

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)

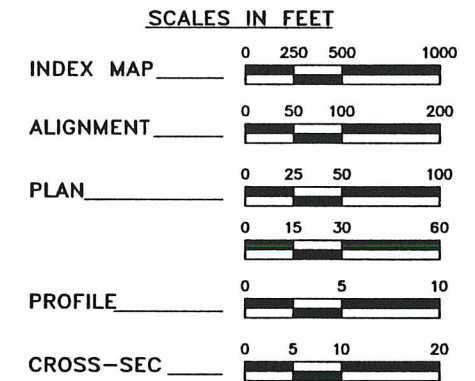
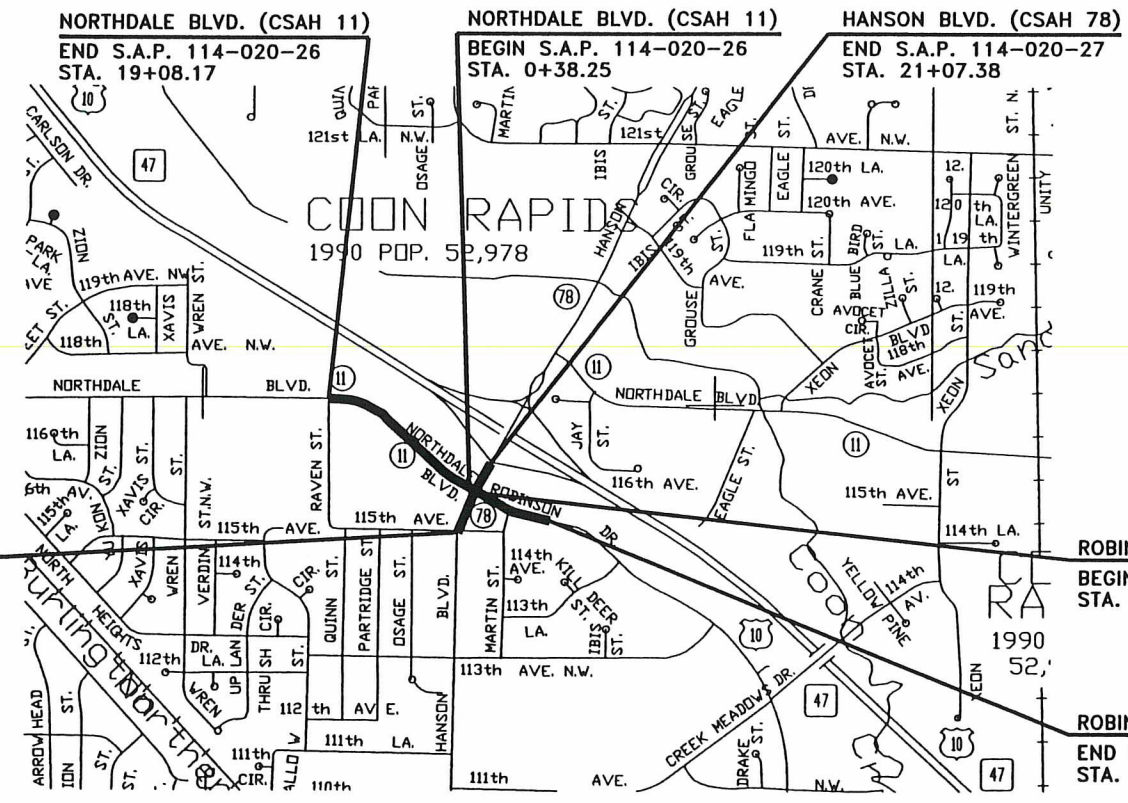
NORTHDALE BOULEVARD -
RAVEN ST. TO HANSON BOULEVARD
 STATE AID PROJ. NO. 114-020-26
 GROSS-LENGTH 1908.05 FEET - 0.36 MILES
 BRIDGE-LENGTH N.A.
 EXCEPTIONS-LENGTH N.A.
 NET-LENGTH 1908.05 FEET - 0.36 MILES

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
	PIN 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 MMUTCD, 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

URS
 Thresher 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 Paulail

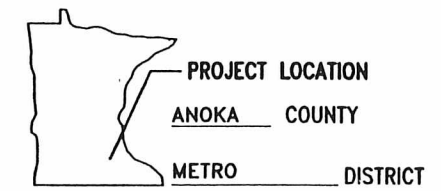
APPROVED [Signature] 5-6-02
 APPROVED [Signature] 5/7/02
 ANOKA COUNTY ENGINEER

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. _____



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: 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: 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. 114-020-27)
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

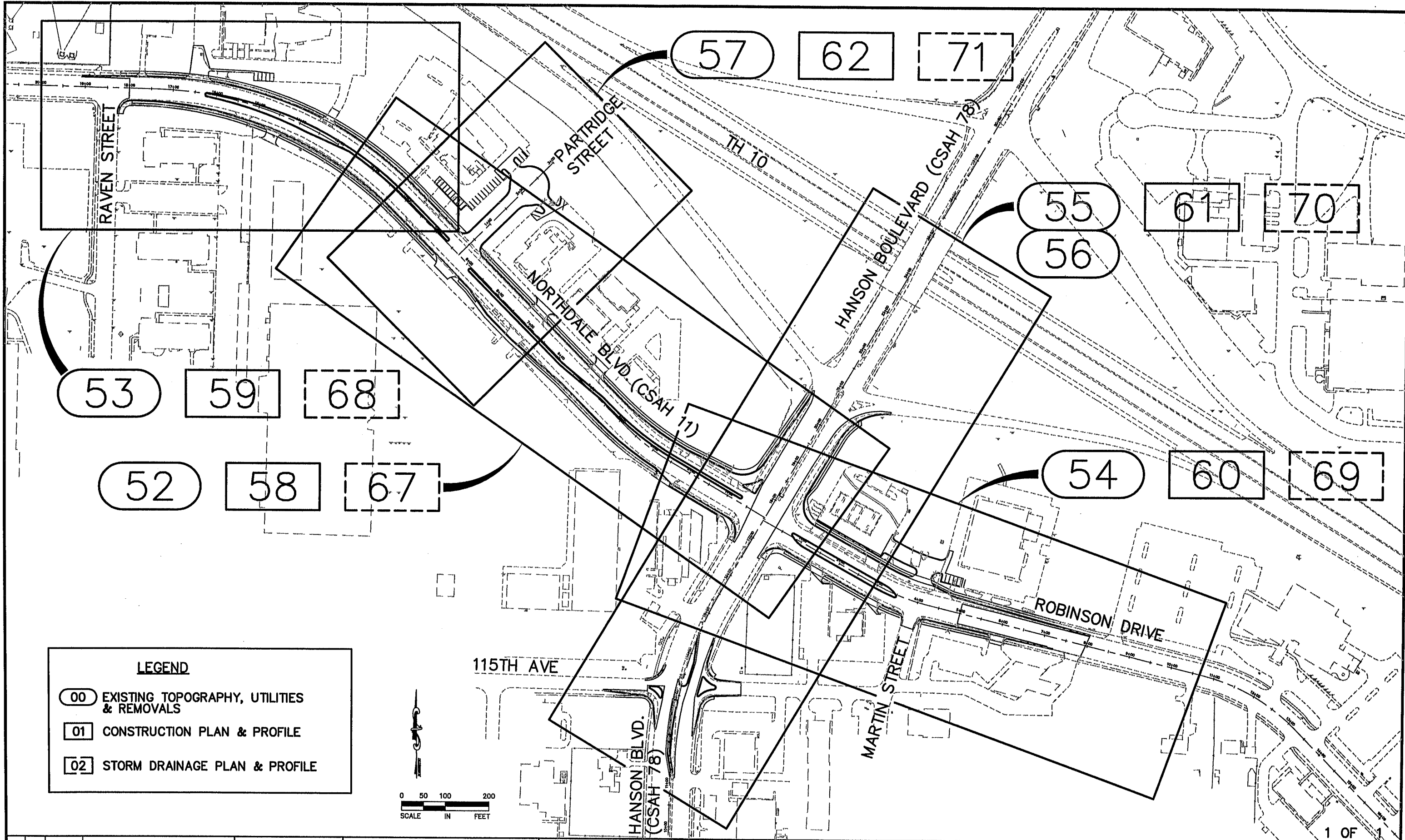
PLAN REVISIONS

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

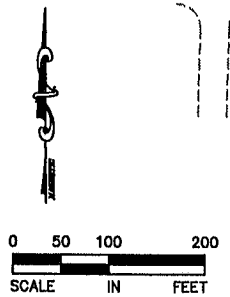
STATE AID PROJ. NO. S.A.P. 114-020-26, S.A.P. 114-107-08 SHEET NO. 1 OF 159 SHEETS

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

PLOT DATE: Apr 23, 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

DESIGN FILE:
33889-043

DRAWN BY:
TSH

DESIGN BY:
TSH/JJS

CHKD. BY:
ICP

DWG. NAME:
043-L001

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

NORTHDALÉ 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		328.00		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	21670.00
	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	23855.00
	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		18554.00		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		8533.00		2309.00		1121.00	9863.00
	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		289.00			686.00
	2232.501	MILL BITUMINOUS SURFACE	SY		200.00				208.00	408.00
	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: BJK

CHKD. BY: ICP DWG. NAME: 043-TB06

DATE: APRIL 26, 2002



Threeher 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: 4/28/02 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

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			
	2451.609	CRUSHED ROCK	T		5.00					
	2501.515	30" RC PIPE APRON	EACH				5.00			10.00
	2501.515	36" RC PIPE APRON	EACH		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			1.00
	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					1.00
	2503.541	18 INCH RC PIPE SEWER DES 3006 CL V	LF		1000.00					
1	2503.541	21 INCH RC PIPE SEWER DES 3006 CL IV	LF		12.00		594.00		281.00	288.00
1	2503.541	24 INCH RC PIPE SEWER DES 3006 CL III	LF		70.00		116.00		115.00	1709.00
1	2503.541	27 INCH RC PIPE SEWER DES 3006 CL III	LF		151.00		18.00			128.00
1	2503.541	30 INCH RC PIPE SEWER DES 3006 CL III	LF		395.00					88.00
1	2503.541	36 INCH RC PIPE SEWER DES 3006 CL III	LF		342.00					151.00
	2503.602	CONNECT TO EXISTING STORM SEWER	EACH							395.00
	2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH		4.00		50.00			342.00
	2503.602	CONNECT TO EXISTING MANHOLES (SAN)	EACH		1.00		7.00			50.00
	2503.602	CONSTRUCT BULKHEAD	EACH		1.00				2.00	13.00
	2503.602	6" PIPE PLUG	EACH		2.00					1.00
	2503.602	8" PIPE PLUG	EACH		1.00					1.00
	2503.603	6" PVC SANITARY SERVICE PIPE	LF		1.00					2.00
	2503.603	8" PVC SANITARY SERVICE PIPE	LF		45.00					1.00
	2504.601	IRRIGATION SYSTEM	LS		18.00					1.00
	2504.602	CONNECT TO EXISTING WATER MAIN	EACH		0.50					45.00
	2504.602	HYDRANT	EACH		10.00		0.50			18.00
	2504.602	INSTALL HYDRANT	EACH		6.00		2.00			1.00
	2504.602	6 INCH GATE VALVE AND BOX	EACH				1.00			12.00
	2504.602	12" X 6" WET TAP	EACH		8.00		1.00			7.00
	2504.602	6" BEND 45 DEGREE	EACH		2.00				2.00	3.00
	2504.602	10" BEND 45 DEGREE	EACH		18.00					8.00
	2504.602	6" PIPE PLUG	EACH		4.00					2.00
	2504.602	ADJUST VALVE BOX	EACH		2.00				1.00	19.00
	2504.603	HYDRANT RISER	LF		14.00					4.00
	2504.603	6" WATER MAIN-DUCTILE IRON CL 52	LF		4.00		18.00			2.00
	2504.603	10" WATER MAIN-DUCTILE IRON CL 52	LF		246.00		2.00		4.00	36.00
	2504.604	4" POLYSTYRENE INSULATION	SY		15.00		28.00			6.00
	2506.501	CONST. DRAINAGE STRUCTURE DESIGN H	LF		28.00				18.00	292.00
6	2506.501	CONST. DRAINAGE STRUCTURE DESIGN SPECIAL 1	LF		39.50					15.00
	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 48-4020	LF		3.50		24.20			28.00
	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 54-4020	LF		48.70				43.60	107.30
	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 60-4020	LF		36.10		38.10			3.50
	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 66-4020	LF		12.70		4.30		14.30	101.10
	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 72-4020	LF		7.40		5.50			40.40
	2506.501	CONST. DRAINAGE STRUCTURE DESIGN 84-4020	LF							18.20
	2506.503	RECONSTRUCT DRAINAGE MANHOLES	LF				5.70			7.40
	2506.516	CASTING ASSEMBLY	EACH		16.00		5.50			5.70
	2506.522	ADJUST FRAME AND RING CASTING	EACH		35.00					5.50
	2506.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH		29.00		21.00			16.00
	2511.501	RANDOM RIPRAP CLASS II	CY		4.00		14.00		23.00	79.00
	2511.501	RANDOM RIPRAP CLASS III	CY				1.00		10.00	53.00
	2511.515	GEOTEXTILE FILTER TYPE IV	SY		38.00				10.00	15.00
					98.90					16.50
							29.10			38.00
										128.00

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

DESIGN FILE:
33889-043

DRAWN BY:
HMW

CHKD. BY:
ICP

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)**

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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PLOT DATE: May 06, 2002 4:55pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-T-1.dwg

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			
5	2521.501	4" CONCRETE WALK	SF		27321.00		10201.00		4794.00	42316.00
	2531.501	CONCRETE CURB & GUTTER DESIGN B412	LF							
	2531.501	CONCRETE CURB & GUTTER DESIGN B412 (MODIFIED)	LF		130.00					130.00
	2531.501	CONCRETE CURB & GUTTER DESIGN B612	LF				165.00			165.00
	2531.501	CONCRETE CURB & GUTTER DESIGN B612 (MODIFIED)	LF		480.00		414.00			894.00
	2531.501	CONCRETE CURB & GUTTER DESIGN B618	LF				165.00			165.00
	2531.501	CONCRETE CURB & GUTTER DESIGN B618 (MODIFIED)	LF		3349.00		1282.00		504.00	669.00
	2531.501	CONCRETE CURB & GUTTER DESIGN B424	LF		3422.00		550.00		560.00	5191.00
	2531.501	CONCRETE CURB & GUTTER DESIGN B624	LF						249.00	4221.00
	2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SY						130.00	130.00
	2531.507	8" CONCRETE DRIVEWAY PAVEMENT	SY		27.00				383.00	383.00
	2531.511	CONCRETE MEDIAN NOSE	SY		550.00		264.00			814.00
	2540.603	LANDSCAPE EDGER	LF		29.00		7.00		20.00	56.00
	2545.602	INSTALL LIGHT STANDARD LUMINAIRE	EACH		60.00		100.00			160.00
	2557.603	INSTALL CHAIN LINK FENCE	LF		2.00		2.00			4.00
	2563.601	TRAFFIC CONTROL	LS		555.00					555.00
	2563.604	CONSTRUCTION SIGNS-SPECIAL	SF	0.11	0.51	0.03	0.19	0.06	0.10	1.00
	2564.531	SIGN PANELS TYPE C	SF		99.00		99.00		72.00	270.00
2	2564.550	DELINEATOR TYPE SPECIAL	EACH		400.10		220.40			620.50
	2564.552	HAZARD MARKER X4-2	EACH		30.00		16.00		193.20	813.70
	2564.553	CLEARANCE MARKER X4-4	EACH		4.00		2.00		15.00	61.00
	2564.602	PAVEMENT MESSAGE (LEFT ARROW) POLY PREFORMED	EACH				2.00		10.00	16.00
	2564.602	PAVEMENT MESSAGE (RIGHT ARROW) POLY PREFORMED	EACH		10.00		2.00		1.00	3.00
	2564.602	PAVEMENT MESSAGE (RIGHT - THRU ARROW) POLY PREFORMED	EACH		2.00		2.00		1.00	13.00
	2564.602	PAVEMENT MESSAGE (LEFT ARROW) EPOXY	EACH		2.00				8.00	12.00
	2564.602	PAVEMENT MESSAGE (RIGHT ARROW) EPOXY	EACH		1.00					2.00
	2564.602	PAVEMENT MESSAGE (LEFT ARROW) PAINT	EACH		1.00					1.00
	2564.602	PAVEMENT MESSAGE (RIGHT ARROW) PAINT	EACH		16.00					1.00
	2564.602	PAVEMENT MESSAGE (RIGHT-THRU ARROW) PAINT	EACH		2.00		4.00			20.00
	2564.603	4" SOLID LINE WHITE - PAINT	LF		2.00		2.00			4.00
	2564.603	4" BROKEN LINE WHITE - PAINT	LF		10698.00		3188.00			2.00
	2564.603	8" DOTTED LINE WHITE - PAINT	LF		520.00		180.00		1394.00	15280.00
	2564.603	24" STOP LINE WHITE - PAINT	LF		72.00					700.00
	2564.603	4" SOLID LINE YELLOW - PAINT	LF		322.00					72.00
	2564.603	4" DOUBLE SOLID LINE YELLOW - PAINT	LF		2982.00		142.00		79.00	543.00
	2564.603	24" SOLID LINE YELLOW - PAINT	LF		4668.00		565.00			3547.00
	2564.603	24" STOP LINE WHITE - POLY PREFORMED	LF		34.00		3294.00			7962.00
	2564.603	24" STOP LINE WHITE - EPOXY	LF		262.00		105.00			139.00
	2564.603	4" SOLID LINE WHITE - EPOXY	LF		28.00		77.00		46.00	385.00
	2564.603	4" BROKEN LINE WHITE - EPOXY	LF		5912.00				49.00	77.00
	2564.603	8" DOTTED LINE WHITE - EPOXY	LF		520.00		557.00		2173.00	8642.00
	2564.603	4" SOLID LINE YELLOW - EPOXY	LF		72.00		180.00			700.00
	2564.603	4" SOLID DOUBLE LINE YELLOW - EPOXY	LF		3164.00				45.00	117.00
	2564.603	24" SOLID LINE YELLOW - EPOXY	LF		540.00		565.00		511.00	4240.00
	2564.618	ZEBRA CROSSWALK - WHITE POLY PREFORMED	SF		102.00		542.00		370.00	1462.00
	2564.618	ZEBRA CROSSWALK - EPOXY	SF		1404.00		105.00		23.00	230.00
	2564.618	ZEBRA CROSSWALK - WHITE PAINT	SF				486.00		612.00	2502.00
	2565.511	FULL-TRAFFIC-ACTUATED TRAFFIC SIGNAL SYSTEM C	LS		1080.00		486.00		324.00	324.00
	2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM C	LS	0.75	0.25				306.00	1872.00
				0.75	0.25					1.00
										1.00

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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE:
1	JJK	05/07/02	ADD. #11 REVISIONS FOR EAST ABRA ENTRANCE	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
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. 5

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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			
	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							
	2573.502	SILT FENCE MACHINE SLICED	LF		60.00		52.00		24.00	136.00
	2575.501	SEEDING	ACRE				410.00		875.00	2885.00
	2575.502	SEED MIXTURE TYPE 28B	LB		0.56		0.06			0.87
	2575.502	SEED MIXTURE TYPE 60B	LB		22.00				0.25	22.00
	2575.505	SODDING TYPE SALT RESISTANT	SY				6.00		25.00	31.00
	2575.505	SODDING TYPE EROSION	SY		5752.00		1414.00		1027.00	8193.00
	2575.513	MULCH MATERIAL TYPE I	CY		400.00		400.00		400.00	1200.00
	2575.519	DISK ANCHORING	AC		1.10		0.10		0.50	1.70
	2575.523	EROSION CONTROL BLANKET CATEGORY 4	SY		0.56		0.06		0.25	0.87
	2575.532	COMMERCIAL FERT ANALYSIS 22-5-10	LB		750.00		70.00		92.00	750.00
					350.00					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.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE:
1	JLL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE	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
 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.
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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	JLL	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
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: 4/2/02 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

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SHEET NO.
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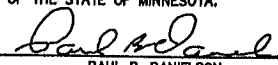
PLOT DATE: 2002 4:55pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TB05.dwg

EARTHWORK TABULATION									
STATION TO STATION	EXCAVATION CY (EV)					EMBANKMENT CY (CV)			
	TOPSOIL STRIPPING (1)	COMMON (2)	SUBGRADE COMPACTION (3)	SUBGRADE CORRECTION (4)	TOTAL CUT	TOPSOIL (5)	SELECTED GRADING	SELECT GRANULAR (5)	TOTAL FILL
SAP 114-020-26									
NORTHDALE BOULEVARD									
50.000	-	-	-	-	-	-	-	-	-
100.000	116.1	359.4	194.4	214.3	884.2	1.3	16.6	408.7	426.6
150.000	140.2	374.9	194.4	259.1	968.6	4.7	56.5	453.5	514.7
200.000	128.8	296.2	194.4	229.3	848.7	8.0	61.8	423.7	493.5
250.000	96.9	312.5	194.4	194.3	798.1	9.1	25.8	388.7	423.6
300.000	89.0	329.3	194.4	154.6	767.3	14.6	24.1	349.1	387.8
350.000	85.2	331.4	194.5	140.9	762.0	19.8	29.0	335.5	394.3
400.000	88.4	312.8	194.5	141.1	736.8	18.9	29.0	335.6	383.5
450.000	88.1	261.1	194.4	140.8	684.4	18.7	30.6	335.3	384.6
500.000	85.5	185.0	194.5	140.6	605.6	20.1	41.9	335.1	397.1
519.150	38.1	58.6	74.5	52.7	223.9	6.3	17.9	127.2	151.4
550.000	62.7	75.8	120.1	84.9	343.5	11.0	36.9	205.0	252.9
600.000	95.9	71.5	194.5	149.6	511.5	25.0	89.2	344.2	458.4
650.000	101.5	66.7	194.4	159.9	522.5	26.7	106.9	354.4	488.0
700.000	112.9	89.0	194.4	180.1	576.4	15.9	70.9	374.5	461.3
707.000	17.2	19.3	27.2	28.0	91.7	0.6	3.4	55.3	59.3
750.000	99.0	216.4	167.2	174.9	657.5	9.2	26.0	342.2	377.4
800.000	104.9	421.9	194.4	200.6	921.8	17.2	32.6	395.1	444.9
850.000	100.6	525.7	194.4	175.7	996.4	21.3	18.2	370.2	409.7
900.000	92.5	608.1	194.4	148.0	1043.0	16.9	5.7	342.4	365.0
928.000	48.0	358.7	108.9	78.6	594.2	4.3	0.1	187.5	191.9
950.000	36.9	248.9	85.6	61.8	433.2	2.8	0.1	147.3	150.2
1,000.000	85.1	390.6	194.4	140.6	810.7	14.1	14.4	335.1	363.6
1,050.000	92.1	149.6	194.4	140.9	577.0	25.0	80.1	335.4	440.5
1,100.000	90.8	41.3	194.5	140.9	467.5	23.5	93.1	335.5	452.1
1,150.000	89.4	42.9	195.6	140.9	468.8	22.7	69.8	336.5	429.0
1,200.000	92.3	42.8	196.6	142.7	474.4	24.6	76.0	339.3	439.9
1,250.000	93.1	39.3	196.7	144.0	473.1	25.1	66.9	340.6	432.6
1,300.000	92.6	45.2	195.6	141.2	474.6	24.7	77.2	336.9	438.8
1,344.760	92.4	54.0	173.4	121.9	441.7	14.3	79.8	295.3	389.4
1,400.000	111.8	124.6	216.9	141.5	594.8	18.5	121.7	358.3	498.5
1,450.000	98.3	266.4	197.1	119.6	681.4	18.3	106.8	316.8	441.9
1,456.930	15.3	52.1	26.9	16.2	110.5	1.7	11.4	43.1	56.2
1,500.000	84.1	313.0	170.7	93.6	661.4	17.5	62.3	264.3	344.1
1,550.000	82.6	352.7	198.7	100.7	734.7	26.9	59.8	299.4	386.1
1,600.000	86.0	340.0	190.5	100.7	717.2	29.3	50.5	291.2	371.0
1,646.190	127.8	473.6	175.8	79.3	856.5	21.1	25.8	255.1	302.0
1,700.000	132.9	529.4	207.2	72.0	941.5	18.5	16.8	279.2	314.5
1,750.000	56.9	241.9	192.5	52.8	544.1	20.5	23.1	245.3	288.9
1,772.630	22.3	88.6	88.0	17.9	216.8	6.6	10.3	105.9	122.8
1,800.000	29.4	95.2	106.4	20.7	251.7	9.8	26.9	127.1	163.8
1,844.480	35.5	82.2	86.5	30.8	235.0	17.1	51.7	117.3	186.1
1,850.000	2.2	2.8	0.0	3.3	8.3	1.5	4.3	3.3	9.1
1,908.170	48.2	26.8	0.0	30.3	105.3	15.4	43.4	30.3	89.1
PARTRIDGE STREET									
0.000	-	-	-	-	-	-	-	-	-
50.000	63.7	221.9	0.0	134.5	420.1	14.3	8.7	134.5	157.5
100.000	121.2	238.4	0.0	262.5	622.1	25.8	41.5	262.5	329.8
150.000	115.1	29.9	0.0	255.9	400.9	23.2	64.3	255.9	343.4
200.000	140.6	140.6	0.0	347.9	629.1	19.7	46.0	347.9	413.6
224.300	112.3	151.7	0.0	229.4	493.4	3.9	7.1	229.4	240.4
250.000	120.0	136.1	0.0	239.6	495.7	5.6	16.0	239.6	261.2
POND	303.0	1852.0	0.0	0.0	2155.0	303.0	278.0	0.0	581.0
SUBTOTAL	4465.4	12088.8	6898.3	6572.1	30024.6	1064.6	2356.9	13471.5	16893.0

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 SAP 114-107-08									
ROBINSON DRIVE									
50.000	-	-	-	-	-	-	-	-	-
100.000	91.9	271.8	235.3	155.8	754.8	7.3	34.4	391.1	432.8
150.000	99.6	184.4	194.4	195.6	674.0	9.0	59.0	390.0	458.0
164.430	28.1	49.7	56.1	189.3	323.1	1.7	16.4	111.5	129.6
200.000	71.6	133.8	138.3	137.9	481.6	7.4	37.0	276.2	320.6
250.000	105.4	184.9	194.4	195.7	680.4	15.8	47.2	390.2	453.2
300.000	154.2	221.9	194.4	194.0	764.5	23.7	65.4	388.4	477.5
350.000	220.6	225.2	194.4	190.7	830.9	48.5	533.5	385.2	967.2
400.000	234.4	242.4	194.4	179.6	850.8	38.5	580.2	374.1	992.8
450.000	183.2	329.0	194.4	155.7	862.3	19.3	98.8	350.2	468.3
500.000	110.1	298.4	194.4	116.2	719.1	28.5	30.2	310.6	369.3
550.000	77.0	258.2	177.4	109.8	622.4	27.5	32.7	287.2	347.4
600.000	67.9	245.3	160.8	119.1	593.1	18.1	19.4	279.9	317.4
626.130	34.3	168.2	84.1	54.7	331.3	5.8	5.8	138.9	150.5
650.000	31.3	152.2	78.9	44.5	306.9	9.9	6.9	123.4	140.2
700.000	58.8	269.2	167.3	83.3	578.6	26.9	19.7	250.6	297.2
750.000	38.9	249.7	173.7	60.6	522.9	17.6	14.4	234.4	266.4
771.730	10.3	91.1	78.0	17.1	196.5	4.7	4.2	95.1	104.0
800.000	12.6	100.1	101.4	20.3	234.4	6.1	5.9	121.7	133.7
SUBTOTAL	1630.2	3665.5	2812.1	2086.0	10193.8	316.3	1611.1	4898.7	6826.1

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	 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) EARTHWORK TABULATION	CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 8 159
								COUNTY PROJECT		S.A.P.	114-020-27	
										S.A.P.	114-107-08	

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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
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 (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:
1	JUL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE	33889-043



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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)
 EARTHWORK TABULATION

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 3
 SHEET NO. 9
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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	64	1795

- TABLE 1 NOTES:**
1. EARTHWORK AREAS FROM CROSS-SECTIONS
 2. SUBGRADE EXCAVATION FOR RECOMPACTION FOR UNIFORMITY
 3. SUBGRADE EXCAVATION FOR CORRECTION OR COMPACTION FOR UNIFORMITY
 4. ASSUMED 6" TOPSOIL STRIPING
 5. 4" TOPSOIL PLACEMENT REQUIRED
 6. 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	1385	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	9652
	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:**
1. INCLUDES 4" TOPSOIL PLACEMENT WITH A SHRINKAGE FACTOR OF 1.3 FROM CV TO EV
 2. ASSUMES UPPER 6" OF ON-SITE MATERIAL IS SUITABLE FOR TOPSOIL STRIPING
 3. INCLUDES ASSUMED FACTOR OF 5% OF THE MATERIAL BENEATH THE EXISTING ROADWAY CORE WILL NOT MEET SELECT GRANULAR BORROW REQUIREMENTS.
 4. INCLUDES ASSUMED FACTOR OF 20% OF THE MATERIAL OUTSIDE THE EXISTING ROADWAY CORE WILL NOT MEET SELECT GRANULAR BORROW REQUIREMENTS.
 5. 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)) = 8,641 CY (EV)
 6. 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)
 7. INCLUDES A FACTOR OF 1.2 FROM CV TO EV (5,721 CY (CV) x 1.2 = 6,865 CY (EV))
 8. 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
 9. 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:**
1. INCLUDES REGULAR COMMON EXCAVATION PLUS TOPSOIL EXCAVATION
 2. INCLUDES SUBGRADE EXCAVATION FOR COMPACTION FOR UNIFORMITY AND SUBGRADE EXCAVATION FOR CORRECTION OR COMPACTION FOR UNIFORMITY
 3. INCLUDES SHRINKAGE FACTOR OF 1.5 FROM LV TO CV

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
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DESIGN BY: JUL
CHECKED BY: ICP
DWG. NAME: 043-TB05B
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: 4/28/02 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

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SHEET NO.
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SOILS & CONSTRUCTION NOTES

1. GRADING GRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.
2. SELECTED GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, DEBRIS, ORGANIC MATERIALS AND OTHER UNSTABLE MATERIAL.
3. GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF MN/DOT SPEC. 3149.2B1.
4. SELECT GRANULAR MATERIAL, REGARDLESS OF SOURCE, SHALL MEET THE REQUIREMENTS OF MN/DOT SPEC. 3149.2B2.
5. UNSUITABLE SOILS IS DEFINED AS SOILS WHICH DO NOT MEET OR ARE NOT MANUFACTURED TO MEET ANY OF THE ABOVE DEFINED CATEGORIES, AND ARE THEREFORE NOT REUSABLE.
6. DISPOSITION OF EXCESS EXCAVATED MATERIAL SHALL BE IN ACCORDANCE WITH MN/DOT SPEC. 2105.3D WITH NO DIRECT COMPENSATION MADE THEREFORE.
7. OBTAIN COMPACTION ON THE GRADING AND AGGREGATE BASE PORTIONS OF THE CONSTRUCTION IN ACCORDANCE WITH THE "SPECIFIED DENSITY METHOD" REQUIREMENTS.
8. STABILIZING AGGREGATE SHALL BE INCORPORATED INTO THE SUBGRADE TO ACHIEVE SATISFACTORY SURFACE STABILITY, IF DEEMED NECESSARY BY THE ENGINEER, IN ACCORDANCE WITH SPEC. 2105.3G. USE AN APPLICATION RATE OF 200 LB/SYD. STABILIZING MATERIAL SHALL BE AT THE CONTRACTOR'S EXPENSE WHEN MATERIAL NEEDING STABILIZATION IS FURNISHED AS A BORROW ITEM.
9. STRIP ALL TOPSOIL AND INPLACE SLOPE DRESSING WHERE PRESENT IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE SLOPE DRESSING. SLOPE DRESSING ON THIS PROJECT IS DEFINED AS THE TOPSOIL OR OTHER "A" HORIZON SOIL WHICH HAS BEEN PLACED DURING PREVIOUS CONSTRUCTION TO PROVIDE A MEDIUM FOR ESTABLISHING TURF. THE AVERAGE DEPTH OF TOPSOIL LAYER IS ASSUMED TO BE 4 INCHES.
10. UNLESS OTHERWISE SPECIFICALLY ALLOWED OR REQUIRED BY THE CONTRACT, BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE RECYCLED TO THE EXTENT ALLOWED IN BASE AND SURFACING ITEMS OR DISPOSED OF OUTSIDE THE RIGHT-OF-WAY IN ACCORDANCE WITH SPEC. 2104.3C3.
11. DISPOSITION OF CONCRETE AND BITUMINOUS REMOVALS SHALL BE IN ACCORDANCE WITH MN/DOT SPEC. 2104.3C3, WITH NO DIRECT COMPENSATION MADE THEREFORE.
12. WHERE CONNECTING NEW SURFACE TO EXISTING SURFACE, THE EXCAVATION SHALL BE BACKFILLED AS SOON AS PRACTICAL. WHERE CONNECTING TO EXISTING SURFACE AT THE TERMINI OF PROPOSED SURFACING, CUT VERTICALLY TO THE BOTTOM OF THE EXISTING SURFACING OR THE NEW SURFACING WHICHEVER IS DEEPER, THEN AT 1(V) TO 20(H) TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION. WHERE MATCHING ADJACENT TO EXISTING SURFACING, CUT AT A 1(V) TO 4(H) TO THE BOTTOM OF THE SUBCUT.
13. UNLESS OTHERWISE REQUIRED, ADD 1(V) TO 20(H) TAPERS TO THE FULL DEPTH STATION LIMITS OF ALL SUB GRADE EXCAVATIONS. PROVIDE 1(V) TO 20(H) TRANSITION TAPERS BETWEEN CHANGES IN SUBGRADE EXCAVATION DEPTH LONGITUDINALLY.
14. THE TOP OF BACKSLOPES AND THE TOE OF FILL SLOPES SHALL BE ROUNDED.
15. THE LOCATIONS OF THE EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY UTILITY LOCATIONS AND DEPTHS AS REQUIRED BEFORE EXCAVATION. EXCAVATIONS TO LOCATE UTILITIES SHALL BE INCIDENTAL. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE UTILITY COMPANIES AND CALL THE "GOPHER STATE ONE CALL" (1-800-252-1166) AT LEAST 48 HOURS PRIOR TO EXCAVATION/CONSTRUCTION.
16. USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES AND PRIOR TO PLACING BITUMINOUS MIXTURES ON EXISTING CONCRETE OR BITUMINOUS SURFACES. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT UNIFORM RATE OF 0.05 GAL/SYD BETWEEN BITUMINOUS LAYERS. THE APPLICATION RATES ARE FOR UNDILUTED EMULSION (AS SUPPLIED FROM THE REFINERY); ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPEC. 2357.
17. AS A PRECAUTIONARY MEASURE FROM A SOILS STANDPOINT, TRAFFIC LANES TO BE USED DURING CONSTRUCTION MUST BE DELINEATED TO KEEP VEHICLES A SAFE DISTANCE AWAY FROM THE ADJACENT EXCAVATION. THE DELINEATION SHOULD COINCIDE WITH POINTS ESTABLISHED BY PROJECTING 1(V) TO 2(H) OR GREATER (FLATTER) SLOPE BETWEEN THE EDGE OF THE TRAFFIC SURFACE AND THE BOTTOM OF THE EXCAVATION.
18. ON GRADING SLOPES STEEPER THAN 1(V) TO 4(H), CONSTRUCT STEPS IN SLOPE PER MN/DOT SPEC. 2105.3B WHEN CONSTRUCTING AN EMBANKMENT.
19. UNLESS OTHERWISE RECOMMENDED, PROVIDE FOR SUBGRADE EXCAVATION AND BACKFILL ACCORDINGLY THROUGHOUT THE ENTIRE PROJECT AS DETAILED ON TYPICAL SECTIONS.
20. THE CONSTRUCTION LIMITS AS SHOWN IN THE PLANS REPRESENT THE POINT OF INTERSECTION BETWEEN THE REQUIRED FILL OR CUT SLOPE AND THE EXISTING GROUND LINE AS DEPICTED ON THE CROSS SECTIONS. THE CONSTRUCTION LIMITS DO NOT INCLUDE AREAS REQUIRED FOR SLOPE ROUNDING.
21. ANY DEBRIS WHICH MAY BE ENCOUNTERED DURING GRADING SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE PROJECT RIGHT-OF-WAY IN A SUITABLE DISPOSAL AREA AS APPROVED BY THE ENGINEER.
22. BITUMINOUS REMOVAL QUANTITY BASED ON SQUARE YARD REMOVED REGARDLESS OF PAVEMENT DEPTH. PAVEMENT DEPTH VARIES BETWEEN APPROXIMATELY 4 AND 10 INCHES
23. PIPE SEWERS CONNECTING MANHOLES AND CATCH BASINS SHALL BE IN ACCORDANCE WITH SPEC. 2503. BEDDING AND BACKFILL SHALL CONSIST OF UNIFORM SELECTED GRADING MATERIAL MATCHING ADJACENT SOILS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
24. WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN, IT WILL MEAN THIS WORK WILL BE INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
25. PLACE MINIMUM 4 INCHES TOPSOIL OR SLOPE DRESSING ON ALL AREAS DISTURBED BY CONSTRUCTION AND SCHEDULED FOR PERMANENT TURF ESTABLISHMENT. TOPSOIL BORROW TO BE UTILIZED AT THE DIRECTION OF THE ENGINEER IN THE FIELD. FERTILIZE WITH COMMERCIAL FERTILIZER ANALYSIS 22-5-10 AT RATE OF 200 LB/ACRE IN AREAS BEING SEEDED AND SODDED.
26. REFER TO RESTORATION PLANS FOR SEED MIXTURE AND MULCH APPLICATION AREAS.
27. SOD ALL MAINTAINED LAWNS DISTURBED BY CONSTRUCTION.
28. ALL SOD UTILIZED WITHIN THE PROJECT LIMITS SHALL MEET THE REQUIREMENTS OF SPEC. 3878.2C (SALT RESISTANCY).
29. ORGANIC AND NONGRANULAR EXCAVATED MATERIAL MAY BE USED IN EMBANKMENT CONSTRUCTION IN AREAS OUTSIDE OF 1:1½ SLOPE FROM THE BACK OF CURB OR SHOULDER GRADING P.I..
30. EXCESS UNSTABLE SOILS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE PROJECT AND DISPOSED OF IN ACCORDANCE WITH MN/DOT SPEC. 2105.3D.
31. ALL SILT FENCING SHOWN IN THE PLANS SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF GRADING OPERATIONS.
32. TEMPORARY DITCH CHECKS TYPE 3 (BIOROLL) SHALL BE INSTALLED ALONG DITCH RUNS FOR EROSION CONTROL AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER IN THE FIELD.
33. SALVAGED SIGNS SHALL BE STORED ON-SITE AT A LOCATION DESIGNATED BY THE ENGINEER. SIGNS SHALL BE SORTED TO PREVENT DAMAGE UNTIL THEY ARE RETRIEVED BY LOCAL COUNTY OR STATE FORCES.
34. CLASS 5 AGGREGATE BASE MATERIAL UNDER SIDEWALKS AND COMMERCIAL DRIVEWAY APRONS SHALL BE CONSIDERED INCIDENTAL.

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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)

SOILS AND CONSTRUCTION NOTES

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 11
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	
1 OF 1				159

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	CONCRETE
	CLASS 5 (2)	WALK (1)	GUTTER	GUTTER	GUTTER	GUTTER	GUTTER	GUTTER	GUTTER	GUTTER	PAVEMENT	PAVEMENT	MEDIAN
	CY	ft2	LF	LF	LF	LF	LF	LF	LF	LF	SY	SY	NOSE
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	HVWE46540I	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	2639	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 DW'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 60B	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),

PLOT DATE: M 2002 4:55pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TB10.dwg

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

DESIGN FILE:
33889-043

URS

Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
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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)
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	EACH	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	864.64			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	41.93 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	

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	
				ADJUST FRAME & RING CASTING [3]		
NORTHDALE BLVD	500	18+44.67	4.70 R	864.07	863.99	2
	501	16+82.06	7.47 R	864.82	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+84.49	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

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

DESIGN FILE:
33889-043

DRAWN BY: JJS
DESIGN BY: JJS

CHKD. BY: ICP
DWG. NAME: 043-TB11

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)
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

2 OF 2

SHEET NO.
13

159

PLOT DATE: Apr 25 12:54pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT-043-TB12.dwg

INPLACE UTILITIES

Table with 7 columns: STATION, ALIGNMENT, LOCATION, OFFSET FT, ITEM INPLACE, OWNER, REMARKS. Contains detailed utility data for Watermain, Storm Sewer, and Sanitary Sewer systems.

INPLACE UTILITIES

Table with 7 columns: STATION, ALIGNMENT, LOCATION, OFFSET FT, ITEM INPLACE, OWNER, REMARKS. Contains detailed utility data for Storm Sewer, Sanitary Sewer, and Telephone systems.

Table with 4 columns: REV. NO., BY, DATE, REVISIONS DESCRIPTION. Contains revision tracking information.

Table with 2 columns: DESIGN FILE, DRAWN BY, DESIGN BY, CHKED. BY, DWG. NAME, DATE. Contains design and drawing information.



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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)
INPLACE UTILITIES TABULATIONS

Table with 4 columns: CITY PROJECT, COUNTY PROJECT, S.P., S.A.P. Contains project identification details.

PLOT DATE: Apr 2 12:54pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TB13.dwg

INPLACE UTILITIES						
STATION	ALIGNMENT	LOCATION	OFFSET FT	ITEM INPLACE	OWNER	REMARKS
TELEPHONE						
11+54	Hanson Blvd	RT	71'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
13+08	Hanson Blvd	RT	96'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
13+13	Hanson Blvd	RT	114'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
13+08	Hanson Blvd	RT	118'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
13+28	Hanson Blvd	RT	130'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
11+42	Hanson Blvd	RT	85'	MANHOLE	QWEST COMMUNICATIONS	ADJUST AS NEEDED
13+28	Hanson Blvd	RT	95'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
13+37	Hanson Blvd	RT	130'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
12+70	Hanson Blvd	RT	92'	STRUCTURE	QWEST COMMUNICATIONS	ADJUST AS NEEDED
14+04	Hanson Blvd	RT	71'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
18+30	Hanson Blvd	RT	97'	STRUCTURE	QWEST COMMUNICATIONS	ADJUST AS NEEDED
19+73	Hanson Blvd	RT	107'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
20+10	Hanson Blvd	RT	90'	STRUCTURE	QWEST COMMUNICATIONS	ADJUST AS NEEDED
13+40 TO 16+77	Hanson Blvd	RT	58'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
17+04 TO 19+00	Hanson Blvd	RT	66' TO 75'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
20+10	Hanson Blvd	RT	76'	STRUCTURE	QWEST COMMUNICATIONS	ADJUST AS NEEDED
12+00	Hanson Blvd	RT	58'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
12+07	Hanson Blvd	RT	55'	MANHOLE	QWEST COMMUNICATIONS	ADJUST AS NEEDED
12+22	Hanson Blvd	RT	55'	MANHOLE	QWEST COMMUNICATIONS	ADJUST AS NEEDED
12+78	Hanson Blvd	RT	52'	STRUCTURE	QWEST COMMUNICATIONS	ADJUST AS NEEDED
12+80	Hanson Blvd	RT	65'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
12+91	Hanson Blvd	RT	62'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
13+00	Hanson Blvd	RT	80'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
13+11	Hanson Blvd	RT	50'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
13+20	Hanson Blvd	RT	87'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
14+25	Hanson Blvd	RT	88'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
11+00	Hanson Blvd	RT	51'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
12+00	Hanson Blvd	RT	54'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
12+70	Hanson Blvd	RT	54'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
12+93	Hanson Blvd	CL	0'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
12+75	Hanson Blvd	LT	100'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
12+93	Hanson Blvd	RT	32'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
12+78	Hanson Blvd	RT	50'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
17+14	Hanson Blvd	LT	55'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
17+14	Hanson Blvd	LT	180'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
17+14	Hanson Blvd	RT	150'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
17+09	Hanson Blvd	LT	55'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED
17+09	Hanson Blvd	LT	180'	T-UG	QWEST COMMUNICATIONS	ADJUST AS NEEDED

CABLE TV						
STATION	ALIGNMENT	LOCATION	OFFSET FT	ITEM INPLACE	OWNER	REMARKS
0+55	Northdale Blvd	RT, LT	86'-30'	TV-UG	MEDIA ONE CABLE	LEAVE AS IS
1+03	Northdale Blvd	RT	84'-28'	TV-UG	MEDIA ONE CABLE	RELOCATE
5+00 TO 9+00	Northdale Blvd	RT	25'	TV-UG	MEDIA ONE CABLE	RELOCATE
9+01	Northdale Blvd	RT	181'	TV-UG	MEDIA ONE CABLE	RELOCATE
0+28 TO 18+14	Northdale Blvd	LT	34'	TV-UG	MEDIA ONE CABLE	RELOCATE
18+14	Northdale Blvd	LT, RT	34'-25'	TV-UG	MEDIA ONE CABLE	RELOCATE
19+00	Northdale Blvd	RT	25'	TV-UG	MEDIA ONE CABLE	RELOCATE
11+50	Hanson Blvd	RT	45'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
12+70	Hanson Blvd	RT	51'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
13+52	Hanson Blvd	RT	49'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
13+70	Hanson Blvd	LT	74'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
13+24	Hanson Blvd	LT	88'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
13+00	Hanson Blvd	LT	172'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
11+55	Hanson Blvd	RT	37'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
13+00	Hanson Blvd	RT	38'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
13+45	Hanson Blvd	RT	40'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
13+60	Hanson Blvd	LT	62'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
13+00	Hanson Blvd	LT	80'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
12+70	Hanson Blvd	LT	145'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
14+00	Hanson Blvd	LT	53'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
18+00	Hanson Blvd	LT	46'	TV-UG	MEDIA ONE CABLE	RELOCATE
20+00	Hanson Blvd	LT	54'	TV-UG	MEDIA ONE CABLE	RELOCATE
22+00	Hanson Blvd	LT	54'	TV-UG	MEDIA ONE CABLE	RELOCATE
18+40	Hanson Blvd	LT	51'	TV-UG	MEDIA ONE CABLE	RELOCATE
18+38	Hanson Blvd	LT	105'	TV-UG	MEDIA ONE CABLE	RELOCATE
17+85	Hanson Blvd	LT	102'	TV-UG	MEDIA ONE CABLE	RELOCATE
17+80	Hanson Blvd	LT	150'	TV-UG	MEDIA ONE CABLE	RELOCATE
11+50	Hanson Blvd	LT	50'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
12+87	Hanson Blvd	LT	54'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
12+85	Hanson Blvd	LT	144'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
13+02	Hanson Blvd	LT	148'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
12+97	Hanson Blvd	LT	130'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
12+98	Hanson Blvd	LT	63'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
13+75	Hanson Blvd	LT	41'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
13+00	Hanson Blvd	LT	150'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
13+20	Hanson Blvd	LT	80'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
13+80	Hanson Blvd	LT	62'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
13+80	Hanson Blvd	LT	74'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
17+25	Hanson Blvd	LT	50'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED
17+25	Hanson Blvd	LT	150'	TV-UG	MEDIA ONE CABLE	ADJUST AS NEEDED

INPLACE UTILITIES						
STATION	ALIGNMENT	LOCATION	OFFSET FT	ITEM INPLACE	OWNER	REMARKS
GAS						
2+75 TO 10+78	Northdale Blvd	RT	22'	G-UG	RELIANT ENERGY	RELOCATE
7+28	Northdale Blvd	LT	0'-100'	G-UG	RELIANT ENERGY	RELOCATE
18+40	Northdale Blvd	RT, LT	25'	G-UG	RELIANT ENERGY	RELOCATE
3+58 TO 8+00	Robinson Dr W	LT	29'	G-UG	RELIANT ENERGY	RELOCATE
9+50 TO 13+53	Hanson Blvd	RT	33'	G-UG	RELIANT ENERGY	ADJUST AS NEEDED
13+00 TO 14+00	Hanson Blvd	LT	144'	G-UG	RELIANT ENERGY	ADJUST AS NEEDED
9+50 TO 11+00	Hanson Blvd	RT	25'	G-UG	RELIANT ENERGY	ADJUST AS NEEDED
13+00 TO 13+53	Hanson Blvd	RT	6' - 1'	G-UG	RELIANT ENERGY	ADJUST AS NEEDED
9+50 TO 11+95	Hanson Blvd	RT	15'	G-UG	RELIANT ENERGY	ADJUST AS NEEDED
12+27 TO 13+52	Hanson Blvd	RT	21'	G-UG	RELIANT ENERGY	ADJUST AS NEEDED

UNDERGROUND POWER						
STATION	ALIGNMENT	LOCATION	OFFSET FT	ITEM INPLACE	OWNER	REMARKS
0+61	Northdale Blvd	RT	82'	HANDHOLE	MN / DOT	LEAVE AS IS
0+61	Northdale Blvd	RT	172'	HANDHOLE	MN / DOT	LEAVE AS IS
0+70	Northdale Blvd	RT	37'	HANDHOLE	MN / DOT	LEAVE AS IS
0+75	Northdale Blvd	RT	78'	HANDHOLE	MN / DOT	LEAVE AS IS
12+73	Northdale Blvd	RT	33'	HANDHOLE	CONNEXUS ENERGY	RELOCATE
0+72 TO 19+00	Northdale Blvd	RT	34'-28'	E-UG	CONNEXUS ENERGY	RELOCATE
8+88	Northdale Blvd	RT	34'-176'	E-UG	CONNEXUS ENERGY	RELOCATE
0+05	Northdale Blvd	LT	63'	HANDHOLE	MN / DOT	RELOCATE
0+72	Northdale Blvd	LT	34'	HANDHOLE	MN / DOT	RELOCATE
0+71	Northdale Blvd	LT	62'	HANDHOLE	MN / DOT	RELOCATE
0+69	Northdale Blvd	LT	67'	HANDHOLE	MN / DOT	RELOCATE
18+11	Northdale Blvd	LT	43'	HANDHOLE	ANOKA COUNTY	RELOCATE
18+73	Northdale Blvd	LT	45'	MANHOLE	ANOKA COUNTY	RELOCATE
18+79	Northdale Blvd	LT	37'	HANDHOLE	ANOKA COUNTY	RELOCATE
19+00	Northdale Blvd	LT	28'	E-UG	ANOKA COUNTY	RELOCATE
0+06	Robinson Dr W	LT	73'	HANDHOLE	MN / DOT	RELOCATE
0+51	Robinson Dr W	LT	74'	HANDHOLE	MN / DOT	RELOCATE
0+82	Robinson Dr W	LT	37'	HANDHOLE	MN / DOT	RELOCATE
0+71 TO 2+43	Robinson Dr W	LT	30'-34'	E-UG	MN / DOT	RELOCATE
0-05	Robinson Dr W	RT	60'	HANDHOLE	MN / DOT	RELOCATE
0+43	Robinson Dr W	RT	60'	HANDHOLE	MN / DOT	RELOCATE
0+43	Robinson Dr W	RT	60'-100'	E-UG	MN / DOT	ADJUST AS NEEDED
3+69	Robinson Dr W	LT	39'	HANDHOLE	MN / DOT	RELOCATE
9+50 TO 16+00	Hanson Blvd	LT	57'-56'	E-UG	CONNEXUS ENERGY	ADJUST AS NEEDED
17+00	Hanson Blvd	LT	61'	E-UG	CONNEXUS ENERGY	ADJUST AS NEEDED
17+92	Hanson Blvd	LT	78'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
18+30	Hanson Blvd	LT	74'	STRUCTURE	MN / DOT	ADJUST AS NEEDED
19+00 TO 20+24	Hanson Blvd	LT	72'	E-UG	MN / DOT	ADJUST AS NEEDED
20+91	Hanson Blvd	LT	63'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
20+60	Hanson Blvd	LT	75'	STRUCTURE	MN / DOT	ADJUST AS NEEDED
20+89	Hanson Blvd	LT	89'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
21+32	Hanson Blvd	LT	67'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
21+81	Hanson Blvd	LT	44'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
21+85	Hanson Blvd	RT	5'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
21+77	Hanson Blvd	RT	46'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
21+35	Hanson Blvd	RT	52'	E-UG TO POLE	MN / DOT	ADJUST AS NEEDED
14+02 TO 15+30	Hanson Blvd	RT	41'	E-UG	MN / DOT	ADJUST AS NEEDED
16+90	Hanson Blvd	RT	43'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
16+90	Hanson Blvd	LT	6'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
16+85	Hanson Blvd	LT	53'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
14+25	Hanson Blvd	LT	68'	E-UG	MN / DOT	ADJUST AS NEEDED
15+37	Hanson Blvd	LT	47'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
16+80 TO 18+00	Hanson Blvd	LT	48' TO 60'	E-UG	MN / DOT	ADJUST AS NEEDED
16+85	Hanson Blvd	LT	53'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
16+87	Hanson Blvd	LT	83'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
16+93	Hanson Blvd	LT	67'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
17+20	Hanson Blvd	LT	70'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
18+23	Hanson Blvd	LT	60'	MANHOLE	MN / DOT	ADJUST AS NEEDED
18+25	Hanson Blvd	LT	60'	MANHOLE	MN / DOT	ADJUST AS NEEDED
18+35	Hanson Blvd	LT	60'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
18+22	Hanson Blvd	R	6'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
18+20	Hanson Blvd	R	50'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
17+85	Hanson Blvd	R	82'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
19+32	Hanson Blvd	LT	61'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
20+00	Hanson Blvd	LT	66'	E-UG	MN / DOT	ADJUST AS NEEDED
20+45	Hanson Blvd	LT	63'	HANDHOLE	MN / DOT	ADJUST AS NEEDED
21+10	Hanson Blvd	LT	125'	E-UG	MN / DOT	ADJUST AS NEEDED

NOTES:

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	DESIGN BY: JJS
CHKD. BY: ICP	DWG. NAME: 043-TB13
DATE: APRIL 26, 2002	



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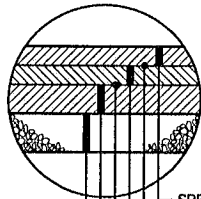
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
INPLACE UTILITIES 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

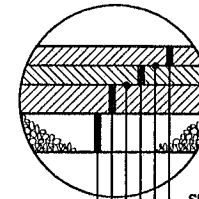
PLOT DATE: May 02 1:45pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TP06.dwg

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



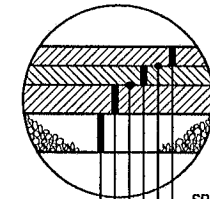
- SPEC. 2350 (HVWE46540I)
- 2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (HVNW36540I)
- 2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (MVNW35035B)
- 3" BITUMINOUS NON-WEARING COURSE
- SPEC. 2211
- 9" AGGREGATE BASE, CLASS 5

INSET B
ROBINSON DRIVE



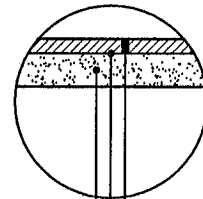
- SPEC. 2350 (MVWE35035F)
- 2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (MVWE35035F)
- 2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (LVNW35030B)
- 2" BITUMINOUS NON-WEARING COURSE
- SPEC. 2211
- 8" AGGREGATE BASE, CLASS 5

INSET C
HANSON BLVD.



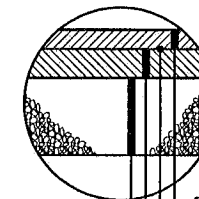
- SPEC. 2350 (HVWE46540I)
- 2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (HVNW36540I)
- 2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (MVNW35035B)
- 3" BITUMINOUS NON-WEARING COURSE
- SPEC. 2211
- 9" AGGREGATE BASE, CLASS 5

INSET D
(BITUMINOUS OVERLAY)



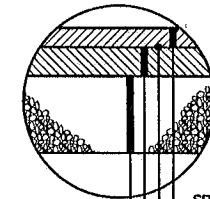
- SPEC. 2350 (MVWE35035F)
- 2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- EXISTING BITUMINOUS

INSET E
COMMERCIAL DRIVEWAYS



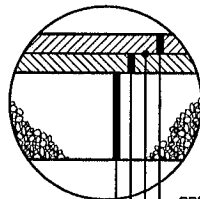
- SPEC. 2350 (MVWE35035F)
- 2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (LVNW35030B)
- 3" BITUMINOUS NON-WEARING COURSE
- SPEC. 2211
- 8" AGGREGATE BASE, CLASS 5

INSET F
PARTRIDGE STREET



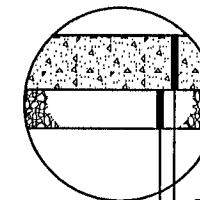
- SPEC. 2350 (MVWE35035F)
- 2" BITUMINOUS WEARING COURSE
- SPEC. 2357, TACK COAT
- SPEC. 2350 (MVNW35035B)
- 3" BITUMINOUS NON-WEARING COURSE
- SPEC. 2211
- 8" AGGREGATE BASE, CLASS 5

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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE:
1	JUL	05/07/02	ADD. #1: REV. TO INSETS A&C PER ANOKA CO.	33889-043



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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)

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.

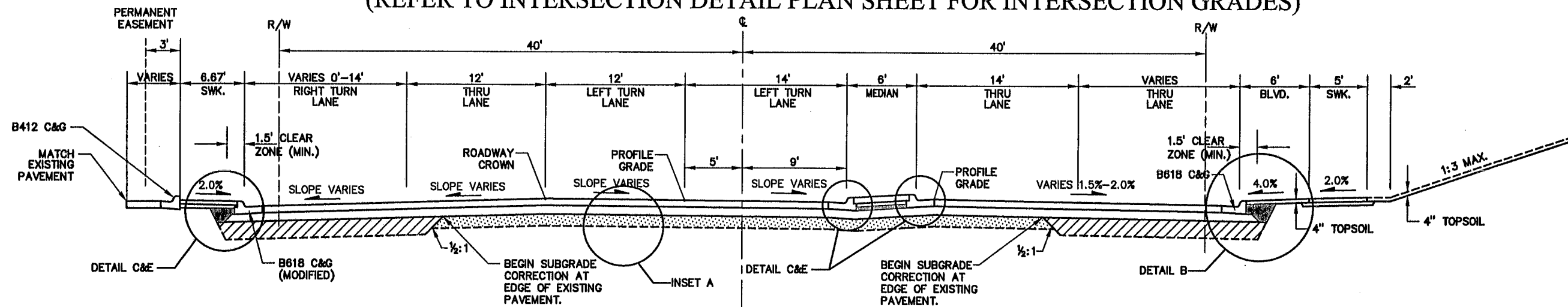
16

159

NORTHDALE BLVD.

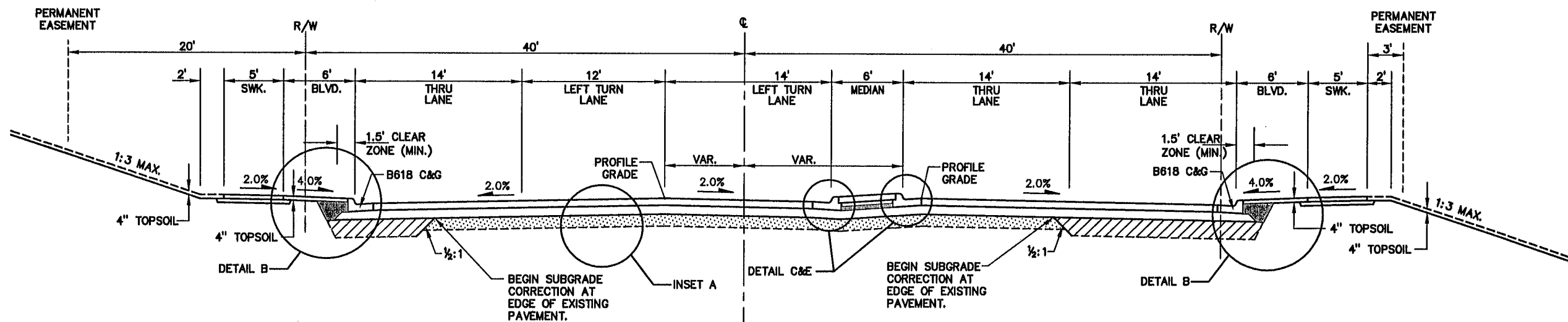
(STA. 0+38.25 TO STA. 2+73.62)

(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.

PLOT DATE: Apr 24, 2002 5:18pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TP01.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	
DRAWN BY: JRL	DESIGN BY: JRM
CHKD. BY: ICP	DWG. NAME: 043-TP01
DATE: APRIL 26, 2002	



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

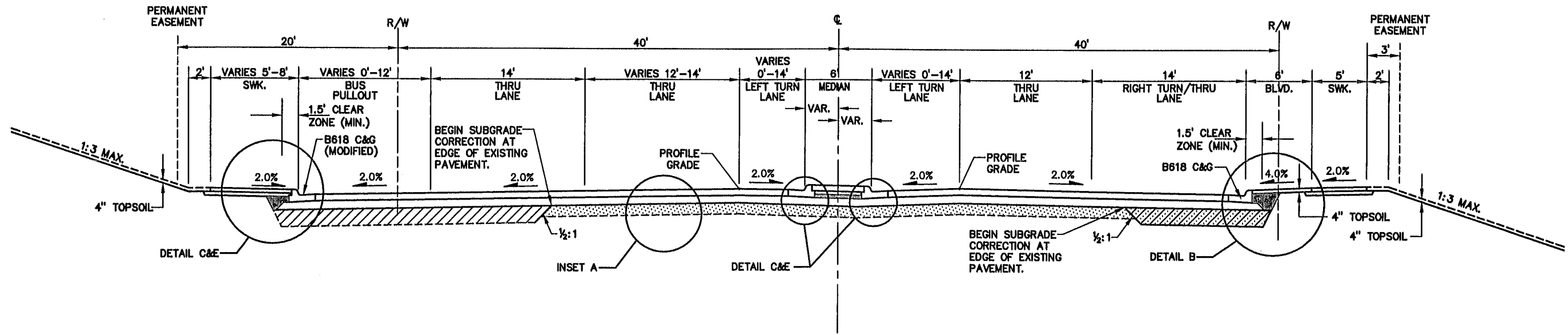
NORTHDALE BOULEVARD
(C.S.A.H. 11)

TYPICAL SECTIONS

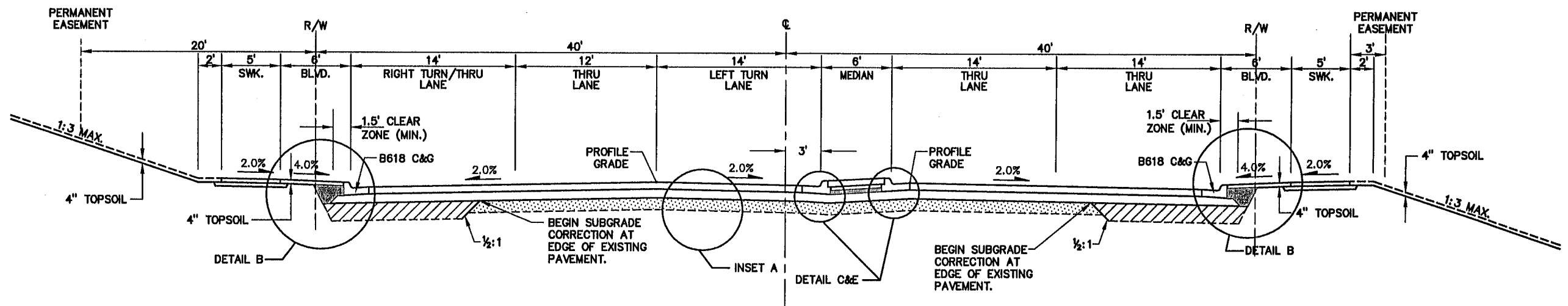
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

2 OF 6
SHEET NO.
17
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 12:38pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TP02.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: JRL DESIGN BY: JRM

CHKD. BY: ICP 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

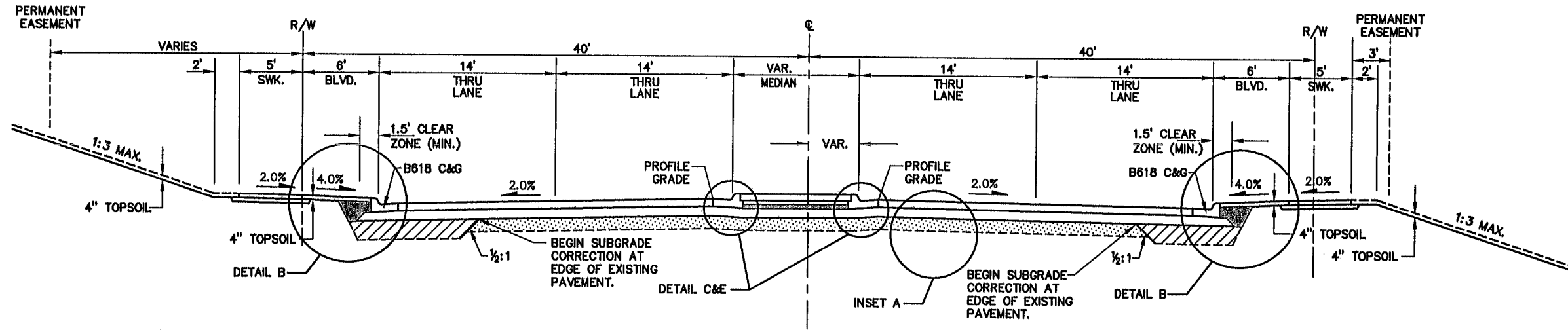
3 OF 6

SHEET NO.

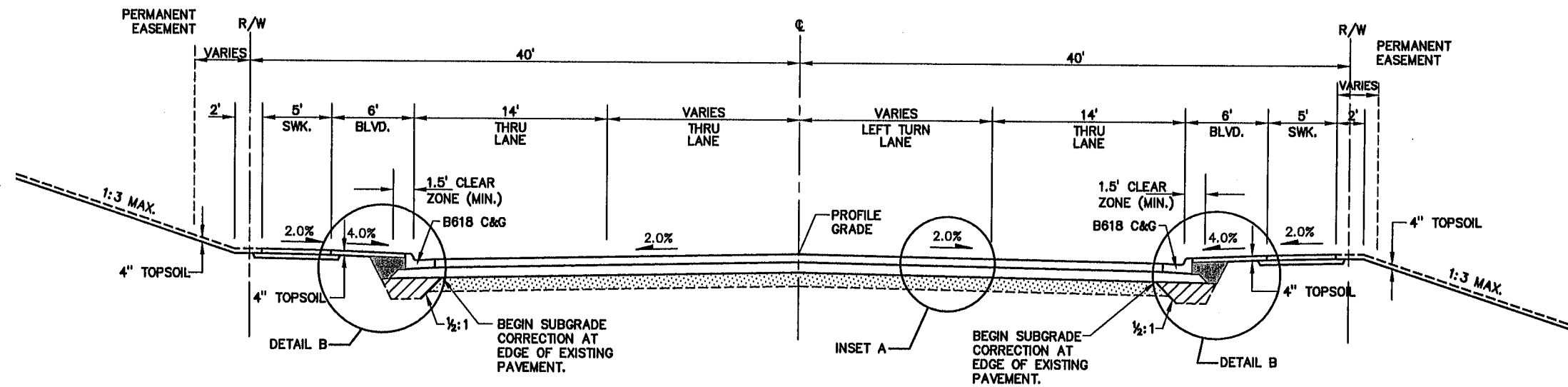
18

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 12:36pm 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



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

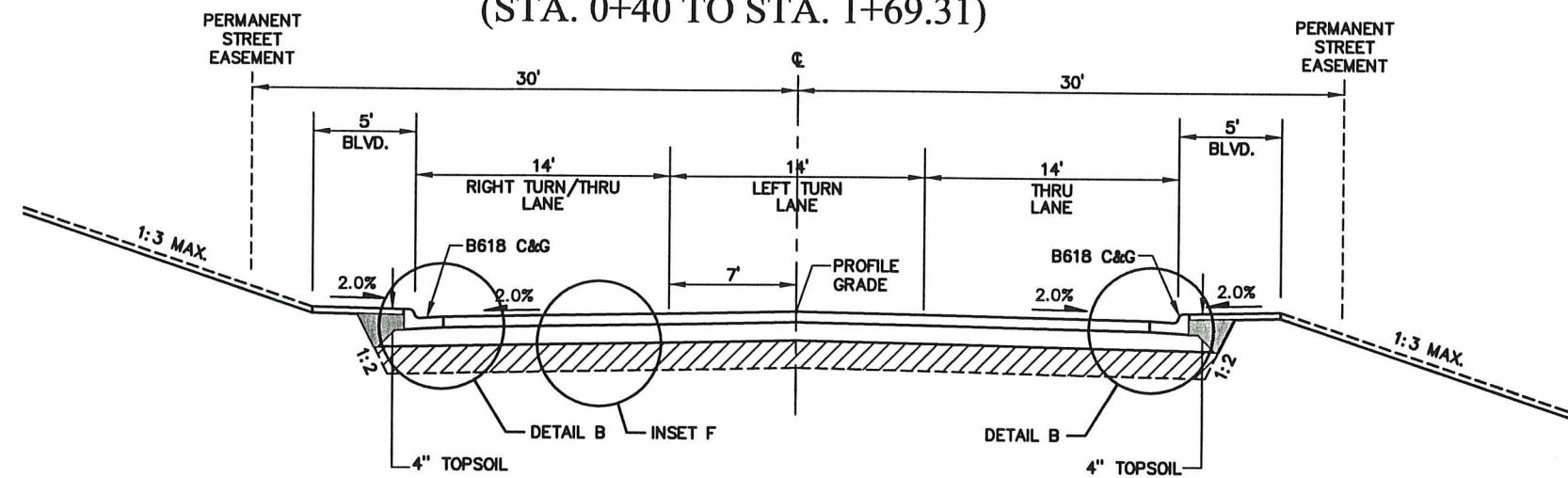
NORTHDALE BOULEVARD
(C.S.A.H. 11)

TYPICAL SECTIONS

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

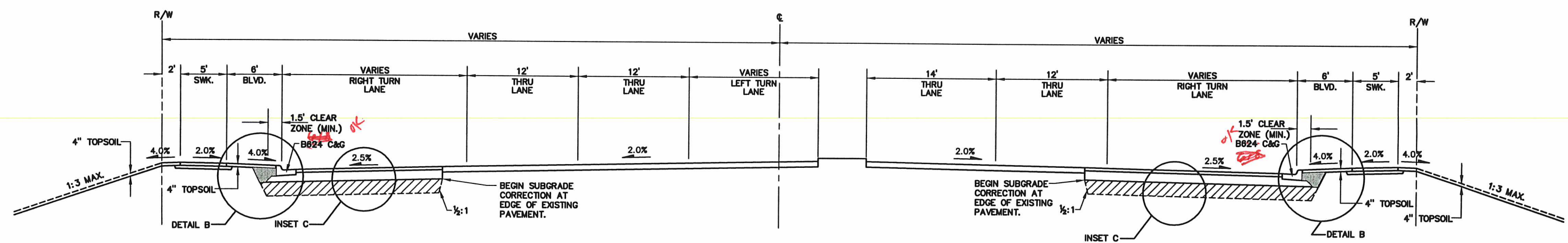
PARTRIDGE STREET

(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 12:36pm 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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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)

TYPICAL SECTIONS

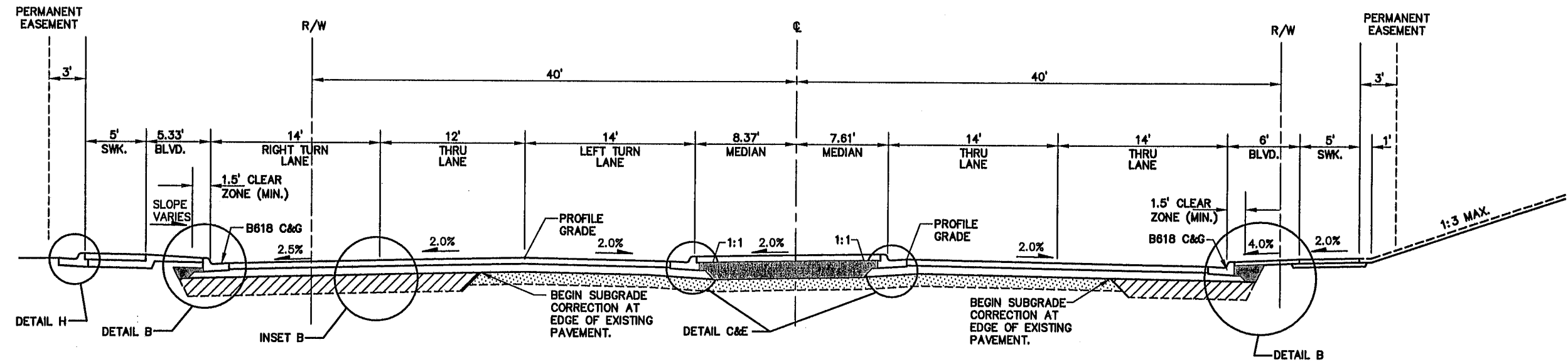
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

5 OF 6

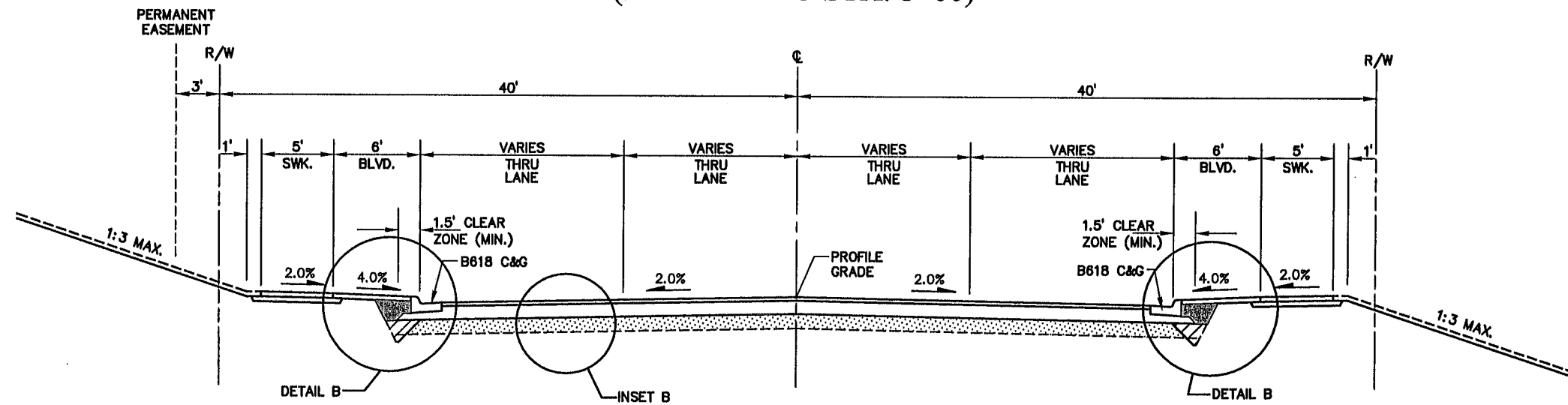
SHEET NO.
20

159

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 25, 2002 12:36pm 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

CHKED. BY: ICP DWG. NAME: 043-TP05

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)

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

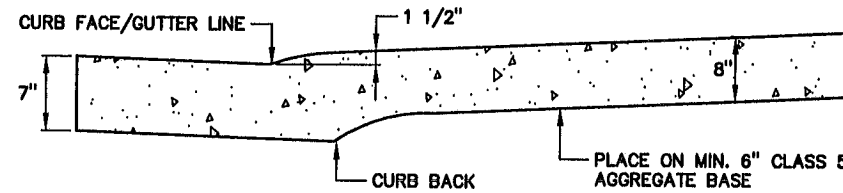
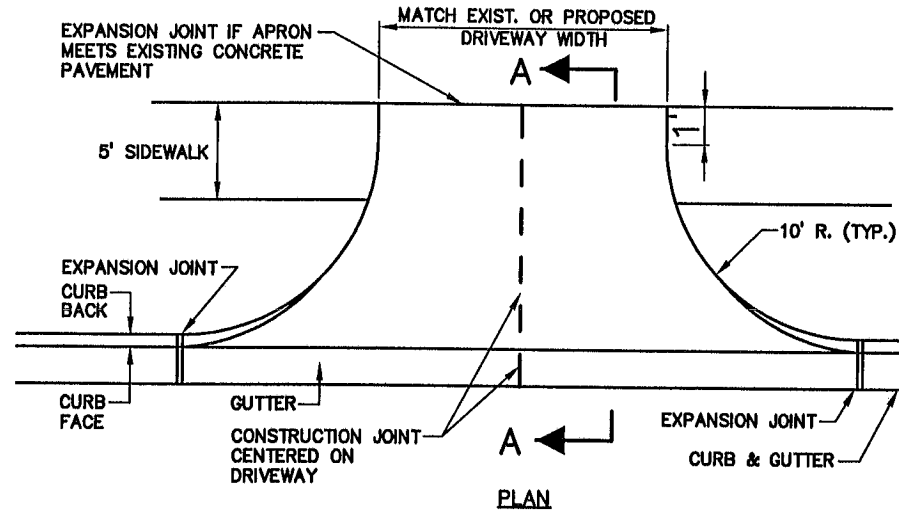
6 OF 6

SHEET NO.

21

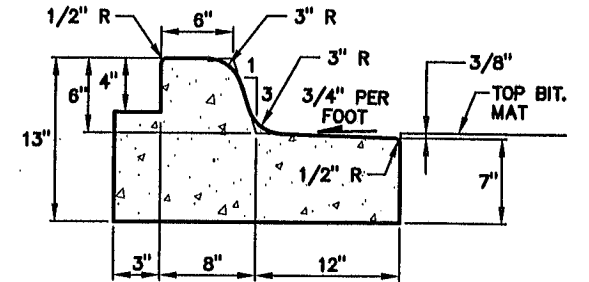
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DETAIL A—NOT USED

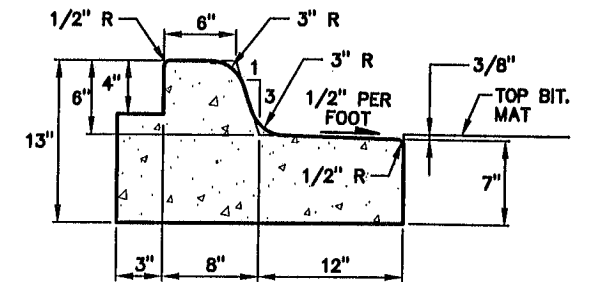


NOTE: PAID FOR AS 8" CONCRETE DRIVEWAY PAVEMENT (APRON)

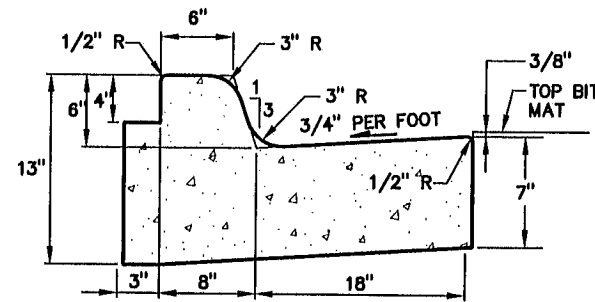
SECTION A-A
COMMERCIAL DRIVEWAY APRON
DETAIL D



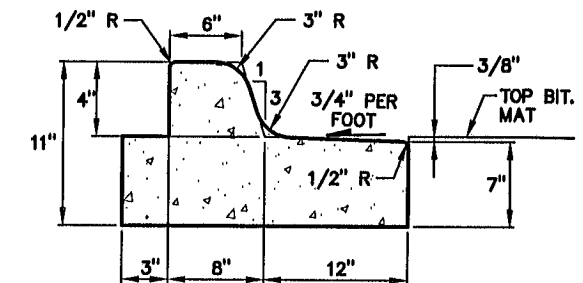
B612 CURB & GUTTER (MODIFIED)
DETAIL E



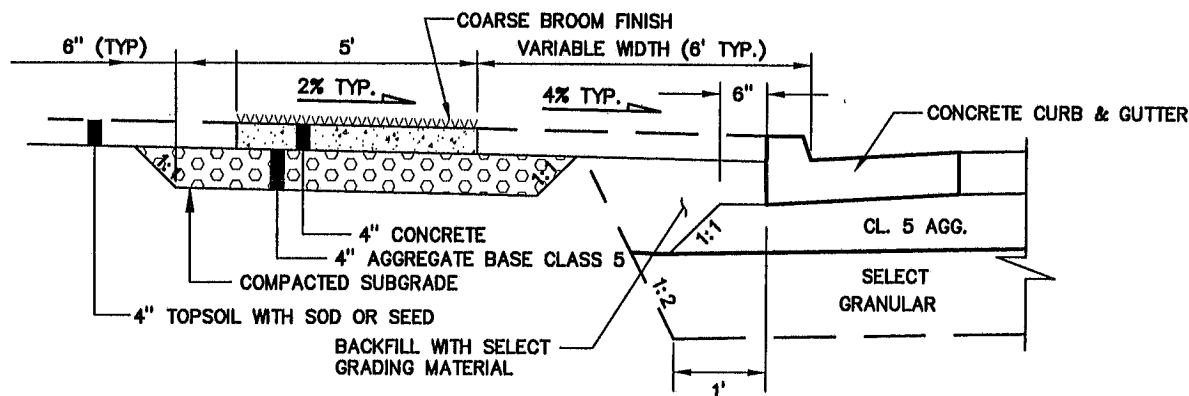
B612 OUTFALL CURB & GUTTER (MODIFIED)
DETAIL G



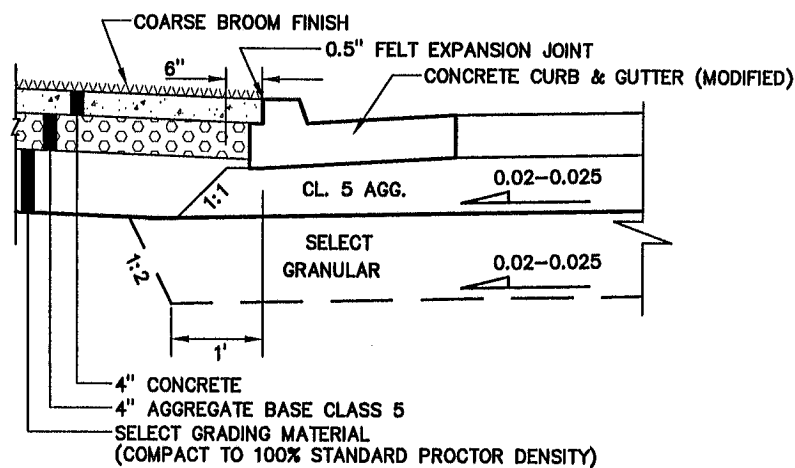
B618 CURB & GUTTER (MODIFIED)
DETAIL E



B412 CURB & GUTTER (MODIFIED)
DETAIL H



5' CONCRETE WALK
DETAIL B



CONCRETE MEDIAN/WALK
DETAIL C

PLOT DATE: Apr 27, 2002 5:40pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-DLO3.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	
DRAWN BY: HMW	DESIGN BY: HMW
CHKD. BY: ICP	DWG. NAME: 043-DLO3
DATE: APRIL 26, 2002	



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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)
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

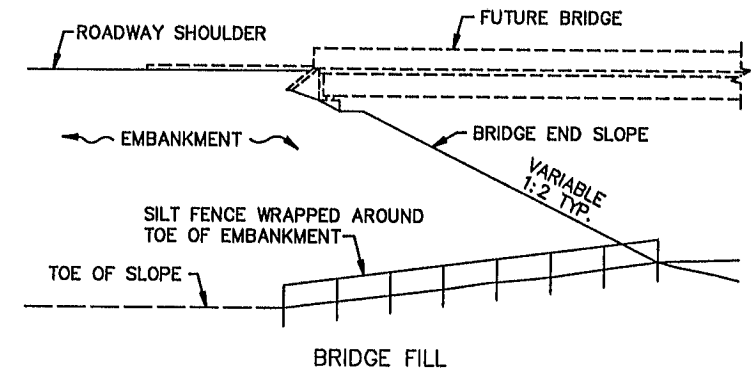
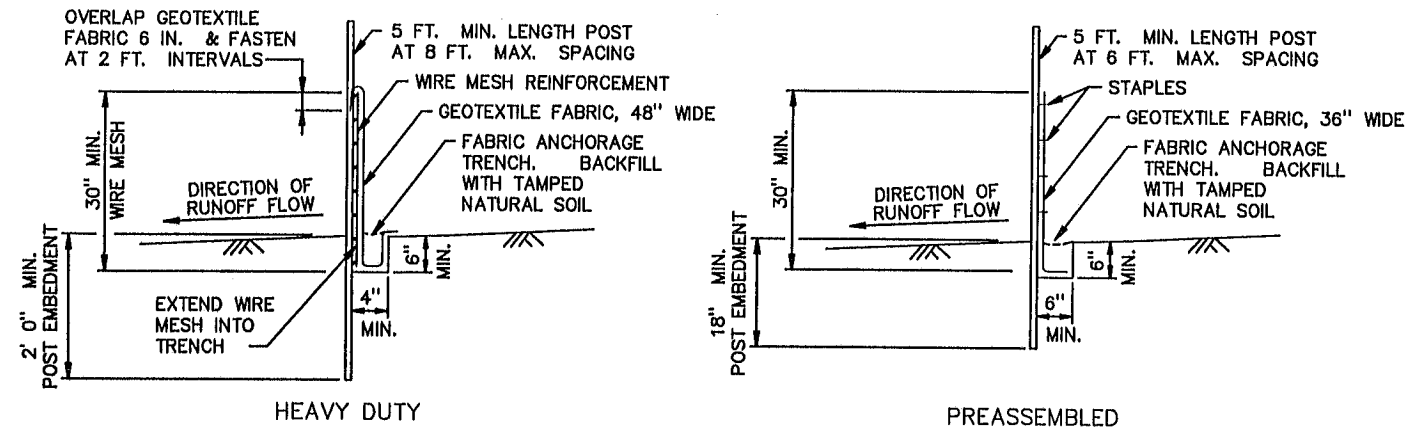
1 OF 1

SHEET NO.

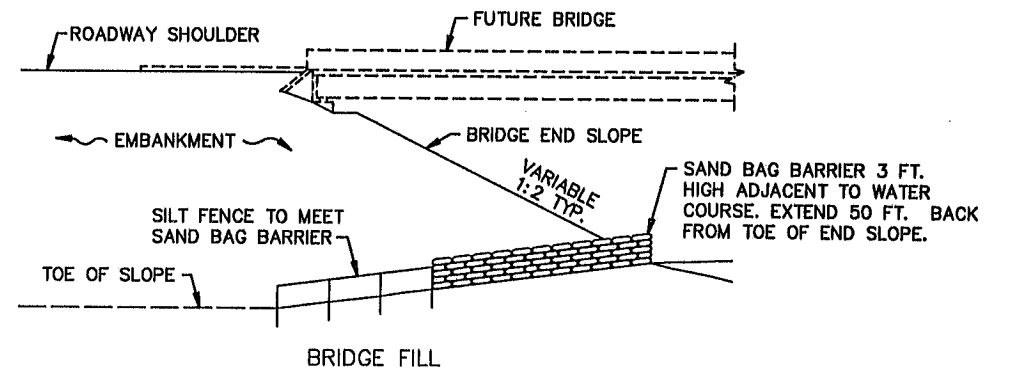
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159

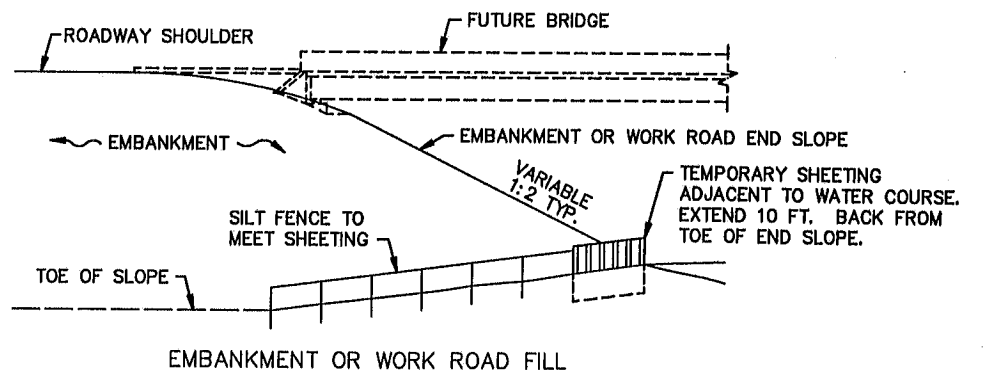
PLOT DATE: Apr 17, 2002 3:32pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\STANDARDS\S4052g01.dwg
 FILE NAME S4052G01.SPN



DESIGN GUIDELINES:
 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



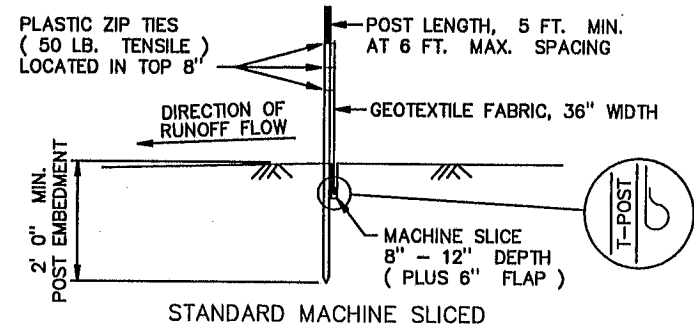
DESIGN GUIDELINES:
 MAX. WATER COURSE FLOW VELOCITY: 15 FT./SEC.
 CONTRIBUTING SLOPE AREA: 3 ACRES

SILT FENCE AT BRIDGE EMBANKMENT

NOTES:

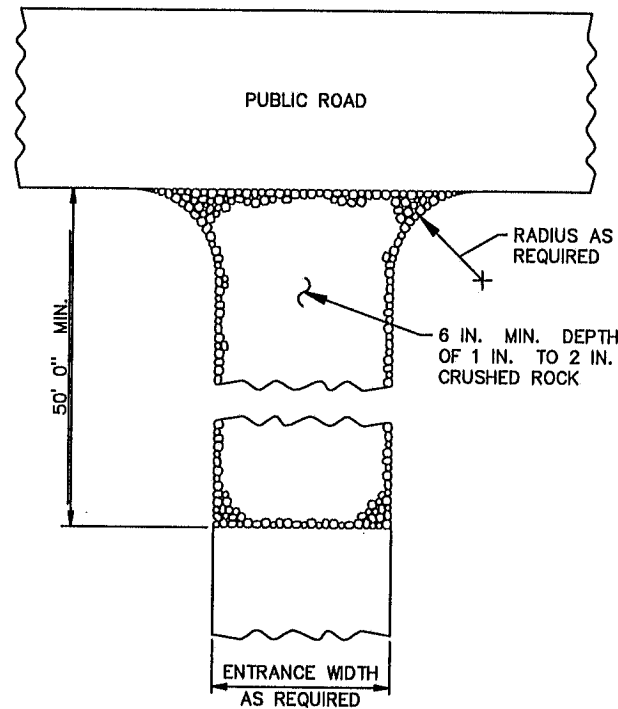
SEE SPECS. 2573 & 3886.

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.



DESIGN GUIDELINES:
 MAXIMUM CONTRIBUTING AREA: 3 ACRES

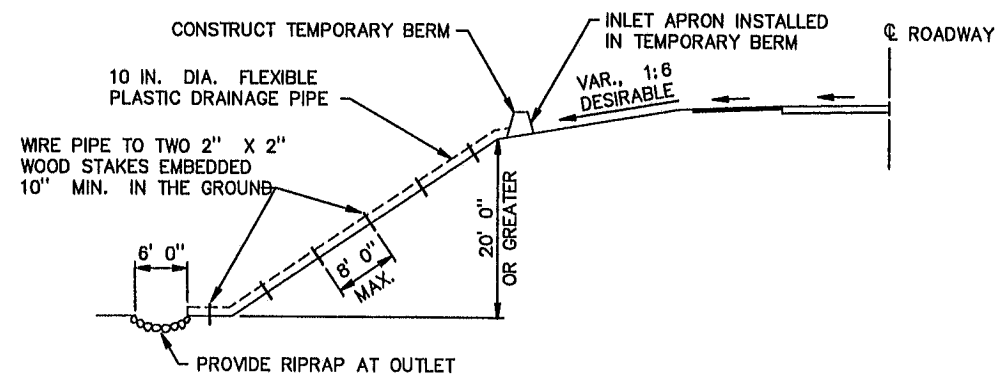
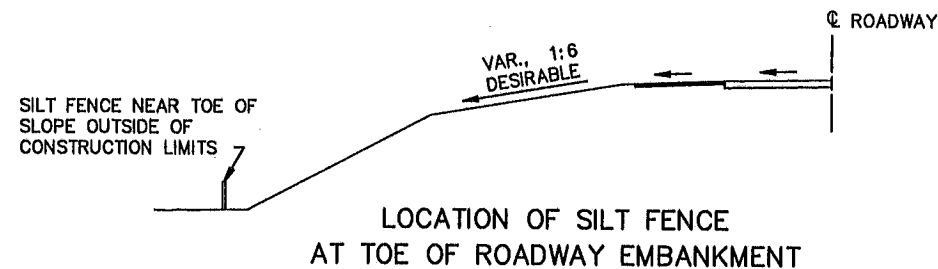
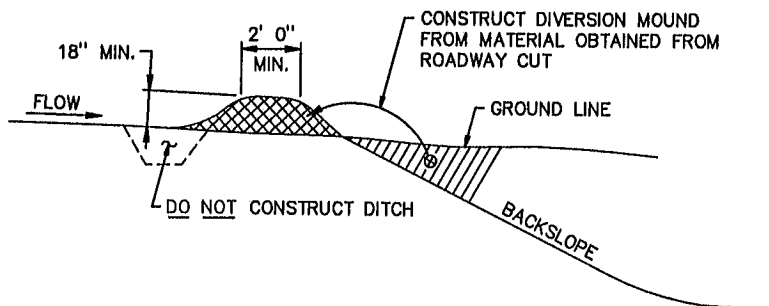
SILT FENCE DETAILS TO PROTECT AREAS FROM SHEET FLOW (SEE SPEC. 3886)



ROCK CONSTRUCTION ENTRANCE ①

DIVERSION MOUND

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



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

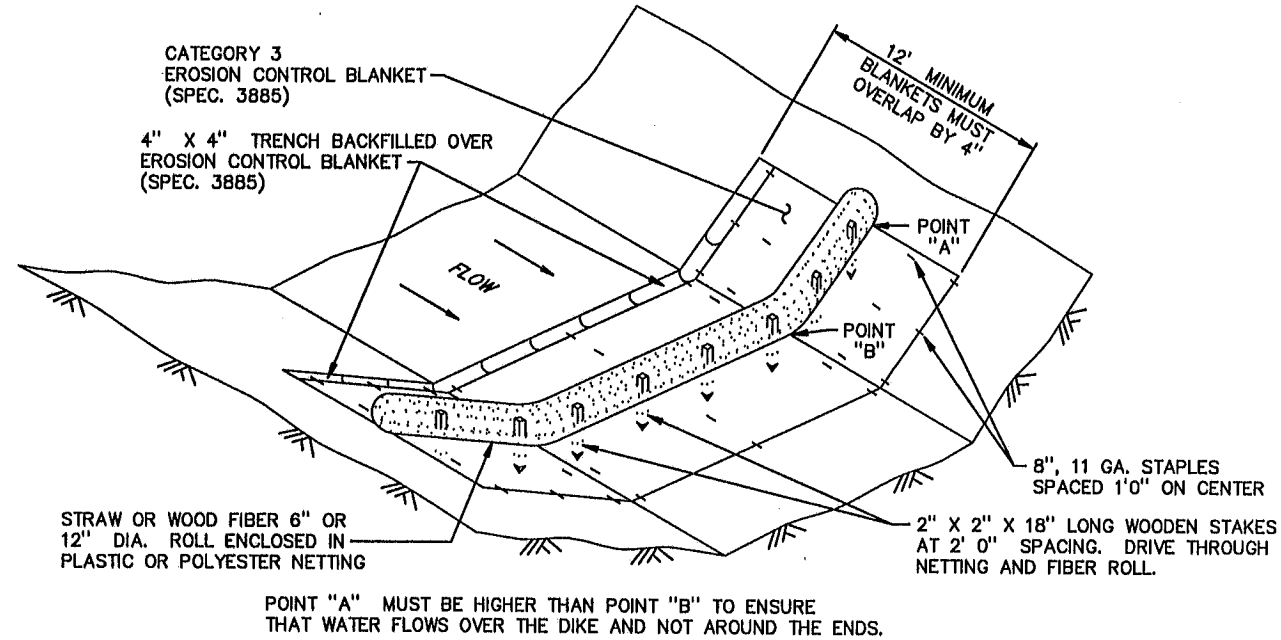
STANDARD SHEET NO.
 5-297.405 (2 OF 4)
 STANDARD APPROVED:
 JULY 30, 2001

TITLE:
TEMPORARY EROSION CONTROL

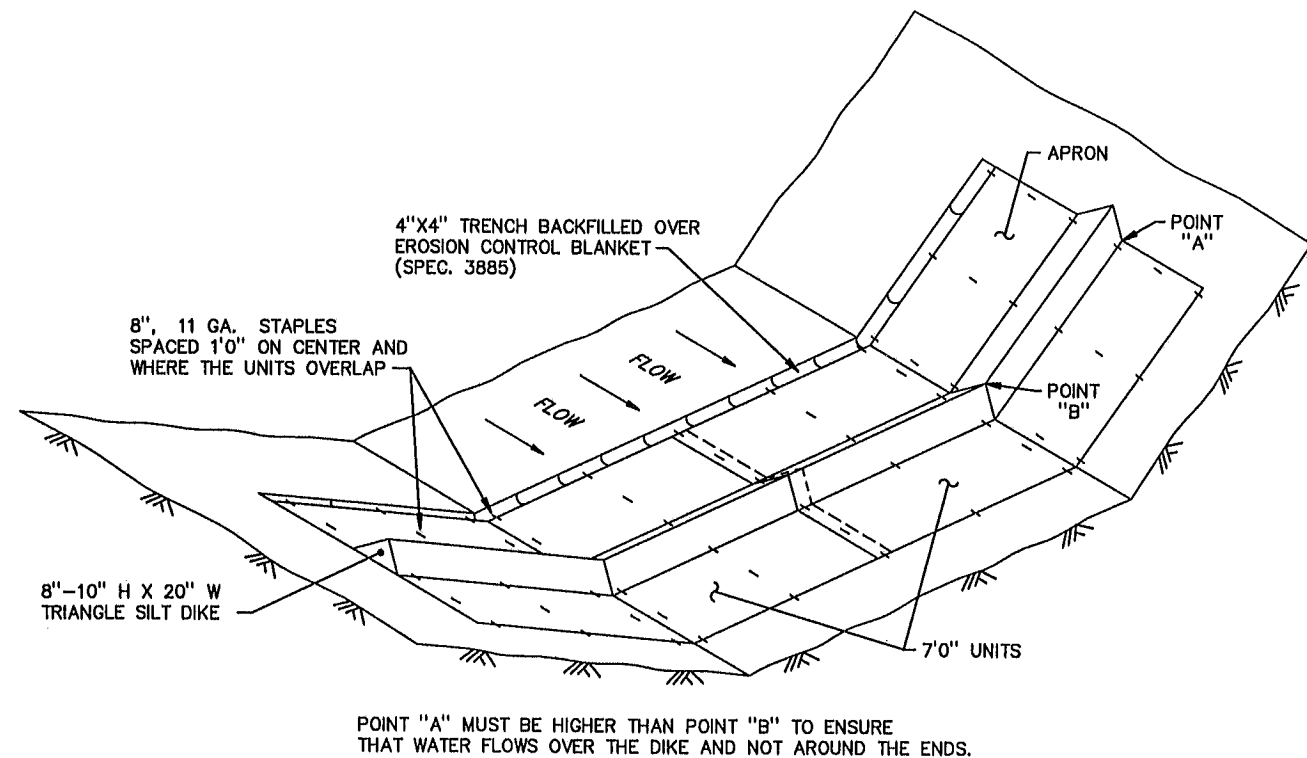
STATE PROJ. NO.

SHEET NO. 23 OF 159 SHEETS

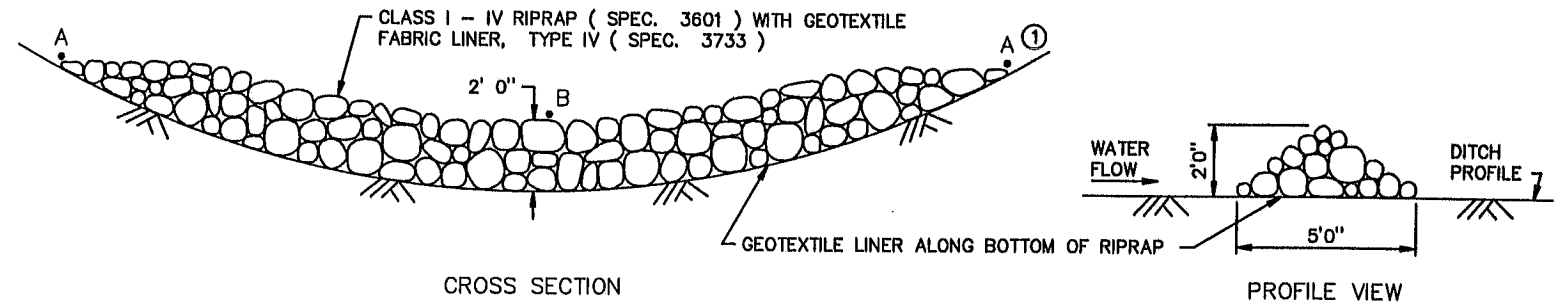
PLOT DATE: Apr 17, 2002 3:54pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\STANDARDS\94053G01.dwg
 FILE NAME S4053G01.SPN



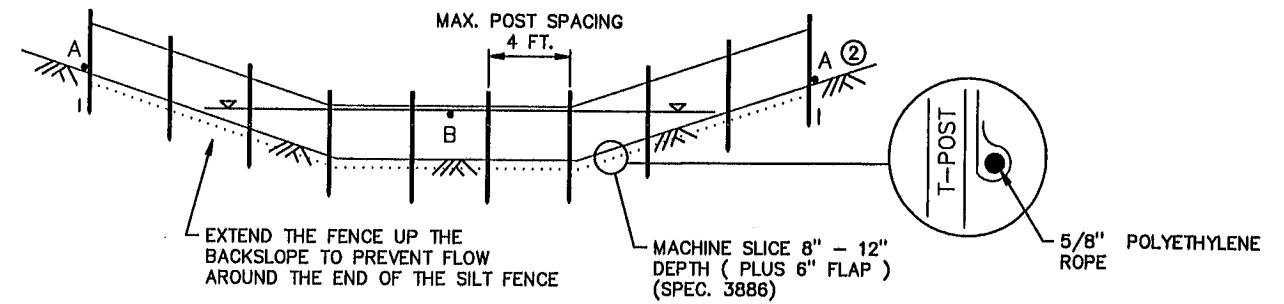
BIOROLL BLANKET SYSTEM
(TYPE 3 SPEC. 3889)



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

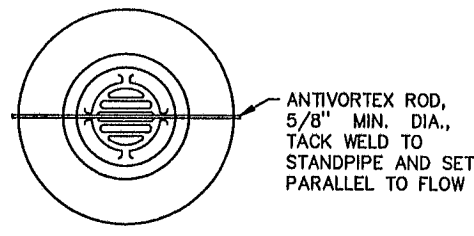
NOTE:
 WHEN SEDIMENT BUILD UP REACHES 1.5 FT., THE SILT SHOULD BE REMOVED OR A SECOND SILT FENCE BUILT UPSTREAM FROM THE EXISTING ONE AT A SUITABLE DISTANCE.

MACHINE SLICED
(TYPE 1 SPEC. 3889)

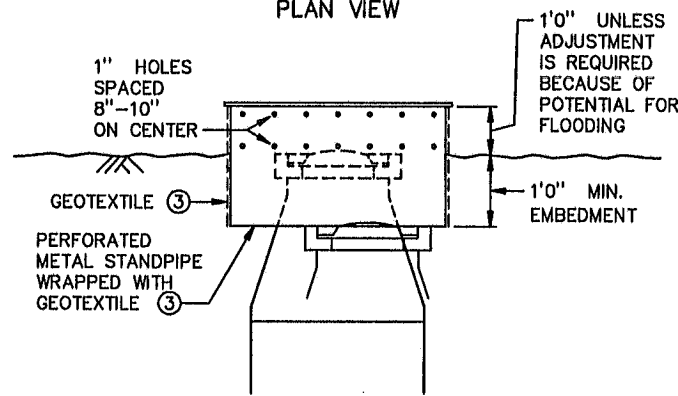
NOTES:
 SEE SPECS. 2573, 3885, 3886 & 3889.
 SPACING OF DITCH CHECKS IS DEPENDENT ON DRAINAGE AREA AND GRADES. SEE DISTRICT HYDRAULICS ENGINEER FOR RECOMMENDATIONS.
 ① POINT A MUST BE 2'6" MIN. HIGHER THAN POINT B.
 ② POINT A MUST BE 2'0" MIN. HIGHER THAN POINT B.

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\4054g01.dwg
 FILE NAME S4054g01.SPN



PLAN VIEW



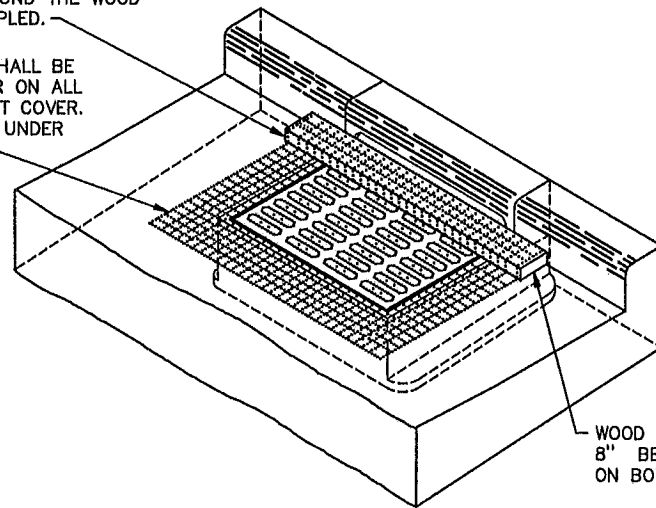
ELEVATION

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

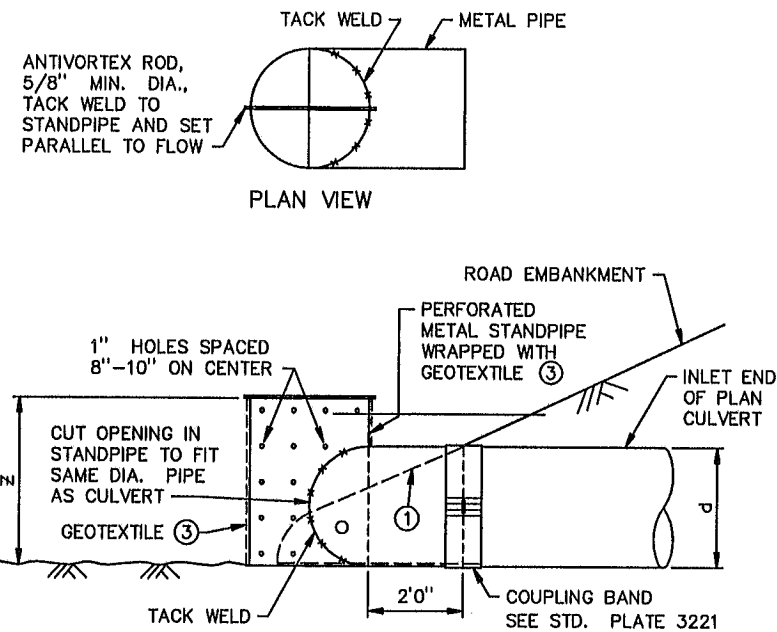
DESIGN GUIDELINES:
STORM FREQUENCY: 10 YEAR. - 24 HOUR.

AN ADDITIONAL 18" OF GEOTEXTILE
IS WRAPPED AROUND THE WOOD
2"x 4" AND STAPLED.

GEOTEXTILE SIZE SHALL BE
8" MIN. GREATER ON ALL
SIDES OF THE INLET COVER.
PLACE GEOTEXTILE UNDER
INLET COVER. ③



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



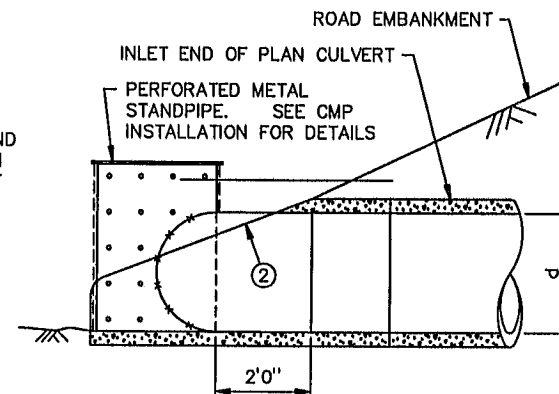
ELEVATION OF CMP INSTALLATION

RISER STANDPIPE

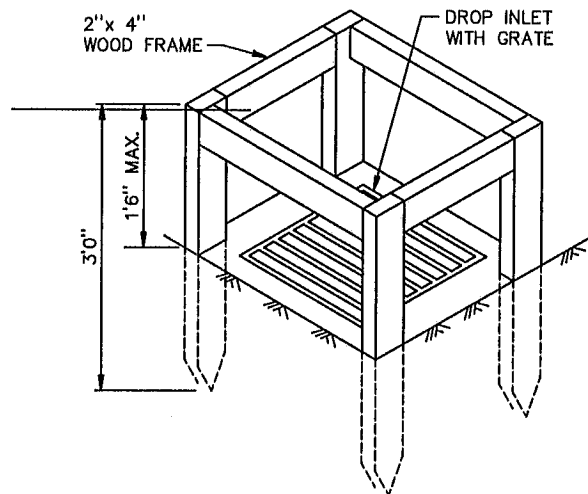
FOR SEDIMENT CONTROL ON CULVERT INLET
(TYPE D SPEC. 3891)

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

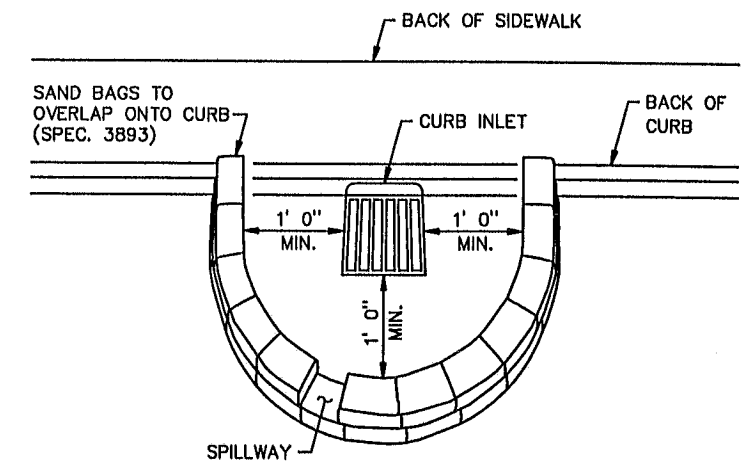
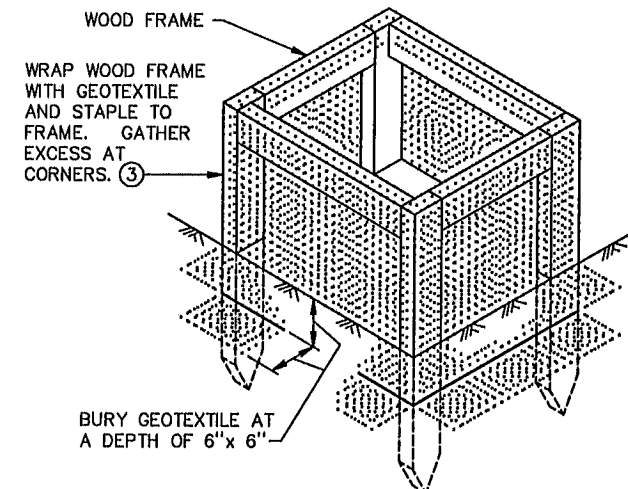
DESIGN GUIDELINES:
CULVERT SIZE: 12" - 36"
STORM FREQUENCY: 10 YR. - 24 HR.



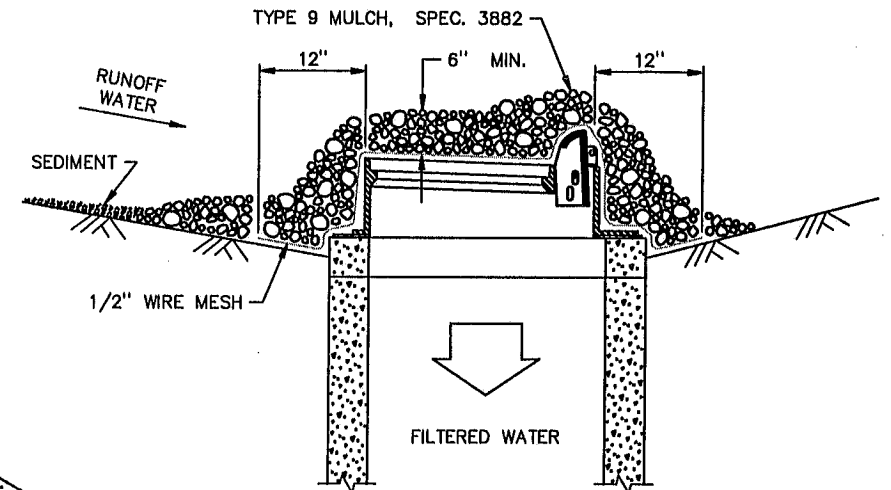
ELEVATION OF RCP INSTALLATION



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



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)



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)
STANDARD APPROVED:
JULY 30, 2001

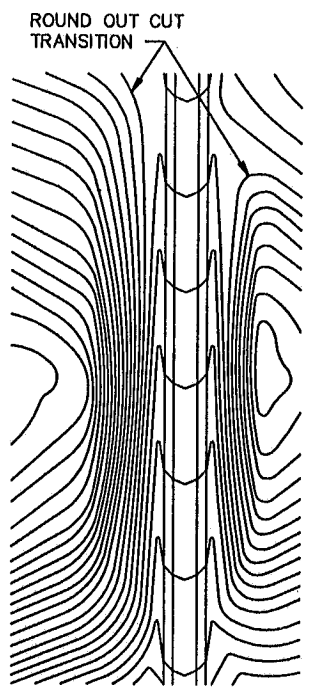
TITLE:

TEMPORARY EROSION CONTROL
TEMPORARY INLET PROTECTION

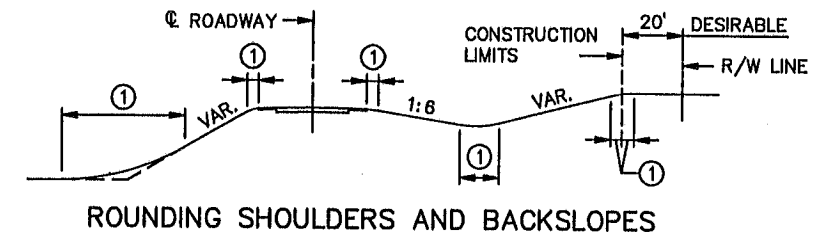
STATE PROJ. NQ

SHEET NO. 25 OF 159 SHEETS

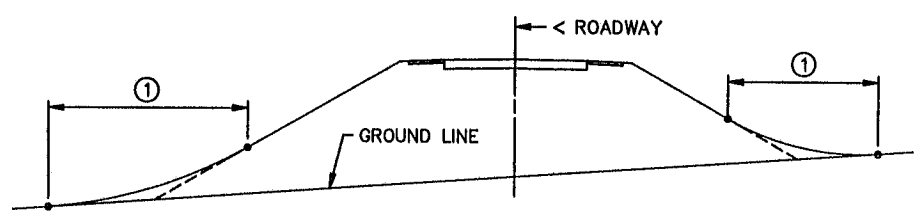
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 FILE NAME S404190.SPN



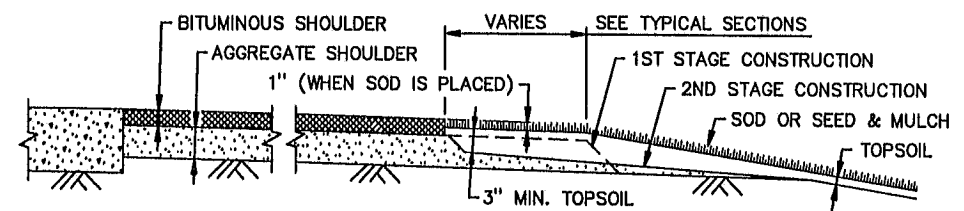
CONTOURING ROAD CUTS



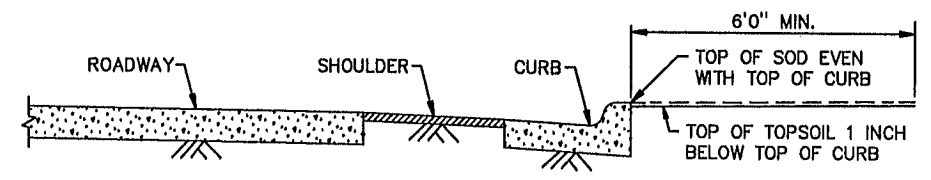
ROUNDING SHOULDERS AND BACKSLOPES



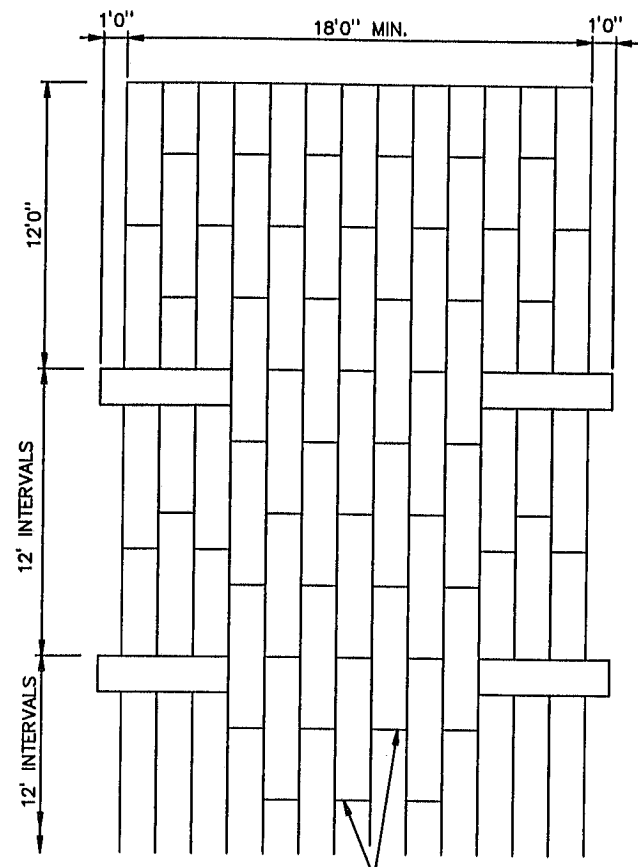
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



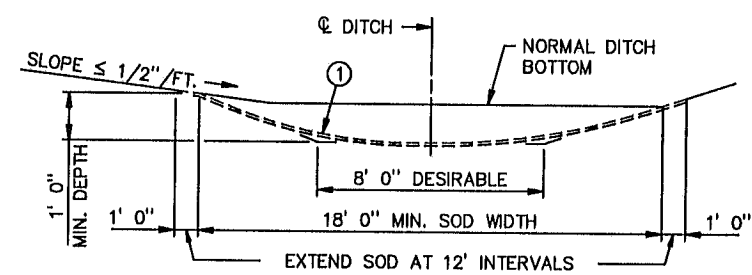
SHAPING AND TOPSOILING INSLOPES



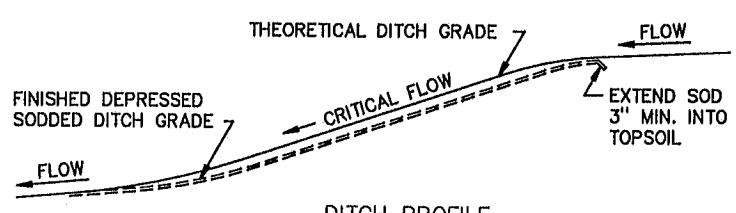
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



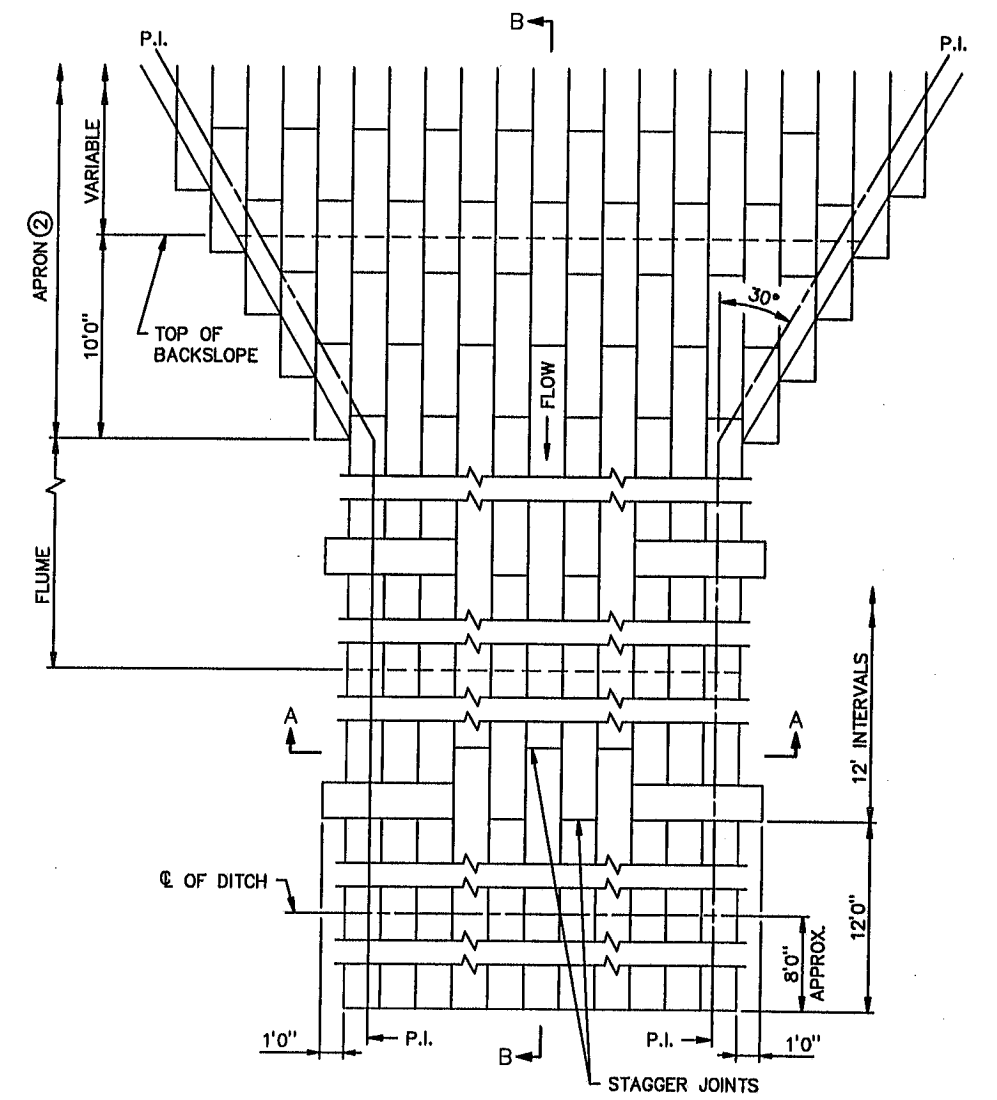
PLAN VIEW



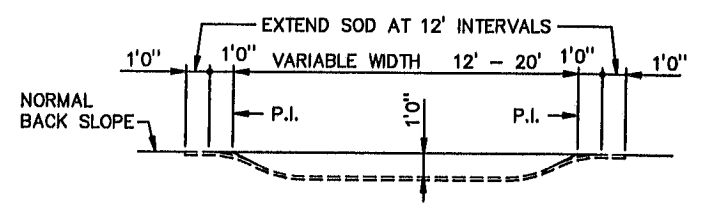
SODDED DITCH CROSS SECTION WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



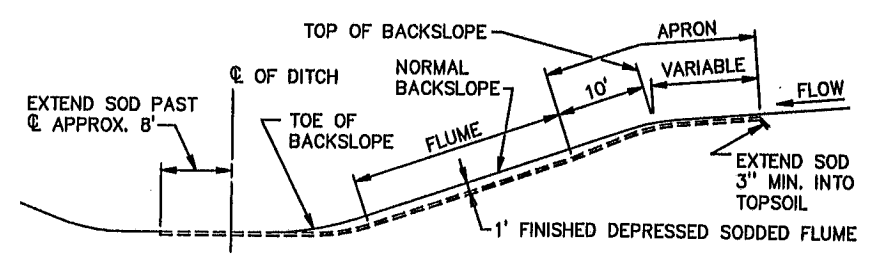
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



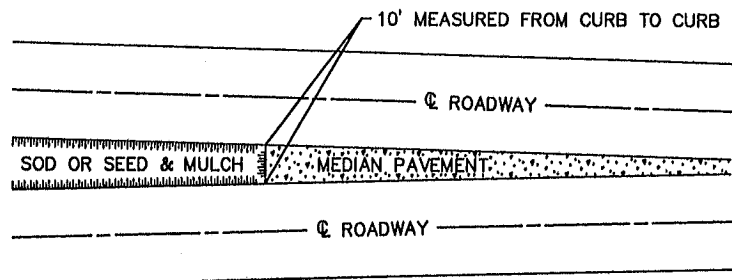
SODDED FLUME DETAILS

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

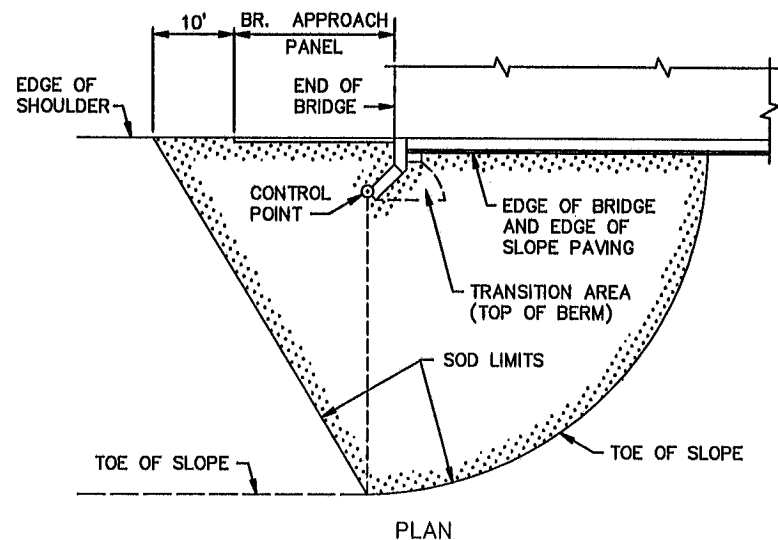
STANDARD SHEET NO. 5-297.404	TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS, DITCHES AND FLUMES
STANDARD APPROVED: DECEMBER 19, 1990	
STATE PROJ. NQ	SHEET NO. 26 OF 159 SHEETS

REVISION DATE
10-26-2000

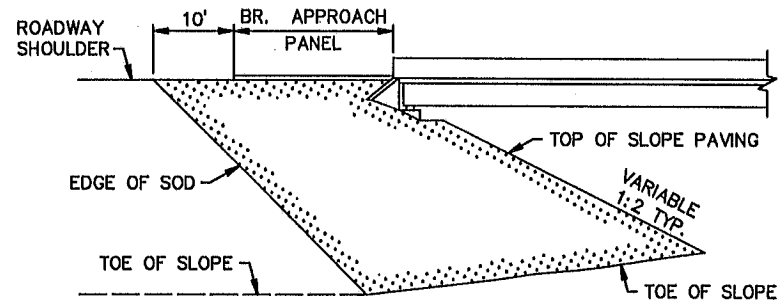
PLOT DATE: Apr 17, 2002 3:37pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\STANDARDS\8-16-85.dwg
 FILE NAME S406A85.SPN



SODDING LIMITS AT GORE AREA

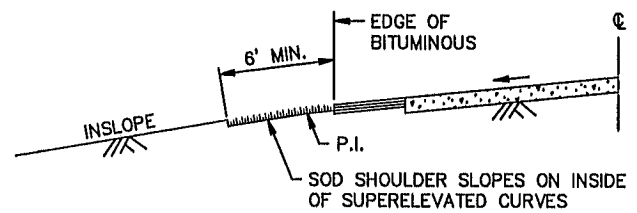


PLAN

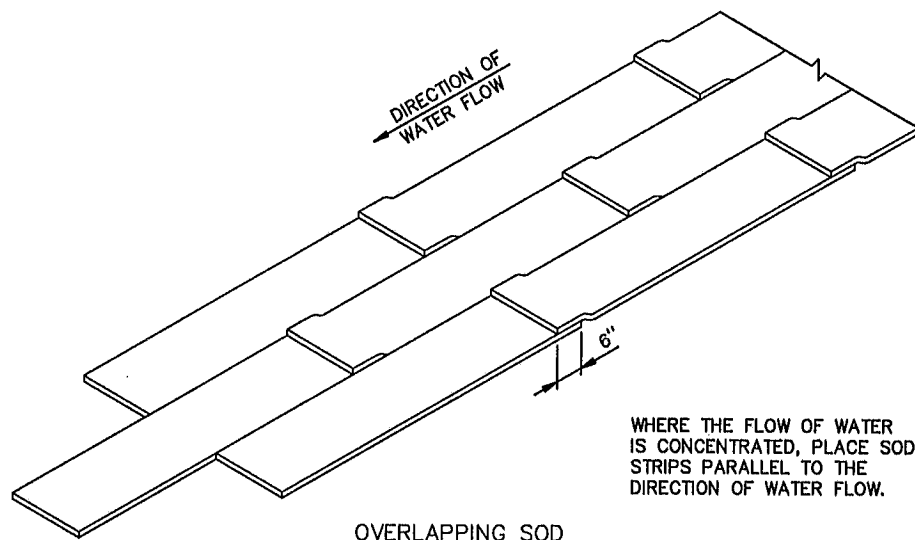


ELEVATION

SODDING LIMITS AT BRIDGE APPROACH FILLS

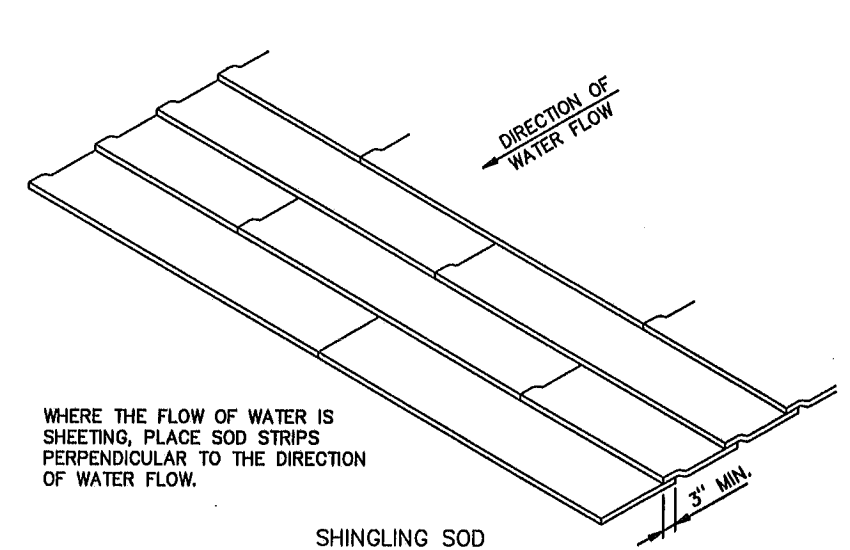


SODDING INSLOPES OF SUPERELEVATED CURVES



OVERLAPPING SOD

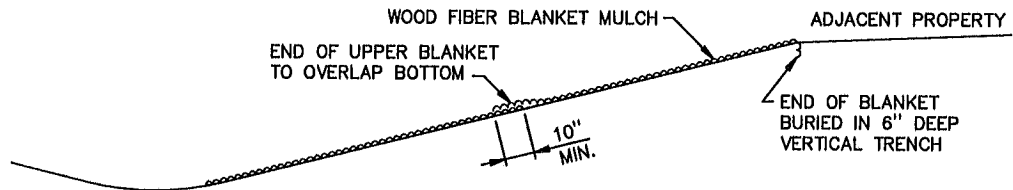
WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.



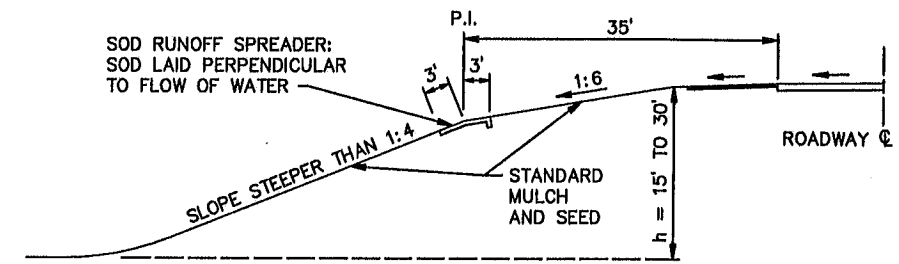
SHINGLING SOD

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

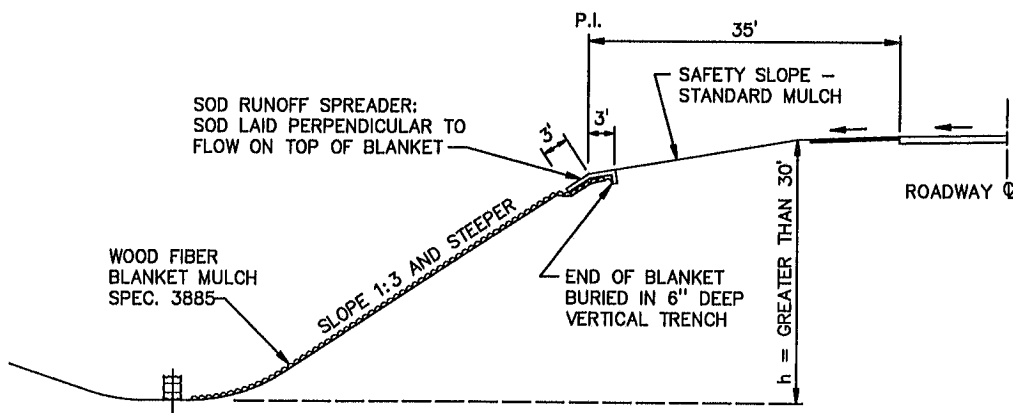
SPECIAL SOD PLACEMENT TECHNIQUES



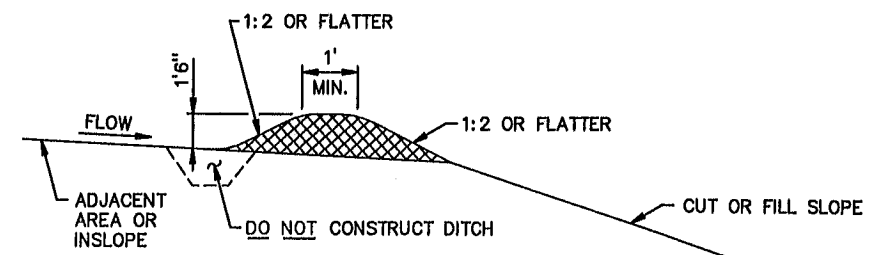
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



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:
STANDARD APPROVED: JANUARY 31, 1985	PERMANENT EROSION CONTROL ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS
REVISION DATE 10-26-2000	STATE PROJ. NO.

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
29	PAY ITEM TABULATION SHEET
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 02 4:56pm DISK FILE NAME: (15.05) R: \33889\33889043\PLAN-SHT\043-TC01.dwg

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



Thresher Square
700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tlx
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: 4/28/02 MN LIC. NO. 23197

NORTHDAL E 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

1 OF 3

SHEET NO. 28

159

PLOT DATE: May 11 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
1	JJL	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-TC02
	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
 DATE: 4/25/02 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

2 OF 3

SHEET NO.	29
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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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: JRL DESIGN BY: JRM

CHKD. BY: ICP DWG. NAME: 043-TC23

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)
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

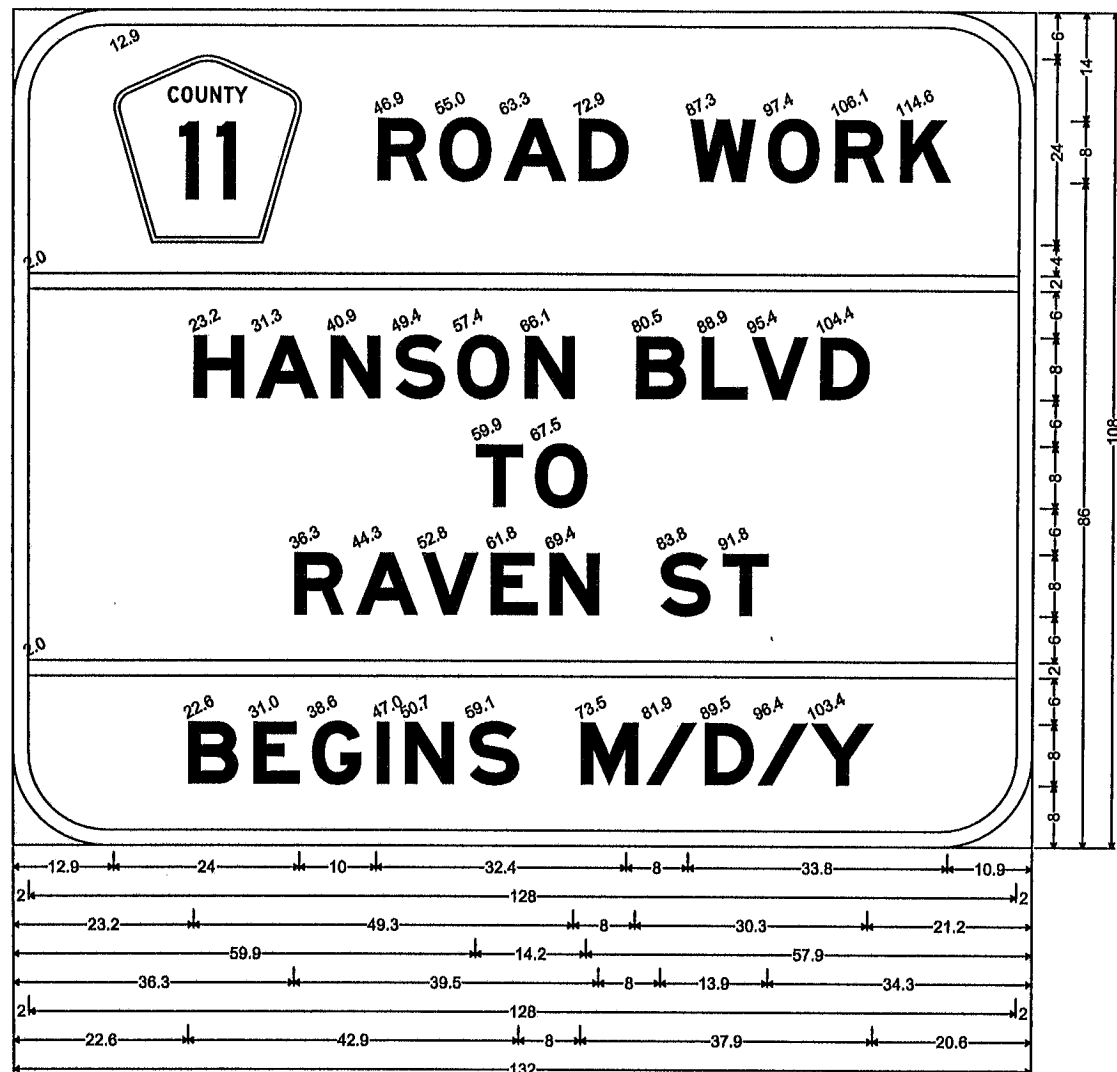
3 OF 3

SHEET NO.

30

159

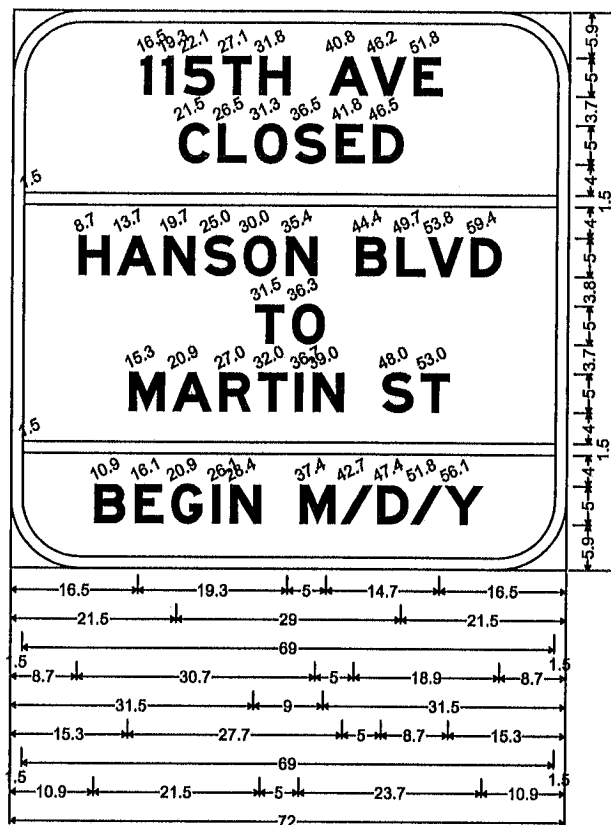
WZ-1



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

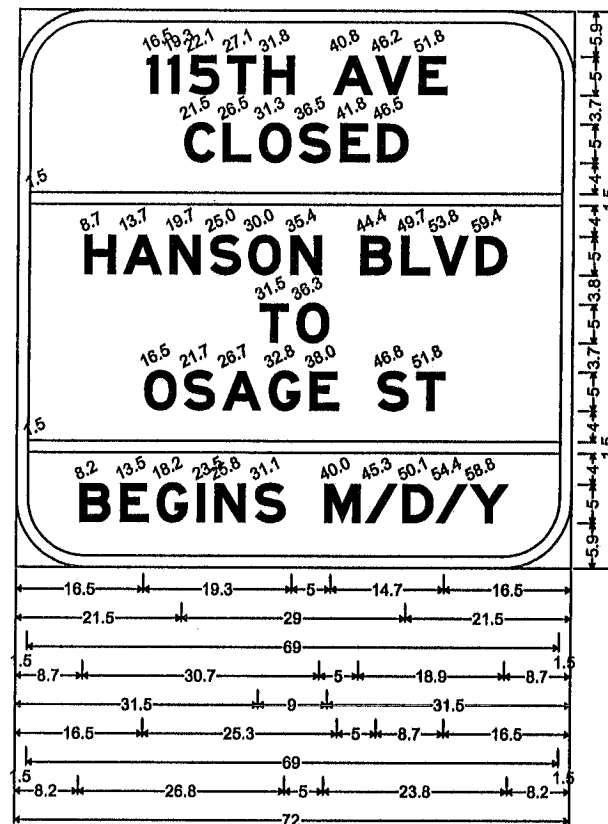
WZ-2



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

DESIGN FILE:
33889-043

DRAWN BY:
JRL

DESIGN BY:
JRM

CHKD. BY:
ICP

DWG. NAME:
043-TC03

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)
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

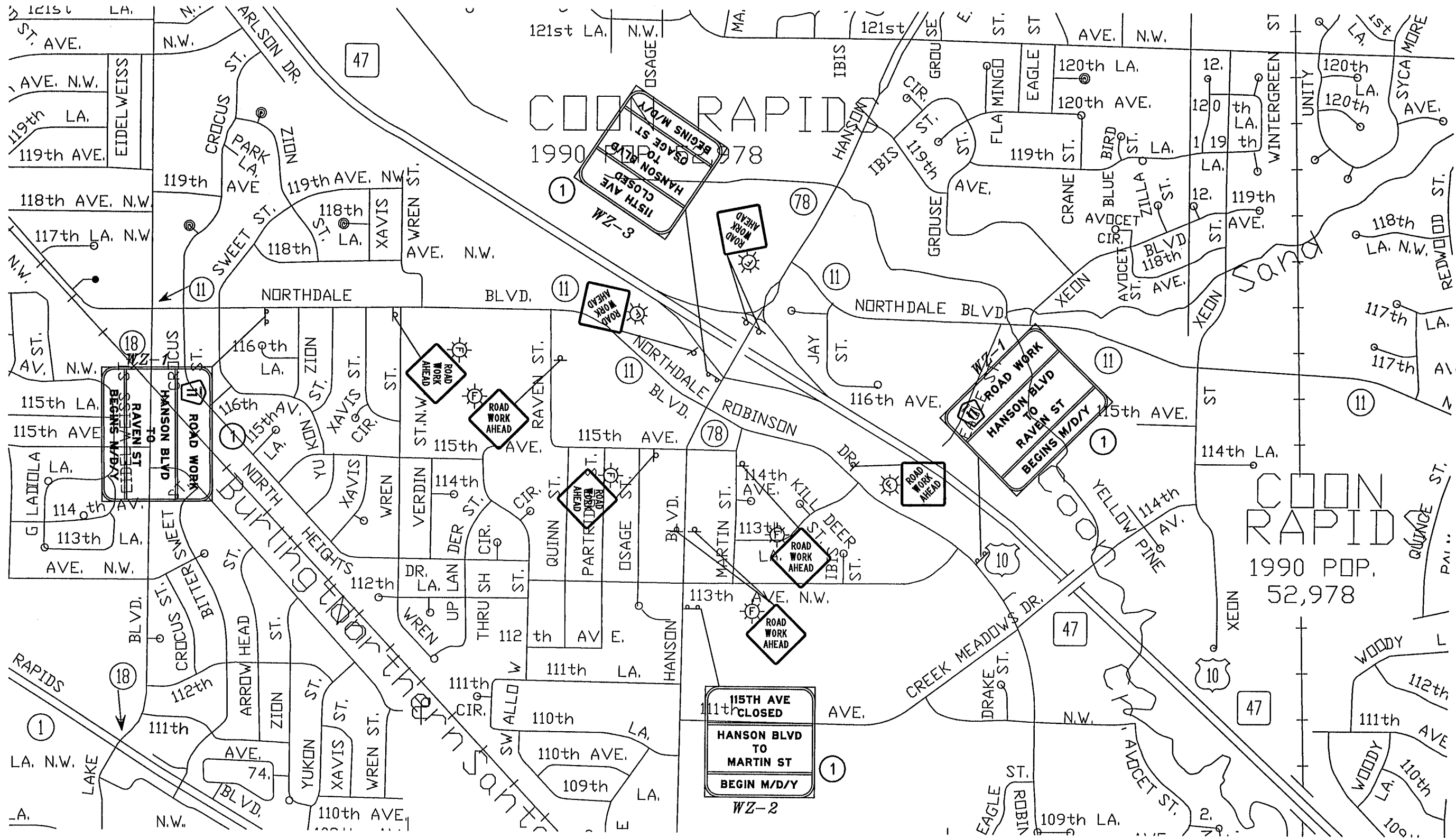
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SHEET NO.

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

DESIGN FILE:
33889-043
DRAWN BY: JRL
DESIGN BY: JRM
CHKD. BY: ICP
DWG. NAME: 043-TC04
DATE: APRIL 26, 2002



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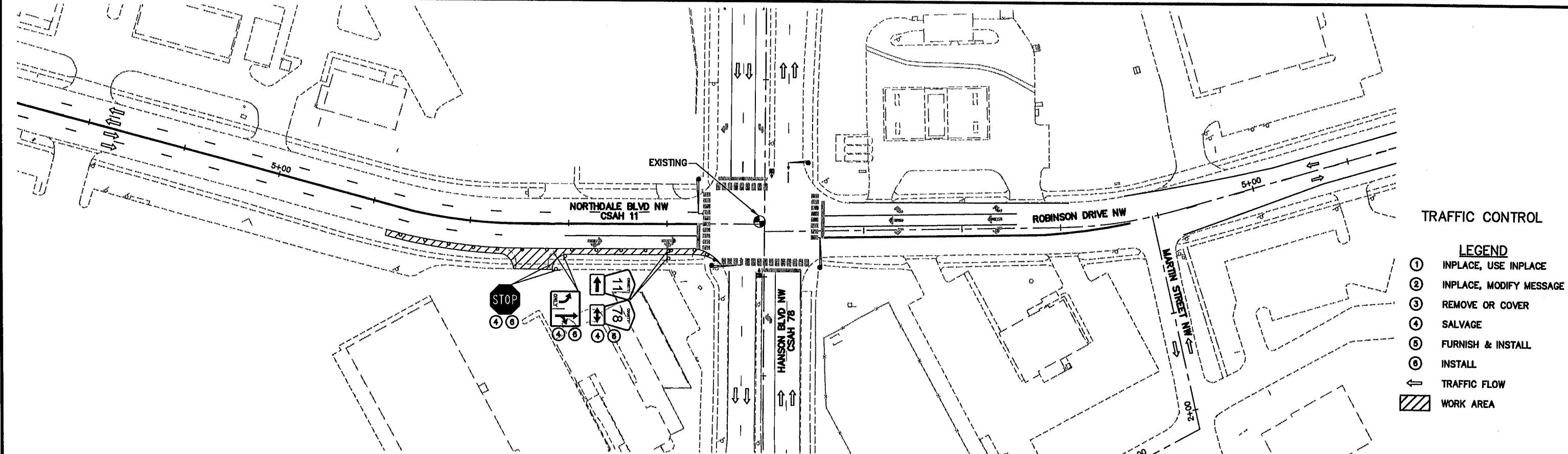
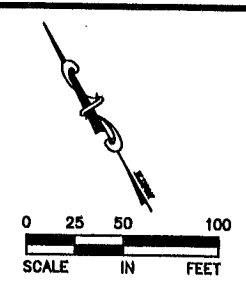
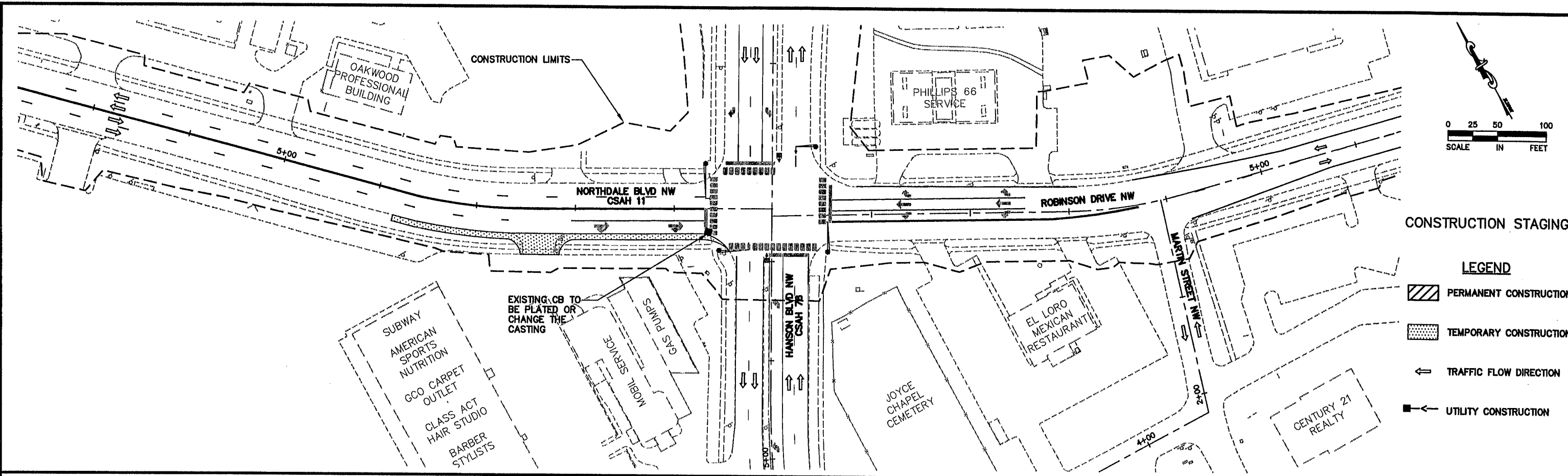
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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

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.
32
159

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



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: JRL DESIGN BY: JRM

CHKD. BY: ICP DWG. NAME: 043-TC06

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)
NORTHDALE BLVD.
CONSTRUCTION STAGING
& TRAFFIC CONTROL
STAGE 1 PHASE 1

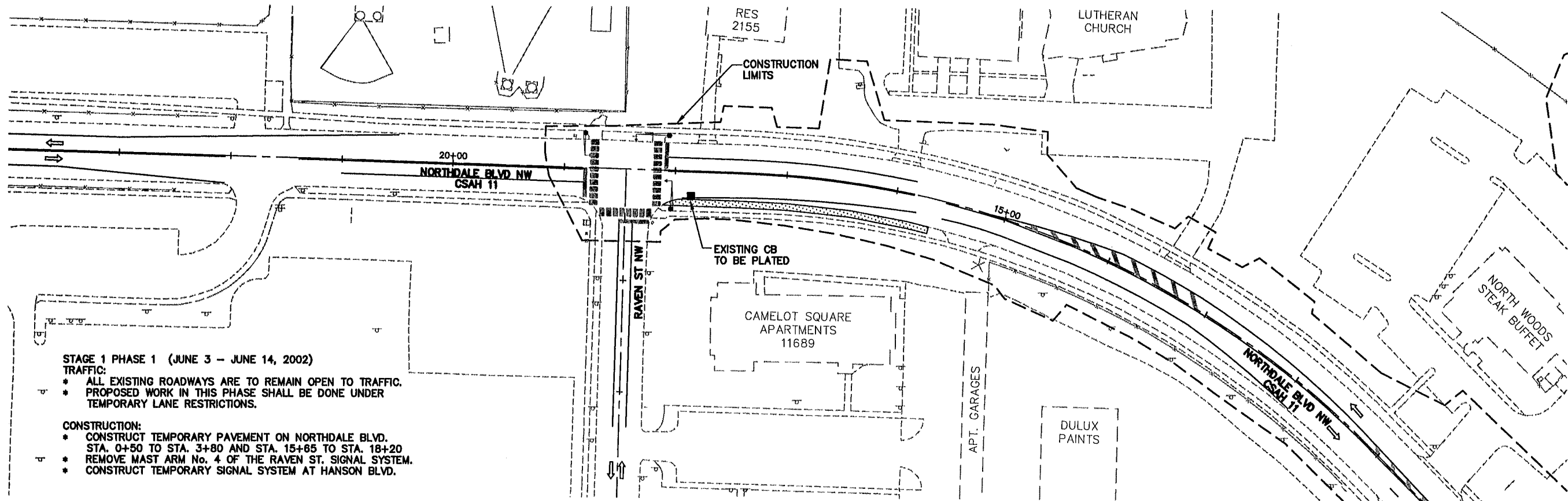
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COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

1 OF 2

SHEET NO.
33

159

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

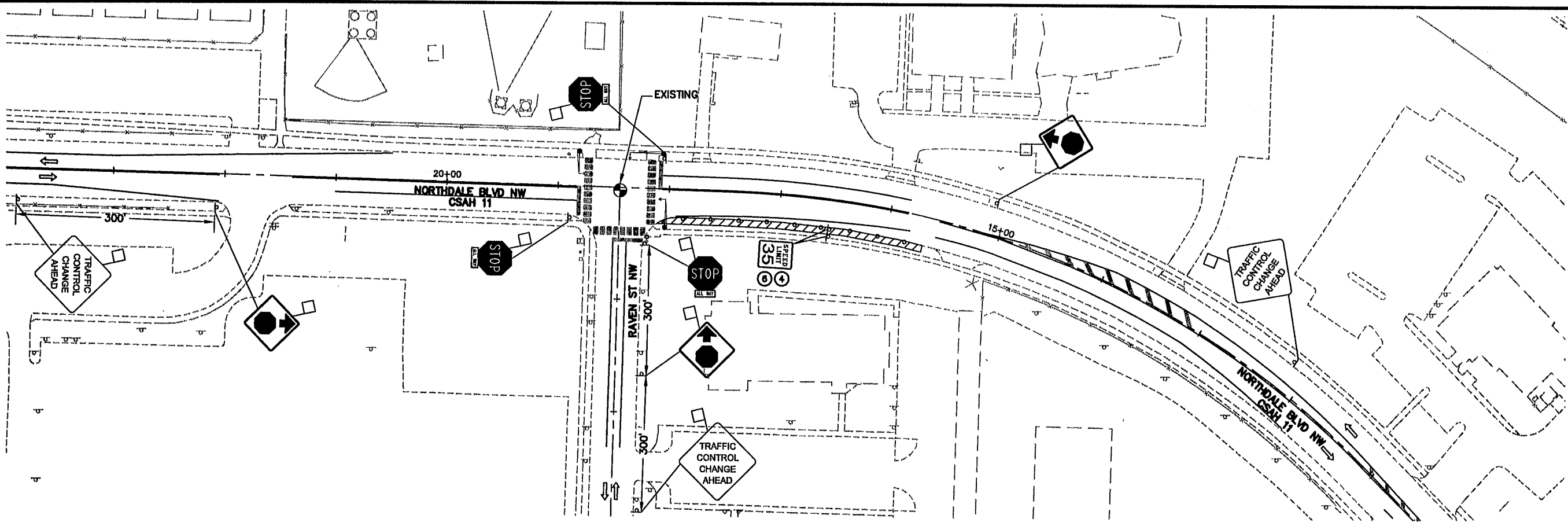


STAGE 1 PHASE 1 (JUNE 3 - JUNE 14, 2002)
TRAFFIC:
 * ALL EXISTING ROADWAYS ARE TO REMAIN OPEN TO TRAFFIC.
 * PROPOSED WORK IN THIS PHASE SHALL BE DONE UNDER TEMPORARY LANE RESTRICTIONS.
CONSTRUCTION:
 * CONSTRUCT TEMPORARY PAVEMENT ON NORTHDAL BLVD. STA. 0+50 TO STA. 3+80 AND STA. 15+65 TO STA. 18+20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

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
1	JRL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

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



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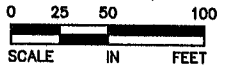
Paul B. Danielson
 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23197

**NORTHDAL BOULEVARD
 (C.S.A.H. 11)
 NORTHDAL BLVD.
 CONSTRUCTION STAGING
 & TRAFFIC CONTROL
 STAGE 1 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.
34
 159

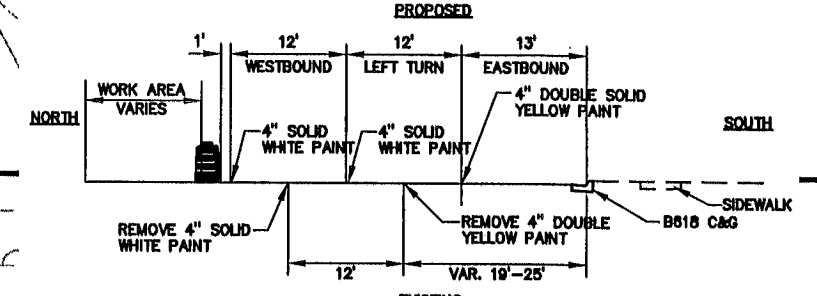
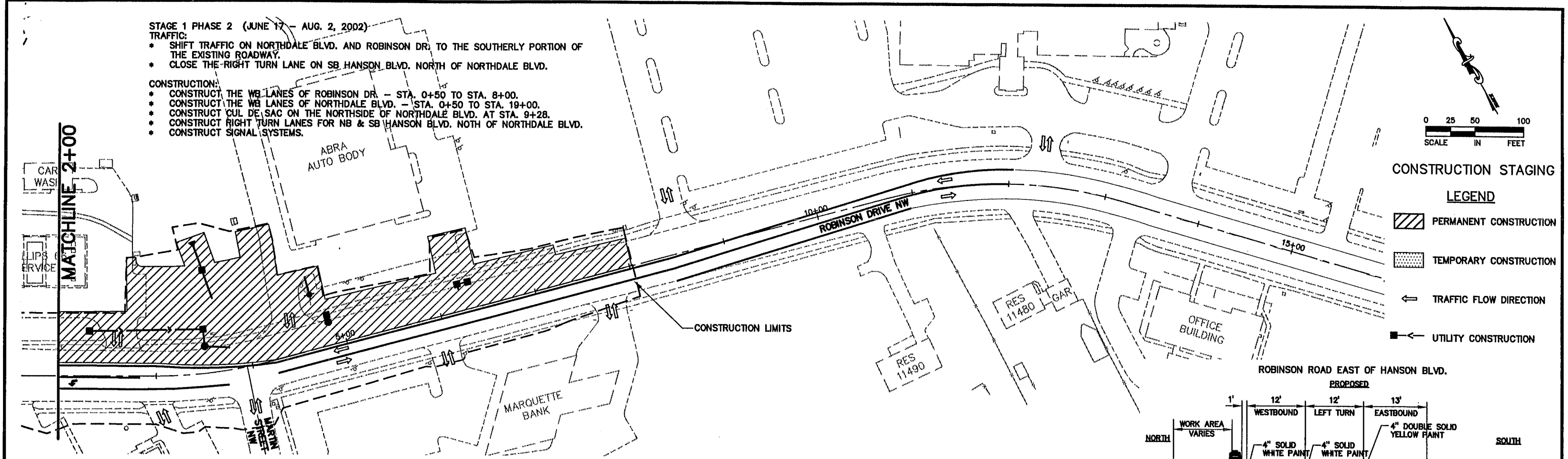
- STAGE 1 PHASE 2 (JUNE 17 - AUG. 2, 2002)
- TRAFFIC:
- * SHIFT TRAFFIC ON NORTHDALE BLVD. AND ROBINSON DR. TO THE SOUTHERLY PORTION OF THE EXISTING ROADWAY.
 - * CLOSE THE RIGHT TURN LANE ON SB HANSON BLVD. NORTH OF NORTHDALE BLVD.
- CONSTRUCTION:
- * CONSTRUCT THE WB LANES OF ROBINSON DR. - STA. 0+50 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

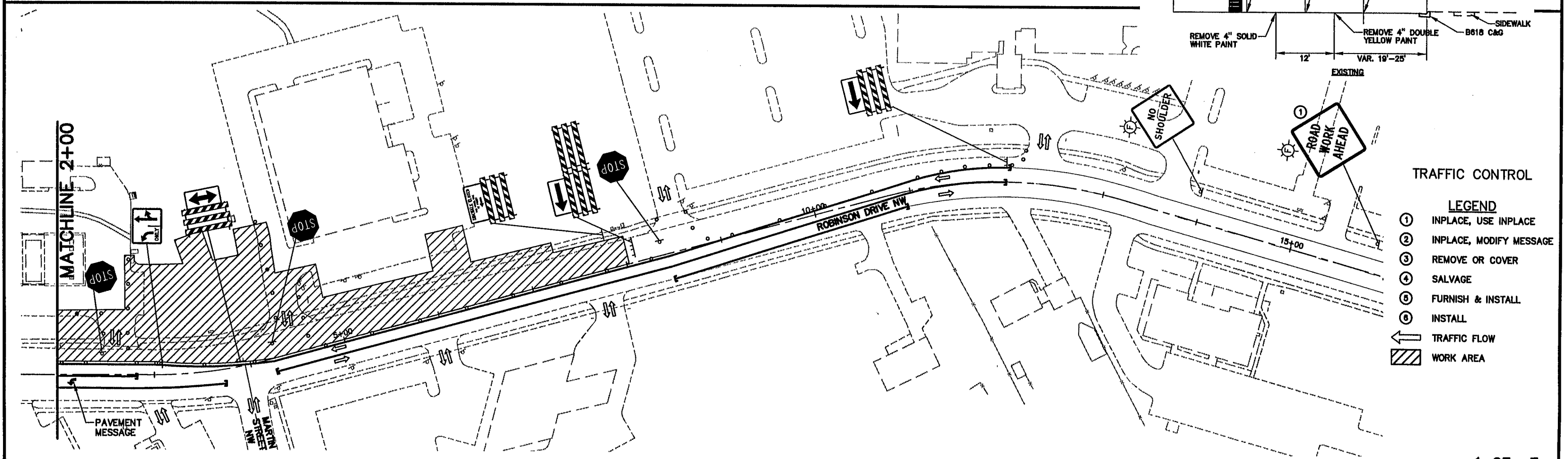
- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- UTILITY CONSTRUCTION



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 02 4:56pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC07.dwg

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



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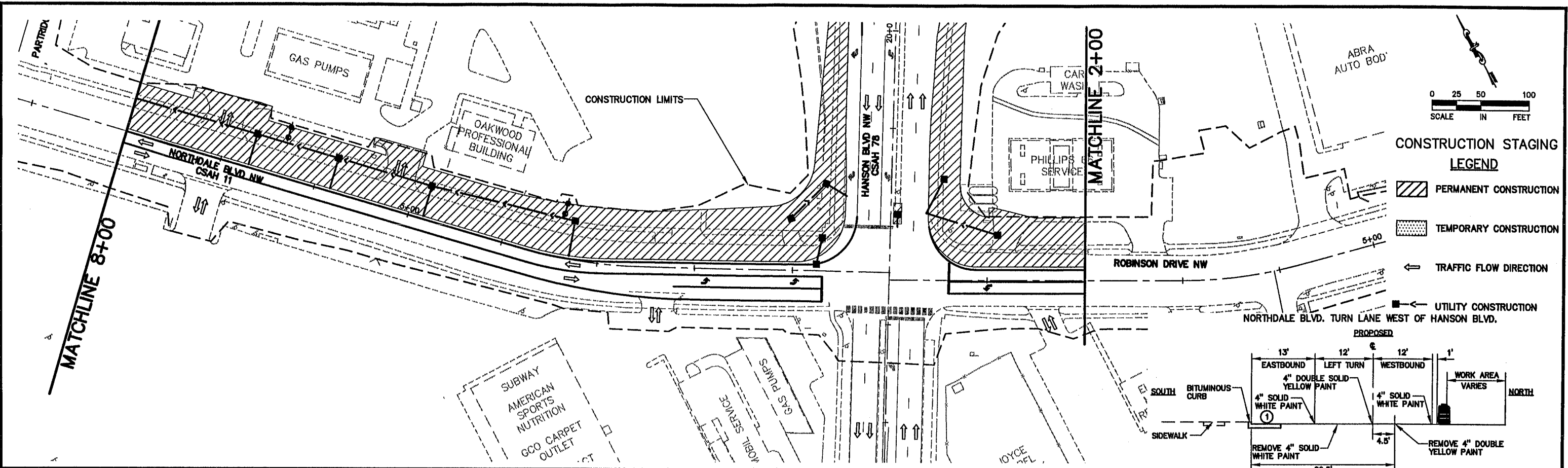
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

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

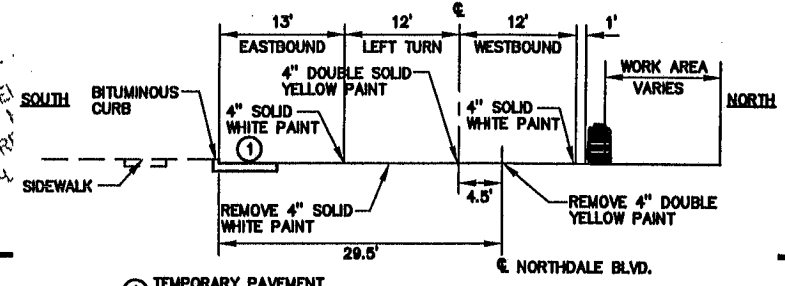
1 OF 7
SHEET NO. 35
159

PLOT DATE: Apr 26, 2002 10:06am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC08.dwg

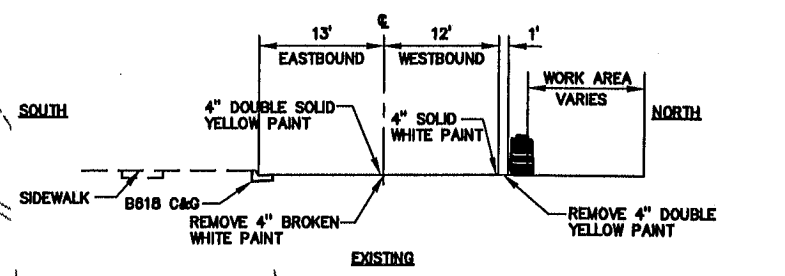


CONSTRUCTION STAGING LEGEND

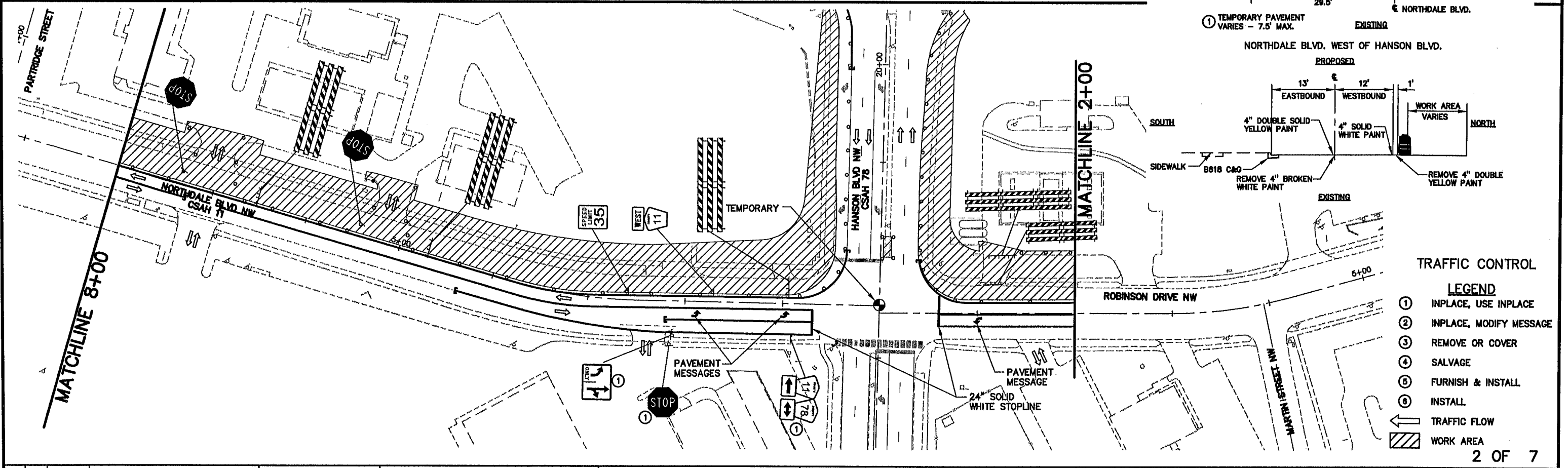
- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- UTILITY CONSTRUCTION



① TEMPORARY PAVEMENT VARIES - 7.5' MAX.
NORTHDALE BLVD. WEST OF HANSON BLVD.
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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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



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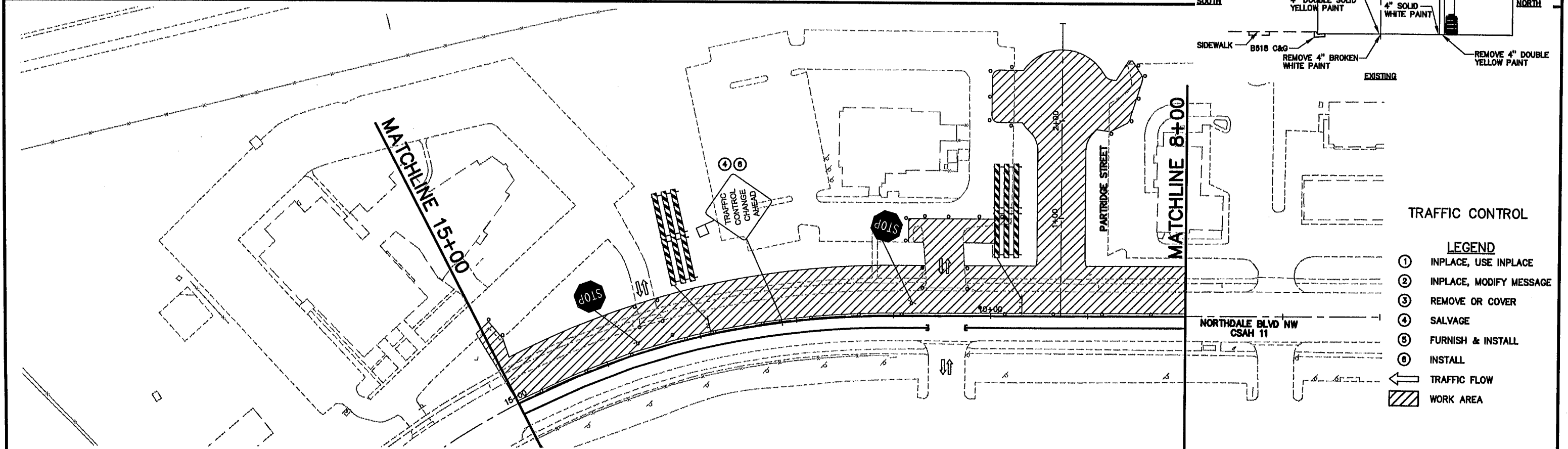
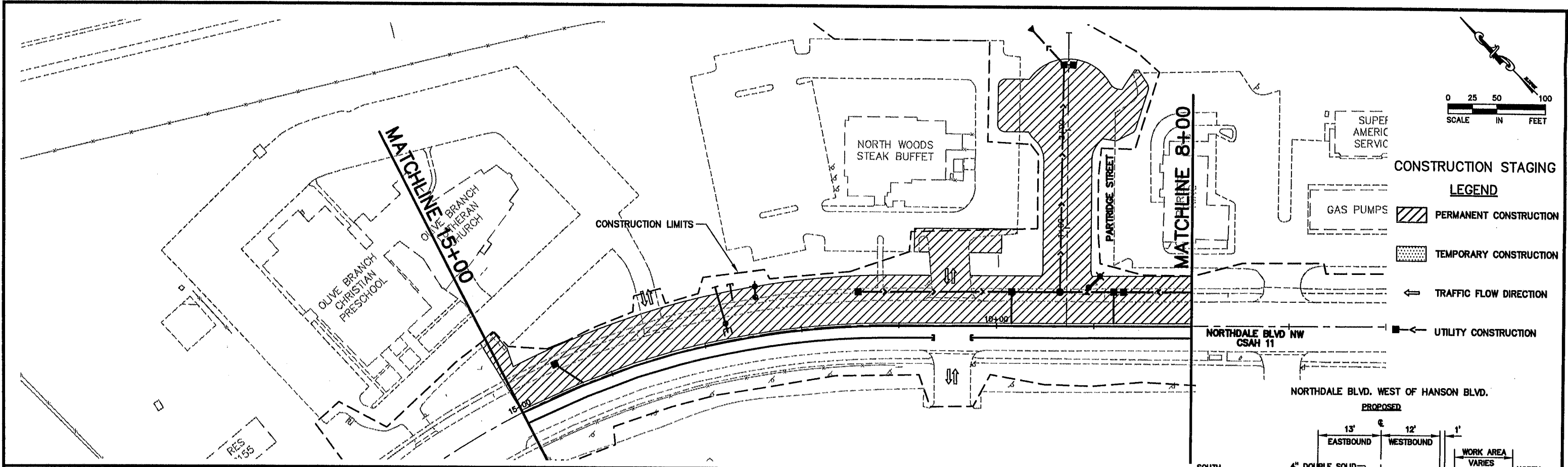
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 PAUL B. DANIELSON
 DATE: 4/28/02 MN LIC. NO. 23197

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

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 36 159
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-TC09.dwg



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 1 PHASE 2

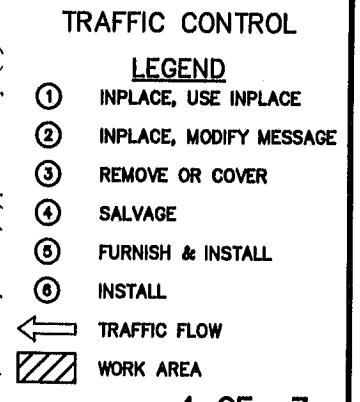
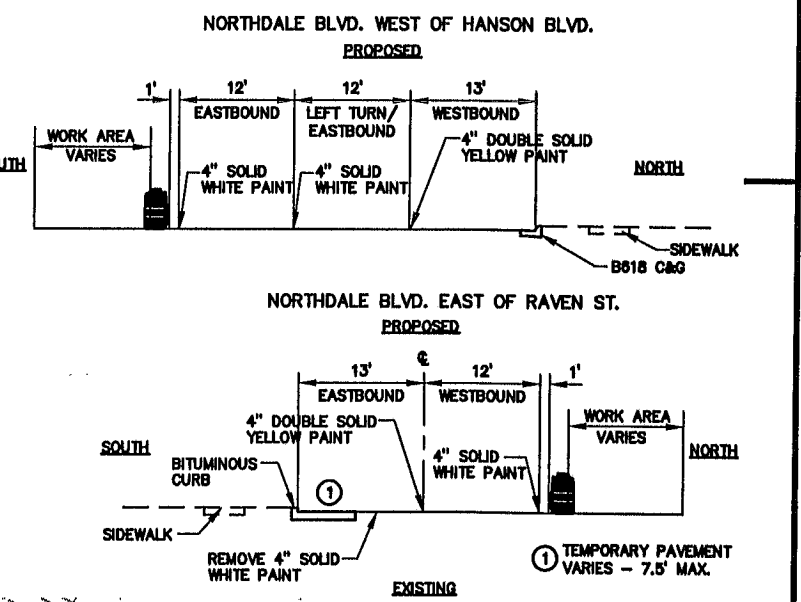
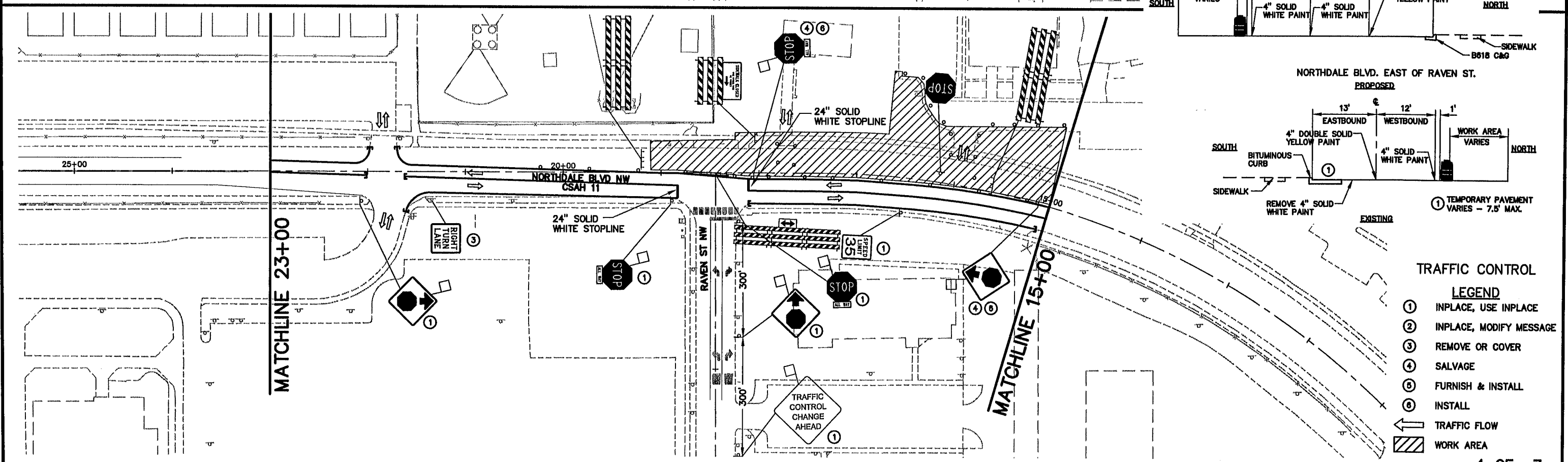
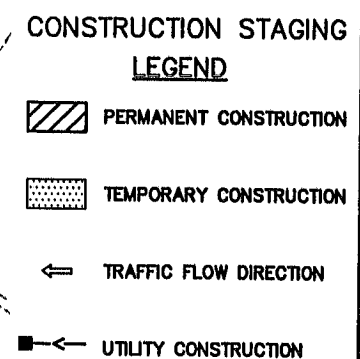
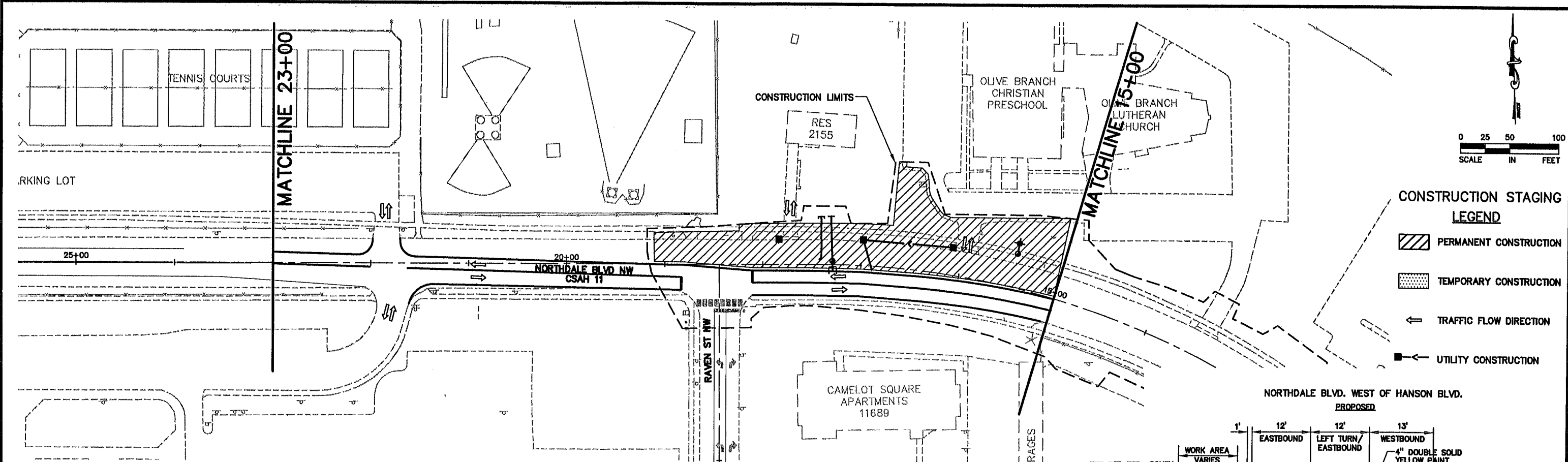
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

3 OF 7

SHEET NO. 37

159

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



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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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

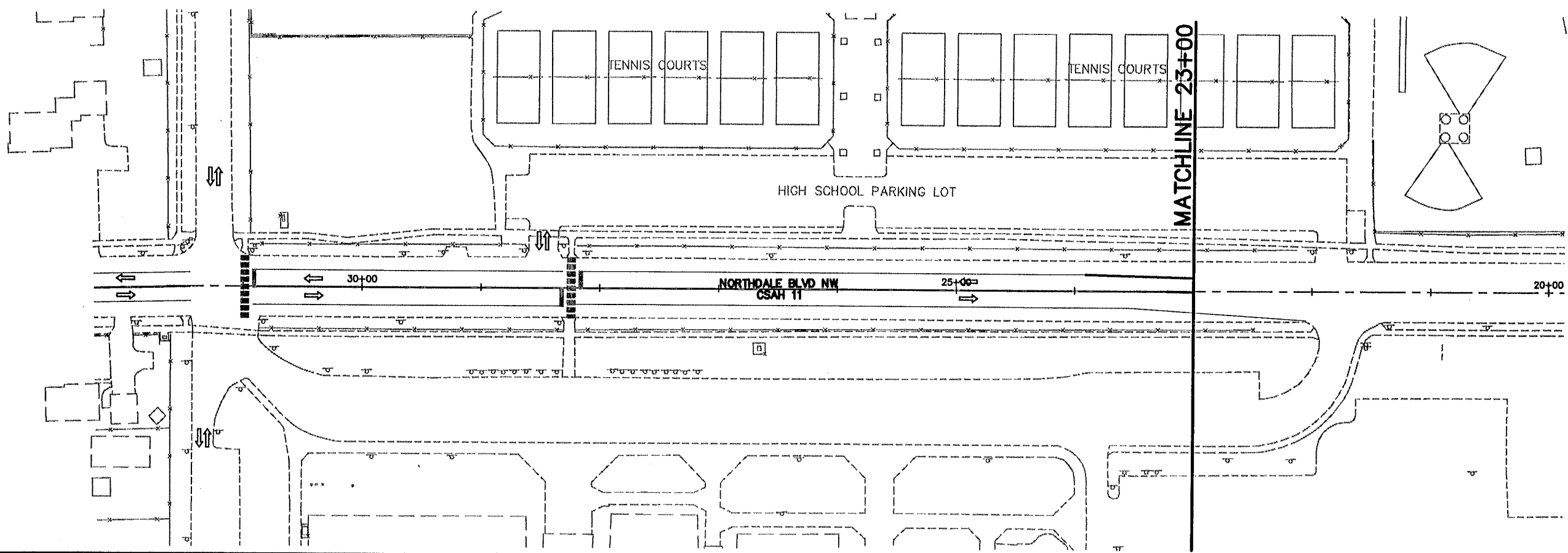
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COUNTY PROJECT		S.A.P.	114-020-27	38
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PLOT DATE: Apr 25, 2002 10:06am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC11.dwg



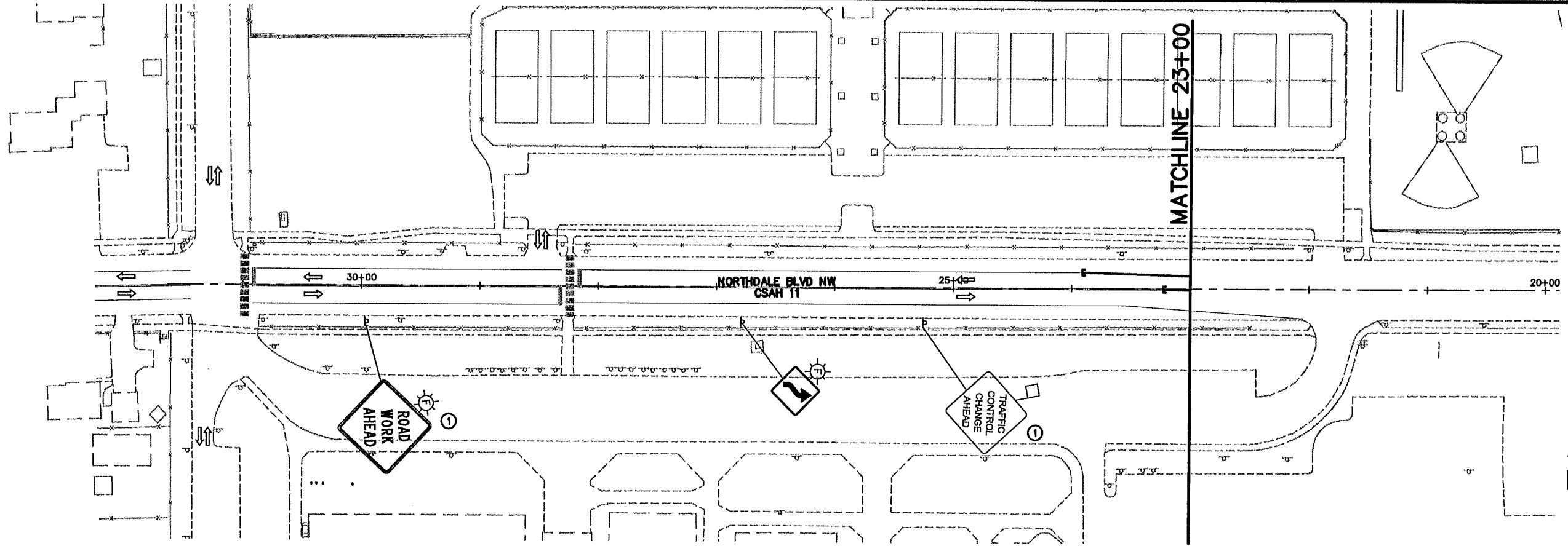
**CONSTRUCTION STAGING
LEGEND**

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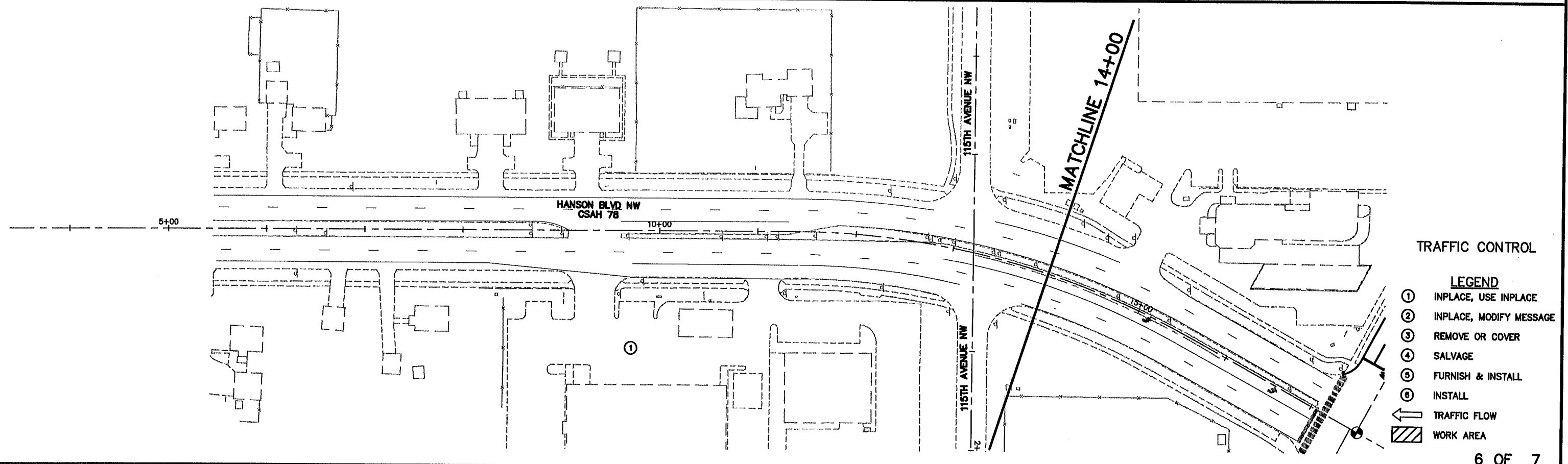
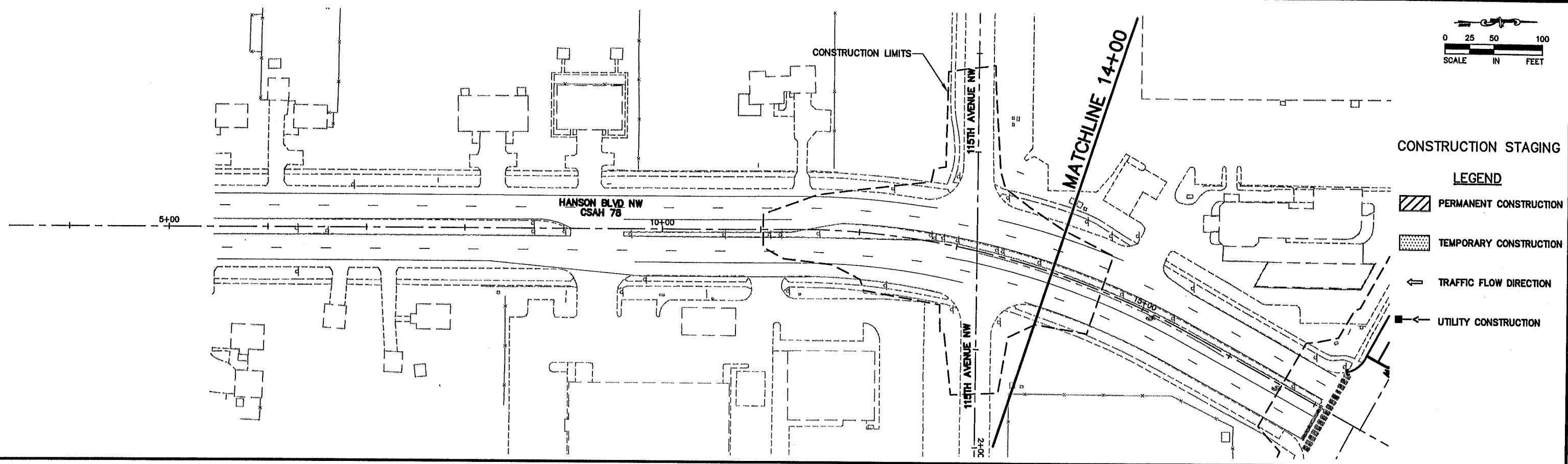
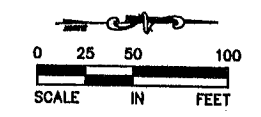
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD**
CONSTRUCTION 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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33889-043
DRAWN BY:
JRL
DESIGN BY:
JRM
CHKD. BY:
ICP
DWG. NAME:
043-TC12
DATE:
APRIL 26, 2002



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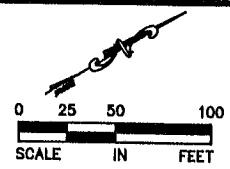
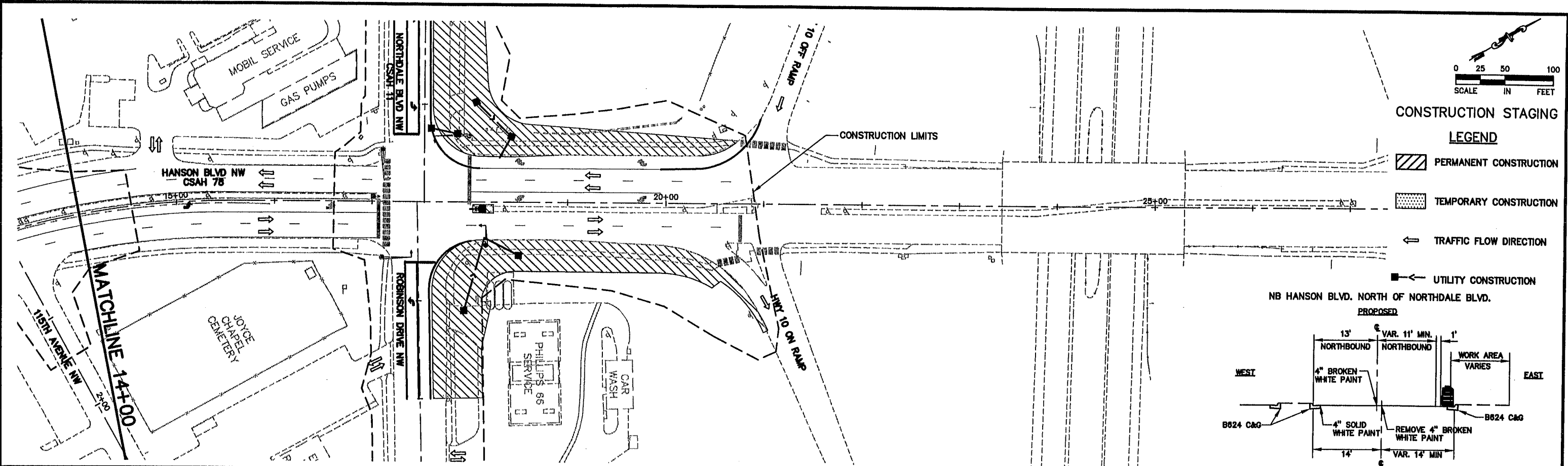
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
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

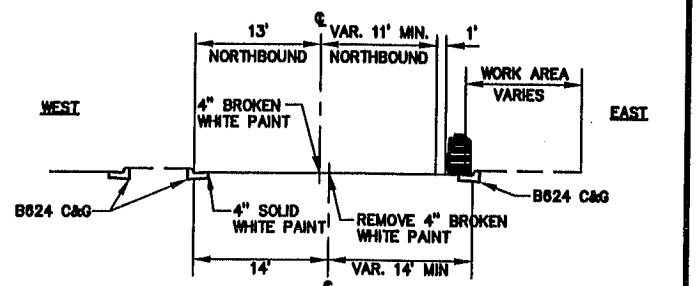
PLOT DATE: Apr 25, 2002 10:06am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC13.dwg



**CONSTRUCTION STAGING
LEGEND**

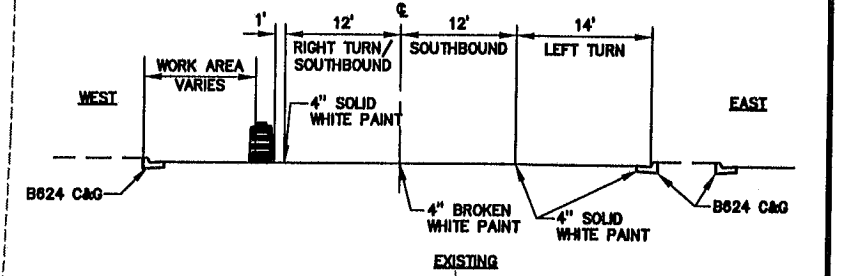
- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- UTILITY CONSTRUCTION

**NB HANSON BLVD. NORTH OF NORTHDAL BLVD.
PROPOSED**



EXISTING

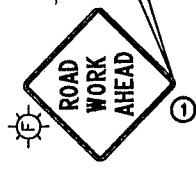
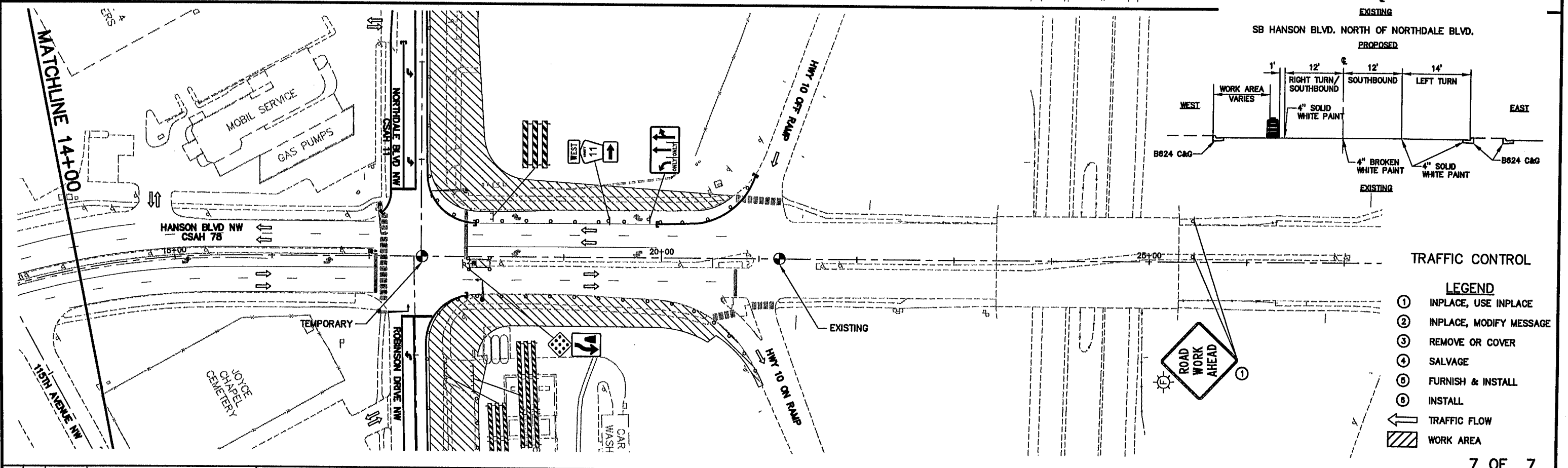
**SB HANSON BLVD. NORTH OF NORTHDAL BLVD.
PROPOSED**



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



7 OF 7

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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



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

SHEET NO.
41
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:

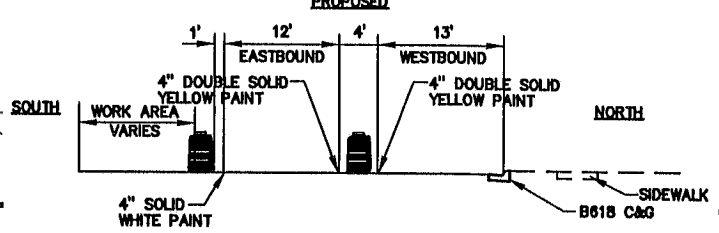
- CONSTRUCT EB LANES OF ROBINSON DR. FROM STA. 0+50 TO STA. 8+00.
- CONSTRUCT THE EB LANES OF NORTHDAL BLVD. FROM STA. 0+50 TO STA. 18+25.
- CONSTRUCT THE 115TH AVE. APPROACH AND TRAFFIC ISLAND WEST OF HANSON BLVD. FROM STA. 12+00 TO STA. 13+50.
- CONSTRUCT THE 115TH AVE. APPROACH AND TRAFFIC ISLAND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



CONSTRUCTION STAGING LEGEND

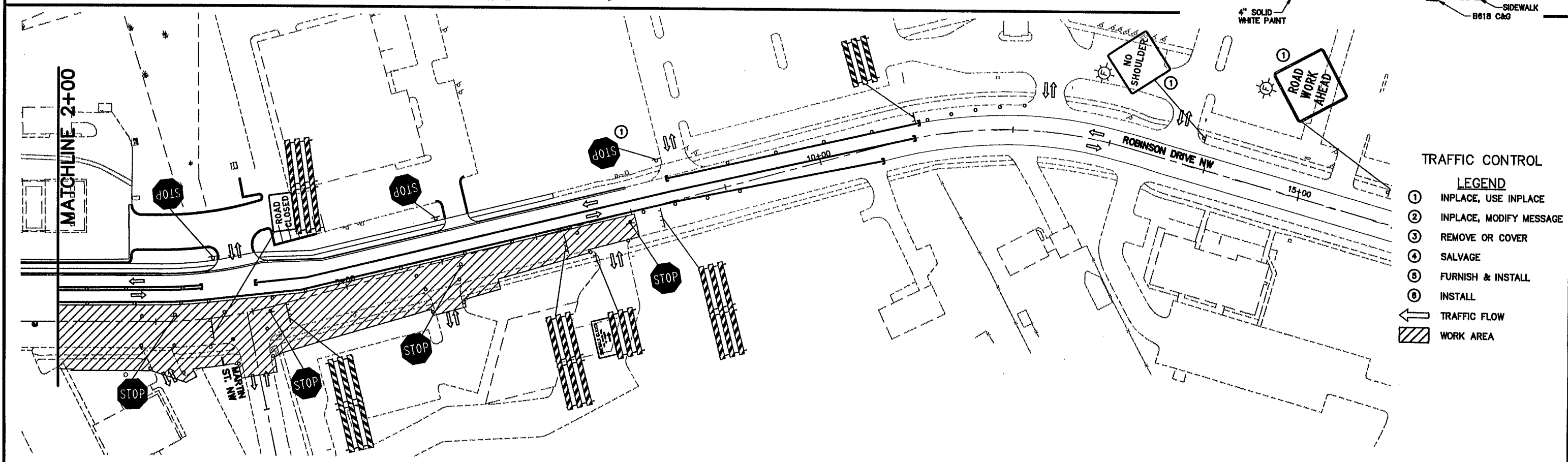
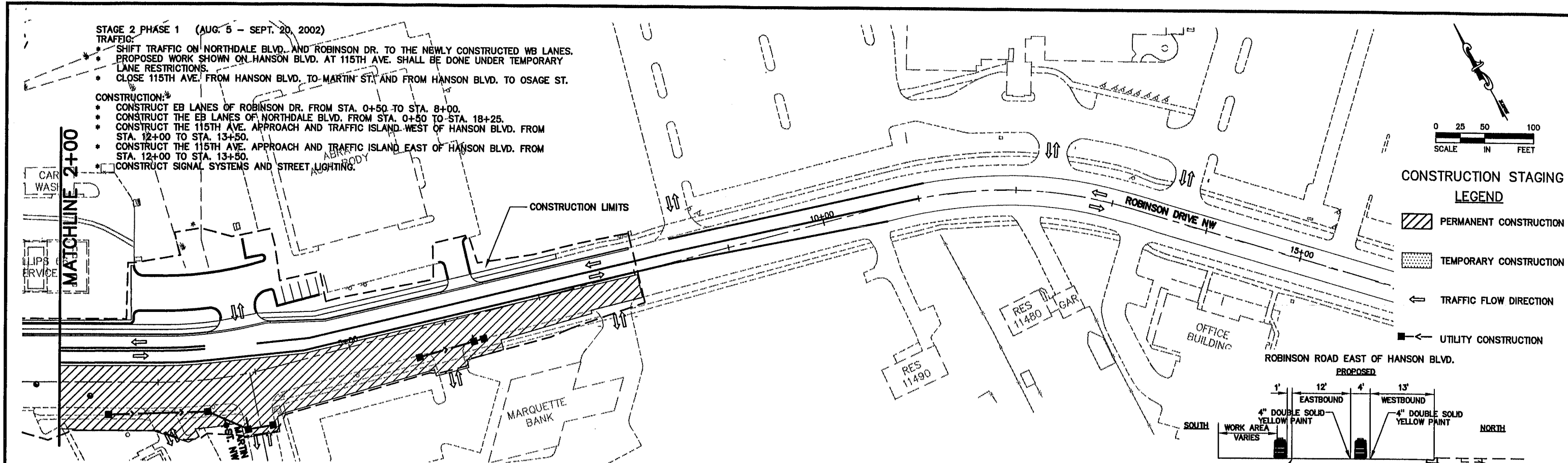
- PERMANENT CONSTRUCTION
- TEMPORARY CONSTRUCTION
- TRAFFIC FLOW DIRECTION
- UTILITY CONSTRUCTION

ROBINSON ROAD EAST OF HANSON BLVD. PROPOSED



TRAFFIC CONTROL LEGEND

- INPLACE, USE INPLACE
- INPLACE, MODIFY MESSAGE
- REMOVE OR COVER
- SALVAGE
- FURNISH & INSTALL
- INSTALL
- TRAFFIC FLOW
- WORK AREA



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

DESIGN FILE: 33889-043	DESIGN BY: JRM
DRAWN BY: JRL	DWG. NAME: 043-TC14
CHKD. BY: ICP	DATE: APRIL 26, 2002



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DATE: 4/26/02 MN LIC. NO. 23197

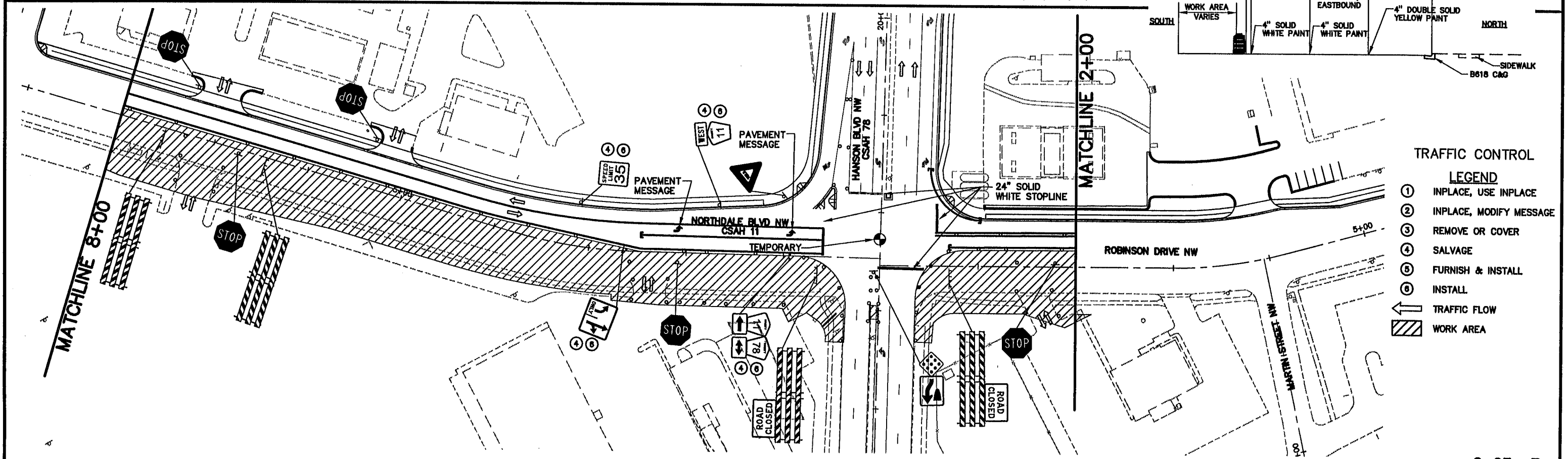
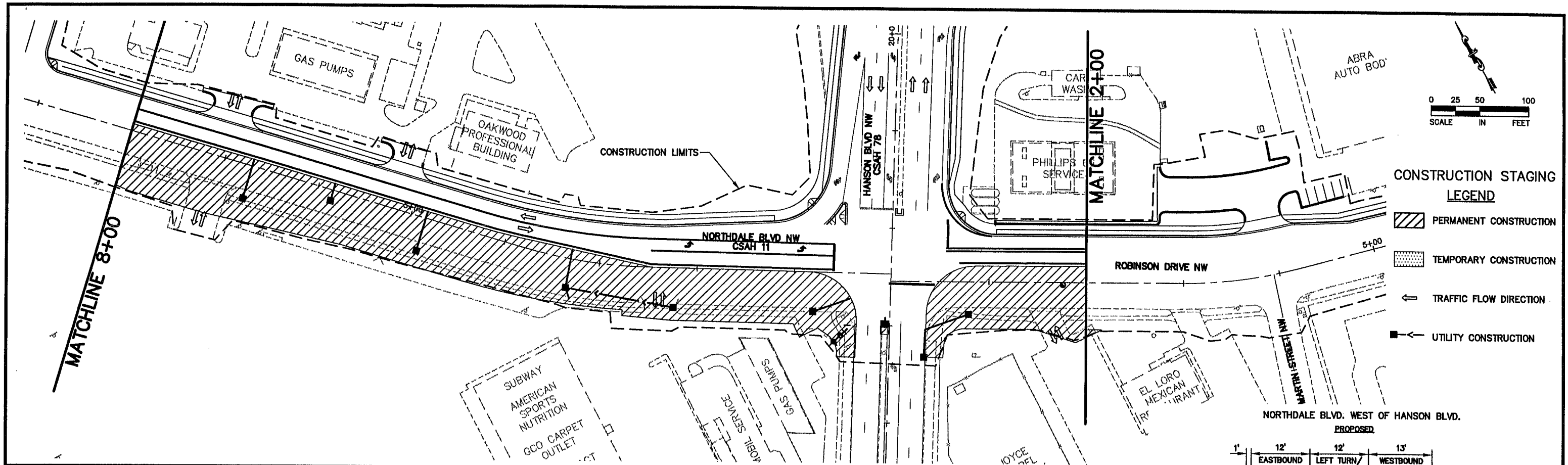
**NORTHDAL BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W.
CONSTRUCTION STAGING
& TRAFFIC CONTROL
STAGE 2 PHASE 1**

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 002 4:56pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC14.dwg

PLOT DATE: May 02 4:56pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC15.dwg



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

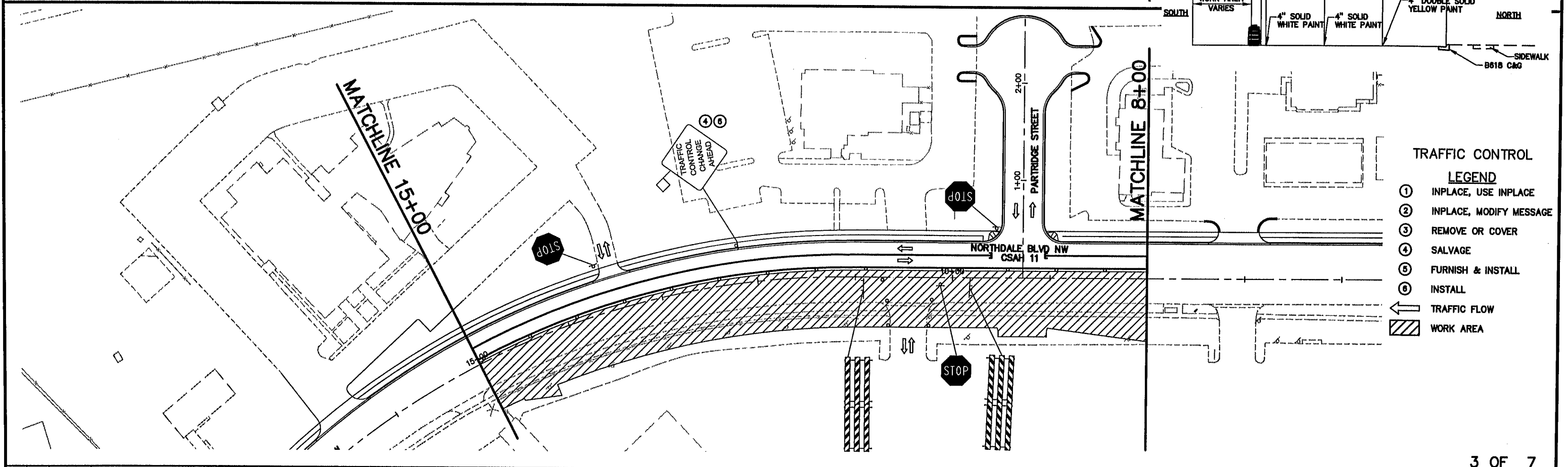
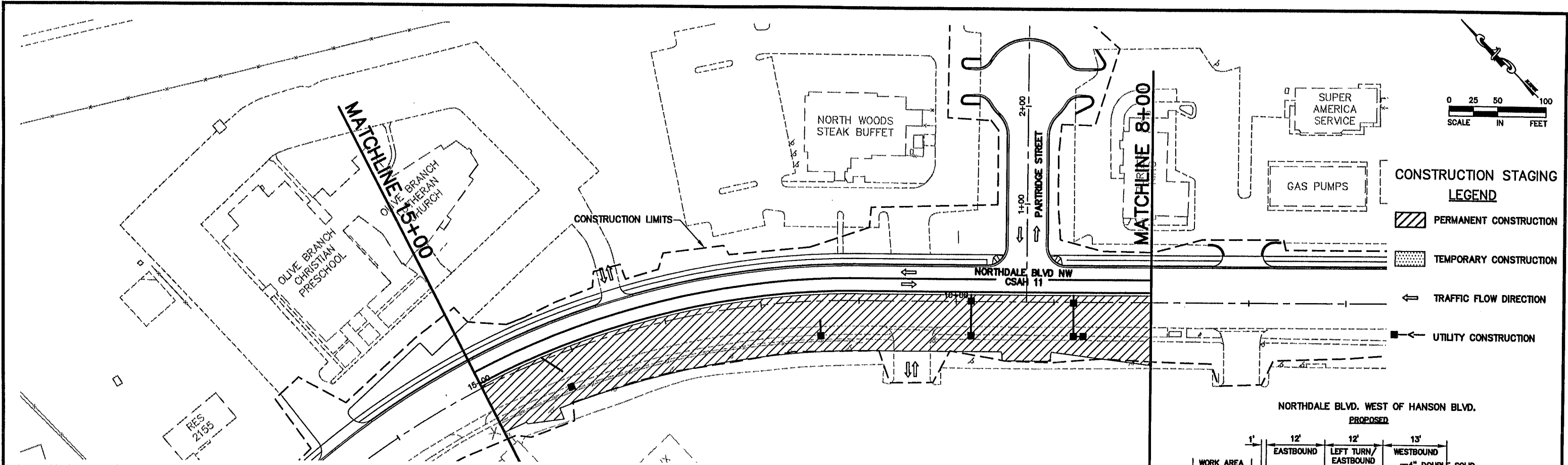
NORTHDALE BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W. / NORTHDALE BLVD.

CONSTRUCTION STAGING & TRAFFIC CONTROL
STAGE 2 PHASE 1

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

2 OF 7
SHEET NO. 43
159

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



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043
DRAWN BY: JRL
DESIGN BY: JRM
CHKD. BY: ICP
DWG. NAME: 043-TC16
DATE: APRIL 26, 2002



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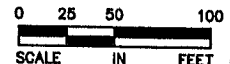
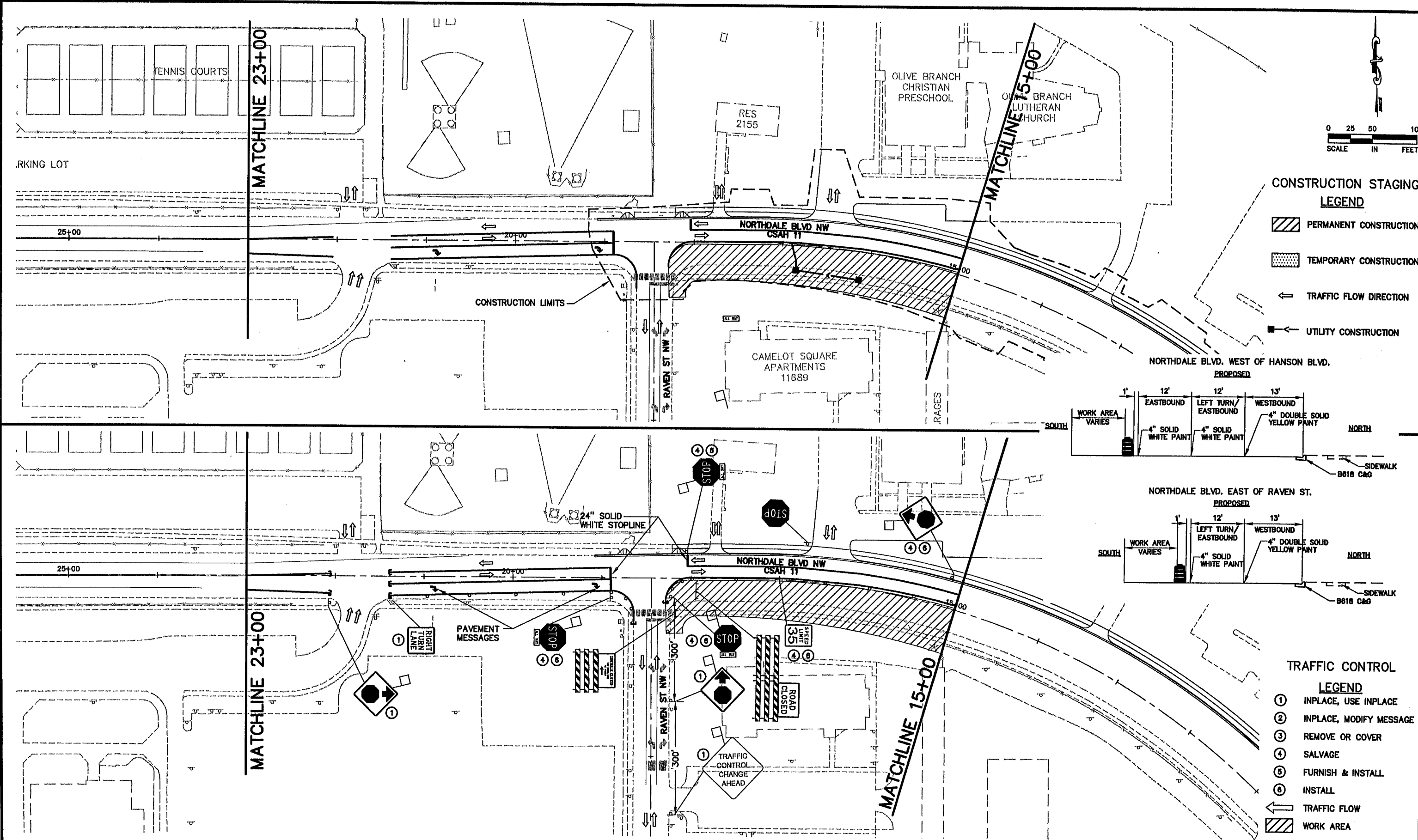
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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

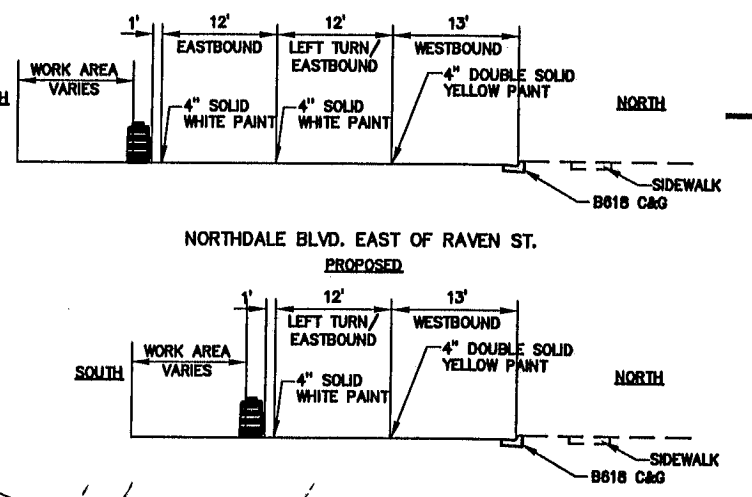
3 OF 7
SHEET NO. 44
159

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

DATE:
APRIL 26, 2002



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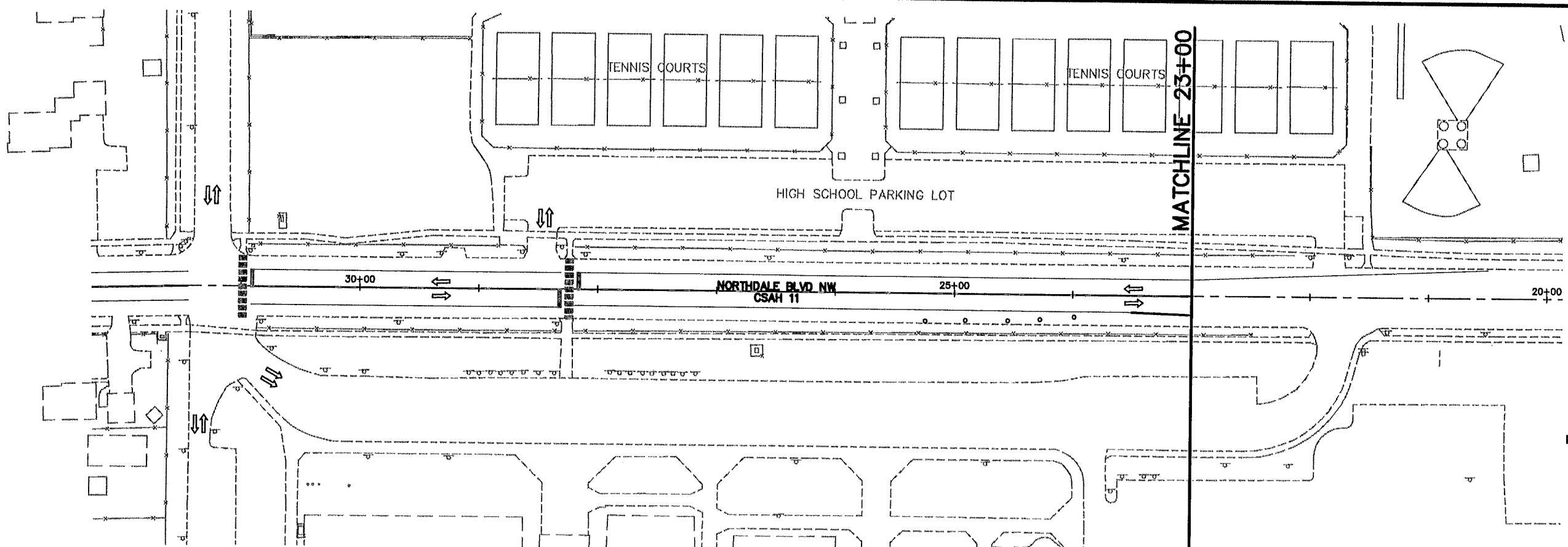
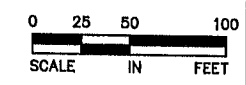
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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

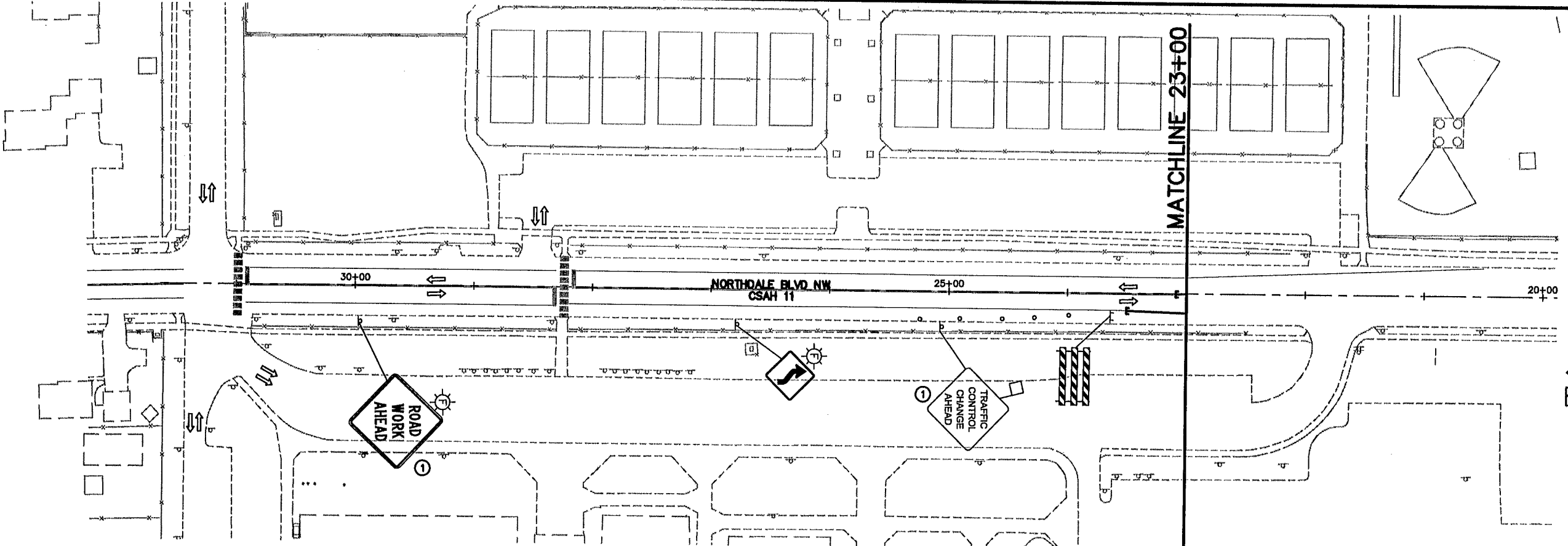
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
45
159

PLOT DATE: 2002 10:07am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TC1B.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-TC1B
 DATE: APRIL 26, 2002



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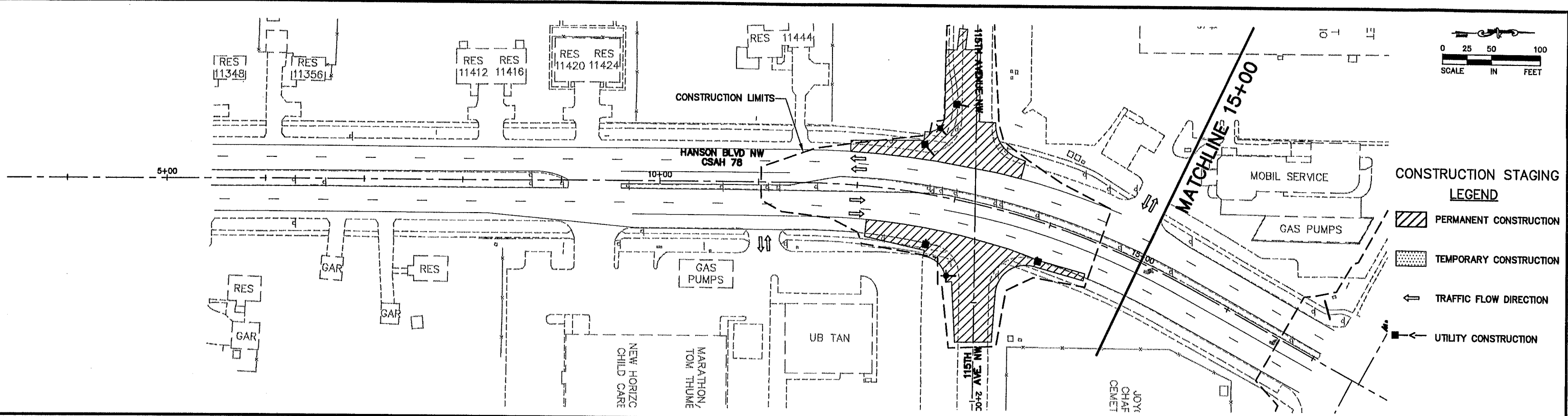
 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO.: 23197

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

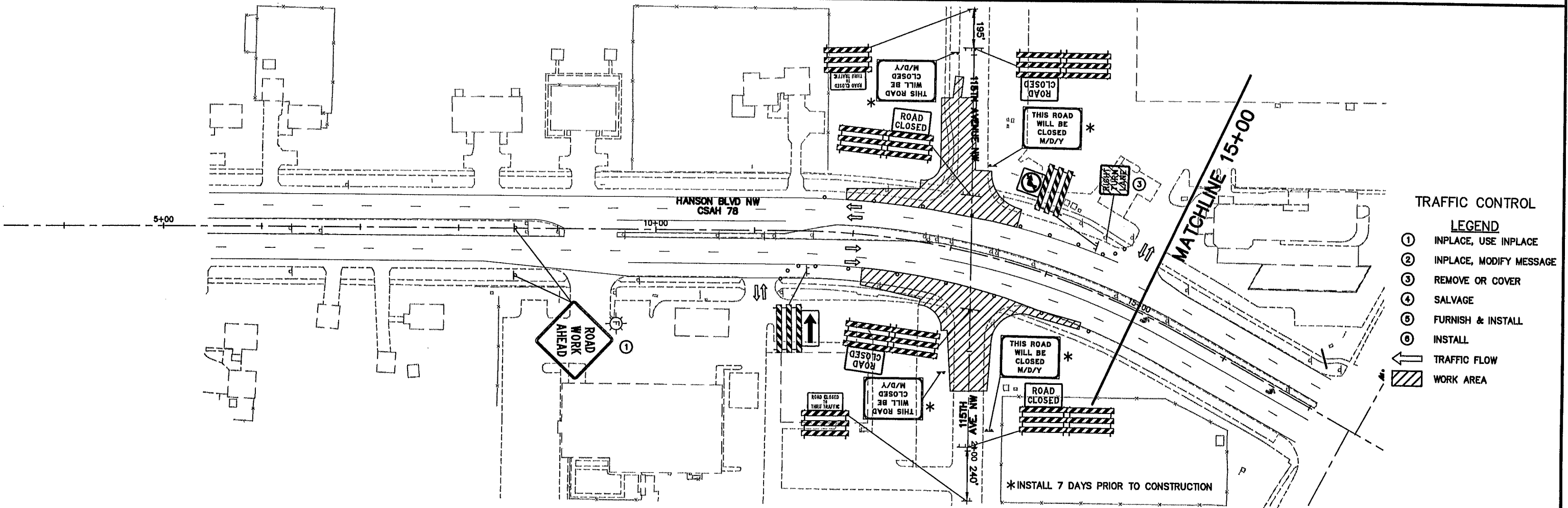
5 OF 7
 SHEET NO. 46
 159

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

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**

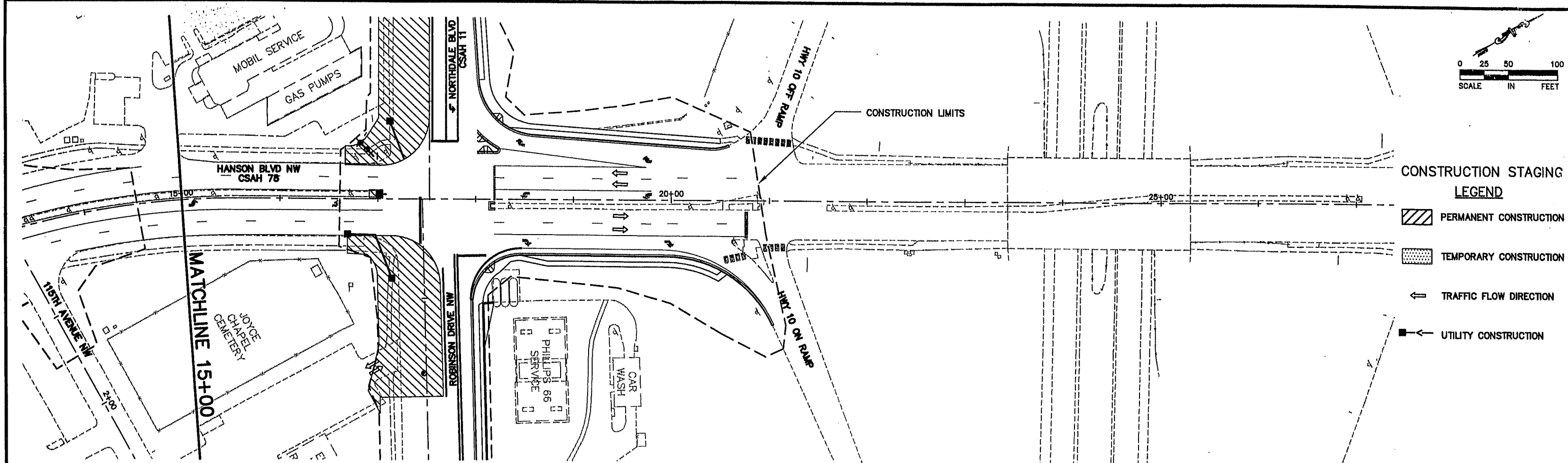
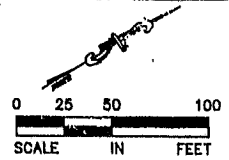
CONSTRUCTION STAGING
& TRAFFIC CONTROL
STAGE 2 PHASE 1

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

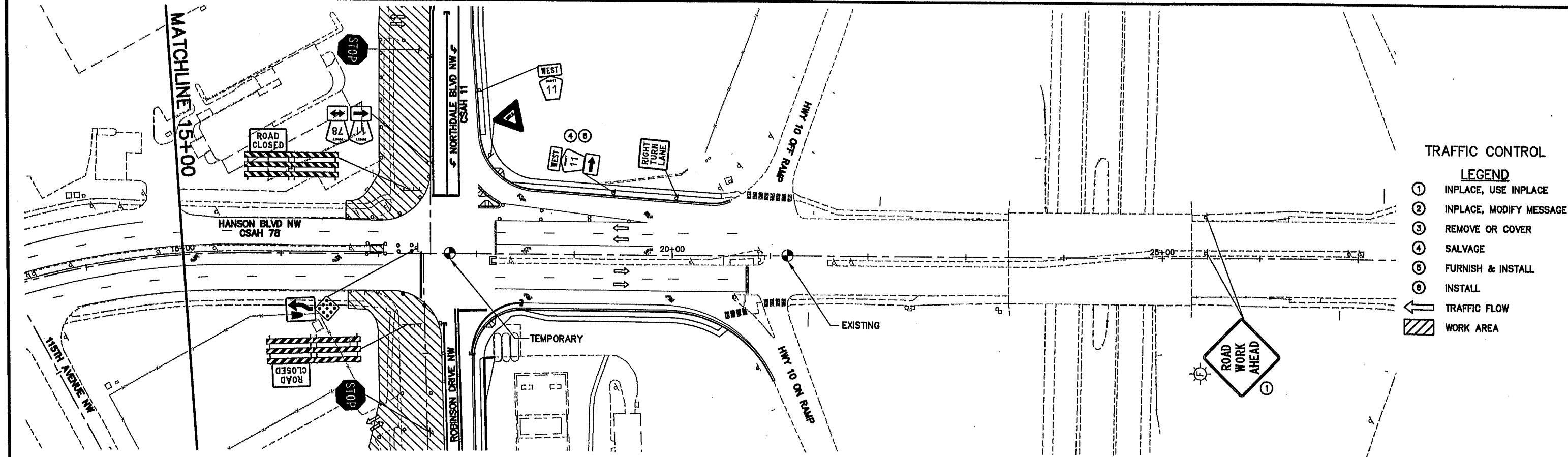
6 OF 7

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 25, 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
DATE: 4/28/02 MN LIC. NO. 23197

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

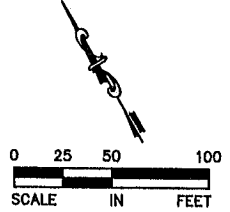
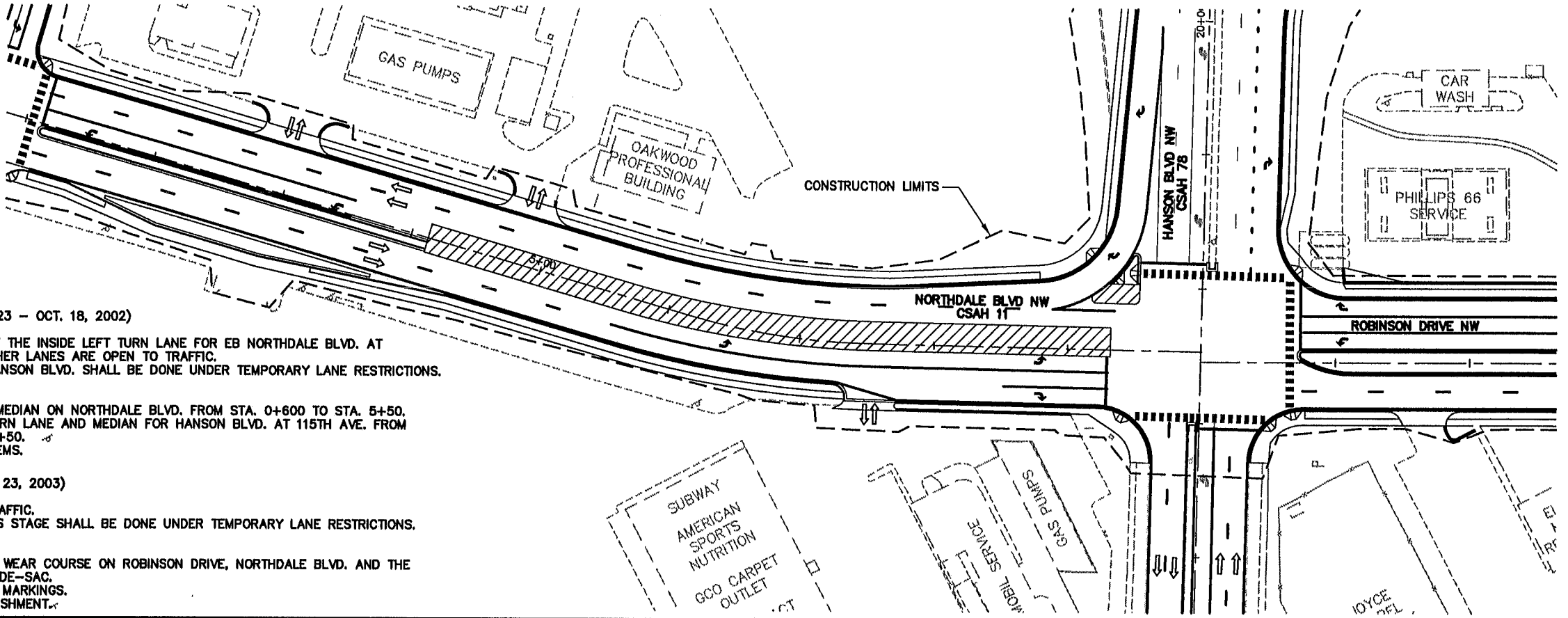
CONSTRUCTION STAGING
& TRAFFIC CONTROL
STAGE 2 PHASE 1

CITY PROJECT	2001-47	S.A.P.	114-020-28
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

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CONSTRUCTION STAGING LEGEND

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

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

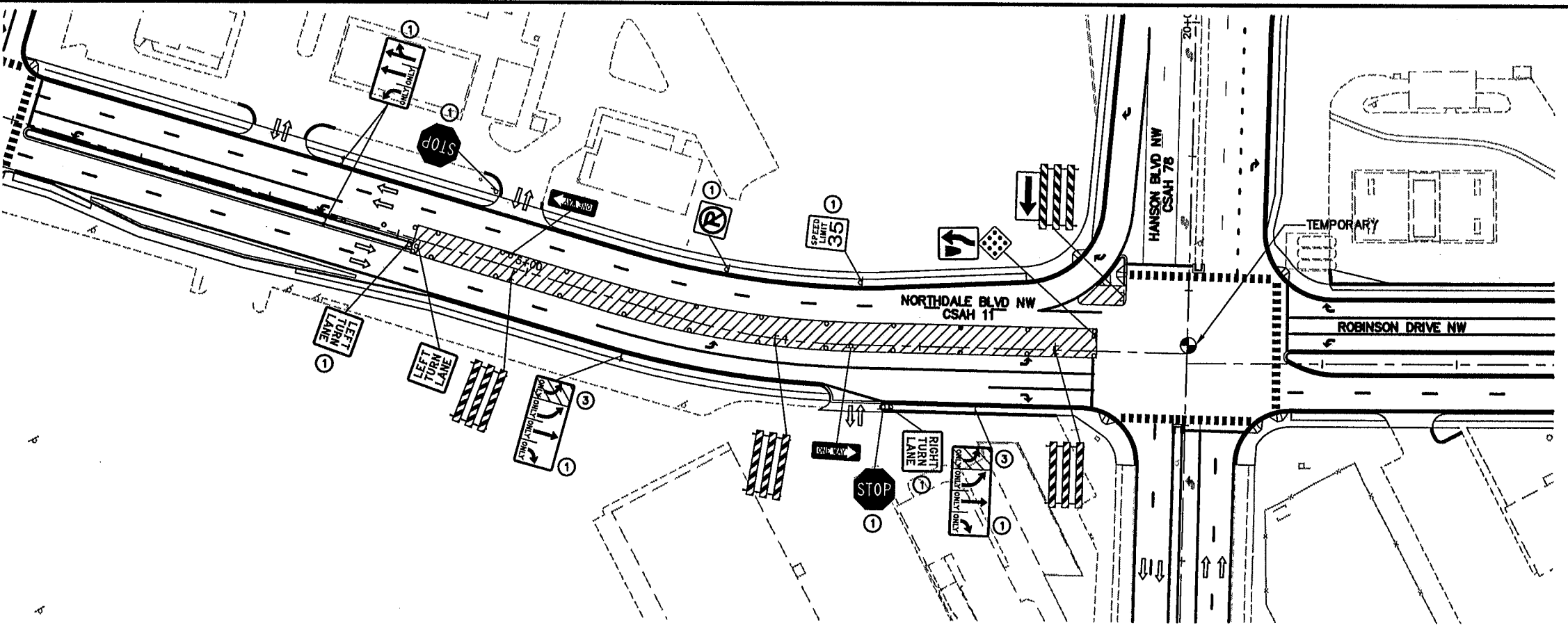
- TRAFFIC:**
- * WITH THE EXCEPTION OF THE INSIDE LEFT TURN LANE FOR EB NORTHDAL BLVD. AT HANSON BLVD., ALL OTHER LANES ARE OPEN TO TRAFFIC.
 - * PROPOSED WORK ON HANSON BLVD. SHALL BE DONE UNDER TEMPORARY LANE RESTRICTIONS.

- CONSTRUCTION:**
- * CONSTRUCT CONCRETE MEDIAN ON NORTHDAL 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, NORTHDAL BLVD. AND THE NORTHDAL 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

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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	
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CHKD. BY: ICP	DWG. NAME: 043-TC21
DATE: APRIL 26, 2002	



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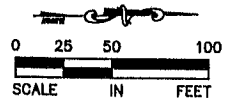
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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

1 OF 2
SHEET NO.
49
159

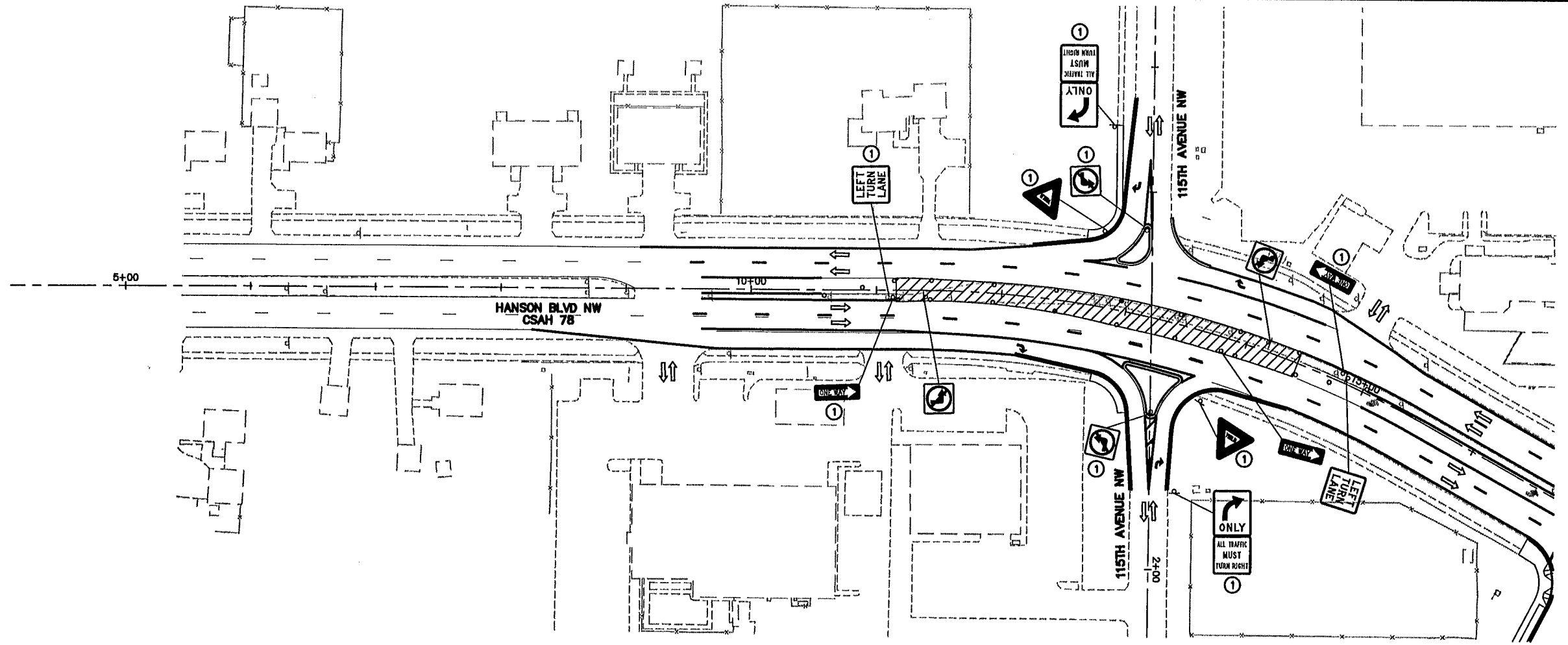
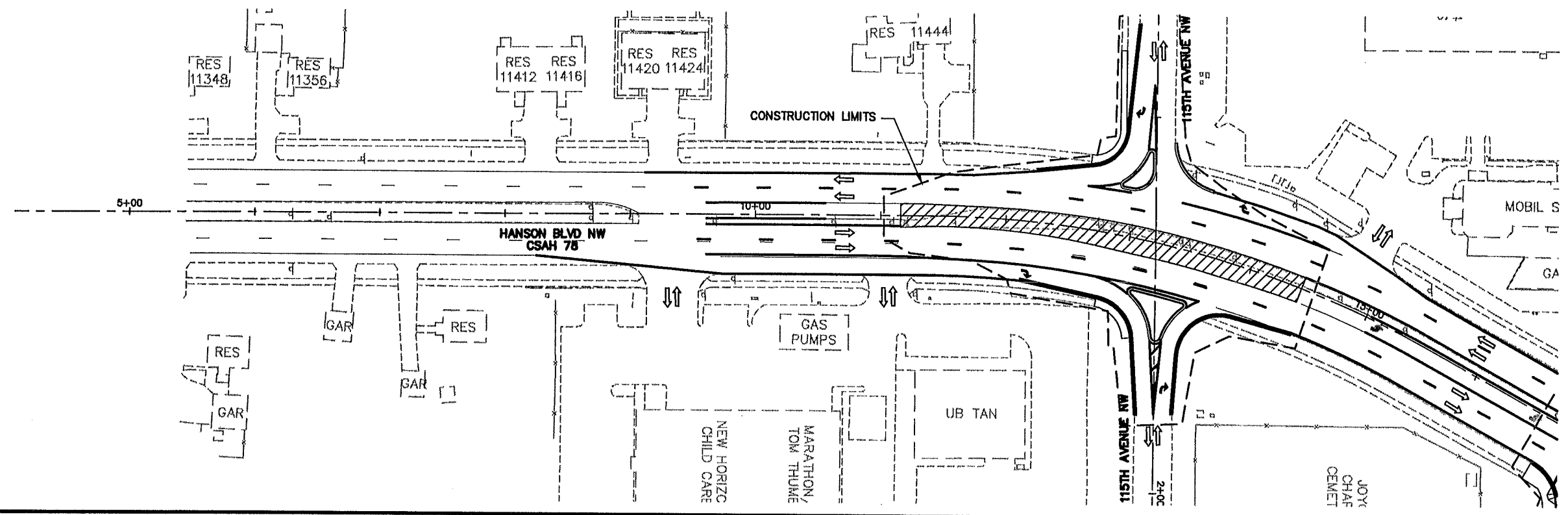


CONSTRUCTION STAGING LEGEND

- 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



2 OF 2
SHEET NO. 50
159

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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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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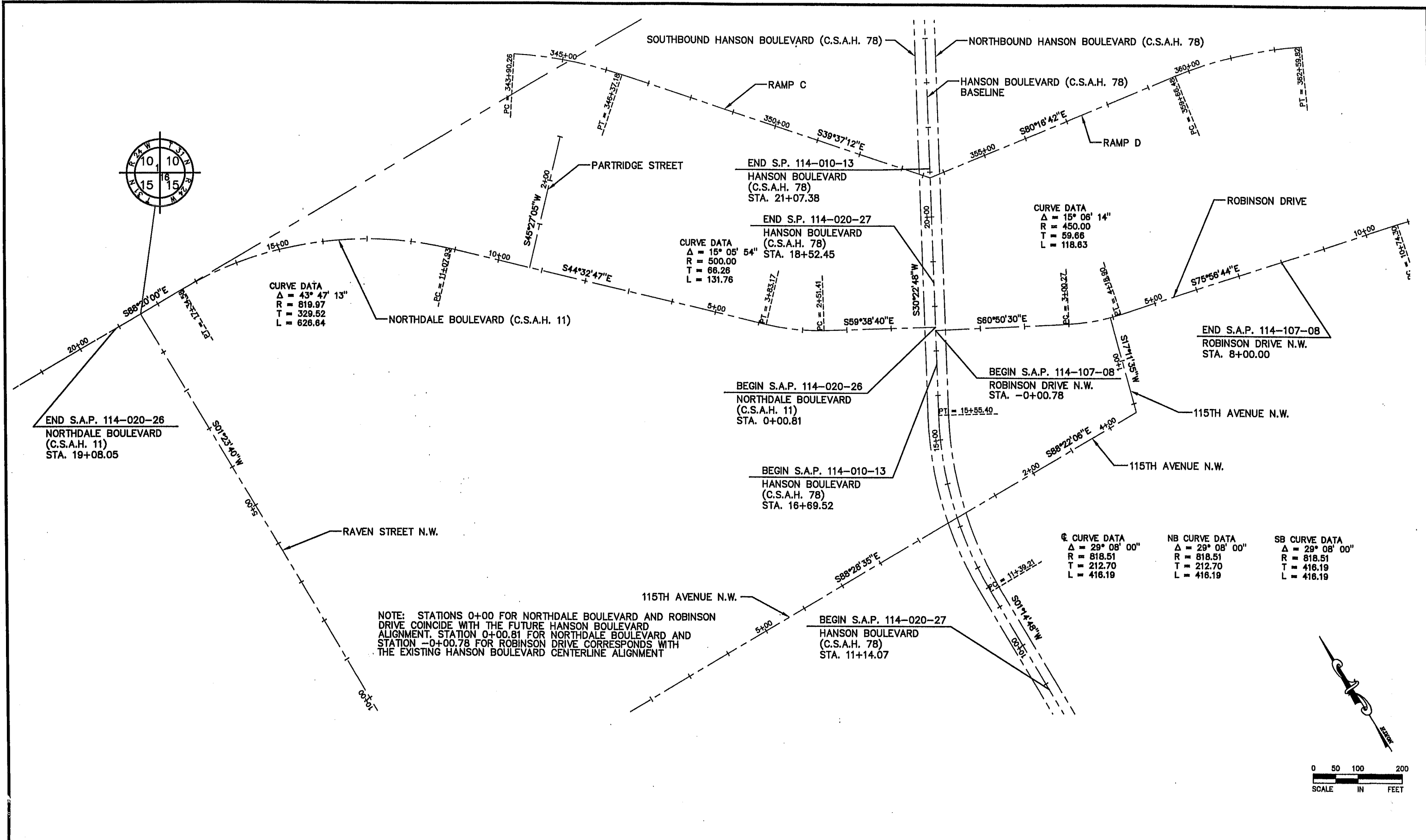
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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

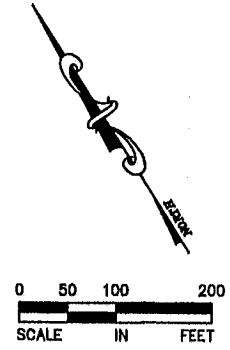
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

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

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.	DATE	REVISIONS DESCRIPTION

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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)

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

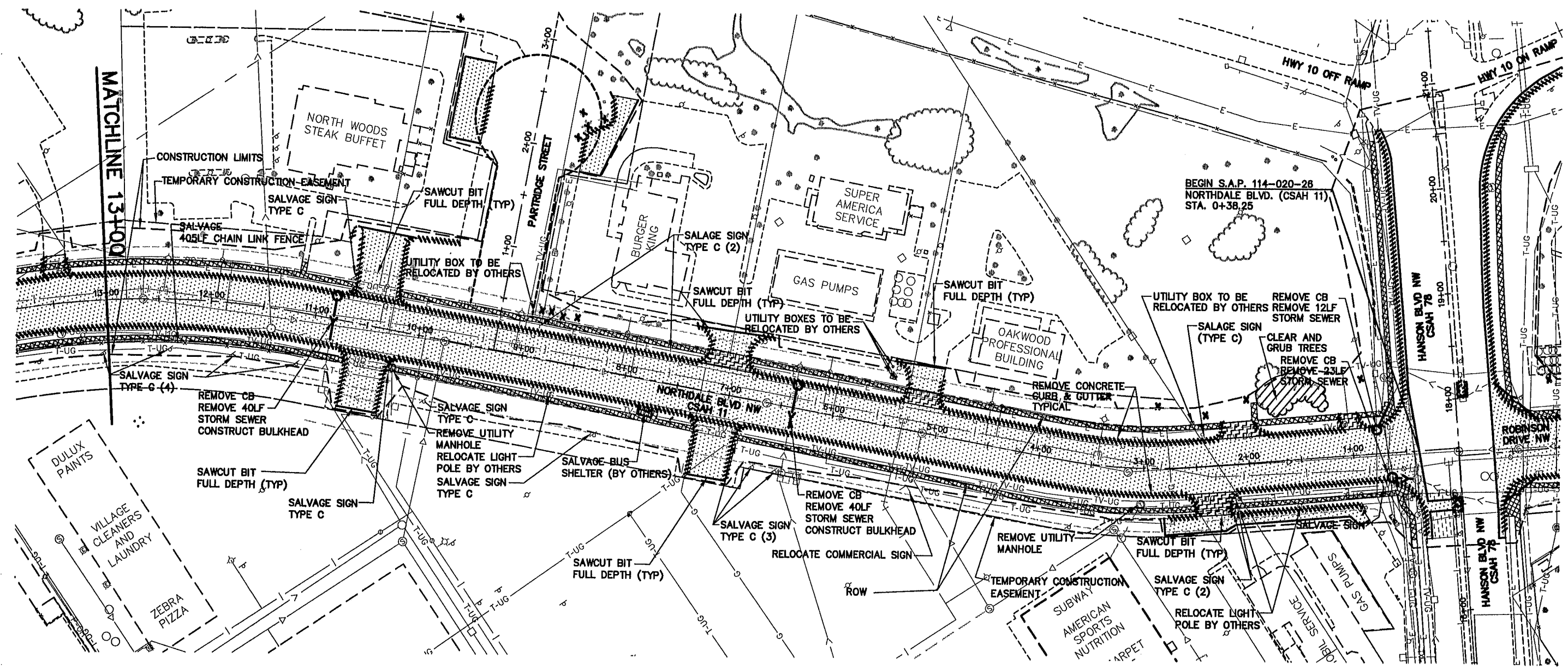
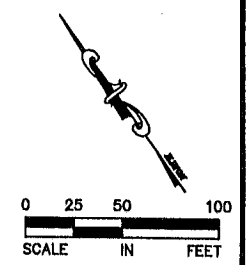
1 OF 1

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.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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







1 OF 6

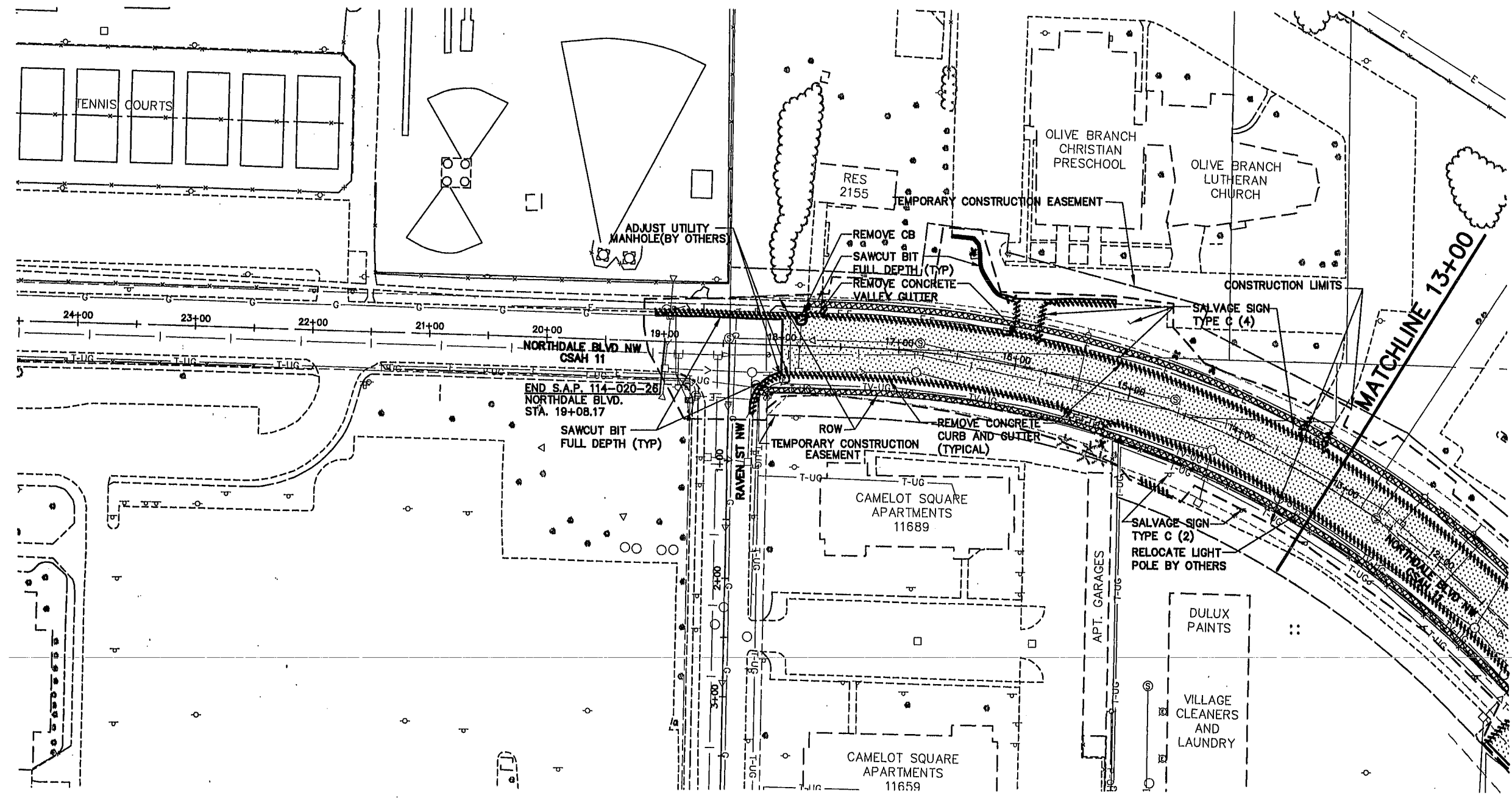
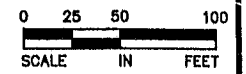
SHEET NO.
52

159

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

LEGEND

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



NORTHDALE BLVD.

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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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



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

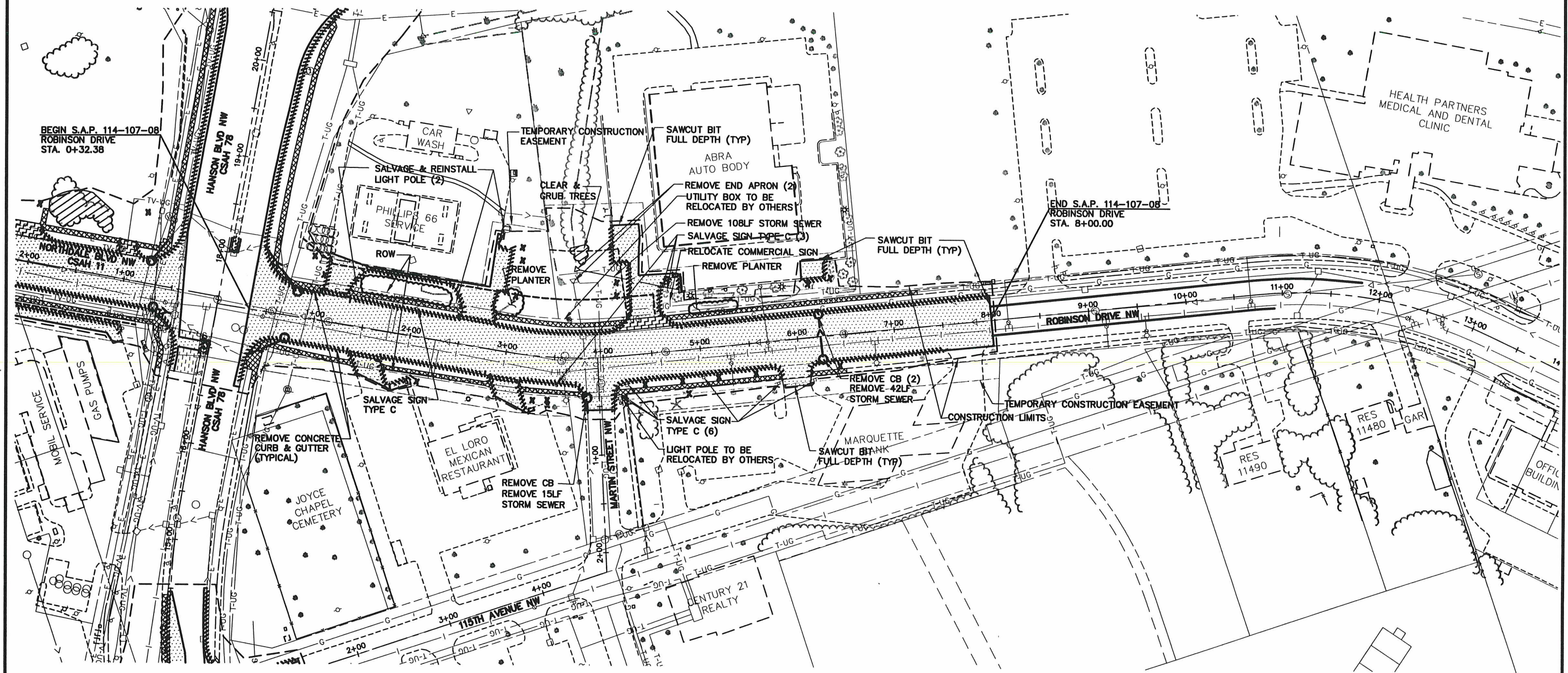
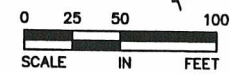
NORTHDALE BOULEVARD (C.S.A.H. 11)
NORTHDALE BOULEVARD
EXISTING TOPOGRAPHY, UTILITIES & REMOVALS

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.

PLOT DATE: May 02 4:54pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-RM01.dwg

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

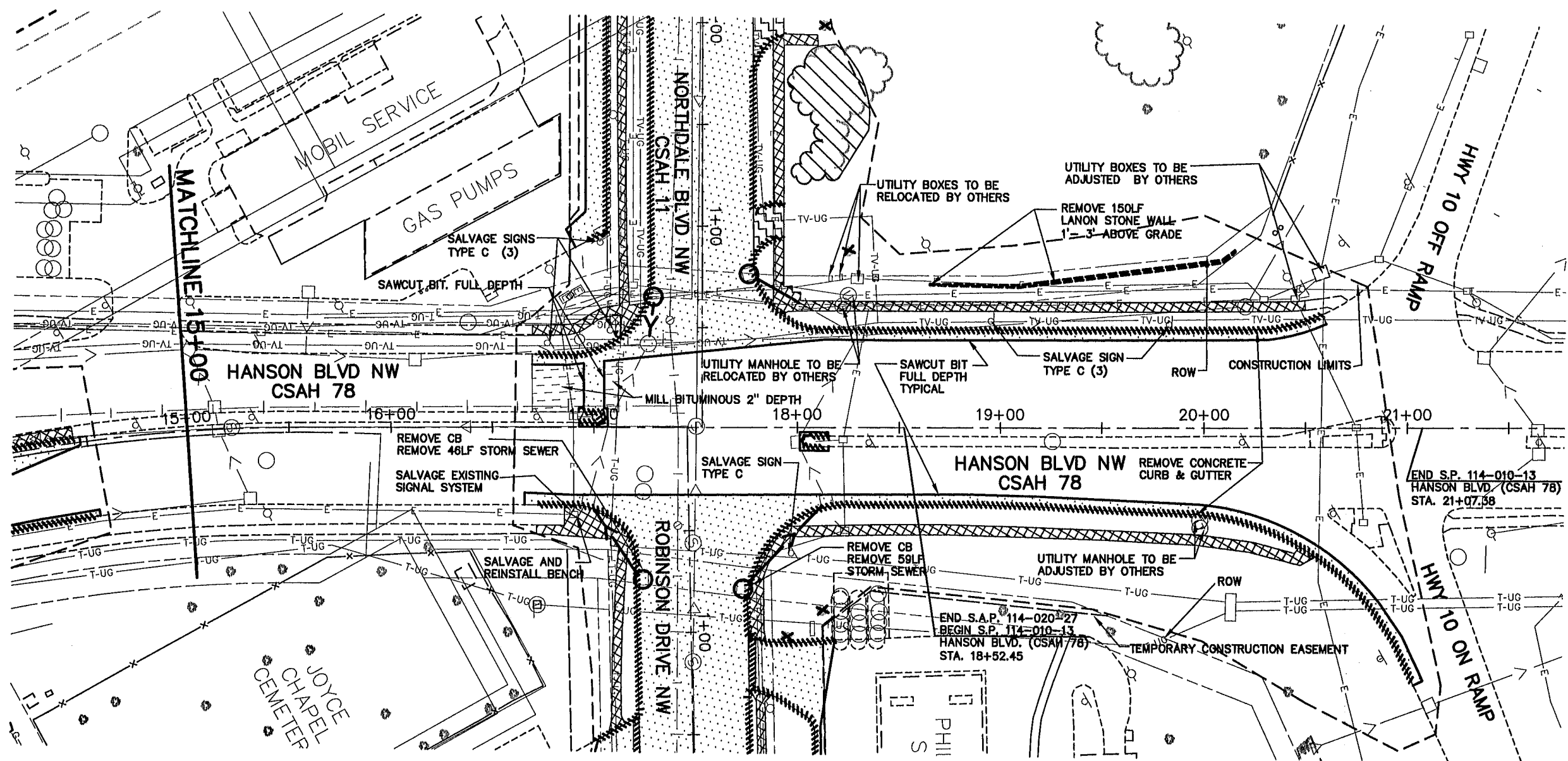
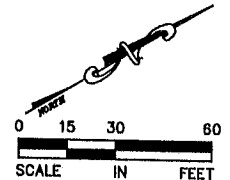
**NORTHDALE BOULEVARD
 (C.S.A.H. 11)
 ROBINSON DRIVE W.
 EXISTING TOPOGRAPHY, UTILITIES & REMOVALS**

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

3 OF 6
 SHEET NO. 54
 159

LEGEND

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



HANSON BLVD. / NORTHDAL E BLVD. INTERSECTION

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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	DESIGN BY: PMJ
DRAWN BY: JRL	CHKD. BY: ICP
DATE: APRIL 26, 2002	DWG. NAME: 043-RM02



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Minneapolis, MN 55416
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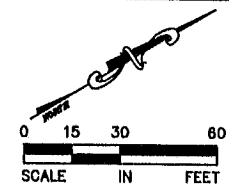
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

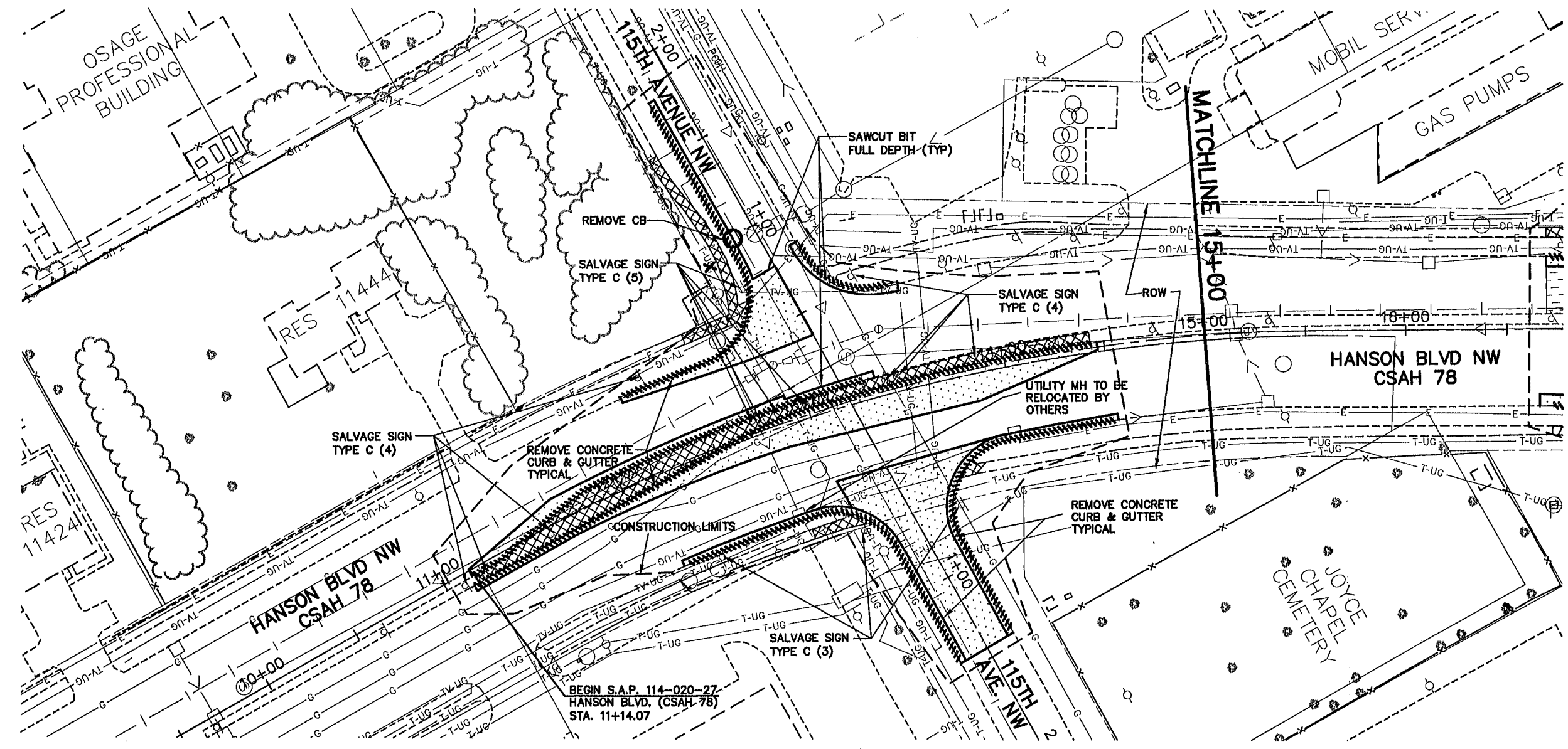
NORTHDAL E BOULVARD
(C.S.A.H. 11)
HANSON BOULVARD
EXISTING TOPOGRAPHY, UTILITIES & REMOVALS

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

4 OF 6
SHEET NO. 55
159



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



HANSON BLVD.

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

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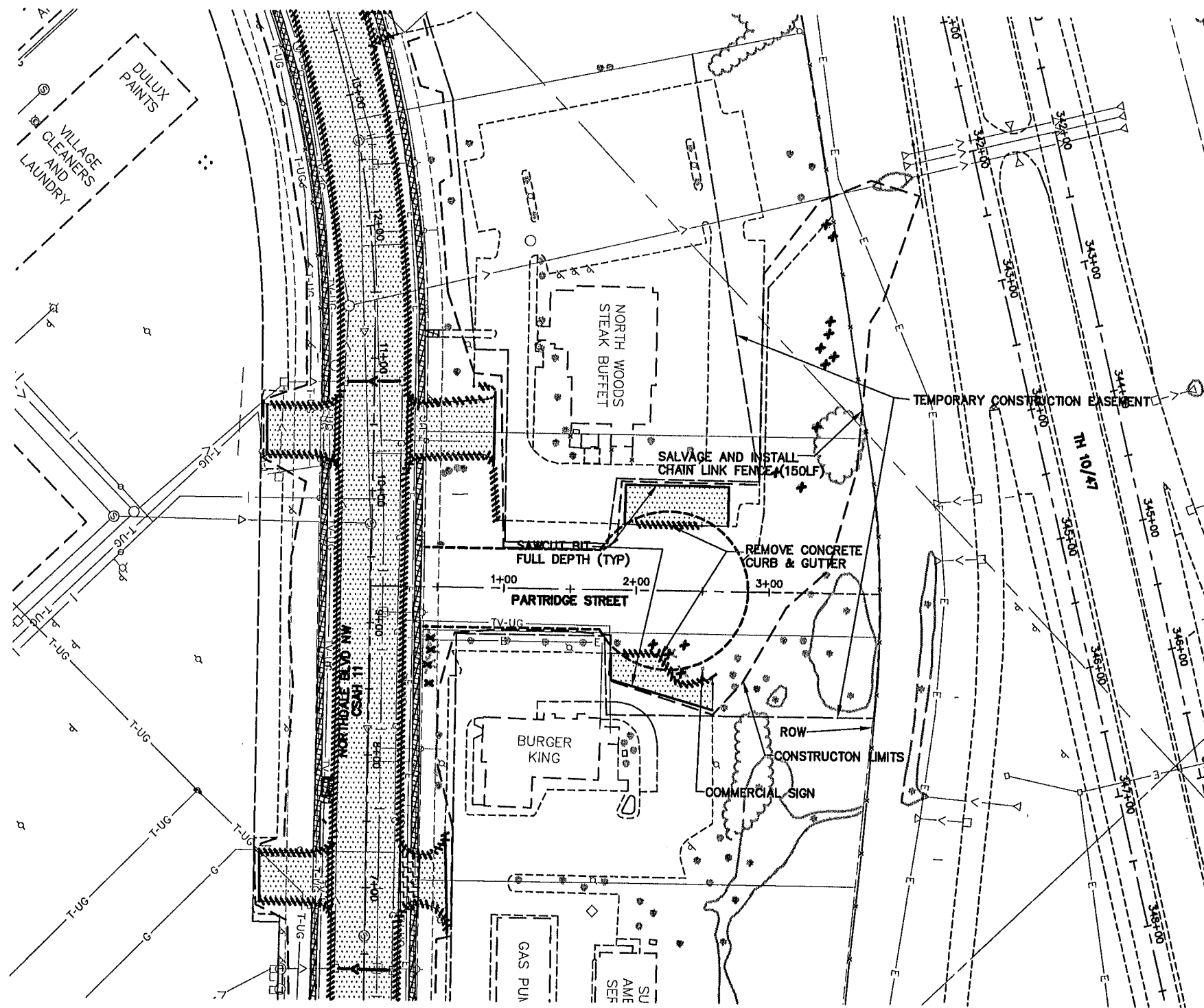
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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

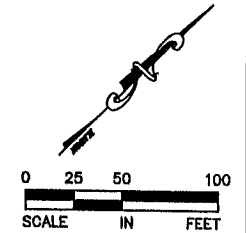
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

5 OF 6
SHEET NO.
56
159

PLOT DATE: Apr 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

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

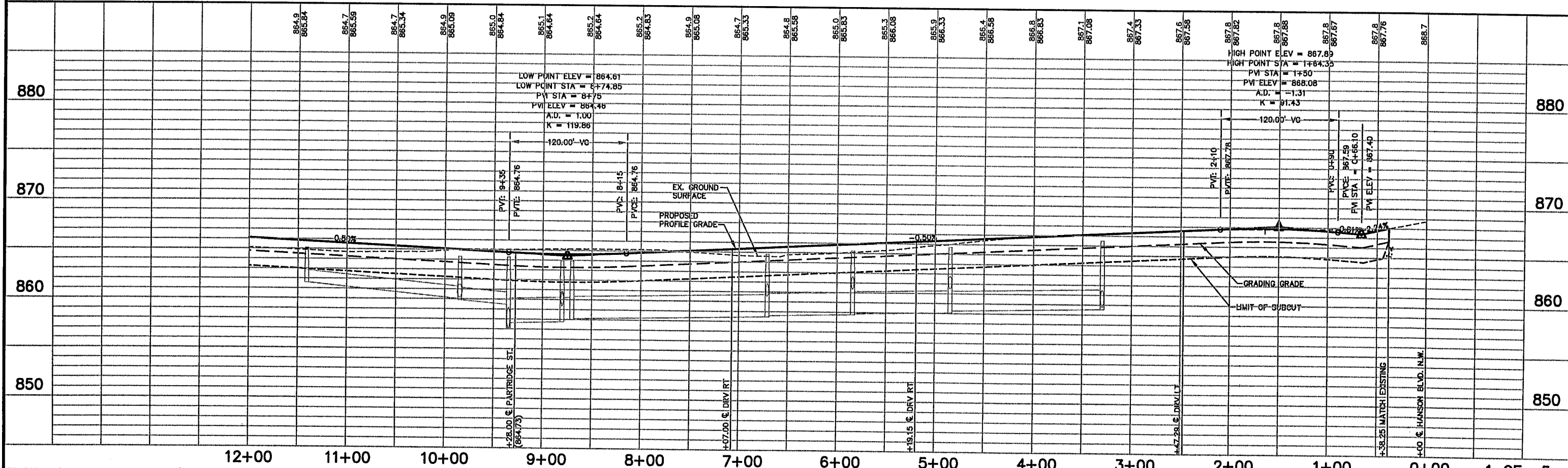
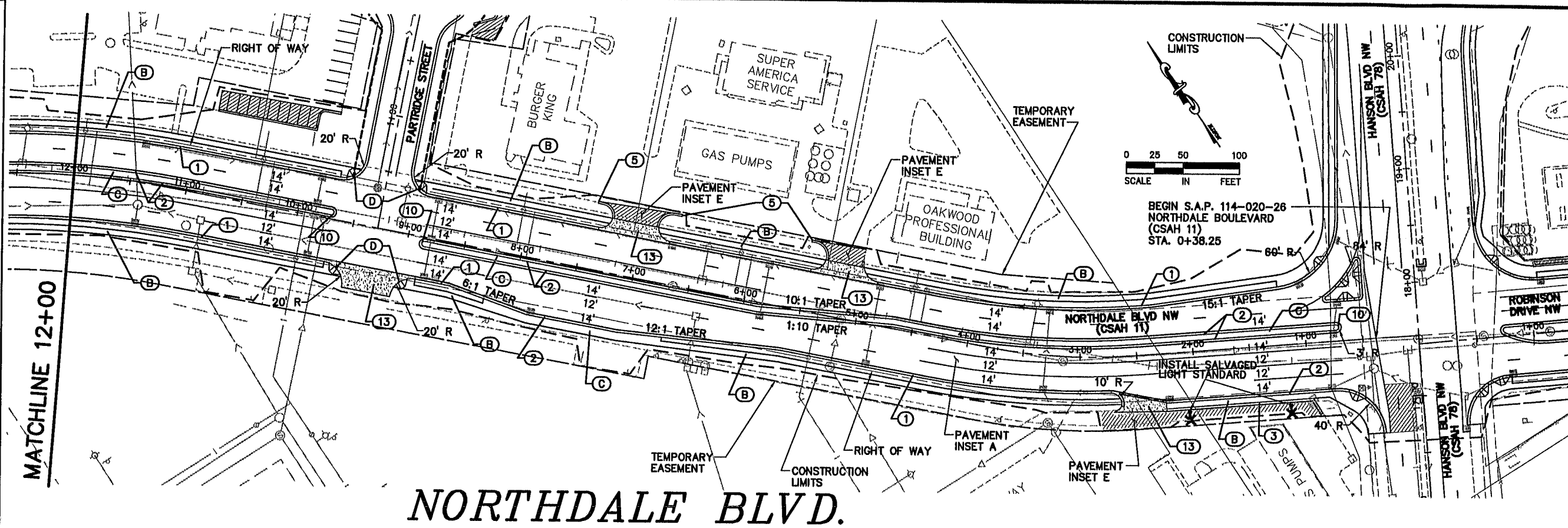
NORTHDALÉ BOULEVARD
 (C.S.A.H. 11)
NORTHDALÉ CUL DE SAC
 EXISTING TOPOGRAPHY, UTILITIES & REMOVALS

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

6 OF 6
 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.




REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043
 DRAWN BY:
PMJ
 CHECKED BY:
ICP
 DATE:
APRIL 26, 2002

URS

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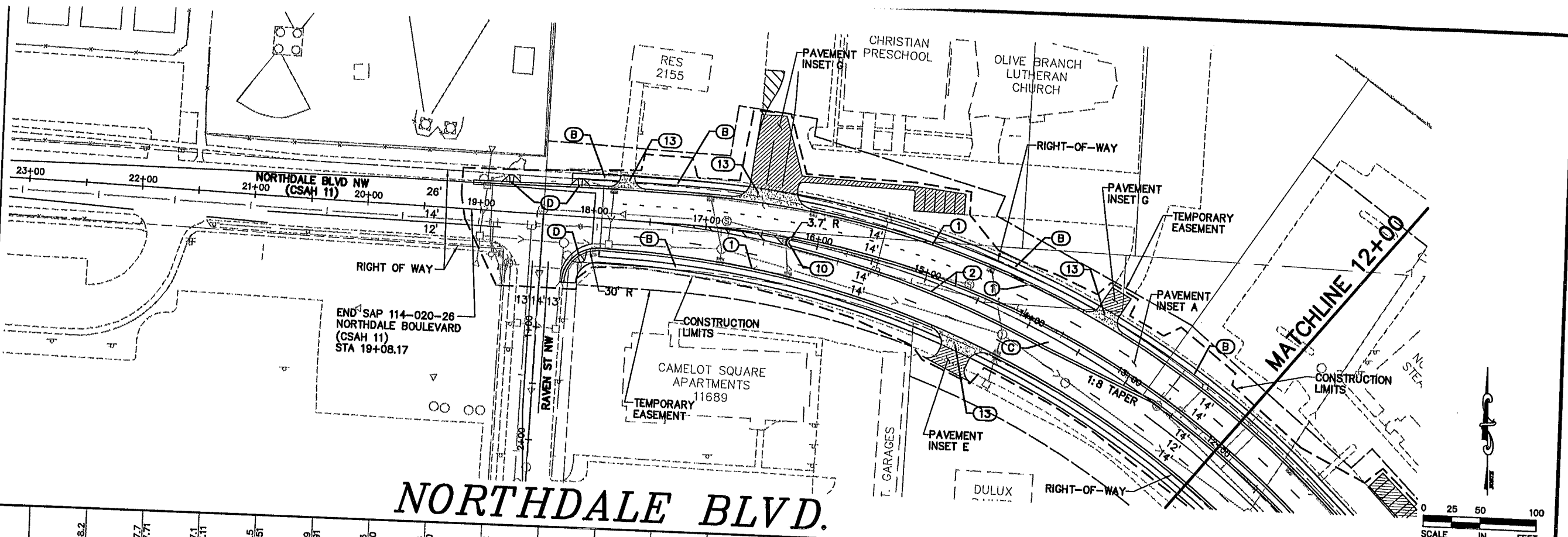

 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23197

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

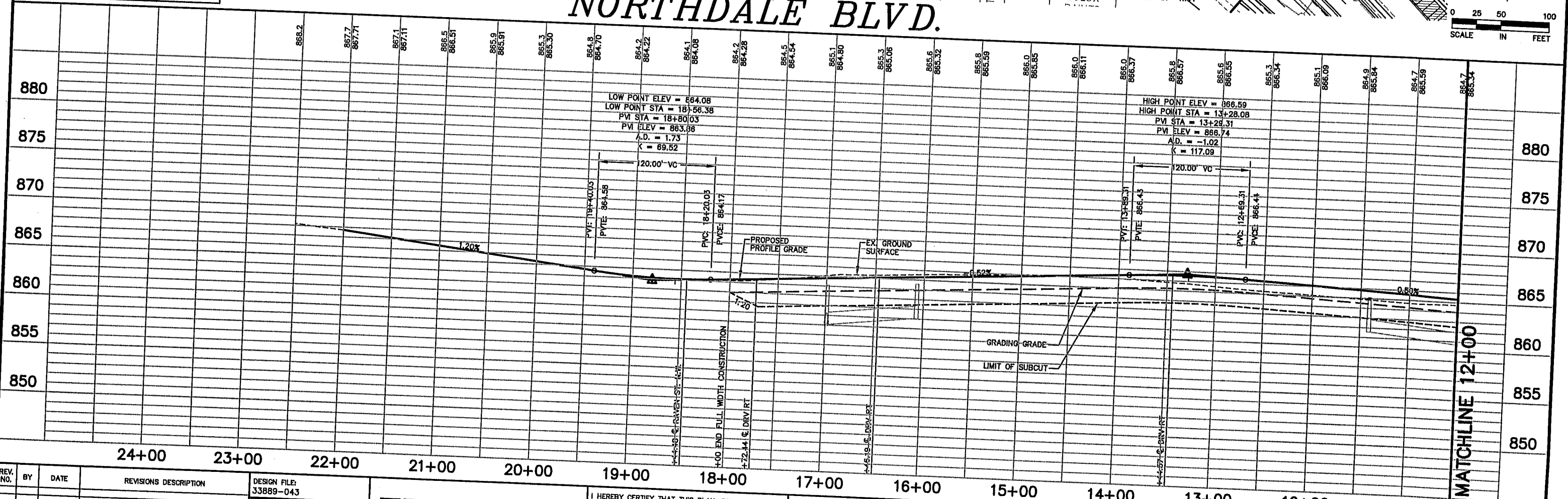
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COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

PLOT DATE: 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

DESIGN FILE:
33889-043
 DRAWN BY:
PMJ
 DESIGN BY:
JUL
 CHKED. BY:
ICP
 DWG. NAME:
043-PP04
 DATE:
APRIL 26, 2002



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

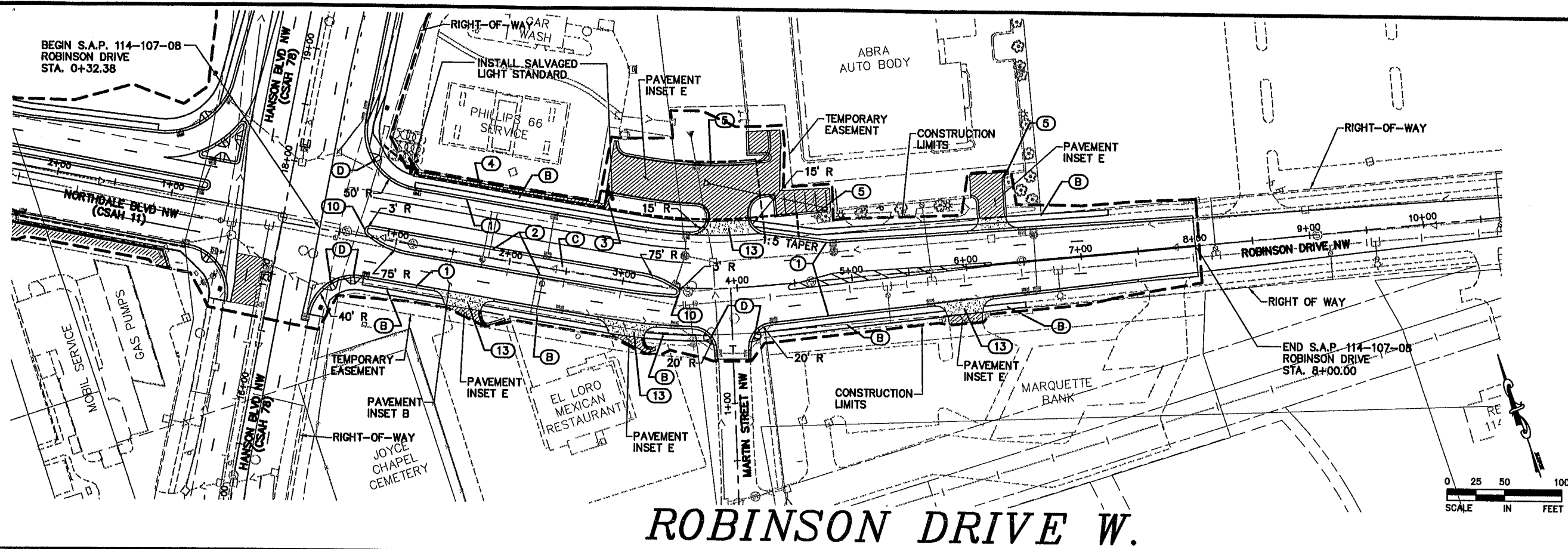
NORTHDALE BOULEVARD
 (C.S.A.H. 11)
NORTHDALE BOULEVARD
 CONSTRUCTION PLAN & PROFILE

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

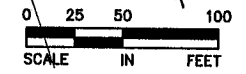
2 OF 5
 SHEET NO.
59
 159

PLOT DATE: Apr 19, 2002 3:52pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-PP04.dwg

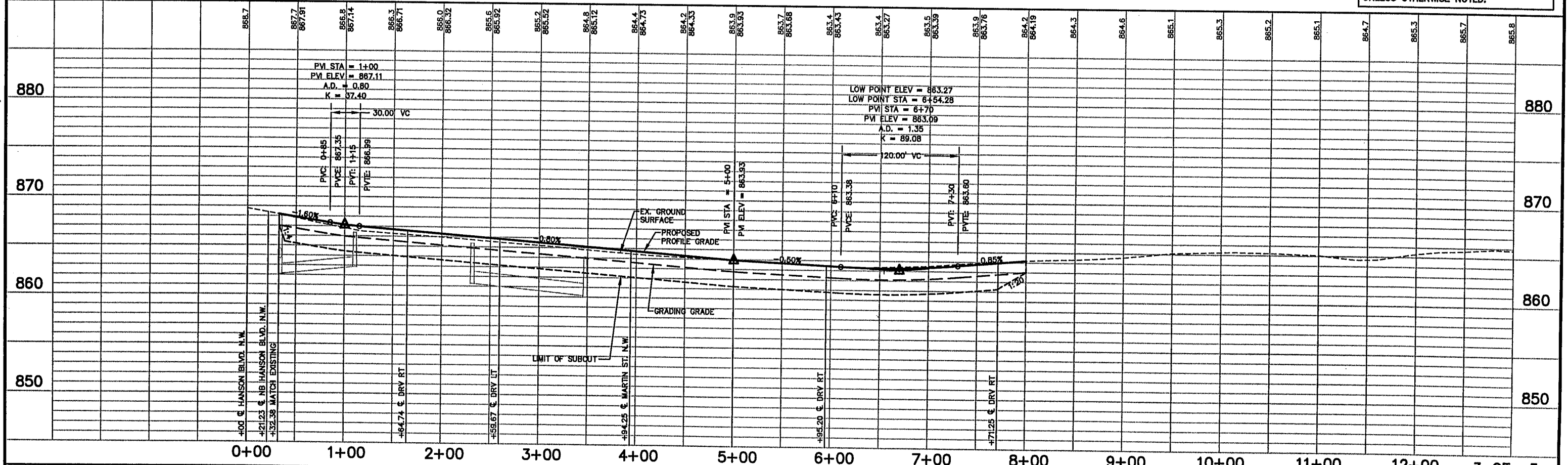
PLOT DATE: May 002 4:54pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-PP01.dwg



- CONSTRUCTION NOTES:**
- (A) NOT USED
 - (B) CONCRETE WALK DETAIL B (6' 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
1	JUL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE: 33889-043	DRAWN BY: PMJ	DESIGN BY: JUL
CHCKD. BY: ICP	DWG. NAME: 043-PP01	DATE: APRIL 26, 2002

URS

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

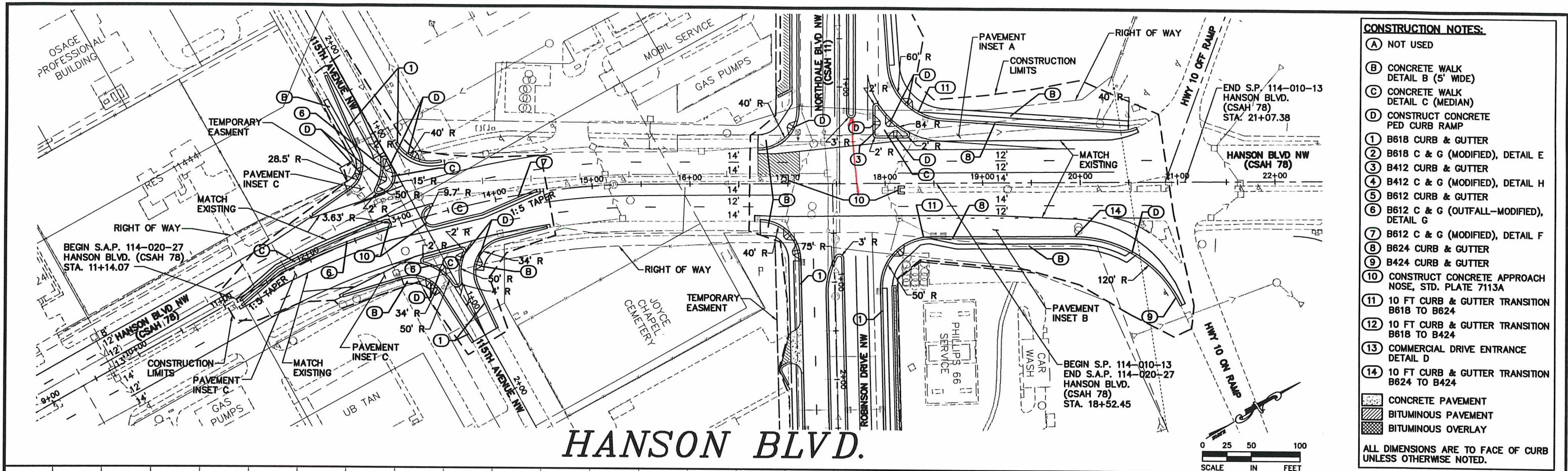
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

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

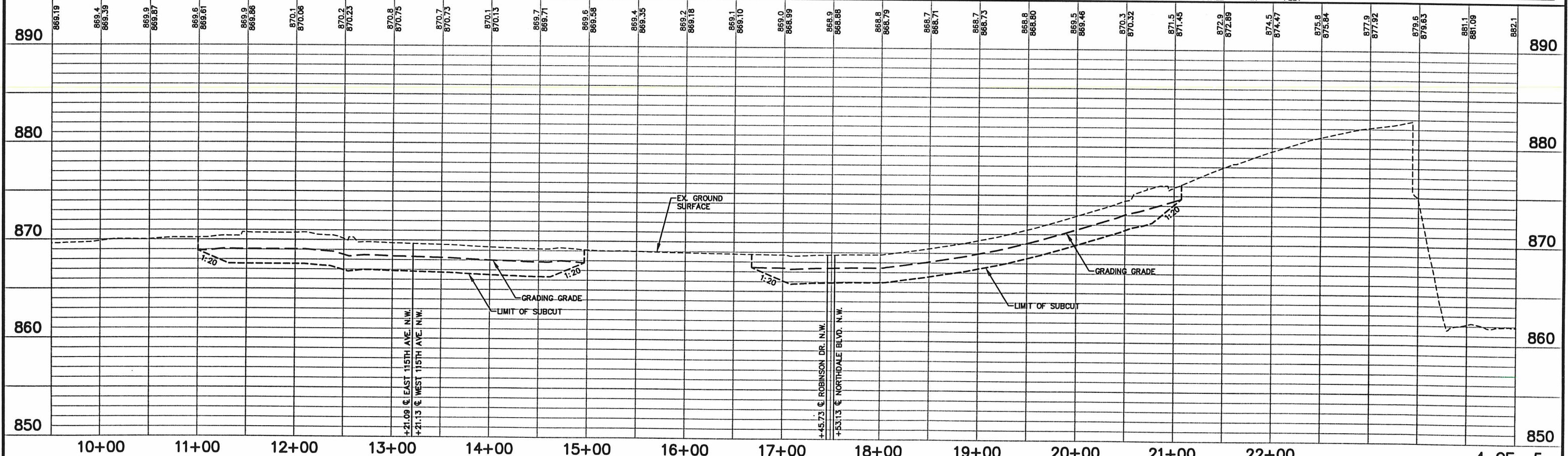
NORTHDALÉ BOULEVARD
 (C.S.A.H. 11)
 ROBINSON DRIVE W.
 CONSTRUCTION PLAN & PROFILE

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO.	60
COUNTY PROJECT		S.A.P.	114-020-27		
		S.A.P.	114-107-08		
3 OF 5					159

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






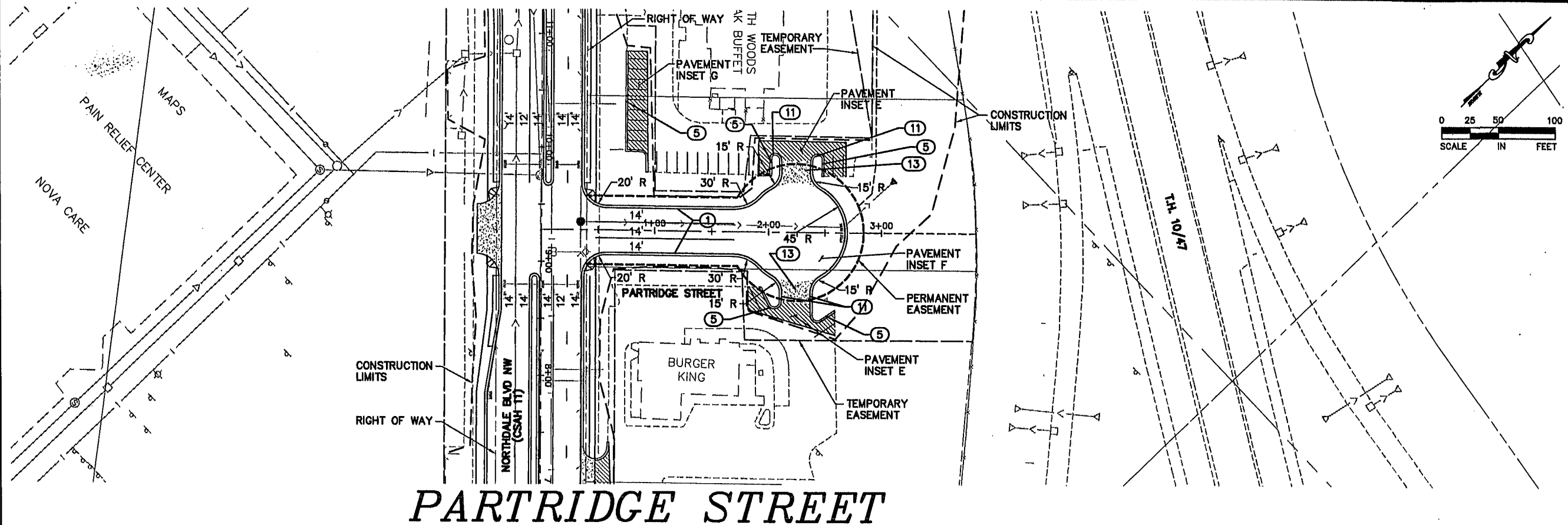
- CONSTRUCTION NOTES:**
- (A) NOT USED
 - (B) CONCRETE WALK
DETAIL B (5' WIDE)
 - (C) CONCRETE WALK
DETAIL C (MEDIAN)
 - (D) CONSTRUCT CONCRETE
PED CURB RAMP
 - (1) B618 CURB & GUTTER
 - (2) B618 C & G (MODIFIED), DETAIL E
 - (3) B412 CURB & GUTTER
 - (4) B412 C & G (MODIFIED), DETAIL H
 - (5) B612 CURB & 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.



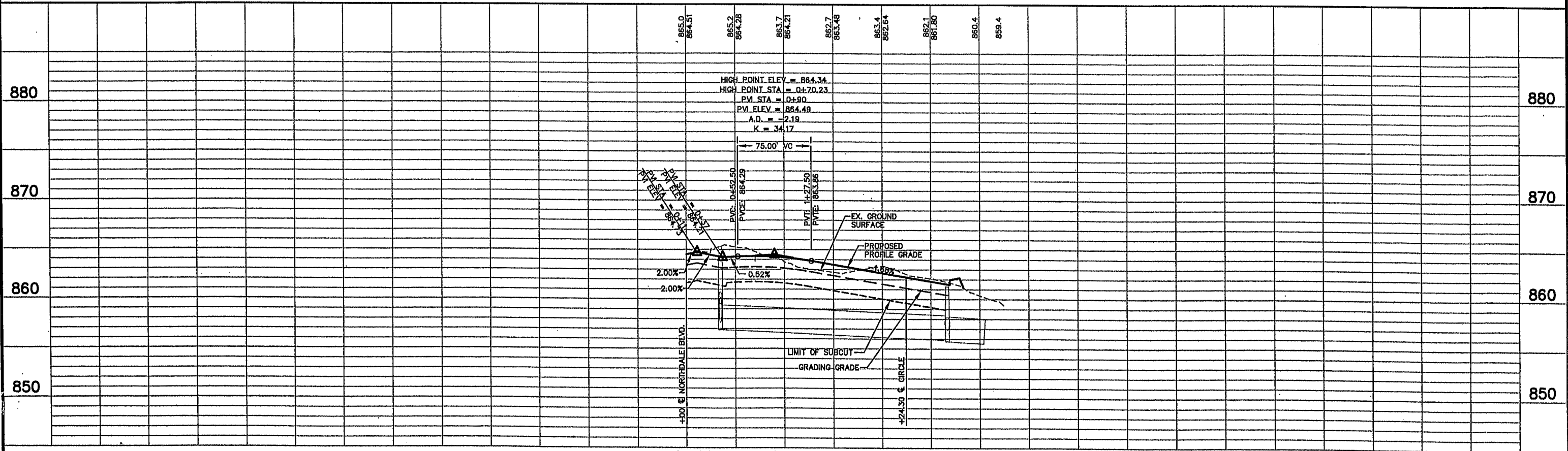
REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 33889-043	<p>Thresher Square 700 Third Street South Minneapolis, MN 55415 612.370.0700 Tel 612.370.1378 Fax</p>	<p>I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.</p> <p><i>Paul B. Danielson</i> PAUL B. DANIELSON DATE: 4/26/02 MN LIC. NO. 23197</p>	<p>NORTHDAL BOULEVARD (C.S.A.H. 11) HANSON BOULEVARD CONSTRUCTION PLAN & PROFILE</p>	CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 61 159
				COUNTY PROJECT					S.A.P.	114-020-27		
				S.P.				114-010-13	S.A.P.	114-107-08		
								4 OF 5				

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: JUL
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DATE: APRIL 26, 2002		



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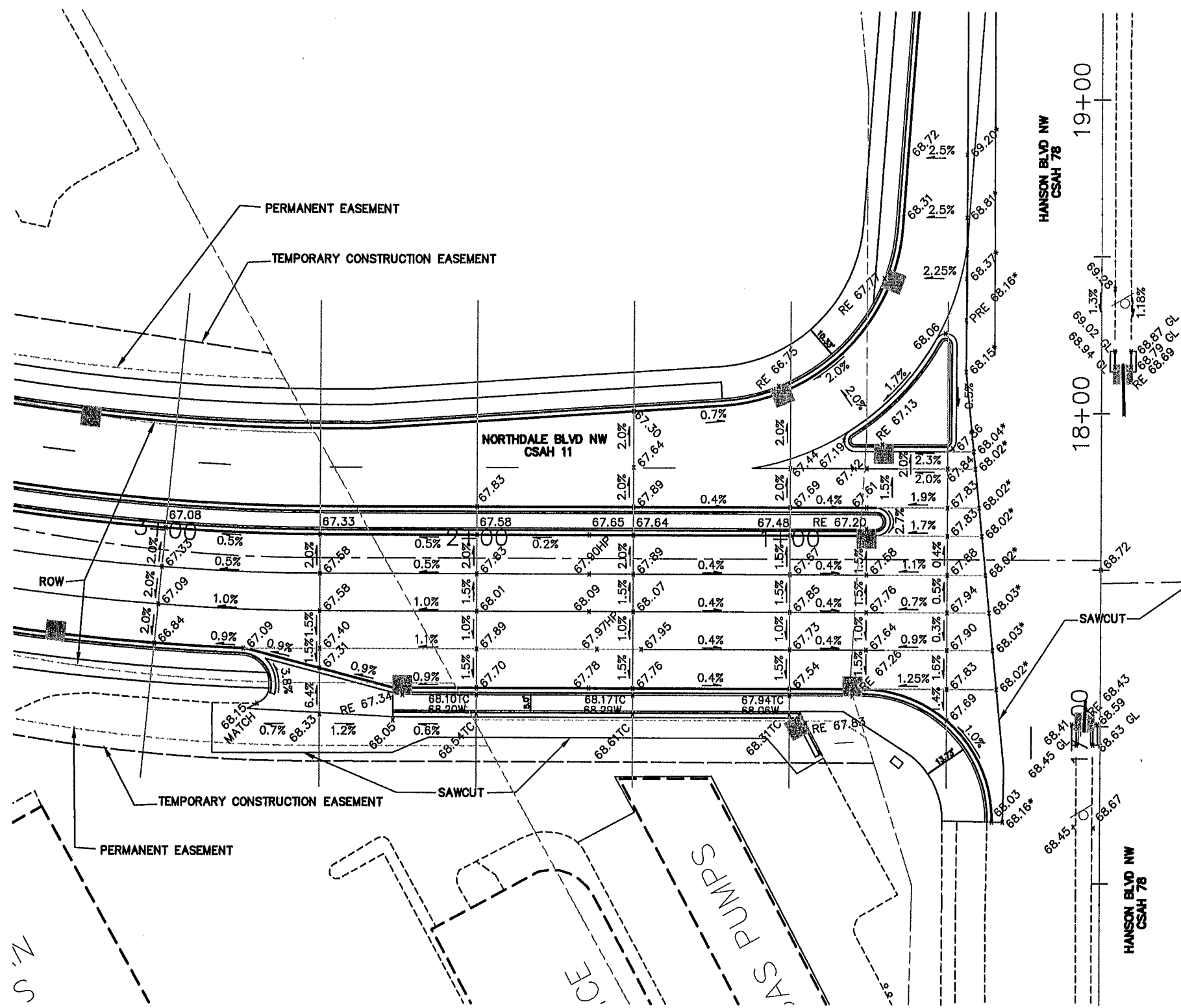
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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

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

PLOT DATE: Apr 26 12:24pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-ID01.dwg



* -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)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	
DRAWN BY: JAA	DESIGN BY: JJS
CHKD. BY: ICP	DWG. NAME: 043-ID01
DATE: APRIL 26, 2002	



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 612.370.1578 Fax

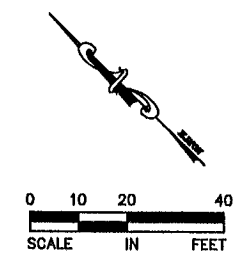
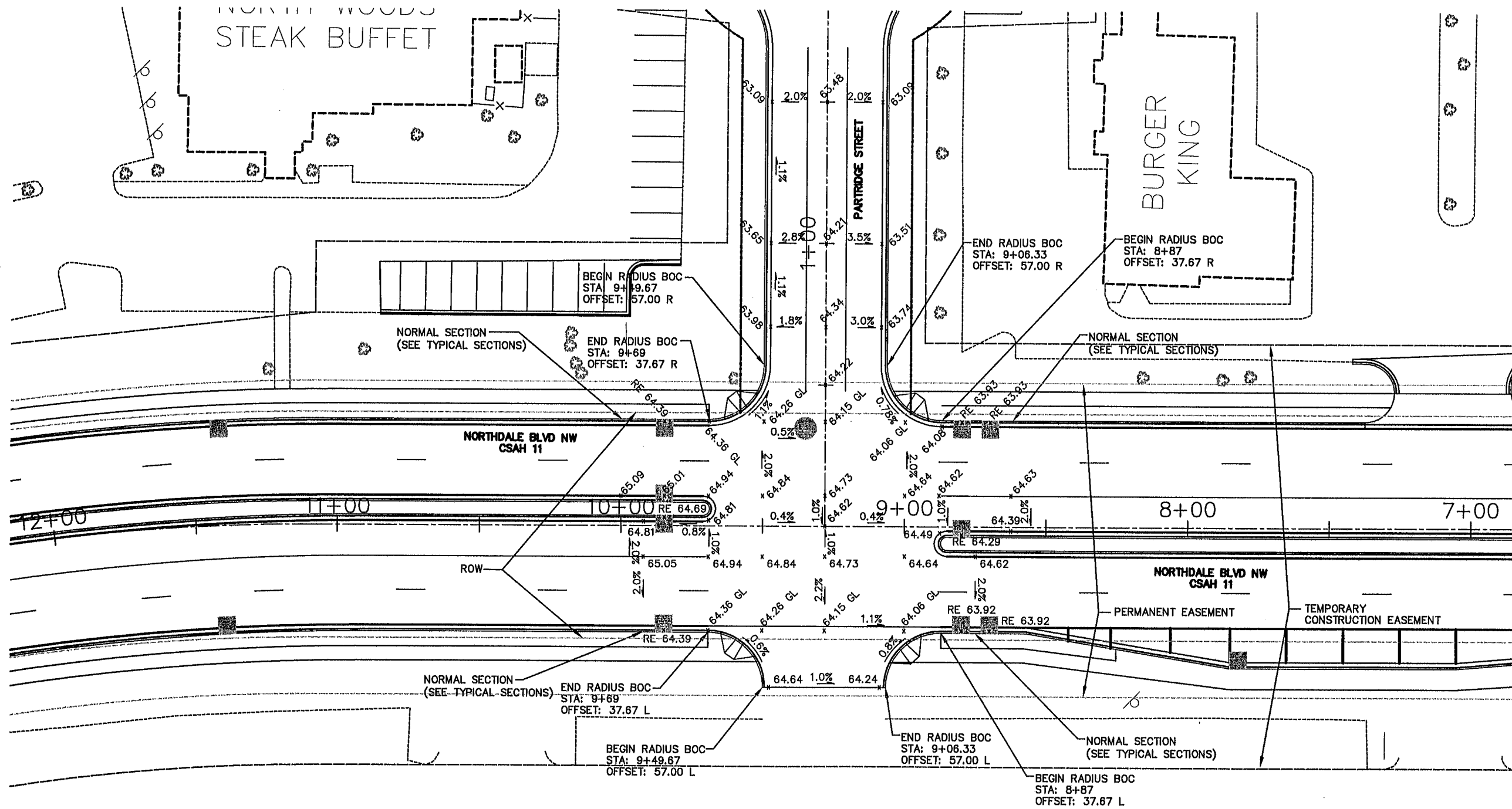
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Paul B. Danielson
 PAUL B. DANIELSON
 DATE: 4/26/02 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

PLOT DATE: Apr 2002 12:25pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-1D03.dwg



— REPRESENTS GENERAL DRAINAGE FLOW PATH

8XX.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

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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)
NORTHDALE BLVD. / CUL DE SAC
CONSTRUCTION PLAN DETAILS

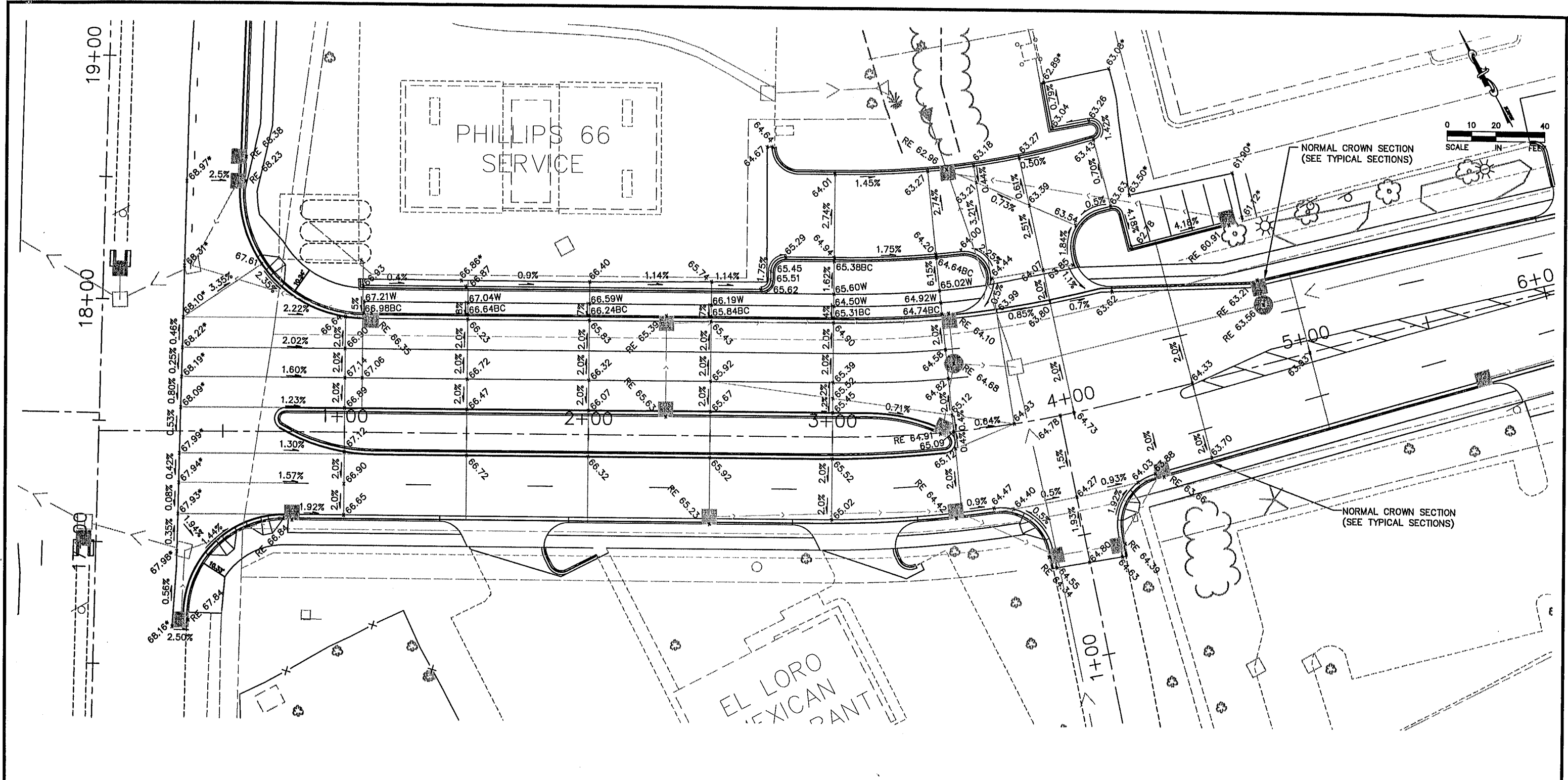
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

2 OF 4

SHEET NO. 64

159

PLOT DATE: May 02 12:35pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-ID04.dwg



← - REPRESENTS GENERAL DRAINAGE FLOW PATH
 * = EXISTING GRADE AT SAWCUT LINE
 8XX.XX = SPOT ELEVATIONS
 8XX.XXBC = ELEVATION AT BACK OF CURB
 8XX.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)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	BJK	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-ID04
DATE: APRIL 26, 2002		



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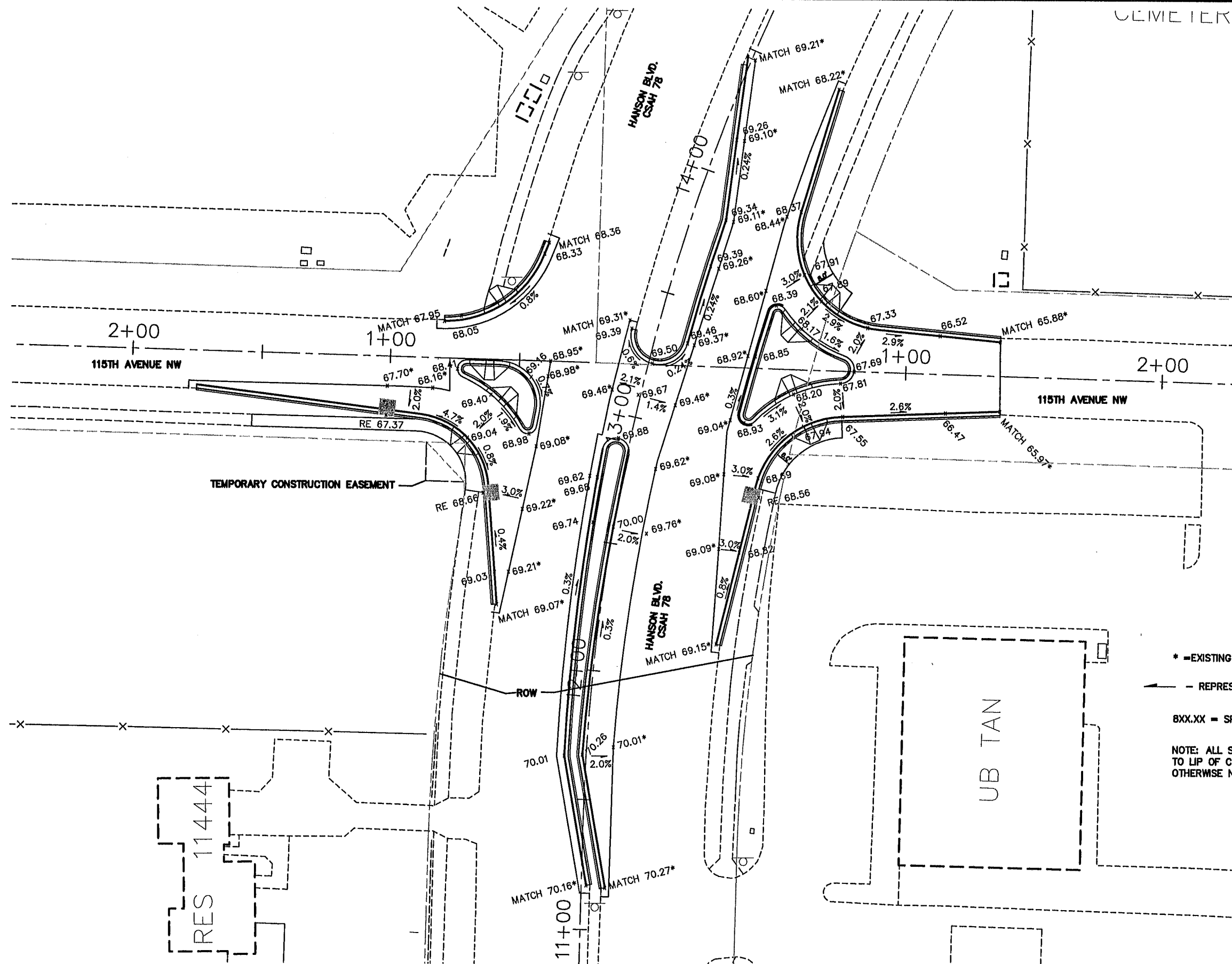
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

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

NORTHDAL E 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



* = 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)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	
DRAWN BY: JAA	DESIGN BY: JJS
CHKD. BY: ICP	DWG. NAME: 043-ID02
DATE: APRIL 26, 2002	

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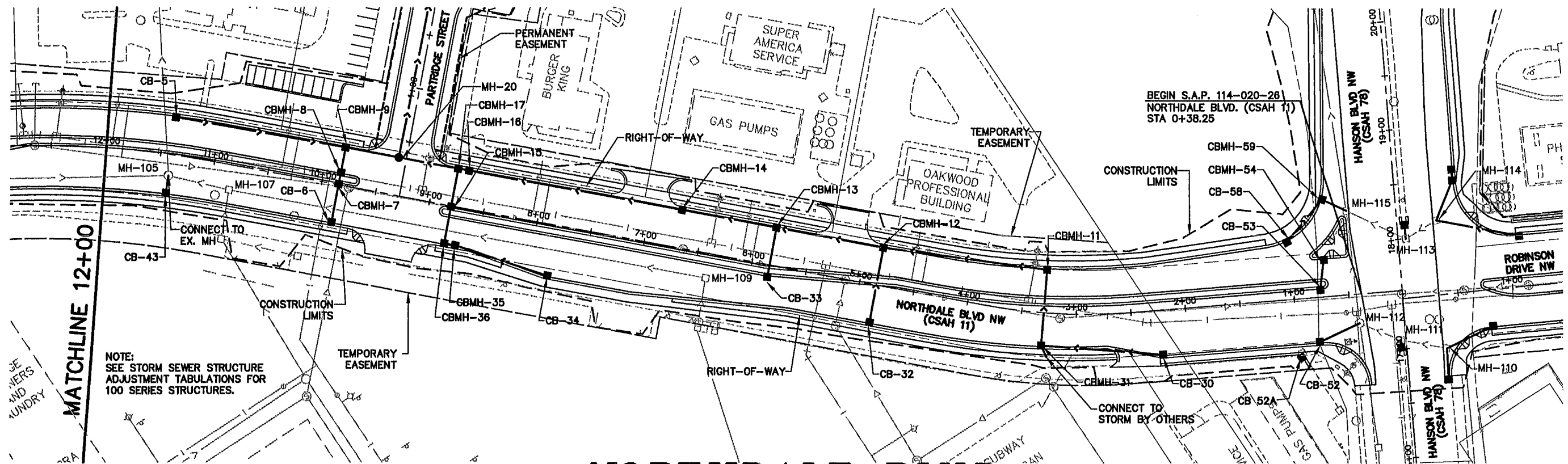
 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23197

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

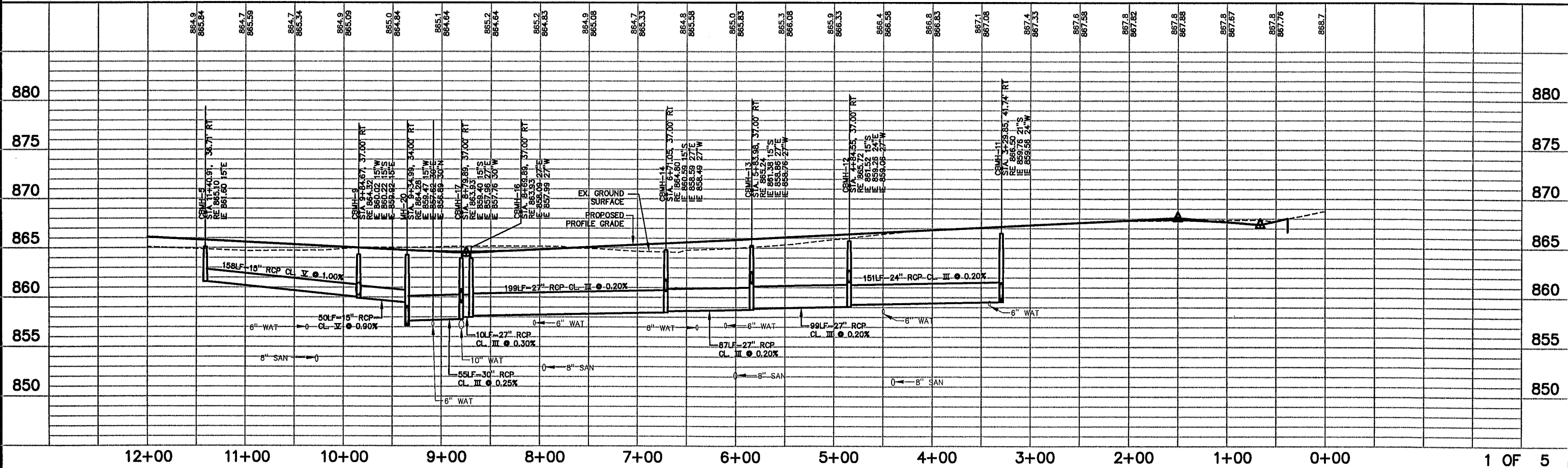
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COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

4 OF 4
 SHEET NO.
66
 159

PLOT DATE: Apr 2002 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	DESIGN BY: BJK
DRAWN BY: TSH/HMW	DWG. NAME: 043-ST04
CHKD. BY: ICP	DATE: APRIL 26, 2002



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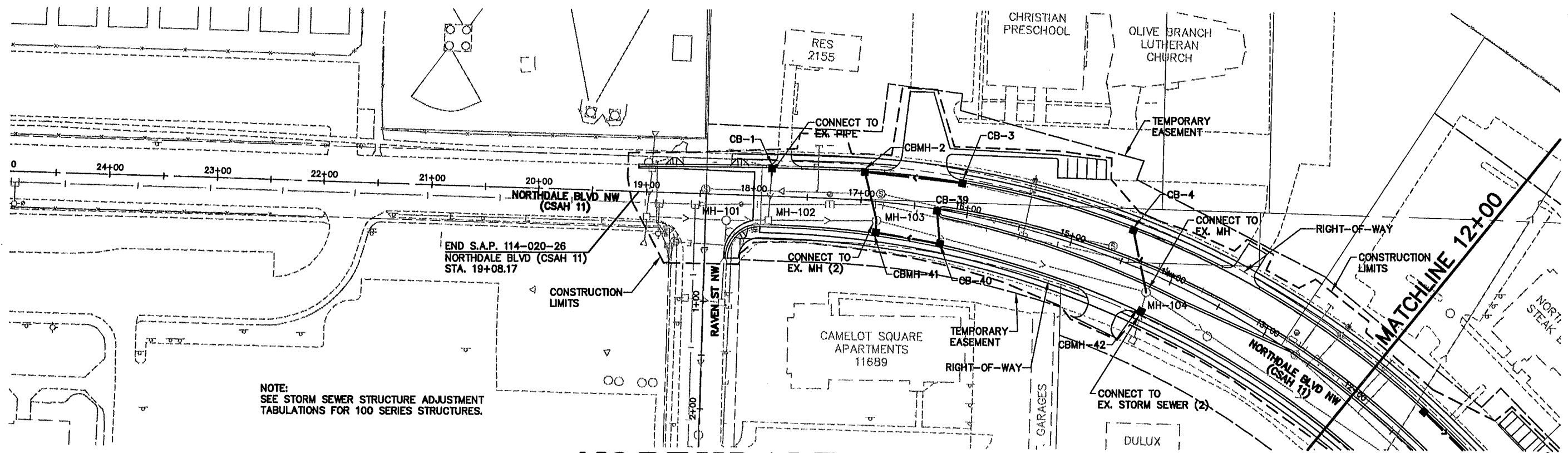
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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

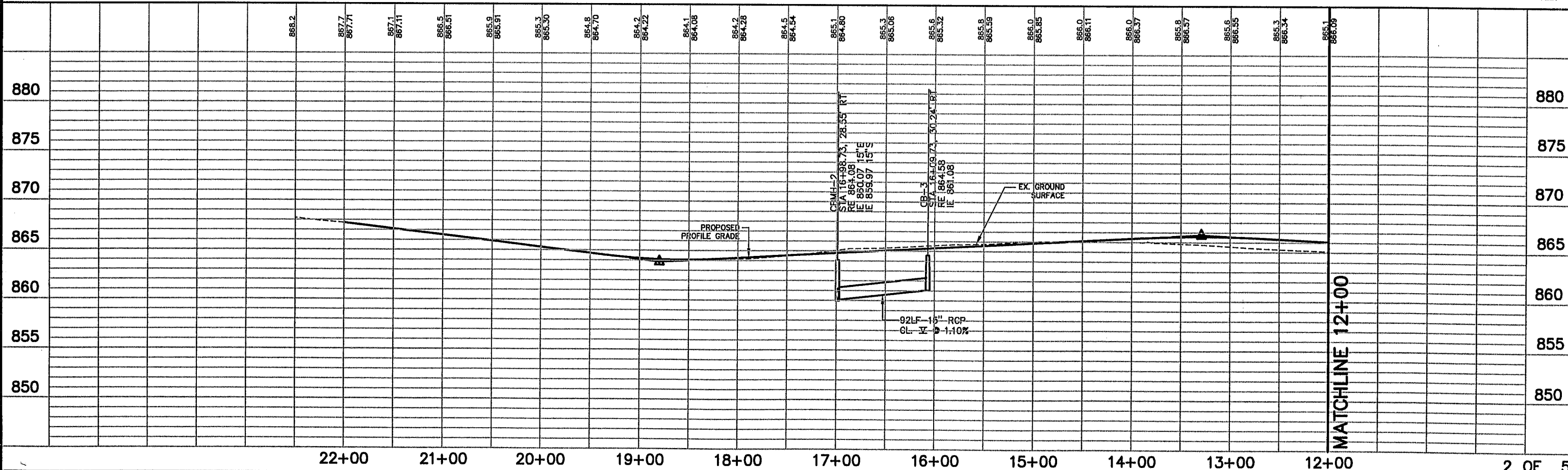
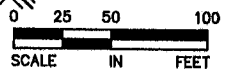
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COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
67
159

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



NORTHDALE BLVD.



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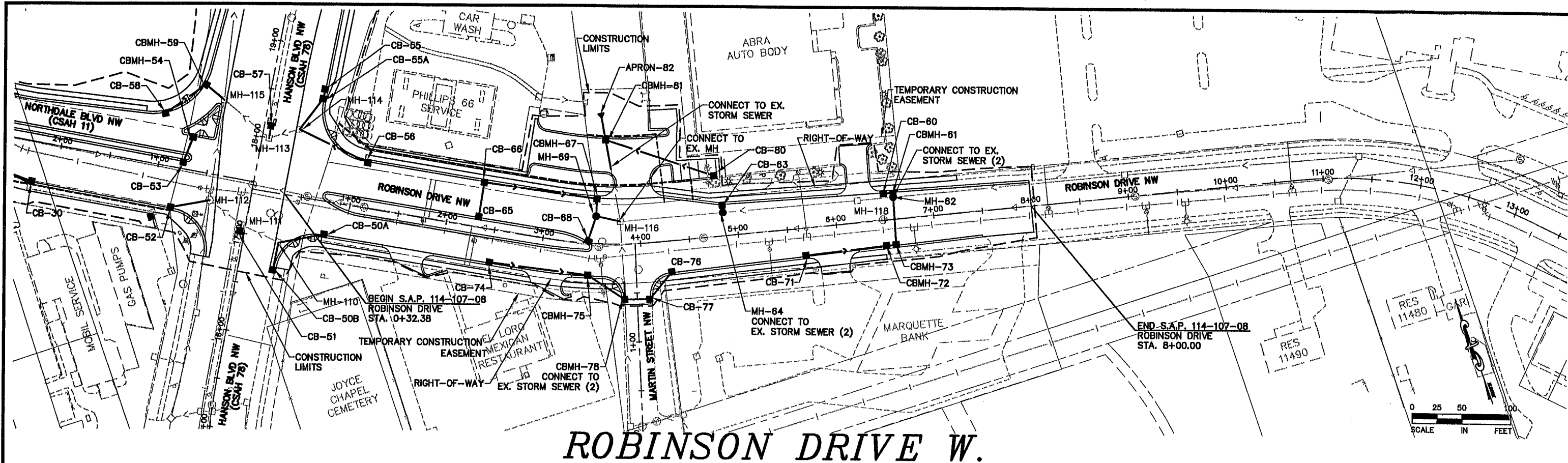
 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23197

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

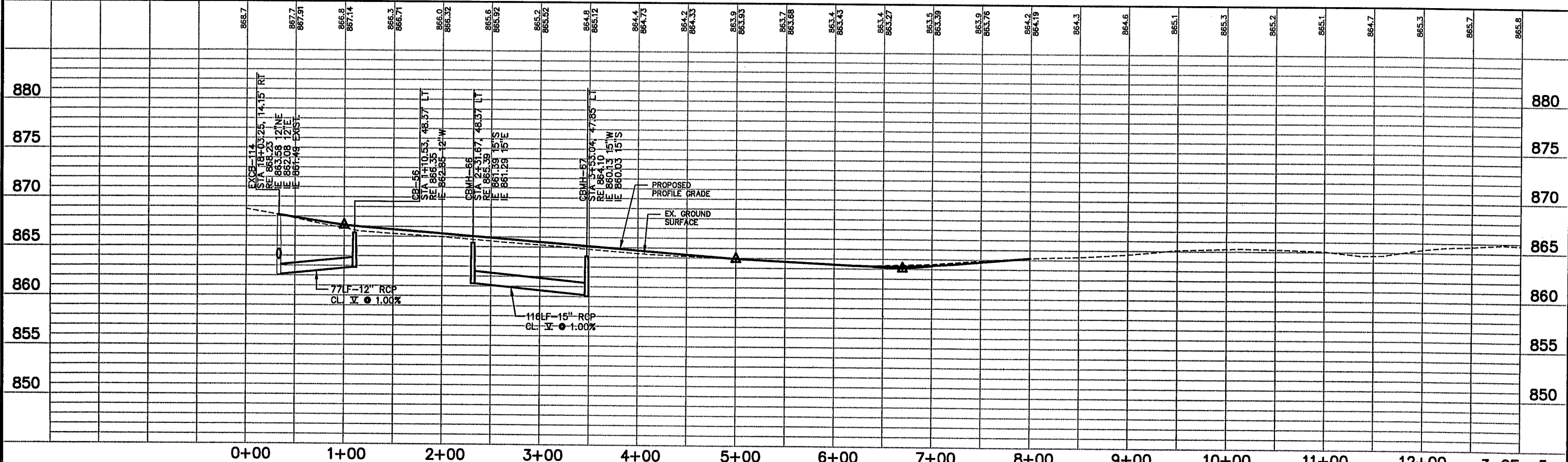
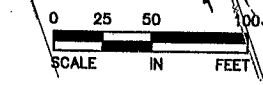
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.
68
 159

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



ROBINSON DRIVE W.



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

DESIGN FILE: 33889-043	DESIGN BY: BJK
DRAWN BY: TSH/HMW	CHKD. BY: ICP
DATE: APRIL 26, 2002	DWG. NAME: 043-ST02



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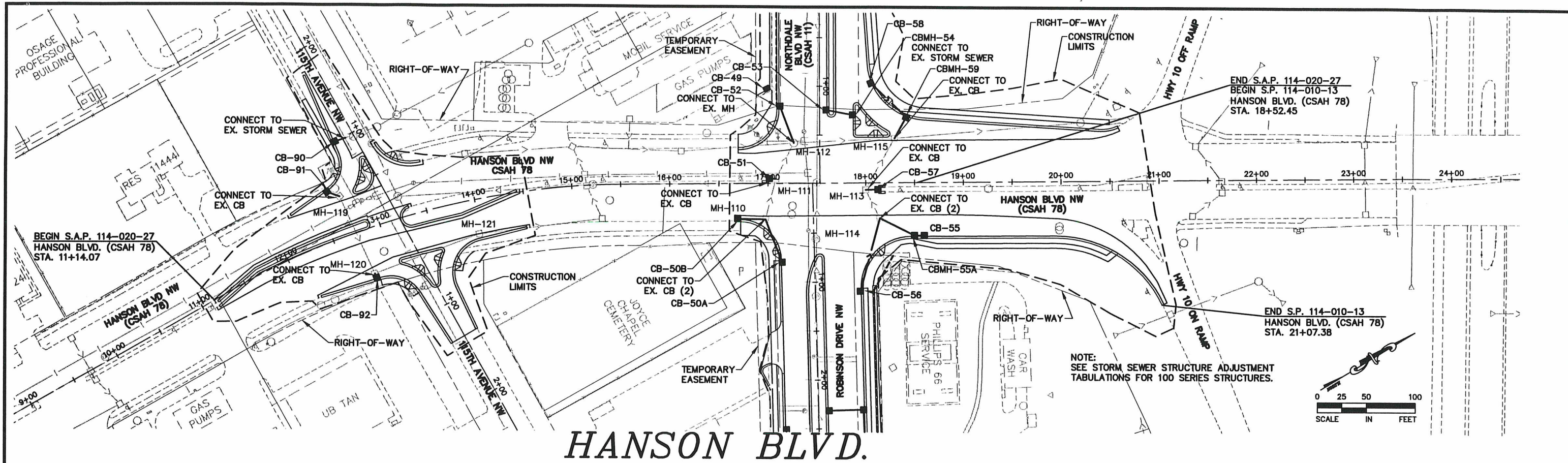
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

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

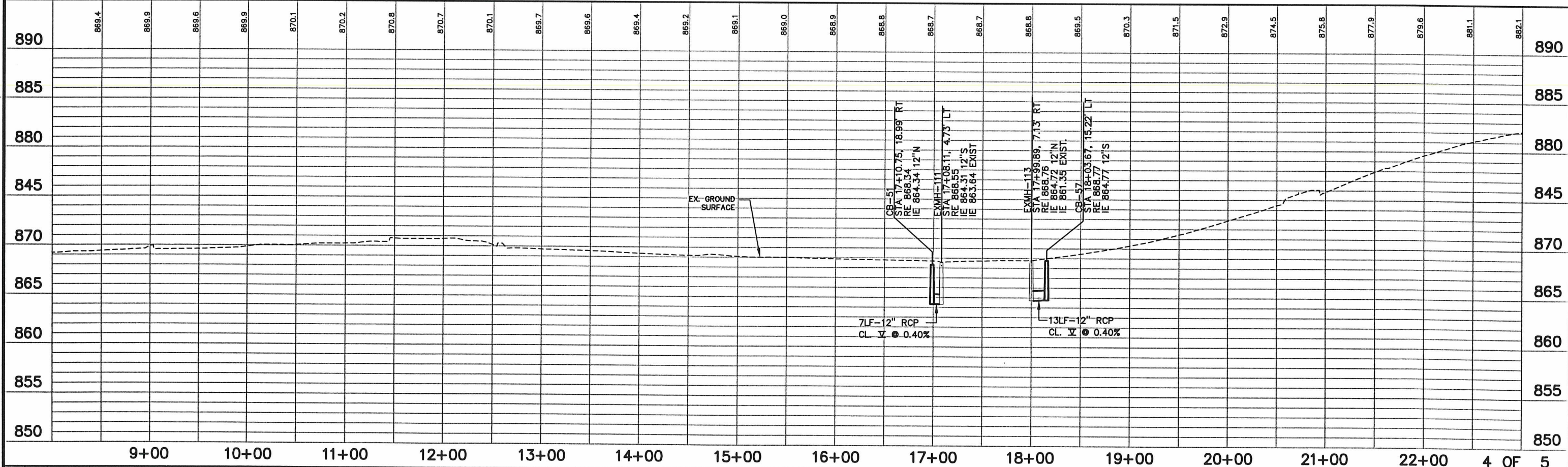
**NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W.**
STORM DRAINAGE
PLAN & PROFILE

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 69 159
COUNTY PROJECT		S.A.P.	114-020-27	
		S.A.P.	114-107-08	

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



HANSON BLVD.



REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE:
1	BJK	05/07/02	ADD. #1: REVISED EXISTING RIM ELEVATIONS	33889-043
				DRAWN BY: TSH/HMW
				DESIGN BY: BJK
				CHKD. BY: ICP
				DWG. NAME: 043-ST03
				DATE: APRIL 26, 2002



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612.370.0700 Tel
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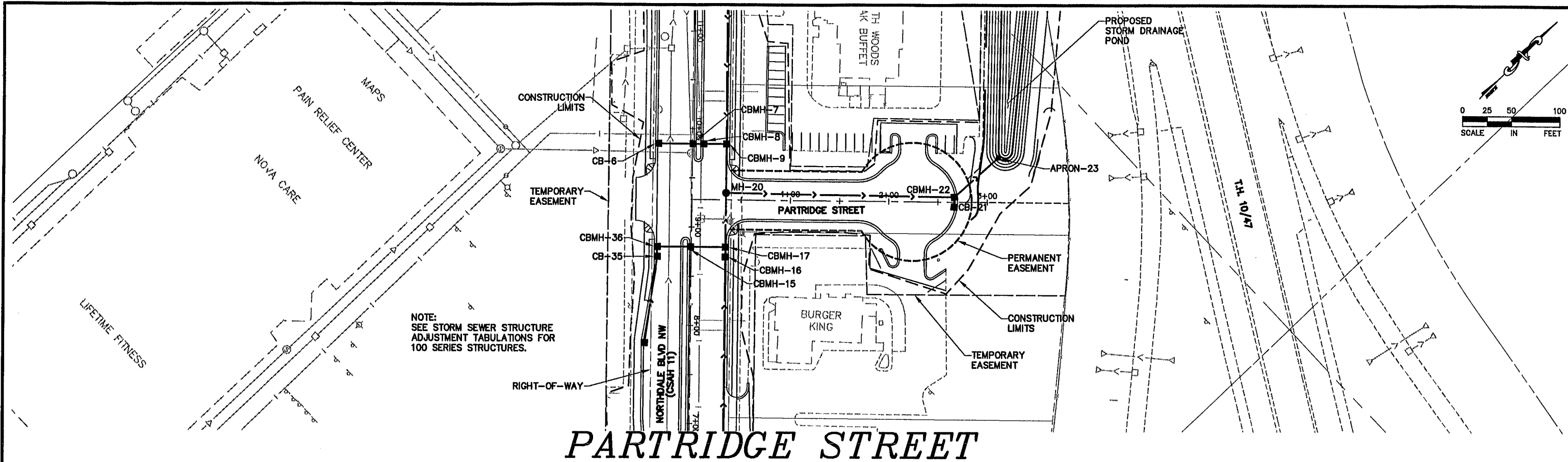
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

**NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
HANSON BOULEVARD**
STORM DRAINAGE
PLAN & PROFILE

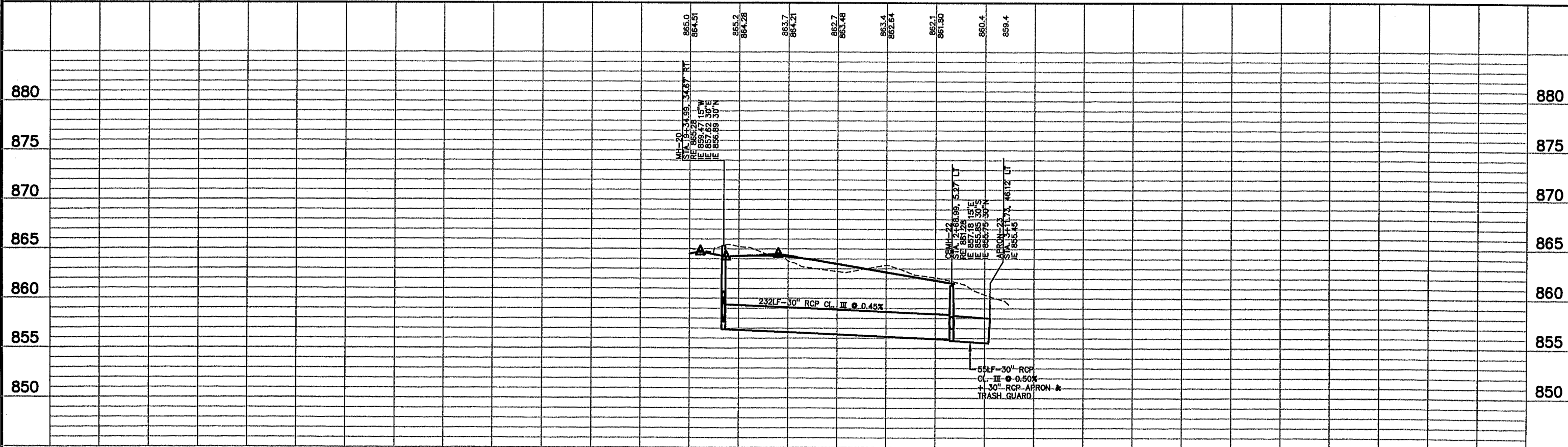
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COUNTY PROJECT		S.A.P.	114-020-27	
		S.A.P.	114-107-08	

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



PARTRIDGE STREET

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



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

5 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043
DRAWN BY:
TSH/HMW
DESIGN BY:
BJK
CHKD. BY:
ICP
DWG. NAME:
043-ST06
DATE:
APRIL 26, 2002



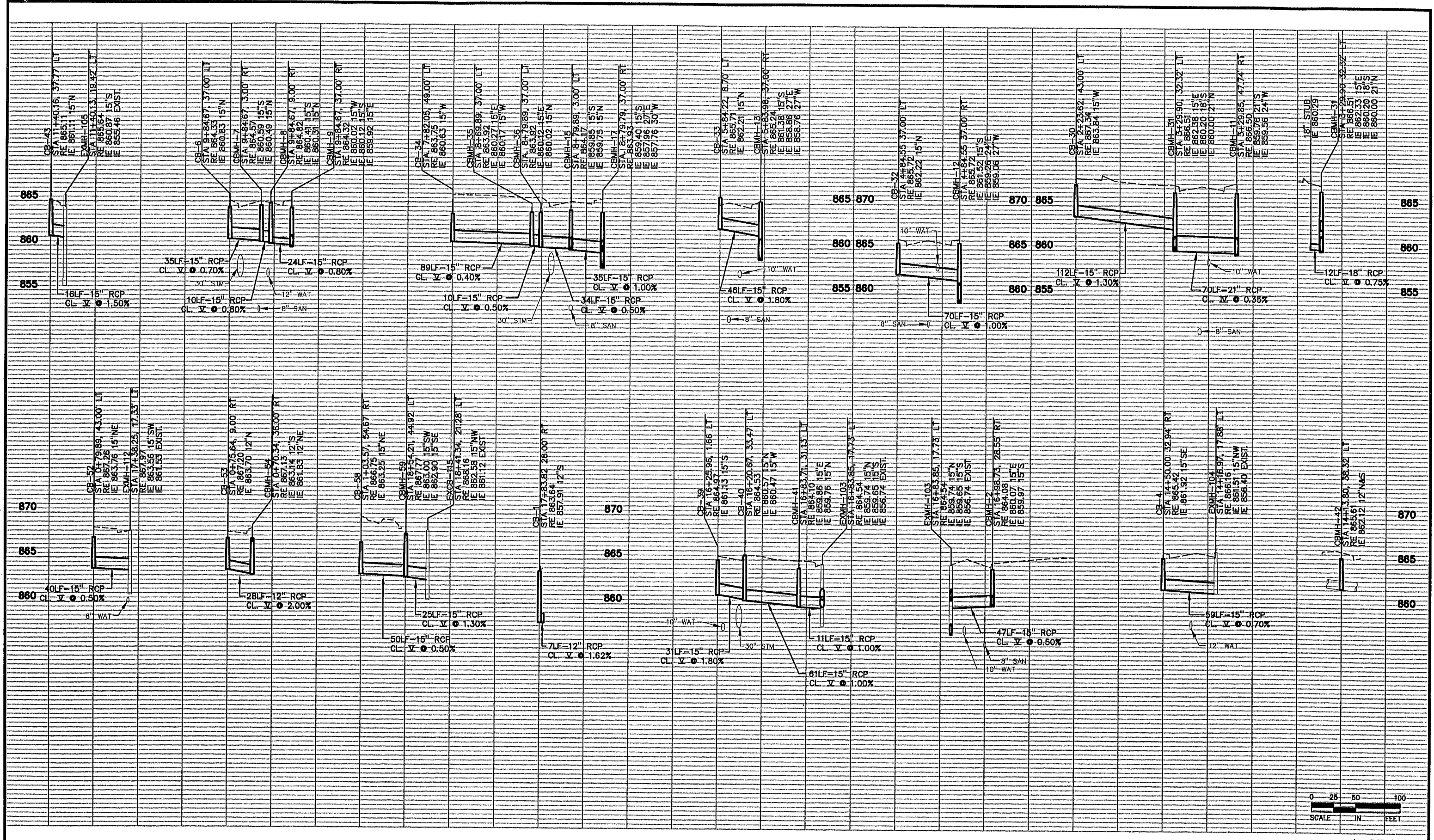
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700 Third Street South
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612.370.0700 Tel
612.370.1978 Fax

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



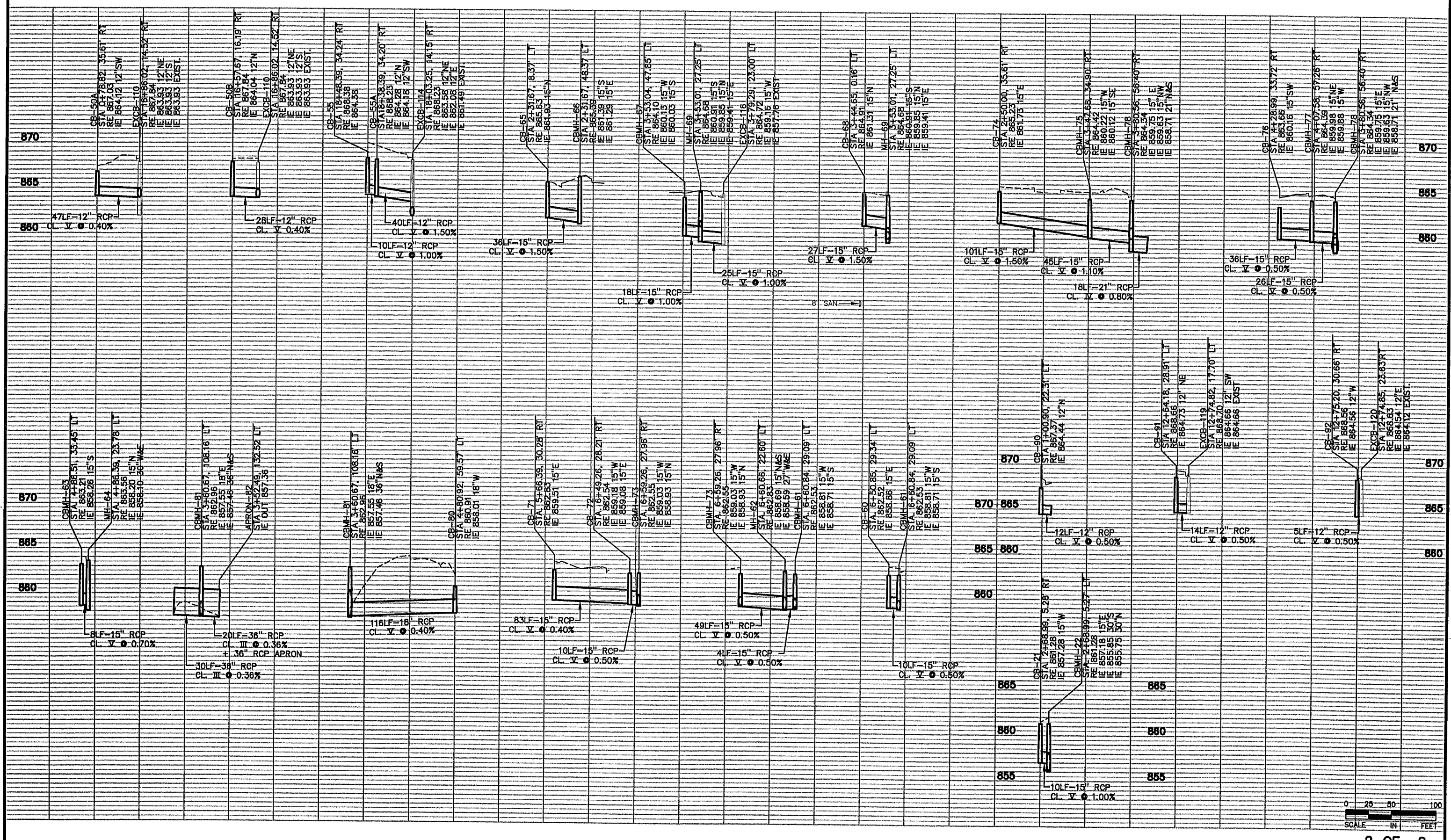
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700 Third Street South
Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

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

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



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		

URS

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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: 4/28/02 MN LIC. NO. 23197

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

STORM DRAINAGE LATERAL PROFILES

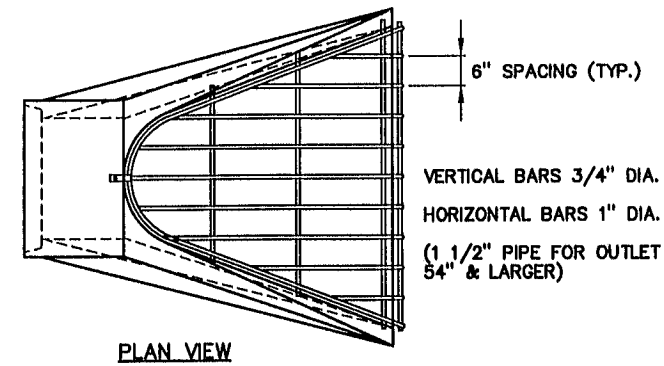
CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 73
COUNTY PROJECT		S.A.P.	114-020-27	
		S.A.P.	114-107-08	

159

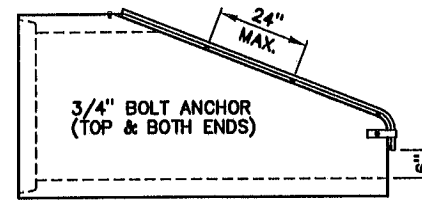
DRAINAGE TABULATION

NOTES	STRUCTURE									DRAINS TO			2501.516										2501.515				
	STRUCT. NO.	ALIGNMENT	STATION [1]	OFFSET [1]	STRUCT. DESIGN	RIM ELEV.	LOW STRUCT. ELEV. FEET	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		
								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 V 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															
	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	7.0														
	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		47.0													
	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															
	CB 5	NORTHDALE	11+40.91	35.71 RT	4006L (H)	865.10	861.60	3.50	B-1	CBMH 9	860.92	1.00															
	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															
	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															
	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															
	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"	865.50	859.56	6.94	B-1	CBMH 12	859.26	0.20															
	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															
	CBMH 13	NORTHDALE	5+83.98	37.00 RT	4020-54"	865.24	858.76	6.48	B-1	CBMH 14	858.59	0.20															
	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															
	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"	864.28	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	857.18	1.00															
	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			855.45																				
	CB 30	NORTHDALE	2+23.82	43.00 LT	4006L (H)	867.34	863.84	3.50	B-1	CBMH 31	862.38	1.30															
	18" STUB						860.29			CBMH 31	860.20	0.75		112.0													
	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															
	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		70.0													
	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															
	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															
	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															
	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															
	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															
	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															
	CBMH 42	NORTHDALE	14+13.80	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															
	[6,7] CB 49	NORTHDALE	0+95.62	63.15 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															
	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															
	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															
	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															
	CB 53	NORTHDALE	0+75.64	9.00 RT	4006L (H)	867.20	863.70	3.50	B-1	EXIST 114	863.56	0.50		40.0													
	CBMH 54	NORTHDALE	0+70.34	36.00 RT	4020-48"	867.13	861.83	5.30	B-1	CBMH 54	863.14	2.00		28.0													
	CB 55	HANSON-NB	18+48.39	34.24 RT	4006L (H)	868.38	864.38	4.00	B-1	EXIST	861.83	1.20															
	CBMH 55a	HANSON-NB	18+38.39	34.20 RT	4020-48"	868.23	864.18	4.05	B-1	CBMH 55a	864.28	1.00		10.0													
	CB 56	ROBINSON	1+10.53	48.37 LT	4006L (H)	866.35	862.85	3.50	B-1	EXIST 114	863.58	1.50															
	CB 57	HANSON-NB	18+03.67	15.22 LT	4006L (H)	868.77	864.77	4.00	B-1	EXIST 114	862.08	1.00															
	CB 58	NORTHDALE	1+03.57	54.67 RT	4006L (H)	866.75	863.25	3.50	B-1	EXIST 113	864.72	0.40		13.0													
	CBMH 59	HANSON-SB	18+54.21	44.92 LT	4020-48"	867.77	862.90	4.87	B-1	CBMH 59	863.00	0.50		50.0													
	36" STUB						862.90			EXIST 115	862.58	1.30															
	CB 60	ROBINSON	6+50.85	29.34 LT	4006L (H)	862.52	858.86	3.66	B-1	CBMH 61	858.81	0.50															
	CBMH 61	ROBINSON	6+50.84	29.09 LT	4020-48"	862.53	858.71	3.82	B-1	MH 82	858.69	0.50		10.0													
	MH 82	ROBINSON	6+50.66	22.60 LT	4020-54"	862.83	858.59	4.24	A-7	EXIST	858.69	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															
	MH 64	ROBINSON	4+86.39	23.78 LT	4020-60"	863.56	858.10	5.46	A-7	EXIST	858.10	0.32															
	CB 65	ROBINSON	2+31.67	8.37 LT	4006L (H)	865.63	861.93	3.70	B-1	CBMH 66	861.39	1.50															
	CBMH 66	ROBINSON	2+31.67	48.37 LT	4020-48"	865.39	861.29	4.10	B-1	CBMH 67	860.13	1.00															
	CBMH 67	ROBINSON	3+53.04	47.85 LT	4020-48"	864.10	860.03	4.07	B-1	MH 69</																	

PLOT DATE: May 2 9:05am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-DL01.dwg



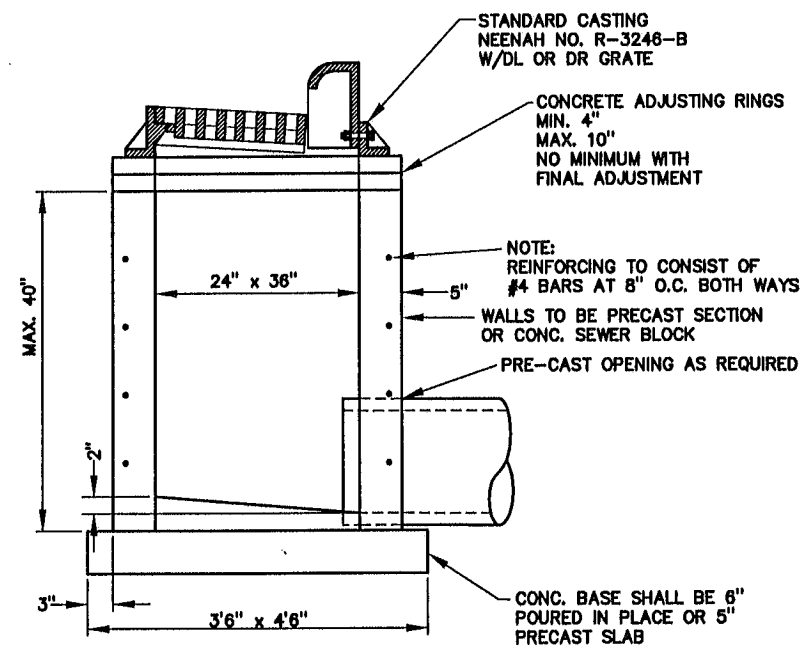
PLAN VIEW



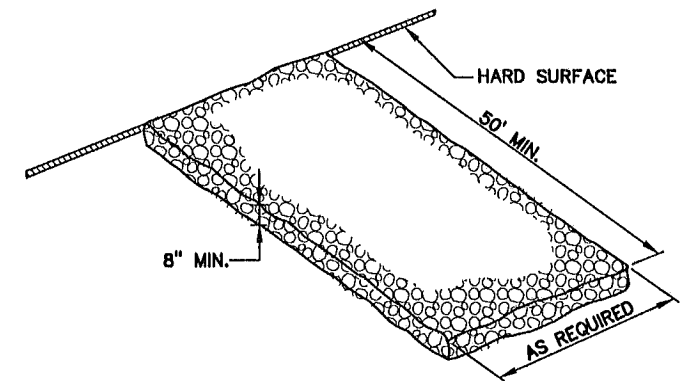
SECTION

- 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.

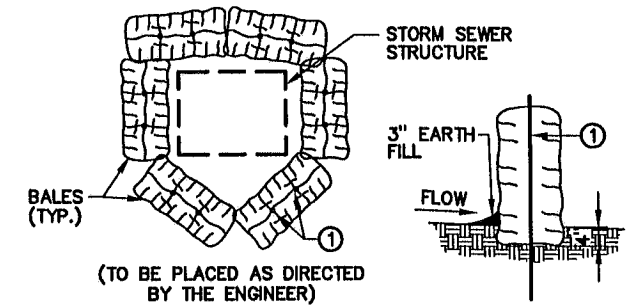
TRASH GUARD FOR END SECTION



DRAINAGE STRUCTURE DESIGN SPECIAL 1

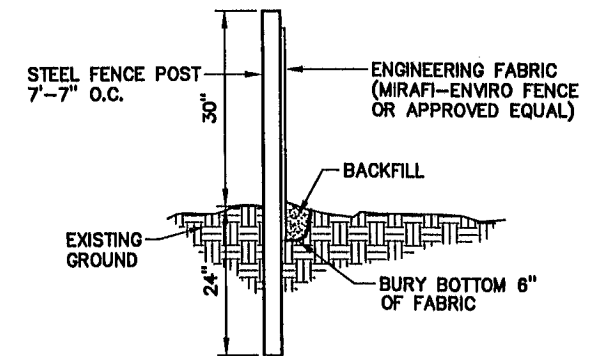


NOTES:
 A GEOTEXTILE FABRIC SHALL BE USED UNDER THE ROCK TO PREVENT MIGRATION OF THE UNDERLYING SOIL INTO THE STONE.
TEMPORARY ROCK CONSTRUCTION ENTRANCE



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)



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

EROSION CONTROL FENCE

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

DESIGN FILE: 33889-043	DRAWN BY: HMW	DESIGN BY: HMW
	CHKD. BY: ICP	DWG. NAME: 043-DL01
	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
 DATE: 4/28/02 MN LIC. NO. 23197

NORTHDALÉ BOULEVARD
 (C.S.A.H. 11)

EROSION CONTROL & STORM DRAINAGE DETAILS

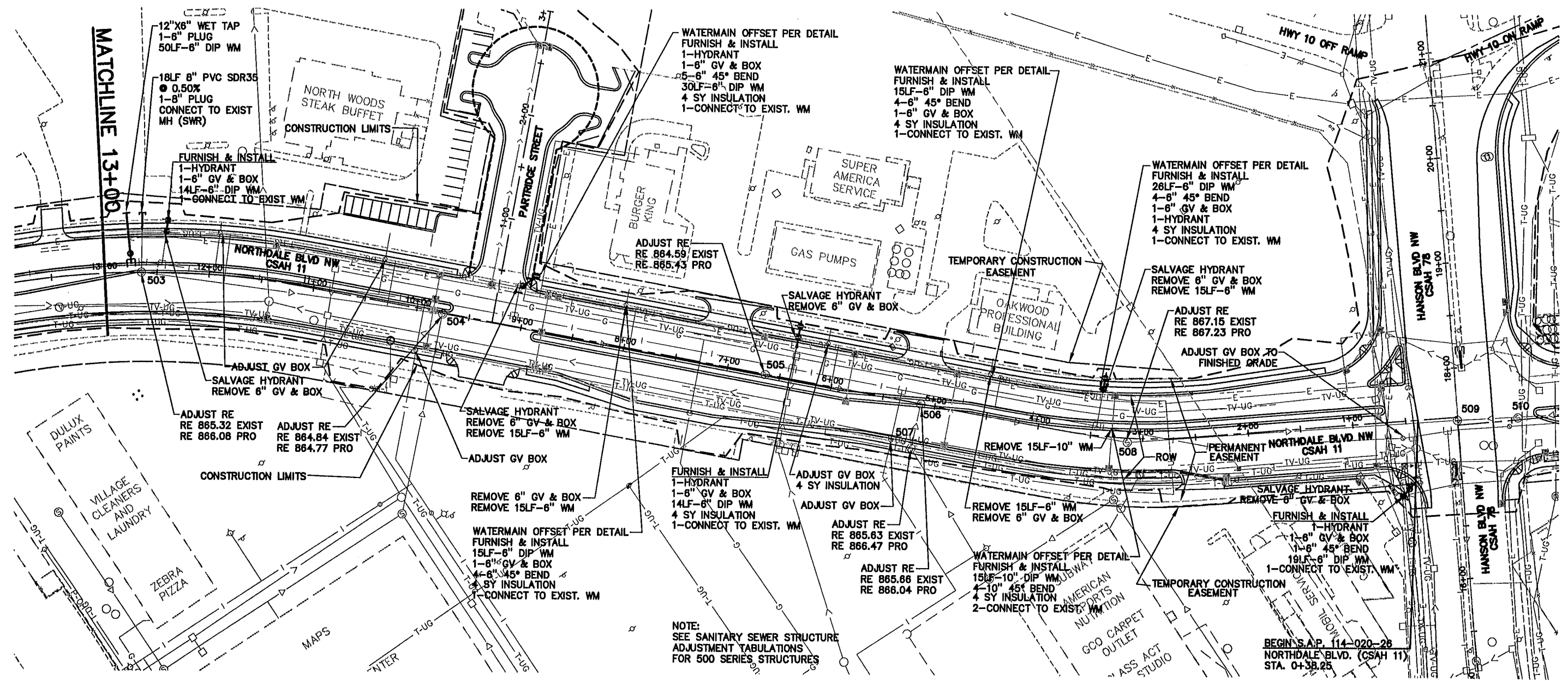
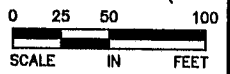
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

1 OF 1

SHEET NO.

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	DESIGN BY: J.J.L.
DRAWN BY: P.M.J.	DWG. NAME: 043-WA02
CHKD. BY: I.C.P.	DATE: APRIL 26, 2002



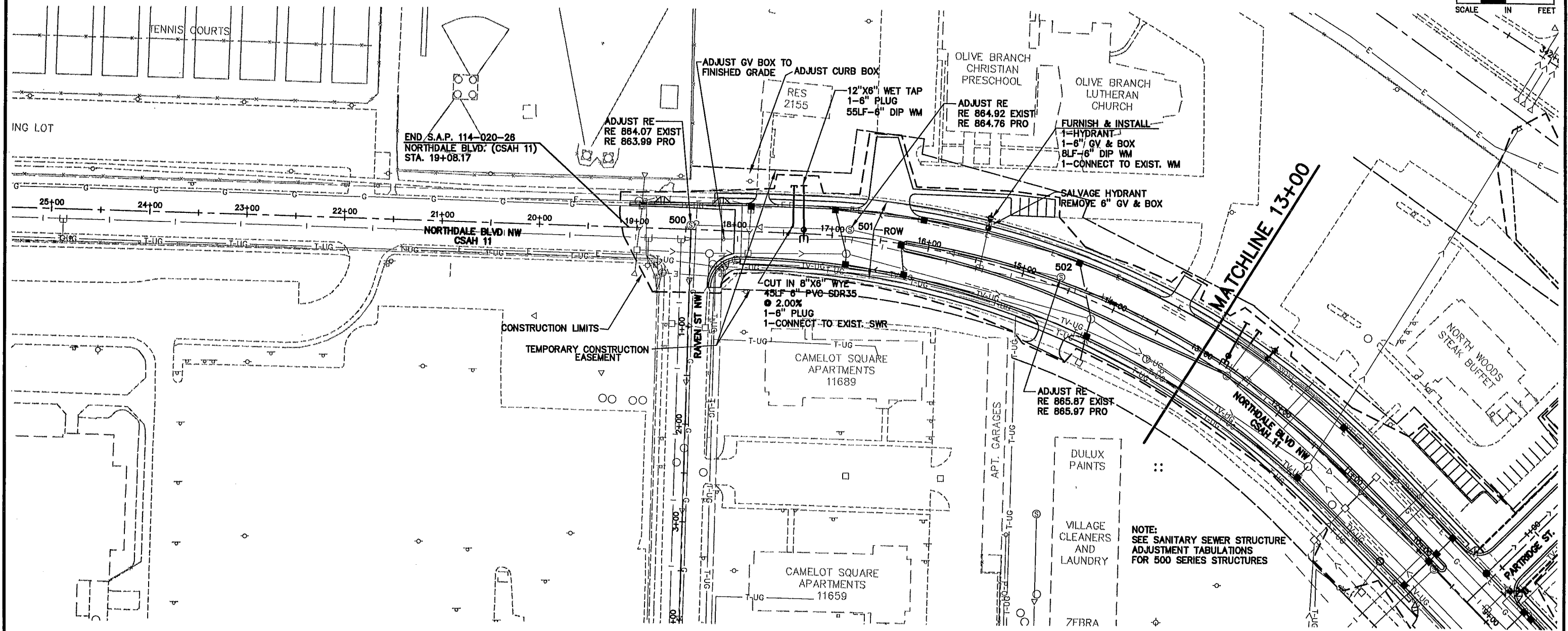
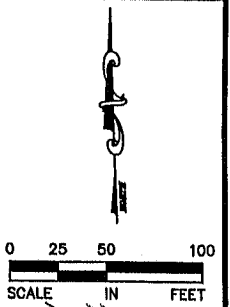
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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

1 OF 4
SHEET NO.
76
159



NORTHDALE BLVD.

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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	
DRAWN BY: PMJ	DESIGN BY: JUL
CHKD. BY: ICP	DWG. NAME: 043-WA03
DATE: APRIL 26, 2002	



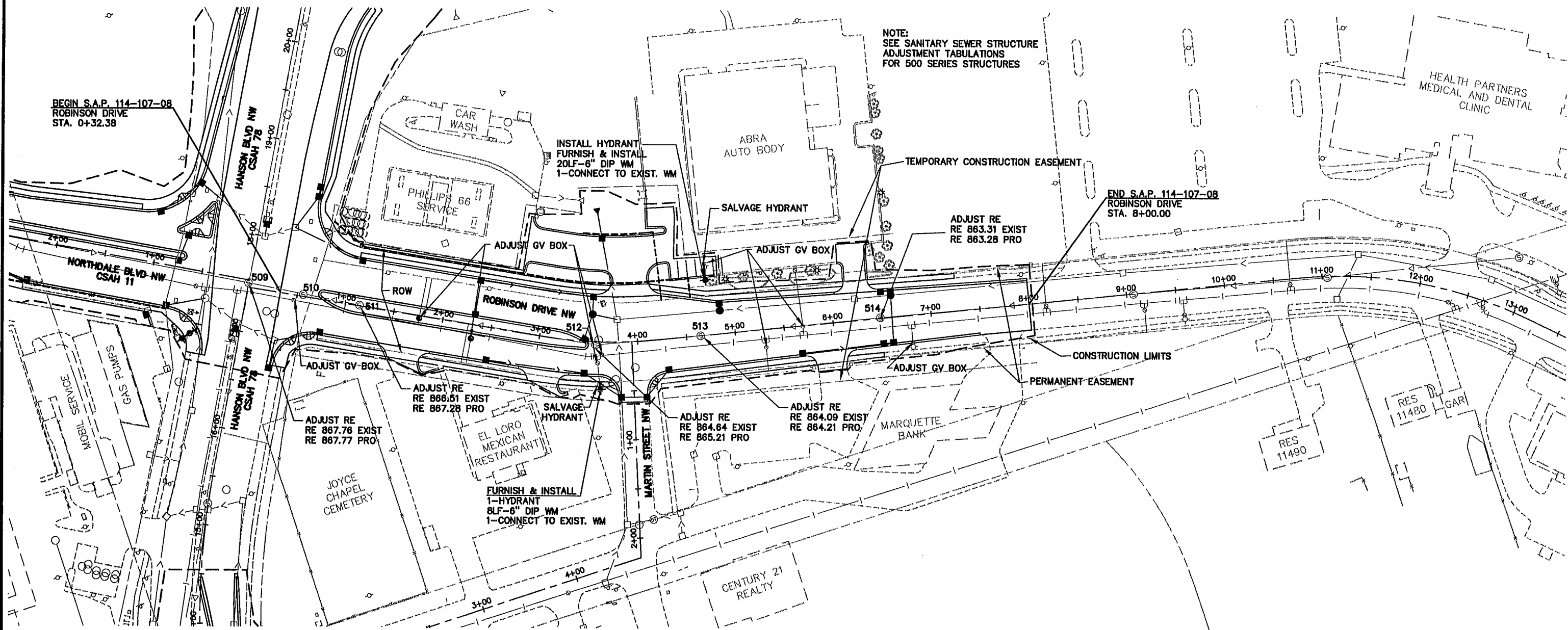
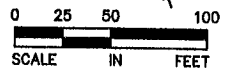
Thresher Square
700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.1376 Fax

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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 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	SHEET NO. 77 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	



ROBINSON DRIVE W.

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

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

URS

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

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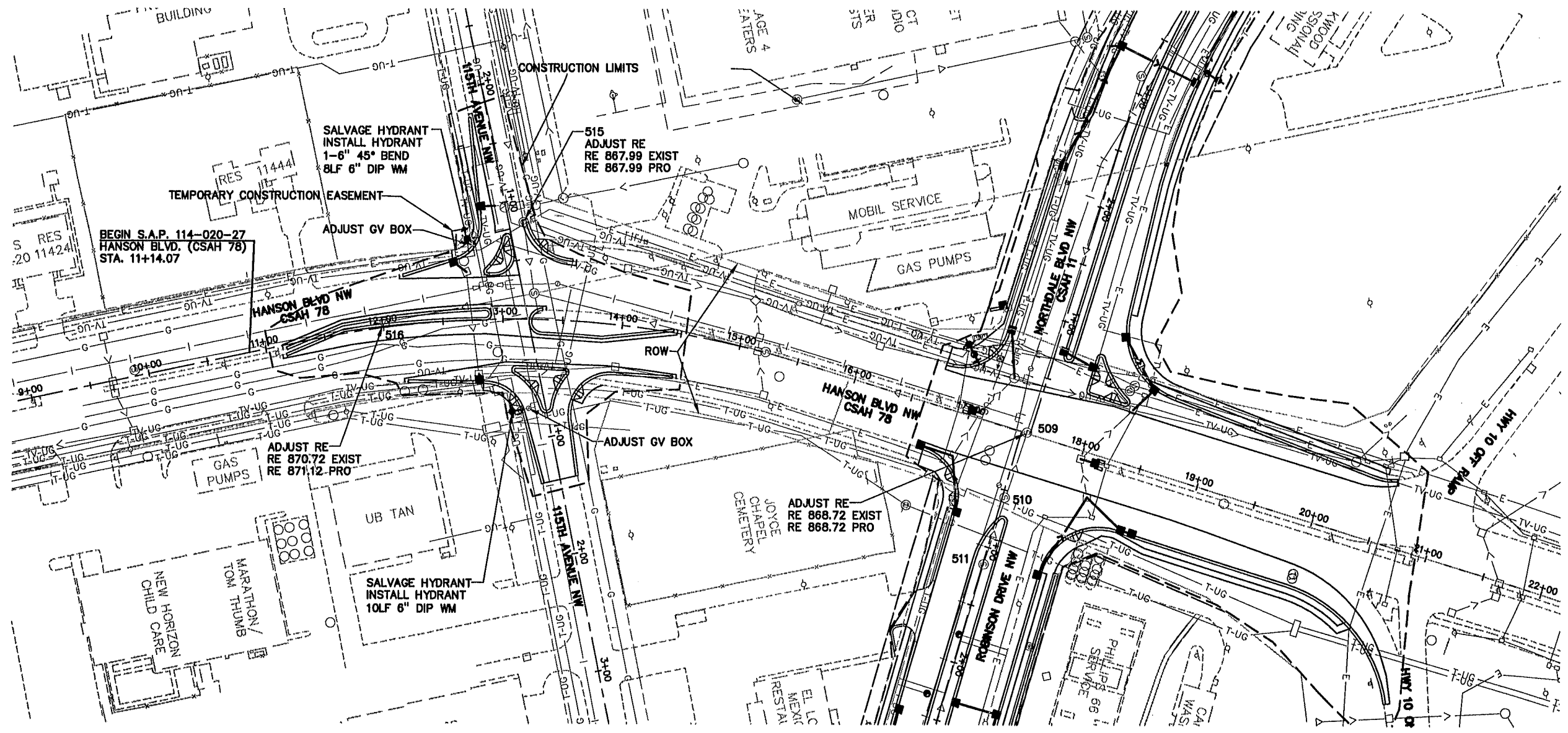
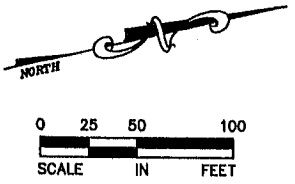
Paul B. Danielson
PAUL B. DANIELSON

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	SHEET NO. 78 159
COUNTY PROJECT		S.A.P.	114-020-27	
		S.A.P.	114-107-08	

3 OF 4



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.

CHKD. BY: ICP DWG. NAME: 043-WA04

DATE:
APRIL 26, 2002



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

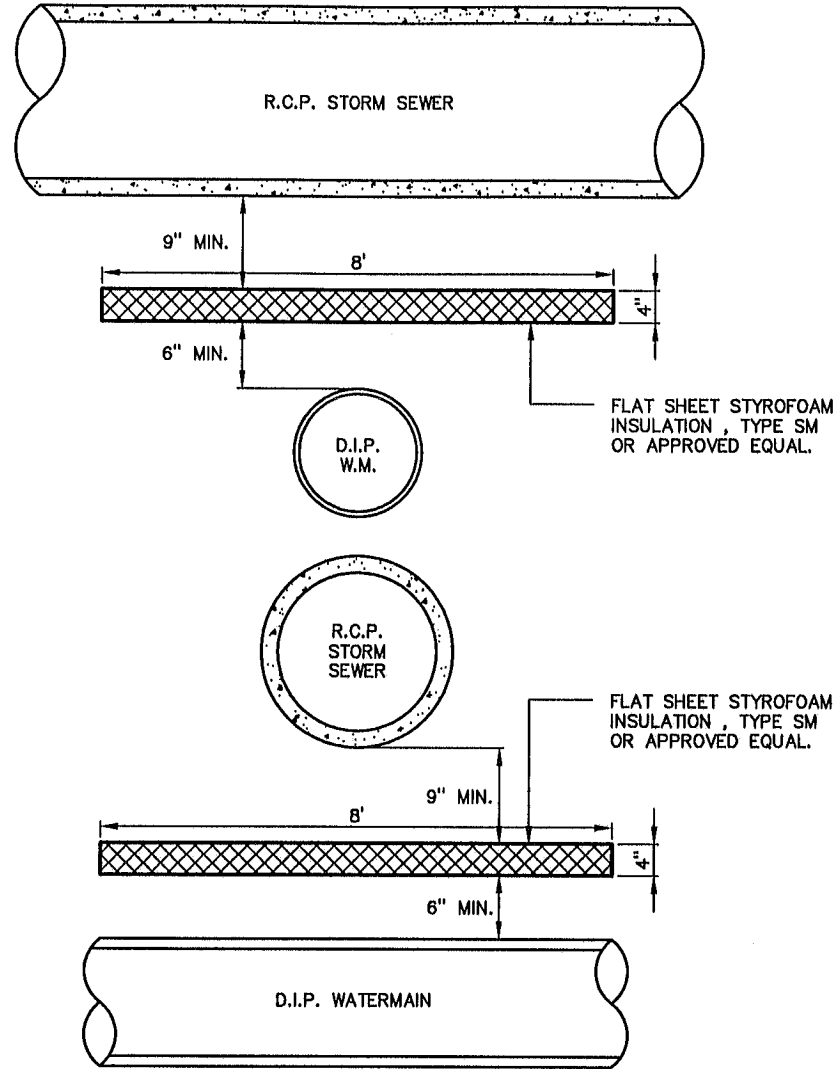
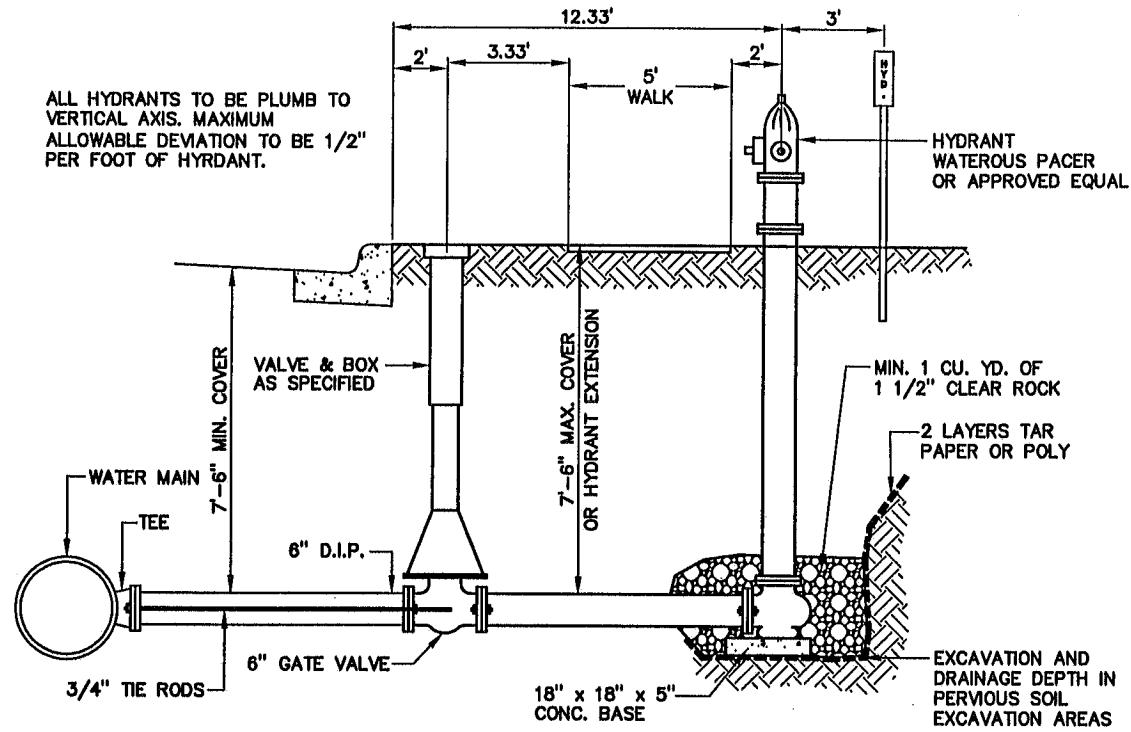
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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

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

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

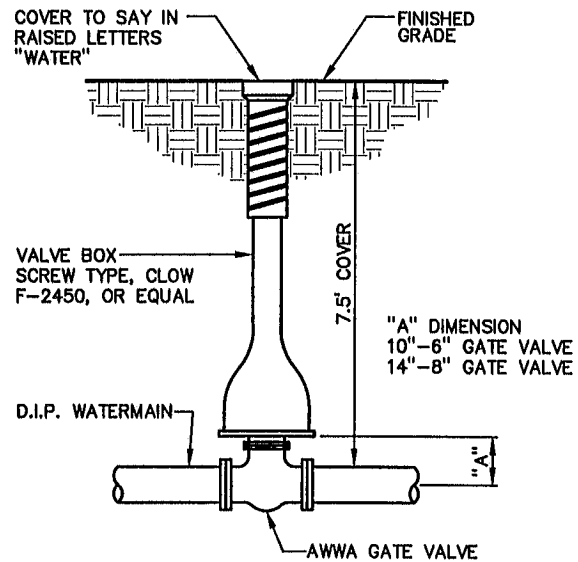


NOTES:

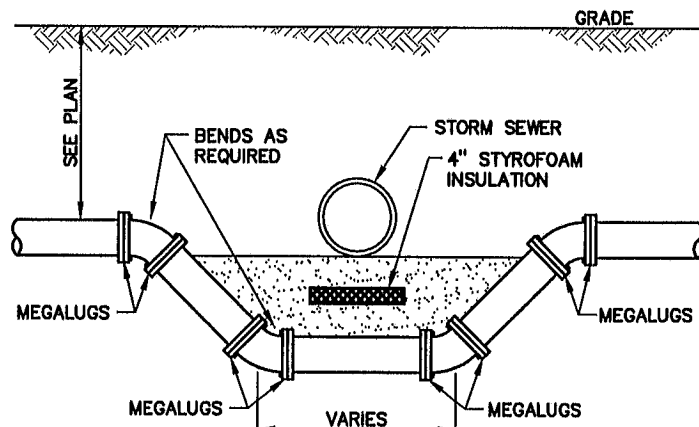
1. ALL HYDRANTS SHALL HAVE WEEPHOLES.
2. JOINTS SHALL BE TIED TO TEE ON MAINLINE WITH 2 - 3/4" O TIE RODS. ALL TIE RODS TO BE COAL TAR COATED AFTER INSTALLATION. RESTRAINED JOINT PIPE AND RETAINER GLANDS MAY BE USED WHERE APPROVED BY ENGINEER. IF VALVE IS LOCATED MORE THAN 36' AWAY FROM MAIN, VALVE SHALL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

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



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

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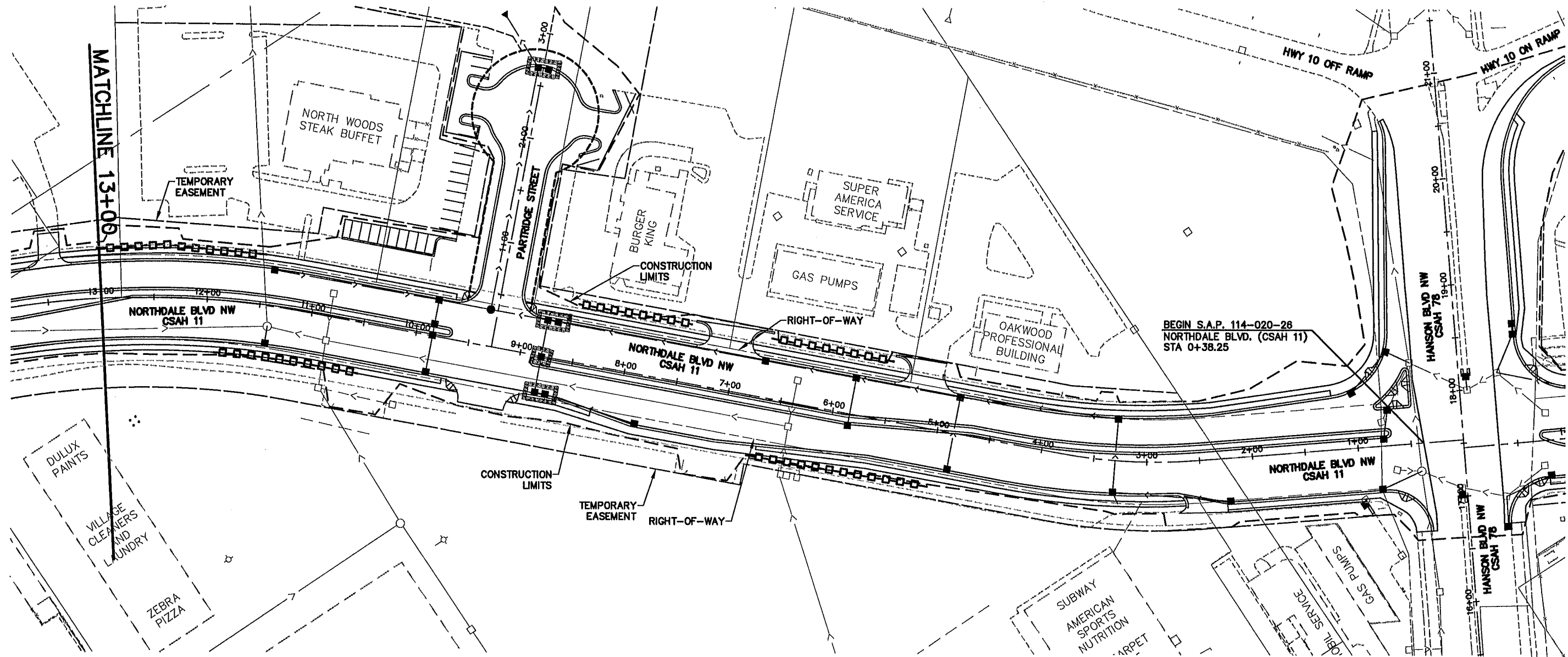
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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

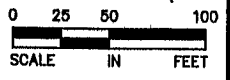
WATER MAIN DETAILS

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

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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	
DRAWN BY: JRL	DESIGN BY: ICP
CHKD. BY: ICP	DWG. NAME: 043-EC03
DATE: APRIL 26, 2002	



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Minneapolis, MN 55415
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612.370.1378 Fax

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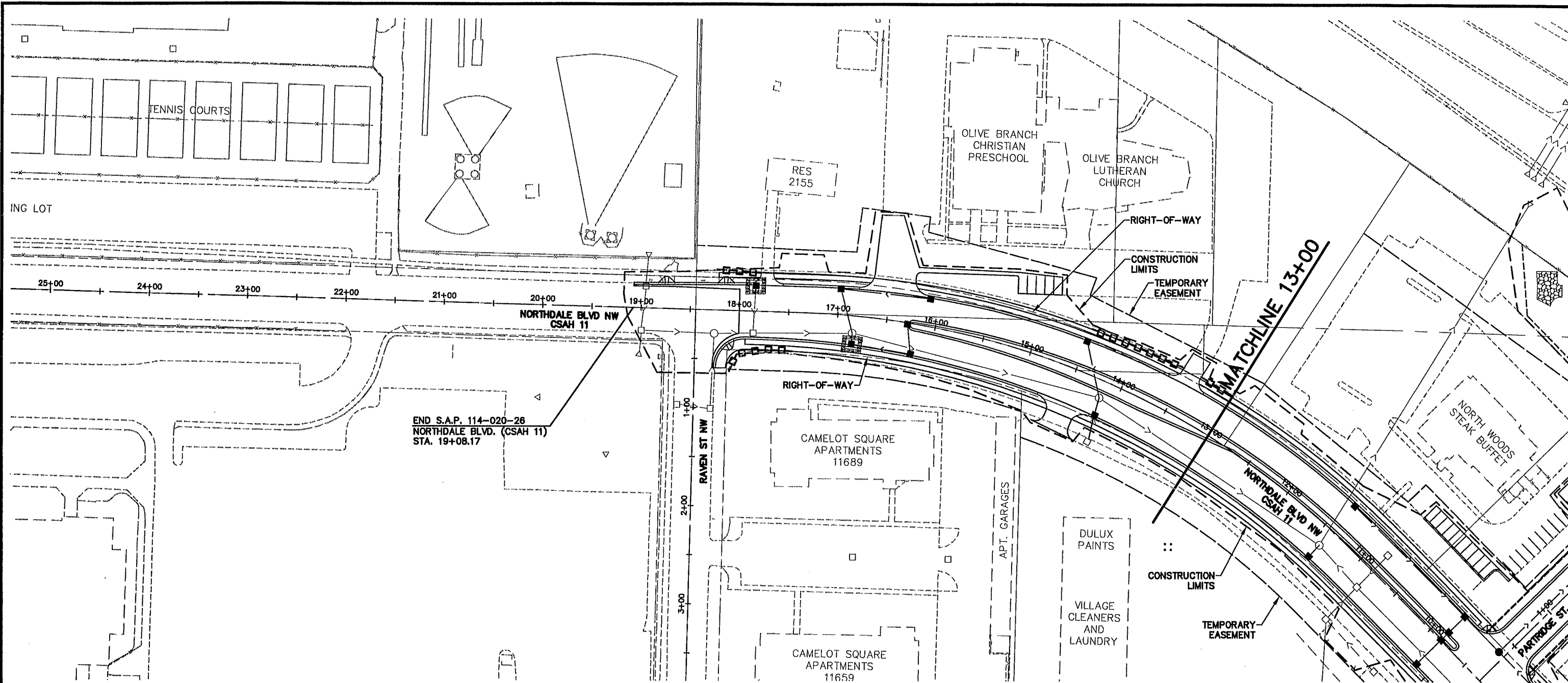
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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




1 OF 5
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.

LEGEND

-  SILT FENCE
-  BALE CHECKS
-  RIP RAP



2 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: JRL DESIGN BY: ICP

CHKD. BY: ICP DWG. NAME: 043-EC04

DATE:
APRIL 26, 2002



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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)
NORTHDALE BOULEVARD
EROSION CONTROL PLAN

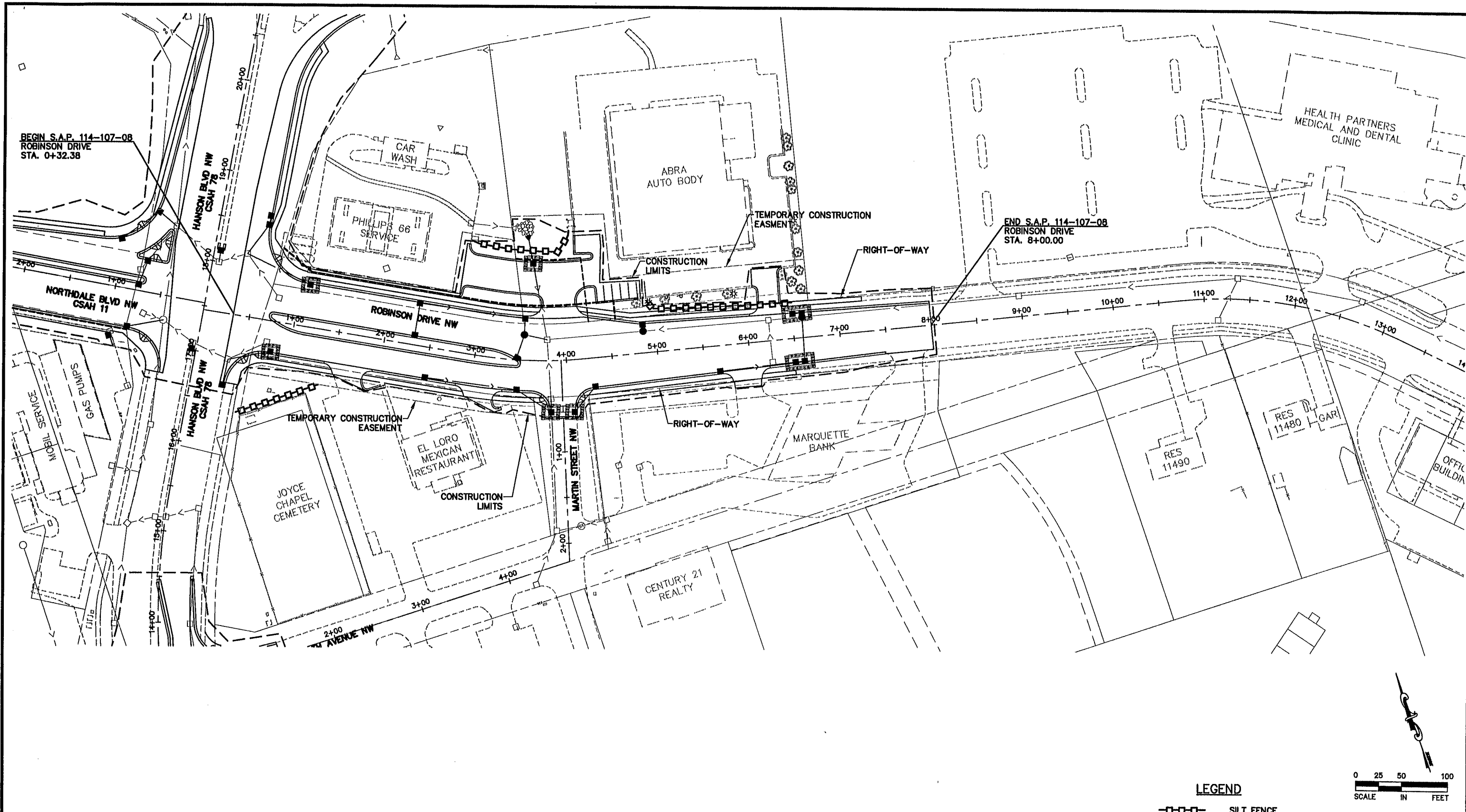
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.

82

159

PLOT DATE: May 302 4:53pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-ECO1.dwg



ROBINSON DRIVE W.

LEGEND

- SILT FENCE
- BALE CHECKS
- RIP RAP

0 25 50 100
SCALE IN FEET

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



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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: 4/28/02 MN LIC. NO. 23197

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

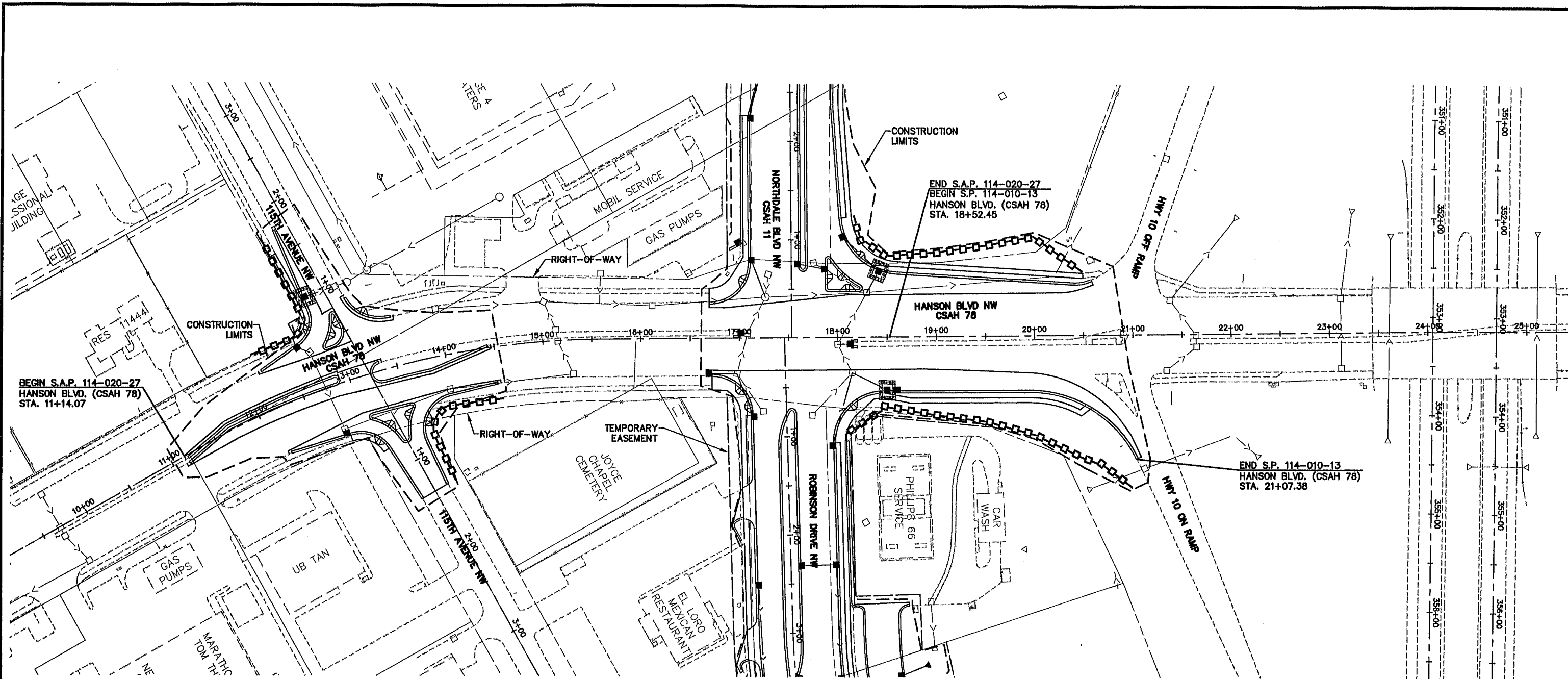
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

3 OF 5

SHEET NO.
83

159

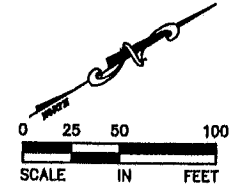
PLOT DATE: Apr 2, 2002 12:24pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-EC02.dwg



HANSON BLVD.

LEGEND

- SILT FENCE
- BALE CHECKS
- RIP RAP



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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612.370.0700 Tel
612.370.1378 Fax

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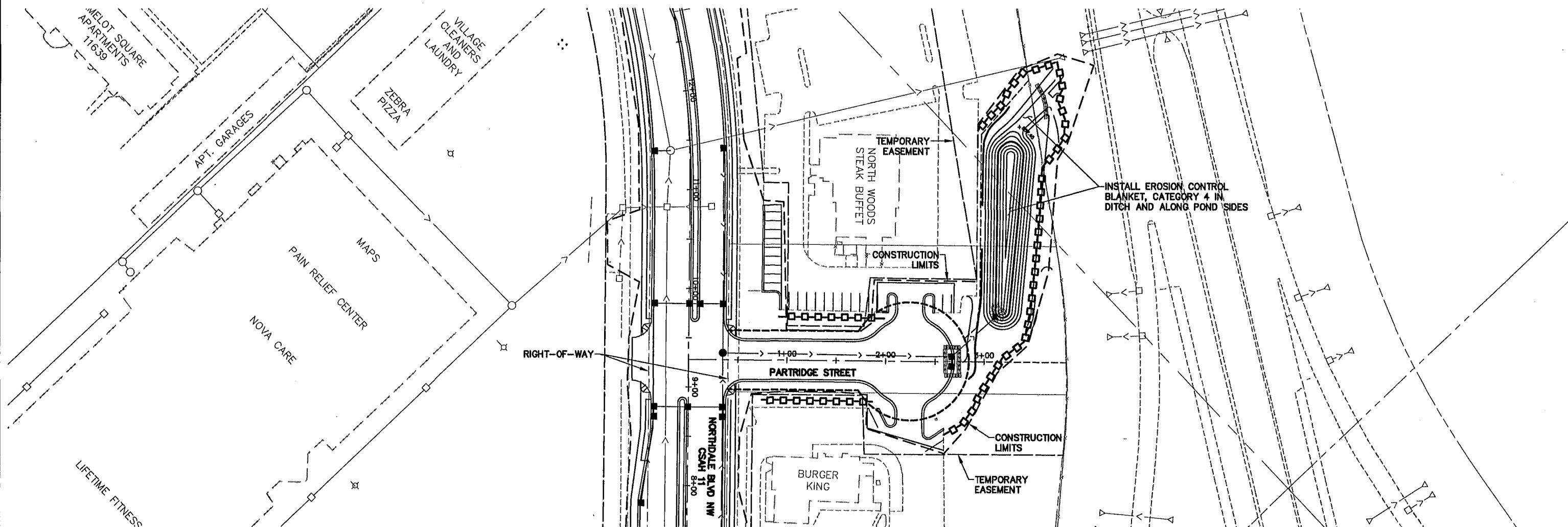
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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




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

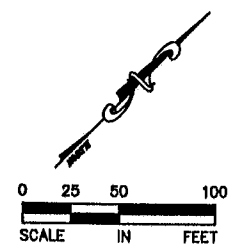
4 OF 5
SHEET NO.
84
159

PLOT DATE: Apr 2, 2002 12:24pm DISK FILE NAME: (15.06) 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 DESIGN BY: ICP

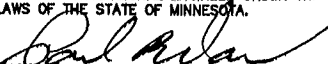
CHKD. BY: ICP DWG. NAME: 043-EC05

DATE:
APRIL 26, 2002



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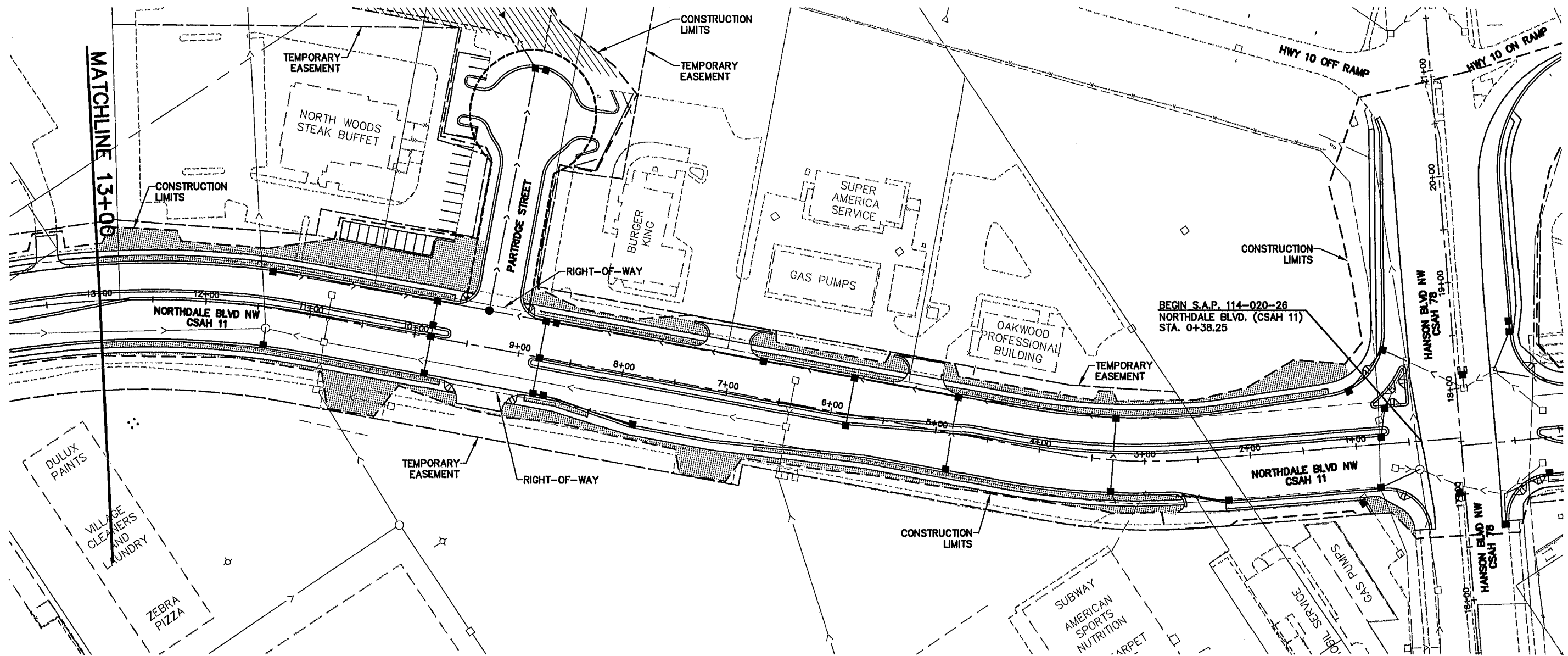
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**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

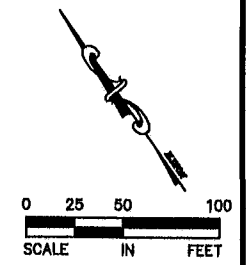
PLOT DATE: Apr 2, 2002 2:02pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TF03.dwg



BEGIN S.A.P. 114-020-26
NORTHDALE BLVD. (CSAH 11)
STA. 0+38.25

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
SHEET NO.
86
159

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



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Minneapolis, MN 55415
612.370.0700 Tel
612.370.1378 Fax

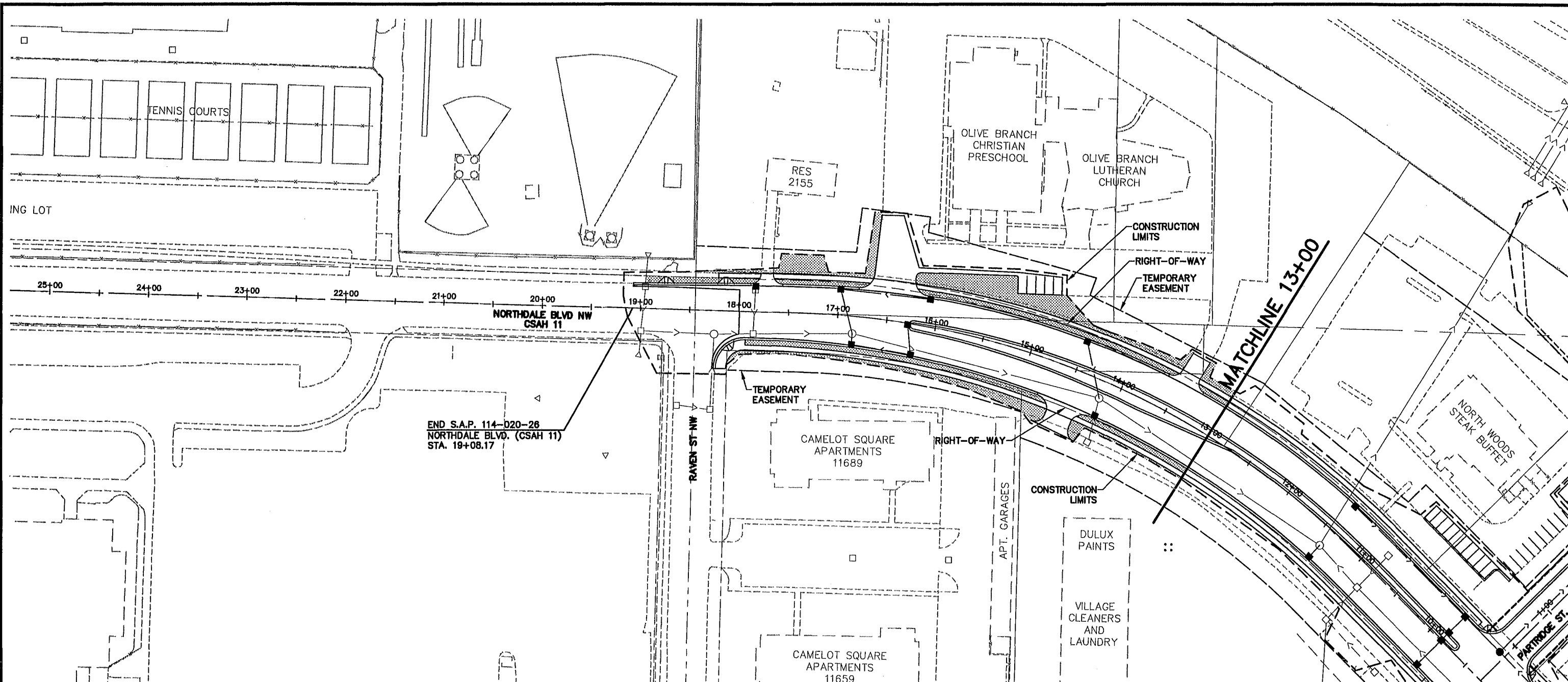
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

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

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

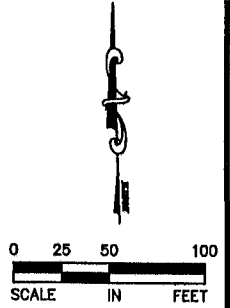
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

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

2 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: JRL
DESIGN BY: ICP

CHKD. BY: ICP
DWG. NAME: 043-TF04

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. 23197

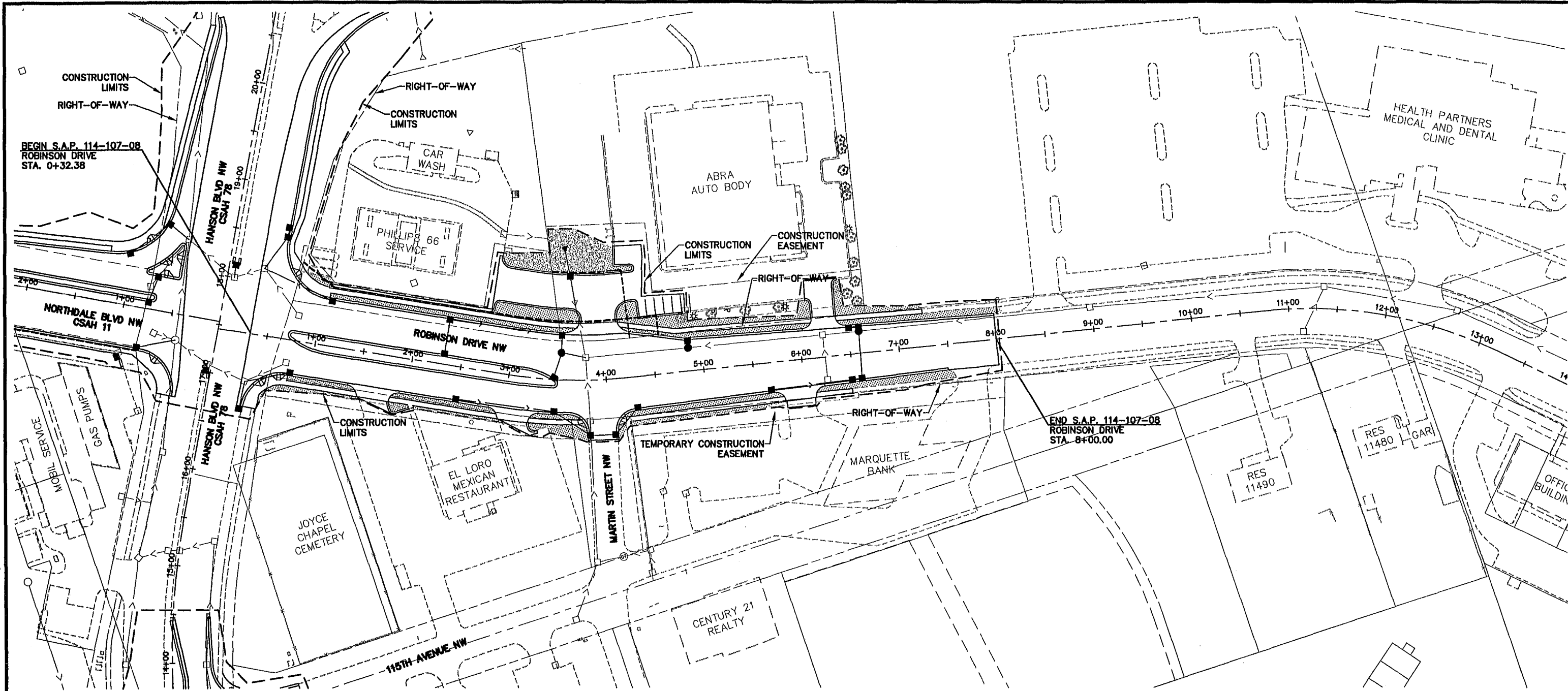
NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
TURF ESTABLISHMENT

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

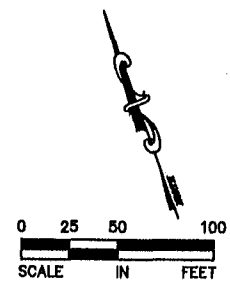
159

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	JLL	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE

DESIGN FILE:
33889-043

DRAWN BY:
JRL

DESIGN BY:
ICP

CHECKED BY:
ICP

DWG. NAME:
043-TF01

DATE:
APRIL 26, 2002



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612.370.1378 Fax

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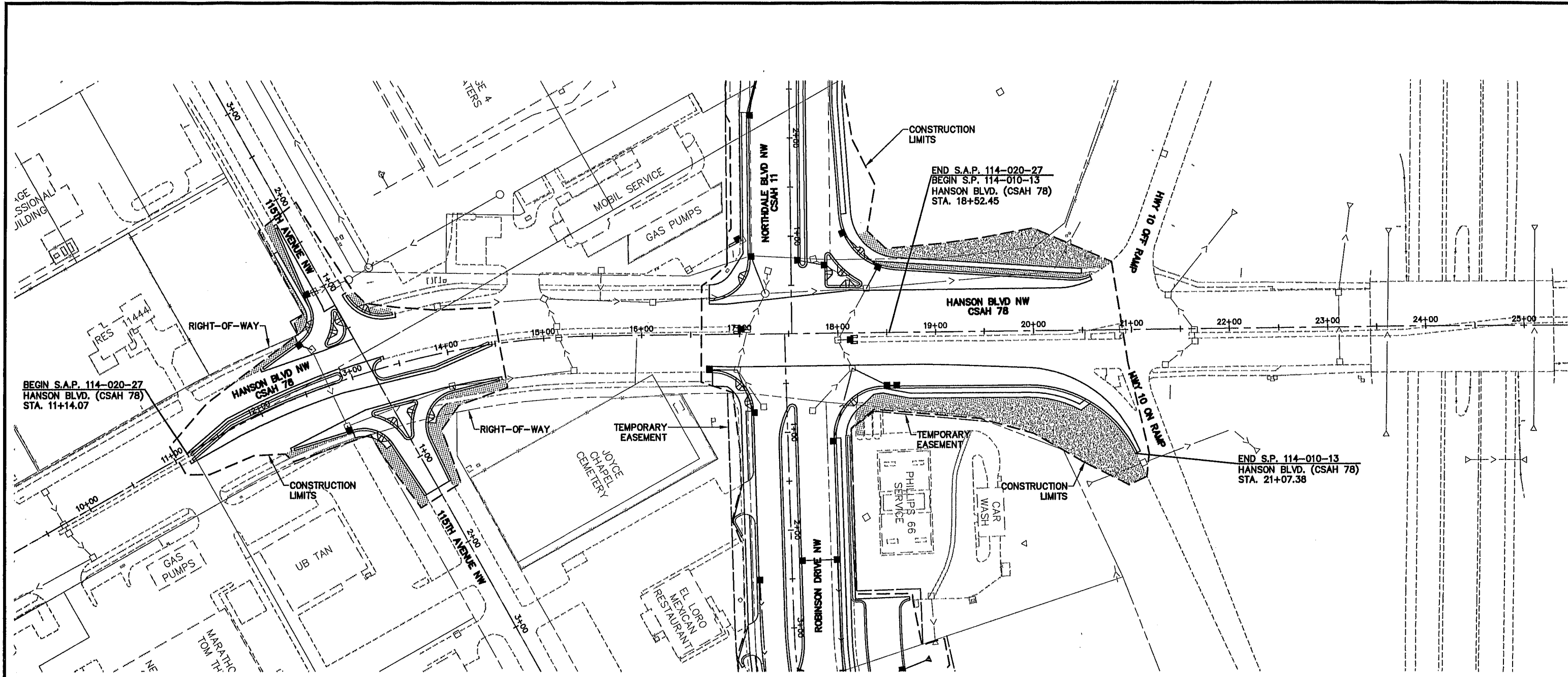
Paul B. Danielson
PAUL B. DANIELSON

DATE: 4/28/02 MN LIC. NO. 23197

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

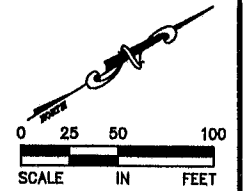
CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 88 159
COUNTY PROJECT		S.A.P.	114-020-27	
		S.A.P.	114-107-08	

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 80B
	4" TOPSOIL AND SEED MIXTURE TYPE 28B



HANSON BLVD.

4 OF 5

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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

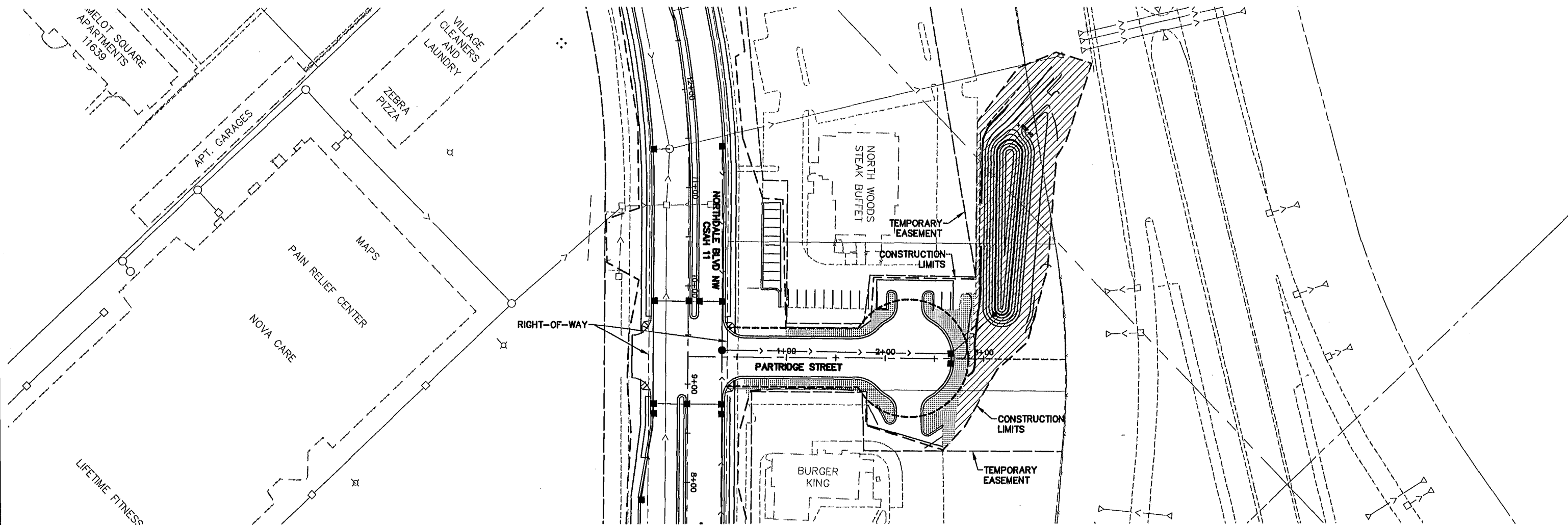
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Paul B. Danielson
 PAUL B. DANIELSON
 DATE: 4/26/02 MN LIC. NO. 23197

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

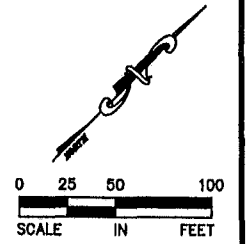
CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 89 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

PLOT DATE: Apr 2, 2002 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

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	



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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)
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

5 OF 5

SHEET NO.
90

159

NORTHDALE BOULEVARD (C.S.A.H.11) RECONSTRUCTION
SAP (NORTHDALE- 114-020-26) , (ROBINSON- 114-107-08) , (HANSON-SAP 114-020-27)
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	1,3
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	
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	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	4.00	12.00	0.00	0.00	9.00	27.00	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	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: M 2002 4:54pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TB02.dwg

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

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



Thresher Square
700 Third Street South
Minneapolis, MN 55415
612.370.0100 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)**

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.A.P.	114-107-08

1 OF 12

SHEET NO.

91

159


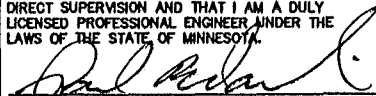
NORTHDALE BOULEVARD (C.S.A.H.11) RECONSTRUCTION
 SAP (NORTHDALE- 114-020-26) , (ROBINSON- 114-107-08) , (HANSON-SAP 114-020-27 ---- SP 114-010-13)
 CITY PROJECT NO. 2001-47

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	STRAIGHT - 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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 33889-043	 <p>Thresher Square 700 Third Street South Minneapolis, MN 55415 612.370.0700 Tel 612.370.1978 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: 4/26/02 MN LIC. NO. 23197</p>	<p>NORTHDALE BOULEVARD (C.S.A.H. 11)</p> <p>SIGNING AND STRIPING PLANS SIGN TABULATIONS</p>	CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 91
				COUNTY PROJECT					S.A.P.	114-020-27		
				S.P.				114-010-13	S.A.P.	114-107-08		

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

PLOT DATE: Apr 26 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



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

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

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.

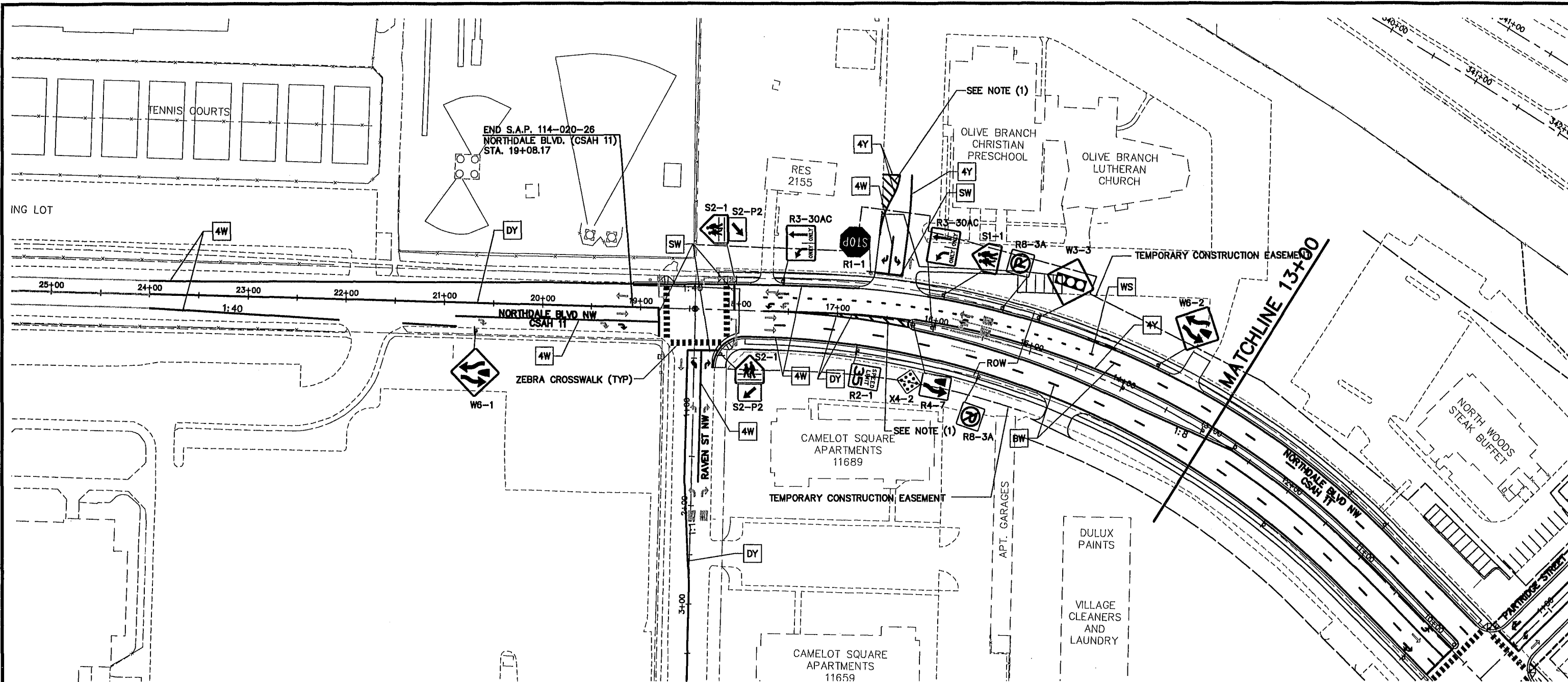
SURFACE PREPARATION

- 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

PLOT DATE: Apr 2, 2002 11:30am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-SP06.dwg

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

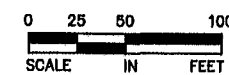
PLOT DATE: Apr 2, 2002 11:30am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-SP04.dwg



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-FOOT ON CENTER, ALL PLACED WITHIN THE 4-INCH DOUBLE SOLID YELLOW MARKING.

5 OF 12

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	
DRAWN BY: JAA	DESIGN BY: JJS
CHKD. BY: ICP	DWG. NAME: 043-SP04
DATE: APRIL 26, 2002	



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

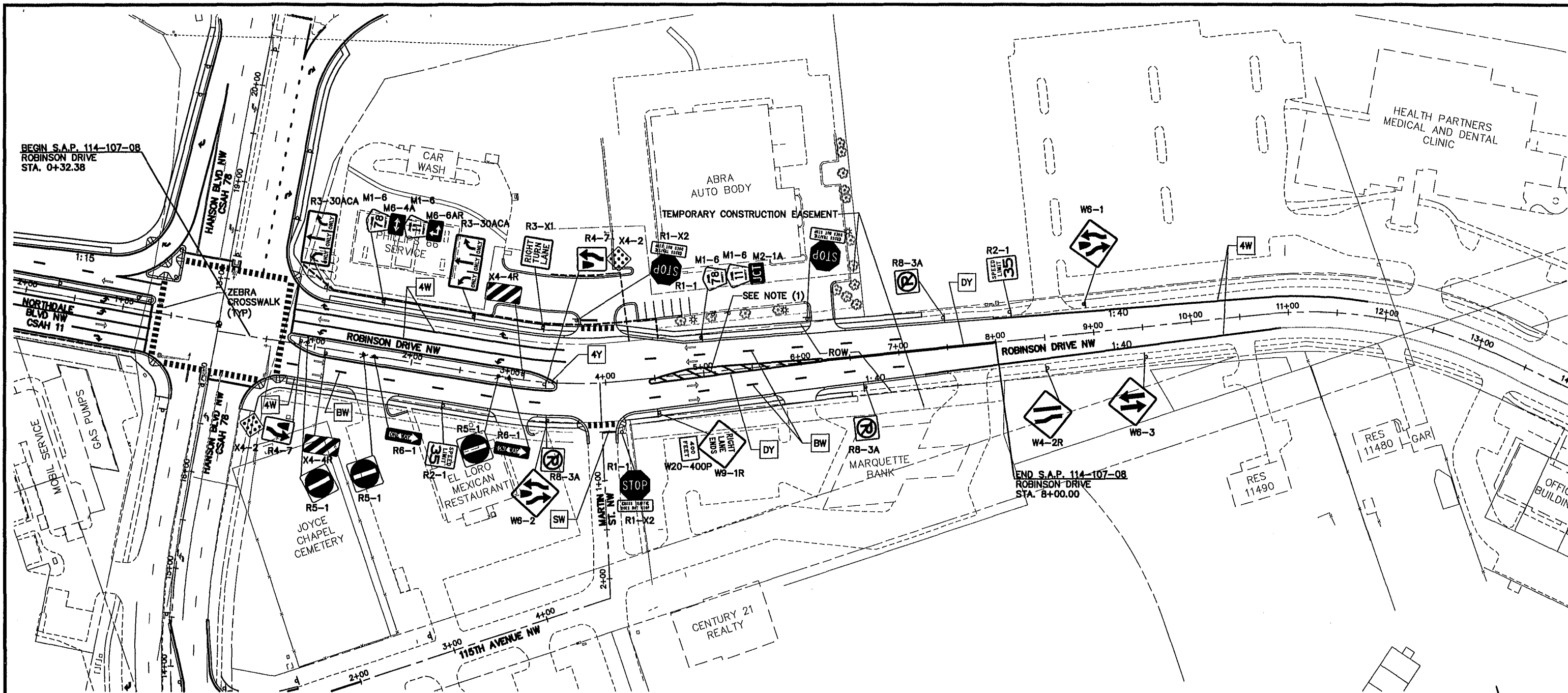
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

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

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

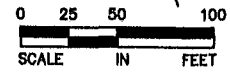
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COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

PLOT DATE: May 302 4:54pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-SP01.dwg



ROBINSON DRIVE W.

PERMANENT SIGNING/STRIPING LEGEND	
	4" WHITE BROKEN LINE
	8" WHITE SKIP STRIPE LINE (3' LONG - 12' SPACING)
	4" WHITE SOLID LINE
	4" YELLOW BROKEN LINE
	4" YELLOW SOLID LINE
	4" YELLOW SOLID DOUBLE LINE
	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	DESIGN FILE:
1	JAA	05/07/02	ADD. #1: REVISIONS FOR EAST ABRA ENTRANCE	33889-043



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

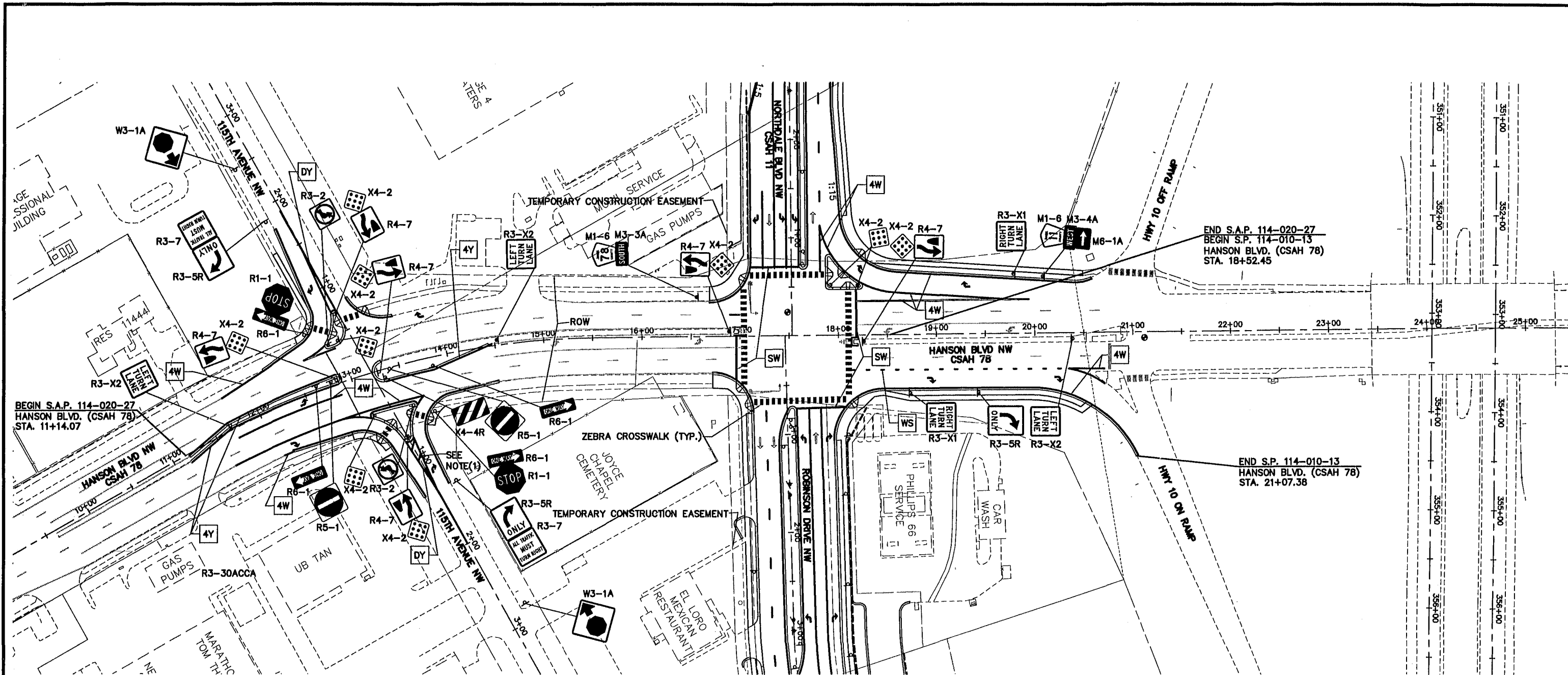
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

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

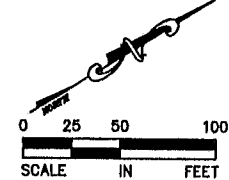
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COUNTY PROJECT		S.A.P.	114-020-27	
		S.A.P.	114-107-08	

PLOT DATE: May 02 9:06am 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
CHKED. BY: ICP	DWG. NAME: 043-SP02	
DATE: APRIL 26, 2002		



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700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
612.370.1978 Fax

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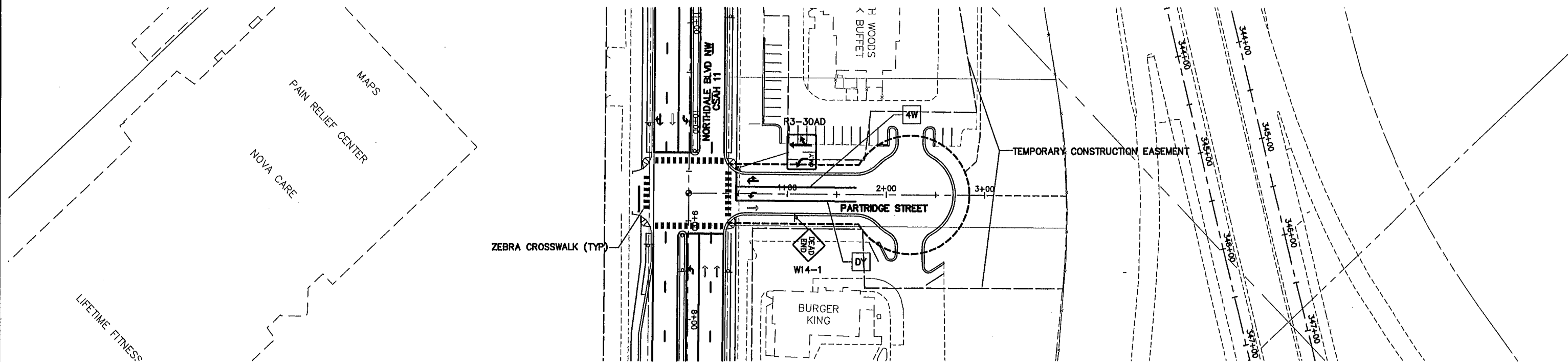
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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

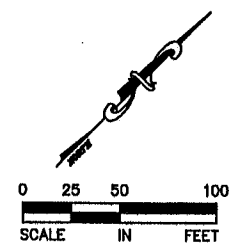
7 OF 12
SHEET NO.
97
159

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
4Y	4" YELLOW SOLID LINE
4Y	4" YELLOW SOLID LINE
DY	4" YELLOW SOLID DOUBLE LINE
SW	24" WHITE STOP LINE
■ ■	PEDESTRIAN CROSSWALK
↔	PAVEMENT MESSAGES
→	TRAFFIC FLOW



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PARTRIDGE STREET

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

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



Thresher Square
700 Third Street South
Minneapolis, MN 55416
612.370.5100 Tel
612.370.1376 Fax

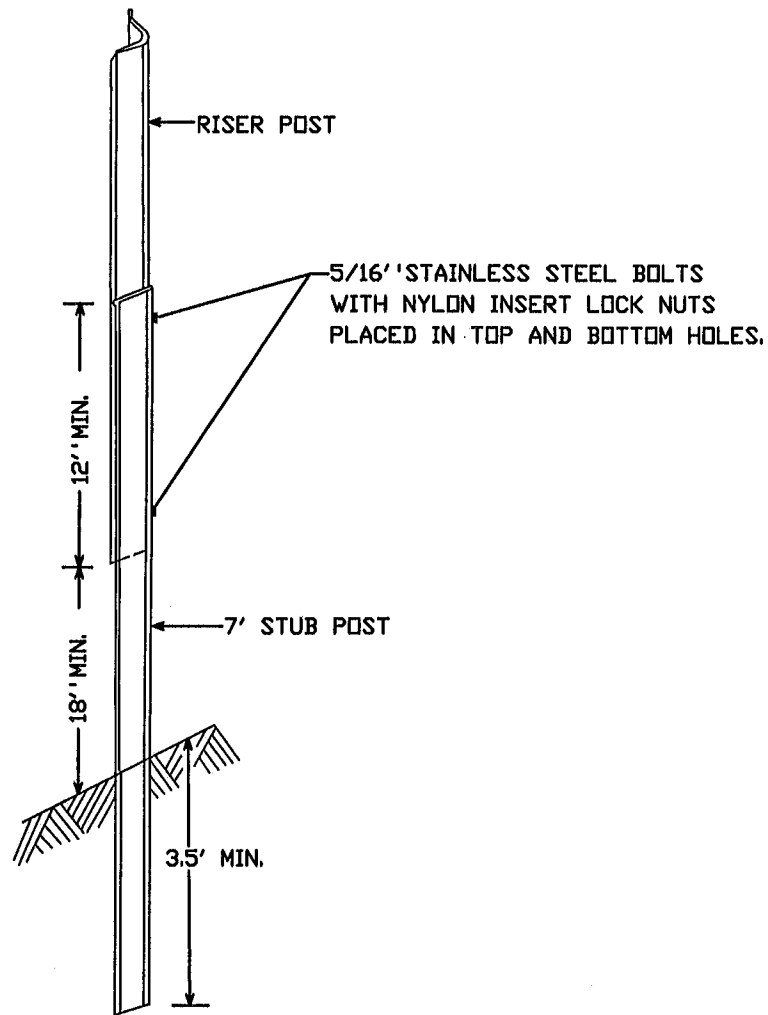
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DATE: APRIL 26, 2002	

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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

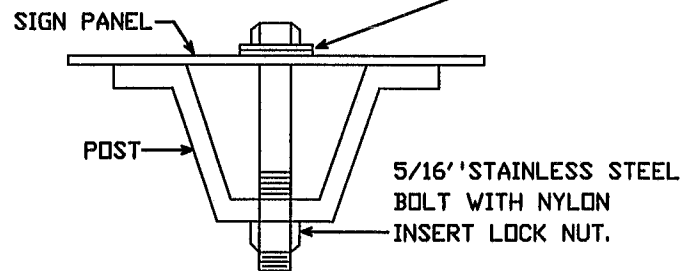
8 OF 12
SHEET NO.
98
159

TYPE 'C' & 'D' POST



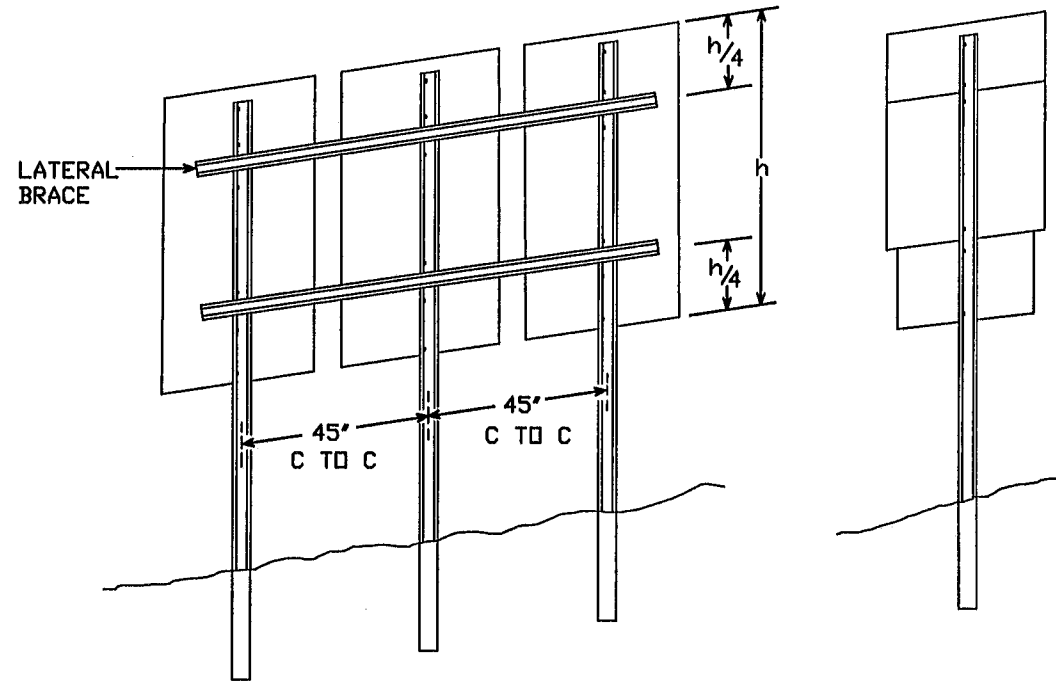
'U POST' SPLICE

STAINLESS STEEL WASHER AND NYLON WASHER
($T = 1/32$ ' MIN., I.D. = $3/8$ ' MAX., O.D. = $7/8$ ' MAX.)

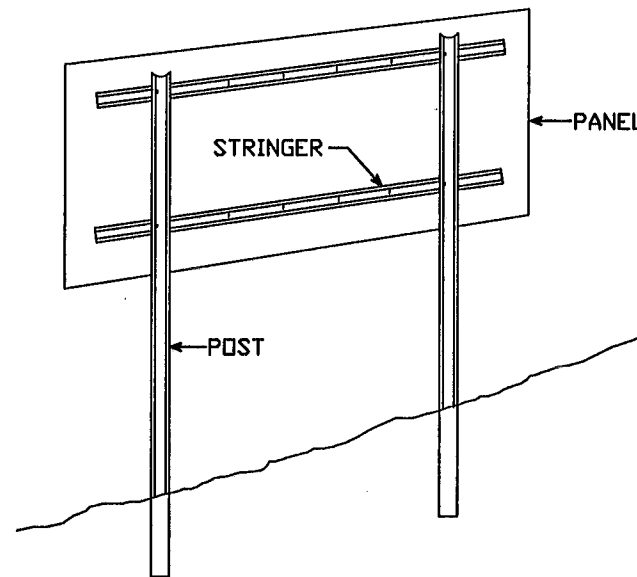


**'U POST' MOUNTING
TYPE 'C' SIGNS**

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



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.

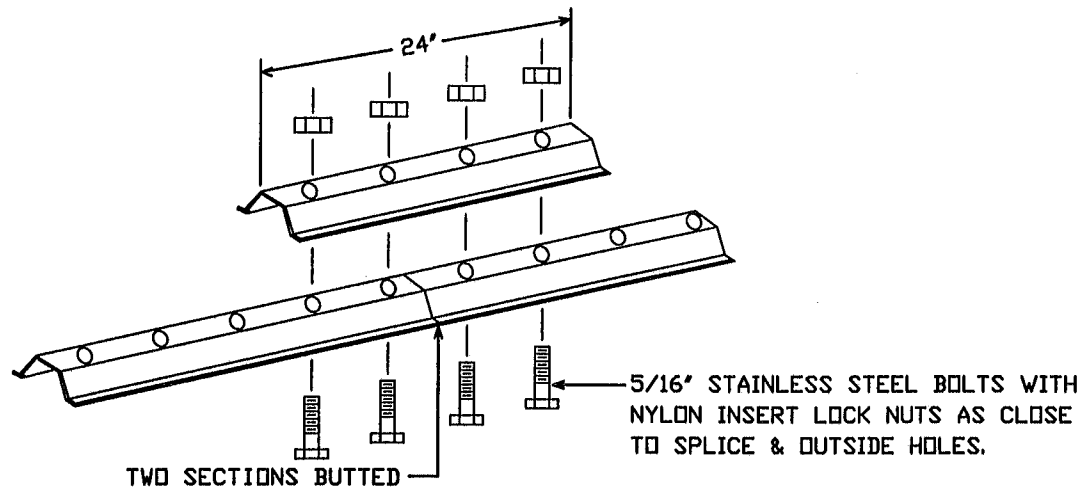
'C' & 'D' SIGN DETAILS

DESIGN A
Sheet 1 of 3

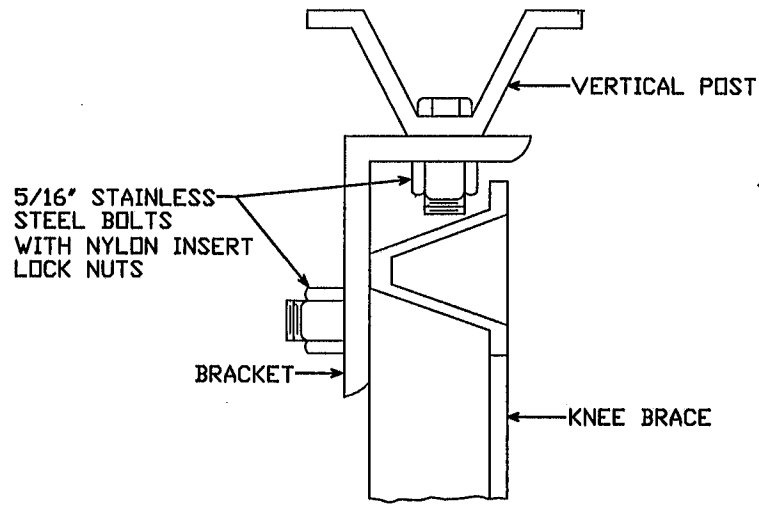
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CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 99 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

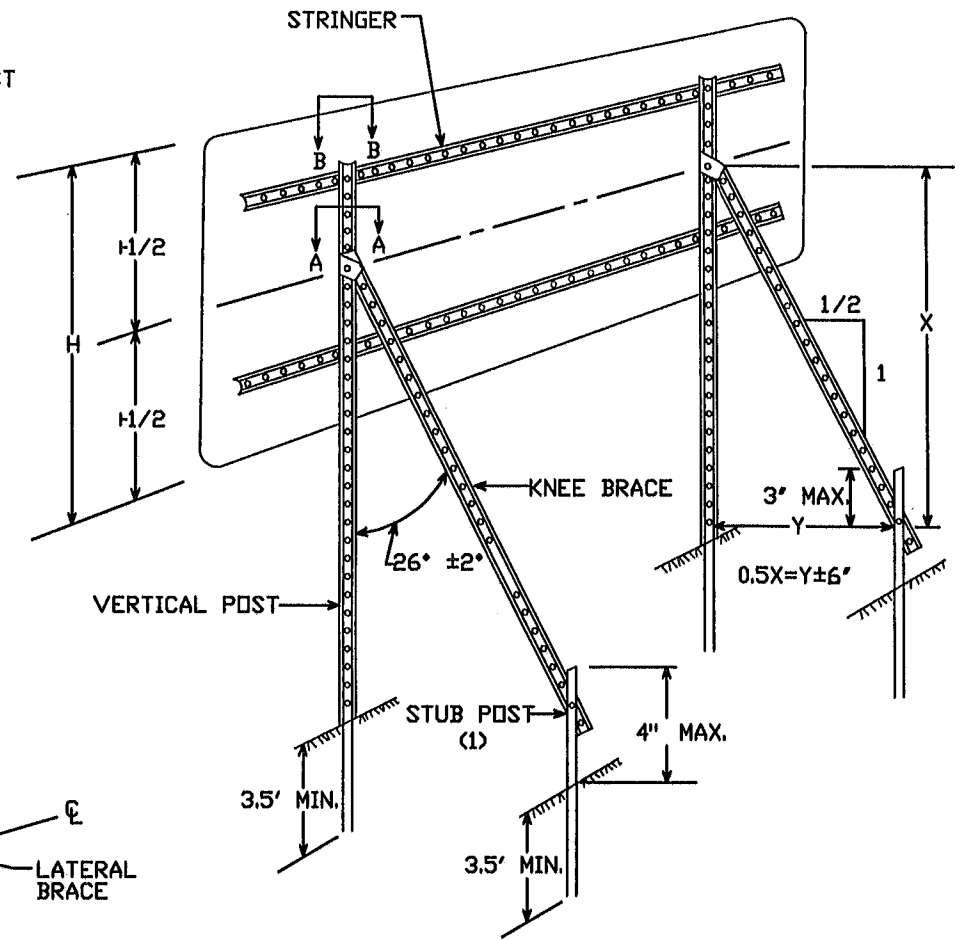
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Lateral Brace or Stringer Splice Detail (Exploded View)

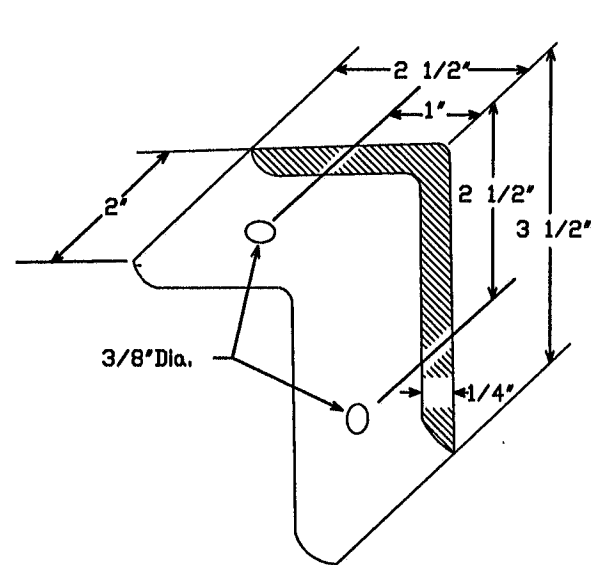


Section A-A



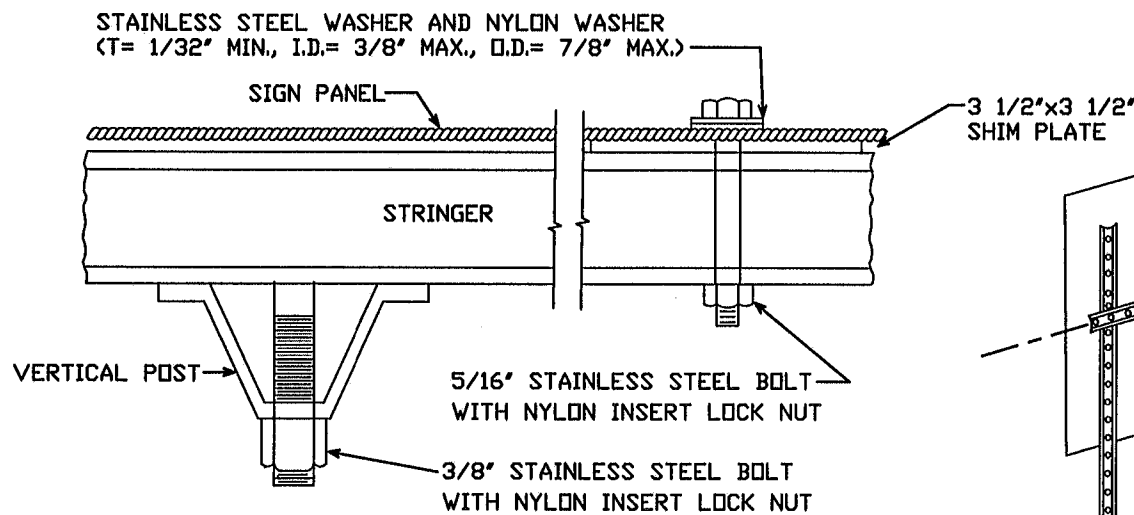
Typical "A-Frame" Installation Type "D" Signs

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

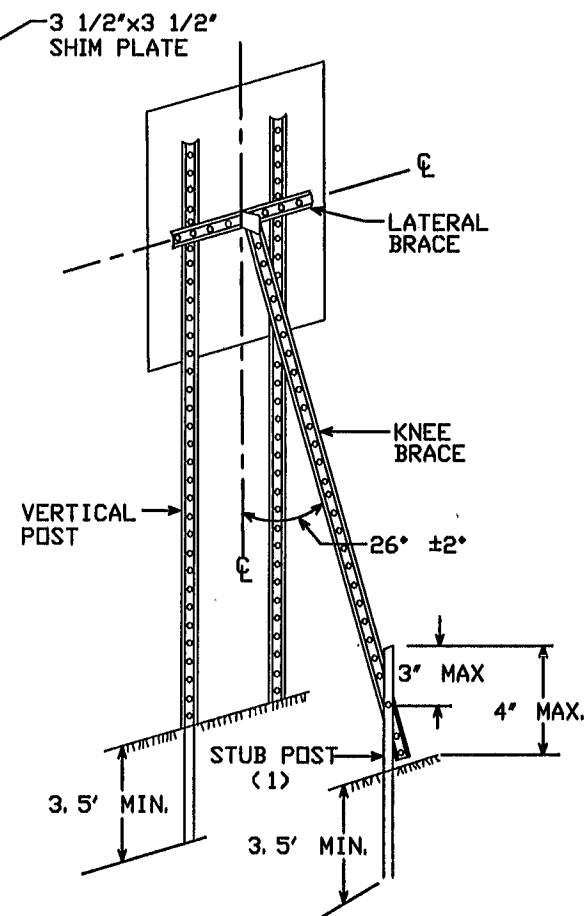


A-Frame Bracket

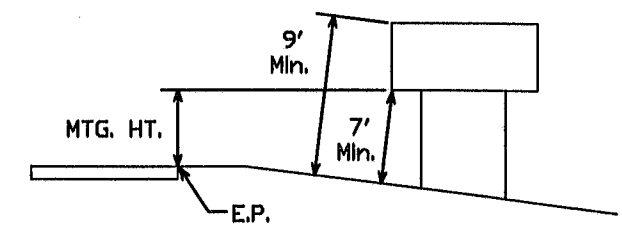
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Section B-B



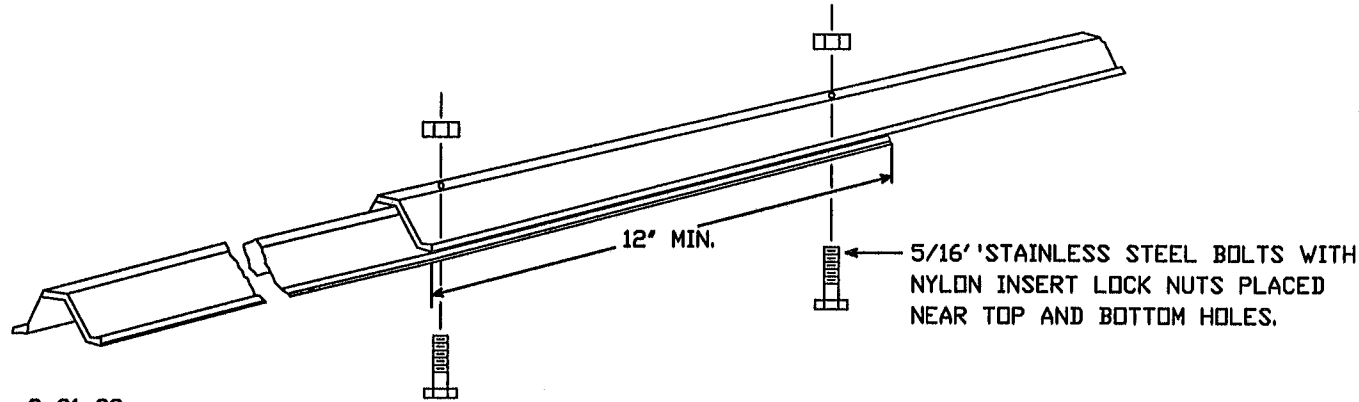
Typical "A-Frame" Installation Type C Signs



Typical Mounting

"C" & "D" SIGN DETAILS

DESIGN A
Sheet 2 of 3

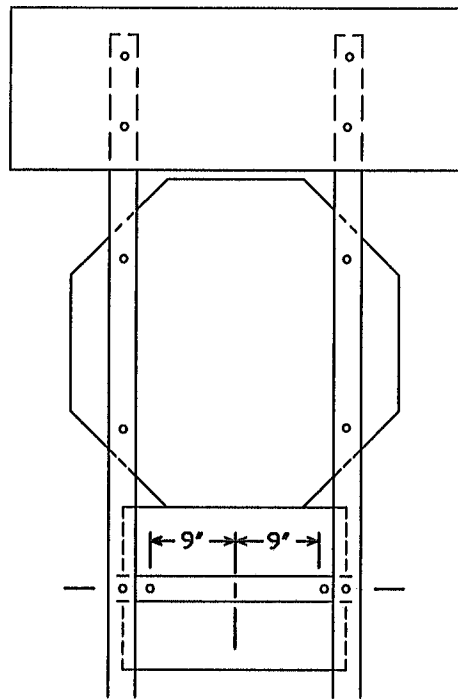


Knee Brace Splice

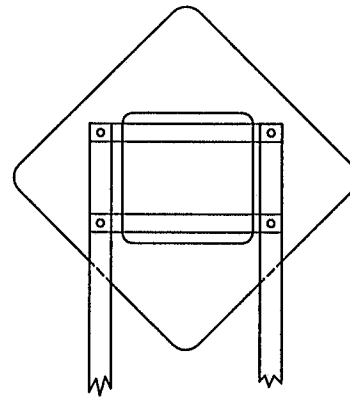
Rev. 3-31-93
Rev. 3-23-90

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

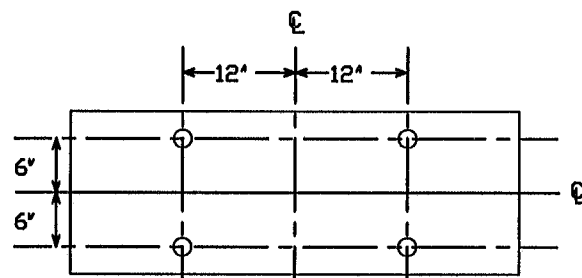
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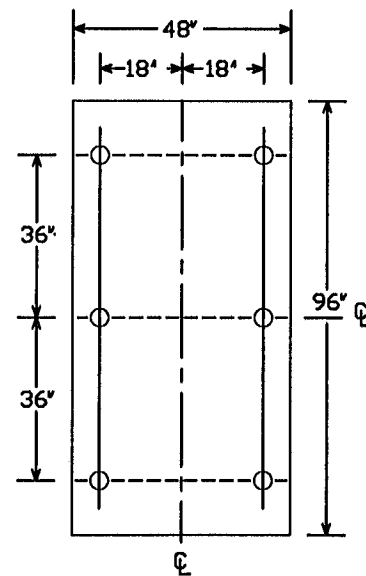
R6-1, R1-1 & (R6-3 or R6-3a)
Mounting



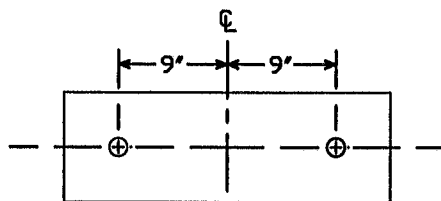
Back to back mounting
of R4-7 and W9-2



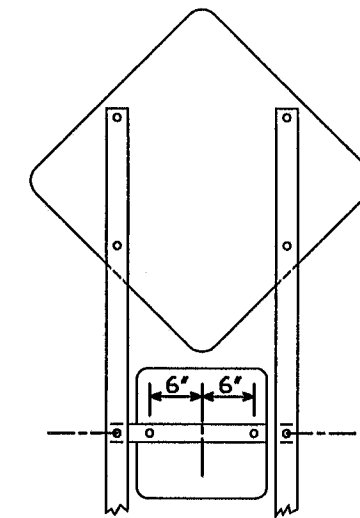
Punching for R6-1(48"x18")



Punching for R2-4a
SPEED LIMIT



Punching for R6-1(36"x12")



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

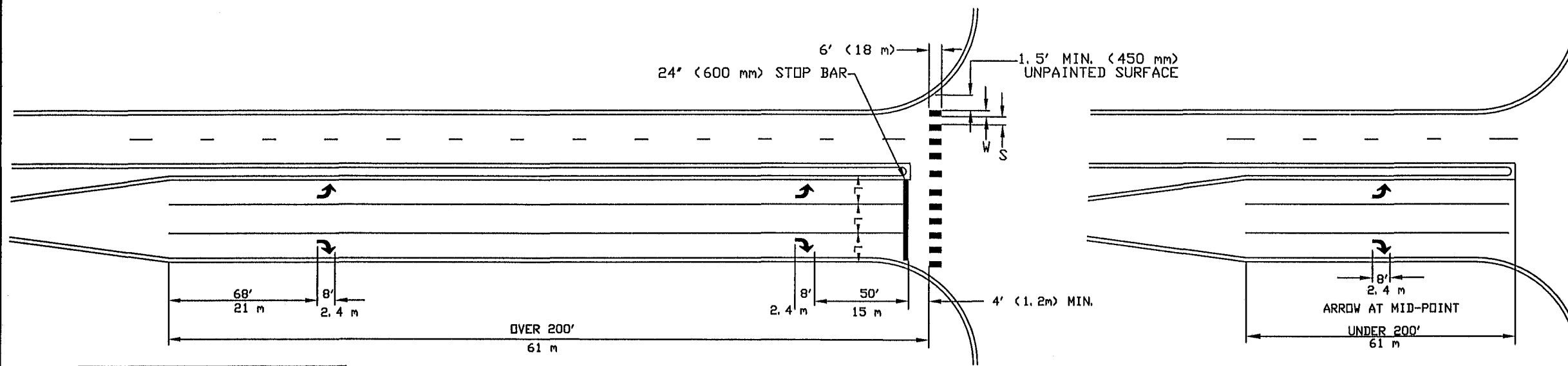
"C" & "D" SIGN DETAILS

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	

PLOT DATE: Apr 2, 2002 11:30am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-SND4.dwg

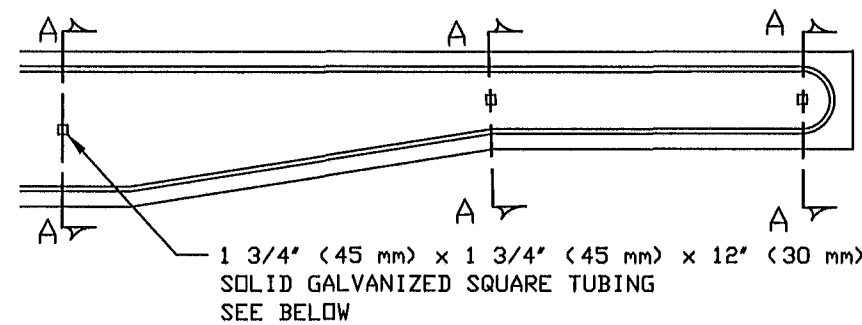


< L >	< W >	< S >
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

< 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

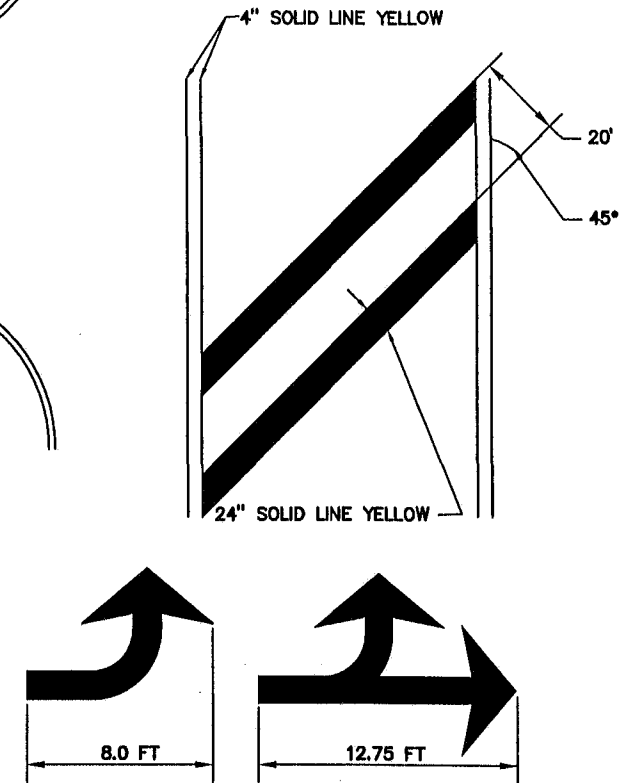
NOTES: CROSSWALKS:

- 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 RAMP 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.

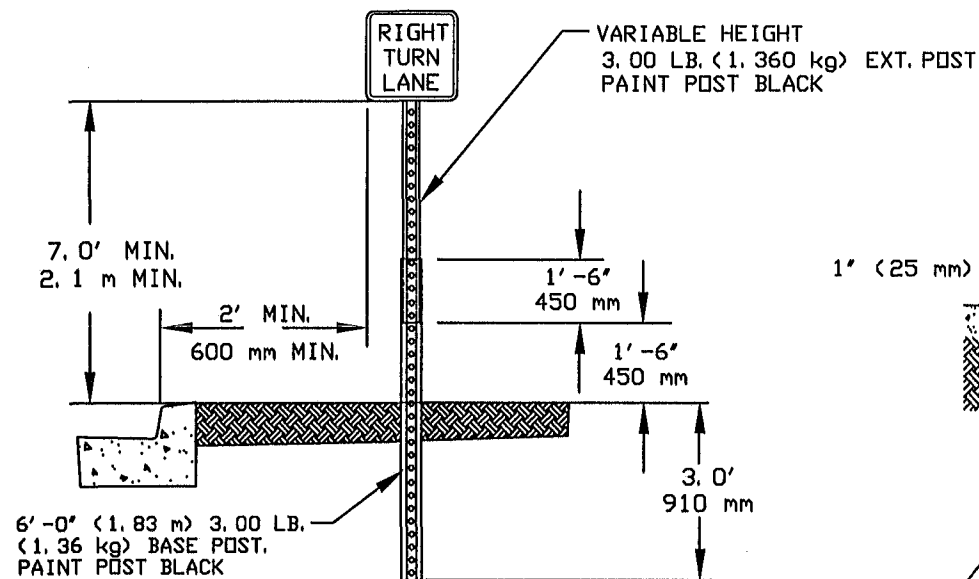


TYPICAL TURN LANE AND INTERSECTION STRIPING

NORTHDALE BLVD (C.S.A.H. 11) , HANSON BLVD (C.S.A.H. 78) AND ROBINSON DRIVE

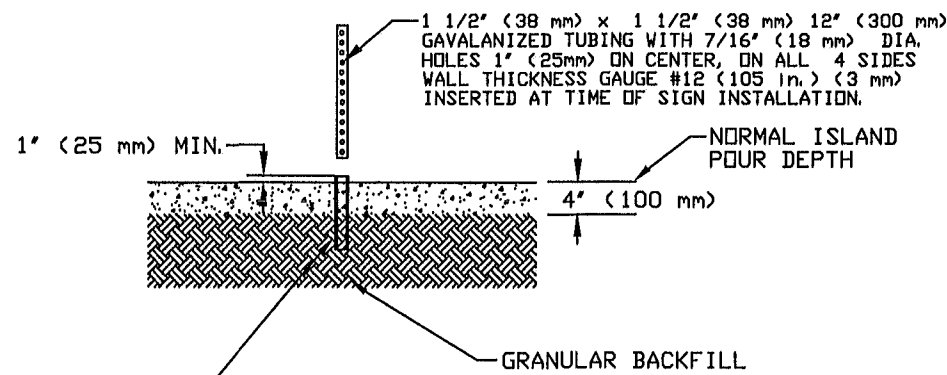


TYPICAL MARKINGS FOR LEFT TURN ISLANDS



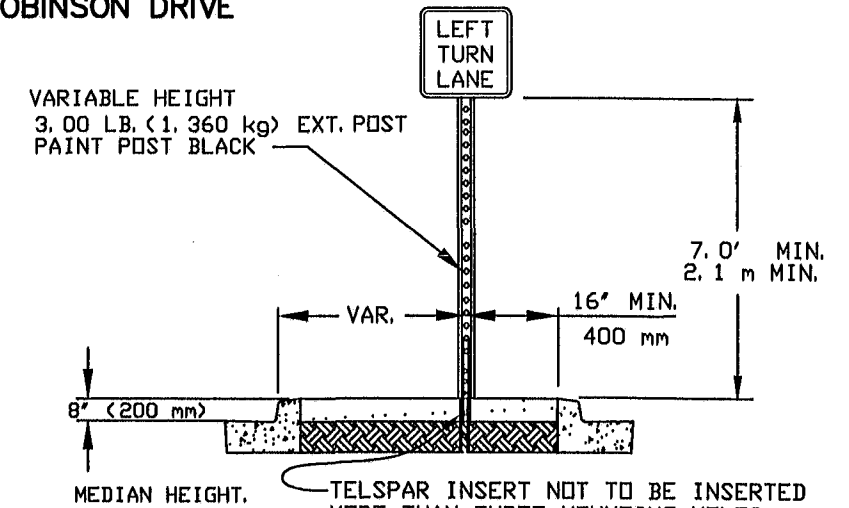
**GROUND POST MOUNTED SIGN
TYPICAL INSTALLATION**

NORTHDALE BLVD. (C.S.A.H. 11),
HANSON BLVD. (C.S.A.H. 78) AND ROBINSON DRIVE



SECTION A - A

INSTALL 1 3/4' (45 mm) x 1 3/4' (45 mm) x 12' (300 mm) SOLID WALL GALVANIZED SQUARE TUBING BEFORE CONCRETE POUR, HAMMER INTO GROUND SO THAT 1' (25 mm) OF TUBE IS ABOVE GROUND, RE-PLUMB AT TIME OF POUR.

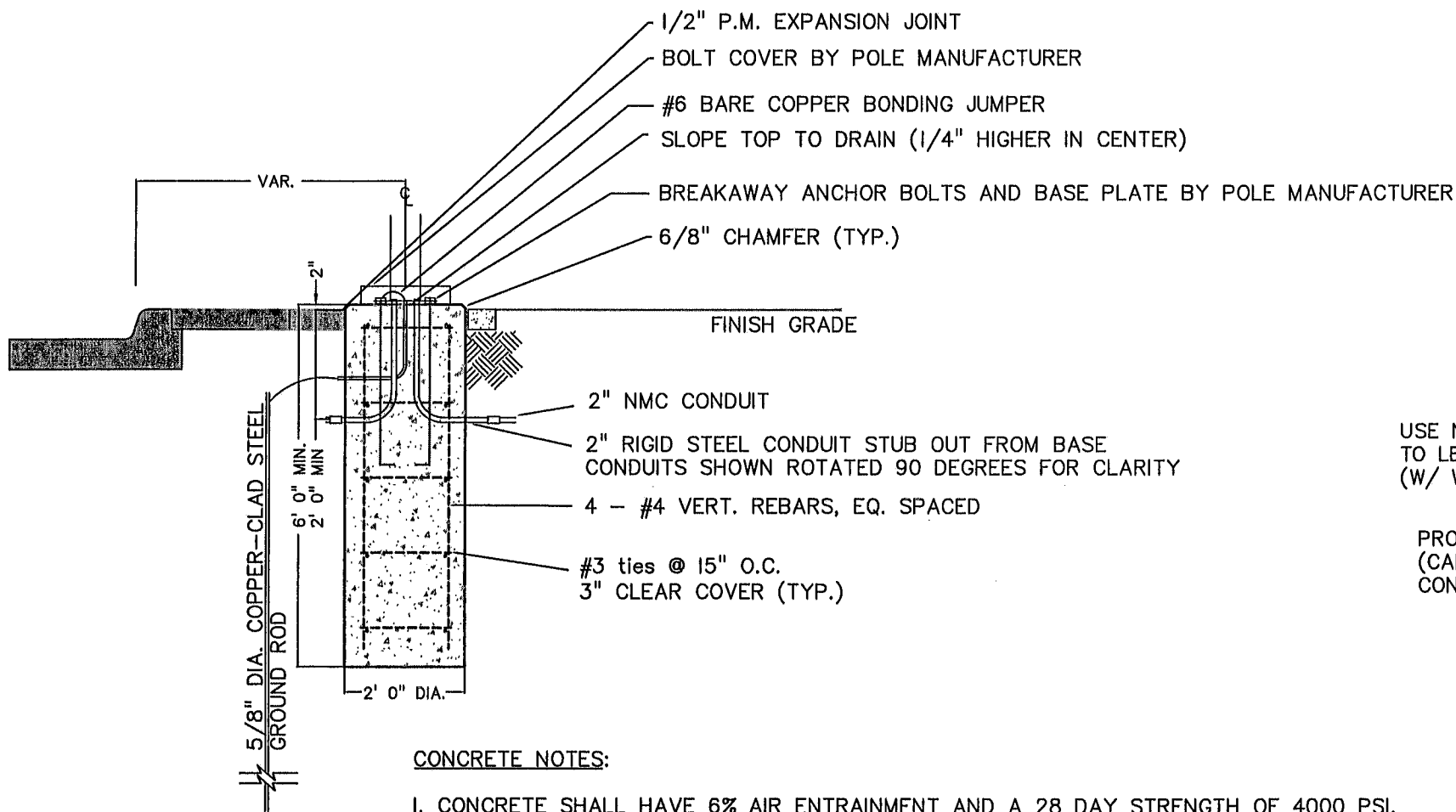


**ISLAND MOUNT BREAK-AWAY SIGN
TYPICAL INSTALLATION**

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. 102 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

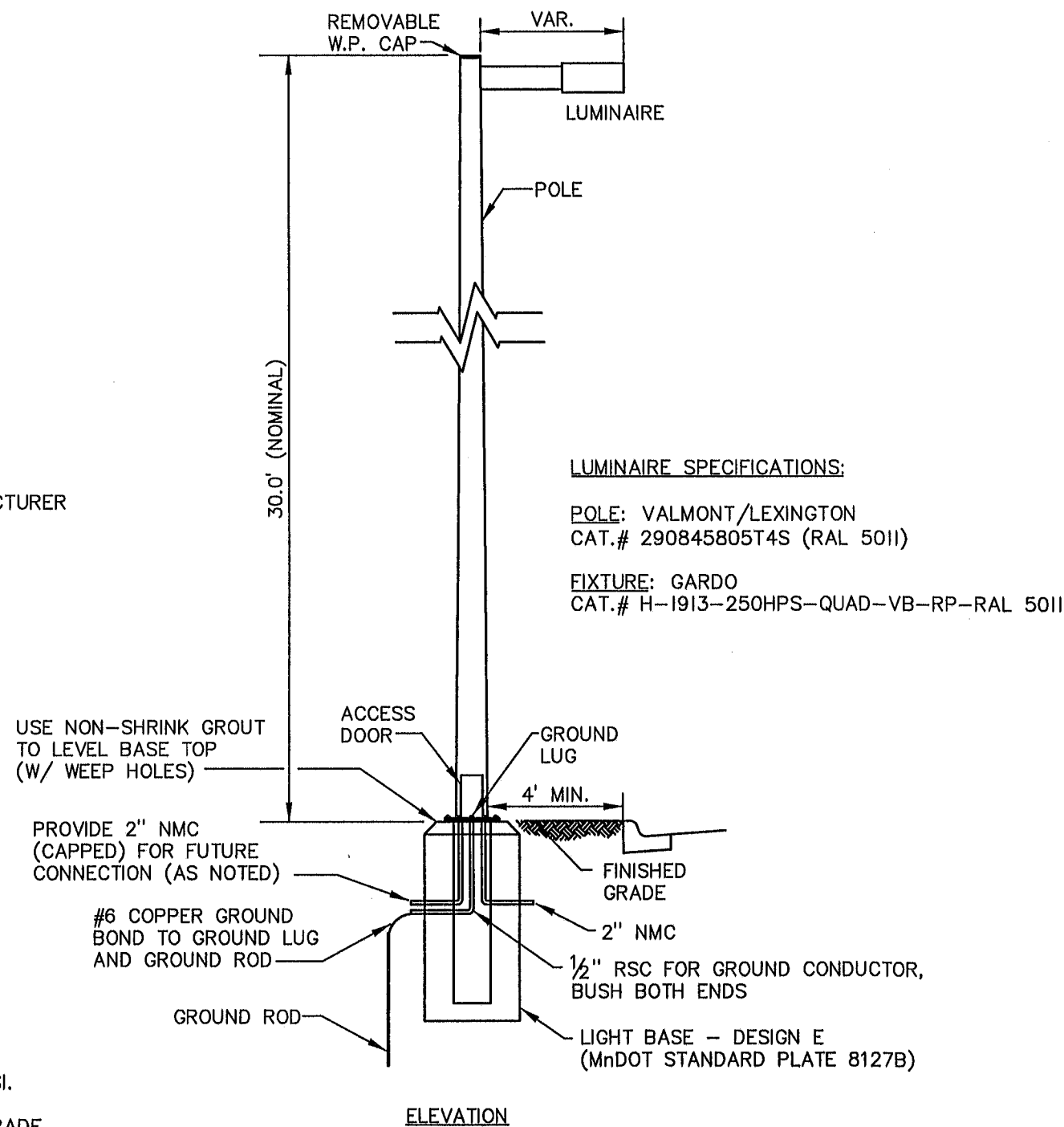
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CONCRETE NOTES:

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	



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612.370.0700 Tel
612.370.1378 Fax

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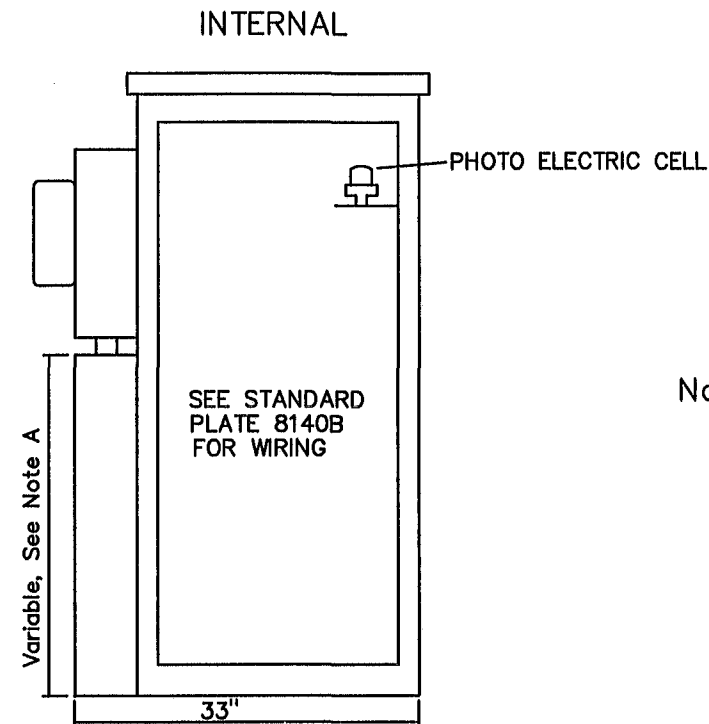
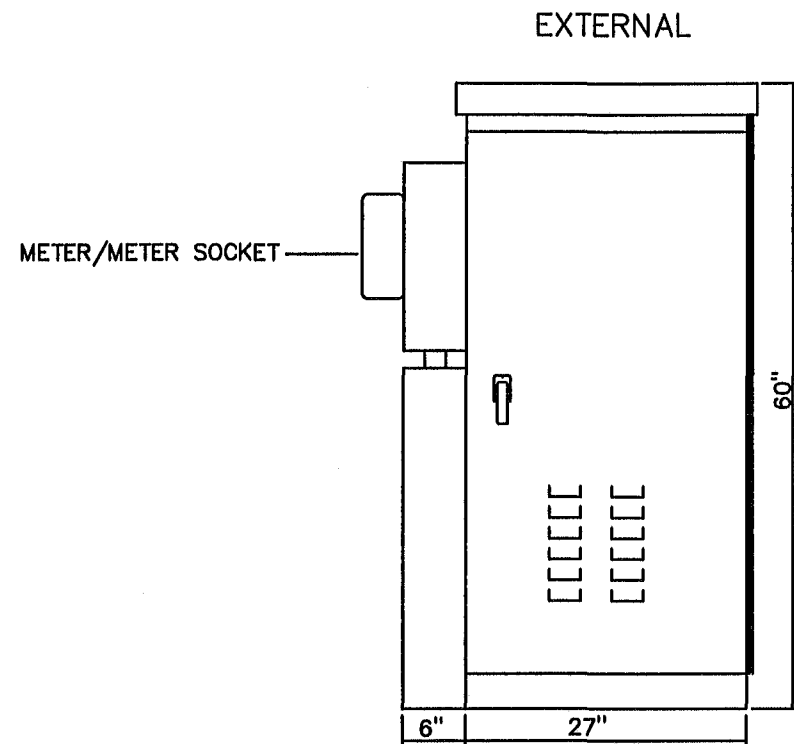
Aaron S. Heumann
AARON S. HEUMANN
DATE: 4/28/02 MN LIC. NO. 25846

**NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
RAVEN ST. TO HANSON BLVD.
LIGHTING DETAILS
LIGHTING UNIT AND FOUNDATION**

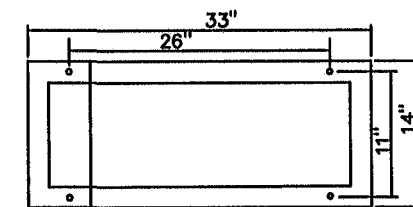
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

1 OF 5
SHEET NO.
103
159

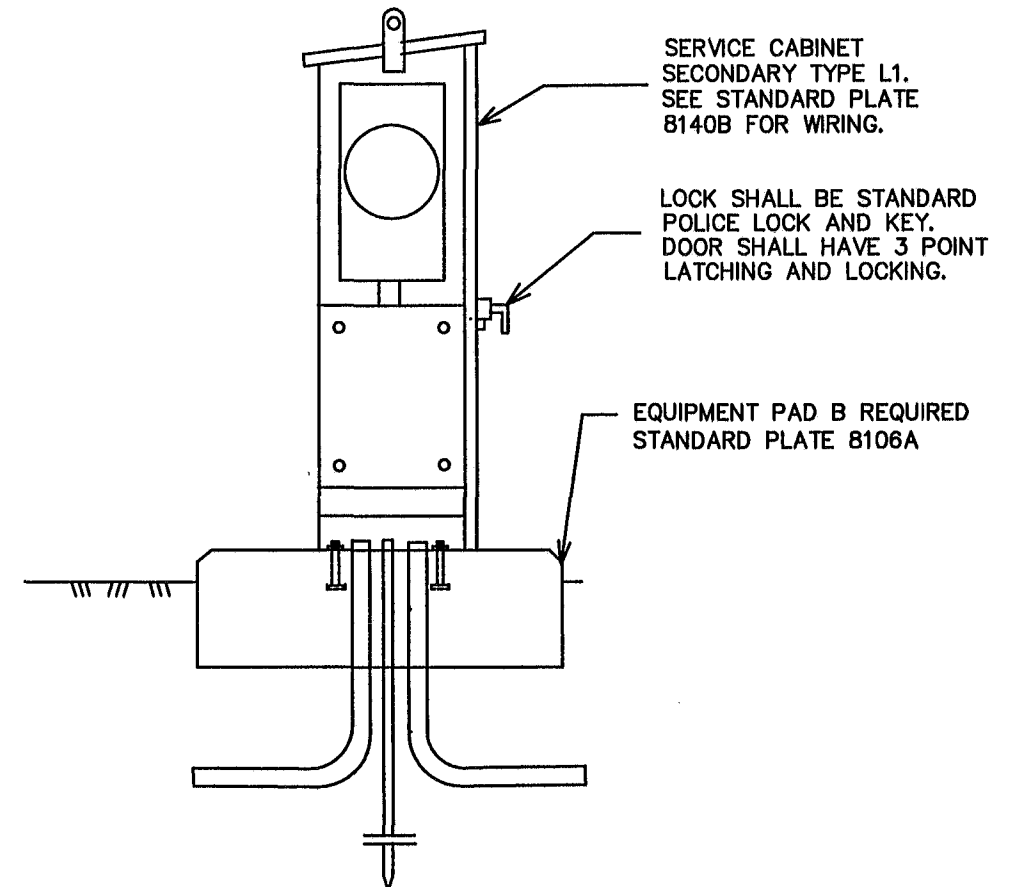
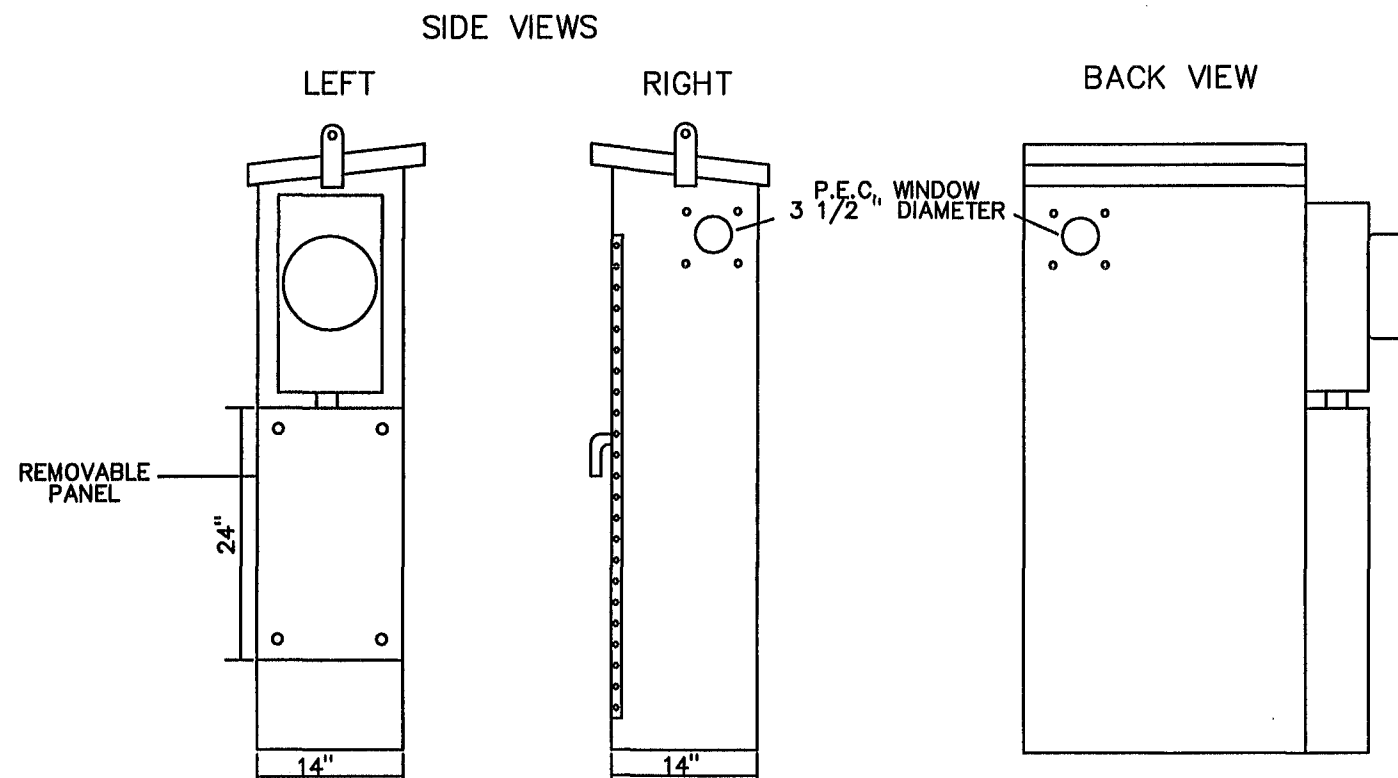
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PAD MOUNTING PATTERN



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



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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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A. S. Heumann
AARON S. HEUMANN
DATE: 4/28/02 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

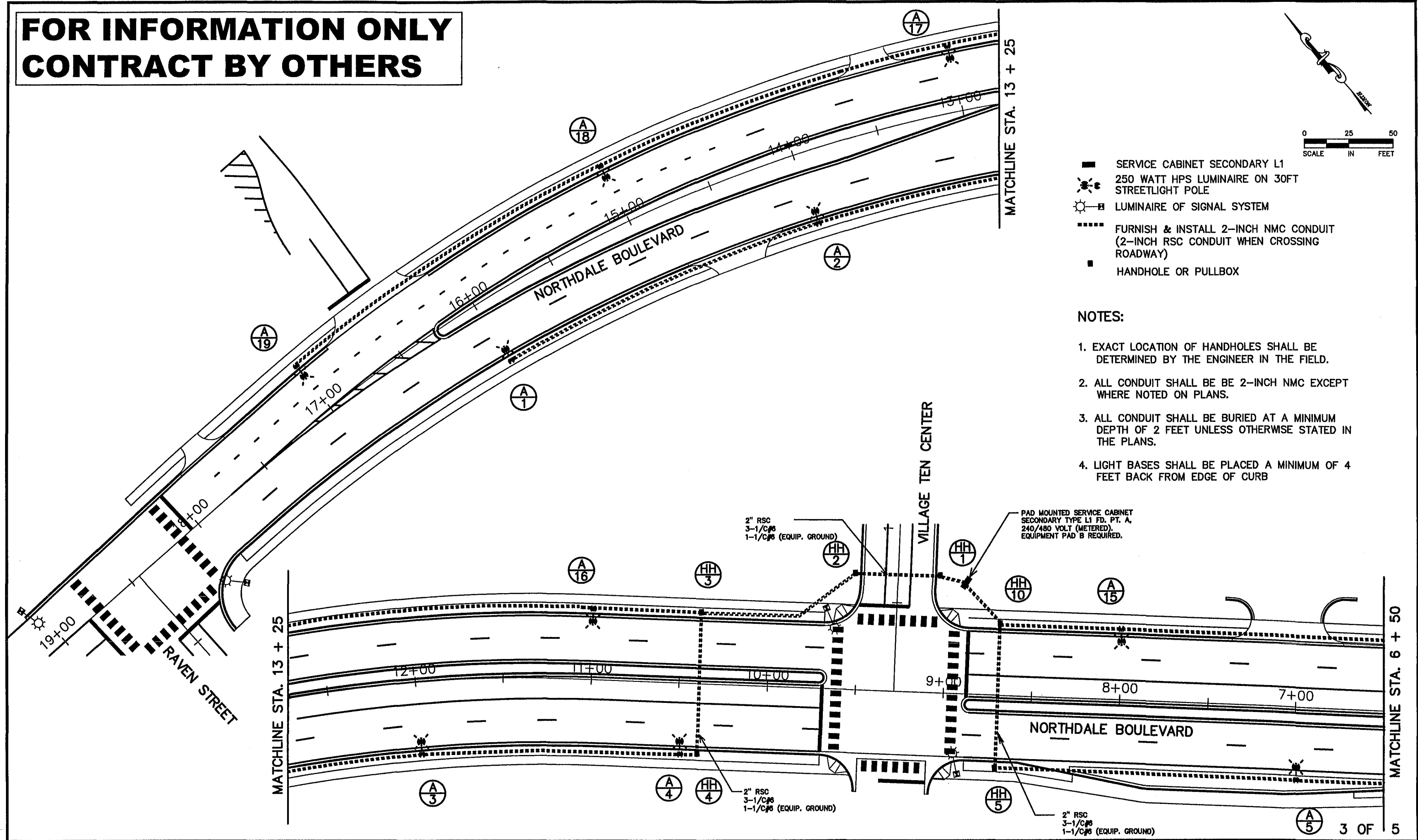
2 OF 5

SHEET NO.

104

159

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- 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 2002 8:46am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\LIGHTING\43LT01.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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33889-043

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Aaron S. Heumann

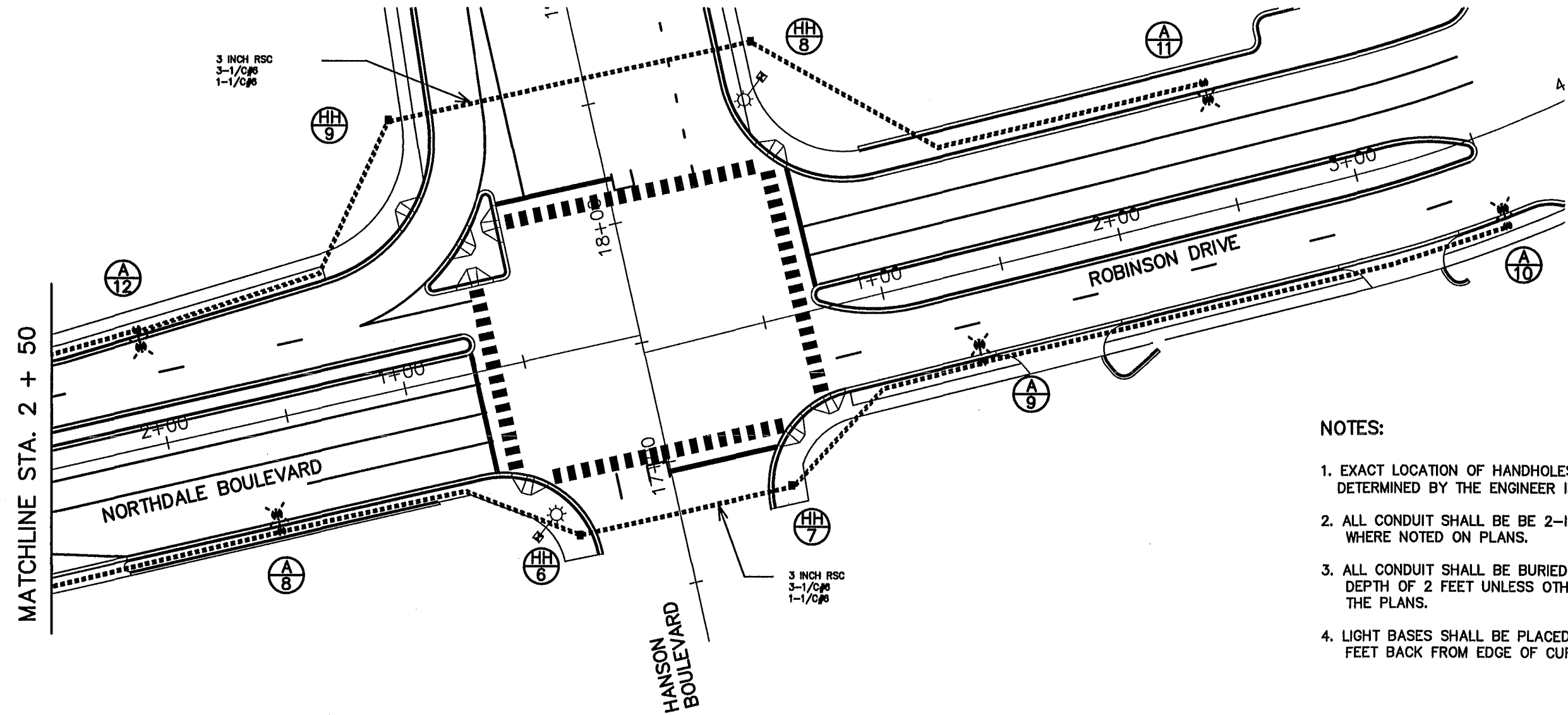
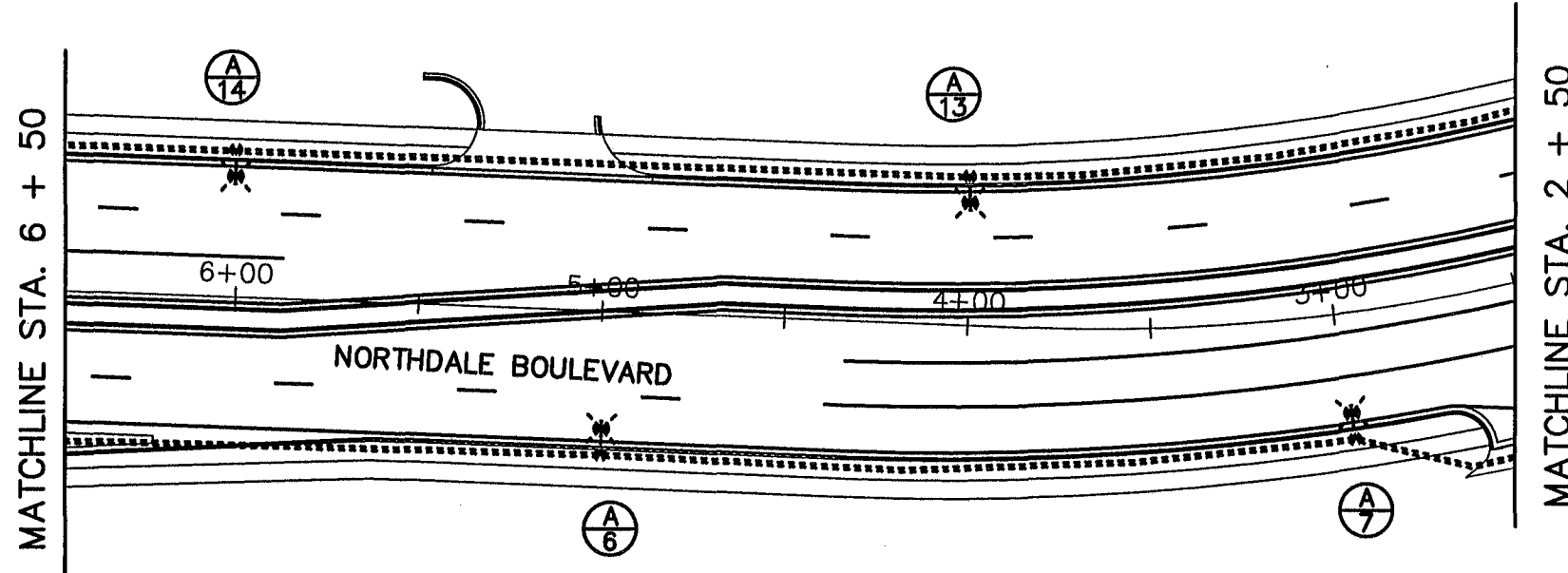
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

NORTHDALE BOULEVARD
(C.S.A.H. 11)
RAVEN ST. TO HANSON BLVD.
LIGHTING PLAN
STA. 16+50 TO STA. 6+50

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.
105
159

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

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY:
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DESIGN BY:
DMG

CHKD. BY:
ICP

DWG. NAME:
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DATE:
APRIL 26, 2002



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

**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	SHEET NO. 106 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

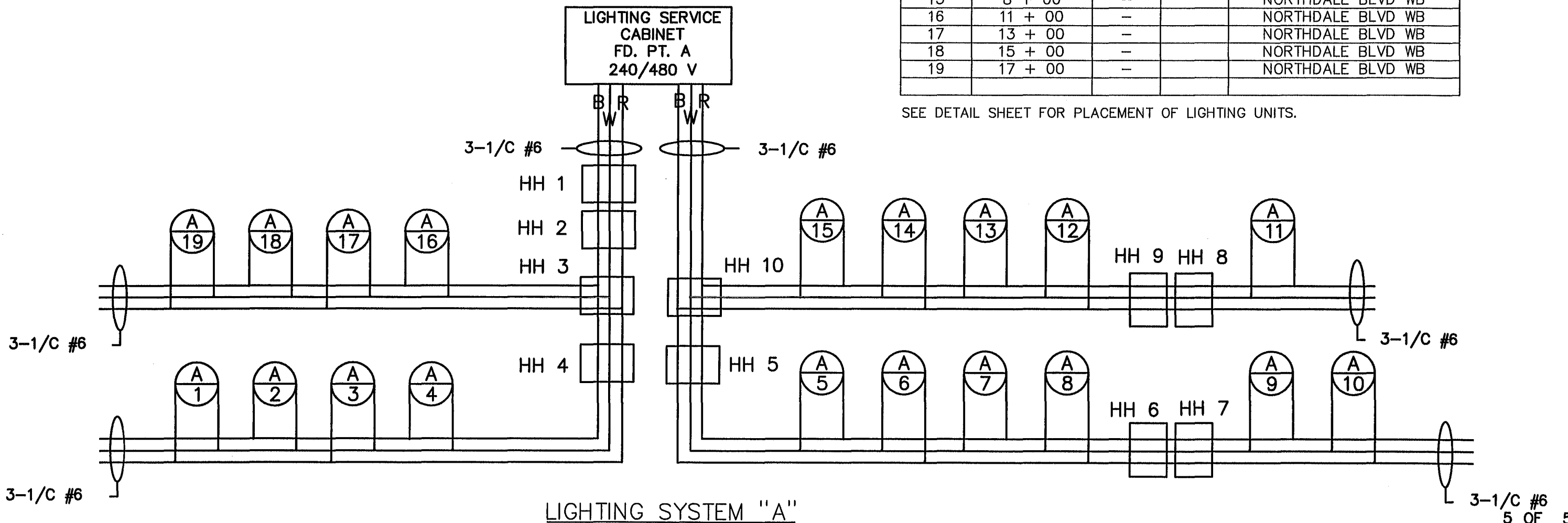
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NOTES:

- "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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DATE: APRIL 26, 2002		



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

JURISDICTION

MN/DOT
 MN/DOT
 ANOKA COUNTY
 ANOKA COUNTY

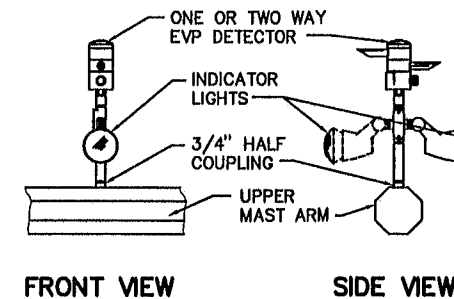
LEGEND OF SYMBOLS

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	⊙
SONIC DETECTION	⊙

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
EQG	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



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	DRAWN BY: JAS	DESIGN BY: MRA
CHKED. BY: ASH	DWG. NAME: 043-TS28	DATE: APRIL 26, 2002



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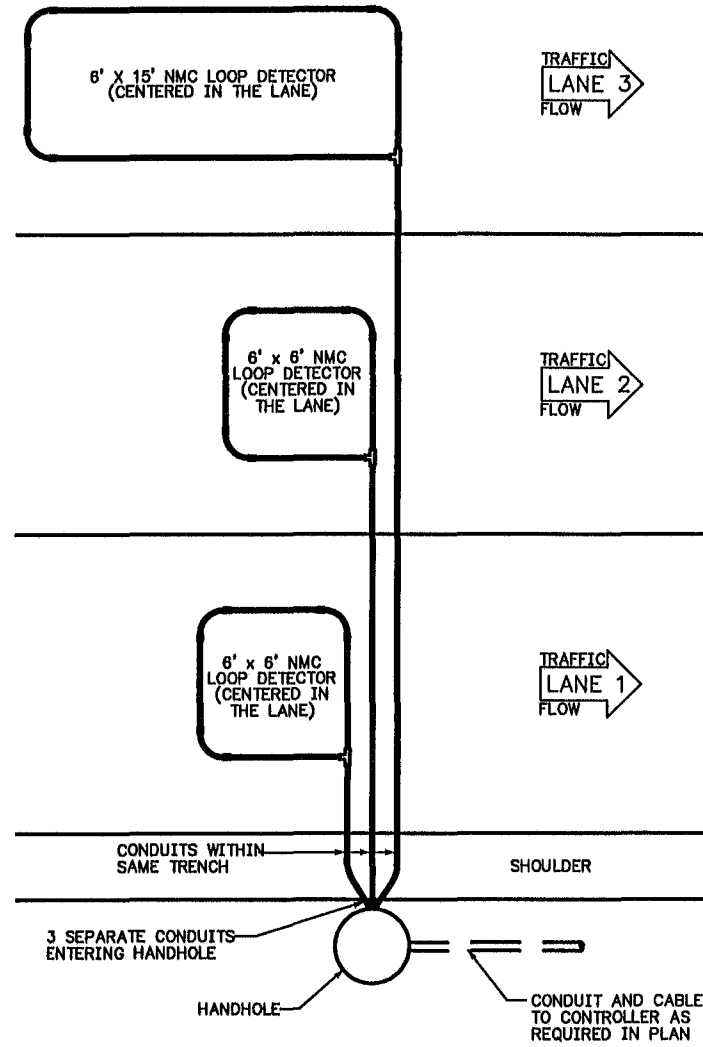
Aaron S. Heumann
 AARON S. HEUMANN
 DATE: 4/26/02 MN LIC. NO. 25846

NORTHDAL BOULEVARD
 (C.S.A.H. 11)
 SIGNAL SYSTEMS "A", "B", "C" & "D"
 STANDARD PLATES AND SYMBOLS

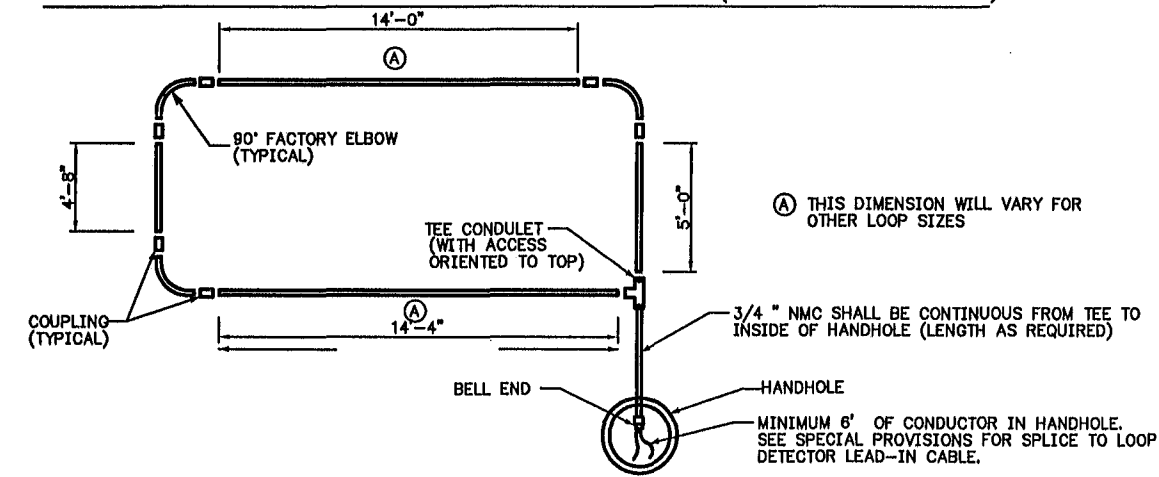
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

1 OF 27
 SHEET NO.
 108
 159

TYPICAL NMC LOOP DETECTOR LAYOUT



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

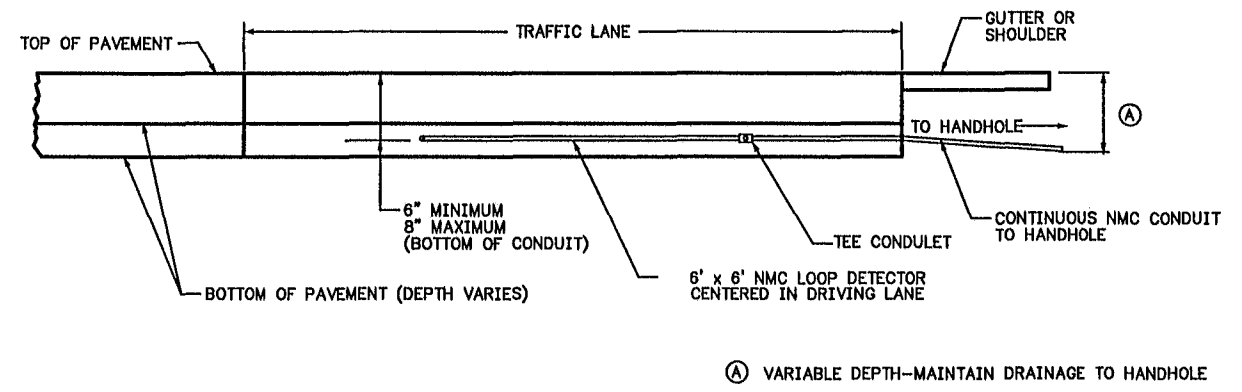


NOTES:

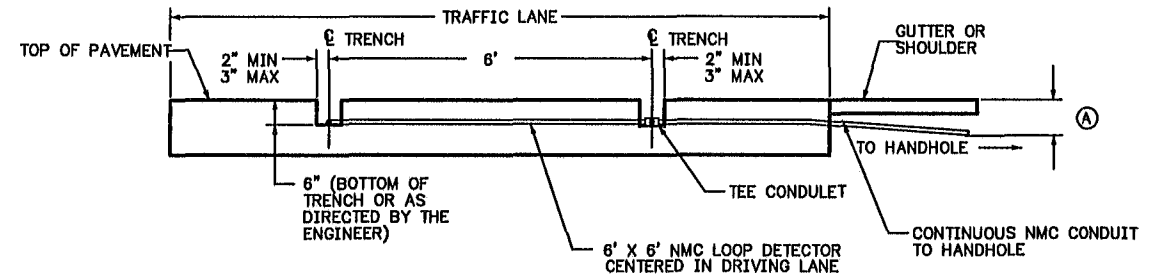
- SEE SPECIAL PROVISIONS FOR REQUIRED LOOP DETECTOR CONDUCTORS AND SPLICE KITS.
- THE 3/4" NON-METALLIC CONDUIT (NMC) AND FITTINGS SHALL BE SCHEDULE 40 HEAVY WALL RIGID POLYVINYL CHLORIDE (PVC). SEE SPEC. 3803.
- THREE CORNERS OF EACH LOOP DETECTOR SHALL BE A 90° FACTORY ELBOW (6" RADIUS), THE FOURTH 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" MIN) SHALL BE TWISTED ^{FIVE} ~~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



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 2380. 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 COMPACTION 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 2, 2002 4:50pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS08.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	
DRAWN BY: JAS	DESIGN BY: MRA
CHKD. BY: ASH	DWG. NAME: 043-TS08
DATE: APRIL 26, 2002	



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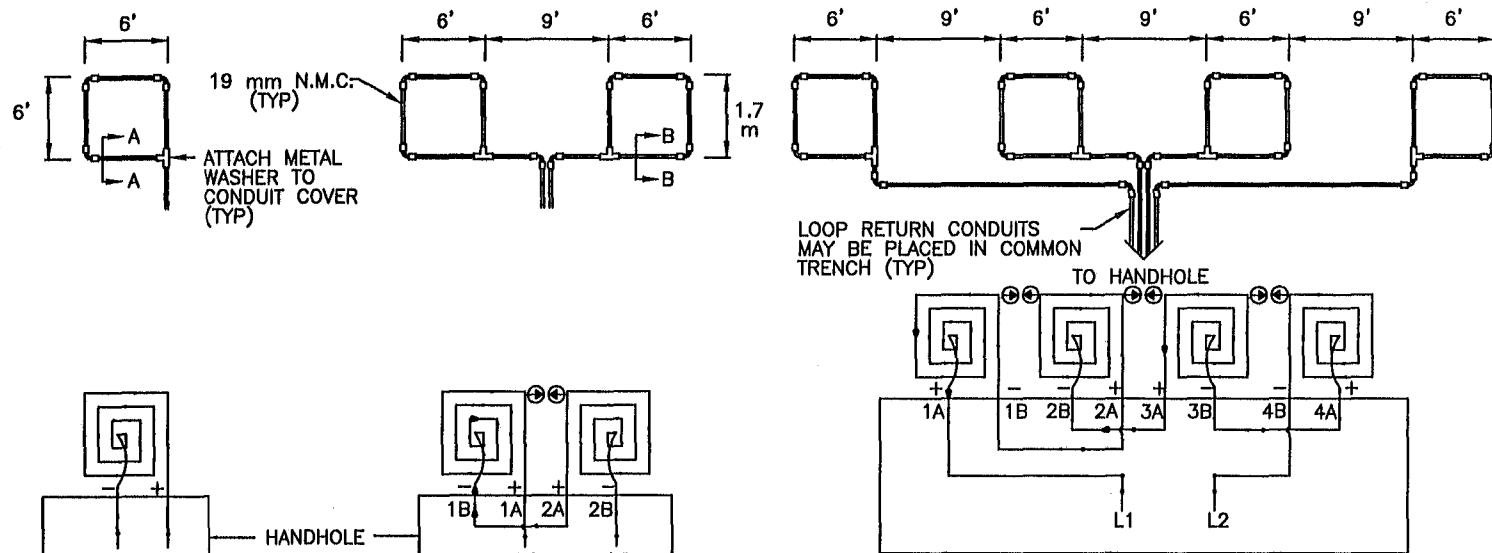
Aaron S. Heumann
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

NORTHDALE BOULEVARD
(C.S.A.H. 11)
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-TS18.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

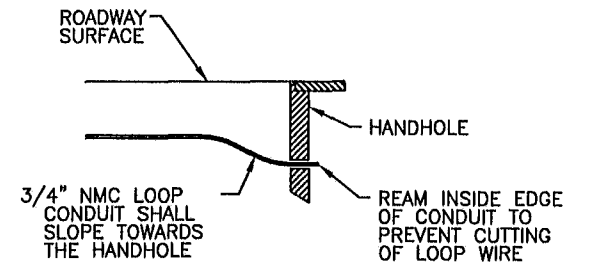
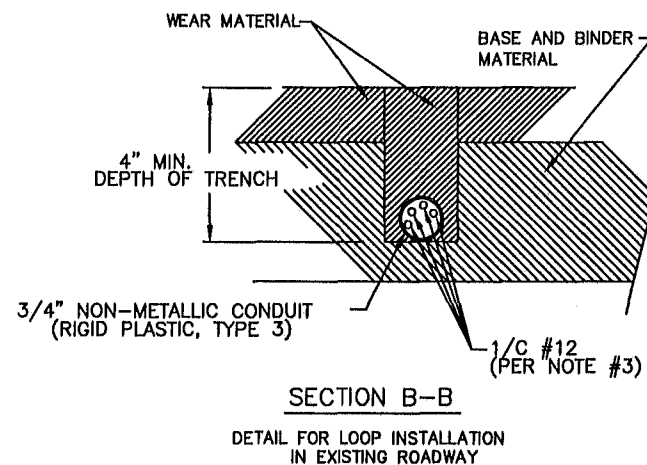
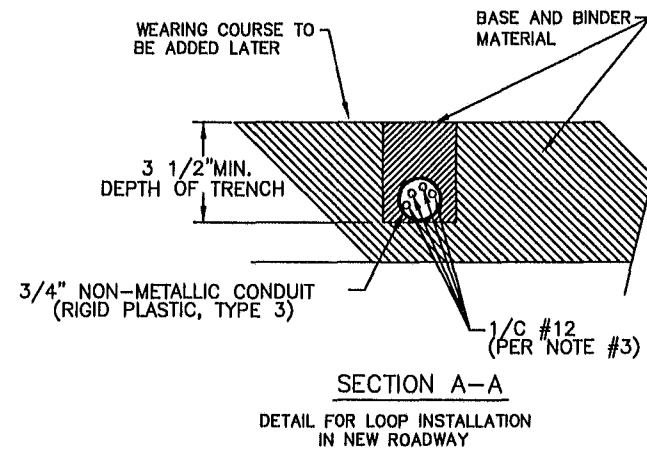
**LOOP DETECTOR
DETAIL 'B'**
(LOOP PHASING FOR
SERIES CONNECTION)

LOOP 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)



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.

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33889-043

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A. S. Heumann

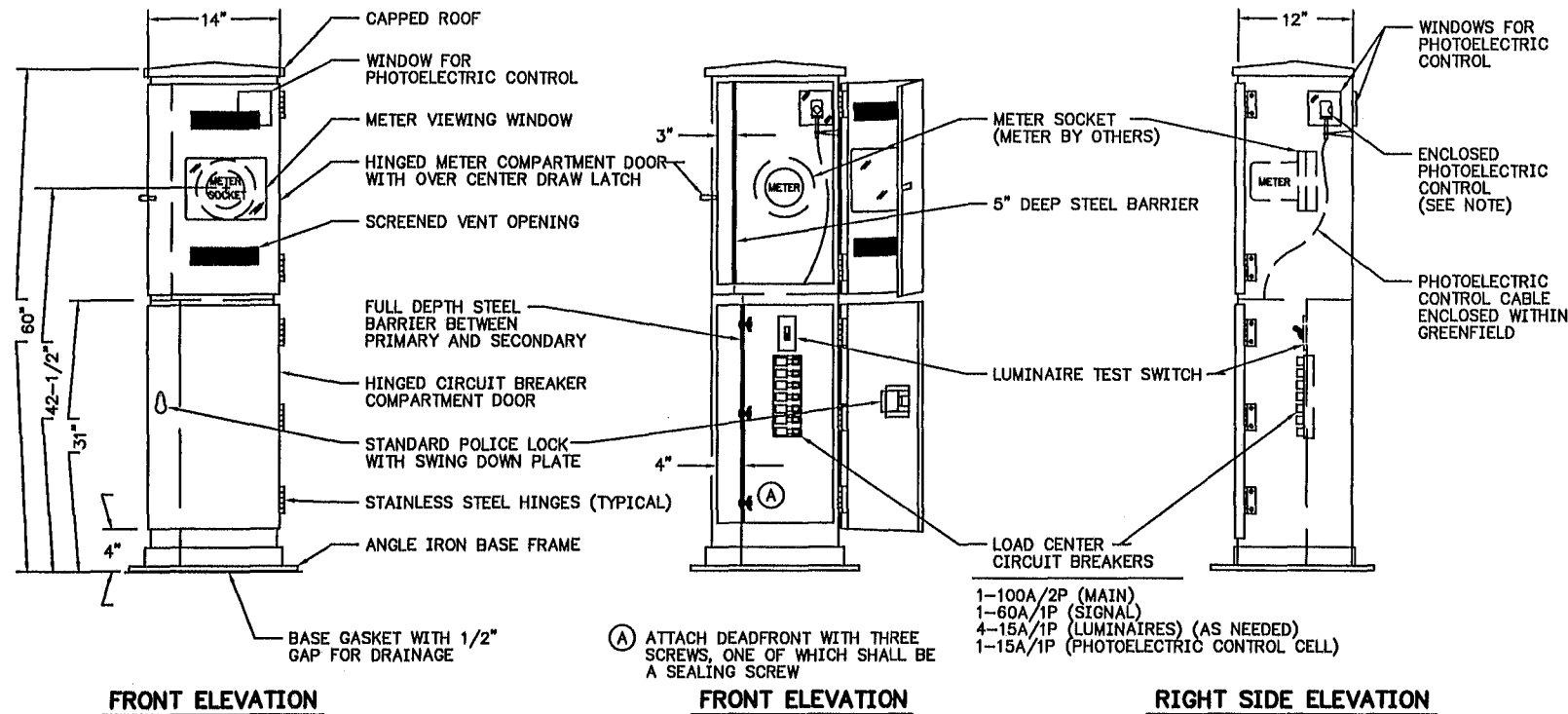
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

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

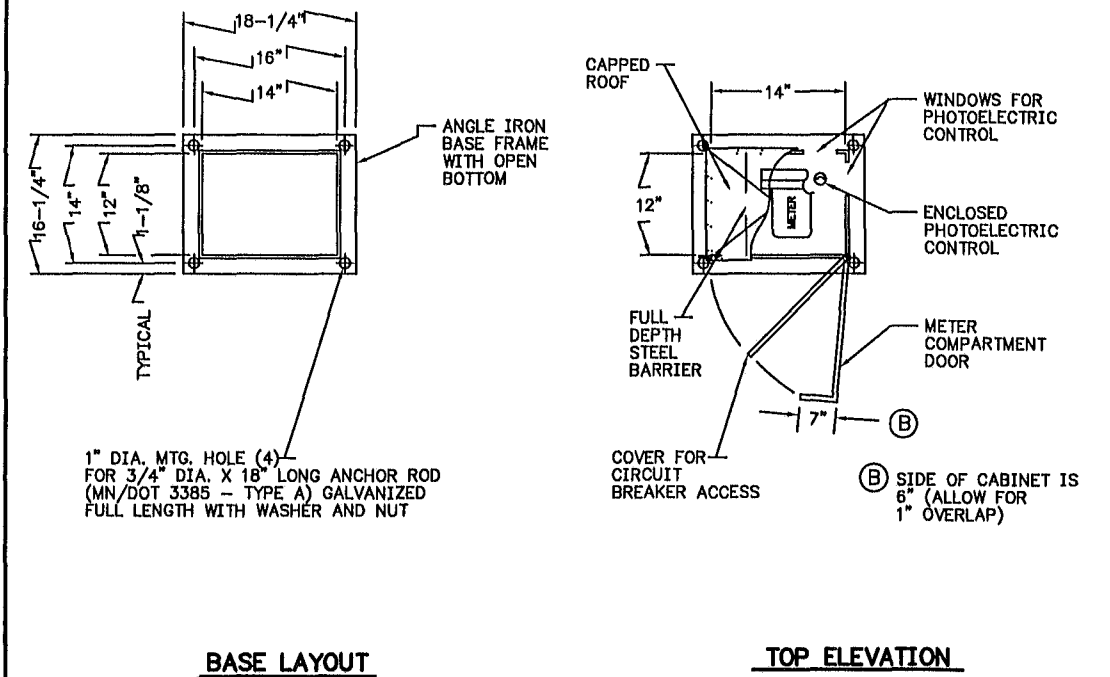
PREFORMED NON-METALLIC CONDUIT (NMC)
LOOP DETECTOR DETAILS

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

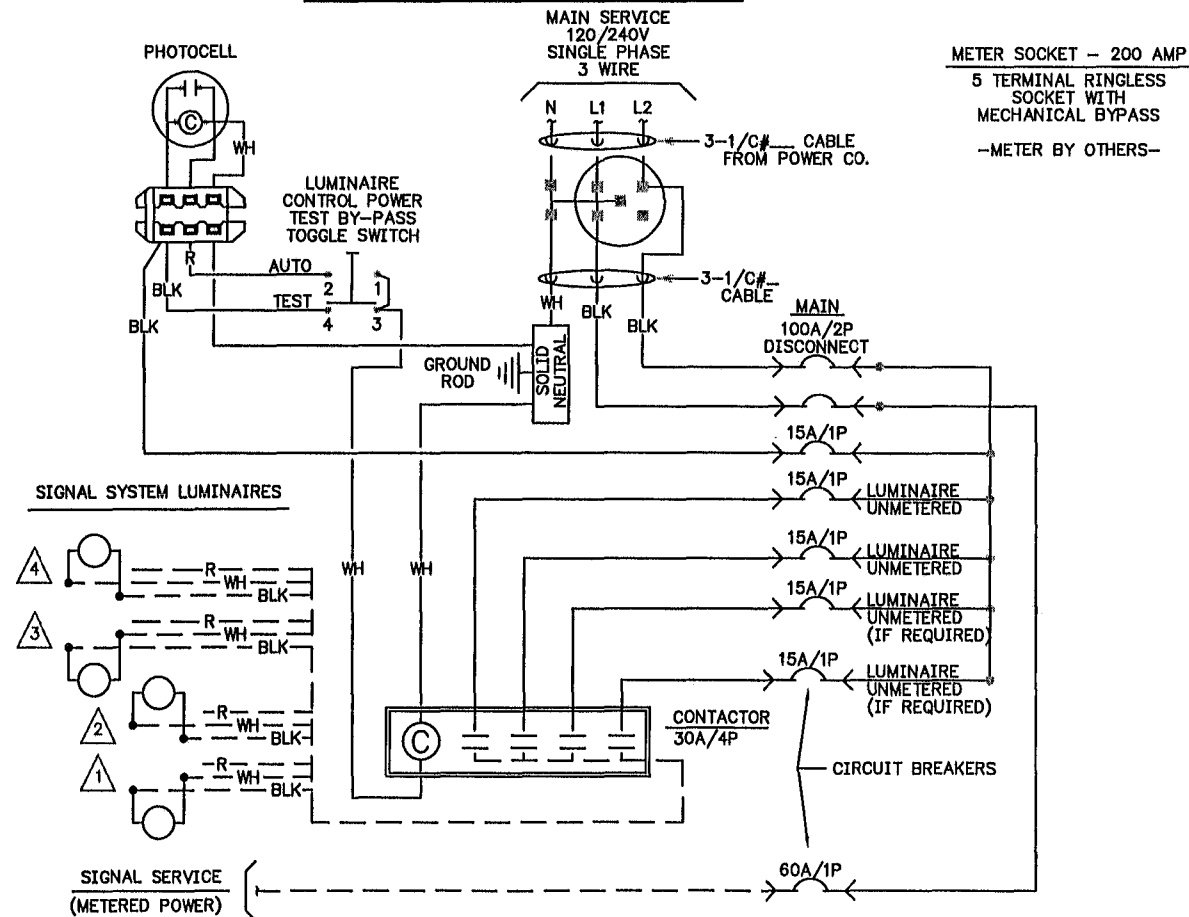
SERVICE CABINET DETAILS



CABINET BASE DETAILS



FEED POINT WIRING DIAGRAM



CONSTRUCTION NOTES

1. THE SERVICE CABINET SHALL BE FABRICATED FROM FORMED AND WELDED .125" ANNOXIDIZED 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.

FIELD WIRING DIAGRAM CABLE NUMBERS

CABLE NO.	CABLE	USE
1	3-1/C#2	INPUT POWER
2	2-1/C#6	SIGNAL SERVICE
3	3/C#12	LUMINAIRE - 1
4	3/C#12	LUMINAIRE - 2
5	3/C#12	LUMINAIRE - 3
6	3/C#12	LUMINAIRE - 4

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

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DESIGN BY:
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ASH
DWG. NAME:
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APRIL 26, 2002



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

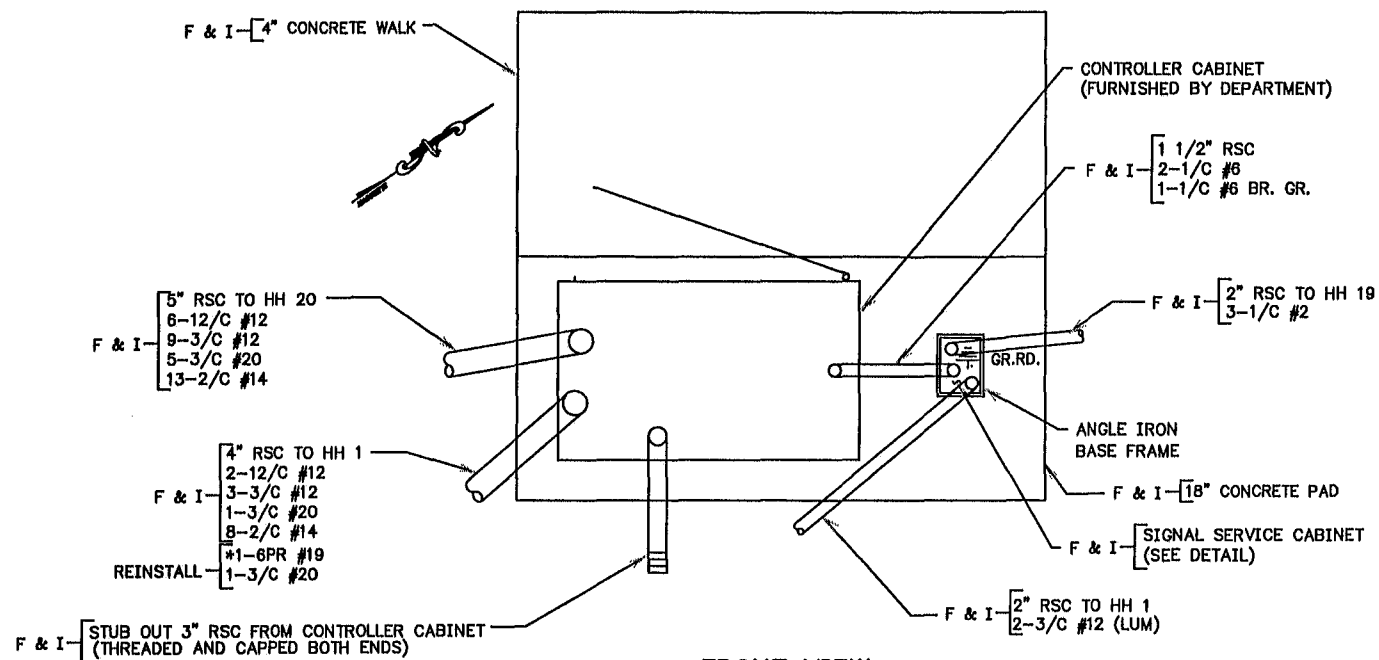
NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
SIGNAL SYSTEM "A"
SIGNAL SERVICE CABINET DETAILS

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

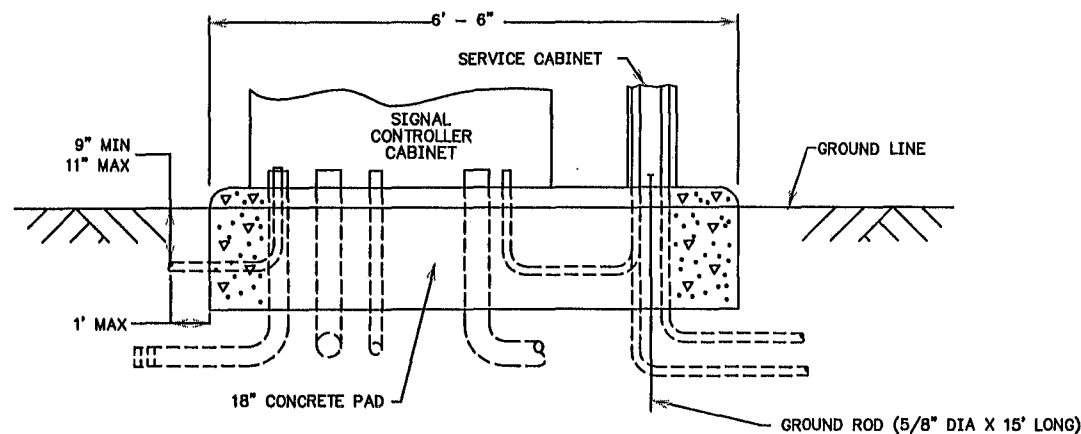
CONTROLLER CABINET AND SERVICE CABINET
HANSON BLVD. / NORTHDAL BLVD.
SIGNAL SYSTEM "A"

SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

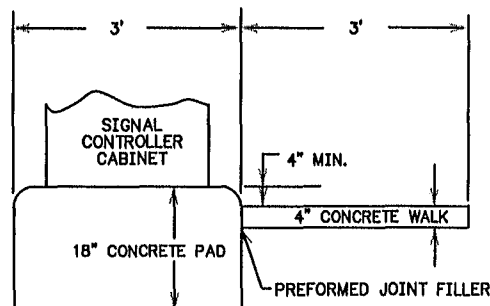
PLAN VIEW



FRONT VIEW



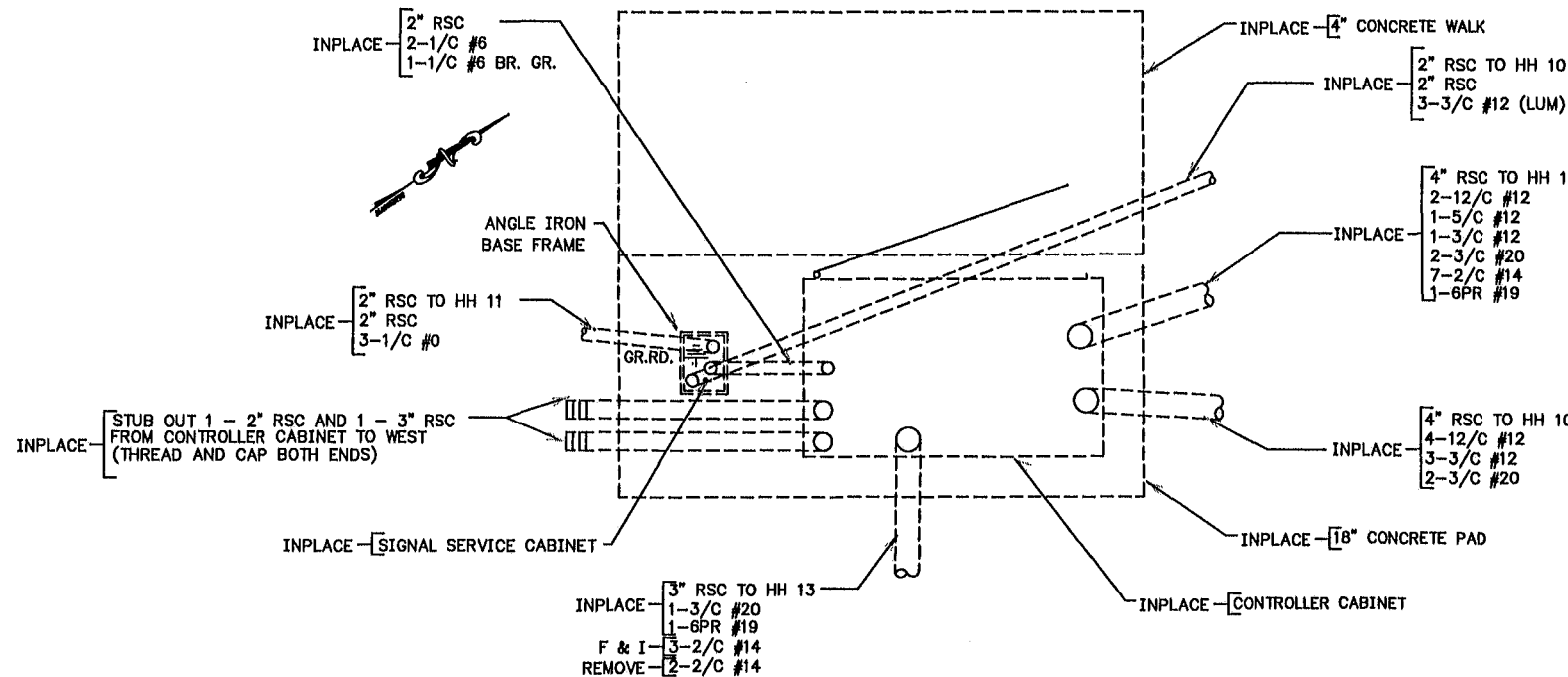
SIDE VIEW



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".

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DATE: 4/26/02 MN LIC. NO. 25846

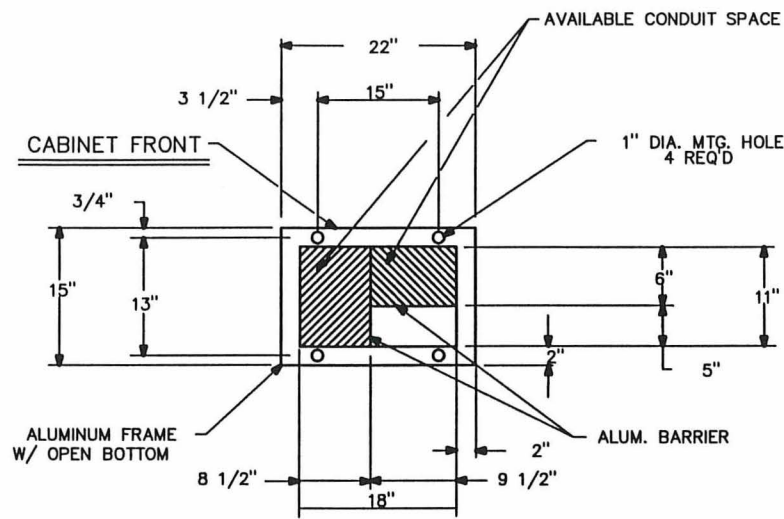
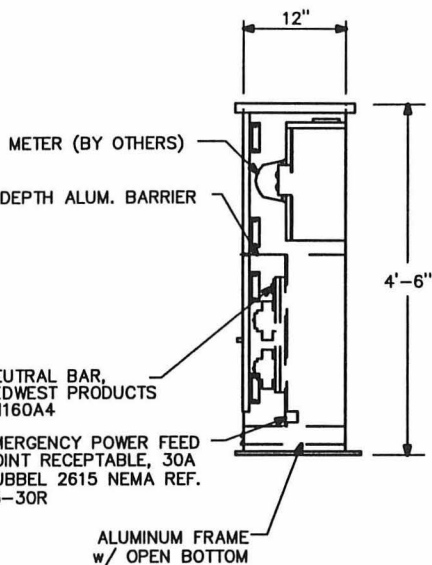
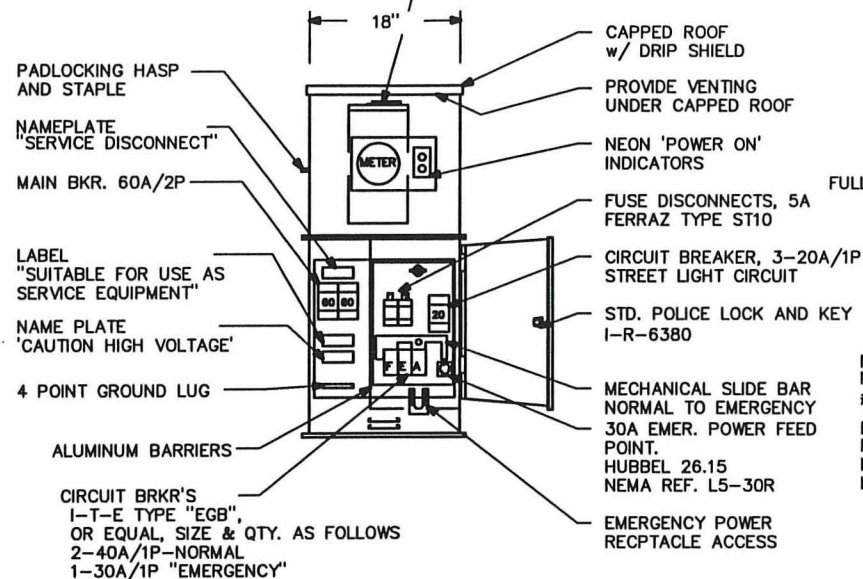
NORTHDAL BOULEVARD
(C.S.A.H. 11)
SIGNAL SYSTEMS "A" & "B"
EQUIPMENT PAD LAYOUTS

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

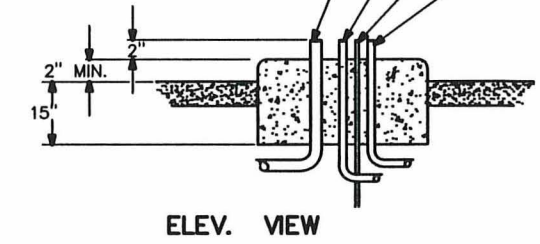
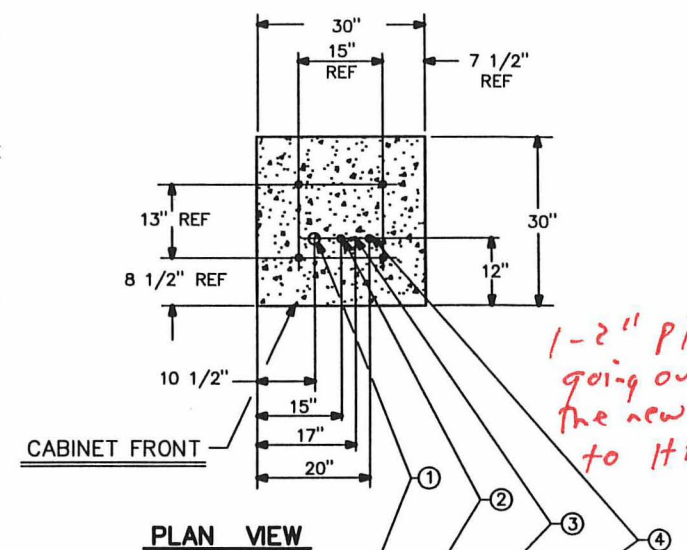
5 OF 27
SHEET NO.
112
159

SIGNAL SERVICE CABINET

N.S.P. METER SOCKET, 5-TERMINAL w/POSTIVE BY-PASS MECHANISM MILBANK CAT. No. U-2272-RL



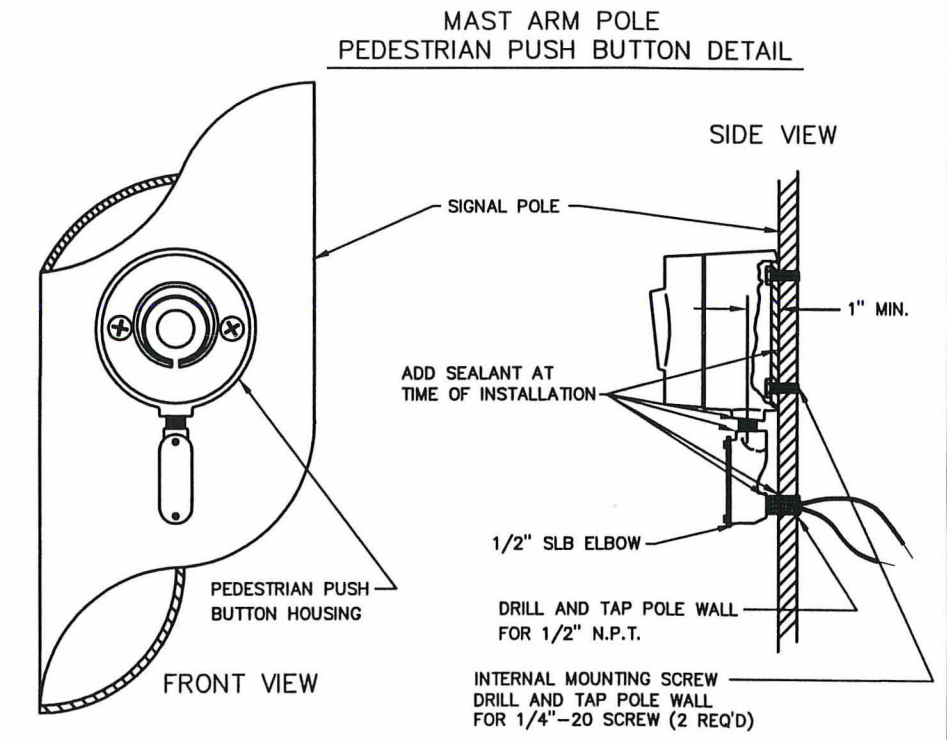
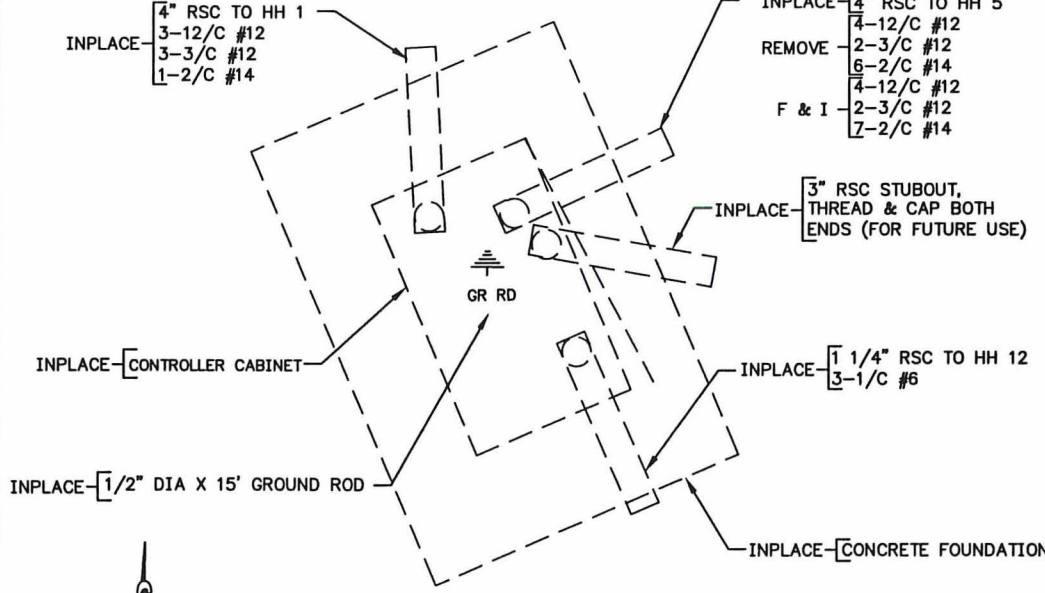
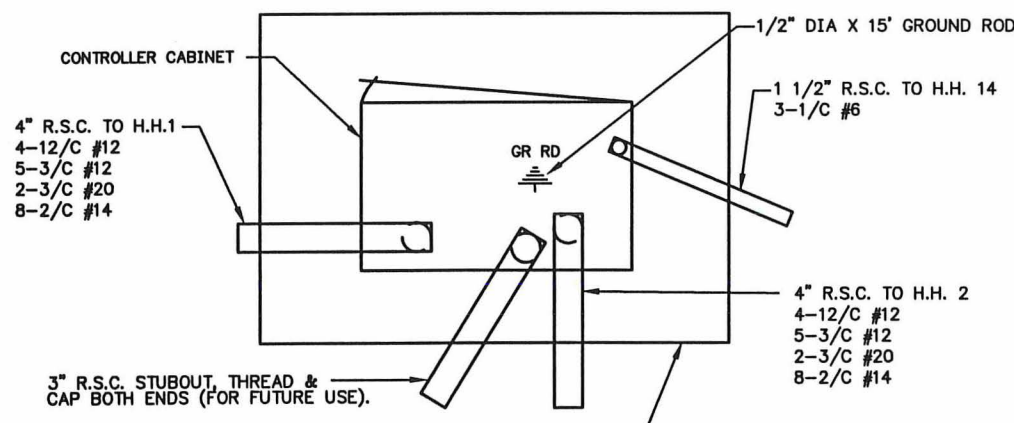
SERVICE CABINET FOUNDATION



- ① 2" RSC TO WOOD POLE (FOR POWER CABLES)
- ② 2" RSC TO CONTROLLER CABINET
- ③ GROUNDING ROD
- ④ 2" RSC TO HANDHOLES 1 AND 18 (STREET LIGHTING)
- ⑤ ANCHOR BOLT LOCATIONS (4 REQUIRED)

1-2" pipe going out on the new service to 11# 14

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

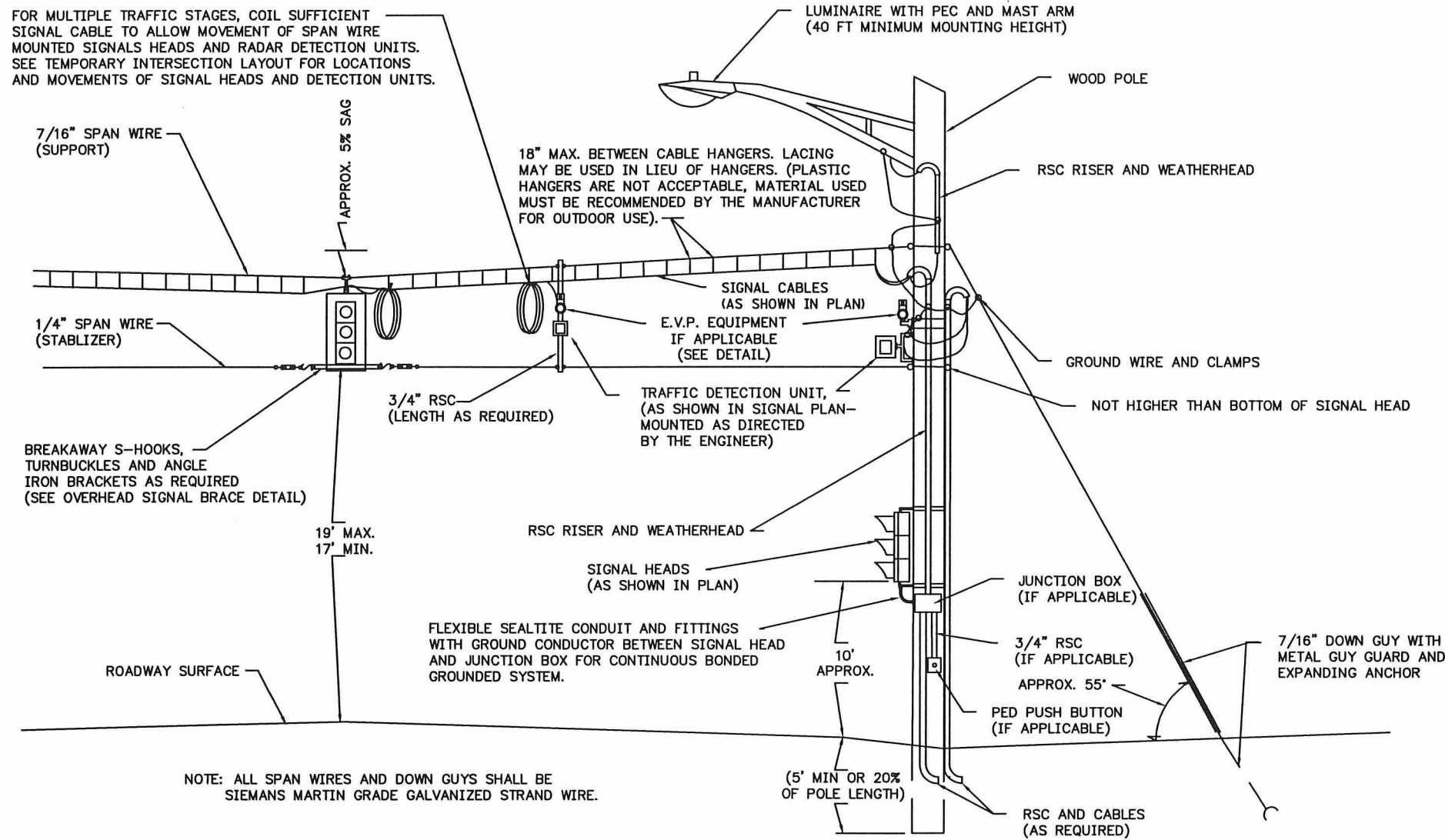
NORTHDALE BOULEVARD
(C.S.A.H. 11)
SIGNAL SYSTEMS "C" & "D"
CABINET & PUSH BUTTON DETAILS

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO.
COUNTY PROJECT		S.A.P.	114-020-27	113
S.P.	114-010-13	S.A.P.	114-107-08	159

TYPICAL WOOD POLE AND SPAN WIRE MOUNTED TRAFFIC SIGNALS

(NOT TO SCALE)

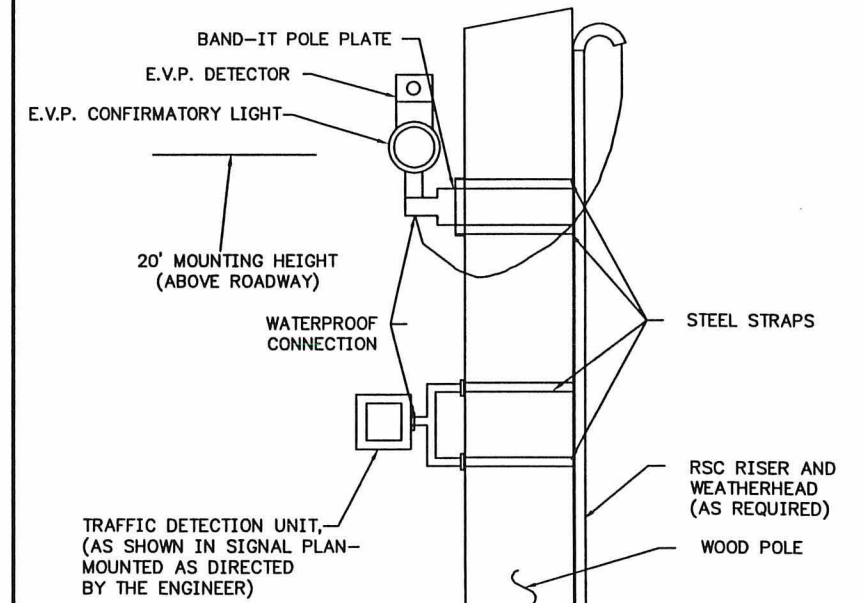
FOR MULTIPLE TRAFFIC STAGES, COIL SUFFICIENT SIGNAL CABLE TO ALLOW MOVEMENT OF SPAN WIRE MOUNTED SIGNALS HEADS AND RADAR DETECTION UNITS. SEE TEMPORARY INTERSECTION LAYOUT FOR LOCATIONS AND MOVEMENTS OF SIGNAL HEADS AND DETECTION UNITS.



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

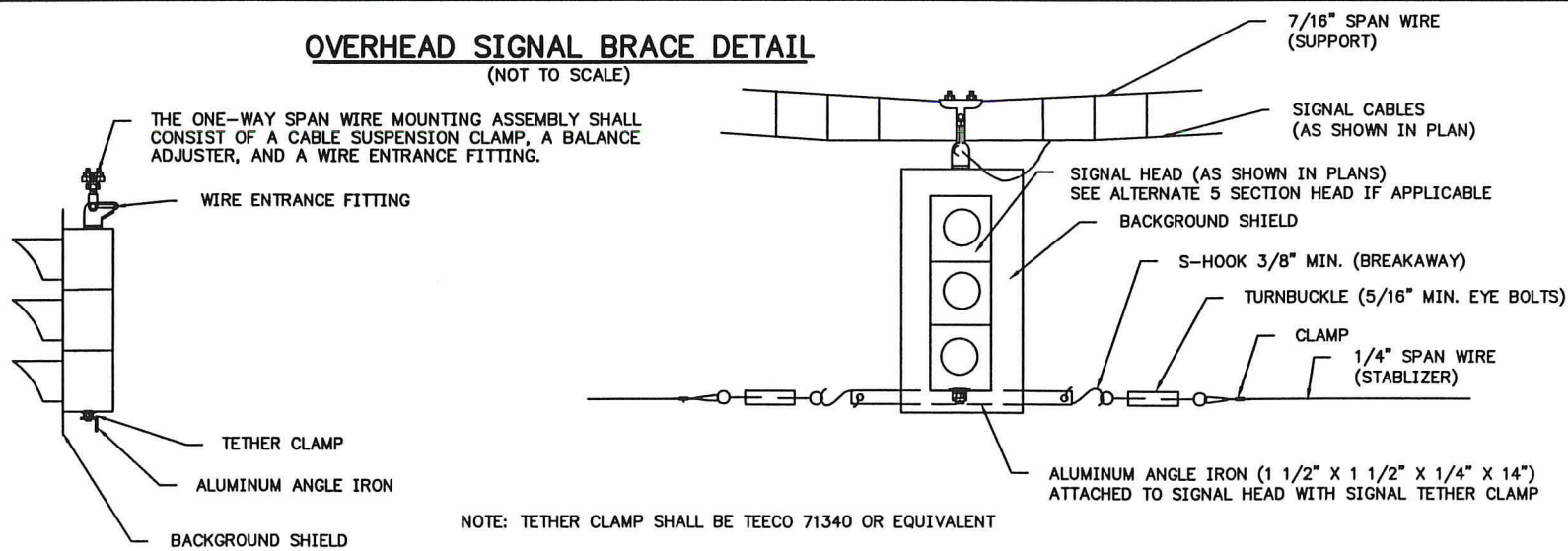
E.V.P. OR TRAFFIC DETECTOR WOOD POLE MOUNT

(NOT TO SCALE)



OVERHEAD SIGNAL BRACE DETAIL

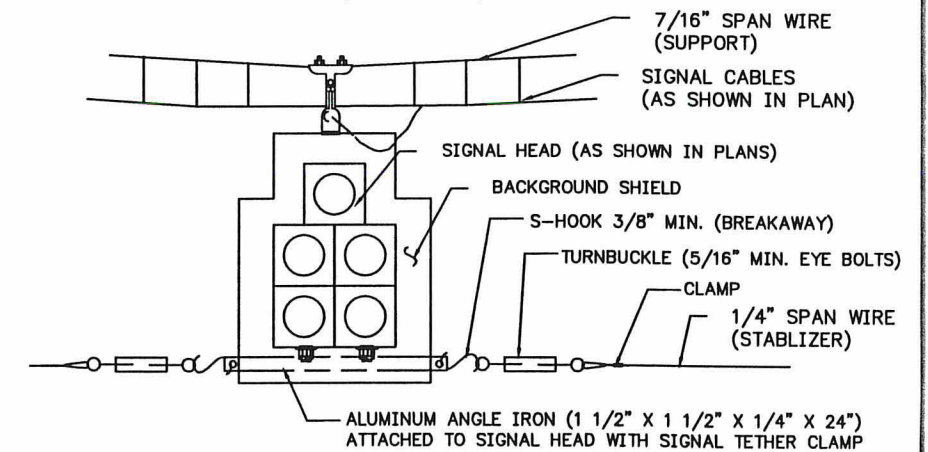
(NOT TO SCALE)



NOTE: TETHER CLAMP SHALL BE TEECO 71340 OR EQUIVALENT

ALTERNATE 5 SECTION HEAD OVERHEAD SIGNAL BRACE DETAIL

(NOT TO SCALE)



No doghouse style on ACHD signals

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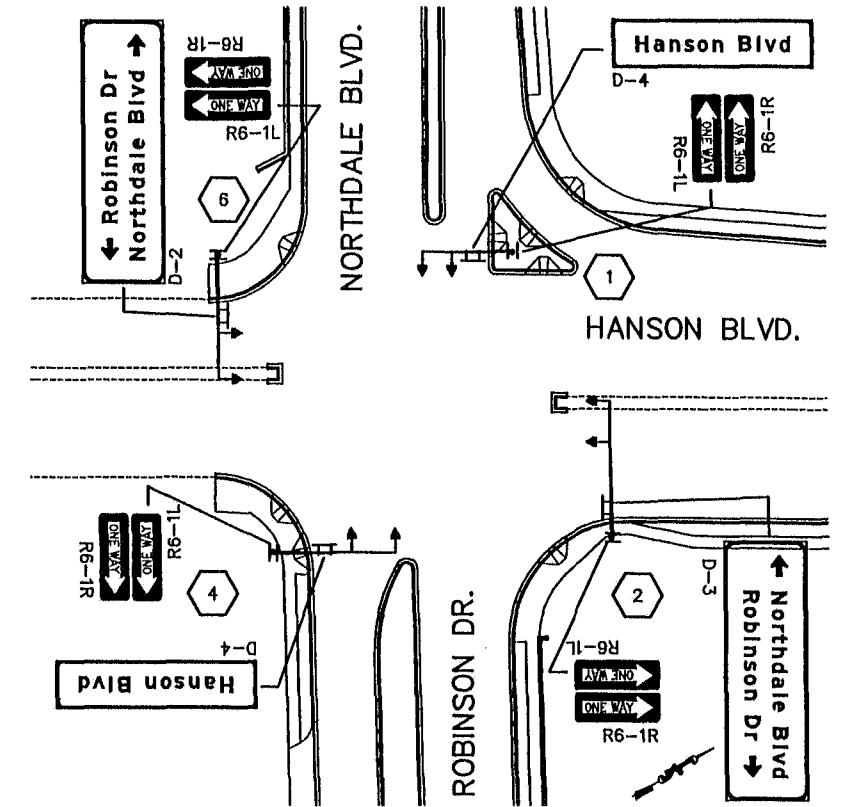
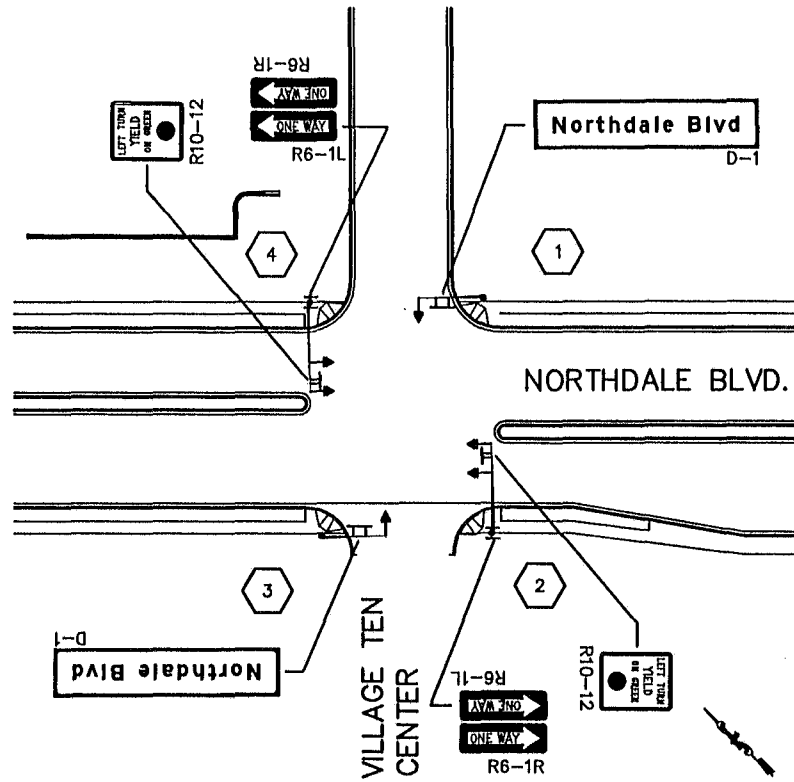
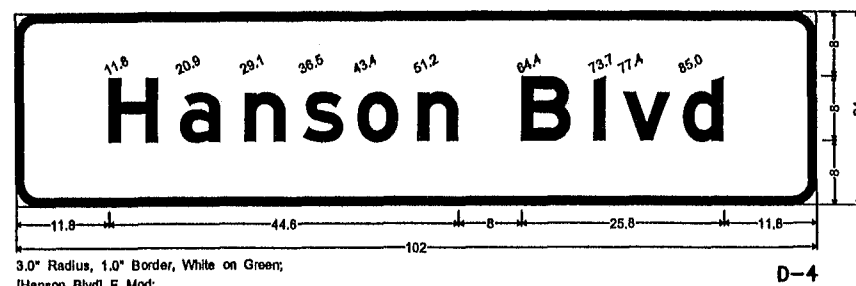
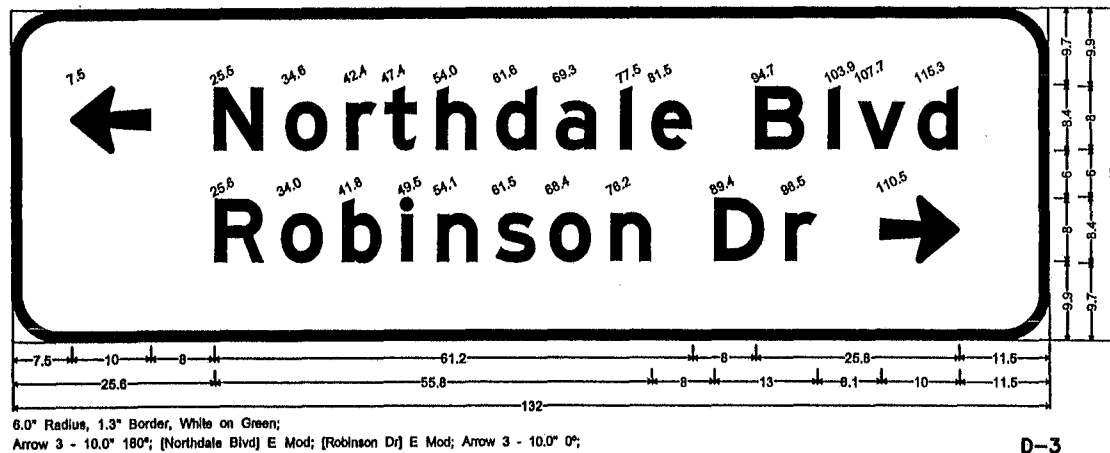
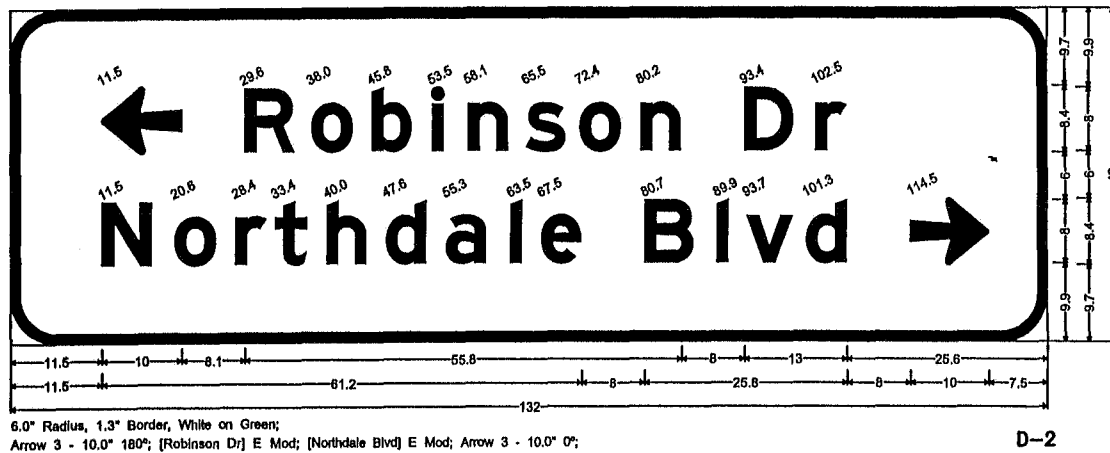
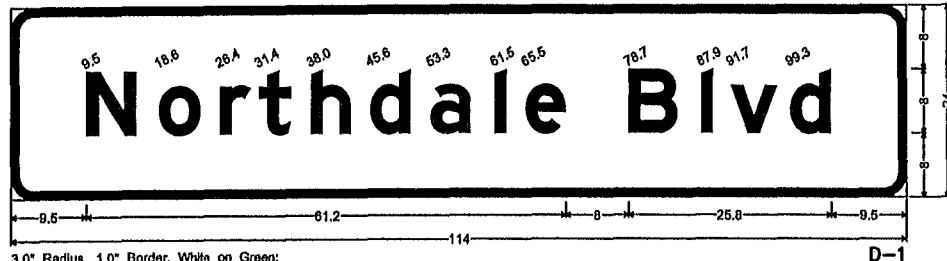
NORTHDALE BOULEVARD
(C.S.A.H. 11)
SIGNAL SYSTEM "A"
TYPICAL WOOD POLE/SPAN WIRE
SIGNAL SYSTEM DETAIL WITH
LOWER BREAKAWAY STABILIZER BAR

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



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

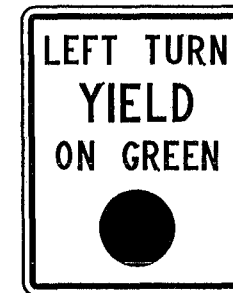
SIGNAL SYSTEM "A"
HANSON BLVD. / NORTHDALE BLVD.



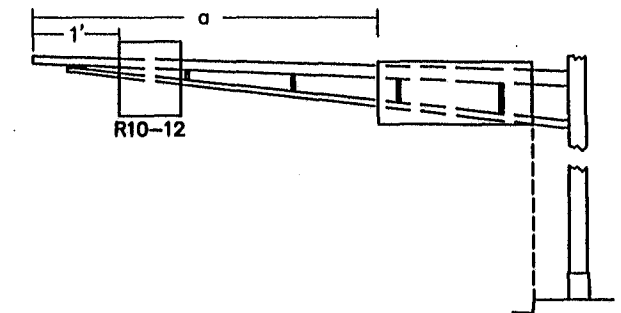
R6-1L



R6-1R



R10-12



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

SIGN PANEL	SIZE (inches)	SIZE (feet)	NO. REQ.	NO. POSTS PER SIGN	POST SPACING (inches)	AREA (sq. ft.) PER SIGN	POLE NUMBER, a (FT)	
							SYSTEM "A"	SYSTEM "C"
D-1	114x24	2.90x0.61	2	3	38	18.0	6	14
D-2	132x32	2.74x0.61	1	4	33	29.3	2	39
D-3	132x32	2.44x1.83	1	4	33	29.3	1	21.5(4)26.5
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

PLOT DATE: MC 2002 1:45pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS29.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	MRA	05/07/02	ADD. #1: REVISED D-2 & D-3 ADD. #1: ADDED R6-1L & R6-1R SIGNS

DESIGN FILE:
33889-043
 DRAWN BY: JAS
 DESIGN BY: MRA
 CHKD. BY: ASH
 DWG. NAME: 043-TS29
 DATE: APRIL 26, 2002



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612.370.1378 Fax

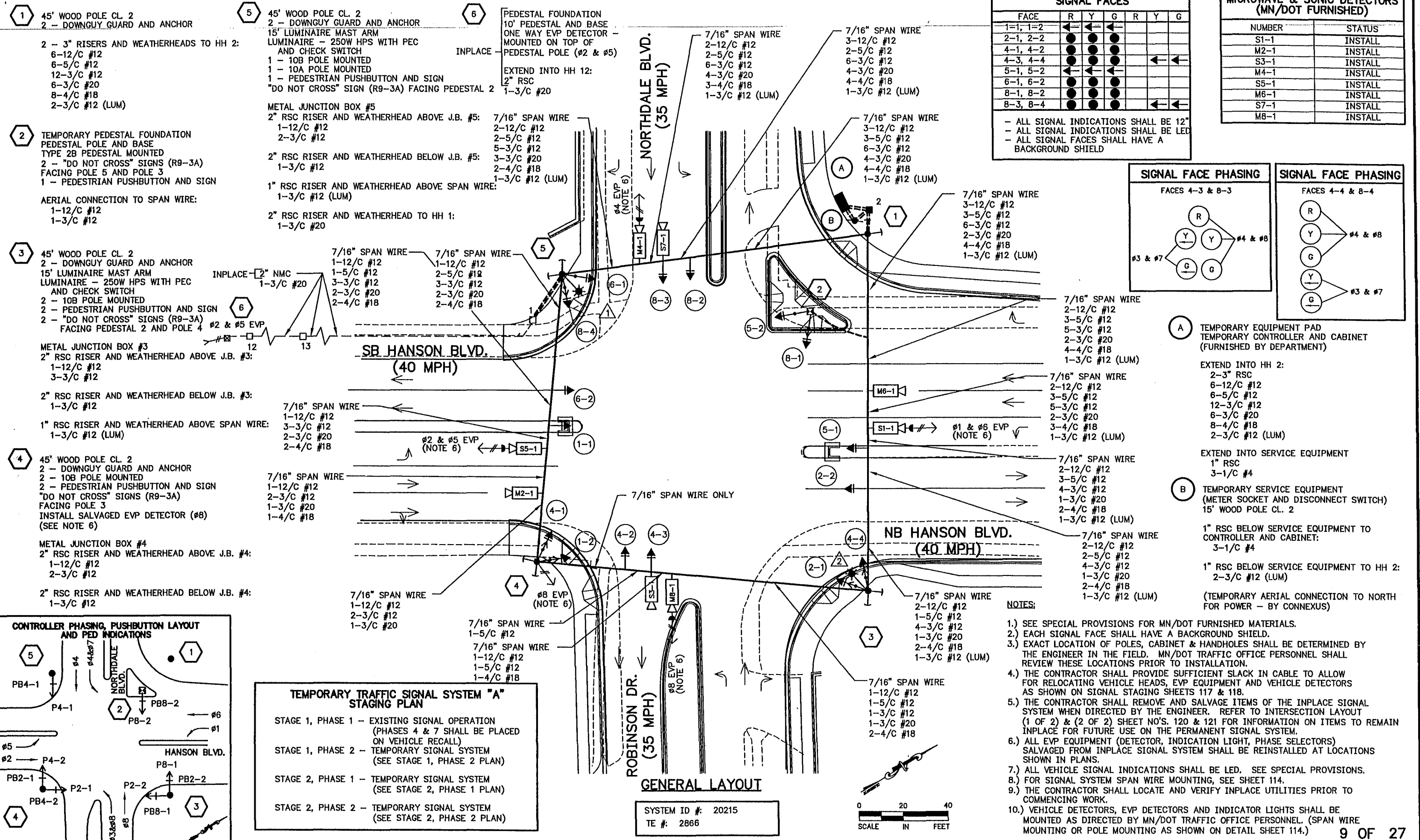
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 AARON S. HEUMANN
 DATE: 4/26/02 MN LIC. NO. 25846

NORTHDALE BOULEVARD
(C.S.A.H. 11)
SIGNAL SYSTEMS "A" & "C"
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

SHEET NO.
115
159

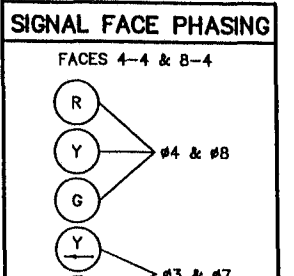
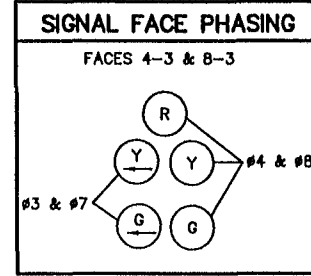
2002 5:01pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS24.dwg



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

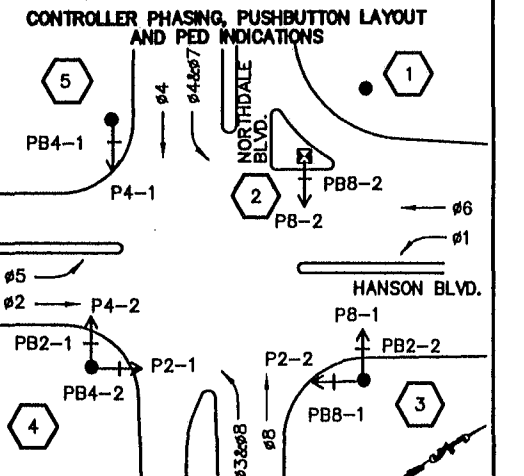


- (A) TEMPORARY EQUIPMENT PAD**
TEMPORARY CONTROLLER AND CABINET (FURNISHED BY DEPARTMENT)
- EXTEND INTO HH 2:
2-3" RSC
6-12/C #12
3-5/C #12
5-3/C #12
2-3/C #20
8-4/C #18
2-3/C #12 (LUM)
- (B) TEMPORARY SERVICE EQUIPMENT**
(METER SOCKET AND DISCONNECT SWITCH)
15' WOOD POLE CL. 2
- 1" RSC BELOW SERVICE 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)

- 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.)

- 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
- METAL JUNCTION BOX #3
2" RSC RISER AND WEATHERHEAD ABOVE J.B. #3:
1-12/C #12
3-3/C #12
- 2" RSC RISER AND WEATHERHEAD BELOW J.B. #3:
1-3/C #12
- 1" RSC RISER AND WEATHERHEAD ABOVE SPAN WIRE:
1-3/C #12 (LUM)
- 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)
- METAL JUNCTION BOX #4
2" RSC RISER AND WEATHERHEAD ABOVE J.B. #4:
1-12/C #12
2-3/C #12
- 2" RSC RISER AND WEATHERHEAD BELOW J.B. #4:
1-3/C #12

- 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
- METAL JUNCTION BOX #5
2" RSC RISER AND WEATHERHEAD ABOVE J.B. #5:
1-12/C #12
2-3/C #12
- 2" RSC RISER AND WEATHERHEAD BELOW J.B. #5:
1-3/C #12
- 1" RSC RISER AND WEATHERHEAD ABOVE SPAN WIRE:
1-3/C #12 (LUM)
- 2" RSC RISER AND WEATHERHEAD TO HH 1:
1-3/C #20
- 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
- 7/16" SPAN WIRE
1-12/C #12
1-5/C #12
3-3/C #12
2-3/C #20
2-4/C #18
- 7/16" SPAN WIRE
1-12/C #12
2-5/C #12
3-3/C #12
2-3/C #20
2-4/C #18
- 7/16" SPAN WIRE
1-12/C #12
1-5/C #12
3-3/C #12
1-5/C #12
1-4/C #18
- 7/16" SPAN WIRE
1-12/C #12
2-3/C #12
1-3/C #20
1-4/C #18
- 7/16" SPAN WIRE
1-12/C #12
1-5/C #12
3-3/C #12
1-5/C #12
1-4/C #18
- 7/16" SPAN WIRE
1-12/C #12
1-5/C #12
3-3/C #12
1-5/C #12
1-4/C #18



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)

REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	MRA	05/07/02	ADD. #1: REVISION FOR 45' WOOD POLE ADD. #2: REM. PED. IND. SYM. FROM POLE 2&5

DESIGN FILE: 33889-043

DRAWN BY: MRA
DESIGN BY: MRA

CHKD. BY: ASH
DWG. NAME: 043-TS24

DATE: APRIL 26, 2002

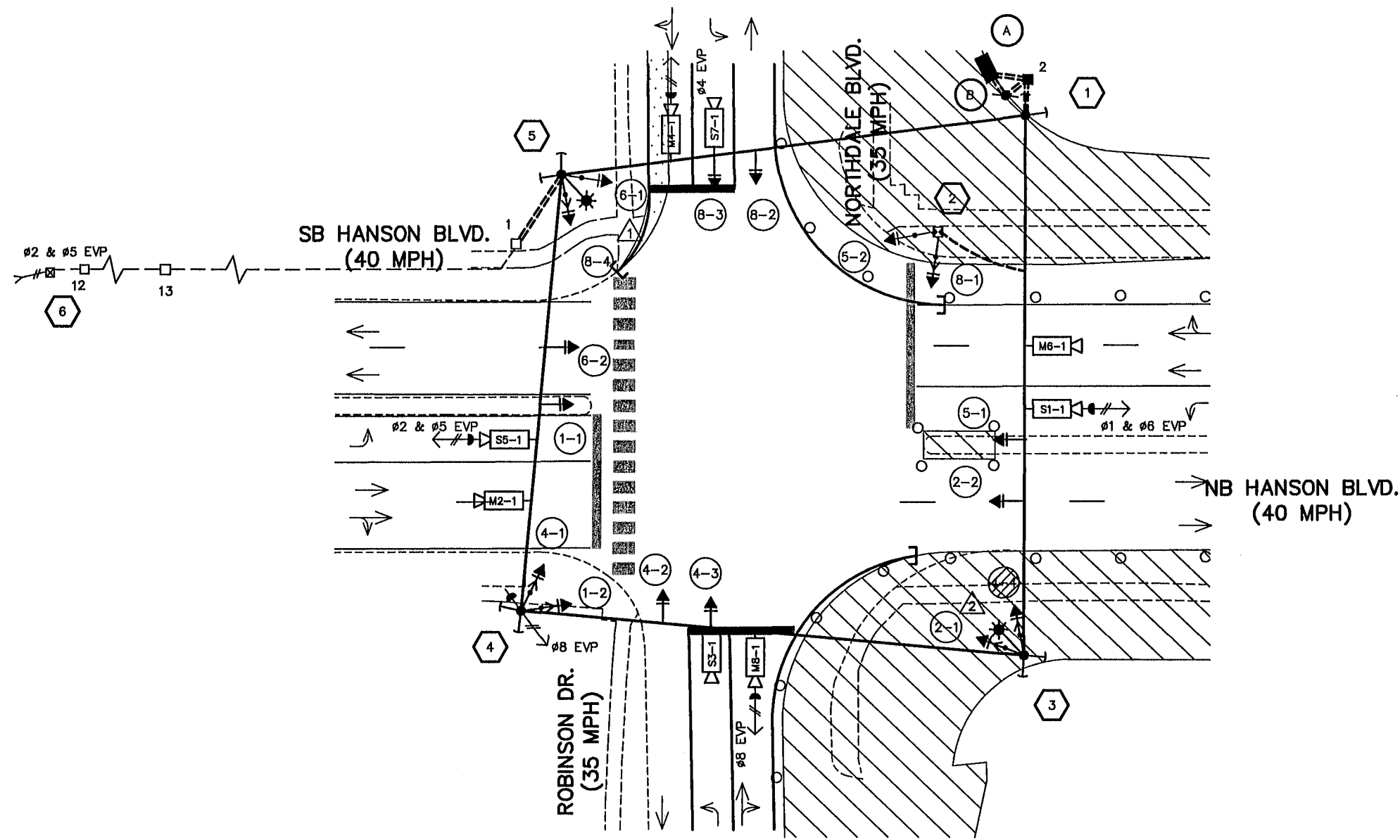
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Aaron S. Heumann
AARON S. HEUMANN
DATE: 4/28/02 MN LIC. NO. 25846

NORTHDALE BOULEVARD
(C.S.A.H. 11)
HANSON BLVD. / NORTHDALE BLVD.
SIGNAL SYSTEM "A"
TEMPORARY INTERSECTION LAYOUT

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO.
COUNTY PROJECT		S.A.P.	114-020-27	116
S.P.	114-010-13	S.A.P.	114-107-08	159

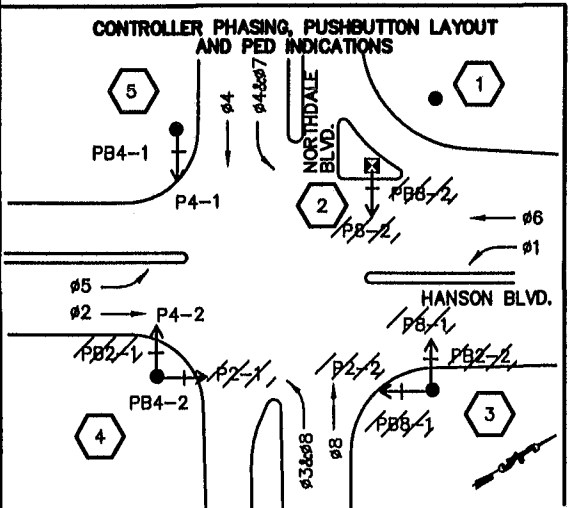
PLOT DATE: Apr 26, 2002 5:01pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS25.dwg



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

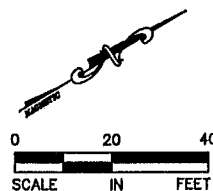
STAGE 1 PHASE 2 LAYOUT



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

DESIGN FILE: 33889-043
 DRAWN BY: JAS
 DESIGN BY: MRA
 CHKED. BY: ASH
 DWG. NAME: 043-TS25
 DATE: APRIL 26, 2002



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 700 Third Street South
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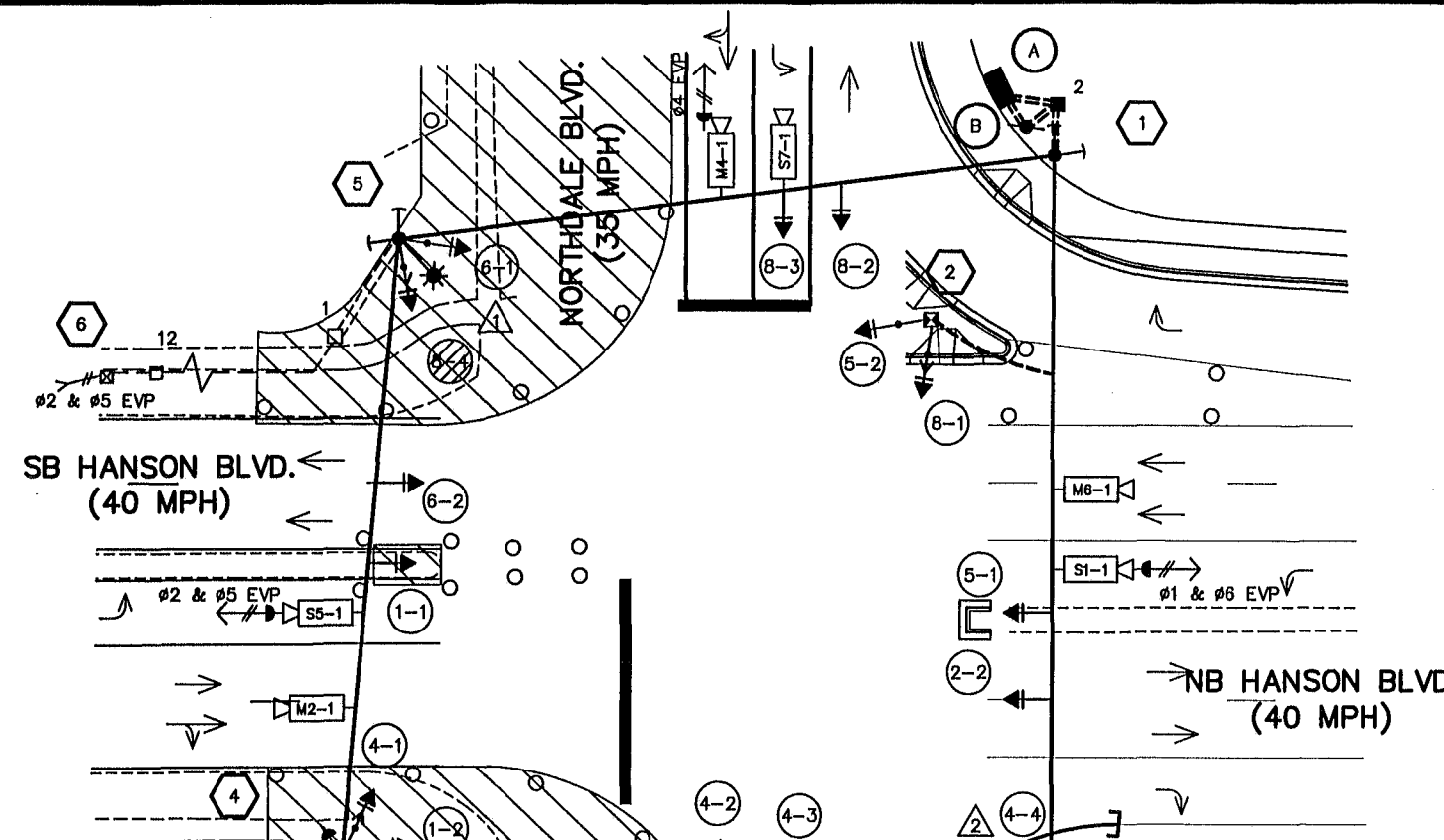
 AARON S. HEUMANN
 DATE: 4/28/02 MN LIC. NO. 25846

NORTHDALÉ BOULEVARD
 (C.S.A.H. 11)
HANSON BLVD. / NORTHDALÉ BLVD.
 SIGNAL SYSTEM "A"
 TEMPORARY INTERSECTION LAYOUT
 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.

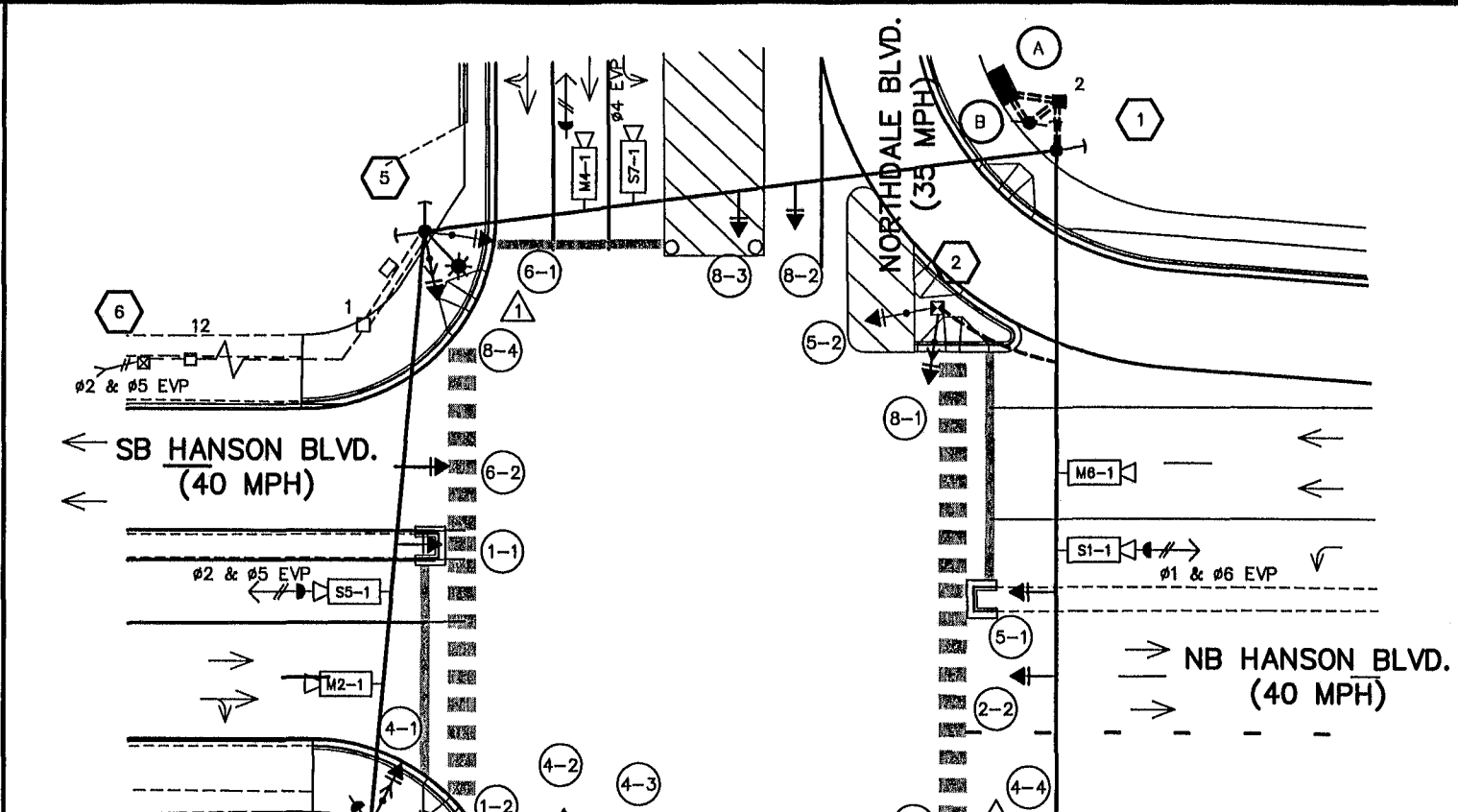
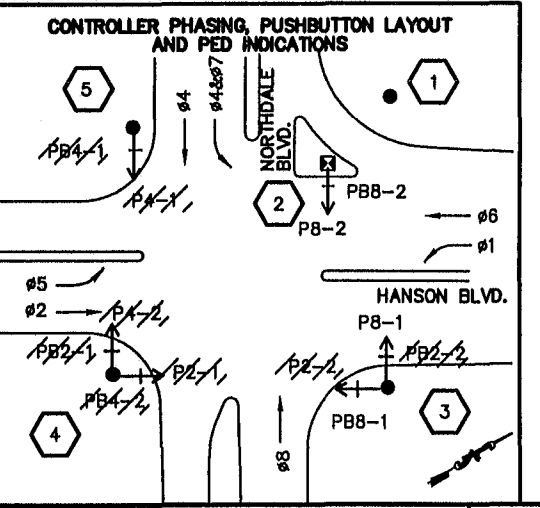
STAGE 2 PHASE 1 LAYOUT

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



- 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 BARS. THESE ITEMS WILL BE PAID FOR UNDER STRIPING PAY ITEMS SPECIFIED ELSEWHERE IN THESE PLANS.

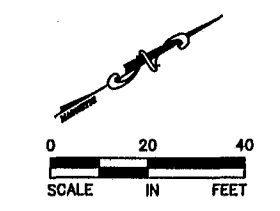
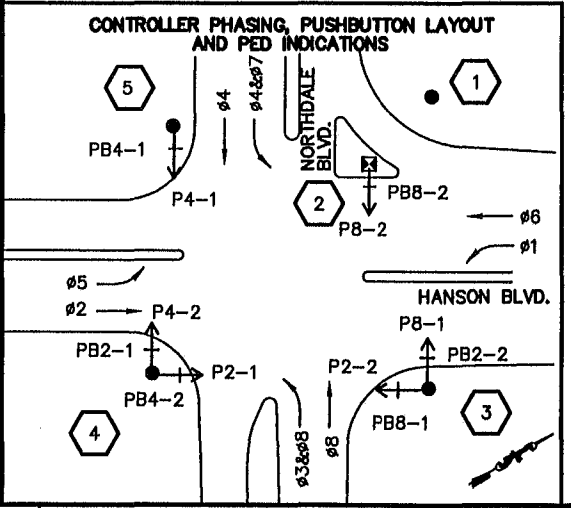
STAGE 2 PHASE 2 LAYOUT

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 & 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

DESIGN FILE: 33889-043
 DRAWN BY: JAS
 DESIGN BY: MRA
 CHKED. BY: ASH
 DWS. NAME: 043-TS26
 DATE: APRIL 26, 2002

URS

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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.
 SIGNAL SYSTEM "A"
 TEMPORARY INTERSECTION LAYOUT
 STAGE 1 PHASE 1 & 2**

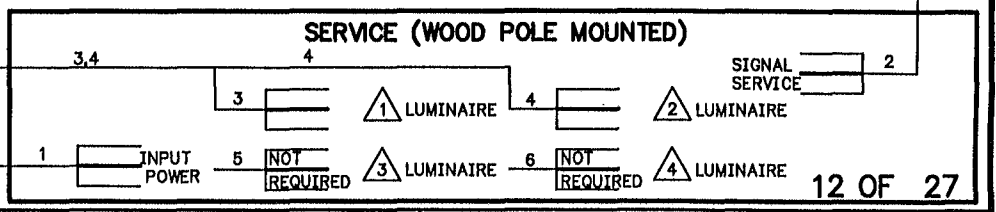
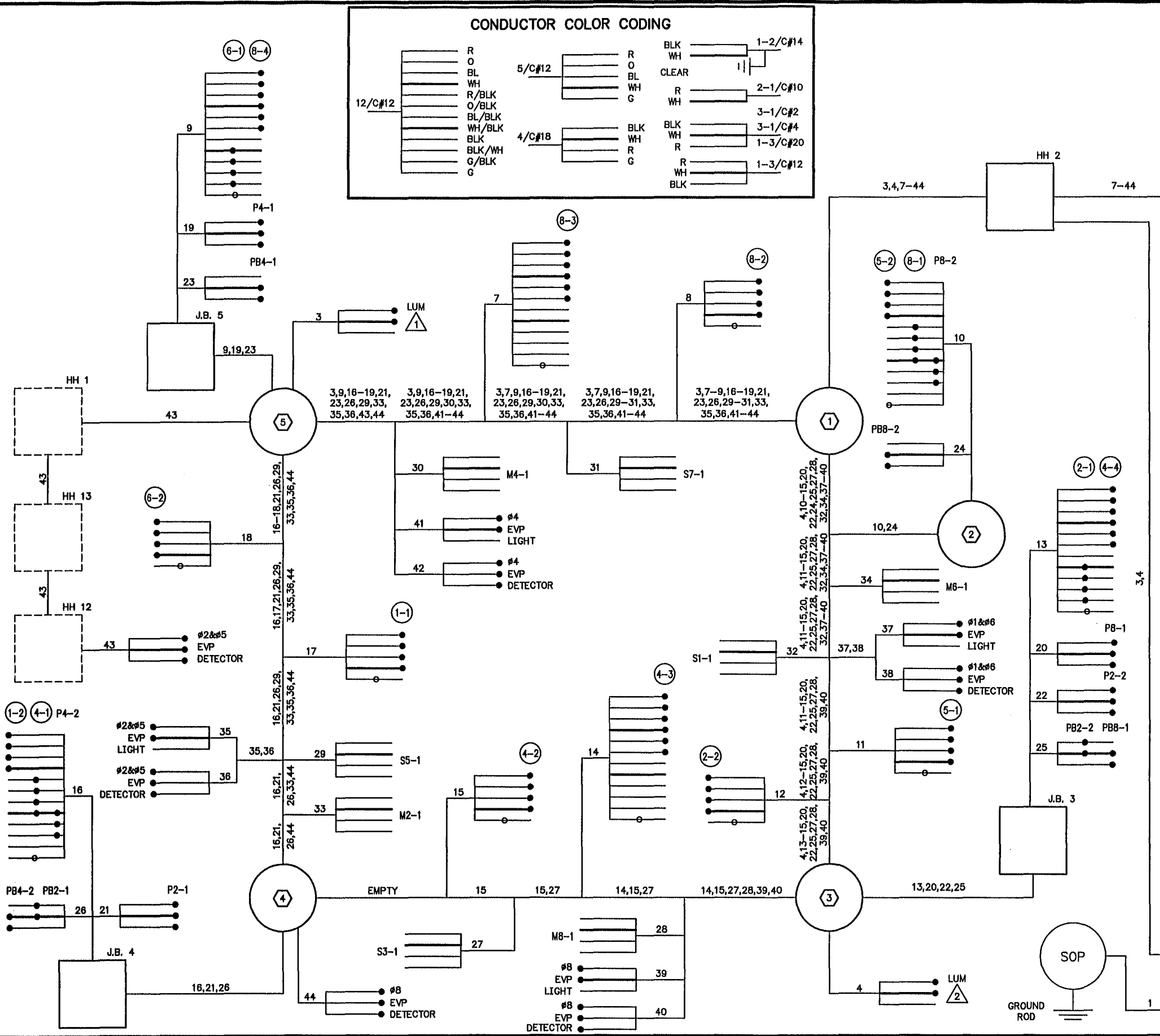
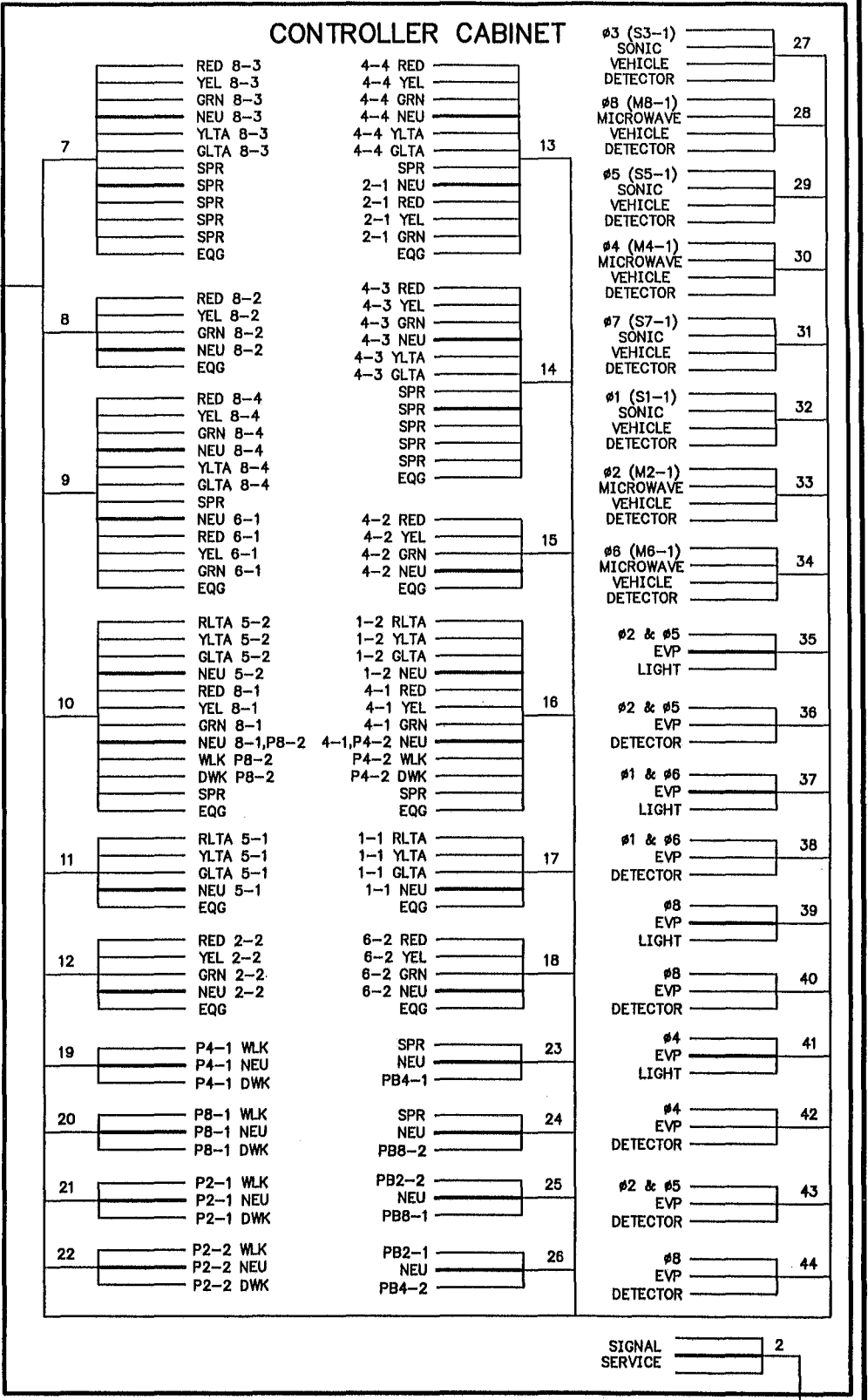
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

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

CONDUCTOR COLOR CODING

12/C#12	R	5/C#12	R	1-2/C#14	BLK
	BL		O		WH
	WH		BL		CLEAR
	R/BLK		WH		R
	O/BLK		G		WH
	BL/BLK				G
	WH/BLK	4/C#18	BLK		BLK
	BLK		WH		WH
	BLK/WH		R		R
	G/BLK		G		G
	G				BLK



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

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

NORTHDALE BOULEVARD
(C.S.A.H. 11)
HANSON BLVD. / NORTHDALE BLVD.
SIGNAL SYSTEM "A"
TEMPORARY WIRING DIAGRAM

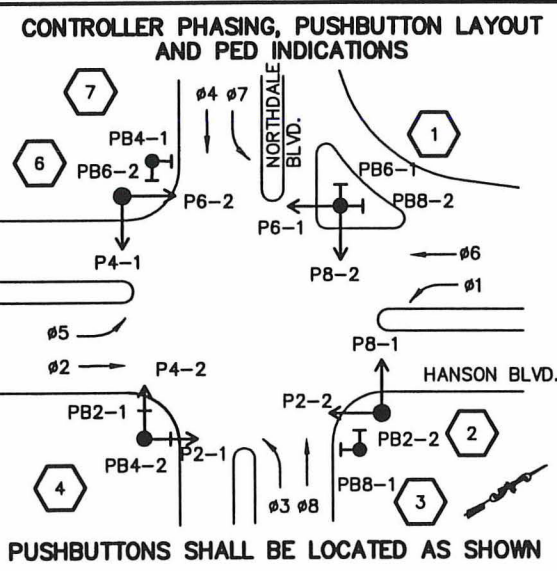
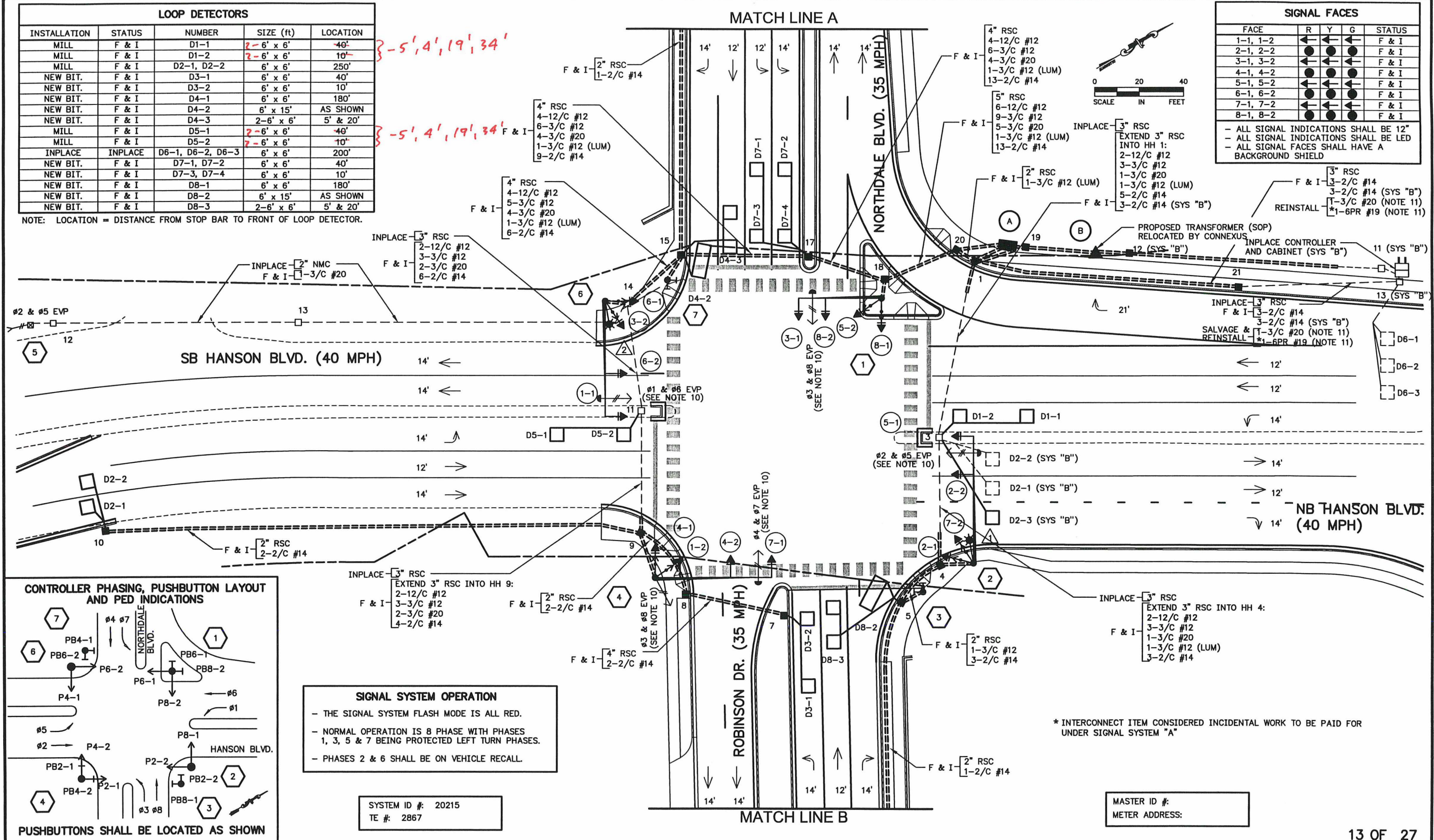
CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 119 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

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

* INTERCONNECT ITEM CONSIDERED INCIDENTAL WORK TO BE PAID FOR UNDER SIGNAL SYSTEM "A"

MASTER ID #:
METER ADDRESS:

PLOT DATE: Apr 02 4:59pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS07.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

URS

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.

Aaron 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	SHEET NO. 120 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

2002 5:00pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS17.dwg PLOT DATE: Ap

- 1 TYPE PA90 POLE FOUNDATION
TYPE PA90-A-35
2 - ONE WAY SIGNALS OVERHEAD (0' & 13' FROM END OF MAST ARM)
F & I 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:
F & I 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)
F & I 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:
F & I 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)
F & I 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)
EXTEND INTO HH 9:
F & I 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)
F & I 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:
F & I 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

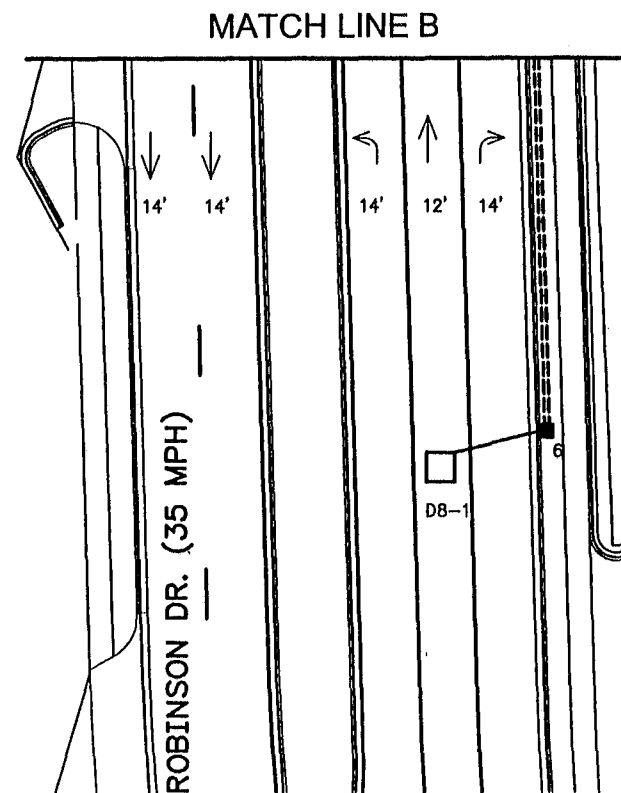
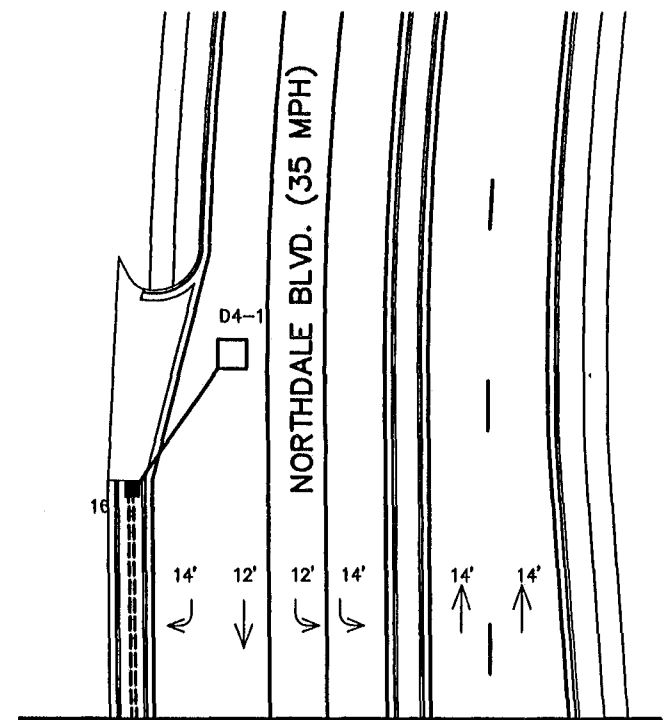
- 5 PEDESTAL FOUNDATION
10' PEDESTAL AND BASE
ONE WAY EVP DETECTOR - MOUNTED ON TOP OF PEDESTAL POLE (#2 & #5)
INPLACE
EXTEND INTO HH 12:
F & I 2" RSC
1-3/C #20

- 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

- 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
REINSTALL *1-6PR #19 (NOTE 11)
1-3/C #20 (NOTE 11)

- 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

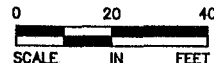
- CONTROLLER CABINET TO HH 20:
F & I 5" RSC
6-12/C #12
9-3/C #12
5-3/C #20
13-2/C #14
SERVICE CABINET TO HH 1:
F & I 2" RSC
2-3/C #12 (LUM)
SERVICE CABINET TO HH 19:
METERED SIGNAL SERVICE (POWER BY CONNEXUS)
F & I 2" RSC
3-1/C #2
BETWEEN SERVICE CABINET AND CONTROLLER CABINET:
F & I 1 1/2" RSC
2-1/C #6
1-1/C #6 BR GR
F & I EXTEND 3" RSC STUB OUT OF CONTROLLER CABINET (THREAD AND CAP BOTH ENDS)



- 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 PREFORMED 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.

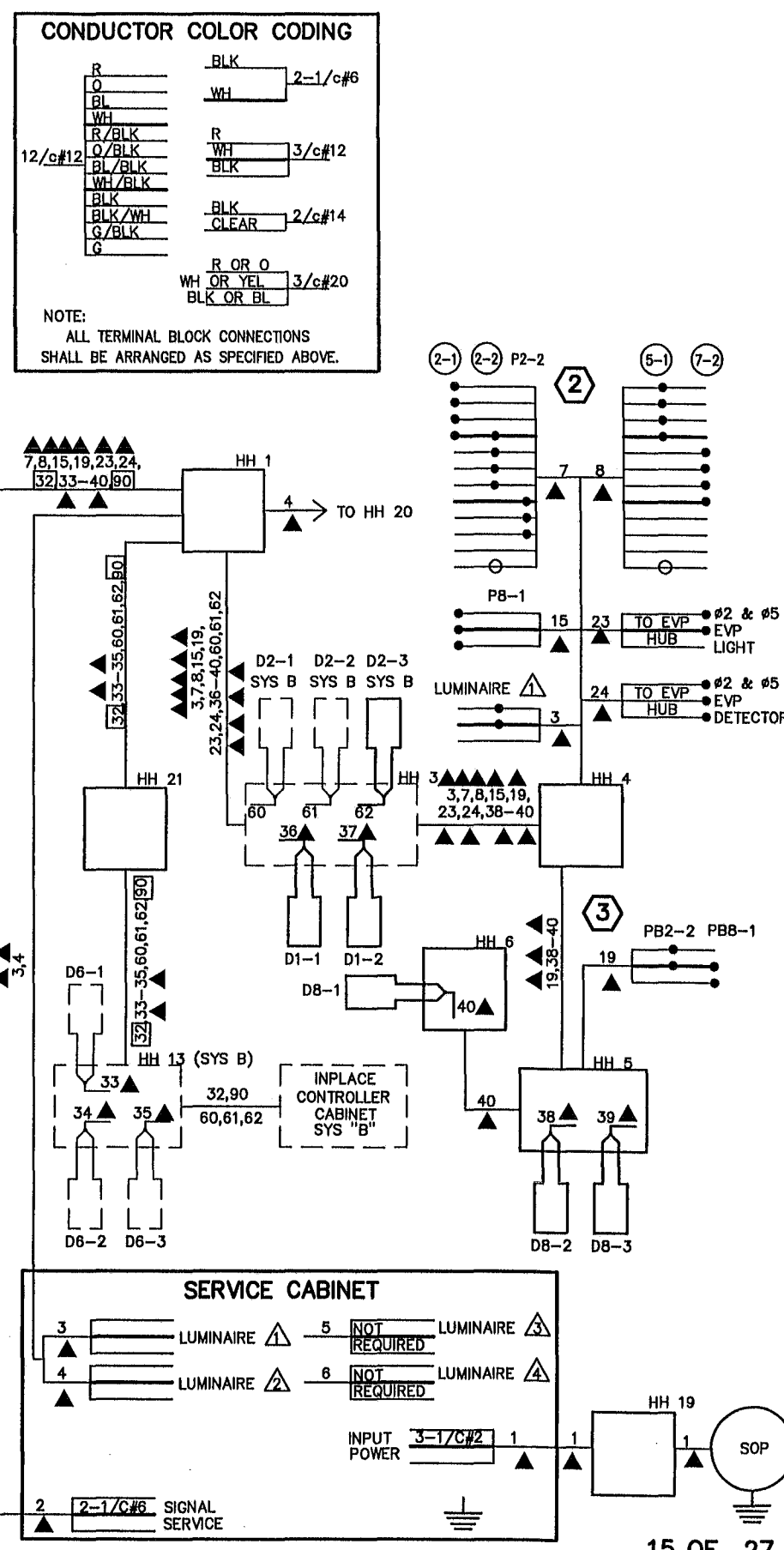
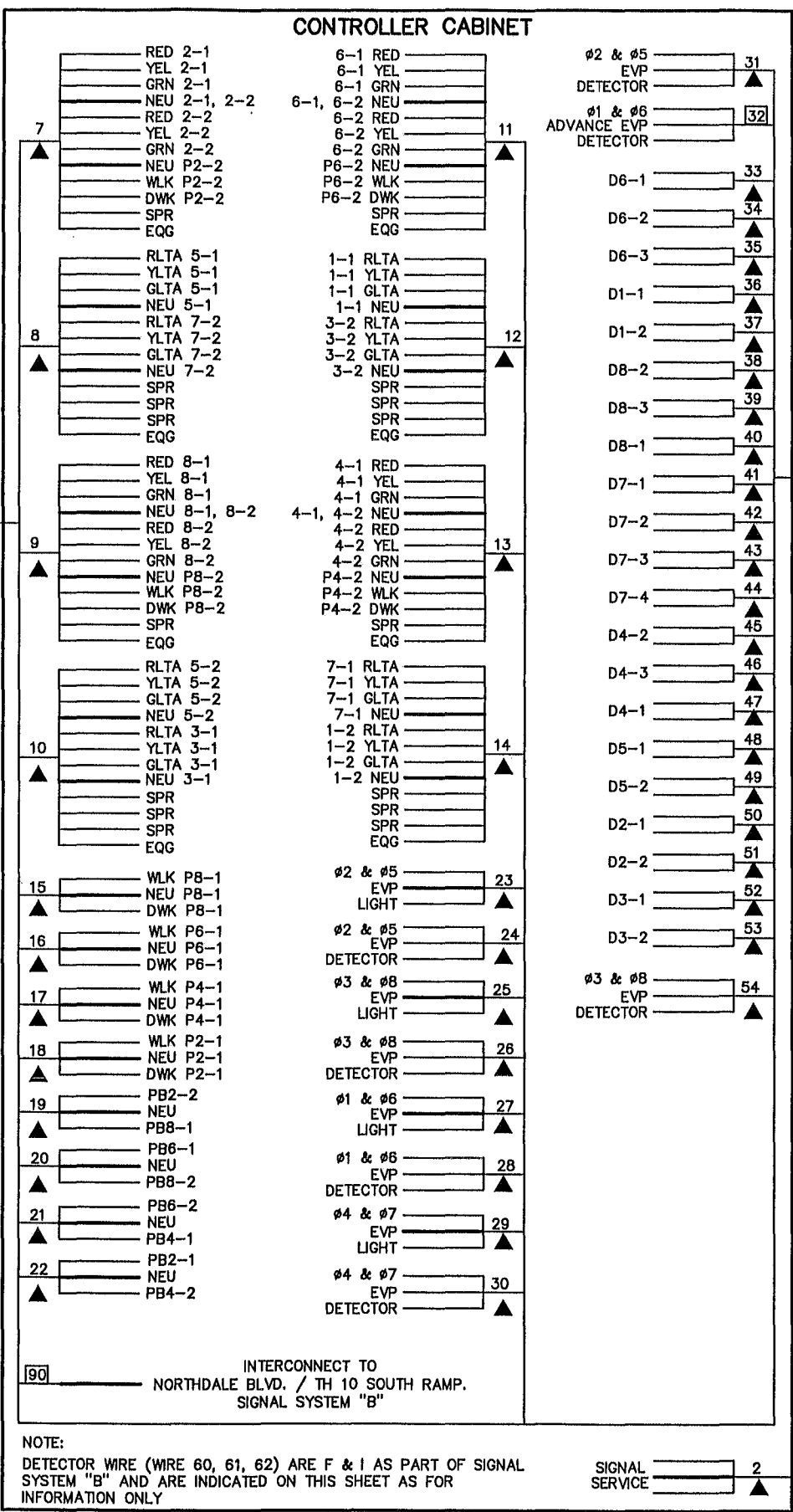
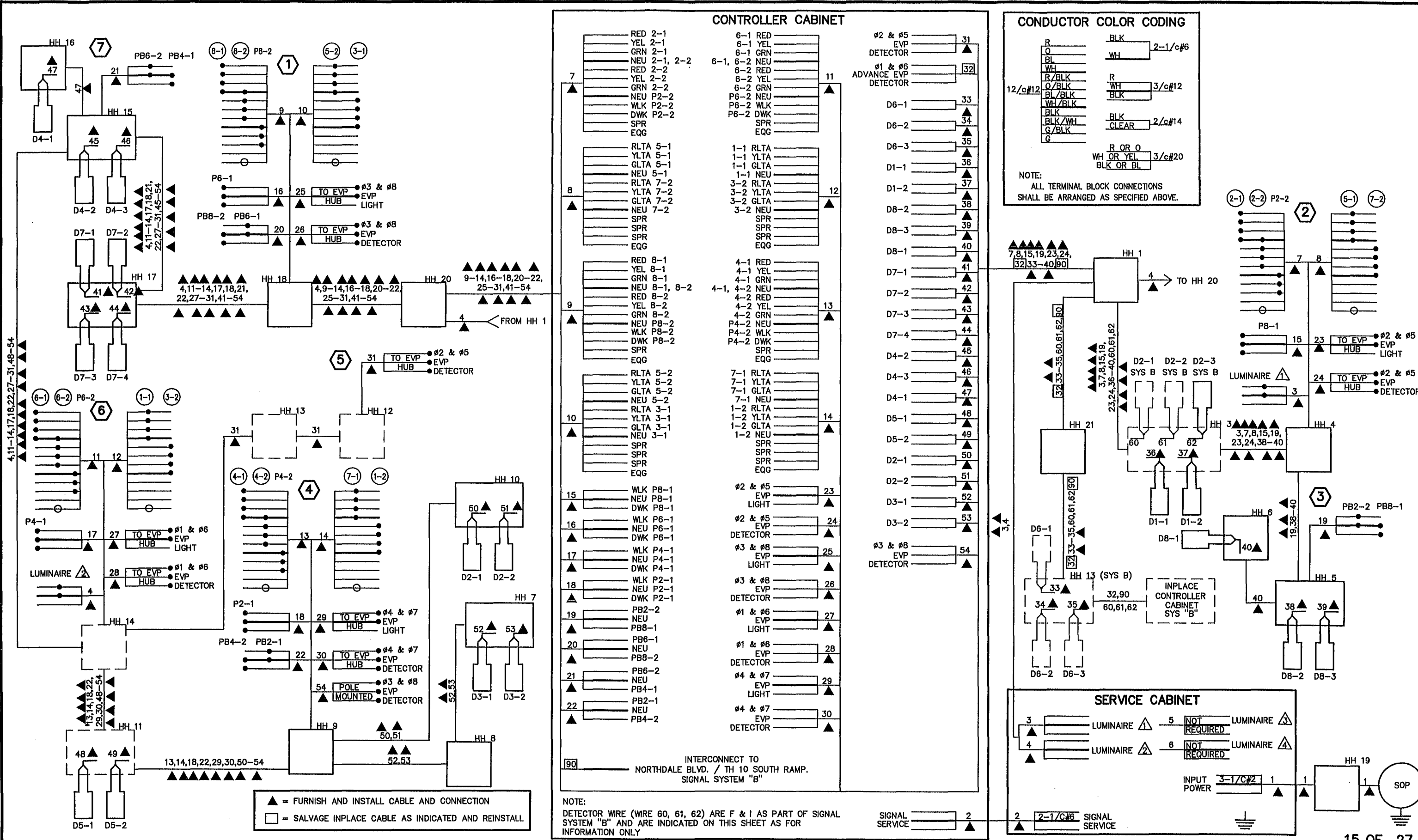
SYSTEM ID #: 20215
TE #: 2867

* INTERCONNECT ITEM CONSIDERED INCIDENTAL WORK TO BE PAID FOR UNDER SIGNAL SYSTEM "A"



REV. NO.	BY	DATE	REVISIONS DESCRIPTION	DESIGN FILE: 33889-043	<p>Thrasher Square 700 Third Street South Minneapolis, MN 55416 612.370.0700 Tel 612.370.5378 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>A. S. Heumann</i> AARON S. HEUMANN DATE: 4/28/02 MN LIC. NO. 25846</p>	<p>NORTHDALÉ BOULEVARD (C.S.A.H. 11) HANSON BLVD. / NORTHDALÉ BLVD. REVISE SIGNAL SYSTEM "A" INTERSECTION LAYOUT (2 OF 2)</p>	CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 121 159	
1	MRA	05/07/02	ADD. #1: REM. P.E.C. & CHK SWCH-POLE 2#6 ADD. #1: ADD R6-1 SIGNS POLES 1,2,4&6	DRAWN BY: JAS				DESIGN BY: MRA	COUNTY PROJECT		S.A.P.		114-020-27
				CHKD. BY: ASH				DWG. NAME: 043-TS17	S.P.	114-010-13	S.A.P.		114-107-08
				DATE: APRIL 26, 2002									

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

Thresher Square
700 Third Street South
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Aaron S. Heumann

AARON S. HEUMANN
DATE: 4/28/02 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
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO. 122
159

PLOT DATE: Apr 2, 2002 4:59pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS01.dwg

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 MAST ARM 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 RAMP'S 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
 ▲1-3/c#12
 ▲1-3/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

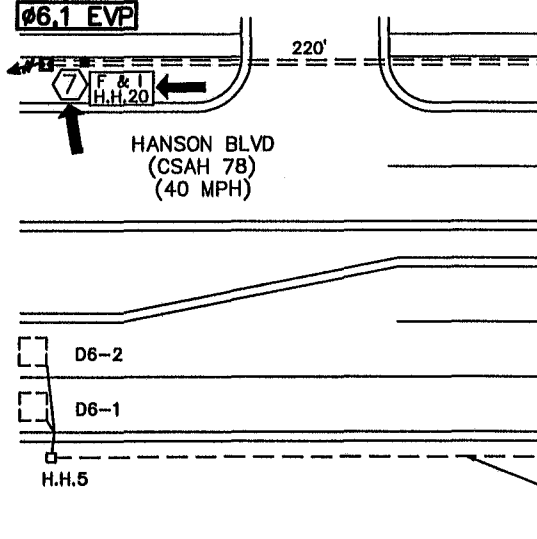
F & I ONE WAY EVP DETECTOR, INDICATOR LIGHT AND HUB (#2,5)-OVERHEAD
 ▲1-3/c#12
 ▲1-3/c#20

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

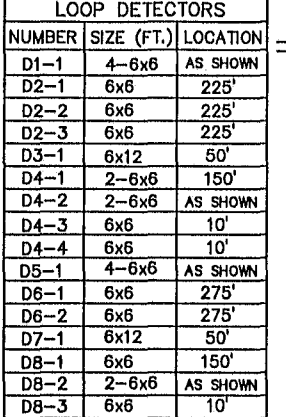
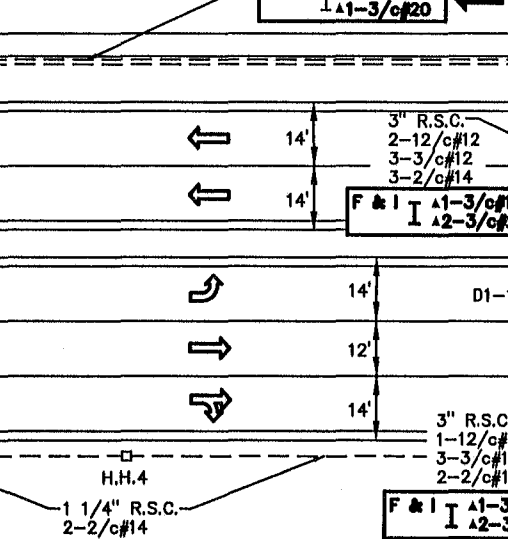
LOOP DETECTORS		
NUMBER	SIZE (FT.)	LOCATION
D1-1	4-6x6	AS SHOWN
D2-1	6x6	225'
D2-2	6x6	225'
D2-3	6x6	225'
D3-1	6x12	50'
D4-1	2-6x6	150'
D4-2	2-6x6	AS SHOWN
D4-3	6x6	10'
D4-4	6x6	10'
D5-1	4-6x6	AS SHOWN
D6-1	6x6	275'
D6-2	6x6	275'
D7-1	6x12	50'
D8-1	6x6	150'
D8-2	2-6x6	AS SHOWN
D8-3	6x6	10'

NOTE: LOCATION=DISTANCE FROM CROSSWALK TO FRONT OF LOOP DETECTOR.

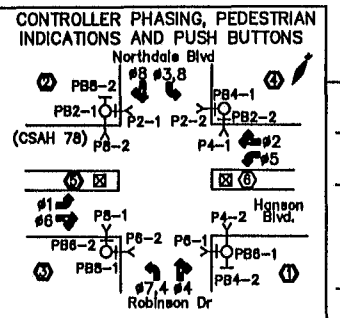
F & I PEDESTAL FOUNDATION 10' PEDESTAL POLE AND BASE ONE WAY EVP DETECTOR-MOUNT ON TOP OF PEDESTAL POLE (#6,1)-SEE DETAILS EXTEND INTO H.H.20:
 2" R.S.C.
 ▲1-3/c#20



F & I 2" N.M.C.
 ▲1-3/c#20



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
 4-1/c#10
CONTROLLER CABINET TO H.H.6:
 4" R.S.C.
 4-12/c#12
 4-1/c#10
SIGNAL SERVICE CABINET CONTROLLER CABINET TO H.H.12A:
 2" R.S.C.
 3-1/c#1/0
BETWEEN SERVICE CABINET AND CONTROLLER CABINET:
 2" R.S.C.
 2-1/c#6
 4-3/c#12
 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

SYSTEM ID = 20215
 T.E. # = 2157

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)
 φ 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 φ.

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"				
HEADS	PHASING	R	Y	G	Y	G
1-1	←	○	○	○	○	○
2-1, 2-2	←	○	○	○	○	○
4-1	←	○	○	○	○	○
4-2, 4-3	←	○	○	○	○	○
5-1	←	○	○	○	○	○
6-1, 6-2	←	○	○	○	○	○
8-1	←	○	○	○	○	○
8-2, 8-3	←	○	○	○	○	○

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

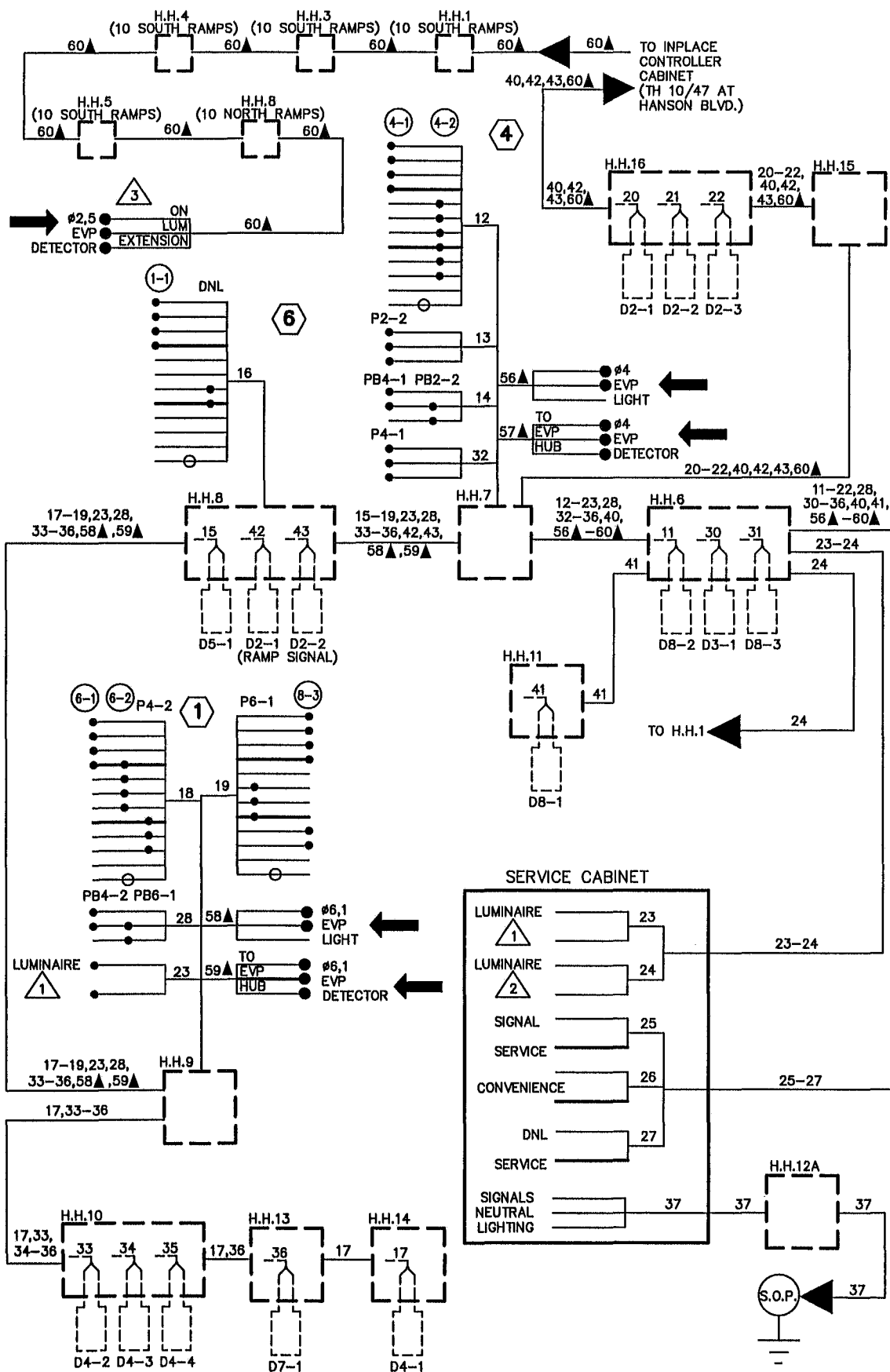
NORTHDALE BOULEVARD (C.S.A.H. 11)
HANSON BLVD. / NORTHDALE BLVD.
 REVISE SIGNAL SYSTEM "A"
 INPLACE INTERSECTION LAYOUT

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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

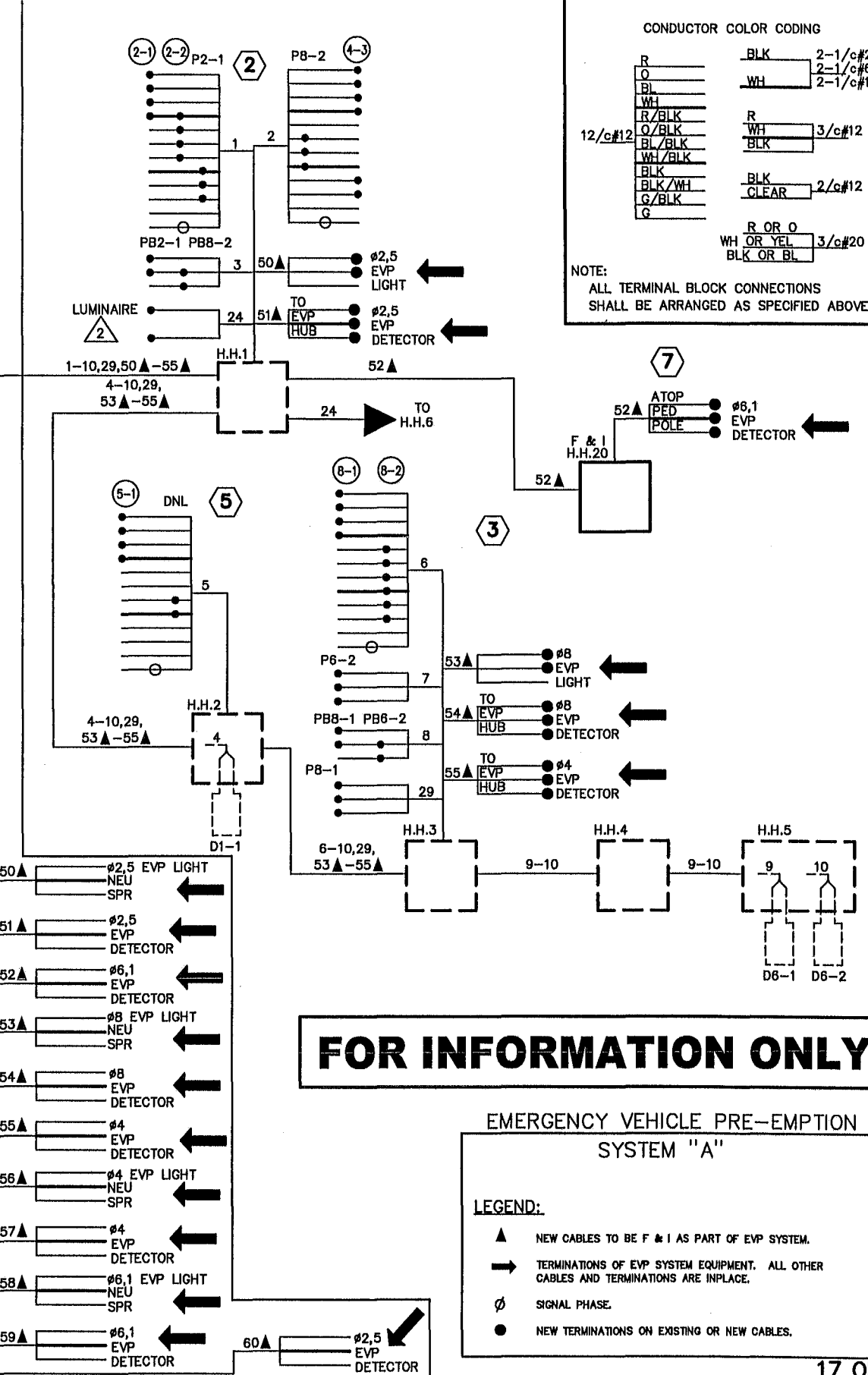
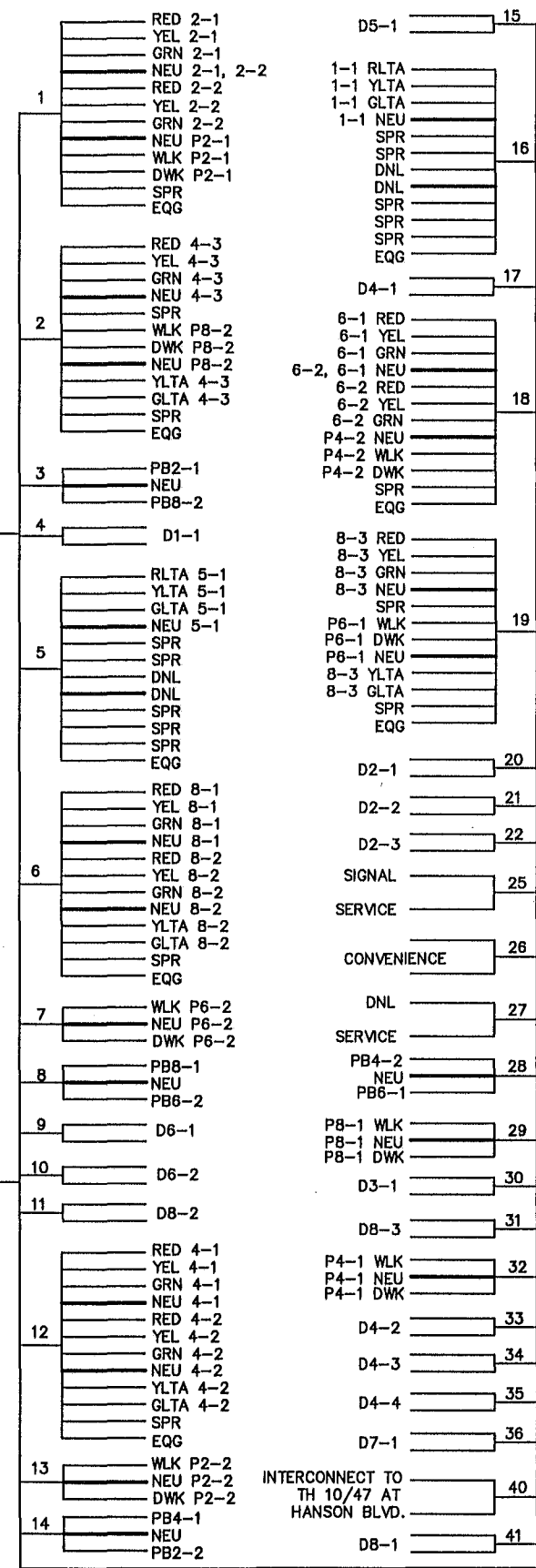
SHEET NO. 123
 159

PLOT DATE: Apr 2, 2002 4:59pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS02.dwg



SYSTEM ID = 20215
TE # = 2157

CONTROLLER CABINET



CONDUCTOR COLOR CODING

R	BLK	2-1/c#2
O	WH	2-1/c#6
BL	WH	2-1/c#10
R/BLK	R	
O/BLK	WH	3/c#12
BL/BLK	BLK	
WH/BLK	BLK	
BLK	BLK	2/c#12
BLK/WH	CLEAR	
G/BLK		
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

EMERGENCY VEHICLE PRE-EMPTION SYSTEM "A"

LEGEND:

- ▲ NEW CABLES TO BE F & I AS PART OF EVP SYSTEM.
- ➔ TERMINATIONS OF EVP SYSTEM EQUIPMENT. ALL OTHER CABLES AND TERMINATIONS ARE INPLACE.
- ∅ SIGNAL PHASE.
- NEW TERMINATIONS ON EXISTING OR NEW CABLES.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY:
JAS

DESIGN BY:
MRA

CHKED. BY:
ASH

DWG. NAME:
043-TS02

DATE:
APRIL 28, 2002



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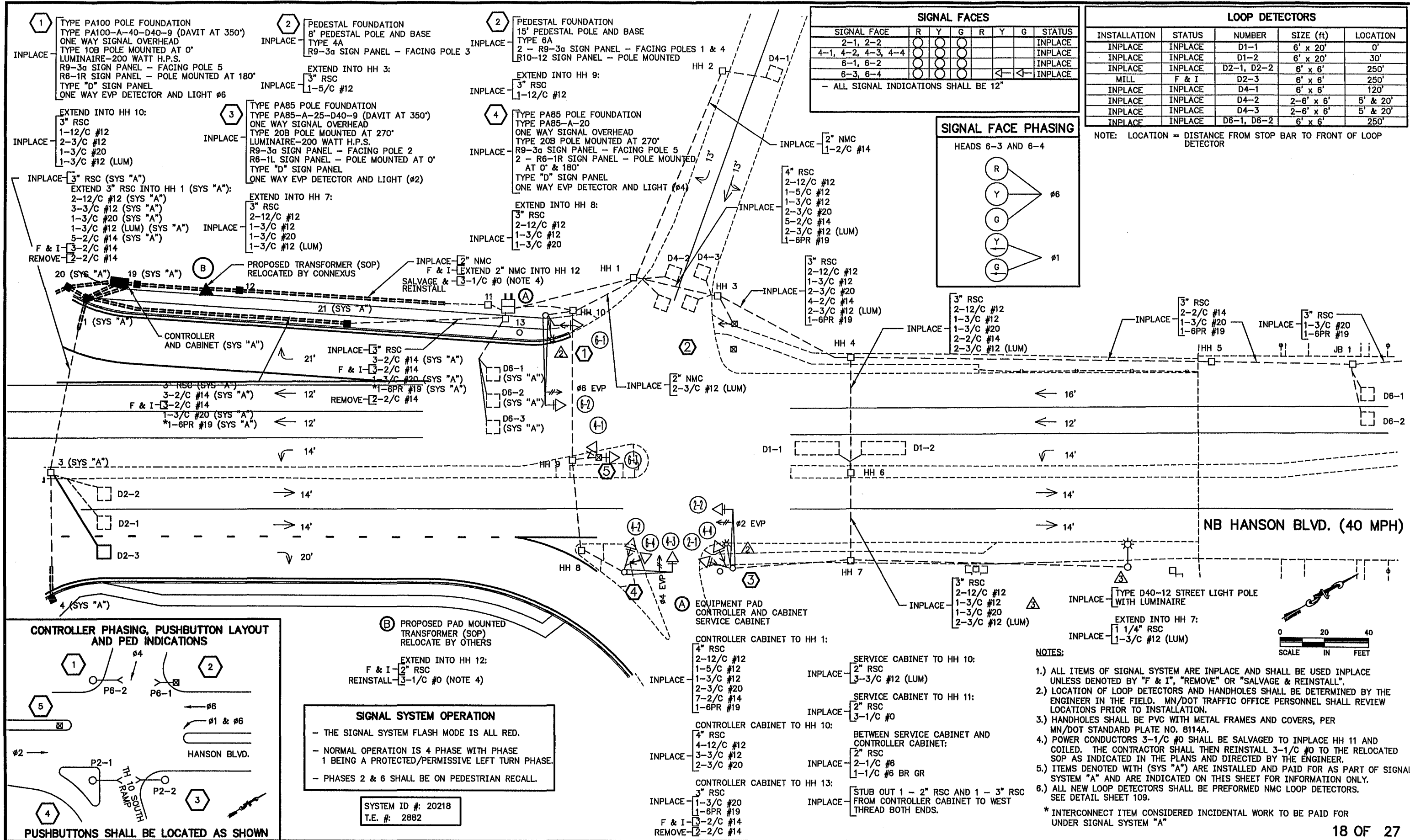
A. S. Heumann
AARON S. HEUMANN
DATE: 4/28/02 MN LIC. NO. 25846

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
HANSON BLVD. / NORTHDALE BLVD.**

REVISE SIGNAL SYSTEM "A"
INPLACE WIRING DIAGRAM

CITY PROJECT	2001-47	S.A.P.	114-020-26	SHEET NO. 124 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

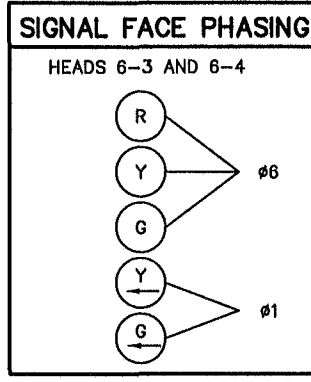
PLOT DATE: Apr 2, 2002 10:49am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS13.dwg



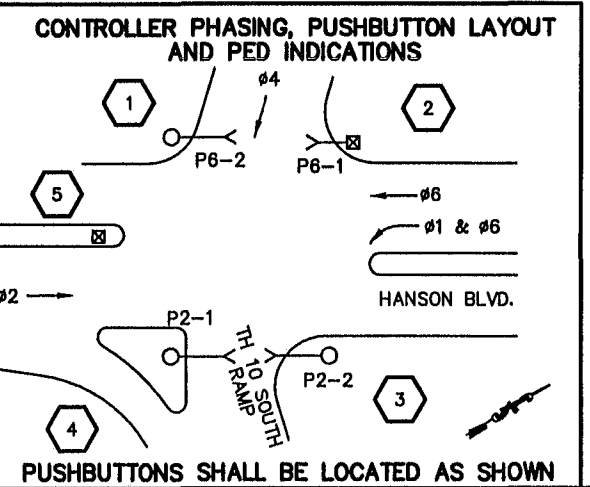
SIGNAL FACES							
SIGNAL FACE	R	Y	G	R	Y	G	STATUS
2-1, 2-2	○	○	○				INPLACE
4-1, 4-2, 4-3, 4-4	○	○	○				INPLACE
6-1, 6-2	○	○	○				INPLACE
6-3, 6-4	○	○	○	←	←		INPLACE

- 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

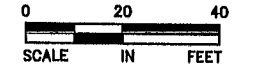


SIGNAL SYSTEM OPERATION

- 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. SEE DETAIL SHEET 109.
 - 6.) ALL NEW LOOP DETECTORS SHALL BE PREFORMED NMC LOOP DETECTORS.
- * INTERCONNECT ITEM CONSIDERED INCIDENTAL WORK TO BE PAID FOR UNDER SIGNAL SYSTEM "A"



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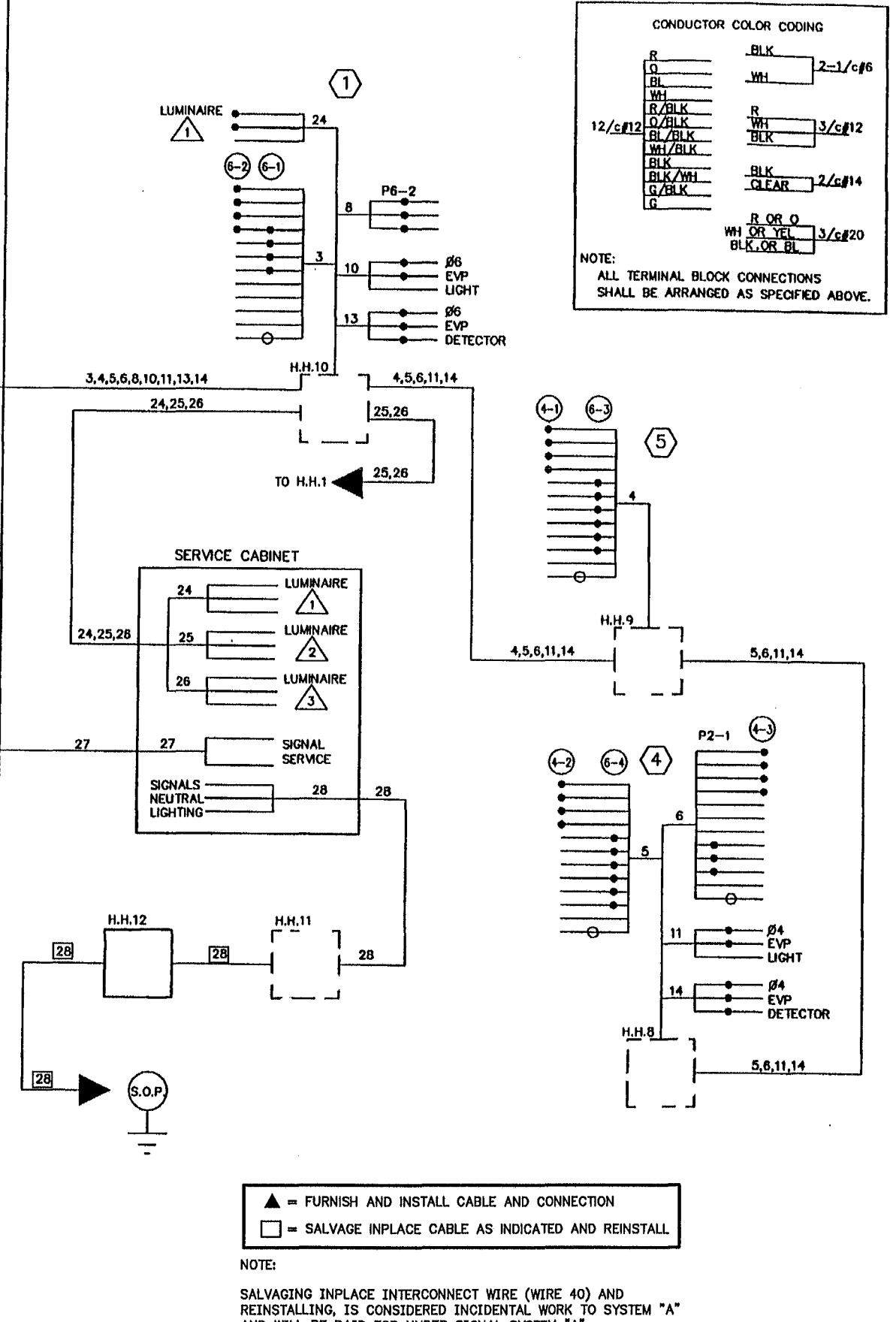
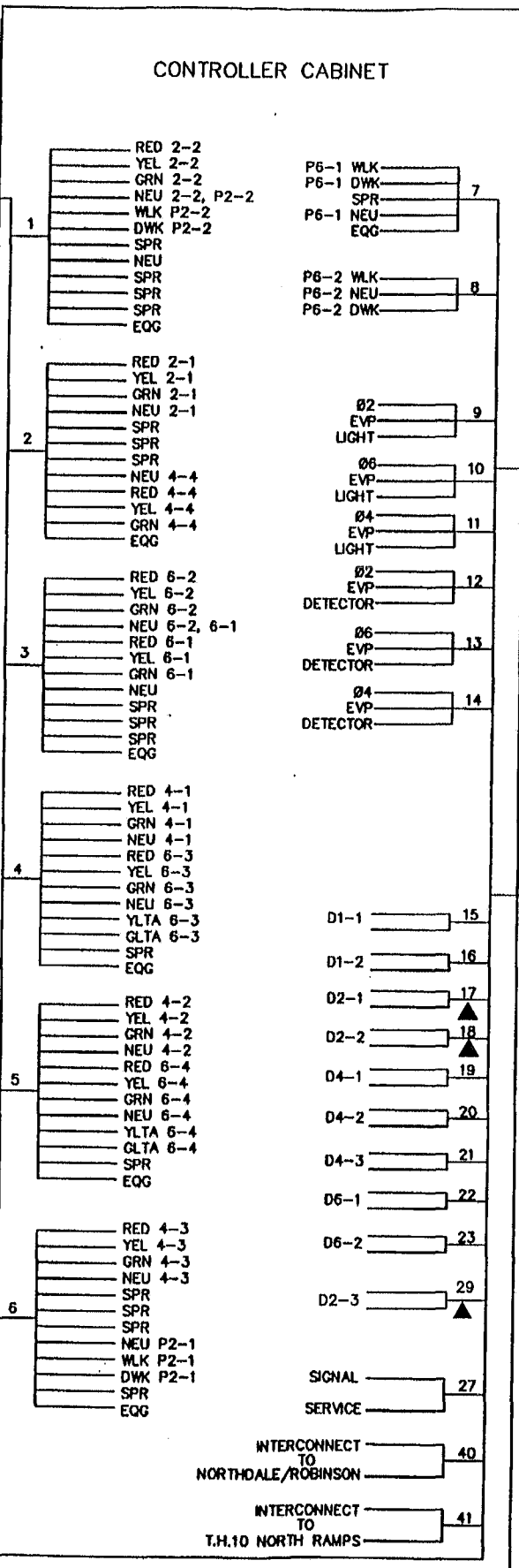
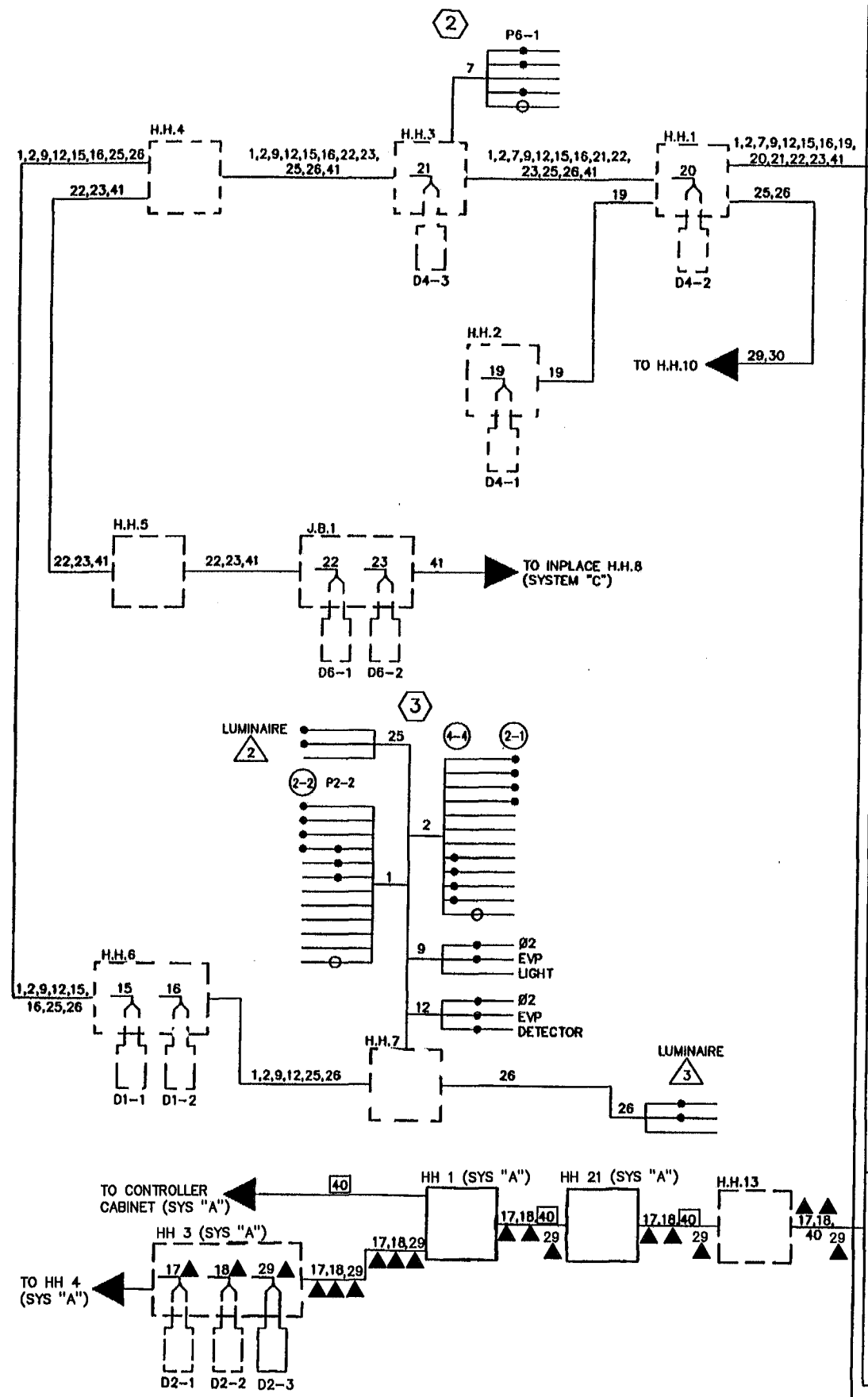
Aaron S. Heumann
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

**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.
COUNTY PROJECT		S.A.P.	114-020-27	125
S.P.	114-010-13	S.A.P.	114-107-08	159

PLOT DATE: Apr 23, 2002 5:01pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS20.dwg



CONDUCTOR COLOR CODING

R	BLK	
O	WH	2-1/c#6
BL		
WH		
R/BLK	R	
O/BLK	WH	3/c#12
BL/BLK	BLK	
WH/BLK		
BLK	BLK	2/c#14
BLK/WH	CLEAR	
G/BLK		
G		
R OR O	R OR YEL	3/c#20
WH OR BL	BLK OR BL	

NOTE:
ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

▲ = FURNISH AND INSTALL CABLE AND CONNECTION
 □ = SALVAGE INPLACE CABLE AS INDICATED AND REINSTALL

NOTE:
SALVAGING INPLACE INTERCONNECT WIRE (WIRE 40) AND REINSTALLING, IS CONSIDERED INCIDENTAL WORK TO SYSTEM "A" AND WILL 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-TS20
 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"
 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

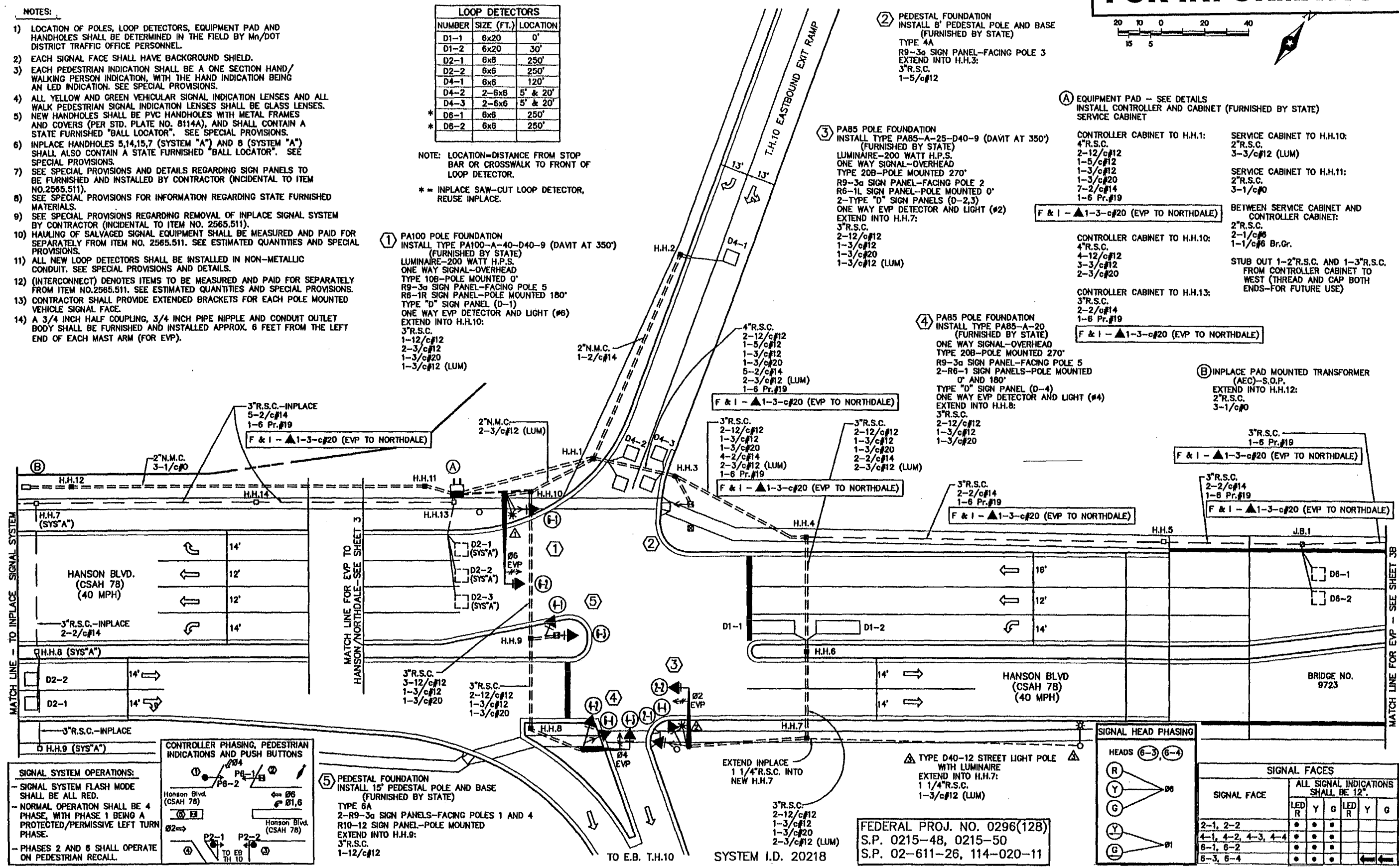
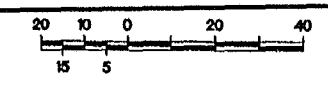
19 OF 27
 SHEET NO.
 126
 159

NOTES:

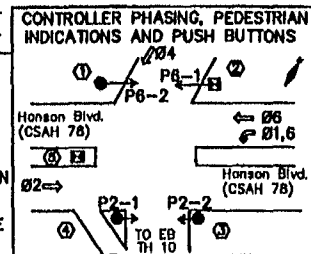
- 1) LOCATION OF POLES, LOOP DETECTORS, EQUIPMENT PAD AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY Mn/DOT DISTRICT TRAFFIC OFFICE PERSONNEL.
- 2) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 3) EACH PEDESTRIAN INDICATION SHALL BE A ONE SECTION HAND/WALKING PERSON INDICATION, WITH THE HAND INDICATION 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. 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.
- 5) INPLACE HANDHOLES 5,14,15,7 (SYSTEM "A") AND 8 (SYSTEM "A") SHALL ALSO CONTAIN A STATE FURNISHED "BALL LOCATOR". SEE SPECIAL PROVISIONS.
- 6) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGN PANELS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCIDENTAL TO ITEM NO.2565.511).
- 7) SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING STATE FURNISHED MATERIALS.
- 8) SEE SPECIAL PROVISIONS REGARDING REMOVAL OF INPLACE SIGNAL SYSTEM BY CONTRACTOR (INCIDENTAL TO ITEM NO. 2565.511).
- 9) HAULING OF SALVAGED SIGNAL EQUIPMENT SHALL BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2565.511. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 10) ALL NEW LOOP DETECTORS SHALL BE INSTALLED IN NON-METALLIC CONDUIT. SEE SPECIAL PROVISIONS AND DETAILS.
- 11) (INTERCONNECT) DENOTES ITEMS TO BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO.2565.511. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 12) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETS FOR EACH POLE MOUNTED VEHICLE SIGNAL FACE.
- 13) 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	6x8	250'
D2-2	6x8	250'
D4-1	6x6	120'
D4-2	2-6x6	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.9:
 3"R.S.C.
 1-12/c#12

FEDERAL PROJ. NO. 0296(12B)
 S.P. 0215-48, 0215-50
 S.P. 02-611-26, 114-020-11

SIGNAL HEAD PHASING		SIGNAL FACES							
HEADS		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		•	•	•	•				
6-1, 6-2		•	•	•	•				
6-3, 6-4		•	•	•	•				

PLOT DATE: Apr 26, 2002 4:59pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS04.dwg

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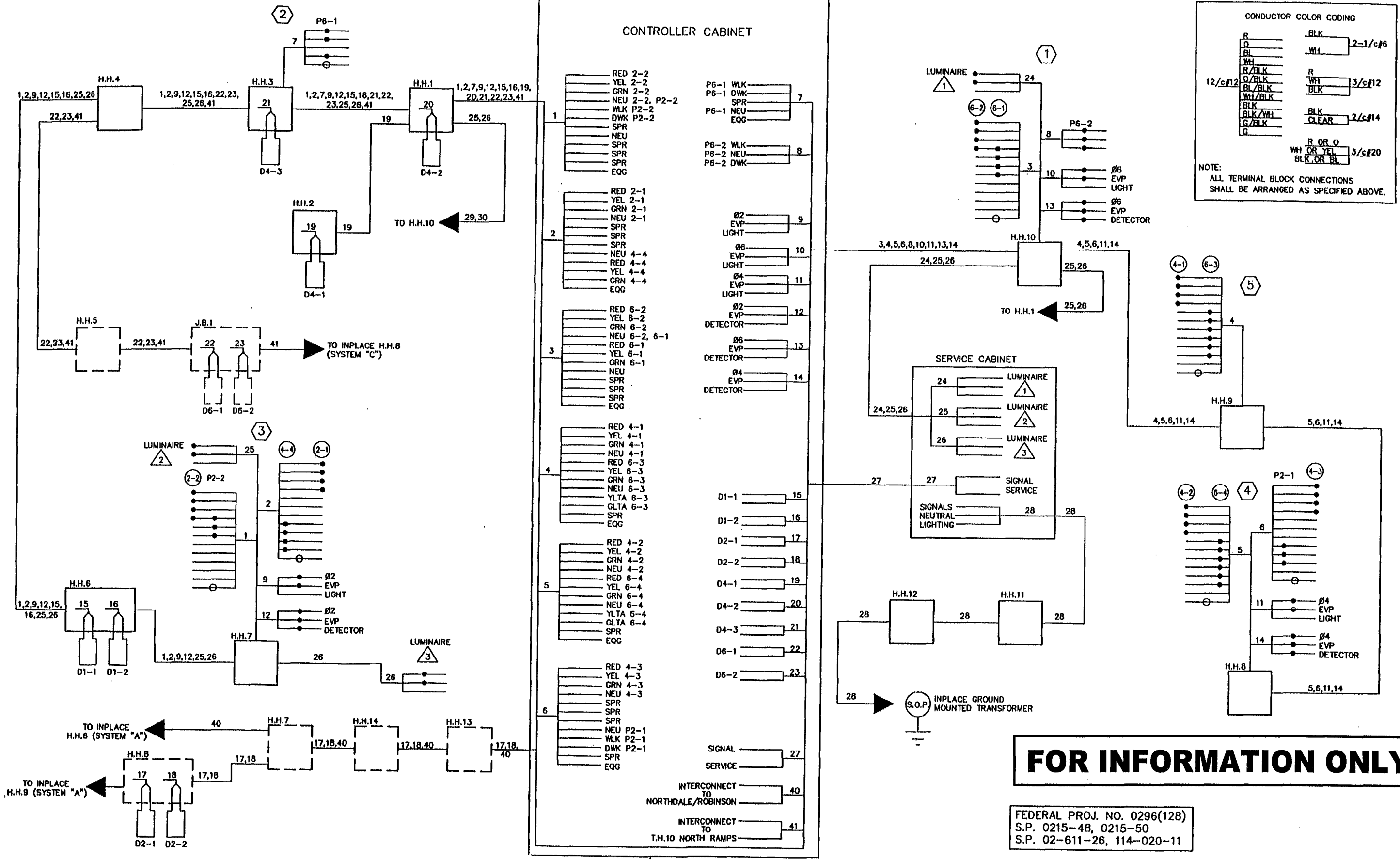
 AARON S. HEUMANN
 DATE: 4/26/02 MN LIC. NO. 25848

NORTHDALE 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

SHEET NO.
 127
 159

PLOT DATE: Apr 2, 2002 4:59pm DISK FILE NAME: (15.05) R:\3889\3889043\PLAN-SHT\043-TS05.dwg



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FEDERAL PROJ. NO. 0296(128)
S.P. 0215-48, 0215-50
S.P. 02-611-26, 114-020-11

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

**NORTHDALE 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	SHEET NO. 128 <hr/> 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

PLOT DATE: Ap 2002 3:52pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS12.dwg

- 1** TYPE PA85 POLE FOUNDATION
 TYPE PA85-A-25
 1 - ONE WAY SIGNAL OVERHEAD
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°
 2 - PEDESTRIAN PUSHBUTTONS
 1 - TYPE "D" SIGN PANEL OVERHEAD (D-1)
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (#8) (4' FROM END OF MAST ARM)
- EXTEND INTO HH 2:
 3" RSC
 2-12/C#12
 2-3/C#12
 1-3/C#20

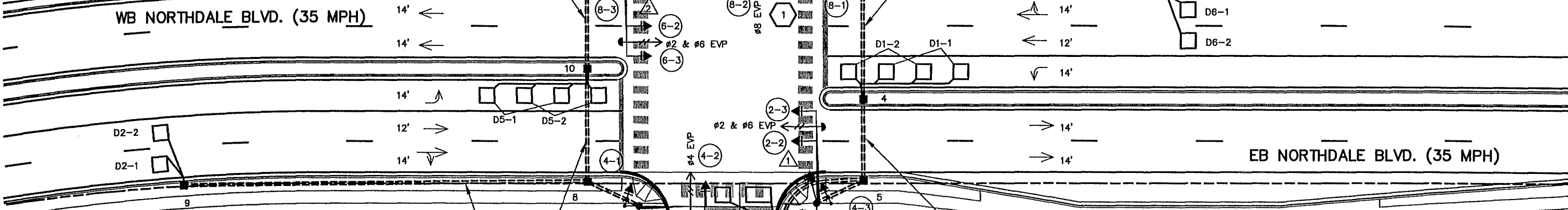
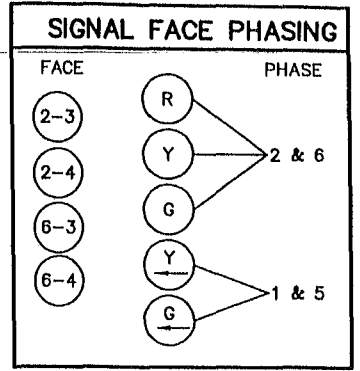
- 2** TYPE PA90 POLE FOUNDATION
 TYPE PA90-A-35-D40-9 (APPROX. 350')
 LUMINAIRE 250 WATT H.P.S.
 WITH P.E.C. AND CHECK SWITCH
 2 - ONE WAY SIGNAL OVERHEAD (0' & 12'
 FROM END OF MAST ARM)
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°
 2 - PEDESTRIAN PUSHBUTTONS
 1 - TYPE "D" SIGN PANEL OVERHEAD (D-1)
 1 - TYPE R10-12 (36"x48") SIGN NEXT TO SIGNAL FACE 2-3
 2 - TYPE R6-1 (36"x12") SIGNS POLE MOUNTED BACK TO BACK
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (#2 & #6) (4' FROM END OF MAST ARM)
- EXTEND INTO HH 5:
 3" RSC
 2-12/C#12
 3-3/C#12
 1-3/C#20
 1-3/C#12 (LUM)
 4-2/C#14

- 4** TYPE PA90 POLE FOUNDATION
 TYPE PA90-A-35-D40-9 (APPROX. 350')
 LUMINAIRE 250 WATT H.P.S.
 WITH P.E.C. AND CHECK SWITCH
 2 - ONE WAY SIGNAL OVERHEAD (0' & 12'
 FROM END OF MAST ARM)
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°
 2 - PEDESTRIAN PUSHBUTTONS
 1 - TYPE "D" SIGN PANEL OVERHEAD (D-1)
 1 - TYPE R10-12 (36"x48") SIGN NEXT TO SIGNAL FACE 6-3
 2 - TYPE R6-1 (36"x12") SIGNS POLE MOUNTED BACK TO BACK
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (#2 & #6) (4' FROM END OF MAST ARM)
- EXTEND INTO HH 12:
 3" RSC
 2-12/C#12
 3-3/C#12
 1-3/C#20
 1-3/C#12 (LUM)

- 3** TYPE PA85 POLE FOUNDATION
 TYPE PA85-A-25
 1 - ONE WAY SIGNAL OVERHEAD
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°
 2 - PEDESTRIAN PUSHBUTTONS
 1 - TYPE "D" SIGN PANEL OVERHEAD (D-1)
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (#4) (4' FROM END OF MAST ARM)
- EXTEND INTO HH 8:
 3" RSC
 2-12/C#12
 2-3/C#12
 1-3/C#20

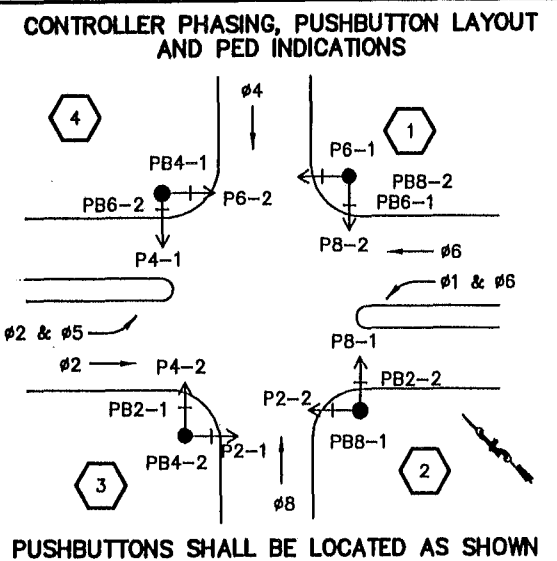
- EXTEND INTO HH 5:
 3" RSC
 2-12/C#12
 3-3/C#12
 1-3/C#20
 1-3/C#12 (LUM)
 4-2/C#14

- EXTEND INTO HH 12:
 3" RSC
 2-12/C#12
 3-3/C#12
 1-3/C#20
 1-3/C#12 (LUM)



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.



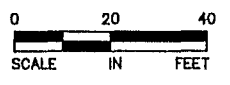
LOOP DETECTORS

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 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 PREFORMED 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 #1: REM. R10-4b SIGNS

URS

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

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A. S. Heumann
 AARON S. HEUMANN
 DATE: 4/26/02 MN LIC. NO. 25646

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

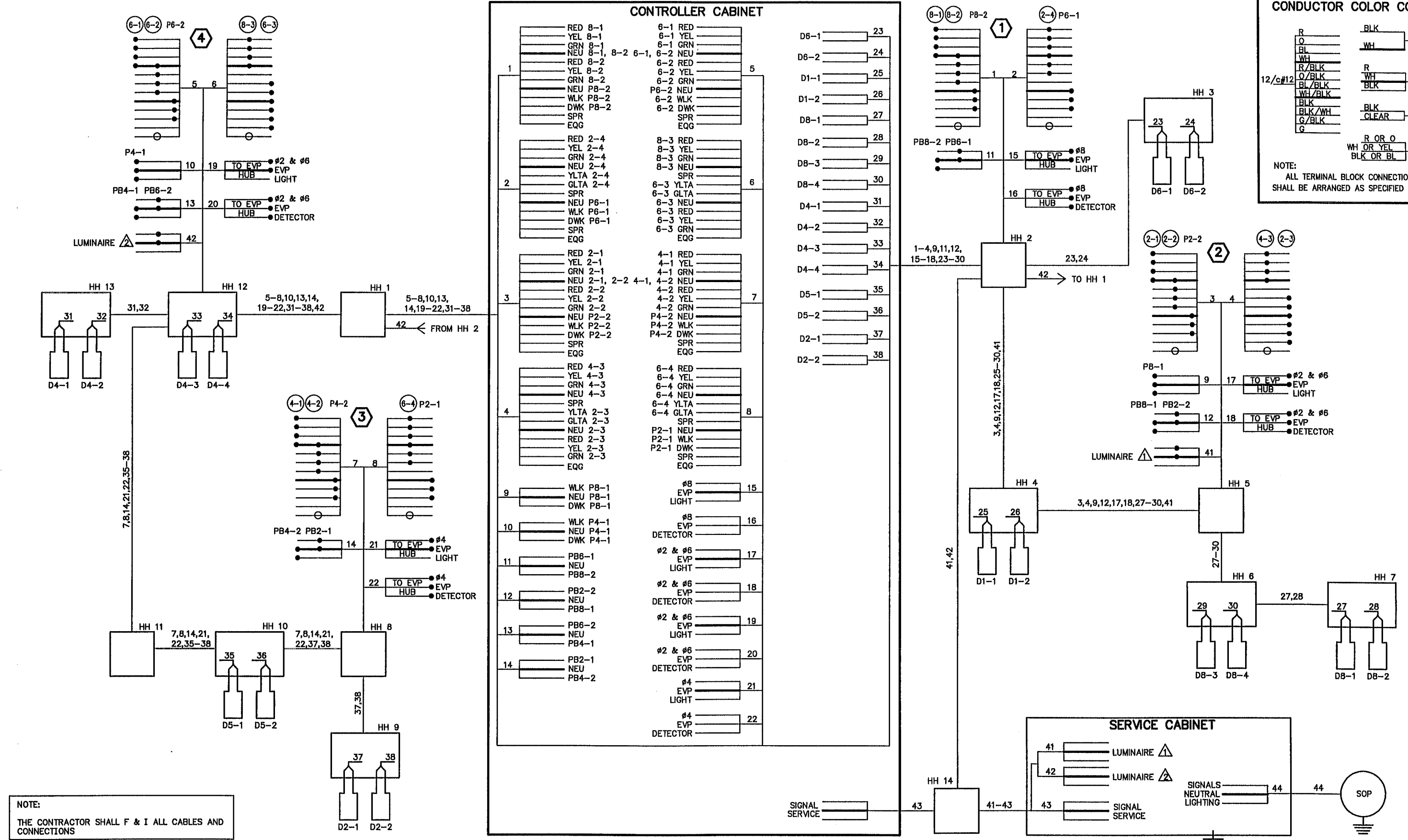
159

PLOT DATE: Apr 26, 2002 5:00pm 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	BLK	2/c#14
WH/BLK	BLK	
BLK	BLK/CLEAR	
BLK/WH		
G/BLK		
G		

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



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700 Third Street South
Minneapolis, MN 55416
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

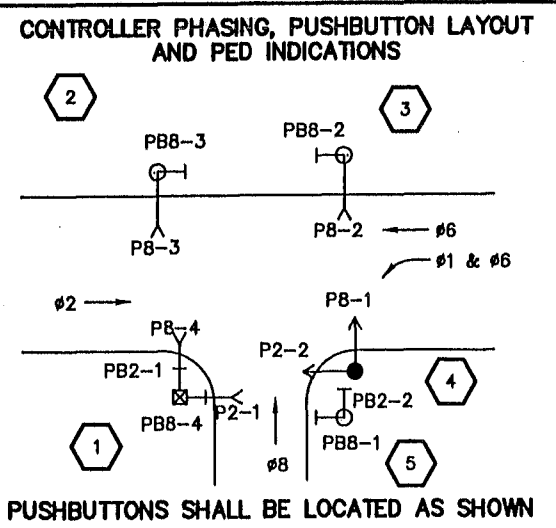
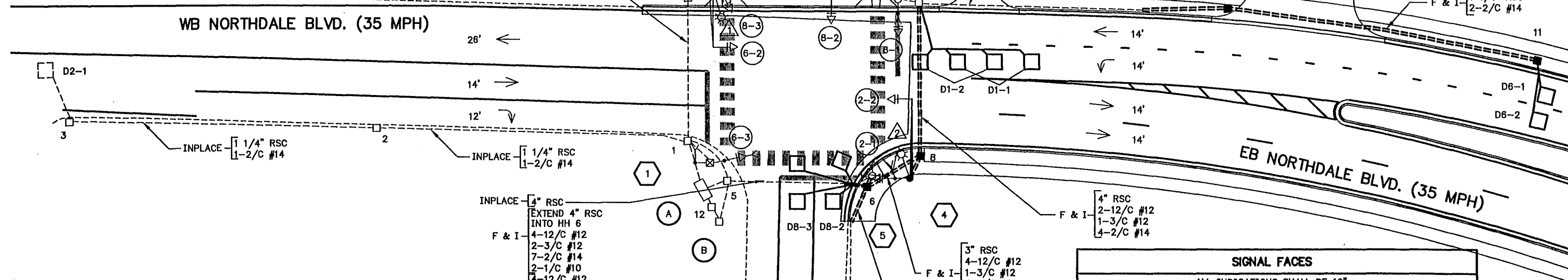
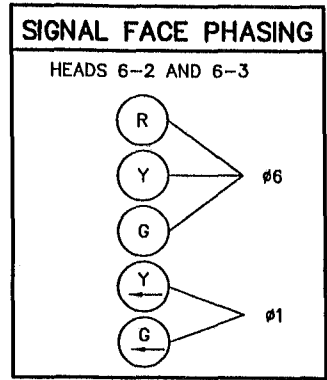
NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BLVD./VILLAGE TEN CENTER
SIGNAL SYSTEM "C"
WIRING DIAGRAM

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: Apr

- (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
7-12/C #12
2-3/C #12
6-2/C #14
7-12/C #12
F & I 2-3/C #12
7-2/C #14
INPLACE STUB OUT 3" RSC AND CAP
- (B)** INPLACE CABINET FOUNDATION SERVICE CABINET
INPLACE STUB OUT 2" RSC EXISTING SERVICE BY A.E.C.
EXTEND INTO HH 12: METERED SIGNAL SERVICE
INPLACE 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
BETWEEN HH 1 AND HH 5:
INPLACE 2" RSC
2-1/C #10
- (1)** PEDESTAL FOUNDATION
10' PEDESTAL POLE AND BASE
TYPE 10
2 - PEDESTRIAN PUSH BUTTONS
EXTEND INTO HH 1:
INPLACE 2" RSC
1-12/C #12
2-3/C #12
- (2)** 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)** 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
REMOVE 2-12/C #12
1-3/C #12
2-12/C #12
F & I 1-3/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
REMOVE 2-12/C #12
2-1/C #10
- (5)** INPLACE
PEDESTAL FOUNDATION
5' PEDESTAL POLE AND BASE
2 - PEDESTRIAN PUSH BUTTONS
EXTEND INTO HH 6:
F & I 2" RSC
1-3/C #12
REMOVE 1-3/C #12



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 5'	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	D8-1	2-6' x 6'	120'	3 & 8
MILL	F & I	D8-2	2-6' x 6'	AS SHOWN	7
MILL	F & I	D8-3	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
2-1, 2-2	2	○	○	○			
6-1	6	○	○	○			
6-2, 6-3	6 & 1	○	○	○	◀	◀	
8-1, 8-2, 8-3	8	○	○	○			

- 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.
 - ALL NEW LOOP DETECTORS SHALL BE PREFORMED NMC LOOP DETECTORS. SEE DETAILS SHEET 110.
 - 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. #1: 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

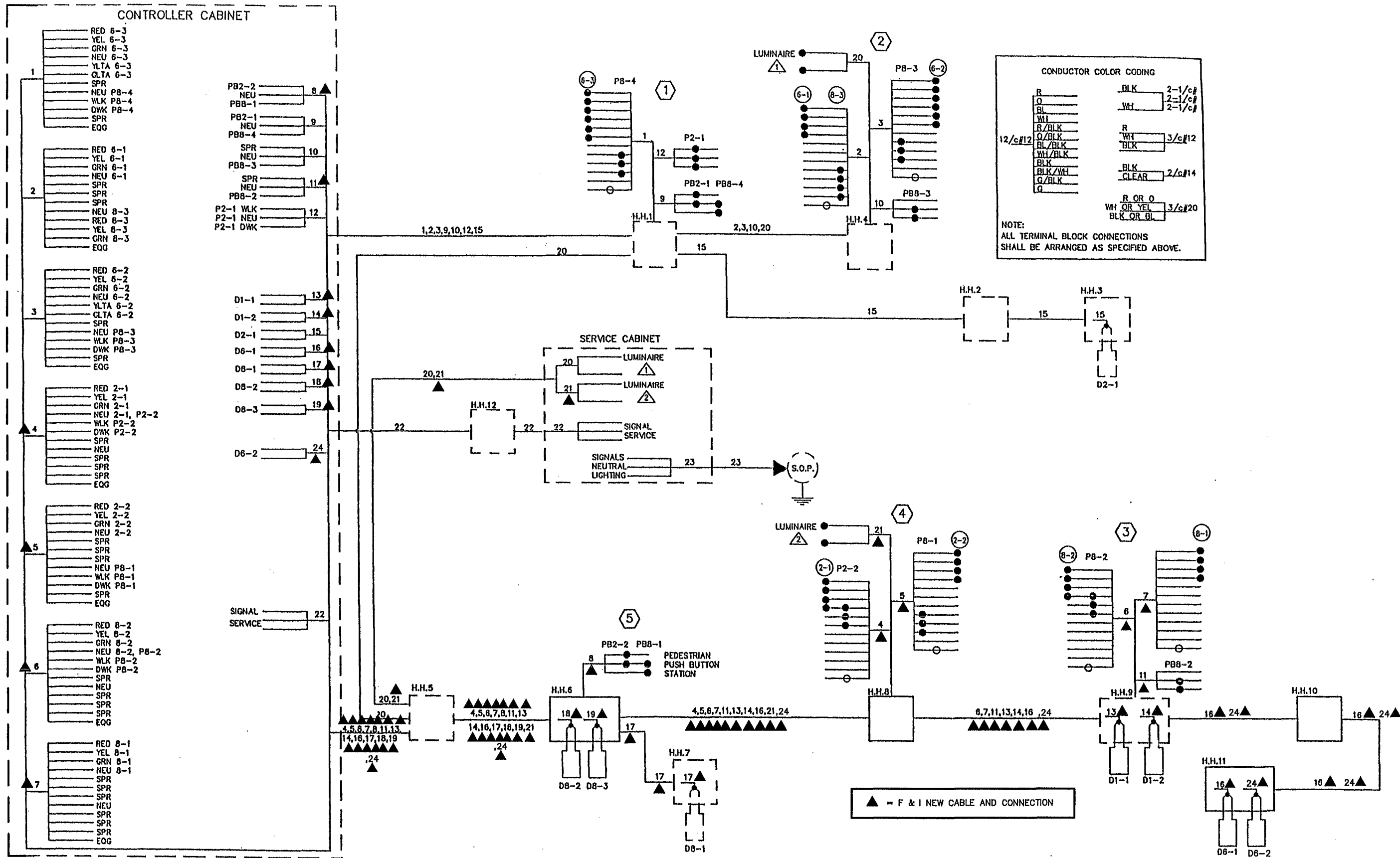
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A. S. Heumann
 AARON S. HEUMANN
 DATE: 4/28/02 MN LIC. NO. 25846

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	SHEET NO.
COUNTY PROJECT		S.A.P.	114-020-27	131
S.P.	114-010-13	S.A.P.	114-107-08	159

PLOT DATE: Apr 2 5:01pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS23.dwg



CONDUCTOR COLOR CODING

R	BLK	2-1/c#
O	WH	2-1/c#
BL	WH	2-1/c#
WH	R	
R/BLK	WH	3/c#12
O/BLK	BLK	
BL/BLK	BLK	
WH/BLK	BLK	
BLK	BLK	2/c#14
BLK/WH	CLEAR	
O/BLK		
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.

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	DRAWN BY: JAS	DESIGN BY: MRA
CHKD. BY: ASH	DWG. NAME: 043-TS23	DATE: APRIL 26, 2002



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700 Third Street South
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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"
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 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 (6-3)
- 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 WRES 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 (DAVT 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)

- B) SERVICE CABINET
CABINET FOUNDATION
STUB OUT 2"R.S.C.
(FOR SERVICE BY A.E.C.)
EXTEND INTO H.H.12:
METERED SIGNAL SERVICE
1 1/4"R.S.C.
3-1/c#6
EXTEND INTO H.H.5:
UNMETERED STREET LIGHT SERVICE
1 1/4"R.S.C.
4-1/c#10
BETWEEN H.H.1 AND H.H.5:
2"R.S.C.
2-1/c#10

- 5) PEDESTAL FOUNDATION
5' PEDESTAL POLE AND BASE
2-PEDESTRIAN PUSH BUTTONS
EXTEND INTO H.H.6:
2"R.S.C.
1-3/c#12

- 1) TYPE 1D
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

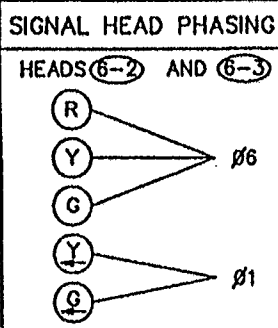
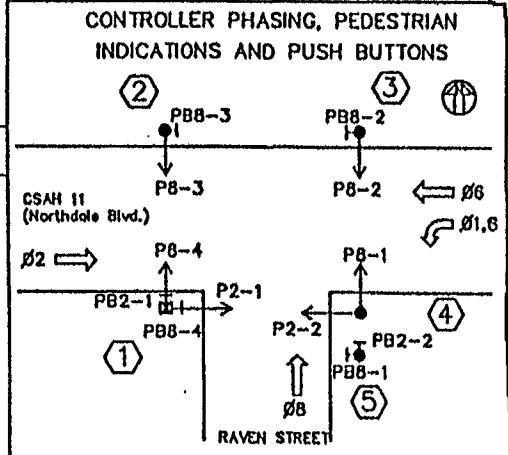
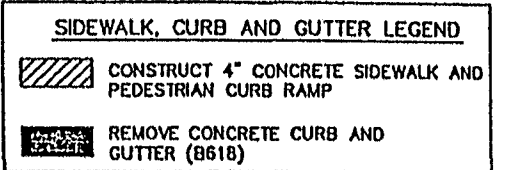
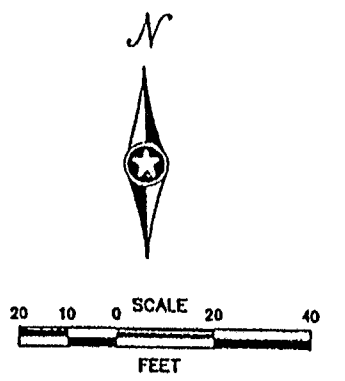
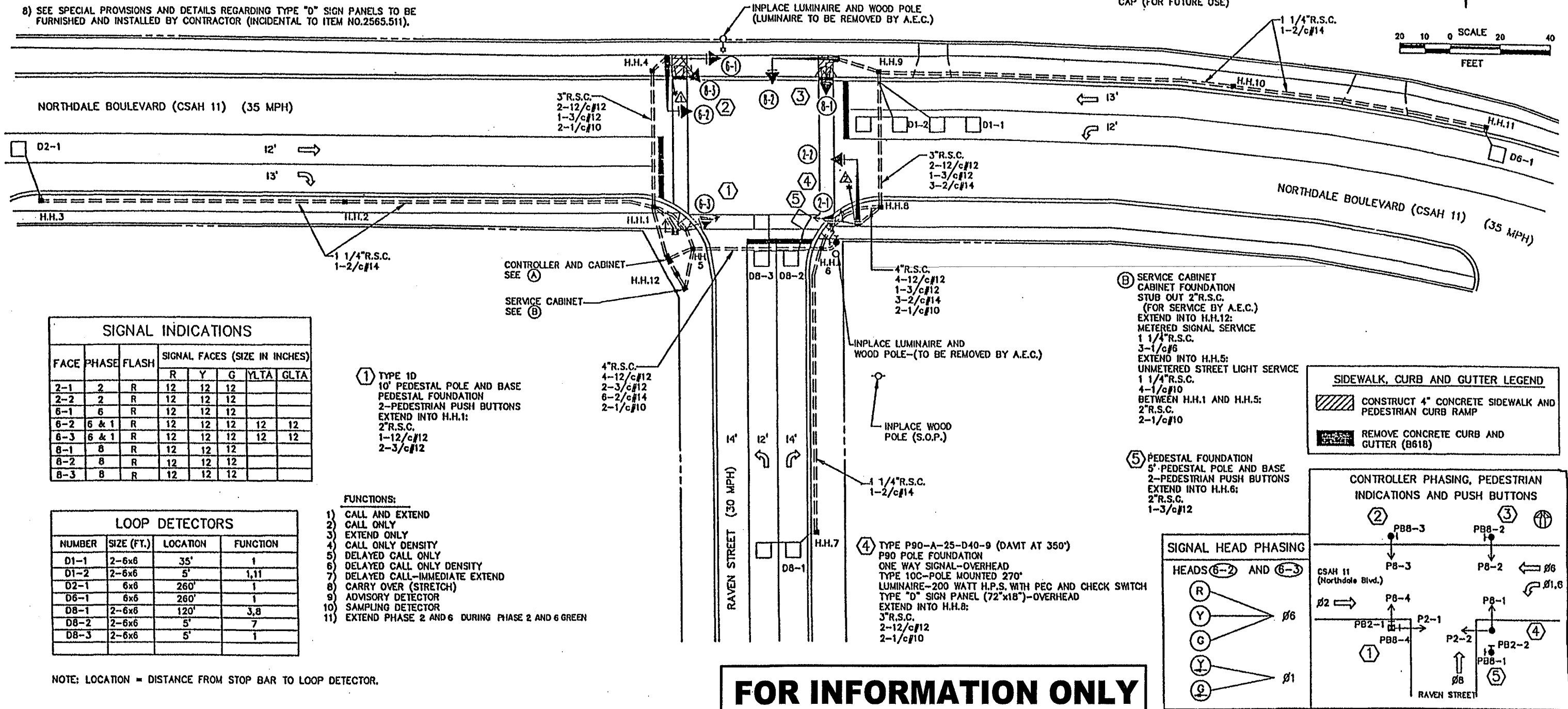
- FUNCTIONS:
- 1) CALL AND EXTEND
 - 2) CALL ONLY
 - 3) EXTEND ONLY
 - 4) CALL ONLY DENSITY
 - 5) DELAYED CALL ONLY
 - 6) DELAYED CALL ONLY DENSITY
 - 7) DELAYED CALL-IMMEDIATE EXTEND
 - 8) CARRY OVER (STRETCH)
 - 9) ADVISORY DETECTOR
 - 10) SAMPLING DETECTOR
 - 11) EXTEND PHASE 2 AND 6 DURING PHASE 2 AND 6 GREEN

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	12
6-3	6 & 1	R	12	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

NOTE: LOCATION = DISTANCE FROM STOP BAR TO LOOP DETECTOR.

FOR INFORMATION ONLY



PLOT DATE: Apr 2, 2002 5:00pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS14.dwg

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

URS

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700 Third Street South
Minneapolis, MN 55416
612.370.0700 Tel
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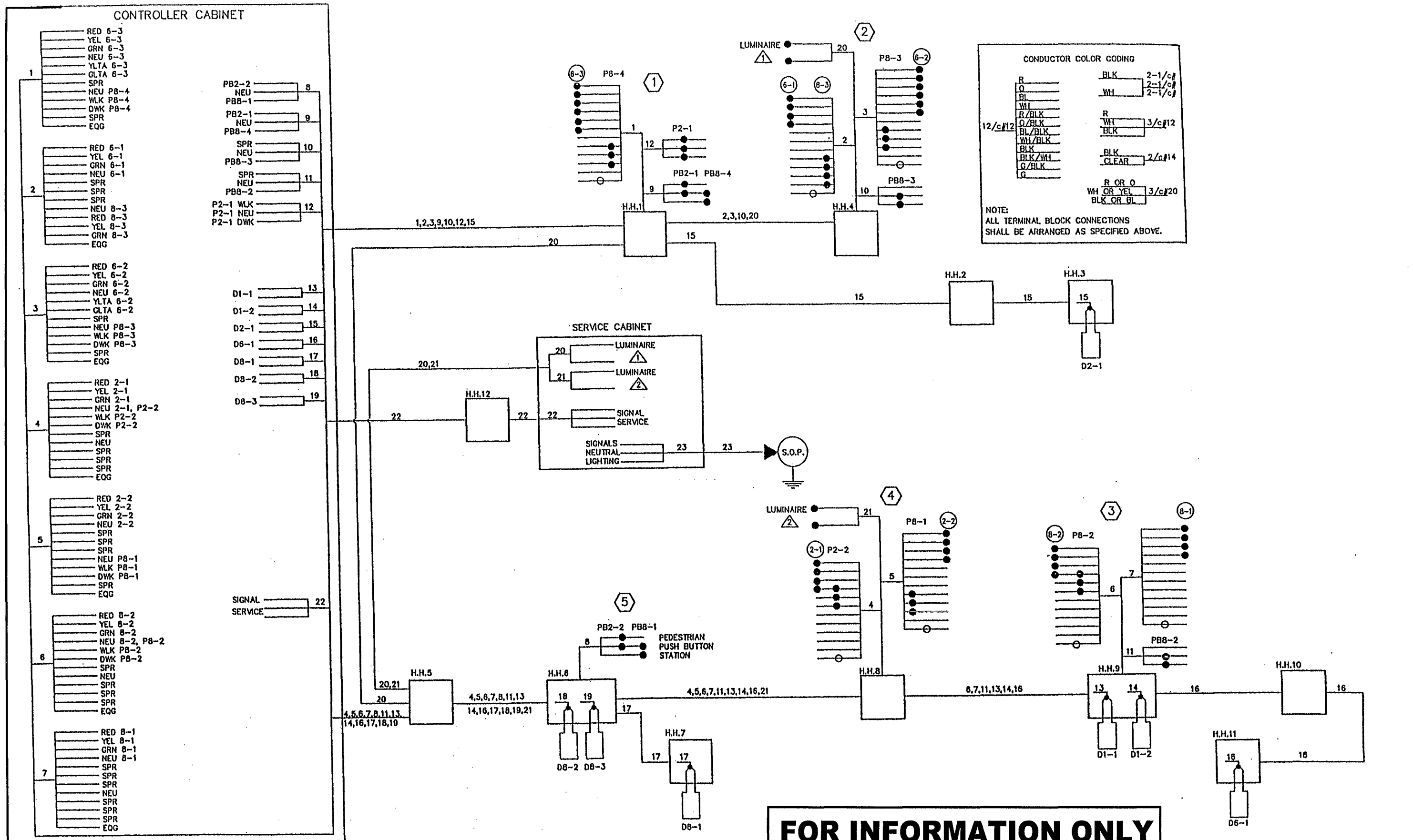
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A. S. Heumann
AARON S. HEUMANN
DATE: 4/28/02 MN LIC. NO. 25846

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.	114-020-28	SHEET NO. 133 159
COUNTY PROJECT		S.A.P.	114-020-27	
S.P.	114-010-13	S.A.P.	114-107-08	

PLOT DATE: Apr 26, 2002 5:00pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-TS15.dwg



FOR INFORMATION ONLY

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: JAS DESIGN BY: MRA

CHKD. BY: ASH DWG. NAME: 043-TS15

DATE:
APRIL 26, 2002



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700 Third Street South
Minneapolis, MN 55415
612-370-0700 Tel
612-370-1376 Fax

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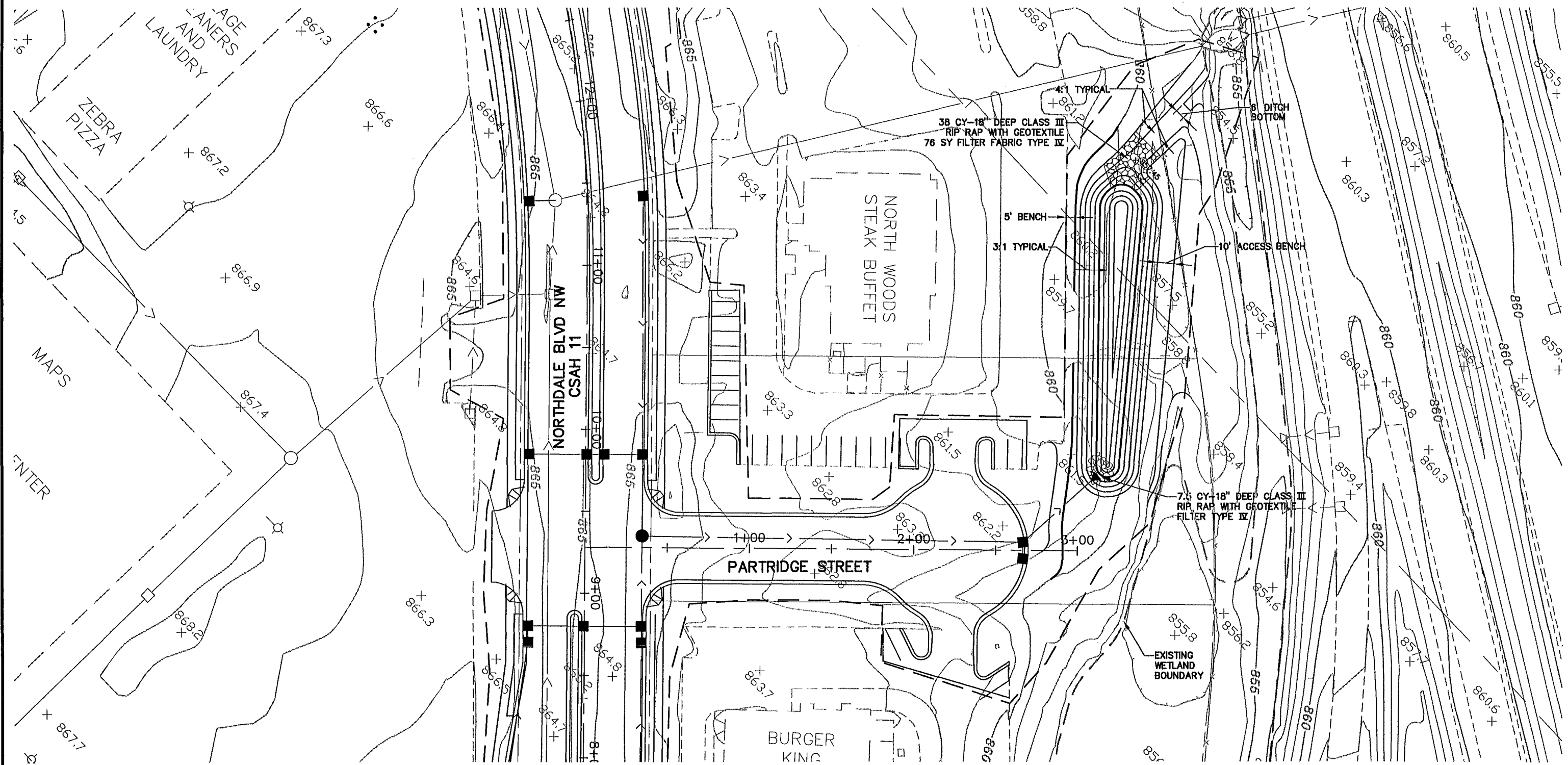
Aaron S. Heumann
AARON S. HEUMANN
DATE: 4/26/02 MN LIC. NO. 25846

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
NORTHDALÉ BLVD. / RAVEN ST.
REVISE SIGNAL SYSTEM "D"
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.
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

DESIGN FILE:
33889-043

DRAWN BY: TSH/HMW
DESIGN BY: BJK

CHKD. BY: ICP
DWG. NAME: 043-ST08

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: 4/28/02 MN LIC. NO. 23197

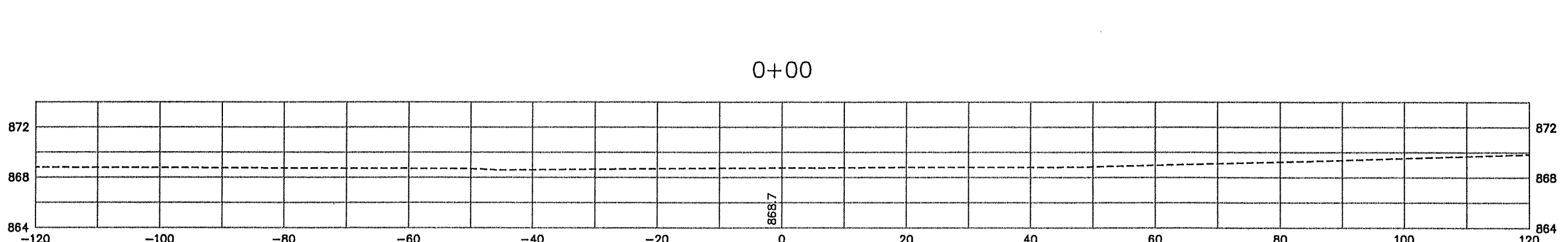
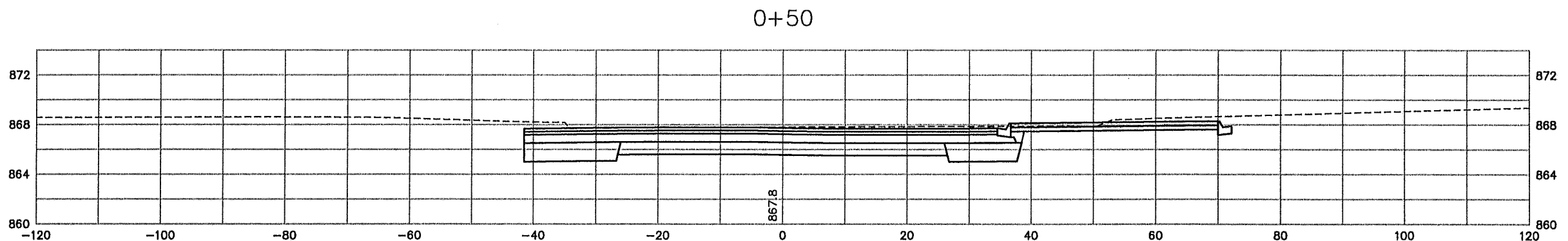
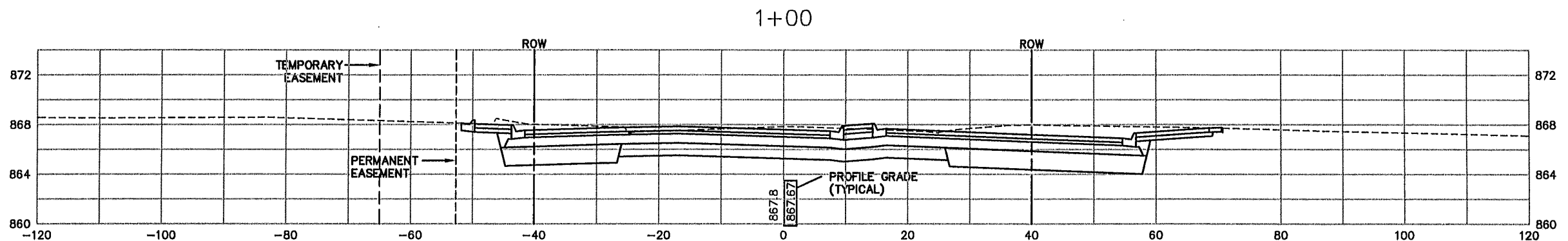
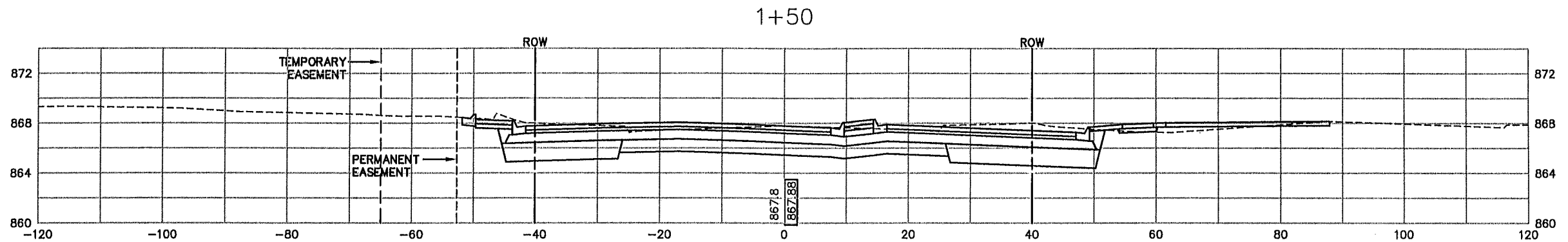
**NORTHDALE BOULEVARD
(C.S.A.H. 11)
PARTRIDGE STREET
STORM DRAINAGE POND GRADING PLAN**

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



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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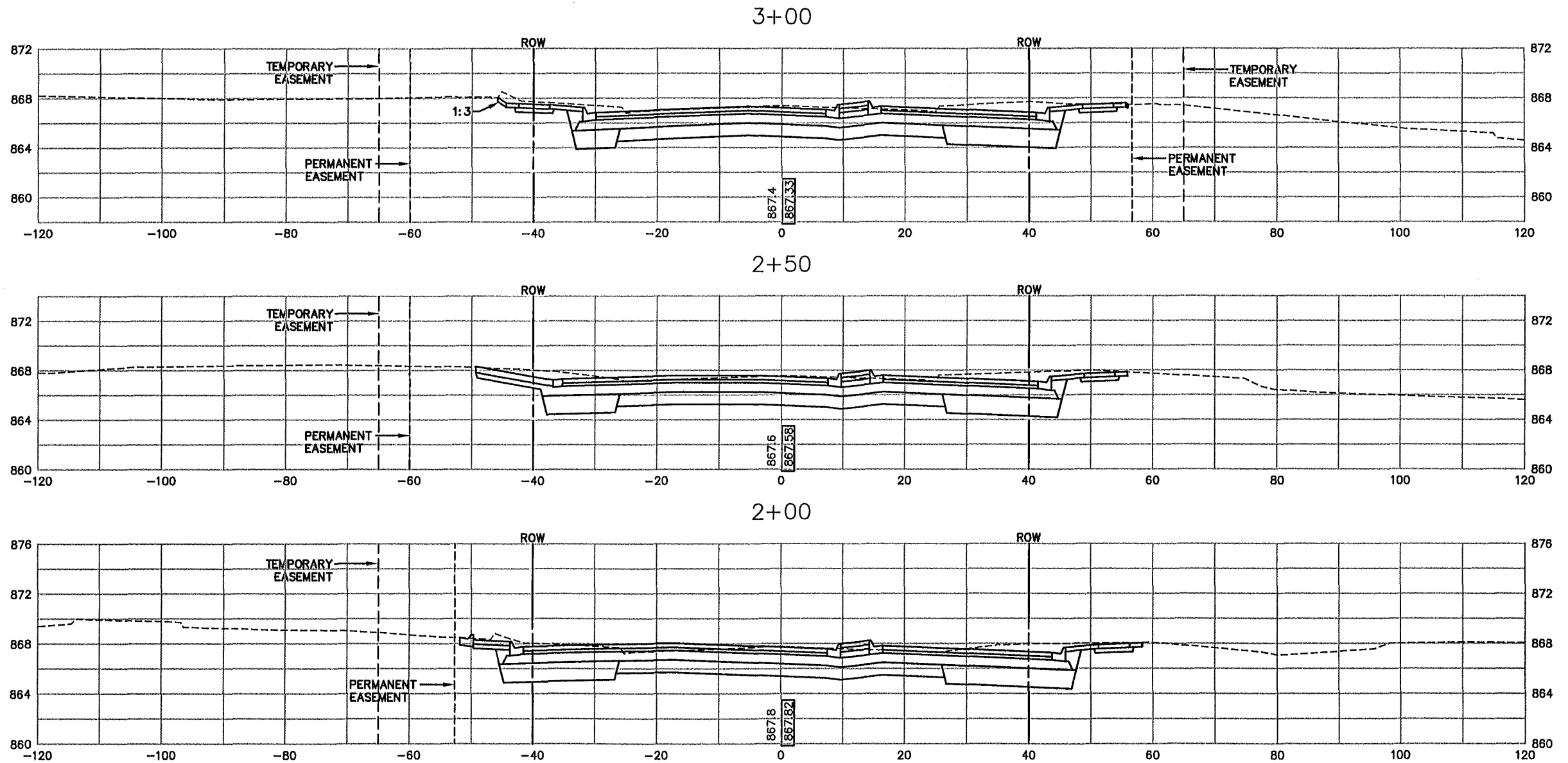
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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

1 OF 24
SHEET NO.
136
159

PLOT DATE: Apr 26, 2002 7:21am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS202.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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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

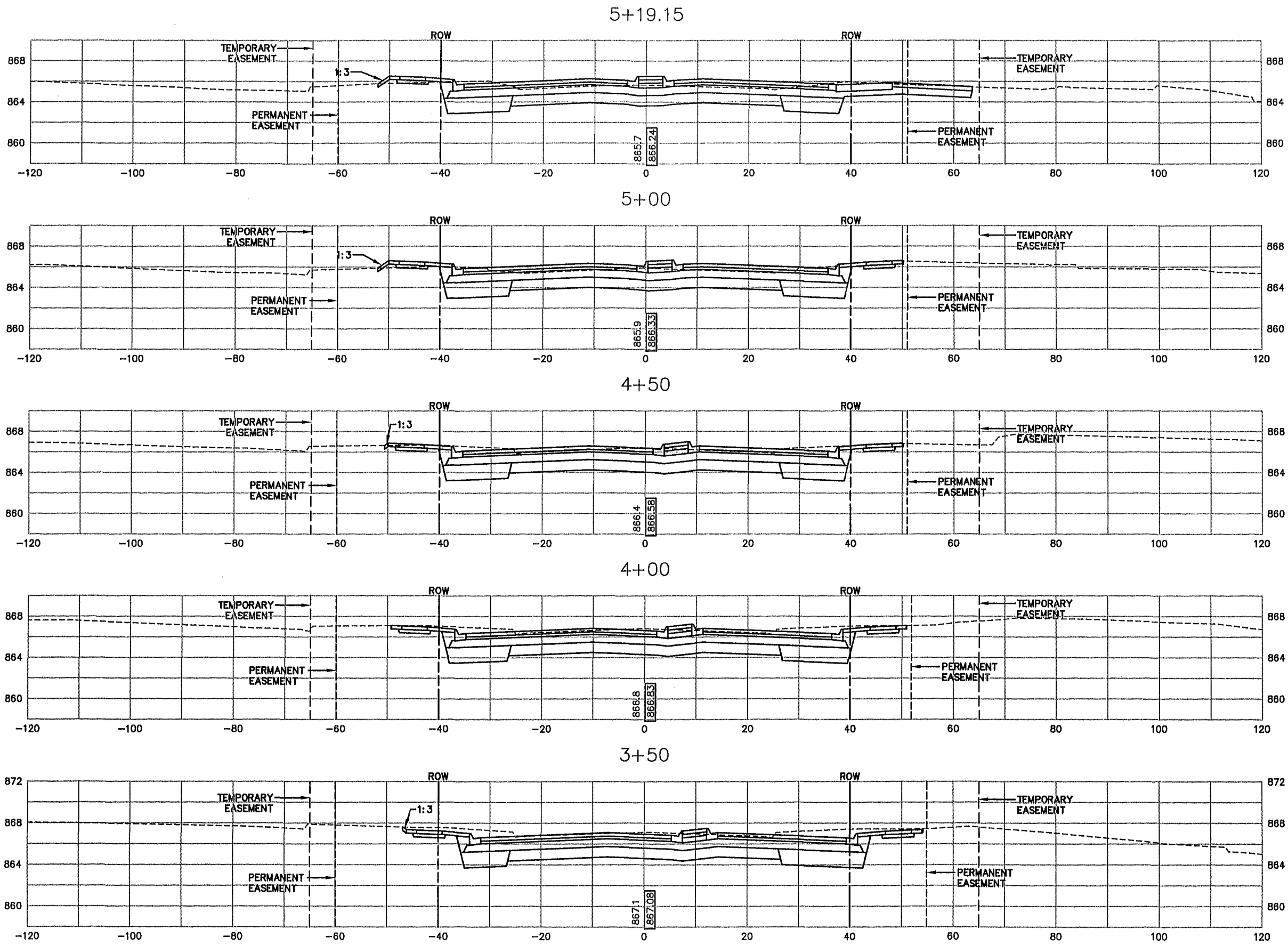
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.

137

159

PLOT DATE: Apr 26, 2002 7:21am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS203.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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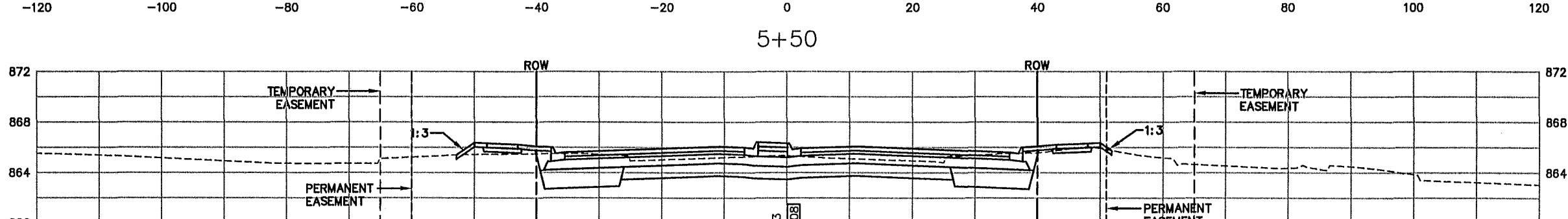
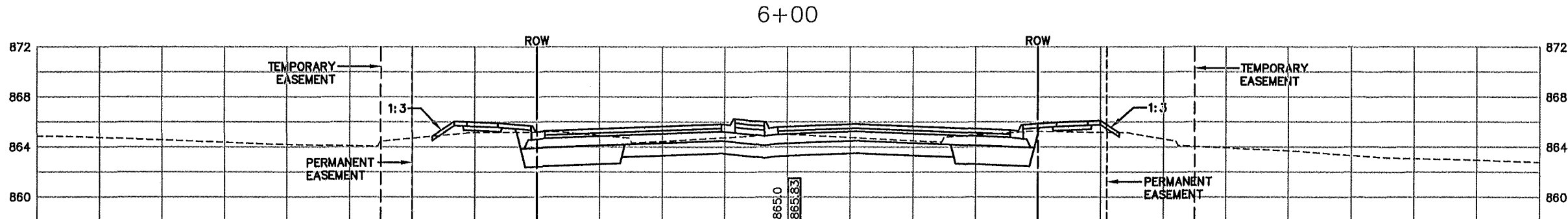
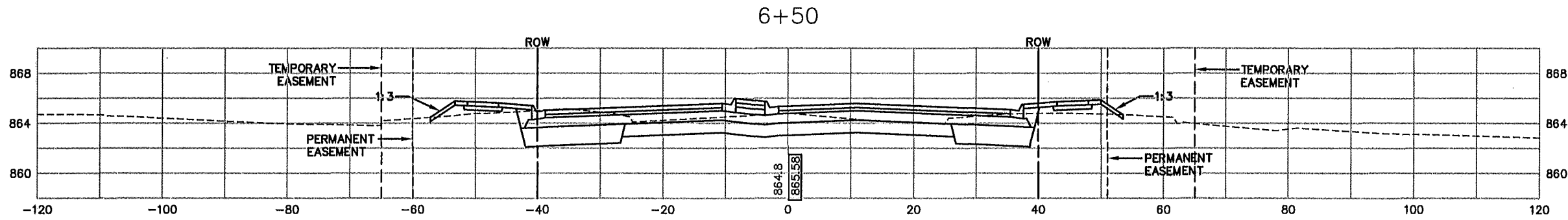
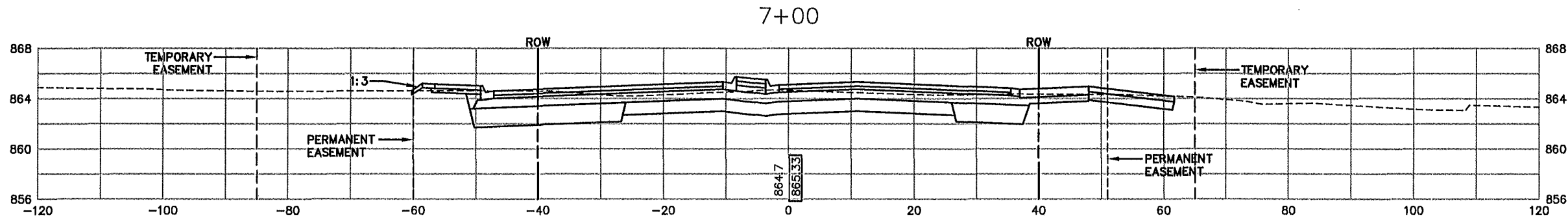
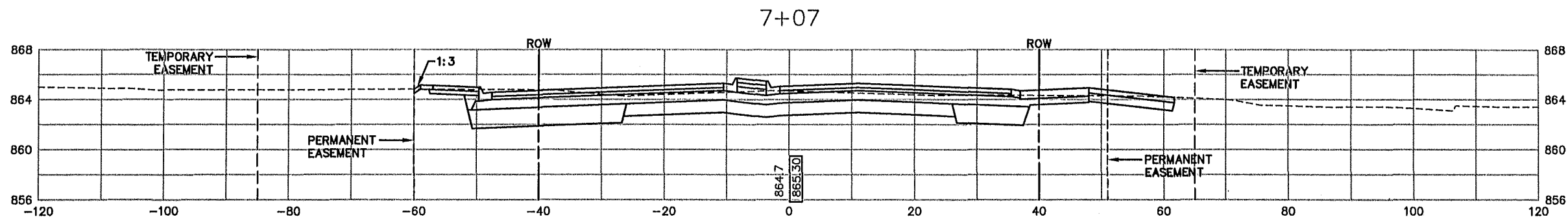
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
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.	138
159	

PLOT DATE: Apr 26, 2002 7:21am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS204.dwg



4 OF 24

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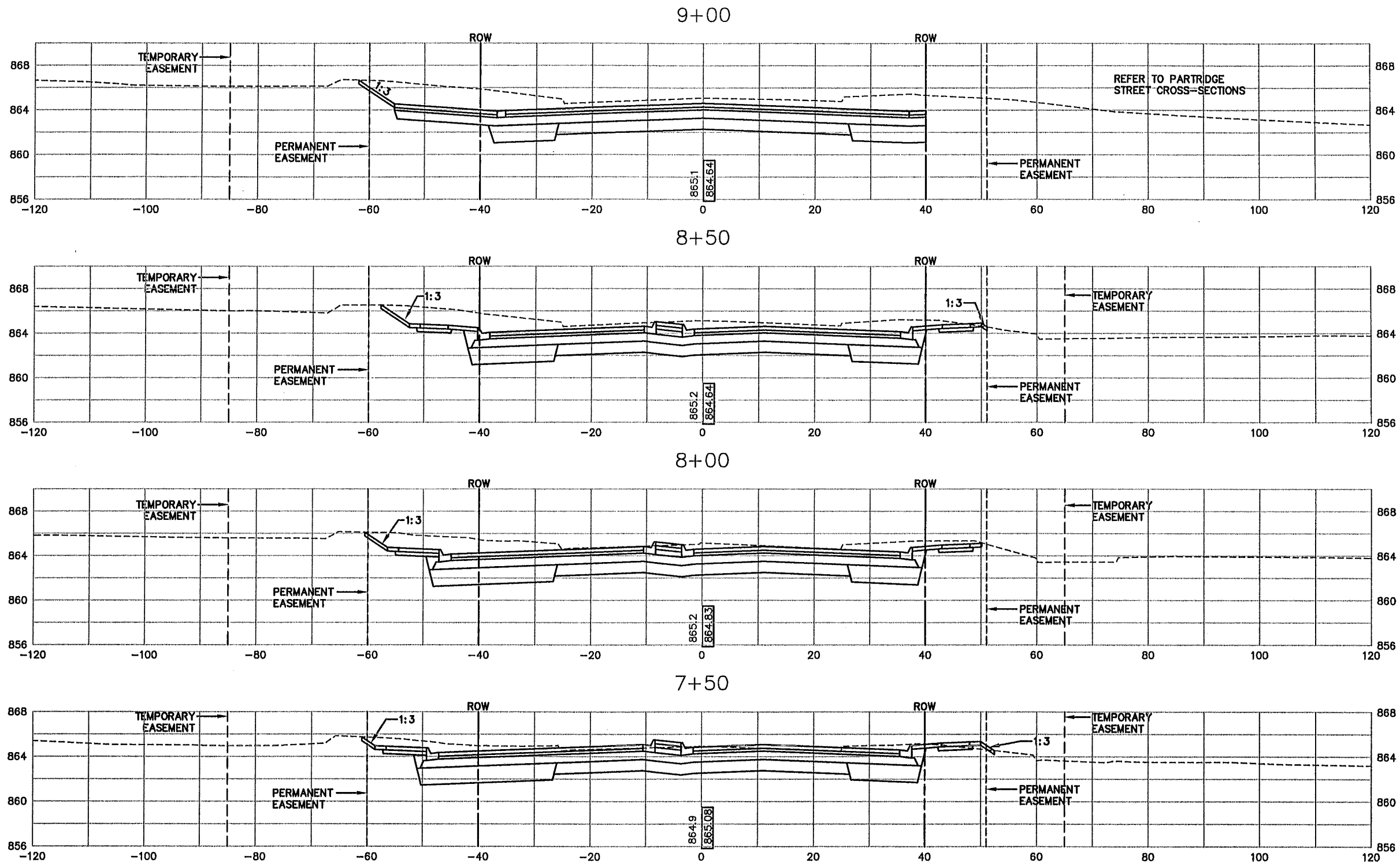
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
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.
139
159

PLOT DATE: Apr 2, 2002 7:21am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS205.dwg



5 OF 24
SHEET NO. 140
159

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DATE: APRIL 26, 2002	



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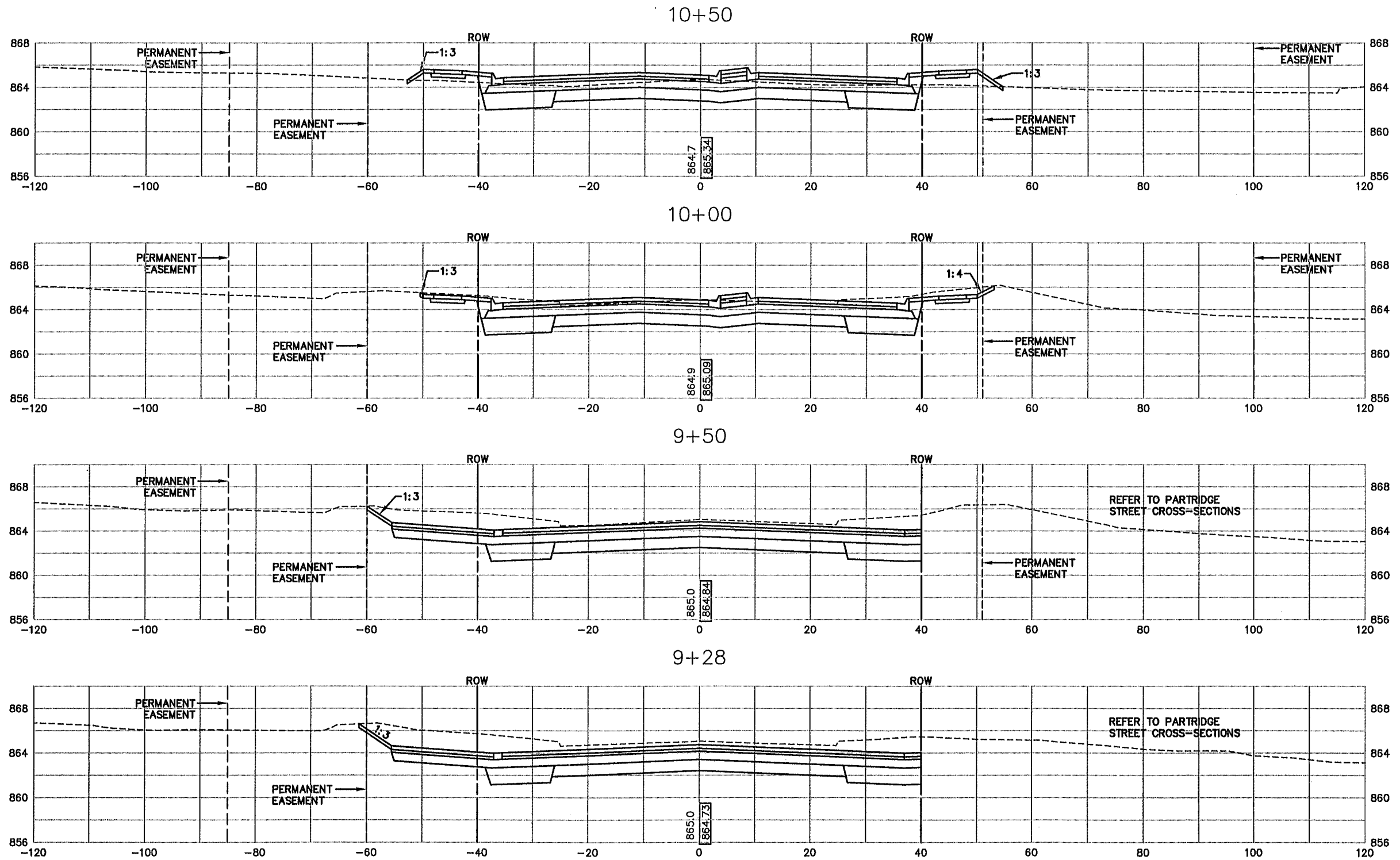
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
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: 4/28/02 MN LIC. NO. 23197

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

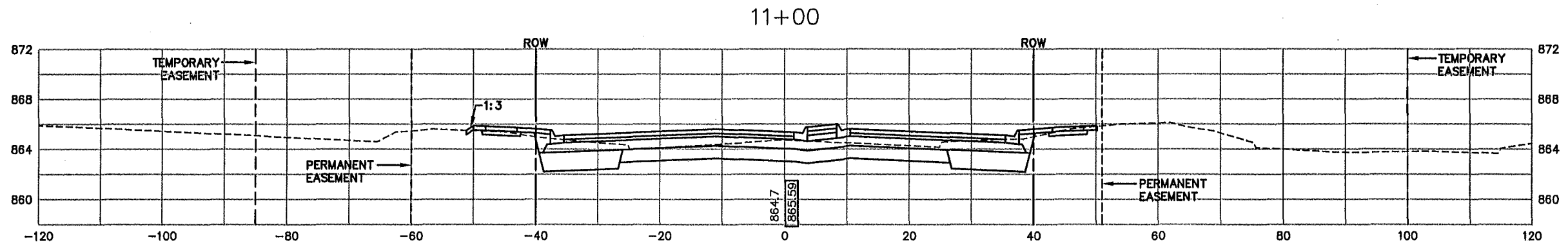
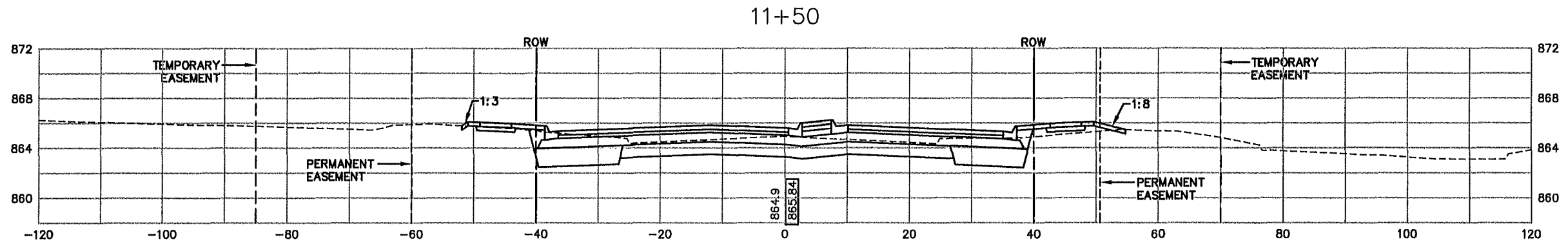
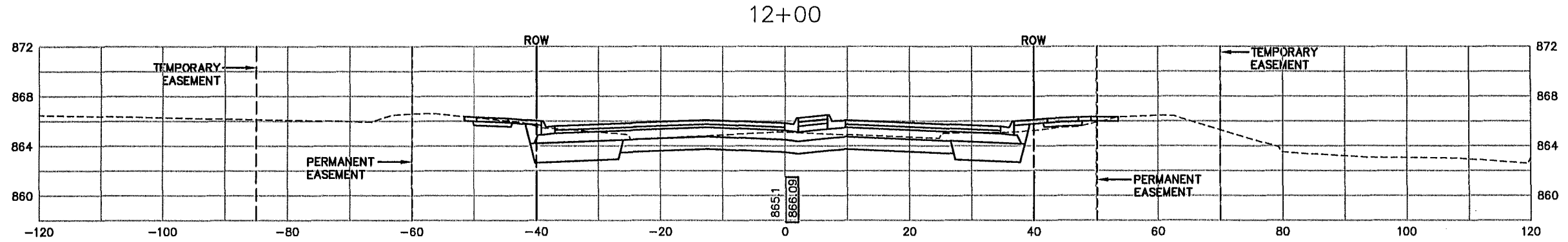
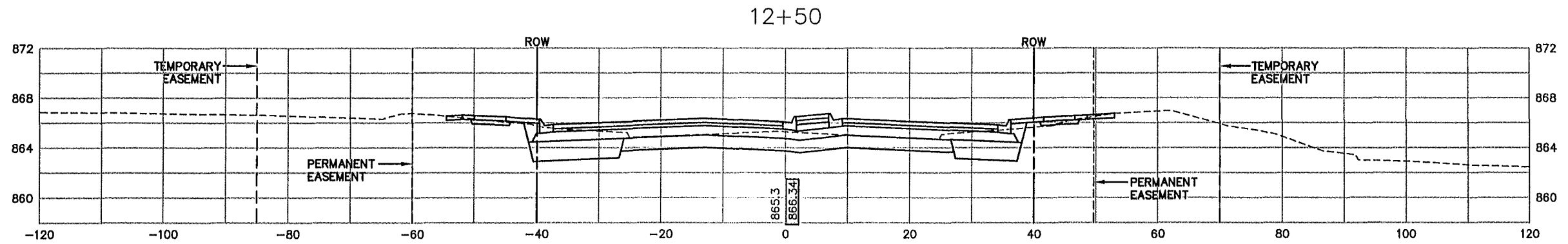
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.

141

159

PLOT DATE: Apr 26, 2002 7:21am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS207.dwg



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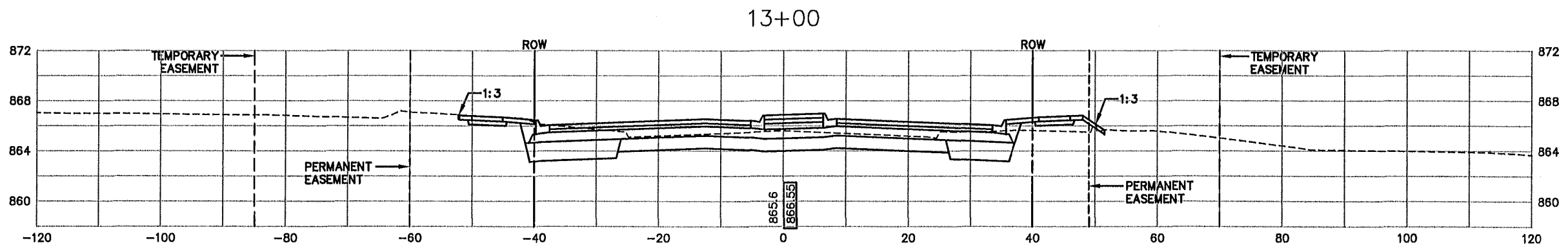
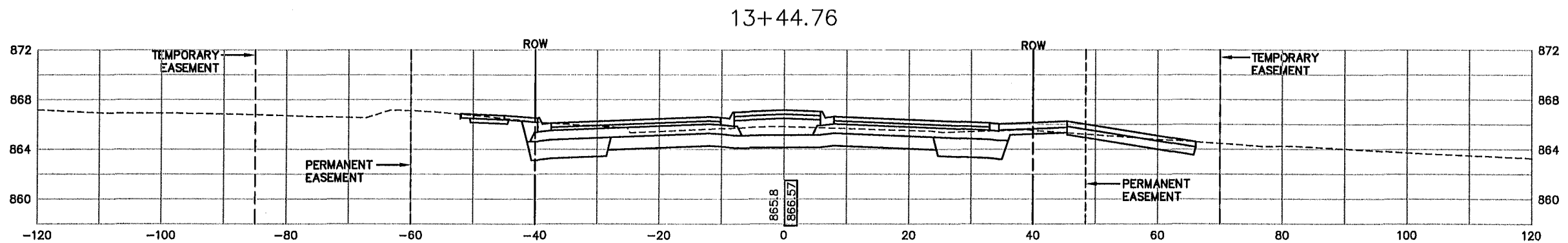
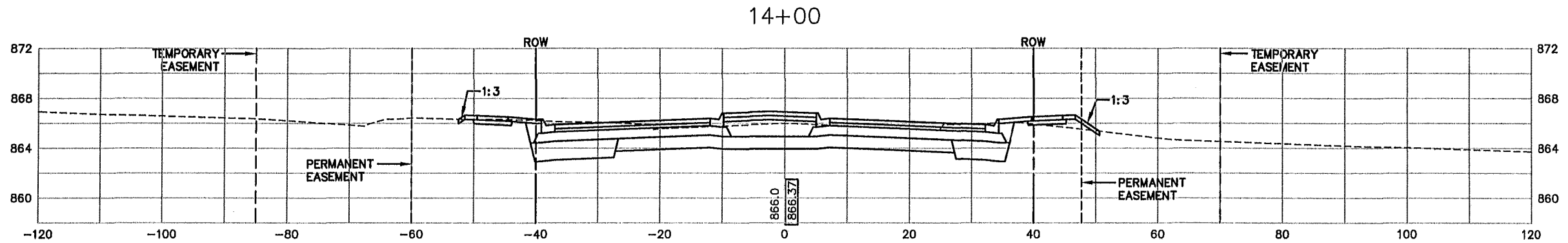
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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.	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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PAUL B. DANIELSON

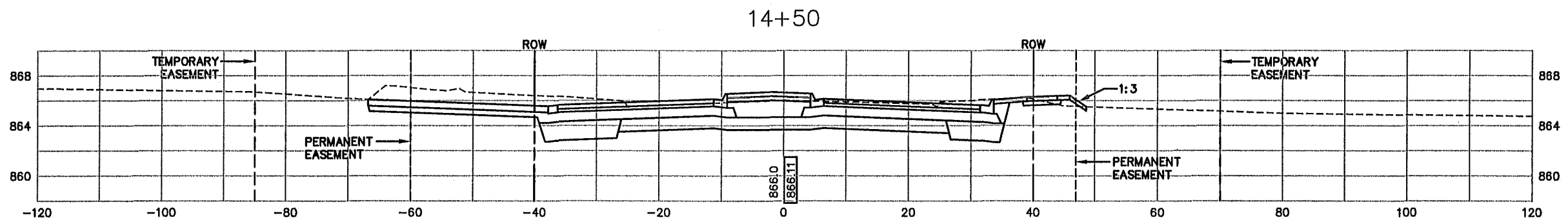
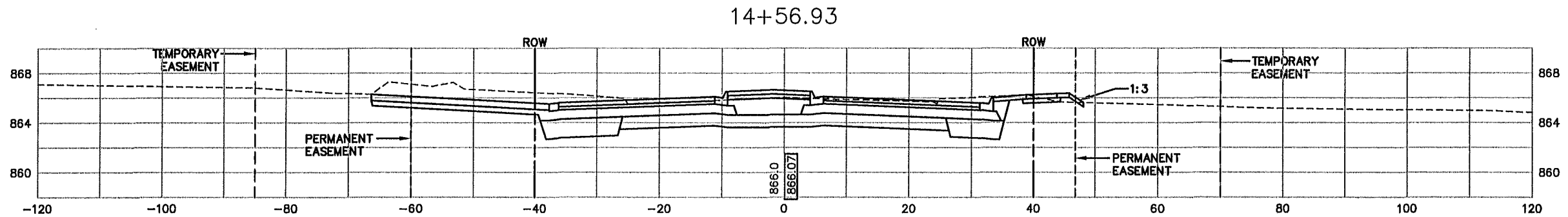
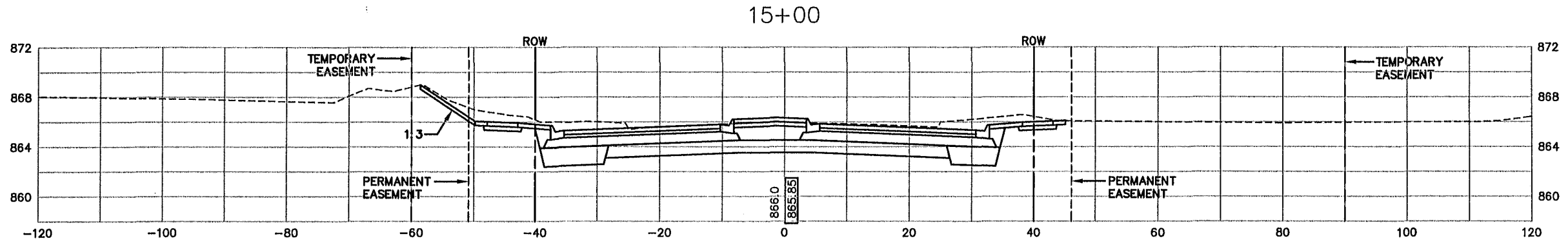
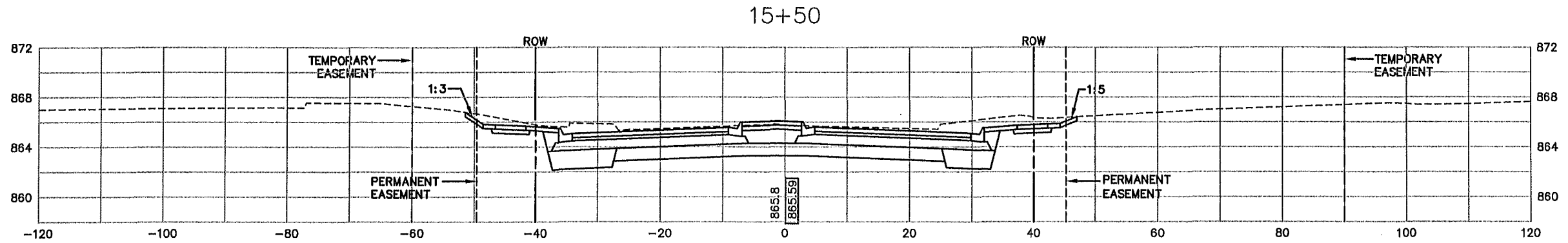
DATE: 4/28/02 MN LIC. NO. 23197

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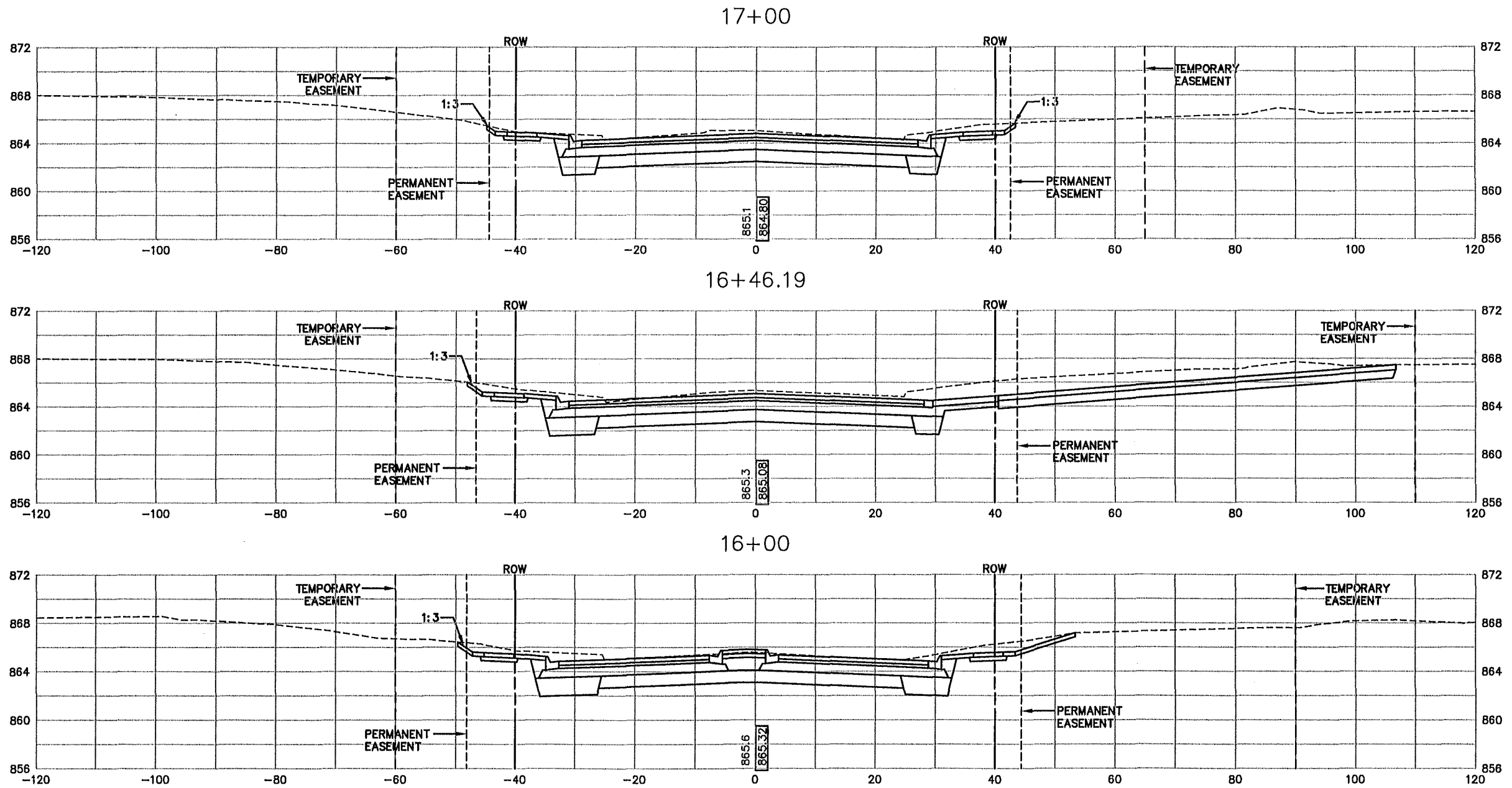
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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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144
159

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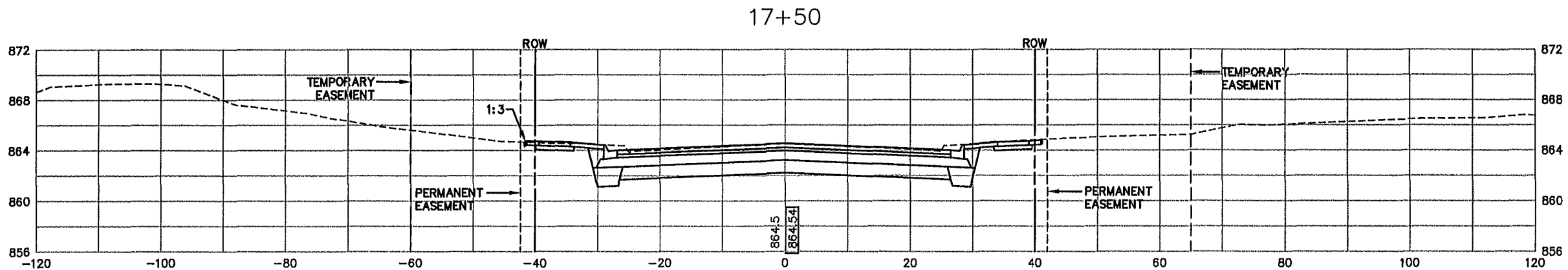
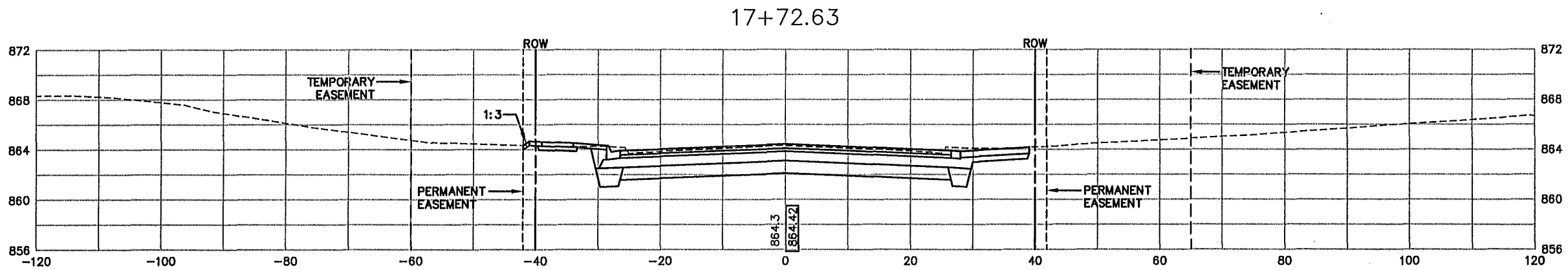
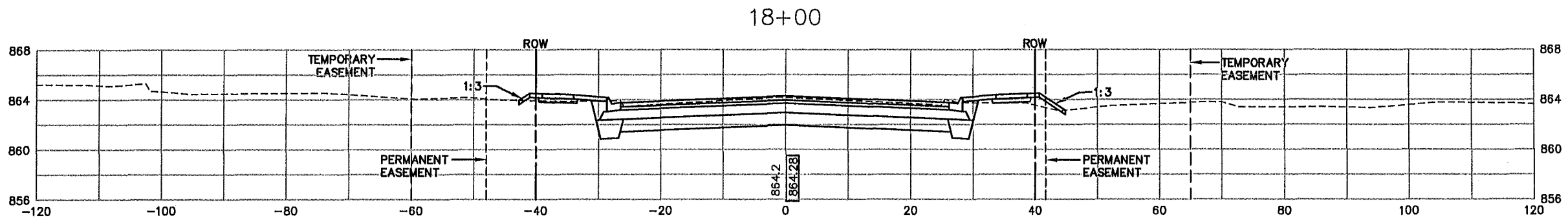
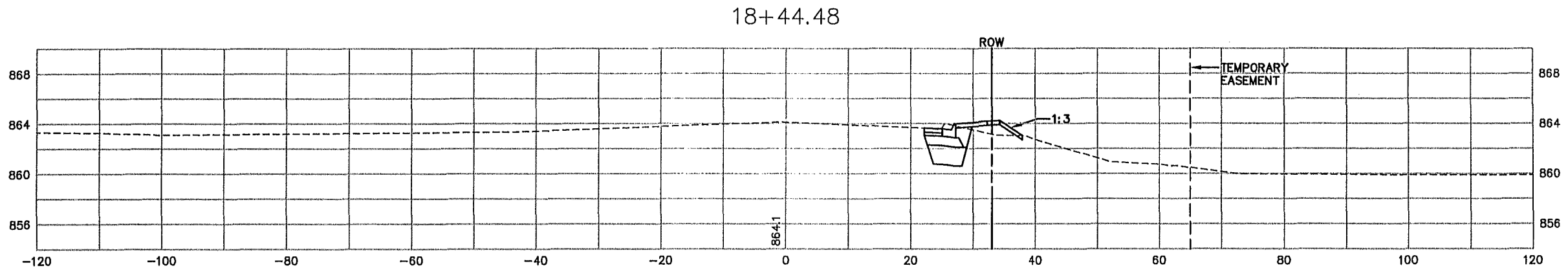
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

NORTHDALE BOULEVARD
(C.S.A.H. 11)
NORTHDALE BOULEVARD
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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159	

PLOT DATE: Apr 26, 2002 7:22am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS211.dwg



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DATE:
APRIL 26, 2002



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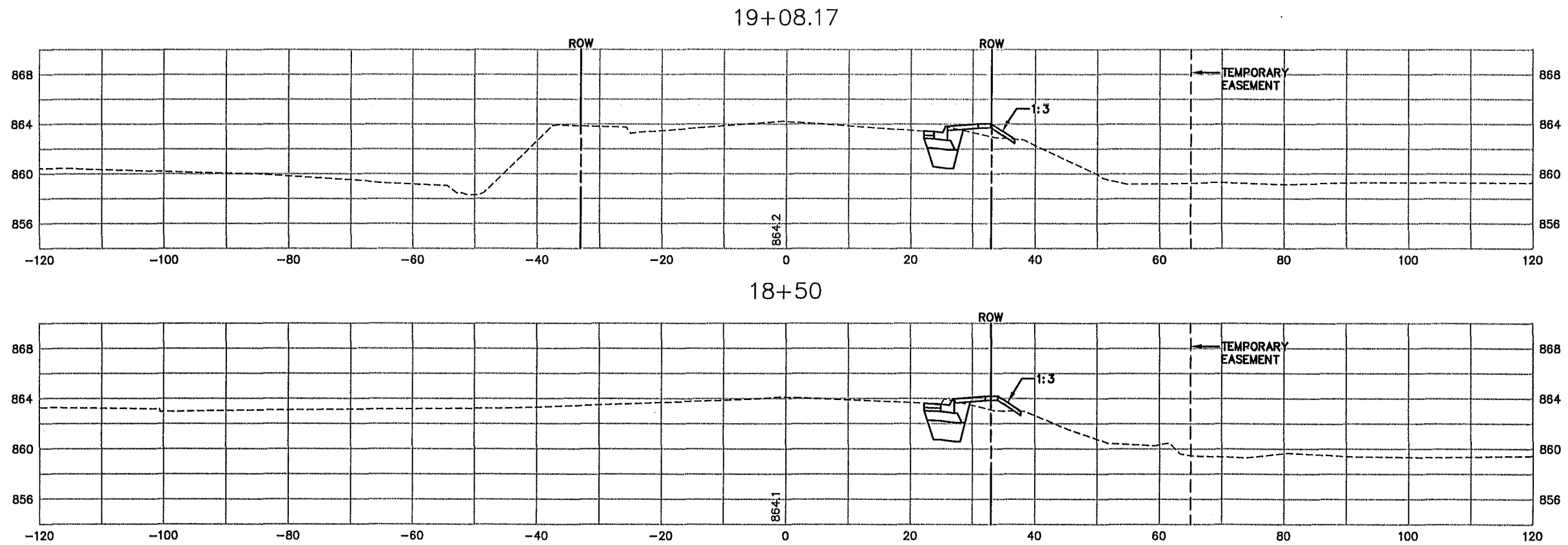
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Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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



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DESIGN FILE: 33889-043	
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CHKD. BY: JCP	DWG. NAME: 043-CS212
DATE: APRIL 26, 2002	



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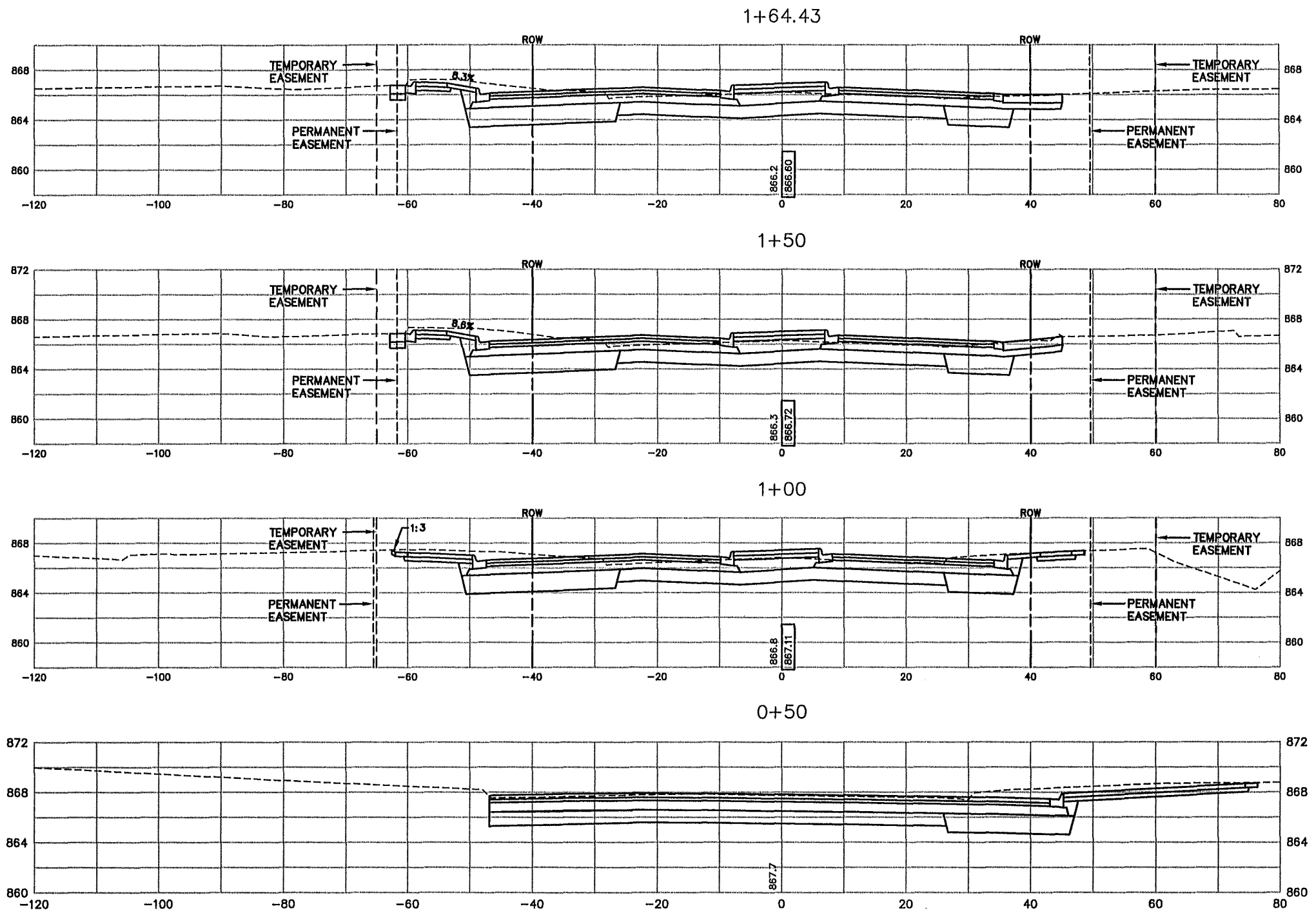
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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

12 OF 24
SHEET NO.
147
159

PLOT DATE: Apr 26, 2002 6:29am DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS101.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

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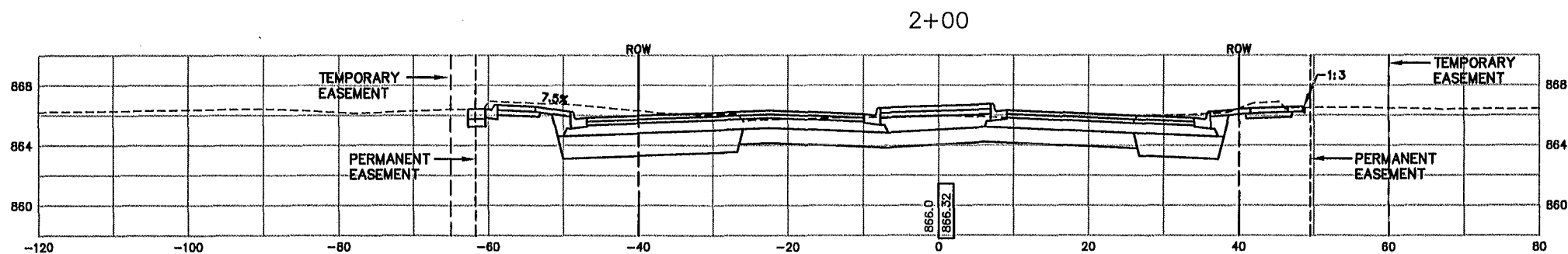
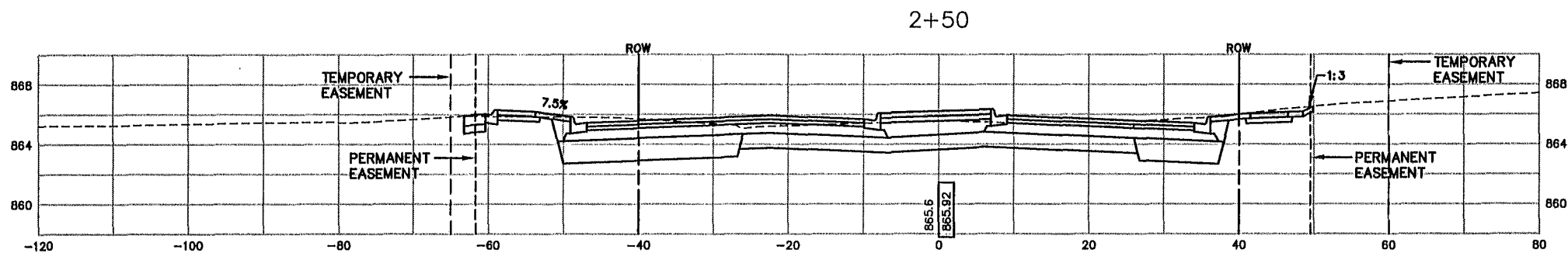
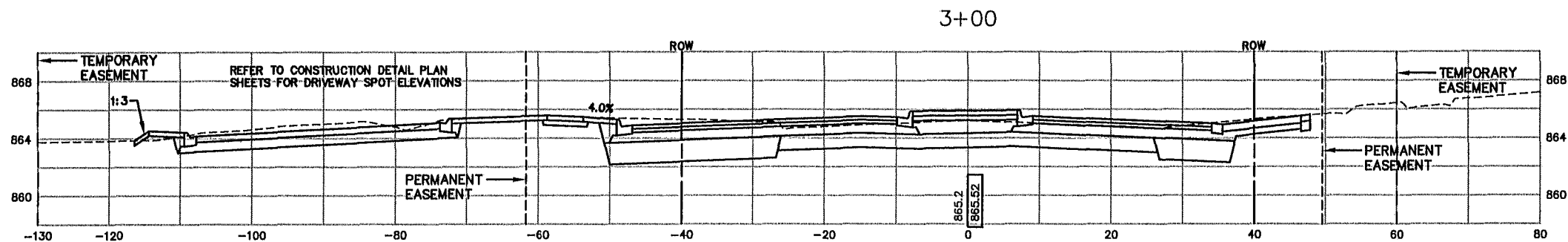
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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

13 OF 24
SHEET NO.
148
159

PLOT DATE: Apr 27, 2002 4:48pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS102.dwg



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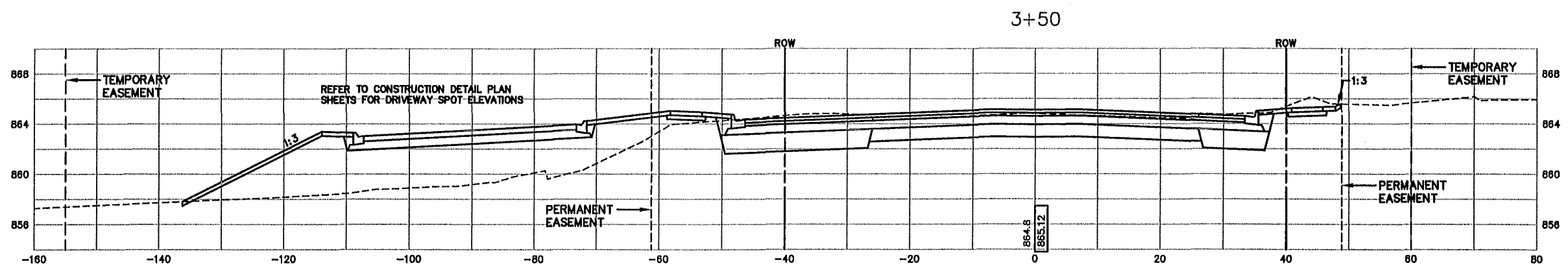
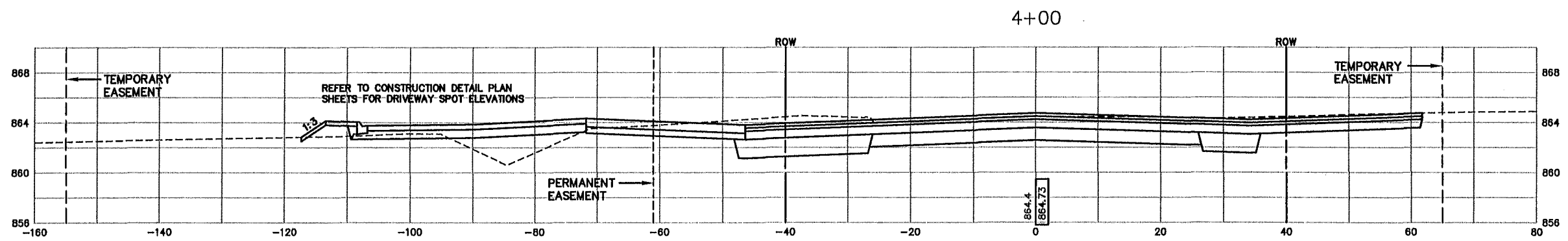
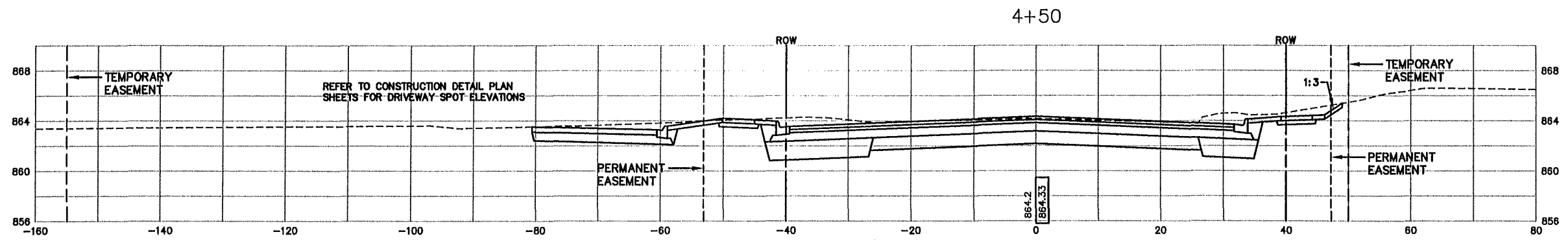
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

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.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:
33889-043

DRAWN BY: TSH
DESIGN BY: TSH/JJS

CHKD. BY: ICP
DWG. NAME: 043-CS103

DATE:
APRIL 26, 2002



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Minneapolis, MN 55416
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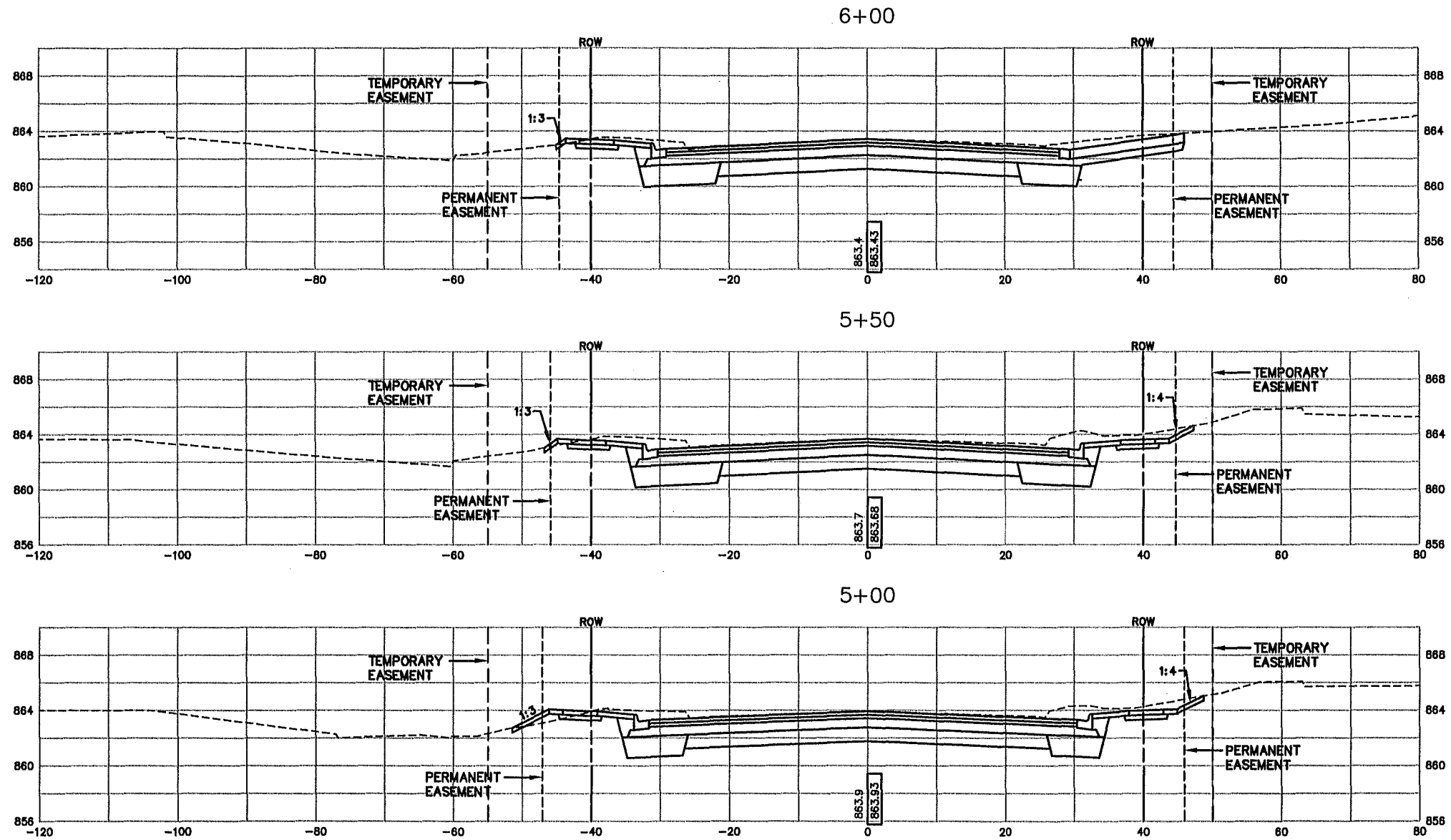
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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: MoJ 002 4:53pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS104.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION
1	JLL	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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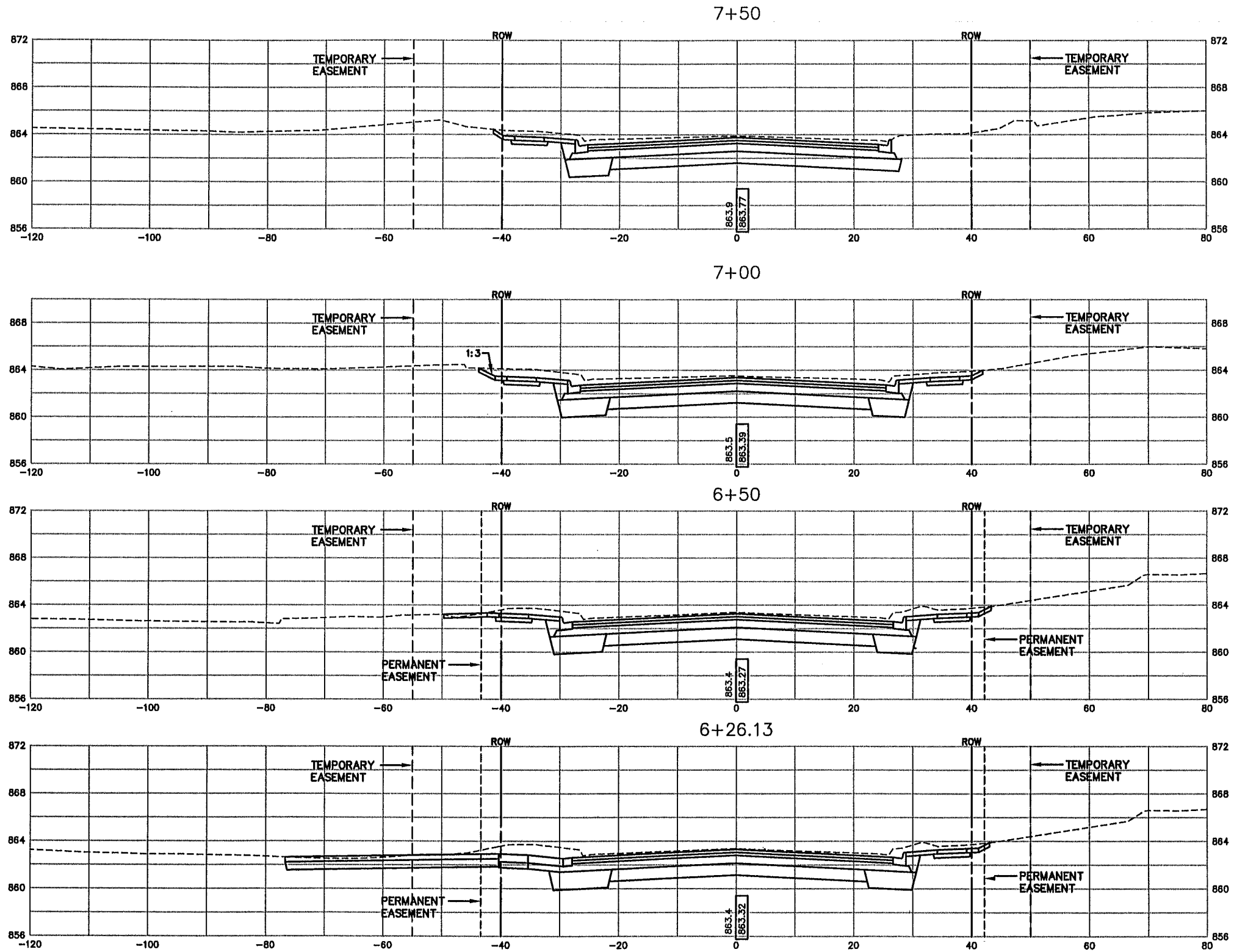
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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.A.P.	114-107-08

SHEET NO.	151
	159

PLOT DATE: MoJ .002 4:53pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS105.dwg



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

DESIGN FILE: 33889-043	DESIGN BY: TSH/JJS
DRAWN BY: TSH	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

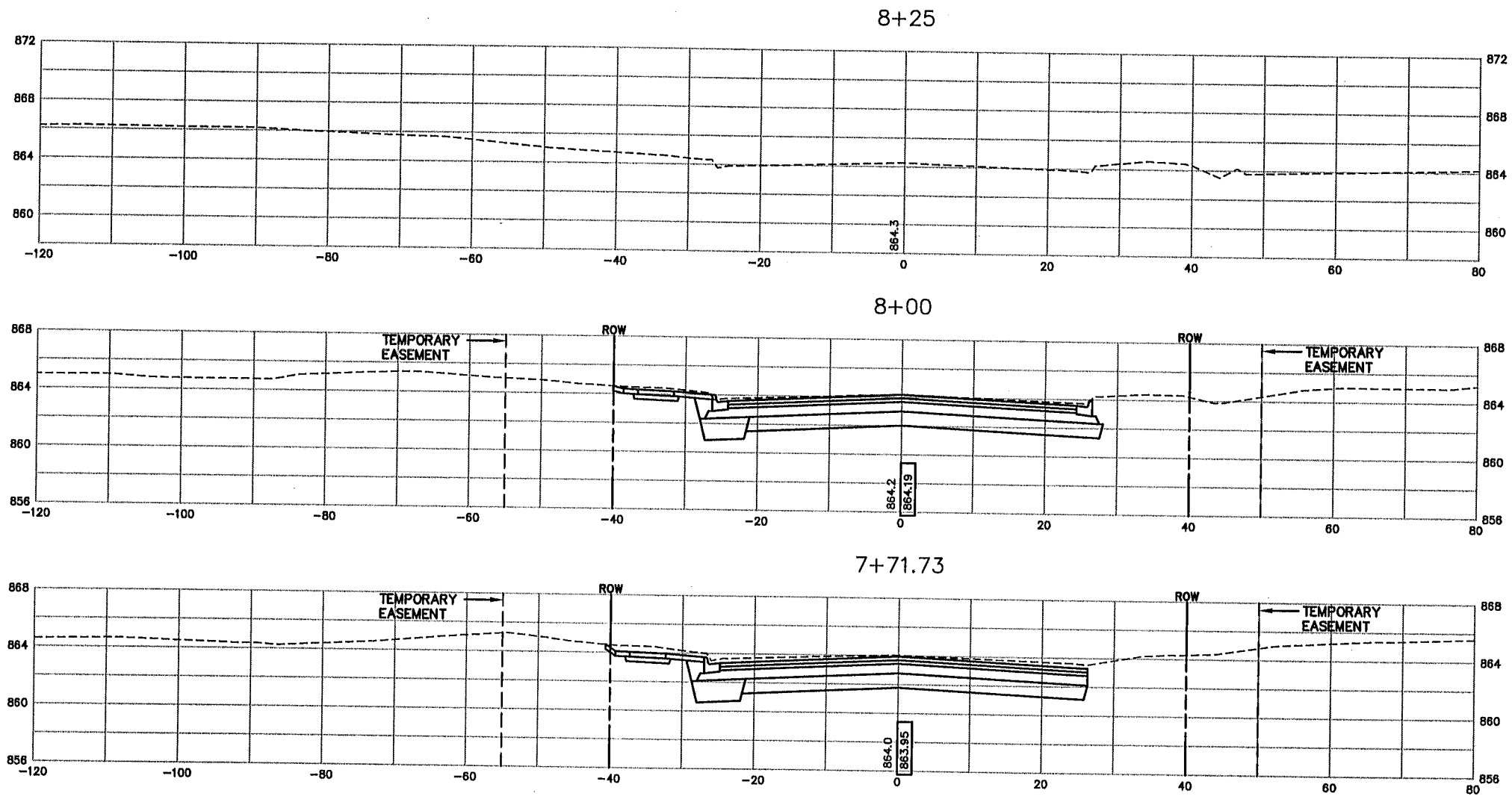
**NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
ROBINSON DRIVE W.
CROSS SECTIONS**

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

17 OF 24

SHEET NO.
152
159

PLOT DATE: Mo 2002 4:53pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS106.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-CS106

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

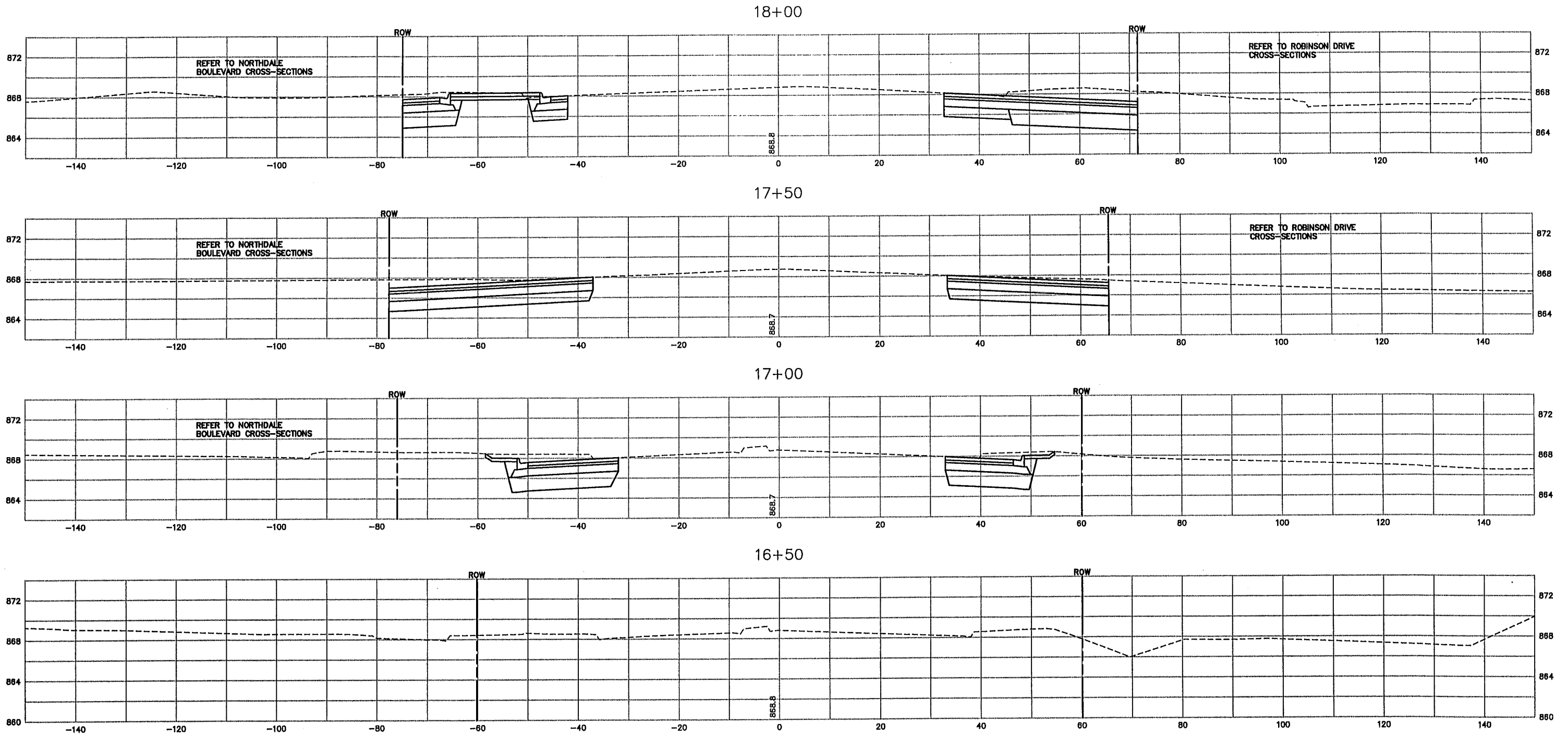
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
		S.A.P.	114-107-08

18 OF 24

SHEET NO.
153

159

PLOT DATE: Apr 23 12:23pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS401.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: TSH DESIGN BY: TSH/JJS

CHKD. BY: ICP DWG. NAME: 043-CS401

DATE:
APRIL 26, 2002



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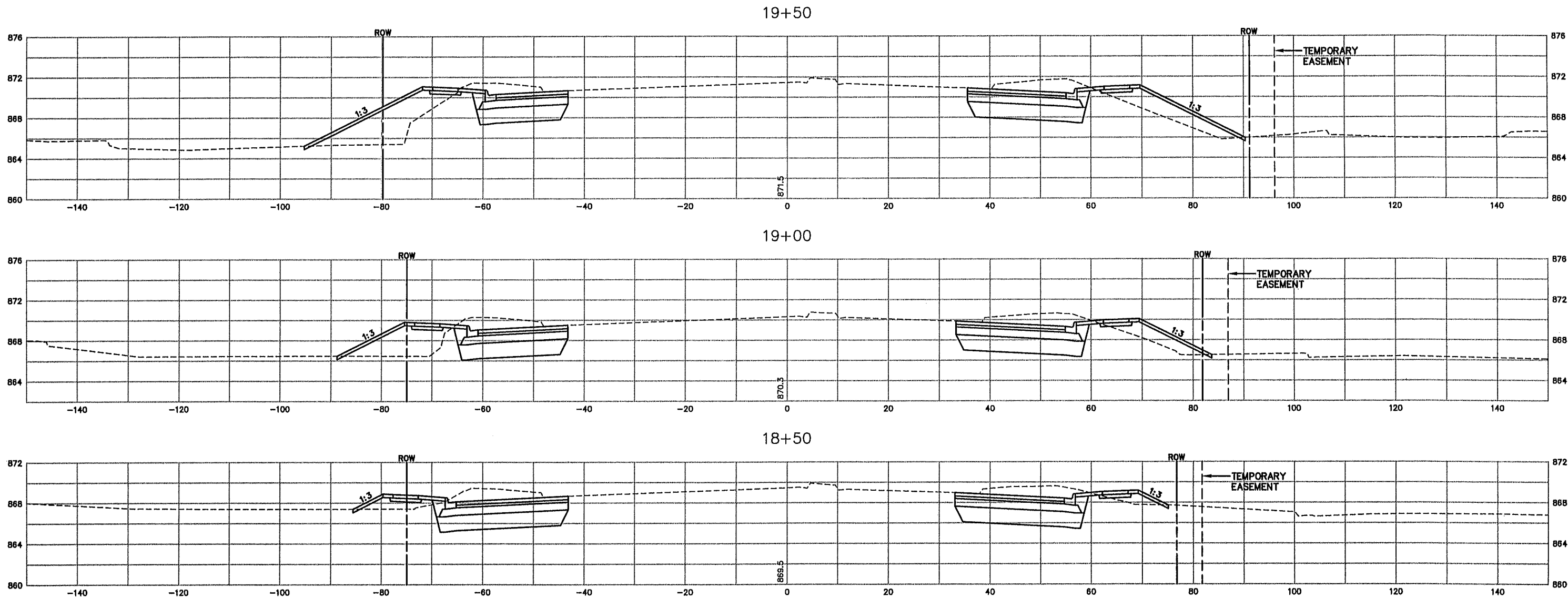
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/28/02 MN LIC. NO. 23197

**NORTHDALE BOULEVARD
(C.S.A.H. 11)
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 2, 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: 4/28/02 MN LIC. NO. 23197

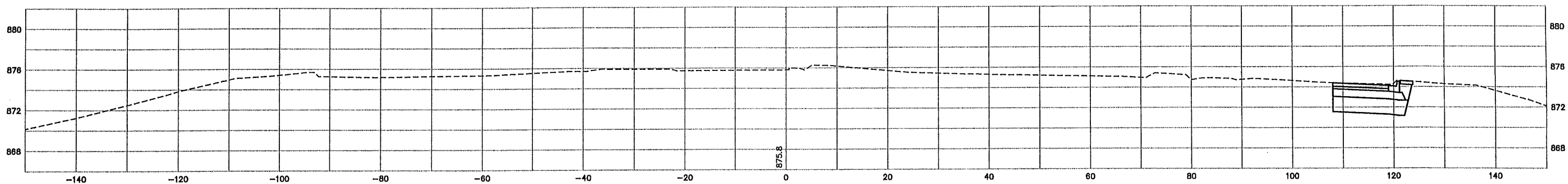
NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
HANSON BOULEVARD
CROSS SECTIONS

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

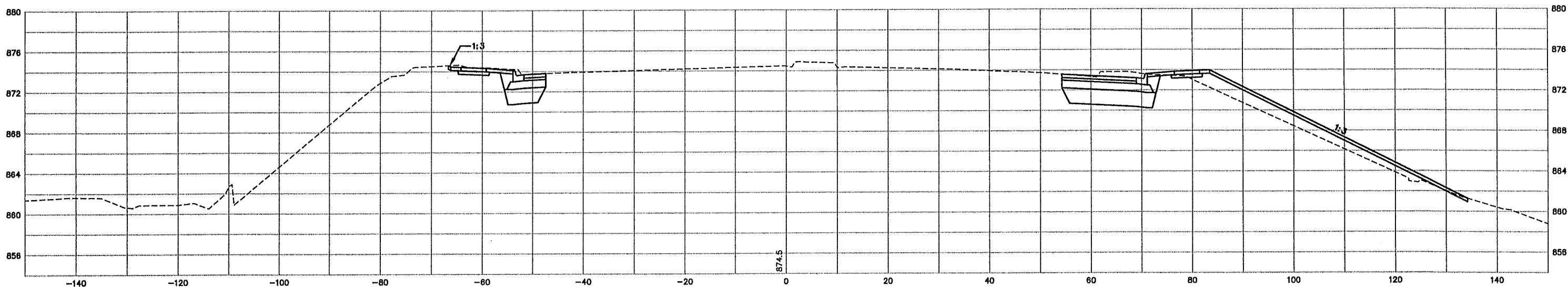
SHEET NO.	155
	159

PLOT DATE: Apr 26, 2002 12:23pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS403.dwg

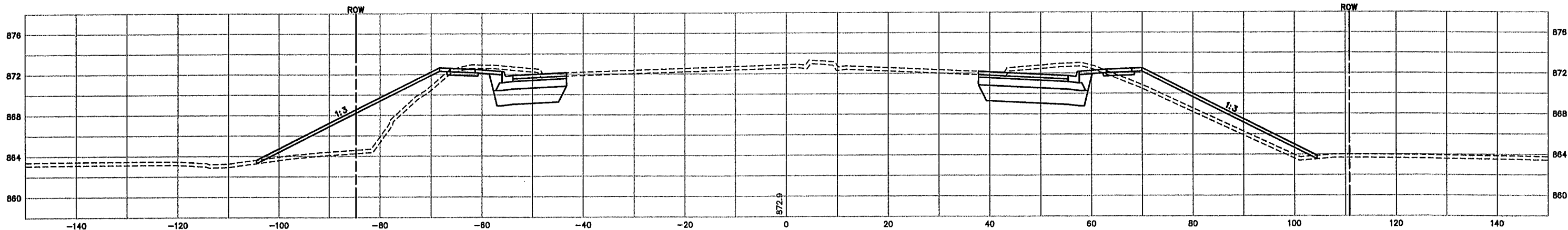
21+07.38



20+50



20+00



21 OF 24

REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE:
33889-043

DRAWN BY: TSH DESIGN BY: TSH/JJS

CHKD. BY: ICP DWG. NAME: 043-CS403

DATE:
APRIL 26, 2002



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Paul B. Danielson

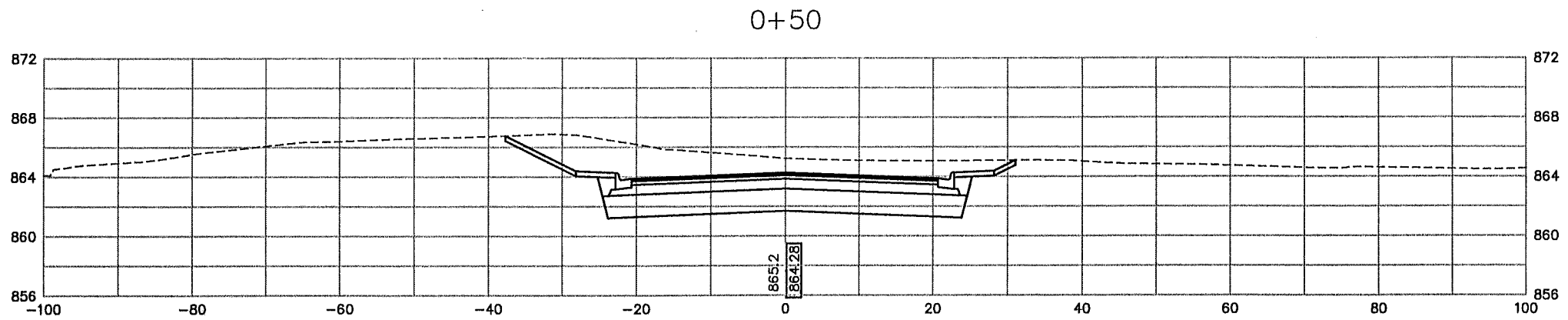
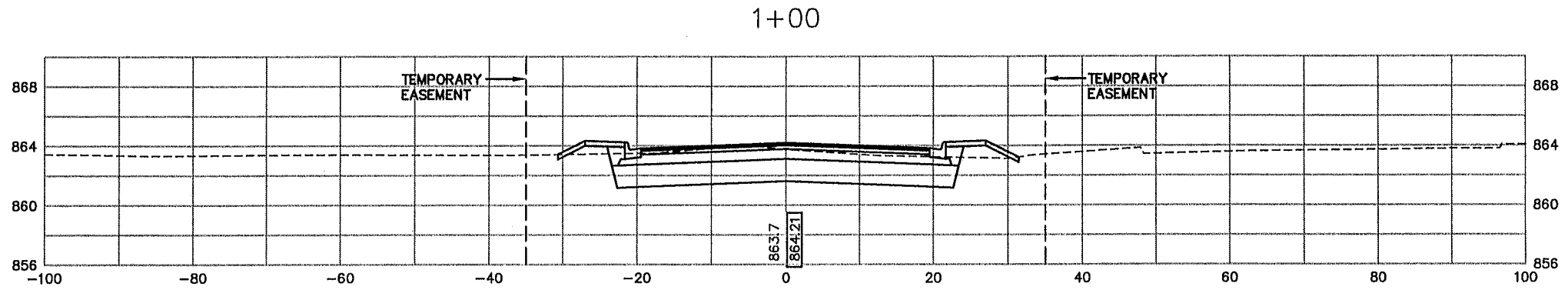
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

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 2, 2002 12:22pm DISK FILE NAME: (15.05) R:\33889\33889043\PLAN-SHT\043-CS301.dwg



REV. NO.	BY	DATE	REVISIONS DESCRIPTION

DESIGN FILE: 33889-043	
DRAWN BY: TSH	DESIGN BY: TSH/JJS
CHKD. BY: ICP	DWG. NAME: 043-CS301
DATE: APRIL 26, 2002	



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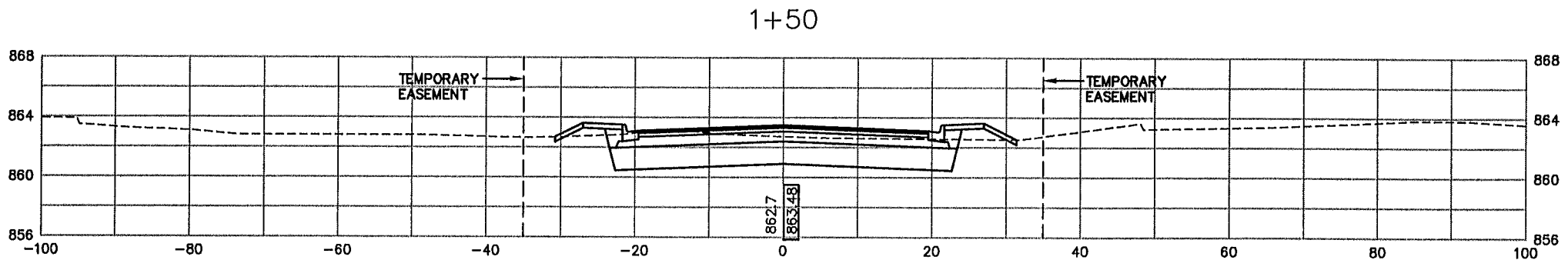
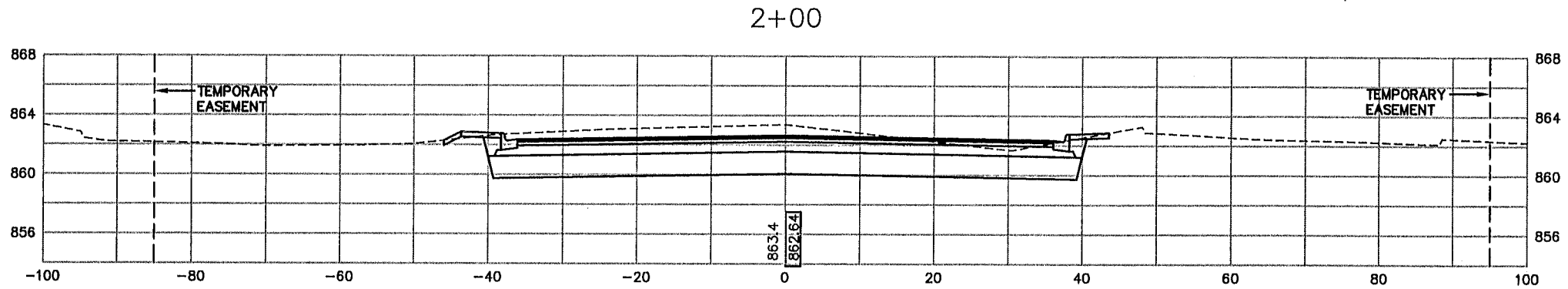
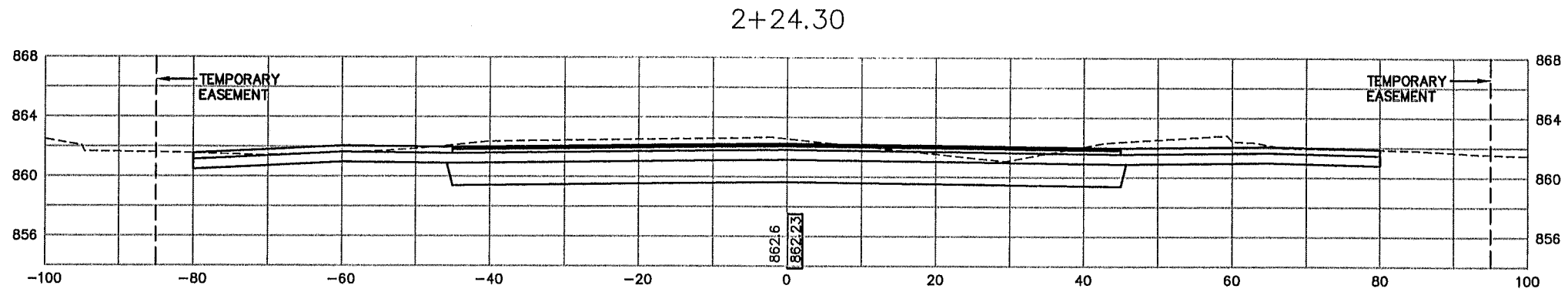
Paul B. Danielson
PAUL B. DANIELSON
DATE: 4/26/02 MN LIC. NO. 23197

**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.	157
159	

PLOT DATE: Apr 2, 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

NORTHDALÉ BOULEVARD
(C.S.A.H. 11)
PARTRIDGE STREET
CROSS SECTIONS

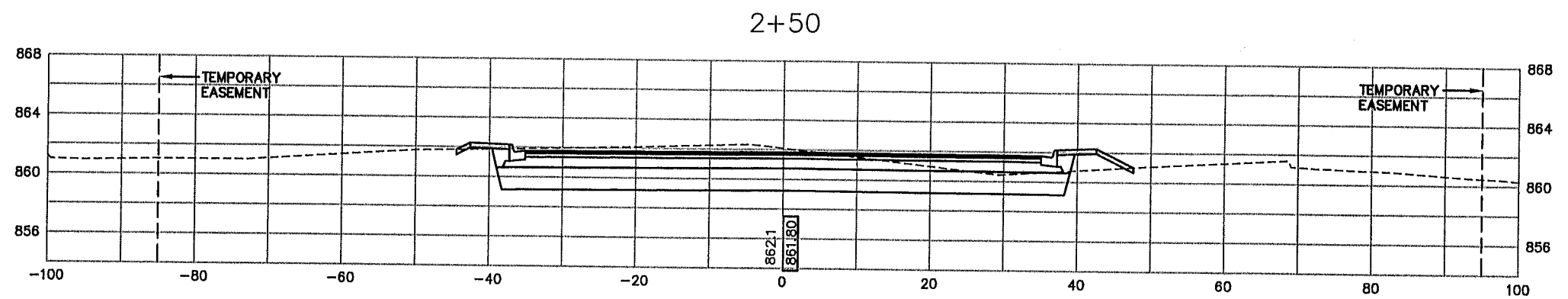
CITY PROJECT	2001-47	S.A.P.	114-020-26
COUNTY PROJECT		S.A.P.	114-020-27
S.P.	114-010-13	S.A.P.	114-107-08

SHEET NO.

158

159

PLOT DATE: Apr 24, 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

DRAWN BY: TSH DESIGN BY: TSH/JJS

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

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

24 OF 24

SHEET NO.
159

159