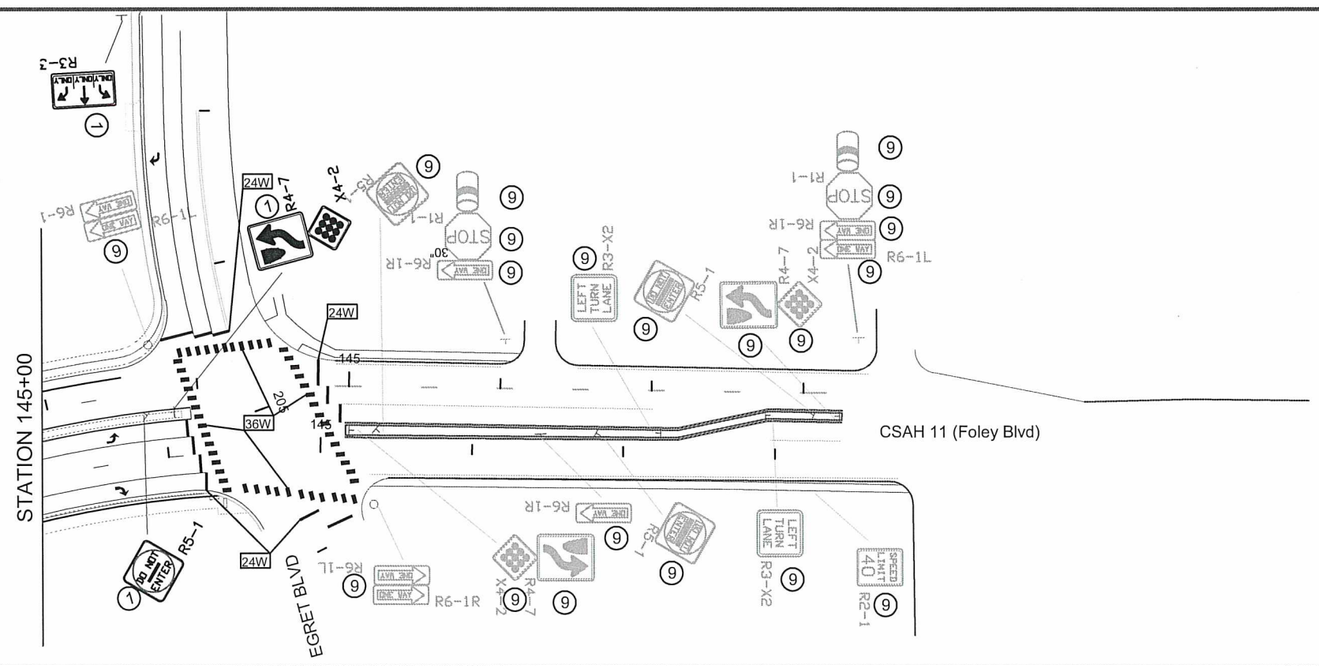
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
M.S.A.P. 114-020-047

PERMANENT SIGNING & STRIPING PLAN
Sheet 90 of 196 Sheets

NOTES:
① FURNISH & INSTALL
④ INSTALL SALVAGED SIGN
⑦ INSTALL SIGN TYPE D
⑧ INSTALL SIGN TYPE SPECIAL
⑨ RETAIN INPLACE SIGN





NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Base\TRAFFIC\0261132_EXISTING SIGNING & STRIPING.dwg

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: CURT A. KOBILARCSIK
SIGNATURE: [signature]
DATE: 3-17-14 REG. NO. 24756

DRAWN BY MTH DATE 10/08/12
DESIGN BY MTH DATE 10/08/12
CHECKED BY RB DATE 02/08/13

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
M.S.A.P. 114-020-047

PERMANENT SIGNING & STRIPING PLAN
Sheet 91 of 196 Sheets

SIGN PANELS TYPE C							E
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	SQ FT PANEL AREA	SQ FT TOTAL AREA	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT
R6-1L	12" x 36"		2	3.00	6.00		
R6-1R	12" x 36"		5	3.00	15.00		
R1-1	30" x 30"		5	6.25	31.25	1	7.0'
X4-13	4" diameter x 15"		5	1.31	0		
R2-1	24" x 30"		2	5.00	10.00	1	7.0'
R3-X1	30" x 30"		8	6.25	50.00	1	7.0'
R3-X2	30" x 30"		6	6.25	37.5	1	7.0'
R4-7	24" x 30"		6	5.00	30.00	1	7.0'
X4-2	18" x 18"		6	2.25	13.25		
R5-1	30" x 30"		10	6.25	62.5	1	7.0'
R6-1R	18" x 48"		6	6.00	36.00	2	7.0'
R6-1L	18" x 48"		2	6.00	12.00	2	7.0'
R8-3a	24" x 24"		18	4.00	72.00	1	7.0'
W3-3	36" x 36"		3	9.00	27.00	2	7.0'
W14-11	36" x 36"		4	9.00	36.00	2	7.0'
X4-11	18" x 18"		4	2.25	9.00	1	7.0'
M3-1a	24" x 12"		1	2.00	2.00		
M1-6	24" x 24"		1	4.00	4.00	1	7.0'

SIGN PANELS TYPE C							E
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	SQ FT PANEL AREA	SQ FT TOTAL AREA	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT
M3-2	24" x 12"		1	2.00	2.00		
M3-4	24" x 12"		2	2.00	4.00		
M1-4a	24" x 24"		3	4.00	12.00	1	7.0'
M5-1L	21" x 15"		1	2.19	2.19		
M5-1R	21" x 15"		1	2.19	2.19		
M6-1R	21" x 15"		1	2.19	2.19		
M3-1	24" x 12"		2	2.00	4.00		
M3-3	24" x 12"		1	2.00	2.00		
M1-5a	24" x 24"		3	4.00	12.00	1	7.0'
M5-1R	21" x 15"		2	2.19	4.38		
M6-1R	21" x 15"		1	2.19	2.19		
M4-5	24" x 12"		1	2.00	2.00		
M1-5a	24" x 24"		1	4.00	4.00	1	7.0'
M5-1R	21" x 15"		1	2.19	2.19		
R3-30DA	36" x 30"		2	7.50	15.00	2	7.0'
R3-30ACA	54" x 30"		1	11.25	11.25	2	7.0'
TOTAL			118		537.33		

NOTES:

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

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-611-32\Base\TRAFFIC\0261132_EXISTING SIGNING & STRIPING.dwg

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

PRINT NAME: CURT A. KOBILARCSIK

SIGNATURE: [signature]

DATE: 3-17-14 REG. NO. 24756

DRAWN BY RB DATE 12/03/13

DESIGN BY RB DATE 12/03/13

CHECKED BY JR DATE 12/03/13

ANOKA COUNTY

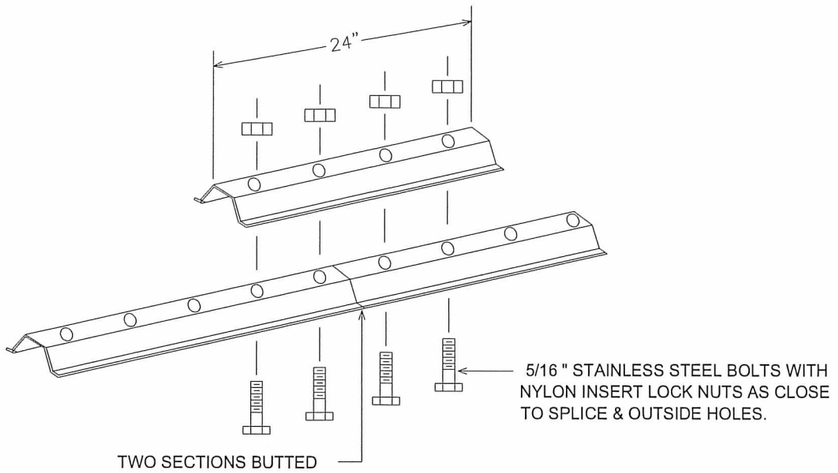
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

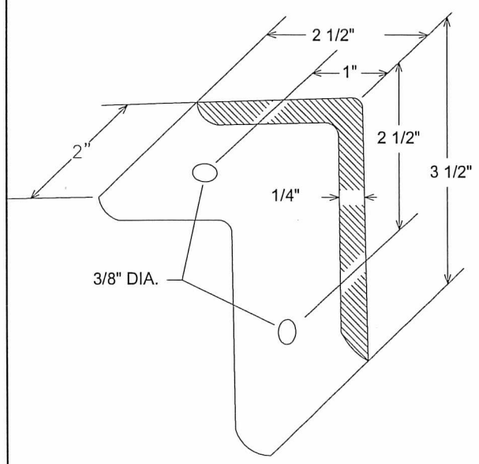
M.S.A.P. 114-020-047

PERMANENT SIGNING & STRIPING PLAN

Sheet 92 of 196 Sheets

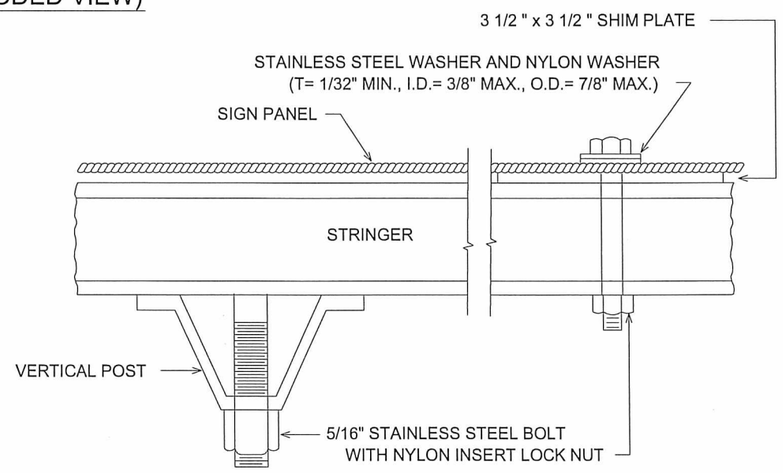


LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)

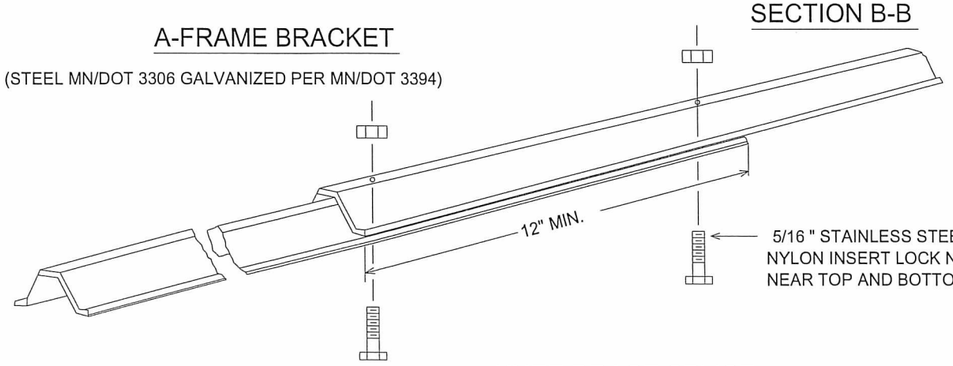


A-FRAME BRACKET

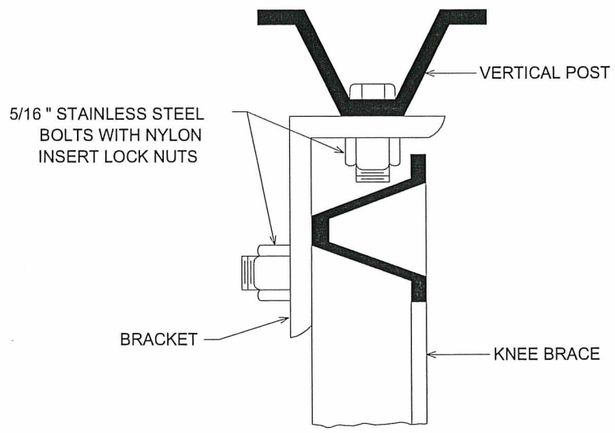
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



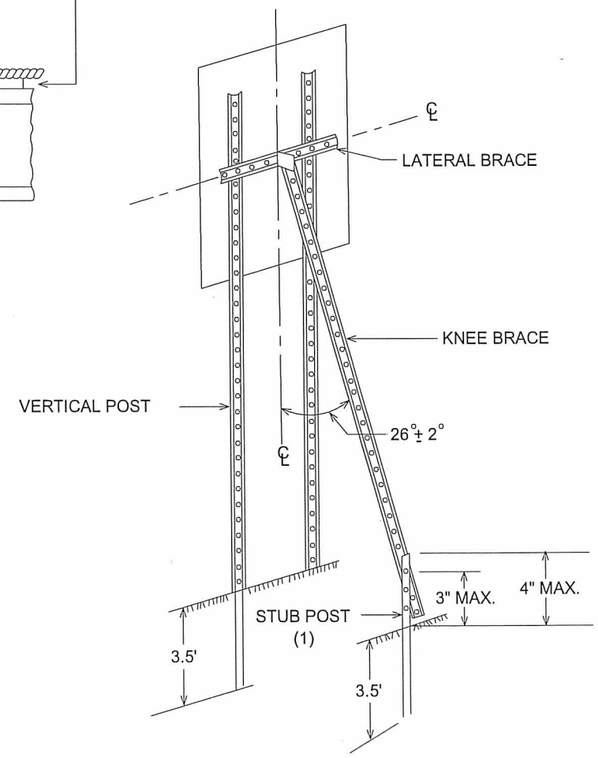
SECTION B-B



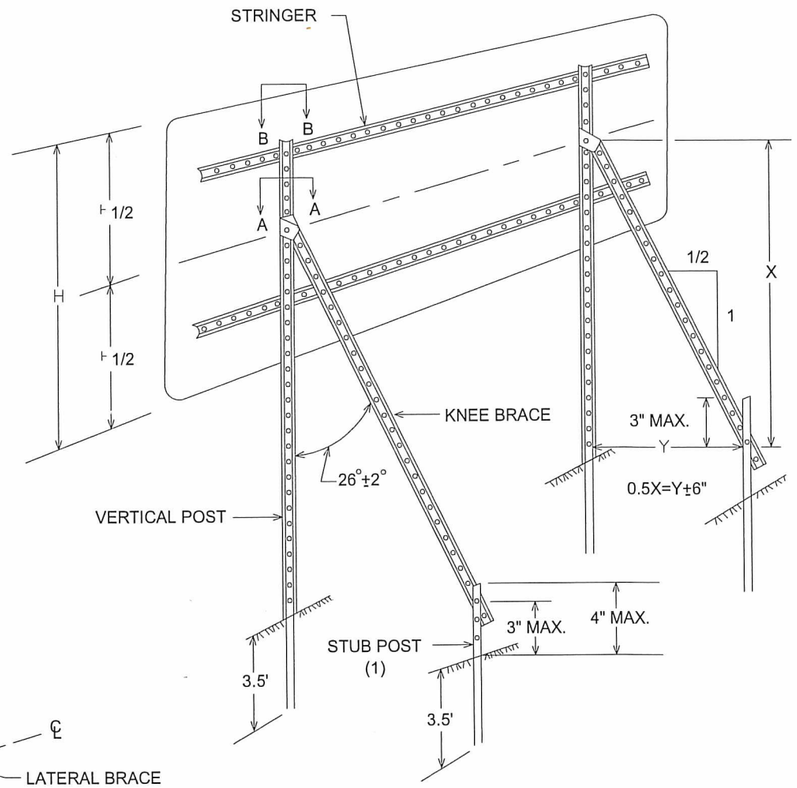
KNEE BRACE SPLICE



SECTION A-A



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



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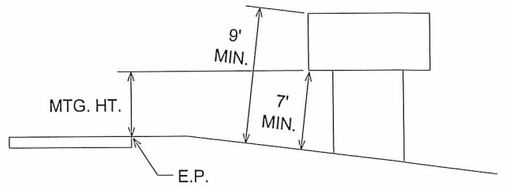

TYPICAL MOUNTING

(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:\02-611-32\Base\TRAFFIC\Sign&Stripe_Details.dwg

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

PRINT NAME: CURT A KOBILARCSIK

SIGNATURE: Curt A Kobilarcsik

DATE: 1-16-14 LICENSE NO. 24756

DRAWN BY MTH DATE 02//14/13

DESIGN BY MTH DATE 02/14/13

CHECKED BY JR DATE 02/XX/13

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

M.S.A.P. 114-020-047

SIGNING & STRIPING DETAILS

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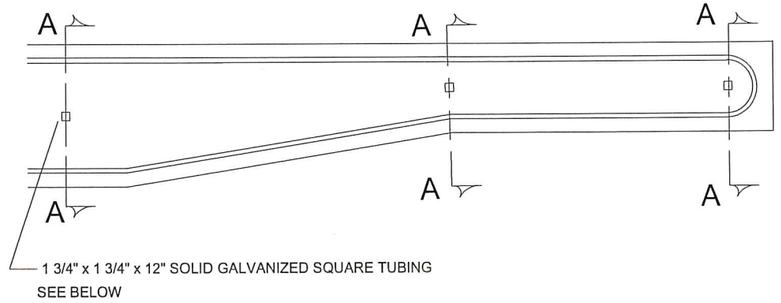
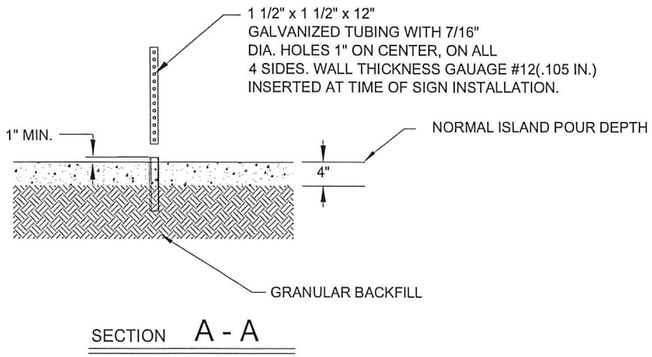
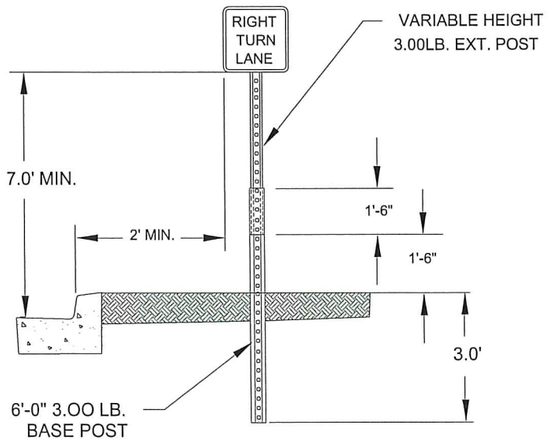


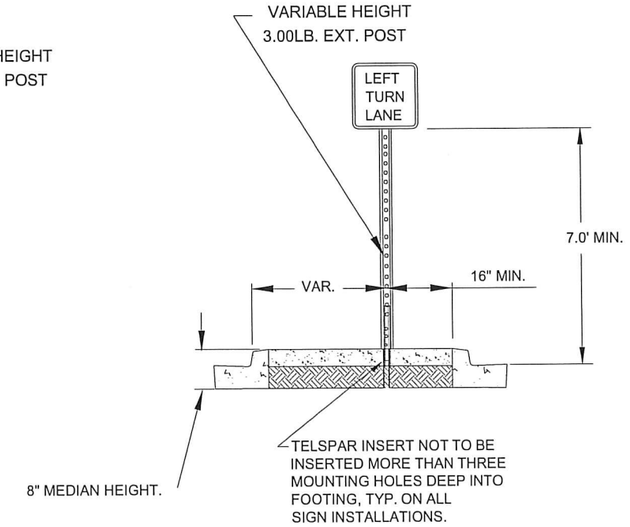
GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



SECTION A - A

ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL





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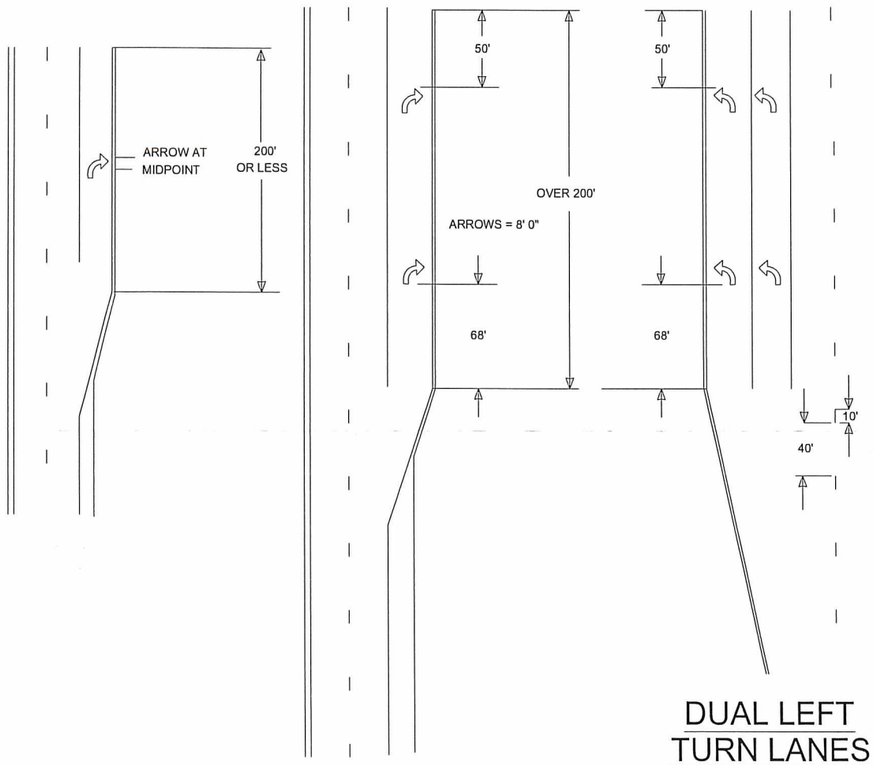
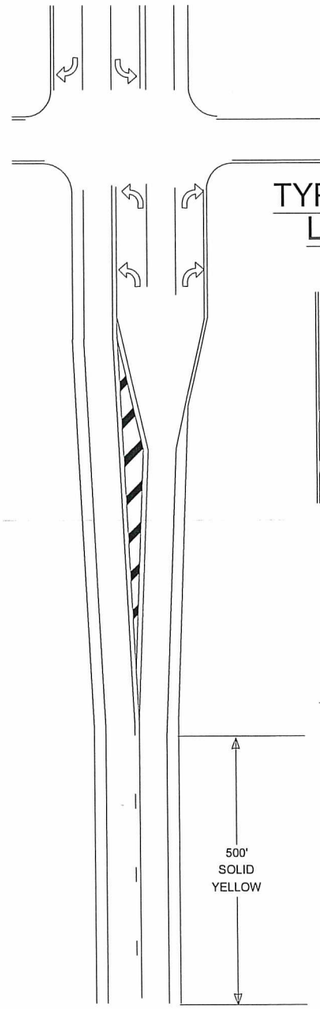
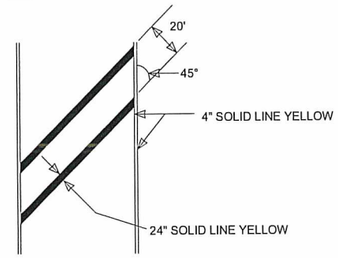
TYPICAL MESSAGE PLACEMENT FOR TURN LANES



DUAL LEFT TURN LANES



TYPICAL MARKINGS FOR LEFT TURN ISLANDS



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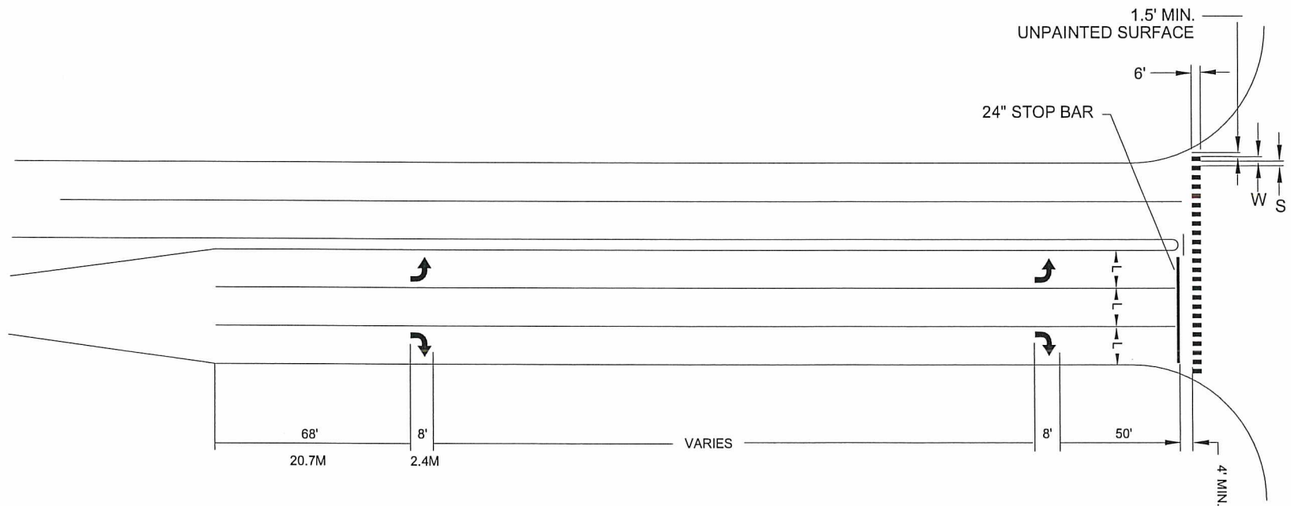
MARKINGS FOR PEDESTRIAN CROSSWALKS



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

NOTES: CROSSWALKS:

1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.

2.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD 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.

NO	DATE	BY	CKD	APPR	REVISION

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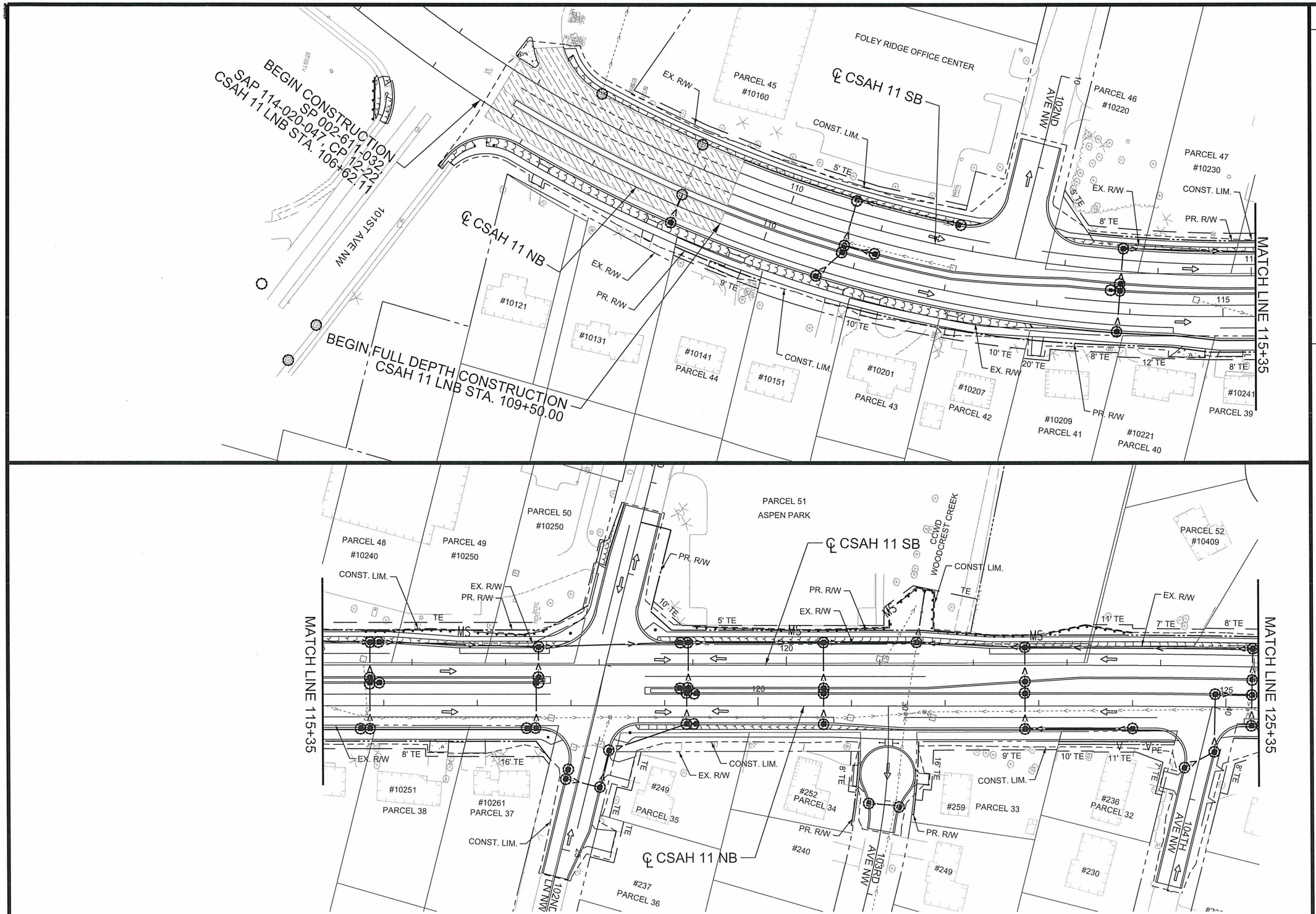
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

M.S.A.P. 114-020-047

SIGNING & STRIPING DETAILS

Sheet 96 of 196 Sheets



LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- PROPOSED APRON
- INPLACE APRON
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- MS — SILT FENCE TYPE MACHINE SLICED
- RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- INLET PROTECTION
- SURFACE FLOW ARROW
- EROSION CONTROL BLANKET CATEGORY 3

SCALE 0 100 IN FEET

1 OF 2

NO	DATE	BY	CKD	APPR	REVISION
1	05/07/2014	EJM	GMP	CAK	UPDATED EROSION CONTROL MEASURES.

NAME: P:\02-611-32\Plan\002-611-032_EC_P1.dgn 05/12/2014 12:45:46 PM

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PRINT NAME: CURT KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

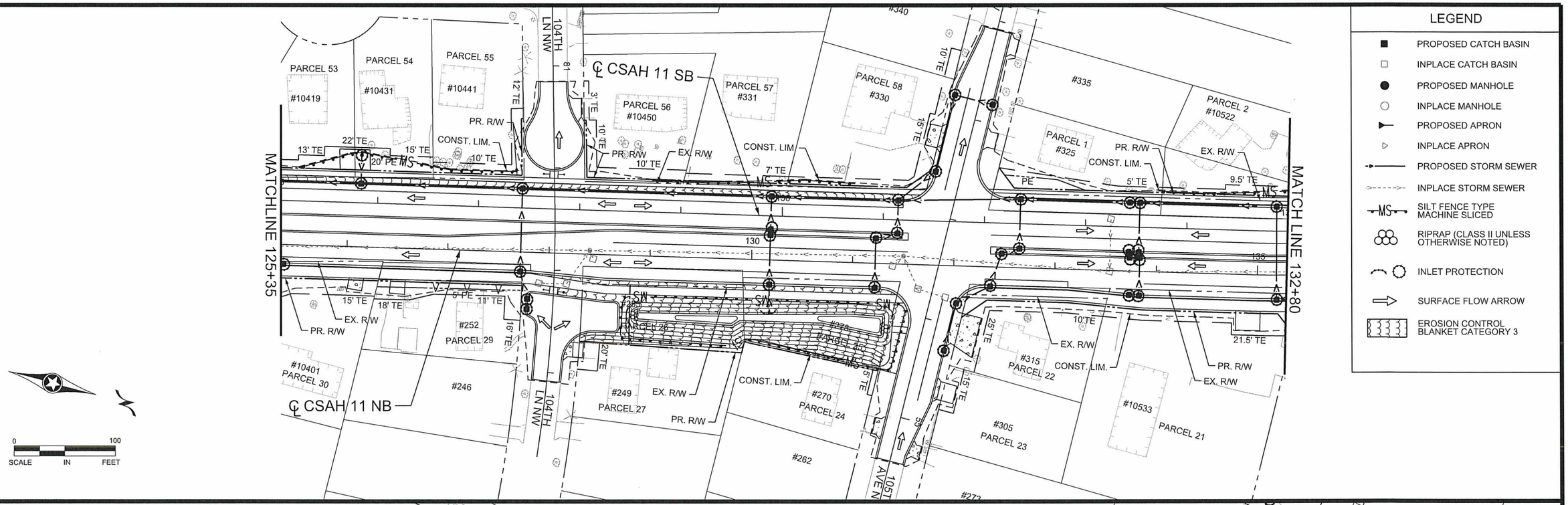
S.A.P. 114-020-047

C.P. 12-22

EROSION CONTROL PLAN

STA 106+64 TO 125+35

Sheet 97 of 196 Sheets



NO	DATE	BY	CKD	APPR	REVISION
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SIGNATURE:

DATE: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

EROSION CONTROL PLAN

STA 125+35 TO 145+00

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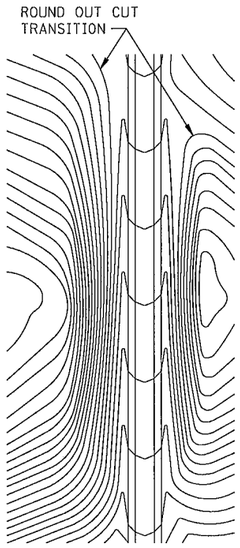
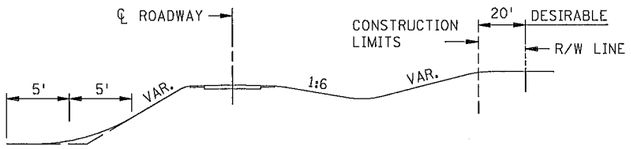
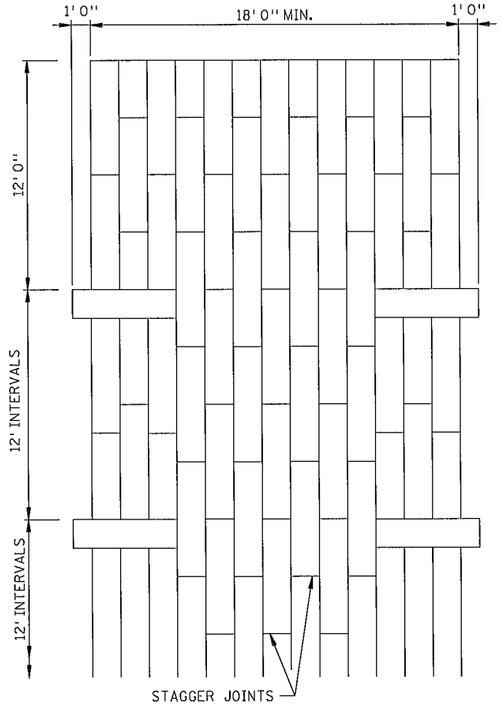
PLOTTED/REVISED:
$$$$@DATE@$$$$



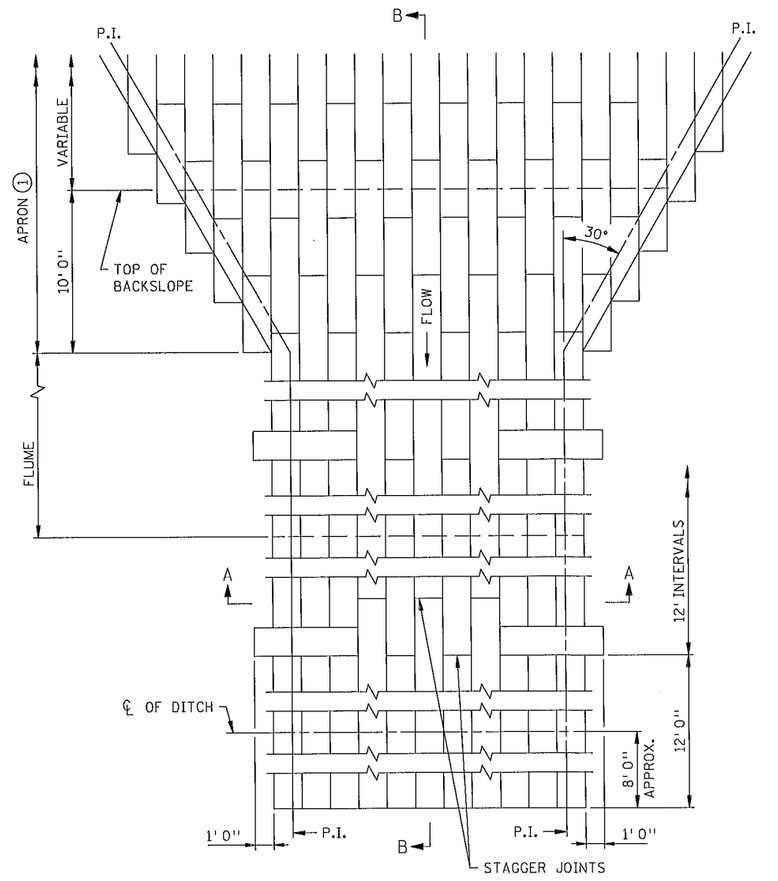
CONTOURING ROAD CUTS



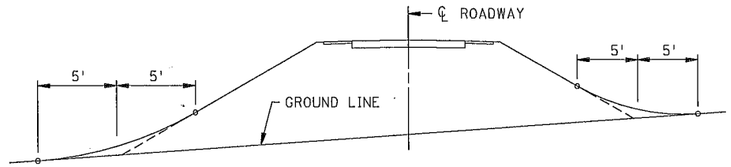
ROUNDING SHOULDERS AND BACKSLOPES



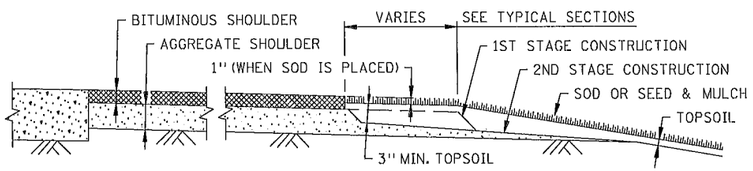
PLAN VIEW



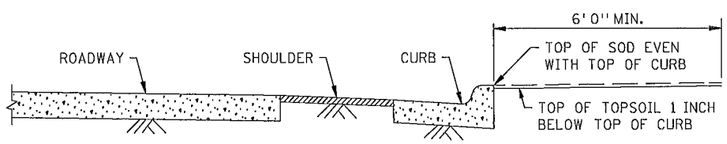
PLAN VIEW



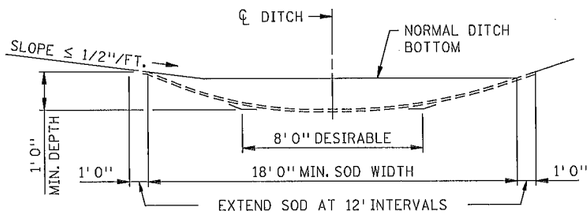
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



SHAPING AND TOPSOILING INSLOPES

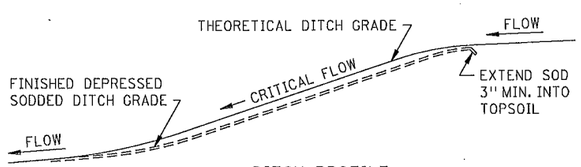


SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



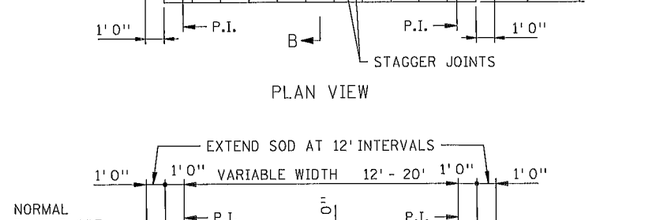
SODDED DITCH CROSS SECTION

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

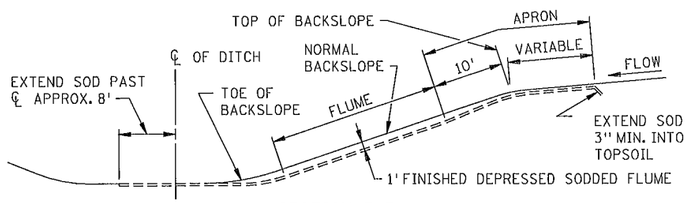


DITCH PROFILE

SODDED DITCH DETAILS



SECTION A-A



SECTION B-B

SODDED FLUME DETAILS

NOTES:

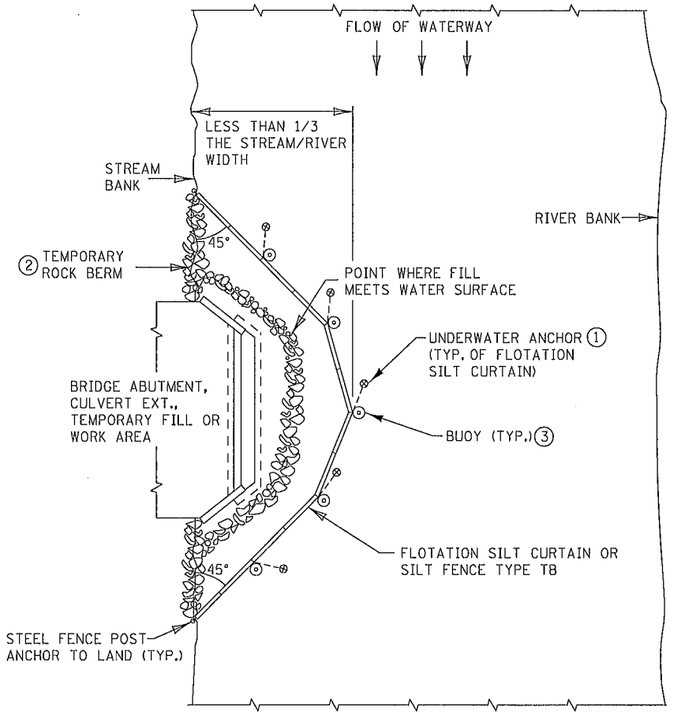
SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.

① CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

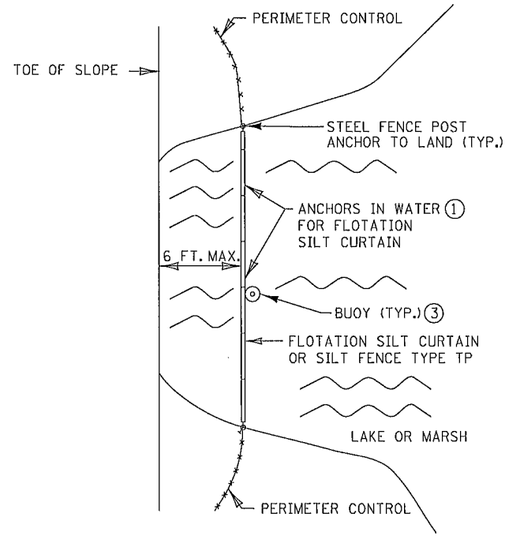
STANDARD SHEET NO. 5-297.404	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED: NOVEMBER 20, 2002	
S.P. 002-611-032 S.A.P. 114-020-047 CP 12-22	SHEET NO. 99 OF 196 SHEETS

DISTRICT #: $@DISTRICT@$
USER NAME: $$@USER$NAME@$$
PATH & FILENAME: $$$@PATHFILENAME@$$$
FILE NAME: @FILENAME@

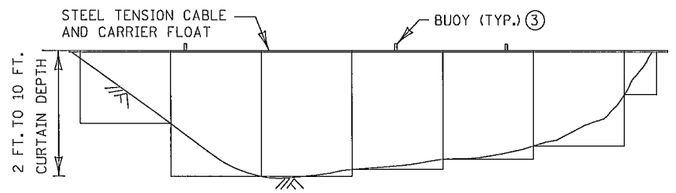
PLOTTED/REVISED:
$$$$@DATE@$$$$$



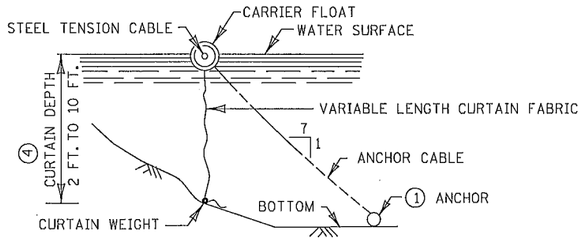
PLAN VIEW FOR STREAM ⑤



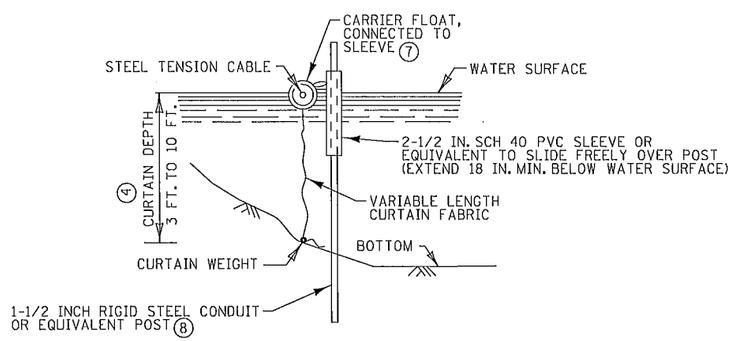
PLAN VIEW FOR LAKE OR MARSH ⑤



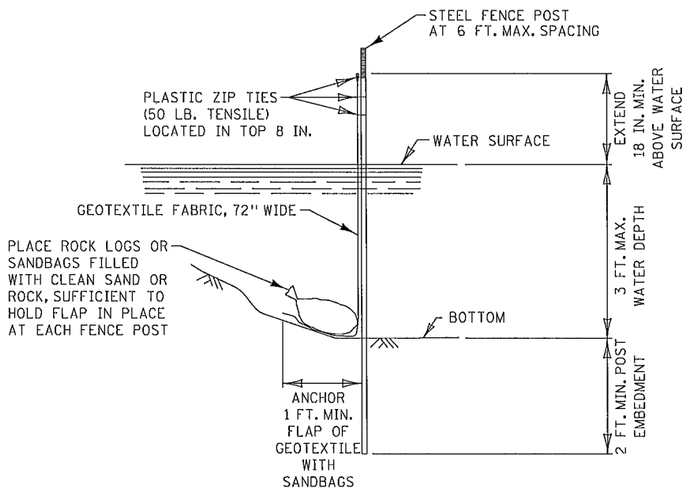
FRONT VIEW FOR FLOTATION SILT CURTAIN



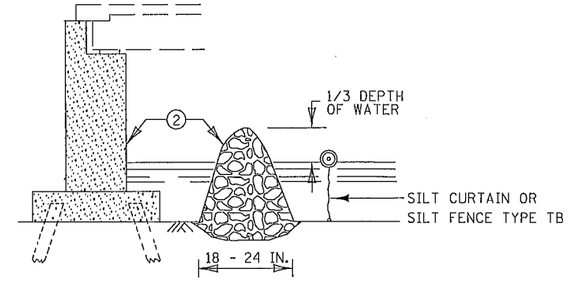
FLOTATION SILT CURTAIN



ALTERNATE FLOTATION SILT CURTAIN



SILT FENCE TYPE TB ⑥



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.

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	

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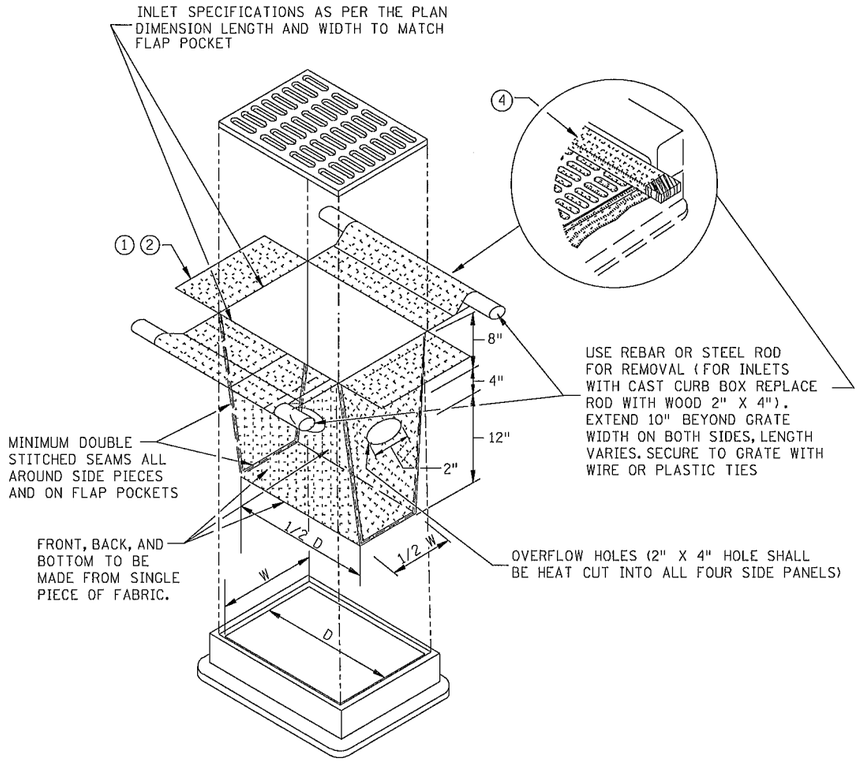
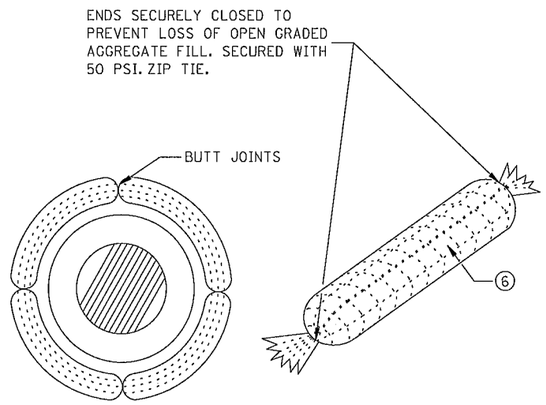
PLOTTED/REVISED:
$$$$@DATE@$$$$

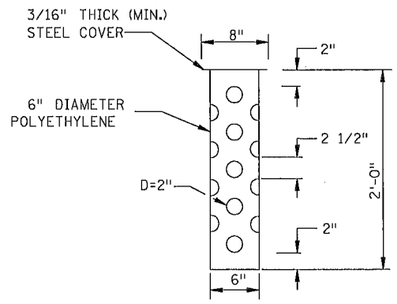


FILTER BAG INSERT ③

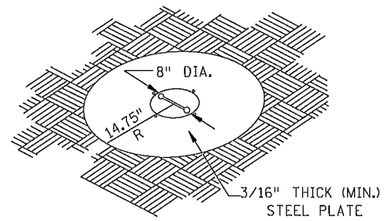
(CAN BE INSTALLED IN ANY INLET TYPE
WITH OR WITHOUT A CURB BOX)



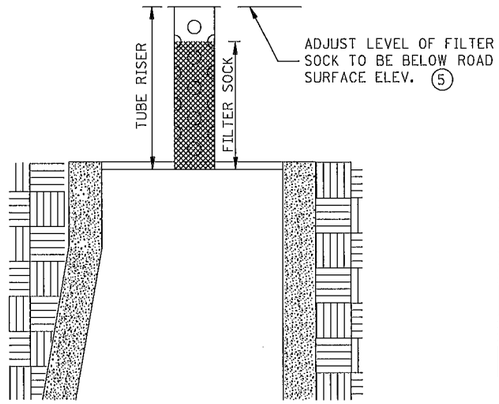
ROCK LOG/COMPOST LOG



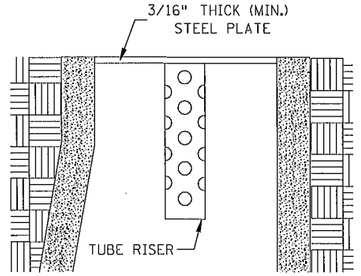
TUBE RISER



PERSPECTIVE VIEW

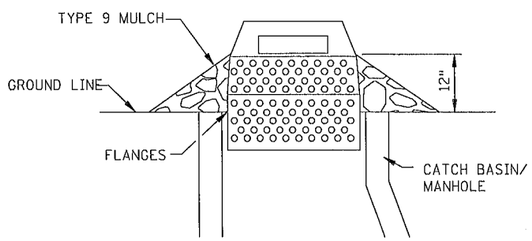


SECTION
(UP POSITION)



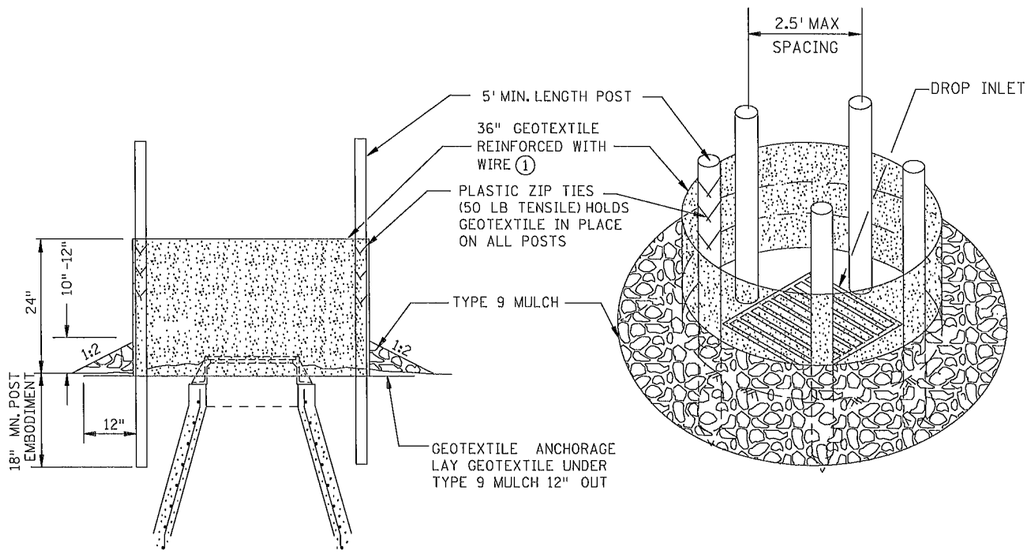
SECTION
(DOWN POSITION)

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. 002-611-032 S.A.P. 114-020-047 CP 12-22	SHEET NO. 101 OF 196 SHEETS

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PLOTTED/REVISED:
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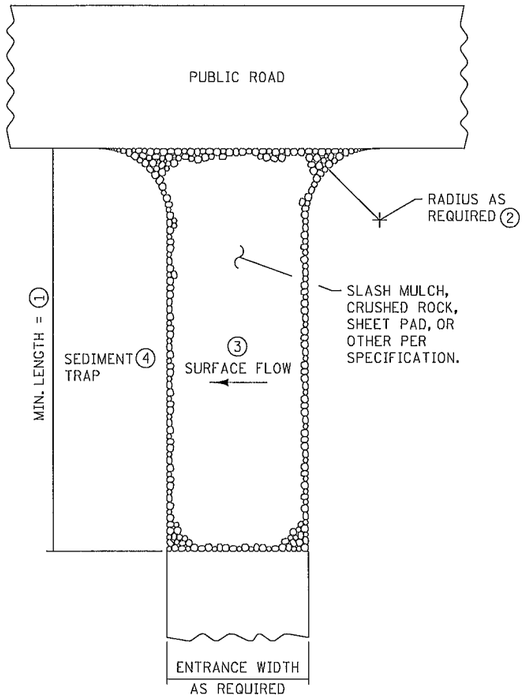
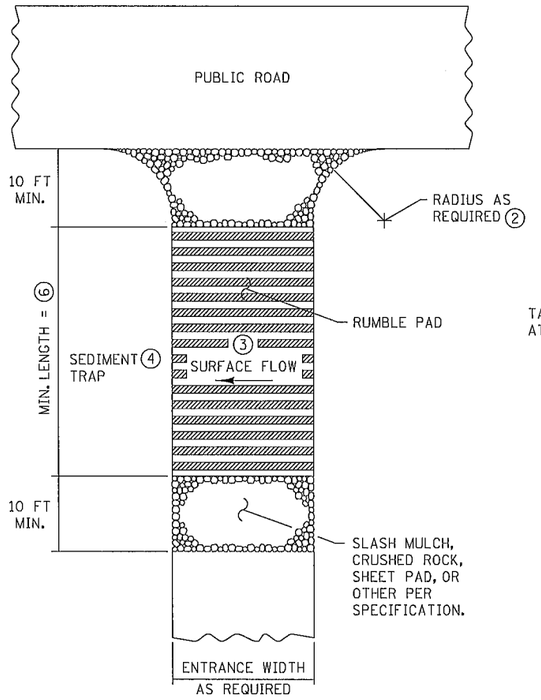
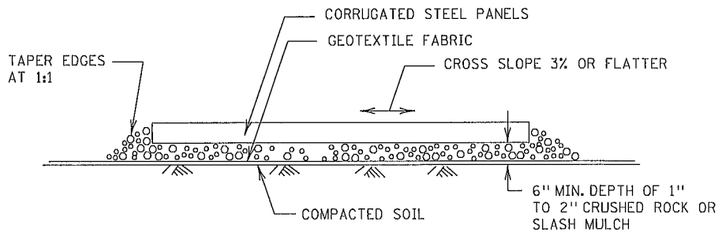


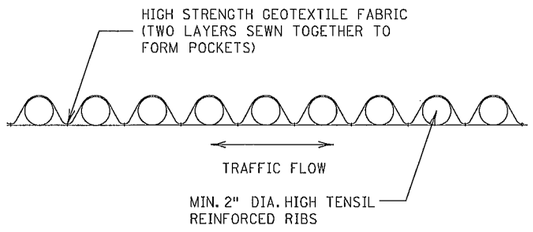
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



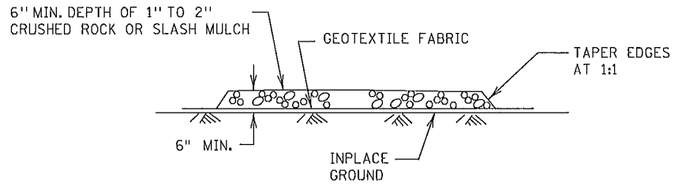
RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



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. 002-611-032 S.A.P. 114-020-047 CP 12-22	SHEET NO.102 OF 196 SHEETS

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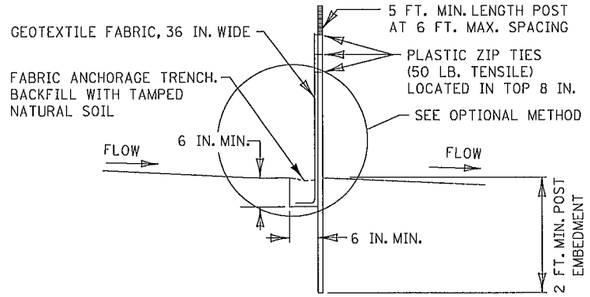
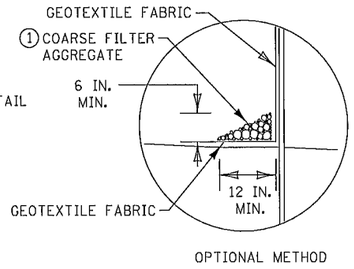
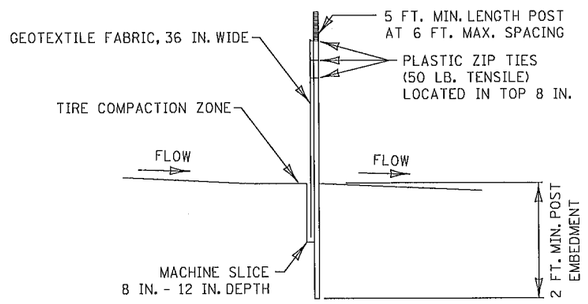


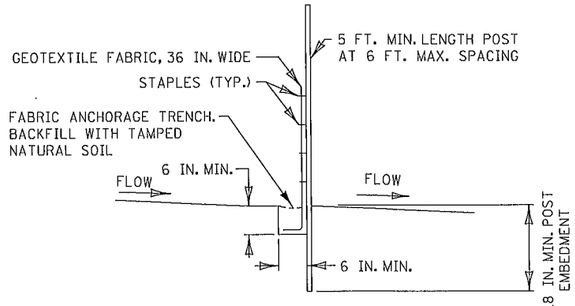


OPTIONAL METHOD

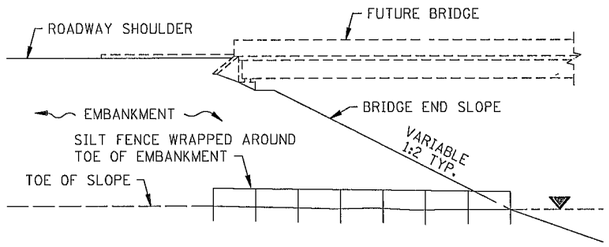
SILT FENCE TYPE HI ②
(HAND INSTALLED)



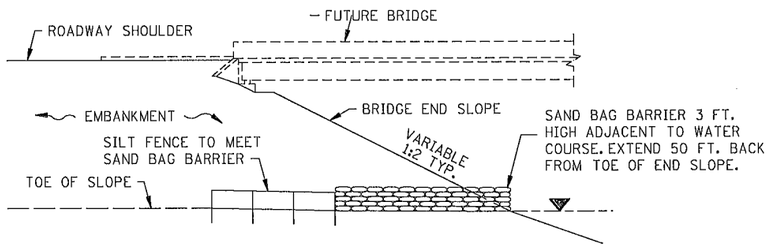
SILT FENCE TYPE MS ②
(MACHINE SLICED)



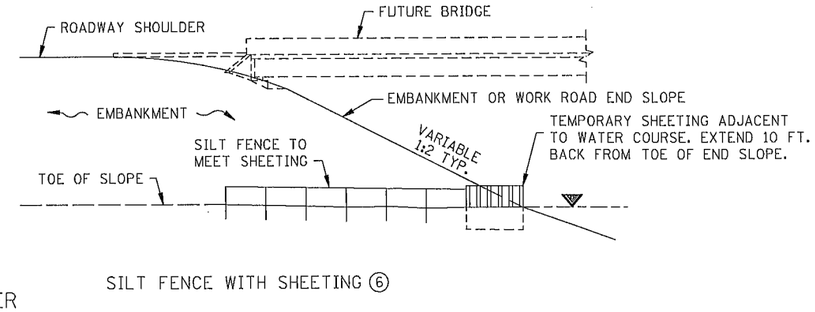
SILT FENCE TYPE PA ③
(PREASSEMBLED)



SILT FENCE ONLY ④



SILT FENCE WITH SAND BAGS ⑤

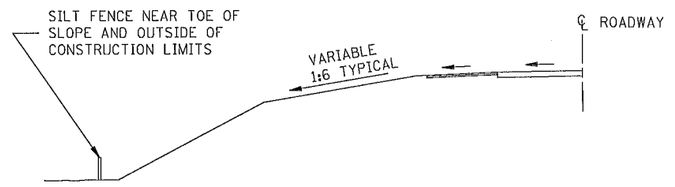


SILT FENCE WITH SHEETING ⑥

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.	TITLE:
5-297.405 (6 OF 7)	TEMPORARY SEDIMENT CONTROL
STANDARD APPROVED: DECEMBER 11, 2013	SILT FENCE

S.P. 002-611-032 S.A.P. 114-020-047 CP 12-22 SHEET NO.103 OF 196 SHEETS

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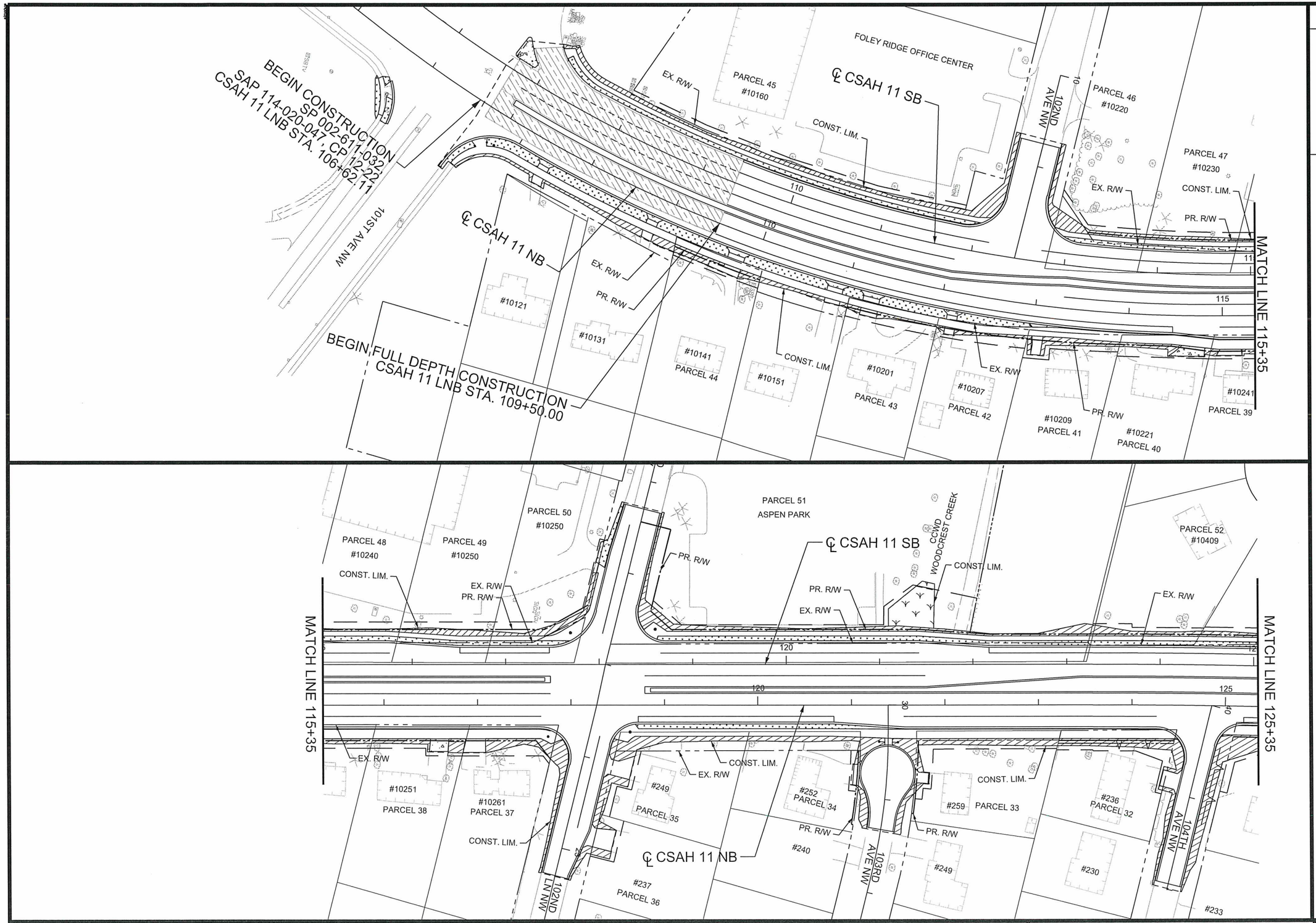

LEGEND

- SODDING TYPE SALT RESISTANT
- SEEDING MIX 270
- SEEDING MIX 310

0 100
SCALE IN FEET

1 OF 2

NO	DATE	BY	CKD	APPR	REVISION
1	05/07/2014	EJM	GMP	CAK	ADDED SEEDING MIX AT SE CORNER OF FOLEY BLVD/101ST AVE.

NAME: P:\02-611-32\Plan\002-611-032_TE_P1.dgn 05/12/2014 12:45:55 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: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

TURF ESTABLISHMENT PLAN

STA 106+64 TO 125+35

Sheet 104 of 196 Sheets

NO	DATE	BY	CKD	APPR	REVISION
1	05/09/2014	EJM	GMP	CAK	MODIFIED SEEDING AT SE QUADRANT OF EGRET/FOLEY BLVD.

NAME: P:\02-611-32\Plan\002-611-032_TE_P2.dgn 05/12/2014 12:46:00 PM

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

PRINT NAME: CURT KOBILARCSIK

SIGNATURE: Curt Kobilarcsik

DATE: 5-21-14 LICENSE NO. 24756

DRAWN BY EJM DATE 01-09-2014

DESIGN BY EJM DATE 11-12-2013

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ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

S.A.P. 114-020-047

C.P. 12-22

TURF ESTABLISHMENT PLAN

STA 125+35 TO 145+00

Sheet 105 of 196 Sheets

ABBREVIATIONS

APS	ACCESSIBLE PEDESTRIAN SIGNAL
AWF	ADVANCED WARNING FLASHER
BL	BLUE
BL/BLK	BLUE WITH BLACK TRACER
BLK	BLACK
BLK/R	BLACK WITH RED TRACER
BLK/WH	BLACK WITH WHITE TRACER
C.D.	COUNT DOWN
CH. SW.	CHECK SWITCH
CLR	CLEAR
D2-1 (E.G.)	DETECTOR (PHASE 2, NO. 1)
DEG	DEGREES
DWK	DON'T WALK
EQ.G	EQUIPMENT GROUND
EVP	EMERGENCY VEHICLE PRE-EMPTION
F&I	FURNISH AND INSTALL
FL	FLASH/FLASHING
FYA	FLASHING YELLOW ARROW
FYLA	FLASHING YELLOW LEFT ARROW
G	GREEN
G/BLK	GREEN WITH BLACK TRACER
GLA	GREEN LEFT ARROW
GRN	GREEN INDICATION
GR. RD.	GROUND ROD
GRA	GREEN RIGHT ARROW
GTA	GREEN THRU ARROW
HH	HANDHOLE
HPS	HIGH PRESSURE SODIUM
IMC	INTERMEDIATE METAL CONDUIT
IND	INDICATION
INP	INPLACE
INS. GR.	INSULATED GROUND
JB	JUNCTION BOX
LED	LIGHT EMITTING DIODE
LHT	LIGHT
LUM	LUMINAIRE
NEU	NEUTRAL
NMC	NONMETALLIC CONDUIT
O	ORANGE
O/BLK	ORANGE WITH BLACK TRACER
P1-1 (E.G.)	PEDESTRIAN INDICATION (PHASE 1, NO. 1)
PB	PUSH BUTTON
PB2-1 (E.G.)	PUSH BUTTON (PHASE 2, NO. 1)
PEC	PHOTOELECTRIC CELL
PED	PEDESTRIAN
PVC	POLYVINYL CHLORIDE (CONDUIT)
RED	RED INDICATION
R&S	REMOVE AND SALVAGE
R/BLK	RED WITH BLACK TRACER
RLA	RED LEFT ARROW
RSC	RIGID STEEL CONDUIT
S & I	SALVAGE AND INSTALL
SOP	SOURCE OF POWER
SPR	SPARE
ST LHT	STREET LIGHT
STA	STATION
SW	SWITCH
SWD	SWITCHED
TDW	TELEPHONE DROP WIRE
WH	WHITE
WH/BLK	WHITE WITH BLACK TRACER
WH/R	WHITE WITH RED TRACER
WLK	WALK
YEL	YELLOW INDICATION
YLA	YELLOW LEFT ARROW
YRA	YELLOW RIGHT ARROW

SYMBOLS

- HANDHOLE
- EQ. G CONNECTION
- EVP CONFIRMATORY LIGHT
- EVP DETECTOR
- EVP DETECTOR & CONFIRMATORY LIGHT
- FO — FIBER OPTIC VAULT
- 2 — LUMINAIRE NO.
- 3 — SIGNAL BASE NO.
- 3-2 — SIGNAL FACE NO./FLASHER FACE NO.
- SPLICE
- V- — VIDEO DETECTION
- M- — MICROWAVE DETECTION
- S- — SONIC DETECTION

FOR PLANS AND UTILITIES SYMBOLS
SEE TECHNICAL MANUAL

LEGEND OF SYMBOLS

- CONTROLLER AND SERVICE EQUIP. NO's — A
- SIGNAL BASE NO. — 1
- SIGNAL FACE NO. — H-H
- LUMINAIRE NO. — 1
- CONTROLLER AND CABINET
- CONTROLLER AND CABINET – IN PLACE
- HANDHOLE
- HANDHOLE – IN PLACE
- CONDUIT
- CONDUIT – 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 — 3
- CENTERLINE
- EDGE OF ROADWAY
- SHOULDERLINE
- CURB LINE
- STOP BAR
- EMERGENCY VEHICLE PREEMPTION DETECTOR

TRAFFIC SIGNAL TABULATION

X

ITEM NO	ITEM	UNIT	TOTAL ESTIMATED QUANTITY
2565	TRAFFIC CONTROL SIGNAL SYSTEM "B"	SIG. SYS.	1
2565	EMERGENCY VEHICLE PREEMPTION SYSTEM "B"	LUMP SUM	1
2565	REVISE EMERGENCY VEHICLE PREEMPTION SYSTEM "A"	LUMP SUM	1
2565	REVISE EMERGENCY VEHICLE PREEMPTION SYSTEM "C"	LUMP SUM	1
2565	TRAFFIC CONTROL INTERCONNECTION	LUMP SUM	1
2565	PEDESTRIAN PUSH BUTTON (APS)	EACH	2
2565	SIGNAL SERVICE CABINET	EACH	1
2565	PAINT SIGNAL SYSTEM	EACH	2
2565	TEMPORARY SIGNAL SYSTEM "A"	SYSTEM	1
2565	TEMPORARY SIGNAL SYSTEM "C"	SYSTEM	1
2565	REVISE SIGNAL SYSTEM "A"	SYSTEM	1
2565	REVISE SIGNAL SYSTEM "C"	SYSTEM	1

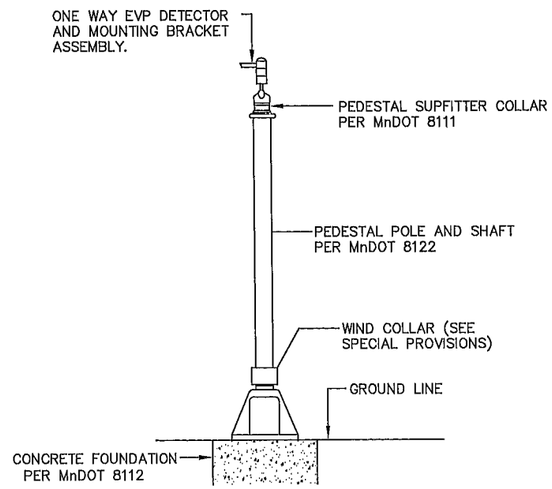
TRAFFIC SIGNAL STANDARD PLATES

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

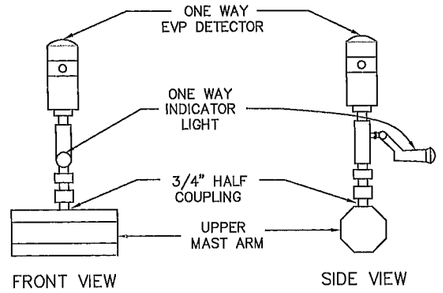
PLATE NO.	DESCRIPTION
* 8110 E	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
* 8111 E	TRAFFIC SIGNAL BRACKETING (PEDESTAL MOUNTED) (3 SHEETS)
* 8112 G	PEDESTAL FOUNDATION (TRAFFIC CONTROL SIGNALS)
* 8114 A	PVC HANDHOLE/PULLBOX (NO VEHICLE LOAD) (2 SHEETS)
* 8117 F	PRECAST CONCRETE HAND HOLE (OR PULL BOX) (2 SHEETS)
* 8118 D	SERVICE EQUIPMENT & POLE--TRAFFIC CONTROL SIGNALS
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
* 8121 H	TRANSFORMER BASE & POLE BASE PLATE (2 SHEETS)
* 8122 F	PEDESTAL & PEDESTAL BASE (FOR TRAFFIC CONTROL SIGNALS SUPPORT) (2 SHEETS)
* 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)
* 8132 B	PREFORMED RIGID PVC CONDUIT LOOP DETECTOR LAYOUTS (3 SHEETS)

* – STANDARD PLATES APPLICABLE TO THIS PROJECT

PEDESTAL POLE MOUNTED EVP DETECTOR DETAIL



EVP DETECTOR AND LIGHT MOUNTING DETAIL ON MAST ARM



S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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DESIGNER: JMG
CHECKED BY: JMG
DESIGN TEAM

NO.	BY	DATE	REVISIONS

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Date: March 14, 2014 Name: John M. Gray, PE Lic. No. 22457

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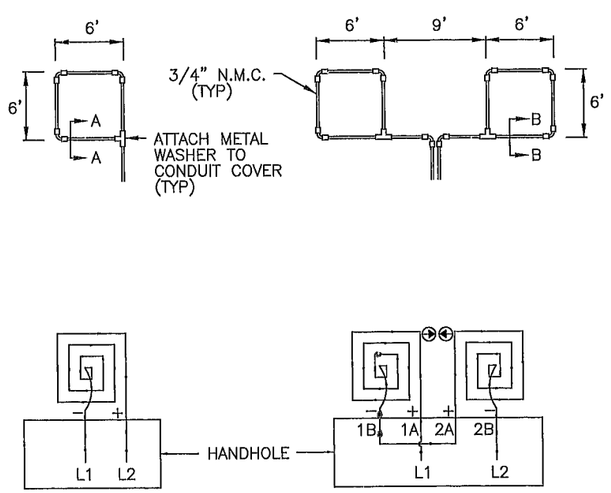
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MN
CITY OF COON RAPIDS

TRAFFIC SIGNAL SYSTEMS "A-C"
DETAILS AND STANDARD PLATES
CSAH 11 (FOLEY BLVD)
TH 10-47 NORTH RAMPS TO EGRET BLVD

FILE NO. ANOKC 124472
SIGNAL SHEET 1 OF 32

106
196



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

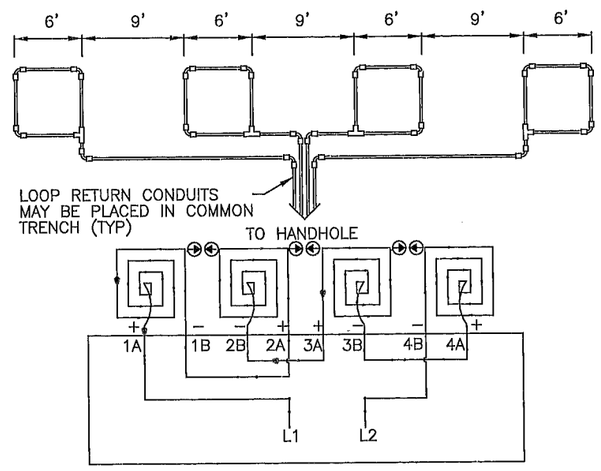
L1 TO 1A
1B TO 2A
2B TO L2

LOOP DETECTOR DETAIL 'A'

(LOOP PHASING FOR SINGLE CONNECTION)

LOOP DETECTOR DETAIL 'B'

(LOOP PHASING FOR SERIES CONNECTION)



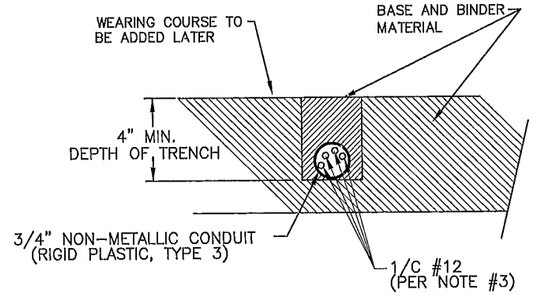
LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

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)

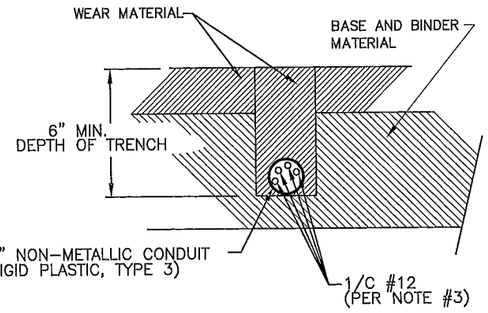
LOOP DETECTOR DETAIL 'C'

(LOOP PHASING FOR SERIES CONNECTION)



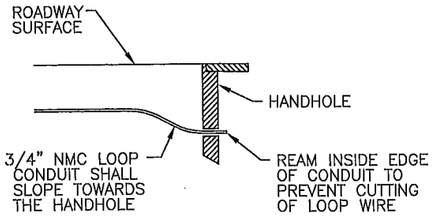
SECTION A–A

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.

NOTE: THESE DETAILS APPLY TO TRAFFIC SIGNAL SYSTEM "B" AND REVISE SIGNAL SYSTEM "C" ONLY. ALL NEW LOOP DETECTORS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS PART OF REVISE SIGNAL SYSTEM "A" SHALL BE IN ACCORDANCE WITH MnDOT STANDARD PLATE NO. 8132 (CURRENT PLATE).

S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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ANOKA COUNTY, MN
CITY OF COON RAPIDS

TRAFFIC SIGNAL SYSTEMS "B-C"
LOOP DETECTOR DETAILS
CSAH 11 (FOLEY BLVD)
AT 102ND LANE NW, EGRET BLVD NW

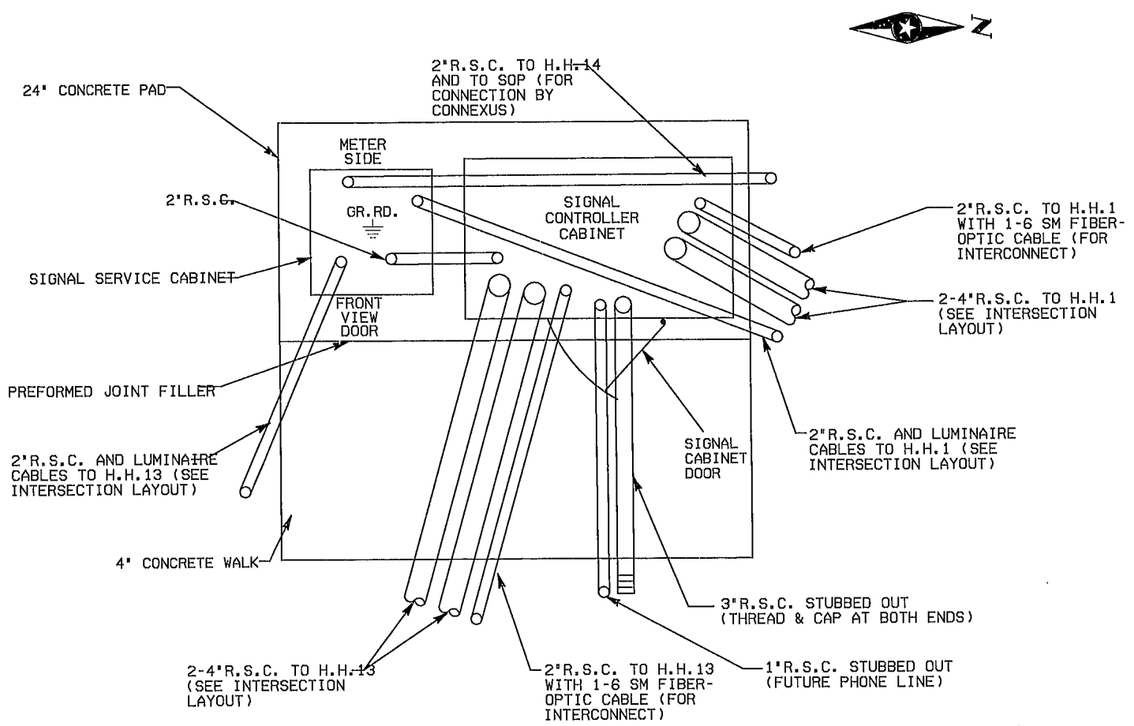
FILE NO. ANOKC 124472
SIGNAL SHEET 2 OF 32

TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

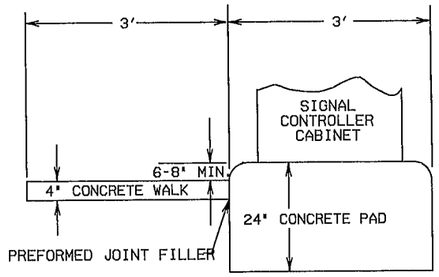
SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

PLAN VIEW

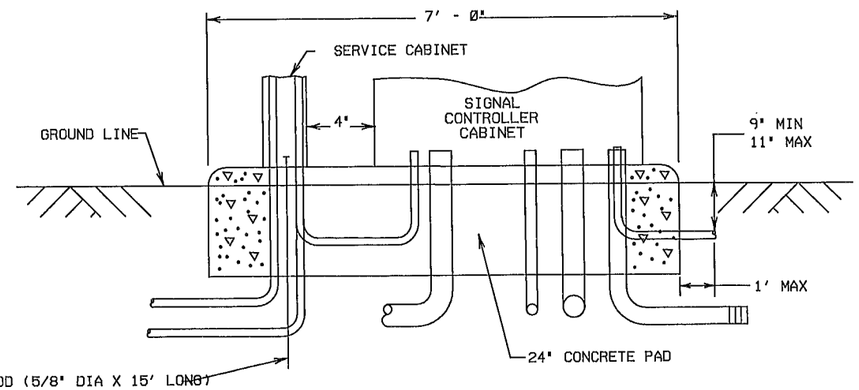
CSAH 11 (FOLEY BLVD) AT 102ND LANE NW



SIDE VIEW



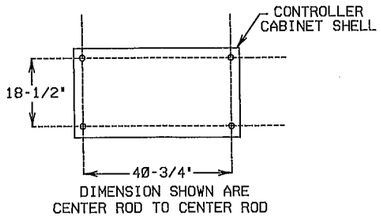
FRONT VIEW



NOTES:

1. THE ANCHOR RODS, NUTS AND WASHERS FOR THE COUNTY FURNISHED CONTROLLER AND CABINET (FOR SYSTEM 'B') 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 CONCRETE AND SHALL BE LOCATED INSIDE OF 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



DIMENSION SHOWN ARE CENTER ROD TO CENTER ROD

S.P. 002-611-032
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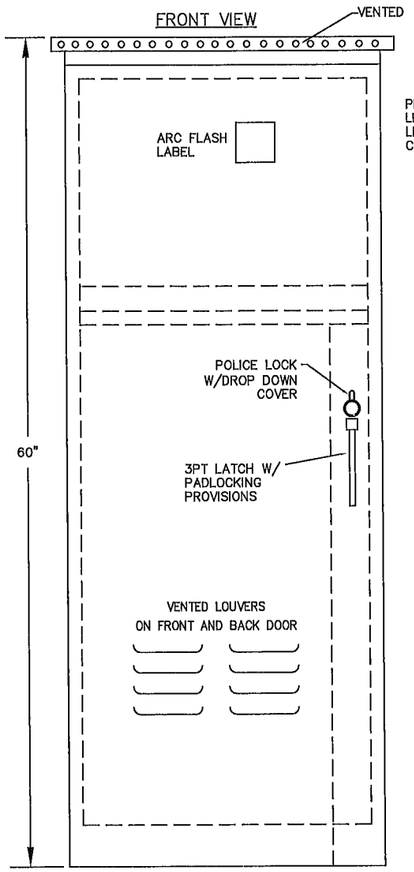
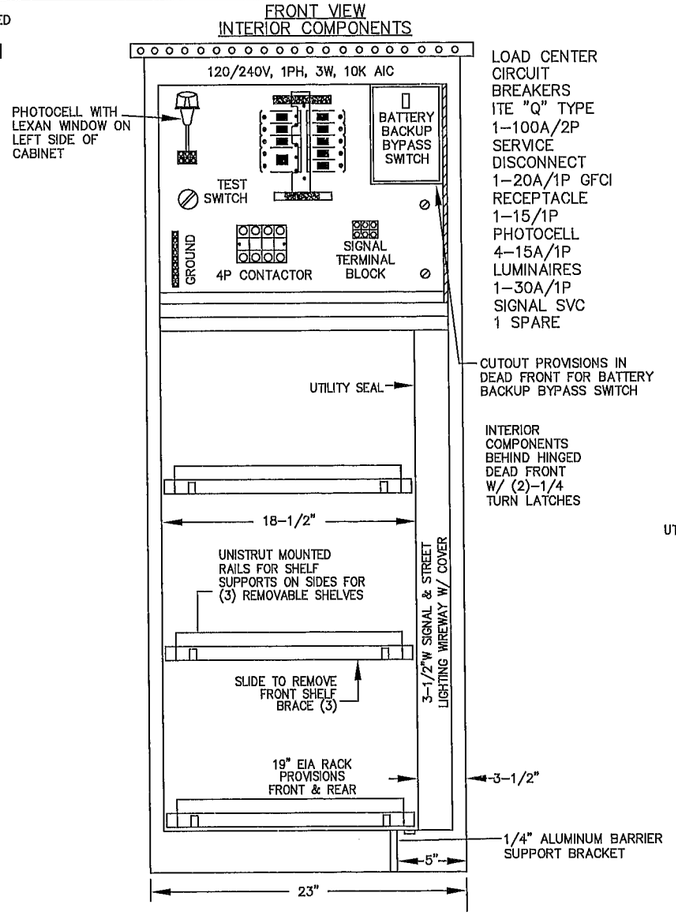
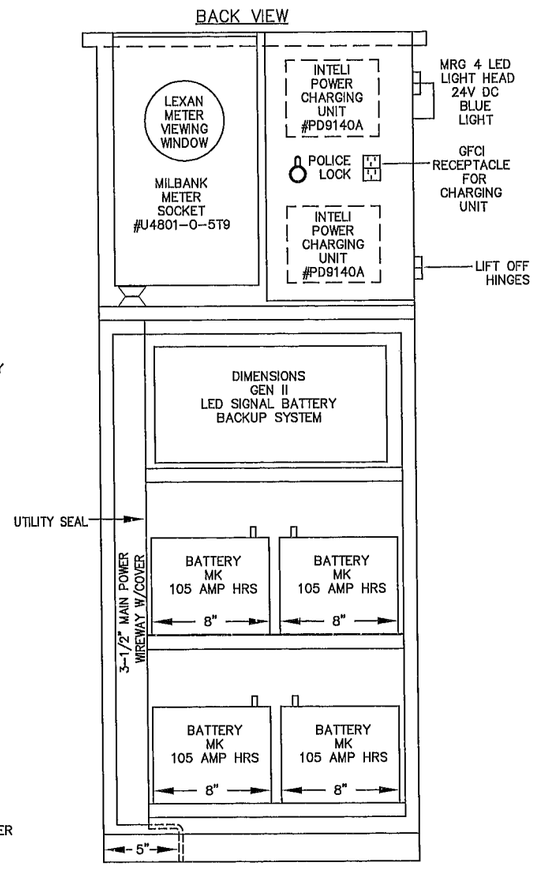
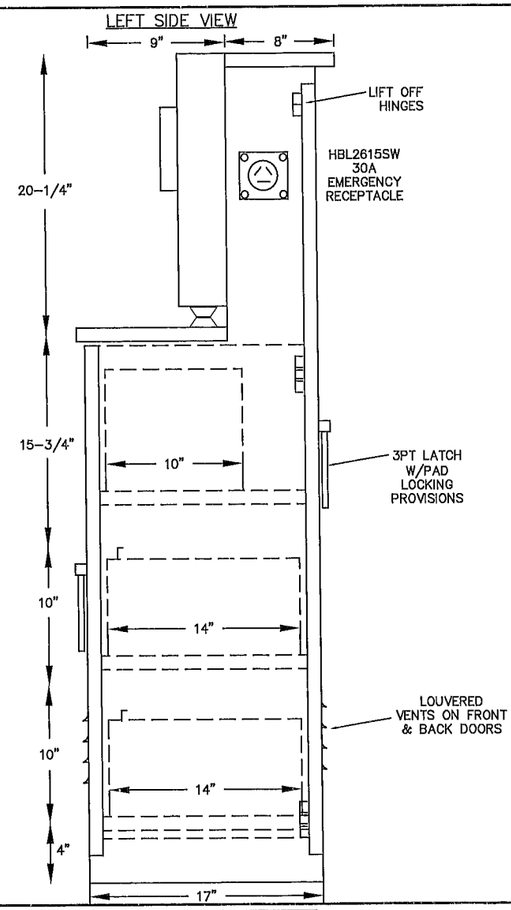
CITY PROJ. 12-22

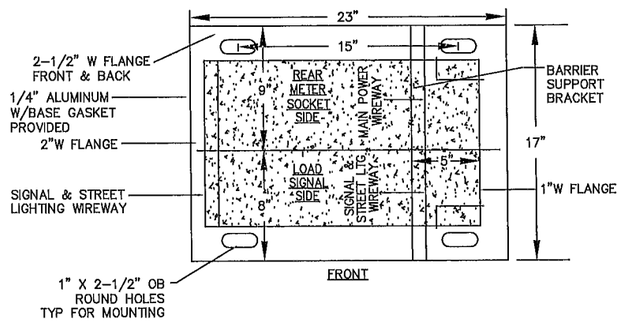
DRAWN BY: JMG DESIGNER: JMG CHECKED BY: JMG DESIGN TEAM	NO.	BY	DATE	REVISIONS	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. Name: John M. Gray, PE Date: March 14, 2014 Lic. No. 22457	SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110	ANOKA COUNTY, MN CITY OF COON RAPIDS	TRAFFIC SIGNAL SYSTEM 'B' EQUIPMENT PAD DETAILS CSAH 11 (FOLEY BLVD) AT 102ND LANE NW	FILE NO. ANOKC 124472 SIGNAL SHEET 3 OF 32 108 / 196







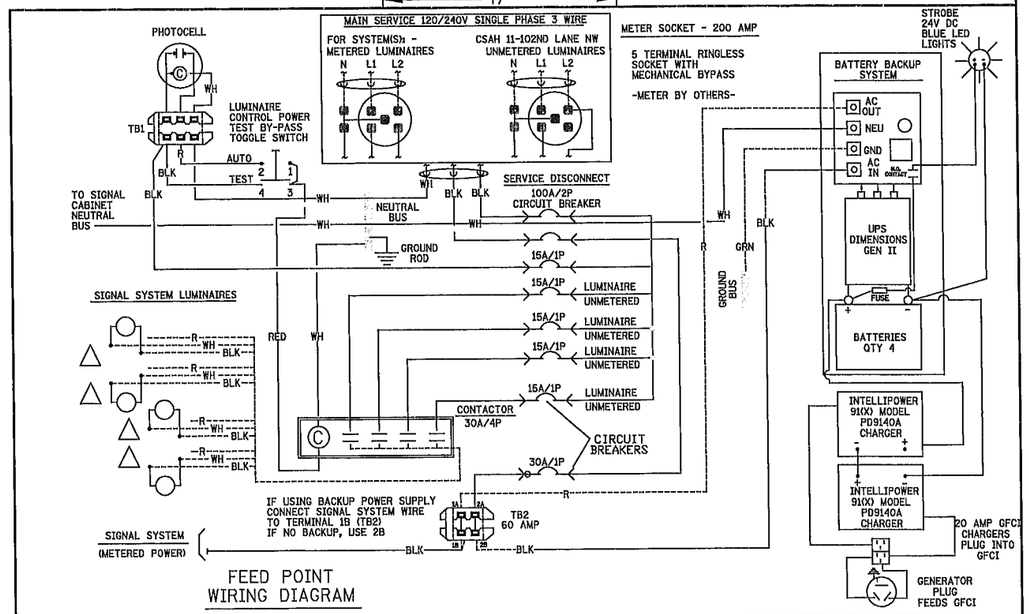




CABINET CONSTRUCTION

-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 AT SYSTEM "B".



FEED POINT WIRING DIAGRAM

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CITY PROJ. 12-22

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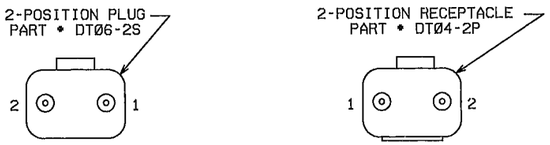
ANOKA COUNTY, MN
CITY OF COON RAPIDS

TRAFFIC SIGNAL SYSTEM "B"
SIGNAL SERVICE CABINET DETAILS
CSAH 11 (FOLEY BLVD) AT 102ND LANE NW

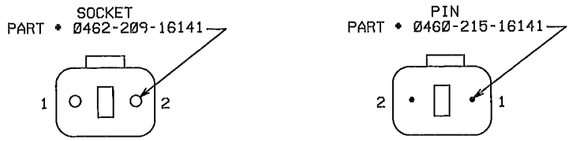
FILE NO. ANOKC 124472
SIGNAL SHEET 4 OF 32
109/196

2-POSITION CONNECTOR

(BACK VIEW)

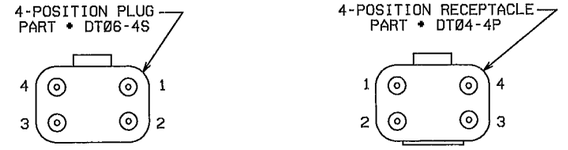


(FRONT VIEW)



4-POSITION CONNECTOR

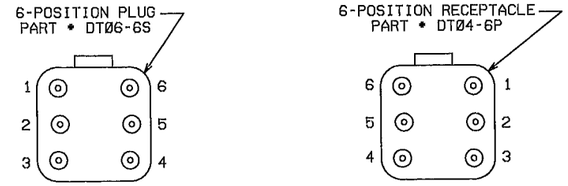
(BACK VIEW)



(FRONT VIEW)

6-POSITION CONNECTOR

(BACK VIEW)



(FRONT VIEW)

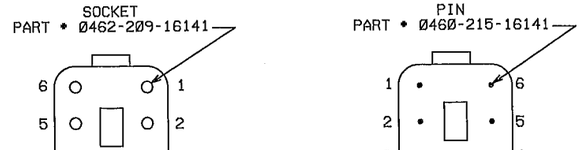


TABLE 1 2 POSITION DT CONNECTOR (AS NEEDED)

WIRE TO CONTROL CABINET	CONNECTOR PIN •	WIRE TO SIGNAL INDICATION	SIGNAL INDICATION
BLK	1	BLK	PB (IF REQUIRED)
WH OR CL	2	WH OR CL	NEU

TABLE 2A 4 POSITION DT CONNECTOR (4 OR 5 SECTION HEAD/DWK/WLK)

WIRE TO CONTROL CABINET	CONNECTOR PIN •	WIRE TO SIGNAL INDICATION	SIGNAL INDICATION
R OR R/BLK OR BLK	1	R	RED OR DWK
O OR O/BLK OR BLK/WH OR BLK	2	BLK/R	YEL OR WLK
BL OR BL/BLK OR BLK/R OR BLK	3	BLK	GRN OR SPR
WH OR WH/BLK OR WH/R	4	WH	NEU

TABLE 2B 4 POSITION DT CONNECTOR (EVP LHT/LUM/FLASHER)

(USED WITH 3 CONDUCTOR CABLE ONLY)

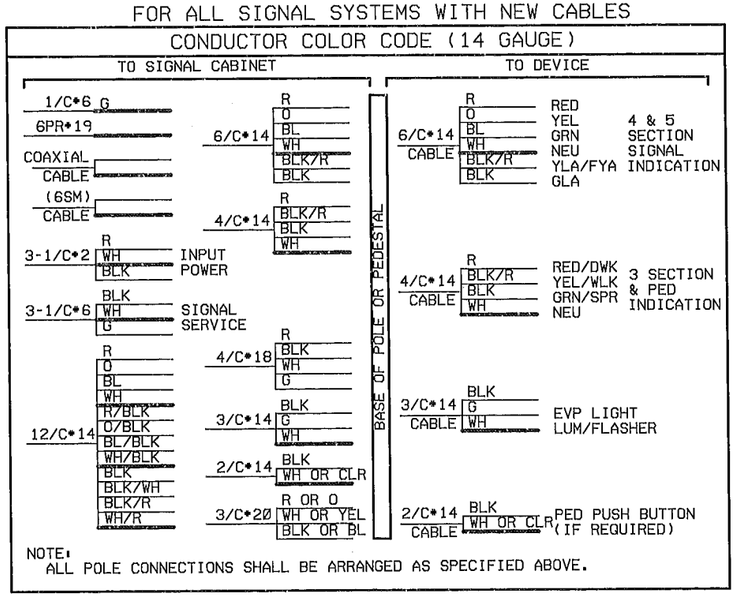
WIRE TO CONTROL CABINET	CONNECTOR PIN •	WIRE TO SIGNAL INDICATION	SIGNAL INDICATION
BLK	1	BLK	EVP LHT OR LUM OR RED OR YEL
(NOT USED)	2	(NOT USED)	(NOT USED) (SEE NOTE •8)
G	3	G	EQ.G
WH	4	WH	NEU

TABLE 3 6 POSITION DT CONNECTOR (4 AND 5 SECTION HEADS)

WIRE TO CONTROL CABINET	CONNECTOR PIN •	WIRE TO SIGNAL INDICATION	SIGNAL INDICATION
R	1	R	RED
O	2	O	YEL
BL	3	BL	GRN
WH	4	WH	NEU
O/BLK OR BLK/R (6/C)	5	BLK/R	YLA OR FYLA
BL/BLK OR BLK (6/C)	6	BLK	GLA

FOR ALL SIGNAL SYSTEMS WITH NEW CABLES

CONDUCTOR COLOR CODE (14 GAUGE)



NOTE:
ALL POLE CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

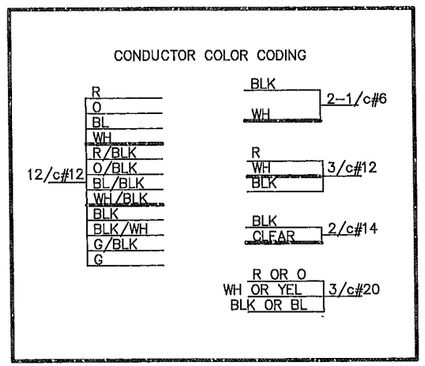
NOTES:

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

WIRE COLOR CODE KEY

R	RED
O	ORANGE
BL	BLUE
WH	WHITE
BLK	BLACK
BRN	BROWN
CL	CLEAR
G	GREEN
R/BLK	RED WITH BLACK STRIPE
O/BLK	ORANGE WITH BLACK STRIPE
BL/BLK	BLUE WITH BLACK STRIPE
WH/BLK	WHITE WITH BLACK STRIPE
WH/R	WHITE WITH RED STRIPE
BLK/WH	BLACK WITH WHITE STRIPE
BLK/R	BLACK WITH RED STRIPE

EXISTING CABLES-SYSTEMS "A" AND "C"



NOTE: POLE BASE CONNECTORS SHALL BE UTILIZED FOR ALL POLE BASE CONNECTIONS AT REVISE SIGNAL SYSTEM "A" ONLY. CONTRACTOR SHALL UTILIZE TERMINAL BLOCKS FOR ALL POLE BASE CONNECTIONS AT SIGNAL SYSTEMS "B" AND "C".

S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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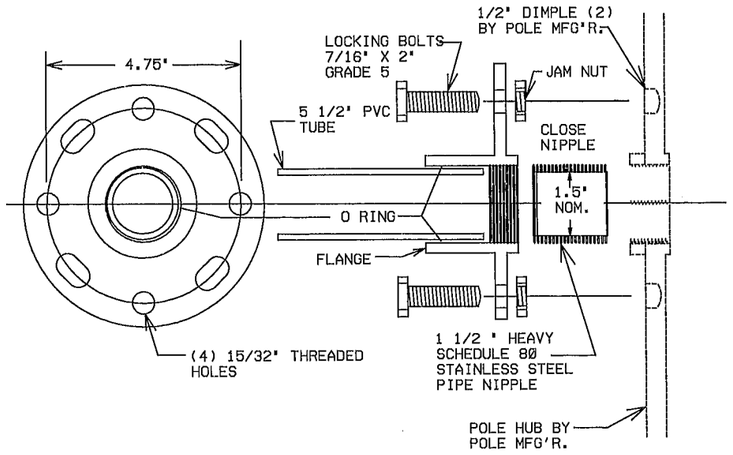
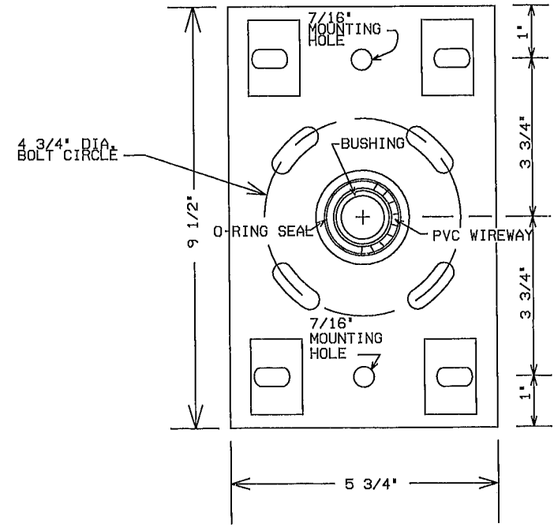
ANOKA COUNTY, MN
CITY OF COON RAPIDS

REVISE SIGNAL SYSTEM "A"
POLE WIRING CONNECTOR DETAILS
TH 10-47 NORTH RAMPS/101ST AVE NW
AT CSAH 11 (FOLEY BLVD)

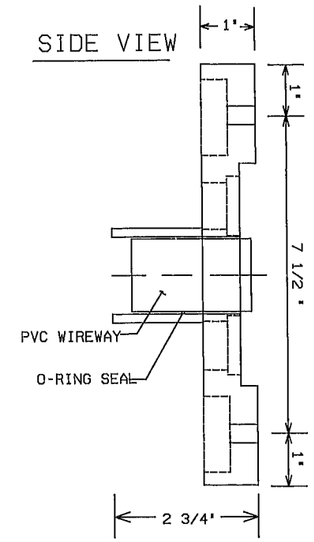
FILE NO. ANOKC 124472
SIGNAL SHEET 5 OF 32
110 / 196

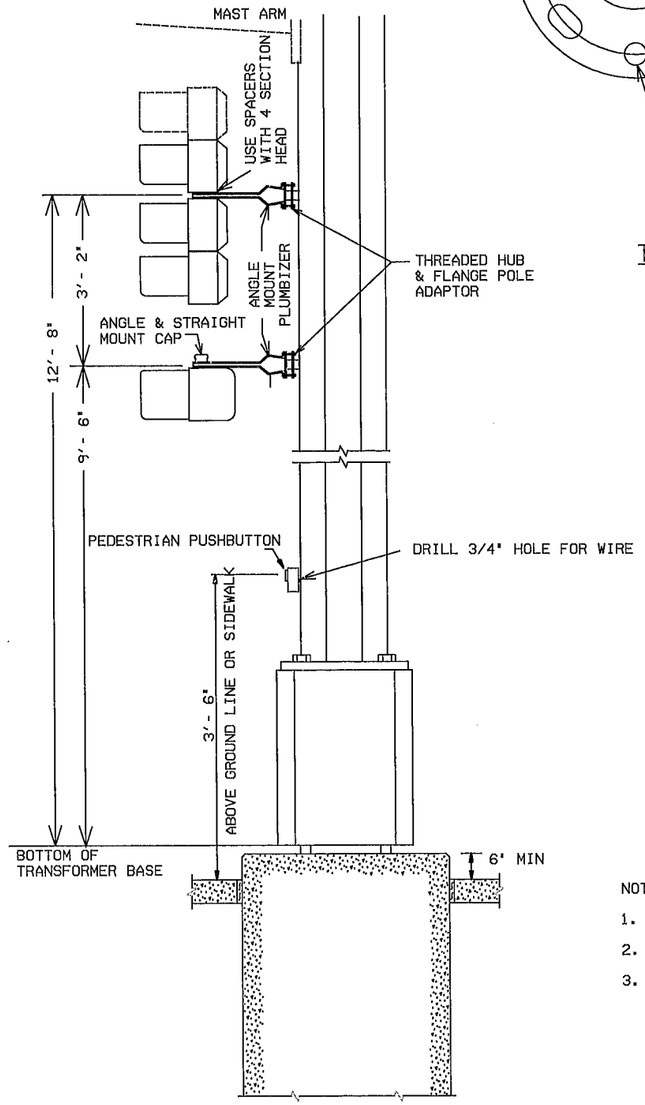


THREADED HUB AND FLANGE POLE ADAPTOR



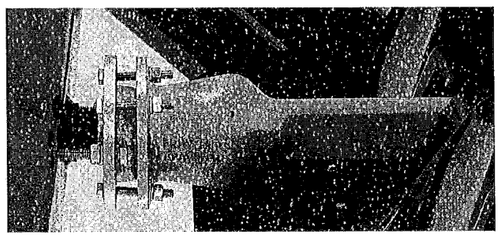
BOLT ON HUB & FLANGE





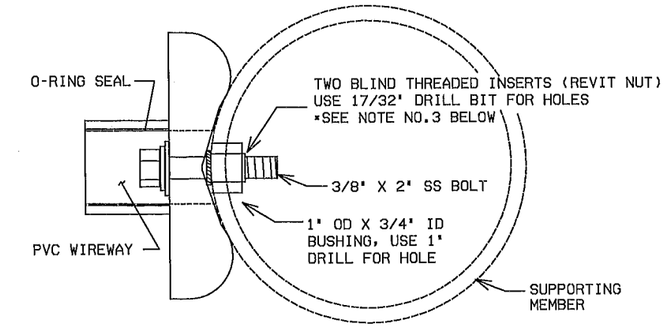
TYPICAL SIGNAL POLE MOUNTING

NOT TO SCALE

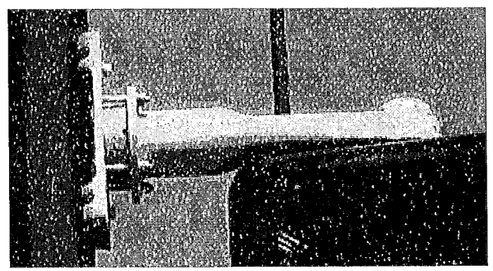


NOTE:

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.

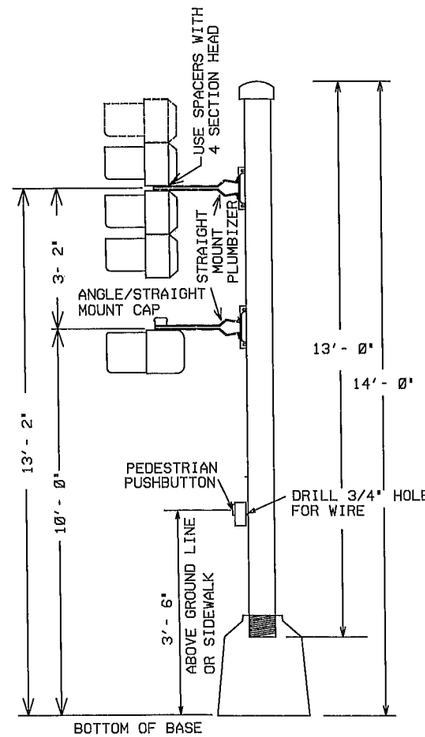


TOP VIEW



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. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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.
Name: John M. Gray, PE
Date: March 14, 2014
Lic. No. 22457

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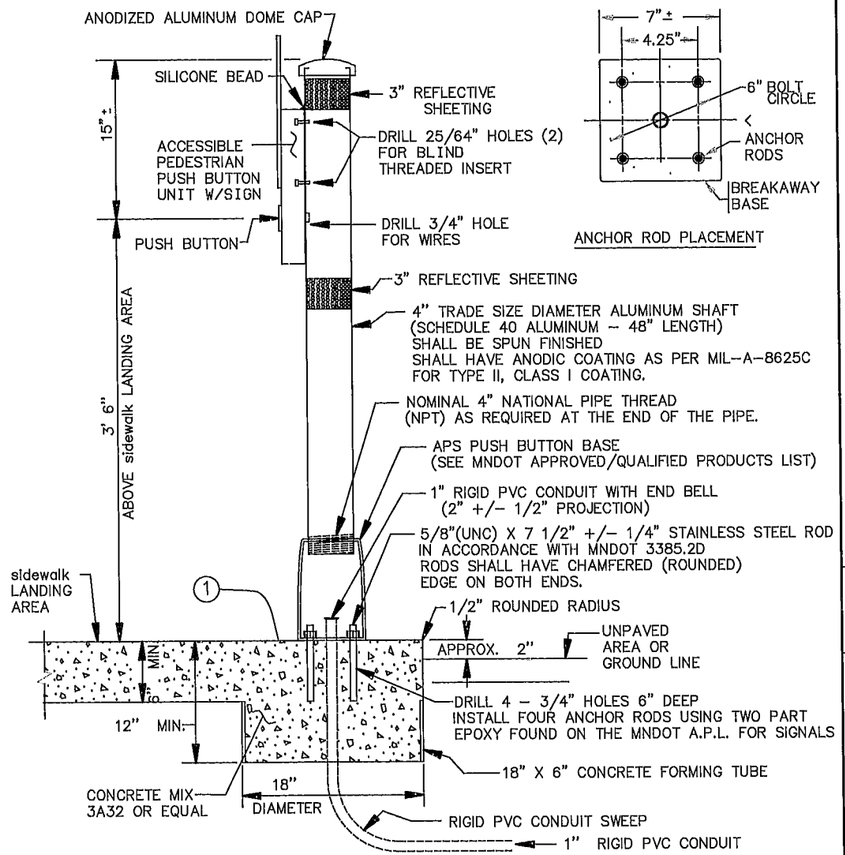
ANOKA COUNTY, MN
CITY OF COON RAPIDS

TRAFFIC SIGNAL SYSTEM "B"
ONE WAY POLE MOUNT DETAILS
CSAH 11 (FOLEY BLVD) AT 102ND LANE NW

FILE NO. ANOKC 124472
SIGNAL SHEET 6 OF 32

111/196

APS PUSH BUTTON STATION



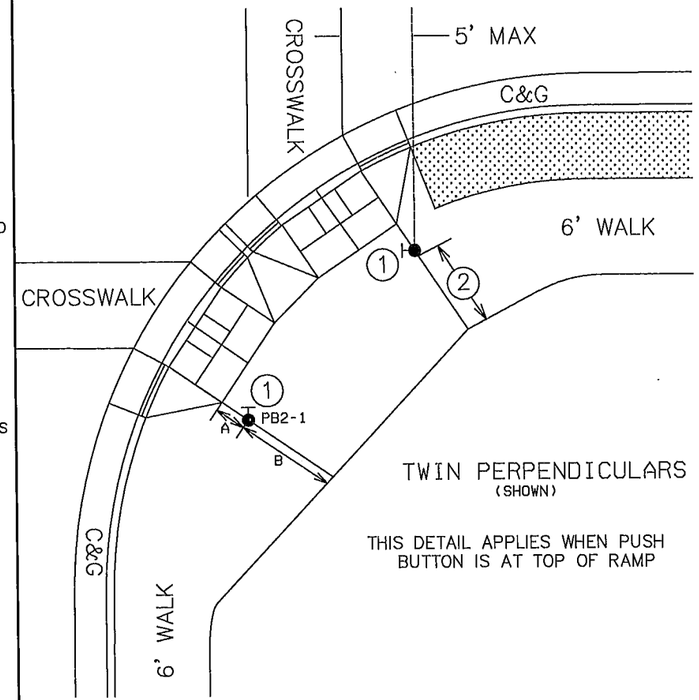
NOTES:

- PLACEMENT AND ORIENTATION OF THE PUSH BUTTON STATION IS CRITICAL. MOUNT THE BUTTON SO THAT THE FACE IS PARALLEL WITH THE ASSOCIATED CROSSWALK. SCREW IN POST TO A TIGHTENED POSITION BEFORE MOUNTING ACCESSIBLE PEDESTRIAN PUSH BUTTON UNIT TO THE POST.
- ORIENT ACCESS OPENING ON THE BREAKAWAY PEDESTAL DIRECTLY BELOW THE APS BUTTON.
- PLUMB THE PUSH BUTTON STATION WITH LEVELING SHIMS IN ACCORDANCE WITH STANDARD PLATE 8129.
- BLIND THREADED INSERTS (RIVET NUT) MUST BE INSERTED USING MANUFACTURERS SPECIFIC INSTALLATION TOOL. NO OTHER METHOD OF INSTALLATION IS ACCEPTABLE.
- BLIND THREADED INSERTS SHALL BE ZINC PLATED STEEL WITH 1/4 – 20 UNC THREADS. INSERT SHALL BE SUITABLE FOR USE ON A MOUNTING SURFACE WALL THICKNESS OF .337". APPROVED BLIND THREADED INSERTS CAN BE FOUND ON THE MN/DOT QUALIFIED PRODUCTS LIST FOR SIGNALS.
- A.P.S. MOUNTING BOLTS SHALL BE 1/4 – 20 STAINLESS STEEL. APPLY BRUSH ON ANTI SEIZE COMPOUND TO BOLTS PRIOR TO ASSEMBLY.
- APPLY A BEAD OF 100% SILICONE SEALANT ALONG THE TOP OF THE PUSH BUTTON UNIT WHERE IT COMES IN CONTACT WITH THE 4" POST.
- THE REFLECTIVE SHEETING SHALL BE WHITE AT INTERSECTION CORNERS AND SHALL BE YELLOW WHEN USED IN CENTER MEDIANS. SEE MN/DOT SIGNING QUALIFIED PRODUCTS LIST (QPL) FOR APPROVED TUBE DELINEATOR SHEETING.
- ANTI–SEIZE COMPOUND MUST BE USED ON ALL THREADED BOLTS WHEN INSTALLING PEDESTRIAN PUSH BUTTON STATIONS.

(1) THE PUSH BUTTON STATION FOUNDATION IS CONSTRUCTED AS PART OF THE SIDEWALK. INCREASE THE SIDEWALK THICKNESS TO 12" THICK (MIN.) TO PROVIDE FOR THE PUSH BUTTON STATION FOUNDATION.

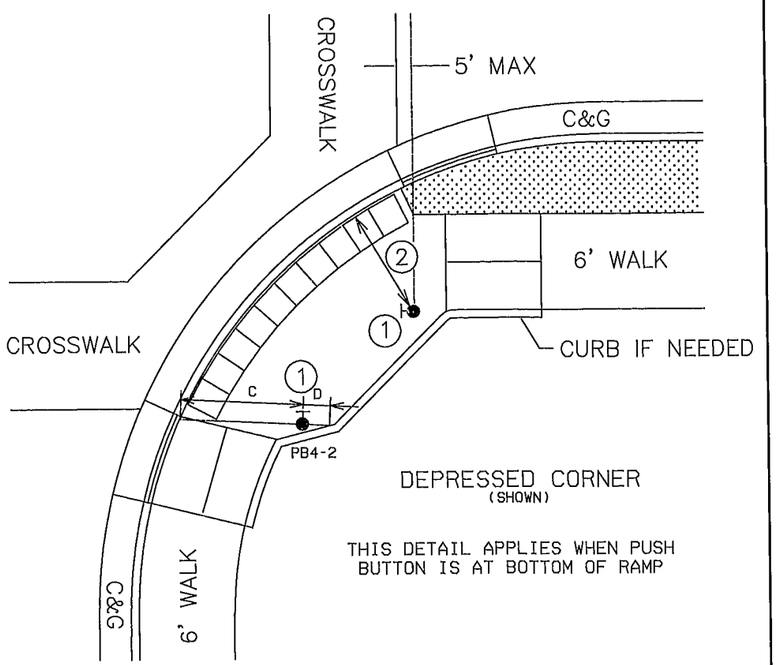
REQUIREMENTS FOR LOCATING APS PUSH BUTTONS:

- THIS IS A GENERAL DETAIL INTENDED TO SHOW THE REQUIREMENTS OF APS PUSH BUTTON LOCATION. FOR PROJECT SPECIFIC DETAILS REGARDING PEDESTRIAN RAMP LAYOUT, SEE THE PEDESTRIAN CURB RAMP AND SIDEWALK DETAILS.
- THE FACE OF THE BUTTON SHALL BE PARALLEL WITH THE OUTSIDE EDGE OF CROSSWALK.
- A MINIMUM 4 FT X 4 FT LANDING AREA SHALL BE PROVIDED ADJACENT TO EACH BUTTON, WITH A 2 PERCENT MAXIMUM SLOPE IN ALL DIRECTIONS.
- BUTTONS SHALL BE WITHIN 5 FT OF THE OUTSIDE EDGE OF THE CROSSWALK.
- BUTTONS SHALL BE BETWEEN 1.5 FT AND 10 FT FROM THE BACK OF CURB OR EDGE OF ROADWAY, MEASURED IN THE DIRECTION OF TRAVEL. STANDALONE PUSH BUTTON STATIONS SHOULD BE 4' MINIMUM FROM THE BACK OF CURB TO AVOID KNOCKDOWNS.
- BUTTONS SHALL BE AT LEAST 10 FT APART.



TWIN PERPENDICULARS
(SHOWN)

THIS DETAIL APPLIES WHEN PUSH BUTTON IS AT TOP OF RAMP



DEPRESSED CORNER
(SHOWN)

THIS DETAIL APPLIES WHEN PUSH BUTTON IS AT BOTTOM OF RAMP

SIGNAL CONTROL POINTS			DISTANCE TO FRONT OF LANDING (FT)	DISTANCE TO BACK OF LANDING (FT)
SIGNAL NO.	X	Y		
PB2–1	-	-	A	B
PB4–2	-	-	C	D

A – DISTANCE MEASURED FROM THE PUSH BUTTON TO THE FRONT OF LANDING/TOP OF RAMP

B – CLEAR DISTANCE MEASURED FROM THE PUSH BUTTON TO THE BACK OF LANDING/EDGE OF WALK

C – CLEAR DISTANCE MEASURED FROM THE PUSH BUTTON TO THE OUTSIDE EDGE OF DOMES IN THE DIRECTION OF TRAVEL

D – CLEAR DISTANCE FROM THE PUSH BUTTON TO THE BACK OF LANDING MEASURED IN THE OPPOSITE DIRECTION OF TRAVEL

(1) BUTTON SHOULD BE 2 FT MINIMUM FROM RAMP GRADE BREAK OR BACK OF WALK.

(2) PROVIDE A MAINTENANCE ACCESS ROUTE (MAR) WHEREVER POSSIBLE FOR SNOW REMOVAL PURPOSES. A MAR REQUIRES A 6 FT MINIMUM CLEAR DISTANCE BETWEEN A PUSH BUTTON AND ANY OBSTRUCTIONS,INCLUDING BUILDINGS, V–CURB, ELECTRICAL FOUNDATIONS, SIGNAL CABINETS, OR ANOTHER PUSH BUTTON.

TYPICAL APS PEDESTRIAN PUSH BUTTON LOCATION

S.P. 002–611–032
S.A.P. 114–020–047
CITY PROJ. 12–22

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

NO.	BY	DATE	REVISIONS

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ANOKA COUNTY, MN
CITY OF COON RAPIDS

REVISE SIGNAL SYSTEM "A"
APS PUSH BUTTON DETAILS
TH 10-47 NORTH RAMPS/101ST AVE NW AT CSAH 11 (FOLEY BLVD)

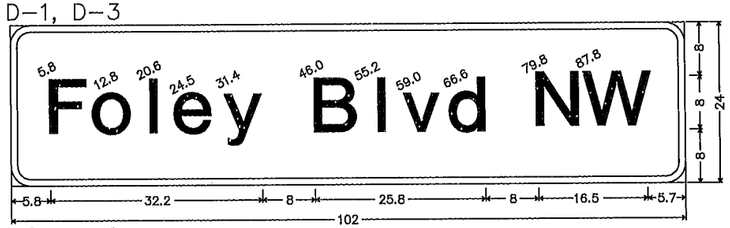
FILE NO. ANOKC 124472
SIGNAL SHEET 7 OF 32
112 / 196

SIGNS FOR TRAFFIC SIGNAL SYSTEM
INPLACE SIGN PANELS – TYPE D (SALVAGE AND INSTALL)

SIGNAL SYSTEM	SIGN PANEL	POLE NO.	A (FT)	B (FT)	APPROX. SIZE (IN)	MOUNTING BRACKET QUANTITY	MOUNTING BRACKET SPACING (1)	NO. REQ.	PANEL LEGEND	ACTION
A	D-5	2	-	14'	90 x 66	5	----	1	WEST TH 10/NORTH TH 47 WITH LEFT ARROW	RELOCATE TO RIGHT OF SIGNAL HEAD 2-3
A	D-6	2	-	28'	72 x 24	3	----	1	101st AVE WITH RIGHT ARROW	RELOCATE TO RIGHT OF SIGNAL HEAD 2-2
A	D-7	4	-	6'	48 x 72	2	----	1	EAST TH 10 WITH DOWN ARROW	RELOCATE TO LEFT OF SIGNAL HEAD 6-3
A	D-8	4	-	16'	96 x 72	5	----	1	SOUTH TH 47/TO TH 610 WITH DOWN ARROW	RELOCATE TO RIGHT OF SIGNAL HEAD 6-2
C	D-9	1	-	28'	72 x 18	3	----	1	EGRET BLVD	RELOCATE TO RIGHT OF SIGNAL HEAD 2-2
C	D-10	2	-	16'	72 x 18	3	----	1	FOLEY BLVD	RELOCATE TO RIGHT OF SIGNAL HEAD 4-2
C	D-11	3	-	28'	72 x 18	3	----	1	EGRET BLVD	RELOCATE TO RIGHT OF SIGNAL HEAD 6-2
C	D-12	4	-	16'	72 x 18	3	----	1	FOLEY BLVD	RELOCATE TO RIGHT OF SIGNAL HEAD 8-2
TOTAL QUANTITIES								8		

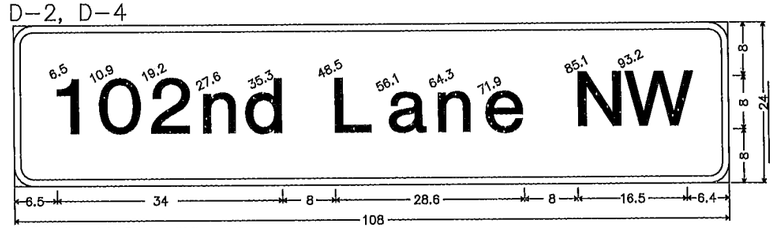
(1) = SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE 7/06/2007) FOR BRACKET SPACING REQUIREMENTS.

D-1, D-3



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

D-2, D-4

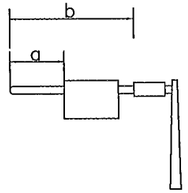


3.0" Radius, 1.0" Border, White on Green;
[102nd Lane NW] E Mod;

SIGNS FOR TRAFFIC SIGNAL SYSTEM
SIGN PANELS – TYPE D (FURNISH AND INSTALL)

SIGNAL SYSTEM	SIGN PANEL	POLE NO.	a (FT)	b (FT)	SIZE (IN)	MOUNTING BRACKET QUANTITY	MOUNTING BRACKET SPACING (1)	AREA/SIGN (SQ. FT.)	NO. REQ.	PANEL LEGEND
B	D-1	1	8'	-	102 x 24	4	---	17.00	1	FOLEY BLVD NW
B	D-2	2	-	28'	108 x 24	4	---	18.00	1	102ND LANE NW
B	D-3	3	8'	-	102 x 24	4	---	17.00	1	FOLEY BLVD NW
B	D-4	4	-	28'	108 x 24	4	---	18.00	1	102ND LANE NW
TOTAL QUANTITIES								70.00	4	

(1) = SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE 7/06/2007) FOR BRACKET SPACING REQUIREMENTS.



SIGNS FOR TRAFFIC SIGNAL SYSTEM
SIGN PANELS – TYPE C (FURNISH AND INSTALL)

SIGNAL SYSTEM	SIGN PANEL	POLE NO.	a (FT)	b (FT)	SIZE (IN)	MOUNTING BRACKET QUANTITY	MOUNTING BRACKET SPACING (1)	AREA/SIGN (SQ. FT.)	NO. REQ.	PANEL LEGEND
B	R6-1L	2,4	-	-	36 x 12	①	---	3.00	2	ONE WAY (LEFT)
B	R6-1R	2,4	-	-	36 x 12	①	---	3.00	2	ONE WAY (RIGHT)
A	R10-X12	2,4	1'	-	36 x 48	2	---	12.00	2	LEFT TURN YIELD ON FLASHING YELLOW ARROW
B	R10-X12	2,4	1'	-	36 x 48	2	---	12.00	2	LEFT TURN YIELD ON FLASHING YELLOW ARROW
C	R10-X12	1,2,3,4	1'	-	36 x 48	2	---	12.00	4	LEFT TURN YIELD ON FLASHING YELLOW ARROW
TOTAL QUANTITIES								108.00	12	

GENERAL SIGNING NOTES:

1) COLOR FOR ALL TYPE D SIGNS 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 & D SIGNS (AND SALVAGING AND REINSTALLING INPLACE TYPE D SIGNS) SHALL BE INCLUDED UNDER THE PAY ITEMS FOR ITEM NO. 2565 (REVISE SIGNAL SYSTEM "A", TRAFFIC CONTROL SIGNAL SYSTEM "B", AND REVISE SIGNAL SYSTEM "C"). SEE SPECIAL PROVISIONS.
6) ALL NEW TYPE C AND D SIGN PANELS SHALL BE FABRICATED USING DG3 SHEETING. SEE SPECIAL PROVISIONS.
7) ① = INSTALL SIGN PANEL ON TRAFFIC SIGNAL POLE.

S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

DRAWN BY: JMG
DESIGNER: JMG
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DESIGN TEAM

NO.	BY	DATE	REVISIONS

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Date: March 14, 2014 Lic. No. 22457

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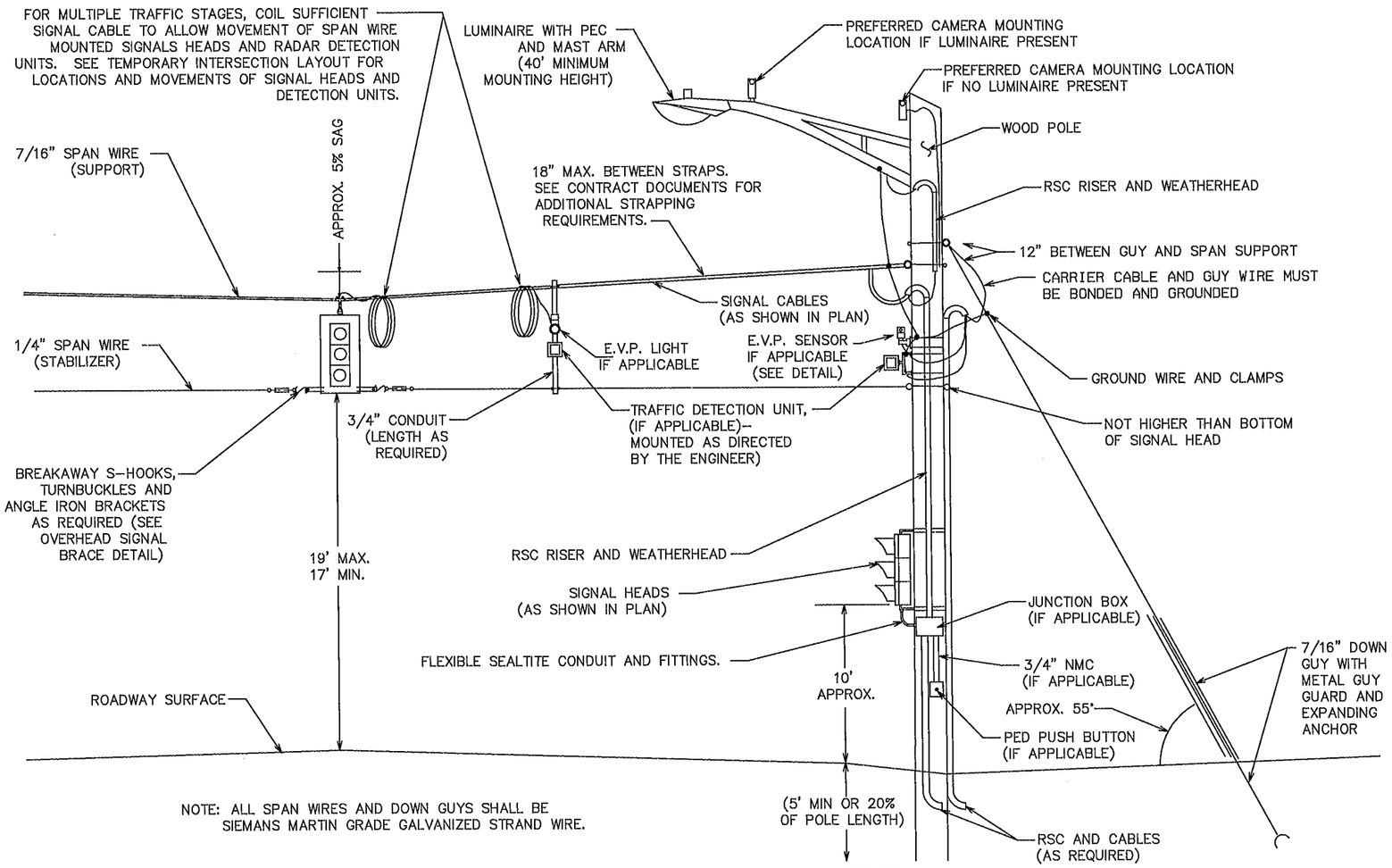
ANOKA COUNTY, MN
CITY OF COON RAPIDS

TRAFFIC SIGNAL SYSTEMS "A-C"
SIGNAL SIGNING DETAILS
CSAH 11 (FOLEY BLVD)
TH 10-47 NORTH RAMPS TO EGRET BLVD

FILE NO. ANOKC 124472
SIGNAL SHEET 8 OF 32
113 / 196

TYPICAL WOOD POLE AND SPAN WIRE MOUNTED TRAFFIC SIGNALS

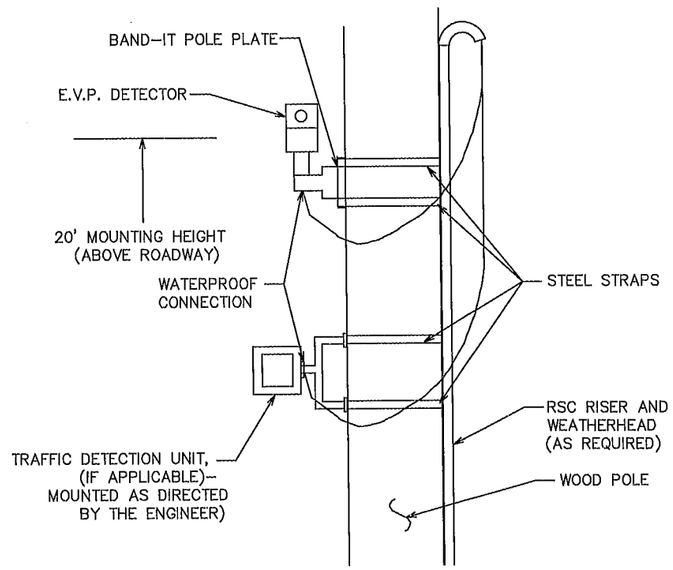
(NOT TO SCALE)



NOTE: ALL SPAN WIRES AND DOWN GUYS SHALL BE SIEMANS MARTIN GRADE GALVANIZED STRAND WIRE.

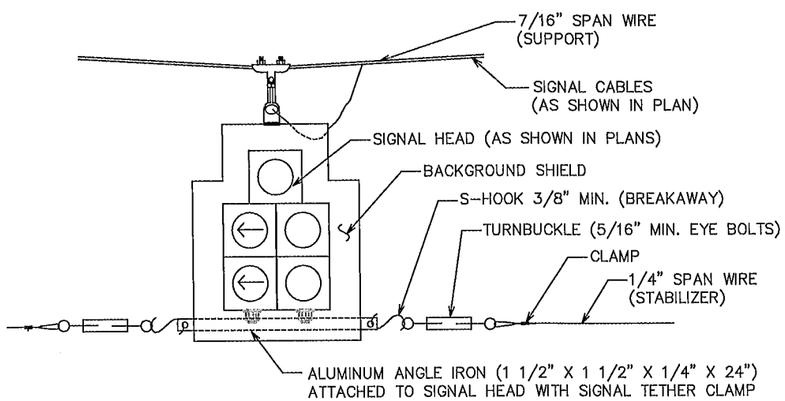
E.V.P. OR TRAFFIC DETECTOR WOOD POLE MOUNT

(NOT TO SCALE)



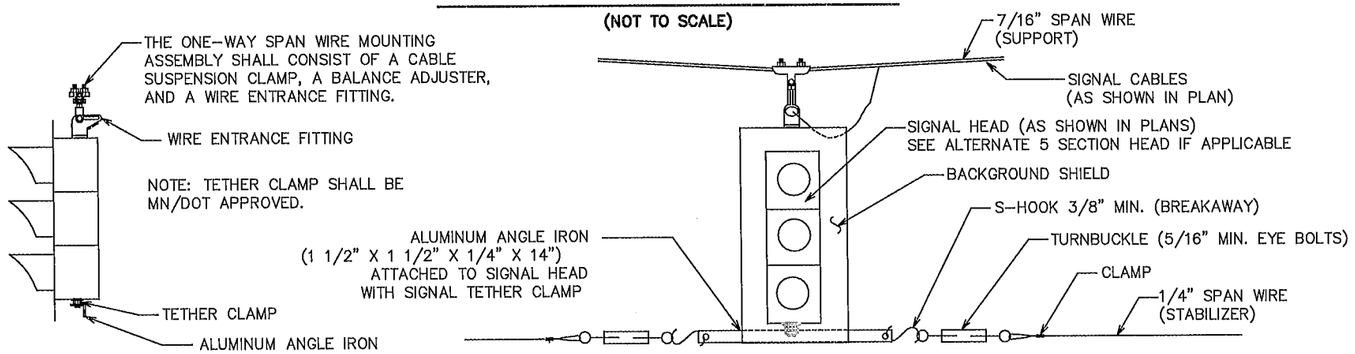
5 SECTION HEAD OVERHEAD SIGNAL BRACE DETAIL

(NOT TO SCALE)



OVERHEAD SIGNAL BRACE DETAIL

(NOT TO SCALE)



S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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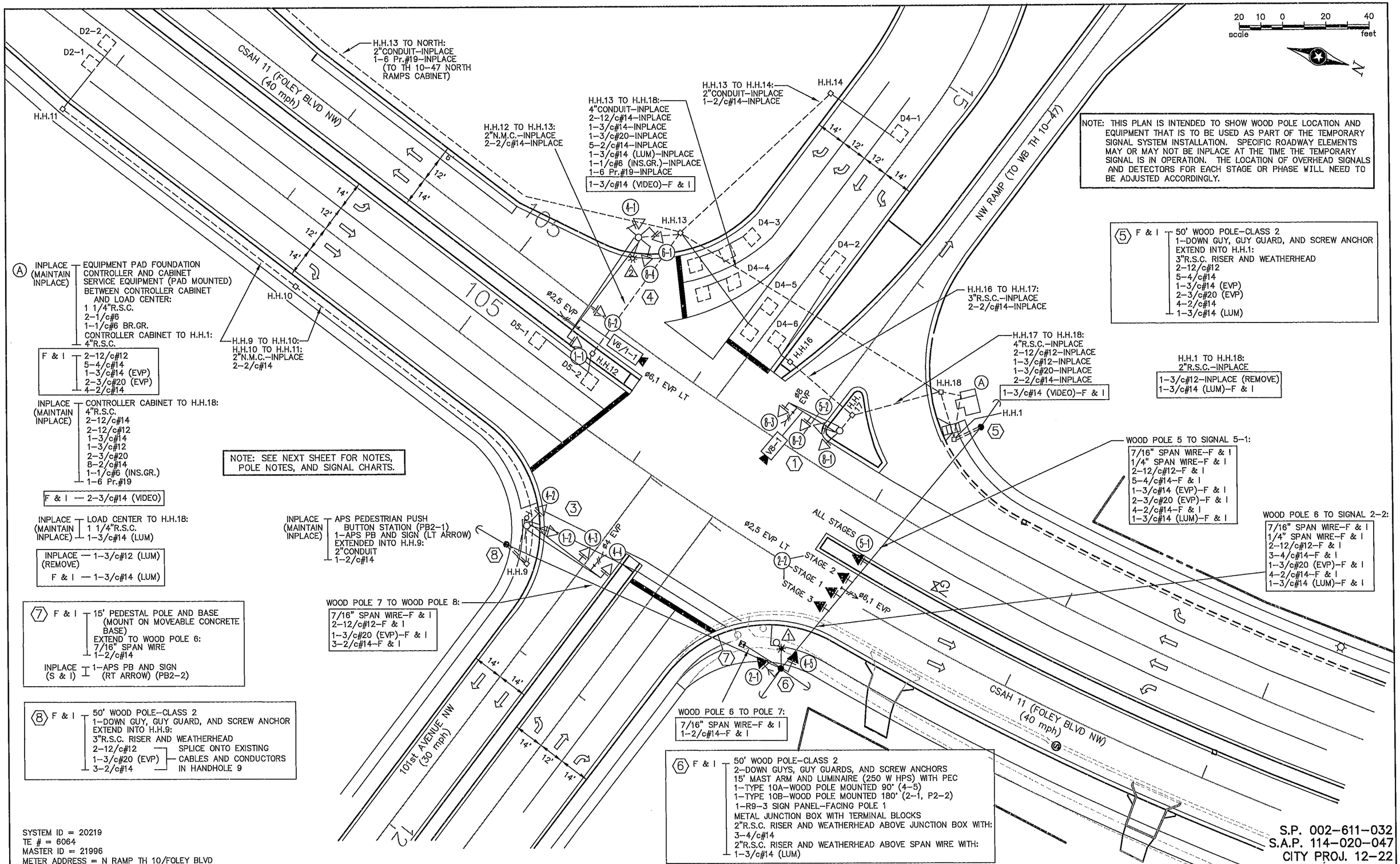
ANOKA COUNTY, MN
CITY OF COON RAPIDS

TEMPORARY SIGNAL SYSTEMS 'A'-'C'
WOOD POLE AND SPAN WIRE DETAILS
CSAH 11 (FOLEY BLVD) SIGNAL SYSTEMS

FILE NO. ANOKC 124472
SIGNAL SHEET 9 OF 32
114 / 196



SYSTEM ID = 20219
TE # = 6064
MASTER ID = 21996
METER ADDRESS = N RAMP TH 10/FOLEY BLVD

S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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ANOKA COUNTY, MN
CITY OF COON RAPIDS

TEMPORARY SIGNAL SYSTEM "A"
INTERSECTION LAYOUT
TH 10-47 NORTH RAMPS/101ST AVE NW
AT CSAH 11 (FOLEY BLVD)

FILE NO. ANOKC 124472
SIGNAL SHEET 10 OF 32

NOTES:

1) LOCATION OF WOOD POLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER AND MNDOT METRO DISTRICT TRAFFIC PERSONNEL.
2) ALL HANDHOLES TO BE USED WITH TEMPORARY SIGNAL SYSTEM "A" ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE.
3) EACH NEW SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
4) SEE DETAILS FOR WOOD POLE AND SPAN WIRE MOUNTING DETAILS.
5) ALL NEW VEHICLE SIGNAL INDICATIONS SHALL BE LED AND SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR AS SHOWN BELOW.
6) ALL TRAFFIC SIGNAL MATERIALS AND ELECTRICAL EQUIPMENT TO BE FURNISHED AND INSTALLED BY CONTRACTOR FOR THE TEMPORARY SIGNAL SYSTEM SHALL BE APPROVED BY ENGINEER PRIOR TO INSTALLATION AT THE INTERSECTION. SEE SPECIAL PROVISIONS.
7) MOVEMENT/RELOCATION OF HEADS, EVP DETECTORS AND INDICATOR LIGHTS, AND VIDEO DETECTOR CAMERAS SHALL BE INCLUDED IN THE PAY ITEM FOR "TEMPORARY SIGNAL SYSTEM A".
8) PROPOSED TEMPORARY SIGNAL SYSTEM PLAN SHOWN IS PROPOSED LAYOUT FOR STAGES 1, 2 AND 3 OF THE TRAFFIC CONTROL PLAN. PLACEMENT OF ALL SIGNAL INDICATIONS AND OTHER ITEMS FOR STAGES 1, 2 AND 3 STAGING PLANS SHALL BE IN ACCORDANCE WITH STAGING PLANS INCLUDED ELSEWHERE IN THE PLANS.
9) SEE SPECIAL PROVISIONS REGARDING VIDEO DETECTION SYSTEM TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR, AND FOR ALL VIDEO DETECTION SYSTEM COMPONENTS TO BE TURNED OVER TO THE COUNTY (FOR THE COUNTY TO OWN) AFTER TEMPORARY SIGNAL SYSTEM "A" IS REMOVED AND REVISE SIGNAL SYSTEM "A" IS MADE OPERATIONAL (INCLUDED AS PART OF PAY ITEM FOR "TEMPORARY SIGNAL SYSTEM "A").
10) (F & I) = ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR.
11) CONTRACTOR SHALL BAG (AND MAKE IN-OPERATIONAL) ALL VEHICLE SIGNAL HEADS NOT IN USE DURING CONSTRUCTION.
12) CONTRACTOR SHALL MAINTAIN A SIGNAL SYSTEM IN OPERATION AT THIS INTERSECTION AT ALL TIMES, UNLESS OTHERWISE APPROVED BY THE ENGINEER FOR THE SIGNAL SYSTEM TO BE TURNED OFF DURING NON-PEAK TRAFFIC PERIODS (FOR SWITCHOVERS FROM EXISTING SIGNAL SYSTEM TO TEMPORARY SIGNAL SYSTEM, AND FROM TEMPORARY SIGNAL SYSTEM TO REVISED PERMANENT SIGNAL SYSTEM).
13) CONTRACTOR SHALL PROTECT AND MAINTAIN ALL ITEMS OF THE EXISTING PERMANENT SIGNAL SYSTEM THAT WILL BE REUSED AS PART OF BOTH THE TEMPORARY AND REVISE SIGNAL SYSTEMS, AND SHALL REPLACE ITEMS DAMAGED DURING CONSTRUCTION WITH NEW ITEMS (AT NO EXPENSE TO THE COUNTY OR STATE).
14) CONTRACTOR SHALL MAINTAIN ALL EXISTING CABLES AND CONDUCTORS IN HANDHOLE 9 (TO POLE 3, APS PUSH BUTTON STATION, AND LOOP DETECTORS D2-1 AND D2-2) AND SHALL SPLICE NEW CABLES AND CONDUCTORS FROM WOOD POLE 8 ONTO THESE EXISTING CABLES AND CONDUCTORS TO KEEP THESE ITEMS OPERATIONAL DURING TEMPORARY SIGNAL SYSTEM OPERATION. SEE SPECIAL PROVISIONS.
15) CONTRACTOR SHALL FURNISH AND INSTALL ONE (1) EMERGENCY VEHICLE PREEMPTION (EVP) DETECTOR AND EVP CONFIRMATION LIGHT ON SPAN WIRE, ALONG WITH ALL SPAN WIRE MOUNTING HARDWARE, ALL AS PART OF PAY ITEM FOR "TEMPORARY SIGNAL SYSTEM A". NEW EVP DETECTOR SHALL BE COMPATIBLE WITH "OPTICOM" EVP SYSTEM ALREADY INPLACE ON SIGNAL SYSTEM.

INPLACE PVC LOOP DETECTORS--USE WITH TEMPORARY SIGNAL SYSTEM

NUMBER	SIZE (FT.)	LOCATION	STATUS
D2-1	6x6	300'	INPLACE
D2-2	6x6	300'	INPLACE
D4-1	6x6	120'	INPLACE
D4-2	6x12	50'	INPLACE
D4-3	3-6x6	5', 15', 25'	INPLACE
D4-4	2-6x6	5' & 20'	INPLACE
D4-5	2-6x6	5' & 20'	INPLACE
D4-6	6x6	10'	INPLACE
D5-1	6x6	40'	INPLACE
D5-2	6x6	10'	INPLACE

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

FURNISH & INSTALL VIDEO DETECTORS

CAMERA NO.	INTERSECTION APPROACH FACING	SIGNAL POLE (CAMERA) LOCATION	CAMERA MOUNTED AT	MOUNTING HEIGHT
V6/1-1	SB CSAH 11	MAST ARM 4	ON MAST ARM	25'
V8-1	WB 101ST AVENUE	MAST ARM 1	ON MAST ARM	25'

NOTE: MOUNTING HEIGHT = APPROXIMATE HEIGHT ABOVE ADJACENT GROUND LINE.

(1) INPLACE (MAINTAIN INPLACE)
- PA85 POLE FOUNDATION
- TYPE PA85-A-25
- 2-ONE WAY SIGNALS-OVERHEAD (0' & 12' FROM END OF MAST ARM)
- 2-TYPE 10A-POLE MOUNTED 0 DEG & 270 DEG
- 2-R9-3 SIGN PANELS (FACING POLES 4 & 6)
- TYPE D SIGN PANEL-OVERHEAD
- ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT-OVERHEAD (ø8)
- EXTENDED INTO H.H.17:
- 3"R.S.C.
- 2-12/c#12
- 1-3/c#12
- 1-3/c#20

F & I
- VIDEO CAMERA-MAST ARM MOUNTED (FACING WB TRAFFIC) (V8-1)
- 5-FOOT EXTENSION & MOUNTING HARDWARE FOR VIDEO CAMERA (FOR MOUNTING ON TRAFFIC SIGNAL MAST ARM)
- 1-3/c#14 (VIDEO)

(2) INPLACE (SALVAGE, FOR USE WITH REVISE SIGNAL SYSTEM "A")
- TYPE PA100-A-50-D40-9 (DAVIT AT 350 DEG)
- 1-ONE WAY SIGNAL-OVERHEAD (2-2)
- 2-ONE WAY SIGNALS-POLE MOUNTED (2-1, 4-5)
- 1-SET C.D. PED SIGNALS (P2-2)
- LUMINAIRE CHECK SWITCH AT 180 DEG
- 2-TYPE D SIGN PANELS
- ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT-OVERHEAD

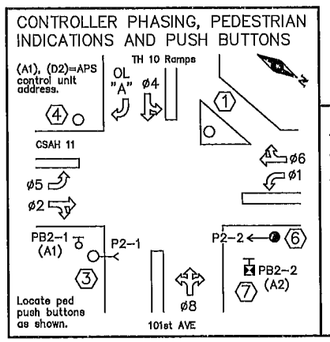
INPLACE (REMOVE)
- PA100 POLE FOUNDATION
- LUMINAIRE-250 W HPS
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (3-SECTION)
- 1-TYPE 10A BRACKETING-POLE MOUNTED 90 DEG
- 1-TYPE 10B BRACKETING-POLE MOUNTED 270 DEG
- 1-R9-3 SIGN PANEL (FACING POLE 1)
- EXTENDED INTO H.H.5:
- 3"R.S.C.
- 2-12/c#12
- 3-3/c#12
- 1-3/c#20

(3) INPLACE (MAINTAIN INPLACE)
- PA100 POLE FOUNDATION
- TYPE PA100-A-40
- 2-ONE WAY SIGNALS-OVERHEAD (0' & 12' FROM END OF MAST ARM)
- TYPE 10B-POLE MOUNTED 0 DEG (1-2, P2-1)
- TYPE 10A-POLE MOUNTED 270 DEG (4-2)
- 1-R9-3 SIGN PANEL (FACING POLE 4)
- TYPE D SIGN PANEL-OVERHEAD
- ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT-OVERHEAD (ø4)
- EXTENDED INTO H.H.9:
- 3"R.S.C.
- 2-12/c#12
- 1-3/c#20

(4) INPLACE (MAINTAIN INPLACE)
- PA100 POLE FOUNDATION
- TYPE PA100-A-55-D40-9 (DAVIT AT 350')
- LUMINAIRE-250 W HPS
- 2-ONE WAY SIGNALS-OVERHEAD AT 0' & 17'
- 3-TYPE 10A-POLE MOUNTED AT 90 DEG (4-1), 180 DEG (6-1), AND 270 DEG 8-4)
- 2-R9-3 SIGN PANELS (FACING POLES 1 AND 3)
- 2-TYPE D SIGN PANELS-OVERHEAD
- ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT-OVERHEAD (ø2,5 DETECTOR, ø6,1 LIGHT)
- EXTENDED INTO H.H.13:
- 3"CONDUIT
- 2-12/c#14
- 1-3/c#14
- 1-3/c#20
- 1-3/c#14 (LUM)
- 1-1/c#6 (INS. GR.)

F & I
- VIDEO CAMERA-MAST ARM MOUNTED (FACING SB TRAFFIC) (V6/1-1)
- 5-FOOT EXTENSION & MOUNTING HARDWARE FOR VIDEO CAMERA (FOR MOUNTING ON TRAFFIC SIGNAL MAST ARM)
- 1-3/c#14 (VIDEO)

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

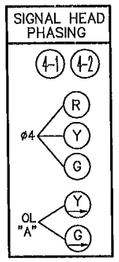


SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 4 & 8 BEING SEQUENTIAL (SPLIT) PHASING AND PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES.
- OL "A" = OVERLAP PHASE TO ALLOW FOR CONCURRENT RIGHT TURN PHASE WITH NB LEFT TURN PHASE.
- VEHICLE SIGNAL PHASES 2 & 6 OPERATE ON VEHICLE RECALL.

SYSTEM ID = 20219
TE # = 6064
MASTER ID = 21996
METER ADDRESS = N RAMP TH 10/FOLEY BLVD

SIGNAL HEAD PHASING



SIGNAL FACE STATUS:

1) INPLACE, REUSE INPLACE.
2) FURNISH & INSTALL ON WOOD POLE.
3) FURNISH & INSTALL ON SPAN WIRE.
4) RELOCATE DURING STAGES 2 & 3.

o⇐ = INPLACE LED LENSES.
●⇐ = F & I NEW LED LENSES.

LED SIGNAL FACES
ALL SIGNAL INDICATIONS SHALL BE 12".

SIGNAL FACE	R	Y	G	Y	G	STATUS
1-1, 1-2	⇐	⇐	⇐			1
2-1	●	●	●			2
2-2	●	●	●			3, 4
4-1, 4-2	o	o	o	⇒	⇒	1
4-3	o	o	o		⇐	1
4-4	o	⇐	⇐			1
4-5	●	⇐	⇐			2
5-1	⇐	⇐	⇐			3
5-2	⇐	⇐	⇐			1
6-1, 6-2	o	o	o			1
8-1, 8-2	o	o	o			1
8-3, 8-4	⇐	⇐	⇐			1

S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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

NO.	BY	DATE	REVISIONS

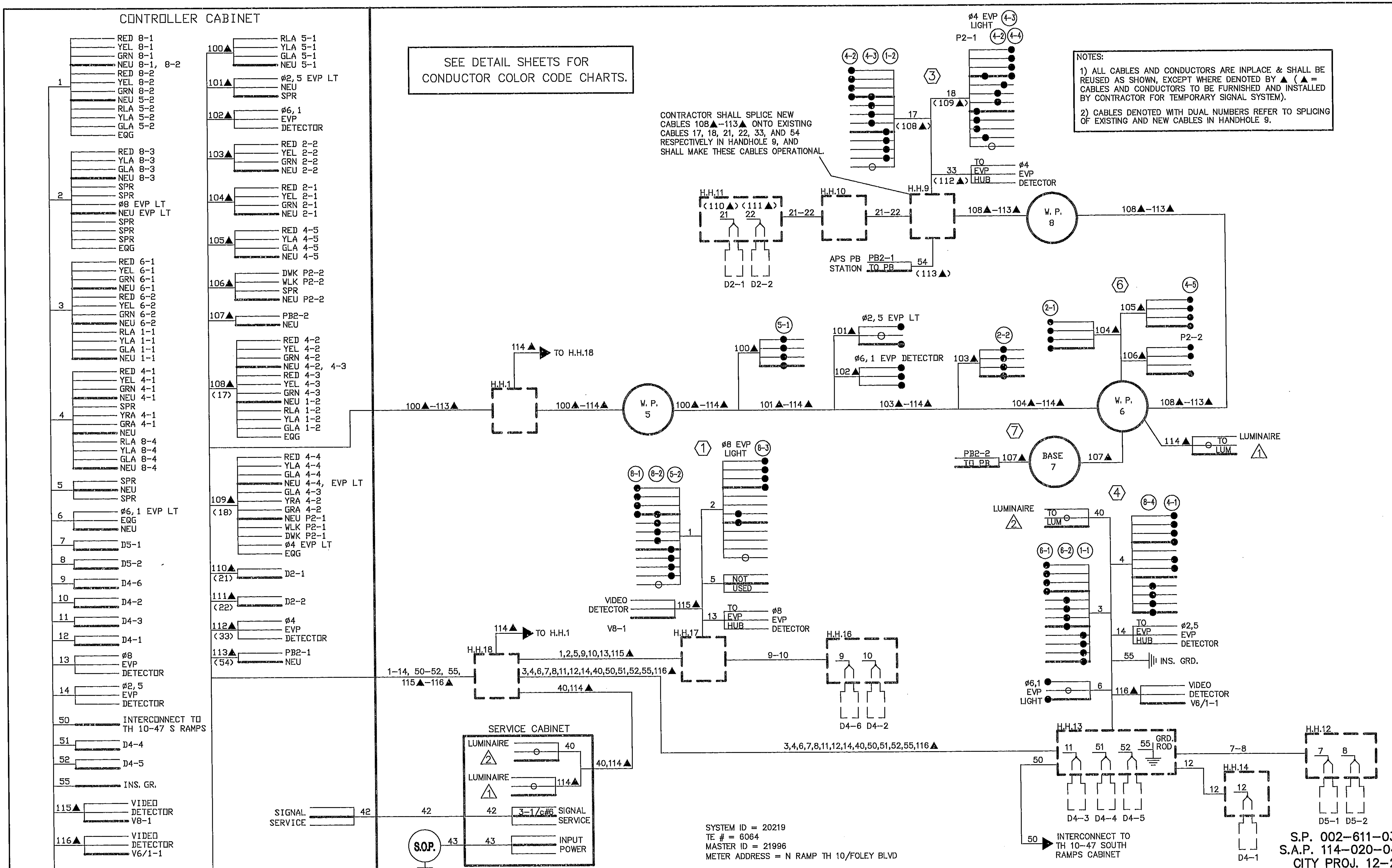
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Date: March 14, 2014
Name: John M. Gray, PE
Lic. No. 22457

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

ANOKA COUNTY, MN
CITY OF COON RAPIDS

TEMPORARY SIGNAL SYSTEM "A"
INTERSECTION LAYOUT
TH 10-47 NORTH RAMPS/101ST AVE NW AT CSAH 11 (FOLEY BLVD)

FILE NO. ANOKC 124472
SIGNAL SHEET 11 OF 32
116/196



CONTROLLER CABINET
SEE DETAIL SHEETS FOR CONDUCTOR COLOR CODE CHARTS.
RED 8-1
YEL 8-1
GRN 8-1
NEU 8-1, 8-2
RED 8-2
YEL 8-2
GRN 8-2
NEU 5-2
RLA 5-2
YLA 5-2
GLA 5-2
EQG
RED 8-3
YLA 8-3
GLA 8-3
NEU 8-3
SPR
ø8 EVP LT
NEU EVP LT
RED 6-1
YEL 6-1
GRN 6-1
NEU 6-1
RED 6-2
YEL 6-2
GRN 6-2
NEU 6-2
RLA 1-1
YLA 1-1
GLA 1-1
NEU 1-1
RED 4-1
YEL 4-1
GRN 4-1
NEU 4-1
YRA 4-1
GRA 4-1
NEU
RLA 8-4
YLA 8-4
GLA 8-4
NEU 8-4
ø6,1 EVP LT
D5-1
D5-2
D4-6
D4-2
D4-3
D4-1
ø8 EVP DETECTOR
ø2,5 EVP DETECTOR
INTERCONNECT TO TH 10-47 S RAMPS
D4-4
D4-5
INS. GR.
VIDEO DETECTOR V8-1
VIDEO DETECTOR V6/1-1
RLA 5-1
YLA 5-1
GLA 5-1
NEU 5-1
ø2,5 EVP LT
ø6,1 EVP DETECTOR
RED 2-2
YEL 2-2
GRN 2-2
NEU 2-2
RED 2-1
YEL 2-1
GRN 2-1
NEU 2-1
RED 4-5
YLA 4-5
GLA 4-5
NEU 4-5
DWK P2-2
WLK P2-2
NEU P2-2
PB2-2
RED 4-2
YEL 4-2
GRN 4-2
NEU 4-2, 4-3
RED 4-3
YEL 4-3
GRN 4-3
NEU 1-2
RLA 1-2
YLA 1-2
GLA 1-2
RED 4-4
YLA 4-4
GLA 4-4
NEU 4-4, EVP LT
GLA 4-3
YRA 4-2
GRA 4-2
NEU P2-1
WLK P2-1
DWK P2-1
ø4 EVP LT
D2-1
D2-2
ø4 EVP DETECTOR
PB2-1
CONTRACTOR SHALL SPLICE NEW CABLES 108▲-113▲ ONTO EXISTING CABLES 17, 18, 21, 22, 33, AND 54 RESPECTIVELY IN HANDHOLE 9, AND SHALL MAKE THESE CABLES OPERATIONAL.
ø4 EVP LIGHT
P2-1
P2-2
H.H.9
H.H.10
H.H.11
APS PB STATION
TO PB
W.P. 8
W.P. 5
W.P. 6
BASE 7
H.H.1
TO H.H.18
TO H.H.1
ø2,5 EVP LT
ø6,1 EVP DETECTOR
TO LUM
LUMINAIRE
ø8 EVP LIGHT
NOT USED
VIDEO DETECTOR
V8-1
H.H.17
H.H.16
H.H.18
H.H.13
H.H.12
H.H.14
INS. GRD.
GRD. ROD
VIDEO DETECTOR V6/1-1
ø6,1 EVP LIGHT
SERVICE CABINET
LUMINAIRE
SIGNAL SERVICE
INPUT POWER
3-1/c#6
S.O.P.
INTERCONNECT TO TH 10-47 SOUTH RAMPS CABINET
D4-3 D4-4 D4-5
D5-1 D5-2
D4-1
D4-6 D4-2
D2-1 D2-2
1-14, 50-52, 55, 115▲-116▲
3,4,6,7,8,11,12,14,40,50,51,52,55,116▲
1,2,5,9,10,13,115▲
40,114▲
100▲-113▲
100▲-114▲
108▲-113▲
SYSTEM ID = 20219
TE # = 6064
MASTER ID = 21996
METER ADDRESS = N RAMP TH 10/FOLEY BLVD

NOTES:

1) ALL CABLES AND CONDUCTORS ARE INPLACE & SHALL BE REUSED AS SHOWN, EXCEPT WHERE DENOTED BY ▲ (▲ = CABLES AND CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR FOR TEMPORARY SIGNAL SYSTEM).

2) CABLES DENOTED WITH DUAL NUMBERS REFER TO SPLICING OF EXISTING AND NEW CABLES IN HANDHOLE 9.

S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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

NO.	BY	DATE	REVISIONS

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Date: March 14, 2014 Name: John M. Gray, PE Lic. No. 22457

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

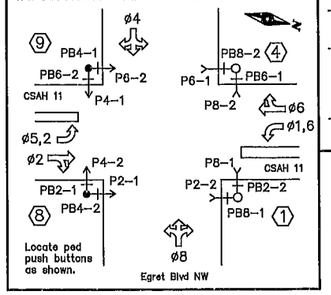
ANOKA COUNTY, MN
CITY OF COON RAPIDS

TEMPORARY SIGNAL SYSTEM "A"
FIELD WIRING DIAGRAM
TH 10-47 NORTH RAMPS/101ST AVE NW AT CSAH 11 (FOLEY BLVD)

FILE NO. ANOKC 124472

SIGNAL SHEET 12 OF 32

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL REMAIN 6 PHASE, WITH PHASES 1 & 5 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

NOTE: SEE NEXT SHEET FOR GENERAL NOTES AND DETAILED POLE NOTES.

NOTE: THIS PLAN IS INTENDED TO SHOW WOOD POLE LOCATION AND EQUIPMENT THAT IS TO BE USED AS PART OF THE TEMPORARY SIGNAL SYSTEM INSTALLATION. SPECIFIC ROADWAY ELEMENTS MAY OR MAY NOT BE INPLACE AT THE TIME THE TEMPORARY SIGNAL IS IN OPERATION. THE LOCATION OF OVERHEAD SIGNALS AND DETECTORS FOR EACH STAGE OR PHASE WILL NEED TO BE ADJUSTED ACCORDINGLY.

FURNISH & INSTALL VIDEO DETECTORS

CAMERA NO.	INTERSECTION APPROACH FACING	SIGNAL POLE (CAMERA) LOCATION	CAMERA MOUNTED AT	MOUNTING HEIGHT
V2/5-1	NB CSAH 11	MAST ARM 1	ON MAST ARM	25'
V4-1	EB EGRET BLVD	WP 8	ON LUMINAIRE EXTENSION	40'

NOTE: MOUNTING HEIGHT - APPROXIMATE HEIGHT ABOVE ADJACENT GROUND LINE.

20 10 0 20 40
scale feet

N

INPLACE PVC LOOP DETECTORS--USE WITH TEMPORARY SIGNAL SYSTEM

NUMBER	SIZE (FT.)	LOCATION	FUNCTION	STATUS
D1-1	2-6x6	10' & 40'	1	INPLACE
D1-2	2-6x6	-5' & 25'	1	INPLACE
D6-1	6x6	250'	1	INPLACE
D6-2	6x6	250'	1	INPLACE
D8-1	6x6	220'	3	INPLACE
D8-2	6x6	220'	3	INPLACE
D8-3	6x10&6x6	AS SHOWN	7	INPLACE
D8-4	2-6x6	-5' & 10'	7	INPLACE

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

LOOP DETECTORS FUNCTIONS:

1) CALL AND EXTEND
3) EXTEND ONLY
7) DELAYED CALL, IMMEDIATE EXTEND

WOOD POLE 9 TO SIGNAL HEAD 6-2:
- 7/16" SPAN WIRE-F & I
- 1/4" SPAN WIRE-F & I
- 4-4/c#14-F & I
- 2-2/c#14-F & I
- 1-3/c#14 (LUM)-F & I

WOOD POLE 8 TO SIGNAL HEAD 6-3:
- 7/16" SPAN WIRE-F & I
- 1/4" SPAN WIRE-F & I
- 1-6/c#14-F & I
- 5-4/c#14-F & I
- 1-3/c#14 (EVP)-F & I
- 2-3/c#20 (EVP)-F & I
- 2-2/c#14-F & I
- 1-3/c#14 (LUM)-F & I

WOOD POLE 8 TO SIGNAL HEAD 4-2:
- 7/16" SPAN WIRE-F & I
- 1/4" SPAN WIRE-F & I
- 2-6/c#14-F & I
- 8-4/c#14-F & I
- 2-3/c#14 (EVP)-F & I
- 3-3/c#20 (EVP)-F & I
- 4-2/c#14-F & I
- 1-3/c#14 (VIDEO)-F & I
- 2-3/c#14 (LUM)-F & I

WOOD POLE 7 TO SIGNAL HEAD 4-2:
- 7/16" SPAN WIRE-F & I
- 1/4" SPAN WIRE-F & I
- 2-6/c#14-F & I
- 9-4/c#14-F & I
- 2-3/c#14 (EVP)-F & I
- 3-3/c#20 (EVP)-F & I
- 4-2/c#14-F & I
- 1-3/c#14 (VIDEO)-F & I
- 2-3/c#14 (LUM)-F & I

H.H.10 TO H.H.14:
- 4"R.S.C.-INPLACE
- 2-12/c#12-INPLACE
- 2-3/c#12-INPLACE
- 1-3/c#20-INPLACE
- 2-2/c#14-INPLACE
- 1-3/c#12 (LUM)-INPLACE

(7) F & I
- 50' WOOD POLE-CLASS 2
- 1-DOWN GUY, GUY GUARD, AND SCREW ANCHOR
- EXTEND INTO H.H.1:
- 3"R.S.C. RISER AND WEATHERHEAD
- 2-6/c#14
- 9-4/c#14
- 2-3/c#14 (EVP)
- 3-3/c#12 (EVP)
- 4-2/c#14
- 1-3/c#14 (VIDEO)
- 2-3/c#14 (LUM)

(A) INPLACE (MAINTAIN INPLACE)
- CABINET FOUNDATION
- CONTROLLER AND CABINET
- EXTENDED INTO H.H.16:
- METERED SIGNAL SERVICE
- 2"R.S.C.
- 3-1/c#6
- EXTENDED INTO H.H.1:
- 4"R.S.C.
- 1-3/c#20
- 4-2/c#14

F & I
- 2-6/c#14
- 9-4/c#14
- 2-3/c#14 (EVP)
- 3-3/c#20 (EVP)
- 4-2/c#14
- 1-3/c#14 (VIDEO)

INPLACE (MAINTAIN INPLACE)
- EXTENDED INTO H.H.15:
- 4"R.S.C.
- 4-12/c#12
- 5-3/c#12
- 1-3/c#20
- 4-2/c#14

F & I — 1-3/c#14 (VIDEO)

H.H.10 TO H.H.12:
H.H.12 TO H.H.13:
- 2"R.S.C.-INPLACE
- 2-2/c#14-INPLACE

H.H.14 TO H.H.15:
- 4"R.S.C.-INPLACE
- 2-12/c#12-INPLACE
- 2-3/c#12-INPLACE
- 1-3/c#20-INPLACE
- 4-2/c#14-INPLACE
- 1-3/c#12 (LUM)-INPLACE

(C) INPLACE GROUND MOUNTED TRANSFORMER (S.O.P.-CONNEXUS)

H.H.1 TO H.H.18:
- 2"R.S.C.-INPLACE
- 1-3/c#20-INPLACE
- 2-2/c#14-INPLACE

(B) INPLACE (MAINTAIN INPLACE)
- CABINET FOUNDATION
- SIGNAL SERVICE CABINET
- EXTENDED INTO H.H.16:
- 2"R.S.C.
- 2-3/c#12 (LUM)
- 3-1/c#6

INPLACE (REMOVE)
- F & I — 2-3/c#12 (LUM)
- F & I — 2-3/c#14 (LUM)

INPLACE (MAINTAIN INPLACE)
- EXTENDED TO S.O.P.:
- 2"R.S.C.
- 3-1/c#6

MATCH LINE "A" - SEE NEXT SHEET

SIGNAL FACE STATUS:

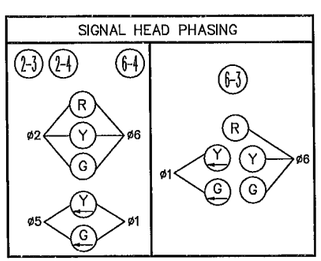
1) INPLACE, REUSE INPLACE.
2) FURNISH & INSTALL ON WOOD POLE.
3) FURNISH & INSTALL ON SPAN WIRE.
4) RELOCATE DURING STAGES 2 & 3.
5) REAIM DURING EACH STAGE.

LED SIGNAL FACES
ALL SIGNAL INDICATIONS SHALL BE 12".

SIGNAL FACE	R	Y	G	Y	G	STATUS
2-1, 2-2	O	O	O			1, 5
2-3	O	O	O	⇦	⇦	1, 5
2-4	O	O	O	⇦	⇦	1
4-1	●	●	●			2
4-2	●	●	●			3
4-3	O	O	O			1
6-1	●	●	●			2
6-2	●	●	●			3, 4
6-3	●	●	●	⇦	⇦	3
6-4	●	●	●	⇦	⇦	2
8-1, 8-2	O	O	O			1
8-3	●	●	●			2

O⇦ = INPLACE LED LENSES.
●⇦ = F & I NEW LED LENSES.

SIGNAL HEAD PHASING



S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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

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Name: John M. Gray, PE
Date: March 14, 2014 Lic. No. 22457

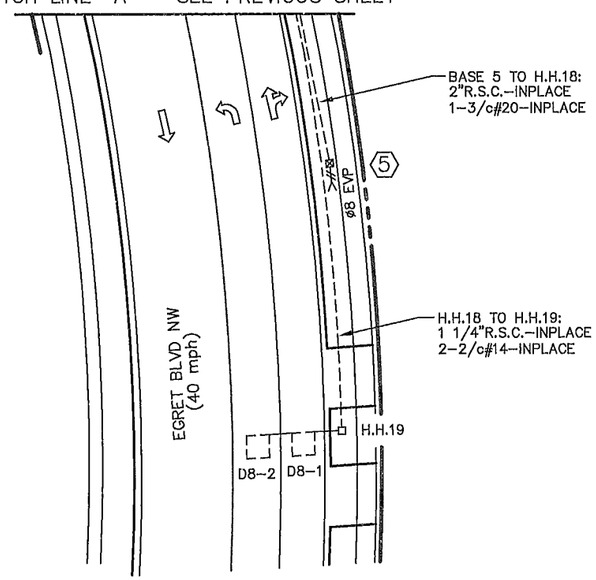
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MN
CITY OF COON RAPIDS

TEMPORARY SIGNAL SYSTEM 'C'
INTERSECTION LAYOUT
CSAH 11 (FOLEY BLVD) AT EGRET BLVD NW

FILE NO. ANOKC 124472
SIGNAL SHEET 13 OF 32
118 / 196

MATCH LINE "A" – SEE PREVIOUS SHEET



20 10 0 20 40
scale feet

N

⑤ INPLACE (MAINTAIN INPLACE)
- PEDESTAL FOUNDATION
- PEDESTAL POLE, BASE, WIND COLLAR
- ONE WAY EVP DETECTOR–MOUNTED ON TOP OF SLIPFITTER COLLAR (ø8)
- EXTENDED INTO H.H.18:
- 2"R.S.C.
- 1–3/c#20

NOTES:

1) LOCATION OF WOOD POLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER AND MNDOT METRO DISTRICT TRAFFIC PERSONNEL.
2) ALL HANDHOLES TO BE USED WITH TEMPORARY SIGNAL SYSTEM "C" ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE.
3) EACH NEW SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
4) SEE DETAILS FOR WOOD POLE AND SPAN WIRE MOUNTING DETAILS.
5) ALL NEW VEHICLE SIGNAL INDICATIONS SHALL BE LED AND SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR AS SHOWN BELOW.
6) ALL TRAFFIC SIGNAL MATERIALS AND ELECTRICAL EQUIPMENT TO BE FURNISHED AND INSTALLED BY CONTRACTOR FOR THE TEMPORARY SIGNAL SYSTEM SHALL BE APPROVED BY ENGINEER PRIOR TO INSTALLATION AT THE INTERSECTION. SEE SPECIAL PROVISIONS.
7) MOVEMENT/RELOCATION OF HEADS, EVP DETECTORS AND INDICATOR LIGHTS, AND VIDEO DETECTOR CAMERAS SHALL BE INCLUDED IN THE PAY ITEM FOR "TEMPORARY SIGNAL SYSTEM C".
8) PROPOSED TEMPORARY SIGNAL SYSTEM PLAN SHOWN IS PROPOSED LAYOUT FOR STAGES 1, 2 AND 3 OF THE TRAFFIC CONTROL PLAN. PLACEMENT OF ALL SIGNAL INDICATIONS AND OTHER ITEMS FOR STAGES 1, 2 AND 3 STAGING PLANS SHALL BE IN ACCORDANCE WITH STAGING PLANS INCLUDED ELSEWHERE IN THE PLANS.
9) SEE SPECIAL PROVISIONS REGARDING VIDEO DETECTION SYSTEM TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR, AND FOR ALL VIDEO DETECTION SYSTEM COMPONENTS TO BE TURNED OVER TO THE COUNTY (FOR THE COUNTY TO OWN) AFTER TEMPORARY SIGNAL SYSTEM "C" IS REMOVED AND REVISE SIGNAL SYSTEM "C" IS MADE OPERATIONAL (INCLUDED AS PART OF PAY ITEM FOR "TEMPORARY SIGNAL SYSTEM "C").
10) (F & I) = ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR.
11) CONTRACTOR SHALL BAG (AND MAKE IN–OPERATIONAL) ALL VEHICLE SIGNAL HEADS NOT IN USE DURING CONSTRUCTION.
12) CONTRACTOR SHALL MAINTAIN A SIGNAL SYSTEM IN OPERATION AT THIS INTERSECTION AT ALL TIMES, UNLESS OTHERWISE APPROVED BY THE ENGINEER FOR THE SIGNAL SYSTEM TO BE TURNED OFF DURING NON–PEAK TRAFFIC PERIODS (FOR SWITCHOVERS FROM EXISTING SIGNAL SYSTEM TO TEMPORARY SIGNAL SYSTEM, AND FROM TEMPORARY SIGNAL SYSTEM TO REVISED PERMANENT SIGNAL SYSTEM).
13) CONTRACTOR SHALL PROTECT AND MAINTAIN ALL ITEMS OF THE EXISTING PERMANENT SIGNAL SYSTEM THAT WILL BE REUSED AS PART OF BOTH THE TEMPORARY AND REVISE SIGNAL SYSTEMS, AND SHALL REPLACE ITEMS DAMAGED DURING CONSTRUCTION WITH NEW ITEMS (AT NO EXPENSE TO THE COUNTY).
14) CONTRACTOR SHALL FURNISH AND INSTALL THREE (3) EMERGENCY VEHICLE PREEMPTION (EVP) DETECTORS AND TWO (2) EVP CONFIRMATION LIGHTS WHERE SHOWN, ALONG WITH ALL WOOD POLE AND SPAN WIRE MOUNTING HARDWARE, ALL AS PART OF PAY ITEM FOR "TEMPORARY SIGNAL SYSTEM "C". NEW EVP DETECTORS SHALL BE COMPATIBLE WITH "OPTICOM" EVP SYSTEM ALREADY INPLACE ON SIGNAL SYSTEM.

① INPLACE (MAINTAIN INPLACE)
- PA100 POLE FOUNDATION
- TYPE PA100–A–45–D40–9 (DAVIT AT 350 DEG)
- LUMINAIRE–200 W HPS
- 2–ONE WAY SIGNALS–OVERHEAD AT 0' & 12'
- 2–TYPE 10B–POLE MOUNTED 90 DEG & 180 DEG
- 2–PEDESTRIAN PUSH BUTTONS & SIGNS (R10–3e)
- 2–R6–1 SIGN PANELS–POLE MOUNTED 0/180 DEG
- R10–12 SIGN PANEL–OVERHEAD
- 1–TYPE D SIGN PANEL–OVERHEAD
- 1–EVP CONFIRMATORY LIGHT–OVERHEAD (ø2,5)
- LUMINAIRE CHECK SWITCH AT 0 DEG
- EXTENDED INTO H.H.15:
- 3"R.S.C.
- 2–12/c#12
- 3–3/c#12
- 1–3/c#12 (LUM)

F & I
- VIDEO CAMERA–MAST ARM MOUNTED (FACING NB TRAFFIC) (V2/5–1)
- 5–FOOT EXTENSION & MOUNTING HARDWARE FOR VIDEO CAMERA (FOR MOUNTING ON TRAFFIC SIGNAL MAST ARM)
- 1–3/c#14 (VIDEO)

④ INPLACE (MAINTAIN INPLACE)
- PA90 POLE FOUNDATION
- TYPE PA90–A–30–D40–9 (DAVIT AT 350 DEG)
- LUMINAIRE–200 W HPS
- 1–ONE WAY SIGNAL–OVERHEAD (8–2)
- 2–TYPE 10B–POLE MOUNTED 90 DEG & 180 DEG
- 2–PEDESTRIAN PUSH BUTTONS & SIGNS (R10–3e)
- LUMINAIRE CHECK SWITCH AT 0 DEG
- 1–TYPE D SIGN PANEL–OVERHEAD
- ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT–OVERHEAD (ø8)
- EXTENDED INTO H.H.10:
- 3"R.S.C.
- 2–12/c#12
- 2–3/c#12
- 1–3/c#20
- 1–3/c#12 (LUM)

② INPLACE (SALVAGE, FOR USE WITH REVISE SIGNAL SYSTEM "C")
- TYPE PA90–A–D40–9 MAST ARM POLE (DAVIT AT 350 DEG)
- 1–ONE WAY SIGNAL–OVERHEAD (4–2)
- 1–TYPE 10B–POLE MOUNTED 180 DEG (4–1, P4–2)
- 1–SET C.D. PED SIGNALS (P2–1)
- 2–PEDESTRIAN PUSH BUTTONS & SIGNS (R10–3e)
- LUMINAIRE CHECK SWITCH AT 0 DEG
- 1–TYPE D SIGN PANEL
- ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT–OVERHEAD

INPLACE (REMOVE)
- PA90 POLE FOUNDATION
- 25–FOOT MAST ARM
- LUMINAIRE–200 W HPS
- 1–ONE WAY SIGNAL–POLE MOUNTED (5–SECTION)
- 1–TYPE 10B BRACKETING–POLE MOUNTED 90 DEG
- EXTENDED INTO H.H.3:
- 3"R.S.C.
- 2–12/c#12
- 3–3/c#12
- 1–3/c#20

③ INPLACE (SALVAGE, FOR USE WITH REVISE SIGNAL SYSTEM "C")
- TYPE PA100–A–D40–9 MAST ARM POLE (DAVIT AT 350 DEG)
- 1–ONE WAY SIGNAL–OVERHEAD (6–2)
- 1–TYPE 10B–POLE MOUNTED 180 DEG (6–1, P6–2)
- 1–SET C.D. PED SIGNALS (P4–1)
- 2–PEDESTRIAN PUSH BUTTONS & SIGNS (R10–3e)
- LUMINAIRE CHECK SWITCH AT 0 DEG
- 1–TYPE D SIGN PANEL
- TWO WAY EVP DETECTOR AND ONE WAY CONFIRMATORY LIGHT–OVERHEAD

INPLACE (REMOVE)
- PA100 POLE FOUNDATION
- 40–FOOT MAST ARM
- LUMINAIRE–200 W HPS
- 1–ONE WAY SIGNAL–OVERHEAD AT 0' (5–SECTION)
- 1–TYPE 10B BRACKETING–POLE MOUNTED 90 DEG
- 1–ONE WAY SIGNAL–POLE MOUNTED (3–SECTION)
- 1–R9–3 SIGN PANEL (FACING POLE 1)
- 1–R10–12 SIGN PANEL–OVERHEAD
- EXTENDED INTO H.H.8:
- 3"R.S.C.
- 2–12/c#12
- 4–3/c#12
- 2–3/c#20

⑧ F & I
- 50' WOOD POLE–CLASS 2
- 2–DOWN GUYS, GUY GUARDS, AND SCREW ANCHORS
- 15' MAST ARM AND LUMINAIRE (250 W HPS) WITH PEC
- 1–TYPE 10B–WOOD POLE MOUNTED 90 DEG (6–4, P2–1)
- 1–TYPE 10B–WOOD POLE MOUNTED 180 DEG (4–1, P4–2)
- 2–PEDESTRIAN PUSH BUTTONS, SIGNS (R10–3e), AND RISERS
- 1–ONE WAY EVP DETECTOR AND LIGHT–WOOD POLE MOUNTED (ø4)
- VIDEO CAMERA–LUMINAIRE EXTENSION MOUNTED (FACING EB TRAFFIC) (V4–1)
- MOUNTING HARDWARE FOR VIDEO CAMERA (FOR MOUNTING ON LUMINAIRE EXTENSION)
- METAL JUNCTION BOX WITH TERMINAL BLOCKS
- 2"R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX WITH:
- 1–6/c#14
- 3–4/c#14
- 2–2/c#14
- 2"R.S.C. RISER AND WEATHERHEAD ABOVE SPAN WIRE WITH:
- 1–3/c#14 (VIDEO)
- 1–3/c#14 (LUM)

⑨ F & I
- 50' WOOD POLE–CLASS 2
- 1–DOWN GUY, GUY GUARD, AND SCREW ANCHOR
- 15' MAST ARM AND LUMINAIRE (250 W HPS) WITH PEC
- 1–TYPE 10B–WOOD POLE MOUNTED 90 DEG (8–3, P4–1)
- 1–TYPE 10B–WOOD POLE MOUNTED 180 DEG (6–1, P6–2)
- 2–PEDESTRIAN PUSH BUTTONS, SIGNS (R10–3e), AND RISERS
- METAL JUNCTION BOX WITH TERMINAL BLOCKS
- 2"R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX WITH:
- 4–4/c#14
- 2–2/c#14
- 2"R.S.C. RISER AND WEATHERHEAD ABOVE SPAN WIRE WITH:
- 1–3/c#14 (LUM)

S.P. 002–611–032
S.A.P. 114–020–047
CITY PROJ. 12–22

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.
Name: John M. Gray, PE
Date: March 14, 2014 Lic. No. 22457

SEH
PHONE: (651) 490–2000
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ANOKA COUNTY, MN
CITY OF COON RAPIDS

TEMPORARY SIGNAL SYSTEM "C"
INTERSECTION LAYOUT
CSAH 11 (FOLEY BLVD) AT EGRET BLVD NW

FILE NO. ANOKC 124472
SIGNAL SHEET 14 OF 32

CONTROLLER CABINET

2 — SIGNAL, SERVICE
27 — D8-1
28 — D8-2
29 — D8-3
30 — D8-4
31 — RED 2-3, YEL 2-3, GRN 2-3, NEU 2-3, YLA 2-3, GLA 2-3, SPR, NEU 4-3, RED 4-3, YEL 4-3, GRN 4-3, EQG
32 — RED 2-1, YEL 2-1, GRN 2-1, NEU 2-1, 2-2, RED 2-2, YEL 2-2, GRN 2-2, NEU P2-2, WLK P2-2, DWK P2-2, SPR, EQG
33 — WLK P8-1, NEU P8-1, DWK P8-1
34 — PB2-2, NEU, PB8-1
35 — ø2,5 EVP LT, NEU, SPR
36 — RED 2-4, YEL 2-4, GRN 2-4, NEU 2-4, YLA 2-4, GLA 2-4, SPR, NEU 8-1, RED 8-1, YEL 8-1, GRN 8-1, EQG
37 — RED 8-2, YEL 8-2, GRN 8-2, NEU 8-2, P8-2, WLK P8-2, DWK P8-2, SPR, NEU P6-1, WLK P6-1, DWK P6-1, SPR, EQG
38 — PB6-1, NEU, PB8-2
39 — ø8 EVP LT, NEU, SPR
40 — ø8, EVP, DETECTOR
41 — D6-1
42 — D6-2
43 — D1-1
44 — D1-2

50 — ø8, EVP, DETECTOR
100▲ — RED 4-2, YEL 4-2, GRN 4-2, NEU 4-2
101▲ — RED 6-4, YEL 6-4, GRN 6-4, NEU 6-4, YLA 6-4, GLA 6-4
102▲ — RED 4-1, YEL 4-1, GRN 4-1, NEU 4-1
103▲ — DWK P2-1, WLK P2-1, SPR, NEU P2-1
104▲ — DWK P4-2, WLK P4-2, SPR, NEU P4-2
105▲ — PB2-1, NEU
106▲ — PB4-2, NEU
107▲ — ø4 EVP LT, NEU, SPR
108▲ — ø4, EVP, DETECTOR
109▲ — VIDEO, DETECTOR, V4-1
110▲ — RED 6-3, YEL 6-3, GRN 6-3, NEU 6-3, YLA 6-3, GLA 6-3
111▲ — ø6,1 EVP LT, NEU, SPR
112▲ — ø6,1, EVP, DETECTOR
113▲ — ø2,5, EVP, DETECTOR
114▲ — RED 6-2, YEL 6-2, GRN 6-2, NEU 6-2
115▲ — RED 6-1, YEL 6-1, GRN 6-1, NEU 6-1
116▲ — RED 8-3, YEL 8-3, GRN 8-3, NEU 8-3
117▲ — DWK P4-1, WLK P4-1, SPR, NEU P4-1
118▲ — DWK P6-2, WLK P6-2, SPR, NEU P6-2
119▲ — PB4-1, NEU
120▲ — PB6-2, NEU
123▲ — VIDEO, DETECTOR, V2/5-1

⑤ TO 50 EVP HUB ø8 EVP DETECTOR
H.H.18 — 27–28 — H.H.19 (27, 28) — D8-1 D8-2
27–28, 50
H.H.1 (29, 30) — D8-3 D8-4
27–30, 50, 100▲–120▲
100▲–122▲
121▲–122▲ — TO H.H.15
W. P. 7
100▲–122▲
4-2 — 100▲
6-4 — 101▲
4-1 — 102▲
⑧
103▲ P2-1
104▲ P4-2
105▲ PB2-1 TO PB
106▲ PB4-2 TO PB
101▲–122▲
W. P. 8
110▲–121▲
6-3 — 110▲
111▲ ø6,1 EVP LT
112▲ ø6,1 EVP DETECTOR
113▲ ø2,5 EVP DETECTOR
6-2 — 114▲
111▲–121▲
114▲–121▲
115▲–121▲
ø4 EVP LT — 107▲
ø4 EVP DETECTOR — 108▲
122▲ TO LUM — LUMINAIRE ②
109▲ VIDEO DETECTOR V4-1
⑨
6-1 — 115▲ — P4-1 117▲, P6-2 118▲
8-3 — 116▲ — PB4-1 TO PB 119▲, PB6-2 TO PB 120▲
W. P. 9
115▲–121▲
121▲ TO LUM — LUMINAIRE ③

NOTES:
1) ALL CABLES AND CONDUCTORS ARE INPLACE & SHALL BE REUSED AS SHOWN, EXCEPT WHERE DENOTED BY ▲ (▲ = CABLES AND CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR FOR TEMPORARY SIGNAL SYSTEM).

SEE DETAIL SHEETS FOR CONDUCTOR COLOR CODE CHARTS.

SERVICE CABINET
S.O.P. — 1 — 1 INPUT POWER
121▲ LUMINAIRE ③
122▲ LUMINAIRE ②
4 LUMINAIRE ④
3 LUMINAIRE ①
2 3-1/c#6 SIGNAL SERVICE
2–4, 121▲–122▲

LUMINAIRE ①
① P2-2 (2-2) (2-1)
3, 32, 31
(2-3) (4-3)
33 P8-1
35 ø2,5 EVP LIGHT
PB8-1 PB2-2
34 123▲ VIDEO DETECTOR V2/5-1

LUMINAIRE ④
④ 4
(2-4) (8-1)
P6-1 P8-2 (8-2)
37, 36
39 ø8 EVP LIGHT
PB8-2 PB6-1
38
40 TO ø8 EVP HUB EVP DETECTOR

2–4, 121▲–122▲ — H.H.16 (2)
3–4, 121▲–122▲
3–4, 121▲–122▲ — H.H.15
31–44, 123▲
4, 36–44
121▲–122▲ — TO H.H.1
H.H.14 (43, 44) — D1-1 D1-2
4, 36–42
H.H.10
41–42
H.H.12
41–42
H.H.13 (41, 42) — D6-1 D6-2

S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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. Name: John M. Gray, PE Date: March 14, 2014 Lic. No. 22457

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ANOKA COUNTY, MN
CITY OF COON RAPIDS

TEMPORARY SIGNAL SYSTEM "C"
FIELD WIRING DIAGRAM
CSAH 11 (FOLEY BLVD) AT EGRET BLVD NW

FILE NO. ANOKC 124472
SIGNAL SHEET 15 OF 32

20 10 0 20 40
scale feet

N

REVISE SIGNAL SYSTEM "A":

THE EXISTING SIGNAL SYSTEM IS BEING MODIFIED AT THE NW AND NE CORNERS AND AT THE NORTH MEDIAN TO ACCOMMODATE RECONSTRUCTION OF THE NORTH LEG OF THE INTERSECTION. WORK INCLUDES RELOCATION OF THE NE MAST ARM AND POLE, INSTALLATION OF APS PUSH BUTTONS, REVISING SIGNAL PHASING FOR CSAH 11 APPROACHES FROM PROTECTED LEFT TURNS TO FLASHING YELLOW ARROW OPERATION, AND MISCELLANEOUS LOOP DETECTOR, CONDUIT, AND HANDHOLE INSTALLATIONS.

CSAH 11 (FOLEY BLVD NW) (40 mph)

101st AVENUE NW (30 mph)

NW RAMP (TO WB TH 10-47)

MATCH LINE-STA. SB 109+50

H.H.11

H.H.10

H.H.9

H.H.8

H.H.7

H.H.6

H.H.5

H.H.4

H.H.3

H.H.2

H.H.1

H.H.12

H.H.13

H.H.14

H.H.16

H.H.17

H.H.18

D2-2

D2-1

D4-1

D4-2

D4-3

D4-4

D4-5

D4-6

D8-1

D8-2

D8-3

D8-4

D8-5

H.H.13 TO NORTH:
2"CONDUIT-INPLACE
1-6 Pr.#19-INPLACE
(TO TH 10-47 NORTH RAMPS CABINET)

F & I
APS PEDESTRIAN PUSH BUTTON STATION (PB8-2)
1-APS PB AND SIGN (RT ARROW)
EXTEND INTO H.H.17:
1" CONDUIT
1-2/c#14

H.H.13 TO H.H.14:
2"CONDUIT-INPLACE
1-2/c#14-INPLACE

H.H.13 TO H.H.18:
4"CONDUIT-INPLACE
2-12/c#14-INPLACE
1-3/c#14-INPLACE
1-3/c#20-INPLACE
6-2/c#14-INPLACE
1-3/c#14 (LUM)-INPLACE
1-1/c#6 (INS.GR.)-INPLACE
1-6 Pr.#19-INPLACE
1-12/c#14-F & I

H.H.1 TO H.H.18:
2"R.S.C.-INPLACE
1-3/c#12-INPLACE (REMOVE)
1-3/c#14 (LUM)-F & I

H.H.1 TO H.H.4:
4"R.S.C.-INPLACE (REMOVE)
4-12/c#12-INPLACE (REMOVE)
4-3/c#12-INPLACE (REMOVE)
2-3/c#20-INPLACE (REMOVE)
11-2/c#14-INPLACE (REMOVE)
H.H.1 TO H.H.4A:
2-4"CONDUITS-F & I
5-12/c#14-F & I
1-4/c#14-F & I
(*) 2-3/c#14-F & I
(*) 2-3/c#20-F & I
12-2/c#14-F & I
1-3/c#14 (LUM)-F & I
1-1/c#6 (INS.GR.)-F & I

H.H.4 TO H.H.5:
4"R.S.C.-INPLACE (REMOVE)
4-12/c#12-INPLACE (REMOVE)
4-3/c#12-INPLACE (REMOVE)
2-3/c#20-INPLACE (REMOVE)
9-2/c#14-INPLACE (REMOVE)
H.H.4A TO H.H.5A:
2-4"CONDUITS-F & I
5-12/c#14-F & I
1-4/c#14-F & I
(*) 2-3/c#14-F & I
(*) 2-3/c#20-F & I
10-2/c#14-F & I
1-3/c#14 (LUM)-F & I
1-1/c#6 (INS.GR.)-F & I

H.H.16 TO H.H.17:
3"R.S.C.-INPLACE
2-2/c#14-INPLACE

H.H.17 TO H.H.18:
4"R.S.C.-INPLACE
2-12/c#12-INPLACE
1-3/c#12-INPLACE
1-3/c#20-INPLACE
2-2/c#14-INPLACE
(*) 1-3/c#14-F & I
1-2/c#14-F & I

H.H.1 TO H.H.2:
H.H.2 TO H.H.3:
2"N.M.C.-INPLACE (REMOVE)
1-3/c#20-INPLACE (REMOVE)
2-2/c#14-INPLACE (REMOVE)
H.H.1 TO H.H.2A:
2"R.S.C.-F & I
(*) 1-3/c#20-F & I ("A")
2-2/c#14-F & I
(**) 2"R.S.C.-F & I
(**) 1-6 SM FIBER-OPTIC CABLE

H.H.2A TO H.H.51:
(**) 2"CONDUIT-F & I
(**) 1-6 SM FIBER-OPTIC CABLE
(*) 1-3/c#20-F & I ("A")
(*) 1-3/c#20-F & I ("B")

H.H.9 TO H.H.10:
H.H.10 TO H.H.11:
2"N.M.C.-INPLACE
2-2/c#14-INPLACE (REMOVE)
2-2/c#14-F & I

H.H.12 TO H.H.13:
2"N.M.C.-INPLACE
2-2/c#14-INPLACE

H.H.8 TO H.H.9:
3"R.S.C.-INPLACE
2-12/c#12-INPLACE (REMOVE)
1-3/c#12-INPLACE (REMOVE)
1-3/c#20-INPLACE (REMOVE)
3-2/c#14-INPLACE (REMOVE)
2-12/c#14-F & I
1-4/c#14-F & I
(*) 1-3/c#14-F & I
(*) 1-3/c#20-F & I
3-2/c#14-F & I

H.H.6 TO H.H.8:
3"R.S.C.-INPLACE
2-12/c#12-INPLACE (REMOVE)
1-3/c#12-INPLACE (REMOVE)
1-3/c#20-INPLACE (REMOVE)
5-2/c#14-INPLACE (REMOVE)
2-12/c#14-F & I
1-4/c#14-F & I
(*) 1-3/c#14-F & I
(*) 1-3/c#20-F & I
5-2/c#14-F & I

H.H.6 TO H.H.7:
2"N.M.C.-INPLACE
1-2/c#14-INPLACE (REMOVE)
1-2/c#14-F & I

H.H.5 TO H.H.6:
3"R.S.C.-INPLACE (REMOVE)
2-12/c#12-INPLACE (REMOVE)
1-3/c#12-INPLACE (REMOVE)
1-3/c#20-INPLACE (REMOVE)
8-2/c#14-INPLACE (REMOVE)
H.H.5A TO H.H.6:
4"R.S.C.-F & I
2-12/c#14-F & I
1-4/c#14-F & I
(*) 1-3/c#14-F & I
(*) 1-3/c#20-F & I
9-2/c#14-F & I

H.H.4-INP. (REMOVE)

H.H.5-INP. (REMOVE)

H.H.2-INP. (REMOVE)

F & I H.H.4A

F & I H.H.5A

F & I H.H.2A

F & I H.H.15 (*) ("B")

F & I H.H.15 ("B")
(*) 2"CONDUIT
(*) 1-3/c#20

F & I
APS PEDESTRIAN PUSH BUTTON STATION (PB8-1)
1-APS PB AND SIGN (LT ARROW)
EXTEND INTO H.H.5A:
1" CONDUIT
1-2/c#14

A INPLACE (MAINTAIN INPLACE)
EQUIPMENT PAD FOUNDATION
CONTROLLER AND CABINET
SERVICE EQUIPMENT (PAD MOUNTED)
BETWEEN CONTROLLER CABINET AND LOAD CENTER:
1 1/4"R.S.C.
2-1/c#6
1-1/c#6 BR.GR.
CONTROLLER CABINET TO H.H.1:
4"R.S.C.

INPLACE (REMOVE)
4-12/c#12
3-3/c#12
3-3/c#20
13-2/c#14
F & I
4"R.S.C. (CORE INTO EXISTING FOUNDATION)
5-12/c#14
1-4/c#14
(*) 2-3/c#14
(*) 3-3/c#20
14-2/c#14
1-1/c#6 (INS.GR.)
(**) 1-6 SM FIBER-OPTIC CABLE

INPLACE (MAINTAIN INPLACE)
CONTROLLER CABINET TO H.H.18:
4"R.S.C.
2-12/c#14
2-12/c#12
1-3/c#14
1-3/c#12
2-3/c#20
8-2/c#14
1-1/c#6 (INS.GR.)
1-6 Pr.#19

F & I
EXTEND INPLACE 3"R.S.C. STUB OUT INTO H.H.18
1-12/c#14
(*) 1-3/c#14
1-2/c#14

INPLACE (MAINTAIN INPLACE)
LOAD CENTER TO H.H.18:
1 1/4"R.S.C.
1-3/c#14 (LUM)

INPLACE (REMOVE)
1-3/c#12 (LUM)
F & I
1-3/c#14 (LUM)

NOTE: SEE NEXT SHEET FOR NOTES, POLE NOTES, AND SIGNAL CHARTS.

INPLACE (REMOVE)
APS PEDESTRIAN PUSH BUTTON STATION (FOR PB2-2)
EXTENDED INTO H.H.5:
2"CONDUIT
1-2/c#14

INPLACE (S & I)
1-APS PB AND SIGN (RT ARROW) (PB2-2)

F & I
APS PEDESTRIAN PUSH BUTTON STATION (FOR PB2-2)
EXTEND INTO H.H.6:
1" CONDUIT
1-2/c#14

INPLACE (MAINTAIN INPLACE)
APS PEDESTRIAN PUSH BUTTON STATION (PB2-1)
1-APS PB AND SIGN (LT ARROW)
EXTENDED INTO H.H.9:
2"CONDUIT
1-2/c#14-INPLACE (REMOVE)
1-2/c#14-F & I

SYSTEM ID = 20219
TE # = 6065
MASTER ID = 21996
METER ADDRESS = N RAMP TH 10/FOLEY BLVD

ø2.5 EVP (*)
ø4 EVP
ø6 EVP
ø8 EVP
ø6.1 EVP (*)
ø2.5 EVP (*) ("B")

S.P. 002-611-032
S.A.P. 114-020-047
5 ("B") CITY PROJ. 12-22

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.
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ANOKA COUNTY, MN
CITY OF COON RAPIDS

REVISE SIGNAL SYSTEM "A"
INTERSECTION LAYOUT
TH 10-47 NORTH RAMPS/101ST AVE NW
AT CSAH 11 (FOLEY BLVD)

FILE NO. ANOKC 124472
SIGNAL SHEET 16 OF 32

121
196

NOTES:

1) LOCATION OF FOUNDATIONS, PUSH BUTTON STATIONS, HANDHOLES, AND LOOP DETECTORS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER AND MNDOT METRO TRAFFIC OFFICE PERSONNEL.
2) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
3) NEW LOOP DETECTORS SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND CURRENT MNDOT STANDARD PLATE NO. 8132.
4) NEW HANDHOLES 2A, 4A, AND 5A (AND HANDHOLE 15 FOR SYSTEM "B") SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS. REMOVE AND DISPOSE OF INPLACE HANDHOLES 2, 3, 4, 5, AND 50. ADJUST HANDHOLES 1, 6, 17, AND 18 TO FINISHED SURROUNDING GRADE AFTER ALL ROAD CONSTRUCTION WORK IS COMPLETED.
5) SEE SPECIAL PROVISIONS REGARDING REMOVAL, SALVAGING AND INSTALLATION OF INPLACE SIGNAL EQUIPMENT.
6) INPLACE ITEMS TO BE REUSED INPLACE AS PART OF REVISE SIGNAL SYSTEM "A" SHALL BE PROTECTED AND MAINTAINED INPLACE. SEE SPECIAL PROVISIONS.
7) CONTRACTOR SHALL MAINTAIN OPERATION OF A SIGNAL SYSTEM AT THIS INTERSECTION AT ALL TIMES, UNLESS OTHERWISE APPROVED BY THE ENGINEER FOR THE SIGNAL SYSTEM TO BE TURNED OFF.
8) F & I = MATERIALS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS PART OF REVISE SIGNAL SYSTEM "A".
9) S & I = MATERIALS TO BE SALVAGED AND INSTALLED BY THE CONTRACTOR AS PART OF REVISE SIGNAL SYSTEM "A".
10) INPLACE ONE SECTION LED COUNTDOWN TIMER PEDESTRIAN SIGNAL INDICATIONS SHALL BE REUSED AS SHOWN AS PART OF REVISE SIGNAL SYSTEM "A". THE CONTRACTOR SHALL FURNISH & INSTALL NEW ONE SECTION LED COUNTDOWN TIMER "HAND/WALKING PERSON" PEDESTRIAN SIGNAL INDICATIONS WHERE SHOWN IN THE PLANS IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
11) ALL INPLACE VEHICLE SIGNAL INDICATIONS ARE LED. NEW VEHICLE SIGNAL INDICATIONS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR SHALL ALSO BE LED. SEE SPECIAL PROVISIONS.
12) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED & INSTALLED (OR SALVAGED & REINSTALLED) BY THE CONTRACTOR (INCLUDED AS PART OF PAY ITEM FOR "REVISE SIGNAL SYSTEM "A").
13) CONTRACTOR SHALL COORDINATE ALL WORK IN CONTROLLER CABINET WITH CONTROLLER AND CABINET MODIFICATION WORK TO BE COMPLETED BY THE STATE (AT NO EXPENSE TO THE CONTRACTOR).
14) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
15) ITEMS DENOTED BY "A" AND/OR (*) ALONE SHALL BE INCLUDED AS PART OF PAY ITEM FOR "REVISE EMERGENCY VEHICLE PREEMPTION SYSTEM A".
    ITEMS DENOTED BY "B" AND (*) TOGETHER SHALL BE INCLUDED AS PART OF PAY ITEM FOR "EMERGENCY VEHICLE PREEMPTION SYSTEM B".
16) (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
17) NEW APS PEDESTRIAN PUSH BUTTONS TO BE FURNISHED & INSTALLED BY THE CONTRACTOR SHALL BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2565 (REVISE SIGNAL SYSTEM "A"). SEE SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES.

PVC LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	STATUS
D1-1	2-6x6	17' & 47'	F & I
D1-2	2-6x6	2' & 32'	F & I
D2-1	6x6	300'	INPLACE
D2-2	6x6	300'	INPLACE
D4-1	6x6	120'	INPLACE
D4-2	6x12	50'	INPLACE
D4-3	3-6x6	5', 15', 25'	INPLACE
D4-4	2-6x6	5' & 20'	INPLACE
D4-5	2-6x6	5' & 20'	INPLACE
D4-6	6x6	10'	INPLACE
D5-1	2-6x6	20' & 50'	F & I
D5-2	2-6x6	5' & 35'	F & I
D6-1	6x6	250'	F & I
D6-2	6x6	250'	F & I
D8-1	2-6x6	120'	INPLACE
D8-2	2-6x6	0' & 15'	F & I
D8-3	2-6x6	0' & 15'	F & I
D8-4	6x6	5'	INPLACE
D8-5	6x12	50'	INPLACE

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

(1) INPLACE (MAINTAIN INPLACE)
- PA85 POLE FOUNDATION
- TYPE PA85-A-25
- 2-ONE WAY SIGNALS-OVERHEAD (0' & 12' FROM END OF MAST ARM)
- 1-R9-3 SIGN PANEL (FACING POLE 4)
- TYPE D SIGN PANEL-OVERHEAD
- ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT-OVERHEAD (ø8)
- EXTENDED INTO H.H.17:
- 3"R.S.C.
- 2-12/c#12
- 1-3/c#12
- 1-3/c#20

INPLACE (REMOVE)
- 2-TYPE 10A BRACKETING-POLE MOUNTED AT 0 DEG & 270 DEG
- 1-3 SECTION SIGNAL-POLE MOUNTED 0 DEG
- 1-R9-3 SIGN PANEL (FACING POLE 2)

INPLACE (S & I)
- 1-3 SECTION SIGNAL (8-1)-POLE MOUNTED AT 180 DEG

F & I
- 1-TYPE 10A BRACKETING-POLE MOUNTED 90 DEG (FOR 5-2)
- 1-TYPE 10B BRACKETING-POLE MOUNTED 180 DEG (FOR 8-1, P8-2)
- 1-ONE WAY SIGNAL-POLE MOUNTED 90 DEG (5-2)
- CAP OPEN HUBS ON 0/270 DEG SIDES OF POLE
- 1-SET C.D. PED SIGNALS-POLE MOUNTED 180 DEG (P8-2)
- (*) 1-3/c#14

(2) INPLACE (S & I)
- TYPE PA100-A-50-D40-9 (DAVIT AT 350 DEG)
- 1-ONE WAY SIGNAL-OVERHEAD AT 24' (2-2)
- 2-ONE WAY SIGNALS-POLE MOUNTED 90 DEG (4-5) AND 180 DEG (2-1)
- 1-SET C.D. PED SIGNALS-POLE MOUNTED 180 DEG (P2-2)
- LUMINAIRE CHECK SWITCH AT 180 DEG
- 2-TYPE D SIGN PANELS-RELOCATE BOTH ON MAST ARM (SEE DETAILS FOR LOCATIONS) (D-5, D-6)
- (*) ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT-OVERHEAD (RELOCATE FROM 2' TO 6' FROM END OF MAST ARM) (ø6,1 DETECTOR, ø2,5 LIGHT)

INPLACE (REMOVE)
- PA100 POLE FOUNDATION
- LUMINAIRE-250 W HPS
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (3-SECTION)
- 1-TYPE 10A BRACKETING-POLE MOUNTED 90 DEG
- 1-TYPE 10B BRACKETING-POLE MOUNTED 270 DEG
- 1-R9-3 SIGN PANEL (FACING POLE 1)
- EXTENDED INTO H.H.5:
- 3"R.S.C.
- 2-12/c#12
- 3-3/c#12
- 1-3/c#20

F & I
- PA100 POLE FOUNDATION
- LUMINAIRE-LED COBRAHEAD
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (5-1)
- 1-ONE WAY SIGNAL-OVERHEAD AT 12' (2-3)
- STRAP-ON MID MAST ARM MOUNTS AT 12' AND 24' (CAP UNUSED MID MOUNT AT 18')
- 2-TYPE 10B BRACKETING-POLE MOUNTED 90 DEG (4-5, P8-1) AND 180 DEG (2-1, P2-2)
- CAP OPEN HUBS ON 270 DEG SIDE OF POLE
- 1-SET C.D. PED SIGNALS-POLE MOUNTED 90 DEG (P8-1)
- R10-X12 SIGN PANEL-ADJACENT TO 5-1
- EXTEND INTO H.H.5A:
- 3"R.S.C.
- 3-12/c#14
- (*) 1-3/c#14
- (*) 1-3/c#20
- 1-3/c#14 (LUM)
- 1-1/c#6 (INS. GR.)

(3) INPLACE (MAINTAIN INPLACE)
- PA100 POLE FOUNDATION
- TYPE PA100-A-40
- 2-ONE WAY SIGNALS-OVERHEAD (0' & 12' FROM END OF MAST ARM)
- TYPE 10A-POLE MOUNTED 270 DEG (4-2)
- 1-R9-3 SIGN PANEL (FACING POLE 4)
- TYPE D SIGN PANEL-OVERHEAD
- ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT-OVERHEAD (ø4)
- EXTENDED INTO H.H.9:
- 3"R.S.C.

INPLACE (REMOVE)
- 1-TYPE 10B BRACKETING-POLE MOUNTED 0 DEG
- 1-3 SECTION SIGNAL-POLE MOUNTED 0 DEG
- 2-12/c#12
- 1-3/c#12
- 1-3/c#20

INPLACE (S & I)
- 1-SET C.D. PED SIGNALS-POLE MOUNTED AT 90 DEG (P2-1)

F & I
- 1-TYPE 10B BRACKETING-POLE MOUNTED 90 DEG (FOR 1-2, P2-1)
- 1-ONE WAY SIGNAL-POLE MOUNTED 90 DEG (1-2)
- CAP OPEN HUBS ON 0 DEG SIDE OF POLE
- 2-12/c#14
- 1-4/c#14
- (*) 1-3/c#14
- (*) 1-3/c#20

(4) INPLACE (MAINTAIN INPLACE)
- PA100 POLE FOUNDATION
- TYPE PA100-A-55-D40-9 (DAVIT AT 350')
- 3-TYPE 10A-POLE MOUNTED AT 90 DEG (4-1), 180 DEG (6-1), AND 270 DEG 8-4)
- 2-R9-3 SIGN PANELS (FACING POLES 1 AND 3)
- EXTENDED INTO H.H.13:
- 3"CONDUIT
- 2-12/c#14
- 1-3/c#14
- 1-3/c#20
- 1-3/c#14 (LUM)
- 1-1/c#6 (INS. GR.)

INPLACE (REMOVE)
- LUMINAIRE-250 W HPS
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (3-SECTION)

INPLACE (S & I)
- 1-ONE WAY SIGNAL-OVERHEAD AT 24' (6-2)
- 2-TYPE D SIGN PANELS-RELOCATE BOTH ON MAST ARM (SEE DETAILS FOR LOCATIONS) (D-7, D-8)
- (*) ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT-OVERHEAD (RELOCATE FROM 2' TO 6' FROM END OF MAST ARM) (ø2,5 DETECTOR, ø6,1 LIGHT)

F & I
- LUMINAIRE-LED COBRAHEAD
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (1-1)
- 1-ONE WAY SIGNAL-OVERHEAD AT 12' (6-3)
- STRAP-ON MID MAST ARM MOUNTS AT 12' AND 24' (CAP UNUSED MID MOUNT AT 18')
- R10-X12 SIGN PANEL-ADJACENT TO 1-1
- 1-12/c#14

SIGNAL FACE STATUS:

1) INPLACE, REUSE INPLACE.
2) INPLACE, SALVAGE & REINSTALL (POLE MTD).
3) INPLACE, SALVAGE & REINSTALL (MAST ARM MOUNTED).
4) FURNISH AND INSTALL.
5) SALVAGE INPLACE 3-SECTION SIGNAL.

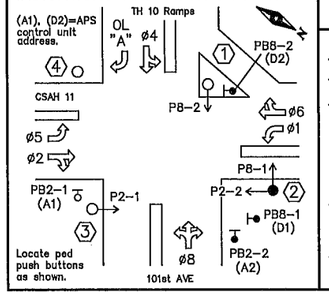
FYA = FLASHING YELLOW ARROW.

○⇦ = INPLACE LED LENSES.

●⇦ = F & I NEW LED LENSES.

LED SIGNAL FACES ALL SIGNAL INDICATIONS SHALL BE 12".							
SIGNAL FACE	R	Y	FYA	G	Y	G	STATUS
1-1, 1-2	⇦	⇦	⇦	⇦			4, 5
2-1	○	○		○			2
2-2	○	○		○			3
2-3	●	●		●			4
4-1, 4-2	○	○		○	⇨	⇨	1
4-3	○	○		○		⇦	1
4-4	○	⇦		⇦			1
4-5	○	⇦		⇦			2
5-1, 5-2	⇦	⇦	⇦	⇦			4, 5
6-1	○	○		○			1
6-2	○	○		○			3
6-3	●	●		●			4
8-1	○	○		○			2
8-2	○	○		○			1
8-3	○	⇦		⇦			1
8-4	⇦	⇦		⇦			1

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 4 & 8 BEING SEQUENTIAL (SPLIT) PHASING. PHASES 1 & 5 SHALL BE REVISED FROM PROTECTED LEFT TURN PHASING TO FLASHING YELLOW ARROW (FLASH BY TIME OF DAY).
- OL "A" = REVISED OVERLAP PHASE TO ALLOW FOR CONCURRENT RIGHT TURN PHASE WITH NB LEFT TURN PHASE.
- VEHICLE SIGNAL PHASES 2 & 6 OPERATE ON VEHICLE RECALL.

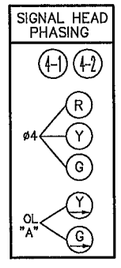
SYSTEM ID = 20219
TE # = 6065
MASTER ID = 21996
METER ADDRESS = N RAMP TH 10/FOLEY BLVD

EVP SYSTEM "B" ITEM

(5) INSTALL (FURNISHED BY COUNTY)
- (*) ONE WAY EVP DETECTOR (ø2,5)

F & I
- (*) PEDESTAL FOUNDATION
- (*) 10' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
- (*) MOUNTING HARDWARE FOR EVP DETECTOR (MOUNT ON TOP OF PEDESTAL POLE SLIPFITTER COLLAR)
- EXTEND INTO H.H.15:
- (*) 2"R.S.C.
- (*) 1-3/c#20

SIGNAL HEAD PHASING



S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

DRAWN BY: JMG				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.	SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110
DESIGNER: JMG				Date: March 14, 2014	Name: John M. Gray, PE
CHECKED BY: JMG					Lic. No. 22457
DESIGN TEAM	NO.	BY	DATE	REVISIONS	

ANOKA COUNTY, MN
CITY OF COON RAPIDS

REVISE SIGNAL SYSTEM "A"
INTERSECTION LAYOUT
TH 10-47 NORTH RAMPS/101ST AVE NW
AT CSAH 11 (FOLEY BLVD)

FILE NO. ANOKC 124472
SIGNAL SHEET 17 OF 32

122/196

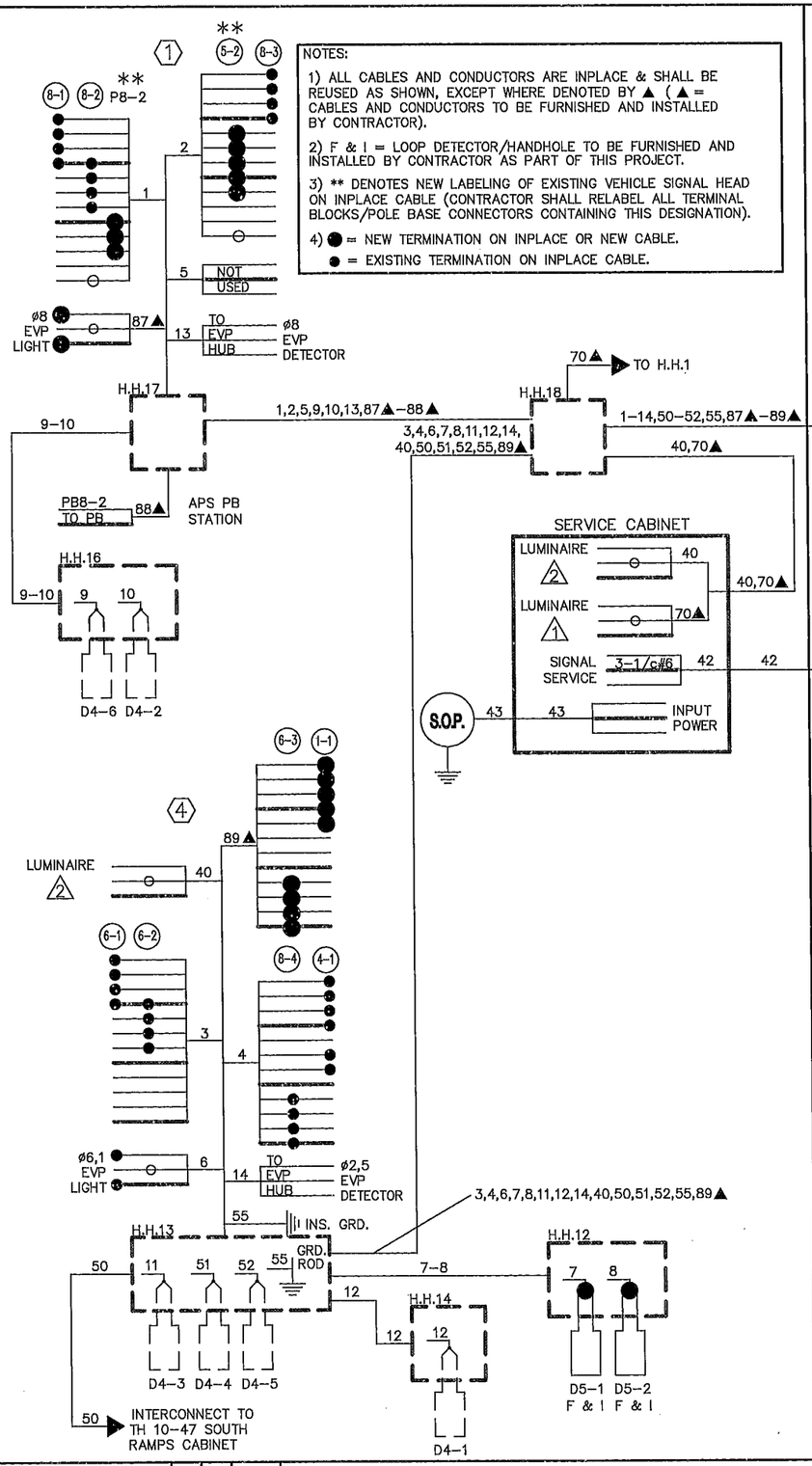
NOTES:

1) ALL CABLES AND CONDUCTORS ARE INPLACE & SHALL BE REUSED AS SHOWN, EXCEPT WHERE DENOTED BY ▲ (▲ = CABLES AND CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR).

2) F & I = LOOP DETECTOR/HANDHOLE TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT.

3) ** DENOTES NEW LABELING OF EXISTING VEHICLE SIGNAL HEAD ON INPLACE CABLE (CONTRACTOR SHALL RELABEL ALL TERMINAL BLOCKS/POLE BASE CONNECTORS CONTAINING THIS DESIGNATION).

4) ● = NEW TERMINATION ON INPLACE OR NEW CABLE.
● = EXISTING TERMINATION ON INPLACE CABLE.



CONTROLLER AND CABINET

1
- RED 8-1
- YEL 8-1
- GRN 8-1
- NEU 8-1,8-2
- RED 8-2
- YEL 8-2
- GRN 8-2
- ** NEU P8-2
- ** DWK P8-2
- ** WLK P8-2
- ** SPR
- EQG

2
- RED 8-3
- YLA 8-3
- GLA 8-3
- NEU 8-3
- ** RLA 5-2
- ** YLA 5-2
- ** GLA 5-2
- ** NEU 5-2
- ** FYLA 5-2
- SPR
- SPR
- EQG

3
- RED 6-1
- YEL 6-1
- GRN 6-1
- NEU 6-1
- RED 6-2
- YEL 6-2
- GRN 6-2
- NEU 6-2
- ** SPR
- ** SPR
- ** SPR
- ** NEU

4
- RED 4-1
- YEL 4-1
- GRN 4-1
- NEU 4-1
- SPR
- YRA 4-1
- GRA 4-1
- NEU
- RLA 8-4
- YLA 8-4
- GLA 8-4
- NEU 8-4

5
- SPR
- NEU
- SPR

6
- ø6,1 EVP LT
- EQG
- NEU

7
- D5-1

8
- D5-2

9
- D4-6

10
- D4-2

11
- D4-3

12
- D4-1

13
- ø8 EVP DETECTOR

14
- ø2,5 EVP DETECTOR

42
- 3-1/c#6 SIGNAL SERVICE

50
- INTERCONNECT TO TH 10-47 SOUTH RAMPS

51
- D4-4

52
- D4-5

55
- INS. GR.

60▲
- D6-1

61▲
- D6-2

62▲
- D1-1

63▲
- D1-2

64▲
- RED 2-1
- YEL 2-1
- GRN 2-1
- NEU 2-1
- RED 2-2
- YEL 2-2
- GRN 2-2
- NEU 2-2
- DWK P2-2
- WLK P2-2
- SPR
- NEU P2-2

65▲
- RED 4-5
- YLA 4-5
- GLA 4-5
- NEU 4-5
- RED 2-3
- YEL 2-3
- GRN 2-3
- NEU 2-3
- SPR
- SPR
- SPR
- NEU

66▲
- RLA 5-1
- YLA 5-1
- GLA 5-1
- NEU 5-1
- FYLA 5-1
- SPR
- SPR
- NEU
- DWK P8-1
- WLK P8-1
- SPR
- NEU P8-1

67▲
- ø2,5 EVP LT
- EQG
- NEU

68▲
- ø6,1 EVP DETECTOR

69▲
- INS. GR.

71▲
- PB8-1 NEU

72▲
- PB2-2 NEU

73▲
- D8-2

74▲
- D8-3

75▲
- D8-1

76▲
- D8-4

77▲
- D8-5

78▲
- RED 4-2
- YEL 4-2
- GRN 4-2
- NEU 4-2
- YRA 4-2
- GRA 4-2
- RLA 1-2
- NEU 1-2
- YLA 1-2
- GLA 1-2
- FYLA 1-2
- NEU

79▲
- RED 4-3
- YEL 4-3
- GRN 4-3
- NEU 4-3
- GLA 4-3
- SPR
- SPR
- NEU
- RED 4-4
- YLA 4-4
- GLA 4-4
- NEU 4-4

80▲
- DWK P2-1
- WLK P2-1
- SPR
- NEU P2-1

81▲
- ø4 EVP LT
- EQG
- NEU

82▲
- ø4 EVP DETECTOR

83▲
- PB2-1 NEU

84▲
- D2-1

85▲
- D2-2

86▲
- ø6,1 EVP DETECTOR

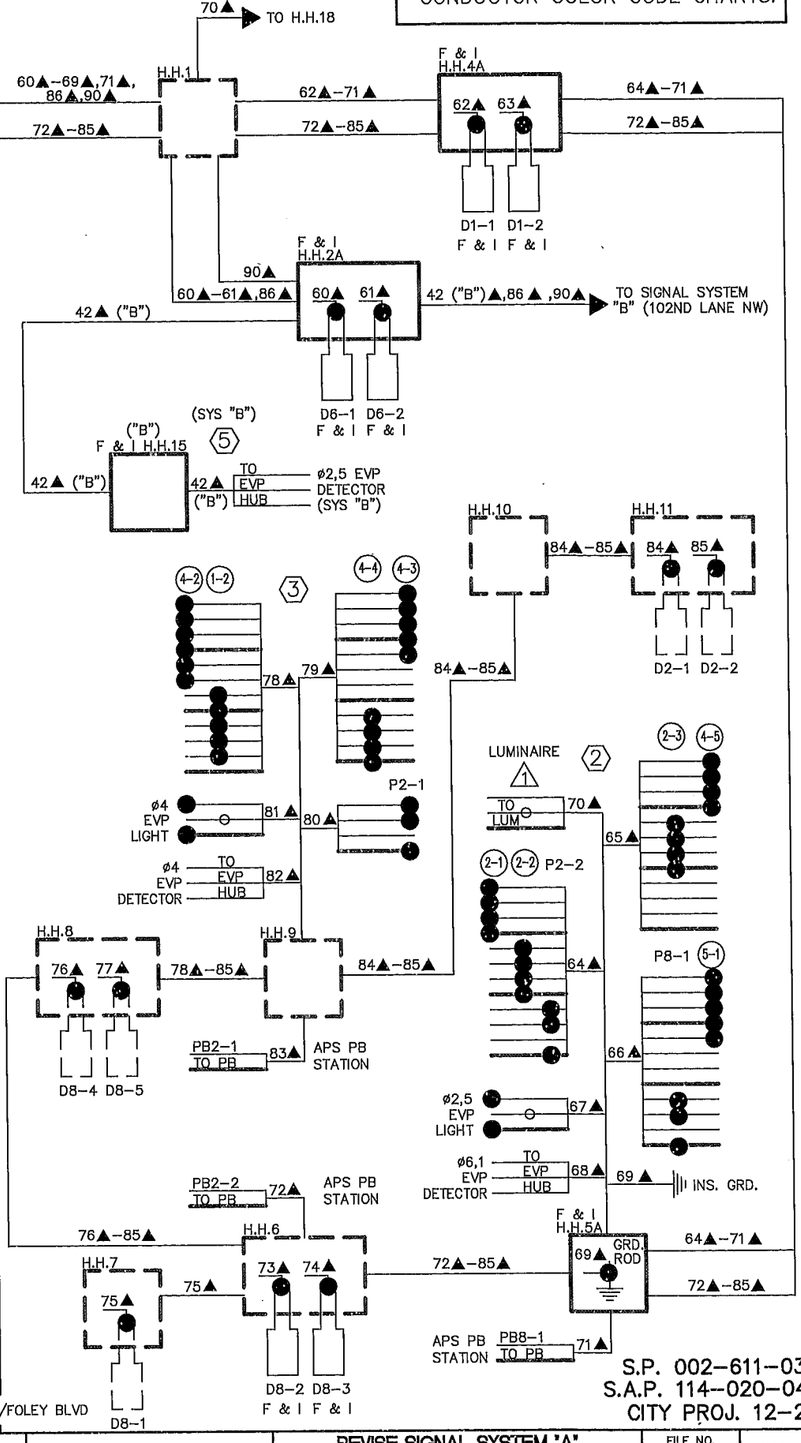
87▲
- ø8 EVP LT
- EQG
- NEU

88▲
- PB8-2 NEU

89▲
- RLA 1-1
- YLA 1-1
- GLA 1-1
- NEU 1-1
- FYLA 1-1
- SPR
- SPR
- NEU
- RED 6-3
- YEL 6-3
- GRN 6-3
- NEU 6-3

90▲
- INTERCONNECT TO 102ND LANE NW

SEE DETAIL SHEETS FOR CONDUCTOR COLOR CODE CHARTS.



SYSTEM ID = 20219
TE # = 6065
MASTER ID = 21996
METER ADDRESS = N RAMP TH 10/FOLEY BLVD

S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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

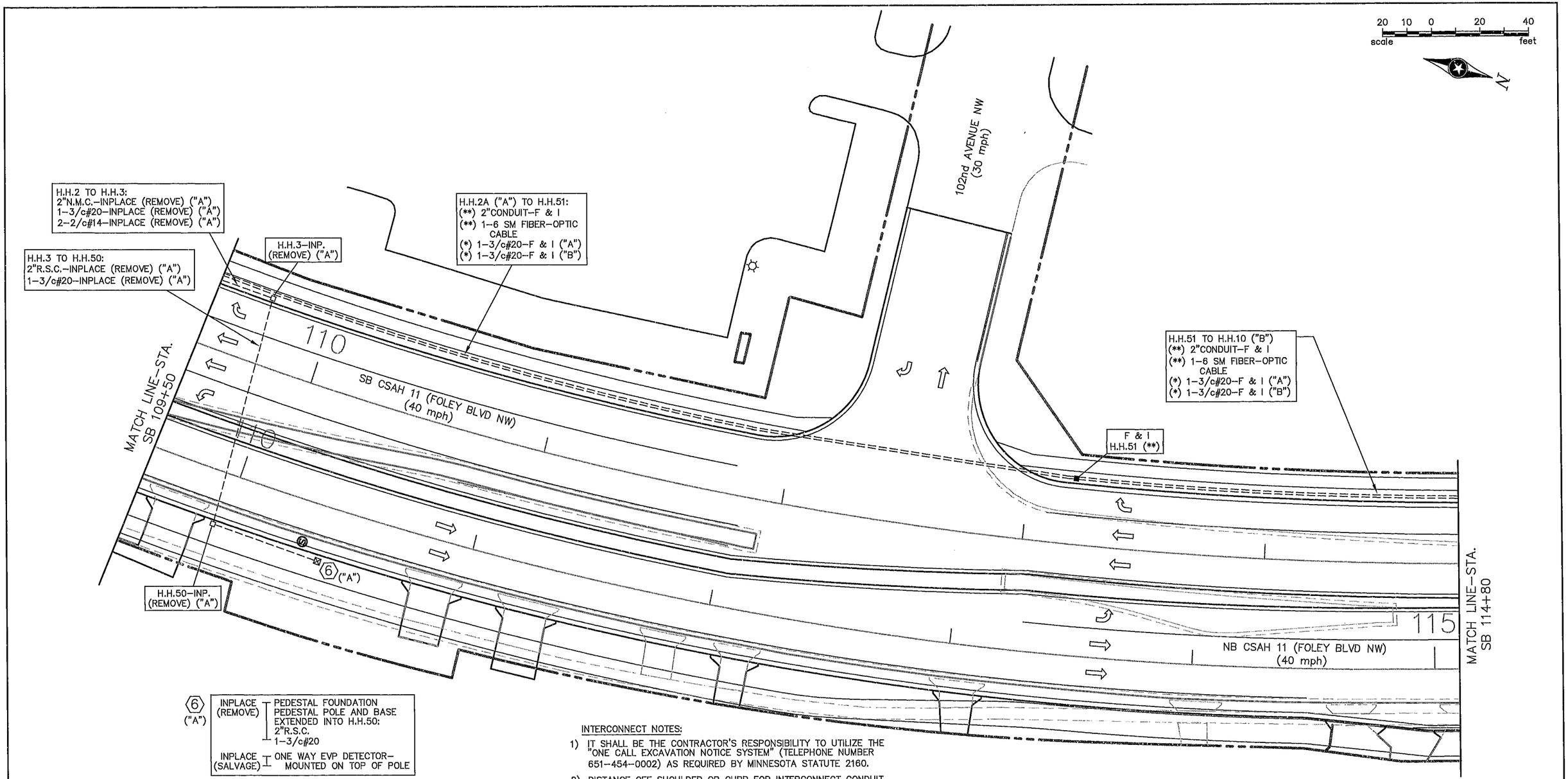
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Date: March 14, 2014 Name: John M. Gray, PE Lic. No. 22457

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

ANOKA COUNTY, MN
CITY OF COON RAPIDS

REVISE SIGNAL SYSTEM "A"
FIELD WIRING DIAGRAM
TH 10-47 NORTH RAMPS/101ST AVE NW
AT CSAH 11 (FOLEY BLVD)

FILE NO. ANOKC 124472
SIGNAL SHEET 18 OF 32
123/196



6 ("A")
- INPLACE (REMOVE) - PEDESTAL FOUNDATION
  PEDESTAL POLE AND BASE EXTENDED INTO H.H.50:
  2"R.S.C.
  1-3/c#20
- INPLACE (SALVAGE) - ONE WAY EVP DETECTOR-MOUNTED ON TOP OF POLE

INTERCONNECT NOTES:

1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651--454--0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1--2 FEET.
3) (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS PER MNDOT STANDARD PLATE NO. 8114A.
5) ITEMS DENOTED BY "A" ALONE SHALL BE INCLUDED AS PART OF PAY ITEM FOR "REVISE SIGNAL SYSTEM A". SEE SPECIAL PROVISIONS.
6) ITEMS DENOTED BY "A" AND (*) SHALL BE INCLUDED AS PART OF PAY ITEM FOR "REVISE EMERGENCY VEHICLE PREEMPTION SYSTEM A". SEE SPECIAL PROVISIONS.
7) ITEMS DENOTED BY "B" AND (*) SHALL BE INCLUDED AS PART OF PAY ITEM FOR "EMERGENCY VEHICLE PREEMPTION SYSTEM B". SEE SPECIAL PROVISIONS.

S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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.
Name: John M. Gray, PE
Date: March 14, 2014 Lic. No. 22457

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

ANOKA COUNTY, MN
CITY OF COON RAPIDS

TRAFFIC CONTROL INTERCONNECTION
INTERSECTION LAYOUT
CSAH 11 (FOLEY BLVD NW)
(TH 10 NORTH RAMPS TO 102ND LANE NW)

FILE NO. ANOKC 124472
SIGNAL SHEET 19 OF 32
124/196

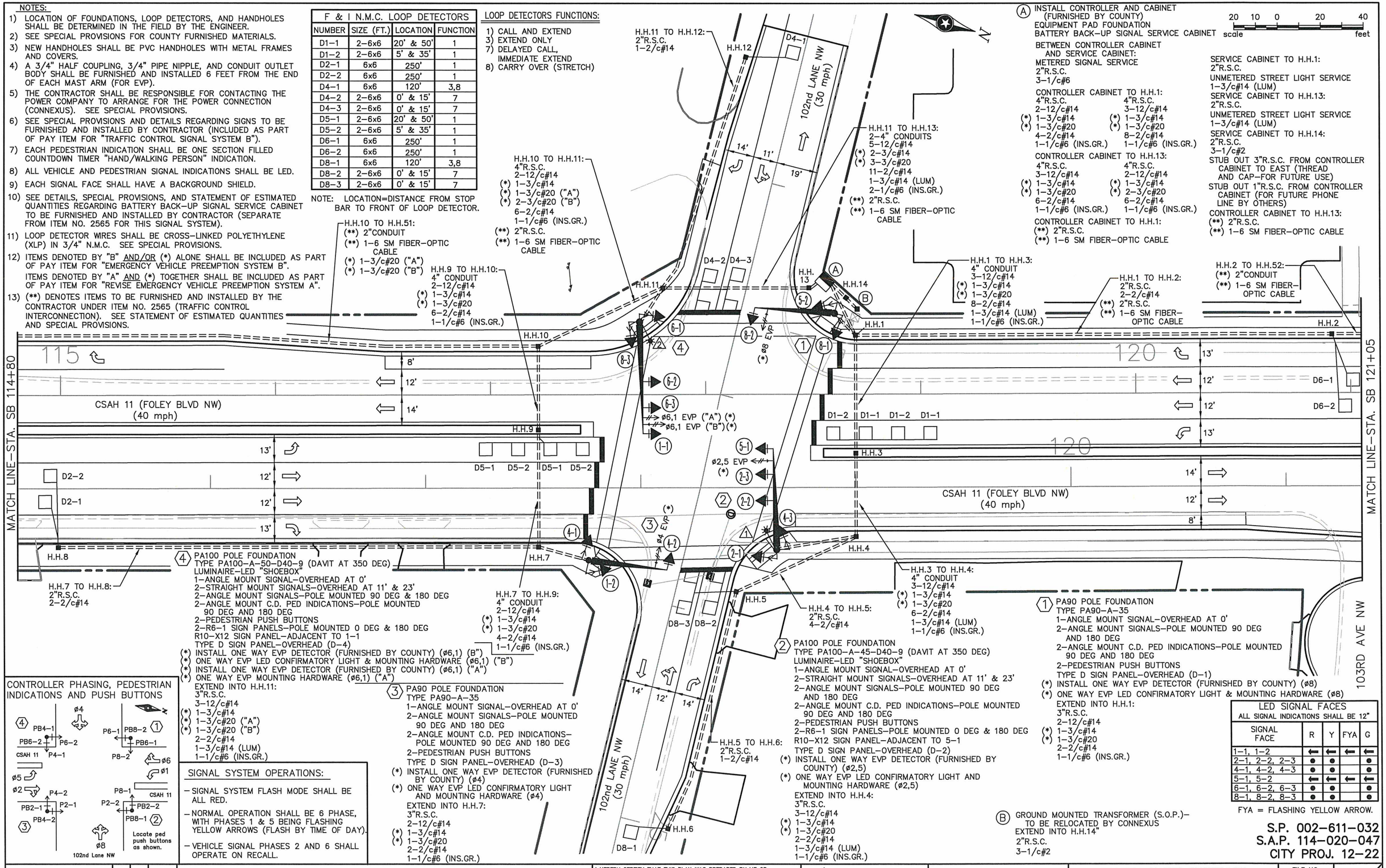
NOTES:

1) LOCATION OF FOUNDATIONS, LOOP DETECTORS, AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE 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 (FOR EVP).
5) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY TO ARRANGE FOR THE POWER CONNECTION (CONNEXUS). SEE SPECIAL PROVISIONS.
6) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCLUDED AS PART OF PAY ITEM FOR "TRAFFIC CONTROL SIGNAL SYSTEM B").
7) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION FILLED COUNTDOWN TIMER "HAND/WALKING PERSON" INDICATION.
8) ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
9) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
10) 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).
11) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
12) ITEMS DENOTED BY "B" AND/OR (*) ALONE SHALL BE INCLUDED AS PART OF PAY ITEM FOR "EMERGENCY VEHICLE PREEMPTION SYSTEM B".
ITEMS DENOTED BY "A" AND (*) TOGETHER SHALL BE INCLUDED AS PART OF PAY ITEM FOR "REVISE EMERGENCY VEHICLE PREEMPTION SYSTEM A".
13) (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.

F & I N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	20' & 50'	1
D1-2	2-6x6	5' & 35'	1
D2-1	6x6	250'	1
D2-2	6x6	250'	1
D4-1	6x6	120'	3,8
D4-2	2-6x6	0' & 15'	7
D4-3	2-6x6	0' & 15'	7
D5-1	2-6x6	20' & 50'	1
D5-2	2-6x6	5' & 35'	1
D6-1	6x6	250'	1
D6-2	6x6	250'	1
D8-1	6x6	120'	3,8
D8-2	2-6x6	0' & 15'	7
D8-3	2-6x6	0' & 15'	7

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)



4 PA100 POLE FOUNDATION
TYPE PA100-A-50-D40-9 (DAVIT AT 350 DEG)
LUMINAIRE-LED "SHOEBOX"
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11' & 23'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG & 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
2-PEDESTRIAN PUSH BUTTONS
2-R6-1 SIGN PANELS-POLE MOUNTED 0 DEG & 180 DEG
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) (B")
(*) ONE WAY EVP LED CONFIRMATORY LIGHT & MOUNTING HARDWARE (ø6,1) ("B")
(*) INSTALL ONE WAY EVP DETECTOR (FURNISHED BY COUNTY) (ø6,1) ("A")
(*) ONE WAY EVP MOUNTING HARDWARE (ø6,1) ("A")
EXTEND INTO H.H.11:
3"R.S.C.
3-12/c#14
(*) 1-3/c#14
(*) 1-3/c#20 ("A")
(*) 1-3/c#20 ("B")
2-2/c#14
1-3/c#14 (LUM)
1-1/c#6 (INS.GR.)

3 PA90 POLE FOUNDATION
TYPE PA90-A-35
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
2-PEDESTRIAN PUSH BUTTONS
TYPE D SIGN PANEL-OVERHEAD (D-3)
(*) INSTALL ONE WAY EVP DETECTOR (FURNISHED BY COUNTY) (ø4)
(*) ONE WAY EVP LED CONFIRMATORY LIGHT AND MOUNTING HARDWARE (ø4)
EXTEND INTO H.H.7:
3"R.S.C.
2-12/c#14
(*) 1-3/c#14
(*) 1-3/c#20
2-2/c#14
1-1/c#6 (INS.GR.)

2 PA100 POLE FOUNDATION
TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG)
LUMINAIRE-LED "SHOEBOX"
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11' & 23'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
2-PEDESTRIAN PUSH BUTTONS
2-R6-1 SIGN PANELS-POLE MOUNTED 0 DEG & 180 DEG
R10-X12 SIGN PANEL-ADJACENT TO 5-1
TYPE D SIGN PANEL-OVERHEAD (D-2)
(*) INSTALL ONE WAY EVP DETECTOR (FURNISHED BY COUNTY) (ø2,5)
(*) ONE WAY EVP LED CONFIRMATORY LIGHT AND MOUNTING HARDWARE (ø2,5)
EXTEND INTO H.H.4:
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 (INS.GR.)

1 PA90 POLE FOUNDATION
TYPE PA90-A-35
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
2-PEDESTRIAN PUSH BUTTONS
TYPE D SIGN PANEL-OVERHEAD (D-1)
(*) INSTALL ONE WAY EVP DETECTOR (FURNISHED BY COUNTY) (ø8)
(*) ONE WAY EVP LED CONFIRMATORY LIGHT & MOUNTING HARDWARE (ø8)
EXTEND INTO H.H.1:
3"R.S.C.
2-12/c#14
(*) 1-3/c#14
(*) 1-3/c#20
2-2/c#14
1-1/c#6 (INS.GR.)

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.
2-12/c#14
(*) 1-3/c#14
(*) 1-3/c#20
4-2/c#14
1-1/c#6 (INS.GR.)
4"R.S.C.
3-12/c#14
(*) 1-3/c#14
(*) 1-3/c#20
8-2/c#14
1-1/c#6 (INS.GR.)
CONTROLLER CABINET TO H.H.13:
4"R.S.C.
3-12/c#14
(*) 1-3/c#14
(*) 1-3/c#20
6-2/c#14
1-1/c#6 (INS.GR.)
4"R.S.C.
2-12/c#14
(*) 1-3/c#14
(*) 2-3/c#20
6-2/c#14
1-1/c#6 (INS.GR.)
CONTROLLER CABINET TO H.H.1:
(**) 2"R.S.C.
(**) 1-6 SM FIBER-OPTIC CABLE
SERVICE CABINET TO H.H.1:
2"R.S.C.
UNMETERED STREET LIGHT SERVICE
1-3/c#14 (LUM)
SERVICE CABINET TO H.H.13:
2"R.S.C.
UNMETERED STREET LIGHT SERVICE
1-3/c#14 (LUM)
SERVICE CABINET TO H.H.14:
2"R.S.C.
3-1/c#2
STUB OUT 3"R.S.C. FROM CONTROLLER CABINET TO EAST (THREAD AND CAP-FOR FUTURE USE)
STUB OUT 1"R.S.C. FROM CONTROLLER CABINET (FOR FUTURE PHONE LINE BY OTHERS)
CONTROLLER CABINET TO H.H.13:
(**) 2"R.S.C.
(**) 1-6 SM FIBER-OPTIC CABLE

B GROUND MOUNTED TRANSFORMER (S.O.P.)-TO BE RELOCATED BY CONNEXUS
EXTEND INTO H.H.14"
2"R.S.C.
3-1/c#2

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

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

LED SIGNAL FACES
ALL SIGNAL INDICATIONS SHALL BE 12"

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

FYA = FLASHING YELLOW ARROW.

S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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

NO.	BY	DATE	REVISIONS

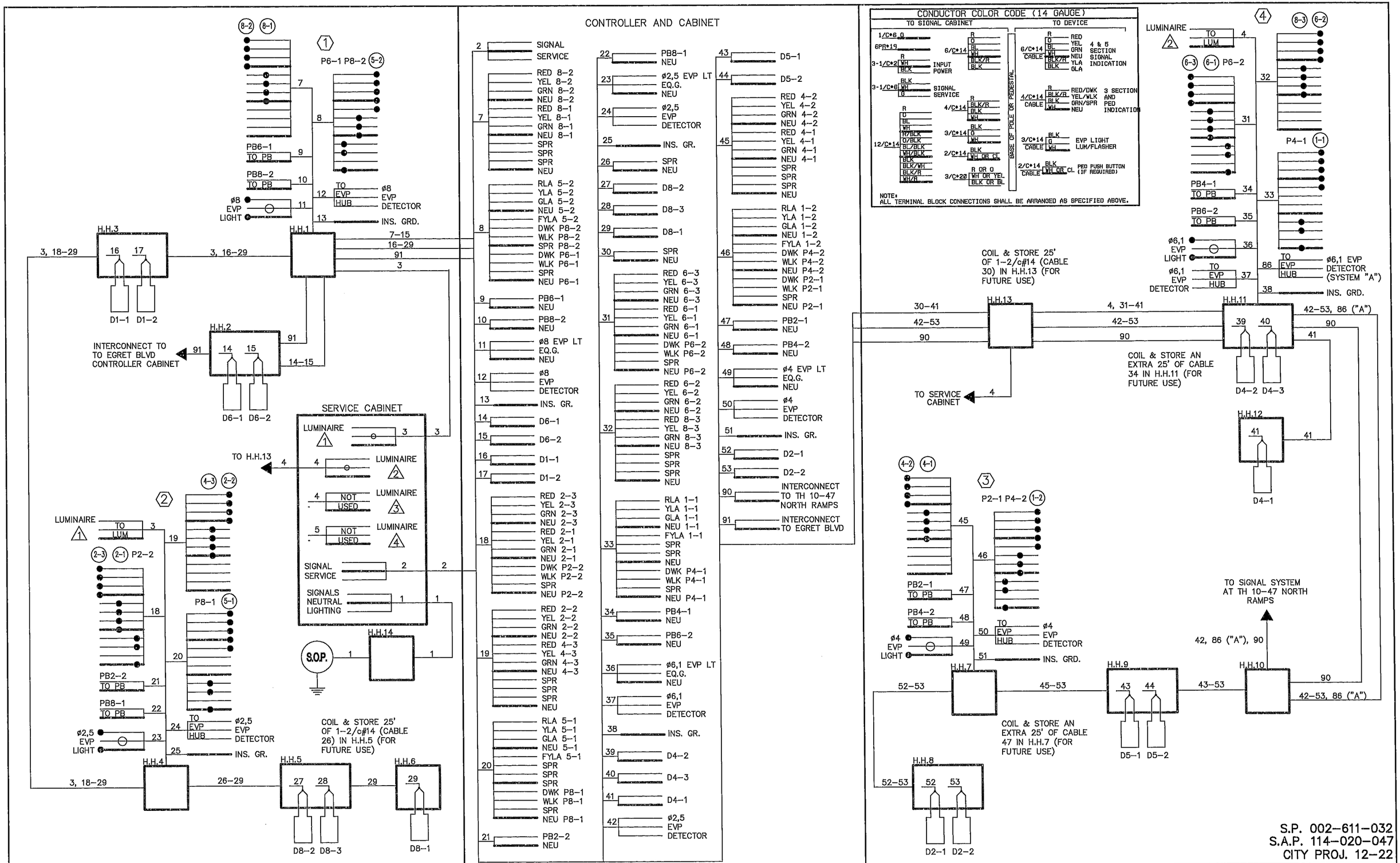
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Date: March 14, 2014
Name: John M. Gray, PE
Lic. No. 22457

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

ANOKA COUNTY, MN
CITY OF COON RAPIDS

TRAFFIC SIGNAL SYSTEM "B"
INTERSECTION LAYOUT
CSAH 11 (FOLEY BLVD) AT 102ND LANE NW

FILE NO. ANOKC 124472
SIGNAL SHEET 20 OF 32
125/196



S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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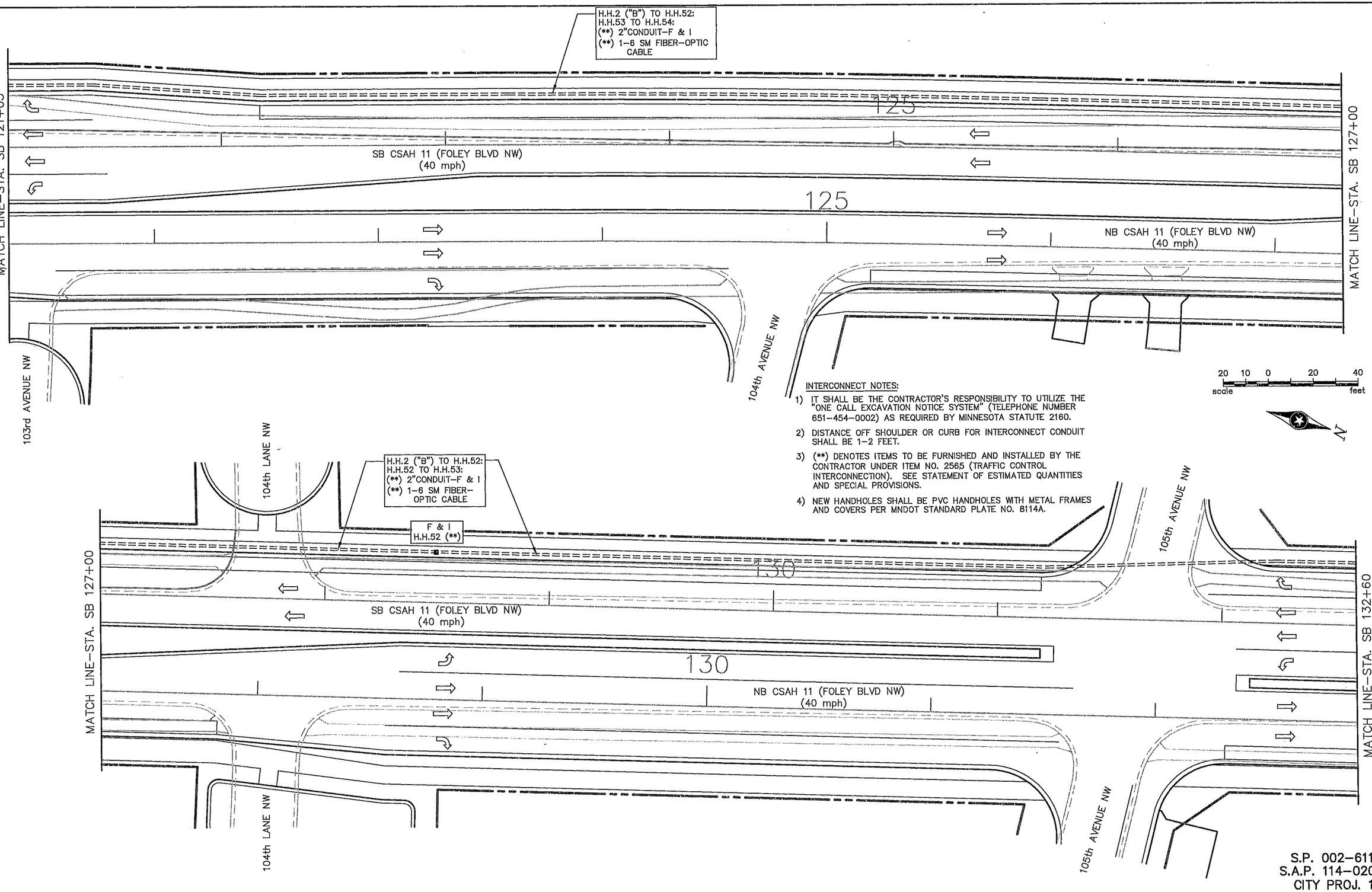
ANOKA COUNTY, MN
CITY OF COON RAPIDS

TRAFFIC SIGNAL SYSTEM "B"
FIELD WIRING DIAGRAM
CSAH 11 (FOLEY BLVD) AT 102ND LANE NW

FILE NO. ANOKC 124472
SIGNAL SHEET 21 OF 32

126/196



INTERCONNECT NOTES:

1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
3) (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS PER MNDOT STANDARD PLATE NO. 8114A.

S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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

NO.	BY	DATE	REVISIONS

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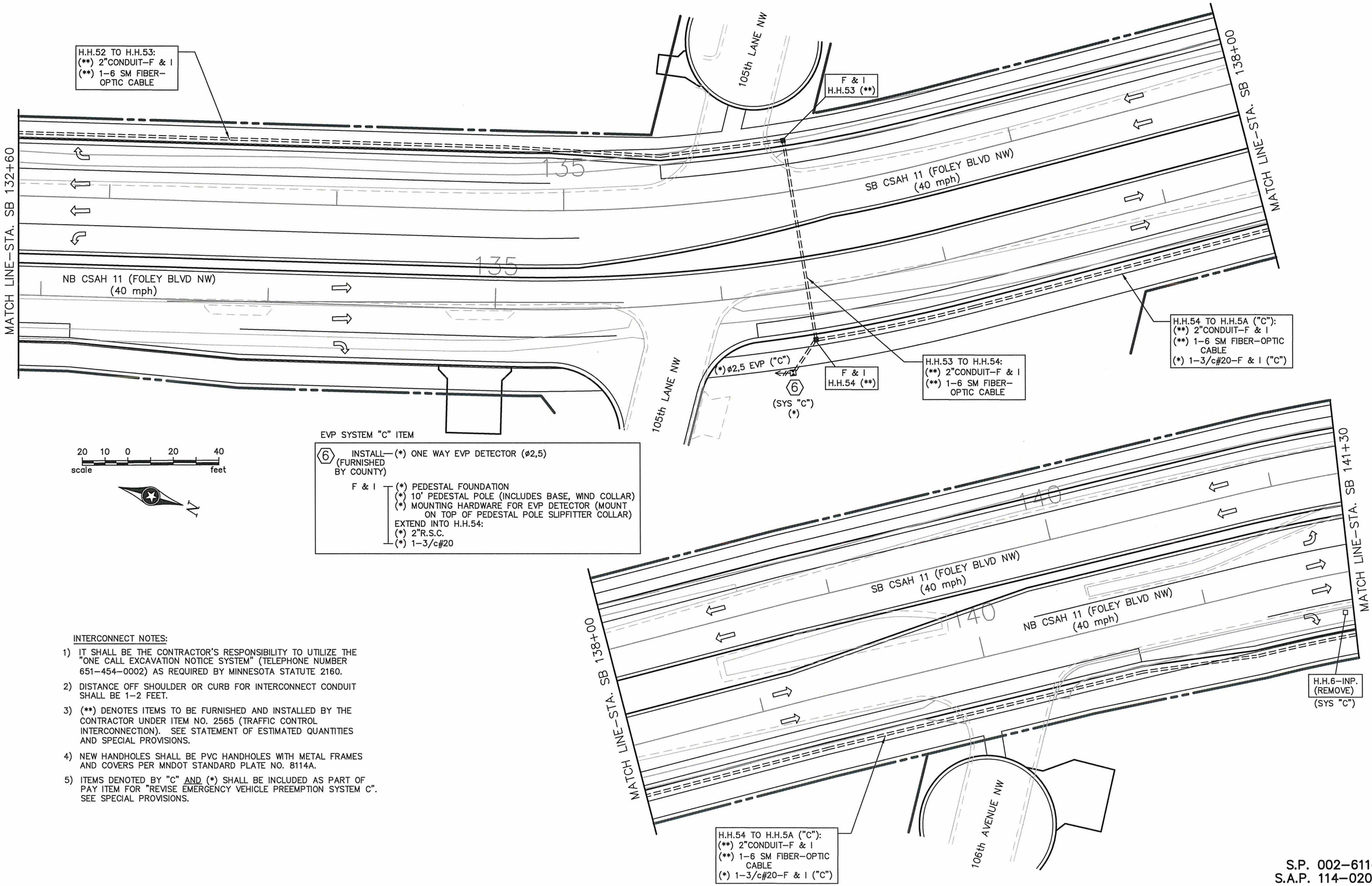
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MN
CITY OF COON RAPIDS

TRAFFIC CONTROL INTERCONNECTION
INTERSECTION LAYOUT
CSAH 11 (FOLEY BLVD NW)
(102ND LANE NW TO EGRET BLVD NW)

FILE NO. ANOKC 124472
SIGNAL SHEET 22 OF 32
127/196



20 10 0 20 40
scale feet

N

EVP SYSTEM "C" ITEM

6 INSTALL (FURNISHED BY COUNTY)
- (*) ONE WAY EVP DETECTOR (ø2,5)

F & I
- (*) PEDESTAL FOUNDATION
- (*) 10' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
- (*) MOUNTING HARDWARE FOR EVP DETECTOR (MOUNT ON TOP OF PEDESTAL POLE SLIPFITTER COLLAR)

EXTEND INTO H.H.54:
- (*) 2"R.S.C.
- (*) 1–3/c#20

INTERCONNECT NOTES:

1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651–454–0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1–2 FEET.
3) (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS PER MNDOT STANDARD PLATE NO. 8114A.
5) ITEMS DENOTED BY "C" AND (*) SHALL BE INCLUDED AS PART OF PAY ITEM FOR "REVISE EMERGENCY VEHICLE PREEMPTION SYSTEM C". SEE SPECIAL PROVISIONS.

S.P. 002–611–032
S.A.P. 114–020–047
CITY PROJ. 12–22

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

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Date: March 14, 2014 Name: John M. Gray, PE Lic. No. 22457

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3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MN
CITY OF COON RAPIDS

TRAFFIC CONTROL INTERCONNECTION
INTERSECTION LAYOUT
CSAH 11 (FOLEY BLVD NW)
(102ND LANE NW TO EGRET BLVD NW)

FILE NO. ANOKC 124472
SIGNAL SHEET 23 OF 32

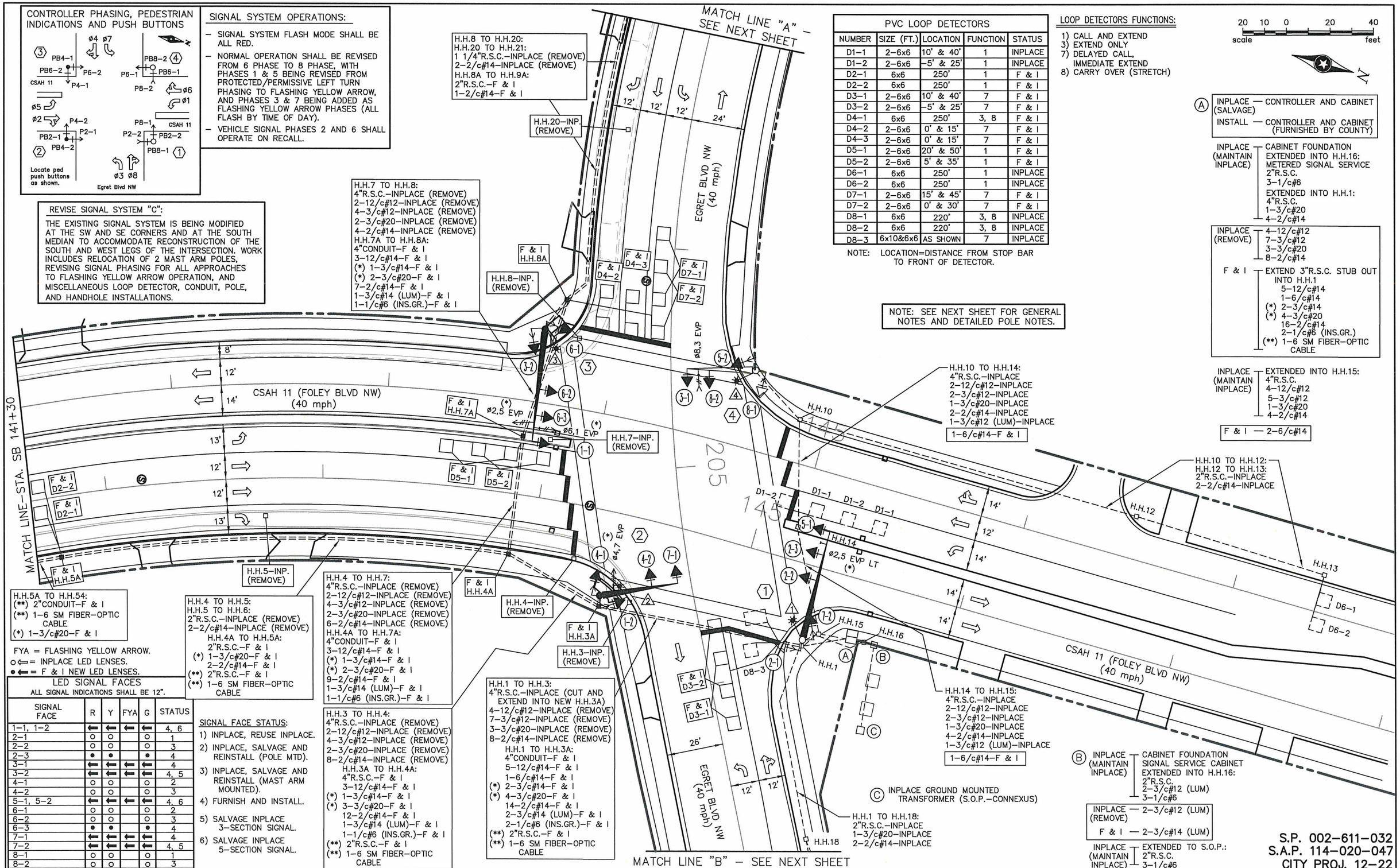
CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE REVISED FROM 6 PHASE TO 8 PHASE, WITH PHASES 1 & 5 BEING REVISED FROM PROTECTED/PERMISSIVE LEFT TURN PHASING TO FLASHING YELLOW ARROW, AND PHASES 3 & 7 BEING ADDED AS FLASHING YELLOW ARROW PHASES (ALL FLASH BY TIME OF DAY).
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

REVISE SIGNAL SYSTEM "C":

THE EXISTING SIGNAL SYSTEM IS BEING MODIFIED AT THE SW AND SE CORNERS AND AT THE SOUTH MEDIAN TO ACCOMMODATE RECONSTRUCTION OF THE SOUTH AND WEST LEGS OF THE INTERSECTION. WORK INCLUDES RELOCATION OF 2 MAST ARM POLES, REVISING SIGNAL PHASING FOR ALL APPROACHES TO FLASHING YELLOW ARROW OPERATION, AND MISCELLANEOUS LOOP DETECTOR, CONDUIT, POLE, AND HANDHOLE INSTALLATIONS.



FYA = FLASHING YELLOW ARROW.
○⇦ = INPLACE LED LENSES.
●⇦ = F & I NEW LED LENSES.

LED SIGNAL FACES
ALL SIGNAL INDICATIONS SHALL BE 12".

SIGNAL FACE	R	Y	FYA	G	STATUS
1–1, 1–2	⇦	⇦	⇦	⇦	4, 6
2–1	○	○		○	1
2–2	○	○		○	3
2–3	●	●		●	4
3–1	⇦	⇦	⇦	⇦	4
3–2	⇦	⇦	⇦	⇦	4, 5
4–1	○	○		○	2
4–2	○	○		○	3
5–1, 5–2	⇦	⇦	⇦	⇦	4, 6
6–1	○	○		○	2
6–2	○	○		○	3
6–3	●	●		●	4
7–1	⇦	⇦	⇦	⇦	4
7–2	⇦	⇦	⇦	⇦	4, 5
8–1	○	○		○	1
8–2	○	○		○	3

SIGNAL FACE STATUS:

1) INPLACE, REUSE INPLACE.
2) INPLACE, SALVAGE AND REINSTALL (POLE MTD).
3) INPLACE, SALVAGE AND REINSTALL (MAST ARM MOUNTED).
4) FURNISH AND INSTALL.
5) SALVAGE INPLACE 3–SECTION SIGNAL.
6) SALVAGE INPLACE 5–SECTION SIGNAL.

PVC LOOP DETECTORS

NUMBER	SIZE (FT.)	LOCATION	FUNCTION	STATUS
D1–1	2–6x6	10' & 40'	1	INPLACE
D1–2	2–6x6	5' & 25'	1	INPLACE
D2–1	6x6	250'	1	F & I
D2–2	6x6	250'	1	F & I
D3–1	2–6x6	10' & 40'	7	F & I
D3–2	2–6x6	5' & 25'	7	F & I
D4–1	6x6	250'	3, 8	F & I
D4–2	2–6x6	0' & 15'	7	F & I
D4–3	2–6x6	0' & 15'	7	F & I
D5–1	2–6x6	20' & 50'	1	F & I
D5–2	2–6x6	5' & 35'	1	F & I
D6–1	6x6	250'	1	INPLACE
D6–2	6x6	250'	1	INPLACE
D7–1	2–6x6	15' & 45'	7	F & I
D7–2	2–6x6	0' & 30'	7	F & I
D8–1	6x6	220'	3, 8	INPLACE
D8–2	6x6	220'	3, 8	INPLACE
D8–3	6x10&6x6	AS SHOWN	7	INPLACE

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

LOOP DETECTORS FUNCTIONS:

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

20 10 0 20 40
scale feet

N

(A) INPLACE — CONTROLLER AND CABINET (SALVAGE)
INSTALL — CONTROLLER AND CABINET (FURNISHED BY COUNTY)

INPLACE (MAINTAIN INPLACE):
- CABINET FOUNDATION
- EXTENDED INTO H.H.16: METERED SIGNAL SERVICE 2"R.S.C. 3–1/c#6
- EXTENDED INTO H.H.1: 4"R.S.C. 1–3/c#20 4–2/c#14

INPLACE (REMOVE):
- 4–12/c#12
- 7–3/c#12
- 3–3/c#20
- 8–2/c#14

F & I:
- EXTEND 3"R.S.C. STUB OUT INTO H.H.1
  - 5–12/c#14
  - 1–6/c#14
  - (*) 2–3/c#14
  - (*) 4–3/c#20
  - 16–2/c#14
  - 2–1/c#6 (INS.GR.)
  - (**) 1–6 SM FIBER–OPTIC CABLE

INPLACE (MAINTAIN INPLACE): EXTENDED INTO H.H.15: 4"R.S.C. 4–12/c#12 5–3/c#12 1–3/c#20 4–2/c#14

F & I — 2–6/c#14

(B) INPLACE (MAINTAIN INPLACE): CABINET FOUNDATION SIGNAL SERVICE CABINET EXTENDED INTO H.H.16: 2"R.S.C. 2–3/c#12 (LUM) 3–1/c#6

INPLACE (REMOVE) — 2–3/c#12 (LUM)
F & I — 2–3/c#14 (LUM)

INPLACE (MAINTAIN INPLACE): EXTENDED TO S.O.P.: 2"R.S.C. 3–1/c#6

(C) INPLACE GROUND MOUNTED TRANSFORMER (S.O.P.–CONNEXUS)

S.P. 002–611–032
S.A.P. 114–020–047
CITY PROJ. 12–22

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.
Name: John M. Gray, PE
Date: March 14, 2014 Lic. No. 22457

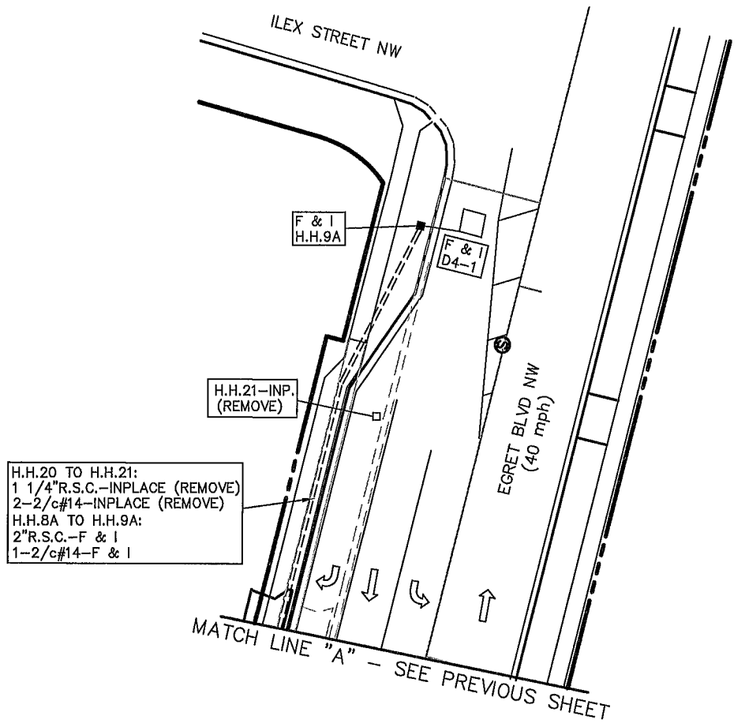
SEH
PHONE: (651) 490–2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MN
CITY OF COON RAPIDS

REVISE SIGNAL SYSTEM "C"
INTERSECTION LAYOUT
CSAH 11 (FOLEY BLVD) AT EGRET BLVD NW

FILE NO. ANOKC 124472
SIGNAL SHEET 24 OF 32

129/196



NOTES:

1) LOCATION OF FOUNDATIONS, LOOP DETECTORS, AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
3) NEW LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
4) NEW HANDHOLES 3A, 4A, 5A, 7A, 8A, AND 9A SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS. REMOVE AND DISPOSE OF INPLACE HANDHOLES 3, 4, 5, 6, 7, 8, 20, AND 21.
5) SEE SPECIAL PROVISIONS REGARDING REMOVAL, SALVAGING AND INSTALLATION OF INPLACE SIGNAL EQUIPMENT.
6) INPLACE ITEMS TO BE REUSED INPLACE AS PART OF REVISE SIGNAL SYSTEM "C" SHALL BE PROTECTED AND MAINTAINED INPLACE. SEE SPECIAL PROVISIONS.
7) CONTRACTOR SHALL MAINTAIN OPERATION OF A SIGNAL SYSTEM AT THIS INTERSECTION AT ALL TIMES, UNLESS OTHERWISE APPROVED BY THE ENGINEER FOR THE SIGNAL SYSTEM TO BE TURNED OFF.
8) F & I = MATERIALS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS PART OF REVISE SIGNAL SYSTEM "C".
9) S & I = MATERIALS TO BE SALVAGED AND INSTALLED BY THE CONTRACTOR AS PART OF REVISE SIGNAL SYSTEM "C".
10) ALL ONE SECTION LED COUNTDOWN TIMER PEDESTRIAN INDICATIONS ARE INPLACE AND SHALL BE REUSED AND MADE OPERATIONAL AS SHOWN.
11) ALL INPLACE VEHICLE SIGNAL INDICATIONS ARE LED. NEW VEHICLE SIGNAL INDICATIONS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR SHALL ALSO BE LED. SEE SPECIAL PROVISIONS.
12) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED & INSTALLED (OR SALVAGED & REINSTALLED) BY THE CONTRACTOR (INCLUDED AS PART OF PAY ITEM FOR "REVISE SIGNAL SYSTEM "C").
13) CONTRACTOR SHALL COORDINATE ALL WORK IN CONTROLLER CABINET WITH CONTROLLER AND CABINET REPLACEMENT WORK TO BE COMPLETED BY THE COUNTY. SEE SPECIAL PROVISIONS.
14) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
15) (*) DENOTES ITEMS TO BE INCLUDED AS PART OF PAY ITEM FOR "REVISE EMERGENCY VEHICLE PREEMPTION SYSTEM "C". SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
16) (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.

(1) INPLACE (MAINTAIN INPLACE)
- PA100 POLE FOUNDATION
- TYPE PA100-A-D40-9 MAST ARM POLE (DAVIT AT 350 DEG)
- 1-TYPE 10B-POLE MOUNTED 180 DEG (2-1, P2-2)
- 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
- 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG
- LUMINAIRE CHECK SWITCH AT 0 DEG
- EXTENDED INTO H.H.15:
- 3"R.S.C.
- 2-12/c#12
- 3-3/c#12
- 1-3/c#12 (LUM)

INPLACE (REMOVE)
- 45-FOOT MAST ARM
- LUMINAIRE-200 W HPS
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (5-SECTION)
- 1-TYPE 10B BRACKETING-POLE MOUNTED 90 DEG
- 1-ONE WAY SIGNAL-POLE MOUNTED 90 DEG (3-SECTION)
- R10-12 SIGN PANEL-OVERHEAD

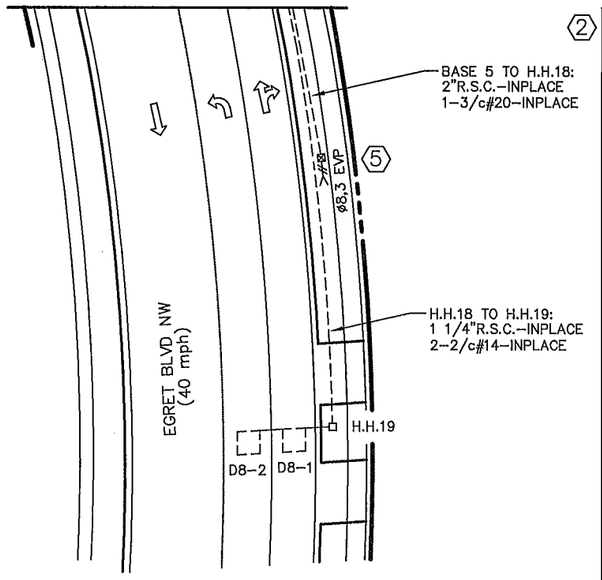
INPLACE (S & I)
- 1-ONE WAY SIGNAL-OVERHEAD AT 24' (2-2)
- 1-SET C.D. PED INDICATIONS-POLE MOUNTED 90 DEG (P8-1)
- 1-TYPE D SIGN PANEL-OVERHEAD (D-9) (SEE DETAILS FOR LOCATION)
- (*) 1-EVP CONFIRMATORY LIGHT-OVERHEAD (ø2,5)

F & I
- 50-FOOT MAST ARM (WITH MID-MOUNTS AT 12' AND 24' FROM LEFT END)
- LUMINAIRE-LED "SHOEBOX"
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (5-1)
- 1-ONE WAY SIGNAL-OVERHEAD AT 12' (2-3)
- 1-TYPE 10B BRACKETING-POLE MOUNTED 90 DEG (FOR 7-2, P8-1)
- 1-ONE WAY SIGNAL-POLE MOUNTED 90 DEG (7-2)
- R10-X12 SIGN PANEL-ADJACENT TO 5-1
- 1-6/c#14

scale 20 10 0 20 40 feet

N

MATCH LINE "B" - SEE PREVIOUS SHEET



(5) INPLACE (MAINTAIN INPLACE)
- PEDESTAL FOUNDATION
- PEDESTAL POLE, BASE, WIND COLLAR
- ONE WAY EVP DETECTOR-MOUNTED ON TOP OF SLIPFITTER COLLAR (ø8,3)
- EXTENDED INTO H.H.18:
- 2"R.S.C.
- 1-3/c#20

(2)

INPLACE (S & I)
- TYPE PA90-A-D40-9 MAST ARM POLE (DAVIT AT 350 DEG)
- 1-ONE WAY SIGNAL-OVERHEAD AT 12' (4-2)
- 1-TYPE 10B-POLE MOUNTED 180 DEG (4-1, P4-2)
- 1-SET C.D. PED SIGNALS-POLE MOUNTED 90 DEG (P2-1)
- 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
- LUMINAIRE CHECK SWITCH AT 0 DEG
- 1-TYPE D SIGN PANEL-OVERHEAD (D-10) (SEE DETAILS FOR LOCATION)
- (*) ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT-OVERHEAD (5' FROM RIGHT END OF MAST ARM) (ø4,7)

INPLACE (REMOVE)
- PA90 POLE FOUNDATION
- 25-FOOT MAST ARM
- LUMINAIRE-200 W HPS
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (3-SECTION)
- 1-TYPE 10B BRACKETING-POLE MOUNTED 90 DEG
- 1-ONE WAY SIGNAL-POLE MOUNTED 90 DEG (5-SECTION)
- EXTENDED INTO H.H.3:
- 3"R.S.C.
- 2-12/c#12
- 3-3/c#12
- 1-3/c#20

F & I
- PA90 POLE FOUNDATION
- 35-FOOT MAST ARM (WITH MID-MOUNT AT 12' FROM LEFT END)
- LUMINAIRE-LED "SHOEBOX"
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (7-1)
- 1-TYPE 10B BRACKETING-POLE MOUNTED 90 DEG (FOR 1-2, P2-1)
- 1-ONE WAY SIGNAL-POLE MOUNTED 90 DEG (1-2)
- R10-X12 SIGN PANEL-ADJACENT TO 7-1
- EXTEND INTO H.H.3A:
- 3"CONDUIT
- 2-12/c#14
- 1-6/c#14
- (*) 1-3/c#14
- (*) 1-3/c#20
- 2-2/c#14
- 1-3/c#14 (LUM)
- 1-1/c#6 (INS. GR.)

(3)

INPLACE (S & I)
- TYPE PA100-A-D40-9 MAST ARM POLE (DAVIT AT 350 DEG)
- 1-ONE WAY SIGNAL-OVERHEAD AT 24' (6-2)
- 1-TYPE 10B-POLE MOUNTED 180 DEG (6-1, P6-2)
- 1-SET C.D. PED SIGNALS-POLE MOUNTED 90 DEG (P4-1)
- 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
- LUMINAIRE CHECK SWITCH AT 0 DEG
- 1-TYPE D SIGN PANEL-OVERHEAD (D-11) (SEE DETAILS FOR LOCATION)
- (*) TWO WAY EVP DETECTOR AND ONE WAY CONFIRMATORY LIGHT-OVERHEAD (ø6,1 DETECTOR/LIGHT, ø2,5 DETECTOR)

INPLACE (REMOVE)
- PA100 POLE FOUNDATION
- 40-FOOT MAST ARM
- LUMINAIRE-200 W HPS
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (5-SECTION)
- 1-TYPE 10B BRACKETING-POLE MOUNTED 90 DEG
- 1-ONE WAY SIGNAL-POLE MOUNTED 90 DEG (3-SECTION)
- 1-R10-12 SIGN PANEL-OVERHEAD
- EXTENDED INTO H.H.8:
- 3"R.S.C.
- 2-12/c#12
- 4-3/c#12
- 2-3/c#20

F & I
- PA100 POLE FOUNDATION
- 50-FOOT MAST ARM (WITH MID-MOUNTS AT 12' AND 24' FROM LEFT END)
- LUMINAIRE-LED "SHOEBOX"
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (1-1)
- 1-ONE WAY SIGNAL-OVERHEAD AT 12' (6-3)
- 1-TYPE 10B BRACKETING-POLE MOUNTED 90 DEG (FOR 3-2, P4-1)
- 1-ONE WAY SIGNAL-POLE MOUNTED 90 DEG (3-2)
- R10-X12 SIGN PANEL-ADJACENT TO 1-1
- EXTEND INTO H.H.8A:
- 3"CONDUIT
- 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 (INS. GR.)

(4) INPLACE (MAINTAIN INPLACE)
- PA90 POLE FOUNDATION
- TYPE PA90-A-30-D40-9 (DAVIT AT 350 DEG)
- 1-TYPE 10B-POLE MOUNTED 180 DEG (8-1, P8-2)
- 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
- LUMINAIRE CHECK SWITCH AT 0 DEG
- ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT-OVERHEAD (ø8,3)
- EXTENDED INTO H.H.10:
- 3"R.S.C.
- 2-12/c#12
- 2-3/c#12
- 1-3/c#20
- 1-3/c#12 (LUM)

INPLACE (REMOVE)
- LUMINAIRE-200 W HPS
- 1-TYPE 10B BRACKETING-POLE MOUNTED 90 DEG
- 1-ONE WAY SIGNAL-POLE MOUNTED 90 DEG (5-SECTION)

INPLACE (S & I)
- 1-ONE WAY SIGNAL-OVERHEAD AT 12' (8-2)
- 1-SET C.D. PED INDICATIONS-POLE MOUNTED 90 DEG (P6-1)
- 1-TYPE D SIGN PANEL-OVERHEAD (D-12) (SEE DETAILS FOR LOCATION)

F & I
- LUMINAIRE-LED "SHOEBOX"
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (3-1)
- STRAP-ON MID MAST ARM MOUNT AT 12' (FOR 8-2)
- 1-TYPE 10B BRACKETING-POLE MOUNTED 90 DEG (FOR 5-2, P6-1)
- 1-ONE WAY SIGNAL-POLE MOUNTED 90 DEG (5-2)
- R10-X12 SIGN PANEL-ADJACENT TO 3-1
- 1-6/c#14

S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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

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: March 14, 2014
Name: John M. Gray, PE
Lic. No. 22457

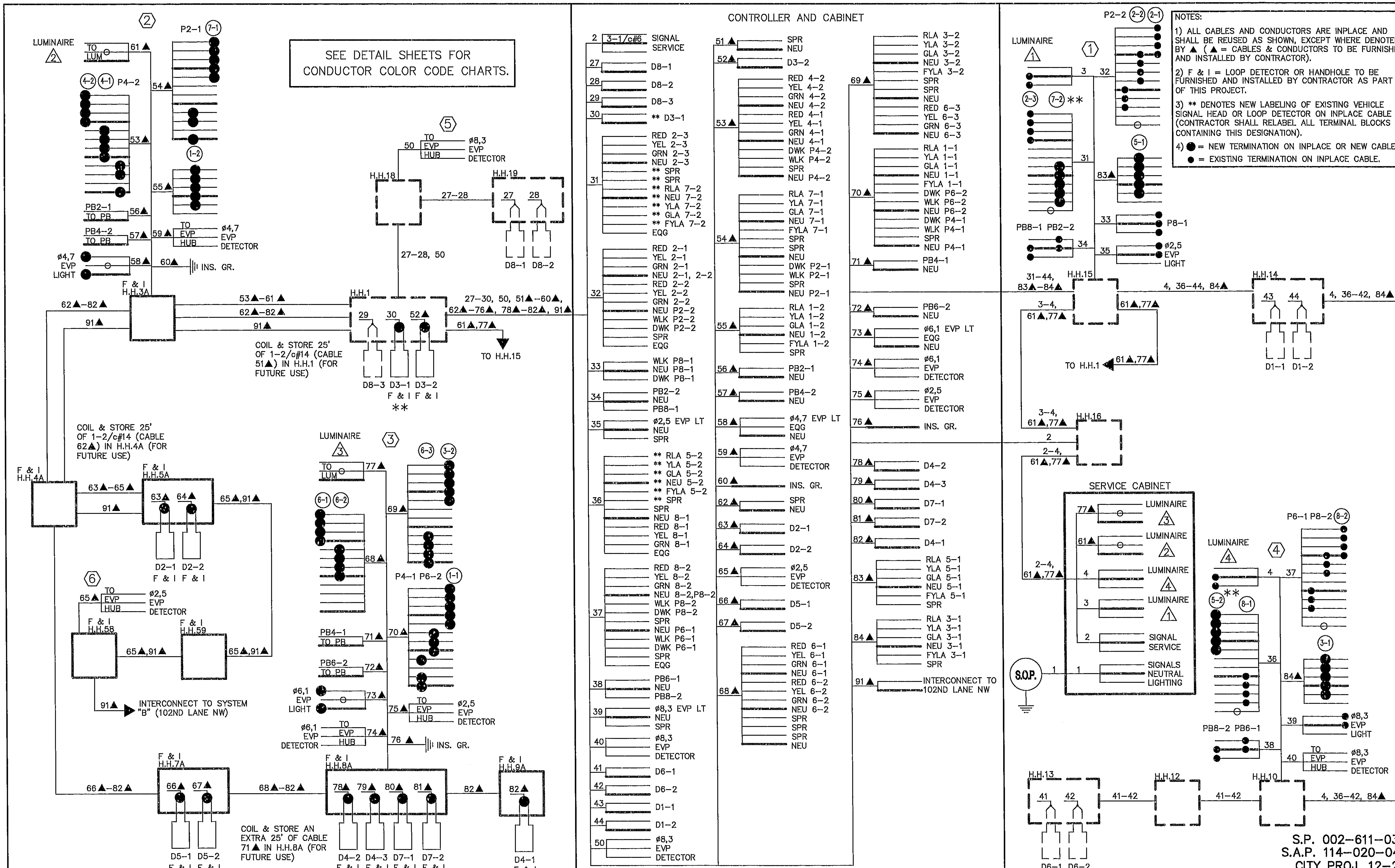
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MN
CITY OF COON RAPIDS

REVISE SIGNAL SYSTEM "C"
INTERSECTION LAYOUT
CSAH 11 (FOLEY BLVD) AT EGRET BLVD NW

FILE NO. ANOKC 124472
SIGNAL SHEET 25 OF 32

130/196


SEE DETAIL SHEETS FOR CONDUCTOR COLOR CODE CHARTS.
CONTROLLER AND CABINET
LUMINAIRE
P2-1
P4-2
PB2-1 TO PB
PB4-2 TO PB
ø4,7 EVP LIGHT
EVP HUB ø4,7 EVP DETECTOR
60▲ INS. GR.
F & I H.H.3A
53▲-61▲
62▲-82▲
91▲
H.H.1
H.H.18
H.H.19
27-28
27-28, 50
D8-1 D8-2
27-30, 50, 51▲-60▲, 62▲-76▲, 78▲-82▲, 91▲
61▲,77▲
TO H.H.15
COIL & STORE 25' OF 1-2/c#14 (CABLE 51▲) IN H.H.1 (FOR FUTURE USE)
D8-3 D3-1 D3-2
F & I F & I
**
COIL & STORE 25' OF 1-2/c#14 (CABLE 62▲) IN H.H.4A (FOR FUTURE USE)
F & I H.H.4A
F & I H.H.5A
63▲-65▲
65▲,91▲
D2-1 D2-2
F & I F & I
ø2,5 EVP DETECTOR
F & I H.H.58
F & I H.H.59
INTERCONNECT TO SYSTEM "B" (102ND LANE NW)
F & I H.H.7A
66▲-82▲
68▲-82▲
D5-1 D5-2
COIL & STORE AN EXTRA 25' OF CABLE 71▲ IN H.H.8A (FOR FUTURE USE)
F & I H.H.8A
D4-2 D4-3 D7-1 D7-2
F & I H.H.9A
D4-1
P4-1 P6-2
PB4-1 TO PB
PB6-2 TO PB
ø6,1 EVP LIGHT
ø6,1 EVP DETECTOR
76▲ INS. GR.
3-1/c#6 SIGNAL SERVICE
D8-1 D8-2 D8-3 ** D3-1
RED 2-3 YEL 2-3 GRN 2-3 NEU 2-3 ** SPR ** SPR ** RLA 7-2 ** NEU 7-2 ** YLA 7-2 ** GLA 7-2 ** FYLA 7-2 EQG
RED 2-1 YEL 2-1 GRN 2-1 NEU 2-1, 2-2 RED 2-2 YEL 2-2 GRN 2-2 NEU P2-2 WLK P2-2 DWK P2-2 SPR EQG
WLK P8-1 NEU P8-1 DWK P8-1
PB2-2 NEU PB8-1
ø2,5 EVP LT NEU SPR
** RLA 5-2 ** YLA 5-2 ** GLA 5-2 ** NEU 5-2 ** FYLA 5-2 ** SPR SPR NEU 8-1 RED 8-1 YEL 8-1 GRN 8-1 EQG
RED 8-2 YEL 8-2 GRN 8-2 NEU 8-2,P8-2 WLK P8-2 DWK P8-2 SPR NEU P6-1 WLK P6-1 DWK P6-1 SPR EQG
PB6-1 NEU PB8-2
ø8,3 EVP LT NEU SPR
ø8,3 EVP DETECTOR
D6-1 D6-2 D1-1 D1-2
ø8,3 EVP DETECTOR
SPR NEU D3-2
RED 4-2 YEL 4-2 GRN 4-2 NEU 4-2 RED 4-1 YEL 4-1 GRN 4-1 NEU 4-1 DWK P4-2 WLK P4-2 SPR NEU P4-2
RLA 7-1 YLA 7-1 GLA 7-1 NEU 7-1 FYLA 7-1 SPR SPR NEU DWK P2-1 WLK P2-1 SPR NEU P2-1
RLA 1-2 YLA 1-2 GLA 1-2 NEU 1-2 FYLA 1-2 SPR
PB2-1 NEU
PB4-2 NEU
ø4,7 EVP LT EQG NEU
ø4,7 EVP DETECTOR
INS. GR.
SPR NEU
D2-1 D2-2
ø2,5 EVP DETECTOR
D5-1 D5-2
RED 6-1 YEL 6-1 GRN 6-1 NEU 6-1 RED 6-2 YEL 6-2 GRN 6-2 NEU 6-2 SPR SPR SPR NEU
RLA 3-2 YLA 3-2 GLA 3-2 NEU 3-2 FYLA 3-2 SPR SPR NEU RED 6-3 YEL 6-3 GRN 6-3 NEU 6-3
RLA 1-1 YLA 1-1 GLA 1-1 NEU 1-1 FYLA 1-1 DWK P6-2 WLK P6-2 NEU P6-2 DWK P4-1 WLK P4-1 SPR NEU P4-1
PB4-1 NEU
PB6-2 NEU
ø6,1 EVP LT EQG NEU
ø6,1 EVP DETECTOR
ø2,5 EVP DETECTOR
INS. GR.
D4-2 D4-3 D7-1 D7-2 D4-1
RLA 5-1 YLA 5-1 GLA 5-1 NEU 5-1 FYLA 5-1 SPR
RLA 3-1 YLA 3-1 GLA 3-1 NEU 3-1 FYLA 3-1 SPR
INTERCONNECT TO 102ND LANE NW
P2-2
P8-1
PB8-1 PB2-2
ø2,5 EVP LIGHT
31-44, 83▲-84▲
H.H.15
4, 36-44, 84▲
H.H.14
4, 36-42, 84▲
D1-1 D1-2
TO H.H.1
H.H.16
SERVICE CABINET
LUMINAIRE
SIGNAL SERVICE
SIGNALS NEUTRAL LIGHTING
S.O.P.
P6-1 P8-2
PB8-2 PB6-1
ø8,3 EVP LIGHT
ø8,3 EVP DETECTOR
H.H.13 H.H.12 H.H.10
41-42
D6-1 D6-2

NOTES:

1) ALL CABLES AND CONDUCTORS ARE INPLACE AND SHALL BE REUSED AS SHOWN, EXCEPT WHERE DENOTED BY ▲ (▲ = CABLES & CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR).

2) F & I = LOOP DETECTOR OR HANDHOLE TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT.

3) ** DENOTES NEW LABELING OF EXISTING VEHICLE SIGNAL HEAD OR LOOP DETECTOR ON INPLACE CABLE (CONTRACTOR SHALL RELABEL ALL TERMINAL BLOCKS CONTAINING THIS DESIGNATION).

4) ● = NEW TERMINATION ON INPLACE OR NEW CABLE.
● = EXISTING TERMINATION ON INPLACE CABLE.

S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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

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: March 14, 2014 Name: John M. Gray, PE Lic. No. 22457

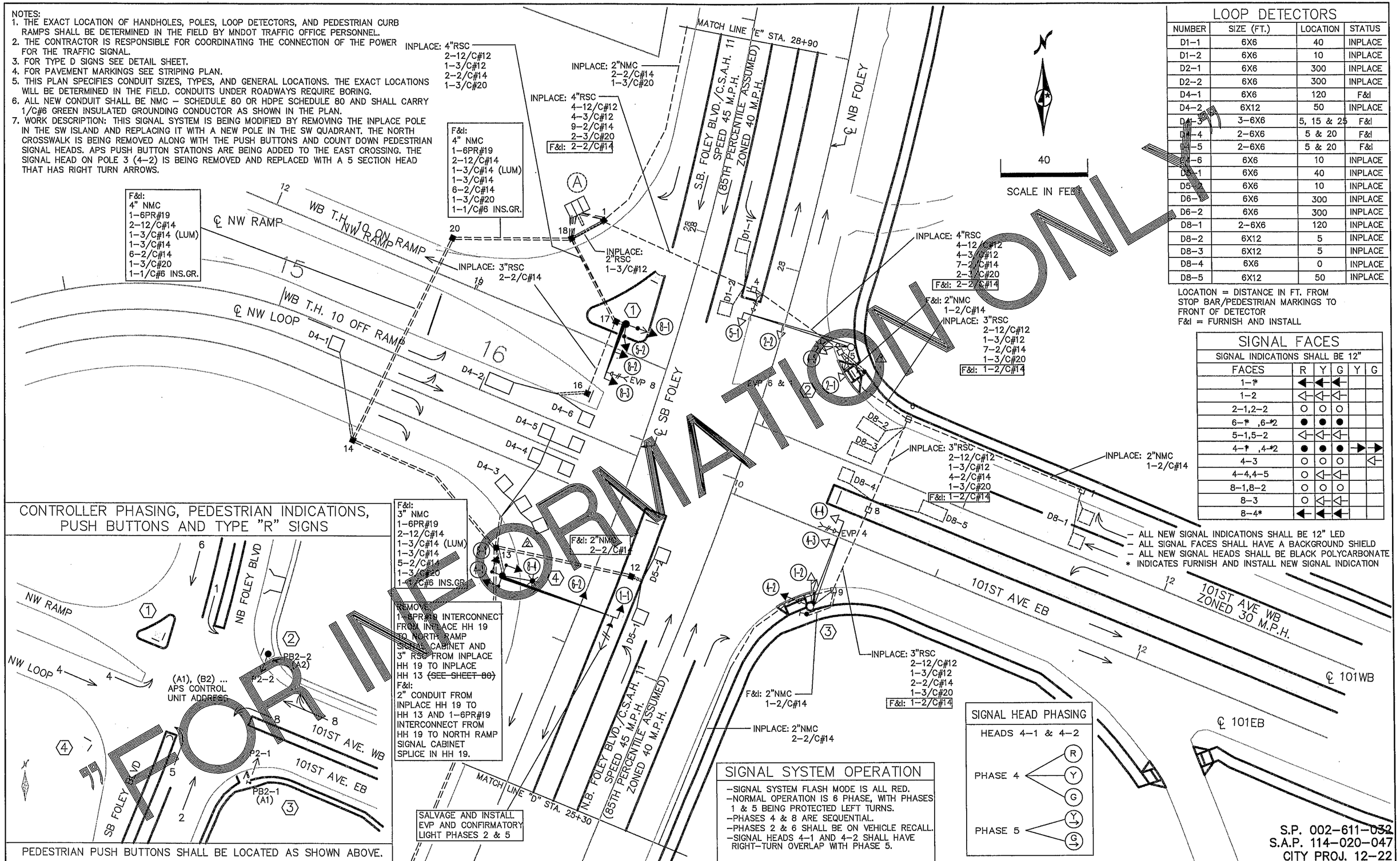
SEH — PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110

ANOKA COUNTY, MN
CITY OF COON RAPIDS

REVISE SIGNAL SYSTEM "C"
FIELD WIRING DIAGRAM
CSAH 11 (FOLEY BLVD) AT EGRET BLVD NW

FILE NO. ANOKC 124472
SIGNAL SHEET 26 OF 32

NOTES:
1. THE EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS, AND PEDESTRIAN CURB RAMPS SHALL BE DETERMINED IN THE FIELD BY MNDOT TRAFFIC OFFICE PERSONNEL.
2. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL.
3. FOR TYPE D SIGNS SEE DETAIL SHEET.
4. FOR PAVEMENT MARKINGS SEE STRIPING PLAN.
5. THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER ROADWAYS REQUIRE BORING.
6. ALL NEW CONDUIT SHALL BE NMC – SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C#6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
7. WORK DESCRIPTION: THIS SIGNAL SYSTEM IS BEING MODIFIED BY REMOVING THE INPLACE POLE IN THE SW ISLAND AND REPLACING IT WITH A NEW POLE IN THE SW QUADRANT. THE NORTH CROSSWALK IS BEING REMOVED ALONG WITH THE PUSH BUTTONS AND COUNT DOWN PEDESTRIAN SIGNAL HEADS. APS PUSH BUTTON STATIONS ARE BEING ADDED TO THE EAST CROSSING. THE SIGNAL HEAD ON POLE 3 (4–2) IS BEING REMOVED AND REPLACED WITH A 5 SECTION HEAD THAT HAS RIGHT TURN ARROWS.



LOOP DETECTORS

NUMBER	SIZE (FT.)	LOCATION	STATUS
D1–1	6X6	40	INPLACE
D1–2	6X6	10	INPLACE
D2–1	6X6	300	INPLACE
D2–2	6X6	300	INPLACE
D4–1	6X6	120	F&I
D4–2	6X12	50	INPLACE
D4–3	3–6X6	5, 15 & 25	F&I
D4–4	2–6X6	5 & 20	F&I
D4–5	2–6X6	5 & 20	F&I
D4–6	6X6	10	INPLACE
D5–1	6X6	40	INPLACE
D5–2	6X6	10	INPLACE
D6–1	6X6	300	INPLACE
D6–2	6X6	300	INPLACE
D8–1	2–6X6	120	INPLACE
D8–2	6X12	5	INPLACE
D8–3	6X12	5	INPLACE
D8–4	6X6	0	INPLACE
D8–5	6X12	50	INPLACE

LOCATION = DISTANCE IN FT. FROM STOP BAR/PEDESTRIAN MARKINGS TO FRONT OF DETECTOR
F&I = FURNISH AND INSTALL

SIGNAL FACES

SIGNAL INDICATIONS SHALL BE 12"

FACES	R	Y	G	Y	G
1–1*	◀	◀	◀		
1–2	◁	◁	◁		
2–1,2–2	○	○	○		
6–1* ,6–2*	●	●	●		
5–1,5–2	◁	◁	◁		
4–1* ,4–2*	●	●	●	▶	▶
4–3	○	○	○		◁
4–4,4–5	○	◁	◁		
8–1,8–2	○	○	○		
8–3	○	◁	◁		
8–4*	◀	◀	◀		

– ALL NEW SIGNAL INDICATIONS SHALL BE 12" LED
– ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD
– ALL NEW SIGNAL HEADS SHALL BE BLACK POLYCARBONATE
* INDICATES FURNISH AND INSTALL NEW SIGNAL INDICATION

CONTROLLER PHASING, PEDESTRIAN INDICATIONS, PUSH BUTTONS AND TYPE "R" SIGNS

PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE.

SIGNAL SYSTEM OPERATION

–SIGNAL SYSTEM FLASH MODE IS ALL RED.
–NORMAL OPERATION IS 6 PHASE, WITH PHASES 1 & 5 BEING PROTECTED LEFT TURNS.
–PHASES 4 & 8 ARE SEQUENTIAL.
–PHASES 2 & 6 SHALL BE ON VEHICLE RECALL.
–SIGNAL HEADS 4–1 AND 4–2 SHALL HAVE RIGHT–TURN OVERLAP WITH PHASE 5.

SIGNAL HEAD PHASING

S.P. 002–611–032
S.A.P. 114–020–047
CITY PROJ. 12–22

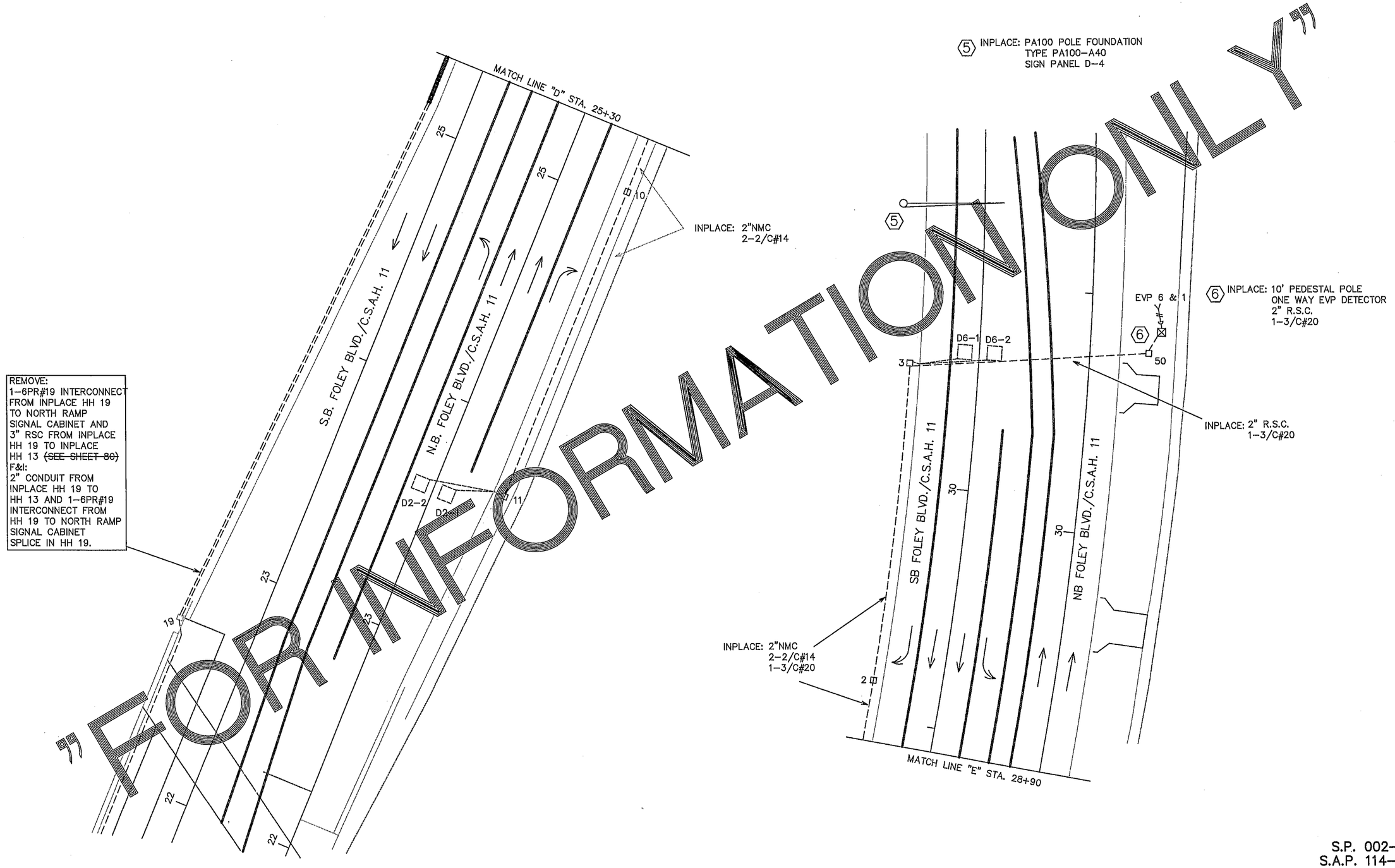
DRAWN BY: JMG	NO.	BY	DATE	REVISIONS	SYSTEM ID: 20219 T.E. 5306	
DESIGNER: JMG					METER ADDRESS: N. RAMP TH 10/FOLEY BLVD	
CHECKED BY: JMG					MASTER ID: 21996 T.E. ____	
DESIGN TEAM						

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

ANOKA COUNTY, MN
CITY OF COON RAPIDS

INPLACE SIGNAL SYSTEM "A"
"FOR INFORMATION ONLY"
TH 10–47 NORTH RAMPS/101ST AVE NW
AT CSAH 11 (FOLEY BLVD)

FILE NO. ANOKC 124472
SIGNAL SHEET 27 OF 32
132/196



S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

DRAWN BY: JMG DESIGNER: JMG CHECKED BY: JMG DESIGN TEAM	NO.	BY	DATE	REVISIONS	SYSTEM ID: 20219 T.E. 5306 METER ADDRESS: N. RAMP TH 10/FOLEY BLVD MASTER ID: 21996 T.E. ____	SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110	ANOKA COUNTY, MN CITY OF COON RAPIDS	INPLACE SIGNAL SYSTEM "A" "FOR INFORMATION ONLY" TH 10-47 NORTH RAMPS/101ST AVE NW AT CSAH 11 (FOLEY BLVD)	FILE NO. ANOKC 124472 SIGNAL SHEET 28 OF 32	133/196

(1) PA85 POLE FOUNDATION
TYPE PA85–A25
2–ONE WAY SIGNALS OVERHEAD
0' & 12' FROM END OF MAST ARM
TYPE 10A AT 0^
REMOVE: C.D. PED INDICATION TYPE 10B AT 270^
REMOVE: 1–PED PUSH BUTTON & SIGN
1–R9–3a SIGN (NO PED) FACING POLE 4
F&I: 1–R9–3a SIGN (NO PED) FACING POLE 2
ONE WAY EVP DETECTOR & CONFIRMATORY LIGHT (PHASE 8)
3"RSC INTO HH 17
2–12/C#12
1–3/C#12
1–3/C#20

(2) PA100 POLE FOUNDATION
PA100–A50–D40–9 (DAVIT AT 350^)
2–ONE WAY SIGNALS OVERHEAD
0' & 18' FROM END OF MAST ARM
TYPE 10B AT 45^
REMOVE: C.D. PED INDICATION TYPE 10B AT 270^
REMOVE: 2–PED PUSH BUTTONS & SIGNS
F&I: 1–R9–3a SIGN (NO PED) FACING POLE 1
LUMINAIRE–200W HPS WITH PEC & CK. SW.
ONE WAY EVP DETECTOR & CONFIRMATORY LIGHT (PHASES 6&1)
3"RSC TO HH 5:
2–12/C#12
3–3/C#12
1–3/C#20

F&I: 101WB STA 10+34, 41' LT
APS PED PB STATION (PB2–2)
1–APS PB AND SIGN (RT ARROW)
EXTEND INTO HH 5:
2" CONDUIT
1–2/C#14

(3) PA90 POLE FOUNDATION
TYPE PA90–A40
2–ONE WAY SIGNALS OVERHEAD
0' & 12' FROM END OF MAST ARM
TYPE 10B AT 0^
REMOVE: INPLACE SIGNAL HEAD 4–2, F&I: 5 SECTION HEAD TYPE 10A AT 270^
REMOVE: 1–PED PUSH BUTTON & SIGN
1–R9–3a SIGN (NO PED) FACING POLE 4
ONE WAY EVP DETECTOR & CONFIRMATORY LIGHT (PHASE 4)
3"RSC INTO HH 9:
2–12/C#12
1–3/C#12
1–3/C#20

F&I: 101EB STA 10+52, 38' RT
APS PED PB STATION (PB2–1)
1–APS PB AND SIGN (LT ARROW)
EXTEND INTO HH 9:
2" CONDUIT
1–2/C#14

(4) REMOVE: INPLACE POLE NUMBER 4 AND FOUNDATION
SB FOLEY STA 26+12, 35' LT
F&I: PA100 POLE FOUNDATION
TYPE PA100–A–55–D40–9 (DAVIT AT 350 DEG)
1–ANGLE MOUNT SIGNAL OVERHEAD AT 0'
1–STRAIGHT MOUNT SIGNAL AT 17'
3–ANGLE MOUNT SIGNALS AT 90, 180, AND 270 DEG
2–TYPE R9–3a SIGN (NO PED) FACING POLES 1 & 3
LUMINAIRE–250W HPS
EXTEND INTO HH 13:
3" CONDUIT
2–12/C#14
1–3/C#14 (LUM)
1–3/C#14
1–3/C#20
1–1/C#6 INS.GR.
SALVAGE AND INSTALL: ONE WAY EVP DETECTOR & CONFIRMATORY LIGHT (PHASES 2 & 5)
AT 2' FROM END OF MAST ARM

(A) EQUIPMENT PAD
CONTROLLER, MASTER CONTROLLER & CABINET
SERVICE EQUIPMENT (PAD MOUNTED)

CABINET TO HH 1:	CABINET TO HH 18:
4"RSC	4"RSC
4–12/C#12	2–12/C#12
3–3/C#12	1–3/C#12
11–2/C#14	1–3/C#20
3–3/C#20	2–2/C#14
F&I: 2–2/C#14	F&I: 1–6PR#19
	2–12/C#14
	1–3/C#14 (LUM)
	1–3/C#14
	1–3/C#20
	6–2/C#14
	1–1/C#6 INS.GR.

3"RSC STUBBED OUT OF CONTROLLER
CABINET THREADED & CAPPED BOTH ENDS.
LOAD CENTER TO CABINET:
1 1/4"RSC
2–1/C#6
1–1/C#6 BR. GR.
LOAD CENTER TO HH 18:
1 1/4" RSC
1–3/C#12 (LUM)
F&I: 1–3/C#14 (LUM)

–SIGNAL HEAD 4–2 WILL BE REPLACED WITH A 5–SECTION HEAD WHICH REQUIRES 4 NEW SPLICES TO CABLE 17 AND 3 NEW SPLICES TO CABLE 18 AT POLE NUMBER 3.
–THE EVP LIGHT WILL MOVE TO THE G/BLK CONDUCTOR AND THE YELLOW RIGHT ARROW AND GREEN RIGHT ARROW WILL BE SPLICED TO THE O/BLK AND THE BL/BLK CONDUCTORS RESPECTIVELY.
–2 NEW PED STATIONS WILL BE INSTALLED AND NEW 2/C#14 CABLE (NUMBERS 53 AND 54) WILL BE PULLED FROM THE PED STATIONS TO THE EXISTING HANDHOLE AND THEN TO THE CONTROLLER.
–CABLE NUMBER 50 WILL BE SPLICED IN EXISTING HANDHOLE 19 AND PULLED THROUGH NEW CONDUIT TO THE CONTROLLER.
–THE EVP DETECTOR AND LIGHT WILL BE SALVAGED FROM EXISTING POLE 4 AND BE INSTALLED ON THE NEW POLE 4.
–EXISTING LOOPS D5–1 AND D5–2 WILL BE SPLICED TO NEW CABLES (NUMBER 7 AND 8) IN EXISTING HANDHOLE NUMBER 12 WHICH WILL BE PULLED THROUGH NEW CONDUIT TO THE CONTROLLER.
–LOOPS D4–1, D4–3, D4–4, AND D4–5 WILL BE FURNISHED AND INSTALLED.
–SIGNAL HEADS 1–1, 6–1, 6–2, 4–1, 8–4, AND LUMINARE #2 WILL BE FURNISHED AND INSTALLED WITH POLE NUMBER 4.
–CABLE NUMBERS 3,4,6,7,8,11,12,14,40,50–55 ARE NEW CABLES.
–HANDHOLE NUMBERS 13,14,20 ARE NEW HANDHOLES.

"FOR INFORMATION ONLY"

S.P. 002–611–032
S.A.P. 114–020–047
CITY PROJ. 12–22

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

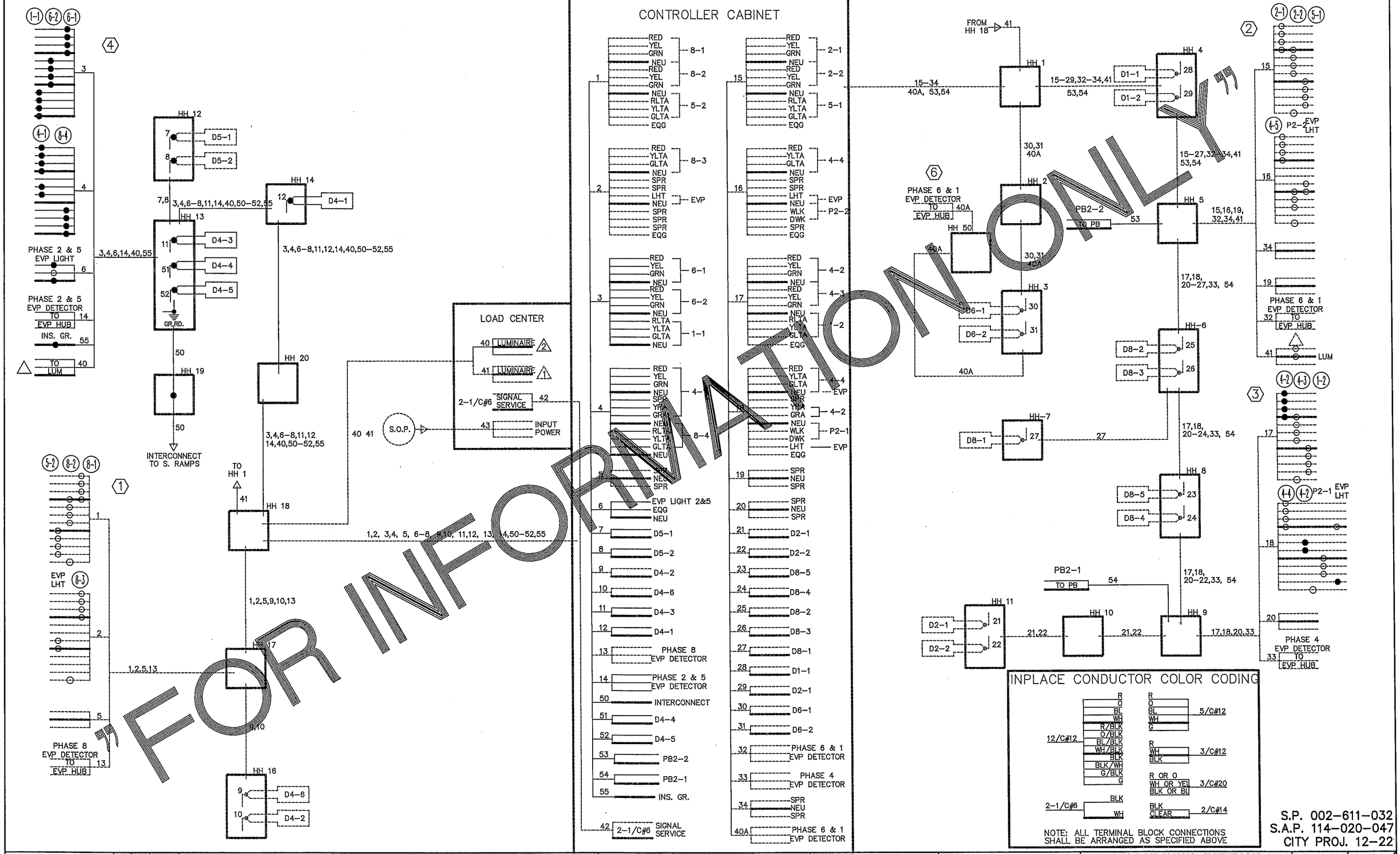
SYSTEM ID: 20219 T.E. 5306
METER ADDRESS: N. RAMP TH 10/FOLEY BLVD
MASTER ID: 21996 T.E. ____

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

ANOKA COUNTY, MN
CITY OF COON RAPIDS

INPLACE SIGNAL SYSTEM "A"
"FOR INFORMATION ONLY"
TH 10–47 NORTH RAMPS/101ST AVE NW
AT CSAH 11 (FOLEY BLVD)

FILE NO. ANOKC 124472
SIGNAL SHEET 29 OF 32



S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

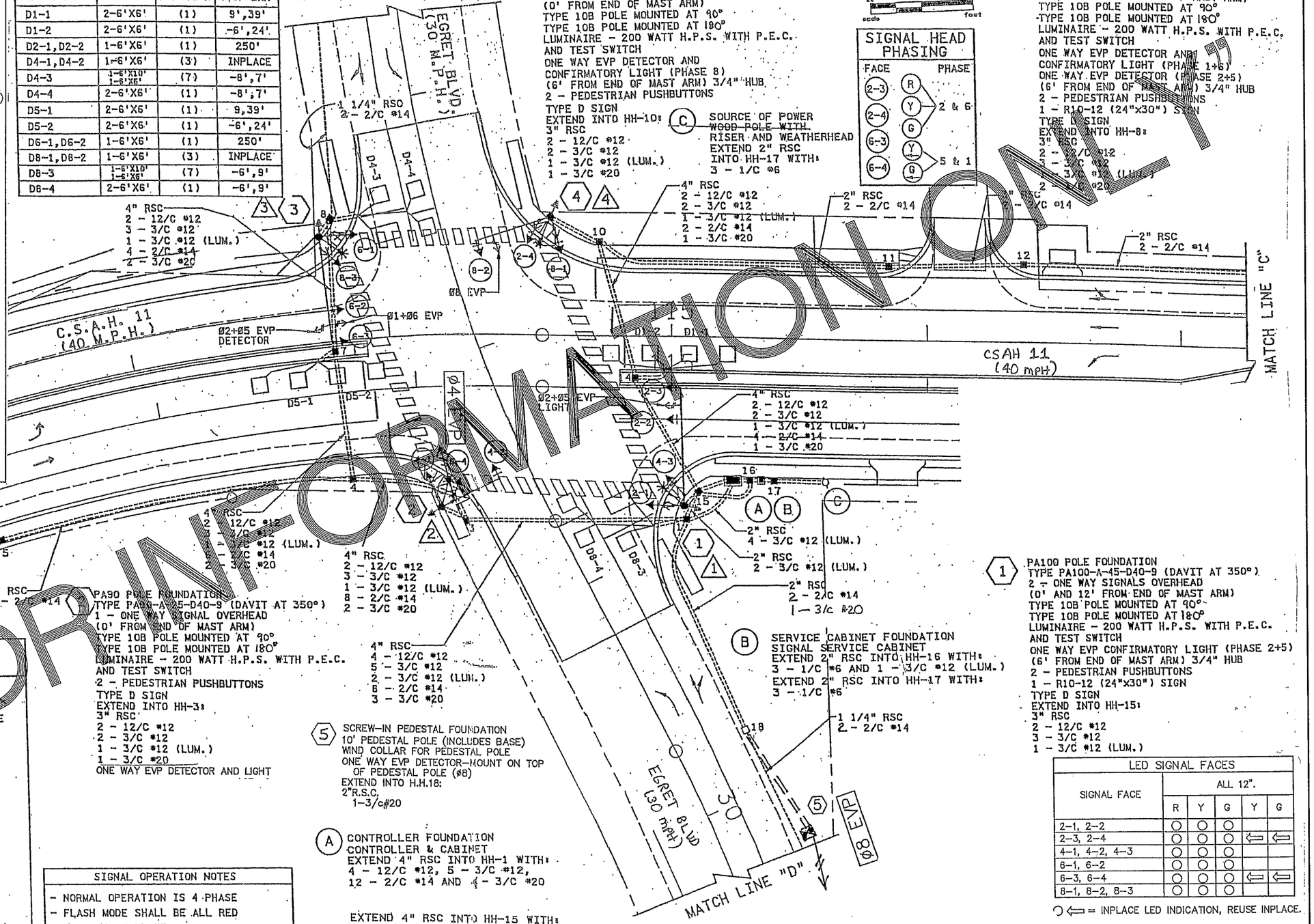
DRAWN BY: JMG DESIGNER: JMG CHECKED BY: JMG DESIGN TEAM	NO.	BY	DATE	REVISIONS
SYSTEM ID: 20219 T.E. 5306 METER ADDRESS: N. RAMP TH 10/FOLEY BLVD MASTER ID: 21996 T.E. ____				
SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110				
ANOKA COUNTY, MN CITY OF COON RAPIDS				
INPLACE SIGNAL SYSTEM "A" "FOR INFORMATION ONLY" TH 10-47 NORTH RAMPS/101ST AVE NW AT CSAH 11 (FOLEY BLVD)				
FILE NO. ANOKC 124472 SIGNAL SHEET 30 OF 32				135 / 196

LED RETROFIT-SYSTEM "BB" NOTES:

1) ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
2) CONTRACTOR SHALL REMOVE THE INPLACE "HAND/WALKING PERSON" LENS FROM EACH INPLACE ONE SECTION PED SIGNAL INDICATION, AND SHALL FURNISH & INSTALL A NEW COUNTDOWN TIMER LED "HAND/WALKING PERSON" LENS IN ITS PLACE.
3) CONTRACTOR SHALL PROTECT AND MAINTAIN EACH INPLACE ONE SECTION PEDESTRIAN SIGNAL HOUSING & VISOR WHEN REMOVING AND REPLACING EACH LENS, AND SHALL REPLACE THE COMPLETE PEDESTRIAN SIGNAL INDICATION UNIT (HOUSING, VISOR, AND LENS) SHOULD ANY DAMAGE BE DONE TO THE UNIT BY CONTRACTOR DURING WORK ON THIS PROJECT (INCIDENTAL).
4) IN LIEU OF THE LENS REPLACEMENT WORK DESCRIBED ABOVE, THE CONTRACTOR ALSO HAS THE OPTION OF REMOVING EACH INPLACE ONE SECTION PEDESTRIAN SIGNAL INDICATION (HOUSING, VISOR AND LENS) AND REPLACING THEM WITH NEW ONE SECTION PEDESTRIAN SIGNAL INDICATIONS (INCLUDING THE REPLACEMENT OF THE POLE MOUNTED BRACKETING IF NEEDED TO ACCOMMODATE EACH PEDESTRIAN SIGNAL INDICATION INSTALLATION) (INCIDENTAL).
5) CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MODIFICATIONS TO INPLACE POLE MOUNTED BRACKETING ON EACH TRAFFIC SIGNAL POLE TO ACCOMMODATE INSTALLATION OF NEW ONE SECTION PEDESTRIAN SIGNAL INDICATIONS (INCLUDING THE REPLACEMENT OF THE POLE MOUNTED BRACKETING IF NEEDED TO ACCOMMODATE EACH PEDESTRIAN SIGNAL INDICATION INSTALLATION) (INCIDENTAL).
6) ANY DAMAGE TO INPLACE TRAFFIC SIGNAL POLES OR VEHICLE SIGNAL HEADS & BRACKETING DUE TO WORK ON THIS PROJECT SHALL BE REPAIRED BY CONTRACTOR TO THE SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE CITY.
7) IF NEW PEDESTRIAN HOUSINGS AND VISORS ARE USED, THEY SHALL BE FABRICATED USING NEW POLYCARBONATE MATERIALS.
8) ALL VEHICULAR SIGNAL INDICATIONS ARE LED AND ARE INPLACE (MAINTAIN AND REUSE INPLACE AS SHOWN).
9) CONTRACTOR SHALL REMOVE ALL INPLACE PEDESTRIAN PUSH BUTTONS (8 TOTAL), R10-4b STICKER SIGNS, AND "MEANING OF WALK" STICKER SIGNS, & SHALL FURNISH & INSTALL NEW SOLID STATE PED PUSH BUTTONS AND R10-3e SIGNS IN THEIR PLACE.
10) CONTRACTOR SHALL MAINTAIN OPERATION OF THE SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY THE ENGINEER.
11) SEE STATEMENT OF ESTIMATED QUANTITIES FOR BID ITEMS FOR WORK AT THIS SIGNAL SYSTEM.

LOOP DETECTOR CHART			DISTANCE TO STOP BAR
DESIGNATION	SIZE/FT.	FUNCTION	
D1-1	2-6'X6'	(1)	9',39'
D1-2	2-6'X6'	(1)	-6',24'
D2-1,D2-2	1-6'X6'	(1)	250'
D4-1,D4-2	1-6'X6'	(3)	INPLACE
D4-3	1-6'X10' 1-6'X6'	(7)	-8',7'
D4-4	2-6'X6'	(1)	-8',7'
D5-1	2-6'X6'	(1)	9,39'
D5-2	2-6'X6'	(1)	-6',24'
D6-1,D6-2	1-6'X6'	(1)	250'
D8-1,D8-2	1-6'X6'	(3)	INPLACE
D8-3	1-6'X10' 1-6'X6'	(7)	-6',9'
D8-4	2-6'X6'	(1)	-6',9'

FUNCTIONS:
(1) CALL AND EXTEND
(3) EXTEND ONLY
(7) DELAY CALL/IMMEDIATE EXTEND



4 PA90 POLE FOUNDATION
TYPE PA90-A-30-D40-9 (DAVIT AT 350°)
1 - ONE WAY SIGNAL OVERHEAD
(0' FROM END OF MAST ARM)
TYPE 10B POLE MOUNTED AT 90°
TYPE 10B POLE MOUNTED AT 180°
LUMINAIRE - 200 WATT H.P.S. WITH P.E.C.
AND TEST SWITCH
ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASE 8)
(6' FROM END OF MAST ARM) 3/4" HUB
2 - PEDESTRIAN PUSHBUTTONS
TYPE D SIGN
EXTEND INTO HH-10:
3" RSC
2 - 12/C #12
2 - 3/C #12
1 - 3/C #12 (LUM.)
1 - 3/C #20

C SOURCE OF POWER
WOOD POLE WITH
RISER AND WEATHERHEAD
EXTEND 2" RSC
INTO HH-17 WITH:
3 - 1/C #6

SIGNAL HEAD PHASING

FACE	PHASE
2-3	2 & 6
2-4	
6-3	5 & 1
6-4	

3 PA100 POLE FOUNDATION
TYPE PA100-A-40-D40-9 (DAVIT AT 350°)
2 - ONE WAY SIGNALS OVERHEAD
(0' AND 12' FROM END OF MAST ARM)
TYPE 10B POLE MOUNTED AT 90°
TYPE 10B POLE MOUNTED AT 180°
LUMINAIRE - 200 WATT H.P.S. WITH P.E.C.
AND TEST SWITCH
ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (PHASE 1+6)
ONE WAY EVP DETECTOR (PHASE 2+5)
(6' FROM END OF MAST ARM) 3/4" HUB
2 - PEDESTRIAN PUSHBUTTONS
1 - R10-12 (24"x30") SIGN
TYPE D SIGN
EXTEND INTO HH-8:
3" RSC
2 - 12/C #12
3 - 3/C #12
1 - 3/C #12 (LUM.)
2 - 2/C #20

4 PA90 POLE FOUNDATION
TYPE PA90-A-25-D40-9 (DAVIT AT 350°)
1 - ONE WAY SIGNAL OVERHEAD
(0' FROM END OF MAST ARM)
TYPE 10B POLE MOUNTED AT 90°
TYPE 10B POLE MOUNTED AT 180°
LUMINAIRE - 200 WATT H.P.S. WITH P.E.C.
AND TEST SWITCH
2 - PEDESTRIAN PUSHBUTTONS
TYPE D SIGN
EXTEND INTO HH-3:
3" RSC
2 - 12/C #12
2 - 3/C #12
1 - 3/C #12 (LUM.)
1 - 3/C #20
ONE WAY EVP DETECTOR AND LIGHT

5 SCREW-IN PEDESTAL FOUNDATION
10' PEDESTAL POLE (INCLUDES BASE)
WIND COLLAR FOR PEDESTAL POLE
ONE WAY EVP DETECTOR-MOUNT ON TOP OF PEDESTAL POLE (Ø8)
EXTEND INTO H.H.18:
2"R.S.C.
1-3/c#20

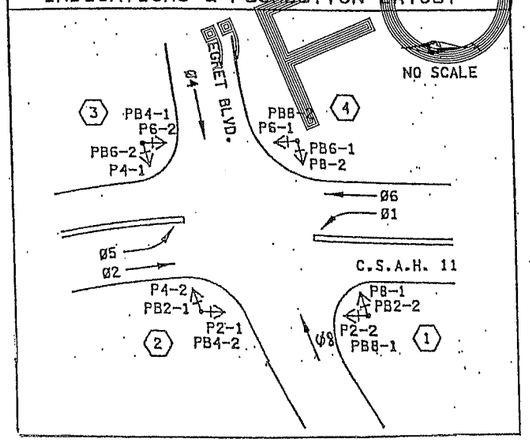
A CONTROLLER FOUNDATION
CONTROLLER & CABINET
EXTEND 4" RSC INTO HH-1 WITH:
4 - 12/C #12, 5 - 3/C #12,
12 - 2/C #14 AND 4 - 3/C #20

EXTEND 4" RSC INTO HH-15 WITH:
4 - 12/C #12, 5 - 3/C #12,
4 - 2/C #14 AND 1 - 3/C #20
EXTEND 2" RSC INTO HH-16 WITH:
3 - 1/C #6
1 - 3" RSC STUB OUT OF CABINET

B SERVICE CABINET FOUNDATION
SIGNAL SERVICE CABINET
EXTEND 2" RSC INTO HH-16 WITH:
3 - 1/C #6 AND 1 - 3/C #12 (LUM.)
EXTEND 2" RSC INTO HH-17 WITH:
3 - 1/C #6

1 PA100 POLE FOUNDATION
TYPE PA100-A-45-D40-9 (DAVIT AT 350°)
2 - ONE WAY SIGNALS OVERHEAD
(0' AND 12' FROM END OF MAST ARM)
TYPE 10B POLE MOUNTED AT 90°
TYPE 10B POLE MOUNTED AT 180°
LUMINAIRE - 200 WATT H.P.S. WITH P.E.C.
AND TEST SWITCH
ONE WAY EVP CONFIRMATORY LIGHT (PHASE 2+5)
(6' FROM END OF MAST ARM) 3/4" HUB
2 - PEDESTRIAN PUSHBUTTONS
1 - R10-12 (24"x30") SIGN
TYPE D SIGN
EXTEND INTO HH-15:
3" RSC
2 - 12/C #12
3 - 3/C #12
1 - 3/C #12 (LUM.)

CONTROLLER PHASING, PEDESTRIAN INDICATIONS & PUSHBUTTON LAYOUT



SIGNAL OPERATION NOTES
- NORMAL OPERATION IS 4 PHASE
- FLASH MODE SHALL BE ALL RED
- Ø1 & Ø5 SHALL BE PROTECTED/PERMISSIVE LEFT TURNS
- Ø2 & Ø6 SHALL BE ON VEHICLE RECALL

LED SIGNAL FACES

SIGNAL FACE	ALL 12".				
	R	Y	G	Y	G
2-1, 2-2	○	○	○		
2-3, 2-4	○	○	○	⇦	⇦
4-1, 4-2, 4-3	○	○	○		
6-1, 6-2	○	○	○		
6-3, 6-4	○	○	○	⇦	⇦
8-1, 8-2, 8-3	○	○	○		

○⇦ = INPLACE LED INDICATION, REUSE INPLACE.

FOR INFORMATION ONLY

S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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

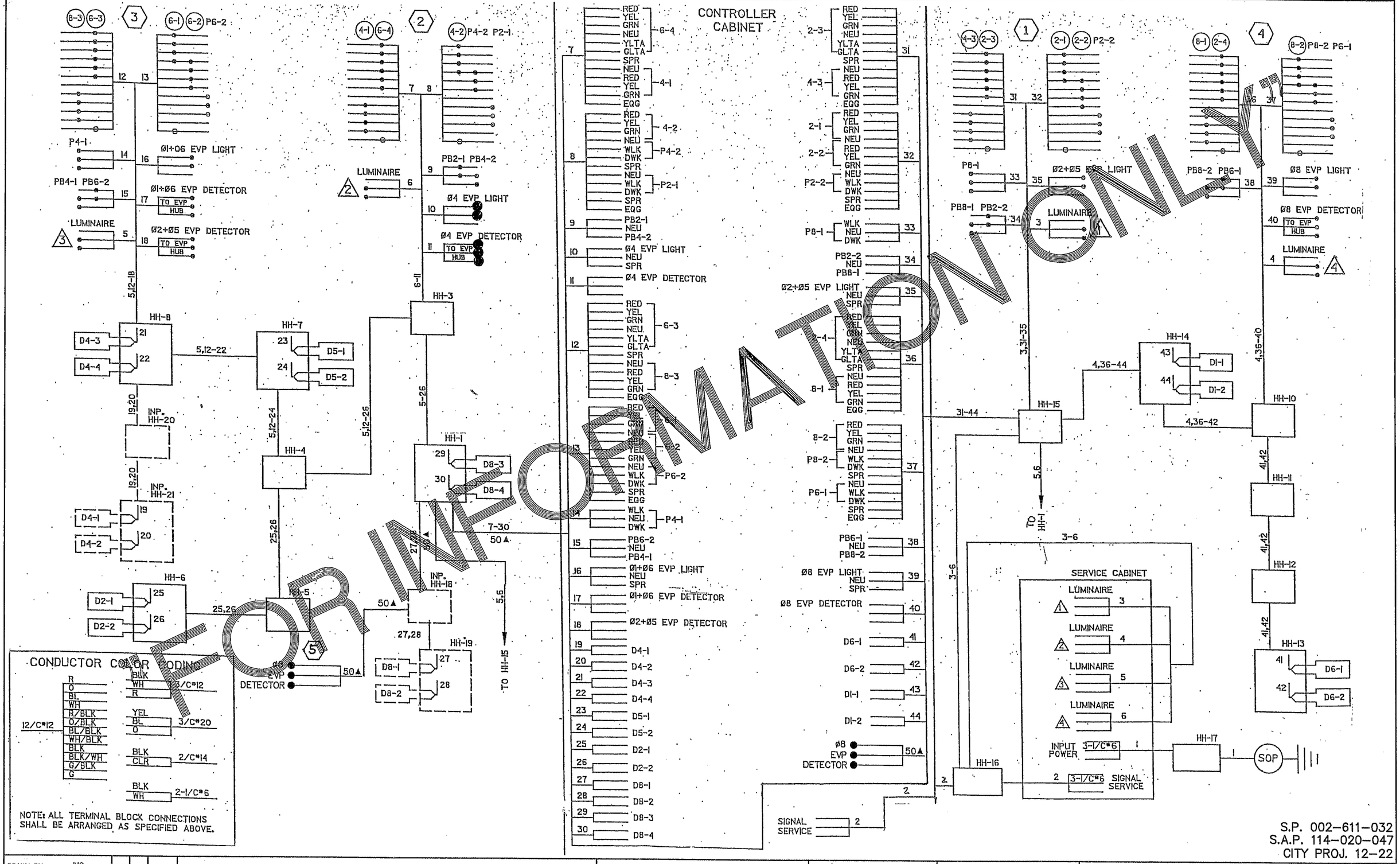
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MN
CITY OF COON RAPIDS

INPLACE SIGNAL SYSTEM "C"
"FOR INFORMATION ONLY"
CSAH 11 (FOLEY BLVD) AT EGRET BLVD NW

FILE NO. ANOKC 124472
SIGNAL SHEET 31 OF 32

136/196



S.P. 002-611-032
S.A.P. 114-020-047
CITY PROJ. 12-22

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

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

ANOKA COUNTY, MN
CITY OF COON RAPIDS

INPLACE SIGNAL SYSTEM "C"
"FOR INFORMATION ONLY"
CSAH 11 (FOLEY BLVD) AT EGRET BLVD NW

FILE NO. ANOKC 124472
SIGNAL SHEET 32 OF 32

137/196

MSA PROJECT No. 114-020-047 FOLEY BLVD

WATERMAIN TABULATION SHEET

EXISTING WATERMAIN									JJ
STATION	LOCATION			EXISTING ITEM	REMOVE VALVE BOX EACH	REMOVE VALVE EACH	REMOVE HYDRANT EACH	RELOCATE HYDRANT/ VALVE EACH	REMARKS
CSAH 11									
106+66	32	LT	NB	GATE VALVE	1				
107+53	79	LT	NB	HYDRANT			1		
107+50	26	LT	NB	GATE VALVE	1				
111+91	43	RT	NB	HYDRANT / VALVE	1		1		
112+75	30	LT	NB	GATE VALVE	1				
118+17	29	LT	NB	GATE VALVE	1				
118+34	34	LT	NB	GATE VALVE	1				
117+93	37	RT	NB	HYDRANT / VALVE				1	
121+16	38	RT	NB	HYDRANT / VALVE	1	1	1		
121+32	26	LT	NB	GATE VALVE	1				
41+58	20	RT	104TH AVE	HYDRANT / VALVE	1	1	1		
124+79	26	LT	NB	GATE VALVE	1				
127+81	30	RT	NB	HYDRANT / VALVE	1		1		
127+88	51	LT	NB	GATE VALVE	1				
127+94	31	LT	NB	GATE VALVE	1				
128+05	29	LT	NB	GATE VALVE	1				
131+52	25	RT	NB	HYDRANT / VALVE	1	1	1		
131+70	52	LT	NB	GATE VALVE	1				
131+82	43	LT	NB	GATE VALVE	1				
51+56	20	RT	105TH AVE	HYDRANT / VALVE	1		1		
135+72	66	LT	NB	HYDRANT / VALVE	1	1	1		
135+92	54	LT	NB	GATE VALVE	1				
139+98	28	RT	NB	GATE VALVE	1				
144+18	41	LT	NB	GATE VALVE	1				
204+41	45	RT	EGRET BLVD	HYDRANT / VALVE	1	1	1		
				TOTALS	23	5	9	1	

PROPOSED WATERMAIN												M
STATION	LOCATION			NEW 6" GATE VALVE EACH	NEW 8" GATE VALVE EACH	NEW 14" RW VALVE EACH	NEW 18" RW VALVE EACH	NEW 8-0 HYD/ VALVE EACH	NEW 8-6 HYD/ VALVE EACH	NEW 9-0 HYD/ VALVE EACH	NEW 9-6 HYD/ VALVE EACH	REMARKS
CSAH 11												
107+40	25	LT	NB				1					
107+47	18	LT	NB				1					
107+63	78	LT	NB								1	
111+95	25	RT	NB							1		
112+73	5	LT	NB				1					
112+81	86	LT	NB		1							
118+03	6	LT	NB				1					
118+03	31	LT	NB				1					
118+07	6	LT	NB				1					
118+08	31	LT	NB				1					
118+05	24	RT	NB	1								
24+04	23	RT	102ND LN									
24+35	15	RT	102ND LN	1								
117+96	6	LT	NB				1					
118+05	25	RT	102ND LN	1								
118+46	86	LT	NB		1							
121+14	43	RT	NB							1		
121+26	17	RT	NB	1								
121+30	90	RT	NB	1								
121+35	4	LT	NB				1					
124+71	21	RT	NB	1								
124+85	15	RT	NB				1					
41+58	20	RT	104TH AVE					1				
41+63	8	RT	104TH AVE	1								
127+87	77	LT	NB	1								104TH LANE
127+88	11	RT	NB				1					
127+95	54	RT	NB	1								104TH LANE
128+30	30	RT	NB					1				104TH LANE
131+62	19	RT	NB	1								
132+08	9	RT	NB				1					
51+11	12	RT	105TH AVE	1								
51+19	22	RT	105TH AVE						1			
52+71	1	LT	105TH AVE	1								
54+14	20	RT	105TH AVE						1			
54+19	14	RT	105TH AVE	1								
135+45	12	RT	NB				1					
71+85	12	RT	105TH LN	1								
71+88	8	RT	105TH LN					1				
73+71	12	RT	105TH LN	1								
139+86	52	RT	NB	1								
143+95	89	LT	NB					1				EGRET BLVD
144+15	31	LT	NB				1					
144+16	17	RT	NB				1					
144+17	18	LT	NB				1					
144+18	39	LT	NB			1						
144+21	113	LT	NB			1						
144+22	31	LT	NB				1					
144+24	15	RT	NB				1					
			TOTALS	16	2	2	18	4	2	2	1	

CITY PROJ. 12-22
MSAP 114-020-047

I hereby certify that this plan specification or report was prepared by me under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Date: 5/19/14 MN Reg. No.: 42831

INITIAL | REVISIONS

DESIGNED BY: K.B.K
DRAWN BY: J.W.H. & D.M.Z.
ORIGINAL DATE: 1/16/14
SCALE HORIZ. N/A
VERT. N/A

PROJECT # 12-22
FOLEY BLVD
WATERMAIN TABULATION SHEET

City of Coon Rapids
11155 Robinson Drive
Coon Rapids, MN 55433-3761
763-755-2880
Fax 763-767-6491
www.coonrapidsmn.gov

COON RAPIDS Minnesota

SHEET 138 OF 196

1.) CONTRACTOR TO VERIFY DEPTH OF EXISTING WATER MAIN

2.) DISCONNECT EXISTING SERVICE, CUT & RECONNECT TO NEW W.M. (TYP.)

3.) INSTALL NEW CURB STOPS AT R.O.W LINE (TYP.)

4.) INSULATE W.M. 4'X4' – 4" THICK POLY STYRENE UNDER STORM SEWER CROSSINGS.

5.) ALL VALVES SHALL INCLUDE 1.5' OPERATING NUT EXTENDERS.

6.) EXISTING SERVICE PIPE SHALL BE CRIMPED AT THE ENDS & LEFT IN PLACE AFTER DISCONNECTING.

7.) CONTRACTOR SHALL ABANDON EXISTING MAINLINE GATE VALVES & REMOVE VALVE BOX.

8.) CONTRACTOR SHALL PLACE 12 GA. SOLID COPPER TRACER WIRE ALONG WATER MAIN, COPPER STRAPS SHALL BE USED FOR CONNECTION TO PIPE.

SPECIAL NOTE*

CONTRACTOR SHALL REFER TO CONSTRUCTION SEQUENCING DRAWINGS IN THE WATER MAIN SPECIAL PROVISIONS. SECTION 18.21

COON RAPIDS POST OFFICE

102ND AVE

101ST AVE

102ND LN

FOLEY BLVD

MATCH LINE

10160 10121 10131 10141 10151 10201 10207 10209 10221 10241 10251 10261 252 249

REMOVE EX. HYDRANT. F&I NEW 9–6" PACER HYDRANT, 1 EA – 6" R.W. VALVE 80 LF – 6" DIP CL. 52 1 EA – 18" X 6" TEE ADJUST AROUND EX. WM 4 EA – 6" 45 ° BENDS

1 EA – CONNECT TO EXISTING W.M. 1 EA – 18" B.F. VALVE 1 EA – 18" WYE 1 EA – 18" 45° BEND 1 EA – 18" SLEEVE

1 EA – 18" M.J. CAP

15 LF – 18" C–905 DR 18 CL235

1EA – 18" MJ PLUG

30 LF – 18" C–905 DR18 CL235 1 EA – 18" 45° BENDS 1 EA – 18" B.F. VALVE 1 EA – 18" TEE

1EA – 18" BEND

1EA – 8" MJ PLUG

4' X 4' INSULATION (TYP.)

REMOVE VALVE & STRUCTURE F & I

1EA – CONNECT TO EXISTING WM 1 EA – 8" R.W. VALVE 95 LF – 8" DIP CL. 52 1 EA – ADJUST WM 1 EA – 18" X 8" TEE ADJUST AROUND EX. WM 6 EA – 8" 45° BENDS 1 EA – 8" SLEEVE

1EA – 18" BEND

1 EA – 8" M.J. CAP

1 EA – 8" M.J. PLUG

1EA – 18" B.F. VALVE CURB

110+00

115+00

8" DIP

18" STEEL

PROPOSED 18" WM

EXISTING 8" SANITARY

PROPOSED CURB

ABANDON EX WM

EXISTING STORM TO BE REMOVED

ABANDON EXISTING W.M. IN PLACE, BULKHEAD ENDS & FILL WITH SAND.

REMOVE EX 18" VALVE & STURCTURE. 1 EA CONNECT TO EXISTING WM 1 EA 18" X 6" CROSS 2 EA 18" B.F. VALVE 2 EA 18" SLEEVE 2 EA 18" M.J. PLUG (REUSED)

REMOVE CURB STOP & BOX 40 LF – 1" SIDR7 HDPE 1 EA – 1" CORP 1 EA – CURB STOP, & BOX WITH ROD

REMOVE CURB STOP 44 LF – 1" SIDR7 HDPE 1 EA – 1" CORP 1 EA – CURB STOP, & BOX WITH ROD

1 EA – CONNECT TO EXISTING W.M. 80 LF – 6" DIP CL. 52 1 EA – 8" R.W. VALVE 1 EA – 8" MJ CAP 5 EA – 8" 45° BENDS 1 EA – 8" SLEEVE 1 EA – ADJUST WM

EX. 16" STEEL WM

120+00

INSULATION (TYP.)

NEW 18" B.F. VALVE.

1 EA – 18" X 8" CROSS 2 EA – 18" B.F. VALVE 2 EA – 18" MJ PLUG 1 EA – 8" TO 6" REDUCER (SLIP IN)

REMOVE CURB STOP & BOX 46 LF – 1" SIDR7 HDPE 1 EA – 1" CORP 1 EA – CURB STOP, & BOX WITH ROD

61 LF – 1" SIDR7 HDPE 1 EA – 1" CORP 1 EA – CURB STOP, & BOX WITH ROD

45 LF – 1" SIDR7 HDPE 1 EA – 1" CORP 1 EA – CURB STOP, & BOX WITH ROD

25 LF – 1" SIDR7 HDPE 1 EA – 1" CORP 1 EA – CURB STOP, & BOX WITH ROD

35 LF – 1" SIDR7 HDPE 1 EA – 1" CORP 1 EA – CURB STOP, & BOX WITH ROD

42 LF – 1" SIDR7 HDPE 1 EA – 1" CORP 1 EA – CURB STOP, & BOX WITH ROD

REMOVE EX. HYDRANT. F&I NEW 9–0" PACER HYDRANT, 1EA – 6" R.W. VALVE 30 LF – 6" DIP CL 52 1 EA – 18" X 6" TEE

REMOVE CURB STOP & BOX 38 LF – 1" SIDR7 HDPE 1 EA – 1" CORP 1 EA – CURB STOP, & BOX WITH ROD

41 LF – 1" SIDR7 HDPE 1 EA – 1" CORP 1 EA – CURB STOP, & BOX WITH ROD

REMOVE CURB STOP & BOX 46 LF – 1" SIDR7 HDPE 1 EA – 1" CORP 1 EA – CURB STOP, & BOX WITH ROD

REMOVE CURB STOP & BOX 45 LF – 1" SIDR7 HDPE 1 EA – 1" CORP 1 EA – CURB STOP, & BOX WITH ROD

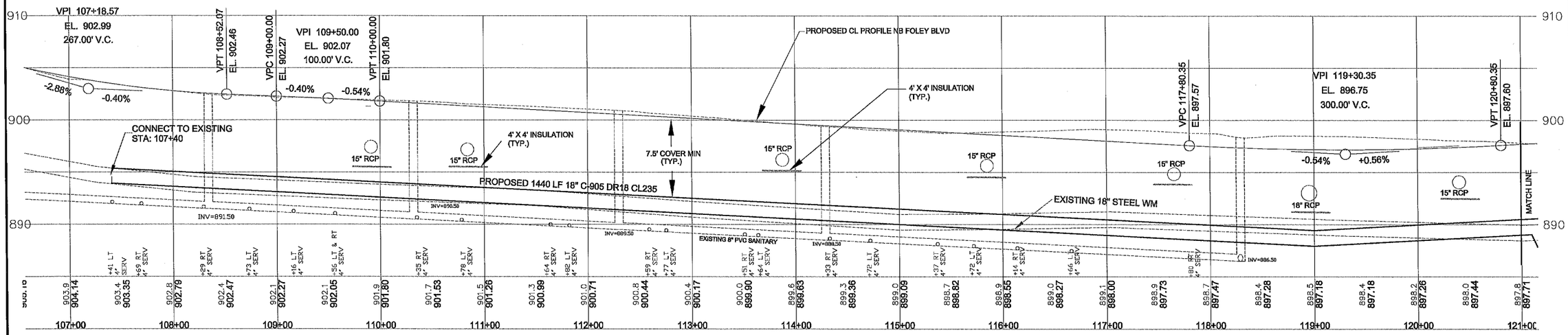
1 EA – SALVAGE & REINSTALL EXISTING HYD & R/W VALVE 1 EA – CONNECT TO EXISTING W.M. 75 LF – 6" DIP CL. 52 1 EA – 6" R.W. VALVE 1 EA – 6" SLEEVE 1 EA – 6" X 6" TEE 1 EA – 6" 11.25° BENDS

SCALE 0 20' 50' 100' IN FEET

BENCHMARKS:

901.32 - TNH, SE CORNER FOLEY BLVD & 102ND LN
904.08 - TNH, 10201 FOLEY BLVD
901.81 - TNH, 105TH LN & FOLEY BLVD
905.65 - DOUBLE SPIKE IN PP NE COR 106TH AVE / FOLEY BLVD
904.48 - TNH, 105TH AVE & FOLEY BLVD
905.12 - TNH, 104TH LN & FOLEY BLVD
894.03 - GOLDENROD ST., 250 FEET NORTH OF 102ND AVE
897.36 - TNH, SOUTH SIDE OF 102ND LN 200 FEET WEST OF FOLEY BLVD

FOLEY BLVD



I hereby certify that this plan specification or report 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.

Date: 5/19/14 MN Reg. No.: 42831

REVISIONS	INITIAL

DESIGNED BY: K.B.K.
DRAWN BY: J.W.H & D.M.Z
ORIGINAL DATE: 1/16/14
SCALE HORIZ. 1"=100'
VERT. 1"=10'

PROJECT # 12-22
2014 STREET RECONSTRUCTION
FOLEY BLVD

City of Coon Rapids
11155 Robinson Drive
Coon Rapids, MN 55433-3761
763-755-2880
Fax 763-767-6491
www.coonrapidsmn.gov

COON RAPIDS Minnesota

SHEET 139 OF 196

0 20' 50' 100'
SCALE IN FEET

1.) CONTRACTOR TO VERIFY DEPTH OF EXISTING WATER MAIN

2.) DISCONNECT EXISTING SERVICE, CUT & RECONNECT TO NEW W.M. (TYP.)

3.) INSTALL NEW CURB STOPS AT R.O.W LINE (TYP.)

4.) INSULATE W.M. 4'X4' – 4" THICK POLY STYRENE UNDER STORM SEWER CROSSINGS.

5.) ALL VALVES SHALL INCLUDE 1.5' OPERATING NUT EXTENDERS.

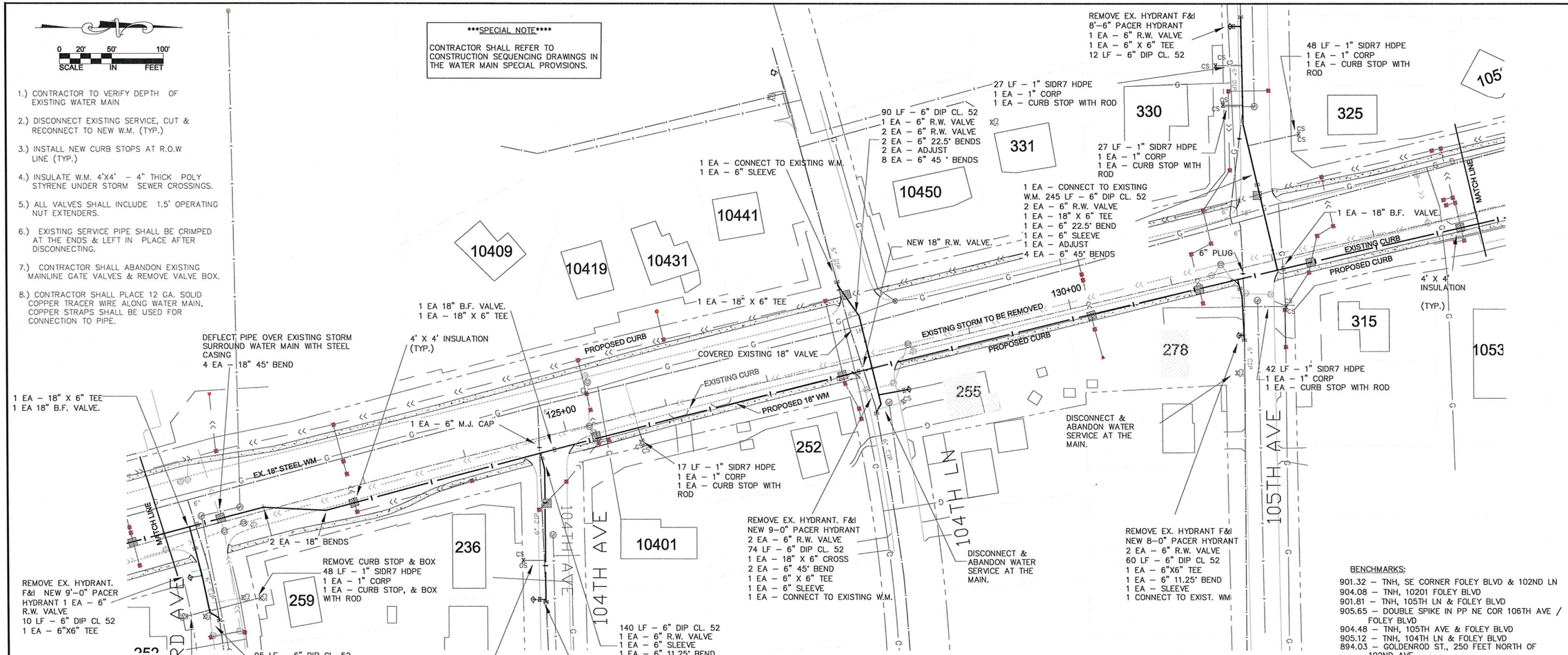
6.) EXISTING SERVICE PIPE SHALL BE CRIMPED AT THE ENDS & LEFT IN PLACE AFTER DISCONNECTING.

7.) CONTRACTOR SHALL ABANDON EXISTING MAINLINE GATE VALVES & REMOVE VALVE BOX.

8.) CONTRACTOR SHALL PLACE 12 GA. SOLID COPPER TRACER WIRE ALONG WATER MAIN, COPPER STRAPS SHALL BE USED FOR CONNECTION TO PIPE.

SPECIAL NOTE*

CONTRACTOR SHALL REFER TO CONSTRUCTION SEQUENCING DRAWINGS IN THE WATER MAIN SPECIAL PROVISIONS.



BENCHMARKS:

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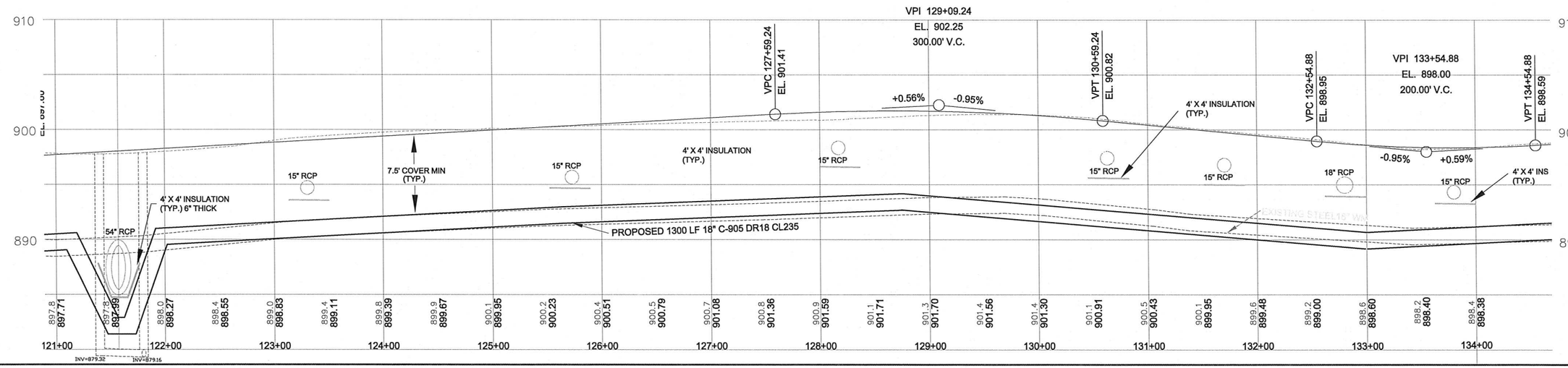

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FOLEY BLVD

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Coon Rapids, MN 55433-3761
763-755-2880
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www.coonrapidsmn.gov

COON RAPIDS Minnesota

SHEET 140 OF 196

1.) CONTRACTOR TO VERIFY DEPTH OF EXISTING WATER MAIN

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SPECIAL NOTE*

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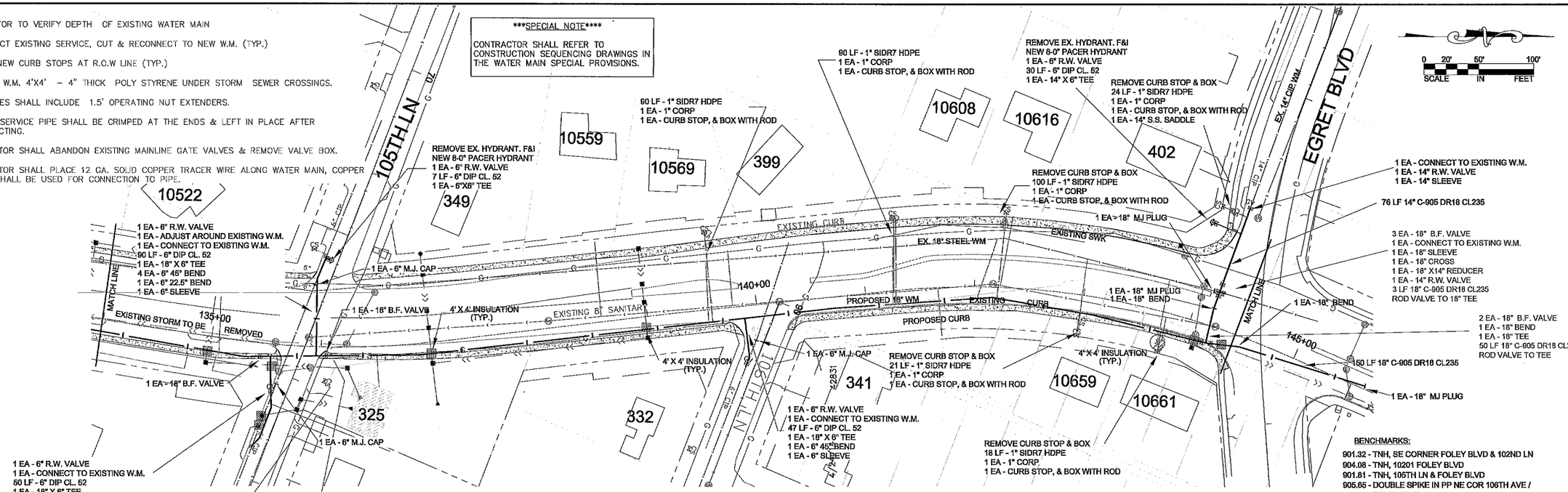

FOLEY BLVD

BENCHMARKS:

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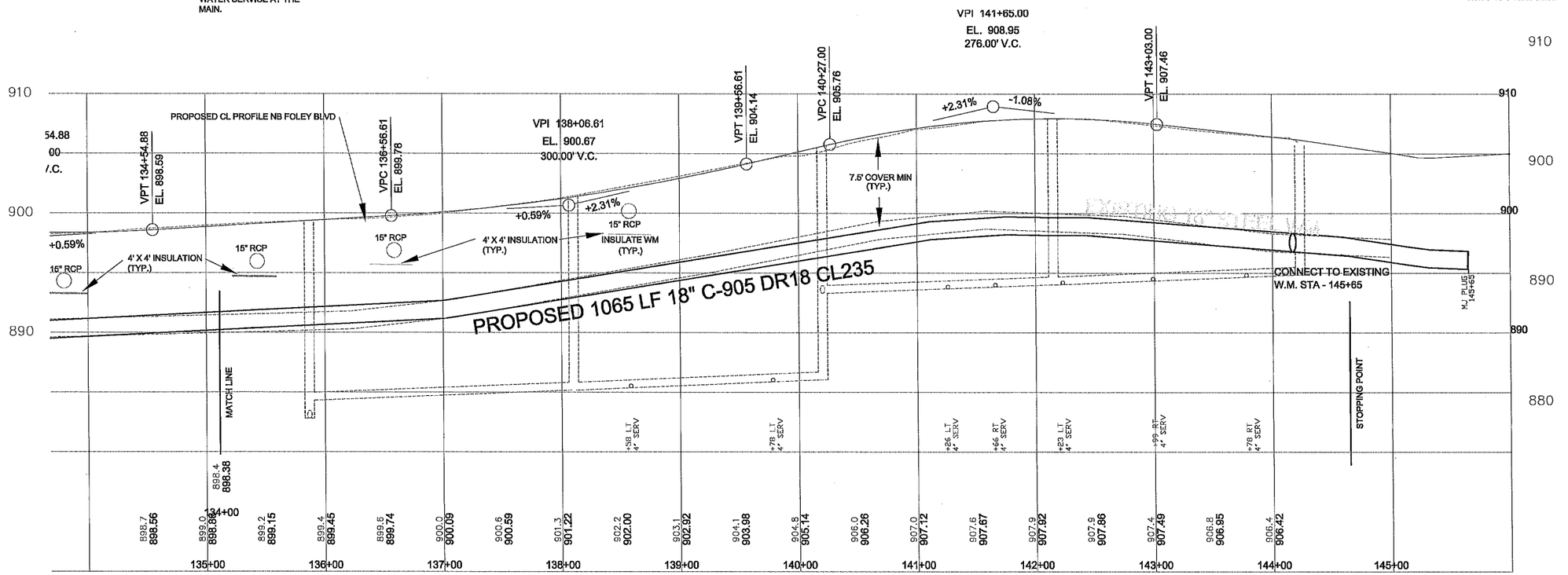

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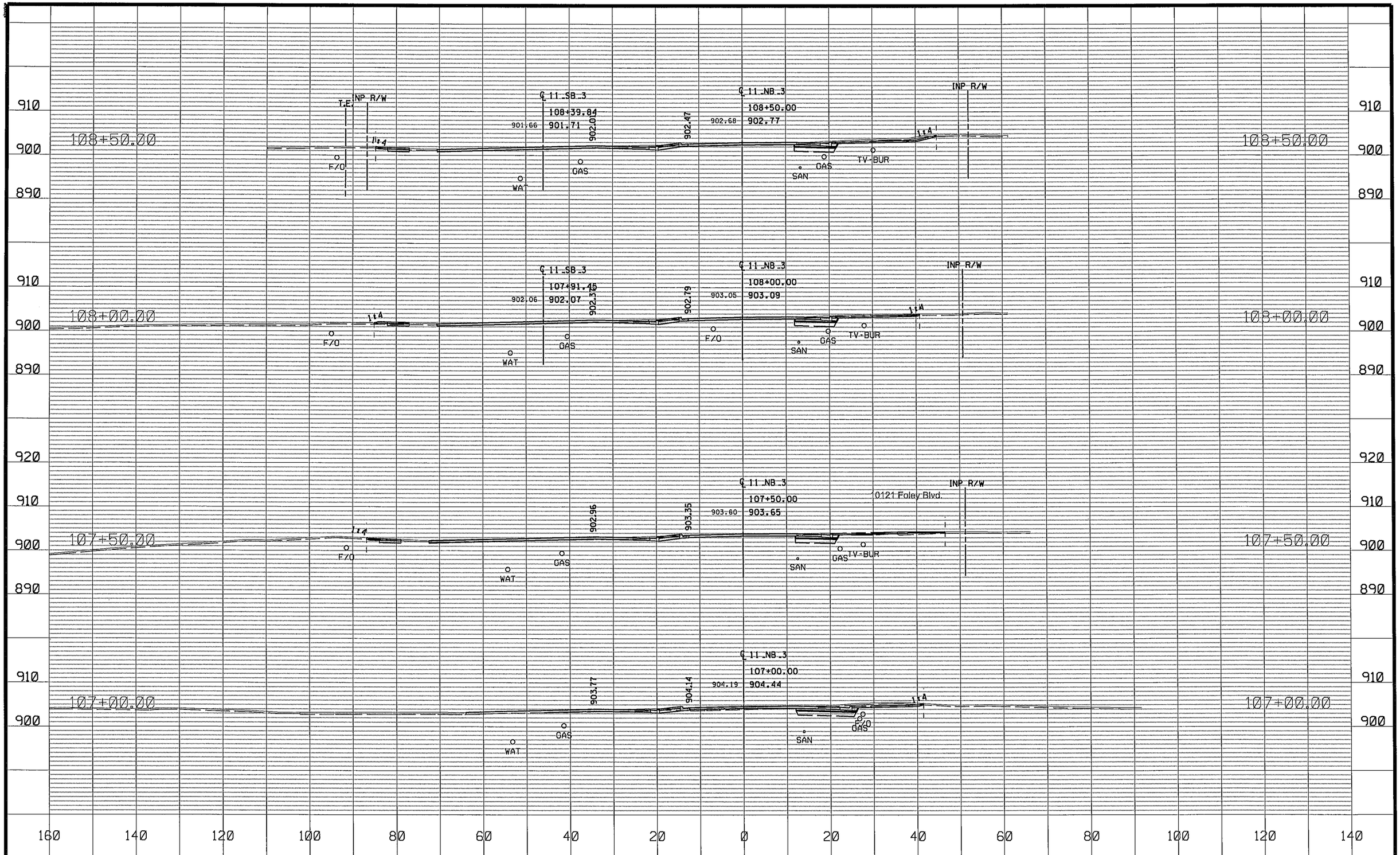
COON RAPIDS Minnesota

SHEET 141 OF 196



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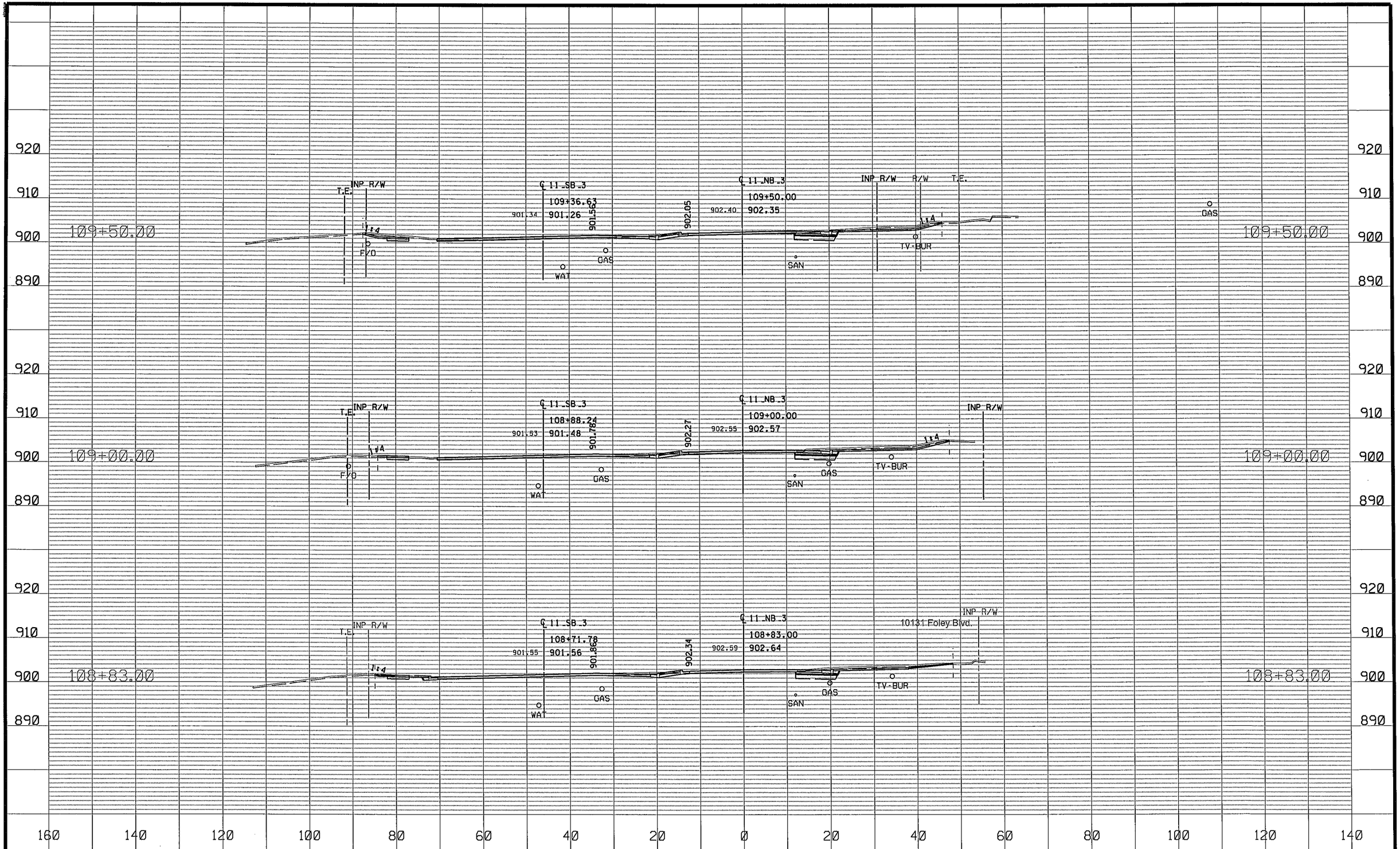
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

CROSS SECTIONS
STA 107+00.00 TO 108+50.00
Sheet 142 of 196 Sheets



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ANOKA COUNTY
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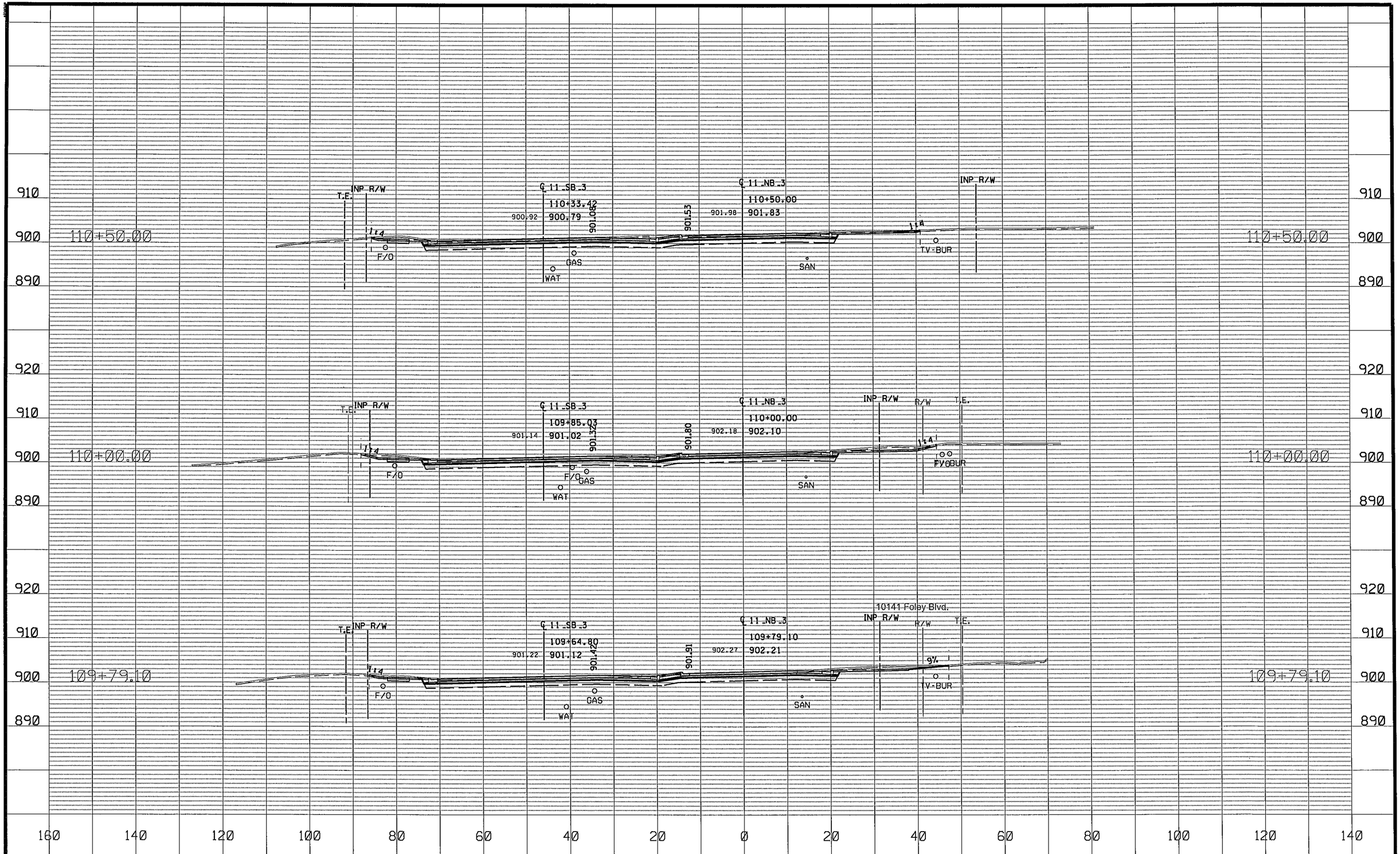
S.A.P. 114-020-047
C.P. 12-22

CROSS SECTIONS
STA 108+83.00 TO 109+50.00

Sheet 143 of 196 Sheets



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ANOKA COUNTY
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S.A.P. 114-020-047
C.P. 12-22

CROSS SECTIONS
STA 109+79.10 TO 110+50.00

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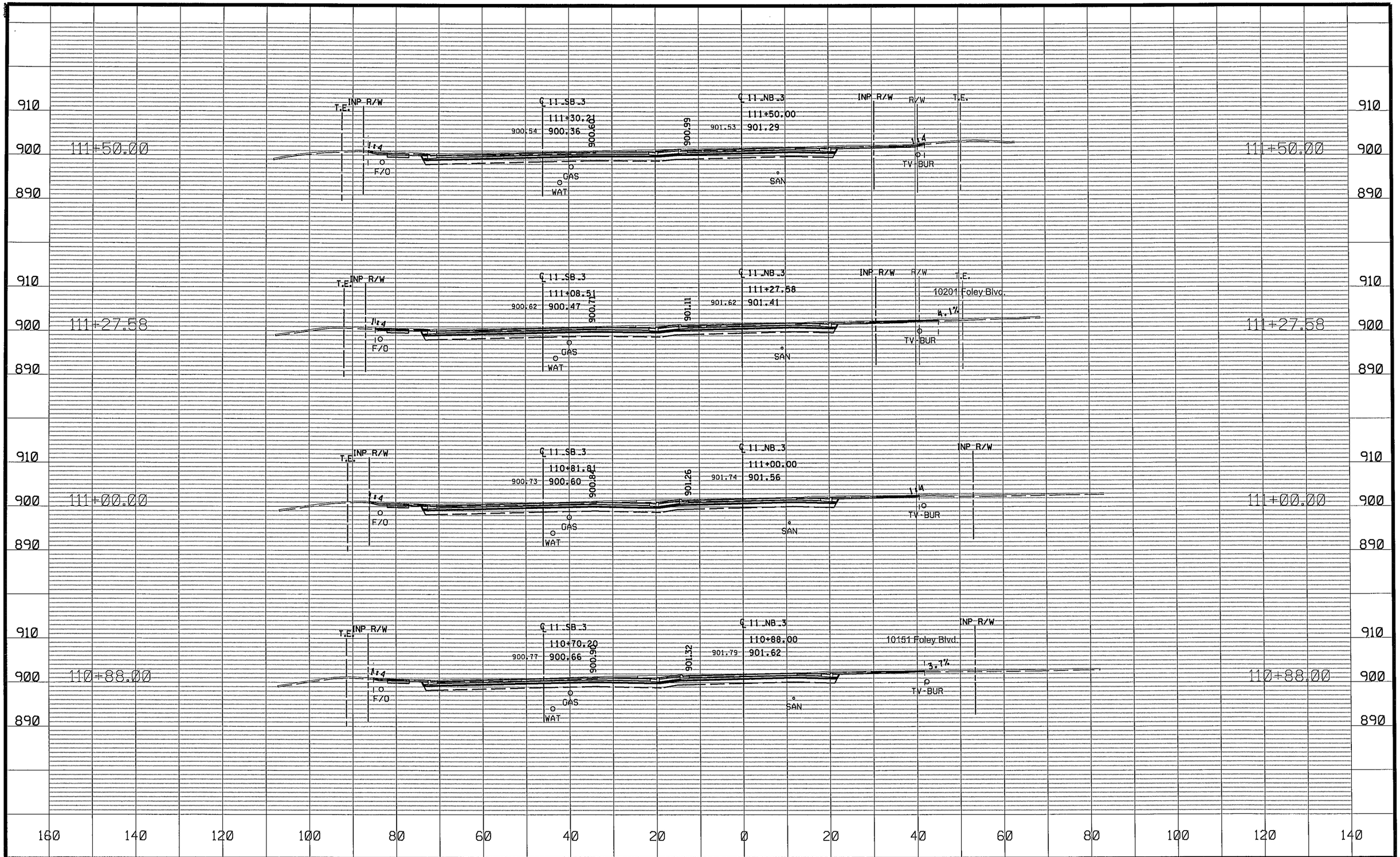

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ANOKA COUNTY
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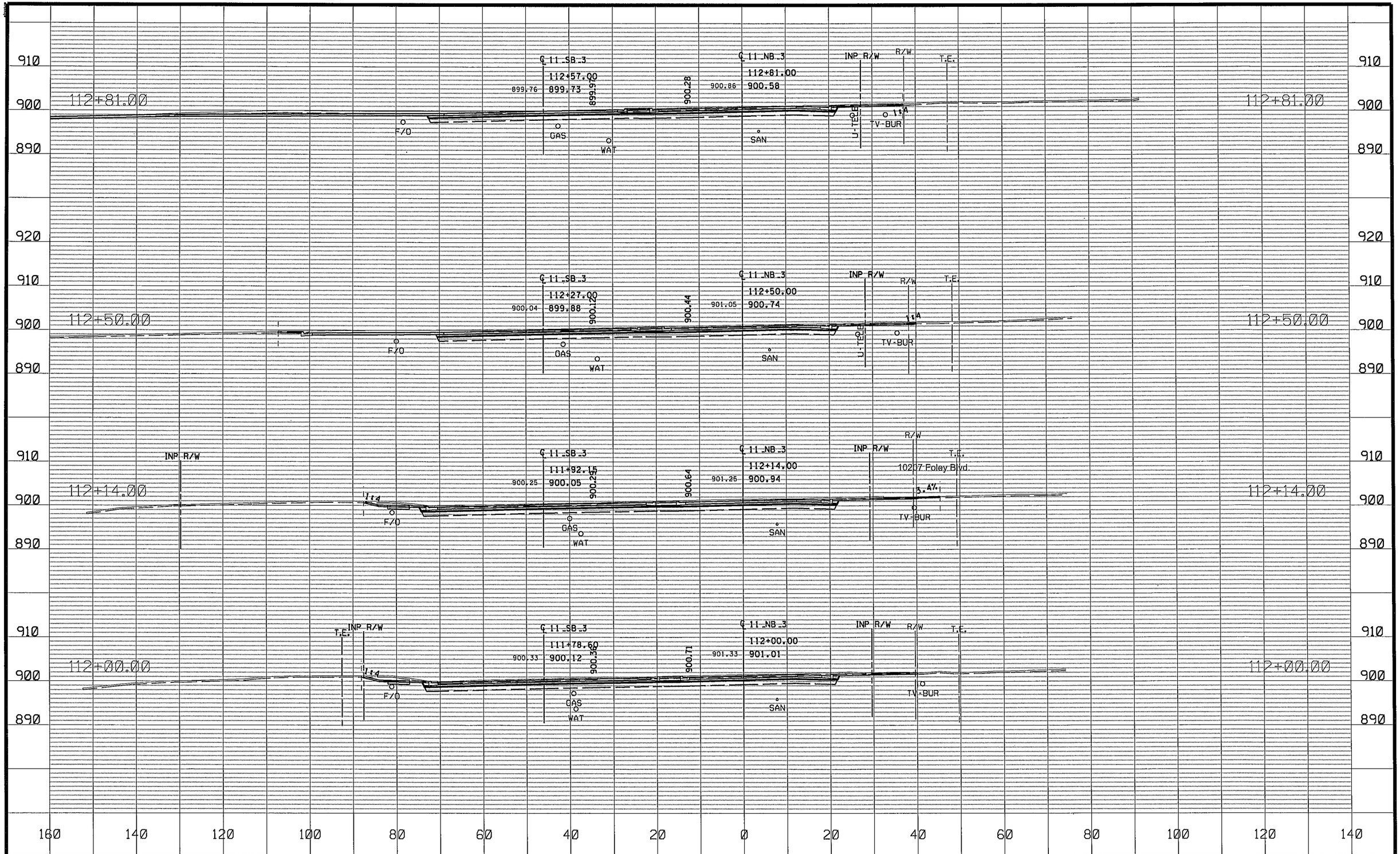
CROSS SECTIONS
STA 110+88.00 TO 111+50.00
Sheet 145 of 196 Sheets



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ANOKA COUNTY
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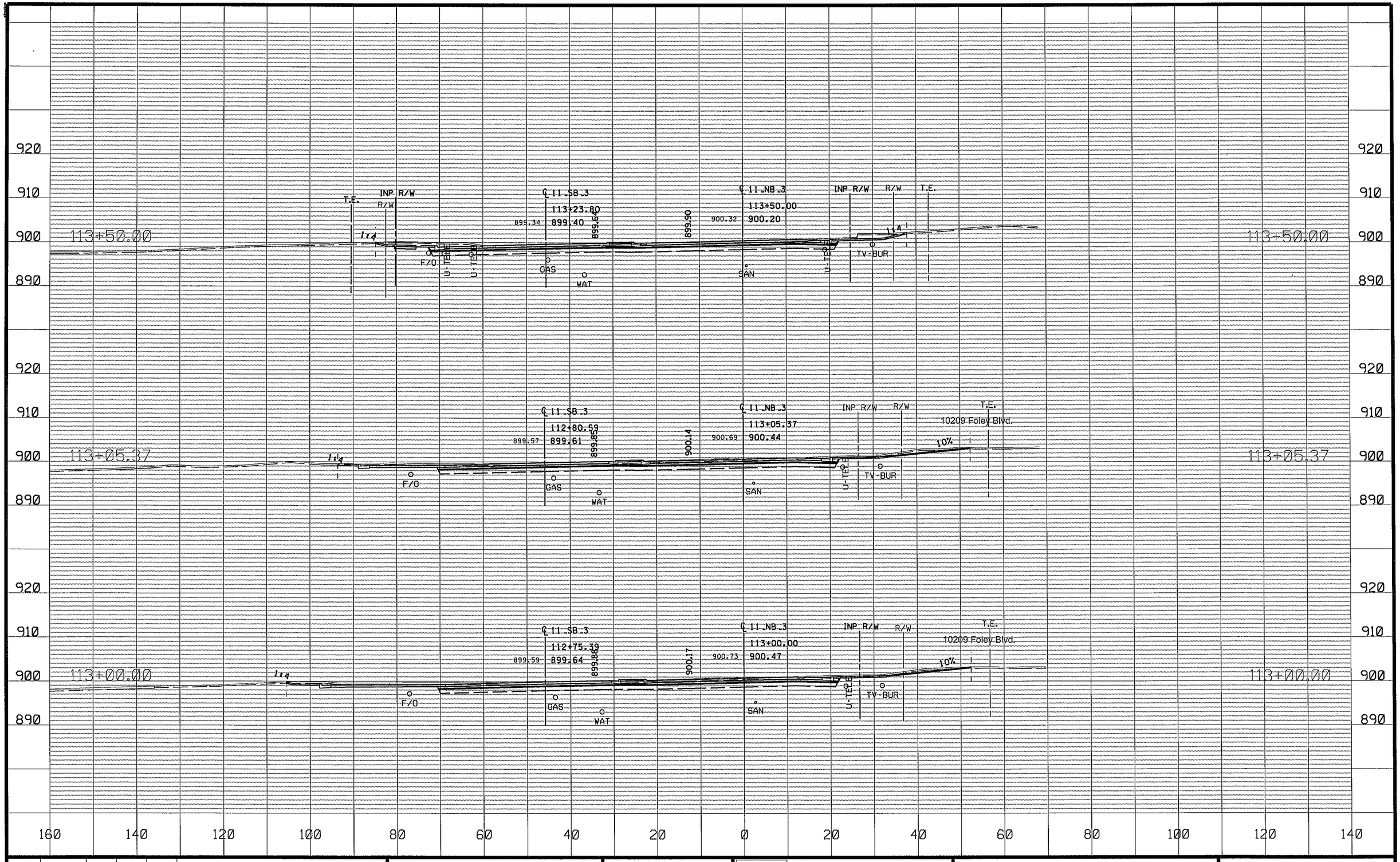
S.A.P. 114-020-047
C.P. 12-22

CROSS SECTIONS
STA 112+00.00 TO 112+81.00
Sheet 146 of 196 Sheets



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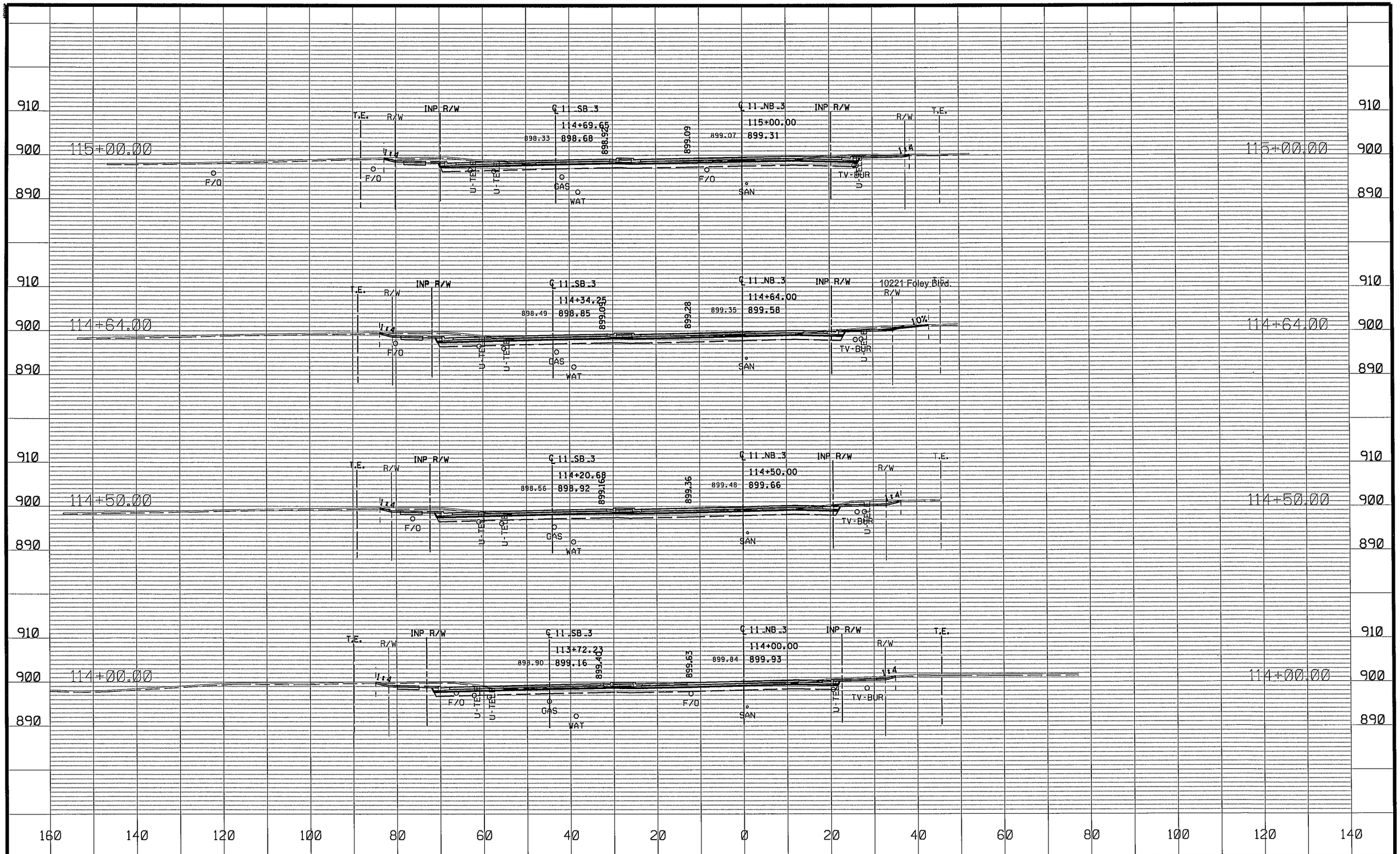
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

CROSS SECTIONS
STA 113+00.00 TO 113+50.00
Sheet 147 of 196 Sheets



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ANOKA COUNTY
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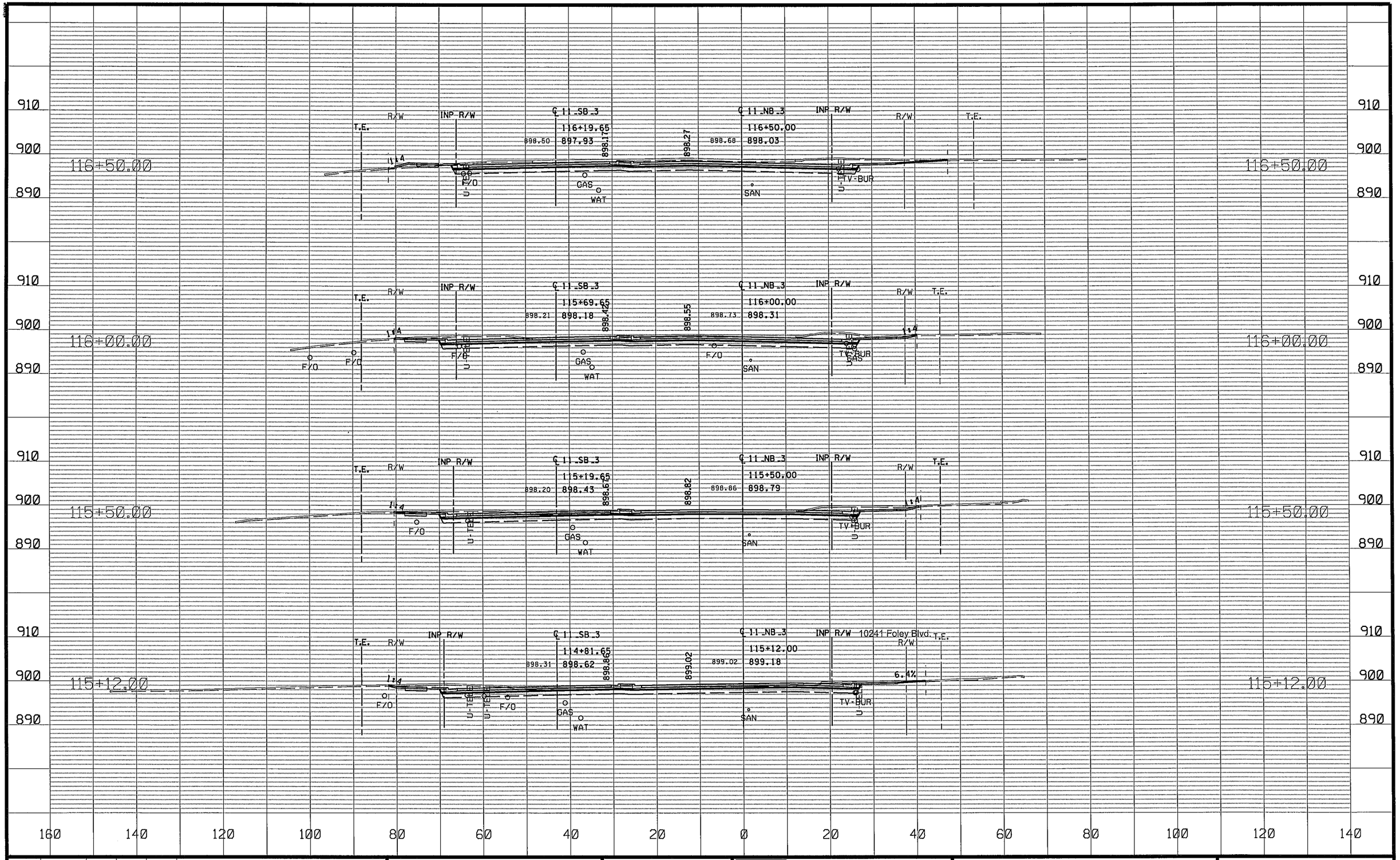
C.P. 12-22

CROSS SECTIONS
STA 114+00.00 TO 115+00.00

Sheet 148 of 196 Sheets



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ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
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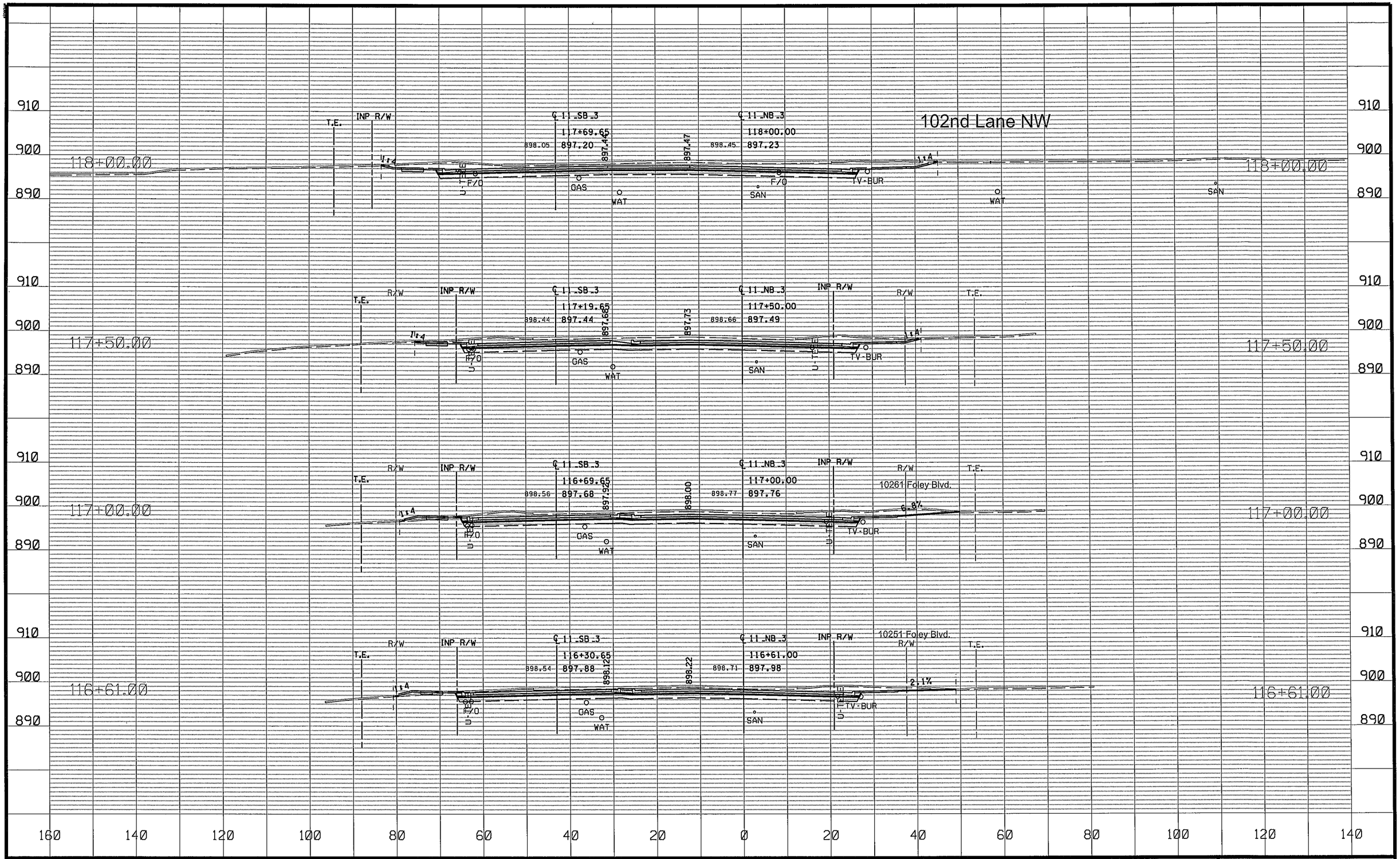
C.P. 12-22

CROSS SECTIONS
STA 115+12.00 TO 116+50.00
Sheet 149 of 196 Sheets



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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

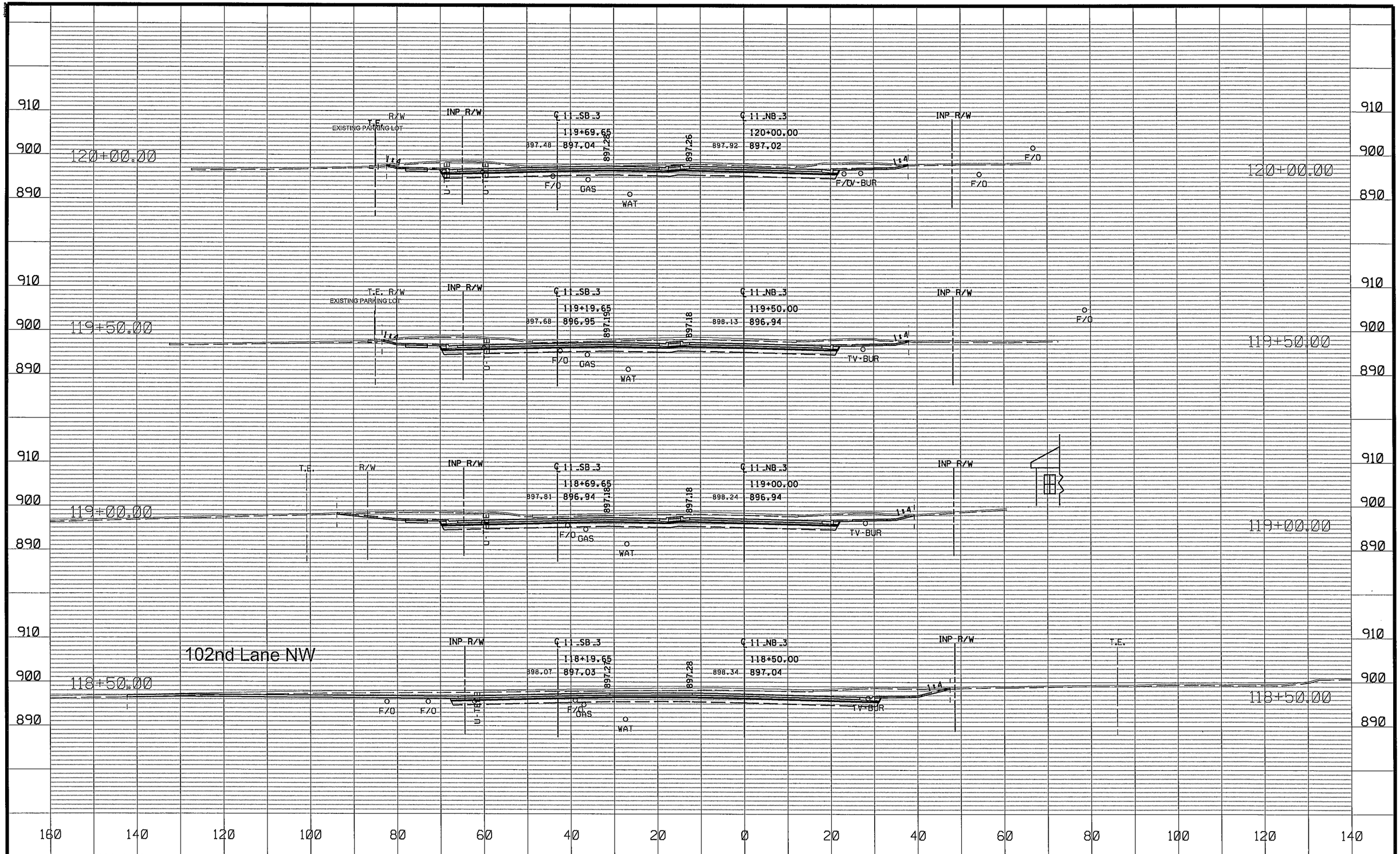
S.A.P. 114-020-047

C.P. 12-22

CROSS SECTIONS

STA 116+61.00 TO 118+00.00

Sheet 150 of 196 Sheets



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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032

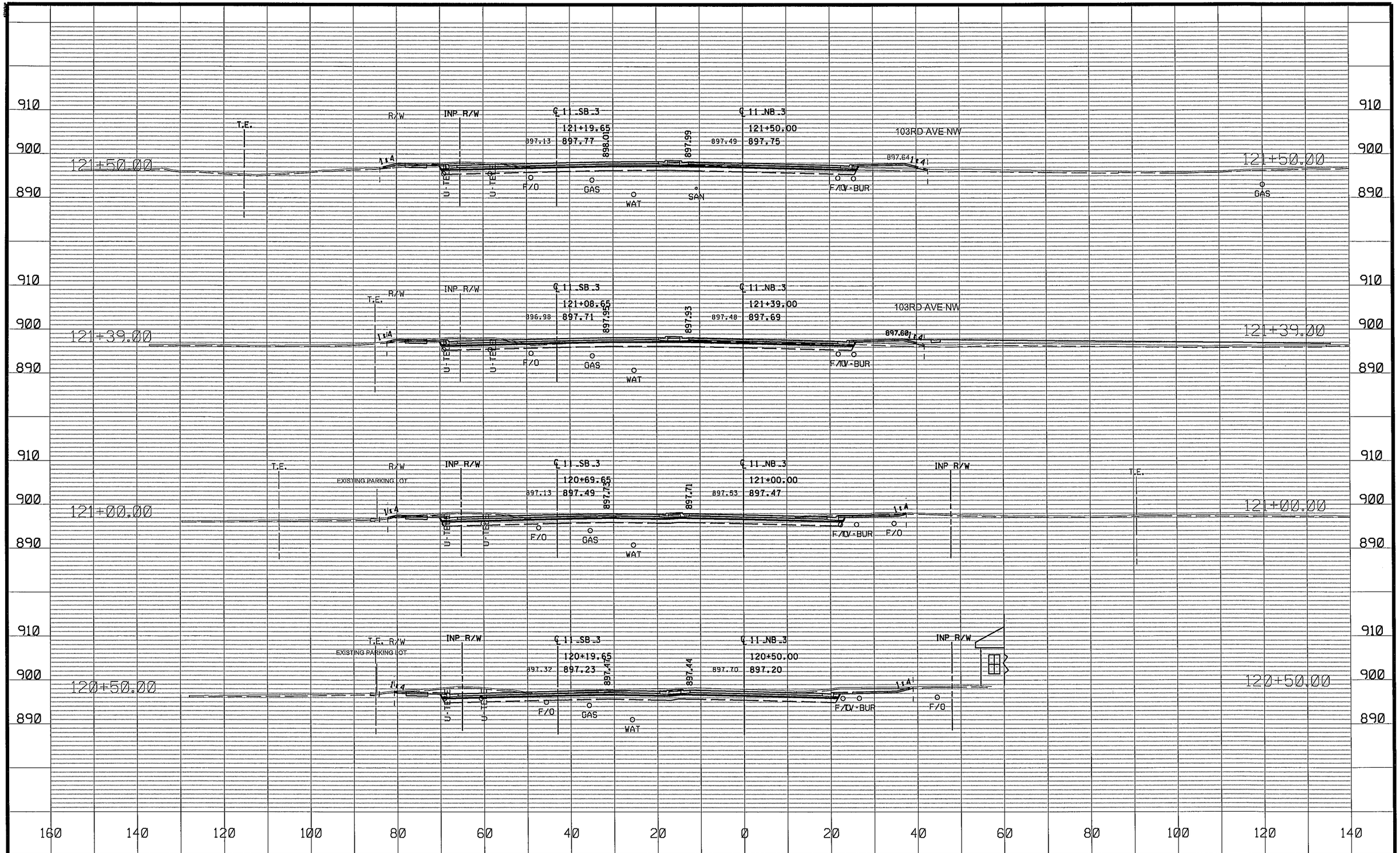
S.A.P. 114-020-047

C.P. 12-22

CROSS SECTIONS

STA 118+50.00 TO 120+00.00

Sheet 151 of 196 Sheets



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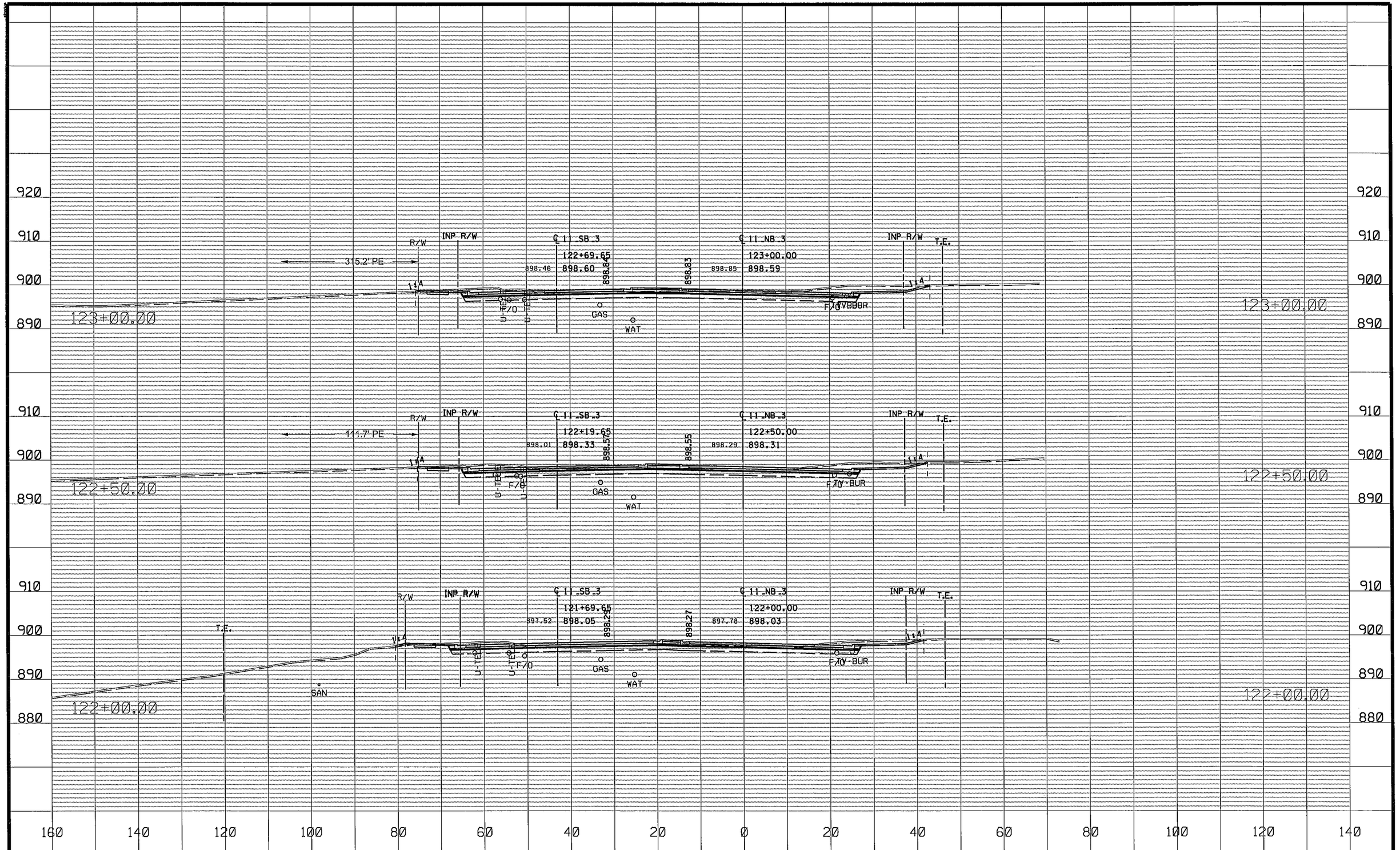
ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

CROSS SECTIONS
STA 120+50.00 TO 121+50.00

Sheet 152 of 196 Sheets



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ANOKA COUNTY
HIGHWAY DEPT.

S.P. 002-611-032
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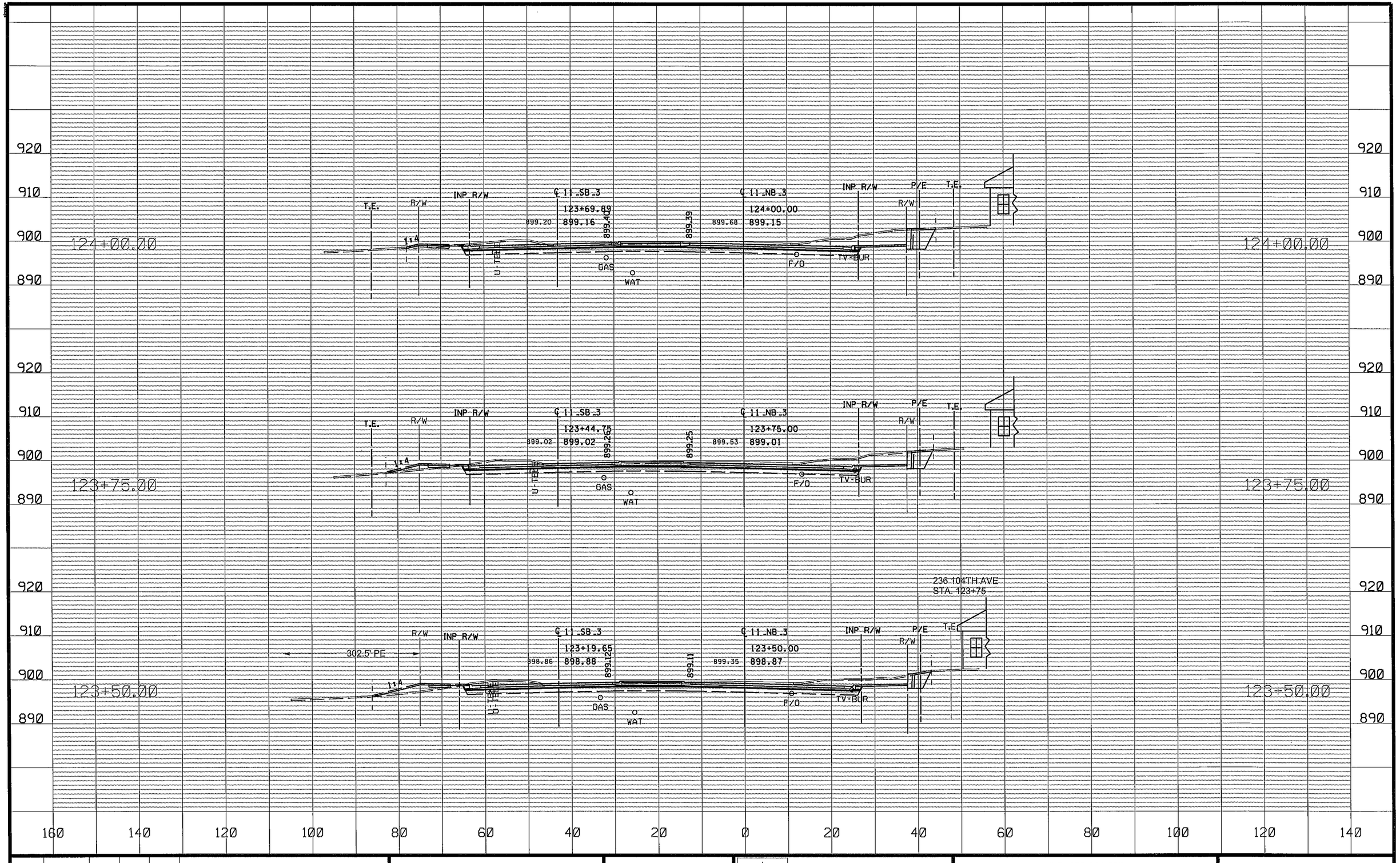
C.P. 12-22

CROSS SECTIONS
STA 122+00.00 TO 123+00.00
Sheet 153 of 196 Sheets



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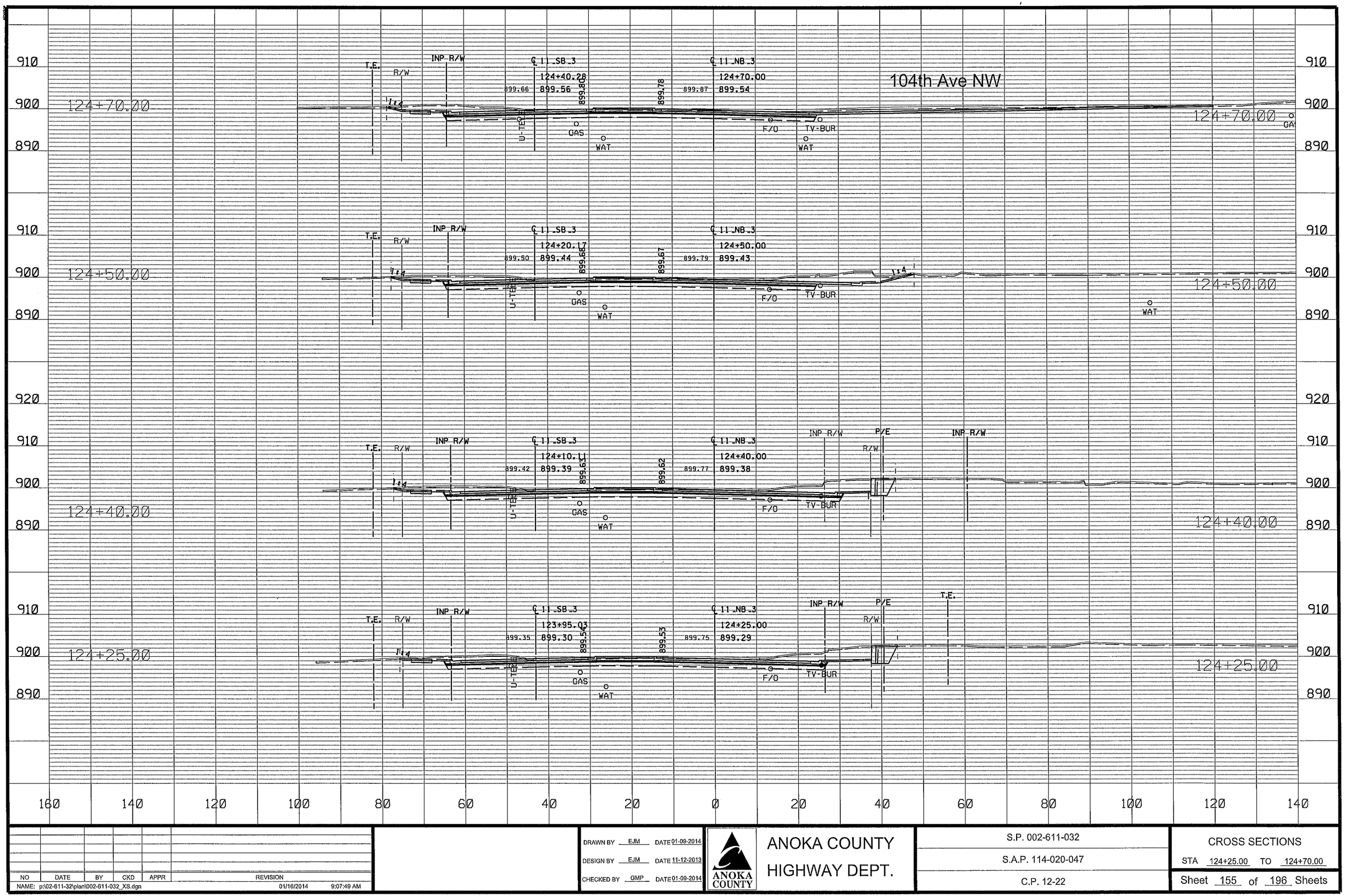
ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

CROSS SECTIONS
STA 123+50.00 TO 124+00.00
Sheet 154 of 196 Sheets



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ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
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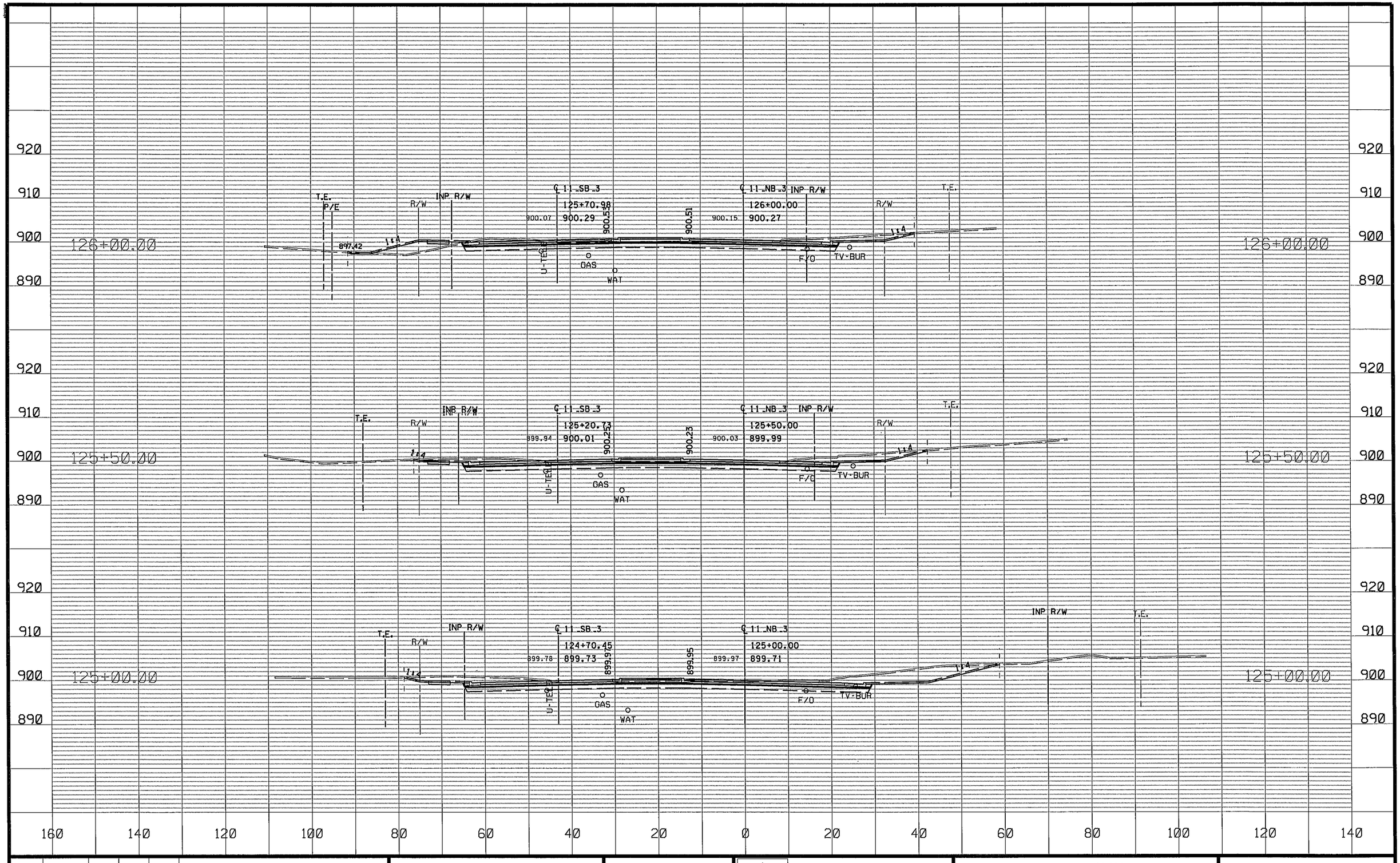
C.P. 12-22

CROSS SECTIONS
STA 124+25.00 TO 124+70.00
Sheet 155 of 196 Sheets



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S.P. 002-611-032
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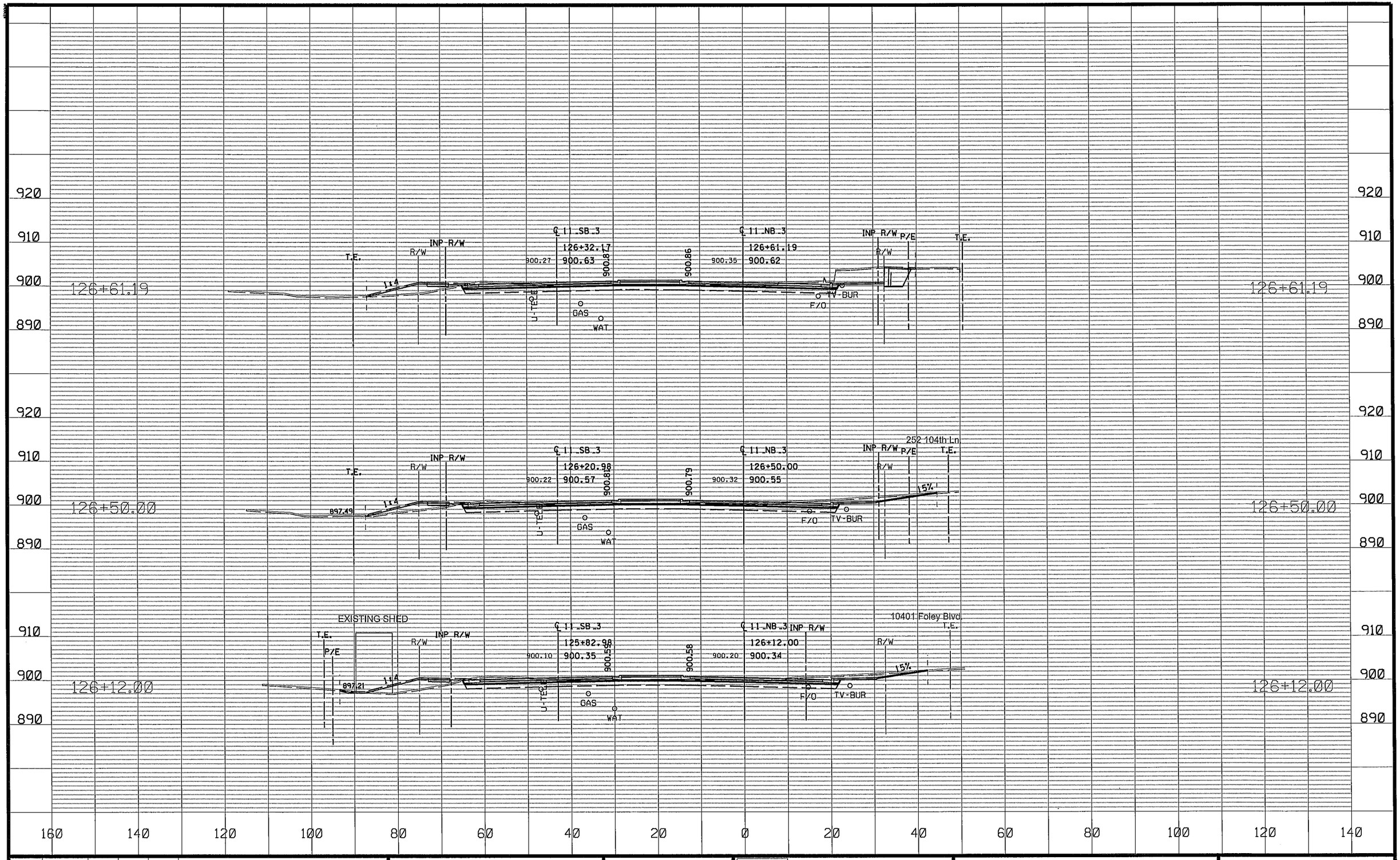
C.P. 12-22

CROSS SECTIONS
STA 125+00.00 TO 126+00.00

Sheet 156 of 196 Sheets



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ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
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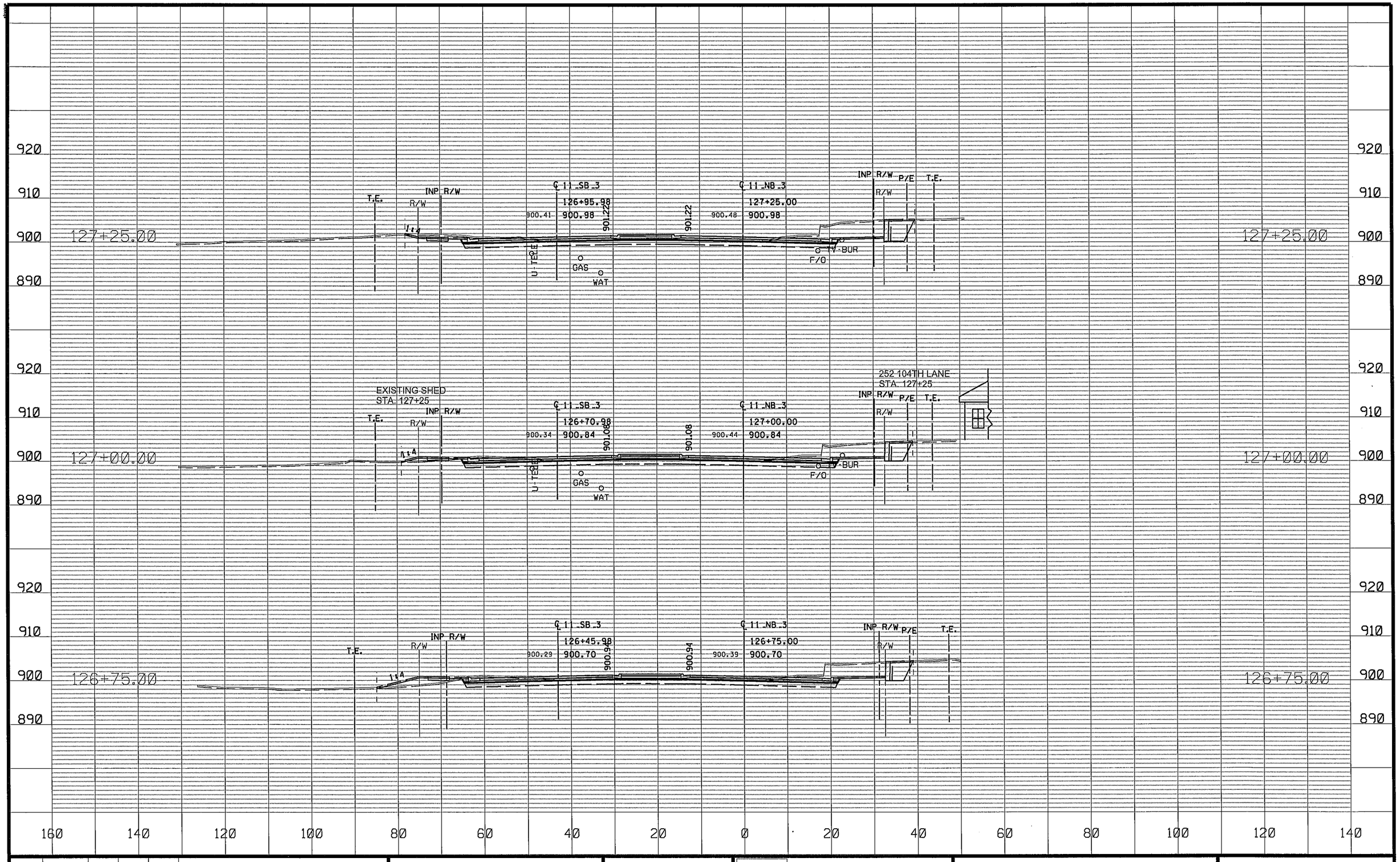
C.P. 12-22

CROSS SECTIONS
STA 126+12.00 TO 126+61.19

Sheet 157 of 196 Sheets



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DESIGN BY EJM DATE 11-12-2013
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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
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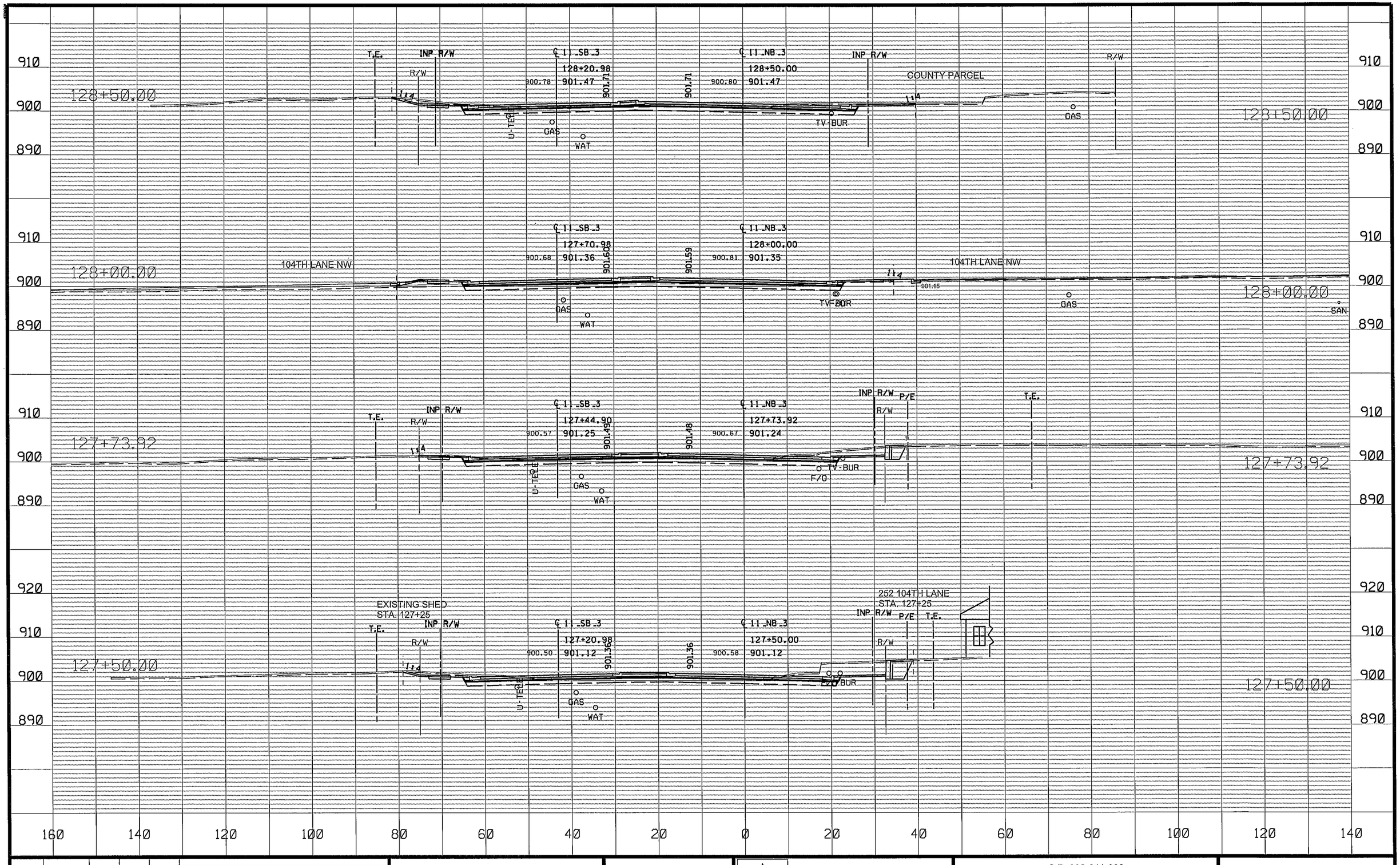
CROSS SECTIONS
STA 126+75.00 TO 127+25.00
Sheet 158 of 196 Sheets



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DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY HIGHWAY DEPT.

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CROSS SECTIONS

STA 127+50.00 TO 128+50.00

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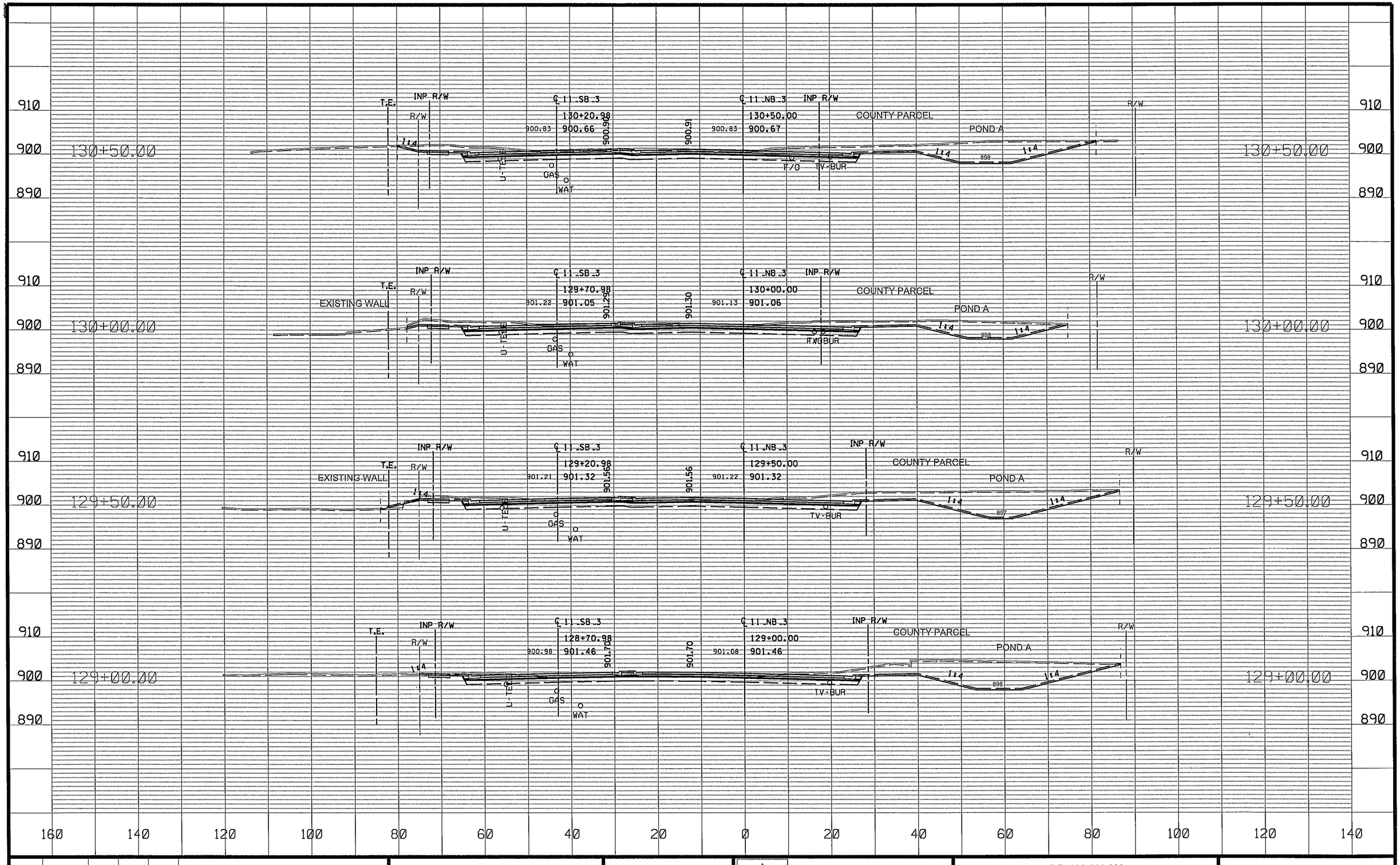

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CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY
HIGHWAY DEPT.

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CROSS SECTIONS
STA 129+00.00 TO 130+50.00
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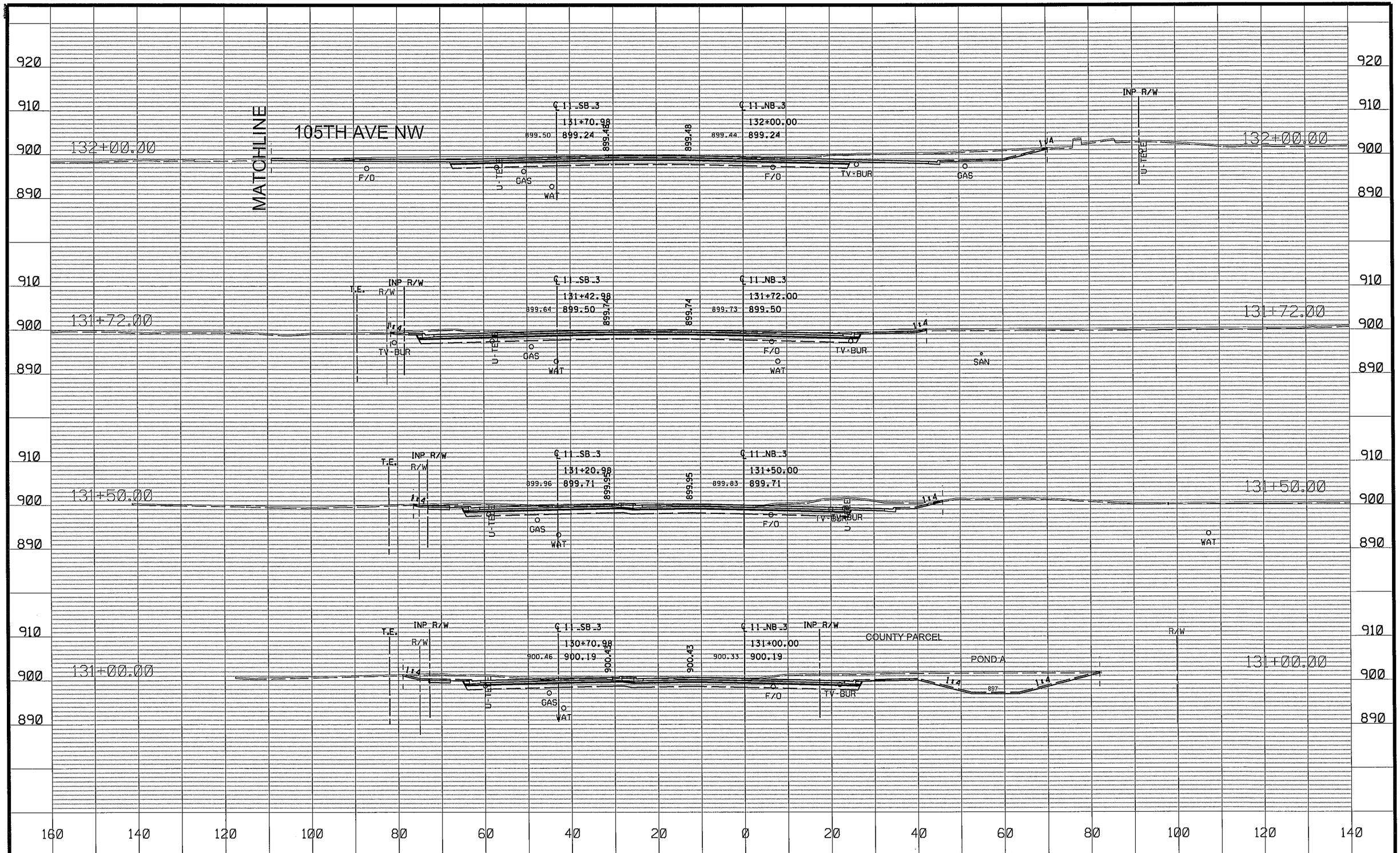

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DESIGN BY EJM DATE 11-12-2013

CHECKED BY GMP DATE 01-09-2014

ANOKA COUNTY

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CROSS SECTIONS

STA 131+00.00 TO 132+00.00

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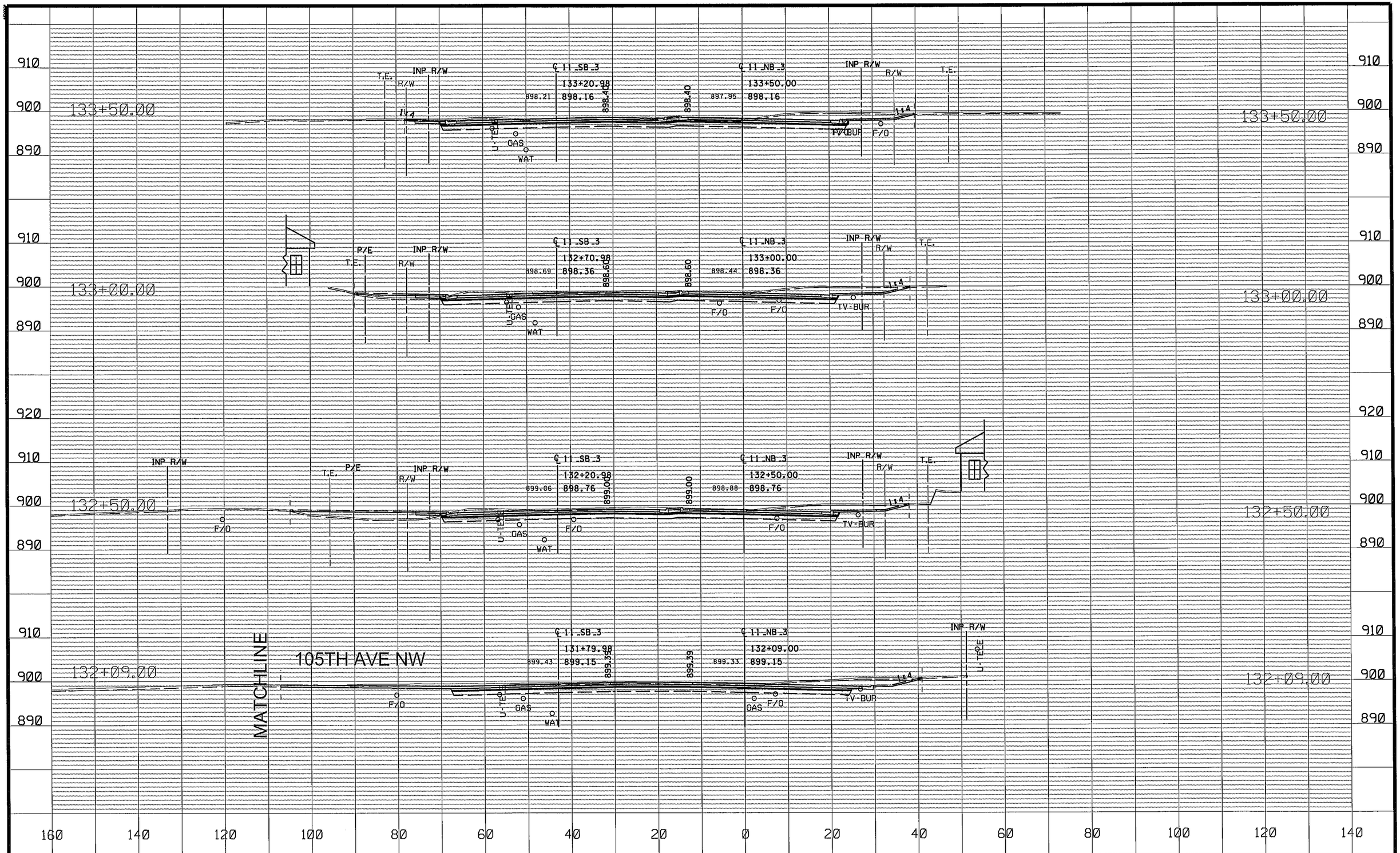

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HIGHWAY DEPT.

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CROSS SECTIONS
STA 132+09.00 TO 133+50.00
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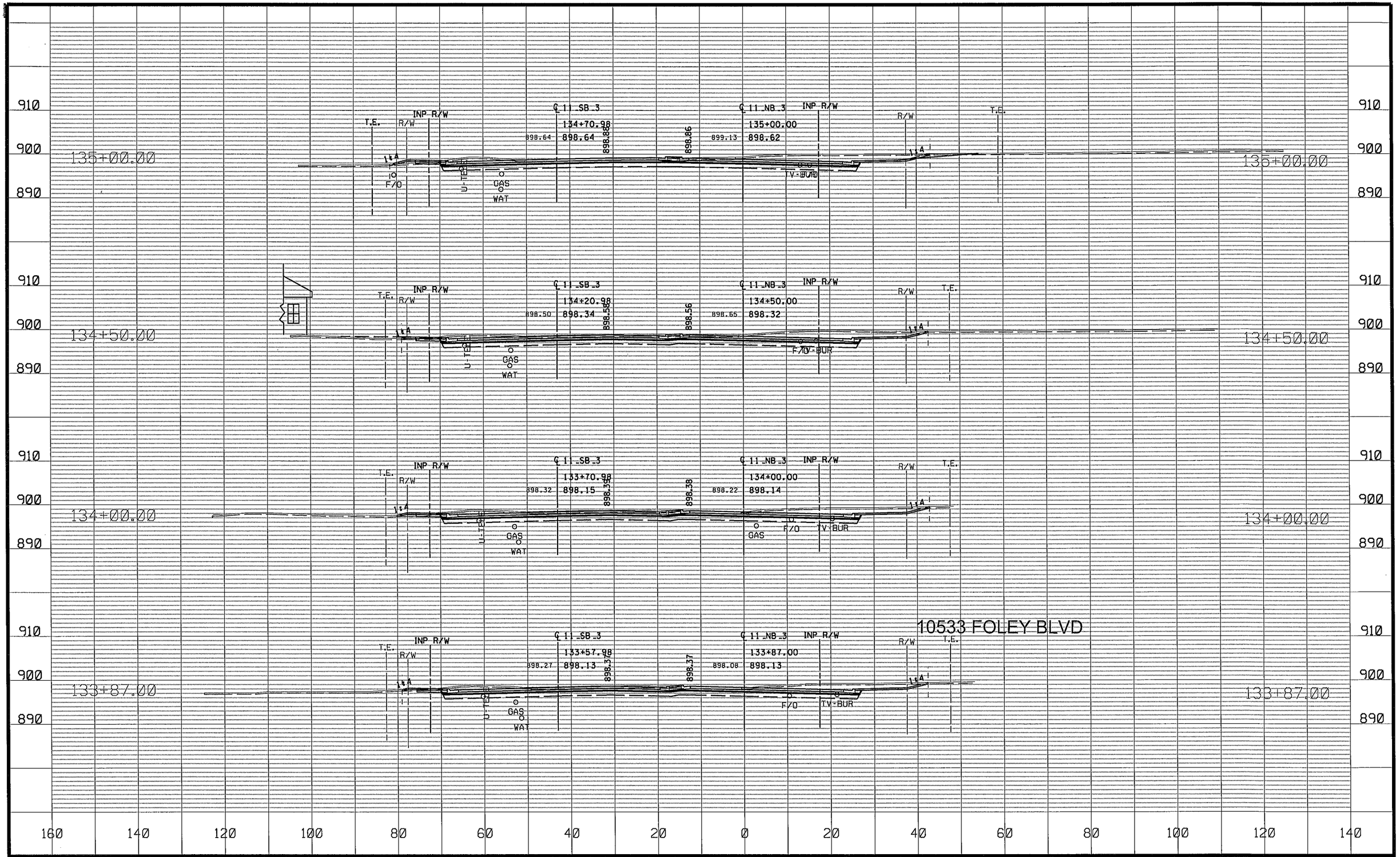

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CROSS SECTIONS
STA 133+87.00 TO 135+00.00
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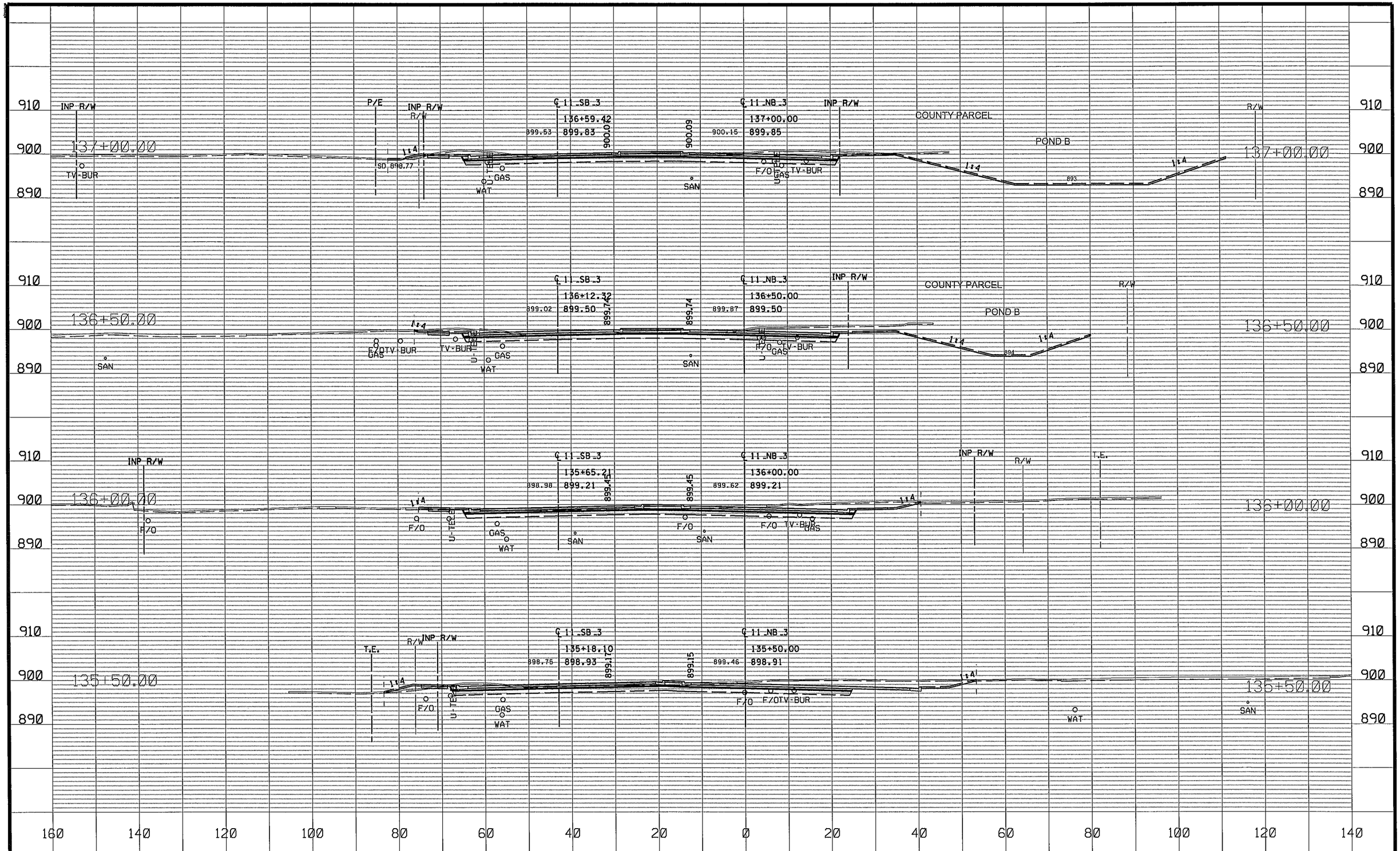

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ANOKA COUNTY HIGHWAY DEPT.

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CROSS SECTIONS
STA 135+50.00 TO 137+00.00
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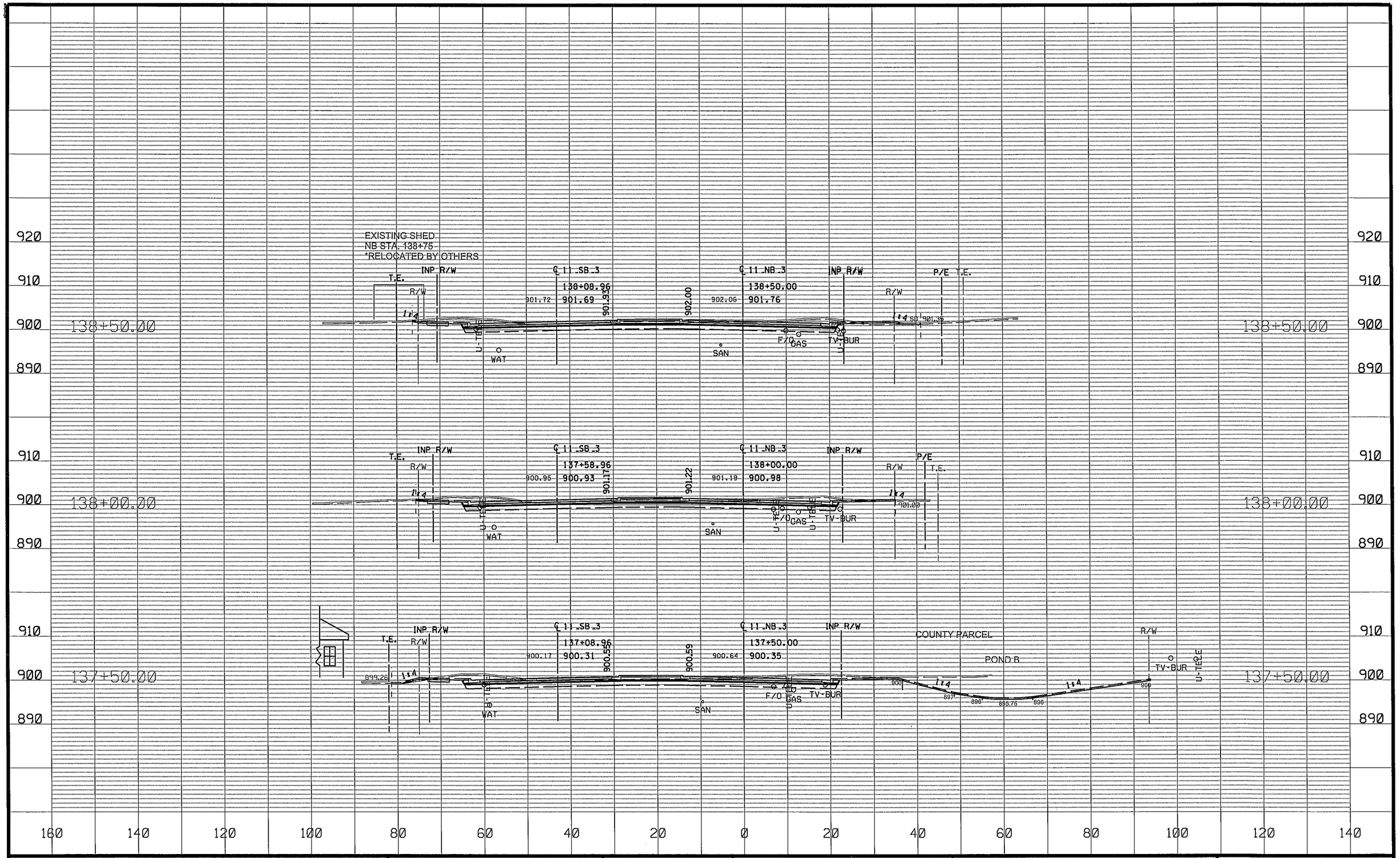

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CROSS SECTIONS
STA 137+50.00 TO 138+50.00
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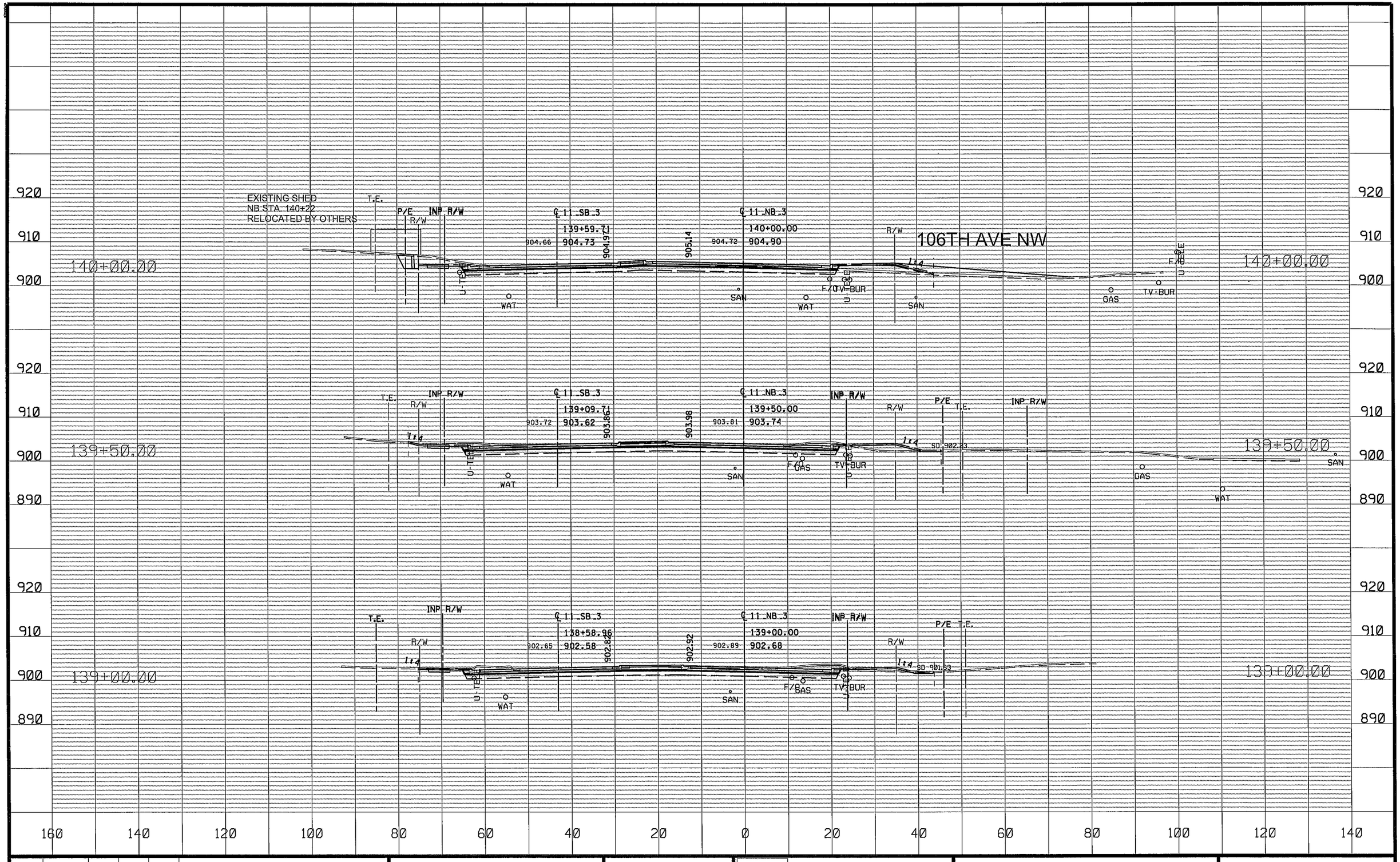

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ANOKA COUNTY HIGHWAY DEPT.

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CROSS SECTIONS
STA 139+00.00 TO 140+00.00
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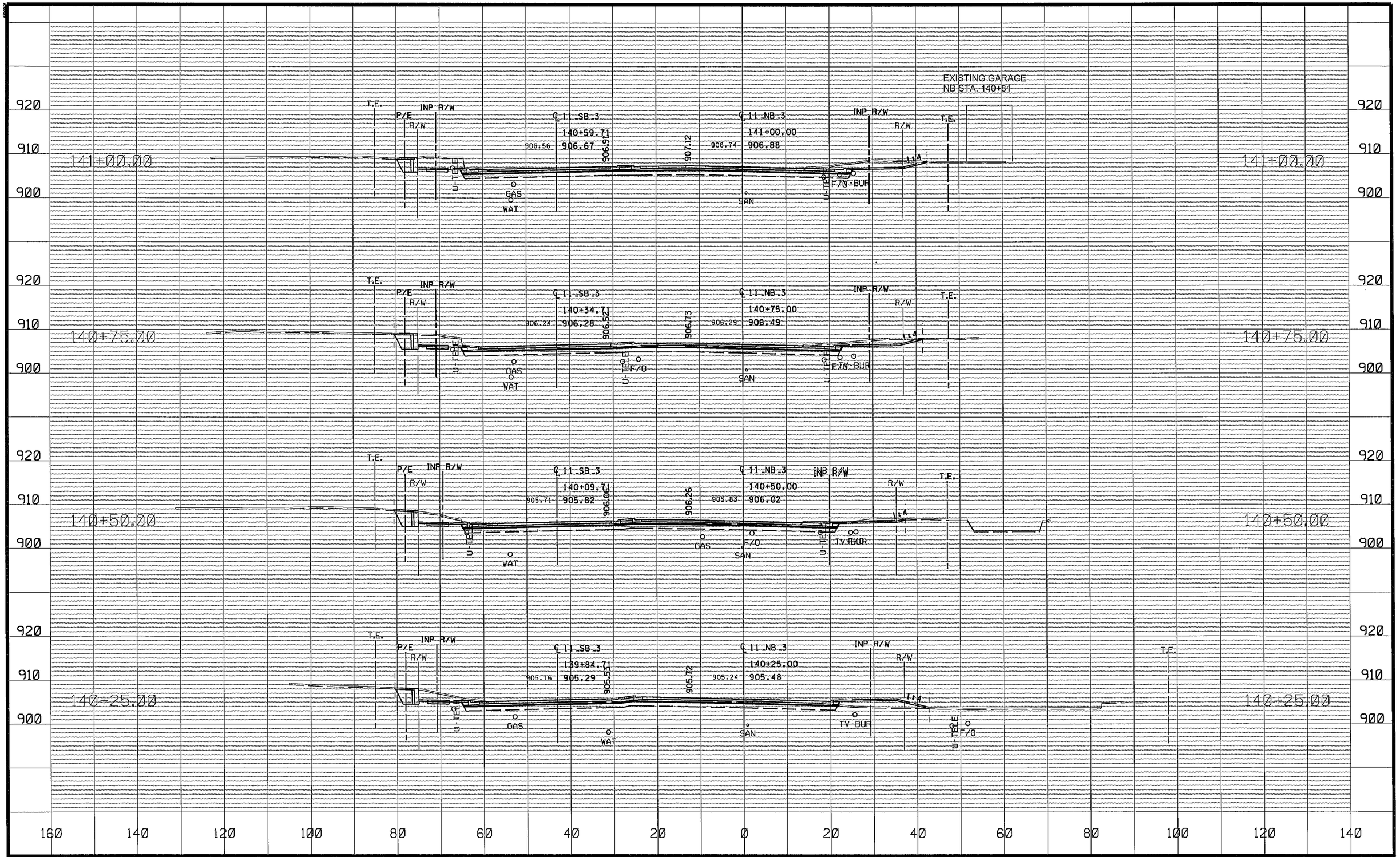

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CHECKED BY GMP DATE 01-09-2014

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CROSS SECTIONS

STA 140+25.00 TO 141+00.00

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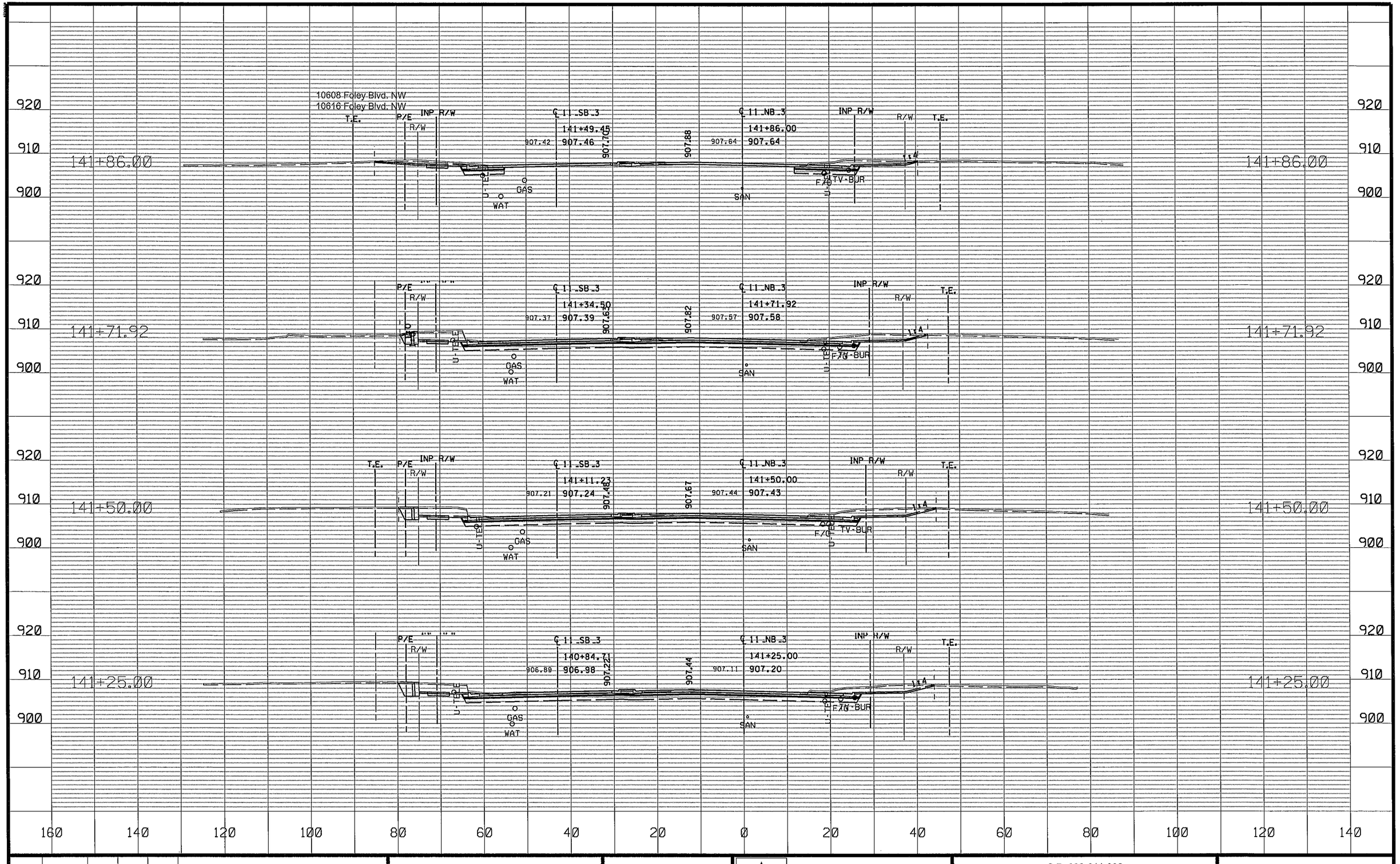

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ANOKA COUNTY HIGHWAY DEPT.

S.P. 002-611-032
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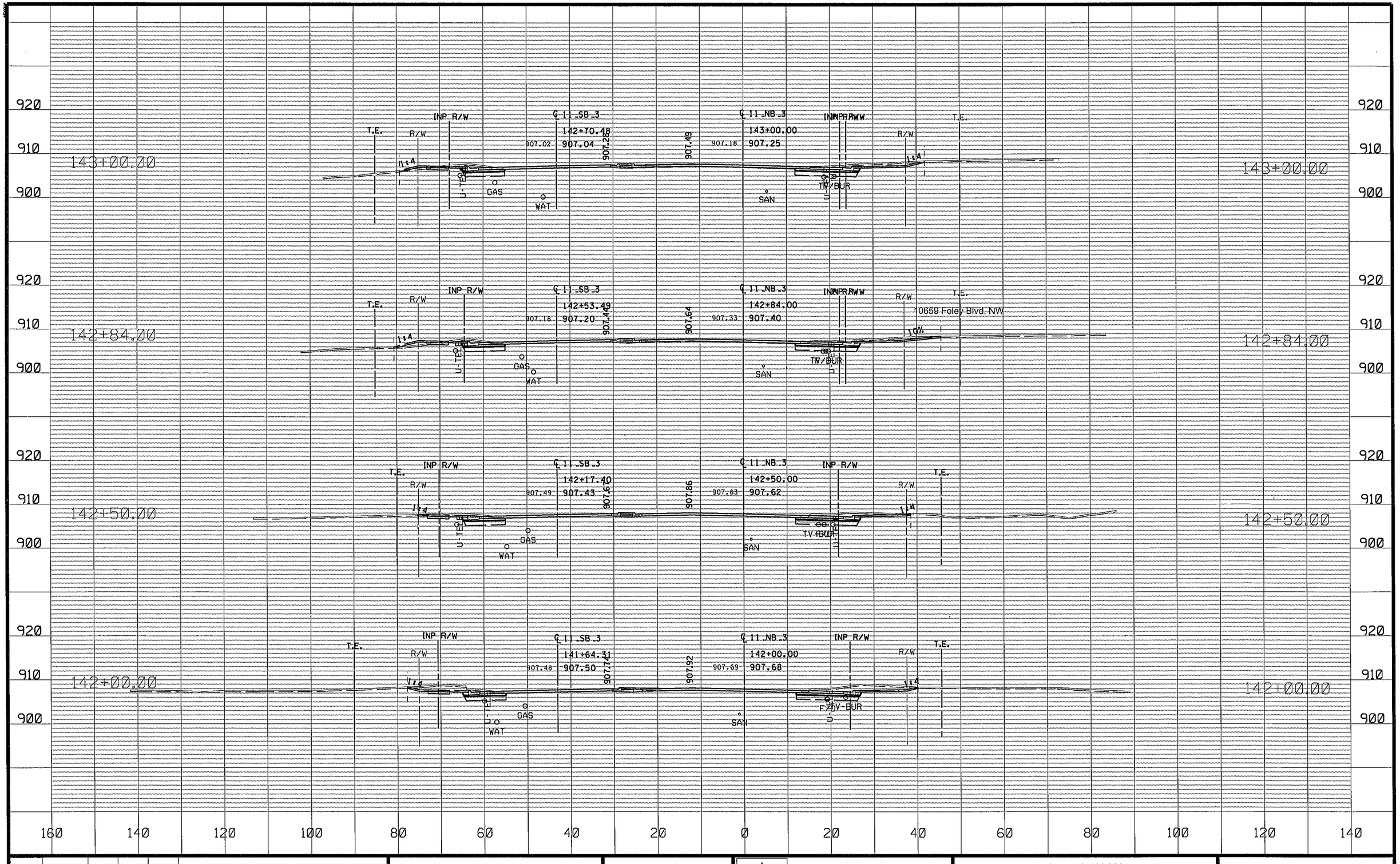
CROSS SECTIONS
STA 141+25.00 TO 141+86.00
Sheet 168 of 196 Sheets



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CROSS SECTIONS
STA 142+00.00 TO 143+00.00
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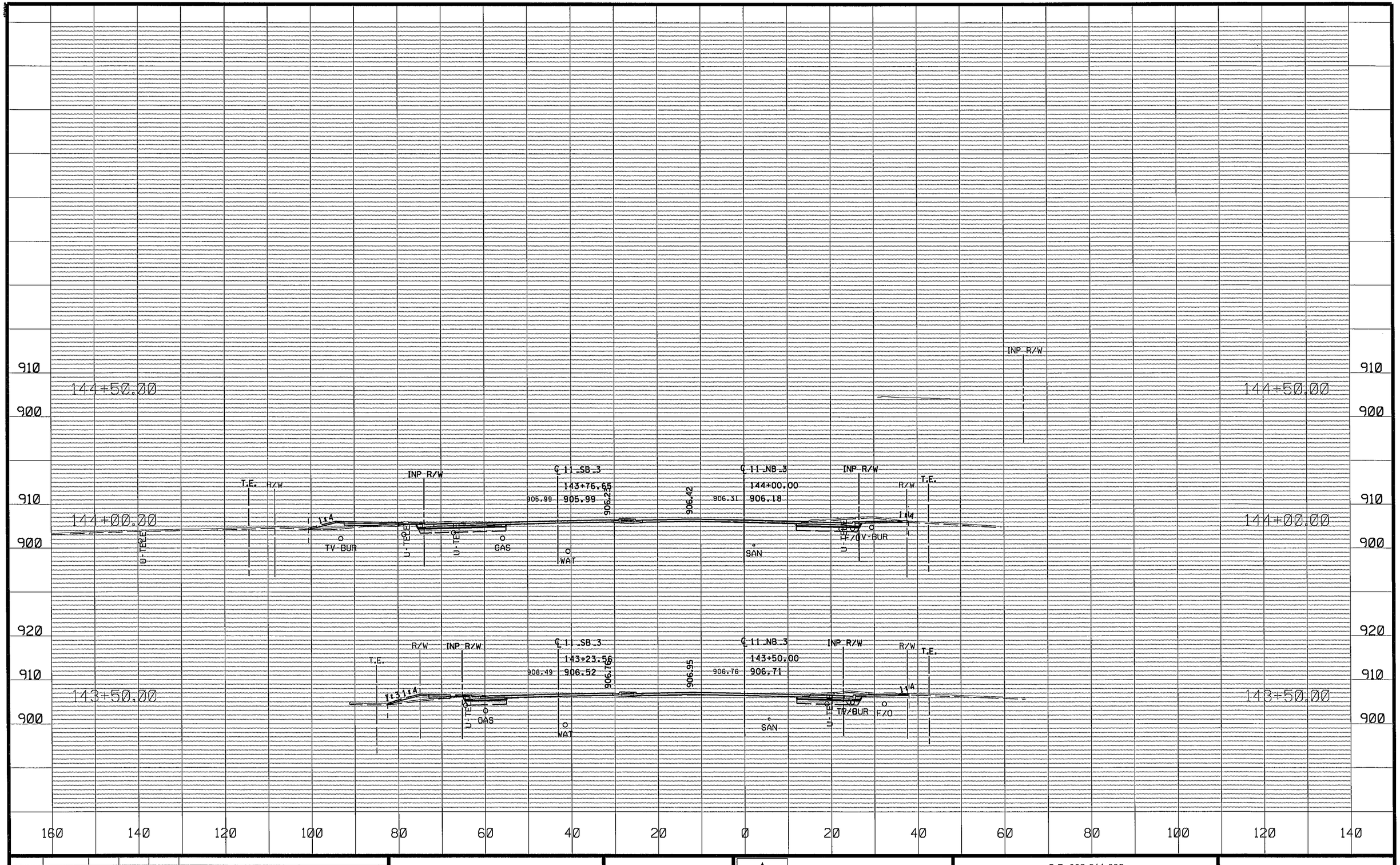

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ANOKA COUNTY

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CROSS SECTIONS

STA 143+50.00 TO 144+50.00

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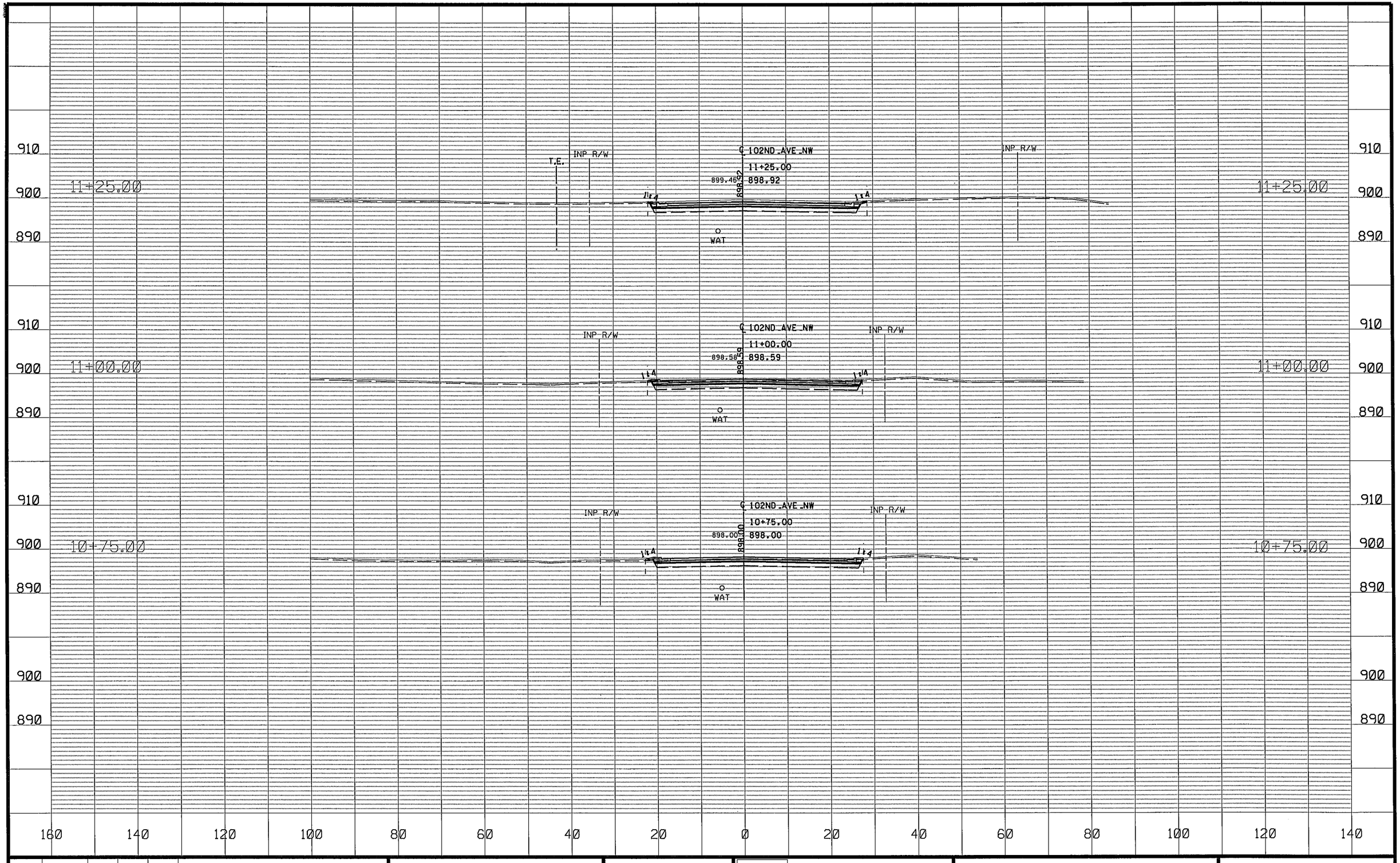

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CROSS SECTIONS
STA 10+75.00 TO 11+25.00

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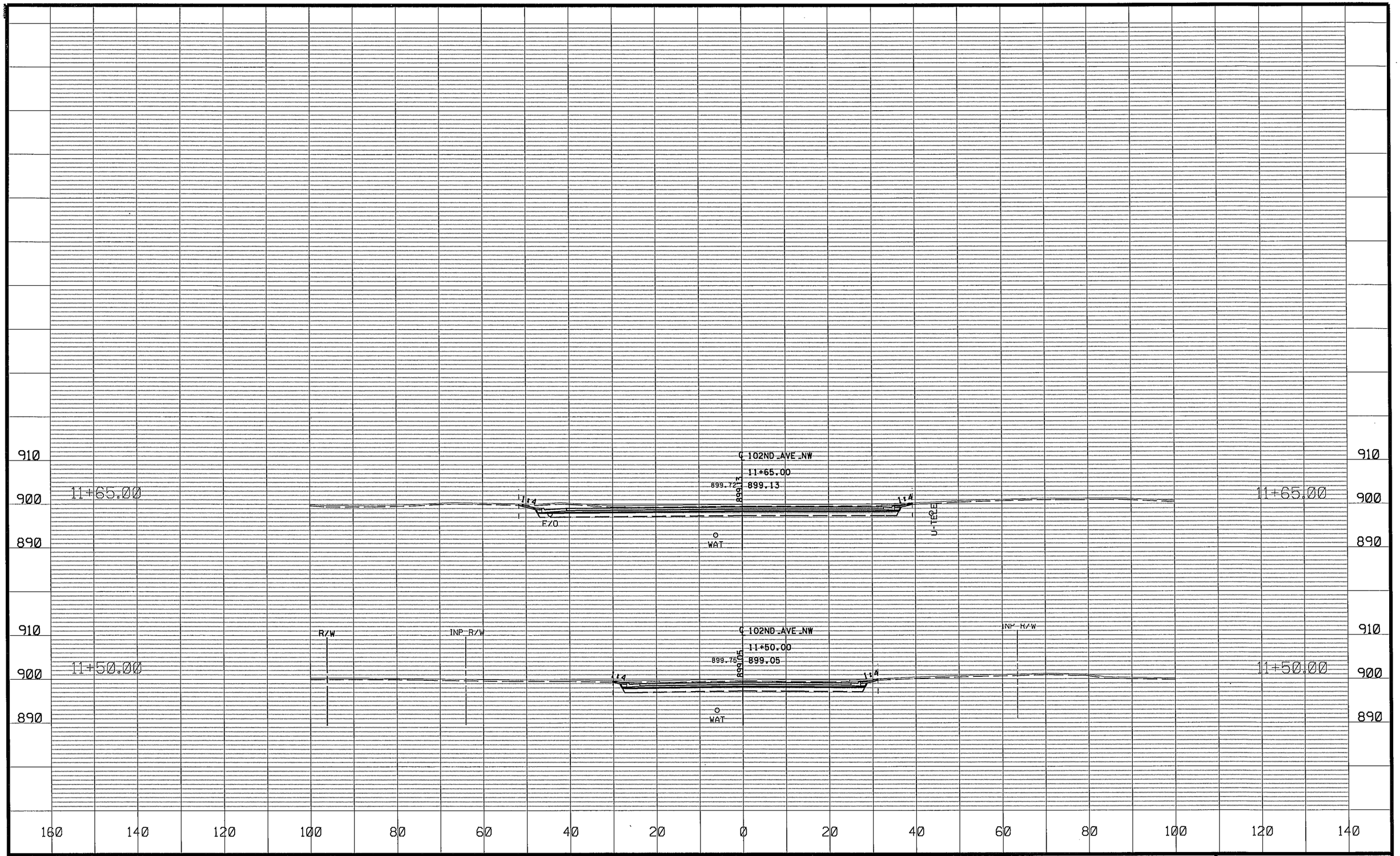

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CROSS SECTIONS
STA 11+50.00 TO 11+65.00
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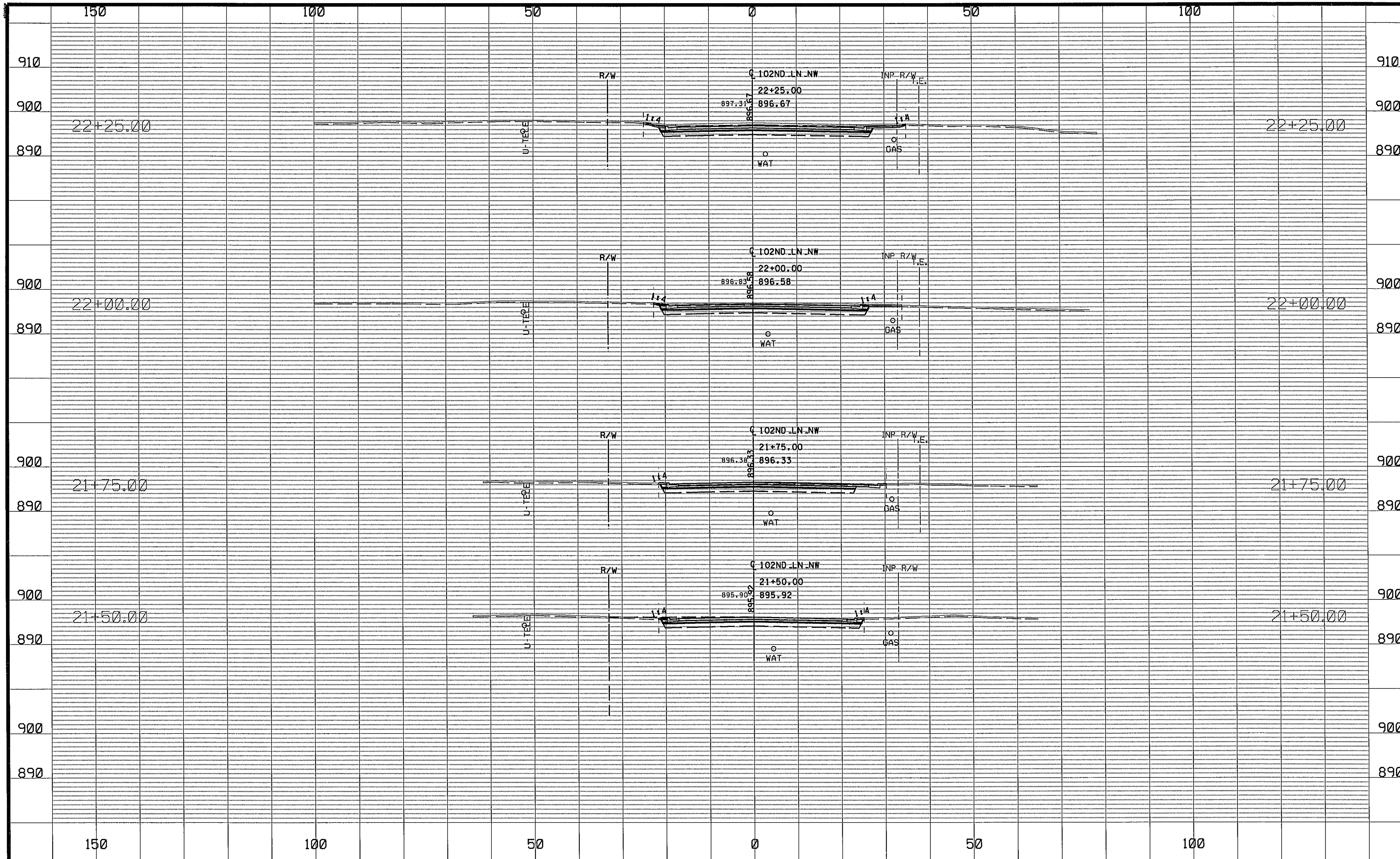

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CROSS SECTIONS
STA 21+50.00 TO 22+25.00
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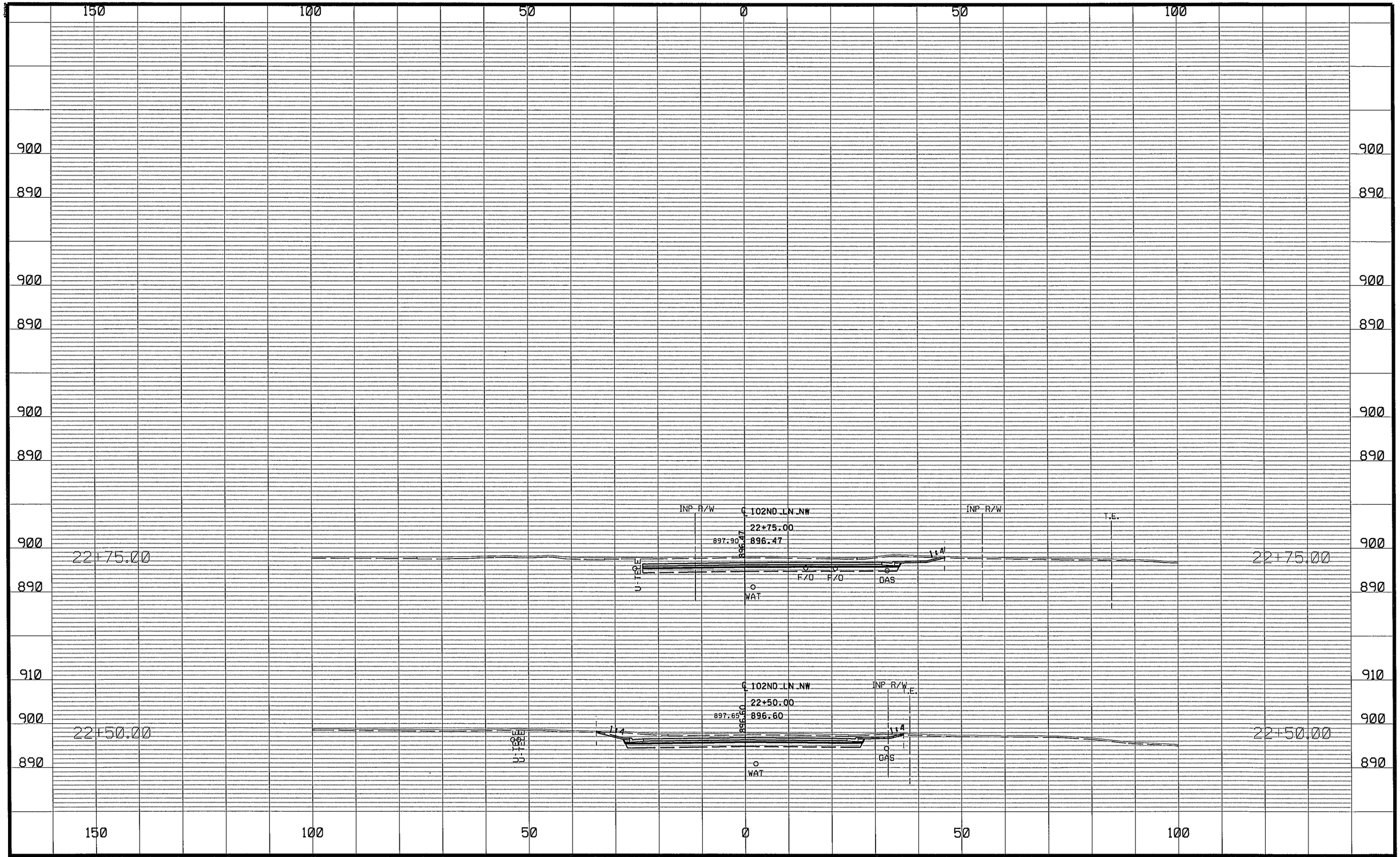

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CROSS SECTIONS
STA 22+50.00 TO 22+75.00
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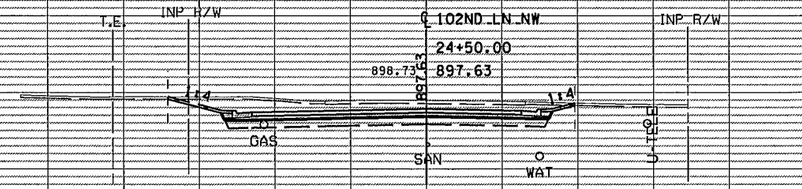
150 100 50 0 50 100

910 900 890

24+50.00



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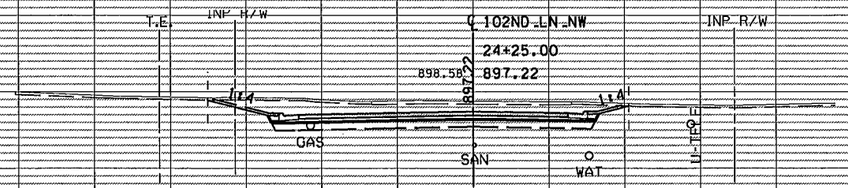
24+25.00



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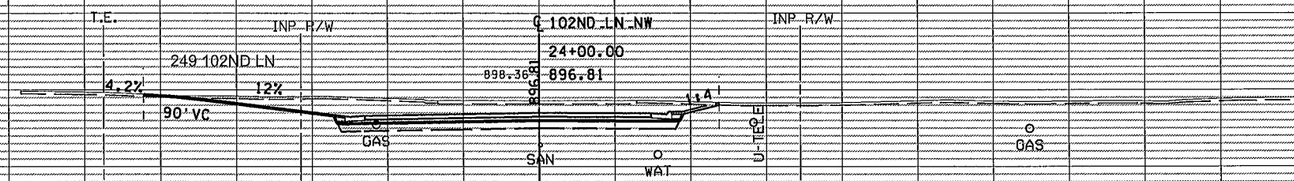
24+00.00



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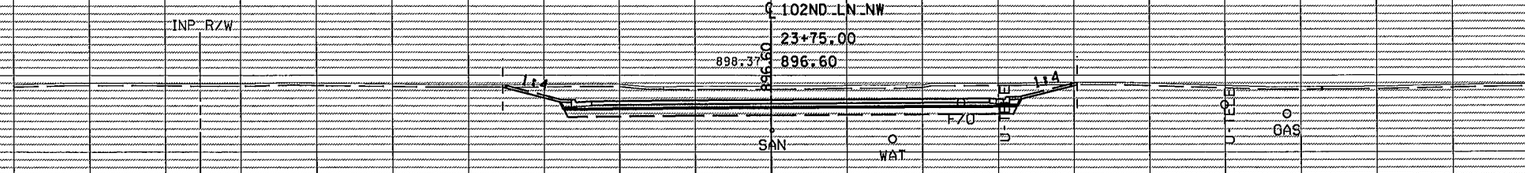
23+75.00



23+75.00

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CROSS SECTIONS
STA 23+75.00 TO 24+50.00
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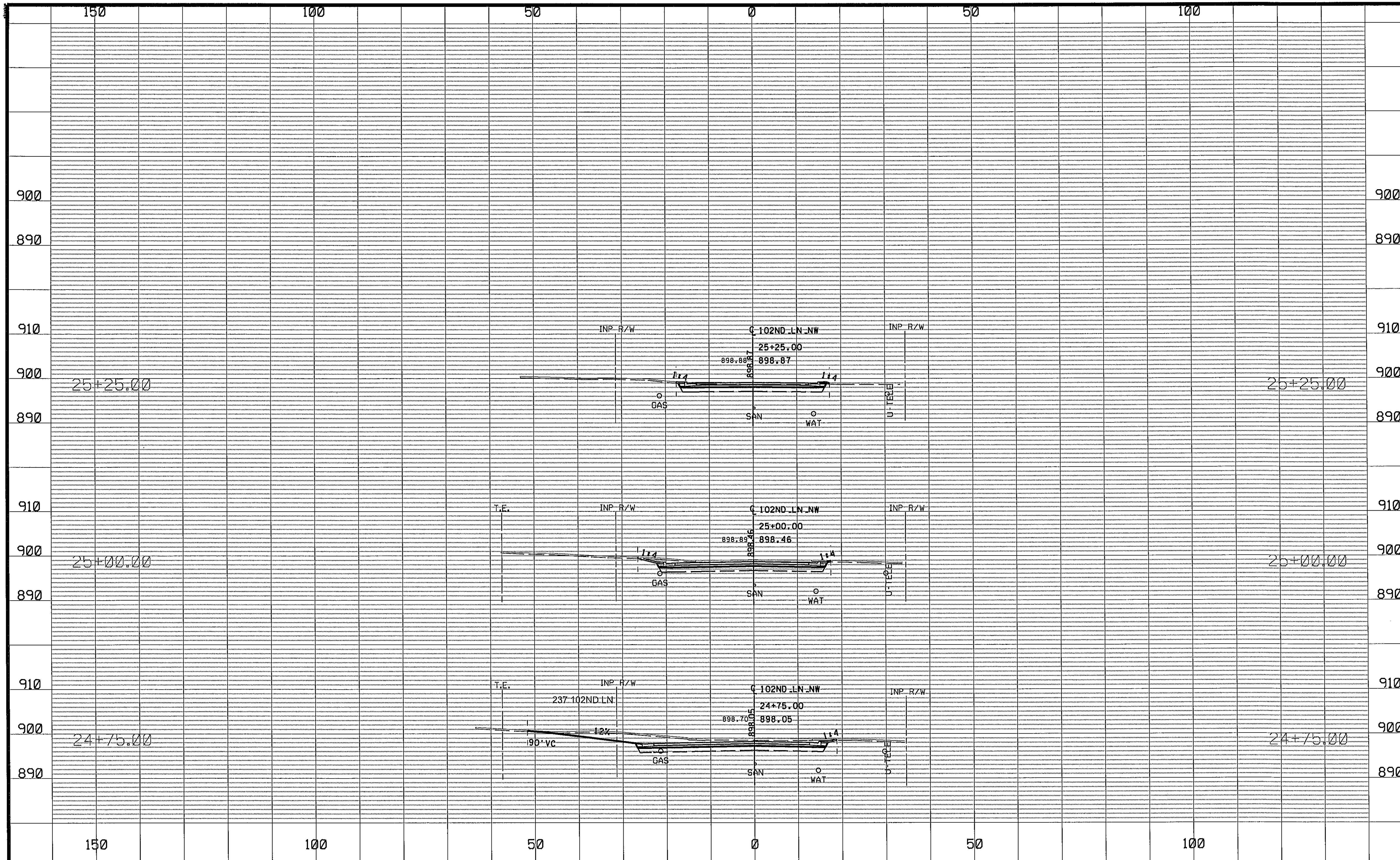

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ANOKA COUNTY

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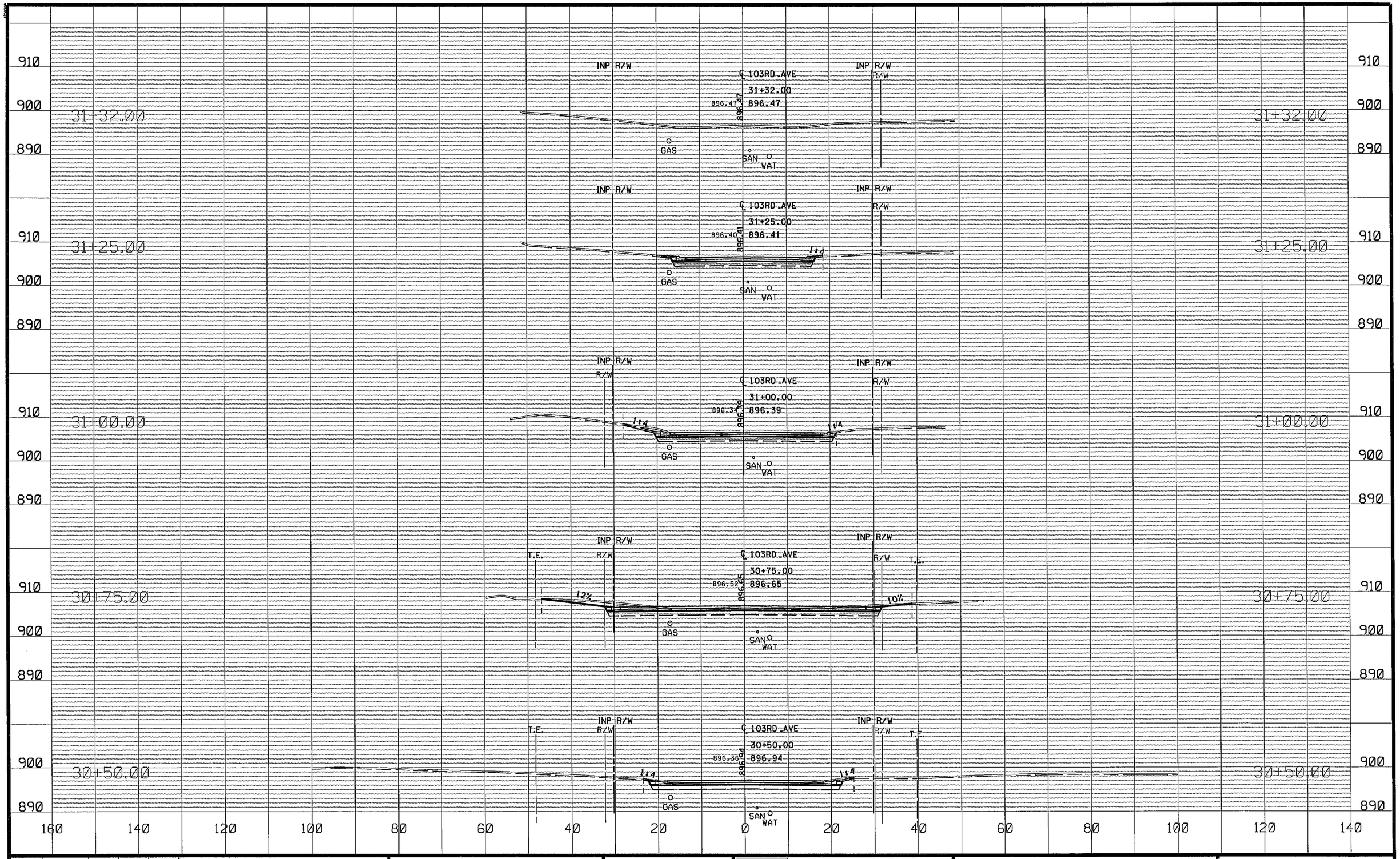
CROSS SECTIONS
STA 24+75.00 TO 25+25.00



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CROSS SECTIONS
STA 30+50.00 TO 31+32.00

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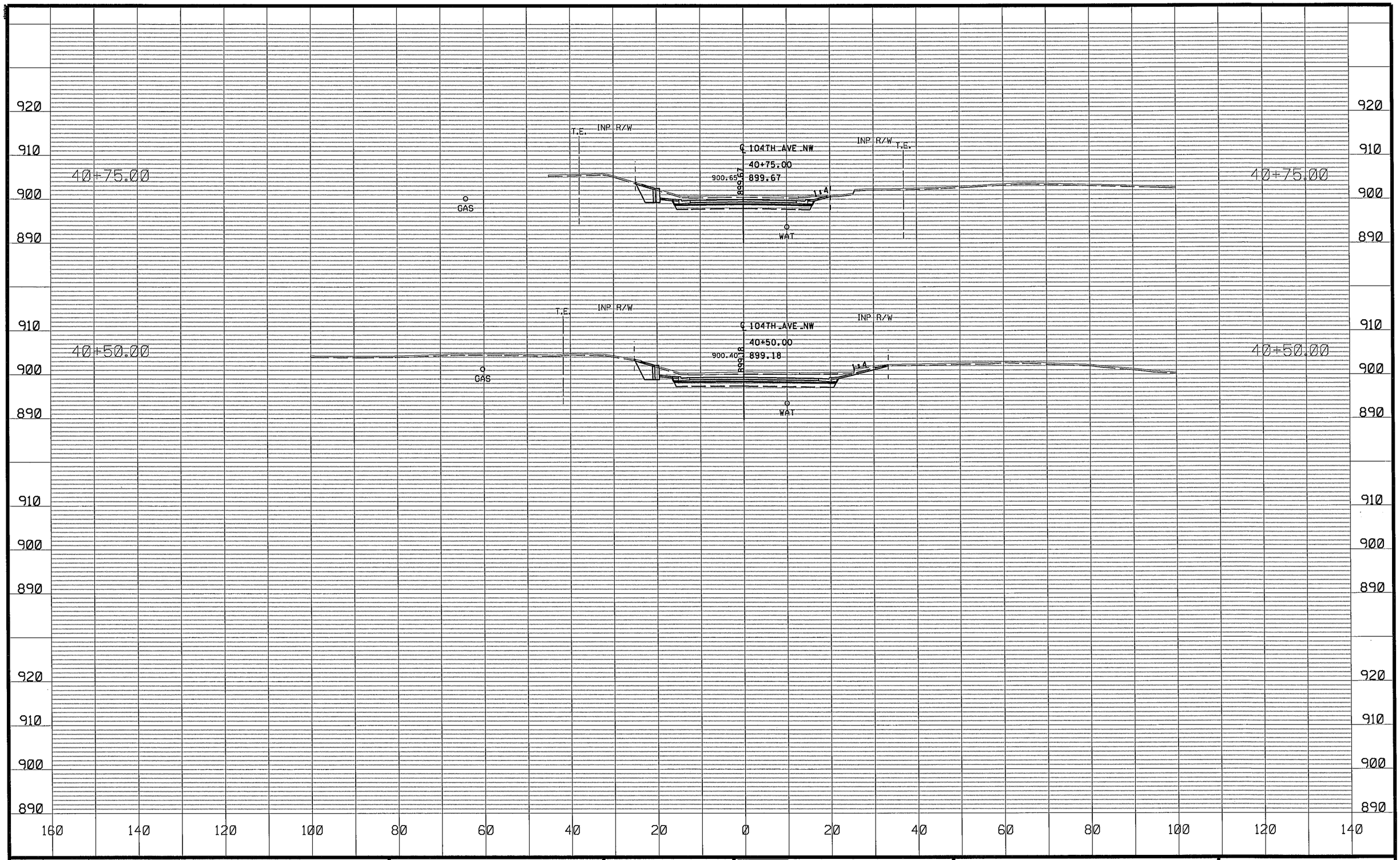

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CROSS SECTIONS
STA 40+50.00 TO 40+75.00

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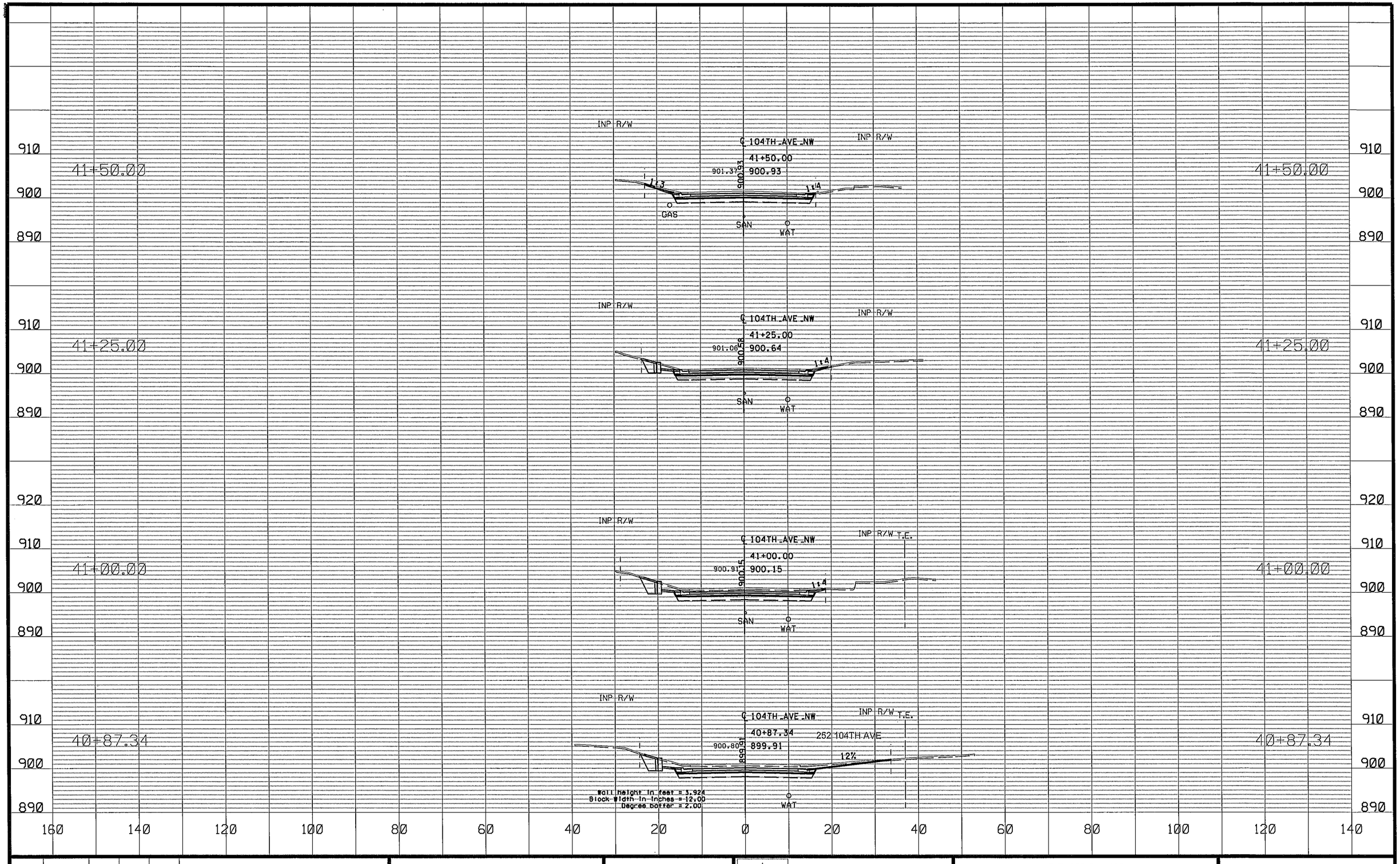

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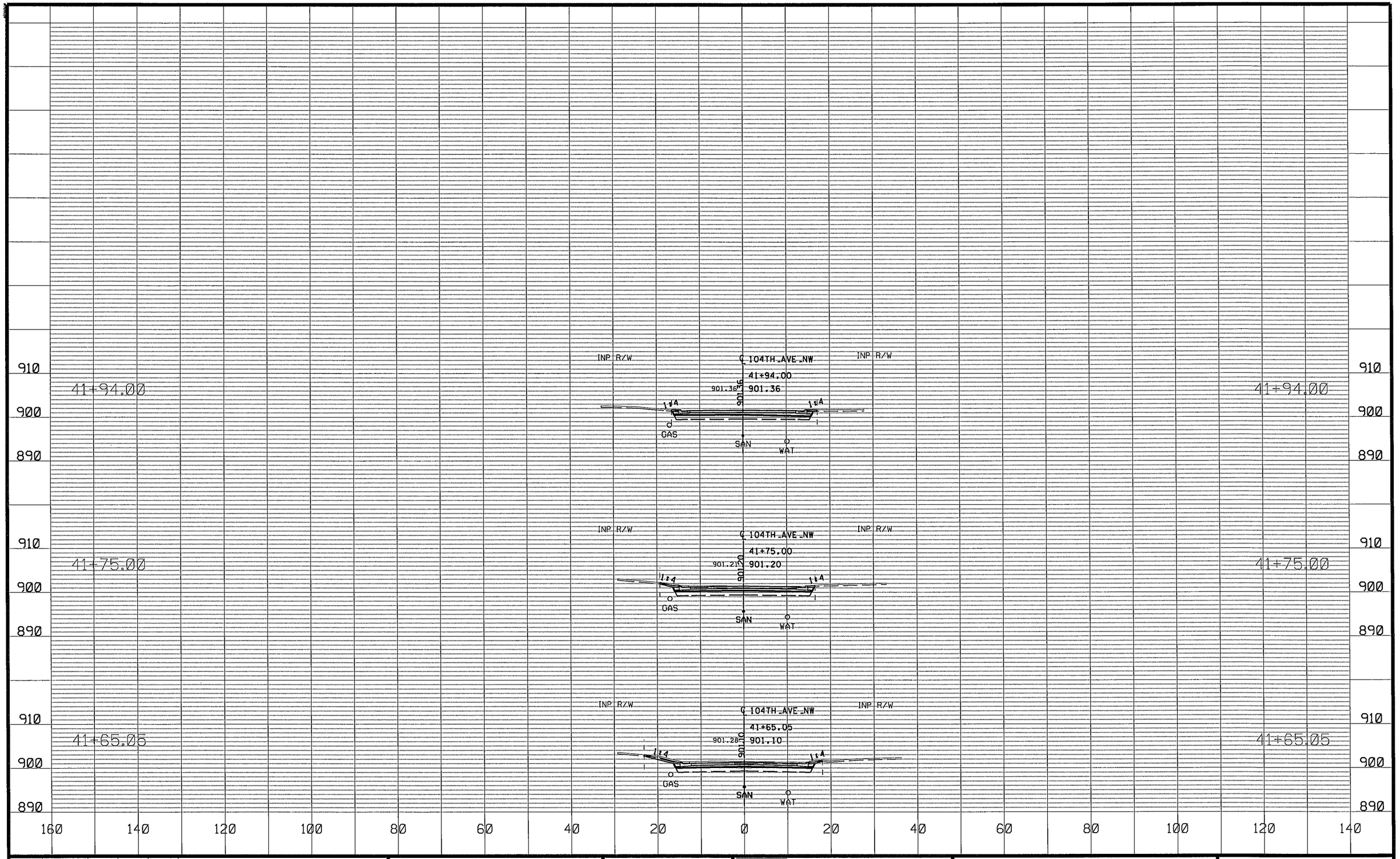

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CROSS SECTIONS
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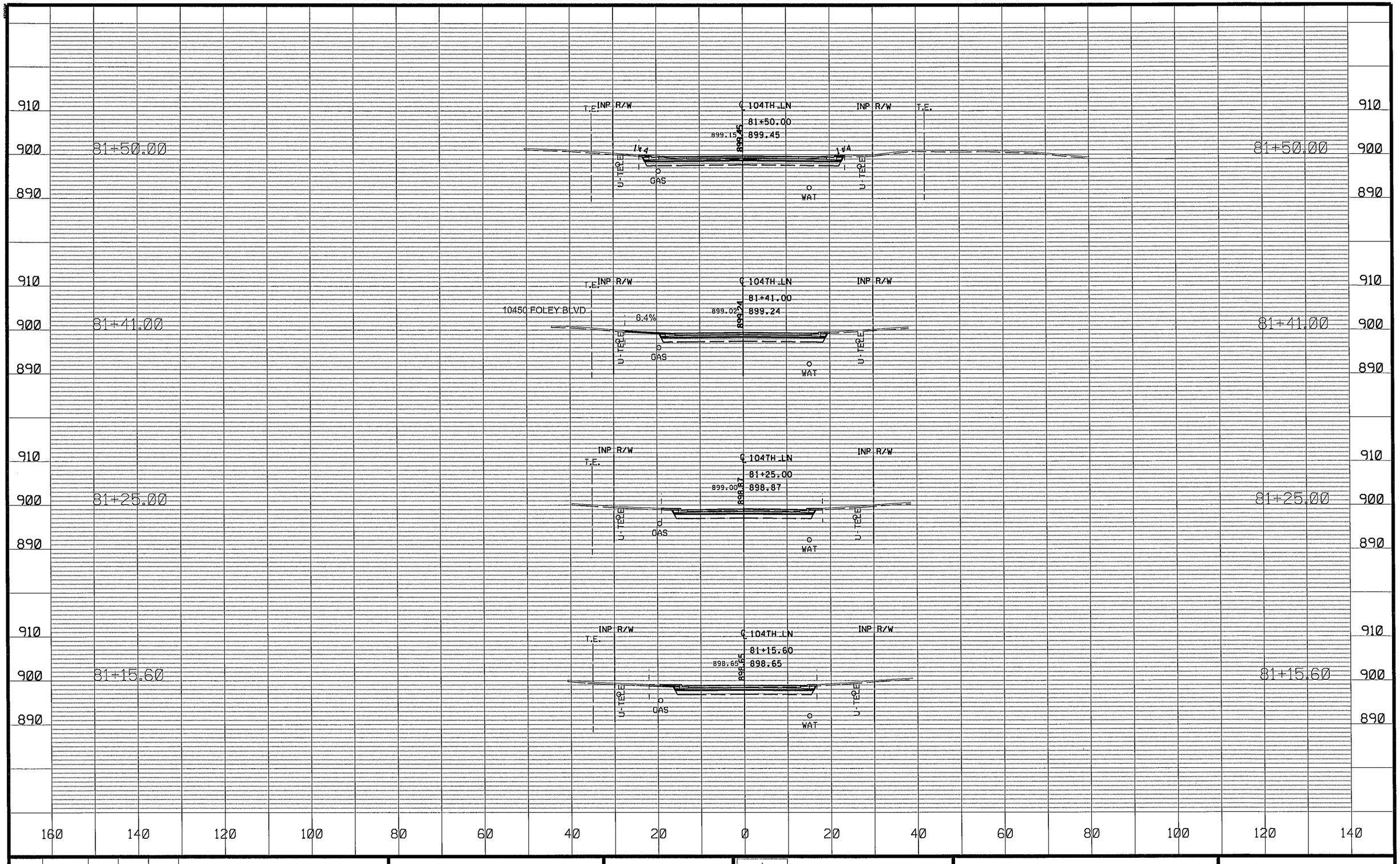

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CROSS SECTIONS
STA 81+15.00 TO 81+50.00
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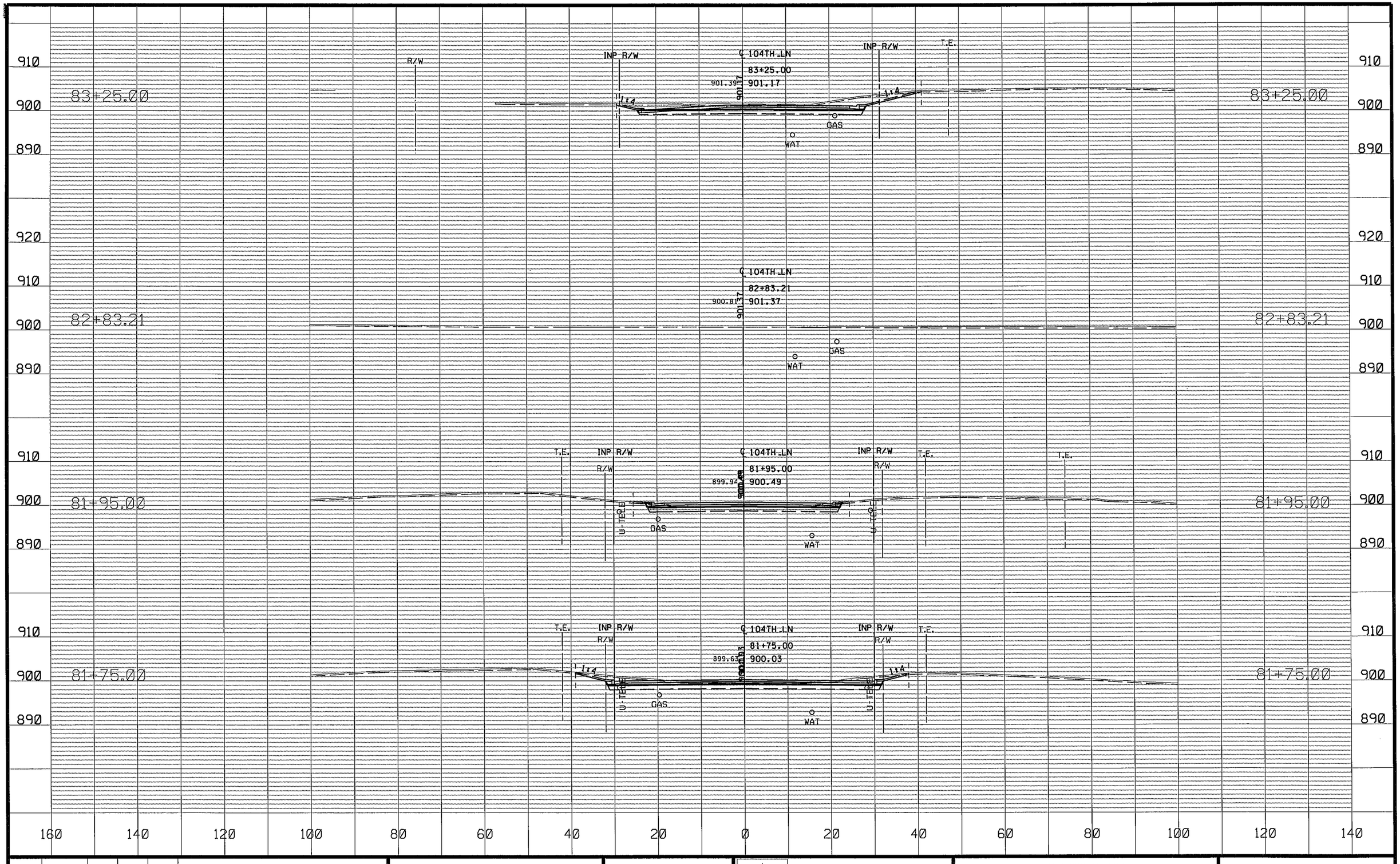

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STA 81+75.00 TO 83+25.00

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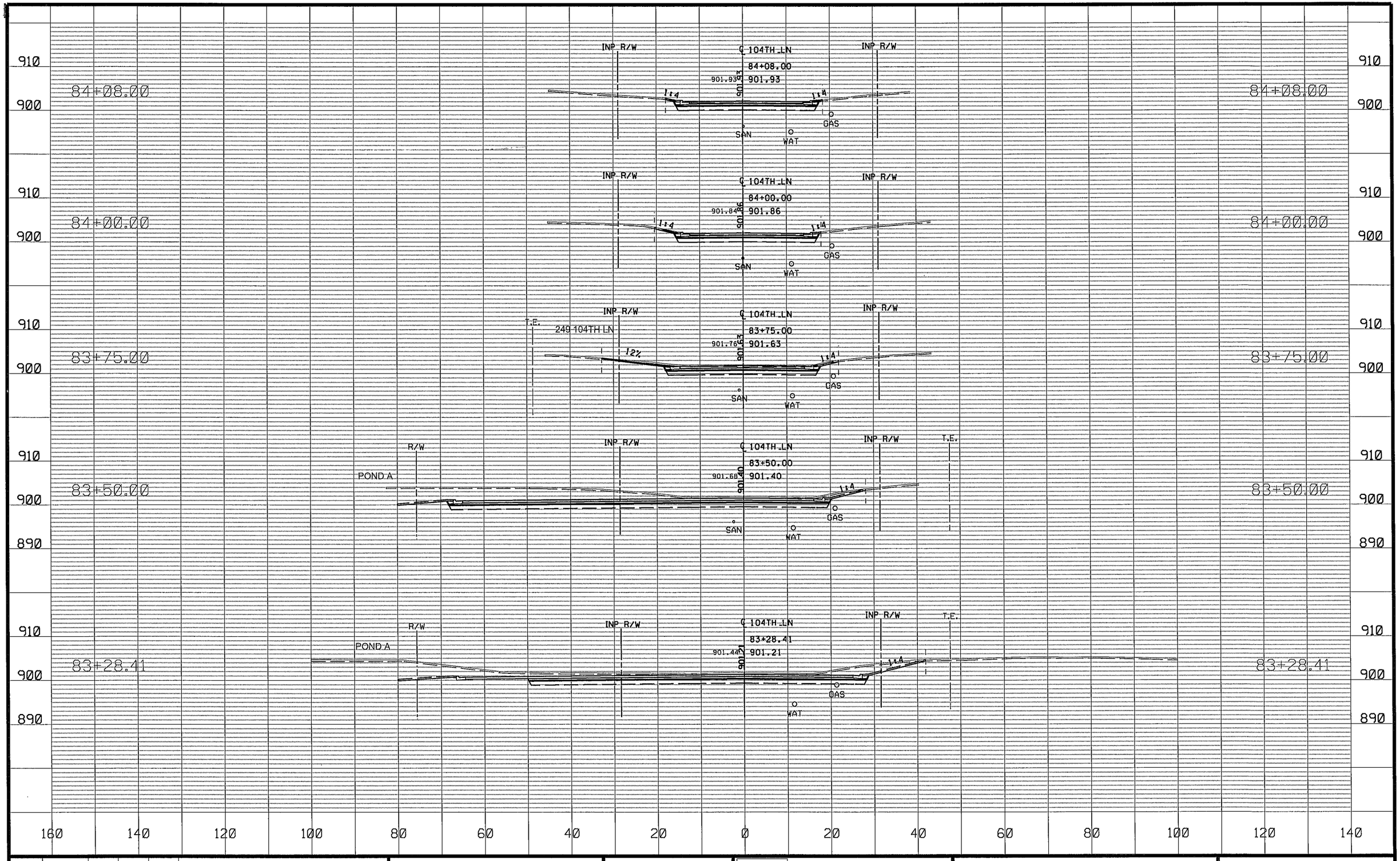

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CROSS SECTIONS
STA 83+28.41 TO 84+08.00

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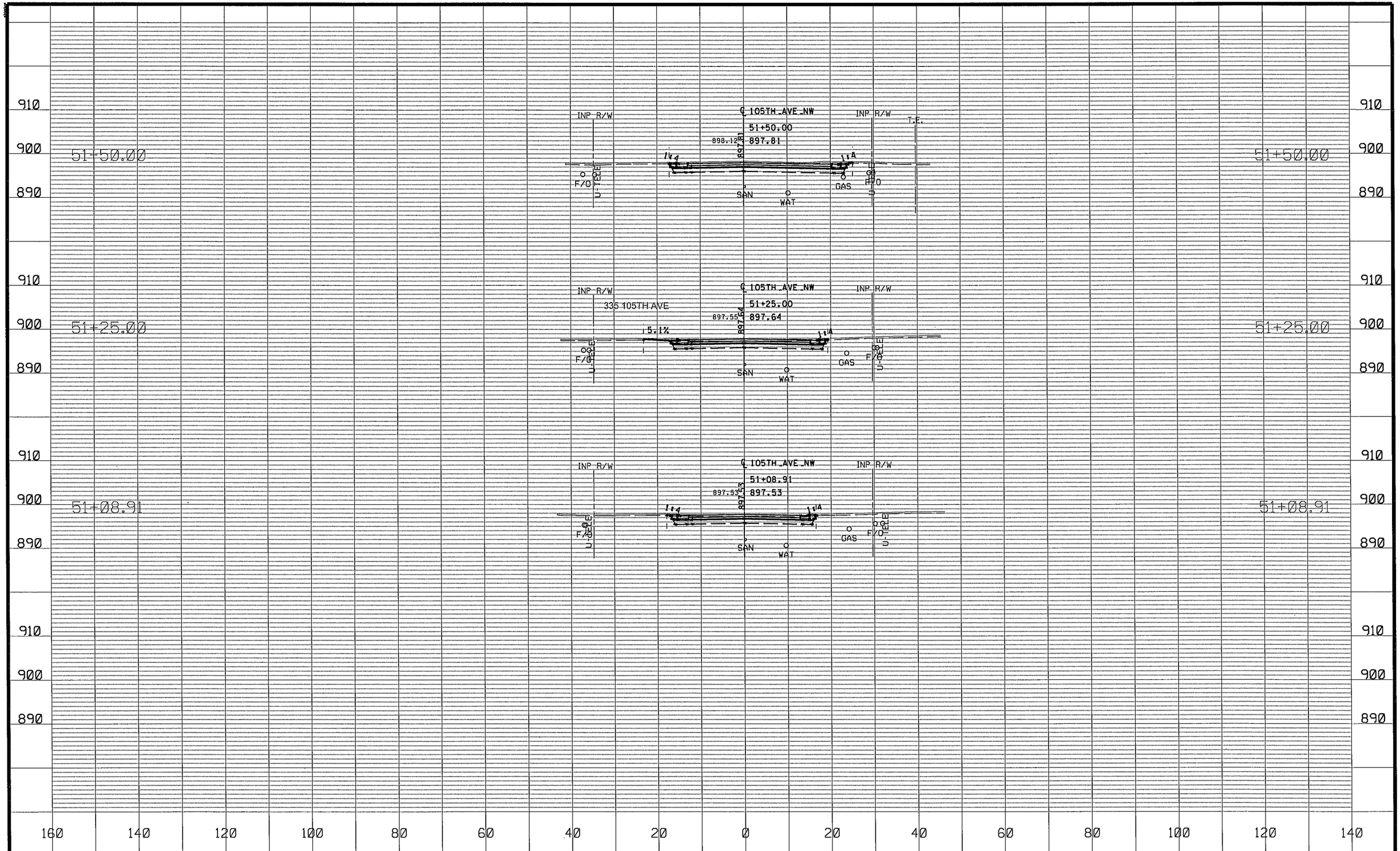

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DRAWN BY EJM DATE 01-09-2014
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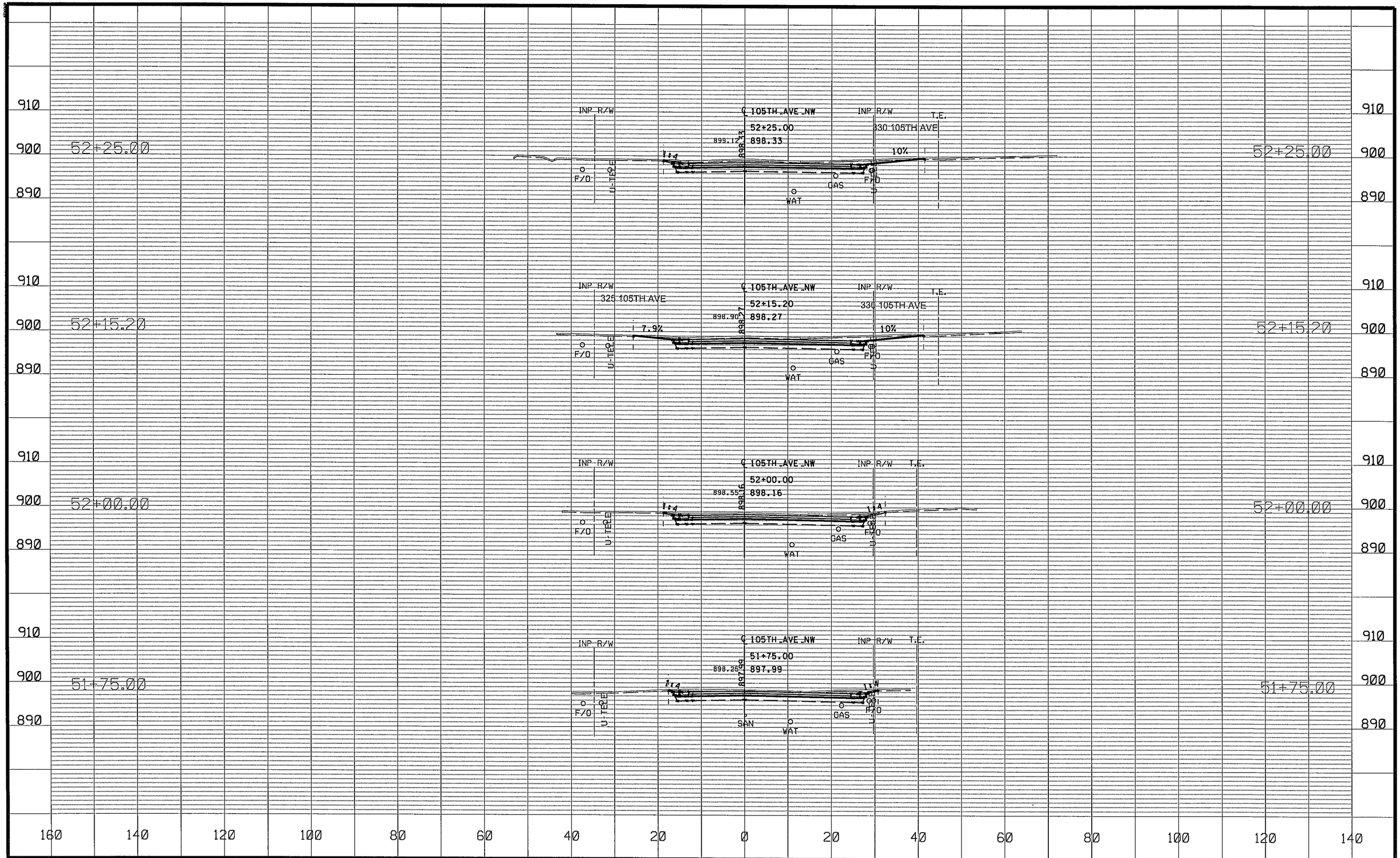
HIGHWAY DEPT.

S.P. 002-611-032
S.A.P. 114-020-047
C.P. 12-22

CROSS SECTIONS
STA 51+08.91 TO 51+50.00
Sheet 184 of 196 Sheets



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HIGHWAY DEPT.

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S.A.P. 114-020-047
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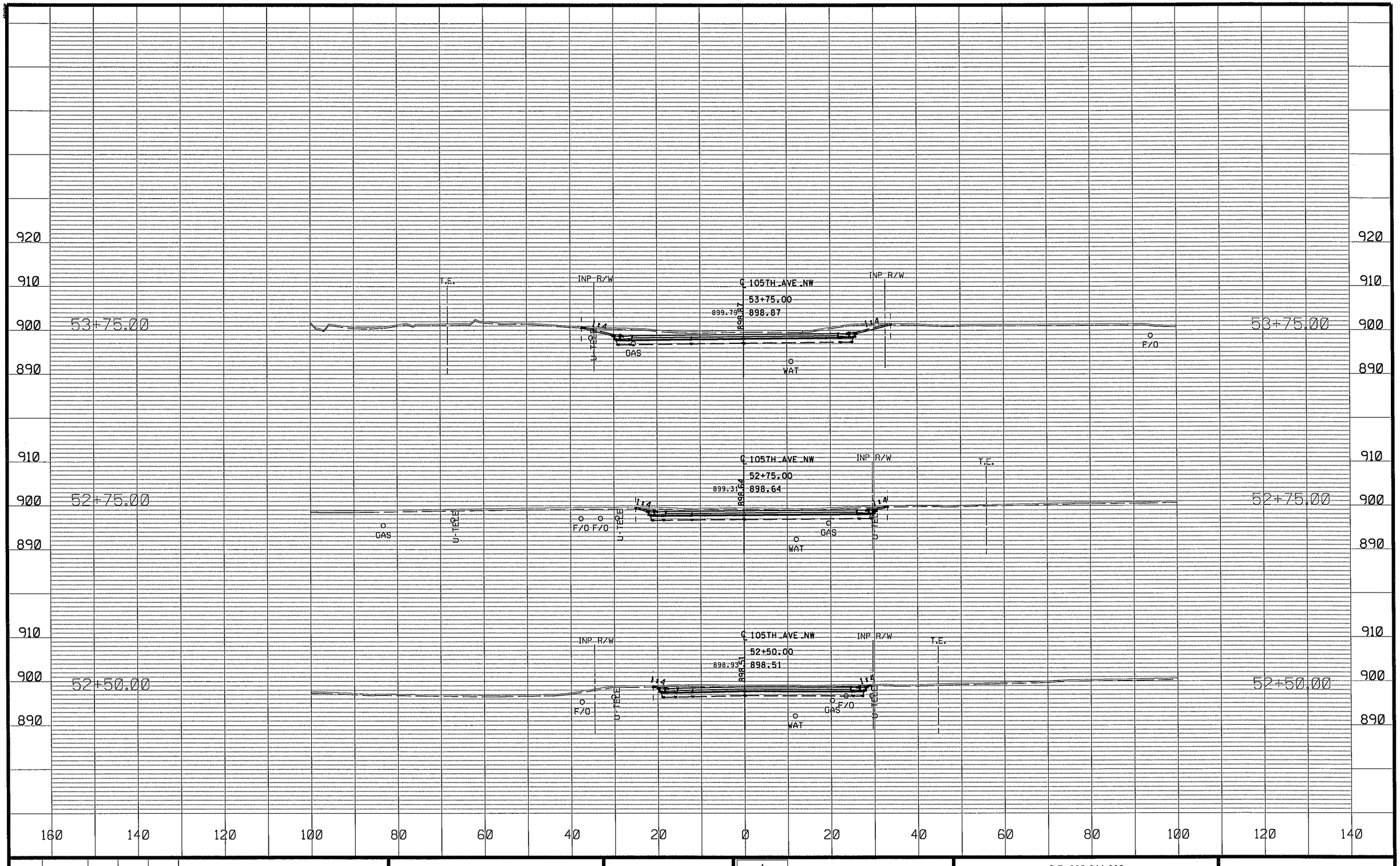
CROSS SECTIONS
STA 51+75.00 TO 52+25.00
Sheet 185 of 196 Sheets



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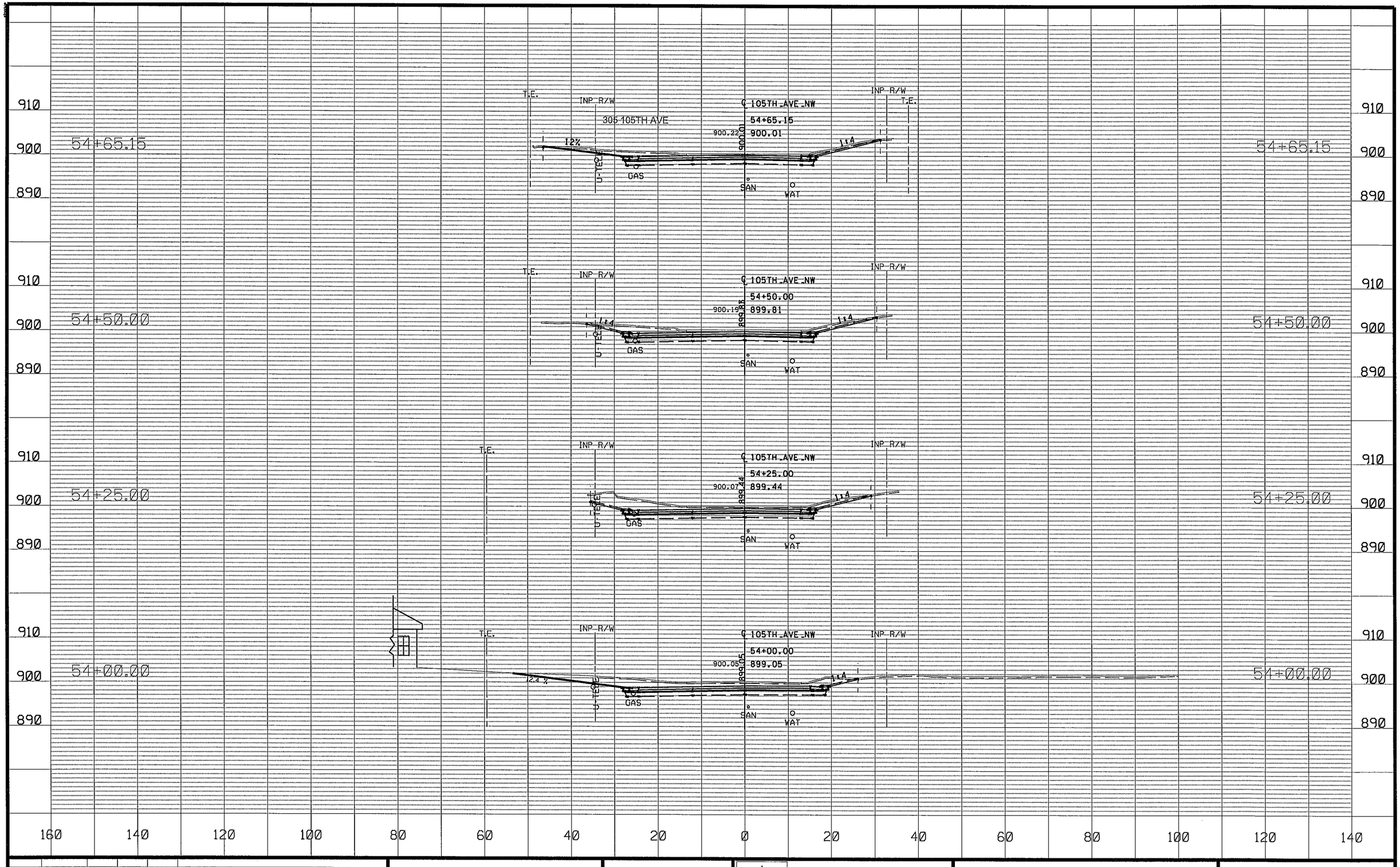
CROSS SECTIONS

STA 52+50.00 TO 53+75.00

Sheet 186 of 196 Sheets



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CROSS SECTIONS
STA 54+00.00 TO 54+65.15

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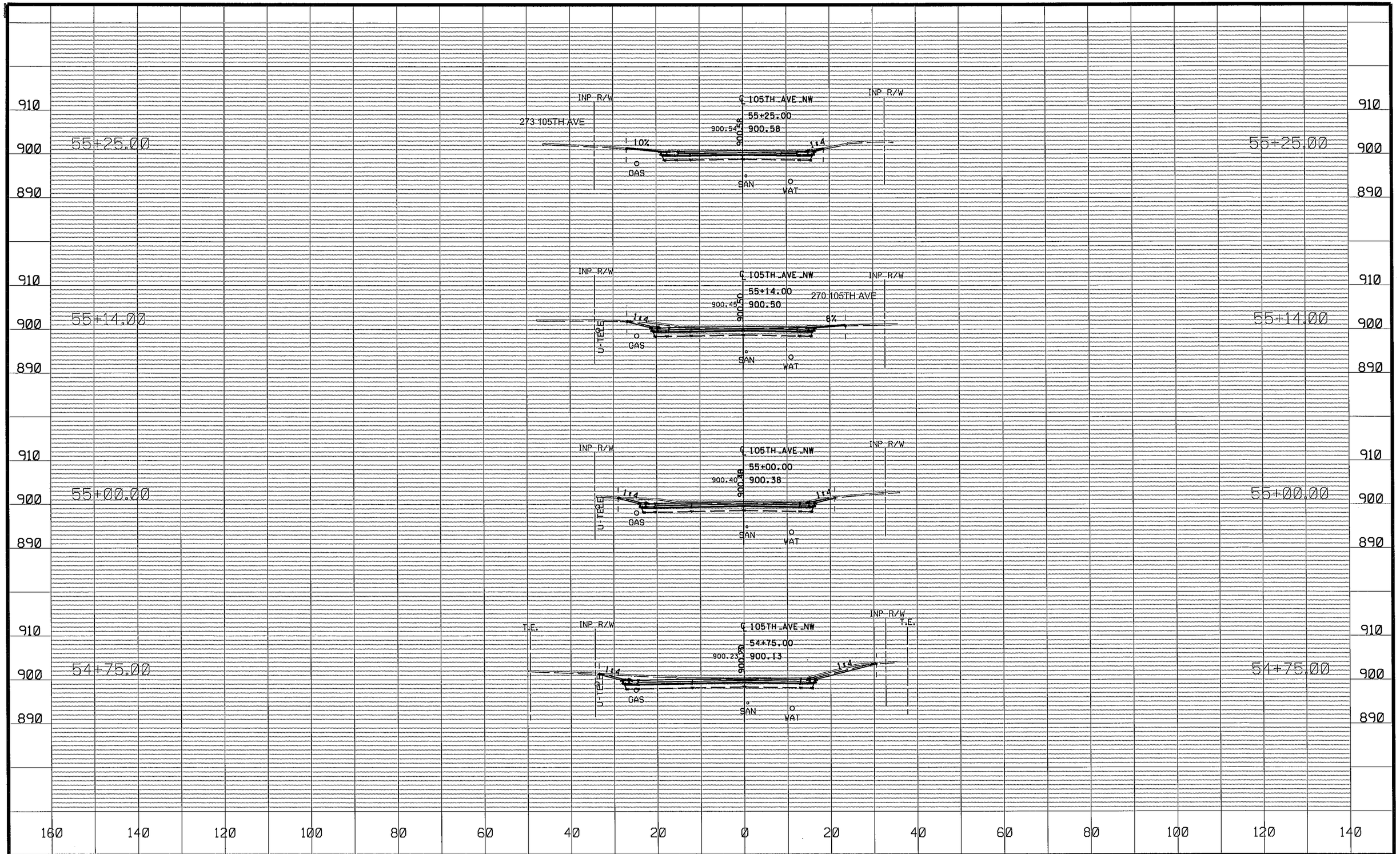

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CROSS SECTIONS
STA 54+75.00 TO 55+25.00
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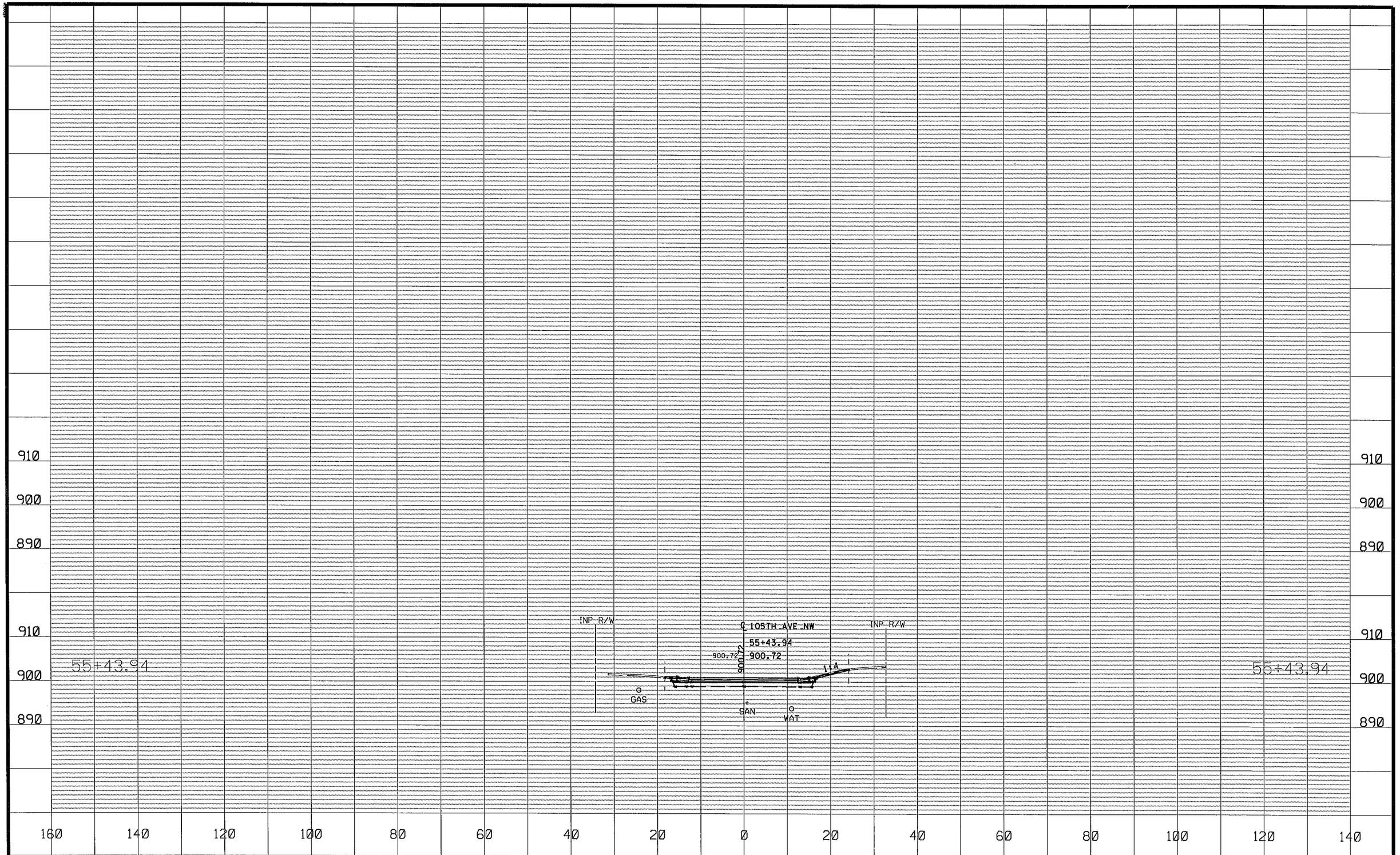

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CROSS SECTIONS
STA 55+43.94 TO 55+43.94
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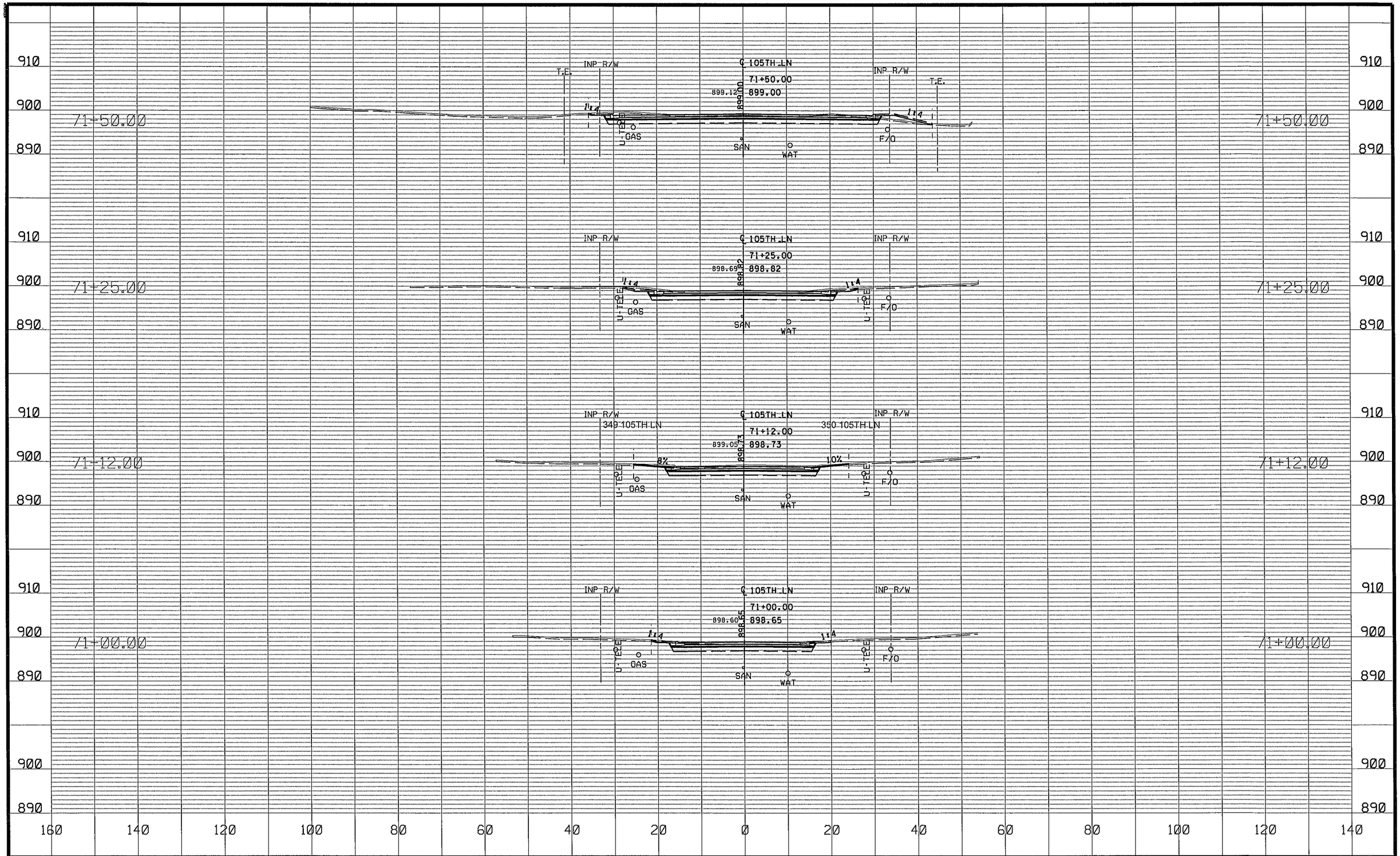

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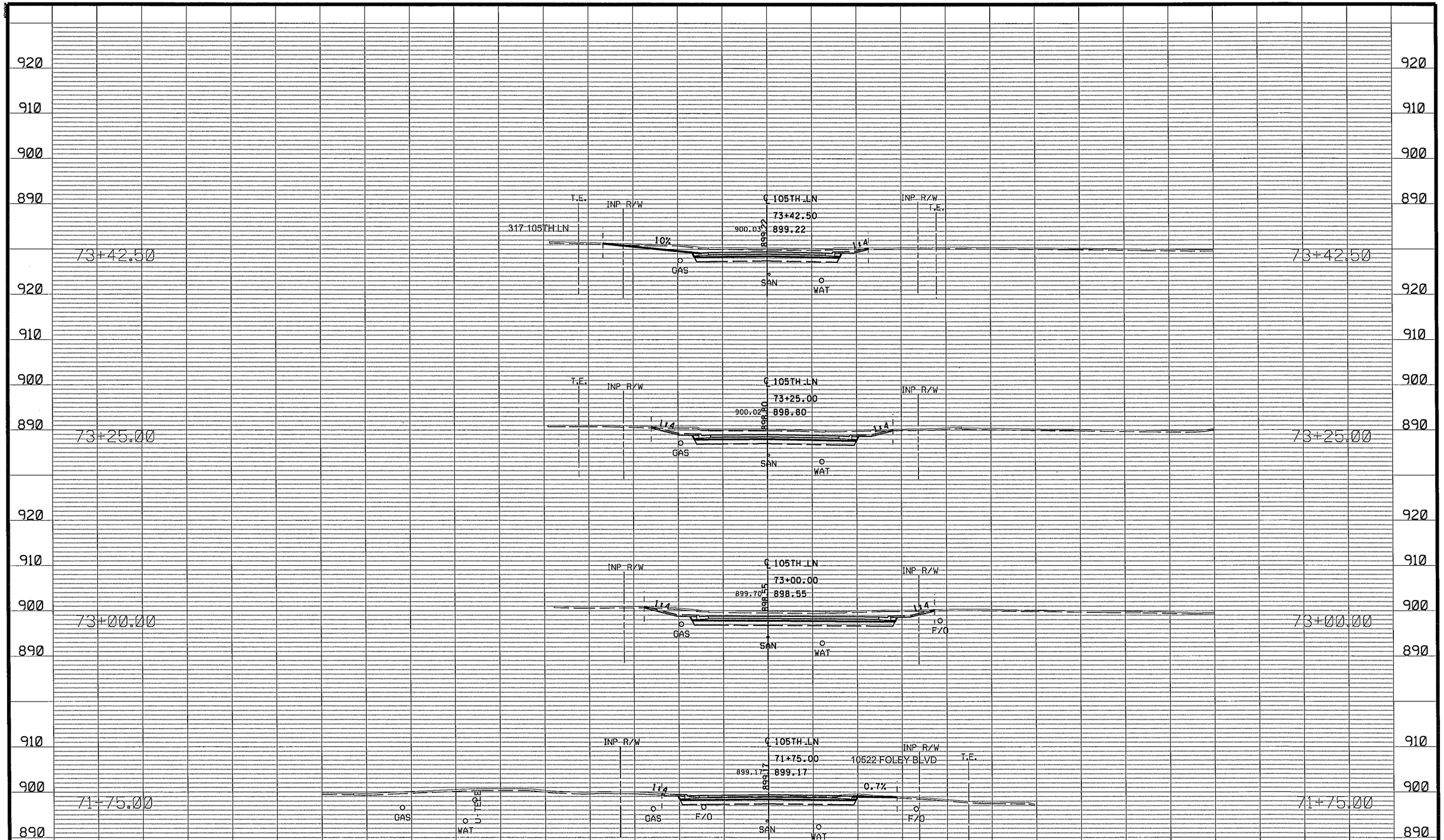
CROSS SECTIONS
STA 71+00.00 TO 71+50.00
Sheet 190 of 196 Sheets



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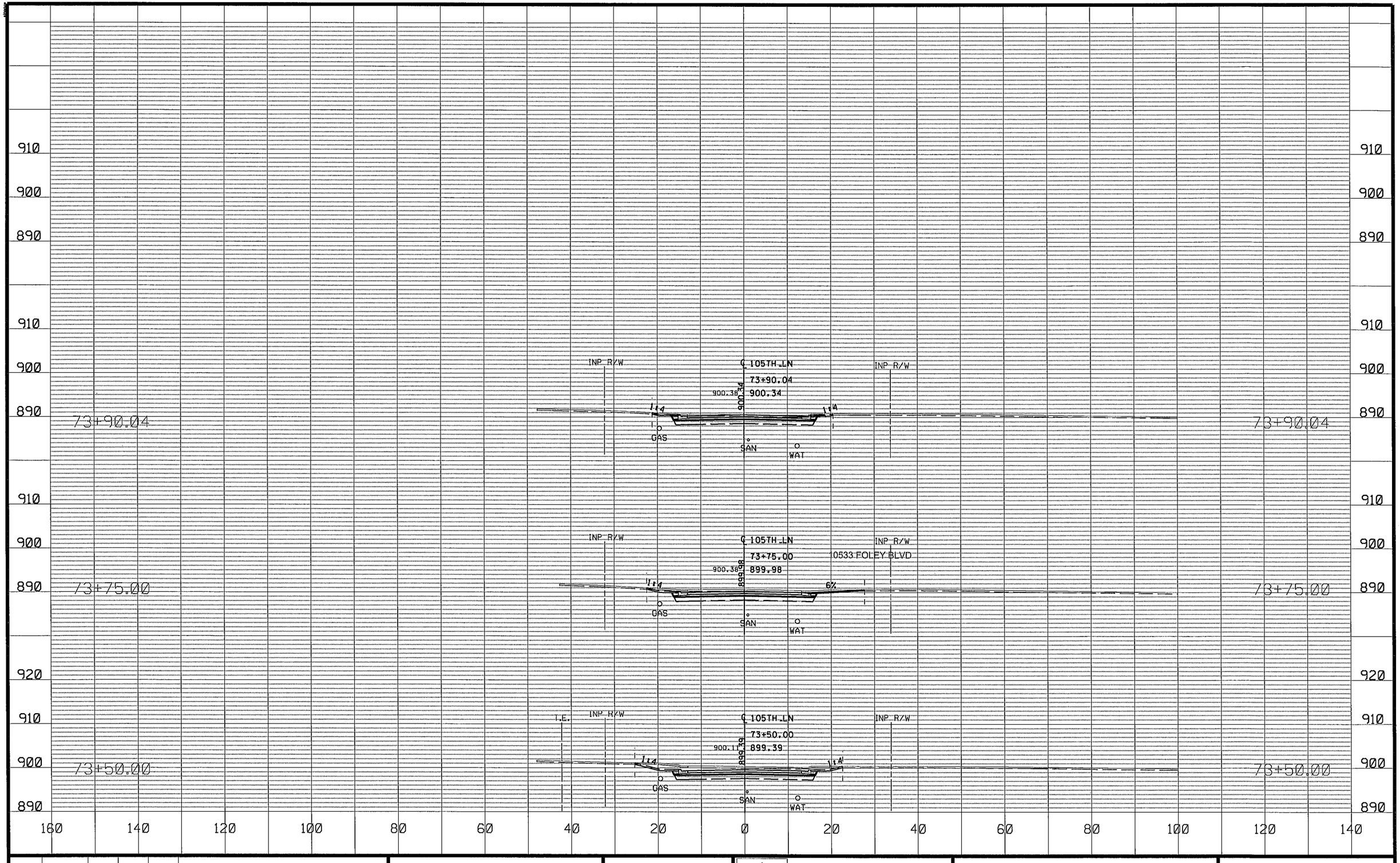
CROSS SECTIONS
STA 71+75.00 TO 73+42.50
Sheet 191 of 196 Sheets



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CROSS SECTIONS
STA 73+50.00 TO 73+90.04

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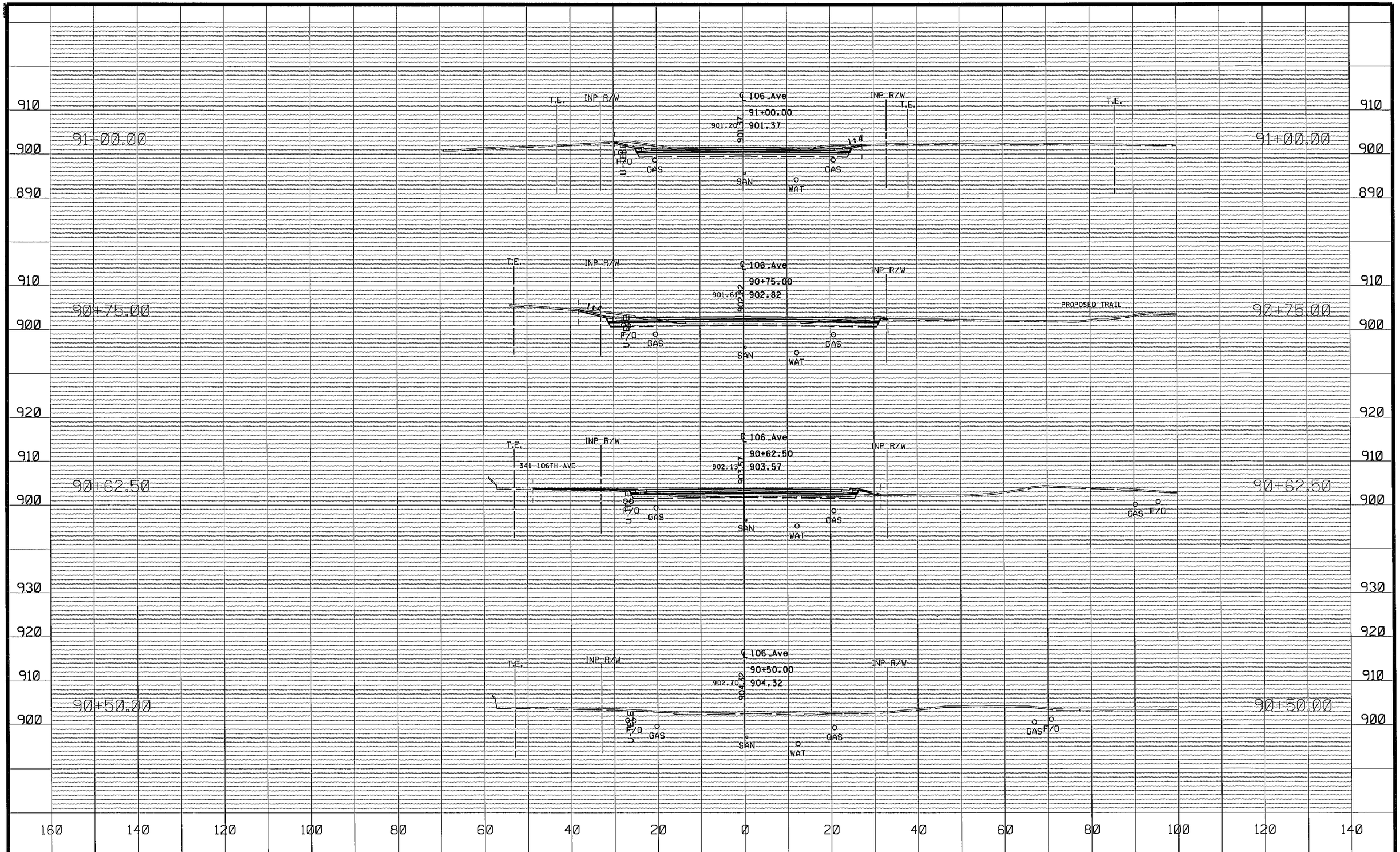

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CROSS SECTIONS

STA 90+50.00 TO 91+00.00

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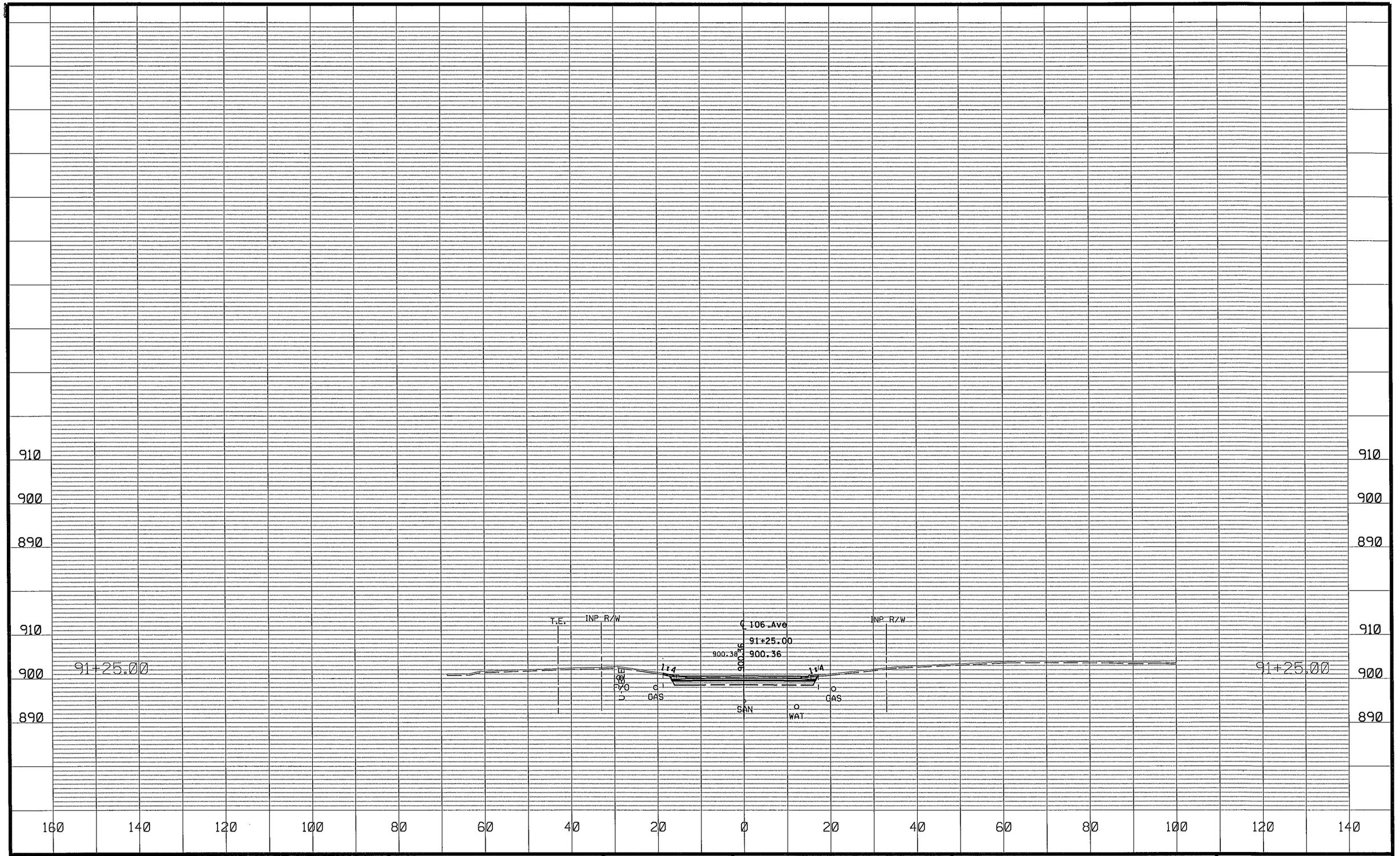

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CROSS SECTIONS
STA 91+25.00 TO 91+25.00
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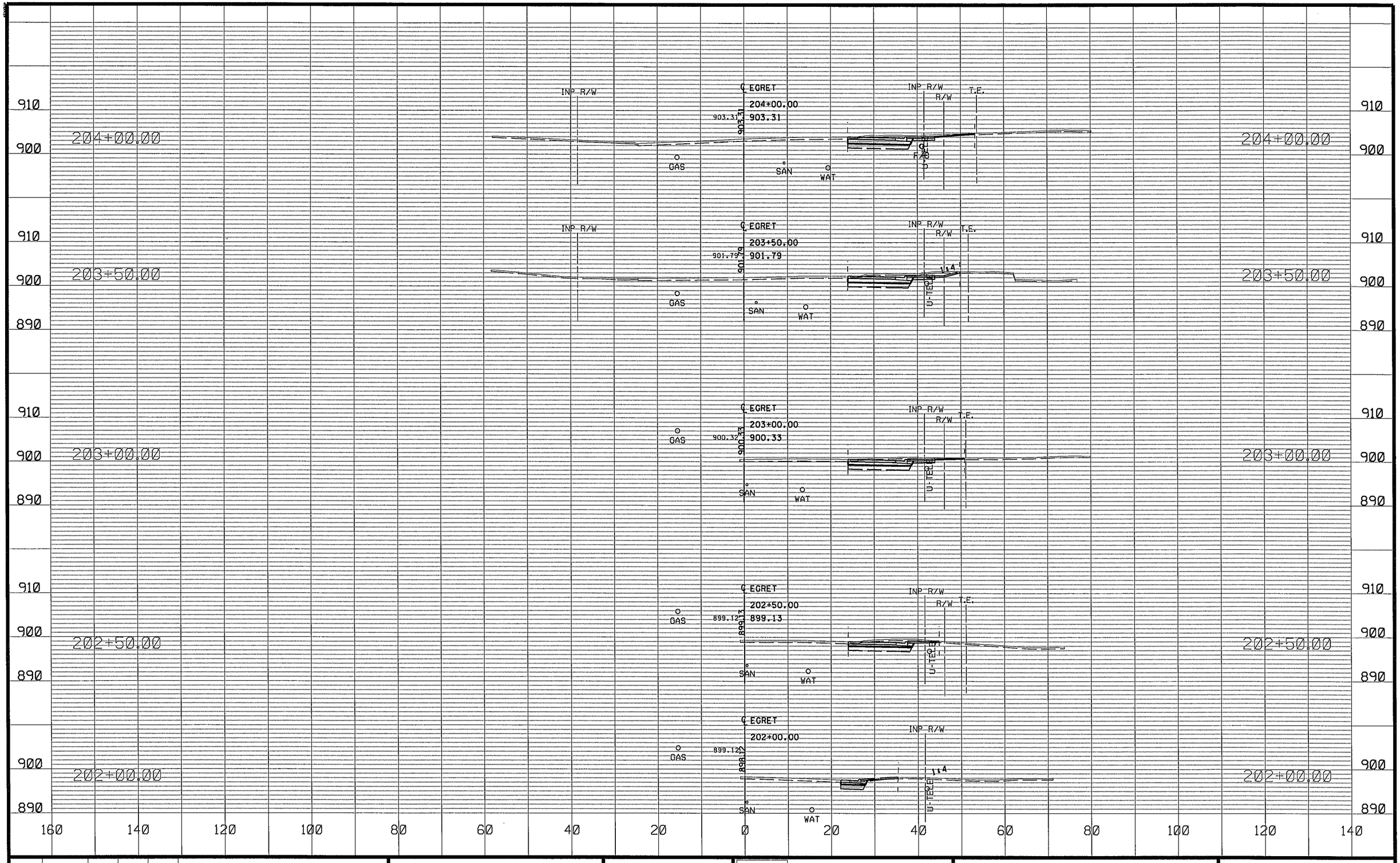

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CROSS SECTIONS
STA 202+00.00 TO 204+00.00
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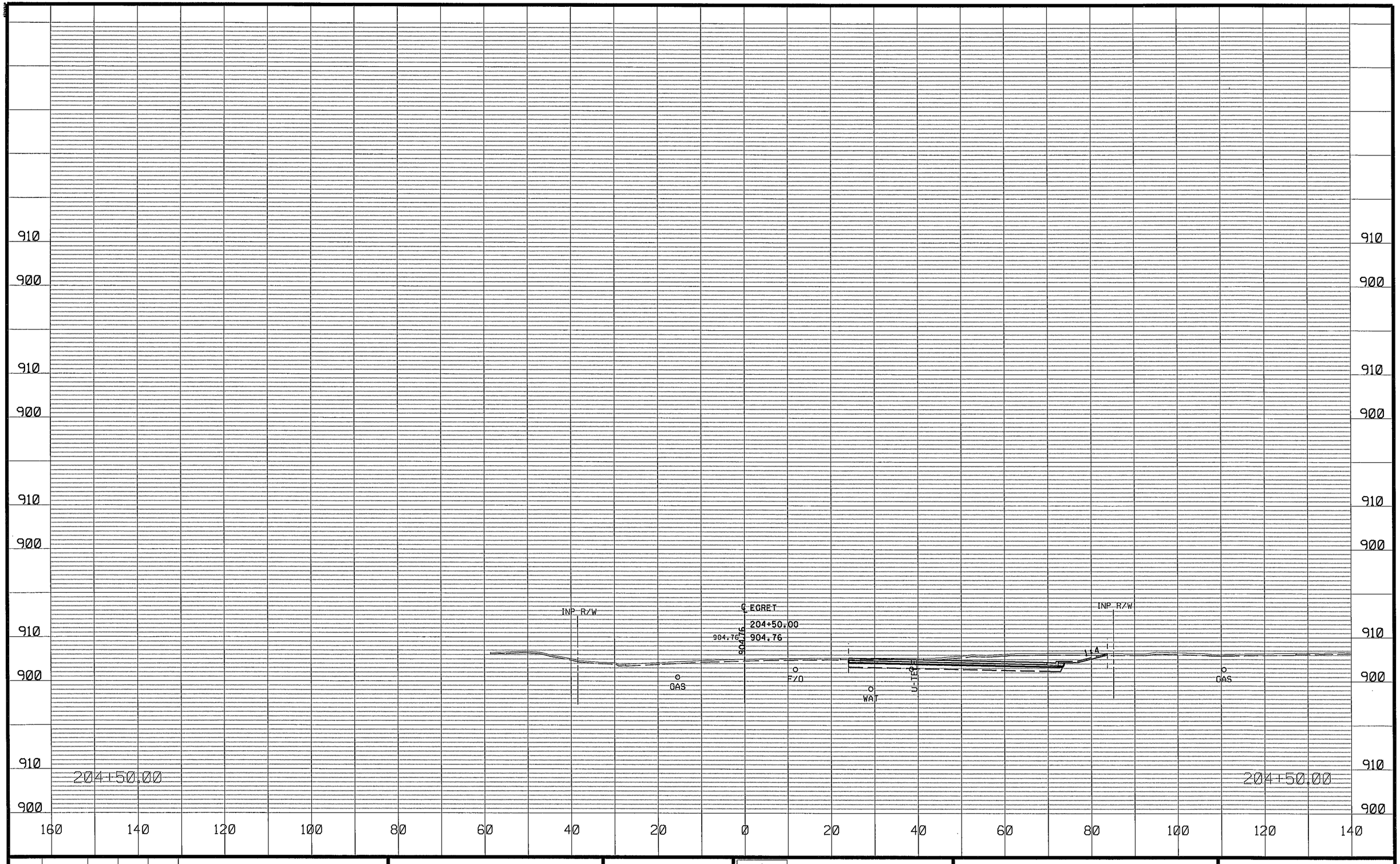

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CROSS SECTIONS

STA 204+50.00 TO 204+50.00

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