

MINNESOTA DEPARTMENT OF TRANSPORTATION

CITY OF FRIDLEY
ANOKA COUNTY

COUNTY ROAD 102 (57TH AVENUE N.E.)

CITY PROJECT NO. ST-1997-4

COUNTY PROJECT NO. 97-11-102

CONSTRUCTION PLAN FOR GRADING, AGGREGATE BASE, CONCRETE CURB AND GUTTER, CONCRETE SIDEWALK, LANDSCAPING, BITUMINOUS SURFACING, UTILITY IMPROVEMENTS AND SIGNAL SYSTEMS

LOCATED ON: COUNTY ROAD 102 BETWEEN MAIN STREET N.E. AND UNIVERSITY AVENUE N.E. (Geographic Description)
S 1/2 OF SECTION 23, TOWNSHIP 30, RANGE 24 S 1/2 OF SECTION 23, TOWNSHIP 30, RANGE 24

STATE AID PROJ. NO. 127-301-04

GROSS-LENGTH 146.390 METERS
BRIDGE-LENGTH 0 METERS
EXCEPTIONS-LENGTH 0 METERS
NET-LENGTH 146.390 METERS

MINN. PROJ. NO. _____
MINN. PROJ. NO. _____

GOVERNING SPECIFICATIONS AS AMENDED

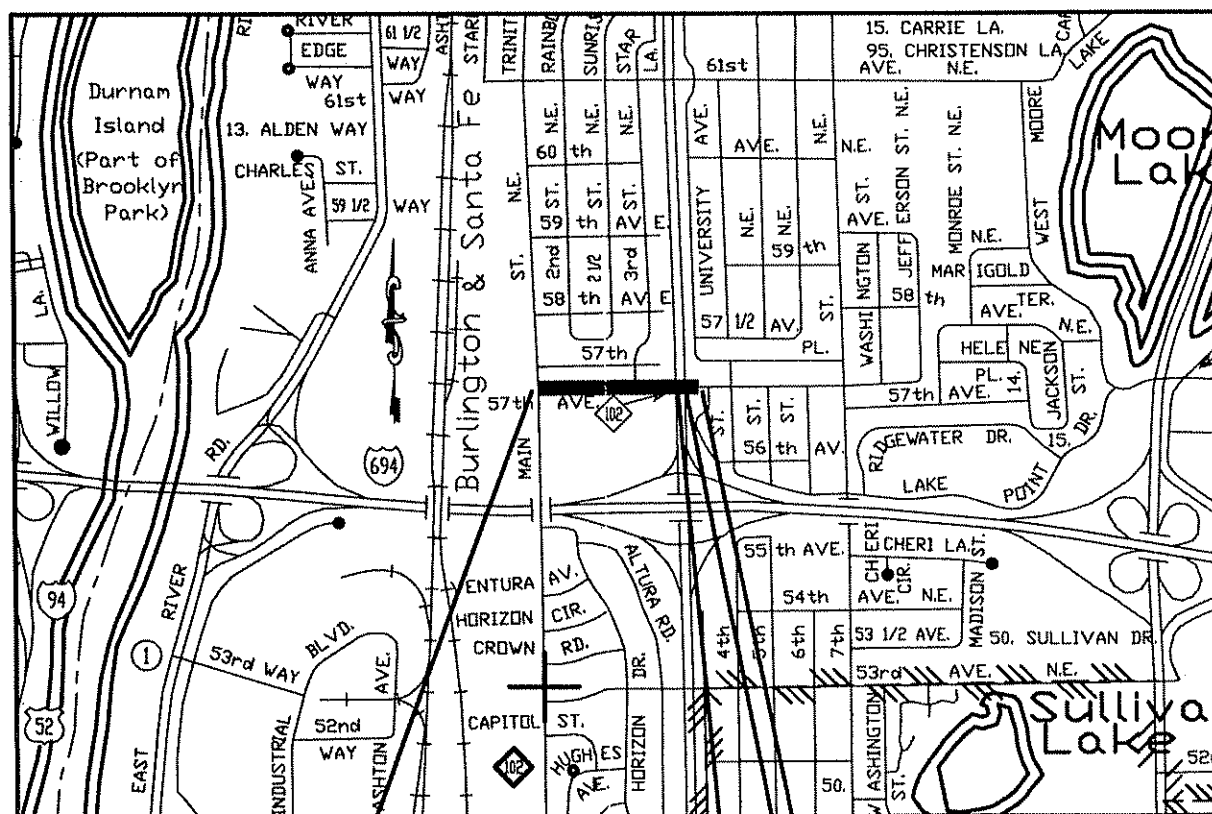
THE 1995 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION". ALL TRAFFIC CONTROL SIGNING AND DEVICES SHALL CONFORM TO THE MMUTCD, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS DATED APRIL 1995.

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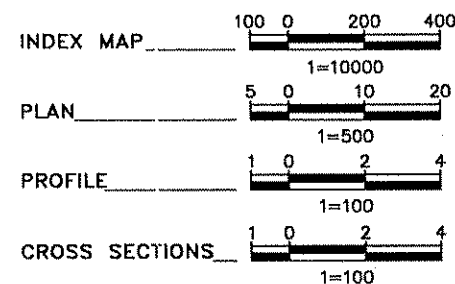
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LEGEND

	EXISTING GATE VALVE
	EXISTING HYDRANT
	EXISTING CURB BOX
	EXISTING MANHOLE FOR STORM AND SANITARY SEWER
	EXISTING CATCH BASIN
	EXISTING POWER POLE
	EXISTING SANITARY SEWER
	EXISTING STORM SEWER
	EXISTING WATERMAIN
	EXISTING CURB AND GUTTER
	EXISTING UNDERGROUND GAS MAIN
	EXISTING UNDERGROUND TELEPHONE LINE
	EXISTING OVERHEAD POWER
	EXISTING FENCE
	EXISTING TREE
	EXISTING TREE LINE
	EXISTING STREET SIGN
	EXISTING CONTOUR
	PROPOSED CONTOUR
	PIN NUMBER
	PROPOSED REDUCER
	PROPOSED TEE
	PROPOSED GATE VALVE
	PROPOSED HYDRANT
	PROPOSED MANHOLE FOR STORM AND SANITARY SEWER
	PROPOSED CATCH BASIN
	PROPOSED WATERMAIN
	PROPOSED SANITARY SEWER
	PROPOSED STORM SEWER
	PROPOSED CURB AND GUTTER



SCALES IN METERS



THIS PLAN SET CONTAINS 45 SHEETS



B R W INC.
Thresher Square, 700 Third Street So.
Minneapolis, MN 55415, Phone 612/770-0700, Fax 612/770-1270

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

BRW, INC.

DATE 4-1-98 REG. NO. 23197
ENGINEER Paul Blum

Approved [Signature] 4/14/98
CITY ENGINEER

Approved [Signature] 4/13/98
ANOKA COUNTY ENGINEER

Approved _____ 19____
METRO- ASSISTANT DIVISION ENGINEER STATE AID;
REVIEWED FOR COMPLIANCE WITH STATE-AID RULES/POLICY

Approved _____ 19____
APPROVED FOR STATE AID FUNDING: STATE AID ENGINEER

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, OF THIS PLAN WERE MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ REG. NO. _____

C.P. 97-11-102
STA. 1+000.000

C.P. 97-11-102
S.A.P. 127-301-04
STA. 1+358.610

S.A.P. 127-301-04
STA. 1+505.000

S.A.P. 127-010-15
(SIGNAL ONLY)

DESIGN DESIGNATION: CO RD 102

Functional Classification: ARTERIAL-HIGH DENSITY
No. of Traffic Lanes: 4 No. of Parking Lanes: 0
ADT (Current Year) 1998: 15,000 Design Speed: 60 km/h
ADT (Future Year) 2018: 21,400 Based on STOPPING Sight Distance
DHV (Design Hr. Vol.): N.A. Height of eye: 1070 mm Height of Object: 150 mm
D (Directional Distr.): 50 % Design Speed not achieved at: N.A.
T (Heavy Commercial): N.A. % STA. N.A. TO STA. N.A. km/h N.A.
R-Value: 60 20 YR ESALS 3,949,000 Design Load 9.1 metric ton

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

COUNTY PROJ. NO. C.P. 97-11-102
STATE AID PROJ. NO. S.A.P. 127-010-15, S.A.P. 127-301-04 SHEET NO. 1 OF 45 SHEETS

NAME _____ SHEET 3 OF 7

DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57HTB03.DWG PLOT DATE: Apr 13, 1998 2:30pm

NOTE NO.	MNDOT SPEC NO.	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITIES	ESTIMATED QUANTITIES			
					S.A.P. 127-010-15 T.H. 47	S.A.P. 127-301-04 57TH AVENUE	C.P. 97-11-102 CO RD 102 NON-PARTICIPATING	ST-1997-4 CO RD 102 NON-PARTICIPATING
					ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES
	2021.501	MOBILIZATION	LUMP SUM	1				
	2031.501	FIELD OFFICE	EACH	1	0.032	0.042	0.528	0.387
							0.57	0.43
	2101.501	CLEARING	ha	0.56			0.56	
	2101.502	CLEARING	TREE	43			43	
	2101.506	GRUBBING	ha	0.56			0.56	
	2101.507	GRUBBING	TREE	43			43	
	2102.501	PAVEMENT MARKING REMOVAL	m2	46			46	
	2102.502	PAVEMENT MARKING REMOVAL	m	390			390	
	2104.501	REMOVE WATER MAIN	m	36				36
	2104.501	REMOVE SEWER PIPE (STORM)	m	101			101	
	2104.501	REMOVE CURB AND GUTTER	m	1228		94	783	351
	2104.501	REMOVE FENCE	m	12			12	
	2104.501	REMOVE CONCRETE VALLEY GUTTER	m	85			85	
	2104.503	REMOVE CONCRETE WALK	m2	120			120	
	2104.503	REMOVE CONCRETE DRIVEWAY PAVEMENT	m2	115.4			115.4	
	2104.503	REMOVE BITUMINOUS PAVEMENT	m2	8822.7		350	6879.6	1583.1
	2104.503	REMOVE CONCRETE MEDIAN	m2	287		87	200	
	2104.509	REMOVE VALVE & BOX	EACH	4				4
	2104.509	REMOVE HYDRANT	EACH	4				4
	2104.509	REMOVE CATCHBASIN	EACH	6			6	
	2104.509	REMOVE CONCRETE FLUME	EACH	1			1	
	2104.509	REMOVE SIGN TYPE C	EACH	12		1	11	
	2104.509	REMOVE LIGHT BASE	EACH	4				4
	2104.509	REMOVE SIGN BASE (LARGE)	EACH	2				2
	2104.509	REMOVE SIGN BASE (SMALL)	EACH	4				4
	2104.513	SAWING BIT PAVEMENT (FULL DEPTH)	m	526		160	366	
	2104.523	SALVAGE LIGHT STANDARD & LUMINAIRE	EACH	4				4
	2104.523	SALVAGE SIGN TYPE C	EACH	55		4	51	
	2104.602	RELOCATE BENCH	EACH	1				1
	2104.602	REMOVE SHED	EACH	1				1
	2105.501	COMMON EXCAVATION (P)	m3	4497			4497	
	2105.507	SUBGRADE EXCAVATION	m3	4266			4266	
	2105.521	GRANULAR BORROW (LV)	m3	5698			5698	
	2105.535	SALVAGED TOPSOIL (LV)	m3	568			568	
	2105.541	STABILIZING AGGREGATE	m3	10			10	
	2130.501	WATER	m3	100			100	
	2211.503	AGGREGATE BASE (CV) CLASS 5A (P)	m3	1820.6		68.0	1557.2	195.4
	2340.508	TYPE 41 WEARING COURSE MIXTURE	t	1136.1		42.43	971.75	121.92
	2340.510	TYPE 41 BINDER COURSE MIXTURE	t	1136.1		42.43	971.75	121.92
	2340.514	TYPE 31 BASE COURSE MIXTURE	t	1704.1		63.64	1457.57	182.89
	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	L	4187.41		156.4	3581.59	449.42
	2412.603	LANDSCAPE EDGER, VINYL	m	460				460
	2503.541	300 mm RC PIPE SEWER DESIGN 3006 CL V	m	83.9			83.9	
	2503.541	375 mm RC PIPE SEWER DESIGN 3006 CL V	m	129.8			129.8	
	2503.541	450 mm RC PIPE SEWER DESIGN 3008 CL V	m	184.9			184.9	
	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	2				2
	2504.602	CONNECT TO EXISTING WATER MAIN	EACH	4				4
	2504.602	ADJUST VALVE BOX	EACH	2				2
	2504.602	150 mm PIPE BEND 90 DEGREE	EACH	1				1
	2504.602	150 mm PIPE BEND 45 DEGREE	EACH	1				1
	2504.602	HYDRANT	EACH	4				4
	2504.602	150 mm GATE VALVE AND BOX	EACH	4				4
	2504.603	150 mm WATER MAIN - DUCTILE IRON CL 52	m	41				41
	2504.605	IRRIGATION SYSTEM, REPAIR & REPLACE	m2	3530				3530
	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN F	m	28.3			28.3	
	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN H	EACH	4			4	
	2506.516	CASTING ASSEMBLY	EACH	18			18	
	2506.522	ADJUST FRAME & RING CASTING	EACH	5			5	
	2506.602	CONNECT INTO EXISTING CATCH BASIN	EACH	1			1	

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101		XREF DRAWINGS	
DRAWN BY: PMJ	DESIGN BY: JML		
CHKD. BY: PBD	DWG. NAME: 57HTB03		
DATE: FEBRUARY 6, 1998			

BRW
B R W INC.
Throcher Square, 700 Third Street So.
Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1378

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 STATE OF MINN. STATUTES SECTION 326.02 TO 326.10

Paul Belmont
DATE: 4/22/98 MINN. REG. NO. 23197

COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
ESTIMATED QUANTITIES

CITY PROJECT	ST-1997-4
COUNTY PROJECT	97-11-102
S.A.P.	127-010-15
S.A.P.	127-301-04

SHEET NO.
2
45





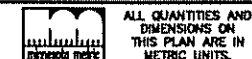
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DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THTB04.DWG PLOT DATE: Apr 13, 1998 2:39pm

ESTIMATED QUANTITIES								
NOTE NO.	MNDOT SPEC NO.	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITIES	S.A.P. 127-010-15	S.A.P. 127-301-04	C.P. 97-11-102	ST-1997-4
					T.H. 47	57TH AVENUE	CO RD 102 NON-PARTICIPATING	CO RD 102 NON-PARTICIPATING
					ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	ESTIMATED QUANTITIES
	2521.501	100 mm CONCRETE WALK	m2	832.2		16	120	696.2
	2531.501	CONCRETE CURB & GUTTER DESIGN B624	m	18.7		18.7		
	2531.501	CONCRETE CURB & GUTTER DESIGN B624 (MODIFIED)	m	37		37		
	2531.501	CONCRETE CURB & GUTTER DESIGN B61B	m	103.2				103.2
1	2531.501	CONCRETE CURB & GUTTER DESIGN B61B (MODIFIED)	m	1121.8		85.1	882.5	153.2
	2531.502	CONCRETE CURB DESIGN B6	m	14				14
	2531.602	CONCRETE ENTRANCE NOSE DESIGN M71113	EACH	3		2	1	
2	2531.604	100 mm CONCRETE WALK SPECIAL	m2	755.3		49.8		705.5
	2545.501	ELECTRIC LIGHT SYSTEM	LUMP SUM	1				1
	2545.602	INSTALL SALVAGED LIGHTS	EACH	1				1
	2557.602	BRICK PILASTER 0.6 m SQ. 1.2 m HIGH W/PRECAST CONC. CAP	EACH	36				36
	2557.603	ALUMINIUM FENCE 0.9 m HT	m	120				120
	2563.601	TRAFFIC CONTROL	LUMP SUM	1	0.032	0.042	.529	.397
	2563.603	RAISED PAVEMENT MARKERS TEMPORARY	EACH	60			60	
	2564.531	F&I SIGN PANEL TYPE C	m2	17.55		1.35	16.22	
	2564.602	PAVEMENT MESSAGE TYPE 1 (LT ARROW) PAINT	EACH	13			13	
	2564.602	PAVEMENT MESSAGE TYPE 1 (RT ARROW) PAINT	EACH	3			3	
	2564.602	PAVEMENT MESSAGE TYPE 1 (LT ARROW) POLY PREFORM	EACH	17		4	13	
	2564.602	PAVEMENT MESSAGE TYPE 1 (RT ARROW) POLY PREFORM	EACH	5		2	3	
	2564.602	PAVEMENT MESSAGE TYPE 1 (ONLY) POLY PREFORM	EACH	11		3	8	
	2564.602	INSTALL SIGN TYPE C	EACH	53		6	47	
	2564.603	100 mm SOLID LINE WHITE - PAINT	m	1873		160	1713	
	2564.603	100 mm BROKEN LINE WHITE - PAINT	m	244			244	
	2564.603	600 mm SOLID LINE WHITE - PAINT	m	72			72	
	2564.603	100 mm DOUBLE SOLID LINE YELLOW - PAINT	m	772		137	635	
	2564.603	100 mm SOLID LINE YELLOW - PAINT	m	730			730	
	2564.603	600 mm SOLID LINE YELLOW - PAINT	m	70		70		
	2564.604	CROSSWALK MARKING - PAINT	m2	104		32	72	
	2565.616	REVISE SIGNAL SYSTEM	SYSTEM	1	0.5	0.25	0.125	0.125
	2571.502	DECIDUOUS TREE 65 mm CAL. B&B (OVERSTORY)	TREE	32				32
	2571.503	DECIDUOUS TREE 2.4 m HT B&B (ORNAMENTAL)	TREE	10				10
	2571.505	DECIDUOUS SHRUB 480 mm HT CONT	SHRUB	386				386
	2571.505	DECIDUOUS SHRUB 760 mm HT CONT	SHRUB	102				102
	2571.507	PERENNIAL 115 mm CONT	PLANT	800				800
	2571.541	TRANSPLANT TREE	TREE	6				6
	2573.501	BALE CHECK	EACH	112			112	
	2573.502	SILT FENCE, TYPE HEAVY DUTY	m	750			750	
	2575.505	SODDING, TYPE LAWN	m2	2175.9		10	2165.9	
	2580.501	TEMPORARY LANE MARKING	m	180			180	
	2581.501	REM PREF. PLASTIC MARKING	m	180			180	

- THE FIRST 783 m OF CURB IS PAID 100% BY THE COUNTY. THE REMAINING 199 m IS SPLIT 50% COUNTY AND 50% CITY
- FOR THE BASIS OF THE ESTIMATED QUANTITIES WE ASSUMED THAT 80% OF THE COST OF THE CONCRETE WALK SPECIAL WITHIN THE MEDIAN IS PAID FOR BY THE COUNTY WITH THE REMAINING 20 % TO BE PAID FOR BY THE CITY

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: J5689-002-0101	XREF DRAWINGS	 BRW B R W INC. Thrasher Square, 700 Third Street So. Minneapolis, MN 55415, Phone 612/270-0700, Fax 612/270-1270	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 STATE OF MINN. STATUTES SECTION 328.02 TO 328.16.  DATE: 4/13/98 MINN. REG. NO. 23197	COUNTY ROAD 102 RECONSTRUCTION CO RD 102/57TH AVENUE N.E. ESTIMATED QUANTITIES	CITY PROJECT	ST-1997-4	SHEET NO. 3 45
					COUNTY PROJECT				97-11-102		
					S.A.P.				127-010-15		
					S.A.P.				127-301-04		



ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57HTB01.DWG PLOT DATE: Mar. 30, 1998 1:17pm

ALL CONTRACTORS MUST CONTACT
GOPHER STATE
CALL ONE
MN. TOLL FREE 1-800-252-1166
BEFORE CONSTRUCTION BEGINS
TWIN CITY AREA 454-0002

CONSTRUCTION NOTES

THE TOP OF THE GRADING GRADE ON THIS PROJECT IS DEFINED AS THE TOP OF GRADING MATERIAL OR THE BOTTOM OF THE AGGREGATE BASE.

UNSUITABLE GRADING MATERIALS ARE TOPSOILS, OTHER ORGANIC SOILS, SILT LOAM, SILTY CLAY LOAM, SILTY CLAY, CONCRETE, BITUMINOUS, ROCK DEBRIS, AND OTHER RUBBLE.

TOPSOIL SHALL BE STRIPPED FROM ALL AREAS TO BE DISTURBED BY CONSTRUCTION FOR REPLACEMENT AS SLOPE DRESSING.

TOPSOIL AND OTHER UNSUITABLE MATERIALS SHALL BE ELIMINATED FROM THE UPPERMOST 0.6 m BELOW THE GRADING LINE.

PROVIDE A 1000 mm SUBGRADE TREATMENT/CORRECTION BELOW THE TOP OF THE GRADING GRADE IN AREAS BETWEEN THE EXIST CURB LINE AND THE PROPOSED CURB LINE, BACKFILLING WITH GRANULAR MATERIAL FOR UNIFORMITY AND COMPACTION OF MATERIALS.

PROVIDE A 0.35 M SUBCUT UNDER EXISTING ROAD.

REMOVALS: BITUMINOUS, DRAINAGE STRUCTURES, PIPE AND OTHER MISCELLANEOUS OBJECTS TO BE REMOVED UNDER THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND EITHER RECYCLED OR DISPOSED OF OUTSIDE OF THE PROJECT LIMITS IN ACCORDANCE WITH MnDOT 2104.3C.

COMPACTION OF GRADING ITEMS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH MnDOT SPEC 2105.3F2 "SPECIFIED DENSITY METHOD".

STABILIZING AGGREGATE SHALL BE APPLIED IF NECESSARY TO ACHIEVE SATISFACTORY SURFACE STABILITY AS DETERMINED BY THE ENGINEER. THE MATERIAL SHALL SATISFY THE REQUIREMENTS OF MnDOT SPEC 3149.2C AND BE APPLIED IN ACCORDANCE WITH MnDOT SPEC 2105.3G.

COMPACTION OF GRANULAR SUBBASE AND AGGREGATE BASE SHALL BE ACCOMPLISHED IN ACCORDANCE WITH MnDOT SPEC 2105.3F2 "SPECIFIED DENSITY METHOD".

PROVIDE A UNIFORM BITUMINOUS TACK COAT BETWEEN ALL LIFTS OF BITUMINOUS MATERIAL. COMPACTION OF ALL BITUMINOUS MATERIALS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE "MODIFIED SPECIFIED METHOD".

ANY DEWATERING AND OR ANY USE OF TRENCH BOX, SHEETING, SHORING OR OTHER METHODS OR MEANS NECESSARY TO COMPLETE CONSTRUCTION WITHIN THE CONSTRUCTION LIMITS OR SLOPE EASEMENTS SHOWN WILL BE CONSIDERED TO BE INCIDENTAL AND NO DIRECT COMPENSATION WILL BE MADE UNLESS SPECIFICALLY STATED OTHERWISE IN THE SPECIFICATIONS AND AN APPROPRIATE PAY ITEM IS INCLUDED IN THE BID PROPOSAL FORM.

SODDING QUANTITIES ALONG ROADWAY BOULEVARDS AND SIDE SLOPES ARE BASED ON SODDING ALL DISTURBED AREAS WITHIN PRIVATE PROPERTIES AND ADJACENT RIGHT OF WAY.

UNDERGROUND AND OVERHEAD UTILITIES EXIST WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED PRIOR TO STARTING CONSTRUCTION AND COORDINATE THE WORK SCHEDULE WITH UTILITY COMPANY CREWS PERFORMING RELOCATION WORK.

CONTRACTOR SHALL NOTIFY PROPERTY OWNERS 72 HOURS IN ADVANCE OF ANY DISRUPTION TO WATER MAIN SERVICES. THE CONTRACTOR SHALL MINIMIZE INTERRUPTION OF SERVICE TO ADJACENT PROPERTIES. ANY PROPERTY OUT OF SERVICE LONGER THAN 8 HOURS MUST BE PROVIDED WITH TEMPORARY SERVICE.

WATER, GAS, ELECTRIC, TELEPHONE, SEWER, AND CABLE TV LINES, MANHOLES AND BOXES SHOWN ON THE DRAWINGS ARE PLOTTED FROM THE BEST INFORMATION AVAILABLE AT THE TIME OF PLAN PREPARATION. THE UTILITIES SHOWN MAY NOT REFLECT ACTUAL LOCATIONS OR ELEVATIONS. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES BEFORE BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE TO THE OWNERS OF ALL KNOWN UTILITIES BEFORE STARTING ANY OPERATIONS AFFECTING THOSE UTILITIES, OR BEGINNING EXCAVATION IN THE VICINITY OF THOSE UTILITIES. THE CONTRACTORS ATTENTION IS DIRECTED TO MnDOT SPEC 1507.

THE CONTRACTOR SHALL MAINTAIN A MINIMUM CLEARANCE OF 300 mm BETWEEN CROSSING OF MINOR WATER LINES AND PROPOSED STORM SEWER LINES. WHERE CONFLICT OCCURS, THE WATER LINE SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. METHOD OF COMPENSATION IS COVERED UNDER THE SPECIAL PROVISIONS.

ALL USES OF THE WORD "INCIDENTAL" IN THESE CONSTRUCTION DOCUMENTS SHALL BE CONSTRUED TO MEAN INCIDENTAL WORK FOR WHICH NO DIRECT COMPENSATION SHALL BE MADE.

UTILITIES

A	MINNEGASCO
	ATTN: JIM CAREY/RICK PILON
	(612) 321-5158 / (612) 321-5426
	P.O. BOX 1165
	MINNEAPOLIS, MN 55440-1165
B	U.S. WEST COMMUNICATIONS
	ATTN: LEROY DAHLBERG
	(612) 569-2439
	6244 CEDAR AVENUE SOUTH
	RICHFIELD, MN 55423
C	NSP
	ATTN: MICHAEL P. DUNHAM
	(612) 630-4542
	1518 CHESTNUT AVENUE N.
	MINNEAPOLIS, MN 55403
D	PARAGON CABLE
	ATTN: MICHAEL LAUGHLIN
	(612) 287-3632
	801 PLYMOUTH AVENUE N.
	MINNEAPOLIS, MN 55411

CASTING ASSEMBLY

KEY	MNDOT STANDARD PLATE NO.
A	M4101D RING CASTING NO. 700-7
	M4110F COVER CASTING NO 715
B	M4126 GRATE FRAME CASTING NO. 801
	M4149 GRATE CASTING NO. 810
	M4161 CURB BOX CASTING NO. 821B



STANDARD PLATE DETAILS

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

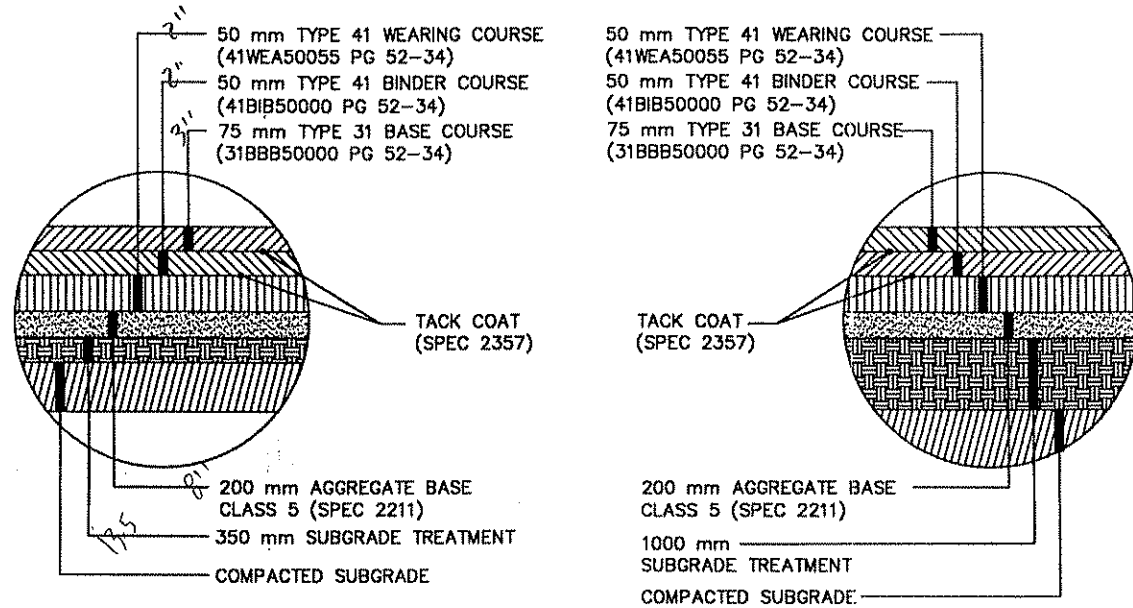
PLATE NO.	DESCRIPTION
M3000L	REINFORCED CONCRETE PIPE
M3006G	GASKET JOINT FOR RC PIPE
M4005L	MANHOLE OR CATCH BASIN DESIGN F
M4006L	MANHOLE OR CATCH BASIN DESIGN H
M4010H	CONCRETE SHORT CONE AND ADJUSTING RING
M4011E	PRECAST CONCRETE BASE
M4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
M4110F	COVER CASTING FOR MANHOLE- CASTING NO. 715
M4129G	CATCH BASIN FRAME CASTING
M4154B	CATCH BASIN GRATE CASTING
M4160D	CURB BOX CASTING FOR CATCH BASIN
M4180J	MANHOLE OR CATCH BASIN STEP
M7020J	CONCRETE CURB
M7035K	CONCRETE WALK & CURB RETURNS AT ENTRANCES
M7100G	CONCRETE CURB & GUTTER
M7111J	INSTALLATION OF CATCH BASIN CASTINGS
M8110D	TRAFFIC SIGNAL BRACKETING
M8112C	PEDESTAL FOUNDATION
M8114A	PVC HANDHOLE/PULLBOX
M8121D	TRANSFORMER BASE AND POLE BASE PLATE
M8126F	POLE FOUNDATION (PA90 m AND PA100 m)
M8130D	SAW CUT LOOP DETECTORS

BASIS FOR ESTIMATED QUANTITIES

AGGREGATE BASE - 80 kg PER CUBIC METER
BITUMINOUS MIXTURES - 62.4 kg PER SQUARE METER PER 25 mm THICKNESS
BITUMINOUS MATERIAL FOR TACK COAT - 0.23 L PER SQUARE METER OF APPLICATION

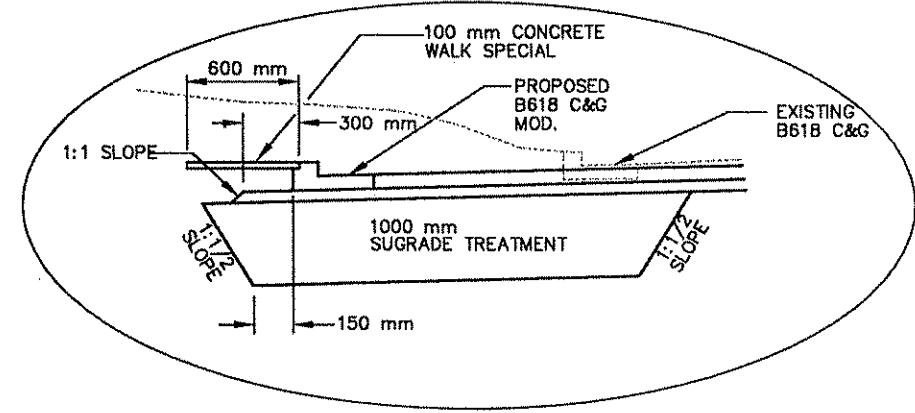
REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 35689-002-0101	XREF DRAWINGS	 B R W INC. Thresher Square, 700 Third Street So. Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1278	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE STATE OF MINN. STATUTES SECTION 328.02 TO 328.06.  DATE: 4-1-98, MINN. REG. NO. 23197	COUNTY ROAD 102 RECONSTRUCTION CO RD 102/57TH AVENUE N.E. TYPICAL SECTIONS	CITY PROJECT ST-1997-4 COUNTY PROJECT 97-11-102 S.A.P. 127-010-15 S.A.P. 127-301-04	SHEET NO. 4 45

DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THTYP1.DWG PLOT DATE: Mar 30, 1998 5:23pm

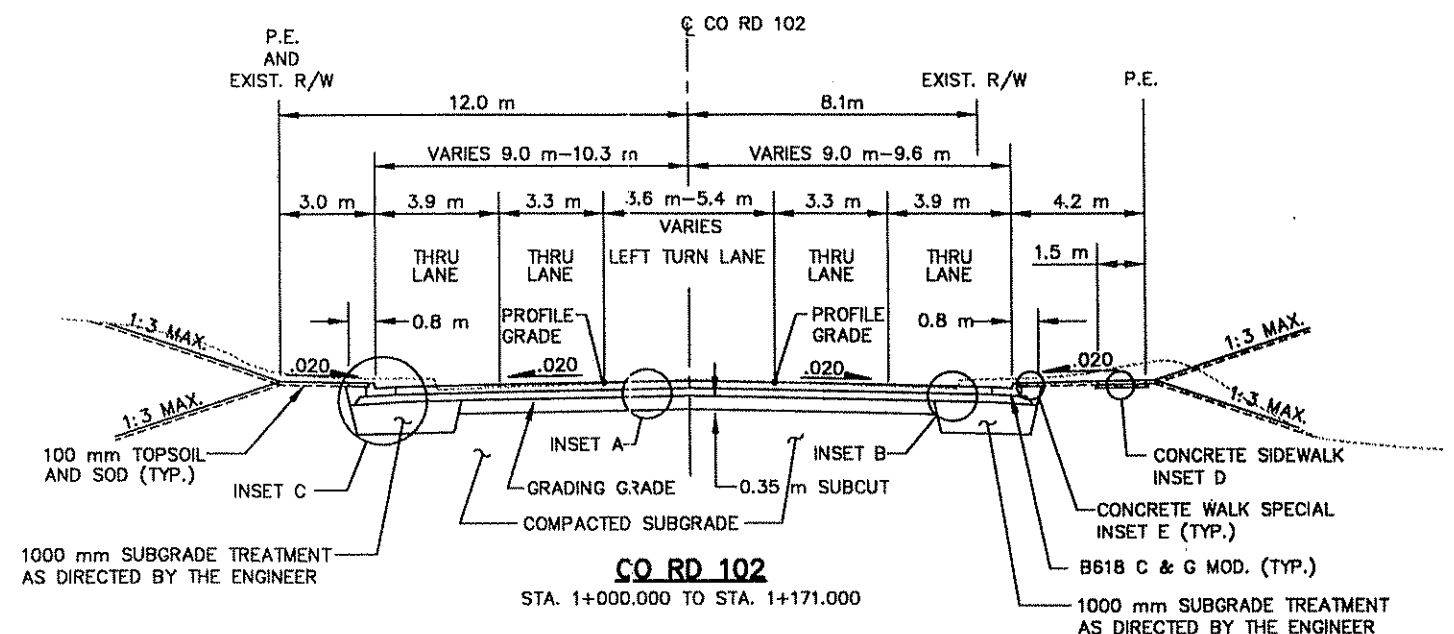


INSET A

INSET B

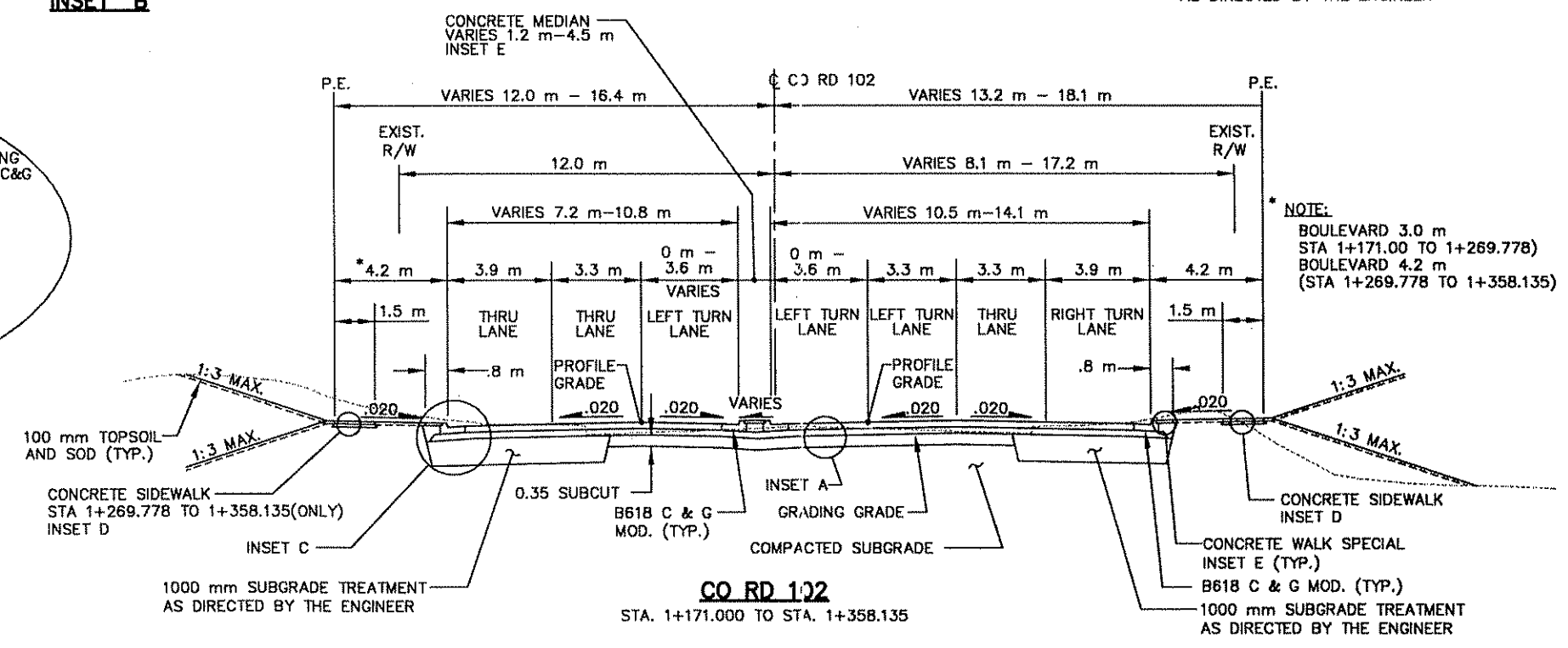


INSET C



CO RD 102

STA. 1+000.000 TO STA. 1+171.000



CO RD 102

STA. 1+171.000 TO STA. 1+358.135

NOTES:

1. CONTRACTOR SHALL BACKFILL ALL 1.8 m WIDE MEDIAN ISLANDS TO BOTTOM OF CONCRETE WALK WITH GRANULAR BORROW MATERIAL.
2. MAINTAIN 0.5 m MINIMUM CLEAR ZONE FROM EDGE OF TRAVEL LANE AS REQUIRED BY STATE-AID STANDARDS FOR 60 KPH DESIGN SPEEDS.
3. BACKFILL SUBGRADE TREATMENT WITH SELECT GRADING MATERIAL OR GRANULAR BORROW AS DIRECTED BY THE ENGINEER.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101	XREF DRAWINGS
DRAWN BY: PMJ	DESIGN BY: JML
CHKD. BY: PBD	DWG. NAME: 57THTYP1
DATE: FEBRUARY 8, 1998	

BRW

B R W INC.

Thresher Square, 700 Third Street So.
Minneapolis, MN 55415, Phone 612/376-0706, Fax 612/376-1278

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Paul Blum
DATE: 2-9-98 MINN. REG. NO. 23197

COUNTY ROAD 102 RECONSTRUCTION

CO RD 102/57TH AVENUE N.E.

TYPICAL SECTIONS

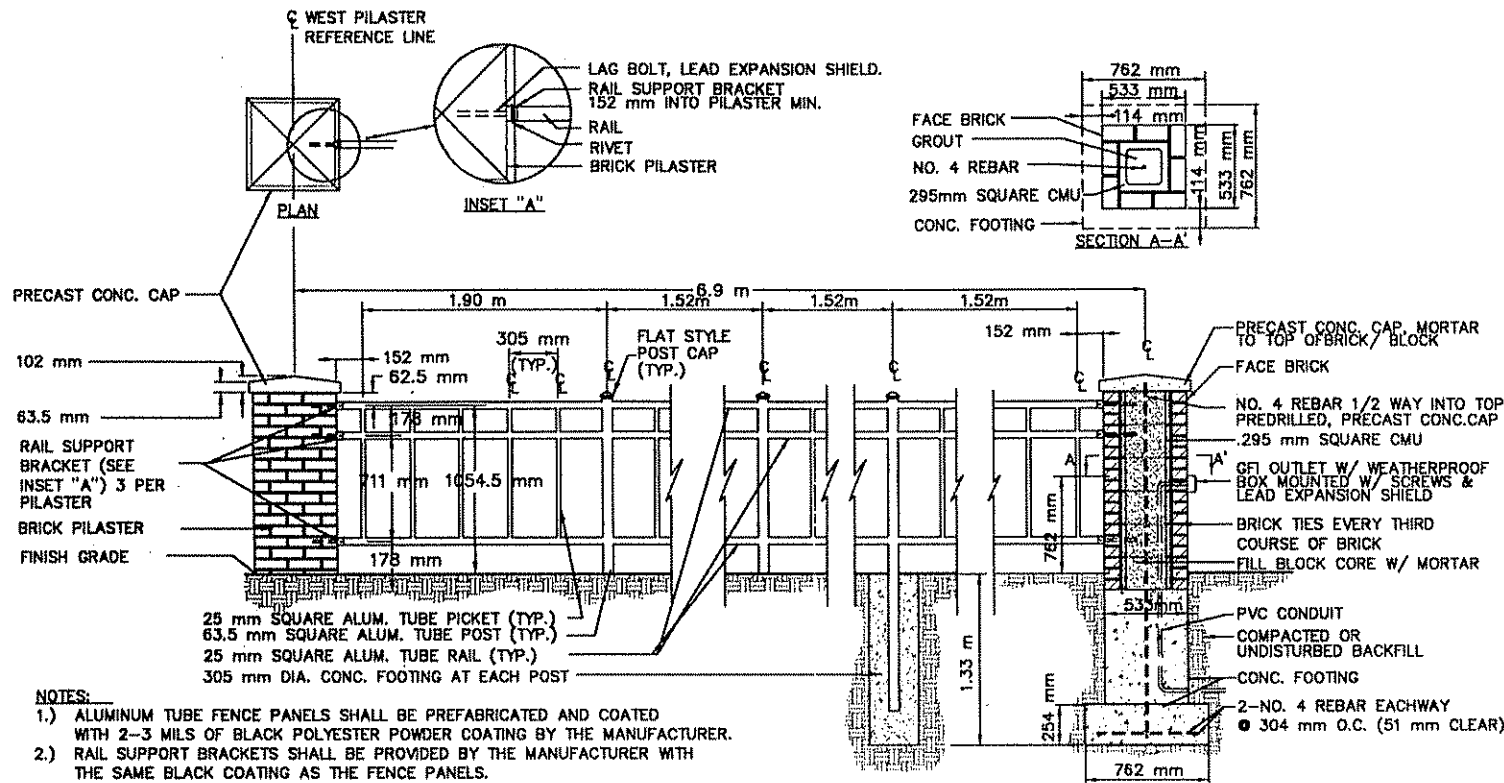
CITY PROJECT	ST-1997-4
COUNTY PROJECT	97-11-102
S.A.P.	127-010-15
S.A.P.	127-301-04

SHEET NO. **6**

45



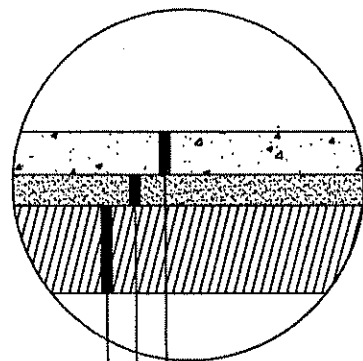
ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.



NOTES:

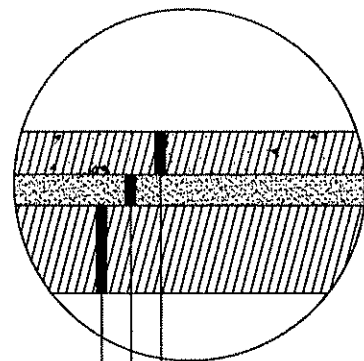
- 1.) ALUMINUM TUBE FENCE PANELS SHALL BE PREFABRICATED AND COATED WITH 2-3 MILS OF BLACK POLYESTER POWDER COATING BY THE MANUFACTURER.
- 2.) RAIL SUPPORT BRACKETS SHALL BE PROVIDED BY THE MANUFACTURER WITH THE SAME BLACK COATING AS THE FENCE PANELS.
- 3.) BRICK COLOR & TYPE, MORTAR COLOR & PRECAST CONCRETE CAP COLOR & TEXTURE TO MATCH EXISTING BRICK PILASTERS AT CHRISTENSON CROSSING AT MISSISSIPPI ST. & UNIVERSITY AVENUE. SUBMIT SAMPLES TO ENGINEER FOR FINAL APPROVAL PRIOR TO CONSTRUCTION.

BRICK PILASTER/ALUMINUM FENCE DETAIL
NOT TO SCALE



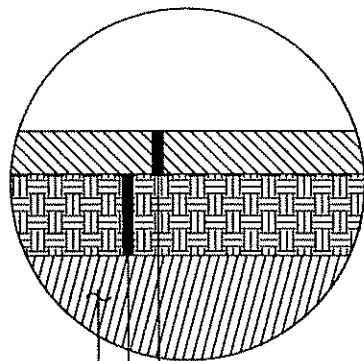
- 100 mm CONCRETE WALK
- 100 mm AGGREGATE BASE CLASS 5 (SPEC 2211)
- COMPACTED SUBGRADE

INSET D



- 100 mm INTEGRAL COLORED CONCRETE WALK OR MEDIAN W/ STAMPED PATTERN
- 100 mm AGGREGATE BASE CLASS 5 (SPEC 2211)
- COMPACTED SUBGRADE

INSET E

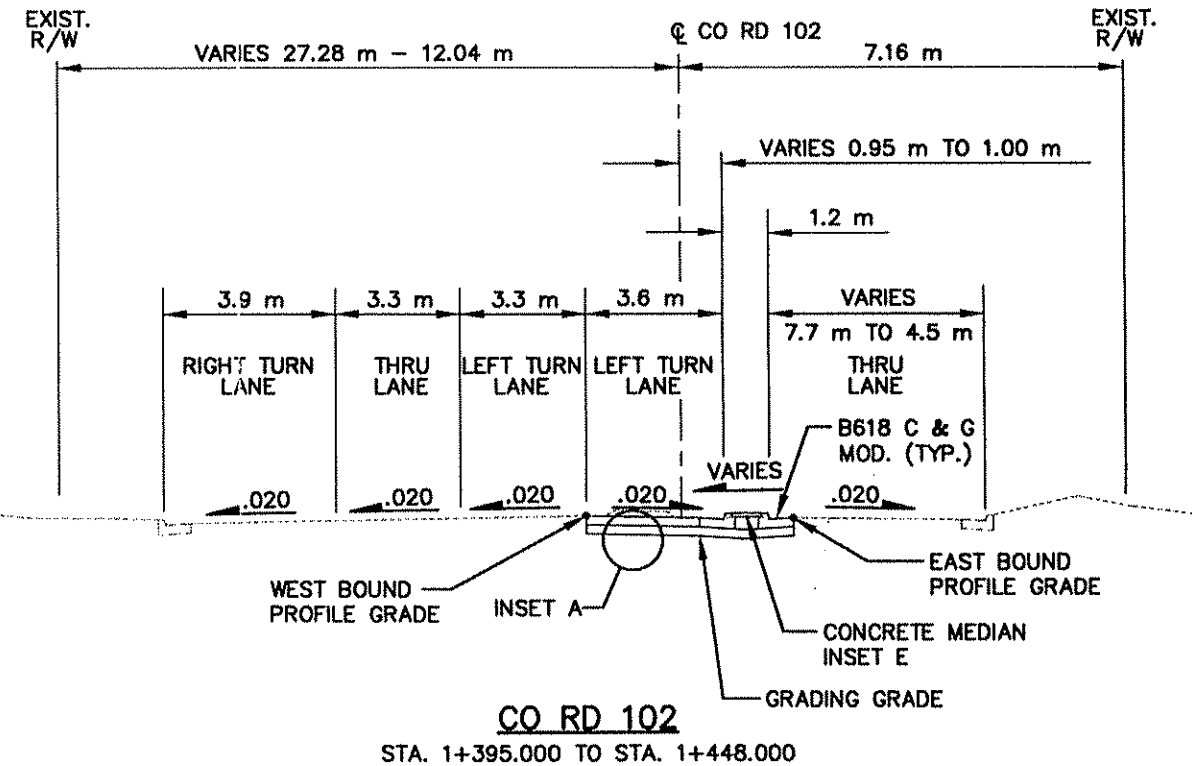


- 50 mm TYPE 41 BINDER COURSE (41B1B50000 PG 52-34)
- 200 mm AGGREGATE BASE CLASS 5 (SPEC 2211)
- COMPACTED SUBGRADE

INSET F

TEMPORARY BITUMINOUS PAVEMENT

STATIONS OF CENTER OF WEST PILASTER		
STATION	OFFSET	NOTES
1+011.73	11.73 m LT	CORNER PILASTER
1+011.76	18.31 m LT	CORNER PILASTER
1+013.87	13.62 m RT	CORNER PILASTER
1+013.87	20.39 m RT	CORNER PILASTER
1+018.50	11.77 m LT	CORNER PILASTER
1+020.50	13.62 m RT	CORNER PILASTER
1+058.38	11.76 m LT	
1+058.38	13.74 m RT	
1+099.37	13.73 m RT	
1+099.38	11.77 m LT	
1+142.36	12.37 m LT	
1+142.37	13.93 m RT	
1+186.38	13.33 m LT	
1+186.38	17.78 m RT	
1+236.33	18.40 m RT	
1+236.37	14.45 m LT	
1+286.37	16.67 m LT	
1+286.37	18.68 m RT	
1+340.70	18.66 m RT	CORNER PILASTER
1+346.70	18.66 m RT	CORNER PILASTER
1+346.78	25.44 m RT	CORNER PILASTER
1+343.01	16.89 m LT	CORNER PILASTER
1+349.79	16.89 m LT	CORNER PILASTER
1+349.79	23.66 m LT	CORNER PILASTER



DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THYP2.DWG PLOT DATE: Mar 27, 1998 11:10am

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101	XREF DRAWINGS
DRAWN BY: PMJ	DESIGN BY: JML
CHKD. BY: PBD	DWG. NAME: 57THYP2
DATE: FEBRUARY 6, 1998	

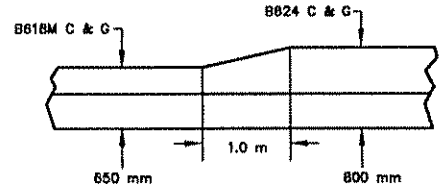
BRW
B R W INC.
Thrasher Square, 700 Third Street So.
Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1278

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 STATE OF MINN. STATUTES SECTION 326.02 TO 326.16
Paul J. Danaher
DATE: 4-7-98 MINN. REG. NO. 23197

C.S.A.H. 102 RECONSTRUCTION
C.S.A.H. 102/57TH AVENUE N.E.
TYPICAL SECTIONS

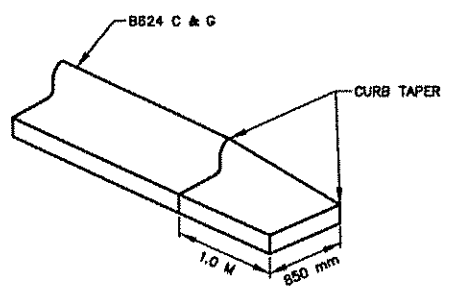
CITY PROJECT	ST-1997-4	SHEET NO. 7 45
COUNTY PROJECT	97-11-102	
S.A.P.	127-010-15	
S.A.P.	127-301-04	

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.



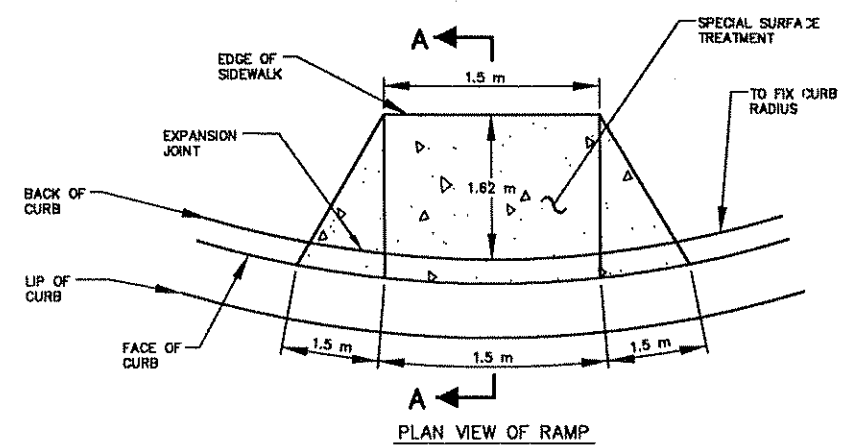
NOTE:
CURB TAPER TO BE CONSTRUCTED AT ENDS OF ALL CURB AND GUTTER. THAT DO NOT CONNECT TO INPLACE CURBS. CONSTRUCT TAPERS BEYOND END OF CURB RETURN RADIUS AT STREET INTERSECTIONS. COST OF TAPER TO BE INCIDENTAL TO THE UNIT PRICE BID FOR B624 CURB AND GUTTER.

CURB TRANSITION

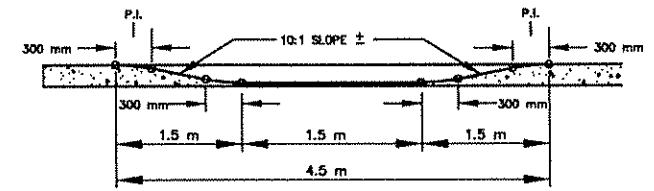


NOTE:
CURB TAPER TO BE CONSTRUCTED AT ENDS OF ALL CURB AND GUTTER. THAT DO NOT CONNECT TO INPLACE CURBS. CONSTRUCT TAPERS BEYOND END OF CURB RETURN RADIUS AT STREET INTERSECTIONS. COST OF TAPER TO BE INCIDENTAL TO THE UNIT PRICE BID FOR B624 CURB AND GUTTER.

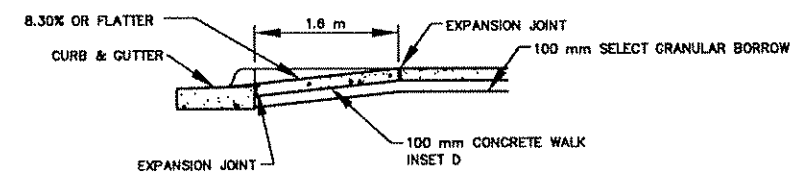
CURB TAPER



PLAN VIEW OF RAMP



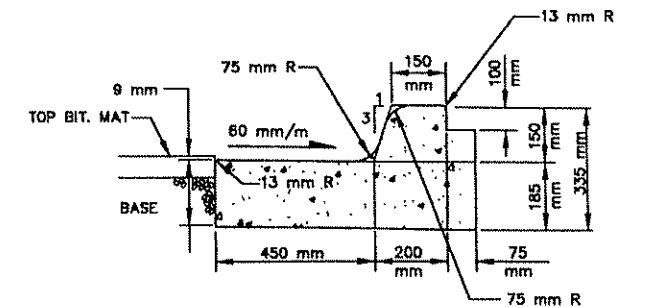
ELEVATION OF RAMP



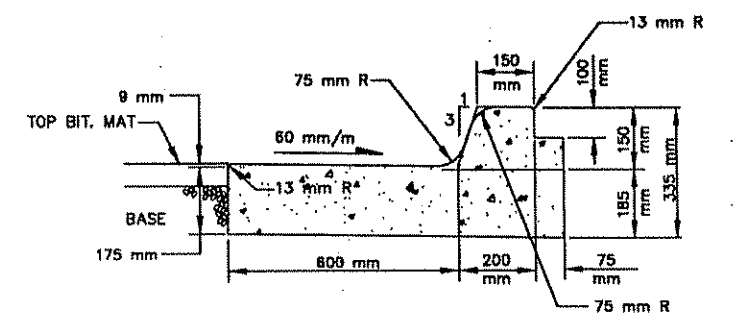
SECTION A-A

NOTE:
1. SPECIAL SURFACE TREATMENT SHALL BE EXPOSED AGGREGATE.
2. CONCRETE MIX SHALL BE STANDARD.

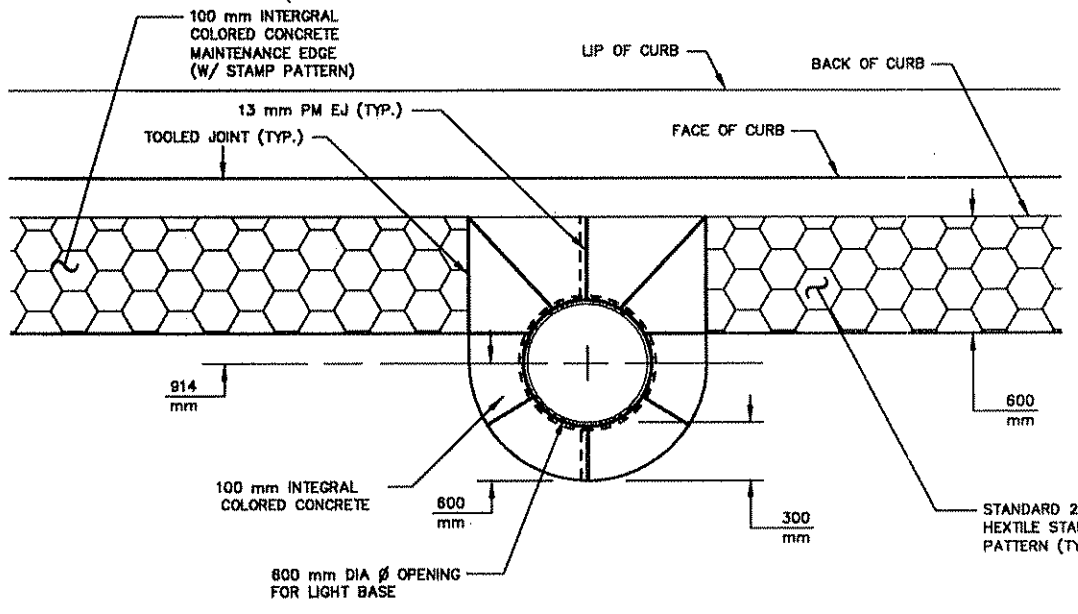
PEDESTRIAN CURB RAMP-TYPE A



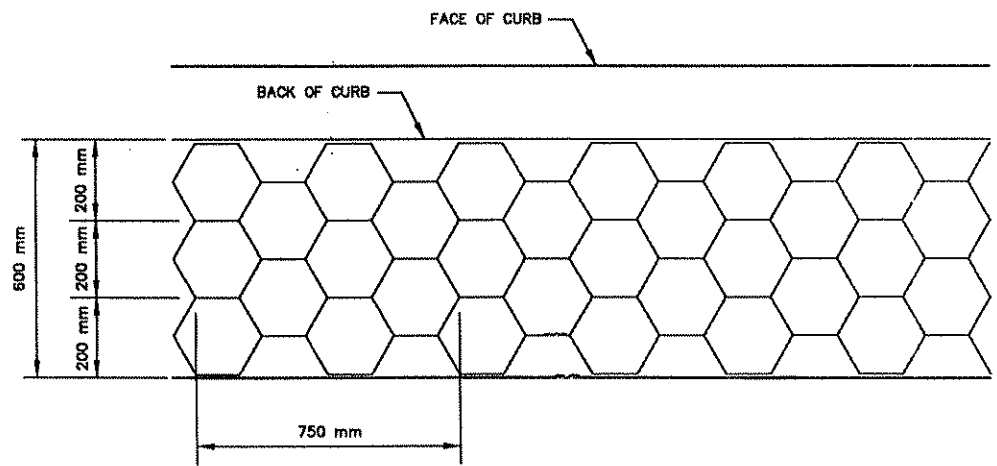
B618 MODIFIED CURB AND GUTTER



B624 MODIFIED CURB AND GUTTER



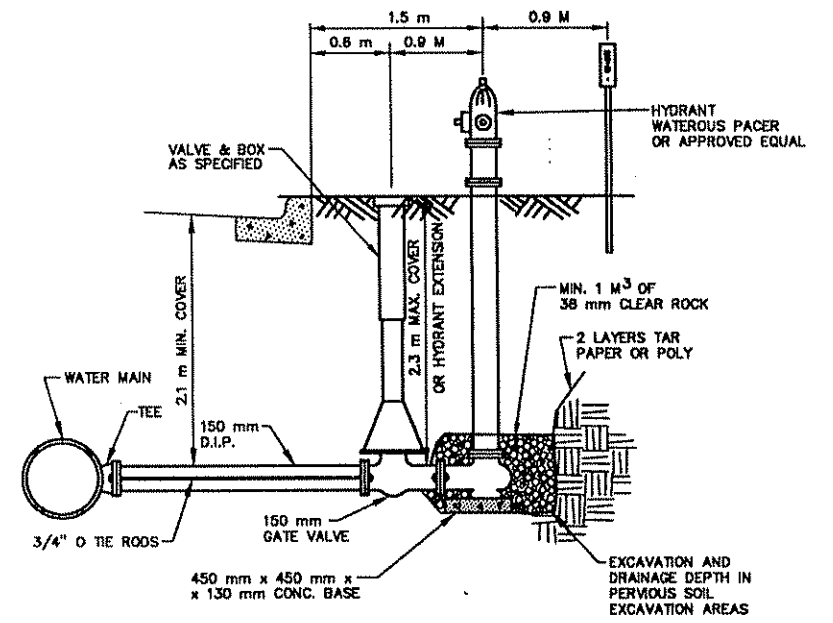
MAINTENANCE EDGE AT LIGHT POLE DETAIL



200 mm HEXTILE STAMP PATTERN

NOTES:
1) SAWCUT CONTRACTION JOINTS EVERY 3 m.
2) PLACE 13 mm EXPANSION JOINT EVERY 15 m.
3) PLACE 13 mm EXPANSION JOINT BETWEEN BACK OF CURB AND INTEGRALLY COLORED CONCRETE WALK AT MEDIAN LOCATIONS ONLY.

ALL HYDRANTS TO BE PLUMB TO VERTICAL AXIS
MAXIMUM ALLOWABLE DEVIATION TO BE 250 mm PER METER OF HYDRANT.



NOTES:
1) ALL HYDRANTS SHALL HAVE WEEPHOLES
2) JOINTS SHALL BE TIED TO TEE ON MAINLINE WITH 2 - 20 mm Ø TIE RODS. ALL TIE RODS TO BE COAL TAR COATED AFTER INSTALLATION. RESTRAINED JOINT PIPE AND RETAINER GLANDS MAY BE USED WHERE APPROVED BY ENGINEER. IF VALVE IS LOCATED MORE THAN 10 m AWAY FROM MAIN, VALVE SHALL BE TIED TO THE FIRST 2 PIPE JOINTS.
3) HYDRANTS SHALL BE REPAINTED AFTER INSTALLATION.

TYPICAL HYDRANT INSTALLATION

DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THD02.DWG PLOT DATE: Mar 30, 1998 2:59pm

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101	XREF DRAWINGS
DRAWN BY: PMJ	DESIGN BY: JML
CHECKED BY: PBD	DWG. NAME: 57THD02
DATE: FEBRUARY 6, 1998	

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Thresher Square, 700 Third Street So.
Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1378

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Paul D. Smith
DATE: 4-98 MINN. REG. NO. 23197

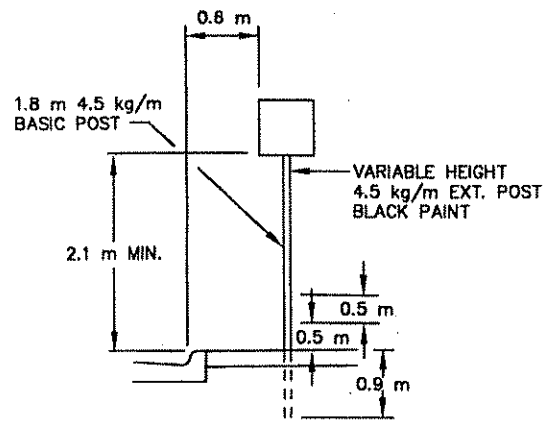
COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
DETAILS

CITY PROJECT	ST-1997-4	SHEET NO. 8 45
COUNTY PROJECT	97-11-102	
S.A.P.	127-010-15	
S.A.P.	127-301-04	

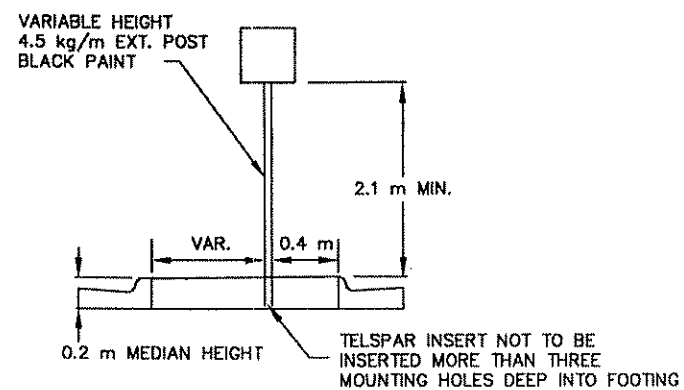


ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

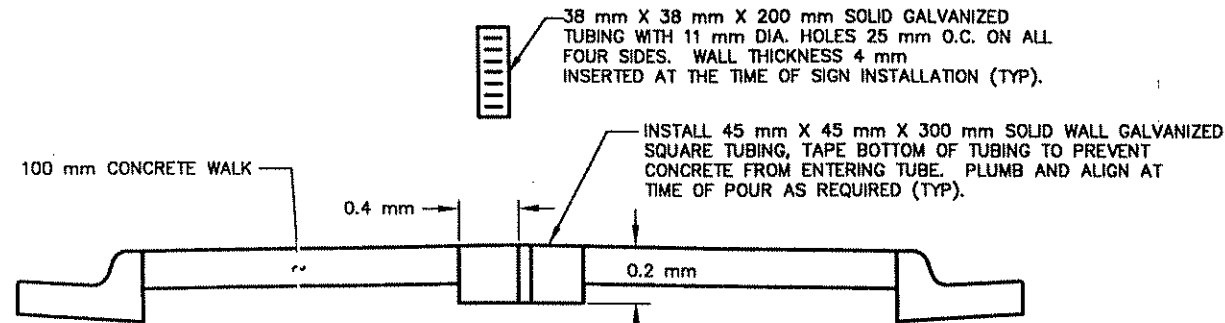
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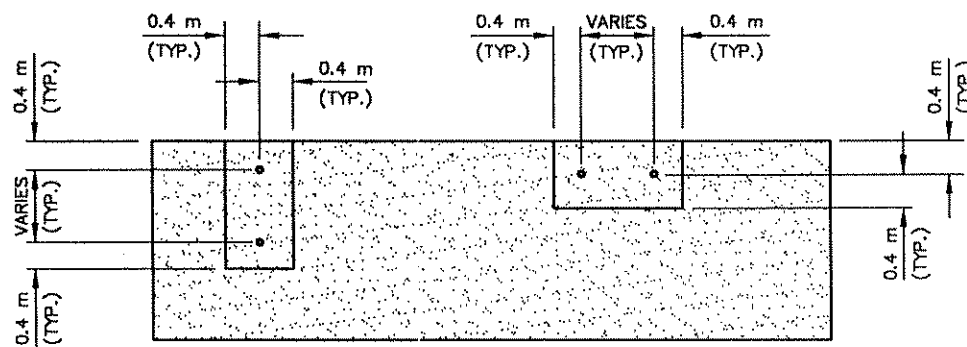
GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



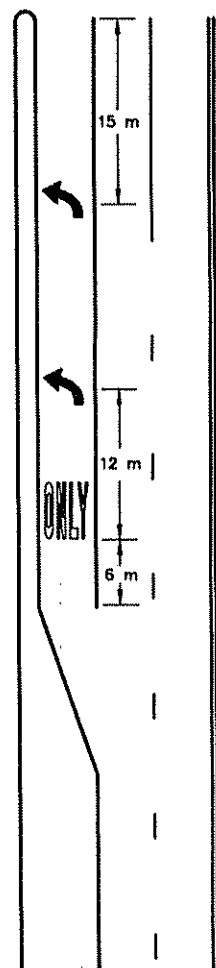
ISLAND MOUNT BREAK-AWAY SIGN
POST INSTALLATION TYPICAL



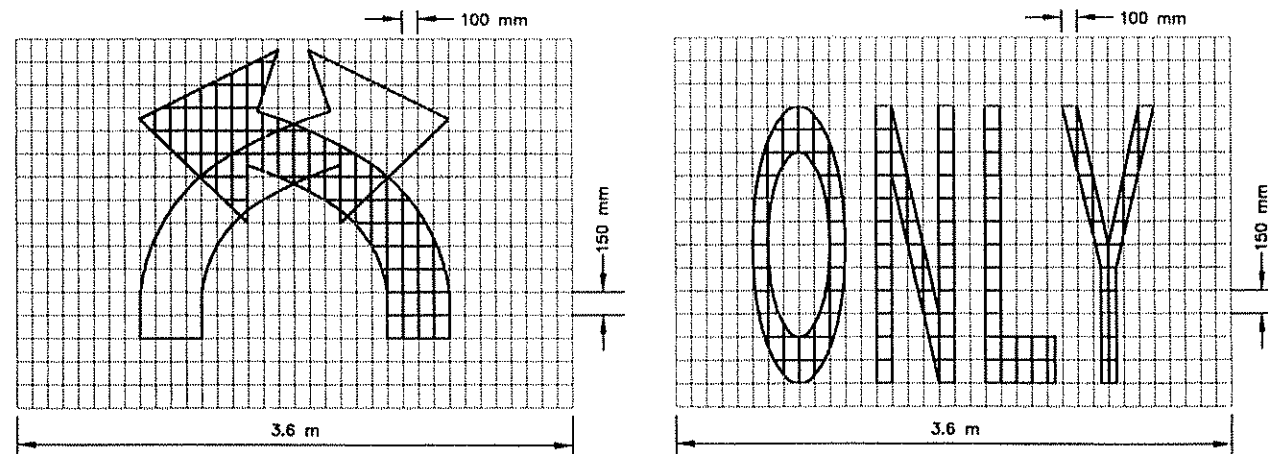
SIGN POST INSTALLATION FOR PAVED MEDIAN



ISLAND MOUNT BREAK-AWAY DOUBLE POST FOOTINGS

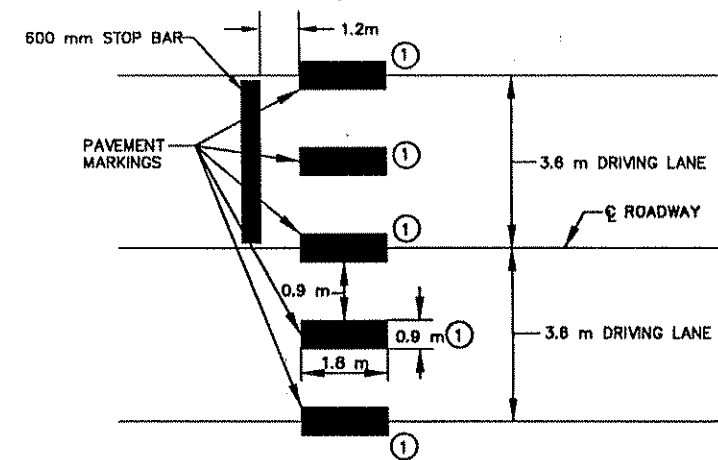


TYPICAL MESSAGE PLACEMENT
FOR TURN LANES



PAVEMENT MESSAGE TYPE I

MARKING SHALL BE WHITE



- NOTES:
- ① WHITE TRAFFIC PAINT/EPOXY IN AREAS AS SHOWN.
 - ② CONTRACTOR TO PROVIDE A SAMPLE PANEL FOR APPROVAL

PEDESTRIAN CROSSWALK MARKING

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101	
DRAWN BY: PMJ	DESIGN BY: JML
CHECKED BY: PBD	DWG. NAME: 57THD1
DATE: FEBRUARY 6, 1998	

XREF DRAWINGS

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Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1270

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DATE: 2-9-98 MINN. REG. NO. 23197

COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
DETAILS

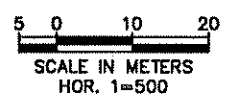
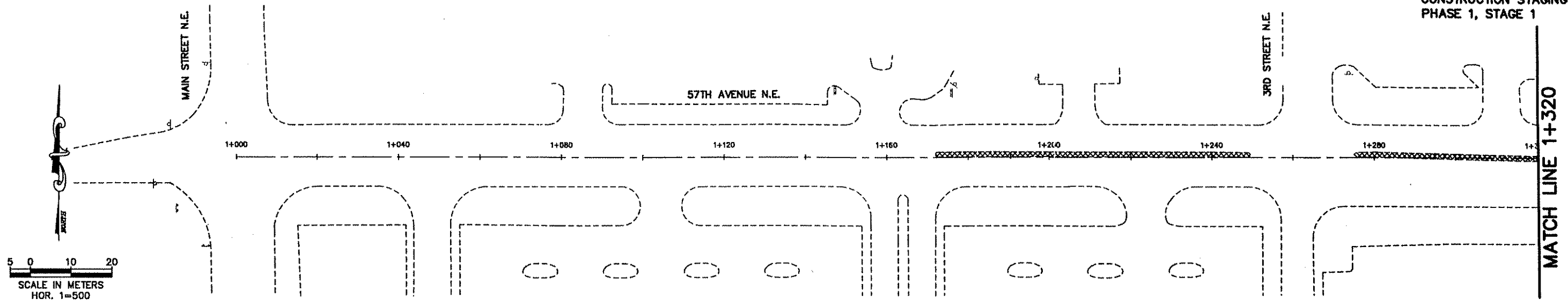
CITY PROJECT	ST-1997-4
COUNTY PROJECT	97-11-102
S.A.P.	127-010-15
S.A.P.	127-301-04

SHEET NO.
9
45



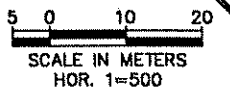
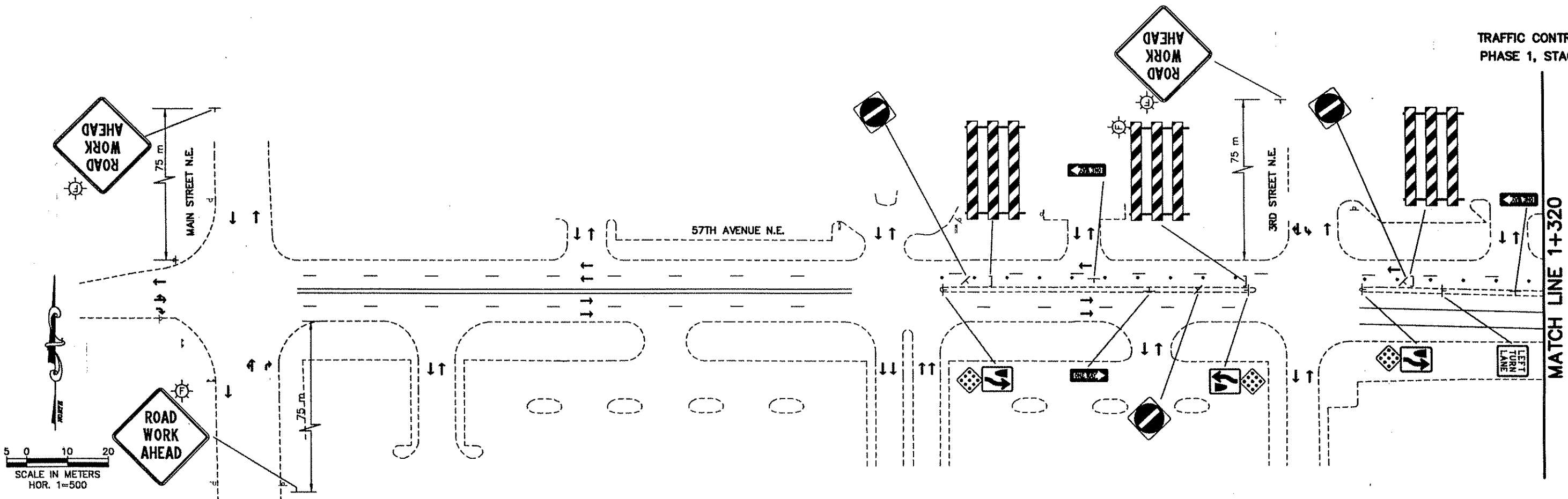
ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

CONSTRUCTION STAGING PLAN
PHASE 1, STAGE 1



- TEMPORARY (SEE SHEET 7, INSET F)
 - PERMANENT
 - IN PLACE, USE INPLACE
- REMOVE CONFLICTING TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL
PHASE 1, STAGE 1

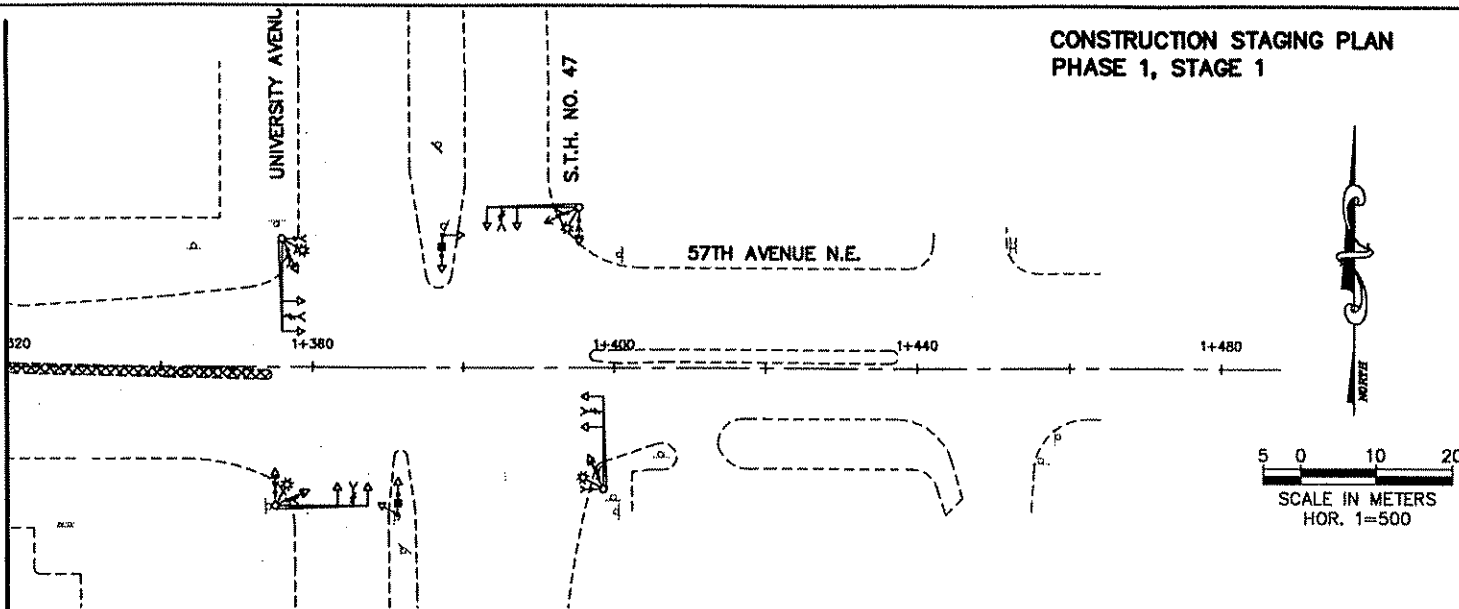


DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THTR00.DWG PLOT DATE: Apr 13, 1998 1:55pm

<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV. NO.</th> <th>BY</th> <th>DATE</th> <th>REVISIONS DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	REV. NO.	BY	DATE	REVISIONS DESCRIPTION																					<p>DESIGN FILE: 35689-002-0101</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DRAWN BY: OMR</td> <td>DESIGN BY: JRM</td> </tr> <tr> <td>CHKD. BY: PBD</td> <td>DWG. NAME: 57THTR00</td> </tr> <tr> <td colspan="2">DATE: FEBRUARY 6, 1998</td> </tr> </table>	DRAWN BY: OMR	DESIGN BY: JRM	CHKD. BY: PBD	DWG. NAME: 57THTR00	DATE: FEBRUARY 6, 1998		<p>XREF DRAWINGS</p>	<p>B R W INC. Thresher Square, 700 Third Street So. Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1270</p>	<p>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 STATE OF MINN. STATUTES SECTION 326.02 TO 326.16</p> <p style="text-align: center;"><i>Paul Schmidt</i> DATE: 4-13-98 MINN. REG. NO. 23197</p>	<p>COUNTY ROAD 102 RECONSTRUCTION CO RD 102/57TH AVENUE N.E. CONSTRUCTION STAGING/TRAFFIC CONTROL</p> <p>ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>CITY PROJECT</td> <td>ST-1997-4</td> </tr> <tr> <td>COUNTY PROJECT</td> <td>97-11-102</td> </tr> <tr> <td>S.A.P.</td> <td>127-010-15</td> </tr> <tr> <td>S.A.P.</td> <td>127-301-04</td> </tr> </table>	CITY PROJECT	ST-1997-4	COUNTY PROJECT	97-11-102	S.A.P.	127-010-15	S.A.P.	127-301-04	<p>SHEET NO. 10</p> <p style="font-size: 24pt; font-weight: bold;">45</p>
REV. NO.	BY	DATE	REVISIONS DESCRIPTION																																										
DRAWN BY: OMR	DESIGN BY: JRM																																												
CHKD. BY: PBD	DWG. NAME: 57THTR00																																												
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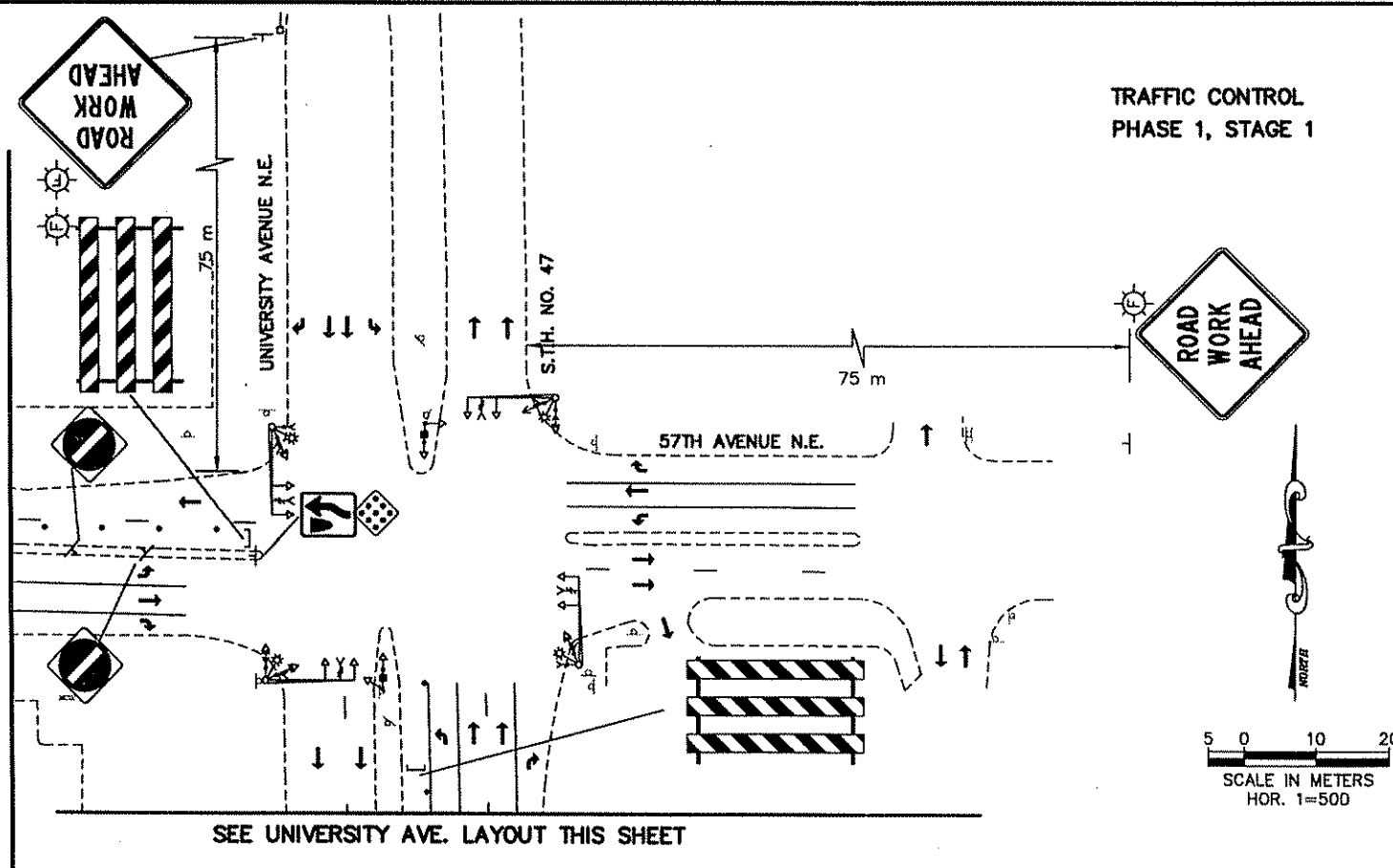
CONSTRUCTION STAGING PLAN
PHASE 1, STAGE 1

MATCH LINE 1+320

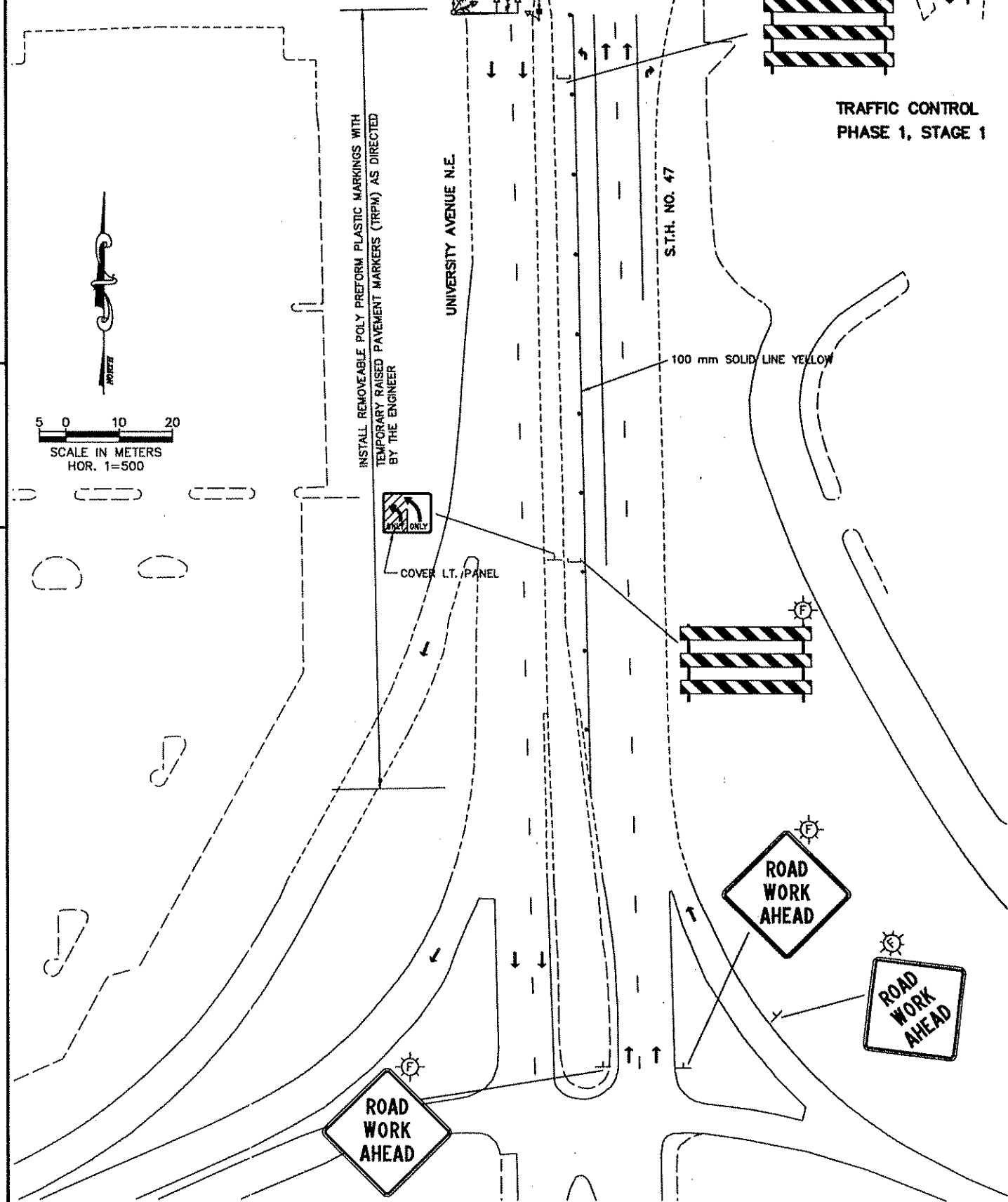


- TEMPORARY (SEE SHEET 7, INSET F)
 - PERMANENT
 - IN PLACE, USE INPLACE
- REMOVE CONFLICTING TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.

MATCH LINE 1+320



57TH AVENUE N.E.



TRAFFIC CONTROL
PHASE 1, STAGE 1

DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THTR01.DWG PLOT DATE: Mar 27, 1998 12:55pm

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101	XREF DRAWINGS
DRAWN BY: OMR	DESIGN BY: JRM
CHECKED BY: PBD	DWG. NAME: 57THTR01
DATE: FEBRUARY 6, 1998	

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Thresher Square, 700 Third Street So.
Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1278

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Paul Edward
DATE: 4-7-98 MINN. REG. NO. 23197

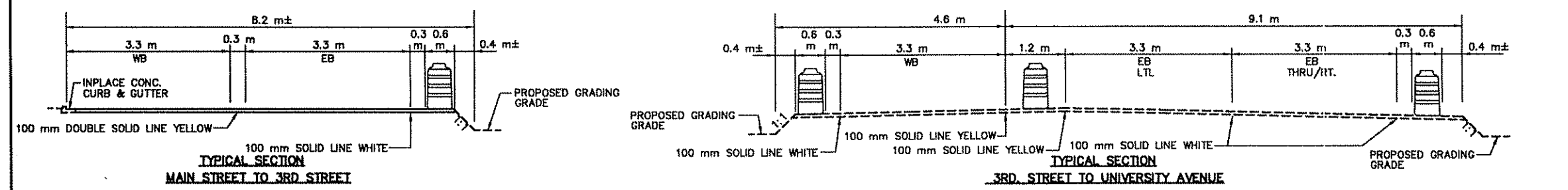
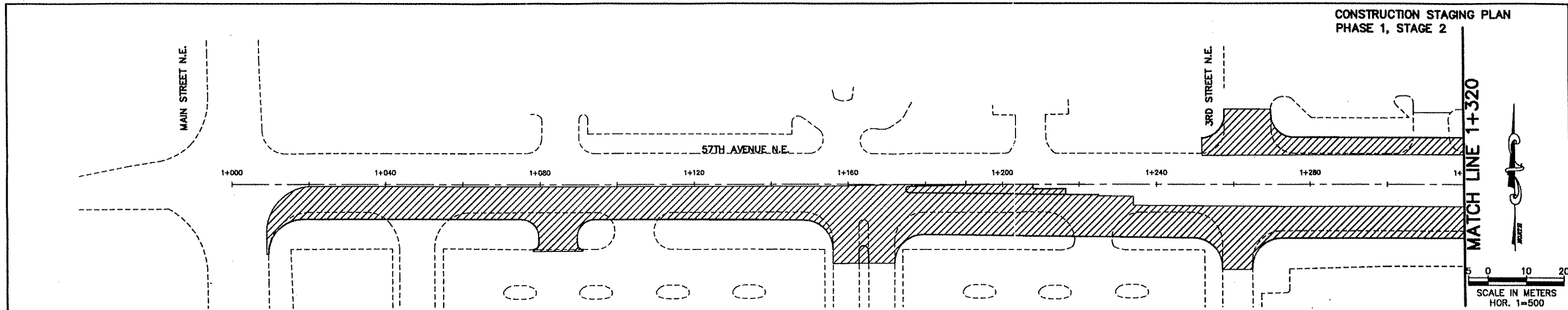
COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
CONSTRUCTION STAGING/TRAFFIC CONTROL

CITY PROJECT	ST-1997-4	SHEET NO. 11 45
COUNTY PROJECT	97-11-102	
S.A.P.	127-010-15	
S.A.P.	127-301-04	

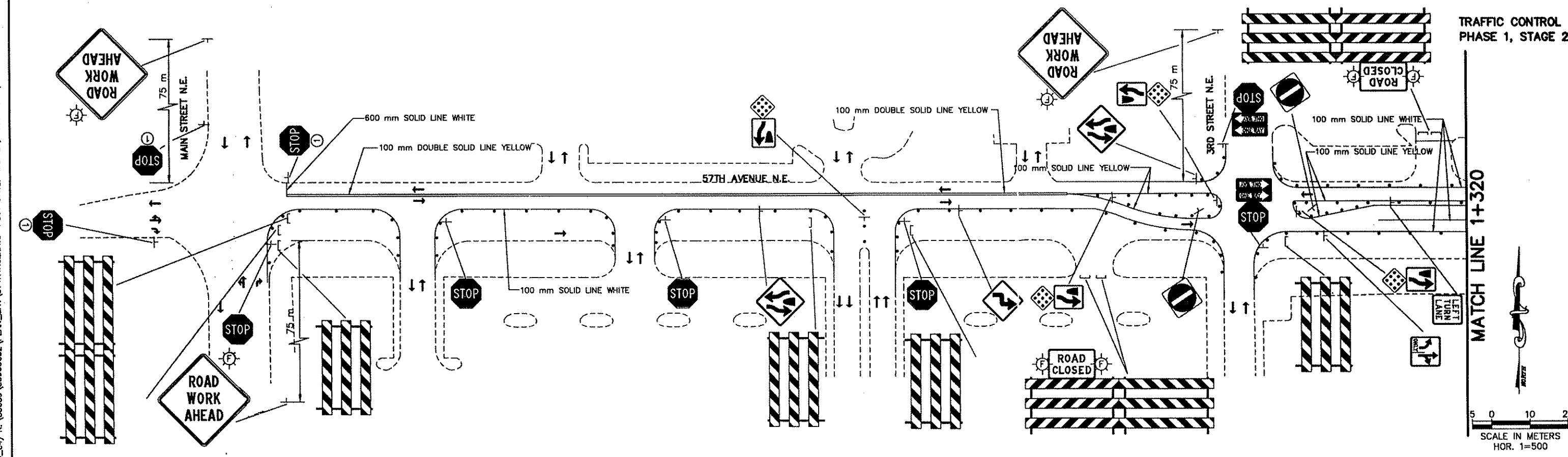


ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

CONSTRUCTION STAGING PLAN
PHASE 1, STAGE 2



- PERMANENT
- ① IN PLACE, USE INPLACE
- REMOVE CONFLICTING TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
- INSTALL TRPMS ON CENTER LINE MARKINGS



DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THTR02.DWG PLOT DATE: Mar 27, 1998 2:34pm

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
35689-002-0101

DRAWN BY: OMR DESIGN BY: JRM

CHKD. BY: PBD DWG. NAME: 57THTR02

DATE:
FEBRUARY 6, 1998

XREF DRAWINGS

BRW

B R W INC
Thresher Square, 700 Third Street So.
Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1278

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 STATE OF MINN. STATUTES SECTION 328.09 TO 328.18

Paul Edward
DATE: 2-2-98 MINN. REG. NO. 23197

COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
CONSTRUCTION STAGING/TRAFFIC CONTROL

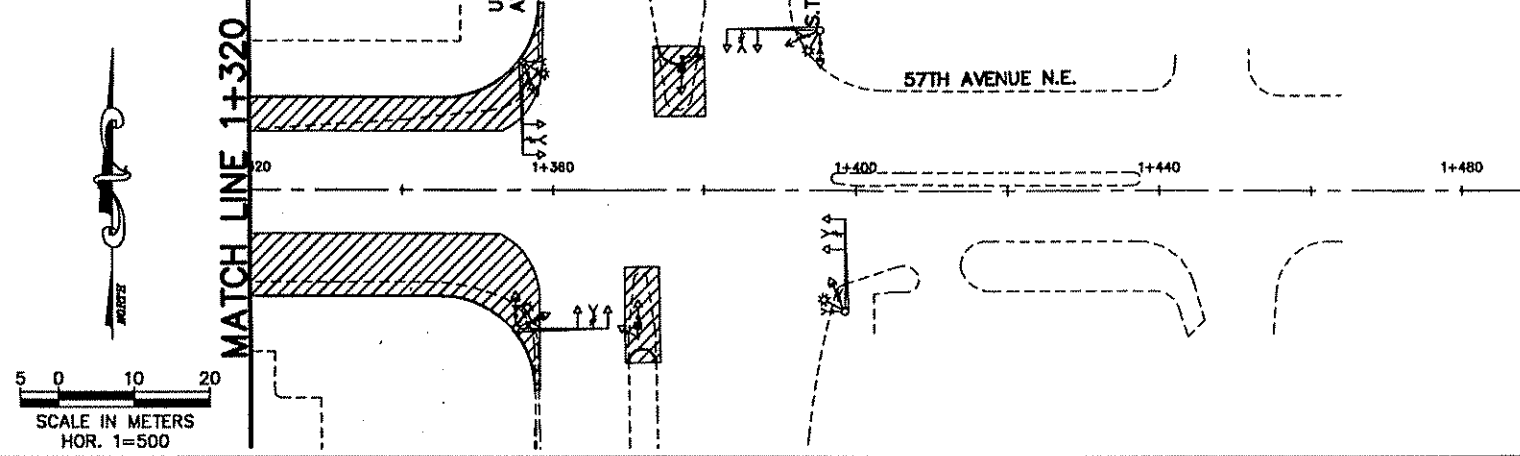
CITY PROJECT	ST-1997-4	SHEET NO. 12 45
COUNTY PROJECT	97-11-102	
S.A.P.	127-010-15	
S.A.P.	127-301-04	



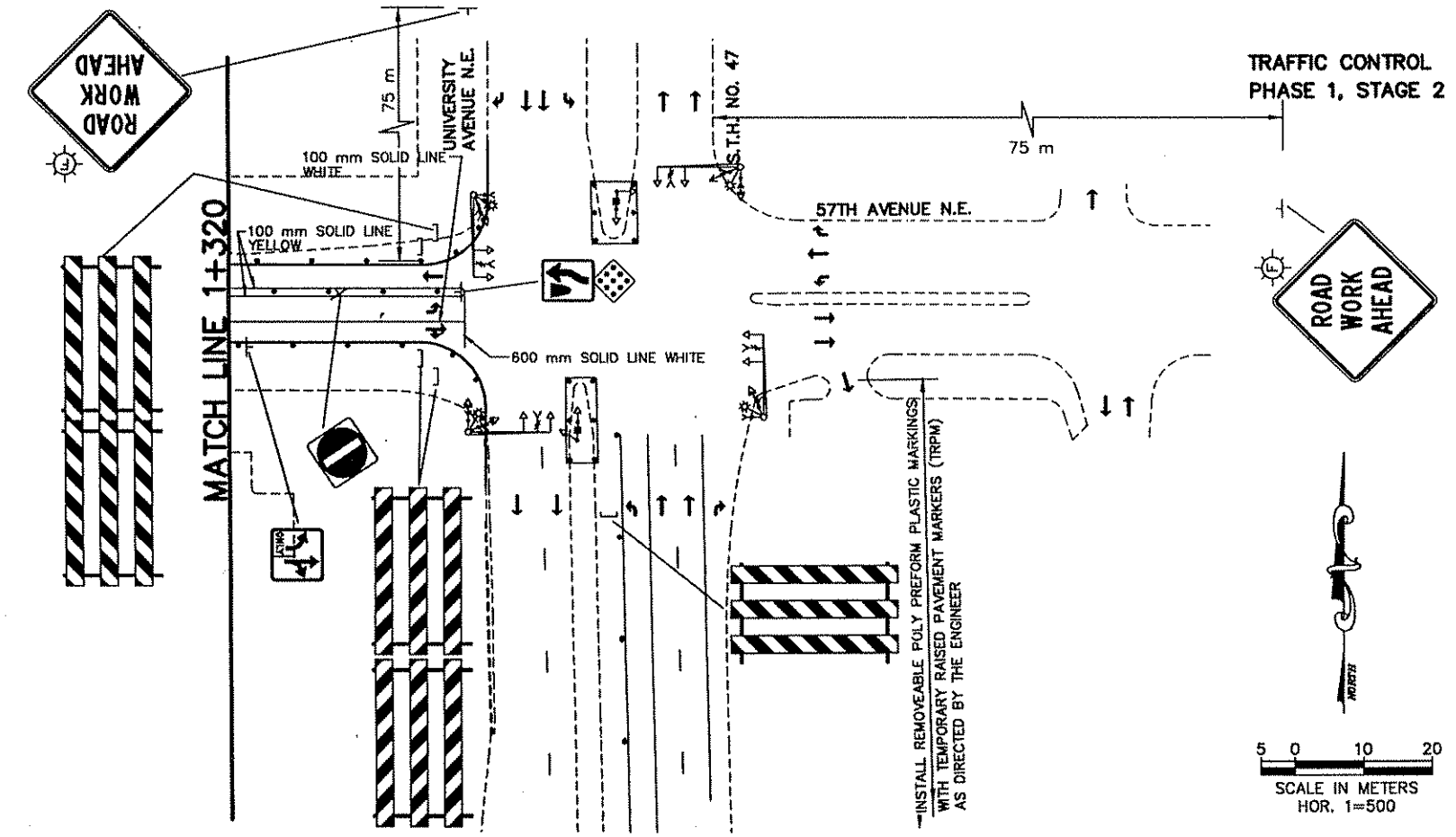
ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THTR03.DWG PLOT DATE: Mar 27, 1998 1:21pm

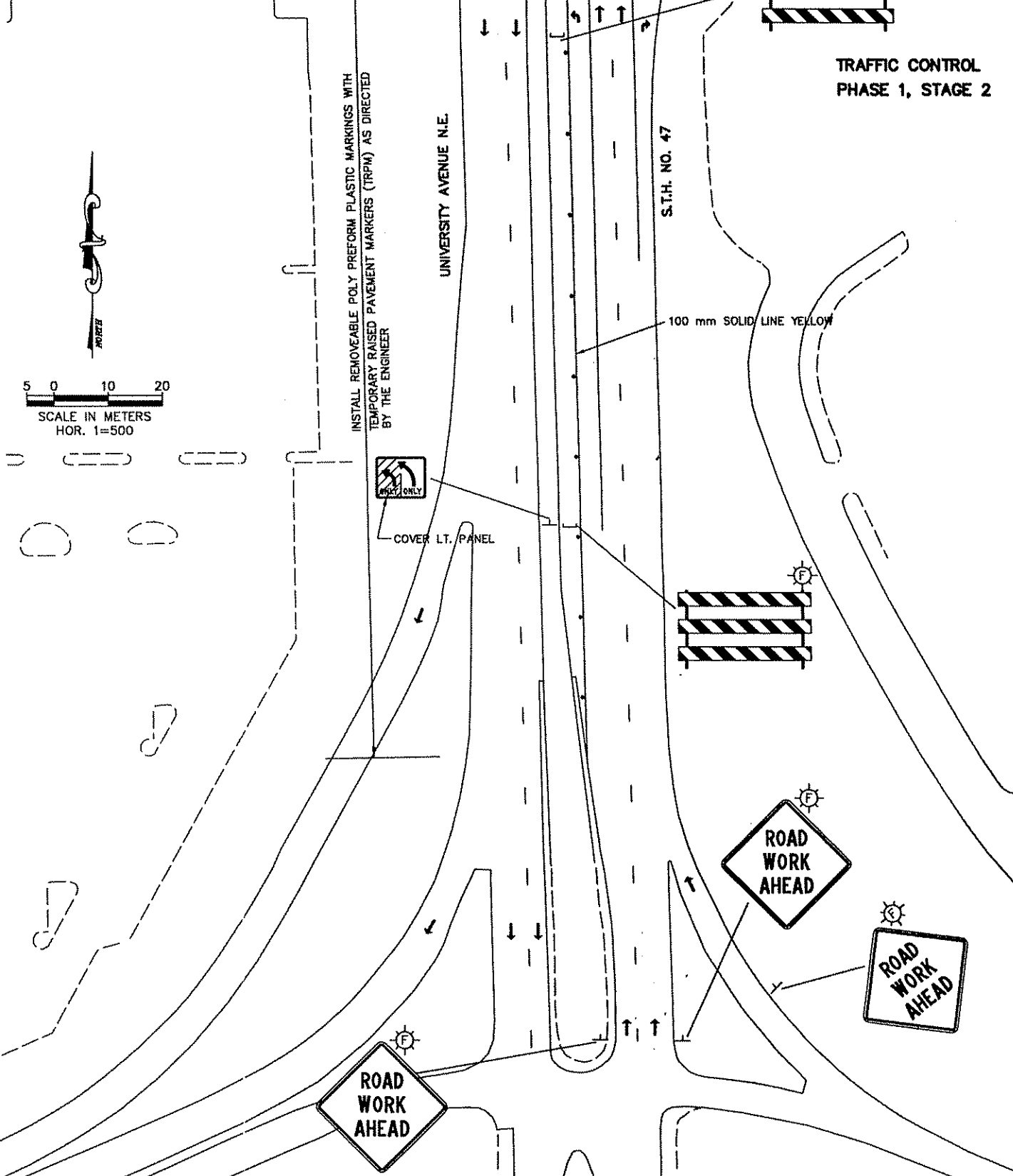
**CONSTRUCTION STAGING PLAN
PHASE 1, STAGE 2**



PERMANENT
 REMOVE CONFLICTING TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
 ① IN PLACE, USE INPLACE



57TH AVENUE N.E.



**TRAFFIC CONTROL
PHASE 1, STAGE 2**

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101	XREF DRAWINGS
DRAWN BY: OMR	DESIGN BY: JRM
CHKD. BY: PBD	DWG. NAME: 57THTR03
DATE: FEBRUARY 6, 1998	

BRW
 B R W INC.
 Thrasher Square, 700 Third Street So.
 Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1278

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 STATE OF MINN. STATUTES SECTION 326.02 TO 326.16.
Paul Williams
 DATE: 5-1-98 MINN. REG. NO. 23197

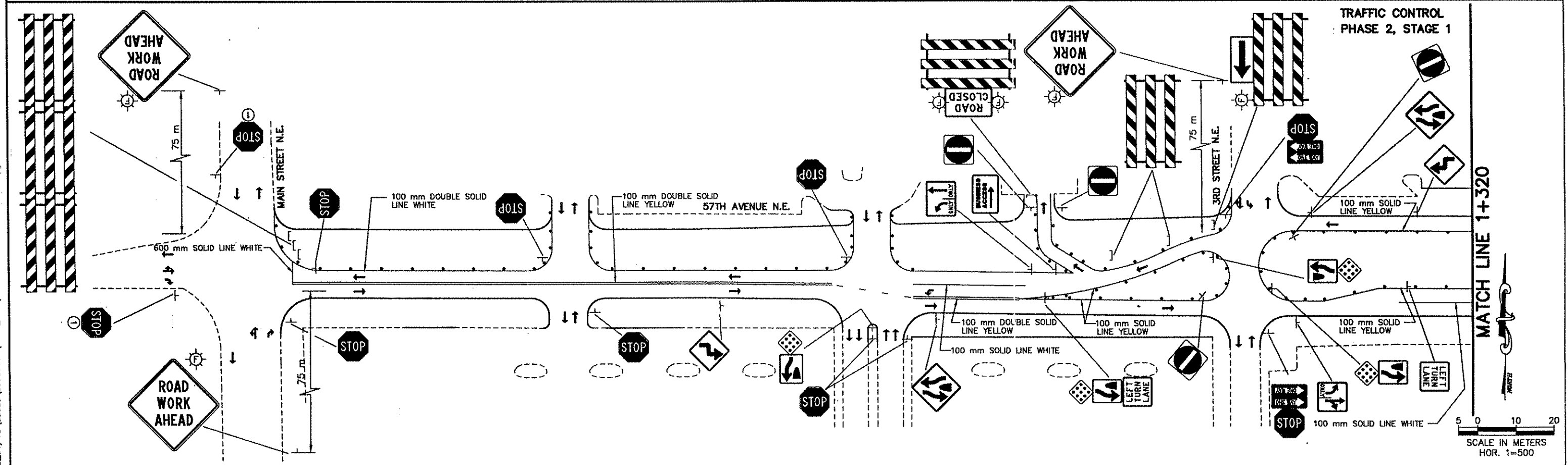
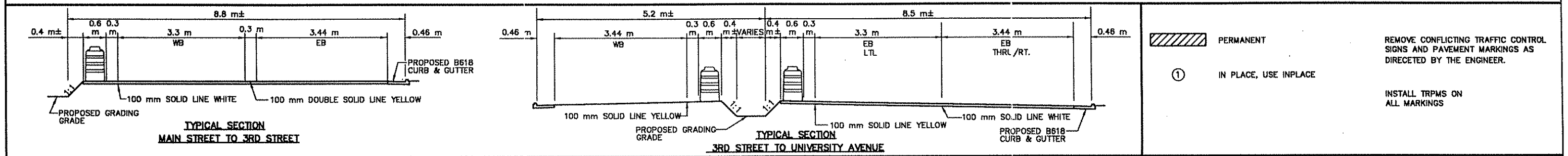
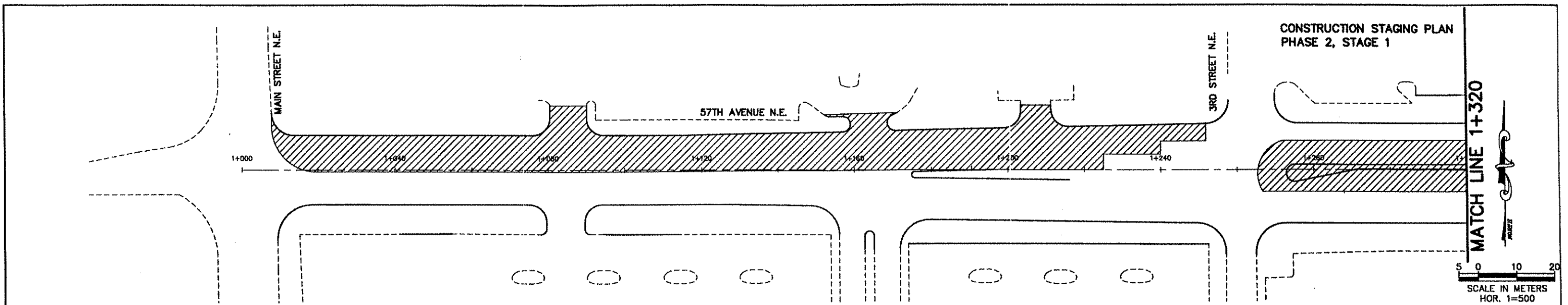
COUNTY ROAD 102 RECONSTRUCTION
 CO RD 102/57TH AVENUE N.E.
 CONSTRUCTION STAGING/TRAFFIC CONTROL

CITY PROJECT	ST-1997-4	SHEET NO. 13 45
COUNTY PROJECT	97-11-102	
S.A.P.	127-010-15	
S.A.P.	127-301-04	



ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

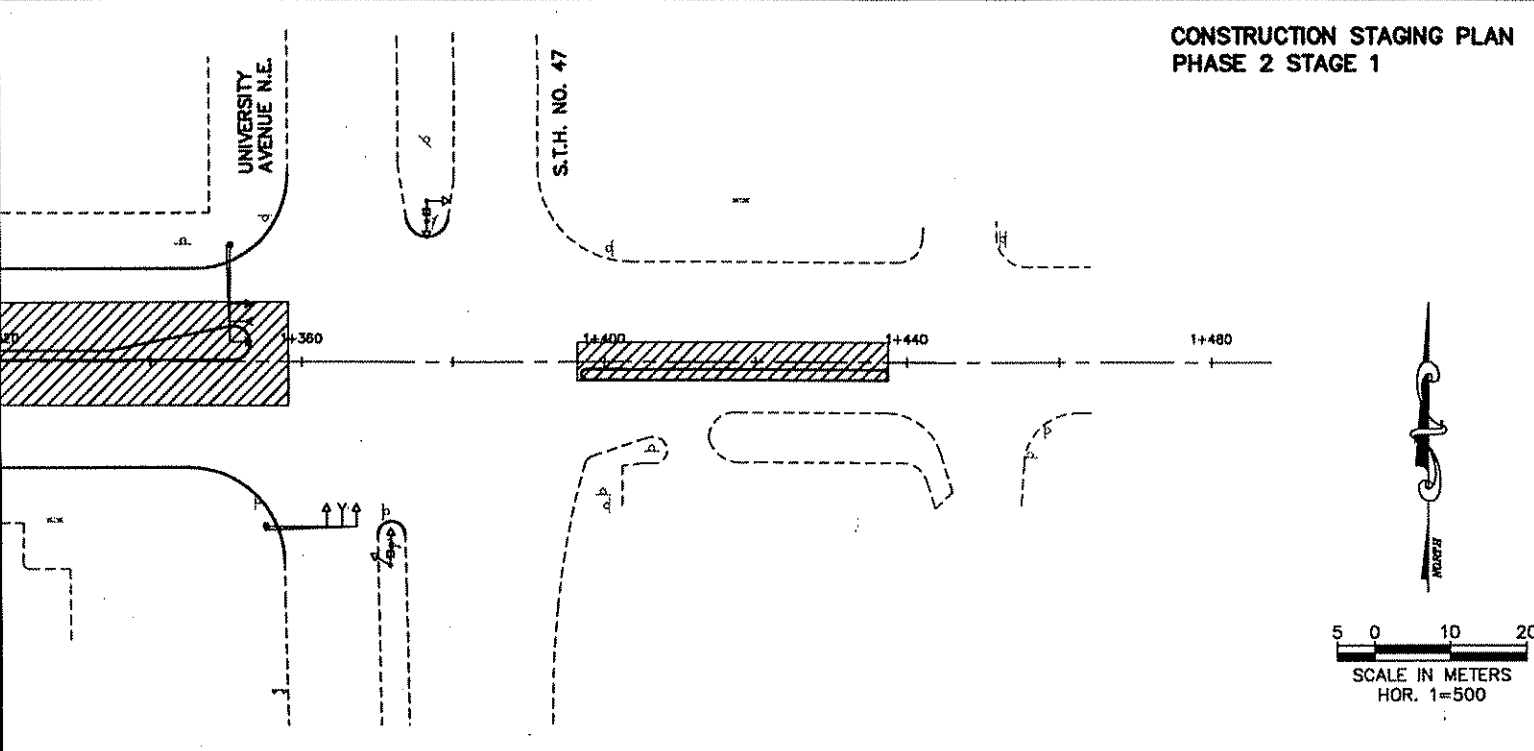
DISK FILE NAME: (13...4) R:\35689\35689002\PLAN_SHT\57THTR04.DWG PLOT DATE: Mar 27, 1998 2:41pm



REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 35689-002-0101	XREF DRAWINGS	 B R W INC. Thrasher Square, 708 Third Street So. Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1278	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 STATE OF MINN. STATUTES SECTION 326.02 TO 326.18. DATE: 2-17-98 MINN. REG. NO. 23197	COUNTY ROAD 102 RECONSTRUCTION CO RD 102/57TH AVENUE N.E. CONSTRUCTION STAGING/TRAFFIC CONTROL	CITY PROJECT	ST-1997-4	SHEET NO. 14 45	
				DRAWN BY: OMR					DESIGN BY: JRM	COUNTY PROJECT		97-11-102
				CHKD. BY: PBD					DWG. NAME: 57THTR04	S.A.P.		127-010-15
				DATE: FEBRUARY 6, 1998						S.A.P.		127-301-04

CONSTRUCTION STAGING PLAN
PHASE 2 STAGE 1

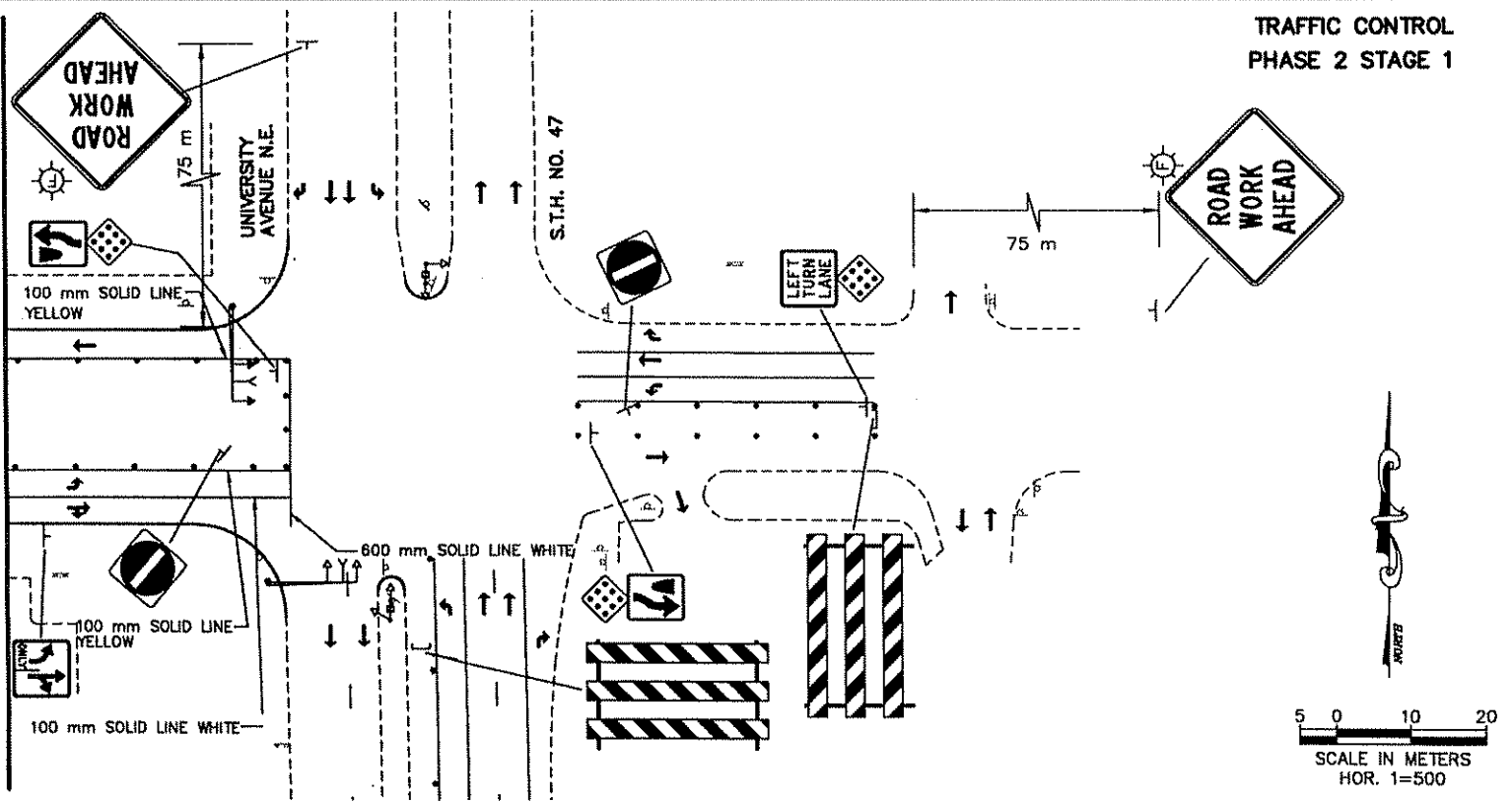
MATCH LINE 1+320



- PERMANENT
- IN PLACE, USE INPLACE

REMOVE CONFLICTING TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.

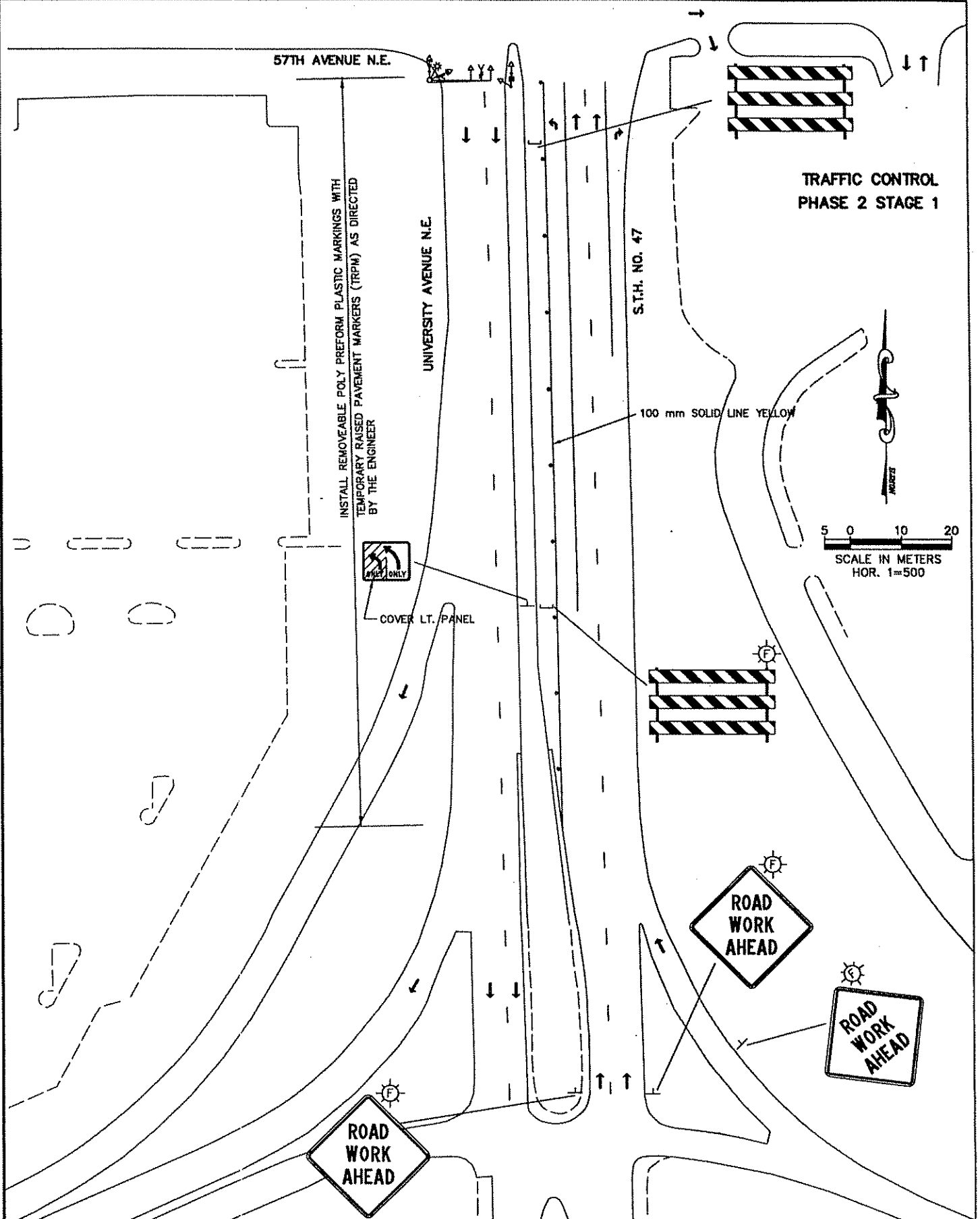
MATCH LINE 1+320



TRAFFIC CONTROL
PHASE 2 STAGE 1

INSTALL REMOVABLE POLY PREFORM PLASTIC MARKINGS WITH TEMPORARY RAISED PAVEMENT MARKERS (TRPM) AS DIRECTED BY THE ENGINEER

TRAFFIC CONTROL
PHASE 2 STAGE 1



DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THTR05.DWG PLOT DATE: Mar 27, 1998 1:35pm

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101	
DRAWN BY: OMR	DESIGN BY: JRM
CHKD. BY: PBD	DWG. NAME: 57THTR05
DATE: FEBRUARY 6, 1998	

BRW
B R W INC.
Thresher Square, 700 Third Street So.
Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1278

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 STATE OF MINN. STATUTES SECTION 326.02 TO 326.16.
Paul Edward
DATE: 2-7-98 MINN. REG. NO. 23197

COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
CONSTRUCTION STAGING/TRAFFIC CONTROL

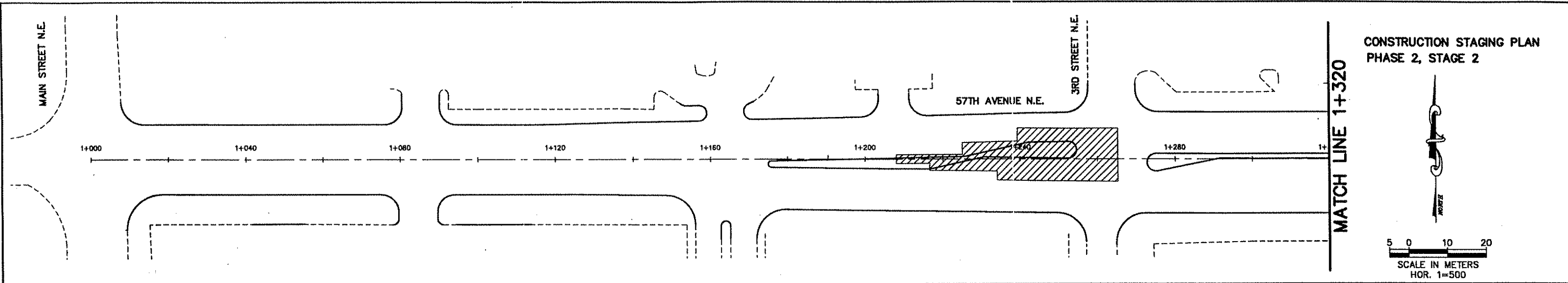
CITY PROJECT	ST-1997-4
COUNTY PROJECT	97-11-102
S.A.P.	127-010-15
S.A.P.	127-301-04

SHEET NO.
15
45





ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

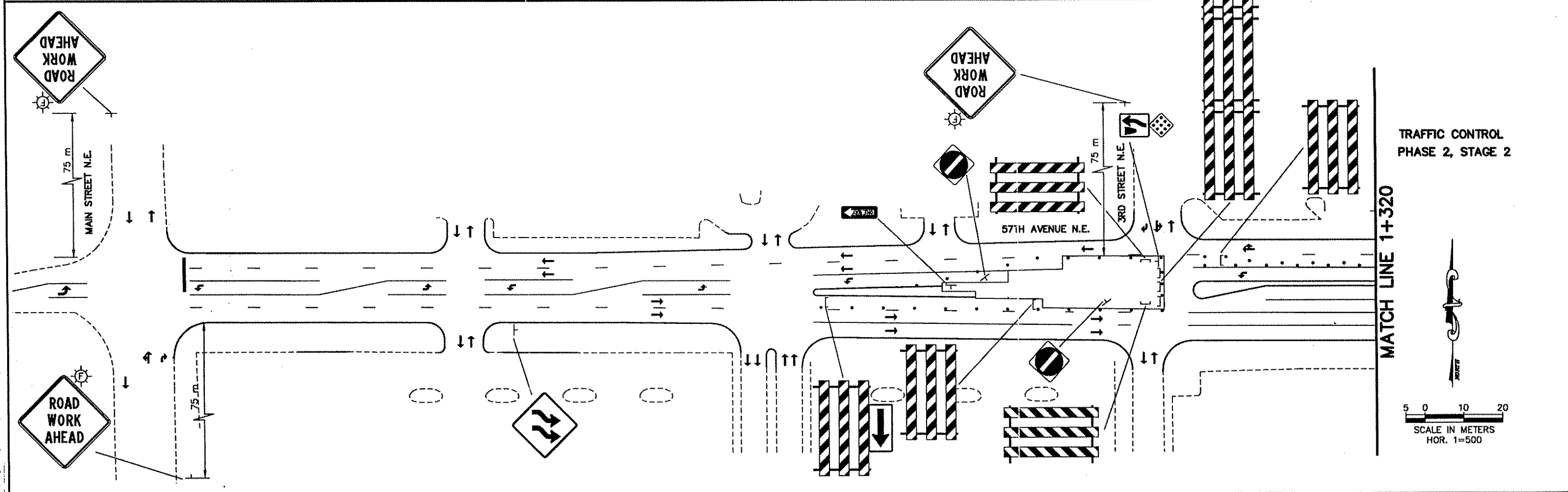
DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THTR06.DWG PLOT DATE: Mar 27, 1998 2:07pm





**CONSTRUCTION STAGING PLAN
PHASE 2, STAGE 2**

 PERMANENT
 IN PLACE, USE INPLACE

REMOVE CONFLICTING TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.



**TRAFFIC CONTROL
PHASE 2, STAGE 2**

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 35689-002-0101	XREF DRAWINGS	 BRW INC. Thresher Square, 700 Third Street So. Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1278	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 STATE OF MINN. STATUTE SECTION 326.02 TO 326.19.  DATE: 2-19-98 MINN. REG. NO. 23197	COUNTY ROAD 102 RECONSTRUCTION CO RD 102/57TH AVENUE N.E. CONSTRUCTION STAGING/TRAFFIC CONTROL	CITY PROJECT	ST-1997-4	SHEET NO. 16 45
				DRAWN BY: OMR	DESIGN BY: JRM				COUNTY PROJECT	97-11-102	
				CHKD. BY: PBD	DWG. NAME: 57THTR06				S.A.P.	127-010-15	
				DATE: FEBRUARY 6, 1998					S.A.P.	127-301-04	

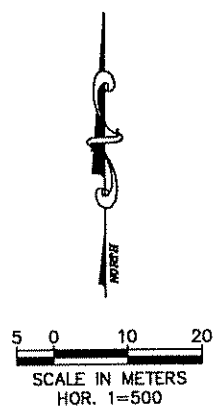
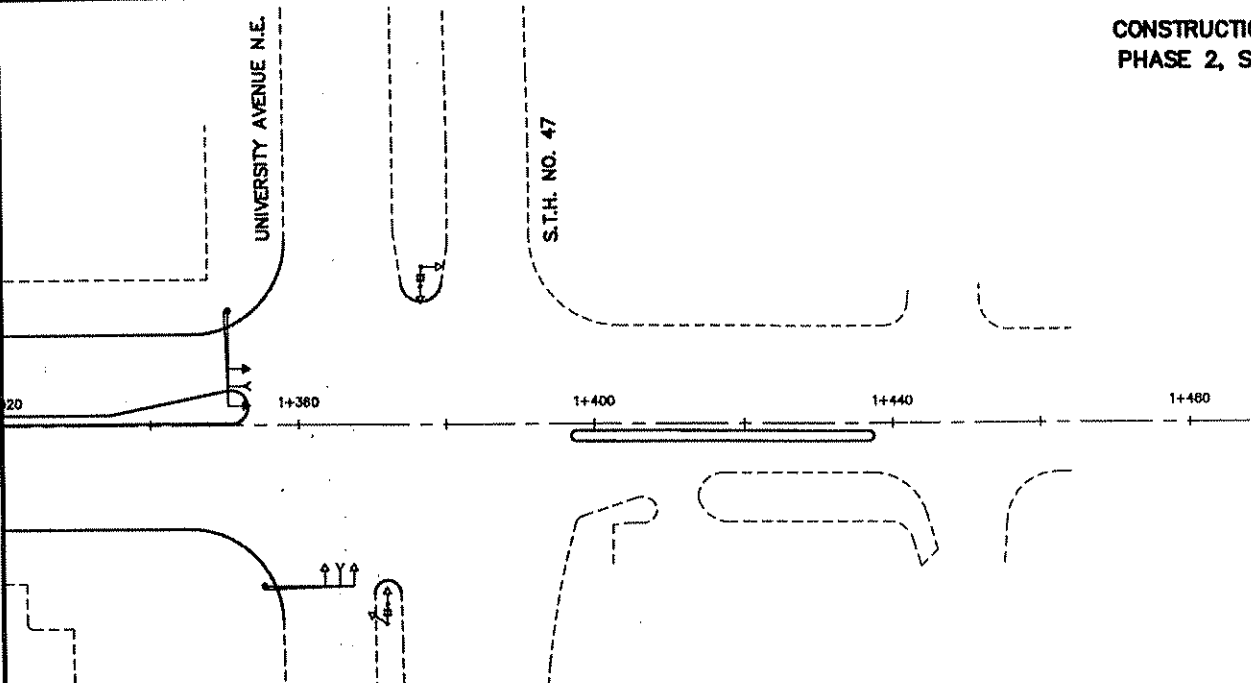


ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

DISK FILE NAME: (13_c4) R:\356889\35689002\PLAN_SHT\57THTR07.DWG PLOT DATE: Mar 27, 1998 2:21pm

CONSTRUCTION STAGING PLAN
PHASE 2, STAGE 2

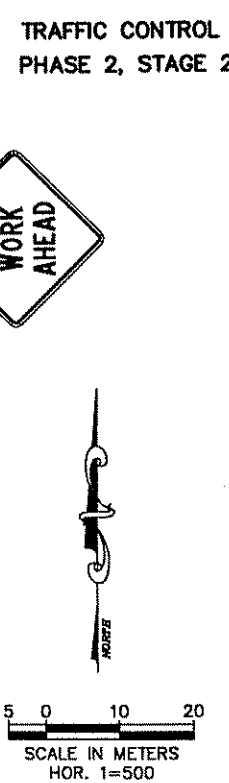
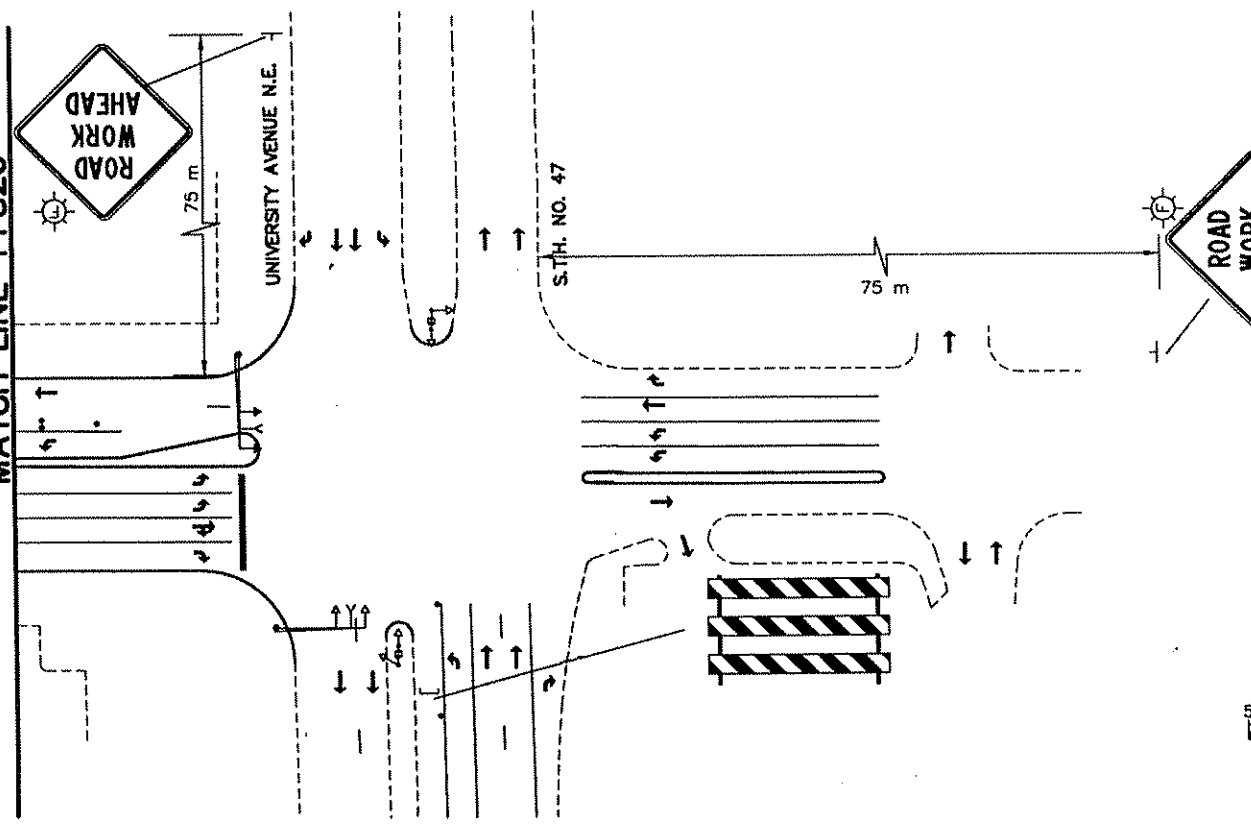
MATCH LINE 1+320



- PERMANENT
- IN PLACE, USE INPLACE

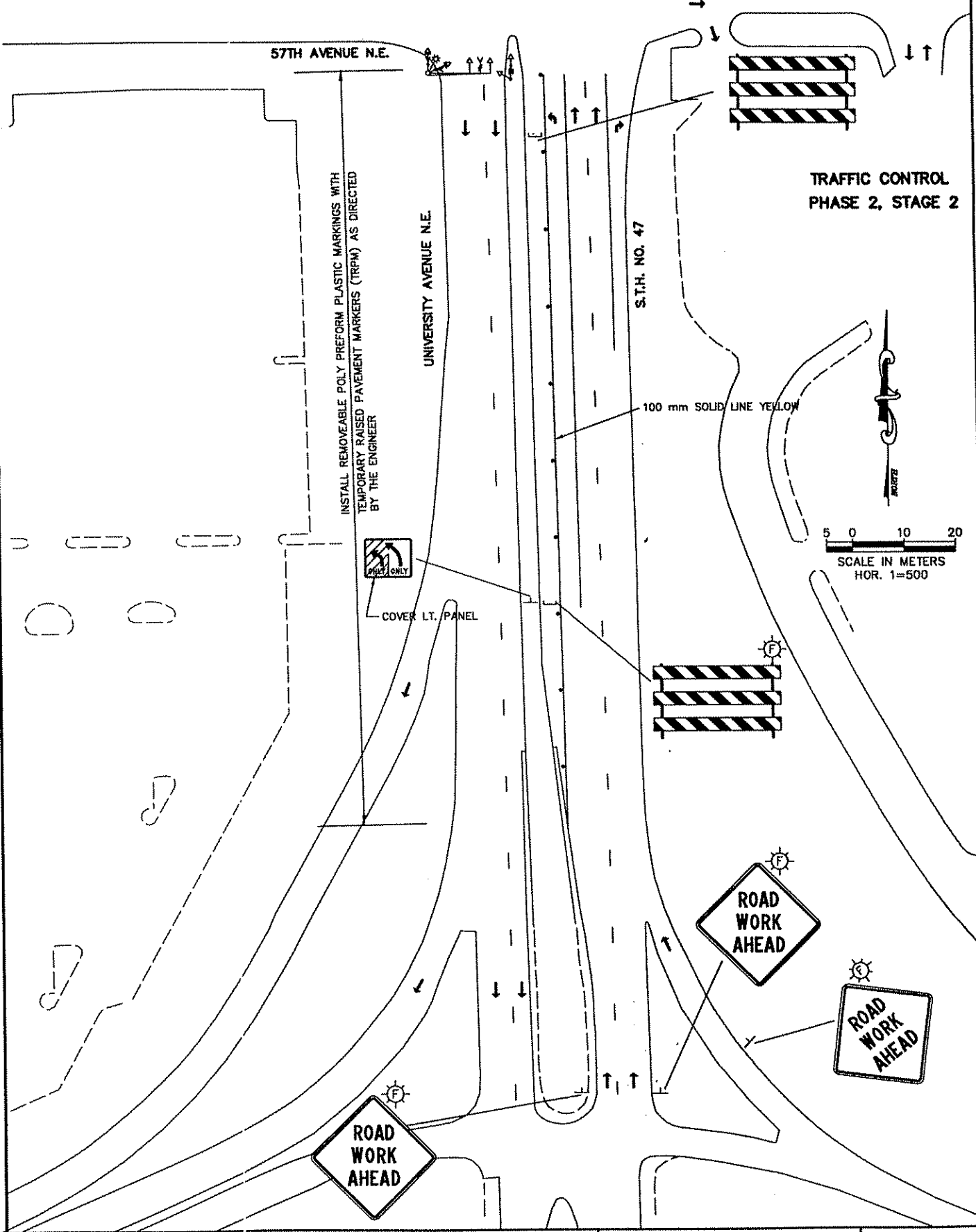
REMOVE CONFLICTING TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.

MATCH LINE 1+320

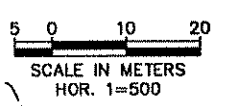


TRAFFIC CONTROL
PHASE 2, STAGE 2

57TH AVENUE N.E.
UNIVERSITY AVENUE N.E.
S.T.H. NO. 47



TRAFFIC CONTROL
PHASE 2, STAGE 2



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101	XREF DRAWINGS
DRAWN BY: OMR	DESIGN BY: JRM
CHECKED BY: PBD	DWG. NAME: 57THTR07
DATE: FEBRUARY 8, 1998	

BRW
B R W INC.
Thresher Square, 700 Third Street So.
Minneapolis, MN 55415, Phone 612/870-6706, Fax 612/870-1578

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Paul Redmond
DATE: 4-23-98 MINN. REG. NO. 23197

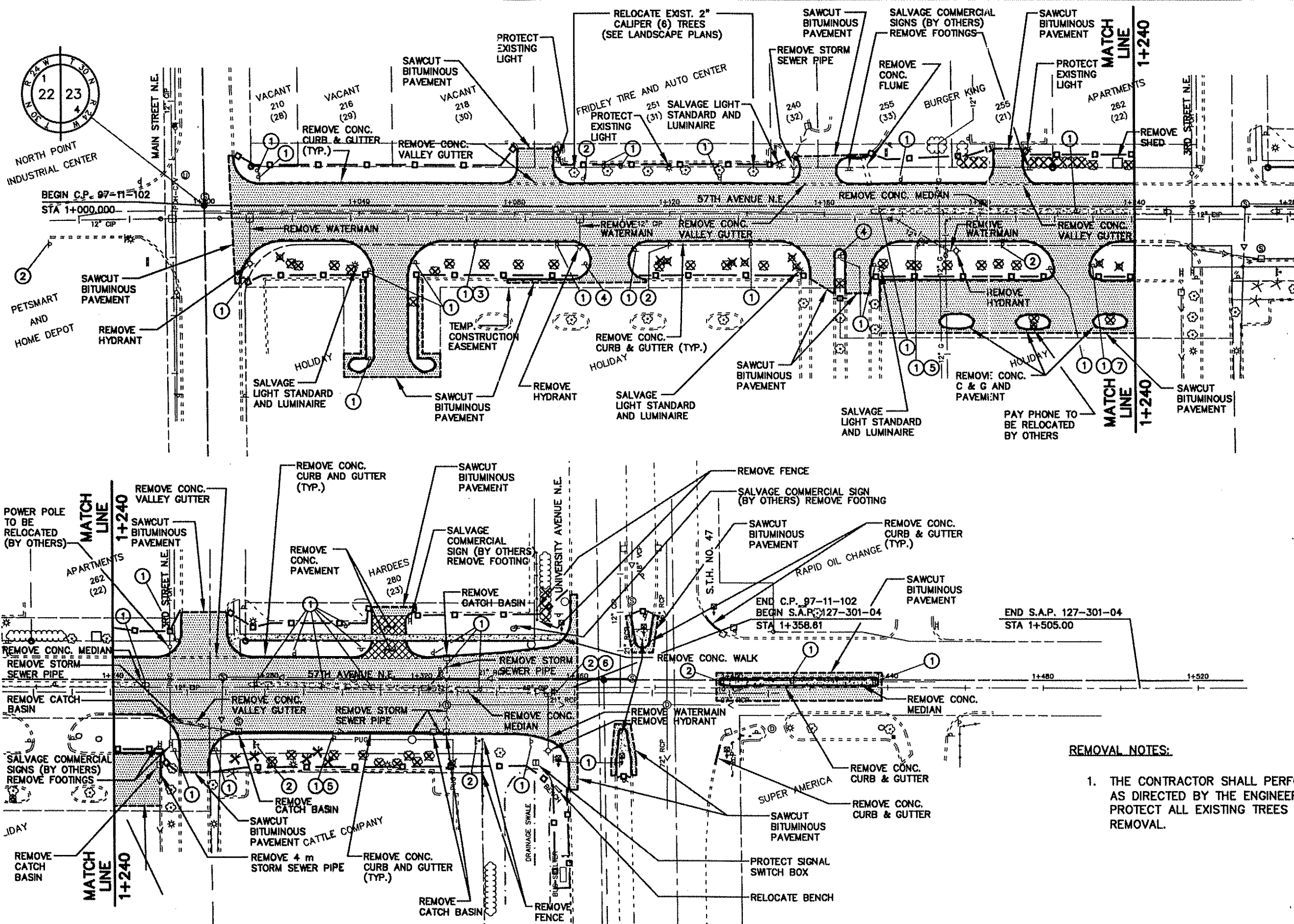
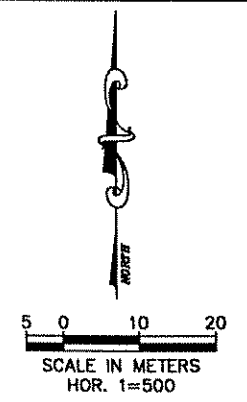
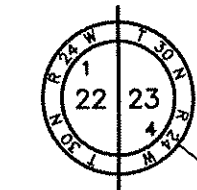
COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
CONSTRUCTION STAGING/TRAFFIC CONTROL

CITY PROJECT	ST-1997-4
COUNTY PROJECT	97-11-102
S.A.P.	127-010-15
S.A.P.	127-301-04

SHEET NO.
17
45



ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.



- LEGEND:**
- BITUMINOUS PAVEMENT REMOVAL
 - CONCRETE WALK OR MEDIAN REMOVAL
 - CONCRETE PAVEMENT REMOVAL
 - LIMITS OF CONSTRUCTION
 - SAWCUT
 - CONCRETE CURB AND GUTTER REMOVAL
 - SILT FENCE
 - TREE, SHRUB OR HEDGE REMOVAL
 - SALVAGE SIGN
 - REMOVE SIGN
 - REMOVE R2-1 SIGN
 - REMOVE CART SIGN
 - REMOVE R7-1A SIGN
 - REMOVE X4-4L SIGN
 - REMOVE X4-6 SIGN

REMOVAL NOTES:

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

DISK FILE NAME: (13_e4) R:\35689\35689002\PLAN_SHT\57THRE01.DWG PLOT DATE: Feb 09, 1998 3:28pm

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101
DRAWN BY: PMJ
DESIGN BY: JML
CHECKED BY: PBD
DWG. NAME: 57THRE01
DATE: FEBRUARY 6, 1998

BRW
B R W INC.
Thresher Square, 700 Third Street So.
Minneapolis, MN 55415, Phone 612/379-0700, Fax 612/379-1278

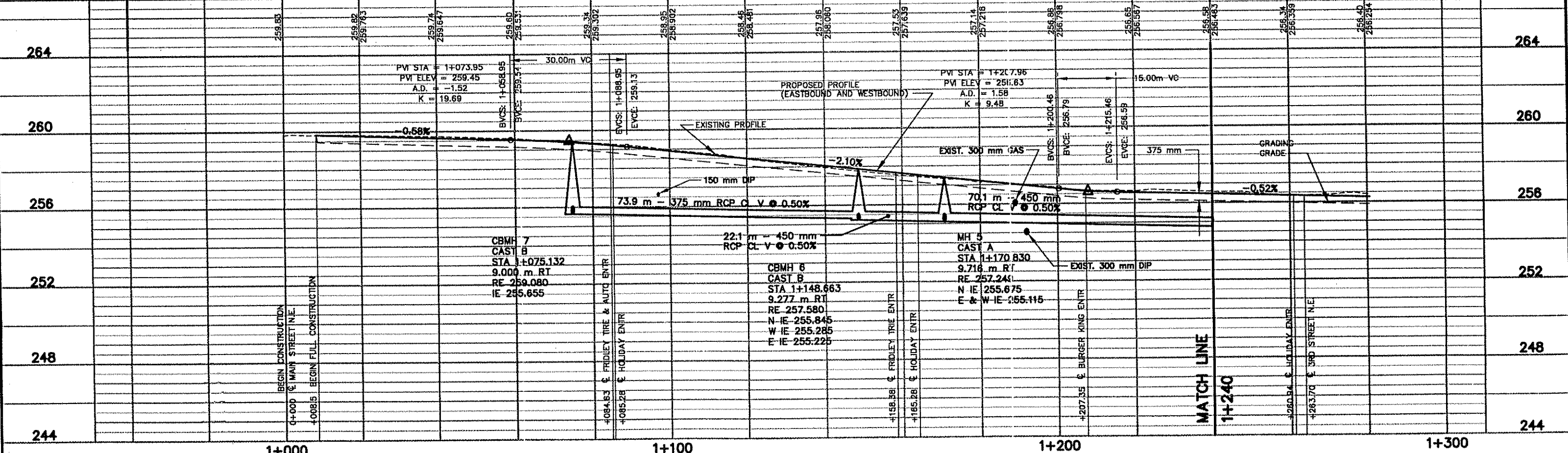
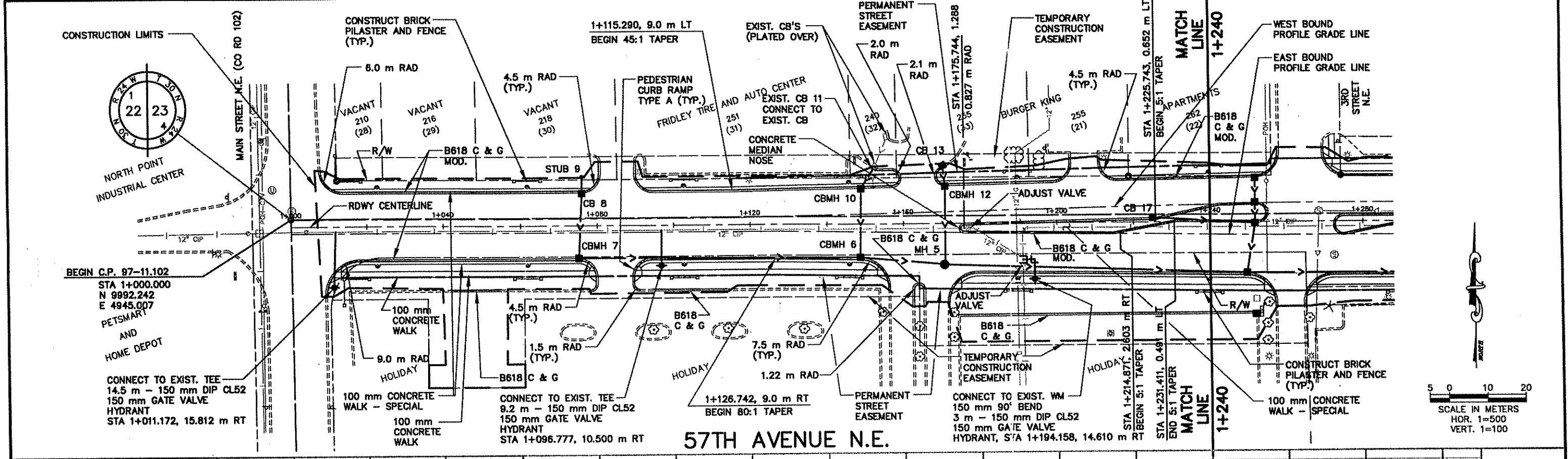
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE STATE OF MINN. STATUTE'S SECTION 328.02 TO 328.16.

Paul Redmond
DATE: 2-7-98 MINN. REG. NO. 23197

COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
EROSION CONTROL/REMOVALS
STA. 1+000 TO STA 1+450

CITY PROJECT	ST-1997-4	SHEET NO. 18
COUNTY PROJECT	97-11-102	
S.A.P.	127-010-15	45
S.A.P.	127-301-04	

DISK FILE NAME: (13.c4) R:\35689\35689002\PLAN_SHT\57THPP01.DWG PLOT DATE: Mar 30, 1998 2:42pm



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101	
DRAWN BY: PMJ	DESIGN BY: JML
CHKD. BY: PBD	DWG. NAME: 57THPP01
DATE: FEBRUARY 6, 1998	

B R W
ENGINEERS

Thresher Square, 700 Third Street So.
Minneapolis, MN 55415, Phone 612/370-6700, Fax 612/370-1878

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 STATUTE OF MINN. STATUTES SECTION 326.02 TO 326.10

Paul Stewart
DATE: 4-1-98 MINN. REG. NO. 23197

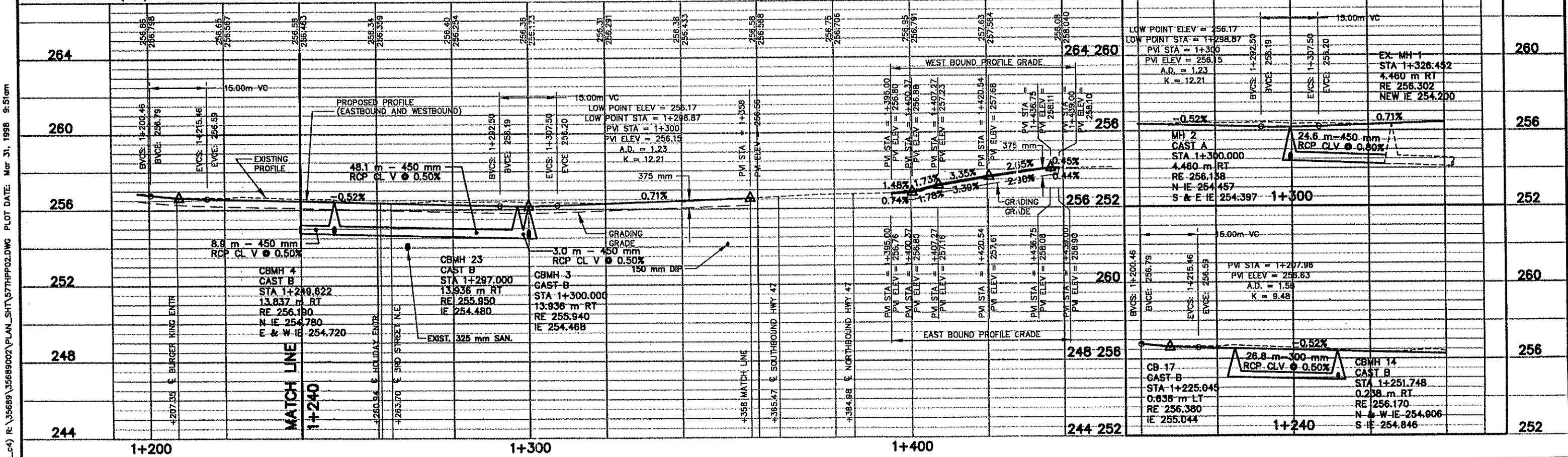
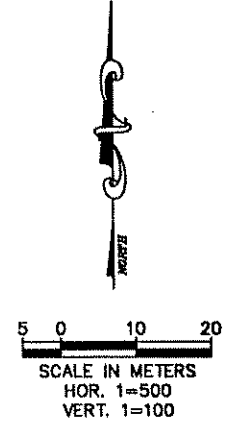
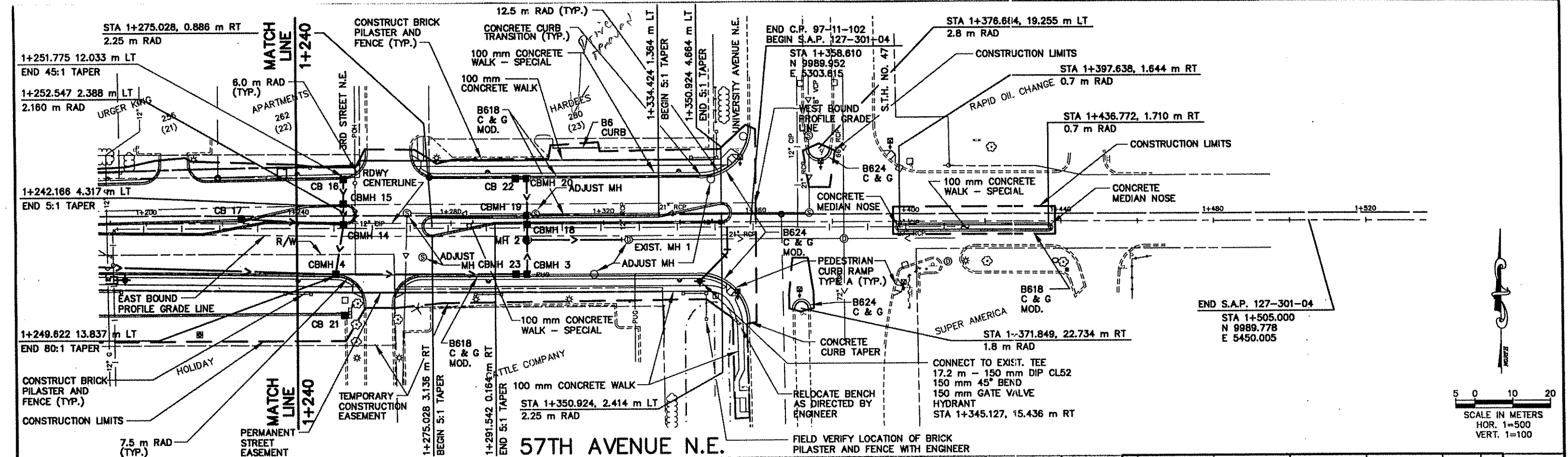
**COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
PLANNED CONSTRUCTION
STA. 1+000 TO STA. 1+240**

CITY PROJECT	ST-1997-4	SHEET NO. 19
COUNTY PROJECT	97-11-102	
S.A.P.	127-010-15	45
S.A.P.	127-301-04	



ALL QUANTITIES AND DIMENSIONS ON PLAN ARE IN METRIC UNITS.

DISK FILE NAME: (13.c4) R:\35689\35689002\PLAN_SHT\57THPP02.DWG PLOT DATE: Mar 31, 1998 9:51am



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101	
DRAWN BY: PMJ	DESIGN BY: JML
CHKD. BY: PBD	DWG. NAME: 57THPP02
DATE: FEBRUARY 6, 1998	

XREF DRAWINGS

57THRPLP
57THRPUT
57THRPRF
57THRPP0
57THREUT
57THRETO

BRW INC.
Thresher Square, 700 Third Street So.
Minneapolis, MN 55415, Phone 612/370-0708, Fax 612/370-1378

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 STATE OF MINN. STATUTES SECTION 328.02 TO 328.16.

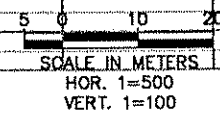
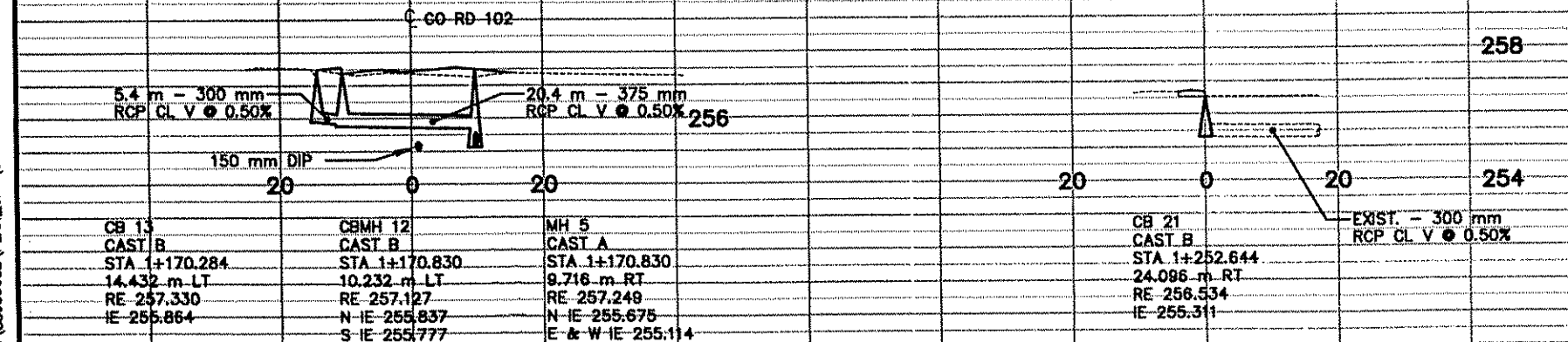
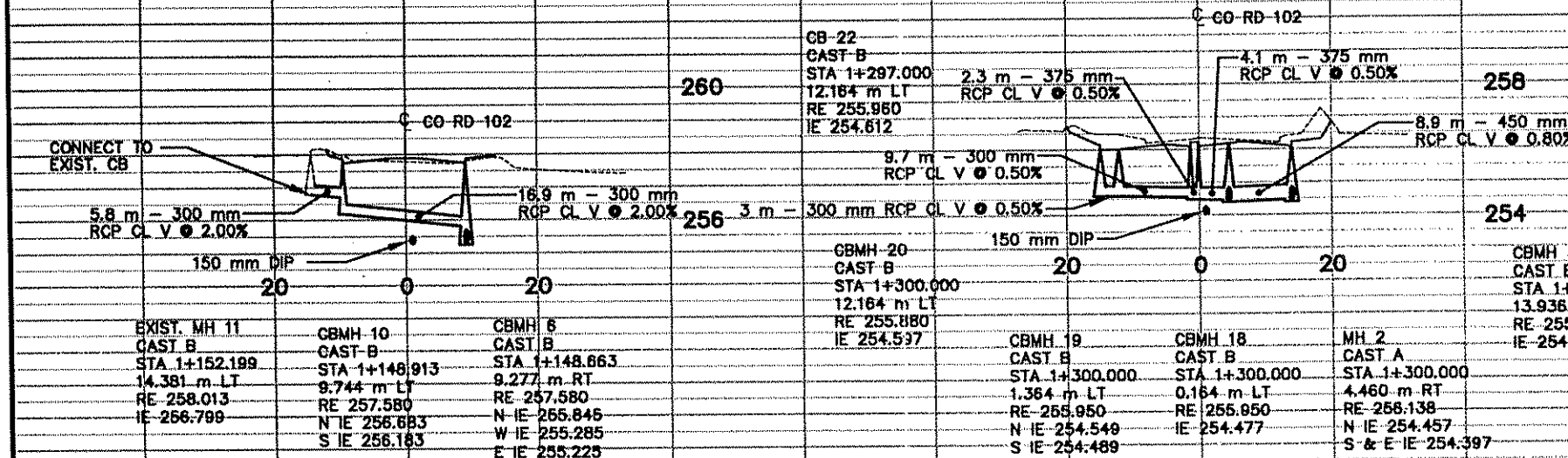
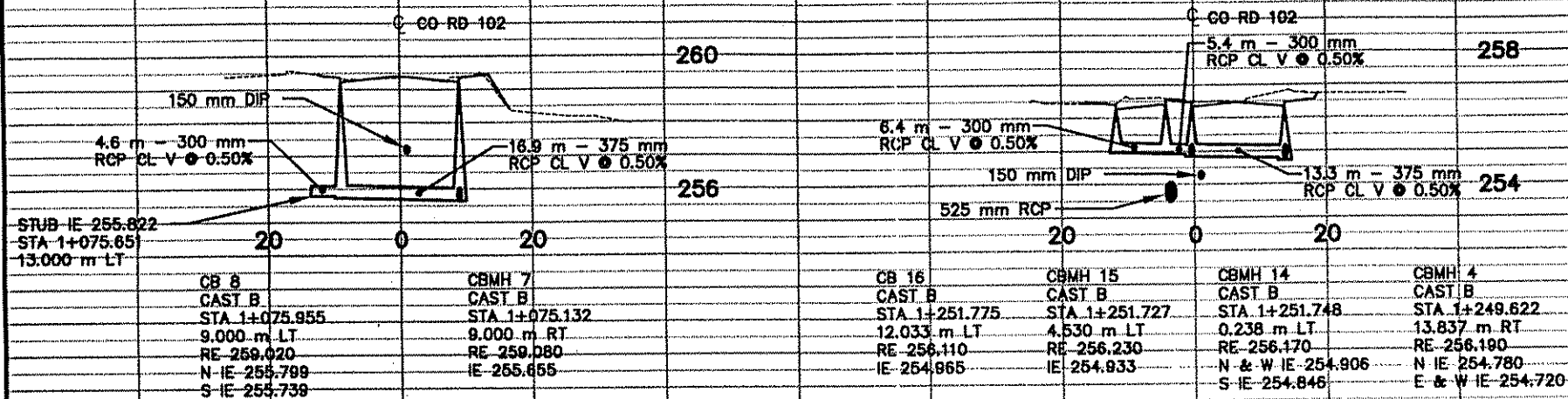
Carl E. ...
DATE: 2-19-98 MINN. REG. NO. 23197

COUNTY ROAD 102 RECONSTRUCTION
CD RD 102/57TH AVENUE N.E.
PLANNED CONSTRUCTION
STA. 1+240 TO STA. 1+450

CITY PROJECT	ST-1997-4	SHEET NO. 20
COUNTY PROJECT	97-11-102	
S.A.P.	127-010-15	45
S.A.P.	127-301-04	

DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THST01.DWG PLOT DATE: Mar 27, 1998 4:52pm

IE-256.275



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
35689-002-0101

DRAWN BY: PMJ
CHKED. BY: PBD
DATE: FEBRUARY 6, 1998

DESIGN BY: JML
DWG. NAME: 57THST01

XREF DRAWINGS

BRW
B R W INC.
Thresher Square, 700 Third Street So.
Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1878

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 STATE OF MINN. STATUTES SECTION 328.02 TO 328.18.

Paul Edward
DATE: 4-7-98 MINN. REG. NO. 23197

COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
STORM SEWER PROFILES

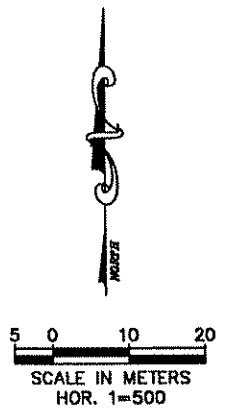
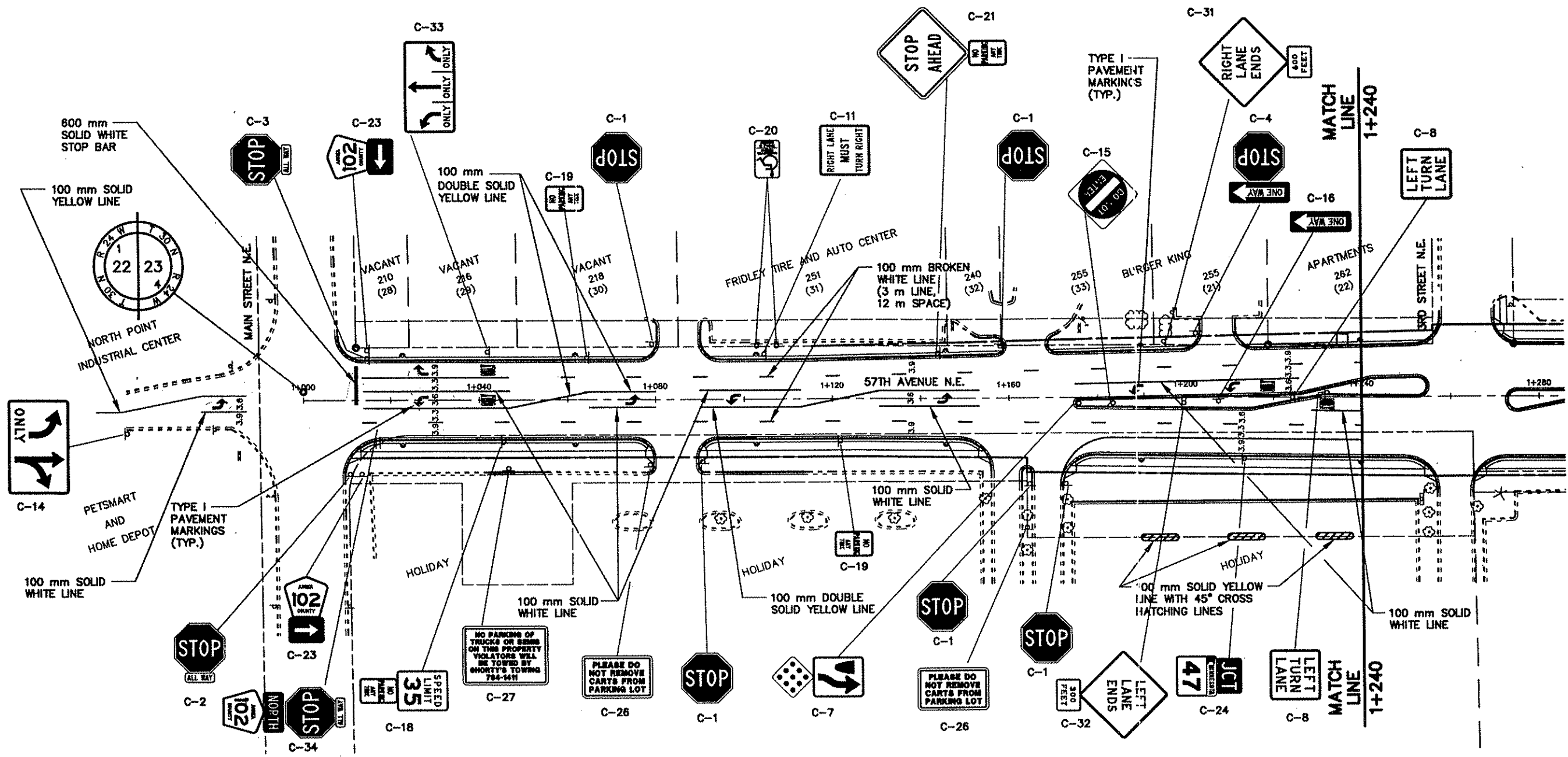
CITY PROJECT	ST-1997-4
COUNTY PROJECT	97-11-102
S.A.P.	127-010-15
S.A.P.	127-301-04

SHEET NO.
21
45



ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THSG01.DWG PLOT DATE: Apr 13, 1998 2:04pm



NOTES:

1. ALL PERMANENT STRIPING APPLIED TO PAVEMENT SHALL BE LATEX PAINT AND ALL TYPE I PAVEMENT MARKINGS SHALL BE EPOXY UNLESS OTHERWISE SPECIFIED.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101	
DRAWN BY: PMJ	DESIGN BY: JML
CHKD. BY: PBD	DWG. NAME: 57THSG01
DATE: FEBRUARY 6, 1998	

BRW
B R W INC.
 Thrasher Square, 700 Third Street So.
 Minneapolis, MN 55418, Phone 612/379-0700, Fax 612/379-1378

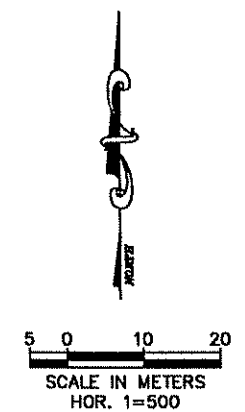
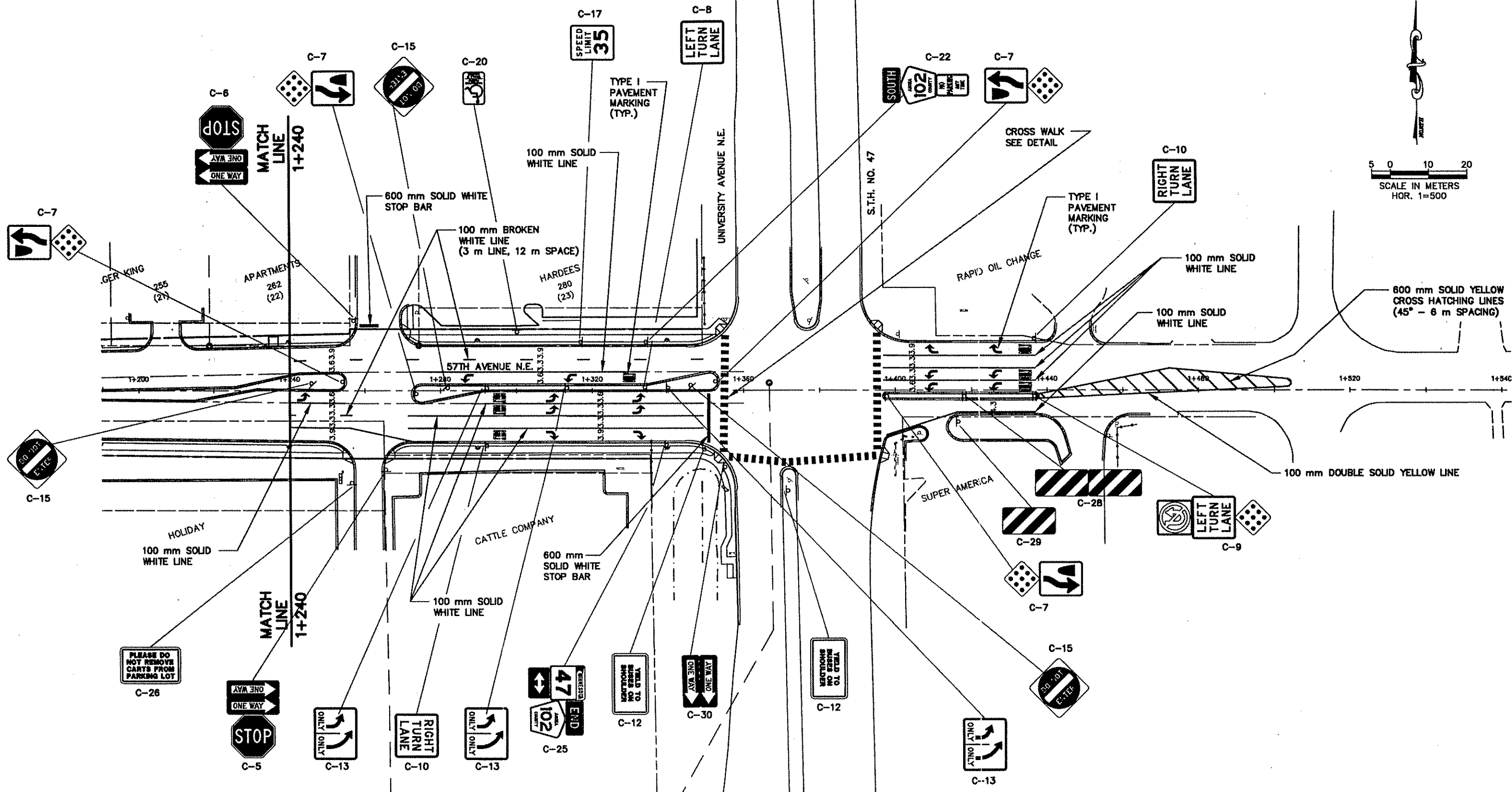
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE STATE OF MINN. STATUTES SECTION 328.02 TO 328.19.
Paul Blomquist
 DATE: 4-13-98 MINN. REG. NO. 23197

COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
SIGNAGE AND STRIPING PLAN
 STA. 1+000 TO STA 1+240

CITY PROJECT	ST-1997-4
COUNTY PROJECT	97-11-102
S.A.P.	127-010-15
S.A.P.	127-301-04

SHEET NO.
22
45

DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THSG02.DWG PLOT DATE: Apr 13, 1998 2:23pm



NOTES:

1. ALL PERMANENT STRIPING APPLIED TO PAVEMENT SHALL BE LATEX PAINT AND ALL TYPE I PAVEMENT MARKINGS SHALL BE EPOXY UNLESS OTHERWISE SPECIFIED.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101	XREF DRAWINGS 57THRPRD 57THRETO
DRAWN BY: PMJ	DESIGN BY: JML
CHKD. BY: PBD	DWG. NAME: 57THSG02
DATE: FEBRUARY 6, 1998	

BRW
B R W INC.
Thresher Square, 700 Third Street So.
Minneapolis, MN 55414, Phone 612/370-0700, Fax 612/370-1278

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 STATE OF MINN. STATUTES SECTION 328.02 TO 328.18.

Paul Schaefer
DATE: 4-13-98 MINN. REG. NO. 23197

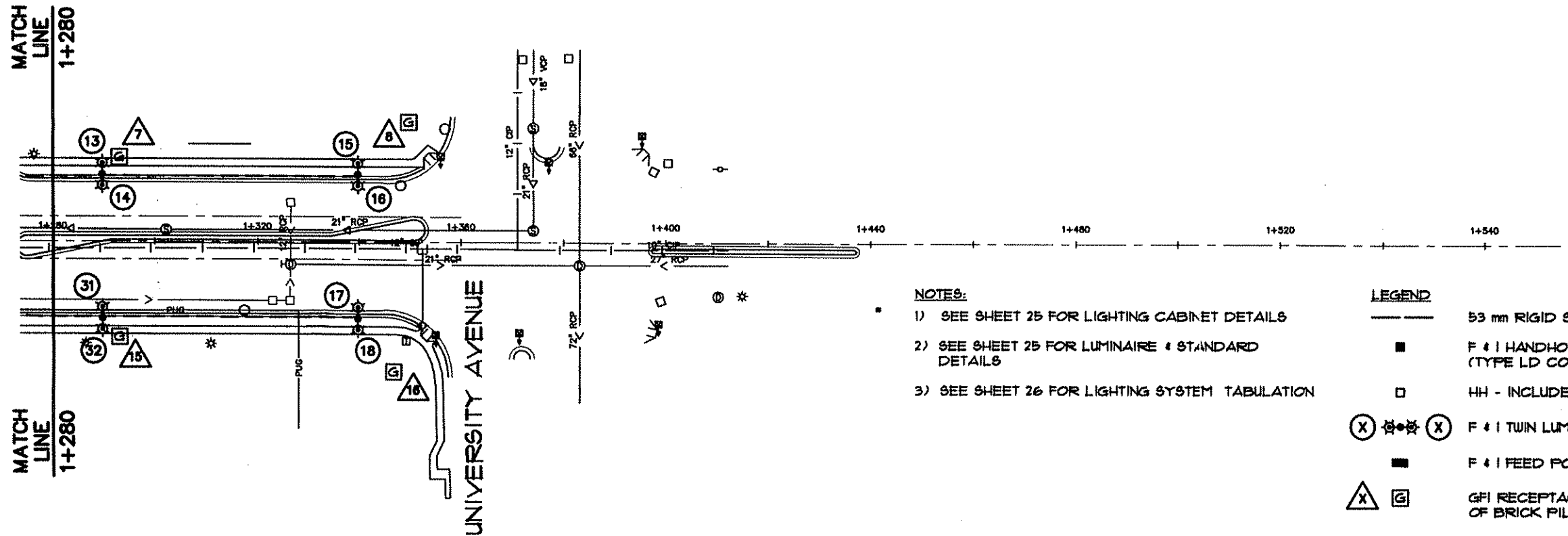
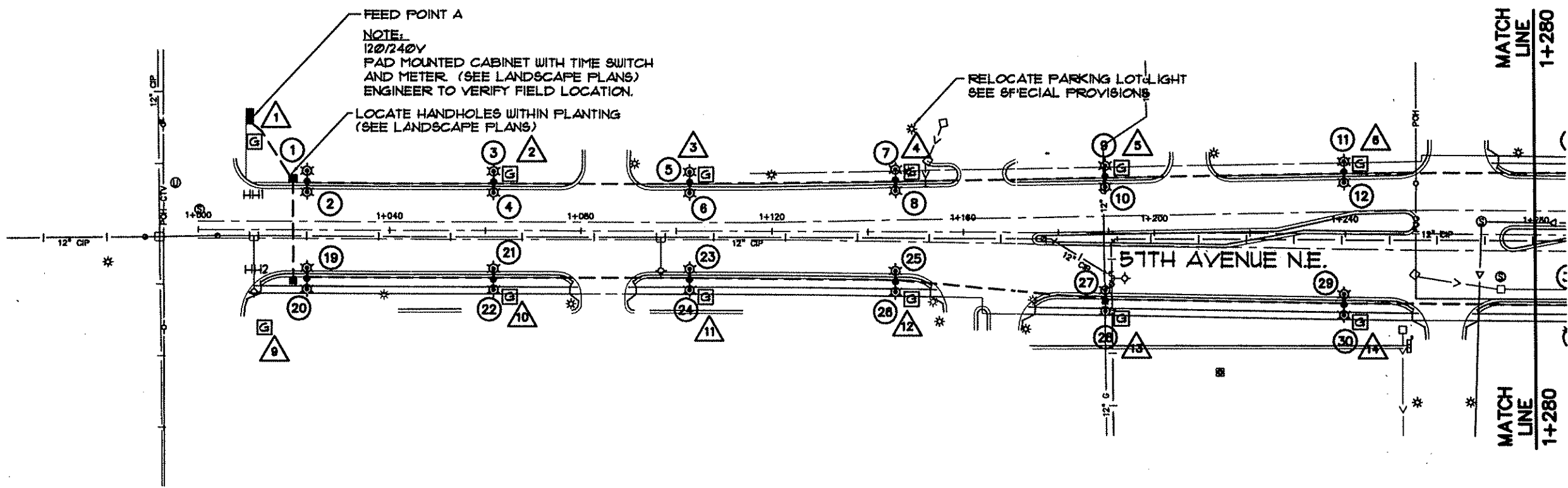
COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
SIGNAGE AND STRIPING PLAN
STA. 14240 TO STA 14470

CITY PROJECT	ST-1997-4
COUNTY PROJECT	97-11-102
S.A.P.	127-010-15
S.A.P.	127-301-04

SHEET NO.
23
45



ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.



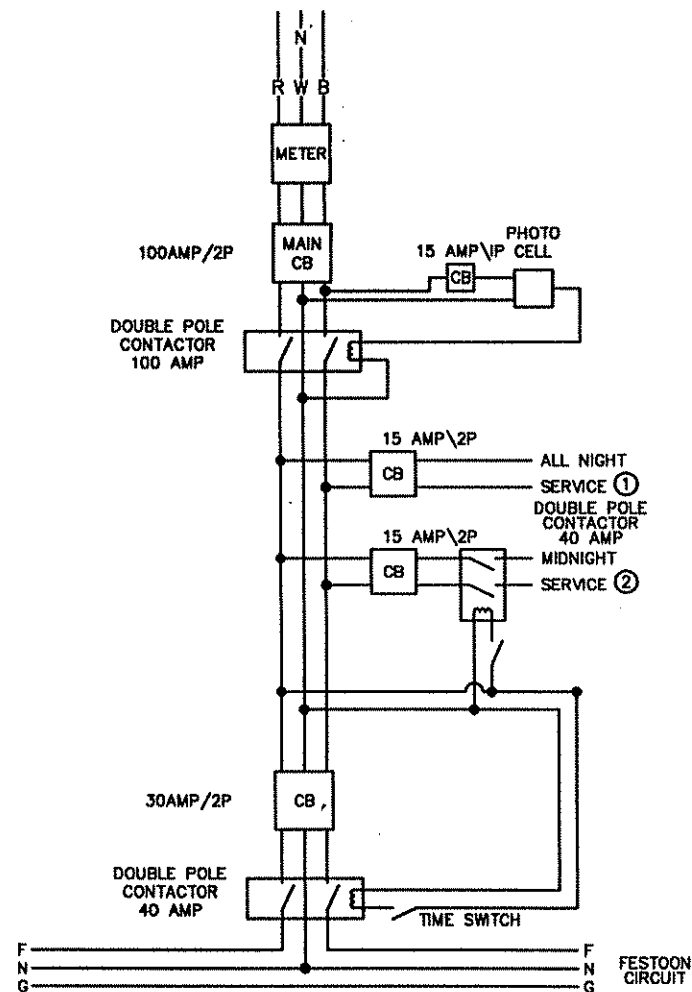
- NOTES:**
- 1) SEE SHEET 25 FOR LIGHTING CABINET DETAILS
 - 2) SEE SHEET 25 FOR LUMINAIRE & STANDARD DETAILS
 - 3) SEE SHEET 26 FOR LIGHTING SYSTEM TABULATION

- LEGEND**
- 53 mm RIGID STEEL CONDUIT-LIGHTING SYSTEMS
 - F # 1 HANDHOLE WITH LIGHTING SYSTEM (TYPE LD COVERS)
 - HH - INCLUDED IN SIGNAL SYSTEM PAY ITEM
 - (X) ⊕ ⊗ (X) F # 1 TWIN LUMINAIRE & STANDARD
 - F # 1 FEED POINT (LIGHTING CABINET)
 - △ ⊕ ⊗ G GFI RECEPTACLE-LOCATE ON OUTSIDE FACE OF BRICK PILASTER, SEE LANDSCAPE PLANS

PLOT DATE: Apr 02, 1998 8:37am DISK FILE NAME: LIGHT-1.DWG

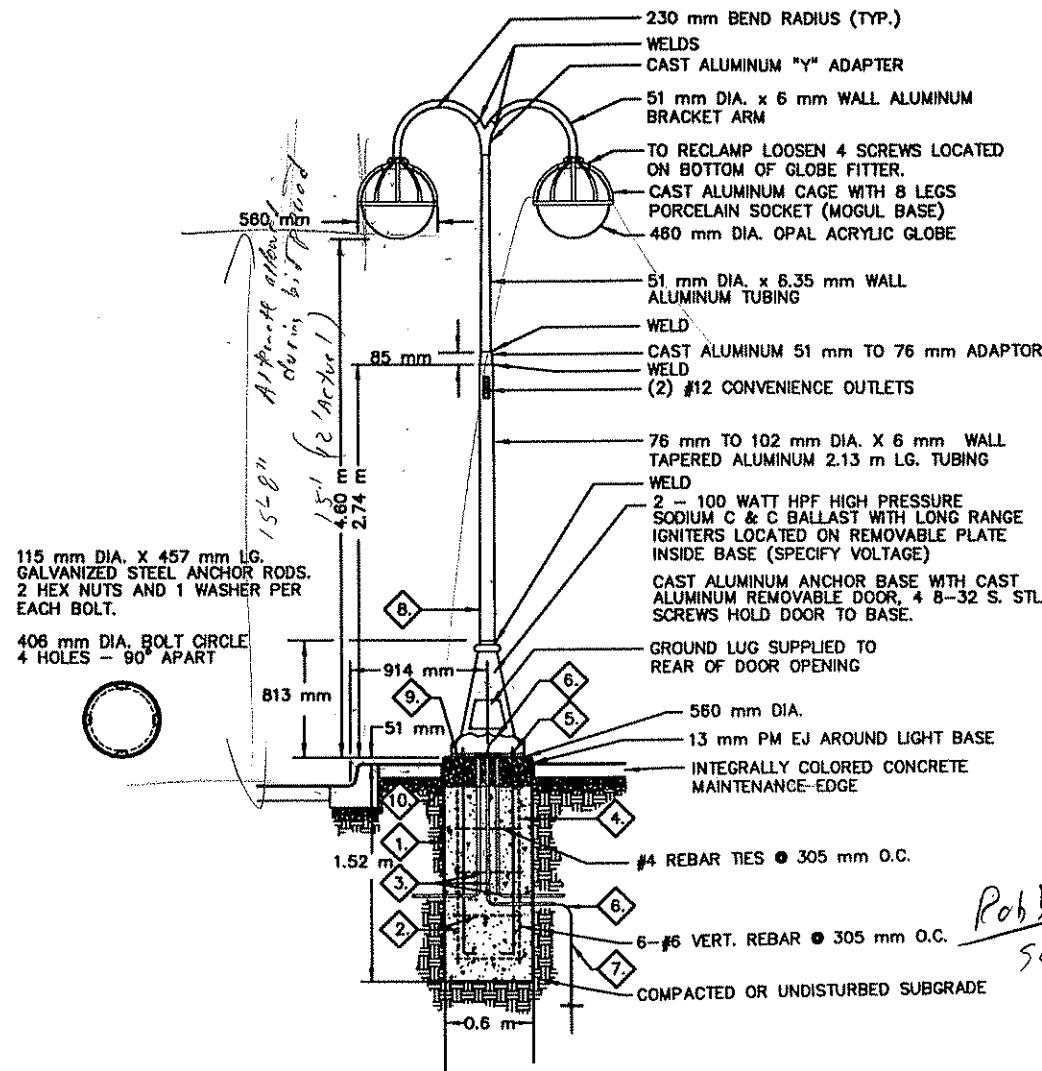
REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 35889-002-0101	XREF DRAWINGS	 B R W INC. Thresher Square, 700 Third Street So. Minneapolis, MN 55415, Phone 612/370-9700, Fax 612/370-1378	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE STATE OF MINN. STATUTES SECTION 328.02 TO 328.16. <i>Robert P. Green</i> DATE: 3/31/98 MINN. REG. NO. 22793	COUNTY ROAD 102 RECONSTRUCTION CO RD 102/57TH AVENUE N.E. LIGHTING SYSTEM LAYOUT STA. 1+000 TO STA 1+280	CITY PROJECT ST-1997-4	SHEET NO. 24
				DRAWN BY: JMB DESIGN BY: RJG CHECKED BY: RJG DWG. NAME: LIGHT-1.DWG DATE: FEBRUARY 6, 1998					57THRPD 57THREUT 57THRETO	

120/240 VOLT SERVICE



TYPICAL CIRCUIT DIAGRAM

- ① ALL NIGHT SERVICE CIRCUIT SHALL OPERATE STREET SIDE LUMINAIRES ONLY.
- ② MIDNIGHT SERVICE CIRCUIT SHALL OPERATE HOUSE SIDE LUMINAIRES ONLY.

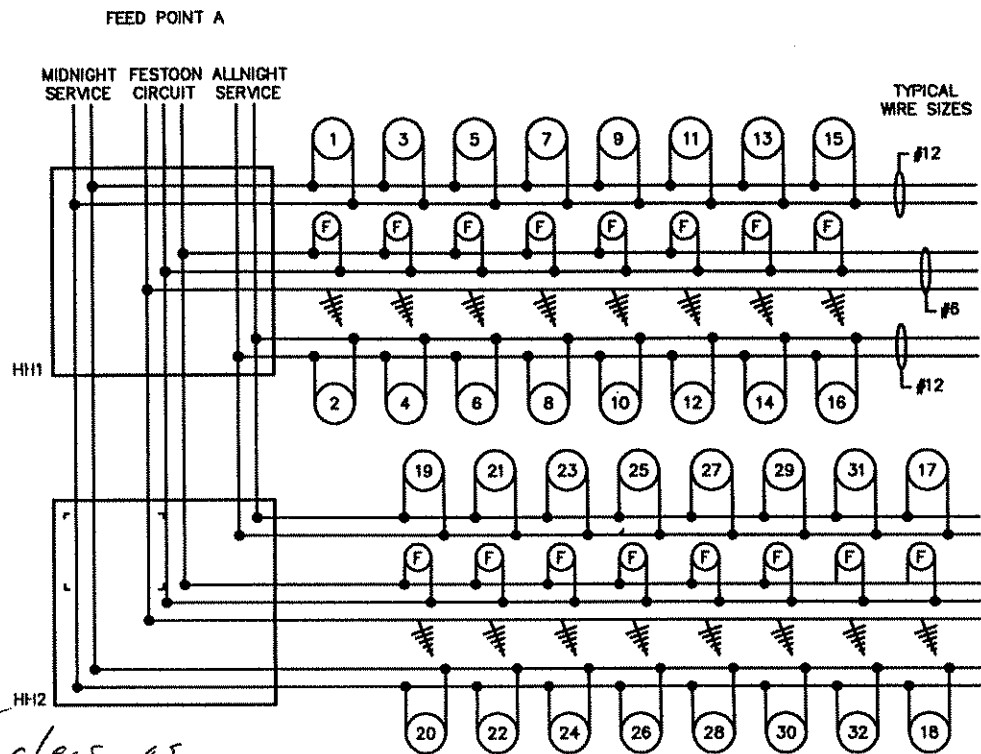


- NOTES:**
- 1. REINFORCED ROUND CONCRETE FOUNDATION BASE. CONCRETE 5-7% AIR ENTRAINED 4000 PSI. FINISH ALL CONCRETE ABOVE GRADE LEVEL AND BEVEL EDGE 45°. ALL POLE BASES PROVIDED BY ELECTRICAL CONTRACTOR.
 - 2. PROVIDE 76 mm MINIMUM COVER ON BARS AND TIES. FOOTINGS SHALL BE FORMED WHERE SOIL CONDITIONS REQUIRE.
 - 3. PROVIDE BUSHED RIGID CONDUITS SIZED AS REQUIRED FOR FEEDERS AND GROUNDING CONDUCTOR. PROVIDE CONDUIT CAP ON CONDUITS RESERVED FOR FUTURE USE.
 - 4. ANCHOR BOLT ASSEMBLY TO BE PROVIDED BY POLE MFG. INSTALL ACCORDING TO MFG. TEMPLATE.
 - 5. PROVIDE DOUBLE ANCHOR BOLT NUTS ABOVE AND BELOW POLE BASE. ADJUST TO PLUMB POLE.
 - 6. #2 COPPER GROUNDING CONDUCTOR. CONNECT TO POLE GROUNDING LUG AND DRIVEN GROUNDING ROD.
 - 7. 16 mm X 3.05 m COPPER WELD GROUND ROD. TOP OF ROD 13 mm MINIMUM BELOW GRADE.
 - 8. LIGHTING UNIT: 2 LIGHT H.I.D. MULTIPLE POST LANTERN BY HANOVER LANTERN, DWG. NO. L53131 OR APPROVED EQUAL. POLE AND FITTINGS TO BE ALUMINUM WITH DARK BRONZE FINISH COLOR.
 - 9. DO NOT GROUT BETWEEN BASE PLATE AND FOUNDATION ON H & T BASE. USE SHRINKPROOF GROUT ON BASE. FURNISH BASE COVER FOR POLE ON A BASE POLES.
 - 10. EXPOSED PORTION TO 13 mm BELOW GRADE TO BE AN INTEGRALLY COLORED CONCRETE POURED ON TOP OF WET STD. CONCRETE BASE.

TYPICAL LIGHTING UNIT

NO SCALE

NOTE:
CONDUIT AND WIRES BETWEEN LIGHTS AND OTHER FIXTURES SHALL BE NO MORE THAN 300mm BEHIND BACK OF CONCRETE EDGE.



Robb U. same clear as a signal 16' vertical or 1.5' Horiz

PLOT DATE: Apr 02, 1998 8:29am DISK FILE NAME: DET-2.DWG

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101	XREF DRAWINGS
DRAWN BY: JMB	DESIGN BY: RJG
CHECKED BY: RGJ	DWG. NAME: DET-2.DWG
DATE: FEBRUARY 6, 1998	

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Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1578

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Robert J. Brown
DATE: 3/31/98 MINN. REG. NO. 22793

COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
TYPICAL LIGHTING UNIT & CIRCUIT



ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

CITY PROJECT	ST-1997-4
COUNTY PROJECT	97-11-102
S.A.P.	127-010-15
S.A.P.	127-301-04

SHEET NO.

25

45

ELECTRIC LIGHTING SYSTEM "A"
120/240 V FEED POINT A

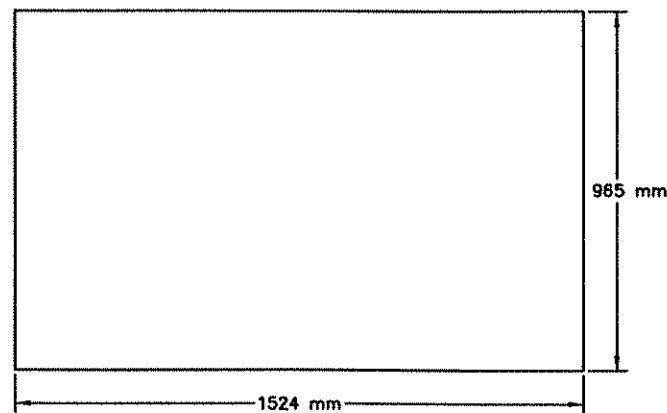
LUMINAIRE AND STANDARD LOCATION				
NO.	STATION	LT.	RT.	TYPE
1	1+022.75	10.1 m		C
2	1+022.75	10.1 m		C
3	1+022.75	10.1 m		C
4	1+102.75	10.1 m		C
5	1+102.75	10.1 m		C
6	1+102.75	10.1 m		C
7	1+145.75	10.8 m		C
8	1+145.75	10.8 m		C
9	1+189.75	11.8 m		C
10	1+189.75	11.8 m		C
11	1+239.75	12.9 m		C
12	1+239.75	12.9 m		C
13	1+289.75	13.3 m		C
14	1+289.75	13.3 m		C
15	1+339.75	13.3 m		C
16	1+339.75	13.3 m		C
17	1+339.75		15.1 m	C
18	1+339.75		15.1 m	C
19	1+022.75		10.1 m	C
20	1+022.75		10.1 m	C
21	1+061.75		10.1 m	C
22	1+061.75		10.1 m	C
23	1+102.75		10.1 m	C
24	1+102.75		10.1 m	C
25	1+145.75		10.4 m	C
26	1+145.75		10.4 m	C
27	1+189.75		14.2 m	C
28	1+189.75		14.2 m	C
29	1+239.75		14.8 m	C
30	1+239.75		14.8 m	C
31	1+289.75		15.1 m	C
32	1+289.75		15.1 m	C

GFI RECEPTACLE			
NO.	STATION	LT.	RT.
1	1+011.76	18.31m	
2	1+065.15	11.76m	
3	1+106.15	11.76m	
4	1+149.13	12.52m	
5	1+193.16	13.50m	
6	1+243.15	14.60m	
7	1+293.14	16.67m	
8	1+349.79	23.66m	
9	1+013.87		20.39m
10	1+065.14		13.74m
11	1+106.14		13.73m
12	1+149.13		14.01m
13	1+193.15		17.87m
14	1+243.10		18.49m
15	1+293.14		18.68m
16	1+346.77		25.44m

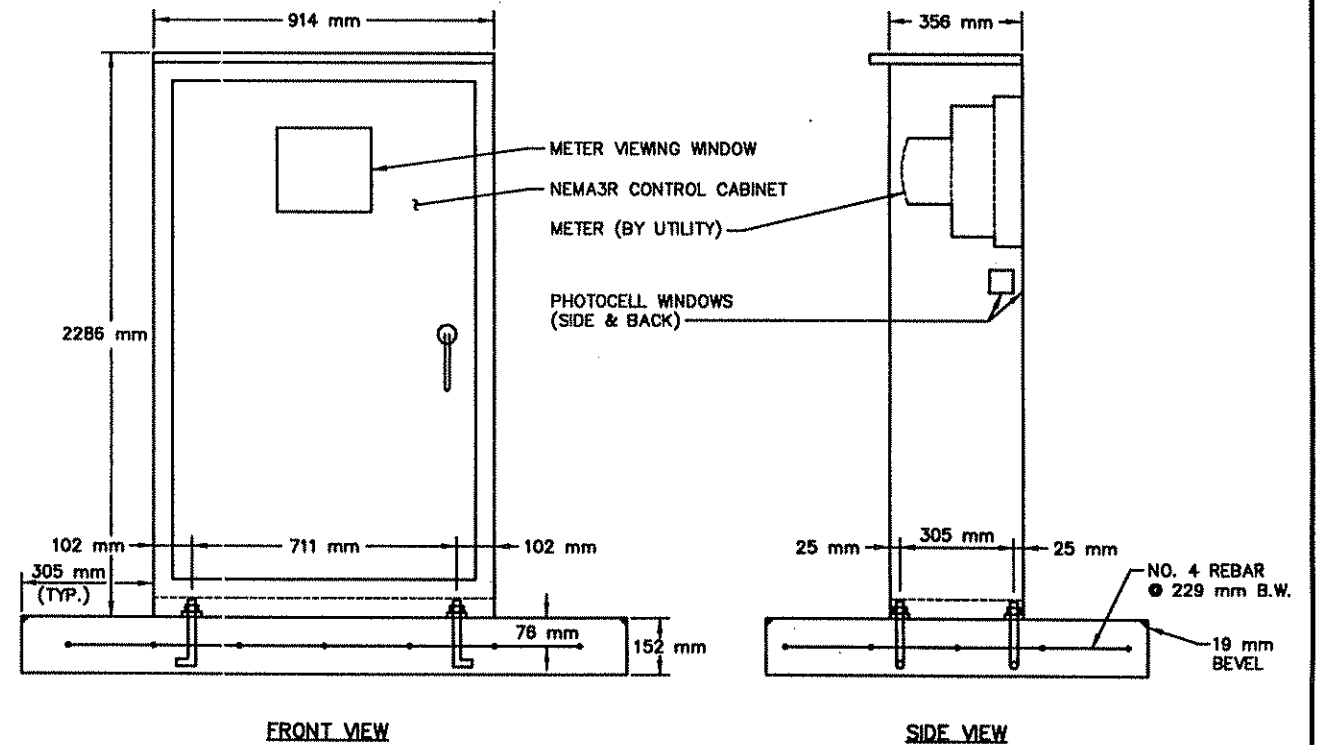
NOTES:

TYPE C LUMINAIRES SHALL BE 100 WATT, 240 VOLT SODIUM VAPOR LIGHTS. SEE SPECIAL PROVISIONS FOR COMPLETE SPECIFICATION.

TYPE D LUMINAIRES SHALL BE TYPE C LUMINAIRES EQUIPPED WITH A HOUSE SIDE SHIELD.



CABINET PAD DIMENSIONS



FRONT VIEW

SIDE VIEW

LIGHTING CONTROL CABINET

PLOT DATE: Apr 02, 1998 8:26am DISK FILE NAME: DET-1.DWG

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35889-002-0101	
DRAWN BY: JMB	DESIGN BY: R.JG
CHKD. BY: RGJ	DWG. NAME: DET-1.DWG
DATE: FEBRUARY 2, 1998	

XREF DRAWINGS

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B R W INC.
Thresher Square, 700 Third Street So.
Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1378

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Robert J. Gorn
DATE: 2/2/98 MINN. REG. NO. 22793

COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
LIGHTING DETAILS

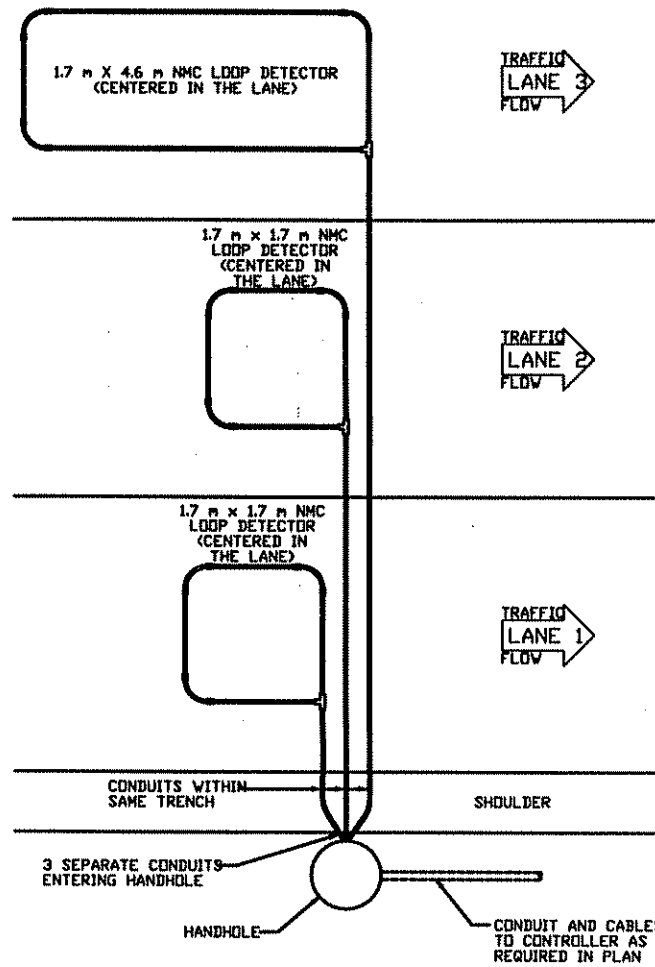
CITY PROJECT	ST-1997-4
COUNTY PROJECT	97-11-102
S.P.	127-010-15
S.A.P.	127-301-04

SHEET NO.	26
45	



ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

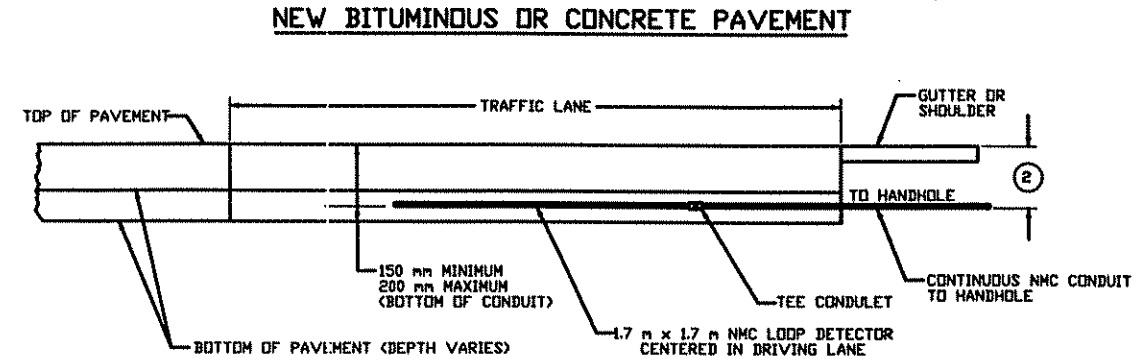
TYPICAL NMC LOOP DETECTOR LAYOUT



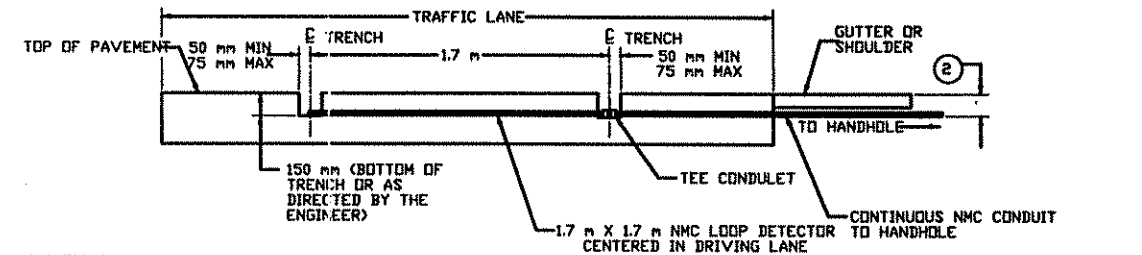
GENERAL NOTES:

1. SEE SPECIAL PROVISIONS FOR REQUIRED LOOP DETECTOR CONDUCTORS AND SPLICE KITS.
2. THE 21 mm NON-METALLIC CONDUIT (NMC) AND FITTINGS SHALL BE SCHEDULE 40 HEAVY WALL RIGID POLYVINYL CHLORIDE (PVC). SEE SPEC. 3803.
3. THREE CORNERS OF EACH LOOP DETECTOR SHALL BE A 90° FACTORY ELBOW (150 mm RADIUS). THE FOURTH SHALL BE A NMC TEE CONDULET.
4. APPROVED PVC PRIMER AND CEMENT SHALL BE USED FOR THE PVC JOINTS.
5. ALL SLACK MUST BE REMOVED FROM LOOP DETECTOR CONDUCTORS WITHIN THE NMC.
6. THE LOOP DETECTOR ROADWAY CONDUCTORS (1/C#14) SHALL BE TWISTED NINE TURNS PER METER FROM THE NMC TEE CONDULET TO THE HANDHOLE.
7. ATTACH A FERROUS METAL ITEM TO THE INTERIOR OF THE TEE CONDULET COVER.
8. EACH LOOP DETECTOR CONDUIT TO THE HANDHOLE SHALL BE SLOPED TOWARDS THE HANDHOLE.
9. LOOP DETECTOR CONDUITS TO THE HANDHOLE MAY BE PLACED WITHIN THE SAME TRENCH.
10. THE LOOP DETECTOR ROADWAY CONDUCTORS SHALL END IN THE HANDHOLE.
11. NO SPLICES ALLOWED IN CONDUIT TO TEE CONDUIT.
12. THE LOOP DETECTOR ROADWAY CONDUCTORS AND THE LOOP DETECTOR LEAD-IN CABLE CONDUCTORS SHALL BE PROPERLY PREPARED AND CLEANED BEFORE SPLICING.
13. SPLICE KITS SHALL BE INSTALLED IN HANDHOLES IN SUCH A MANNER AS TO ENSURE THAT EACH SPLICE KIT IS SUSPENDED AND/OR SECURED NEAR THE TOP OF THE HANDHOLE TO THE SATISFACTION OF THE ENGINEER. (PLACING SPLICE KITS ON TOP OF THE ELECTRICAL CABLES AND CONDUCTORS IS NOT ACCEPTABLE.)
14. TYPICAL SIZE OF LOOP DETECTORS ARE 1.7 m x 1.7 m, 1.7 m x 3.0 m, 1.7 m x 4.6 m AND 1.7 m x 6.1 m. REFER TO INTERSECTION LAYOUT FOR SPECIFIC LOOP DETECTORS TO BE PLACED.
15. ALL LOOP DETECTORS SHALL HAVE 4 TURNS OF CONDUCTORS.

TYPICAL NMC LOOP DETECTOR INSTALLATION



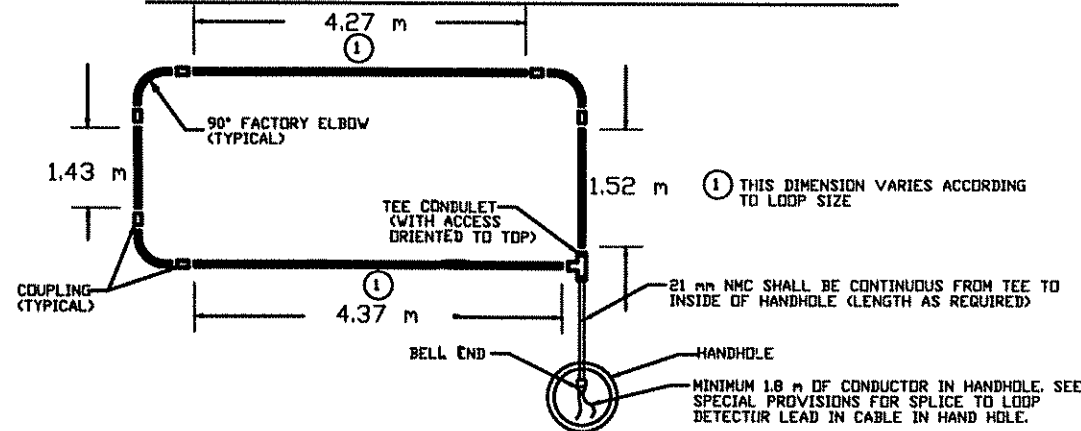
INPLACE BITUMINOUS PAVEMENT



NOTES:

1. USE THE ACTUAL LOOP DETECTOR TO BE PLACED FOR MARKING THE PAVEMENT FOR MILLING LOCATION.
2. MILL PAST THE CENTER OF THE CONDUIT TO BE PLACED.
3. ACHIEVE A MINIMUM 50 mm VERTICAL EDGE ON ALL CUTS.
4. AN AIR COMPRESSOR UNIT (50 HP) IS REQUIRED FOR REMOVING ALL LOOSE MATERIAL FROM TRENCH PRIOR TO TACK COAT APPLICATION.
5. APPLY A TACK COAT AT A UNIFORM RATE TO THE BOTTOM AND EDGES OF THE MILLED AREA USE A EMULSIFIED ASPHALT PER SPEC. 2357.2A
6. USE MIXTURE TYPE 41 WEARING COURSE (TYPE 41WEAS0055) TO BACKFILL THE TRENCH. OTHER WEARING COURSE MIXTURE TYPES ARE ALLOWED WHEN APPROVED BY ENGINEER. (AGGREGATE SIZE 'A' IS REQUIRED).
7. THE USE OF PETROLEUM DISTILLATES AS AN ANTI-ADHESIVE AGENT IS NOT ALLOWED. REFER TO MN/DOT TECH. MEMO NO. 94-16-MRE-05 DATED 3/10/94 FOR ADDITIONAL INFORMATION.
8. COMPACTION SHALL BE OBTAINED BY THE ORDINARY COMPACTION METHOD. BACKFILL THE TRENCH WITH A MINIMUM OF TWO LIFTS AND COMPACT EACH LIFT. BEFORE COMPACTING THE FIRST LIFT ENSURE THAT THERE IS ADEQUATE MIXTURE ON EACH SIDE AND ABOVE THE CONDUIT SO THAT THE CONDUIT IS NOT DAMAGED DURING COMPACTION OPERATIONS.
9. THE COMPACTED MIXTURE IN THE TRENCH SHOULD BE LEFT 6 mm TO 12 mm ABOVE THE ADJACENT PAVEMENT SURFACE TO PROVIDE FOR ADDITIONAL COMPACTION BY TRAFFIC.
10. APPLY A BITUMINOUS FOG SEAL ON THE NEWLY COMPACTED MIXTURE TO PROVIDE AN ADDITIONAL SURFACE SEAL (EMULSIFIED ASPHALT 2355.2A). DRY SAND SHALL BE SPREAD ON THE FOG SEAL TO PREVENT MATERIAL PICKUP AND TRACKING.

TYPICAL NMC LOOP DETECTOR DETAIL- (1.7 m X 4.6 m LOOP)



PLOT DATE: 3-30-98

DISK FILE NAME: NMCLOOP.DWG

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689	
DRAWN BY: JMB/JAS	DESIGN BY: RJG
CHECKED BY: RJG	DWG. NAME: LAYOUT
DATE: JAN. XX, 1998	

XREF DRAWINGS

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B R W INC.
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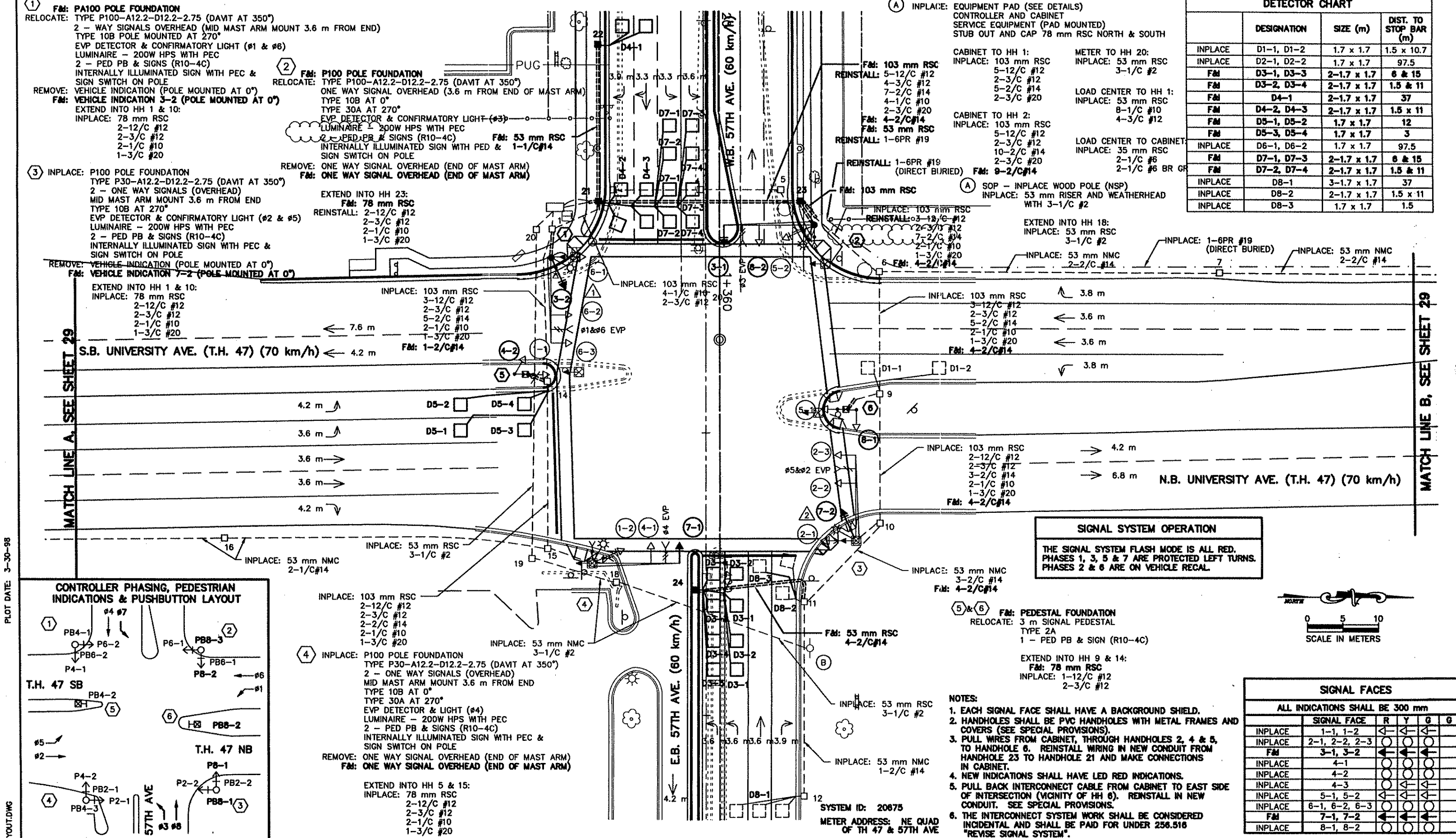
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Robert J. Brun
DATE: 3/20/98 MINN. REG. NO. 22793

COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
SIGNAL DETAILS

CITY PROJECT	ST-1997-4	SHEET NO. 27
COUNTY PROJECT	97-11-102	
S.P.	127-010-15	45
S.A.P.	127-301-04	

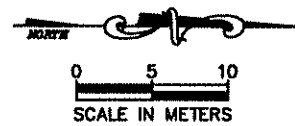


ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.



DETECTOR CHART			
	DESIGNATION	SIZE (m)	DIST. TO STOP BAR (m)
INPLACE	D1-1, D1-2	1.7 x 1.7	1.5 x 10.7
INPLACE	D2-1, D2-2	1.7 x 1.7	97.5
F&M	D3-1, D3-3	2-1.7 x 1.7	6 & 15
F&M	D3-2, D3-4	2-1.7 x 1.7	1.5 & 11
F&M	D4-1	2-1.7 x 1.7	37
F&M	D4-2, D4-3	2-1.7 x 1.7	1.5 x 11
F&M	D5-1, D5-2	1.7 x 1.7	12
F&M	D5-3, D5-4	1.7 x 1.7	3
INPLACE	D6-1, D6-2	1.7 x 1.7	97.5
F&M	D7-1, D7-3	2-1.7 x 1.7	6 & 15
F&M	D7-2, D7-4	2-1.7 x 1.7	1.5 & 11
INPLACE	D8-1	3-1.7 x 1.7	37
INPLACE	D8-2	2-1.7 x 1.7	1.5 x 11
INPLACE	D8-3	1.7 x 1.7	1.5

SIGNAL SYSTEM OPERATION
 THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
 PHASES 1, 3, 5 & 7 ARE PROTECTED LEFT TURNS.
 PHASES 2 & 6 ARE ON VEHICLE RECAL.



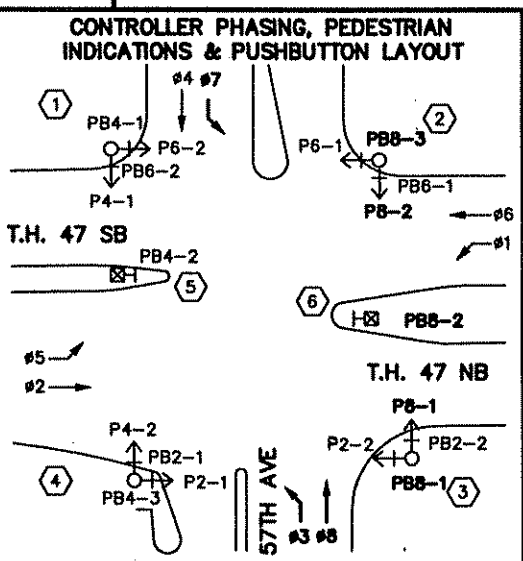
SIGNAL FACES				
ALL INDICATIONS SHALL BE 300 mm				
	SIGNAL FACE	R	Y	G
INPLACE	1-1, 1-2	←	←	←
INPLACE	2-1, 2-2, 2-3	○	○	○
F&M	3-1, 3-2	←	←	←
INPLACE	4-1	○	○	○
INPLACE	4-2	○	○	○
INPLACE	4-3	○	○	○
INPLACE	5-1, 5-2	←	←	←
INPLACE	6-1, 6-2, 6-3	○	○	○
F&M	7-1, 7-2	←	←	←
INPLACE	8-1, 8-2	○	○	○

- NOTES:**
- EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
 - HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS (SEE SPECIAL PROVISIONS).
 - PULL WIRES FROM CABINET, THROUGH HANDHOLES 2, 4 & 5, TO HANDHOLE 6. REINSTALL WIRING IN NEW CONDUIT FROM HANDHOLE 23 TO HANDHOLE 21 AND MAKE CONNECTIONS IN CABINET.
 - NEW INDICATIONS SHALL HAVE LED RED INDICATIONS.
 - PULL BACK INTERCONNECT CABLE FROM CABINET TO EAST SIDE OF INTERSECTION (VICINITY OF HH 6). REINSTALL IN NEW CONDUIT. SEE SPECIAL PROVISIONS.
 - THE INTERCONNECT SYSTEM WORK SHALL BE CONSIDERED INCIDENTAL AND SHALL BE PAID FOR UNDER 256.516 "REVISE SIGNAL SYSTEM".

① **F&M: P100 POLE FOUNDATION**
 RELOCATE: TYPE P100-A12.2-D12.2-2.75 (DAVIT AT 350°)
 2 - WAY SIGNALS OVERHEAD (MID MAST ARM MOUNT 3.6 m FROM END)
 TYPE 10B POLE MOUNTED AT 270°
 EVP DETECTOR & CONFIRMATORY LIGHT (#1 & #6)
 LUMINAIRE - 200W HPS WITH PEC
 2 - PED PB & SIGNS (R10-4C)
 INTERNALLY ILLUMINATED SIGN WITH PEC & SIGN SWITCH ON POLE
 REMOVE: VEHICLE INDICATION (POLE MOUNTED AT 0°)
F&M: VEHICLE INDICATION 3-2 (POLE MOUNTED AT 0°)
 EXTEND INTO HH 1 & 10:
 INPLACE: 78 mm RSC
 2-12/C #12
 2-3/C #12
 2-1/C #10
 1-3/C #20

② **F&M: P100 POLE FOUNDATION**
 RELOCATE: TYPE P100-A12.2-D12.2-2.75 (DAVIT AT 350°)
 ONE WAY SIGNAL OVERHEAD (3.6 m FROM END OF MAST ARM)
 TYPE 10B AT 0°
 TYPE 30A AT 270°
 EVP DETECTOR & CONFIRMATORY LIGHT (#3)
 LUMINAIRE - 200W HPS WITH PEC
 2 - PED PB & SIGNS (R10-4C)
 INTERNALLY ILLUMINATED SIGN WITH PED & SIGN SWITCH ON POLE
 REMOVE: ONE WAY SIGNAL OVERHEAD (END OF MAST ARM)
F&M: ONE WAY SIGNAL OVERHEAD (END OF MAST ARM)
 EXTEND INTO HH 23:
F&M: 78 mm RSC
 REINSTALL: 2-12/C #12
 2-3/C #12
 2-1/C #10
 1-3/C #20

③ **INPLACE: P100 POLE FOUNDATION**
 TYPE P30-A12.2-D12.2-2.75 (DAVIT AT 350°)
 2 - ONE WAY SIGNALS (OVERHEAD)
 MID MAST ARM MOUNT 3.6 m FROM END
 TYPE 10B AT 270°
 EVP DETECTOR & CONFIRMATORY LIGHT (#2 & #5)
 LUMINAIRE - 200W HPS WITH PEC
 2 - PED PB & SIGNS (R10-4C)
 INTERNALLY ILLUMINATED SIGN WITH PEC & SIGN SWITCH ON POLE
 REMOVE: VEHICLE INDICATION (POLE MOUNTED AT 0°)
F&M: VEHICLE INDICATION 7-2 (POLE MOUNTED AT 0°)
 EXTEND INTO HH 1 & 10:
 INPLACE: 78 mm RSC
 2-12/C #12
 2-3/C #12
 2-1/C #10
 1-3/C #20



④ **INPLACE: P100 POLE FOUNDATION**
 TYPE P30-A12.2-D12.2-2.75 (DAVIT AT 350°)
 2 - ONE WAY SIGNALS (OVERHEAD)
 MID MAST ARM MOUNT 3.6 m FROM END
 TYPE 10B AT 0°
 TYPE 30A AT 270°
 EVP DETECTOR & LIGHT (#4)
 LUMINAIRE - 200W HPS WITH PEC
 2 - PED PB & SIGNS (R10-4C)
 INTERNALLY ILLUMINATED SIGN WITH PEC & SIGN SWITCH ON POLE
 REMOVE: ONE WAY SIGNAL OVERHEAD (END OF MAST ARM)
F&M: ONE WAY SIGNAL OVERHEAD (END OF MAST ARM)
 EXTEND INTO HH 5 & 15:
 INPLACE: 78 mm RSC
 2-12/C #12
 2-3/C #12
 2-1/C #10
 1-3/C #20

PLOT DATE: 3-30-98
 DISK FILE NAME: LAYOUT.DWG

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	XREF DRAWINGS
35689	57THRPD 57THREU 57THRETO
DRAWN BY: JAS	DESIGN BY: RJG
CHECKED BY: RJG	DWG. NAME: LAYOUT
DATE: JAN. XX, 1998	

BRW
 B R W INC.
 Thrasher Square, 700 Third Street So.
 Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1378

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 STATE OF MINN. STATUTES SECTION 328.02 TO 328.16.
Robert J. Green
 DATE: 3/31/98 MINN. REG. NO. 22793

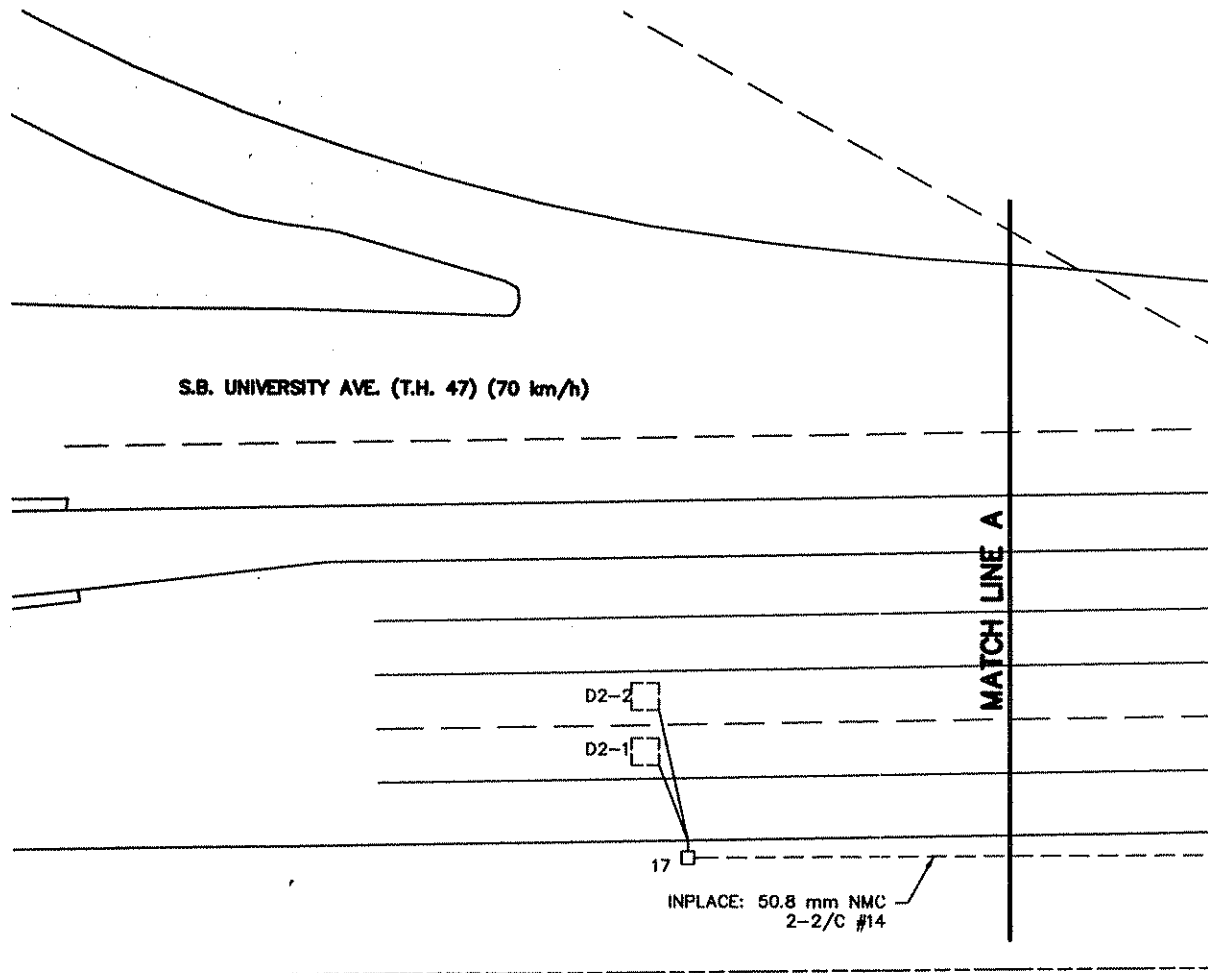
COUNTY ROAD 102 RECONSTRUCTION
 CO RD 102/57TH AVENUE N.E.
 INTERSECTION LAYOUT
 TH 47 (UNIVERSITY AVENUE) AND 57TH AVENUE

CITY PROJECT	ST-1997-4	SHEET NO.
COUNTY PROJECT	97-11-102	28
S.P.	127-010-15	
S.A.P.	127-301-04	

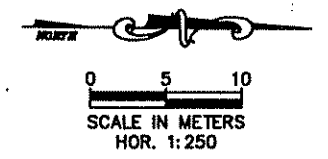
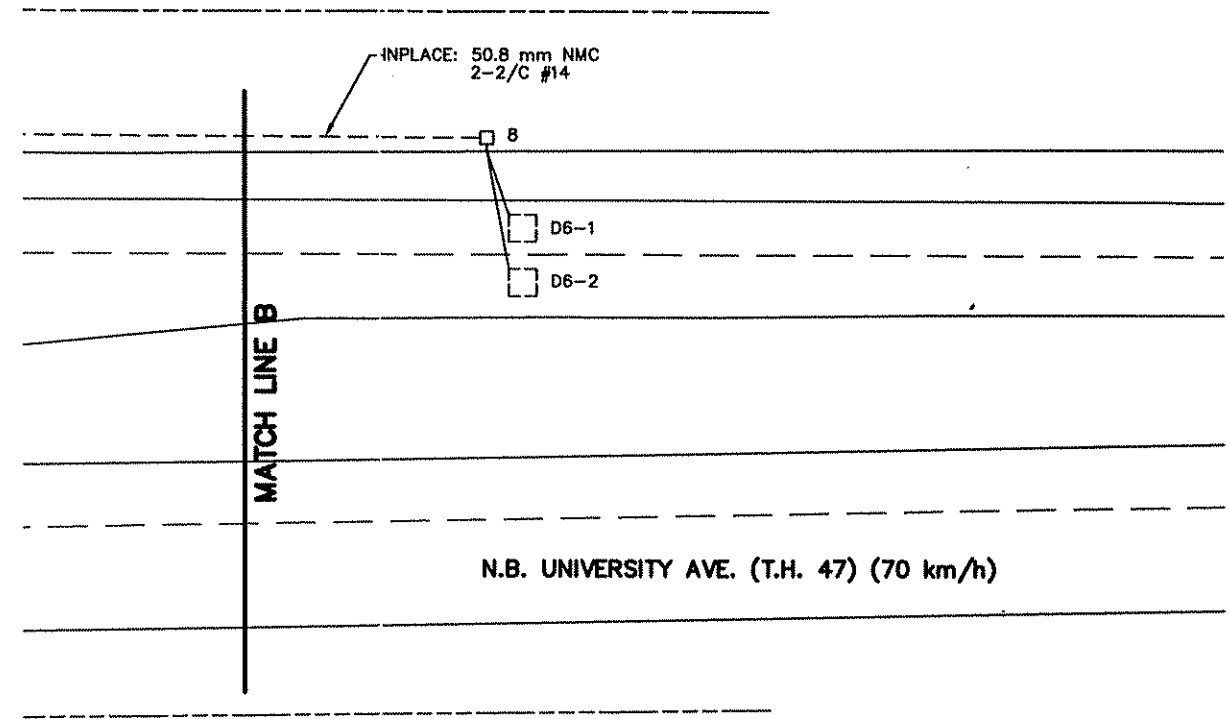
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PLOT DATE: 3-30-98

DISK FILE NAME: LAYOUT2.DWG



SEE SHEET 28



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689	
DRAWN BY: JAS	DESIGN BY: R.JG
CHECKED BY: R.JG	DWG. NAME: LAYOUT
DATE: JAN. XX, 1998	

XREF DRAWINGS
57THRPRD 57THREUT 57THRETO

B R W
INC.
Thresher Square, 700 Third Street So.
Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1378

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Robert J. Inman
DATE: 3/31/98 MINN. REG. NO. 22793

COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
INTERSECTION LAYOUT MATCHLINES
UNIVERSITY AVENUE AND 57TH AVENUE

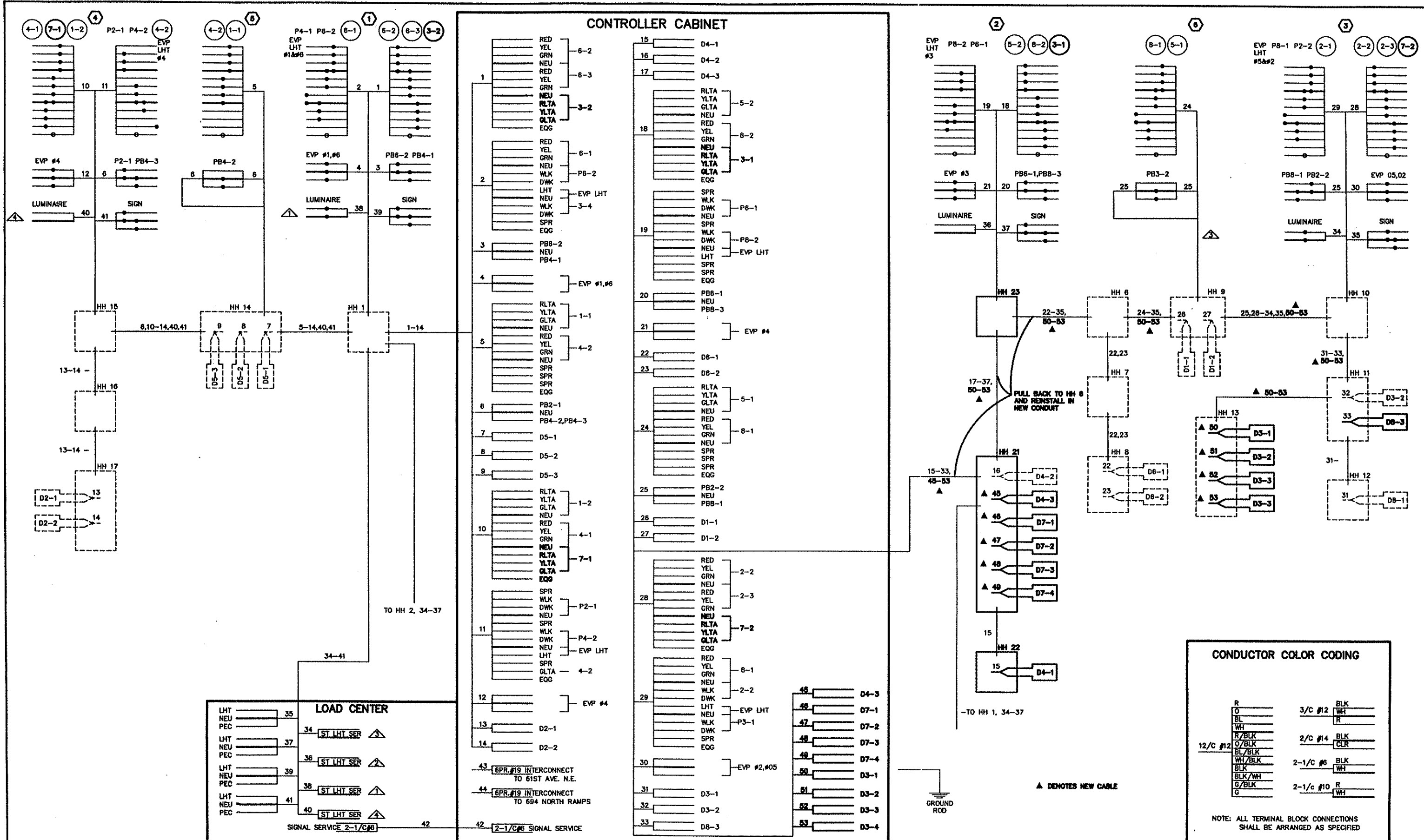
CITY PROJECT	ST-1997-4
COUNTY PROJECT	97-11-102
S.P.	127-010-15
S.A.P.	127-301-04

SHEET NO.
29
45

ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

3-30-88

WIRING.DWG



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:	35689
DRAWN BY:	JMB/JAS
DESIGN BY:	RJG
CHECKED BY:	RJG
DWG. NAME:	LAYOUT
DATE:	JAN. XX, 1988

XREF DRAWINGS	57THRPRD
	57THREU
	57THRETO

B R W

B R W INC.
 Thresher Square, 700 Third Street So.
 Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1378

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Robert J. Inman
 DATE: 3/8/88 MINN. REG. NO. 22793

COUNTY ROAD 102 RECONSTRUCTION
 CO RD 102/57TH AVENUE N.E.
 FIELD WIRING DIAGRAM
 UNIVERSITY AVENUE AND 57TH AVENUE

CITY PROJECT	ST-1997-4	SHEET NO.	30
COUNTY PROJECT	97-11-102		
S.P.	127-010-15		
S.A.P.	127-301-04		

45

- ① AND ③ P100 POLE FOUNDATION
TYPE P100-A40-D40-9 (DAVIT AT 350°)
LUM - 200W HPS WITH PEC - EVP DETECTOR AND LIGHT
2 - ONE WAY SIGNALS (OVERHEAD)
MID MAST ARM MOUNT 12' FROM END
2 - TYPE 10B AT 0° & 270°
2 - PED PB & SIGNS (R10 - 4C)
EXTEND INTO HH 1 & 10, 3" RSC WITH
2 - 12/C#12, 2 - 3/C#12, 2 - 1/C#10 & 1-3/C#20
INTERNALLY ILLUMINATED SIGN WITH PEC AND SIGN SWITCH ON POLE
- ② AND ④ P100 POLE FOUNDATION
TYPE P100-A40-D40-9 (DAVIT AT 350°)
LUM - 200W HPS WITH PEC - EVP DETECTOR AND LIGHT
2 - ONE WAY SIGNALS (OVERHEAD)
MID MAST ARM MOUNT 12' FROM END
TYPE 10B AT 0°
TYPE 30A AT 270°
2 - PED PB & SIGNS (R10 - 4C)
EXTEND INTO HH 5 & 15, 3" RSC WITH
2 - 12/C#12, 2 - 3/C#12, 1 - 3/C#20 & 2-1/C#10
INTERNALLY ILLUMINATED SIGN WITH PEC AND SIGN SWITCH ON POLE
- ⑤ AND ⑥ TYPE 2A
1 - PED PB & SIGN (R10 - 4C)
EXTEND INTO HH 9 & 14, 3" RSC WITH
1 - 12/C#12 & 2 - 3/C#12
PEDESTAL FOUNDATION
10' SIGNAL PEDESTAL

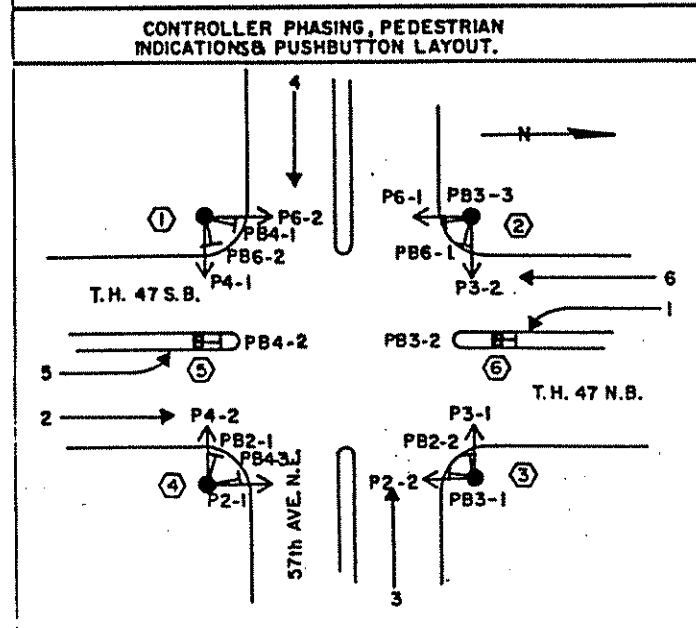
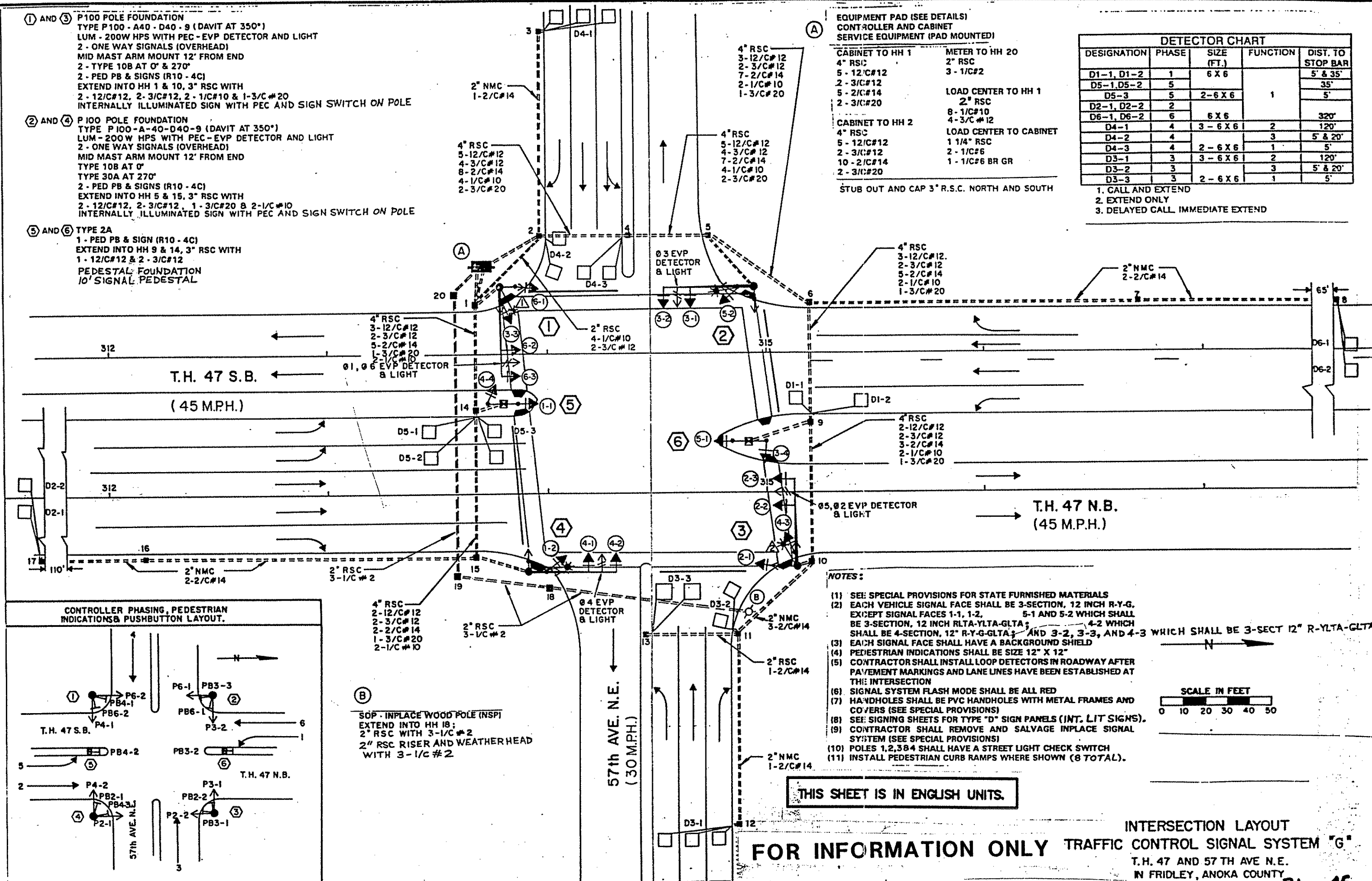
EQUIPMENT PAD (SEE DETAILS)
CONTROLLER AND CABINET
SERVICE EQUIPMENT (PAD MOUNTED)

- CABINET TO HH 1
4" RSC
5 - 12/C#12
2 - 3/C#12
5 - 2/C#14
2 - 3/C#20
- METER TO HH 20
2" RSC
3 - 1/C#2
- LOAD CENTER TO HH 1
2" RSC
8 - 1/C#10
4 - 3/C#12
- CABINET TO HH 2
4" RSC
5 - 12/C#12
2 - 3/C#12
10 - 2/C#14
2 - 3/C#20
- LOAD CENTER TO CABINET
1 1/4" RSC
2 - 1/C#6
1 - 1/C#6 BR GR

STUB OUT AND CAP 3" R.S.C. NORTH AND SOUTH

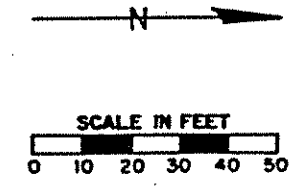
DETECTOR CHART				
DESIGNATION	PHASE	SIZE (FT.)	FUNCTION	DIST. TO STOP BAR
D1-1, D1-2	1	6 X 6	1	5' & 35'
D5-1, D5-2	5	2-6 X 6		35'
D5-3	5			5'
D2-1, D2-2	2	6 X 6		320'
D6-1, D6-2	6			120'
D4-1	4	3 - 6 X 6		2
D4-2	4	2 - 6 X 6	3	5'
D4-3	4		2	120'
D3-1	3	3 - 6 X 6	2	5' & 20'
D3-2	3	2 - 6 X 6	3	5'
D3-3	3		1	5'

- 1. CALL AND EXTEND
- 2. EXTEND ONLY
- 3. DELAYED CALL IMMEDIATE EXTEND



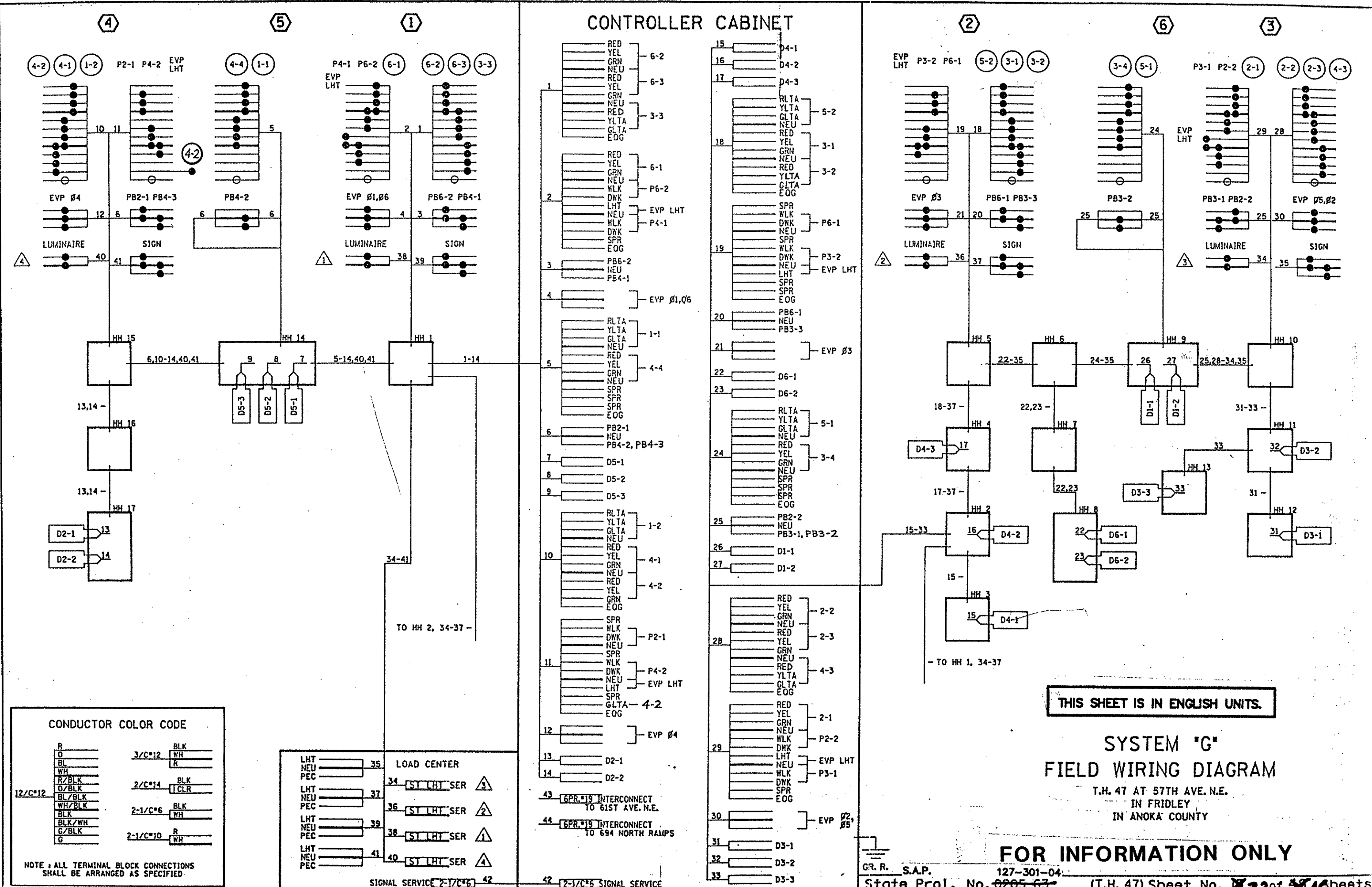
NOTES:

- (1) SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS
- (2) EACH VEHICLE SIGNAL FACE SHALL BE 3-SECTION, 12 INCH R-Y-G. EXCEPT SIGNAL FACES 1-1, 1-2, 5-1 AND 5-2 WHICH SHALL BE 3-SECTION, 12 INCH RLTA-YLTA-GLTA; 4-2 WHICH SHALL BE 4-SECTION, 12" R-Y-G-GLTA; AND 3-2, 3-3, AND 4-3 WHICH SHALL BE 3-SECT 12" R-YLTA-GLTA.
- (3) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD
- (4) PEDESTRIAN INDICATIONS SHALL BE SIZE 12" X 12"
- (5) CONTRACTOR SHALL INSTALL LOOP DETECTORS IN ROADWAY AFTER PAVEMENT MARKINGS AND LANE LINES HAVE BEEN ESTABLISHED AT THIS INTERSECTION
- (6) SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED
- (7) HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS (SEE SPECIAL PROVISIONS)
- (8) SEE SIGNING SHEETS FOR TYPE "D" SIGN PANELS (INT. LIT SIGNS).
- (9) CONTRACTOR SHALL REMOVE AND SALVAGE INPLACE SIGNAL SYSTEM (SEE SPECIAL PROVISIONS)
- (10) POLES 1,2,3&4 SHALL HAVE A STREET LIGHT CHECK SWITCH
- (11) INSTALL PEDESTRIAN CURB RAMPS WHERE SHOWN (8 TOTAL).



THIS SHEET IS IN ENGLISH UNITS.

FOR INFORMATION ONLY INTERSECTION LAYOUT
TRAFFIC CONTROL SIGNAL SYSTEM "G"
T.H. 47 AND 57 TH AVE N.E.
IN FRIDLEY, ANOKA COUNTY



CONTROLLER CABINET

THIS SHEET IS IN ENGLISH UNITS.

**SYSTEM 'G'
FIELD WIRING DIAGRAM**

T.H. 47 AT 57TH AVE. N.E.
IN FRIDLEY
IN ANOKA COUNTY

FOR INFORMATION ONLY

CONDUCTOR COLOR CODE

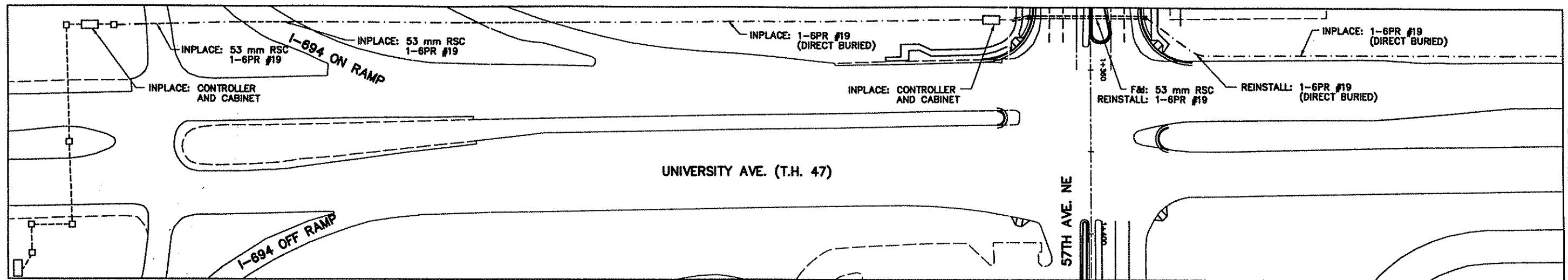
R	3/C*12	BLK
O		WH
BL		R
WH		
R/BLK	2/C*14	BLK
O/BLK		CLR
BL/BLK		
WH/BLK	2-1/C*6	BLK
BLK		WH
BLK/WH		
G/BLK	2-1/C*10	R
G		WH

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED

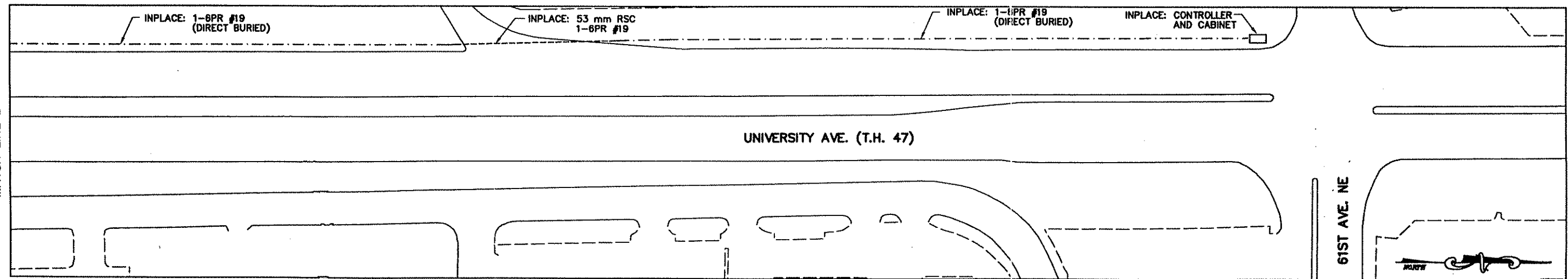
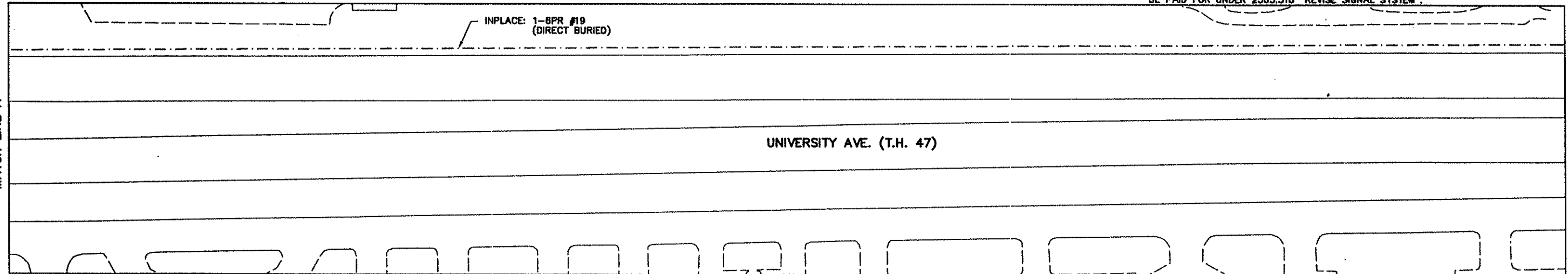
LHT	35	LOAD CENTER
NEU		
PEC		
LHT	37	ST LHT SER 3
NEU		
PEC		
LHT	39	ST LHT SER 2
NEU		
PEC		
LHT	41	ST LHT SER 1
NEU		
PEC		
	42	SIGNAL SERVICE 2-1/C*6

43 6PR*19 INTERCONNECT TO 61ST AVE. N.E.
44 6PR*19 INTERCONNECT TO 694 NORTH RAMPS


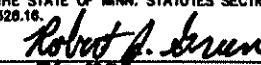
42 2-1/C*6 SIGNAL SERVICE



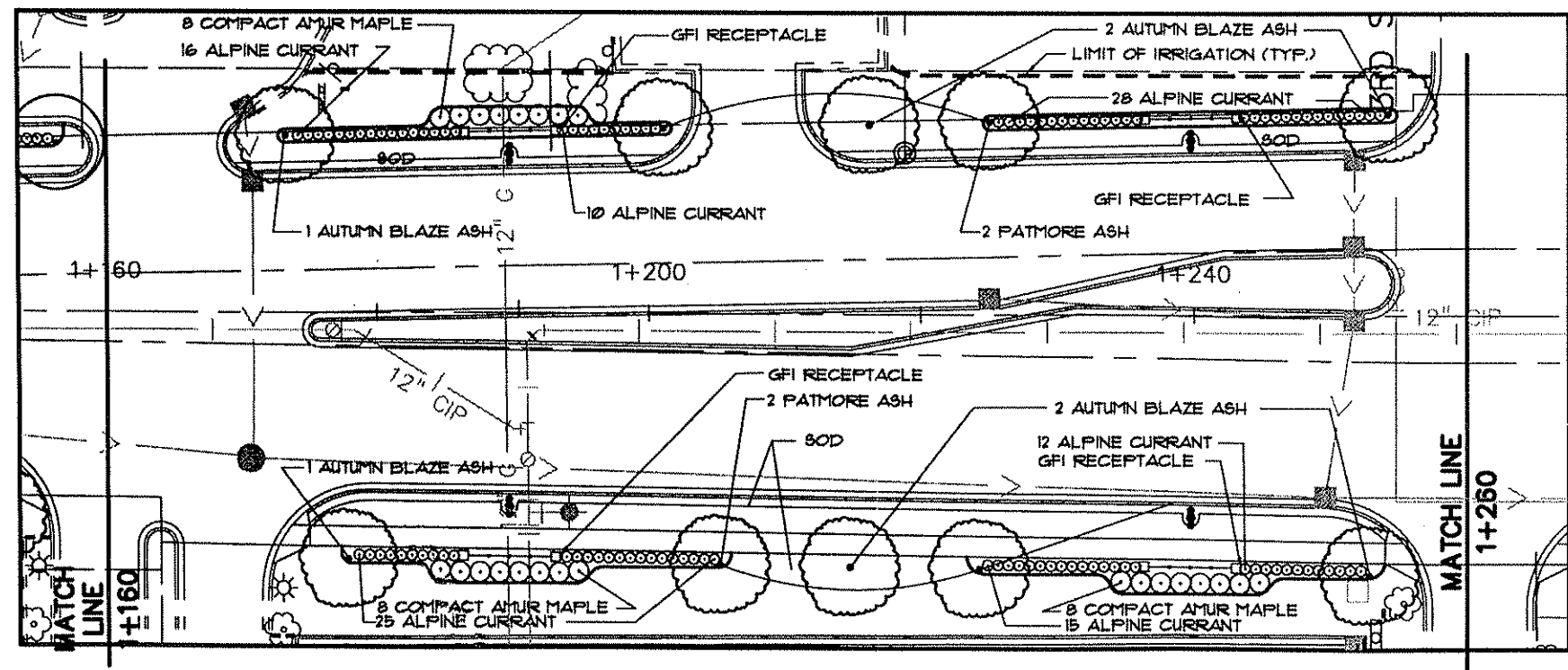
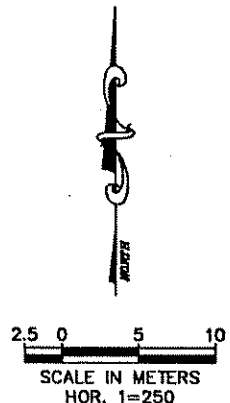
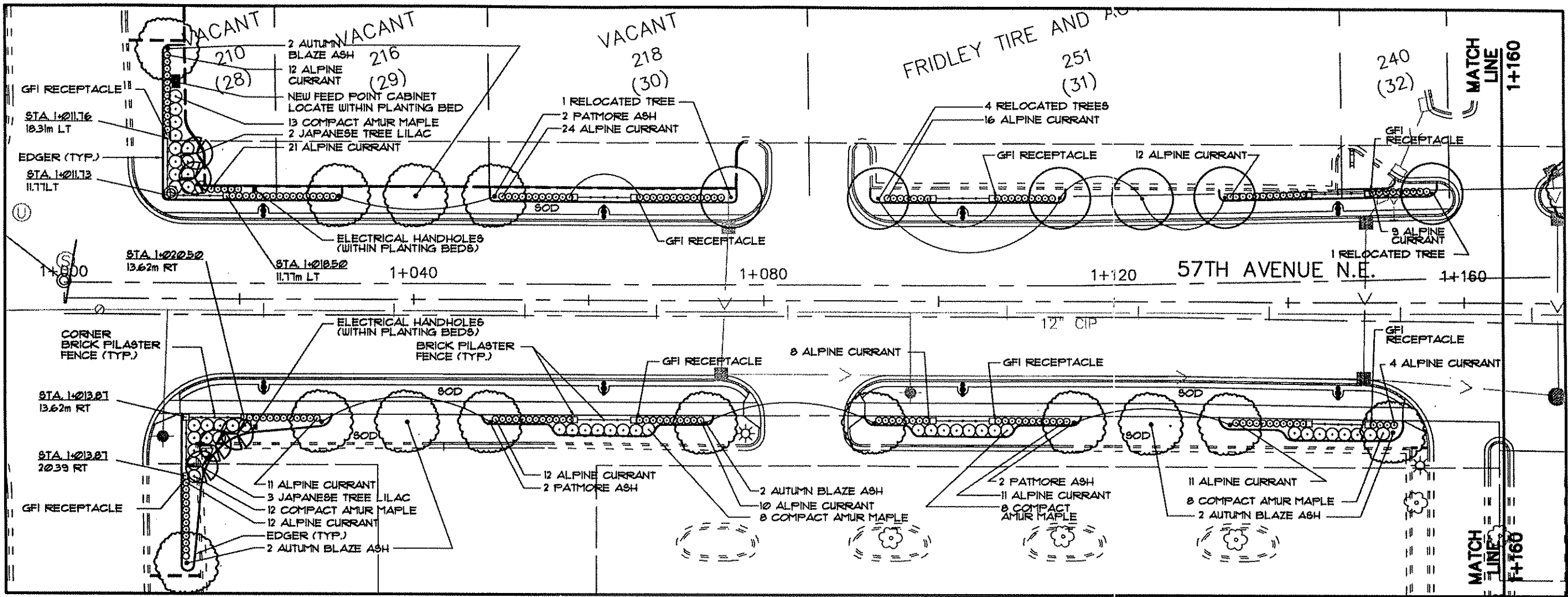
NOTES:
 1.) PULL BACK INTERCONNECT CABLE FROM CABINET TO EAST SIDE OF INTERSECTION (VICINITY OF HH 6). REINSTALL IN NEW CONDUIT. SEE SPECIAL PROVISIONS.
 2.) THE INTERCONNECT SYSTEM WORK SHALL BE CONSIDERED INCIDENTAL AND SHALL BE PAID FOR UNDER 2585.516 "REVISE SIGNAL SYSTEM".



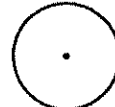
DISK FILE NAME: INTERC.DWG PLOT DATE: 3-30-98

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE:	XREF DRAWINGS	 B R W INC. Thresher Square, 708 Third Street So. Minneapolis, MN 55415, Phone 612/370-9700, Fax 612/370-1378	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 STATE OF MINN. STATUTES SECTION 328.02 TO 328.16.  DATE: 5/11/98 MINN. REG. NO. 22793	COUNTY ROAD 102 RECONSTRUCTION CO RD 102/57TH AVENUE N.E. INTERCONNECT LAYOUT	CITY PROJECT	ST-1997-4	SHEET NO.
				COUNTY PROJECT					97-11-102	33	
				DRAWN BY: JAS DESIGN BY: RJG CHECKED BY: RJG DWG. NAME: LAYOUT DATE: JAN. XX, 1998					S.P.	127-010-15	45
									S.A.P.	127-301-04	

DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THPLP01.DWG PLOT DATE: Apr 01, 1998 8:32am



NOTES:

- 1.) THE POINTS GIVEN FOR THE CORNER PILASTER FENCES ARE AT THE CENTER OF THE BRICK PILASTER. SEE TYPICAL BOULEVARD PLANTING DETAILS FOR LOCATIONS OF OTHER PILASTERS & FENCE SECTIONS.
- 2.)  REPRESENTS LOCATION OF TRANSPLANTED TREE AS IDENTIFIED IN THE REMOVALS PLANS (6 TOTAL).
- 3.) IRRIGATE ALL LAWN AREAS & PLANTING BEDS BETWEEN STREET & PARKING LOT CURBS TO LIMITS DEFINED BY - - - - . THERE SHALL BE APPROXIMATELY 7 SEPARATE SYSTEMS, WITH CONNECTIONS MADE TO THE EXISTING PRIVATE SYSTEMS, INCLUDING ANY NECESSARY REPAIRS AS A RESULT OF ROADWAY CONSTRUCTION.
- 4.) TREES SHALL BE PLANTED NO CLOSER THAN .90m TO THE SIDEWALK AND 1.50m TO ANY CURB.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101	XREF DRAWINGS
DRAWN BY: SNH	57THRPLP
DESIGN BY: TH	57THRLIT
CHKD. BY: TH	57THRPUR
DWG. NAME: 57THLP01	57THRPUR
DATE: FEBRUARY 6, 1998	57THREUT
	57THRETO

BRW
B R W INC.
Thresher Square, 700 Third Street So.
Minneapolis, MN 55415, Phone 612/370-8708, Fax 612/370-1378

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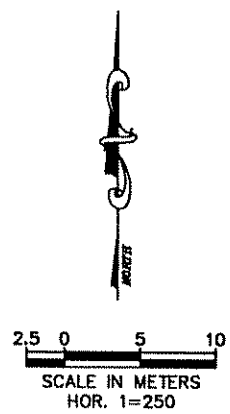
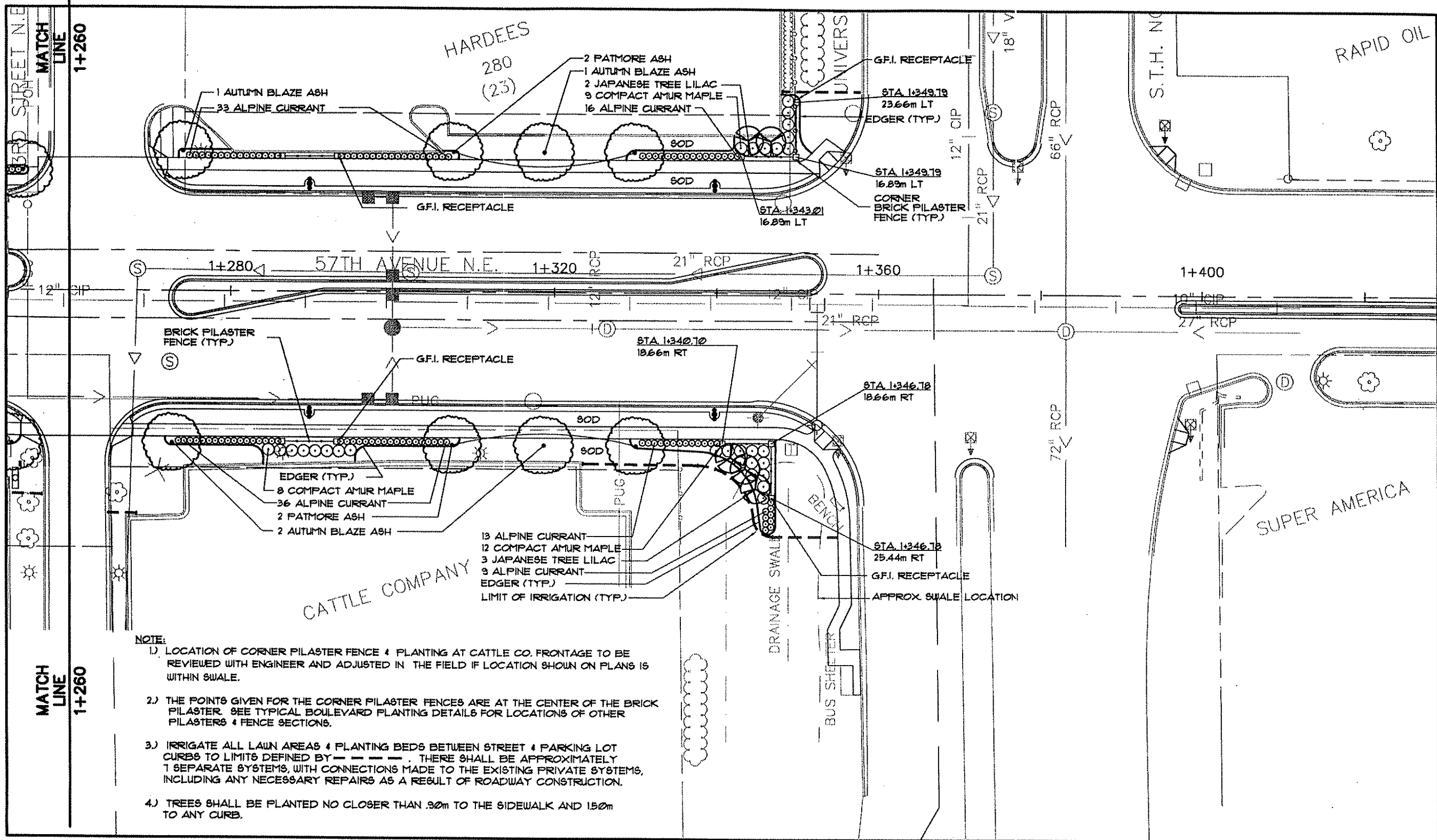
Tom P. [Signature]
DATE: 4/1/98 MINN. REG. NO. 20349

COUNTY ROAD 102 RECONSTRUCTION
CO RD 102/57TH AVENUE N.E.
LANDSCAPE PLAN
STA. 0+960 TO STA. 1+260

CITY PROJECT	ST-1997-4	SHEET NO. 34
COUNTY PROJECT	97-11-102	
S.A.P.	127-010-15	35
S.A.P.	127-301-04	

ALL QUANTITIES AND DIMENSIONS ON PLAN ARE IN METRIC UNITS.

DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THLP02.DWG PLOT DATE: Mar. 30, 1998 3:53pm



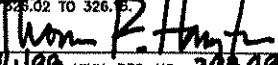
- NOTE:**
- 1.) LOCATION OF CORNER PILASTER FENCE & PLANTING AT CATTLE CO. FRONTAGE TO BE REVIEWED WITH ENGINEER AND ADJUSTED IN THE FIELD IF LOCATION SHOWN ON PLANS IS WITHIN SWALE.
 - 2.) THE POINTS GIVEN FOR THE CORNER PILASTER FENCES ARE AT THE CENTER OF THE BRICK PILASTER. SEE TYPICAL BOULEVARD PLANTING DETAILS FOR LOCATIONS OF OTHER PILASTER & FENCE SECTIONS.
 - 3.) IRRIGATE ALL LAWN AREAS & PLANTING BEDS BETWEEN STREET & PARKING LOT CURBS TO LIMITS DEFINED BY ---. THERE SHALL BE APPROXIMATELY 7 SEPARATE SYSTEMS, WITH CONNECTIONS MADE TO THE EXISTING PRIVATE SYSTEMS, INCLUDING ANY NECESSARY REPAIRS AS A RESULT OF ROADWAY CONSTRUCTION.
 - 4.) TREES SHALL BE PLANTED NO CLOSER THAN .90m TO THE SIDEWALK AND 1.50m TO ANY CURB.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101		XREF DRAWINGS	
DRAWN BY: SNH	DESIGN BY: TH	57THRPLP	57THRPT
CHKD. BY: TH	DWG. NAME: 57THLP02	57THRPRD	57THREUT
DATE: FEBRUARY 6, 1998		57THRETO	


BRW INC.
 Thrasher Square, 700 Third Street So.
 Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1278

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 DATE: 9/1/98 MINN. REG. NO. 20349

COUNTY ROAD 102 RECONSTRUCTION
 CO RD 102/57TH AVENUE N.E.
 LANDSCAPE PLAN
 STA. 1+260 TO STA. 1+360

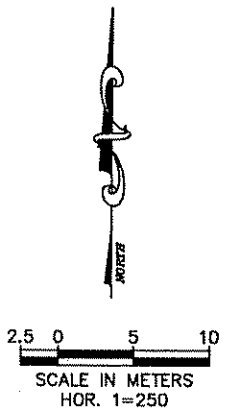
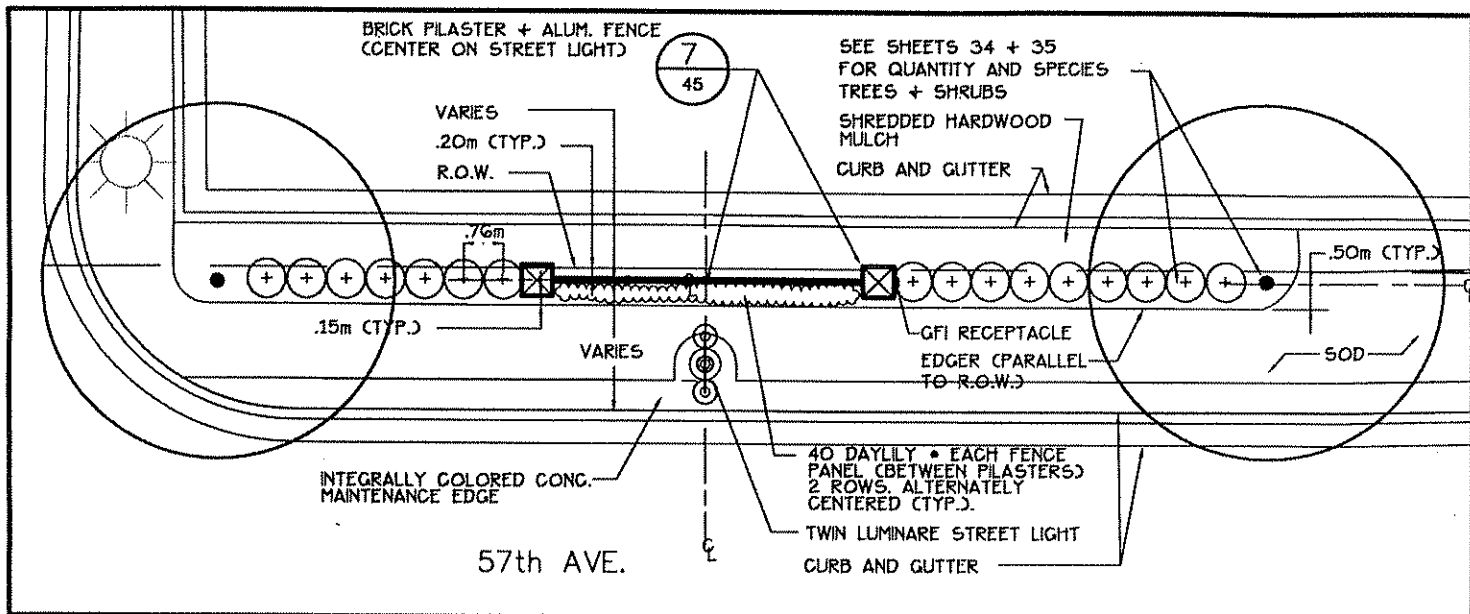
CITY PROJECT	ST-1997-4
COUNTY PROJECT	97-11-102
S.A.P.	127-010-15
S.A.P.	127-301-04

SHEET NO.
35

45



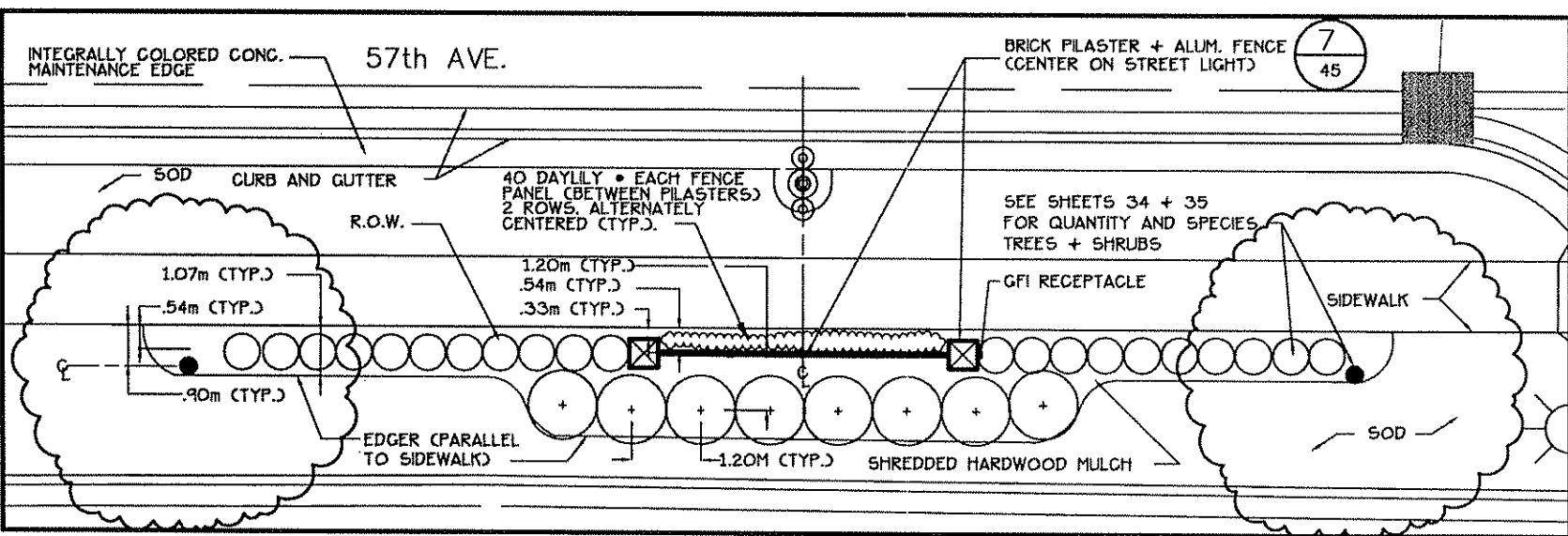
ALL QUANTITIES AND DIMENSIONS ON PLAN ARE IN METRIC UNITS.



PLANT SCHEDULE					
QTY.	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
14	PATMORE ASH	FRAXINUS PENN. LANCEOLATA 'PATMORE'	64mm	B+B	MATCHING + 1.5m BRANCH HT
18	AUTUMN BLAZE ASH	FRAXINUS AMERICANA 'AUTUMN BLAZE'	64mm	B+B	MATCHING + 1.5m BRANCH HT
10	JAPANESE TREE LILAC	SYRINGA RETICULATA 'IVORY SILK'	2.4m HT.	B+B	4-5 STEM CLUMP
386	ALPINE CURRANT	RIBES ALPINUM	460mm	#5	760mm O.C.
102	COMPACT AMUR MAPLE	ACER GINNALA 'BAILY COMPACT'	760mm	#5	1.2m O.C.
800	DAYLILY (20 FENCE PANELSx40 = 800)	HEMEROCALIS 'STELLA DE ORO'	2 YR. 115mm POT		457mm O.C.

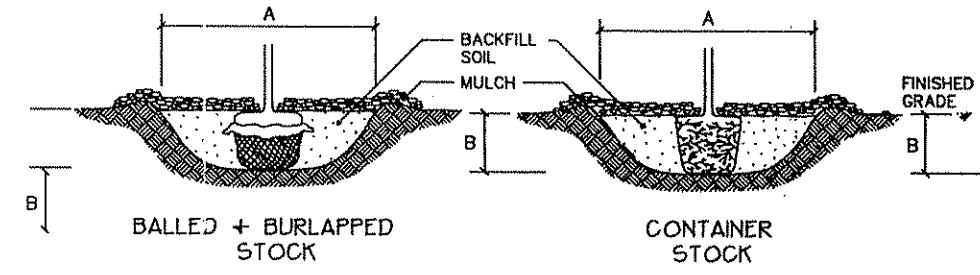
TYPICAL BOULEVARD PLANTING AREA

HOR. 1=75



TYPICAL BOULEVARD PLANTING AREA WITH SECOND ROW OF SHRUBS

HOR. 1=75



- SCARIFY SIDES AND BOTTOM OF HOLE.
- PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
- SET PLANT ON UNDISTURBED NATIVE SOIL, OR THOROUGHLY COMPACTED BACKFILL SOIL AT THE SAME DEPTH (IF PROPER) AS IT WAS GROWN IN THE NURSERY.
- PLANT SHALL BE PLACED IN PLANTING HOLE WITH BURLAP AND WIRE BASKET, IF USED, INTACT. ONCE IN PLACE, THE PLANT SHALL BE BACKFILLED TO WITHIN 300mm OF THE TOP OF THE ROOTBALL AND WATERED. THE TOP LOOPS OF THE WIRE BASKETS SHALL BE REMOVED AND THE BURLAP SHALL BE FOLDED OR CUT BACK.
- PLUMB AND BACKFILL WITH THE BACKFILL SOIL SPECIFIED.
- APPLY WATER TO SETTLE PLANTS AND FILL VOIDS THEN CONSTRUCT 75 mm DEPTH WATERING BASIN.
- WATER THOROUGHLY WITHIN 2 HOURS.
- PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.
- BIODEGRADABLE TWINE MAY BE LEFT ON AS SUPPORT BETWEEN THE ROOT BALL AND ROOT COLLAR UNTIL THE END OF THE PLANT ESTABLISHMENT PERIOD AT WHICH TIME IT MUST BE CUT AND TOTALLY REMOVED FROM THE ROOT COLLAR. THE TWINE MUST BE TIED OR RETIED TO MID-LEVEL LOOPS OR POINTS ON THE BASKET. USE OF NONBIODEGRADABLE TWINE SHALL NOT BE PERMITTED.

- SCARIFY SIDES AND BOTTOM OF HOLE.
- PROCEED WITH CORRECTIVE PRUNING AS DIRECTED BY ENGINEER.
- REMOVE CONTAINER AND SCORE OR PRUNE OUTSIDE OF SOIL MASS TO REDIRECT CIRCLING FIBROUS ROOTS AS NECESSARY.
- SET PLANT ON UNDISTURBED NATIVE SOIL, OR THOROUGHLY COMPACTED BACKFILL SOIL AT THE SAME DEPTH (IF PROPER) AS IT WAS GROWN IN THE NURSERY.
- APPLY WATER TO SETTLE PLANTS AND FILL VOIDS THEN CONSTRUCT 75 mm DEPTH WATERING BASIN.
- WATER THOROUGHLY WITHIN 2 HOURS.
- PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

NOTES:

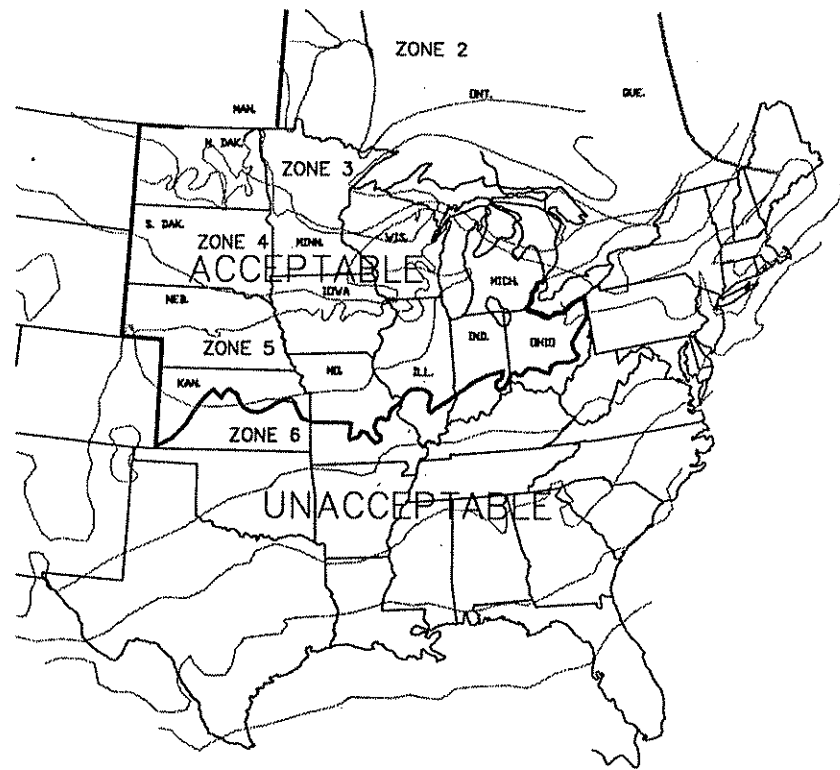
- THE PLANTING DETAILS REPRESENT ADEQUATELY DRAINED SOIL CONDITIONS. THE CONTRACTOR SHOULD EXERCISE DISCRETION IN SETTING PLANTS 25 mm-75 mm HIGHER IN POORLY DRAINED SOILS.
- ON 1:2 SLOPES OR GREATER, DO NOT CONSTRUCT THE UPHILL HALF OF THE WATERING BASIN.
- ON WET, POORLY DRAINED SOILS, DO NOT CONSTRUCT WATERING BASIN.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE DRAINAGE IN HEAVY POORLY DRAINED OR IMPERVIOUS SOILS.
- PLANTS SHOULD BE SET AT THE PROPER DEPTH WHEREBY THE BEGINNING TAPER OF THE ROOT FLARE IS AT THE SAME ELEVATION AS THE FINISHED FINISHED SOIL GRADE. THIS SHOULD BE THE SAME DEPTH AS THE PLANTS WERE GROWN AT IN THE NURSERY. NOTE THAT THE ROOTS OF BALLED AND BURLAPPED PLANTS ARE UNACCEPTABLE WHEN THEY ARE COVERED BY MORE THAN 100mm OF SOIL IN THE TOP OF THE BALL.
- DELAY MULCH PLACEMENT IF NECESSARY TO ALLOW MORE TIME FOR EXCESS SOIL MOISTURE TO EVAPORATE FROM PLANTING AREAS BEFORE PLACING MULCH.

PLANTING HOLE DIMENSIONS (MINIMUM WIDTH DOES NOT APPLY IN MASS PLANTING BEDS)			
PLANT TYPE	PLANT SIZE (UP TO AND INCLUDING)	MINIMUM APPROXIMATE HOLE WIDTH HOLE DEPTH (MILLIMETERSxMILLIMETERS)	
		A	B
SHADE & FLOWERING TREES	50 mm B.B.	1830	400
	63 mm B.B.	2130	480
	75 mm B.B.	2440	510
	90 mm B.B.	2890	580
	100 mm B.B.	3200	630

PLANTING DETAILS FOR ISOLATED PLANTING LOCATIONS

DISK FILE NAME: (13...4) R:\35689\35689002\PLAN_SHT\57THLP03.DWG PLOT DATE: Mar 30, 1998 3:56pm

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 35689-002-0101	XREF DRAWINGS	<p>BRW INC. Thresher Square, 700 Third Street So. Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1878</p>	<p>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 LANDSCAPE ARCHITECT UNDER THE STATE OF MINN. STATUTES SECTION 316.02 TO 321.01</p> <p>DATE: 4/1/98 MINN. REG. NO. 26349</p>	<p>COUNTY ROAD 102 RECONSTRUCTION CO RD 102/57TH AVENUE N.E. LANDSCAPE DETAILS</p>	CITY PROJECT	ST-1997-4	SHEET NO. 36
				COUNTY PROJECT	97-11-102						
				S.A.P.	127-010-15						
				S.A.P.	127-301-04						



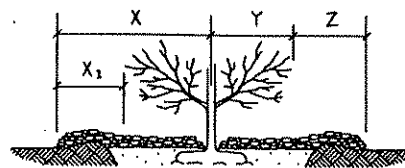
- ZONE 1 BELOW -45 C
- ZONE 2 -45 to -40°
- ZONE 3 -40 to -35
- ZONE 4 -35 to -30

STATE INSPECTED PLANTS GROWN WITHIN ZONES 1-4 AND THE ACCEPTABLE GROWING RANGE FOR A MINIMUM OF 2 YEARS MAY BE USED ON ALL PROJECTS UNLESS OTHERWISE SPECIFIED.

- ZONE 5 -30 to -25 C

STATE INSPECTED PLANTS GROWN WITHIN ZONE 5 AND THE ACCEPTABLE GROWING RANGE FOR A MINIMUM OF 2 YEARS ARE ALLOWED ONLY ON PROJECTS WITHIN ZONE 4 IN MINNESOTA. UNLESS CERTIFIED AS MINNESOTA ZONE HARDY IN ZONES 3 AND 2.

PLANT STOCK NOT GROWN WITHIN THE ACCEPTABLE ZONES AND GROWING RANGE FOR A MINIMUM OF 2 YEARS MAY BE ACCEPTED IF THE SEED SOURCE OR ROOT AND GRAFT STOCK IS CERTIFIED AND DOCUMENTED AS MIDWEST AND NORTHERN GROWN AND MINNESOTA ZONE HARDY.

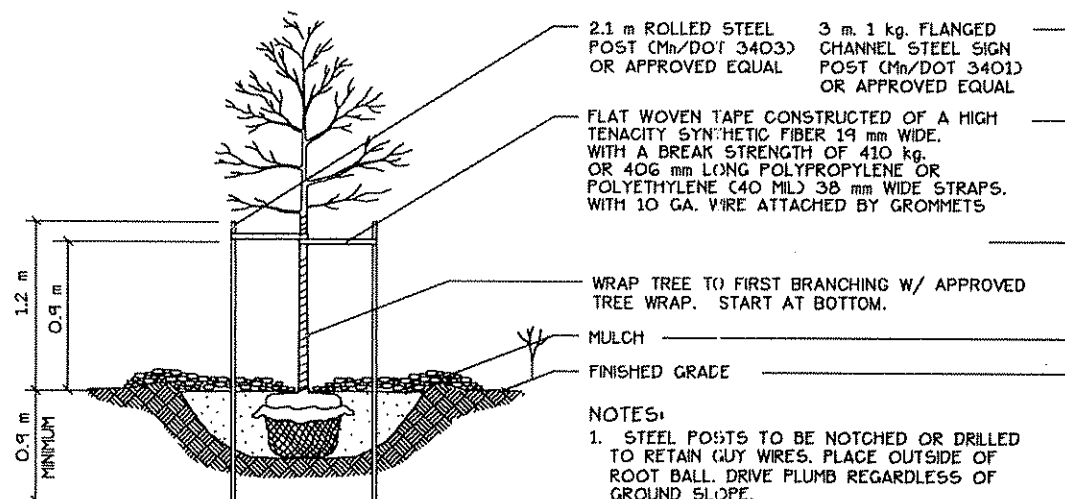


SUBSIDENCE OR DETERIORATION OF MULCH THROUGHOUT THE CONTRACT IS ACCEPTABLE TO THE EXTENT THAT THE MULCH DEPTH IS MAINTAINED AT A MINIMUM DEPTH OF 75 mm AT ALL TIMES AND UPON FINAL ACCEPTANCE. REPLACEMENT MULCH SHALL BE REQUIRED TO PROVIDE THE MINIMUM MULCH DEPTH SPECIFIED WHEN SUBSIDENCE OR LOSS IS EXCESSIVE OR WHEN THE CONTRACTOR'S OPERATIONS HAVE CONTAMINATED THE MULCH WITH SOIL.

TYPE OF PLANT	X CENTER OF PLANT TO MULCH LINE	X ₁ EDGE OF BRANCHING TO MULCH LINE	Y DEPTH OF MULCH (mm) MIN. MAX.	Z DEPTH OF MULCH (mm) MIN. MAX.
EVERGREEN TREES	VARIABLE	0.9 m MIN.	100 150	100 150
DECIDUOUS TREES	0.9 m MIN.	N/A	100 150	100 150
EVERGREEN SHRUBS	VARIABLE	0.9 m MIN.	75 100	100 150
DECIDUOUS SHRUBS	0.9 m MIN.	N/A	100 150	100 150
VINES	0.6 m MIN.	N/A	100 150	100 150
GROUNDCOVERS	VARIABLE	0.6 m MIN.	75 100	75 100
MACHINE-TRANSPLANTED TREES	300 mm FROM EDGE OF HOLE		100 150	100 150

NOTE:
REMOVE MULCH PLACED TO A DEPTH GREATER THAN THAT SPECIFIED WHEN DIRECTED BY THE ENGINEER.

MULCH PLACEMENT DETAIL



NOTES:

- STEEL POSTS TO BE NOTCHED OR DRILLED TO RETAIN GUY WIRES. PLACE OUTSIDE OF ROOT BALL. DRIVE PLUMB REGARDLESS OF GROUND SLOPE.
- REQUESTS TO SUBSTITUTE RUBBER HOSE AND WIRE GUYING SYSTEMS WILL NOT BE APPROVED.
- USE EITHER STRAPPING TAPE OR WIRE WITH POLYPROPYLENE STRAPS.
- STAKING/GUYING IS NOT ANTICIPATED TO BE REQUIRED, NOR IS IT DESIRED. BUT IF STAKING/GUYING BECOMES NECESSARY, AS DETERMINED BY THE ENGINEER, THE STAKING/GUYING SHALL BE DONE IN ACCORDANCE WITH THE STANDARD TREE STAKING/GUYING DETAIL.

STANDARD TREE STAKING / GUYING AND PROTECTION DETAIL

GENERAL NOTES - SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS

PLANTING HOLE AND BED CULTIVATION: ALL ISOLATED TREE PLANTING LOCATIONS AND PLANTING BEDS SHALL BE CULTIVATED BY TILLING TO A MINIMUM DEPTH OF 250 mm. SOIL AMENDMENTS SHALL BE APPLIED DURING CULTIVATION.

BACKFILL SOIL: USE CULTIVATED AND AMENDED SOIL EXCAVATED FROM PLANTING HOLES. REMOVE ALL DEBRIS INCLUDING ROCKS LARGER THAN 75mm DIA.

FERTILIZER: NONE

COMPOST: NONE

MULCH MATERIAL: Mn/DOT 3882 TYPE G. UNLESS OTHERWISE SPECIFIED.

TREE STAKING: TREE STAKING (CALL SIZES) WILL NOT BE REQUIRED UNLESS SPECIFIED OR NECESSARY TO MAINTAIN TREES IN A PLUMB CONDITION WHERE VANDALISM, SOIL OR WIND CONDITIONS ARE A PROBLEM OR AS REQUESTED BY THE ENGINEER.

TREE PROTECTION: 102mm WIDE TREE WRAP AS APPROVED BY ENGINEER

MASS PLANTINGS: CULTIVATE BY TILLING. PLANT IN STAGGERED ROWS ON THE PERIMETER FIRST. THEN UNFORMALLY FILL IN WITH REMAINING QUANTITY USING TRIANGULAR SPACING. UNLESS SPECIFIED OTHERWISE. PROVIDE 1.5 m RADIUS CLEAR OF SHRUBS AROUND EACH DECIDUOUS TREE AND 2.4 m RADIUS AROUND EACH EVERGREEN TREE. THIS RADIUS (CLEARANCE) SHALL BE MEASURED FROM THE CENTER OF THE TREE TO THE CENTER OF THE SHRUB. NOTIFY ENGINEER OF GROSS PLANT QUANTITY SURPLUS OR DEFICIENCY IMMEDIATELY. PLANT SPACINGS OF 4.9 m OR LESS SHALL BE MASS MULCHED.

PLANTING PLAN: RESPECT STATED DIMENSIONS BEFORE SCALING FROM PLAN.

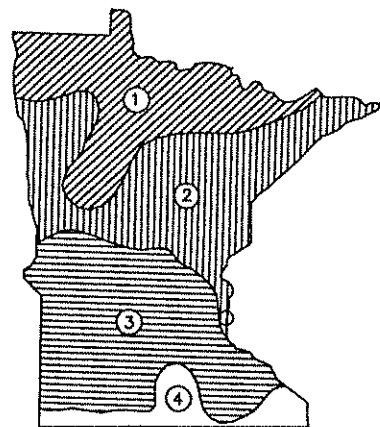
PLANT TYPE	AVERAGE AMOUNT OF WATER PER APPLICATION (LITERS)
MACHINE TRANSPLANTED TREES (75 mm CALIPER+)	190-380
BALLED + BURLAPPED TREES	75±
BARE ROOT TREES	55±
BALLED + BURLAPPED SHRUBS	40±
BARE ROOT OR CONTAINER SHRUBS	25±
WOODY SEEDLINGS	15±
HERBACEOUS GROUNDCOVERS AND VINES	10±

1) THE WATERING GUIDELINES ASSUME A SOIL CONDITION WITH ADEQUATE BUT NOT EXCESSIVE OR POOR DRAINAGE. WATERING INTERVALS AND AMOUNT OF APPLICATION MUST BE VARIED CONSIDERING PREVAILING SOIL MOISTURE AND WEATHER CONDITIONS THROUGHOUT THE GROWING SEASON. ADEQUATE BUT NOT EXCESSIVE SOIL MOISTURE IN THE ROOT ZONE OF NEW PLANTINGS MUST BE MAINTAINED AT ALL TIMES THROUGHOUT THE GROWING SEASON FOR THE FIRST TWO YEARS FOLLOWING PLANTING. WATERING MAY BE REQUIRED WEEKLY OR INFREQUENTLY. THIS DETERMINATION SHALL BE MADE BY THE CONTRACTOR.

2) THE CONTRACTOR IS ADVISED THAT THE WATERING GUIDELINES ARE NOT REQUIREMENTS OF THE CONTRACT ALTHOUGH FAILURE TO CORRECT WATER DEFICITS BY SUPPLEMENTAL WATERING OR FAILURE TO COMPENSATE FOR EXCESSIVE SOIL MOISTURE AND DRAINAGE PROBLEMS MAY RESULT IN UNACCEPTABLE PLANTS LEADING TO REDUCED OR NO PAYMENT.

ACCEPTABLE GROWING RANGE FOR MIDWEST AND NORTHERN GROWN PLANT STOCK

SOURCE: U.S.D.A. PLANT HARDINESS ZONE MAP



	SPRING			FALL	
	SEEDLING	DECIDUOUS	EVERGREEN	DECIDUOUS	EVERGREEN
1	APRIL 15 TO MAY 15	APRIL 21 TO JUNE 1	APRIL 21 TO JUNE 1	OCT. 1 TO NOV. 1	AUG. 25 TO SEPT. 15
2	APRIL 7 TO MAY 15	APRIL 14 TO JUNE 1	APRIL 14 TO MAY 24	OCT. 1 TO NOV. 6	AUG. 25 TO SEPT. 15
3	APRIL 1 TO MAY 15	APRIL 7 TO JUNE 1	APRIL 7 TO MAY 17	OCT. 10 TO NOV. 15	AUG. 25 TO SEPT. 15
4	APRIL 1 TO MAY 15	APRIL 1 TO MAY 25	APRIL 1 TO MAY 15	OCT. 15 TO NOV. 20	SEPT. 5 TO OCT. 1

- NOTES:
- SEEDLING INCLUDES DECIDUOUS AND EVERGREEN STOCK.
 - ACTUAL DATES MAY CHANGE DEPENDING UPON SEASONAL CONDITIONS AS DETERMINED BY THE ENGINEER.
 - FALL PLANTING MAY NOT BE RECOMMENDED OR ALLOWED. SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS. THE FOLLOWING PLANTS ARE NOT RECOMMENDED FOR FALL INSTALLATION. HAWTHORNE, RUSSIAN OLIVE, DOGWOOD, POPLAR, HACKBERRY, LINDEN, IRONWOOD, HONEYLOCUST, BIRCH, MOUNTAIN ASH, MAPLE, WILLOW, CRABAPPLE, PLUM/CHERRY, OAKS, SUMAC.

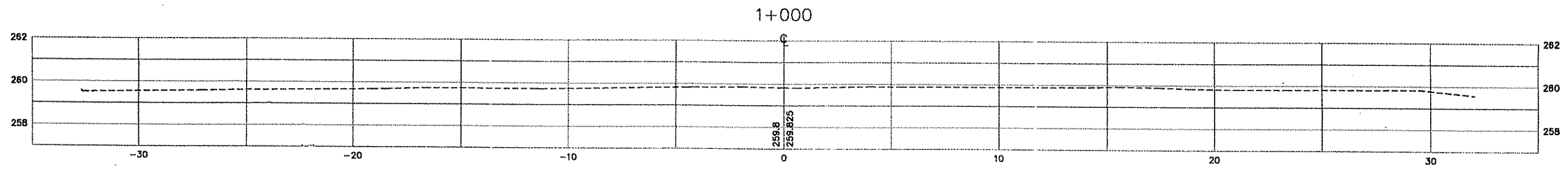
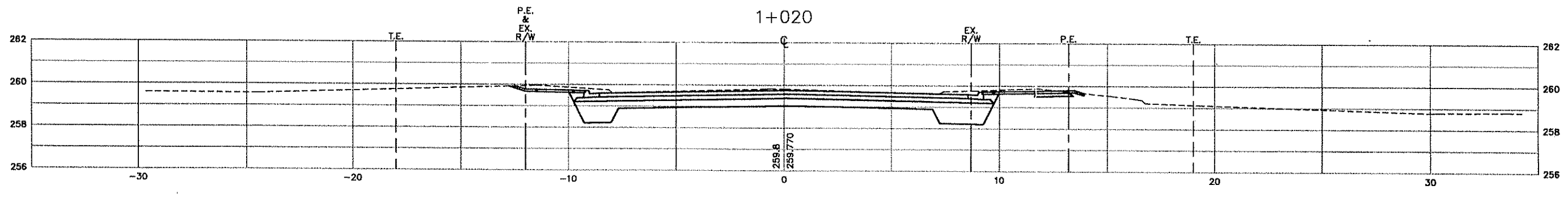
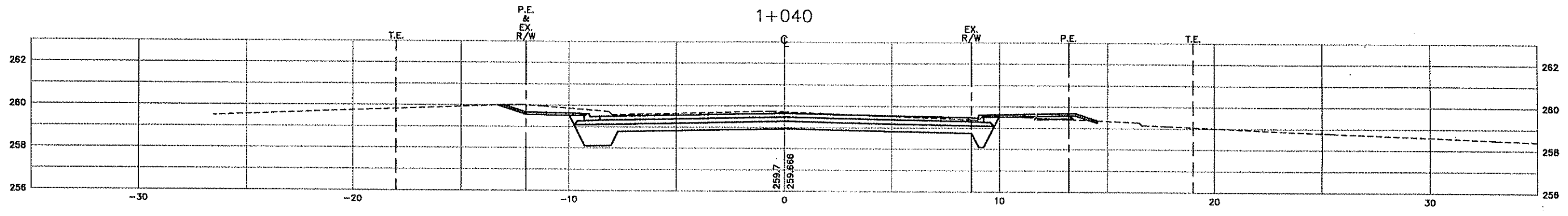
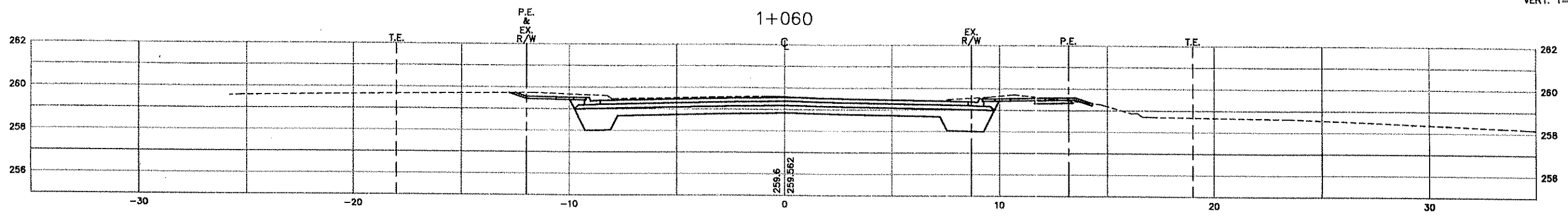
○ - INDICATES PROJECT LOCATION

OPTIMUM PLANTING DATE ZONES IN MINNESOTA

DISK FILE NAME: (13_4) R:\35689\35689002\PLAN_SHT\57THLP05.DWG PLOT DATE: Mar 30, 1998 3:08pm

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 35689-002-0101	XREF DRAWINGS	<p>B R W INC. Thresher Square, 700 Third Street So. Minneapolis, MN 55418, Phone 612/370-0700, Fax 612/370-2878</p>	<p>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 LANDSCAPE ARCHITECT UNDER THE STATE OF MINN. STATUTES SECTION 125.02 TO 325.07.</p> <p><i>Wm. P. Han</i> DATE: 9/1/92 MINN. REG. NO. 120349</p>	<p>COUNTY ROAD 102 RECONSTRUCTION CO RD 102/57TH AVENUE N.E. LANDSCAPE DETAILS</p>	CITY PROJECT	ST-1997-4	SHEET NO. 37
				COUNTY PROJECT	97-11-102						
				S.A.P.	127-010-15						
				S.A.P.	127-301-04						
											45

0 2.5 5.0
 SCALE IN METERS
 HOR. 1=100
 VERT. 1=100



DISK FILE NAME: (13_c4) R: \35689\35689002\PLAN_SHT\57THCS01.DWG PLOT DATE: Mar 30, 1998 7:26am

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
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 DRAWN BY: PMJ
 DESIGN BY: JML
 CHKED. BY: PBD
 DWG. NAME: 57THCS01
 DATE: FEBRUARY 6, 1998

XREF DRAWINGS
 57THRSEC

BRW
 B R W INC.
 Thresher Square, 700 Third Street So.
 Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1378

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 STATE OF MINN. STATUTES SECTION 328.02 TO 328.16.
Barbara J. [Signature]
 DATE: 2-7-98 MINN. REG. NO. 23197

COUNTY ROAD 102 RECONSTRUCTION
 CO RD 102/57TH AVENUE N.E.
 CROSS SECTIONS
 STA. 1+000 TO STA 1+060

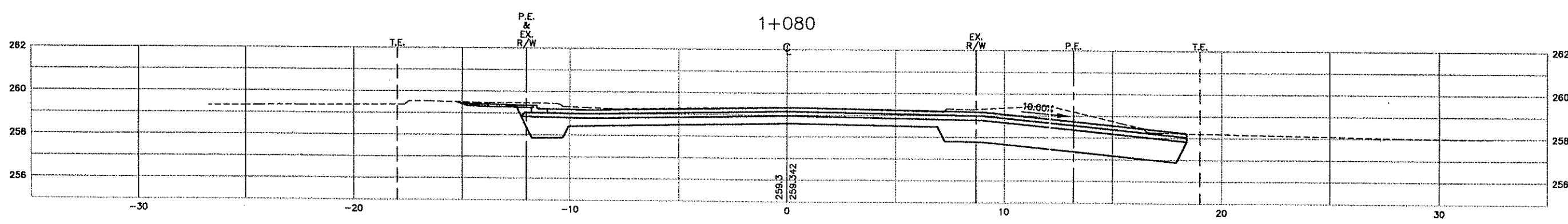
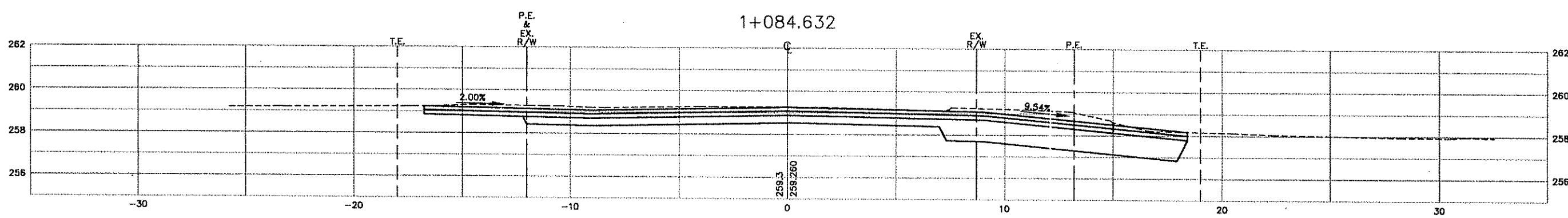
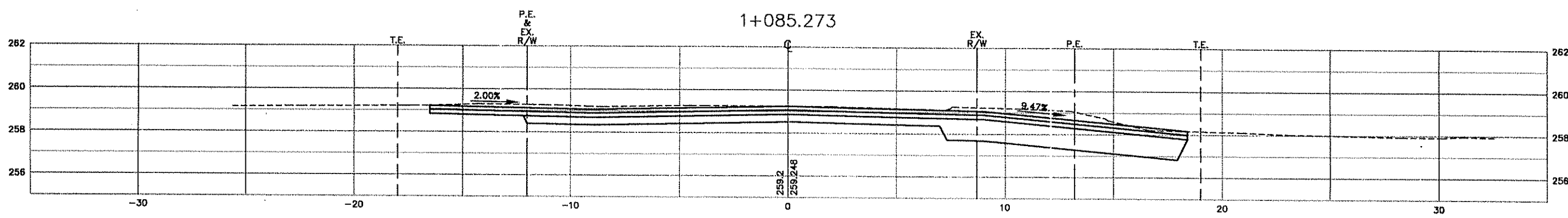
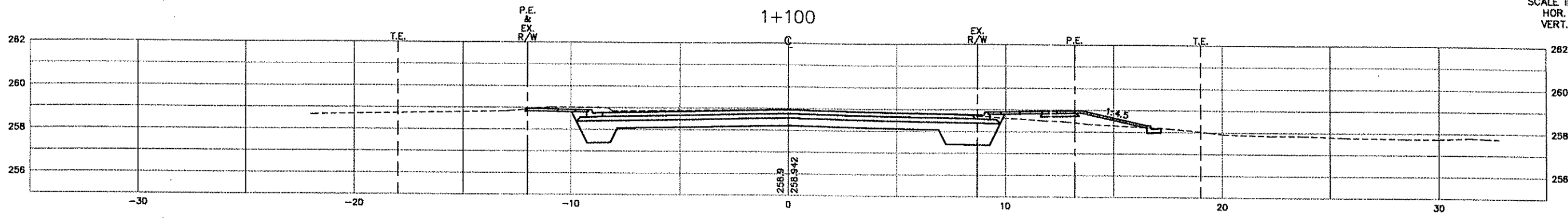
CITY PROJECT	ST-1997-4
COUNTY PROJECT	97-11-102
S.A.P.	127-010-15
S.A.P.	127-301-04

SHEET NO.
 38
 45



ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

0 2.5 5.0
 SCALE IN METERS
 HOR. 1=100
 VERT. 1=100



DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THCS02.DWG PLOT DATE: Mar 30, 1998 7:27am

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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 DESIGN BY: JML
 CHKED. BY: PBD
 DWG. NAME: 57THCS02
 DATE: FEBRUARY 6, 1998

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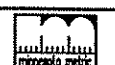
BRW
 B R W INC.
 Thresher Square, 700 Third Street So.
 Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1278

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 STATE OF MINN. STATUTES SECTION 328.02 TO 328.10.
Paul Edward
 DATE: 2-7-98 MINN. REG. NO. 23197

COUNTY ROAD 102 RECONSTRUCTION
 CO RD 102/57TH AVENUE N.E.
 CROSS SECTIONS
 STA. 1+080 TO STA 1+100

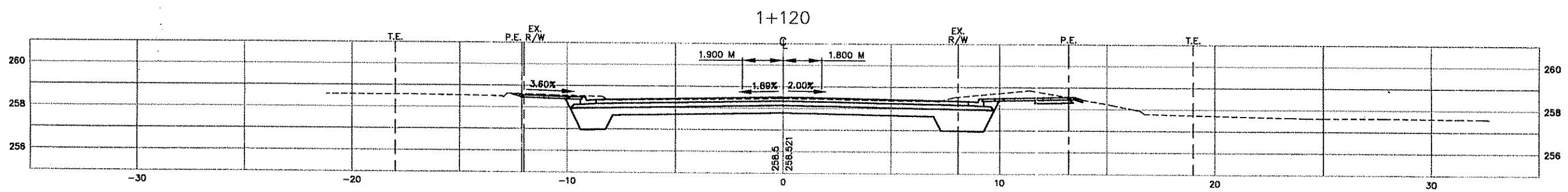
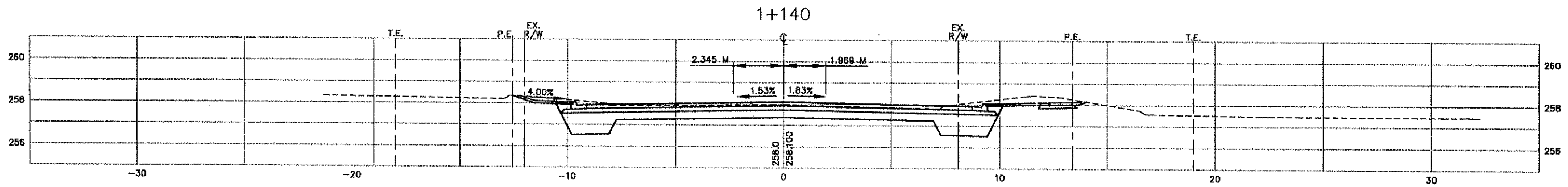
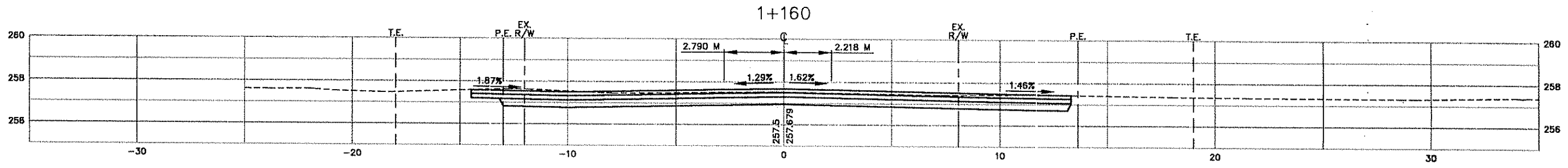
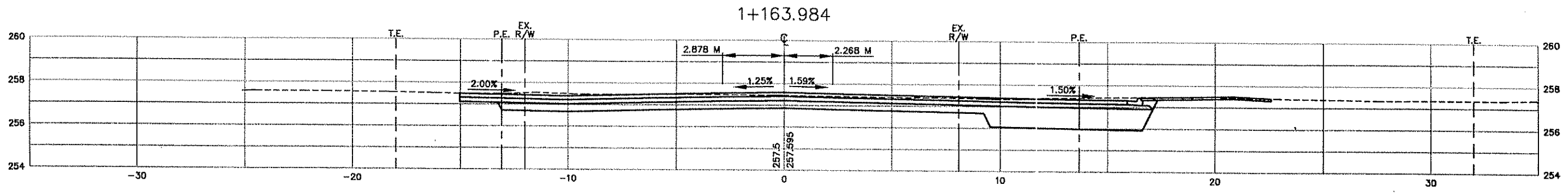
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COUNTY PROJECT	97-11-102
S.A.P.	127-010-15
S.A.P.	127-301-04

SHEET NO.
 39
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0 2.5 5.0
 SCALE IN METERS
 HOR. 1=100
 VERT. 1=100



DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THCS03.DWG PLOT DATE: Mar 30, 1998 7:28am

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
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DRAWN BY: PMJ
 DESIGN BY: JML

CHECKED BY: PBD
 DWG. NAME: 57THCS03

DATE:
 FEBRUARY 6, 1998

XREF DRAWINGS
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B R W

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 Thrasher Square, 700 Third Street So.
 Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1278

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Paul Edward

DATE: 4-1-98 MINN. REG. NO. 23197

COUNTY ROAD 102 RECONSTRUCTION
 CO RD 102/57TH AVENUE N.E.
 CROSS SECTIONS
 STA. 1+120 TO STA 1+163.984

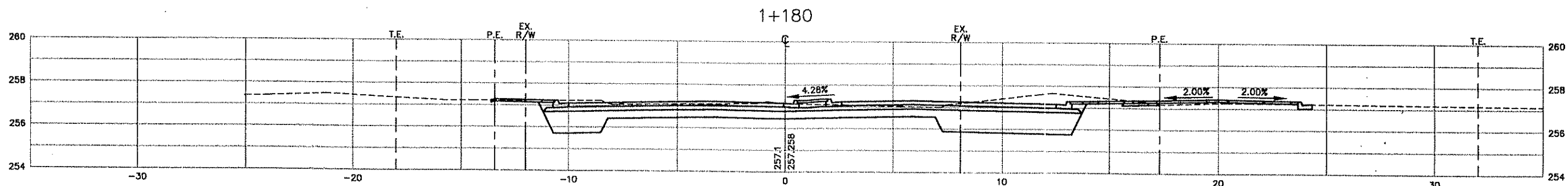
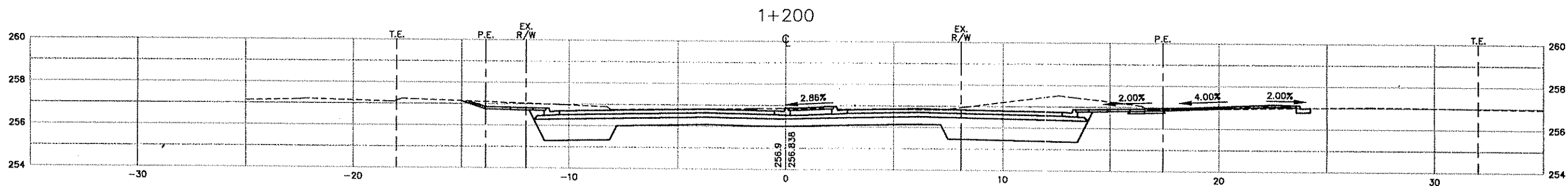
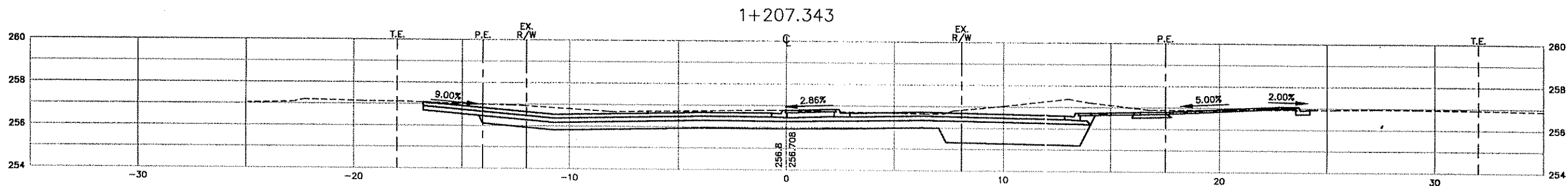
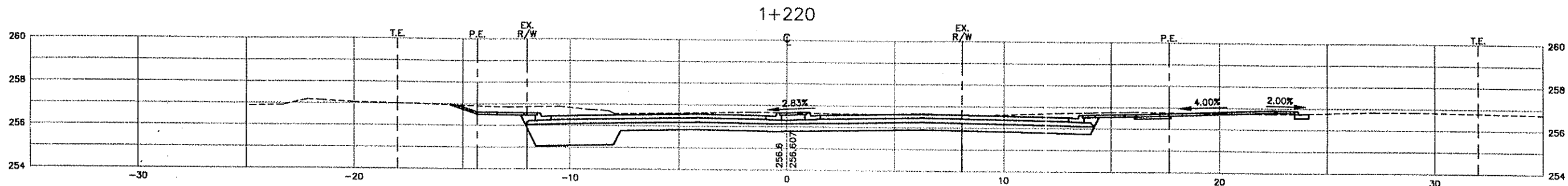
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COUNTY PROJECT	97-11-102
S.A.P.	127-010-15
S.A.P.	127-301-04

SHEET NO.
 40
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ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

0 2.5 5.0
 SCALE IN METERS
 HOR. 1=100
 VERT. 1=100



DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_SHT\57THCS04.DWG PLOT DATE: Mar 30, 1998 7:30am

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 35689-002-0101	
DRAWN BY: PMJ	DESIGN BY: JML
CHKD. BY: PBD	DWG. NAME: 57THCS04
DATE: FEBRUARY 6, 1998	

XREF DRAWINGS
57THRSEC

BRW
 B R W INC.
 Thresher Square, 700 Third Street So.
 Minneapolis, MN 55418, Phone 612/370-0700, Fax 612/370-1278

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Paul J. Daniel
 DATE: 4-1-98 MINN. REG. NO. 23197

COUNTY ROAD 102 RECONSTRUCTION
 CO RD 102/57TH AVENUE N.E.
 CROSS SECTIONS
 STA. 1+180 TO STA 1+220

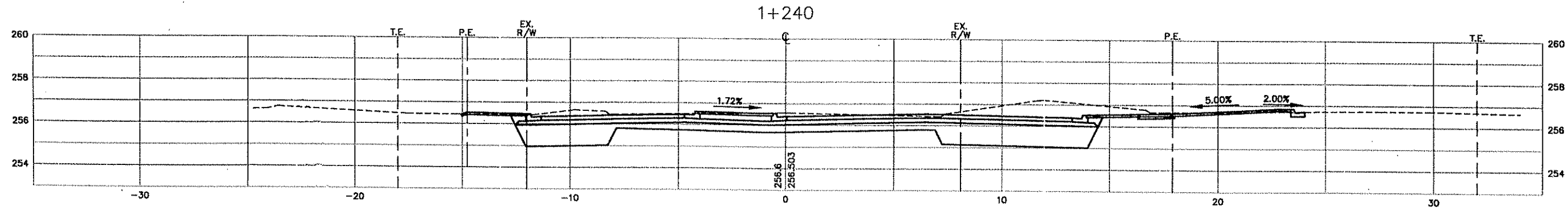
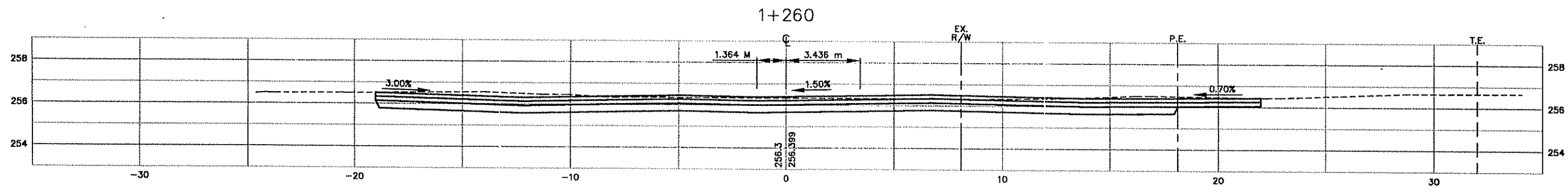
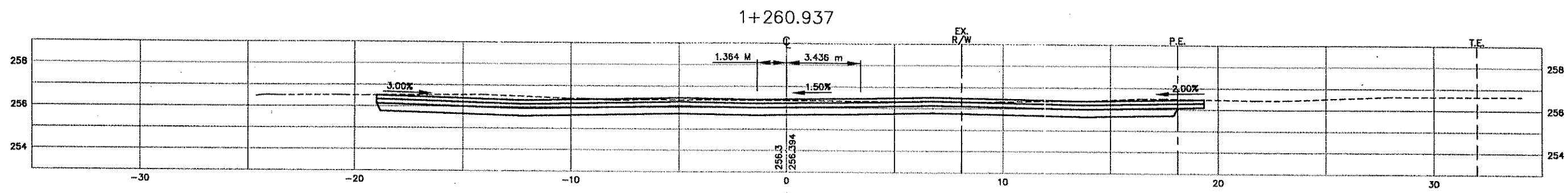
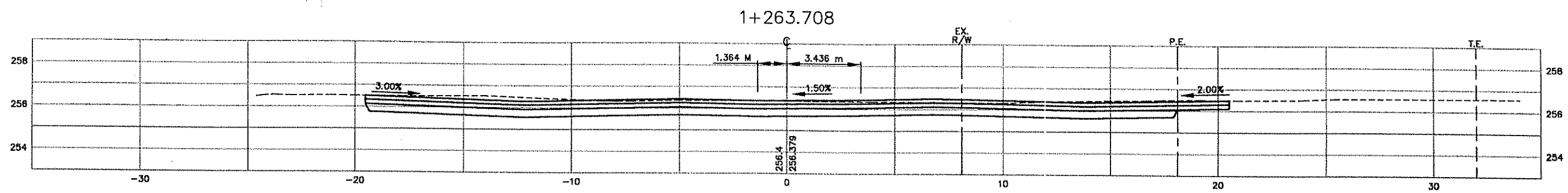
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COUNTY PROJECT	97-11-102
S.A.P.	127-010-15
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SHEET NO.
 41
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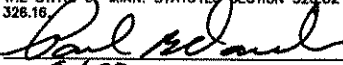


ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

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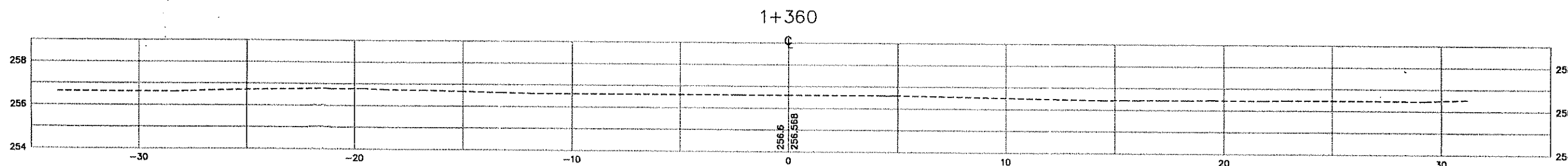
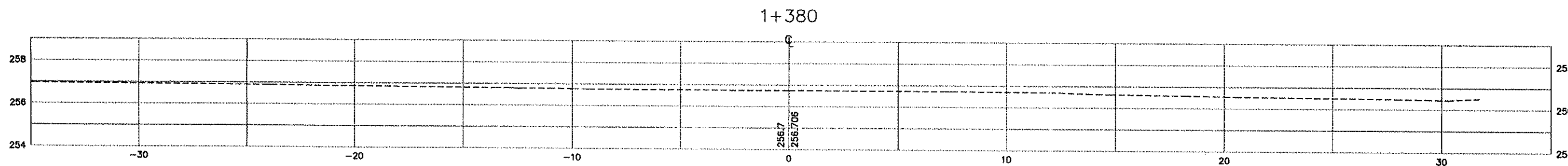
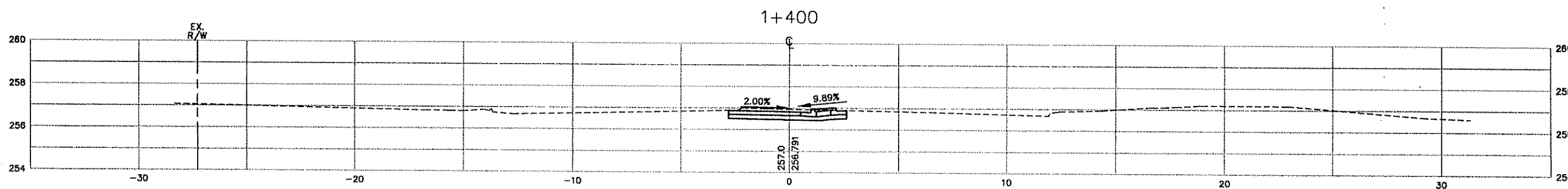
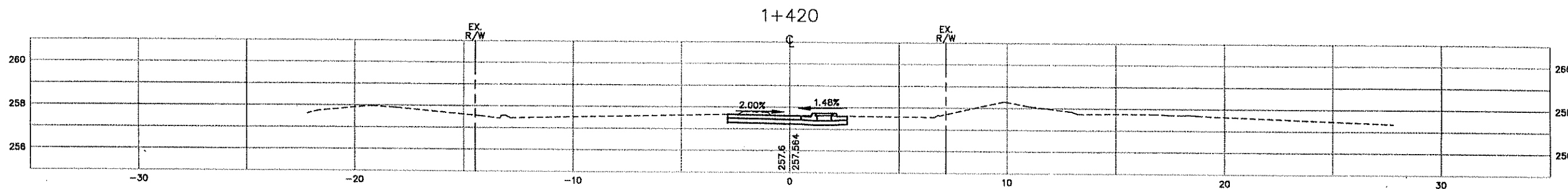
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REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE:	XREF DRAWINGS	 B R W INC. Thresher Square, 700 Third Street So. Minneapolis, MN 55415, Phone 612/370-0708, Fax 612/370-1378	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE STATE OF MINN. STATUTES SECTION 326.02 TO 326.18.  DATE: 4-1-98 MINN. REG. NO. 23187	COUNTY ROAD 102 RECONSTRUCTION CO RD 102/57TH AVENUE N.E. CROSS SECTIONS STA. 1+240 TO STA 1+263.708	CITY PROJECT	ST-1997-4	SHEET NO. 42 45	
				DRAWN BY:					DESIGN BY:	COUNTY PROJECT		97-11-102
				CHKD. BY:					DWG. NAME:	S.A.P.		127-010-15
				DATE:						S.A.P.		127-301-04





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0 2.5 5.0
 SCALE IN METERS
 HOR. 1=100
 VERT. 1=100



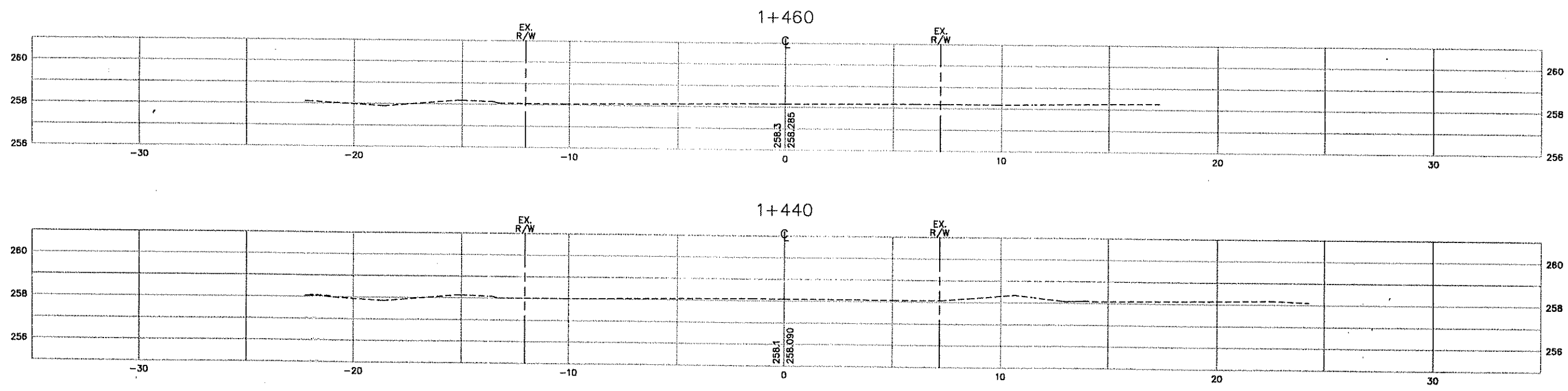
DISK FILE NAME: (13_c4) R: \35689\35689002\PLAN_SHT\57THCS07.DWG PLOT DATE: Mar 30, 1998 7:33am

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 35689-002-0101		XREF DRAWINGS 57THRSEC	 BRW INC. Thresher Square, 700 Third Street So. Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1378	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 STATE OF MINN. STATUTES SECTION 326.02 TO 326.10.  DATE: 4-1-98 MINN. REG. NO. 23197	COUNTY ROAD 102 RECONSTRUCTION CO RD 102/57TH AVENUE N.E. CROSS SECTIONS STA. 1+360 TO STA 1+420	CITY PROJECT	ST-1997-4	SHEET NO. 44
				DRAWN BY: PMJ DESIGN BY: JML CHKD. BY: PBD DWG. NAME: 57THCS07 DATE: FEBRUARY 6, 1998	COUNTY PROJECT					97-11-102	S.A.P.	
										S.A.P.	127-301-04	45





ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.

0 2.5 5.0
 SCALE IN METERS
 HOR. 1=100
 VERT. 1=100



DISK FILE NAME: (13_c4) R:\35689\35689002\PLAN_57\57THCS08.DWG PLOT DATE: Mar 30, 1998 7:34am

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 35689-002-0101		XREF DRAWINGS 57THRSEC	 BRW INC. Thresher Square, 700 Third Street So. Minneapolis, MN 55415, Phone 612/370-0700, Fax 612/370-1278	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 STATE OF MINN. STATUTES SECTION 328.02 TO 328.16.  DATE: 9-2-98 MINN. REG. NO. 23197	COUNTY ROAD 102 RECONSTRUCTION CO RD 102/57TH AVENUE N.E. CROSS SECTIONS STA. 1+440 TO STA 1+480	CITY PROJECT ST-1997-4 COUNTY PROJECT 97-11-102 S.A.P. 127-010-15 S.A.P. 127-301-04	SHEET NO. 45 45
				DRAWN BY: PMJ DESIGN BY: JML CHKD. BY: PBD DWG. NAME: 57THCS08 DATE: FEBRUARY 6, 1998	ALL QUANTITIES AND DIMENSIONS ON THIS PLAN ARE IN METRIC UNITS.						