

PLAN SYMBOLS

STATE LINE.....
COUNTY LINE.....
TOWNSHIP OR RANGE LINE.....
SECTION LINE.....
QUARTER LINE.....
SIXTEENTH LINE.....
RIGHT-OF-WAY LINE.....
PRESENT RIGHT-OF-WAY LINE.....
CONTROL OF ACCESS LINE.....
PROPERTY LINE (EXCEPT LAND LINES).....
VACATED PLATTED PROPERTY.....
CORPORATE OR CITY LIMITS.....

TRUNK HIGHWAY CENTER LINE.....
RETAINING WALL.....
RAILROAD.....
RAILROAD RIGHT-OF-WAY LINE.....
RIVER OR CREEK.....
DRY RUN.....
DRAINAGE DITCH.....
DRAIN TIE.....
CULVERT.....
DROP INLET.....
GUARD RAIL.....
BARBED WIRE FENCE.....
WOVEN WIRE FENCE.....
CHAIN LINK FENCE.....
RAILROAD SLOPE FENCE.....
STONE WALL OR FENCE.....
HEDGE.....
RAILROAD CROSSING SIGN.....
RAILROAD CROSSING BELL.....
ELECTRIC WARNING SIGN.....
CROSSING GATE.....
WEATHER CORNER.....
SPRINGS.....
MARSH.....

TIMBER ORCHARD.....
BRUSH.....
NURSERY.....
CATCH BASIN.....
FIRE HYDRANT.....
CATTLE GUARD.....
OVERPASS (Highway Over).....
UNDERPASS (Highway Under).....
BRIDGE.....

BUILDING (One Story Frame).....
F-FRAME.....
S-STONE.....
B-BRICK.....
ST-STUCCO.....
IRON PIPE OR ROD.....
MONUMENT (STONE, CONCRETE, OR METAL).....
WOODEN PILE.....
GRAVEL PIT.....
SAND PIT.....
BOTTOM PIT.....
ROCK QUARRY.....

UTILITY SYMBOLS.....
POWER POLE LINE.....
TELEPHONE OR TELEGRAPH POLE LINE.....
JOINT TELEPHONE AND POWER ON POWER POLES.....
ON TELEPHONE POLES.....
ANCHOR.....
STEEL TOWER.....
STREET LIGHT.....
PEDESTAL (TELEPHONE CABLE TERMINAL).....
CABLE MAN.....
WATER MAN.....
CONDUIT.....
TELEPHONE CABLE IN CONDUIT.....
ELECTRIC CABLE IN CONDUIT.....
TELEPHONE MANHOLE.....
ELECTRIC MANHOLE.....
BURIED COMMUNICATION CABLE.....
BURIED TELEPHONE CABLE.....
BURIED ELECTRIC CABLE.....
AERIAL TELEPHONE CABLE.....
SEWER (SANITARY).....
SEWER (STORM).....
SEWER MANHOLE.....
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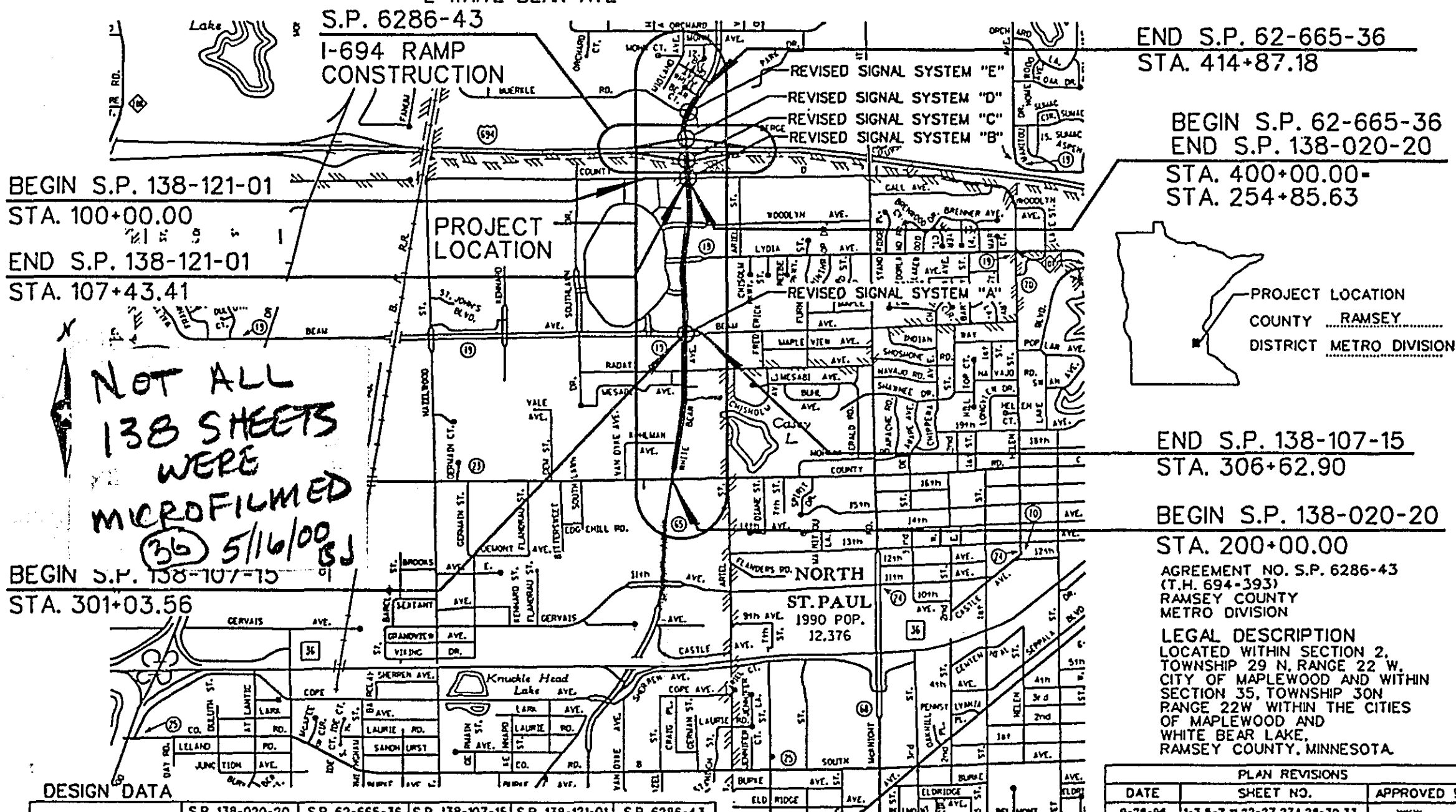
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MINNESOTA DEPARTMENT OF TRANSPORTATION CITY OF MAPLEWOOD RAMSEY COUNTY, MINNESOTA

CONSTRUCTION PLAN FOR GRADING, PAVING, DRAINAGE, RETAINING WALL, SIGNALS, WALKS, AND CONCRETE PAVEMENT REHABILITATION

LOCATED ON

WHITE BEAR AVENUE FROM COUNTY ROAD C TO A PT. 36 FEET NORTH OF WHITE BEAR COURT
BEAM AVENUE FROM WHITE BEAR AVENUE TO A PT. 559.34 FEET EAST OF N.B. WHITE BEAR AVE
COUNTY ROAD D FROM A PT. 743.41 FEET WEST OF N.B. WHITE BEAR AVENUE TO N.B. WHITE BEAR AVENUE



DESIGN DATA

	S.P. 138-020-20	S.P. 62-665-36	S.P. 138-107-15	S.P. 138-121-01	S.P. 6286-43
	WHITE BEAR AVE	WHITE BEAR AVE	BEAM AVENUE	CO. RD. D	I-694 RAMP
	CO RD C TO CO RD D	CO RD D TO WHITE BEAR CT.			
FUNCTIONAL CLASS	ARTERIAL	ARTERIAL	COLLECTOR	COLLECTOR	
NO OF TRAFFIC LANES	4	4	4	4	
NO OF PARKING LANES	0	0	0	0	
STRUCTURAL DESIGN	9	9	9	9	
R VALUE	40	40	40	40	
DESIGN SPEED	40	40	40	35	
STOPPING SIGHT					
DISTANCE BASED ON:					
HEIGHT OF EYE	3.5'	3.5'	3.5'	3.5'	3.5'
HEIGHT OF OBJECT	0.5'	0.5'	0.5'	0.5'	0.5'
ADT (1996)	26,766	34,852	6,100	11,000	8,500
ADT (2016)	31,900	41,900	7,500	13,500	11,000
CESALS	7,905,000	10,370,500		2,066,000	5,851,250
24HCACT	4.9	4.9		4.9	4.9

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	WHITE BEAR AVE	WHITE BEAR AVE	BEAM AVE	CO RD D	I-694 RAMP
	CO RD C TO CO RD D	CO RD D TO W.B. CT.			
GROSS LENGTH	5485.63	1039	0.282	559.34	0.106
BRIDGES LENGTH	0.00	0.00	0.00	0.00	0.00
EXCEPTIONS LENGTH	0.00	0.00	0.00	0.00	0.00
NET LENGTH	5485.63	1039	0.282	559.34	0.106

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STATEMENT OF ESTIMATED QUANTITIES

					*FEDERAL PARTICIPATING												SIGNALS	S.P. 62-665-36		S.P. 62M-43	
					S.P. 138-020-20		S.P. 138-107-15		S.P. 138-121-01		S.P. 62-665-36		S.P. 62-665-36		S.P. 62M-43						
					WHITE BEAR AVENUE		DEAM AVENUE		COUNTY ROAD D		WHITE BEAR AVENUE (CO RD D TO N CITY LIMITS)		WHITE BEAR AVENUE (N CITY LIMITS TO END OF PROJECT)		1694 RAMPS						
TABS/NOTES	ITEM NUMBER	ITEM DESCRIPTION	UNITS	TOTAL PROJECT QUANTITIES	ROADWAY	STORM SEWER	ROADWAY	STORM SEWER	ROADWAY	STORM SEWER	ROADWAY	STORM SEWER		ROADWAY	STORM SEWER	ROADWAY	STORM SEWER				
	2021.501	MOBILIZATION	LUMP SUM	1	0.25			0.05		0.05		0.05			0.35		0.25				
	2031.501	FIELD OFFICE TYPE D	EACH	1	0.25			0.05		0.05		0.05			0.35		0.25				
G	2101.501	CLEARING	ACRE	1.05	0.25					0.70							0.10				
G	2101.505	GRUBBING	ACRE	1.05	0.25					0.70							0.10				
	2102.502	PAVEMENT MARKING REMOVAL	LN FT	2655	970			945		340		400			0						
22	2104.501	REMOVE CHAIN LINK FENCE	LN FT	178								178									
B	2104.501	REMOVE WATERMAIN	LN FT	20			18		2												
D, E	2104.501	REMOVE PIPE SEWERS	LN FT	482	52				8						105		317				
F	2104.501	REMOVE INTEGRANT CURB	LN FT	2290											501		1789				
F	2104.501	REMOVE GUARDRAIL	LN FT	460											460						
F 4	2104.501	REMOVE CURB AND GUTTER	LN FT	11941	4140		953		1436		752				4660						
F 4	2104.503	REMOVE CONCRETE WALK	SQ FT	27588	9141		975		330		2802				14740						
F 2	2104.505	REMOVE RETAINING WALL	SQ YD	366											366						
F 2	2104.505	REMOVE CONCRETE PAVEMENT	SQ YD	14488	1770		108		349		1300				10083		878				
F 3	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	3683	571		490		220		560				4042						
E	2104.509	REMOVE PIPE APRON	EACH	9											4		5				
D, E	2104.509	REMOVE MANHOLE OR CATCHBASIN	EACH	20	5		1		4						4		6				
F	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LN FT	6557	4292		226		130		50				74		1785				
F	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LN FT	1018	231		420		229						140						
I	2104.521	SALVAGE CHAIN LINK FENCE	LN FT	195							195										
D, E	2104.523	SALVAGE CASTING	EACH	36	11		3		7						8		7				
	2104.523	SALVAGE SIGN TYPE C	EACH	58	15		5				2				34		2				
	2104.523	SALVAGE SIGN TYPE D	EACH	3							1				1		1				
	2104.523	SALVAGE SIGN PANEL TYPE C	EACH	3	2										1						
A 3	2104.525	ABANDON & SEAL WELL SHAFT	EACH	1											1						
Q	2105.501	COMMON EXCAVATION	CU YD	13113	2459		428		861		1357				6702		1306				
Q	2105.507	SUBGRADE EXCAVATION	CU YD	7433	1874				313		802				1477		2967				
Q	2105.522	SELECT GRANULAR BORROW (CV)	CU YD	7530	1876				313		802				1477		3062				
L 24	2211.503	AGGREGATE BASE (CV) CLASS 6	CU YD	6466	1333		96		441		1294				2569		733				
L	2221.503	AGGREGATE SHOULDERING (CV) CLASS 3	CU YD	677											138		539				
F	2232.501	MILL BITUMINOUS SURFACE	SQ YD	1101			182		589		330										
6	2301.501	CONCRETE PAVEMENT TYPE CX	SQ YD	450	450																
6	2301.501	CONCRETE PAVEMENT TYPE D-1	SQ YD	450	450																
I	2301.502	CONCRETE PAVEMENT STANDARD WIDTH 8"	SQ YD	2378	2378																
I	2301.502	CONCRETE PAVEMENT STANDARD WIDTH 9.5"	SQ YD	11464																	
I	2301.503	CONCRETE PAVEMENT IRREGULAR WIDTH 8.5"	SQ YD	4358							1576				9288						
I	2301.503	CONCRETE PAVEMENT IRREGULAR WIDTH 9"	SQ YD	2493	2145		348								2113		2245				
I	2301.503	CONCRETE PAVEMENT IRREGULAR WIDTH 9.5"	SQ YD	1893					25		352				1516						
I	2301.511	STRUCTURAL CONCRETE	CU YD	5071	1007		87				468				3015		493				
I	2301.513	STRUCTURAL CONCRETE HE	CU YD	701	124				7		40				493		37				
K 1	2301.529	REINFORCEMENT BARS (EPOXY COATED)	POUND	8952	2107		194		50		281				4935		1405				
J	2301.531	EXPANSION JOINTS DESIGN E1-1	LN FT	349											383		4				
J	2301.531	EXPANSION JOINTS DESIGN E2-1	LN FT	689	268						34				52		113				
J	2301.531	EXPANSION JOINTS DESIGN E2D-1	LN FT	165																	
J 6.8	2301.538	DOWEL BAR	EACH	11971	1989		40				1123				7346		1473				
H	2301.541	INTEGRANT CURB DESIGN B4	LN FT	600							600										
H	2301.541	INTEGRANT CURB DESIGN B6	LN FT	6750	2304						661										
H	2301.541	INTEGRANT CURB DESIGN D4	LN FT	2079																	
	2301.545	CONCRETE CORING	EACH	28	6										533		1548				
K 6.10	0301.602	DRILL AND GROUT REINFORCEMENT BARS (EPOXY COATED)	POUND	9411	7457		160		80		273				10		12				
6	0301.602	SEAL CONCRETE PAVEMENT JOINTS AND CRACKS (J723)	POUND	4259	4259										296		1145				
6	0301.604	JOINT REPAIR (TYPE A-1H MOD)	LN FT	15600	15600																
6	0301.604	CRACK REPAIR (A-3H)	LN FT	400	400																
6	0301.604	CRACK REPAIR (A-4H)	LN FT	100	100																
6	0301.604	CRACK REPAIR (B-1)	LN FT	100	100																
9	0301.604	PERMANENT TERMINAL HEADERS	LN FT	29			29														
6	0301.604	CONTRACTION JOINT (SPEC) (TYPE C-3AS)	LN FT	410	410																
6	0301.604	LONGIT TIED JOINT REPAIR (TYPE A-6)	LN FT	950	950																
6	0301.604	JOINT REPAIR (TYPE B-3)	LN FT	660	660																
6	0301.609	SPOT-SURFACE REPAIR (TYPE B-2A)	SQ FT	1500	1500																
6	0301.609	REPAIR SPECIAL (TYPE B-2E)	SQ FT	2260	2260																
6	0301.609	SPOT FULL DEP JT REPAIR TYPE C-1	SQ FT	50	50																
11.2	2340.508	TYPE 41 WEARING COURSE MIXTURE	TON	974	95		102		409		50				318						
L 11	2340.510	TYPE 41 BINDER COURSE MIXTURE	TON	482			78		343												
11.2	2340.514	TYPE 41 BASE COURSE MIXTURE	TON	1533	95		279		791		50				318						
11.2	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	1472	79		233		870		23				187						
12	0411.603	MODULAR BLOCK RETAINING WALL	SQ FT	2438	425																
14	0411.604	CONCRETE BARRIER WALL- DESIGN SPECIAL	LN FT	110							869				1144						
13	0411.605	CONCRETE STEPS	CU YD	2	2										110						
27	0412.602	RELOCATE MAIL BOX	EACH	5	5																
R	2501.515	12" RC PIPE APRON	EACH	1																	
R	2501.515	15" RC PIPE APRON	EACH	5																	
R	2501.515	18" RC PIPE APRON	EACH	3																	
R	2501.515	24" RC PIPE APRON	EACH	1																	
	2502.541	4" PE CORR PERF PIPE DRAIN	LN FT	1710	610				350						750						
R	2503.541	12" RC PIPE SEWER DESIGN 3006 CL III	LN FT	138			126														
R	2503.541	15" RC PIPE SEWER DESIGN 3006	LN FT	704			508		10		20										
R	2503.541	15" RC PIPE SEWER DESIGN 3006 CL III	LN FT	123			123								131		33				
R	2503.541	18" RC PIPE SEWER DESIGN 3006	LN FT	285			62		50												
R	2503.541	24" RC PIPE SEWER DESIGN 3006	LN FT	65											173						
															65						
18	0504.602	CONNECT TO EXISTING WATERMAIN	EACH	3			2		1												
B	0504.602	RELOCATE HYDRANT	EACH	4			2		2												
B	0504.602	RELOCATE VALVE	EACH	3																	

NOTES:

- CHAIN LINK FENCE LOCATED ON

STATEMENT OF ESTIMATED QUANTITIES

TABS/ NOTES					ITEM NUMBER					ITEM DESCRIPTION					UNITS		TOTAL PROJECT QUANTITIES		*FEDERAL PARTICIPATING										SIGNALS		S.P. 62-665-36		S.P. 6286-43																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
																			S.P. 138-020-20		S.P. 138-107-15		S.P. 138-121-01		S.P. 62-665-36		S.P. 62-665-36				S.P. 6286-43																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
																			WHITE BEAR AVENUE		BEAM AVENUE		COUNTY ROAD D		WHITE BEAR AVENUE (CO RD D TO N CITY LIMITS)		WHITE BEAR AVENUE (N CITY LIMITS TO END OF PROJECT)				1624 RAMP																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
ROADWAY		STORM SEWER		ROADWAY		STORM SEWER		ROADWAY		STORM SEWER		ROADWAY		STORM SEWER		ROADWAY		STORM SEWER		ROADWAY		STORM SEWER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
R	2506.501	CONST DRAINAGE STRUCTURE DESIGN SPECIAL								LN FT	95.13																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											</

COST PARTICIPATION-SIGNAL SYSTEM ITEMS

ITEM NUMBER	ITEM DESCRIPTION	UNITS	TOTAL PROJECT QUANTITIES	PARTICIPATION PERCENTAGE			
				*FEDERAL	MNDOT	RAMSEY COUNTY	MAPLEWOOD
0565.601	REVISE SIGNAL SYSTEM A	LUMP SUM	1	\$7.07		26.620	14.310
0565.601	REVISE SIGNAL SYSTEM B	LUMP SUM	1	\$7.07		26.620	14.310
0565.601	REVISE SIGNAL SYSTEM C	LUMP SUM	1	\$7.07	21.465	21.465	
0565.601	REVISE SIGNAL SYSTEM D	LUMP SUM	1	\$7.07	21.465	21.465	
0565.601	REVISE SIGNAL SYSTEM E	LUMP SUM	1	\$7.07			
0565.601	TRAFFIC CONTROL INTERCONNECTION	LUMP SUM	1			100.00	42.83
0565.602	LOOP DETECTOR 6" x 6"	EACH	2	\$7.07			42.93

* FEDERAL PARTICIPATION BASED ON \$800,000.00 MAXIMUM.

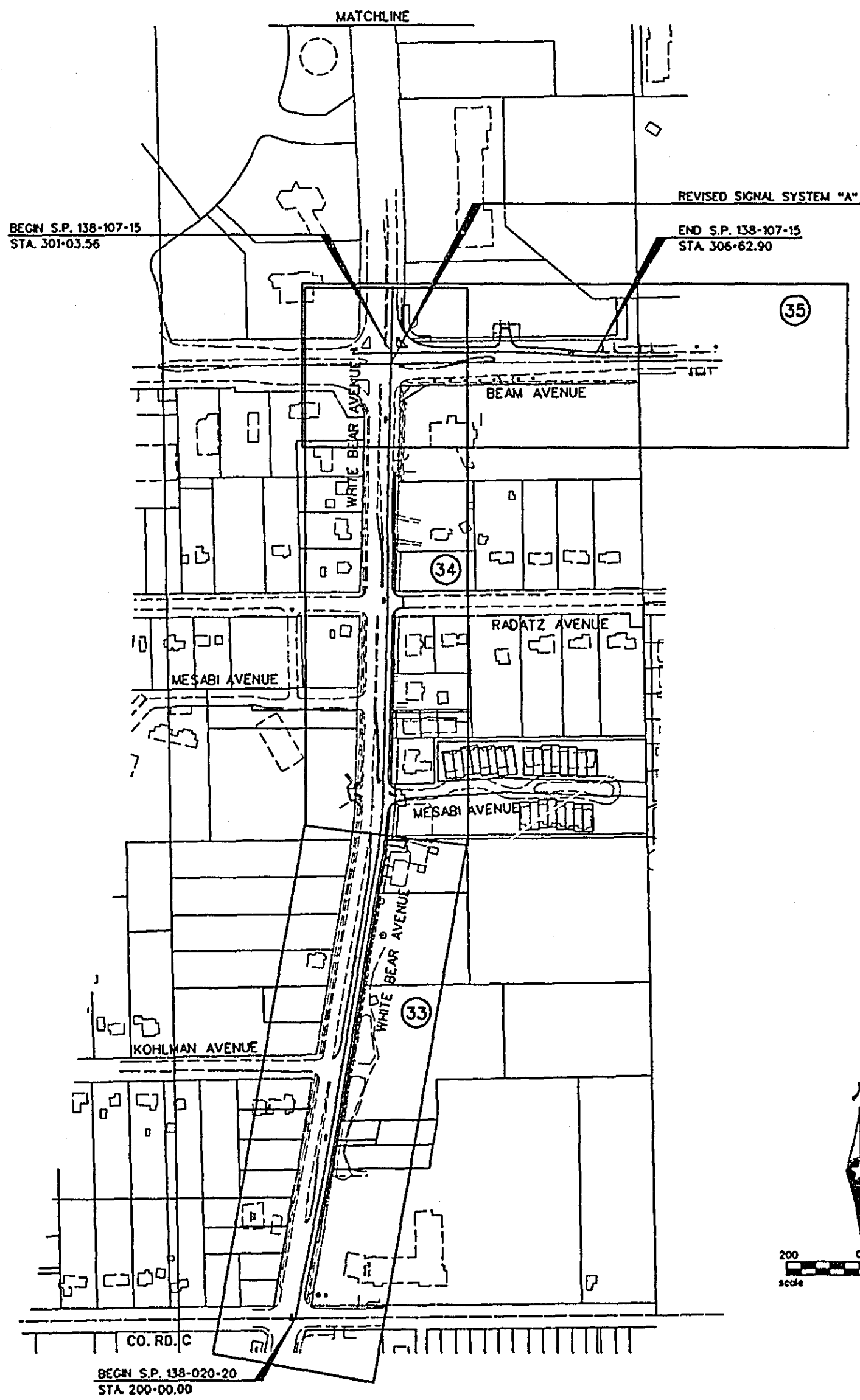
BASIS FOR ESTIMATED QUANTITIES

1.08 TONS/ CU YD
.05 GALLONS/ SQ YD
450 TONS/ ACREBITUMINOUS PAVEMENT
BITUMINOUS MATERIAL FOR TACK COAT
COMMERCIAL FERTILIZER APPLICATION RATE

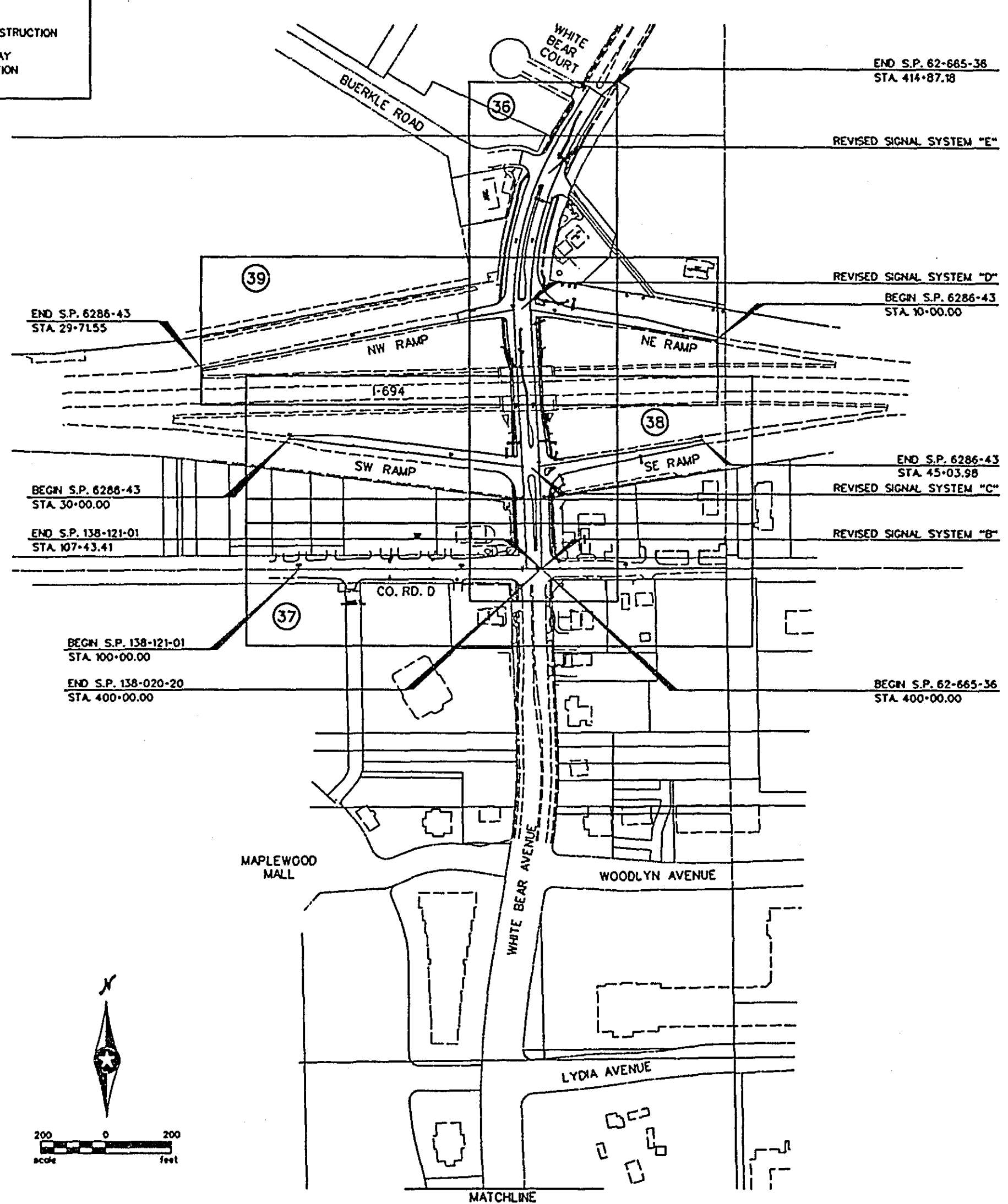
1	7-19-96	MCI	WKW	REVISED AS PER ADDITIONAL TRAFFIC ENGINEERING COMMENTS
2	9-26-96	LUV	WKW	REVISE PER MNDOT CENTRAL OFFICE COMMENTS
NO	DATE	BY	CHKD	APPR
NAME: SEQ2 178.DGN DATE: Sep. 26, 1996 TIME: 14:25:17				
REVISION				

S.P. 62-665-36
S.P. 138-107-15
S.P. 138-121-01
S.P. 138-020-20
S.P. 6286-43I hereby certify that this plan, specification or report was prepared
by me or under my direct supervision and that I am a duly Registered
Professional Engineer under the laws of the State of Minnesota.
William K. Winters
Date 10/1/96 Reg. No. 21874DRAWN BY DATE
T. TASSON 3-96
DESIGNED BY
T. ARVIDSON 3-96
CHECKED BY
B. WESTERBERG 3-96
COMM. NO.
0952178SRI CONSULTING
GROUP, INC.CITY OF MAPLEWOOD
STATEMENT OF ESTIMATED QUANTITIES
WHITE BEAR AVENUESHEET
3
OF
138

28-160



LEGEND
 (XX) TOPOGRAPHY / CONSTRUCTION
 PLAN SHEET NO.
 --- EXISTING ROADWAY
 --- NEW CONSTRUCTION



28-160

NO	DATE	BY	CHKD	APPR	REVISION
1	03/03/96	CL			178.DGN

S.P. 62-665-36
 S.P. 138-107-15
 S.P. 138-121-01
 S.P. 138-020-20
 S.P. 6286-43

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
William K. Wabersky
 Date 6/12/96 Reg. No. 21874

DRAWN BY DATE
 S. MARTINS 12-95
 DESIGNED BY
 B. WESTERBERG 12-95
 CHECKED BY
 B. WESTERBERG 1-96
 COMM. NO.
 0252178

SRE CONSULTING GROUP, INC.

CITY OF MAPLEWOOD
 GENERAL LAYOUT
 WHITE BEAR AVENUE

SHEET
 4
 OF
 138

The following standard plates, approved by the Federal Highway Administration, shall apply on this project.	
STANDARD PLATES	
PLATE NO.	DESCRIPTION
1103J	TYPICAL DOWEL BAR ASSEMBLY
1141D	PAVEMENT KEYWAY FOR KEYED JOINT CONSTRUCTION
1150P	CONSTRUCTION OF HEADER JOINTS
3000L	REINFORCED CONCRETE PIPE (5 SHEETS)
3006G	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007B	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3145E	CONCRETE PIPE TIES
4006L	MANHOLE OR CATCH BASIN DESIGN G OR DESIGN H
4010H	CONC. SHORT CONE & ADJUSTING RING
4011E	PRECAST CONCRETE BASE
4020G	MANHOLE OR CATCH BASIN COVER
4101C	RING CASTING FOR MANHOLE OR CATCH BASIN
4021D	PRECAST CURB OPENING CATCH BASIN
4110E	COVER CASTING FOR MANHOLE
4129G	CATCH BASIN FRAME CASTING
4132F	CATCH BASIN FRAME CASTING
4154B	CATCH BASIN GRATE CASTING
4160D	CURB BOX CASTING FOR CATCH BASIN
4180H	MANHOLE OR CATCH BASIN STEP
7000E	INTEGRANT CURBS
7035J	CONCRETE WALK AND CURB RETURNS AT ENTRANCES
7036D	PEDESTRIAN CURB RAMP FOR THE HANDICAPPED
7100G	CONCRETE CURB AND GUTTER
7102I	CONCRETE CURB AND GUTTER
7111J	INSTALLATION & REINFORCEMENT OF CATCH BASIN CASTINGS
7112C	INSTALLATION AND REINFORCEMENT OF CATCH BASINS AND MANHOLES
7113A	CONCRETE APPROACH NOSE DETAIL
8000I	STANDARD BARRICADES
8110C	TRAFFIC SIGNAL BRACKETTING
8111B	TRAFFIC SIGNAL BRACKETTING
8112C	PEDESTAL FOUNDATION
8115C	PEDESTRIAN PUSHBUTTON INSTALLATION
8117F	PRECAST CONCRETE HANDHOLE
8119C	GROUND MOUNTED CABINET FOUNDATION
8120K	PA-85 POLE FOUNDATION
8121D	TRANSFORMER BASE AND POLE BASE PLATE
8122C	PEDESTAL AND PEDESTAL BASE
8123D	POLE & MAST ARM
8150B	INSTALLATION OF CULVERT MARKERS
8307P	STEEL PLATE BEAM GUARDRAIL
8318C	GUARDRAIL ANCHORAGE PLATE FOR BRIDGES AND BCTS
8323H	TEMPORARY PORTABLE PRECAST CONCRETE BARRIER

NOTES: REFER TO DETAIL SHEET FOR SUPPLEMENTAL INFORMATION ON DES. LPX-X. SEE SPECIAL PROVISIONS FOR DETAIL OF STRUCTURES DES. XX-4020 AND DES. SPECIAL.

TYPICAL DOWEL BAR ASSEMBLY SHALL BE MODIFIED TO NON-SKEWED FOR NON-SKEWED TRAVERSE JOINTS

STANDARD PLATES (CONTINUED)	
PLATE NO.	DESCRIPTION
8329F	ECCENTRIC LOADER BREAKAWAY CABLE TERMINAL (ELT)
9102D	TURF ESTABLISHMENT AREAS
9322J	CHAIN LINK FENCE

CONSTRUCTION / SOILS NOTES	
1.	SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF SLOPE DRESSING, DEBRIS, ORGANIC MATERIAL, MUCK AND OTHER UNSTABLE MATERIAL.
2.	OTHER GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED ON THIS PROJECT EXCEPT DEBRIS.
3.	SELECT GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2B.
4.	CLEARING AND GRUBBING SHALL BE RESTRICTED TO AREAS WITHIN THE CONSTRUCTION LIMITS OF THE PROJECT AND AS SHOWN ON THE CLEARING AND GRUBBING TABULATION.
5.	BITUMINOUS SURFACING REMOVED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED IN THE BITUMINOUS BASE OR DISPOSED OF OFF THE PROJECT, IN ACCORDANCE WITH THE PROVISIONS OF SPEC. 2104-3C3.
6.	GRADING GRADE (TOP OF THE GRADING SUBGRADE) IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.
7.	UNLESS OTHERWISE REQUIRED, THE UPPER 2.0 FEET ON WHITE BEAR AVENUE BETWEEN COUNTY ROAD C AND BEAM AVENUE, 1.0 FEET ON COUNTY ROAD D, 3.5 FEET ON WHITE BEAR AVENUE TO THE NORTH OF COUNTY ROAD D, AND 3.5 FEET ON THE I-694 RAMPS OF THE EMBANKMENT BELOW THE GRADING GRADE (WITHIN THE LIMITS SHOWN ON THE TYPICAL SECTIONS, GRADE DETAILS, AND PROFILES) SHALL BE CONSTRUCTED OF SELECT GRANULAR MATERIAL.
8.	OTHER GRADING MATERIAL MAY BE PLACED IN EMBANKMENTS OUTSIDE OF A 1-1/2H:1V SLOPE EXTENDING DOWN AND OUTWARD FROM THE GRADING P.I.
9.	COMPACTION OF THE GRADING PORTION OF THE PROJECT SHALL BE BY THE "SPECIFIED DENSITY METHOD", IN ACCORDANCE WITH THE PROVISIONS OF SPEC. 2105. <i>Quality Compaction</i>
10.	STABILIZING AGGREGATE SHALL BE INCORPORATED INTO THE SUBGRADE TO ACHIEVE SATISFACTORY SURFACE STABILITY AT LOCATIONS DEEMED NECESSARY BY THE ENGINEER, IN ACCORDANCE WITH SPEC. 2105.3C. GRANULAR MATERIAL WHICH IS FURNISHED BY THE CONTRACTOR SHALL BE STABILIZED, IF NECESSARY, AT THE CONTRACTOR'S EXPENSE. WHERE STABILIZING AGGREGATE IS DEEMED NECESSARY, IT SHALL BE APPLIED AT A RATE OF APPROXIMATELY 200 POUNDS PER SQUARE YARD.
11.	WHERE WIDENING ADJACENT TO EXISTING SURFACING, CUT VERTICALLY TO THE TOP OF THE GRADING SUBGRADE AND THEN AT A 1/2:1 SLOPE TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION (AS SHOWN ON THE TYPICAL SECTIONS AND CROSS SECTIONS).
12.	WHERE MATCHING INTO EXISTING ROADWAYS AT THE ENDS OF CONSTRUCTION, CUT VERTICALLY TO THE TOP OF THE GRADING SUBGRADE AND THEN AT A 20:1 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION (AS SHOWN ON THE PROFILES).
13.	PROVIDE 20:1 LONGITUDINAL TAPERS BETWEEN CHANGES IN SUBCUT DEPTHS.
14.	COMPACTION OF AGGREGATE BASE AND AGGREGATE SHOULDERING SHALL BE BY THE "SPECIFIED DENSITY METHOD", IN ACCORDANCE WITH THE PROVISIONS OF SPEC. 2211. <i>Quality Compaction</i>
15.	USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT A UNIFORM RATE OF .03 TO .05 GAL/SQ. YD. THE APPLICATION RATE IS FOR UNDILUTED EMULSIONS (AS SUPPLIED FROM THE REFINERY). THE ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPEC. 2357.
16.	STRIP AND REUSE AS SLOPE DRESSING ALL EXISTING SLOPE DRESSING WHERE PRESENT IN AREAS TO BE DISTURBED BY CONSTRUCTION. ALL SUCH STRIPPING IS CONSIDERED TO BE COMMON EXCAVATION.
17.	THE EXISTING TOPSOIL THICKNESS IS APPROXIMATELY 4 INCH.
18.	PLACE A MINIMUM OF 4 INCHES OF SLOPE DRESSING ON ALL AREAS DISTURBED BY CONSTRUCTION AND SCHEDULED FOR PERMANENT TURF ESTABLISHMENT.
19.	TURF ESTABLISHMENT SHALL MEET THE REQUIREMENTS OF SPEC. 2575
20.	SODDING TYPE LAWN SHALL BE USED IN ALL DISTURBED AREAS EXCEPT DISTURBED AREAS ALONG I-694 RAMPS. THE DISTURBED AREAS ALONG I-694 RAMPS SHALL BE SODDING TYPE EROSION.
21.	PROVIDE COMMERCIAL FERTILIZER, ANALYSIS 10-10-10, ON ALL AREAS TO BE SODDED.

28-160

1	9-26-96	LMW	WKW		REVISED PER MNDOT CENTRAL OFFICE COMMENTS
NO	DATE	BY	CKD	APPR	REVISION
NAME: SHP 178.DGN DATE: Sep. 30, 1996 TIME: 14:25:45					

S.P. 62-665-36
S.P. 138-107-15
S.P. 138-121-01
S.P. 138-020-20
S.P. 6286-43

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

William K. Westberg

Date 10/1/96 Reg. No. 24874

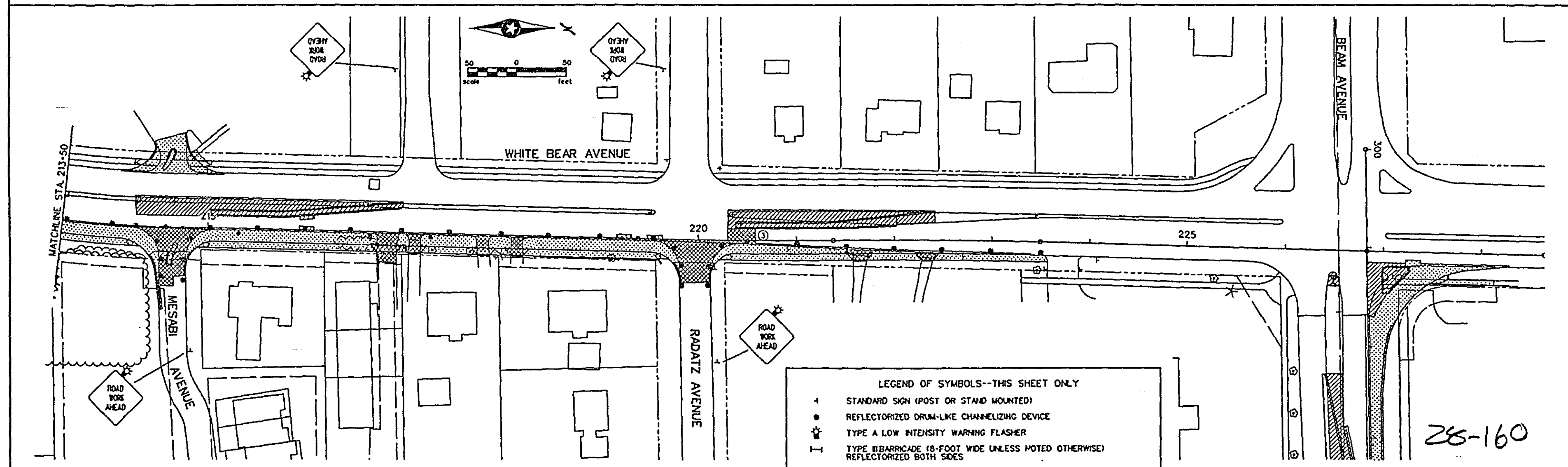
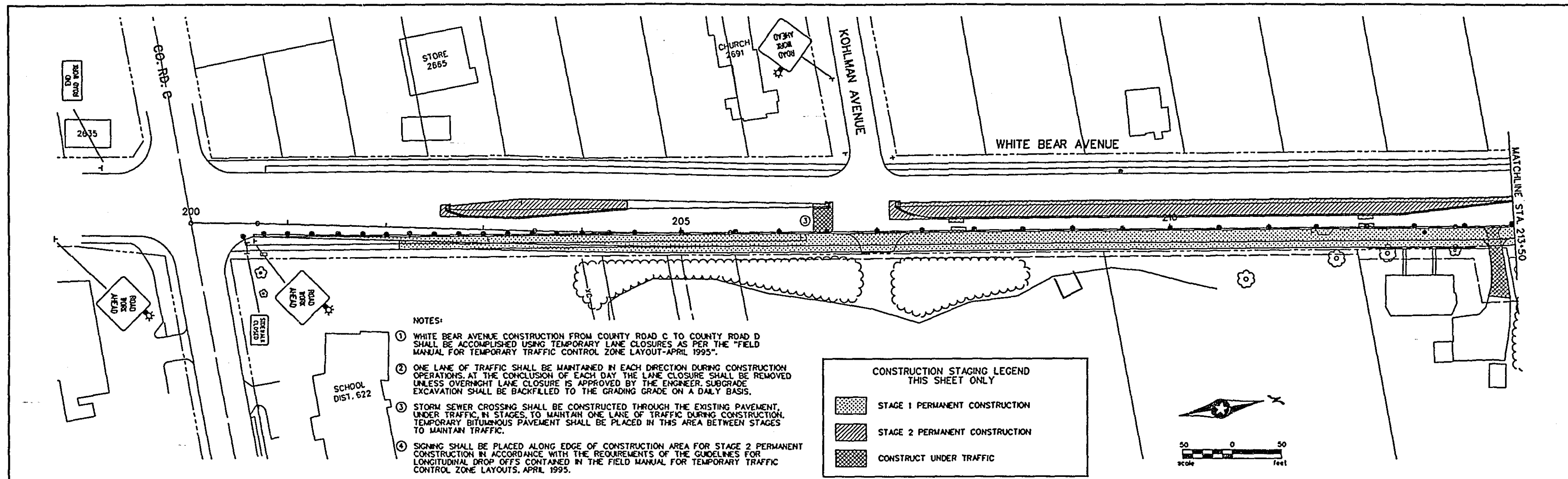
DRAWN BY DATE
T. TASSON 3-96
DESIGNED BY
T. ARVIDSON 3-96
CHECKED BY
B. WESTERBERG 3-96
COMM. NO.
095217A



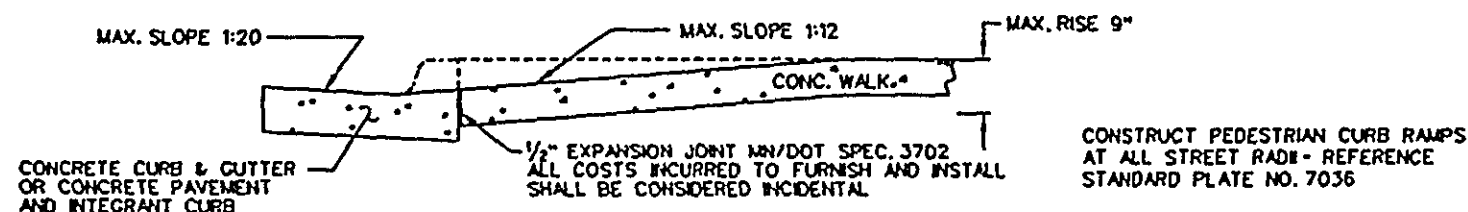
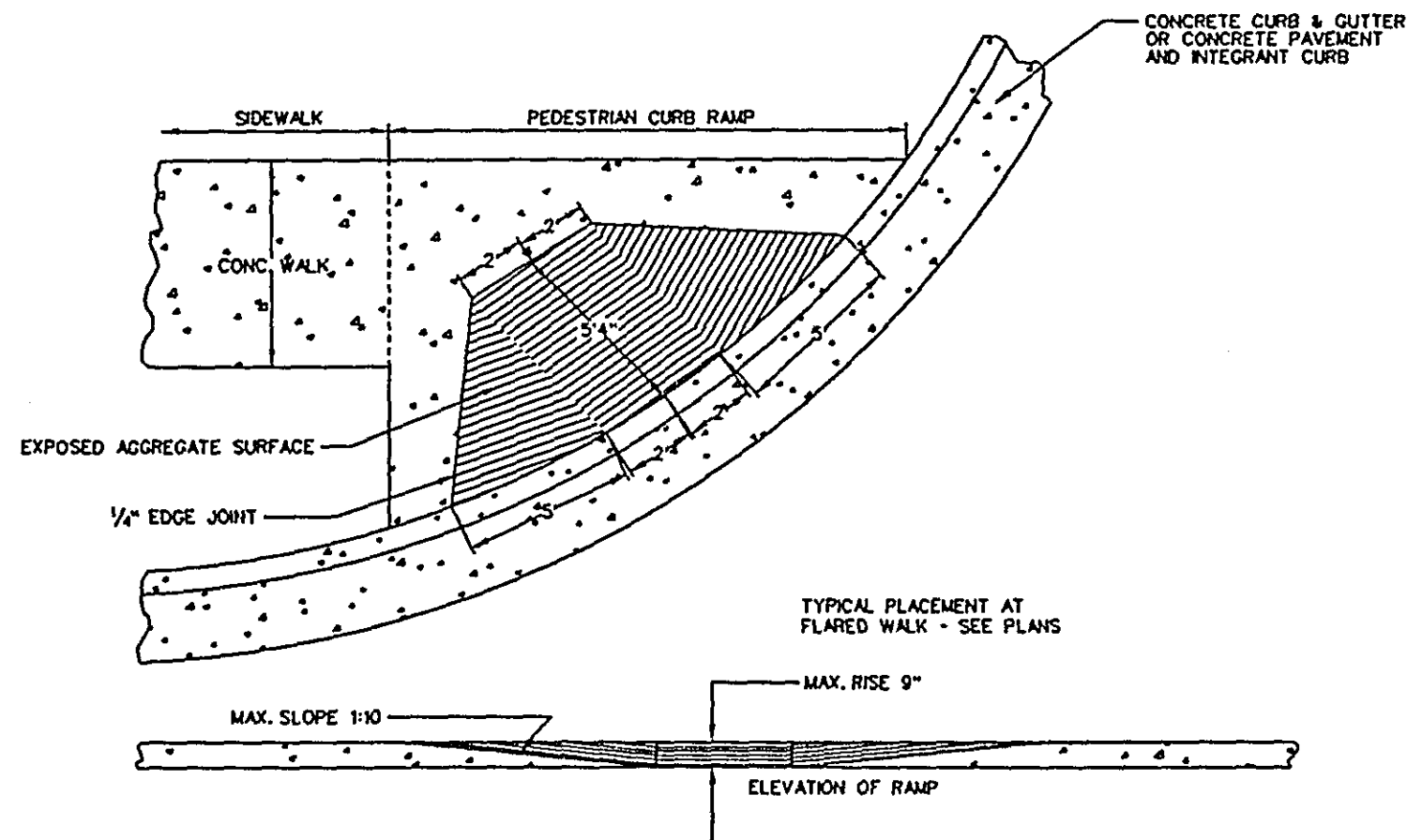
CONSULTING
GROUP, INC.

CITY OF MAPLEWOOD
CONSTRUCTION / SOILS NOTES & STANDARD PLATES
WHITE BEAR AVENUE

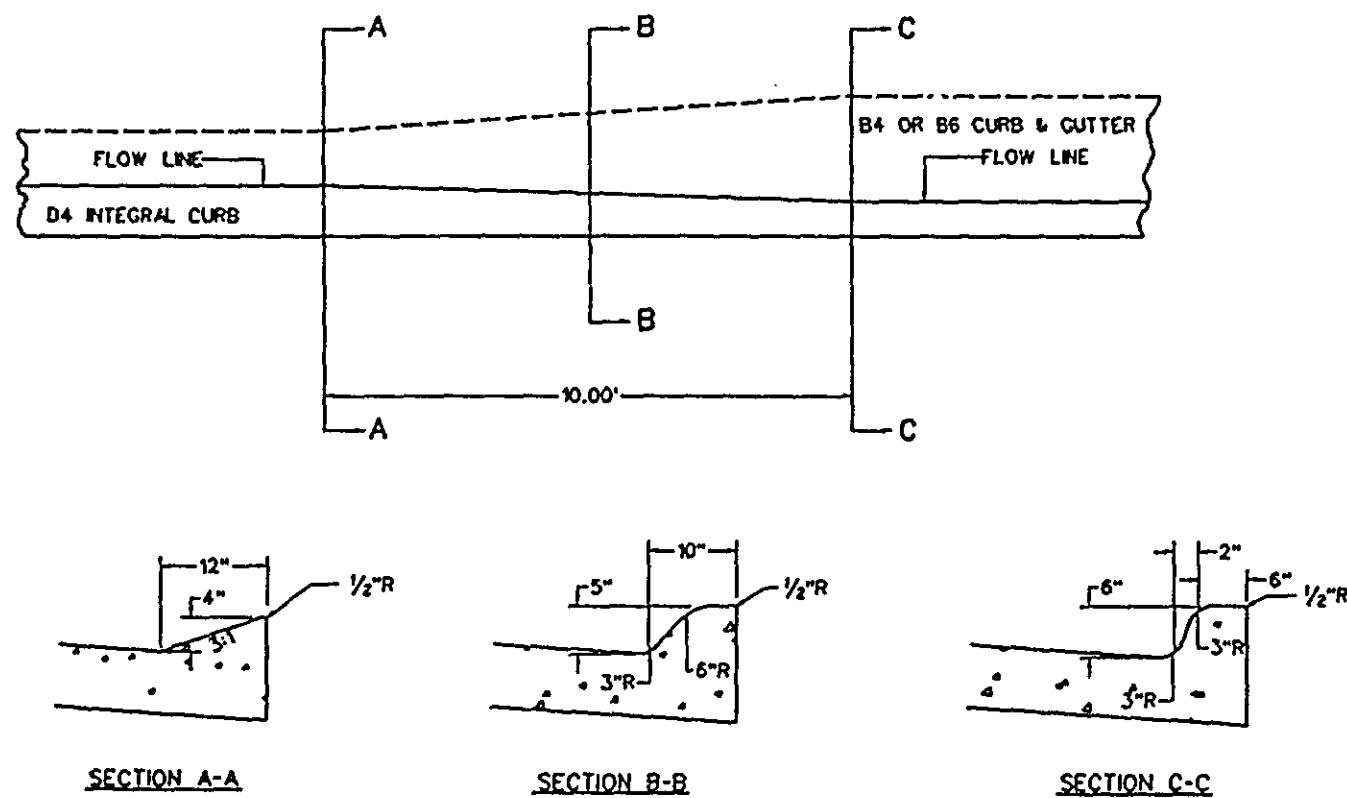
SHEET
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OF
138



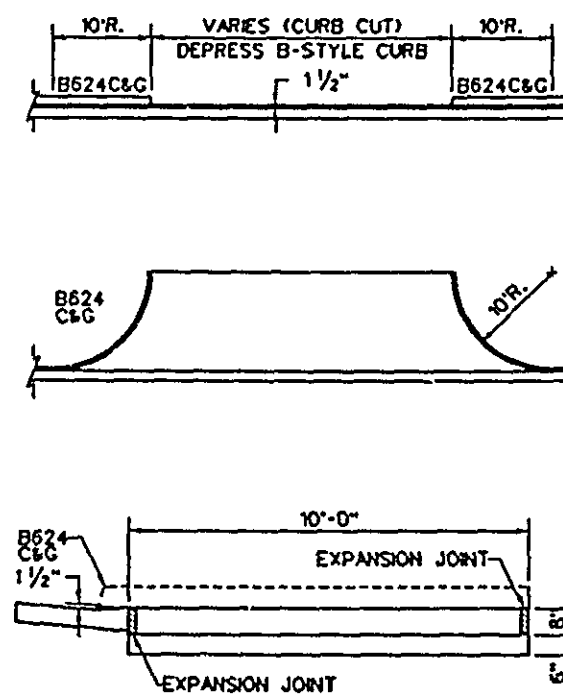
1	7-19-96	MCI	WKW	REVISED PER ADDITIONAL TRAFFIC ENGINEERING COMMENTS	S.P. 62-665-36	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.	DRAWN BY S. MARTIN	DATE 12-95	SRE CONSULTING GROUP, INC.	CITY OF MAPLEWOOD CONSTRUCTION STAGING AND TRAFFIC CONTROL PLAN WHITE BEAR AVENUE STA 200+00.00 TO STA 228+63.63	SHEET 6 OF 138
2	9-26-96	LMV	WKW	REVISED PER MNDOT CENTRAL OFFICE COMMENTS	S.P. 138-107-15 S.P. 138-121-01 S.P. 138-020-20 S.P. 6286-43	William K. L. [Signature]	DESIGNED BY B. WESTERBERG	DATE 12-95			
NO	DATE	BY	CHKD	APPR	REVISION		CHECKED BY D. MCHALKO	DATE 1-96			
NAME: CSI 178.DGN DATE: Sep. 26, 1996 TIME: 11:52:53											
							Date	10/1/96	Reg. No.	21074	



PEDESTRIAN CURB RAMP DETAIL



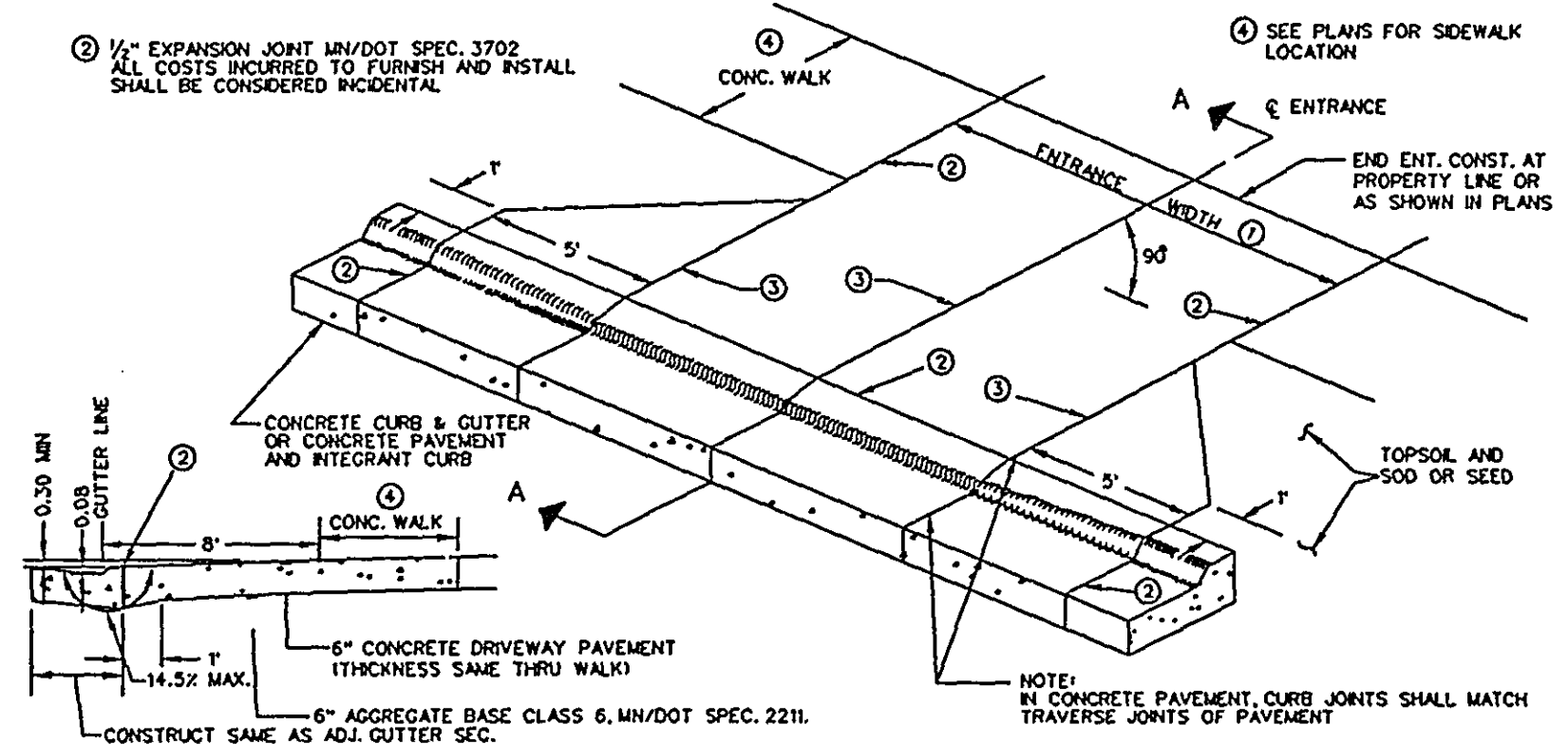
CURB TRANSITION - B4 OR B6 CURB TO D4 CURB



8\"/>

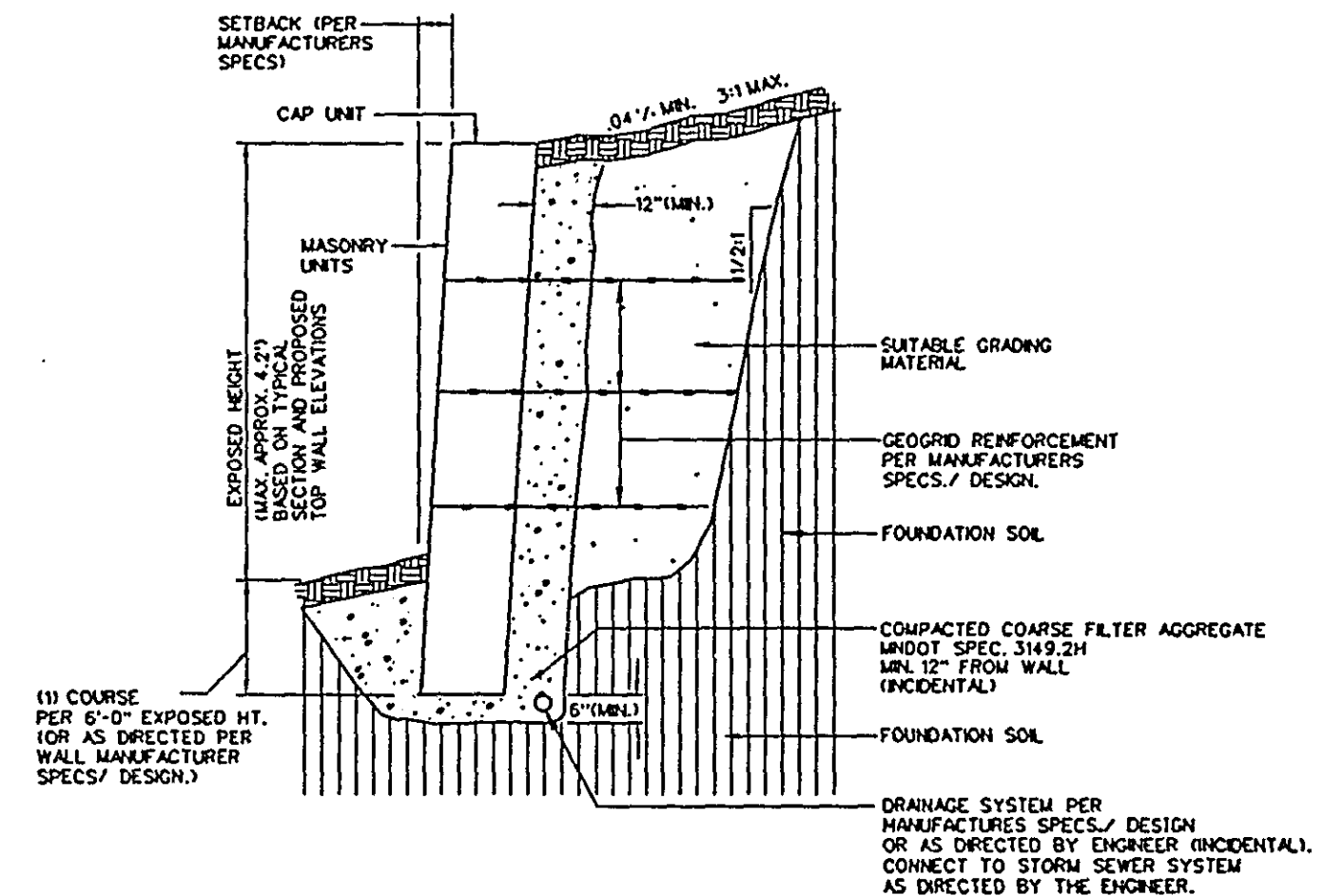
- ① ENTRANCE WIDTHS
RESIDENTIAL - 12' MIN.
- 26' MAX.
COMMERCIAL - 32' MAX. AT 90°

- ② 1/2\"/>



SECTION A-A

CONCRETE ENTRANCE DETAIL



MODULAR BLOCK RETAINING WALL DETAIL

28-160

NO	DATE	BY	CHKD	APPR	REVISION

S.P. 62-665-36
S.P. 138-107-15
S.P. 138-121-01
S.P. 138-020-20
S.P. 6286-43

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
William K. Waberski
Date 6/12/96 Reg. No. Z1874

DRAWN BY T. YASSON DATE 3-96
DESIGNED BY D. MACHALSKI 11-95
CHECKED BY B. WESTERBERG 11-95
COMM. NO. 0952178

SRE CONSULTING GROUP, INC.

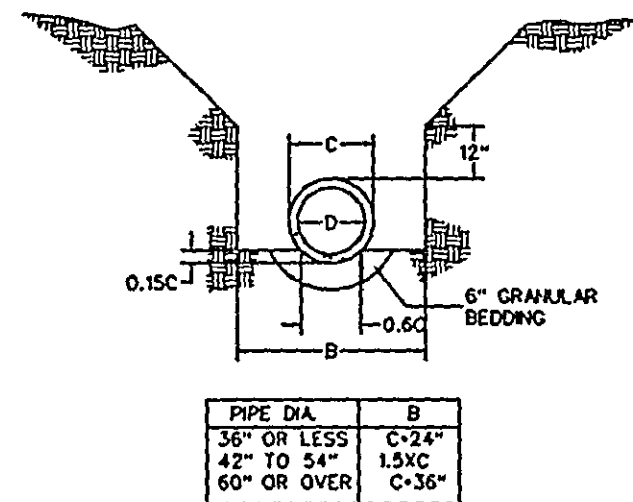
CITY OF MAPLEWOOD
DETAILS
WHITE BEAR AVENUE

SHEET 16
OF 138

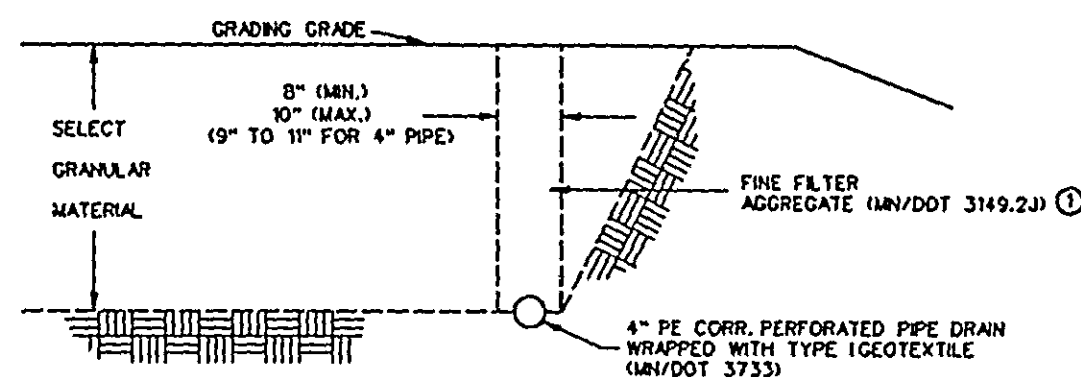


Diagram illustrating the location and elevation of the center of gravity (CG) for a structure. The diagram shows a cross-section of a structure with a circular base. The CG is located at a horizontal distance of 1.5' from the vertical centerline and a vertical distance of 0.53' from the base. The distance from the base to the center of the circular structure is 0.22'. A note indicates "NORMAL GUTTER SLOPE & WIDTH SEE TYPICAL SECTION". Another note points to the CG location: "CG LOCATION AND ELEVATION AT THIS POINT".

SECTION A-A



PIPE BEDDING DETAIL



OPTION NO. 2

DETAILS FOR SUBGRADE DRAINS

CONCRETE SHALL MATCH
CONCRETE WALK MIX DESIGN

EXISTING CONCRETE WALK

4" CONCRETE WALK

1/2" EXPANSION MATERIAL

1-1/2" MIN. CLEAR

R = 1/2" (TYP.)

1'-0"

1/4"

6" MAX.

4" CONCRETE WALK

1/2" EXPANSION MATERIAL

6" MIN. THROAT

3" MIN. CLEAR

PLACE ON COMPACTED SUBGRADE

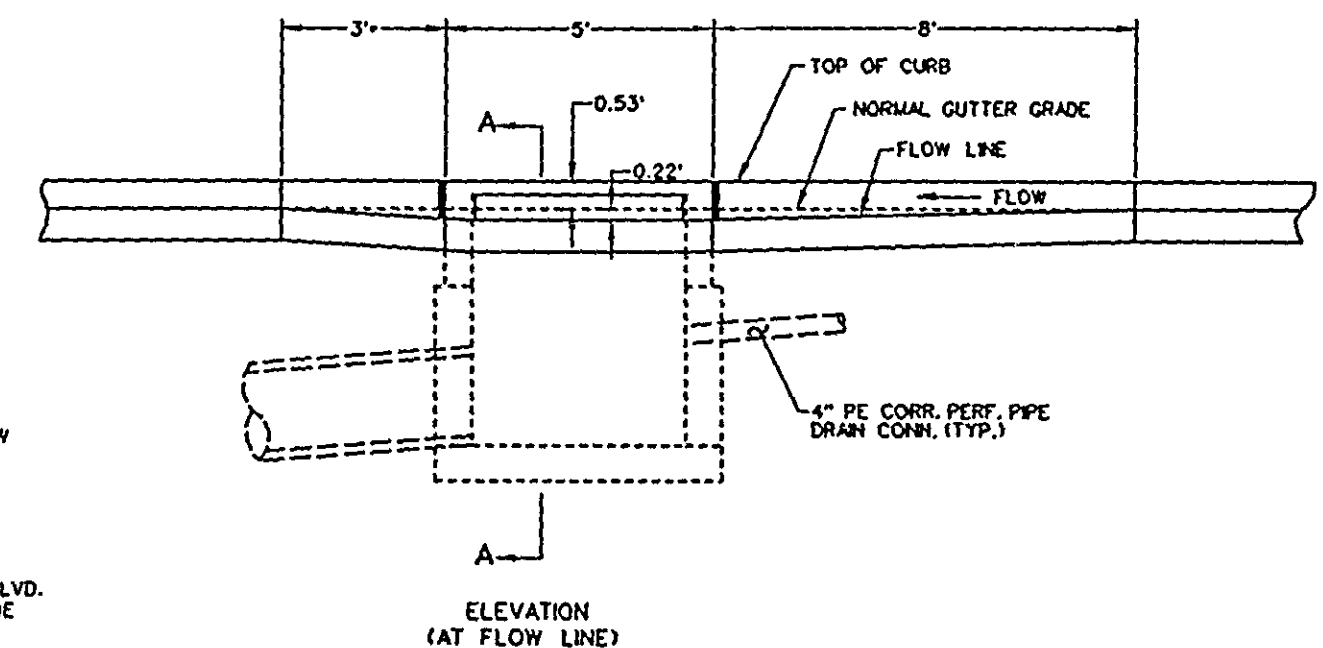
#4 BAR (TYP.)

NOTE:
VARIANCE IN RISER HEIGHT SHALL NOT
EXCEED 1/4" INCH. RISER HEIGHT TO BE
DETERMINED IN THE FIELD MATCHING
PROPOSED AND EXISTING WALKS.

CONCRETE STEPS DETAIL

NOTES

- 1 • DIMENSION SHALL BE 8' WHEN STRUCTURE IS INSTALLED AT LOW POINT IN GRADE.
- 2 CATCH BASIN - DESIGN LP - SEE MN/DOT STD. PL. NO. 4021.
- 3 TOP OF CATCH BASIN SHALL BE INSTALLED AT SAME SLOPE AS BLVD. GRADES AND TOP OF CURB GRADE EACH SIDE OF STRUCTURE.
- 4 ELEVATION OF STRUCTURE IS COMPUTED AT LOCATION SHOWN IN SEC. A-A AT C. OF C.B. OPENING.
- 5 ALL COSTS INCURRED TO FURNISH AND INSTALL 1/2" EXPANSION JOINT MATERIAL SHALL BE CONSIDERED INCIDENTAL.



PRECAST CURB OPENING CATCH BASIN - DESIGN LP

28-160

[illegible]

S.P. 62-665-36
S.P. 138-107-15
S.P. 138-121-01
S.P. 138-020-20
S.P. 6286-43

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

William K. Wabdega
Date 6/12/96 Reg. No. 2187

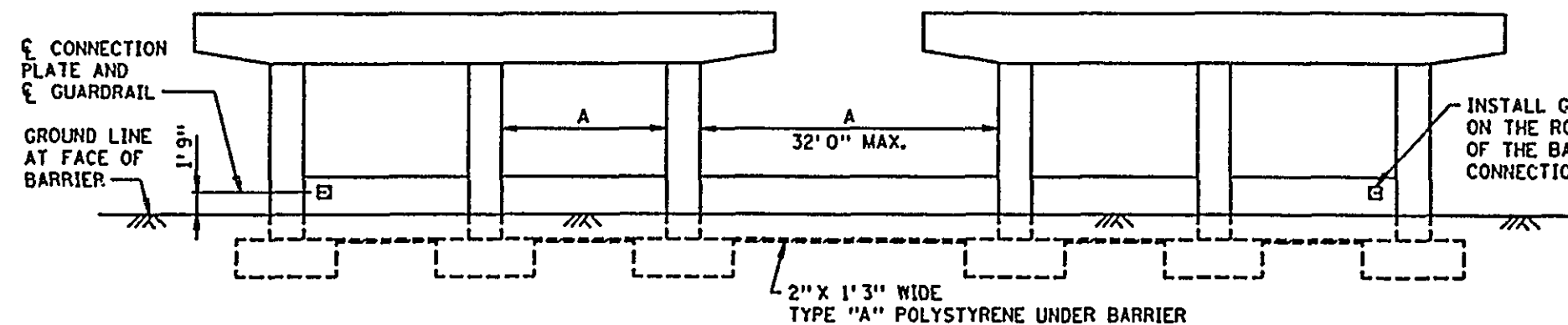
DRAWN BY	DATE
I. TASSON	3-96
DESIGNED BY	
D. MICHALKO	11-95
CHECKED BY	
B. WESTERBERG	11-95
COMM. NO.	
095217B	



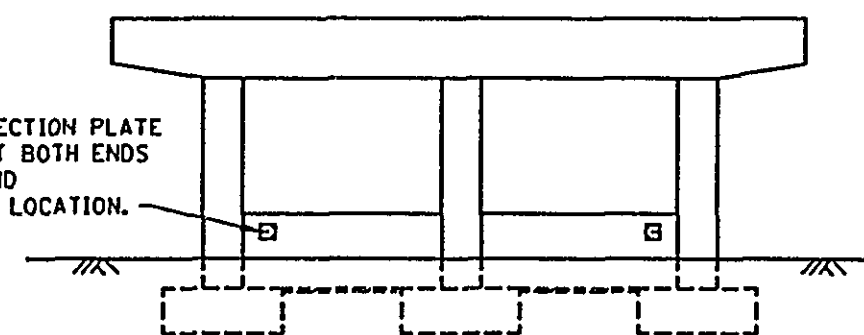
**CONSULTING
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CITY OF MAPLEWOOD
DETAILS
WHITE BEAR AVENUE

SHEET
17 ✓
OF
138



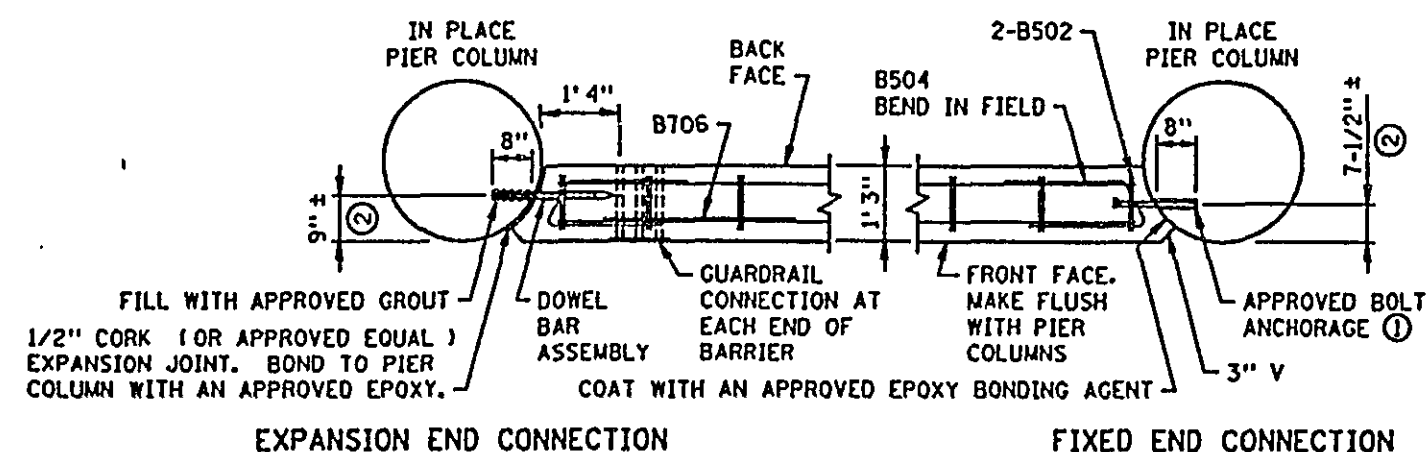
TYPICAL INSTALLATION BETWEEN BRIDGES



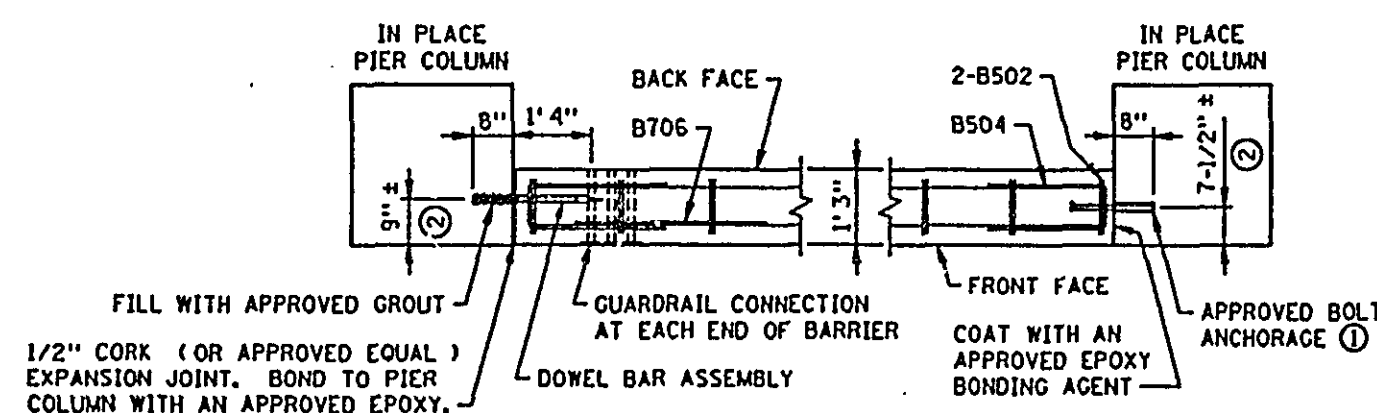
TYPICAL INSTALLATION AT SINGLE BRIDGES

BILL OF REINFORCEMENT				
BAR	NO.	LENGTH	SHAPE	LOCATION
B501		6'9"	BENT	FOOTING DOWELS
B502		7'9"	BENT	VERTICAL TIES
B503		6'11"	BENT	VERTICAL TIES
B504		4'9"	BENT	HORIZONTAL TIES
B505		2'11"	BENT	VERTICAL TIES
B706		6'10"	BENT	RAIL CONNECTION
B507		8'0"	STRAIGHT	HORIZONTAL
* NO.			STRAIGHT	HORIZ. - FRONT FACE
* NO.			STRAIGHT	HORIZ. - BACK FACE
NO. 5			STRAIGHT	HORIZONTAL

* SEE BAR TABLE FOR SIZE



EXPANSION END CONNECTION



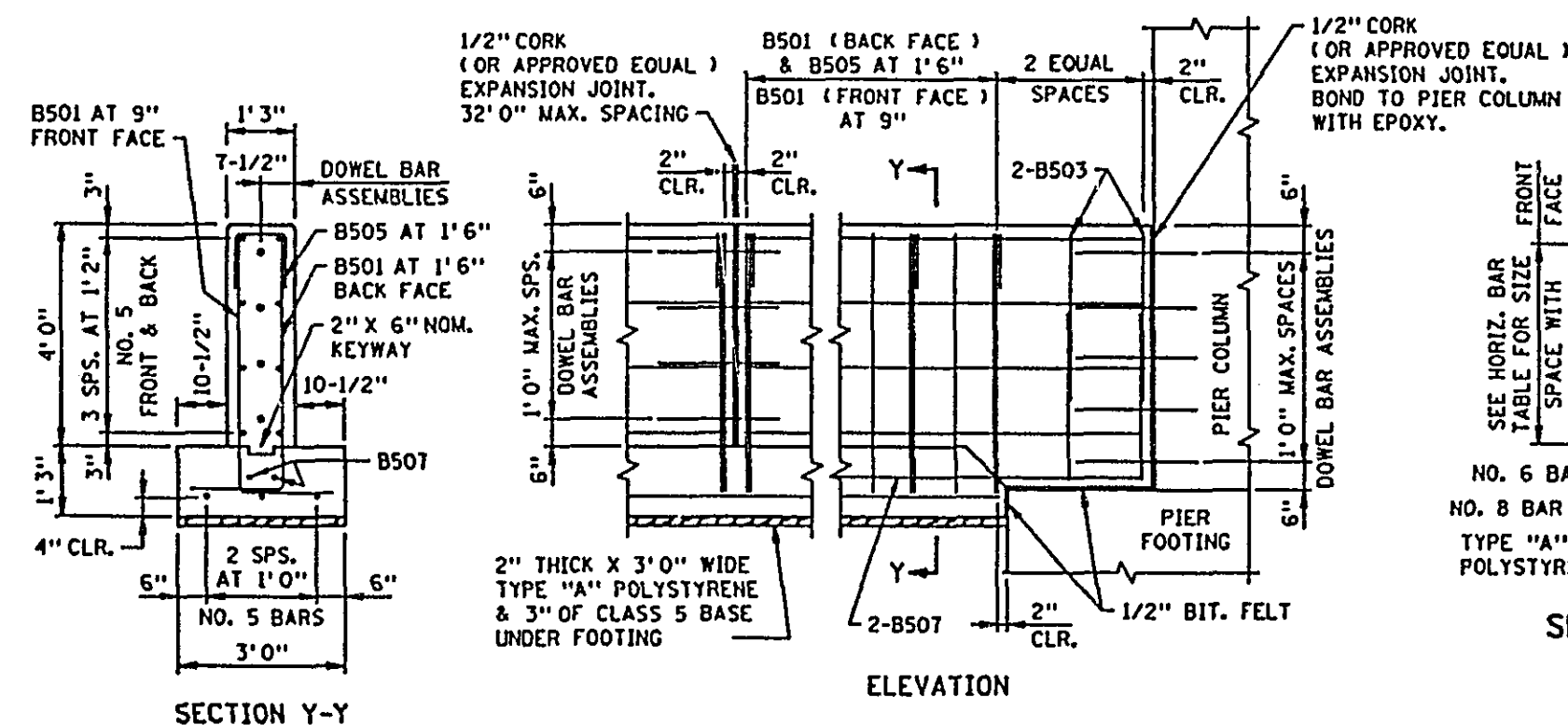
EXPANSION END CONNECTION

FIXED END CONNECTION

HORIZONTAL BAR TABLE			
DIMENSION "A"	NO. OF EQUAL SPACES	BAR SIZE FRONT FACE	BAR SIZE BACK FACE
UNDER 12'	5	4	5
12' TO 16'	5	4	6
17' TO 21'	5	5	7
22' TO 26'	5	6	8
27' TO 32'	5	6	8

PLAN VIEW (ROUND COLUMN)

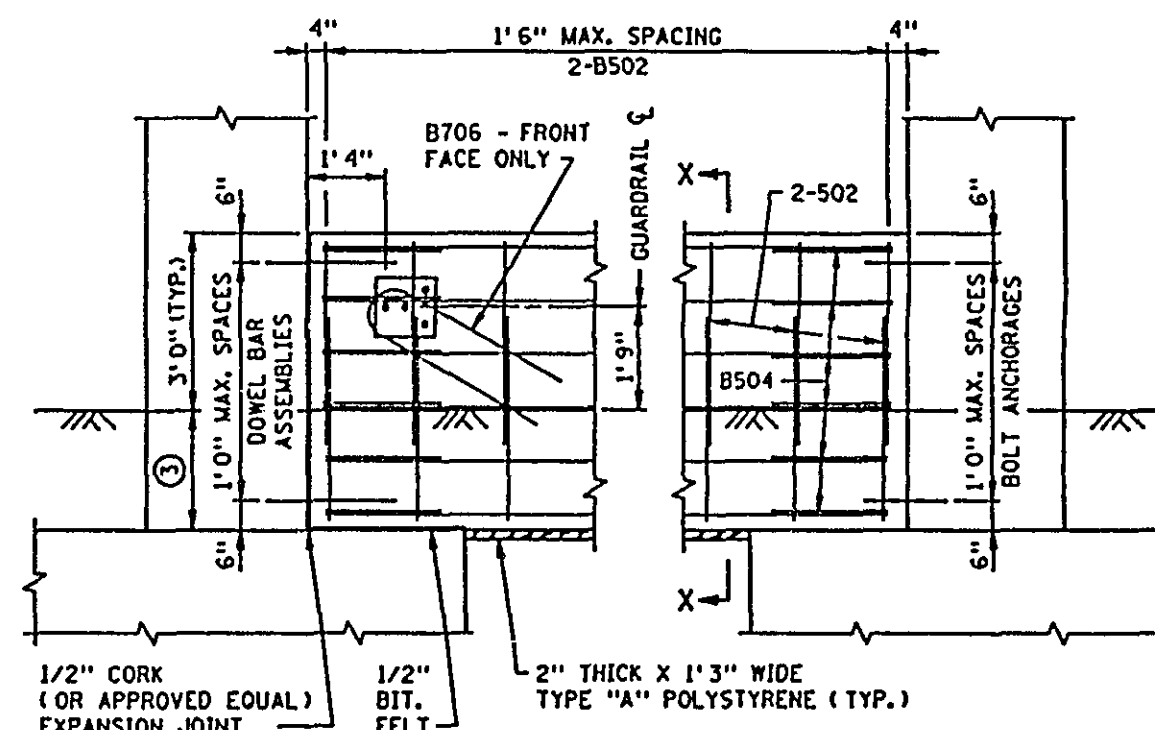
PLAN VIEW (SQUARE COLUMN)



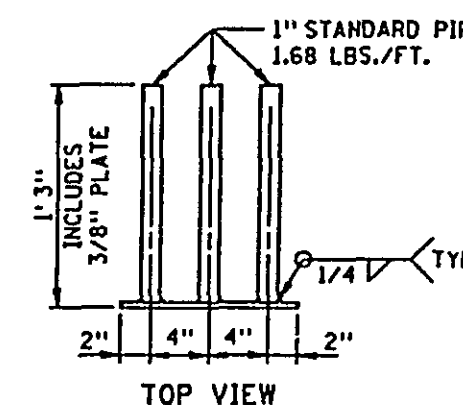
SECTION Y-Y

ELEVATION

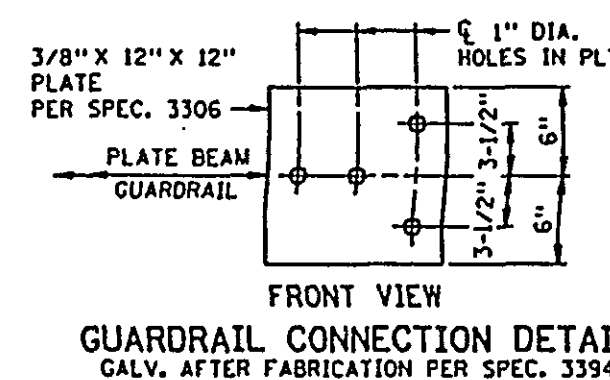
SECTION X-X



ELEVATION (ROUND AND SQUARE COLUMNS)

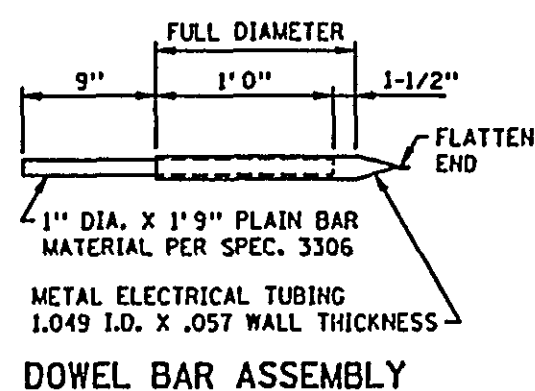


TOP VIEW

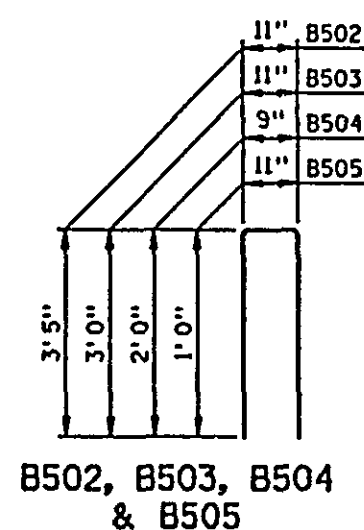


FRONT VIEW
GUARDRAIL CONNECTION DETAIL
GALV. AFTER FABRICATION PER SPEC. 3394

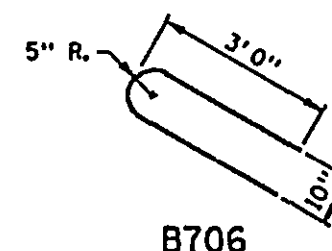
INSTALLATION WHEN "A" IS MORE THAN 32 FT.
(SEE ROUND & SQUARE COLUMN DETAILS FOR INFORMATION NOT SHOWN)



DOWEL BAR ASSEMBLY



B501



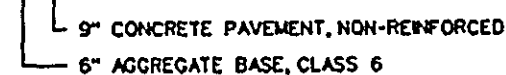
B706

NOTES:

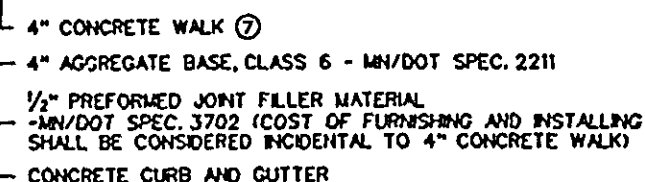
- ALL REINF. SHALL BE PER SPEC. 3301 AND EPOXY COATED. ALL REINF. SHALL BE 2" CLEAR, EXCEPT AS NOTED. THE BARRIER SHALL BE CONC. MIX NO. 3Y43
- EACH BOLT ANCHORAGE SHALL BE AN APPROVED 1" DIA. ANCHORAGE OR EPOXY MORTAR ANCHORAGE HAVING A MIN. ULTIMATE STRENGTH OF 25,000 LBS. EMBED 8" MIN. INTO THE CONCRETE. THE BOLTS SHALL BE 1" DIA. X 16" LONG.
- THE ENGINEER IN THE FIELD SHALL DETERMINE LOCATION OF ANCHOR BOLTS & DOWELS. ADJUST TO MISS COLUMN REINF.
- IF THE TOP OF THE PIER FOOTING IS LESS THAN 2 FT. BELOW THE GROUND, THE BOTTOM OF THE WALL SHALL BE 2 FT. BELOW THE GRADE LINE.

28-160

STANDARD SHEET NO. 5-297.610	TITLE CONCRETE BARRIER WALL BETWEEN BRIDGE PIER COLUMNS
STANDARD APPROVED FEBRUARY 4, 1993	
STATE PROJ. NO. S.P. 62-665-36 S.P. 138-107-15 S.P. 138-121-01 S.P. 138-020-20 S.P. 6286-43	SHEET NO. 21 OF 138 SHEETS

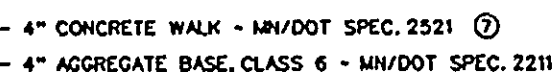


DETAIL A



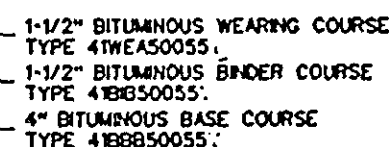
DETAIL B

4" CONCRETE WALK IN MEDIAN



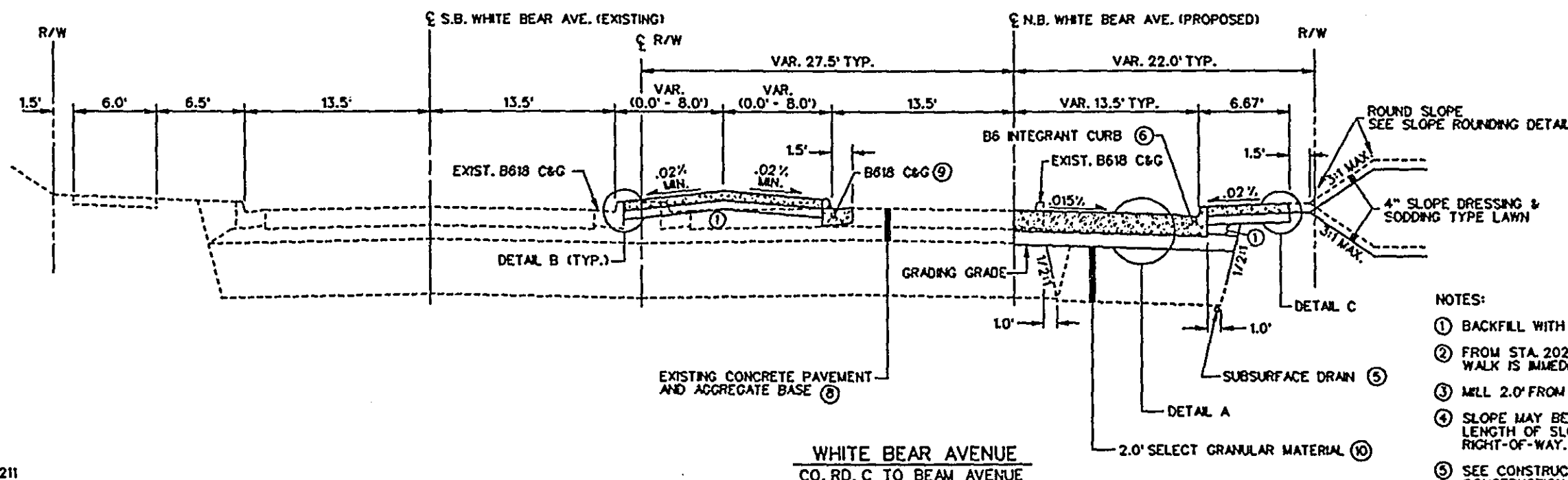
DETAIL C

4" CONCRETE WALK



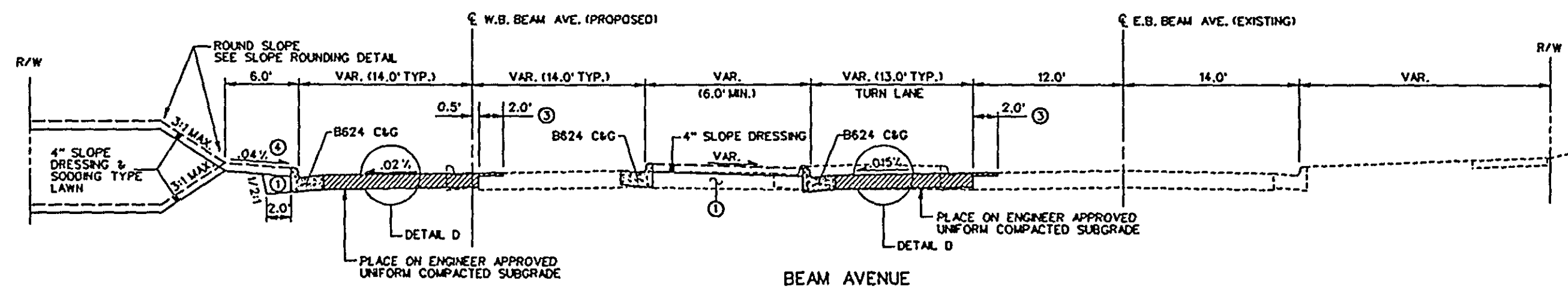
DETAIL D

BEAM AVENUE BITUMINOUS PAVEMENT



NOTES:

- ① BACKFILL WITH SUITABLE GRADING MATERIAL.
- ② FROM STA 202+14 TO STA 213+05 6.0' WIDE CONCRETE WALK IS IMMEDIATELY BEHIND THE CURB.
- ③ MLL 2.0' FROM EXISTING CONCRETE GUTTER TO A DEPTH OF 1-1/2".
- ④ SLOPE MAY BE INCREASED AS DIRECTED BY THE ENGINEER TO 10:1 AND LENGTH OF SLOPE INCREASED TO KEEP CONSTRUCTION LIMITS WITHIN THE RIGHT-OF-WAY.
- ⑤ SEE CONSTRUCTION PLAN FOR LOCATION AND DETAIL SHEET FOR METHOD OF CONSTRUCTION.
- ⑥ SLOPE GUTTER FOR 1.5' AT 0.06 %.
- ⑦ PROVIDE 8" HOLE IN CONCRETE FOR PROPOSED SIGN INSTALLATIONS.
- ⑧ EXISTING CONCRETE PAVEMENT IS 8" THICK NON REINFORCED WITH EXISTING CURB AND GUTTER CONNECTED TO CONCRETE PAVEMENT WITH L2KT JOINT.
- ⑨ DRILL AND GROUT REINFORCEMENT BARS: FURNISH AND INSTALL NO. 8 REINFORCING BARS 18" LONG INTO CONCRETE PAVEMENT AT 12" C-C SKEWED 20° FROM NORMAL TO BOTH JOINTS. PLACE REINFORCEMENT BAR IN DRILL HOLE WITH NON-SHRINK GROUT.
- ⑩ IF SELECT GRANULAR MATERIAL IS NOT AVAILABLE ON SITE, CONTRACTOR SHALL FURNISH SELECT GRANULAR BORROW IN ACCORDANCE WITH MNDOT 3149.2B.

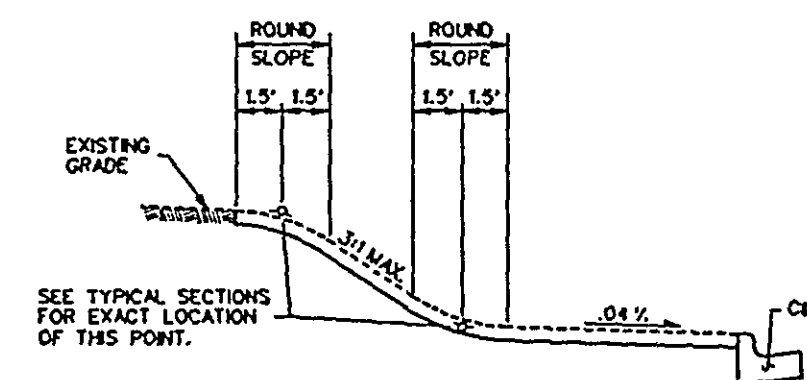


DRIVEWAY SECTIONS

GRAVEL SURFACED
-6" AGGREGATE SURFACING CLASS 6 - MN/DOT SPEC. 2118

BITUMINOUS SURFACED
-2" TYPE A WEARING COURSE MIXTURE (MN/DOT SPEC. 2340)
4TWEA5005Y
-2" TYPE A1 BASE COURSE MIXTURE (MN/DOT SPEC. 2340)
4TBB5005Y
-6" AGGREGATE BASE CLASS 6 - MN/DOT SPEC. 2211

CONCRETE SURFACED
-6" CONCRETE DRIVEWAY PAVEMENT, 8" CONCRETE DRIVEWAY PAVEMENT (COMMERCIAL DRIVEWAYS) - MN/DOT SPEC. 2531
-8" AGGREGATE BASE CLASS 6 - MN/DOT SPEC. 2211



SLOPE ROUNDING DETAIL

28-160

[illegible]

S.P. 62-665-36
S.P. 138-107-15
S.P. 138-121-01
S.P. 138-020-20
S.P. 6286-43

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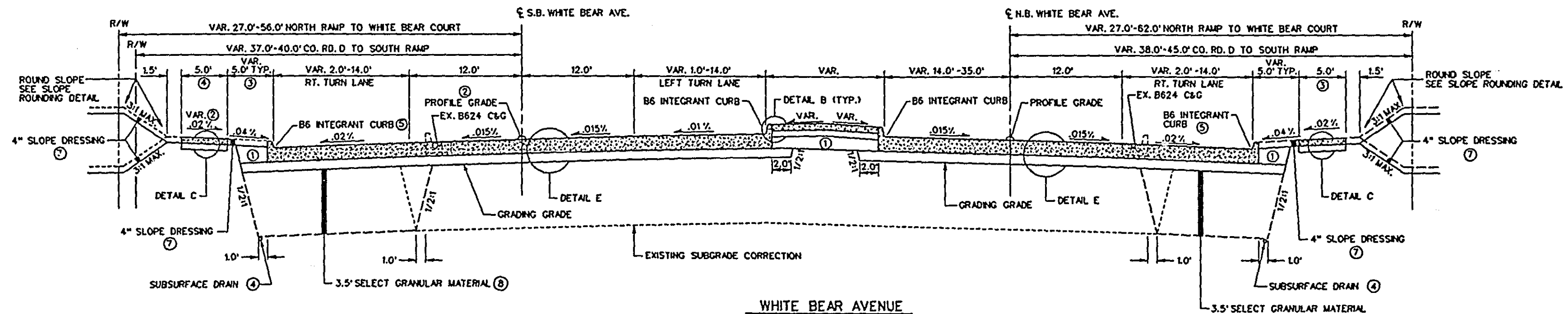
Date 10/1/96 Reg. No. 21874

DRAWN BY	DATE
S. MARTINS	11-95
DESIGNED BY	
D. MICHA KO	11-95
CHECKED BY	
B. WESTERBERG	11-95
COMM. NO.	
0952178	

SRE CONSULTING GROUP, INC.

CITY OF MAPLEWOOD
TYPICAL SECTIONS
WHITE BEAR AVENUE

SHEET
22 ✓
OF
138



WHITE BEAR AVENUE
CO. RD. D TO WHITE BEAR COURT
EXCEPT UNDER I-694 BRIDGES

NOTES:

- ① BACKFILL WITH SUITABLE GRADING MATERIAL.
- ② PROFILE GRADE SHOWN ON S.B. WHITE BEAR AVENUE PROFILE IS ON C/L S.B. WHITE BEAR AVENUE STATIONING FROM STATION 400+00 TO STATION 407+25. FROM STATION 405+92 TO STATION 407+25 PROFILE LOCATION MOVES TO 13.0' RIGHT OF C/L S.B. WHITE BEAR AVENUE.
- ③ 4" CONCRETE WALK TO BE CONSTRUCTED IN THE AREA SHOWN ON THE CONSTRUCTION PLAN OR AS DIRECTED BY THE ENGINEER.
- ④ SEE CONSTRUCTION PLAN FOR LOCATION AND DETAIL SHEET FOR METHOD OF CONSTRUCTION.
- ⑤ B4 INTEGRAL CURB SHALL BE CONSTRUCTED IN LOCATIONS SHOWN ON THE PLANS.
- ⑥ EXISTING CONCRETE PAVEMENT IS 8" THICK REINFORCED PAVEMENT WITH EXISTING CONCRETE CURB AND GUTTER CONNECTED TO CONCRETE PAVEMENT WITH LITH OR L2KTH JOINT.
- ⑦ SODDING TYPE LAWN
- ⑧ IF SELECT GRANULAR MATERIAL IS NOT AVAILABLE ON SITE, CONTRACTOR SHALL FURNISH SELECT GRANULAR BORROW IN ACCORDANCE WITH MNDOT 3149.2B.

28-160 ✓

1	9-26-96	LMV	WKW	REVISED PER MNDOT CENTRAL OFFICE COMMENTS
NO	DATE	BY	CHKD	APPR

S.P. 62-665-36
S.P. 138-107-15
S.P. 138-121-01
S.P. 138-020-20
S.P. 6286-43

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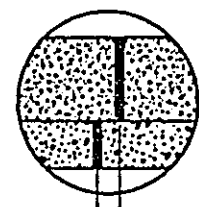
William K. Westerberg
Date 10/1/96 Reg. No. 21874

DRAWN BY
I. TASSON
DESIGNED BY
D. MICHALKO
CHECKED BY
B. WESTERBERG
COMM. NO.
0252178

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GROUP, INC.

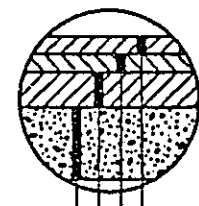
CITY OF MAPLEWOOD
TYPICAL SECTIONS
WHITE BEAR AVENUE

SHEET
23
OF
138



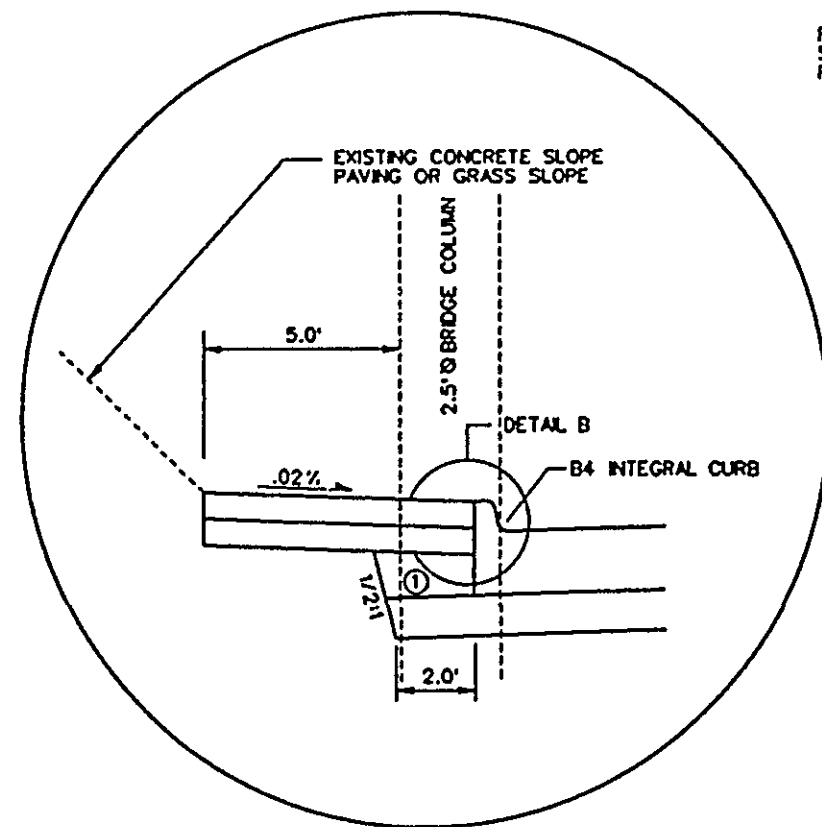
9-1/2" CONCRETE PAVEMENT
6" AGGREGATE BASE-CLASS 6

DETAIL E

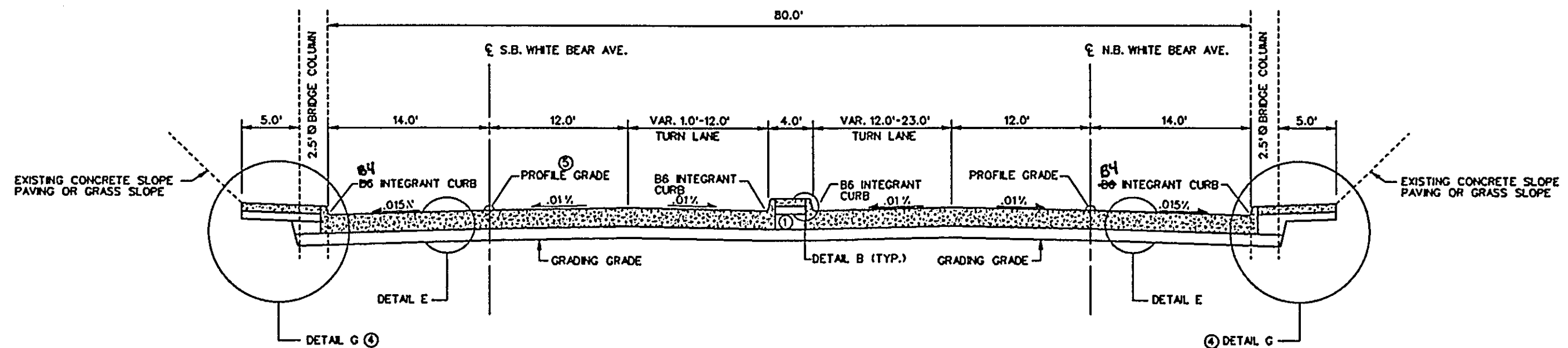


2" BITUMINOUS WEARING COURSE (OVERLAY)
TYPE 41WEA50055
1-1/2" BITUMINOUS BINDER COURSE
TYPE 41WB50055
3" BITUMINOUS BASE COURSE
TYPE 41BB50055
10" AGGREGATE BASE-CLASS 6

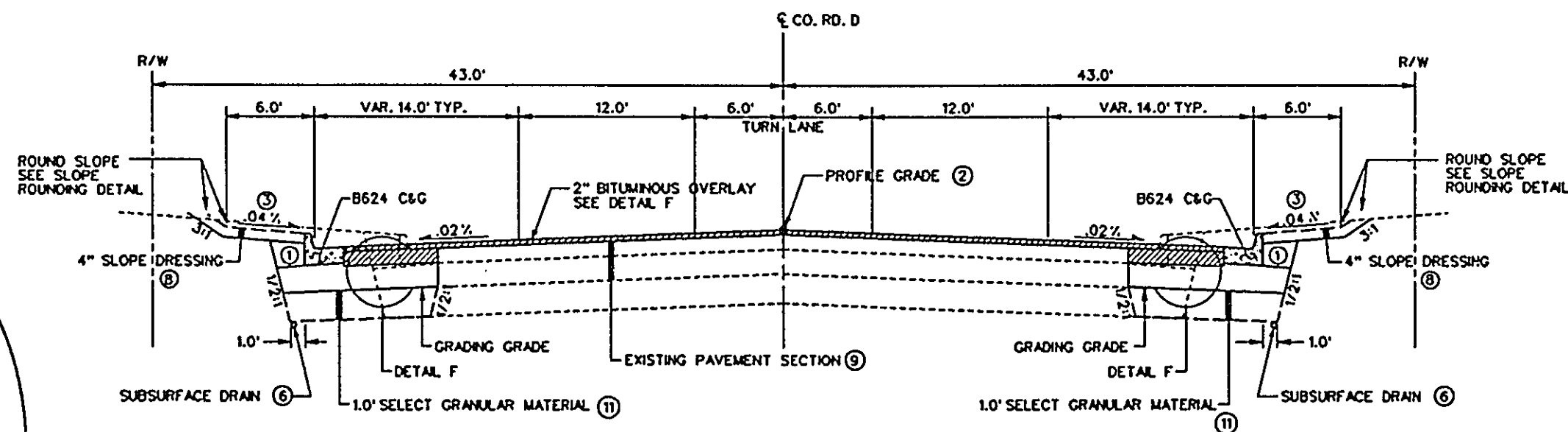
DETAIL F



DETAIL G



WHITE BEAR AVENUE
AREA UNDER I-694 BRIDGES



COUNTY ROAD D

NOTES:

- BACKFILL WITH SUITABLE GRADING MATERIAL.
- FINISHED SURFACE PROFILE 1" TO 2" ABOVE EXISTING GRADE.
- SLOPE MAY BE INCREASED TO 10:1 MAX. AND LENGTH OF SLOPE INCREASED OR DECREASED TO KEEP CONSTRUCTION LIMITS WITHIN RIGHT-OF-WAY AS DIRECTED BY THE ENGINEER IN THE FIELD. (SEE CROSS SECTIONS)
- EACH BRIDGE HAS 3 COLUMNS ON EITHER SIDE OF WHITE BEAR AVENUE. IT IS PROPOSED TO CONSTRUCT CONCRETE BARRIER WALL BETWEEN BRIDGE PIER COLUMNS AS PER MNDOT STD. PLAN 5-297.610 AND INSTALL PLATE BEAM GUARDRAIL BETWEEN THE BRIDGES IN THE AREA WHERE THE GUARDRAIL IS TO BE CONSTRUCTED AS SHOWN ON THE PLANS. CONSTRUCT B4 INTEGRAL CURB AS PER DETAIL G OF TYPICAL SECTION.
- FROM STATION 405+92 TO 407+25 PROFILE IS CARRIED AT FACE OF CURB 13.0 FT. FROM CENTERLINE S.B. WHITE BEAR AVENUE.
- SEE CONSTRUCTION PLAN FOR LOCATION AND DETAIL SHEET FOR METHOD OF CONSTRUCTION.
- EXISTING CONCRETE PAVEMENT IS 8" THICK REINFORCED PAVEMENT WITH CONCRETE CURB AND GUTTER CONNECTED TO CONCRETE PAVEMENT WITH LITH OR L2KTH JOINT.
- SODDING TYPE LAWN.
- 1/2" TYPE 41 BITUMINOUS WEARING COURSE.
1/2" TYPE 41 BITUMINOUS BINDER COURSE.
3" TYPE 41 BITUMINOUS BASE COURSE
10" CLASS-5 AGGREGATE BASE.
- FACE OF CURB TO MATCH FACE OF PROPOSED CONCRETE BARRIER WALL BETWEEN BRIDGE COLUMNS. FURNISH & INSTALL 1/2" BIT. FELT AS SEPARATION BETWEEN CONCRETE CURB AND BRIDGE COLUMNS. INCIDENTAL TO TOTAL PROJECT COST.
- IF SELECT GRANULAR MATERIAL IS NOT AVAILABLE ON SITE, CONTRACTOR SHALL FURNISH SELECT GRANULAR BORROW IN ACCORDANCE WITH MNDOT 3149.2B.

28-160 F

1	9-26-96	LMV	WKW	REVISED PER MNDOT CENTRAL OFFICE COMMENTS
NO	DATE	BY	CHKD	APPR
NAME: TYP4 178.DGN	DATE: Sep. 30, 1996	TIME: 14:32:20		

S.P. 62-665-36
S.P. 138-107-15
S.P. 138-121-01
S.P. 138-020-01
S.P. 6286-43

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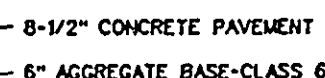
William K. W. W. W.
Date 10/1/96 Reg. No. 21824

DRAWN BY DATE
T. TASSON 11-95
DESIGNED BY
D. MCHALKO 11-95
CHECKED BY
B. WESTERBERG 11-95
COMM. NO.
0952178

SRI CONSULTING
GROUP, INC.

CITY OF MAPLEWOOD
TYPICAL SECTIONS
WHITE BEAR AVENUE

SHEET
24
OF
138



- NOTES:
- ① BACKFILL WITH SUITABLE GRADING MATERIAL.
 - ② AGGREGATE SHOULDERING, CLASS 3.
 - ③ PLACE AGGREGATE BASE CLASS-6 UNDER PROPOSED CURB AND GUTTER.
 - ④ ROUND SLOPE, SEE SLOPE ROUNDING DETAIL.
 - ⑤ GUTTER SLOPE SHALL MATCH CONCRETE PAVEMENT SLOPE.
 - ⑥ EXISTING CONCRETE PAVEMENT IS 8" THICK REINFORCED PAVEMENT FROM CORE AREA TO WHITE BEAR AVENUE.
 - ⑦ EXISTING CONCRETE PAVEMENT IS 8" THICK REINFORCED PAVEMENT FROM CORE AREA TO WHITE BEAR AVENUE EXCEPT FOR AREA BETWEEN STA 12+75 TO STA 14+55.
 - ⑧ EXISTING CONCRETE PAVEMENT IS 8" THICK REINFORCED PAVEMENT FROM WHITE BEAR AVENUE EAST TO A POINT EAST OF STA 45+00.
 - ⑨ SODDING TYPE EROSION
 - ⑩ IF SELECT GRANULAR MATERIAL IS NOT AVAILABLE ON SITE, CONTRACTOR SHALL FURNISH SELECT GRANULAR BORROW IN ACCORDANCE WITH MNDOT 3149.2B.

1	9-26-96	LWV	WKW		REVISED PER MNDOT CENTRAL OFFICE COMMENTS
NO	DATE	BY	CKD	APPR	REVISION
NAME: TPY2 178.DGN DATE: Sep. 30, 1996 TIME: 14:33:28					

S.P. 62-665-36
S.P. 138-107-15
S.P. 138-121-01
S.P. 138-020-20
S.P. 6286-43

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William K. Warkentin

Date 10/1/96 Reg. No. 21874

DRAWN BY	DATE
S. MARTINS	11-95
DESIGNED BY	
D. MICHALKO	11-95
CHECKED BY	
B. WESTERBERG	11-95
COMM. NO.	
0952178	



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CITY OF MAPLEWOOD
TYPICAL SECTIONS
WHITE BEAR AVENUE

SHEET
25
OF
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28-160

EXISTING UTILITIES SUMMARY							
STA. TO STA.	LOCATION	DESCRIPTION	OWNERSHIP/REMARKS	RELOCATE	ADJUST	LEAVE AS IS	ABANDON AND SEAL WELL SHAFT (EACH)
211+90	13 RT	POWER POLE	(1)	X			
214+96	18 RT	POWER POLE	(1)	X			
220+21	15 RT	POWER POLE	(1)	X			
221+47	17 RT	POWER POLE	(1)	X			
218+25	23 RT	ELEC. PED.	(1)	X			
307+52	14 RT	LIGHT POLE	(1)			X	
203+74	25 RT	GAS VALVE	(2)			X	
219+73	12 RT	GAS VALVE	(2)		X		
218+73	12 RT	GAS VALVE	(2)		X		
100+32	40 RT	PHONE PED.	(3)			X	
100+32	33 RT	PHONE PED.	(3)			X	
104+27	38 RT	PHONE PED.	(3)	X			
104+57	35 RT	PHONE PED.	(3)	X			
105+95	35 RT	PHONE PED.	(3)	X			
106+24	32 RT	PHONE PED.	(3)	X			
106+30	32 RT	PHONE PED.	(3)	X			
200+65	29 RT	PHONE PED.	(3)			X	
204+17	20 RT	PHONE PED.	(3)		X		
209+35	18 RT	PHONE PED.	(3)	X			
212+02	16 RT	PHONE PED.	(3)	X			
214+18	13 RT	PHONE PED.	(3)	X			
221+41	18 RT	PHONE PED.	(3)	X			
222+92	18 RT	PHONE PED.	(3)	X			
304+46	0 RT	PHONE PED.	(3)	X			
100+32 - 106+66	33 - 40 RT	T-BUR	(3)				
106+74	X-ING	T-BUR	(3)			X	
204+32 - 206+55	20 - 10 RT	T-BUR	(3)	X			
206+55	31 - 10 RT	T-BUR	(3)	X			
206+55 - 209+37	10 RT	T-BUR	(3)	X			
209+37 - 212+02	10 RT	T-BUR	(3)	X			
212+02 - 214+17	10 RT	T-BUR	(3)	X			
214+17 - 214+22	10 - 0 RT	T-BUR	(3)	X			
214+22 - 214+35	11 - 30 RT	T-BUR	(3)	X			
214+27 - 214+67	11 RT	T-BUR	(3)	X			
214+67	11 - 40 RT	T-BUR	(3)	X			
220+17 - 220+27	42 - 17 RT	T-BUR	(3)	X			
220+27	0 - 17 RT	T-BUR	(3)	X			
222+12 - 223+56	20 RT	T-BUR	(3)	X			
226+83 - 226+12	23 - 26 RT	T-BUR	(3)	X			
301+34 - 304+47	61 - 10 RT	T-BUR	(3)	X			
304+47	10 - 2 RT	T-BUR	(3)	X			
400+00 S.B.	23 LT	T-BUR	(3)			X	
400+33 S.B.	18 LT	T-BUR	(3)	X			
402+00 S.B.	20 LT	T-BUR	(3)	X			
404+00 S.B.	18 LT	T-BUR	(3)	X			
406+00 S.B.	18 LT	T-BUR	(3)	X			
407+00 S.B.	19 LT	T-BUR	(3)	X			
409+00 S.B.	32 LT	T-BUR	(3)	X			
409+48 S.B.	34 LT	T-BUR	(3)			X	
411+00 S.B.	26 LT	T-BUR	(3)			X	
413+00 S.B.	18 LT	T-BUR	(3)	X			
413+00 S.B.	15 LT	T-BUR	(3)	X			
414+50 S.B.	15 LT	T-BUR	(3)	X			
403+77 S.B.	60 LT	T-BUR	(3)			X	
409+13 S.B.	32 LT	T-BUR	(3)			X	
409+11 S.B.	0 LT	T-BUR	(3)	X			
409+02	0 LT	T-BUR	(3)	X			
406+68	25 RT	T-BUR	(3)			X	
406+90	95 RT	T-BUR	(3)			X	
411+80 S.B.	20 LT	T-BUR	(3)	X			
411+80 S.B.	34 LT	T-BUR	(3)	X			
412+70 S.B.	35 LT	T-BUR	(3)	X			
412+70 S.B.	60 LT	T-BUR	(3)			X	
413+27 S.B.	15 LT	T-BUR	(3)	X			
413+25 S.B.	40 LT	T-BUR	(3)			X	
402+09 S.B.	19 LT	TELE MH	(3)		X		
409+14 S.B.	32 LT	TELE MH	(3)		X		
411+80 S.B.	20 LT	TELE MH	(3)		X		
106+74	X-ING	TV-BUR	(4)	X			
211+90	30 LT - 6 RT	TV-BUR	(4)	X			
211+90 - 214+90	5 - 8 RT	TV-BUR	(4)	X			
220+40 - 222+80	8 - 20 RT	TV-BUR	(4)	X			
400+30 S.B.	X-ING	TV-BUR	(4)	X			
214+93	18 RT	T.V. PED.	(4)	X			
100+00 - 106+64	30 LT	4" GAS	(2)	X			
203+31 - 203+34	32 - 11 LT	6" GAS	(2)	X			
203+38 - 203+56	5 RT	6" GAS	(2)			X	
204+19 - 204+73	20 RT	6" GAS	(2)			X	
207+28 - 221+55	20 RT	6" GAS	(2)			X	
221+78 - 222+19	25 RT	6" GAS	(2)			X	
221+09	32 - 11 LT	GAS	(2)	X			
221+09	4 - 23 RT	GAS	(2)	X			
226+82 - 227+28	25 RT	6" GAS	(2)	X			
400+00 - 409+00	20 - 44 RT	6" GAS	(2)	X			
409+00 - 411+25	38 - 44 RT	6" GAS	(2)			X	
411+25 - 412+50	32 - 38 RT	6" GAS	(2)	X			
412+50 - 414+90	30 - 32 RT	6" GAS	(2)			X	
400+58 S.B.	X-ING	GAS	(2)	X			
412+90 S.B.	X-ING	GAS	(2)	X			
100+79	X-ING	P-BUR	(1)	X			
104+70	X-ING	P-BUR	(1)	X			

EXISTING UTILITIES SUMMARY							
STA. TO STA.	LOCATION	DESCRIPTION	OWNERSHIP/REMARKS	RELOCATE	ADJUST	LEAVE AS IS	ABANDON AND SEAL WELL SHAFT (EACH)
100+79 - 101+23	40 LT	P-BUR	(1)	X			
101+23 - 102+02	40 LT	P-BUR	(1)			X	
102+74 - 103+40	40 LT	P-BUR	(1)	X			
103+46 - 104+83	40 LT	P-BUR	(1)	X			
100+42 - 106+58	40 RT	P-BUR	(1)	X			
214+88	13 - 40 RT	P-BUR	(1)	X			
214+88 - 216+24	14 RT	P-BUR	(1)	X			
220+20 - 222+25	16 RT	P-BUR	(1)	X			
402+14 S.B.	24 LT	P-BUR	(1)	X			
409+00 S.B.	48 LT	P-BUR	(1)			X	
419+98 S.B.	50 LT	P-BUR	(1)			X	
100+38	29 LT	POWER POLE	(1)	X			
102+75	29 LT	POWER POLE	(1)	X			
104+30	30 LT	POWER POLE	(1)	X			
105+46	45 RT	LIGHT POLE	(1)			X	
106+05	58 LT	LIGHT POLE	(1)			X	
106+34	48 RT	LIGHT POLE	(1)			X	
106+59	32 LT	POWER POLE	(1)	X			
106+63	58 RT	POWER POLE	(1)			X	
106+76	47 RT	POWER POLE	(1)	X			
214+96	18 RT	POWER POLE	(1)	X			
220+20	15 RT	POWER POLE	(1)	X			
221+47	17 RT	POWER POLE	(1)	X			
400+30	45 RT	POWER POLE	(1)	X			
400+85 S.B.	38 LT	LIGHT POLE	(1)			X	
401+57 S.B.	39 LT	LIGHT POLE	(1)			X	
401+68	28 RT	LIGHT POLE	(1)	X			
402+14 S.B.	24 LT	POWER POLE	(1)			X	
408+85 S.B.	46 LT	POWER POLE	(1)			X	
410+35 S.B.	48 LT	POWER POLE	(1)			X	
410+58	27 RT	LIGHT POLE	(1)	X			
410+88 S.B.	50 LT	POWER POLE	(1)			X	
412+77 S.B.	26 LT	POWER POLE	(1)			X	
10+39	23 RT	LIGHT POLE	(1)			X	
12+39	23 RT	LIGHT POLE	(1)	X			
14+39	23 RT	LIGHT POLE	(1)	X			
21+08	32 RT	LIGHT POLE	(1)			X	
22+92	32 RT	LIGHT POLE	(1)			X	
24+92	29 RT	LIGHT POLE	(1)			X	
26+92	25 RT	LIGHT POLE	(1)			X	
28+92	20 RT	LIGHT POLE	(1)			X	
31+75	34 RT	LIGHT POLE	(1)			X	
33+88	34 RT	LIGHT POLE	(1)			X	
35+82	34 RT	LIGHT POLE	(1)			X	
40+80	21 RT	LIGHT POLE	(1)	X			
42+77	24 RT	LIGHT POLE	(1)	X			
44+77	23 RT	LIGHT POLE	(1)	X			
411+27 S.B.	20 LT	MONITORING WELL	(1)				X
409+26 S.B.	34 LT	LIGHT POLE	(1)	X			
TOTALS				80	6	44	1

EXISTING WATERMAIN SUMMARY							
STA. TO STA.	LOCATION	DESCRIPTION	RELOCATE HYDRANT (EACH)	RELOCATE VALVE (EACH)	ADJUST VALVE BOX (EACH)	REMOVE WATERMAIN (LIN FT)	LEAVE AS IS
200+40	50.5 RT	HYDRANT					X
207+07	64 LT TO 25 RT	W.M.					X
220+08	62 LT TO 35 RT	W.M.					X
226+97	62 LT	G.V.					X
300+40 TO 308+85	15 LT TO 20 LT	W.M.					X
302+44	7.2 LT	HYDRANT	1			12	
302+85	19.3 RT	G.V.					X
302+85	19.3 RT TO 84.2 RT	W.M.					X
302+85	84.2 RT	G.V.					X
305+41	14.8 LT	G.V.		1			
305+41	12.5 LT	HYDRANT	1			8	
305+52	23.3 LT	G.V.					
306+32	20.7 LT	G.V.					
306+32	20.7 LT TO 85 RT	W.M.					X
308+13	15.2 LT	G.V.					X
308+15	17.9 LT	G.V.					X
308+13	15 LT TO 85 RT	W.M.					X
308+84	15.5 LT	HYDRANT					X
308+87	17.9 LT	G.V.					X
99+92 TO 106+40	21 RT	WM					X
99+92	21 RT	GV					X
101+48	17 RT	GV			1		
101+48 TO 101+50	21 RT TO 42 LT	WM					X
101+50	42 LT	GV					X
103+00	21 RT TO 55 LT	WM					X
103+00	43 LT	GV			1		
103+00	21 RT TO 28 RT	WM					X
103+10	34 RT	HYDRANT	1				
103+10	28 RT	GV		1			
105+41	21 RT TO WENDYS	WM					X
105+41	14 RT	GV			1		
106+40 TO 106+55	21 LT TO 21 RT	WM					X
105+55 TO 109+00	12 RT	WM					X
106+66	21 RT TO SOUTH	WM					X
106+70	35 RT	GV			1		
106+71 TO 106+73	47 RT	WM				2	
106+73	47 RT	GV		1			
106+75	47 RT	HYD	1				
SB 412+98 TO SB 414+86	20 LT	WM					X (1)
SB 412+98	38 LT	GV			1		X (1)
TOTALS			4	3	5	20	

GENERAL NOTES:
WATERMAIN IS OWNED BY THE CITY OF MAPLEWOOD AND MAINTAINED BY THE ST. PAUL WATER UTILITY EXCEPT IN THE LOCATIONS NOTED.
IN THESE LOCATIONS, THE WATERMAIN IS OWNED BY THE CITY OF WHITE BEAR LAKE AND ALSO MAINTAINED BY THE ST. PAUL WATER UTILITY.

EXISTING SANITARY SEWER								
STA. TO STA.	LOCATION	DESCRIPTION	EXISTING TOP OF CASTING	ADJUST FRAME AND RING CASTING (EACH)	RECONSTRUCT SANITARY MANHOLES (LIN FT)	PROPOSED TOP OF CASTING	LEAVE AS IS	REMARKS
210+24.8	48 4' LT	MH					X	
210+24.8	48 4' LT TO 16 11' RT	SEWER					X	
210+24.8	16 11' RT	MH	928.52		4.6	927.76		
214+75.3	49 3' LT	MH					X	
214+75.3	49 3' LT TO 17 9' RT	SEWER					X	
214+75.3	17 9' RT	MH	932.28	1.0		932.42		
214+71.0	48 0' LT	MH		1.0				(7) (10)
219+95.7	46 5' LT	MH					X	
219+95.7	46 5' LT TO 23' RT	SEWER					X	
219+95.7	6 3' RT	MH					X	
219+95.7 TO 228+64	6 3' LT TO 1' LT	SEWER					X	
223+24.1	1.5 LT	MH					X	
228+57.8	1.4' LT	MH					X	
228+57.8 TO 228+78.3	1.4' LT TO 27.8' RT	SEWER					X	
228+78.3	27.8' RT	MH					X	
228+78.3 TO 227+33.5	27.88' LT TO 51.8' RT	SEWER					X	
227+33.5	51.8' RT	MH	936.82		5.0	936.4		
EAST OF 100+00 TO 101+80	CENTERLINE	SEWER					X	
101+80	CENTERLINE	MH	937.44	1.0				
100+61 TO EAST OF 100+00	47.5' LT	SEWER					X	
100+61	47.5' LT	MH					X	
101+80 TO 105+30	CENTERLINE	SEWER					X	
105+30	CENTERLINE	MH	943.84	1.0				
105+30	0 TO 80' LT	SEWER					X	
411+96	48' RT	MH	937.70	2.0				(7)
412+06	XING	SEWER					X	(7)
58 412+36	30' LT	MH	939.65					(7)
58 412+82	32' LT	MH					X	(7)
TOTALS				4.0	9.6			

EXISTING STORM DRAINAGE																	
STATION	OFFSET		STATION	OFFSET		EXISTING TOP OF CASTING ELEVATION	CONNECT TO EXISTING STRUCTURE	REMOVE PIPE SEWER	REMOVE PIPE APRON	REMOVE MANHOLE OR CATCH BASIN	SALVAGE CASTING	RECONSTRUCT DRAINAGE STRUCTURE	INSTALL CASTING	CASTING ASSEMBLY	ADJUST FRAME AND RING CASTING	PROPOSED TOP OF CASTING ELEVATION	REMARKS
	LT	RT		LT	RT												
200+38.52		30.03	200+38.52		30.03	927.03											LEAVE AS IS
			199+95		40												LEAVE AS IS
			199+95		40	927.12											LEAVE AS IS
207+74.52	55.58		207+74.52	56.58		925.27											LEAVE AS IS
			207+77.44	29.33													LEAVE AS IS
207+77.44	29.33		207+77.44	29.33		925.48	1										LEAVE AS IS
			207+78.24	25.50				4									LEAVE AS IS
207+78.24	25.50		207+78.24	25.50		925.42											LEAVE AS IS
			207+84.02		3.84					1	1						LEAVE AS IS
207+84.02		3.84	207+84.02		3.84	925.23	1	12			1	1					LEAVE AS IS
			208+92.24		51.68	PIPE											LEAVE AS IS
208+92.24		51.68	208+92.24		51.68	918.84											LEAVE AS IS
			211+98.63	56.42		OUTLET											LEAVE AS IS
211+98.63	56.42		211+98.63	56.42		930.00											LEAVE AS IS
			211+97.72	29.15													LEAVE AS IS
211+97.72	29.15		211+97.72	29.15		930.09	1										LEAVE AS IS
			211+98.13	25.57				4									LEAVE AS IS
211+98.13	25.57		211+98.13	25.57		930.12				1	1						LEAVE AS IS
			211+99.77		1.75				12								LEAVE AS IS
211+99.77		1.75	211+99.77		1.75	930.05	1				1		1	A-7D	1	930.04	(1)
			216+03.27	56.76		PIPE											LEAVE AS IS
216+03.27	56.76		216+03.27	56.76		932.97											LEAVE AS IS
			216+01.03	29.46													LEAVE AS IS
216+01.03	29.46		216+01.03	29.46		932.98	1				1		1	A-7D		933.00	VERIFY TOP CASTING ELEVATION IN FIELD
			216+01.77	25.63				4									LEAVE AS IS
216+01.77	25.63		216+01.77	25.63		933.48				1	1						LEAVE AS IS
			216+01.95		1.60				13								LEAVE AS IS
216+01.95		1.60	216+01.95		1.60	933.47	1				1		1		1	933.47	(1)
			213+71.41		4.57						1						LEAVE AS IS
			213+71.41		4.57	931.84						4.6	1			931.53	LEAVE AS IS
INLET			213+71.41		4.57												LEAVE AS IS
213+71.41		4.57	211+99.77		1.75												LEAVE AS IS
			219+55.89		2.60	936.35					1		1	A-7D	1	936.53	LEAVE AS IS
219+55.89		2.60	219+24.54		1.51												LEAVE AS IS
			219+24.54		1.51	936.02	1				1		1	A-7D	1	936.02	(1)
219+24.54		1.51	216+01.95		1.60												LEAVE AS IS
			303+78.41	14.1		938.82											LEAVE AS IS
			214+77.40	52.07		931.48	1				1	4.5	1			937.16	INSTALL SALVAGED CASTING FROM CATCH BASIN
214+77.40	52.07		214+51.03		53.30												LEAVE AS IS
			214+51.03		53.30	931.55				1	1						LEAVE AS IS
214+51.03		53.30				OUTLET		3									LEAVE AS IS
			220+12.78		37.71	937.40											LEAVE AS IS
220+12.78		37.71	219+81.22		39.15										1	937.57	LEAVE AS IS
			219+81.22		39.15	937.31									1	937.38	LEAVE AS IS
219+81.22		39.15	219+55.89		2.60												LEAVE AS IS
			306+79.58	12.74		943.00											LEAVE AS IS
306+79.58	12.74		303+78.28		29.48												LEAVE AS IS
			304+91.41	4.11		939.16	1				1		1	A-7D	1	939.09	LEAVE AS IS
304+91.41	4.11		304+94.54		58.82	939.26											LEAVE AS IS
304+94.54		58.82	303+78.28		29.48	937.74											LEAVE AS IS
			303+77.26	1.64								4.5	1			937.76	ADJUST TOP OF STRUCTURE SO CASTING IS IN GUTTER
303+78.41	14.10		303+77.26	1.64		937.49					1		1	A-7D	1	937.86	LEAVE AS IS
			303+78.28		29.48												LEAVE AS IS
303+77.26	1.64		303+78.28		29.48	937.60											LEAVE AS IS
			303+76.77	65.76													LEAVE AS IS
303+76.77	65.76		303+78.28		29.48												LEAVE AS IS
			304+07.58	16.67		938.48									1	937.04	VERIFY ELEVATION IN FIELD
304+07.58	16.67		303+78.41	14.10													LEAVE AS IS
303+78.28		29.48	301+20.35		33.5												LEAVE AS IS
			301+20.35		33.5	938.08											LEAVE AS IS
			301+88.21	1.56		935.23					1		1	A-7D	1	935.5	LEAVE AS IS
301+88.21	1.56		301+82.50		25.88	935.29											LEAVE AS IS
			301+88.70		25.94	935.26											LEAVE AS IS
301+82.50		25.88				PIPE											LEAVE AS IS
301+88.70		25.94				PIPE											LEAVE AS IS
			301+95.73		71.32	935.24											LEAVE AS IS
301+95.73		71.32	301+95.63		43.50												LEAVE AS IS
			301+95.63		43.50	PIPE											LEAVE AS IS
			227+10.29	18.10		936.47											LEAVE AS IS
227+10.29	18.10		227+32.18	18.31													LEAVE AS IS
			227+32.18	18.31		935.98											LEAVE AS IS
227+32.18	18.31		227+32.26	13.70													LEAVE AS IS
			227+32.26	13.70		936.01											LEAVE AS IS
227+32.26	13.70		227+32.5		13.5		1										LEAVE AS IS
			227+32.5		13.5	936.82				1							LEAVE AS IS
227+32.5		13.5	301+20.35		33.50												LEAVE AS IS
			301+14.86		57.08	938.23											LEAVE AS IS
301+14.86		57.08	301+20.35		33.50												LEAVE AS IS
TOTALS							10	52	0	0	14	13.8	11		10		

REMARKS

- ① MODIFY OPENING IN PRECAST CONCRETE COVER FROM 2' X 3' TO 26.5" DIAMETER CONSIDERED INCIDENTAL TO BID ITEMS ADJUST FRAME AND RING CASTING OR RECONSTRUCT MANHOLE WHICHEVER IS APPLICABLE.

① EXISTING STORM DRAINAGE

28-160

1	9-26-96	LMV	WKW	REVISED PER MNDOT CENTRAL OFFICE COMMENTS	S.P. 62-665-36 S.P. 138-107-15 S.P. 138-121-01 S.P. 138-020-20 S.P. 6286-43	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota. <i>William K. Westberg</i> Date 10/1/96 Reg. No. 21874	DRAWN BY T. TASSOM 3-96 DESIGNED BY T. ARYDSON 3-96 CHECKED BY B. WESTERBERG 3-96 COMM. NO. 0952178	SRE CONSULTING GROUP, INC.	CITY OF MAPLEWOOD TABULATION WHITE BEAR AVENUE F	SHEET 27 OF 138
NO	DATE	BY	CHKD	APPR	REVISION					

NAME: TAB1 178.DGN DATE: Sep. 26, 1996 TIME: 14:44:58

⑦ MISCELLANEOUS REMOVALS, MILLING, AND SAWING										
LOCATION	REMOVE						SAWING		MILL	
	BITUMINOUS PAVEMENT (SQ. YD.)	CONCRETE PAVEMENT (SQ. YD.)	CURB AND GUTTER (LIN. FT.)	INTEGRANT CURB (LIN. FT.)	CONCRETE WALK (SQ. FT.)	CONC MEDIAN WALK (SQ. FT.)	GUARDRAIL (LIN. FT.)	RETAINING WALL (SQ. FT.)	BITUMINOUS PAVEMENT (FULL DEPTH) (LIN. FT.)	CONCRETE PAVEMENT (FULL DEPTH) (LIN. FT.)
WHITE BEAR AVENUE										
200+65 TO 207+00 RT			630		2896					635
207+00 TO 214+61.9 RT			781							772
214+61.9 TO 219+96 RT		15	568							551
219+96 TO 223+39.4 RT			357							314
202+61 TO 204+45 LT		156	198		1407					212
206+34 TO 206+55 LT		56	29		51					72
207+12 TO 216+98 LT		927	1125		2507					1268
220+30 TO 222+43 LT		214	390		1800					403
207+00 RT VACATED DW		116								
213+28.3 RT	97	13							20	
214+61.9 RT MESABI ST	231		42						65	6
214+62 LT DW	75	40	20		480				36	81
218+83 RT DW	75								20	
217+12 RT DW	20	11							12	
217+82 RT DW	27								12	
218+17 RT DW	27								12	
219+96 RT RADATZ AVE		188							30	
221+65 RT DW	8	21							12	
222+35 RT DW	11	13							12	
BEAM AVENUE										
301+12 TO 306+62.9 LT	100	108	670		575				57	220
302+27.1 TO 303+96.2 RT	180		283						320	6
304+20.1 LT DW	230								43	
WHITE BEAR AVENUE (NB STATIONING)										
CO RD D EAST OF WBA	400									330
400+22 TO 403+60		2371	1112	245	2655	1472				50
403+60 TO 407+50		2635	1514		4470		460	366		
407+50 TO 414+82	572	6377	2465	256	3920	3200			140	74
NW RAMP ISLAND			151			875				
SW RAMP ISLAND			170			950				
COUNTY ROAD "D"										
100+00 TO 106+86.0 LT-RT			1436		330					589
101+00 LT DW		66								25
101+60 RT MALL ENTRANCE	108								98	
102+38 LT DW		73								30
102+96 LT DW	52								62	
103+87 LT DW	60								68	
104+58 LT DW		46								20
104+89 RT DW		53								25
106+22 LT DW		111								30
SW RAMP										
30+00 TO 35+35		141		633						672
SE RAMP										
40+85 TO 45+04		93		443						425
NW RAMP										
20+62 TO 21+72		422		222						254
NE RAMP										
10+00 TO 14+52 RT		222		491						434
TOTALS	2253	14468	11941	2290	15328	12282	460	366	1019	6557

⑧ CLEARING AND GRUBBING				
LOCATION	STA TO STA	LOCATION	CLEARING (ACRE)	GRUBBING (ACRE)
WHITE BEAR AVENUE (SOUTH)	216 + 33 TO 216 + 71	10' RT	0.05	0.05
	217 + 00	15' RT	0.05	0.05
	217 + 30	17' RT	0.05	0.05
	217 + 70	17' RT	0.05	0.05
	219 + 11	19' RT	0.05	0.05
BEAM AVENUE				
WHITE BEAR AVENUE (NB STATIONING)	404 + 19 TO 404 + 77	S.B. 25' RT	0.05	0.05
	404 + 35 TO 404 + 79	25' RT	0.05	0.05
COUNTY ROAD D	101 + 37	48' RT	0.05	0.05
	105 + 42	37' RT	0.05	0.05
	105 + 45	39' RT	0.05	0.05
	105 + 50	33' RT	0.05	0.05
	105 + 56	35' RT	0.05	0.05
	105 + 59	38' RT	0.05	0.05
	105 + 60	34' RT	0.05	0.05
	106 + 01	33' RT	0.05	0.05
	106 + 03	39' RT	0.05	0.05
	106 + 05	41' RT	0.05	0.05
	106 + 10	35' RT	0.05	0.05
	106 + 12	37' RT	0.05	0.05
	106 + 20	35' RT	0.05	0.05
	106 + 45 TO 106 + 82	49' LT	0.05	0.05
SW RAMP				
SE RAMP				
NW RAMP				
NE RAMP				
TOTALS			1.05	1.05

⑦ MISCELLANEOUS REMOVALS, MILLING, AND SAWING

⑧ CLEARING AND GRUBBING

1	9-26-96	LMV	WKW	REVISED PER MNDOT CENTRAL OFFICE COMMENTS	S.P. 62-665-36 S.P. 138-107-15 S.P. 138-121-01 S.P. 138-020-20 S.P. 6286-43	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota. <i>William K. Watelesky</i> Date <u>10/1/96</u> Reg. No. <u>21874</u>	DRAWN BY I. TASSON DESIGNED BY I. ARVIDSON CHECKED BY B. WESTERBERG DATE 3-96 3-96 3-96 COMM. NO. 0252178	SRE CONSULTING GROUP, INC.	CITY OF MAPLEWOOD TABULATION WHITE BEAR AVENUE	SHEET 28 OF 138
NO	DATE	BY	CHKD	APPR	REVISION					

NAME: TAB3 178.DGN DATE: Sep. 26, 1996 TIME: 14:41:40

(H) CURB & GUTTER, CONCRETE WALK, AND CONCRETE DRIVEWAY PAVEMENT									
LOCATION	INTEGRANT CURB			CONCRETE CURB AND GUTTER		4"	6"	8" CONC.	8" CONC.
	DESIGN B4 (LIN. FT.)	DESIGN B6 (LIN. FT.)	DESIGN D4 (LIN. FT.)	DESIGN B618 (LIN. FT.)	DESIGN B624 (LIN. FT.)	CONCRETE WALK (SQ. FT.)	CONCRETE WALK (SQ. FT.)	DRIVEWAY PAVEMENT (SQ. YD.)	DRIVEWAY PAVEMENT (SQ. YD.)
WHITE BEAR AVENUE									
200+85 TO 214+80 RT		1300		78		7848			1
214+80 TO 219+80 RT		555				2328			2
220+15 TO 223+39 RT		349				1752			1
202+80 TO 206+60 LT				180		2331	72		
207+08 TO 216+99 LT		100		1001		9247	128		4
220+30 TO 222+43 LT				360		1130	42		
213+28.3 RT								14	
216+83.0 RT								18	
217+12.0 RT								12	
217+82.0 RT								12	
218+17.0 RT								14	
221+83.0 RT								14	
222+33.2 RT								14	
BEAM AVENUE									
301+00 TO 306+83				80	868	822	131		5
SB WHITE BEAR AVENUE									
400+00 TO 403+14 LT-RT		892			70	3335	117		2
403+14 TO 407+95 LT-RT	310	845	136			4205	50		2
407+95 TO 412+20 LT-RT		1150	45			5060	117		3
412+20 TO 415+14 LT-RT		595				892	43		3
COUNTY ROAD "D"									
100+00 TO 107+00 LT-RT					1317				
107+00 LT								45	
102+38 LT								34	
104+58 LT								23	
104+99 RT								41	
106+22 LT								50	
SW RAMP									
30+00 TO 36+00 LT			803						
SE RAMP									
41+00 TO 45+04 RT			405						
NW RAMP									
21+00 TO 21+68.5 LT-RT			134						
NE RAMP									
10+00 TO 14+00 RT			404						
NB WHITE BEAR AVENUE									
400+00 TO 403+14 RT		291	69		60	1545	45		4
403+14 TO 407+95 RT	290	178	147			2542			2
407+95 TO 412+20 RT		409	136	35		850	45		5
412+20 TO 415+14 RT		280		42		240			2
415+85 RT								84	
TOTALS	600	6750	2079	1778	2315	43925	788	182	310

(I) PAVEMENT JOINTS							
LOCATION	1" DIA. DOWEL BAR	1 1/4" DIA. DOWEL BAR	C28-D	L1TH OR L2KTH	E20-1	E2-1	E1-1
	(EACH)	(EACH)	(LIN. FT.)	(LIN. FT.)	(LIN. FT.)	(LIN. FT.)	(LIN. FT.)
WHITE BEAR AVENUE (SOUTH)		1629	1629	190		258	
BEAM AVENUE	40		40	225			
WHITE BEAR AVENUE (NB STATIONING)	602	7887	8479	4302	52	417	
COUNTY ROAD D							
SW RAMP	510		510	504			
SE RAMP	273		273	148	43	2	
NW RAMP	441		248	126	30		
NE RAMP	249		441	285	40	2	348
TOTALS	2115	9496	11821	5760	185	680	348

(K) REINFORCEMENT JOINTS							
LOCATION	TIED L JOINTS #4	TAPER AREA BARS #4	DRILL & GROUT #5 @ 12" C-C	AROUND CASTING OR VALVE BOXES #5	TIED L JOINTS #5	ENDS OF L1TH OR L2KTH	SUPP. PANEL REINF.
	(EACH)	(LIN. FT.)	(EACH)	(EACH)	(EACH)	(LIN. FT.)	(LIN. FT.)
WHITE BEAR AVENUE (SOUTH)	78	320	1862	23		20	
BEAM AVENUE	16	90	40	2		10	
WHITE BEAR AVENUE (NB STATIONING)	1721	510	142	27		260	528
COUNTY ROAD D			20	1			
SW RAMP		104	104		202	10	
SE RAMP	11	190	95	1	49	10	
NW RAMP	50						
NE RAMP	14	144	87		100	10	
TOTALS	1865	1358	2350	54	351	320	528

(I) CONCRETE PAVEMENT							
LOCATION	STANDARD WIDTH		IRREGULAR WIDTH			STRUCTURAL CONCRETE	STRUCTURAL CONCRETE HE
	9' 0" (SQ. YD.)	9' 5" (SQ. YD.)	8' 5" (SQ. YD.)	9' 0" (SQ. YD.)	9' 5" (SQ. YD.)	(CU. YD.)	(CU. YD.)
WHITE BEAR AVENUE (SOUTH)	2378				2145	1007	124
BEAM AVENUE				348		87	
WHITE BEAR AVENUE (NB STATIONING)		11464	2113		1868	3484	533
COUNTY ROAD D					25		7
SW RAMP			853			201	
SE RAMP			477			97	18
NW RAMP			317			75	
NE RAMP			598			120	21
TOTALS	2378	11464	4358	2493	1893	5071	701

- (H) CURB, CURB AND GUTTER, CONCRETE WALK, CONCRETE DRIVEWAY PAVEMENT
- (I) CONCRETE PAVEMENT
- (J) PAVEMENT JOINTS
- (K) REINFORCEMENT JOINTS

28-160

1	9-26-96	LMV	WKW		REVISED PER MDOT CENTRAL OFFICE COMMENTS
NO	DATE	BY	CKD	APPR	REVISION

S.P. 62-665-36
S.P. 138-107-15
S.P. 138-121-01
S.P. 138-020-20
S.P. 6286-43

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

William K. W. W. W.
Date 10/1/96 Reg. No. 21874

DRAWN BY L. JASSON DATE 3-96
DESIGNED BY L. ARVIDSON DATE 3-96
CHECKED BY G. WESTERBERG DATE 3-96
COMD. NO. 0952178

SRF CONSULTING GROUP, INC.

CITY OF MAPLEWOOD
TABULATION
WHITE BEAR AVENUE

SHEET
29
OF
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① AGGREGATE BASE AND BITUMINOUS PAVEMENT						
LOCATION	AGGREGATE		BITUMINOUS			2357 TACK (GALLON)
	BASE CLASS 6 (CU YD)	SHOULDER CLASS 3 (CU YD)	TYPE 41 BASE (TON)	TYPE 41 BINDER (TON)	TYPE 41 WEAR (TON)	
WHITE BEAR AVENUE (SOUTH)						
202+85 to 223+57 (MAINLINE)	772					
202+14 TO 223+57 (WALK)	155					
202+60 TO 222+43 (MEDIAN)	243					
214+64 RT (MESABI)	18		11		11	13
214+64 LT D/W	48		13		13	7
219+35 RT (RADATZ)	12		8		8	14
213+28.3 RT	17		10		10	17
216+83 RT	7		3		3	5
217+12 RT	2					
217+82 RT	2					
218+17 RT	3					
221+65 RT	3					
222+35 RT	3					
BEAM AVENUE						
300+00 to 306+82.9 LT-RT	12		256	79	70	182
304+25 LT	34		23		23	41
FREE RIGHT CONC.	50					
NB WHITE BEAR AVENUE						
400+22 TO 414+87	3030	138				
400+00 TO 414+85 (WALK) RT	132					
400+00 TO 414+85 (PORKCHOP) RT	12					
411+85 (D/W)	56		18		18	32
400+00 TO 414+85 (WALK) LT	73					
400+00 TO 414+87 (MEDIANS)	198					
414+40 D/W LT	12					
COUNTY ROAD "D"						
100+12.00	7		4		4	7
100+00 TO 106+80 LT-RT	368		765	383	383	925
101+00 LT	8					
101+80 RT	23		10		10	28
102+38 LT	6					
102+96 LT	5		3		3	5
103+87 LT	5		3		3	5
104+59 LT	4					
104+89 RT	7					
108+22 LT	8					
SW RAMP						
30+00 TO 36+35 LT	218	191				
SE RAMP						
40+85 TO 45+04 RT	125	134				
NW RAMP						
20+82 TO 21+72	81	66				
NE RAMP						
10+00 TO 14+52 RT	309	148				
TOTALS	6066	677	1133	462	574	1291

② CASTING ASSEMBLY SUMMARY					
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	QUANTITY	REMARKS
A-40	700-4	715		1	MANHOLE
A-70	700-7	715		15	MANHOLE
A-80	700-8	715		1	MANHOLE
SPECIAL A	NEENAH R-3087V ESS BROS 309 EAST JORDAN 1040	0 0 0 0 0 0 0 0 0	VANE GRATE	31	CATCHBASIN
B-4	805	816		11	CATCHBASIN
B-6	802A	816	823A	2	CATCHBASIN
TOTALS				61	

- ② NEENAH FOUNDRY CO (NEENAH, WI)
 ② ESS BROTHERS FOUNDRY CO. (CORCORAN, MN)
 ② EAST JORDAN IRON WORKS (EAST JORDAN, MI)
 ② OR APPROVED EQUAL

③ TYPE "C" SIGNS										
REFERENCE NO. OF INSTALLATION	NO. OF INSTALLATIONS	POSTS PER INSTALLATION (QUANTITY - TYPE)	LENGTH OF POSTS (FT.)	MOUNTING HEIGHT (FT.)	SIGN PANEL SIZE (N. X IN.)	SIGN PANEL AREA PER PANEL (SQ. FT.)	TOTAL SIGN PANEL AREA (SQ. FT.)	SIGN PANEL CODE NO.	SIGN PANEL LEGEND	NOTE(S)
C-1	21	2-U	13	7	24 x 30	5.00	105.00	R4-7	KEEP RIGHT	
C-2	14	2-U	13	7	30 x 30	6.25	87.50	R3-X2	LEFT TURN LANE	
C-3	1	2-U & 1-A	14	7	48 x 30	10.00	10.00	R3-SG MOD.	TURN (LEFT ONLY, THROUGH, RIGHT ONLY)	
C-4	2	2-U & 1-A	14	7	48 x 30	10.00	20.00	R3-SG MOD.	TURN (LEFT ONLY, THROUGH, THROUGH RIGHT)	
C-5	1	2-U & 1-A	14	7	36 x 36	9.00	9.00	W4-2R	MERGE LEFT (DOUBLE TO SINGLE LANE)	
C-6	3	2-U & 1-A	14	7	48 x 30	10.00	30.00	R3-SG MOD.	TURN (LEFT ONLY, THROUGH-LEFT, RIGHT ONLY)	
C-7	3	2-U	13	7	30 x 30	6.25	18.75	R3-X1	RIGHT TURN LANE	
C-8	2	2-U	13	7	30 x 30	6.25	12.50	R3-8L	TURN (LEFT, THROUGH-LEFT)	
C-9	2	2-U & 1-A	14	7	36 x 30	7.50	15.00	R3-BF(R)	DOUBLE RIGHT	
C-10	1	2-U	13	7	24 x 30	5.00	5.00	R2-1	40 MPH SPEED LIMIT	
C-12	2	2-U & 1-A	14	7	30 x 30	7.50	15.00	R3-8F	DOUBLE LEFT ONLY	
C-13	1	2-U & 1-A	14	7	36 x 36	9.00	9.00	W3-3	SIGNAL AHEAD	
C-14	3	2-U	14	7	36 x 36 x 36	3.90	11.70	R1-2	YIELD	
C-15	3	2-U	13	7	30 x 30	4.86	14.58	R1-1	STOP	
C-16	8	2-U	13	7	24 x 24	4.00	24.00	R5-3A	NO PARKING	
C-17	1	2-U	13	7	24 x 24	4.00	4.00	R3-4	NO U-TURN	
C-18	6	2-U	13	7	30 x 30	6.25	37.50	R5-1	DO NOT ENTER	
C-20	2	2-U	13	7	24 x 24	4.00	8.00	R3-2	NO LEFT TURN	
C-21	1	2-U	13	7	30 x 30	6.25	6.25	R3-B(R)	TURN (LEFT ONLY, THROUGH-RIGHT)	
C-22	1	1-U	14	7	18 x 24	3.00	3.00	R5-100	NO NON-MOTORIZED VEHICLES	
C-23	2	2-U	14	7	24 x 24	4.00	8.00	R3-5R	RIGHT TURN ONLY	
TOTALS	78						453.78			

- NOTES:
 ① MOUNTING HEIGHT IS MINIMUM. SEE DETAIL SHEET FOR TYPICAL MOUNTING.
 ② INSTALL ON 1 LB/FT POST (MANTD 3401).
 ③ POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.

④ EARTHWORK SUMMARY						
ALIGNMENT	EXCAVATION			EMBANKMENT		
	COMMON		SUBGRADE			
	SUITABLE GRADING MATERIAL (EV) (CU YD)	TOPSOIL & OTHER MATERIAL (EV) (CU YD)	SUITABLE GRADING MATERIAL (EV) (CU YD)	SUITABLE GRADING MATERIAL (CV) (CU YD)	TOPSOIL (SLOPE DRESSING) (CV) (CU YD)	SELECT GRANULAR MATERIAL (CV) (CU YD)
WHITE BEAR AVENUE NORTH	7336	723	2279	500	428	2279
WHITE BEAR AVENUE SOUTH	1801	658	1874	111	119	1876
BEAM AVENUE	269	159	0	31	34	0
COUNTY ROAD D	527	334	313	58	80	313
SW RAMP	150	331	1418	835	199	1513
SE RAMP	263	179	645	188	103	645
NW RAMP	94	24	0	0	12	0
NE RAMP	61	204	904	300	142	904
TOTALS	10501	2612	7433	2023	1117	7530

- ① AGGREGATE BASE AND BITUMINOUS PAVEMENT
 ② CASTING ASSEMBLY
 ③ TYPE "C" SIGNS
 ④ DELINEATORS
 ⑤ EARTHWORK SUMMARY
- 28-160

1	7-19-96	MCJ	WKW	REVISED AS PER ADDITIONAL TRAFFIC ENGINEERING COMMENTS
2	9-26-96	LMV	WKW	REVISED PER MNDOT CENTRAL OFFICE COMMENTS
NO	DATE	BY	CHKD	APPR
REVISION				
NAME: TAB4 178.DGN DATE: Sep. 26, 1996 TIME: 14:33:26				

S.P. 62-665-36
 S.P. 138-107-15
 S.P. 138-121-01
 S.P. 138-020-20
 S.P. 6286-43

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
William K. Westenberg
 Date 10/1/96 Reg. No. 21874

DRAWN BY T. TASSON DATE 3-96
 DESIGNED BY T. ARVIDSON DATE 3-96
 CHECKED BY B. WESTERBERG DATE 3-96
 COMM. NO. 0952178

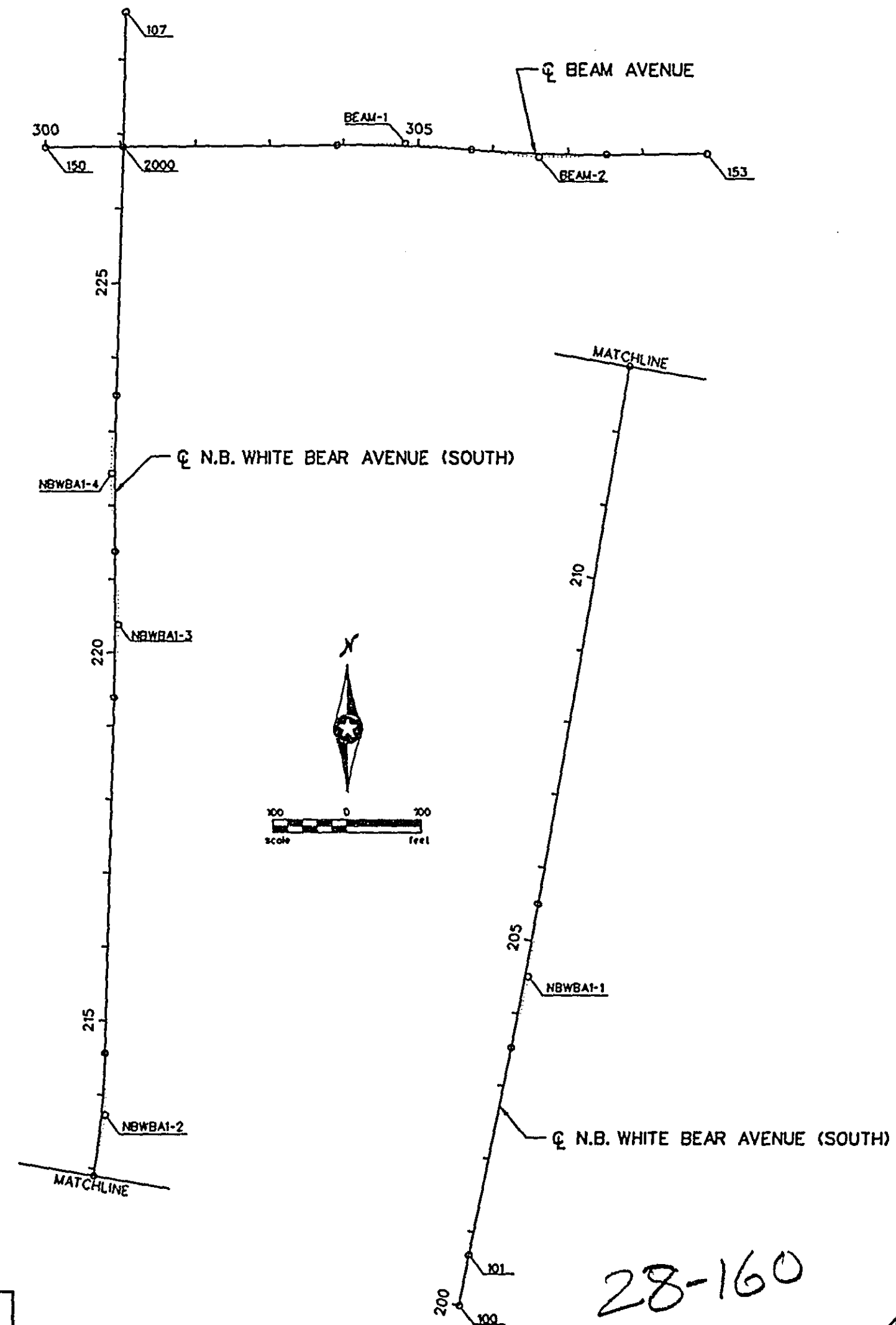
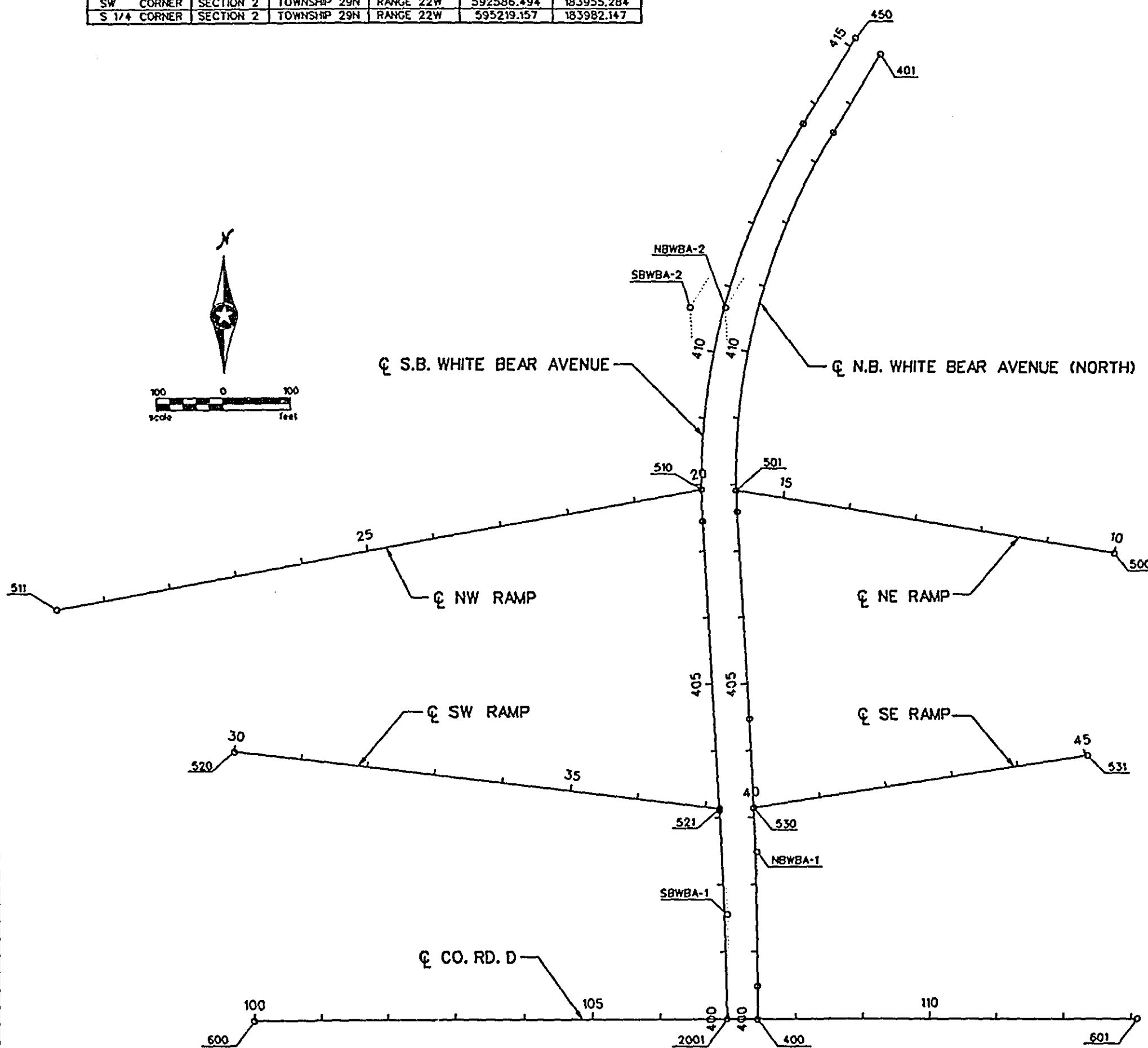
SRE CONSULTING GROUP, INC.

CITY OF MAPLEWOOD
 TABULATION
 WHITE BEAR AVENUE

SHEET
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 OF
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HORIZONTAL CONTROL POINTS

POINT	SECTION	TOWNSHIP	RANGE	X	Y
NW CORNER	SECTION 2	TOWNSHIP 29N	RANGE 22W	592491.971	189417.025
N 1/4 CORNER	SECTION 2	TOWNSHIP 29N	RANGE 22W	595129.806	189426.836
SW CORNER	SECTION 2	TOWNSHIP 29N	RANGE 22W	592586.494	183955.284
S 1/4 CORNER	SECTION 2	TOWNSHIP 29N	RANGE 22W	595219.157	183982.147



HORIZONTAL DATUM:
RAMSEY COUNTY COORDINATE SYSTEM

NO	DATE	BY	CHKD	APPR	REVISION

S.P. 62-665-36
S.P. 138-107-15
S.P. 138-121-01
S.P. 138-020-20
S.P. 6286-43

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William K. Westberg
Date 6/12/96 Reg. No. 21874

DRAWN BY
S. MARTIN
DESIGNED BY
D. FICK
CHECKED BY
B. WESTERBERG
DATE
12-95
12-95
COMM. NO.
0952178

SRE CONSULTING
GROUP, INC.

CITY OF MAPLEWOOD
ALIGNMENT PLAN
WHITE BEAR AVENUE

SHEET
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OF
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PT. NO.	POINT	STATION	CURVE DATA					COORDINATES		AZIMUTH	
			Δ	D	R	T	L	X	Y		
☑ N.B. WHITE BEAR AVENUE (SOUTH)											
100	POT	C/L N.B. WHITE BEAR AVENUE	200+00.00						594.227.995	183.972.033	10° 40' 19"
101	POT		200+69.00						594.240.772	184.039.836	11° 29' 23"
	PC		203+53.01						594.297.346	184.318.162	
NBWBA-1	PI		204+51.62	1° 58' 19" LT	1° 00' 00"	5.729.58'	98.60'	197.18'	594.316.987	184.414.787	PI
	PT		205+50.20						594.333.291	184.512.031	9° 31' 04"
	PC		212+90.79						594.455.752	185.242.427	
NBWBA-2	PI		213+73.53	8° 04' 01" LT	4° 52' 58"	1.173.42'	82.74'	165.21'	594.469.434	185.324.030	PI
	PT		214+56.00						594.471.529	185.406.747	1° 27' 03"
	PC		219+38.45						594.483.745	185.889.039	
NBWBA-3	PI		220+37.95	1° 59' 24" LT	1° 00' 00"	5.729.58'	99.51'	198.99'	594.486.264	185.988.513	PI
	PT		221+37.44						594.485.328	186.088.014	359° 27' 40"
	PC		221+37.44						594.485.328	186.088.010	
NBWBA-4	PI		222+43.28	2° 07' 00" RT	1° 00' 00"	5.729.58'	105.84'	211.66'	594.484.333	186.193.847	PI
	PT		223+49.10						594.487.247	186.299.649	1° 34' 39"
2000	POT	C/L N.B. WHITE BEAR AVENUE	226+83.29=						594.496.447	186.633.707	1° 14' 24"
	A PT. ON C/L BEAM AVENUE POT		301+03.56								
107	POT	C/L N.B. WHITE BEAR AVENUE	228+63.63						594.500.350	186.814.011	
☑ BEAM AVENUE											
150	POT	C/L BEAM AVENUE	300+00.00						594.392.896	186.632.506	89° 20' 07"
2000	POT	C/L BEAM AVENUE	301+03.56=						594.496.447	186.633.707	
	A PT. ON C/L N.B. WHITE BEAR AVENUE POT		226+83.29								
	PC		303+92.35						594.785.221	186.637.058	PI
BEAM-1	PI		304+81.94	5° 22' 17" RT	3° 00' 00"	1.909.86'	89.59'	179.05'	594.874.806	186.638.097	94° 42' 24"
	PT		305+71.40						594.964.094	186.630.745	
	PC		305+71.41						594.964.086	186.630.746	PI
BEAM-2	PI		306+61.33	5° 23' 30" LT	3° 00' 00"	1.909.86'	89.93'	179.72'	595.053.708	186.623.367	89° 18' 55"
	PT		307+51.13						595.143.627	186.624.442	
153	POT	C/L BEAM AVENUE	308+85.36						595.277.845	186.626.046	
☑ N.B. WHITE BEAR AVENUE (NORTH)											
400	POT	C/L N.B. WHITE BEAR AVENUE	400+00.00=						594.564.792	189.424.781	359° 46' 10"
	A PT. ON C/L CO. RD. D POT		107+43.49								
	PC		400+48.68						594.564.596	189.473.461	
NBWBA-1	PI		402+47.89	2° 59' 15" LT	0° 45' 00"	7.639.44'	199.21'	398.34'	594.563.794	189.672.673	PI
530	POC	C/L N.B. WHITE BEAR AVENUE	403+13.71=						594.558.933	189.738.42	356° 46' 55"
	A PT. ON C/L SE RAMP POT		40+00.00								
	PT		404+47.02						594.552.611	189.871.574	
	PC		407+59.15						594.535.089	190.183.210	
501	POC	C/L N.B. WHITE BEAR AVENUE	407+90.94=						594.533.824	190.214.972	
	A PT. ON C/L NE RAMP POT		15+70.34								
NBWBA-2	PI		410+64.64	34° 52' 47" RT	5° 53' 31"	972.45'	305.49'	591.99'	594.517.940	190.488.219	PI
	PT		413+51.14						594.678.293	190.748.241	31° 39' 42"
401	POT	C/L N.B. WHITE BEAR AVENUE	414+87.18						594.749.697	190.864.028	
☑ S.B. WHITE BEAR AVENUE											
2001	POC	C/L S.B. WHITE BEAR AVENUE	400+00.00=						594.519.354	189.424.607	359° 06' 28"
	A PT. ON C/L CO. RD. D POT		106+98.05								
SBWBA-1	PI		401+55.08	2° 19' 33" LT	0° 45' 00"	7.639.44'	155.08'	310.13'	594.516.939	189.579.672	PI
	PT		403+10.13						594.508.234	189.734.511	356° 46' 55"
521	POT	C/L S.B. WHITE BEAR AVENUE	403+13.12=						594.508.065	189.737.505	
	A PT. ON C/L SW RAMP POT		37+21.15								
	PC		407+45.33						594.483.803	190.169.030	
510	POC	C/L S.B. WHITE BEAR AVENUE	407+92.91=						594.482.243	190.216.576	
	A PT. ON C/L NW RAMP POT		20+00.00								
SBWBA-2	PI		410+65.27	34° 52' 48" RT	5° 37' 33"	1,018.45'	319.94'	620.00'	594.465.843	190.488.469	PI
	PT		413+65.33						594.633.784	190.760.792	31° 39' 43"
450	POT	C/L S.B. WHITE BEAR AVENUE	415+14.05						594.711.845	190.887.372	

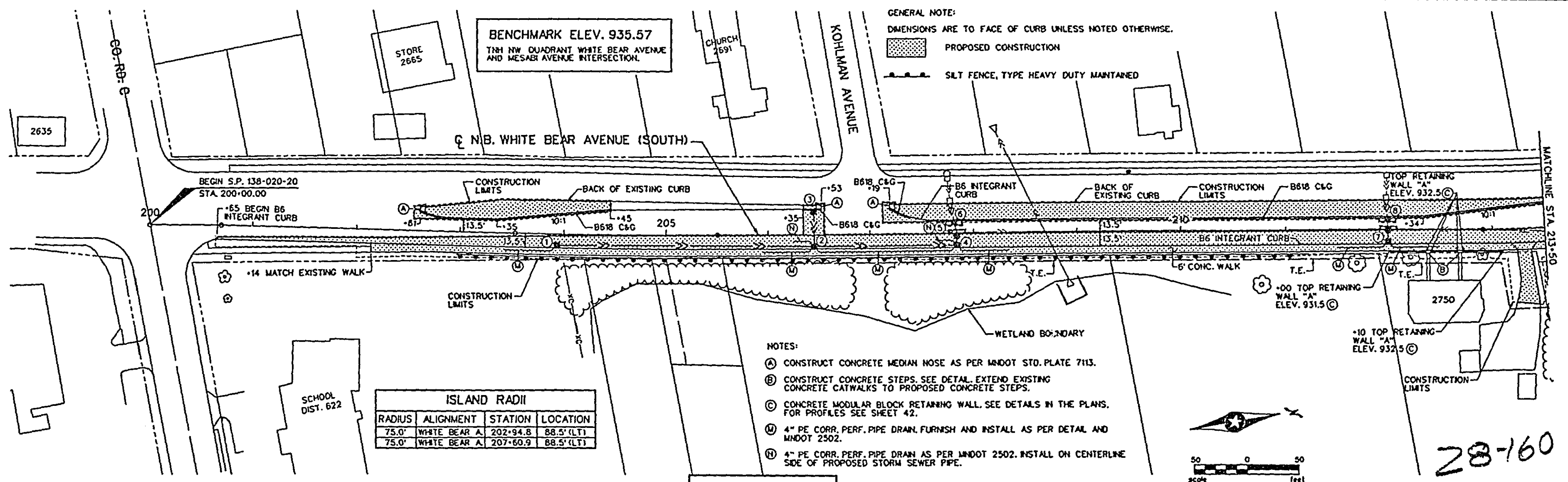
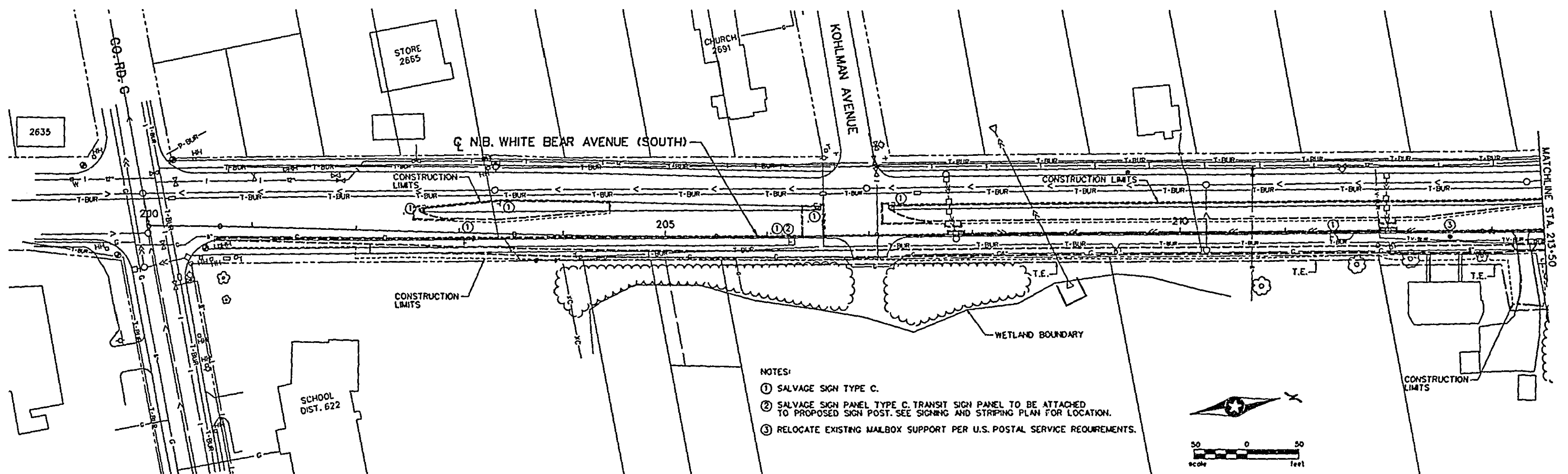
PT. NO.	POINT	STATION	CURVE DATA					COORDINATES		AZIMUTH
			Δ	D	R	T	L	X	Y	
☪ CO. RD. D										
600	POT	C/L CO. RD. D	100+00.00					593.821.307	189.422.016	89° 47' 13"
2001	POT	C/L CO. RD. D	106+98.05=					594.519.354	189.424.607	
	A PT. ON C/L S.B. WHITE BEAR AVENUE POT	400+00.00								
400	POT	C/L CO. RD. D	107+43.49=					594.564.792	189.424.781	
	A PT. ON C/L N.B. WHITE BEAR AVENUE POT	400+00.00								
601	POT	C/L CO. RD. D	113+08.51					595.129.807	189.426.882	
☪ NE RAMP										
500	POT	C/L NE RAMP	10+00.00					595.096.624	190.122.512	279° 19' 46"
501	POT	C/L NE RAMP	15+70.34=					594.533.824	190.214.972	
	A PT. ON C/L N.B. WHITE BEAR AVENUE POC	407+90.94								
☪ NW RAMP										
510	POT	C/L NW RAMP	20+00.00=					594.482.243	190.216.576	259° 19' 06"
	A PT. ON C/L S.B. WHITE BEAR AVENUE POC	407+92.91								
511	POT	C/L NW RAMP	29+71.55					593.527.529	190.036.499	
☪ SW RAMP										
520	POT	C/L SW RAMP	30+00.00					593.791.956	189.822.656	96° 46' 52"
521	POT	C/L SW RAMP	37+21.15=					594.508.065	189.737.505	
	A PT. ON C/L S.B. WHITE BEAR AVENUE POT	403+13.12								
☪ SE RAMP										
530	POT	C/L SE RAMP	40+00.00=					594.558.933	189.738.420	80° 52' 20"
	A PT. ON C/L N.B. WHITE BEAR AVENUE POC	403+13.71								
531	POT	C/L SE RAMP	45+03.98					595.056.530	189.818.370	

☪ N.B. WHITE BEAR AVENUE (SOUTH)
☪ BEAM AVENUE
☪ N.B. WHITE BEAR AVENUE (NORTH)
☪ S.B. WHITE BEAR AVENUE
☪ CO. RD. D
☪ NE RAMP
☪ NW RAMP
☪ SW RAMP
☪ SE RAMP

28-160

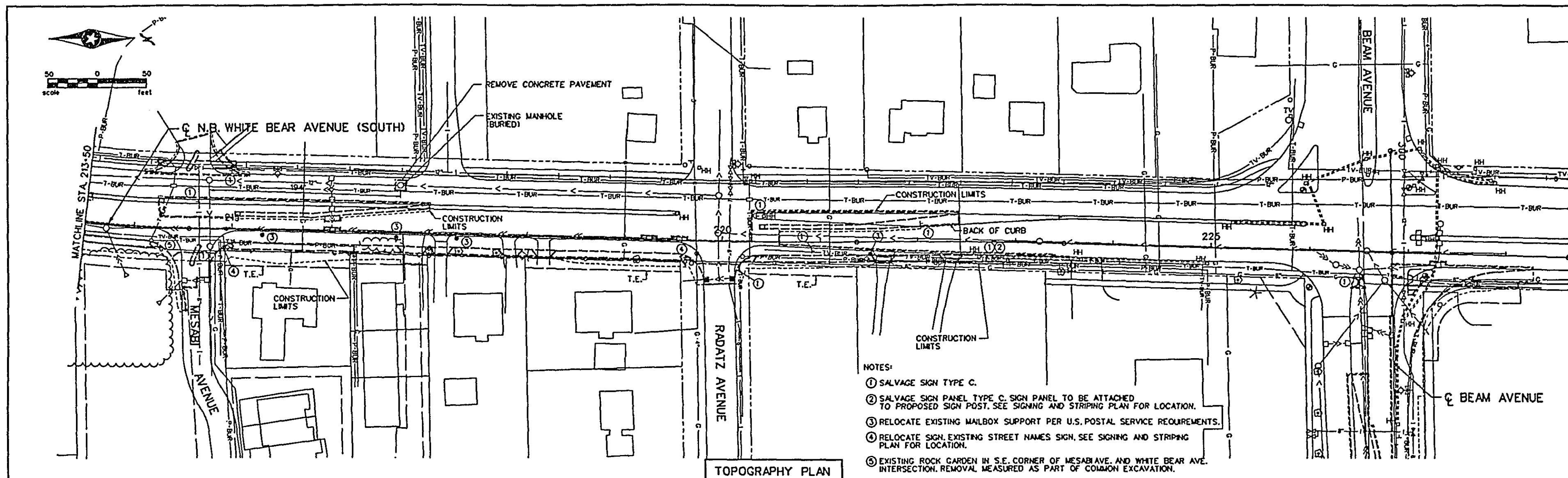
NO	DATE	BY	CHK	APPR	REVISION	S.P. 62-665-36 S.P. 138-107-15 S.P. 138-121-01 S.P. 138-020-20 S.P. 6286-43	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota. William K. Westberg Date 6/2/96 Reg. No. 21874	DRAWN BY S. MARTINS DATE 12-95 DESIGNED BY D. FICK DATE 12-95 CHECKED BY B. WESTERBERG DATE 12-95 COMM. NO. 0952178	SRE CONSULTING GROUP, INC.	CITY OF MAPLEWOOD ALIGNMENT TABULATIONS WHITE BEAR AVENUE	SHEET 32 OF 138
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NAME: AT 178.DGN DATE: Jun. 03, 1996 TIME: 11:04:40



1	9-26-96	LMV	WKW	REVISED PER MNDOT CENTRAL OFFICE COMMENTS	S.P. 62-665-36	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.	DRAWN BY S. MARTIN DATE 12-95	CITY OF MAPLEWOOD TOPOGRAPHY AND CONSTRUCTION PLAN WHITE BEAR AVENUE STA 200+00.00 TO STA 213+50.00	SHEET 33 OF 138
					S.P. 138-107-15	Checked by William K. Westberg Date 10/1/96	DESIGNED BY B. WESTERBERG DATE 12-95		
					S.P. 138-121-01		CHECKED BY D. MECHALDO DATE 1-96		
					S.P. 138-020-20		COMM. NO. 0952178		
					S.P. 6286-43				
NO	DATE	BY	CHKD	APPR	REVISION				

HAME: CP1178.DGN DATE: Sep. 30, 1996 TIME: 14:36:47

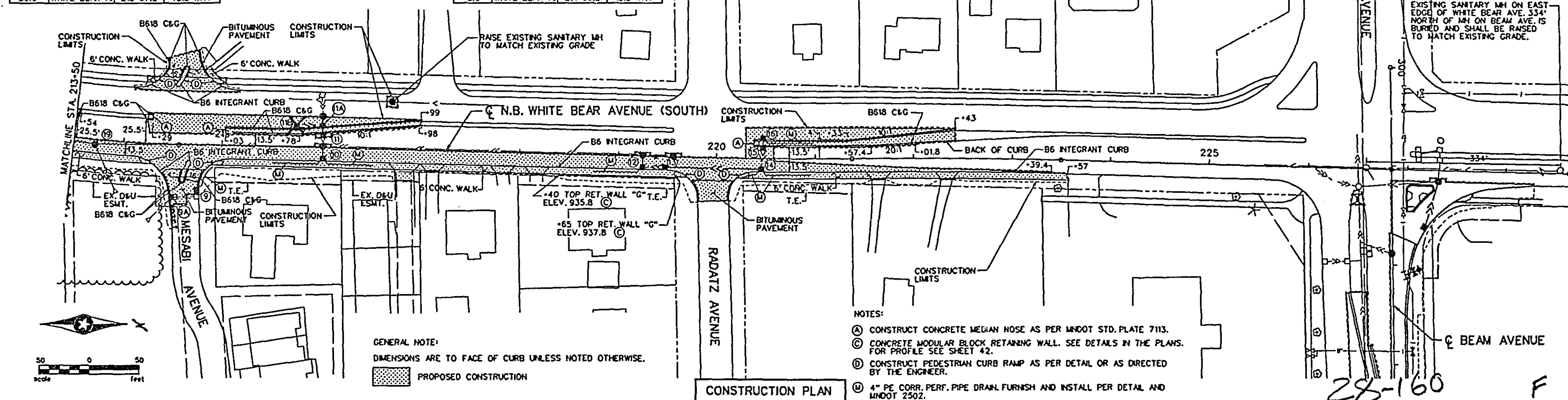


STREET RADII			
RADIUS	ALIGNMENT	STATION	LOCATION
35.0'	WHITE BEAR A.	214+08.0	91.5' (LT)
40.0'	WHITE BEAR A.	214+08.5	53.5' (RT)
10.0'	WHITE BEAR A.	214+32.5	81.1' (LT)
30.0'	WHITE BEAR A.	215+07.2	43.5' (RT)

STREET RADII (CONT.)			
RADIUS	ALIGNMENT	STATION	LOCATION
40.0'	WHITE BEAR A.	215+16.0	96.4' (LT)
30.0'	WHITE BEAR A.	219+51.5	43.5' (RT)
25.0'	WHITE BEAR A.	220+37.6	38.5' (RT)

ISLAND RADII			
RADIUS	ALIGNMENT	STATION	LOCATION
2.0'	WHITE BEAR A.	214+54.0	60.6' (LT)
2.0'	WHITE BEAR A.	214+59.8	35.7' (RT)
2.0'	WHITE BEAR A.	214+62.4	76.8' (LT)
2.0'	WHITE BEAR A.	214+66.3	18.3' (RT)

BENCHMARK ELEV. 935.57
T.M. NW QUADRANT WHITE BEAR AVENUE
AND MESABI AVENUE INTERSECTION.



1	7-10-96	MC1	WKW	REVISE PER ADDITIONAL MNDOT DISTRICT STATE AID REVIEW AND ADD RET. WALL
2	9-26-96	LMV	WKW	REVISED PER MNDOT CENTRAL OFFICE COMMENTS
REVISION				
NO	DATE	BY	CHKD	APPR
NAME: CP2 178.DGN DATE: Sep. 30, 1996 TIME: 14:40:35				

S.P. 62-665-36
S.P. 138-107-15
S.P. 138-121-01
S.P. 138-020-20
S.P. 6286-43

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

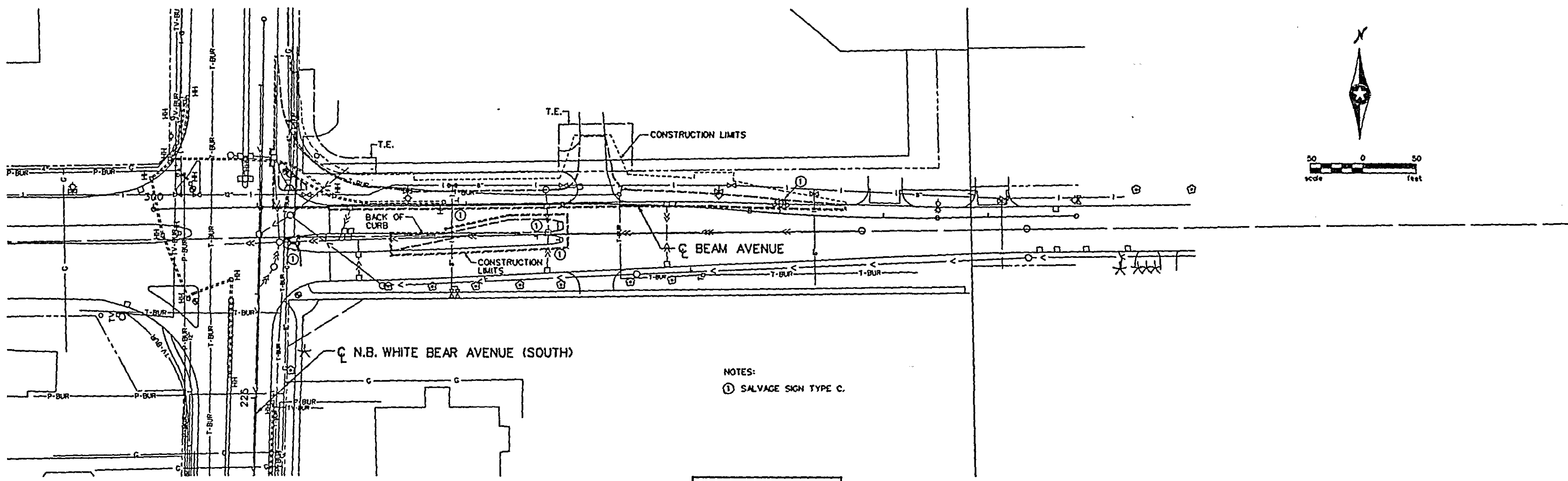
William K. Westberg
Date: 10/1/96 Reg. No. 21874

DRAWN BY: S. MARTIN
DATE: 12-92
DESIGNED BY: B. WESTBERG
CHECKED BY: D. MCHAMBER
COMPL. NO.: 0252178

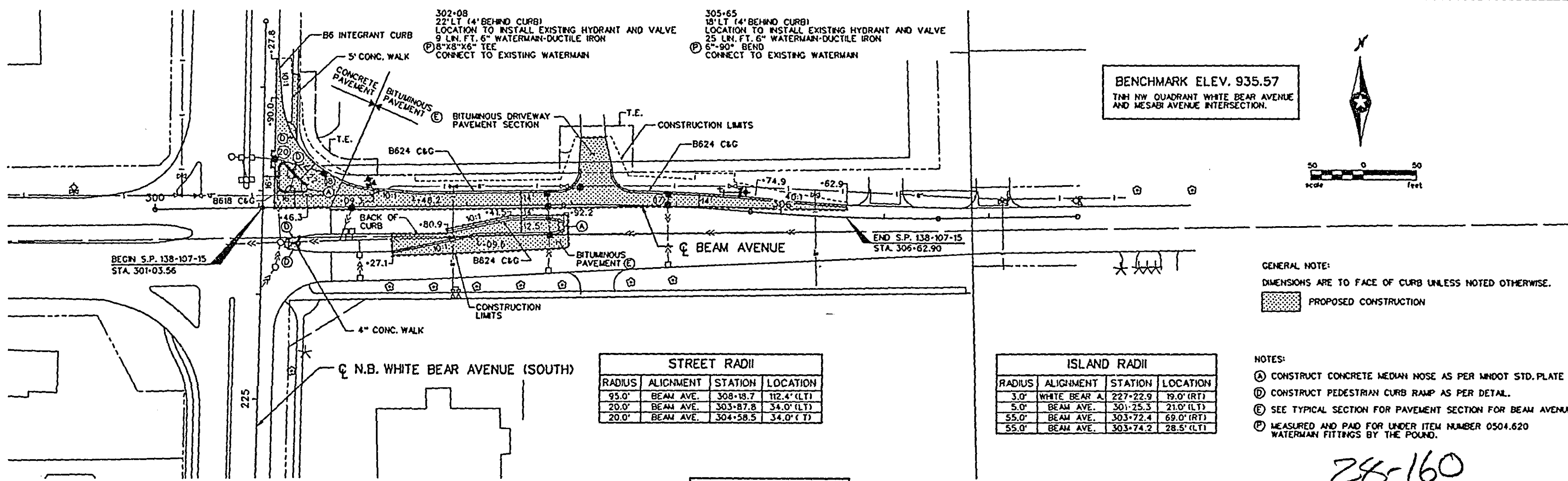
SRE CONSULTING GROUP, INC.

CITY OF MAPLEWOOD
TOPOGRAPHY AND CONSTRUCTION PLAN
WHITE BEAR AVENUE
STA. 213+50.00 TO STA. 228+63.63

SHEET
34
OF
138



TOPOGRAPHY PLAN



BENCHMARK ELEV. 935.57
TIN NW QUADRANT WHITE BEAR AVENUE
AND MESABI AVENUE INTERSECTION.

GENERAL NOTE:
DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
PROPOSED CONSTRUCTION

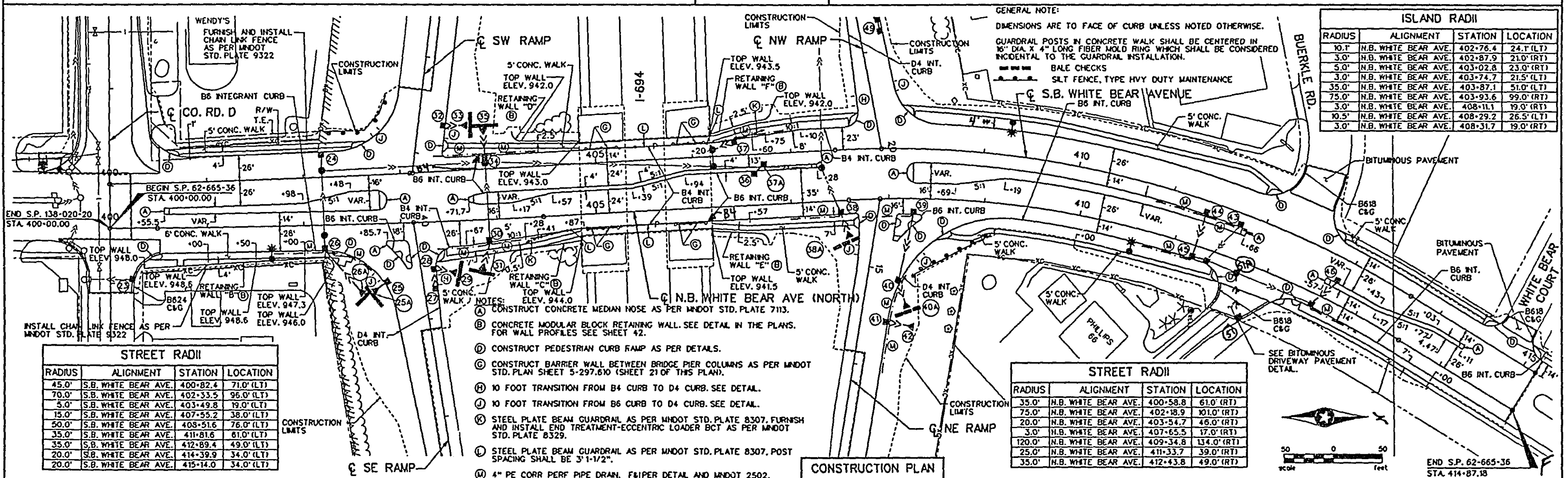
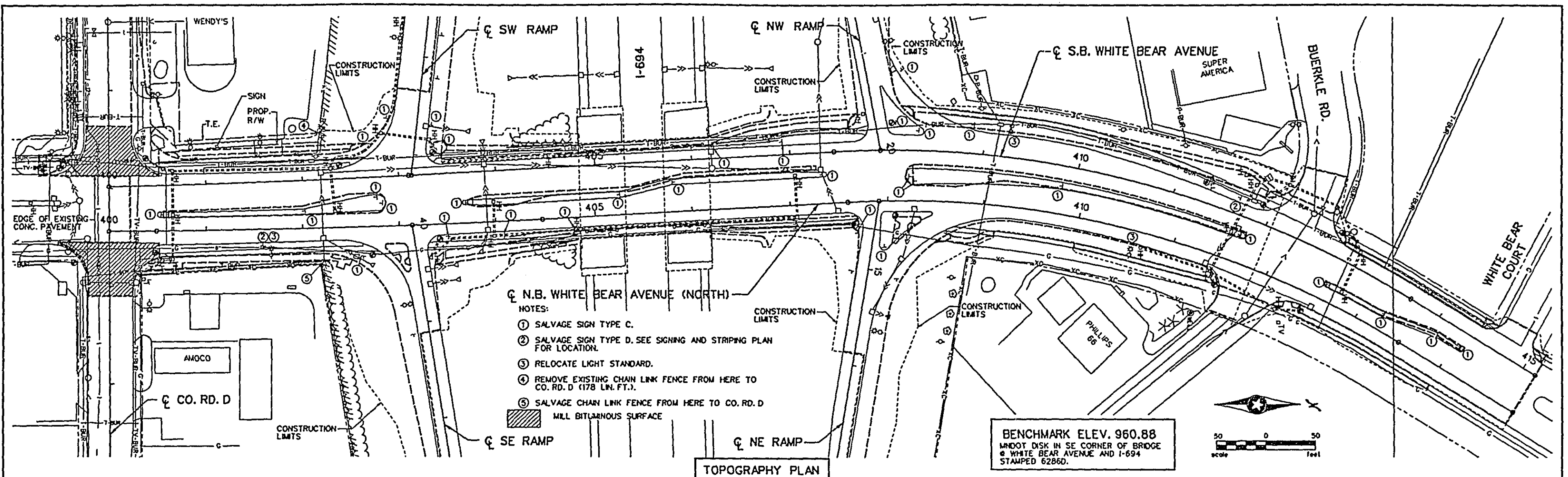
STREET RADII			
RADIUS	ALIGNMENT	STATION	LOCATION
95.0'	BEAM AVE.	308+18.7	112.4' (LT)
20.0'	BEAM AVE.	303+87.8	34.0' (LT)
20.0'	BEAM AVE.	304+58.5	34.0' (T)

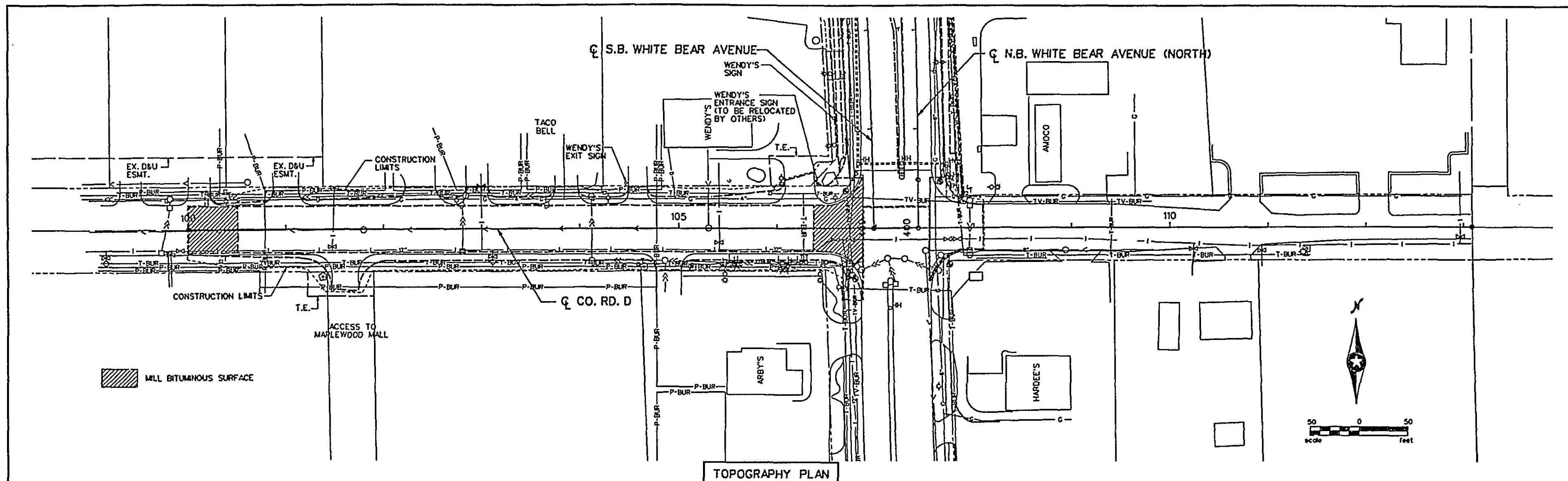
ISLAND RADII			
RADIUS	ALIGNMENT	STATION	LOCATION
3.0'	WHITE BEAR A.	227+22.9	19.0' (RT)
5.0'	BEAM AVE.	301+25.3	21.0' (LT)
55.0'	BEAM AVE.	303+72.4	69.0' (RT)
55.0'	BEAM AVE.	303+74.2	28.5' (LT)

NOTES:
 (A) CONSTRUCT CONCRETE MEDIAN NOSE AS PER MNDOT STD. PLATE 7113.
 (D) CONSTRUCT PEDESTRIAN CURB RAMP AS PER DETAIL.
 (E) SEE TYPICAL SECTION FOR PAVEMENT SECTION FOR BEAM AVENUE.
 (F) MEASURED AND PAID FOR UNDER ITEM NUMBER 0504.620 WATERMAN FITTINGS BY THE POUND.

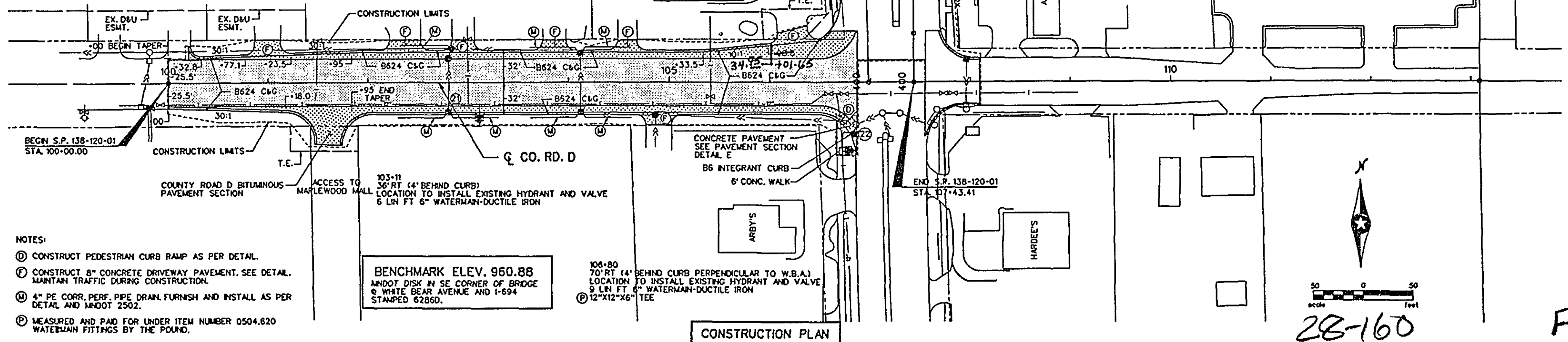
CONSTRUCTION PLAN

NO. DATE BY CKD APPR NAME: CP3 178.DGN DATE: Jun. 5, 1996 TIME: 22:45:02		S.P. 62-665-36 S.P. 138-107-15 S.P. 138-121-01 S.P. 138-020-20 S.P. 6286-43	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota. <i>William K. Westberg</i> Date: 6/12/96 Reg. No. 21874	DRAWN BY S. MARTIN DATE 12-95 DESIGNED BY B. WESTERBERG 12-95 CHECKED BY D. MCHALKO 1-96 COMM. NO. 0952178	SRE CONSULTING GROUP, INC.	CITY OF MAPLEWOOD TOPOGRAPHY AND CONSTRUCTION PLAN WHITE BEAR AVENUE BEAM AVENUE STA. 300+00.00 TO STA. 308+85.36	SHEET 35 OF 138
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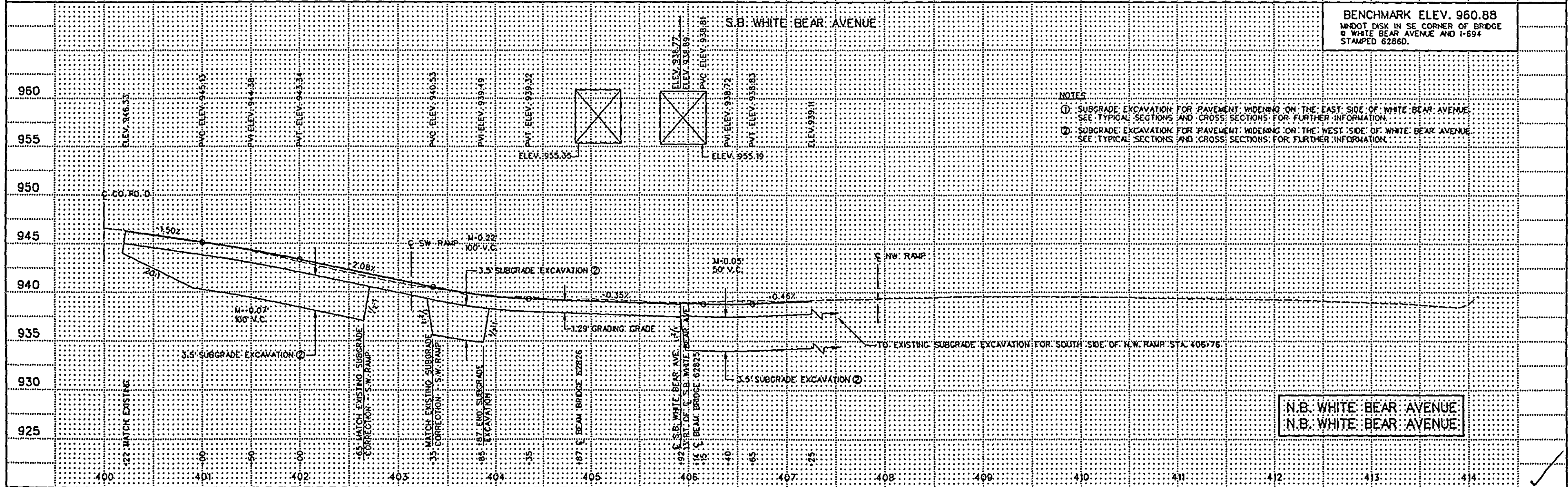
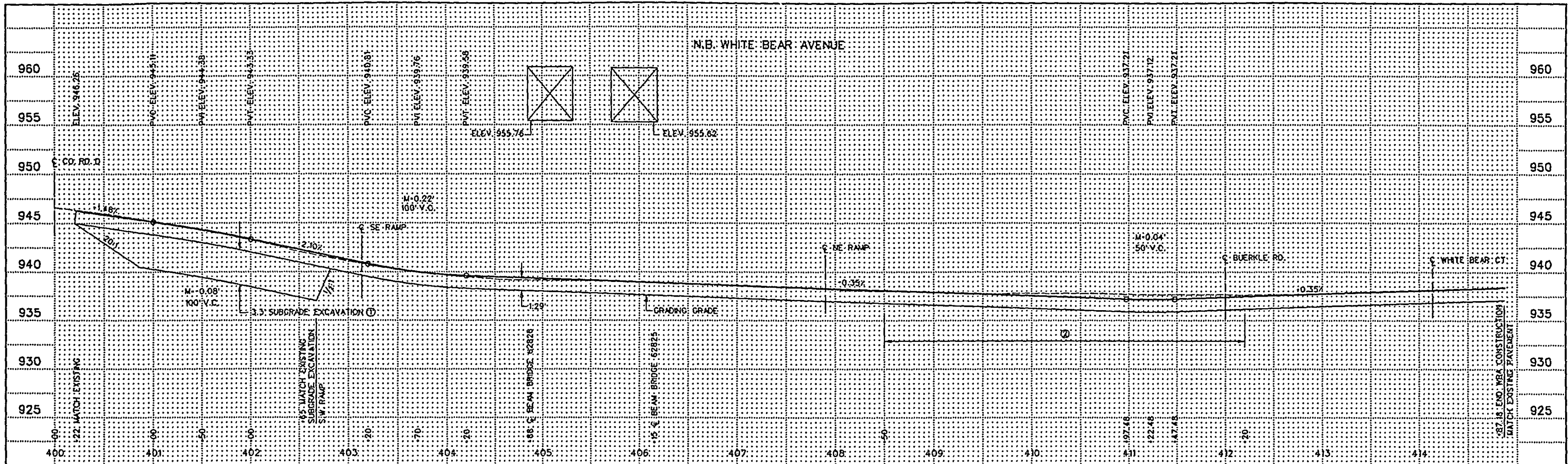
STREET RADII				STREET RADII			
RADIUS	ALIGNMENT	STATION	LOCATION	RADIUS	ALIGNMENT	STATION	LOCATION
10.0'	CO. RD. D	100+32.3	36.6' (LT)	10.0'	CO. RD. D	103+64.3	42.0' (LT)
10.0'	CO. RD. D	100+76.8	38.1' (LT)	10.0'	CO. RD. D	104+07.8	42.0' (LT)
30.0'	CO. RD. D	101+17.0	59.4' (RT)	10.0'	CO. RD. D	104+39.3	42.0' (LT)
10.0'	CO. RD. D	101+23.2	39.6' (LT)	10.0'	CO. RD. D	104+66.4	42.0' (RT)
30.0'	CO. RD. D	102+04.4	62.0' (RT)	10.0'	CO. RD. D	104+78.0	42.0' (LT)
10.0'	CO. RD. D	102+12.4	42.0' (LT)	10.0'	CO. RD. D	105+12.3	42.0' (RT)
10.0'	CO. RD. D	102+63.2	42.0' (LT)	10.0'	CO. RD. D	105+97.8	48.5' (LT)
10.0'	CO. RD. D	102+74.4	42.0' (LT)	40.0'	CO. RD. D	106+45.2	72.0' (RT)
10.0'	CO. RD. D	103+16.4	42.0' (LT)	10.0'	CO. RD. D	106+47.5	53.4' (LT)



- NOTES:
- ① CONSTRUCT PEDESTRIAN CURB RAMP AS PER DETAIL.
 - ② CONSTRUCT 8" CONCRETE DRIVEWAY PAVEMENT. SEE DETAIL. MAINTAIN TRAFFIC DURING CONSTRUCTION.
 - ③ 4" PE CORR. PERF. PIPE DRAIN FURNISH AND INSTALL AS PER DETAIL AND MNDOT 2502.
 - ④ MEASURED AND PAID FOR UNDER ITEM NUMBER 0504.620 WATERMAIN FITTINGS BY THE POUND.

BENCHMARK ELEV. 960.88
MNDOT DISK IN SE CORNER OF BRIDGE
@ WHITE BEAR AVENUE AND I-694
STAMPED 62860.

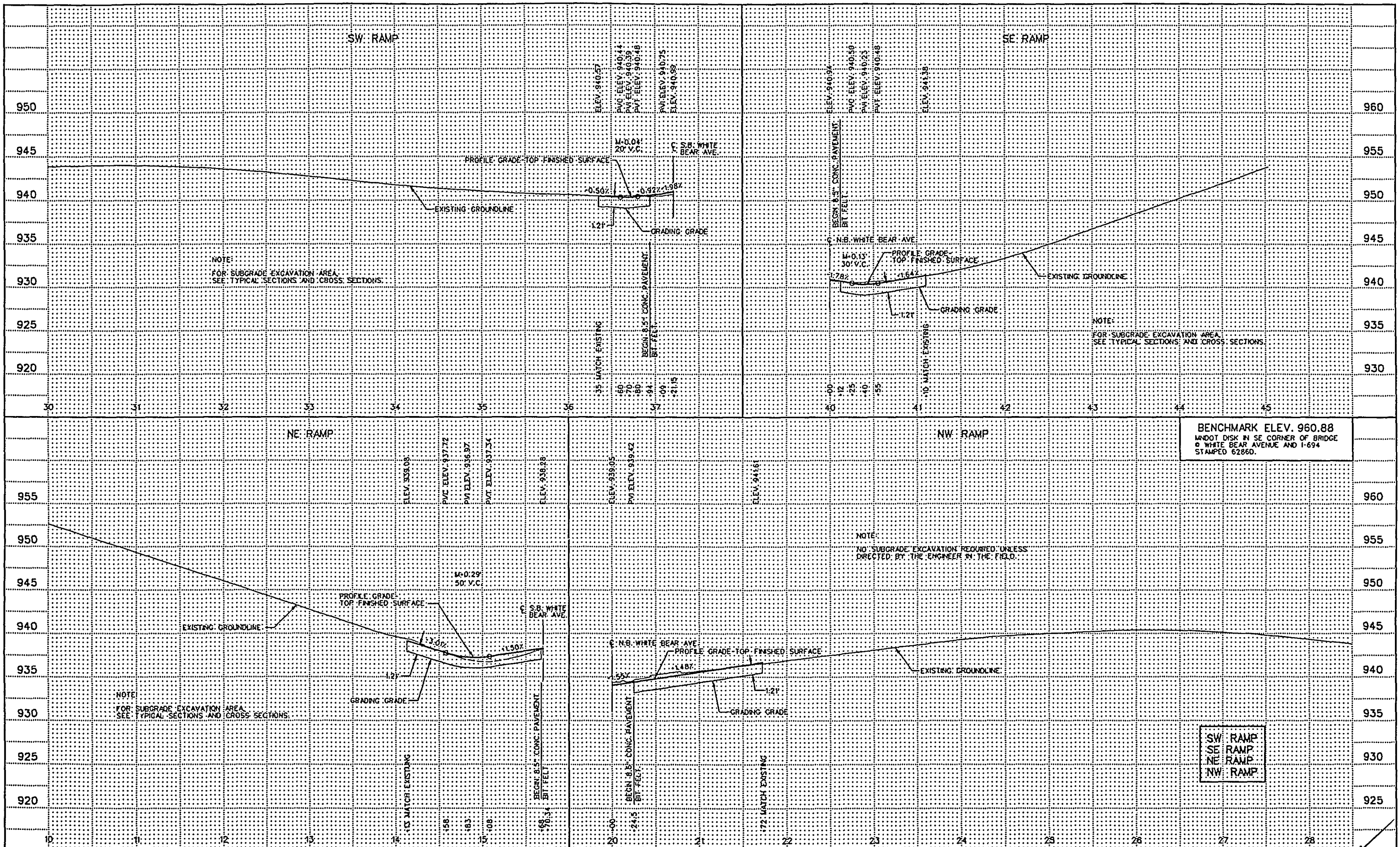
106+80
70' RT (4' BEHIND CURB PERPENDICULAR TO W.B.A.)
LOCATION TO INSTALL EXISTING HYDRANT AND VALVE
9 LIN FT 6" WATERMAIN-DUCTILE IRON
① 12"x12"x6" TEE



BENCHMARK ELEV. 960.88
 NADOT DISK IN SE CORNER OF BRIDGE
 @ WHITE BEAR AVENUE AND I-694
 STAMPED 6286D.

- NOTES:
- ①: SUBGRADE EXCAVATION FOR PAVEMENT WIDENING ON THE EAST SIDE OF WHITE BEAR AVENUE. SEE TYPICAL SECTIONS AND CROSS SECTIONS FOR FURTHER INFORMATION.
 - ②: SUBGRADE EXCAVATION FOR PAVEMENT WIDENING ON THE WEST SIDE OF WHITE BEAR AVENUE. SEE TYPICAL SECTIONS AND CROSS SECTIONS FOR FURTHER INFORMATION.

N.B. WHITE BEAR AVENUE
 N.B. WHITE BEAR AVENUE



NO	DATE	BY	CHKD	APPR	REVISION
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

S.P. 62-665-36
S.P. 138-107-15
S.P. 138-121-01
S.P. 138-020-20
S.P. 6286-43

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

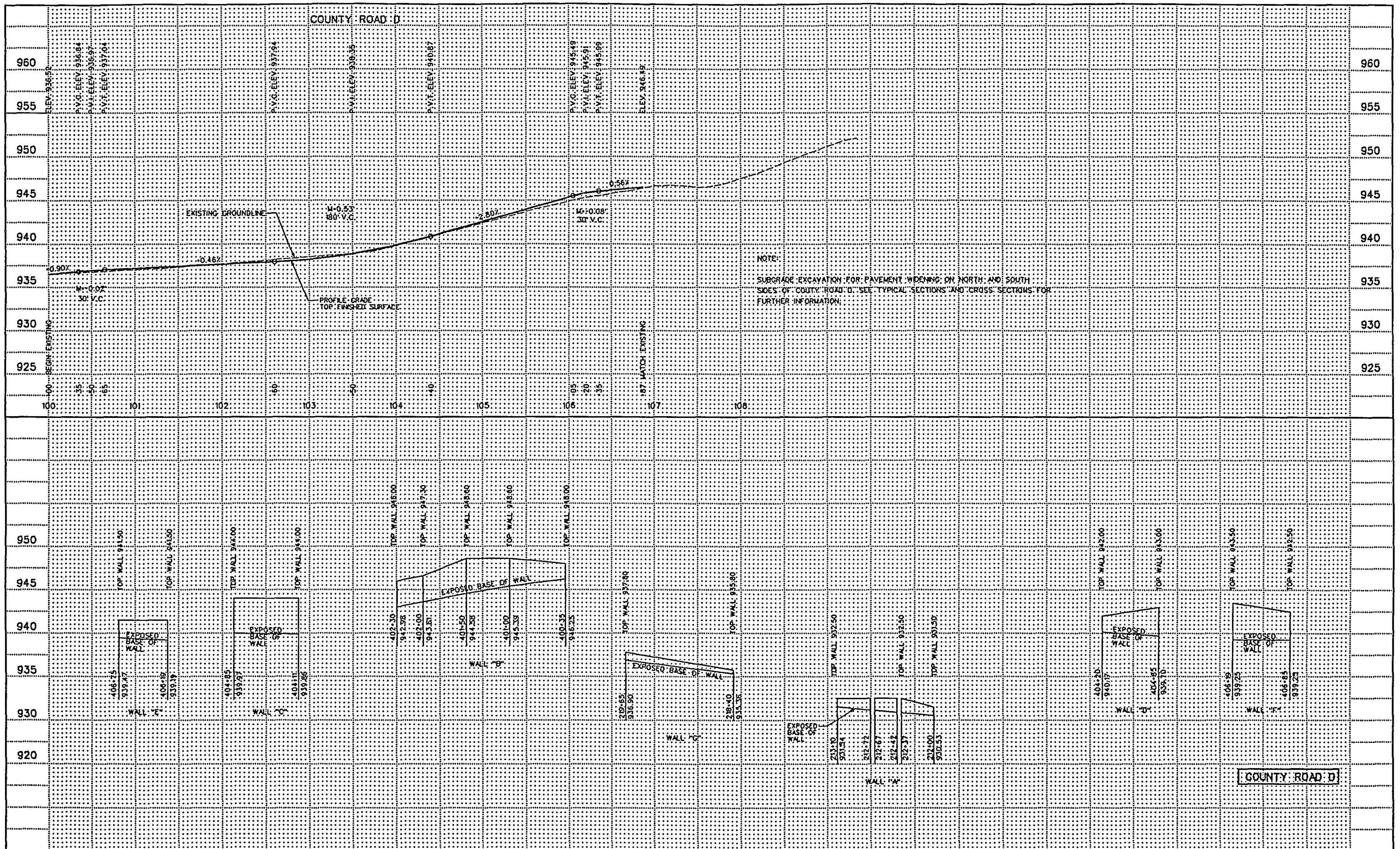
William K. Westerberg
Date *6/2/96* Reg. No. *21874*

DRAWN BY
S. MARTIN
DESIGNED BY
D. MCHAKO
CHECKED BY
B. WESTERBERG
COMD. NO.
0952178

SRE CONSULTING
GROUP, INC.

CITY OF MAPLEWOOD
PROFILES
WHITE BEAR AVENUE
28-160

SHEET
41
OF
138



NO	DATE	BY	CHKD	APPR	REVISION

NAME: PRO5 178.DGN DATE: Oct. 01, 1996 TIME: 10:43:50

S.P. 62-665-36
S.P. 138-107-15
S.P. 138-121-01
S.P. 138-020-20
S.P. 6286-43

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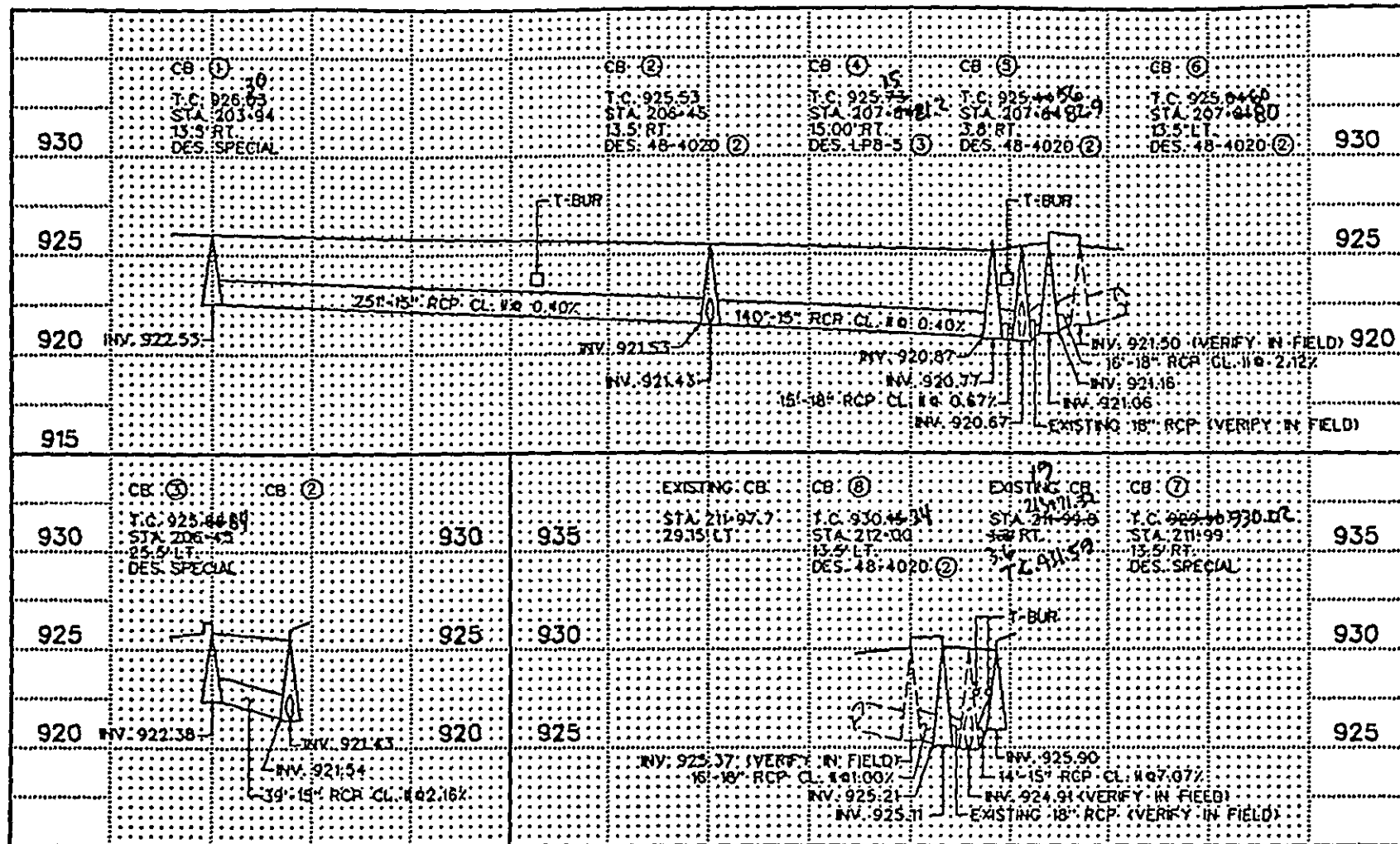
William K. Westerberg
Date: 10/1/96 Reg. No. 21814

DRAWN BY: T. TASSON DATE: 3-96
DESIGNED BY: D. MICHALKO DATE: 12-93
CHECKED BY: B. WESTERBERG DATE: 1-98
COMD. NO.: 0952178

SRE CONSULTING GROUP, INC.

CITY OF MAPLEWOOD
PROFILES
WHITE BEAR AVENUE
28-160

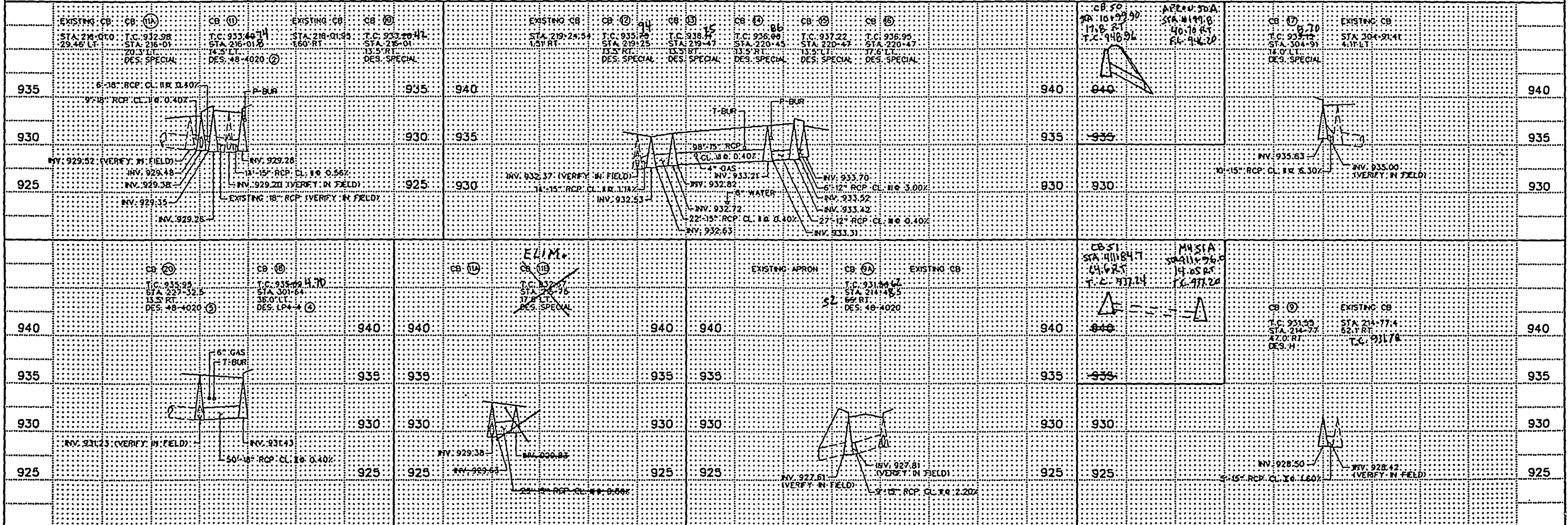
SHEET 42 OF 138

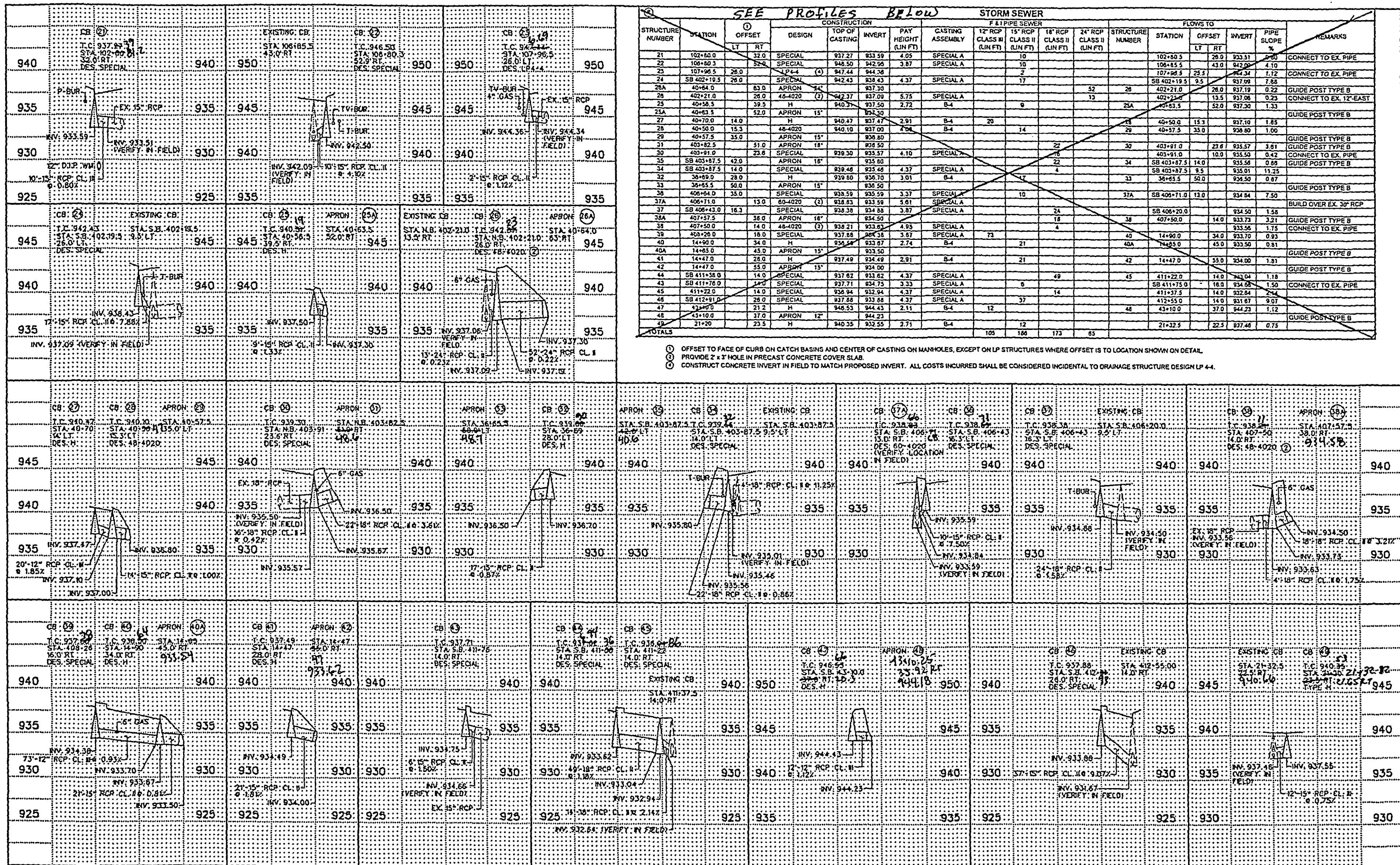


SEE PROFILES BELOW

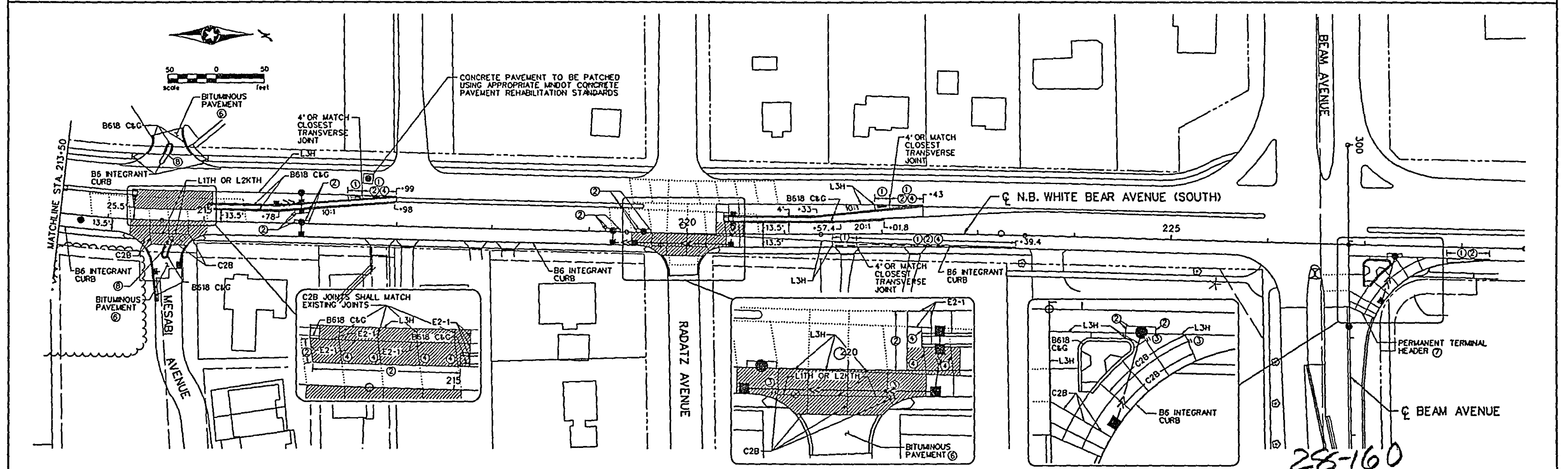
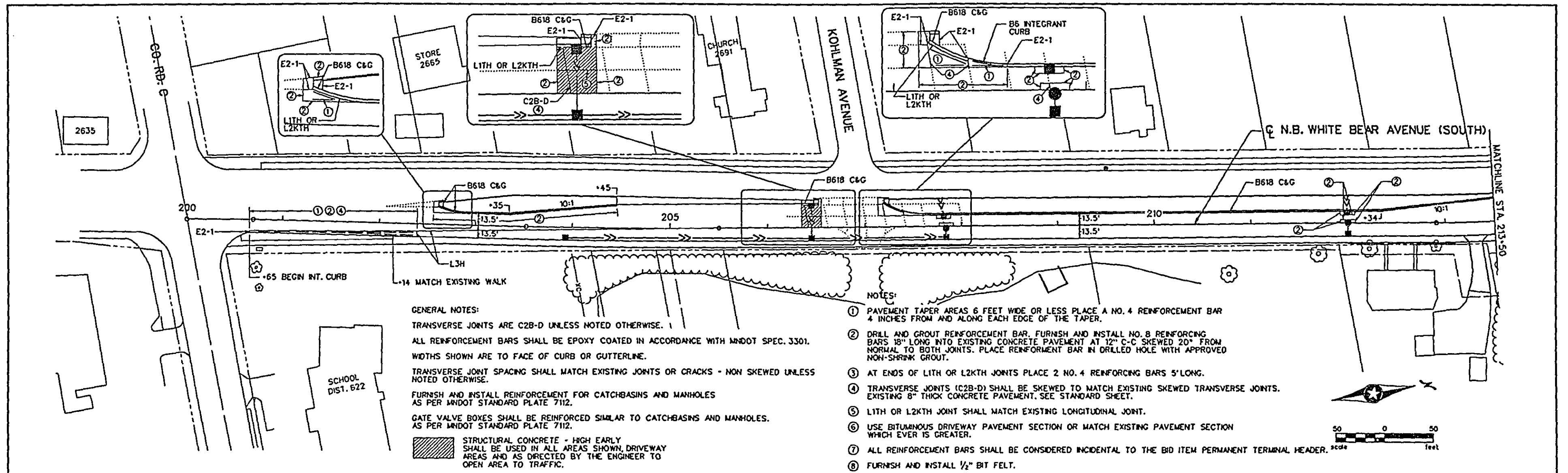
STRUCTURE NUMBER	STATION	OFFSET	CONSTRUCTION				CASTING ASSEMBLY	F&I PIPE SEWER				STRUCTURE NUMBER	STATION	OFFSET	INVERT	PIPE SLOPE %	REMARKS
			DESIGN	TOP OF CASTING	INVERT	PAY HEIGHT (LIN FT)		12" RCP CLASS III (LIN FT)	15" RCP CLASS II (LIN FT)	18" RCP CLASS II (LIN FT)	24" RCP CLASS II (LIN FT)						
1	203+94	15.5	SPECIAL	928.03	922.53	3.87	SPECIAL A					2	206+45	13.5	921.53	0.40	
3	206+45	25.5	SPECIAL	925.88	922.38	3.87	SPECIAL A					2	206+45	13.5	921.54	2.18	
2	206+45	13.5	48-4020 (2)	925.53	921.43	4.27	SPECIAL A					4	207+84	15.0	920.87	0.40	
2	207+77.4	29.3			921.50							6	207+81	13.5	921.18	2.12	
6	207+81	13.5	48-4020 (2)	925.88	921.08	4.95	SPECIAL A					5	207+84	3.8	920.87	0.87	
4	207+84	15.0	LP#5 (2)	925.73	920.73							5	207+84	3.8	920.87	0.87	
5	207+84	3.8	48-4020 (1)	925.44	920.67	4.89	A-7D					5	207+84	3.8	920.87	0.87	
2	211+97.7	29.2			925.37							8	212+00	13.5	925.21	1.00	
8	212+00	13.5	48-4020 (1)	930.15	925.11	5.41	SPECIAL A					8	211+99.8	1.8	924.91	7.07	
7	211+99	13.5	SPECIAL	929.90	925.90	4.37	SPECIAL A					8	211+99.8	1.8	924.91	7.07	
2	218+01.0	29.5			929.52							11A	218+01	20.3	929.48	0.40	
11	218+01	14.5	48-4020 (1)	933.59	929.28	4.60	SPECIAL A					11A	218+01	20.3	929.48	0.40	
11B	218+01	17.5	SPECIAL	932.87	929.63	3.21	SPECIAL A					11	218+01	14.5	929.35	0.40	
11A	218+01	20.3	SPECIAL	932.98	929.38	3.97	SPECIAL A					11	218+01	14.5	929.35	0.40	
10	218+01	13.5	SPECIAL	933.28	929.28	4.47	SPECIAL A					15	218+01.95	1.8	929.20	0.56	
18	220+47	17.6	SPECIAL	938.95	933.70	5.62	SPECIAL A					15	220+47	13.5	933.52	3.00	
13	220+47	13.5	SPECIAL	937.22	936.42	4.17	SPECIAL A					14	220+45	13.5	933.31	0.40	
14	220+45	13.5	SPECIAL	936.08	933.21	4.12	SPECIAL A					13	219+47	13.5	932.82	0.40	
13	219+47	13.5	SPECIAL	936.14	932.72	3.79	SPECIAL A					12	219+25	13.5	932.83	0.40	
12	219+25	13.5	SPECIAL	935.75	932.53	3.59	SPECIAL A					12	219+25	13.5	932.83	0.40	
19	213+71	4.5	48-4020 (2)	931.53	927.24	4.41	A-7D					12	219+25	13.5	932.83	0.40	
9	214+77	13.5	H	931.55	928.50	2.92	B-4					12	219+25	13.5	932.83	0.40	
9A	214+77.5	55.0	48-4020	931.50	927.61	4.26	B-4					12	219+25	13.5	932.83	0.40	
17	304+81	14.0	SPECIAL	939.13	935.83	3.87	SPECIAL A					12	219+25	13.5	932.83	0.40	
18	304+81	36.0	LP#4 (4)	935.82	931.43							12	219+25	13.5	932.83	0.40	
20	227+32.5	13.5	48-4020 (5)	935.95	931.23	4.84	A-7D					20	227+32.5	13.7	931.23	0.40	EXISTING PIPE
TOTALS																	

1. OFFSET TO FACE OF CURB ON CATCH BASINS AND CENTER OF CASTING ON MANHOLES, EXCEPT ON LP STRUCTURES WHERE OFFSET IS TO LOCATION SHOWN ON DETAIL.
2. PROVIDE 2' x 3' HOLE IN PRECAST CONCRETE COVER SLAB.
3. CONSTRUCT CONCRETE CHANNEL IN FIELD MATCHING THE PROPOSED INVERTS. DEPTH OF CHANNEL SHALL BE 1/2 THE OUTSIDE DIAMETER OF PIPES. SLOPES FROM TOP OF CHANNEL TO PRECAST CONCRETE WALL SHALL BE 1:1. ALL COSTS INCURRED SHALL BE CONSIDERED INCIDENTAL TO DRAINAGE STRUCTURE DESIGN LP 8-5.
4. CONSTRUCT CONCRETE INVERT IN FIELD TO MATCH PROPOSED INVERT. ALL COSTS INCURRED SHALL BE CONSIDERED INCIDENTAL TO DRAINAGE STRUCTURE DESIGN LP 4-4.
5. CONSTRUCT STRUCTURE OVER EXISTING PIPES.

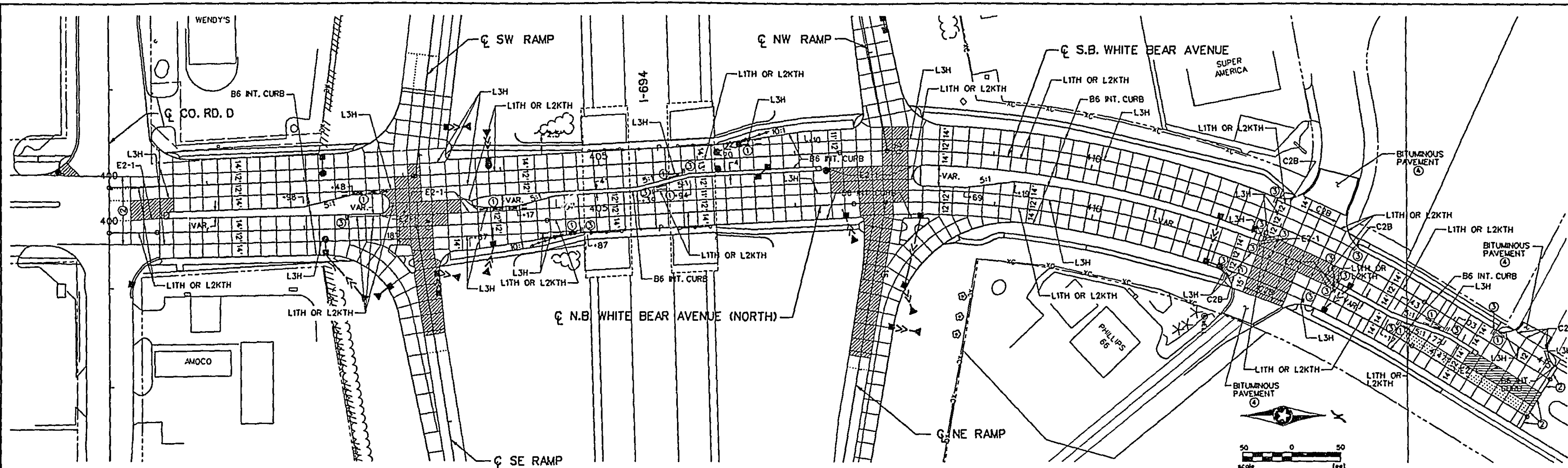




- ① OFFSET TO FACE OF CURB ON CATCH BASINS AND CENTER OF CASTING ON MANHOLES, EXCEPT ON LP STRUCTURES WHERE OFFSET IS TO LOCATION SHOWN ON DETAIL.
- ② PROVIDE 2" x 1" HOLE IN PRECAST CONCRETE COVER SLAB.
- ③ CONSTRUCT CONCRETE INVERT IN FIELD TO MATCH PROPOSED INVERT. ALL COSTS INCURRED SHALL BE CONSIDERED INCIDENTAL TO DRAINAGE STRUCTURE DESIGN LP 4-4.



						S.P. 62-665-36 S.P. 138-107-15 S.P. 138-121-01 S.P. 138-020-20 S.P. 6286-43		I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota. <i>William K. Wierzbicki</i> Date <u>6/12/96</u> Reg. No. <u>21874</u>		DRAWN BY S. MARTIN DATE 12-95 DESIGNED BY B. WESTERBERG 12-95 CHECKED BY B. MUELLER 1-96 COM. NO. 0252178		 SRE CONSULTING GROUP, INC.		CITY OF MAPLEWOOD PAVEMENT JOINT LAYOUT WHITE BEAR AVENUE STA 200+00.00 TO STA 228+63.63		SHEET 46 OF 138	
NO DATE BY CKD APPR						REVISION											
NAME: PJ1178.DGN						DATE: Jun. 7, 1996		TIME: 15:23:44									

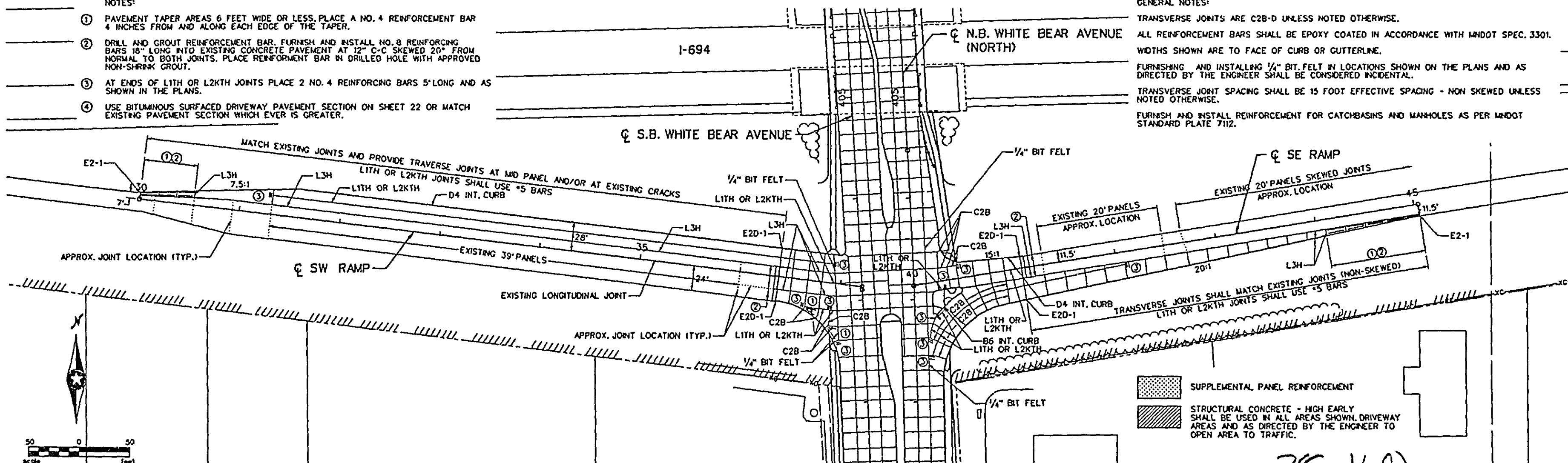


NOTES:

- ① PAVEMENT TAPER AREAS 6 FEET WIDE OR LESS, PLACE A NO. 4 REINFORCEMENT BAR 4 INCHES FROM AND ALONG EACH EDGE OF THE TAPER.
- ② DRILL AND GROUT REINFORCEMENT BAR. FURNISH AND INSTALL NO. 8 REINFORCING BARS 18" LONG INTO EXISTING CONCRETE PAVEMENT AT 12" C-C SKEWED 20° FROM NORMAL TO BOTH JOINTS. PLACE REINFORCEMENT BAR IN DRILLED HOLE WITH APPROVED NON-SHRINK GROUT.
- ③ AT ENDS OF L1TH OR L2KTH JOINTS PLACE 2 NO. 4 REINFORCING BARS 5' LONG AND AS SHOWN IN THE PLANS.
- ④ USE BITUMINOUS SURFACED DRIVEWAY PAVEMENT SECTION ON SHEET 22 OR MATCH EXISTING PAVEMENT SECTION WHICH EVER IS GREATER.

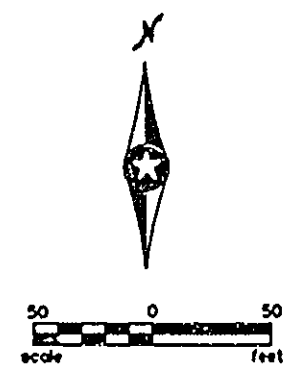
GENERAL NOTES:

- TRANSVERSE JOINTS ARE C2B-D UNLESS NOTED OTHERWISE.
- ALL REINFORCEMENT BARS SHALL BE EPOXY COATED IN ACCORDANCE WITH MNDOT SPEC. 3301.
- WIDTHS SHOWN ARE TO FACE OF CURB OR CUTTERLINE.
- FURNISHING AND INSTALLING 1/4" BIT FELT IN LOCATIONS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER SHALL BE CONSIDERED INCIDENTAL.
- TRANSVERSE JOINT SPACING SHALL BE 15 FOOT EFFECTIVE SPACING - NON SKEWED UNLESS NOTED OTHERWISE.
- FURNISH AND INSTALL REINFORCEMENT FOR CATCHBASINS AND MANHOLES AS PER MNDOT STANDARD PLATE 7112.



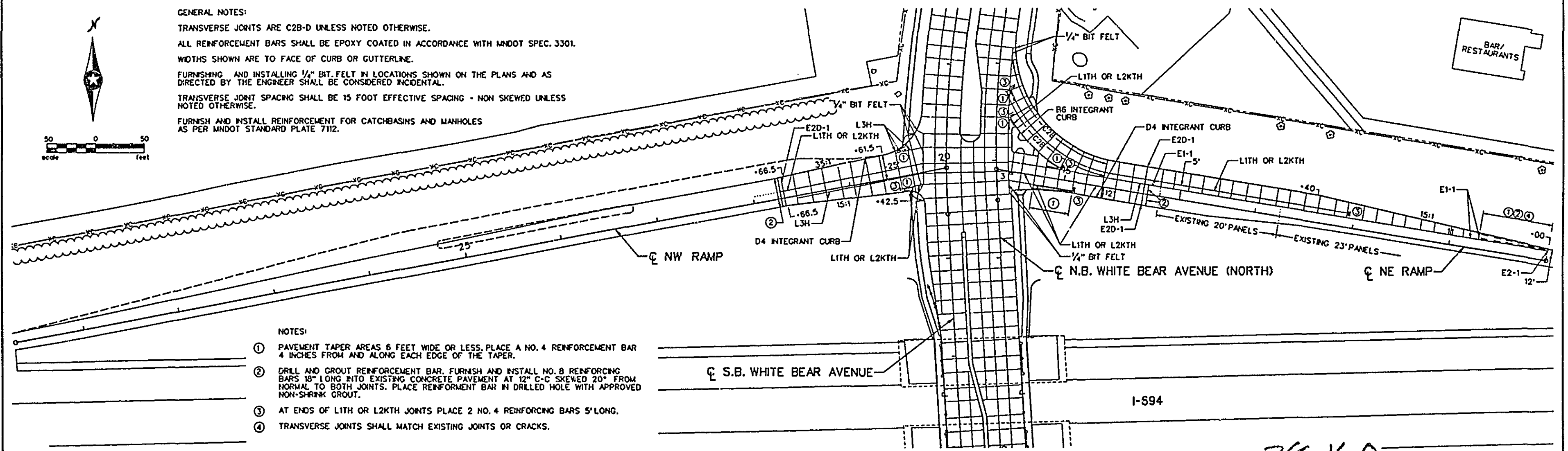
28-160

						S.P. 62-665-36 S.P. 138-107-15 S.P. 138-121-01 S.P. 138-020-20 S.P. 6286-43		I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota. <i>William K. Wintersberg</i> Date <u>6/12/96</u> Reg. No. <u>2184</u>		DRAWN BY <u>S. MARTIN</u> DATE <u>12-95</u> DESIGNED BY <u>B. WESTERBERG</u> <u>12-95</u> CHECKED BY <u>B. WESTERBERG</u> <u>8-95</u> COMM. NO. <u>0952178</u>		 SRI CONSULTING GROUP, INC.		CITY OF MAPLEWOOD PAVEMENT JOINT LAYOUT WHITE BEAR AVENUE STA. 400+00.00 TO STA. 414+87.18/SW RAMP/SE RAMP		SHEET <u>47</u> OF <u>138</u>	
NO	DATE	BY	CHKD	APPR	REVISION												
NAME: PJ2 178.DGN DATE: Jun. 03, 1996 TIME: 13:54:02																	



GENERAL NOTES:
TRANSVERSE JOINTS ARE C2B-D UNLESS NOTED OTHERWISE.
ALL REINFORCEMENT BARS SHALL BE EPOXY COATED IN ACCORDANCE WITH MNDOT SPEC. 3301.
WIDTHS SHOWN ARE TO FACE OF CURB OR GUTTERLINE.
FURNISHING AND INSTALLING 1/4" BIT FELT IN LOCATIONS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER SHALL BE CONSIDERED INCIDENTAL.
TRANSVERSE JOINT SPACING SHALL BE 15 FOOT EFFECTIVE SPACING - NON SKEWED UNLESS NOTED OTHERWISE.
FURNISH AND INSTALL REINFORCEMENT FOR CATCHBASINS AND MANHOLES AS PER MNDOT STANDARD PLATE 7112.

- NOTES:
- ① PAVEMENT TAPER AREAS 6 FEET WIDE OR LESS, PLACE A NO. 4 REINFORCEMENT BAR 4 INCHES FROM AND ALONG EACH EDGE OF THE TAPER.
 - ② DRILL AND GROUT REINFORCEMENT BAR. FURNISH AND INSTALL NO. 8 REINFORCING BARS 18" LONG INTO EXISTING CONCRETE PAVEMENT AT 12" C-C SKEWED 20° FROM NORMAL TO BOTH JOINTS. PLACE REINFORCEMENT BAR IN DRILLED HOLE WITH APPROVED NON-SHRINK GROUT.
 - ③ AT ENDS OF LITH OR L2KTH JOINTS PLACE 2 NO. 4 REINFORCING BARS 5' LONG.
 - ④ TRANSVERSE JOINTS SHALL MATCH EXISTING JOINTS OR CRACKS.



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NO		DATE	BY	CKD	APPR	REVISION	S.P. 62-665-36 S.P. 138-107-15 S.P. 138-121-01 S.P. 138-020-20 S.P. 6286-43	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota. <i>William K. Watbeleg</i> Date <u>6/12/96</u> Reg. No. <u>21874</u>	DRAWN BY S. MARTIN DESIGNED BY B. WESTERBERG CHECKED BY B. MUELLER COMM. NO. 0952178	DATE 12-95 2-96	SRE CONSULTING GROUP, INC.	CITY OF MAPLEWOOD PAVEMENT JOINT LAYOUT WHITE BEAR AVENUE NE RAMP/NW RAMP	SHEET 48 OF 138	
NAME: PJ3 178.DGN DATE: Jun. 03, 1996 TIME: 13:56:17														