

MINNESOTA DEPARTMENT OF TRANSPORTATION

THE CITY OF COON RAPIDS
ANOKA COUNTY

NORTHDALE BLVD./ROBINSON DRIVE AND HANSON BLVD.

CONSTRUCTION PLANS FOR GRADING, AGGREGATE BASE, BITUMINOUS SURFACING, CONCRETE CURB AND GUTTER, CONCRETE SIDEWALK, LANDSCAPING, LIGHTING, UTILITY IMPROVEMENTS, AND TRAFFIC SIGNAL IMPROVEMENTS

LOCATED ON: NORTHDALE BOULEVARD (CSAH 11) BETWEEN RAVEN STREET AND HANSON BOULEVARD (CSAH 78) (Geographic Description)
 LOCATED ON: ROBINSON DRIVE BETWEEN HANSON BOULEVARD (CSAH 78) AND 400' EAST OF MARTIN STREET (Geographic Description)
 LOCATED ON: HANSON BOULEVARD (CSAH 78) BETWEEN 115TH AVENUE AND TH 10 (Geographic Description)

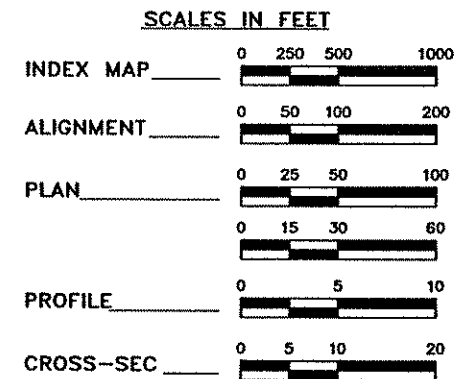
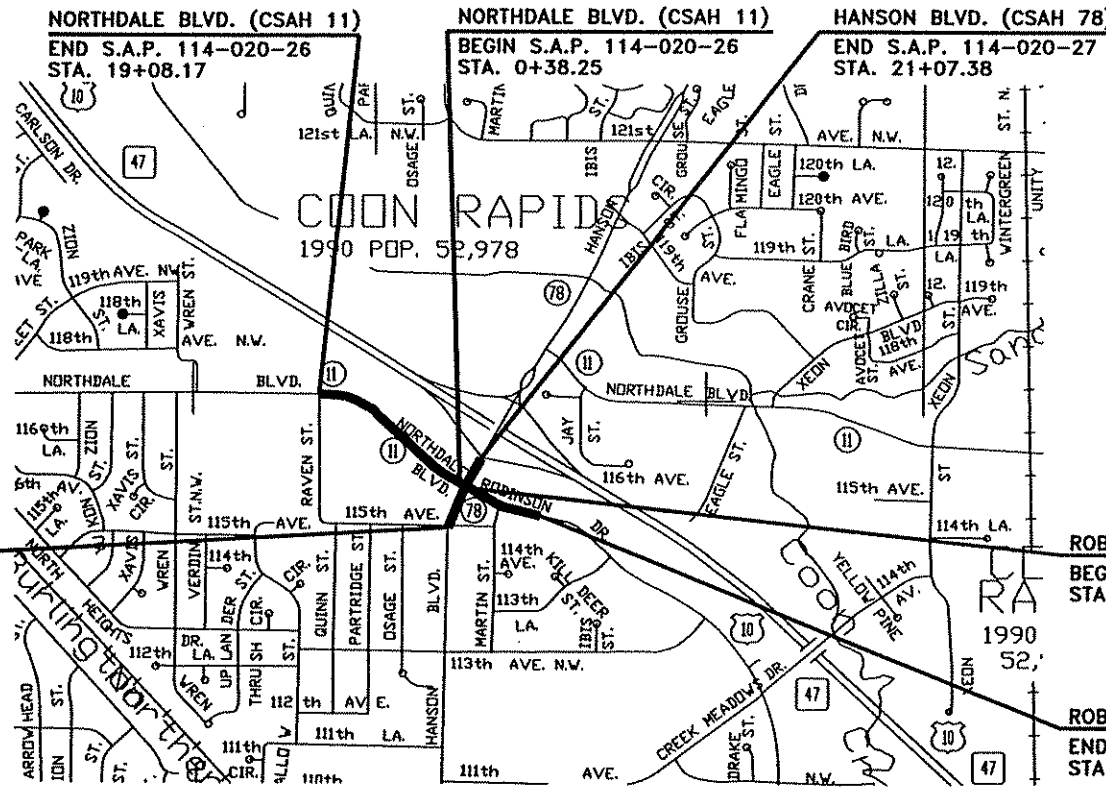
NORTHDALE BOULEVARD -
RAVEN ST. TO HANSON BOULEVARD
 STATE AID PROJ. NO. 114-020-26
 GROSS-LENGTH 1908.05 FEET - 0.36 MILES
 BRIDGE-LENGTH N.A.
 EXCEPTIONS-LENGTH N.A.
 NET-LENGTH 1908.05 FEET - 0.36 MILES

ROBINSON DRIVE -
NORTHDALE BLVD. TO 400' EAST OF MARTIN ST.
 STATE AID PROJ. NO. 114-107-08
 GROSS-LENGTH 767.62 FEET - 0.15 MILES
 BRIDGE-LENGTH N.A.
 EXCEPTIONS-LENGTH N.A.
 NET-LENGTH 767.62 FEET - 0.15 MILES

HANSON BOULEVARD -
115TH AVENUE TO SOUTH TH 10 RAMPS
 STATE AID PROJ. NO. 114-020-27
 GROSS-LENGTH 993.31 FEET - 0.19 MILES
 BRIDGE-LENGTH N.A.
 EXCEPTIONS-LENGTH N.A.
 NET-LENGTH 993.31 FEET - 0.19 MILES

LEGEND

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



NOTE: LABELS FOR SCALES IN THIS PLAN SET ARE BASED ON 22" X 34" SIZE PLAN SHEET.

MINN. PROJ. NO. 02-12-11
 MINN. PROJ. NO.

GOVERNING SPECIFICATIONS AS AMENDED

THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL SIGNING AND DEVICES SHALL CONFORM TO THE MUTCD, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS DATED JANUARY 2001.

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136-159	CROSS SECTIONS

THIS PLAN SET CONTAINS 159 SHEETS



Threeher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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.

DATE 5-6-02 REG. NO. 23197

ENGINEER Paul Paulson

APPROVED [Signature] 5-6-2002

APPROVED [Signature] 5/7/2002

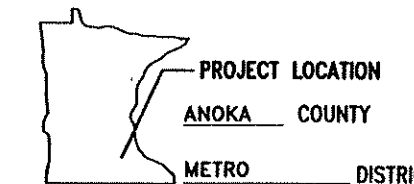
Recommended For Approval 20
 METRO-ASSISTANT DIVISION ENGINEER-STATE AID:
 REVIEWED FOR COMPLIANCE WITH STATE-AID
 RULES/POLICY

APPROVED FOR STATE AID DIVISION 20
 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 LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ REG. NO. _____

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY
05/07/02	ALL- Add. #1 / MnDOT Comments	



DESIGN DESIGNATION: NORTHDALE BLVD. (CSAH 11) - (S.A.P. 114-020-26)

Functional Classification: MINOR ARTERIAL
 No. of Traffic Lanes 4 No. of Parking Lanes 0
 ADT (Current Year) 2002 21,000 Design Speed 35 MPH
 ADT (Future Year) 2022 33,600 Based on STOPPING Sight Distance
 DHV (Design Hr. Vol.) N.A. Height of eye 3.5' Height of Object 0.5'
 D (Directional Distr.) 50 % Design Speed not achieved at N.A.
 T (Heavy Commercial) 7.1 % STA. N.A. TO STA. N.A. MPH N.A.
 R-Value 60 20 YR BESALS 5,200,000 Design Load 10 ton

DESIGN DESIGNATION: ROBINSON DRIVE - (S.A.P. 114-107-08)

Functional Classification: URBAN LOCAL
 No. of Traffic Lanes 4 No. of Parking Lanes 0
 ADT (Current Year) 2000 10,500 Design Speed 35 MPH
 ADT (Future Year) 2020 16,800 Based on STOPPING Sight Distance
 DHV (Design Hr. Vol.) N.A. Height of eye 3.5' Height of Object 0.5'
 D (Directional Distr.) 50 % Design Speed not achieved at N.A.
 T (Heavy Commercial) 7.1 % STA. N.A. TO STA. N.A. MPH N.A.
 R-Value 60 20 YR BESALS 2,600,000 Design Load 10 ton

DESIGN DESIGNATION: HANSON BLVD. (C.S.A.H. 78) - (S.A.P. 114-02-27)

Functional Classification: MINOR ARTERIAL
 No. of Traffic Lanes 4 No. of Parking Lanes 0
 ADT (Current Year) 2000 28,500 Design Speed 40 MPH
 ADT (Future Year) 2020 45,600 Based on STOPPING Sight Distance
 DHV (Design Hr. Vol.) N.A. Height of eye 3.5' Height of Object 0.5'
 D (Directional Distr.) 50 % Design Speed not achieved at N.A.
 T (Heavy Commercial) 7.1 % STA. N.A. TO STA. N.A. MPH N.A.
 R-Value 60 20 YR BESALS 7,000,000 Design Load 10 ton

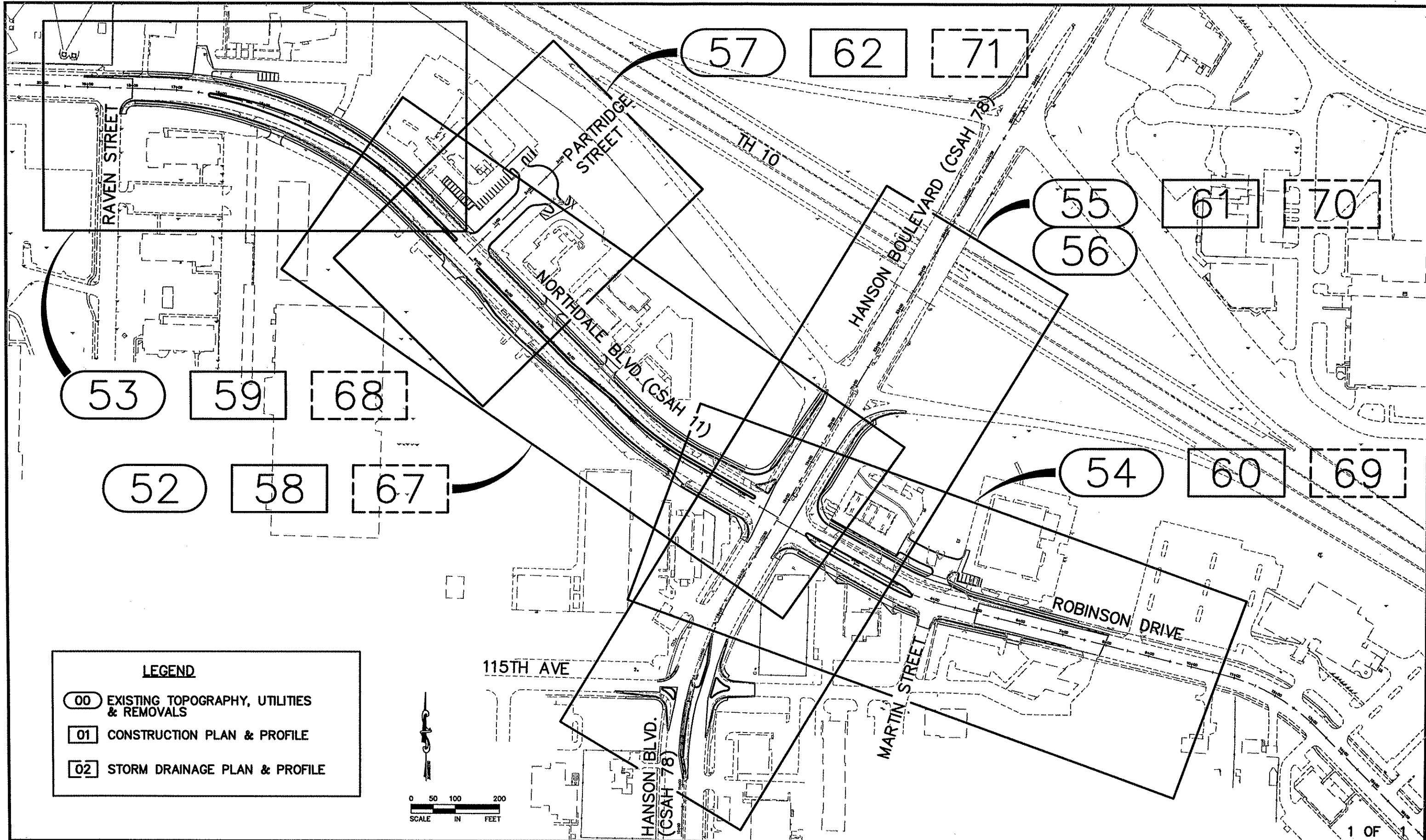
DESIGN DESIGNATION: HANSON BLVD. (C.S.A.H. 78) - (S.A.P. 114-020-27)

Functional Classification: MINOR ARTERIAL
 No. of Traffic Lanes 4 No. of Parking Lanes 0
 ADT (Current Year) 2000 13,500 Design Speed 40 MPH
 ADT (Future Year) 2020 21,600 Based on STOPPING Sight Distance
 DHV (Design Hr. Vol.) N.A. Height of eye 3.5' Height of Object 0.5'
 D (Directional Distr.) 50 % Design Speed not achieved at N.A.
 T (Heavy Commercial) 7.1 % STA. N.A. TO STA. N.A. MPH N.A.
 R-Value 60 20 YR BESALS 3,300,000 Design Load 10 ton

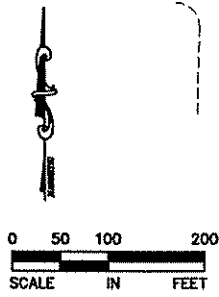
STATE AID PROJ. NO. S.A.P. 114-020-26, S.A.P. 114-107-08 SHEET NO. 1 OF 159 SHEETS

PLOT DATE: May 06, 2002 4:37pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CV01.dwg

PLOT DATE: Apr 25, 2002 10:51am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-L001.dwg



LEGEND	
00	EXISTING TOPOGRAPHY, UTILITIES & REMOVALS
01	CONSTRUCTION PLAN & PROFILE
02	STORM DRAINAGE PLAN & PROFILE



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

URS
 Thrasher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1378 Fax

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

Paul B. Danielson
 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
 (C.S.A.H. 11)
 GENERAL LAYOUT

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

1 OF 1
 SHEET NO. 2
 159

STATEMENT OF ESTIMATED QUANTITIES

NOTES	ITEM NO.	DESCRIPTION	UNIT	NORTHDALE BOULEVARD		ROBINSON DRIVE		HANSON BOULEVARD (115TH AVE TO SOUTH TH 10 RAMPS)		PROJECT TOTALS EST. QUANTITY
				SAP # 114-020-26		SAP # 114-107-08		SAP # 114-020-27		
				STATE AID PART. ITEMS EST. QUANTITY	STATE AID NON-PART. ITEMS EST. QUANTITY	STATE AID PART. ITEMS EST. QUANTITY	STATE AID NON-PART. ITEMS EST. QUANTITY	STATE AID PART. ITEMS EST. QUANTITY	STATE AID NON-PART. ITEMS EST. QUANTITY	
	2021.501	MOBILIZATION	LS	0.11	0.51	0.03	0.19	0.06	0.10	1.00
	2031.501	FIELD OFFICE TYPE D - MODIFIED	EACH	0.11	0.51	0.03	0.19	0.06	0.10	1.00
	2101.502	CLEARING	TREE		56.00		28.00		2.00	86.00
	2101.507	GRUBBING	TREE		56.00		28.00		2.00	86.00
	2102.501	PAVEMENT MARKING REMOVAL	SF		326.00		64.00			392.00
	2102.502	PAVEMENT MARKING REMOVAL - PERMANENT	SF						980.00	980.00
	2102.502	PAVEMENT MARKING REMOVAL	LF		13210.00		7380.00		980.00	21570.00
	2104.501	REMOVE STONE MASONRY WALL	LF						255.00	255.00
	2104.501	REMOVE SEWER PIPE (STORM)	LF		80.00		165.00		140.00	385.00
	2104.501	REMOVE CURB AND GUTTER	LF		4775.00		2261.00		1777.00	8813.00
	2104.501	REMOVE UTILITY CONDUIT	LF		1690.00					1690.00
	2104.501	REMOVE WATER MAIN	LF		75.00					75.00
	2104.503	REMOVE CONCRETE WALK	SF		13218.00		5133.00		5304.00	23655.00
	2104.503	REMOVE CONCRETE MEDIAN	SF						356.00	356.00
4	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	SY		335.00		61.00			396.00
4	2104.505	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	SY		1914.00		884.00			2798.00
4	2104.505	REMOVE BITUMINOUS PAVEMENT	SY		9728.00		4341.00		1724.00	15793.00
	2104.507	REMOVE MASONRY & CONC STRUCTURES	CY		20.00					20.00
	2104.509	REMOVE PLANTER	EACH				2.00			2.00
	2104.509	REMOVE CATCH BASIN	EACH		3.00		3.00		5.00	11.00
	2104.509	REMOVE CASTING	EACH		6.00		4.00		8.00	18.00
	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LF		53.00		42.00		55.00	150.00
	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF		1055.00		636.00		1897.00	3588.00
	2104.521	SALVAGE CHAIN LINK FENCE	LF		555.00					555.00
	2104.523	SALVAGE SIGN TYPE C	EACH		21.00		10.00		22.00	53.00
	2104.523	SALVAGE HYDRANT	EACH		6.00		2.00		2.00	10.00
	2104.523	SALVAGE LIGHT STANDARD & LUMINAIRE	EACH		2.00		3.00			5.00
	2104.601	HAUL SALVAGED MATERIAL	LS	0.62		0.22		0.16		1.00
	2104.602	RELOCATE COMMERCIAL SIGN	EACH		1.00		1.00			2.00
	2105.501	COMMON EXCAVATION (EV) (P)	CY		16554.00		5296.00		3248.00	25098.00
	2105.507	SUBGRADE EXCAVATION (EV) (P)	CY		13470.00		4898.00		2038.00	20406.00
	2105.522	SELECT GRANULAR BORROW (LV)	CY		6533.00		2309.00		1121.00	9983.00
	2105.604	GEOTEXTILE FABRIC TYPE V	SY		3000.00					3000.00
	2130.501	WATER	MGAL		10.00		5.00		5.00	20.00
	2211.503	AGGREGATE BASE (CV) CLASS 5 (P)	CY		4250.00		1422.00		649.00	6321.00
3	2211.503	AGGREGATE BASE (CV) CLASS 5	CY		397.00		269.00			666.00
	2232.501	MILL BITUMINOUS SURFACE	SY		200.00				206.00	406.00
	2350.501	TYPE HV 4 WEARING COURSE MIXTURE (I)	T		1611.00				193.00	1804.00
	2350.501	TYPE MV 3 WEARING COURSE MIXTURE (F)	T		413.00		1499.00		128.00	2040.00
	2351.501	TYPE HV 3 NON WEARING COURSE MIXTURE (I)	T		1430.00				171.00	1601.00
	2350.501	TYPE MV 3 NON WEARING COURSE MIXTURE (B)	T		2639.00				278.00	2917.00
	2350.501	TYPE LV 3 NON WEARING COURSE MIXTURE (B)	T		278.00		913.00		68.00	1259.00
2	2350.505	TYPE LV 3 BITUMINOUS MIXTURE FOR PATCHING	T		12.00		7.00		9.00	28.00
	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL		1432.00		623.00		204.00	2259.00
	2451.607	TRENCH STABILIZATION MATERIAL (CV)	CY		50.00		1.00			51.00

PLOT DATE: May 02 9:15am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TB06.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE: 33889-043	DRAWN BY: HMW	DESIGN BY: B.K
CHKED. BY: ICP	DWG. NAME: 043-TB06	DATE: APRIL 26, 2002



Thresher Square
700 Third Street South
Minneapolis, MN 55410
612.370.0700 Tel
612.370.1578 Fax

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

Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)**

STATEMENT OF ESTIMATED QUANTITIES

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

1 OF 4

SHEET NO.
3

159

STATEMENT OF ESTIMATED QUANTITIES

NOTES	ITEM NO.	DESCRIPTION	UNIT	NORTHDALE BOULEVARD						PROJECT TOTALS	
				SAP # 114-020-26		SAP # 114-107-08		HANSON BOULEVARD (115TH AVE TO SOUTH TH 10 RAMPS) SAP # 114-020-27		EST. QUANTITY	EST. QUANTITY
				STATE AID PART. ITEMS	STATE AID NON-PART. ITEMS	STATE AID PART. ITEMS	STATE AID NON-PART. ITEMS	STATE AID PART. ITEMS	STATE AID NON-PART. ITEMS		
				EST. QUANTITY	EST. QUANTITY	EST. QUANTITY	EST. QUANTITY	EST. QUANTITY	EST. QUANTITY		
	2451.609	CRUSHED ROCK	T		5.00					5.00	
	2501.515	30" RC PIPE APRON	EACH				5.00				5.00
	2501.515	36" RC PIPE APRON	EACH		1.00						1.00
	2501.602	TRASH GUARD FOR 30" PIPE APRON	EACH								1.00
	2501.602	TRASH GUARD FOR 36" PIPE APRON	EACH		1.00		1.00				2.00
	2503.541	12 INCH RC PIPE SEWER DES 3006 CL V	LF				1.00				1.00
	2503.541	15 INCH RC PIPE SEWER DES 3006 CL V	LF		7.00						7.00
	2503.541	18 INCH RC PIPE SEWER DES 3006 CL V	LF		1000.00						1000.00
1	2503.541	21 INCH RC PIPE SEWER DES 3006 CL IV	LF		12.00		594.00		281.00		687.00
1	2503.541	24 INCH RC PIPE SEWER DES 3006 CL III	LF		70.00		116.00		115.00		177.00
1	2503.541	27 INCH RC PIPE SEWER DES 3006 CL III	LF		151.00		18.00				169.00
1	2503.541	30 INCH RC PIPE SEWER DES 3006 CL III	LF		395.00						395.00
1	2503.541	36 INCH RC PIPE SEWER DES 3006 CL III	LF		342.00						342.00
	2503.602	CONNECT TO EXISTING STORM SEWER	EACH								1.00
	2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH		4.00		50.00				54.00
	2503.602	CONNECT TO EXISTING MANHOLES (SAN)	EACH		1.00		7.00				8.00
	2503.602	CONSTRUCT BULKHEAD	EACH		1.00				2.00		3.00
	2503.602	6" PIPE PLUG	EACH		2.00						2.00
	2503.602	8" PIPE PLUG	EACH		1.00						1.00
	2503.603	6" PVC SANITARY SERVICE PIPE	LF		1.00						1.00
	2503.603	8" PVC SANITARY SERVICE PIPE	LF		45.00						45.00
	2504.601	IRRIGATION SYSTEM	LS		18.00						18.00
	2504.602	CONNECT TO EXISTING WATER MAIN	EACH		0.50						0.50
	2504.602	HYDRANT	EACH		10.00		0.50				10.50
	2504.602	INSTALL HYDRANT	EACH		6.00		2.00				8.00
	2504.602	6 INCH GATE VALVE AND BOX	EACH				1.00				1.00
	2504.602	12" X 6" WET TAP	EACH		8.00		1.00				9.00
	2504.602	6" BEND 45 DEGREE	EACH		2.00				2.00		4.00
	2504.602	10" BEND 45 DEGREE	EACH		18.00						18.00
	2504.602	8" PIPE PLUG	EACH		4.00				1.00		5.00
	2504.602	ADJUST VALVE BOX	EACH		2.00						2.00
	2504.603	HYDRANT RISER	LF		14.00						14.00
	2504.603	6" WATER MAIN-DUCTILE IRON CL 52	LF		4.00		18.00				22.00
	2504.603	10" WATER MAIN-DUCTILE IRON CL 52	LF		246.00		2.00		4.00		252.00
	2504.604	4" POLYSTYRENE INSULATION	SY		15.00		28.00		18.00		61.00
					28.00						28.00
6	2506.501	CONST. DRAINAGE STRUCTURE DESIGN H	LF								1.00
	2506.501	CONST. DRAINAGE STRUCTURE DESIGN SPECIAL 1	LF		39.50						39.50
	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 48-4020	LF		3.50		24.20		43.60		51.30
	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 54-4020	LF		48.70						48.70
	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 60-4020	LF		36.10		38.10				74.20
	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 66-4020	LF		12.70		4.30				17.00
	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 72-4020	LF		7.40		5.50		14.30		27.20
	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 84-4020	LF								1.00
	2506.503	RECONSTRUCT DRAINAGE MANHOLES	LF				5.70				5.70
	2506.516	CASTING ASSEMBLY	LF		16.00		5.50				21.50
	2506.522	ADJUST FRAME AND RING CASTING	EACH		35.00						35.00
	2506.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH		29.00		21.00				50.00
					4.00		14.00		23.00		41.00
	2511.501	RANDOM RIPRAP CLASS II	CY				1.00		10.00		11.00
	2511.501	RANDOM RIPRAP CLASS III	CY		7.30				10.00		17.30
	2511.515	GEOTEXTILE FILTER TYPE IV	SY		38.00		9.20				47.20
					98.90						98.90
							29.10				29.10
											128.00

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE:
1	JLL	05/07/02	ADD. #1: REVISIONS TO EAST ABRA ENTRANCE	33889-043



Thresher Square
700 Third Street South
Minneapolis, MN 55416
612.370.5700 Tel
612.370.1576 Fax

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

Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)
STATEMENT OF ESTIMATED QUANTITIES

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

2 OF 4
SHEET NO. 4
159

STATEMENT OF ESTIMATED QUANTITIES

NOTES	ITEM NO.	DESCRIPTION	UNIT	STATEMENT OF ESTIMATED QUANTITIES						PROJECT TOTALS EST. QUANTITY
				NORTHDALE BOULEVARD		ROBINSON DRIVE		HANSON BOULEVARD (115TH AVE TO SOUTH TH 10 RAMPS)		
				SAP # 114-020-26		SAP # 114-107-08		SAP # 114-020-27		
				STATE AID PART. ITEMS	STATE AID NON-PART. ITEMS	STATE AID PART. ITEMS	STATE AID NON-PART. ITEMS	STATE AID PART. ITEMS	STATE AID NON-PART. ITEMS	
		EST. QUANTITY	EST. QUANTITY	EST. QUANTITY	EST. QUANTITY	EST. QUANTITY	EST. QUANTITY			
5	2521.501	4" CONCRETE WALK	SF		27321.00		10201.00		4794.00	42316.00
	2531.501	CONCRETE CURB & GUTTER DESIGN B412	LF							130.00
	2531.501	CONCRETE CURB & GUTTER DESIGN B412 (MODIFIED)	LF		130.00					165.00
	2531.501	CONCRETE CURB & GUTTER DESIGN B612	LF				165.00			894.00
	2531.501	CONCRETE CURB & GUTTER DESIGN B612 (MODIFIED)	LF		480.00		414.00			669.00
	2531.501	CONCRETE CURB & GUTTER DESIGN B618	LF				165.00		504.00	5191.00
	2531.501	CONCRETE CURB & GUTTER DESIGN B618 (MODIFIED)	LF		3349.00		1282.00		560.00	4221.00
	2531.501	CONCRETE CURB & GUTTER DESIGN B424	LF		3422.00		550.00		249.00	130.00
	2531.501	CONCRETE CURB & GUTTER DESIGN B624	LF						130.00	383.00
	2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SY		27.00				383.00	27.00
	2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SY		550.00					814.00
	2531.511	CONCRETE MEDIAN NOSE	SY		29.00		264.00			56.00
	2540.603	LANDSCAPE EDGER	LF				7.00		20.00	160.00
	2545.602	INSTALL LIGHT STANDARD LUMINAIRE	EACH		60.00		100.00			4.00
	2557.603	INSTALL CHAIN LINK FENCE	LF		2.00		2.00			555.00
	2563.601	TRAFFIC CONTROL	LS							0.11
	2563.604	CONSTRUCTION SIGNS-SPECIAL	SF	0.11	0.51	0.03	0.19	0.06	0.10	99.00
	2564.531	SIGN PANELS TYPE C	SF				99.00		72.00	400.10
2	2564.550	DELINEATOR TYPE SPECIAL	EACH		400.10		220.40		193.20	30.00
	2564.552	HAZARD MARKER X4-2	EACH		30.00		16.00		15.00	4.00
	2564.553	CLEARANCE MARKER X4-4	EACH		4.00		2.00		10.00	2.00
	2564.602	PAVEMENT MESSAGE (LEFT ARROW) POLY PREFORMED	EACH				2.00		1.00	10.00
	2564.602	PAVEMENT MESSAGE (RIGHT ARROW) POLY PREFORMED	EACH		10.00		2.00		1.00	2.00
	2564.602	PAVEMENT MESSAGE (RIGHT - THRU ARROW) POLY PREFORMED	EACH		2.00		2.00		8.00	2.00
	2564.602	PAVEMENT MESSAGE (LEFT ARROW) EPOXY	EACH		2.00					1.00
	2564.602	PAVEMENT MESSAGE (RIGHT ARROW) EPOXY	EACH		1.00					16.00
	2564.602	PAVEMENT MESSAGE (LEFT ARROW) PAINT	EACH		1.00					2.00
	2564.602	PAVEMENT MESSAGE (RIGHT ARROW) PAINT	EACH		16.00		4.00			2.00
	2564.602	PAVEMENT MESSAGE (RIGHT-THRU ARROW) PAINT	EACH		2.00		2.00			2.00
	2564.603	4" SOLID LINE WHITE - PAINT	LF		2.00					10698.00
	2564.603	4" BROKEN LINE WHITE - PAINT	LF				3188.00			520.00
	2564.603	8" DOTTED LINE WHITE - PAINT	LF		520.00		180.00		1394.00	72.00
	2564.603	24" STOP LINE WHITE - PAINT	LF		72.00					322.00
	2564.603	4" SOLID LINE YELLOW - PAINT	LF		322.00		142.00			2982.00
	2564.603	4" DOUBLE SOLID LINE YELLOW - PAINT	LF		2982.00		565.00		79.00	4668.00
	2564.603	24" SOLID LINE YELLOW - PAINT	LF		4668.00		3294.00			34.00
	2564.603	24" STOP LINE WHITE - POLY PREFORMED	LF		34.00		105.00			282.00
	2564.603	24" STOP LINE WHITE - EPOXY	LF		282.00		77.00		46.00	28.00
	2564.603	4" SOLID LINE WHITE - EPOXY	LF		28.00				49.00	5912.00
	2564.603	4" BROKEN LINE WHITE - EPOXY	LF		5912.00		557.00		2173.00	520.00
	2564.603	8" DOTTED LINE WHITE - EPOXY	LF		520.00		180.00			72.00
	2564.603	4" SOLID LINE YELLOW - EPOXY	LF		72.00					3164.00
	2564.603	4" SOLID DOUBLE LINE YELLOW - EPOXY	LF		3164.00		565.00		45.00	540.00
	2564.603	24" SOLID LINE YELLOW - EPOXY	LF		540.00		542.00		511.00	102.00
	2564.618	ZEBRA CROSSWALK - WHITE POLY PREFORMED	SF		102.00		105.00		370.00	1404.00
	2564.618	ZEBRA CROSSWALK - EPOXY	SF		1404.00		486.00		23.00	612.00
	2564.618	ZEBRA CROSSWALK - WHITE PAINT	SF						324.00	1080.00
	2565.511	FULL-TRAFFIC-ACTUATED TRAFFIC SIGNAL SYSTEM C	LS				486.00		306.00	0.75
	2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM C	LS		0.75					0.25

PLOT DATE: May 07, 2002 9:03am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TB08.r

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE: 33889-043	DRAWN BY: HMW	DESIGN BY: B.K
	CHECKED BY: ICP	DWG. NAME: 043-TB08
	DATE: APRIL 26, 2002	



Thresher Square
700 Third Street South
Minneapolis, MN 55416
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 LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)**

STATEMENT OF ESTIMATED QUANTITIES

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

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SHEET NO.
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STATEMENT OF ESTIMATED QUANTITIES

NOTES	ITEM NO.	DESCRIPTION	UNIT	NORTHDALE BOULEVARD		ROBINSON DRIVE		HANSON BOULEVARD (115TH AVE TO SOUTH TH 10 RAMPS)		PROJECT TOTALS EST. QUANTITY
				SAP # 114-020-26		SAP # 114-107-08		SAP # 114-020-27		
				STATE AID PART. ITEMS	STATE AID NON-PART. ITEMS	STATE AID PART. ITEMS	STATE AID NON-PART. ITEMS	STATE AID PART. ITEMS	STATE AID NON-PART. ITEMS	
		EST. QUANTITY	EST. QUANTITY	EST. QUANTITY	EST. QUANTITY	EST. QUANTITY	EST. QUANTITY			
	2565.602	TEMPORARY SIGNAL SYSTEM A	SYS							
	2565.616	REVISE SIGNAL SYSTEM A	SYS	0.25		0.25		0.50		1.00
	2565.616	REVISE SIGNAL SYSTEM B	SYS	0.25		0.25		0.50		1.00
	2565.616	REVISE SIGNAL SYSTEM D	SYS	1.00				1.00		1.00
	2572.501	TEMPORARY FENCE	LF		750.00		250.00			1000.00
	2573.501	BALE CHECK	EACH		60.00		52.00		24.00	136.00
	2573.502	SILT FENCE MACHINE SLICED	LF		1600.00		410.00		875.00	2885.00
	2575.501	SEEDING	ACRE		0.56		0.06		0.25	0.87
	2575.502	SEED MIXTURE TYPE 28B	LB		22.00					22.00
	2575.502	SEED MIXTURE TYPE 60B	LB				6.00		25.00	31.00
	2575.505	SODDING TYPE SALT RESISTANT	SY		5752.00		1414.00		1027.00	8193.00
	2575.505	SODDING TYPE EROSION	SY		400.00		400.00		400.00	1200.00
	2575.513	MULCH MATERIAL TYPE I	CY		1.10		0.10		0.50	1.70
	2575.519	DISK ANCHORING	AC		0.56		0.06		0.25	0.87
	2575.523	EROSION CONTROL BLANKET CATEGORY 4	SY		750.00					750.00
	2575.532	COMMERCIAL FERT ANALYSIS 22-5-10	LB		350.00		70.00		92.00	512.00

NOTES:
 [1] PIPE CLASS SHOWN IS MINIMUM ALLOWABLE. HIGHER CLASS OF PIPE MAY BE SUBSTITUTED FOR CLASS SHOWN
 [2] FOR USE ADJACENT TO CATCH BASINS PRIOR TO CONSTRUCTION OF FINAL WEAR COURSE LAYER
 [3] FOR CONSTRUCTION OF TEMPORARY PAVEMENT, COMMERCIAL DRIVEWAYS, AND PARKING LOTS
 [4] FOR ALL PAVEMENT REGARDLESS OF DEPTH
 [5] INCLUDES QUANTITIES FROM TRAFFIC CONTROL SUMMARY
 [6] SEE STORM DRAINAGE DETAIL SHEET FOR DRAINAGE STRUCTURE DESIGN SPECIAL 1

PLOT DATE: May 07, 2002 9:03am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TB08A

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE:
33889-043
 DRAWN BY: [] DESIGN BY: []
 CHKD. BY: ICP DWG. NAME: 043-TB08A
 DATE: APRIL 26, 2002



Thresher Square
700 Third Street South
Minneapolis, MN 55415
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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

 PAUL B. DANIELSON
 DATE: 4/28/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)
STATEMENT OF ESTIMATED QUANTITIES

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

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 SHEET NO. 6
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PLOT DATE: May 302 11:49am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TB09.dwg

INDEX OF TABULATION CHARTS	
SHEET No.	DESCRIPTION
8	EARTHWORK TABULATION (NORTHDAL BLVD.)
8	EARTHWORK TABULATION (ROBINSON DRIVE)
9	EARTHWORK TABULATION (HANSON BLVD. NORTH)
9	EARTHWORK TABULATION (HANSON BLVD./ 115TH AVE)
10	EARTHWORK SUMMARY
10	EARTHWORK BALANCE
10	EARTHWORK QUANTITIES
12	MISCELLANEOUS CONCRETE ITEMS
12	BUTUMINOUS AND AGGREGATE SUMMARY
12	TURF ESTABLISHMENT
13	DRAINAGE STRUCTURE ADJUSTMENT
13	SANITARY SEWER ADJUSTMENT
13	CASTING ASSEMBLIES
74	DRAINAGE TABULATION
91	FURNISH AND INSTALL SIGN PANELS TYPE C
91	DELINEATORS AND MARKERS
92	PAVEMENT MARKINGS (PAINT)
92	PAVEMENT MARKINGS (POLY PREFORM, EPOXY)

STANDARD PLATES	
THESE STANDARD PLATES AS APPROVED BY THE FHWA SHALL APPLY	
PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE (5 SHEETS)
3006G	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007C	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133C	RIPRAP AT RCP OUTLETS
3145E	CONCRETE PIPE TIES
4003B	30" PRECAST CATCH BASIN
4005L	MANHOLE OR CATCH BASIN TYPE A&B CONE SECTIONS PRECAST
4006L	MANHOLE OR CATCH BASIN PRECAST
4007C	PRECAST MECHANICAL JOINT SEWER MANHOLE
4010H	CONCRETE SHORT CONE AND ADJUSTING RING
4011E	PRECAST CONCRETE BASE
4018A	PRECAST MANHOLE OR CATCH BASIN REDUCER CONE SECTION
4020I	MANHOLE OR CATCH BASIN COVER (2 SHEETS)
4022A	3' X 2' OPENING MANHOLE OR CATCH BASIN COVER
4024A	48" DIA PRECAST SHALLOW DEPTH CATCH BASIN
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4108F	ADJUSTING RINGS FOR CATCH BASINS AND MANHOLES
4110F	COVER CASTING FOR MANHOLE
4126F	CATCH BASIN FRAME CASTING
4149C	GRATE CASTING FOR CATCH BASIN
4161F	CURB BOX CASTING FOR CATCH BASIN
4180J	MANHOLE OR CATCH BASIN STEP
7035L	CONCRETE WALK & CURB RETURNS AT ENTRANCES
7036E	PEDESTRIAN CURB RAMP
7100G	CONCRETE CURB AND GUTTER
7109C	MEDIAN NOSE AND ISLAND
7111J	INSTALLATION OF CATCH BASIN CASTINGS
7113A	CONCRETE APPROACH NOSE DETAIL
8000I	STANDARD BARRICADES
8110D	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
8114A	PVC HANDHOLE/PULLBOX
8115D	PEDESTRIAN PUSH BUTTON INSTALLATION
8118C	SERVICE EQUIPMENT & POLE - TRAFFIC CONTROL SIGNALS
8119C	GROUND MOUNTED CABINET FOUNDATION
8120K	PA85 POLE FOUNDATION
8121D	TRANSFORMER BASE AND POLE BASE PLATE
8122C	PEDESTAL AND PEDESTAL BASE
8123E	POLE AND MAST ARM
8124E	MAST ARM SIGNAL HEAD MOUNTS
8126F	PA90 AND PA100 POLE FOUNDATION
9102D	TURF ESTABLISHMENT AREAS (AT PIPE CULVERT ENDS)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/08/02	REVISIONS PER MNDOT COMMENTS

DESIGN FILE:
33889-043

DRAWN BY:
TSH

DESIGN BY:
ICP

CHKD. BY:
ICP

DWG. NAME:
043-TB09

DATE:
MARCH 19, 2002



Thresher Square
700 Third Street South
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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/2/02 MN LIC. NO. 23197

NORTHDAL BOULEVARD
(C.S.A.H. 11)

STANDARD PLATES / INDEX OF TABULATIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

1 OF 1

SHEET NO.
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2002 4:55pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TB05A.dwg

EARTHWORK TABULATION									
STATION TO STATION	EXCAVATION CY (EV)					EMBANKMENT CY (EV)			
	TOPSOIL STRIPPING (1)	COMMON (2)	SUBGRADE COMPACTION (3)	SUBGRADE CORRECTION (4)	TOTAL CUT	TOPSOIL (5)	SELECTED GRADING	SELECT GRANULAR (5)	TOTAL FILL
SAP 114-020-27 HANSON BOULEVARD/115TH AVENUE INTERSECTION									
INTERSECTION	54.0	337.0	110.0	161.0	662.0	54.0	49.0	271.0	374.0
SUBTOTAL	54.0	337.0	110.0	161.0	662.0	54.0	49.0	271.0	374.0

- NOTES:
 (1) 6" TOPSOIL STRIPPING ASSUMED
 (2) COMMON EXCAVATION DOES NOT INCLUDE TOPSOIL STRIPPING
 (3) MATERIAL BELOW EXISTING ROAD CORE. 12" TO BE EXCAVATED FOR UNIFORM COMPACTION
 (4) MATERIAL OUTSIDE EXISTING ROAD CORE. 18" TO BE EXCAVATED FOR CORRECTION / UNIFORM COMPACTION.
 (5) MATERIAL FOR SUBGRADE CORRECTION AND COMPACTION.

EARTHWORK TABULATION									
STATION TO STATION	EXCAVATION CY (EV)					EMBANKMENT CY (EV)			
	TOPSOIL STRIPPING (1)	COMMON (2)	SUBGRADE COMPACTION (3)	SUBGRADE CORRECTION (4)	TOTAL CUT	TOPSOIL (5)	SELECTED GRADING	SELECT GRANULAR (5)	TOTAL FILL
SAP 114-020-27 HANSON BOULEVARD (NORTH)									
1,700.000									
1,750.000	29.4	245.9	133.3	104.0	512.6	7.6	10.0	237.3	254.9
1,800.000	42.6	293.1	170.6	100.7	607.0	0.0	6.2	271.4	277.6
1,850.000	107.6	292.8	37.3	237.3	675.0	16.4	44.0	274.6	335.0
1,900.000	140.6	287.6	0.0	261.2	689.4	42.5	191.0	261.2	494.7
1,950.000	161.4	266.2	0.0	233.6	661.2	62.4	382.8	233.6	678.8
2,000.000	226.6	246.8	0.0	202.6	676.0	89.0	488.1	202.6	779.7
2,050.000	195.3	185.8	0.0	161.9	543.0	93.4	394.4	161.9	649.7
2,107.380	62.6	72.7	0.0	124.6	259.9	48.7	161.6	124.6	334.9
SUBTOTAL	966.1	1890.9	341.2	1425.9	4624.1	360.0	1678.1	1767.2	3805.3

- NOTES:
 (1) 6" TOPSOIL STRIPPING ASSUMED
 (2) COMMON EXCAVATION DOES NOT INCLUDE TOPSOIL STRIPPING
 (3) MATERIAL BELOW EXISTING ROAD CORE. 12" TO BE EXCAVATED FOR UNIFORM COMPACTION
 (4) MATERIAL OUTSIDE EXISTING ROAD CORE. 18" TO BE EXCAVATED FOR CORRECTION / UNIFORM COMPACTION.
 (5) MATERIAL FOR SUBGRADE CORRECTION AND COMPACTION.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 33889-043	 <p>Thresher Square 700 Third Street South Minneapolis, MN 55415 612.370.0700 Tel 612.370.1378 Fax</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 LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.</p> <p><i>Paul B. Daniel</i> PAUL B. DANIELSON DATE: 4/28/02 MN LIC. NO. 23197</p>	<p>NORTHDALÉ BOULEVARD (C.S.A.H. 11)</p> <p>EARTHWORK TABULATION</p>	CITY PROJECT	2001-47	S.A.P.	114-020-26	<p>SHEET NO. 9 159</p>	
1	J.L.	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE	DRAWN BY: J.L.				DESIGN BY: J.L.	COUNTY PROJECT		S.A.P.		114-020-27
				CHKD. BY: ICP				DWG. NAME: 043-TB05A			S.A.P.		114-107-08
				DATE: APRIL 26, 2002									

PLOT DATE: Mo, 2002 4:55pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TB05B.dwg

EARTHWORK SUMMARY (NEAT VOLUMES BASED UPON CROSS-SECTIONS)							TABLE 1
NOTES	ITEM	UNIT	SAP 114-020-26 NORTHDALE BOULEVARD	SAP 114-107-08 ROBINSON DRIVE	SAP 114-020-27 HANSON BLVD	SAP 114-020-27 HANSON BLVD / 115TH AVENUE	PROJECT TOTALS
1	EXCAVATION						
4	COMMON EXCAVATION (TOPSOIL) (EV)	CY	4465	1630	966	54	7115
6	COMMON EXCAVATION (REGULAR) (EV)	CY	12089	3666	1891	337	17983
2	SUBGRADE EXCAVATION (EV)	CY	6898	2812	341	110	10161
3	SUBGRADE EXCAVATION (EV)	CY	6572	2086	1426	161	10245
1	EMBANKMENT						
	SELECT GRANULAR BORROW (CV)	CY	13472	4899	1767	271	20409
	SELECTED GRADING (CV)	CY	2357	1611	1678	49	5695
5	TOPSOIL REQUIRED (CV)	CY	1065	316	360	54	1795

TABLE 1 NOTES:

- EARTHWORK AREAS FROM CROSS-SECTIONS
- SUBGRADE EXCAVATION FOR RECOMPACTION FOR UNIFORMITY
- SUBGRADE EXCAVATION FOR CORRECTION OR COMPACTION FOR UNIFORMITY
- ASSUMED 6" TOPSOIL STRIPING
- 4" TOPSOIL PLACEMENT REQUIRED
- COMMON EXCAVATION QUANTITY DOES NOT INCLUDE PAVEMENT REMOVAL QUANTITY WHICH SHALL BE PAID FOR UNDER A SEPARATE ITEM.

EARTHWORK BALANCE							TABLE 2
NOTES	ITEM	UNIT	SAP 114-020-26 NORTHDALE BOULEVARD	SAP 114-107-08 ROBINSON DRIVE	SAP 114-020-27 HANSON BLVD	SAP 114-020-27 HANSON BLVD / 115TH AVENUE	PROJECT TOTALS
1	TOPSOIL REQUIRED (EV)	CY	1395	411	468	70	2334
2	TOPSOIL MATERIAL GENERATED (EV)	CY	4465	1630	966	54	7115
	COMMON EXCAVATION (REGULAR) (EV)	CY	12089	3666	1891	337	17983
9	SELECT GRANULAR MATERIAL REQUIRED (EV)	CY	16166	5879	2120	325	24490
3	SELECT GRADING MATERIAL GENERATED FROM SUBCUT COMPACTION (EV)	CY	345	141	17	6	509
4	SELECT GRADING MATERIAL GENERATED FROM SUBCUT CORRECTION (EV)	CY	1314	417	285	32	2048
	SELECT GRANULAR BORROW MATERIAL GENERATED FROM SUBCUT COMPACTION (EV)	CY	6553	2671	324	104	9552
	SELECT GRANULAR BORROW MATERIAL GENERATED FROM SUBCUT CORRECTION (EV)	CY	5258	1669	1141	129	8197
5	SELECT GRANULAR BORROW REQUIRED (EV)	CY	4355	1539	655	92	6641
6	ON-SITE MATERIAL AVAILABLE FOR EMBANKMENT (EV)	CY	13748	4224	2193	375	20540
7	EMBANKMENT MATERIAL REQUIRED (EV)	CY	2828	1933	2014	59	6834
8	GRANULAR MATERIAL REQUIRED (CV)	CY	(10920)	(2291)	(179)	(316)	(13706)

TABLE 2 NOTES:

- INCLUDES 4" TOPSOIL PLACEMENT WITH A SHRINKAGE FACTOR OF 1.3 FROM CV TO EV
- ASSUMES UPPER 6" OF ON-SITE MATERIAL IS SUITABLE FOR TOPSOIL STRIPPING
- INCLUDES ASSUMED FACTOR OF 5% OF THE MATERIAL BENEATH THE EXISTING ROADWAY CORE WILL NOT MEET SELECT GRANULAR BORROW REQUIREMENTS.
- INCLUDES ASSUMED FACTOR OF 20% OF THE MATERIAL OUTSIDE THE EXISTING ROADWAY CORE WILL NOT MEET SELECT GRANULAR BORROW REQUIREMENTS.
- EQUAL TO SELECT GRANULAR BORROW REQUIRED (24,490 CY (EV)) MINUS SELECT GRANULAR MATERIAL GENERATED FROM SUBGRADE EXC. (9,652 CY (EV) + 8,197 CY (EV)) = 6,641 CY (EV)
- EQUAL TO COMMON EXCAVATION (REGULAR) PLUS MATERIAL GENERATED FROM SUBCUT NOT MEETING THE REQUIREMENTS OF SELECT GRANULAR BORROW = 17983 CY (EV) + (10,161 - 9,652 CY (EV)) + (10,245 - 8,197 CY (EV)) = 20,540 CY (EV)
- INCLUDES A FACTOR OF 1.2 FROM CV TO EV (5,721 CY (CV) x 1.2 = 6,865 CY (EV))
- EQUAL TO EMBANKMENT MATERIAL REQUIRED MINUS ON-SITE MATERIAL AVAILABLE FOR EMBANKMENT = 6,834 CY (EV) - 20,540 CY (EV) = 13,706 CY (EV) EXCESS MATERIAL
- INCLUDES FACTOR OF 1.2 FROM CV TO EV

EARTHWORK QUANTITIES							TABLE 3	
NOTES	SPEC NO.	ITEM	UNIT	SAP 114-020-26 NORTHDALE BOULEVARD	SAP 114-107-08 ROBINSON DRIVE	SAP 114-020-27 HANSON BLVD	SAP 114-020-27 HANSON BLVD / 115TH AVENUE	PROJECT TOTALS
1	2105.501	COMMON EXCAVATION (EV) (P)	CY	16554	5296	2857	391	25098
2	2105.507	SUBGRADE EXCAVATION (EV) (P)	CY	13470	4898	1767	271	20406
3	2105.522	SELECT GRANULAR BORROW (LV)	CY	6533	2309	983	138	9963

TABLE 3 NOTES:

- INCLUDES REGULAR COMMON EXCAVATION PLUS TOPSOIL EXCAVATION
- INCLUDES SUBGRADE EXCAVATION FOR COMPACTION FOR UNIFORMITY AND SUBGRADE EXCAVATION FOR CORRECTION OR COMPACTION FOR UNIFORMITY
- INCLUDES SHRINKAGE FACTOR OF 1.5 FROM LV TO CV

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JLL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE: 33889-043	DRAWN BY: JLL	DESIGN BY: JLL
CHKD. BY: ICP	DWG. NAME: 043-TB05B	DATE: APRIL 26, 2002



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700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)**

EARTHWORK SUMMARY

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	117-107-08

3 OF 3

SHEET NO.
10

159

PLOT DATE: 4/26/02 4:55pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TB10.dwg

MISCELLANEOUS CONCRETE ITEMS

STATION TO STATION	2211.502	2521.501	2531.501	2531.501	2531.501	2531.501	2531.501	2531.501	2531.501	2531.501	2531.507	2531.507	2531.511
	AGGREGATE	4"	B412	B412 (MOD.)	B612	B612 (MOD.)	B618	B618 (MOD.)	B424	B624	6" CONCRETE	8" CONCRETE	CONCRETE
	BASE	CONCRETE	CURB &	CURB &	CURB &	CURB &	CURB &	CURB &	CURB &	CURB &	DRIVEWAY	DRIVEWAY	MEDIAN
	CLASS 5 (2)	WALK (1)	GUTTER	GUTTER	GUTTER	GUTTER	GUTTER	GUTTER	GUTTER	GUTTER	PAVEMENT	PAVEMENT	NOSE
	CY	sq	LF	LF	LF	LF	LF	LF	LF	LF	SY	SY	SY
SAP 114-020-26, SAP 114-020-27													
SAP 114-107-08													
NORTHDALE BLVD	433	27321	130		480		3349	3422			27	550	29
ROBINSON DRIVE	170	10201		165	414	165	1282	550				264	7
HANSON BLVD (NORTH)	25	2021							130	383			4
HANSON BLVD/115TH AVENUE	34	2773				504	560	249					16
PROJECT TOTAL =	662	42316	130	165	894	669	5191	4221	130	383	27	814	56

NOTES:

- (1) INCLUDES QUANTITY FOR MEDIAN CONSTRUCTION
- (2) FOR INFORMATION ONLY. CLASS 5 IS INCIDENTAL TO CONCRETE WALK AND CONCRETE DRIVEWAY PAY ITEMS.

BITUMINOUS AND AGGREGATE SUMMARY

STATION TO STATION	INSET	2211.503	2211.503	2350.501	2350.501	2350.501	2350.502	2350.502	2357.502
		AGG. BASE	AGG. BASE	HVWE48540I	MVWE35035F	HVNW36540I	MVNW35035B	LVNW35030B	BIT.TACK
		CLASS 5	CLASS 5	INSET A, C	INSET B,D,E,F,G	INSET A, C	INSET A,C,F	INSET B,E,G	COAT
		(CV) (P)	(CV) (2)	WEAR	WEAR	NON-WEAR	NON-WEAR	NON-WEAR	
		CY	CY	T	T	T	T	T	GAL
SAP 114-020-26, SAP 114-020-27									
SAP 114-107-08									
NORTHDALE BLVD	A,E,F,G	4250	397	1611	413	1430	2839	278	1432
ROBINSON DRIVE	B,D,E	1422	269		1499			913	623
HANSON BLVD (NORTH)	A, B	235		39	128	34	56	68	83
HANSON BLVD/115TH STREET INTERSECTION	C	414		154		137	222		121
COMMERCIAL D/W'S	E								
PARKING LOTS	G								
PROJECT TOTAL =		6321	666	1804	2040	1601	2917	1259	2259

NOTES:

- (1) ALLOWABLE TOLERANCE OF 0.25" FOR TOP AND BOTTOM BITUMINOUS LIFTS INCLUDED IN QUANTITY CALCULATIONS.
- (2) FOR CONSTRUCTION OF COMMERCIAL DRIVEWAYS, TEMPORARY PAVEMENT, AND PARKING LOTS.

TURF ESTABLISHMENT

STATION TO STATION	2575.501	2575.502	2575.502	2575.505	2575.511	2575.519	2575.523	2575.532
	SEEDING	SEED	SEED	SODDING,	MULCH	DISK	EROSION	COMMERCIAL
	AREA	MIXTURE	MIXTURE	TYPE SALT	MATERIAL	ANCHORING	CONTROL	FERTILIZER
	TYPE 28B	TYPE 28B	TYPE 60B	RESISTANT	TYPE 1		BLANKETS,	ANALYSIS
	ACRE	LB	LB	SY	CY	ACRE	CATEGORY 4	22-5-10
							SY	LB
SAP 114-020-26, SAP 114-020-27								
SAP 114-107-08								
NORTHDALE BLVD	0.56	22		5752	1.1	0.56	750	350
ROBINSON DRIVE	0.06		6	1414	0.1	0.06		70
HANSON BLVD (NORTH)	0.25		25	542	0.5	0.25		72
HANSON BLVD (SOUTH)				485				20
PROJECT TOTAL =	0.87	22	31	8193	1.7	0.87	750	512

BASIS FOR ESTIMATED QUANTITIES

- SEED MIX 28B: 40 lb/acre
- SEED MIX 60B: 100 lb/acre
- TYPE 3 MULCH: 2.0 tons/acre
- COMMERCIAL FERTILIZER ANALYSIS 22-5-10: 200 lb/acre (SLOW RELEASE),

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JLS	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

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DRAWN BY: JJS	CHKD. BY: ICP
DWG. NAME: 043-TB10	DATE: APRIL 26, 2002



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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
TABULATIONS**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107.08

1 OF 2
SHEET NO.
12
159

2002 4:55pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TB11.dwg

DRAINAGE STRUCTURE ADJUSTMENTS												
ALIGNMENT	STRUCTURE NUMBER	STATION [1]	OFFSET [1]	ELEVATION		2104.509	2506.516	2506.522	2506.503			NOTES
				EXIST ELEV	PROP ELEV	REMOVE CASTING EACH	CASTING ASSEMBLY [2] EACH	ADJUST FRAME RING & CASTING [4] EACH	RECONSTRUCT DRAINAGE MANHOLE [3]			
						EXIST ELEV	PROP ELEV	EACH	EXIST ELEV	PROP ELEV	ELEV DIFF (LF)	
NORTHDALE BLVD	101	18+24.93	23.97 LT	863.62	863.67			2.00				
	102	17+85.46	22.36 LT	863.56	863.90	1.00	A-7	2.00				
	103	16+83.85	17.73 LT	864.72	864.54			2.00				
	104	14+16.97	17.88 LT	865.75	866.16			2.00				
	105	11+40.13	19.42 LT	864.48	865.64			1.00	864.48	865.64	5.16	
	107	10+82.36	22.82 LT	863.95	865.26	1.00	A-7	1.00	863.95	865.26	5.31	
109	6+38.88	22.52 LT	863.92	865.40	1.00	A-7	1.00	863.92	865.40	5.48		
ROBINSON DRIVE	116	3+79.29	23.00 LT	863.97	864.46	1.00	A-7	2.00				
	118	6+23.79	22.64 LT	862.71	862.95	1.00	A-7	2.00				
HANSON BLVD	110	16+97.24	36.52 RT	867.80	867.84	1.00	A-7	2.00				
	111	17+08.11	4.73 LT	868.55	868.55	1.00	A-7					
	112	17+26.62	41.33 LT	868.12	867.97			2.00				
	113	17+99.89	7.13 RT	868.76	868.76	1.00	A-7					
	114	18+14.46	36.15 RT	868.09	868.23	1.00	A-7	2.00				
	115	18+29.70	45.28 LT	868.22	868.16	1.00	A-7	2.00				
	119	12+71.21	40.37 LT	868.70	868.70	1.00	A-7					
	120	12+78.43	45.72 RT	868.63	868.63	1.00	A-7					
	121	13+98.13	35.06 RT	868.27	868.27	1.00	A-7					
PROJECT TOTAL =								13.00	13	23.00	15.95	

NOTES:

- [1] STATIONS AND OFFSETS ARE TO CENTER OF CASTING FOR ALL CATCH BASINS AND MANHOLES
- [2] A-7 REFERS TO MNDOT STANDARD PLATES 4101 FOR RING CASTING NO. 700-7 AND 4110 FOR COVER CASTING NO. 716
- [3] INCLUDES 4-FEET FOR CONE SECTION
- [4] CASTING ASSEMBLY SHALL BE SALVAGED AND REUSED (INCIDENTAL)

SANITARY SEWER ADJUSTMENTS						
ALIGNMENT	STRUCTURE NUMBER	STATION [1]	OFFSET [1]	2506.522		NOTES
				EXIST ELEV	PROP ELEV	
NORTHDALE BLVD	500	18+44.67	4.70 R	864.07	863.99	2
	501	16+82.06	7.47 R	864.92	864.76	2
	502	14+62.06	9.99 R	865.87	865.97	2
	503	12+65.18	0.53 R	865.32	866.08	2
	504	9+75.11	1.10 L	864.84	864.77	2
	505	6+63.72	0.21 L	864.59	865.43	2
	506	5+13.40	0.17 R	865.66	866.04	2
	507	5+14.86	43.26 L	865.63	866.47	2
	508	3+14.32	4.04 L	867.15	867.23	2
ROBINSON DRIVE	510	0+56.03	1.88 L	867.76	867.77	2
	511	1+14.46	0.67 L	866.51	867.28	2
	512	3+57.28	3.17 R	864.64	865.21	2
	513	4+64.49	0	864.09	864.21	2
	514	6+48.17	0.70 L	863.31	863.28	2
HANSON BLVD	509	17+50.27	0.64 L	868.72	868.72	2
	515	13+16.25	81.16 L	867.99	867.99	2
	516	12+01.67	4.15 L	870.72	871.12	2
PROJECT TOTAL =						34


NOTES:

- [1] STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE FOR ALL MANHOLES
- [2] CASTING ASSEMBLY SHALL BE SALVAGED AND REUSED (INCIDENTAL)
- [3] EACH FRAME AND RING CASTING TO BE ADJUSTED TWICE TO ACCOUNT FOR INTERIM PAVEMENT CONSTRUCTION

CASTING ASSEMBLIES		
	2506.516	NOTES
	CASTING ASSEMBLY EACH	
SAP 114-020-26		
NORTHDALE BOULEVARD	4 (A-7)	[1]
	30 (B-1)	[2]
	R-3246-B	[3]
SAP 114-107-08		
ROBINSON DRIVE	5 (A-7)	[1]
	16 (B-1)	[2]
SAP 114-020-27		
HANSON BOULEVARD (115TH TO SOUTH RAMPS OF TH 10)	8 (A-7)	[1]
	15 (B-1)	[2]
PROJECT TOTAL =		79

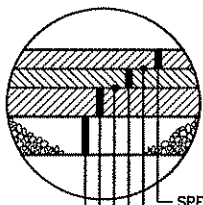
NOTES:

- [1] A-7 REFERS TO MNDOT STANDARD PLATES 4101 FOR RING CASTING NO. 700-7 AND 4110 FOR COVER CASTING NO. 716
- [2] B-1 REFERS TO MNDOT STANDARD PLATES 4126 FOR RING OR FRAME CASTING NO. 801, 4149 FOR GRATE CASTING NO. 810, AND 4161 FOR CURB BOX NO. 821B (WHERE APPLICABLE)
- [3] NEENAH R-3246-B CASTING ASSEMBLY OR APPROVED EQUAL

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1	JUL	05/07/02	ADD #1: REVISIONS FOR EAST ABRA ENTRANCE	DRAWN BY: JJS				DESIGN BY: JJS	COUNTY PROJECT		S.A.P.		114-020-27
				CHKD. BY: ICP				DWG. NAME: 043-TB11			S.A.P.		114-107.08
				DATE: APRIL 26, 2002									

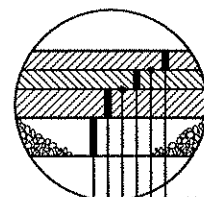
PLOT DATE: May 02 1:45pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TP06.dwg

INSET A
NORTHDAL BLVD.
RAVEN ST. TO HANSON BLVD.



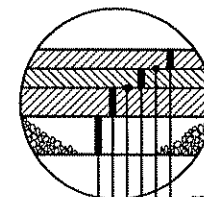
- SPEC. 2350 (HVWE46540I)
2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (HVNW36540I)
2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (MVNW35035B)
3" BITUMINOUS NON-WEARING COURSE
- SPEC. 2211
9" AGGREGATE BASE, CLASS 5

INSET B
ROBINSON DRIVE



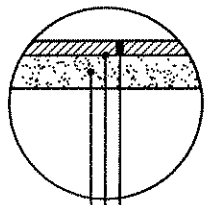
- SPEC. 2350 (MVWE35035F)
2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (MVWE35035F)
2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (LVNW35030B)
2" BITUMINOUS NON-WEARING COURSE
- SPEC. 2211
8" AGGREGATE BASE, CLASS 5

INSET C
HANSON BLVD.



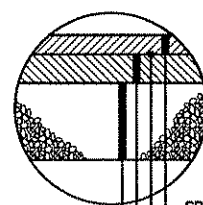
- SPEC. 2350 (HVWE46540I)
2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (HVNW36540I)
2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (MVNW35035B)
3" BITUMINOUS NON-WEARING COURSE
- SPEC. 2211
9" AGGREGATE BASE, CLASS 5

INSET D
(BITUMINOUS OVERLAY)



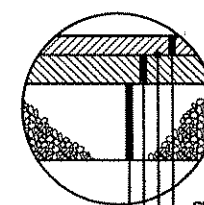
- SPEC. 2350 (MVWE35035F)
2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- EXISTING BITUMINOUS

INSET E
COMMERCIAL DRIVEWAYS



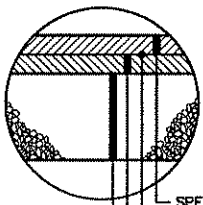
- SPEC. 2350 (MVWE35035F)
2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (LVNW35030B)
3" BITUMINOUS NON-WEARING COURSE
- SPEC. 2211
8" AGGREGATE BASE, CLASS 5

INSET F
PARTRIDGE
STREET



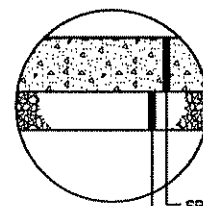
- SPEC. 2350 (MVWE35035F)
2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (MVNW35035B)
3" BITUMINOUS NON-WEARING COURSE
- SPEC. 2211
8" AGGREGATE BASE, CLASS 5

INSET G
TEMPORARY PAVING
AND PARKING LOTS



- SPEC. 2350 (MVWE35035F)
2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (LVNW35030B)
2" BITUMINOUS NON-WEARING COURSE
- SPEC. 2211
8" AGGREGATE BASE, CLASS 5

INSET H
COMMERCIAL DRIVEWAY APRONS



- SPEC. 2521 - MIX 3A42
8" CONCRETE
- SPEC. 2211
6" AGGREGATE BASE, CLASS 5

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1	JLL	05/07/02	ADD. #1: REV. TO INSETS A&C PER ANOKA CO.	33889-043



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Paul B. Daniel
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

NORTHDAL BOULEVARD
(C.S.A.H. 11)

STANDARD PLATES & PAVEMENT SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

1 OF 6

SHEET NO.

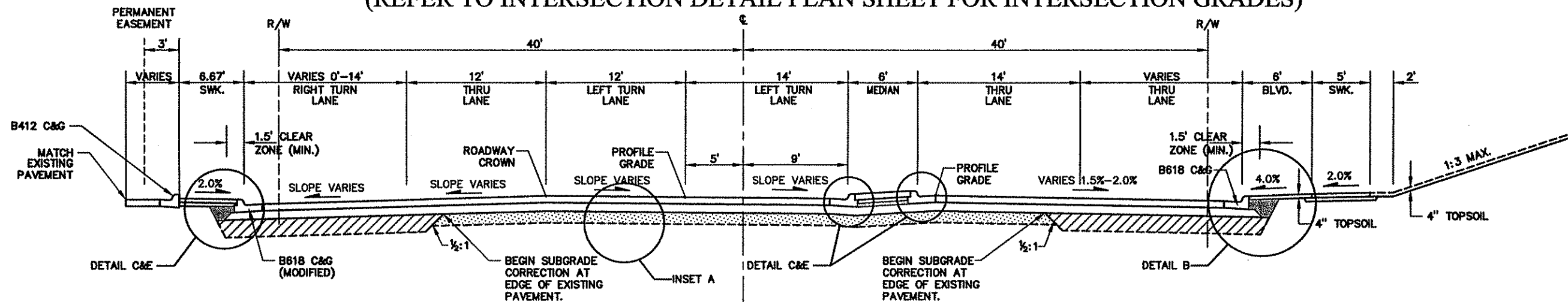
16

159

NORTHDALE BLVD.

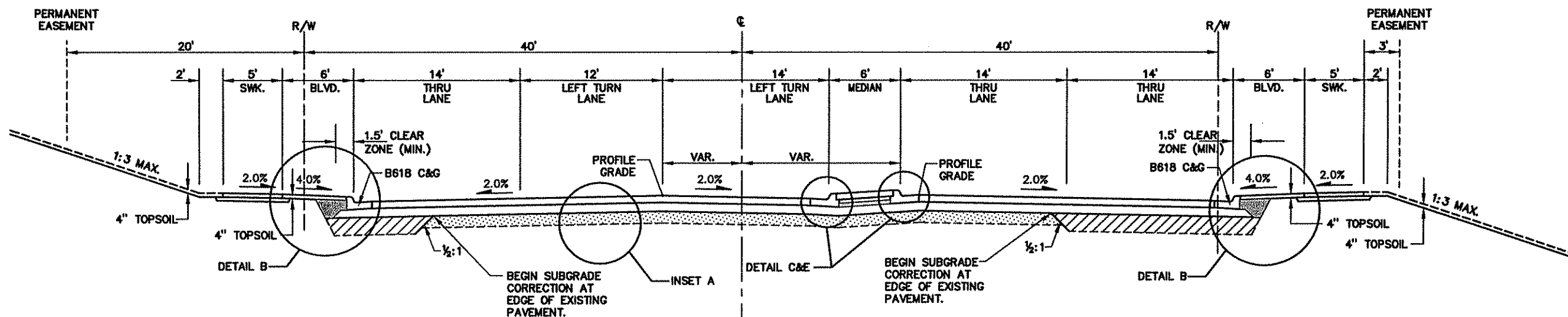
(STA. 0+38.25 TO STA. 2+73.62)

(REFER TO INTERSECTION DETAIL PLAN SHEET FOR INTERSECTION GRADES)



NORTHDALE BLVD.

(STA. 2+73.62 TO STA. 4+67.16)



LEGEND

- 12" SUBGRADE CUT FOR UNIFORM COMPACTION.
- 18" SUBGRADE CUT FOR UNIFORM COMPACTION OR CORRECTION. FILL CORRECTION AREA WITH SELECT GRANULAR MATERIAL (ASSUMED 15% CORRECTION REQUIRED FOR NORTHDALE BOULEVARD)
- BACKFILL WITH SELECT GRADING MATERIAL.

2 OF 6

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 33889-043



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PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

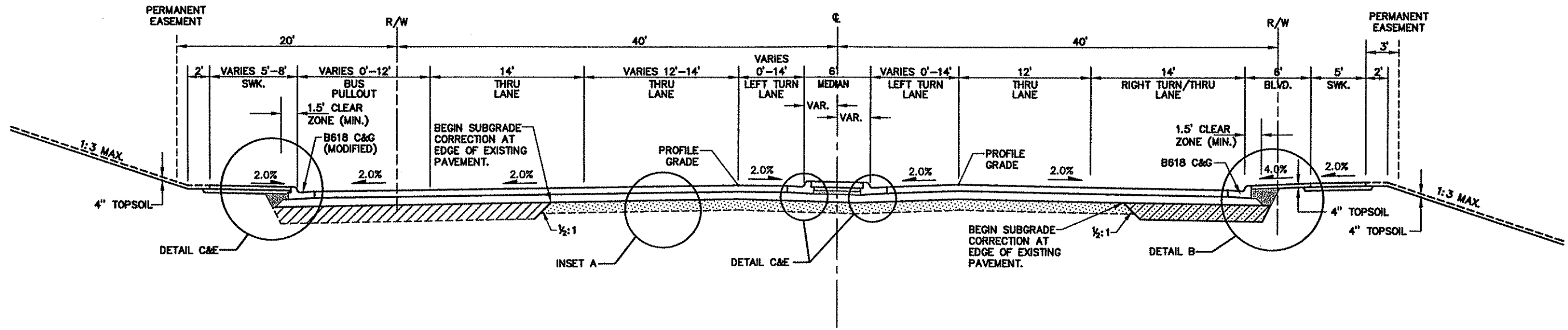
NORTHDALE BOULEVARD
(C.S.A.H. 11)

TYPICAL SECTIONS

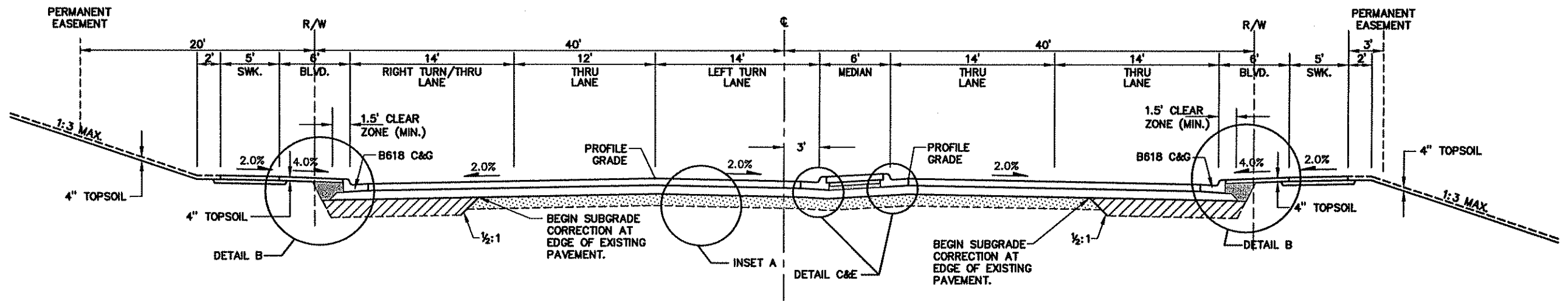
CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 17
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

159

NORTHDALE BLVD. (STA. 4+67.16 TO STA. 9+28.00)



NORTHDALE BLVD. (STA. 9+28.00 TO STA. 12+70.40)



LEGEND

- 12" SUBGRADE CUT FOR UNIFORM COMPACTION.
- 18" SUBGRADE CUT FOR UNIFORM COMPACTION OR CORRECTION. FILL CORRECTION AREA WITH SELECT GRANULAR MATERIAL. (ASSUMED 15% CORRECTION REQUIRED FOR NORTHDALE BOULEVARD)
- BACKFILL WITH SELECT GRADING MATERIAL.

PLOT DATE: Apr 23, 2002 12:36pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TP02.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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33889-043
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DESIGN BY:
JRM
CHKD. BY:
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DWG. NAME:
043-TP02
DATE:
APRIL 26, 2002



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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)**

TYPICAL SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

3 OF 6

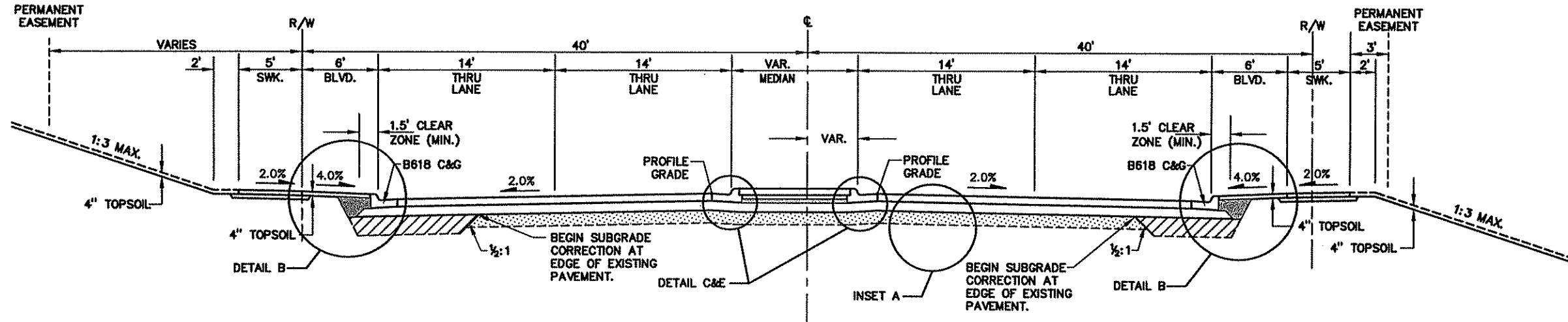
SHEET NO.

18

159

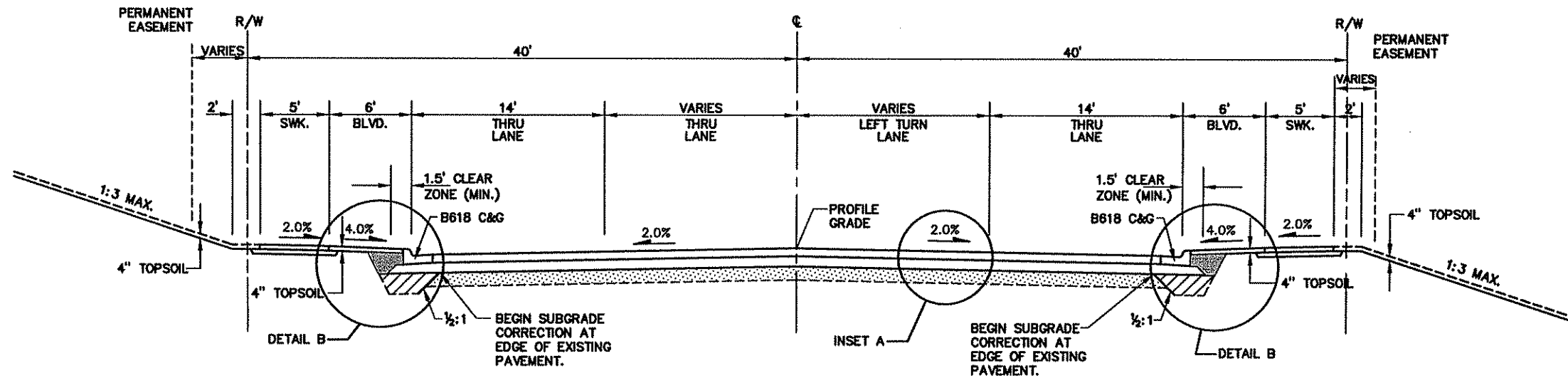
NORTHDALE BLVD.

(STA. 12+70.40 TO STA. 16+27.50)



NORTHDALE BLVD.

(STA. 16+27.50 TO STA. 19+08.17)



LEGEND

- 12" SUBGRADE CUT FOR UNIFORM COMPACTION.
- 18" SUBGRADE CUT FOR UNIFORM COMPACTION OR CORRECTION. FILL CORRECTION AREA WITH SELECT GRANULAR MATERIAL. (ASSUMED 15% CORRECTION REQUIRED FOR NORTHDALE BOULEVARD)
- BACKFILL WITH SELECT GRADING MATERIAL.

PLOT DATE: Apr 23, 2002 12:38pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TP03.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: JRL
DESIGN BY: JRM

CHKD. BY: ICP
DWG. NAME: 043-TP03

DATE:
APRIL 26, 2002



700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1978 Fax

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

Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

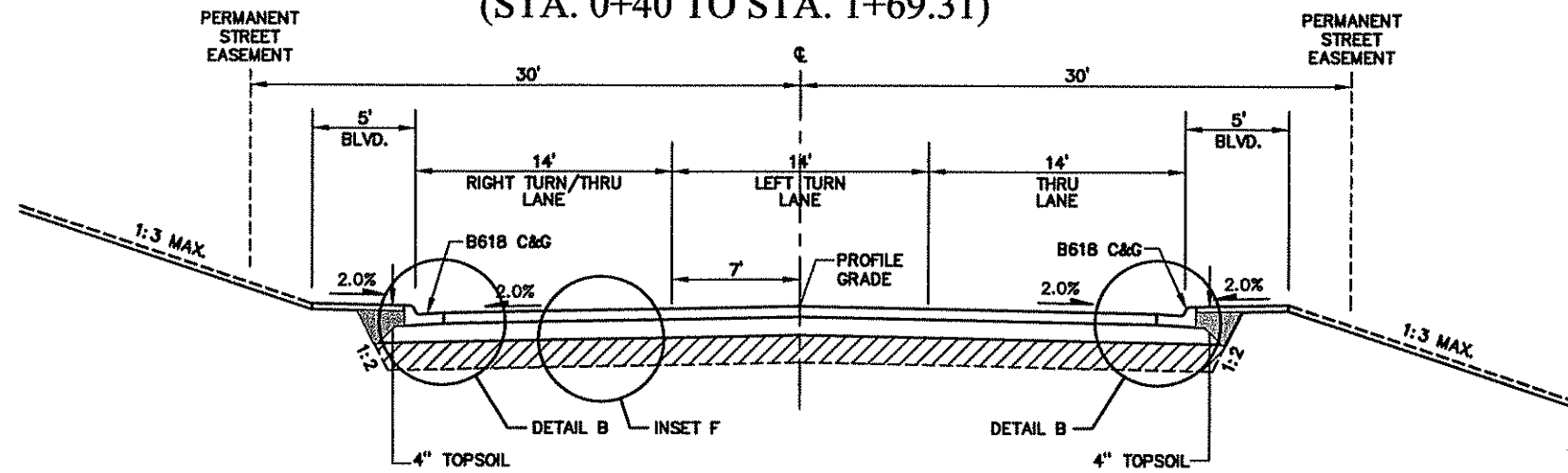
NORTHDALE BOULEVARD
(C.S.A.H. 11)

TYPICAL SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

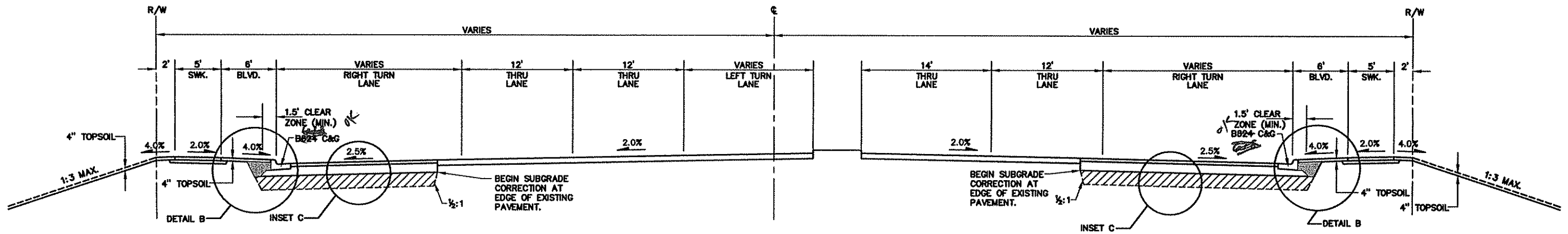
PARTRIDGE STREET

(STA. 0+40 TO STA. 1+69.31)


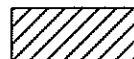



HANSON BLVD.

(STA. 18+52.45 TO STA. 21+07.38)



LEGEND

-  12" SUBGRADE CUT FOR UNIFORM COMPACTION.
-  18" SUBGRADE CUT FOR UNIFORM COMPACTION OR CORRECTION. FILL CORRECTION AREA WITH SELECT GRANULAR MATERIAL (ASSUMED 15% CORRECTION REQUIRED FOR HANSON BOULEVARD AND 50% FOR PARTRIDGE STREET)
-  BACKFILL WITH SELECT GRADING MATERIAL.

PLOT DATE: Apr 23, 2002 12:38pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TP04.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: JRL DESIGN BY: JRM

CHKD. BY: ICP DWG. NAME: 043-TP04

DATE: APRIL 26, 2002



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700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.1378 Fax

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Paul B. Danielson

PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

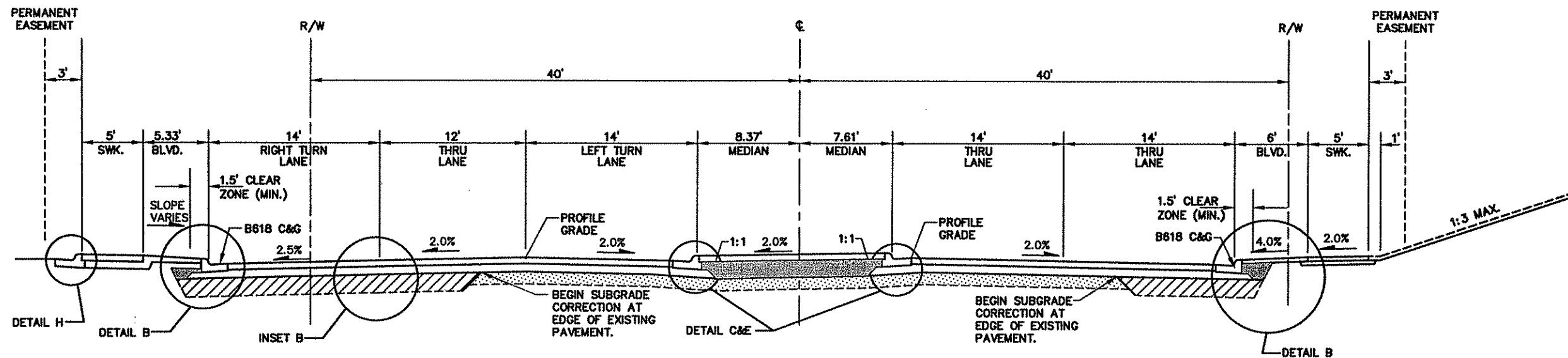
NORTHDALE BOULEVARD
(C.S.A.H. 11)

TYPICAL SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

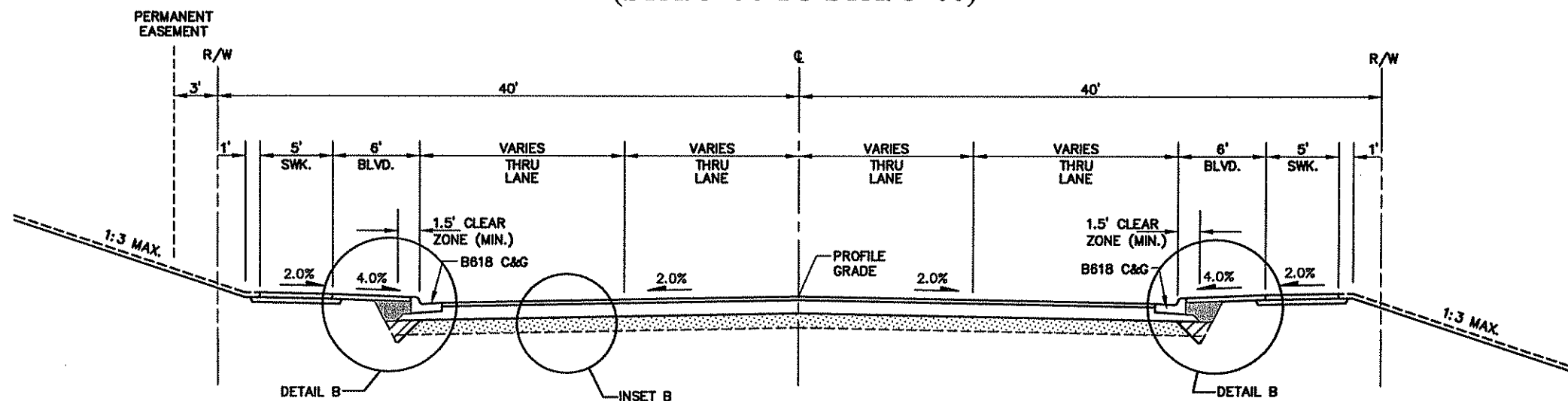
ROBINSON DRIVE

(STA. 0+71.03 TO STA. 3+50)



ROBINSON DRIVE

(STA. 3+50 TO STA. 8+00)



LEGEND

- 12" SUBGRADE CUT FOR UNIFORM COMPACTION.
- 18" SUBGRADE CUT FOR UNIFORM COMPACTION OR CORRECTION. FILL CORRECTION AREA WITH SELECT GRANULAR MATERIAL. (ASSUMED 15% CORRECTION REQUIRED FOR ROBINSON DRIVE)
- BACKFILL WITH SELECT GRADING MATERIAL.

PLOT DATE: Apr 23, 2002 12:38pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TP05.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE:
				33889-043
				DRAWN BY: JRL
				DESIGN BY: JRM
				CHKD. BY: ICP
				DWG. NAME: 043-TP05
				DATE: APRIL 26, 2002



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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)

TYPICAL SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

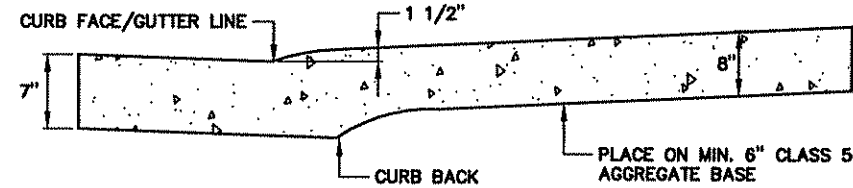
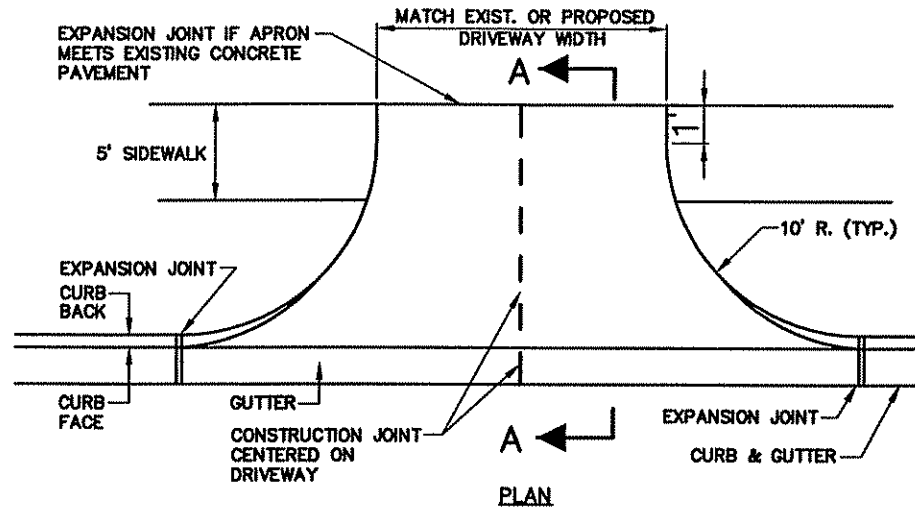
6 OF 6

SHEET NO. 21

159

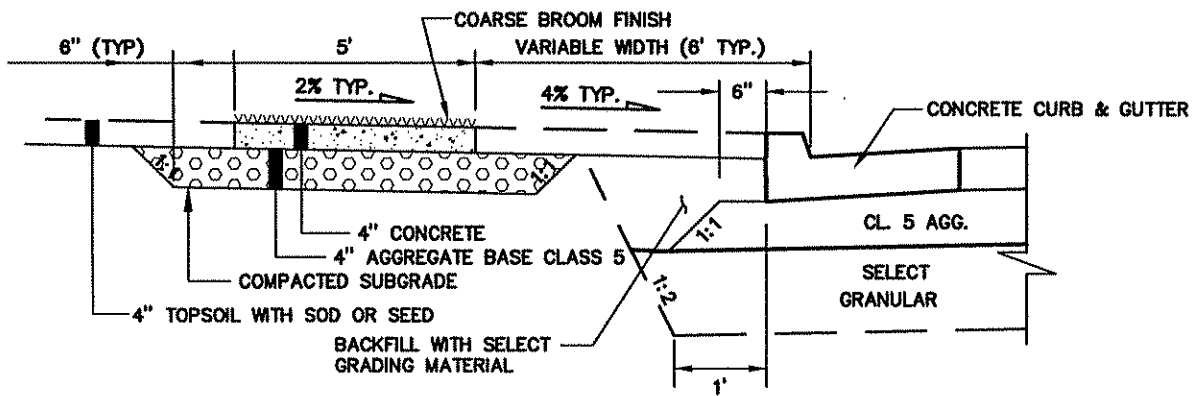
PLOT DATE: Apr 24, 2002 5:40pm DISK FILE NAME: (15.05) R:\33889\33889D43\PLAN-SHT\043-DL03.dwg

DETAIL A-NOT USED

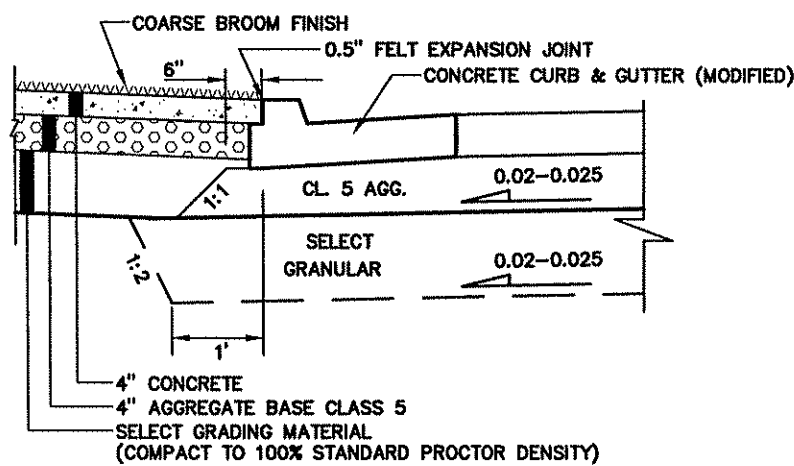


NOTE: PAID FOR AS 8" CONCRETE DRIVEWAY PAVEMENT (APRON)

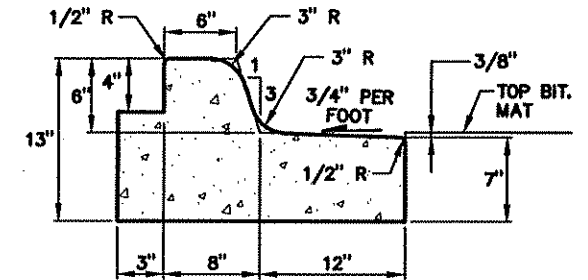
SECTION A-A
COMMERCIAL DRIVEWAY APRON
DETAIL D



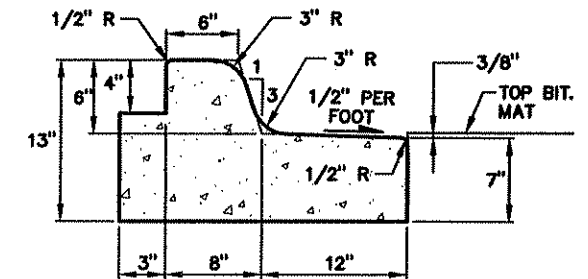
5' CONCRETE WALK
DETAIL B



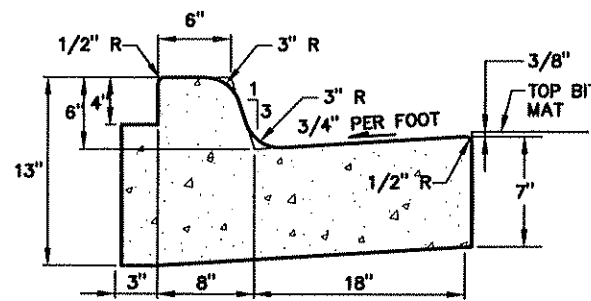
CONCRETE MEDIAN/WALK
DETAIL C



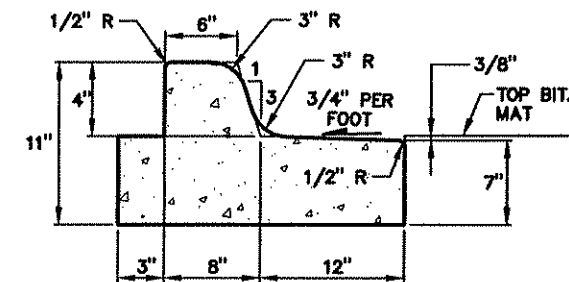
B612 CURB & GUTTER (MODIFIED)
DETAIL F



B612 OUTFALL CURB & GUTTER (MODIFIED)
DETAIL G



B618 CURB & GUTTER (MODIFIED)
DETAIL E



B412 CURB & GUTTER (MODIFIED)
DETAIL H

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043
DRAWN BY:
HMW
DESIGN BY:
HMW
CHKD. BY:
ICP
DWG. NAME:
043-DL03
DATE:
APRIL 26, 2002



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700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.1378 Fax

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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)

CONSTRUCTION DETAILS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

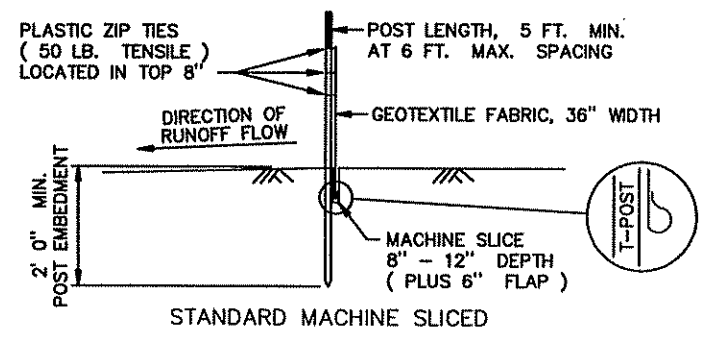
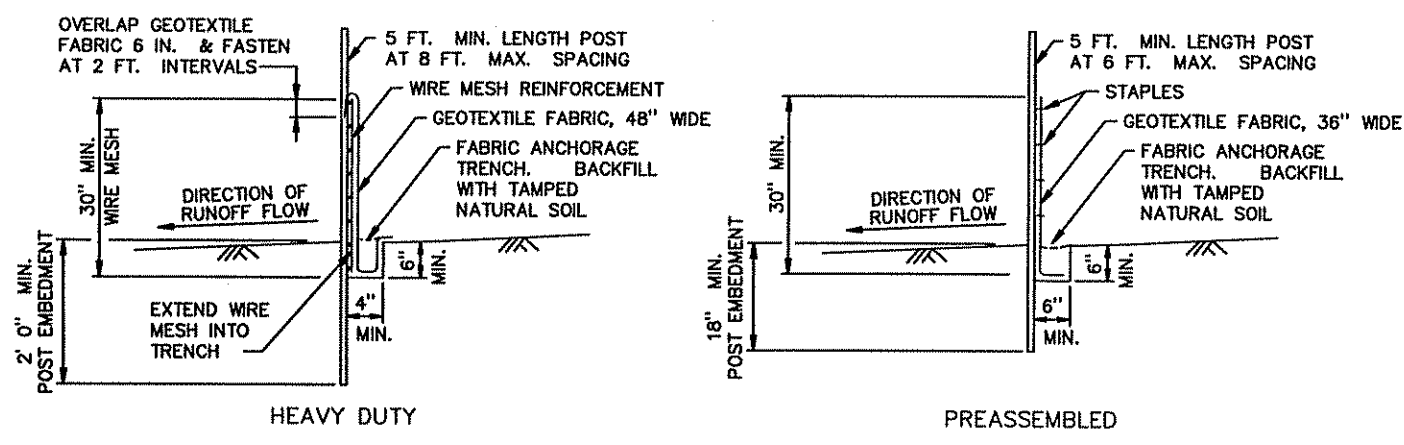
1 OF 1

SHEET NO.

22

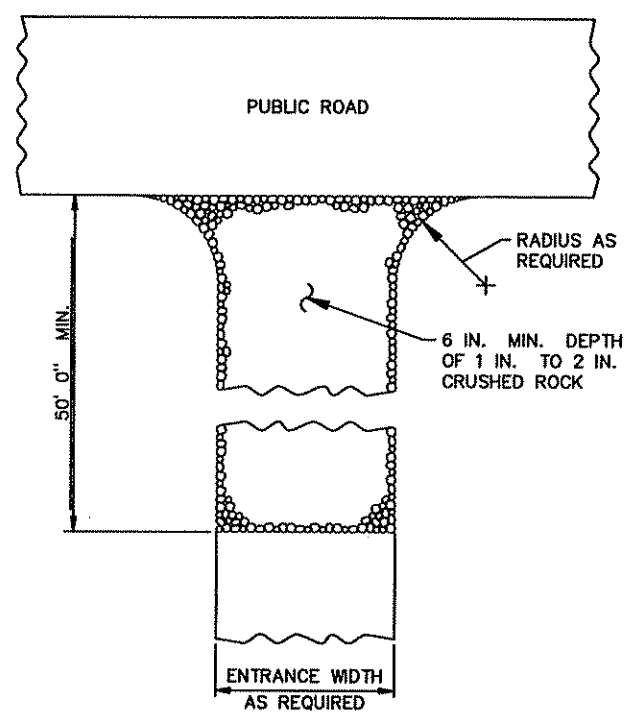
159

PLOT DATE: Apr 17, 2002 3:32pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\STANDARDS\S4052g01.dwg
 FILE NAME S4052G01.SPN



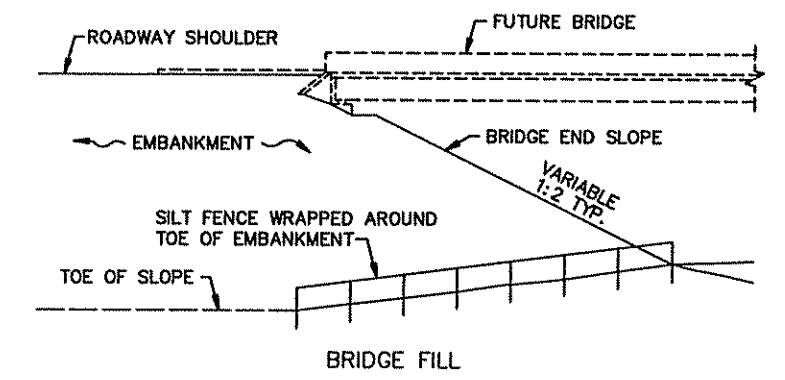
DESIGN GUIDELINES:
 MAXIMUM CONTRIBUTING AREA: 3 ACRES

SILT FENCE DETAILS
 TO PROTECT AREAS FROM SHEET FLOW
 (SEE SPEC. 3886)

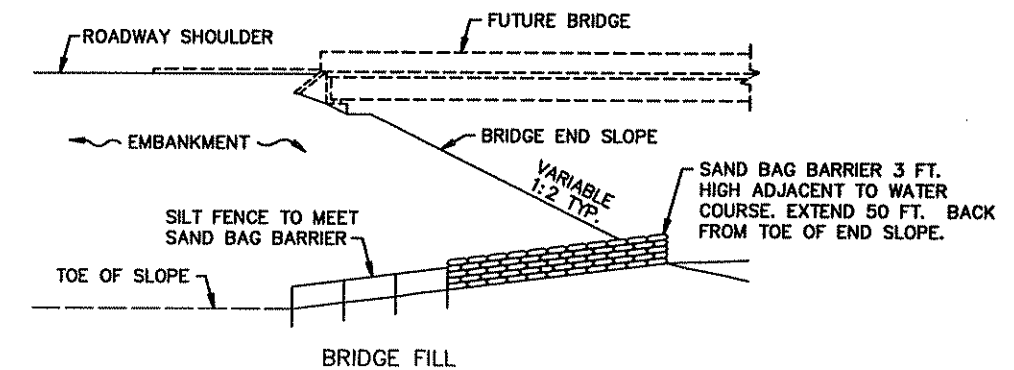


ROCK CONSTRUCTION ENTRANCE ①

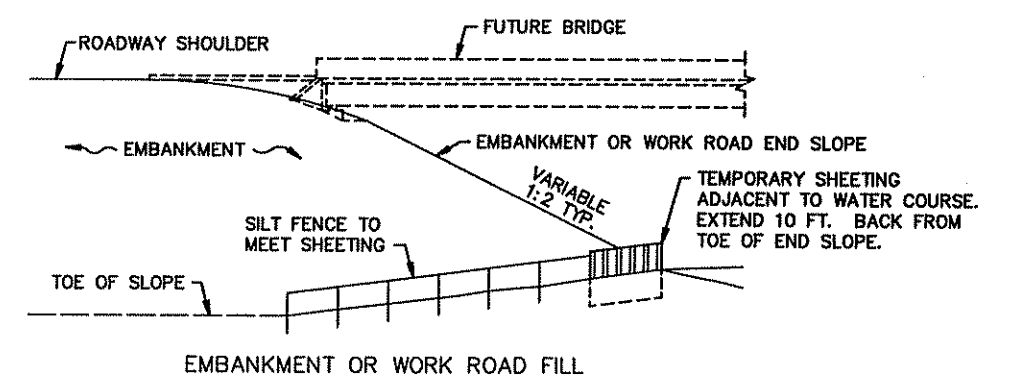
DESIGN GUIDELINES:
 STORM FREQUENCY: 10 YEAR - 24 HOUR
 MAXIMUM DRAINAGE AREA: 5 ACRES
 MAXIMUM DIVERSION: GRADE 5%



DESIGN GUIDELINES:
 WATER COURSE FLOW VELOCITY: STAGNANT
 CONTRIBUTING SLOPE AREA: 1/2 ACRE



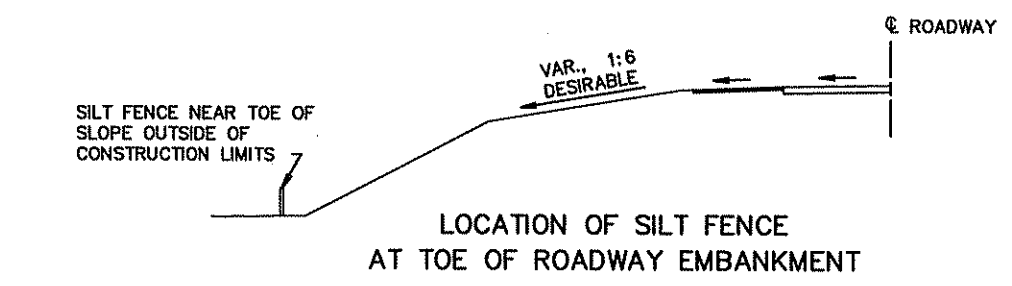
DESIGN GUIDELINES:
 MAX. WATER COURSE FLOW VELOCITY: 7 FT./SEC.
 CONTRIBUTING SLOPE AREA: 1 ACRE



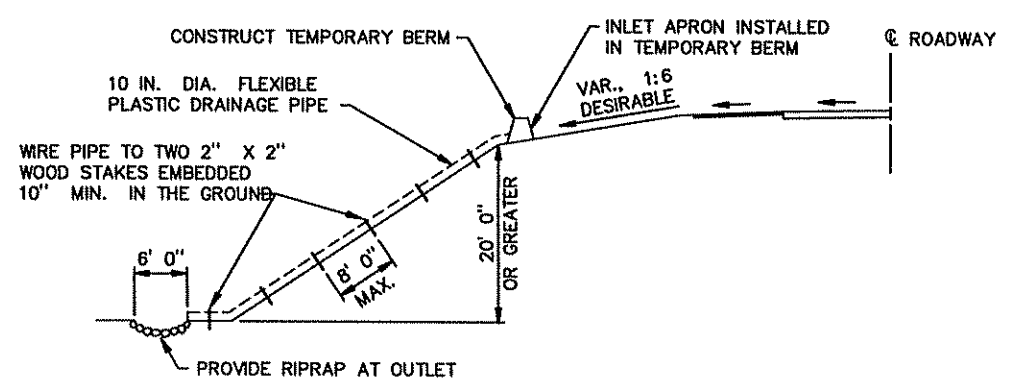
DESIGN GUIDELINES:
 MAX. WATER COURSE FLOW VELOCITY: 15 FT./SEC.
 CONTRIBUTING SLOPE AREA: 3 ACRES

SILT FENCE AT BRIDGE EMBANKMENT

NOTES:
 SEE SPECS. 2573 & 3886.
 ① ROCKS AT ENTRANCE CLEAN WORKSITE MUD OFF OF TRUCK TIRES BEFORE DRIVING ON MAIN ROAD. THIS WILL PREVENT AUTO DAMAGE. WE NEED TO KEEP CONSTRUCTION SEDIMENT OUT OF DRAINAGE SYSTEMS AND WETLANDS.

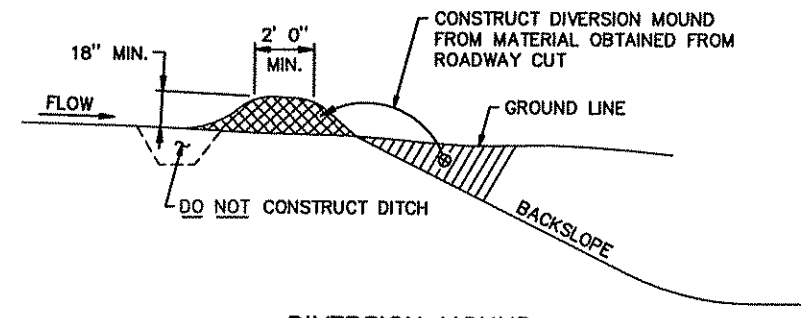


LOCATION OF SILT FENCE AT TOE OF ROADWAY EMBANKMENT



TEMPORARY DRAIN ON FILL SLOPE

DESIGN GUIDELINES:
 STORM FREQUENCY: 2 YEAR - 24 HOUR
 MAXIMUM DRAINAGE AREA: 3 ACRES

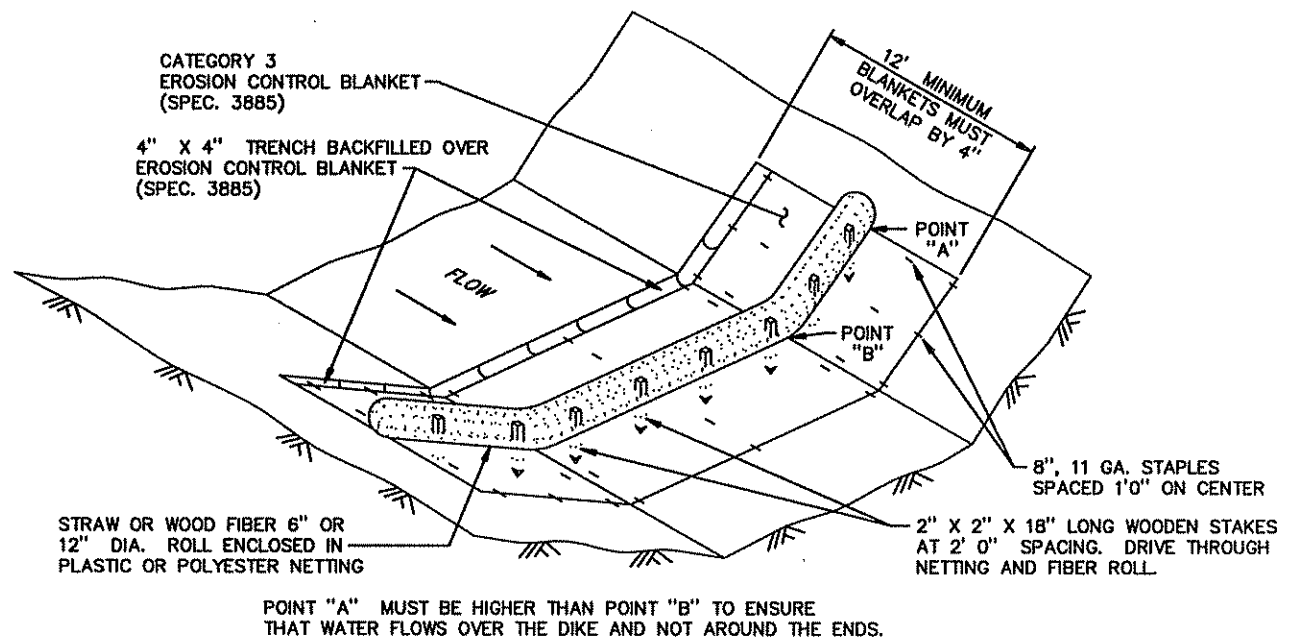


DIVERSION MOUND

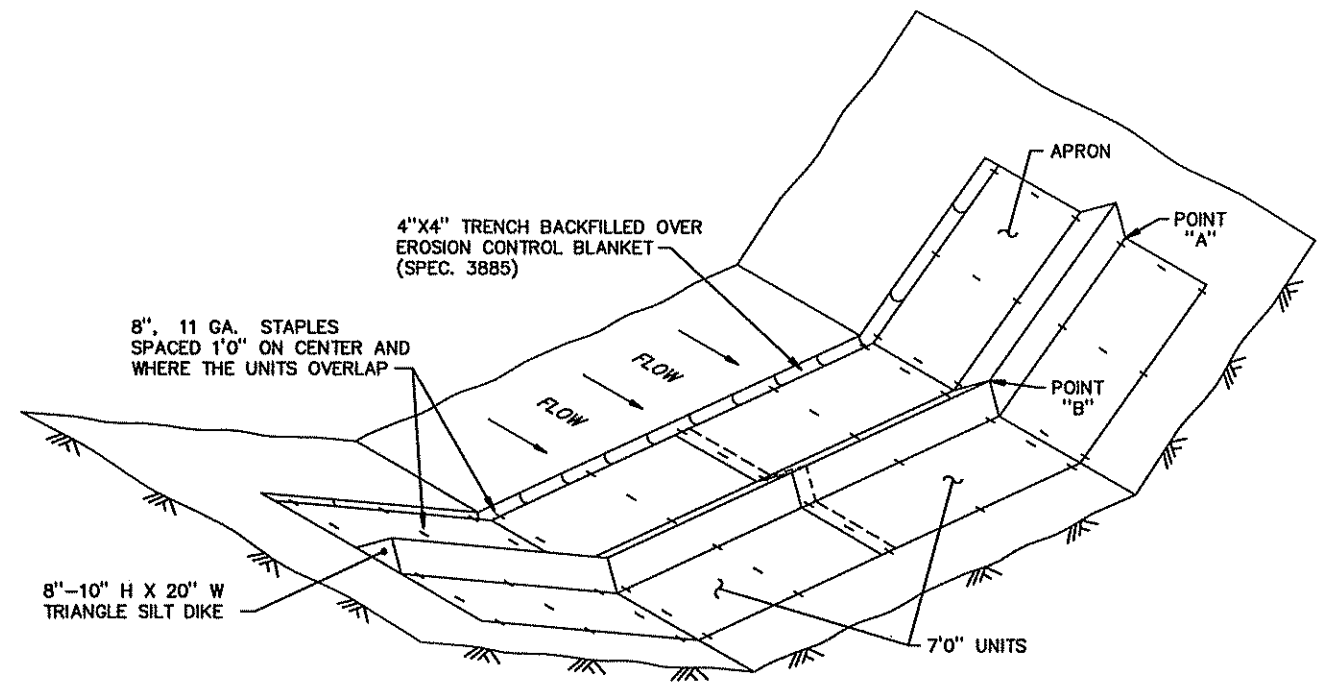
STANDARD SHEET NO. 5-297.405 (2 OF 4)	TITLE:
STANDARD APPROVED: JULY 30, 2001	
STATE PROJ. NO.	

TEMPORARY EROSION CONTROL

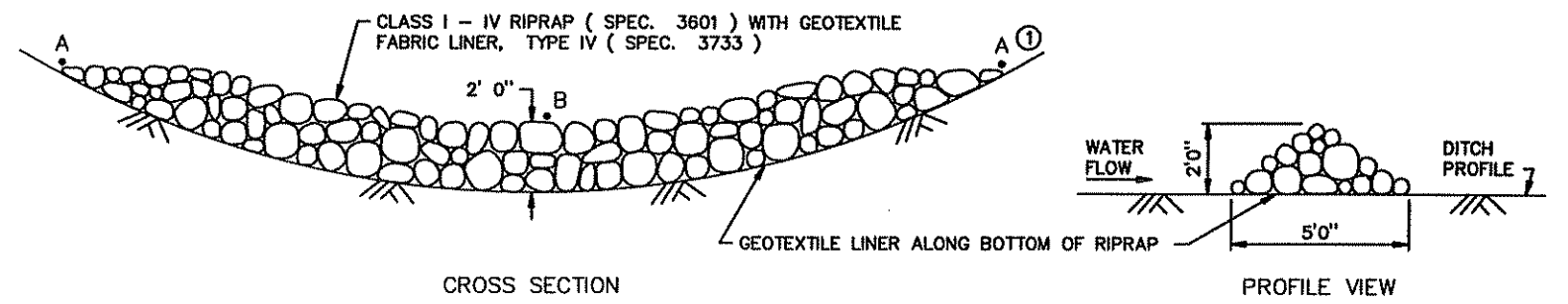
PLOT DATE: Apr 17, 2002 3:34pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\STANDARDS\94053G01.dwg
 FILE NAME: S4053G01.SPN



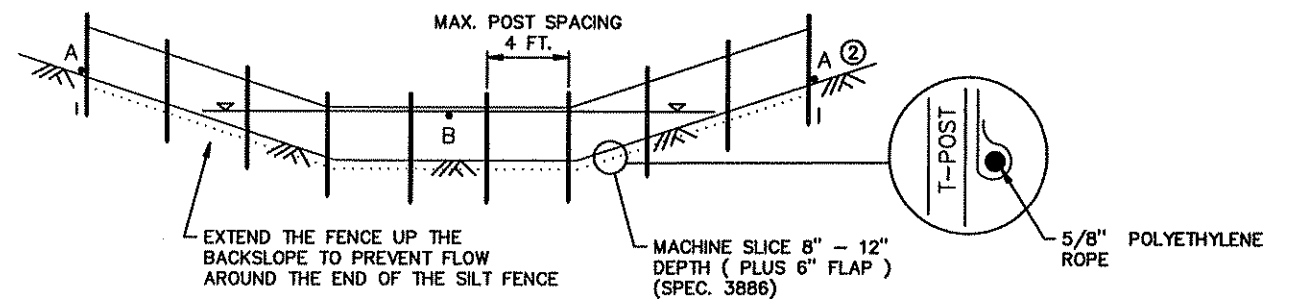
BIOROLL BLANKET SYSTEM
(TYPE 3 SPEC. 3889)



GEOTEXTILE TRIANGULAR DIKE
(TYPE 6 SPEC. 3889)



ROCK CHECK
(TYPE 7 SPEC. 3889)



DESIGN GUIDELINES	
STORM FREQUENCY	2 YR.-24 HR.
MAX. DITCH GRADE	5%
MAX. DRAINAGE AREA	1 ACRE

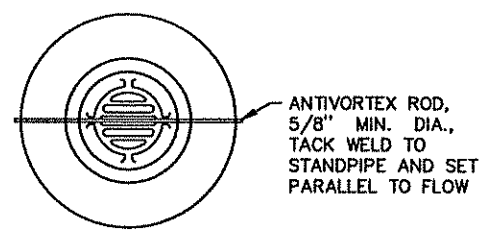
NOTE:
WHEN SEDIMENT BUILD UP REACHES 1.5 FT., THE SILT SHOULD BE REMOVED OR A SECOND SILT FENCE BUILT UPSTREAM FROM THE EXISTING ONE AT A SUITABLE DISTANCE.

MACHINE SLICED
(TYPE 1 SPEC. 3889)

- NOTES:**
 SEE SPECS. 2573, 3885, 3886 & 3889.
 SPACING OF DITCH CHECKS IS DEPENDENT ON DRAINAGE AREA AND GRADES. SEE DISTRICT HYDRAULICS ENGINEER FOR RECOMMENDATIONS.
 ① POINT A MUST BE 2'6" MIN. HIGHER THAN POINT B.
 ② POINT A MUST BE 2'0" MIN. HIGHER THAN POINT B.

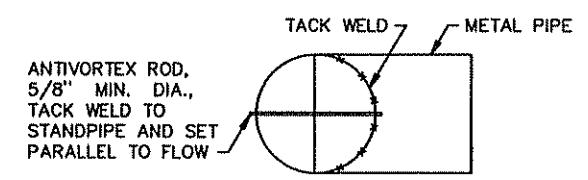
STANDARD SHEET NO. 5-297.405 (3 OF 4)	TITLE: TEMPORARY EROSION CONTROL DITCH CHECKS
STANDARD APPROVED: JULY 30, 2001	
STATE PROJ. NO.	SHEET NO. 24 OF 159 SHEETS

PLOT DATE: Apr 17, 2002 3:35pm
 DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\STANDARDS\94054g01.dwg
 FILE NAME: S4054G01.SPN



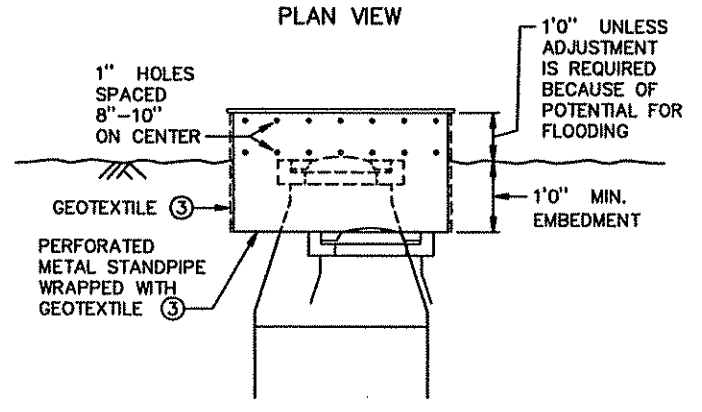
ANTIVORTEX ROD,
5/8" MIN. DIA.,
TACK WELD TO
STANDPIPE AND SET
PARALLEL TO FLOW

PLAN VIEW



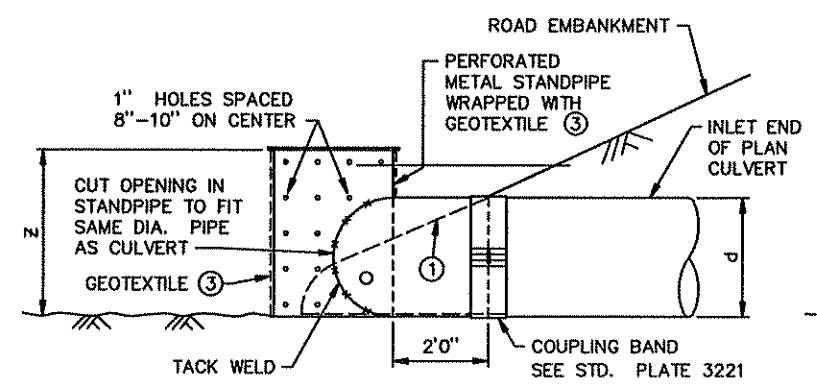
ANTIVORTEX ROD,
5/8" MIN. DIA.,
TACK WELD TO
STANDPIPE AND SET
PARALLEL TO FLOW

PLAN VIEW

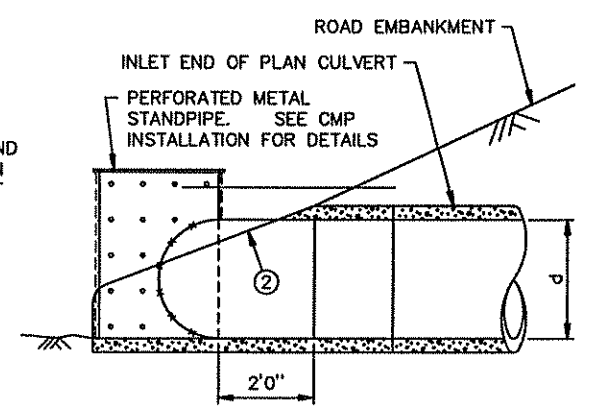


ELEVATION
RISER STANDPIPE
TO PROTECT DROP INLET
(TYPE A SPEC. 3891)

DESIGN GUIDELINES:
STORM FREQUENCY: 10 YEAR. - 24 HOUR.



ELEVATION OF CMP INSTALLATION

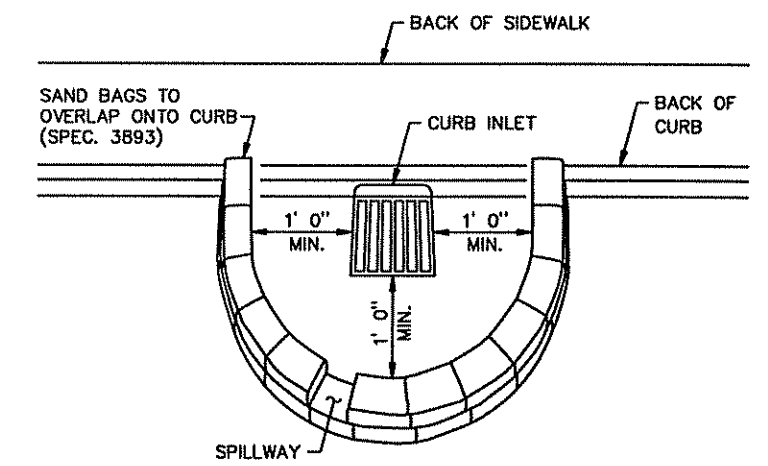


ELEVATION OF RCP INSTALLATION

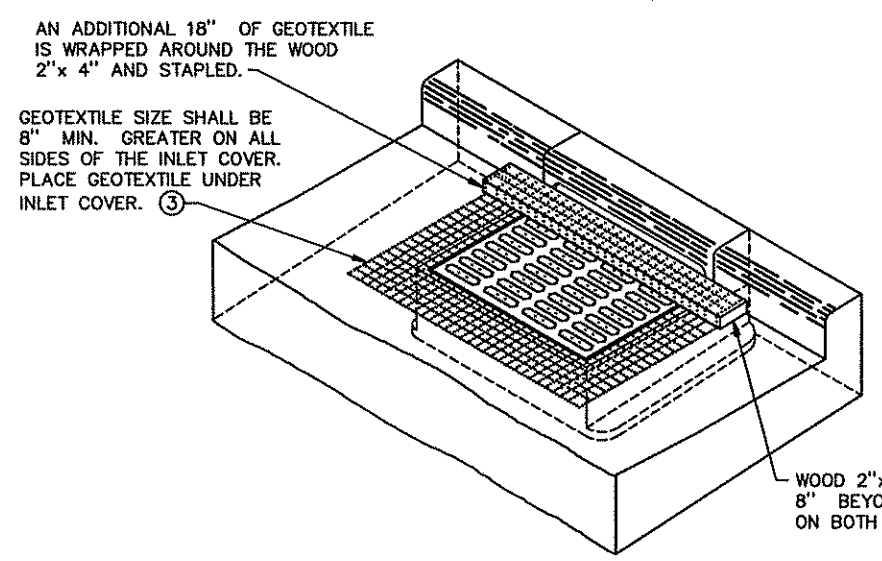
RISER STANDPIPE
FOR SEDIMENT CONTROL ON CULVERT INLET
(TYPE D SPEC. 3891)

d = DIA. OF STANDPIPE EQUAL TO DIA. OF PLAN CULVERT
z = LENGTH OF PERFORATED STANDPIPE (d + 12")

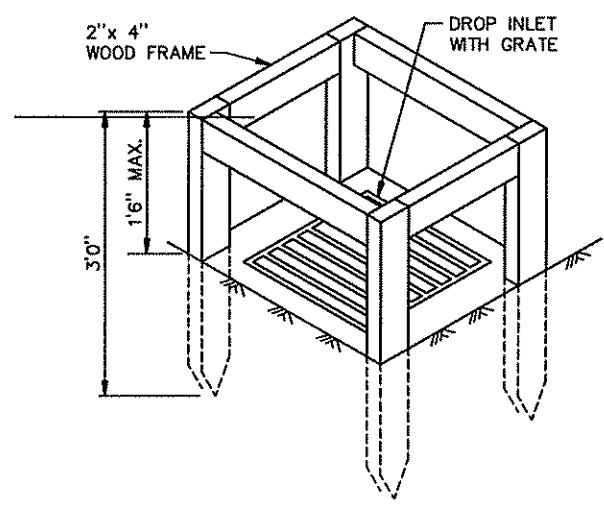
DESIGN GUIDELINES:
CULVERT SIZE: 12" - 36"
STORM FREQUENCY: 10 YR. - 24 HR.



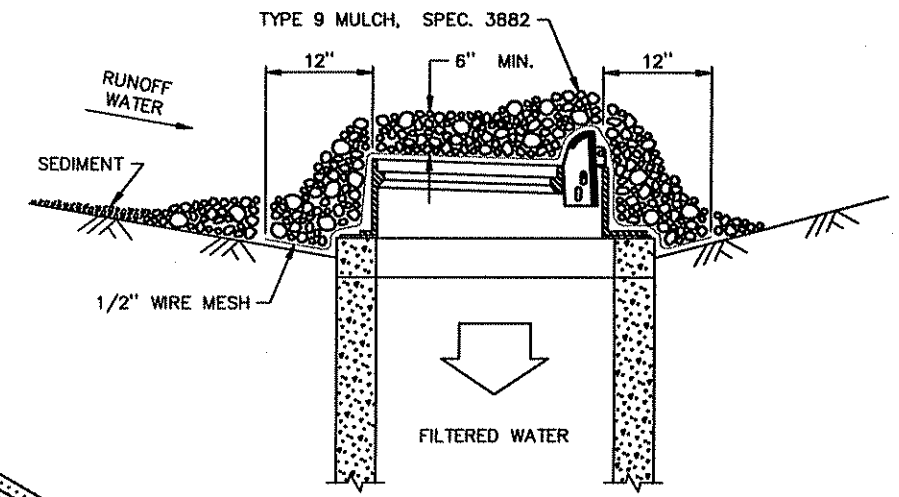
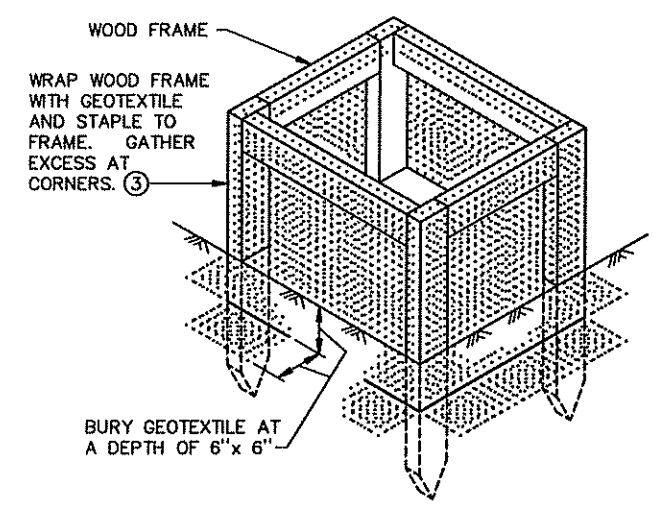
CURB INLET SAND BAG BARRIER
THIS INLET PROTECTION IS USED DURING ROUGH GRADING
ONLY. USE BEFORE ROAD IS OPEN TO TRAFFIC OR IS PAVED.
(TYPE B OR C SPEC. 3891)



SILT FENCE BOX TO PROTECT DROP INLETS
(TYPE A SPEC. 3891)



SILT FENCE BOX TO PROTECT DROP INLETS
USE WHERE INLET DRAINS AN AREA WITH SLOPES AT 1:3 OR LESS
(TYPE A SPEC. 3891)

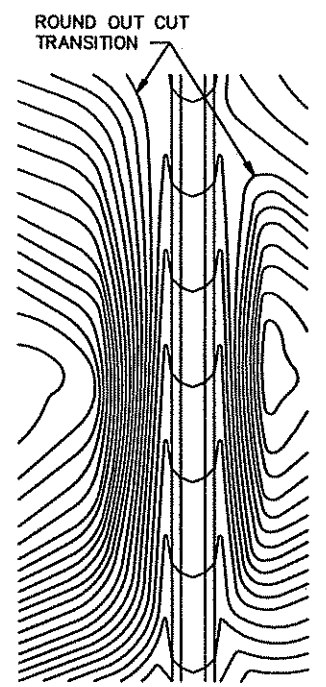


AGGREGATE FILTER AT CURB INLET
(TYPE B OR C SPEC. 3891)

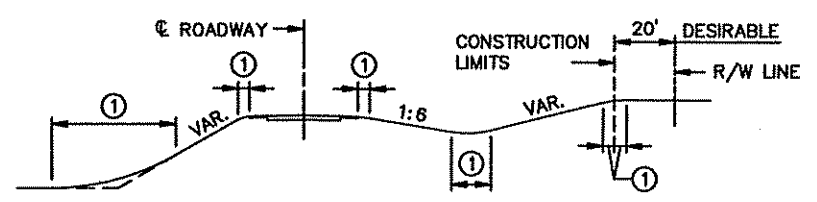
- NOTES:
SEE SPECS. 2573, 3891 & 3893.
MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S
APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.
- ① FOR CMP, REMOVE TEMPORARY STANDPIPE AND INSTALL
CULVERT APRON AFTER VEGETATION IS ESTABLISHED.
 - ② FOR RCP, INSTALL CULVERT APRON AND SLIDE
TEMPORARY STANDPIPE INTO RCP. AFTER VEGETATION
IS ESTABLISHED REMOVE TEMPORARY STANDPIPE.
 - ③ ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE
MONO/MONO, MEETING SPEC. 3886 FOR MACHINE SLICED.

STANDARD SHEET NO. 5-297.405 (4 OF 4)	TITLE: TEMPORARY EROSION CONTROL TEMPORARY INLET PROTECTION
STANDARD APPROVED: JULY 30, 2001	
STATE PROJ. NO.	SHEET NO. 25 OF 159 SHEETS

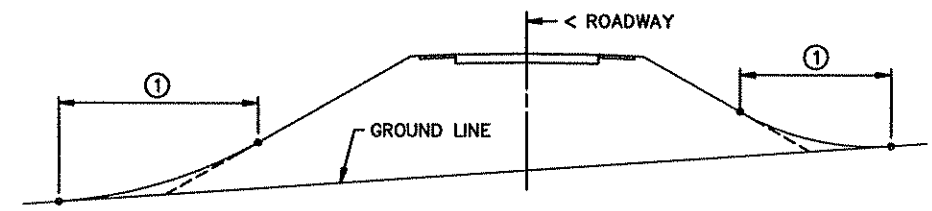
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 FILE NAME: S404190.SPN



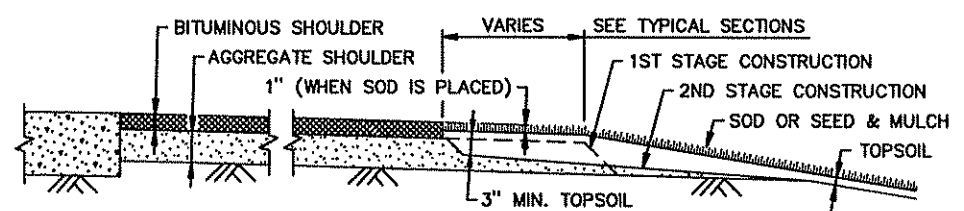
CONTOURING ROAD CUTS



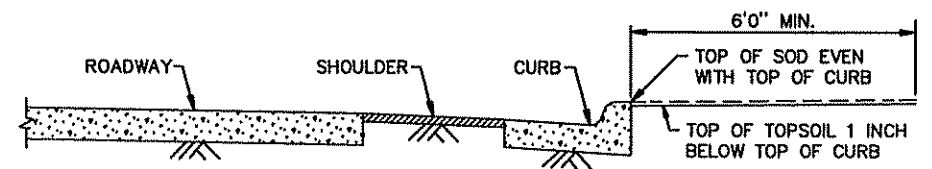
ROUNDING SHOULDERS AND BACKSLOPES



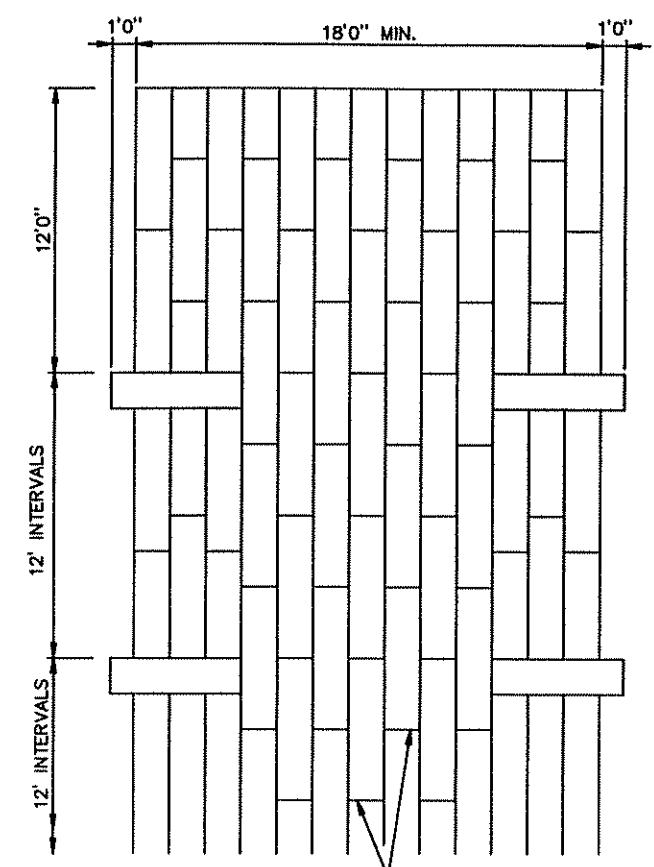
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



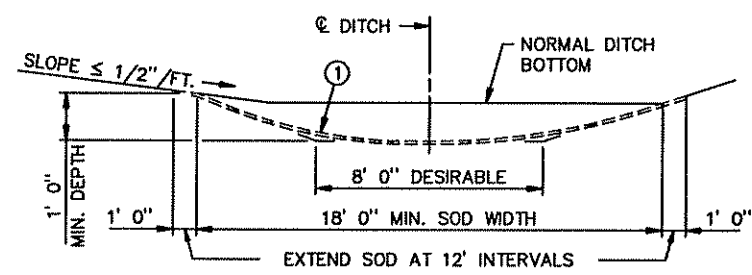
SHAPING AND TOPSOILING INSLOPES



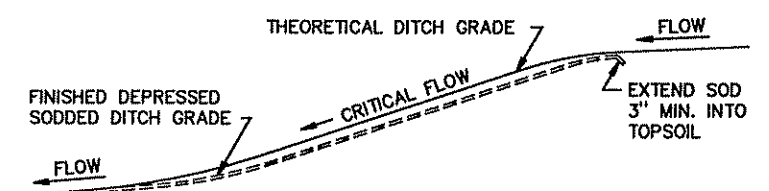
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



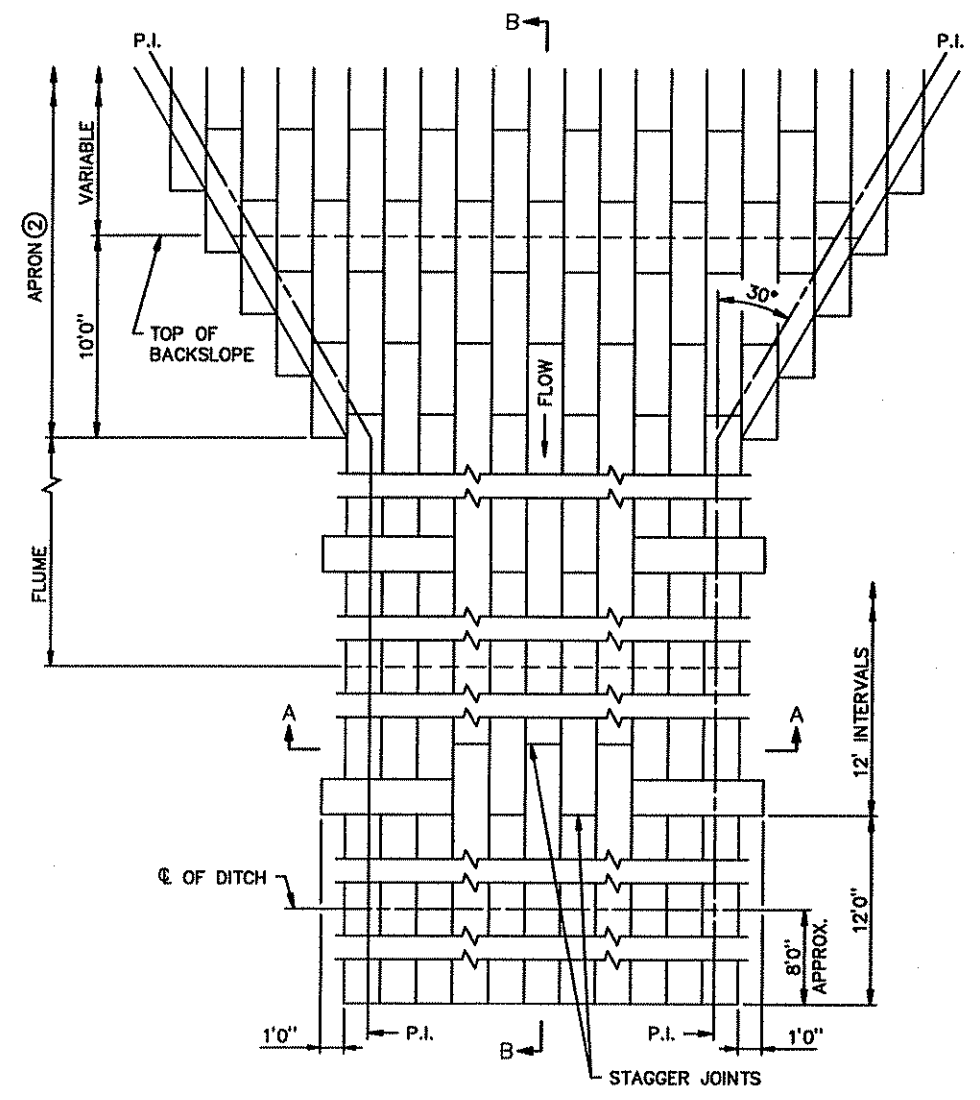
STAGGER JOINTS
PLAN VIEW



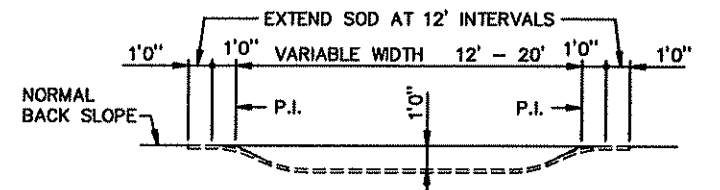
SODDED DITCH CROSS SECTION
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.),
FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



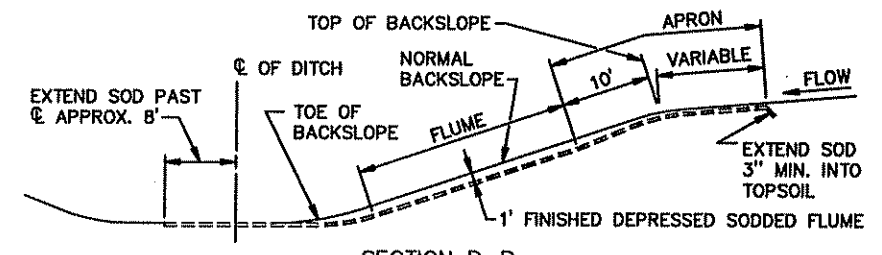
DITCH PROFILE
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



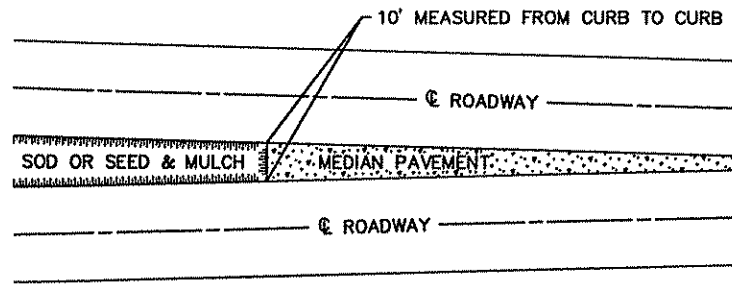
SECTION B-B
SODDED FLUME DETAILS

- NOTES:
 SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
 ① FOR ROUNDING, SEE ROAD DESIGN MANUAL.
 ② CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

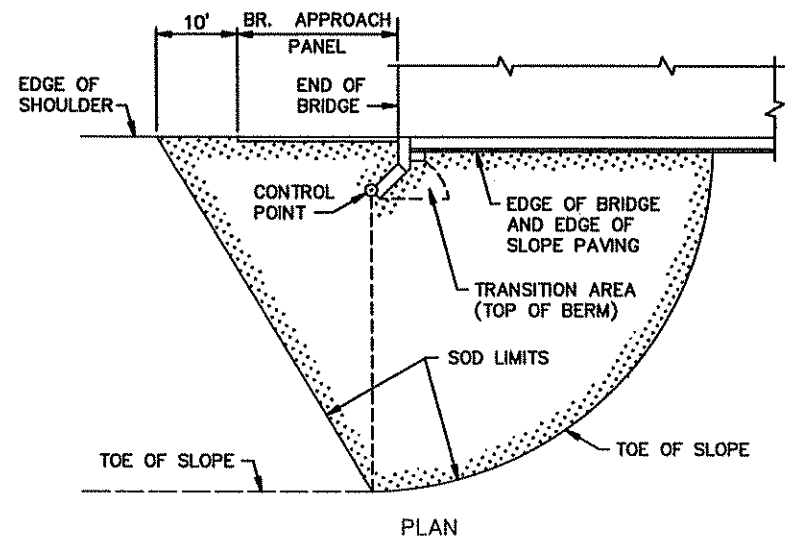
STANDARD SHEET NO. 5-297.404	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED: DECEMBER 19, 1990	
STATE PROJ. NO.	SHEET NO. 26 OF 159 SHEETS

REVISION DATE
10-26-2000

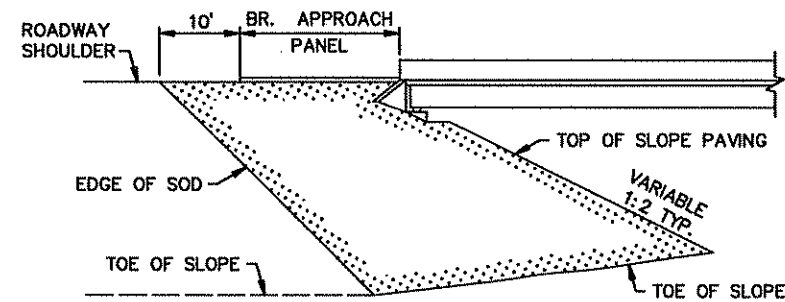
PLOT DATE: Apr 17, 2002 3:37pm
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 FILE NAME: S406A85.SPN



SODDING LIMITS AT GORE AREA

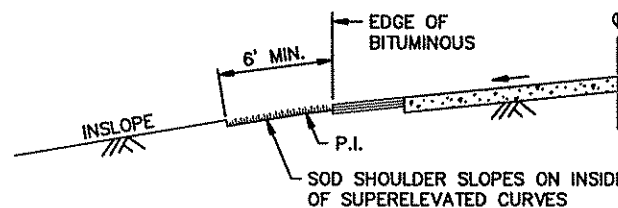


PLAN

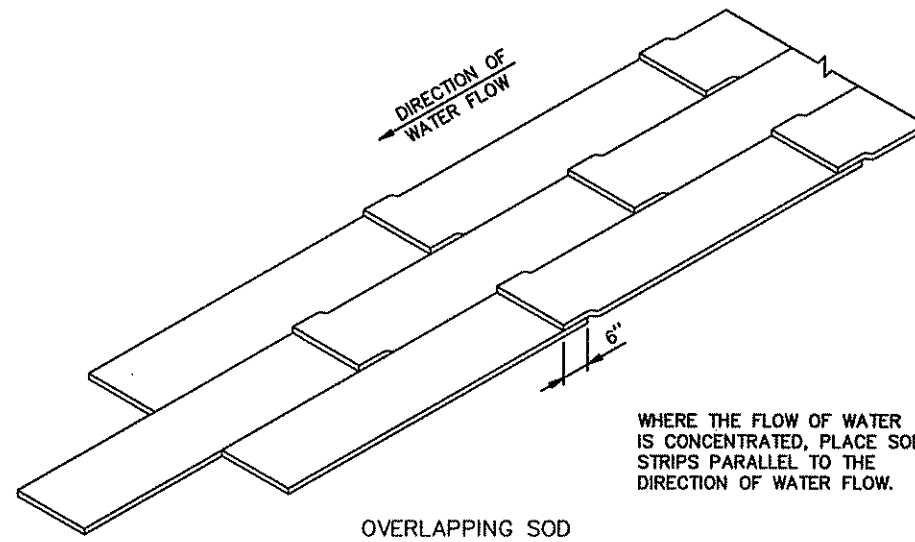


ELEVATION

SODDING LIMITS AT BRIDGE APPROACH FILLS

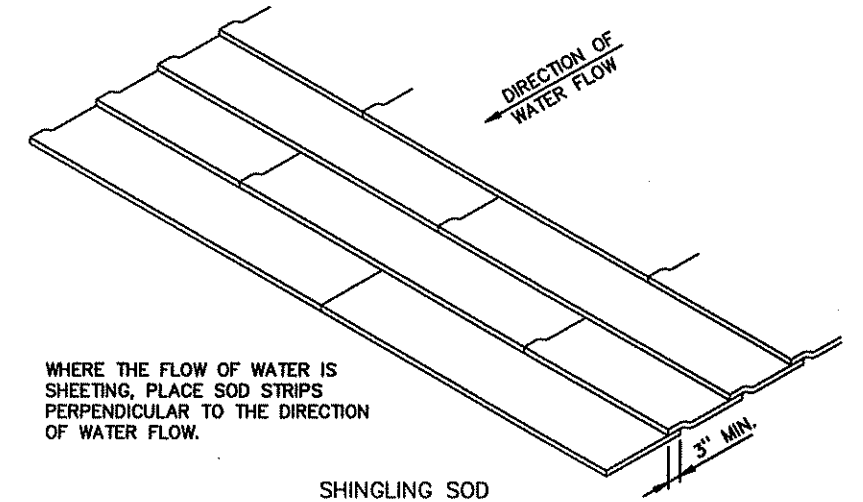


SODDING INSLOPES OF SUPERELEVATED CURVES



OVERLAPPING SOD

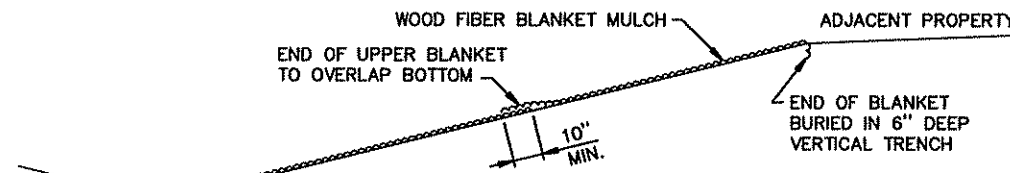
WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.



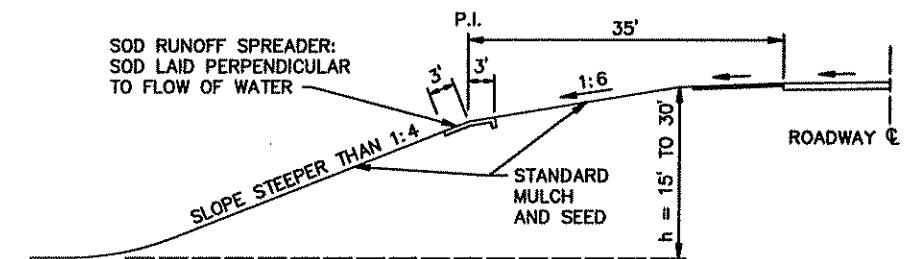
SHINGLING SOD

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

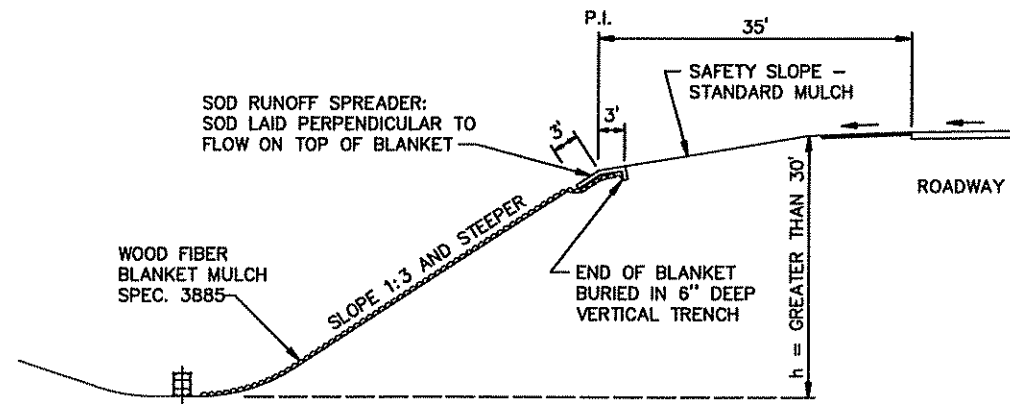
SPECIAL SOD PLACEMENT TECHNIQUES



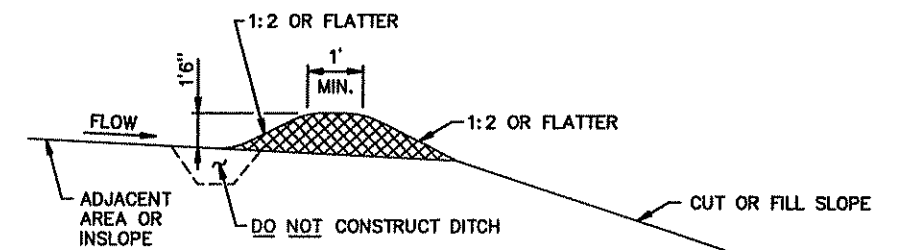
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



BROKEN-BACK SAFETY FILL SLOPE



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE (WHEN REQUIRED)



PERMANENT SLOPE PROTECTION DIKE

STANDARD SHEET NO. 5-297.406	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS
STANDARD APPROVED: JANUARY 31, 1985	
REVISION DATE 10-26-2000	STATE PROJ. NO.
	SHEET NO. 27 OF 159 SHEETS

NOTES & GUIDELINES

GENERAL INFORMATION

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
3. ALL DISTANCES ARE APPROXIMATE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MNMUTCD.
5. AN ANNUAL FALL REVIEW OF ALL TRAFFIC CONTROLS WILL BE MADE TO PREPARE FOR WINTER MAINTENANCE OF THE PROJECT. THIS MAY INCLUDE ADJUSTMENTS OR EXCHANGE OF ONE TRAFFIC CONTROL DEVICE FOR ANOTHER. READJUSTMENTS MAY AGAIN BE REQUIRED IN THE SPRING.
6. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.

SIGNING:

1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTANT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2. WHEN SIGNS ARE INSTALLED, THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET AS DETAILED IN THE MNMUTCD. IF THIS IS NOT POSSIBLE THEY WILL BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER. WHEN THE SIGNS ARE REMOVED THE SIGN POSTS SHALL ALSO BE REMOVED AS SOON AS POSSIBLE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
4. ALL ORANGE SIGNS SHALL BE MADE OF DIAMOND GRADE ORANGE REFLECTIVE SHEETING OR AN APPROVED SUBSTITUTE.
5. LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN ON PAGES 6K-101 AND 6K-102 OF THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
6. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE INSTALLED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS INSTALLED.

PAVEMENT MARKING:

1. OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
2. PAINT, POLYMER LANE TAPE AND/OR TRPM'S ARE ACCEPTABLE TEMPORARY STRIPING ALTERNATIVES ACCORDING TO ACTUAL CONDITIONS ENCOUNTERED AS DIRECTED BY THE ENGINEER. GENERALLY, PAINT WILL ONLY BE USED IF MANUFACTURERS' SPECIFICATIONS CAN NOT BE MET.
3. TRPM'S (TEMPORARY RAISED PAVEMENT MARKERS) SHOULD BE USED TO SUPPLEMENT THE LONG TERM (MORE THAN 7 DAYS) EDGELINES ON ALL TRANSITION AREAS WHEN THE CONDITIONS ARE WITHIN THE MANUFACTURERS' SPECIFICATIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND COORDINATION OF THE INSTALLATION OF TEMPORARY AND FINAL STRIPING TO ASSURE THAT THE MARKINGS ARE INSTALLED AS NEEDED, MN/DOT TRAFFIC PERSONNEL WILL ASSIST IN THE SPOTTING OF TRANSITION AREAS, GORES AND TAPERS.

BARRIER & DELINEATION:

1. BARRIER DELINEATORS WILL HAVE A MINIMUM OF 24 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 50' SPACES ON TOP OF THE BARRIER WHEN THE BARRIER IS WITHIN 10' OF TRAFFIC UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE ENGINEER. IF A SMALLER APPROVED BARRIER DELINEATOR IS USED IT SHALL BE AT ONE HALF THE SPACING AND ONE HALF THE BID PRICE.

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL	DESCRIPTION	SYMBOL
	TRAFFIC CONTROL SIGN	
	TYPE III BARRICADE =	
	CONCRETE BARRIER WITH DELINEATORS AT 30' SPACES	
	TYPE A OR B FLASHING WARNING LIGHT (SPECIFY HIGH INTENSITY)	
	TYPE C STEADY BURN WARNING LIGHT	
	CHANNELIZER DEVICE SYMBOL	
	PORTABLE CHANGEABLE = MESSAGE SIGN	
	FLASHING ARROW BOARD, TYPE C = (8'X4' UNLESS OTHERWISE NOTED).	
	REFLECTIVE DRUM SYMBOL =	
	CENTER LINE DELINEATOR TUBE =	
	TYPE I BARRICADE W/ STEADYBURN =	
	AREA CLOSED TO TRAFFIC / WORK AREA	

INDEX

TRAFFIC CONTROL SHEET NO.	DESCRIPTIONS
28	TITLE SHEET
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30	SIGN TABULATION
31	SPECIAL SIGN DETAILS
32	ADVANCE SIGNING
33-34	STAGE 1 PHASE 1
35-41	STAGE 1 PHASE 2
42-48	STAGE 2 PHASE 1
49-50	STAGE 2 PHASE 2 & PHASE 3

PLOT DATE: May 302 4:56pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC01.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE: 33889-043	DRAWN BY: JRL	DESIGN BY: JRM
CHKED. BY: ICP	DWG. NAME: 043-TC01	
DATE: APRIL 26, 2002		



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612.370.0700 Tel
612.370.1378 Fax

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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
TRAFFIC CONTROL
TABULATIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

SHEET NO.

28

159

PLOT DATE: Mo 4:56pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC02.dwg

PAY ITEM TABULATION SHEET

ITEM	UNIT	STAGE 1		STAGE 2		TOTAL
		PHASE 1	PHASE 2	PHASE 1	PHASE 2	
TRAFFIC CONTROL	LUMP SUM	0.05	0.45	0.40	0.10	1.00
4" SOLID LINE WHITE - PAINT	LIN. FT.		5285	3485		8770
4" DOUBLE SOLID LINE YELLOW - PAINT	LIN. FT.		3460	3220		6880
24" STOP LINE WHITE - PAINT	LIN. FT.		66	152		218
PAVEMENT MESSAGE (LEFT ARROW) - PAINT	EACH		4	4		8
PAVEMENT MESSAGE (RIGHT ARROW) - PAINT	EACH					
PAVEMENT MARKING REMOVAL	SQ. FT.		208		184	392
PAVEMENT MARKING REMOVAL	LIN. FT.		8000	4350	9040	14190
PAVEMENT MARKING REMOVAL - PERMANENT	SQ. FT.		692	288		980
RAISED PAVEMENT MARKER TEMP.	EACH					
REMOVABLE PREFORMED PLASTIC MARKING	LIN. FT.					
CONSTRUCTION SIGNS - SPECIAL	SQ. FT.	198		72		270

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE:
1	JLL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE	33889-043

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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
TRAFFIC CONTROL
TABULATIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

SHEET NO. 29
159

ITEM	SIGN NO.	COLOR	SIZE
	R1-1	WHITE ON RED	36 x 36 AND 48 x 48
	R1-2	RED ON WHITE	36 x 36 x 36
	R1-4	WHITE ON RED	18 x 6
	R2-1	BLACK ON WHITE	24 x 30
	R3-1	BLACK & RED ON WHITE	24 x 24
	R3-2	BLACK & RED ON WHITE	24 x 24
	R3-5	BLACK ON WHITE	30 x 36
	R3-7	BLACK ON WHITE	30 x 30
	R3-30ACD	BLACK ON WHITE	48 x 30
	R3-30AD	BLACK ON WHITE	36 x 30
	R3-X1	BLACK ON WHITE	30 x 30
	R3-X2	BLACK ON WHITE	30 x 30
	R4-7	BLACK ON WHITE	24 x 30
	R6-1	BLACK ON WHITE	36 x 12
	R8-3A	BLACK & RED ON WHITE	24 x 24
	R11-2	BLACK ON WHITE	48 x 30
	R11-4	BLACK ON WHITE	60 x 30
	R11-X2	BLACK ON WHITE	48 x 24
	R11-X2	BLACK ON WHITE	48 x 24

ITEM	SIGN NO.	COLOR	SIZE
	W1-4L	BLACK ON YELLOW	30 x 30
	W1-4R	BLACK ON YELLOW	30 x 30
	W1-6	BLACK ON YELLOW	48 x 24
	W1-7	BLACK ON YELLOW	48 x 24
	W3-2A	BLACK, RED & WHITE ON YELLOW	48 x 48
	W3-2A	BLACK, RED & WHITE ON YELLOW	48 X 48
	M1-6A	WHITE & YELLOW ON BLUE	24 x 24
	M3-4A	WHITE ON BLUE	24 x 12
	M6-1A	WHITE ON BLUE	21 x 15
	M6-4A	WHITE ON BLUE	21 x 15
	X4-2	YELLOW ON YELLOW OR BLACK	18 x 18
	BARRICADE	BLACK & ORANGE	
	BARRICADE	BLACK & ORANGE	
	DRUM	ORANGE & WHITE	
		BLACK ON ORANGE	24 x 24

PLOT DATE: Apr 25, 2002 10:08am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC23.dwg

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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
SIGN TABULATION
CONSTRUCTION STAGING
& TRAFFIC CONTROL

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

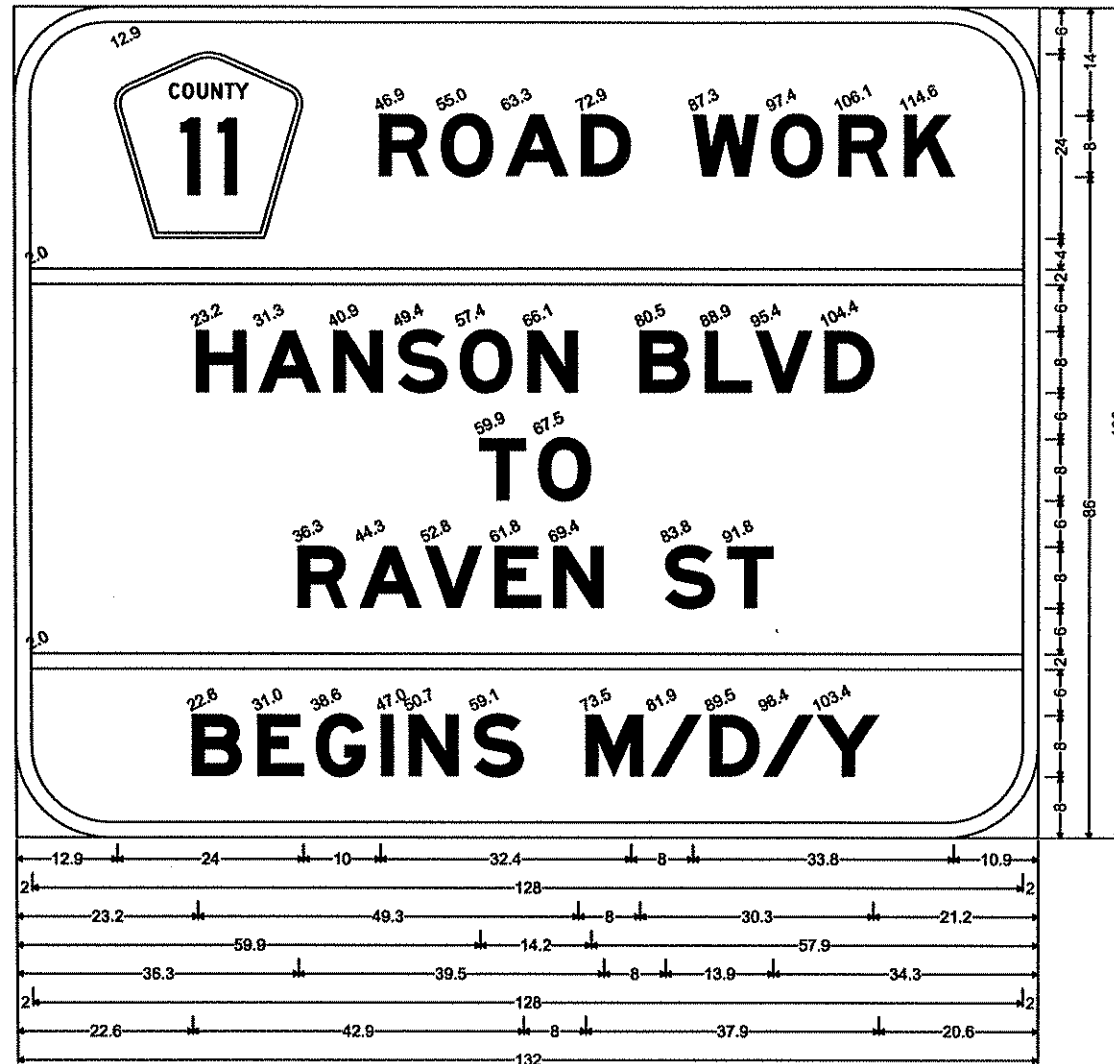
3 OF 3

SHEET NO.

30

159

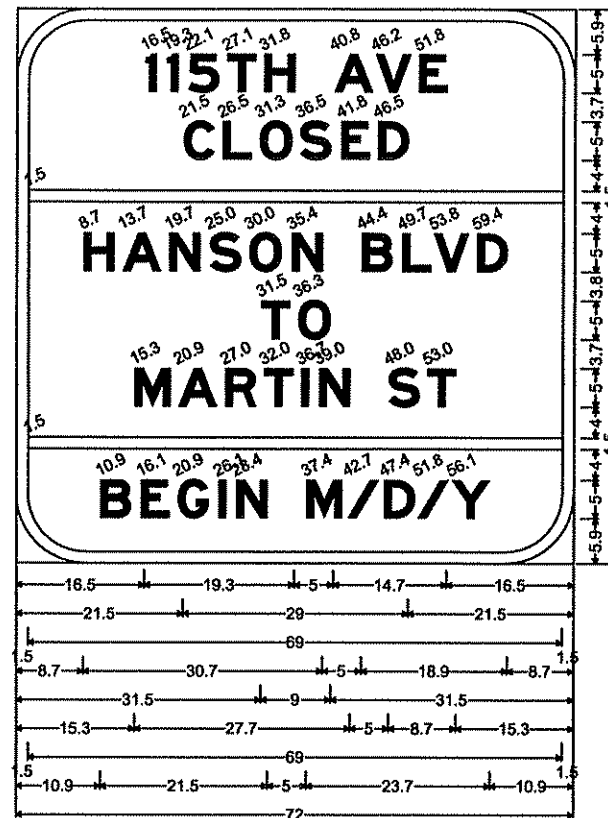
WZ-1



12.0" Radius, 2.0" Border, White on Orange;
 [ROAD WORK] E Mod; [HANSON BLVD] E Mod; [TO] E Mod; [RAVEN ST] E Mod; [BEGINS M/D/Y] E Mod;

2 REQUIRED

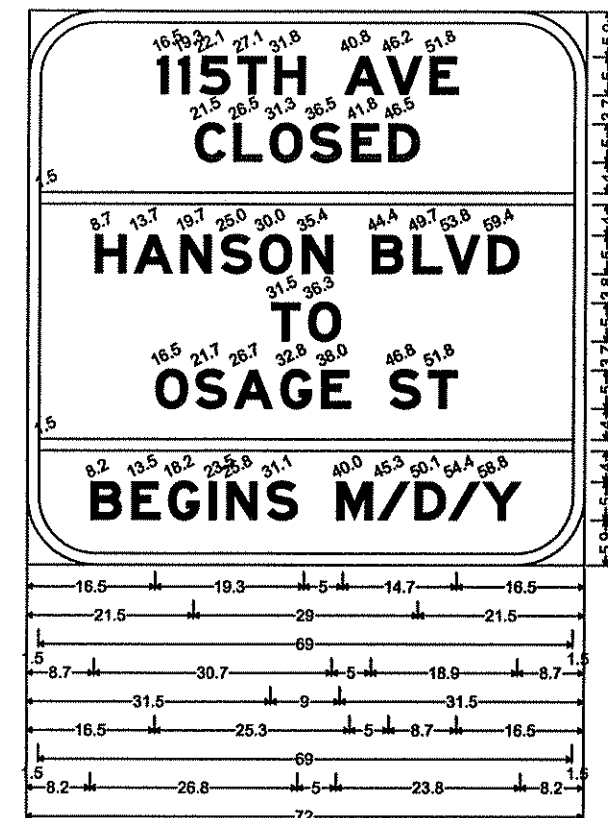
WZ-2



9.0" Radius, 1.5" Border, White on Orange;
 [115TH AVE] E Mod; [CLOSED] E Mod; [HANSON BLVD] E Mod;
 [TO] E Mod; [MARTIN ST] E Mod; [BEGINS M/D/Y] E Mod;

1 REQUIRED

WZ-3



9.0" Radius, 1.5" Border, White on Orange;
 [115TH AVE] E Mod; [CLOSED] E Mod; [HANSON BLVD] E Mod;
 [TO] E Mod; [OSAGE ST] E Mod; [BEGINS M/D/Y] E Mod;

1 REQUIRED

PLOT DATE: Apr 25, 2002 10:05am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC03.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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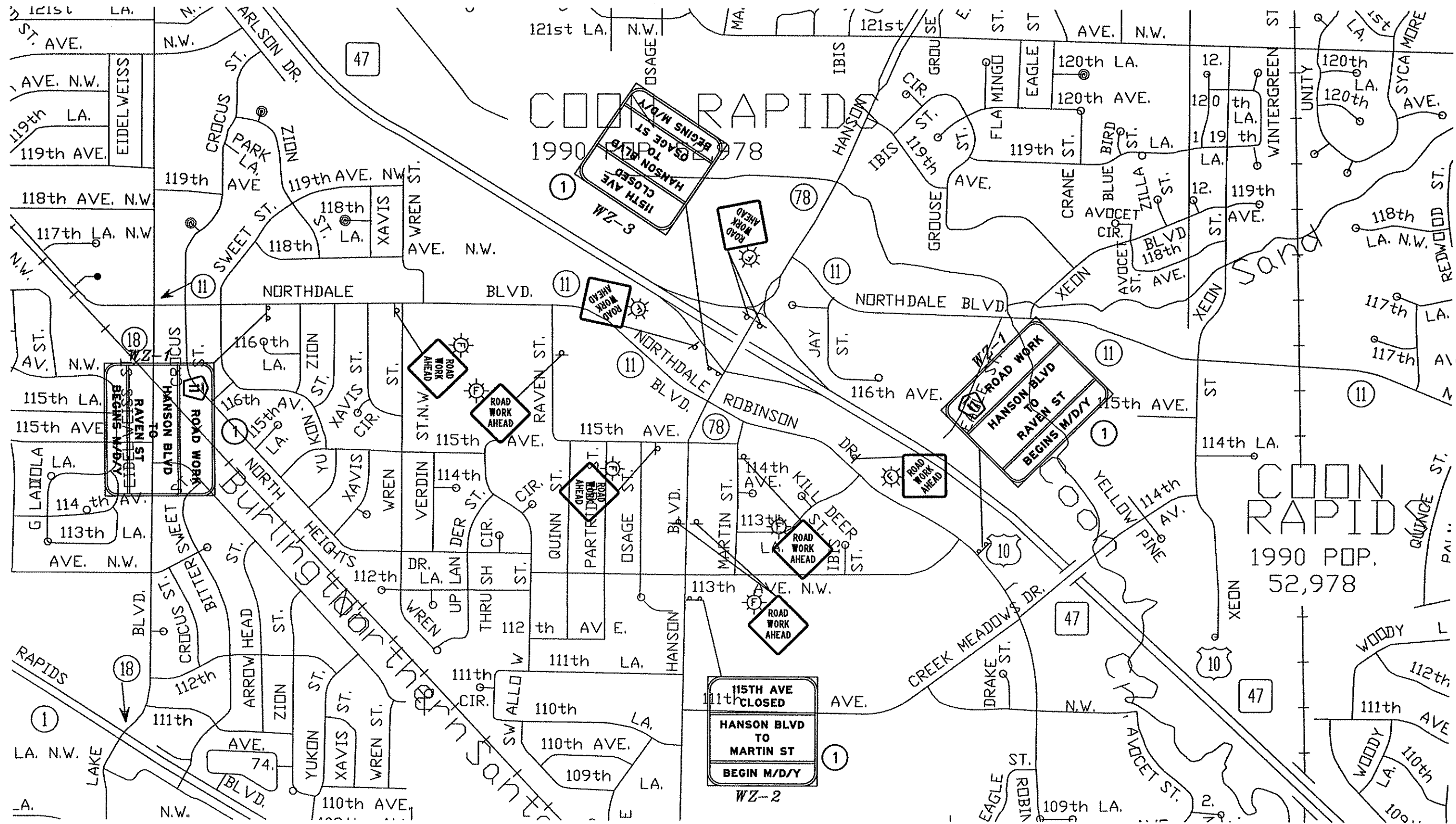
 PAUL B. DANIELSON
 DATE: 4/25/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
 (C.S.A.H. 11)
 TRAFFIC CONTROL
 SPECIAL SIGN DETAILS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

1 OF 1
 SHEET NO. 31
 159

PLOT DATE: Apr 25, 2002 10:05am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC04.dwg



① INSTALL 7 DAYS PRIOR TO CONSTRUCTION

1 OF 1

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

URS
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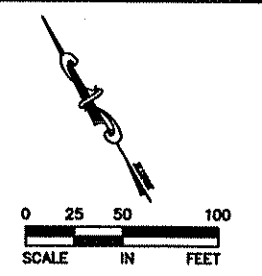
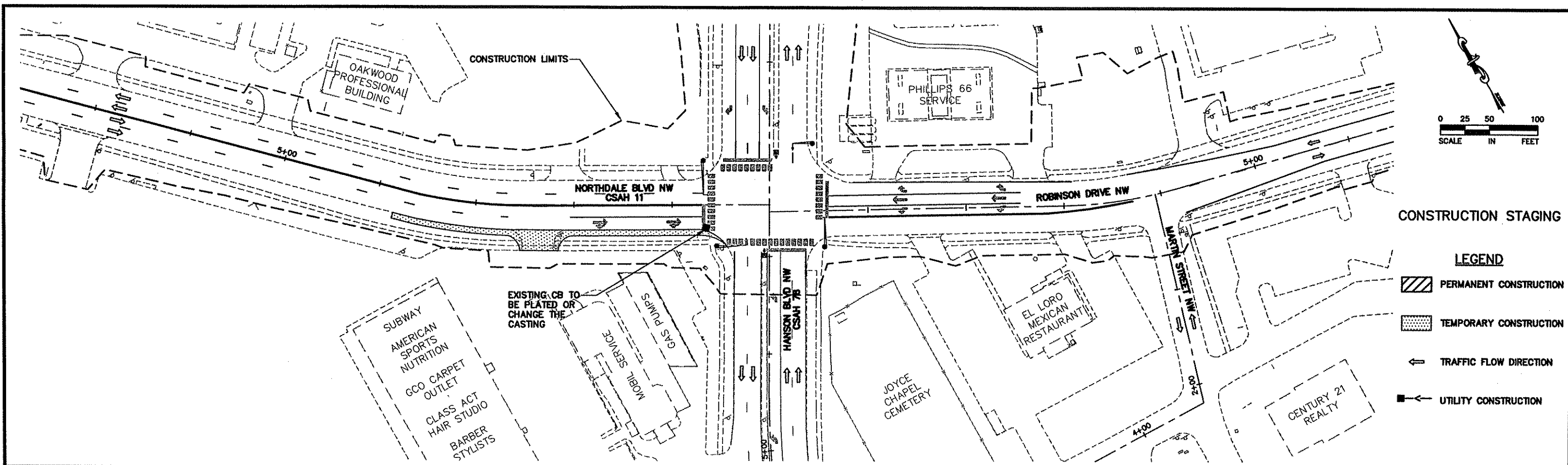
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Paul B. Danielson
 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
 (C.S.A.H. 11)
TRAFFIC CONTROL
 ADVANCE SIGNING

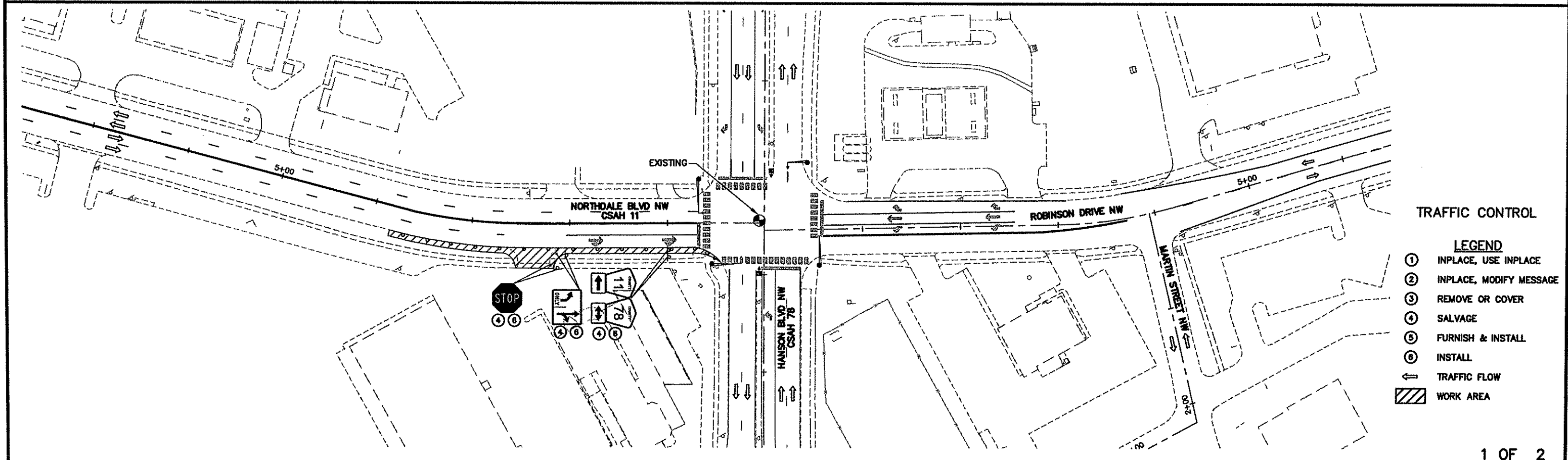
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COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
32
 159

PLOT DATE: Apr 25 2002 10:05am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC06.dwg



- CONSTRUCTION STAGING**
- LEGEND**
- PERMANENT CONSTRUCTION
 - TEMPORARY CONSTRUCTION
 - TRAFFIC FLOW DIRECTION
 - UTILITY CONSTRUCTION



- TRAFFIC CONTROL**
- LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL
 - ⑥ INSTALL
 - TRAFFIC FLOW
 - WORK AREA

1 OF 2

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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DATE: APRIL 26, 2002		

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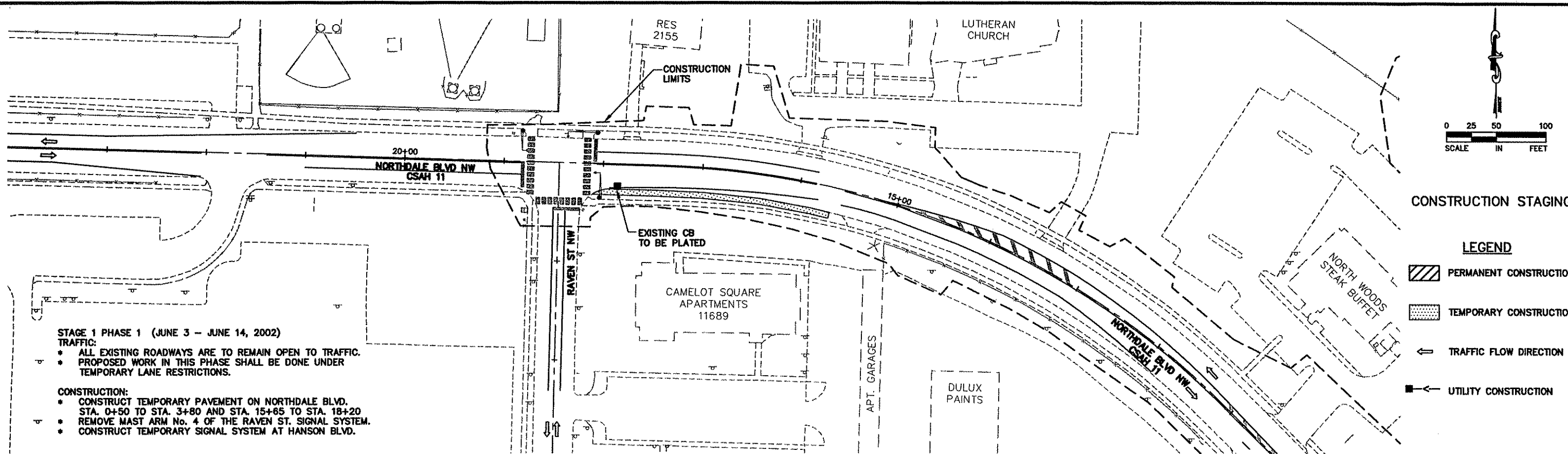
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BLVD.
CONSTRUCTION STAGING
& TRAFFIC CONTROL
STAGE 1 PHASE 1**

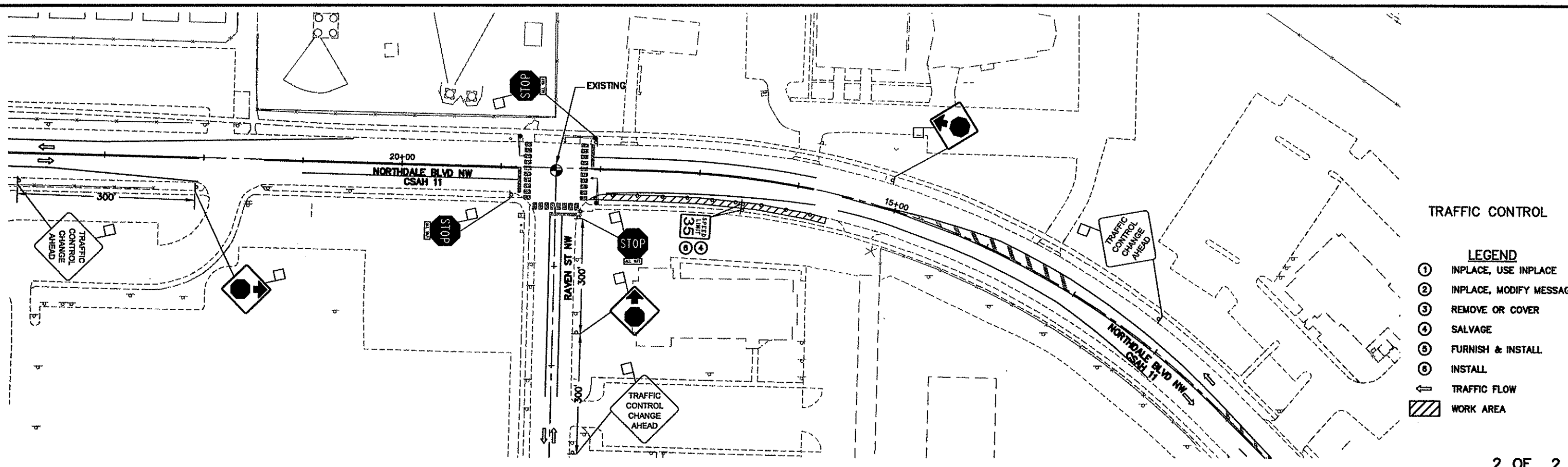
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COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
33
159

PLOT DATE: May 002 4:56pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC05.dwg



STAGE 1 PHASE 1 (JUNE 3 - JUNE 14, 2002)
TRAFFIC:
 * ALL EXISTING ROADWAYS ARE TO REMAIN OPEN TO TRAFFIC.
 * PROPOSED WORK IN THIS PHASE SHALL BE DONE UNDER TEMPORARY LANE RESTRICTIONS.
CONSTRUCTION:
 * CONSTRUCT TEMPORARY PAVEMENT ON NORTHDAL BLVD. STA. 0+50 TO STA. 3+80 AND STA. 15+65 TO STA. 18+20
 * REMOVE MAST ARM No. 4 OF THE RAVEN ST. SIGNAL SYSTEM.
 * CONSTRUCT TEMPORARY SIGNAL SYSTEM AT HANSON BLVD.



TRAFFIC CONTROL
LEGEND
 ① INPLACE, USE INPLACE
 ② INPLACE, MODIFY MESSAGE
 ③ REMOVE OR COVER
 ④ SALVAGE
 ⑤ FURNISH & INSTALL
 ⑥ INSTALL
 ← TRAFFIC FLOW
 [Hatched Box] WORK AREA

2 OF 2

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JLL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE: 33889-043
 DRAWN BY: JRL
 DESIGN BY: JRM
 CHKD. BY: ICP
 DWG. NAME: 043-TC05
 DATE: APRIL 26, 2002



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Paul B. Danielson
 PAUL B. DANIELSON
 DATE: 4/28/02 MN LIC. NO. 23197

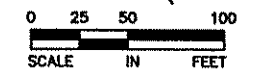
NORTHDAL BOULEVARD
 (C.S.A.H. 11)
NORTHDAL BLVD.
 CONSTRUCTION STAGING & TRAFFIC CONTROL
 STAGE 1 PHASE 1

CITY PROJECT	2001-47	S.A.P.	114-020-28
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

SHEET NO.
34
 159

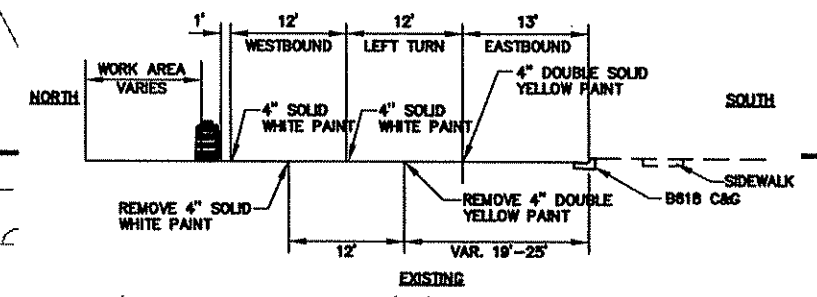
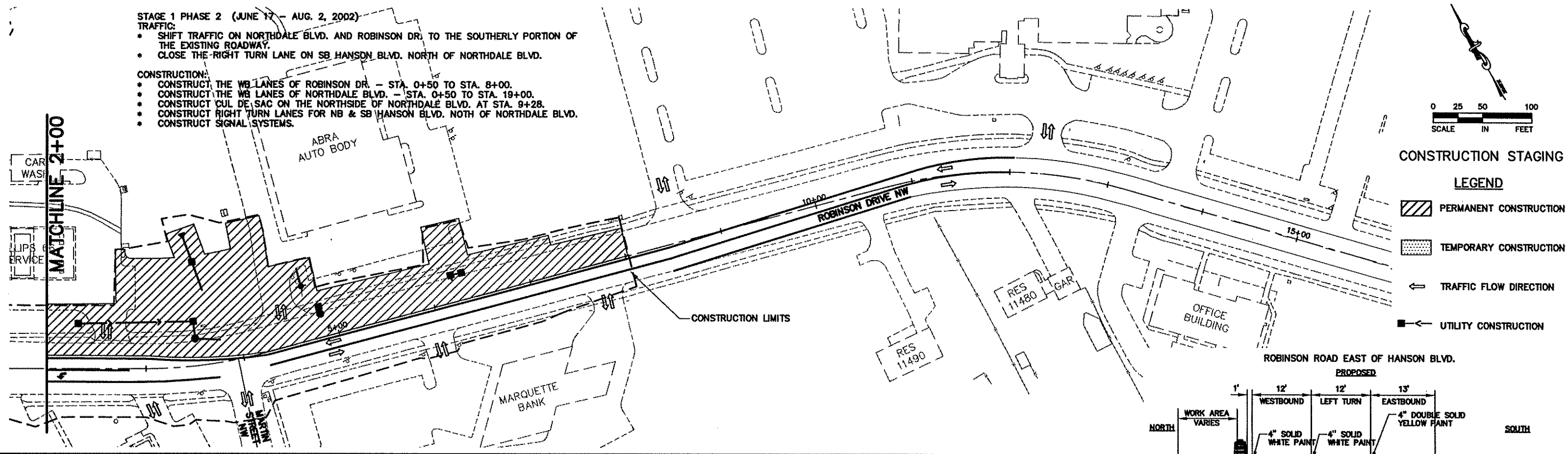
STAGE 1 PHASE 2 (JUNE 17 - AUG. 2, 2002)
 TRAFFIC:
 * SHIFT TRAFFIC ON NORTHDALE BLVD. AND ROBINSON DR. TO THE SOUTHERLY PORTION OF THE EXISTING ROADWAY.
 * CLOSE THE RIGHT TURN LANE ON SB HANSON BLVD. NORTH OF NORTHDALE BLVD.

CONSTRUCTION:
 * CONSTRUCT THE WB LANES OF ROBINSON DR. - STA. 0+50 TO STA. 8+00.
 * CONSTRUCT THE WB LANES OF NORTHDALE BLVD. - STA. 0+50 TO STA. 19+00.
 * CONSTRUCT CUL DE SAC ON THE NORTHSIDE OF NORTHDALE BLVD. AT STA. 9+28.
 * CONSTRUCT RIGHT TURN LANES FOR NB & SB HANSON BLVD. NORTH OF NORTHDALE BLVD.
 * CONSTRUCT SIGNAL SYSTEMS.



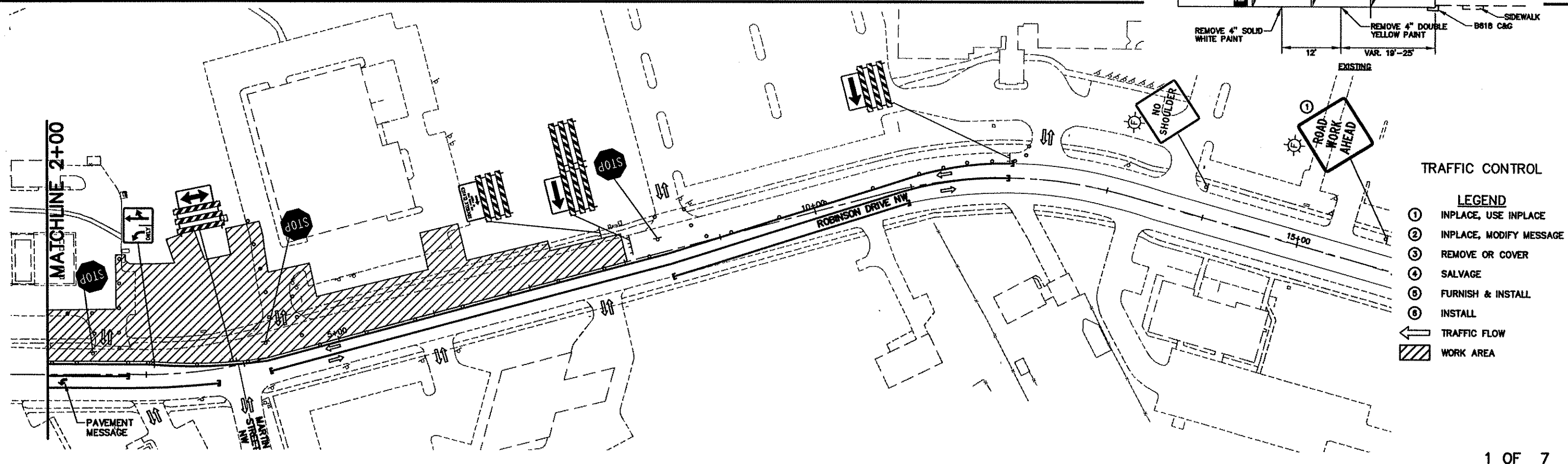
CONSTRUCTION STAGING
 LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- UTILITY CONSTRUCTION



TRAFFIC CONTROL
 LEGEND

- ① INPLACE, USE INPLACE
- ② INPLACE, MODIFY MESSAGE
- ③ REMOVE OR COVER
- ④ SALVAGE
- ⑤ FURNISH & INSTALL
- ⑥ INSTALL
- TRAFFIC FLOW
- WORK AREA



PLOT DATE: May 202 4:56pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC07.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE: 33889-043	DRAWN BY: JRL	DESIGN BY: JRM
CHKD. BY: ICP	DWG. NAME: 043-TC07	
DATE: APRIL 26, 2002		



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 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1378 Fax

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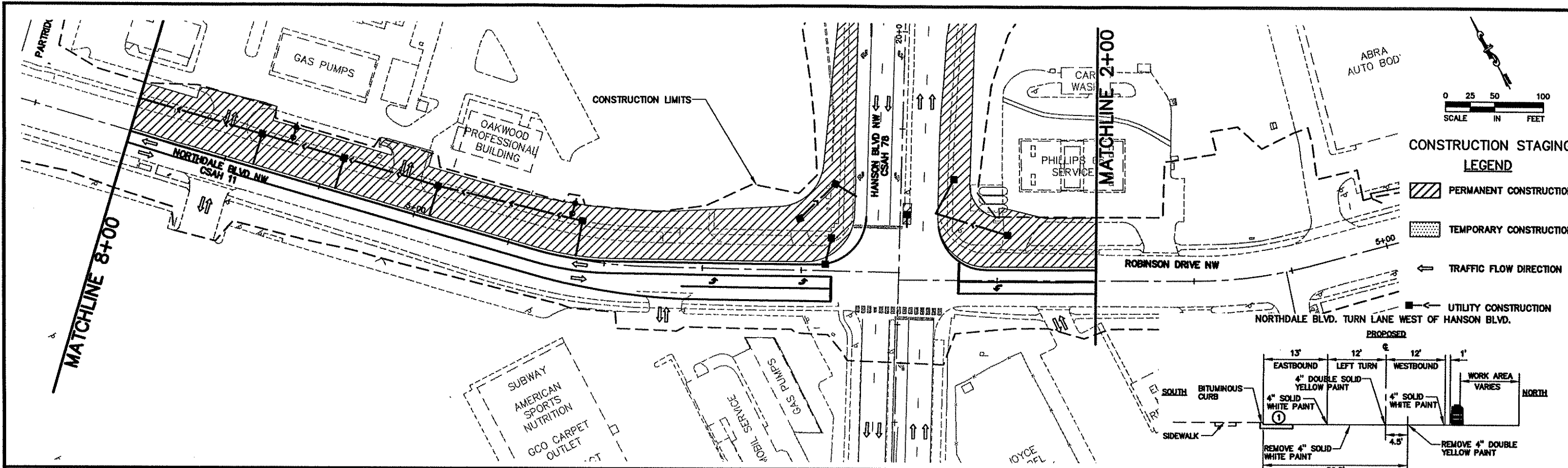
Paul B. Danielson
 PAUL B. DANIELSON
 DATE: 4/28/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
 (C.S.A.H. 11)
 ROBINSON DRIVE W.
 CONSTRUCTION STAGING
 & TRAFFIC CONTROL
 STAGE 1 PHASE 2**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

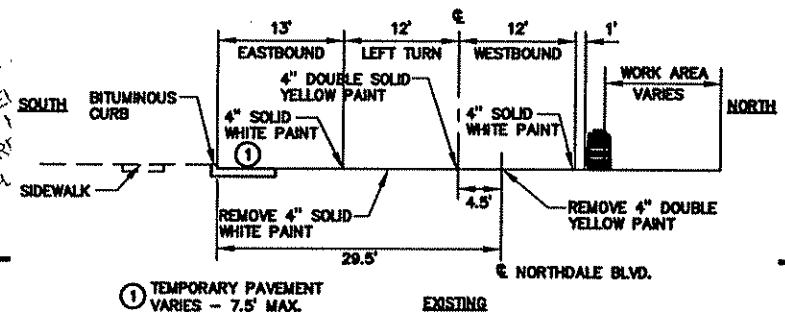
1 OF 7
 SHEET NO.
35
 159

PLOT DATE: Apr 25, 2002 10:06am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC08.dwg

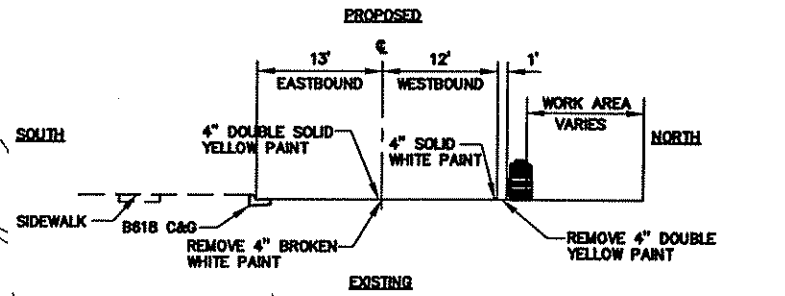
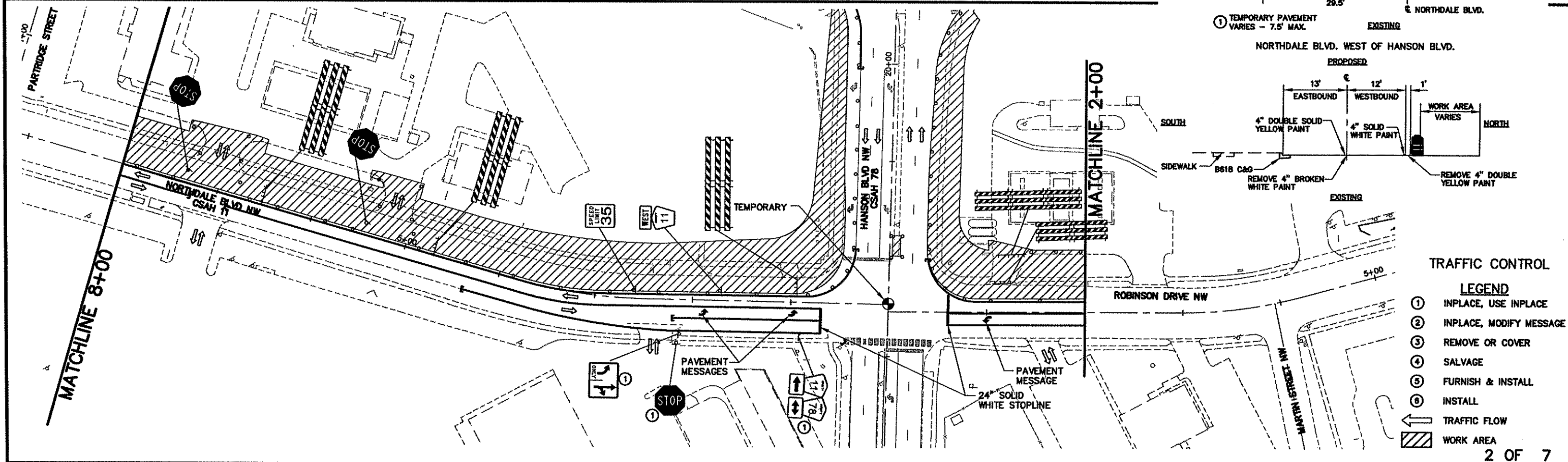


CONSTRUCTION STAGING LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- UTILITY CONSTRUCTION



① TEMPORARY PAVEMENT VARIES - 7.5' MAX. EXISTING



EXISTING

TRAFFIC CONTROL LEGEND

- ① INPLACE, USE INPLACE
- ② INPLACE, MODIFY MESSAGE
- ③ REMOVE OR COVER
- ④ SALVAGE
- ⑤ FURNISH & INSTALL
- ⑥ INSTALL
- TRAFFIC FLOW
- WORK AREA

2 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043
 DRAWN BY: JRL DESIGN BY: JRM
 CHKD. BY: ICP DWG. NAME: 043-TC08
 DATE: APRIL 26, 2002



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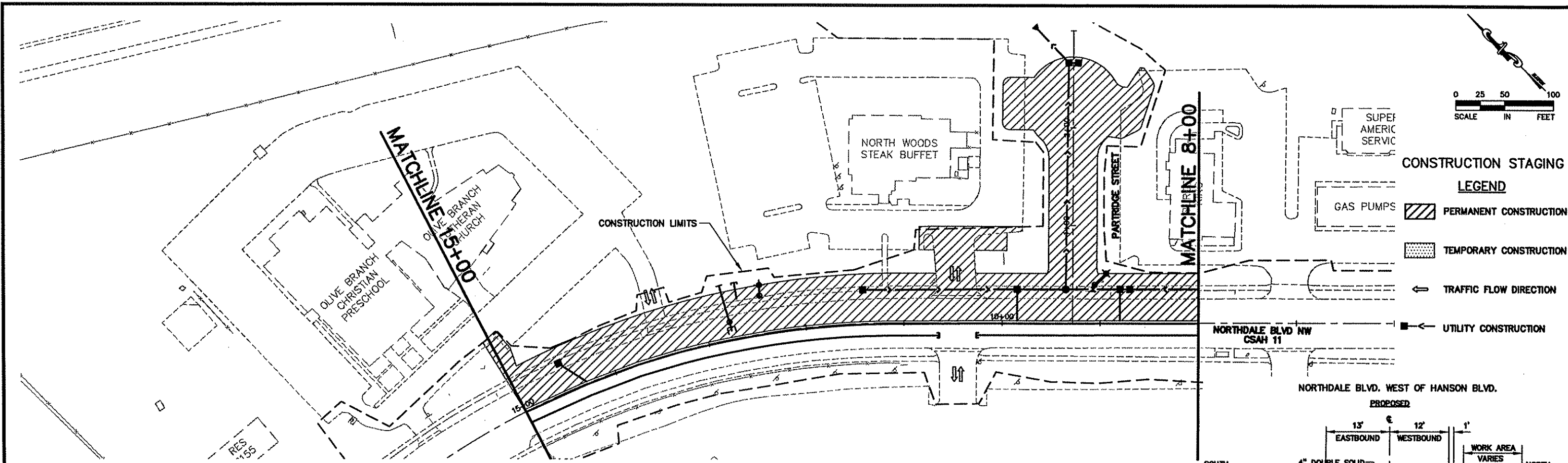
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Paul B. Danielson
 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
 (C.S.A.H. 11)
ROBINSON DRIVE W. / NORTHDALE BLVD.
 CONSTRUCTION STAGING & TRAFFIC CONTROL
 STAGE 1 PHASE 2

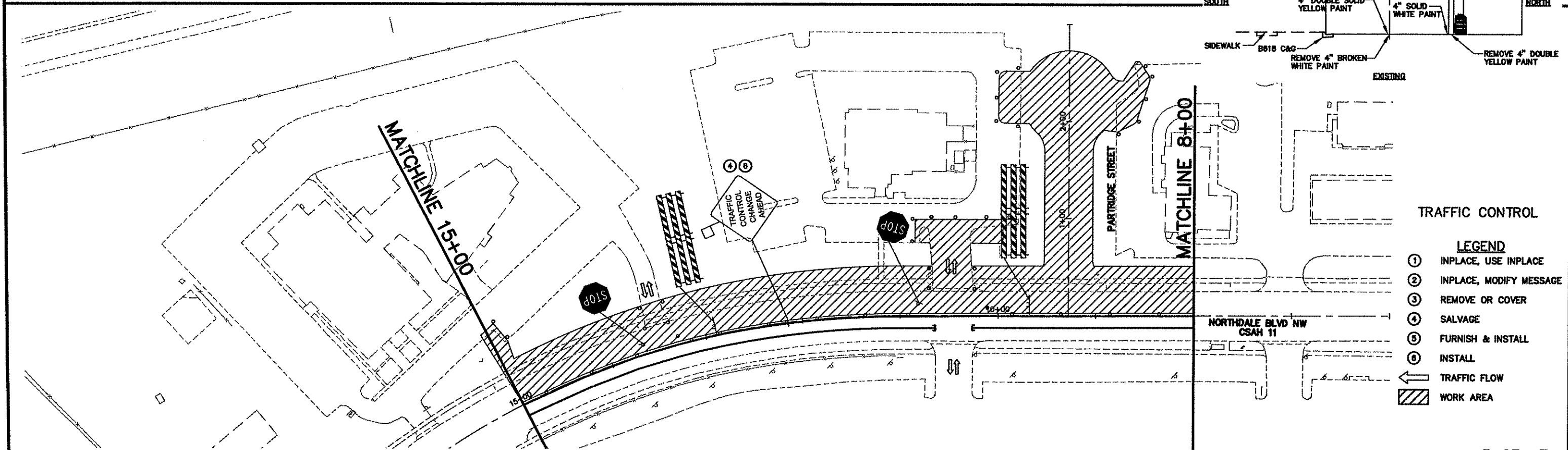
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COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

PLOT DATE: Apr 25, 2002 10:06am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC09.dwg



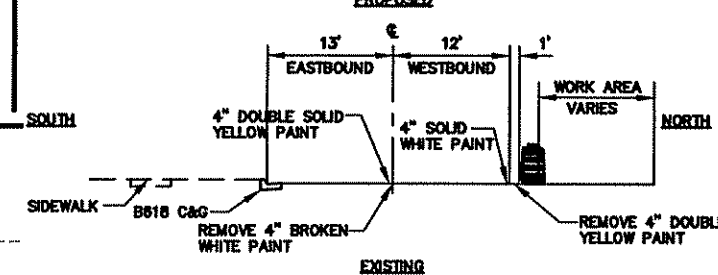
CONSTRUCTION STAGING LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- UTILITY CONSTRUCTION



TRAFFIC CONTROL LEGEND

- ① INPLACE, USE INPLACE
- ② INPLACE, MODIFY MESSAGE
- ③ REMOVE OR COVER
- ④ SALVAGE
- ⑤ FURNISH & INSTALL
- ⑥ INSTALL
- TRAFFIC FLOW
- WORK AREA



3 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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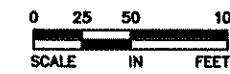
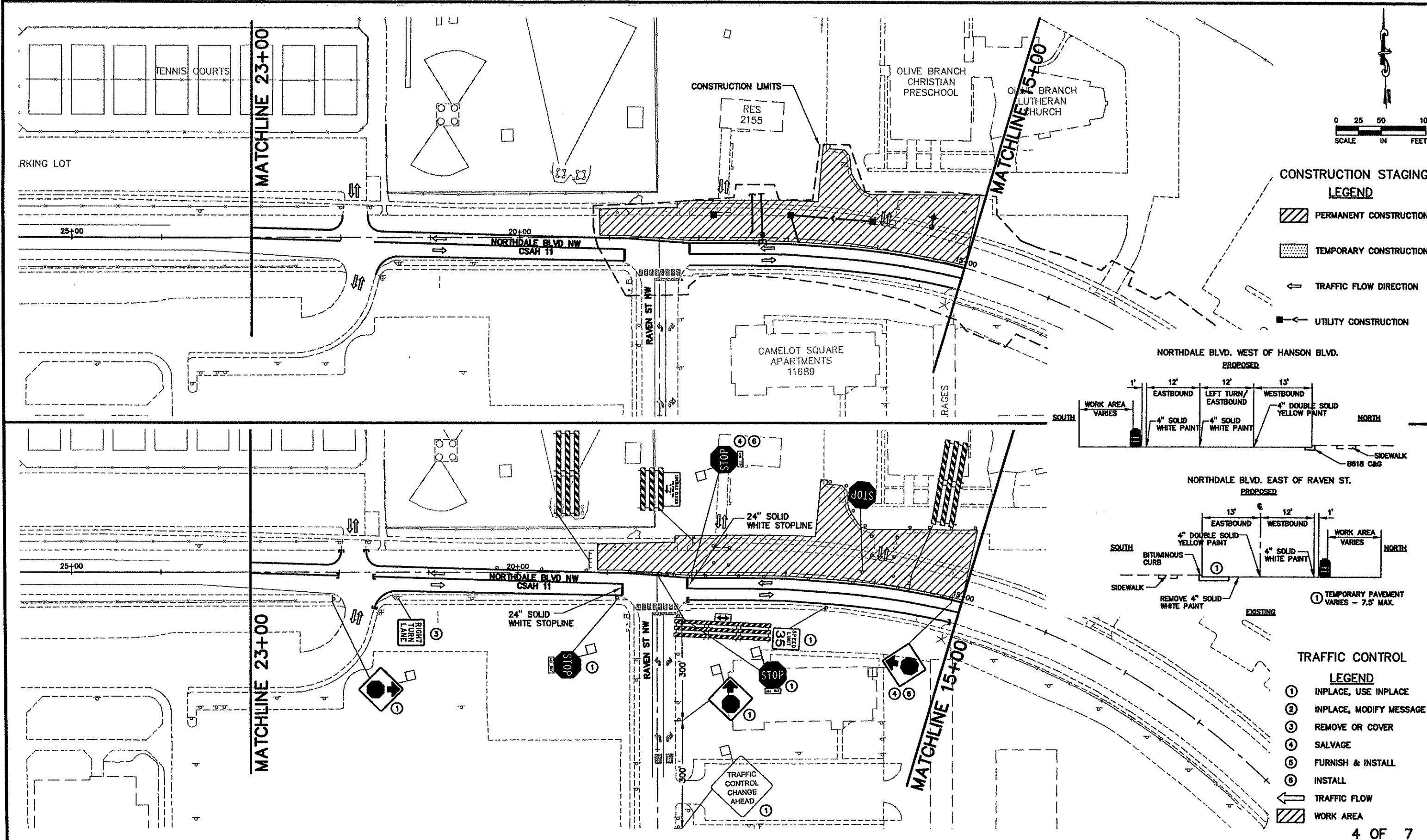
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Paul B. Danielson
 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD (C.S.A.H. 11)
NORTHDALE BOULEVARD
 CONSTRUCTION STAGING & TRAFFIC CONTROL
 STAGE 1 PHASE 2

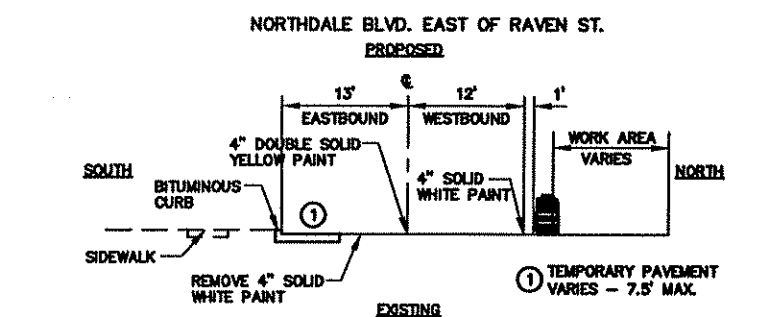
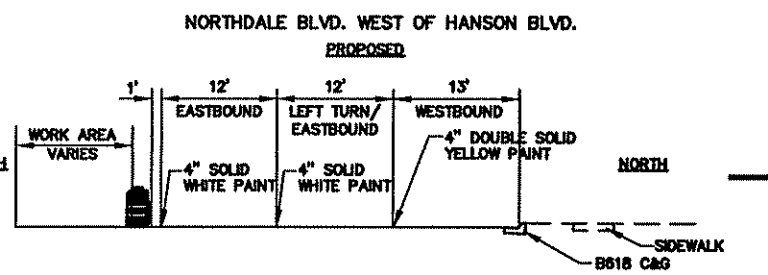
CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 37 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

PLOT DATE: Apr 25, 2002 10:06am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC10.dwg



CONSTRUCTION STAGING LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- UTILITY CONSTRUCTION



TRAFFIC CONTROL LEGEND

- ① INPLACE, USE INPLACE
- ② INPLACE, MODIFY MESSAGE
- ③ REMOVE OR COVER
- ④ SALVAGE
- ⑤ FURNISH & INSTALL
- ⑥ INSTALL
- TRAFFIC FLOW
- WORK AREA

4 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	DRAWN BY: JRL	DESIGN BY: JRM
CHKD. BY: ICP	DWG. NAME: 043-TC10	
DATE: APRIL 26, 2002		

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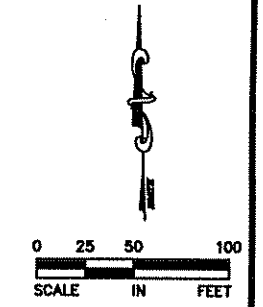
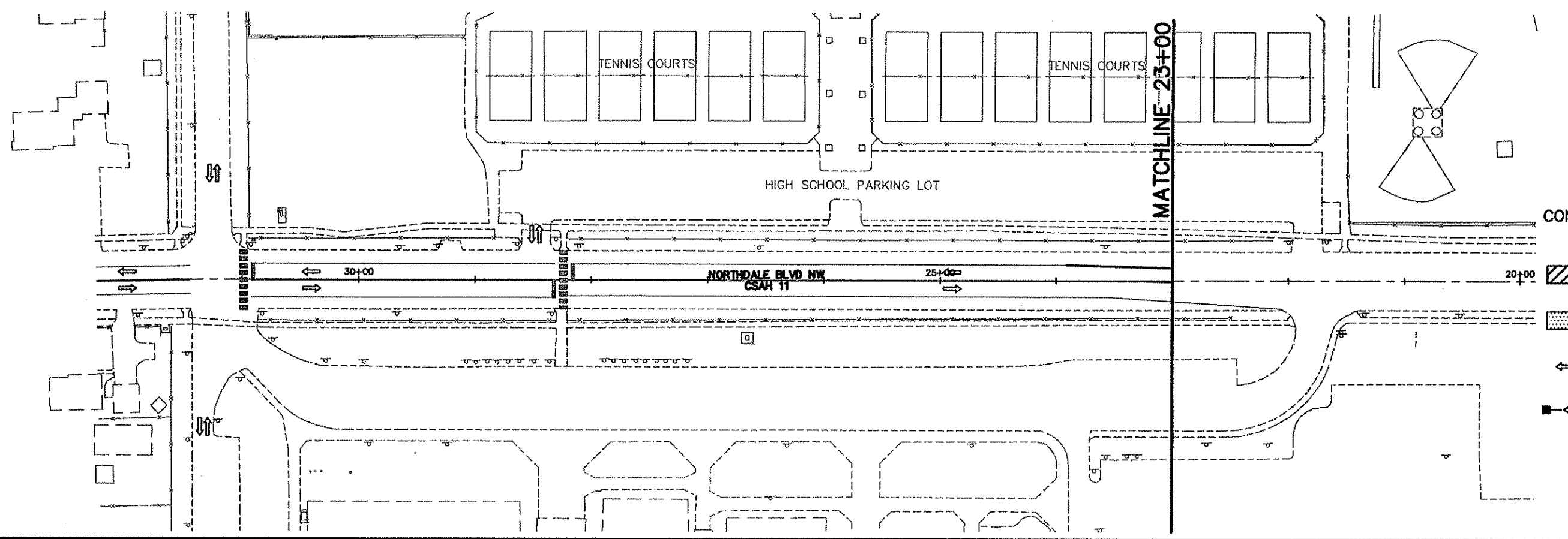
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

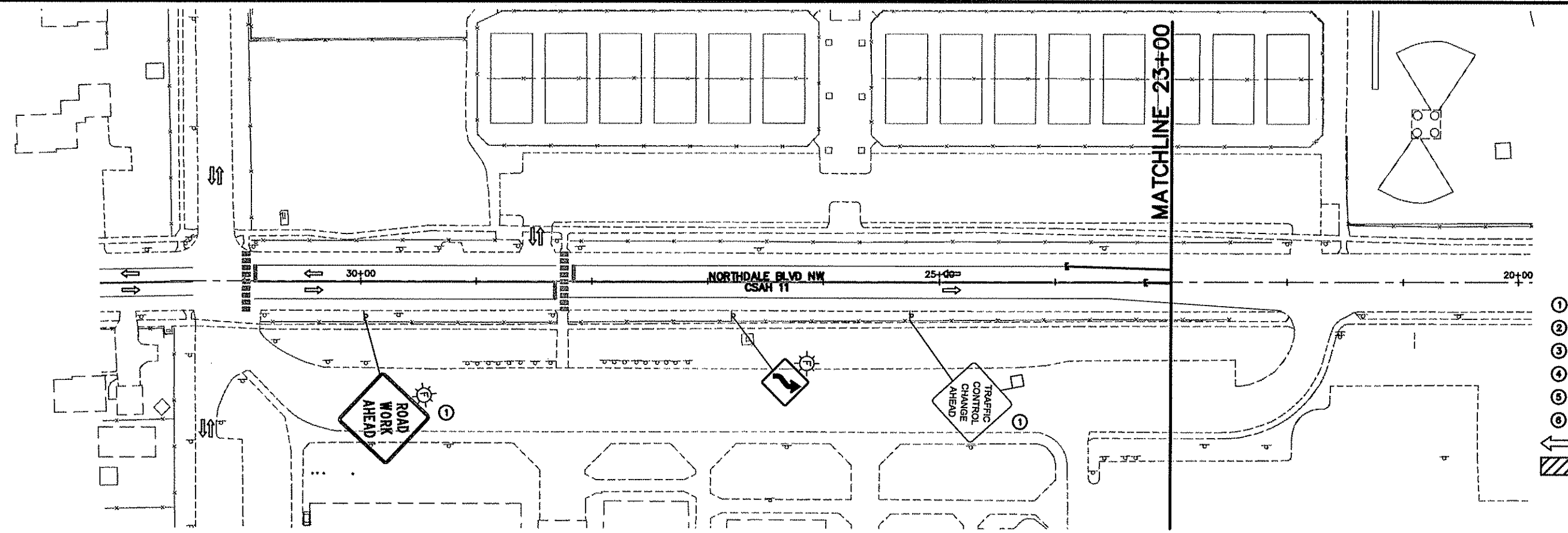
NORTHDALE BOULEVARD (C.S.A.H. 11)
NORTHDALE BOULEVARD
CONSTRUCTION STAGING & TRAFFIC CONTROL
STAGE 1 PHASE 2

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 38 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

PLOT DATE: Apr 25, 2002 10:06am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC11.dwg



- CONSTRUCTION STAGING LEGEND**
- PERMANENT CONSTRUCTION
 - TEMPORARY CONSTRUCTION
 - TRAFFIC FLOW DIRECTION
 - UTILITY CONSTRUCTION



- TRAFFIC CONTROL LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL
 - ⑥ INSTALL
 - TRAFFIC FLOW
 - WORK AREA

5 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043

DRAWN BY: JRL DESIGN BY: JRM

CHKD. BY: ICP DWG. NAME: 043-TC11

DATE: APRIL 26, 2002



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Paul B. Danielson

PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23187

NORTHDALE BOULEVARD (C.S.A.H. 11)

NORTHDALE BOULEVARD

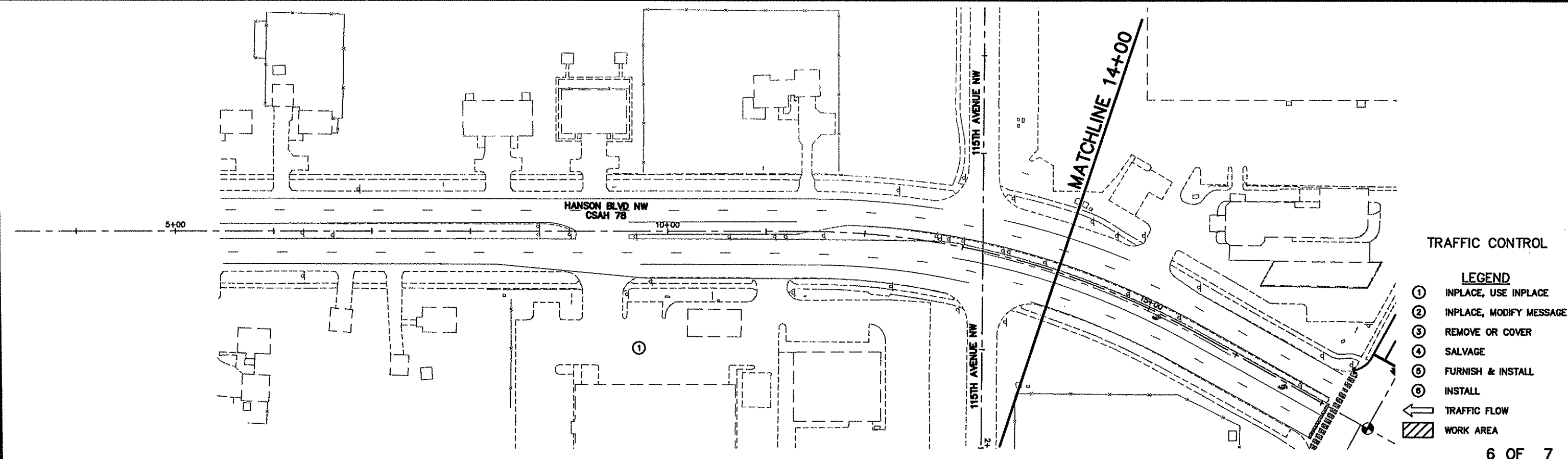
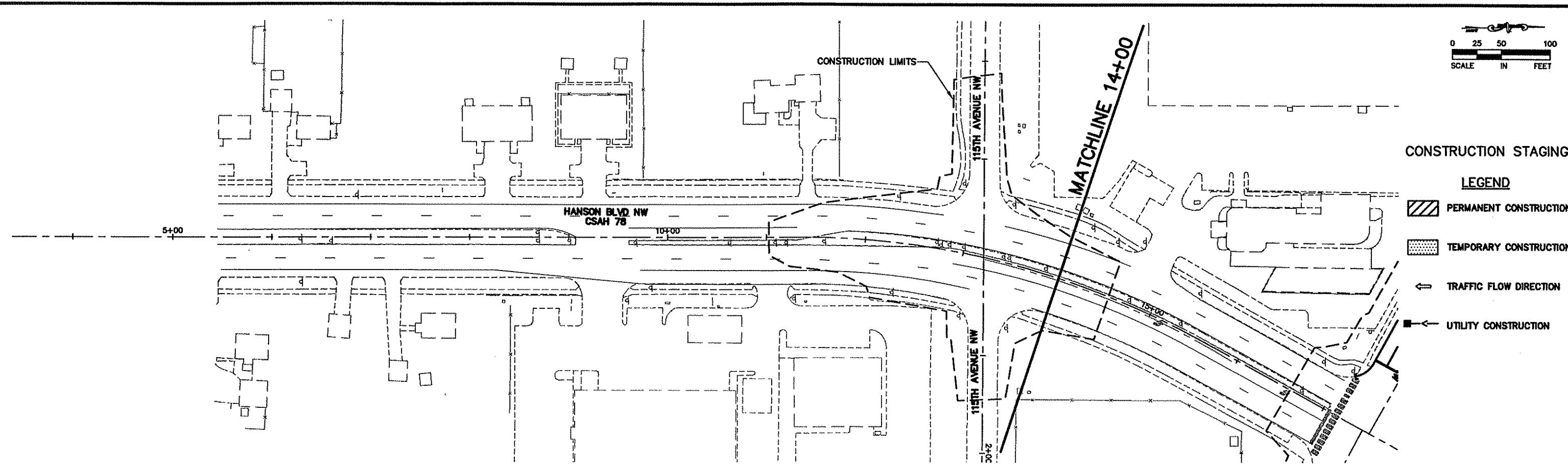
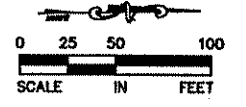
CONSTRUCTION STAGING & TRAFFIC CONTROL
STAGE 1 PHASE 2

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO. 39

159

PLOT DATE: Apr 25, 2002 10:06am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC12.dwg



6 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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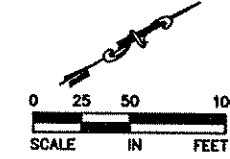
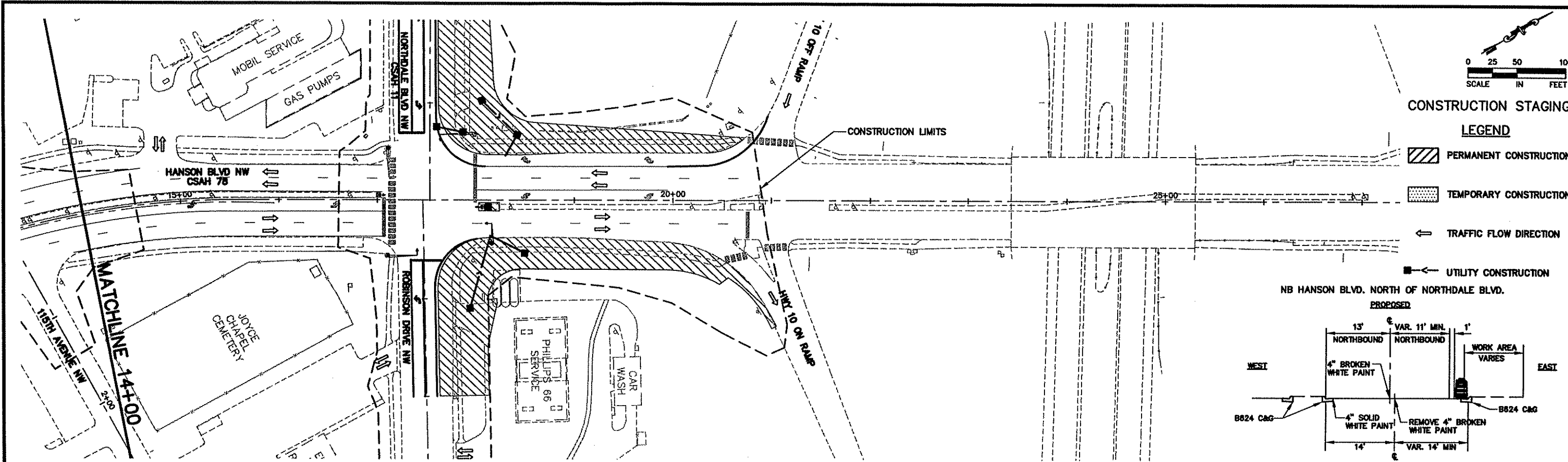
Paul B. Danielson
 PAUL B. DANIELSON
 DATE: 4/25/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
 (C.S.A.H. 11)
 HANSON BOULEVARD**
 CONSTRUCTION STAGING
 & TRAFFIC CONTROL
 STAGE 1 PHASE 2

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
40
 159

PLOT DATE: Apr 25, 2002 10:06am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC13.dwg

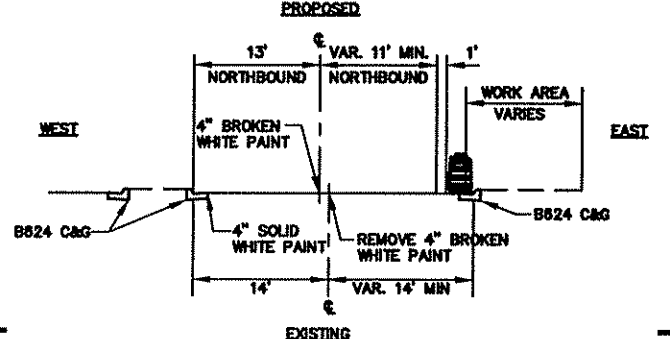


CONSTRUCTION STAGING

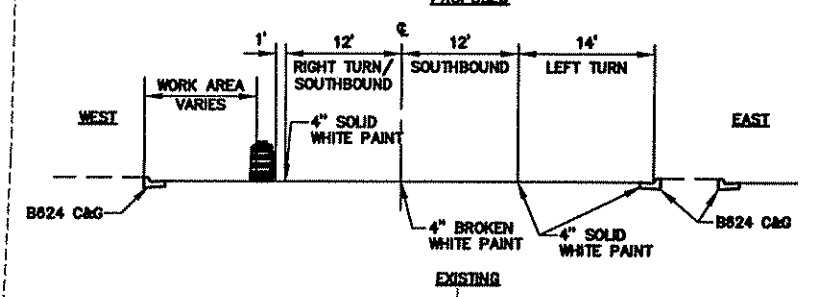
LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- UTILITY CONSTRUCTION

NB HANSON BLVD. NORTH OF NORTHDAL BLVD.



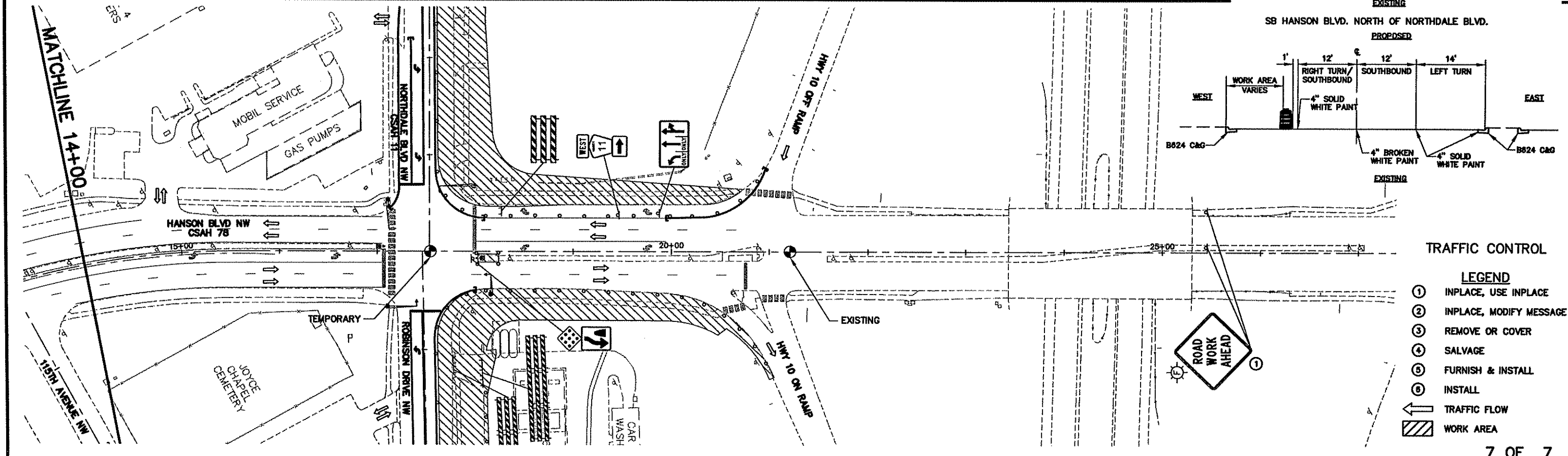
SB HANSON BLVD. NORTH OF NORTHDAL BLVD.



TRAFFIC CONTROL

LEGEND

- ① INPLACE, USE INPLACE
- ② INPLACE, MODIFY MESSAGE
- ③ REMOVE OR COVER
- ④ SALVAGE
- ⑤ FURNISH & INSTALL
- ⑥ INSTALL
- TRAFFIC FLOW
- WORK AREA



7 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	DESIGN BY: JRM
DRAWN BY: JRL	DWG. NAME: 043-TC13
CHKD. BY: ICP	DATE: APRIL 26, 2002

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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDAL BOULEVARD
(C.S.A.H. 11)
HANSON BOULEVARD
CONSTRUCTION STAGING
& TRAFFIC CONTROL
STAGE 1 PHASE 2

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 41
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

159

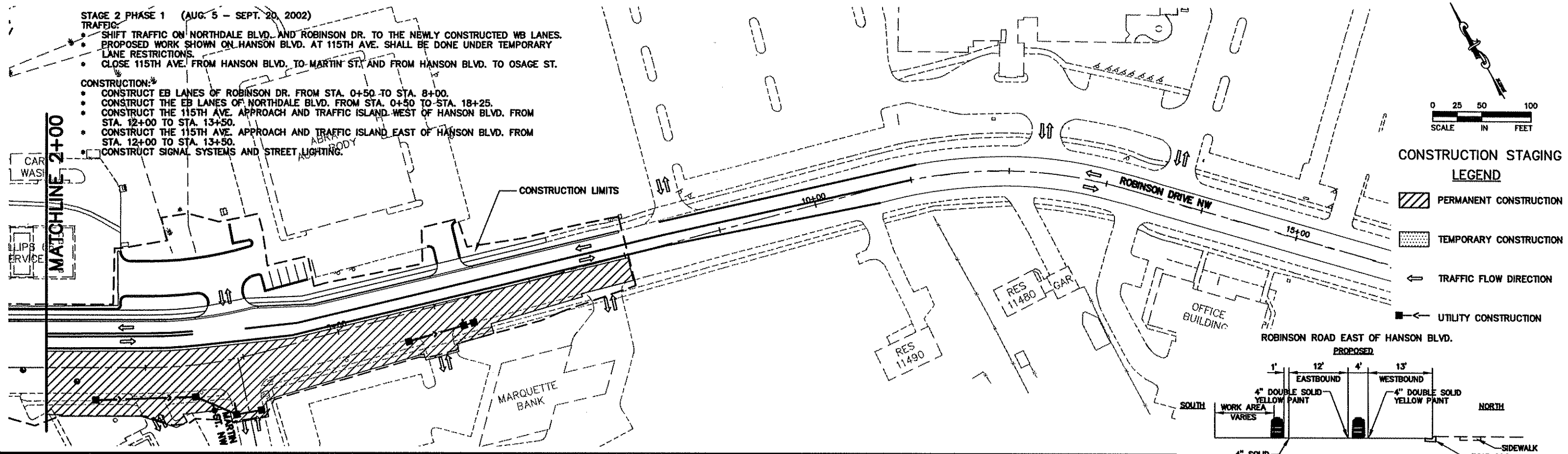
STAGE 2 PHASE 1 (AUG. 5 - SEPT. 20, 2002)

TRAFFIC:

- SHIFT TRAFFIC ON NORTHDAL BLVD. AND ROBINSON DR. TO THE NEWLY CONSTRUCTED WB LANES.
- PROPOSED WORK SHOWN ON HANSON BLVD. AT 115TH AVE. SHALL BE DONE UNDER TEMPORARY LANE RESTRICTIONS.
- CLOSE 115TH AVE. FROM HANSON BLVD. TO MARTIN ST. AND FROM HANSON BLVD. TO OSAGE ST.

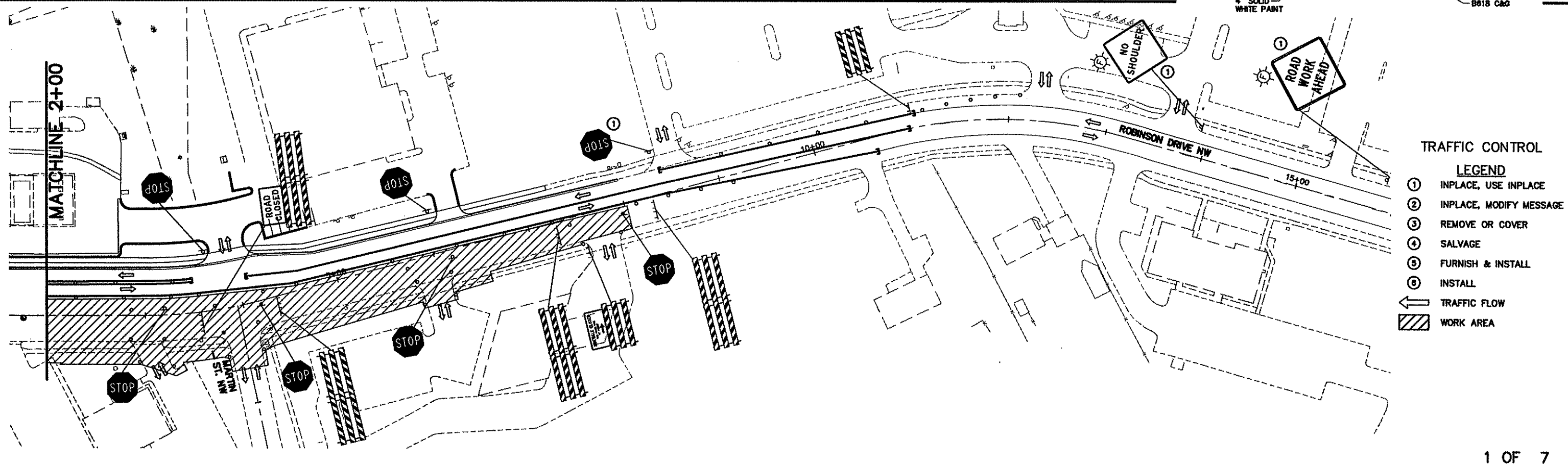
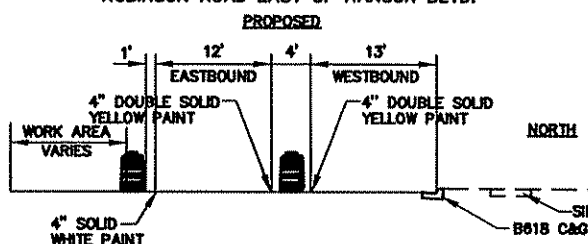
CONSTRUCTION:

- CONSTRUCT EB LANES OF ROBINSON DR. FROM STA. 0+50 TO STA. 8+00.
- CONSTRUCT THE EB LANES OF NORTHDAL BLVD. FROM STA. 0+50 TO STA. 18+25.
- CONSTRUCT THE 115TH AVE. APPROACH AND TRAFFIC ISLAND WEST OF HANSON BLVD. FROM STA. 12+00 TO STA. 13+50.
- CONSTRUCT THE 115TH AVE. APPROACH AND TRAFFIC ISLAND EAST OF HANSON BLVD. FROM STA. 12+00 TO STA. 13+50.
- CONSTRUCT SIGNAL SYSTEMS AND STREET LIGHTING.



CONSTRUCTION STAGING LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- UTILITY CONSTRUCTION



TRAFFIC CONTROL LEGEND

- ① INPLACE, USE INPLACE
- ② INPLACE, MODIFY MESSAGE
- ③ REMOVE OR COVER
- ④ SALVAGE
- ⑤ FURNISH & INSTALL
- ⑥ INSTALL
- TRAFFIC FLOW
- WORK AREA

PLOT DATE: May 02 4:56pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC14.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE:
1	JL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE	33889-043
				DRAWN BY: JRL
				DESIGN BY: JRM
				CHKD. BY: ICP
				DWG. NAME: 043-TC14
				DATE: APRIL 26, 2002



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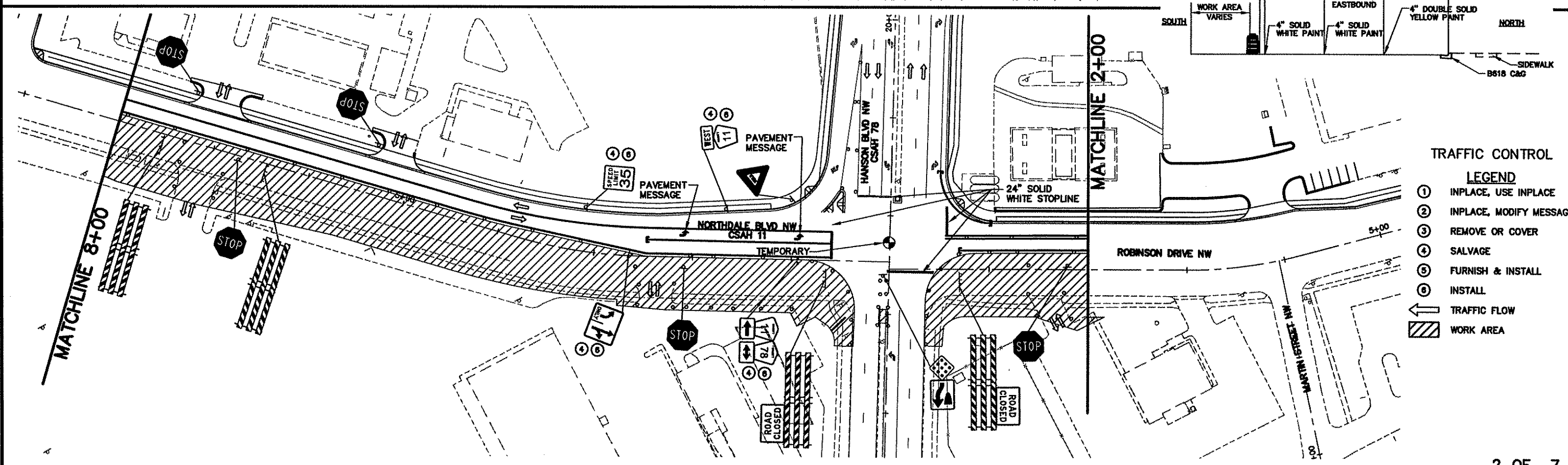
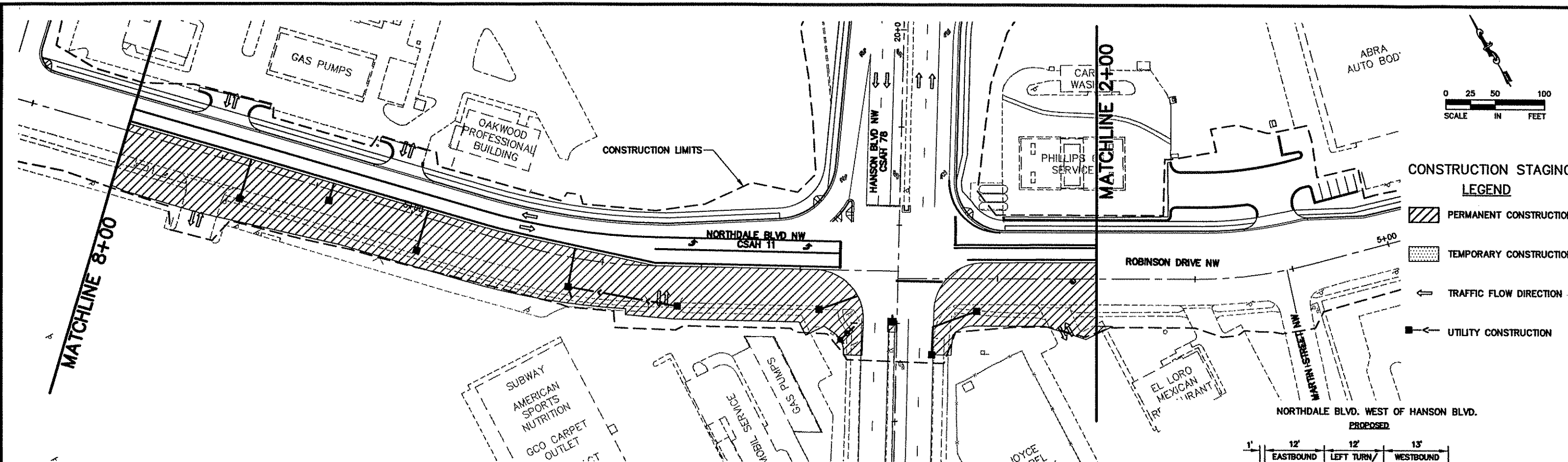
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

NORTHDAL BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W.
CONSTRUCTION STAGING
& TRAFFIC CONTROL
STAGE 2 PHASE 1

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

1 OF 7
SHEET NO.
42
159

PLOT DATE: May 302 4:58pm DISK FILE NAME: (15,05) R:\33889\33889043\PLAN-SHT\043-TC15.dwg

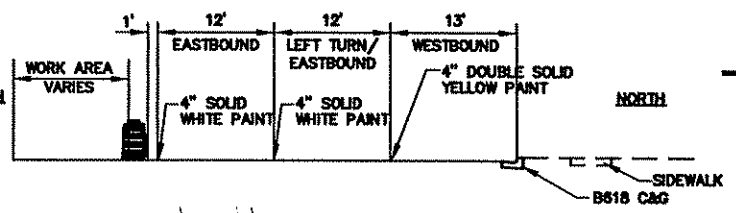


CONSTRUCTION STAGING LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- UTILITY CONSTRUCTION

TRAFFIC CONTROL LEGEND

- ① INPLACE, USE INPLACE
- ② INPLACE, MODIFY MESSAGE
- ③ REMOVE OR COVER
- ④ SALVAGE
- ⑤ FURNISH & INSTALL
- ⑥ INSTALL
- TRAFFIC FLOW
- WORK AREA



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JRL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE: 33889-043	DRAWN BY: JRL	DESIGN BY: JRM
CHKD. BY: ICP	DWG. NAME: 043-TC15	DATE: APRIL 26, 2002



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Minneapolis, MN 55415
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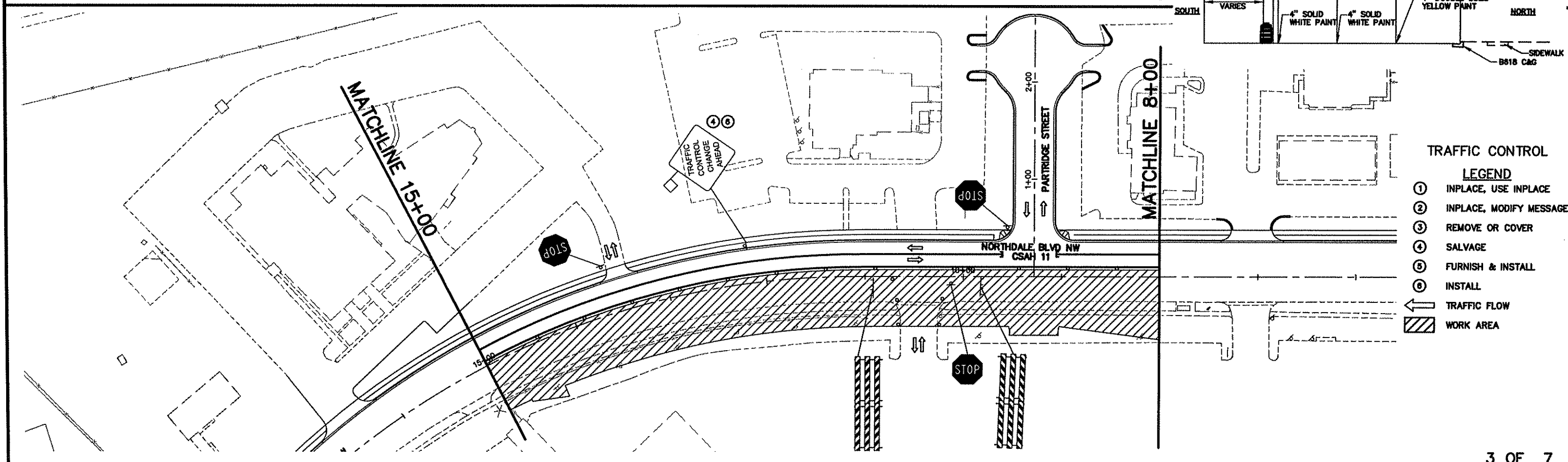
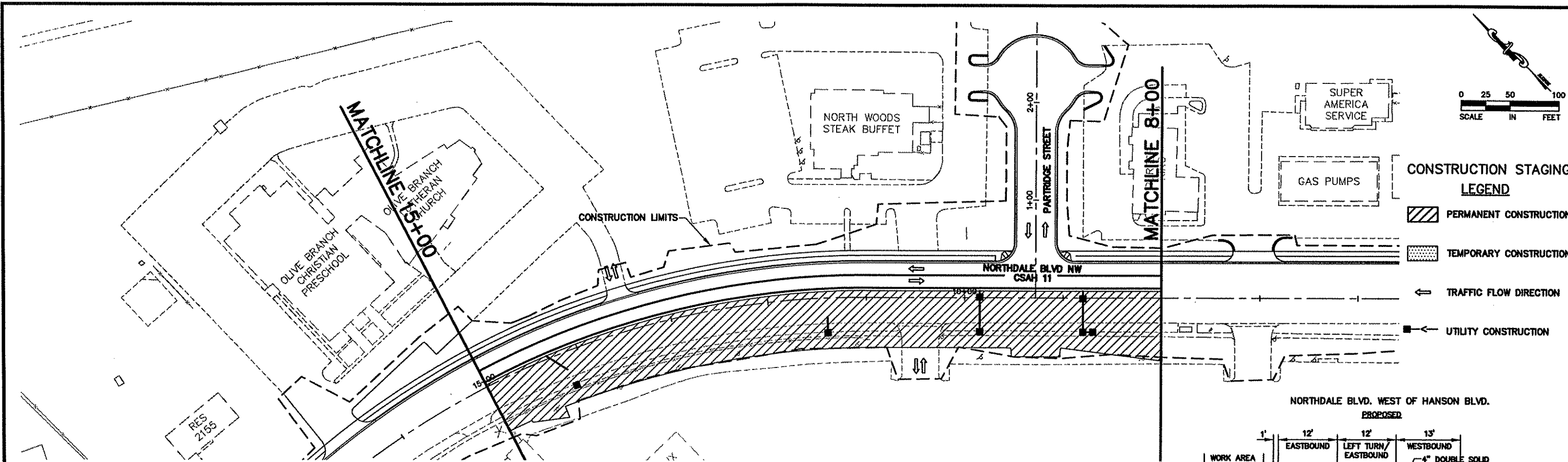
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W. / NORTHDALE BLVD.
CONSTRUCTION STAGING & TRAFFIC CONTROL
STAGE 2 PHASE 1

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

SHEET NO.
43
159

PLOT DATE: Apr 25, 2002 10:07am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC16.dwg



3 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

URS
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 612.370.0700 Tel
 612.370.1378 Fax

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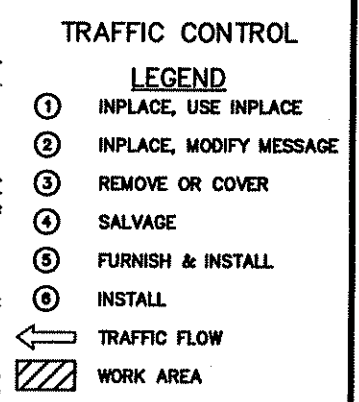
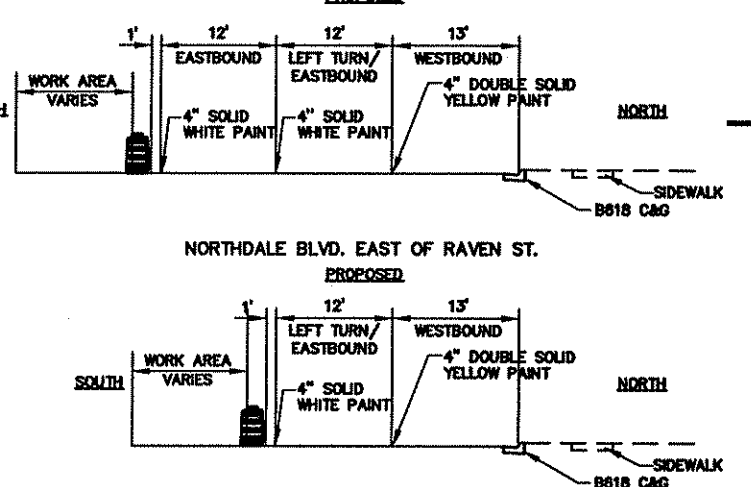
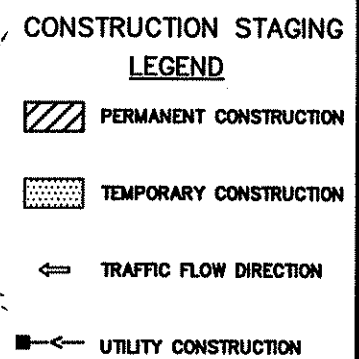
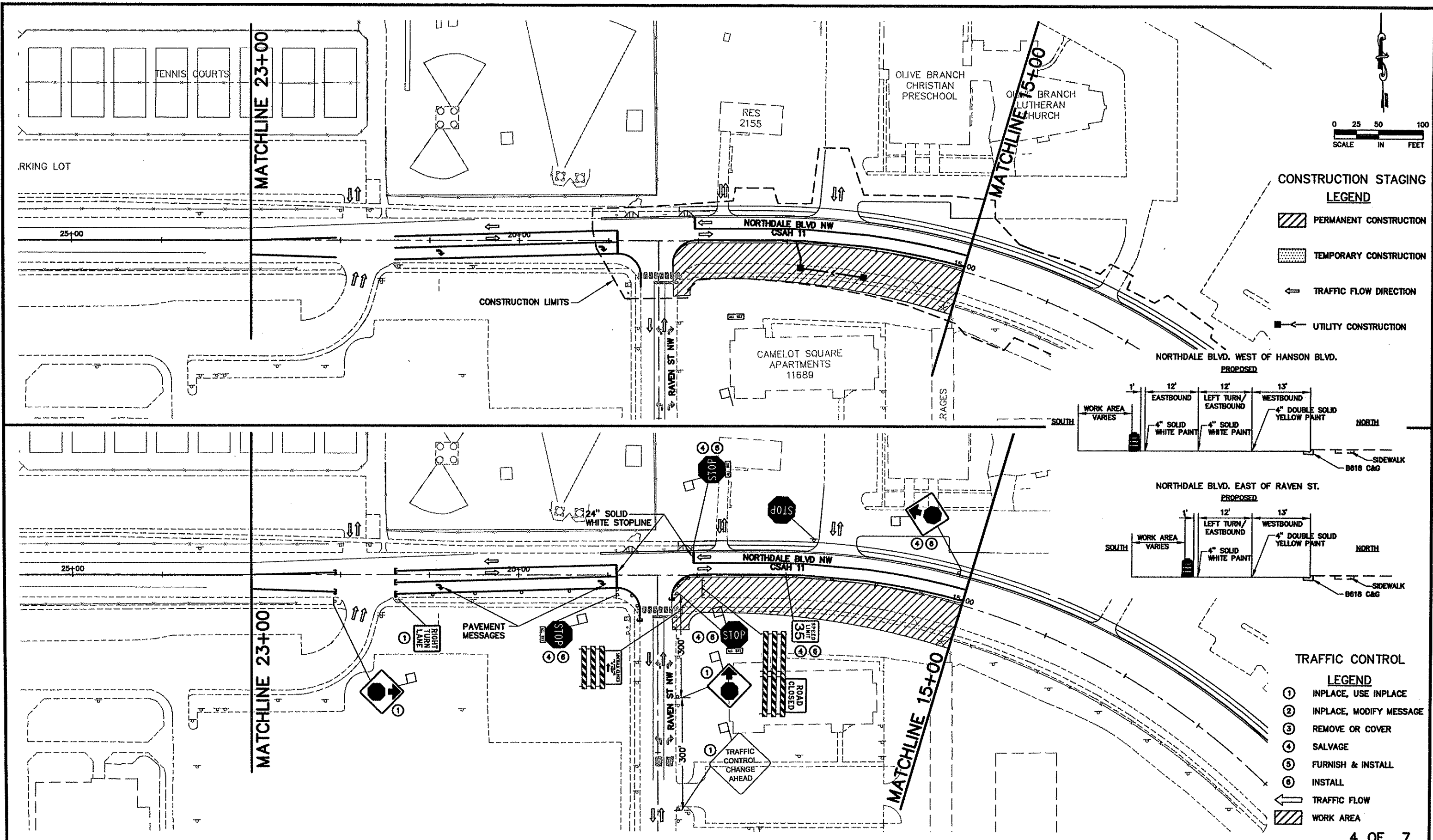
 PAUL B. DANIELSON
 DATE: 4/25/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
 (C.S.A.H. 11)
NORTHDALE BOULEVARD
 CONSTRUCTION STAGING
 & TRAFFIC CONTROL
 STAGE 2 PHASE 1

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
44
 159

PLOT DATE: Apr 25, 2002 10:07am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC17.dwg



4 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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Paul B. Danielson

PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD (C.S.A.H. 11)

NORTHDALE BOULEVARD

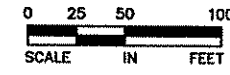
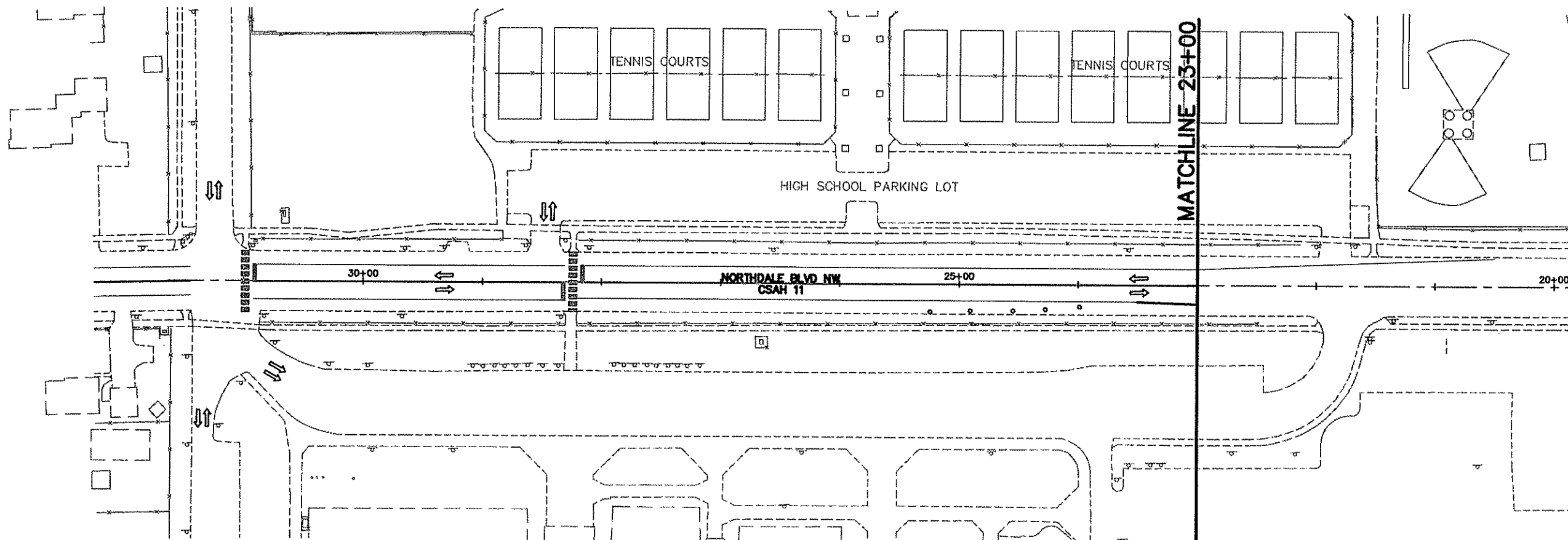
CONSTRUCTION STAGING & TRAFFIC CONTROL
 STAGE 2 PHASE 1

CITY PROJECT	2001-47	S.A.P.	114-020-28
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

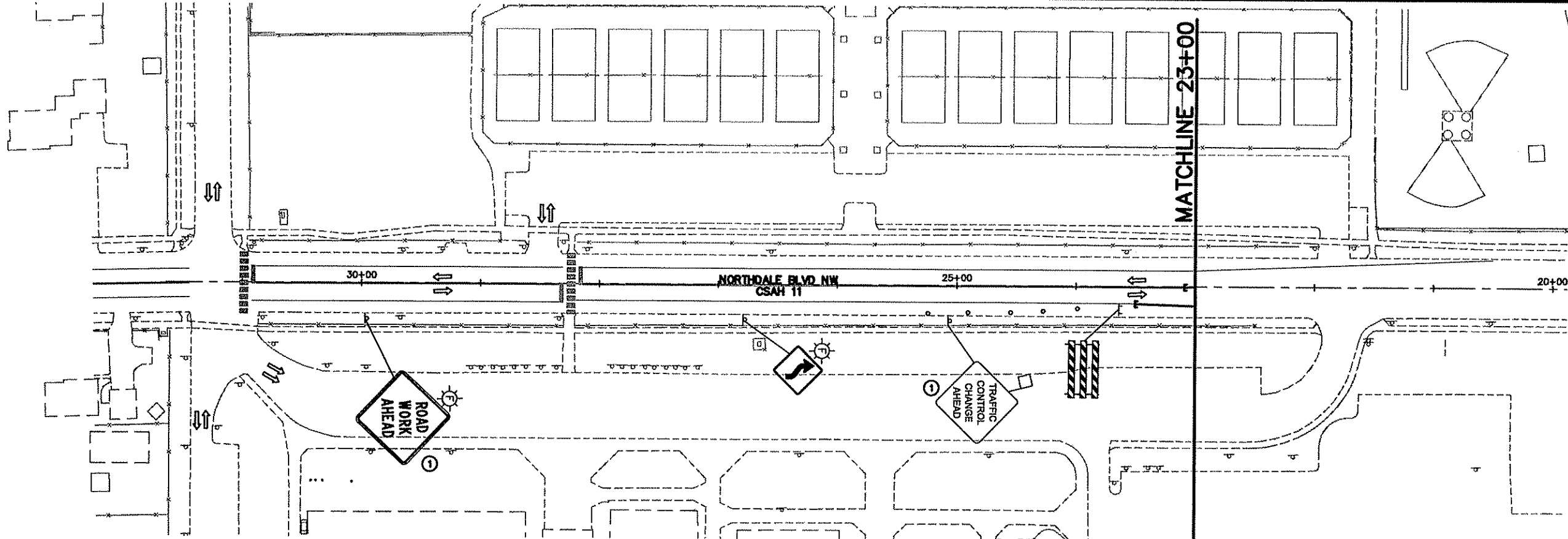
SHEET NO. 45

159

PLOT DATE: 2002 10:07am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC18.dwg



- CONSTRUCTION STAGING LEGEND**
- PERMANENT CONSTRUCTION
 - TEMPORARY CONSTRUCTION
 - TRAFFIC FLOW DIRECTION
 - UTILITY CONSTRUCTION



- TRAFFIC CONTROL LEGEND**
- ① INPLACE, USE INPLACE
 - ② INPLACE, MODIFY MESSAGE
 - ③ REMOVE OR COVER
 - ④ SALVAGE
 - ⑤ FURNISH & INSTALL
 - ⑥ INSTALL
 - TRAFFIC FLOW
 - WORK AREA

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: JRL DESIGN BY: JRM

CHKD. BY: ICP DWG. NAME: 043-TC18

DATE:
APRIL 26, 2002



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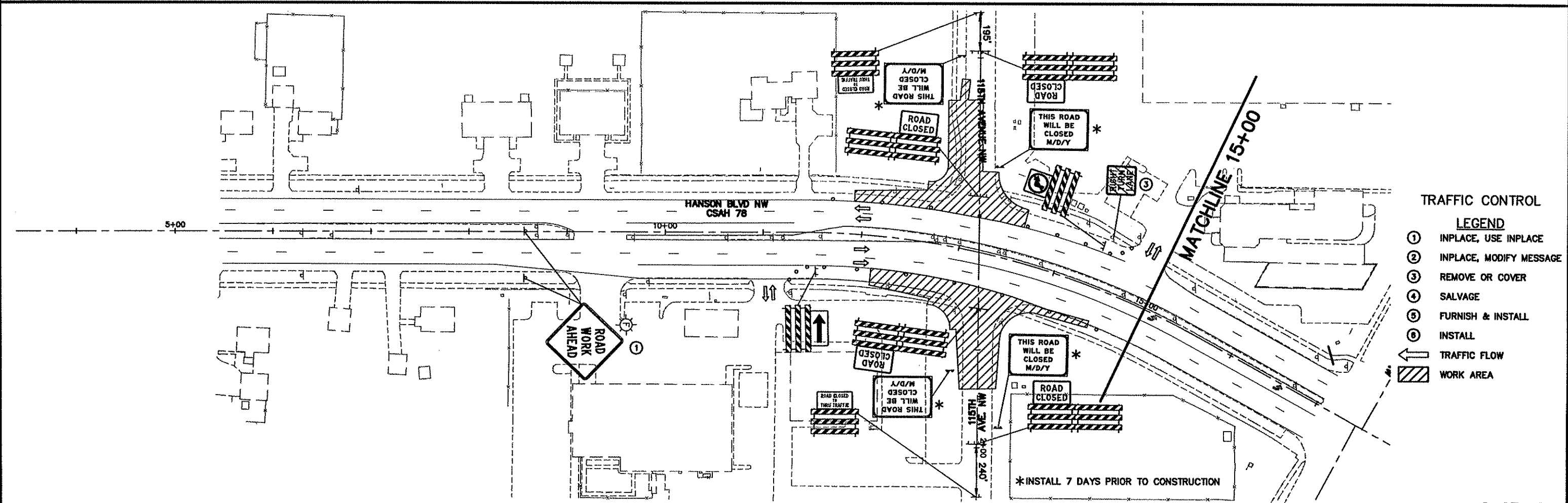
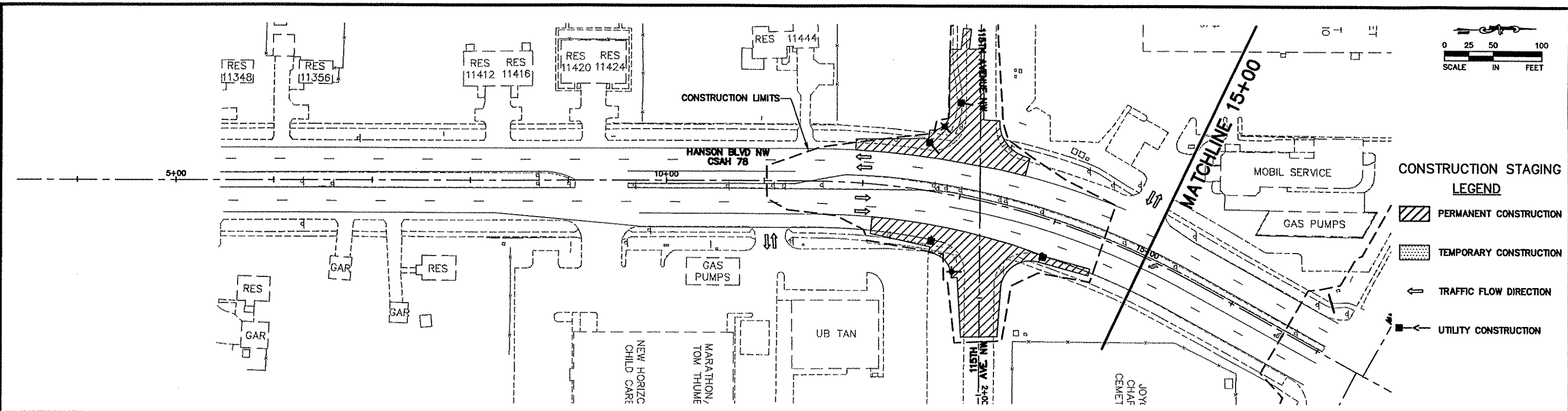
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO.: 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
CONSTRUCTION STAGING
& TRAFFIC CONTROL
STAGE 2 PHASE 1

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

5 OF 7
SHEET NO.
46
159

2002 10:08am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC19.dwg PLOT DATE: Apr



6 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: JRL DESIGN BY: JRM

CHKD. BY: ICP DWG. NAME: 043-TC19

DATE: APRIL 26, 2002



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612.370.1378 Fax

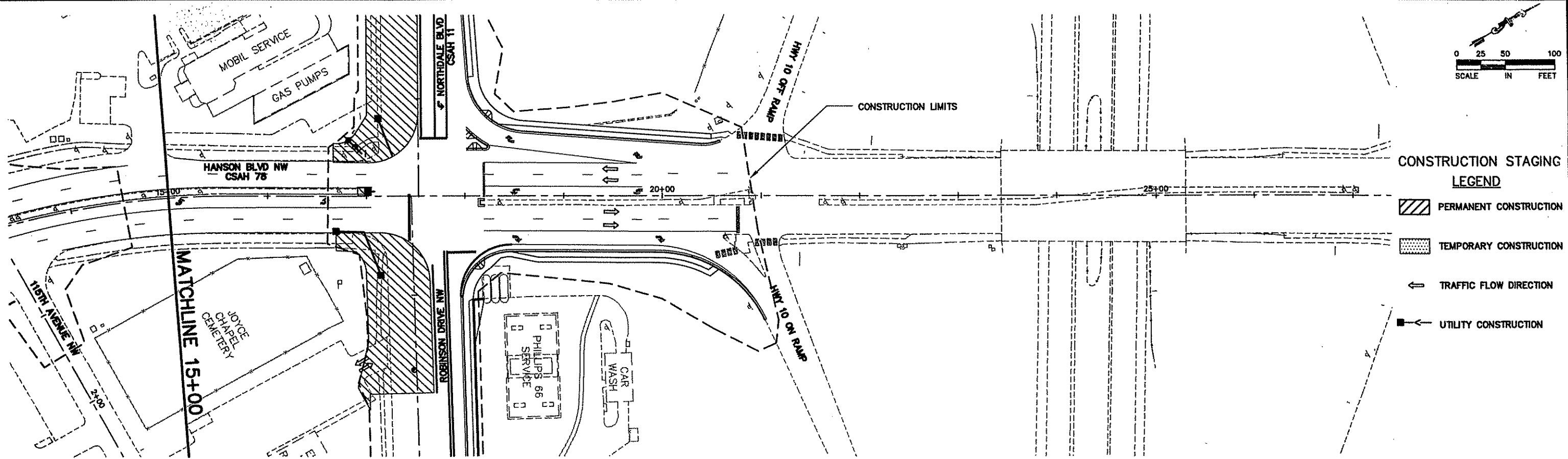
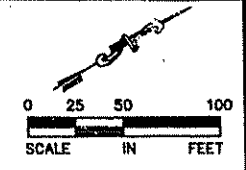
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
HANSON BOULEVARD
CONSTRUCTION STAGING
& TRAFFIC CONTROL
STAGE 2 PHASE 1

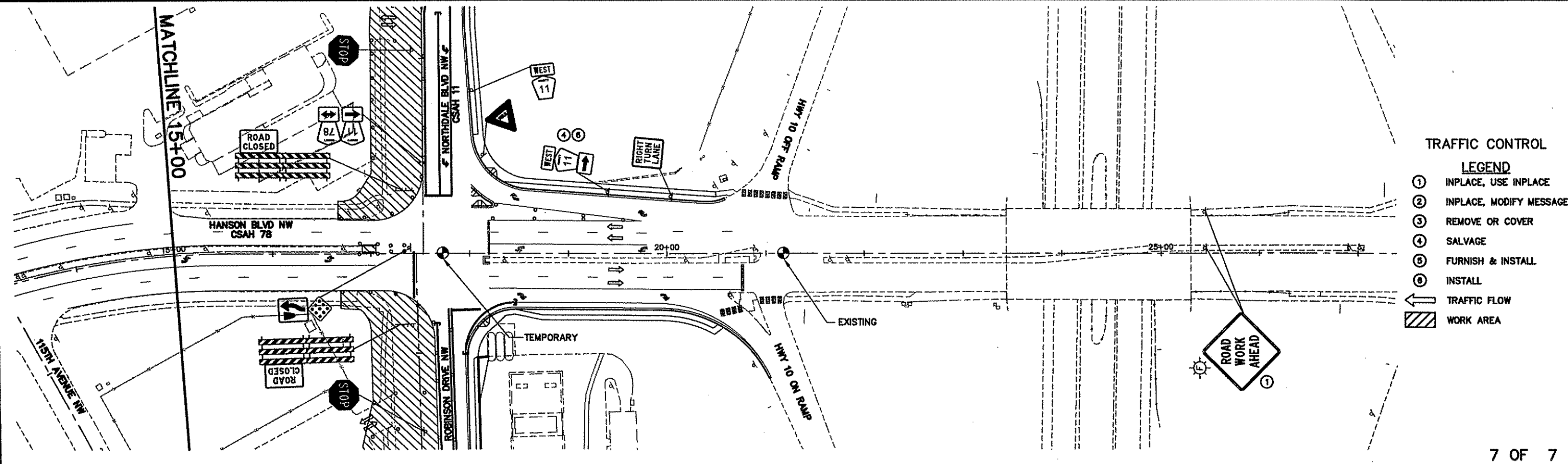
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
47
159



CONSTRUCTION STAGING LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- UTILITY CONSTRUCTION



TRAFFIC CONTROL LEGEND

- ① INPLACE, USE INPLACE
- ② INPLACE, MODIFY MESSAGE
- ③ REMOVE OR COVER
- ④ SALVAGE
- ⑤ FURNISH & INSTALL
- ⑥ INSTALL
- TRAFFIC FLOW
- WORK AREA

PLOT DATE: Apr 26, 2002 10:08am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC20.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043
 DRAWN BY: JRL DESIGN BY: JRM
 CHKD. BY: ICP DWG. NAME: 043-TC20
 DATE: APRIL 26, 2002



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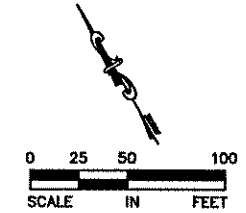
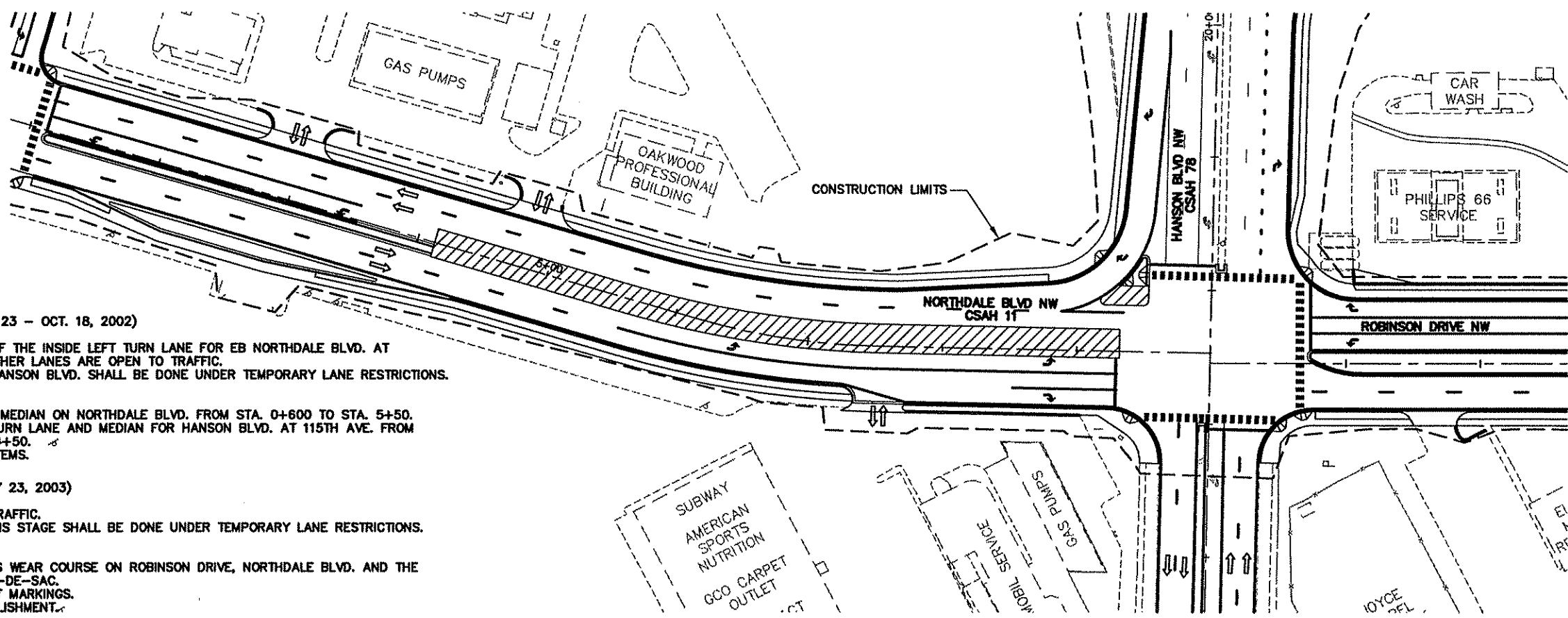
Paul B. Danielson
 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
 (C.S.A.H. 11)
 HANSON BOULEVARD**
 CONSTRUCTION STAGING & TRAFFIC CONTROL
 STAGE 2 PHASE 1

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

7 OF 7
 SHEET NO. 48
 159

PLOT DATE: Apr 2002 10:08am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC21.dwg



CONSTRUCTION STAGING LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- UTILITY CONSTRUCTION

STAGE 2 PHASE 2 (SEPT. 23 - OCT. 18, 2002)

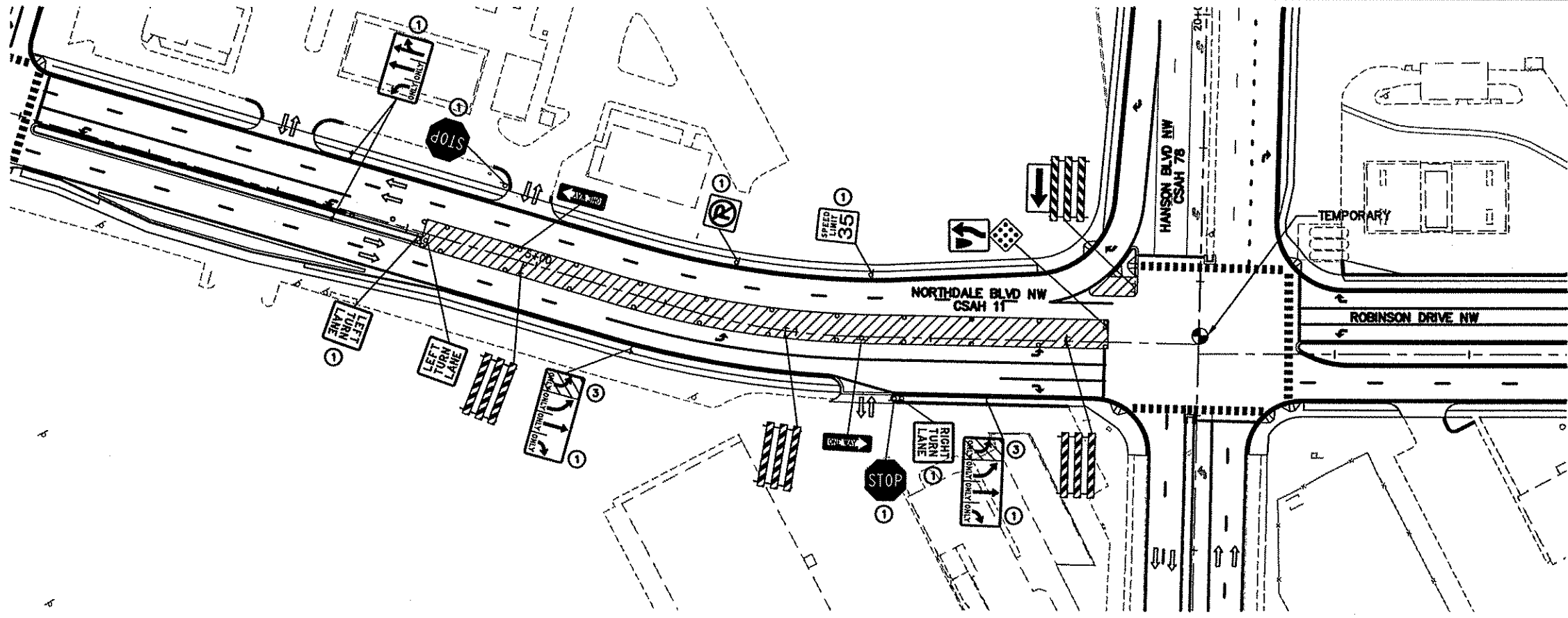
- TRAFFIC:**
- * WITH THE EXCEPTION OF THE INSIDE LEFT TURN LANE FOR EB NORTHDALE BLVD. AT HANSON BLVD., ALL OTHER LANES ARE OPEN TO TRAFFIC.
 - * PROPOSED WORK ON HANSON BLVD. SHALL BE DONE UNDER TEMPORARY LANE RESTRICTIONS.

- CONSTRUCTION:**
- * CONSTRUCT CONCRETE MEDIAN ON NORTHDALE BLVD. FROM STA. 0+600 TO STA. 5+50.
 - * CONSTRUCT NB LEFT TURN LANE AND MEDIAN FOR HANSON BLVD. AT 115TH AVE. FROM STA. 11+15 TO STA. 14+50.
 - * COMPLETE SIGNAL SYSTEMS.

STAGE 3 (MAY 19 - MAY 23, 2003)

- TRAFFIC:**
- * ALL LANES OPEN TO TRAFFIC.
 - * PROPOSED WORK IN THIS STAGE SHALL BE DONE UNDER TEMPORARY LANE RESTRICTIONS.

- CONSTRUCTION:**
- * CONSTRUCT BITUMINOUS WEAR COURSE ON ROBINSON DRIVE, NORTHDALE BLVD. AND THE NORTHDALE BLVD. CUL-DE-SAC.
 - * PLACE FINAL PAVEMENT MARKINGS.
 - * COMPLETE TURF ESTABLISHMENT.



TRAFFIC CONTROL LEGEND

- ① INPLACE, USE INPLACE
- ② INPLACE, MODIFY MESSAGE
- ③ REMOVE OR COVER
- ④ SALVAGE
- ⑤ FURNISH & INSTALL
- ⑥ INSTALL
- TRAFFIC FLOW
- WORK AREA

1 OF 2

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY:
JRL

DESIGN BY:
JRM

CHKD. BY:
ICP

DWG. NAME:
043-TC21

DATE:
APRIL 26, 2002



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Minneapolis, MN 55415
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612.370.3718 Fax

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Paul B. Danielson

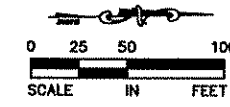
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
CONSTRUCTION STAGING
& TRAFFIC CONTROL
STAGE 2 PHASE 2 & STAGE 3**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
49
159

PLOT DATE: April 26, 2002 10:08am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC22.dwg

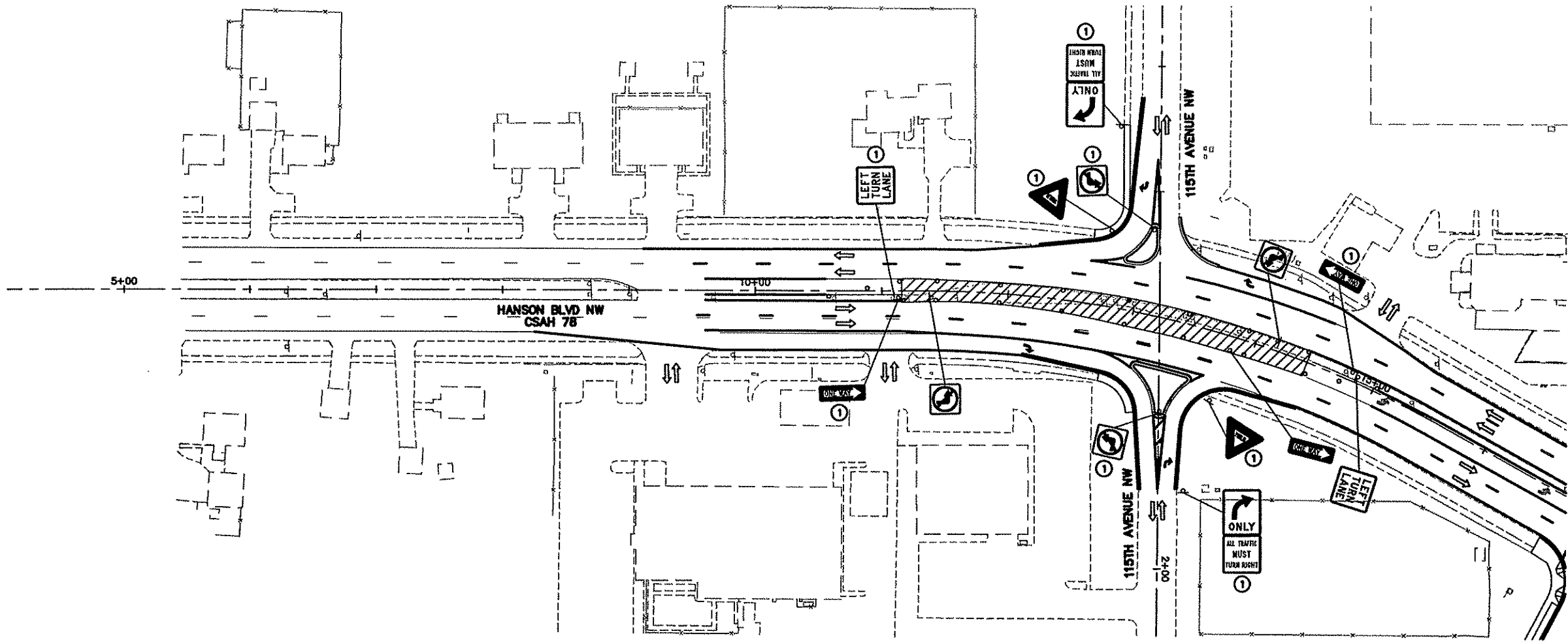
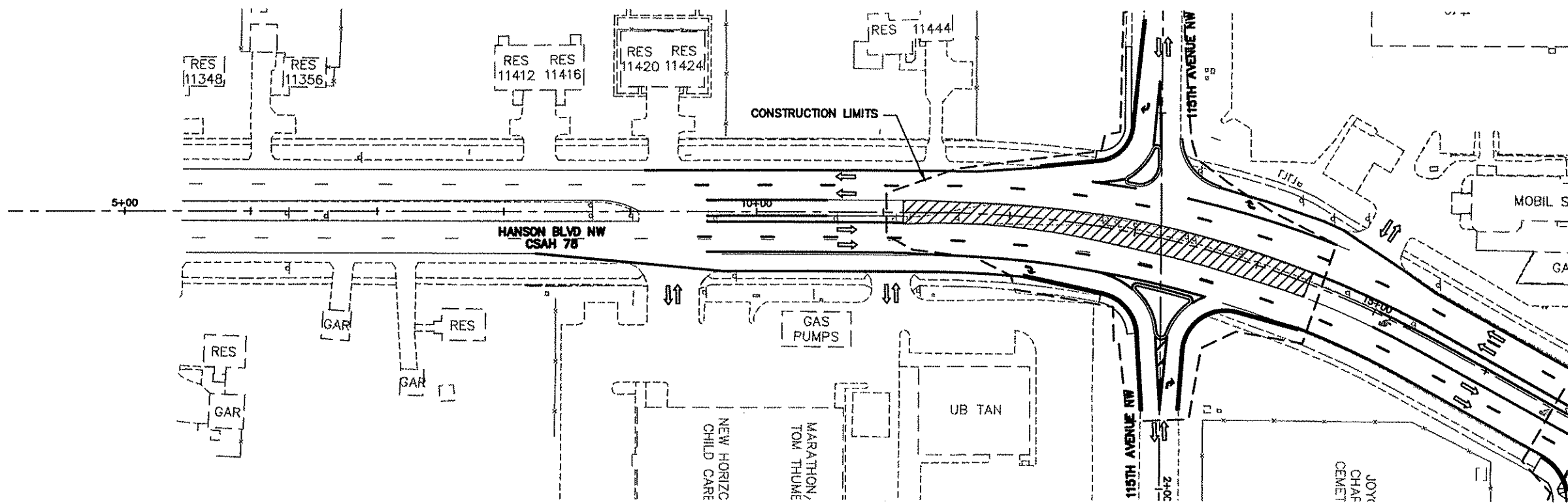


CONSTRUCTION STAGING LEGEND

- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- UTILITY CONSTRUCTION

TRAFFIC CONTROL LEGEND

- ① INPLACE, USE INPLACE
- ② INPLACE, MODIFY MESSAGE
- ③ REMOVE OR COVER
- ④ SALVAGE
- ⑤ FURNISH & INSTALL
- ⑥ INSTALL
- TRAFFIC FLOW
- WORK AREA



2 OF 2

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: JRL DESIGN BY: JRM

CHKD. BY: ICP DWG. NAME: 043-TC22

DATE:
APRIL 26, 2002



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Paul B. Danielson

PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23167

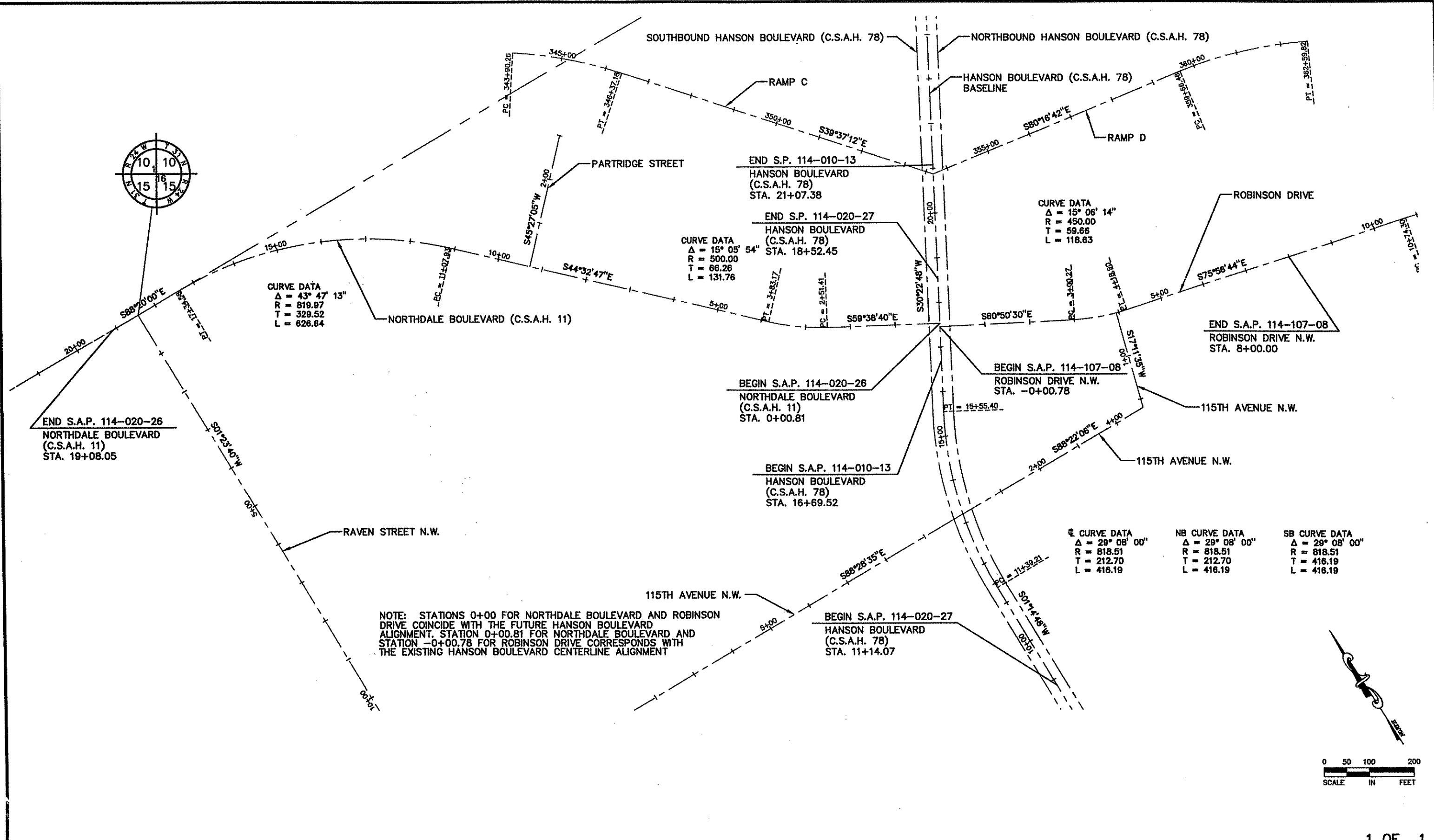
**NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
HANSON BOULEVARD**

CONSTRUCTION STAGING
& TRAFFIC CONTROL
STAGE 2 PHASE 2 & STAGE 3

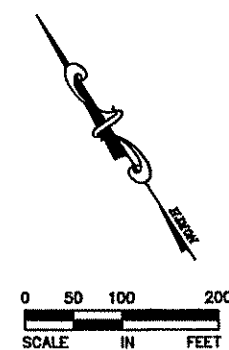
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
50
159

PLOT DATE: Apr 1 9:36am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-AL01.dwg



NOTE: STATIONS 0+00 FOR NORTHDALE BOULEVARD AND ROBINSON DRIVE COINCIDE WITH THE FUTURE HANSON BOULEVARD ALIGNMENT. STATION 0+00.81 FOR NORTHDALE BOULEVARD AND STATION -0+00.78 FOR ROBINSON DRIVE CORRESPONDS WITH THE EXISTING HANSON BOULEVARD CENTERLINE ALIGNMENT



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: PMJ
DESIGN BY: PMJ

CHKD. BY: ICP
DWS. NAME: 043-AL01

DATE:
APRIL 26, 2002



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Paul B. Danielson
 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23197

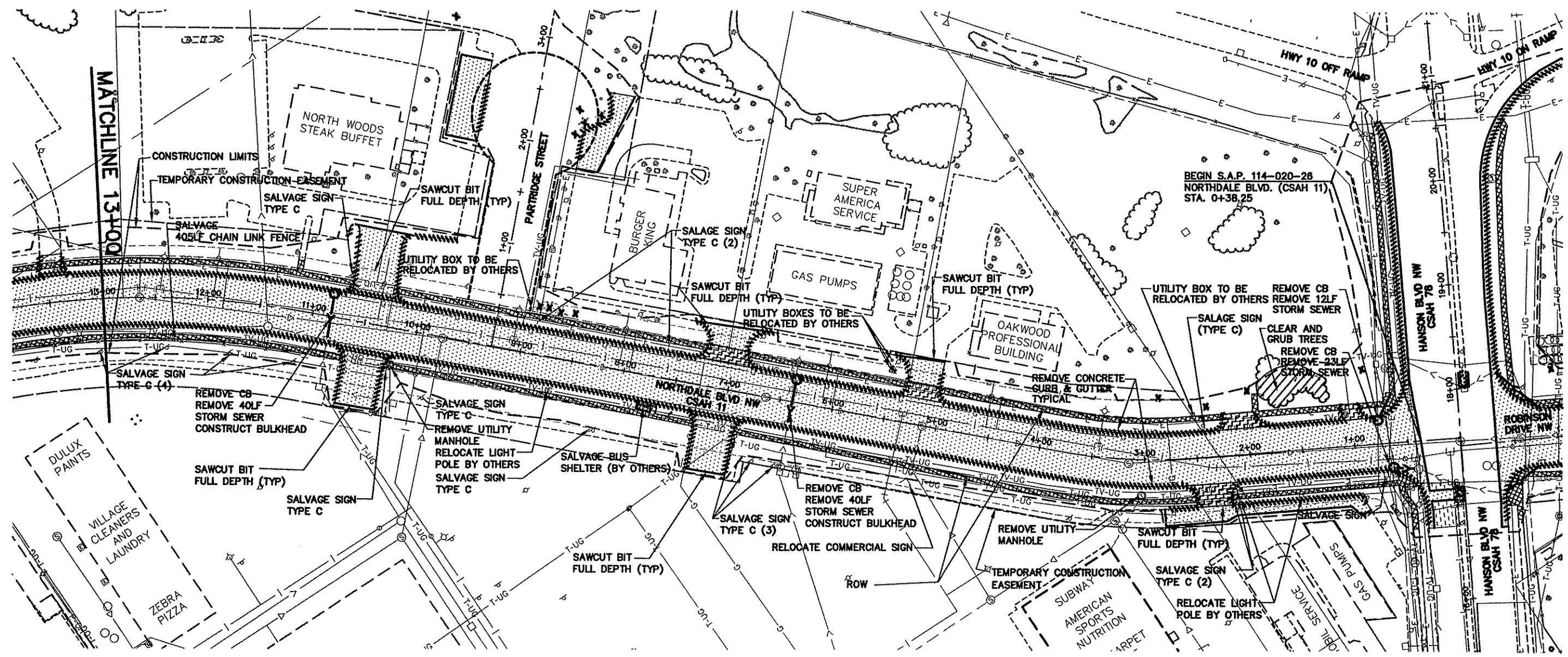
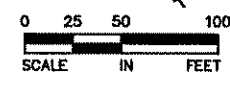
NORTHDALE BOULEVARD
 (C.S.A.H. 11)
 ALIGNMENT PLAN

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
51
159

LEGEND

-  BITUMINOUS PAVEMENT REMOVAL
-  CONCRETE WALK OR MEDIAN REMOVAL
-  SHRUB REMOVAL
-  CONCRETE DRIVEWAY REMOVAL
-  CONSTRUCTION LIMITS
-  CONCRETE CURB & GUTTER REMOVAL



NORTHDALE BLVD.

2002 12:29pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-RM04.dwg PLOT DATE: AP

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043
DRAWN BY: JRL
DESIGN BY: PMJ
CHKD. BY: ICP
DWG. NAME: 043-RM04
DATE: APRIL 26, 2002



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700 Third Street South
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

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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

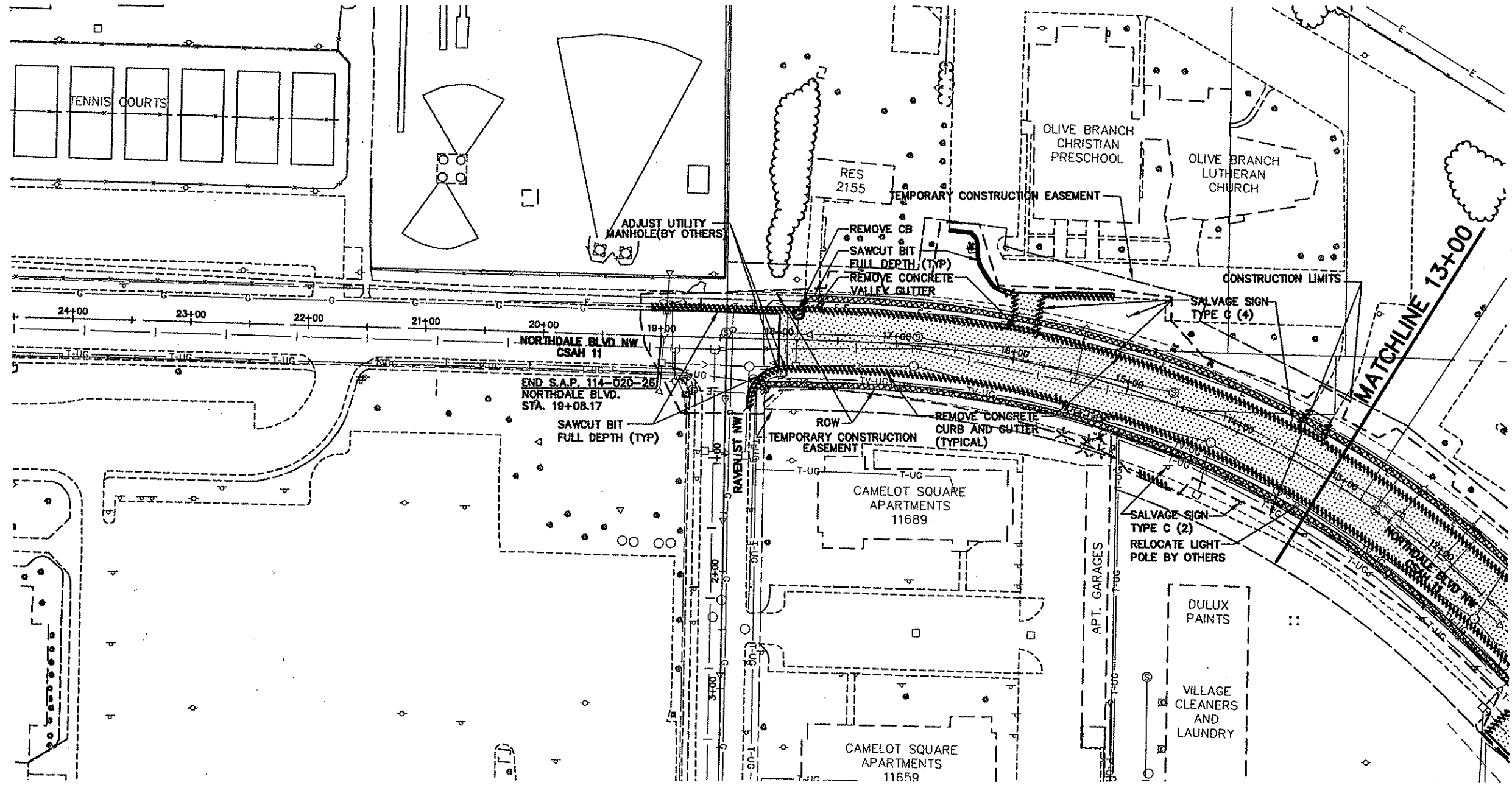
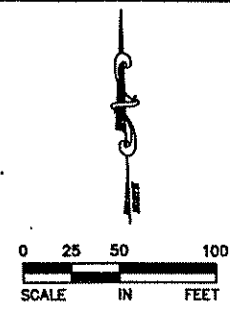
NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
EXISTING TOPOGRAPHY, UTILITIES & REMOVALS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
52
159

PLOT DATE: Apr. 24, 2002 4:27pm D:\K FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT-043-RM05.dwg

- LEGEND**
-  BITUMINOUS PAVEMENT REMOVAL
 -  CONCRETE WALK OR MEDIAN REMOVAL
 -  SHRUB REMOVAL
 -  CONCRETE DRIVEWAY REMOVAL
 -  CONSTRUCTION LIMITS
 -  CONCRETE CURB & GUTTER REMOVAL



NORTHDALE BLVD.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/25/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD**

EXISTING TOPOGRAPHY, UTILITIES & REMOVALS







CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

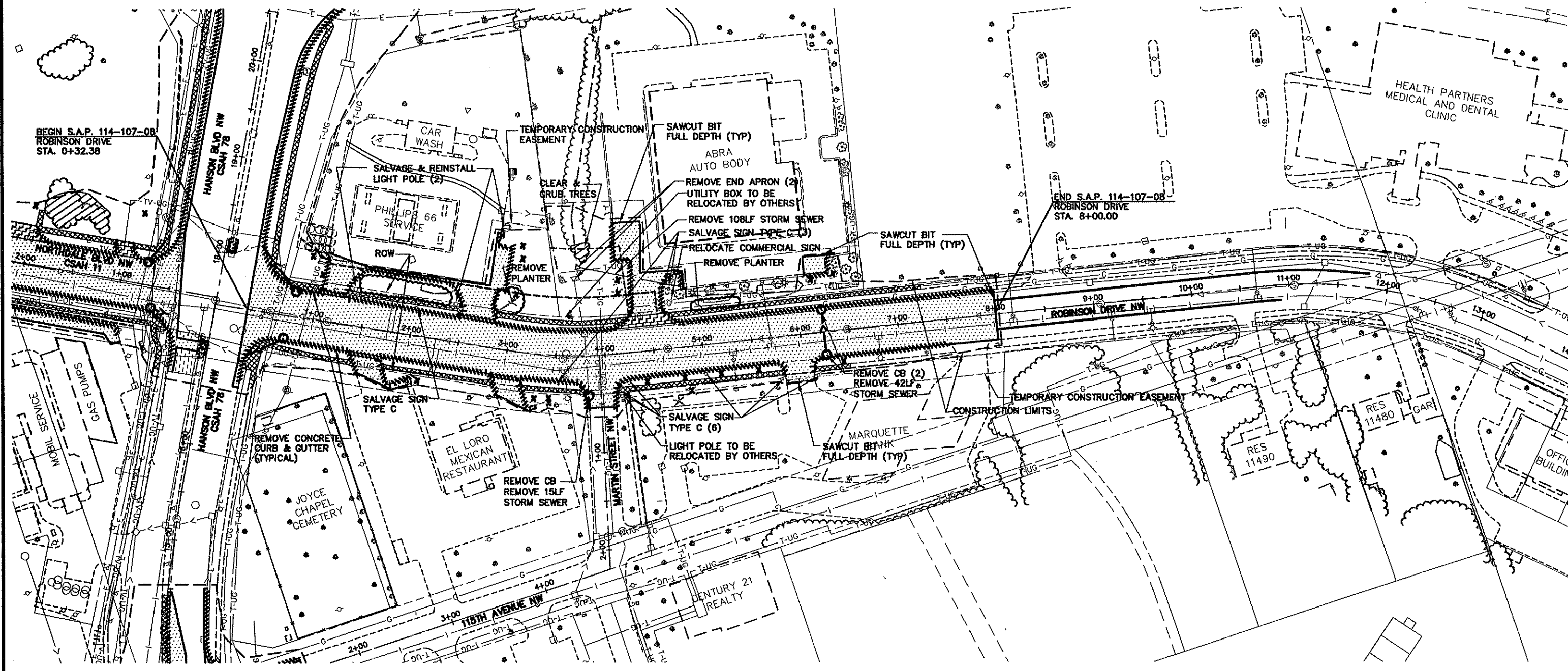
2 OF 6

SHEET NO.
53

159

LEGEND

-  BITUMINOUS PAVEMENT REMOVAL
-  CONCRETE WALK OR MEDIAN REMOVAL
-  SHRUB REMOVAL
-  CONCRETE DRIVEWAY REMOVAL
-  CONSTRUCTION LIMITS
-  CONCRETE CURB & GUTTER REMOVAL



ROBINSON DRIVE W.

3 OF 6

PLOT DATE: May 302 4:54pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-RM01.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE:
1	JRL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE	33889-043
				DRAWN BY: JRL
				DESIGN BY: PMJ
				CHKD. BY: ICP
				DWG. NAME: 043-RM01
				DATE: APRIL 26, 2002



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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





Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

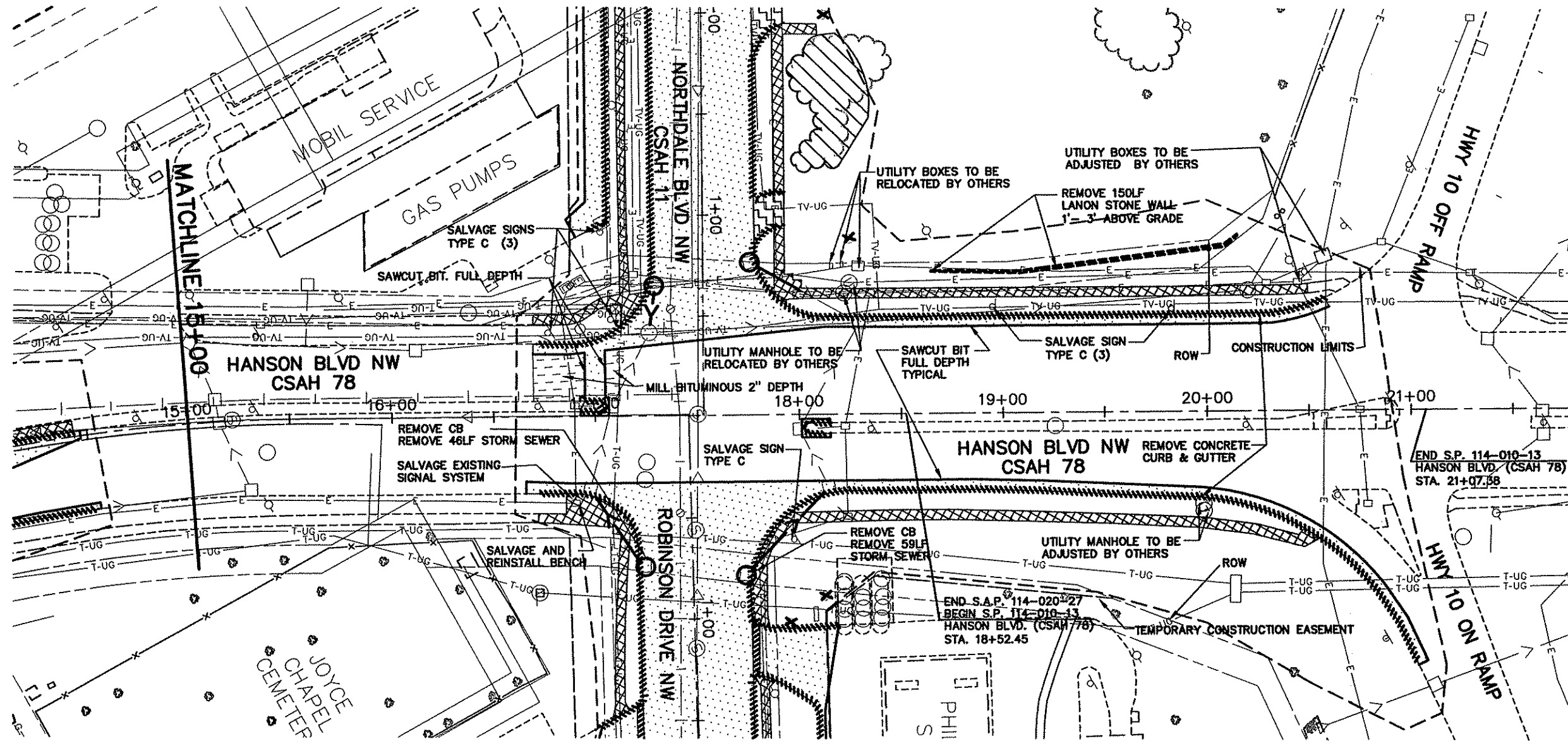
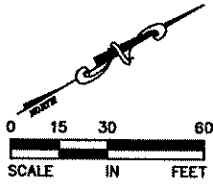
**NORTHDALE BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W.**
EXISTING TOPOGRAPHY, UTILITIES & REMOVALS

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 54 159
COUNTY PROJECT		S.A.P.	114-020-27	
		S.A.P.	114-107-08	

PLOT DATE: Apr 26 2002 8:57am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-RM02.dwg

LEGEND

-  BITUMINOUS PAVEMENT REMOVAL
-  CONCRETE WALK OR MEDIAN REMOVAL
-  SHRUB REMOVAL
-  CONCRETE DRIVEWAY REMOVAL
-  CONSTRUCTION LIMITS
-  CONCRETE CURB & GUTTER REMOVAL



HANSON BLVD./NORTHDALE BLVD. INTERSECTION

4 OF 6

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: JRL DESIGN BY: PMJ

CHKD. BY: ICP DWG. NAME: 043-RM02

DATE:
APRIL 26, 2002



Thrasher Square
700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.1378 Fax

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Paul B. Danielson

PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197







**NORTHDALE BOULEVARD
(C.S.A.H. 11)
HANSON BOULEVARD**
EXISTING TOPOGRAPHY, UTILITIES & REMOVALS

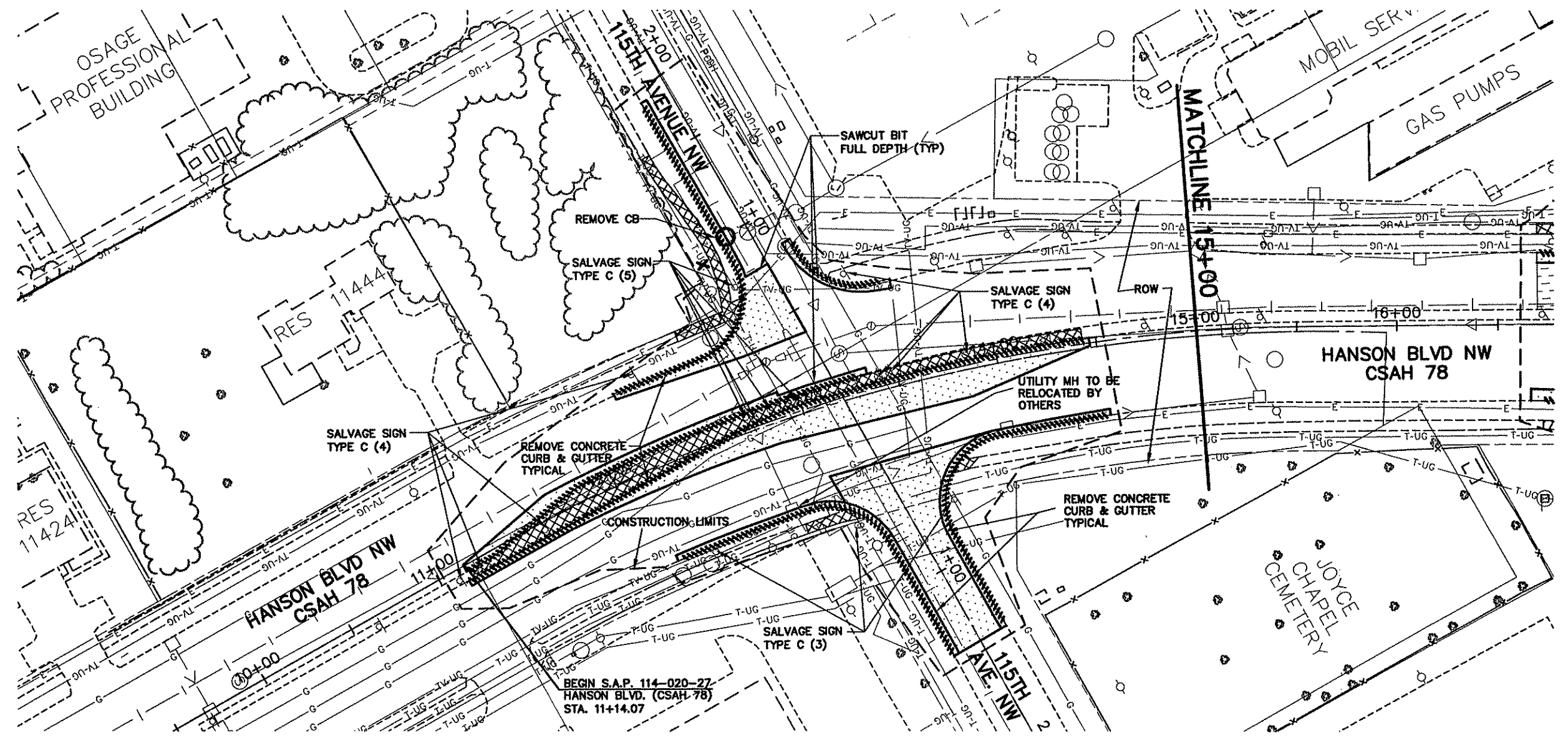
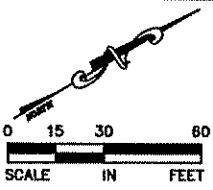
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
55
159

PLOT DATE: Apr 2002 12:28pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-RM03.dwg

LEGEND

-  BITUMINOUS PAVEMENT REMOVAL
-  CONCRETE WALK OR MEDIAN REMOVAL
-  SHRUB REMOVAL
-  CONCRETE DRIVEWAY REMOVAL
-  CONSTRUCTION LIMITS
-  CONCRETE CURB & GUTTER REMOVAL



HANSON BLVD.

5 OF 6

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043
DRAWN BY:
JRL
DESIGN BY:
PMJ
CHKD. BY:
ICP
DWG. NAME:
043-RM03
DATE:
APRIL 26, 2002



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

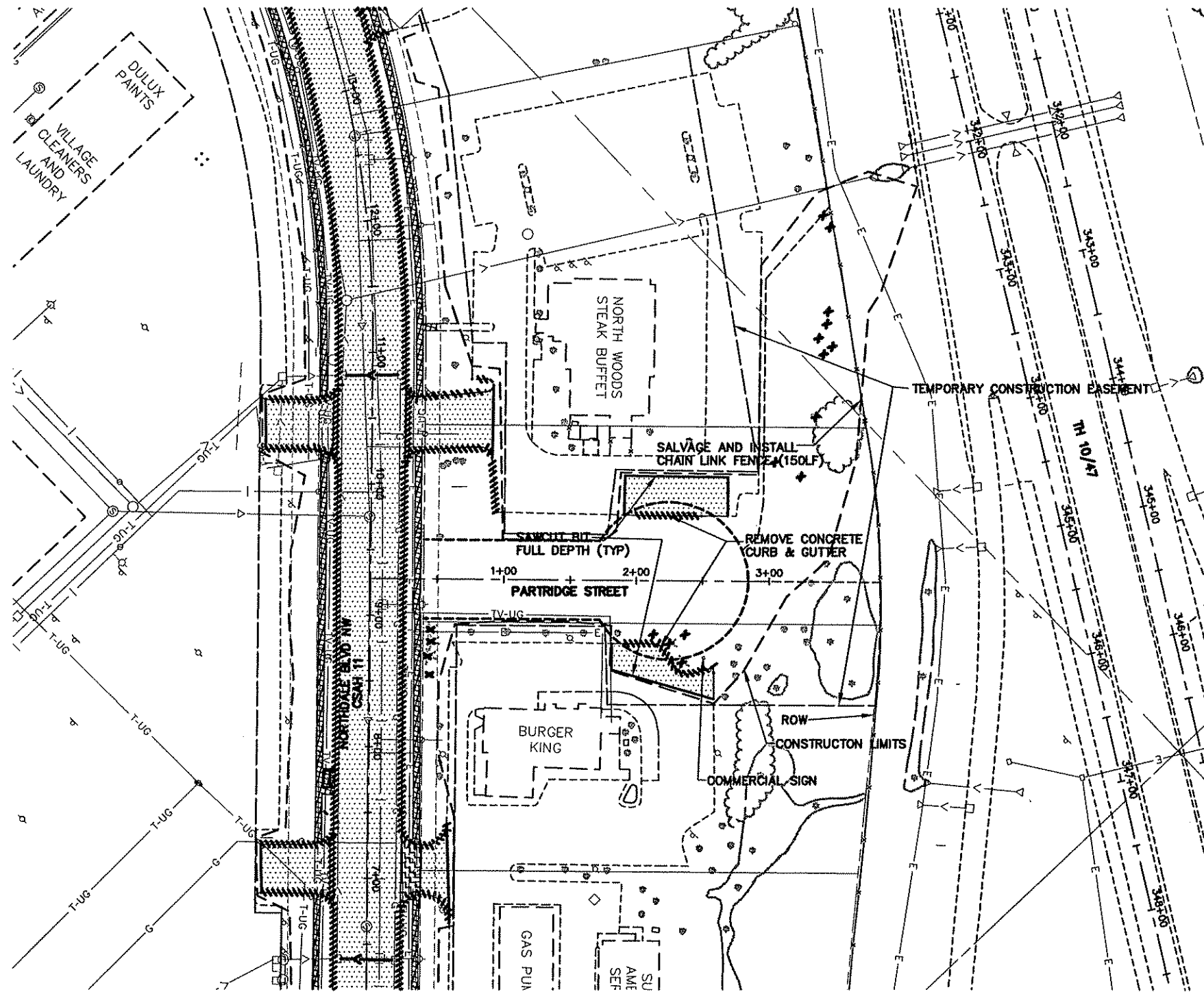
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
HANSON BOULEVARD**
EXISTING TOPOGRAPHY, UTILITIES & REMOVALS

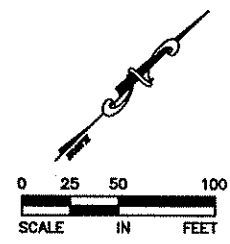
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
56
159

2002 8:57am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-RM06.dwg



- LEGEND**
- BITUMINOUS PAVEMENT REMOVAL
 - CONCRETE WALK OR MEDIAN REMOVAL
 - SHRUB REMOVAL
 - CONCRETE DRIVEWAY REMOVAL
 - CONSTRUCTION LIMITS
 - CONCRETE CURB & GUTTER REMOVAL



PARTRIDGE STREET

6 OF 6

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY:
JRL

DESIGN BY:
PMJ

CHKD. BY:
ICP

DWG. NAME:
043-RM06

DATE:
APRIL 26, 2002



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Paul B. Danielson

PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE CUL DE SAC
EXISTING TOPOGRAPHY, UTILITIES & REMOVALS

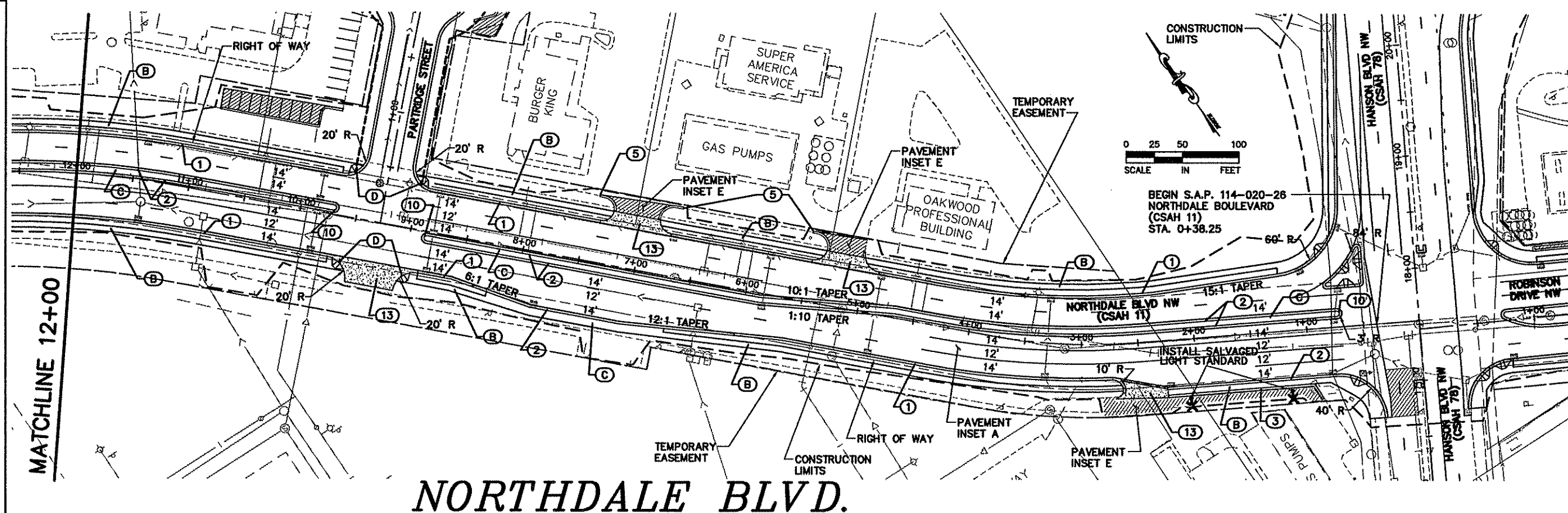
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
57

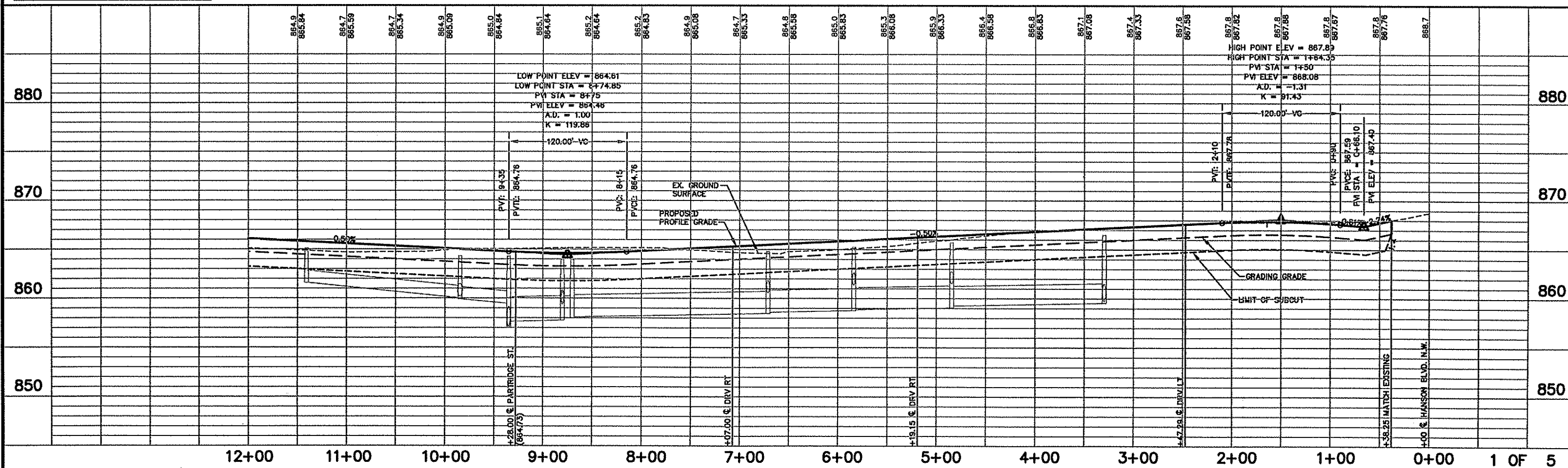
159

CONSTRUCTION NOTES:

- (A) NOT USED
 - (B) CONCRETE WALK
DETAIL B (5' WIDE)
 - (C) CONCRETE WALK
DETAIL C (MEDIAN)
 - (D) CONSTRUCT CONCRETE
PED CURB RAMP
 - (1) B618 CURB & GUTTER
 - (2) B618 C & G (MODIFIED), DETAIL E
 - (3) B412 CURB & GUTTER
 - (4) B412 C & G (MODIFIED), DETAIL H
 - (5) B612 CURB & GUTTER
 - (6) B612 C & G (OUTFALL-MODIFIED),
DETAIL G
 - (7) B612 C & G (MODIFIED), DETAIL F
 - (8) B624 CURB & GUTTER
 - (9) B424 CURB & GUTTER
 - (10) CONSTRUCT CONCRETE APPROACH
NOSE, STD. PLATE 7113A
 - (11) 10 FT CURB & GUTTER TRANSITION
B618 TO B624
 - (12) 10 FT CURB & GUTTER TRANSITION
B618 TO B424
 - (13) COMMERCIAL DRIVE ENTRANCE
DETAIL D
 - (14) 10 FT CURB & GUTTER TRANSITION
B624 TO B424
- CONCRETE PAVEMENT
 BITUMINOUS PAVEMENT
 BITUMINOUS OVERLAY
- ALL DIMENSIONS ARE TO FACE OF CURB
UNLESS OTHERWISE NOTED.



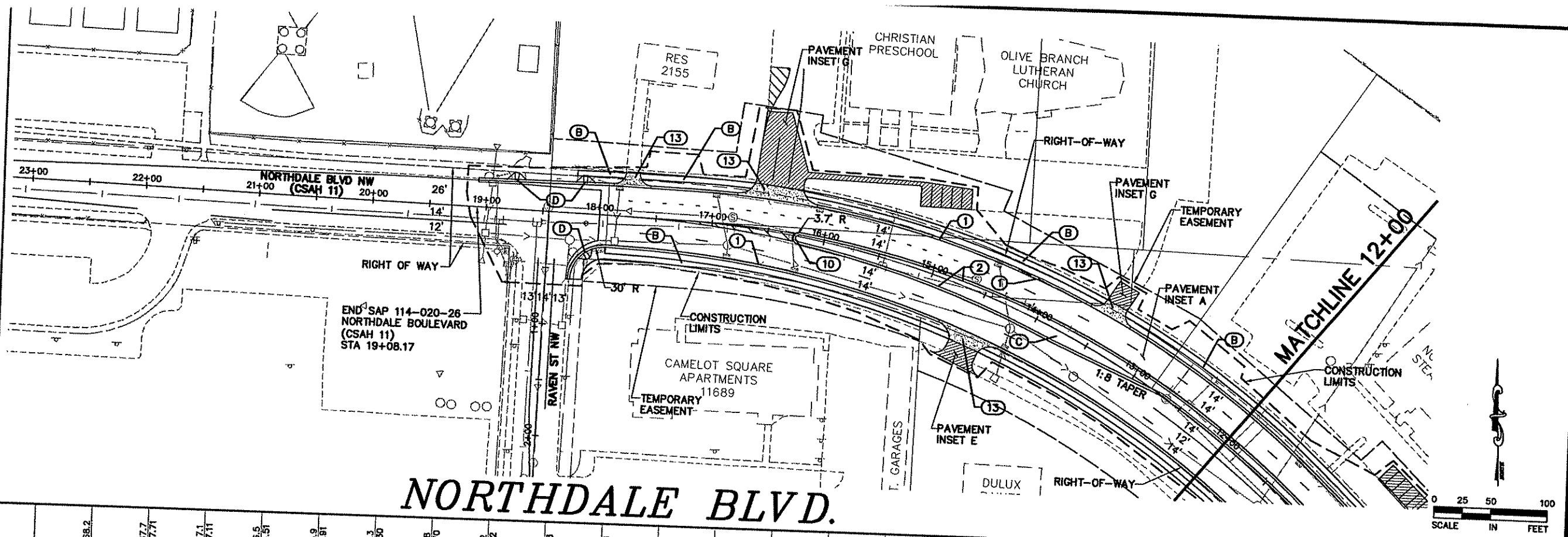
NORTHDALE BLVD.



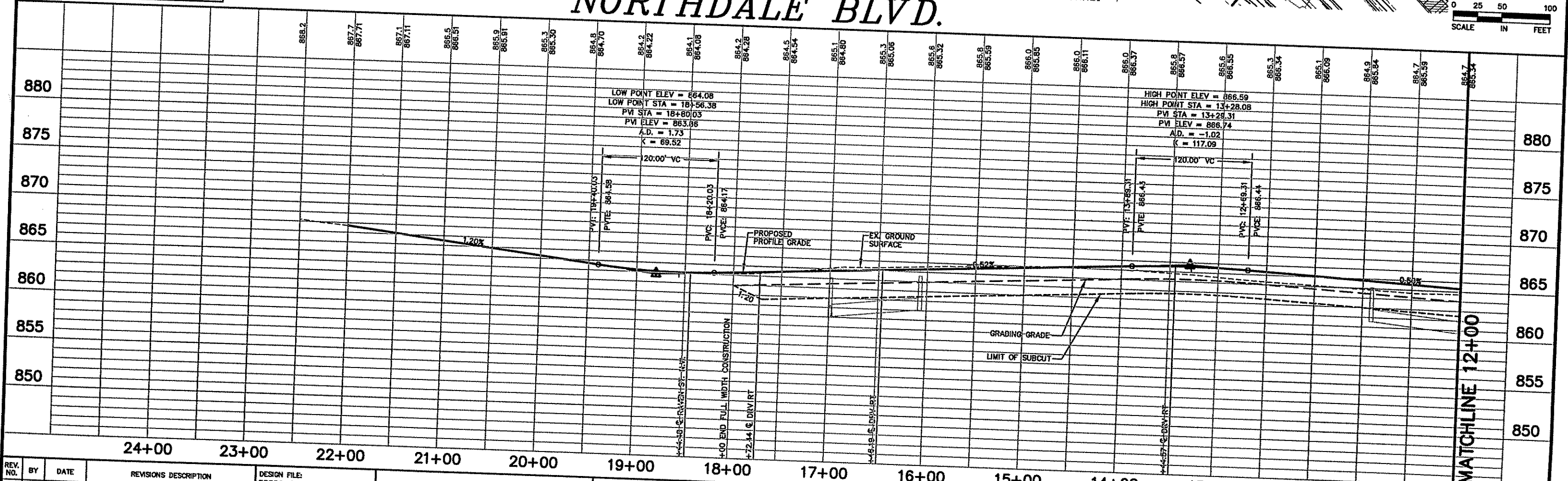
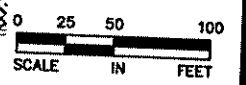
REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 33889-043	 Thresher Square 700 Third Street South Minneapolis, MN 55415 612.370.0700 Tel 612.370.1378 Fax	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PAUL B. DANIELSON DATE: 4/26/02 MN LIC. NO. 23197	NORTHDALE BOULEVARD (C.S.A.H. 11) NORTHDALE BOULEVARD CONSTRUCTION PLAN & PROFILE	CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO.	58 159
								COUNTY PROJECT		S.A.P.	114-020-27		
								S.P.	114-010-13	S.A.P.	114-107-08		

PLOT DATE: Ap. 2002 1:36pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-PP03.dwg

- (B) CONCRETE WALK
DETAIL B (5' WIDE)
 - (C) CONCRETE WALK
DETAIL C (MEDIAN)
 - (D) CONSTRUCT CONCRETE
PED CURB RAMP
 - (1) B618 CURB & GUTTER
 - (2) B618 C & G (MODIFIED), DETAIL E
 - (3) B412 CURB & GUTTER
 - (4) B412 C & G (MODIFIED), DETAIL H
 - (5) B612 CURB & GUTTER
 - (6) B612 C & G (OUTFALL-MODIFIED),
DETAIL G
 - (7) B612 C & G (MODIFIED), DETAIL F
 - (8) B624 CURB & GUTTER
 - (9) B424 CURB & GUTTER
 - (10) CONSTRUCT CONCRETE APPROACH
NOSE, STD. PLATE 7113A
 - (11) 10 FT CURB & GUTTER TRANSITION
B618 TO B624
 - (12) 10 FT CURB & GUTTER TRANSITION
B618 TO B424
 - (13) COMMERCIAL DRIVE ENTRANCE
DETAIL D
 - (14) 10 FT CURB & GUTTER TRANSITION
B624 TO B424
- CONCRETE PAVEMENT
 BITUMINOUS PAVEMENT
 BITUMINOUS OVERLAY
- ALL DIMENSIONS ARE TO FACE OF CURB
UNLESS OTHERWISE NOTED.



NORTHDALE BLVD.



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

URS

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700 Third Street South
Minneapolis, MN 55415
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612.370.1378 Fax

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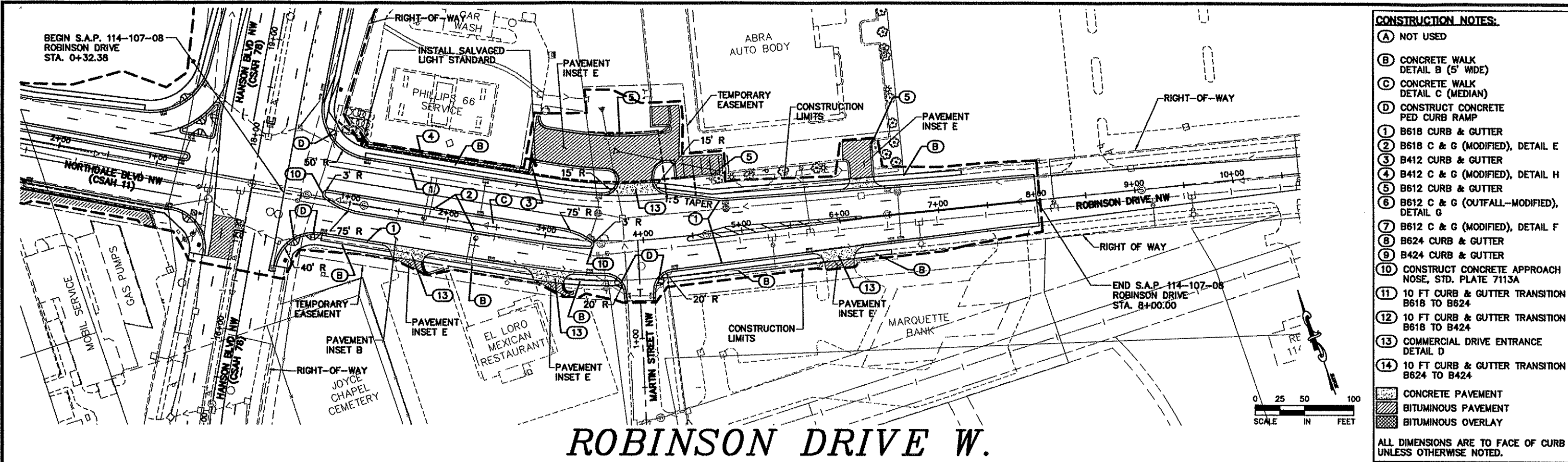
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
CONSTRUCTION PLAN & PROFILE**

CITY PROJECT	2001-47	S.A.P.	114-020-26	2 OF 5 SHEET NO. 59 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

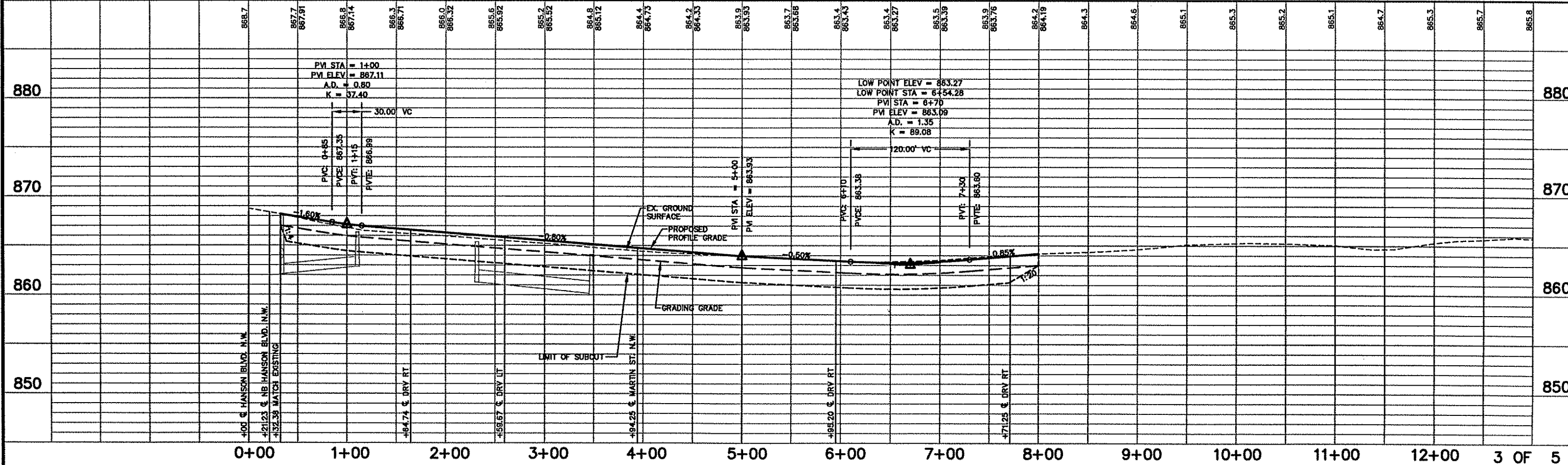
PLOT DATE: Apr 19, 2002 3:52pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-Pr

PLOT DATE: May 02 4:54pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-PP01.dwg



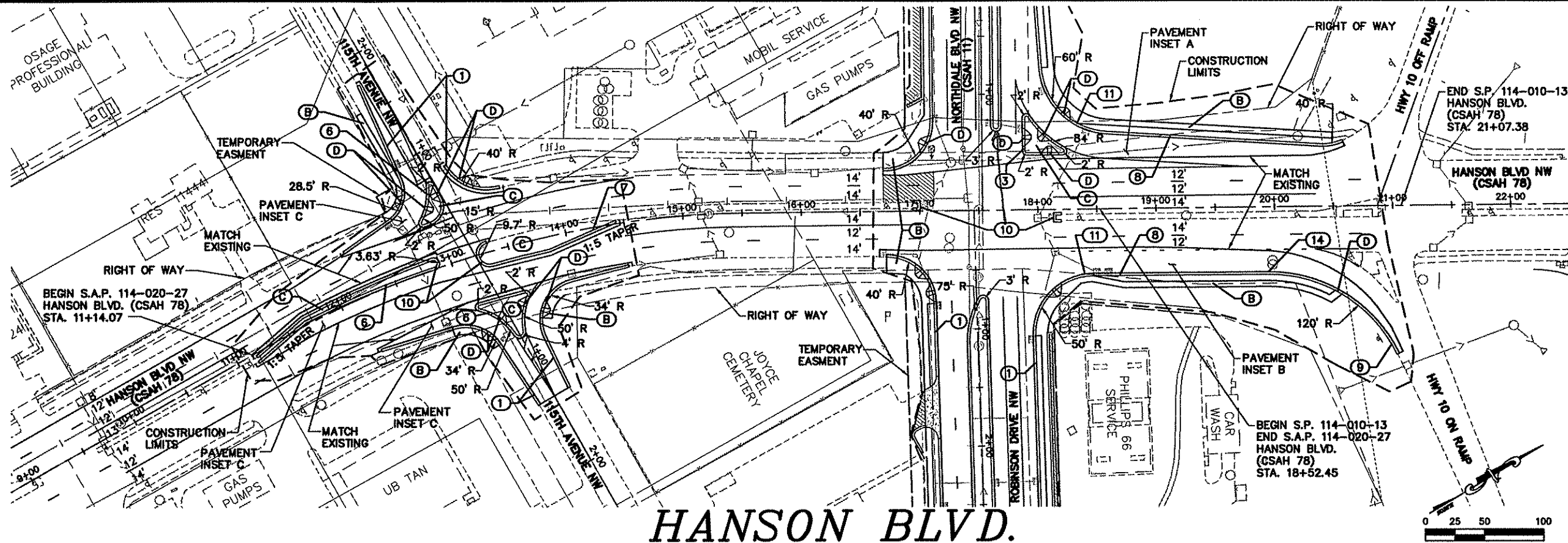
- CONSTRUCTION NOTES:**
- (A) NOT USED
 - (B) CONCRETE WALK DETAIL B (5' WIDE)
 - (C) CONCRETE WALK DETAIL C (MEDIAN)
 - (D) CONSTRUCT CONCRETE PED CURB RAMP
 - (1) B618 CURB & GUTTER
 - (2) B618 C & G (MODIFIED), DETAIL E
 - (3) B412 CURB & GUTTER
 - (4) B412 C & G (MODIFIED), DETAIL H
 - (5) B612 CURB & GUTTER
 - (6) B612 C & G (OUTFALL-MODIFIED), DETAIL G
 - (7) B612 C & G (MODIFIED), DETAIL F
 - (8) B624 CURB & GUTTER
 - (9) B424 CURB & GUTTER
 - (10) CONSTRUCT CONCRETE APPROACH NOSE, STD. PLATE 7113A
 - (11) 10 FT CURB & GUTTER TRANSITION B618 TO B624
 - (12) 10 FT CURB & GUTTER TRANSITION B618 TO B424
 - (13) COMMERCIAL DRIVE ENTRANCE DETAIL D
 - (14) 10 FT CURB & GUTTER TRANSITION B624 TO B424
- CONCRETE PAVEMENT
 BITUMINOUS PAVEMENT
 BITUMINOUS OVERLAY
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

ROBINSON DRIVE W.



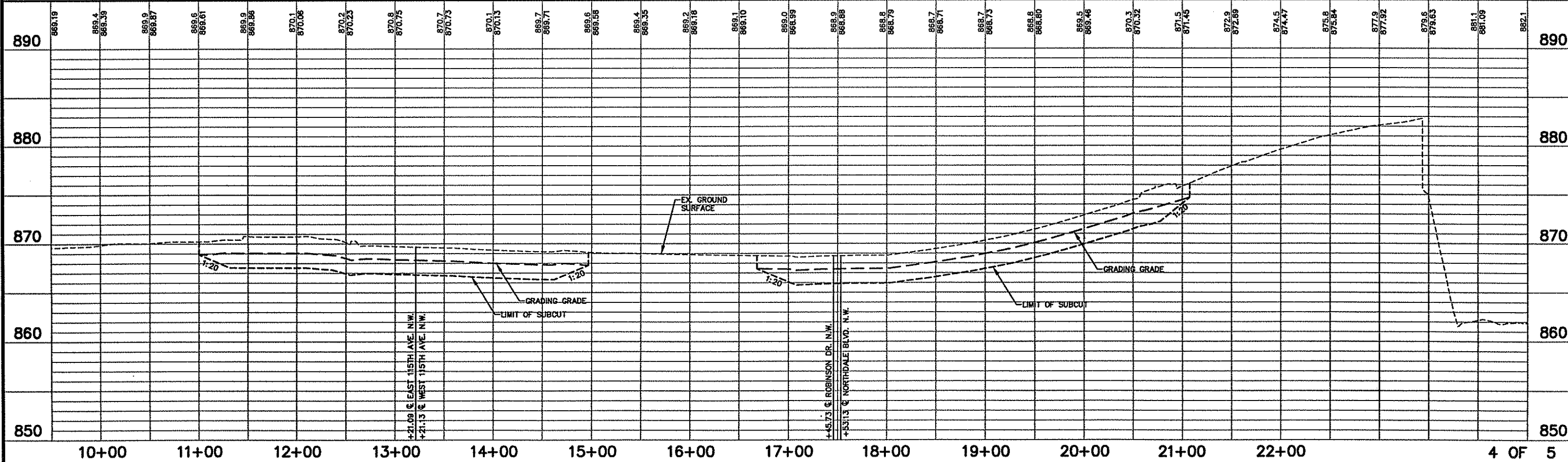
REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 33889-043	 Thrasher Square 700 Third Street South Minneapolis, MN 55416 612.370.0700 Tel 612.370.1378 Fax	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PAUL B. DANIELSON DATE: 4/26/02 MN LIC. NO. 23197	NORTHDALE BOULEVARD (C.S.A.H. 11) ROBINSON DRIVE W. CONSTRUCTION PLAN & PROFILE	CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO.	60			
1	JL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE	DRAWN BY: PMJ			DESIGN BY: JUL	COUNTY PROJECT S.A.P. 114-020-27	CONSTRUCTION PLAN & PROFILE	CITY PROJECT		S.A.P.		159		
				CHKD. BY: ICP			DWG. NAME: 043-PP01			CITY PROJECT		S.A.P.			S.A.P.	
				DATE: APRIL 26, 2002						CITY PROJECT		S.A.P.			S.A.P.	

PLOT DATE: Apr 2, 2002 1:36pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN--SHT\043--PP02.dwg






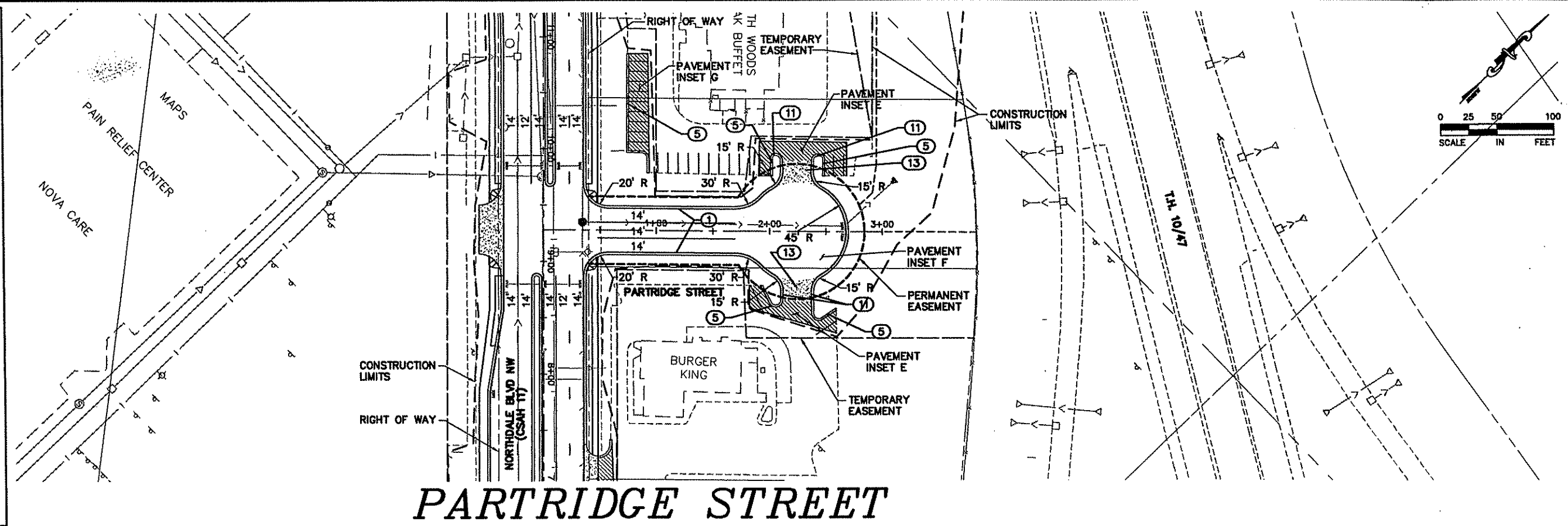
- CONSTRUCTION NOTES:**
- (A) NOT USED
 - (B) CONCRETE WALK
DETAIL B (5' WIDE)
 - (C) CONCRETE WALK
DETAIL C (MEDIAN)
 - (D) CONSTRUCT CONCRETE
PED CURB RAMP
 - (1) B618 CURB & GUTTER
 - (2) B618 C & G (MODIFIED), DETAIL E
 - (3) B412 CURB & GUTTER
 - (4) B412 C & G (MODIFIED), DETAIL H
 - (5) B612 CURB & GUTTER
 - (6) B612 C & G (OUTFALL--MODIFIED),
DETAIL G
 - (7) B612 C & G (MODIFIED), DETAIL F
 - (8) B624 CURB & GUTTER
 - (9) B424 CURB & GUTTER
 - (10) CONSTRUCT CONCRETE APPROACH
NOSE, STD. PLATE 7113A
 - (11) 10 FT CURB & GUTTER TRANSITION
B618 TO B624
 - (12) 10 FT CURB & GUTTER TRANSITION
B618 TO B424
 - (13) COMMERCIAL DRIVE ENTRANCE
DETAIL D
 - (14) 10 FT CURB & GUTTER TRANSITION
B624 TO B424
- CONCRETE PAVEMENT
 BITUMINOUS PAVEMENT
 BITUMINOUS OVERLAY
- ALL DIMENSIONS ARE TO FACE OF CURB
UNLESS OTHERWISE NOTED.

HANSON BLVD.

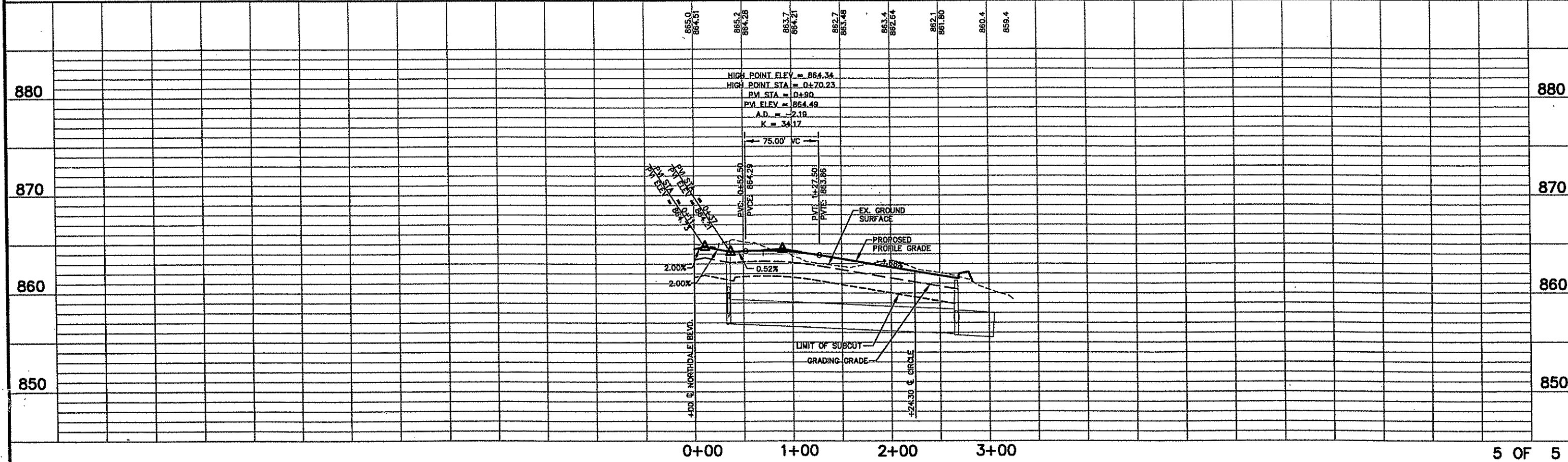


REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 33889-043	<p>Thresher Square 700 Third Street South Minneapolis, MN 55416 612.370.0700 Tel 612.370.1376 Fax</p>	<p>I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.</p> <p>PAUL B. DANIELSON DATE: 4/28/02 MN LIC. NO. 23197</p>	<p>NORTHDAL E BOULEVARD (C.S.A.H. 11) HANSON BOULEVARD CONSTRUCTION PLAN & PROFILE</p>	CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 61
				COUNTY PROJECT					S.A.P.	114-020-27		
				S.P.				114-010-13	S.A.P.	114-107-08		
											159	

- CONSTRUCTION NOTES:**
- (A) NOT USED
 - (B) CONCRETE WALK
DETAIL B (5' WIDE)
 - (C) CONCRETE WALK
DETAIL C (MEDIAN)
 - (D) CONSTRUCT CONCRETE
PED CURB RAMP
 - (1) B618 CURB & GUTTER
 - (2) B618 C & G (MODIFIED), DETAIL E
 - (3) B412 CURB & GUTTER
 - (4) B412 C & G (MODIFIED), DETAIL H
 - (5) B612 CURB & GUTTER
 - (6) B612 C & G (OUTFALL-MODIFIED),
DETAIL G
 - (7) B612 C & G (MODIFIED), DETAIL F
 - (8) B624 CURB & GUTTER
 - (9) B424 CURB & GUTTER
 - (10) CONSTRUCT CONCRETE APPROACH
NOSE, STD. PLATE 7113A
 - (11) 10 FT CURB & GUTTER TRANSITION
B618 TO B624
 - (12) 10 FT CURB & GUTTER TRANSITION
B618 TO B424
 - (13) COMMERCIAL DRIVE ENTRANCE
DETAIL D
 - (14) 10 FT CURB & GUTTER TRANSITION
B624 TO B424
-  CONCRETE PAVEMENT
 BITUMINOUS PAVEMENT
 BITUMINOUS OVERLAY
- ALL DIMENSIONS ARE TO FACE OF CURB
UNLESS OTHERWISE NOTED.



PARTRIDGE STREET



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	DRAWN BY: PMJ	DESIGN BY: J.L.
CHKD. BY: ICP	DWG. NAME: 043-PP05	
DATE: APRIL 26, 2002		

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Minneapolis, MN 55415
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

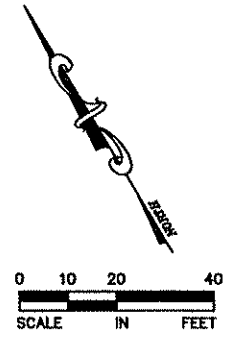
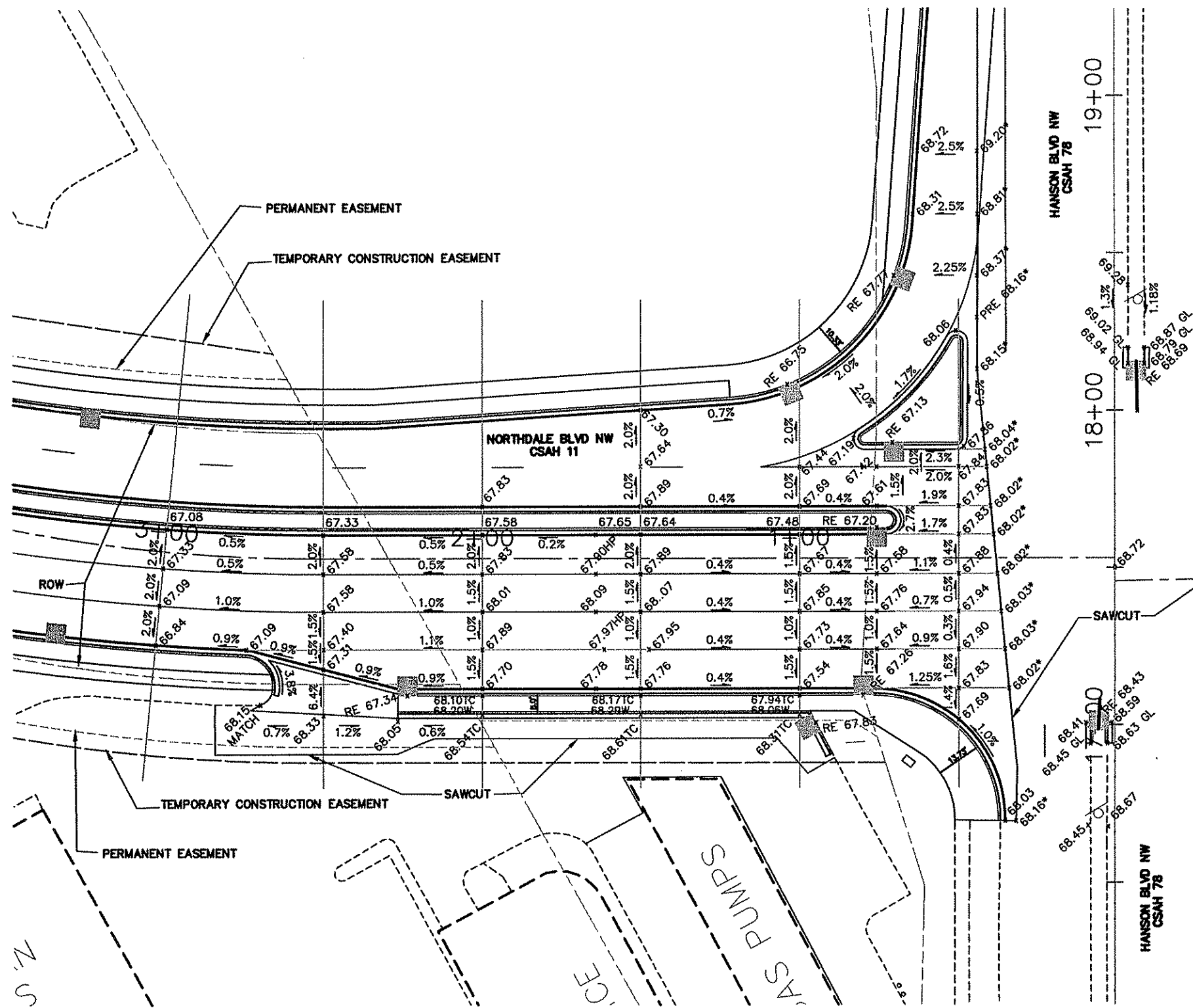
**NORTHDALE BOULEVARD
(C.S.A.H. 11)
PARTRIDGE STREET
CONSTRUCTION PLAN & PROFILE**

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 62 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

5 OF 5

PLOT DATE: Apr 23, 2002 1:16pm J:\25K FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-PP05.dwg

PLOT DATE: Apr 26 2002 12:24pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-IDD1.dwg



* = EXISTING GRADE AT SAWCUT LINE

← - REPRESENTS GENERAL DRAINAGE FLOW PATH

8XX.XX = SPOT ELEVATIONS

NOTE: ALL SPOT ELEVATIONS ARE TO LIP OF CURB (UNLESS OTHERWISE NOTED)

1 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043
DRAWN BY:
JAA
DESIGN BY:
JJS
CHKD. BY:
ICP
DWG. NAME:
043-IDD1
DATE:
APRIL 26, 2002



Threeher Square
700 Third Street South
Minneapolis, MN 55415
612.570.0700 Tel
612.570.1378 Fax

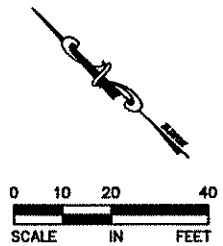
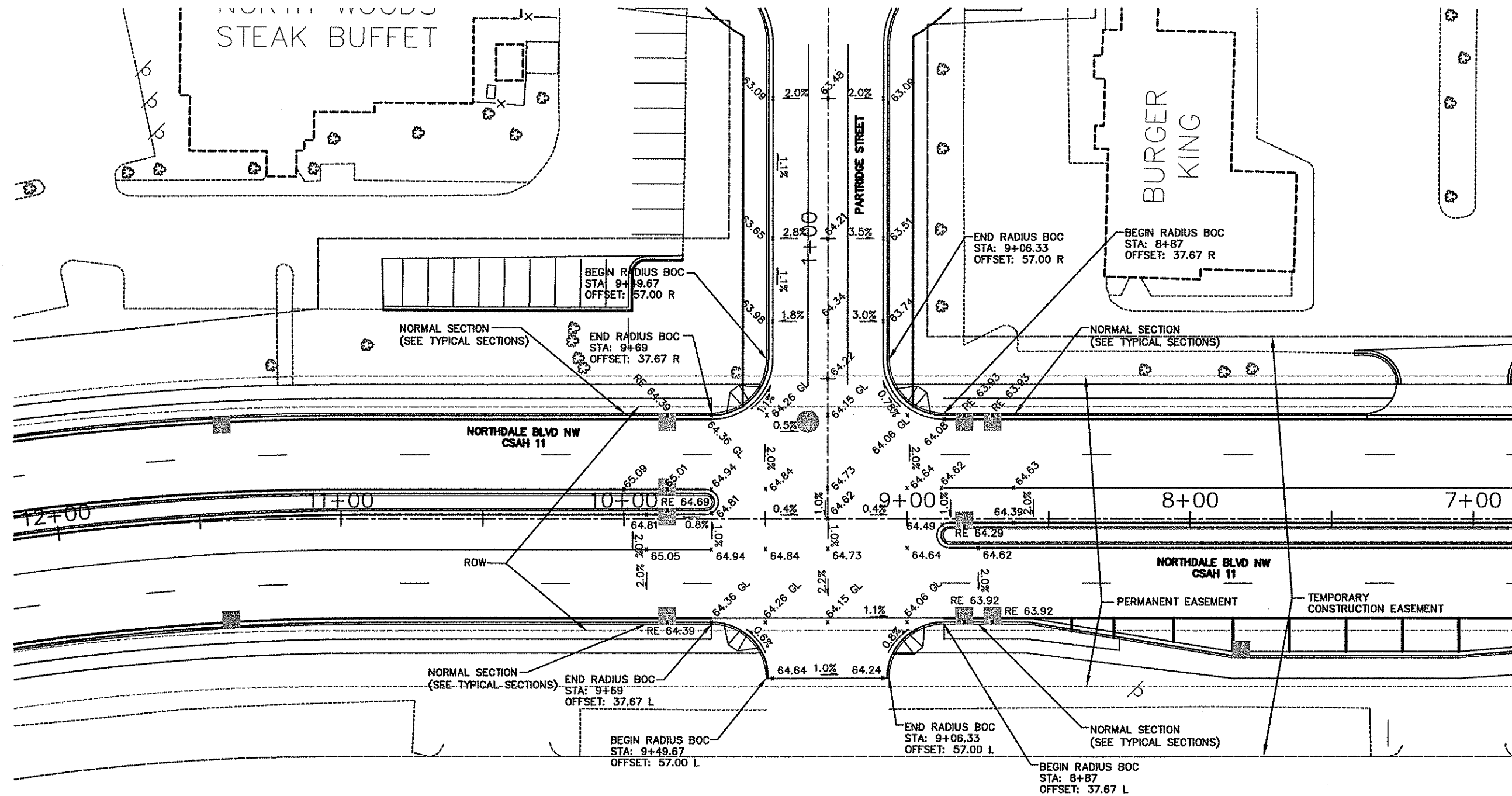
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BLVD. / HANSON BLVD.
CONSTRUCTION PLAN DETAILS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
63
159

2002 12:25pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-ID03.dwg



— — REPRESENTS GENERAL DRAINAGE FLOW PATH

BXX.XX = SPOT ELEVATIONS

NOTE: ALL SPOT ELEVATIONS ARE TO LIP OF CURB (UNLESS OTHERWISE NOTED)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: JAA DESIGN BY: JJS

CHKD. BY: ICP DWG. NAME: 043-ID03

DATE:
APRIL 26, 2002



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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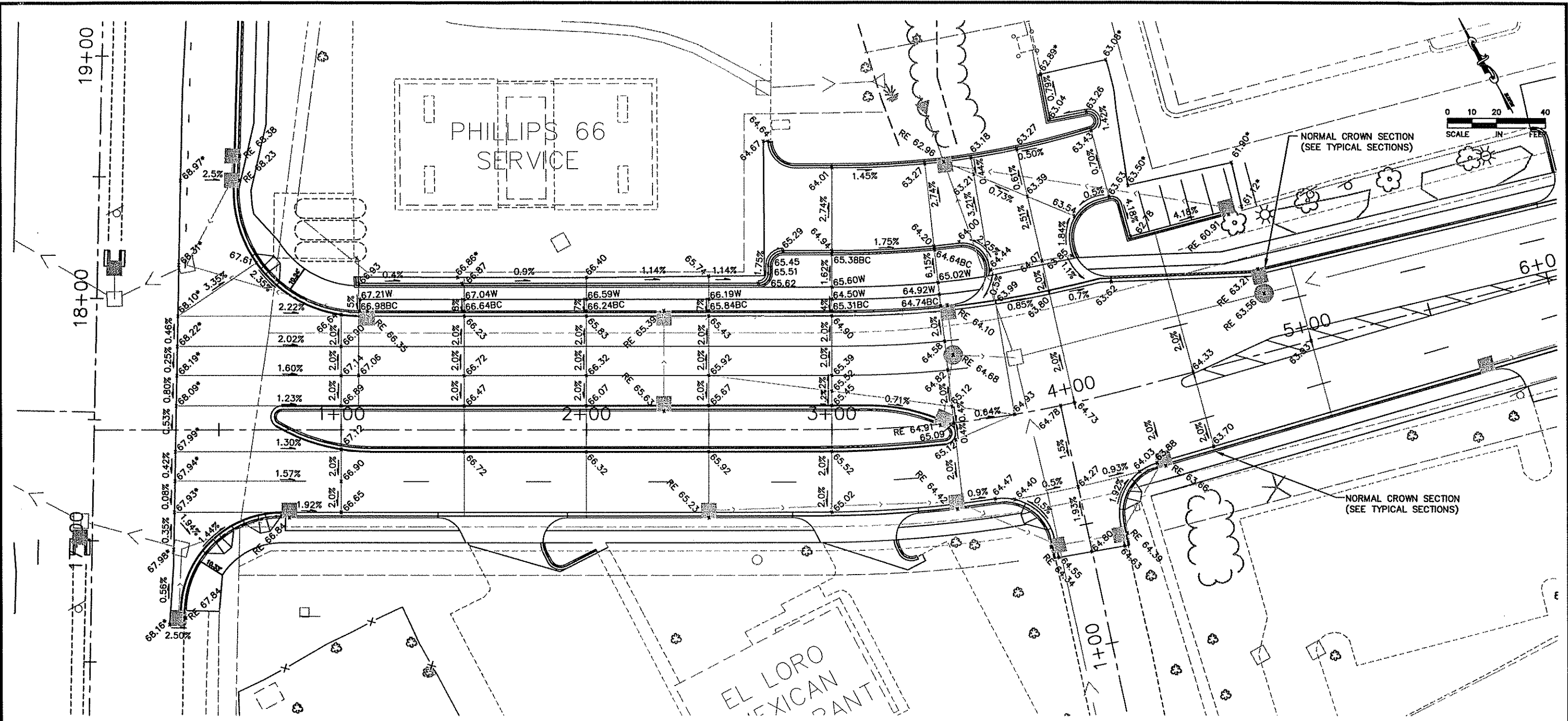
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BLVD. / CUL DE SAC
CONSTRUCTION PLAN DETAILS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
64
159

PLOT DATE: May 02 12:35pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-1D04.dwg



← - REPRESENTS GENERAL DRAINAGE FLOW PATH
 * = EXISTING GRADE AT SAWCUT LINE
 BXX.XX = SPOT ELEVATIONS
 BXX.XXBC = ELEVATION AT BACK OF CURB
 BXX.XXW = ELEVATION AT EDGE OF WALK
 NOTE: ALL SPOT ELEVATIONS ARE TO THE EDGE OF BITUMINOUS, UNLESS OTHERWISE NOTED (TYPICAL OF AREAS ADJACENT TO CURB AND GUTTER)

3 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	B.K.	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE: 33889-043	DRAWN BY: JAA	DESIGN BY: JUS
CHKD. BY: ICP	DWG. NAME: 043-1D04	DATE: APRIL 26, 2002



Thrasher Square
 700 Third Street South
 Minneapolis, MN 55416
 612.370.0700 Tel
 612.370.1376 Fax

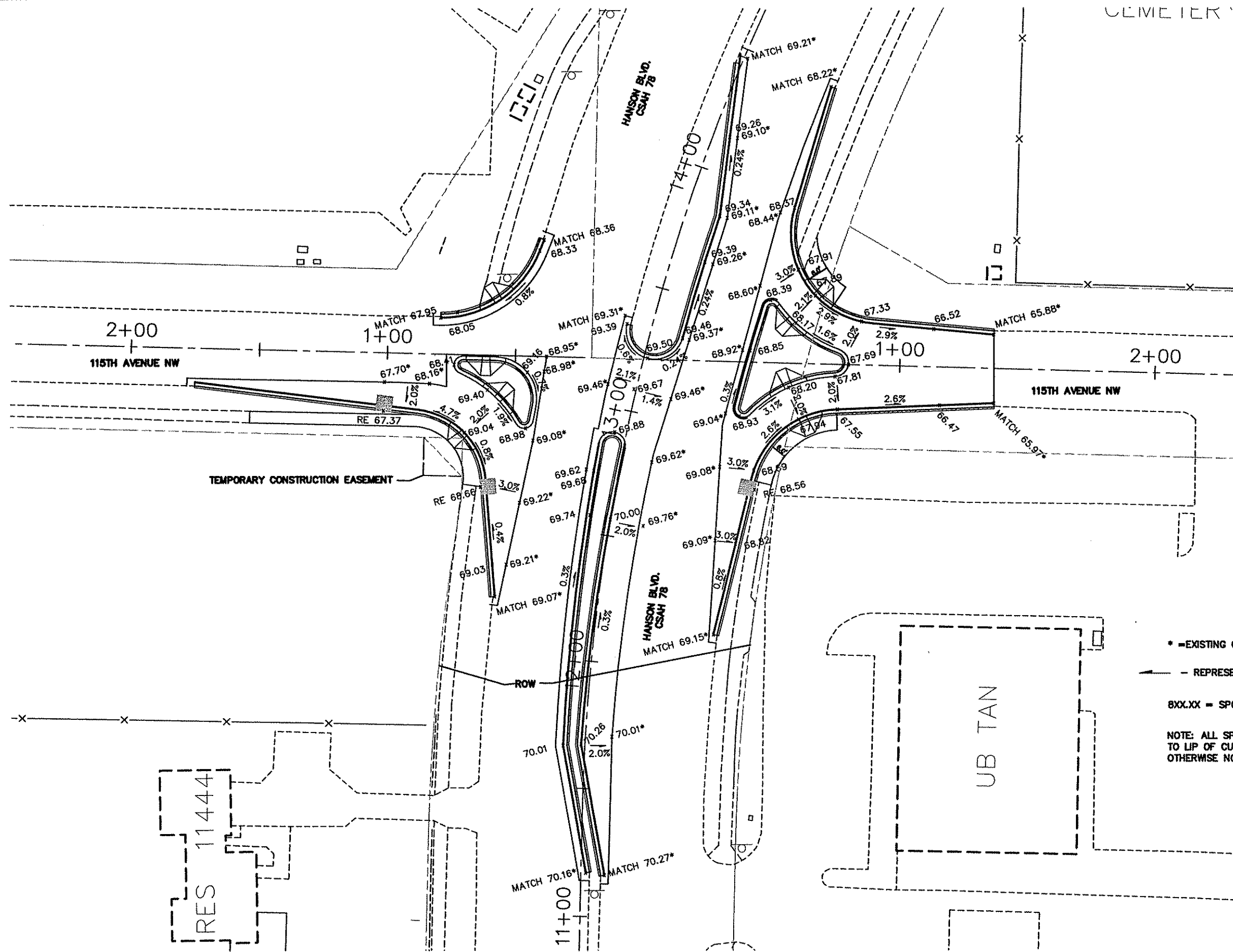
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23197

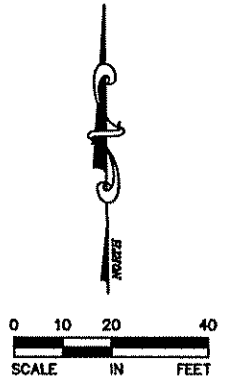
NORTHDALE BOULEVARD
 (C.S.A.H. 11)
PHILIPS GAS / ABRA AUTO DRIVEWAY
 CONSTRUCTION PLAN DETAILS

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 65 159
COUNTY PROJECT		S.A.P.	114-020-27	
		S.A.P.	114-107-08	

PLOT DATE: Apr 26 2002 12:25pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-ID02.dwg



CENTIMETER



* = EXISTING GRADE AT SAWCUT LINE
 - - REPRESENTS GENERAL DRAINAGE FLOW PATH
 BXX.XX = SPOT ELEVATIONS
 NOTE: ALL SPOT ELEVATIONS ARE TO LIP OF CURB (UNLESS OTHERWISE NOTED)

4 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043

DRAWN BY: JAA DESIGN BY: JJS

CHKD. BY: ICP DWS. NAME: 043-ID02

DATE: APRIL 26, 2002



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 612.370.0700 Tel
 612.370.1378 Fax

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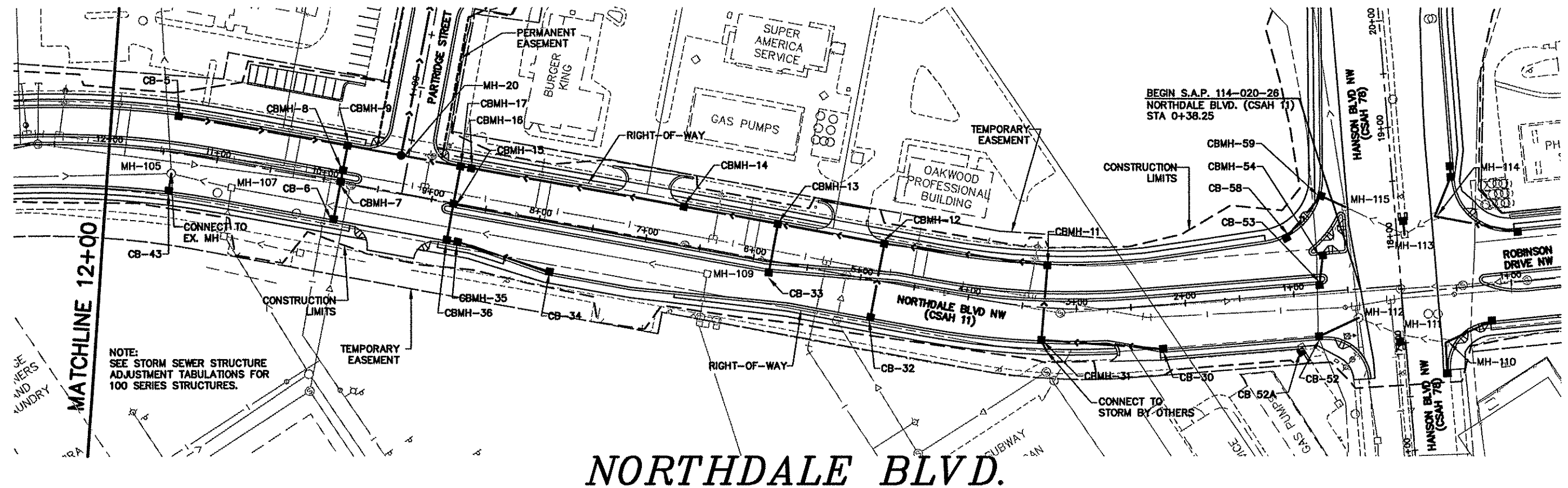
Paul B. Danielson
 PAUL B. DANIELSON
 DATE: 4/28/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
 (C.S.A.H. 11)
HANSON BLVD. / 115TH AVE.
 CONSTRUCTION PLAN DETAILS

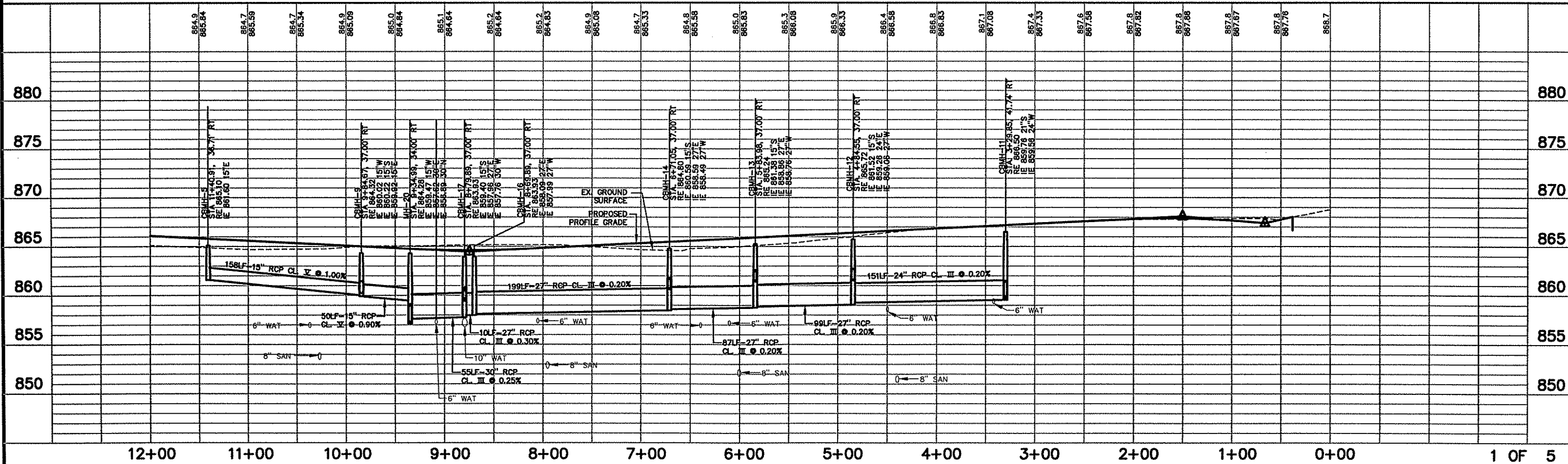
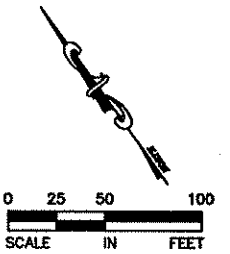
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO. 66
 159

PLOT DATE: Apr 26 2:25pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-ST04.dwg

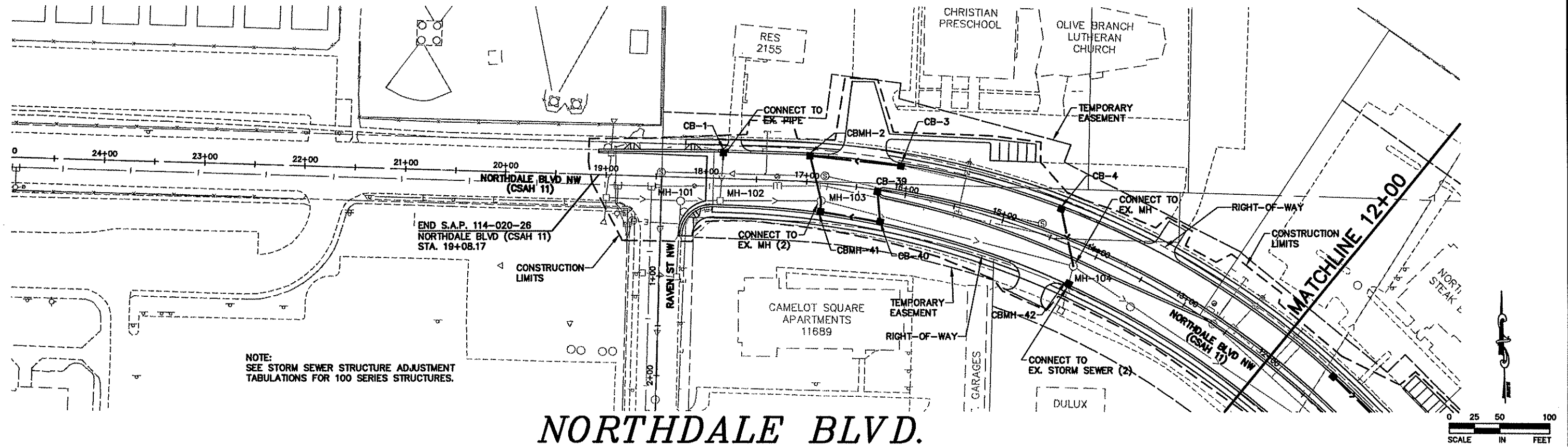


NORTHDALE BLVD.

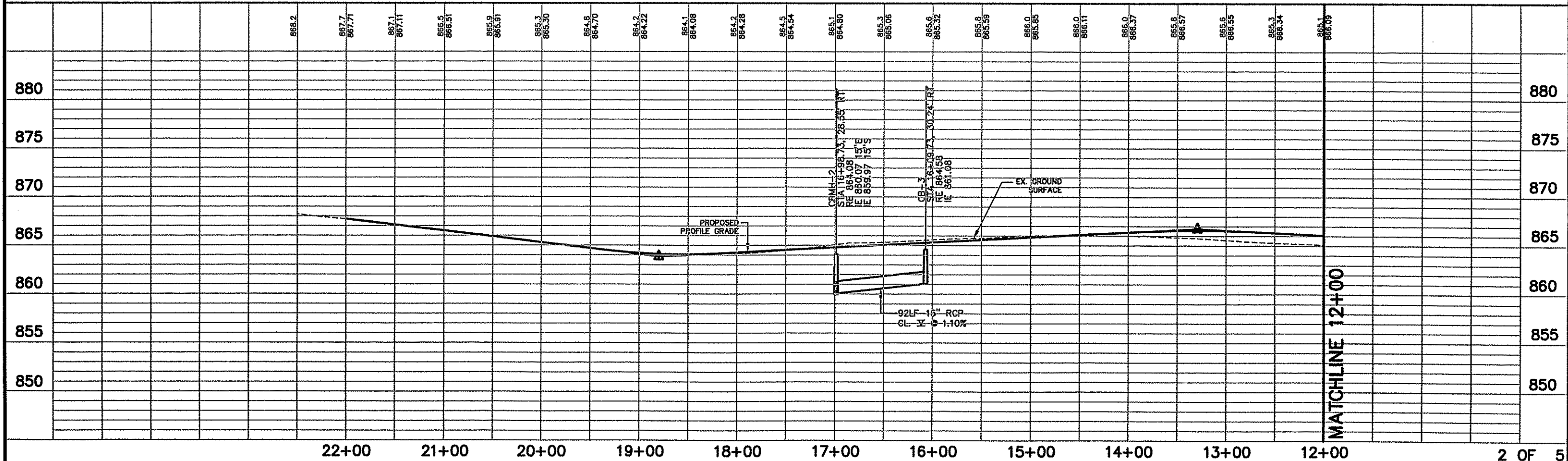


REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 33889-043	<p style="font-size: 8px; margin-top: 5px;">Thresher Square 700 Third Street South Minneapolis, MN 55415 612.370.0700 Tel 612.370.1378 Fax</p>	<p style="margin: 0;">NORTHDALE BOULEVARD (C.S.A.H. 11) NORTHDALE BOULEVARD STORM DRAINAGE PLAN & PROFILE</p>	CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO.	<p style="font-size: 24px; margin: 0;">67</p> <p style="font-size: 36px; margin: 0;">159</p>
				DRAWN BY: TSH/HMW		DESIGN BY: BJK	COUNTY PROJECT		S.A.P.	114-020-27		
				CHKD. BY: ICP		DWG. NAME: 043-ST04	S.P.	114-010-13	S.A.P.	114-107-08		
				DATE: APRIL 26, 2002			DATE:	4/26/02	MN LIC. NO.	23197		

PLOT DATE: Apr 2002 11:43am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-ST05.dwg

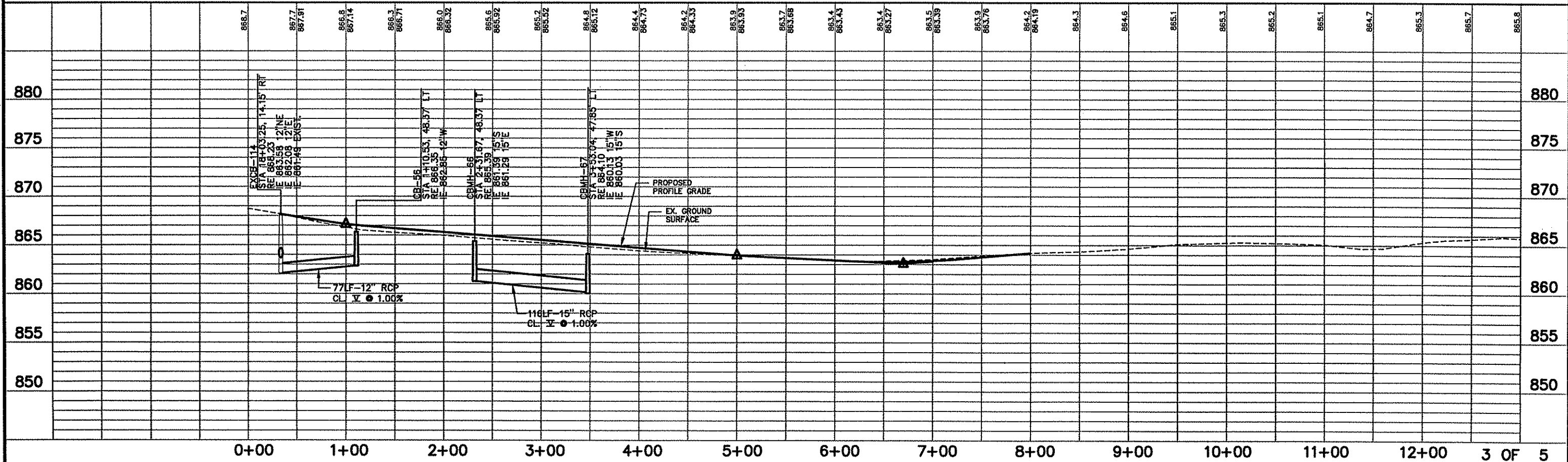
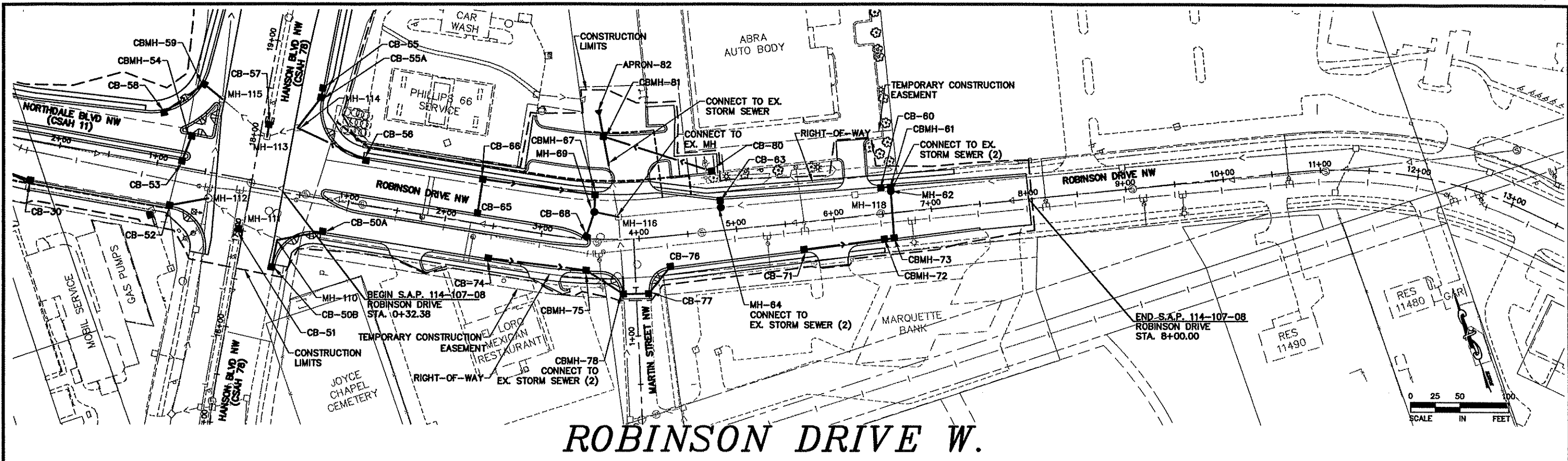


NORTHDALE BLVD.



		22+00	21+00	20+00	19+00	18+00	17+00	16+00	15+00	14+00	13+00	12+00	2 OF 5
REV. NO.	BY	DATE	REVISIONS DESCRIPTION										DESIGN FILE: 33889-043 DRAWN BY: TSH/HMW DESIGN BY: B.K. CHECKED BY: ICP DWG. NAME: 043-ST05 DATE: APRIL 26, 2002
			<div style="display: flex; justify-content: space-between; align-items: center; font-size: 8px;"> <div> <p>Thresher Square 700 Third Street South Minneapolis, MN 55415 612.370.0700 Tel 612.370.1378 Fax</p> </div> <div style="text-align: center;"> <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 LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.</p> <p><i>Paul B. Danielson</i> PAUL B. DANIELSON DATE: 4/26/02 MN LIC. NO. 23197</p> </div> <div style="text-align: center;"> <p>NORTHDALE BOULEVARD (C.S.A.H. 11) NORTHDALE BOULEVARD STORM DRAINAGE PLAN & PROFILE</p> </div> <div style="text-align: right;"> <p>CITY PROJECT 2001-47 S.A.P. 114-020-26 COUNTY PROJECT S.A.P. 114-020-27 S.P. 114-010-13 S.A.P. 114-107-08</p> </div> </div>										
												SHEET NO. 68 159	

PLOT DATE: May 02 8:02pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-ST02.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	B.K.	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE:
33889-043

DRAWN BY:
TSH/HMW

DESIGN BY:
B.K.

CHKD. BY:
ICP

DWG. NAME:
043-ST02

DATE:
APRIL 26, 2002



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Minneapolis, MN 55415
612.370.0700 T4
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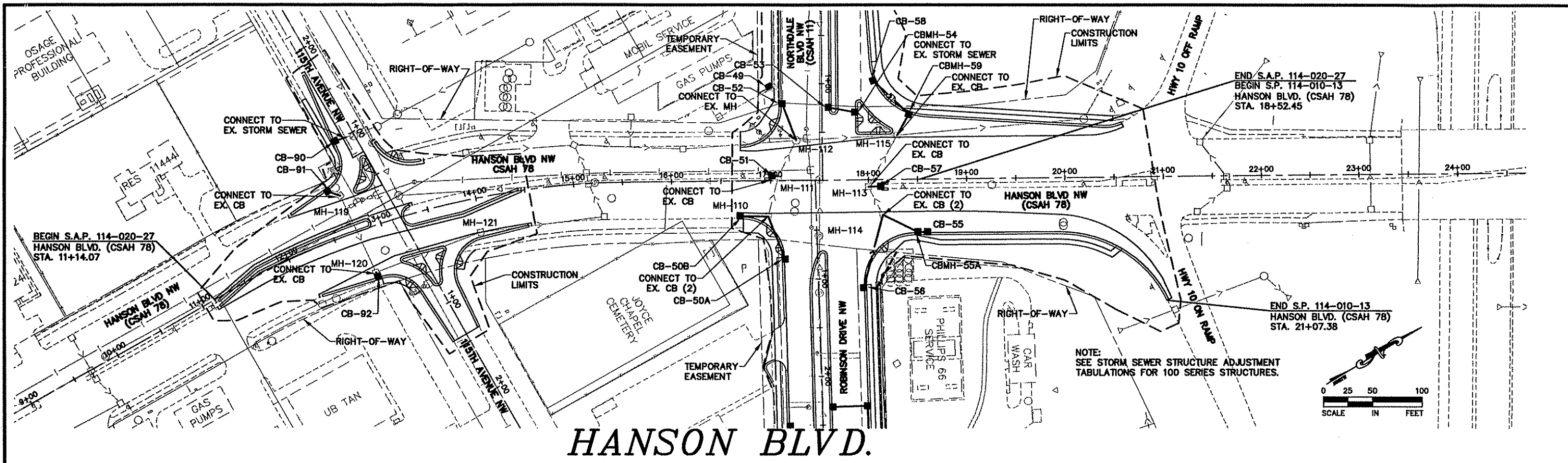
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23187

NORTHDALE BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W.
STORM DRAINAGE
PLAN & PROFILE

CITY PROJECT	2001-47	S.A.P.	114-020-28
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

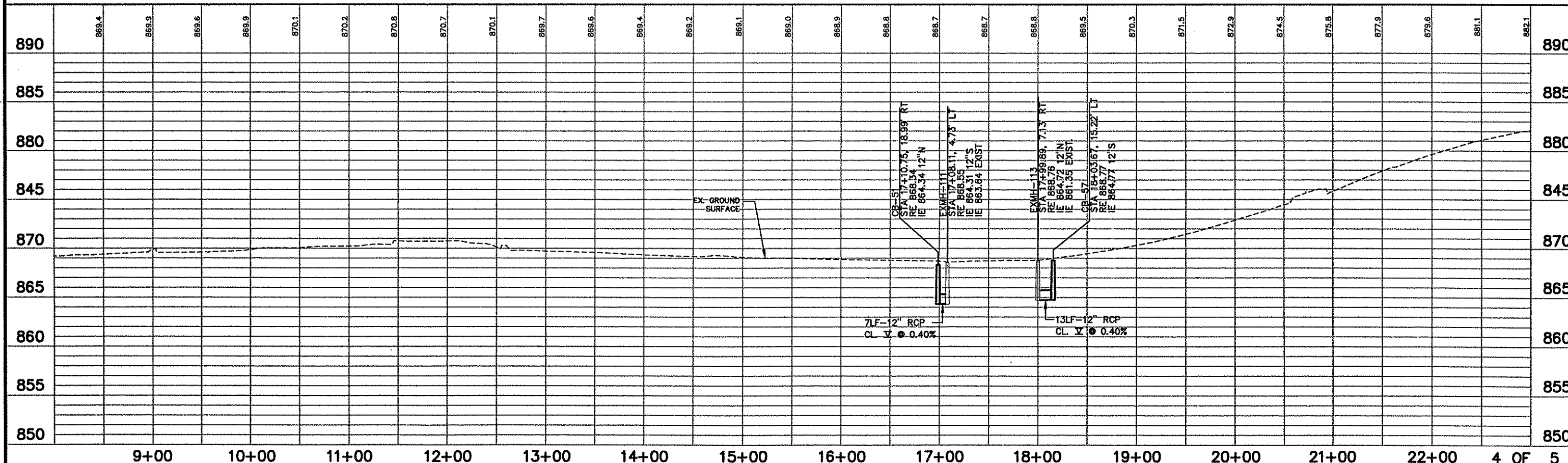
SHEET NO.
69
159

PLOT DATE: May 1 02 2:50pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-ST03.dwg



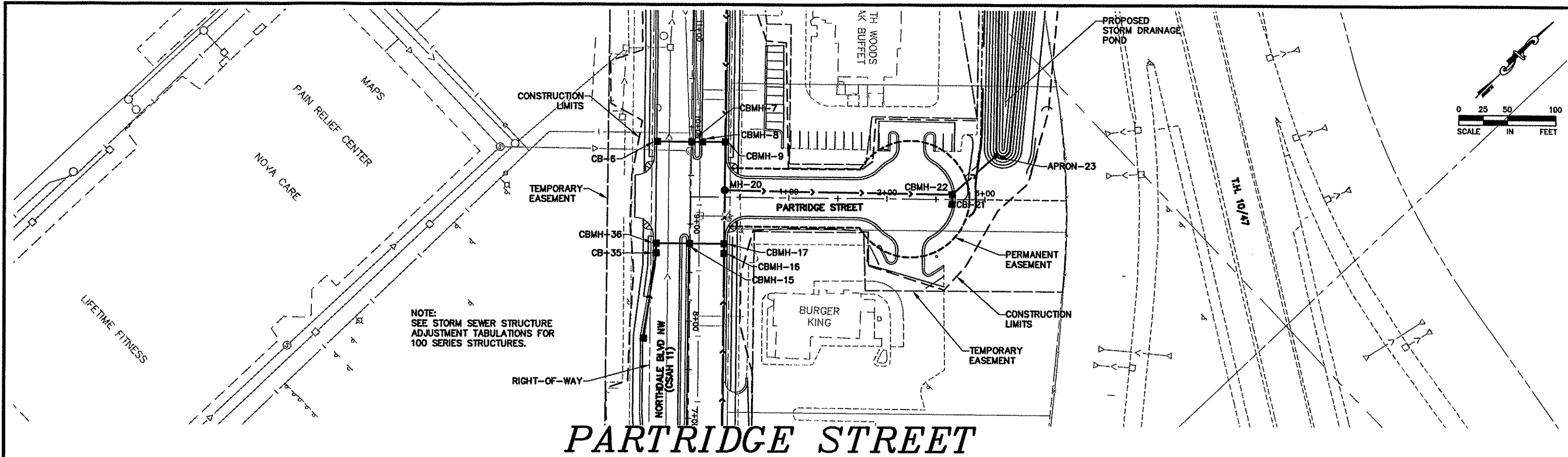
HANSON BLVD.

NOTE: SEE STORM SEWER STRUCTURE ADJUSTMENT TABULATIONS FOR 100 SERIES STRUCTURES.

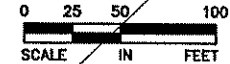


REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 33889-043	<p style="font-size: 8px; margin-top: 5px;">Thresher Square 700 Third Street South Minneapolis, MN 55418 612.370.0700 Tel 612.370.1378 Fax</p>	DRAWN BY: TSH/HMW	DESIGN BY: B.K.	<p style="font-size: 10px; margin-top: 5px;">NORTDALE BOULEVARD (C.S.A.H. 11) HANSON BOULEVARD STORM DRAINAGE PLAN & PROFILE</p>	CITY PROJECT	2001-47	S.A.P.	114-020-26	<p style="font-size: 12px; margin-top: 5px;">SHEET NO. 70</p>			
1	B.K.	05/07/02	ADD. #1: REVISED EXISTING RIM ELEVATIONS	CHKD. BY: ICP		DWG. NAME: 043-ST03	DATE: APRIL 26, 2002		I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	PAUL B. DANIELSON	DATE: 4/28/02	M.N. LIC. NO.		23197	CITY PROJECT	114-020-26
															COUNTY PROJECT	114-020-27
														S.A.P.	114-107-08	159

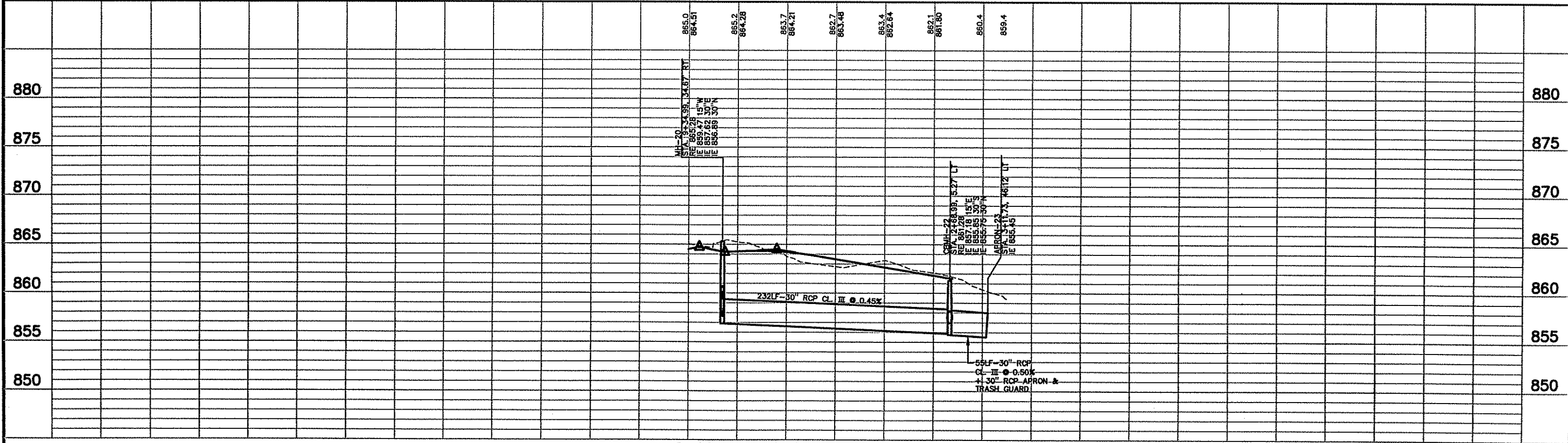
PLOT DATE: Apr 26 2002 11:59am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-ST06.dwg



NOTE:
SEE STORM SEWER STRUCTURE
ADJUSTMENT TABULATIONS FOR
100 SERIES STRUCTURES.



PARTRIDGE STREET



0+00 1+00 2+00 3+00

5 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

URS

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Minneapolis, MN 55415
612.370.0700 Tel
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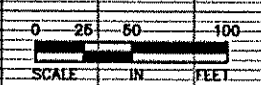
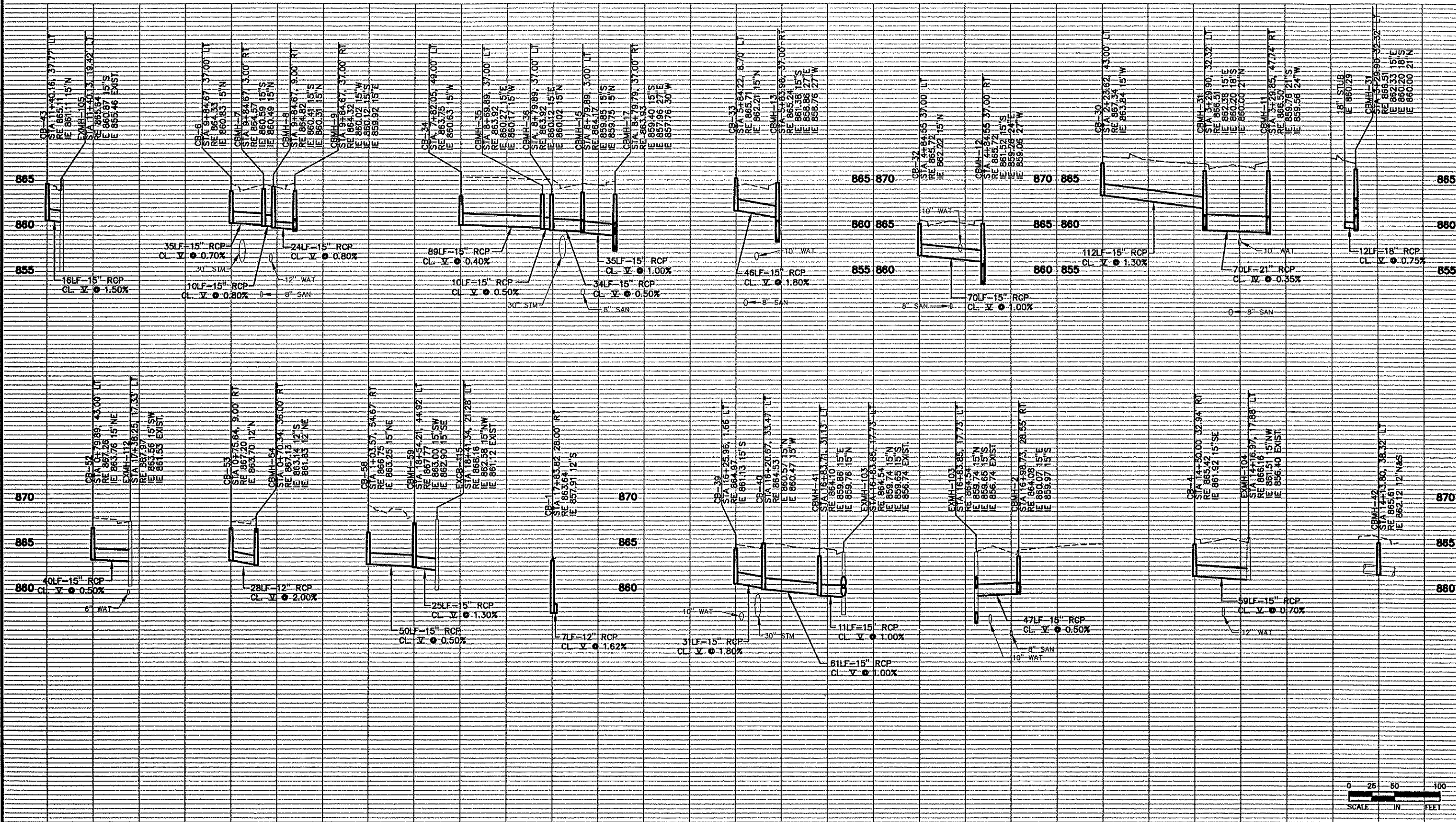
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE CUL DE SAC
STORM DRAINAGE
PLAN & PROFILE**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
71
159



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	BJK	05/07/02	ADD. #1: REVISED EXISTING RIM ELEVATIONS

DESIGN FILE:	33889-043
DRAWN BY:	TSH/HMW
DESIGN BY:	BJK
CHECKED BY:	ICP
DWG. NAME:	043-ST01
DATE:	APRIL 26, 2002



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1376 Fax

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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

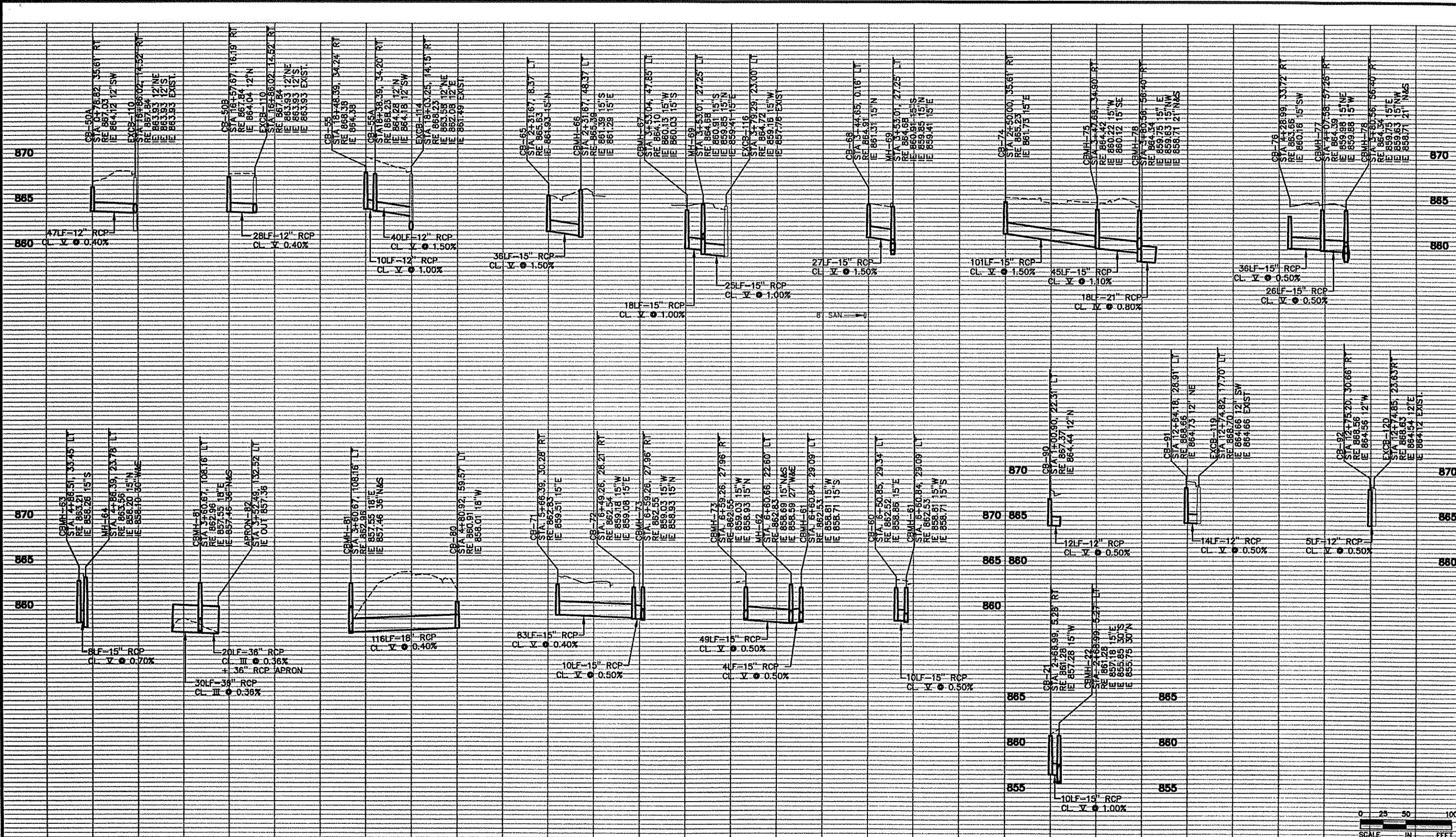
NORTHDAL E BOULEVARD
(C.S.A.H. 11)

STORM DRAINAGE LATERAL PROFILES

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

SHEET NO. 72

159



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	BJK	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE: 33889-043	DRAWN BY: TSH/HMW	DESIGN BY: BJK
CHKD. BY: ICP	DWG. NAME: 043-ST07	DATE: APRIL 26, 2002



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23187

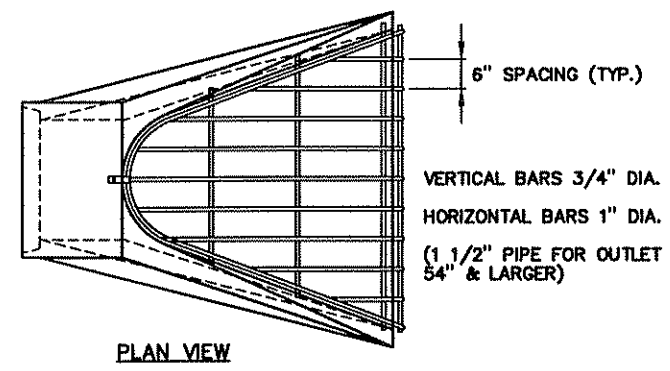
NORTHDAL E BOULEVARD
(C.S.A.H. 11)
STORM DRAINAGE LATERAL PROFILES

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO.	73
COUNTY PROJECT		S.A.P.	114-020-27		
		S.A.P.	114-107-08		159

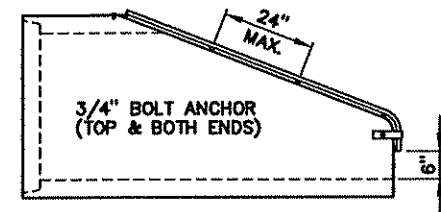
DRAINAGE TABULATION

NOTES	STRUCTURE								DRAINS TO												2501.515	2503.602	2506.602	2511.501	2511.515				
	STRUCT. NO.	ALIGNMENT	STATION [1]	OFFSET [1]	STRUCT. DESIGN	RIM ELEV.	LOW STRUCT. ELEV.	2506.501	2506.516	STRUCT. NO.	INVERT IN FEET	SLOPE %	2503.541	2503.541	2503.541	2503.541	2503.541	2503.541	2503.541	2503.541	2501.602	2503.602	2506.602	2511.501	2511.515				
							FEET	PAY HEIGHT FEET	CASTING ASSEMBLY [2,3] EACH				12 INCH RCP CL V LF	15 INCH RCP CL V LF	18 INCH RCP CL V LF	21 INCH RCP CL IV LF	24 INCH RCP CL III LF	27 INCH RCP CL III LF	30 INCH RCP CL III LF	36 INCH RCP CL III LF	RCP APRON & TRASH GUARD [4,5] EACH	CONNECT TO EXIST. STORM SEWER EACH	CONNECT TO EXIST. DRAINAGE STRUCTURE EACH	RANDOM RIPRAP CL II CY	GEOTEXTILE FILTER TYPE IV SY				
NORTHDALE BOULEVARD (CSAH 11)																													
	CB 1	NORTHDALE	17+83.82	28.00 RT	4020-48"	863.64	857.91	5.73	B-1	EXIST	857.80	1.62	7.0																
	CBMH 2	NORTHDALE	16+98.73	28.55 RT	4020-54"	864.08	859.97	4.11	B-1	EXIST 103	859.74	0.50		47.0															
	CB 3	NORTHDALE	16+09.73	30.24 RT	4006L (H)	864.58	861.08	3.50	B-1	CBMH 2	860.07	1.10		92.0															
	CB 4	NORTHDALE	14+50.00	32.94 RT	4006L (H)	865.42	861.92	3.50	B-1	EXIST 104	861.51	0.70		59.0															
	CB 5	NORTHDALE	11+40.91	36.71 RT	4006L (H)	865.10	861.60	3.50	B-1	CBMH 9	860.02	1.00		158.0															
	CB 6	NORTHDALE	9+84.67	37.00 LT	4006L (H)	864.33	860.83	3.50	B-1	CBMH 7	860.59	0.70		35.0															
	CBMH 7	NORTHDALE	9+84.67	3.00 RT	4020-48"	864.57	860.49	4.08	B-1	CBMH 8	860.41	0.80		10.0															
	CBMH 8	NORTHDALE	9+84.67	9.00 RT	4020-48"	864.82	860.31	4.51	B-1	CBMH 9	860.12	0.80		24.0															
	CBMH 9	NORTHDALE	9+84.67	37.00 RT	4020-48"	864.32	859.92	4.40	B-1	MH 20	859.47	0.90		50.0															
	CBMH 11	NORTHDALE	3+29.85	41.74 RT	4020-54"	866.50	859.56	6.94	B-1	CBMH 12	859.26	0.20			151.0														
	CBMH 12	NORTHDALE	4+84.55	37.00 RT	4020-54"	865.72	859.06	6.66	B-1	CBMH 13	858.86	0.20				99.0													
	CBMH 13	NORTHDALE	6+83.98	37.00 RT	4020-54"	865.24	858.76	6.48	B-1	CBMH 14	858.59	0.20				87.0													
	CBMH 14	NORTHDALE	6+71.05	37.00 RT	4020-54"	864.80	858.49	6.31	B-1	CBMH 16	858.09	0.20				199.0													
	CBMH 15	NORTHDALE	8+79.89	3.00 LT	4020-48"	864.17	859.75	4.42	B-1	CBMH 17	859.40	1.00		35.0															
	CBMH 16	NORTHDALE	8+69.89	37.00 RT	4020-48"	863.93	857.99	5.94	B-1	CBMH 17	857.96	0.30																	
	CBMH 17	NORTHDALE	8+79.89	37.00 RT	4020-60"	863.93	857.76	6.17	B-1	MH 20	857.62	0.25																	
	MH 20	NORTHDALE	9+34.99	34.67 RT	4020-66"	854.28	856.89	7.39	A-7	CBMH 22	855.85	0.45																	
	CB 21	CUL-DE-SAC	2+68.99	5.28 RT	4006L (H)	861.28	857.28	4.00	B-1	CBMH 22	867.18	1.00		10.0															
	CBMH 22	CUL-DE-SAC	2+68.99	5.27 LT	4020-54"	861.28	855.75	5.53	B-1	APRON 23	855.45	0.50																	
	APRON 23	CUL-DE-SAC	3+11.73	46.12 LT																									
	CB 30	NORTHDALE	2+23.62	43.00 LT	4006L (H)	867.34	863.84	3.50	B-1	CBMH 31	862.38	1.30																	
	18" STUB																												
	CBMH 31	NORTHDALE	3+29.90	32.32 LT	4020-60"	866.51	860.00	6.51	B-1	CBMH 11	859.76	0.35																	
	CB 32	NORTHDALE	4+84.55	37.00 LT	4006L (H)	865.72	862.22	3.50	B-1	CBMH 12	861.52	1.00		70.0															
	CB 33	NORTHDALE	5+84.22	8.70 LT	4006L (H)	865.71	862.21	3.50	B-1	CBMH 13	861.38	1.80		46.0															
	CB 34	NORTHDALE	7+82.05	49.00 LT	4006L (H)	863.75	860.63	3.12	B-1	CBMH 35	860.27	0.40		89.0															
	CBMH 35	NORTHDALE	8+69.89	37.00 LT	4020-48"	863.92	860.17	3.75	B-1	CBMH 36	860.12	0.50		10.0															
	CBMH 36	NORTHDALE	8+79.89	37.00 LT	4020-48"	863.92	860.02	3.90	B-1	CBMH 15	859.85	0.50		34.0															
	CB 39	NORTHDALE	16+25.96	1.66 LT	4006L (H)	864.97	861.13	3.84	B-1	CBMH 40	860.57	1.80		31.0															
	CBMH 40	NORTHDALE	16+20.67	33.47 LT	4020-48"	864.53	860.47	4.06	B-1	CBMH 41	859.86	1.00		61.0															
	CBMH 41	NORTHDALE	16+83.71	31.13 LT	4020-48"	864.10	859.76	4.34	B-1	EXIST 103	859.65	1.00		11.0															
	CBMH 42	NORTHDALE	14+13.60	38.32 LT	4020-48"	865.61	862.12	3.49	B-1	EXIST	862.12	1.00																	
	CB 43	NORTHDALE	11+40.16	37.77 LT	4006L (H)	865.11	861.11	4.00	B-1	EXIST 105	860.87	1.50		16.0															
[6,7]	CB 49	NORTHDALE	0+95.62	53.15 LT	SPECIAL 1	867.83	864.33	3.50	R-3246-B	EXIST PIPE	MATCH EX	EX																	
	CB 50a	ROBINSON	0+78.82	35.61 RT	4006L (H)	867.03	864.12	2.91	B-1	EXIST 110	863.93	0.40		47.0															
	CB 50b	HANSON-NB	16+57.67	16.19 RT	4006L (H)	867.84	864.04	3.80	B-1	EXIST 110	863.93	0.40		28.0															
	CB 51	HANSON-SB	17+10.75	18.99 RT	4006L (H)	868.34	864.34	4.00	B-1	EXIST 111	864.31	0.40		7.0															
	CB 52	NORTHDALE	0+79.89	43.00 LT	4006L (H)	867.26	863.76	3.50	B-1	EXIST 112	863.56	0.50		40.0															
	CB 53	NORTHDALE	0+75.64	9.00 RT	4006L (H)	867.20	863.70	3.50	B-1	CBMH 54	863.14	2.00		28.0															
	CBMH 54	NORTHDALE	0+70.34	36.00 RT	4020-48"	867.13	861.83	5.30	B-1	EXIST	861.83	1.20																	
	CB 55	HANSON-NB	18+48.39	34.24 RT	4006L (H)	868.38	864.38	4.00	B-1	CBMH 55a	864.28	1.00		10.0															
	CBMH 55a	HANSON-NB	18+38.39	34.20 RT	4020-48"	868.23	864.18	4.05	B-1	EXIST 114	863.58	1.50		40.0															
	CB 56	ROBINSON	1+10.53	48.37 LT	4006L (H)	866.35	862.85	3.50	B-1	EXIST 114	862.08	1.00		77.0															
	CB 57	HANSON-NB	18+03.67	15.22 LT	4006L (H)	868.77	864.77	4.00	B-1	EXIST 113	864.72	0.40		13.0															
	CB 58	NORTHDALE	1+03.57	54.67 RT	4006L (H)	866.75	863.25	3.50	B-1	CBMH 59	863.00	0.50		50.0															
	CBMH 59	HANSON-SB	18+54.21	44.92 LT	4020-48"	867.77	862.90	4.87	B-1	EXIST 115	862.58	1.30		25.0															
	CB 60	ROBINSON	6+50.65	29.34 LT	4006L (H)	862.52	858.86	3.66	B-1	CBMH 61	858.81	0.50		10.0															
	CBMH 61	ROBINSON	6+60.84	29.09 LT	4020-48"	862.53	858.71	3.82	B-1	MH 62	858.69	0.50		4.0															
	MH 62	ROBINSON	6+60.66	22.60 LT	4020-54"	862.83	858.59	4.24	A-7	EXIST	858.59	0.12																	
	CB 63	ROBINSON	4+86.51	33.45 LT	4020-48"	863.21	858.26	4.95	B-1	MH 64	858.20	0.70		8.0															
	MH 64	ROBINSON																											

PLOT DATE: May 02 9:05am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-DL01.dwg



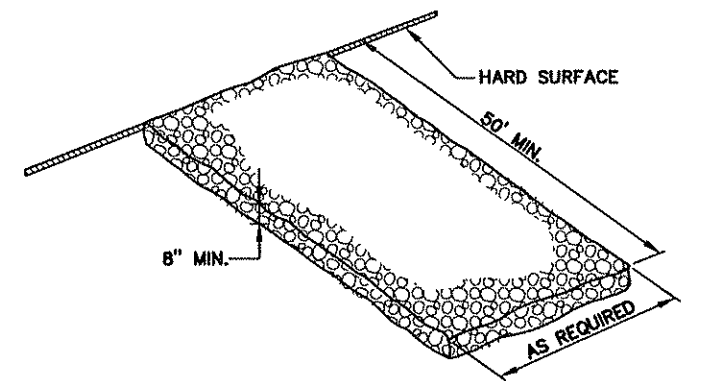
PLAN VIEW



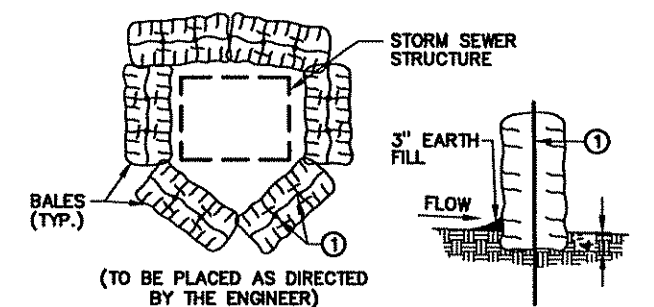
SECTION

- 1) MOUNTING HOLES SHALL BE DRILLED IN APRON AT TIME OF INSTALLATION.
- 2) THE SIZE OF EACH TRASH GUARD WILL VARY TO FIT APRON.
- 3) AFTER FABRICATION, TRASH GUARD SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH MnDOT SPEC. 3392.
- 4) THE LAST 3 PIPE SECTIONS SHALL BE TIED.

TRASH GUARD FOR END SECTION

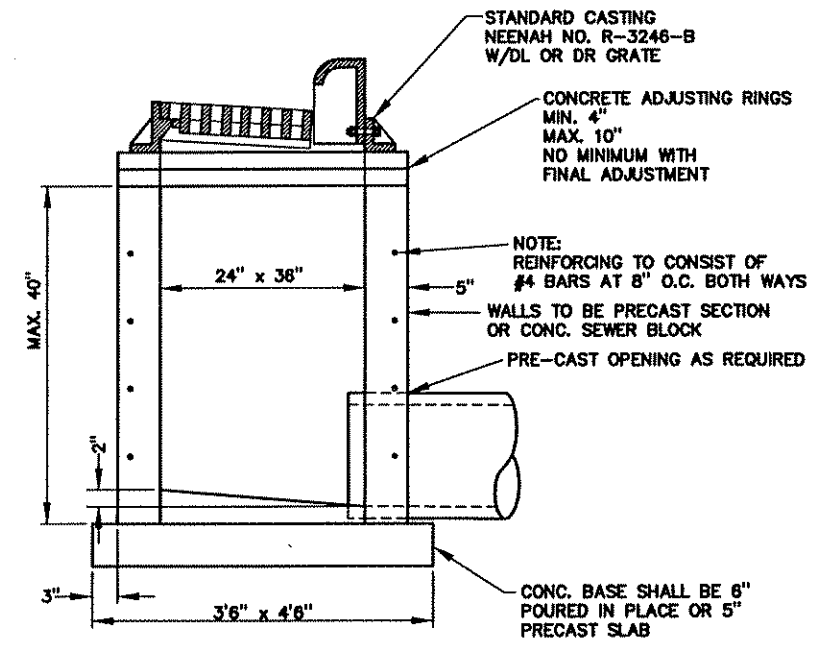


NOTES:
 A GEOTEXTILE FABRIC SHALL BE USED UNDER THE ROCK TO PREVENT MIGRATION OF THE UNDERLYING SOIL INTO THE STONE.
TEMPORARY ROCK CONSTRUCTION ENTRANCE

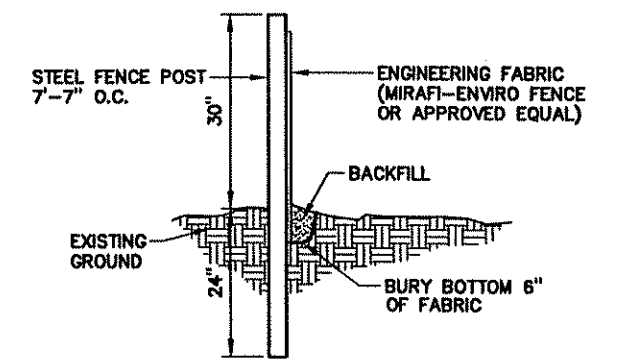


NOTE:
 ① TWO 2"X2" WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10" MINIMUM.
 TEMPORARY BARRIER OF SEDIMENT CONTROL BALES TO PREVENT SEDIMENT-LADEN WATER FROM ENTERING INCOMPLETE STORM SEWER SYSTEM.

HAYBALES FOR SEDIMENT CONTROL
 (AT STORM SEWER STRUCTURES)



DRAINAGE STRUCTURE DESIGN SPECIAL 1



CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL EROSION CONTROL MATERIALS FOLLOWING TURF ESTABLISHMENT

EROSION CONTROL FENCE

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

URS
 Thresher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1370 Fax

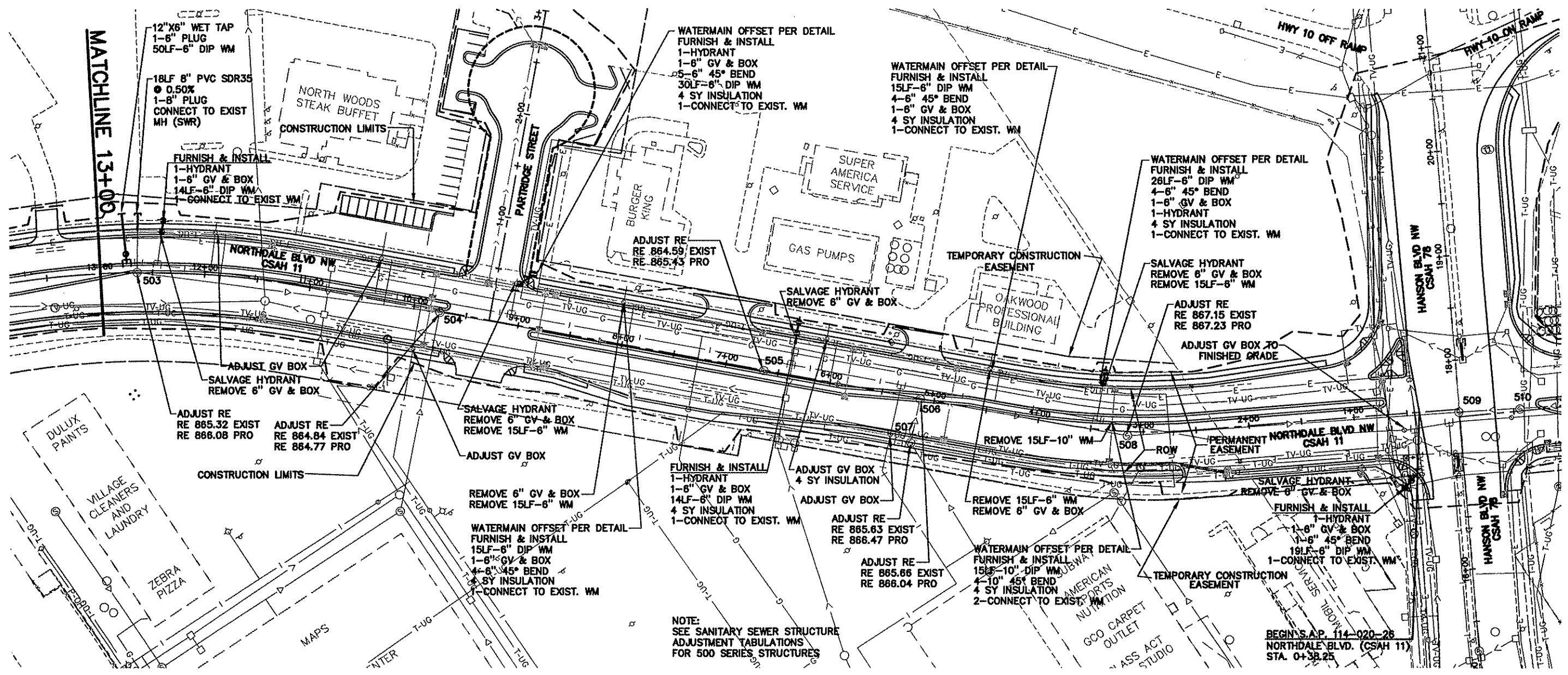
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23187

**NORTHDALE BOULEVARD
 (C.S.A.H. 11)**
 EROSION CONTROL & STORM DRAINAGE DETAILS

CITY PROJECT	2001-47	S.A.P.	114-020-28
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

1 OF 1
 SHEET NO.
75
 159



NORTHDALE BLVD.

PLOT DATE: Apr 2, 2002 12:41pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-WA02.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: PMJ
DESIGN BY: JLL

CHKD. BY: ICP
DWG. NAME: 043-WA02

DATE:
APRIL 26, 2002



Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

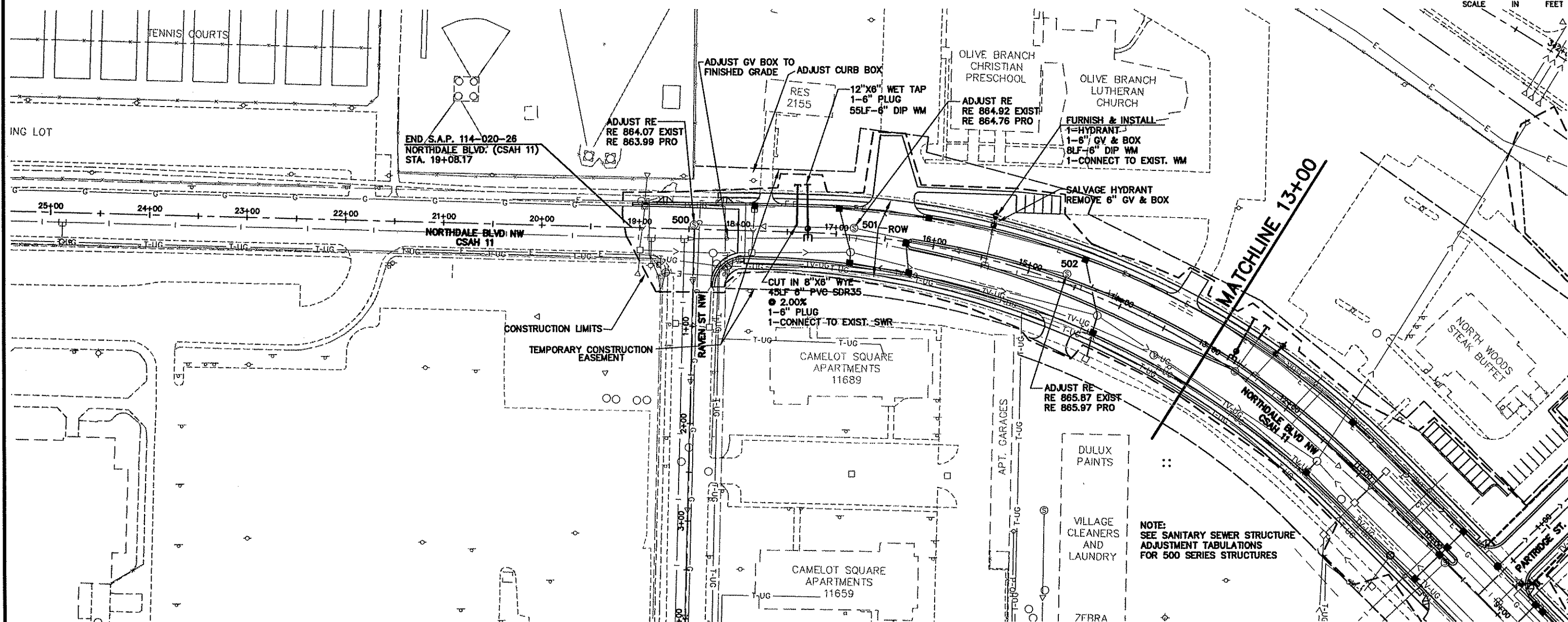
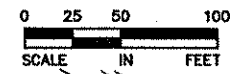
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
SANITARY SEWER AND WATER MAIN PLANS**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

1 OF 4
SHEET NO.
76
159



NORTHDALE BLVD.

PLOT DATE: Apr 2, 2002 12:41pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-WA03.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

URS

Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

DESIGN FILE:
33889-043

DRAWN BY: PMJ DESIGN BY: J.J.L.

CHKD. BY: ICP DWG. NAME: 043-WA03

DATE:
APRIL 26, 2002

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Paul B. Danielson

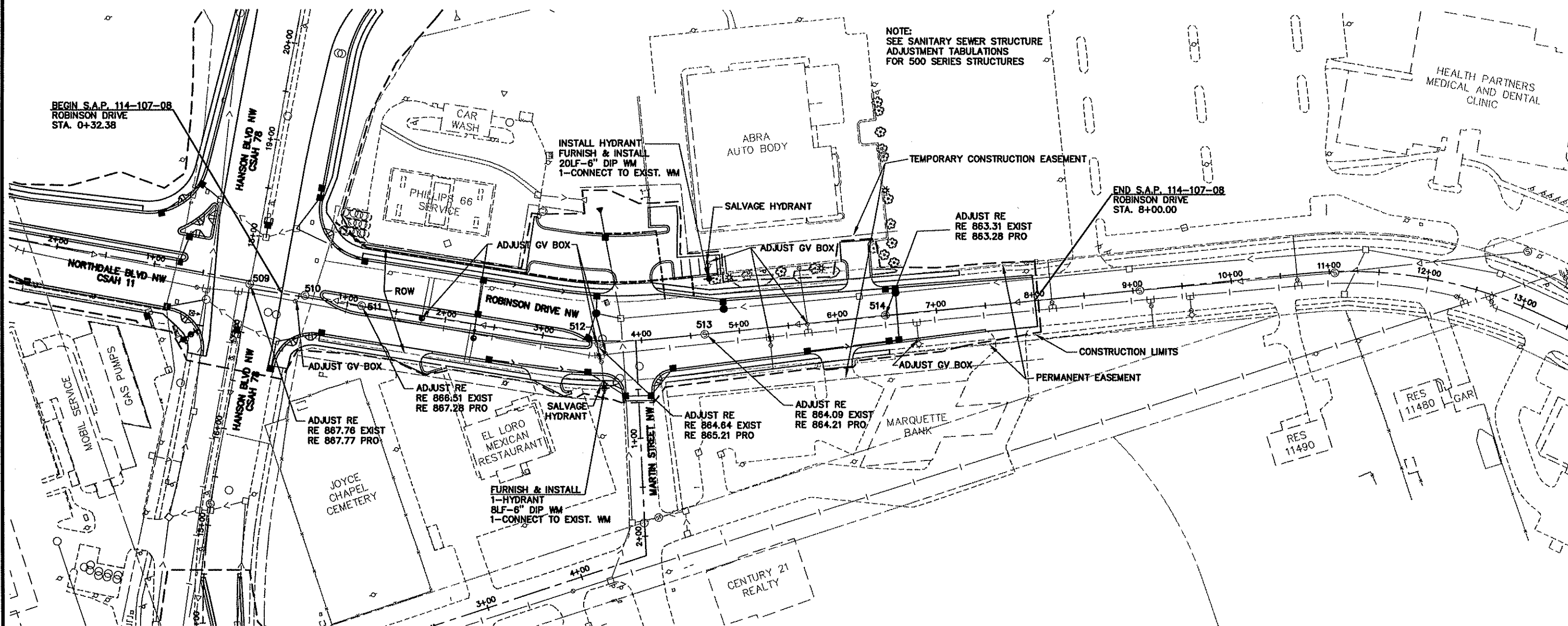
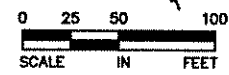
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
SANITARY SEWER AND WATER MAIN PLANS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

77

159



ROBINSON DRIVE W.

PLOT DATE: May .002 4:57pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-WA01.dwg

3 OF 4

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JLL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE:
33889-043

DRAWN BY:
PMJ

DESIGN BY:
JLL

CHKD. BY:
ICP

DWG. NAME:
043-WA01

DATE:
APRIL 26, 2002



Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

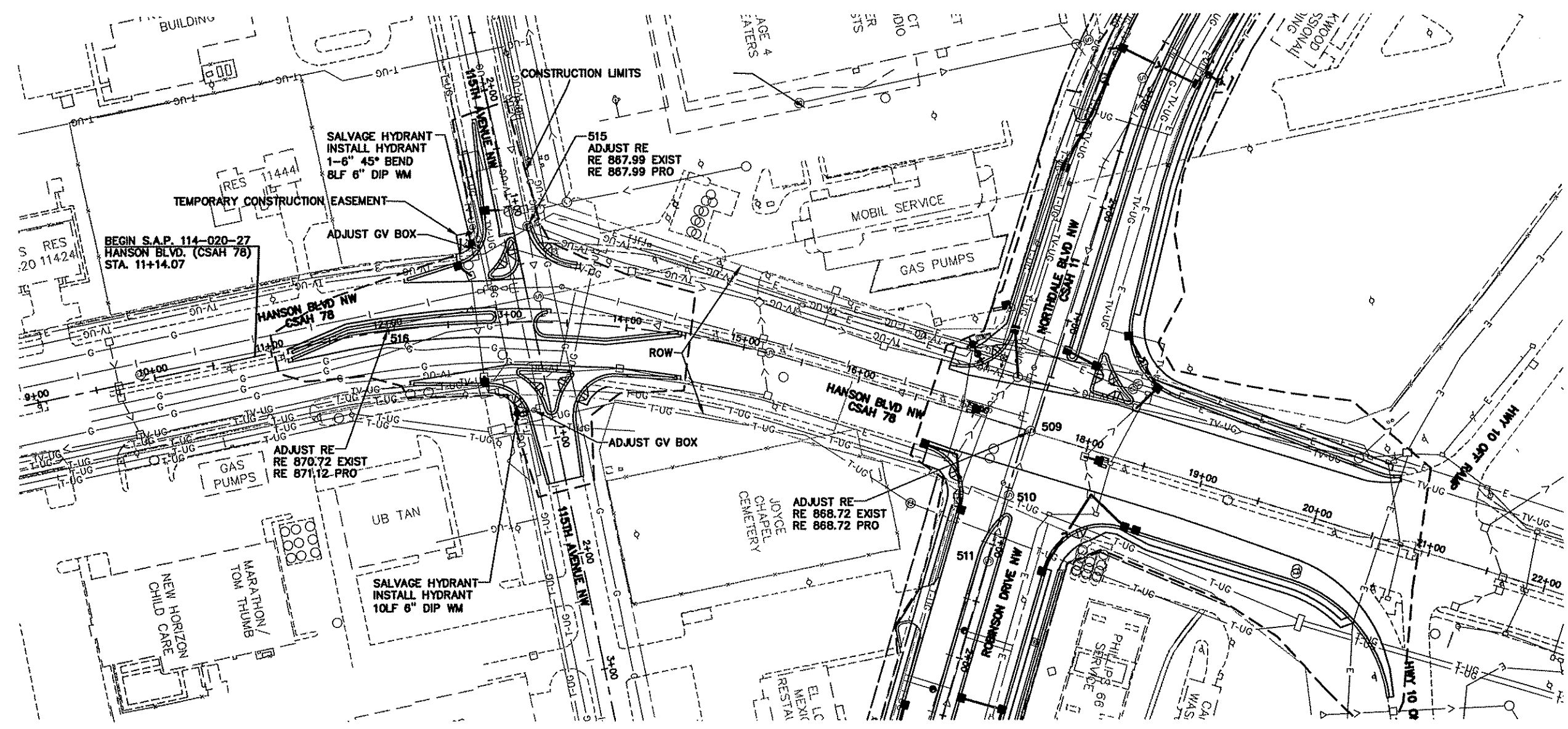
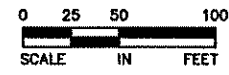
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W.**
SANITARY SEWER AND WATER MAIN PLANS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

SHEET NO.
78
159



HANSON BLVD.

PLOT DATE: Apr 17, 2002 8:41am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-WA04.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: PMJ DESIGN BY: J.J.L.

CHECKED BY: ICP DWG. NAME: 043-WA04

DATE:
APRIL 26, 2002



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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23187

**NORTHDAL E BOULEVARD
(C.S.A.H. 11)
HANSON BOULEVARD**

SANITARY SEWER AND WATER MAIN PLANS

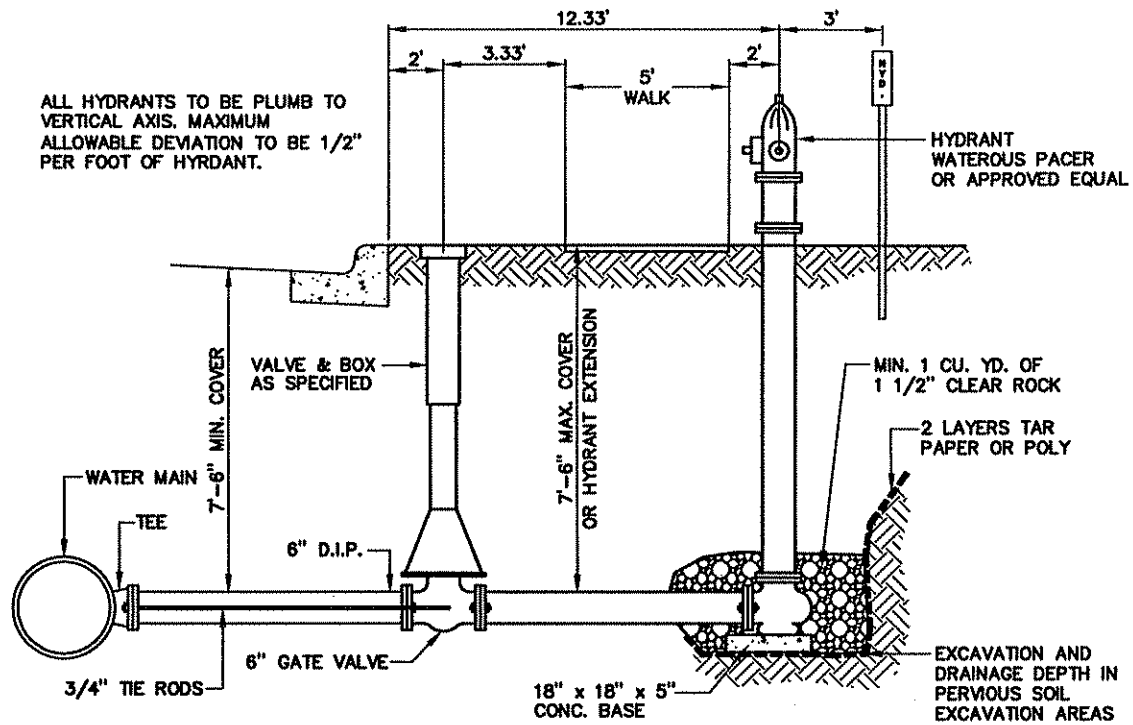
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COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

4 OF 4

SHEET NO.
79

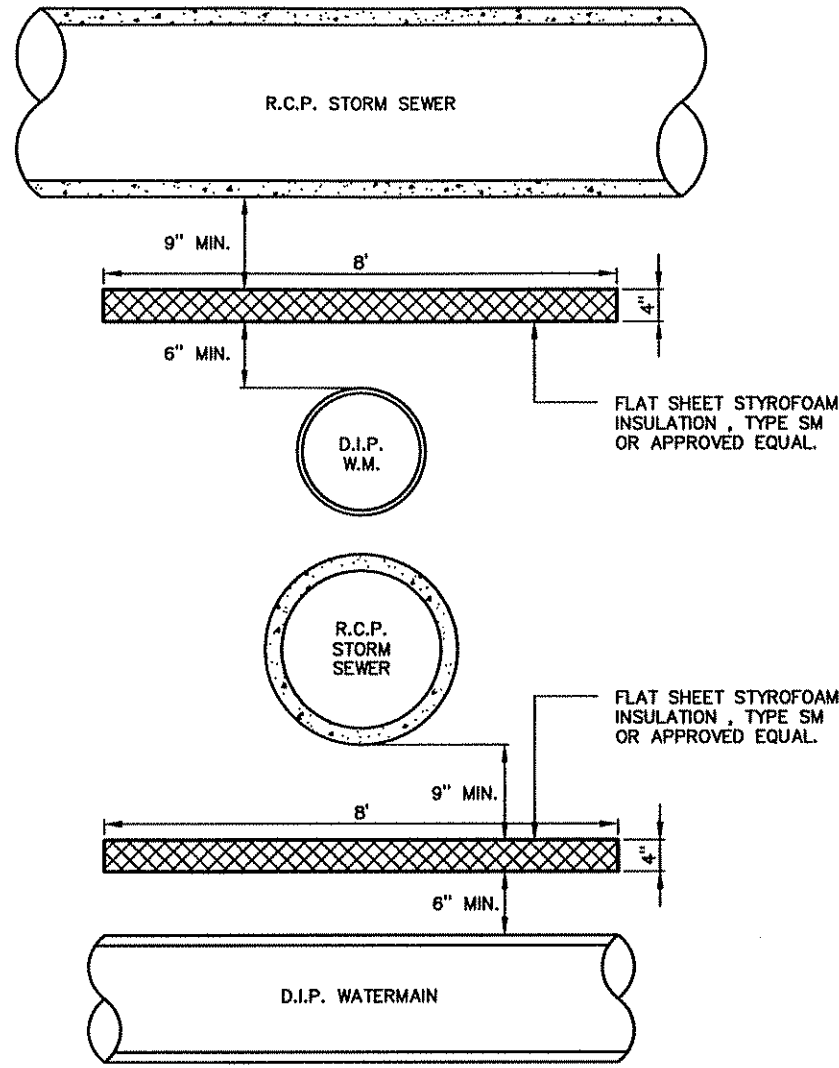
159

ALL HYDRANTS TO BE PLUMB TO VERTICAL AXIS. MAXIMUM ALLOWABLE DEVIATION TO BE 1/2" PER FOOT OF HYDRANT.

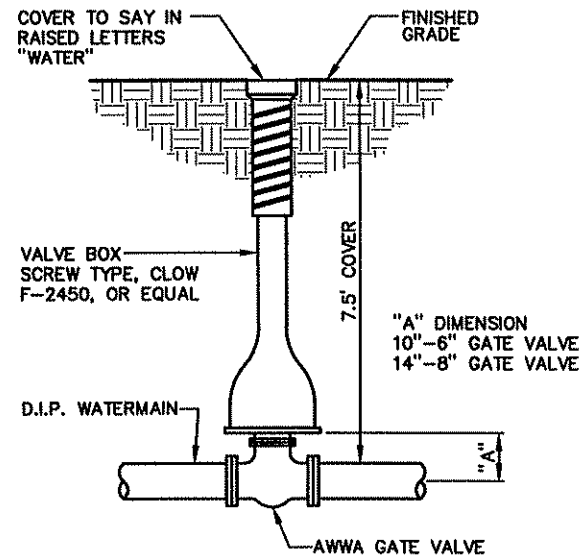


- NOTES:**
1. ALL HYDRANTS SHALL HAVE WEEPHOLES.
 2. JOINTS SHALL BE TIED TO TEE ON MAINLINE WITH 2 - 3/4" Ø TIE RODS. ALL TIE RODS TO BE COAL TAR COATED AFTER INSTALLATION. RESTRAINED JOINT PIPE AND RETAINER GLANDS MAY BE USED WHERE APPROVED BY ENGINEER. IF VALVE IS LOCATED MORE THAN 36' AWAY FROM MAIN, VALVE SHALL BE TIED TO THE FIRST 2 PIPE JOINTS.
 3. HYDRANTS SHALL BE REPAINTED AFTER INSTALLATION.

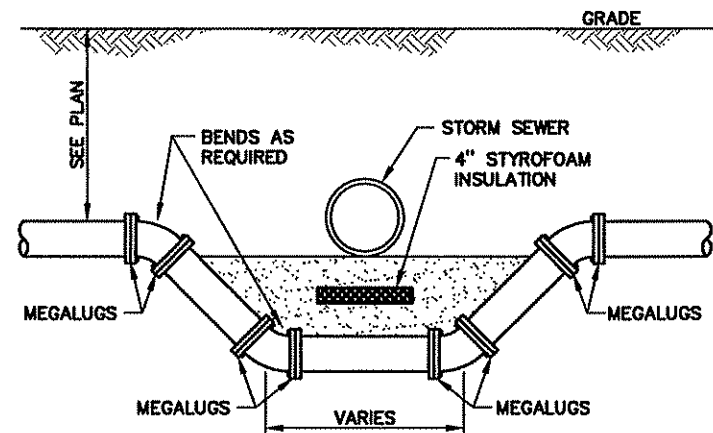
TYPICAL HYDRANT INSTALLATION



TYPICAL WATERMAIN INSULATION



GATE VALVE BOX



WATERMAIN TO BE 2' BELOW STORM SEWER. PLACE 5" COMPACTED SAND ABOVE AND BELOW INSULATION.

INSULATION FOR WATERMAIN INSTALLED UNDER STORM SEWER

UTILITY CONTACT LIST				
Name	Company	Address	Phone	Fax
MR. STEVE GATLIN DIRECTOR OF PUBLIC WORKS	CITY OF COON RAPIDS	11155 ROBINSON DRIVE COON RAPIDS, MN 55433-3761	763.767.6458	763.767.6573
MR. DOUG VIERZBA CITY ENGINEER	CITY OF COON RAPIDS	11155 ROBINSON DRIVE COON RAPIDS, MN 55433-3761	763.767.6465	763.767.6573
MR. DOUG FISCHER COUNTY ENGINEER	ANOKA COUNTY	1440 BUNKER LAKE BOULEVARD, NW ANDOVER, MN 55304	763.862.4200	763.862.4201
MR. RICHARD PILON	RELIANT ENERGY	700 WEST LINDEN AVENUE, P.O. BOX 1165 MINNEAPOLIS, MN 55440-1165	612.321.5426	612.321.5480
MR. STEVE ZIMMERMAN	CONNEXUS ENERGY	14601 RAMSEY BOULEVARD RAMSEY, MN 55303	763.323.2766	763.506.9586
MR. MIKE RUDE	QWEST COMMUNICATIONS	425 MONROE STREET ANOKA, MN 55303	763.712.5004	763.712.5023
MR. JIM BEVILAQUA	MEDIA ONE CABLE	6901 WINNETKA AVENUE BROOKLYN PARK, MN 55428		
	AT&T	934 WOODHILL DRIVE ROSEVILLE, MN 55113-2099		

1 OF 1

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043

DRAWN BY: HMW DESIGN BY: HMW

CHKD. BY: ICP DWG. NAME: 043-DL02

DATE: APRIL 26, 2002

URS

Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)

WATER MAIN DETAILS

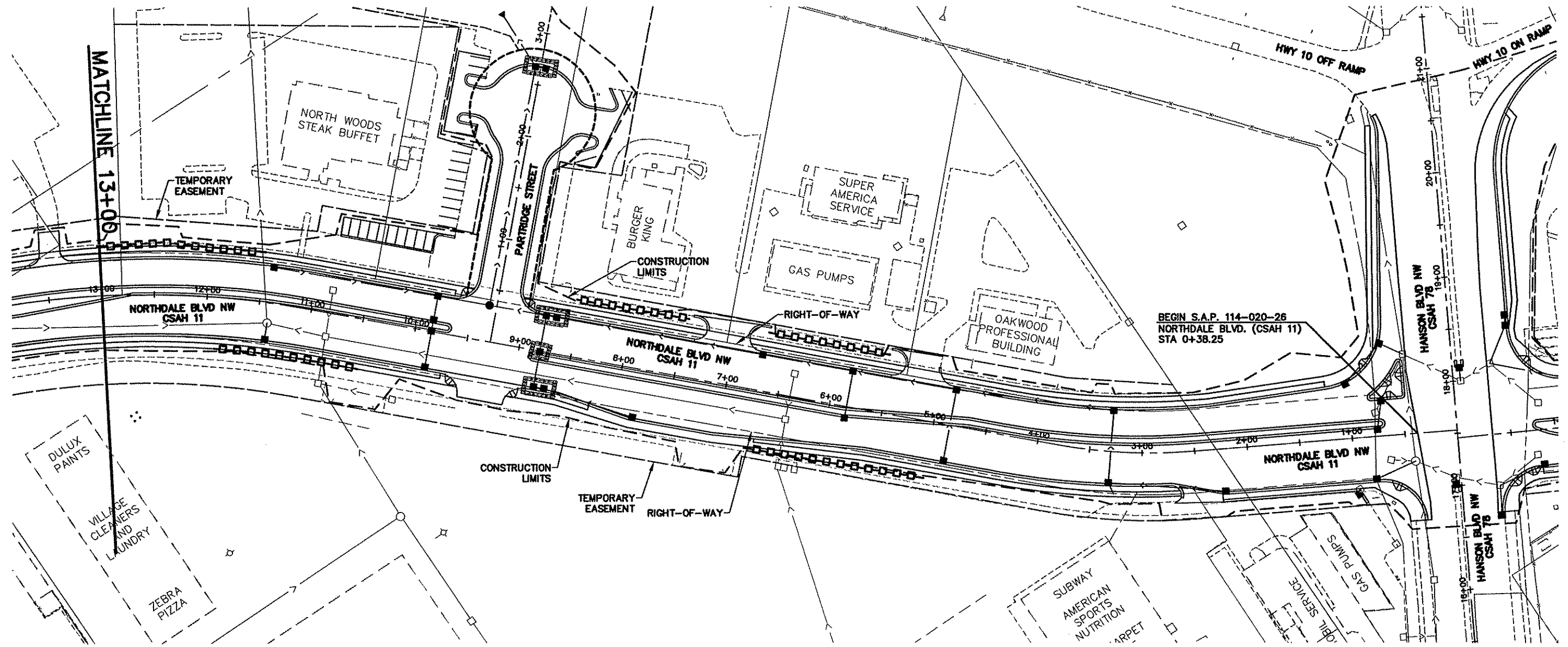
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COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO. 80

159

PLOT DATE: Apr 26, 2002 12:30pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-DL02.dwg

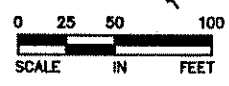
PLOT DATE: Apr 2, 2002 12:24pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-EC03.dwg



NORTHDALE BLVD.

LEGEND

- SILT FENCE
- BALE CHECKS
- RIP RAP



1 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

URS

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700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.1578 Fax

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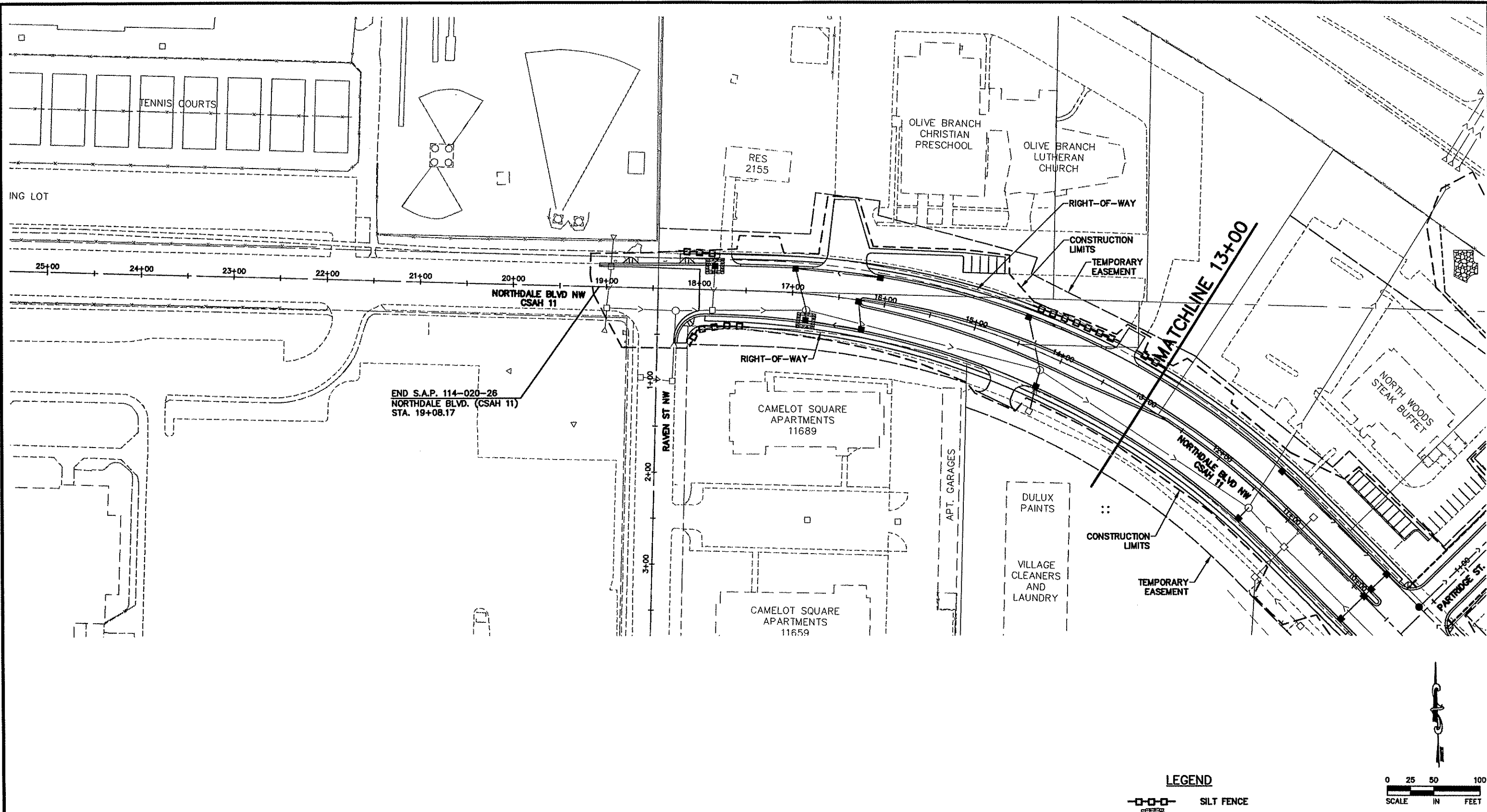
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
EROSION CONTROL PLAN**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
81
159

PLOT DATE: Apr 23 12:24pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-EC04.dwg



NORTHDALE BLVD.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

URS
 Thresher Square
 700 Third Street South
 Minneapolis, MN 55416
 612.378.0700 Tel
 612.378.1378 Fax

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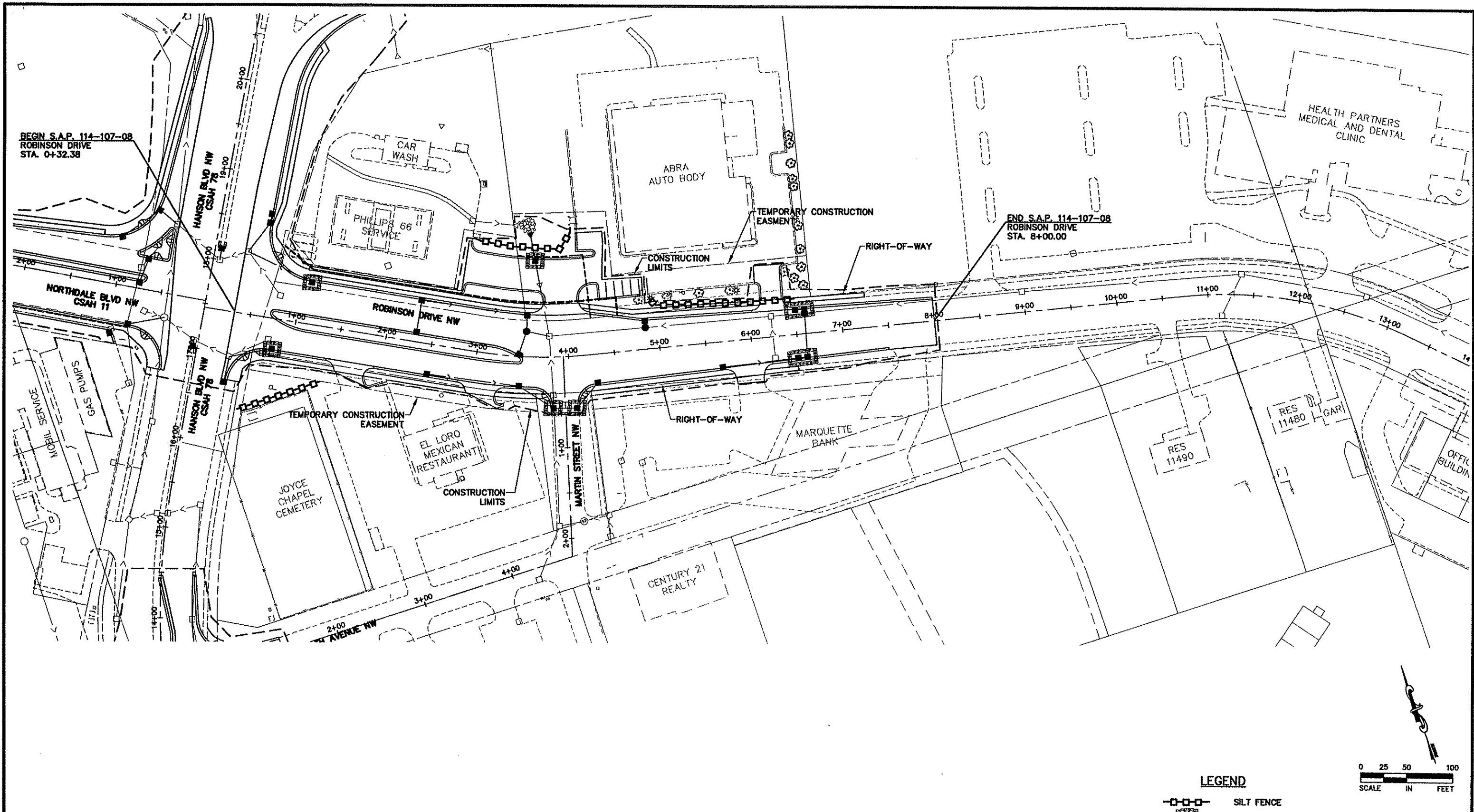
Paul B. Danielson
 PAUL B. DANIELSON
 DATE: 4/28/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
 (C.S.A.H. 11)
 NORTHDALE BOULEVARD
 EROSION CONTROL PLAN**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

2 OF 5
 SHEET NO. 82
 159

PLOT DATE: May 02 4:53pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-EC01.dwg



ROBINSON DRIVE W.

LEGEND

- SILT FENCE
- BALE CHECKS
- RIP RAP

SCALE IN FEET

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE:
1	JL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE	33889-043
				DRAWN BY: JRL
				DESIGN BY: ICP
				CHKD. BY: ICP
				DWG. NAME: 043-EC01
				DATE: APRIL 26, 2002



Thresher Square
700 3rd Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Paul B. Daniel
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

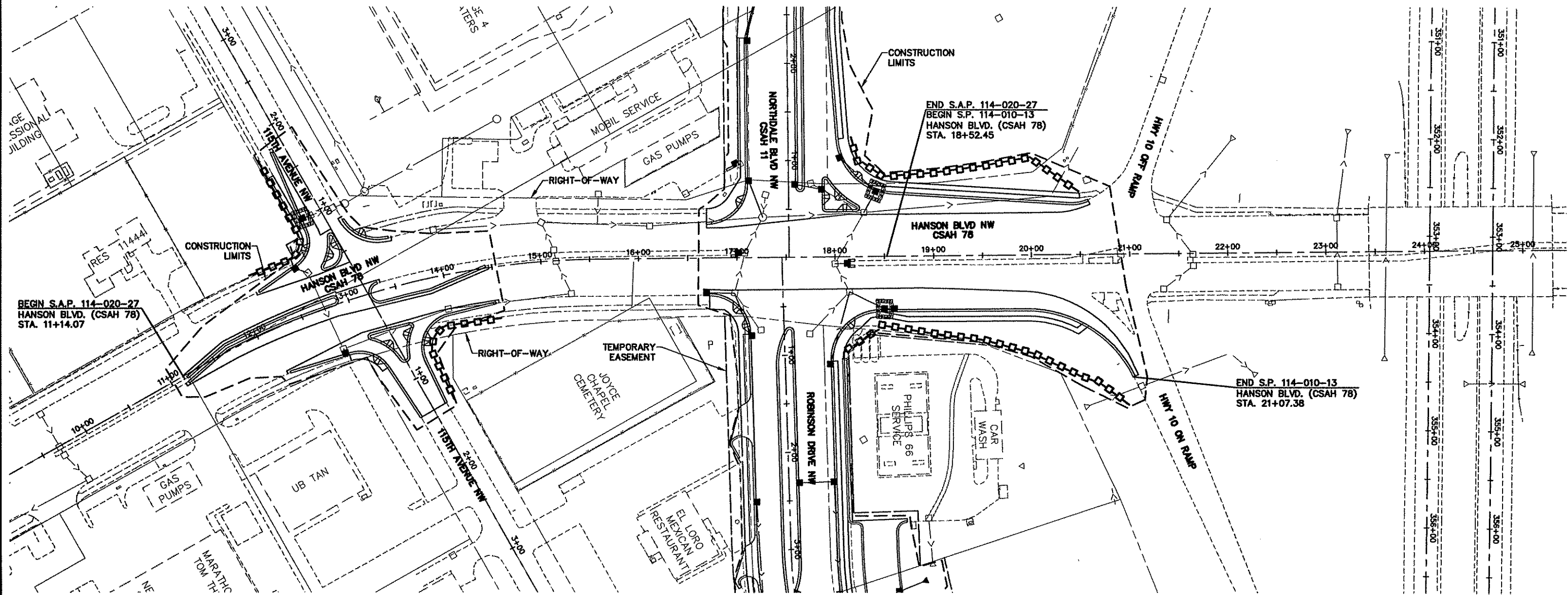
**NORTHDALE BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W.
EROSION CONTROL PLAN**

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 83
COUNTY PROJECT		S.A.P.	114-020-27	
		S.A.P.	114-107-08	

3 OF 5




159

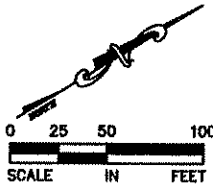
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HANSON BLVD.

LEGEND

-  SILT FENCE
-  BALE CHECKS
-  RIP RAP



4 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	
DRAWN BY: JRL	DESIGN BY: ICP
CHKD. BY: ICP	DWG. NAME: 043-EC02
DATE: APRIL 26, 2002	



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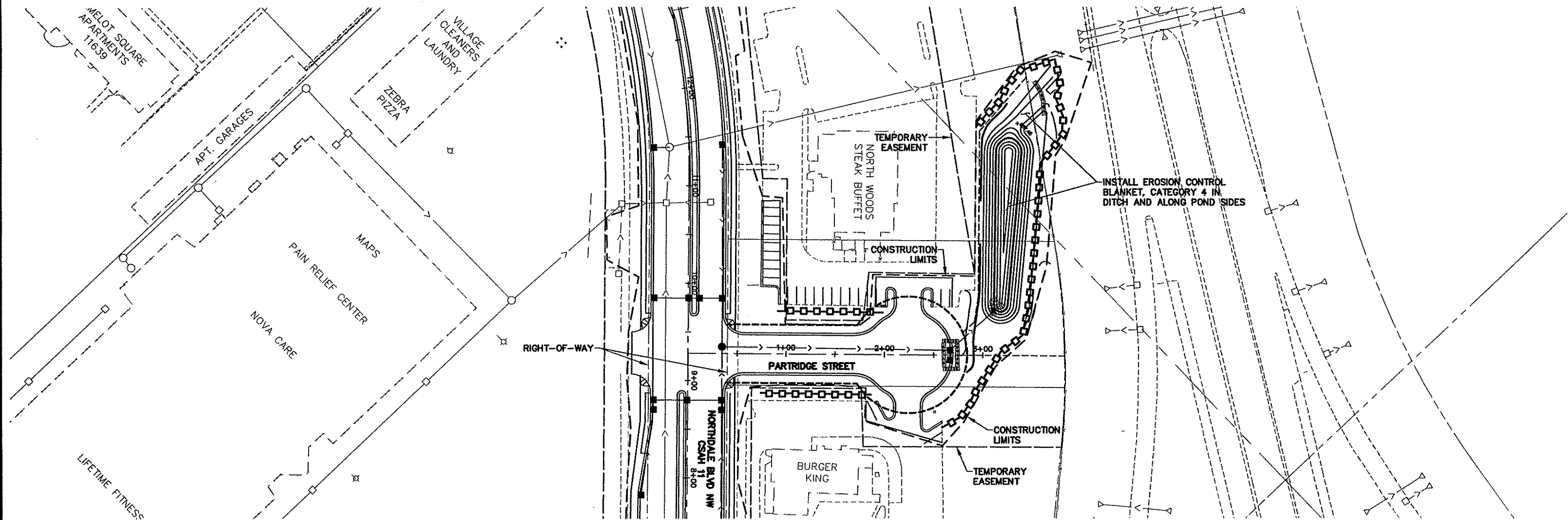
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDAL E BOULEVARD
(C.S.A.H. 11)
HANSON BOULEVARD
EROSION CONTROL PLAN**




CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

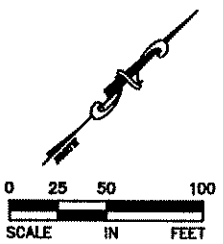
SHEET NO.
84
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PLOT DATE: Apr 26, 2002 12:24pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-EC05.dwg



LEGEND

-  SILT FENCE
-  BALE CHECKS
-  RIP RAP



PARTRIDGE STREET

5 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY:
JRL

CHKED. BY:
ICP

DATE:
APRIL 26, 2002

DESIGN BY:
ICP

DWG. NAME:
043-EC05



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700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.1376 Fax

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Paul B. Danielson

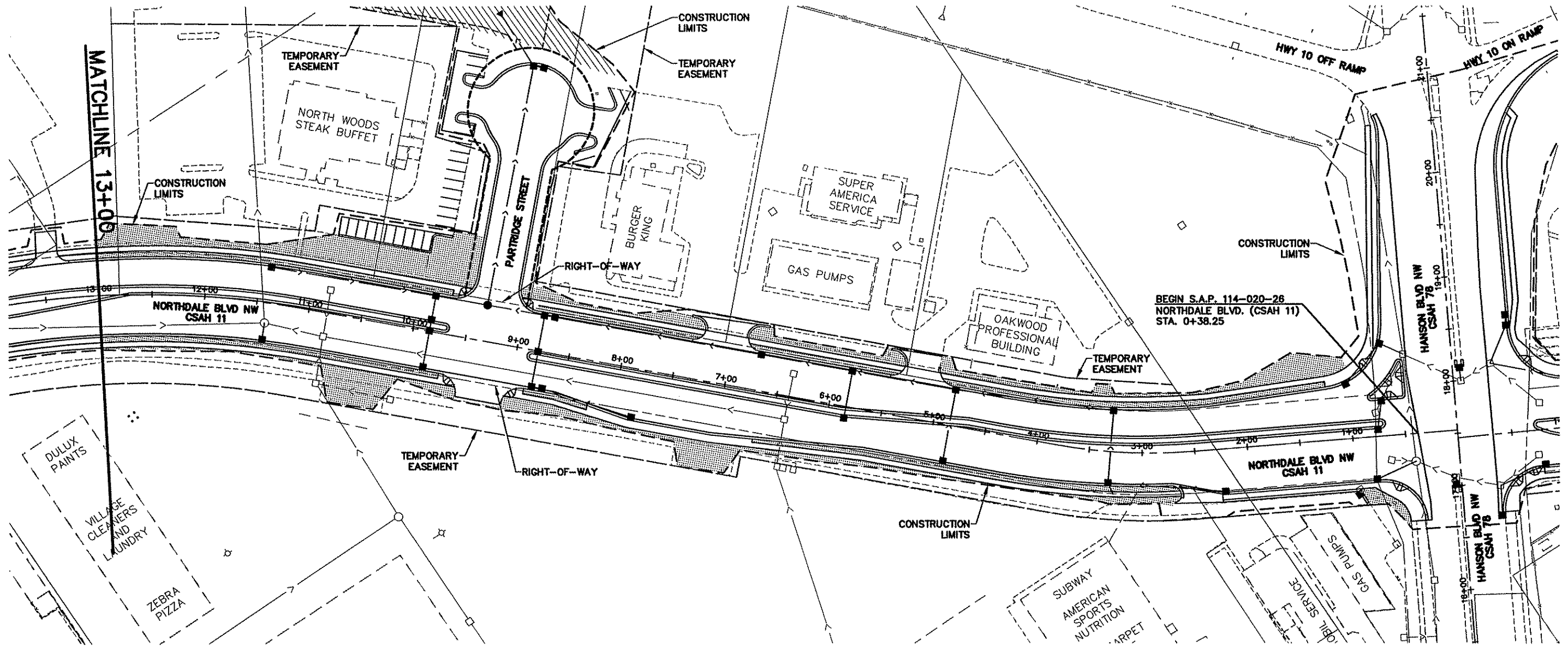
PAUL B. DANIELSON
DATE: 4/25/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
PARTRIDGE STREET
EROSION CONTROL PLAN**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

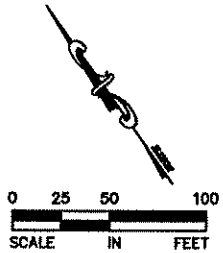
SHEET NO.
85
159

PLOT DATE: Apr 2, 2002 2:02pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TF03.dwg



TURF NOTES:

- 4" TOPSOIL AND SODDING
TYPE SALT RESISTANT
- 4" TOPSOIL AND SEED MIXTURE
TYPE 60B
- 4" TOPSOIL AND SEED MIXTURE
TYPE 28B



NORTHDALE BLVD.

1 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: JRL DESIGN BY: ICP

CHKD. BY: ICP DWG. NAME: 043-TF03

DATE:
APRIL 26, 2002



Thrasher Square
700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.1376 Fax

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

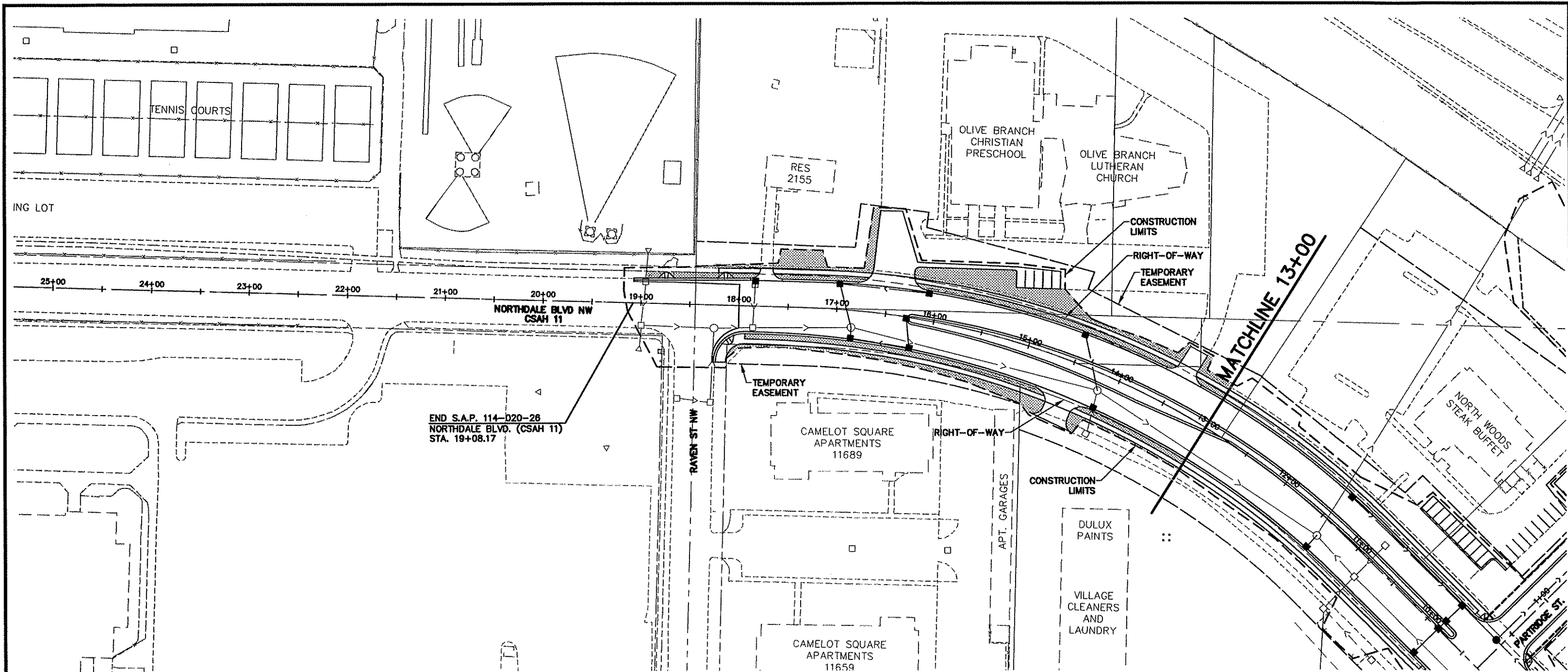
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
TURF ESTABLISHMENT**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
86
159

PLOT DATE: Apr 26, 2002 2:03pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TF04.dwg

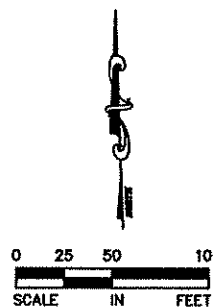


END S.A.P. 114-020-28
NORTHDALE BLVD. (CSAH 11)
STA. 19+08.17

MATCHLINE 13+00

TURF NOTES:

	4" TOPSOIL AND SODDING TYPE SALT RESISTANT
	4" TOPSOIL AND SEED MIXTURE TYPE 80B
	4" TOPSOIL AND SEED MIXTURE TYPE 28B



NORTHDALE BLVD.

2 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

URS

Thresher Square
700 Third Street South
Minneapolis, MN 55416
612.570.0700 Tel
612.570.1378 Fax

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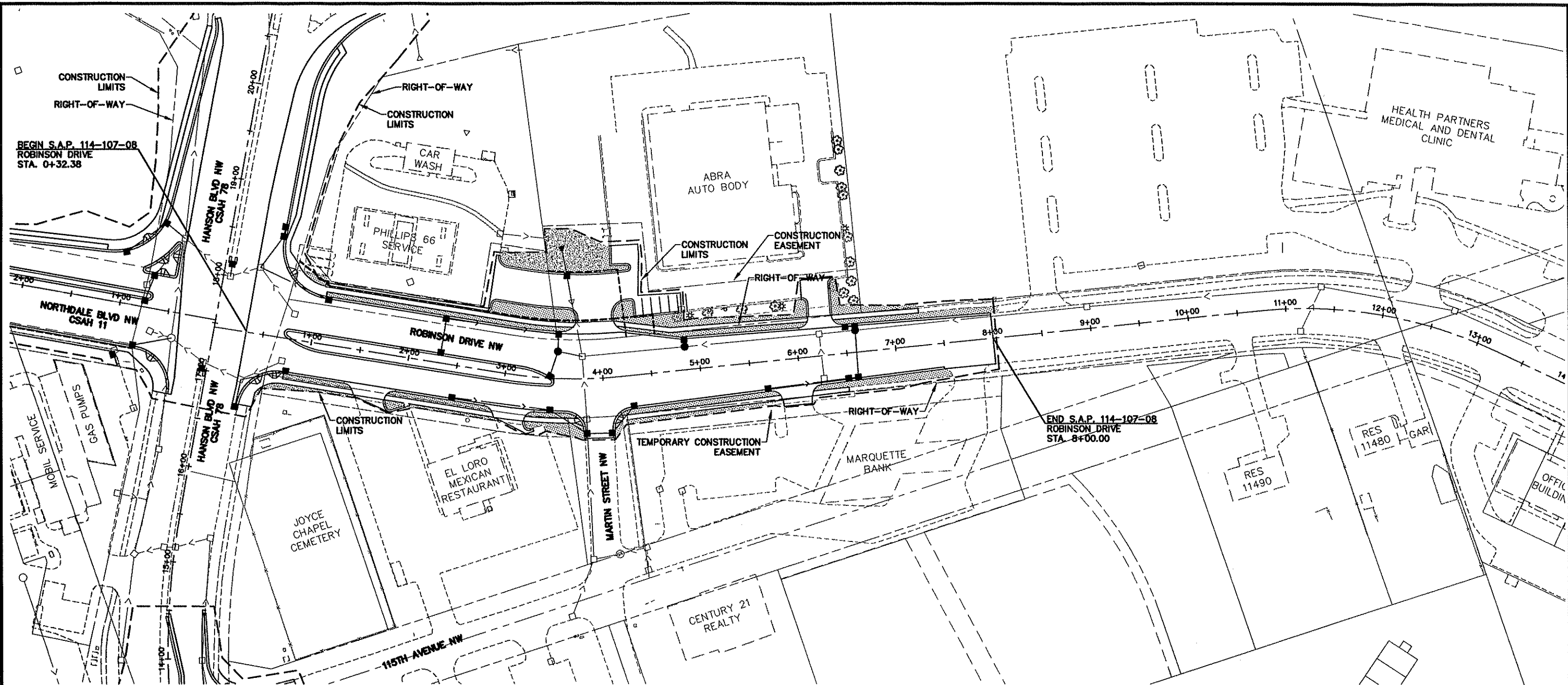
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
TURF ESTABLISHMENT**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

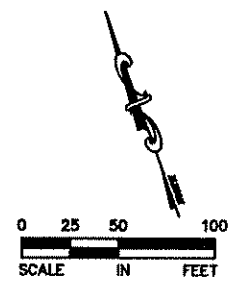
SHEET NO.
87
159

PLOT DATE: May .002 4:57pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TF01.dwg



TURF NOTES:

	4" TOPSOIL AND SODDING TYPE SALT RESISTANT
	4" TOPSOIL AND SEED MIXTURE TYPE 60B
	4" TOPSOIL AND SEED MIXTURE TYPE 28B



ROBINSON DRIVE W.

3 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	J.L.	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE: 33889-043	DRAWN BY: JRL	DESIGN BY: ICP
CHCKD. BY: ICP	DWG. NAME: 043-TF01	DATE: APRIL 26, 2002



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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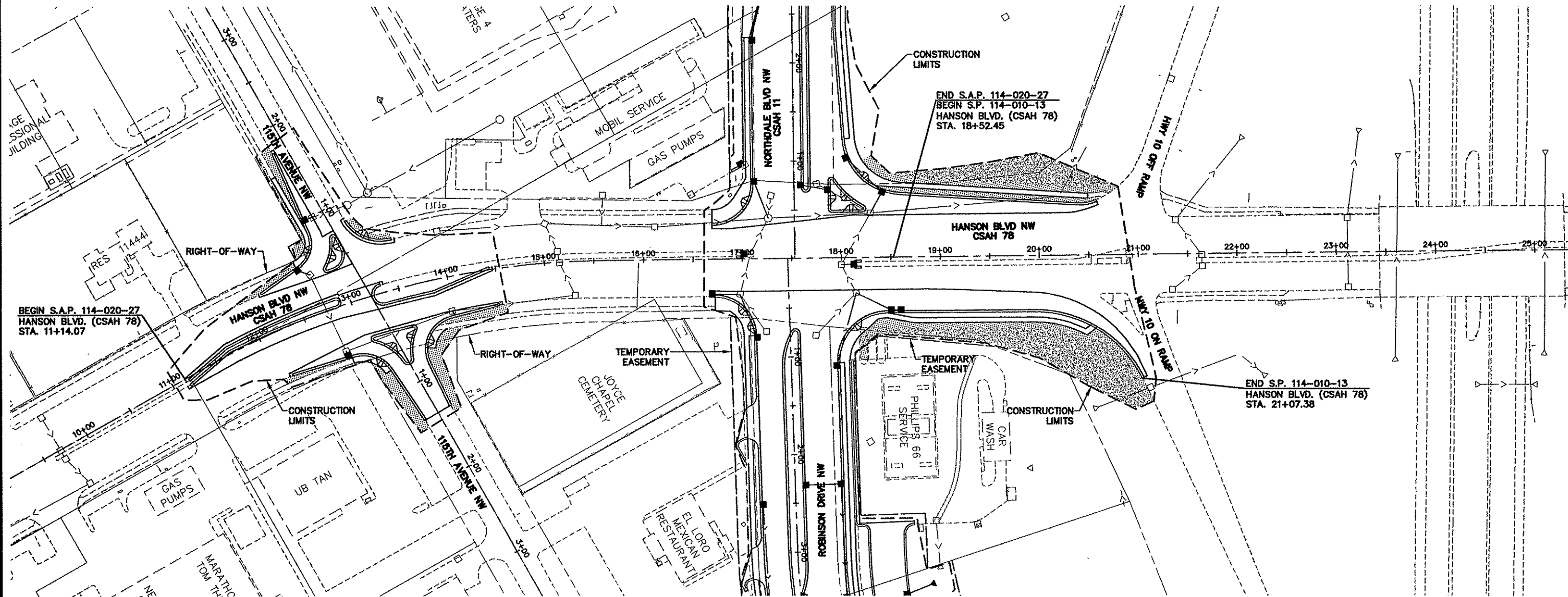
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W.
TURF ESTABLISHMENT**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

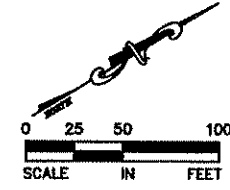
SHEET NO.
88
159

PLOT DATE: Apr 25, 2002 2:42pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TF02.dwg



TURF NOTES:

	4" TOPSOIL AND SODDING TYPE SALT RESISTANT
	4" TOPSOIL AND SEED MIXTURE TYPE 60B
	4" TOPSOIL AND SEED MIXTURE TYPE 26B



HANSON BLVD.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: JRL DESIGN BY: ICP

CHKD. BY: ICP DWG. NAME: 043-TF02

DATE: APRIL 26, 2002



Thrasher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
HANSON BOULEVARD
TURF ESTABLISHMENT**

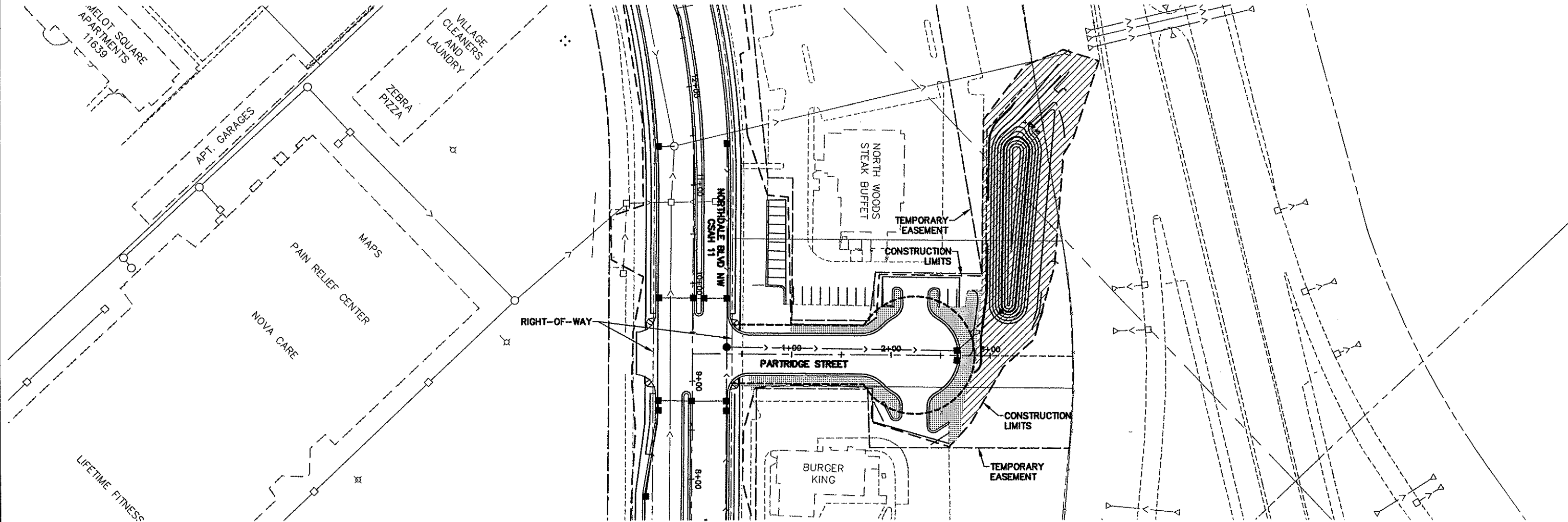
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

4 OF 5

SHEET NO.
89

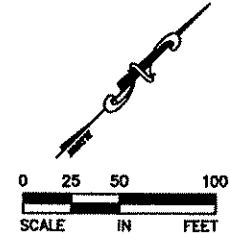
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PLOT DATE: Apr 2, 2002 2:03pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TF05.dwg



TURF NOTES:

	4" TOPSOIL AND SODDING TYPE SALT RESISTANT
	4" TOPSOIL AND SEED MIXTURE TYPE 60B
	4" TOPSOIL AND SEED MIXTURE TYPE 28B



PARTRIDGE STREET

5 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY:
JRL

DESIGN BY:
ICP

CHKD. BY:
ICP

DWG. NAME:
043-TF05

DATE:
APRIL 26, 2002



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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

Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)
CUL-DE-SAC
TURF ESTABLISHMENT

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
90
159

FURNISH AND INSTALL SIGN PANELS TYPE C																		
SIGN INFORMATION						LOCATION								PROJECT				NOTES
PANEL CODE (NO.)	SIZE (INCHES)	AREA (SF)	SIGN LEGEND	SIGN TYPE	POST TYPE	NORTHDALE BLVD		ROBINSON DRIVE		HANSON BLVD (STA 18+00 TO 11+00)		HANSON BLVD (STA 21+00 TO 18+00)		TOTAL		PANEL CODE (NO.)		
						QUANTITY	AREA (SF)	QUANTITY	AREA (SF)	QUANTITY	AREA (SF)	QUANTITY	AREA (SF)	QUANTITY	AREA (SF)			
M1-6	24x24	4.00	78 ANOKA COUNTY	D	U1	2.00	8.00	2.00	8.00	1.00	8.00	0.00	0.00	5.00	20.00	M1-6		
M1-6	24x24	4.00	11 ANOKA COUNTY	D	U1	3.00	12.00	2.00	8.00	0.00	4.00	0.00	0.00	6.00	24.00	M1-6		
M2-1A	21x15	2.20	JCT	D	U1	1.00	2.20	1.00	2.20	0.00	0.00	0.00	0.00	2.00	4.40	M2-1A		
M3-3A	24x12	2.00	SOUTH	D	U1	0.00	0.00	0.00	0.00	1.00	2.00	0.00	0.00	1.00	2.00	M3-3A		
M3-4A	24x12	2.00	WEST	D	U1	1.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2.00	M3-4A		
M6-1A	21x15	2.20	RIGHT (ARROW)	D	U1	1.00	2.20	0.00	0.00	0.00	0.00	0.00	0.00	2.00	4.40	M6-1A		
M6-4A	21x15	2.20	RIGHT - LEFT (ARROW)	D	U1	1.00	2.20	1.00	2.20	0.00	0.00	0.00	0.00	2.00	4.40	M6-1A		
M6-6AL	21x15	2.20	STRAIGHT - LEFT (ARROW)	D	U1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	4.40	M6-4A		
M6-6AR	21x15	2.20	STRAIGHT - RIGHT (ARROW)	D	U1	0.00	0.00	1.00	2.20	0.00	0.00	0.00	0.00	0.00	0.00	M6-6AL		
MTC BUS	18x18	2.25	BUS STOP			1.00	2.25	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2.20	M6-6AR		
R1-1	36x36	9.00	STOP	C	U1	1.00	9.00	3.00	27.00	2.00	18.00	0.00	0.00	6.00	54.00	R1-1	1,3	
R1-X2	36x12	3.00	CROSS TRAFFIC DOES NOT STOP	C	U1	0.00	0.00	3.00	9.00	0.00	0.00	0.00	0.00	3.00	9.00	R1-X2		
R2-1	24x30	5.00	35 MPH	C	U1	3.00	15.00	2.00	10.00	0.00	0.00	0.00	0.00	5.00	25.00	R2-1		
R3-2	24x24	4.00	NO LEFT TURN (SYMBOL)	C	U1	0.00	0.00	0.00	0.00	2.00	8.00	0.00	0.00	2.00	8.00	R3-2		
R3-30ABCA	66x30	13.75	LANE SIGN (L,L,THRU,R)	C	U2	3.00	41.25	0.00	0.00	0.00	0.00	0.00	0.00	3.00	41.25	R3-30ABCA		
R3-30AC	36x30	7.50	LANE SIGN (L,THRU)	C	U2	3.00	22.50	0.00	0.00	0.00	0.00	0.00	0.00	3.00	22.50	R3-30AC		
R3-30ACA	54x30	11.25	LANE SIGN (L,THRU,R)	C	U2	0.00	0.00	2.00	22.50	0.00	0.00	0.00	0.00	2.00	22.50	R3-30ACA		
R3-30ACCA	66x30	13.75	LANE SIGN (L,THRU,THRU,R)	C	U2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	R3-30ACCA		
R3-30ACD	48x30	10.00	LANE SIGN (L,THRU, R/THRU)	C	U2	6.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	60.00	R3-30ACD		
R3-30AD	36x30	7.50	LANE SIGN (L, R/THRU)	C	U2	1.00	7.50	0.00	0.00	0.00	0.00	0.00	0.00	1.00	7.50	R3-30AD		
R3-5R	30x36	7.50	RIGHT ONLY (SYMBOL)	C	U1	0.00	0.00	0.00	0.00	2.00	15.00	1.00	7.50	3.00	22.50	R3-5R		
R3-7	30x30	6.25	ALL TRAFFIC MUST TURN RIGHT	C	U1	0.00	0.00	0.00	0.00	2.00	12.50	0.00	0.00	2.00	12.50	R3-7		
R3-7L	30x30	6.25	LEFT LANE MUST TURN LEFT	C	U1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	R3-7L		
R3-X1	30x30	6.25	RIGHT TURN LANE	C	U1	1.00	6.25	1.00	6.25	0.00	0.00	0.00	0.00	2.00	12.50	R3-X1		
R3-X2	30x30	6.25	LEFT TURN LANE	C	U1	2.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	2.00	12.50	R3-X2		
R4-7	30x36	7.50	KEEP RIGHT	C	U1	4.00	30.00	2.00	15.00	5.00	37.50	1.00	7.50	12.00	90.00	R4-7		
R5-1	36x36	9.00	DO NOT ENTER	C	U1	3.00	9.00	2.00	6.00	4.00	12.00	0.00	0.00	9.00	27.00	R5-1		
R6-1R	36x12	3.00	ONE WAY	C	U1	6.00	54.00	3.00	27.00	0.00	0.00	0.00	0.00	9.00	81.00	R6-1R		
R8-3A	36x36	9.00	NO PARKING	C	U1	1.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	9.00	R8-3A		
S1-1	36x36	9.00	SCHOOL	C	U1	2.00	18.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	18.00	S1-1		
S2-1	36x36	9.00	CROSSWALK	C	U1	2.00	18.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	18.00	S2-1		
S2-P2	24x18	3.00	DOWN ARROW	C	U1	2.00	6.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	6.00	S2-P2		
W14-1	30x30	6.25	DEAD END	C	U1	1.00	6.25	0.00	0.00	0.00	0.00	0.00	0.00	1.00	6.25	W14-1		
W20-400P	24x18	3.00	400 FEET	C	U1	0.00	0.00	1.00	3.00	0.00	0.00	0.00	0.00	1.00	3.00	W20-400P		
W3-1A	36x36	9.00	STOP AHEAD	C	U1	0.00	0.00	0.00	0.00	2.00	18.00	0.00	0.00	2.00	18.00	W3-1A		
W3-3	36x36	9.00	SIGNAL AHEAD	C	U1	1.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	9.00	W3-3		
W6-3	36x36	9.00	TWO WAY TRAFFIC	C	U1	0.00	0.00	1.00	9.00	0.00	0.00	0.00	0.00	1.00	9.00	W6-3		
W4-2L	36x36	9.00	RIGHT LANE ENDS	C	U1	0.00	0.00	1.00	9.00	0.00	0.00	0.00	0.00	1.00	9.00	W4-2L		
W6-1	36x36	9.00	DIVIDED HIGHWAY	C	U1	1.00	9.00	2.00	18.00	0.00	0.00	0.00	0.00	3.00	27.00	W6-1		
W6-2	36x36	9.00	DIVIDED HIGHWAY ENDS	C	U1	1.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	9.00	W6-2		
W9-1R	36x36	9.00	RIGHT LANE ENDS	C	U1	0.00	0.00	1.00	9.00	0.00	0.00	0.00	0.00	1.00	9.00	W9-1R		
X4-2	18x18	2.25	OBJECT MARKER	C	U1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X4-2	2	
X4-4R	12x36	3.00	CLEARANCE MARKER	C	U1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X4-4R	2	
TOTAL						56.00	400.10	34.00	220.35	25.00	157.50	7.00	35.70	121.00	813.65			

- NOTES:
 [1] MTC WILL PROVIDE BUS STOP SIGN AND POST.
 [2] SEE DELINEATOR TAB FOR QUANTITIES
 [3] SPECIAL SIGN NOT FOUND IN SIGNAGE MANUAL

GENERAL NOTES:
 [A] SEE STANDARD SIGNS MANUAL FOR PUNCHING CODE AND DETAILED DRAWINGS OF TYPE C SIGN PANELS

DELINEATORS AND MARKERS																	
SIGN INFORMATION						LOCATION								PROJECT			
PANEL CODE (NO.)	SIZE (INCHES)	AREA (SF)	SIGN LEGEND	SIGN TYPE	POST TYPE	NORTHDALE BLVD		ROBINSON DRIVE		HANSON BLVD (STA 18+00 TO 11+00)		HANSON BLVD (STA 21+00 TO 18+00)		TOTAL		PANEL CODE (NO.)	
						QUANTITY	AREA (SF)	QUANTITY	AREA (SF)	QUANTITY	AREA (SF)	QUANTITY	AREA (SF)	QUANTITY	AREA (SF)		
X4-2	18x18	2.25	OBJECT MARKER	C	U1	4.00	9.00	2.00	4.50	8.00	18.00	2.00	4.50	16.00	36.00	X4-2	
X4-4R	12x36	3.00	CLEARANCE MARKER	C	U1	0.00	0.00	2.00	6.00	1.00	3.00	0.00	0.00	3.00	9.00	X4-4R	

PLOT DATE: 2002 4:54pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TB02.dwg

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REV. NO.	BY	DATE	REVISIONS DESCRIPTION											
1	JL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE											

NORTHDALE BOULEVARD (C.S.A.H.11) RECONSTRUCTION
 SAP (NORTHDALE- 114-020-26) , (ROBINSON- 114-107-08) , (HANSON-SAP 114-020-27 --- SP 114-010-13)
 CITY PROJECT NO. 2001-47

FURNISH AND INSTALL SIGN PANELS TYPE C

SIGN INFORMATION						LOCATION								PROJECT		NOTES	
PANEL CODE (NO.)	SIZE (INCHES)	AREA (SF)	SIGN LEGEND	SIGN TYPE	POST TYPE	NORTHDALE BLVD		ROBINSON DRIVE		HANSON BLVD (STA 18+00 TO 11+00)		HANSON BLVD (STA 21+00 TO 18+00)		TOTAL			PANEL CODE (NO.)
						QUANTITY	AREA (SF)	QUANTITY	AREA (SF)	QUANTITY	AREA (SF)	QUANTITY	AREA (SF)	QUANTITY	AREA (SF)		
M1-6	24x24	4.00	78 ANOKA COUNTY	D	U1	2.00	8.00	2.00	8.00	1.00	4.00	0.00	0.00	5.00	20.00	M1-6	
M1-6	24x24	4.00	11 ANOKA COUNTY	D	U1	3.00	12.00	2.00	8.00	0.00	0.00	1.00	4.00	6.00	24.00	M1-6	
M2-1A	21x15	2.20	JCT	D	U1	1.00	2.20	1.00	2.20	0.00	0.00	0.00	0.00	2.00	4.40	M2-1A	
M3-3A	24x12	2.00	SOUTH	D	U1	0.00	0.00	0.00	0.00	1.00	2.00	0.00	0.00	1.00	2.00	M3-3A	
M3-4A	24x12	2.00	WEST	D	U1	1.00	2.00	0.00	0.00	0.00	0.00	1.00	2.00	2.00	4.00	M3-4A	
M6-1A	21x15	2.20	RIGHT (ARROW)	D	U1	1.00	2.20	0.00	0.00	0.00	0.00	1.00	2.20	2.00	4.40	M6-1A	
M6-4A	21x15	2.20	RIGHT - LEFT (ARROW)	D	U1	1.00	2.20	1.00	2.20	0.00	0.00	0.00	0.00	2.00	4.40	M6-4A	
M6-6AL	21x15	2.20	STRIAGHT- LEFT (ARROW)	D	U1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M6-6AL	
M6-6AR	21x15	2.20	STRAIGHT - RIGHT (ARROW)	D	U1	0.00	0.00	1.00	2.20	0.00	0.00	0.00	0.00	1.00	2.20	M6-6AR	
MTC BUS	18x18	2.25	BUS STOP			1.00	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25	MTC BUS	1,4
R1-1	36x36	9.00	STOP	C	U1	1.00	9.00	2.00	18.00	2.00	18.00	0.00	0.00	5.00	45.00	R1-1	
R1-X2	36x12	3.00	CROSS TRAFFIC DOES NOT STOP	C	U1	0.00	0.00	2.00	6.00	0.00	0.00	0.00	0.00	2.00	6.00	R1-X2	
R2-1	24x30	5.00	35 MPH	C	U1	3.00	15.00	2.00	10.00	0.00	0.00	0.00	0.00	5.00	25.00	R2-1	
R3-2	24x24	4.00	NO LEFT TURN (SYMBOL)	C	U1	0.00	0.00	0.00	0.00	2.00	8.00	0.00	0.00	2.00	8.00	R3-2	
R3-30ABCA	66x30	13.75	LANE SIGN (L,L,THRU,R)	C	U2	3.00	41.25	0.00	0.00	0.00	0.00	0.00	0.00	3.00	41.25	R3-30ABCA	
R3-30AC	36x30	7.50	LANE SIGN (L,THRU)	C	U2	3.00	22.50	0.00	0.00	0.00	0.00	0.00	0.00	3.00	22.50	R3-30AC	
R3-30ACA	54x30	11.25	LANE SIGN (L,THRU,R)	C	U2	0.00	0.00	2.00	22.50	0.00	0.00	0.00	0.00	2.00	22.50	R3-30ACA	
R3-30ACCA	66x30	13.75	LANE SIGN (L,THRU,THRU,R)	C	U2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	R3-30ACCA	
R3-30ACD	48x30	10.00	LANE SIGN (L,THRU, R/THRU)	C	U2	6.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	60.00	R3-30ACD	
R3-30AD	36x30	7.50	LANE SIGN (L, R/THRU)	C	U2	1.00	7.50	0.00	0.00	0.00	0.00	0.00	0.00	1.00	7.50	R3-30AD	
R3-5R	30x36	7.50	RIGHT ONLY (SYMBOL)	C	U1	0.00	0.00	0.00	0.00	2.00	15.00	1.00	7.50	3.00	22.50	R3-5R	
R3-7	30x30	6.25	ALL TRAFFIC MUST TURN RIGHT	C	U1	0.00	0.00	0.00	0.00	2.00	12.50	0.00	0.00	2.00	12.50	R3-7	
R3-7L	30x30	6.25	LEFT LANE MUST TURN LEFT	C	U1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	R3-7L	
R3-X1	30x30	6.25	RIGHT TURN LANE	C	U1	1.00	6.25	1.00	6.25	0.00	0.00	2.00	12.50	4.00	25.00	R3-X1	
R3-X2	30x30	6.25	LEFT TURN LANE	C	U1	2.00	12.50	0.00	0.00	2.00	12.50	0.00	0.00	4.00	25.00	R3-X2	
R4-7	30x36	7.50	KEEP RIGHT	C	U1	4.00	30.00	2.00	15.00	5.00	37.50	1.00	7.50	12.00	90.00	R4-7	
R5-1	36x36	9.00	DO NOT ENTER	C	U1	4.00	36.00	3.00	27.00	2.00	18.00	0.00	0.00	9.00	81.00	R5-1	
R6-1R	36x12	3.00	ONE WAY	C	U1	3.00	9.00	2.00	6.00	6.00	18.00	0.00	0.00	11.00	33.00	R6-1R	
R8-3A	36x36	9.00	NO PARKING	C	U1	6.00	54.00	3.00	27.00	0.00	0.00	0.00	0.00	9.00	81.00	R8-3A	
S1-1	36x36	9.00	SCHOOL	C	U1	1.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	9.00	S1-1	
S2-1	36x36	9.00	CROSSWALK	C	U1	2.00	18.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	18.00	S2-1	
S2-P2	24x18	3.00	DOWN ARROW	C	U1	2.00	6.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	6.00	S2-P2	
W14-1	30x30	6.25	DEAD END	C	U1	1.00	6.25	0.00	0.00	0.00	0.00	0.00	0.00	1.00	6.25	W14-1	
W20-400P	24x18	3.00	400 FEET	C	U1	0.00	0.00	1.00	3.00	0.00	0.00	0.00	0.00	1.00	3.00	W20-400P	
W3-1A	36x36	9.00	STOP AHEAD	C	U1	0.00	0.00	0.00	0.00	2.00	18.00	0.00	0.00	2.00	18.00	W3-1A	
W3-3	36x36	9.00	SIGNAL AHEAD	C	U1	1.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	9.00	W3-3	
W6-3	36x36	9.00	TWO WAY TRAFFIC	C	U1	0.00	0.00	1.00	9.00	0.00	0.00	0.00	0.00	1.00	9.00	W6-3	
W4-2L	36x36	9.00	RIGHT LANE ENDS	C	U1	0.00	0.00	1.00	9.00	0.00	0.00	0.00	0.00	1.00	9.00	W4-2L	
W6-1	36x36	9.00	DIVIDED HIGHWAY	C	U1	1.00	9.00	2.00	18.00	0.00	0.00	0.00	0.00	3.00	27.00	W6-1	
W6-2	36x36	9.00	DIVIDED HIGHWAY ENDS	C	U1	1.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	9.00	W6-2	
W9-1R	36x36	9.00	RIGHT LANE ENDS	C	U1	0.00	0.00	1.00	9.00	0.00	0.00	0.00	0.00	1.00	9.00	W9-1R	
X4-2	18x18	2.25	OBJECT MARKER	C	U1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X4-2	2
X4-4R	12x36	3.00	CLEARANCE MARKER	C	U1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	X4-4R	2
TOTAL						56.00	400.10	32.00	208.35	27.00	163.50	7.00	35.70	121.00	807.65		

NOTES:

DELINEATORS AND MARKERS																
SIGN INFORMATION						LOCATION								PROJECT		
PANEL CODE (NO.)	SIZE (INCHES)	AREA (SF)	SIGN LEGEND	SIGN TYPE	POST TYPE	NORTHDALE BLVD		ROBINSON DRIVE		HANSON BLVD (STA 18+00 TO 11+00)		HANSON BLVD (STA 21+00 TO 18+00)		TOTAL		PANEL CODE (NO.)
						QUANTITY	AREA (SF)	QUANTITY	AREA (SF)	QUANTITY	AREA (SF)	QUANTITY	AREA (SF)	QUANTITY	AREA (SF)	
X4-2	18x18	2.25	OBJECT MARKER	C	U1	4.00	9.00	2.00	4.50	8.00	18.00	2.00	4.50	16.00	36.00	X4-2
X4-4R	12x36	3.00	CLEARANCE MARKER	C	U1	0.00	0.00	2.00	6.00	1.00	3.00	0.00	0.00	3.00	9.00	X4-4R

PLOT DATE: APR 2002 11:30am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TB02.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	DRAWN BY: JRL	DESIGN BY: ICP
CHECKED BY: ICP	DWG. NAME: 043-TB02	
DATE: APRIL 26, 2002		



Thresher Square
700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.1378 Fax

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

Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)**

SIGNING AND STRIPING PLANS
SIGN TABULATIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

PLOT DATE: Apr 02 11:30am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TB03.dwg

PAVEMENT MARKINGS											
ALIGNMENT	PAINT										
	PAVEMENT MESSAGE LT. ARROW EA	PAVEMENT MESSAGE RT. ARROW EA	PAVEMENT MESSAGE RT. - THRU EA	24" SOLID STOP LINE WHITE LF	ZEBRA CROSSWALK WHITE SF	4" SOLID LINE WHITE (LF)	4" BROKEN LINE WHITE (LF)	8" BROKEN SKIP STRIPE (DOTTED) WHITE (LF)	4" SOLID LINE YELLOW (LF)	4" SOLID DOUBLE LINE YELLOW (LF)	24" SOLID LINE YELLOW (LF)
Northdale Blvd.	10	2	2	202	1080	5874	520	72	2982	540	34
Hanson Blvd. 9+00 to 17+00	0	0	0	46	306	79	0	0	0	0	0
Hanson Blvd. 18+10 to 21+00	0	0	0	0	0	0	0	0	0	0	0
Robinson Drive	2	2	0	77	486	557	180	0	565	542	105
Total Paint Quantities	12	4	2	325	1872	6510	700	72	3547	1082	139

PAVEMENT MARKINGS															
ALIGNMENT	POLY PREFORM					EPOXY									
	PAVEMENT MESSAGE LT. ARROW EA	PAVEMENT MESSAGE RT. ARROW EA	PAVEMENT MESSAGE RT. - THRU EA	24" SOLID STOP LINE WHITE LF	ZEBRA CROSSWALK WHITE SF	4" SOLID LINE WHITE (LF)	4" BROKEN LINE WHITE (LF)	8" BROKEN SKIP STRIPE (DOTTED) WHITE (LF)	4" SOLID LINE YELLOW (LF)	4" SOLID DOUBLE LINE YELLOW (LF)	24" SOLID LINE YELLOW (LF)	PAVEMENT MESSAGE LT. ARROW EA	PAVEMENT MESSAGE RT. ARROW EA	24" SOLID STOP LINE WHITE LF	ZEBRA CROSSWALK WHITE SF
Northdale Blvd.	10	2	2	262	1404	5912	520	72	3164	540	102	1	1	28	0
Hanson Blvd. 9+00 to 17+00	1	4	0	46	486	1146	0	0	511	370	23	0	0	0	0
Hanson Blvd. 18+10 to 21+00	0	4	0	0	126	1027	0	45	0	0	0	0	0	49	324
Robinson Drive	2	2	0	77	486	557	180	0	565	542	105	0	0	0	0
Total Epoxy And Poly Preform Quantities	13	12	2	385	2502	8642	700	117	4240	1452	230	1	1	77	324

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043
DRAWN BY: JRL
DESIGN BY: ICP
CHKD. BY: ICP
DWG. NAME: 043-TB03
DATE: APRIL 26, 2002



Threeher Square
700 Third Street South
Minneapolis, MN 55415
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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALÉ BOULEVARD
(C.S.A.H. 11)**
SIGNING AND STRIPING PLANS
PAVEMENT MARKINGS TABULATION

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
92
159

PLOT DATE: Apr 2, 2002 11:30am DISK FILE NAME: (15.05) R:\338889\338889043\PLAN-SHT\043-SP06.dwg

NOTES & GUIDELINES

GENERAL INFORMATION:

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

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

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

EPOXY:

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

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

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

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES F[^] OR GREATER.

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

PAINT:

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

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

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

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

POLY PREFORM INLAY APPLICATION:

MAT TEMPERATURE SHALL BE CHECKED USING A THERMOMETER TO MAKE SURE THE INLAY IS BEING DONE IN THE PROPER TEMPERATURE RANGE. THE TEMPERATURE SHOULD MEASURE BETWEEN 150° F (ASPHALT FIRM ENOUGH TO WALK ON) AND 120° F. APPLICATION BELOW 120° F MAY NOT GET A PROPER INLAY. INLAYS ARE NOT RECOMMENDED AFTER SEPTEMBER 15th AS THE ASPHALT COOLS TOO FAST AT THIS TIME OF THE YEAR.

NO PRIMERS ARE USED FOR INLAY APPLICATION. DO NOT INSTALL LANE LINES ON AN ASPHALT SEAM. ROLLING OF ALL THE MARKINGS SHOULD BE LENGTHWISE IN THE DIRECTION THEY WERE LAID. FOR CROSSWALKS AND STOP BARS, INITIAL TAMPING WITH THE TAMPING CART IS RECOMMENDED USING ONLY 100 LBS. OF WEIGHT.

USE COMPACTION ROLLER TO EMBED (INLAY) MARKINGS INTO PAVEMENT SURFACE. USE MINIMUM SPEED AND WATER ON ROLLER. DO NOT USE VIBRATOR. IF MARKING BUCKLES OR DISTORTS SEVERELY IN FRONT OF ROLLER, MAT TEMPERATURE OR ROLLER SPEED MAY BE TOO HIGH.

POLY PREFORM OVERLAY APPLICATION (ONLY IF SPECIFIED OR AUTHORIZED BY THE ENGINEER):

TEMPERATURE REQUIREMENTS

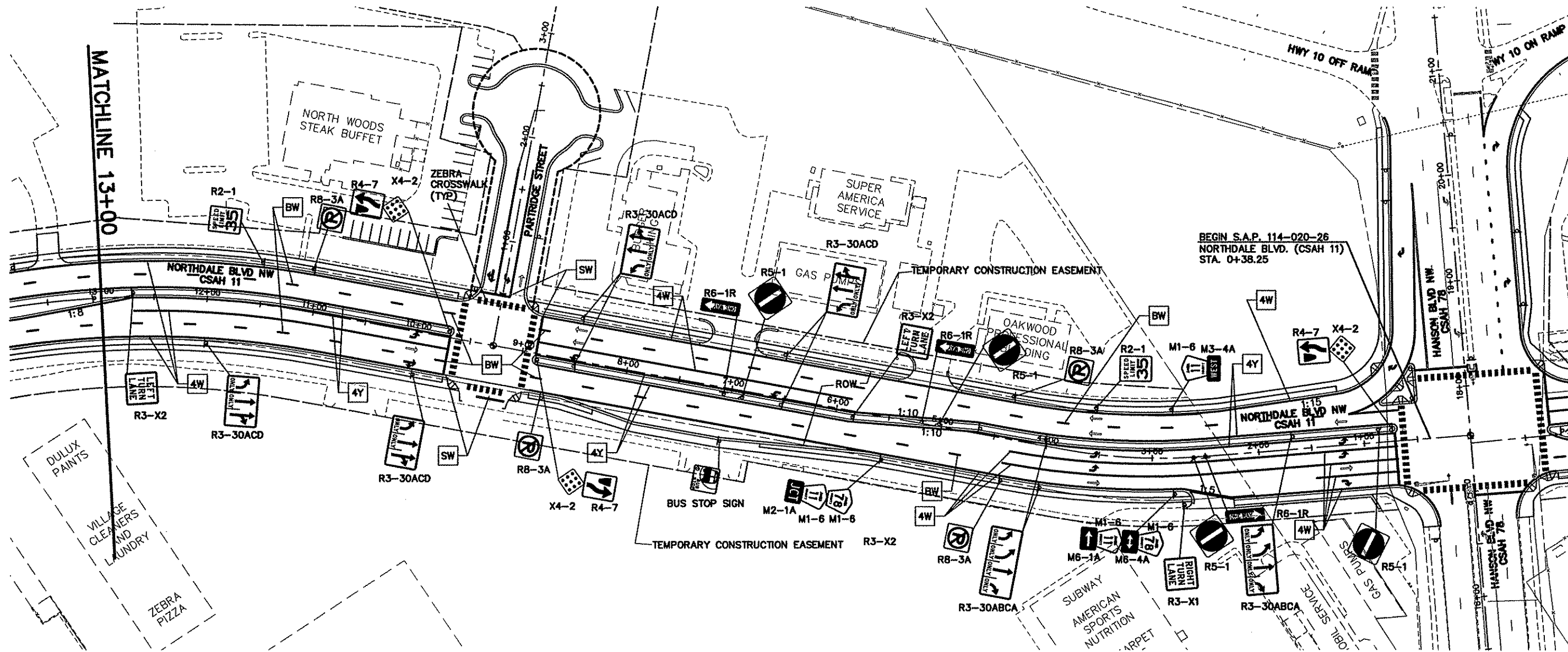
- . MINIMUM AIR TEMPERATURE 60° F (16°C) AND RISING
- . MINIMUM PAVEMENT TEMPERATURE 70° F (21°C) AND RISING
- . MINIMUM OVERNIGHT TEMPERATURE 60° F (16°C) AND RISING
- . NO OVERLAY APPLICATIONS AFTER SEPTEMBER 1.

SURFACE PREPARATION

- A. NEW CONCRETE (LESS THAN 3 MONTHS OLD)
 1. REMOVE CURING COMPOUND BY SANDBLASTING, HYDROBLASTING OR SHOT BLASTING WHERE TAPE IS TO BE APPLIED (HYDROBLASTING LEAVES SURFACE WET, TIME SHALL BE ALLOWED FOR PAVEMENT TO DRY)
 2. SWEEP OR BLOW THE BLASTED AREAS
 3. APPLY REQUIRED PRIMER
- B. ASPHALT- LESS THAN 11 DAYS OLD
 1. ALL - SWEEP OR BLOW CLEAN
 2. 0 - 3 DAYS OLD - NO PRIMER
 3. 4 - 10 DAYS OLD - STAMARKTM SP44 ONLY
 4. 11+ DAYS - STAMARKTM E44 OR SP44 DEPENDING ON APPLICATION. SEE MANUFACTURERS SPECIFICATION
- C. OLD CONCRETE
 1. SWEEP OR BLOW CLEAN
 2. APPLY REQUIRED PRIMER
- D. OLD MARKINGS
 1. DO NOT APPLY OVER PAINT, EPOXY, OR THERMOPLASTIC UNLESS WELL WORN AND WELL ADHERED TO THE ROAD. OLD MARKINGS MUST BE AT LEAST 75%-80% WORN AWAY.
 2. GRIND OR SANDBLAST OLD MARKINGS AND SWEEP OR BLOW SURFACE CLEAN
 3. APPLY REQUIRED PRIMER
- E. WORN STAMARKTM MARKINGS
 1. OK TO APPLY NEW MATERIAL OVER WORN STAMARKTM. REMOVE ALL LOOSE MATERIAL WITH SCRAPER OR KNIFE.
 2. SWEEP OR BLOW SURFACE CLEAN
 3. APPLY REQUIRED PRIMER

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 93 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

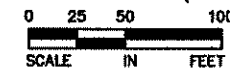
PLOT DATE: Apr 2, 2002 11:30am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-SP03.dwg



NORTHDALE BLVD.

PERMANENT SIGNING/STRIPING LEGEND	
BW	4" WHITE BROKEN LINE
WS	8" WHITE SKIP STRIPE LINE (3' LONG - 12' SPACING)
4W	4" WHITE SOLID LINE
BY	4" YELLOW BROKEN LINE
4Y	4" YELLOW SOLID LINE
DY	4" YELLOW SOLID DOUBLE LINE
SW	24" WHITE STOP LINE
■	PEDESTRIAN CROSSWALK
↔	PAVEMENT MESSAGES
→	TRAFFIC FLOW

1. THE ANGLED STRIPING SHALL CONSIST OF 24-INCH SOLID YELLOW MARKINGS PLACED AT AN ANGLE OF 45-DEGREES AND SPACED AT 20-FOOT ON CENTER, ALL PLACED WITHIN THE 4-INCH DOUBLE SOLID YELLOW MARKING.



4 OF 12

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043
DRAWN BY:
JAA
DESIGN BY:
JJS
CHKD. BY:
ICP
DWG. NAME:
043-SP03
DATE:
APRIL 26, 2002



Thresher Square
700 Third Street South
Minneapolis, MN 55415
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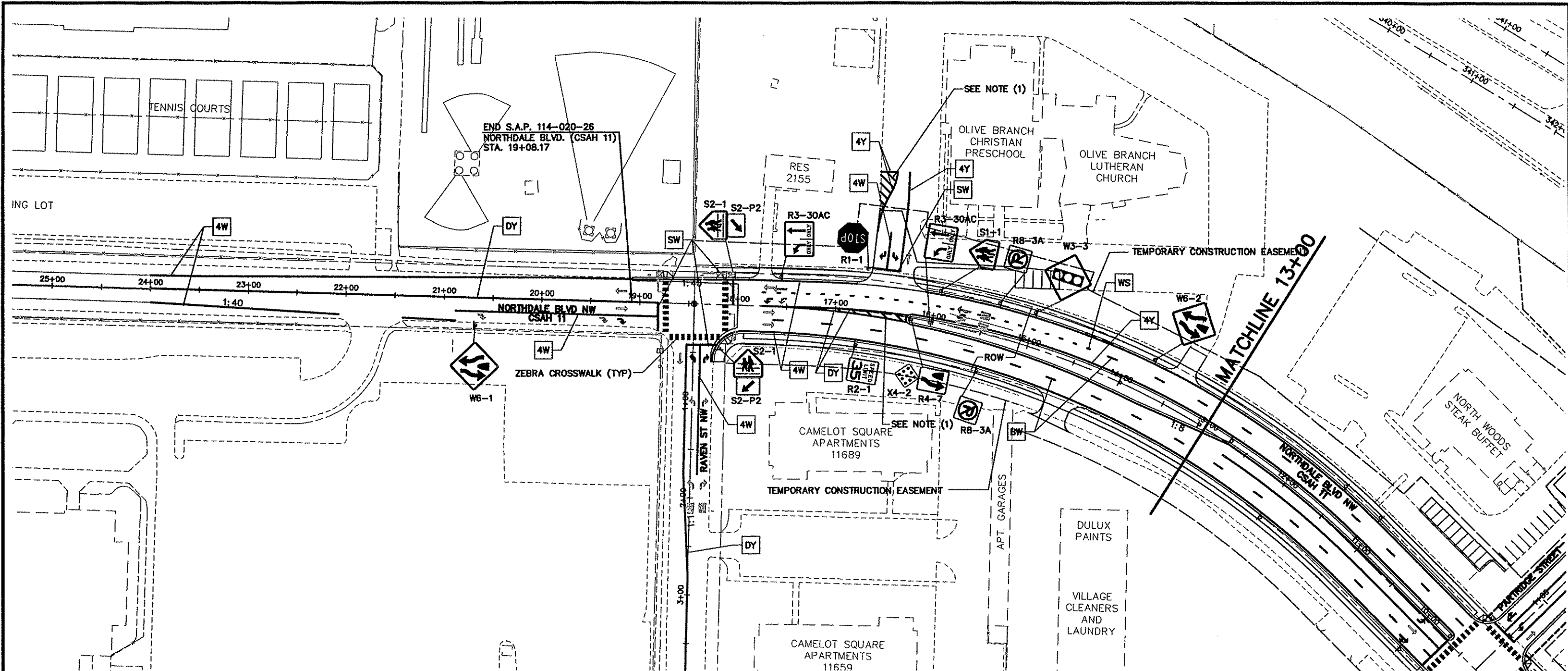
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
SIGNING & STRIPING PLAN**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
94
159

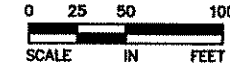
PLOT DATE: Apr 26, 2002 11:30am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-SP04.dwg



NORTHDALE BLVD.

PERMANENT SIGNING/STRIPING LEGEND	
BW	4" WHITE BROKEN LINE
WS	8" WHITE SKIP STRIPE LINE (3' LONG - 12' SPACING)
4W	4" WHITE SOLID LINE
BY	4" YELLOW BROKEN LINE
4Y	4" YELLOW SOLID LINE
DY	4" YELLOW SOLID DOUBLE LINE
SW	24" WHITE STOP LINE
	PEDESTRIAN CROSSWALK
	PAVEMENT MESSAGES
	TRAFFIC FLOW

1. THE ANGLED STRIPING SHALL CONSIST OF 24-INCH SOLID YELLOW MARKINGS PLACED AT AN ANGLE OF 45-DEGREES AND SPACED AT 20-FEET ON CENTER, ALL PLACED WITHIN THE 4-INCH DOUBLE SOLID YELLOW MARKING.



5 OF 12

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

URS

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Minneapolis, MN 55416
612.370.0700 Tel
612.370.1378 Fax

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

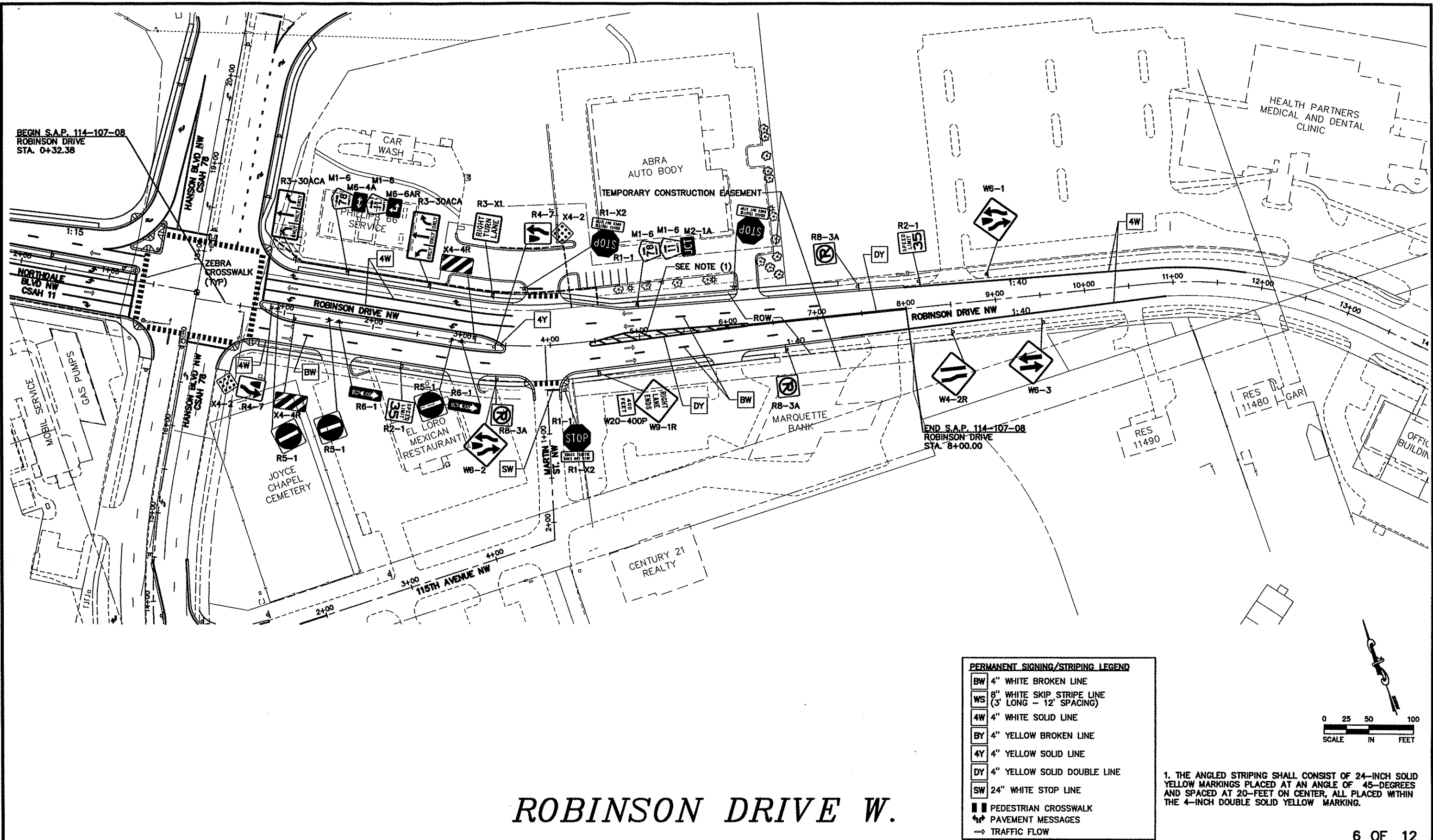
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
SIGNING & STRIPING PLAN**

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 95
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

159

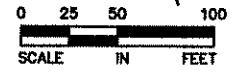
PLOT DATE: May 02 4:54pm DISK FILE NAME: (15.05) R:\33889\33889\043\PLAN-SHT\043-SP01.dwg



ROBINSON DRIVE W.

PERMANENT SIGNING/STRIPING LEGEND	
BW	4" WHITE BROKEN LINE
WS	8" WHITE SKIP STRIPE LINE (3' LONG - 12' SPACING)
4W	4" WHITE SOLID LINE
BY	4" YELLOW BROKEN LINE
4Y	4" YELLOW SOLID LINE
DY	4" YELLOW SOLID DOUBLE LINE
SW	24" WHITE STOP LINE
■	PEDESTRIAN CROSSWALK
↔	PAVEMENT MESSAGES
→	TRAFFIC FLOW

1. THE ANGLED STRIPING SHALL CONSIST OF 24-INCH SOLID YELLOW MARKINGS PLACED AT AN ANGLE OF 45-DEGREES AND SPACED AT 20-FEET ON CENTER, ALL PLACED WITHIN THE 4-INCH DOUBLE SOLID YELLOW MARKING.



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JAA	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE: 33889-043	DRAWN BY: JAA	DESIGN BY: JJS
CHKD. BY: ICP	DWG. NAME: 043-SP01	
DATE: APRIL 26, 2002		



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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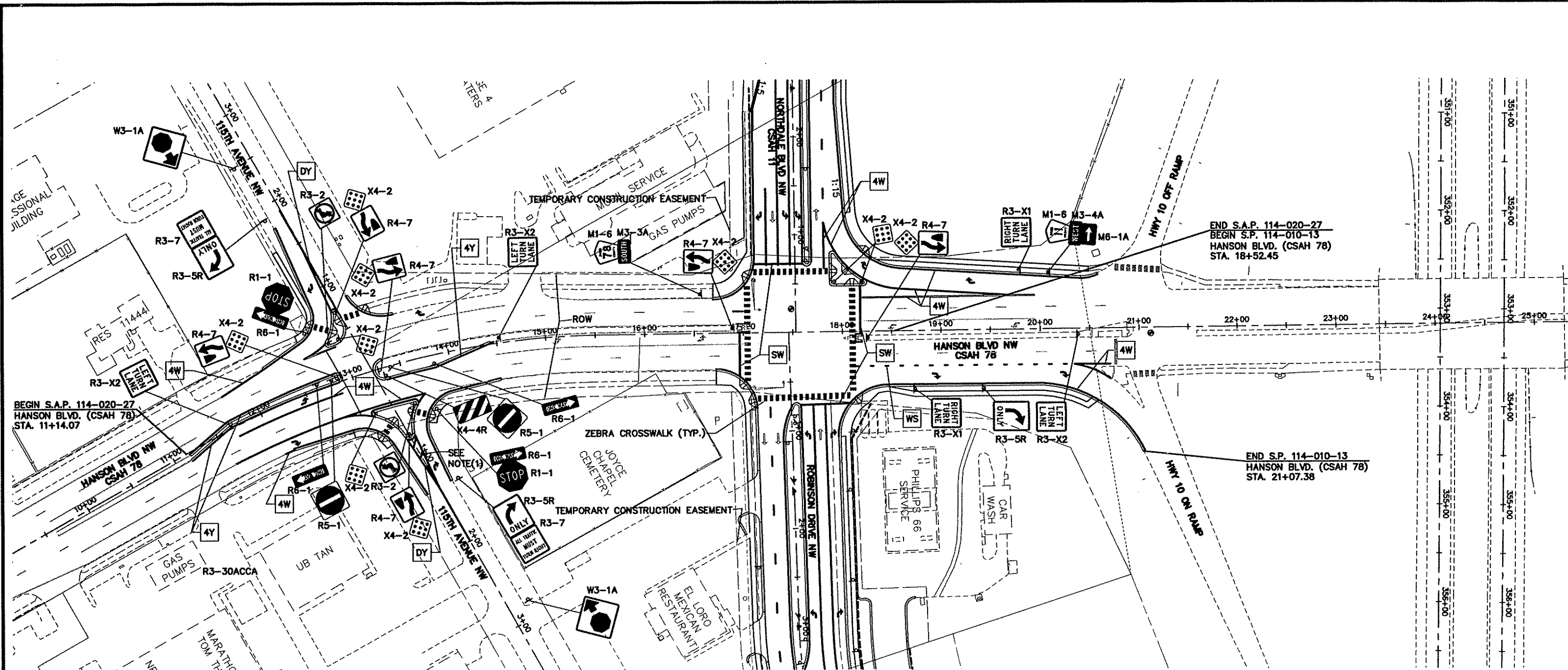
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W.
SIGNING & STRIPING PLAN**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

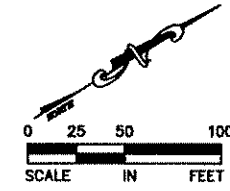
6 OF 12
SHEET NO.
96
159

PLOT DATE: May 1 02 8:06am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-SP02.dwg



HANSON BLVD.

PERMANENT SIGNING/STRIPING LEGEND	
BW	4" WHITE BROKEN LINE
WS	8" WHITE SKIP STRIPE LINE (3' LONG - 12' SPACING)
4W	4" WHITE SOLID LINE
BY	4" YELLOW BROKEN LINE
4Y	4" YELLOW SOLID LINE
DY	4" YELLOW SOLID DOUBLE LINE
SW	24" WHITE STOP LINE
▬▬	PEDESTRIAN CROSSWALK
Ⓜ	PAVEMENT MESSAGES
→	TRAFFIC FLOW



1. THE ANGLED STRIPING SHALL CONSIST OF 24-INCH SOLID YELLOW MARKINGS PLACED AT AN ANGLE OF 45-DEGREES AND SPACED AT 20-FEET ON CENTER, ALL PLACED WITHIN THE 4-INCH DOUBLE SOLID YELLOW MARKING.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JAA	05/07/02	ADD. #1: REMOVED ONE-WAY SIGNS ON SIGNAL

DESIGN FILE:
33889-043
DRAWN BY:
JAA
DESIGN BY:
JJS
CHKD. BY:
ICP
DWG. NAME:
043-SP02
DATE:
APRIL 26, 2002



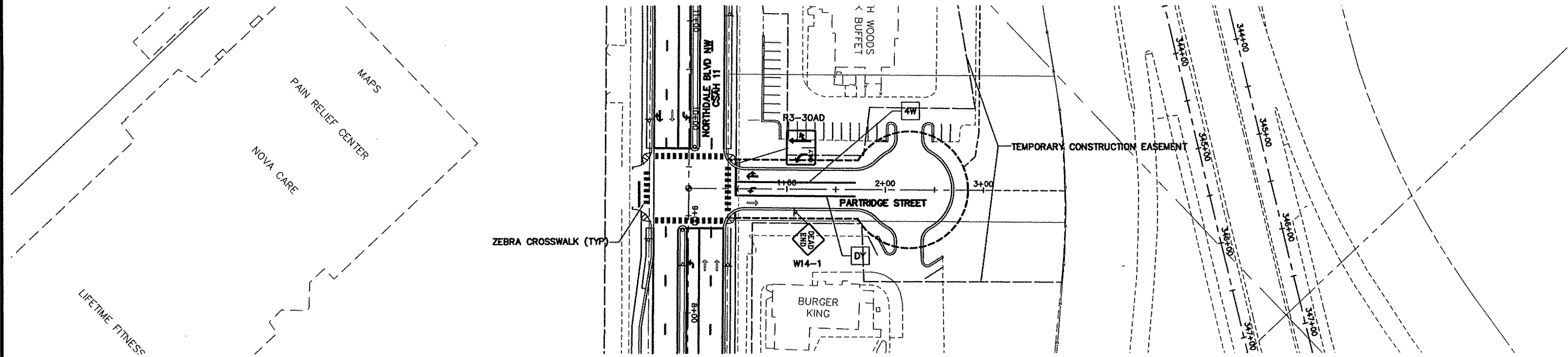
Thresher Square
700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.1376 Fax

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
HANSON BOULEVARD
SIGNING & STRIPING PLAN**

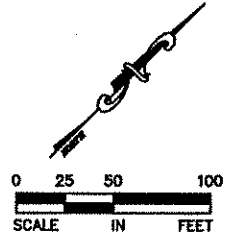
CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 97 159
COUNTY PROJECT		S.A.P.	114-020-27	
		S.A.P.	114-107-08	

PLOT DATE: Apr 25, 2002 11:30am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-SP05.dwg



PERMANENT SIGNING/STRIPING LEGEND

BW	4" WHITE BROKEN LINE
WS	8" WHITE SKIP STRIPE LINE (3' LONG - 12' SPACING)
4W	4" WHITE SOLID LINE
BY	4" YELLOW BROKEN LINE
4Y	4" YELLOW SOLID LINE
DY	4" YELLOW SOLID DOUBLE LINE
SW	24" WHITE STOP LINE
▬▬▬	PEDESTRIAN CROSSWALK
↔	PAVEMENT MESSAGES
→	TRAFFIC FLOW



1. THE ANGLED STRIPING SHALL CONSIST OF 24-INCH SOLID YELLOW MARKINGS PLACED AT AN ANGLE OF 45-DEGREES AND SPACED AT 20-FEET ON CENTER, ALL PLACED WITHIN THE 4-INCH DOUBLE SOLID YELLOW MARKING.

PARTRIDGE STREET

8 OF 12

REV. NO.	BY	DATE	REVISIONS DESCRIPTION



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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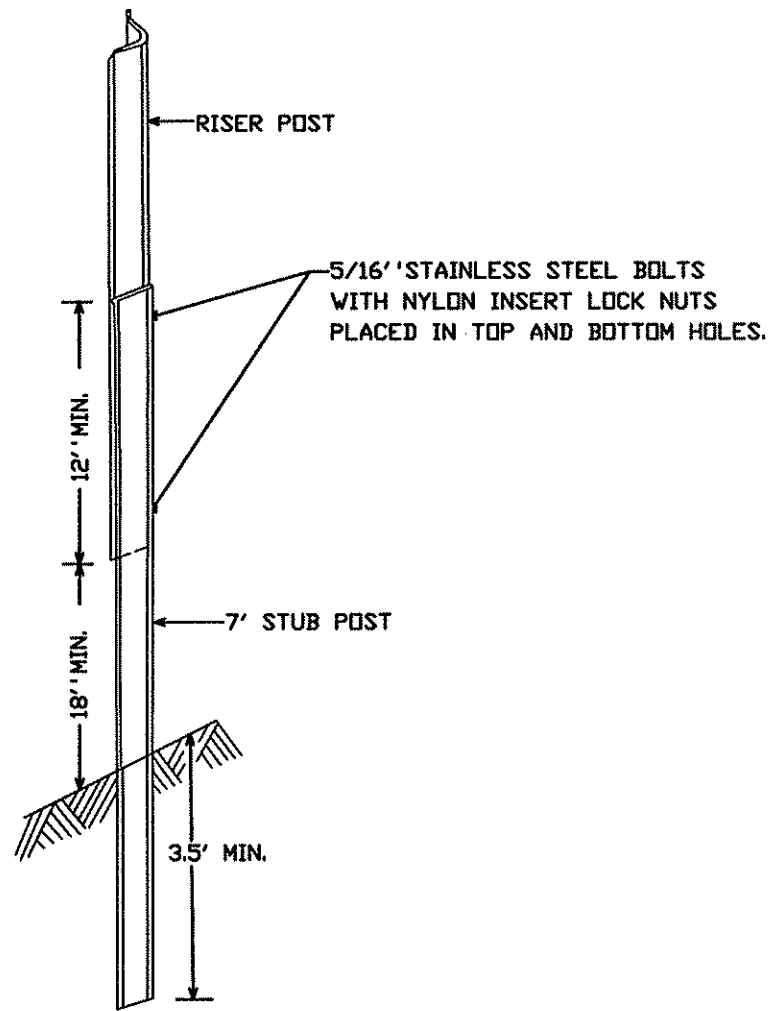
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE CUL DE SAC
SIGNING & STRIPING PLAN**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

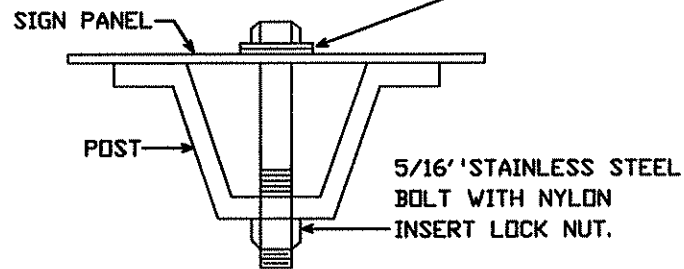
SHEET NO.
98
159

TYPE 'C' & 'D' POST

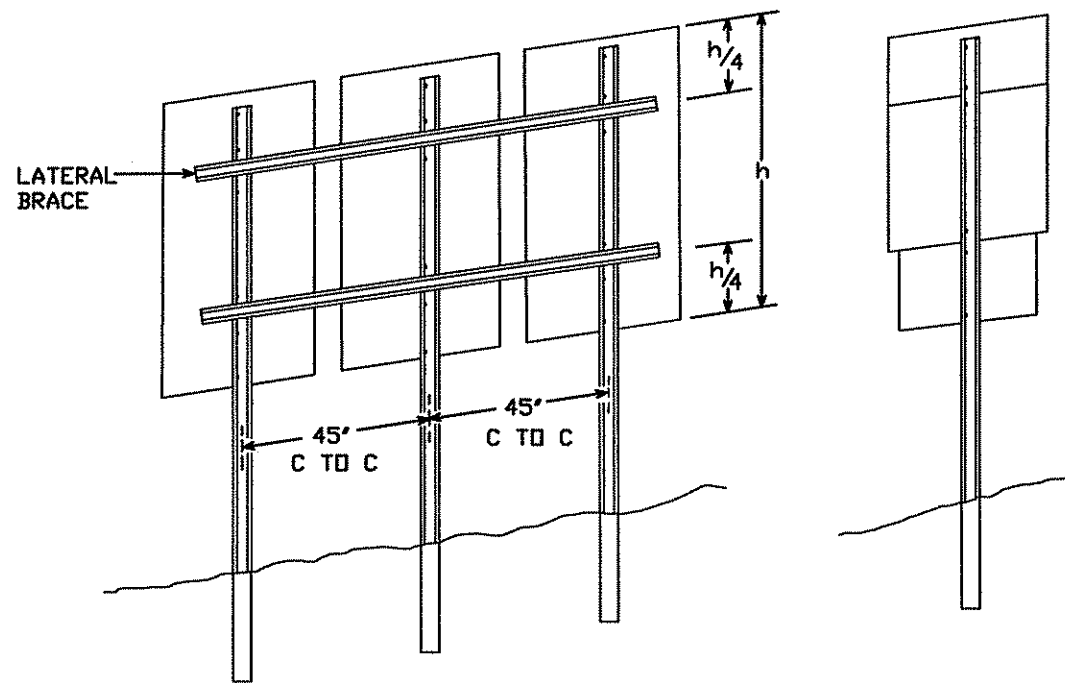


'U POST' SPLICE

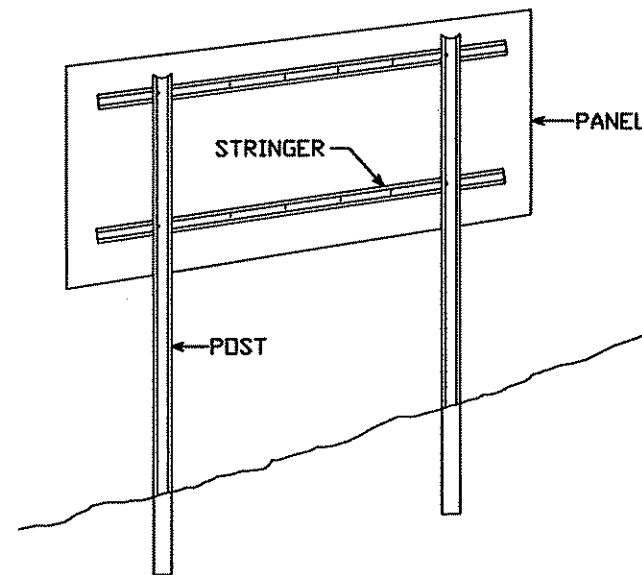
STAINLESS STEEL WASHER AND NYLON WASHER
(T= 1/32" MIN., I.D.= 3/8" MAX., O.D.= 7/8" MAX.)



**'U POST' MOUNTING
TYPE 'C' SIGNS**



TYPICAL TYPE 'C' INSTALLATIONS



TYPICAL TYPE 'D' INSTALLATION

NOTES:

1. USE 3# STUB, POSTS, RISER POSTS, STRINGERS, KNEE BRACES, LATERAL BRACES AND KNEE BRACE STUB POSTS. ALL SHALL CONFORM TO MN/DOT 3401.
2. FOR TYPE 'D' SIGN POST LENGTHS AND SPACINGS, SEE SIGN DATA SHEET.
3. TYPE 'D' SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 24" MAXIMUM INTERVALS IN ACCORDANCE WITH TYPE 'D' STRINGER AND PANEL-JOINT DETAIL (SEE STANDARD SIGNS MANUAL).
4. MOUNTING (PUNCHING CODE) FOR TYPE 'C' SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
5. ALL RISER (VERTICAL) 'U' POSTS' SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7' LONG.
6. USE STAINLESS STEEL 5/16" BOLTS, WASHERS, AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
7. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
8. BRACING STUBS SHALL BE NO MORE THAN 4" ABOVE GROUND AND EMBEDDED AT LEAST 3 1/2'.
9. A-FRAME BRACKET SHALL BE STEEL CONFORMING TO MN/DOT 3306 AND GALVANIZED IN ACCORDANCE WITH MN/DOT 3394.
10. COLLARS SHALL BE USED TO SHIM OVERLAYS AND DEMOUNTABLE LEGEND AWAY FROM PANEL WHERE INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED. MN/DOT 3352.2A7.
11. 2 AND 3 POST TYPE 'C' SIGNS SHALL BE REINFORCED WITH AT LEAST ONE LATERAL BRACE. INSTALLATIONS WHERE THE TOTAL PANEL HEIGHT IS 60" OR MORE SHALL HAVE TWO LATERAL BRACES LOCATED APPROXIMATELY AT THE QUARTER POINTS.
12. WHERE 2 OR MORE SINGLE POST SIGNS (TYPE 'C') ARE MOUNTED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 POST SECTIONS, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN SKETCH.

'C' & 'D' SIGN DETAILS

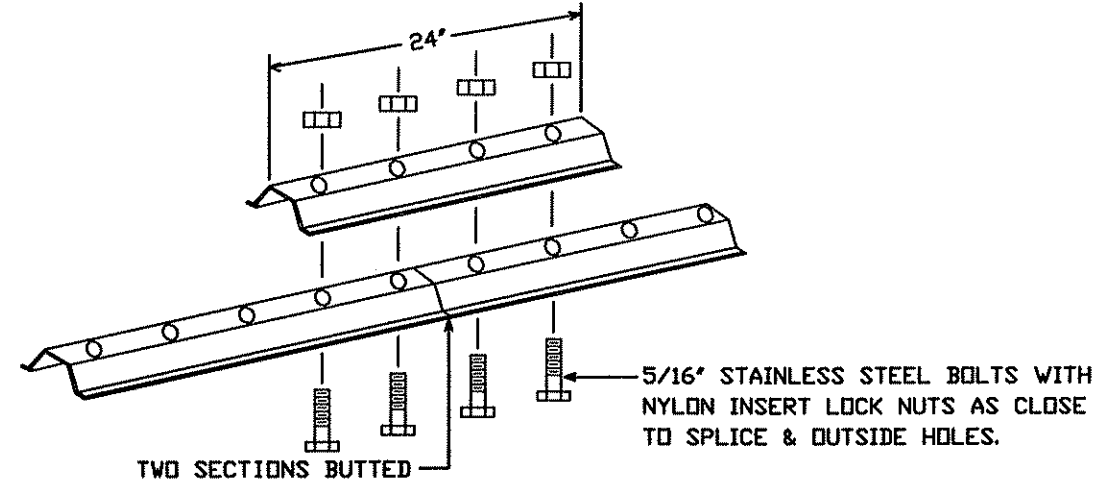
DESIGN A
Sheet 1 of 3

PLOT DATE: Apr 25, 2002 11:29am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-SN01.dwg

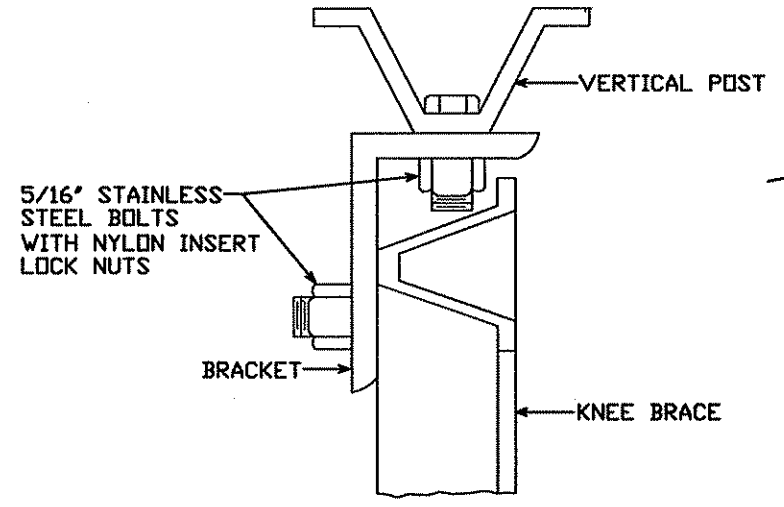
Rev. 7-20-93
Rev. 3-23-90

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 99
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

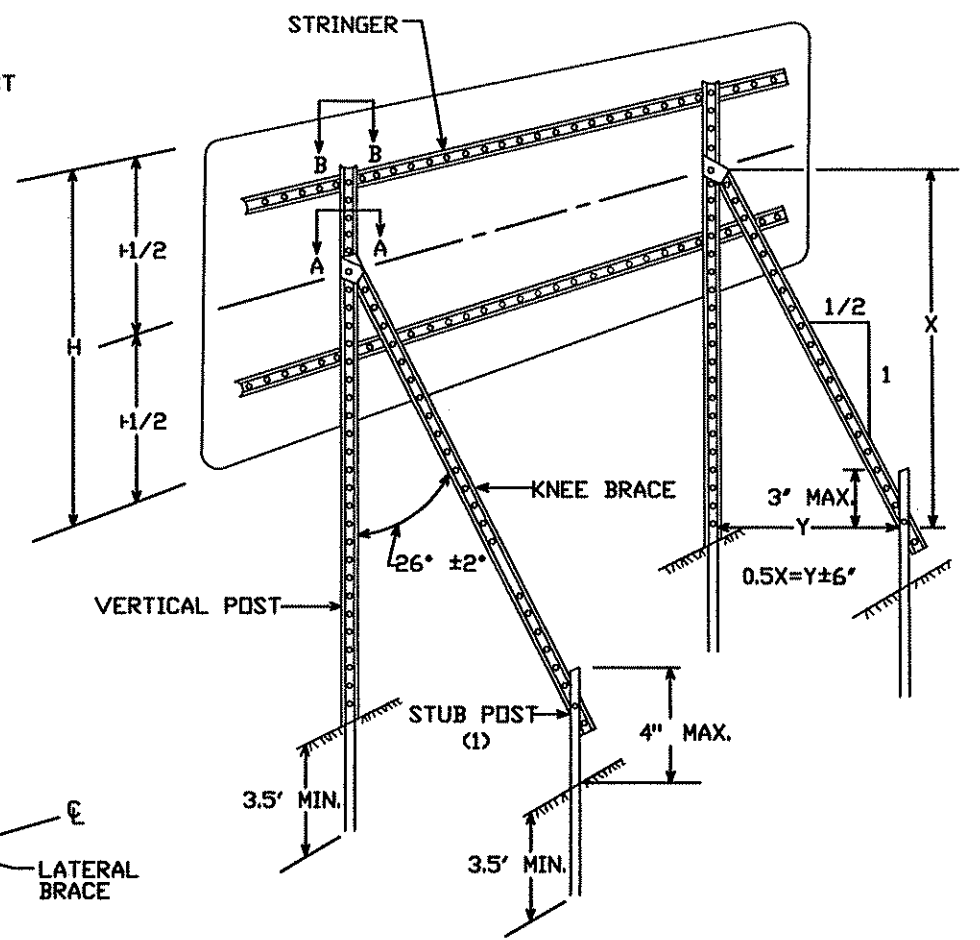
PLOT DATE: Apr 25, 2002 11:29am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-SNO2.dwg



**Lateral Brace or Stringer
Splice Detail (Exploded View)**

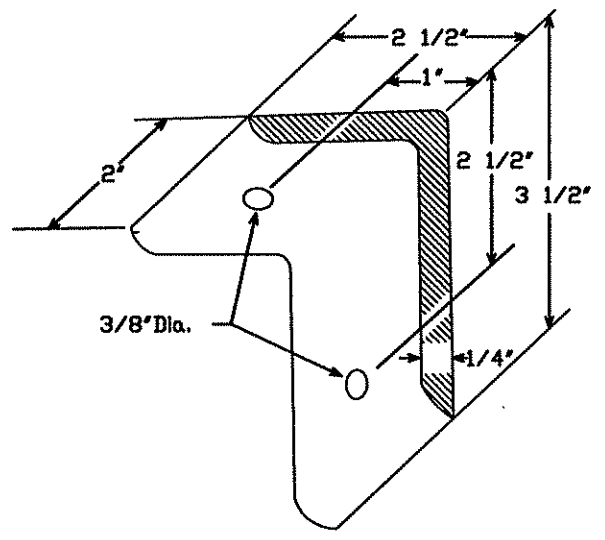


Section A-A



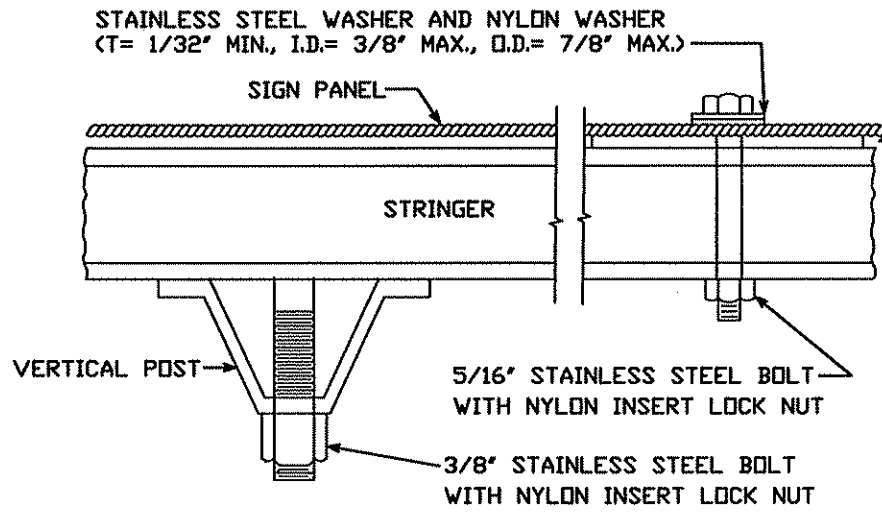
**Typical 'A-Frame' Installation
Type 'D' Signs**

(1) Offset stub post 1' toward roadway relative to vertical post.

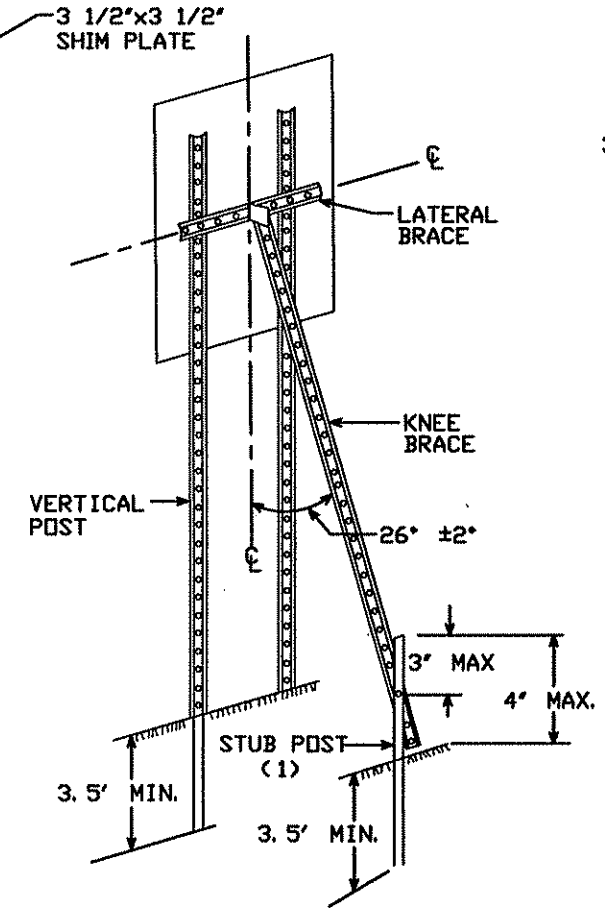


A-Frame Bracket

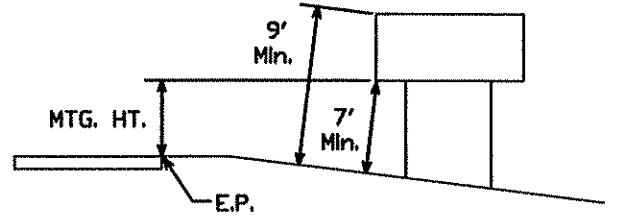
(Steel Mn/DDT 3306 galvanized per Mn/DDT 3394)



Section B-B



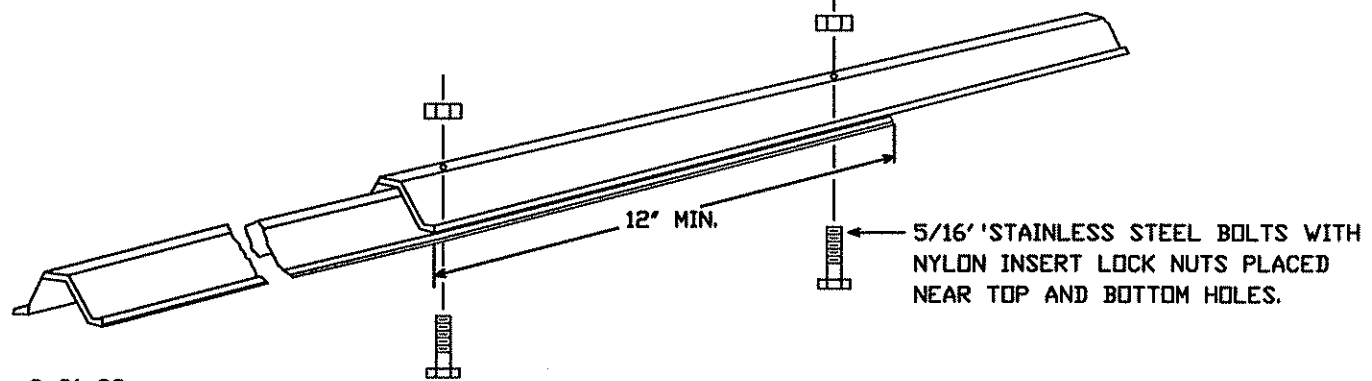
**Typical 'A-Frame' Installation
Type C Signs**



Typical Mounting

'C' & 'D' SIGN DETAILS

DESIGN A
Sheet 2 of 3

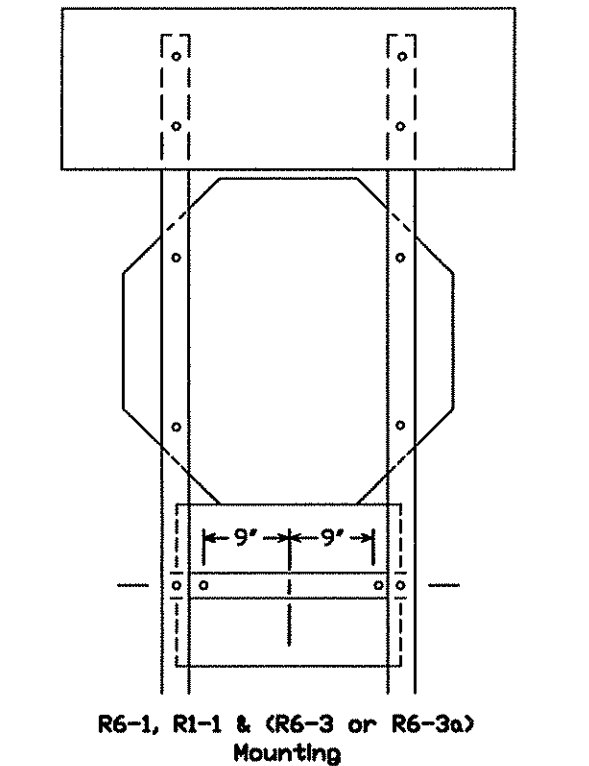


Knee Brace Splice

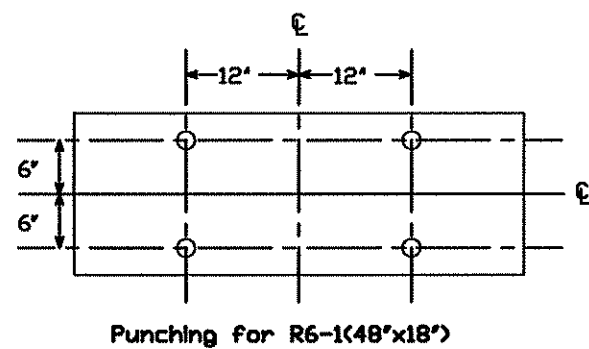
Rev. 3-31-93
Rev. 3-23-90

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 100
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	159
10 OF 12				

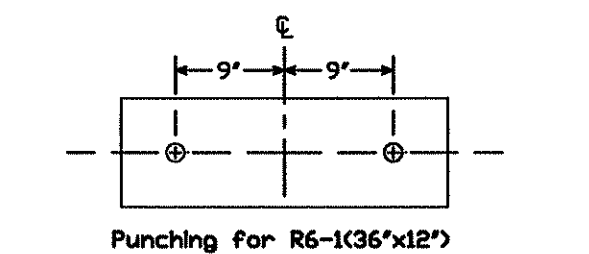
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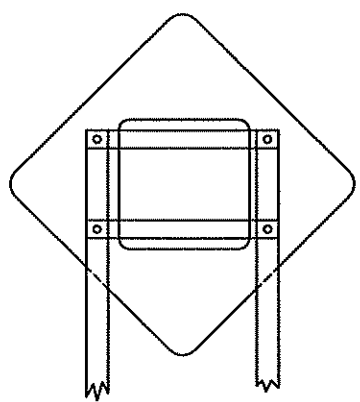
R6-1, R1-1 & (R6-3 or R6-3a)
Mounting



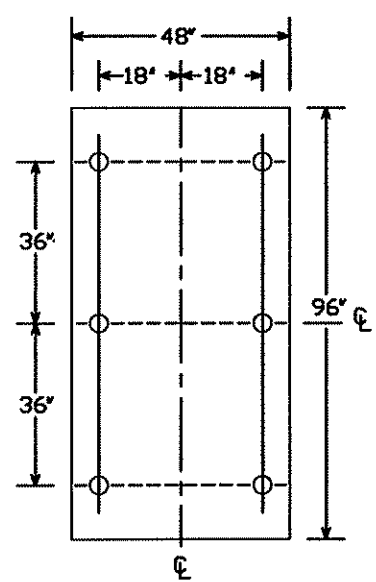
Punching for R6-1(48"x18")



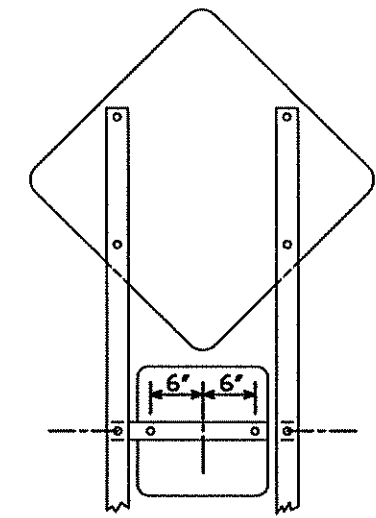
Punching for R6-1(36"x12")



Back to back mounting
of R4-7 and W9-2



Punching for R2-4a
SPEED LIMIT



(W1-1, W1-2, W1-3, W1-4 or W1-5) & W13-1
Mounting

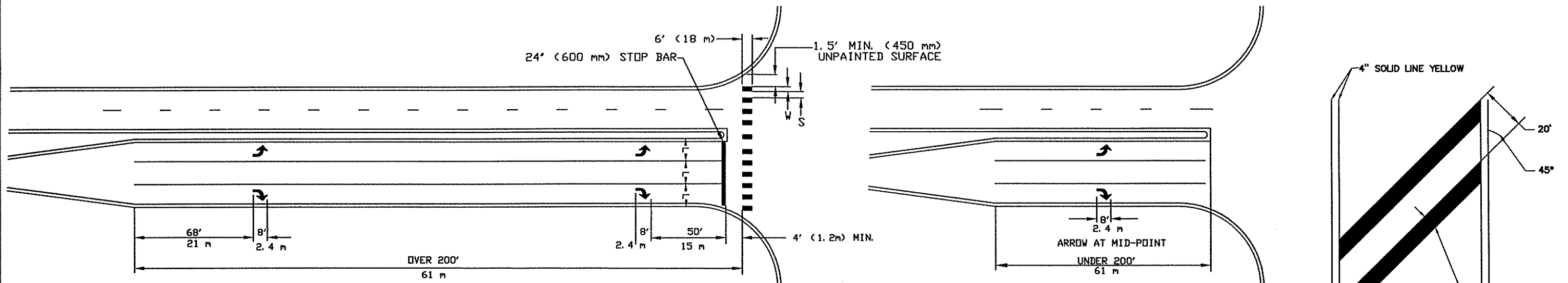
"C" & "D" SIGN DETAILS

DESIGN A
Sheet 3 of 3

Rev. 3-31-93
Rev. 3-23-90

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 101 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

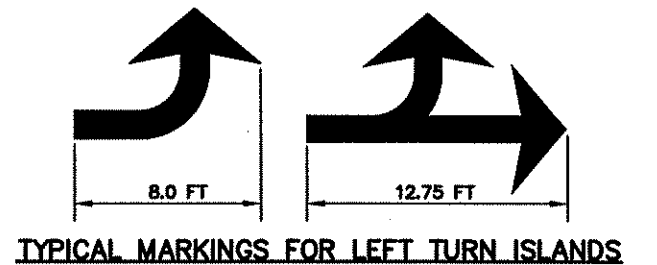
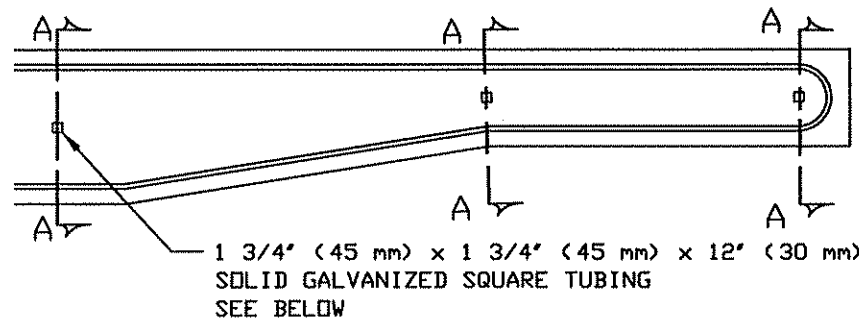
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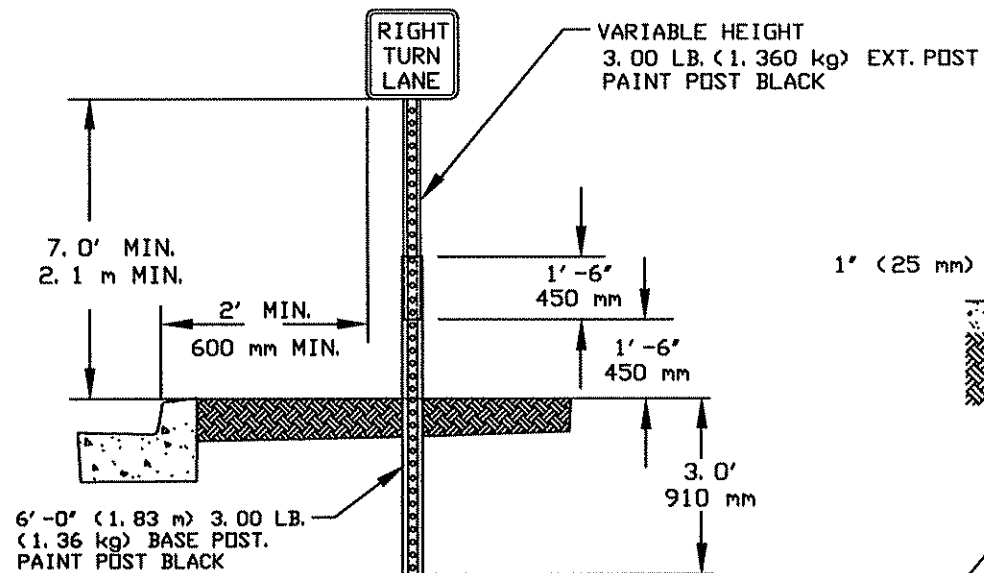
(L)	(W)	(S)
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

(L)	(W)	(S)
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
2.7 m	600 mm	750 mm
3.0 m	750 mm	750 mm
3.3 m	750 mm	900 mm
3.6 m	900 mm	900 mm
4.0 m	900 mm	1100 mm

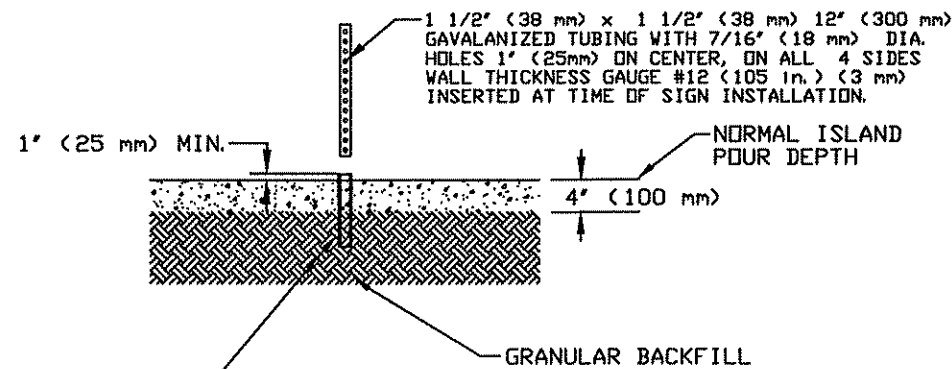
- NOTES: CROSSWALKS:**
- PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
 - LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGR.
 - ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES, EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
 - A MIN. OF 1.5' (450 mm) CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
 - ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' (3.3 m) INSIDE LANE.



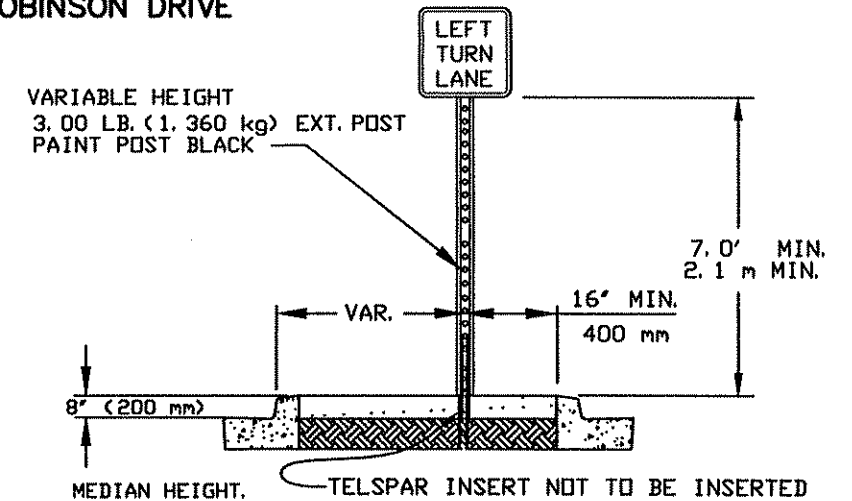
TYPICAL TURN LANE AND INTERSECTION STRIPING
NORTHDALE BLVD (C.S.A.H. 11) , HANSON BLVD (C.S.A.H. 78) AND ROBINSON DRIVE



GROUND POST MOUNTED SIGN TYPICAL INSTALLATION
NORTHDALE BLVD. (C.S.A.H. 11), HANSON BLVD. (C.S.A.H. 78) AND ROBINSON DRIVE



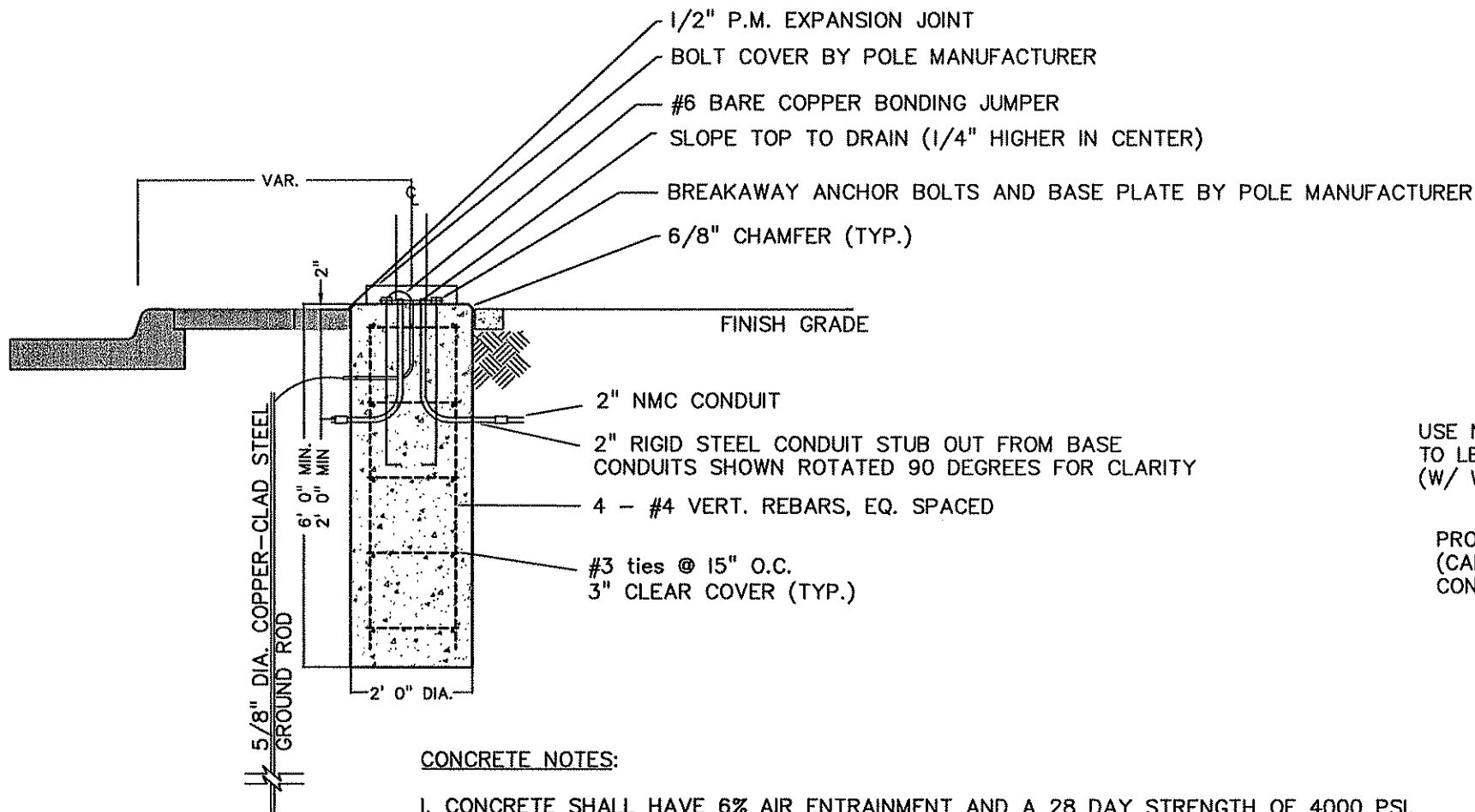
INSTALL 1 3/4\"/>



ISLAND MOUNT BREAK-AWAY SIGN TYPICAL INSTALLATION
NORTHDALE BLVD. (C.S.A.H. 11), HANSON BLVD. (C.S.A.H. 78) AND ROBINSON DRIVE

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 102
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	159

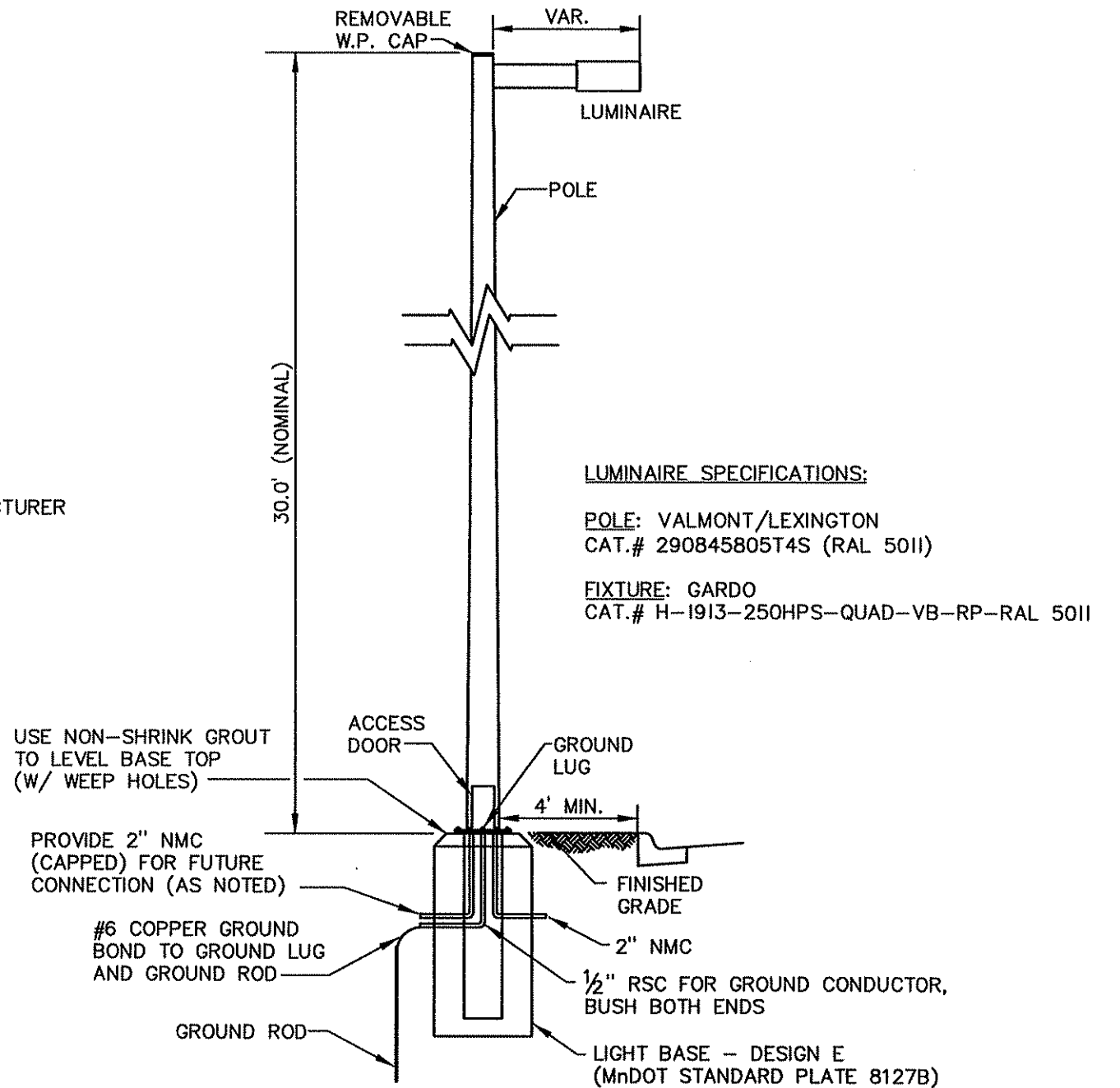
FOR INFORMATION ONLY CONTRACT BY OTHERS



CONCRETE NOTES:

1. CONCRETE SHALL HAVE 6% AIR ENTRAINMENT AND A 28 DAY STRENGTH OF 4000 PSI.
2. CONCRETE MIX SHALL BE 3Y43 CONFORMING TO MNDOT SPECIFICATION 2461.
3. REINFORCING STEEL SHALL BE ASTM A615, GRADE 60, NEW BILLET, INTERMEDIATE GRADE, DEFORMED W/ 60,000 PSI YIELD STRENGTH.

TYPICAL SECTION AT LIGHT FOUNDATION



ELEVATION

LIGHT POLE AND BASE DETAIL

PLOT DATE: Apr 24, 2002 8:45am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\LIGHTING\43DET01.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: DMG
DESIGN BY: DMG

CHKD. BY: ICP
DWG. NAME: 43-DET01

DATE:
APRIL 26, 2002



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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

Aaron S. Heumann
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25848

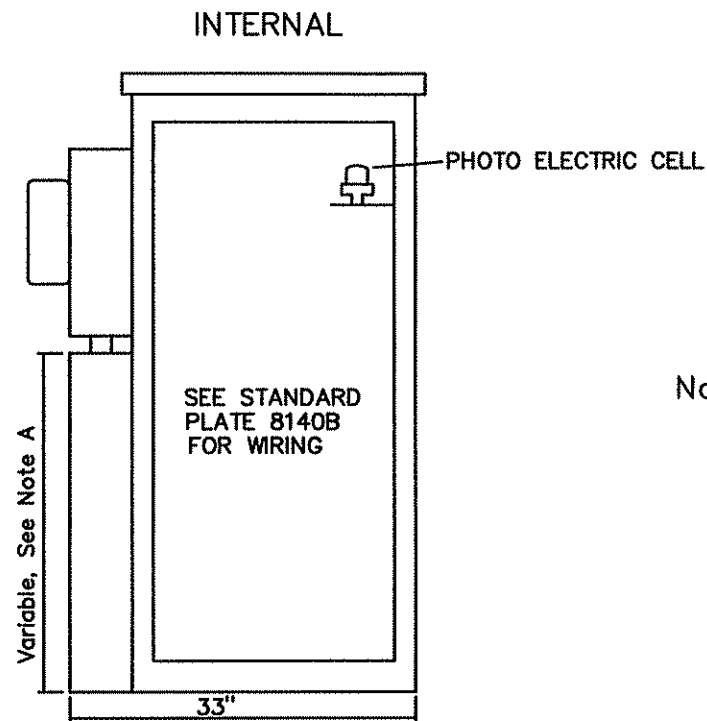
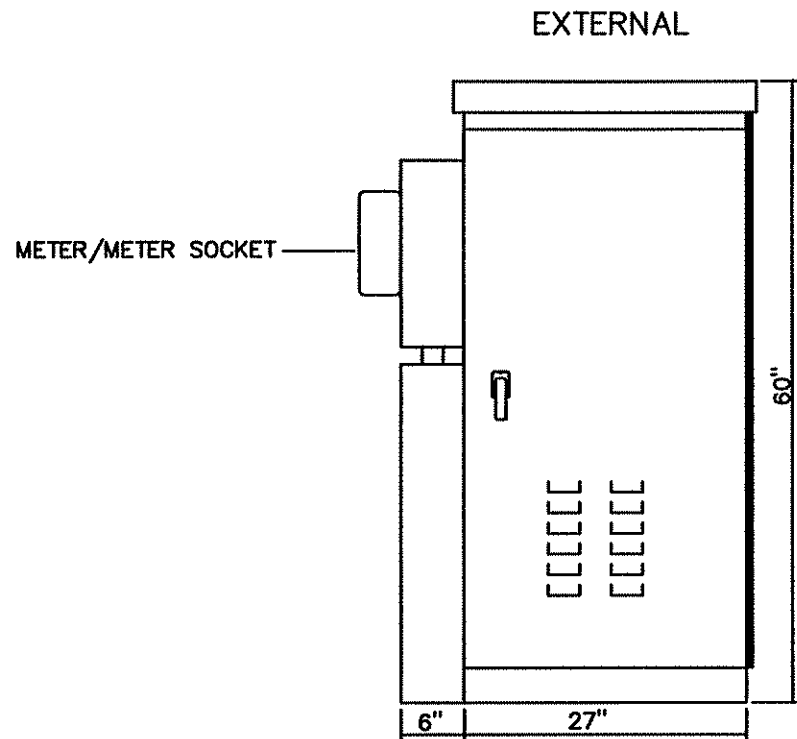
**NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
RAVEN ST. TO HANSON BLVD.**

LIGHTING DETAILS
LIGHTING UNIT AND FOUNDATION

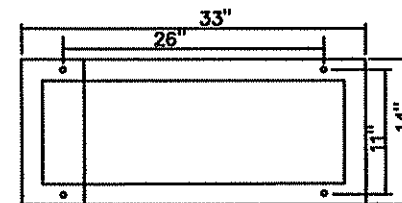
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

1 OF 5
 SHEET NO.
103
 159

FOR INFORMATION ONLY CONTRACT BY OTHERS

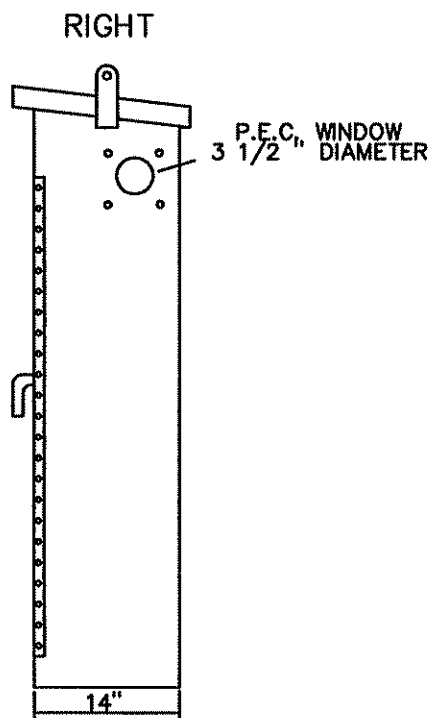
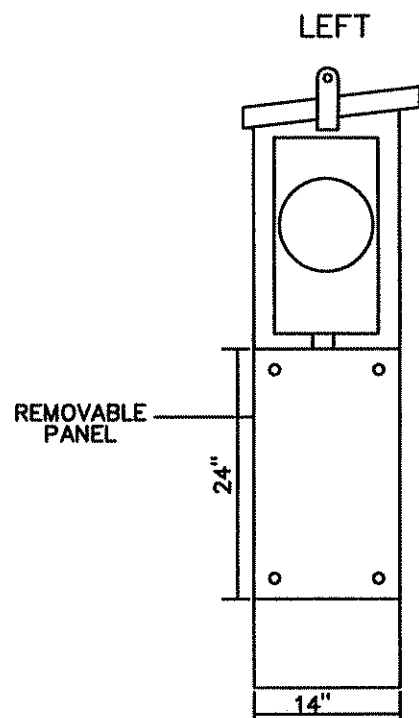


PAD MOUNTING PATTERN

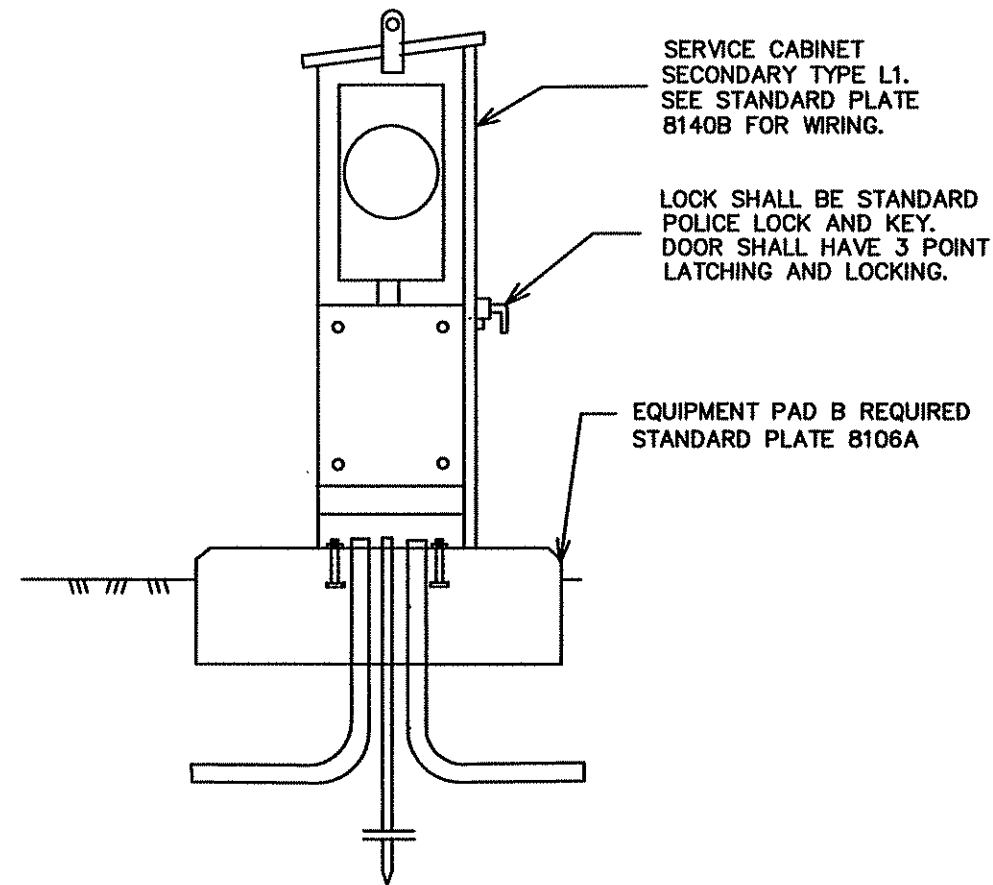
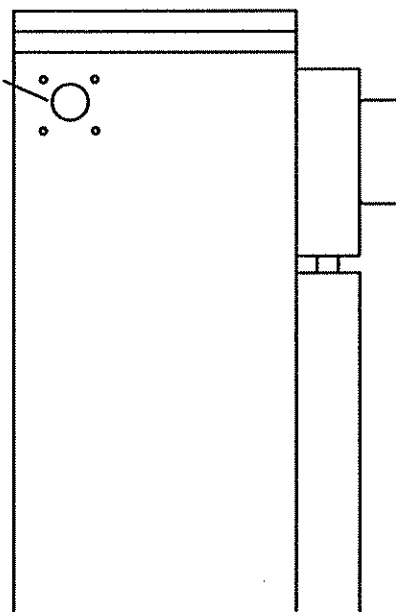


Note A: Height of compartment is approximately 33".
May vary depending upon size of meter socket.

SIDE VIEWS



BACK VIEW



LIGHTING SERVICE CABINET
SERVICE CABINET SECONDARY TYPE L1

PLOT DATE: Apr 24, 2002 8:46am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\LIGHTING\43DET02.dwg

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A. S. Heumann
AARON S. HEUMANN
DATE: 4/25/02 MN LIC. NO. 25846

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
RAVEN ST. TO HANSON BLVD.
LIGHTING DETAILS
L1 LIGHTING SERVICE CABINET

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

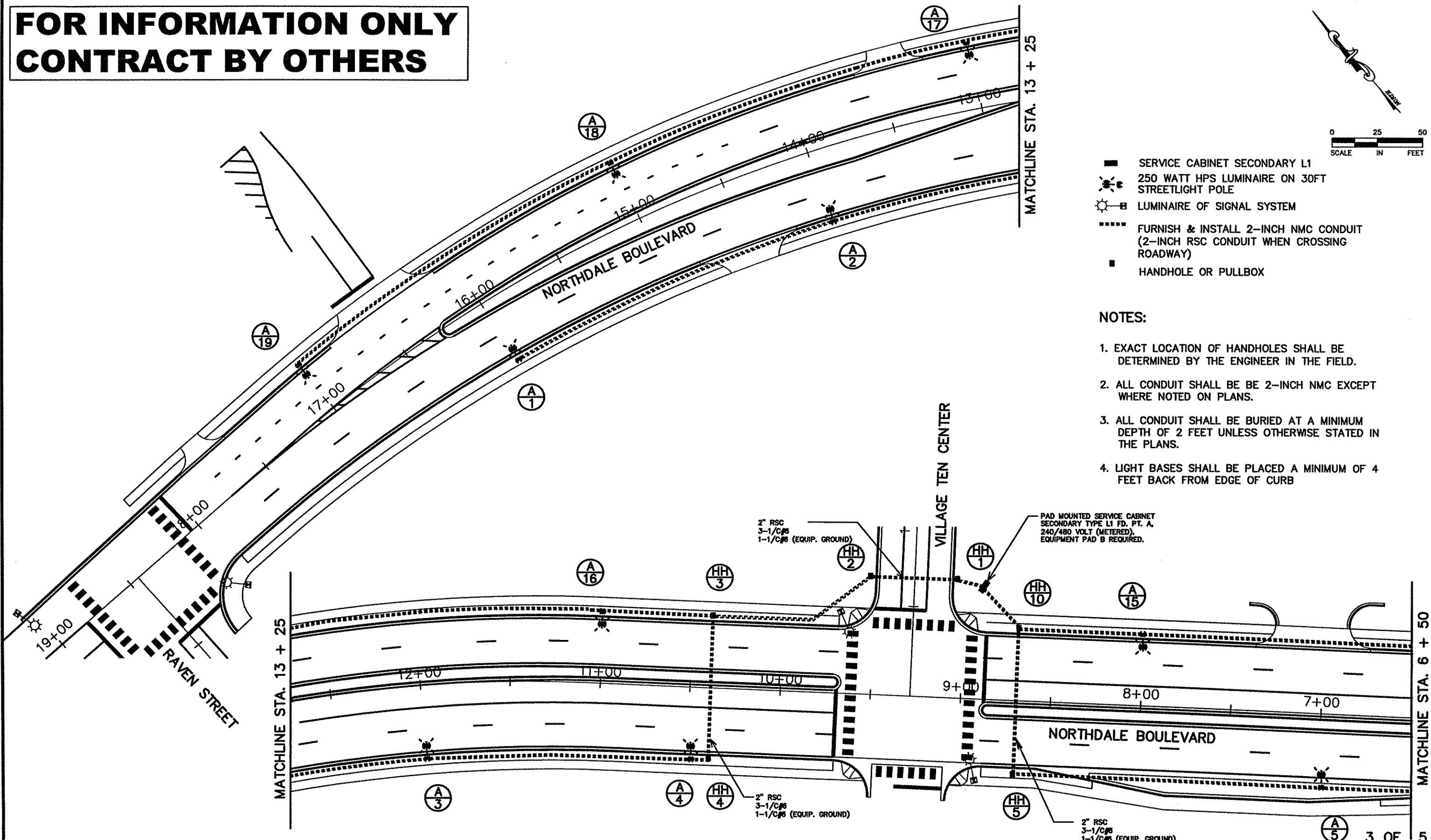
2 OF 5

SHEET NO.

104

159

FOR INFORMATION ONLY CONTRACT BY OTHERS



- SERVICE CABINET SECONDARY L1
- ☼ 250 WATT HPS LUMINAIRE ON 30FT STREETLIGHT POLE
- ☼ LUMINAIRE OF SIGNAL SYSTEM
- FURNISH & INSTALL 2-INCH NMC CONDUIT (2-INCH RSC CONDUIT WHEN CROSSING ROADWAY)
- HANDHOLE OR PULLBOX

- NOTES:**
1. EXACT LOCATION OF HANDHOLES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
 2. ALL CONDUIT SHALL BE 2-INCH NMC EXCEPT WHERE NOTED ON PLANS.
 3. ALL CONDUIT SHALL BE BURIED AT A MINIMUM DEPTH OF 2 FEET UNLESS OTHERWISE STATED IN THE PLANS.
 4. LIGHT BASES SHALL BE PLACED A MINIMUM OF 4 FEET BACK FROM EDGE OF CURB

PLOT DATE: Apr 02 8:46am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\LIGHTING\43LT01.dwg

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DESIGN BY:
DMG

CHKD. BY:
ICP

DWG. NAME:
43-LTD1

DATE:
APRIL 26, 2002



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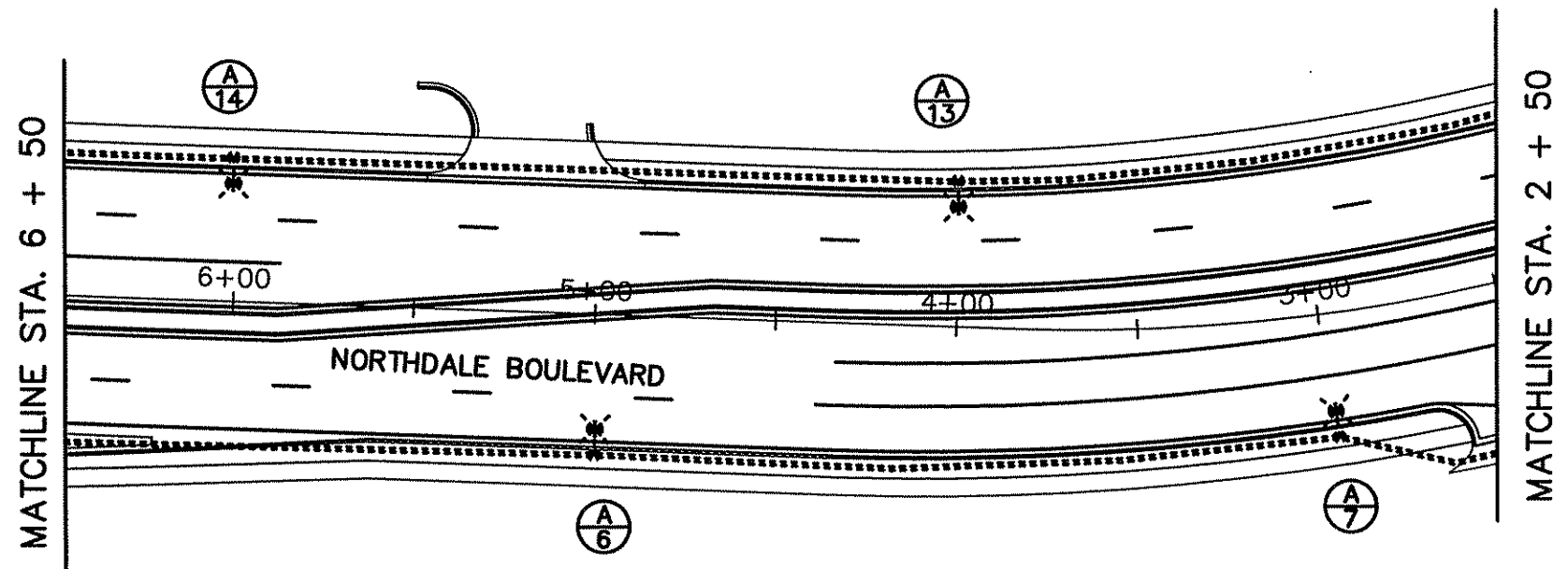
Aaron S. Heumann
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
RAVEN ST. TO HANSON BLVD.
LIGHTING PLAN
STA. 18+50 TO STA. 6+50**

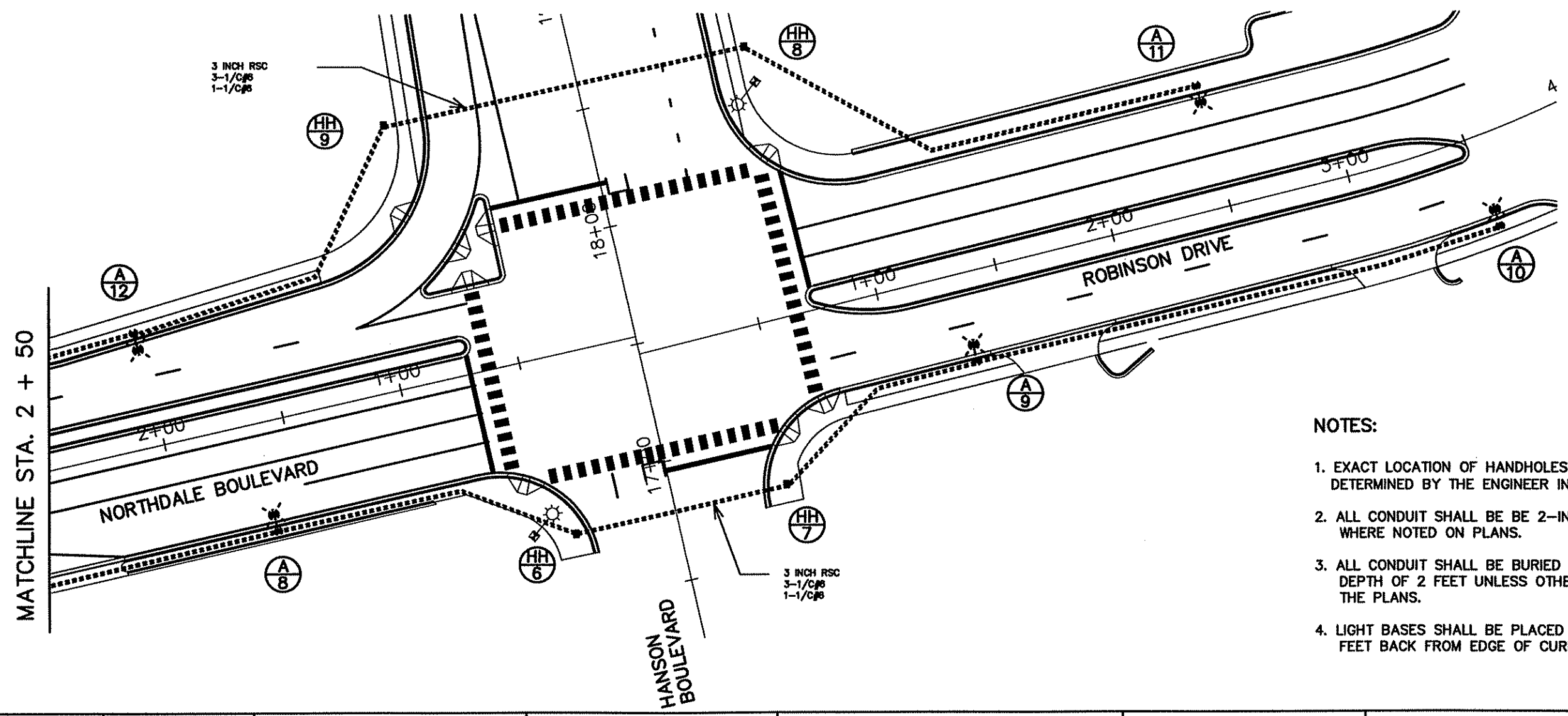
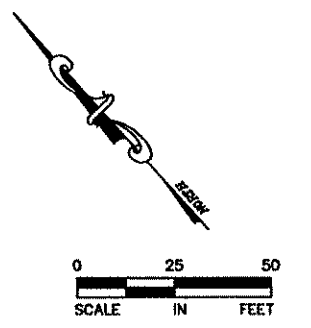
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COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
105
3 OF 5
159

FOR INFORMATION ONLY CONTRACT BY OTHERS



- SERVICE CABINET SECONDARY L1
- ☼ 250 WATT HPS LUMINAIRE ON 30FT STREETLIGHT POLE
- ☼ LUMINAIRE ON SIGNAL SYSTEM
- ⋯ FURNISH & INSTALL 2-INCH NMC CONDUIT (2-INCH RSC CONDUIT WHEN CROSSING ROADWAY)
- HANDHOLE OR PULLBOX



- NOTES:**
1. EXACT LOCATION OF HANDHOLES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
 2. ALL CONDUIT SHALL BE BE 2-INCH NMC EXCEPT WHERE NOTED ON PLANS.
 3. ALL CONDUIT SHALL BE BURIED AT A MINIMUM DEPTH OF 2 FEET UNLESS OTHERWISE STATED IN THE PLANS.
 4. LIGHT BASES SHALL BE PLACED A MINIMUM OF 4 FEET BACK FROM EDGE OF CURB.

PLOT DATE: Apr 24, 2002 8:47am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\LIGHTING\43LT02.dwg

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CHKD. BY: ICP	DWG. NAME: 43-LT02	
DATE: APRIL 26, 2002		



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Aaron S. Heumann
AARON S. HEUMANN
DATE: 4/28/02 MN LIC. NO. 25848

NORTHDALE BOULEVARD
(C.S.A.H. 11)
RAVEN ST. TO HANSON BLVD.
LIGHTING PLAN
STA. 6+50 TO STA. 4+00

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.	106
	159

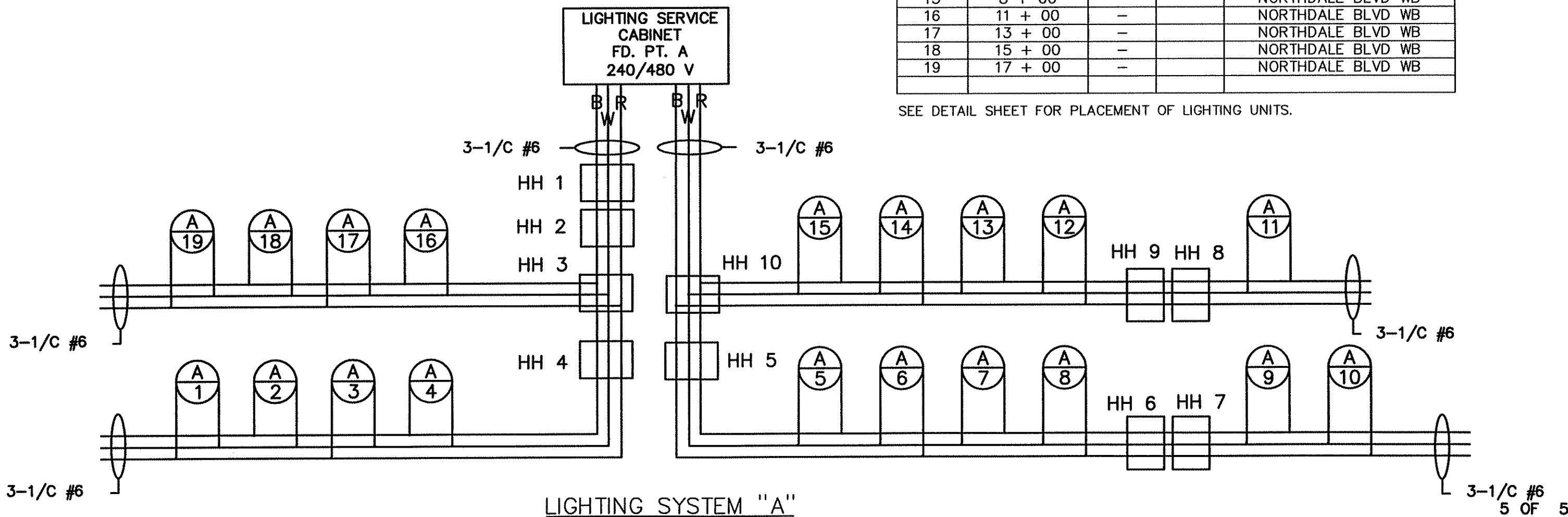
FOR INFORMATION ONLY CONTRACT BY OTHERS

NOTES:

- "B" AND "R" DENOTE CURRENT CARRYING CONDUCTORS.
- 1/C #6 GROUND IS REQUIRED IN ALL CONDUIT (GROUND WIRE IS NOT SHOWN IN WIRING DIAGRAM).
- " $\frac{A}{XX}$ " INDICATES STREET LIGHTING LUMINAIRE.
- " $\frac{HH}{XX}$ " INDICATES HANDHOLE OR PULLBOX.

FD. PT. A				
LIGHTING STANDARDS AND BASES				
NO.	STATION	LT	RT	LOCATION
1	16 + 00		-	NORTHDALE BLVD EB
2	14 + 00		-	NORTHDALE BLVD EB
3	12 + 00		-	NORTHDALE BLVD EB
4	10 + 50		-	NORTHDALE BLVD EB
5	7 + 00		-	NORTHDALE BLVD EB
6	5 + 00		-	NORTHDALE BLVD EB
7	3 + 00		-	NORTHDALE BLVD EB
8	1 + 70		-	NORTHDALE BLVD EB
9	1 + 30		-	ROBINSON DRIVE EB
10	3 + 50		-	ROBINSON DRIVE EB
11	2 + 50	-		ROBINSON DRIVE WB
12	2 + 00	-		NORTHDALE BLVD WB
13	4 + 00	-		NORTHDALE BLVD WB
14	6 + 00	-		NORTHDALE BLVD WB
15	8 + 00	-		NORTHDALE BLVD WB
16	11 + 00	-		NORTHDALE BLVD WB
17	13 + 00	-		NORTHDALE BLVD WB
18	15 + 00	-		NORTHDALE BLVD WB
19	17 + 00	-		NORTHDALE BLVD WB

SEE DETAIL SHEET FOR PLACEMENT OF LIGHTING UNITS.



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Aaron S. Heumann
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25848

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
RAVEN ST. TO HANSON BLVD.**

LIGHTING PLAN
LIGHT STANDARDS & BASES
AND WIRING DIAGRAM

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
107
5 OF 5
159

PLOT DATE: Apr 26, 2002 5:02pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS28.dwg

STANDARD PLATES	
THESE STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:	
PLATE NO.	DESCRIPTION
* 8110 D	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
8111 C	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
8112 C	PEDESTAL FOUNDATION
* 8114 A	PVC HANDHOLE/PULLBOX
* 8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
* 8118 C	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
* 8120 K	PA85 POLE FOUNDATION
* 8121 D	TRANSFORMER BASE AND POLE BASE PLATE
8122 C	PEDESTAL AND PEDESTAL BASE
* 8123 D	POLE AND MAST ARM
* 8124 E	MAST ARM SIGNAL HEAD MOUNTS
* 8126 F	PA90 AND PA100 POLE FOUNDATION

* - APPLIES TO THIS PROJECT

CONDUCTOR COLOR CODE

R	RED
O	ORANGE
BL	BLUE
WH	WHITE
R/BLK	RED WITH BLACK TRACER
O/BLK	ORANGE WITH BLACK TRACER
BL/BLK	BLUE WITH BLACK TRACER
WH/BLK	WHITE WITH BLACK TRACER
BLK	BLACK
BLK/WH	BLACK WITH WHITE TRACER
G/BLK	GREEN WITH BLACK TRACER
G	GREEN

SIGNAL SYSTEM SUMMARY

SIGNAL SYSTEM "A":	HANSON BLVD. / NORTHDALE BLVD.
SIGNAL SYSTEM "B":	HANSON BLVD. / T.H. 10 SOUTH RAMP
SIGNAL SYSTEM "C":	NORTHDALE BLVD. / VILLAGE TEN CENTER
SIGNAL SYSTEM "D":	NORTHDALE BLVD. / RAVEN ST.

LEGEND OF SYMBOLS

CONTROLLER AND SERVICE EQUIP. NO's	⊙
SIGNAL BASE NO.	⊙
SIGNAL FACE NO.	⊙
LUMINAIRE NO.	⊙
CONTROLLER AND CABINET	■
CONTROLLER AND CABINET - IN PLACE	■
HANDHOLE	□
HANDHOLE - IN PLACE	□
RIGID STEEL CONDUIT (RSC)	=====
RIGID STEEL CONDUIT (RSC) - IN PLACE	=====
SIGNAL FACE WITH BACKGROUND SHIELD	→
SIGNAL FACE W/O BACKGROUND SHIELD	→
SIGNAL FACE - IN PLACE	→
PEDESTRIAN INDICATORS	→
PEDESTRIAN INDICATORS - IN PLACE	→
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	⊙
PEDESTRIAN PUSH BUTTON STATION	⊙
TRAFFIC SIGNAL PEDESTAL	⊙
TRAFFIC SIGNAL PEDESTAL - INPLACE	⊙
TRAFFIC SIGNAL POLE AND MAST ARM	○
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	○
STREET LIGHT POLE AND LUMINAIRE	○*
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	○*
MAST ARM AND LUMINAIRE	○*
MAST ARM AND LUMINAIRE - INPLACE	○*
WOOD POLE	●
WOOD POLE - IN PLACE	●
SOURCE OF POWER	⊙
RAILROAD SIGNAL - IN PLACE	⊙
RIGHT OF WAY LINE	—
CENTERLINE	—
EDGE OF ROADWAY	—
SHOULDERLINE	—
CURB LINE	—
STOP BAR	—
EMERGENCY VEHICLE PREEMPTION DETECTOR	←/→
MICROWAVE DETECTION	M-
SONIC DETECTION	S-

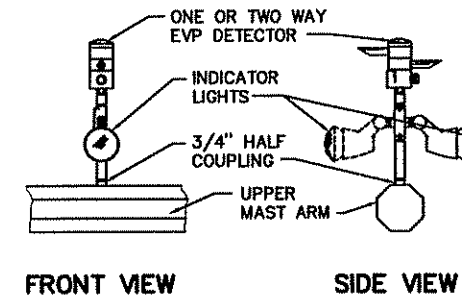
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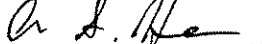
MN/DOT
MN/DOT
ANOKA COUNTY
ANOKA COUNTY

ABBREVIATIONS

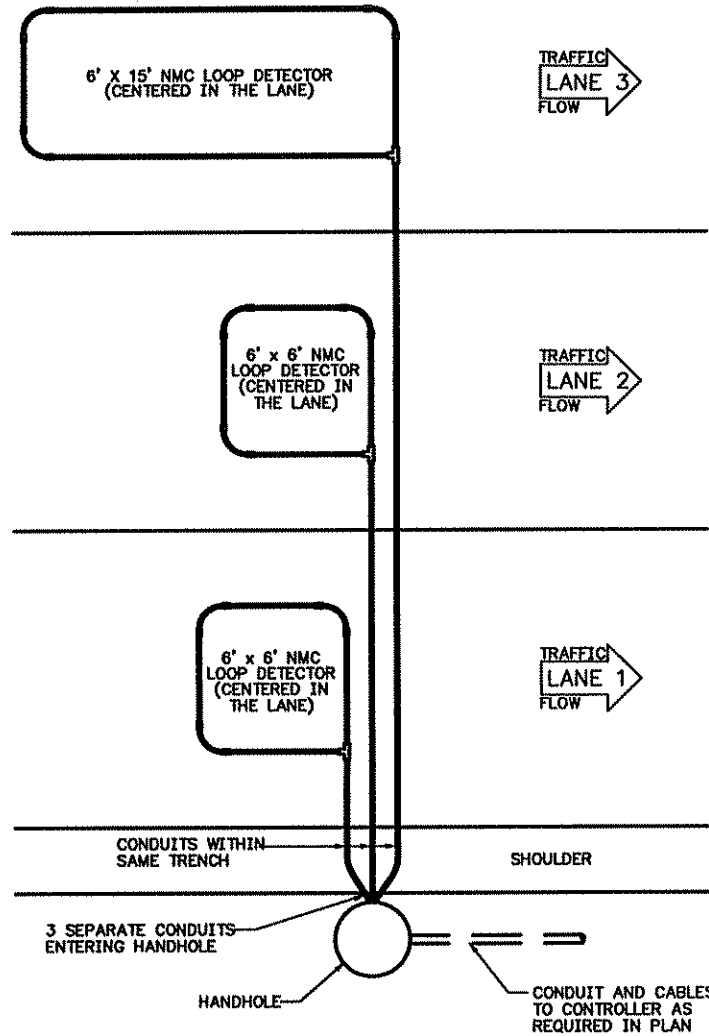
3-1(EG)	SIGNAL HEAD PHASE "3" - NO. "1"	P2-1(EG)	PED INDICATION PHASE "2" - NO. "1"
BR. GR.	BARE GROUND	PB	PUSH BUTTON
CH. SW.	CHECK SWITCH	PB2-1(EG)	PUSH BUTTON PHASE "2" - NO. "1"
CLR	CLEAR	PEC	PHOTOELECTRIC CELL
D2-1(EG)	DETECTOR PHASE "2" - NO. "1"	PED	PEDESTRIAN
DWK	DON'T WALK	R	RED
EGG	EQUIPMENT GROUND	R&S	REMOVE AND SALVAGE
EVP	EMERGENCY VEHICLE PRE-EMPTION	RLTA	RED LEFT TURN ARROW
F&I	FURNISH AND INSTALL	RRTA	RED RIGHT TURN ARROW
FL	FLASH/FLASHING	RSC	RIGID STEEL CONDUIT
G	GREEN	SOP	SOURCE OF POWER
GLTA	GREEN LEFT TURN ARROW	SPR	SPARE
GRN	GREEN	ST. LHT	STREET LIGHT
GR. R	GROUND ROD	STA	STATION
GRTA	GREEN RIGHT TURN ARROW	SW	SWITCH
GTHA	GREEN THRU ARROW	SWD	SWITCHED
HH	HANDHOLE	S&R	SALVAGE AND REINSTALL
HPS	HIGH PRESSURE SODIUM	TDW	TELEPHONE DROP WIRE
JB	JUNCTION BOX	WLK	WALK
LUM	LUMINAIRE	YEL	YELLOW
NEU	NEUTRAL	YLTA	YELLOW LEFT TURN ARROW
NMC	NONMETALLIC CONDUIT	YRTA	YELLOW RIGHT TURN ARROW
		YTHA	YELLOW THRU ARROW

EVP DETECTOR & LIGHT MOUNTING DETAIL ON MAST ARM

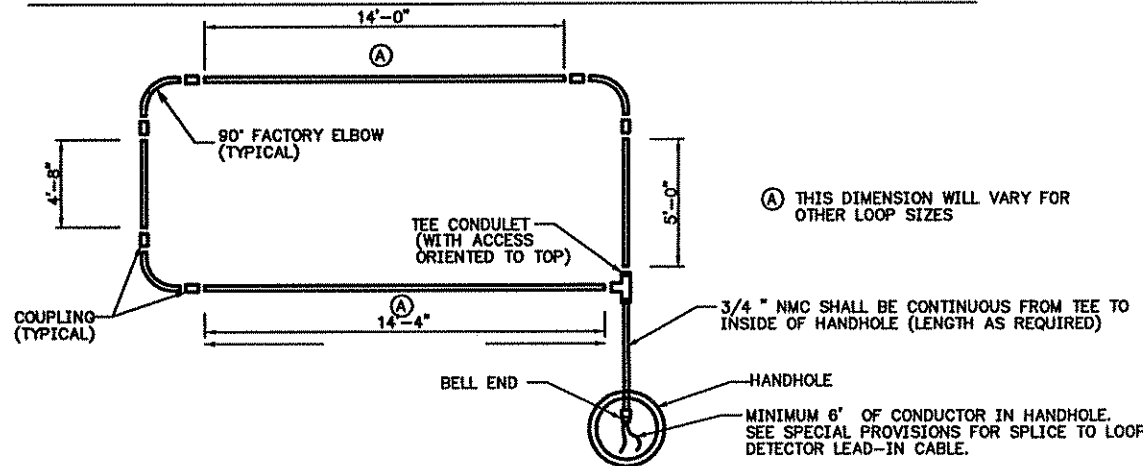


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	REV. NO.	BY	DATE	REVISIONS DESCRIPTION																		

TYPICAL NMC LOOP DETECTOR LAYOUT



TYPICAL NMC LOOP DETECTOR DETAIL- (6' X 15' LOOP)

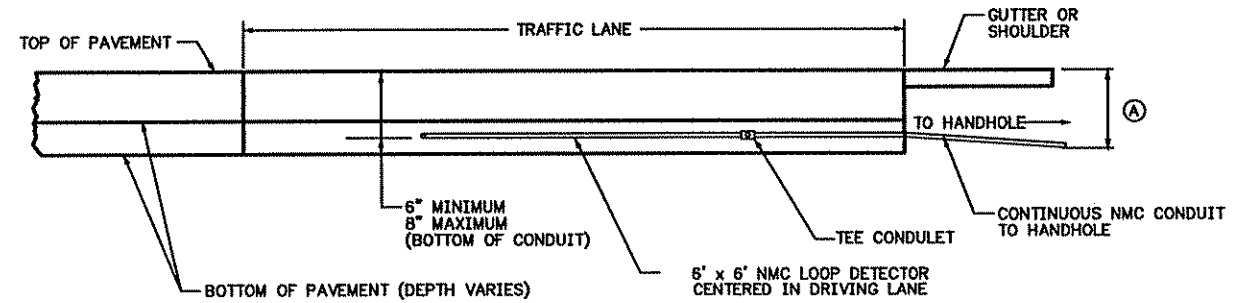


NOTES:

- SEE SPECIAL PROVISIONS FOR REQUIRED LOOP DETECTOR CONDUCTORS AND SPLICE KITS.
- THE 3/4" NON-METALLIC CONDUIT (NMC) AND FITTINGS SHALL BE SCHEDULE 40 HEAVY WALL RIGID POLYVINYL CHLORIDE (PVC). SEE SPEC. 3803.
- THREE CORNERS OF EACH LOOP DETECTOR SHALL BE A 90° FACTORY ELBOW (6" RADIUS), THE FOURTH SHALL BE AN NMC TEE CONDULET.
- APPROVED PVC PRIMER AND CEMENT SHALL BE USED FOR THE PVC JOINTS.
- ALL SLACK MUST BE REMOVED FROM LOOP DETECTOR CONDUCTORS WITHIN THE NMC.
- THE LOOP DETECTOR ROADWAY CONDUCTORS (1/2" ^{FIVE} SHALL BE TWISTED THREE TURNS PER FOOT FROM THE NMC TEE CONDULET TO THE HANDHOLE.
- ATTACH A FERROUS METAL ITEM TO THE INTERIOR OF THE TEE CONDULET COVER.
- EACH LOOP DETECTOR CONDUIT TO THE HANDHOLE SHALL BE SLOPED TOWARDS THE HANDHOLE.
- LOOP DETECTOR CONDUITS TO THE HANDHOLE MAY BE PLACED WITHIN THE SAME TRENCH.
- THE LOOP DETECTOR ROADWAY CONDUCTORS SHALL END IN THE HANDHOLE.
- NO SPLICES ALLOWED IN CONDUIT TO TEE CONDUIT.
- THE LOOP DETECTOR ROADWAY CONDUCTORS AND THE LOOP DETECTOR LEAD-IN CABLE CONDUCTORS SHALL BE PROPERLY PREPARED AND CLEANED BEFORE SPLICING.
- 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).
- TYPICAL SIZE OF LOOP DETECTORS ARE 6' x 6', 6' x 10', 6' x 15' AND 6' x 20'. REFER TO INTERSECTION LAYOUT FOR SPECIFIC LOOP DETECTORS TO BE PLACED.
- ALL LOOP DETECTORS SHALL HAVE 4 TURNS OF CONDUCTORS.

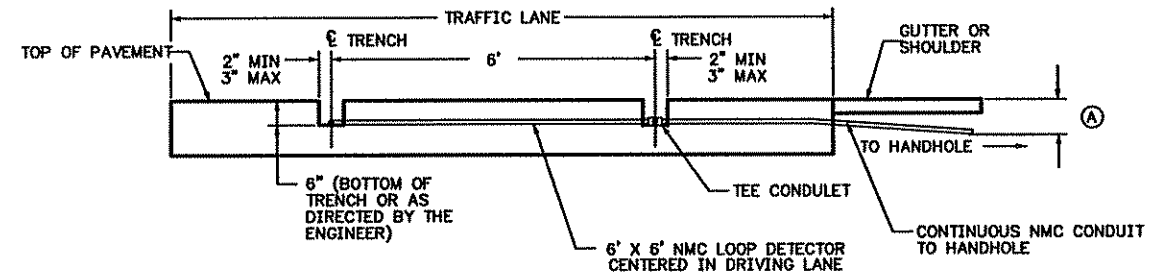
TYPICAL NMC LOOP DETECTOR INSTALLATION

NEW BITUMINOUS OR CONCRETE PAVEMENT



Ⓐ VARIABLE DEPTH—MAINTAIN DRAINAGE TO HANDHOLE

INPLACE BITUMINOUS PAVEMENT



NOTES:

- USE THE LOOP DETECTOR TO BE INSTALLED FOR THE PURPOSE OF MARKING THE PAVEMENT LOCATION FOR THE MILLING OPERATION.
- TO ACHIEVE FULL TRENCH DEPTH FOR CONDUIT PLACEMENT, MILL BEYOND THE DESIRED PAVEMENT MARKING.
- PROVIDE A MINIMUM 2" VERTICAL EDGE, MEASURED FROM THE TOP OF PAVEMENT, ON ALL MILLED TRENCH CUTS.
- AN AIR COMPRESSOR UNIT (50 HP) IS REQUIRED FOR REMOVING ALL LOOSE MATERIAL FROM TRENCH PRIOR TO TACK COAT APPLICATION.
- APPLY A TACK COAT AT A UNIFORM RATE TO THE BOTTOM AND EDGES OF THE MILLED AREA (USE AN EMULSIFIED ASPHALT PER SPEC. 2357.2A)
- MIXTURE USED TO FILL THE RETROFIT LOOP DETECTOR TRENCHES SHALL MEET THE REQUIREMENTS OF MN/DOT SPECIFICATION 2350 OR 2360. AGGREGATE SIZE 3 OR 4 WILL BE ALLOWED WHEN 2350 IS UTILIZED AND AGGREGATE SIZE A OR B WILL BE ALLOWED WHEN 2360 IS UTILIZED. OTHER WEARING COURSE MIXTURE TYPES ARE ALLOWED WHEN APPROVED BY THE ENGINEER.
- 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.
- COMPACTION SHALL BE OBTAINED BY THE ORDINARY COMPACTION METHOD. BACKFILL THE TRENCH WITH A MINIMUM OF TWO LIFTS AND COMPACT EACH LIFT. BEFORE COMPACTION 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.
- THE COMPACTION MIXTURE IN THE TRENCH SHOULD BE LEFT 1/4" TO 1/2" ABOVE THE ADJACENT PAVEMENT SURFACE TO PROVIDE FOR ADDITIONAL COMPACTION BY TRAFFIC.
- APPLY A BITUMINOUS FOG SEAL ON THE NEWLY COMPACTIONED 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.

PLOT DATE: Apr 23, 2002 4:50pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS08.dwg

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DATE:
APRIL 26, 2002



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Minneapolis, MN 55415
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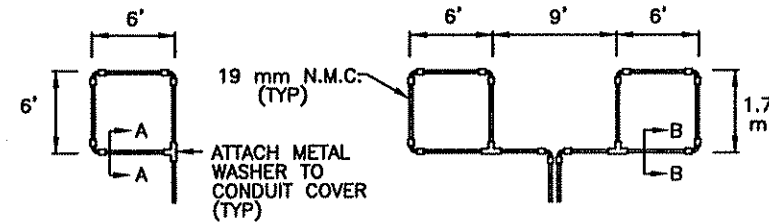
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Aaron S. Heumann
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

NORTHDALE BOULEVARD
(C.S.A.H. 11)
SIGNALS SYSTEM "A" & "B"
PERFORMED NON-METALLIC CONDUIT (NMC) LOOP DETECTOR DETAILS

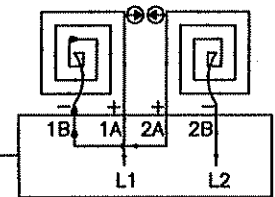
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
109
159

PLOT DATE: Apr .002 5: 00pm DISK FILE NAME: (15.05) R: \33889\33889043\PLAN-SHT\043-TS1B.dwg



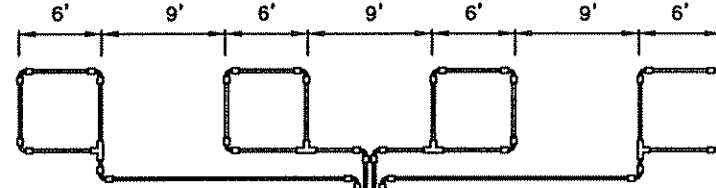
**LOOP DETECTOR
DETAIL 'A'**
(LOOP PHASING FOR
SINGLE CONNECTION)



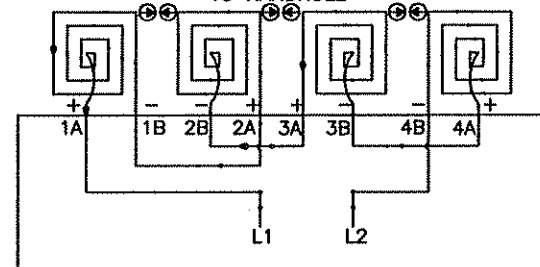
LOOP CONNECTIONS SHALL BE
LABELED AND SPLICED IN THE
HANDHOLE AS FOLLOWS:

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

**LOOP DETECTOR
DETAIL 'B'**
(LOOP PHASING FOR
SERIES CONNECTION)



LOOP RETURN CONDUITS
MAY BE PLACED IN COMMON
TRENCH (TYP)

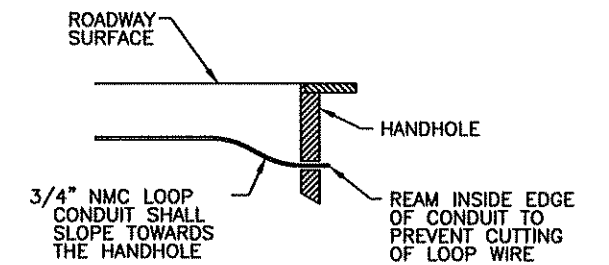
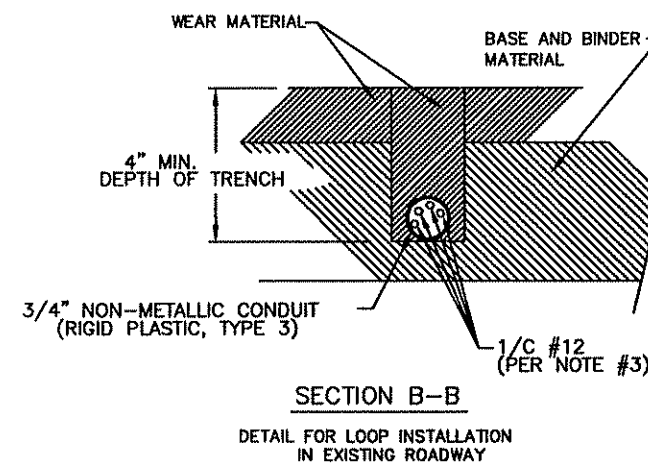
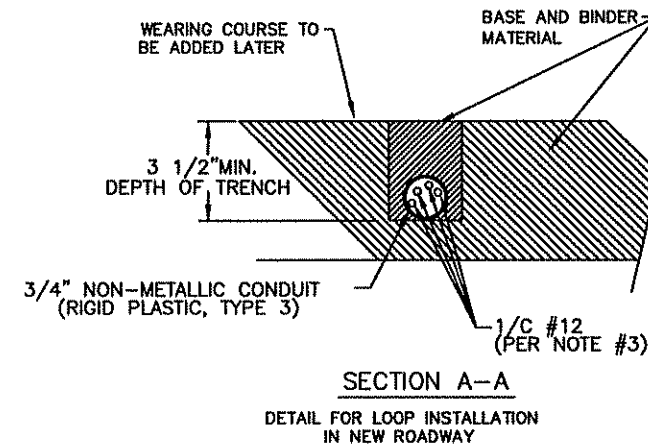


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED
IN THE HANDHOLE AS FOLLOWS:

L1 TO 1A 3B TO 4A
1B TO 2A 4B TO L2
2B TO 3A

SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE.
ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE
(1A, 1B, ECT)

**LOOP DETECTOR
DETAIL 'C'**
(LOOP PHASING FOR
SERIES CONNECTION)



DRAINAGE DETAIL

LOOP DETECTOR WIRING

- 1) ALL CORNERS SHALL BE 90° CONDUIT BENDS.
- 2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
- 3) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
- 4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER 0.3 METER (1 FOOT) THROUGH THE CONDUIT TO THE HANDHOLE.
- 5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
- 6) LOOPS 6' x 6' THRU 6' x 14' SHALL HAVE (4) TURNS.
- 7) LOOPS 6' x 15' AND LARGER SHALL HAVE (2) TURNS.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: JAS DESIGN BY: MRA

CHKD. BY: ASH DWG. NAME: 043-TS1B

DATE: APRIL 26, 2002



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A. S. Heumann
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25848

**NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
SIGNAL SYSTEMS "C" & "D"**

PREFORMED NON-METALLIC CONDUIT (NMC)
LOOP DETECTOR DETAILS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

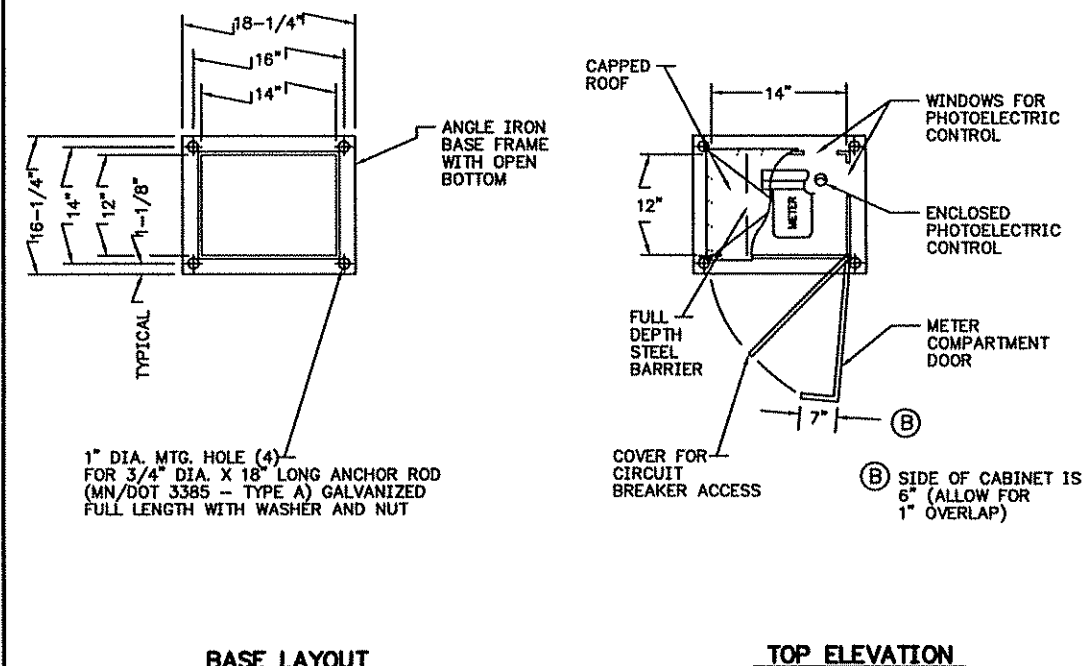
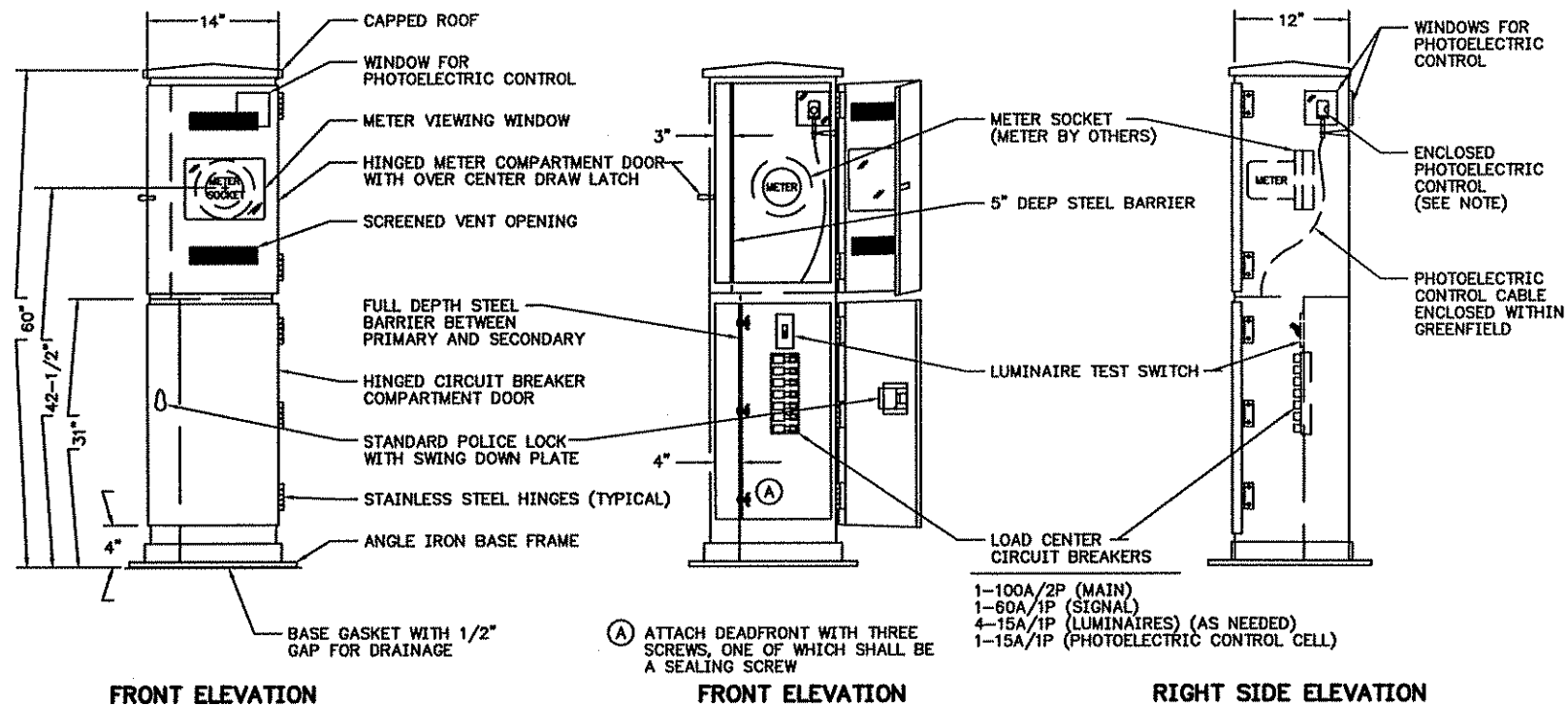
SHEET NO.

110

159

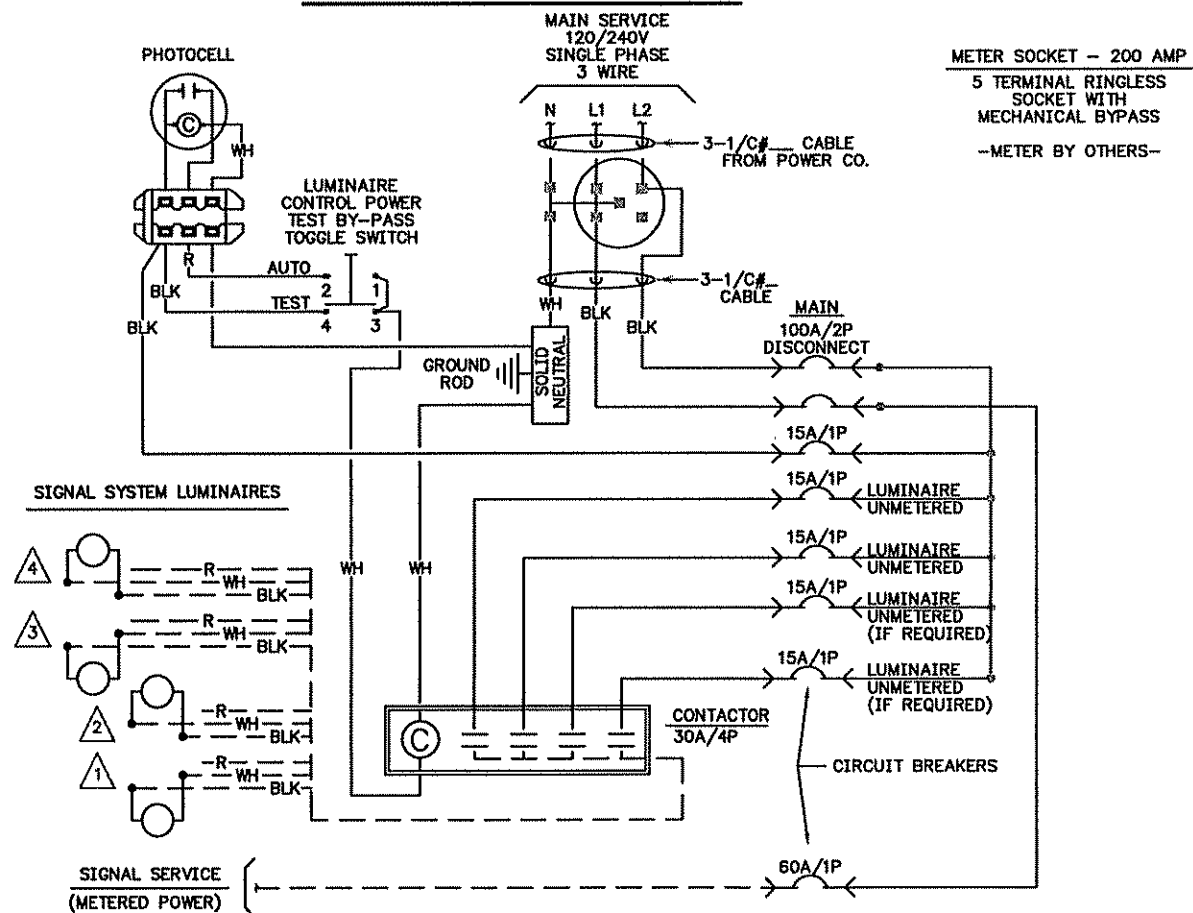
SERVICE CABINET DETAILS

CABINET BASE DETAILS



FEED POINT WIRING DIAGRAM

CONSTRUCTION NOTES



1. THE SERVICE CABINET SHALL BE FABRICATED FROM FORMED AND WELDED .125" ANNOZIDIZED ALUMINUM.
2. ALL HINGES, HINGE PINS, AND LOCKS SHALL BE OF NON-CORRODING MATERIALS.
3. THE SERVICE CABINET DOORS SHALL BE ATTACHED TO THE ENCLOSURE WITH LIFT-OFF PHENOLIC HINGES. THE METER COMPARTMENT DOOR SHALL BE SECURED WITH AN OVER-CENTER DRAW LATCH AND DUAL LOCKING FIXTURE WITH LOCK. THE CIRCUIT BREAKER COMPARTMENT DOOR SHALL BE SECURED WITH A STANDARD POLICE LOCK EQUIPPED WITH A SWING DOWN PLATE WITH TWO (2) KEYS.
4. BOTH DOOR OPENINGS SHALL BE SEALED WITH NEOPRENE GASKETS TO FORM A COMPLETE SEAL WITH THE ENCLOSURE.
5. THE VIEWING AND PHOTOELECTRIC CONTROL WINDOWS SHALL BE CLEAR LEXAN MATERIAL, SEVEN INCH X SEVEN INCH MINIMUM FOR VIEWING WINDOW AND FOUR INCH X FOUR INCH FOR PHOTOELECTRIC CONTROL CELL WINDOW.
6. THE SERVICE CABINET SHALL BE PROTECTED INSIDE AND OUTSIDE WITH A RUST INHIBITING RED IRON OXIDE ENAMEL PRIMER AND FINISHED WITH AN OVEN BAKED ENAMEL (SILVER).
7. THE CIRCUIT BREAKERS SHALL BE 120/240 VOLT AC, 60 HZ, AND SHALL BE CLEARLY MARKED WITH THE "ON" AND "OFF" POSITIONS AND IDENTIFIED WITH THE LOAD WHICH IT IS CARRYING (E.G. "SIGNALS OR LIGHTING"). ALL CIRCUIT BREAKERS SHALL BE CLEARLY MARKED IN A MANNER THAT WILL NOT DETERIORATE WITH MOISTURE OR AGE.
8. SHORT CIRCUIT RATING - 10,000 AIC SYMMETRICAL.
9. PROVIDE CLEARANCE TO INSTALL OR REMOVE THE PHOTOELECTRIC CONTROL CELL.
10. THE PHOTOELECTRIC CONTROL LENS SHALL BE ORIENTED TO ELIMINATE INTERFERENCE BY MANMADE LIGHT SOURCES. THE PHOTOELECTRIC CONTROL LENS SHALL NORMALLY FACE NORTH AND EAST.
11. ALL CONDUIT ENTERING THE FOUNDATION SHALL BE SEALED WITH AN APPROVED DUCT SEALER.
12. THE SERVICE CABINET SHALL BE U.L. LISTED AND APPROVED FOR USE AS AN OUTDOOR WEATHER PROOF SERVICE ENTRANCE EQUIPMENT.
13. THE SERVICE CABINET SHALL BE WELDED TO THE BASE IN ACCORDANCE WITH U.L. STANDARDS.
14. SEE THE INTERSECTION LAYOUT FOR THE REQUIRED NUMBER OF LUMINAIRES AT EACH INTERSECTION.

PLOT DATE: Apr 24, 2002 5:00pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS10.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043

DRAWN BY: JAS DESIGN BY: MRA

CHKD. BY: ASH DWG. NAME: 043-TS10

DATE: APRIL 26, 2002

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Aaron S. Heumann

AARON S. HEUMANN
DATE: 4/28/02 MN LIC. NO. 25846

NORTHDAL E BOULEVARD
(C.S.A.H. 11)
SIGNAL SYSTEM "A"
SIGNAL SERVICE CABINET DETAILS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

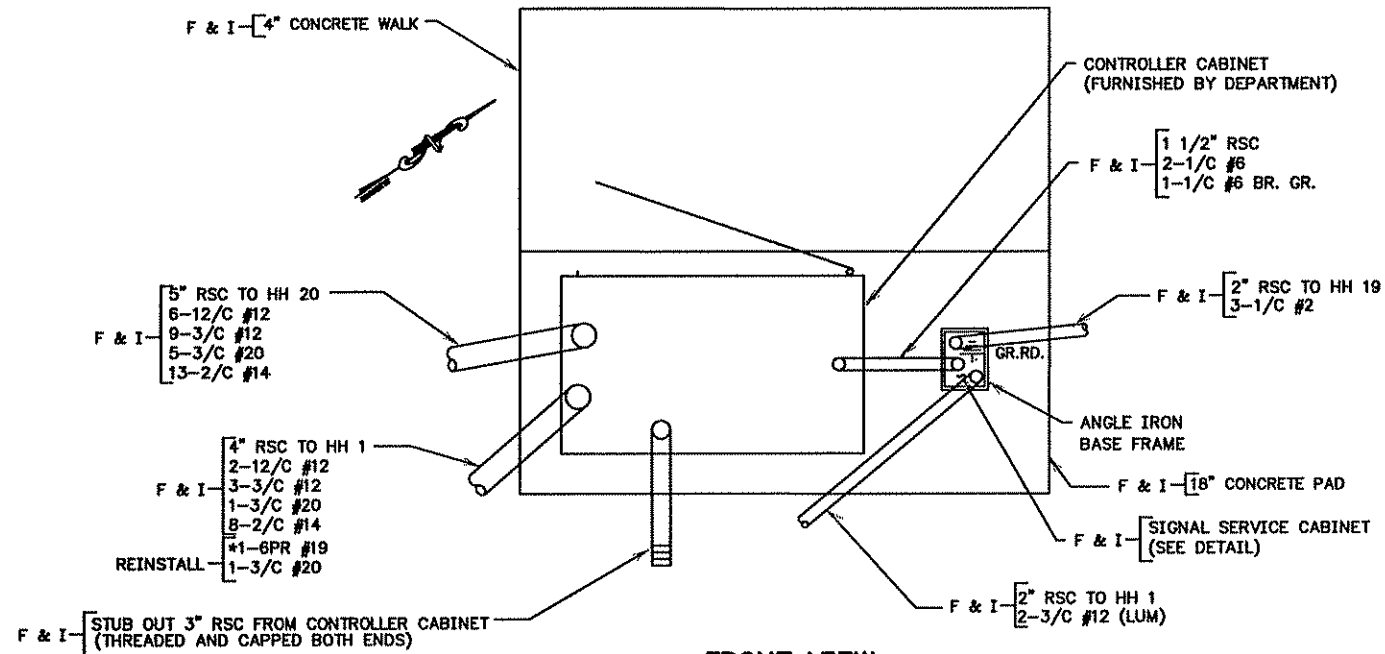
4 OF 27

SHEET NO. 111

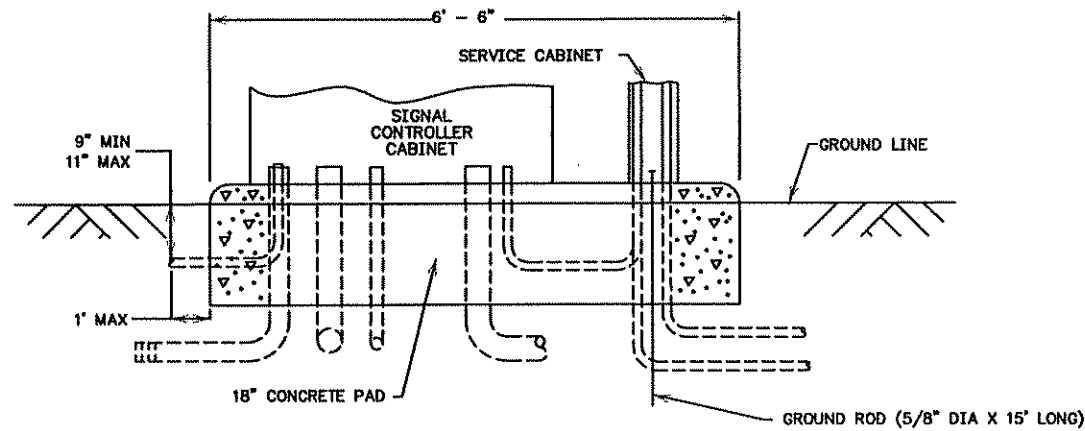
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CONTROLLER CABINET AND SERVICE CABINET
HANSON BLVD. / NORTHDAL BLVD.
SIGNAL SYSTEM "A"
SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

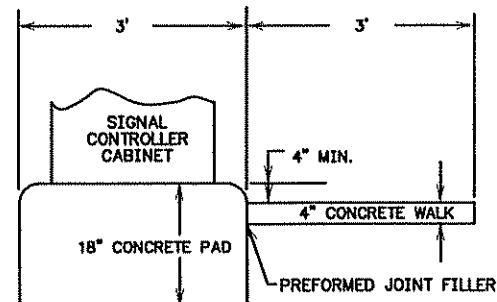
PLAN VIEW



FRONT VIEW

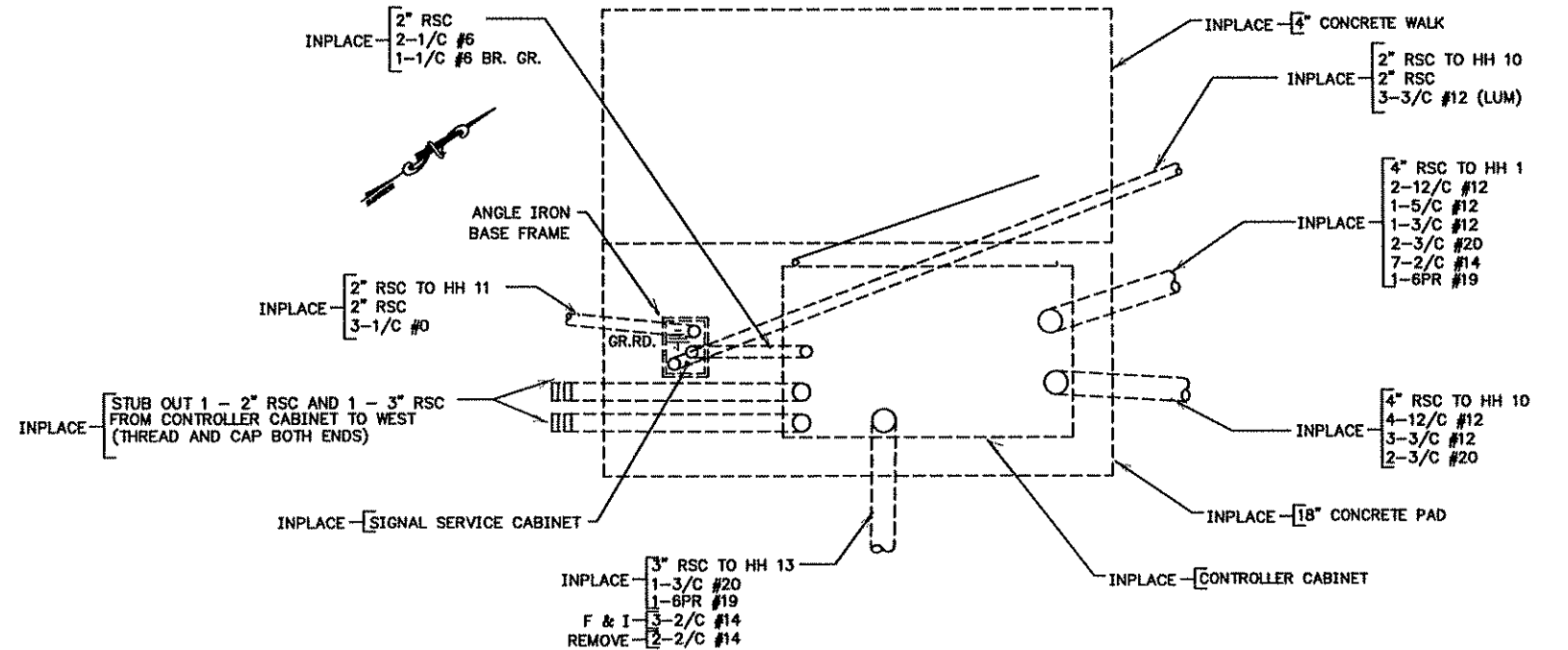


SIDE VIEW



CONTROLLER CABINET AND SERVICE CABINET
HANSON BLVD. / T.H. 10 SOUTH RAMP
SIGNAL SYSTEM "B"
SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

PLAN VIEW



NOTES:

1. THE ANCHOR RODS, NUTS AND WASHERS FOR THE CONTROLLER CABINET SHALL BE FURNISHED BY MN/DOT.
2. THE UPPER PART OF THE EQUIPMENT PAD SHALL BE BEVELLED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER.
3. THE TOP OF THE CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED).
4. CONDUIT SHALL PROJECT A MINIMUM OF 2" ABOVE THE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER, BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
5. CONCRETE MIX 3A32 OR EQUAL SHALL BE USED FOR THE EQUIPMENT PAD AND SIDEWALK.
6. CONDUITS WITH BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BELOW THE CONCRETE.
7. THE EXACT LOCATION OF CONDUITS WITHIN THE PAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
8. * INTERCONNECT ITEM CONSIDERED INCIDENTAL WORK TO BE PAID FOR UNDER SIGNAL SYSTEM "A".

PLOT DATE: Apr 26 2002 5:02pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS30.dwg

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DRAWN BY: JAS	DESIGN BY: MRA
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DATE: APRIL 26, 2002	



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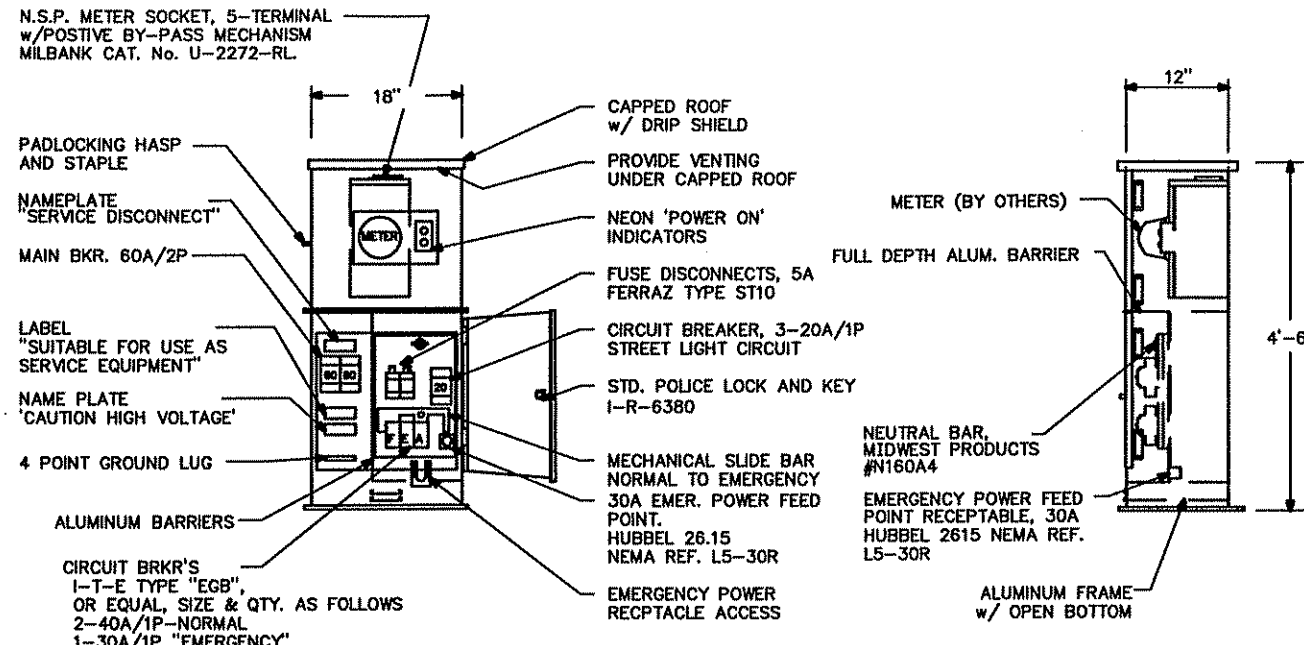
Aaron S. Heumann
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

NORTHDAL BOULEVARD
(C.S.A.H. 11)
SIGNAL SYSTEMS "A" & "B"
EQUIPMENT PAD LAYOUTS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

5 OF 27
SHEET NO.
112
159

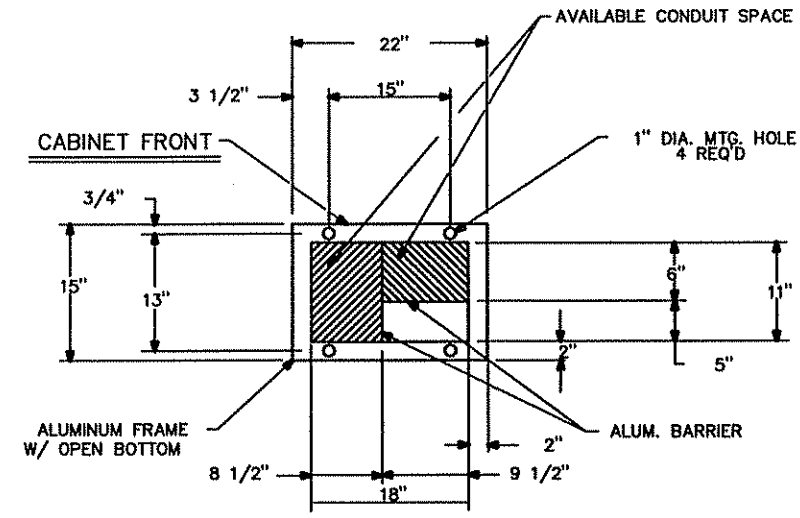
SIGNAL SERVICE CABINET



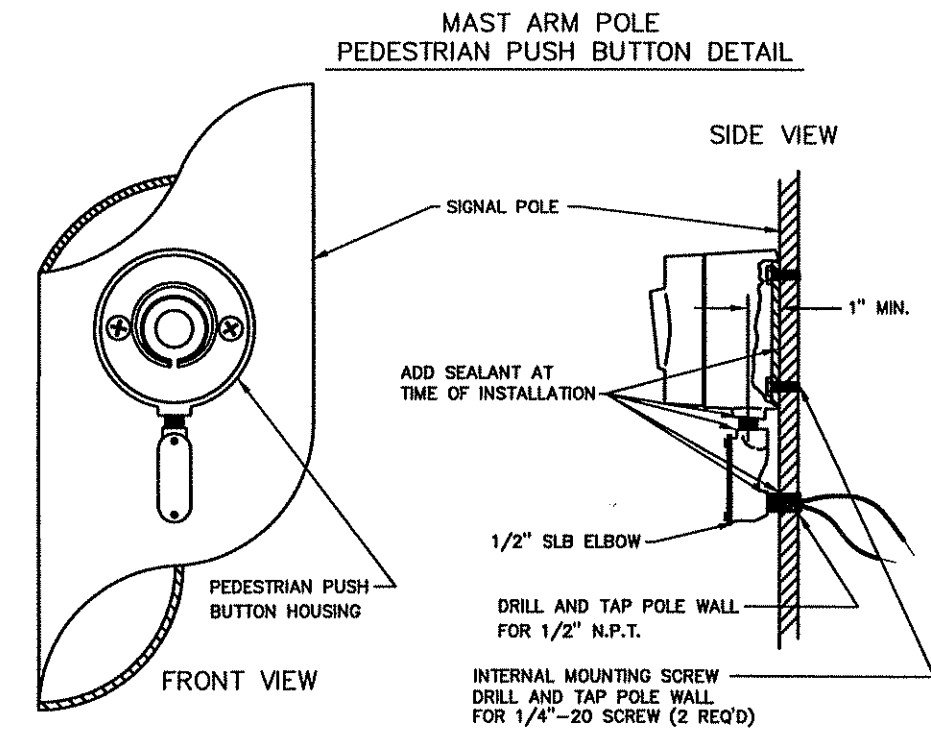
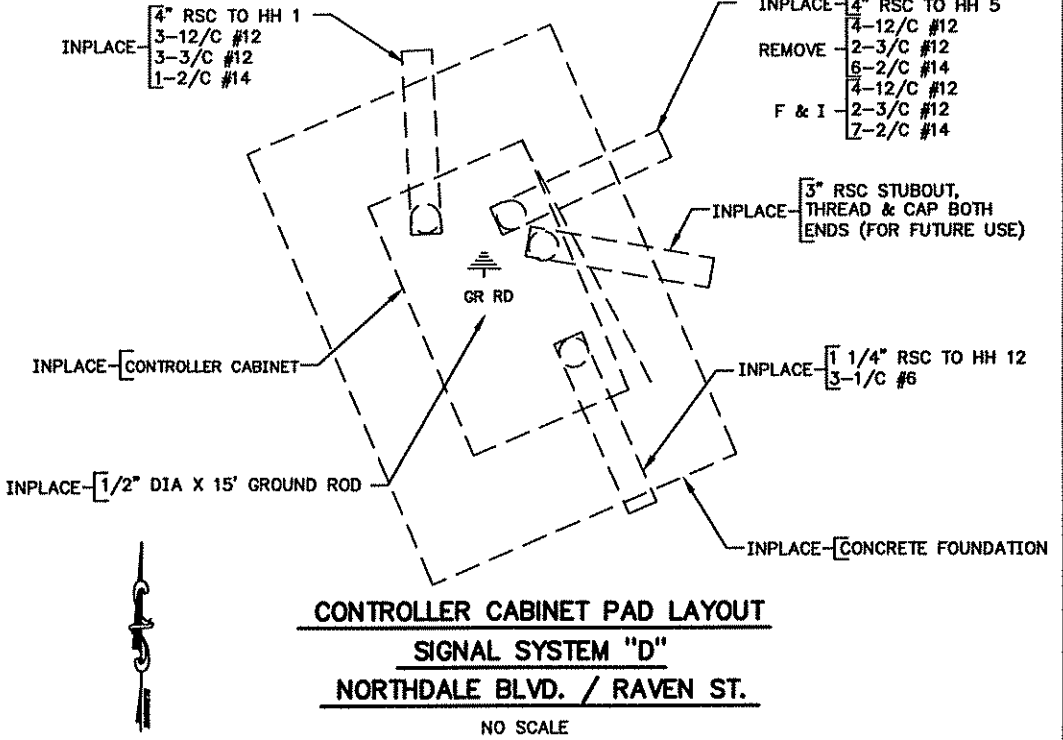
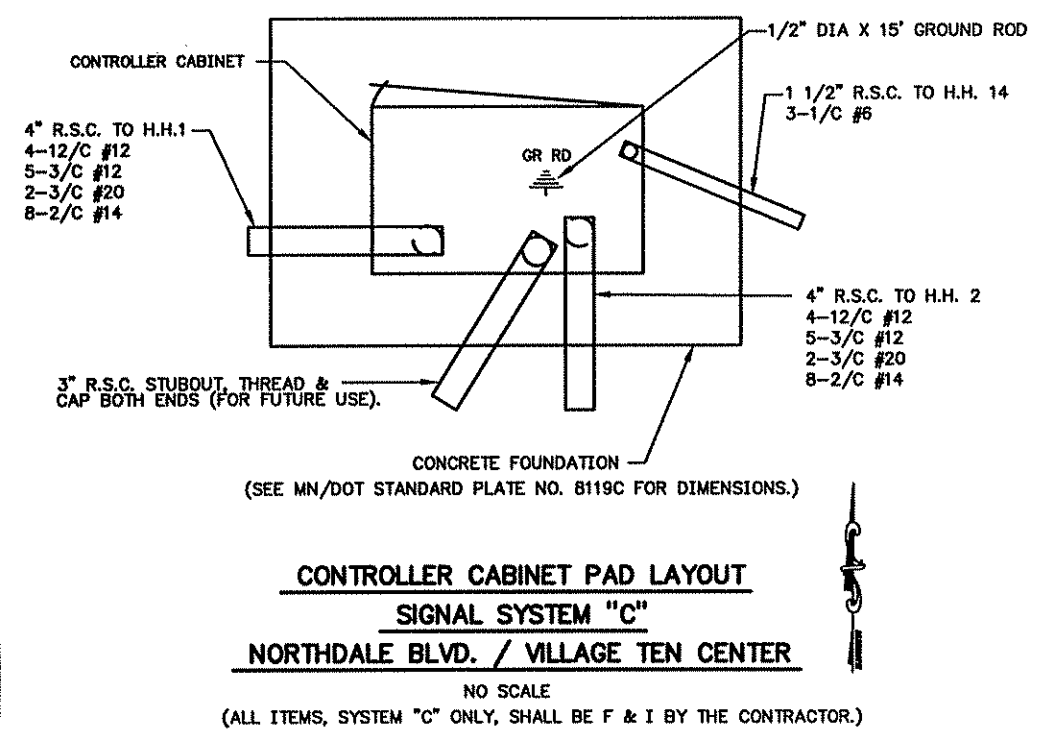
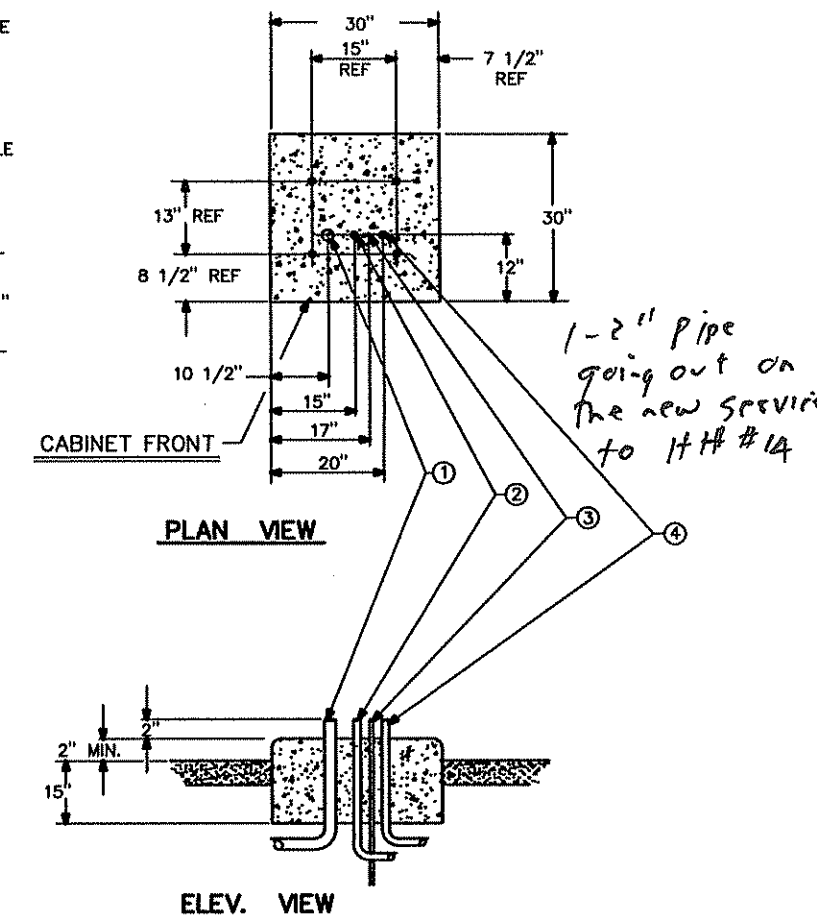
CONSTRUCTION NOTES

ENCLOSURE SHALL BE FABRICATED FROM 1/8 INCH ALUMINUM FOR OUTDOOR WEATHERPROOF SERVICE.
 DOORS TO BE GASKETED, ALL HINGES, PINS AND LOCKS TO BE OF NON CORRODING CONSTRUCTION.
 CABINET SHALL HAVE ANODIC COATING FOR ALL ALUMINUM SURFACES. SEE SPECIAL PROVISIONS.
 ENCLOSURE SHALL BE 'UL' APPROVED

SERVICE CABINET SHALL HAVE BASE GASKETS FURNISHED AND INSTALLED BY CONTRACTOR.



SERVICE CABINET FOUNDATION



PLOT DATE: Apr 25, 2002 5:01pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS19.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	
DRAWN BY: JAS	DESIGN BY: MRA
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DATE: APRIL 26, 2002	



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Aaron S. Heumann
 AARON S. HEUMANN
 DATE: 4/26/02 MN LIC. NO. 25846

NORTHDALE BOULEVARD
(C.S.A.H. 11)
SIGNAL SYSTEMS "C" & "D"
 CABINET & PUSH BUTTON DETAILS

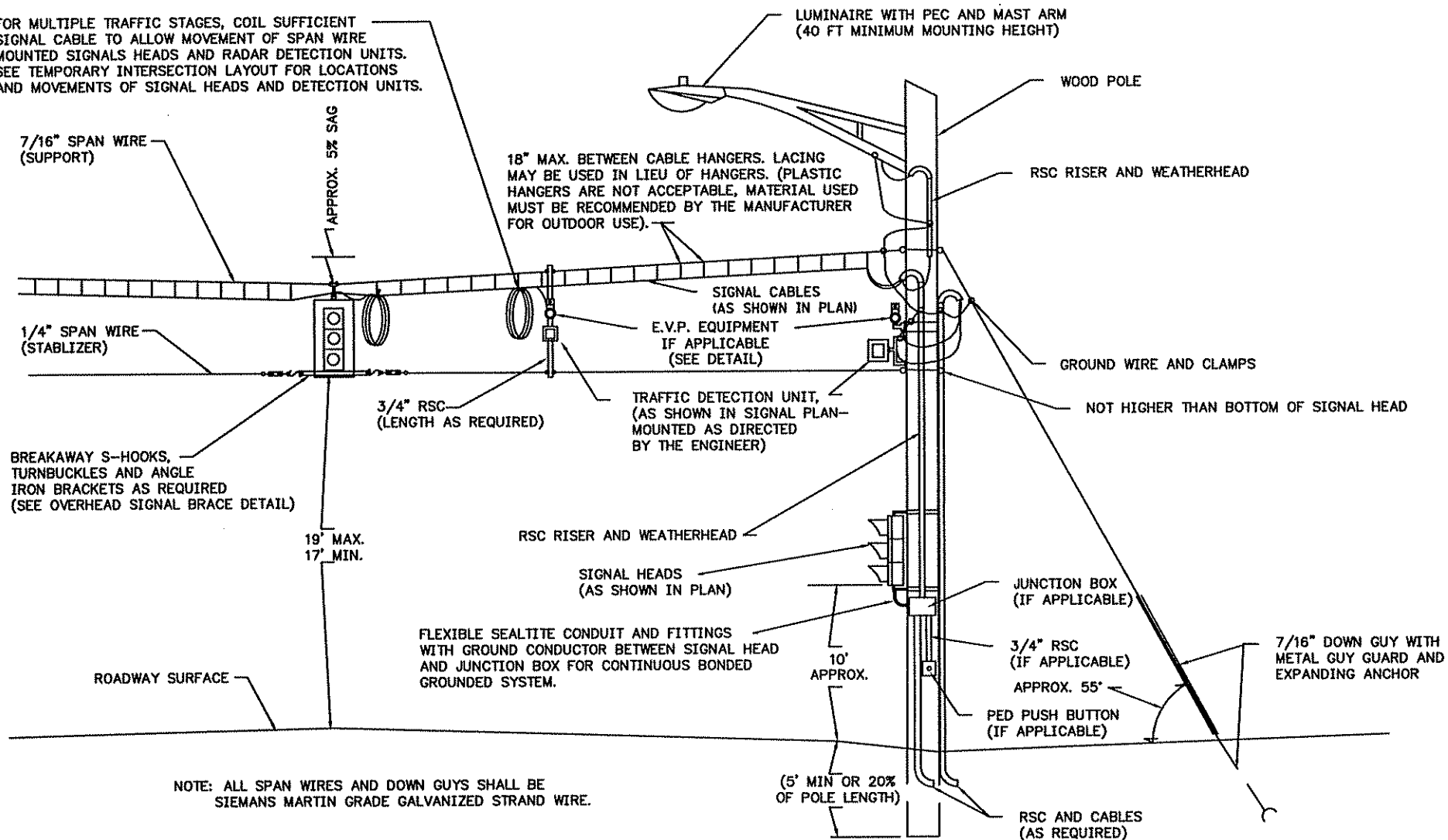
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
113
 159

TYPICAL WOOD POLE AND SPAN WIRE MOUNTED TRAFFIC SIGNALS

(NOT TO SCALE)

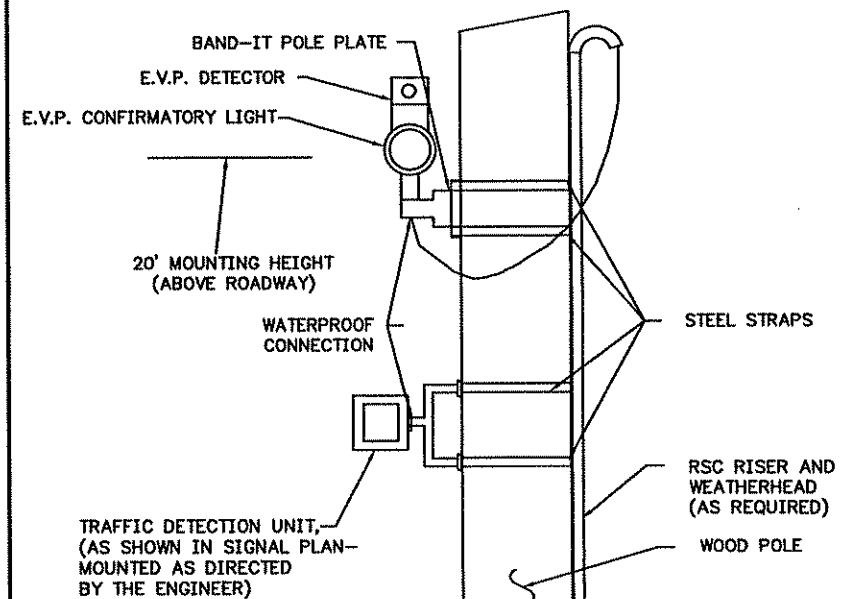
FOR MULTIPLE TRAFFIC STAGES, COIL SUFFICIENT SIGNAL CABLE TO ALLOW MOVEMENT OF SPAN WIRE MOUNTED SIGNALS HEADS AND RADAR DETECTION UNITS. SEE TEMPORARY INTERSECTION LAYOUT FOR LOCATIONS AND MOVEMENTS OF SIGNAL HEADS AND DETECTION UNITS.



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

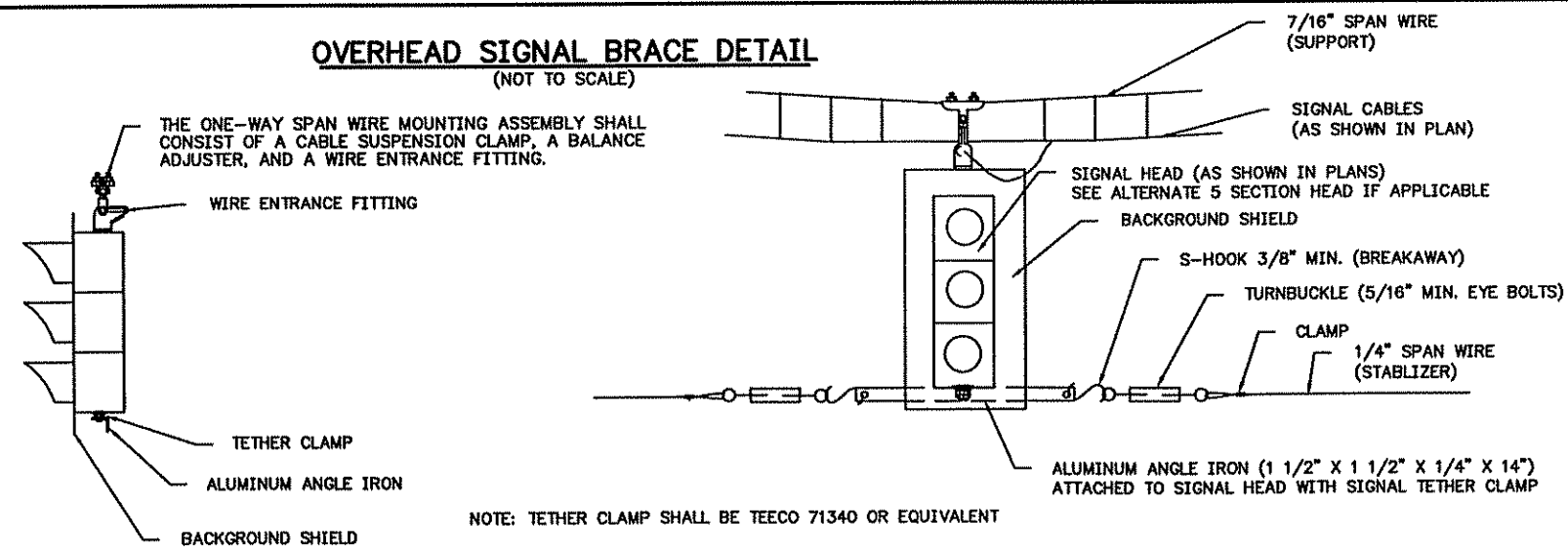
E.V.P. OR TRAFFIC DETECTOR WOOD POLE MOUNT

(NOT TO SCALE)



OVERHEAD SIGNAL BRACE DETAIL

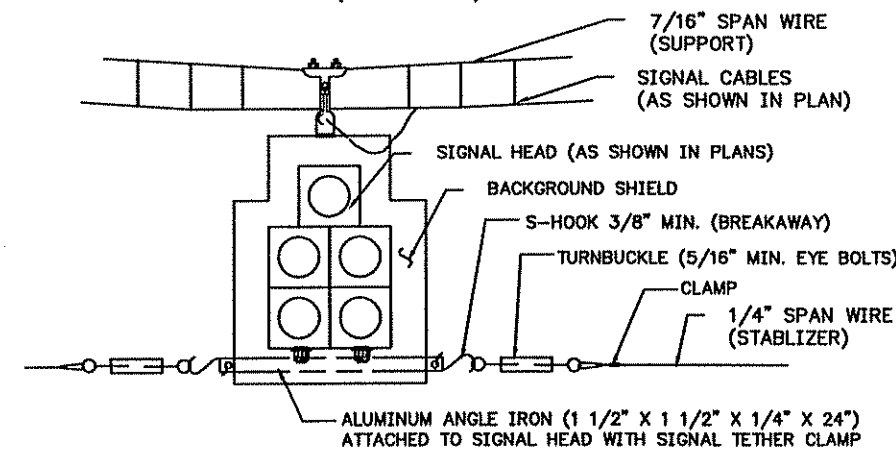
(NOT TO SCALE)



NOTE: TETHER CLAMP SHALL BE TECCO 71340 OR EQUIVALENT

ALTERNATE 5 SECTION HEAD OVERHEAD SIGNAL BRACE DETAIL

(NOT TO SCALE)



No doghouse style on ARCHD signals

PLOT DATE: Apr 2, 2002 4:50pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS09.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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NORTHDAL E BOULEVARD (C.S.A.H. 11) SIGNAL SYSTEM "A"

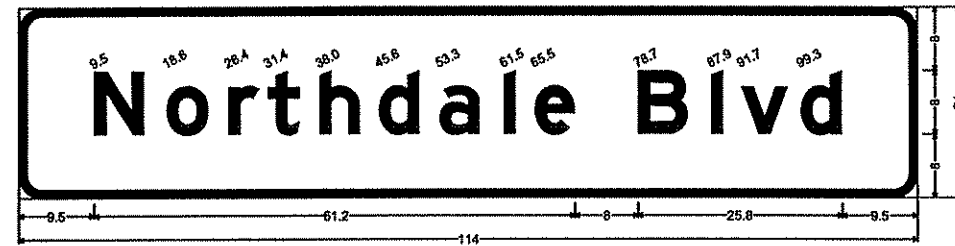
TYPICAL WOOD POLE/SPAN WIRE SIGNAL SYSTEM DETAIL WITH LOWER BREAKAWAY STABILIZER BAR

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

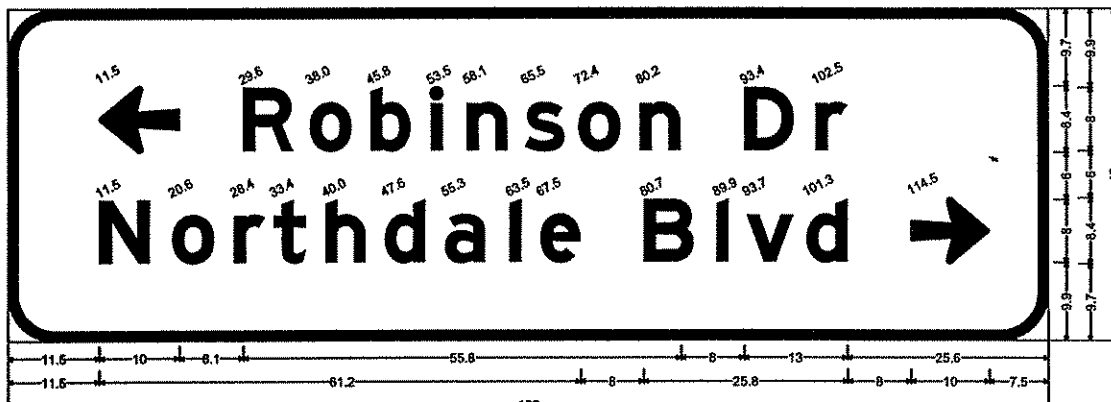
SHEET NO. 114

159

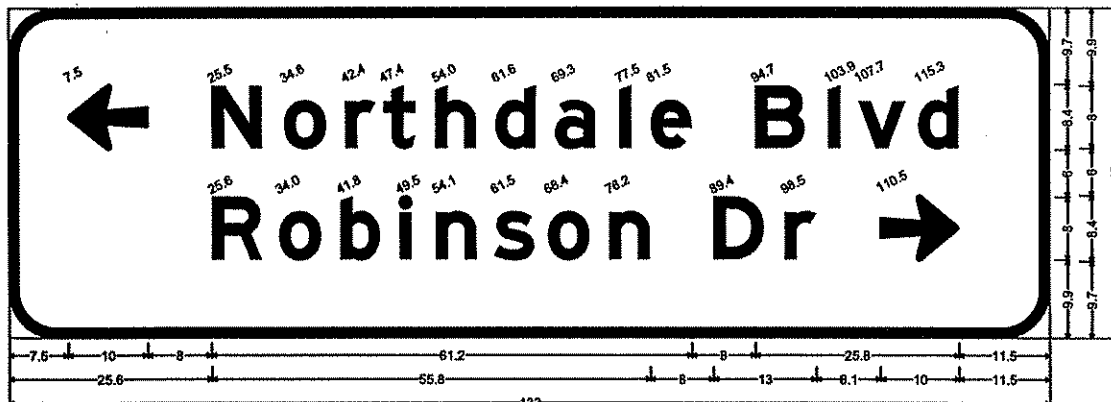
2002 1:45pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS25.dwg



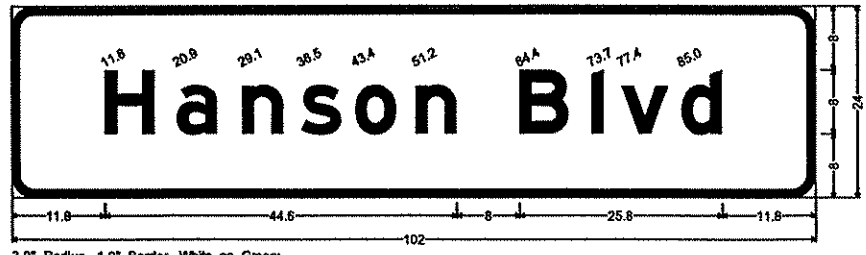
3.0" Radius, 1.0" Border, White on Green; [Northdale Blvd] E Mod; D-1



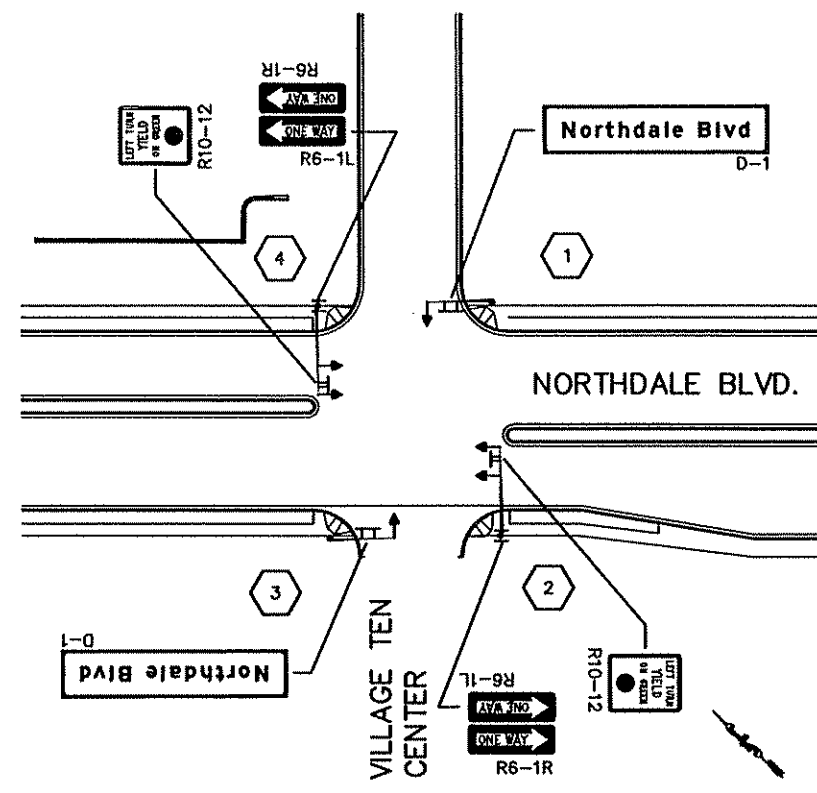
6.0" Radius, 1.3" Border, White on Green; Arrow 3 - 10.0" 180°; [Robinson Dr] E Mod; [Northdale Blvd] E Mod; Arrow 3 - 10.0" 0°; D-2



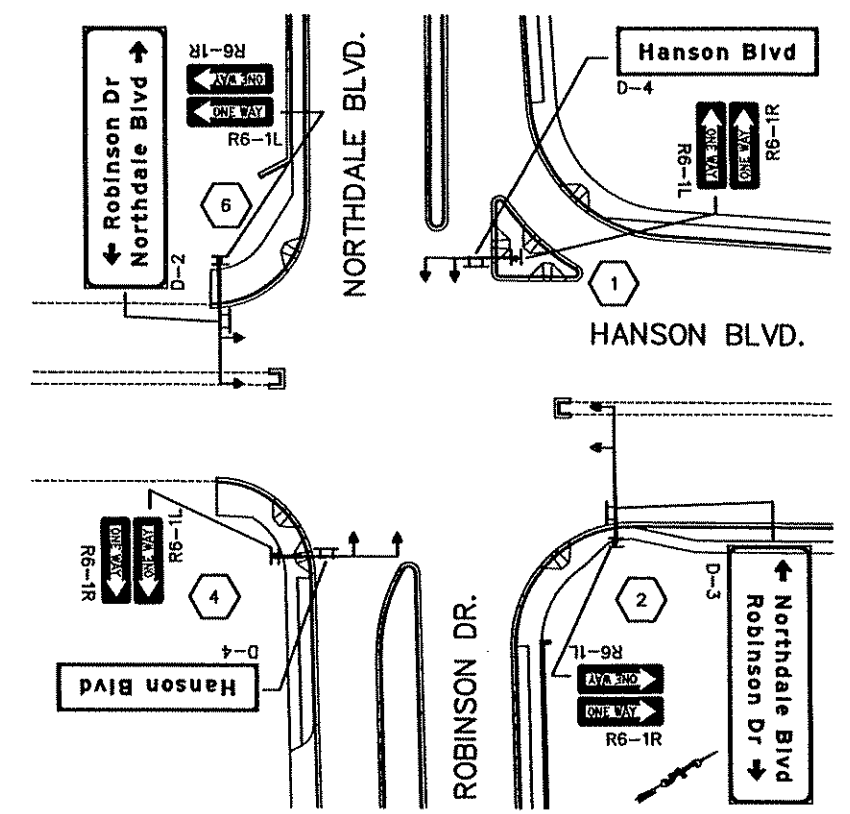
6.0" Radius, 1.3" Border, White on Green; Arrow 3 - 10.0" 180°; [Northdale Blvd] E Mod; [Robinson Dr] E Mod; Arrow 3 - 10.0" 0°; D-3



3.0" Radius, 1.0" Border, White on Green; [Hanson Blvd] E Mod; D-4



SIGNAL SYSTEM "C"
NORTHDALE BLVD. / VILLAGE TEN CENTER



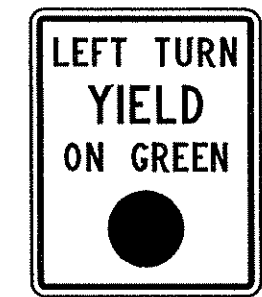
SIGNAL SYSTEM "A"
HANSON BLVD. / NORTHDALE BLVD.



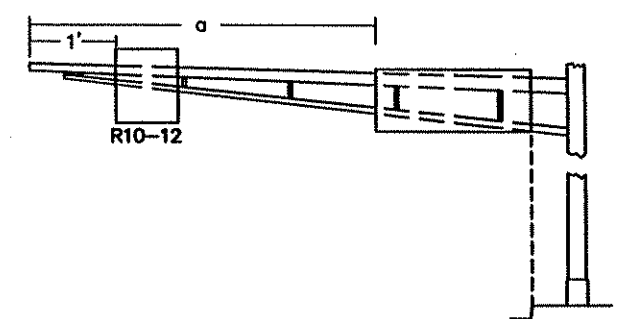
R6-1L



R6-1R



R10-12



- NOTES:
- FURNISHING AND INSTALLING TYPE "C" AND TYPE "D" SIGNS SHALL BE INCIDENTAL TO THE INDIVIDUAL SIGNAL SYSTEM.
 - CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
 - SEE STANDARD SIGNS MANUAL FOR ARROW AND OVERLAY DETAILS.
 - FOR STRUCTURAL DETAILS, TYPE "D" SIGNS, SEE STANDARD SIGNS MANUAL, PAGES 105A AND 105B.
 - FOR TYPE "D" STRINGER AND PANEL JOINT DETAIL, SEE STANDARD SIGNS MANUAL.
 - THE CONTRACTOR SHALL POLE MOUNT R6-1L & R6-1R SIGNS TO THE SATISFACTION OF THE ENGINEER.

TYPE "C" AND TYPE "D" SIGNS							POLE NUMBER, a (FT)	
SIGN PANEL	SIZE (Inches)	SIZE (feet)	NO. REQ.	NO. POSTS PER SIGN	POST SPACING (Inches)	AREA (sq. ft.) PER SIGN	SYSTEM "A"	SYSTEM "C"
D-1	114x24	2.90x0.61	2	3	38	19.0	(1) 5.5 (3) 5.5	
D-2	132x32	2.74x0.61	1	4	33	29.3	(6) 14	
D-3	132x32	2.44x1.83	1	4	33	29.3	(2) 39	
D-4	102x24	2.44x1.83	2	3	34	17.0	(1) 21.5 (4) 26.5	
R10-12	36x48	3x4	2	2	30	12.0		(2) (4)
R6-1L	36x12	3x1	6	NOTE 6	NOTE 6	3.0	(1) (2) (4) (6)	(2) (4)
R6-1R	36x12	3x1	6	NOTE 6	NOTE 6	3.0	(1) (2) (4) (6)	(2) (4)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	MRA	05/07/02	ADD. #1: REVISED D-2 & D-3 ADD. #2: ADDED R6-1L & R6-1R SIGNS

DESIGN FILE: 33889-043	DRAWN BY: JAS	DESIGN BY: MRA
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DATE: APRIL 26, 2002		



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A. S. Heumann
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

NORTHDALE BOULEVARD
(C.S.A.H. 11)
SIGNAL SYSTEMS "A" & "C"
SIGN DETAILS

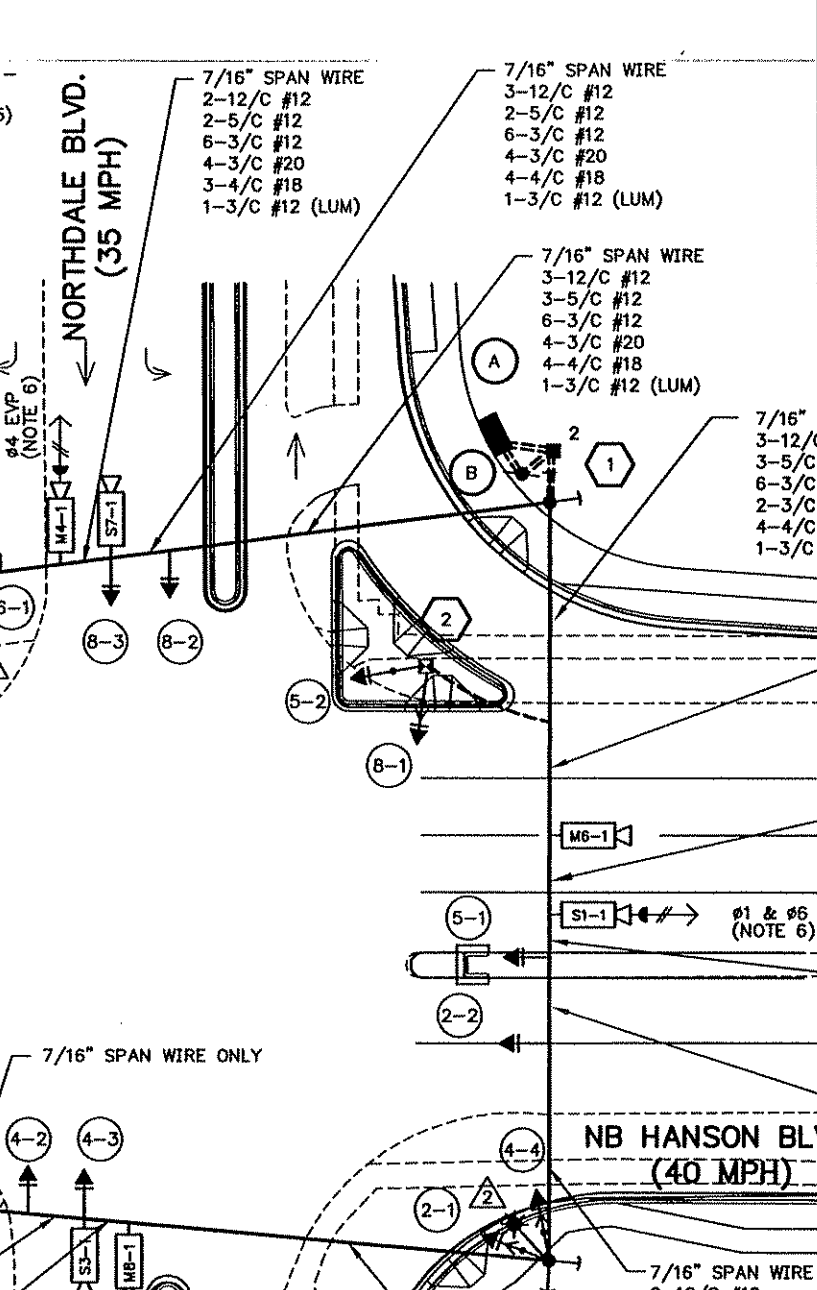
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COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
115
159

PLOT DATE: 2002 5:01pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS24.dwg

- 1 45' WOOD POLE CL. 2
2 - DOWNGUY GUARD AND ANCHOR
2 - 3" RISERS AND WEATHERHEADS TO HH 2:
6-12/C #12
6-5/C #12
12-3/C #12
6-3/C #20
8-4/C #18
2-3/C #12 (LUM)
- 2 TEMPORARY PEDESTAL FOUNDATION
PEDESTAL POLE AND BASE
TYPE 2B PEDESTAL MOUNTED
2 - "DO NOT CROSS" SIGNS (R9-3A)
FACING POLE 5 AND POLE 3
1 - PEDESTRIAN PUSHBUTTON AND SIGN
AERIAL CONNECTION TO SPAN WIRE:
1-12/C #12
1-3/C #12
- 3 45' WOOD POLE CL. 2
2 - DOWNGUY GUARD AND ANCHOR
15' LUMINAIRE MAST ARM
LUMINAIRE - 250W HPS WITH PEC
AND CHECK SWITCH
2 - 10B POLE MOUNTED
2 - PEDESTRIAN PUSHBUTTON AND SIGN
2 - "DO NOT CROSS" SIGNS (R9-3A)
FACING PEDESTAL 2 AND POLE 4
- 4 45' WOOD POLE CL. 2
2 - DOWNGUY GUARD AND ANCHOR
2 - 10B POLE MOUNTED
2 - PEDESTRIAN PUSHBUTTON AND SIGN
"DO NOT CROSS" SIGNS (R9-3A)
FACING POLE 3
INSTALL SALVAGED EVP DETECTOR (#8)
(SEE NOTE 6)

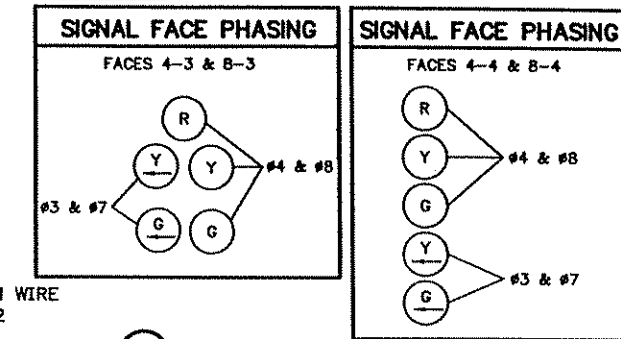
- 5 45' WOOD POLE CL. 2
2 - DOWNGUY GUARD AND ANCHOR
15' LUMINAIRE MAST ARM
LUMINAIRE - 250W HPS WITH PEC
AND CHECK SWITCH
1 - 10B POLE MOUNTED
1 - 10A POLE MOUNTED
1 - PEDESTRIAN PUSHBUTTON AND SIGN
"DO NOT CROSS" SIGN (R9-3A) FACING PEDESTAL 2
- 6 PEDESTAL FOUNDATION
10' PEDESTAL AND BASE
ONE WAY EVP DETECTOR -
MOUNTED ON TOP OF
PEDESTAL POLE (#2 & #5)
EXTEND INTO HH 12:
2" RSC
1-3/C #20



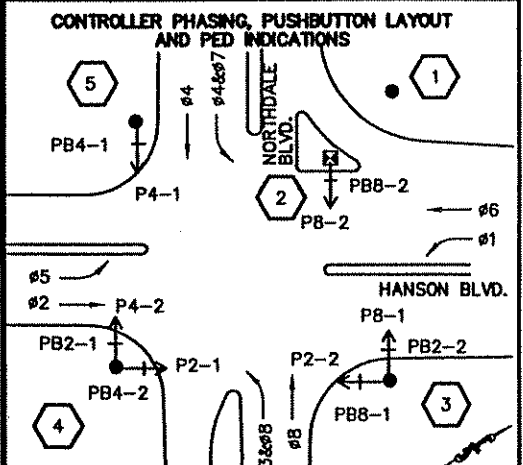
SIGNAL FACES						
FACE	R	Y	G	R	Y	G
1-1, 1-2	●	●	●			
2-1, 2-2	●	●	●			
4-1, 4-2	●	●	●			
4-3, 4-4	●	●	●	←	←	
5-1, 5-2	●	●	●			
6-1, 6-2	●	●	●			
8-1, 8-2	●	●	●			
8-3, 8-4	●	●	●	←	←	

- ALL SIGNAL INDICATIONS SHALL BE 12"
- ALL SIGNAL INDICATIONS SHALL BE LED
- ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD

MICROWAVE & SONIC DETECTORS (MN/DOT FURNISHED)	
NUMBER	STATUS
S1-1	INSTALL
M2-1	INSTALL
S3-1	INSTALL
M4-1	INSTALL
S5-1	INSTALL
M6-1	INSTALL
S7-1	INSTALL
M8-1	INSTALL



- A TEMPORARY EQUIPMENT PAD
TEMPORARY CONTROLLER AND CABINET
(FURNISHED BY DEPARTMENT)
EXTEND INTO HH 2:
2-3" RSC
6-12/C #12
6-5/C #12
12-3/C #12
2-3/C #20
6-3/C #20
8-4/C #18
2-3/C #12 (LUM)
- B TEMPORARY SERVICE EQUIPMENT
(METER SOCKET AND DISCONNECT SWITCH)
15' WOOD POLE CL. 2
1" RSC BELOW SERVICE EQUIPMENT TO
CONTROLLER AND CABINET:
3-1/C #4
1" RSC BELOW SERVICE EQUIPMENT TO HH 2:
2-3/C #12 (LUM)
(TEMPORARY AERIAL CONNECTION TO NORTH
FOR POWER - BY CONNEXUS)



TEMPORARY TRAFFIC SIGNAL SYSTEM "A" STAGING PLAN

STAGE 1, PHASE 1 - EXISTING SIGNAL OPERATION
(PHASES 4 & 7 SHALL BE PLACED ON VEHICLE RECALL)

STAGE 1, PHASE 2 - TEMPORARY SIGNAL SYSTEM
(SEE STAGE 1, PHASE 2 PLAN)

STAGE 2, PHASE 1 - TEMPORARY SIGNAL SYSTEM
(SEE STAGE 2, PHASE 1 PLAN)

STAGE 2, PHASE 2 - TEMPORARY SIGNAL SYSTEM
(SEE STAGE 2, PHASE 2 PLAN)

GENERAL LAYOUT

SYSTEM ID #: 20215
TE #: 2866



- NOTES:
- SEE SPECIAL PROVISIONS FOR MN/DOT FURNISHED MATERIALS.
 - EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
 - EXACT LOCATION OF POLES, CABINET & HANDHOLES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. MN/DOT TRAFFIC OFFICE PERSONNEL SHALL REVIEW THESE LOCATIONS PRIOR TO INSTALLATION.
 - THE CONTRACTOR SHALL PROVIDE SUFFICIENT SLACK IN CABLE TO ALLOW FOR RELOCATING VEHICLE HEADS, EVP EQUIPMENT AND VEHICLE DETECTORS AS SHOWN ON SIGNAL STAGING SHEETS 117 & 118.
 - THE CONTRACTOR SHALL REMOVE AND SALVAGE ITEMS OF THE INPLACE SIGNAL SYSTEM WHEN DIRECTED BY THE ENGINEER. REFER TO INTERSECTION LAYOUT (1 OF 2) & (2 OF 2) SHEET NO'S. 120 & 121 FOR INFORMATION ON ITEMS TO REMAIN INPLACE FOR FUTURE USE ON THE PERMANENT SIGNAL SYSTEM.
 - ALL EVP EQUIPMENT (DETECTOR, INDICATION LIGHT, PHASE SELECTORS) SALVAGED FROM INPLACE SIGNAL SYSTEM SHALL BE REINSTALLED AT LOCATIONS SHOWN IN PLANS.
 - ALL VEHICLE SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
 - FOR SIGNAL SYSTEM SPAN WIRE MOUNTING, SEE SHEET 114.
 - THE CONTRACTOR SHALL LOCATE AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING WORK.
 - VEHICLE DETECTORS, EVP DETECTORS AND INDICATOR LIGHTS SHALL BE MOUNTED AS DIRECTED BY MN/DOT TRAFFIC OFFICE PERSONNEL. (SPAN WIRE MOUNTING OR POLE MOUNTING AS SHOWN ON DETAIL SHEET 114.)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	MRA	05/07/02	ADD. #1: REVISION FOR 45' WOOD POLE ADD. #1: REM. PED. IND. SYM. FROM POLE 225

DESIGN FILE: 33889-043	DRAWN BY: JAS	DESIGN BY: MRA
CHECKED BY: ASH	DWG. NAME: 043-TS24	
DATE: APRIL 26, 2002		



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.5778 Fax

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Aaron S. Heumann
AARON S. HEUMANN
DATE: 4/28/02 MN LIC. NO. 25846

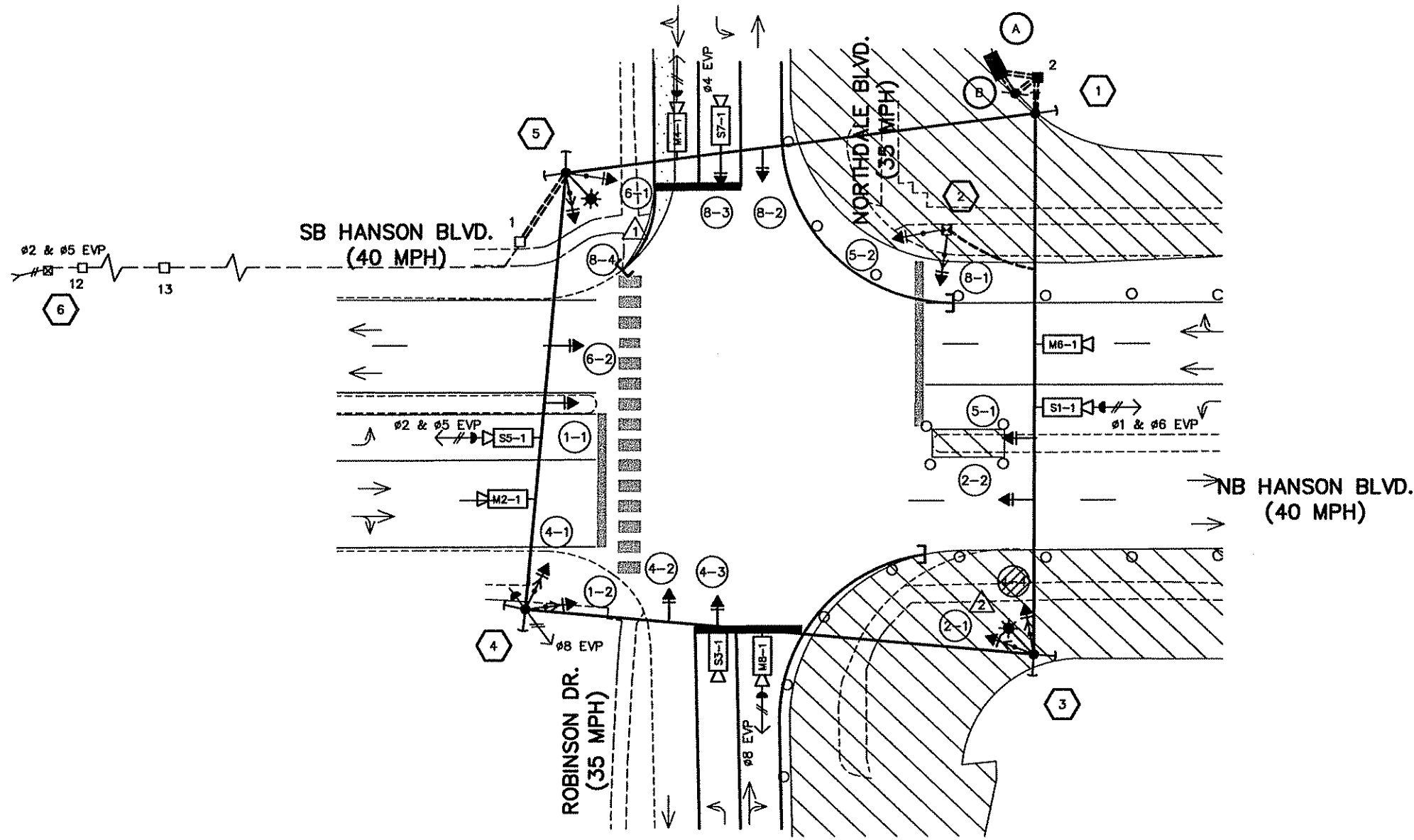
**NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
HANSON BLVD. / NORTHDALÉ BLVD.
SIGNAL SYSTEM "A"
TEMPORARY INTERSECTION LAYOUT**

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO.	116
COUNTY PROJECT		S.A.P.	114-020-27		
S.P.	114-010-13	S.A.P.	114-107-08		159

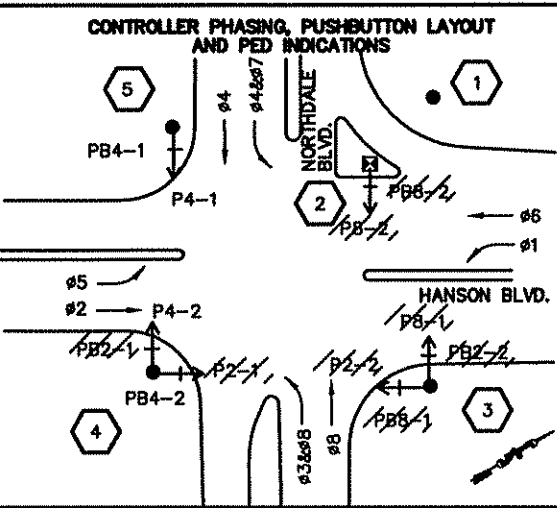
PLOT DATE: Apr 26, 2002 5:01pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS25.dwg

SIGNAL FACES							
STATUS	FACE	R	Y	G	R	Y	G
	1-1, 1-2	←	←	←			
	2-1, 2-2	●	●	●			
	4-1, 4-2	●	●	●			
	4-3	●	●	●	←	←	
BAG	4-4	■	■	■	←	←	
	5-1, 5-2	←	←	←			
	6-1, 6-2	●	●	●			
	8-1, 8-2	●	●	●			
	8-3, 8-4	●	●	●	←	←	

- ALL SIGNAL INDICATIONS SHALL BE 12"
 - ALL SIGNAL INDICATIONS SHALL BE LED
 - ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD



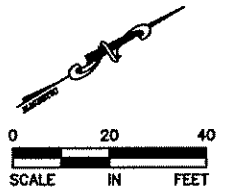
STAGE 1 PHASE 2 LAYOUT



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE WITH PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES IN LOCK MODE OPERATION AND PHASES 3 & 7 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES.
- PHASES 2 & 6 SHALL BE ON VEHICLE RECALL.

INDICATES BAGGED SIGNAL OR PEDESTRIAN FACE



- NOTES:**
- 1.) THE CONTRACTOR SHALL RELOCATE SIGNAL FACES, EVP EQUIPMENT, TEMPORARY PEDESTAL POLE AND VEHICLE DETECTORS AS INDICATED WHEN DIRECTED BY THE ENGINEER.
 - 2.) PHASES 2 & 8 PEDESTRIAN INDICATIONS SHALL BE BAGGED AND DISCONNECTED.
 - 3.) SIGNAL FACE 4-4 SHALL BE BAGGED.
 - 4.) SEE TRAFFIC CONTROL AND CONSTRUCTION STAGING SHEETS FOR PEDESTRIAN PAVEMENT MARKING AND STOP BAR. THESE ITEMS WILL BE PAID FOR UNDER STRIPING PAY ITEMS SPECIFIED ELSEWHERE IN THESE PLANS.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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700 Third Street South
Minneapolis, MN 55415
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A. S. Heumann

AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25848

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
HANSON BLVD. / NORTHDALE BLVD.**

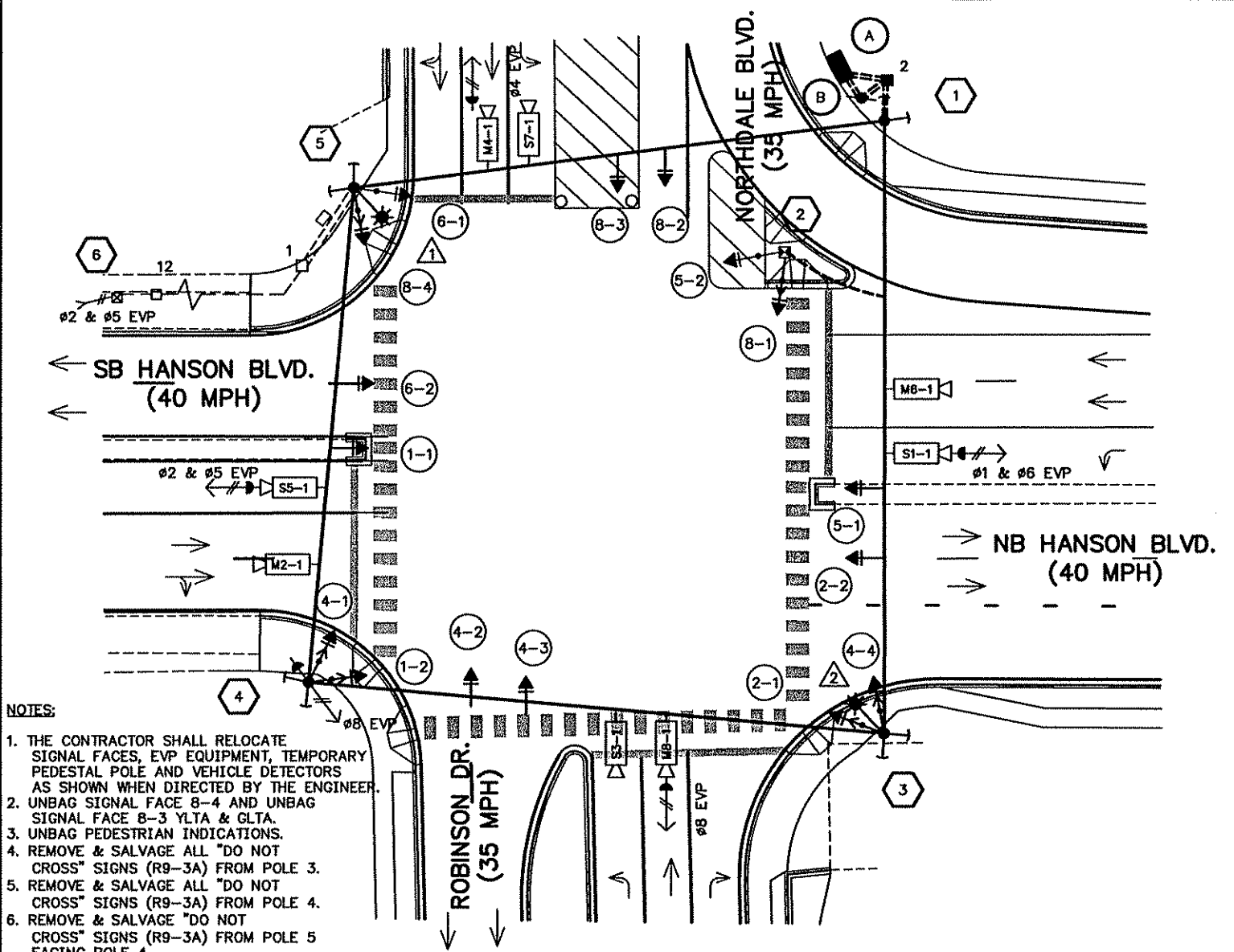
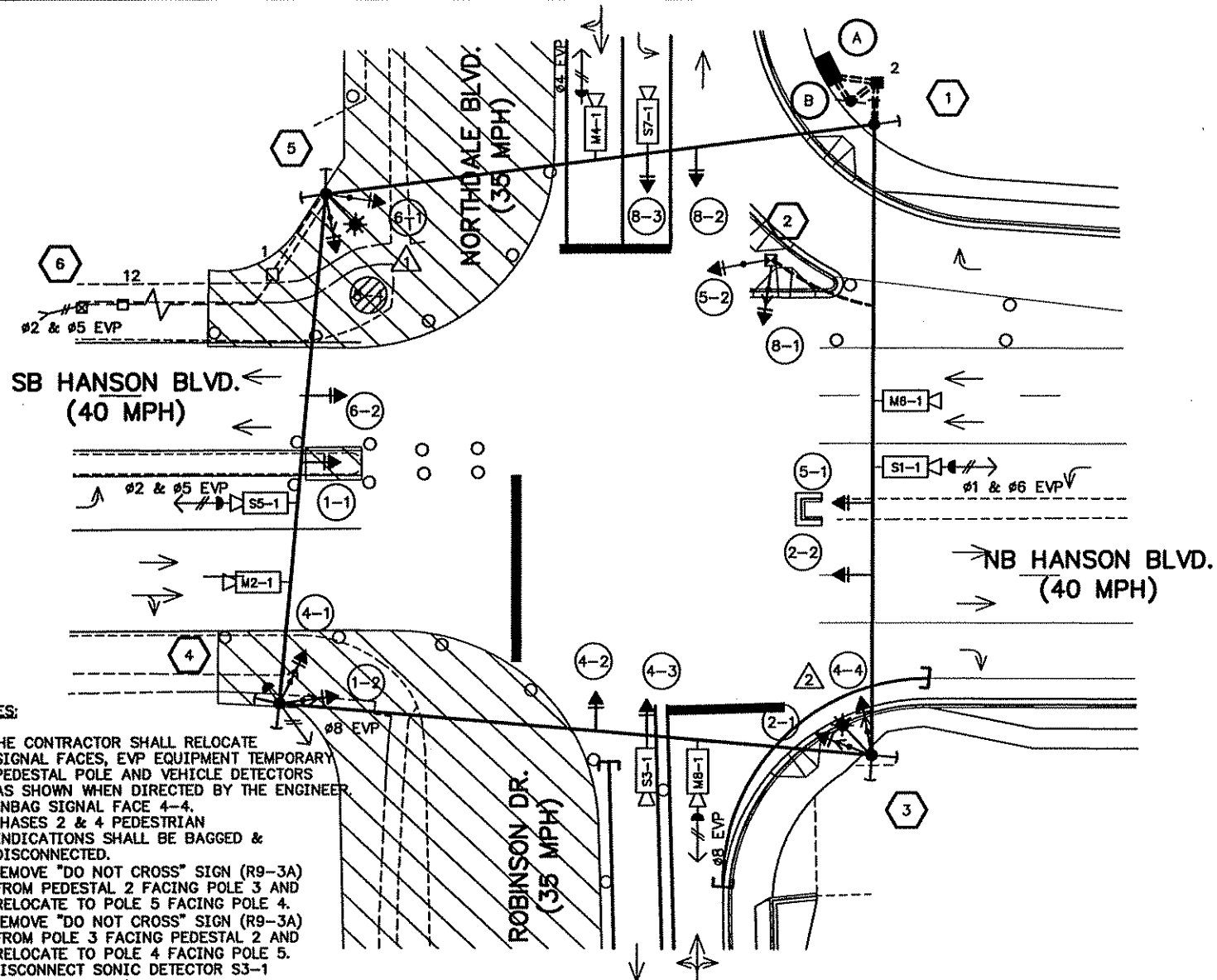
SIGNAL SYSTEM "A"
TEMPORARY INTERSECTION LAYOUT
STAGE 1 PHASE 2

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
117

159

PLOT DATE: Apr 2002 5:01pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS26.dwg



- NOTES:**
1. THE CONTRACTOR SHALL RELOCATE SIGNAL FACES, EVP EQUIPMENT TEMPORARY PEDESTAL POLE AND VEHICLE DETECTORS AS SHOWN WHEN DIRECTED BY THE ENGINEER.
 2. UNBAG SIGNAL FACE 4-4.
 3. PHASES 2 & 4 PEDESTRIAN INDICATIONS SHALL BE BAGGED & DISCONNECTED.
 4. REMOVE "DO NOT CROSS" SIGN (R9-3A) FROM PEDESTAL 2 FACING POLE 3 AND RELOCATE TO POLE 5 FACING POLE 4.
 5. REMOVE "DO NOT CROSS" SIGN (R9-3A) FROM POLE 3 FACING PEDESTAL 2 AND RELOCATE TO POLE 4 FACING POLE 5.
 6. DISCONNECT SONIC DETECTOR S3-1 (DO NOT REMOVE).
 7. BAG SIGNAL FACE 8-4 AND BAG YLTA & GLTA ON SIGNAL FACE 8-3.
 8. SEE TRAFFIC CONTROL AND CONSTRUCTION STAGING SHEETS FOR PEDESTRIAN PAVEMENT MARKING AND STOP BARS. THESE ITEMS WILL BE PAID FOR UNDER STRIPING PAY ITEMS SPECIFIED ELSEWHERE IN THESE PLANS.

- NOTES:**
1. THE CONTRACTOR SHALL RELOCATE SIGNAL FACES, EVP EQUIPMENT, TEMPORARY PEDESTAL POLE AND VEHICLE DETECTORS AS SHOWN WHEN DIRECTED BY THE ENGINEER.
 2. UNBAG SIGNAL FACE 8-4 AND UNBAG SIGNAL FACE 8-3 YLTA & GLTA.
 3. UNBAG PEDESTRIAN INDICATIONS.
 4. REMOVE & SALVAGE ALL "DO NOT CROSS" SIGNS (R9-3A) FROM POLE 3.
 5. REMOVE & SALVAGE ALL "DO NOT CROSS" SIGNS (R9-3A) FROM POLE 4.
 6. REMOVE & SALVAGE "DO NOT CROSS" SIGNS (R9-3A) FROM POLE 5 FACING POLE 4.
 7. RECONNECT MICROWAVE DETECTOR M7-1.
 8. SEE TRAFFIC CONTROL AND CONSTRUCTION STAGING SHEETS FOR PEDESTRIAN PAVEMENT MARKING AND STOP BAR. THESE ITEMS WILL BE PAID FOR UNDER STRIPING PAY ITEMS SPECIFIED ELSEWHERE IN THESE PLANS.

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 7 PHASE WITH PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES IN LOCK MODE OPERATION AND PHASE 7 BEING A PROTECTED/PERMISSIVE LEFT TURN PHASE.
- PHASES 2 & 6 SHALL BE ON VEHICLE RECALL.

SIGNAL FACES							
STATUS	FACE	R	Y	G	R	Y	G
	1-1, 1-2	●	●	●			
	2-1, 2-2	●	●	●			
	4-1, 4-2	●	●	●			
	4-3, 4-4	●	●	●	●	●	●
	5-1, 5-2	●	●	●			
	6-1, 6-2	●	●	●			
	8-1, 8-2	●	●	●			
	BAG YLTA & GLTA 8-3	■	■	■	■	■	■
	BAG 8-4	■	■	■	■	■	■

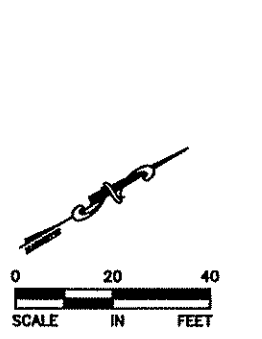
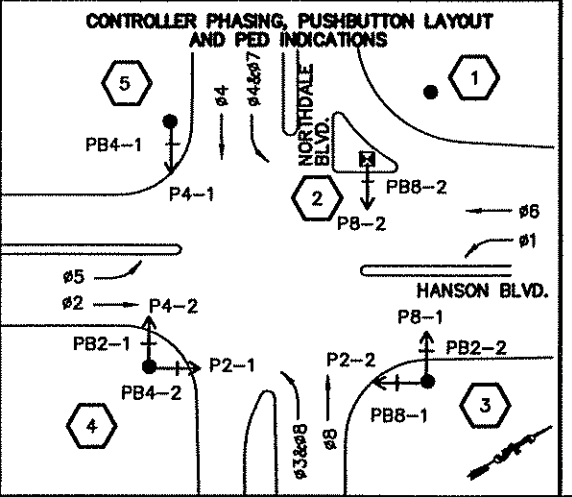
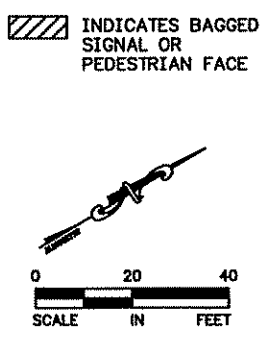
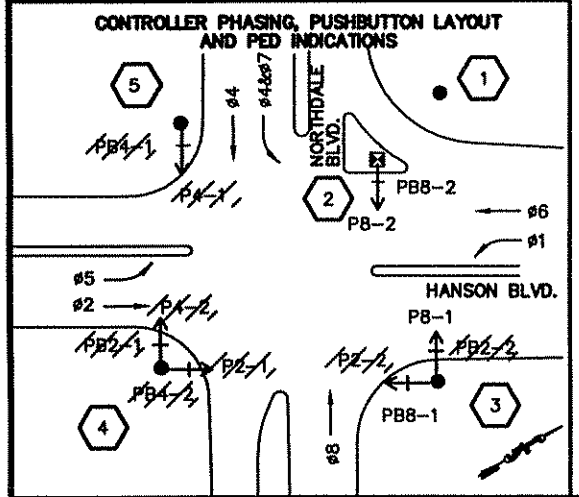
- ALL SIGNAL INDICATIONS SHALL BE 12"
- ALL SIGNAL INDICATIONS SHALL BE LED
- ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE WITH PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES IN LOCK MODE OPERATION AND PHASES 3 & 8 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES.
- PHASES 2 & 6 SHALL BE ON VEHICLE RECALL.

SIGNAL FACES						
FACE	R	Y	G	R	Y	G
1-1, 1-2	●	●	●			
2-1, 2-2	●	●	●			
4-1, 4-2	●	●	●			
4-3, 4-4	●	●	●	●	●	●
5-1, 5-2	●	●	●			
6-1, 6-2	●	●	●			
8-1, 8-2	●	●	●			
8-3, 8-4	●	●	●	●	●	●

- ALL SIGNAL INDICATIONS SHALL BE 12"
- ALL SIGNAL INDICATIONS SHALL BE LED
- ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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612.370.1376 Fax

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Aaron S. Heumann

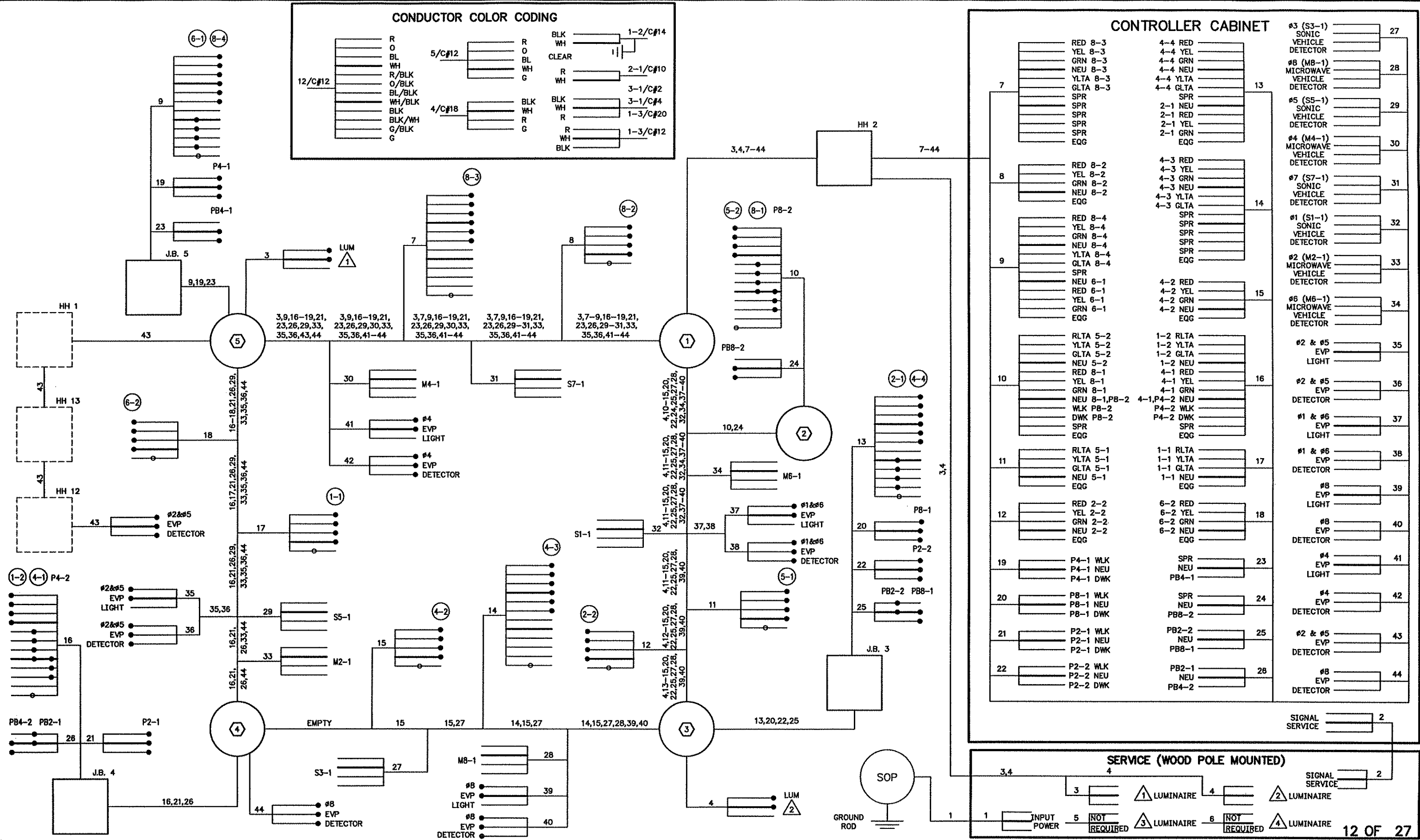
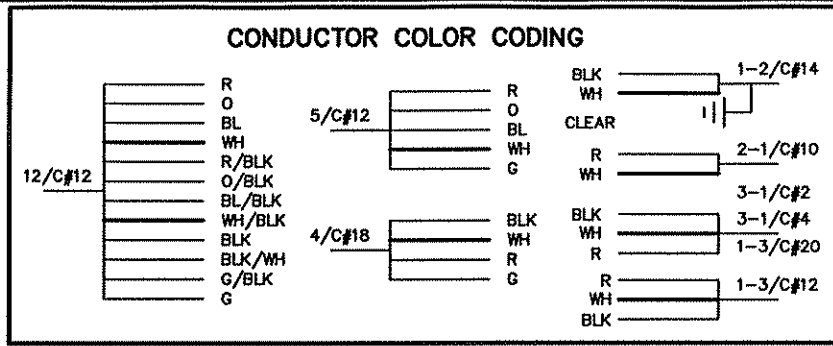
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

**NORTHDAL E BOULEVARD
(C.S.A.H. 11)
HANSON BLVD. / NORTHDAL E BLVD.
SIGNAL SYSTEM "A"
TEMPORARY INTERSECTION LAYOUT
STAGE 1 PHASE 1 & 2**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

11 OF 27
SHEET NO. 118
159

PLOT DATE: Apr. 2002 5:01pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS27.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043
 DRAWN BY: JAS
 DESIGN BY: MRA
 CHKD. BY: ASH
 DWG. NAME: 043-TS27
 DATE: APRIL 26, 2002



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Aaron S. Heumann
 AARON S. HEUMANN
 DATE: 4/26/02 MN LIC. NO. 25848

NORTHDALÉ BOULEVARD
 (C.S.A.H. 11)
HANSON BLVD. / NORTHDALÉ BLVD.
 SIGNAL SYSTEM "A"
 TEMPORARY WIRING DIAGRAM

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO. 119
 159

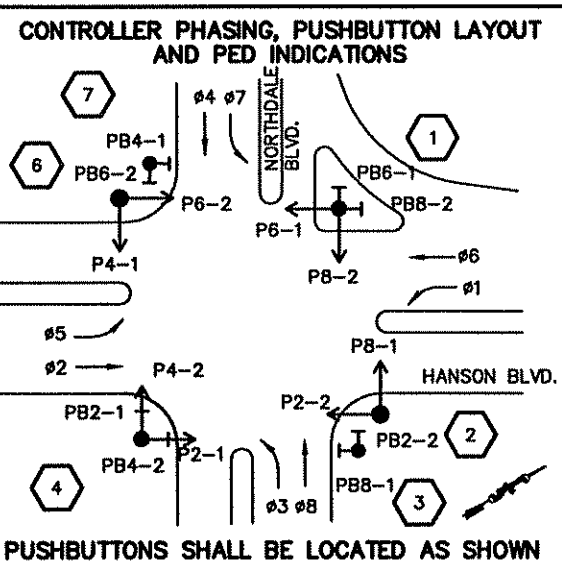
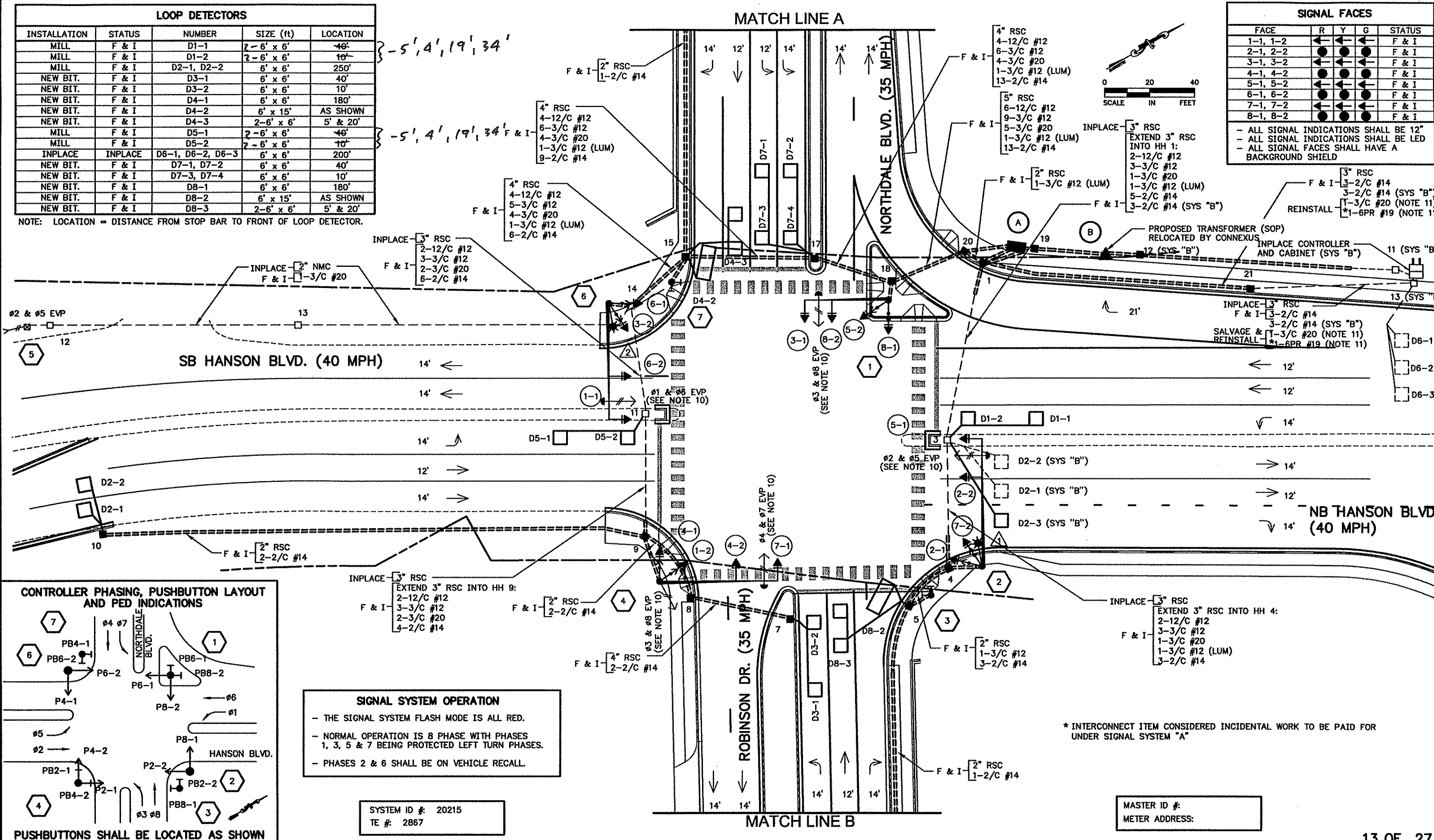
PLOT DATE: Apr 02 4:59pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS07.dwg

LOOP DETECTORS				
INSTALLATION	STATUS	NUMBER	SIZE (ft)	LOCATION
MILL	F & I	D1-1	2-6' x 6'	40'
MILL	F & I	D1-2	2-6' x 6'	10'
MILL	F & I	D2-1, D2-2	6' x 6'	250'
NEW BIT.	F & I	D3-1	6' x 6'	40'
NEW BIT.	F & I	D3-2	6' x 6'	10'
NEW BIT.	F & I	D4-1	6' x 6'	180'
NEW BIT.	F & I	D4-2	6' x 15'	AS SHOWN
NEW BIT.	F & I	D4-3	2-6' x 6'	5' & 20'
MILL	F & I	D5-1	2-6' x 6'	40'
MILL	F & I	D5-2	2-6' x 6'	10'
INPLACE	INPLACE	D6-1, D6-2, D6-3	6' x 6'	200'
NEW BIT.	F & I	D7-1, D7-2	6' x 6'	40'
NEW BIT.	F & I	D7-3, D7-4	6' x 6'	10'
NEW BIT.	F & I	D8-1	6' x 6'	180'
NEW BIT.	F & I	D8-2	6' x 15'	AS SHOWN
NEW BIT.	F & I	D8-3	2-6' x 6'	5' & 20'

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

SIGNAL FACES				
FACE	R	Y	G	STATUS
1-1, 1-2	←	←	←	F & I
2-1, 2-2	←	←	←	F & I
3-1, 3-2	←	←	←	F & I
4-1, 4-2	←	←	←	F & I
5-1, 5-2	←	←	←	F & I
6-1, 6-2	←	←	←	F & I
7-1, 7-2	←	←	←	F & I
8-1, 8-2	←	←	←	F & I

- ALL SIGNAL INDICATIONS SHALL BE 12"
 - ALL SIGNAL INDICATIONS SHALL BE LED
 - ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE WITH PHASES 1, 3, 5 & 7 BEING PROTECTED LEFT TURN PHASES.
- PHASES 2 & 6 SHALL BE ON VEHICLE RECALL.

SYSTEM ID #: 20215
 TE #: 2867

MASTER ID #:
 METER ADDRESS:

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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 700 Third Street South
 Minneapolis, MN 55415
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A. S. Heumann
 AARON S. HEUMANN
 DATE: 4/26/02 MN LIC. NO. 25848

**NORTHDALE BOULEVARD
 (C.S.A.H. 11)
 HANSON BLVD. / NORTHDALE BLVD.
 REVISE SIGNAL SYSTEM "A"
 INTERSECTION LAYOUT
 (1 OF 2)**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

13 OF 27

SHEET NO.
120

159

PLOT DATE: 02/04/02 5:00pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS17.dwg

- 1 TYPE PA90 POLE FOUNDATION
TYPE PA90-A-35
2 - ONE WAY SIGNALS OVERHEAD (0' & 13' FROM END OF MAST ARM)
2 - TYPE 10B POLE MOUNTED AT 0' & 270'
2 - PEDESTRIAN PUSHBUTTONS AND SIGNS (R10-4b)
1 - TYPE "D" SIGN PANEL OVERHEAD (D-4)
2 - TYPE R6-1 (36"x12") SIGNS POLE MOUNTED BACK TO BACK
INSTALL SALVAGED ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (SEE NOTE 10) (#3 & #8) (4' FROM END OF MAST ARM)
EXTEND INTO HH 18:
3" RSC
2-12/C#12
3-3/C#12
1-3/C#20

- 2 TYPE PA100 POLE FOUNDATION
TYPE PA100-A-55-D40-9 (APPROX. 350")
LUMINAIRE - 250 WATT HPS
2 - ONE WAY SIGNALS OVERHEAD (0' & 19' FROM END OF MAST ARM)
2 - TYPE 10B POLE MOUNTED AT 0' & 270'
1 - TYPE "D" SIGN PANEL OVERHEAD (D-3)
2 - TYPE R6-1 (36"x12") SIGNS POLE MOUNTED BACK TO BACK
INSTALL SALVAGED ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (SEE NOTE 10) (#2 & #5) (4' FROM END OF MAST ARM)
EXTEND INTO HH 4:
3" RSC
2-12/C#12
2-3/C#12
1-3/C#20
1-3/C #12 (LUM)

- 4 TYPE PA100 POLE FOUNDATION
TYPE PA100-A-50
2 - ONE WAY SIGNALS OVERHEAD (0' & 12' FROM END OF MAST ARM)
2 - TYPE 10B POLE MOUNTED AT 0' & 270'
2 - PEDESTRIAN PUSHBUTTONS AND SIGNS (R10-4b)
1 - TYPE "D" SIGN PANEL OVERHEAD (D-4)
2 - TYPE R6-1 (36"x12") SIGNS POLE MOUNTED BACK TO BACK
INSTALL SALVAGED ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (SEE NOTE 10) (#4 & #7) (4' FROM END OF MAST ARM)
ONE WAY EVP DETECTOR (#3 & #8) MAST ARM POLE MOUNTED
EXTEND INTO HH 9:
3" RSC
2-12/C#12
3-3/C#12
2-3/C#20

- 6 TYPE PA100 POLE FOUNDATION
TYPE PA100-A-50-D40-9 (APPROX. 350")
LUMINAIRE - 250 WATT HPS
2 - ONE WAY SIGNALS OVERHEAD (0' & 19' FROM END OF MAST ARM)
1 - WELD HUB & PLUG (25' FROM END OF MAST ARM - FUTURE OVERHEAD SIGNAL)
2 - TYPE 10B POLE MOUNTED AT 0' & 270'
1 - TYPE "D" SIGN PANEL OVERHEAD (D-2)
2 - TYPE R6-1 (36"x12") SIGNS POLE MOUNTED BACK TO BACK
INSTALL SALVAGED ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (SEE NOTE 10) (#1 & #6) (4' FROM END OF MAST ARM)
EXTEND INTO HH 14:
3" RSC
2-12/C#12
3-3/C#12
1-3/C#20
1-3/C #12 (LUM)

- 3 PEDESTRIAN PUSH BUTTON STATION FOUNDATION
F & I 5' PEDESTAL POLE (4" RSC)
2 - PEDESTRIAN PUSHBUTTONS AND SIGNS (R10-4b)
EXTEND INTO HH 5:
F & I 1 1/4" RSC
1-3/C #12

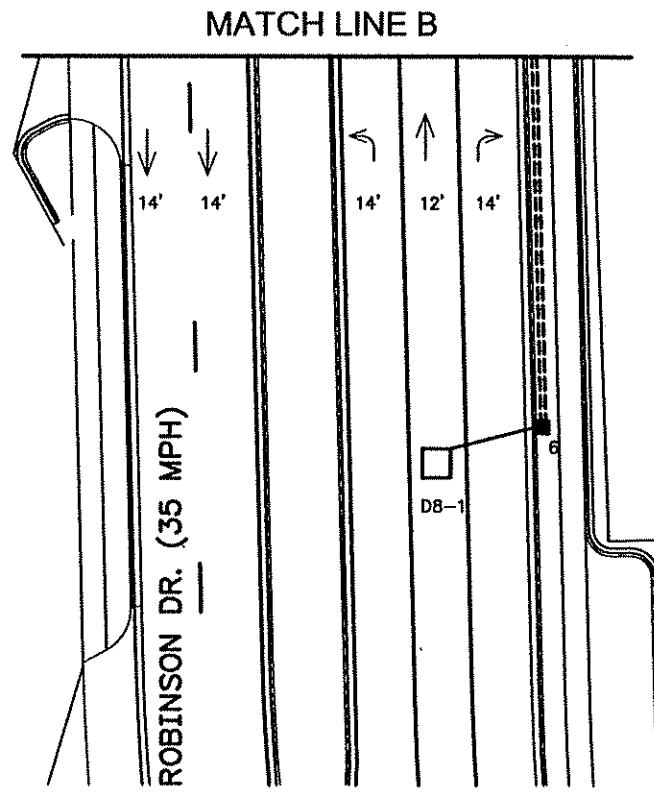
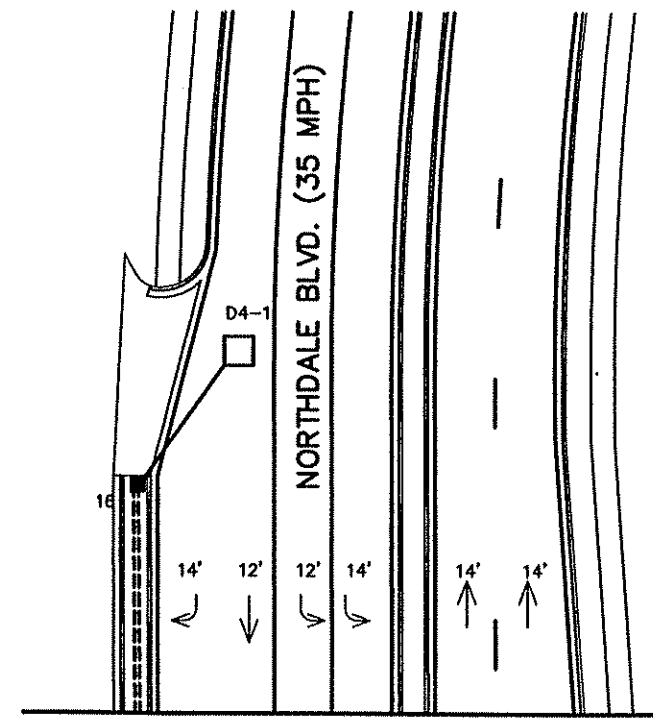
- 5 PEDESTAL FOUNDATION
10' PEDESTAL AND BASE
ONE WAY EVP DETECTOR - MOUNTED ON TOP OF PEDESTAL POLE (#2 & #5)
EXTEND INTO HH 12:
F & I 2" RSC
1-3/C #20

- 7 PEDESTRIAN PUSH BUTTON STATION FOUNDATION
F & I 5' PEDESTAL POLE (4" RSC)
2 - PEDESTRIAN PUSHBUTTONS AND SIGNS (R10-4b)
EXTEND INTO HH 15:
F & I 1 1/4" RSC
1-3/C #12

- B PROPOSED TRANSFORMER (SOP) RELOCATED BY CONNEXUS
EXTEND INTO HH 19:
F & I METERED SIGNAL SERVICE (POWER BY CONNEXUS)
1 1/4" RSC
3-1/C #2

- A EQUIPMENT PAD (SEE DETAILS)
CONTROLLER CABINET (FURNISHED BY DEPARTMENT) AND SERVICE CABINET (SEE DETAILS)
CONTROLLER CABINET TO HH 1:
F & I 4" RSC
2-12/C #12
3-3/C #12
1-3/C #20
B-2/C #14
*1-6PR #19 (NOTE 11)
1-3/C #20 (NOTE 11)

- REINSTALL CONTROLLER CABINET TO HH 20:
F & I 5" RSC
6-12/C #12
9-3/C #12
5-3/C #20
13-2/C #14
SERVICE CABINET TO HH 1:
F & I 2" RSC
2-3/C #12 (LUM)
SERVICE CABINET TO HH 19:
METERED SIGNAL SERVICE (POWER BY CONNEXUS)
F & I 2" RSC
3-1/C #2
BETWEEN SERVICE CABINET AND CONTROLLER CABINET:
F & I 1 1/2" RSC
2-1/C #6
1-1/C #6 BR GR
EXTEND 3" RSC STUB OUT OF CONTROLLER CABINET (THREAD AND CAP BOTH ENDS)
F & I



- NOTES:
1.) SEE SPECIAL PROVISIONS FOR MN/DOT FURNISHED MATERIALS.
2.) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
3.) ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
4.) EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.
5.) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. MN/DOT TRAFFIC OFFICE PERSONNEL SHALL REVIEW LOCATIONS PRIOR TO INSTALLATION.
6.) HANDHOLES SHALL BE PVC WITH METAL FRAMES AND COVERS, PER MN/DOT STANDARD PLATE NO. 8114A.
7.) A 3/4" HALF-COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION SHALL BE FURNISHED AND INSTALLED 6' FROM THE END OF EACH MAST ARM.
8.) ALL NEW LOOP DETECTORS SHALL BE PERFORMED NMC LOOP DETECTORS. SEE DETAIL SHEET 109.
9.) FOR MAST ARM MOUNTED TYPE "D" SIGNS SEE SHEET 115. TYPE D SIGNS SHALL BE INCIDENTAL TO SIGNAL SYSTEM.
10.) ALL EVP EQUIPMENT (DETECTOR, INDICATOR LIGHT AND PHASE SELECTORS) SALVAGED FROM TEMPORARY SIGNAL SYSTEM SHALL BE REINSTALLED AT LOCATIONS SHOWN IN THE PLANS.
11.) THE 1-3/C #20 (ADVANCED EVP DETECTOR) WIRE AND 1-6PR #19 (INTERCONNECT) WIRE SHALL BE DISCONNECTED FROM THE INPLACE CONTROLLER CABINET, PULLED BACK AND COILED IN HH 13 (SYS "B") UNTIL COMPLETION OF INSTALLING NEW CONDUIT RUNS AND HANDHOLES. THE CONTRACTOR SHALL THEN REINSTALL TO NEW PERMANENT CONTROLLER CABINET.
12.) ALL ITEMS OF THE TEMPORARY SIGNAL SYSTEM SHALL BE REMOVED WHEN DIRECTED BY THE ENGINEER. SEE SPECIAL PROVISIONS FOR ITEMS TO BE SALVAGED. REMOVAL OF THE TEMPORARY SIGNAL SYSTEM SHALL BE INCIDENTAL TO THE REVISE SIGNAL SYSTEM "A".
13.) ITEMS DENOTED WITH (SYS "B") ARE PART OF SIGNAL SYSTEM "B" AND ARE INDICATED ON THIS SHEET FOR INFORMATION ONLY.
14.) SIGNAL EQUIPMENT SHALL BE PAINTED BLUE. SEE SPECIAL PROVISIONS. THE CONTROLLER CABINET AND SERVICE CABINET SHALL NOT BE PAINTED.

SYSTEM ID #: 20215
TE #: 2867



* INTERCONNECT ITEM CONSIDERED INCIDENTAL WORK TO BE PAID FOR UNDER SIGNAL SYSTEM "A"

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	MRA	05/07/02	ADD: #1: REM. P.E.C. & CHK SWCH-POLE 2&6 ADD: #2: ADD R6-1 SIGNS POLES 1,2,4&6



Thresher Square
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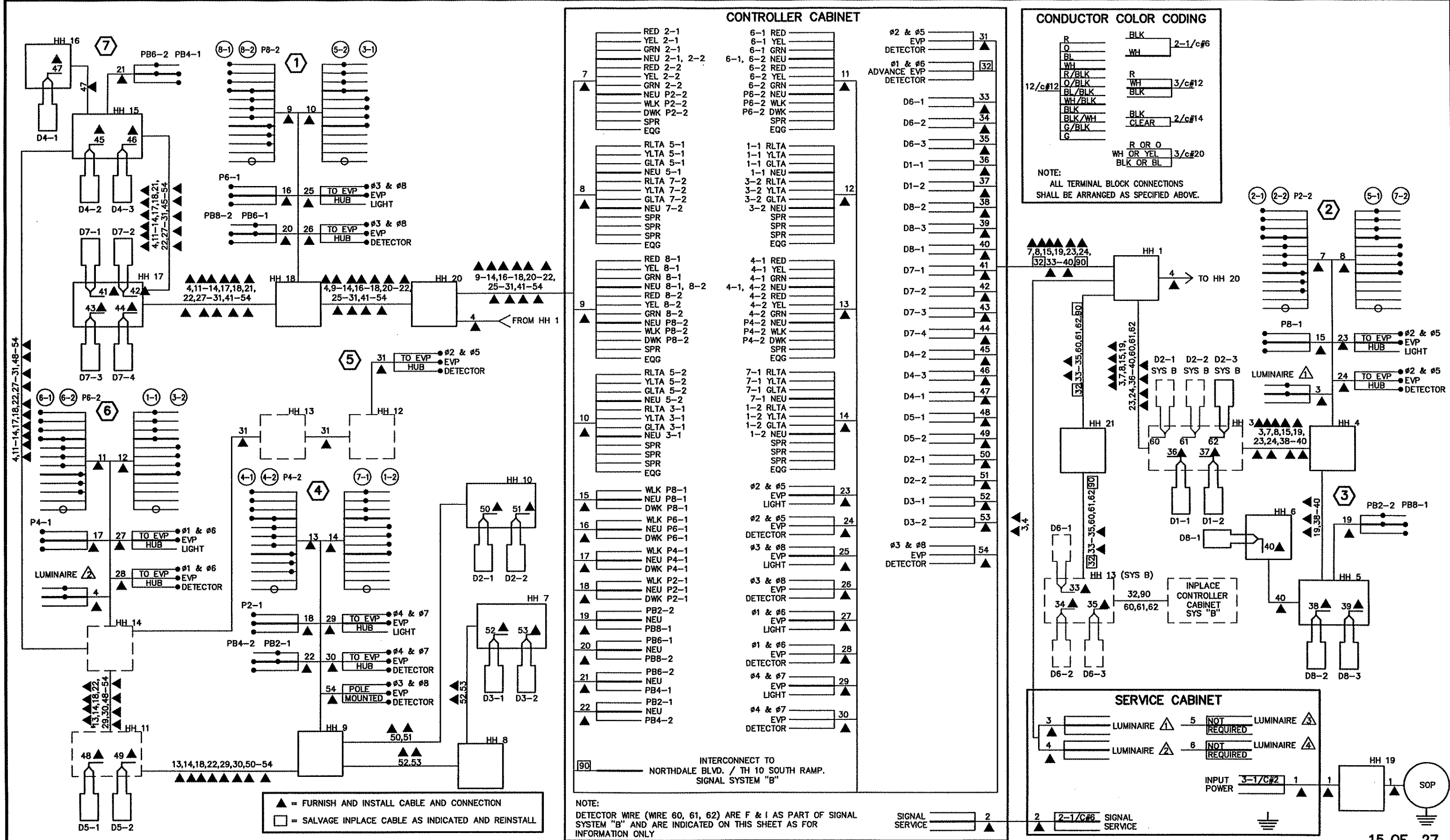
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Aaron S. Heumann
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
HANSON BLVD. / NORTHDALÉ BLVD.
REVISE SIGNAL SYSTEM "A"
INTERSECTION LAYOUT
(2 OF 2)

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

14 OF 27
SHEET NO. 121
159

PLOT DATE: Apr 26, 2002 10:25am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS22.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043

DRAWN BY: JAS DESIGN BY: MRA

CHKD. BY: ASH DWG. NAME: 043-TS22

DATE: APRIL 26, 2002

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700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.1378 Fax

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Aaron S. Heumann

AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

NORTHDALE BOULEVARD
(C.S.A.H. 11)
HANSON BLVD. / NORTHDALE BLVD.
REVISE SIGNAL SYSTEM "A"
FIELD WIRING DIAGRAM

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 122 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

CONTRACTOR SHALL FURNISH & INSTALL THE FOLLOWING MATERIALS ON MAST ARMS 1, 2 AND 4:
 ONE WAY EVP DETECTOR, INDICATOR LIGHT AND HUB AT APPROX. 4 FEET FROM THE LEFT END OF THE MAST ARM.

CONTRACTOR SHALL FURNISH & INSTALL THE FOLLOWING MATERIALS ON MAST ARM 3:
 ONE WAY EVP DETECTOR, INDICATOR LIGHT AND HUB AT APPROX. 25 FEET FROM THE LEFT END OF THE MAST ARM.

CONTRACTOR SHALL FURNISH & INSTALL THE FOLLOWING MATERIALS ON PEDESTAL POLE 3:
 ONE WAY EVP DETECTOR, APPROX. 18-20 FEET ABOVE GROUNDLINE AND AT 90° FROM TRAVELED ROADWAY.

CONTRACTOR SHALL FURNISH & INSTALL THE FOLLOWING MATERIALS ON PEDESTAL POLE 7:
 ONE WAY EVP DETECTOR, ATOP PEDESTAL POLE AND FACING EASTBOUND TRAFFIC.

CONTRACTOR SHALL FURNISH & INSTALL THE FOLLOWING MATERIALS ON LUMINAIRE 3 (TH 10 NORTH RAMPS SIGNAL):
 ONE WAY EVP DETECTOR, APPROX. 18-20 FEET ABOVE GROUNDLINE AND FACING SOUTHBOUND TRAFFIC.

ALL CABLES, BRACKETING AND HARDWARE NECESSARY FOR EVP SYSTEM OPERATION SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR AS NOTED, UNLESS OTHERWISE NOTED IN THE SPECIAL PROVISIONS.

F & I ONE WAY EVP DETECTOR, INDICATOR LIGHT AND HUB (#6,1)-OVERHEAD
 Δ1-3/c#12
 Δ1-3/c#20

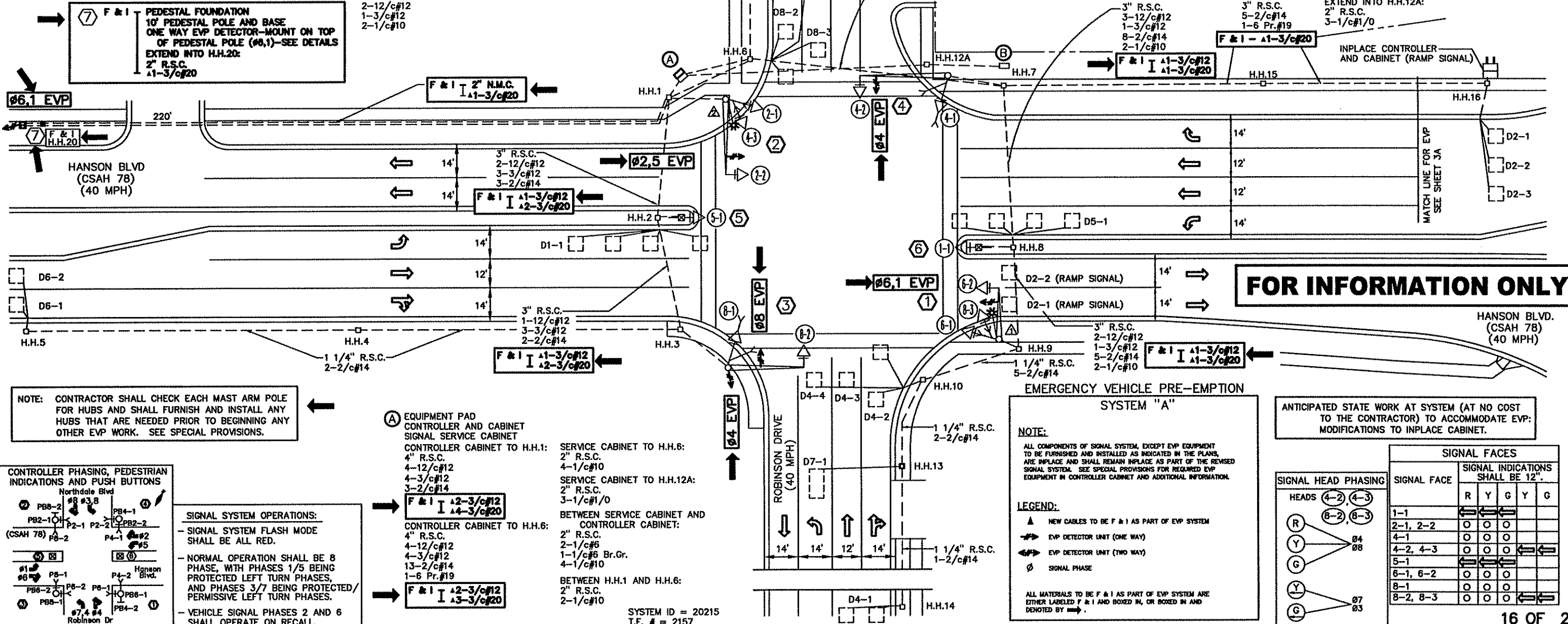
1 A100 POLE FOUNDATION
 TYPE A100-A-20-D40-9 (DAVIT AT 355")
 LUMINAIRE
 ONE WAY SIGNAL-OVERHEAD
 TYPE 20C-POLE MOUNTED 270°
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS
 TYPE D SIGN PANEL-OVERHEAD
 EXTEND INTO H.H.9:
 3" R.S.C.
 2-12/c#12
 1-3/c#12
 2-1/c#10

F & I ONE WAY EVP DETECTOR, INDICATOR LIGHT AND HUB (#2,5)-OVERHEAD
 Δ1-3/c#12
 Δ1-3/c#20

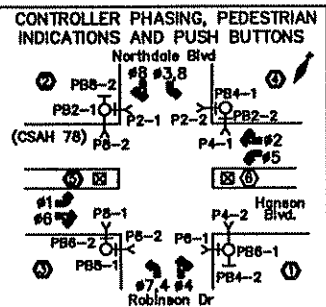
2 A100 POLE FOUNDATION
 TYPE A100-A-30-D40-9 (DAVIT AT 355")
 LUMINAIRE
 ONE WAY SIGNAL-OVERHEAD
 TYPE 20C-POLE MOUNTED 270°
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS
 TYPE D SIGN PANEL-OVERHEAD
 EXTEND INTO H.H.1:
 3" R.S.C.
 2-12/c#12
 1-3/c#12
 2-1/c#10

LOOP DETECTORS		
NUMBER	SIZE (FT.)	LOCATION
D1-1	4-6x6	AS SHOWN
D2-1	6x6	225'
D2-2	6x6	225'
D2-3	6x6	225'
D3-1	6x12	50'
D4-1	2-6x6	150'
D4-2	2-6x6	AS SHOWN
D4-3	6x6	10'
D4-4	6x6	10'
D5-1	4-6x6	AS SHOWN
D6-1	6x6	275'
D6-2	6x6	275'
D7-1	6x12	50'
D8-1	6x6	150'
D8-2	2-6x6	AS SHOWN
D8-3	6x6	10'

NOTE: LOCATION=DISTANCE FROM CROSSWALK TO FRONT OF LOOP DETECTOR.



NOTE: CONTRACTOR SHALL CHECK EACH MAST ARM POLE FOR HUBS AND SHALL FURNISH AND INSTALL ANY HUBS THAT ARE NEEDED PRIOR TO BEGINNING ANY OTHER EVP WORK. SEE SPECIAL PROVISIONS.



SIGNAL SYSTEM OPERATIONS:
 - SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
 - NORMAL OPERATION SHALL BE 8 PHASE, WITH PHASES 1/5 BEING PROTECTED LEFT TURN PHASES, AND PHASES 3/7 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES.
 - VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

A EQUIPMENT PAD
 CONTROLLER AND CABINET
 SIGNAL SERVICE CABINET
 CONTROLLER CABINET TO H.H.1:
 4" R.S.C.
 4-12/c#12
 4-3/c#12
 3-2/c#14

SERVICE CABINET TO H.H.6:
 2" R.S.C.
 4-1/c#10

SERVICE CABINET TO H.H.12A:
 2" R.S.C.
 3-1/c#10

BETWEEN SERVICE CABINET AND CONTROLLER CABINET:
 2" R.S.C.
 2-1/c#6
 1-1/c#6 Br.Gr.
 4-1/c#10

BETWEEN H.H.1 AND H.H.6:
 2" R.S.C.
 2-1/c#10

EMERGENCY VEHICLE PRE-EMPTION SYSTEM "A"

NOTE:
 ALL COMPONENTS OF SIGNAL SYSTEM, EXCEPT EVP EQUIPMENT TO BE FURNISHED AND INSTALLED AS INDICATED IN THE PLANS, ARE INPLACE AND SHALL REMAIN INPLACE AS PART OF THE REVISED SIGNAL SYSTEM. SEE SPECIAL PROVISIONS FOR REQUIRED EVP EQUIPMENT IN CONTROLLER CABINET AND ADDITIONAL INFORMATION.

LEGEND:
 ▲ NEW CABLES TO BE F & I AS PART OF EVP SYSTEM
 ▸ EVP DETECTOR UNIT (ONE WAY)
 ◀ EVP DETECTOR UNIT (TWO WAY)
 ∅ SIGNAL PHASE

ALL MATERIALS TO BE F & I AS PART OF EVP SYSTEM ARE EITHER LABELED F & I AND BOXED IN, OR BOXED IN AND DENOTED BY ∅.

ANTICIPATED STATE WORK AT SYSTEM (AT NO COST TO THE CONTRACTOR) TO ACCOMMODATE EVP: MODIFICATIONS TO INPLACE CABINET.

SIGNAL HEAD PHASING		SIGNAL INDICATIONS SHALL BE 12"				
SIGNAL FACE	HEADS	R	Y	G	Y	G
1-1	(4-2), (4-3)					
2-1, 2-2	(8-2), (8-3)	○	○	○		
4-1		○	○	○		
4-2, 4-3		○	○	○	○	○
5-1		○	○	○		
6-1, 6-2		○	○	○		
8-1		○	○	○		
8-2, 8-3		○	○	○		

FOR INFORMATION ONLY

PLOT DATE: Apr 2, 2002 4:59pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS01.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043
 DRAWN BY: JAS
 DESIGN BY: MRA
 CHKED BY: ASH
 DWG. NAME: 043-TS01
 DATE: APRIL 26, 2002



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 700 Third Street South
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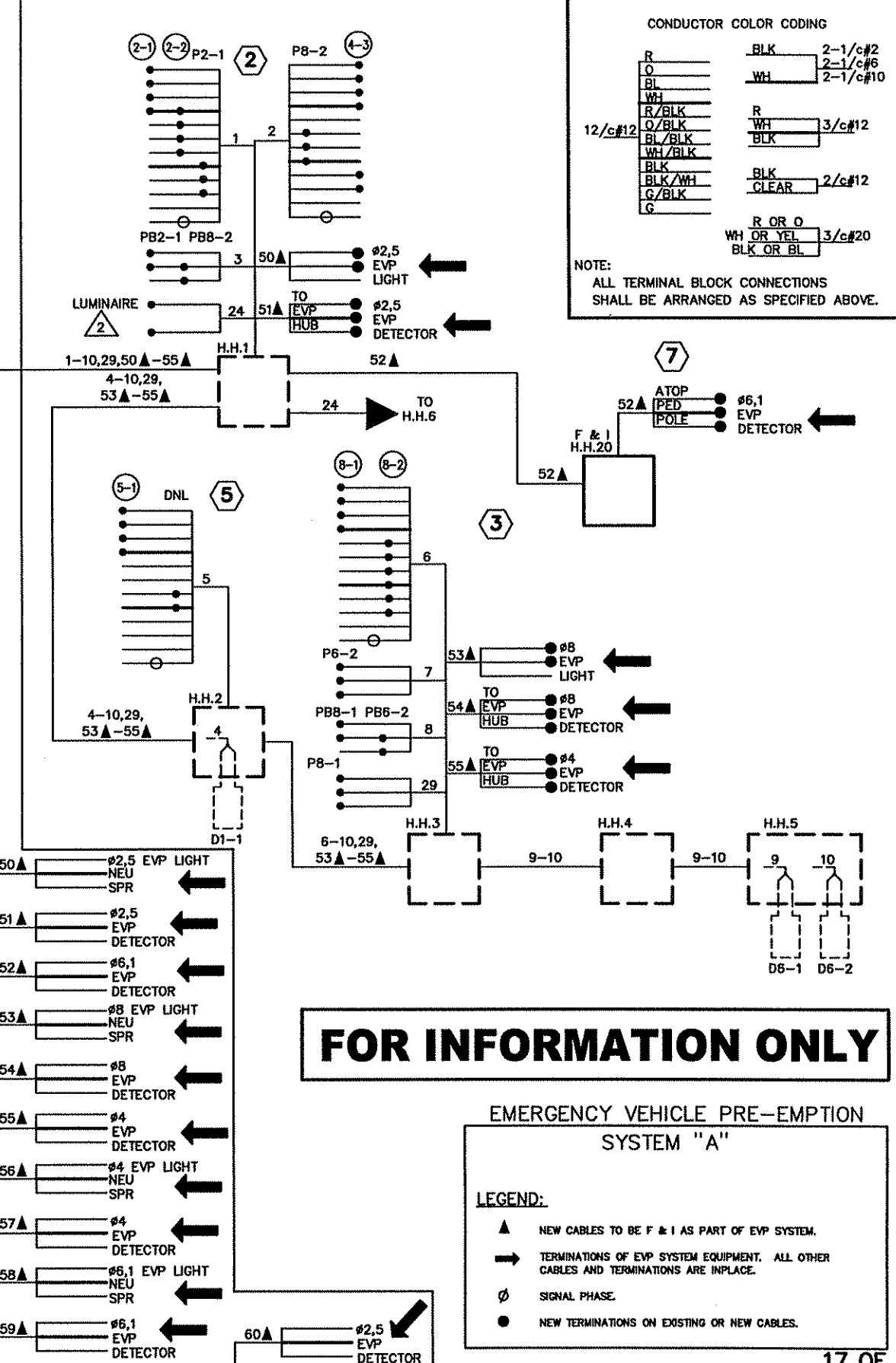
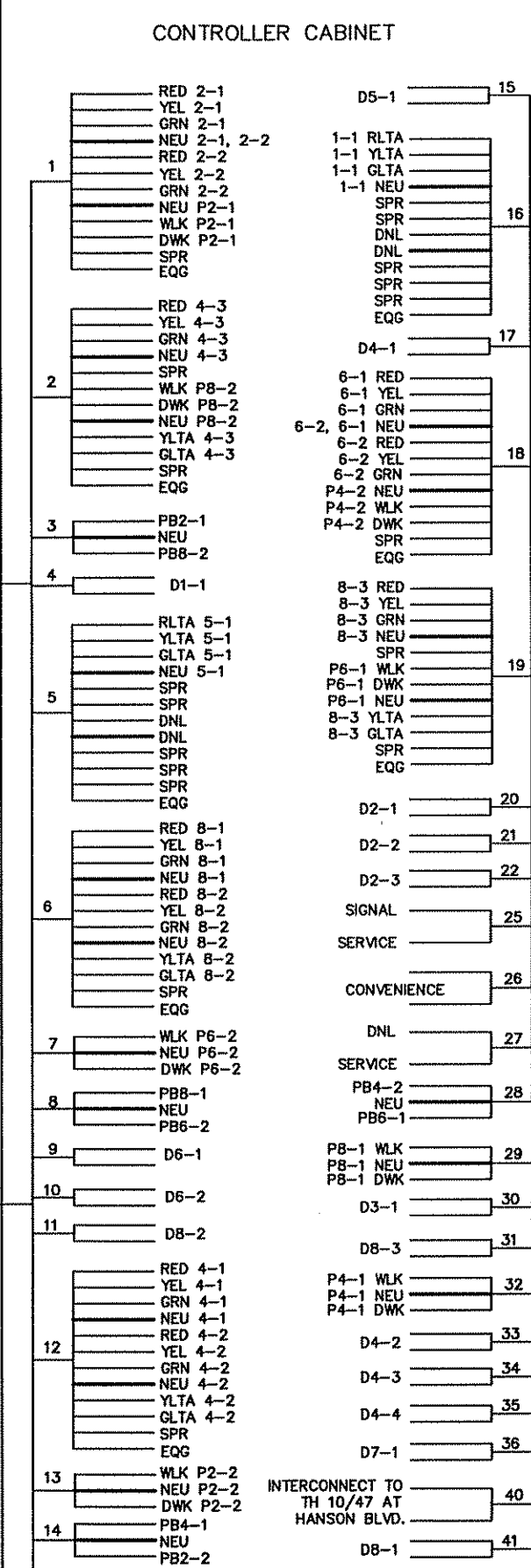
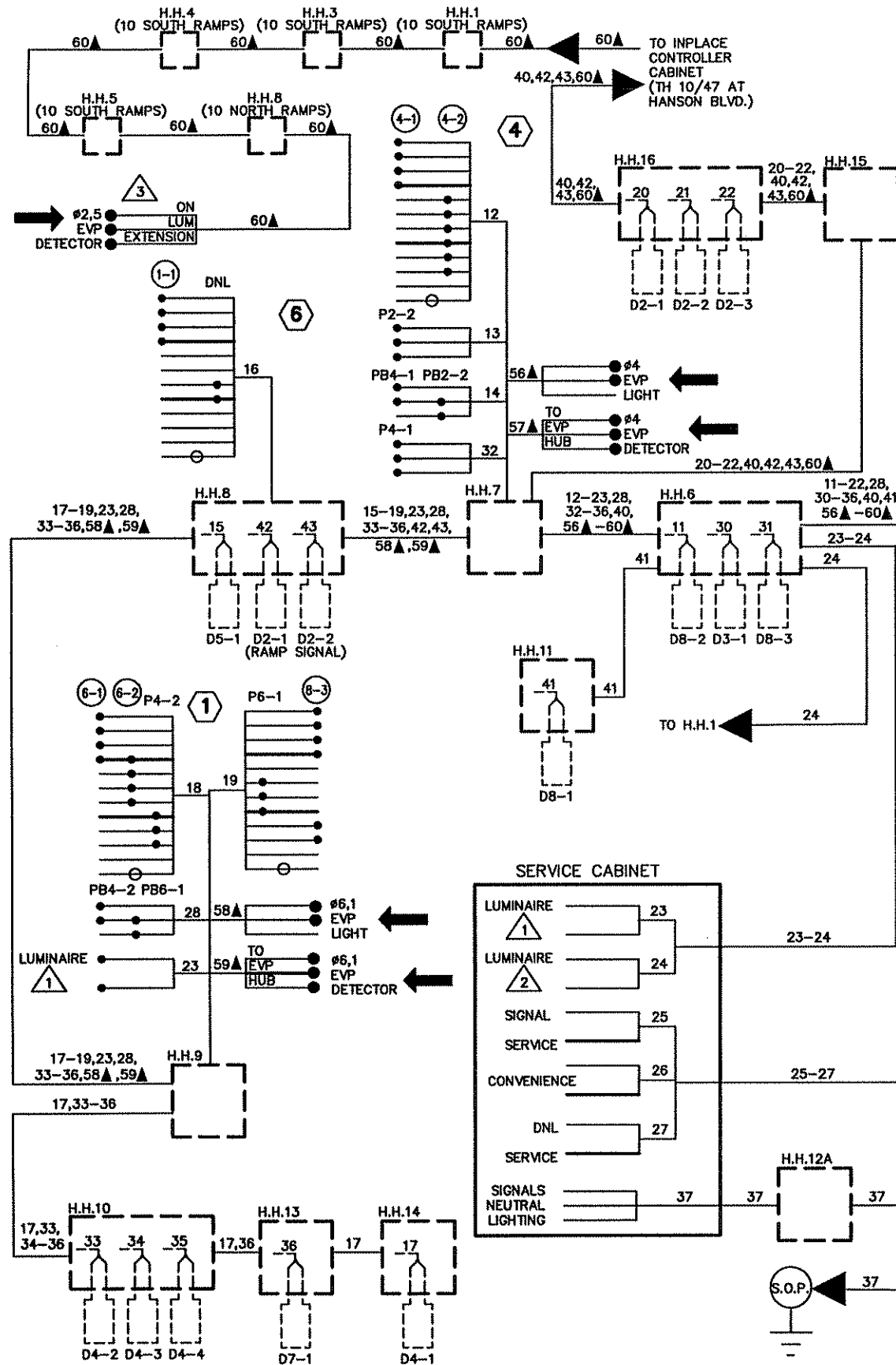
A. S. Heumann
 AARON S. HEUMANN
 DATE: 4/28/02 MN LIC. NO. 25848

NORTHDALE BOULEVARD (C.S.A.H. 11)
HANSON BLVD. / NORTHDALE BLVD.
 REVISE SIGNAL SYSTEM "A"
 INPLACE INTERSECTION LAYOUT

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO. 123
 159

PLOT DATE: Apr 2, 2002 4:59pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS02.dwg

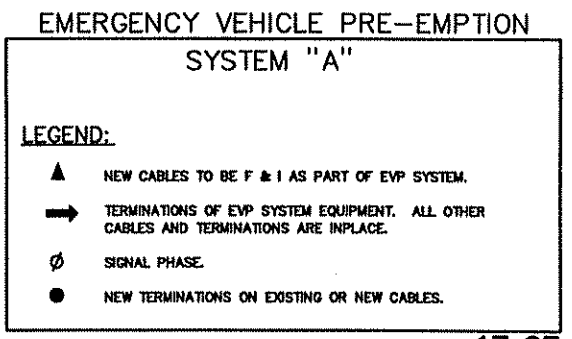


CONDUCTOR COLOR CODING

R	BLK	2-1/c#2
O	WH	2-1/c#6
BL	WH	2-1/c#10
WH		
R/BLK	R	
O/BLK	WH	3/c#12
BL/BLK	BLK	
WH/BLK		
BLK	BLK	2/c#12
BLK/WH		
G/BLK		
G		
R OR O		
WH OR YEL		3/c#20
BLK OR BL		

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

FOR INFORMATION ONLY



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043

DRAWN BY: JAS DESIGN BY: MRA

CHKD. BY: ASH DWS. NAME: 043-TS02

DATE: APRIL 26, 2002

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A. S. Heumann

AARON S. HEUMANN
DATE: 4/25/02 MN LIC. NO. 25848

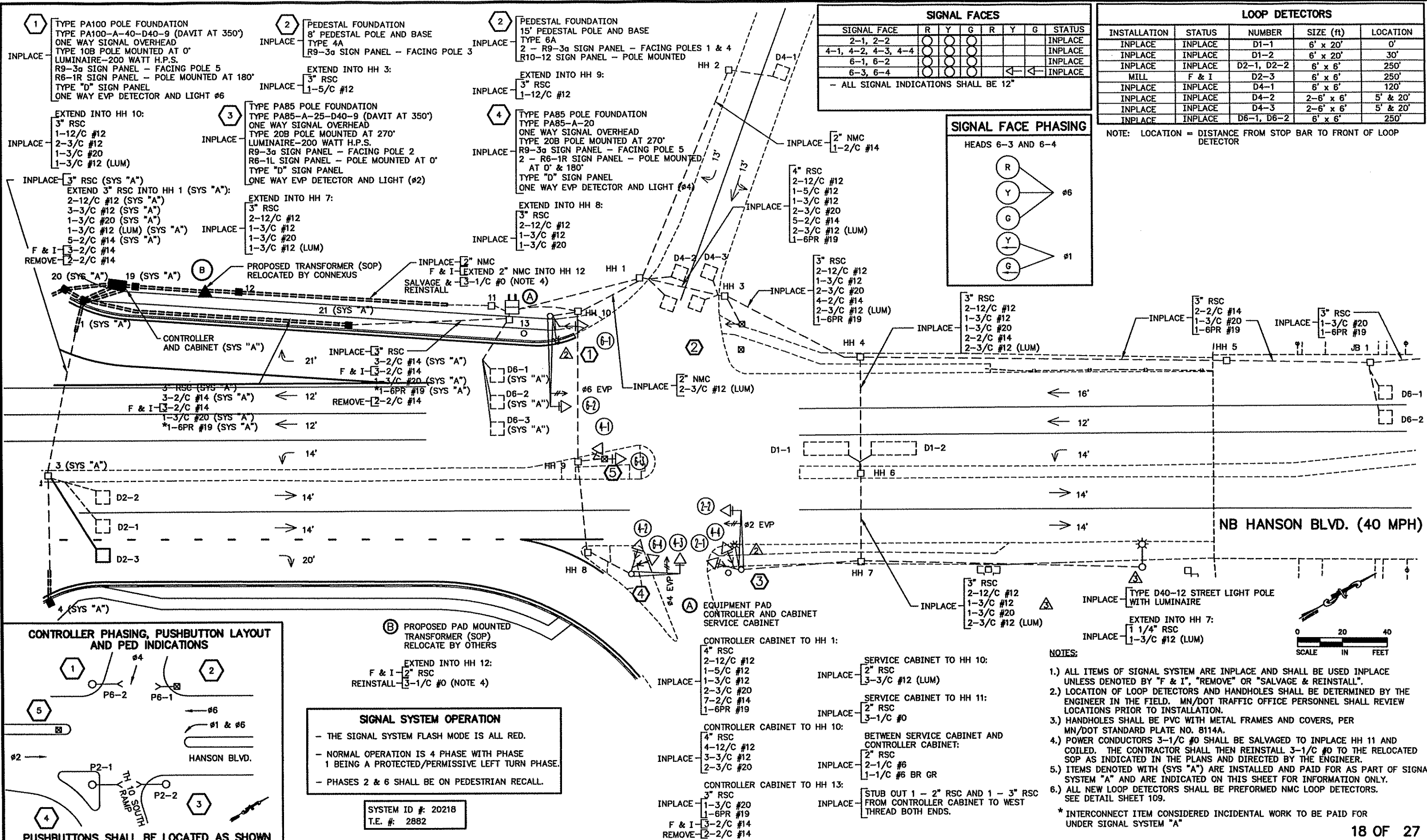
NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
HANSON BLVD. / NORTHDALÉ BLVD.

REVISE SIGNAL SYSTEM "A"
INPLACE WIRING DIAGRAM

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO. 124
159

PLOT DATE: Apr 24, 2002 10:49am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-1st3.dwg

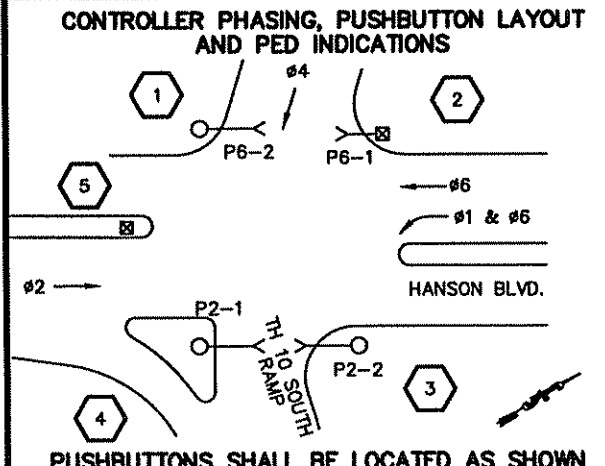
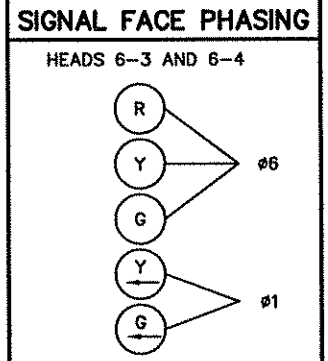


SIGNAL FACES							
SIGNAL FACE	R	Y	G	R	Y	G	STATUS
2-1, 2-2	○	○	○				INPLACE
4-1, 4-2, 4-3, 4-4	○	○	○				INPLACE
6-1, 6-2	○	○	○				INPLACE
6-3, 6-4	○	○	○	←	←		INPLACE

- ALL SIGNAL INDICATIONS SHALL BE 12"

LOOP DETECTORS				
INSTALLATION	STATUS	NUMBER	SIZE (ft)	LOCATION
INPLACE	INPLACE	D1-1	6' x 20'	0'
INPLACE	INPLACE	D1-2	6' x 20'	30'
INPLACE	INPLACE	D2-1, D2-2	6' x 6'	250'
MILL	F & I	D2-3	6' x 6'	250'
INPLACE	INPLACE	D4-1	6' x 6'	120'
INPLACE	INPLACE	D4-2	2-6' x 6'	5' & 20'
INPLACE	INPLACE	D4-3	2-6' x 6'	5' & 20'
INPLACE	INPLACE	D6-1, D6-2	6' x 6'	250'

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



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 4 PHASE WITH PHASE 1 BEING A PROTECTED/PERMISSIVE LEFT TURN PHASE.
- PHASES 2 & 6 SHALL BE ON PEDESTRIAN RECALL.

SYSTEM ID #: 20218
T.E. #: 2882

- NOTES:**
- 1.) ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE USED INPLACE UNLESS DENOTED BY "F & I", "REMOVE" OR "SALVAGE & REINSTALL".
 - 2.) LOCATION OF LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. MN/DOT TRAFFIC OFFICE PERSONNEL SHALL REVIEW LOCATIONS PRIOR TO INSTALLATION.
 - 3.) HANDHOLES SHALL BE PVC WITH METAL FRAMES AND COVERS, PER MN/DOT STANDARD PLATE NO. 8114A.
 - 4.) POWER CONDUCTORS 3-1/C #0 SHALL BE SALVAGED TO INPLACE HH 11 AND COILED. THE CONTRACTOR SHALL THEN REINSTALL 3-1/C #0 TO THE RELOCATED SOP AS INDICATED IN THE PLANS AND DIRECTED BY THE ENGINEER.
 - 5.) ITEMS DENOTED WITH (SYS "A") ARE INSTALLED AND PAID FOR AS PART OF SIGNAL SYSTEM "A" AND ARE INDICATED ON THIS SHEET FOR INFORMATION ONLY.
 - 6.) ALL NEW LOOP DETECTORS SHALL BE PREFORMED NMC LOOP DETECTORS. SEE DETAIL SHEET 109.
- * INTERCONNECT ITEM CONSIDERED INCIDENTAL WORK TO BE PAID FOR UNDER SIGNAL SYSTEM "A"

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043

DRAWN BY: JAS DESIGN BY: MRA

CHKD. BY: ASH DWG. NAME: 043-TS13

DATE: APRIL 26, 2002

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Aaron S. Heumann

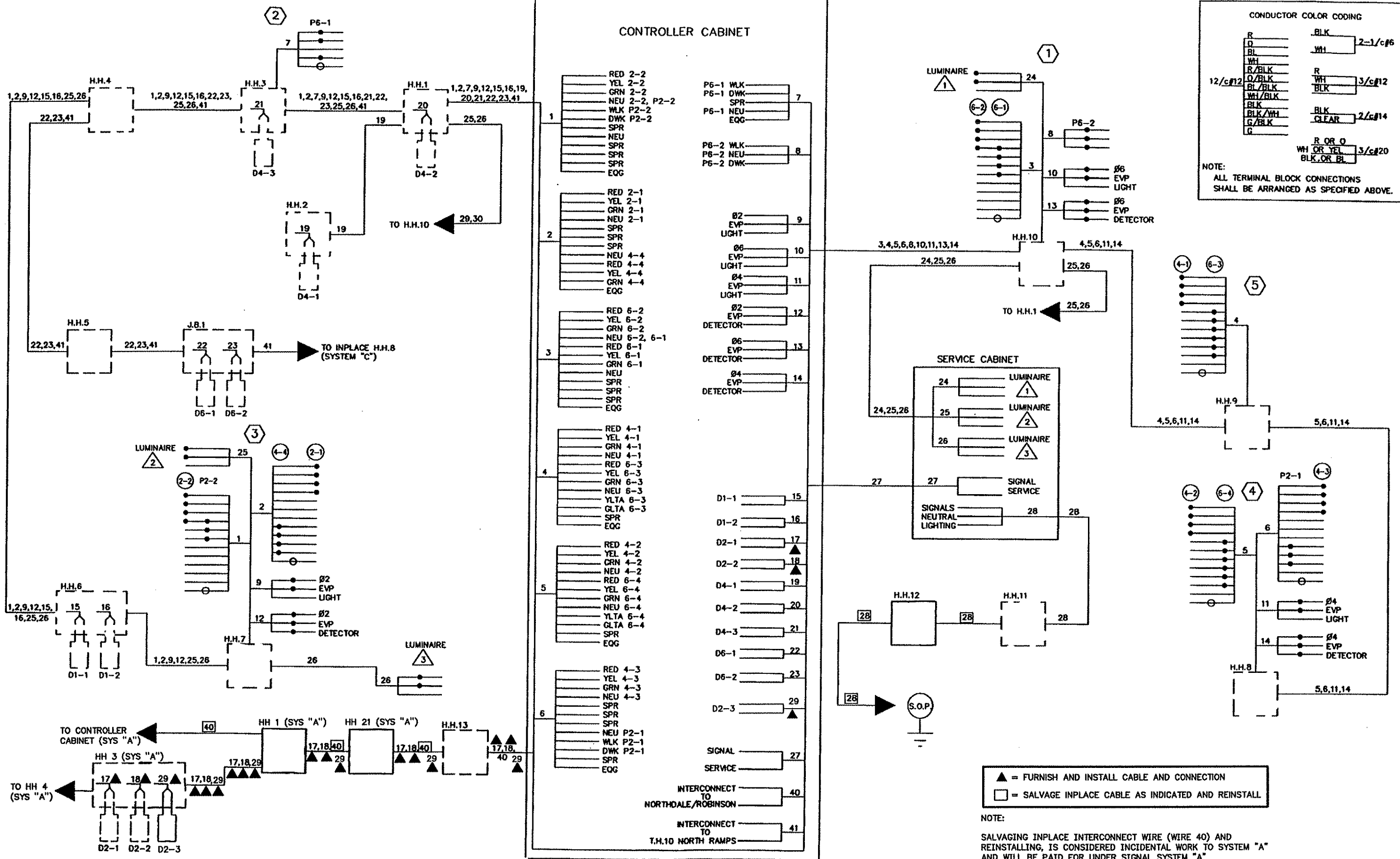
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
HANSON BLVD. / T.H. 10 SOUTH RAMPS**

REVISE SIGNAL SYSTEM "B"
INTERSECTION LAYOUT

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 125 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

PLOT DATE: Apr 26 2002 5:01pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS20.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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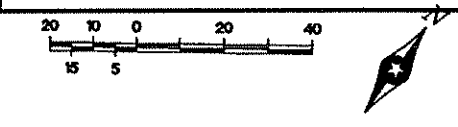
Aaron S. Heumann

AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

**NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
HANSON BLVD. / T.H. 10 SOUTH RAMPS**

REVISE SIGNAL SYSTEM "B"
FIELD WIRING DIAGRAM

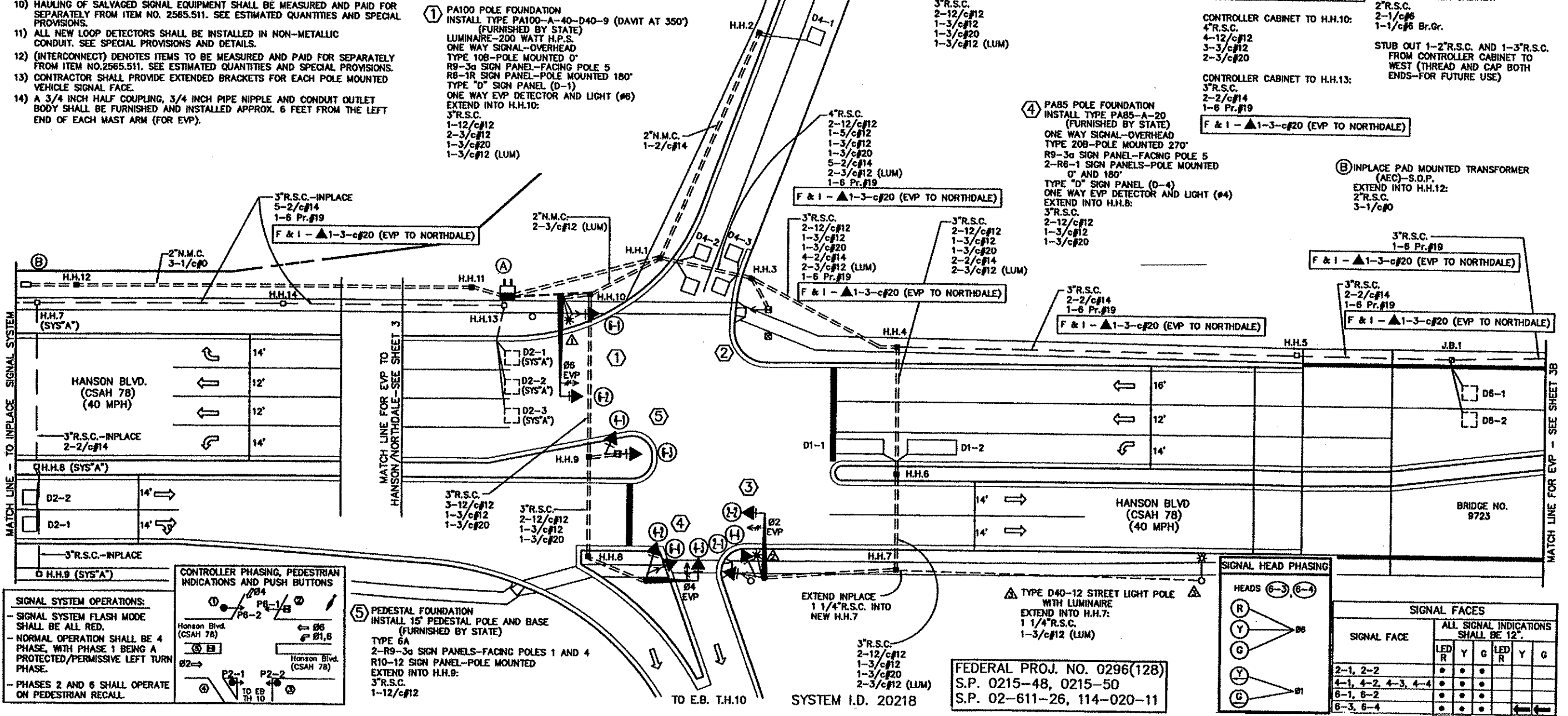
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08



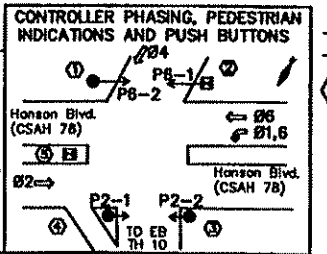
- NOTES:**
- 1) LOCATION OF POLES, LOOP DETECTORS, EQUIPMENT PAD AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY Mn/DOT DISTRICT TRAFFIC OFFICE PERSONNEL.
 - 2) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
 - 3) EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION HAND/WALKING PERSON INDICATION, WITH THE HAND INDICATION BEING AN LED INDICATION. SEE SPECIAL PROVISIONS.
 - 4) ALL YELLOW AND GREEN VEHICULAR SIGNAL INDICATION LENSES AND ALL WALK PEDESTRIAN SIGNAL INDICATION LENSES SHALL BE GLASS LENSES.
 - 5) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS (PER STD. PLATE NO. 8114A), AND SHALL CONTAIN A STATE FURNISHED "BALL LOCATOR". SEE SPECIAL PROVISIONS.
 - 6) INPLACE HANDHOLES 5,14,15,7 (SYSTEM "A") AND 8 (SYSTEM "A") SHALL ALSO CONTAIN A STATE FURNISHED "BALL LOCATOR". SEE SPECIAL PROVISIONS.
 - 7) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGN PANELS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO.2585.511).
 - 8) SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING STATE FURNISHED MATERIALS.
 - 9) SEE SPECIAL PROVISIONS REGARDING REMOVAL OF INPLACE SIGNAL SYSTEM BY CONTRACTOR (INCIDENTAL TO ITEM NO. 2585.511).
 - 10) HAULING OF SALVAGED SIGNAL EQUIPMENT SHALL BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2585.511. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
 - 11) ALL NEW LOOP DETECTORS SHALL BE INSTALLED IN NON-METALLIC CONDUIT. SEE SPECIAL PROVISIONS AND DETAILS.
 - 12) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO.2585.511. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
 - 13) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE SIGNAL FACE.
 - 14) A 3/4 INCH HALF COUPLING, 3/4 INCH PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED APPROX. 6 FEET FROM THE LEFT END OF EACH MAST ARM (FOR EVP).

LOOP DETECTORS		
NUMBER	SIZE (FT.)	LOCATION
D1-1	6x20	0'
D1-2	6x20	30'
D2-1	6x6	250'
D2-2	6x6	250'
D4-1	6x6	120'
D4-2	2-6x8	5' & 20'
D4-3	2-6x6	5' & 20'
* D6-1	6x6	250'
* D6-2	6x6	250'

NOTE: LOCATION-DISTANCE FROM STOP BAR OR CROSSWALK TO FRONT OF LOOP DETECTOR.
 ** = INPLACE SAW-CUT LOOP DETECTOR, REUSE INPLACE.

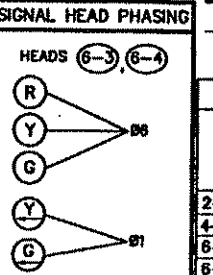


SIGNAL SYSTEM OPERATIONS:
 - SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
 - NORMAL OPERATION SHALL BE 4 PHASE, WITH PHASE 1 BEING A PROTECTED/PERMISSIVE LEFT TURN PHASE.
 - PHASES 2 AND 6 SHALL OPERATE ON PEDESTRIAN RECALL.



5) PEDESTAL FOUNDATION
 INSTALL 15' PEDESTAL POLE AND BASE (FURNISHED BY STATE)
 TYPE 6A
 2-R9-3a SIGN PANELS-FACING POLES 1 AND 4
 R10-12 SIGN PANEL-POLE MOUNTED
 EXTEND INTO H.H.8:
 3'R.S.C.
 1-12/c#12

FEDERAL PROJ. NO. 0296(128)
 S.P. 0215-48, 0215-50
 S.P. 02-611-26, 114-020-11



SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12"					
	LED R	Y	G	LED R	Y	G
2-1, 2-2	•	•	•	•	•	•
4-1, 4-2, 4-3, 4-4	•	•	•	•	•	•
8-1, 8-2	•	•	•	•	•	•
6-3, 6-4	•	•	•	•	•	•

PLOT DATE: Apr 26, 2002 4:59pm DISK FILE NAME: (15.05) R:\33889\33889D43\PLAN-SHT\043-TS04.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

URS
 Thrasher Square
 700 Third Street South
 Minneapolis, MN 55415
 612.370.0700 Tel
 612.370.1378 Fax

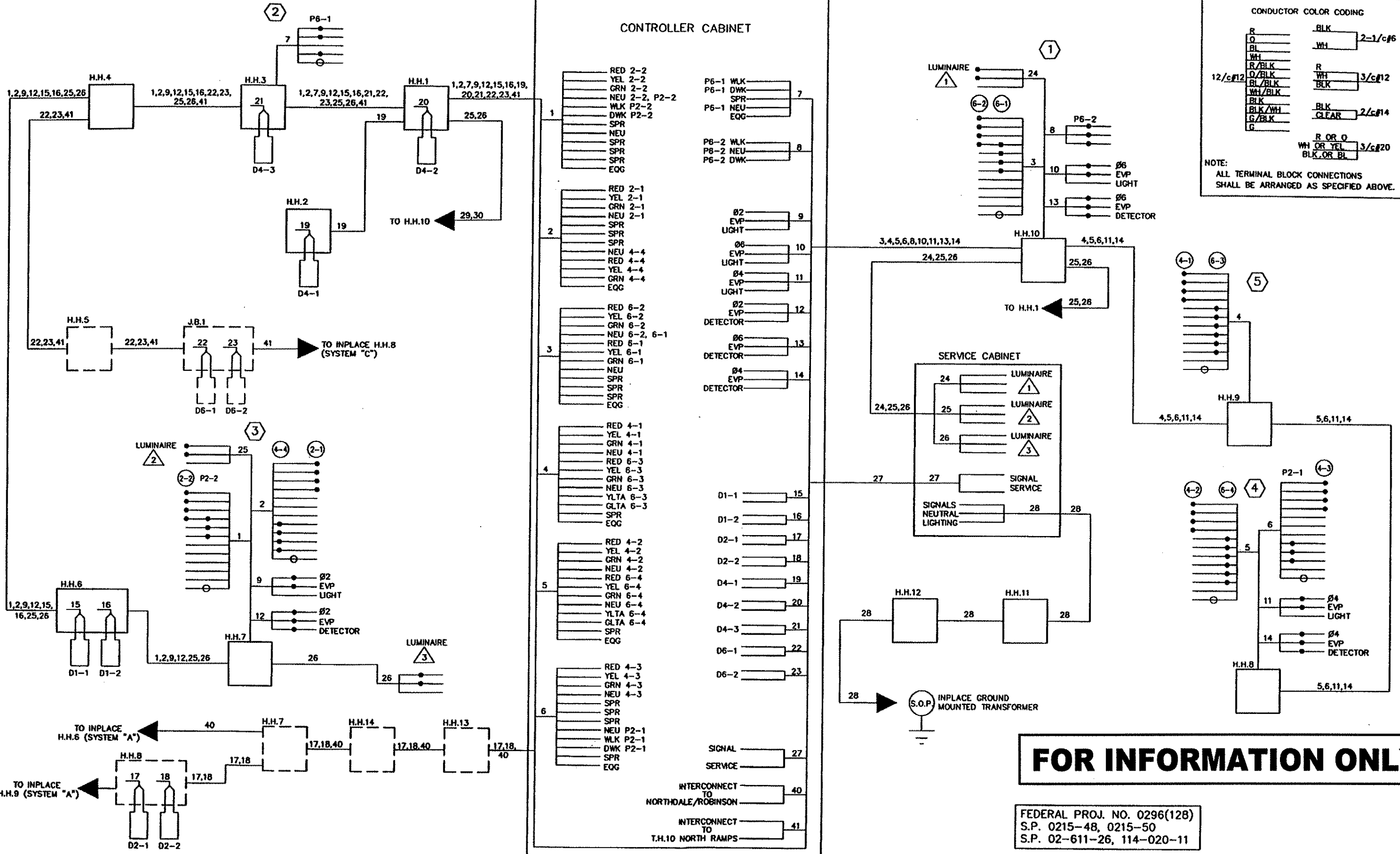
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Aaron S. Heumann
 AARON S. HEUMANN
 DATE: 4/26/02 MN LIC. NO. 25846

NORTHDALÉ BOULEVARD
 (C.S.A.H. 11)
HANSON BLVD. / T.H. 10 SOUTH RAMPS
 REVISE SIGNAL SYSTEM "B"
 INPLACE INTERSECTION LAYOUT

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

PLOT DATE: Apr 26, 2002 4:59pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS05.dwg



CONDUCTOR COLOR CODING

R	BLK	2-1/c#6
O	WH	
BL		
WH		
R/BLK	R	3/c#12
O/BLK	WH	
BL/BLK	BLK	
WH/BLK		
BLK	BLK	2/c#14
BLK/WH	CLEAR	
G/BLK		
G		
R OR O		3/c#20
WH OR YEL		
BLK OR BL		

NOTE:
ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

FOR INFORMATION ONLY

FEDERAL PROJ. NO. 0296(128)
S.P. 0215-48, 0215-50
S.P. 02-611-26, 114-020-11

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043
DRAWN BY: JAS
DESIGN BY: MRA
CHKD. BY: ASH
DWG. NAME: 043-TS05
DATE: APRIL 26, 2002



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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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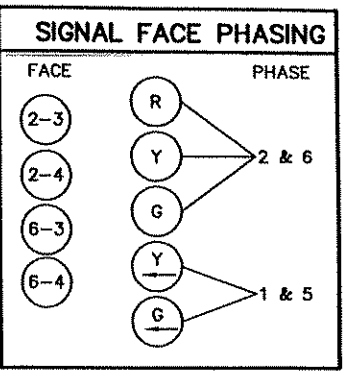
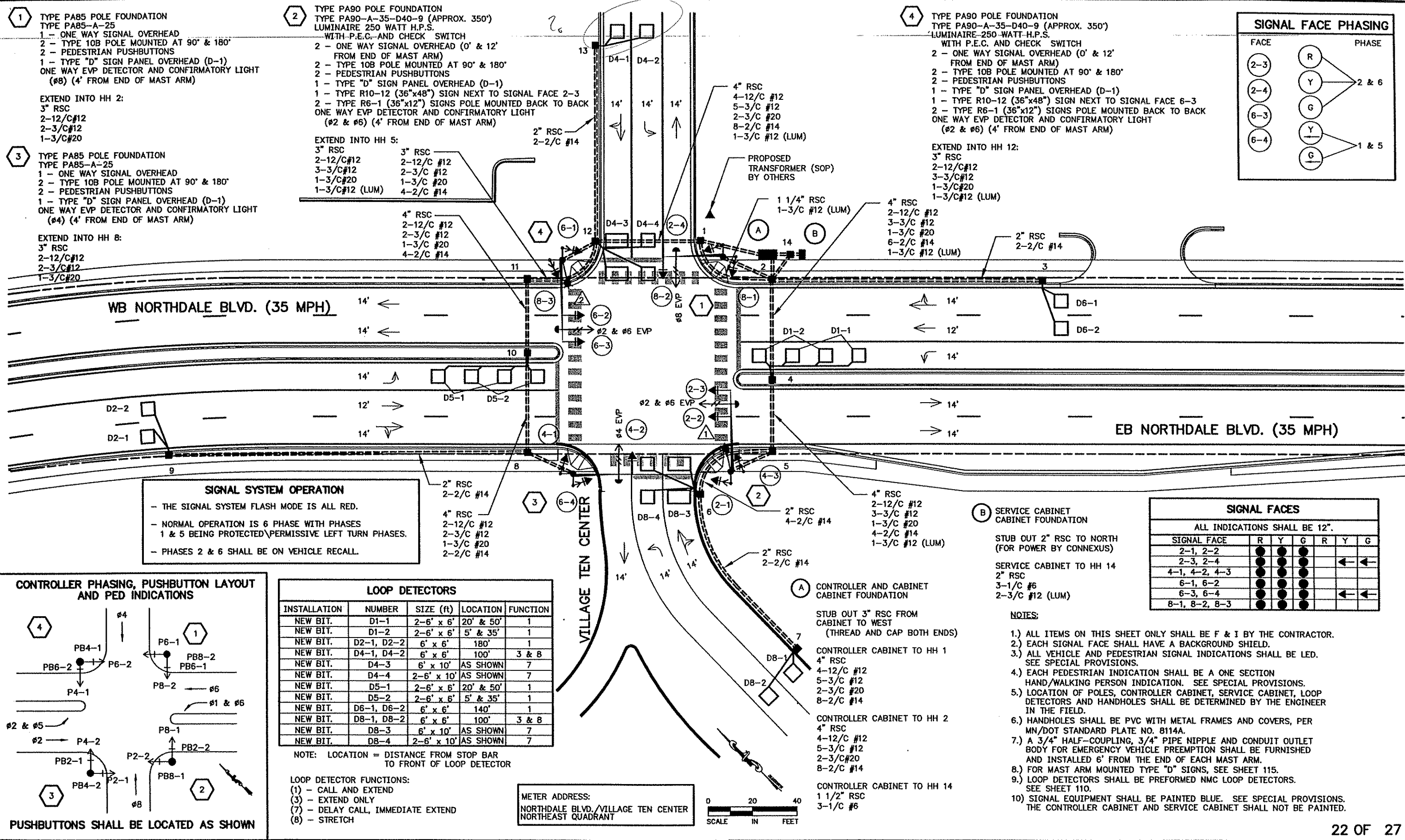
A. S. Heumann
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
HANSON BLVD. / T.H. 10 SOUTH RAMPS
REVISE SIGNAL SYSTEM "B"
INPLACE WIRING DIAGRAM

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

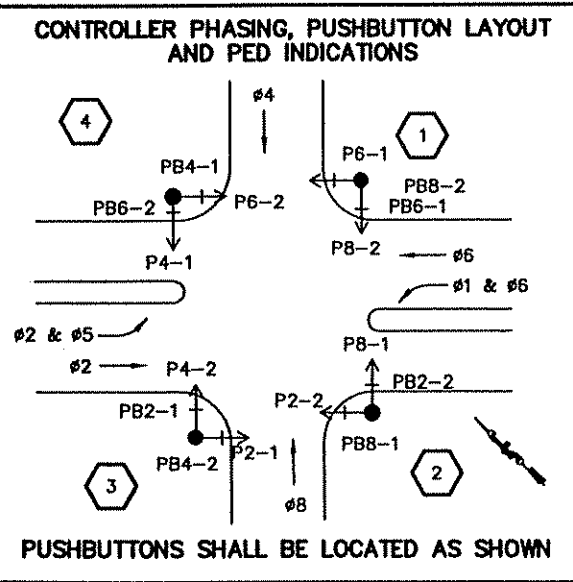
21 OF 27
SHEET NO. 128
159

PLOT DATE: APR 2002 3:52pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS12.dwg



SIGNAL SYSTEM OPERATION

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



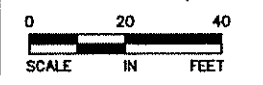
LOOP DETECTORS

INSTALLATION	NUMBER	SIZE (ft)	LOCATION	FUNCTION
NEW BIT.	D1-1	2-6' x 6'	20' & 50'	1
NEW BIT.	D1-2	2-6' x 6'	5' & 35'	1
NEW BIT.	D2-1, D2-2	6' x 6'	180'	1
NEW BIT.	D4-1, D4-2	6' x 6'	100'	3 & 8
NEW BIT.	D4-3	6' x 10'	AS SHOWN	7
NEW BIT.	D4-4	2-6' x 10'	AS SHOWN	7
NEW BIT.	D5-1	2-6' x 6'	20' & 50'	1
NEW BIT.	D5-2	2-6' x 6'	5' & 35'	1
NEW BIT.	D6-1, D6-2	6' x 6'	140'	1
NEW BIT.	D8-1, D8-2	6' x 6'	100'	3 & 8
NEW BIT.	D8-3	6' x 10'	AS SHOWN	7
NEW BIT.	D8-4	2-6' x 10'	AS SHOWN	7

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

LOOP DETECTOR FUNCTIONS:
 (1) - CALL AND EXTEND
 (3) - EXTEND ONLY
 (7) - DELAY CALL, IMMEDIATE EXTEND
 (8) - STRETCH

METER ADDRESS:
 NORTHDALE BLVD./VILLAGE TEN CENTER
 NORTHEAST QUADRANT



SERVICE CABINET

CABINET FOUNDATION

STUB OUT 2" RSC TO NORTH (FOR POWER BY CONNEXUS)

SERVICE CABINET TO HH 14
 2" RSC
 3-1/C #6
 2-3/C #12 (LUM)

SIGNAL FACES

ALL INDICATIONS SHALL BE 12"

SIGNAL FACE	R	Y	G	R	Y	G
2-1, 2-2	●	●	●			
2-3, 2-4	●	●	●	←	←	
4-1, 4-2, 4-3	●	●	●			
6-1, 6-2	●	●	●			
6-3, 6-4	●	●	●	←	←	
8-1, 8-2, 8-3	●	●	●			

- ### NOTES:
- 1.) ALL ITEMS ON THIS SHEET ONLY SHALL BE F & I BY THE CONTRACTOR.
 - 2.) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
 - 3.) ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED. SEE SPECIAL PROVISIONS.
 - 4.) EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS.
 - 5.) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
 - 6.) HANDHOLES SHALL BE PVC WITH METAL FRAMES AND COVERS, PER MN/DOT STANDARD PLATE NO. 8114A.
 - 7.) A 3/4" HALF-COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION SHALL BE FURNISHED AND INSTALLED 6' FROM THE END OF EACH MAST ARM.
 - 8.) FOR MAST ARM MOUNTED TYPE "D" SIGNS, SEE SHEET 115.
 - 9.) LOOP DETECTORS SHALL BE PERFORMED NMC LOOP DETECTORS. SEE SHEET 110.
 - 10.) SIGNAL EQUIPMENT SHALL BE PAINTED BLUE. SEE SPECIAL PROVISIONS. THE CONTROLLER CABINET AND SERVICE CABINET SHALL NOT BE PAINTED.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	MRA	05/07/02	ADD #1: ADD R6-1 SIGNS POLE 2&4 ADD #2: REM. R10-4b SIGNS

DESIGN FILE: 33889-043
 DRAWN BY: JAS
 DESIGN BY: MRA
 CHKD. BY: ASH
 DWG. NAME: 043-TS12
 DATE: APRIL 26, 2002



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

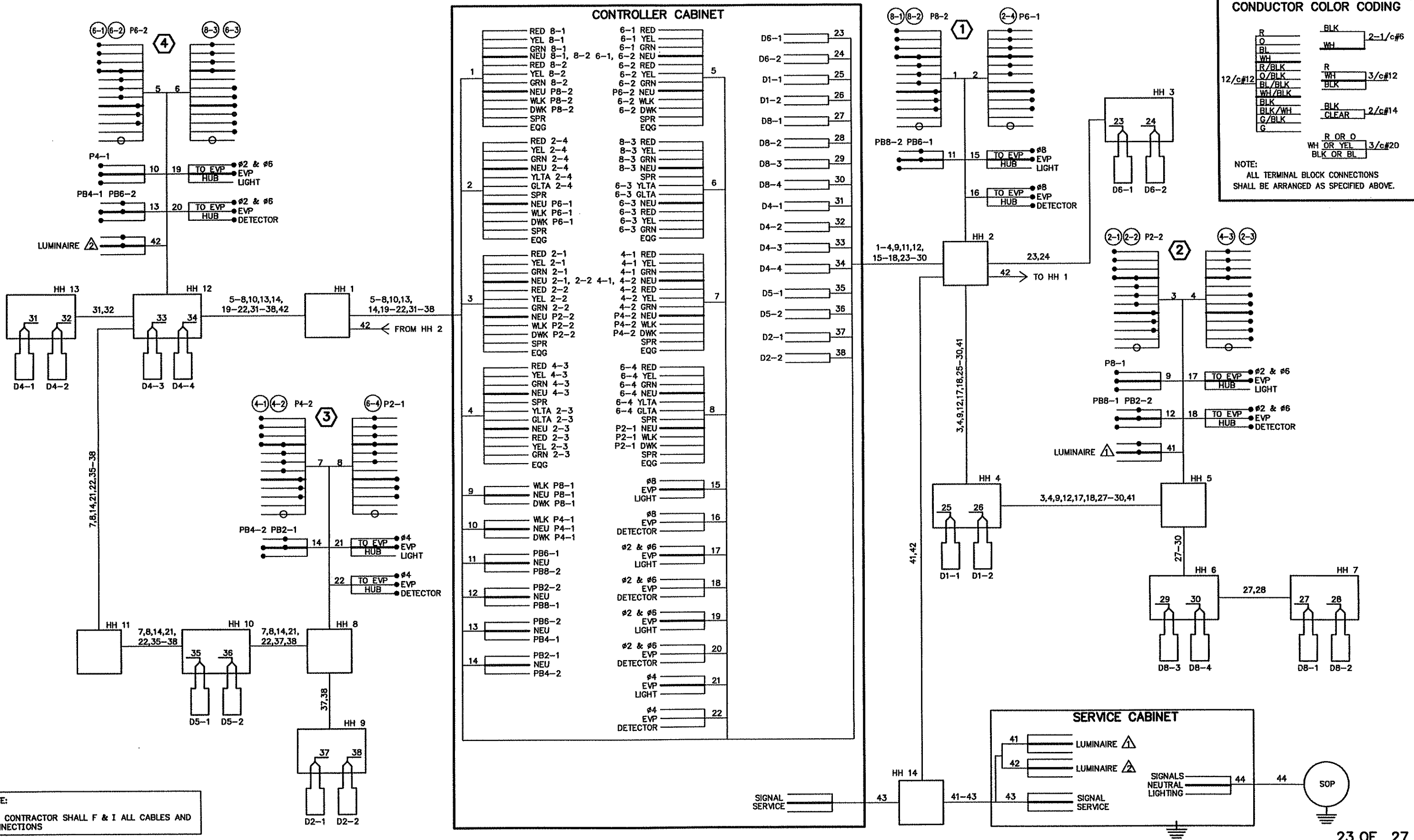
A. S. Heumann
 AARON S. HEUMANN
 DATE: 4/26/02 MN LIC. NO. 25846

NORTHDALE BOULEVARD
 (C.S.A.H. 11)
 NORTHDALE BLVD./VILLAGE TEN CENTER
 SIGNAL SYSTEM "C"
 INTERSECTION LAYOUT

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 129 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

22 OF 27

PLOT DATE: Apr 26, 2002 5:00pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS11.dwg



CONDUCTOR COLOR CODING

R	BLK	2-1/c#6
O	WH	
BL		
WH	R	3/c#12
R/BLK	WH	
O/BLK	BLK	
BL/BLK		
WH/BLK	BLK	2/c#14
BLK	BLK/CLEAR	
BLK/WH		
G/BLK	R OR O	3/c#20
G	WH OR YEL	
	BLK OR BL	

NOTE:
ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

NOTE:
THE CONTRACTOR SHALL F & I ALL CABLES AND CONNECTIONS

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043

DRAWN BY: JAS DESIGN BY: MRA

CHKD. BY: ASH DWG. NAME: 043-TS11

DATE: APRIL 26, 2002

700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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A. S. Heumann

AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

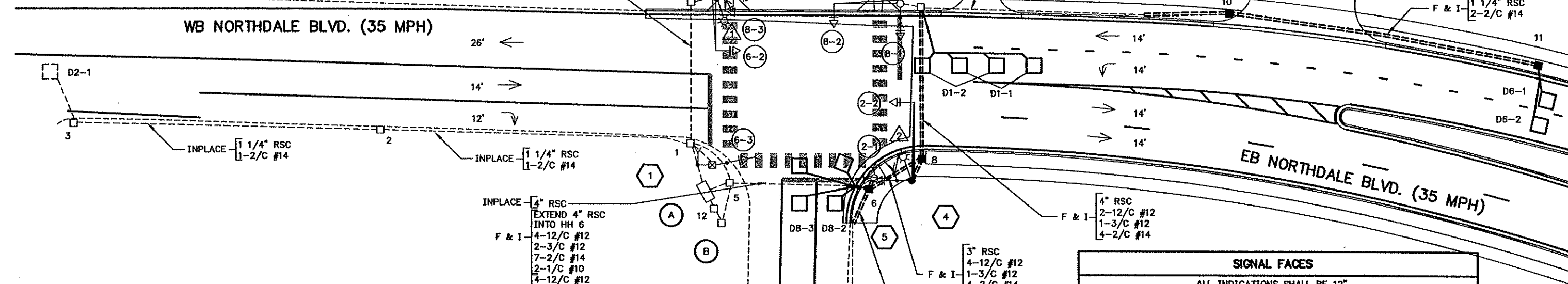
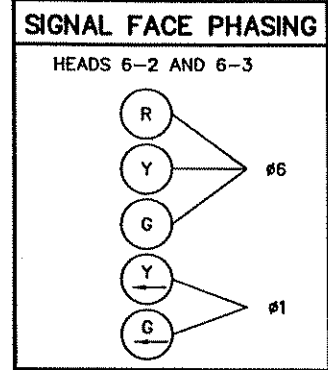
NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
NORTHDALÉ BLVD./VILLAGE TEN CENTER
SIGNAL SYSTEM "C"
WIRING DIAGRAM

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 130
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

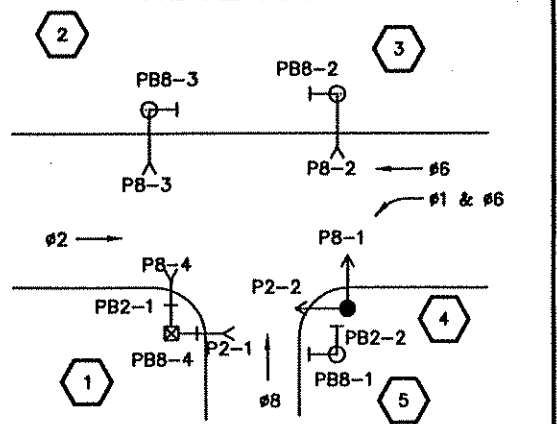
159

2002 5:01pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS21.dwg PLOT DATE: AP

- (A)** INPLACE CABINET FOUNDATION CONTROLLER AND CABINET
 EXTEND INTO HH 12: METERED SIGNAL SERVICE
 INPLACE 1 1/4" RSC 3-1/C #6
 EXTEND INTO HH 1:
 INPLACE 4" RSC 3-12/C #12 3-3/C #12 1-2/C #14
 EXTEND INTO HH 5:
 INPLACE 4" RSC 4-12/C #12 2-3/C #12 6-2/C #14 4-12/C #12 2-3/C #12 7-2/C #14
 REMOVE 7-2/C #14
 F & I 7-2/C #14
 INPLACE STUB OUT 3" RSC AND CAP
- (B)** INPLACE CABINET FOUNDATION SERVICE CABINET
 STUB OUT 2" RSC EXISTING SERVICE BY A.E.C.
 INPLACE EXTEND INTO HH 12: METERED SIGNAL SERVICE 1 1/4" RSC 3-1/C #6
 EXTEND INTO HH 5: UNMETERED STREET LIGHT SOURCE
 INPLACE 1 1/4" RSC 2-1/C #10
 F & I 2-1/C #10
 REMOVE 2-1/C #10
 INPLACE BETWEEN HH 1 AND HH 5: 2" RSC 2-1/C #10
- (1)** INPLACE PEDESTAL FOUNDATION 10" PEDESTAL POLE AND BASE TYPE 1D
 2 - PEDESTRIAN PUSH BUTTONS
 EXTEND INTO HH 1:
 INPLACE 2" RSC 1-12/C #12 2-3/C #12
- (2)** INPLACE TYPE P80 POLE FOUNDATION TYPE P80-A-20-D40-9 (DAVIT AT 350')
 ONE WAY SIGNAL OVERHEAD TYPE 20B POLE MOUNTED AT 270'
 LUMINAIRE - 200 WATT HPS WITH PEC AND CHECK SWITCH
 1 - PEDESTRIAN PUSH BUTTON TYPE "D" SIGN PANEL OVERHEAD R10-12 SIGN PANEL ADJACENT TO FACE 6-2
 EXTEND INTO HH 4:
 INPLACE 3" RSC 2-12/C #12 1-3/C #12 2-1/C #10
- (3)** INPLACE TYPE P90 POLE FOUNDATION TYPE P90-A-25
 ONE WAY SIGNAL OVERHEAD TYPE 10B POLE MOUNTED AT 0'
 1 - PEDESTRIAN PUSH BUTTON TYPE "D" SIGN PANEL OVERHEAD
 EXTEND INTO HH 9:
 INPLACE 3" RSC 2-12/C #12
 REMOVE 1-3/C #12 2-12/C #12 1-3/C #12
 F & I 2-12/C #12
- (4)** REMOVE TYPE P90 POLE FOUNDATION TYPE A-25 (MAST ARM)
 TYPE P90 (MAST ARM POLE) ONE WAY SIGNAL OVERHEAD TYPE 10C POLE MOUNTED AT 270'
 LUMINAIRE-200 WATT HPS WITH PEC AND CHECK SWITCH TYPE D40-9 LUM. EXT. (DAVIT AT 350')
 TYPE "D" SIGN PANEL OVERHEAD
 SALVAGE & REINSTALL
 F & I TYPE PA90 POLE FOUNDATION TYPE A-30 (MAST ARM)
 EXTEND INTO HH 8:
 F & I 3" RSC 2-12/C #12 2-1/C #10 2-12/C #12 2-1/C #10
 REMOVE 2-1/C #10
- (5)** INPLACE PEDESTAL FOUNDATION 5" PEDESTAL POLE AND BASE
 2 - PEDESTRIAN PUSH BUTTONS
 F & I EXTEND INTO HH 6:
 2" RSC 1-3/C #12
 REMOVE 1-3/C #12



CONTROLLER PHASING, PUSHBUTTON LAYOUT AND PED INDICATIONS



PUSHBUTTONS SHALL BE LOCATED AS SHOWN

LOOP DETECTORS					
INSTALLATION	STATUS	NUMBER	SIZE (ft)	LOCATION	FUNCTION
NEW BIT.	F & I	D1-1	2-6' x 6'	20' & 50'	1 & 11
NEW BIT.	F & I	D1-2	2-6' x 6'	5' & 35'	1 & 11
INPLACE	INPLACE	D2-1	6' x 6'	260'	1
NEW BIT.	F & I	D6-1	6' x 6'	260'	1
NEW BIT.	F & I	D6-2	6' x 6'	260'	1
INPLACE	INPLACE	DB-1	2-6' x 6'	120'	3 & 8
MILL	F & I	DB-2	2-6' x 6'	AS SHOWN	7
MILL	F & I	DB-3	2-6' x 6'	AS SHOWN	1

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

- LOOP DETECTOR FUNCTIONS:
- (1) - CALL AND EXTEND
 - (3) - EXTEND ONLY
 - (7) - DELAY CALL, IMMEDIATE EXTEND
 - (8) - STRETCH
 - (11) - EXTEND PHASE 2 & 6 DURING PHASE 2 & 6 GREEN

SIGNAL FACES								
ALL INDICATIONS SHALL BE 12".								
SIGNAL FACE	PHASE	R	Y	G	R	Y	G	STATUS
2-1, 2-2	2	○	○	○				SALVAGE & REINSTALL
6-1	6	○	○	○				INPLACE
6-2, 6-3	6 & 1	○	○	○	◀	◀		INPLACE
8-1, 8-2, 8-3	8	○	○	○				INPLACE

- NOTES:
- LOCATION OF POLES, HANDHOLES AND LOOP DETECTORS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
 - ALL NEW HANDHOLES SHALL BE PVC WITH METAL FRAMES AND COVERS PER MN/DOT STANDARD PLATE NO. B114A.
 - ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL REMAIN INPLACE UNLESS OTHERWISE INDICATED AS "F & I" OR "SALVAGE & REINSTALL".
 - ITEMS INDICATED AS "REMOVE" SHALL BE DONE SO AS DIRECTED BY THE ENGINEER AND SHALL BE CONSIDERED INCIDENTAL WORK TO THE SIGNAL SYSTEM. SEE DETAILS SHEET 110.
 - ALL NEW LOOP DETECTORS SHALL BE PREFORMED NMC LOOP DETECTORS.
 - A 3/4" HALF-COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION SHALL BE FURNISHED AND INSTALLED 6' FROM THE END OF MAST ARM 4.
 - SIGNAL EQUIPMENT SHALL BE PAINTED BLUE. SEE SPECIAL PROVISIONS. THE CONTROLL CABINET AND SERVICE CABINET SHALL NOT BE PAINTED.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	MRA	05/07/02	ADD. #1: POLE 4-(A-25 ADDED TO REM. LIST) ADD. #2: POLE 4-(D40-9 ADDED TO S&R LIST)

DESIGN FILE: 33889-043
 DRAWN BY: JAS
 DESIGN BY: MRA
 CHKD. BY: ASH
 DWG. NAME: 043-TS21
 DATE: APRIL 26, 2002

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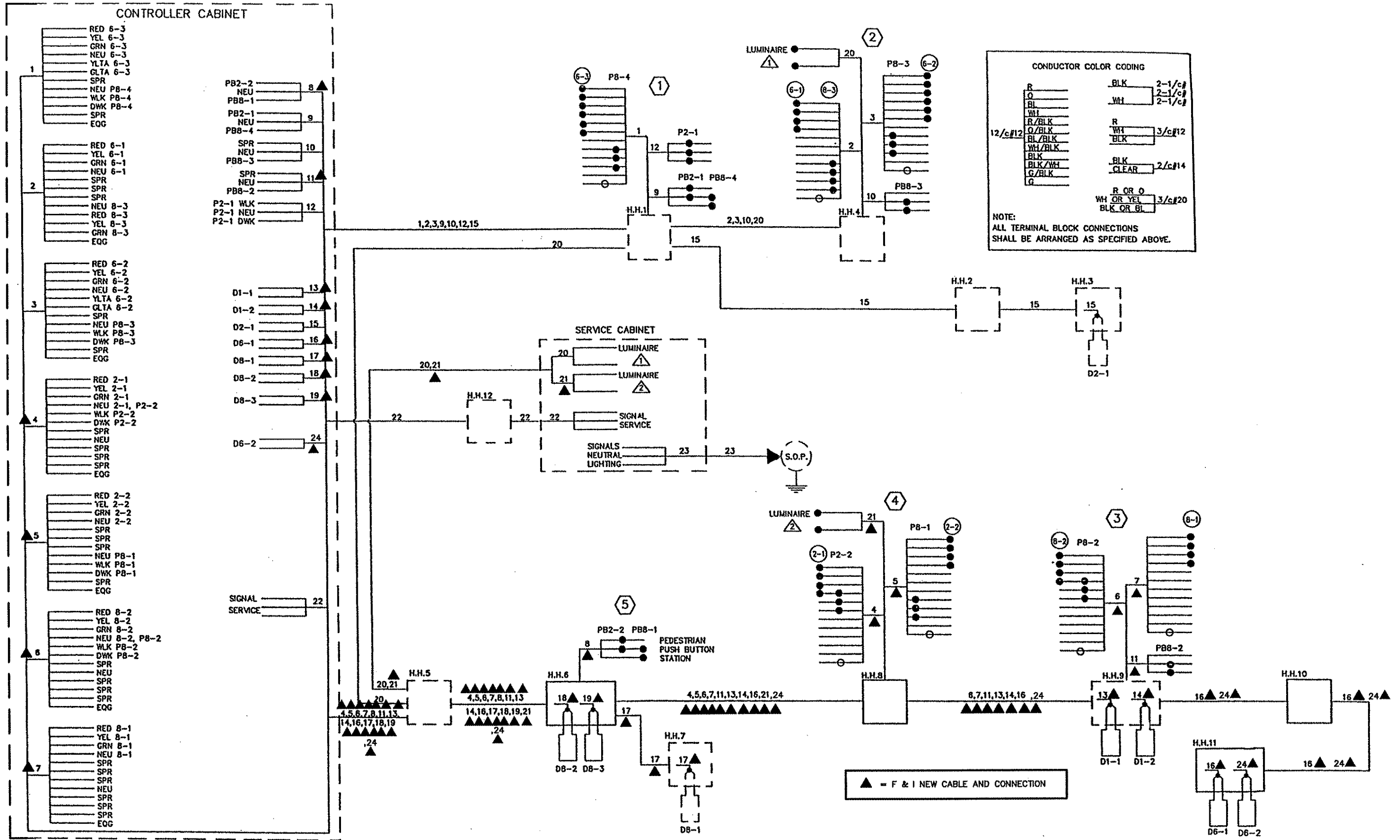
Aaron S. Heumann
 AARON S. HEUMANN
 DATE: 4/26/02 MN LIC. NO. 25846

NORTHDALE BOULEVARD (C.S.A.H. 11)
 NORTHDALE BLVD. / RAVEN ST.
 REVISE SIGNAL SYSTEM "D" INTERSECTION LAYOUT

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO. 131
 24 OF 27
 159

PLOT DATE: Apr 2, 2002 5:01pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS23.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	DESIGN BY: MRA
DRAWN BY: JAS	DWG. NAME: 043-TS23
CHKD. BY: ASH	DATE: APRIL 26, 2002



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A. S. Heumann
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
NORTHDALÉ BLVD. / RAVEN ST.
REVISE SIGNAL SYSTEM "D"
WRING DIAGRAM

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
132
159

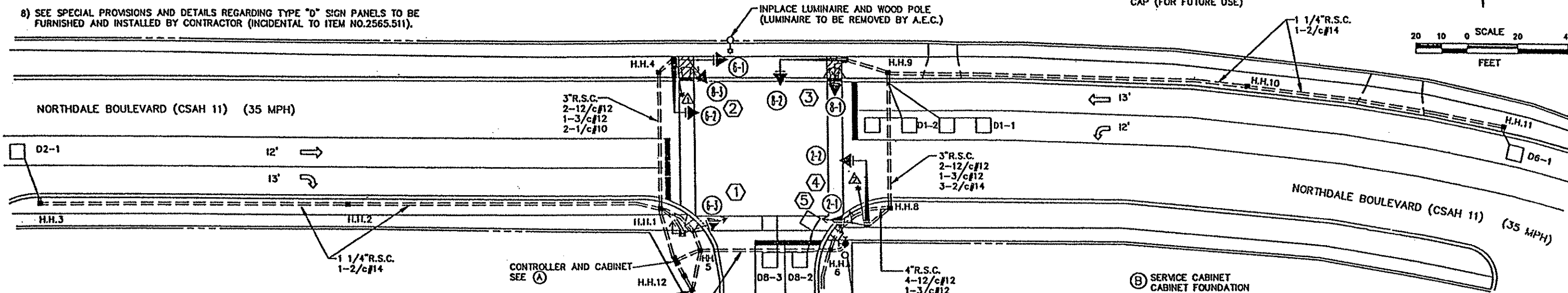
NOTES:

- 1) LOCATION OF CONTROLLER CABINET, SERVICE CABINET, POLE BASES, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD, EXCEPT FOR SIGNAL FACE (8-3)
- 3) EACH PEDESTRIAN INDICATION SHALL BE 12"x12".
- 4) SEE SPECIAL PROVISIONS AND DETAILS FOR ANOKA COUNTY SERVICE CABINET INFORMATION.
- 5) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- 6) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 1" N.M.C. SEE SPECIAL PROVISIONS AND DETAILS.
- 7) EACH HANDHOLE SHALL BE CONCRETE HANDHOLE WITH A TYPE "C" COVER PER Mn/DOT STANDARD PLATE NO.8117F.
- 8) SEE SPECIAL PROVISIONS AND DETAILS REGARDING TYPE "D" SIGN PANELS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO.2565.511).

- 2) TYPE P80-A-20-D40-9 (DAVIT AT 350')
P80 POLE FOUNDATION
ONE WAY SIGNAL-OVERHEAD
TYPE 20B-POLE MOUNTED 270°
LUMINAIRE-200 WATT H.P.S. WITH PEC AND CHECK SWITCH
1-PEDESTRIAN PUSH BUTTON
TYPE "D" SIGN PANEL (72"x18")-OVERHEAD
R10-12 SIGN PANEL (24"x30")-ADJACENT TO (6-2)
EXTEND INTO H.H.4:
3"R.S.C.
2-12/c#12
1-3/c#12
2-1/c#10

- 3) TYPE P90-A-25
P90 POLE FOUNDATION
ONE WAY SIGNAL-OVERHEAD
TYPE 10B-POLE MOUNTED 0°
1-PEDESTRIAN PUSH BUTTON
TYPE "D" SIGN PANEL (108"x18")-OVERHEAD
EXTEND INTO H.H.9:
3"R.S.C.
2-12/c#12
1-3/c#12

- A) INSTALL CONTROLLER AND CABINET (FURNISHED BY COUNTY)
CABINET FOUNDATION
EXTEND INTO H.H.12:
METERED SIGNAL SERVICE
1 1/4"R.S.C.
3-1/c#6
EXTEND INTO H.H.1:
4"R.S.C.
3-12/c#12
3-3/c#12
1-2/c#14
EXTEND INTO H.H.5:
4"R.S.C.
4-12/c#12
2-3/c#12
6-2/c#14
STUB OUT 3"R.S.C. AND CAP (FOR FUTURE USE)



SIGNAL INDICATIONS								
FACE	PHASE	FLASH	SIGNAL FACES (SIZE IN INCHES)					
			R	Y	G	YLTA	GLTA	
2-1	2	R	12	12	12			
2-2	2	R	12	12	12			
6-1	6	R	12	12	12			
6-2	6 & 1	R	12	12	12	12	12	
6-3	6 & 1	R	12	12	12	12	12	
8-1	8	R	12	12	12			
8-2	8	R	12	12	12			
8-3	8	R	12	12	12			

LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	35'	1
D1-2	2-6x6	5'	1,11
D2-1	6x6	260'	1
D6-1	6x6	260'	1
D8-1	2-6x6	120'	3,8
D8-2	2-6x6	5'	7
D8-3	2-6x6	5'	1

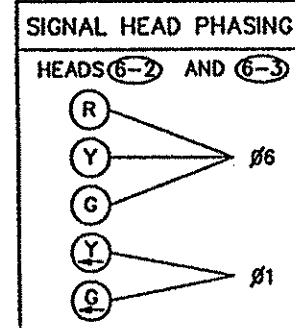
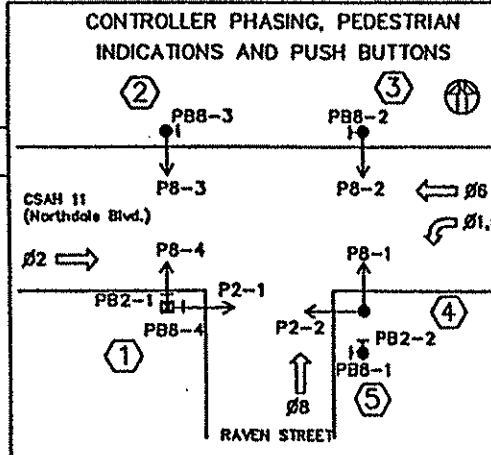
- 1) TYPE 10
10' PEDESTAL POLE AND BASE
PEDESTAL FOUNDATION
2-PEDESTRIAN PUSH BUTTONS
EXTEND INTO H.H.1:
2"R.S.C.
1-12/c#12
2-3/c#12

- FUNCTIONS:
- 1) CALL AND EXTEND
 - 2) CALL ONLY
 - 3) EXTEND ONLY
 - 4) CALL ONLY DENSITY
 - 5) DELAYED CALL ONLY
 - 6) DELAYED CALL ONLY DENSITY
 - 7) DELAYED CALL-IMMEDIATE EXTEND
 - 8) CARRY OVER (STRETCH)
 - 9) ADVISORY DETECTOR
 - 10) SAMPLING DETECTOR
 - 11) EXTEND PHASE 2 AND 6 DURING PHASE 2 AND 6 GREEN

NOTE: LOCATION = DISTANCE FROM STOP BAR TO LOOP DETECTOR.

FOR INFORMATION ONLY

SIDEWALK, CURB AND GUTTER LEGEND	
	CONSTRUCT 4" CONCRETE SIDEWALK AND PEDESTRIAN CURB RAMP
	REMOVE CONCRETE CURB AND GUTTER (8618)



PLOT DATE: Apr 24, 2002 5:00pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS14.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043
 DRAWN BY: JAS
 DESIGN BY: MRA
 CHKD. BY: ASH
 DWG. NAME: 043-TS14
 DATE: APRIL 26, 2002

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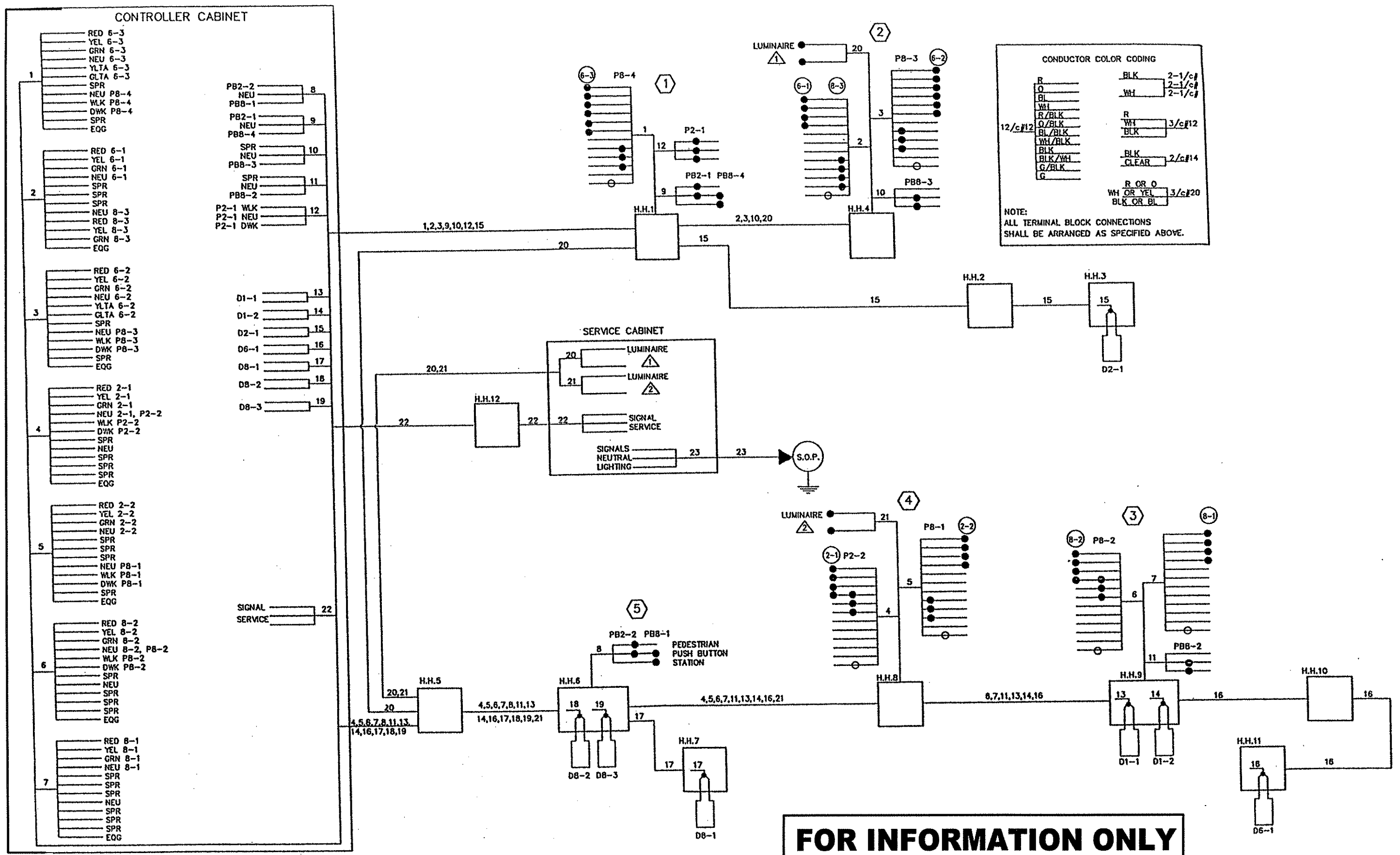
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 AARON S. HEUMANN
 DATE: 4/26/02 MN LIC. NO. 25848

NORTHDALE BOULEVARD (C.S.A.H. 11)
 NORTHDALE BLVD. / RAVEN ST.
 REVISE SIGNAL SYSTEM "D"
 INPLACE INTERSECTION LAYOUT

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

26 OF 27
 SHEET NO. 133
 159

PLOT DATE: Apr 24, 2002 5:00pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS15.dwg



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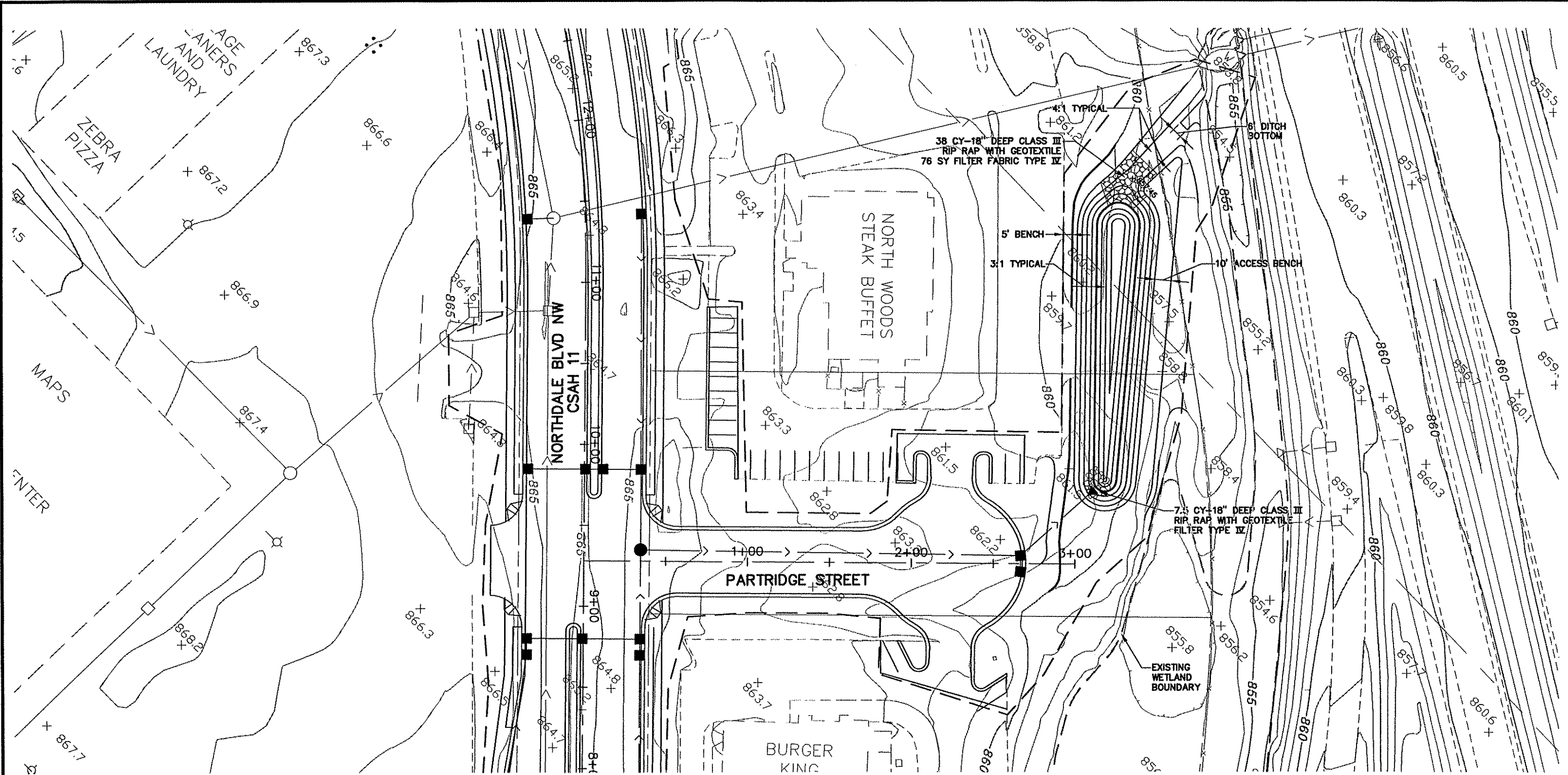
Aaron S. Heumann
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BLVD. / RAVEN ST.
REVISE SIGNAL SYSTEM "D"
INPLACE WIRING DIAGRAM**

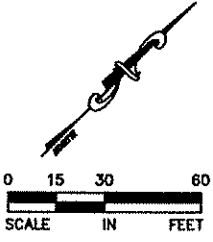
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COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
134
159

PLOT DATE: Apr 26, 2002 12:00pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-ST08.dwg



PARTRIDGE STREET



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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33889-043

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DESIGN BY:
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CHKD. BY:
ICP

DWG. NAME:
043-ST08

DATE:
APRIL 26, 2002



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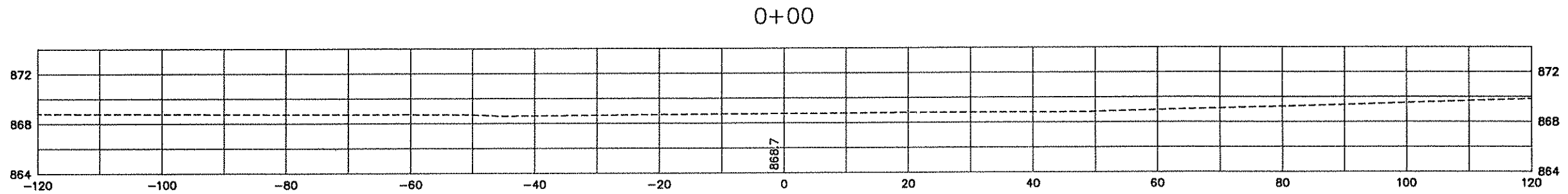
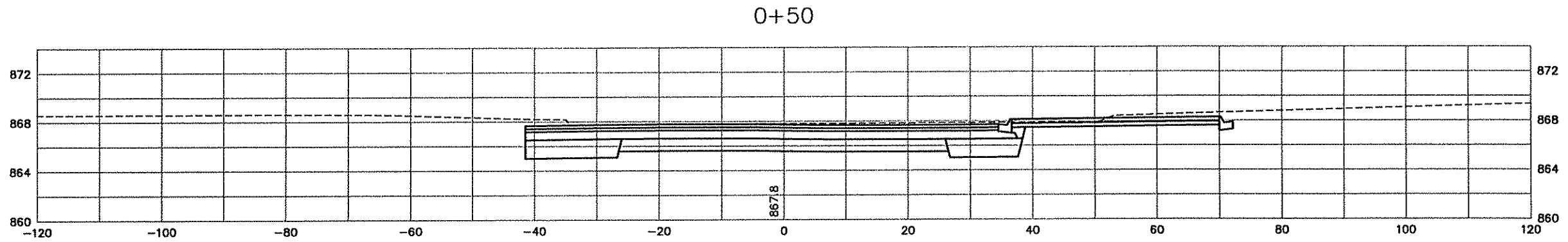
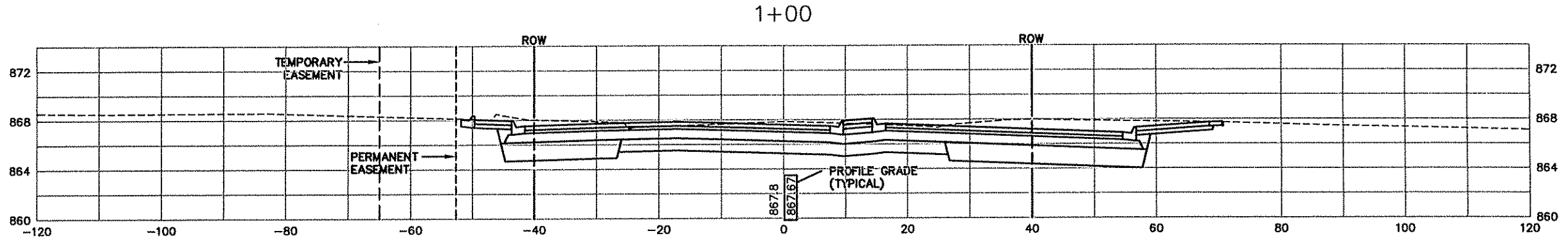
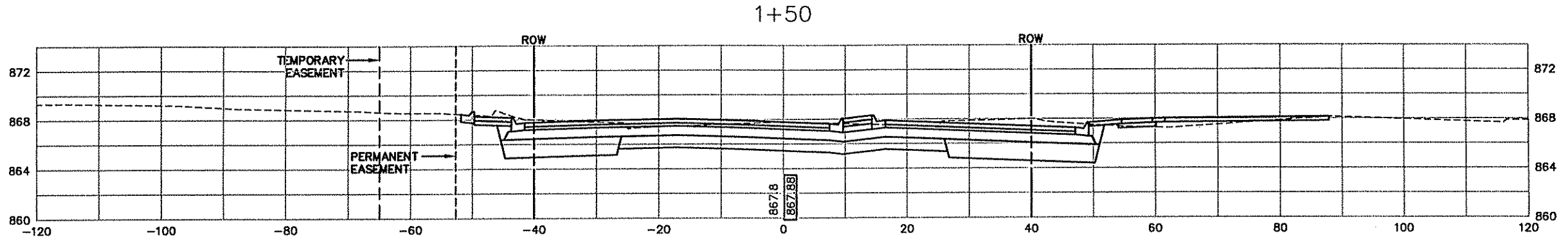
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
PARTRIDGE STREET
STORM DRAINAGE POND GRADING PLAN**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
135
159

PLOT DATE: Apr 26, 2002 7:21am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS201.dwg



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ICP

DWG. NAME:
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DATE:
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Paul B. Danielson

PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
NORTHDALÉ BOULEVARD
CROSS SECTIONS

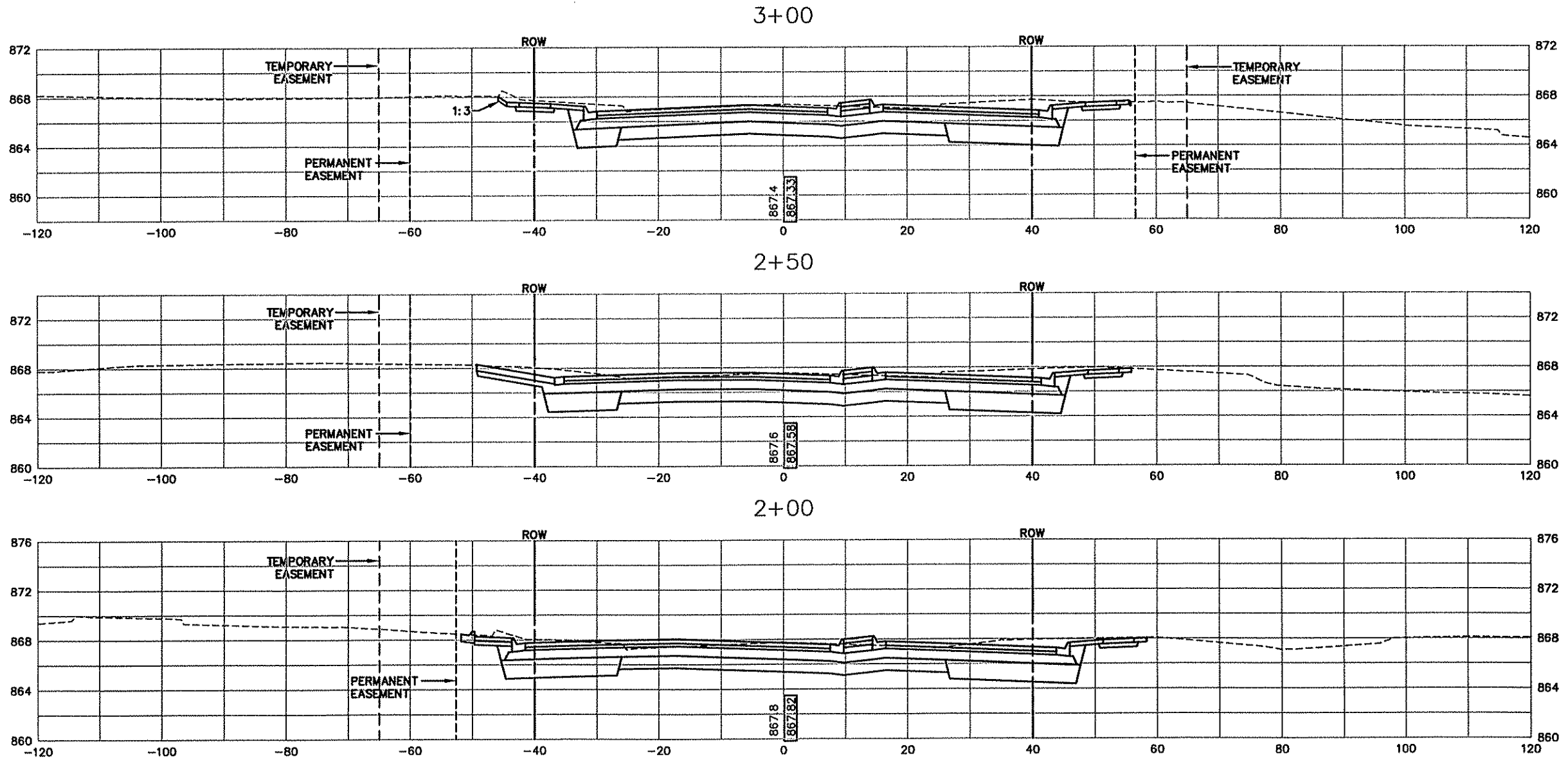
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COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.

136

159

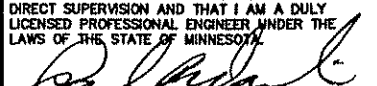
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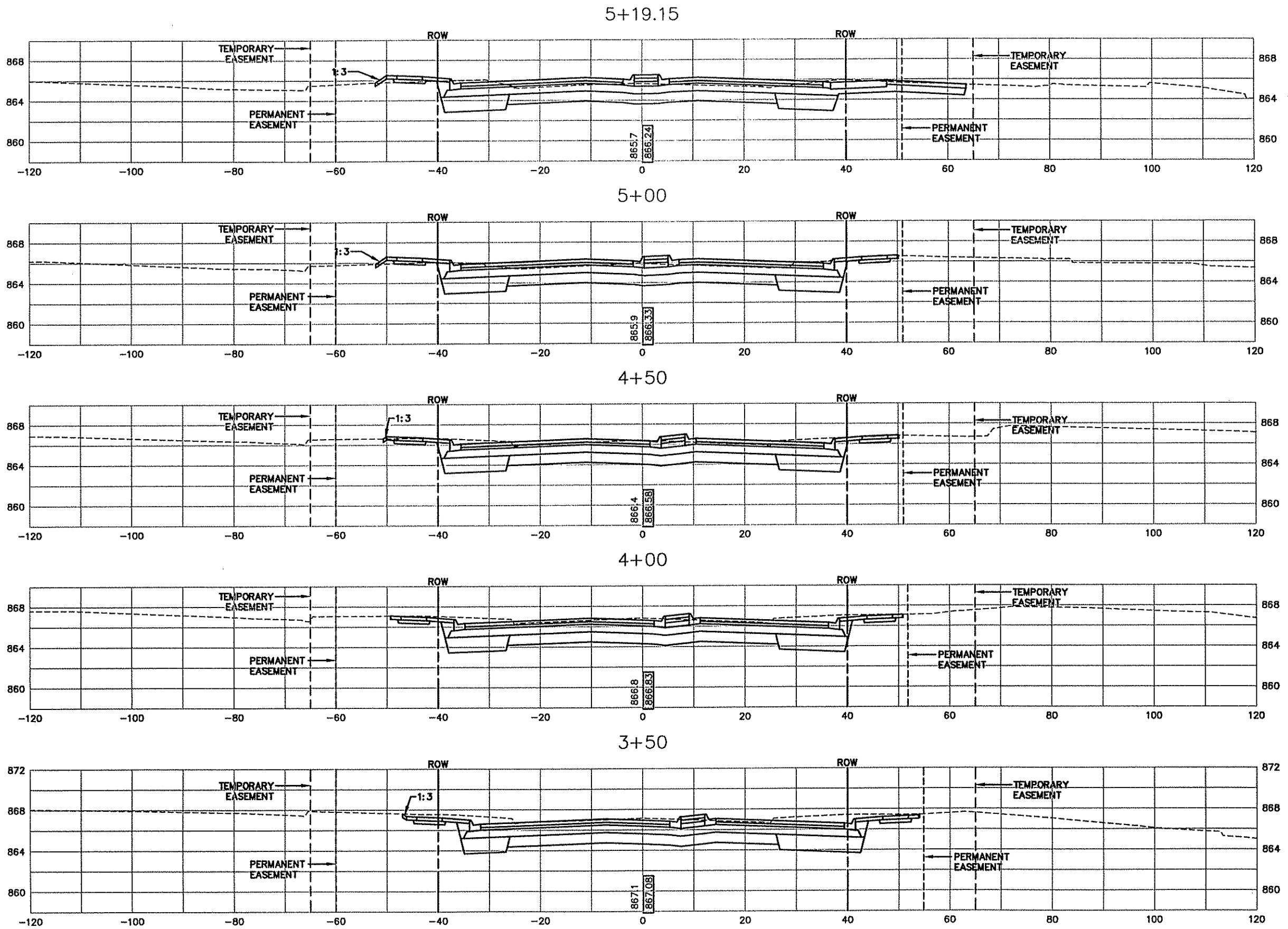
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 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
 (C.S.A.H. 11)
NORTHDALE BOULEVARD
 CROSS SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

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3 OF 24

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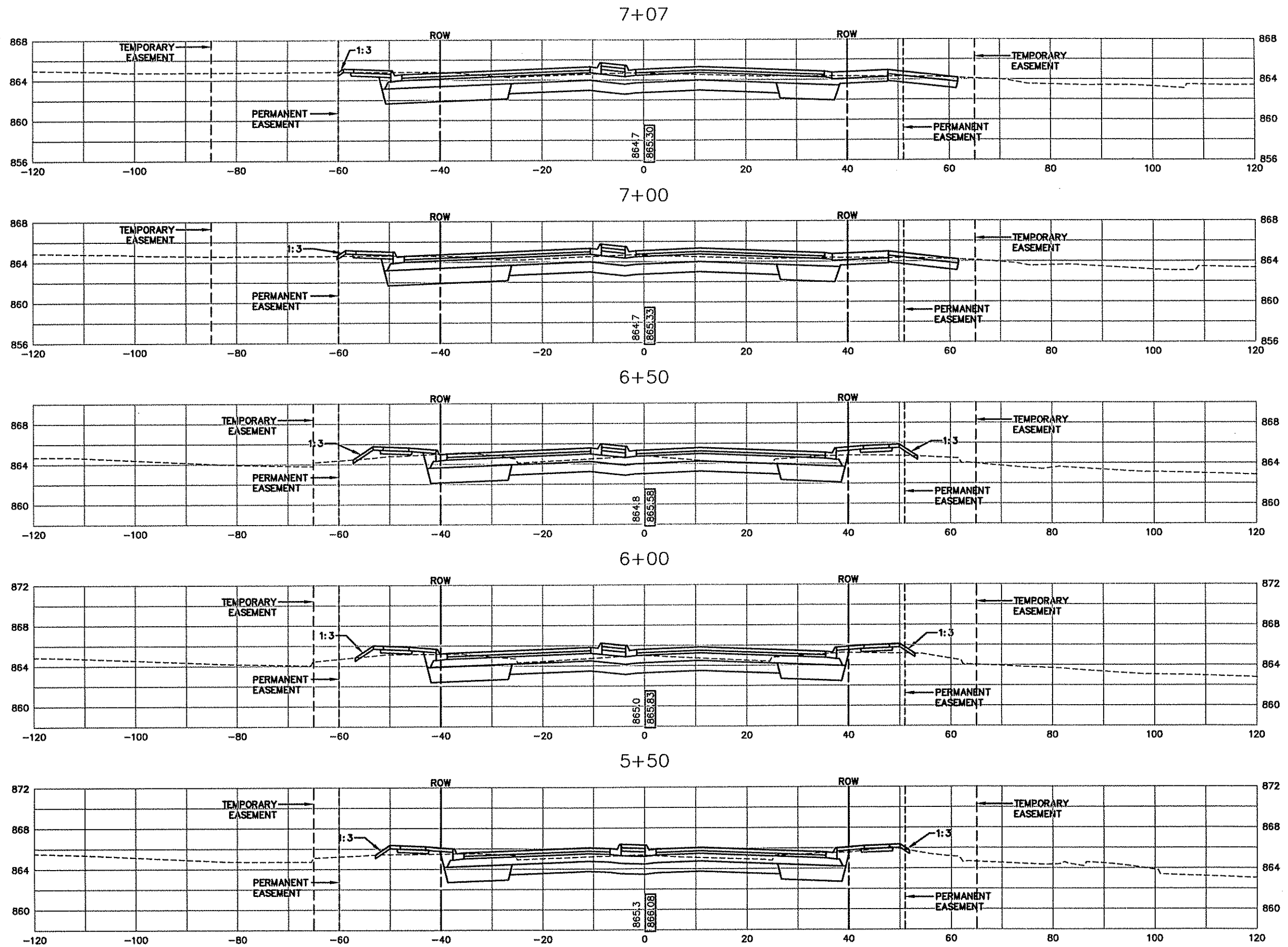
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
NORTHDALÉ BOULEVARD
CROSS SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

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138
159

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Paul B. Danielson

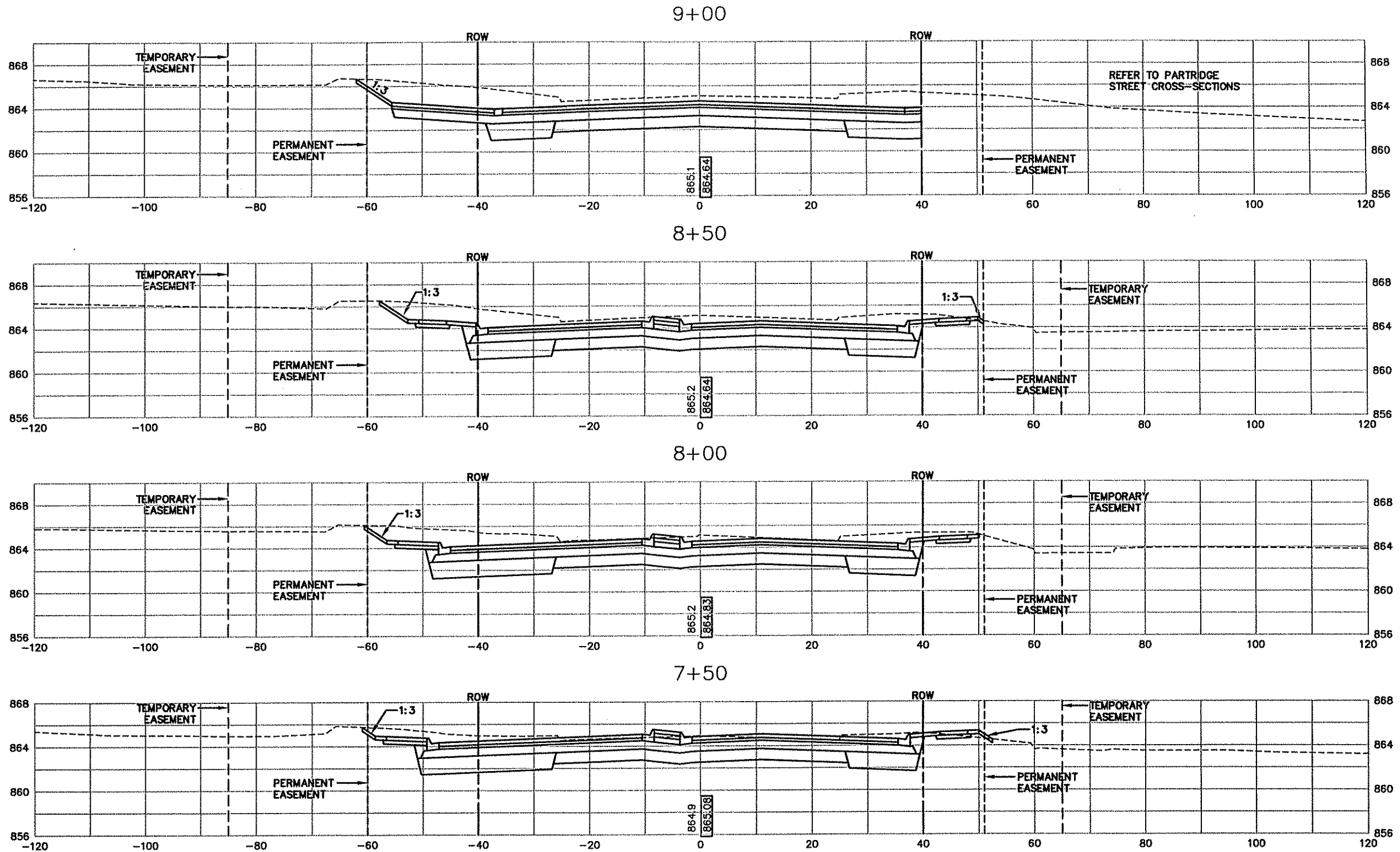
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
CROSS SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

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139
159

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Paul B. Danielson

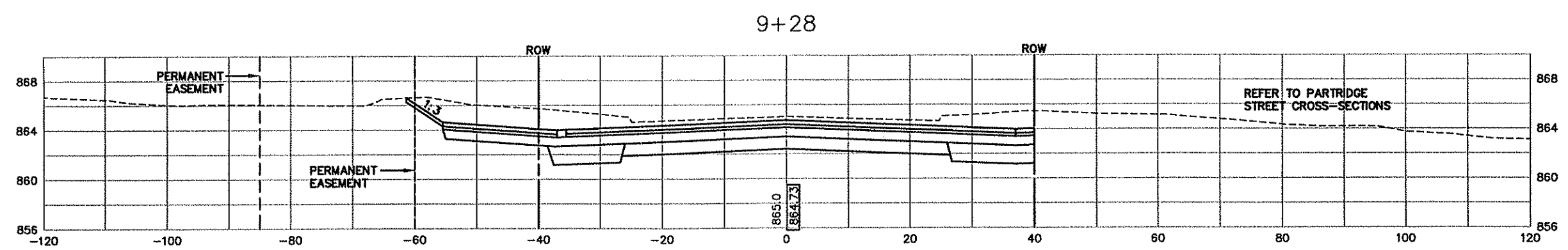
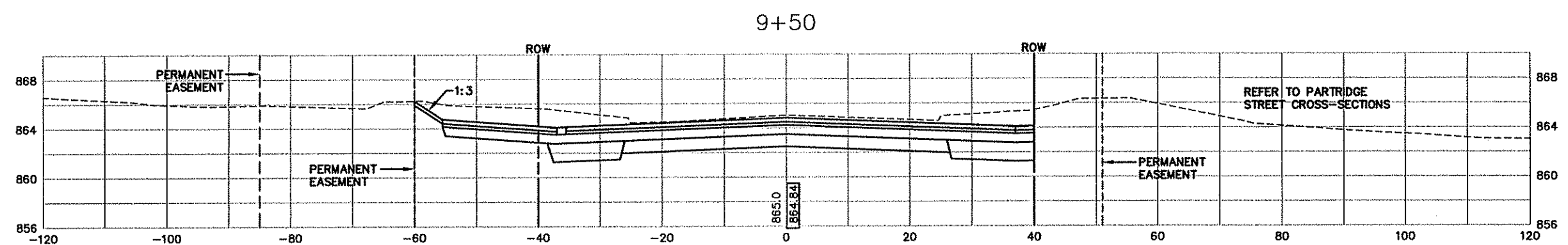
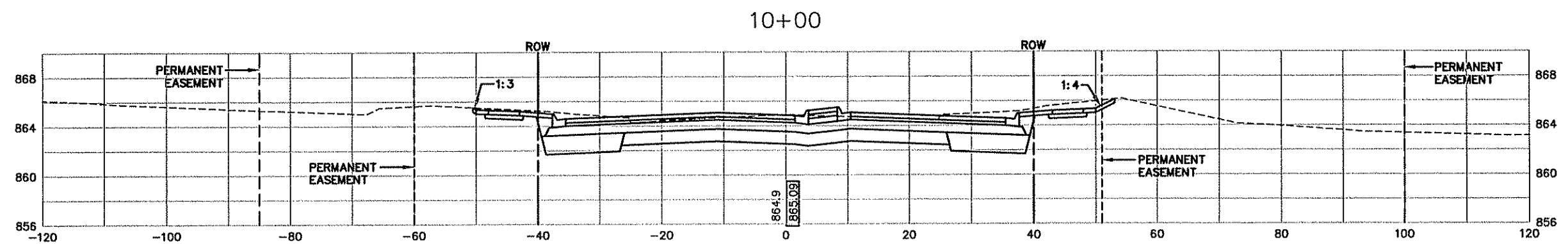
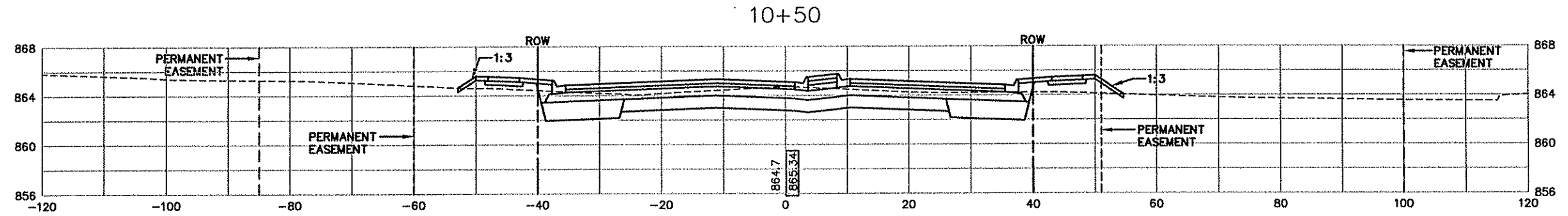
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
NORTHDALÉ BOULEVARD
CROSS SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

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140
159

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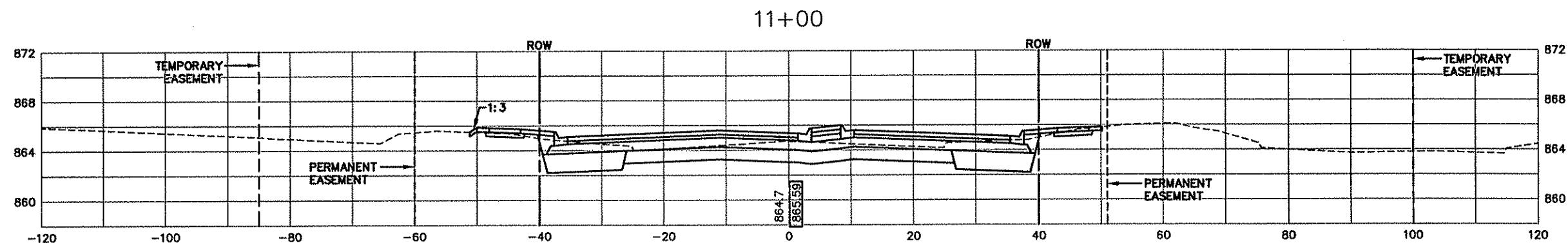
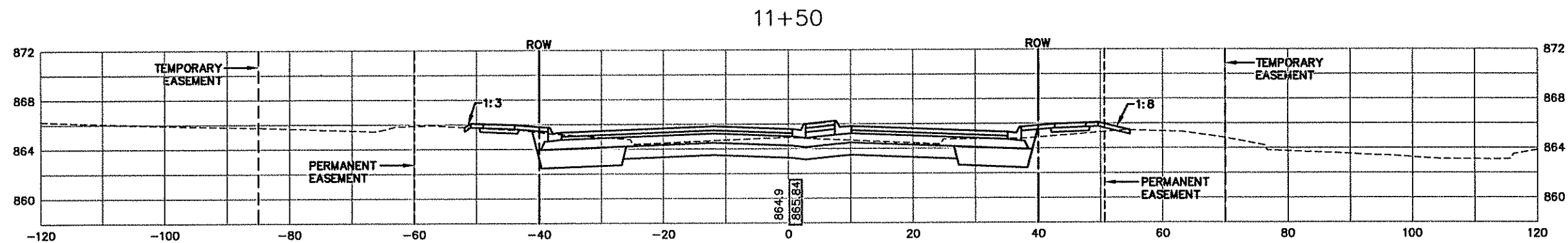
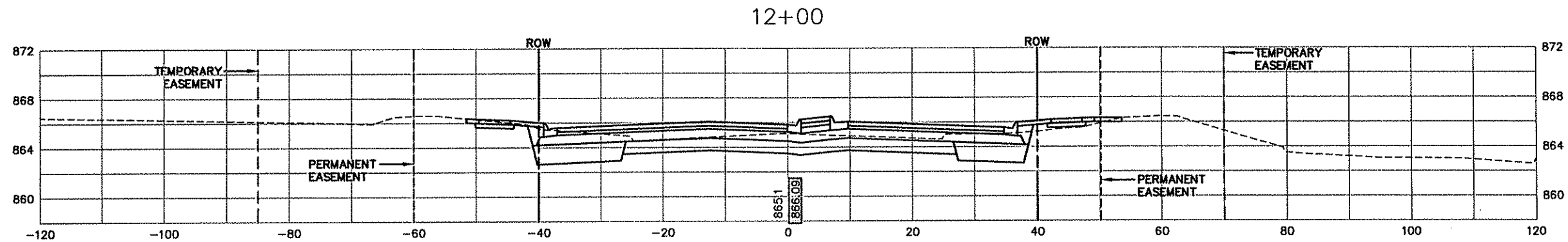
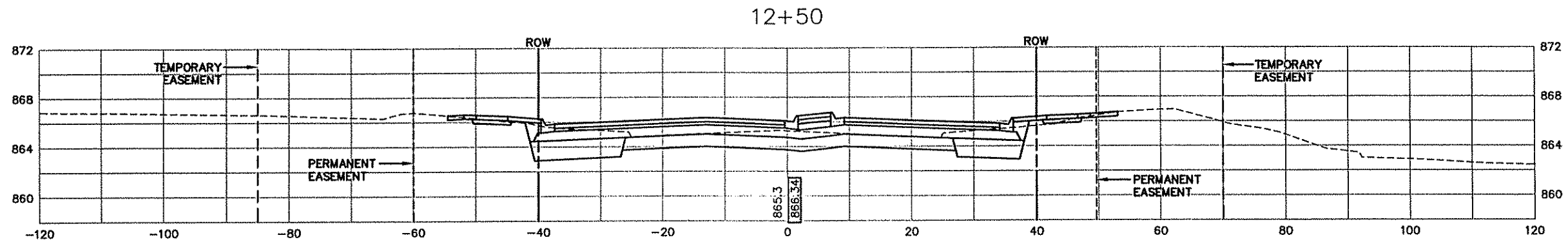
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NORTHDALE BOULEVARD
 (C.S.A.H. 11)
NORTHDALE BOULEVARD
 CROSS SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

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Paul B. Danielson

PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

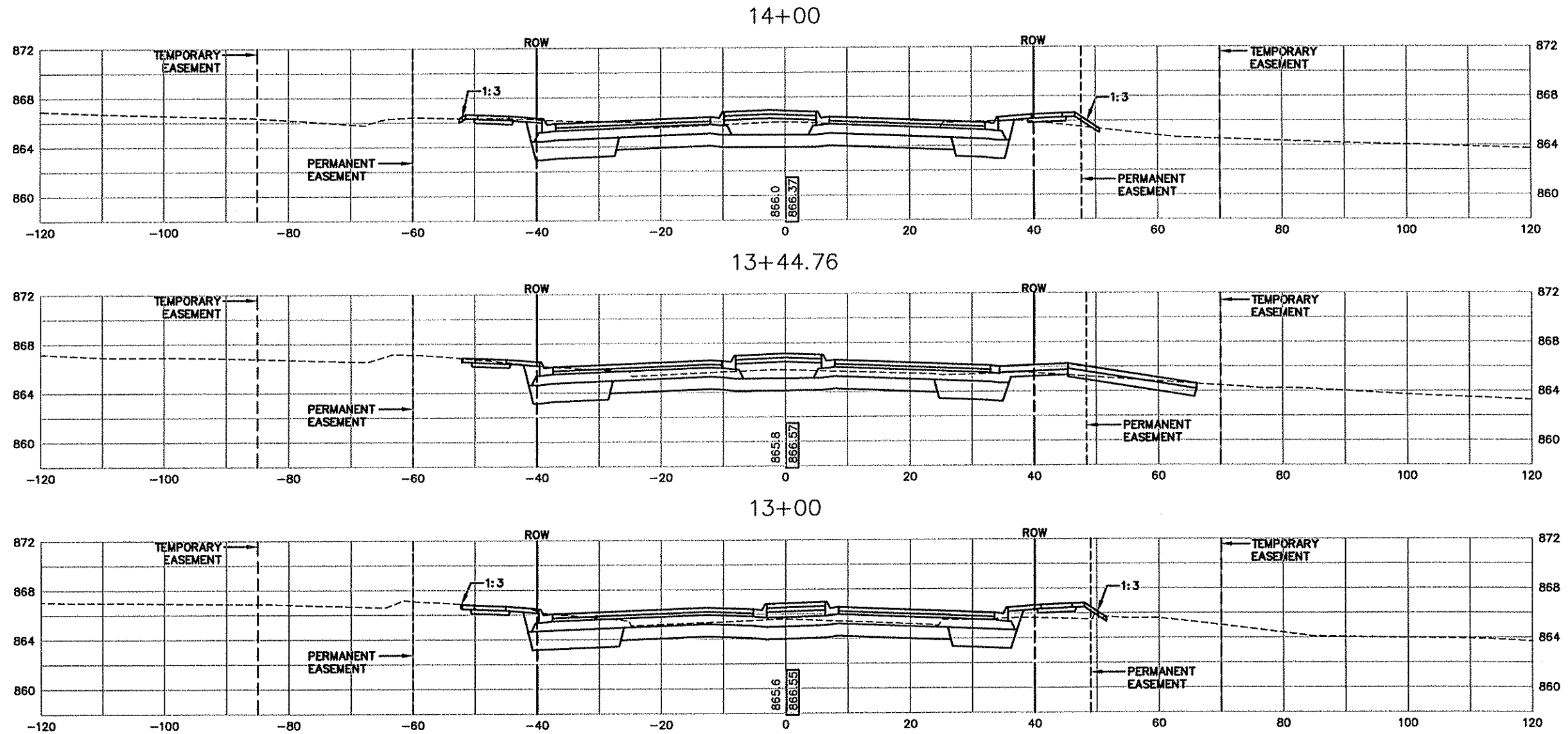
**NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
CROSS SECTIONS**

CITY PROJECT	2001-47	S.A.P.	114-020-28
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
142

159

PLOT DATE: Apr 26, 2002 7:21am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS208.dwg



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DATE: APRIL 26, 2002	



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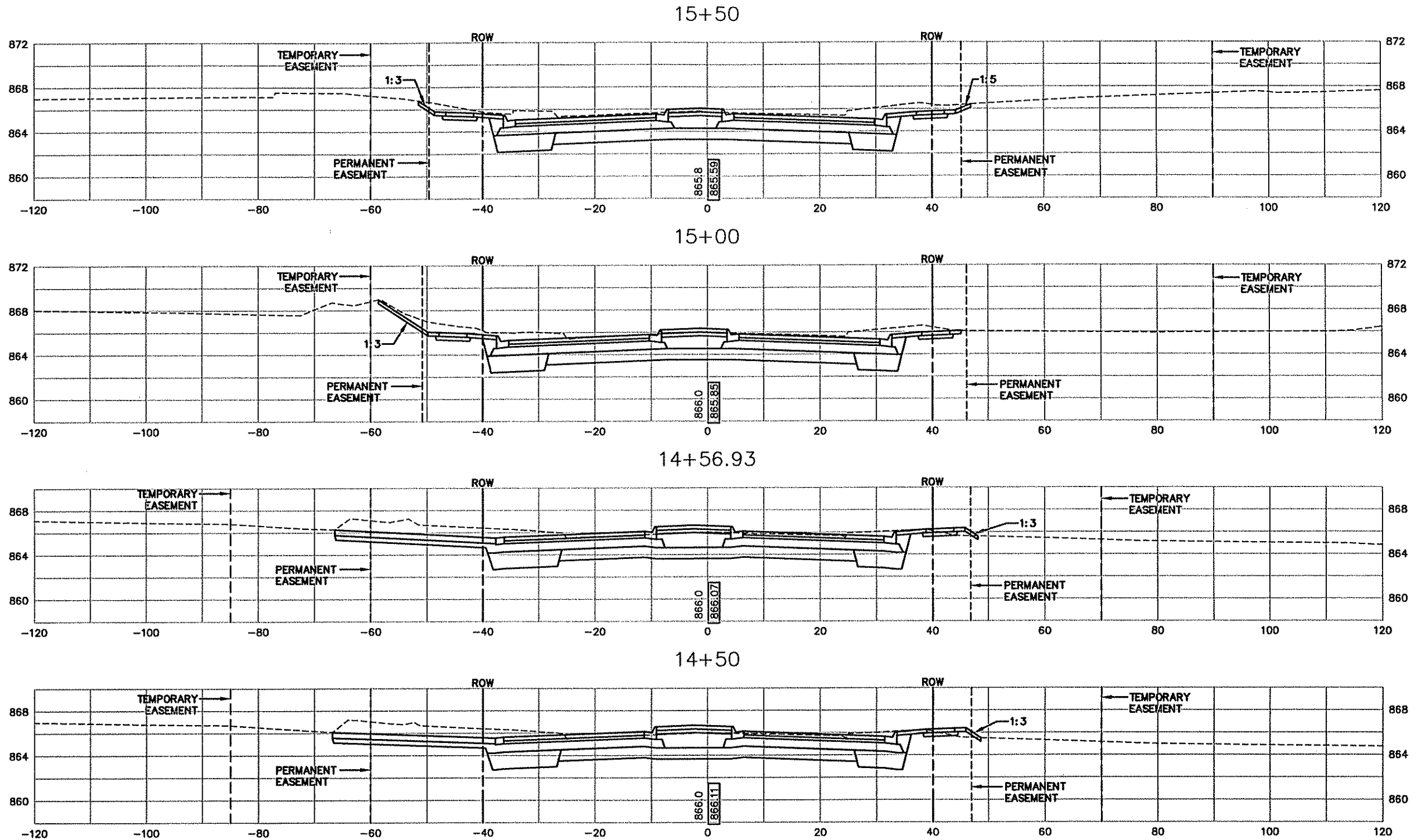
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
CROSS SECTIONS**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.	143
	159

PLOT DATE: Apr 26, 2002 7:22am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS209.dwg



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TSH/JJS

CHKD. BY:
ICP

DWG. NAME:
043-CS209

DATE:
APRIL 26, 2002



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Paul B. Danielson

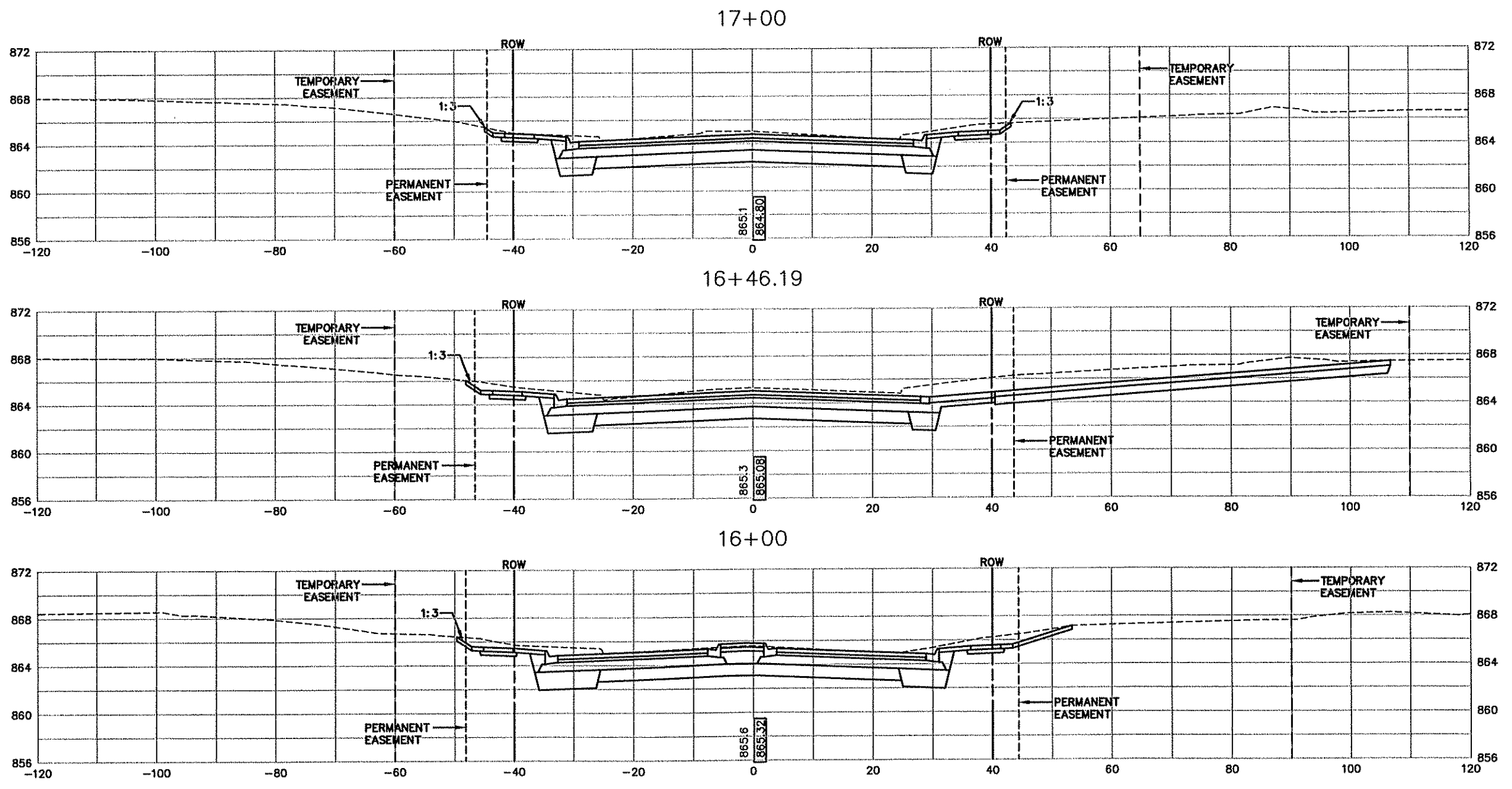
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
NORTHDALÉ BOULEVARD
CROSS SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
144
159

PLOT DATE: Apr 26, 2002 7:22am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS210.dwg



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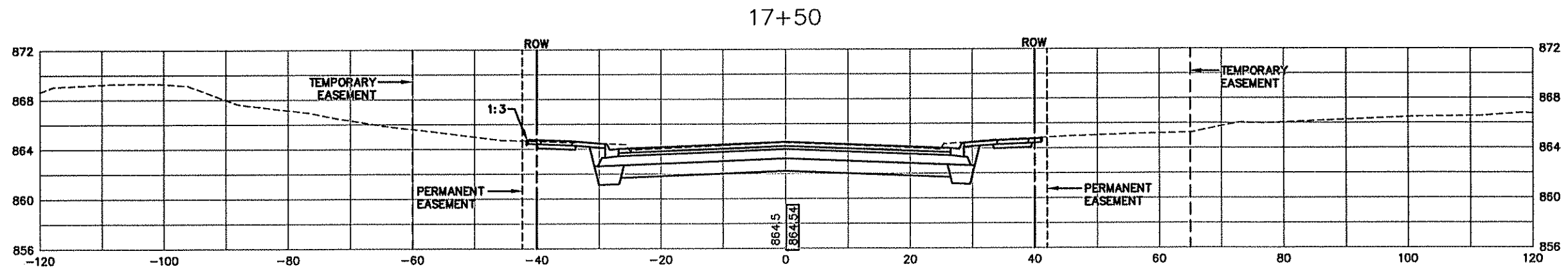
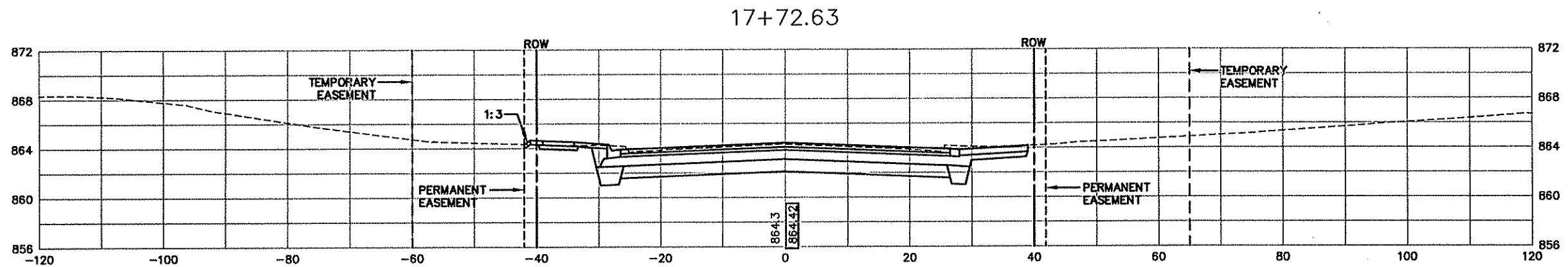
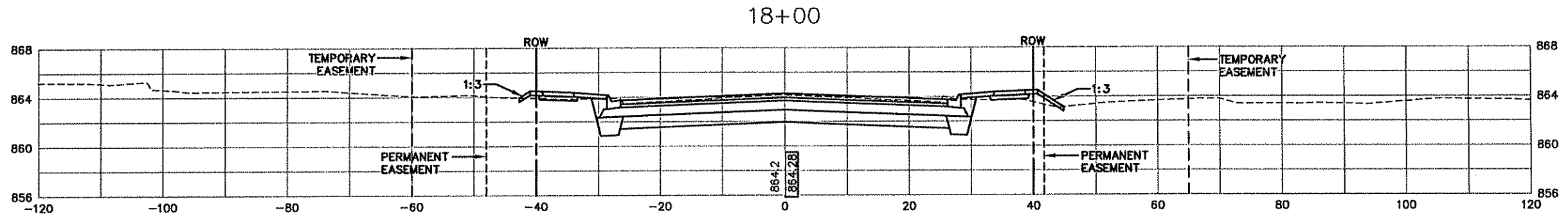
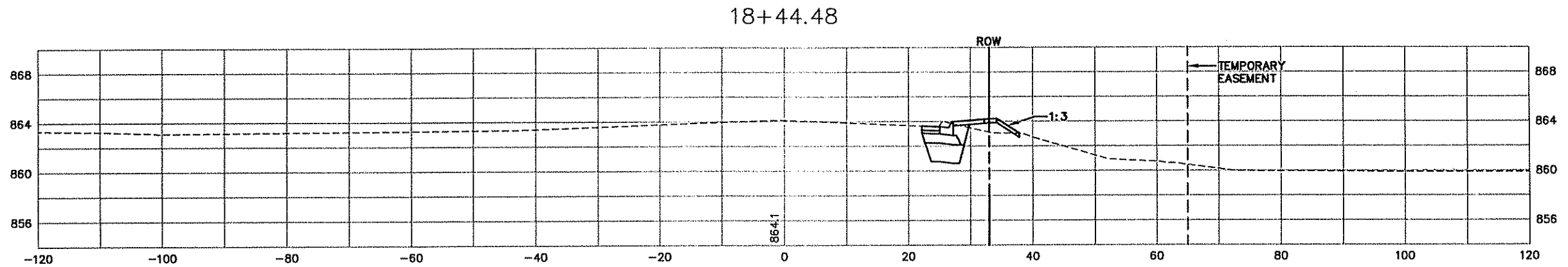
 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
 (C.S.A.H. 11)
NORTHDALE BOULEVARD
 CROSS SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
145
159

PLOT DATE: Apr 26, 2002 7:22am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS211.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	
DRAWN BY: TSH	DESIGN BY: TSH/JJS
CHKD. BY: ICP	DWG. NAME: 043-CS211
DATE: APRIL 26, 2002	



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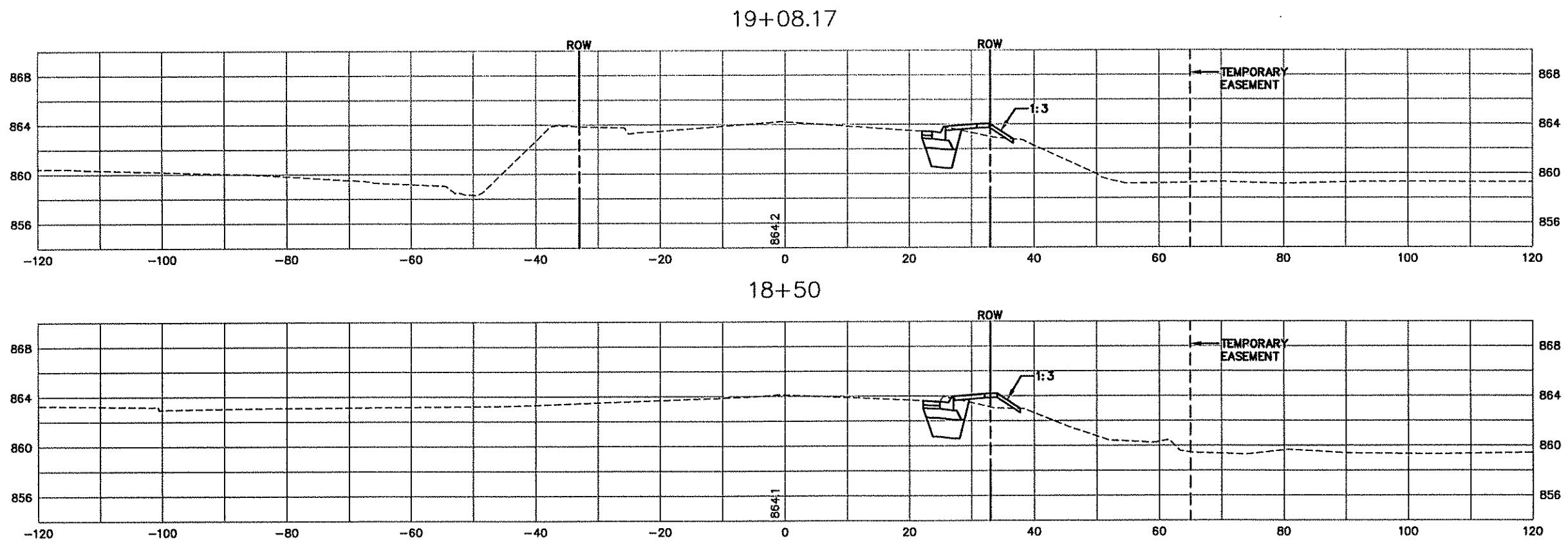
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Paul B. Danielson
 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
 (C.S.A.H. 11)
NORTHDALÉ BOULEVARD
 CROSS SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

PLOT DATE: Apr 26, 2002 7:22am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS212.dwg



12 OF 24

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	DRAWN BY: TSH	DESIGN BY: TSH/JJS
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DATE: APRIL 26, 2002		



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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
CROSS SECTIONS

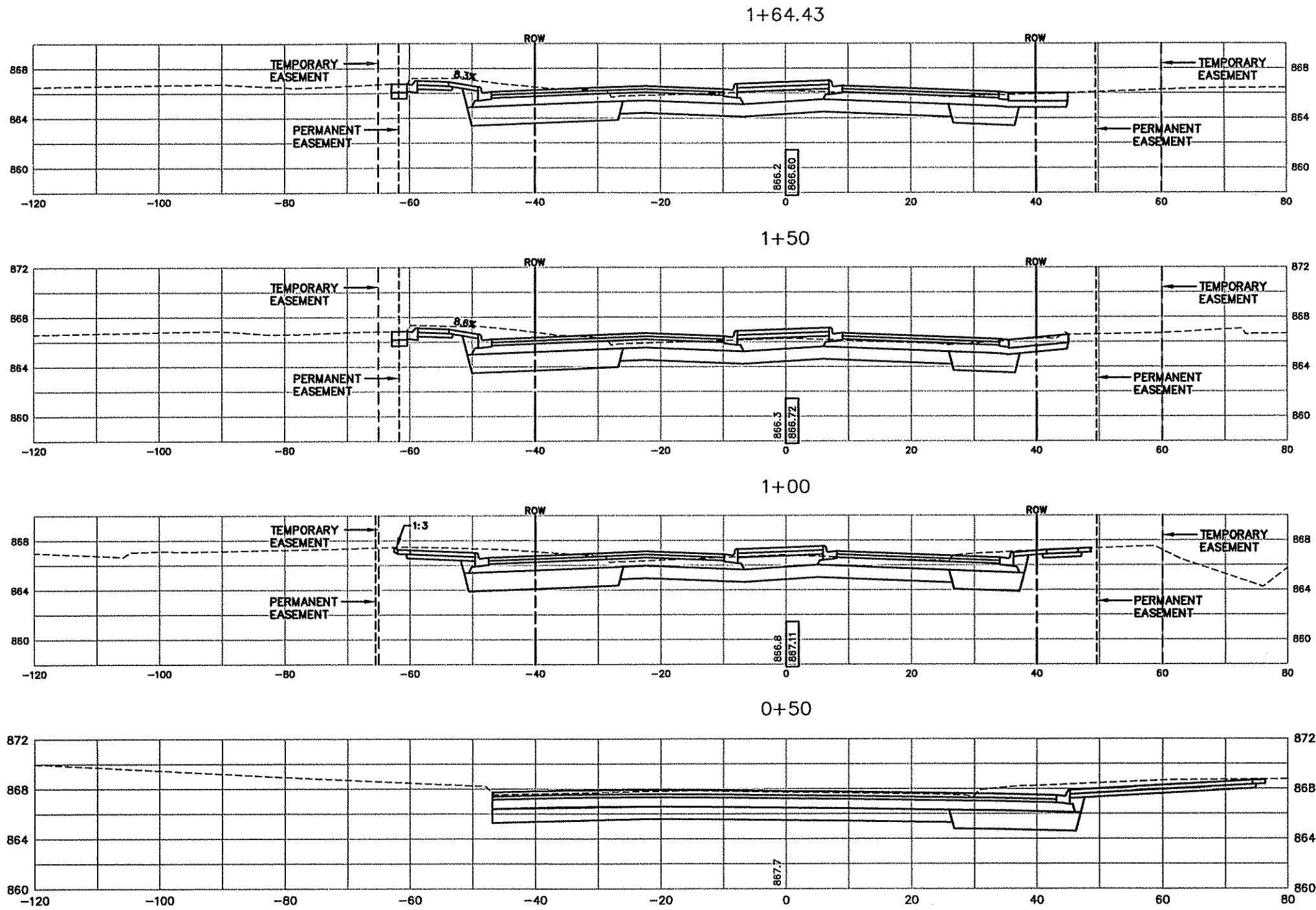
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.

147

159

PLOT DATE: Apr 25, 2002 6:29am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS101.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY:
TSH

DESIGN BY:
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CHKD. BY:
ICP

DWG. NAME:
043-CS101

DATE:
APRIL 26, 2002



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Paul B. Danielson

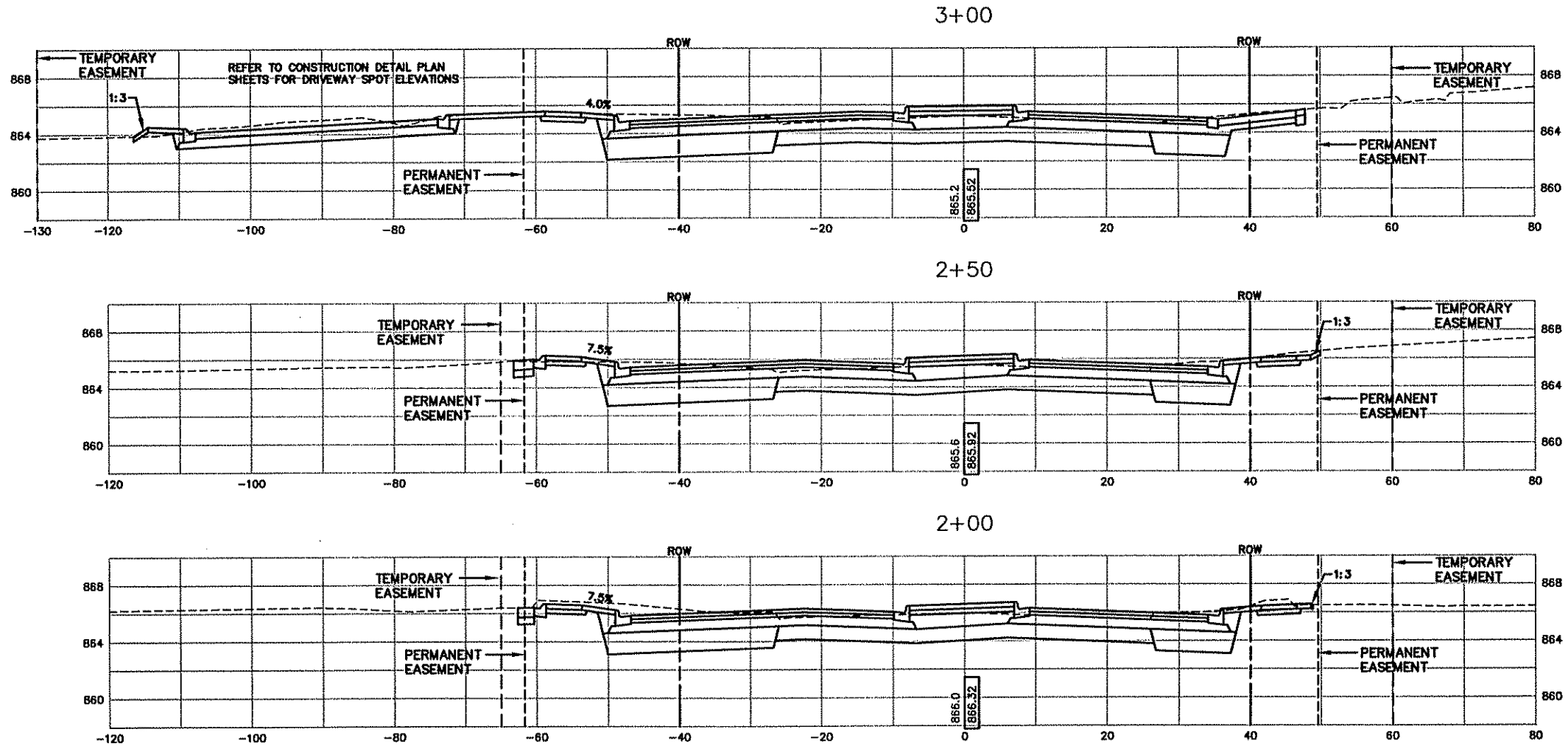
PAUL B. DANIELSON
DATE: 4/25/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W.
CROSS SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
148
159

PLOT DATE: Apr 27 2002 4:48pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN--SHT\043--CS102.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: TSH	DESIGN BY: TSH/JJS
CHKD. BY: ICP	DWG. NAME: 043-CS102
DATE: APRIL 26, 2002	



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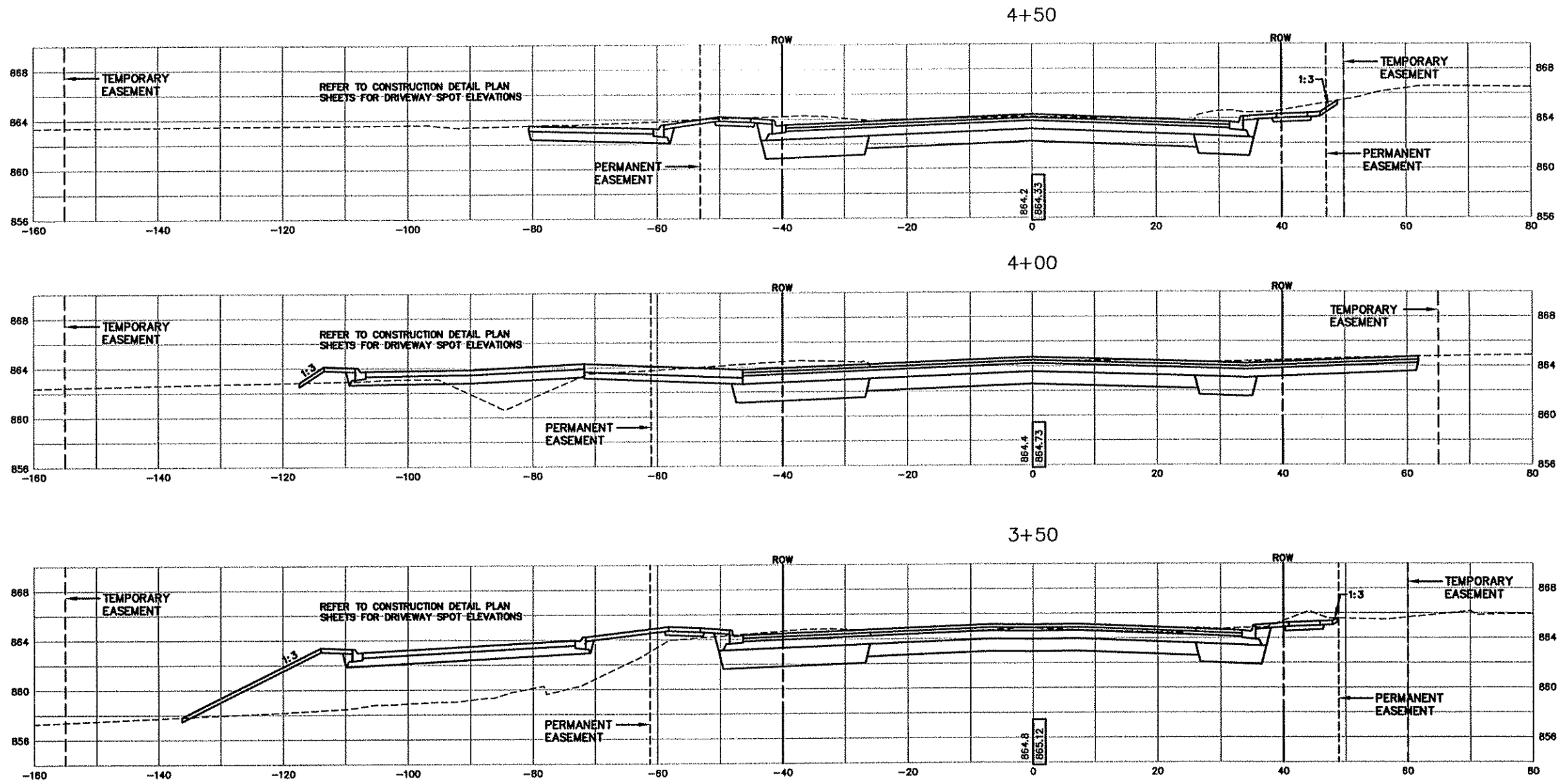
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W.
CROSS SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
149
159

PLOT DATE: Apr 24, 2002 4:48pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS103.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
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CHKD. BY: ICP	DWG. NAME: 043-CS103
DATE: APRIL 26, 2002	



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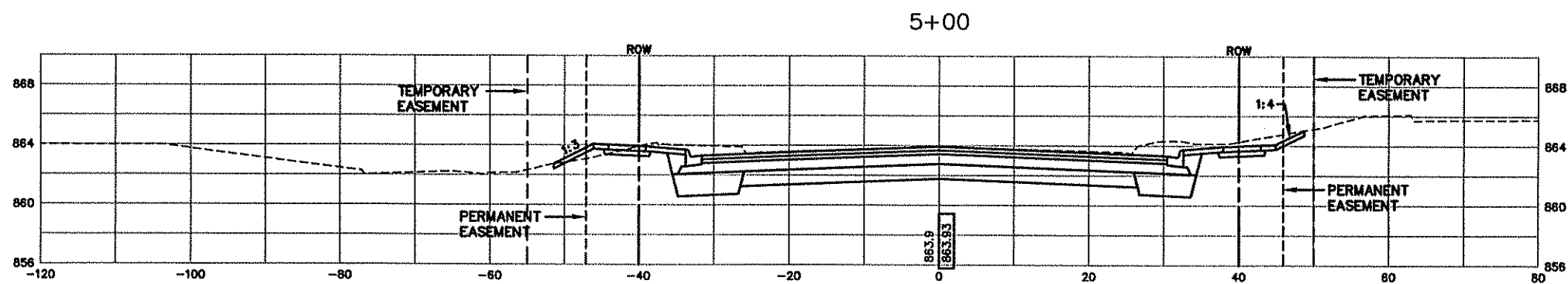
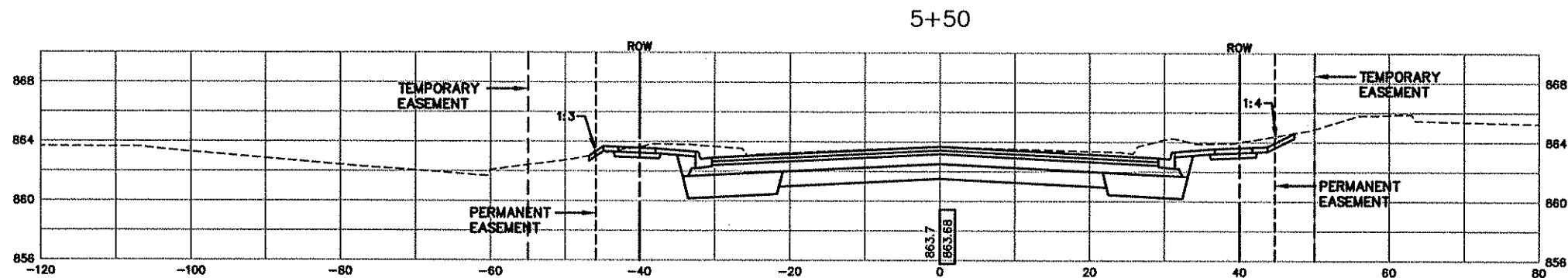
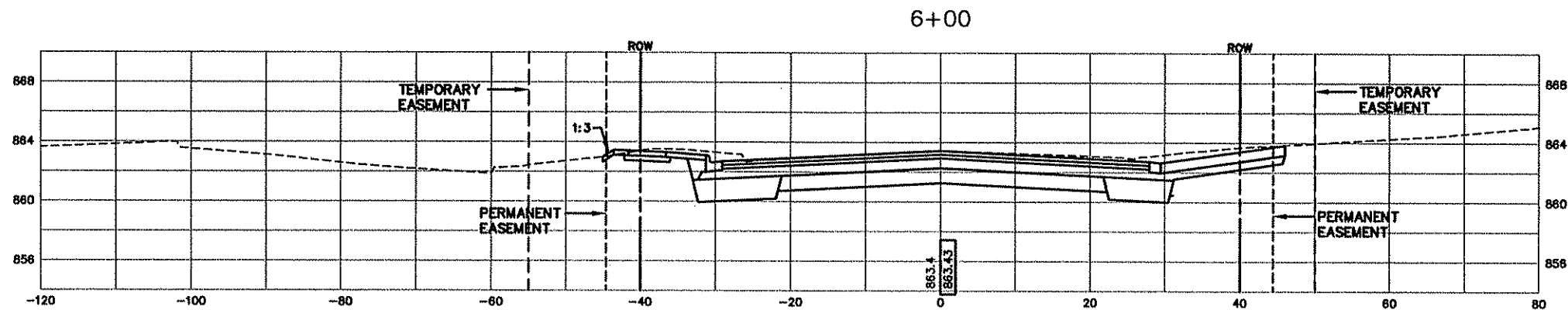
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W.
CROSS SECTIONS**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
150
159

PLOT DATE: May 002 4:53pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS104.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE: 33889-043	
DRAWN BY: TSH	DESIGN BY: TSH/JJS
CHKD. BY: ICP	DWG. NAME: 043-CS104
DATE: APRIL 26, 2002	



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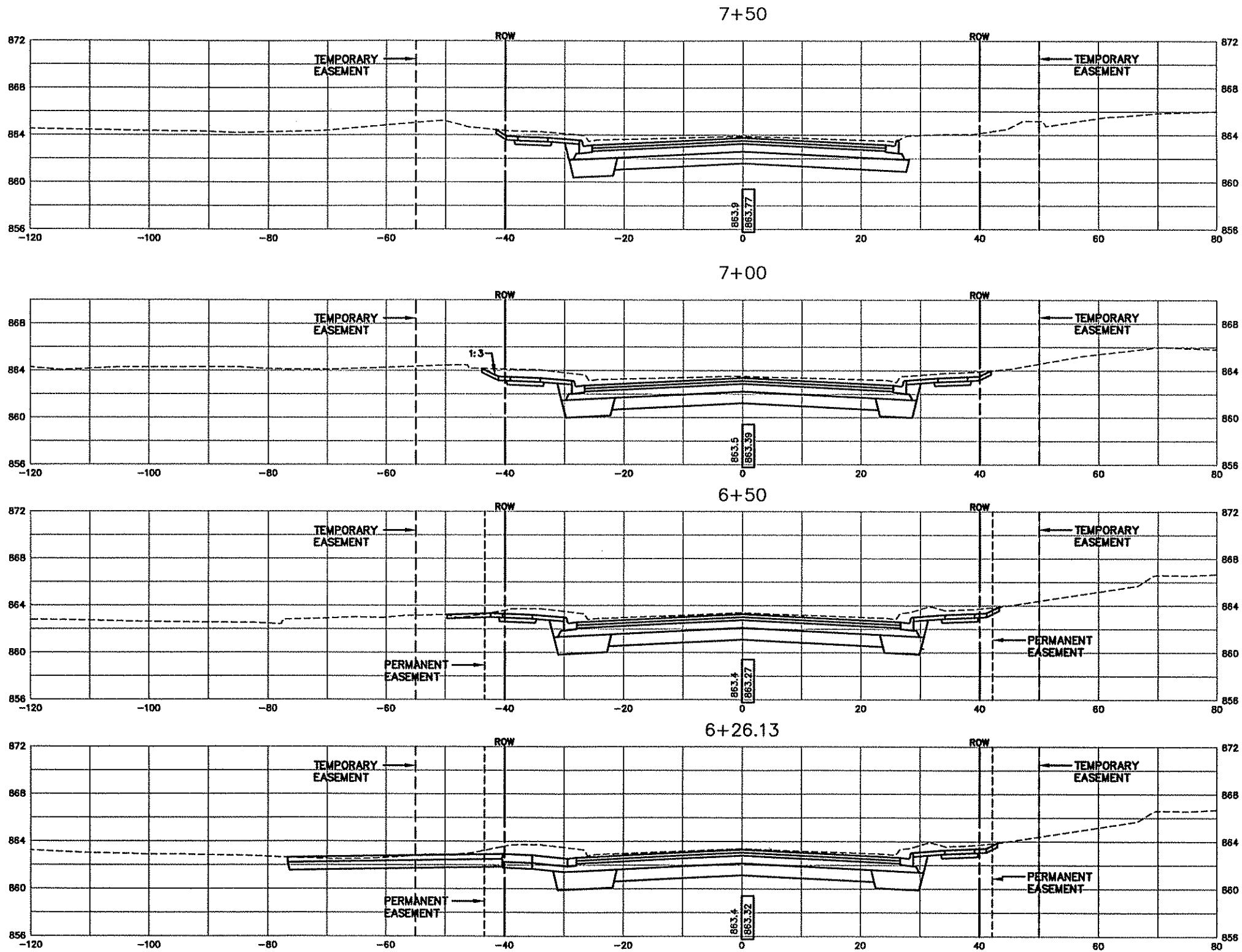
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W.
CROSS SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

SHEET NO.	151
	159

PLOT DATE: May .002 4:53pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS105.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JUL	08/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE:
33889-043

DRAWN BY:
TSH

DESIGN BY:
TSH/JJS

CHKD. BY:
ICP

DWG. NAME:
043-CS105

DATE:
APRIL 26, 2002



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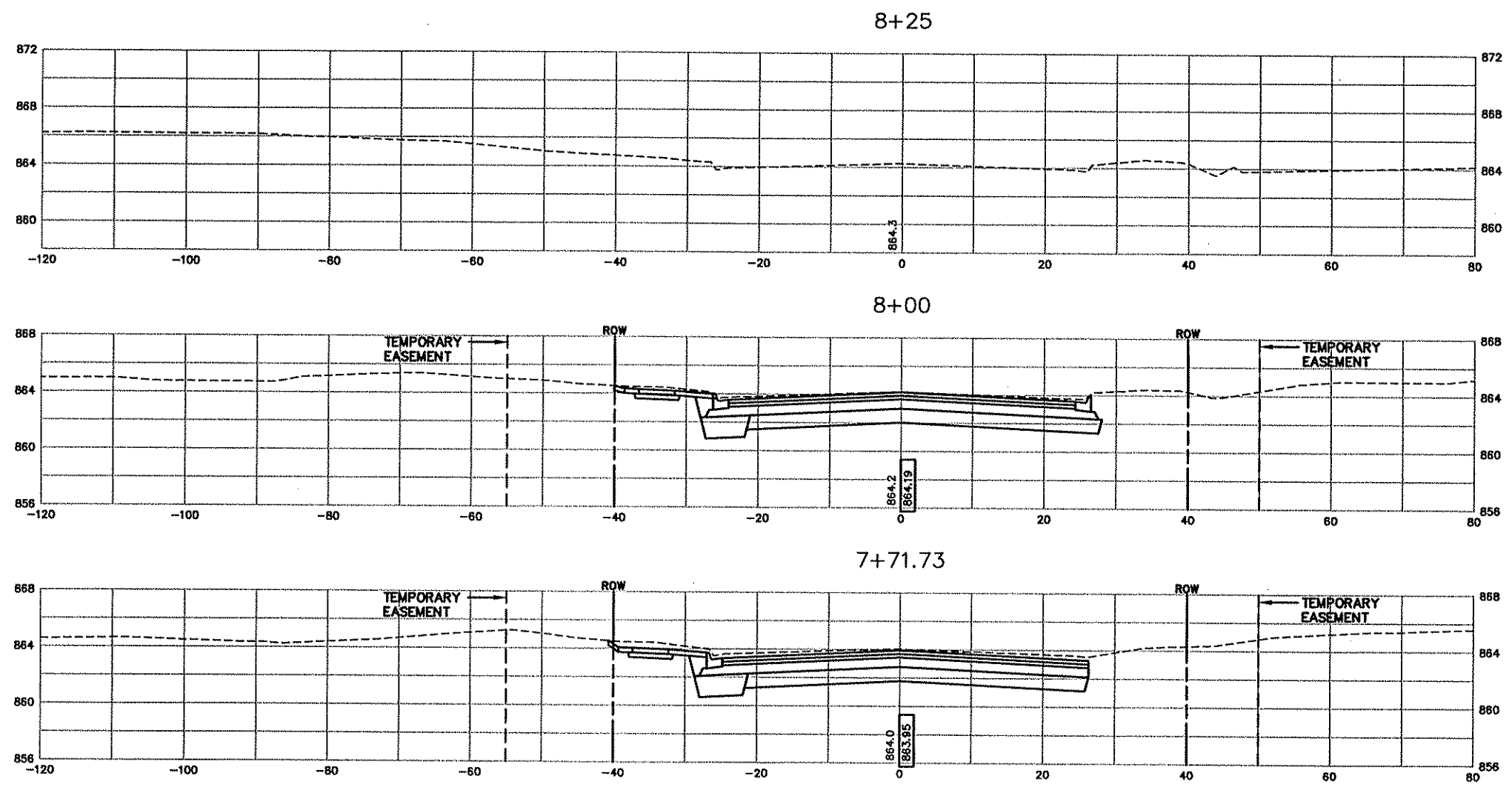
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W.
CROSS SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

SHEET NO.
152
159

2002 4:53pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS106.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	J.L.	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE:
33889-043

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TSH

DESIGN BY:
TSH/JJS

CHKD. BY:
ICP

DWG. NAME:
043-CS106

DATE:
APRIL 26, 2002



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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23187

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W.
CROSS SECTIONS

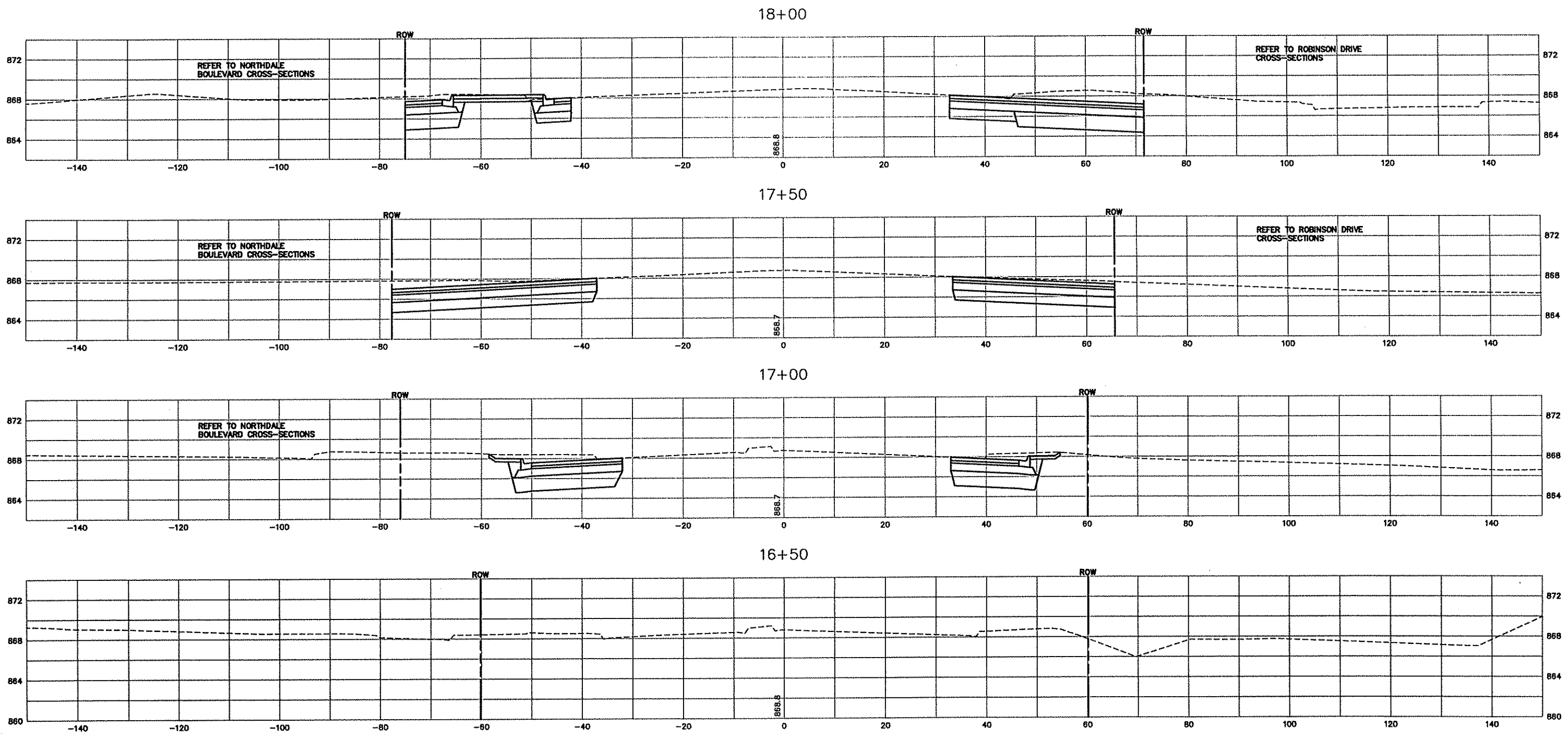
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

18 OF 24

SHEET NO.
153

159

PLOT DATE: Apr 26, 2002 12:23pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS401.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
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ICP

DWG. NAME:
043-CS401

DATE:
APRIL 26, 2002



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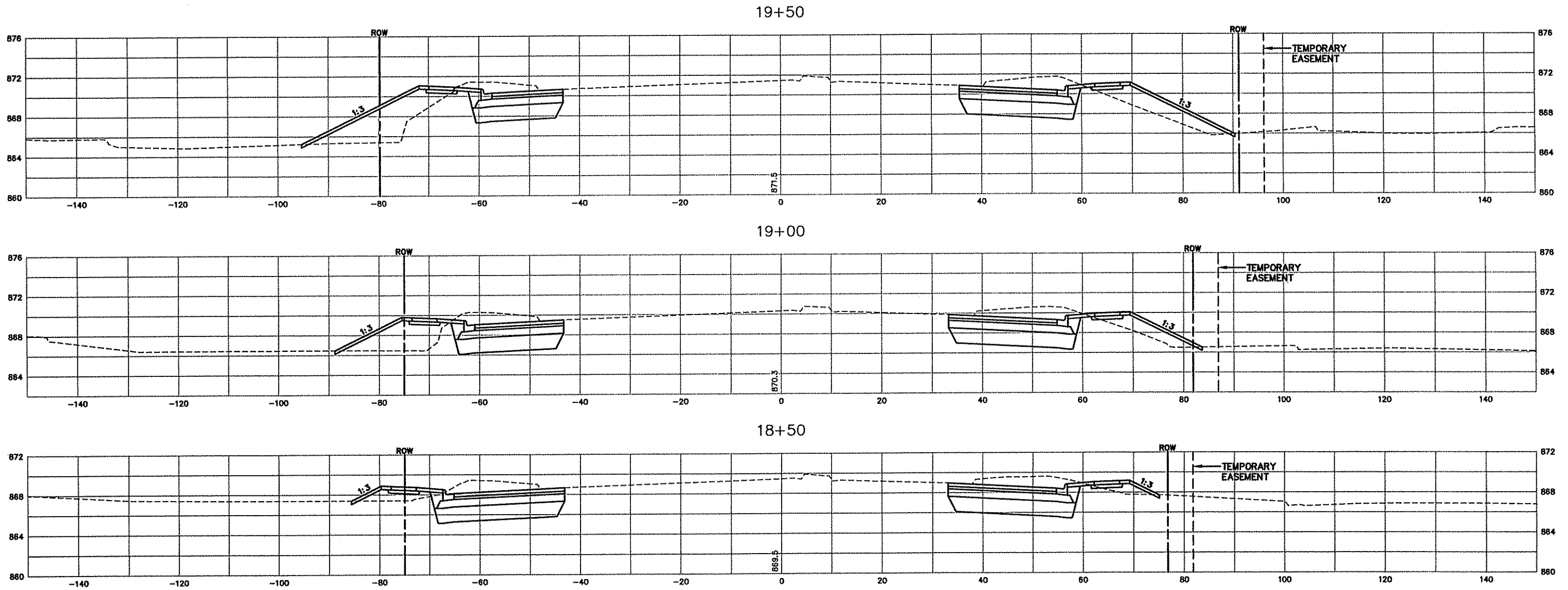
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
HANSON BOULEVARD
CROSS SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.	154
	159

PLOT DATE: Apr 26, 2002 12:23pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS402.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	DRAWN BY: TSH	DESIGN BY: TSH/JJS
CHKD. BY: ICP	DWG. NAME: 043-CS402	DATE: APRIL 26, 2002



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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
HANSON BOULEVARD
CROSS SECTIONS**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

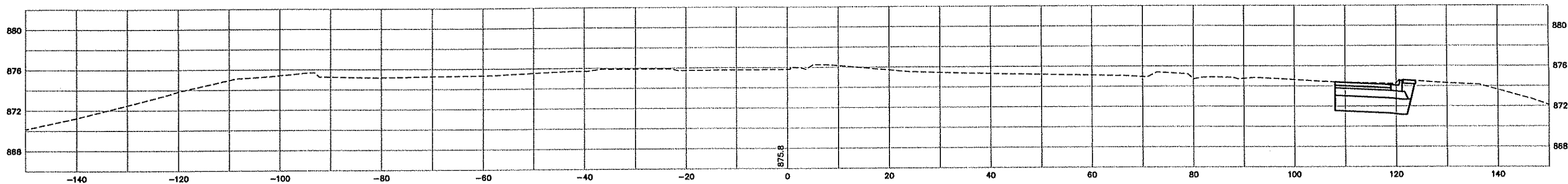
SHEET NO.

155

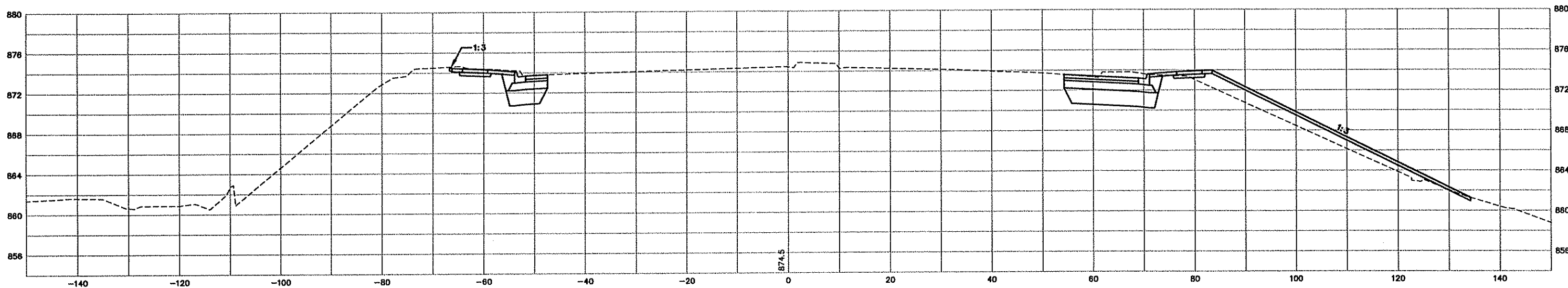
159

PLOT DATE: Apr 26, 2002 12:23pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS403.dwg

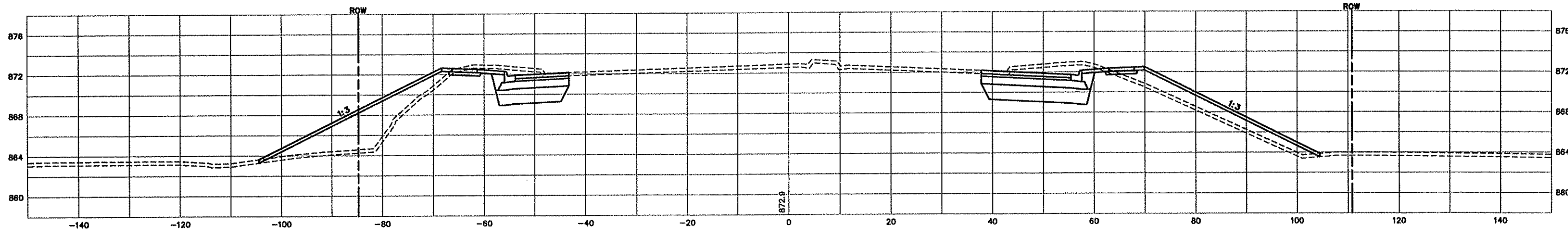
21+07.38



20+50



20+00



21 OF 24

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	DESIGN BY: TSH/JJS
DRAWN BY: TSH	DWG. NAME: 043-CS403
CHKD. BY: ICP	DATE: APRIL 26, 2002



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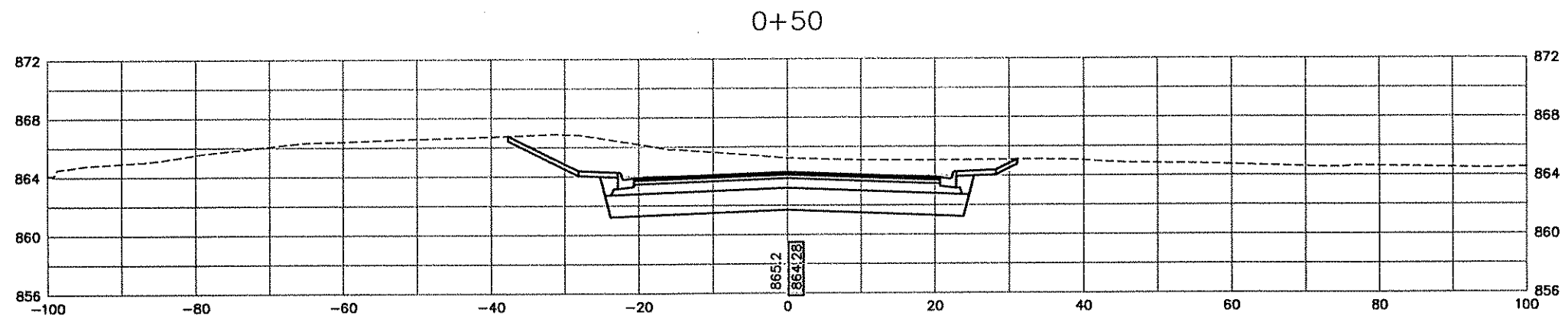
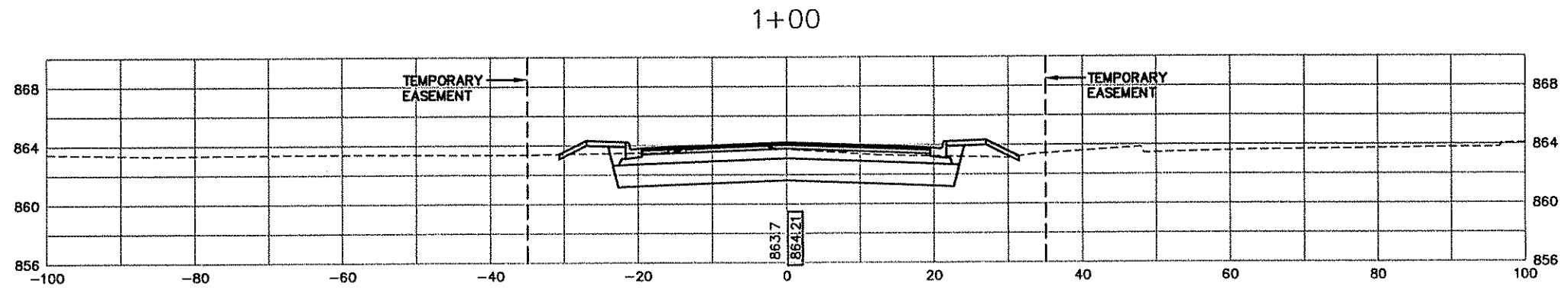
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
HANSON BOULEVARD
CROSS SECTIONS**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
156
159

PLOT DATE: Apr 26 12:22pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS301.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
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CHKD. BY: ICP
DWG. NAME: 043-CS301

DATE:
APRIL 26, 2002



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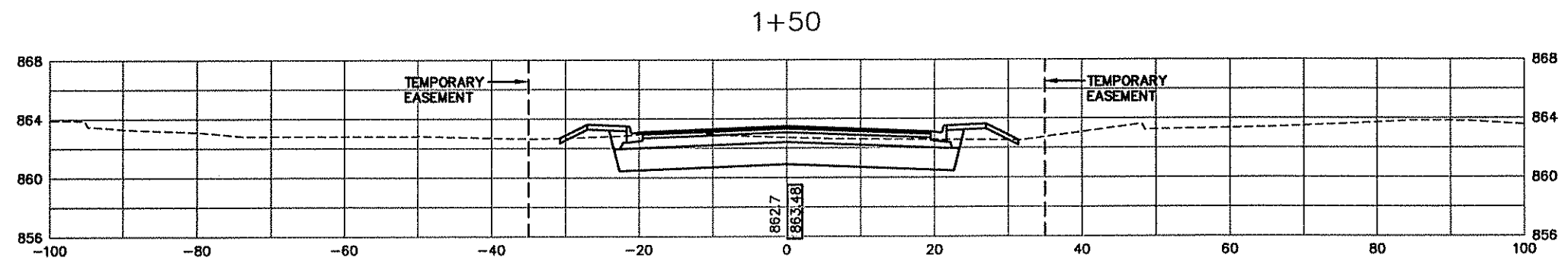
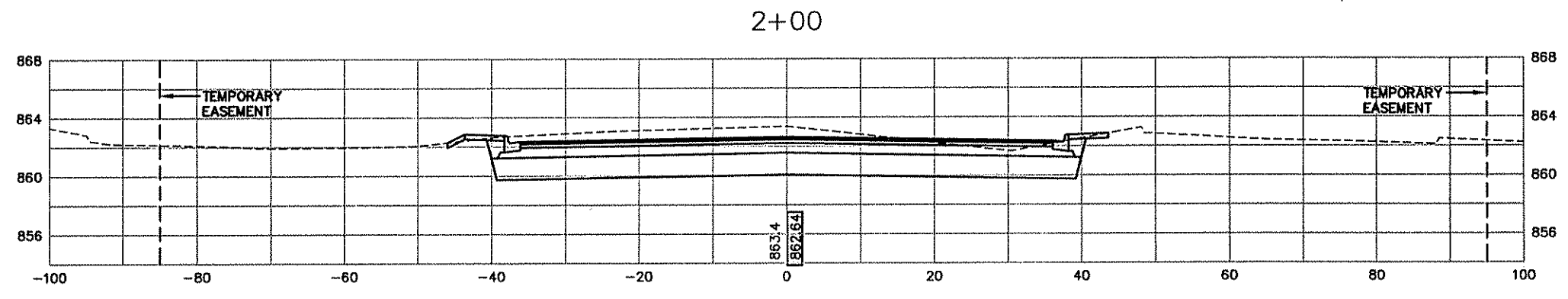
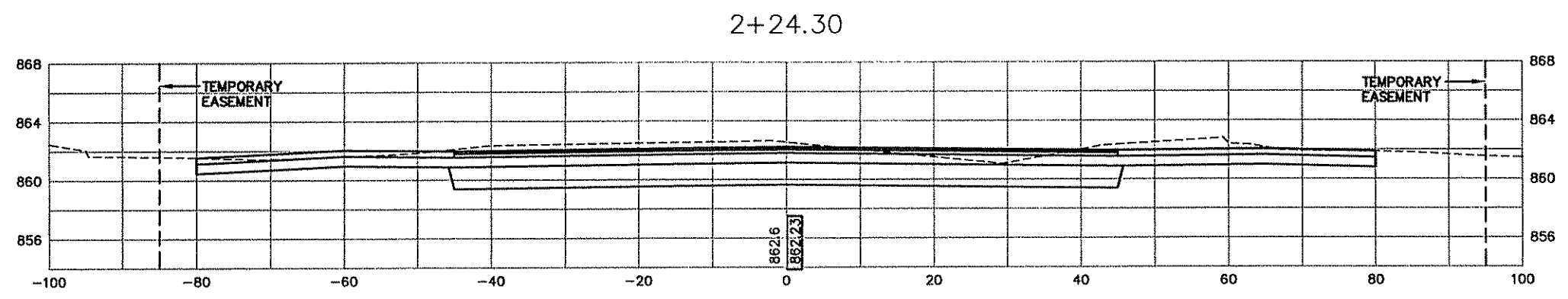
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23187

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
PARTRIDGE STREET
CROSS SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
157
159

PLOT DATE: Apr 24, 2002 12:23pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS302.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: TSH DESIGN BY: TSH/JJS

CHKD. BY: ICP DWG. NAME: 043-CS302

DATE: APRIL 26, 2002



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Paul B. Danielson

PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

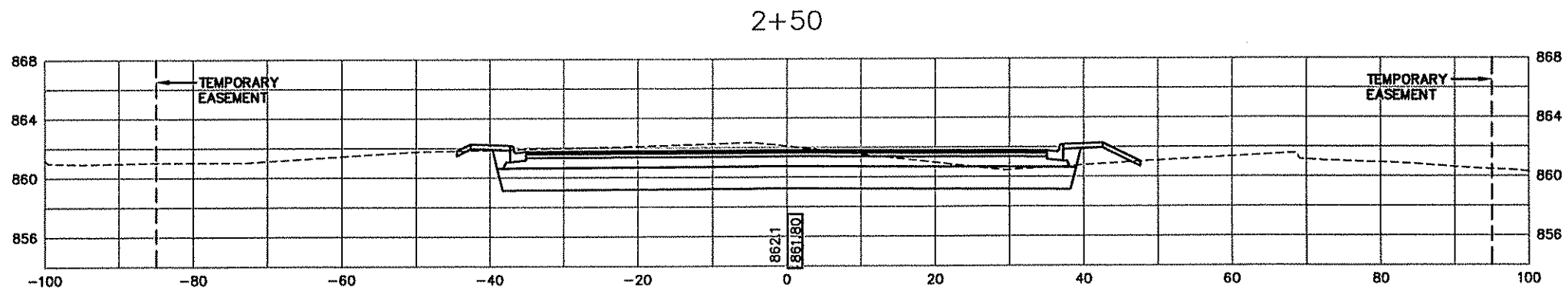
NORTHDALE BOULEVARD
(C.S.A.H. 11)
PARTRIDGE STREET
CROSS SECTIONS

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
158

159

PLOT DATE: Apr 26, 2002 12:23pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS303.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

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CHKD. BY: ICP	DWG. NAME: 043-CS303
DATE: APRIL 26, 2002	



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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
PARTRIDGE STREET
CROSS SECTIONS**

CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
159
159