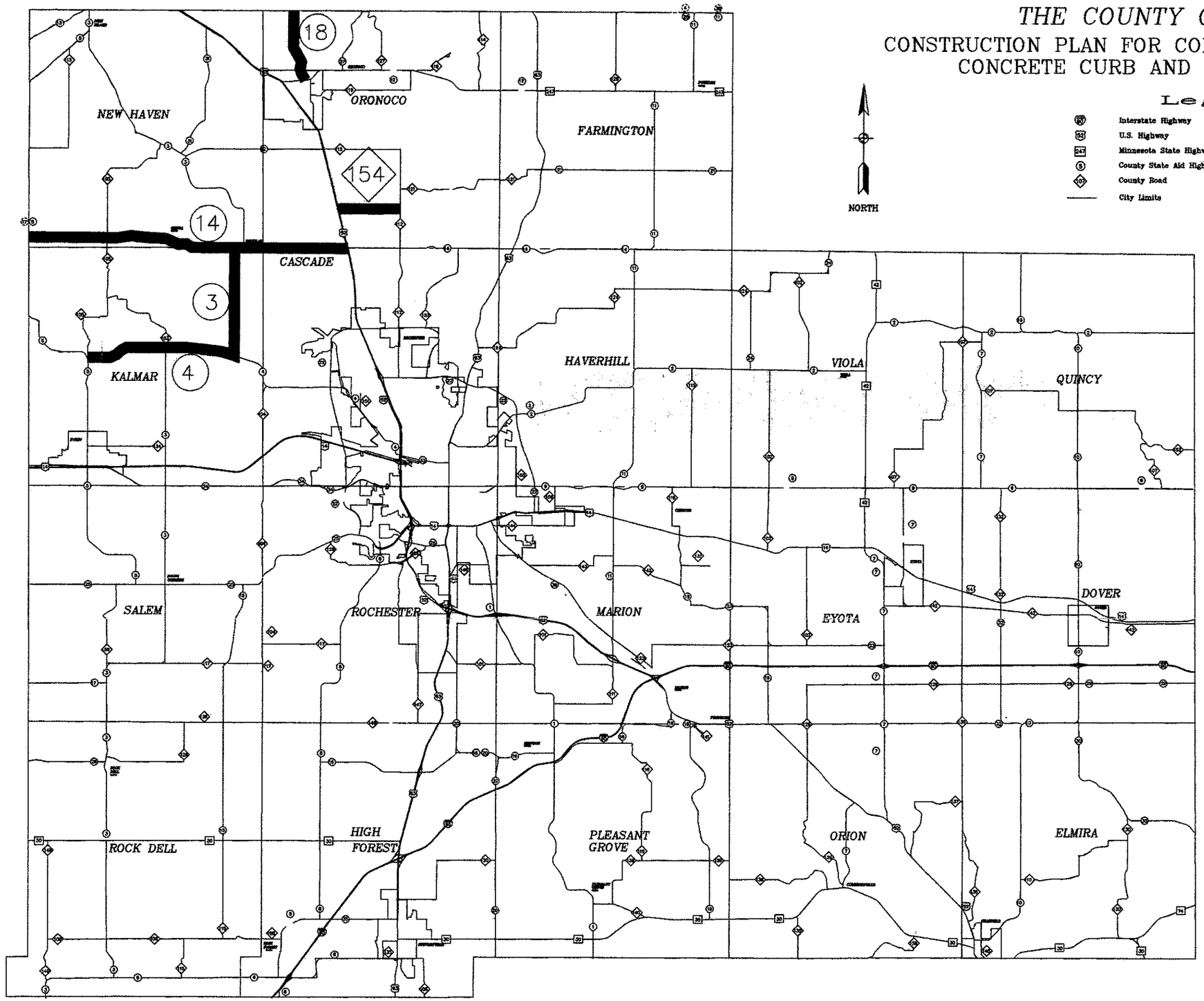
MINNESOTA DEPARTMENT OF TRANSPORTATION
THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR COLD RECYCLE, BITUMINOUS OVERLAY, CONCRETE CURB AND GUTTER, AND STORM SEWER.



Legend

- Interstate Highway
- U.S. Highway
- Minnesota State Highway
- County State Aid Highway
- County Road
- City Limits
- Overlay Projects

INDEX

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12–17	C.S.A.H. 14
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21–23	C.R. 154

THIS PLAN CONTAINS 23 SHEETS.

minnesota metric

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.

3/12/98	19917	Kaye M Bieniek
DATE	REG. NO.	DESIGN ENGINEER
3/13/98	10397	Michael Sheehan
DATE	REG. NO.	COUNTY ENGINEER

C98–01

STATEMENT OF ESTIMATED QUANTITIES

	ITEM NO.	ITEM	UNIT	QUANTITIES											
				CSAH 3		CSAH 4		CSAH 14		CSAH 18		CR 154		TOTAL
		ROAD LENGTH	km	4.3		6.2		13.0		3.0		2.5		29.0
	2104.501	REMOVE BITUMINOUS CURB	m	94				870						964
①	2104.503	REMOVE BITUMINOUS PAVEMENT	m2	113				1 044						1 157
	2104.503	REMOVE CONCRETE WALK	m2					9						9
②	2105.525	TOPSOIL BORROW (LV)	m3	22				170						192
③	2221.501	AGGREGATE SHOULDERING CLASS 2	t	2 185		3 775		4 170		1 445		2 600		14 175
④	2232.501	MILL BITUMINOUS SURFACE	m2					387						387
	0331.601	COLD RECYCLE INPLACE BITUMINOUS MIXTURE	m2	31 290		44 850		93 980		21 320		11 340		202 780
	0331.602	BITUMINOUS MATERIAL FOR MIXTURE	t	203		323		677		169		90		1 462
⑤	2350.609	TYPE MV4 WEARING COURSE MIXTURE	t	3 300		4 910		10 625		2 310				21 145
⑥	2350.609	TYPE MV4 NON WEARING COURSE MIXTURE	t	3 045		4 365		9 430		2 045				18 885
⑦	2350.609	TYPE HV4 WEARING COURSE MIXTURE	t									2 135		2 135
	2350.609	TYPE HV4 NON WEARING COURSE MIXTURE	t									1 090		1 090
	2350.609	TYPE MV4 MIXTURE PRODUCTION	t											3 000
	2355.502	BITUMINOUS MATERIAL FOR FOG SEAL	L	14 600		20 920		43 230		9 800		5 210		93 760
	2501.515	600 mm R.C. PIPE APRON	EACH					1						1
⑧	2503.511	450 mm R.C. PIPE SEWER CLASS II	m					12						12
	2503.511	600 mm R.C. PIPE SEWER CLASS II	m					17						17
	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN G	EACH					2						2
⑨	2531.501	CONCRETE CURB AND GUTTER, DESIGN B624	m	94				1 006						1 100
	2531.507	100 mm CONCRETE DRIVEWAY PVMT	m2					9						9
	0563.601	TRAFFIC CONTROL	LUMP SUM	15%		20%		45%		11%		9%		100%
	0564.603	100 mm SOLID LINE WHITE-EPOXY	m	8 692		12 458		25 266		5 922		5 082		57 420
	0564.603	100 mm BROKEN LINE YELLOW-EPOXY	m	842		1 037		1 917		158		443		4 397
	0564.603	100 mm SOLID LINE YELLOW-EPOXY	m	2 882		2 160		5 564		527		1 551		12 684
	0564.603	100 mm DOUBLE SOLID LINE YELLOW-EPOXY	m	152		1 042		3 528		2 185		314		7 221
②	2575.505	SODDING TYPE LAWN	m2	94				870						964
	2580.501	TEMPORARY LANE MARKING	m	1 043		1 495		3 145		710		455		6 848

CONSTRUCTION NOTES:

① REQUIRES SAW CUT FULL DEPTH (APPROX. 75mm) 1.2 m FROM GUTTER LINE STA. 8+461 TO STA. 8+984 LT. AND STA. 8+500 TO STA. 8+984 RT. (C.S.A.H. 14), AND STA. 34+032 TO STA. 34+126 RT (C.S.A.H. 3). ALL COSTS TO SAW BITUMINOUS PAVEMENT SHALL BE INCLUDED IN UNIT BID PRICE AND NO DIRECT COMPENSATION WILL BE MADE THEREFORE.

② TO BE PLACED OUT TO 1.2 m FROM BACK OF CURB FROM STA. 8+461 TO STA. 8+984 LT. AND STA. 8+500 TO STA. 8+984 RT. (C.S.A.H. 14) AND STA. 34+032 TO STA. 34+126 RT. (C.S.A.H. 3).

③ INCLUDES 2455 t FOR 116 RESIDENTIAL/COMMERCIAL ENTRANCES, 129 FIELD ENTRANCES, 33 ROAD APPROACHES, AND BASE FOR CONCRETE CURB AND GUTTER.

④ STA. 8+652 TO STA. 8+686 IN DOUGLAS. DEPTH VARIES FROM 10 mm TO 80 mm.

⑤ INCLUDES 2630 t FOR 109 RESIDENTIAL/COMMERCIAL ENTRANCES, 116 FIELD ENTRANCES, 33 ROAD APPROACHES, BIT. SHOULDERS IN DOUGLAS, AND 12 LOW SIDE OF CURVES.

⑥ INCLUDES 371 t FOR BITUMINOUS SHOULDERS AND EXTRA LEVELING FROM STA. 8+590 TO STA. 8+652 AND STA. 8+686 TO STA. 8+725 ON C.S.A.H. 14 IN DOUGLAS.

⑦ INCLUDES 210 t FOR 7 RESIDENTIAL/COMMERCIAL ENTRANCES AND 13 FIELD ENTRANCES.

⑧ REQUIRES APPROX. 4.27 m3 OF CLASS B GRANULAR BEDDING WHICH WILL BE CONSIDERED INCIDENTAL AND NO DIRECT COMPENSATION WILL BE MADE THEREFORE.

⑨ B624 CONCRETE CURB AND GUTTER TO BE PLACED FROM STA. 8+461 TO STA. 8+984 LT AND FROM STA. 8+500 TO STA. 8+984 RT. (C.S.A.H. 14) AND STA. 34+032 TO STA. 34+126 RT. (C.S.A.H. 3).

STANDARD PLATES	
THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.	
PLATE NO.	DESCRIPTION
M4006L	MANHOLE OR CATCH BASIN (PRECAST)
M4129G	CATCH BASIN FRAME CASTING
M4151B	GRATE CASTING FOR CATCH BASIN
M4160D	CURB BOX CASTING FOR CATCH BASIN

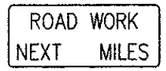
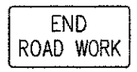
BASIS OF PLANNED QUANTITIES

BITUMINOUS MATERIAL FOR MIXTURE – 3% OF MIXTURE BY WEIGHT
AGGREGATE SHOULDERING CLASS 2 – 2160 kg/m3
2350 BITUMINOUS MIXTURE – 60 kg/m2/25mm
BITUMINOUS MATERIAL FOR FOG SEAL – 0.46 L/m2
BITUMINOUS MATERIAL FOR TACK COAT – 0.23 L/m2

minnesota metric

ESTIMATED QUANTITIES

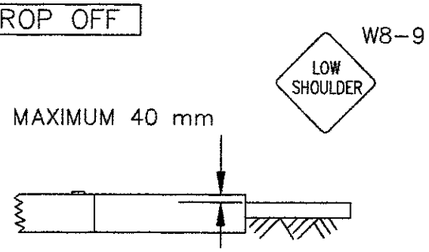
ESTIMATE OF TRAFFIC CONTROL DEVICES

DEVICE	NUMBER	SIZE (INCHES)	COLOR	QUANTITY	DEVICE	NUMBER	SIZE (INCHES)	COLOR	QUANTITY
	R4-1	24 x 30	BLK/WH	56		W20-1	48 x 48	BLK/OR	47
	R4-2	24 X 30	BLK/WH	50		W21-X1	48 x 48	BLK/OR	SEE NOTE #5
	W8-9	48 x 48	BLK/OR	SEE NOTE #5		G20-1	60 x 24	BLK/OR	8
	W8-11	48 x 48	BLK/OR	SEE NOTE #5		G20-2A	48 x 24	BLK/OR	21
	W8-12	48 x 48	BLK/OR	14		REBOUNDABLE PLASTIC DRUM	APPROX. 36"	OR & WH	SEE NOTE #5
					Ⓕ	TYPE A	FLASHING LAMP	AMBER	45 SEE NOTE #6

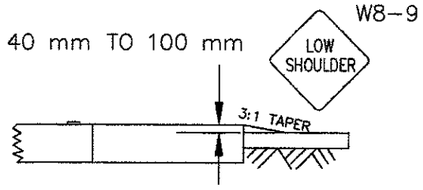
TRAFFIC CONTROL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL FOR THIS PROJECT.
2. THE LOCATION OF SIGNS AND DEVICES WILL BE STAKED BY THE ENGINEER IN THE FIELD.
3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL DATED APRIL 1995.
4. CONSTRUCTION ZONE SIGNING SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL INCLUDE, BUT NOT BE LIMITED TO SIGNS FOR LANE CLOSURES, MACHINERY AHEAD, BUMP, DIP, LOOSE GRAVEL, ETC. THE NUMBER AND LOCATION WILL BE DETERMINED BY THE CONTRACTORS OPERATION.
5. THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL DEVICES FOR EDGE DROP OFFS AT THE END OF EACH WORK SHIFT AS THE SITUATIONS EXIST AS SHOWN ON SHEET 4. (THESE ITEMS ARE NOT INCLUDED IN THE ESTIMATE OF TRAFFIC CONTROL DEVICES)
6. ALL ROAD WORK AHEAD SIGNS REQUIRE A TYPE A FLASHING LAMP.

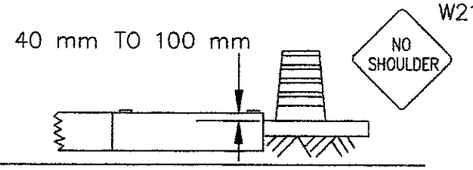
EDGE DROP OFF



EDGE DROP-OFF WITH TAPER

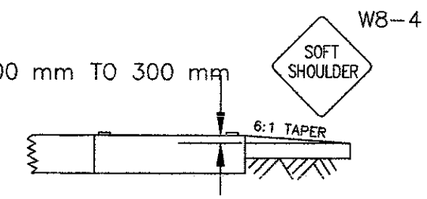


SHOULDER SHALL BE CLOSED WITH APPROPRIATE WARNING SIGNS AND CHANNELIZING DEVICES AT A MAXIMUM OF 45 m SPACING.



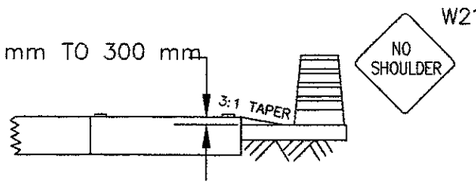
EDGE DROP-OFF WITH TAPER (SHOULDER - OPEN)

THIS CONDITION WILL NOT BE PERMITTED UNLESS THE 6:1 SLOPE IS COMPACTED SO THAT A VEHICLE MAY SAFELY DRIVE ONTO IT WITHOUT LOSING CONTROL AND IN THE OPINION OF THE ENGINEER THERE ARE NO OTHER HAZARDOUS CONDITIONS.

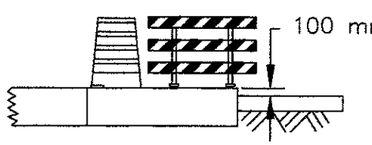


EDGE DROP-OFF WITH TAPER (SHOULDER - CLOSED)

SHOULDER SHALL BE CLOSED WITH APPROPRIATE WARNING SIGNS AND CHANNELIZING DEVICES AT A MAXIMUM OF 45 m SPACING.

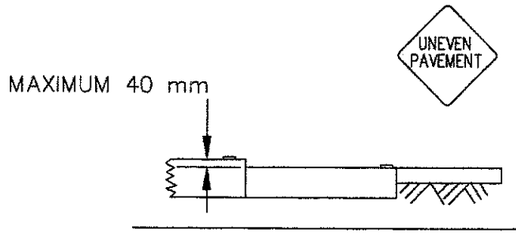


ADJACENT LANE SHALL BE CLOSED WITH APPROPRIATE LANE CLOSURE LAYOUT SHOWN IN APPENDIX B. CHANNELIZING DEVICES TO BE AT A MAXIMUM OF 45 m SPACING AND TYPE III BARRICADES EVERY 300 m

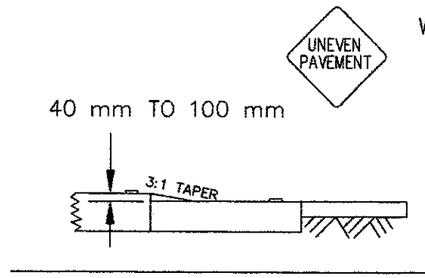


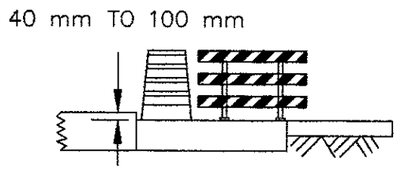
NOTE: SIGNS ARE REQUIRED ONLY ON THE SIDE OF THE ROAD THAT IS AFFECTED BY CONSTRUCTION (EXCEPT SIGNS THAT ARE FOR A LANE CLOSURE ON DIVIDED HIGHWAYS).

UNEVEN LANES



UNEVEN LANES - WITH TAPER

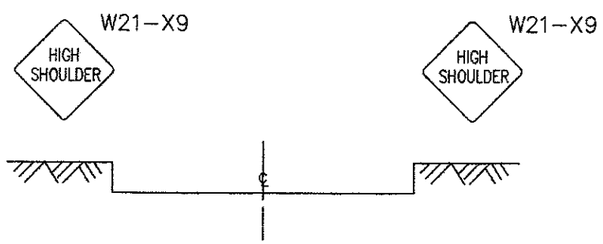




LANE SHALL BE CLOSED WITH APPROPRIATE LANE CLOSURE FROM APPENDIX B. CHANNELIZING DEVICES AT A MAXIMUM OF 45 m SPACING AND A TYPE III BARRICADE EVERY 300 m

NOTE: FOR DIVIDED HIGHWAYS, USE SIGNS ON RIGHT AND LEFT SIDE. SIGN SEQUENCE SHOWN FOR ONE DIRECTION ONLY; OTHER DIRECTION SHALL BE IDENTICAL.

MILLED EDGE



NOTE: MILLED EDGES SHOULD BE TREATED WITH TAPERS, CHANNELIZERS, AND SIGNING AS SHOWN ON EDGE DROP-OFF DETAILS.

GUIDELINES

THESE GUIDELINES ARE INTENDED TO INCREASE TRAFFIC SAFETY USING TRAFFIC CONTROL DEVICES, SAFETY RELATED APPURTENANCES, AND CONSTRUCTION TECHNIQUES FOR UNEVEN LANES. MILLED EDGES, AND EDGE DROP-OFFS THAT OCCUR IN HIGHWAY WORK ZONES. THE BEST WAY TO INCREASE TRAFFIC SAFETY IS TO MAKE EVERY ATTEMPT TO MINIMIZE EXPOSURE TO UNEVEN LANES, MILLED EDGES, AND EDGE DROP-OFFS; HOWEVER, IT IS REALIZED THAT THIS IS OFTEN NOT POSSIBLE OR FEASIBLE, ONLY WHEN UNEVEN LANES. MILLED EDGES, OR EDGE DROP-OFFS ARE DEEMED NECESSARY, SHALL THE APPROPRIATE PORTION(S) OF THESE GUIDELINES BE APPLIED TO ENHANCE TRAFFIC SAFETY.

APPROPRIATE UNEVEN LANE WARNING SIGNS OR SHOULDER WARNING SIGNS SHALL BE REPEATED AFTER EACH INTERSECTION.

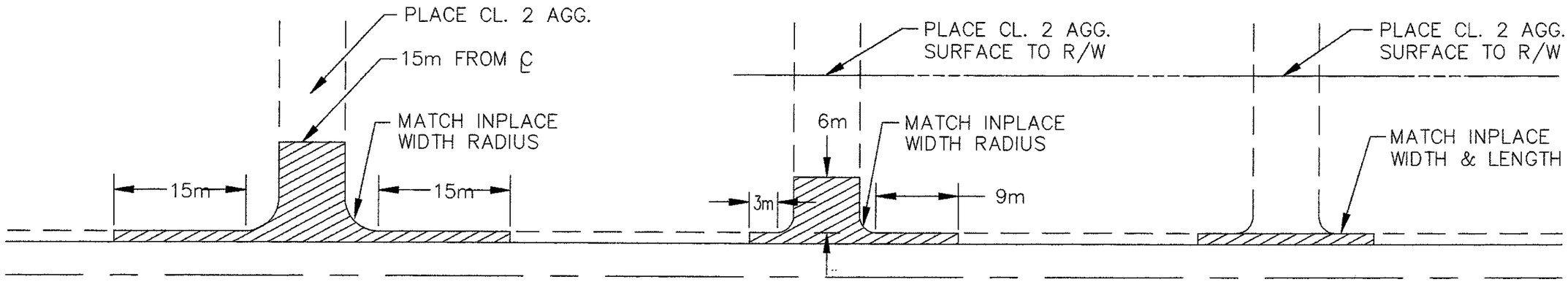
MAXIMUM WARNING SIGN SHALL BE:
- A - 1.6 km WHEN THE SPEED LIMIT IS GREATER THAN 50 km/h AND
- B - 400 m WHEN THE SPEED LIMIT IS 50 km/h OR LESS.

WHEN SPACE PERMITS, MINIMUM WARNING SIGN SIZE SHALL BE:
- A - 1200 mm x 1200 mm WHEN THE SPEED LIMIT IS GREATER THAN 50 km/h AND
- B - 900 mm x 900 mm WHEN THE SPEED LIMIT IS 50 km/h OR LESS.

1. FOR DROP-OFFS OF 40 mm OR LESS, APPROPRIATE WARNING SHALL BE PROVIDED.
2. FOR DROP-OFFS GREATER THAN 40 mm UP TO 100 mm:
   - A - THE EDGE SHALL BE TAPERED AND COMPACTED AT A RATE OF 3:1 AND APPROPRIATE WARNING SIGNS SHALL BE PROVIDED; OR
   - B - IF THE TAPER IS NOT PROVIDED, TRAFFIC SHALL NOT BE PERMITTED TO CROSS THE DROP-OFF AND THAT PORTION OF THE ROADWAY SHALL BE CLOSED TO TRAFFIC WITH THE APPROPRIATE WARNING SIGNS AND DEVICES.
3. FOR DROP-OFFS GREATER THAN 100 mm UP TO 300 mm:
   - A - THE EDGE SHALL BE TAPERED AND COMPACTED AT A RATE OF 6:1 AND APPROPRIATE WARNING SIGNS SHALL BE PROVIDED, (6:1 TAPER SHALL NOT BE USED AS A TRAFFIC CARRYING LANE);
   - B - THE EDGE SHALL BE TAPERED AND COMPACTED AT A RATE OF 3:1, TRAFFIC SHALL NOT BE ALLOWED TO CROSS THE DROP-OFF, AND THAT PORTION OF THE ROADWAY SHALL BE CLOSED TO TRAFFIC WITH APPROPRIATE WARNING SIGNS AND CHANNELIZING DEVICES; OR
   - C - IF A TAPER IS NOT PROVIDED, THE TRAFFIC OR AUXILIARY LANE ADJACENT TO THE DROP-OFF SHALL BE CLOSED TO TRAFFIC WITH THE APPROPRIATE WARNING SIGNS AND CHANNELIZING DEVICES OR A POSITIVE BARRIER, SUCH AS A PORTABLE PRECAST CONCRETE BARRIER, SHALL BE PROVIDED TO PREVENT TRAFFIC FROM CROSSING THE DROP-OFF.
4. FOR SHOULDER EDGE DROP-OFFS:
   - A - 0 - 600 mm SHOULDER WIDTH AND A 0 - 300 mm DROP-OFF; USE GUIDELINES AS SHOWN.
   - B - 600 mm - 2.4 m SHOULDER WIDTH AND A 0 - 100 mm DROP-OFF; INSTALL EDGE LINE OR USE GUIDELINES AS SHOWN.
   - C - 2.4 m OR GREATER SHOULDER WIDTH AND A 0 - 100 mm DROP-OFF; NO TRAFFIC CONTROL REQUIRED.
   - D - GREATER THAN 600 mm SHOULDER WIDTH AND A 100 - 300 mm DROP-OFF; USE GUIDELINES AS SHOWN.
5. DROP-OFFS GREATER THAN 100 mm ADJACENT TO TRAFFIC CARRYING LANES ARE PERMITTED WITHOUT TAPERS OR POSITIVE BARRIERS FOR:
   - A - PROJECTS WITHIN URBAN AREA WHEN THE SPEED LIMIT IS 50 km/h OR LESS; OR
   - B - SHORT TERM (7 CALENDAR DAYS OR LESS) CONCRETE OR UTILITY REPAIR LESS THAN 15 m IN LENGTH WHEN THE SPEED LIMIT IS GREATER THAN 50 km/h
6. AT NO TIME SHALL THERE BE MORE THAN ONE UNEVEN LANE CONDITION BETWEEN THE TRAFFIC CARRYING LANES WHICH INCLUDE AUXILIARY LANES, TURN LANES, AND RAMP ACCESS OR EGRESS AREA. WEATHER PERMITTING, ALL EXPOSED UNEVEN LANE CONDITIONS WITHIN THE TRAFFIC CARRYING LANES SHALL BE "MATCHED" WITHIN 24 HOURS.
7. MILLING OPERATIONS SHALL BE REQUIRED TO COMPLETE THE FULL WIDTH OF THE SECTION UNDER CONSTRUCTION AT THE END OF EACH WORK PERIOD.

REFERENCE 3/12/92

TRAFFIC CONTROL TREATMENT OF LONGITUDINAL JOINTS AND EDGE DROP-OFFS IN WORK ZONES



PLACE 50mm THICK WEARING COURSE

	ROAD APPROACHES	FARM OR RESIDENTIAL ENTRANCES	FIELD ENTRANCES
C.S.A.H. 3	5	11	20
C.S.A.H. 4	7	29	33
C.S.A.H. 14	17	① 63	54
C.S.A.H. 18	4	6	9
C.R. 154	0	7	13

① 15 ENTRANCES IN DOUGLAS.

minnesota metric

DETAILS

C98–01 SHEET 5 OF 23 SHEETS

MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR COLD RECYCLE AND BITUMINOUS OVERLAY

LOCATED ON C.S.A.H. 3 BETWEEN C.S.A.H. 4 AND C.S.A.H. 14 (GEOGRAPHIC DESCRIPTION)

FROM 494.26m N. & 427.02m W. OF S. 1/4 COR. SEC. 13, T107, R15 TO 8.69m E. OF N.E. COR. N.W. 1/4, N.W.1/4, SEC. 1,T107,R15 (LEGAL DESCRIPTION)

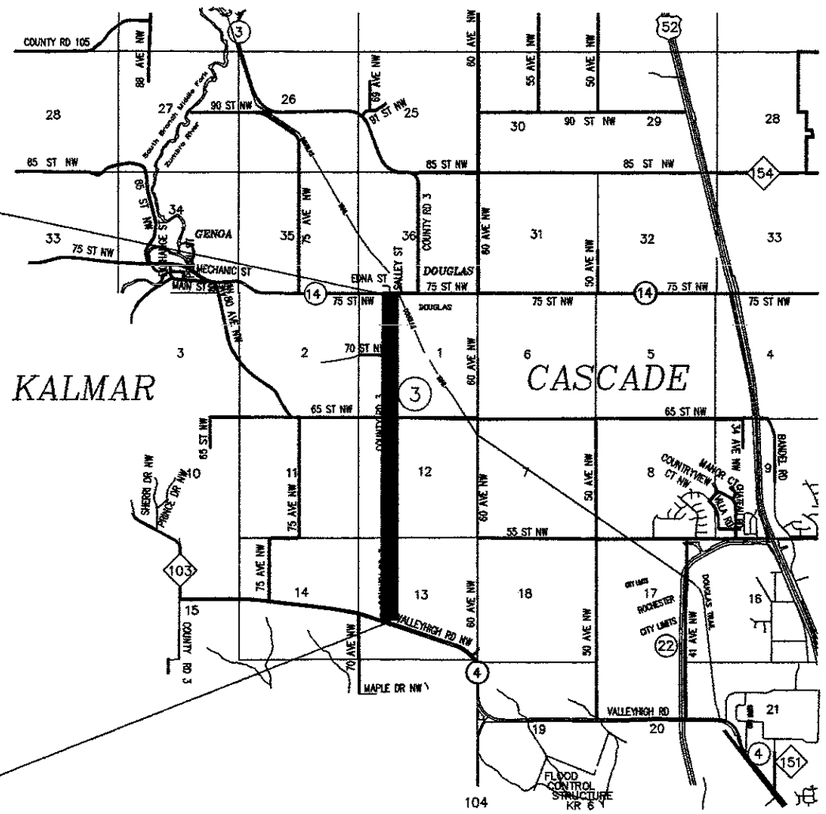
~~S.A.P.~~ C3-98-01

GROSS LENGTH	4346.341 meters	4.346	kilometers
BRIDGE-LENGTH	0.00 meters	0.00	kilometers
EXCEPTIONS-LENGTH	0.00 meters	0.00	kilometers
NET LENGTH	4346.341 meters	4.346	kilometers

GRADED & AGG. BASE UNDER:
55-603-03 1960

BITUMINOUS SURFACING UNDER:
55-603-03 1960

BITUMINOUS OVERLAY UNDER:
C-77-03 1977



OLMSTED COUNTY

~~S.A.P.~~ C3-98-01
C.S.A.H. 3

GOVERNING SPECIFICATIONS

THE 1995 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET NO.	DESCRIPTION
6	TITLE SHEET
7	TYPICAL SECTION
8	TRAFFIC CONTROL

DESIGN DESIGNATION

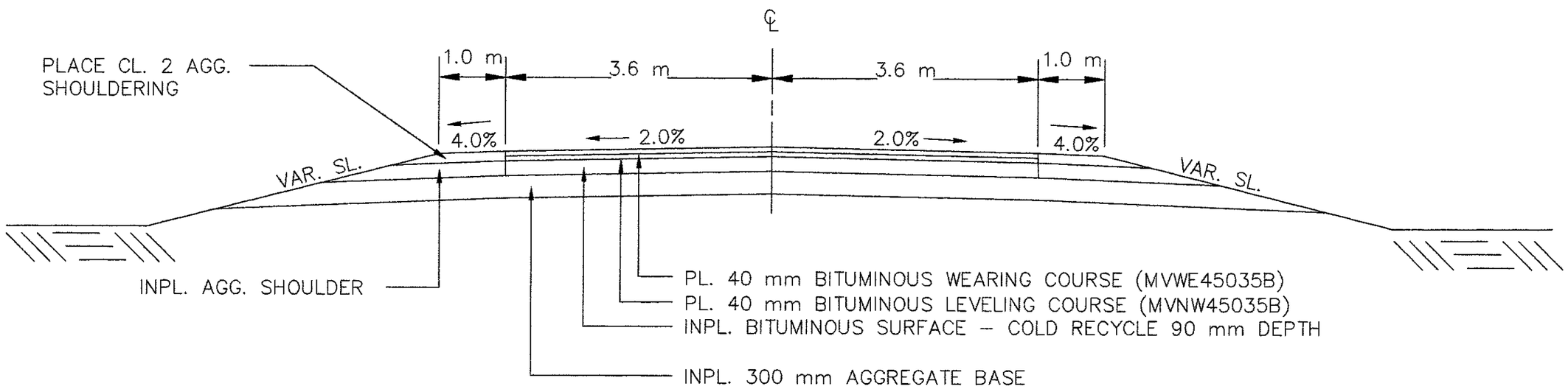
R		ΣN18 (20)	
ADT (Current Year)	=672(97)	Design Speed ____ MPH	
ADT (Future Year)	=1008(17)	Based on STOPPING Sight Distance	
DHV (Design Hr. Vol.)	=	Height of eye 1070mm Height of object 150mm	
D (Directional Distr.)	=	Design Speed not achieved at:	
T (Heavy Commercial)	= 5	STA. ____ TO STA. ____ MPH ____	
SOIL FACTOR	= 130%	STA. ____ TO STA. ____ MPH ____	
7 TON DESIGN		STA. ____ TO STA. ____ MPH ____	
SHOULDER WIDTH 1.0 m			
FUNCTIONAL CLASSIFICATION		COLLECTOR	

minnesota metric

~~STATE AID PROJ. NO.~~ C3-98-01

LOCATION C.S.A.H. 3 SHEET NO. 6 OF 23 SHEETS

C.S.A.H. 3

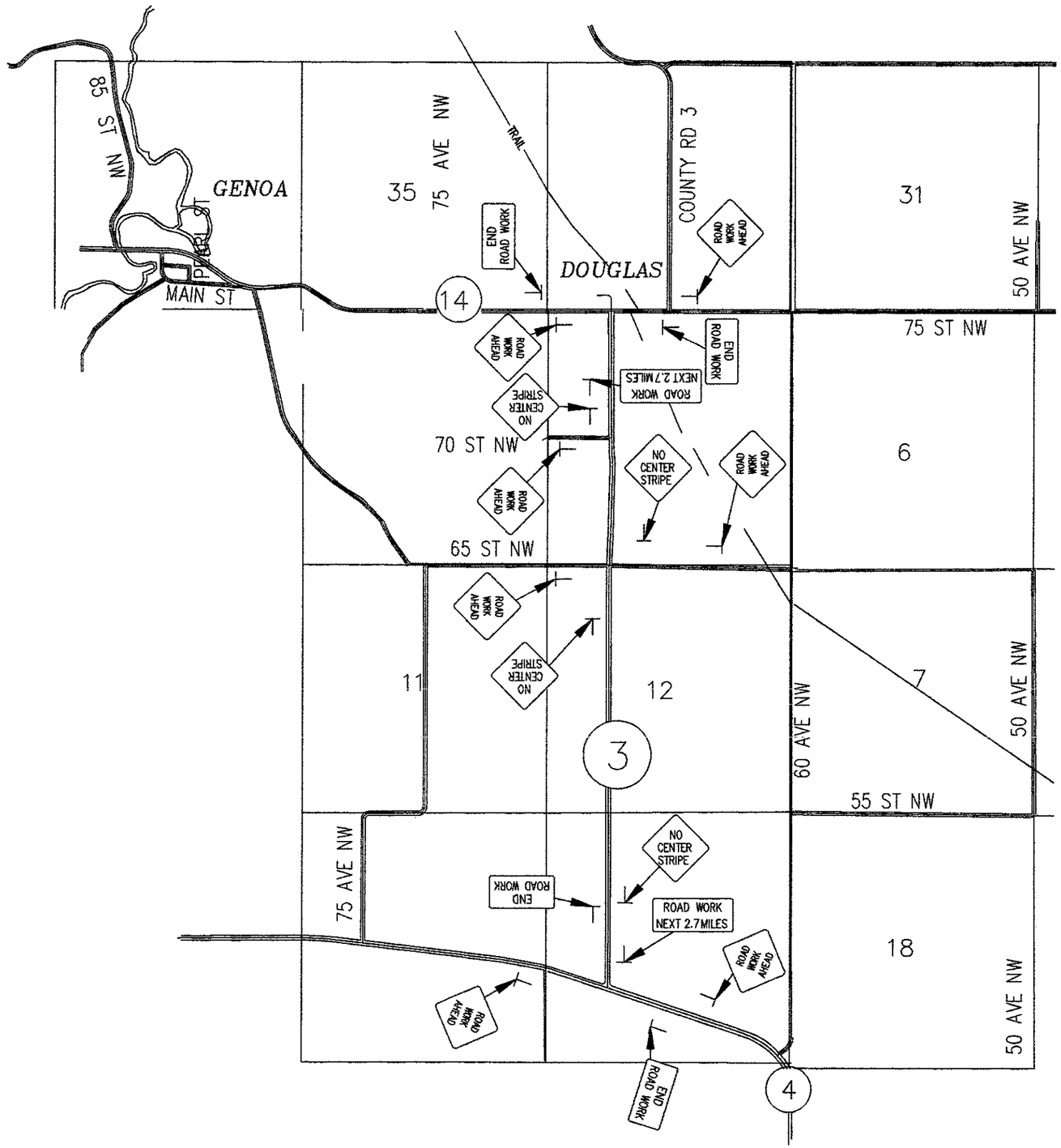


STA. 29 + 780.487 TO STA. 34 + 126.828

NOTE: COLD RECYCLE EMULSION TO BE CSS-1, CSS-IH

minnesota metric

TYPICAL SECTION



TRAFFIC CONTROL LEGEND

⊥ POST OR STAND MOUNTED SIGN

TRAFFIC CONTROL

C3-98-01

SHEET NO. 8 OF 23 SHEETS

MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR COLD RECYCLE AND BITUMINOUS OVERLAY

LOCATED ON C.S.A.H. 4 BETWEEN C.S.A.H. 5 AND C.S.A.H. 3 (GEOGRAPHIC DESCRIPTION)

FROM 34.75m W. & 11.89m S. OF NW. COR. OF S.1/4 OF SE. 1/4 SEC.17, T107,R15 TO 494.26m N. & 427.02m W. OF S.1/4 COR. SEC. 13,T107,R15 (LEGAL DESCRIPTION)

~~S.A.P.~~ C4-98-01

GROSS LENGTH	6229.00 meters	6.229 kilometers
BRIDGE-LENGTH	0.00 meters	0.00 kilometers
EXCEPTIONS-LENGTH	0.00 meters	0.00 kilometers
NET LENGTH	6229.00 meters	6.229 kilometers

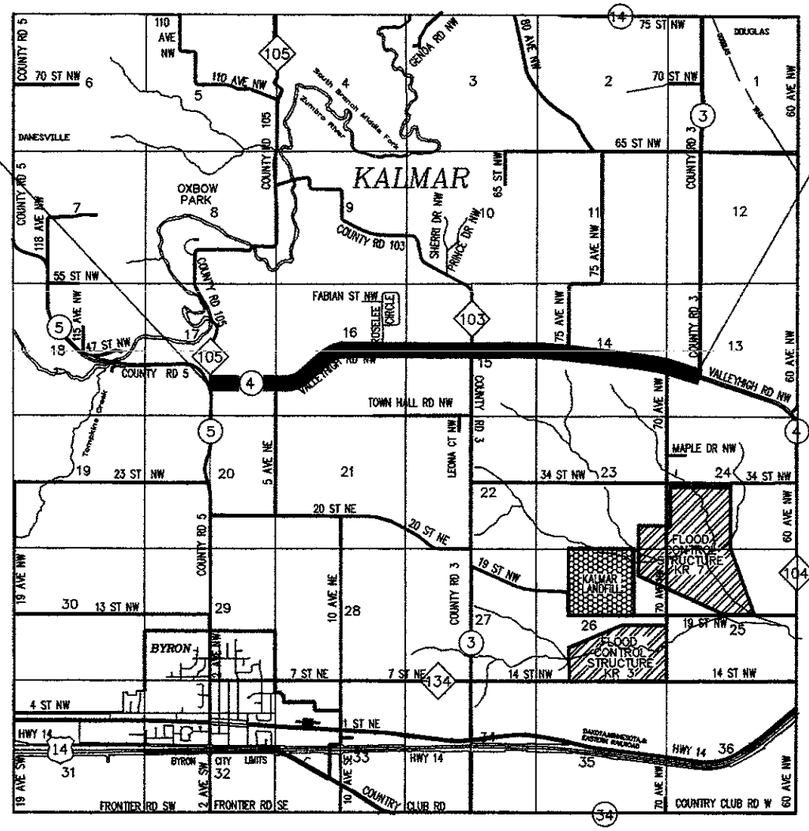
GRADED & AGG. BASE UNDER:
55-604-01 1962

AGG. BASE AND BIT. SURFACING UNDER:
55-604-02 & 03 1965

BITUMINOUS OVERLAY UNDER:
55-604-13 1984

BEGIN: C4-98-01
STA. 0 + 000

END: C4-98-01
STA. 6 + 229



OLMSTED COUNTY

~~S.A.P.~~ C4-98-01
C.S.A.H. 4

GOVERNING SPECIFICATIONS

THE 1995 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

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9	TITLE SHEET
10	TYPICAL SECTION
11	TRAFFIC CONTROL

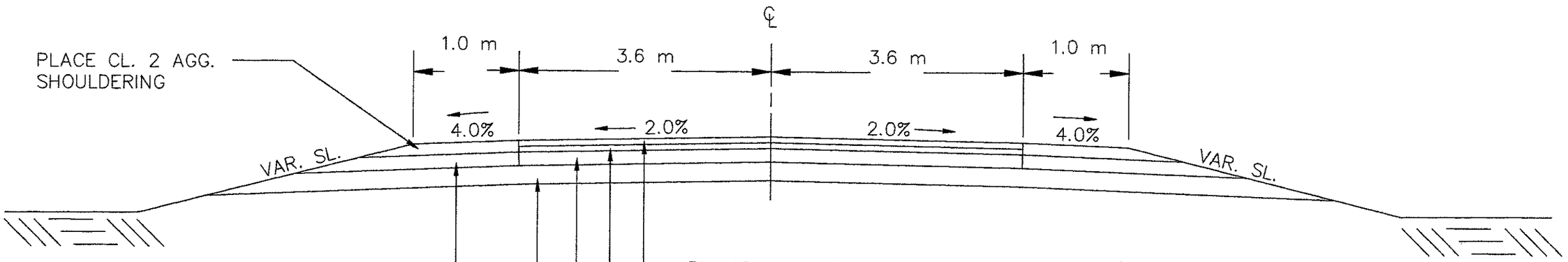
DESIGN DESIGNATION

R		ΣN18 (20)	
ADT (Current Year)	=2100(98)	Design Speed	MPH
ADT (Future Year)	=3150(18)	Based on STOPPING	Sight Distance
DHV (Design Hr. Vol.)	=	Height of eye 1070mm	Height of object 150mm
D (Directional Distr.)	=	Design Speed not achieved at:	
T (Heavy Commercial)	= 5	STA. TO STA.	MPH
SOIL FACTOR	= 130%	STA. TO STA.	MPH
9 TON DESIGN		STA. TO STA.	MPH
SHOULDER WIDTH 1.0 m			
FUNCTIONAL CLASSIFICATION		COLLECTOR	

minnesota metric

~~STATE AID PROJ. NO.~~ C4-98-01
LOCATION C.S.A.H. 4 SHEET NO. 9 OF 23 SHEETS

C.S.A.H. 4

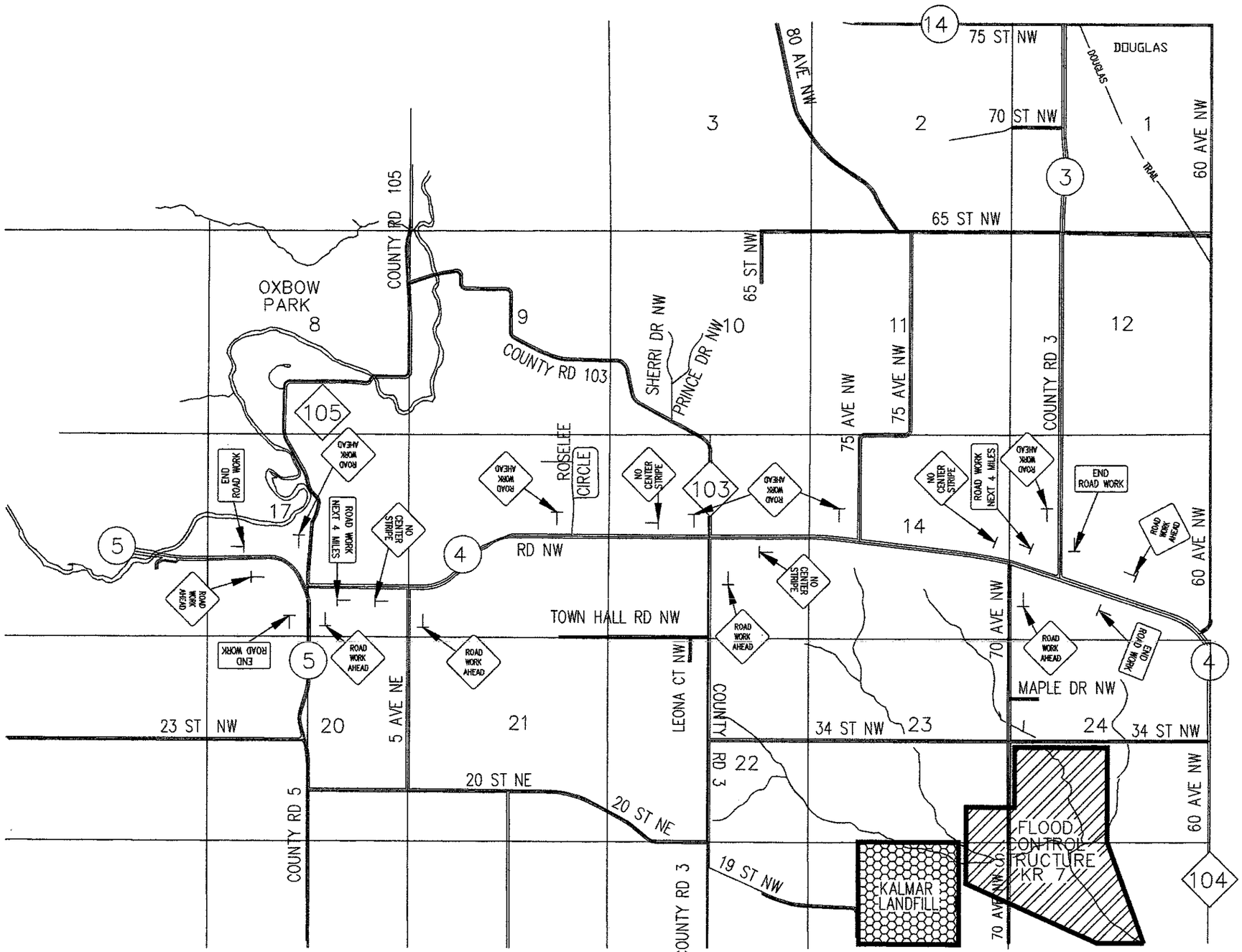


STA. 0 + 000 TO STA. 6 + 229

NOTE: COLD RECYCLE EMULSION
TO BE CSS–1, CSS–IH

minnesota metric

TYPICAL SECTION



TRAFFIC CONTROL LEGEND

⊥ POST OR STAND MOUNTED SIGN

TRAFFIC CONTROL

C4-98-01 SHEET NO. 11 OF 23 SHEETS

MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR COLD RECYCLE AND BITUMINOUS OVERLAY

LOCATED ON C.S.A.H. 14 BETWEEN C.S.A.H. 5 AND T.H. 52 (GEOGRAPHIC DESCRIPTION)

FROM NW. COR. SW. 1/4 SW. 1/4 SEC. 31, T108,R15 TO 211.13m E. OF SE. COR. SEC. 33, T108,R14 (LEGAL DESCRIPTION)

~~S.A.P.~~ C14-98-01

GROSS LENGTH	13108.000	meters	13.108 kilometers
BRIDGE-LENGTH	55.200	meters	0.055 kilometers
EXCEPTIONS-LENGTH	0.000	meters	0.000 kilometers
NET LENGTH	13052.800	meters	13.053 kilometers

C.S.A.H. 5 TO GENOA:

GRADED & AGG. BASE UNDER: 55-518-01 1952

AGG. BASE & BIT. UNDER: 55-614-01 1959

BITUMINOUS OVERLAY UNDER: C81-01 1981

THRU GENOA:

GRADED & AGG. BASE UNDER: 55-614-05 1965

AGG. BASE & BIT. UNDER: 55-614-06 1966

BITUMINOUS OVERLAY UNDER: C-81-01 1981

GENOA TO DOUGLAS:

GRADED, AGG. BASE,& BIT. UNDER: 14-CEF-57 1957

BITUMINOUS ROADMIX : 1971

BITUMINOUS OVERLAY UNDER: C81-01 1981

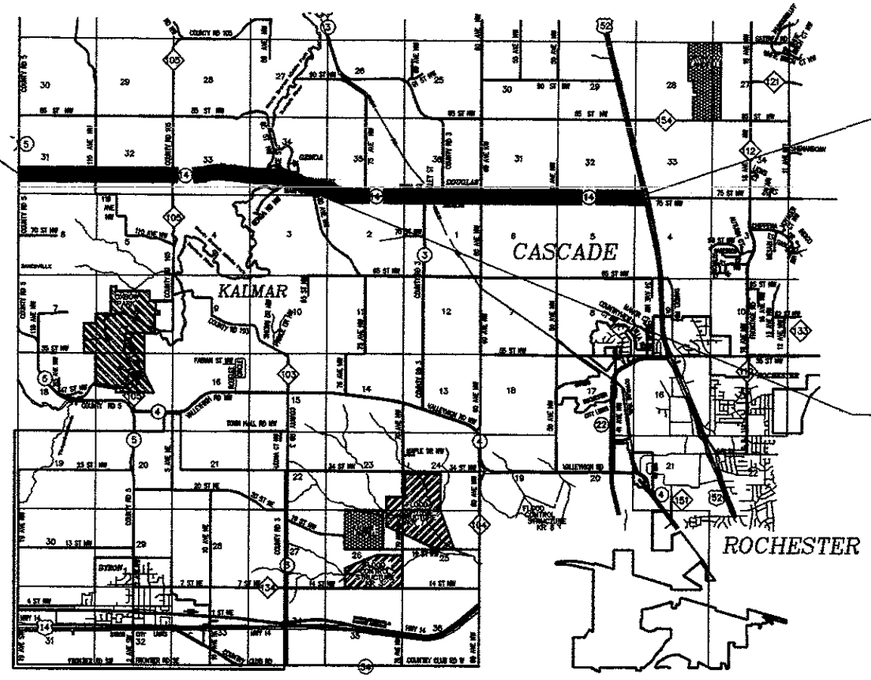
DOUGLAS TO T.H. 52:

GRADED & AGG. BASE UNDER: 55-614-02 1959

AGG. BASE & BIT. UNDER: 55-614-03 1960

BITUMINOUS OVERLAY UNDER: C77-03 1977

BEGIN: C14-98-01
STA. 0 + 000



END: C14-98-01
STA. 13 + 108

BR. 55506
STA. 5+164.6 TO
STA. 5+219.8

OLMSTED COUNTY

~~S.A.P.~~ C14-98-01
C.S.A.H. 14

GOVERNING SPECIFICATIONS

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13-14	TYPICAL SECTION
15	PLAN SHEET
16	STORM SEWER
17	TRAFFIC CONTROL

DESIGN DESIGNATION

R _____ ΣN18 (20) _____

ADT (Current Year) = 1257(97) Design Speed ____ MPH

ADT (Future Year) = 1885(17) Based on STOPPING Sight Distance

DHV (Design Hr. Vol.) = _____ Height of eye 1070mm Height of object 150mm

D (Directional Distr.) = _____ Design Speed not achieved at: _____

T (Heavy Commercial) = 5 STA. _____ TO STA. _____ MPH _____

SOIL FACTOR = 130% STA. _____ TO STA. _____ MPH _____

7 TON DESIGN STA. _____ TO STA. _____ MPH _____

SHOULDER WIDTH SEE TYPICAL SECTION

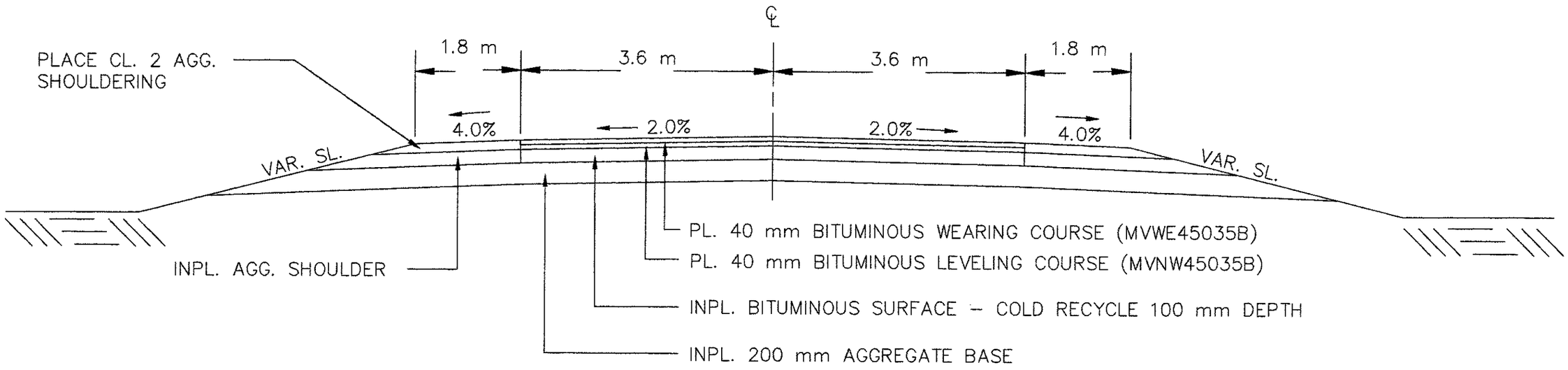
FUNCTIONAL CLASSIFICATION COLLECTOR

minnesota metric

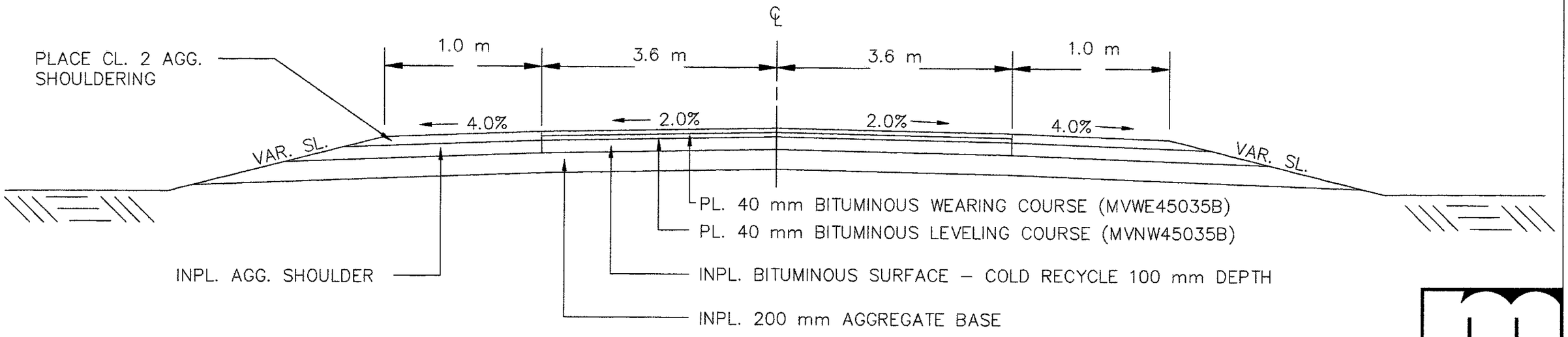
~~STATE AID PROJ. NO.~~ C14-98-01

LOCATION C.S.A.H. 14 SHEET NO. 12 OF 23 SHEETS

C.S.A.H. 14



STA. 4 + 996 TO STA. 6 + 167



STA. 0 + 000 TO STA. 4 + 996
STA. 6 + 167 TO STA. 8 + 461
STA. 8 + 984 TO STA. 13 + 108

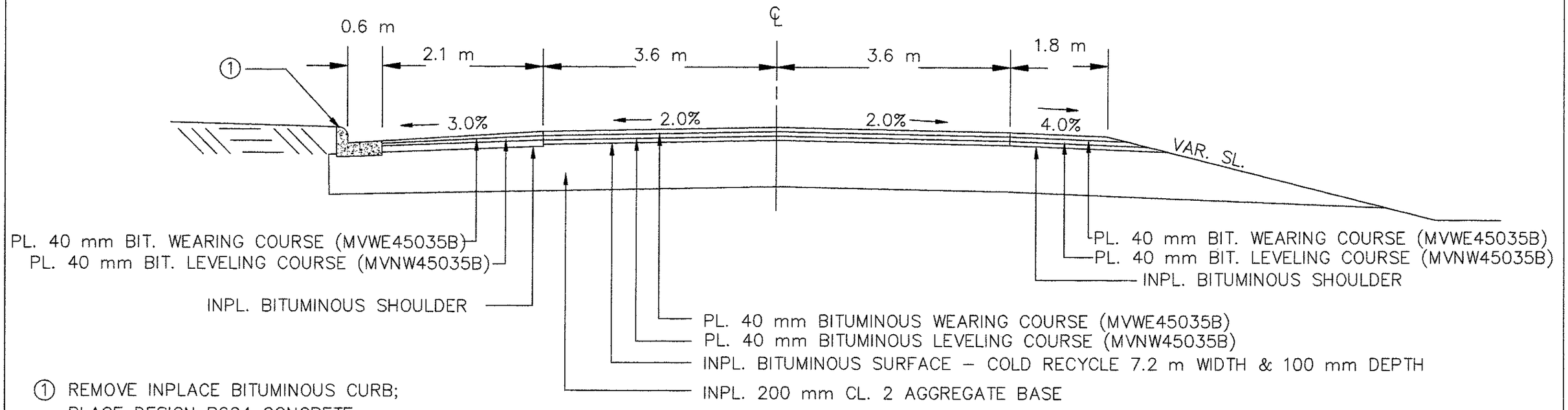
NOTE: COLD RECYCLE EMULSION TO BE CSS–1, CSS–IH

minnesota metric

TYPICAL SECTION

C14–98–01 SHEET 13 OF 23 SHEETS

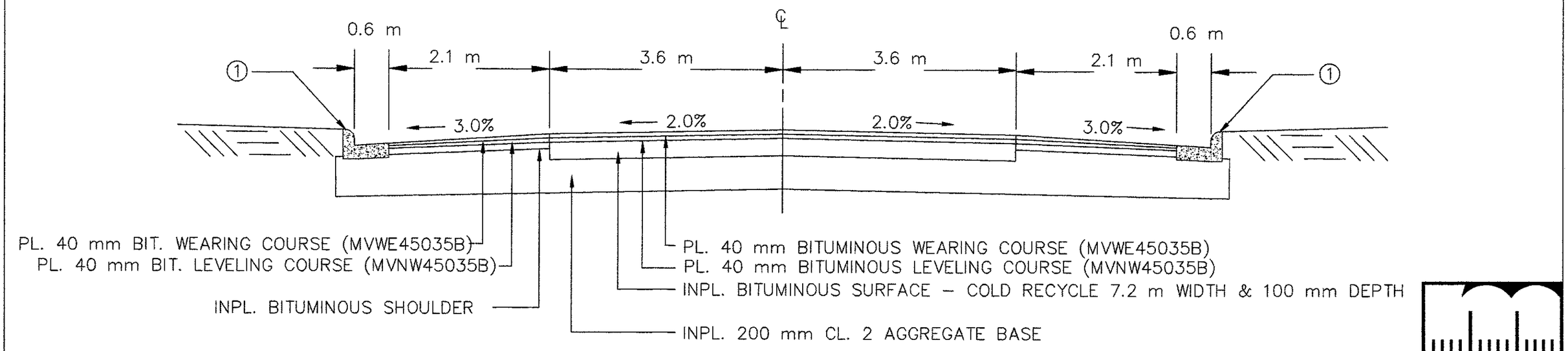
C.S.A.H. 14



① REMOVE INPLACE BITUMINOUS CURB; PLACE DESIGN B624 CONCRETE CURB AND GUTTER.

STA. 8 + 461 TO STA. 8 + 500

NOTE: COLD RECYCLE EMULSION TO BE CSS-1, CSS-IH



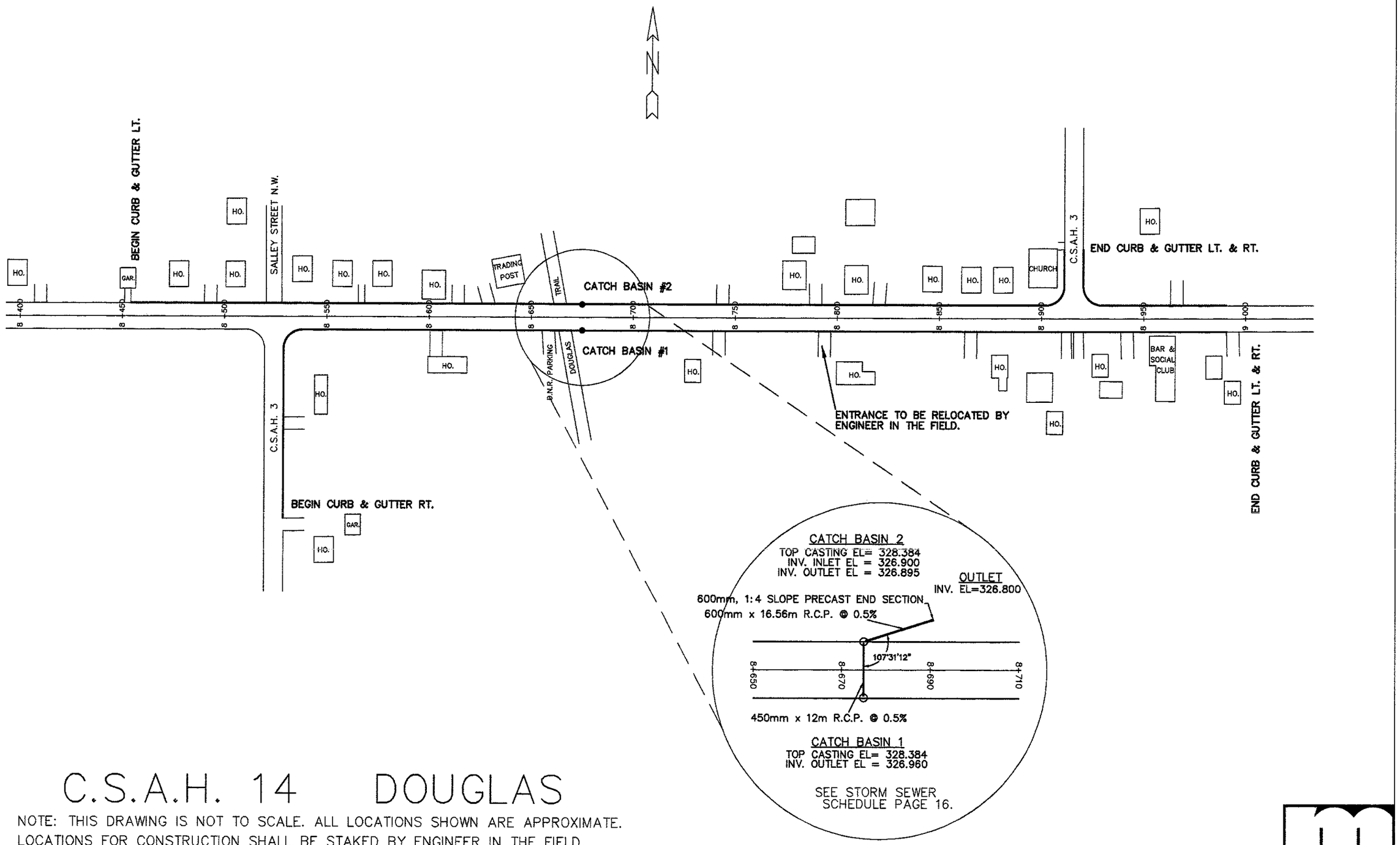
NOTE: MILL BITUMINOUS SURFACE 11.4 m WIDE FROM STA. 8+652 TO STA. 8+686. (DEPTH VARIES).

STA. 8 + 500 TO STA. 8 + 984

minnesota metric

TYPICAL SECTION

C14-98-01



C.S.A.H. 14 DOUGLAS

NOTE: THIS DRAWING IS NOT TO SCALE. ALL LOCATIONS SHOWN ARE APPROXIMATE.
LOCATIONS FOR CONSTRUCTION SHALL BE STAKED BY ENGINEER IN THE FIELD.

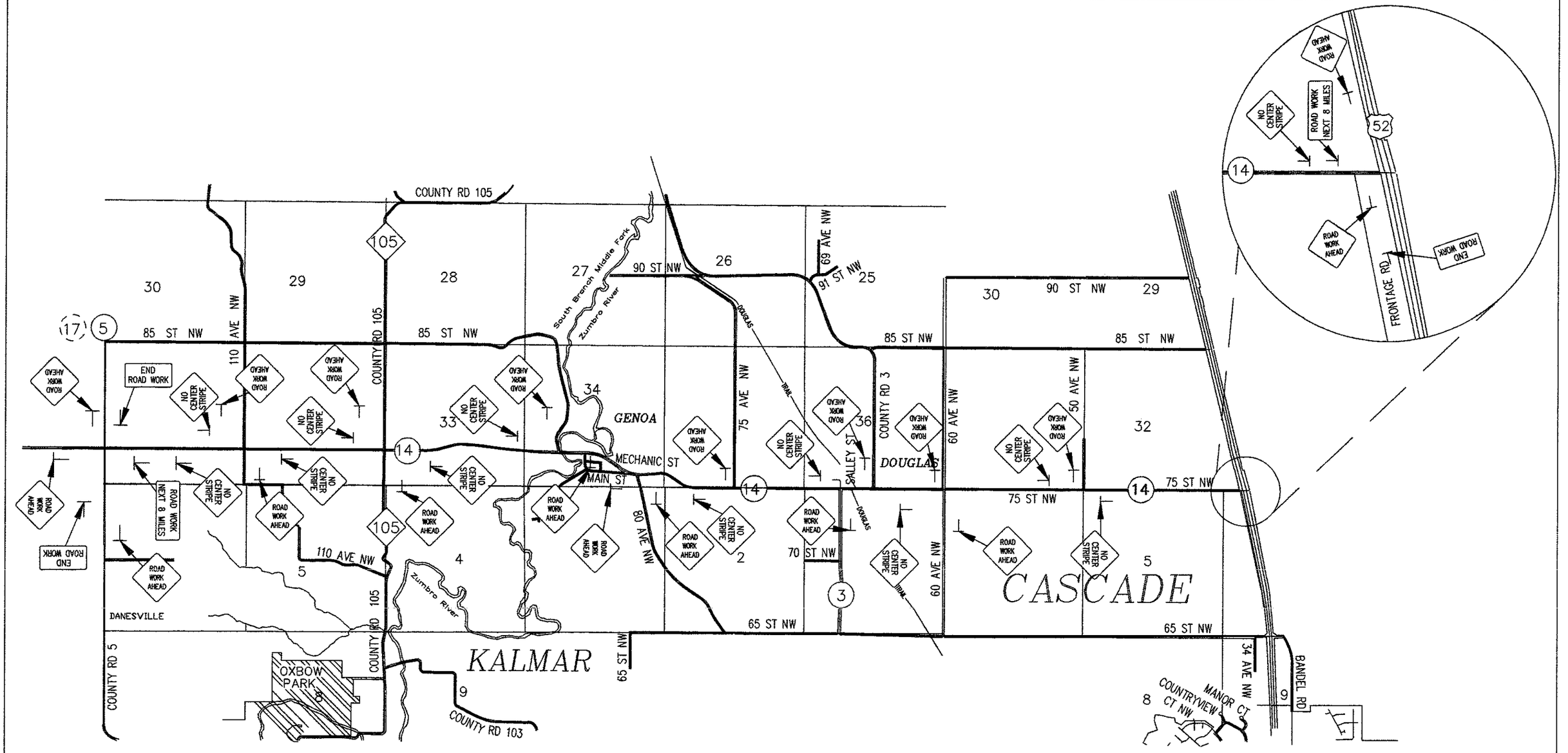
minnesota metric

PLAN SHEET

C.S.A.H. 14 STORM SEWER IN DOUGLAS

STRUCTURE NO.	STATION	LOCATION	DESIGN C.B.	TOP CASTING ELEV.	INLET ELEV.	OUTLET ELEV.	FRAME CASTING NO.	GRATE NO.	CURB BOX NO.	450 mm R.C. PIPE m	600 mm R.C. PIPE m	APRON OUTLET	FLOWS TO	% GRADE	CLASS
① CATCH BASIN 1	8+675	6 m RT.	G	328.384		326.960	802A	811	823A	12.000			C.B. 2	0.50	II
CATCH BASIN 2	8+675	6 m LT.	G	328.384	326.900	326.895	802A	811	823A		16.560		OUTLET	0.50	II
OUTLET	8+692.17	11.18 m LT.				326.800						1	OUTLET	0.50	

① REQUIRES APPROXIMATELY 4.27 m3 OF CLASS B GRANULAR BEDDING WHICH IS INCIDENTAL TO CONSTRUCTION OF 450 mm R.C. SEWER PIPE AND NO DIRECT COMPENSATION WILL BE MADE THEREFORE.



TRAFFIC CONTROL LEGEND

⊥ POST OR STAND MOUNTED SIGN

TRAFFIC CONTROL

C14-98-01

SHEET NO. 17 OF 23 SHEETS

MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR COLD RECYCLE AND BITUMINOUS OVERLAY

LOCATED ON C.S.A.H. 18 BETWEEN C.S.A.H. 12 AND COUNTY LINE (GEOGRAPHIC DESCRIPTION)

FROM 22.86m N. & 146.30m E. OF NW. COR., SW.1/4,SW.1/4, SEC. 8, T108, R14 TO 10.45m N. & 60.90m E. OF NW. COR.,NE.1/4,NE.1/4, SEC. 6, T108, R14 (LEGAL DESCRIPTION)

~~S.A.P.~~ C18-98-01

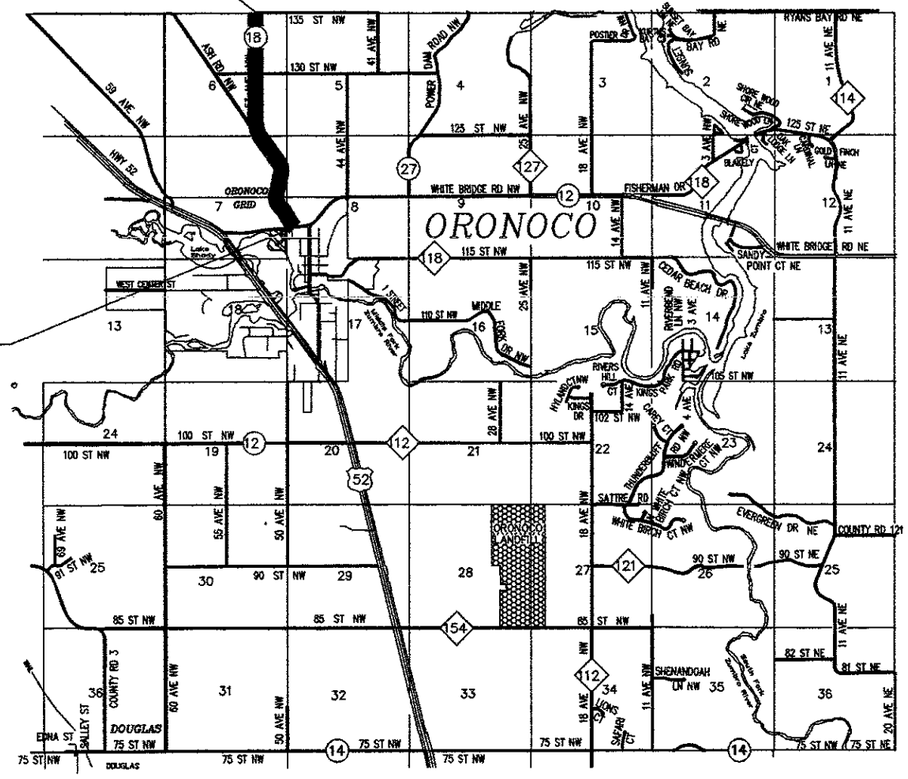
GROSS LENGTH	2961.000 meters	2.961 kilometers
BRIDGE-LENGTH	0.00 meters	0.00 kilometers
EXCEPTIONS-LENGTH	0.00 meters	0.00 kilometers
NET LENGTH	2961.000 meters	2.961 kilometers

GRADED & AGG. BASE & BIT. SURFACE UNDER:
55-505-02 1952

BITUMINOUS OVERLAY UNDER:
C-78-03 1978

END: C18-98-01
STA. 4 + 831

BEGIN: C18-98-01
STA. 1 + 870



~~S.A.P.~~	C18-98-01
	C.S.A.H. 18

GOVERNING SPECIFICATIONS

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DESIGN DESIGNATION

R_____ ΣN18 (20) _____

ADT (Current Year)	= 908(97)	Design Speed ____ MPH
ADT (Future Year)	= 1363(17)	Based on STOPPING Sight Distance
DHV (Design Hr. Vol.)	= ____	Height of eye 1070mm Height of object 150mm
D (Directional Distr.)	= ____	Design Speed not achieved at: _____
T (Heavy Commercial)	= 5	STA. ____ TO STA. ____ MPH ____
SOIL FACTOR	= 130%	STA. ____ TO STA. ____ MPH ____
7 TON DESIGN		STA. ____ TO STA. ____ MPH ____

SHOULDER WIDTH 1.0m

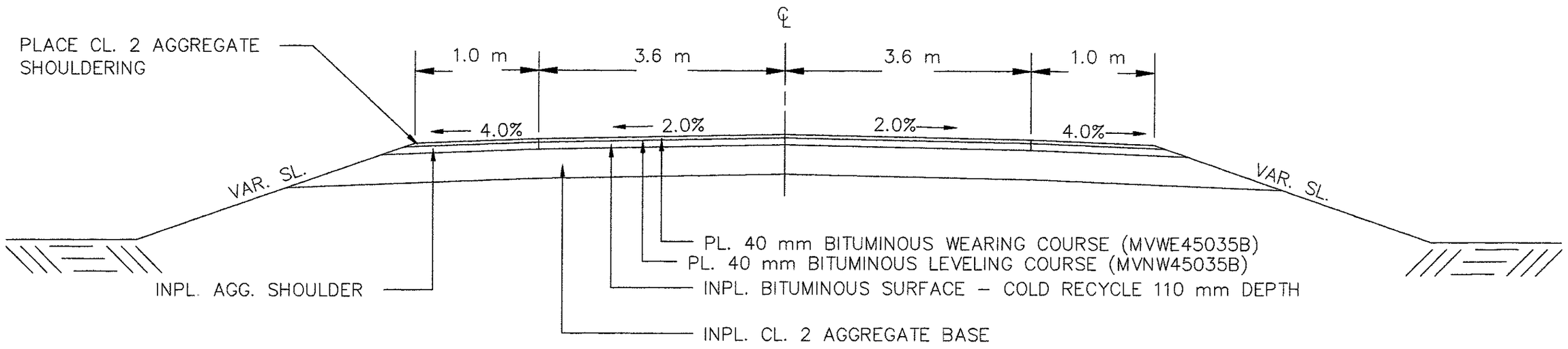
FUNCTIONAL CLASSIFICATION COLLECTOR

minnesota metric

~~STATE AID PROJ. NO.~~ C18-98-01

LOCATION C.S.A.H. 18 SHEET NO. 18 OF 23 SHEETS

C.S.A.H. 18

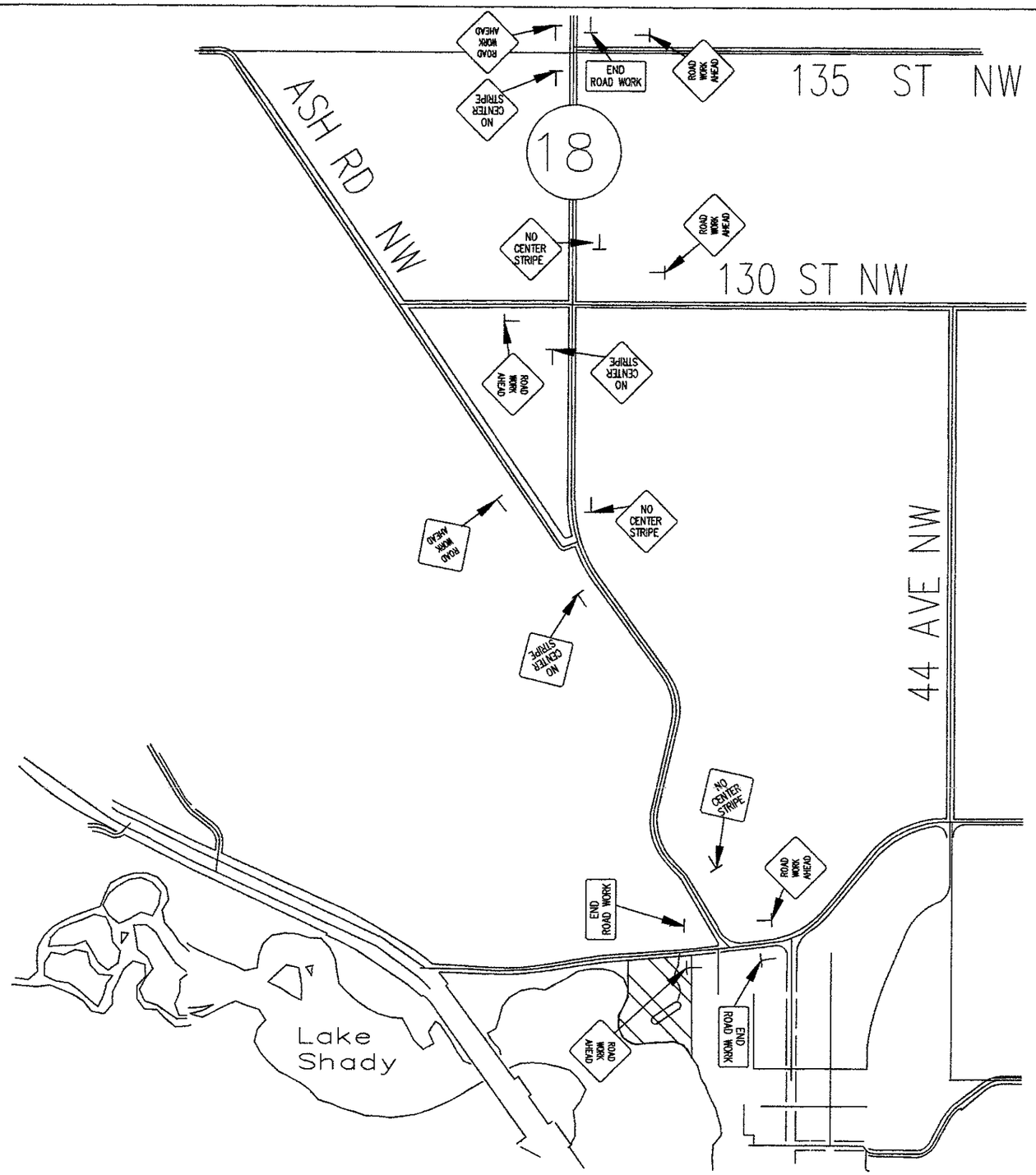


STA. 1 + 870 TO STA. 4 + 831

NOTE: COLD RECYCLE EMULSION
TO BE CSS–1, CSS–IH

minnesota metric

TYPICAL SECTION



TRAFFIC CONTROL LEGEND

⊥ POST OR STAND MOUNTED SIGN

TRAFFIC CONTROL

C18-98-01

MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR COLD RECYCLE AND BITUMINOUS OVERLAY

LOCATED ON C.R. 154 BETWEEN T.H. 52 AND C.R. 112 (GEOGRAPHIC DESCRIPTION)

FROM 154.46m W. OF NE. COR. SEC. 32, T108, R14 TO N. COR. SEC. 34, T108, R14 (LEGAL DESCRIPTION)

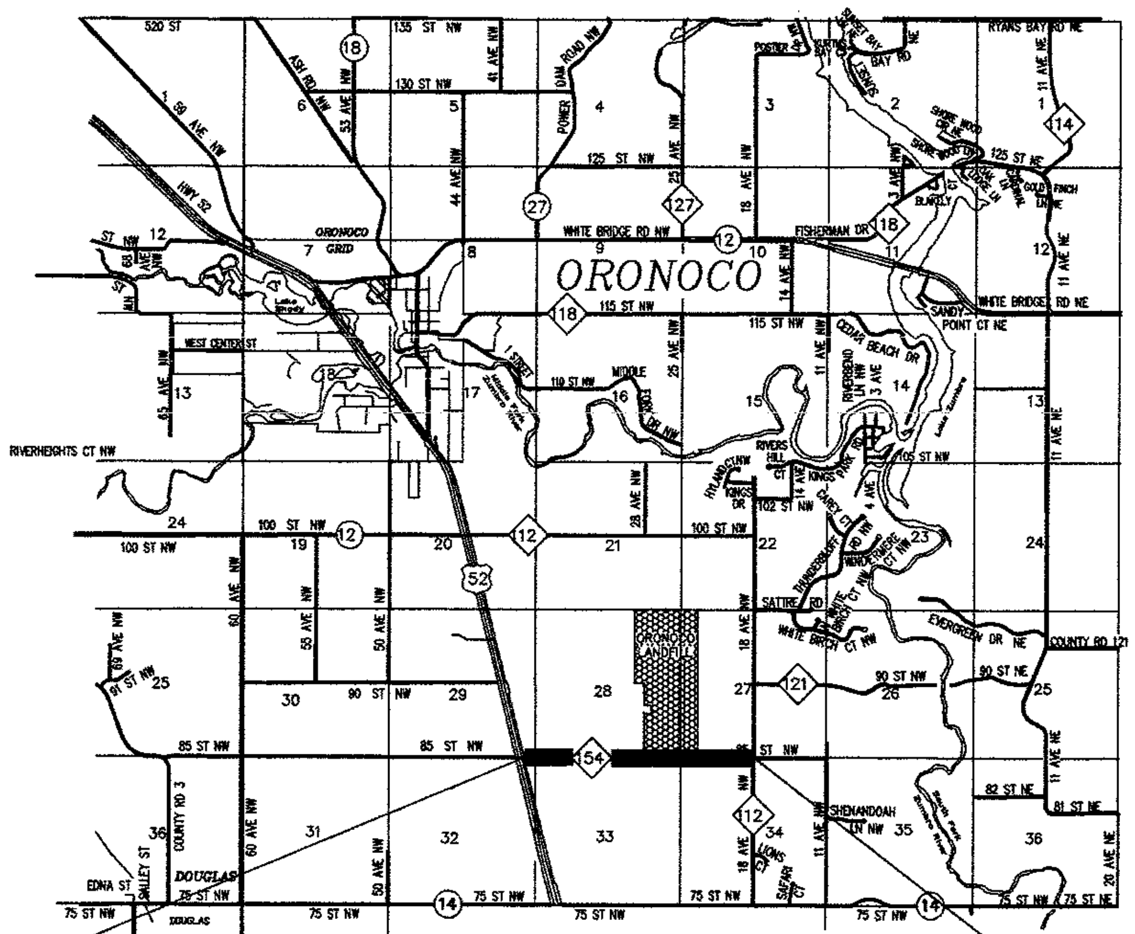
N

~~S.A.P.~~ C154-98-01

GROSS LENGTH 2541.000 meters 2.541 kilometers
BRIDGE-LENGTH 0.00 meters 0.00 kilometers
EXCEPTIONS-LENGTH 0.00 meters 0.00 kilometers
NET LENGTH 2541.000 meters 2.541 kilometers

10 TON DESIGN
STA. 0+000 TO STA. 1+575
GRADED, AGG. BASE, & BIT. UNDER:
C154-72-12 1972

7 TON DESIGN
STA. 1+575 TO STA. 2+541
GRADED & AGG. BASE UNDER:
C154-12 1972
AGG. BASE & BIT. UNDER:
C89-01 1989



BEGIN: C154-98-01
STA. 0 + 000

END: C154-98-01
STA. 2 + 541

OLMSTED COUNTY

~~S.A.P.~~ C154-98-01
C.R. 154

GOVERNING SPECIFICATIONS

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DESIGN DESIGNATION

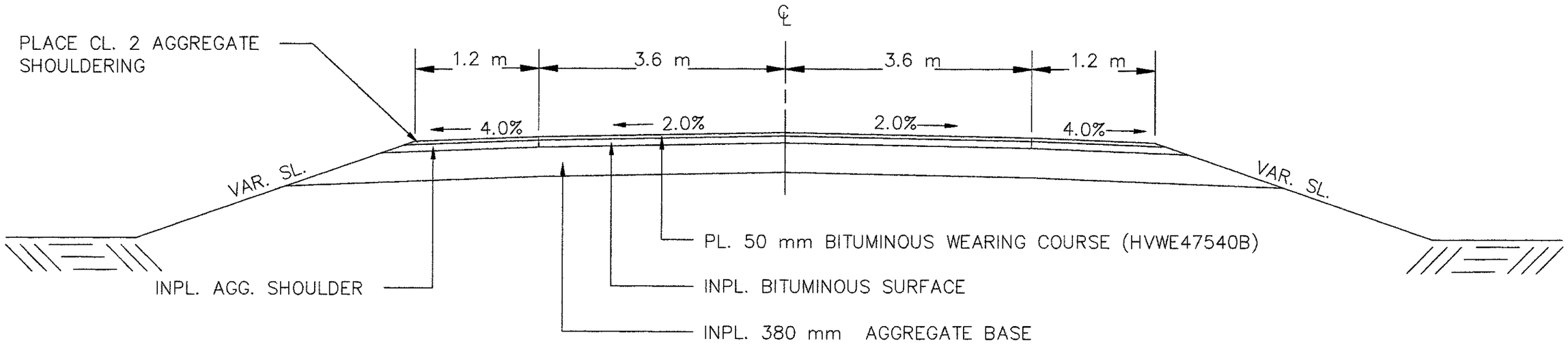
R_____ ΣN18(20) _____
ADT (Current Year) = 181297) Design Speed _____ MPH
ADT (Future Year) = 2719(17) Based on STOPPING Sight Distance
DHV (Design Hr. Vol.) = _____ Height of eye 1070mm Height of object 150mm
D (Directional Distr.) = _____ Design Speed not achieved at: _____
T (Heavy Commercial) = 50% STA. _____ TO STA _____ MPH _____
SOIL FACTOR = 130% STA. _____ TO STA _____ MPH _____
TON DESIGN STA. _____ TO STA _____ MPH _____
SHOULDER WIDTH SEE TYPICAL SECTION
FUNCTIONAL CLASSIFICATION LOCAL

minnesota metric

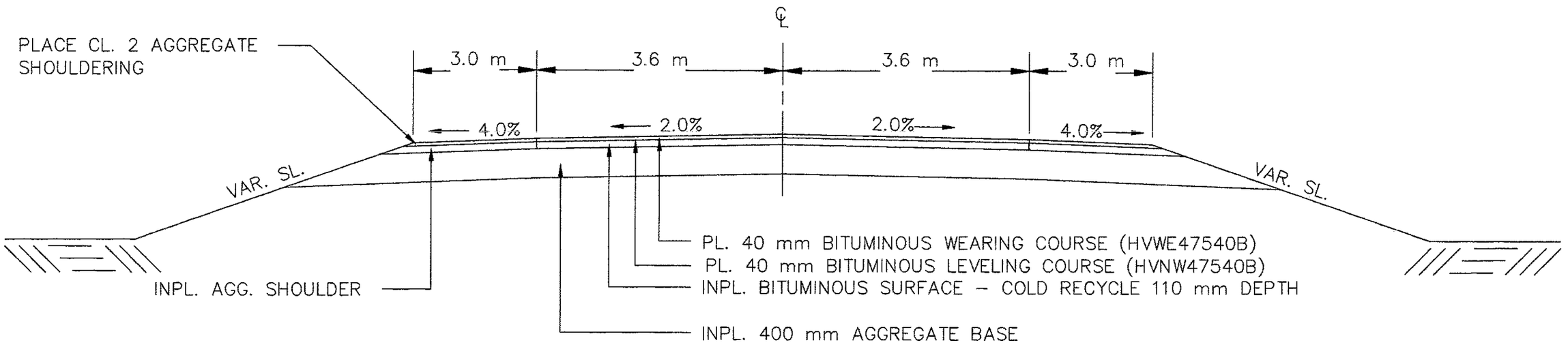
~~STATE AID PROJ. NO.~~ C154-98-01

LOCATION C.R. 154 SHEET NO. 21 OF 23 SHEETS

C.R. 154



STA. 1 + 575 TO STA. 2 + 541



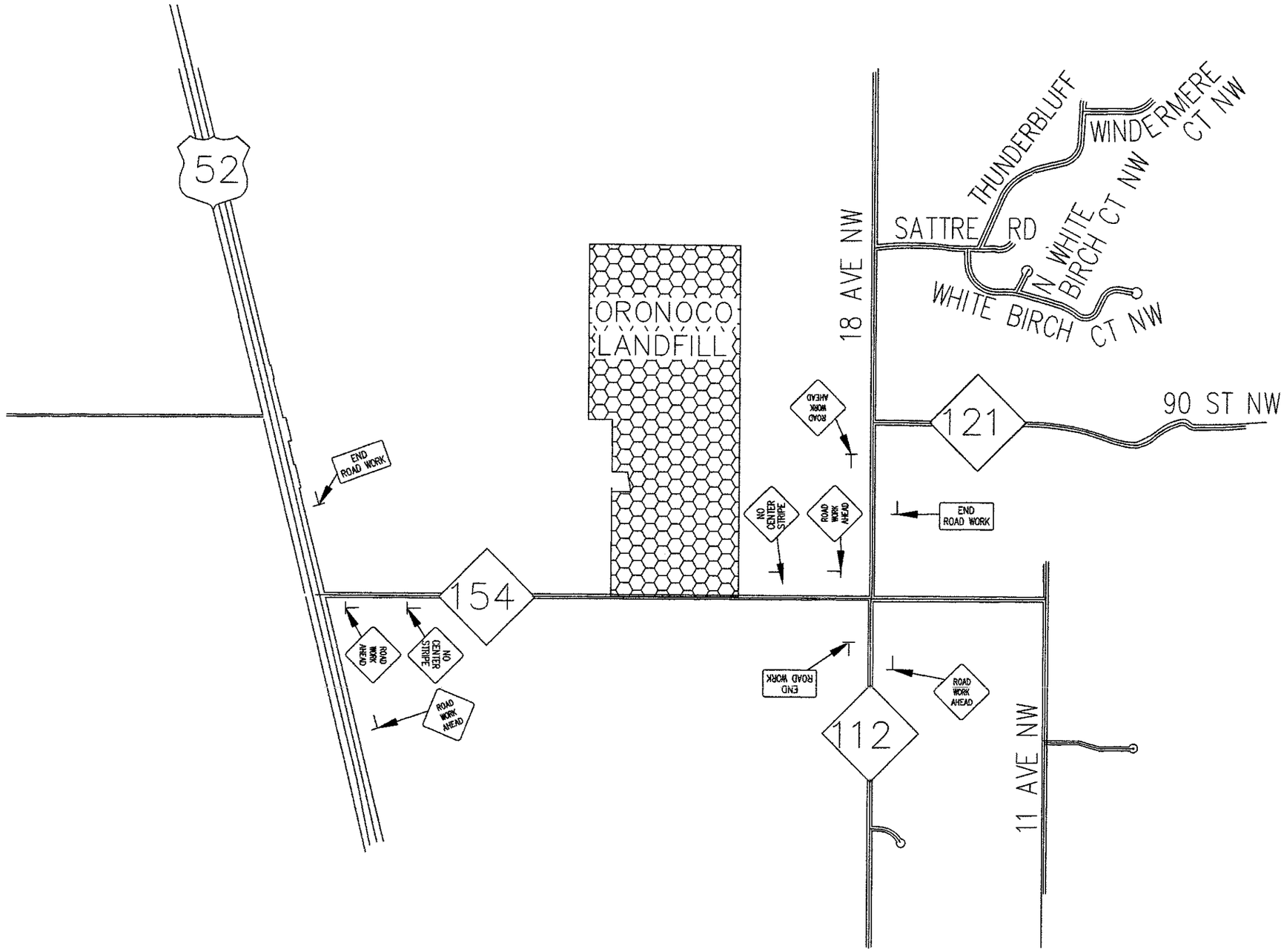
NOTE: COLD RECYCLE EMULSION TO BE CSS-1, CSS-IH

STA. 0 + 00.0 TO STA. 1 + 575

minnesota metric

TYPICAL SECTION

C154-98-01



TRAFFIC CONTROL LEGEND

⊥ POST OR STAND MOUNTED SIGN

TRAFFIC CONTROL

C154–98–01 SHEET NO. 23 OF 23 SHEETS