MINNESOTA DEPARTMENT OF TRANSPORTATION
ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING, AGGREGATE BASE, BITUMINOUS SURFACING, CURB AND GUTTER, AND STORM SEWER

LOCATED ON CSAH 54 BETWEEN 3500 FEET NORTH OF 147TH AVE AND CSAH 23

LOCATED ON EVERS STREET BETWEEN CSAH 54 AND CSAH 23 / TH 97

STATE AID PROJ. NO. 002-654-003

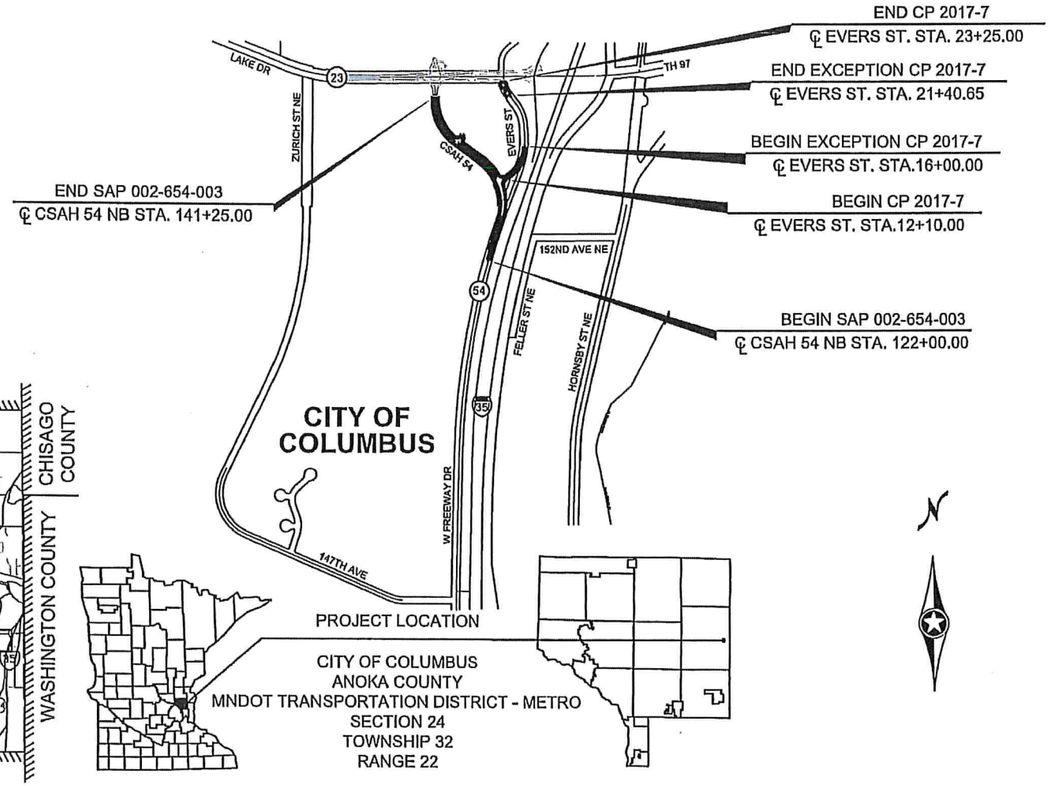
CSAH 54

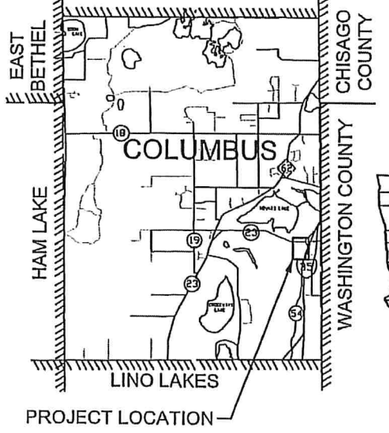
GROSS LENGTH	1925.00 FEET	0.365 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	1925.00 FEET	0.365 MILES

CITY PROJ. NO. CP 2017-7

EVERS STREET

GROSS LENGTH	1115.00 FEET	0.211 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	540.65 FEET	0.102 MILES
NET LENGTH	574.35 FEET	0.109 MILES





UTILITY QUALITY LEVEL NOTE:

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

DESIGN DESIGNATION (CSAH 54)

$ESAL_{20}$	449,347	FUNCTIONAL CLASSIFICATION	A MINOR RELIEVER
R VALUE	30	NO. OF TRAFFIC LANES 2	NO. OF PARKING LANES 0
ADT (2019)	2,981	DESIGN SPEED 40 MPH	
PROJ. ADT (2039)	4,770	BASED ON STOPPING SIGHT DISTANCE:	
PROJ. HCADT (2039)	281	HEIGHT OF EYE 3.5'	HEIGHT OF OBJECT 2.0'
SOIL FACTOR	NA	DESIGN SPEED NOT ACHIEVED AT:	
10 TON DESIGN		STA. ____ TO STA. ____	MPH ____

PLAN SYMBOLS

COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT OF WAY LINE
SLOPE EASEMENT
EXISTING RIGHT OF WAY
PROPERTY LINE
CORPORATE OR CITY LIMITS
RETAINING WALL
RAILROAD
RAILROAD RIGHT OF WAY
RIVER OR CREEK
DRAINAGE DITCH
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
WOOD FENCE
STONE WALL OR FENCE
HEDGE
LOWLAND
TIMBER
ORCHARD
BRUSH
NURSERY
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame) 1-S-F
F-FRAME C-CONCRETE
S-STONE T-TILE
B-BRICK ST-STUCCO
RAILROAD CROSSING BELL
RAILROAD CROSSING GATE
MANHOLE
CATCH BASIN
FIRE HYDRANT
CAST IRON MONUMENT
IRON PIN
GRAVEL PIT
SAND PIT
BORROW PIT
ROCK QUARRY

UTILITY SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE & POWER ON POWER POLES
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (Cable Terminal)
GAS MAIN
WATERMAIN
TELEPHONE CABLE IN CONDUIT
ELECTRIC CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
BURIED TELEPHONE CABLE T-BUR
BURIED ELECTRIC CABLE P-BUR
OVERHEAD UTILITY CABLE OHU
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'

GOVERNING SPECIFICATIONS

THE 2018 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 97 SHEETS

APPROVED _____ ANOKA COUNTY ENGINEER — DATE 12/12/18

APPROVED _____ CITY OF COLUMBUS ENGINEER — DATE 12/12/18

FOR _____ DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY — DATE 12/17/18

_____ STATE AID ENGINEER: APPROVED FOR STATE AID FUNDING — DATE 12/17/18

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_TSH.dgn 12/11/2018 3:44:10 PM

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

PRINT NAME: ELIZABETH MARKOSE

SIGNATURE: _____

DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

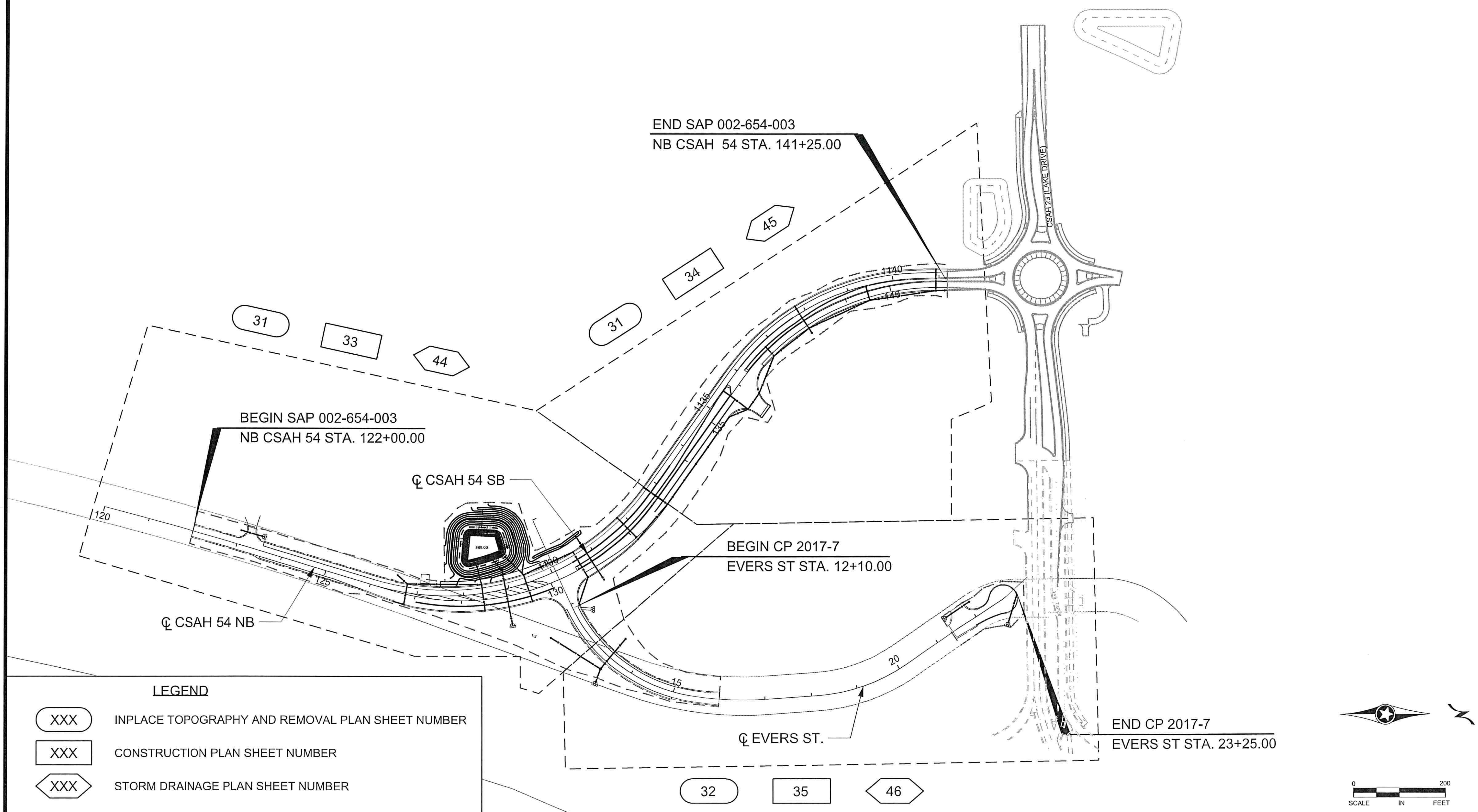
CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

TITLE SHEET

Sheet 1 of 97 Sheets



LEGEND

(XXX)	INPLACE TOPOGRAPHY AND REMOVAL PLAN SHEET NUMBER
[XXX]	CONSTRUCTION PLAN SHEET NUMBER
<XXX>	STORM DRAINAGE PLAN SHEET NUMBER

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_GL.dgn 12/11/2018 3:44:18 PM

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

PRINT NAME: ELIZABETH MARKOSE
SIGNATURE: Elizabeth [signature]
DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18
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CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY

ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

GENERAL LAYOUT

STATEMENT OF ESTIMATED QUANTITIES

TAB / NOTE	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITIES	PARTICIPATING LOCAL ROAD IMPROVEMENT PROGRAM FUNDS		
					ANOKA COUNTY 002-654-003 ROADWAY ESTIMATED QUANTITIES	CITY OF COLUMBUS 2017-7 ROADWAY ESTIMATED QUANTITIES	DRAINAGE ESTIMATED QUANTITIES
	2021.501	MOBILIZATION	LUMP SUM	1	0.644	0.176	0.180
	2031.502	FIELD OFFICE TYPE D	EACH	1	0.644	0.176	0.180
A	2101.505	CLEARING	ACRE	2.80	2.80		
A	2101.505	GRUBBING	ACRE	2.80	2.80		
A	2101.524	CLEARING	TREE	11	11		
A	2101.524	GRUBBING	TREE	10	10		
E	2104.502	REMOVE SIGN TYPE C	EACH	18	18		
C / [1]	2104.503	REMOVE PIPE CULVERTS	LIN FT	183	80	103	
D	2104.503	REMOVE CHAIN LINK FENCE	LIN FT	246	246		
D	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	263	263		
R / [10]	2104.503	REMOVE WATER SERVICE PIPE	LIN FT	4		4	
D	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	4409	4409		
G	2105.507	COMMON EXCAVATION (P)	CU YD	8353	6417	1936	
G	2105.507	MUCK EXCAVATION	CU YD	8098	1879	6219	
G	2105.507	SUBGRADE EXCAVATION (P)	CU YD	1960	1073	887	
G2	2105.507	CHANNEL AND POND EXCAVATION	CU YD	4386	4386		
H	2105.507	GRANULAR BORROW (LV)	CU YD	17857	15643	2214	
H, K	2105.507	SELECT GRANULAR BORROW (LV)	CU YD	8717	6350	2367	
	2105.601	DEWATERING	LUMP SUM	1	1		
F / [2]	2105.607	EXCAVATION SPECIAL	CU YD	992	992		
[3]	2123.510	DOZER	HOUR	20	20		
[13]	2130.523	WATER	M GALLON	130	130		
I / [4]	2211.507	AGGREGATE BASE (CV) CLASS 5 (P)	CU YD	2323	1867	456	
J / [5]	2211.509	AGGREGATE BASE CLASS 5	TON	28	28		
I	2221.507	SHOULDER BASE AGGREGATE (CV) CLASS 5	CU YD	46	26	20	
D	2232.504	MILL BITUMINOUS SURFACE (2.0")	SQ YD	19	19		
I	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	1129	1025	104	
J / [5]	2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,B)	TON	14	14		
I / [4]	2360.509	TYPE SP 12.5 NON WEAR COURSE MIX (3,B)	TON	1178	1178		
I / [4]	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,C)	TON	2833	2356	477	
L4	2451.507	FINE FILTER AGGREGATE (LV)	CU YD	107	86	21	
K	2451.507	COARSE AGGREGATE BEDDING (CV)	CU YD	19	19		
L	2501.502	15" RC PIPE APRON	EACH	3			3
L	2501.502	18" RC PIPE APRON	EACH	2			2
L	2501.502	21" RC PIPE APRON	EACH	2			2
L	2501.502	24" RC PIPE APRON	EACH	3			3
K	2501.502	44" SPAN RC PIPE-ARCH APRON	EACH	2			2
K	2501.502	18" GS SAFETY APRON	EACH	4			4
K	2501.503	18" CS PIPE CULVERT	LIN FT	83			83
K	2501.503	44" SPAN RC PIPE-ARCH CULVERT CLASS IIA	LIN FT	98			98
L2	2501.602	TRASH GUARD FOR 15" PIPE APRON	EACH	1			1
L2	2501.602	TRASH GUARD FOR 24" PIPE APRON	EACH	1			1
L	2501.602	REMOVE BULKHEAD	EACH	1			1
L4	2502.502	4" PRECAST CONCRETE HEADWALL	EACH	2		2	
L4	2502.503	4" PERF TP PIPE DRAIN (MOD)	LIN FT	2321	1861	460	
L	2503.503	15" RC PIPE SEWER CLASS V	LIN FT	1497			1497
L	2503.503	18" RC PIPE SEWER CLASS III	LIN FT	353			353
L	2503.503	21" RC PIPE SEWER CLASS III	LIN FT	234			234
L	2503.503	24" RC PIPE SEWER CLASS III	LIN FT	300			300

NOTES:
[1] INCLUDES ALL PIPE AND APRON TYPES/MATERIALS.
[2] EXCAVATION SPECIAL FROM STATION 139+00 TO STATION 141+25. CONSTRUCTION DEBRIS MAY BE EXPECTED IN THIS AREA.
[3] SHALL BE USED FOR MISCELLANEOUS GRADING ACTIVITIES AS DIRECTED BY THE ENGINEER.
[4] QUANTITY FOR ROADWAY.
[5] QUANTITY FOR DRIVEWAYS.
[6] ADJUSTING RINGS INCIDENTAL TO ALL NEW CASTINGS.
[7] SEE STANDARD PLAN 5-297.405 FOR DETAILS.
[8] NETTING SHALL BE NATURAL/BIODEGRADABLE.
[9] SANITARY SERVICE PIPE IS 6" PVC SDR 26.
[10] SEE CITY OF COLUMBUS PLAN SHEETS 80-82 FOR INFORMATION.
[11] WATER MAIN PIPE IS PVC C-900.
[12] 6" MJ DIP COMPACT FITTINGS.
[13] 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.
[14] THE CONTRACTOR SHALL PROVIDE CONSTRUCTION EXIT PLAN SHOWING ALL EXIT LOCATIONS FOR REVIEW & APPROVAL BY THE ENGINEER.
(P) PLAN QUANTITY.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_TAB.dgn 12/12/2018 7:07:25 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: ELIZABETH MARKOSE
SIGNATURE: Elizabeth Markose
DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18
DESIGN BY JRB DATE 09-01-17
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ANOKA COUNTY
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

STATEMENT OF ESTIMATED QUANTITES

Sheet 3 of 97 Sheets

STATEMENT OF ESTIMATED QUANTITIES

TAB / NOTE	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITIES	PARTICIPATING LOCAL ROAD IMPROVEMENT PROGRAM FUNDS		
					ANOKA COUNTY 002-654-003 ROADWAY ESTIMATED QUANTITIES	CITY OF COLUMBUS 2017-7 ROADWAY ESTIMATED QUANTITIES	DRAINAGE ESTIMATED QUANTITIES
R / [10]	2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH	2		2	
L	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	1			1
R / [9]	2503.603	6" PVC SANITARY SERVICE PIPE	LIN FT	230		230	
R / [10]	2504.602	CONNECT TO EXISTING WATER SERVICE	EACH	1		1	
AF	2504.602	ADJUST GATE VALVE AND BOX	EACH	2	2		
R / [10]	2504.602	6" GATE VALVE AND BOX	EACH	1		1	
R / [10]	2504.602	12"X6" WET TAP	EACH	1		1	
R / [11]	2504.603	6" PVC WATERMAIN	LIN FT	296		296	
R / [10]	2504.604	2" INSULATION	SQ YD	7		7	
R / [12]	2504.608	DUCTILE IRON FITTINGS	POUND	96		96	
L / [6]	2506.502	CASTING ASSEMBLY	EACH	40			40
L	2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN H	LIN FT	38.6			38.6
L	2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	110.1			110.1
L	2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN 54-4020	LIN FT	12.4			12.4
L	2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN 72-4020	LIN FT	12.4			12.4
AG	2506.503	RECONSTRUCT DRAINAGE STRUCTURE	LIN FT	3.9	3.9		
K, L, L5	2511.504	GEOTEXTILE FILTER TYPE 3	SQ YD	219	219		
K, L, L5	2511.507	RANDOM RIPRAP CLASS II	CU YD	89	76	13	
M	2521.518	4" CONCRETE WALK	SQ FT	7152	7152		
M	2521.518	6" CONCRETE WALK	SQ FT	97	97		
M	2531.503	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	3084	1542	1542	
M	2531.503	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	242		242	
J / [5]	2531.504	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	19	19		
M	2531.603	CONCRETE CURB & GUTTER DESIGN B418 (MOD)	LIN FT	2016	2016		
L5	2531.604	CONCRETE DRAINAGE FLUME	SQ YD	12		12	
N	2554.503	PERMANENT BARRICADES	LIN FT	16	16		
	2563.601	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	1	0.644	0.176	0.180
	2563.601	TRAFFIC CONTROL	LUMP SUM	1	0.644	0.176	0.180
	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	40	40		
N	2564.502	OBJECT MARKER TYPE X4-3	EACH	6	6		
N	2564.502	OBJECT MARKER TYPE X4-5	EACH	2	2		
N	2564.518	SIGN PANELS TYPE C	SQ FT	200	200		
N	2564.518	SIGN PANELS TYPE D	SQ FT	110	110		
[7],[14]	2573.501	STABILIZED CONSTRUCTION EXIT	LUMP SUM	1	1		
	2574.501	EROSION CONTROL SUPERVISOR	LUMP SUM	1	1		
O	2573.502	STORM DRAIN INLET PROTECTION	EACH	53	53		
O	2573.503	SILT FENCE, TYPE MS	LIN FT	5886	5886		
O	2573.503	SEDIMENT CONTROL LOG TYPE WOOD FIBER	LIN FT	576	576		
O	2574.508	FERTILIZER TYPE 3	POUND	616	616		
O	2574.508	FERTILIZER TYPE 4	POUND	73	73		
K, L	2575.504	SODDING TYPE SALT TOLERANT	SQ YD	180	180		
O / [8]	2575.504	EROSION CONTROL BLANKETS CATEGORY 3N	SQ YD	17824	17824		
O	2575.505	SEEDING	ACRE	3.6	3.6		
O	2575.508	SEED MIXTURE 25-141	POUND	181	181		
O	2575.508	SEED MIXTURE 33-261	POUND	22	22		
O	2575.523	RAPID STABILIZATION METHOD 3	M GALLON	22	22		
P	2582.503	4" SOLID LINE MULTI-COMPONENT	LIN FT	8470	8470		
P	2582.503	4" BROKEN LINE MULTI-COMPONENT	LIN FT	120	120		
P	2582.503	4" DOUBLE SOLID LINE MULTI-COMPONENT	LIN FT	1300	1300		
P	2582.503	24" SOLID LINE PREFORM THERMOPLASTIC	LIN FT	226	226		

NOTES:
- [1] INCLUDES ALL PIPE AND APRON TYPES/MATERIALS.
- [2] EXCAVATION SPECIAL FROM STATION 139+00 TO STATION 141+25. CONSTRUCTION DEBRIS MAY BE EXPECTED IN THIS AREA.
- [3] SHALL BE USED FOR MISCELLANEOUS GRADING ACTIVITIES AS DIRECTED BY THE ENGINEER.
- [4] QUANTITY FOR ROADWAY.
- [5] QUANTITY FOR DRIVEWAYS.
- [6] ADJUSTING RINGS INCIDENTAL TO ALL NEW CASTINGS.
- [7] SEE STANDARD PLAN 5-297.405 FOR DETAILS.
- [8] NETTING SHALL BE NATURAL/BIODEGRADABLE.
- [9] SANITARY SERVICE PIPE IS 6" PVC SDR 26.
- [10] SEE CITY OF COLUMBUS PLAN SHEETS 80-82 FOR INFORMATION.
- [11] WATER MAIN PIPE IS PVC C-900.
- [12] 6" MJ DIP COMPACT FITTINGS.
- [13] 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.
- [14] THE CONTRACTOR SHALL PROVIDE CONSTRUCTION EXIT PLAN SHOWING ALL EXIT LOCATIONS FOR REVIEW & APPROVAL BY THE ENGINEER.

(P) PLAN QUANTITY.

NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: ELIZABETH MARKOSE
SIGNATURE: Eliz Markose
DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18
DESIGN BY JRB DATE 09-01-17
CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

STATEMENT OF ESTIMATED QUANTITIES

Sheet 4 of 97 Sheets

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

2. BOTTOM OF THE SUBBASE GRADE SHALL BE DEFINED AS THE BOTTOM OF THE 1' OR 2' SUBGRADE EXCAVATION (SEE X-SECTIONS FOR DETAILS).

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. SELECT GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF MnDOT SPEC. 3149.2B2.

5. ALL TOPSOIL STRIPPING WILL BE CONSIDERED TO BE COMMON EXCAVATION.
TOPSOIL SHALL BE DEFINED AS EXISTING SOILS WHICH MEET MnDOT SPEC. 3877 THAT WOULD BE SUITABLE FOR REUSE. STRIP ALL TOPSOIL AND INPLACE SLOPE DRESSING WHERE PRESENT IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING. FOR ESTIMATING PURPOSES, THE DEPTH OF TOPSOIL AVAILABLE IS CONSIDERED TO BE 12 INCHES. CONTRACTOR SHALL VERIFY PRIOR TO PLACING BID.

6. SUITABLE GRADING MATERIAL SHALL BE USED TO BACK FILL THE EMBANKMENT UNDER THE NEW ROADWAY CORE, UP TO THE BOTTOM OF THE GRADING SUBGRADE.

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

8. UNSUITABLE SOILS ARE DEFINED AS SOILS WHICH DO NOT MEET OR ARE NOT MANUFACTURED TO MEET ANY OF THE ABOVE DEFINED CATEGORIES, AND ARE THEREFORE NOT REUSABLE AS STRUCTURAL BACKFILL OR EMBANKMENT WITHIN THE ROADWAY CORE.

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

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

11. 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.

12. 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.

13. 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.

14. WHERE MATCHING INTO INPLACE CROSSROADS, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1:4 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.

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

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

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

19. EMBANKMENT QUANTITIES SHOWN ON THE EARTHWORK TABULATION REPRESENT ALL EARTHWORK QUANTITIES BELOW THE PROPOSED GRADING GRADE OF ALL PERMANENT ROADWAYS. QUANTITIES REQUIRED ABOVE THE GRADING GRADE ARE PROVIDED IN DETAIL ON THE BITUMINOUS SUMMARY TAB.

20. 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.

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

22. 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.

23. UNSUITABLE SOILS NOT USED ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT AND DISPOSED OF IN ACCORDANCE WITH MnDOT SPECIFICATIONS.

24. INPLACE BITUMINOUS PAVEMENT RANGES FROM 4" TO 8" THICK (AVERAGE 6"). FOR INFORMATION ONLY, CONTRACTOR MAY VERIFY PAVEMENT DEPTH PRIOR TO PLACING BID. NO WARRANTY IS MADE OR IMPLIED WITH THIS INFORMATION.

25. AGGREGATE BASE MATERIAL SHALL MEET THE REQUIREMENTS OF MnDOT SPEC. 3138, CLASS 5.

26. COMPACTION OF AGGREGATE BASE SHOULD BE IN ACCORDANCE WITH MnDOT "MODIFIED PENETRATION INDEX METHOD." COMPACTION OF SELECT GRANULAR MATERIAL SHOULD BE IN ACCORDANCE WITH MnDOT "SPECIFIED DENSITY METHOD."

27. COMPACTION OF THE BASE AND BINDER BITUMINOUS LIFTS SHALL BE BY THE "SPECIFIED DENSITY METHOD." COMPACTION OF WEAR AND ENTRANCES SHALL BE BY THE "ORDINARY COMPACTION METHOD."

28. NO OVER-EXCAVATION WILL BE ALLOWED INSIDE THE COUNTY'S RIGHT OF WAY FOR THIS PROJECT.

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PRINT NAME: ELIZABETH MARKOSE
SIGNATURE:
DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18
DESIGN BY JRB DATE 09-01-17
CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY
HIGHWAY DEPT.

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SOILS AND CONSTRUCTION NOTES

Sheet 5 of 97 Sheets

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

STANDARD PLATES

PLATE NO.		DESCRIPTION
3000	L	REINFORCED CONCRETE PIPE (5 SHEETS)
3006	G	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007	E	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3014	J	REINFORCED CONCRETE PIPE ARCH (2 SHEETS)
3100	G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110	G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3128	H	METAL SAFETY APRON & GRATE (2 SHEETS)
3131	C	PRECAST CONCRETE HEADWALL FOR SUBSURFACE DRAINS
3133	D	RIPRAP AT RCP OUTLETS
3134	D	RIPRAP AT CSP OUTLETS
3145	G	CONCRETE PIPE TIES
4006	L	MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H
4010	H	CONCRETE SHORT CONE AND ADJUSTING RING (SECTIONAL CONCRETE)
4011	E	PRECAST CONCRETE BASE
4020	J	MANHOLE OR CATCH BASIN COVER (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS)
4026	A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101	D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110	F	COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) - CASTING NO. 715 AND 716
4134	A	CURB BOX CASTING FOR CATCH BASIN (FOR DESIGN B CURBS) - CASTING NO. 825
4140	D	SPECIAL GRATE CASTINGS FOR CATCH BASIN (CONVEX AND CONCAVE) - CASTING NO. 720 AND 721
4154	B	CATCH BASIN GRATE CASTING - CASTING NO. 816
4180	J	MANHOLE OR CATCH BASIN STEP
7100	H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
7111	J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER)
7113	A	CONCRETE APPROACH NOSE DETAIL
8000	J	CHANNELIZERS
8002	G	PERMANENT BARRICADE
8150	C	INSTALLATION OF CULVERT MARKERS

BASIS OF QUANTITIES

SPEC NO	DESCRIPTION	RATE
2357.506	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GALLONS / SQ YD / LIFT
2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE	115 POUNDS / SQ YD / IN
2360.509	TYPE SP 12.5 WEARING COURSE MIXTURE	115 POUNDS / SQ YD / IN
2360.509	TYPE SP 12.5 NON-WEARING COURSE MIXTURE	115 POUNDS / SQ YD / IN
2574.508	FERTILIZER TYPE 3	200 POUNDS / ACRE
2574.508	FERTILIZER TYPE 4	120 POUNDS / ACRE
2575.508	SEED MIXTURE 25-141	59 POUNDS / ACRE
2575.508	SEED MIXTURE 33-261	35 POUNDS / ACRE
2575.523	RAPID STABILIZATION METHOD 3	6 M GALLONS / ACRE

INDEX OF TABULATION CHARTS

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SIGNATURE: [signature]

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

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STANDARD PLATES
BASIS OF QUANTITIES &
INDEX OF TABULATION

CLEARING & GRUBBING SPEC (2101) — A

ALIGNMENT	STATION	TO	STATION	OFFSET LEFT	OFFSET RIGHT	CLEARING (ACRE)	CLEARING (TREE)	GRUBBING (ACRE)	GRUBBING (TREE)
CSAH 54 (002-654-003)									
54NB_10	127+47	-	128+76	167'	0'	0.40		0.40	
54NB_10	129+09			3'			1		1
54NB_10	129+14			124'			1		1
54NB_10	129+43			16'			1		1
54NB_10	129+71			80'			1		1
54NB_10	129+71			182'			2		1
54NB_10	130+07			50'			1		1
54NB_10	130+10			41'			1		1
54NB_10	130+15	-	135+25	80'	140'	1.35		1.35	
54NB_10	135+39	-	135+84		100'	0.05		0.05	
54NB_10	135+41	-	137+08	70'	44'	0.45		0.45	
54NB_10	137+40			9'			1		1
54NB_10	137+41	-	140+07	60'	17'	0.55		0.55	
54NB_10	140+52			53'			1		1
54NB_10	140+75			51'			1		1
					TOTAL	**2.80**	**11**	**2.80**	**10**

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

REMOVE EXISTING CULVERTS — C

ALIGNMENT	STATION	TO	STATION	OFFSET		REMOVE (SPEC. 2104) PIPE CULVERTS (LIN FT)	NOTES
CSAH 54 (002-654-003)							
54NB_10	123+07	-	123+42	30'	LT	35	[1]
54NB_10	127+01	-	127+46	21'	LT	45	[1]
					SUBTOTAL	**80**	
EVERS ST (CP2017-7)							
EVERS	13+57			7' - 61'	RT	58	[2]
EVERS	21+51	-	21+95	34' - 35'	LT	45	[1]
					SUBTOTAL	**103**	
					TOTAL	**183**	

NOTES:
[1] EXISTING CMP DRIVEWAY CULVERT.
[2] EXISTING 24" HDPE CENTERLINE CULVERT.

REMOVALS, SAWING AND MILLING PAVEMENT — D

ALIGNMENT	STATION	TO	STATION	OFFSET	REMOVE (SPEC. 2104) BITUMINOUS PAVEMENT (SQ YD)	SAWING (SPEC. 2104) BITUMINOUS PAVEMENT (LIN FT)	MILLING (SPEC 2232) EDGE MILL (2") (SQ YD)	REMOVE (SPEC. 2104) CHAIN LINK FENCE (LIN FT)	NOTES
54NB_10	122+00	-	131+38		3526				
EVERS	21+92	-	23+14		883				
54NB_10	122+00					25	6		
54NB_10	123+21			43' LT		18			[1]
54NB_10	127+16			40' LT		17			[1]
EVERS	16+00					26	6		
EVERS	21+41					30	7		
EVERS	21+77			41' LT		30			[1]
EVERS	23+14					117			
54NB_10	140+00	-	140+19	57' RT - 38' LT				97	[2]
54NB_10	140+00	-	141+61	57' RT - 65' RT				149	[2]
				TOTAL	**4409**	**263**	**19**	**246**	

NOTES:
[1] BITUMINOUS COMMERCIAL ACCESS.
[2] FENCE POST REMOVALS ARE INCIDENTAL.

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TABULATION CHARTS

Sheet 7 of 97 Sheets

EARTHWORK TABULATION (CSAH 54) — F

STATION	EXCAVATION TOTALS (EV)			EMBANKMENT TOTALS (CV)				
	COMMON (CU YD)	SUBGRADE (CU YD)	MUCK (CU YD)	TOPSOIL (CU YD)	GRANULAR (CU YD)	SELECT GRANULAR (CU YD)	MUCK BACKFILL (CU YD)	MUCK DISPOSAL (CU YD)
122+00.00								
122+50.00	72	89		17	13	81		
123+00.00	78	89		20	15	81		
123+50.00	93	89		21	20	84		
124+00.00	125	89		23	26	92		
124+50.00	140	93		23	30	97		
125+00.00	143	95		23	27	98		
125+50.00	149	94		25	25	100		
126+00.00	136	84		22	22	96		
126+50.00	124	77		17	18	95		
127+00.00	98	75		17	28	99		
127+50.00	81	54		15	63	103		
128+00.00	111	23	374	18	141	108	321	69
128+50.00	154	5	940	23	274	113	823	189
129+00.00	248	1	565	42	396	118	502	120
129+50.00	258			44	491	122		
130+00.00	222			27	721	146		
130+50.00	229			26	864	156		
131+00.00	211			28	857	135		
131+50.00	207			29	868	125		
132+00.00	208			27	803	125		
132+50.00	225			29	687	125		
133+00.00	261			31	557	125		
133+50.00	291			33	494	125		
134+00.00	291			34	559	123		
134+50.00	267			34	710	119		
135+00.00	223			29	897	113		
135+50.00	204			26	1046	112		
136+00.00	253			25	1083	187		
136+50.00	238			22	848	190		
137+00.00	176			20	525	118		
137+50.00	178			19	313	116		
138+00.00	200	2		21	156	115		
138+50.00	207	56		21	66	111		
139+00.00	170	56		15	107	105		
139+50.00	146	2		14	192	99		
140+00.00	147	18		16	127	96		
140+50.00	200	87		14	38	95		
141+00.00	288	138		15	12	95		
141+25.00	80	34		4	3	24		
SUBTOTAL	**7132**	**1350**	**1879**	**909**	**14122**	**4367**	**1646**	**378**
EXC SPECIAL	**(715)**	**(277)**						
54 SUBTOTAL	**6417**	**1073**	**1879**	**909**	**14122**	**4367**	**1646**	**378**

NOTE: EXCAVATION SPECIAL FROM STATION 139+00 TO STATION 141+25.
CONSTRUCTION DEBRIS MAY BE EXPECTED IN THIS AREA.

EARTHWORK TABULATION (EVERS ST) — F

STATION	EXCAVATION TOTALS (EV)			EMBANKMENT TOTALS (CV)				
	COMMON (CU YD)	SUBGRADE (CU YD)	MUCK (CU YD)	TOPSOIL (CU YD)	GRANULAR (CU YD)	SELECT GRANULAR (CU YD)	MUCK BACKFILL (CU YD)	MUCK DISPOSAL (CU YD)
12+10.00								
12+50.00	295			45	471	140		
13+00.00	388		766	66	518	191	335	104
13+50.00	331		1596	59	417	182	680	201
14+00.00	232	6	2188	42	260	168	800	203
14+50.00	159	47	1513	32	110	161	525	130
15+00.00	109	109	156	23	49	174	70	23
15+50.00	86	148		22	33	161		
16+00.00	80	161		26	23	149		
SUBTOTAL	**1680**	**471**	**6219**	**315**	**1881**	**1326**	**2410**	**661**

EARTHWORK TABULATION (EVERS CDS) — F

STATION	EXCAVATION TOTALS		EMBANKMENT TOTALS (CV)		
	COMMON (CU YD)	SUBGRADE (CU YD)	TOPSOIL (CU YD)	GRANULAR (CU YD)	SELECT GRANULAR (CU YD)
21+91.81					
22+00.00	7	28	2	14	23
22+25.00	28	88	8	27	71
22+50.00	60	100	11	33	82
22+75.00	95	119	10	29	111
23+00.00	66	81	5	15	78
SUBTOTAL	**256**	**416**	**36**	**118**	**365**

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ANOKA COUNTY
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TABULATION CHARTS

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EARTHWORK SUMMARY — G

	EXCAVATION TOTALS (EV)			EMBANKMENT TOTALS (CV)				
	COMMON (CU YD)	SUBGRADE (CU YD)	MUCK (CU YD)	TOPSOIL (CU YD)	GRANULAR (CU YD)	SELECT GRANULAR (CU YD)	MUCK BACKFILL (CU YD)	MUCK DISPOSAL (CU YD)
CSAH 54	6417	1073	1879	909	14122	4367	1646	378
EVERS ST.	1680	471	6219	315	1881	1326	2410	661
EVERS CUL-DE-SAC	256	416		36	118	365		
TOTALS	**8353**	**1960**	**8098**	**1260**	**16121**	**6058**	**4056**	**1039**

POND 600 EARTHWORK — G2

	CUT CU YD	FILL CU YD
SUITABLE MATERIAL [1]	3235	257
UNSUITABLE MATERIAL (TOPSOIL)	1151	851
TOTAL	**4386**	**1108**

NOTE:
[1] SUITABLE MATERIALS PER SPEC 2105.1A.6.
GENERAL NOTES:
ALL POND EXCAVATION PAID FOR AS CHANNEL AND POND EXCAVATION.
1' TOPSOIL ASSUMED.

EARTHWORK BALANCE — H

AVAILABLE — EXCAVATION (CU.YD.) (EV)

SUBGRADE EXCAVATION (EV) (BID ITEM)	**1,960**	SUITABLE	1,960 (EV)	120% SHRINKAGE	= (CV)	**1,633**
COMMON EXCAVATION (EV) (BID ITEM)	**8,353**	TOPSOIL	4,333 (EV)	120% SHRINKAGE	= (CV)	**3,611**
		SUITABLE	4,020 (EV)	120% SHRINKAGE	= (CV)	**3,350**
CHANNEL & POND EXCAVATION (EV) (BID ITEM)	**4,386**	POND	4,386 (EV)	UNSUITABLE (EV)		1151
				SUITABLE (EV)		3235
				120% SHRINKAGE	= (CV)	**2,696**
EXCAVATION SPECIAL (EV) (BID ITEM)	**992**	UNSUITABLE	992 (EV)			
MUCK EXCAVATION (EV) (BID ITEM)	**8,098**	MUCK	8,098 (EV)	120% SHRINKAGE	= (CV)	**6748**

NEEDS — EMBANKMENT (CU.YD.) (CV)

TOPSOIL		**2,111**
GRANULAR	(INCLUDES MUCK BACKFILL)	**20,434**
SELECT GRANULAR		**6,058**
MUCK DISPOSAL	(FOR FILL SLOPES OUTSIDE OF ROADWAY)	**1,039**

BALANCE — (+) EXCESS or (-) SHORTAGE (CU.YD.)

TOPSOIL	(2111 (CV) - (3611+1151) (CV)) x 1.4	=	**-3,711** EXCESS	(LV)
GRANULAR	((20434-1633-3350-2696)(CV)) X 1.4	=	**17,857** BORROW	(LV)
SELECT GRANULAR	6058(CV) x 1.4	=	**8,481** BORROW	(LV)
MUCK	(1039 (CV) - 6748 (CV)) x 1.4	=	**-7,993** EXCESS	(LV)

GENERAL NOTES
- SEE SOILS AND CONSTRUCTION NOTES FOR MATERIAL DEFINITIONS AND ADDITIONAL INFORMATION.
- ALL MATERIAL NOT USED ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT LIMITS WITH NO DIRECT PAYMENT. THE MATERIAL QUANTITY IS BASED ON ESTIMATED QUANTITIES. DISPOSAL SHALL BE IN ACCORDANCE WITH SPEC. 2105.
- THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER BEFORE HAULING MATERIAL OFF SITE.
- SHRINKAGE AND SWELL FACTORS ARE ASSUMED VALUES, USED ONLY FOR THE PURPOSE OF ESTIMATING QUANTITIES. IT SHALL BE UNDERSTOOD THAT NO WARRANTY IS MADE OR

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TABULATION CHARTS

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BITUMINOUS SUMMARY

I

ALIGNMENT	STATION	TO	STATION	DESCRIPTION		2211		2357	2360		NOTES
					BITUMINOUS SURFACE	AGGREGATE BASE CLASS 5	AGGREGATE SHOULDERING CLASS 5	BIT. TACK COAT	TYPE SP 12.5 WEAR (3,C)	TYPE SP 12.5 NON-WEAR (3,B)	
					SQ YD	CU YD	CU YD	GALLON	TON	TON	
CSAH 54 (002-654-003)											
54NB_10	122+00	-	123+55	LNB+SHLD	208	52	4	21	48	24	[1],[2]
54NB_10	123+55	-	125+89	LNB+SHLD	415	96	6	42	95	48	[1],[2]
54NB_10	125+89	-	127+03	LNB + RTL TAPER	275	50		28	63	32	[1],[2]
54NB_10	127+03	-	130+05	LNB + GORE AREA	847	141		85	195	97	[1],[2]
54NB_10	127+03	-	130+05	RTL	424	83		42	98	49	[1],[2]
54NB_10	130+05	-	130+75	INTERSECTION	613	102		61	141	70	[1],[2]
54NB_10	130+62	-	141+22	LNB	1472	245		147	339	169	[1],[2]
54NB_10	130+75	-	135+73	RTL	660	130		66	152	76	[1],[2]
54NB_10	135+73	-	136+68	NB INTERSECTION	344	57		34	79	40	[1],[2]
54NB_10	136+68	-	141+22	NB SHOULDER	295	67		30	68	34	[1],[2]
54NB_10	122+00	-	126+07	LSB+SHLD	807	134	10	81	186	93	[1],[2]
54SB_10	1126+04	-	1129+93	LSB+SHLD	780	146	6	78	179	90	[1],[2]
54SB_10	1130+50	-	1133+49	LSB+SHLD	595	111		60	137	68	[1],[2]
54SB_10	1130+50	-	1133+49	LTL	386	64		39	89	44	[1],[2]
54SB_10	1133+49	-	1135+65	LSB+LTL TAPER	553	101		55	127	64	[1],[2]
54SB_10	1135+65	-	1136+12	SB INTERSECTION	205	34		21	47	24	[1],[2]
54SB_10	1136+12	-	1137+68	LTL	198	33		20	46	23	[1],[2]
54SB_10	1136+12	-	1137+68	LSB	211	35		21	49	24	[1],[2]
54SB_10	1136+12	-	1141+18	LSB SHOULDER	342	77		34	79	39	[1],[2]
54SB_10	1137+68	-	1139+48	LSB+ LTL TAPER	362	68		36	83	42	[1],[2]
54SB_10	1137+68	-	1141+18	LSB	243	41		24	56	28	[1],[2]
				SUBTOTAL	**10235**	**1867**	**26**	**1025**	**2356**	**1178**	
EVERS ST (CP 2017-7)											
EVERS	12+10	-	16+00	LNB +SHLD	665	193	10	33	153		[3],[4]
EVERS	12+10	-	16+00	LSB + SHLD	639	142	9	32	147		[3],[4]
EVERS	21+42		21+92	NB + SB + DRVWAY	273			14	63		
EVERS	21+92	-	23+00	CUL-DE-SAC	496	121	1	25	114		[3],[4]
				SUBTOTAL	**2073**	**456**	**20**	**104**	**477**		
				TOTAL	**12308**	**2323**	**46**	**1129**	**2833**	**1178**	

NOTES:
[1] 6" BITUMINOUS ROAD AND SHOULDER, 4" - (3,C) WEAR, 2" - (3,B) NON-WEAR.
[2] 6" AGGREGATE BASE.
[3] 4" BITUMINOUS ROAD AND SHOULDER - (3,C) WEAR - 2" LIFTS.
[4] 8" AGGREGATE BASE.

DRIVEWAY TABULATION

J

ADDRESS	ALIGNMENT	STATION	DRIVEWAY WIDTH	AGGREGATE BASE CLASS 5	TYPE SP 9.5 WEAR (2,B)	6" CONCRETE DRIVEWAY PAVEMENT	NOTES
				TON	TON	SQ YD	
15226 FREEWAY DR W	54NB_10	123+21	18	14	8		[1]
15252 FREEWAY DR W	54NB_10	127+16	17	14	6	19	
		TOTAL		**28**	**14**	**19**	

NOTES:
[1] SEE CULVERT TAB FOR DRIVEWAY CULVERT INFORMATION.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_TAB.dgn 12/11/2018 3:45:01 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: ELIZABETH MARKOSE
SIGNATURE: Elizabeth M
DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18
DESIGN BY JRB DATE 09-01-17
CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

TABULATION CHARTS

Sheet 10 of 97 Sheets

CULVERT TABULATION

K

ALIGNMENT	STATION	TO	STATION	OFFSET		INVERT ELEVATION		SLOPE %	FURNISH & INSTALL									NOTES
				LEFT	RIGHT	INLET	OUTLET		18" CS PIPE CULVERT	18" GS SAFETY APRON	44" SPAN RCP-A CULVERT CL IIA	44" SPAN RCP-A APRON	SOD TYPE SALT TOLERANT	12" DEPTH RIPRAP CL II	GEOTEXTILE FILTER TYPE 3	COARSE AGGREGATE BEDDING	SELECT GRANULAR BORROW (LV)	
									LIN FT	EACH	LIN FT	EACH	SQ YD	CU YD	SQ YD	CU YD	CU YD	
54NB_10	123+00	-	123+48	31	31	896.55	896.40	0.31	35	2			13	4.6	22.9			[1]
54NB_10	131+00			57	44	901.00	901.00	0.00			98	2	69			19	236	[2]
EVERS	21+46	-	22+06			901.10	900.35	1.23	48	2			13	4.6	22.9			[1]
								TOTAL	83	4	98	2	95	9	46	19	236	

NOTES

[1] USE 1:6 APRON. NO SAFETY GRATES REQUIRED.

[2] COARSE AGGREGATE BEDDING TO BE 1-1/2" AGGREGATE, 12" DEPTH AND EXTENDING 1' BEYOND PIPE/APRON ON ALL SIDES.

GENERAL NOTES:

- STATION AND OFFSET FOR EACH STRUCTURE GIVEN AT APRON ENDS.
- INVERT ELEVATIONS GIVEN AT END OF APRON.
- FOR RIPRAP AND GEOTEXTILE FABRIC INSTALLATION SEE MN/DOT STANDARD PLATES 3133D AND 3134D.

CONCRETE TABULATION

M

STATION BEGIN	STATION END	ALIGNMENT	OFFSET			DESCRIPTION	SPEC 2521	SPEC 2531			CONCRETE NOSE DESIGN 7113 [1]
							4" CONCRETE WALK	CONCRETE CURB & GUTTER DESIGN B-418 (MOD)	CONCRETE CURB & GUTTER DESIGN B-424	CONCRETE CURB & GUTTER DESIGN B-618	
							SQ FT	LIN FT	LIN FT	LIN FT	SQ FT
CSAH 54 (002-654-003)											
125+89	127+03	54NB_10	18' RT	-	25' RT	RTL TAPER			117		
127+03	129+64	54NB_10		25' RT		RTL			273		
129+64	130+04	54NB_10	25'RT	-	78' RT	EVERS ST RADIUS			77		
130+36	130+75	54NB_10	76' RT	-	25' RT	EVERS ST RADIUS			75		
130+75	135+31	54NB_10		25' RT		LNB			467		
135+31	135+73	54NB_10	25' RT	-	79' RT	3/4 ACCESS RADIUS			76		
136+03	136+68	54NB_10	79' RT	-	20' RT	3/4 ACCESS RADIUS			93		
136+68	141+25	54NB_10	20'RT	-	17' RT	LNB			441		
130+67	135+87	54NB_10	13' LT	-	2' LT	LNB MEDIAN	4108	521			36
136+37	141+25	54NB_10	13' LT	-	2' LT	LNB MEDIAN	3044	489			33
1126+48	1141+18	54SB_10	20' LT	-	18' LT	LSB			1466		
1130+54	1135+60	54SB_10	13' RT	-	2' RT	LSB MEDIAN		511			
1136+17	1141+18	54SB_10	13' RT	-	2' RT	LSB MEDIAN		495			28
						SUBTOTAL	7152	2016	3084	0	97
EVERS ST (CP 2017-7)											
21+92	23+00	EVERS		-		CUL-DE-SAC				242	
						SUBTOTAL	0	0		242	0
						TOTAL	7152	2016	3084	242	97

NOTES:

[1] CONCRETE NOSE PAID FOR AS 6" CONCRETE WALK.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_TAB.dgn 12/11/2018 3:45:04 PM

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PRINT NAME: ELIZABETH MARKOSE

SIGNATURE: Elizabeth M

DATE: 12-12-18 LICENSE NO. 49118

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003

CP 2017-7

TABULATION CHARTS

Sheet 11 of 97 Sheets

TURF ESTABLISHMENT AND EROSION CONTROL

O

STATION	TO	STATION	ALIGNMENT	LOCATION	SILT FENCE TYPE MACHINE SLICED	STORM DRAIN INLET PROTECTION	SEDIMENT CONTROL LOG TYPE WOOD FIBER	FERTILIZER TYPE 3 (22-5-10)	FERTILIZER TYPE 4 (18-1-18)	SEEDING	SEED MIXTURE		EROSION CONTROL BLANKET (CAT. 3N)	RAPID STABILIZATION METHOD 3 SPEC 2575-3	NOTES
											25-141	33-261			
					LIN FT	EACH	LIN FT	POUND	POUND	ACRE	POUND	POUND	SQ YD	M GALLON	
122+00	-	131+34	54NB_10	RT	2406			118		0.6	35		2848	3.6	
122+00	-	142+00	54NB_10	RT		20									[1]
131+50	-	141+25	54NB_10	RT	515			111		0.6	33		2684	3.6	
122+00	-	127+05	54NB_10	LT			416		38	0.3		11	1540	1.8	
122+00	-	142+00	54NB_10	LT		31									[1]
127+25	-	141+25	54NB_10	LT	2657			190	23	1.1	56	7	5537	6.6	
12+50	-	16+00	EVERS	RT				56	6	0.3	16	2	1581	1.8	
11+63	-	16+00	EVERS	LT			128	113	6	0.6	33	2	2960	3.6	
21+90	-	23+28	EVERS	RT & LT	308	2	32	28		0.1	8		674	0.6	
				TOTAL	**5886**	**53**	**576**	**616**	**73**	**3.6**	**181**	**22**	**17,824**	**22**	

NOTES:
[1] INCLUDES STORM DRAIN INLET PROTECTION FOR EXISTING STRUCTURES NEAR 54 NB STATION 142+00.

GENERAL NOTES:
- 25-141 - APPLICATION RATE 59 LB/ACRE.
- 33-261 - APPLICATION RATE 35 LB/ACRE. (POND SLOPES AND WETLAND).
- FERTILIZER TYPE 3 FOR SEED 25-121. APPLICATION RATE: 200 LB/ACRE.
- FERTILIZER TYPE 4 FOR SEED 33-261. APPLICATION RATE: 120 LB/ACRE.
- EROSION CONTROL BLANKET (NATURAL) TO BE PLACED ON ALL POND SEEDING AREAS.
- QUANTITIES ARE BASED ON 110% OF THE COMPUTED AREA.
- RAPID STABILIZATION METHOD 3 TO BE APPLIED AS NECESSARY, AS DIRECTED BY ENGINEER.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_TAB.dgn 12/11/2018 3:45:09 PM

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ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

TABULATION CHARTS

Sheet 12 of 97 Sheets

UTILITY CONTACTS — AA

CITY OF COLUMBUS
16319 KETTLE RIVER BLVD
COLUMBUS, MN 55025
CONTACT: DENNIS POSTLER
CITY ENGINEER
TEL: 651-292-4492

CONNEXUS ENERGY
14601 RAMSEY BLVD
RAMSEY, MN 55303
CONTACT: MATT RAUSCHENDORFER
TEL: 763-323-4259
CELL: 763-218-4655

XCEL ENERGY GAS
1700 E. COUNTY RD E
WHITE BEAR LAK, MN 55112
CONTACT: SCOTT WIDMER
TEL: 651-779-3506

CENTURYLINK
390 COMMERCE DR.
WOODBURY, MN 55125
CONTACT: JEFFREY GILBERT
TEL: 651-730-1362

ZAYO FIBER
CONTACT: STEVE SENGER
TEL: 952-230-9660
STEVEN.SENGER@ZAYO.COM

GAS - XCEL ENERGY — AB

STATION		LOCATION		INPLACE ITEM	REMARKS
BEGIN	END	ALIGN	OFFSET		
122+00	127+38	54NB_10	21' LT TO 0	2" PLASTIC	RELOCATE
127+38	129+73	54NB_10	0 TO 132' RT		RELOCATE
11+96	13+78	EVERS	134' RT TO 0		RELOCATE
13+78	16+00	EVERS	0 TO 20' LT		RELOCATE
16+00	21+92	EVERS	20' LT TO 21' LT	FILL	LEAVE
21+92	22+05	EVERS	21' LT TO 22' LT		RELOCATE
22+05	22+03	EVERS	22' LT TO 242' LT		LEAVE
22+05	22+88	EVERS	22' LT TO 0		RELOCATE
22+88	23+17	EVERS	0 TO 25' RT		RELOCATE
23+17	23+41	EVERS	25' RT TO 0		RELOCATE
23+41	23+41	EVERS	0 TO 11' LT		RELOCATE
23+41		EVERS	11' LT	GAS VALVE	RELOCATE

TELEPHONE CENTURYLINK — AC

STATION		LOCATION		INPLACE ITEM	REMARKS
BEGIN	END	ALIGN	OFFSET		
122+00	122+29	54NB_10	46' LT TO 46' LT	T-BUR	LEAVE
122+29		54NB_10	46' LT	SBT	LEAVE
122+29	125+00	54NB_10	46' LT TO 48' LT	T-BUR	RELOCATE
125+00	125+94	54NB_10	48' LT TO 43' LT	T-BUR	RELOCATE
125+94	126+12	54NB_10	43' LT TO 33' LT	T-BUR	RELOCATE
126+12	128+07	54NB_10	33' LT TO 0	T-BUR	RELOCATE
128+07	129+00	54NB_10	0' LT TO 46' RT	T-BUR	RELOCATE
11+73	13+17	EVERS	129' RT TO 0' RT	T-BUR	LEAVE
13+17	15+00	EVERS	0 TO 45' LT	T-BUR	RELOCATE
15+00	19+29	EVERS	45' LT TO 41' LT	T-BUR	LEAVE
19+29	22+39	EVERS	41' LT TO 43' LT	T-BUR	LEAVE
22+39	23+28	EVERS	43' LT TO 6' LT	T-BUR	LEAVE
23+28		EVERS	6' LT	T-MH	LEAVE

NOTE:
CONTRACTOR SHOULD PROCEED WITH CARE WHEN GRADING AROUND SBT.

POWER - CONNEXUS ENERGY — AD

STATION		LOCATION		INPLACE ITEM	REMARKS
BEGIN	END	ALIGN	OFFSET		
122+00	123+83	54NB_10	41' LT TO 39' LT	OHP	LEAVE
123+83		54NB_10	39' LT	POLE	RELOCATE
123+83	127+59	54NB_10	35' LT TO 22' LT	OHP	RELOCATE
127+59		54NB_10	22' LT	POLE	RELOCATE
127+59	129+00	54NB_10	22' LT 42' RT	OHP	RELOCATE
11+68	12+84	EVERS	120' RT TO 17' RT	OHP	RELOCATE
12+84		EVERS	17' RT	POLE	RELOCATE
12+84	16+23	EVERS	17' RT TO 45' LT	OHP	RELOCATE
16+23		EVERS	45' LT	POLE	LEAVE
16+23	19+59	EVERS		OHP	LEAVE
19+59		EVERS	47' LT	POLE	LEAVE
19+59	21+34	EVERS	47' LT TO 42' LT	OHP	LEAVE
21+34		EVERS	42' LT	POLE	LEAVE
21+34	22+91	EVERS	42' LT TO 38' LT	OHP	LEAVE
22+27	22+91	EVERS	33' RT TO 38' LT	OHP	LEAVE
22+91		EVERS	38' LT	POLE	LEAVE

FIBER OPTIC ZAYO — AE

STATION		LOCATION		INPLACE ITEM	REMARKS
BEGIN	END	ALIGN	OFFSET		
22+61	23+28	EVERS	43' RT - 5' LT	F/O	RELOCATE

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_TAB.dgn 12/11/2018 3:45:12 PM

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ANOKA COUNTY HIGHWAY DEPT.

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CP 2017-7

TABULATION CHARTS

Sheet 13 of 97 Sheets

WATERMAIN - CITY OF COLUMBUS					AF
STATION		LOCATION		INPLACE ITEM	REMARKS
BEGIN	END	ALIGN	OFFSET		
122+00	124+00	54NB_10	26' RT TO 26' RT	8" PVC	LEAVE
124+00		54NB_10	21' RT	GV	ADJUST
124+00	125+29	54NB_10	26' RT TO 27' RT	8" PVC	LEAVE
125+29	125+29	54NB_10	27' RT TO 36' RT	12" PVC	LEAVE
125+29		54NB_10	31' RT	GV	LEAVE
125+29	125+34	54NB_10	27' RT TO 27' RT	12" PVC	LEAVE
125+34		54NB_10	27' RT	GV	LEAVE
125+34	125+67	54NB_10	27' RT TO 30' RT	12" PVC	LEAVE
125+67		54NB_10	25' RT	GV	LEAVE
125+67	126+51	54NB_10	30' RT TO 37' RT	12" PVC	LEAVE
126+51		54NB_10	25' RT	GV	LEAVE
126+51		54NB_10	33' RT	HYDRANT	LEAVE
126+51	129+00	54NB_10	25' RT TO 126' RT	12" PVC	LEAVE
12+35	13+72	EVERS	150' RT TO 45' RT	12" PVC	LEAVE
13+72		EVERS	45' RT	GV	LEAVE
13+72	14+51	EVERS	45' RT TO 36' RT	12" PVC	LEAVE
14+51		EVERS	36' RT	GV	LEAVE
14+51		EVERS	44' RT	HYDRANT	LEAVE
14+51	18+20	EVERS	36' RT TO 25' RT	12" PVC	LEAVE
18+20	21+05	EVERS	25' RT TO 32' RT	12" PVC	LEAVE
21+05		EVERS	32' RT	GV	LEAVE
21+05		EVERS	40' RT	HYDRANT	LEAVE
21+05	22+19	EVERS	32' RT TO 27' RT	12" PVC	LEAVE
22+19		EVERS	27' RT	GV	ADJUST
22+19	22+71	EVERS	27' RT TO 65' RT	12" PVC	LEAVE
22+71	23+31	EVERS	27' RT TO 14' LT	12" PVC	LEAVE
23+31		EVERS	14' LT	GV	LEAVE

GENERAL NOTES
- SEE CITY OF COLUMBUS PLAN SET FOR DETAILS.

SANITARY SEWER - CITY OF COLUMBUS								AG
STATION		LOCATION		INPLACE ITEM	EXISTING TOC ELEVATION	PROPOSED TOC ELEVATION	RECONSTRUCT MANHOLE LIN FT	NOTES
BEGIN	END	ALIGN	OFFSET					
122+00	125+46	54NB_10	35" LT TO 28" LT					
125+46		54NB_10	28" LT	MANHOLE	896.05	896.92	0.9	[1]
125+46	125+44	54NB_10	28' LT TO 37' RT					
125+46	128+94	54NB_10	28' LT TO 53' RT					
128+94		54NB_10	53' RT	MANHOLE	894.44	896.50	2.1	[1]
11+77	15+23	EVERS	137' RT TO 33' LT					
15+23		EVERS	33' LT	MANHOLE	894.13	895.00	0.9	[1]
15+23	16+77	EVERS	33' LT TO 34' LT					
16+77		EVERS	34' LT	MANHOLE	896.49			
16+77	18+29	EVERS	34' LT TO 33' LT					
18+29		EVERS	33' LT	MANHOLE	897.49			
18+29	19+48	EVERS	33' LT TO 32' LT					
19+48	23+21	EVERS	32' LT TO 0					
						TOTAL	3.9	

NOTES:
[1] USE 7" CASTING NO. 700-7 AND NO. 716 COVER CASTINGS PER STANDARD PLATES 4101 AND 4110 RESPECTIVELY. ADJUSTING RINGS ARE INCIDENTAL. PAID AS RECONSTRUCT DRAINAGE STRUCTURE PER SPEC 2506.503.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_TAB.dgn 12/11/2018 3:45:16 PM

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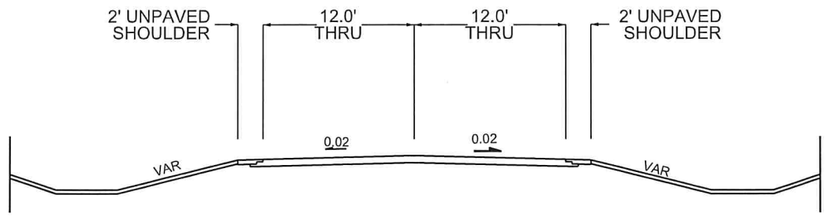
TABULATION CHARTS

Sheet 14 of 97 Sheets

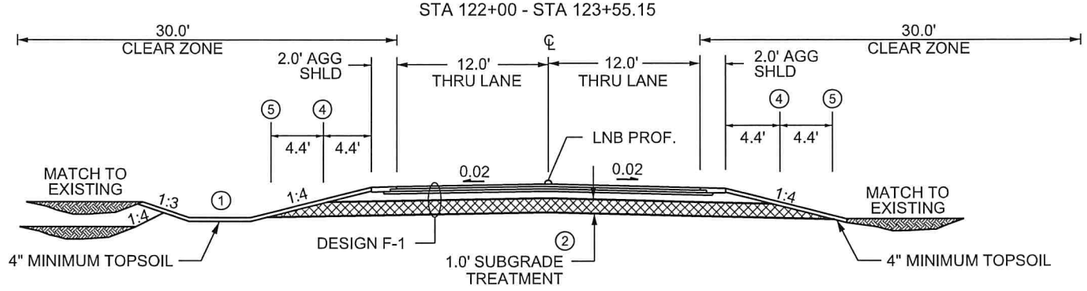
EXISTING CSAH 54 (WEST FREEWAY DRIVE)

STA 122+00 - TH 97



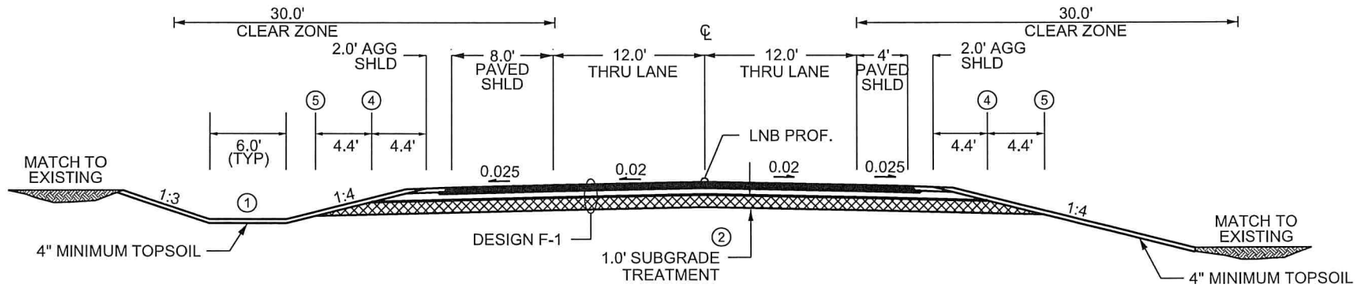
CSAH 54 (WEST FREEWAY DRIVE)

STA 122+00 - STA 123+55.15



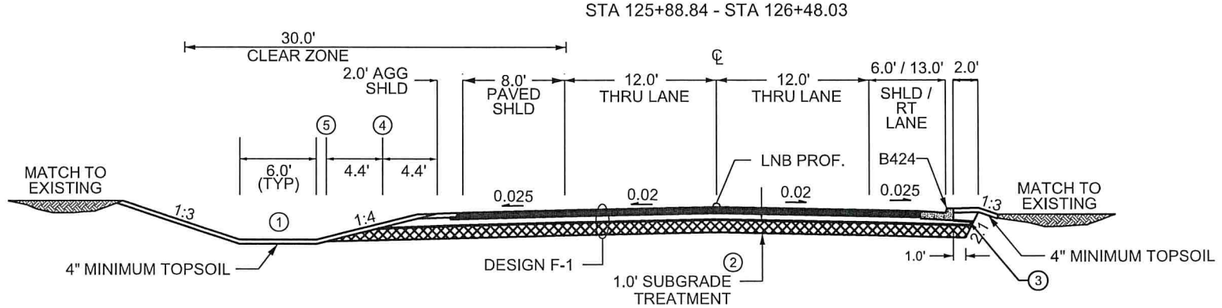
CSAH 54 (WEST FREEWAY DRIVE)

STA 123+55.15 - STA 125+88.84



CSAH 54 (WEST FREEWAY DRIVE)

STA 125+88.84 - STA 126+48.03



NOT TO SCALE

GENERAL NOTES:

- ALL STATIONING FOR THESE SECTIONS BASED ON 54NB_10 ALIGNMENT.
- SELECT GRANULAR SHALL BE USED TO BACKFILL 1' SUBGRADE TREATMENT.
- SEE CONSTRUCTION PLANS FOR TURN LANE LOCATIONS.
- ALL CROSS SLOPES ARE EXPRESSED AS FOOT PER FOOT.
- ALL SECTIONS ARE SHOWN FOR NORMAL CROWN, FOR SUPERELEVATION DETAILS AND TRANSITIONS, SEE SUPER ELEVATION PLAN SHEET NO. 40 .
- 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 BASE WILL EXTEND 1' BEYOND BACK OF CURB, AND 2' BEYOND RURAL SHOULDER EDGE.
- PLACE 4.0" TOPSOIL & SEED ON ALL DISTURBED AREAS.
- FOR DITCH DETAILS, ELEVATIONS, AND SIDE SLOPE VARIATIONS, SEE CROSS SECTIONS.

NOTES:

① SEE PROFILE & X-SECTIONS FOR SPECIAL DITCH GRADES.

② SUBCUT AS NECESSARY, OR AS SHOWN IN DESIGN F-1, TO MAINTAIN A UNIFORM ROAD CORE.

③ BACKFILL WITH SUITABLE GRADING MATERIAL.

④ GRADING PI - VARIABLE WIDTH IN SUPERELEVATION.

⑤ SUBGRADE PI - VARIABLE WIDTH IN SUPERELEVATION.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_TYP.dgn 12/11/2018 3:45:20 PM

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TYPICAL SECTIONS CSAH 54

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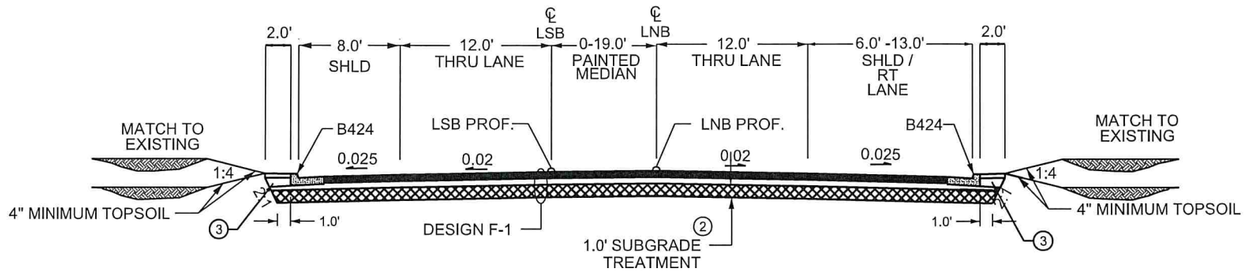
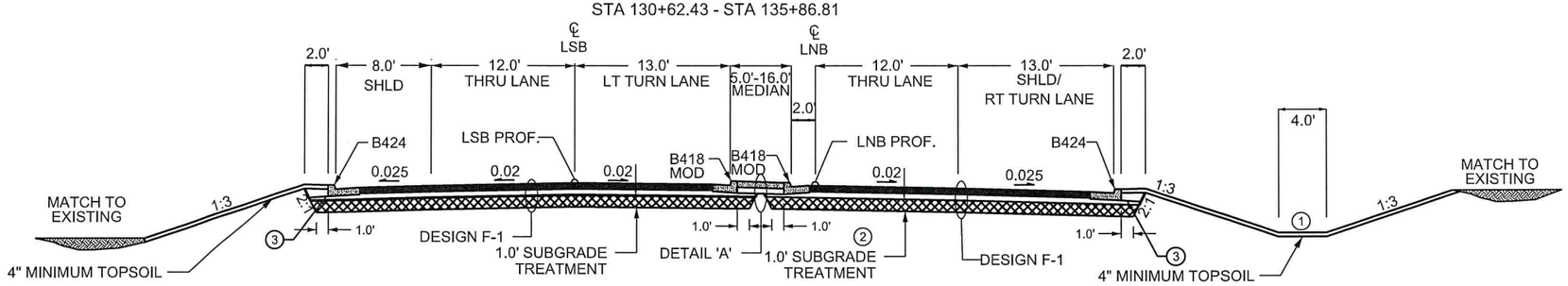
CSAH 54 (WEST FREEWAY DRIVE)

STA 126+48.03 - STA 130+62.43



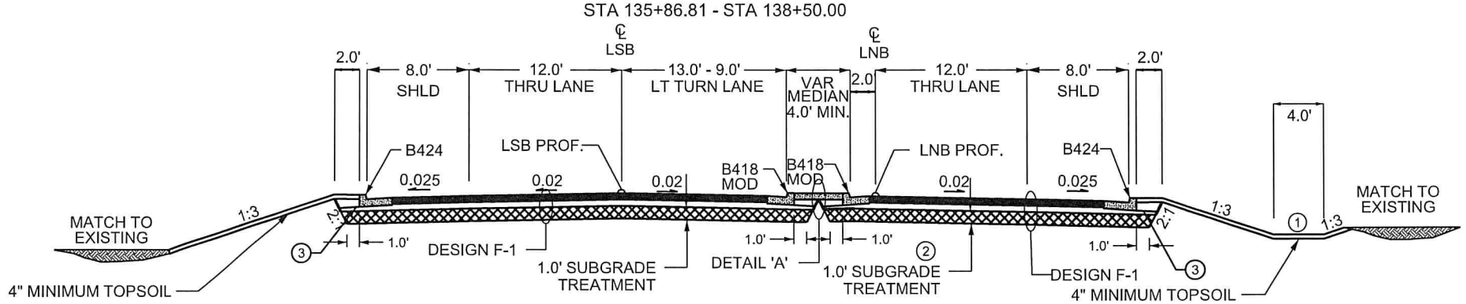
CSAH 54 (WEST FREEWAY DRIVE)

STA 130+62.43 - STA 135+86.81



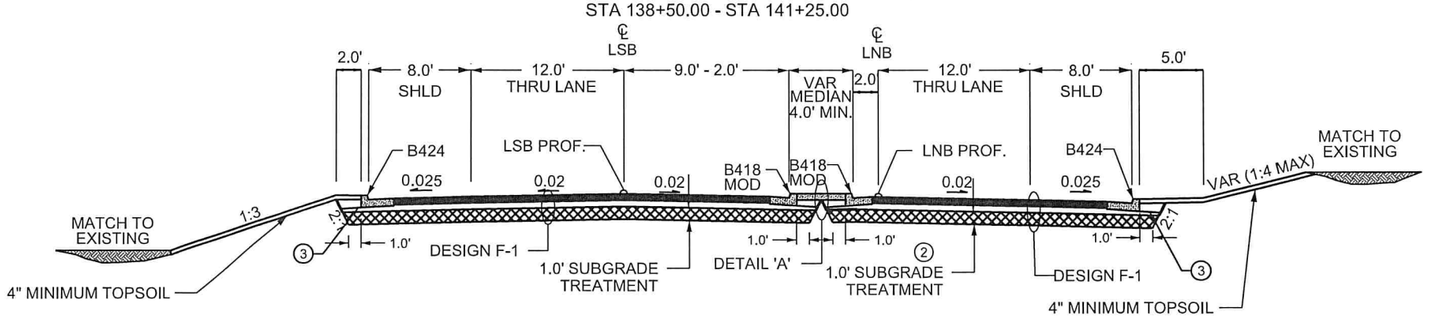
CSAH 54 (WEST FREEWAY DRIVE)

STA 135+86.81 - STA 138+50.00



CSAH 54 (WEST FREEWAY DRIVE)

STA 138+50.00 - STA 141+25.00



NOT TO SCALE

GENERAL NOTES:

- ALL STATIONING FOR THESE SECTIONS BASED ON 54NB_10 ALIGNMENT.
- SELECT GRANULAR SHALL BE USED TO BACKFILL 1' SUBGRADE TREATMENT.
- SEE CONSTRUCTION PLANS FOR TURN LANE LOCATIONS.
- ALL CROSS SLOPES ARE EXPRESSED AS FOOT PER FOOT.
- ALL SECTIONS ARE SHOWN FOR NORMAL CROWN, FOR SUPERELEVATION DETAILS AND TRANSITIONS, SEE SUPER ELEVATION PLAN SHEET NO. 40 .
- 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 BASE WILL EXTEND 1' BEYOND BACK OF CURB, AND 2' BEYOND RURAL SHOULDER EDGE.
- PLACE 4.0" TOPSOIL & SEED ON ALL DISTURBED AREAS.
- FOR DITCH DETAILS, ELEVATIONS, AND SIDE SLOPE VARIATIONS, SEE CROSS SECTIONS.

NOTES:

① SEE PROFILE & X-SECTIONS FOR SPECIAL DITCH GRADES.

② SUBCUT AS NECESSARY, OR AS SHOWN IN DESIGN F-1, TO MAINTAIN A UNIFORM ROAD CORE.

③ BACKFILL WITH SUITABLE GRADING MATERIAL.

④ GRADING PI - VARIABLE WIDTH IN SUPERELEVATION.

⑤ SUBGRADE PI - VARIABLE WIDTH IN SUPERELEVATION.

TURN LANE LOCATIONS

ALIGNMENT	STA. TO STA. *		LOCATION	DESCRIPTION	TAPER
54NB_10	125+23	130+03	RT	RIGHT TURN LANE	1:15
54NB_10	130+91	135+71	RT	RIGHT TURN LANE	1:15
54SB_10	1130+49	1135+29	LT	LEFT TURN LANE	1:15
54SB_10	1136+12	1139+48	LT	LEFT TURN LANE	1:15

* STATION RANGE INCLUDES TAPER SECTION

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_TYP.dgn 12/11/2018 3:45:21 PM

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

PRINT NAME: ELIZABETH MARKOSE

SIGNATURE: Elizabeth M

DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003

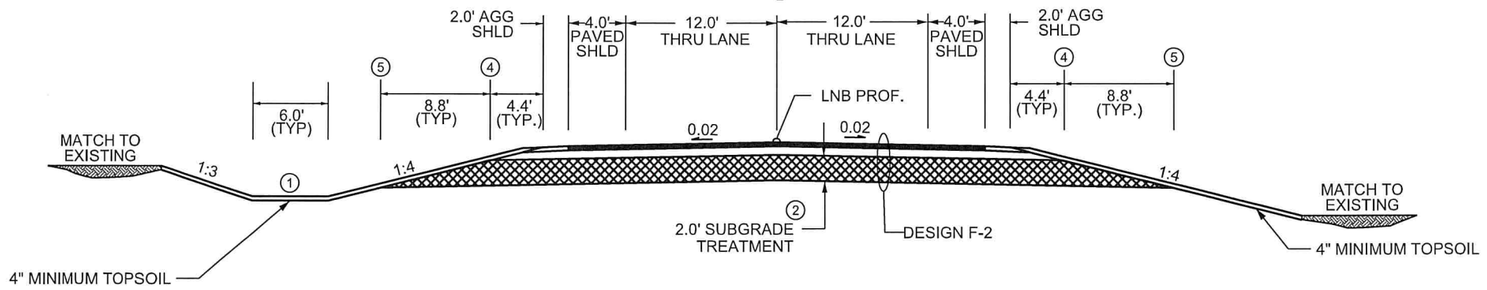
CP 2017-7

TYPICAL SECTIONS CSAH 54

Sheet 16 of 97 Sheets

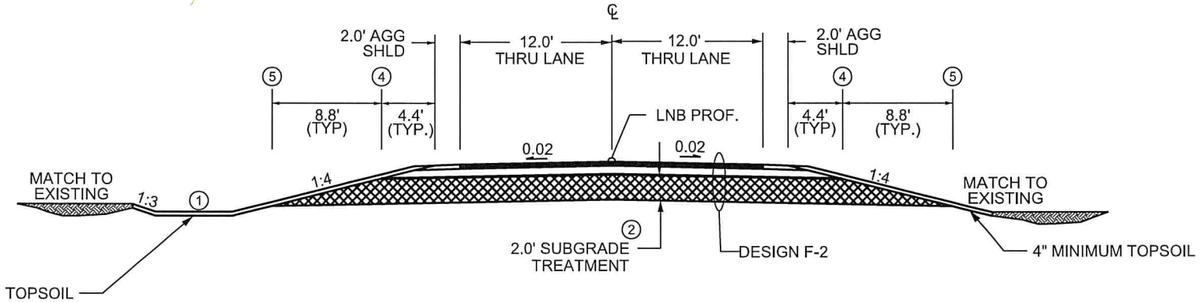
EVERS STREET

STA 12+10.00 - STA 15+00.00

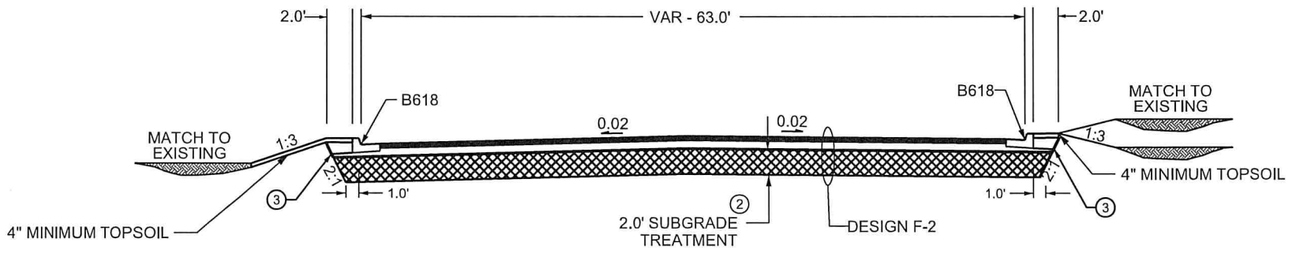


EVERS STREET

STA 15+00 - STA 16+00



EVERS STREET CUL-DE-SAC



GENERAL NOTES:

- ALL STATIONING FOR THESE SECTIONS BASED ON EVERS ALIGNMENT.
- SELECT GRANULAR SHALL BE USED TO BACKFILL 2' SUBGRADE TREATMENT.
- SEE CONSTRUCTION PLANS FOR TURN LANE LOCATIONS.
- ALL CROSS SLOPES ARE EXPRESSED AS FOOT PER FOOT.
- ALL SECTIONS ARE SHOWN FOR NORMAL CROWN, FOR SUPERELEVATION DETAILS AND TRANSITIONS, SEE SUPER ELEVATION PLAN SHEET NO. 40 .
- 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 BASE WILL EXTEND 1' BEYOND BACK OF CURB, AND 2' BEYOND RURAL SHOULDER EDGE.
- PLACE 4.0" TOPSOIL & SEED ON ALL DISTURBED AREAS.
- FOR DITCH DETAILS, ELEVATIONS, AND SIDE SLOPE VARIATIONS, SEE CROSS SECTIONS.

NOTES:

① SEE PROFILE & X-SECTIONS FOR SPECIAL DITCH GRADES.

② SUBCUT AS NECESSARY, OR AS SHOWN IN DESIGN F-1, TO MAINTAIN A UNIFORM ROAD CORE.

③ BACKFILL WITH SUITABLE GRADING MATERIAL.

④ GRADING PI.

⑤ SUBGRADE PI.

NOT TO SCALE

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_TYP.dgn 12/11/2018 3:45:22 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY

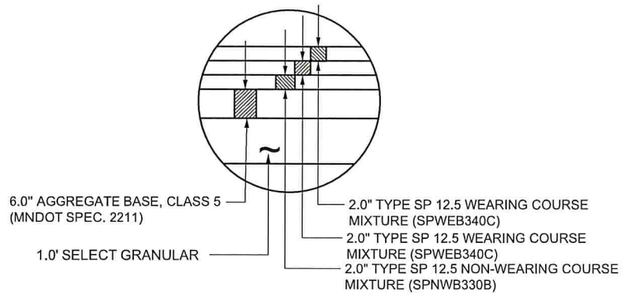
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

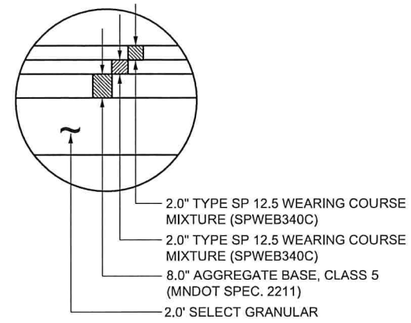
TYPICAL SECTIONS EVERS ST.

Sheet 17 of 97 Sheets

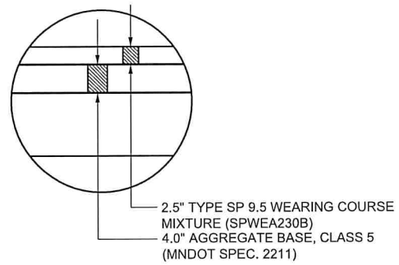
DESIGN F-1
CSAH 54



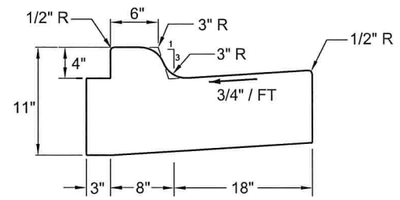
DESIGN F-2
EVERS STREET AND
HOLIDAY STATION ENTRANCE



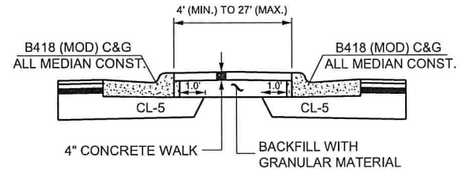
DESIGN F-3
DRIVEWAYS

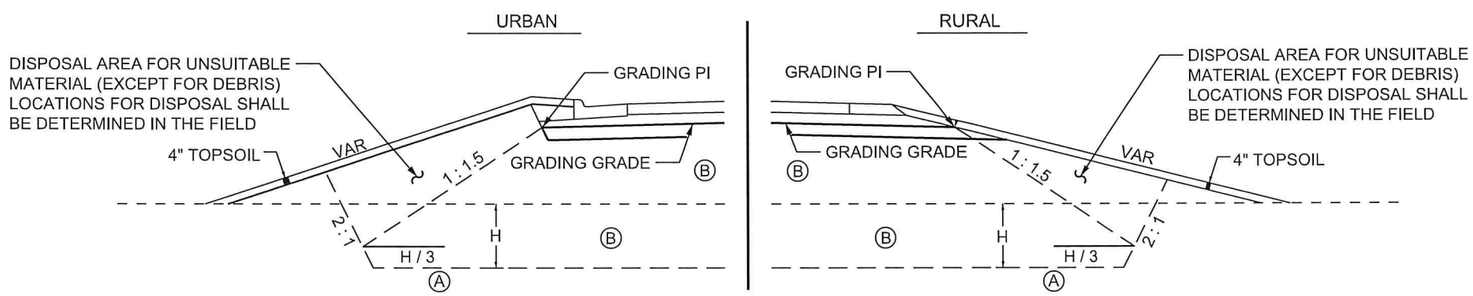


MEDIAN
B418 MODIFIED CURB & GUTTER
(NO VARIANCES ALLOWED)



DETAIL 'A'
MEDIAN





MUCK EXCAVATION

Ⓐ SEE PROFILES AND CROSS SECTIONS FOR MUCK EXCAVATION DEPTH.

Ⓑ BACKFILL WITH GRANULAR MATERIAL.

NOT TO SCALE

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_TYP.dgn 12/11/2018 3:45:23 PM

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

PRINT NAME: ELIZABETH MARKOSE

SIGNATURE:

DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

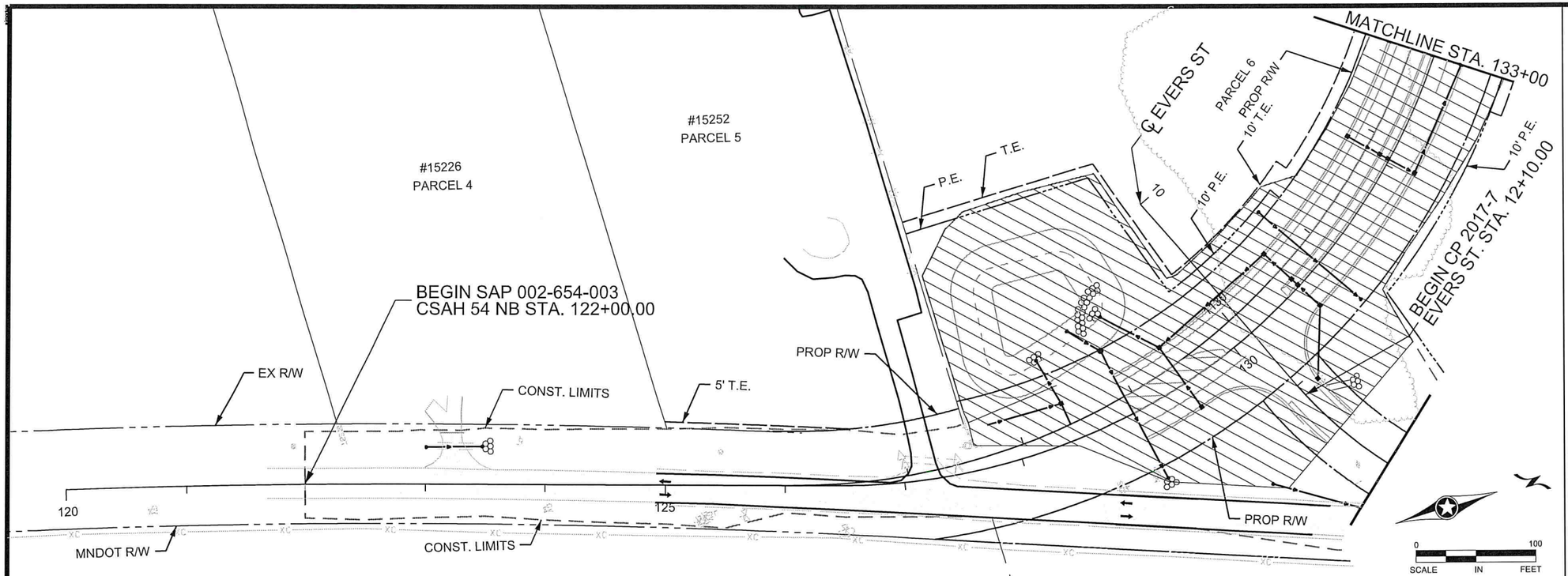
CHECKED BY EJM DATE 09-27-18

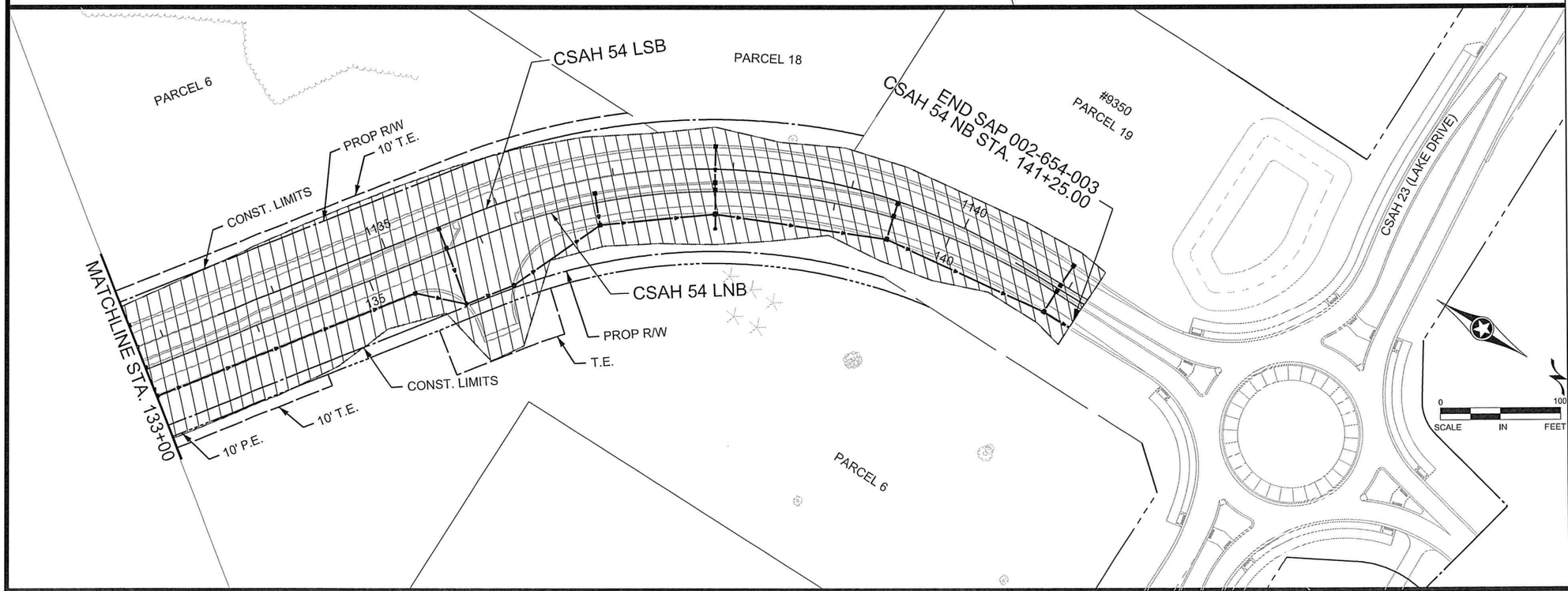
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

TYPICAL SECTIONS





LEGEND

CONSTRUCTION AREA

CONSTRUCTION NOTES:

1. ALL WORK TO BE PERFORMED OUTSIDE OF EXISTING CSAH 54 (W. FREEWAY DR). NO TRAFFIC CONTROL CHANGES TO EXISTING CONDITIONS.

2. CONSTRUCT CSAH 54 NORTH OF STATION 129+00.

3. CONSTRUCT EVERS STREET UP TO STATION 12+50.

4. GRADE POND 600, CONSTRUCT STORM SEWER PIPE RUN NORTH OF POND. END CONSTRUCTION OF STORM SEWER PIPE RUN SOUTH OF POND AT STRUCTURE 605.

5. CONSTRUCT POND OUTLET CONTROL STRUCTURE AND OUTLET TO EXISTING CSAH 54 DITCH. SEE POND GRADING PLANS AND CROSS SECTION SHEETS FOR DETAILS.

6. MAINTAIN POSITIVE DRAINAGE AT ALL TIMES. SEE TEMPORARY EROSION CONTROL PLAN FOR INLET PROTECTION AND SEDIMENT CONTROL LOG PLACEMENT.

7. FINAL DITCH GRADING TO BE PERFORMED DURING STAGE 2 TO CONNECT TO PROPOSED MANHOLE AND OUTFALL STRUCTURE.

8. CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCE AT POINTS OF EXIT FROM WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.
SEE STANDARD PLAN 5-297.405 FOR DETAIL.

1 OF 1

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_STG1.dgn 12/11/2018 3:45:26 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY

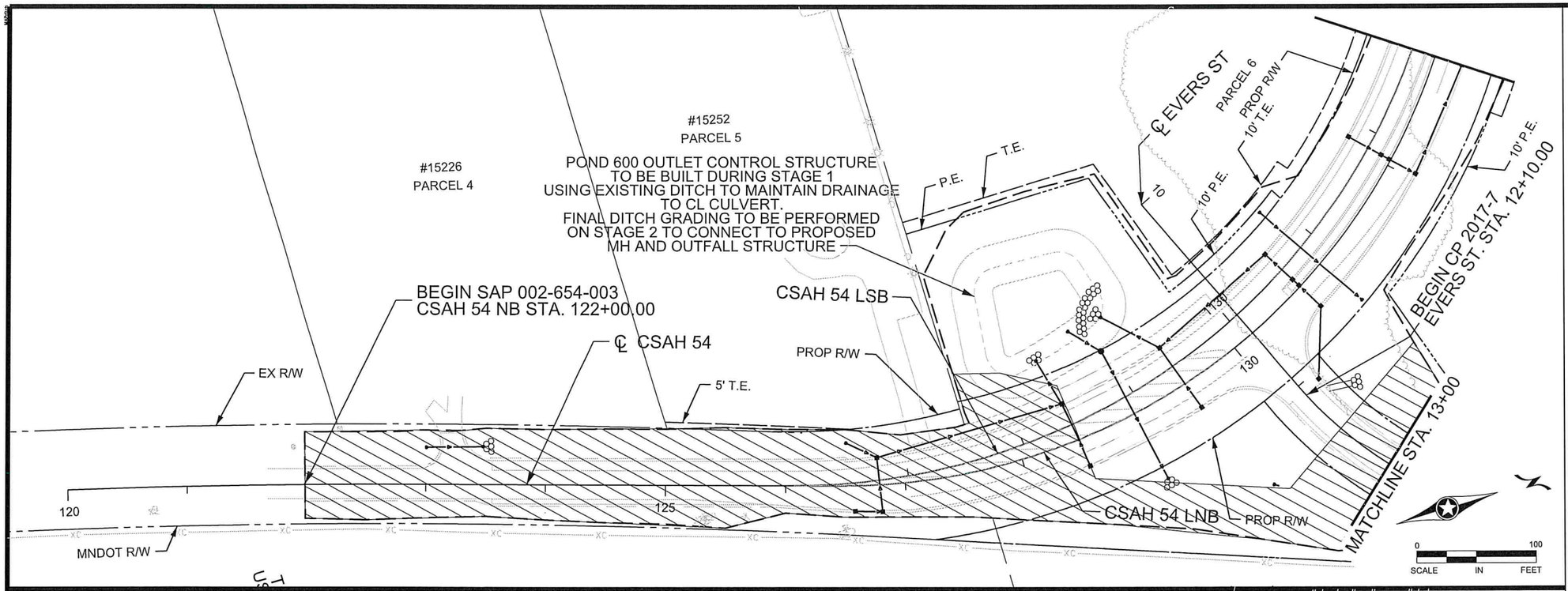
ANOKA COUNTY HIGHWAY DEPT.

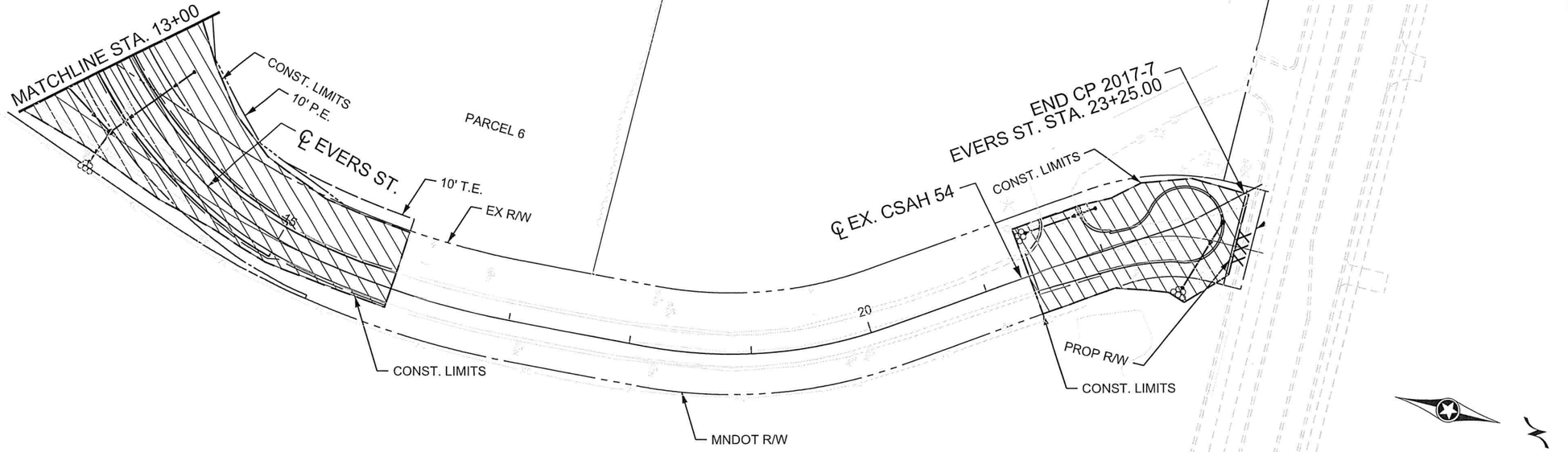
SAP 002-654-003
CP 2017-7

STAGING PLAN
STAGE 1

STA 122+00.00 TO 141+25.00

Sheet 19 of 97 Sheets





LEGEND

CONSTRUCTION AREA

XXX — CONNECTION TO CSAH 23/ TH 97 TO BE REMOVED

CONSTRUCTION NOTES:

1. TIE REALIGNED CSAH 54 AND EVERS STREET TO EXISTING CSAH 54. CONSTRUCTION UNDER ROAD CLOSURE. SEE TRAFFIC CONTROL AND DETOUR PLANS FOR DETAILS.

2. CONSTRUCT EVERS STREET CUL-DE-SAC AND STORM SEWER STRUCTURES.

3. REMOVE BITUMINOUS PAVEMENT ON EXISTING CSAH 54 TO THE EXTENT SHOWN IN PLANS. DO NOT REMOVE OR DISTURB BASE OR SUB BASE MATERIALS.

4. MAINTAIN ACCESS TO PRIVATE PROPERTIES AT ALL TIMES DURING CONSTRUCTION.

5. CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCE AT POINTS OF EXIT FROM WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER. SEE STANDARD PLAN 5-297.405 FOR DETAIL.

6. MAINTAIN POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION.

1 OF 1

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_STG2.dgn 12/12/2018 9:11:44 AM

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

PRINT NAME: ELIZABETH MARKOSE

SIGNATURE: Eliz Markose

DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

CHECKED BY EJM DATE 09-27-18

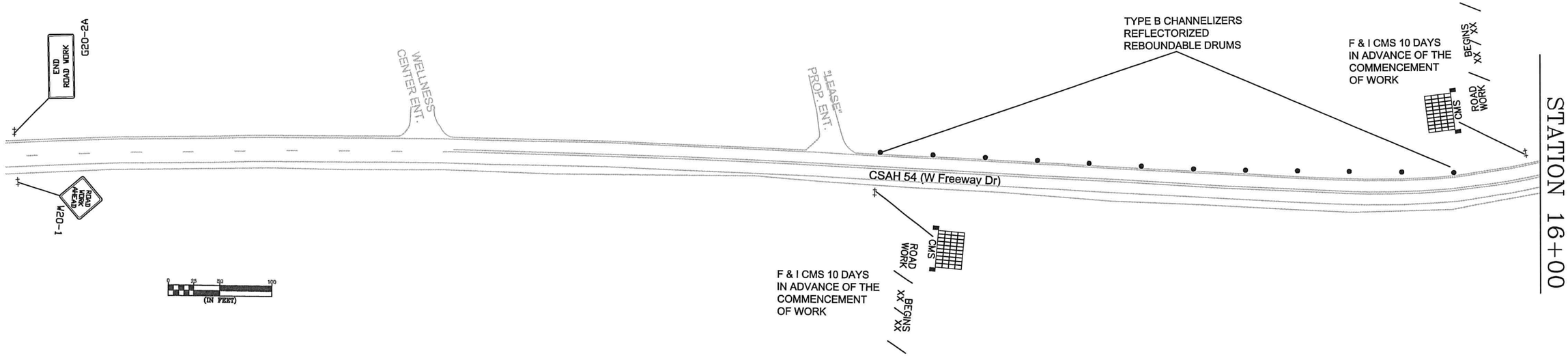
ANOKA COUNTY HIGHWAY DEPT.

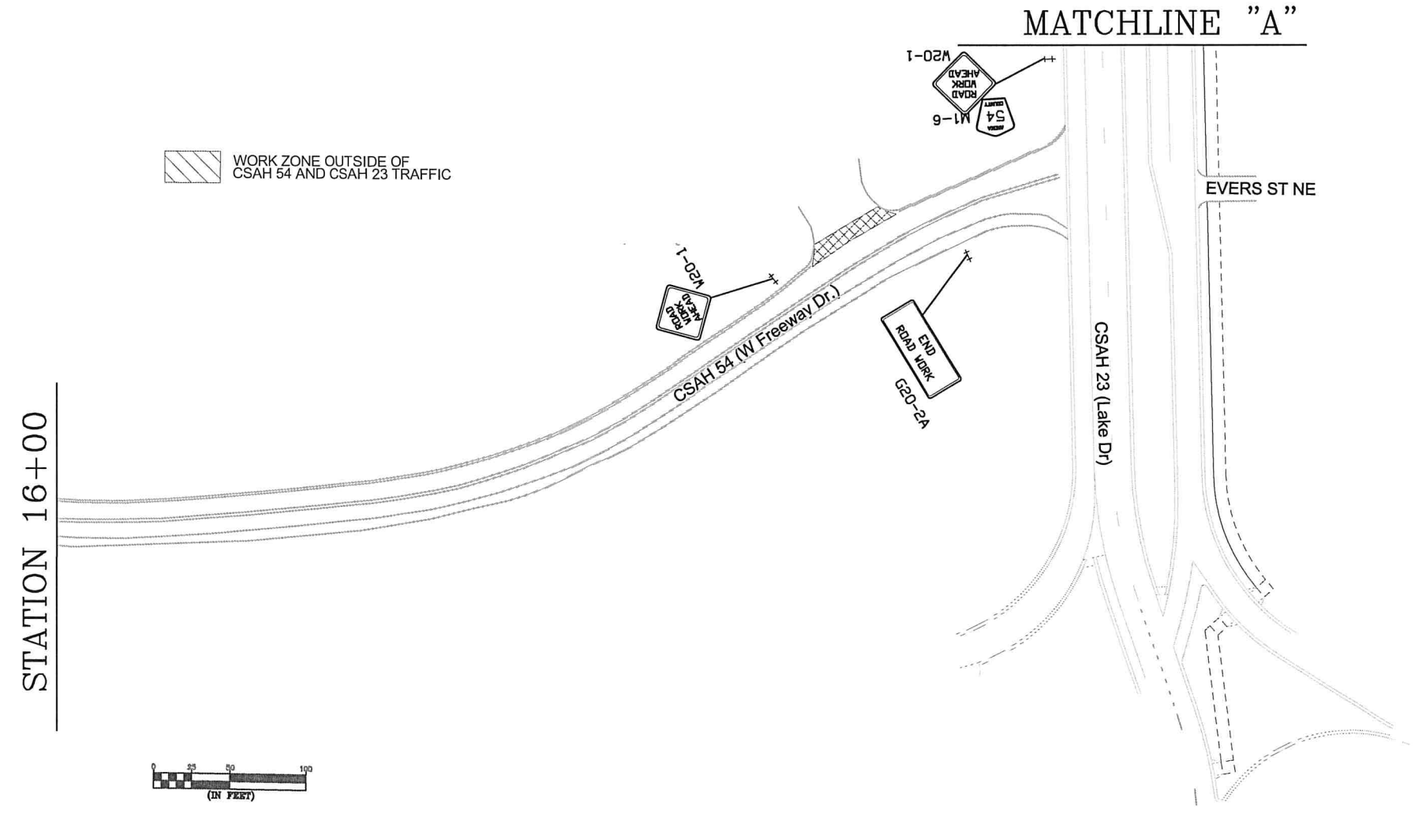
SAP 002-654-003
CP 2017-7

STAGING PLAN
STAGE 2

STA 122+00.00 TO 141+25.00

Sheet 20 of 97 Sheets





STAGE 1 TRAFFIC CONTROL NOTES:

1. THE CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGNS (CMS) A MINIMUM OF 10 DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK, TO A LOCATION AS SPECIFIED BY THE ENGINEER. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS. PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.
2. CSAH 54 SHALL BE OPEN TO TRAFFIC.
3. SHALL ADHERE TO MnDOT LONGITUDINAL DROP OFF GUIDELINES AT THE LOCATION OF THE FUTURE CSAH 54 TIE-IN.
4. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
5. ACCESS SHALL BE MAINTAINED TO ALL ACCESS LOCATIONS IN THE CONSTRUCTION AREA.
6. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
7. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MINNESOTA TEMPORARY TRAFFIC CONTROL FIELD MANUAL.
8. FLAGGING OPERATIONS SHALL BE MONITORED AND MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-654-003\Base\Traffic\Exist S&S.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 12/12/18 REG. NO. 20235

DRAWN BY TMV DATE 08/20/18

DESIGN BY DATE

CHECKED BY DATE

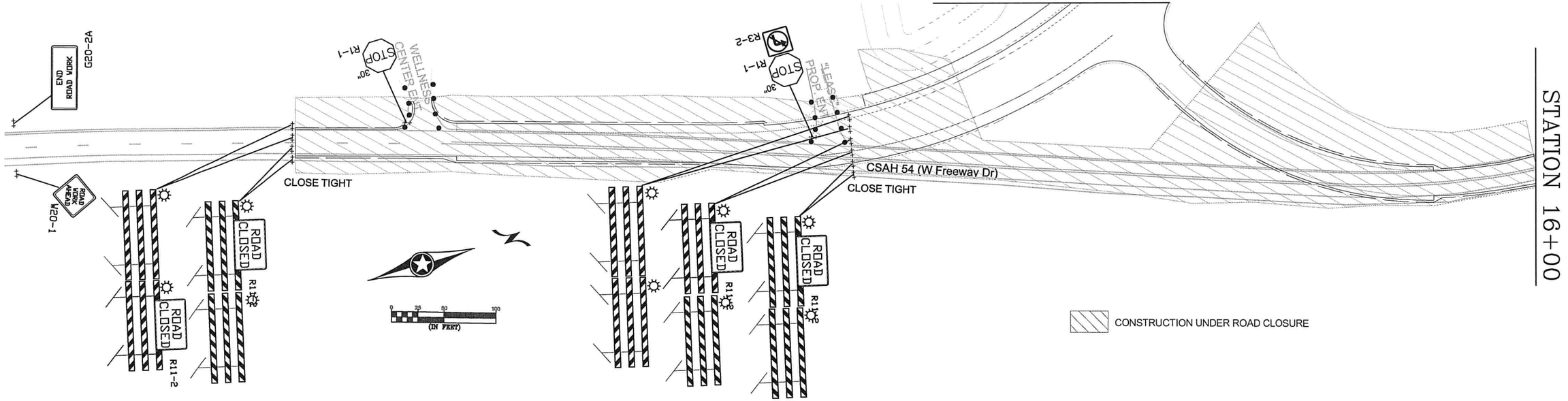
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

TRAFFIC CONTROL
STAGE 1

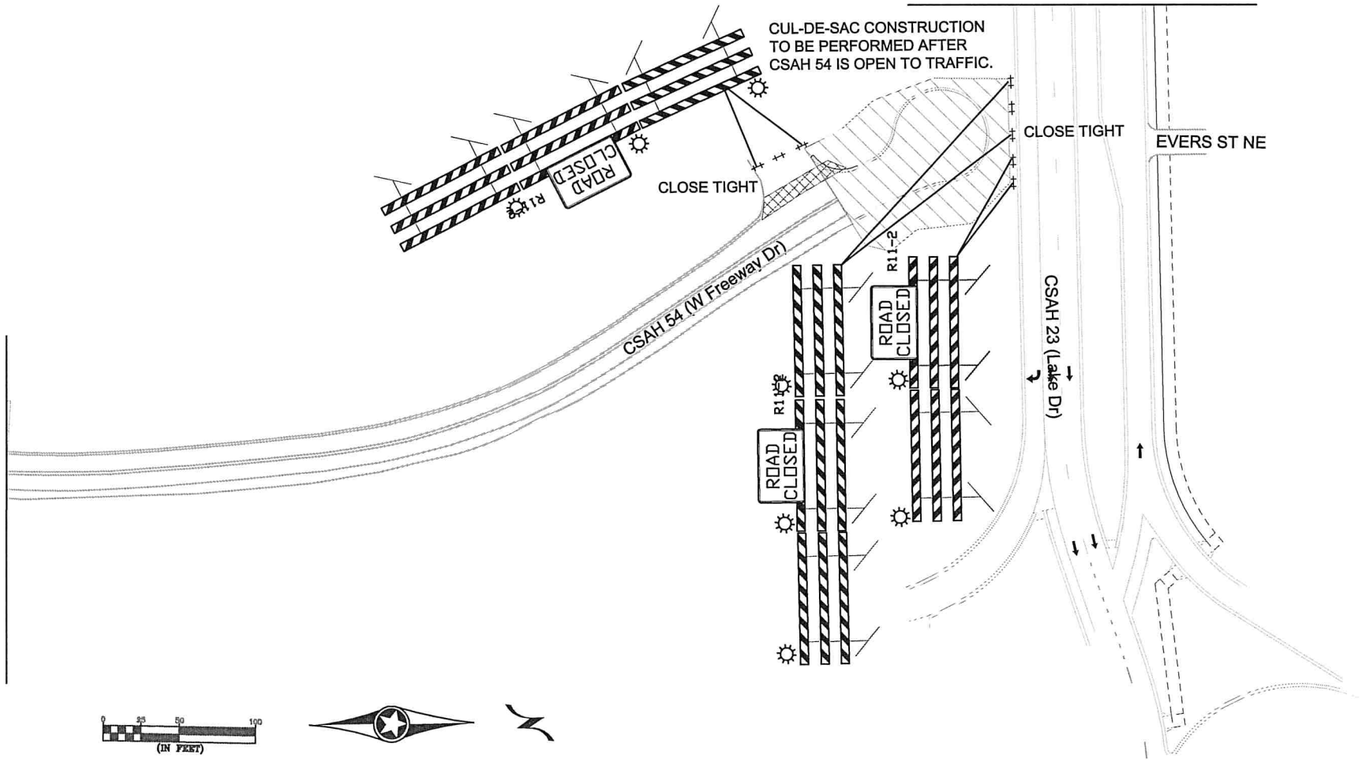
Sheet 21 of 97 Sheets

STATION 1130+00



STATION 16+00

MATCHLINE "A"



STAGE 2 TRAFFIC CONTROL NOTES:

1. CSAH 54 CLOSED TO THRU TRAFFIC. DETOUR INPLACE. REFER TO DETOUR PLAN FOR ADDITIONAL TRAFFIC CONTROL DEVICES THAT SHALL BE IN PLACE DURING DETOUR.
2. POST MOUNTED TYPE III BARRICADES AT CSAH 23 TO REMAIN IN PLACE UNTIL CSAH 54 IS OPEN TO TRAFFIC.
3. POST MOUNTED TYPE III BARRICADES SHALL BE IN PLACE ON EAST SIDE OF CSAH 54 AT FUTURE ROADWAY PRIOR TO CSAH 54 OPENING TO TRAFFIC.
4. ACCESS SHALL BE MAINTAINED TO ALL ACCESS LOCATIONS IN THE CONSTRUCTION AREA.
5. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
6. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
7. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS- FIELD MANUAL OF THE SAME MANUAL.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-654-003\Base\Traffic\Exist S&S.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 12/12/18 REG. NO. 20235

DRAWN BY TMV DATE 08/20/18

DESIGN BY DATE

CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

TRAFFIC CONTROL
STAGE 2

Sheet 22 of 97 Sheets

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	DETOUR
R1-1	30" x 30"	STOP	0	2	0
R3-2	24" X 24"		0	1	0
M1-6	24" x 24"	54 COUNTY	1	1	0
W20-1	48" x 48"	ROAD WORK AHEAD	3	2	0
R11-2	48" x 30"	ROAD CLOSED	1	4	0
TYPE III	8 FOOT		1	4	0
FLASHER					
R11-2	48" x 30"	ROAD CLOSED	0	3	0
TYPE III	8 FOOT		0	3	0
FLASHER					
TYPE III	8 FOOT		0	6	0
FLASHER					
TYPE III	8 FOOT		0	5	0
FLASHER					
G20-2A	48" x 24"	END ROAD WORK	2	1	0
REFLECTORIZED REBOUNDABLE DRUM			12	16	0
M1-6	24" x 24"	54 COUNTY	0	0	1
W20-2	48" x 48"	DETOUR AHEAD	0	0	1
M4-10L	48" x 18"	ROAD CLOSED AHEAD	0	0	2
W20-100p	24" x 18"	500 FEET	0	0	1
W20-100p	24" x 18"	1000 FEET	0	0	1

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	DETOUR
M4-10L	48" X 18"	DETOUR	0	0	1
TYPE III	8 FOOT		0	0	1
R11-3a	60" x 30"	ROAD CLOSED 5.0 MILES AHEAD LOCAL TRAFFIC ONLY	0	0	1
TYPE III	8 FOOT		0	0	1
FLASHER					
R11-3a	60" x 30"	ROAD CLOSED .5 MILES AHEAD LOCAL TRAFFIC ONLY	0	0	1
TYPE III	8 FOOT		0	0	1
FLASHER					
R11-3a	60" x 30"	ROAD CLOSED TO THRU TRAFFIC	0	0	1
TYPE III	8 FOOT		0	0	1
FLASHER					
M4-8A	24" x 12"	DETOUR	0	0	11
M3-1A	24" x 12"	NORTH	0	0	11
M1-6	24" x 24"	54 COUNTY	0	0	11
	21" x 15"	M6-3A	0	0	7
		M5-1AR	0	0	1
		M6-1AR	0	0	1
		M5-1AL	0	0	1
		M6-1AL	0	0	1
M4-8A	24" x 12"	DETOUR	0	0	12
M3-1A	24" x 12"	SOUTH	0	0	12
M1-6	24" x 24"	54 COUNTY	0	0	12
	21" x 15"	M6-3A	0	0	6
		M5-1AR	0	0	1
		M6-1AR	0	0	1
		M5-2AR	0	0	1
		M5-1AL	0	0	1
		M6-1AL	0	0	1
		M5-2AL	0	0	1
M4-6A	24" x 12"	END	0	0	2
M3-1A	24" x 12"	DETOUR	0	0	2
M1-6	24" x 24"	54 COUNTY	0	0	2

⚹ INSTALL G20-X2 SIGNS 10 DAYS PRIOR WITH "BEGIN/DATE PLATE. REMOVE PLATE AT START DATE OF CONSTRUCTION SO SIGN READS "FOLLOW DETOUR".

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	DETOUR
G20-X2	132" x 108"	54 COUNTY ROAD CLOSED 147th Ave NE TO Lake Drive FOLLOW DETOUR	0	0	⚹ 2
G20-X2	114" x 20"	BEGINS MO/DY	0	0	⚹ 2
CMS sign to be installed a minimum of ten days prior to actual commencement of road work. Signs to be removed when road work begins.		CMS	2 10 DAYS EACH	0	2 10 DAYS EACH

12.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
Pentagonal County 54 M1-6; [ROAD] D; [CLOSED] D; [147th Ave NE] D; [TO] D; [Lake Drive] D;
[FOLLOW] D; [DETOUR] D;

NOTES:
1) ALL BARRICADES SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.
2) ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
3) ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY 2018.
4) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL DATED JANUARY 2018.
5) ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-654-003\Base\Traffic\Perm S&S.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: DOUGLAS W. FISCHER, P.E.
SIGNATURE:
DATE: 12/12/18 REG. NO. 20235

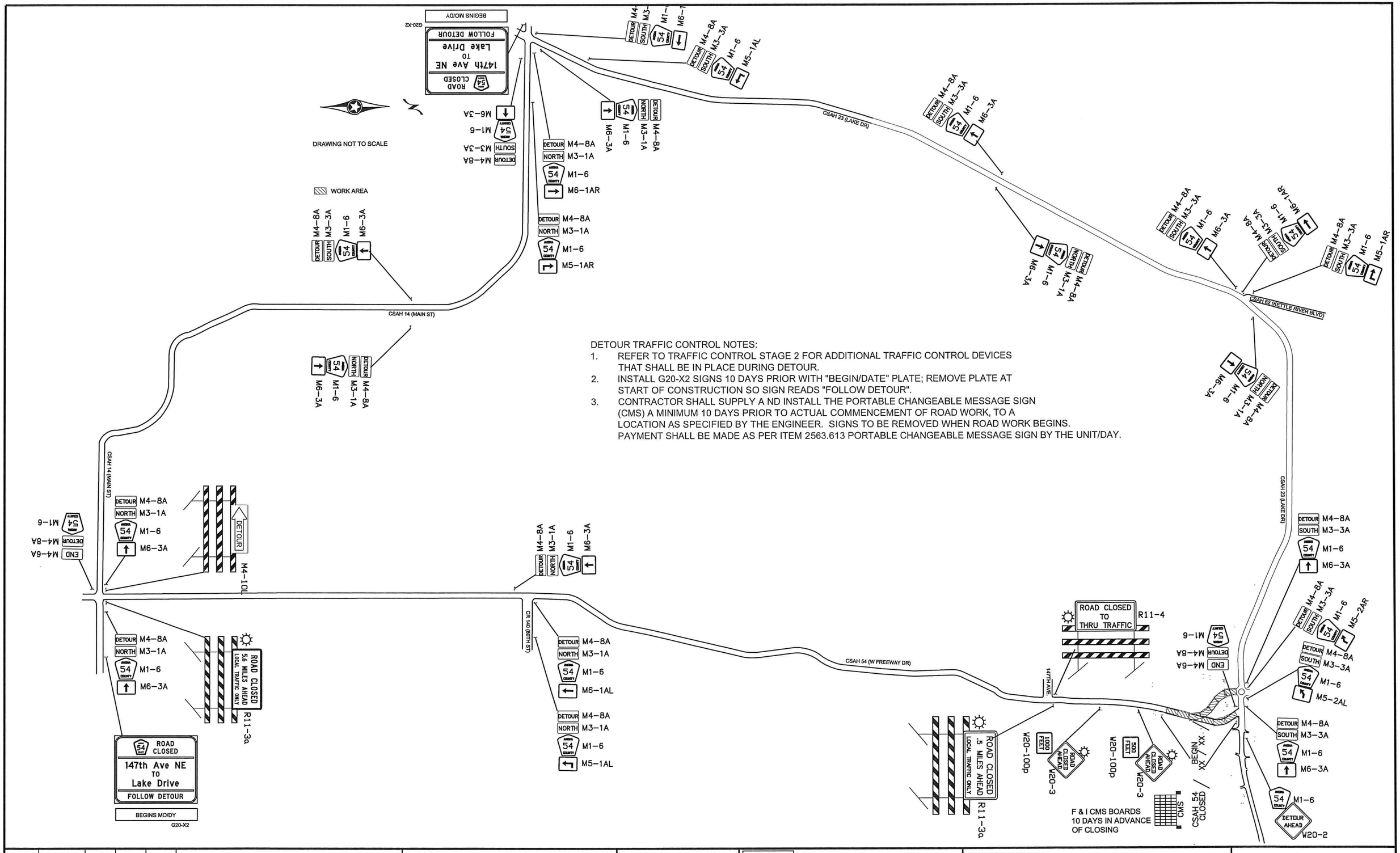
DRAWN BY TMV DATE 07/11/17
DESIGN BY DATE
CHECKED BY DATE

ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

STAGING & DETOUR
PLAN QUANTITIES

Sheet 23 of 97 Sheets



DETOUR TRAFFIC CONTROL NOTES:

1. REFER TO TRAFFIC CONTROL STAGE 2 FOR ADDITIONAL TRAFFIC CONTROL DEVICES THAT SHALL BE IN PLACE DURING DETOUR.
2. INSTALL G20-X2 SIGNS 10 DAYS PRIOR WITH "BEGIN/DATE" PLATE; REMOVE PLATE AT START OF CONSTRUCTION SO SIGN READS "FOLLOW DETOUR".
3. CONTRACTOR SHALL SUPPLY A ND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM 10 DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK, TO A LOCATION AS SPECIFIED BY THE ENGINEER. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS. PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-654-003\Base\Traffic\Perm S&S.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 12/12/18 REG. NO. 20235

DRAWN BY TMV DATE 08/23/18

DESIGN BY DATE

CHECKED BY DATE

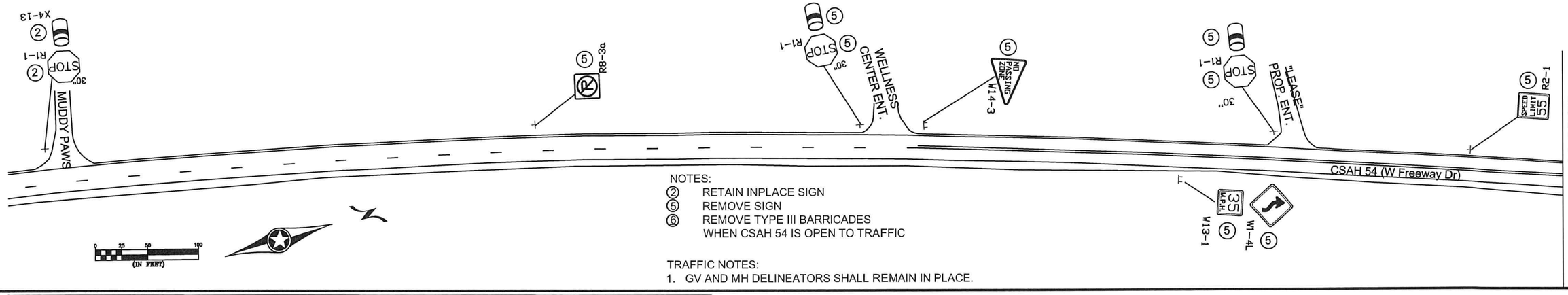
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

DETOUR PLAN

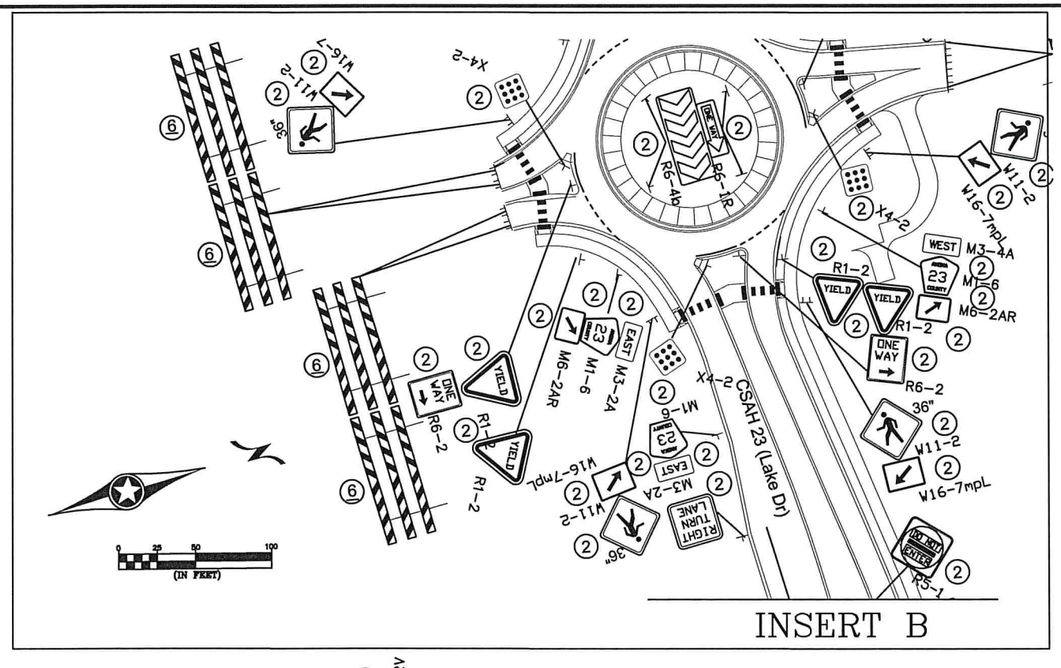
Sheet 24 of 97 Sheets



NOTES:
(2) RETAIN INPLACE SIGN
(5) REMOVE SIGN
(6) REMOVE TYPE III BARRICADES WHEN CSAH 54 IS OPEN TO TRAFFIC

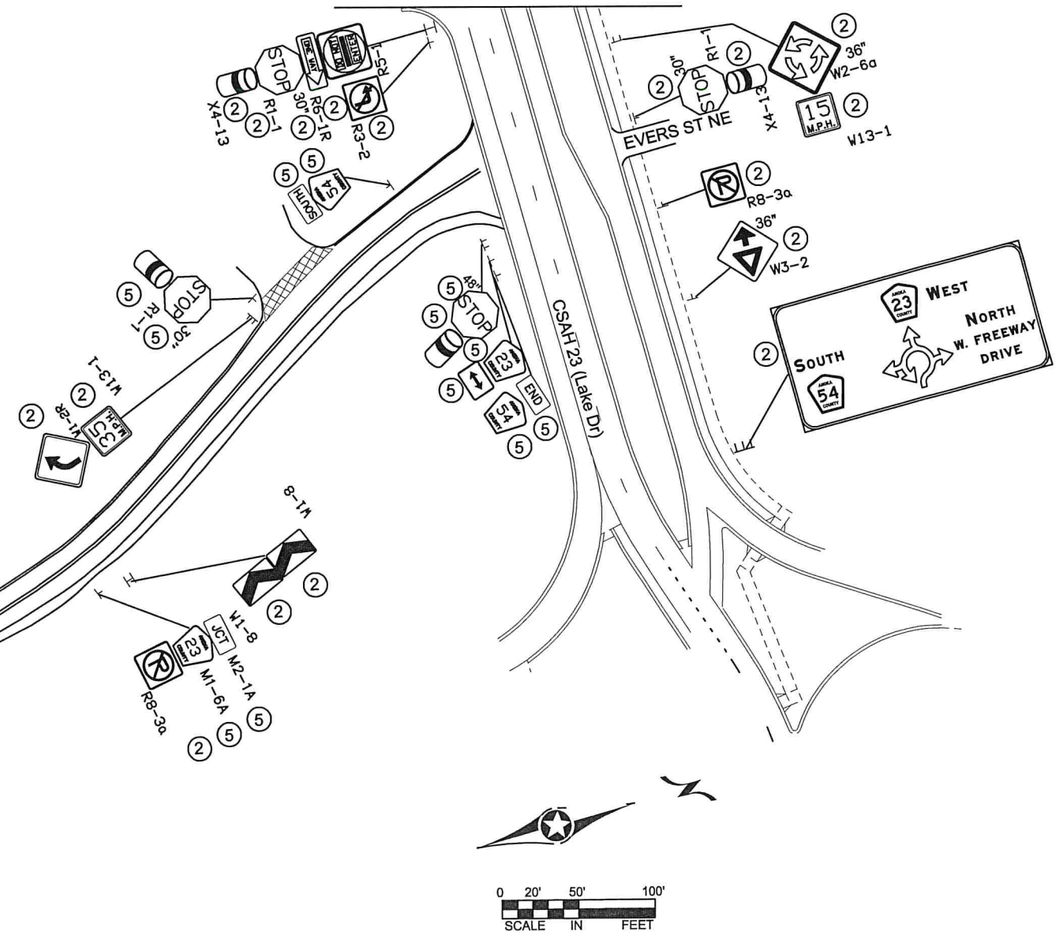
TRAFFIC NOTES:
1. GV AND MH DELINEATORS SHALL REMAIN IN PLACE.

MATCHLINE "A"

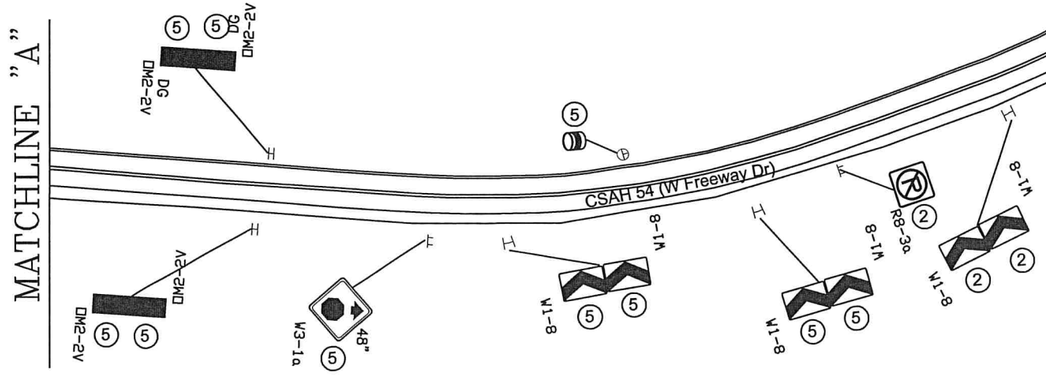


INSERT B

SEE INSERT B



MATCHLINE "A"



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-654-003\Base\Traffic\Exist S&S.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: DOUGLAS W. FISCHER, P.E.
SIGNATURE:
DATE: 12/12/18 REG. NO. 20235

DRAWN BY TMV DATE 05/20/18
DESIGN BY ____ DATE ____
CHECKED BY ____ DATE ____

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

EXISTING SIGNING AND STRIPING PLAN

Sheet 25 of 97 Sheets

E EXISTING SIGN TAB

STATION	ADDRESS/ DESCRIPTION (NOTES)	REMOVE SIGN TYPE C	REMOVE TYPE III BARRICADES	SIGN NUMBER	SIGN LEGEND
		EACH	EACH		
SB	Lt	1		R8-3a	No Parking
SB	Lt	1		R1-1	30" STOP
				X4-13	Delineator
SB	Lt	1		W14-3	No Passing Zone
NB	Rt	1		W1-4L	Curve
				W13-1	35 MPH
SB	Lt	1		R1-1	STOP
				X4-13	Delineator
SB	Rt	1		R2-1	55 MPH
SB	Lt	1		DM2-2V	Culvert Marker
				DM2-2V	Culvert Marker
NB	Rt	1		DM2-2V	Culvert Marker
				DM2-2V	Culvert Marker
NB	Rt	1		W3-1A	Stop Ahead
NB	Rt	1		W1-8	Chevron
				W1-8	Chevron
SB	Lt	1			Terminal Post
NB	Rt	1		W1-8	Chevron
				W1-8	Chevron
NB	Rt	1		M2-1A	JCT
				M1-6A	23 Rte Mkr
SB	Lt	1		R1-1	STOP
				X4-13	Delineator
SB	Lt	1		M3-3a	SOUTH
				M1-6A	54 Rte Mkr
NB	Rt	1		R1-1	48" STOP
				X4-13	Delineator
NB	Rt	1		M1-6A	23 Rte Mkr
				M6-4a	Double Arrow
NB	Rt	1		M4-6a	END
				M1-6A	54 Rte Mkr
S Stub Roundabout			4		Type III Barricade
	TOTAL	18	4		

Construction Notes:

1. SIGN TYPE SPECIAL ARE TO REMAIN VISIBLE AT ALL TIMES. SHALL BE PAID BY THE EACH, WHEN RELOCATION IS REQUIRED.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-654-003\Base\Traffic\Exist S&S.dwg

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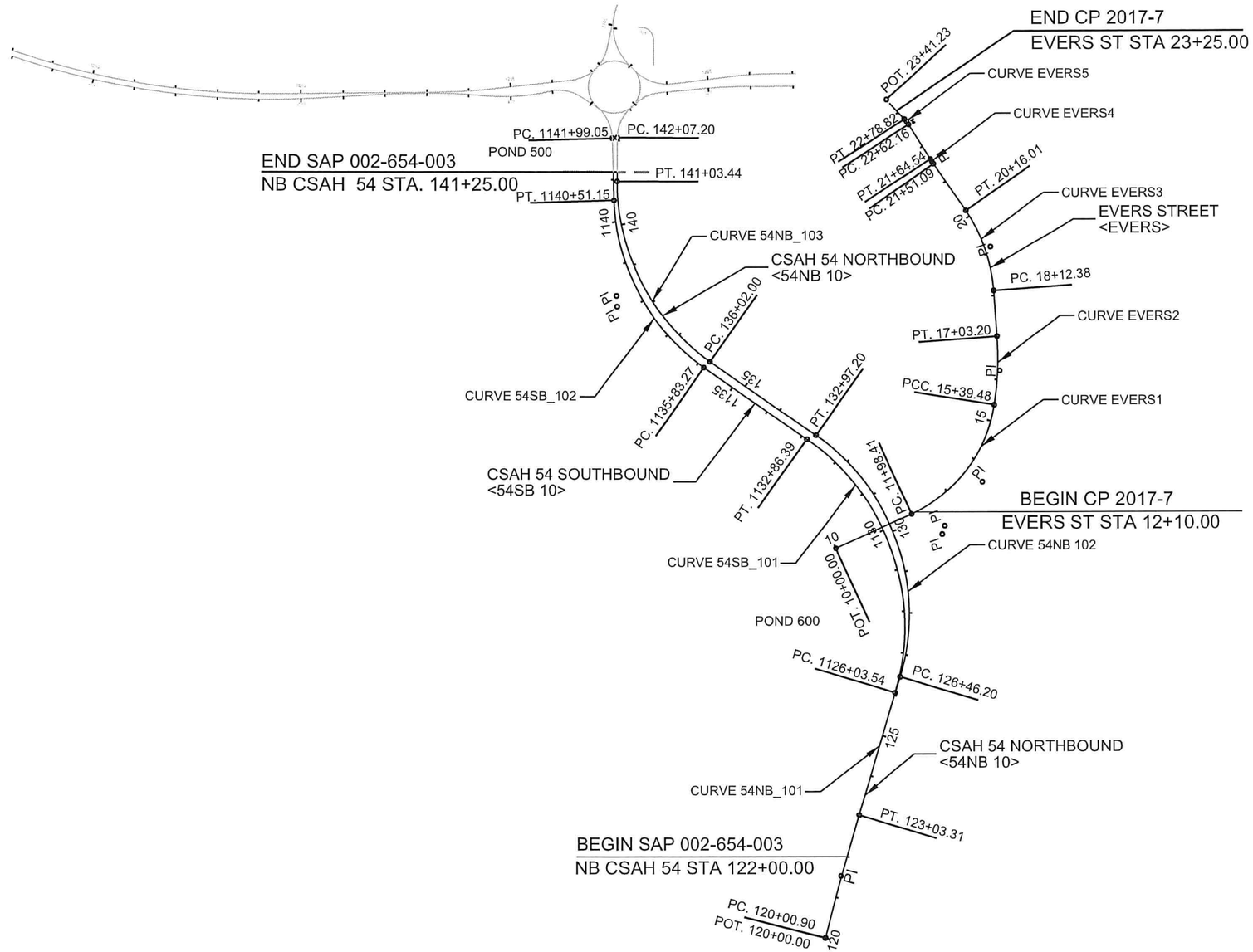
CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

EXISTING SIGNING AND STRIPING PLAN



1 OF 1

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_AL_P1.dgn 12/11/2018 3:45:29 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth M

DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

ALIGNMENT PLAN
CSAH 54 & EVERS ST

Sheet 27 of 97 Sheets

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ C.S.A.H. 54 NORTHBOUND <54NB_10>										
5412000	POT	120+00.000						561,482.8646	176,524.4957	
	PC	120+00.905						561,483.0917	176,525.3714	N 14° 32' 16.99" E
54NB_101	PI	121+52.124	2° 13' 45.09" RT	0° 44' 13.80"	7,772.440'	151.219'	302.400'	561,521.0512	176,671.7488	PI
	CC							569,006.6672	174,574.3105	
	PT	123+03.305						561,564.6756	176,816.5389	N 16° 46' 02.09" E
	PC	126+46.204						561,663.5965	177,144.8589	N 16° 46' 02.09" E
54NB_102	PI	130+21.905	71° 35' 31.29" LT	10° 59' 50.17"	521.000'	375.702'	650.998'	561,771.9807	177,504.5877	PI
	CC							561,164.7471	177,295.1593	
	PT	132+97.202						561,464.8841	177,721.0217	N 54° 49' 29.21" W
	PC	136+01.996						561,215.7475	177,896.6070	N 54° 49' 29.21" W
54NB_103	PI	138+74.053	55° 08' 44.25" RT	10° 59' 50.17"	521.000'	272.058'	501.448'	560,993.3693	178,053.3335	PI
	CC							561,515.8845	178,322.4693	
	PT	141+03.444						560,994.8927	178,325.3868	N 0° 19' 15.04" E
	PC	142+07.198						560,995.4737	178,429.1389	N 0° 19' 15.04" E

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ C.S.A.H. 54 SOUTHBOUND <54SB_10>										
	PC	1126+03.542						561,652.2132	177,107.0775	N 16° 46' 02.09" E
54SB_101	PI	1129+97.624	71° 35' 31.29" LT	10° 29' 03.64"	546.489'	394.082'	682.847'	561,765.8999	177,484.4053	PI
	CC							561,128.9584	177,264.7311	
	PT	1132+86.389						561,443.7792	177,711.4279	N 54° 49' 29.21" W
	PC	1135+83.272						561,201.1089	177,882.4558	N 54° 49' 29.21" W
54SB_102	PI	1138+35.593	53° 10' 46.26" RT	11° 21' 57.56"	504.098'	252.321'	467.883'	560,994.8632	178,027.8126	PI
	CC							561,491.5094	178,294.5029	
	PT	1140+51.155						560,987.6188	178,280.0296	N 1° 38' 42.94" W
	PC	1141+99.053						560,983.3724	178,427.8674	N 1° 38' 42.94" W

ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
℄ EVERS STREET <EVERS>										
EV1000	POT	10+00.000						561,510.9595	177,451.2860	
	PC	11+98.414						561,691.8330	177,532.8520	N 65° 43' 36.14" E
EVERS1	PI	13+84.368	56° 41' 18.52" LT	16° 37' 16.31"	344.715'	185.953'	341.061'	561,861.3472	177,609.2955	PI
	CC							561,550.1242	177,847.0926	
	PCC	15+39.476						561,890.5593	177,792.9401	N 9° 02' 17.62" E
	PCC	15+39.476						561,890.5593	177,792.9401	N 9° 02' 17.62" E
EVERS2	PI	16+21.695	13° 05' 52.07" LT	8° 00' 00.00"	716.197'	82.220'	163.722'	561,903.4754	177,874.1389	PI
	CC							561,183.2545	177,905.4500	
	PT	17+03.198						561,897.6548	177,956.1522	N 4° 03' 34.45" W
	PC	18+12.376						561,889.9257	178,065.0566	N 4° 03' 34.45" W
EVERS3	PI	19+16.675	30° 32' 42.02" LT	15° 00' 00.04"	381.972'	104.299'	203.633'	561,882.5420	178,169.0935	PI
	CC							561,508.9124	178,038.0155	
	PT	20+16.010						561,823.3098	178,254.9407	N 34° 36' 16.47" W
	PC	21+51.092						561,746.5954	178,366.1256	N 34° 36' 16.47" W
EVERS4	PI	21+57.814	1° 50' 09.56" RT	13° 39' 23.66"	419.547'	6.723'	13.444'	561,742.7776	178,371.6589	PI
	CC							562,091.9211	178,604.3905	
	PT	21+64.536						561,739.1390	178,377.3117	N 32° 46' 06.91" W
	PC	22+62.162						561,686.2992	178,459.4019	N 32° 46' 06.91" W
EVERS5	PI	22+70.510	9° 32' 38.43" LT	57° 17' 44.81"	100.000'	8.348'	16.657'	561,681.7808	178,466.4214	PI
	CC							561,602.2128	178,405.2772	
	PT	22+78.819						561,676.1612	178,472.5947	N 42° 18' 45.34" W
EV1001	POT	23+41.227						561,634.1499	178,518.7440	

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_AL_P1.dgn 12/11/2018 3:45:30 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

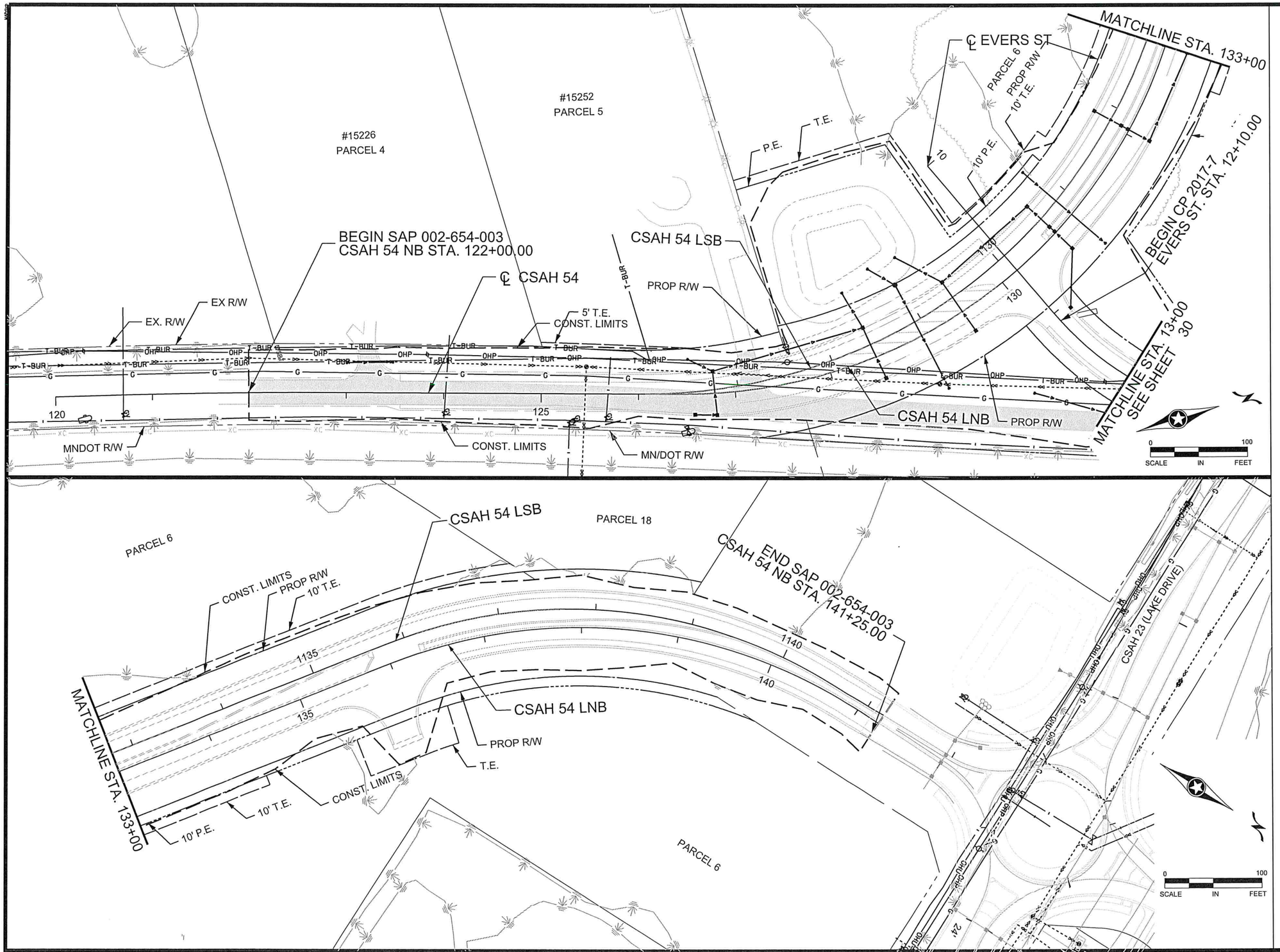
CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

ALIGNMENT TABULATIONS

Sheet 28 of 97 Sheets



LEGEND

- G — XCEL ENERGY GAS
- P-BUR / OHP — CONNEXUS ENERGY
- T-BUR / OHU — CENTURYLINK
- EXISTING STORM SEWER
- EXISTING SAN SEWER
- EXISTING WATER MAIN
- PROPOSED STORM DRAIN
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- CONSTRUCTION LIMITS
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- EXISTING ROADWAY BIT. TO BE REMOVED

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_UT2.dgn 12/12/2018 9:11:54 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.

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SIGNATURE: Elizabeth Markose

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DRAWN BY MP DATE 08-31-18

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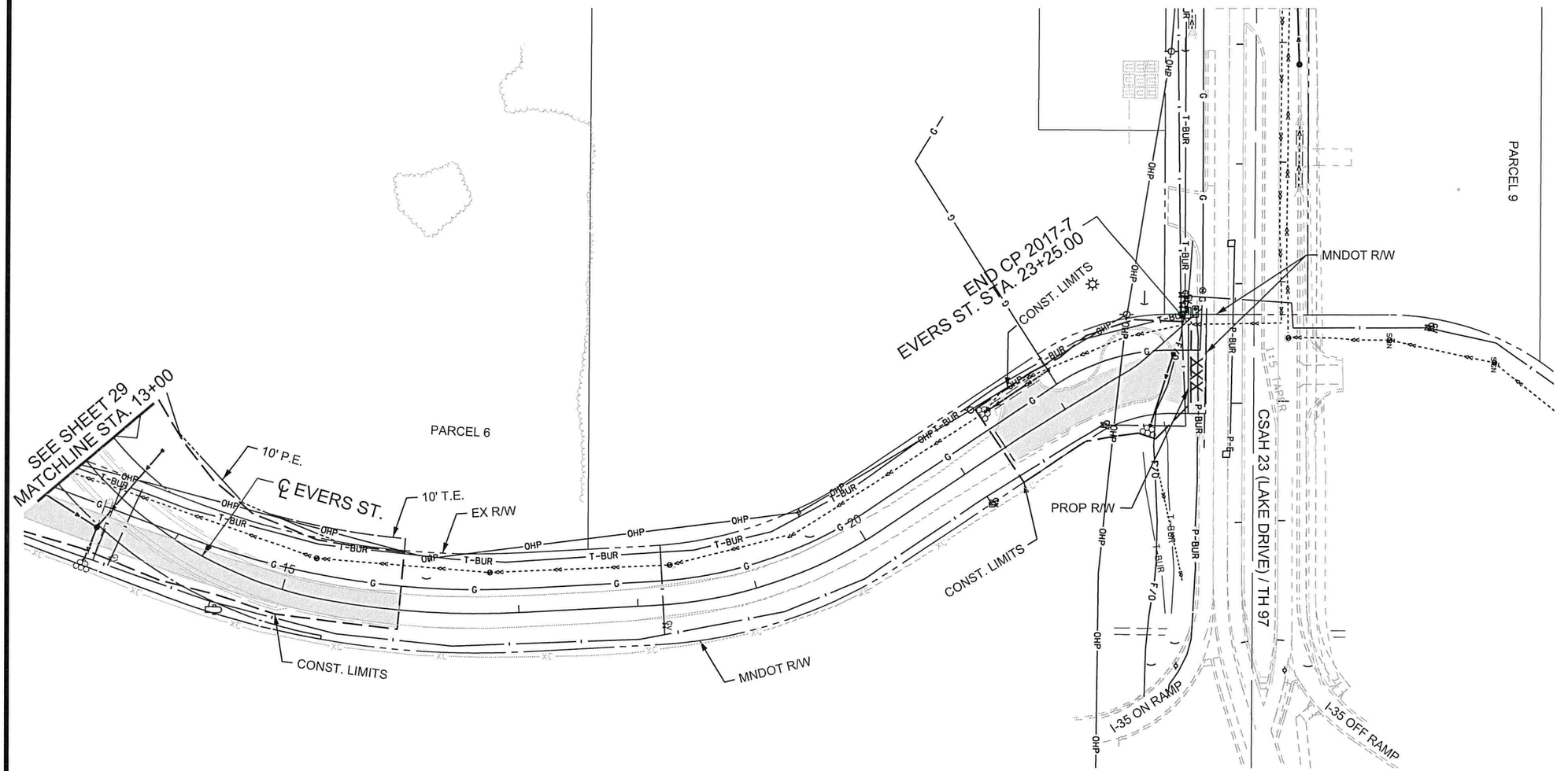
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

UTILITY PLAN
CSAH 54

STA 122+00.00 TO 141+25.00

Sheet 29 of 97 Sheets



LEGEND

- XCEL ENERGY GAS
- CONNEXUS ENERGY
- CENTURYLINK
- EXISTING STORM SEWER
- EXISTING CULVERT
- EXISTING SAN SEWER
- EXISTING WATER MAIN
- PROPOSED STORM DRAIN
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- CONSTRUCTION LIMITS
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- EXISTING ROADWAY BIT. TO BE REMOVED

2 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_UT3.dgn 12/12/2018 9:12:01 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.

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SIGNATURE: Elizabeth Markose

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DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY

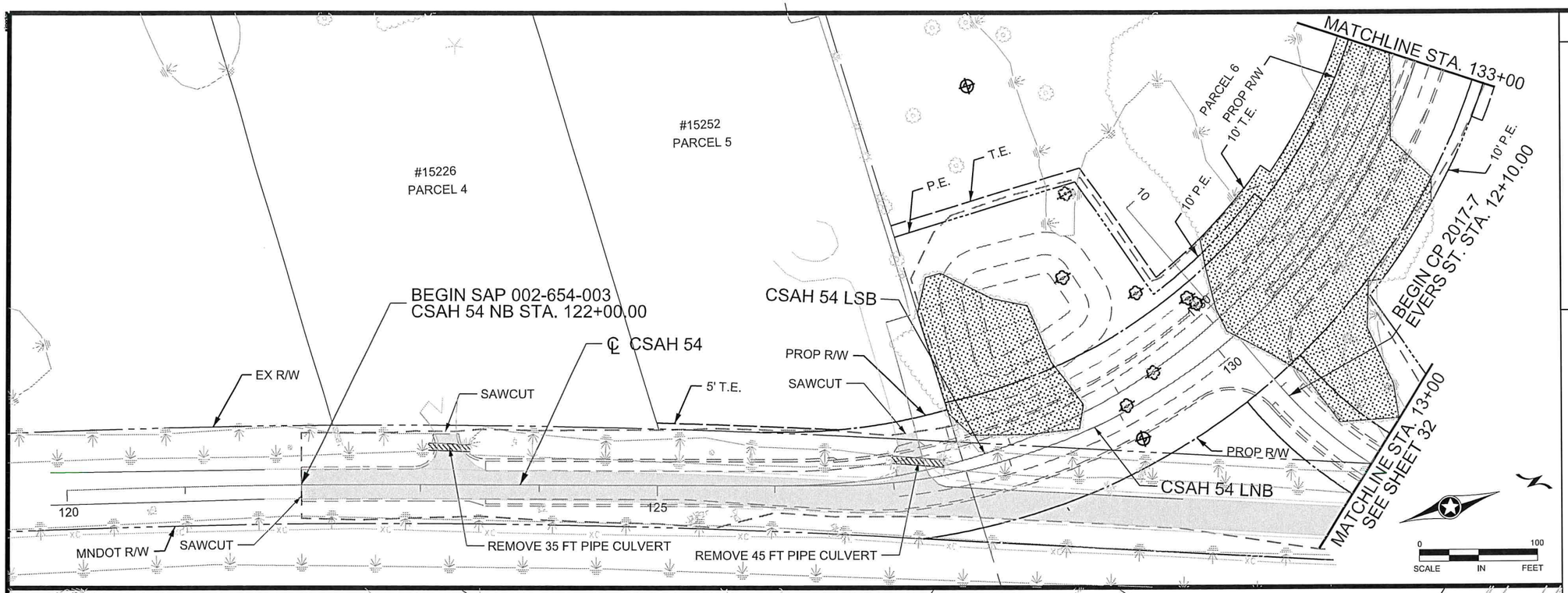
ANOKA COUNTY HIGHWAY DEPT.

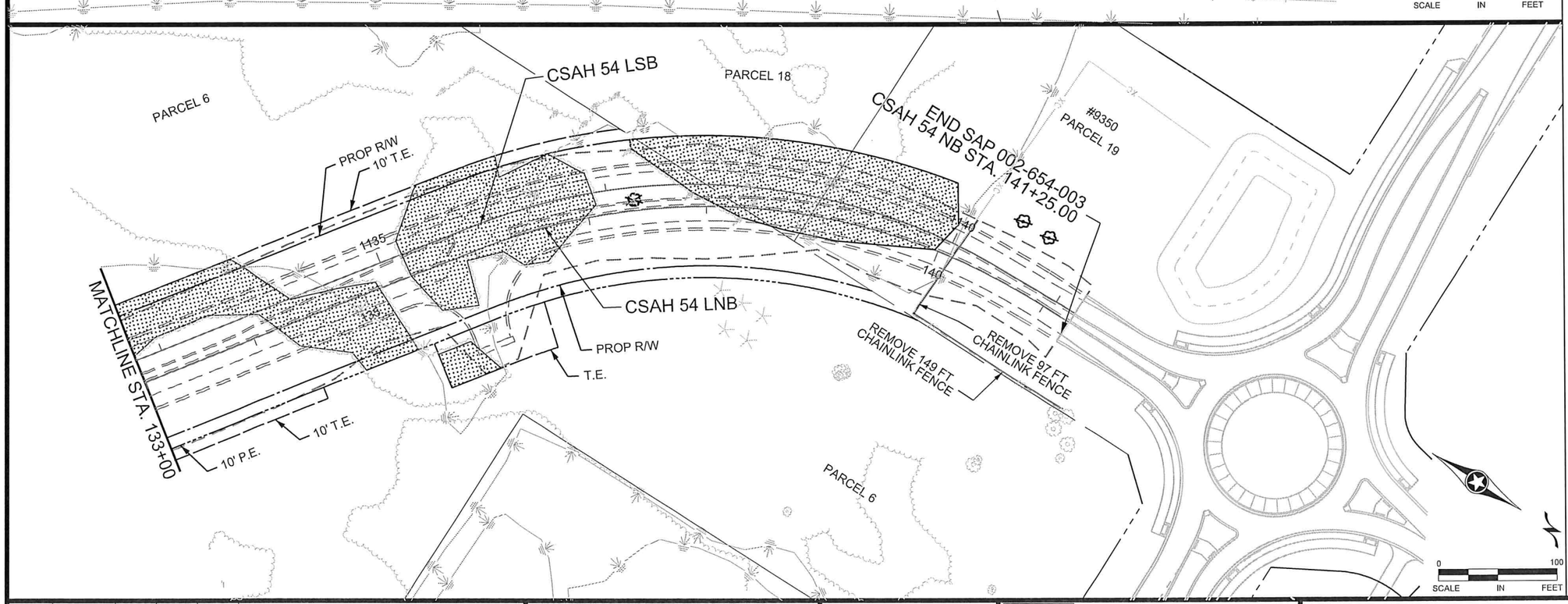
SAP 002-654-003
CP 2017-7

UTILITY PLAN
EVERS ST

STA 13+00 TO 23+25.00

Sheet 30 of 97 Sheets





LEGEND

- REMOVE BITUMINOUS PAVEMENT
- CLEAR & GRUB (ACRE)
- REMOVE PIPE CULVERTS
- TREE REMOVAL BY EACH
- SAWING BITUMINOUS PAVEMENT
- CONSTRUCTION LIMITS
- TEMPORARY EASEMENT
- PERMANENT EASEMENT
- SOIL BORING

REMOVAL NOTES:

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

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

ALL ROADWAY SIGNS WITHIN THE CONSTRUCTION LIMITS AND CONFLICTING SIGNS SHALL BE COVERED/REMOVED BY THE CONTRACTOR.

CSAH 54 BITUMINOUS REMOVAL NOT TO OCCUR UNTIL STAGE 2 CONSTRUCTION.

1 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_RM2.dgn 12/11/2018 3:45:40 PM

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

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DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

CHECKED BY EJM DATE 09-27-18

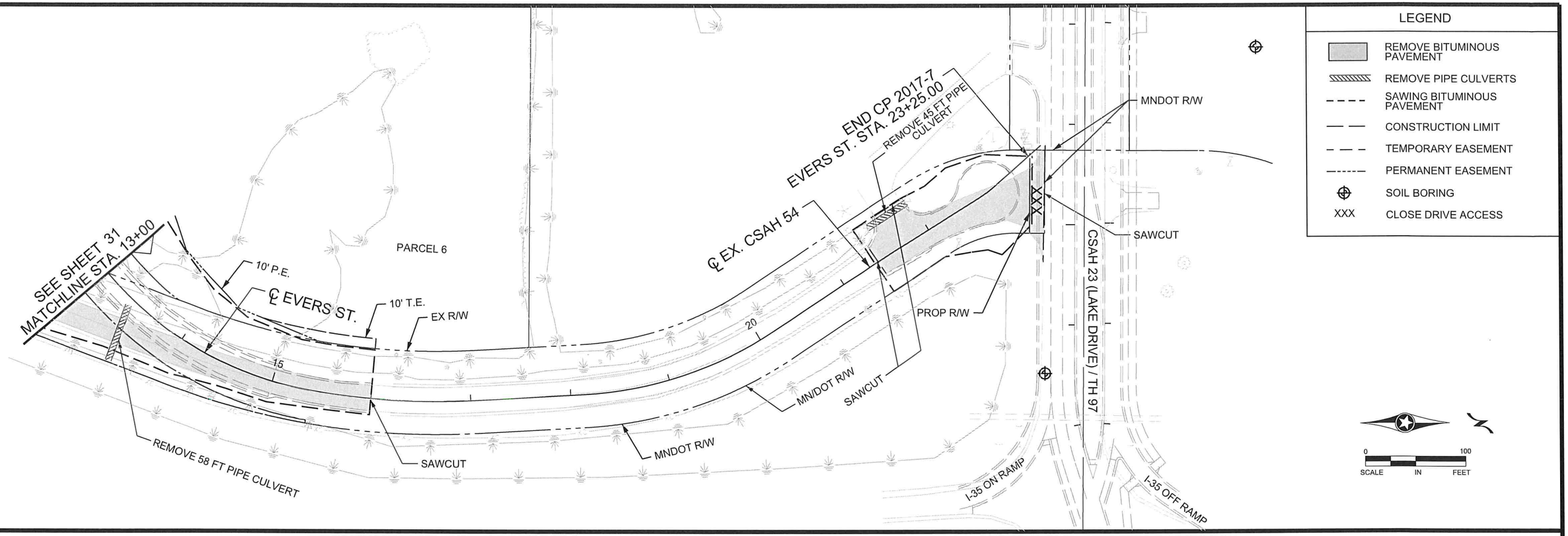
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

REMOVAL PLAN
CSAH 54

STA 122+00.00 TO 141+25.00

Sheet 31 of 97 Sheets



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ALL ROADWAY SIGNS WITHIN THE CONSTRUCTION LIMITS AND CONFLICTING SIGNS SHALL BE COVERED/REMOVED BY THE CONTRACTOR.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_RM3.dgn 12/13/2018 1:57:35 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: ELIZABETH MARKOSE

SIGNATURE: Eliz@Markose

DATE: 12-13-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

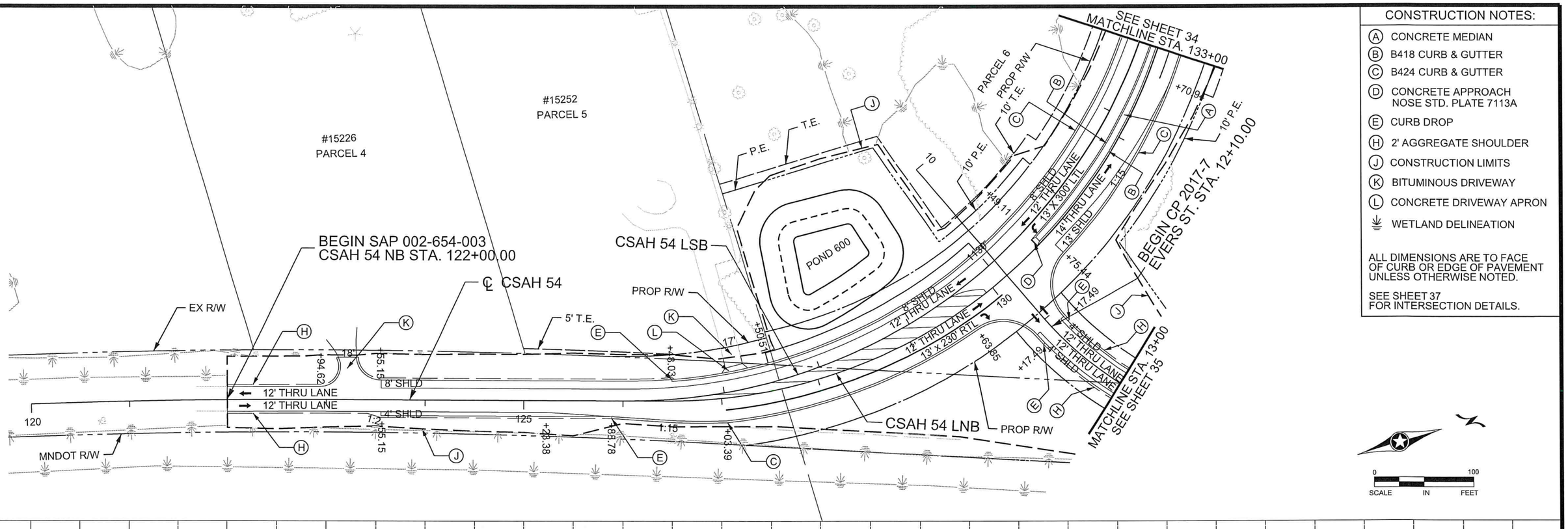
SAP 002-654-003

CP 2017-7

REMOVAL PLAN
EVERS ST

STA 13+00 TO 23+25

Sheet 32 of 97 Sheets



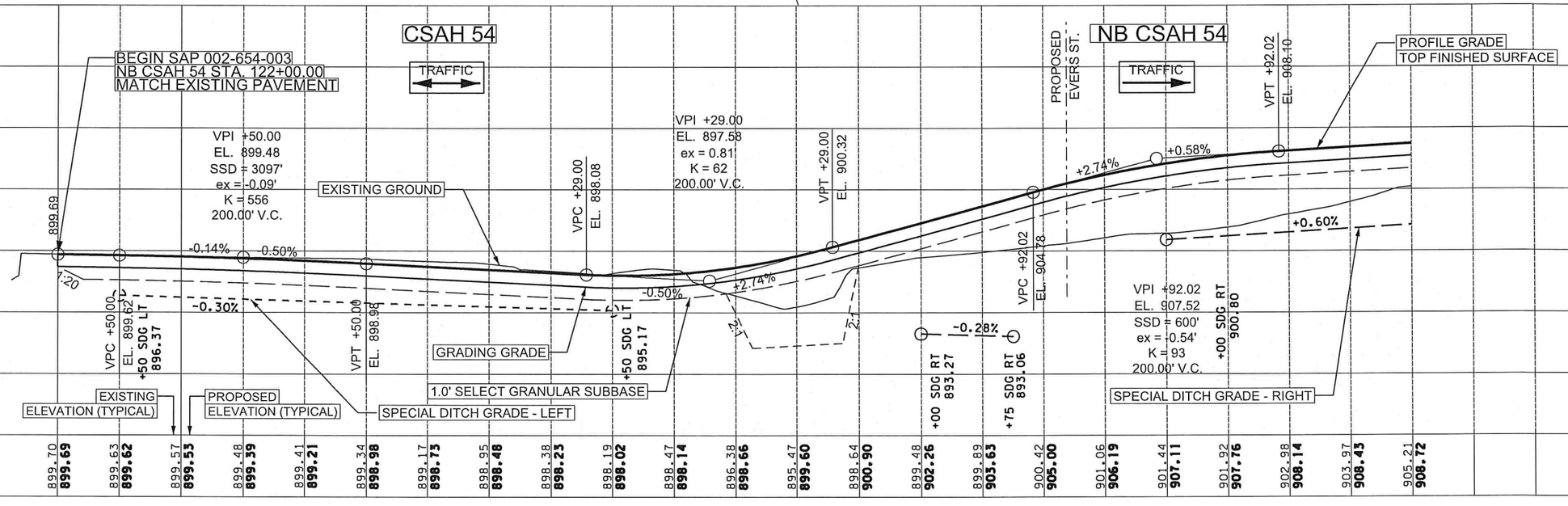
CONSTRUCTION NOTES:

- (A) CONCRETE MEDIAN
- (B) B418 CURB & GUTTER
- (C) B424 CURB & GUTTER
- (D) CONCRETE APPROACH NOSE STD. PLATE 7113A
- (E) CURB DROP
- (H) 2' AGGREGATE SHOULDER
- (J) CONSTRUCTION LIMITS
- (K) BITUMINOUS DRIVEWAY
- (L) CONCRETE DRIVEWAY APRON
- WETLAND DELINEATION

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

SEE SHEET 37 FOR INTERSECTION DETAILS.

SCALE 0 100 IN FEET



1 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_PP1_10.dgn 12/12/2018 9:12:22 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

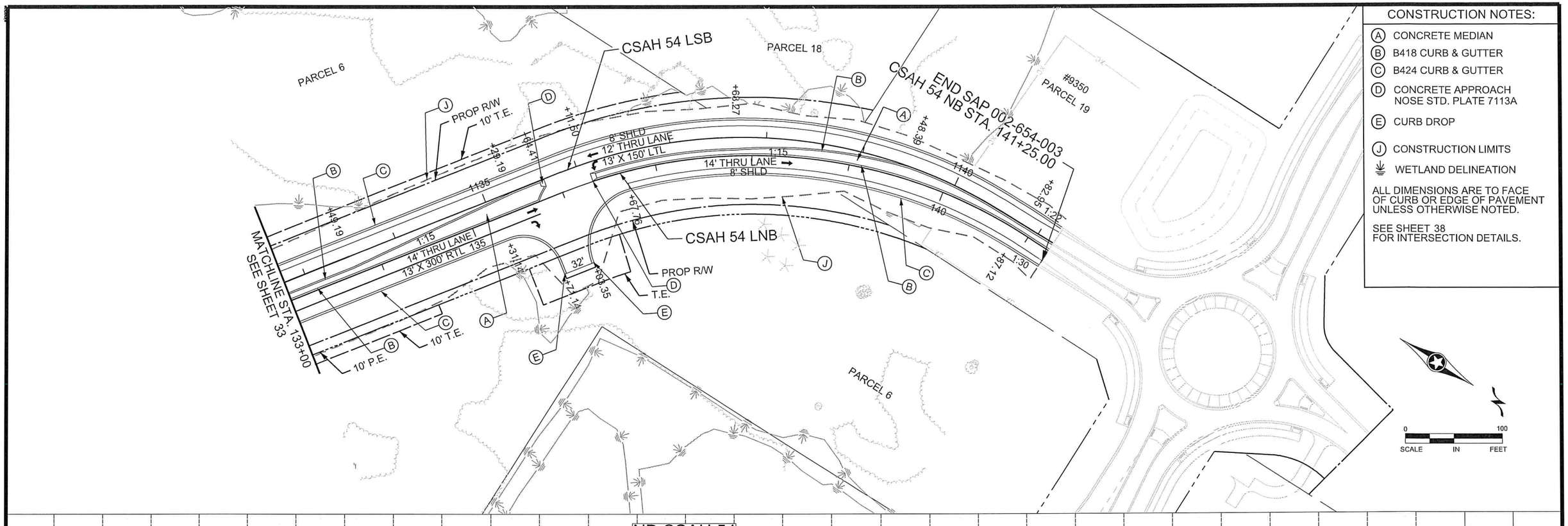
CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

CONSTRUCTION PLAN/PROFILE
CSAH 54
STA 122+00 TO 133+00

Sheet 33 of 97 Sheets



2 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_PP2_10.dgn 12/11/2018 3:45:44 PM

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ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

CONSTRUCTION PLAN/PROFILE
CSAH 54
STA 133+00 TO 141+25

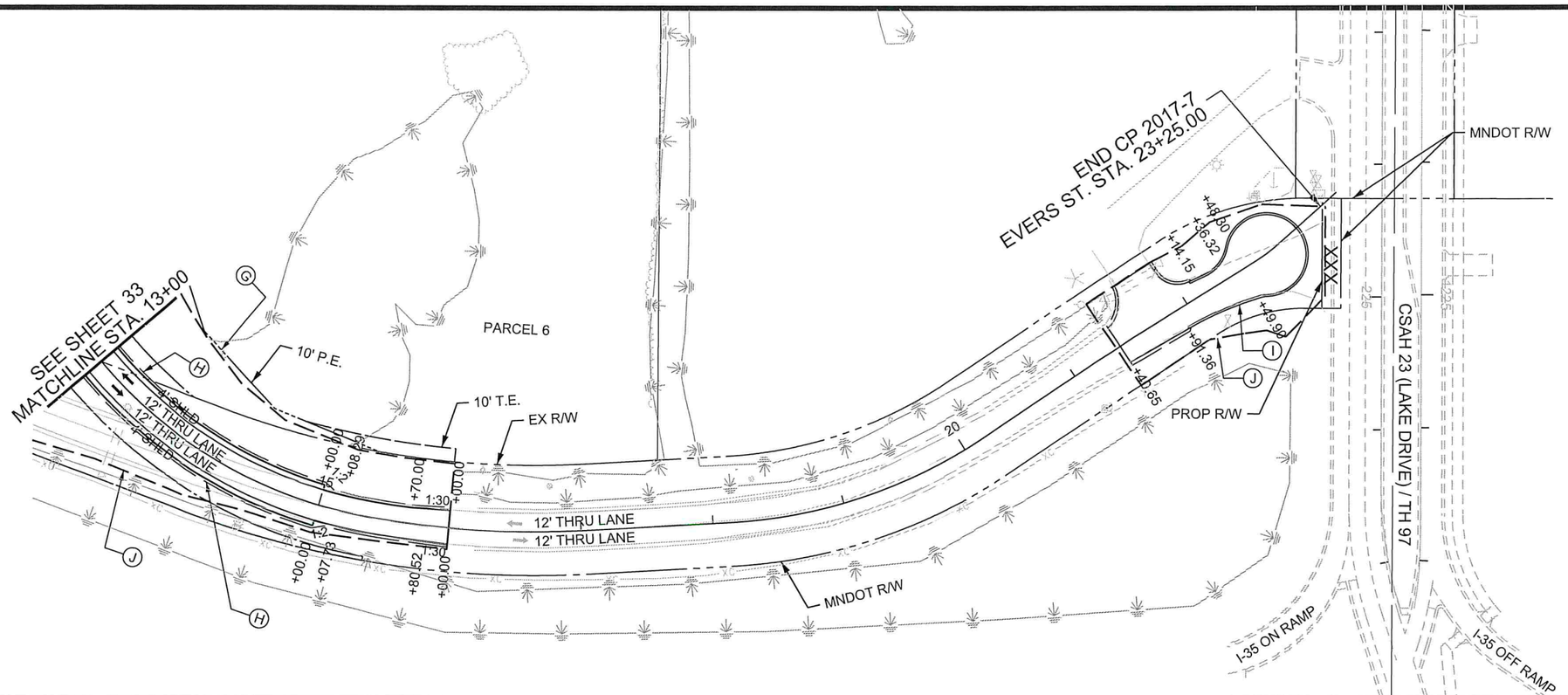
Sheet 34 of 97 Sheets

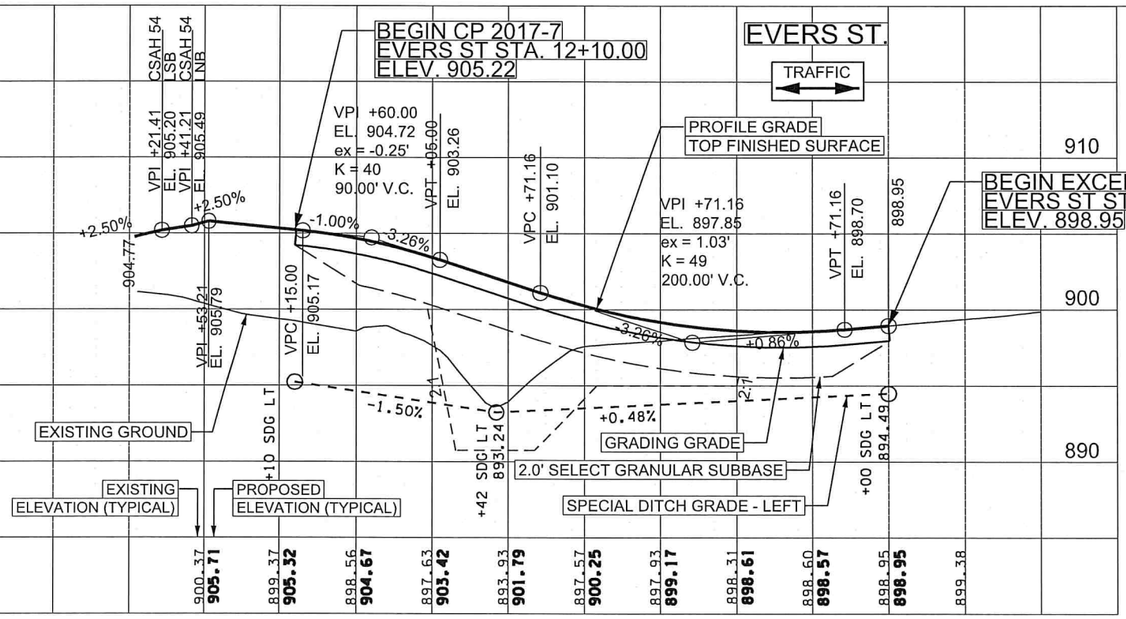
CONSTRUCTION NOTES

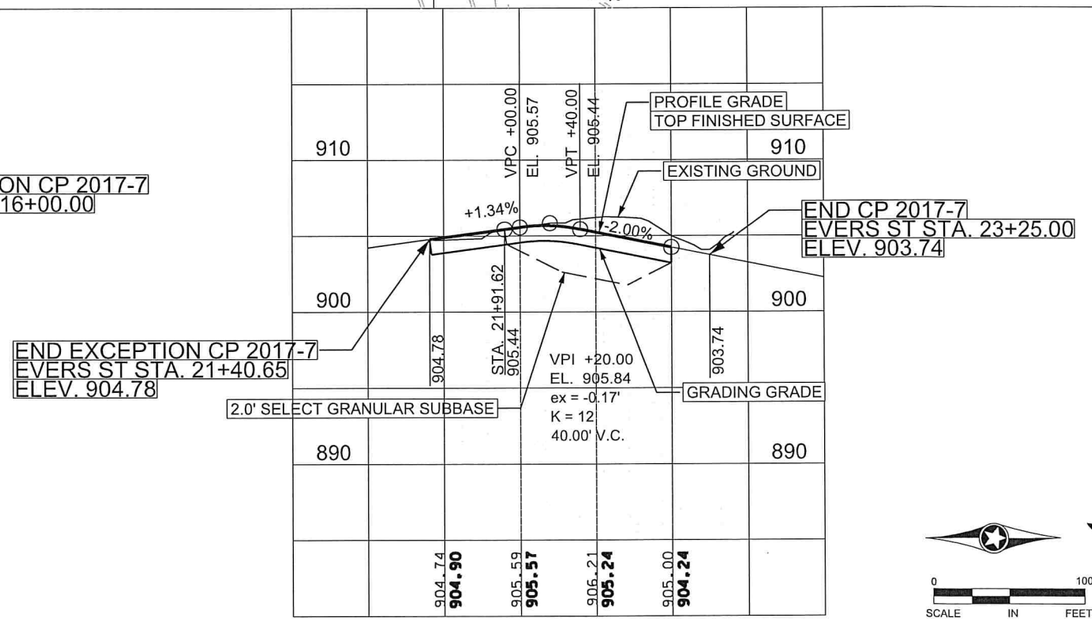
- (H) 2' AGGREGATE SHOULDER
- (I) B618 CURB AND GUTTER
- (J) CONSTRUCTION LIMITS
- WETLAND DELINEATION

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

SEE CUL-DE-SAC DETAILS ON SHEET 39 FOR MORE INFORMATION.







0 100
SCALE IN FEET

3 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_PP3_10.dgn 12/12/2018 9:12:34 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

CHECKED BY EJM DATE 09-27-18

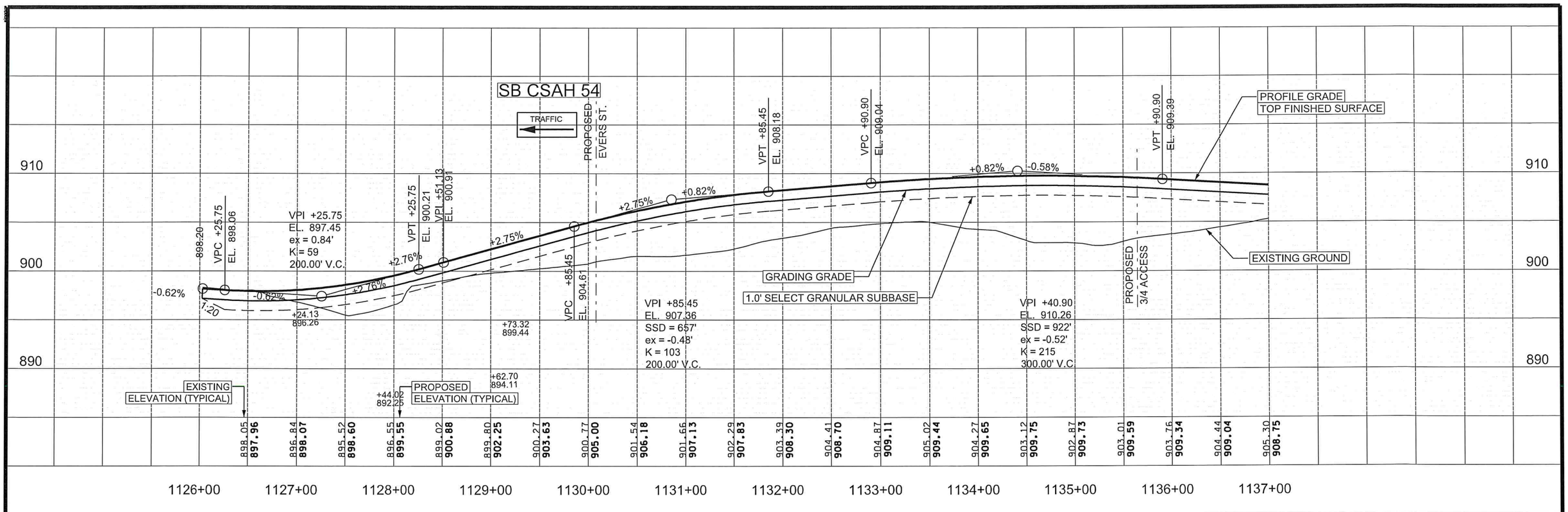
ANOKA COUNTY HIGHWAY DEPT.

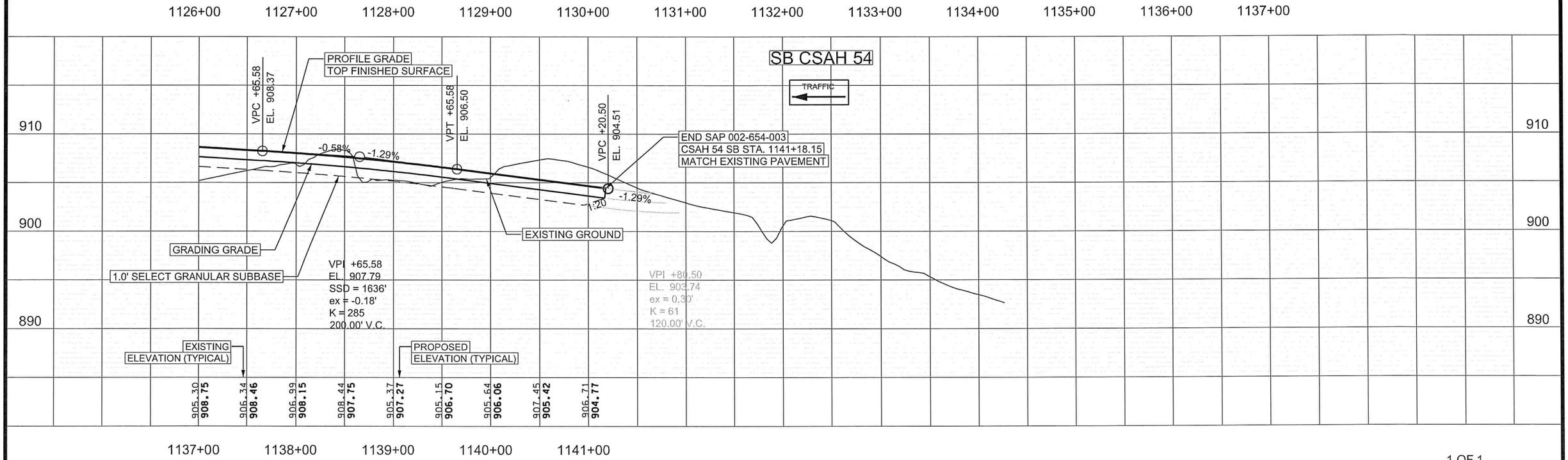
SAP 002-654-003
CP 2017-7

CONSTRUCTION PLAN/PROFILE
EVERS ST

STA 13+00 TO 23+25

Sheet 35 of 97 Sheets





1 OF 1

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_PR1_10.dgn 12/11/2018 3:45:53 PM

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

PRINT NAME: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

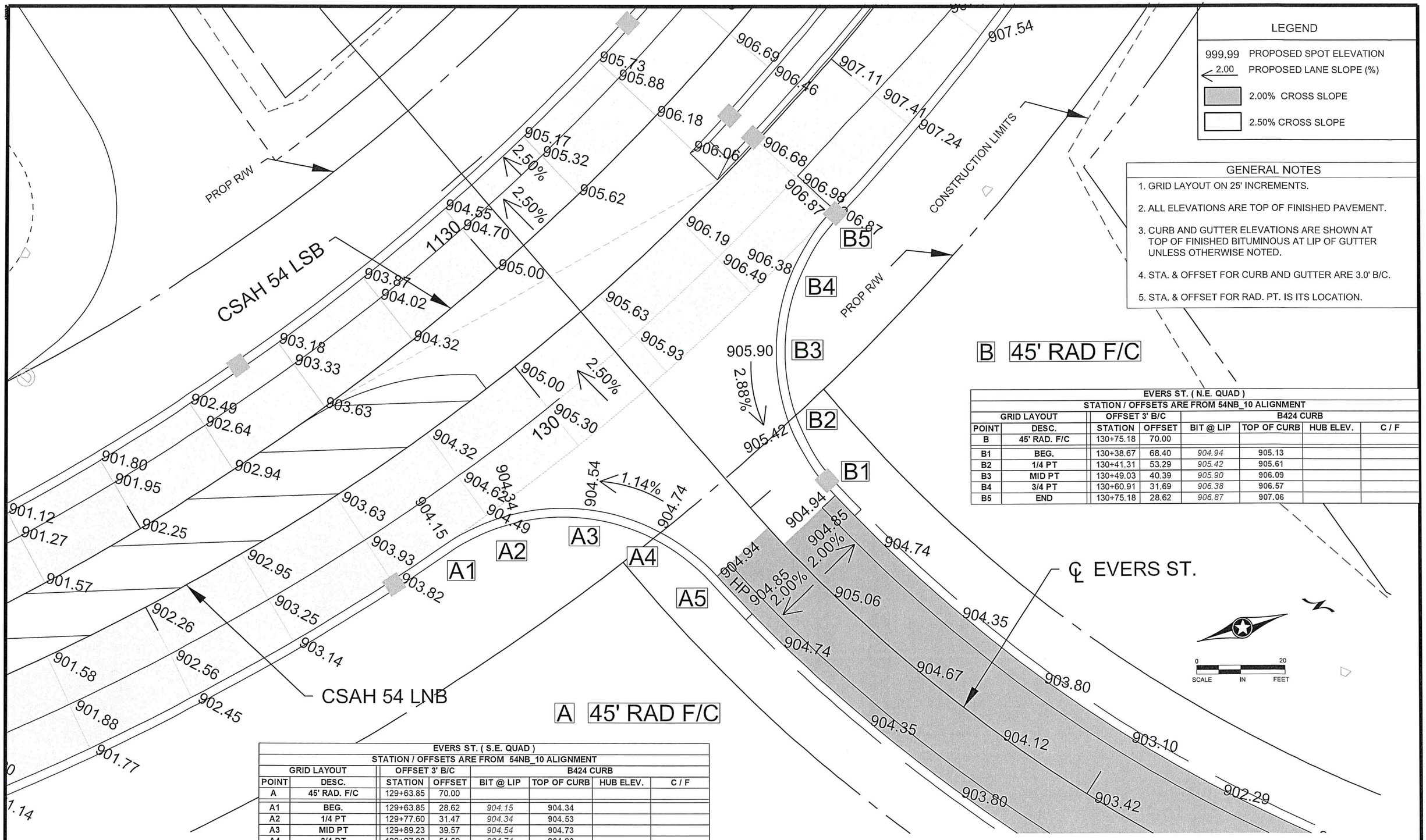
SAP 002-654-003

CP 2017-7

PROFILE
CSAH 54 SOUTHBOUND

STA 1126+00.00 TO 1142+00.00

Sheet 36 of 97 Sheets



EVERS ST. (N.E. QUAD)
STATION / OFFSETS ARE FROM 54NB_10 ALIGNMENT

GRID LAYOUT		OFFSET 3' B/C		B424 CURB			
POINT	DESC.	STATION	OFFSET	BIT @ LIP	TOP OF CURB	HUB ELEV.	C / F
B	45' RAD. F/C	130+75.18	70.00				
B1	BEG.	130+38.67	68.40	*904.94*	905.13		
B2	1/4 PT	130+41.31	53.29	*905.42*	905.61		
B3	MID PT	130+49.03	40.39	*905.90*	906.09		
B4	3/4 PT	130+60.91	31.69	*906.38*	906.57		
B5	END	130+75.18	28.62	*906.87*	907.06		

EVERS ST. (S.E. QUAD)
STATION / OFFSETS ARE FROM 54NB_10 ALIGNMENT

GRID LAYOUT		OFFSET 3' B/C		B424 CURB			
POINT	DESC.	STATION	OFFSET	BIT @ LIP	TOP OF CURB	HUB ELEV.	C / F
A	45' RAD. F/C	129+63.85	70.00				
A1	BEG.	129+63.85	28.62	*904.15*	904.34		
A2	1/4 PT	129+77.60	31.47	*904.34*	904.53		
A3	MID PT	129+89.23	39.57	*904.54*	904.73		
A4	3/4 PT	129+97.08	51.69	*904.74*	904.93		
A5	END	130+00.29	66.08	*904.94*	905.13		

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-654-03\Plan\0265403_ID1_10.dgn					12/11/2018 3:45:59 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: ELIZABETH MARKOSE
SIGNATURE: Elizabeth Markose
DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18
DESIGN BY JRB DATE 09-01-17
CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

INTERSECTION DETAILS
EVERS ST.

Sheet 37 of 97 Sheets

LEGEND

999.99 PROPOSED SPOT ELEVATION

2.00 PROPOSED LANE SLOPE (%)

2.00% CROSS SLOPE

2.50% CROSS SLOPE

SCALE 0 20 IN FEET

CSAH 54 LSB

CSAH 54 LNB

CONSTRUCTION LIMITS

PROP R/W

1135

3.00%

0.00%

0.58%

1.61%

C1 C2 C3 C4 C5

D1 D2 D3 D4 D5

40' RAD F/C C

D 55' RAD F/C

GENERAL NOTES

1. GRID LAYOUT ON 25' INCREMENTS.
2. ALL ELEVATIONS ARE TOP OF FINISHED PAVEMENT.
3. CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED.
4. STA. & OFFSET FOR CURB AND GUTTER ARE 3.0' B/C.
5. STA. & OFFSET FOR RAD. PT. IS ITS LOCATION.

NEW ST. (S.E. QUAD)

STATION / OFFSETS ARE FROM 54NB_10 ALIGNMENT

GRID LAYOUT		OFFSET 3' B/C		B424 CURB			
POINT	DESC.	STATION	OFFSET	BIT @ LIP	TOP OF CURB	HUB ELEV.	C / F
C	40' RAD. F/C	135+31.14	65.00				
C1	BEG.	135+31.14	28.62	*908.93*	909.12		
C2	1/4 PT	135+45.07	31.39	*908.67*	908.86		
C3	MID PT	135+56.87	39.28	*908.40*	908.59		
C4	3/4 PT	135+64.75	51.08	*908.13*	908.32		
C5	END	135+67.52	65.00	*907.87*	908.06		

NEW ST. (N.E. QUAD)

STATION / OFFSETS ARE FROM 54NB_10 ALIGNMENT

GRID LAYOUT		OFFSET 3' B/C		B424 CURB			
POINT	DESC.	STATION	OFFSET	BIT @ LIP	TOP OF CURB	HUB ELEV.	C / F
D	55' RAD. F/C	136+67.76	75.00				
D1	BEG.	136+07.61	78.52	*907.71*	907.90		
D2	1/4 PT	136+12.47	57.30	*907.84*	908.03		
D3	MID PT	136+26.00	39.49	*907.98*	908.17		
D4	3/4 PT	136+45.41	27.72	*908.12*	908.31		
D5	END	136+67.76	23.62	*908.25*	908.44		

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_ID2_10.dgn 12/11/2018 3:46:00 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: ELIZABETH MARKOSE

SIGNATURE: Eliz@rkh

DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003

CP 2017-7

INTERSECTION DETAILS
NEW ST.

Sheet 38 of 97 Sheets

BEGIN CUL-DE-SAC							
STATION / OFFSETS ARE FROM EVERS ST. ALIGNMENT							
GRID LAYOUT		OFFSET 3' B/C		B618 CURB			
POINT	DESC.	STATION	OFFSET	BIT @ LIP	TOP OF CURB	HUB ELEV.	C / F
F	28.5' RAD. F/C	22+26.09	-40.34				
F1	BEG.	22+22.67	-15.70	*905.29*	**905.68**		
F2	MID PT	22+34.57	-16.95	*905.15*	**905.54**		
F3	END	22+44.51	-23.61	*905.00*	**905.39**		

END CUL-DE-SAC							
STATION / OFFSETS ARE FROM EVERS ST. ALIGNMENT							
GRID LAYOUT		OFFSET 3' B/C		B618 CURB			
POINT	DESC.	STATION	OFFSET	BIT @ LIP	TOP OF CURB	HUB ELEV.	C / F
H	234.5' RAD. F/C	21+85.64	250.86				
H0	28.5' RAD. F/C	22+42.39	36.02				
H1	BEG.	22+48.50	20.05	*904.76*	**905.15**		
H2	1/4 PT	22+34.42	20.86	*904.89*	**905.28**		
H3	MID PT	22+20.14	22.58	*905.03*	**905.42**		
H4	3/4 PT	22+05.73	25.20	*905.17*	**905.56**		
H5	END	21+91.24	28.71	*905.31*	**905.70**		

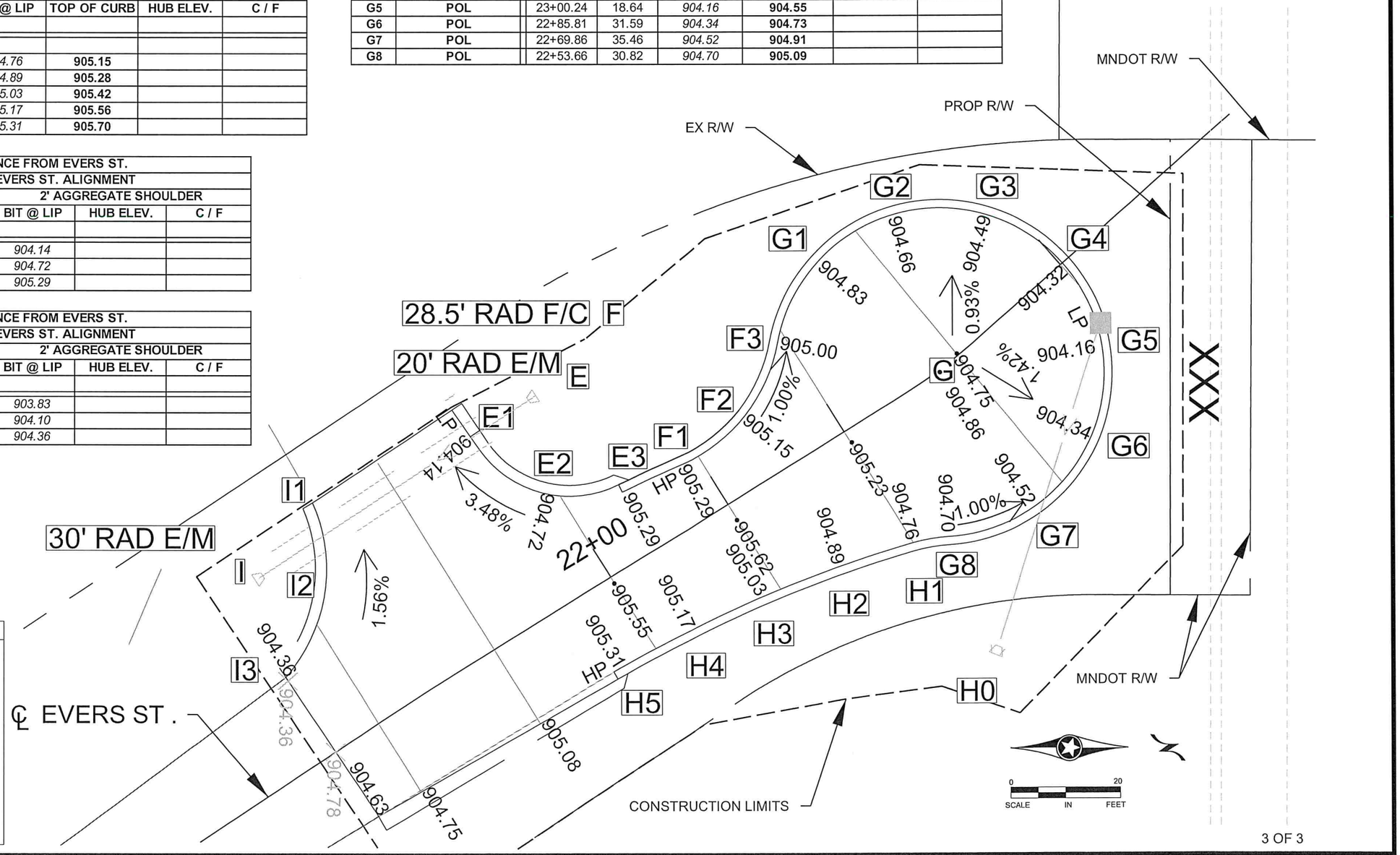
HOLIDAY GAS STATION ENTRANCE FROM EVERS ST.						
STATION / OFFSETS ARE FROM EVERS ST. ALIGNMENT						
GRID LAYOUT		OFFSET @ LIP		2' AGGREGATE SHOULDER		
POINT	DESC.	STATION	OFFSET	BIT @ LIP	HUB ELEV.	C / F
E	20' RAD. E/M	22+12.00	-33.42			
E1	BEG.	21+97.00	-11.59	*904.14*		
E2	MID PT	22+02.39	-19.29	*904.72*		
E3	END	22+14.70	-35.18	*905.29*		

HOLIDAY GAS STATION ENTRANCE FROM EVERS ST.						
STATION / OFFSETS ARE FROM EVERS ST. ALIGNMENT						
GRID LAYOUT		OFFSET @ LIP		2' AGGREGATE SHOULDER		
POINT	DESC.	STATION	OFFSET	BIT @ LIP	HUB ELEV.	C / F
I	30' RAD. E/M	21+32.81	-45.25			
I1	BEG.	21+61.36	-40.14	*903.83*		
I2	MID PT	21+54.72	-25.01	*904.10*		
I3	END	21+40.65	-16.29	*904.36*		

CUL-DE-SAC							
STATION / OFFSETS ARE FROM EVERS ST. ALIGNMENT							
DISTANCE 31.5' FROM CENTER OF CULDESAC TO FACE OF CURB							
GRID LAYOUT		OFFSET 3' B/C		B618 CURB			
POINT	DESC.	STATION	OFFSET	BIT @ LIP	TOP OF CURB	HUB ELEV.	C / F
G	CNTR CULDESAC	22+70.49	0.35				
G1	POL	22+61.01	-33.81	*904.83*	**905.22**		
G2	POL	22+85.81	-31.59	*904.66*	**905.05**		
G3	POL	23+00.24	-18.64	*904.49*	**904.88**		
G4	POL	23+05.59	0.00	*904.32*	**904.71**		
G5	POL	23+00.24	18.64	*904.16*	**904.55**		
G6	POL	22+85.81	31.59	*904.34*	**904.73**		
G7	POL	22+69.86	35.46	*904.52*	**904.91**		
G8	POL	22+53.66	30.82	*904.70*	**905.09**		

LEGEND

999.99	PROPOSED SPOT ELEVATION
999.99	EXISTING SPOT ELEVATION
2.00	PROPOSED LANE SLOPE (%)



GENERAL NOTES

1. GRID LAYOUT ON 25' INCREMENTS.
2. ALL ELEVATIONS ARE TOP OF FINISHED PAVEMENT.
3. CURB AND GUTTER ELEVATIONS ARE SHOWN AT TOP OF FINISHED BITUMINOUS AT LIP OF GUTTER UNLESS OTHERWISE NOTED.
4. STA. & OFFSET FOR CURB AND GUTTER ARE 3.0' B/C.
5. ALL STA. & OFFSETS ARE FROM CENTERLINE XXX.
6. STA. & OFFSET FOR RAD. PT. IS ITS LOCATION. DISTANCE FROM RAD. PT. IS TO F/C.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_ID3_10.dgn 12/12/2018 9:12:44 AM

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

PRINT NAME: ELIZABETH MARKOSE

SIGNATURE: Elizabeth MM

DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

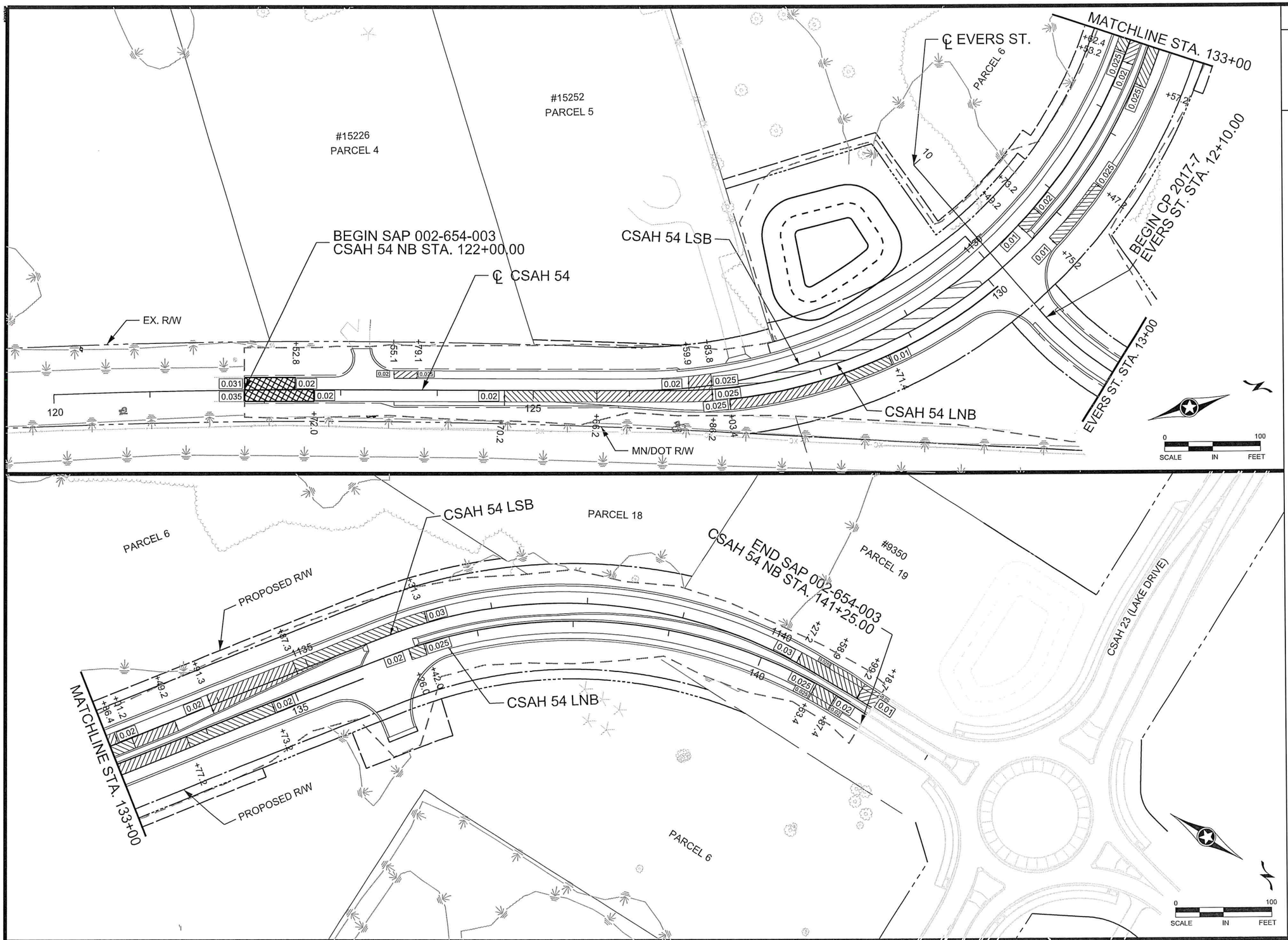
CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

INTERSECTION DETAILS
CUL-DE-SAC

Sheet 39 of 97 Sheets



LEGEND

- SUPERELEVATION TRANSITION
- MATCH TO EXISTING

NOTES:

1. ALL CROSS SLOPES ARE IN FEET PER FEET.
2. STATIONING FOR NORTH BOUND CSAH 54 BASED ON NORTH BOUND ALIGNMENT.
3. STATIONING FOR SOUTH BOUND CSAH 54 BASED ON SOUTH BOUND ALIGNMENT.
4. SEE INTERSECTION DETAIL PLANS FOR MORE INFORMATION.

1 OF 1

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_SE1.dgn 12/11/2018 3:46:08 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.

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ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

SUPERELEVATION PLAN
CSAH 54
STA 122+00.00 TO 141+25.00

Sheet 40 of 97 Sheets

DRAINAGE TAB - POND 500

L1

STRUCTURE NO.			CENTER OF CASTING			DRAINAGE STRUCTURES								STORM SEWER									NOTES
								PAY HEIGHT												SOD TYPE SALT RESISTANT	CONNECT TO EX STORM	REMOVE BULKHEAD	
FLOWS FROM	FLOWS TO	ALIGN	STATION	O/S	L / R	TYPE	DESIGN	H	48-4020	54-4020	72-4020	CASTING ASSEMBLY TYPE	STEPS REQ'D	TOP OF CASTING ELEVATION	INVERT ELEVATION	DOWN STREAM INLET	SLOPE %	15" RCP CL V LIN FT	15" RCP APRON EACH	18" RCP CL III LIN FT	SQ YD	EACH	EACH	
								LIN FT	LIN FT	LIN FT	LIN FT													
543	544	54SB_10	1131+86.27	19.00	L	CB	H	3.2				D		907.57	904.32	904.17	0.50	31						
544	545	54SB_10	1131+86.27	12.25	R	CB	48-4020		3.8			B		907.82	904.17	904.13	0.50	8						
545	546	54NB_10	132+05.00	1.25	L	CB	48-4020		4.0			B		908.03	904.13	904.00	0.50	25						
546	542	54NB_10	132+05.00	24.00	R	CB	48-4020		4.0			D		908.04	904.00	903.71	0.30	99						
540	541	54SB_10	1132+77.00	19.00	L	CB	H	3.2				D		908.35	905.10	904.91	0.50	38						
541	542	54NB_10	133+00.00	1.25	L	CB	48-4020		3.8			B		908.59	904.91	904.79	0.50	25						
542	502	54NB_10	133+00.00	24.00	R	CB	48-4020		4.7			D	YES	908.48	903.71	903.01	0.30	232						
500	501	54SB_10	1135+47.46	1.25	R	CB	H	3.4				B		909.46	906.21	905.87	1.96	18						
501	503	54NB_10	135+70.00	1.25	L	CB	48-4020		5.0			B	YES	909.12	904.27	902.79	3.00	49						
502	503	54NB_10	135+32.00	24.00	R	CB	48-4020		5.7			D	YES	908.81	903.01	902.79	0.50	44						
503	504	54NB_10	135+68.46	47.94	R	CB	72-4020				5.3	C	YES	908.17	902.79	902.58	0.50	42						
504	505	54NB_10	136+11.52	48.10	R	CB	48-4020		5.3			C	YES	907.96	902.58	902.32	0.30	88						
521	505	54SB_10	1136+82.00	12.25	R	CB	H	3.4				B		908.38	905.13	904.63	1.89	27						
505	506	54NB_10	137+00.00	19.00	R	CB	48-4020		5.5			D	YES	907.88	902.32	901.84	0.50	96						
522	523	54SB_10	1137+84.96	19.00	L	CB	H	3.1				D		908.30	905.05	904.53	1.73	30						
523	524	54SB_10	1137+84.96	11.23	R	CB	48-4020		3.4			B		907.78	904.53	904.50	0.50	6						
524	506	54NB_10	138+00.00	1.25	L	CB	48-4020		3.4			B		907.79	904.50	904.05	2.22	20						
506	507	54NB_10	138+00.00	19.00	R	CB	54-4020			5.6		D	YES	907.30	901.59	900.87	0.50			144				
550	506	54NB_10	138+00.00	31.84	R	INLET	APRON							905.55	904.30	904.05	1.98	7	1		15			[3]
525	526	54SB_10	1139+40.27	1.75	R	CB	H	3.4				B		906.66	903.41	903.35	0.52	11						
526	507	54NB_10	139+50.08	1.25	L	CB	48-4020		3.4			B		906.60	903.35	902.86	2.43	20						
507	508	54NB_10	139+50.00	19.00	R	CB	48-4020		5.1			D	YES	906.11	900.87	900.15	0.50			144				
527	528	54SB_10	1140+93.71	18.52	L	CB	H	3.1				D		904.61	901.36	901.26	0.50	20						
528	529	54SB_10	1140+92.83	1.25	R	CB	48-4020		3.6			B		904.74	901.26	901.23	0.50	6						
529	508	54NB_10	140+99.95	1.25	L	CB	48-4020		3.6			B		904.77	901.23	901.12	0.55	20						
508	BULKHEAD	54NB_10	141+00.00	19.00	R	CB	48-4020		4.1			D		904.37	900.15	900.08	0.50			15		1	1	[2]
DRAINAGE SUBTOTAL (A)								22.8	68.4	5.6	5.3	25						963	1	303	15	1	1	

NOTES:

[2] EXISTING STORM SEWER FINAL PIPE SECTION AND BULKHEAD APPROXIMATE LOCATION IS STA. 141+15.00 OFFSET 18.53' R. LOCATION SHALL BE VERIFIED ON THE FIELD.

[3] PLACE SOD AT APRON INLET PER MNDOT STANDARD PLAN 5-297.404.

GENERAL NOTES:

- PIPE LENGTHS DO NOT INCLUDE APRON LENGTH.
- SLOPES CALCULATED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE, OR CENTER OF STRUCTURE TO END OF APRON.
- STATION AND OFFSET FOR EACH STRUCTURE GIVEN AT CENTER OF GRATE/CASTING FOR CATCH BASINS AND MANHOLES, AND AT APRON ENDS FOR APRONS.
- INVERT ELEVATIONS GIVEN AT CENTER OF STRUCTURE OR END OF APRON.
- IF STEPS REQUIRED, STRUCTURE TO INCLUDE MANHOLE STEPS 16" ON CENTER. SEE MN/DOT STANDARD PLATE 4180.
- TIE LAST THREE JOINTS AT APRON END. FURNISHING AND INSTALLING PIPE TIES SHALL BE CONSIDERED INCIDENTAL. SEE MN/DOT STANDARD PLATE 3145.
- PAY HEIGHT = TOP OF CASTING - CASTING HEIGHT - INVERT + 8" CONCRETE BASE.
- **ADJUSTING RINGS ARE INCIDENTAL.**

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_DR_TAB_P1.dgn 12/11/2018 3:46:14 PM

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SIGNATURE: Elizabeth Markose

DATE: 12-12-18 LICENSE NO. 49118

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DESIGN BY JRB DATE 09-01-17

CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003

CP 2017-7

DRAINAGE TABULATION

DRAINAGE TAB - POND 600

L2

STRUCTURE NO.			CENTER OF CASTING			DRAINAGE STRUCTURES											STORM SEWER										SOD TYPE SALT RESISTANT	RIPRAP CLASS II [1]	GEOTEXTILE FILTER TYPE 3	NOTES
								PAY HEIGHT				CASTING ASSEMBLY TYPE	STEPS REQ'D	TOP OF CASTING ELEVATION	INVERT ELEVATION	DOWN STREAM INLET	SLOPE %	15" RCP CL V	15" RCP APRON	18" RCP CL III	18" RCP APRON	21" RCP CL III	21" RCP APRON	24" RCP CL III	24" RCP APRON				
FLOWS FROM	FLOWS TO	ALIGN	STATION	O/S	L / R	TYPE	DESIGN	H	48-4020	54-4020	72-4020							LIN FT	EACH	LIN FT	EACH	LIN FT	EACH	LIN FT	EACH	SQ YD	CU YD	SQ YD	
610	600	EVERS	12+07.00	17.00	L	CB	H	3.1				C		905.09	901.84	901.54	0.50	60											
600	601	54NB_10	130+75.00	24.00	R	CB	48-4020		5.1			D	YES	906.71	901.54	901.42	0.50	25											
601	602	54NB_10	130+75.00	1.25	L	CB	48-4020		5.2			B	YES	906.51	901.42	901.37	0.50	7											
602	603	54SB_10	1130+61.18	12.25	R	CB	48-4020		5.1			B	YES	906.38	901.37	901.22	0.50	31											
603	604	54SB_10	1130+61.20	19.00	L	CB	48-4020		4.5			D		905.81	901.22	898.05	2.79	117											
604	699	54SB_10	1129+39.35	19.00	L	CB	48-4020		8.1			D	YES	902.73	894.55	894.00	1.00	49											
699	POND600	54SB_10	1129+12.09	68.48	L	OUTLET	APRON							895.25	894.00				1								47	18	[4]
613	604	54NB_10	129+50.00	24.00	R	CB	H	3.1				D		903.66	900.41	899.48	1.54	61											
700	622	54NB_10	126+50.00	35.86	L	INLET	APRON							897.00	895.50	894.87	2.17			23	1					15			
622	605	54SB_10	1126+75.71	19.00	L	CB	48-4020		3.9			C		897.37	893.37	892.89	0.30							161					
614	605	54NB_10	128+49.98	24.00	R	CB	H	3.1				D		900.76	897.51	896.82	1.22	57											
631	632	54NB_10	126+58.00	21.25	R	CB	H	3.1				C		897.87	894.62	894.55	0.30	23											
632	622	54NB_10	126+80.01	22.47	R	CB	48-4020		3.3			C		897.93	894.55	894.12	0.95	45											
605	698	54SB_10	1128+42.77	19.00	L	CB	72-4020				7.1	D	YES	900.07	892.89	892.76	0.30							36					
698	POND600	54SB_10	1128+42.70	58.39	L	OUTLET	APRON							894.76	892.76										1		6.2	29.7	[4]
650	651	54NB_10	128+79.37	86.34	L	INLET	APRON							893.50	892.00	892.17	-0.50			27	1					15			
651	652	54NB_10	129+00.06	58.26	L	SPECIAL	SPECIAL		6.5			SPECIAL	YES	898.00	894.00	893.59	0.34					114							[2] [3]
652	DITCH	54NB_10	129+00.00	61.43	R	OUTLET	APRON							895.34	893.59								1				4.7	24.1	
653	654	EVERS	12+39.41	72.07	R	INLET	APRON							894.81	893.06	892.43	0.50					121	1			20			
C3A	654	EVERS	13+41.06	52.93	L	INLET	APRON							895.24	893.24	892.98	0.30							79	1	20			
654	C3B	EVERS	13+44.38	32.20	R	MH	54-4020			6.8		F	YES	899.11	892.35	892.20	0.50							24					
C3B	DITCH	EVERS	13+53.60	60.52	R	OUTLET	APRON							894.20	892.20										1		6.2	29.7	
900	999	EVERS	22+98.38	12.81	R	CB	H	3.4				B		904.14	900.89	900.70	0.30	57											
999	DITCH	EVERS	22+51.89	48.99	R	OUTLET	APRON							901.95	900.70				1								3.2	18	
DRAINAGE SUBTOTAL (B)								15.8	41.7	6.8	7.1	15						534	2	50	2	234	2	300	3	70	67	120	

NOTES:

[1] REFER TO STANDARD PLATE 3133D FOR RIPRAP AT RCP APRONS.
[2] SEE POND 600 SHEET FOR OUTLET CONTROL STRUCTURE AND OVERFLOW DETAILS.
[3] SPECIAL STRUCTURE PAID AS CONST DRAINAGE STRUCTURE DESIGN 48-4020. WEIR AND GRATE ARE INCIDENTAL TO STRUCTURE. SEE POND GRADING PLAN SHEETS FOR MORE DETAILS.
[4] INSTALL TRASH GUARD.

GENERAL NOTES:

- PIPE LENGTHS DO NOT INCLUDE APRON LENGTH.
- SLOPES CALCULATED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE, OR CENTER OF STRUCTURE TO END OF APRON.
- STATION AND OFFSET FOR EACH STRUCTURE GIVEN AT CENTER OF GRATE/CASTING FOR CATCH BASINS AND MANHOLES, AND AT APRON ENDS FOR APRONS.
- INVERT ELEVATIONS GIVEN AT CENTER OF STRUCTURE OR END OF APRON.
- IF STEPS REQUIRED, STRUCTURE TO INCLUDE MANHOLE STEPS 16" ON CENTER. SEE MN/DOT STANDARD PLATE 4180.
- SEE TAB K FOR CULVERT INFORMATION.
- TIE LAST THREE JOINTS AT APRON END. FURNISHING AND INSTALLING PIPE TIES SHALL BE CONSIDERED INCIDENTAL. SEE MN/DOT STANDARD PLATE 3145.
- PAY HEIGHT = TOP OF CASTING - CASTING HEIGHT - INVERT + 8" CONCRETE BASE.
- **ADJUSTING RINGS ARE INCIDENTAL.**

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_DR_TAB_P2.dgn 12/11/2018 3:46:21 PM

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SIGNATURE: Elizabeth Markose
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DRAWN BY MP DATE 08-31-18
DESIGN BY JRB DATE 09-01-17
CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

DRAINAGE TABULATION

DRAINAGE TABULATION SUMMARY

L

STRUCTURE NO.			CENTER OF CASTING			DRAINAGE STRUCTURES								STORM SEWER								SOD TYPE SALT TOLERANT	RIPRAP CLASS II	GEOTEXTILE FILTER TYPE 3	CONNECT TO EX STORM	REMOVE BULKHEAD
								PAY HEIGHT				CASTING ASSEMBLY TYPE	15" RCP CL V	15" RCP APRON	18" RCP CL III	18" RCP APRON	21" RCP CL III	21" RCP APRON	24" RCP CL III	24" RCP APRON					
FLOWS FROM	FLOWS TO	ALIGN	STATION	O/S	L / R	TYPE	DESIGN	H	48-4020	54-4020	72-4020														
								LIN FT	LIN FT	LIN FT	LIN FT		LIN FT	EACH	LIN FT	EACH	LIN FT	EACH	LIN FT	EACH		SQ YD	CU YD	SQ YD	EACH	EACH
DRAINAGE SUBTOTAL (A)								22.8	68.4	5.6	5.3	25	963	1	303							15			1	1
DRAINAGE SUBTOTAL (B)								15.8	41.7	6.8	7.1	15	534	2	50	2	234	2	300	3		70	67	120		
PROJECT TOTAL								38.6	110.1	12.4	12.4	40	1497	3	353	2	234	2	300	3		85	67	120	1	1

CASTING ASSEMBLY SUMMARY

L3

ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	STANDARD PLATE NO.	QUANTITY	NOTES
B		R-3448-C		15	MEDIAN NO BOX
C		R-3250-DVSP		6	OUTER BOX
D		R-3250-EVSP		17	OUTER NO BOX
F	700-7	716	4101, 4110	1	MANHOLE
SPECIAL				1	SPECIAL

NOTE: USE SPECIFIED NEENAH CASTING OR APPROVED EQUAL.

SUBSURFACE DRAINAGE

L4

ALIGNMENT	STATION		TO	LOCATION	4" PERF TP PIPE DRAIN (FT)	4" PRECAST CONC HEADWALL	FINE FILTER AGGREGATE (LV) CU YD	NOTES
CSAH 54 (002-654-003)								
54NB_10	122+00	-	126+58	NB SIDE	459		21	[1]
54NB_10	122+00	-	126+78	SB SIDE	477		22	[1]
54NB_10	126+80	-	129+00	NB SIDE	232		11	[1]
54NB_10	126+78	-	129+00	SB SIDE	210		10	[1]
54NB_10	139+50	-	141+00	NB SIDE	145		7	[1]
54NB_10	139+50	-	141+00	SB SIDE	161		7	[1]
54NB_10	141+00	-	141+25	NB SIDE	25		1	[1]
54NB_10	139+50	-	141+00	MEDIAN	152		7	[1]
SUBTOTAL					1861		86	
EVERS ST (CP 2017-7)								
EVERS	13+81	-	16+00	NB SIDE	241	1	11	[2], [3], [4]
EVERS	13+81	-	16+00	SB SIDE	219	1	10	[2], [3], [4]
SUBTOTAL					460	2	21	
PROJECT TOTAL					2321	2	107	

NOTES: GEOTEXTILE WRAP TYPE I INCIDENTAL.
SEE DRAINAGE PLAN AND DETAILS FOR MORE INFORMATION.

[1] OUTLET CONNECTION TO CATCHBASIN.
[2] SEE MNDOT STANDARD PLAN 5-297.433 FOR OUTLET DETAILS.
[3] 4" DIA. TP PIPE DRAIN "Y" CONNECTION INCIDENTAL.
[4] PRECAST CONCRETE HEADWALL STANDARD PLATE 3131 C.
PAID FOR AS SPEC 2502 4 INCH PRECAST CONCRETE HEADWALL.

DRAINAGE FLUME

L5

ALIGNMENT	STATION		TO	OFFSET	CONC FLUME	12" DEPTH RIPRAP CLASS II	GEOTEXTILE FILTER TYPE III
					SQ YD	CU YD	SQ YD
EVERS	12+16	-	12+33	33' TO 35' LT	12	12.5	52.8
TOTAL					12	13	53

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_DR_TAB_P3.dgn 12/11/2018 3:46:27 PM

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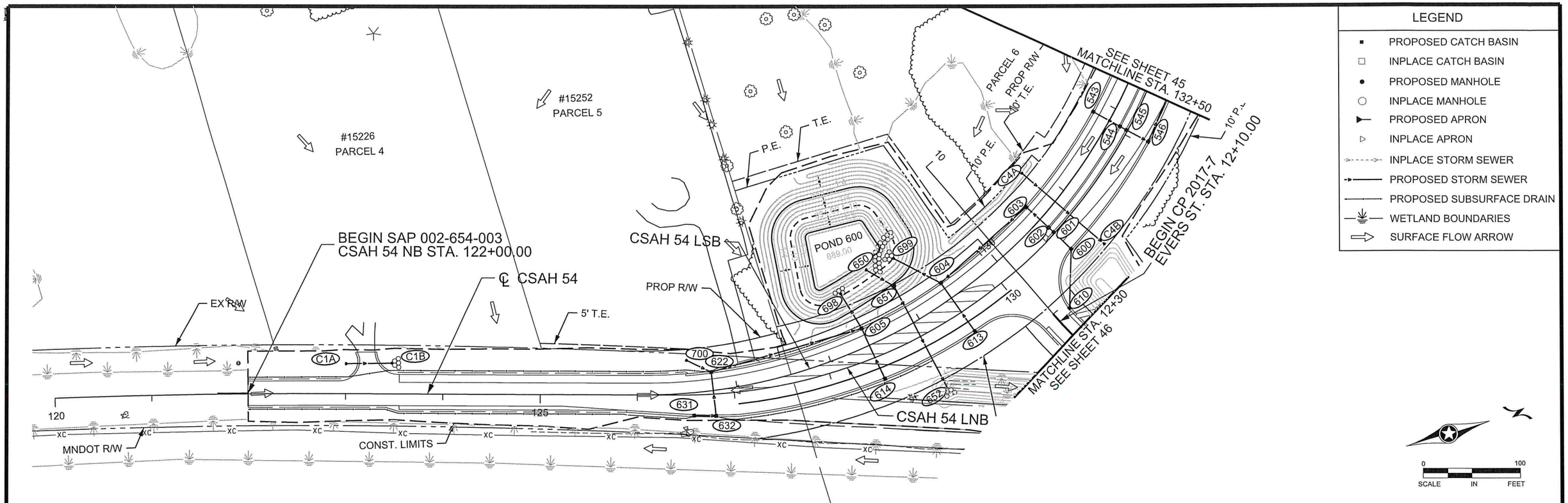
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

DRAINAGE TABULATION



1 OF 3

NO	DATE	BY	CKD	APPR	REVISION

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

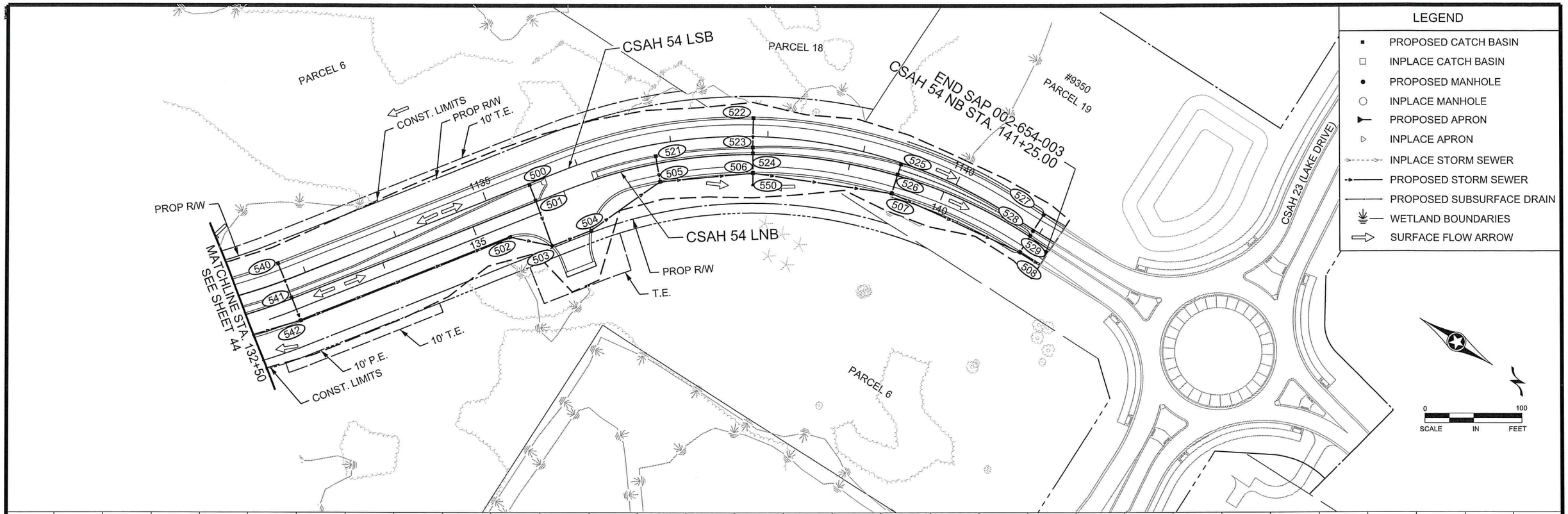
SAP 002-654-003

CP 2017-7

DRAINAGE PLAN
CSAH 54

STA 122+00 TO 132+50

Sheet 44 of 97 Sheets



2 OF 3

NO	DATE	BY	CKD	APPR	REVISION

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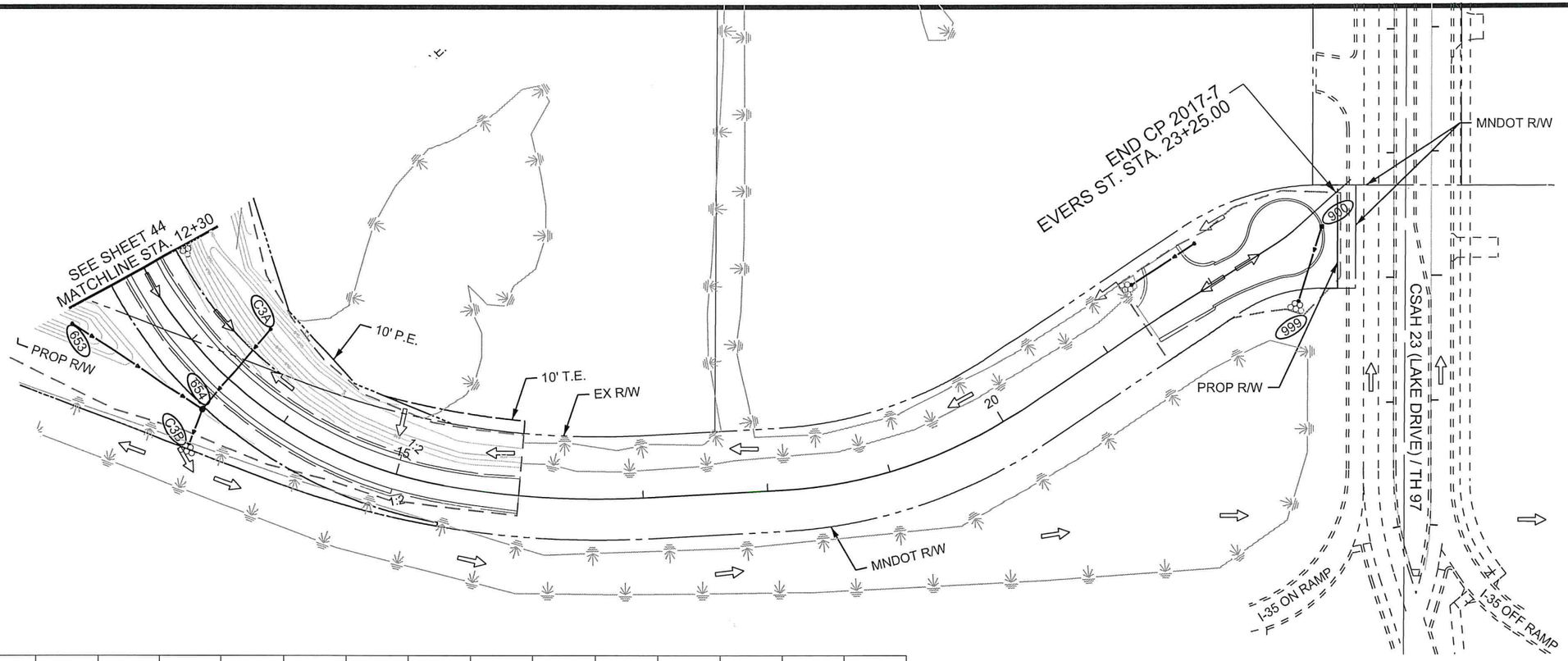
CP 2017-7

DRAINAGE PLAN
CSAH 54

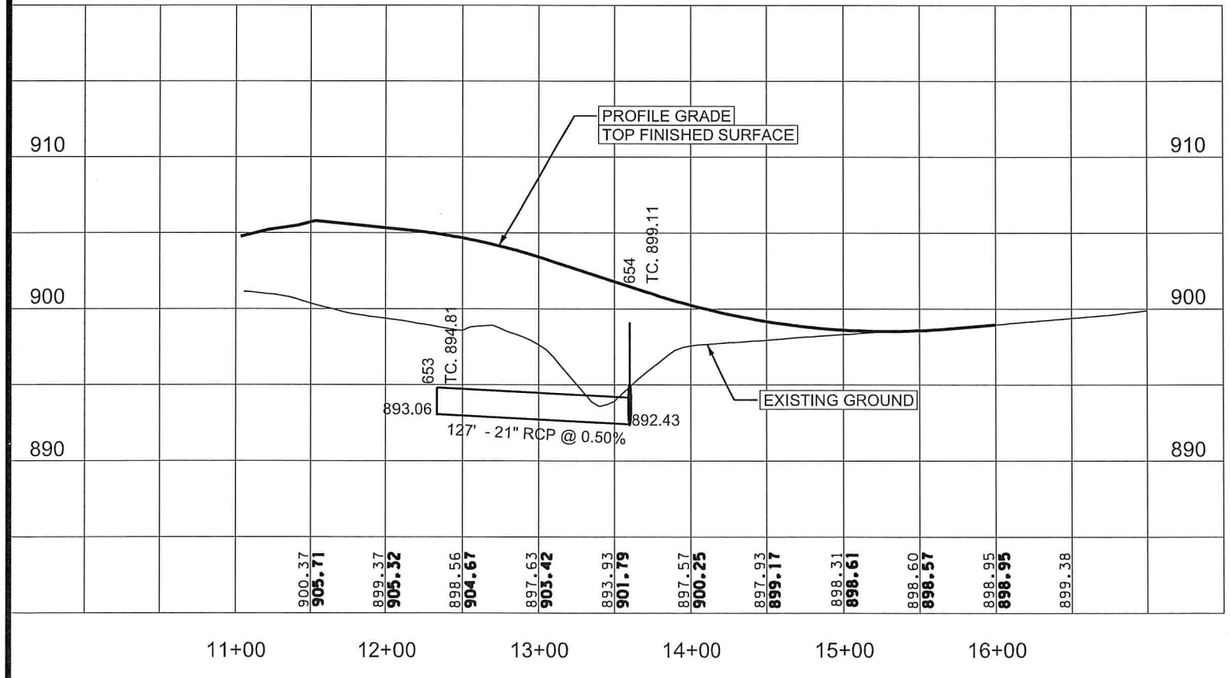
STA 132+50 TO 141+25

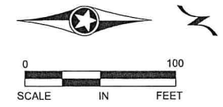
Sheet 45 of 97 Sheets



LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- PROPOSED APRON
- INPLACE APRON
- INPLACE STORM SEWER
- PROPOSED STORM SEWER
- PROPOSED SUBSURFACE DRAIN
- WETLAND BOUNDARIES
- SURFACE FLOW ARROW





3 OF 3

NO	DATE	BY	CKD	APPR	REVISION

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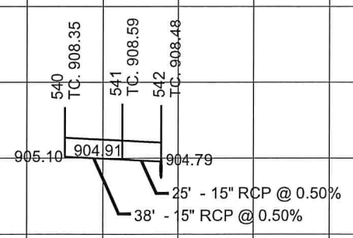
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

DRAINAGE PLAN
EVERS ST
STA 12+30 TO 23+25

Sheet 46 of 97 Sheets



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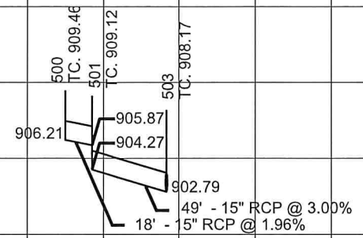

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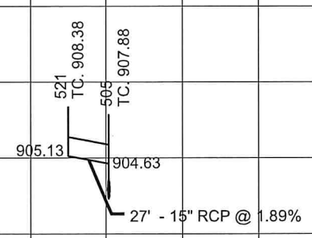

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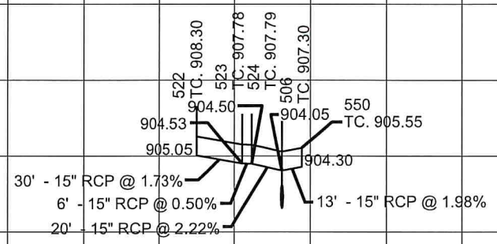

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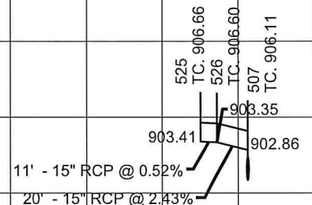

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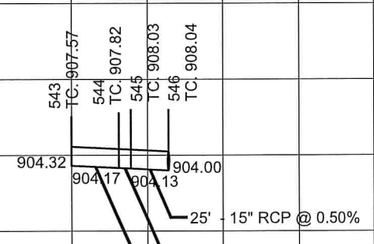

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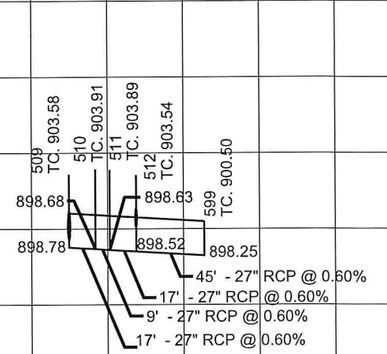

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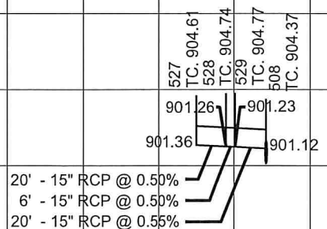

527-508

STRUCTURES ON THIS SHEET:

500	506	510	522	526	540	544
501	507	511	523	527	541	545
503	508	512	524	528	542	546
505	509	521	525	529	543	599

NOTES:
1. ELEVATIONS GIVEN ARE TO INVERT OR END OF APRON.
2. SLOPES ARE CALCULATED TO END OF APRON (WHEN APPLICABLE).

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_DR_LEADS.dgn 12/12/2018 9:12:49 AM

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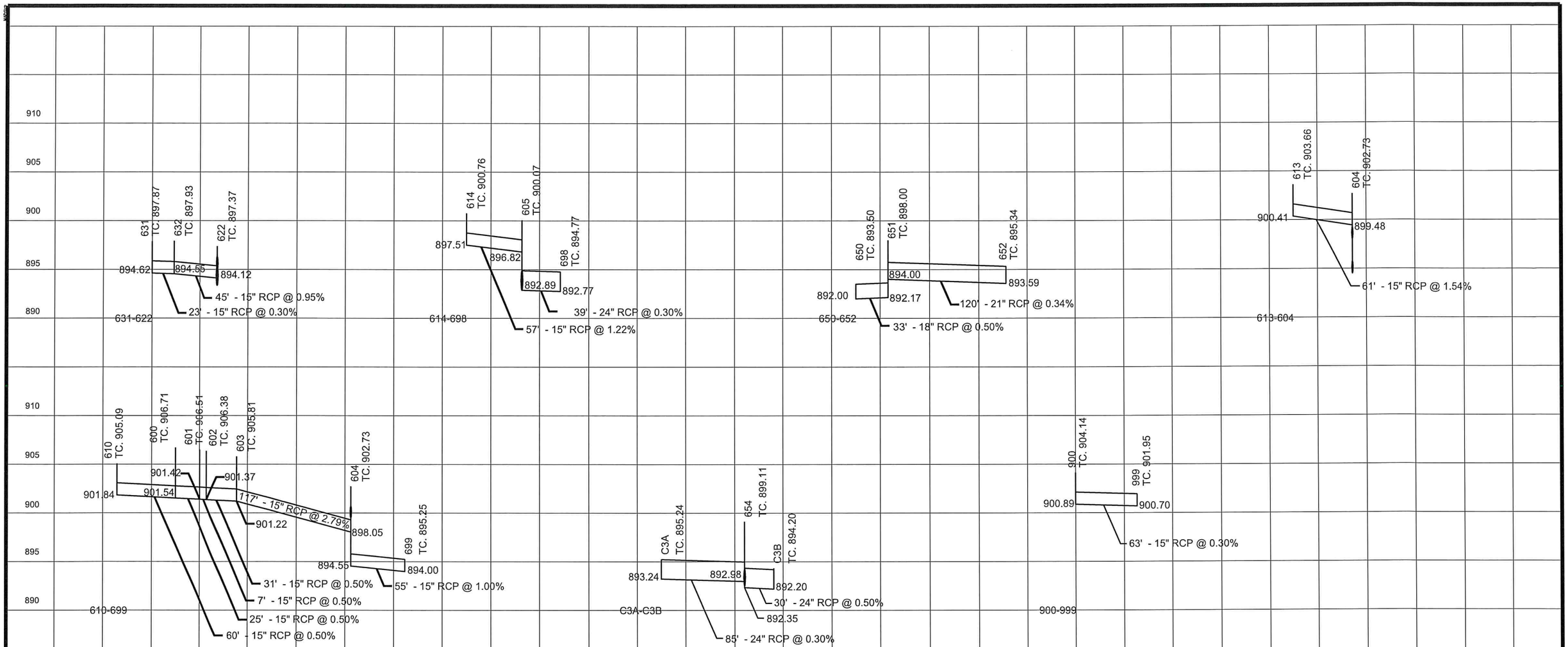
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

DRAINAGE LEADS

Sheet 47 of 97 Sheets



STRUCTURES ON THIS SHEET:

C3A	602	610	632	652	900
C3B	603	613	631	654	999
600	604	614	650	698	
601	605	622	651	699	

NOTES:
1. ELEVATIONS GIVEN ARE TO INVERT OR END OF APRON.
2. SLOPES ARE CALCULATED TO END OF APRON (WHEN APPLICABLE).

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_DR_LEADS.dgn 12/12/2018 9:12:51 AM

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ANOKA COUNTY
HIGHWAY DEPT.

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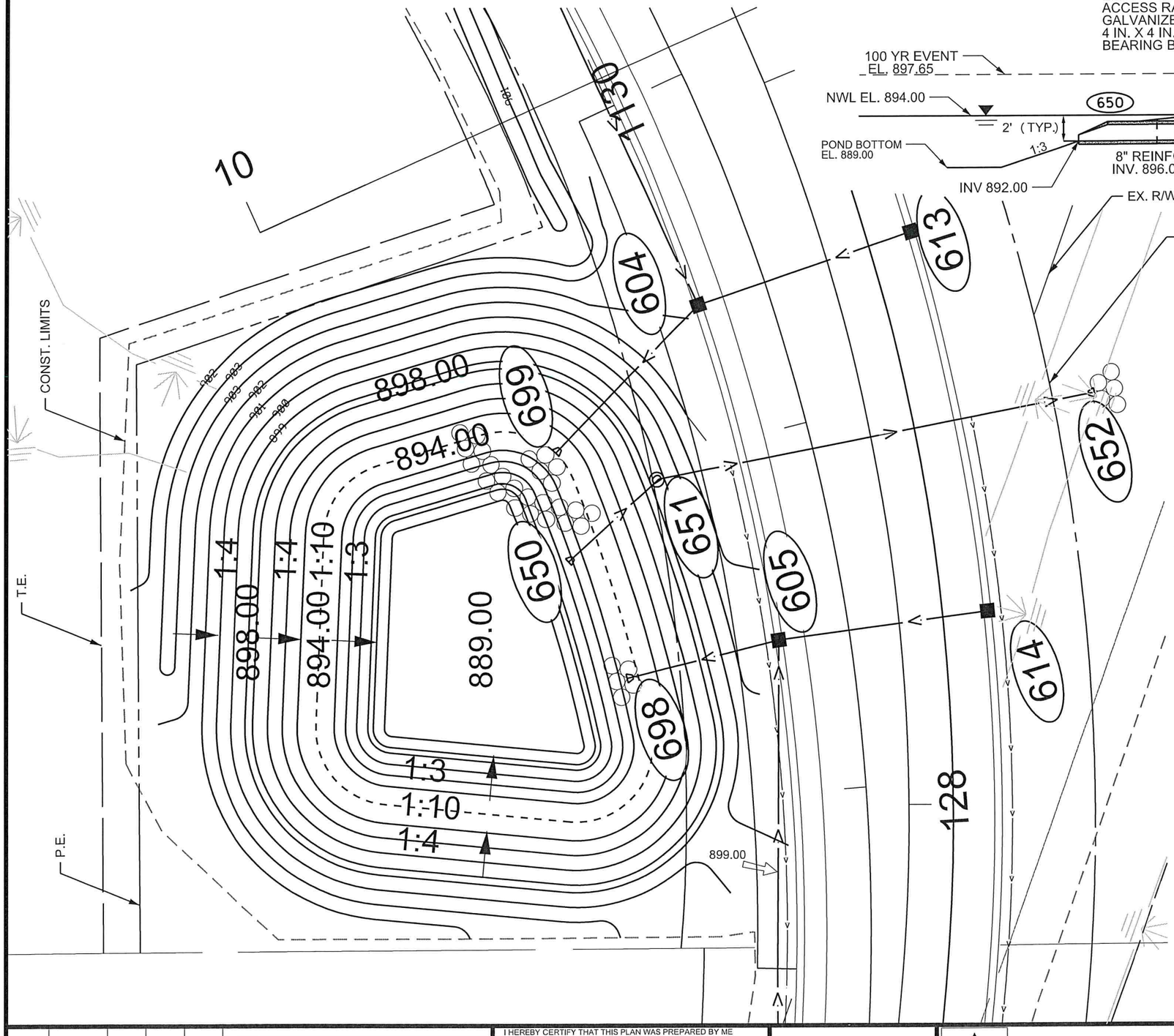
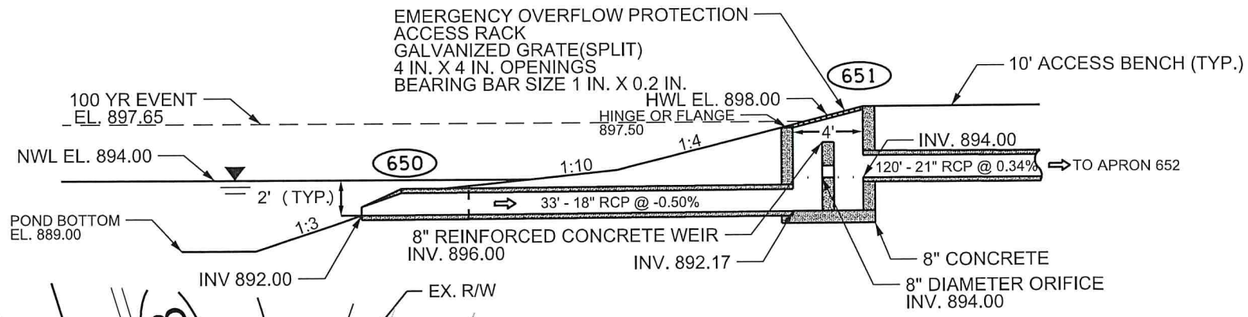
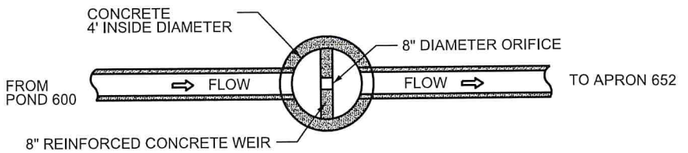
DRAINAGE LEADS

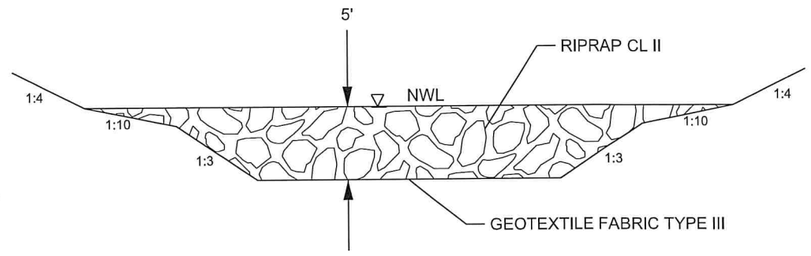
Sheet 48 of 97 Sheets

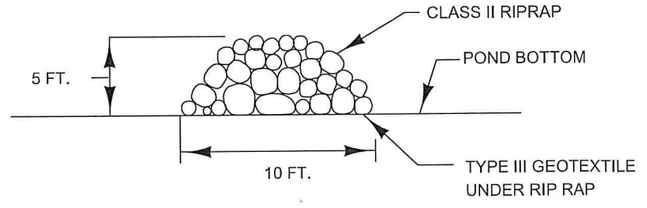






RIP RAP AROUND PRETREATMENT AREA





NOTES:

SEE CROSS SECTIONS FOR GRADING ALONG CSAH 54.

SEE MN/DOT STANDARD PLATE # 3133D FOR RIPRAP AT RCP OUTLET DETAILS.

SCALE 0 30 IN FEET

1 OF 1

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_DR_PDET600.dgn 12/11/2018 3:46:56 PM

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SAP 002-654-003

CP 2017-7

POND 600
GRADING AND DETAILS

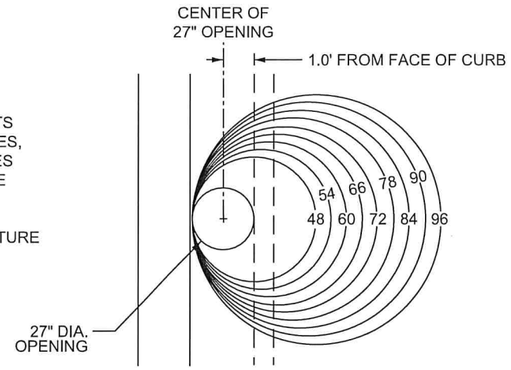
Sheet 49 of 97 Sheets

TABLE A

4020 DIAMETER	* OFFSET FEET
48"	0.79
54"	1.08
60"	1.29
66"	1.58
72"	1.79
78"	2.08
84"	2.29
90"	2.58
96"	2.88
102"	3.17
108"	3.29
120"	3.79

WHERE THE 4020 DIAMETER CONFLICTS WITH OTHER STRUCTURES OR UTILITIES, ROTATE THE STRUCTURE 180 DEGREES TO PROVIDE CLEARANCE. THIS MAY BE ADJUSTED IN THE FIELD.

* OFFSET IS FROM CENTER OF STRUCTURE TO CENTER OF OPENING.

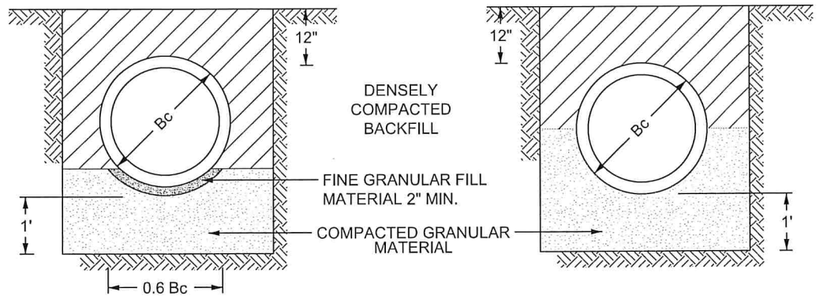


USE FOR 4020

THE FOLLOWING PLACEMENT LOCATIONS SHALL BE USED WITH CONCRETE CURB AND GUTTER.

1. THE CENTER OF GRATE STATION AND OFFSET LOCATION IS GIVEN IN DRAINAGE TABULATION.
2. THE OFFSET FROM THE CENTER OF STRUCTURE TO THE CENTER OF GRATE IS GIVEN IN TABLE "A" TO THE LEFT FOR 4020 STRUCTURES. OFFSET FOR 4005 STRUCTURES IS 0.9 FT.
3. THE CENTER OF OPENING IS 1.0 FT TOWARD THE ROADWAY FROM THE FACE OF CURB.
4. THE STRUCTURES THAT HAVE STEPS SHALL BE LOCATED ON THE ROADSIDE OF THE 27" OPENING AND MUST BE EASILY ACCESSIBLE. THE STEP LOCATION MAY NEED TO BE ADJUSTED IF THERE IS A LARGE PIPE DIRECTLY BELOW THE OPENING.

STRUCTURE LOCATION



SHAPED SUBGRADE WITH GRANULAR FOUNDATION (FOR GRANULAR SOILS)

CLASS B
B_f = 1.9

GRANULAR FOUNDATION FOR COHESIVE SOILS

NOTES:

FOR CLASS B BEDDINGS, SUBGRADES SHOULD BE EXCAVATED OR OVER EXCAVATED IF NECESSARY, SO A UNIFORM FOUNDATION FREE OF PROTRUDING ROCKS MAY BE PROVIDED.

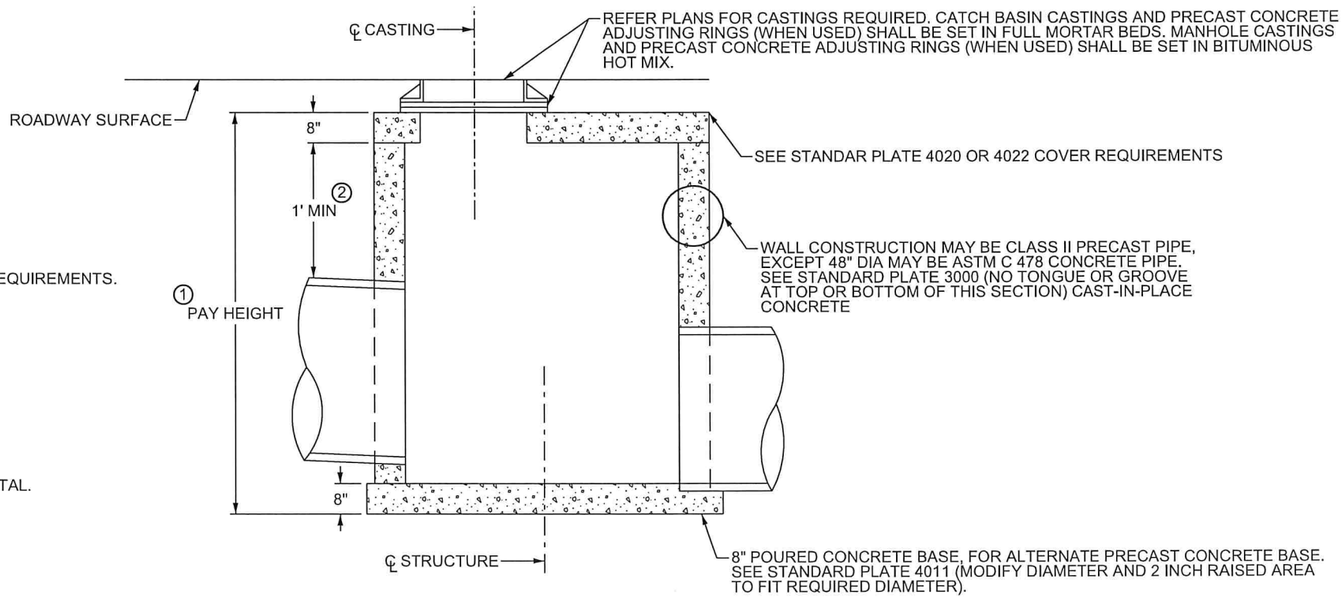
PIPE BEDDING FOR PIPE LAID IN TRENCHES WHERE UNSUITABLE SOILS ARE ENCOUNTERED IS INCIDENTAL.

A MINIMUM OF ONE FOOT OF GRANULAR FOUNDATION SHALL BE PLACED BELOW BOTTOM OF PIPE. SEE SPECIFICATIONS.

LEGEND

Bc = OUTSIDE DIAMETER
H = BACKFILL COVER ABOVE TOP OF PIPE
D = INSIDE DIAMETER
d = DEPTH OF BEDING MATERIAL BELOW PIPE

TRENCH BEDDING CLASS B



NOTES:

① REFER TO TABS 'L1' & 'L2' FOR HEIGHT AND DIAMETER REQUIREMENTS.

② 1 FT MINIMUM FOR PRECAST.

GENERAL NOTES:

EQUIVALENT STEEL AREA IN WIRE MESH PER STANDARD PLATE 3000 MAY BE USED.

REINFORCEMENT AS PER SPEC 3301, GRADE 60.

ADJUSTING RINGS FOR NEW CASTINGS SHALL BE INCIDENTAL.

NOT TO SCALE

DRAINAGE STRUCTURE DESIGN 4020

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_DR_DET.dgn 12/11/2018 3:47:00 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

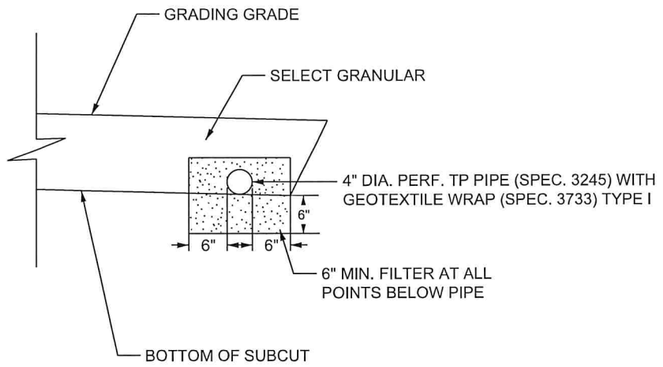
CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

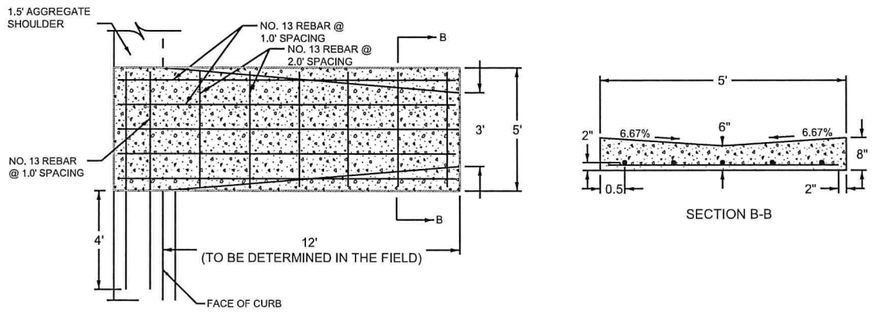
DRAINAGE DETAILS

Sheet 50 of 97 Sheets

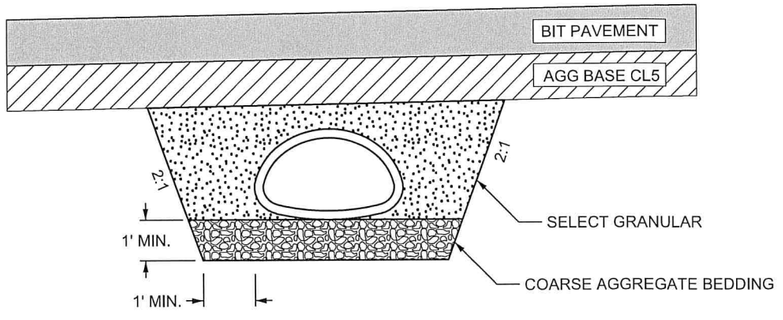


SUBSURFACE DRAIN DETAIL

SEE DRAINAGE PLANS FOR LOCATIONS



CONCRETE DRAINAGE FLUME DETAIL



RC PIPE-ARCH CULVERT BEDDING DETAIL

NOT TO SCALE

NO	DATE	BY	CKD	APPR	REVISION

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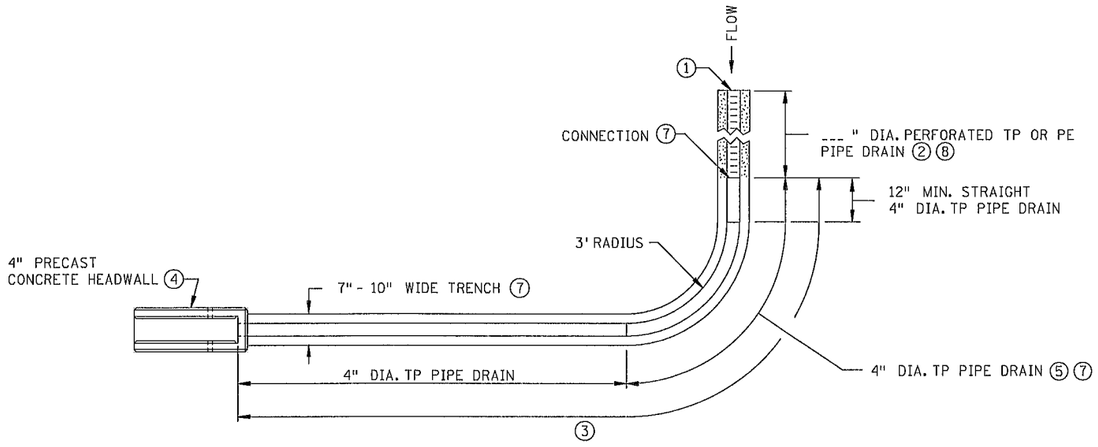
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

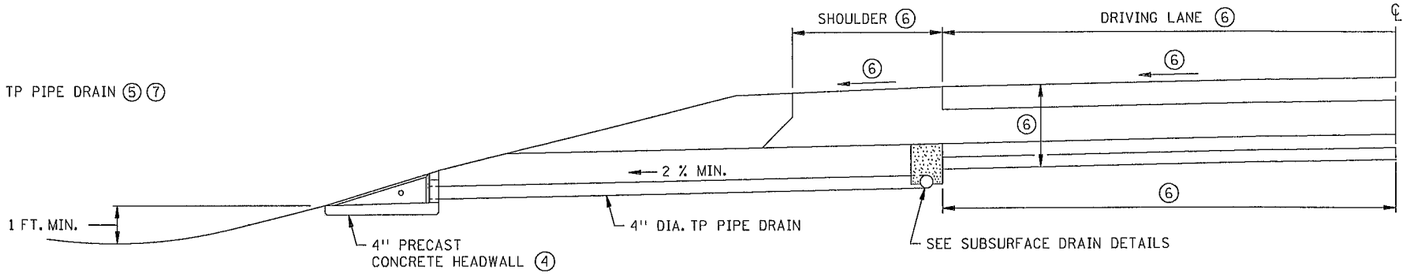
SAP 002-654-003
CP 2017-7

DRAINAGE DETAILS

Sheet 51 of 97 Sheets

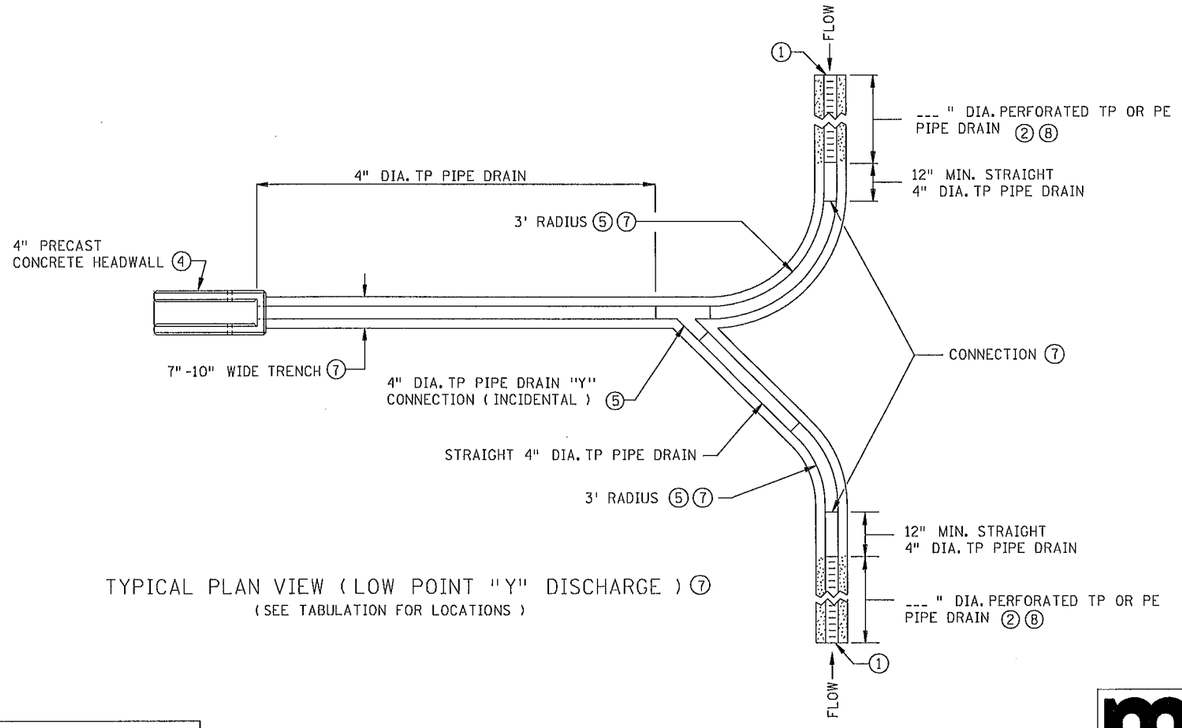


TYPICAL PLAN VIEW (SINGLE DISCHARGE) 7
(SEE TABULATION FOR LOCATIONS)



SECTION VIEW

TYPICAL EDGE DRAIN AND DISCHARGE CROSS SECTION 7
(SEE TABULATION FOR LOCATIONS)



TYPICAL PLAN VIEW (LOW POINT "Y" DISCHARGE) 7
(SEE TABULATION FOR LOCATIONS)

NOTES:

1. THE UPSTREAM ENDS OF THE PERFORATED PIPE SHALL BE CAPPED AS APPROVED BY THE PROJECT ENGINEER, THE CAPS ARE INCIDENTAL. PLACE PERFORATED PIPE WITH THE PERFORATIONS DOWN.
2. MAXIMUM LENGTH 500 FT., EXCEPT 300 FT. MAXIMUM FOR GRADES LESS THAN 0.2% . LENGTH INCLUDED AND PAID FOR AS SPEC. 2502, -- INCH PERFORATED TP OR PE PIPE DRAIN.
3. LENGTH INCLUDED AND PAID FOR AS SPEC. 2502, 4 INCH DIA. TP PIPE DRAIN.
4. PRECAST CONCRETE HEADWALL STANDARD PLATE 3131 PAID FOR AS SPEC. 2502, 4 INCH PRECAST CONCRETE HEADWALL.
5. DETAILS OF CONNECTION AND COUPLING TO PIPE SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR " Y " AND EXTRA CONNECTION, 11 INCH TP PIPE AND COUPLING TO BE INCIDENTAL.
6. SEE ROADWAY TYPICAL SECTIONS FOR ADDITIONAL INFORMATION.
7. SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS.
8. 3 INCH OR 4 INCH DIAMETER.

REVISION:

APPROVED: 8-6-2014
DIRECTOR, OFFICE OF MATERIALS AND ROAD RESEARCH

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.433 | 1 OF 1

APPROVED: 8-6-2014
REVISED:

STATE DESIGN ENGINEER

SAP 002-654-003
CP 2017-7

SUBSURFACE DRAINS

OUTLET PIPES FOR EDGE AND SUBCUT DRAINS

SHEET NO. 52 OF 97 SHEETS

PLOTTED/REVISED: 12/12/2018
IPLOT NAME: $$@IPLOT$NAME@$$
PATH & FILENAME: P:\02-654-03\Plan\0265403_SUBDRSTD.dgn

PROJECT LOCATION AND GENERAL INFORMATION
THIS PROJECT IS LOCATED ON CSAH 54 SOUTH OF CSAH 23 IN THE CITY OF COLUMBUS. THE PROJECT LIES IN RICE CREEK WATERSHED DISTRICT, WITH HOWARD LAKE WITHIN A MILE NORTH OF THE LOCATION.

REALIGNMENT OF CSAH 54 MOVES THE INTERSECTION WITH CSAH 23 ABOUT 700 FT WEST OF THE CURRENT LOCATION. A ROUNDABOUT WILL CONTROL THE ABOVE INTERSECTION. THE PROJECT ADDS MEDIAN TO CSAH 54, THE EXISTING CONNECTION TO CSAH 23 WILL BE REMOVED. A NEW CUL-DE-SAC AND T-INTERSECTION CONNECTION TO CSAH 54 WILL BE CONSTRUCTED APPROXIMATELY 1/4 MILE SOUTH OF CSAH 23. THIS PROJECT WILL PRIMARILY CONSIST OF GRADING, PLACING AGGREGATE BASE, BITUMINOUS PAVING, CURB AND GUTTER, STORM SEWER CONSTRUCTION & STORM WATER PONDING.

THIS PROJECT WILL DISTURB 6.34 ACRES OF SOILS AND CREATE POTENTIAL FOR SEDIMENT DISCHARGE FROM THE SITE.

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

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

LONG TERM OPERATION AND MAINTENANCE
ANOKA COUNTY AND THE CITY OF COLUMBUS STREET DIVISION ARE RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT AND SNOW REMOVAL OPERATIONS ALONG THE PROPOSED TRAIL.

Jim Windingstad
City of Columbus
jwsuperintendent@ci.columbus.mn.us
16345 Kettle River Blvd.
Columbus, MN 55025
651-464-3120 ext 1015

RECEIVING SURFACE WATERS, DISCHARGE TO IMPAIRED WATERS & SPECIAL WATERS
THE FOLLOWING TABLE IDENTIFIES ALL SURFACE WATERS WITHIN 1 MILE OF THE PROJECT DISTURBED SOIL 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 MORE THAN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
2) TEMPORARY SEDIMENT BASINS OR PERMANENT PONDS MUST BE USED FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH FIVE (5+) OR MORE ACRES DISTURBED AT ONE TIME.

RECEIVING SURFACE WATERS WITHIN 1 MILE OF PROJECT		
NAME OF WATER BODY	SPECIAL	IMPAIRED
HOWARD LAKE	YES	YES
RICE CREEK	NO	NO
WETLAND	NO	NO
	NO	NO

DISTURBED SOIL AREA
TOTAL DISTURBED SOILS AREA FOR THIS PROJECT IS **6.34 ACRES**

IMPERVIOUS SOIL AREA
EXISTING AREA OF IMPERVIOUS SURFACE IS **0.86 ACRES.**

POST CONSTRUCTION AREA OF IMPERVIOUS SURFACE IS **3.00 ACRES.**

SOIL TYPES
THE PREDOMINANT SOIL TYPE FOUND ON THIS PROJECT IS SAND.

SEDIMENT CONTROL PRACTICES
TEMPORARY STOCKPILED TOPSOIL BERMS MUST INCLUDE PERIMETER BMPs AS PROVIDED IN THE PLAN AT LOCATIONS WHERE CONSTRUCTION STORMWATER DRAINS FROM THE PROJECT.

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

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

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

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

THESE MANAGEMENT MEASURES FOR POLLUTION PREVENTION WILL BE STRICTLY ENFORCED.

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

WHEN TOPSOIL IS DISTURBED, THE TOPSOIL 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 RAPID STABILIZATION AS PROVIDED IN THE PLAN.
STOCKPILED TOPSOIL BERMS WILL NOT BE PLACED IN ANY STORMWATER CONVEYANCES.

AFTER STRIPPING THE TOPSOIL, THE EXPOSED SOIL INSLOPES WILL BE STABILIZED WITH DISK ANCHORED TYPE 3 MULCH AND SEED WITHIN 7 DAYS OR RAPID STABILIZATION 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS BEEN TEMPORARILY OR PERMANENTLY CEASED.

TEMPORARY SEDIMENT BASINS
THIS ROAD CONSTRUCTION PROJECT AS DESIGNED DOES NOT MEET ANY OF THE TEMPORARY SEDIMENT BASIN DISTURBED AREA THRESHHOLD REQUIREMENTS. IF PERMANENT POND LOCATIONS ARE CONSTRUCTED PRIOR TO DISCHARGE, TEMPORARY SEDIMENT BASINS WILL NOT BE REQUIRED.

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

THIS ROAD CONSTRUCTION PROJECT HAS A GREATER THAN 1 ACRE INCREASE IN IMPERVIOUS AREA.

PROJECT CONTACTS

MPCA	NPDES	LAURAL MEZNER	218-316-3889
MPCA	EMERGENCY	STATE DUTY OFFICER	800-422-0798
DNR	NOT REQUIRED		
COE	NOT REQUIRED		
ANOKA COUNTY DESIGN SWPPP PREPARATION	U OF MN DESIGN OF SWPPP EXPIRES 5/20	JORGE BERNAL	763-324-3185
ANOKA COUNTY PROJECT REPRESENTATIVE	U OF MN SITE MANAGEMENT EXPIRES 5/20	HARRY GRAMS	763-238-8966
EROSION CONTROL SUPERVISOR (CONTRACTOR)			

EROSION PREVENTION PRACTICES
ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE MORE THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. FOR ALL AREAS WHERE DISTURBED SOILS DRAIN TO AN IMPAIRED OR SPECIAL WATER, THE EXPOSED SOIL MUST BE STABILIZED NO LATER THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT AREA HAS CEASED. SEE THE IMPAIRED & SPECIAL WATERS SECTION SPECIAL OR IMPAIRED WATER.

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

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

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			1506, 1717, & 2573	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
CHAIN OF RESPONSIBILITY	AGENCY CONTACTS	SHEET 53	1506, 1717, & 2573	
PROJECT SCHEDULE / WEEKLY EROSION & SEDIMENT CONTROL SCHEDULE / COMPLETING INSPECTION / MAINTENANCE LOG	AGENCY CONTACTS	SHEET 53	1717 & 2573	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
SWPPP PREPARATION	AGENCY CONTACTS	SHEET 53		
SITE MAP / RECEIVING WATERS / DIRECTION OF FLOW	EROSION CONTROL PLAN	SHEETS 55 - 56	1717	
PROJECT SPECIFIC CONSTRUCTION STAGING	STAGING PLANS	SHEETS 19 - 20	1717	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT) 1806 (DETERMINATION AND EXTENSION OF CONTRACT TIME)
TEMPORARY EROSION AND SEDIMENT CONTROL BMP LOCATIONS, INSTALLATION, TIMING OF INSTALLATION AND TYPE OF BMP	EROSION CONTROL PLAN, TABULATION CHARTS	SHEETS 55 - 56, 12, 41 - 43	2573 & 2525	2575 (RAPID STABILIZATION SPECIFICATION)
ADDITIONAL TEMPORARY AND/OR PERMANENT EROSION AND SEDIMENT CONTROL BMPs NOT PROVIDED OR SHOWN IN THE PLAN	SWPPP NARRATIVE	SHEETS 53 - 54	1717, 2573, & 2575	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT) 2575 (RAPID STABILIZATION SPECIFICATION)
MAINTENANCE OF EROSION AND SEDIMENT CONTROL DEVICES, REMOVAL OF TRACKED SEDIMENT, REMOVAL OF DEVICES			1717 & 2573	1514 (MAINTENANCE DURING CONSTRUCTION) 1717 (LAND AIR & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
DEWATERING			2105.3B, & 2451.3C	DEWATERING MAY ALSO REQUIRE DNR PERMIT. NO DEWATERING IS ANTICIPATED FOR THIS PROJECT
FINAL STABILIZATION	TURF ESTABLISHMENT PLAN, TABULATION CHARTS	SHEETS 55 - 56 12, 41 - 43	1717, 2573, & 2575	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
TEMPORARY EROSION AND SEDIMENT CONTROL DETAILS	EROSION CONTROL DETAILS	SHEETS 57 - 64	2575	2575 (RAPID STABILIZATION SPECIFICATION)
PERMANENT EROSION CONTROL DETAILS	EROSION CONTROL DETAILS	SHEETS 57 - 65	2575	2575 (CONTROLLING EROSION AND ESTABLISHING VEGETATION)

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_SWPPP.dgn 12/11/2018 3:47:07 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: ELIZABETH MARKOSE
SIGNATURE: elizabeth markose
DATE: 12-12-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18
DESIGN BY JRB DATE 09-01-17
CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

SWPPP NARRATIVE

Sheet 53 of 97 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 personnel 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 BMPs or other storm water treatment systems and removals of temporary BMPs. Changes to temporary BMPs 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:\02-654-03\Plan\0265403_SWPPP.dgn 12/11/2018 3:47:15 PM

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PRINT NAME: ELIZABETH MARKOSE

SIGNATURE: Elizabeth M.

DATE: 12-12-18 LICENSE NO. 49118

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003

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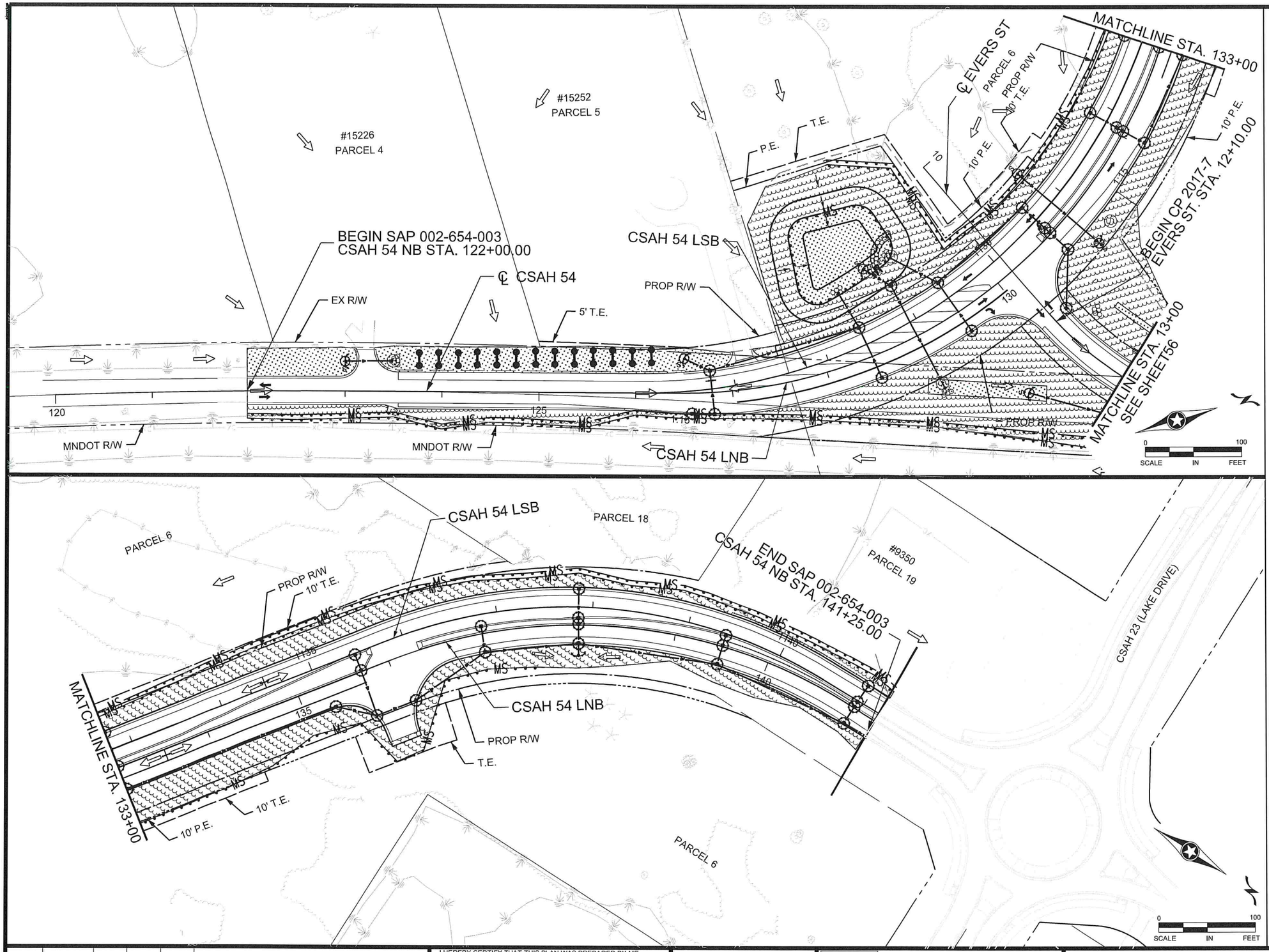
SWPPP NARRATIVE



LEGEND

- PROPOSED CATCH BASIN
- PROPOSED APRON
- PROPOSED STORM SEWER
- MS — SILT FENCE TYPE MACHINE SLICED
- RIPRAP (CLASS II UNLESS OTHERWISE NOTED)
- (S) SOD APRON INLET OR OUTLET
- INLET PROTECTION
- SEDIMENT CONTROL LOG TYPE WOOD FIBER
- WETLAND BOUNDARIES
- SURFACE FLOW ARROW
- EROSION CONTROL BLANKET CATEGORY 3N SEED MIX 25-141 FERTILIZER TYPE 3 22-5-10
- EROSION CONTROL BLANKET CATEGORY 3N SEED MIX 33-261 FERTILIZER TYPE 4 18-1-18

EROSION CONTROL NOTES:

- THE CONTRACTOR SHALL CONSTRUCT WASHED GRAVEL ENTRANCES AT POINTS OF EXIT FROM THE WORK AREA ONTO EXISTING BITUMINOUS PAVEMENT AS DIRECTED BY THE ENGINEER.
- SILT FENCE SHALL FOLLOW A SINGLE CONTOUR AS CLOSELY AS POSSIBLE.
- SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR ONE THIRD OF SILT FENCE HEIGHT.
- IF ANY SILT DEPOSIT OCCURS IN THE ANOKA COUNTY RIGHT-OF-WAY OR MN/DOT RIGHT-OF-WAY THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL.
- TURF ESTABLISHMENT WORK FOR ALL GRADED AREAS SHALL BE COMPLETED WITHIN 7 DAYS OF THE COMPLETION OF GRADING.
- REDUNDANT PERIMETER CONTROL IS REQUIRED WITHIN 50 FEET OF ANY DELINEATED WETLAND AS INDICATED ON PLAN.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_EC_P1.dgn 12/13/2018 1:54:13 PM

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SIGNATURE: Elizabeth Markose

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DRAWN BY	MP	DATE	08-31-18
DESIGN BY	JRB	DATE	09-01-17
CHECKED BY	EJM	DATE	09-27-18

ANOKA COUNTY HIGHWAY DEPT.

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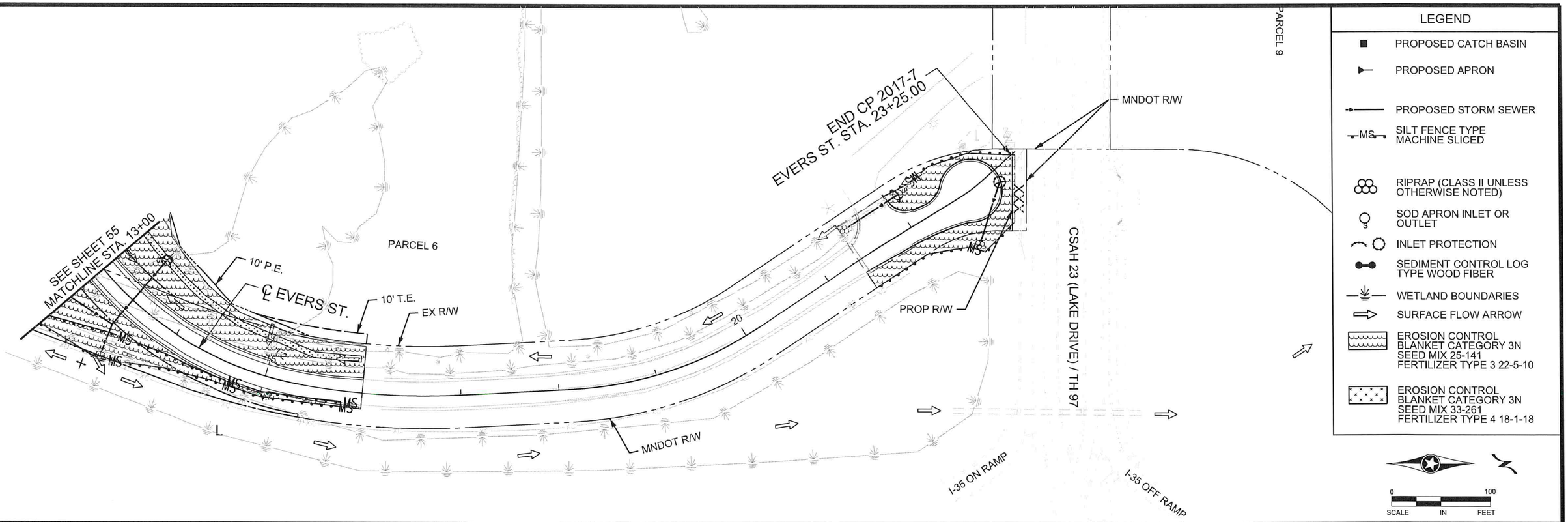
CP 2017-7

EROSION CONTROL PLAN
CSAH 54
STA 122+00 TO 141+25

Sheet 55 of 97 Sheets



EROSION CONTROL NOTES:

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- SILT FENCE SHALL FOLLOW A SINGLE CONTOUR AS CLOSELY AS POSSIBLE.
- SILT FENCE SHALL BE CLEANED OUT OR REPLACED WHEN SEDIMENT REACHES 8" OR ONE THIRD OF SILT FENCE HEIGHT.
- IF ANY SILT DEPOSIT OCCURS IN THE ANOKA COUNTY RIGHT-OF-WAY OR MN/DOT RIGHT-OF-WAY THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL.
- TURF ESTABLISHMENT WORK FOR ALL GRADED AREAS SHALL BE COMPLETED WITHIN 7 DAYS OF THE COMPLETION OF GRADING.
- REDUNDANT PERIMETER CONTROL IS REQUIRED WITHIN 50 FEET OF ANY DELINEATED WETLAND AS INDICATED ON PLAN.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_EC_P2.dgn 12/13/2018 1:54:24 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 12-13-18 LICENSE NO. 49118

DRAWN BY MP DATE 08-31-18

DESIGN BY JRB DATE 09-01-17

CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

EROSION CONTROL PLAN
EVERS ST
STA 13+00 TO 23+25

Sheet 56 of 97 Sheets

PLOTTED/REVISED: 12/11/2018
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USER NAME: ejmarkos
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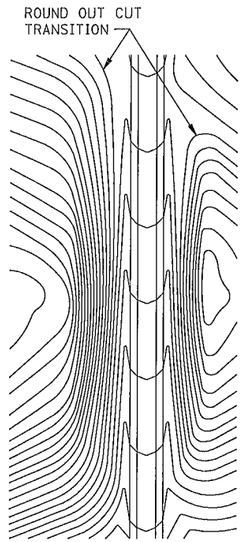
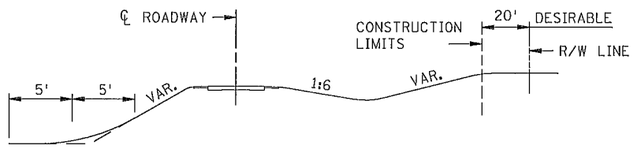
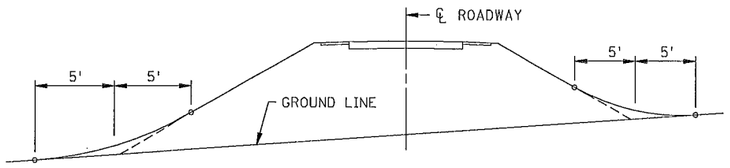
FILE NAME: 0265403_EC_P6.dgn



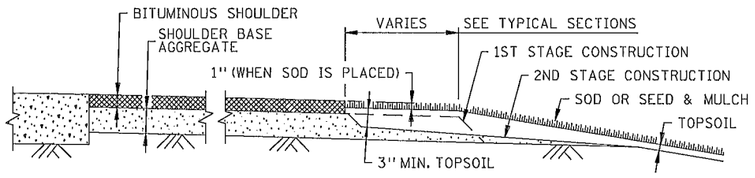
CONTOURING ROAD CUTS



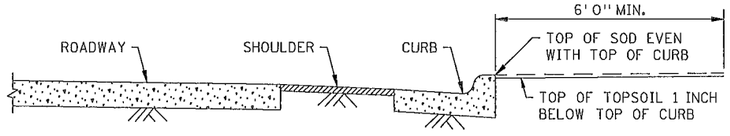
ROUNDING SHOULDERS AND BACKSLOPES



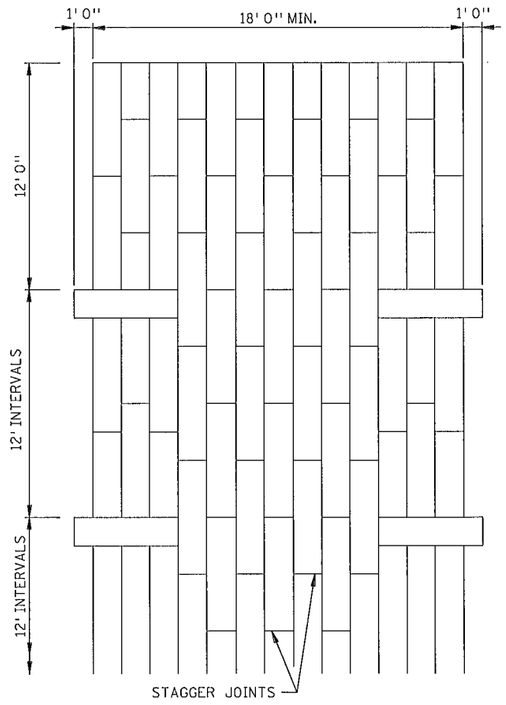
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



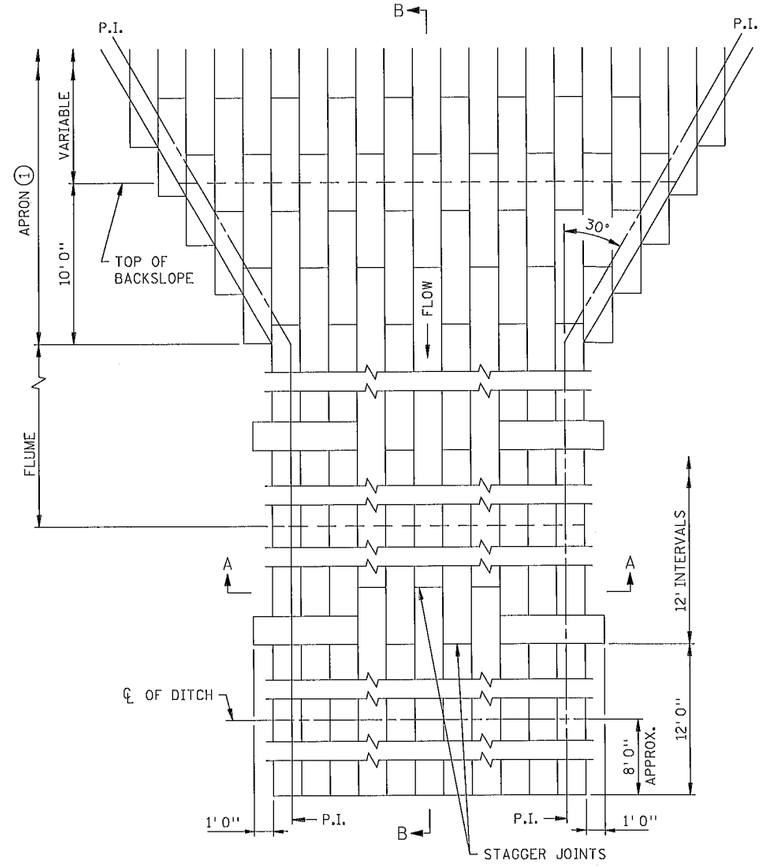
SHAPING AND TOPSOILING INSLOPES



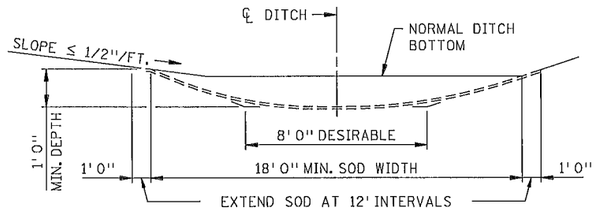
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



PLAN VIEW

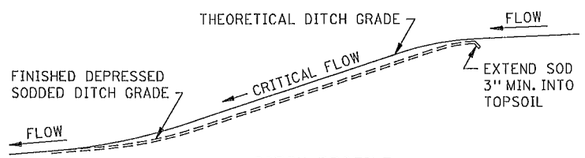


PLAN VIEW



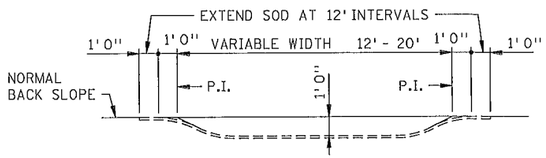
SODDED DITCH CROSS SECTION

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

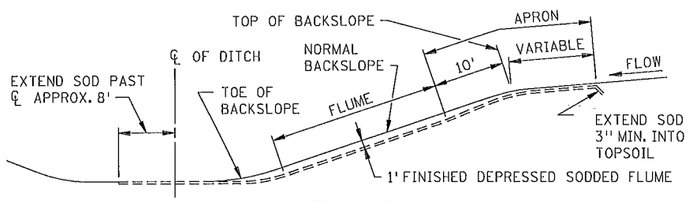


DITCH PROFILE

SODDED DITCH DETAILS



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.

REVISION:

APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

REVISED:

APPROVED: 2-28-2017

PERMANENT EROSION CONTROL
ALONG ROADWAYS, DITCHES AND FLUMES

STANDARD PLAN 5-297.404 1 OF 3

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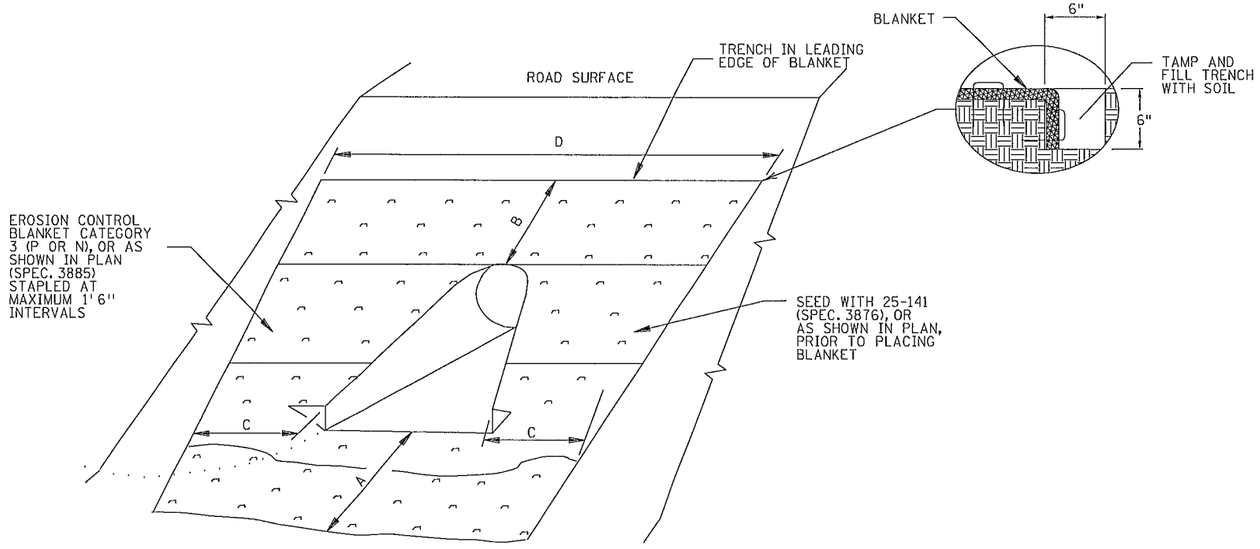
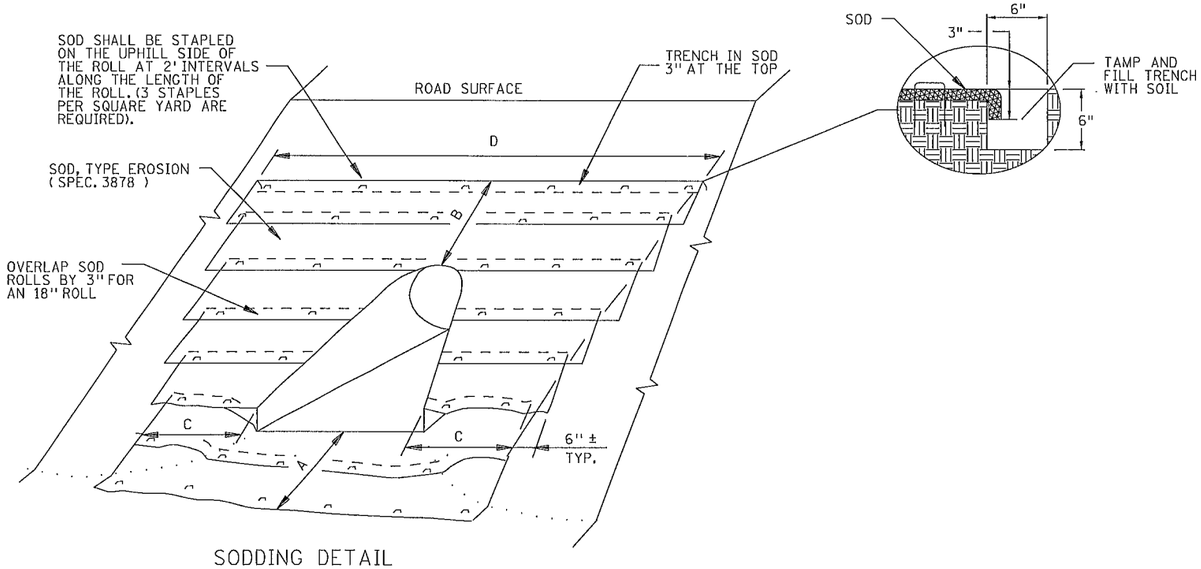


EROSION CONTROL BLANKET & SEED DETAIL



SODDING DETAIL

CULVERT INLET APRON ①

CULVERT DIAMETER ②	SOD OR EROSION CONTROL BLANKET (SQ. YDS.)						"A"	"B"	"C"	"D"
	CIRCULAR AND ARCH PIPE METAL APRON (PLATE 3123, PLATE 3122)	CIRCULAR AND ARCH PIPE CONCRETE APRON (PLATE 3100, PLATE 3110)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:4 SLOPE (PLATE 3148)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:6 SLOPE (PLATE 3148)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:6 SLOPE (PLATE 3128)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:4 SLOPE (PLATE 3128)				
15"	9	9	8	8	N/A	N/A	3'	1.5'	3'	13'
18"	13	12	12	14	16	N/A	3'	3'	3'	16'
21"	14	14	14	16	18	14	3'	3'	3'	17'
24"	16	15	16	19	21	17	3'	3'	3'	18'
27"	N/A	20	N/A	N/A	N/A	N/A	3'	4.5'	3'	20'
30"	23	22	25	30	32	N/A	3'	4.5'	3'	22'
36"	34	34	39	48	51	37	4.5'	4.5'	4.5'	27'
42"	43	40	51	64	N/A	N/A	4.5'	6'	4.5'	30'
48"	54	50	66	82	N/A	N/A	4.5'	7.5'	4.5'	34'
54"	65	58	81	102	N/A	N/A	4.5'	9'	4.5'	37'
60"	69	59	91	115	N/A	N/A	4.5'	9'	4.5'	39'
66"	69	63	N/A	N/A	N/A	N/A	4.5'	9'	4.5'	39'
72"	78	72	99	122	N/A	N/A	4.5'	10.5'	4.5'	41'

CULVERT OUTLET APRON ①

CULVERT DIAMETER ②	SOD OR EROSION CONTROL BLANKET (SQ. YDS.)						"A"	"B"	"C"	"D"
	CIRCULAR AND ARCH PIPE METAL APRON (PLATE 3123, PLATE 3122)	CIRCULAR AND ARCH PIPE CONCRETE APRON (PLATE 3100, PLATE 3110)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:4 SLOPE (PLATE 3148)	CIRCULAR AND ARCH PIPE METAL SAFETY APRON 1:6 SLOPE (PLATE 3148)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:6 SLOPE (PLATE 3128)	CIRCULAR CORRUGATED METAL PIPE SAFETY APRON 1:4 SLOPE (PLATE 3128)				
15"	10	10	9	10	N/A	N/A	4.5'	1.5'	3'	13'
18"	13	13	12	14	15	N/A	6'	1.5'	3'	14'
21"	16	14	16	18	19	15	6'	1.5'	3'	15'
24"	18	18	18	21	22	18	7.5'	1.5'	3'	16'
27"	N/A	19	N/A	N/A	N/A	N/A	7.5'	1.5'	3'	17'
30"	23	23	24	28	29	N/A	9'	1.5'	3'	18'
36"	36	35	38	47	48	37	10.5'	1.5'	4.5'	23'
42"	43	40	47	58	N/A	N/A	12'	1.5'	4.5'	25'
48"	50	46	57	70	N/A	N/A	13.5'	1.5'	4.5'	27'
54"	57	50	67	84	N/A	N/A	15'	1.5'	4.5'	29'
60"	74	63	90	113	N/A	N/A	16.5'	1.5'	6'	33'
66"	75	67	N/A	N/A	N/A	N/A	16.5'	1.5'	6'	33'
72"	77	70	92	114	N/A	N/A	16.5'	1.5'	6'	34'

NOTES:

AREA SHOWN IN SQUARE YARDS IS FOR ONE CULVERT END.

QUANTITIES ARE CALCULATED TO INCLUDE SOD REQUIRED TO PROVIDE A 3" OVERLAP ON ALL 18" WIDE ROLLS. THIS ALLOWS FOR SHRINKAGE OF THE SOD.

FOR PIPE ARCHES USE EQUIVALENT PIPE DIAMETER TO APPROXIMATE AREA.

FOR CORRUGATED POLYETHYLENE PIPE METAL APRON (PLATE 3129), USE THE METAL APRON COLUMN (PLATE 3123).

AREAS AND DIMENSIONS ARE APPROXIMATE AND ARE BASED ON APRON SIDE SLOPES OF NO STEEPER THAN 1:2, UNLESS INDICATED AS FOR SAFETY APRONS.

CARE SHOULD BE TAKEN IN SELECTING SOD TO STABILIZE THE APRON. RIP-RAP SHOULD BE USED FOR FLOW VELOCITIES GREATER THAN 6 FPS.

① ADDITIONAL QUANTITIES MAY BE SHOWN IN THE PLAN OR REQUIRED BY THE ENGINEER.

② FOR ARCH PIPE USE CLOSEST CIRCULAR PIPE DIAMETER AND APRON SLOPE. (DIAMETERS LARGER THAN 72" REQUIRE SPECIAL DESIGNS.)

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REVISION:

APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

REVISED:

APPROVED: 2-28-2017

PERMANENT EROSION CONTROL
TURF ESTABLISHMENT DETAIL AT CULVERT ENDS

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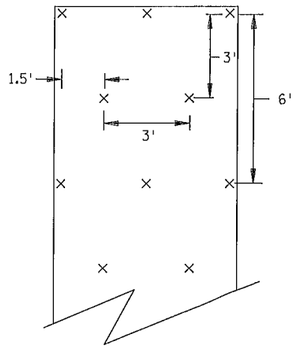
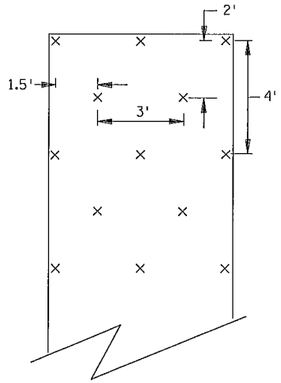
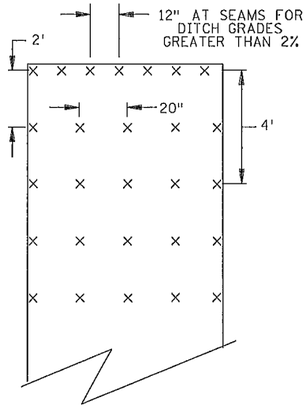


SLOPES FLATTER THAN 1:2
(120 STAPLES PER 100 SQ YD)

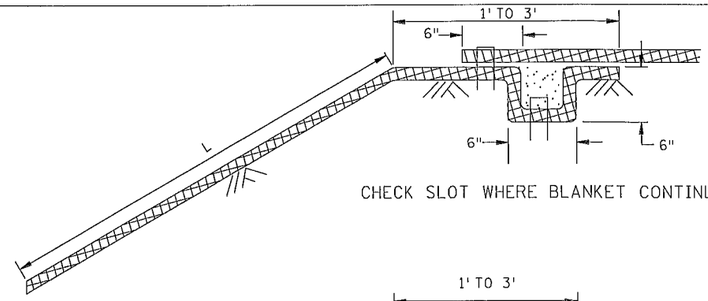


SLOPES 1:2 TO 1:1
(170 STAPLES PER 100 SQ YD)

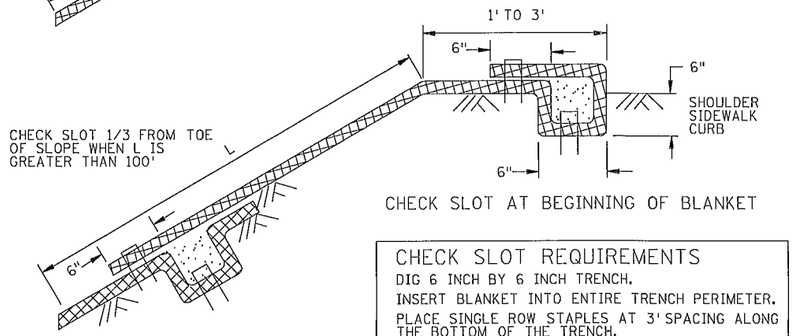
BLANKET STAPLE PATTERN



CHANNEL AND DITCH APPLICATIONS
(350 STAPLES PER 100 SQ YD)



CHECK SLOT WHERE BLANKET CONTINUES



CHECK SLOT AT BEGINNING OF BLANKET

CHECK SLOT REQUIREMENTS

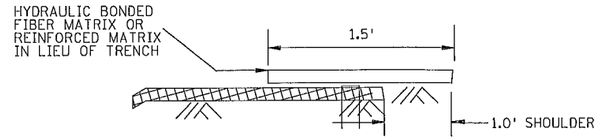
DIG 6 INCH BY 6 INCH TRENCH.

INSERT BLANKET INTO ENTIRE TRENCH PERIMETER.

PLACE SINGLE ROW STAPLES AT 3' SPACING ALONG THE BOTTOM OF THE TRENCH.

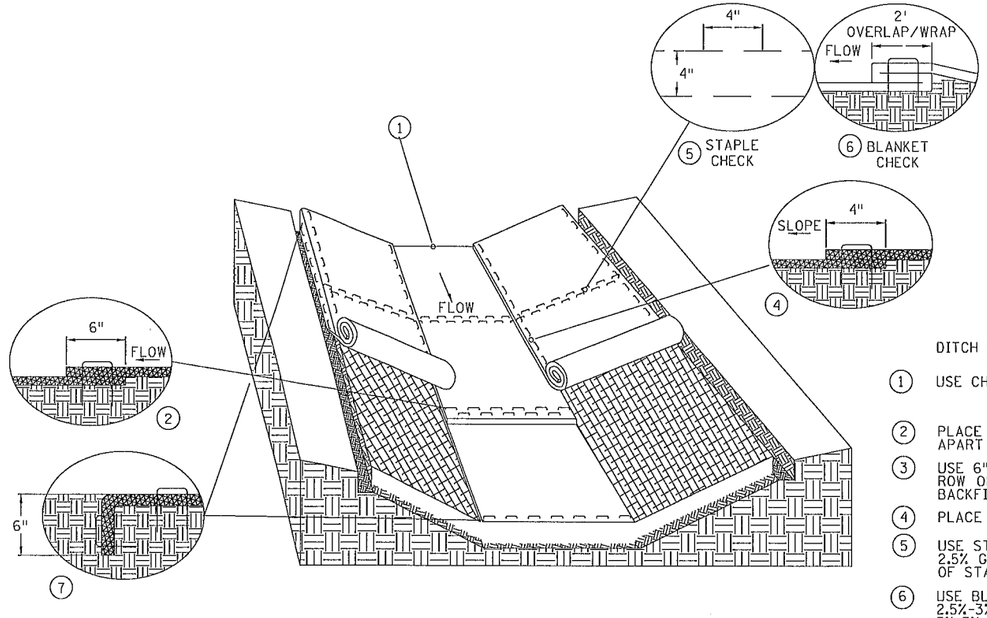
BACKFILL TRENCH WITH SOIL AND TAMP.

PLACE SINGLE ROW STAPLES AT 3' SPACING ON OVERLAP.

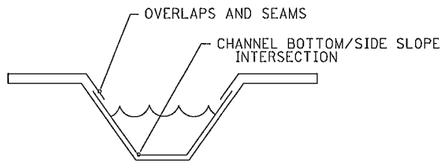


CHECK SLOT ALTERNATIVE
PLACE SINGLE ROW STAPLES AT 12" SPACING

CHECK SLOT DETAILS



DITCH BLANKET STAPLE DETAIL



DITCH BLANKET CRITICAL POINTS (7)

DITCH BLANKET STAPLE DETAIL NOTES

(1) USE CHECK SLOT DETAIL (NO ALTERNATES).

(2) PLACE DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER.

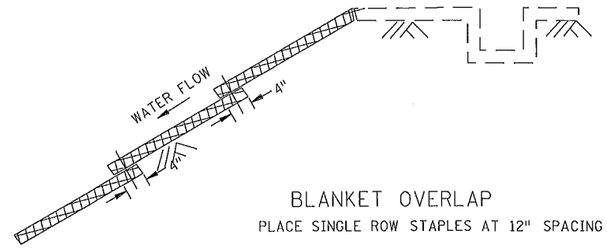
(3) USE 6" X 6" TRENCH TO PLACE BLANKET. PLACE SINGLE ROW OF STAPLES ON TOP AND TRENCH SIDES AT 12" SPACING. BACKFILL TRENCH WITH SOIL AND TAMP.

(4) PLACE SINGLE ROW OF STAPLES AT 12" SPACING.

(5) USE STAPLE CHECK FOR CHANNEL SLOPES LESS THAN 2.5% GRADE AT 100 FOOT INTERVALS. PLACE DOUBLE ROW OF STAPLES STAGGERED 4" APART AND AT 4" SPACING.

(6) USE BLANKET CHECKS FOR THE FOLLOWING SLOPES:
2.5%-3% 100 FT INTERVALS
3%-5% 50 FT INTERVALS
5%-7% 25 FT INTERVALS

(7) CRITICAL POINTS SHALL BE SECURED WITH PROPER STAPLE PATTERNS.



BLANKET OVERLAP
PLACE SINGLE ROW STAPLES AT 12" SPACING

GENERAL BLANKET INSTALLATION REQUIREMENTS

PREPARE SOIL AS PER SPECIFICATION 2574.

LAY PARALLEL OR PERPENDICULAR TO THE DIRECTION OF WATER FLOW.

OVERLAP ADJACENT STRIP EDGES A MINIMUM OF 4 INCHES.

OVERLAP BLANKET 6" (MIN.) AT EACH END. OVERLAP BOTTOM END OF UPPER BLANKET OVER TOP END OF LOWER BLANKET. STAPLE ALONG OVERLAP EVERY 1.5'.

THE UPPERMOST BLANKET OF ALL SLOPE APPLICATIONS MUST START IN A CHECK SLOT. IF SLOPE LENGTH (L) IS 100' OR GREATER, INSERT BLANKET INTO A CHECK SLOT 1/3 FROM THE BOTTOM OF THE SLOPE.

PLOTTED/REVISED: 12/11/2018

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REVISION:

APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

REVISED:

APPROVED: 2-28-2017

PERMANENT EROSION CONTROL
BLANKET STAPLE PATTERN FOR SLOPES

STANDARD PLAN 5-297.404 3 OF 3

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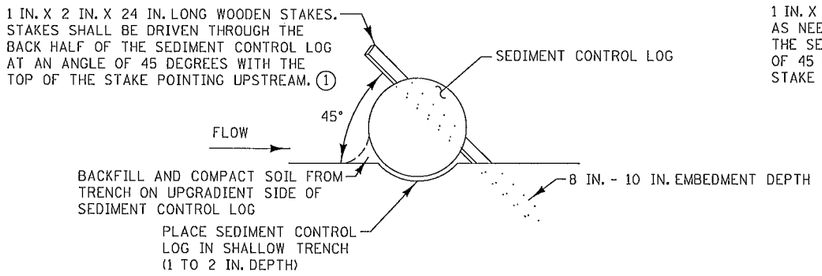
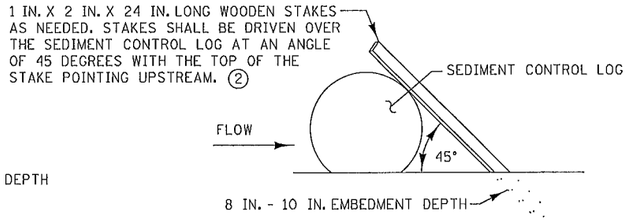
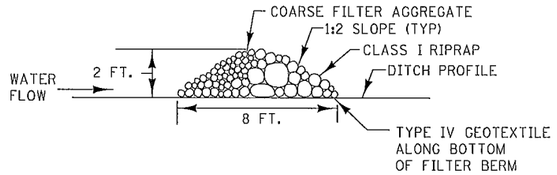


TYPES: STRAW, WOOD FIBER, OR COIR

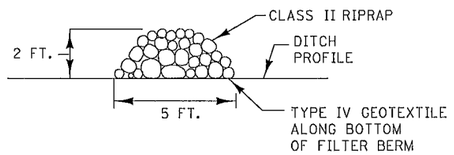


TYPES: WOOD CHIP, COMPOST, OR ROCK

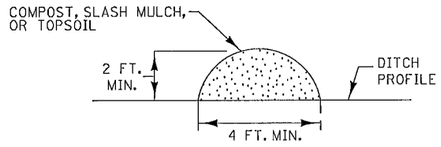
SEDIMENT CONTROL LOGS



TYPE 3 (ROCK WEEPER)

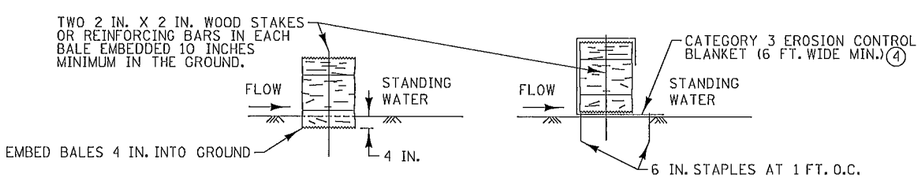


TYPE 5 (ROCK)



TYPE 1 (COMPOST), TYPE 2 (SLASH MULCH), OR TYPE 4 (TOPSOIL)

FILTER BERMS



EMBEDMENT METHOD

BLANKET METHOD (ALTERNATE)

BALE BARRIERS (3)

NOTES:

SEE SPECS. 2573, 3149, 3874, 3882, 3886, & 3897.

(1) SPACE BETWEEN STAKES SHALL BE A MAXIMUM OF 1 FOOT FOR DITCH CHECKS OR 2 FEET FOR OTHER APPLICATIONS.

(2) PLACE STAKES AS NEEDED TO PREVENT MOVEMENT OF SEDIMENT CONTROL LOGS PLACED ON SLOPES OR AS NEEDED DUE TO OTHER FACTORS. STAKES SHALL BE INCIDENTAL.

(3) TO BE USED FOR CRITICAL PERIMETER CONTROL AREAS WHERE STANDING WATER OCCURS (6 INCH MAX. DEPTH). BALES SHALL CONSIST OF TYPE 1 MULCH OF APPROXIMATELY 14 IN. X 18 IN. X 36 IN. LONG. BALES SHALL BE PLACED ON EDGE AND BUTTED TIGHT TO ADJACENT BALES.

(4) INSTEAD OF TRENCHING, PLACE BALE ON THE BLANKET AND WRAP BLANKET AROUND THE BALE. PLACE STAKE THROUGH BALE AND BLANKET.

REVISION:

APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

REVISED:

APPROVED: 2-28-2017

TEMPORARY SEDIMENT CONTROL
FILTER BERMS, SEDIMENT CONTROL LOGS, AND BALE BARRIERS

STANDARD PLAN 5-297.405 2 OF 8

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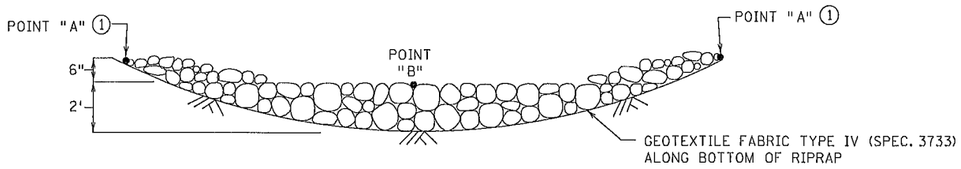
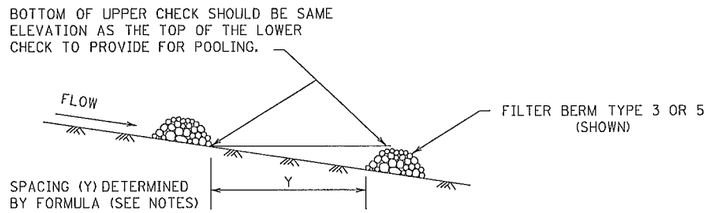
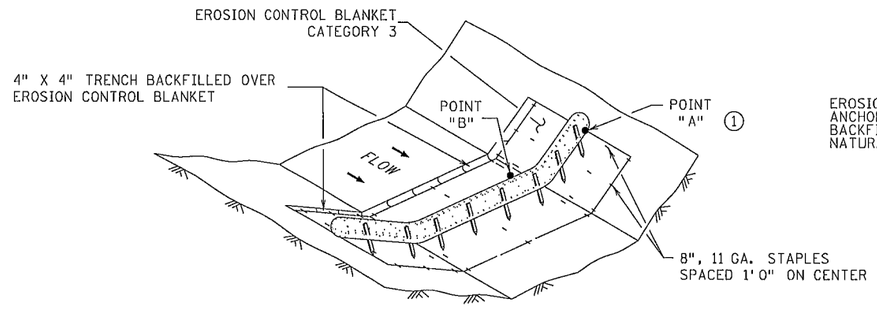
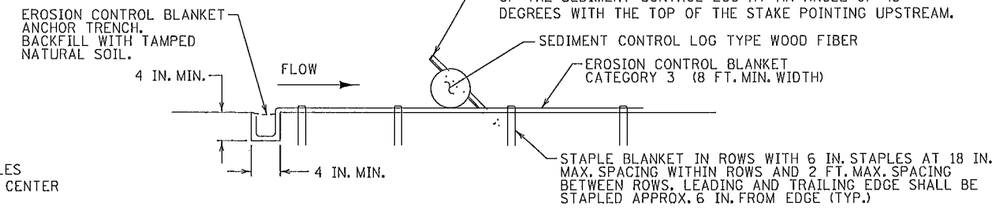


ROCK DITCH CHECKS
FILTER BERMS TYPE 3 (ROCK WEEPER) OR FILTER TYPE 5 (ROCK) ②③
(FOR USE ON ROUGH GRADED AREAS)

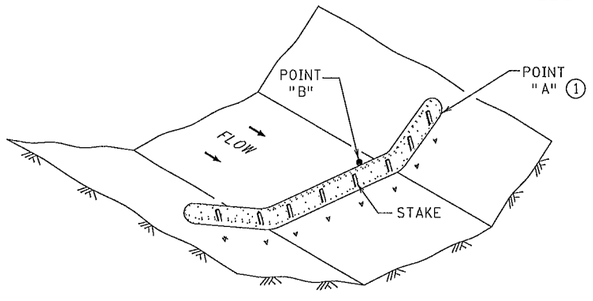


DITCH CHECK SPACING
(FOR ALL FILTER BERM TYPES)





SEDIMENT CONTROL LOG TYPE BLANKET SYSTEM ④



SEDIMENT CONTROL LOG TYPE WOOD FIBER, OR TYPE COMPOST ⑤
(FOR USE ON ROUGH GRADED AREAS)

NOTES:

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

FOR DITCH CHECKS, PLACE SEDIMENT CONTROL LOG PERPENDICULAR TO FLOW AND IN A CRESCENT SHAPE WITH THE ENDS FACING UPSTREAM.

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

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

① POINT "A" MUST BE A MINIMUM OF 6 INCHES HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

② PERMANENT ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE ARE TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.

③ DITCH GRADE 3% - 5%, MAX. FLOW VELOCITY 12 FT./SEC..

④ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 4.5 FT./SEC..

⑤ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 1.5 FT./SEC..

REVISION:

APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

REVISED:

APPROVED: 2-28-2017

TEMPORARY SEDIMENT CONTROL
DITCH CHECK
STANDARD PLAN 5-297.405 3 OF 8

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PLOTTED/REVISED: 12/11/2018
DISTRICT #:
USER NAME: ejmarkos
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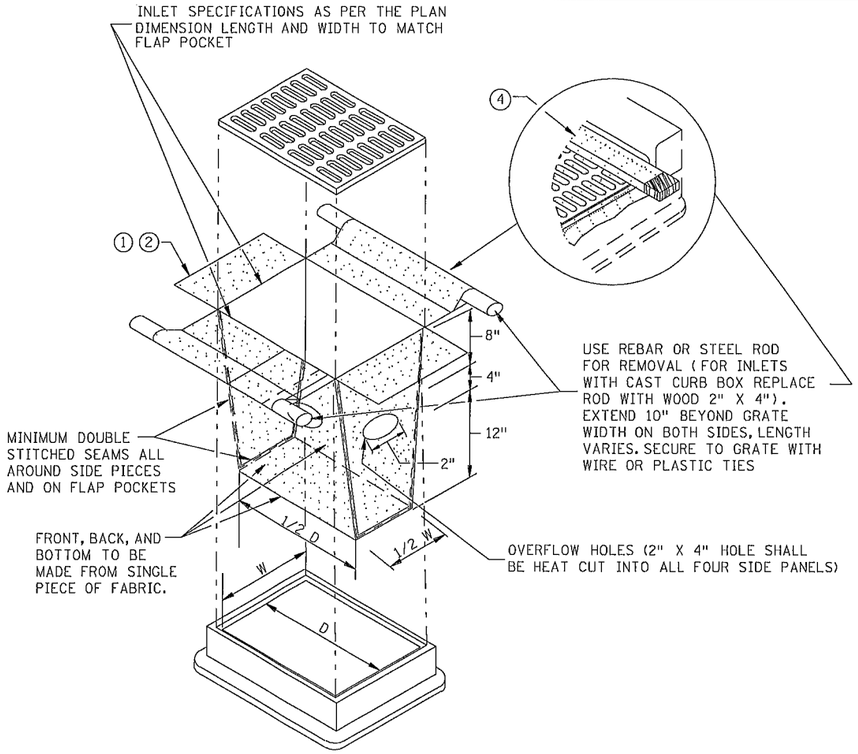
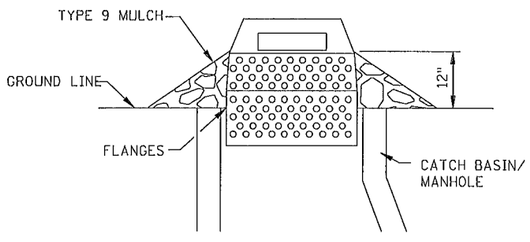


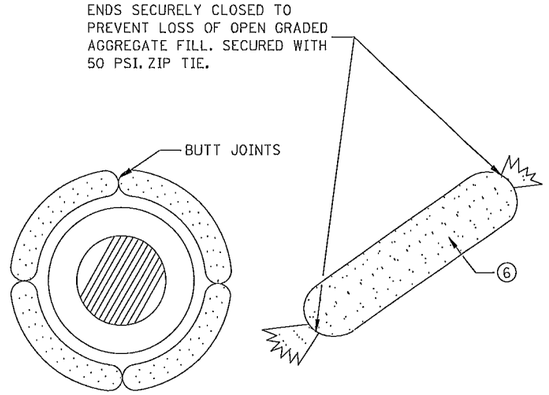
FILTER BAG INSERT ③

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

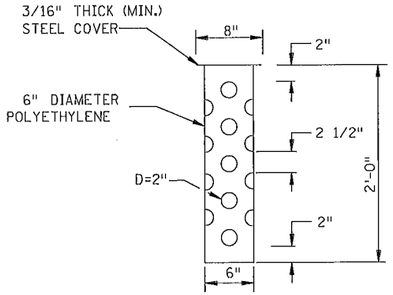


SEDIMENT CONTROL INLET HAT

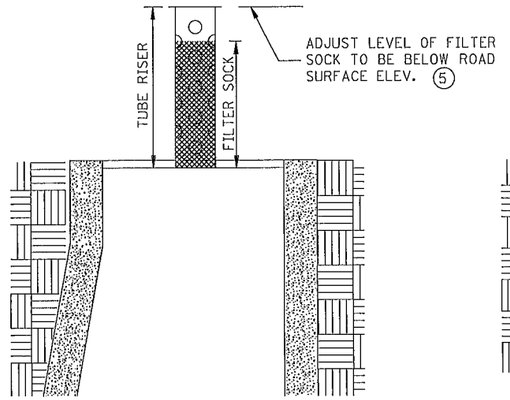
NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.



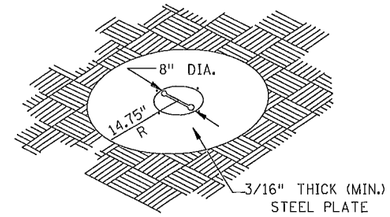
ROCK LOG/COMPOST LOG



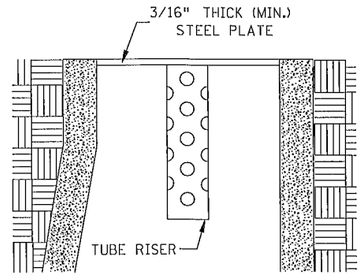
TUBE RISER



SECTION
(UP POSITION)

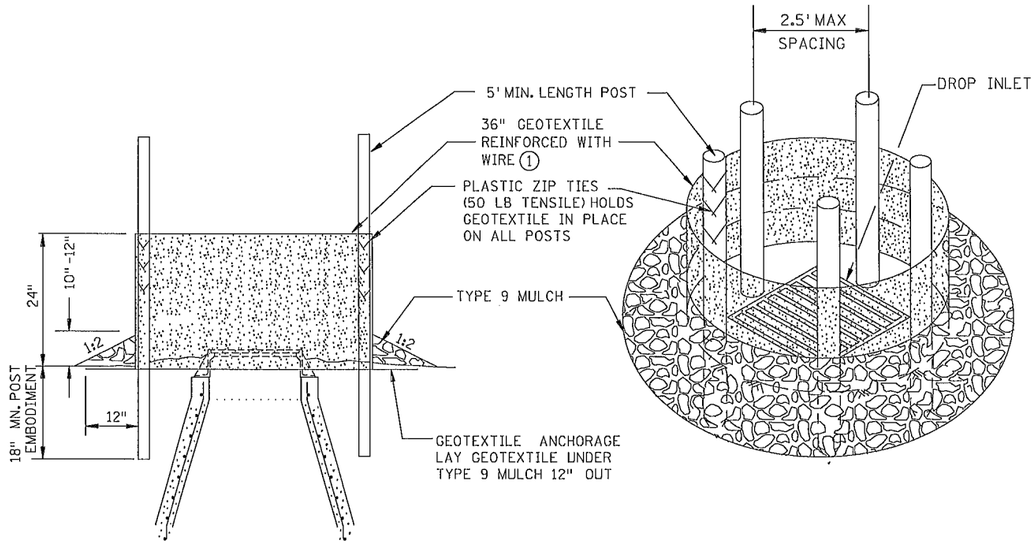


PERSPECTIVE VIEW



SECTION
(DOWN POSITION)

POP-UP HEAD



SILT FENCE RING AND ROCK FILTER BERM

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

NOTES:
SEE SPECS. 2573, 3137, & 3886.

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.

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REVISION:

APPROVED: 2-28-2017

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

REVISED:

APPROVED: 2-28-2017

TEMPORARY SEDIMENT CONTROL
STORM DRAIN INLET PROTECTION

STANDARD PLAN 5-297.405 4 OF 8

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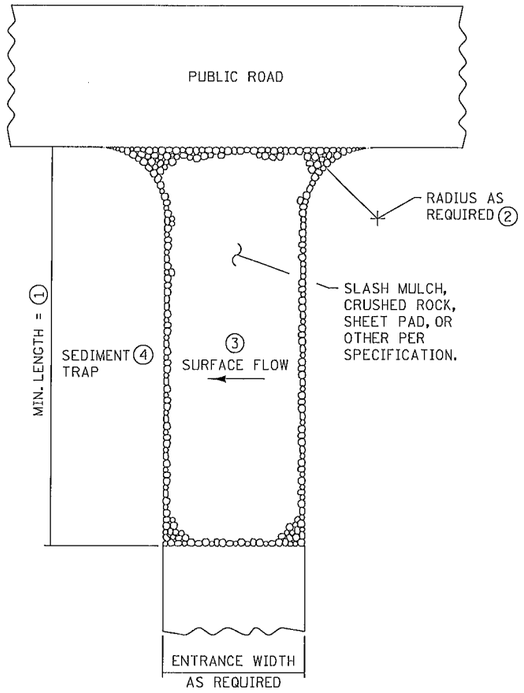
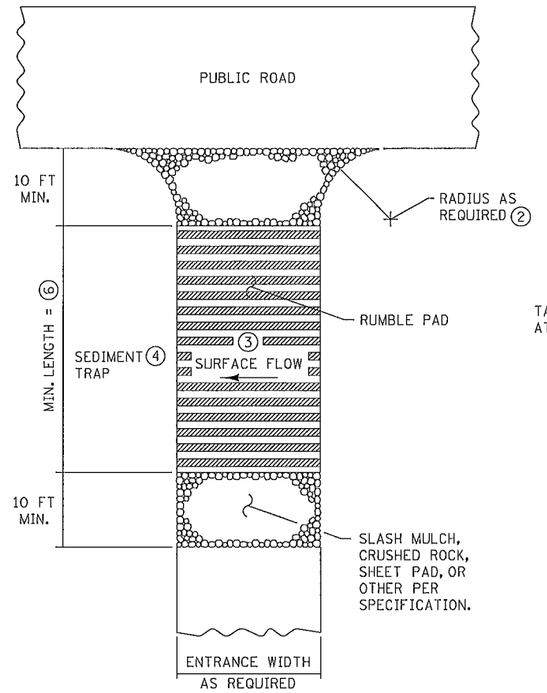
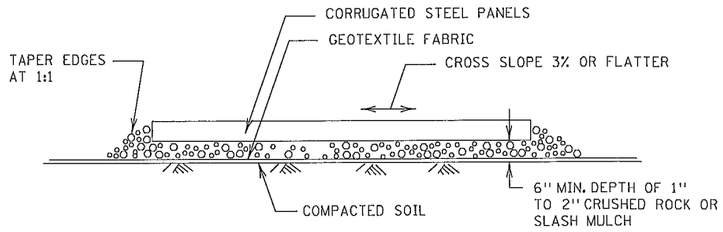
CP 2017-7



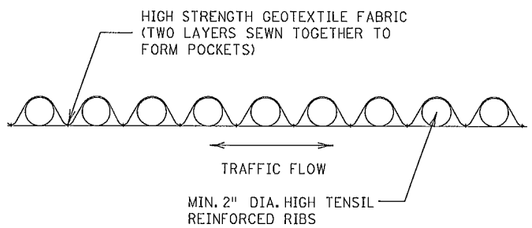
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



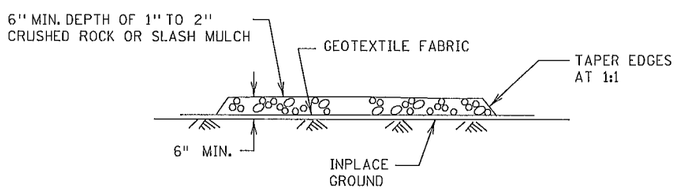
RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



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.

PLOTTED/REVISED: 12/11/2018

DISTRICT *:
USER NAME: ejmarkos
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FILE NAME: 0265403_EC_P6.dgn

REVISION:
APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

APPROVED: 2-28-2017

STATE DESIGN ENGINEER

TEMPORARY SEDIMENT CONTROL

STABILIZED CONSTRUCTION EXIT

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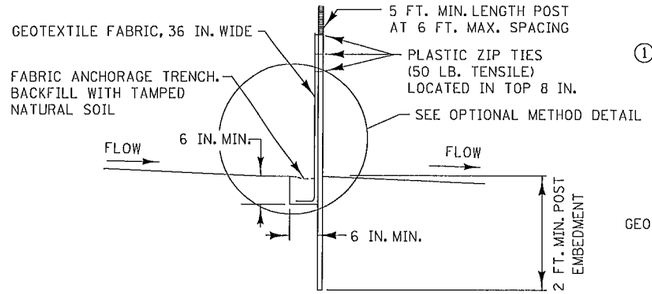
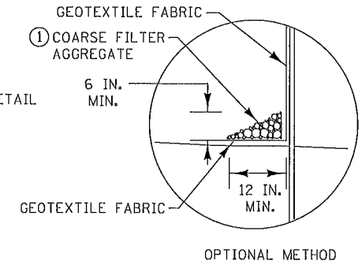
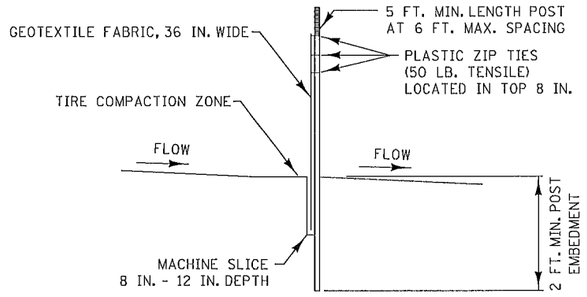


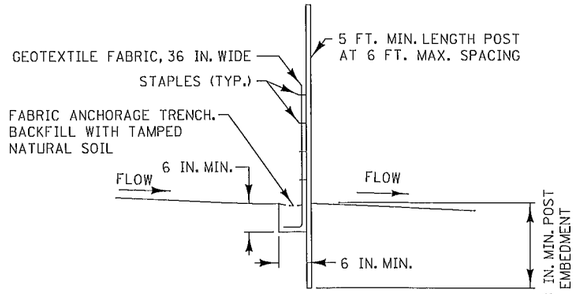
SILT FENCE TYPE HI ②
(HAND INSTALLED)



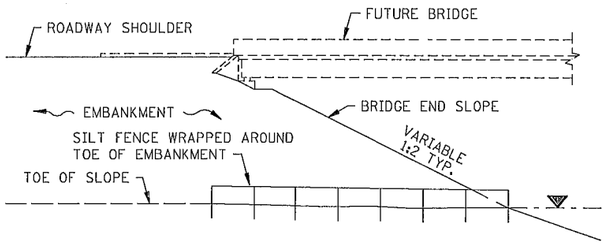
OPTIONAL METHOD



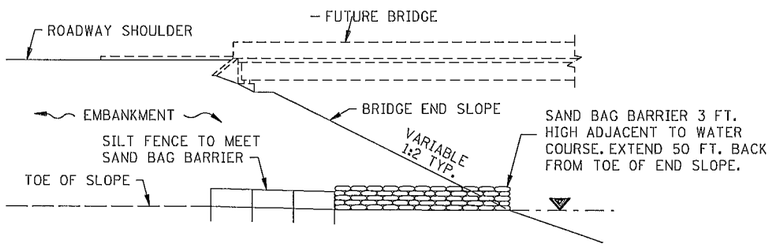
SILT FENCE TYPE MS ②
(MACHINE SLICED)



SILT FENCE TYPE PA ③
(PREASSEMBLED)

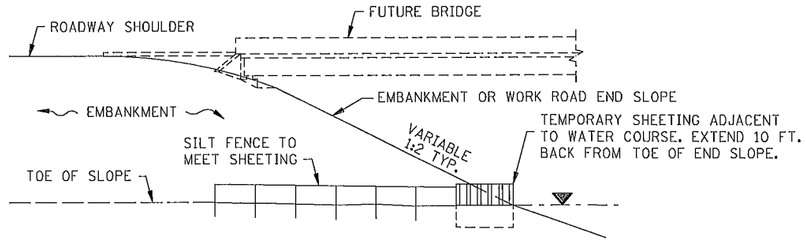


SILT FENCE ONLY ④

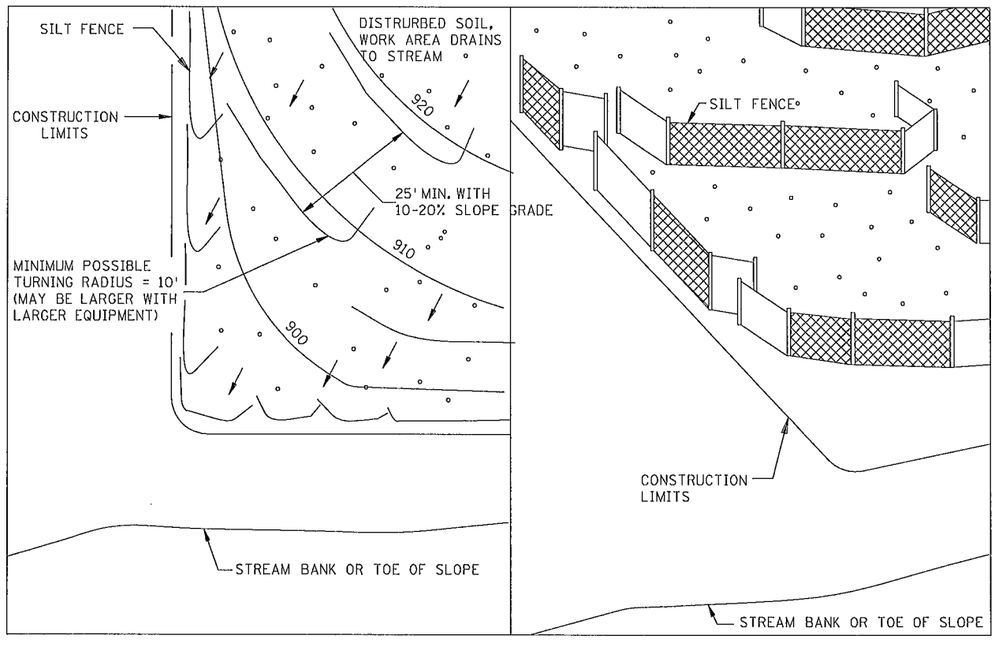


SILT FENCE WITH SAND BAGS ⑤

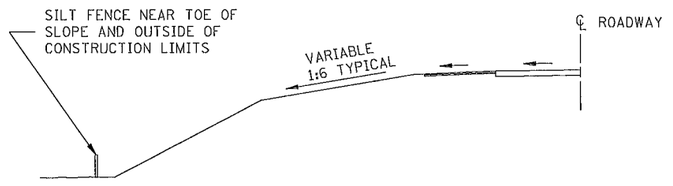
INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



SILT FENCE WITH SHEETING ⑥



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.

PLOTTED/REVISED: 12/11/2018

DISTRICT #:
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REVISION:

APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

REVISED:

APPROVED: 2-28-2017

TEMPORARY SEDIMENT CONTROL
SILT FENCE
STANDARD PLAN 5-297.405 6 OF 8

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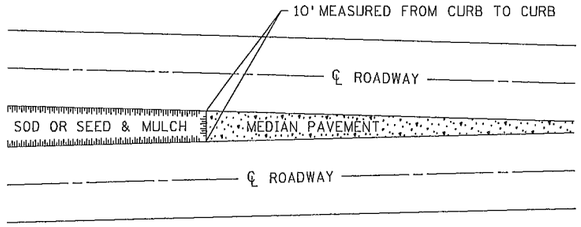
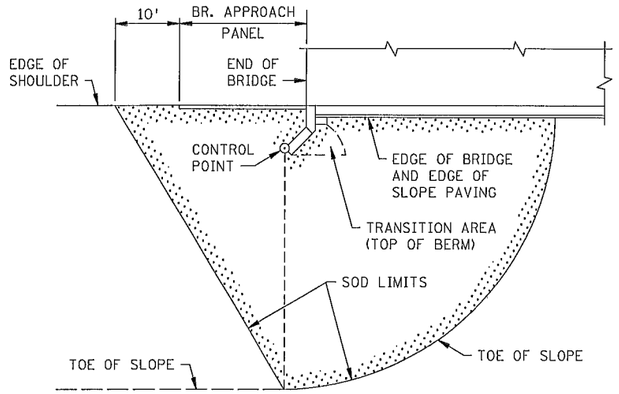
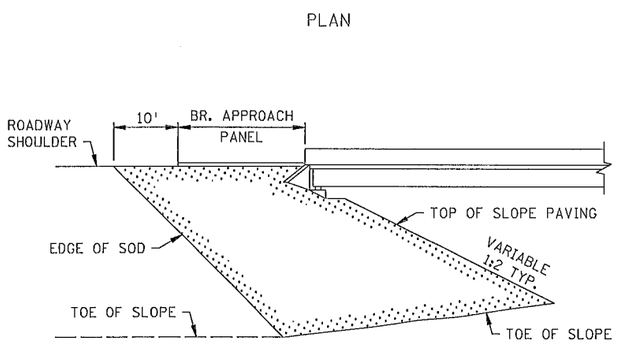
PLOTTED/REVISED: 12/12/2018



SODDING LIMITS AT GORE AREA

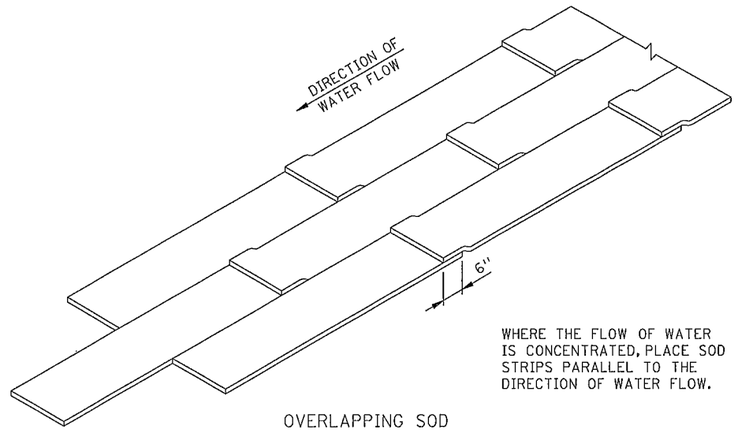


PLAN



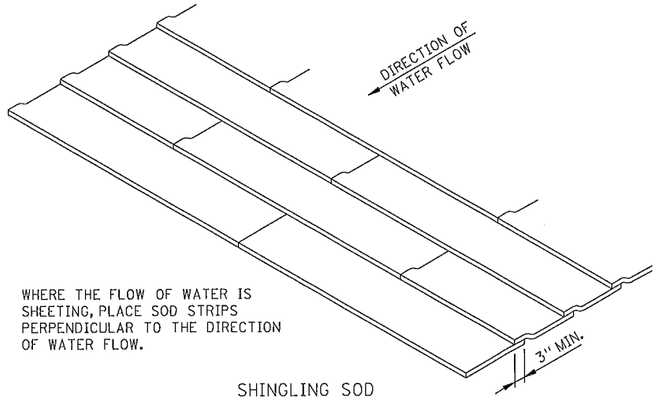
ELEVATION

SODDING LIMITS AT BRIDGE APPROACH FILLS



WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.

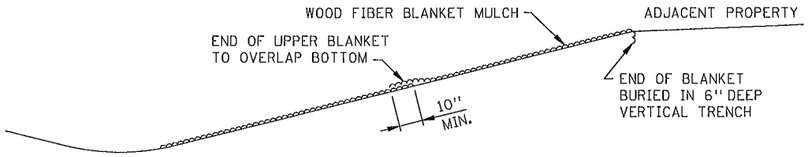
OVERLAPPING SOD



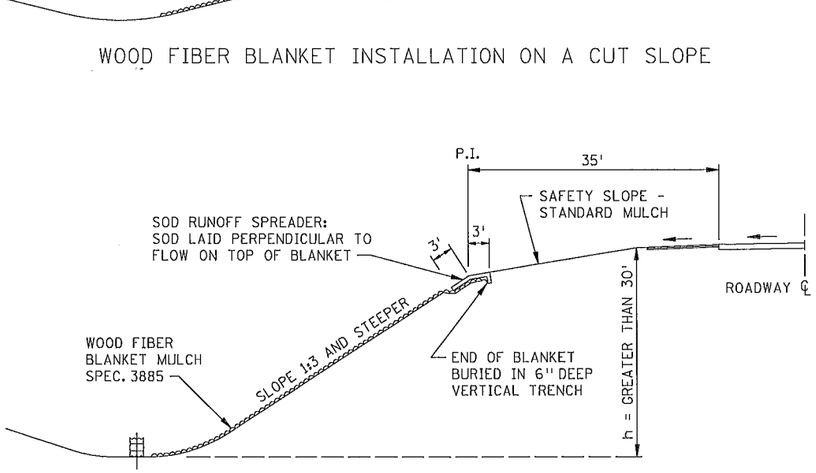
WHERE THE FLOW OF WATER IS SHEETING, PLACE SOD STRIPS PERPENDICULAR TO THE DIRECTION OF WATER FLOW.

SHINGLING SOD

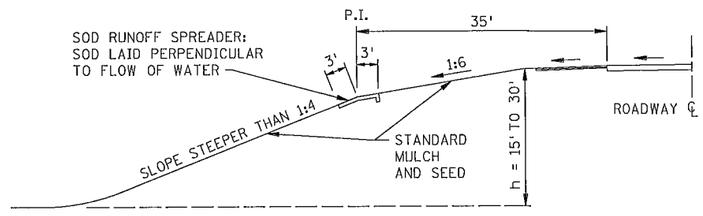
SPECIAL SOD PLACEMENT TECHNIQUES



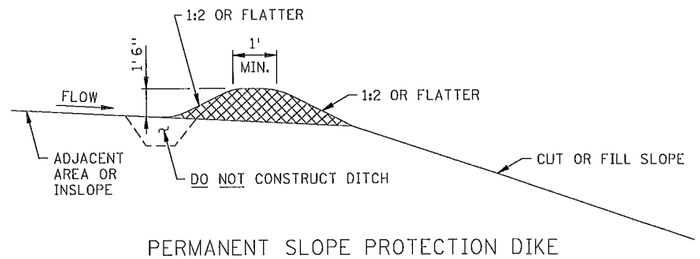
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



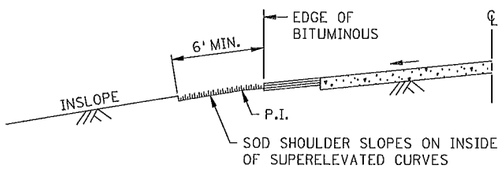
WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE
(WHEN REQUIRED)



BROKEN-BACK SAFETY FILL SLOPE



PERMANENT SLOPE PROTECTION DIKE



SODDING INSLOPES OF SUPERELEVATED CURVES

REVISION:

APPROVED: 8-6-2014

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5-297.406 | 1 OF 1

APPROVED: 8-6-2014

REVISED:

STATE DESIGN ENGINEER

SAP 002-654-003
CP 2017-7

PERMANENT SEDIMENT CONTROL

ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS

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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.

MULTI COMPONENT (MULTI COMP):
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 MULTI COMP 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.

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

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

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

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

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

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

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

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

P PAVEMENT MARKING TABULATION

ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE - MULTI COMP	LIN FT	5940
4" SOLID LINE YELLOW - MULTI COMP	LIN FT	2530
4" SOLID DOUBLE LINE YELLOW - MULTI COMP	LIN FT	1300
(1) 4" BROKEN LINE YELLOW - MULTI COMP	LIN FT	120
24" SOLID LINE YELLOW - PREFORMED THERMOPLASTIC	LIN FT	226

NOTE: (1) 3' STRIPE, 3' SKIP

SYMBOLS & MATERIALS LEGEND

CROSSWALK BLOCK WHITE-POLY PREFORM

PAVEMENT MESSAGE (LEFT ARROW) POLY PREFORM

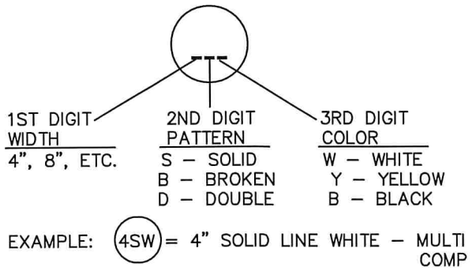
STRIPING KEY

CIRCLE - MULTI COMP

SQUARE - POLY PREFORM THERMOPLASTIC

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\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: DOUGLAS W. FISCHER, P.E.
SIGNATURE:
DATE: 12/12/18 REG. NO. 20235

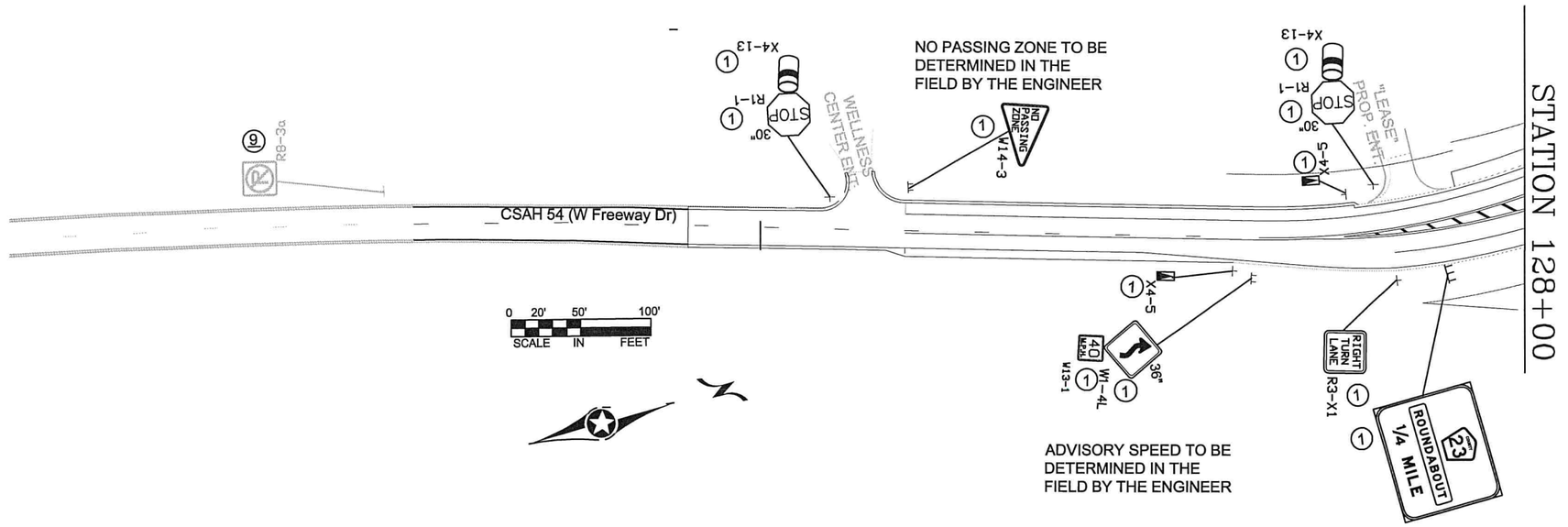
DRAWN BY TMV DATE 08/22/18
DESIGN BY DATE
CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

PERMANENT MARKING TABULATION

Sheet 66 of 97 Sheets



NOTES:
① FURNISH & INSTALL
⑨ INPLACE SIGNS

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-654-003\Base\Traffic\Perm S&S.dwg

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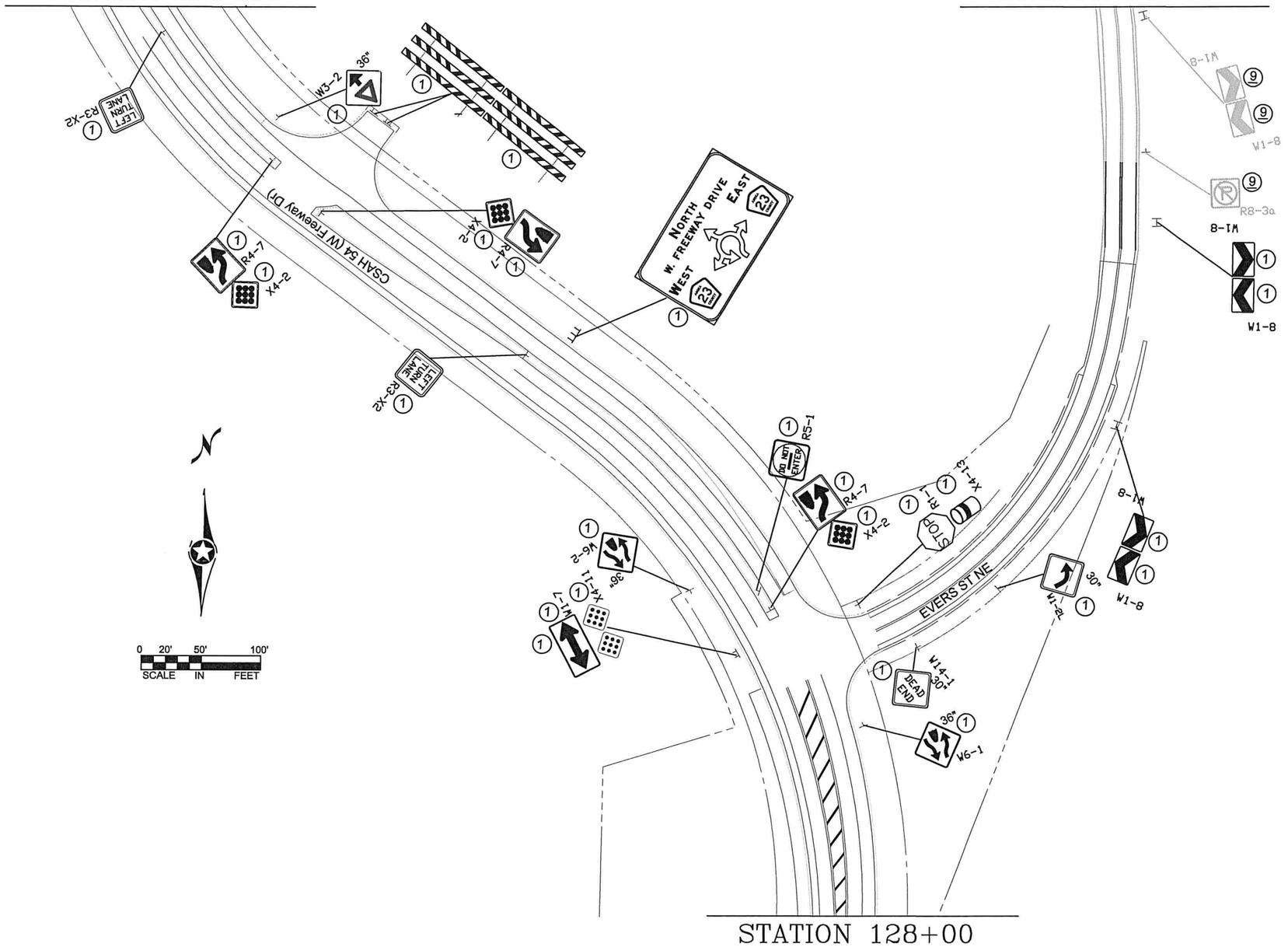
SAP 002-654-003
CP 2017-7

PERMANENT SIGNING PLAN

Sheet 67 of 97 Sheets

STATION 138+00

STATION 18+00



STATION 128+00

NOTES:
① FURNISH & INSTALL
⑨ INPLACE SIGNS

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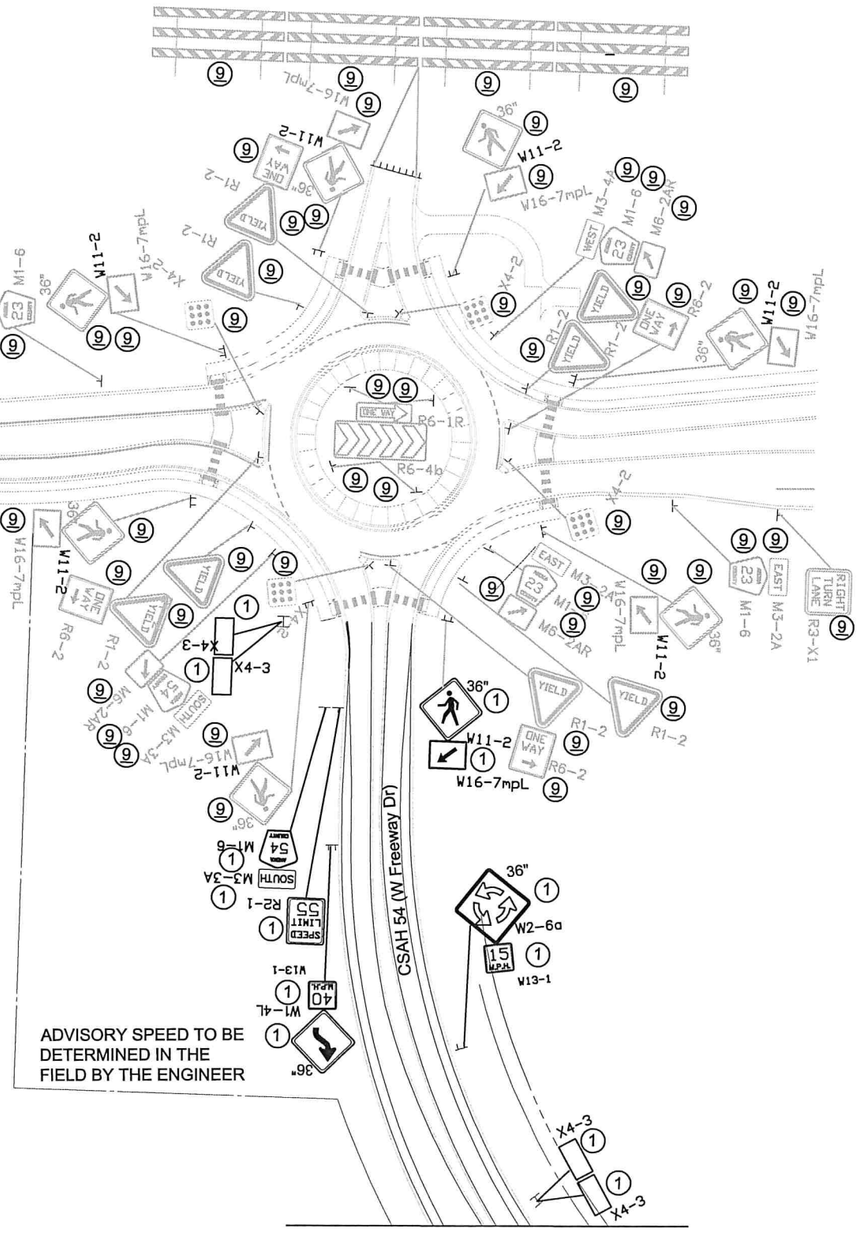
SAP 002-654-003
CP 2017-7

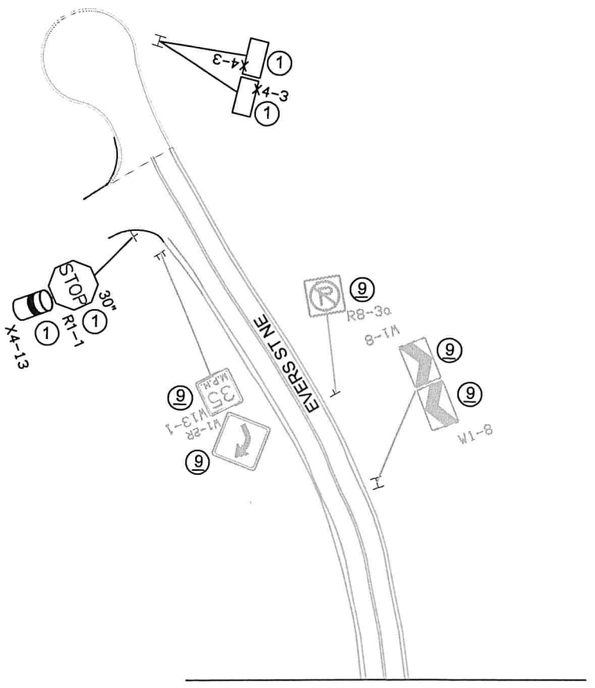
PERMANENT SIGNING PLAN

Sheet 68 of 97 Sheets



STATION 138+00

NOTES:
(1) FURNISH & INSTALL
(9) INPLACE SIGNS



STATION 18+00

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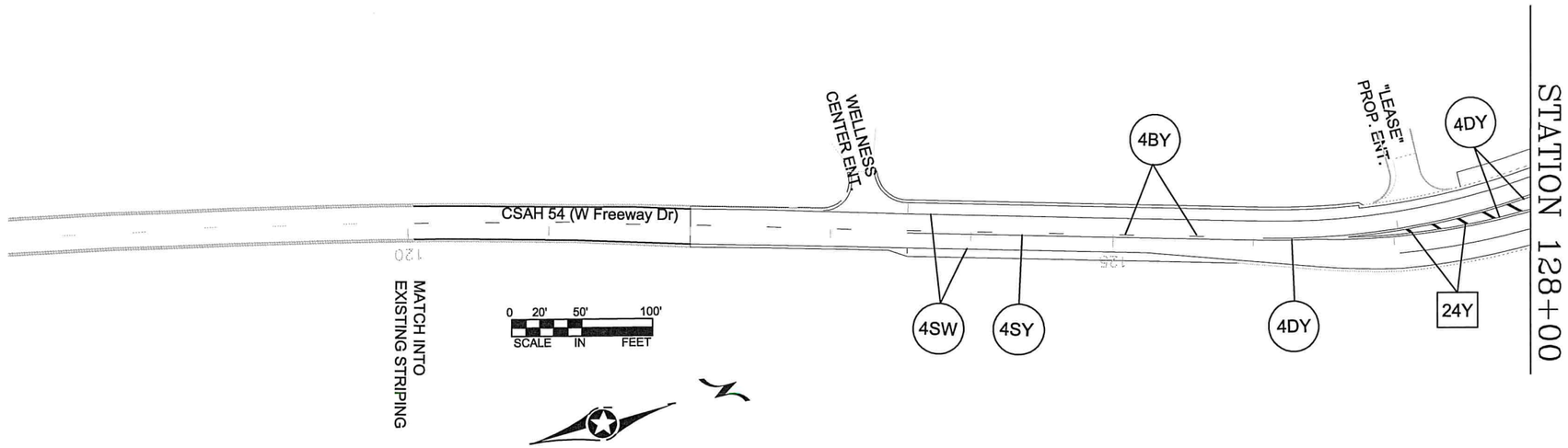
PERMANENT SIGNING PLAN

Sheet 69 of 97 Sheets



STRIPING KEY

CIRCLE - MULTI COMP

SQUARE - POLY PREFORM

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-654-003\Base\Traffic\Perm S&S.dwg

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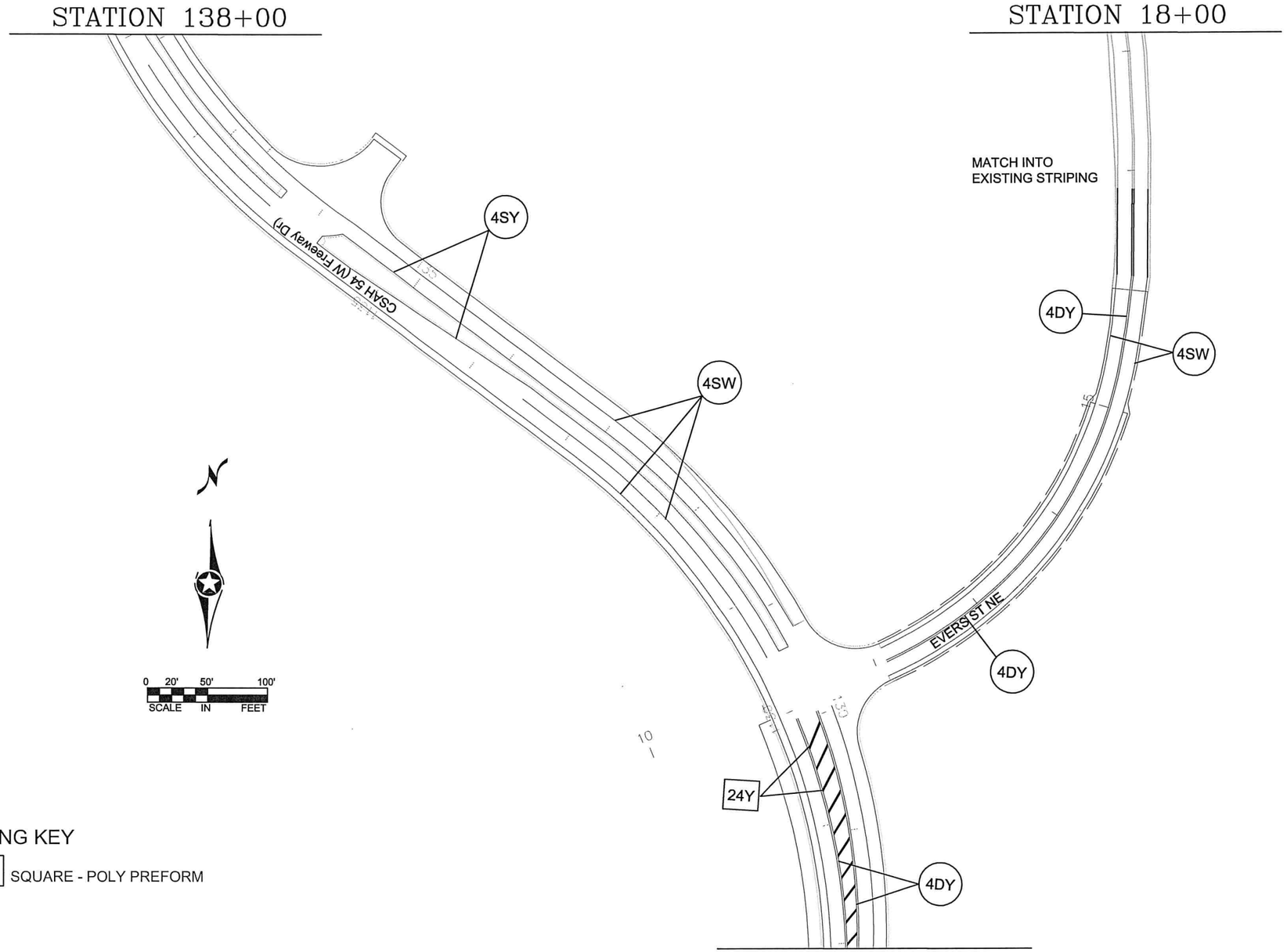
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

PERMANENT STRIPING PLAN

Sheet 70 of 97 Sheets



STRIPING KEY

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

NO	DATE	BY	CKD	APPR	REVISION

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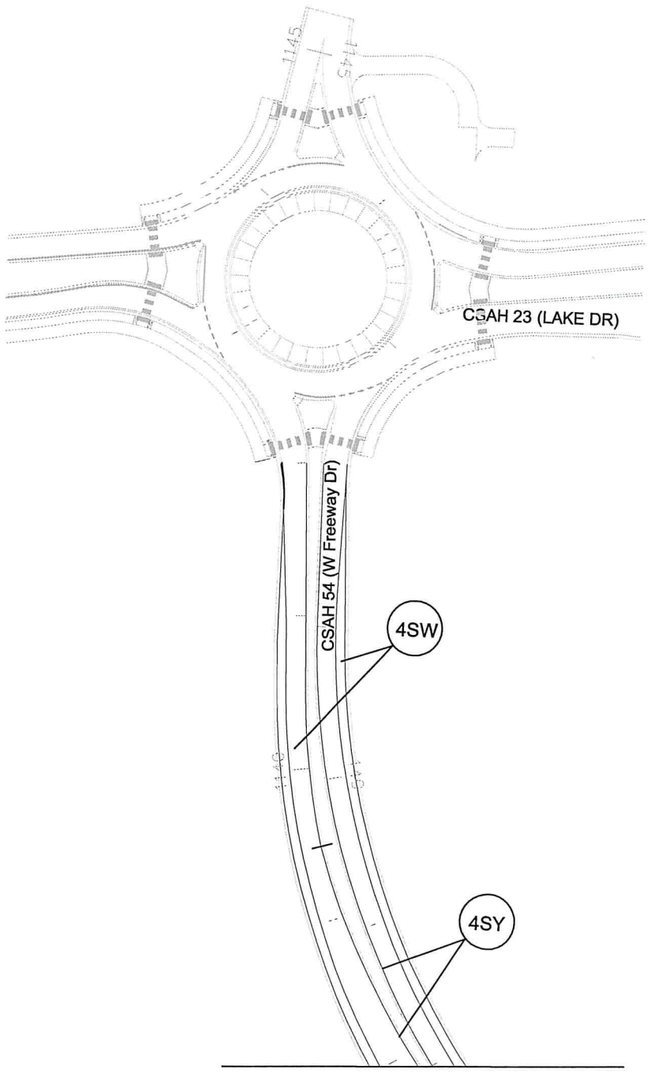
SAP 002-654-003
CP 2017-7

PERMANENT STRIPING PLAN

Sheet 71 of 97 Sheets



STATION 138+00

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PERMANENT STRIPING PLAN

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N SIGN PANELS TYPE C

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	PANEL AREA SQ. FT.	TOTAL AREA SQ. FT.	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT To pavement edge
R1-1	30" x 30"	STOP	4	6.25	25.00	1	7.0'
X4-13	4" diameter x 15"		4	0.42	1.68		
R2-1	24" x 30"	SPEED LIMIT 55	1	5.00	5.00	1	7.0'
R3-X1	30" x 30"	RIGHT TURN LANE	1	6.25	6.25	1	7.0'
R3-X1	30" x 30"	LEFT TURN LANE	2	6.25	12.50	1	7.0'
R4-7	24" x 30"		3	5.00	15.00	1	7.0'
X4-2	18" x 18"		3	2.25	6.75		
R5-1	30" x 30"	DO NOT ENTER	2	6.25	6.25	1	7.0'
W1-2L	30" x 30"		1	6.25	6.25	2	7.0'
W1-4L	36" x 36"		2	9.00	18.00	2	7.0'
W13-1	24" x 24"	40 MPH	2	4.00	8.00		
W1-7	48" x 24"		1	8.00	8.00	2	7.0'
X4-11	18" x 18"		2	2.25	4.50		
W1-8	18" x 24"		4	0.50	2.00	1	4.0'
W2-6a	36" x 36"		1	9.00	9.00	2	7.0'
W13-1	24" x 24"	15 MPH	1	4.00	4.00		
W3-2	36" x 36"		1	9.00	9.00	2	7.0'
W6-1	36" x 36"		1	9.00	9.00	2	7.0'

N SIGN PANELS TYPE C

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	PANEL AREA SQ. FT.	TOTAL AREA SQ. FT.	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT To pavement edge
W6-2	36" x 36"		1	9.00	9.00	2	7.0'
W11-2	36" x 36"		1	9.00	9.00	2	7.0'
W16-7mpl	30" x 24"		1	5.00	5.00		
W14-1	36" X 36"	DEAD END	1	9.00	9.00	2	7.0'
W14-3	48" X 36"	NO PASSING ZONE	1	6.00	6.00	2	7.0'
M3-3A	24" x 12"	SOUTH	1	2.00	2.00	1	7.0'
M1-6	24" x 24"	54	1	4.00	4.00		
		TOTAL TYPE C SIGN SQ FT			200.18		

N SIGN PANELS MARKERS

X4-3	6" x 12"		6	0.50	3.00	1	4.0'
X4-5	6" x 12"		1	0.50	0.50	1	4.0'
X4-5	6" x 12"		1	0.50	0.50		
		TOTAL TYPE MARKERS SQ FT			4.00		

N PERMANENT BARRICADE

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	LINEAR FT.	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT To pavement edge
TYPE III SEE STANDARD PLATE NO. 8002G	8 FOOT		2	16.00	2	2'2"
		PROJECT TOTAL LIN FT		16.00		

N SIGN PANELS TYPE D

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	PANEL AREA SQ. FT.	TOTAL AREA SQ. FT.	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT To pavement edge
D1-5	84" x 72"	23 ROUNDABOUT 1/4 MILE	1	42.00	42.00	2	7.0'
D1-5	126" x 78"	NORTH W. FREEWAY DRIVE WEST EAST 23 23	1	68.25	68.25	3	7.0'
		TOTAL TYPE D SIGN SQ FT			110.25		

		PROJECT TOTAL SQ FT		314.43	
		PROJECT TOTAL LIN FT		16.00	

NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL" FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- LOCATIONS OF ALL PERMANENT STRIPING AND PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL 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:\002-654-003\Base\Traffic\Perm S&S Quantities.dwg

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ANOKA COUNTY HIGHWAY DEPT.

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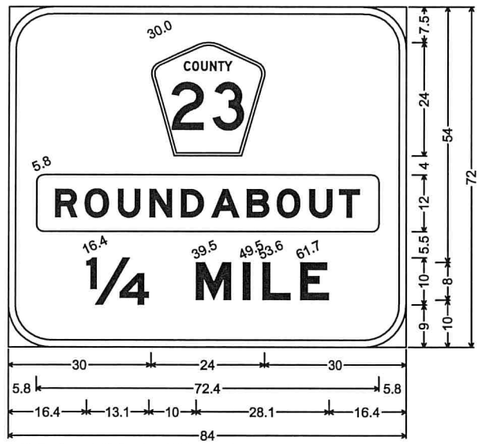
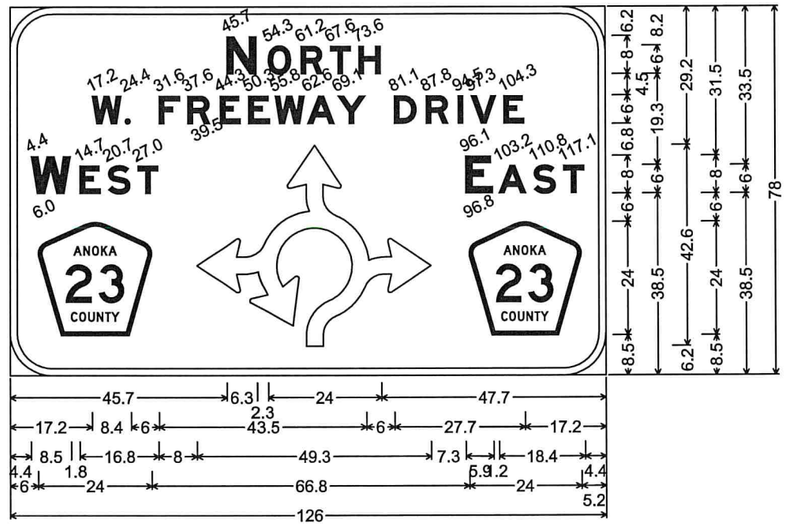
PERMANENT SIGNING QUANTITIES



9.0" Radius, 1.5" Border, White on Green;
Rounded Rectangle 1.5" Radius Yellow;
[1/4 MILE] E Mod;



9.0" Radius, 1.5" Border, White on Green;
[NORTH] E Mod; [W. FREEWAY DRIVE] E Mod; [WEST] E Mod;
RA Arrow-4hd; [EAST] E Mod;

NO	DATE	BY	CKD	APPR	REVISION

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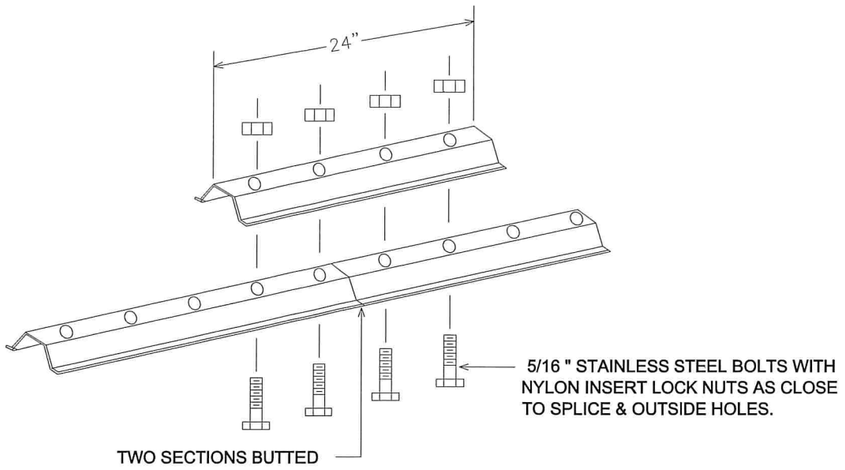
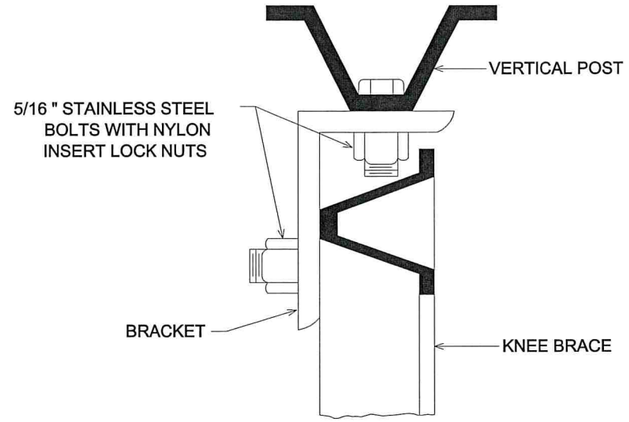
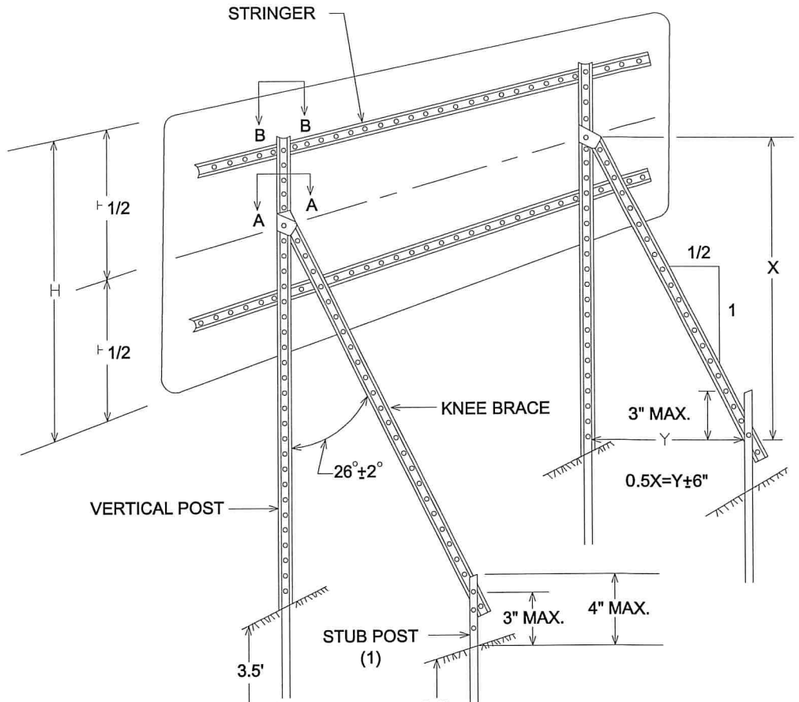


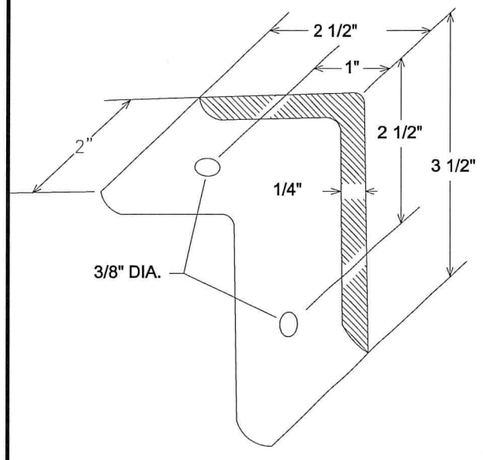
LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

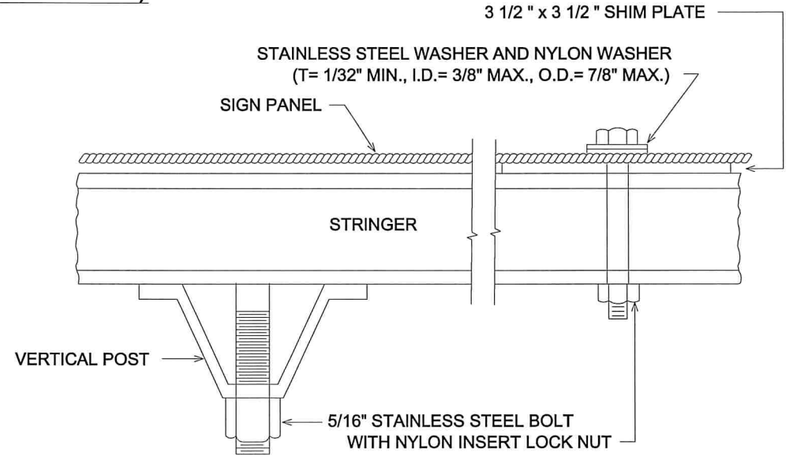


TYPICAL "A-FRAME" INSTALLATION TYPE "D" SIGNS

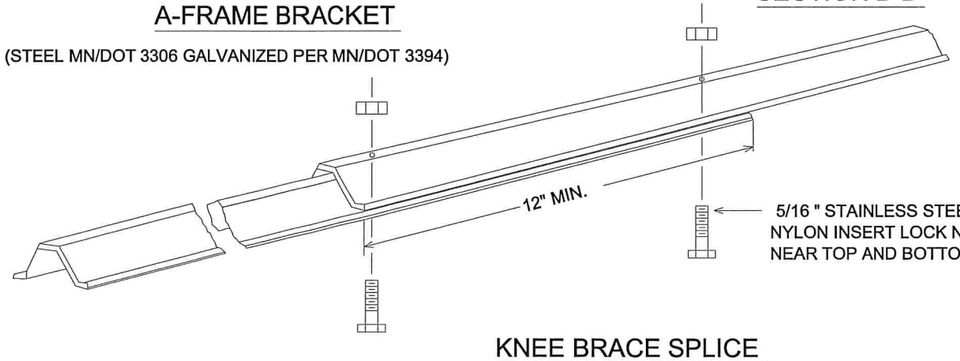


A-FRAME BRACKET

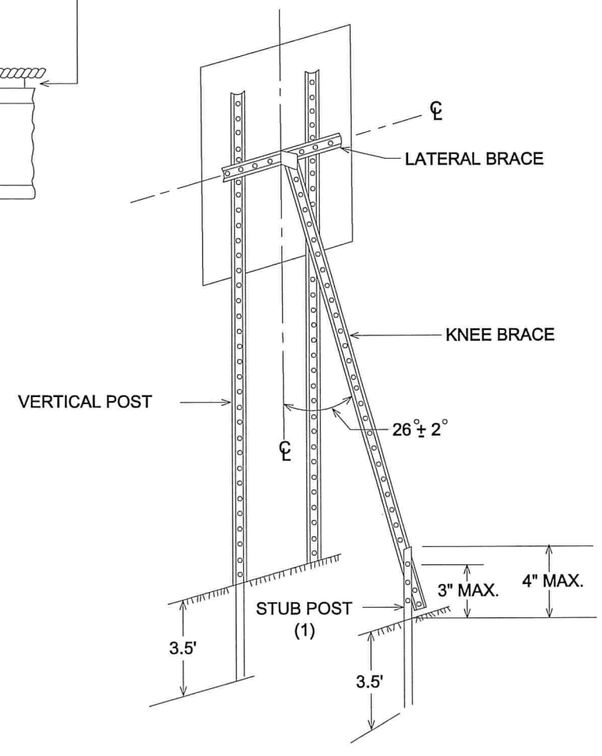
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



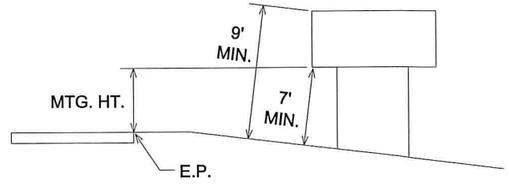
SECTION B-B



KNEE BRACE SPLICE



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



TYPICAL MOUNTING

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

TYPE C & D SIGN STRUCTURAL DETAILS

NO	DATE	BY	CKD	APPR	REVISION
NAME:					

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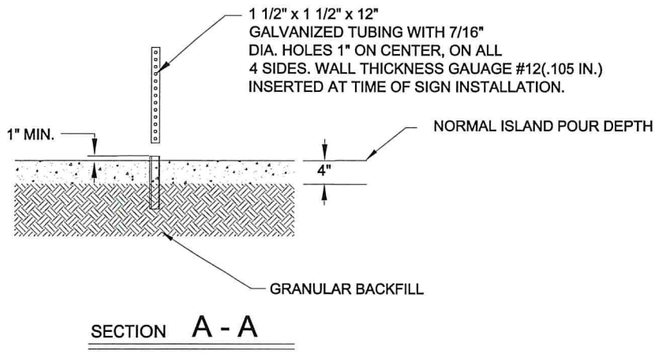
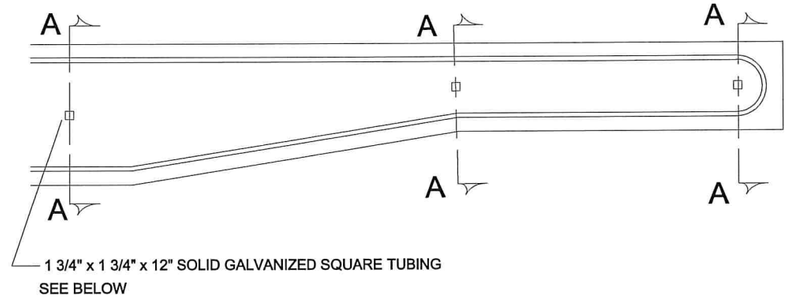
SIGNING & STRIPING DETAILS

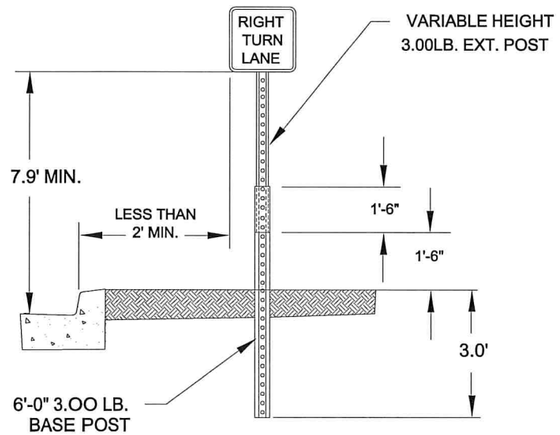
Sheet 75 of 97 Sheets



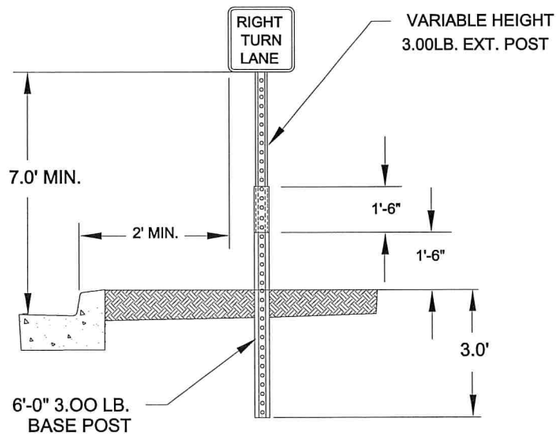
SECTION A - A



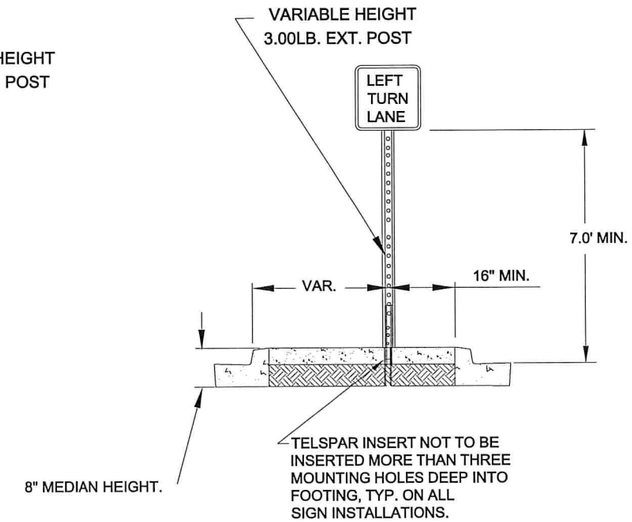
GROUND POST MOUNT SIGN
INSTALLATION TYPICAL
FOR AREAS LESS THAN THE 2' MIN



GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL



NO	DATE	BY	CKD	APPR	REVISION

NAME:

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

PRINT NAME: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 12/12/18 REG. NO. 20235

DRAWN BY TMV DATE 08/22/18

DESIGN BY ____ DATE ____

CHECKED BY ____ DATE ____

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

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CP 2017-7

SIGNING & STRIPING DETAILS

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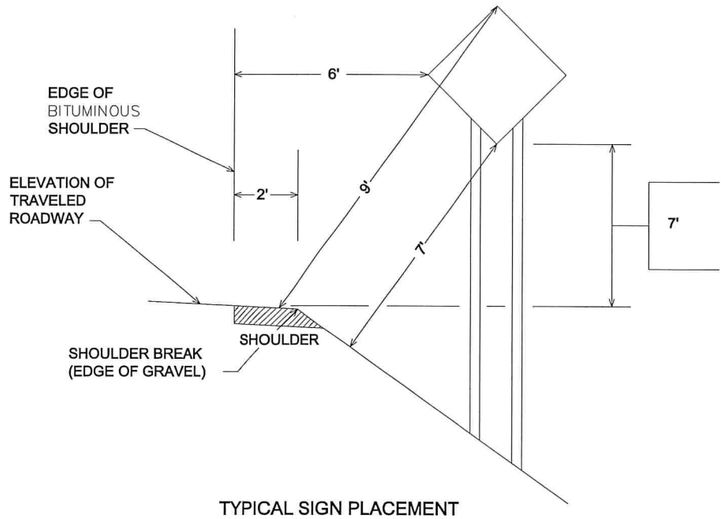
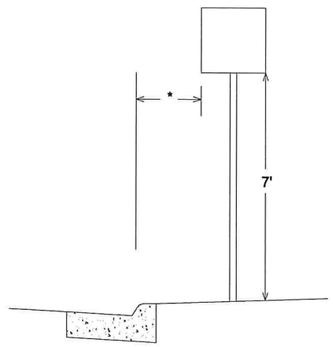
RURAL



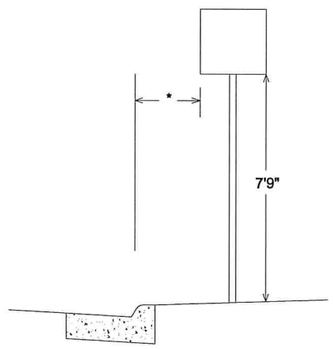
TYPICAL SIGN PLACEMENT

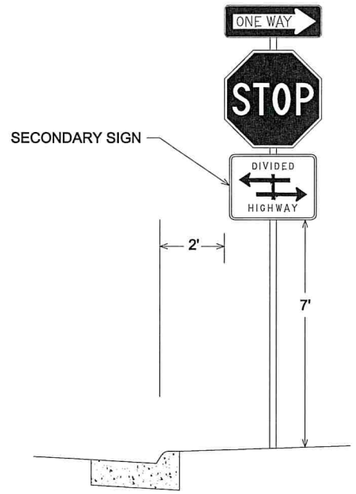
URBAN

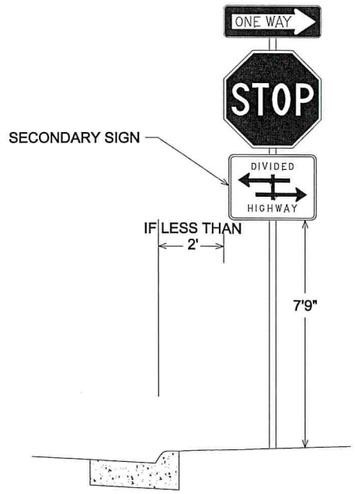
* 2' - NARROW BOULEVARD (< 8' WIDE)
6' - WIDE BOULEVARD



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



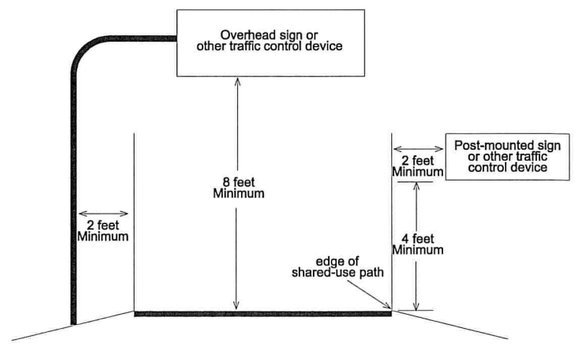




TYPICAL SIGN PLACEMENT

NOTE:

- ALL DIMENSIONS ARE MINIMUMS
- MAINTAIN 2' CLEAR FROM SIGNS TO BITUMINOUS TRAIL
- 7'9" SIGN CLEARANCE IF CANNOT MAINTAIN 2' CLEAR FROM SIGNS TO BITUMINOUS TRAIL



TYPICAL SIGN PLACEMENT
SHARED-USE PATH

NO	DATE	BY	CKD	APPR	REVISION

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DETAILS

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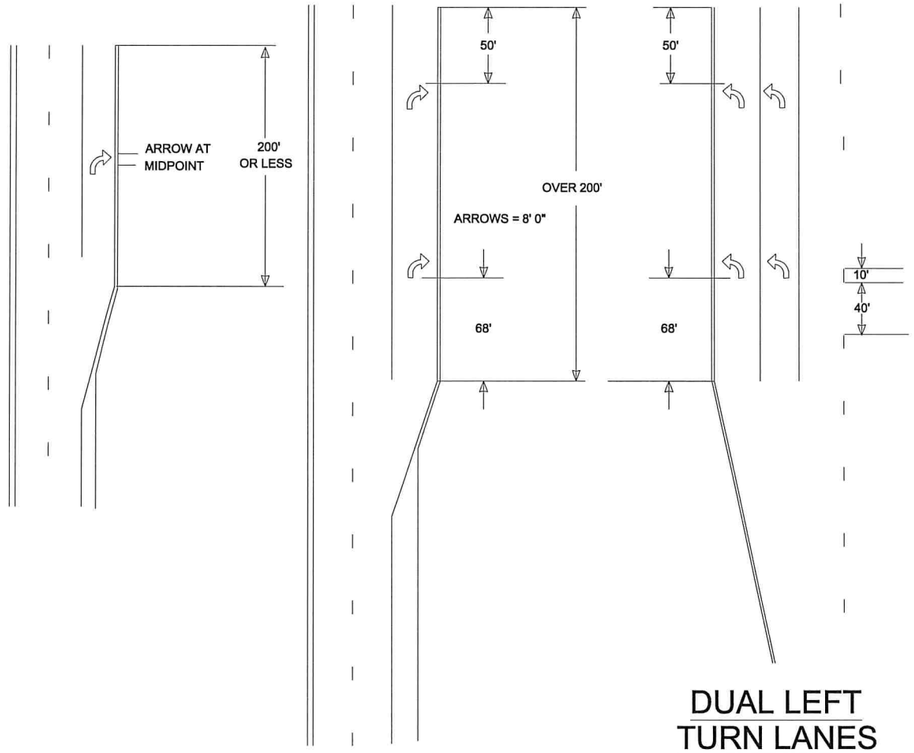
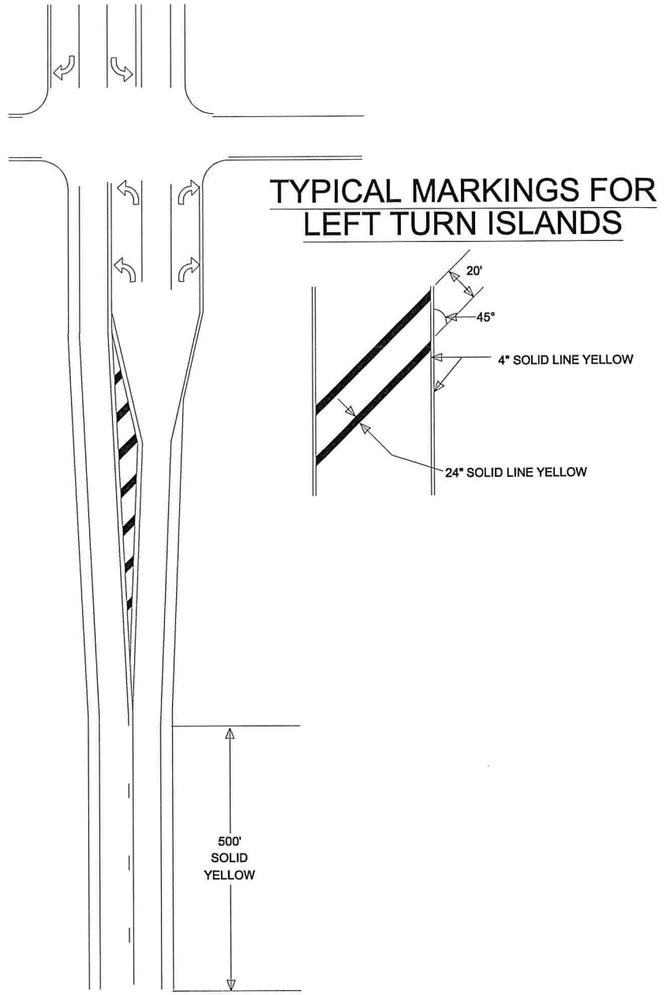
TYPICAL MESSAGE PLACEMENT FOR TURN LANES



DUAL LEFT TURN LANES

TYPICAL MARKINGS FOR LEFT TURN ISLANDS



NO	DATE	BY	CKD	APPR	REVISION

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SIGNING & STRIPING DETAILS

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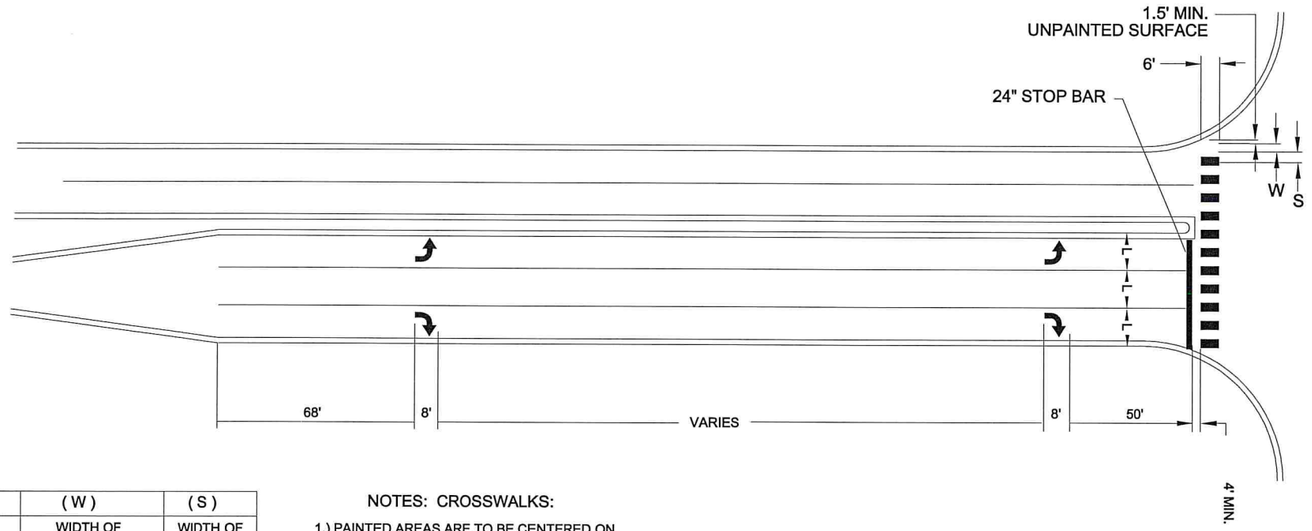
MARKINGS FOR PEDESTRIAN CROSSWALKS



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

NOTES: CROSSWALKS:

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

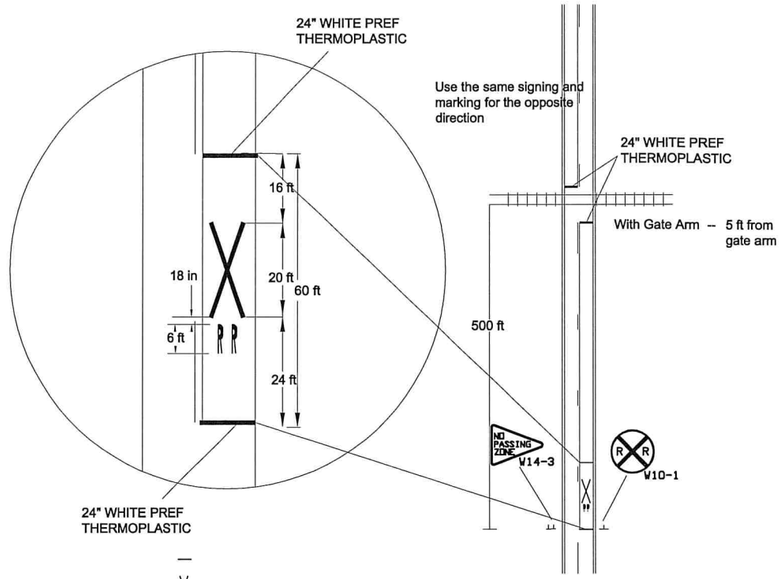
2.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERFIED DURING CONSTRUCTION BY THE FIELD ENGR.

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.

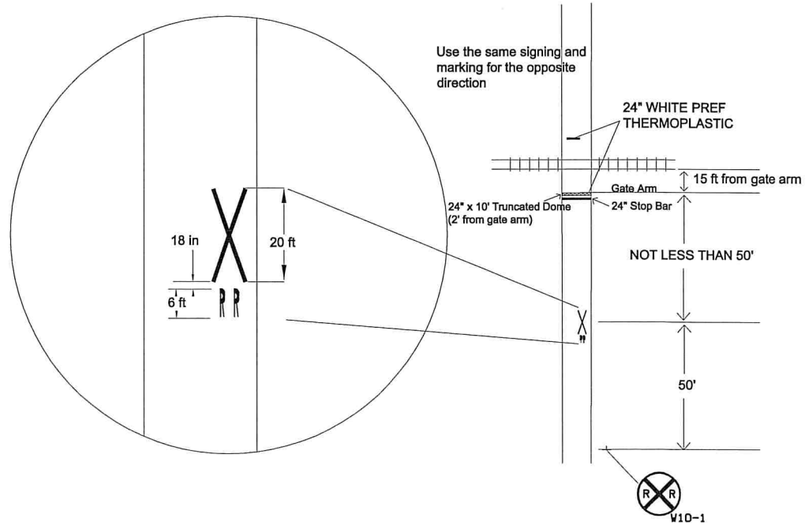
5.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' (3.3mm) INSIDE LANE.

RAILROAD CROSSING PAVEMENT MARKINGS



PAVEMENT MESSAGE RR CROSSING
PREFORMED THERMOPLASTIC

RAILROAD CROSSING PAVEMENT MARKINGS TRAIL GRADE CROSSING



PAVEMENT MESSAGE RR CROSSING
PREFORMED THERMOPLASTIC

NO	DATE	BY	CKD	APPR	REVISION
NAME:					

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ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
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SIGNING & STRIPING DETAILS

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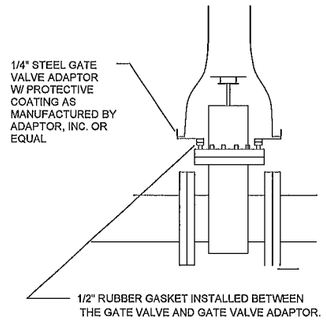
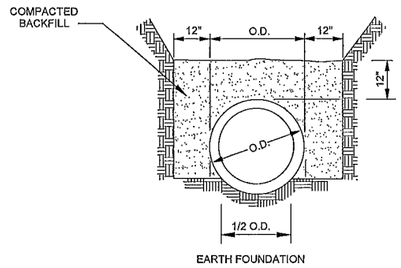
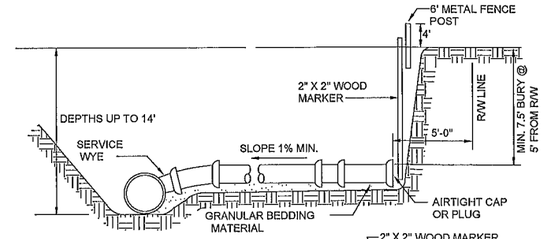
CITY OF COLUMBUS UTILITY IMPROVEMENTS			R
ITEM NO.	ITEM	UNIT	QUANTITY
CSAH 54 UTILITY IMPROVEMENTS			
2104.503	REMOVE WATER SERVICE PIPE	LF	4
2503.602	CONNECT TO EXISTING SANITARY SEWER	EA	2
2503.603	6" PVC SANITARY SERVICE PIPE	LF	230
2504.602	12"X6" WET TAP	EA	1
2504.602	CONNECT TO EXISTING WATER SERVICE	EA	1
2504.602	6" GATE VALVE & BOX	EA	1
2504.603	6" PVC WATERMAIN	LF	296
2504.604	2" INSULATION	SY	7
2504.608	DUCTILE IRON FITTINGS	LB	96

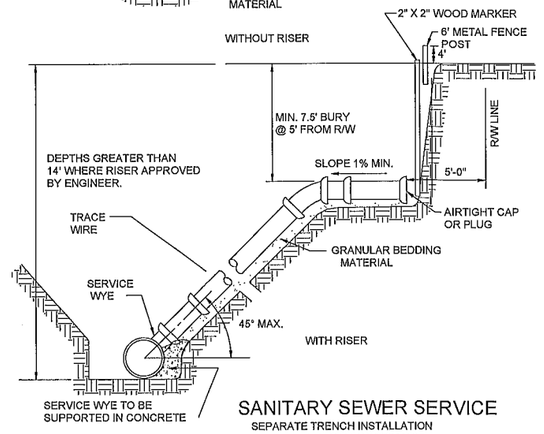


GATE VALVE ADAPTOR



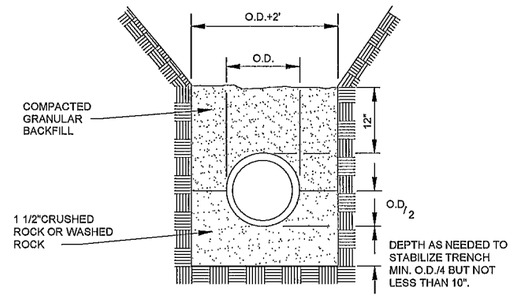
PIPE FOUNDATION DETAILS





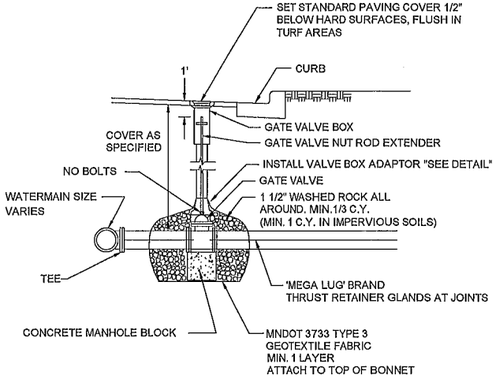
SANITARY SEWER SERVICE

SEPARATE TRENCH INSTALLATION
(10' SEPARATION TO WATERMAIN)

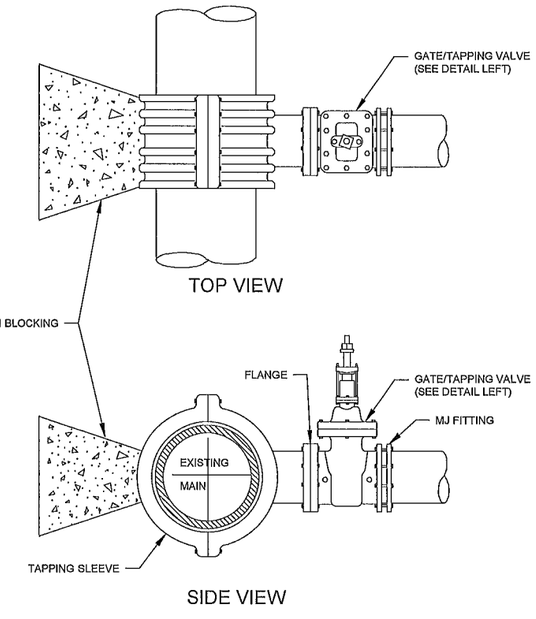


SPECIAL FOUNDATION FOR
STABILIZING OR DEWATERING OF TRENCH

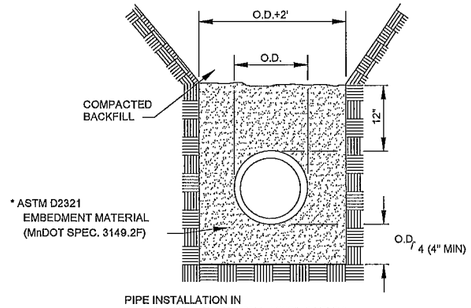
(USE AT DIRECTION OF THE ENGINEER)



GATE VALVE INSTALLATION



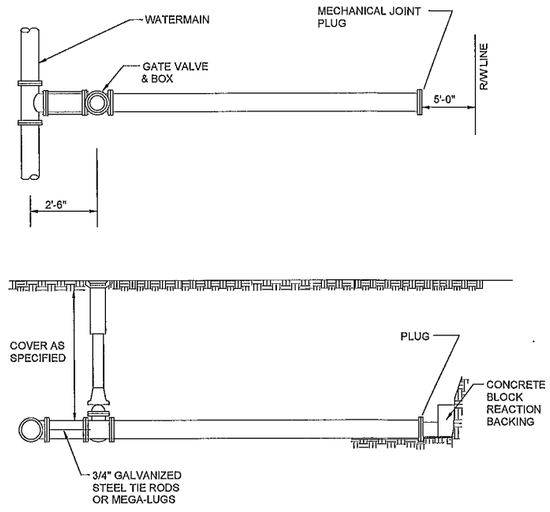
TAPPING SLEEVE AND VALVE ASSEMBLY



* EMBEDMENT MATERIAL SHALL CONFORM TO ASTM D2321, TABLE 1.

GRANULAR MATERIAL BEDDING METHOD

(FOR PVC SANITARY SEWER PIPE)



TYPICAL 6" WATER SERVICE

PLOT DATE: Dec 11, 2018 - 2:46pm
FILENAME: K:\a-f\Columbus\16615000\04_Production\01_CADD\02_Sheets\CSAH 54\WFreewayDriveDetails.dwg

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED DMP
DRAWN MOB
CHECKED DMP

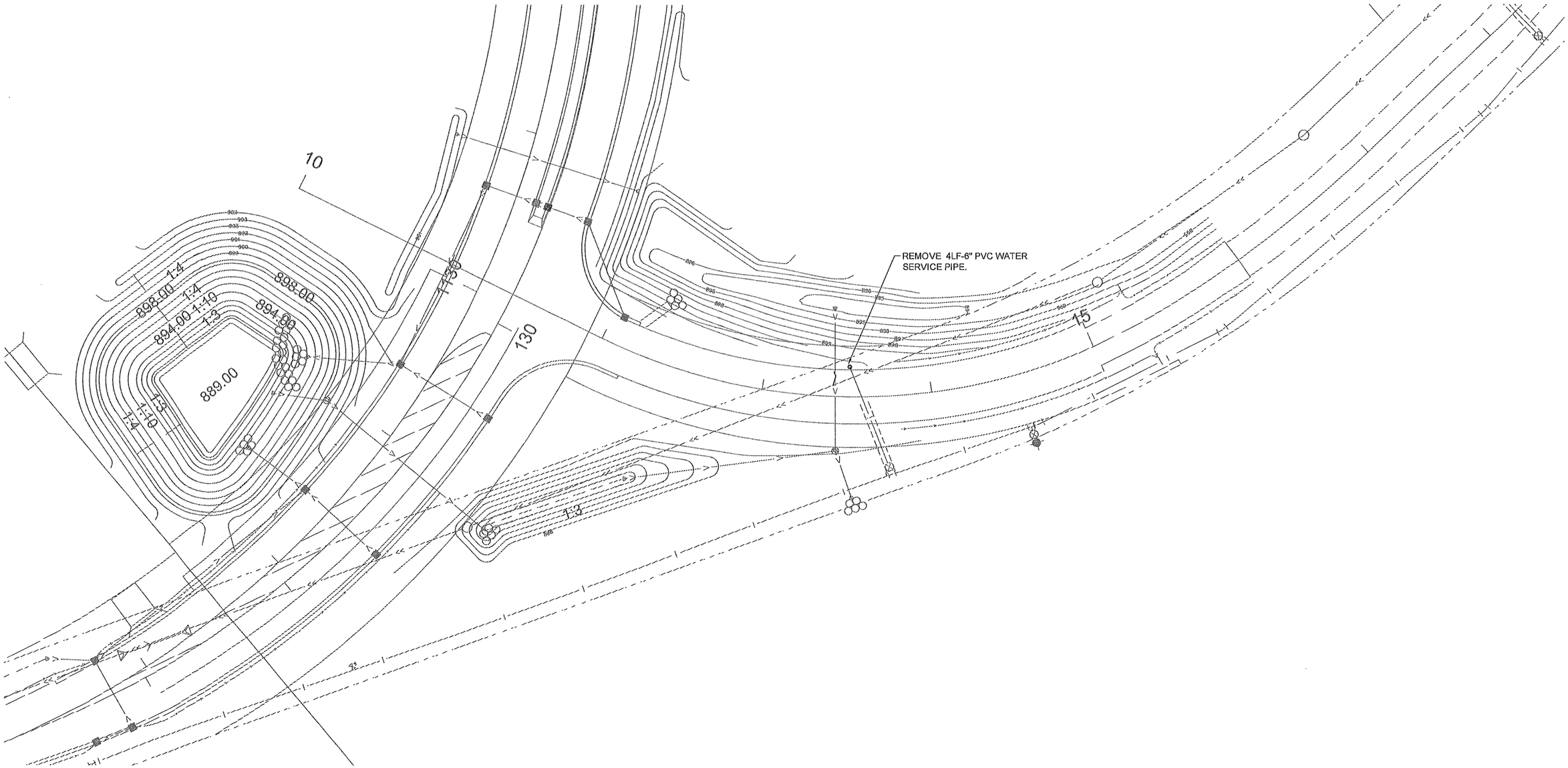
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
SIGNATURE: Dennis M. Postler DATE: 12/11/2018
PRINTED NAME: DENNIS M. POSTLER LIC. NO.: 22011

TKDA
444 Cedar Street, Suite 1500
Saint Paul, MN 55101
651.292.4400
tkda.com

CSAH 54 (WEST FREEWAY DRIVE)
S.A.P. 002-654-003
COLUMBUS MINNESOTA

SANITARY SEWER & WATERMAIN DETAILS

PROJ. NO. 16615.000
DRAWING NO. 80 OF 97



WEST FREEWAY DRIVE (CSAH 54)

PLOT DATE: Dec 11, 2018 - 2:34pm
FILENAME: K:\ie-fl\Columbus\16615000\04_Production\01_CAD\02_Sheets\CSAH 54\WFreewayDrive\Utilities-Removal.dwg

NO.	DATE	BY	DESCRIPTION OF REVISIONS

DESIGNED DMP
DRAWN MOB
CHECKED DMP

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TKDA
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651.292.4400
tkda.com

CSAH 54 (WEST FREEWAY DRIVE)
S.A.P. 002-654-003
COLUMBUS MINNESOTA

SANITARY SEWER & WATERMAIN REMOVALS

PROJ. NO. 16615.000
DRAWING NO. 81 OF 97

CONNECT TO EXISTING 6" WATER SERVICE.
F&I 66 LF 6" PVC C-900 WATERMAIN,
6" MJ DIP WATERMAIN PLUG,
6" MJ DIP WATERMAIN 45° BEND.
MAINTAIN 8' DEPTH OVER NEW SERVICE PIPE
CONSIDERING FUTURE GRADES.
(EXISTING WATER SERVICE IS APPROX. 888.1')

CONNECT TO EXISTING SANITARY SEWER,
F&I 55 LF 6" PVC SDR 26 SANITARY SERVICE AT 1.00%.
(EXISTING 10" SANITARY SEWER ELEV. IS APPROX. 886.6')

MAINTAIN 8' COVER

24" RCP STORM SEWER
INVERT APPROX. 893.
INSULATE CROSSING WITH
7 SY - 2" INSULATION.

CONNECT TO EXISTING SANITARY SEWER,
F&I 175 LF 6" PVC SDR 26 SANITARY SERVICE AT 1.00%.
(EXISTING 10" SANITARY SEWER ELEV. IS APPROX. 885.2')

F&I 12"x6" WET TAP,
6" GATE VALVE & BOX,
6" MJ DIP WATERMAIN 45° BEND,
230 LF 6" PVC C-900 WATERMAIN,
6" MJ DIP WATERMAIN PLUG.
MAINTAIN 8' DEPTH OVER NEW SERVICE PIPE
CONSIDERING FUTURE GRADES.
(EXISTING WATER MAIN IS APPROX. 889')

NOTE: MAINTAIN 10' HORIZONTAL SEPARATION BETWEEN ALL SEWERS AND WATER SERVICES.

WEST FREEWAY DRIVE (CSAH 54)

0 30 60 90
SCALE IN FEET

PLOT DATE: Dec 11, 2018 - 2:37pm
FILENAME: K:\s-RC\columbus\16615000\04_Production\01_CAD\02_Sheets\CSAH 54\WFreewayDriveUtilities.dwg

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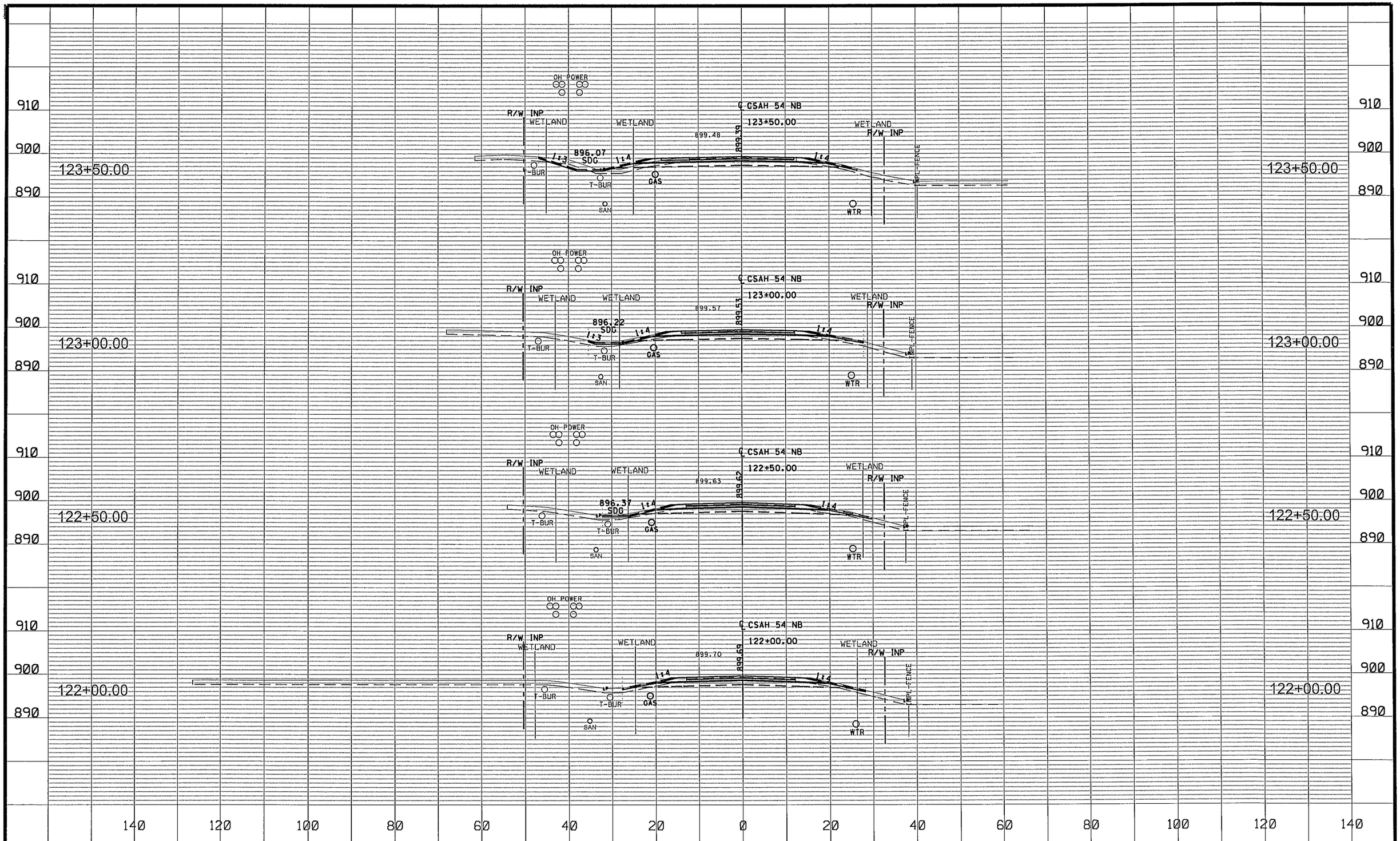
CSAH 54 (WEST FREEWAY DRIVE)
S.A.P. 002-654-003
COLUMBUS MINNESOTA

SANITARY SEWER & WATERMAIN IMPROVEMENTS

PROJ. NO. 16615.000
DRAWING NO. 82 OF 97



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_XS10.dgn 12/11/2018 3:47:54 PM

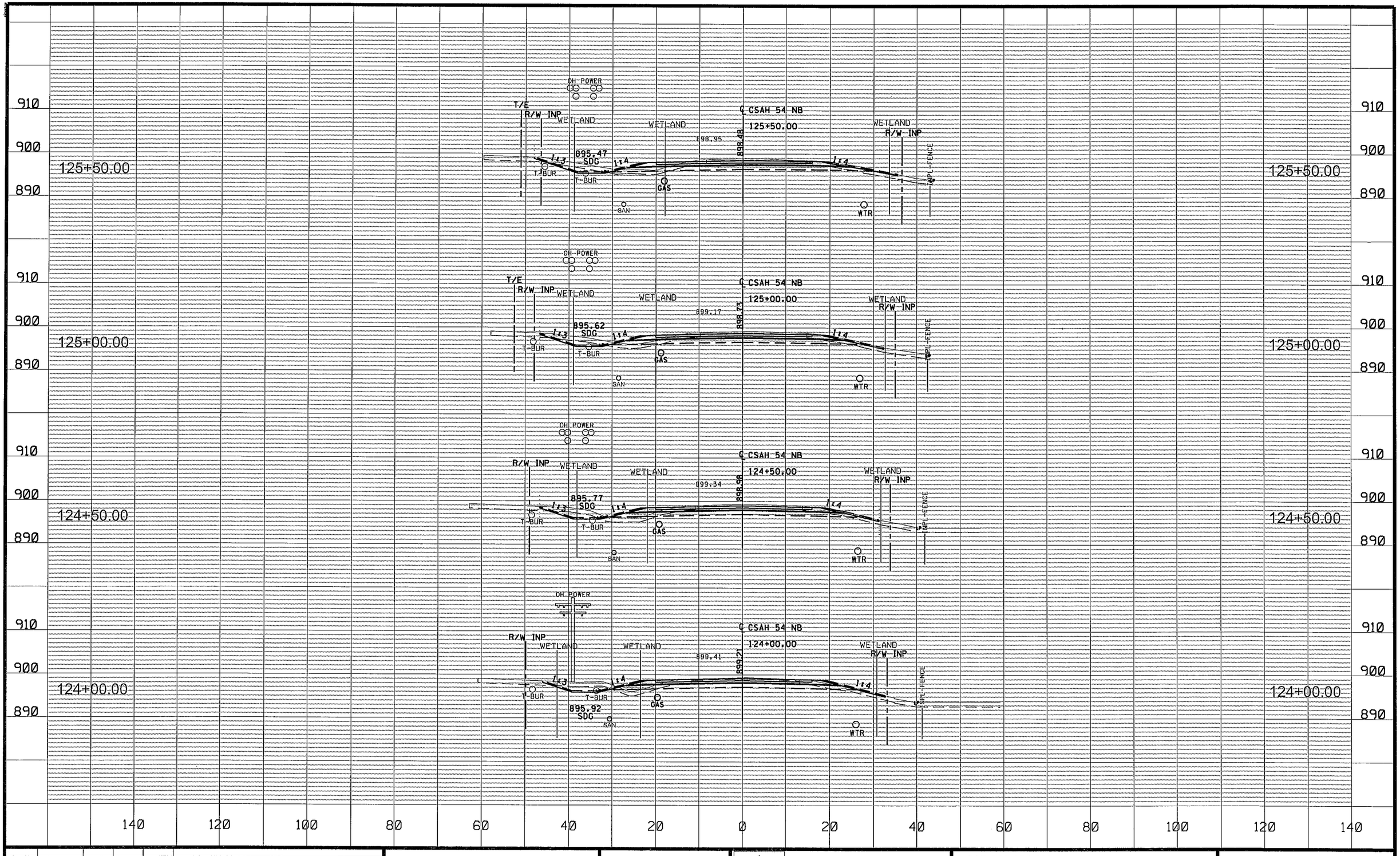
DRAWN BY MP DATE 08-31-18
DESIGN BY JRB DATE 09-01-17
CHECKED BY EJM DATE 09-27-18

ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

CROSS SECTIONS
STA 122+00.00 TO 123+50.00

Sheet 83 of 97 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-654-03\Plan\0265403_XS10.dgn 12/11/2018 3:47:54 PM

DRAWN BY MP DATE 08-31-18
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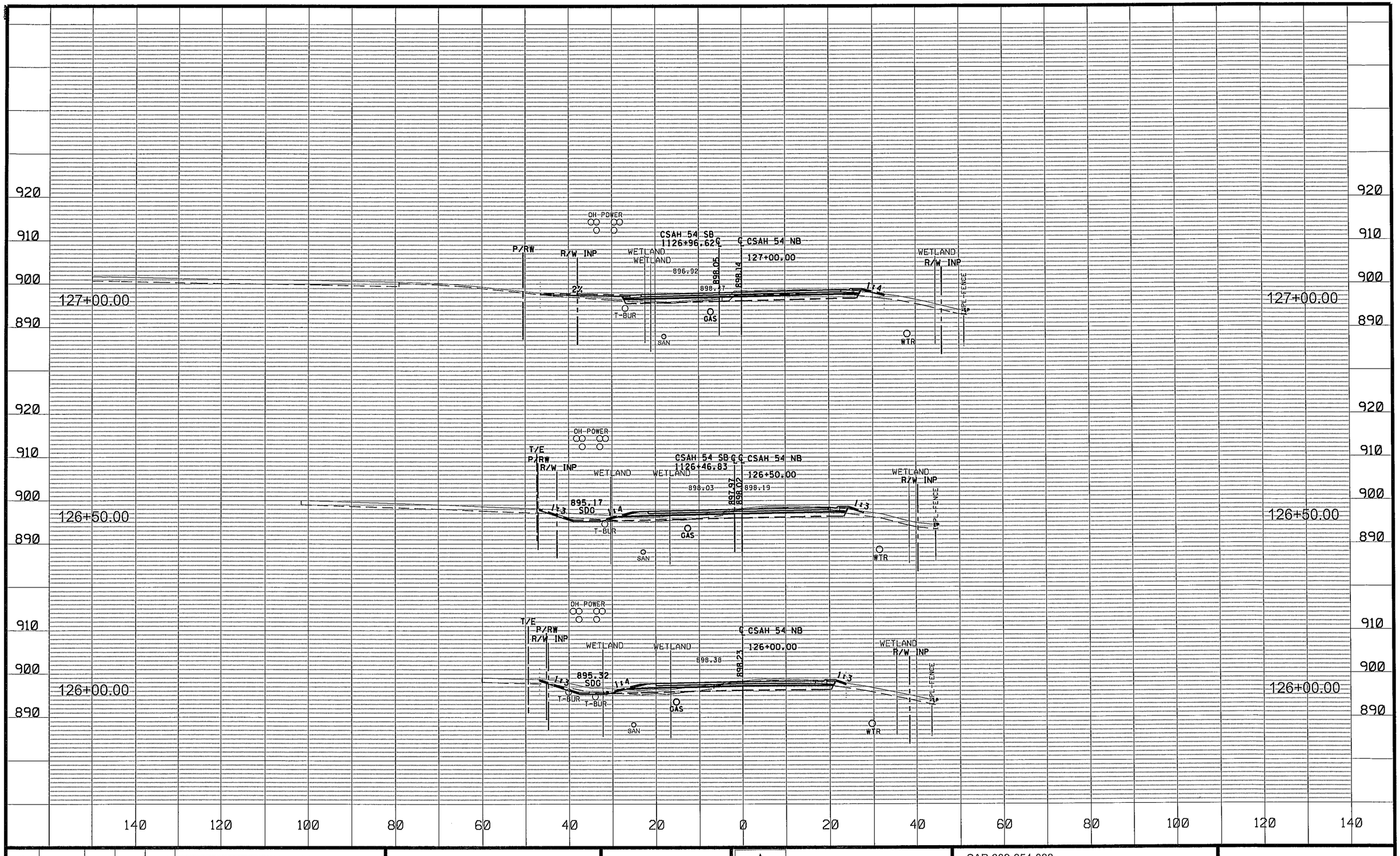
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

CROSS SECTIONS
STA 124+00.00 TO 125+50.00
Sheet 84 of 97 Sheets



NO	DATE	BY	CKD	APPR	REVISION

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

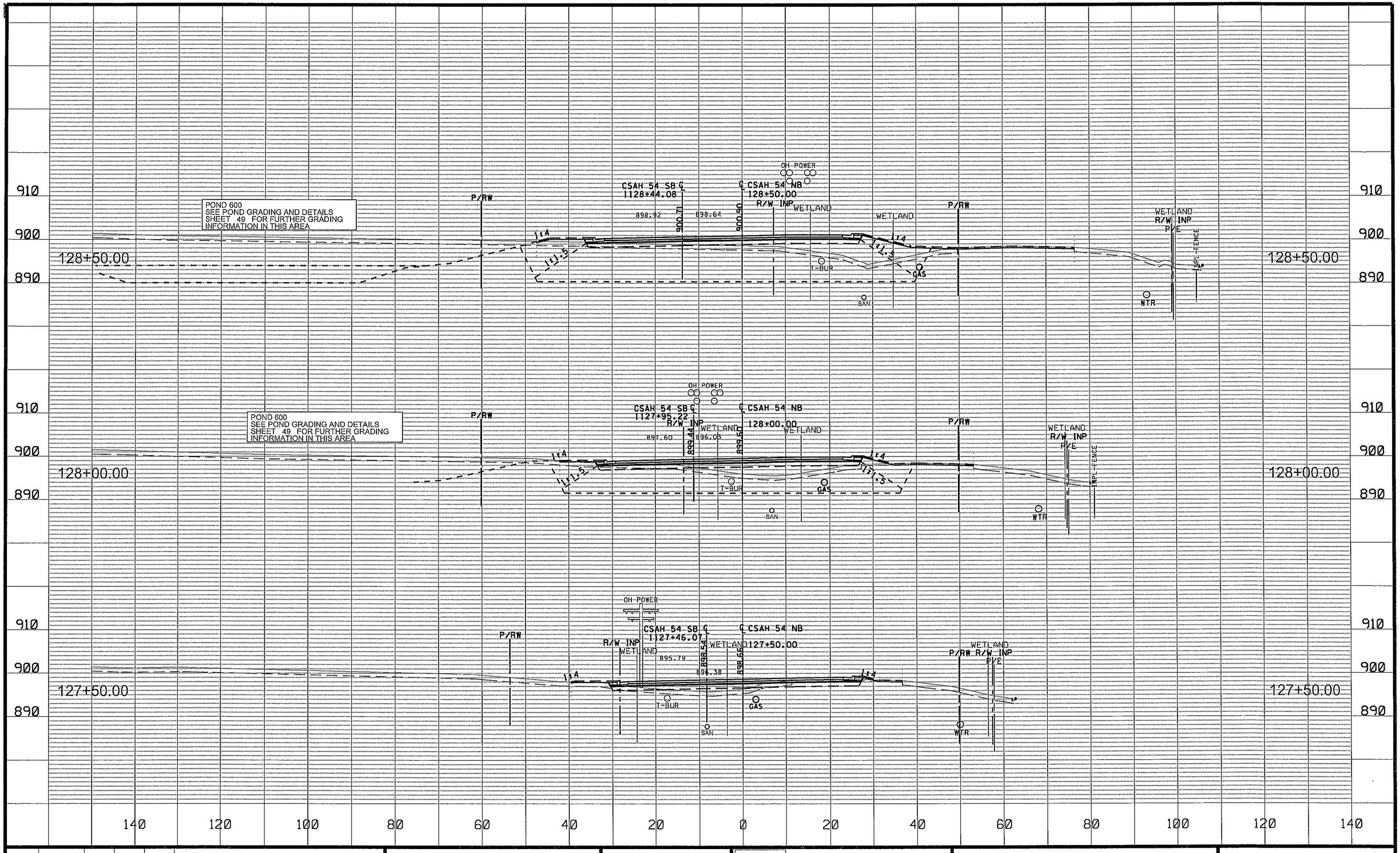
SAP 002-654-003

CP 2017-7

CROSS SECTIONS

STA 126+00.00 TO 127+00.00

Sheet 85 of 97 Sheets



NO	DATE	BY	CKD	APPR	REVISION

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DRAWN BY MP DATE 08-31-18
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ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-654-003
CP 2017-7

CROSS SECTIONS
STA 127+50.00 TO 128+50.00

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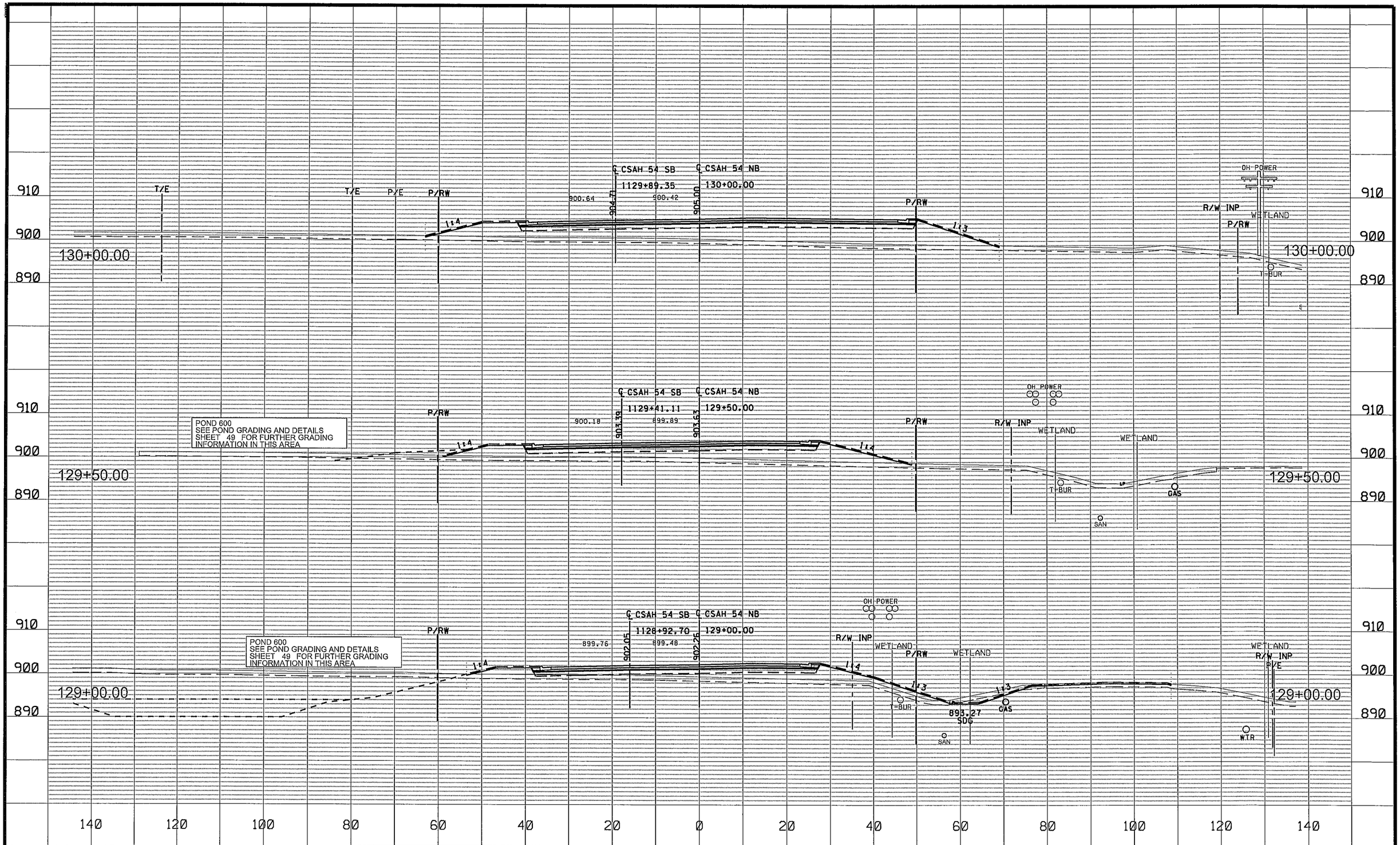

NO	DATE	BY	CKD	APPR	REVISION

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CP 2017-7

CROSS SECTIONS

STA 129+00.00 TO 130+00.00

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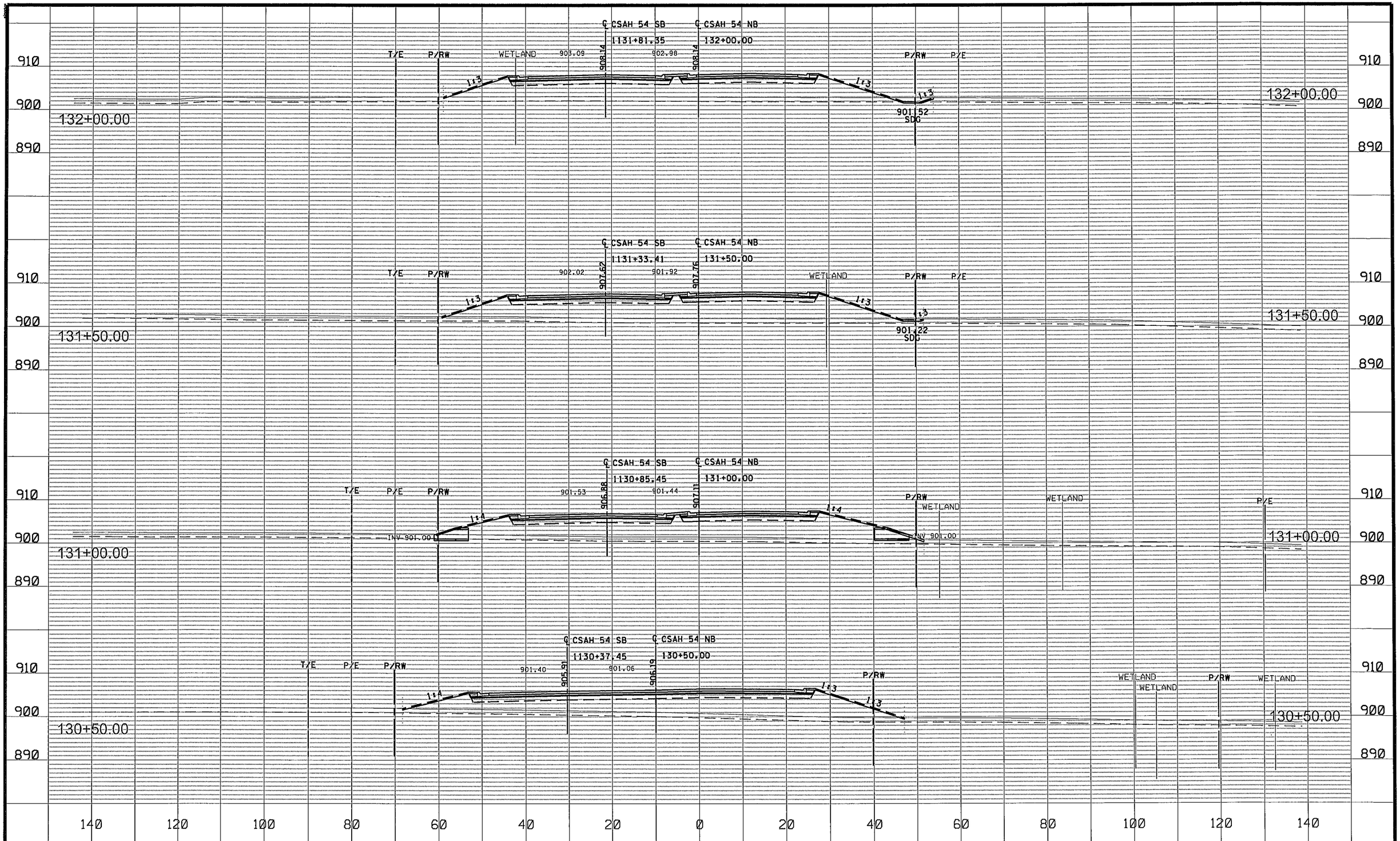

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DRAWN BY MP DATE 08-31-18
DESIGN BY JRB DATE 09-01-17
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CROSS SECTIONS
STA 130+50.00 TO 132+00.00

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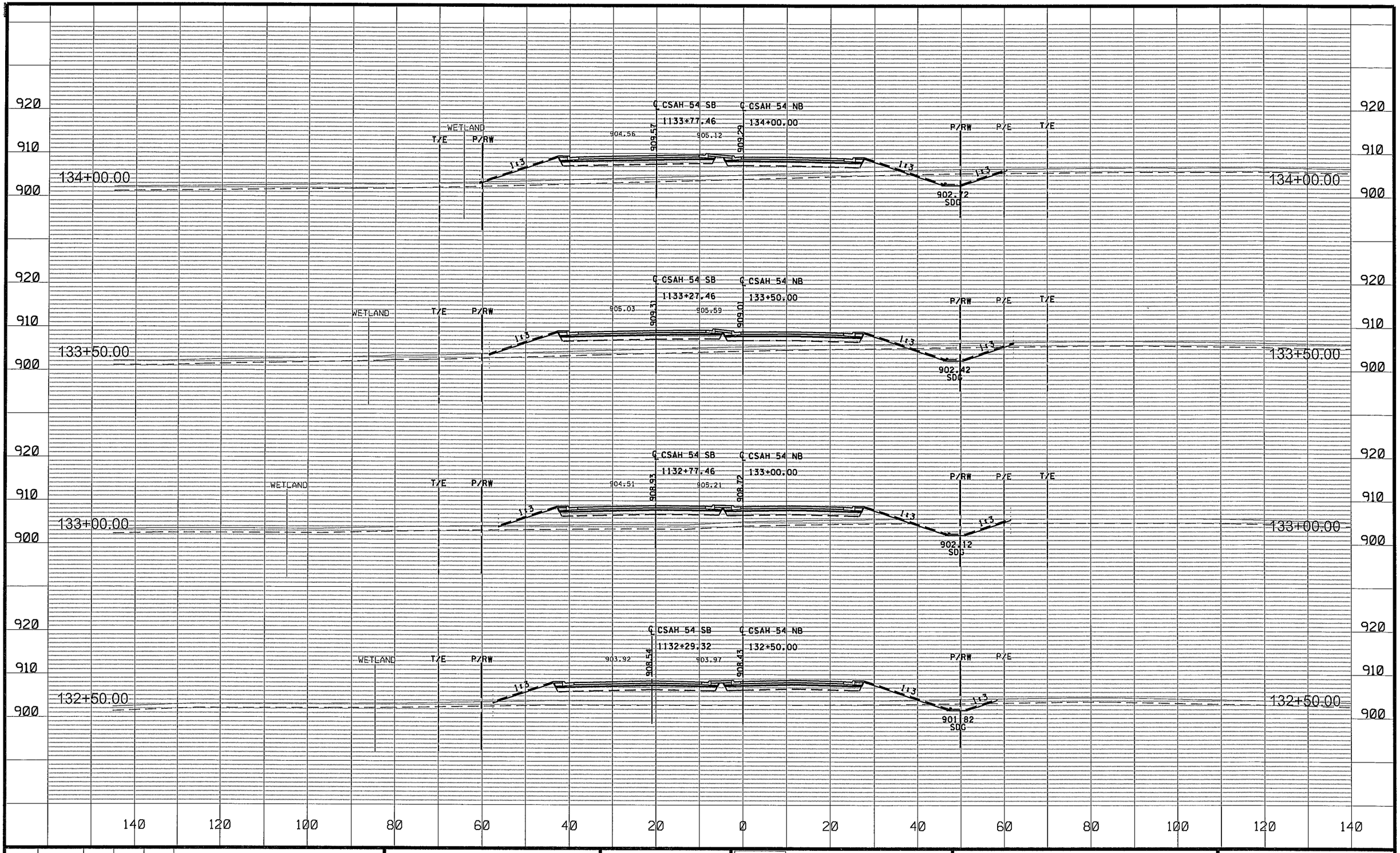

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CROSS SECTIONS
STA 132+50.00 TO 134+00.00

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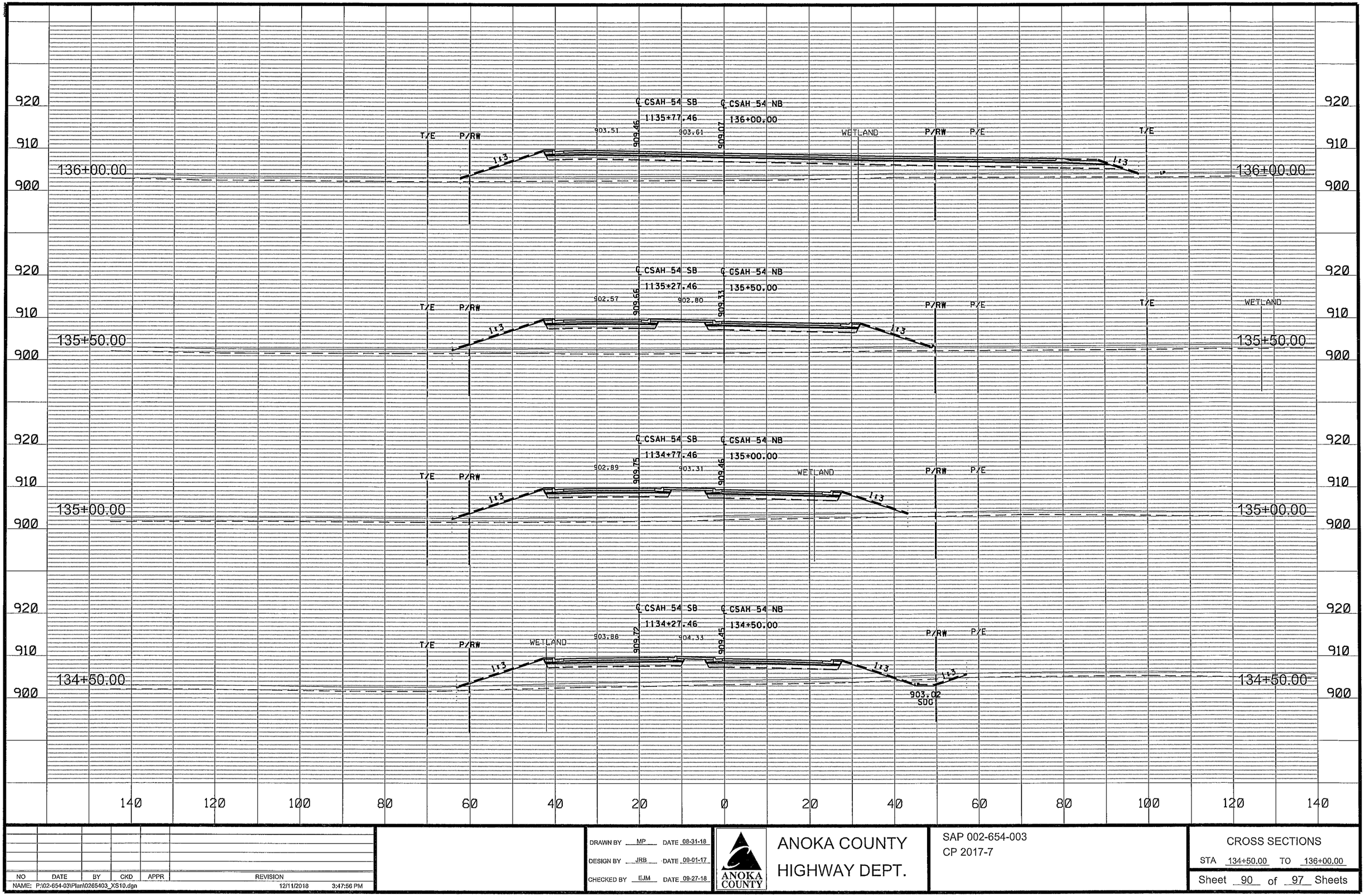

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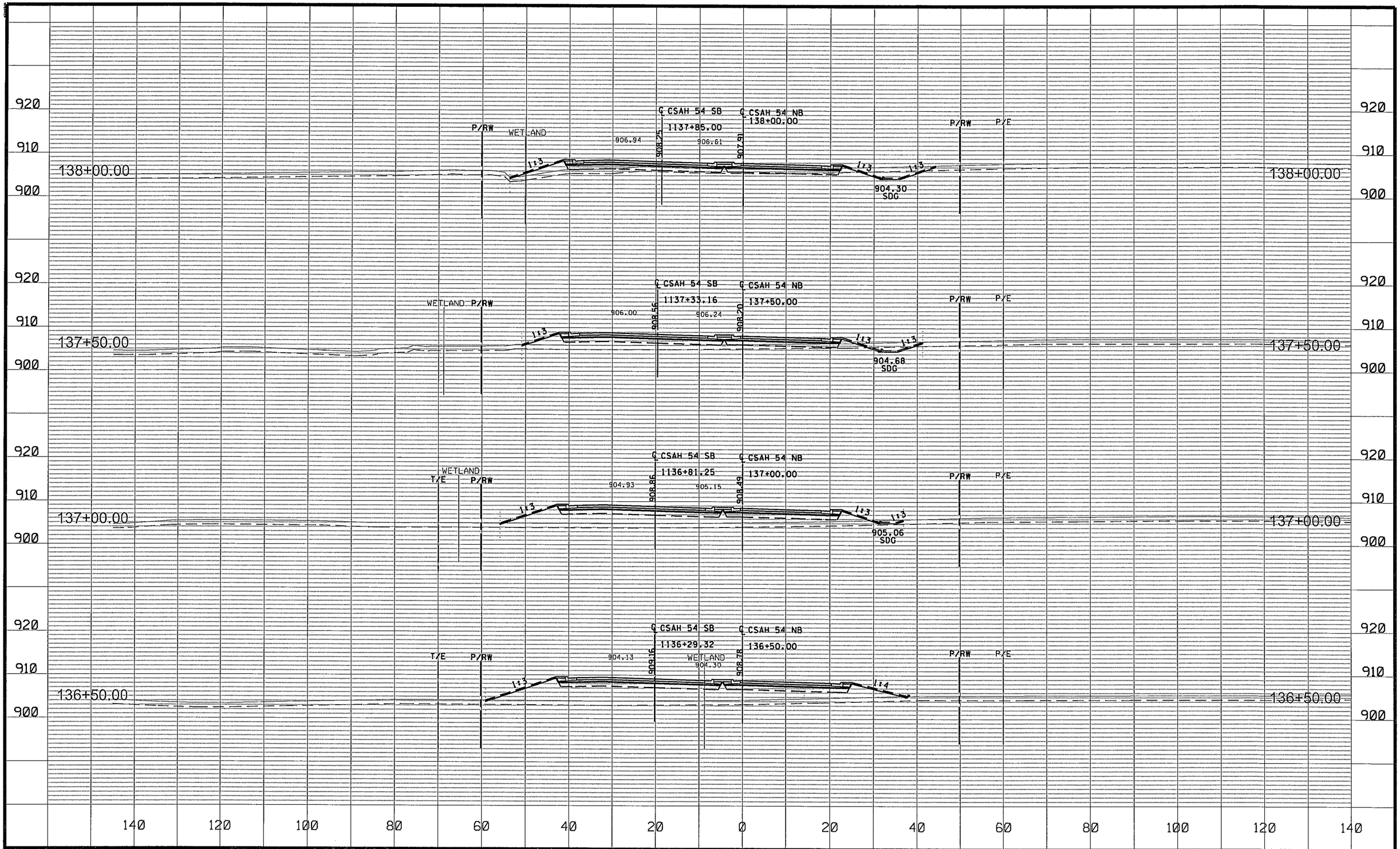
STA 134+50.00 TO 136+00.00



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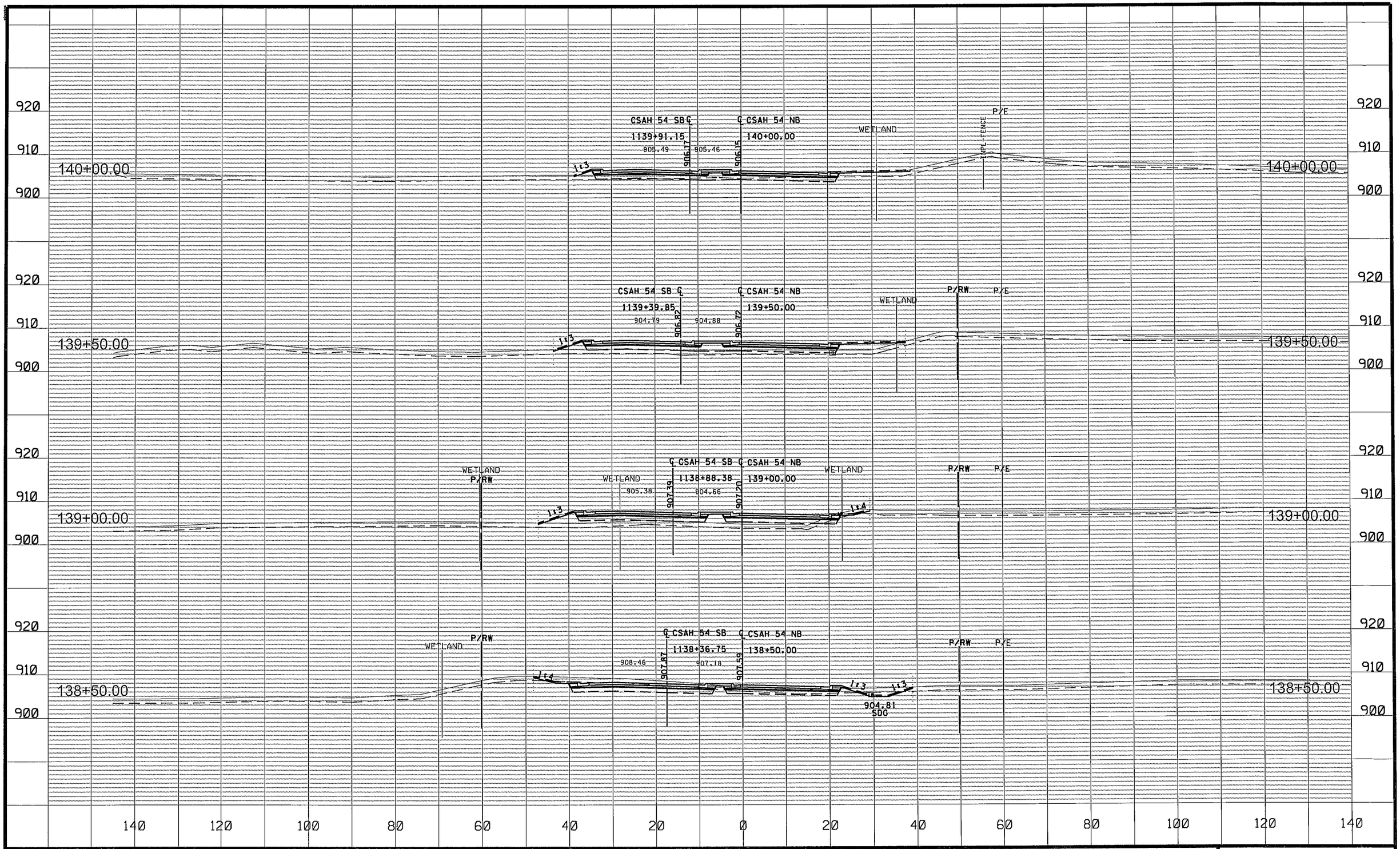

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CROSS SECTIONS
STA 138+50.00 TO 140+00.00

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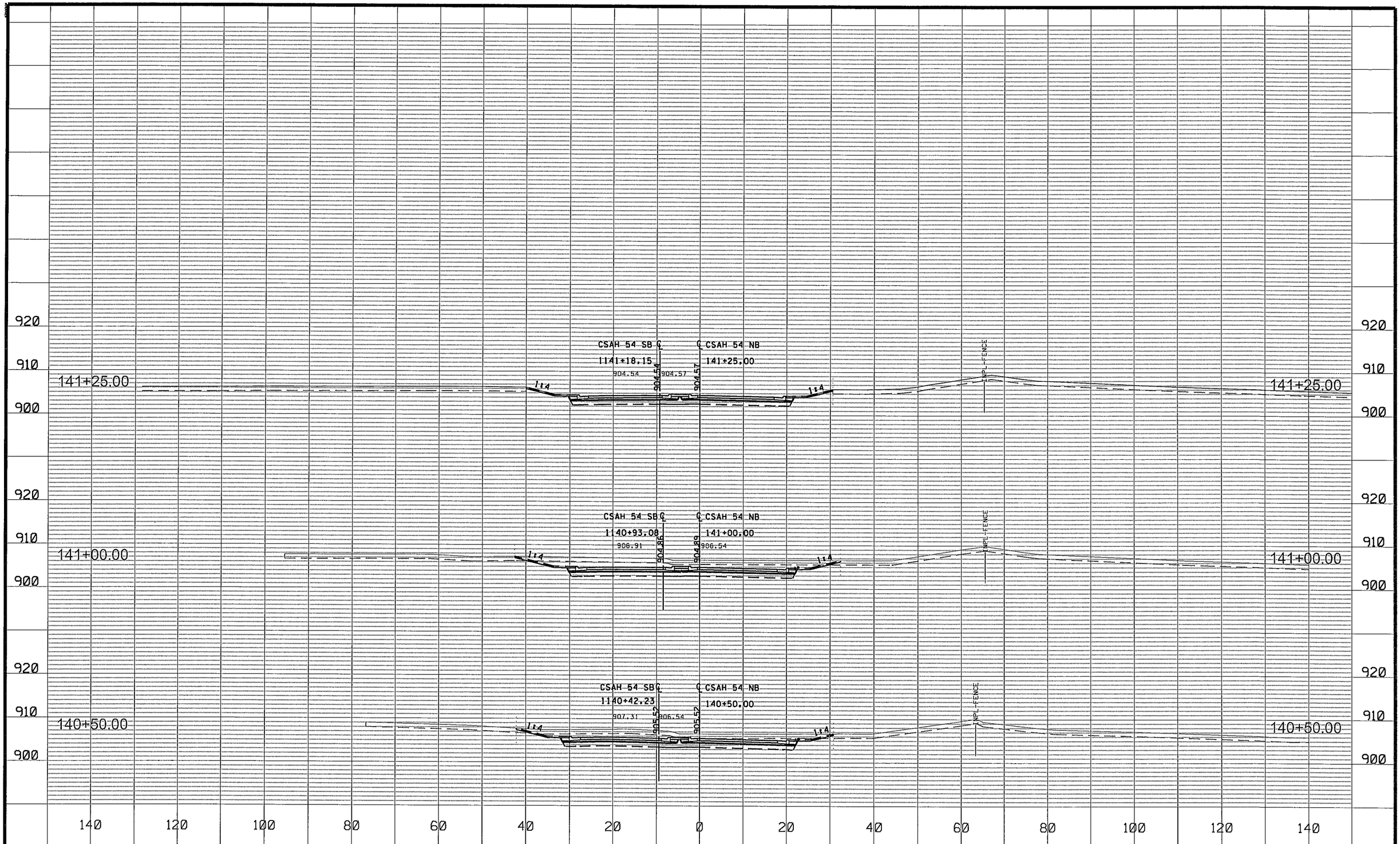

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STA 140+50.00 TO 141+25.00

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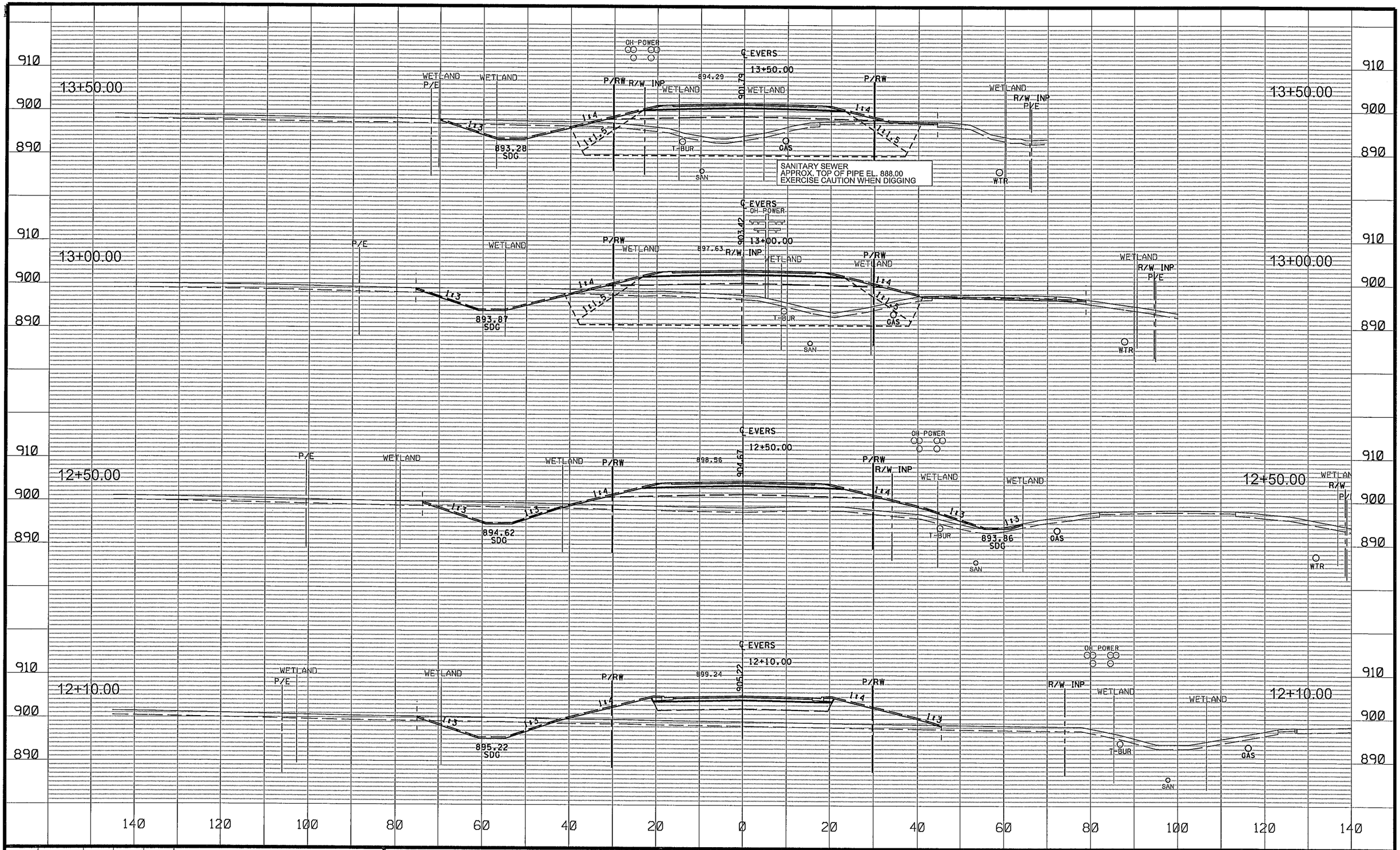

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STA 12+10.00 TO 13+50.00

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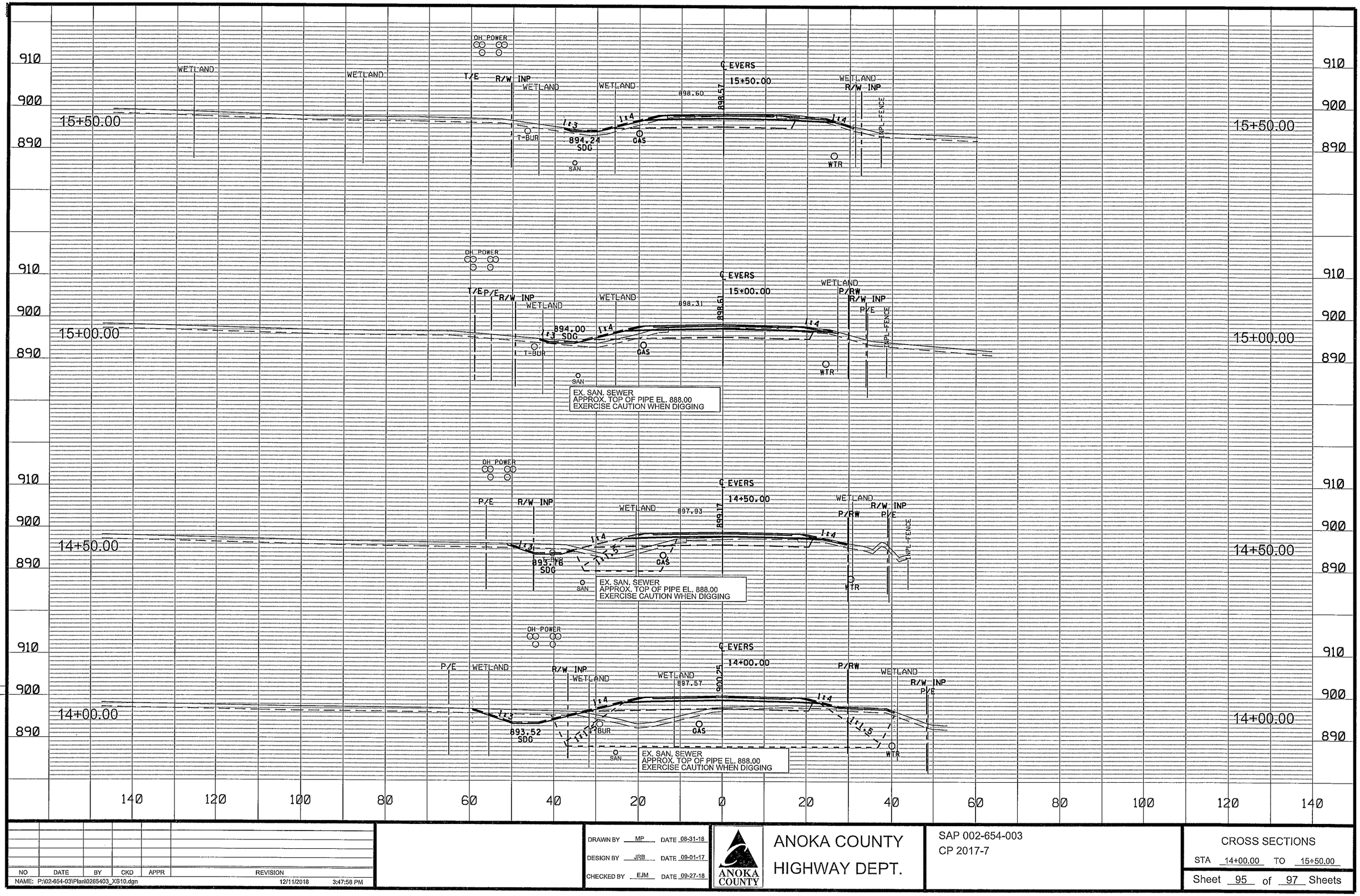

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CROSS SECTIONS

STA 14+00.00 TO 15+50.00

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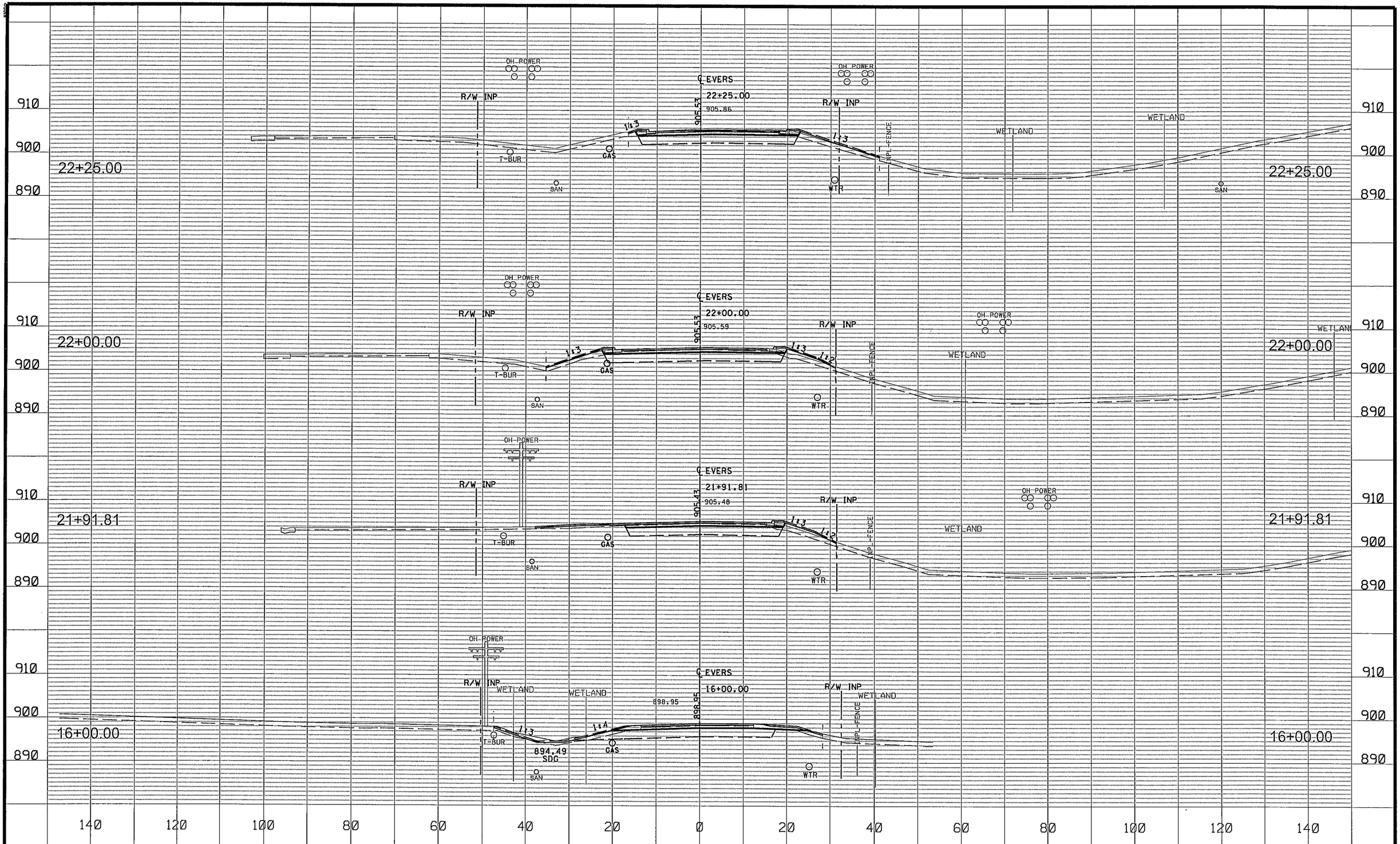

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STA 16+00.00 TO 22+25.00

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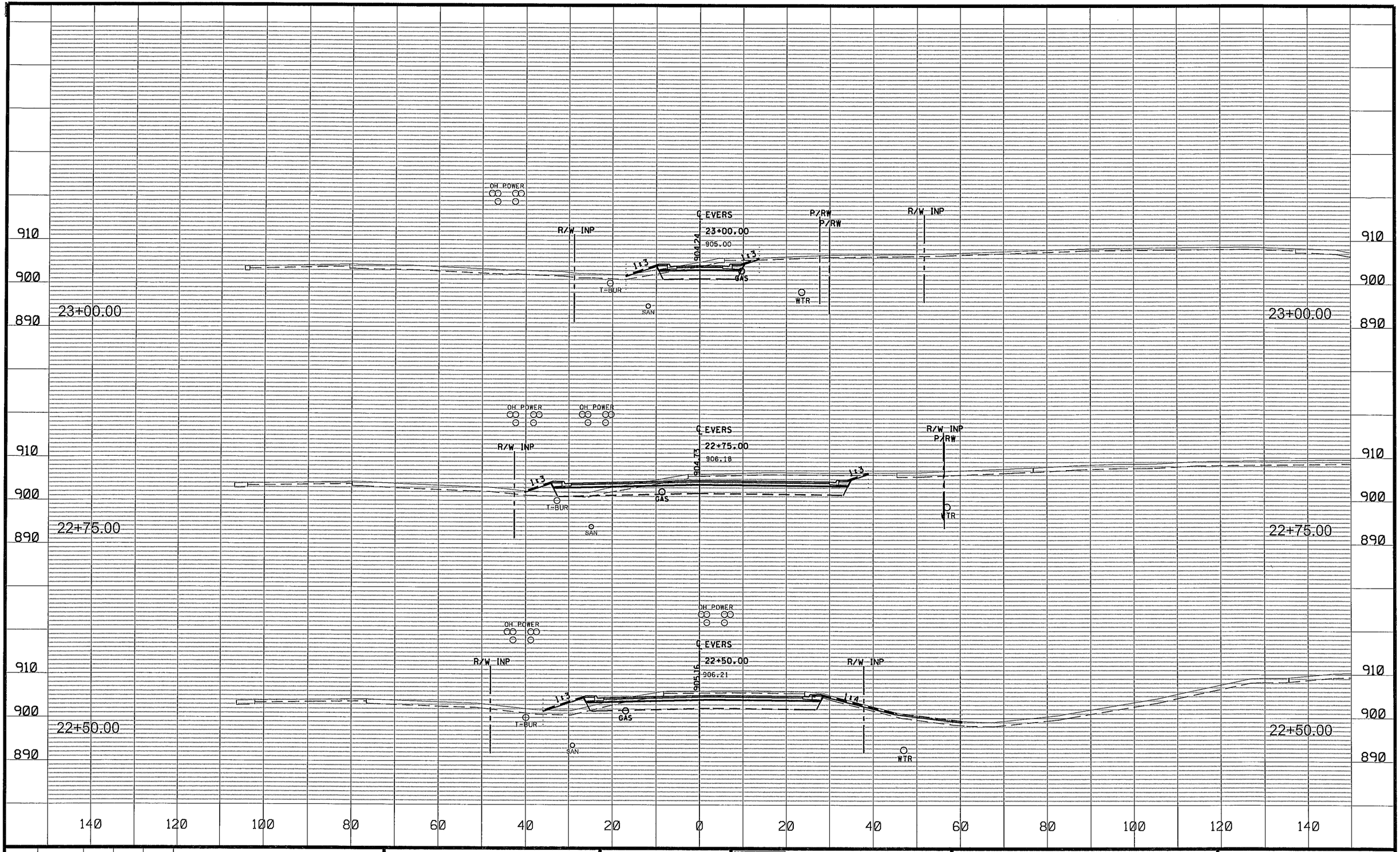

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STA 22+50.00 TO 23+00.00
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