MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR GRADING, AGG. BASE, STORM SEWER, CONCRETE SURFACING & BIT. SHOULDERS

LOCATED ON C.S.A.H. 22 BETWEEN T.H. 14 / T.H. 52 AND C.S.A.H. 8 (GEOGRAPHIC DESCRIPTION)

FROM APPROX. 560' S.E. OF CENTER SEC. OF 9 &. 10 T106N – R14W TO APPROX. 1304' S.E. OF CENTER SEC. 3 & 10 T106N – R14W (LEGAL DESCRIPTION)

LOCATED ON C.S.A.H. 25 BETWEEN C.S.A.H. 22 AND T.H. 52 (GEOGRAPHIC DESCRIPTION)

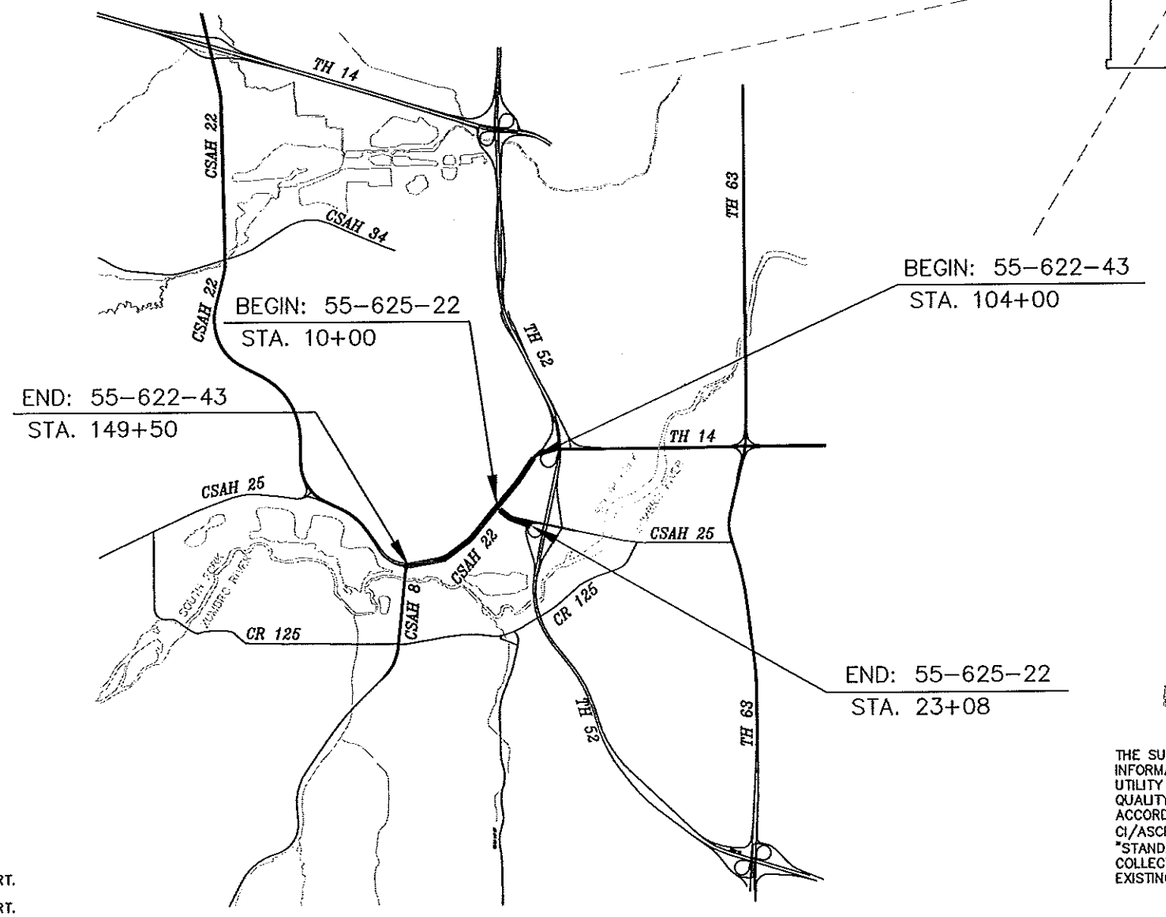
FROM APPROX. 967' N. OF CENTER SEC. 10 T106N – R14W TO APPROX. 1381' N.E. OF CENTER SEC. 10 T106N – R14W (LEGAL DESCRIPTION)

S.P. NO. 55–622–43

GROSS LENGTH	4,550.00	FEET	0.862 MILES
BRIDGE–LENGTH	0.00	FEET	0.000 MILES
EXCEPTIONS–LENGTH	0.00	FEET	0.000 MILES
NET LENGTH	4,550.00	FEET	0.862 MILES

S.P. NO. 55–625–22

GROSS LENGTH	1,308.00	FEET	0.248 MILES
BRIDGE–LENGTH	0.00	FEET	0.000 MILES
EXCEPTIONS–LENGTH	0.00	FEET	0.000 MILES
NET LENGTH	1,308.00	FEET	0.248 MILES



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ENGINEERING

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38–02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA.

PLAN SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
PRESENT RIGHT-OF-WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT-OF-WAY
RIVER OR CREEK
DRY RUN
DRAINAGE DITCH
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER
SPRINGS
MARSH
TIMBER
ORCHARD
BRUSH
NURSERY
CATCH BASIN
FIRE HYDRANT
CATTLE GUARD
OVERPASS (HIGHWAY OVER)
UNDERPASS (HIGHWAY UNDER)
BRIDGE
BUILDING (ONE STORY FRAME)
F – FRAME C – CONCRETE
S – STONE T – TILE
B – BRICK ST – STUCCO
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT
SAND PIT
BORROW PIT
ROCK QUARRY
SLOPE EASEMENT

UTILITIES SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE AND POWER ON POWER POLE
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (TELEPHONE CABLE TERMINAL)
GAS MAIN
WATER MAIN
CONDUIT
TELEPHONE CABLE IN CONDUIT
ELECTRICAL CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRICAL MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRICAL CABLE
AERIAL TELEPHONE CABLE
SEWER (SANITARY OR SEWER)
SEWER MANHOLE

EROSION CONTROL SYMBOLS

TEMPORARY SILT FENCE
RIP RAP DITCH CHECKS

SCALES

PLAN 0 50'
PROFILE 0 50' HORIZ. 0 10' VERT.
CROSS SECTIONS 0 10' HORIZ. 0 10' VERT.
INDEX MAP NOT TO SCALE

MINN. PROJ. NO. STPX 5509(250)

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET NO. 1	TITLE SHEET
SHEET NO. 2–3	ESTIMATE OF QUANTITIES
SHEET NO. 4–5	TYPICAL SECTIONS
SHEET NO. 6–10	GRADING PLAN & PROFILES
SHEET NO. 11	TABULATED QUANITIES
SHEET NO. 12–16	PAVEMENT PLAN & PROFILES
SHEET NO. 17–19	PAVEMENT & JOINT SHEETS
SHEET NO. 20–24	STORM SEWER PLAN & PROFILE
SHEET NO. 25	STORM SEWER SCHEDULE
SHEET NO. 26–29	EROSION CONTROL SHEETS
SHEET NO. 30–32	EROSION CONTROL DETAILS
SHEET NO. 33–53	TRAFFIC SIGNAL SHEETS
SHEET NO. 54–67	TRAFFIC CONTROL SHEETS
SHEET NO. 68–99	CROSS SECTIONS

THIS PLAN CONTAINS 99 SHEETS.

DESIGN DESIGNATION: S.P. 55–622–43

ADT (Current Year) = 18,738(2009) Design Speed 45 MPH
ADT (Future Year) = 29,981(2029) Based on STOPPING Sight Distance
DHV (Design Hr. Vol.) = Height of eye 3.5 FT. Height of object 2.0 FT.
D (Directional Distr.) = Design Speed not achieved at:
T (Heavy Commercial) = EST 15% STA. TO STA. MPH
SOIL FACTOR = 130% STA. TO STA. MPH
TON DESIGN 10

"NO PARKING" RESOLUTION REQUIRED STA. 104+00 TO STA. 149+50
NO. OF TRAFFIC LANES 4 NO. OF PARKING LANES NONE
SHOULDER WIDTH 8 FT.
LANE WIDTH 12 FT.
FUNCTIONAL CLASSIFICATION: PRINCIPAL ARTERIAL

DESIGN DESIGNATION: S.P. 55–625–22

ADT (Current Year) = 12,276(2009) Design Speed 45 MPH
ADT (Future Year) = 19,642(2029) Based on STOPPING Sight Distance
DHV (Design Hr. Vol.) = Height of eye 3.5 FT. Height of object 2.0 FT.
D (Directional Distr.) = Design Speed not achieved at:
T (Heavy Commercial) = EST 15% STA. 10+00 TO STA. 16+70 MPH 35
SOIL FACTOR = 130% STA. TO STA. MPH
TON DESIGN 10

"NO PARKING" RESOLUTION REQUIRED STA. 10+34 TO STA. 23+08
NO. OF TRAFFIC LANES 4 NO. OF PARKING LANES NONE
SHOULDER WIDTH 2 FT.
LANE WIDTH 12 FT.
FUNCTIONAL CLASSIFICATION: MINOR ARTERIAL

DESIGN ENGINEER: I HEREBY CERTIFY THAT THIS PLAN 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.

DATE 2/11/09 REG. NO. 19917

PRINTED NAME: KAYE M. BIENIEK

SIGNED NAME: Kaye M Bieniek
COUNTY DESIGN ENGINEER

DATE 2/11/09 REG. NO. 19917

APPROVED: OLMSTED COUNTY ENGINEER

DATE: 2/27/09

APPROVED: ROCHESTER CITY ENGINEER

DATE: 3-6-09

DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE–AID RULES/ POLICY

for DATE: 5-18-09

STATE AID ENGINEER: APPROVED FOR STATE AID & FEDERAL AID FUNDING:

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	S.P. 55-622-43			S.P. 55-625-22			TOTAL ESTIMATED QUANTITIES
				PARTICIPATING	STORM SEWER	CITY OF ROCHESTER	PARTICIPATING	STORM SEWER	CITY OF ROCHESTER	
	2104.501	REMOVE CONCRETE CULVERT	LIN. FT.	970			66			1036
	2104.501	REMOVE METAL CULVERT	LIN. FT.				309			309
	2104.501	REMOVE CONCRETE CURB	LIN. FT.	2,877			657			3,534
	2104.501	REMOVE CURB AND GUTTER	LIN. FT.	7,418			3,075			10,493
(1)	2104.503	REMOVE BITUMINOUS WALK	SQ. FT.	4,942						4,942
(2)	2104.503	REMOVE CONCRETE WALK	SQ. FT.	1,059			6,167			7,226
(3)	2104.503	REMOVE CONCRETE PAVEMENT	SQ. FT.	800						800
(4)	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ. YD.	34,702			10,112			44,814
	2104.509	REMOVE CONCRETE APRON	EACH	2						2
	2104.509	REMOVE CATCH BASIN	EACH	5			4			9
	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN. FT.	112						112
	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN. FT.	272			78			350
(5)	2106.607	COMMON EMBANKMENT (CV)	CU. YD.	3,323			217			3,540 (P)
	2106.607	SELECT GRANULAR EMBANKMENT (CV)	CU. YD.	14,205			4,388			18,593 (P)
	2106.607	UNCLASSIFIED EXCAVATION	CU. YD.	25,539			6,071			31,610 (P)
(6)	2130.501	WATER	M-GAL	57			18			75
	2211.501	AGGREGATE BASE CLASS 5 MOD.	TON	14,291			4,475			18,766
(7)	2221.501	AGGREGATE SHOULDERING CLASS 2	TON	895			328			1,223
	2301.502	CONCRETE PAVEMENT STANDARD WIDTH 9.0"	SQ. YD.	29,476			7,924			37,400 (P)
	2301.503	CONCRETE PAVEMENT IRREGULAR WIDTH 9.0"	SQ. YD.	706			1,332			2,038 (P)
(8)	2301.511	STRUCTURAL CONCRETE	CU. YD.	7,546			2,314			9,860 (P)
	2301.538	DOWEL BAR	EACH	18,109			5,554			23,663
	2301.602	DRILL AND GROUT DOWEL BAR (EPOXY COATED)	EACH	112			88			200
	2301.602	DRILL AND GROUT REINF BAR (EPOXY COATED)	EACH	261			35			296
	2301.545	**CONCRETE CORING**	**EACH**	**31**			**10**			**41**
(9)	2360.501	TYPE SP 9.5 WEARING COURSE MIX (3C)	TON	1,112			352			1,464
	2501.515	15" R.C. PIPE APRON	EACH					1		1
	2501.515	18" R.C. PIPE APRON	EACH		1					1
	2501.515	24" R.C. PIPE APRON	EACH		2					2
	2501.515	30" R.C. PIPE APRON	EACH		2					2
	2501.515	36" R.C. PIPE APRON	EACH					1		1
	2501.525	36" SPAN R.C. PIPE-ARCH APRON	EACH		1					1
(10)	2501.602	PLUG FILL & ABANDON PIPE CULVERT	EACH		2					2
(11)	2502.541	4" PERF PE PIPE DRAIN	LIN. FT.	500						500
	2503.521	36" SPAN R.C. PIPE-ARCH SEWER CL. IIA	LIN. FT.		144					144
	2503.541	12" R.C. PIPE SEWER DES 3006 CL. IV	LIN. FT.		559			37		596
	2503.541	15" R.C. PIPE SEWER DES 3006 CL. III	LIN. FT.		361			32		393
	2503.541	18" R.C. PIPE SEWER DES 3006 CL. III	LIN. FT.		674					674
	2503.541	21" R.C. PIPE SEWER DES 3006 CL. III	LIN. FT.		64					64
	2503.541	24" R.C. PIPE SEWER DES 3006 CL. III	LIN. FT.		244					244
	2503.541	30" R.C. PIPE SEWER DES 3006 CL. III	LIN. FT.		757					757
	2503.541	36" R.C. PIPE SEWER DES 3006 CL. III	LIN. FT.					301		301
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN G	EACH		6					6
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN N	EACH		18			3		21
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 48-4020	EACH		1					1
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 54-4020	EACH		6			1		7
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 60-4020	EACH		1			1		2
(12)	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN 66-4020	EACH		2					2
(13)	2506.516	CASTING ASSEMBLY	EACH		3			2		5
	2511.501	RANDOM RIPRAP CL. III	CU. YD.	20						20
(17)	**2041.610**	**TRAINEES**	**HOUR**	**675**			**225**			**900**

QUANTITY NOTES:

(1) STA 114+38 TO STA 119+25 LT

(2) INCLUDES CONCRETE MEDIAN AND PED RAMPS

(3) INCLUDES ALL ADDITIONAL WORK AND DISPOSAL ASSOCIATED WITH REMOVAL OF PERMENANT TERMINAL HEADER (CSAH 22)

(4) INCLUDES REMOVAL OF ALL TEMPORARY BITUMINOUS PAVING FOR CROSS OVER LOCATIONS ASSOCIATED WITH TRAFFIC CONTROL.

(5) INCLUDES 2,531 CU. YDS. OF SLOPE DRESSING MATERIAL

(6) WATER TO BE USED AS A DUST PREVENTATIVE AS DIRECTED BY THE ENGINEER. SPECIFICATION 1903 SHALL NOT APPLY FOR THIS ITEM.

(7) INCLUDES 198 TONS FOR BITUMINOUS PATH AND CONCRETE SIDEWALK

(8) INCLUDES FURNISHING AND PLACEMENT OF REINFORCEMENT BARS.

(9) INCLUDES 121 TONS FOR BITUMINOUS PATH STA 114+35 TO STA 119+25 RT.

(10) STA 108+97 AND STA 115+62

(11) STA 117+00 TO STA 122+00 RT. CONNECT INTO MH 4.

(12) SHALL INCLUDE ALL MATERIAL AND LABOR TO INSTALL SPECIAL GRATE. SEE SHEET 11 FOR DETAILS

(13) SHALL INCLUDE FRAME CASTING 806, GRATE 816 AND CURB BOX 825. INCLUDES PLACEMENT ON EXISTING CB AND ANY ADJUSTMENTS NEEDED.

Quantities Not Revised

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ESTIMATED QUANTITIES

CERTIFIED BY Kevin M Brownlee LICENSED PROFESSIONAL ENGINEER REG. NO. 19917 2/11 20 09

S.P. 55-622-43 & S.P.55-625-22

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	S.P. 55-622-43			S.P. 55-625-22			TOTAL ESTIMATED QUANTITIES
				PARTICIPATING	STORM SEWER	CITY OF ROCHESTER	PARTICIPATING	STORM SEWER	CITY OF ROCHESTER	
	2521.501	4" CONCRETE WALK	SQ. FT.	11,721			6,370			18,091
(14)	2521.501	5" CONCRETE WALK	SQ. FT.						3,575	3,575
(15)	2521.501	6" CONCRETE WALK	SQ. FT.	330		568	297		426	1,621
	2531.501	CONCRETE CURB & GUTTER DESIGN B424	LIN. FT.	7,605		4,825	2,831		1,746	17,007
(16)	2531.618	TRUNCATED DOMES	SQ. FT.			32			24	56
	2563.601	TRAFFIC CONTROL	LUMP SUM	0.75			0.25			1
	2565.601	TRAFFIC CONTROL INTERCONNECTION	LUMP SUM	0.75			0.25			1
	2565.602	PVC HANDHOLE	EACH				9			9
	2565.603	4" NON-METALLIC CONDUIT	LIN. FT.				325			325
	2565.616	VIDEO DETECTOR SYSTEM	SYSTEM	0.5		0.5				1
	2565.616	REVISE SIGNAL SYSTEM A	SYSTEM	0.67			0.33			1
	2565.616	REVISE SIGNAL SYSTEM B	SYSTEM	0.5		0.5				1
	2573.530	**STORM DRAIN INLET PROTECTION**	**EACH**	**32**			**10**			**42**
	2573.550	**EROSION CONTROL SUPERVISOR**	**LUMP SUM**	**0.75**			**0.25**			**1**
(18)(19)	2573.502	SILT FENCE, TYPE MACHINE SLICED	LIN. FT.	1900			1450			3,350
(18)	2573.540	FILTER LOG TYPE STRAW BIOROLL	LIN. FT.	105			195			300
	2575.501	SEEDING	ACRE	3			.6			3.6
	2575.502	SEED MIXTURE 110	POUND	300			60			360
	2575.502	SEED MIXTURE 250	POUND	200			40			240
	2575.502	SEED MIXTURE 310	POUND	26						26
(20)	2575.505	SODDING TYPE SALT RESISTANCE	SQ. YD.	3,373			889			4,262
	2575.511	MULCH MATERIAL TYPE 1	TON	6			1.2			7.2
	2575.519	DISK ANCHORING	ACRE	3			0.6			3.6
	2575.532	FERTILIZER TYPE 1	POUND	600			120			720
	2580.603	INTERIM PAVEMENT MARKING	LIN. FT.	5200			500			5700
	2582.501	PAVEMENT MESSAGE (LEFT ARROW)-EPOXY	EACH	13			4			17
	2582.501	PAVEMENT MESSAGE (RIGHT ARROW)-EPOXY	EACH	13			3			16
	2582.502	4" SOLID LINE WHITE-EPOXY	LIN. FT.	10,689			3,032			13,721
	2582.502	6" SOLID LINE WHITE-EPOXY	LIN. FT.	96						96
	2582.502	8" SOLID LINE WHITE--EPOXY	LIN. FT.				390			390
	2582.502	4" BROKEN LINE WHITE-EPOXY	LIN. FT.	7,220			1,185			8,405
	2582.502	4" DOTTED LINE WHITE-EPOXY	LIN. FT.	430			584			1,014
(21)	2582.502	24" STOP LINE WHITE-EPOXY	LIN. FT.	194			24			218
	2582.502	4" SOLID LINE YELLOW--EPOXY	LIN. FT.	7,220			2,250			9,470

(14) FOR SIDEWALK REPLACEMENT STA 15+60 TO 23+08 LT.

(15) INCLUDES 627 SQ. FT. FOR MEDIAN NOSES AND 994 SQ. FT. FOR PED RAMPS

(16) 7 PED RAMP LOCATIONS. SEE STANDARD PLATE FOR DETAILS.

(17) **SEE SPECIAL PROVISIONS - 2041**

(18) SPECIFICATION 1903 SHALL NOT APPLY FOR THESE ITEMS.

(19) INCLUDES MAINTENANCE

(20) INCLUDES MEDIAN AREA GREATER THAN 10 FEET IN WIDTH.

(21) TO BE PLACED AT BOTH SIGNAL LOCATIONS.

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APR 05 2011

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STANDARD PLATES

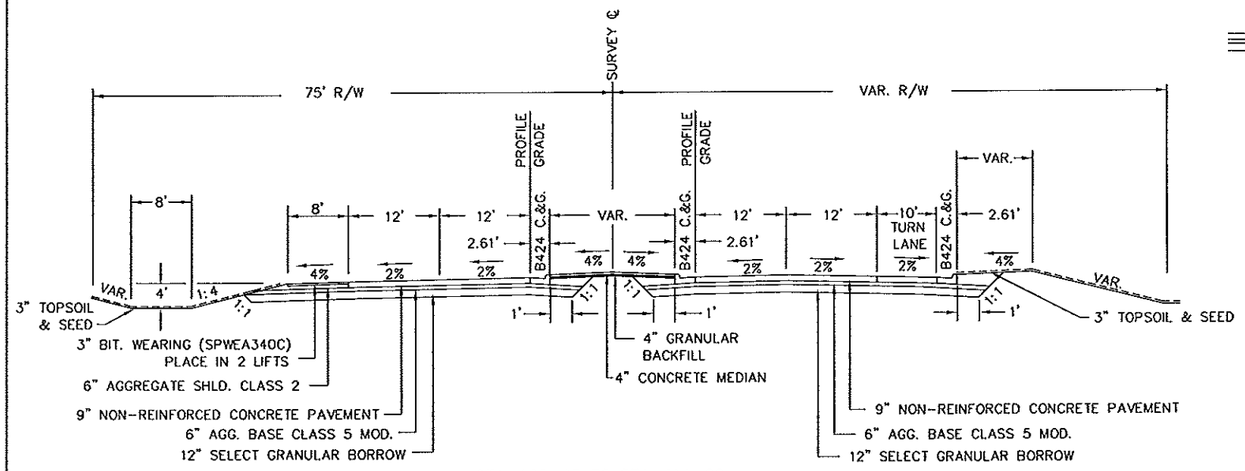
THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
	NUMERICAL INDEX OF STANDARD PLATES
1070 L	REINFORCED PANELS OVER CULVERTS
1103 J	TYPICAL DOWEL BAR ASSEMBLY
1141 D	PAVEMENT KEYWAY FOR KEYED JOINT CONSTRUCTION
3000 L	REINFORCED CONCRETE PIPE
3006 G	GASKET JOINT FOR R.C. PIPE
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133 C	RIPRAP AT RCP OUTLETS
3145 F	CONCRETE PIPE TIES
4003 B	30" PRECAST CATCH BASIN
4006 L	MANHOLE OR CATCH BASIN
4011 E	PRECAST CONCRETE BASE
4020 J	MANHOLE OR CATCH BASIN
4101 D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110 F	COVER CASTING FOR MANHOLE
4125 D	CATCH BASIN FRAME CASTING
4134 A	CURB BOX CASTING FOR CATCH BASIN
4154 B	CATCH BASIN GRATE CASTING
4180 J	MANHOLE OR CATCH BASIN STEP
7036 F	PEDESTRIAN CURB RAMP
7100 H	CONCRETE CURB AND GUTTER
7111 J	INSTALLATION OF CATCH BASIN CASTINGS
7113 A	CONCRETE APPROACH NOSE DETAIL
8000 I	STANDARD BARRICADES
9000 D	APPROACHES AND ENTRANCES
9102 D	TURF ESTABLISHMENT AREAS

QUANTITY NOTES:

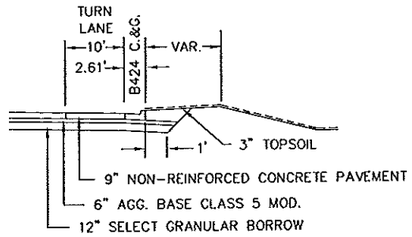
BITUMINOUS MIX – 110LBS./SQ.YD./1 IN. DEPTH
AGGREGATE BASE CLASS 5 MOD.– 140LBS./CU.FT. COMPACTED
AGGREGATE SHOULDERING CLASS 2 – 140LBS./CU.FT. COMPACTED
SEED MIXTURE 110 – 100 LBS/ACRE
SEED MIXTURE 250 – 70 LBS/ACRE
SEED MIXTURE 310 – 82 LBS/ACRE
MULCH MATERIAL – 2 TONS/ACRE
DISK ANCHORING – ALL SEEDING AREAS EXCEPT 1:2 SLOPES
COMMERCIAL FERTILIZER – 200 LBS/ACRE

UTILITY LOCATIONS
GOPHER STATE ONE CALL 1-800-252-1166
NOTE: CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES LOCATIONS AND ELEVATIONS PRIOR TO CONSTRUCTION.



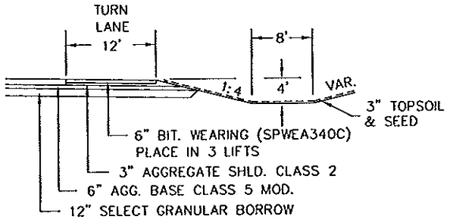
STA. 105+45 TO STA. 114+00

START RT. LANE STA. 105+45
START LT. LANE STA. 106+89



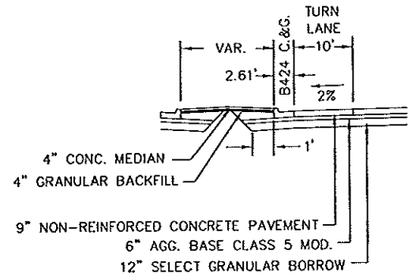
RIGHT TURN LANE

STA. 105+45 TO STA. 114+32
STA. 137+00 TO STA. 141+40



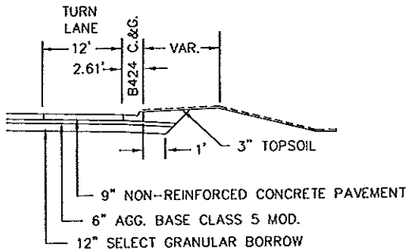
RIGHT TURN LANE

STA. 140+76 TO STA. 146+06
STA. 131+47 TO STA. 136+82



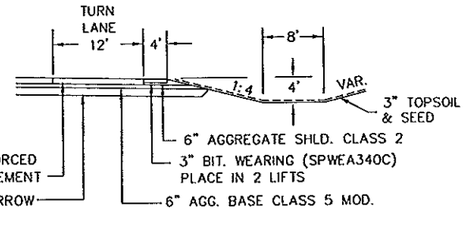
LEFT TURN LANE

STA. 109+19 TO STA. 114+43
STA. 113+43 TO STA. 119+40
STA. 116+20 TO STA. 119+98
STA. 119+83 TO STA. 124+70
STA. 127+16 TO STA. 141+58
STA. 136+40 TO STA. 141+58
STA. 140+58 TO STA. 145+76



RIGHT TURN LANE

STA. 113+50 TO STA. 121+94



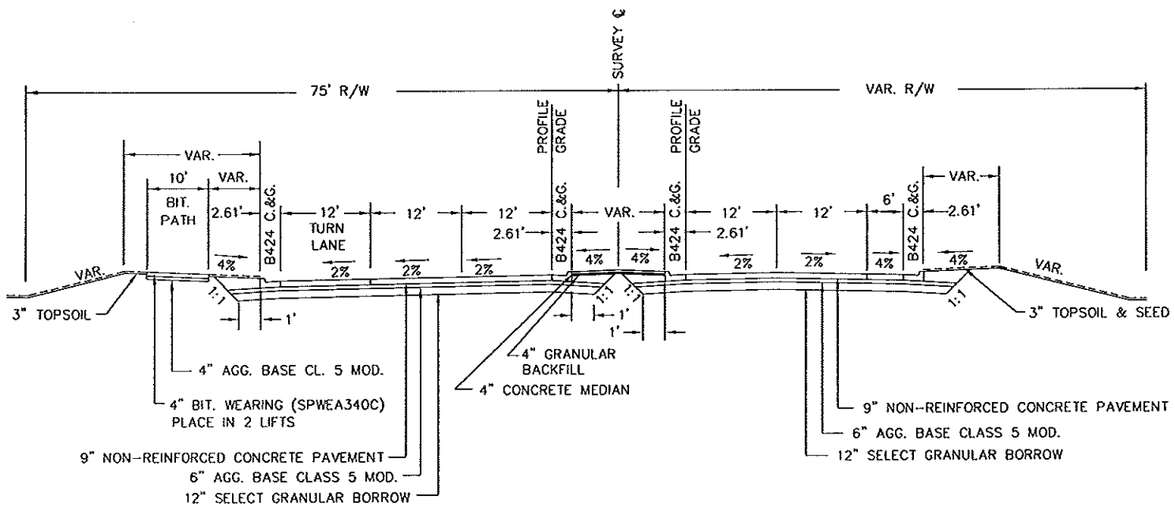
RIGHT TURN LANE

STA. 126+55 TO STA. 129+80

AS-BUILT

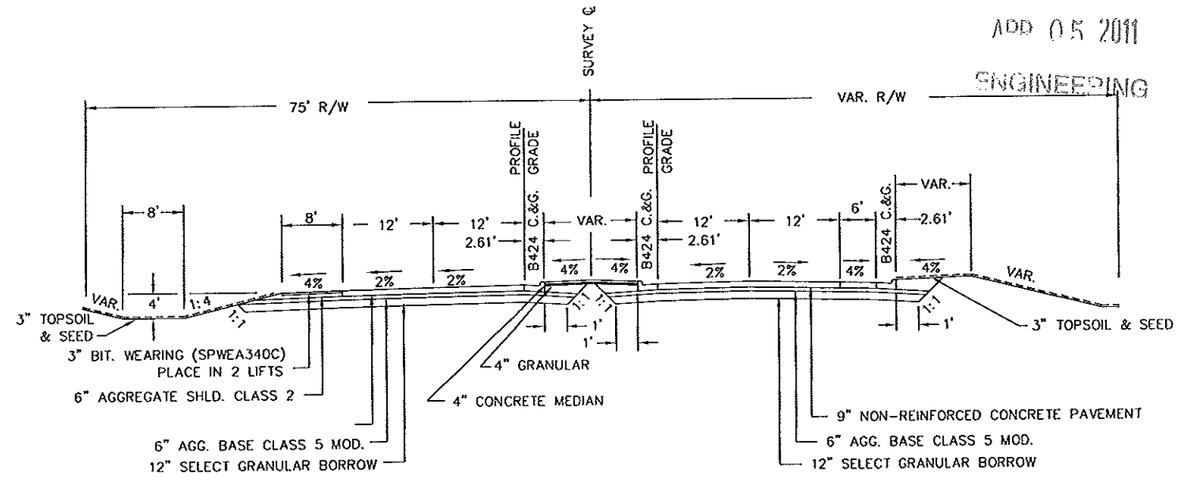
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STA. 114+00 TO STA. 124+25

BIT. PATH STA. 114+37 TO STA 119+26



STA. 124+25 TO STA. 147+00

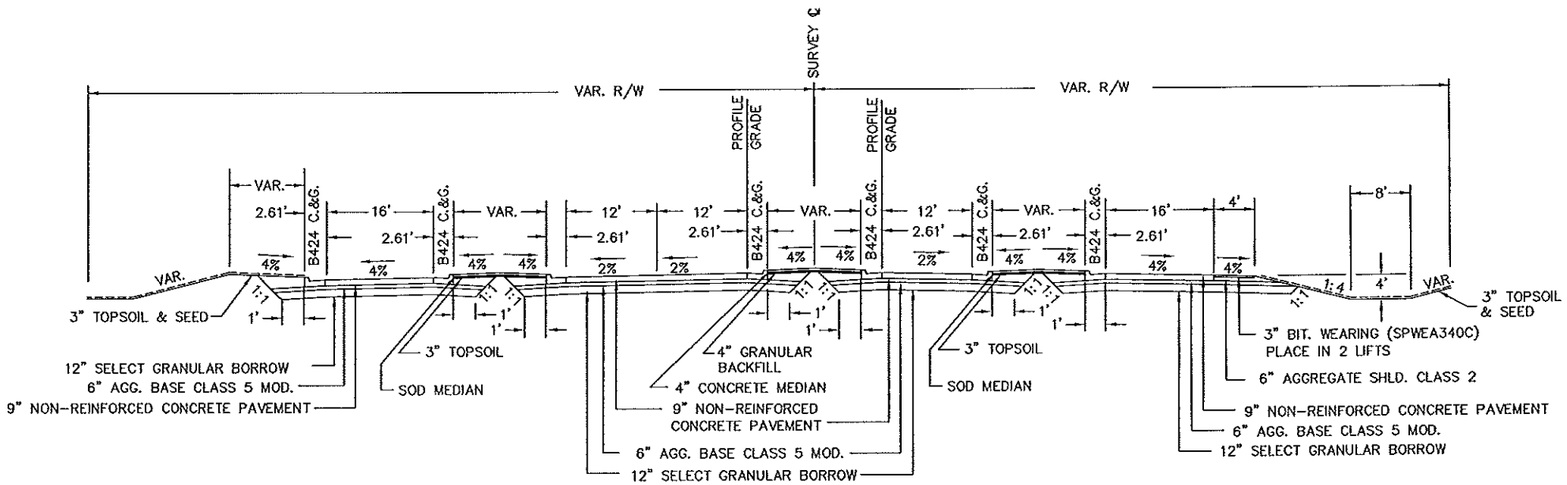
NOTE: 6' CONC. SHOULDER REPLACED TO STA. 149+50

TYPICAL SECTIONS C.S.A.H. 22

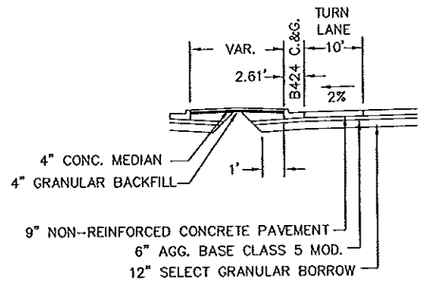
CERTIFIED BY Kayne M Bieniek REG NO. 19917 2/11/2009
LICENSED PROFESSIONAL ENGINEER

S.P. 55-622-43 & 55-625-43

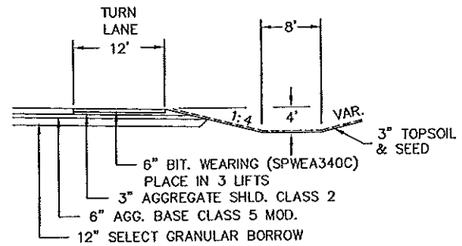
SHEET NO. 4 OF 99 SHEETS



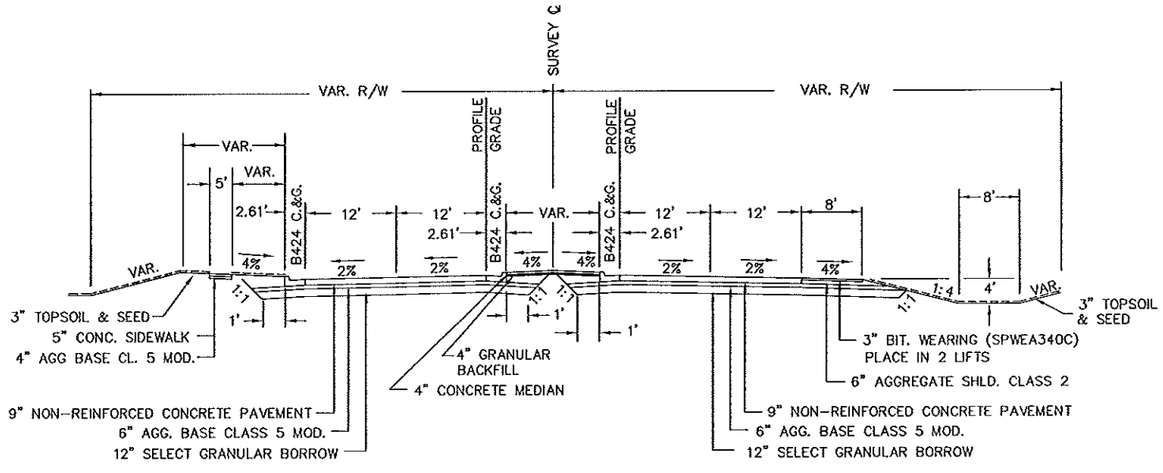
STA. 10+34 TO STA. 11+80



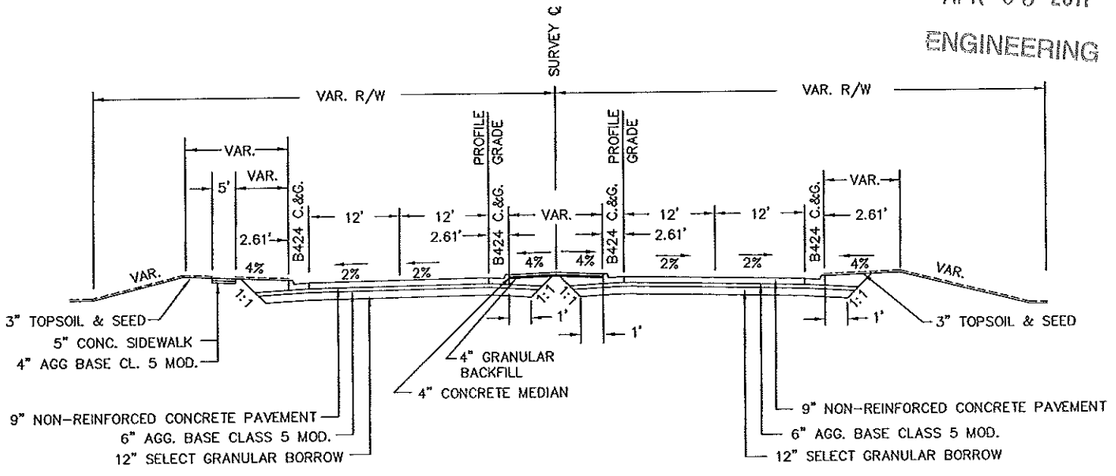
LEFT TURN LANE
STA. 12+56 TO STA. 15.84
STA. 15+04 TO STA 18+32
STA. 18+97 TO STA 23+10



RIGHT TURN LANE
STA. 11+52 TO STA 15+77



STA. 11+80 TO STA. 19+25
CONCRETE SIDEWALK STA. 15+60 TO STA 23+08



STA. 19+25 TO STA. 23+08

AS-BUILT
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ENGINEERING

TYPICAL SECTIONS C.S.A.H. 25

CERTIFIED BY Kaye M Reinitz REG NO. 19917 2/11/2009
LICENSED PROFESSIONAL ENGINEER

S.P. 55-622-43 & 55-625-43 SHEET NO. 5 OF 99 SHEETS

EXISTING CB 8' RT STA 105+32
REMOVE FRAME CASTING
INSTALL NEW CASTING & GRATE

℄ CULVERT 108+97
INPLACE 24" X 141' RCP W/APRON
REMOVE 135' AND PLUG

EXISTING CB 8' LT STA 111+52
INPLACE 15" X 57' RCP W/APRON
REMOVE CB
REMOVE 63'

EXISTING CB 8' LT STA 112+61
INPLACE 24" X 126' RCP W/APRONS
REMOVE CB
REMOVE 138'

BARCLAY SQUARE ENT LT. STA 113+93
INPLACE 24" x 114' RCP W/APRONS
NO CHANGE

PI Sta = 114+88.65
Δ = 06°48'30"
D = 01°08'00"
T = 300.72
R = 5055.51
L = 600.73
RATE SUPERELEVATION .02'/FT

EXISTING CB 2' RT STA 115+62
INPLACE 15" X 50' RCP
REMOVE CB
REMOVE 50' & PLUG

EXISTING CB 48' LT
STA 115+59 & STA 116+58
REMOVE FRAME CASTING
INSTALL NEW CASTING & GRATE

PI Sta = 105+41.83
Δ = 56°22'09"
D = 08°41'40" (45 MPH)
T = 353.13
R = 659.00
L = 648.34
RATE SUPERELEVATION .06'/FT

MEDIAN TO BE REMOVED FOR TRAFFIC STAGE CONSTRUCTION

BEGIN GRADING:
STA. 105+~~45~~22(WB)-106+89(EB)

CONSTRUCTION LIMITS

P.T. STA 108+37.95

P.C. STA. 111+87.93

75' EX R/W

CITY-FIBER

REMOVE CONC. WALK

REMOVE BIT. WALK

Ex. Pipe Plugged & Rip Prop Pipe left Inplace and Backfilled.

P.I. STA 117+88.66

168' EX R/W

REMOVE CONC. WALK

CONSTRUCTION LIMITS

BEGIN SP 55-622-43:
STA. 104+00

(WESTBOUND CL)
Δ = 21°59'26"
D = 06°14'56"
T = 178.15
R = 916.91
L = 351.92
RATE SUPERELEVATION .06'/FT

P.I. STA 108+90

FOX VALLEY DRIVE RT. STA 113+93
INPLACE 15" x 94' RCP W/APRONS
REMOVE 106'

OUTLET RT STA 116+92
INPLACE 24" RCP W/APRON
REMOVE APRON

0 25 50 100
SCALE IN FEET

PROFILE 60' RT. - - - -
PROFILE 60' LT. ——— - - -

PVC = 107+00
ELEV = 1021.28 (WBL)
ELEV = 1020.88 (EBL)

LOW PT = 110+74

PVT = 111+00
ELEV = 1018.41 (WBL)
ELEV = 1018.01 (EBL)

-1.54%

0.11%

PI STA = 109+00
ELEV = 1018.20 (WBL)
ELEV = 1017.80 (EBL)
400' V. C.

	104+00	105+00	106+00	107+00	108+00	109+00	110+00	111+00	112+00	113+00	114+00	115+00	116+00	117+00	118+00	119+00
EBL		1024.53		1020.78		1019.50	1019.00	1019.01	1018.83	1018.62	1018.43	1017.98	1017.66	1019.61	1020.14	1020.07
WBL			1022.50	1021.28	1020.12	1019.02	1018.51	1018.41	1018.52	1018.63	1018.73	1018.84	1018.95	1019.06	1019.16	1019.27

AS-BUILT
APR 05 2011
ENGINEERING

GRADING | CERTIFIED BY Paul M Wiemer REG. NO. 19917 2/11 20 09 LICENSED PROFESSIONAL ENGINEER | S.P. 55-622-43 & S.P. 55-625-22 | SHEET NO. 6 OF 99 SHEETS

GREENVIEW DRIVE LT. STA 119+58
NO CULVERT INPLACE

℄ CULVERT STA 121+18,121+32,121+48
INPLACE 3-29" X 108' RC PIPE-ARCH W/APRONS

REMOVE 360 LIN. FT.

P.C. STA 12+23.17

CSAH 25 INTERSECTION LT. STA 124+25

GREENVIEW DRIVE LT. STA 131+81
NO CULVERT INPLACE

CONSTRUCTION LIMITS

500' RAD.

84' RAD.

2"WNC

75' EX R/W

140' EX R/W

CONSTRUCTION LIMITS

OUTLET RT STA 119+95
INPLACE 24" RC PIPE W/APRON

REMOVE APRON

0 25 50 100
SCALE IN FEET

EBL
1018.87 1019.13 1019.46 1019.79 1020.12 1020.45 1020.78 1021.11 1021.44 1021.60 1021.33 1021.05 1020.78 1020.50 1020.23

WBL
1019.27 1019.53 1019.86 1020.19 1020.52 1020.85 1021.18 1021.51 1021.84 1022.00 1021.73 1021.45 1021.18 1020.90 1020.63

PROFILE 60' RT.
PROFILE 60' LT.

PI STA = 119+33
ELEV = 1019.30 (WBL)
ELEV = 1018.90 (EBL)

PI STA = 127+73
ELEV = 1022.08 (WBL)
ELEV = 1021.68 (EBL)

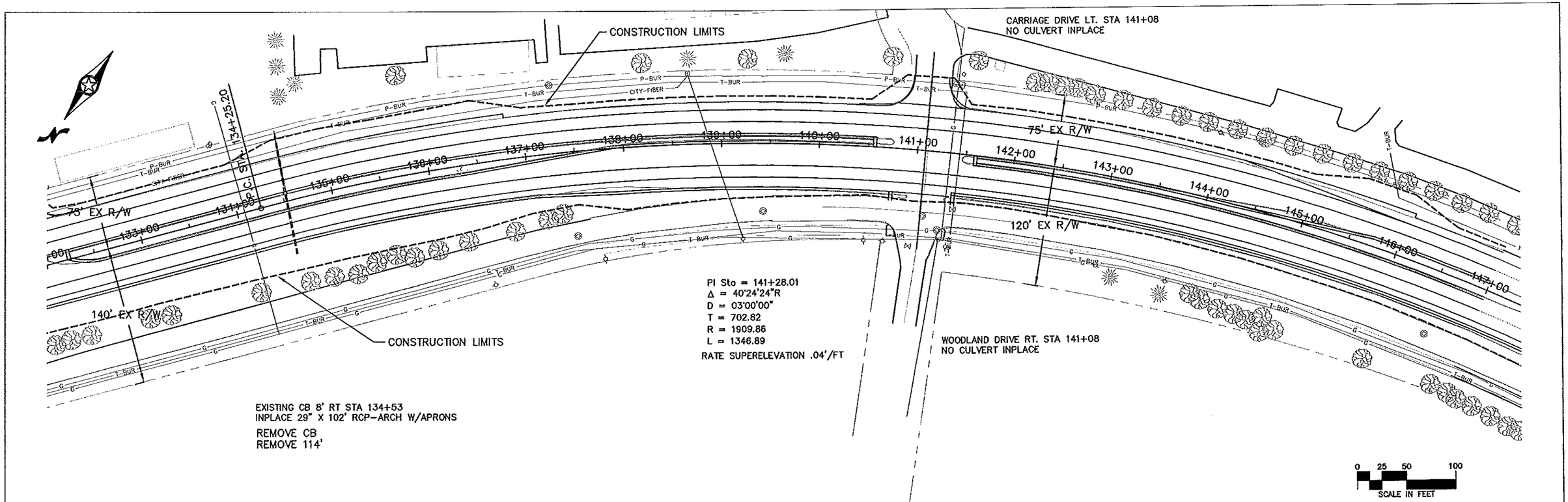
0.11%
0.33%
0.28%

1060 1050 1040 1030 1020 1010 1000 990 980 970

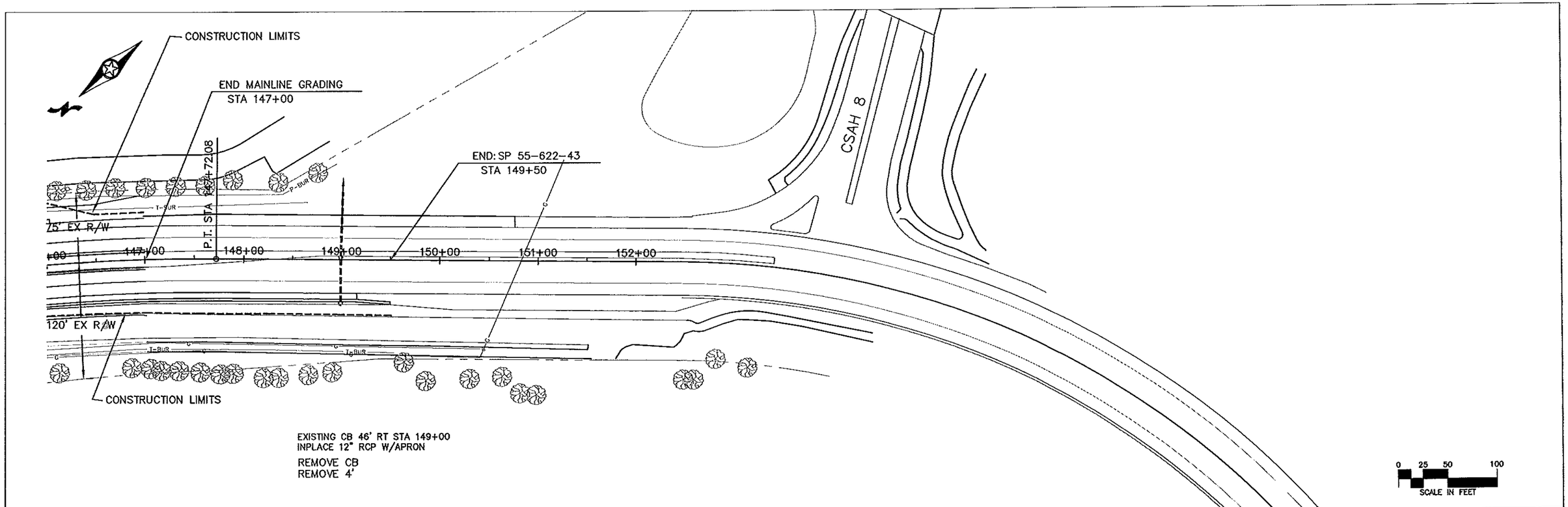
118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130+00 131+00 132+00 133+00

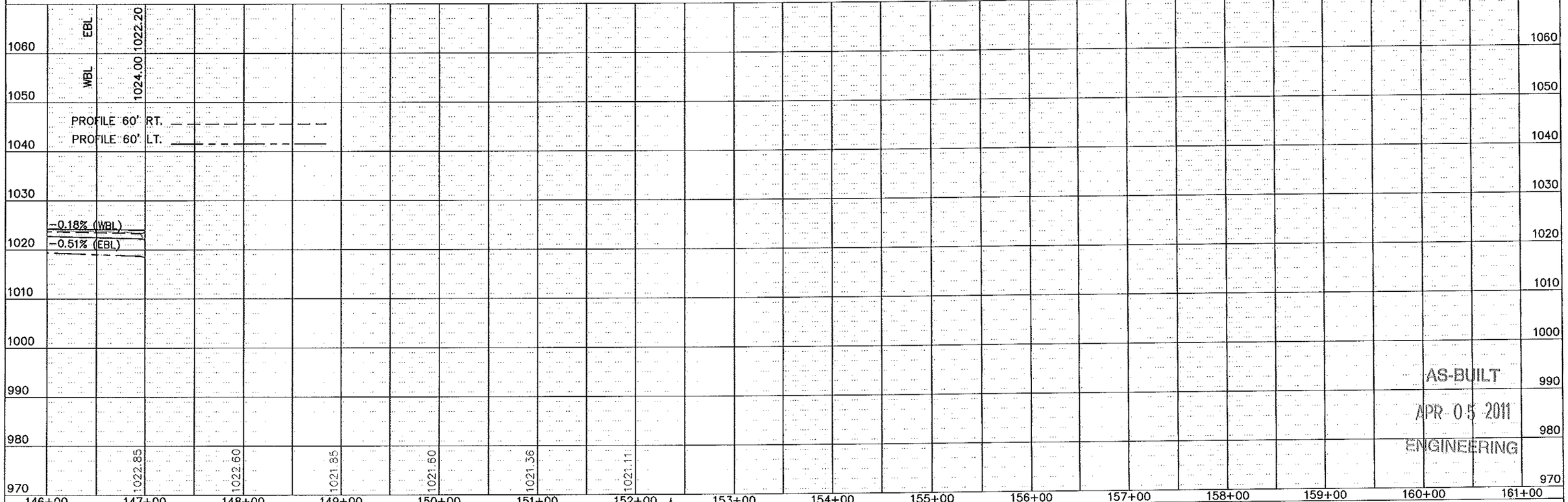
AS-BUILT
APR 05 2011
ENGINEERING

GRADING | CERTIFIED BY Kurt M Bauer LICENSED PROFESSIONAL ENGINEER REG. NO. 19917 2/11 20 09 | S.P. 55-622-43 & S.P. 55-625-22 | SHEET NO. 7 OF 99 SHEETS



GRADING | CERTIFIED BY Lane M Parrish LICENSED PROFESSIONAL ENGINEER REG. NO. 19917 2/11 20 09 | S.P. 55-622-43 & S.P. 55-625-22 | SHEET NO. 8 OF 99 SHEETS





AS-BUILT
APR 05 2011
ENGINEERING

GRADING | CERTIFIED BY Wayne M Brenish LICENSED PROFESSIONAL ENGINEER REG. NO. 19917 7/11 20 09 | S.P. 55-622-43 & S.P. 55-622-25 | SHEET NO. 9 OF 99 SHEETS

EXISTING CB 64' LT STA 15+61
INPLACE 42" X 298' CMP W/APRON
REMOVE CB
REMOVE 309'

EXISTING CB 35' LT STA 17+78
ADJUST CB

EXISTING CB 35' LT STA 20+45
ADJUST CB

PI Sta = 13+29.96 (WB LANES)
Δ = 28°10'04"
D = 13°38'30"
T = 105.37
R = 420.00
L = 206.48
RATE SUPERELEVATION .04'/FT

CSAH 25 STA 10+00 =
CSAH 22 STA 124+25:

PI Sta = 13+52.73
Δ = 28°10'04"
D = 15°04'40"
T = 95.34
R = 380.00
L = 186.82
RATE SUPERELEVATION .04'/FT

GREENVIEW DRIVE LT STA 15+44

REMOVE CONC. WALK

CONSTRUCTION LIMITS

Sidewalk Not Removed

END SP 55-625-22:
STA 23+08

75' EX R/W

P.C. STA 12+57.40

P.T. STA 14+44.21

BEGIN SP 55-625-22:
STA 10+34

EXISTING CB 11' RT STA 13+33
INPLACE 15" X 46' RCP W/APRON
REMOVE CB
REMOVE 52'

REMOVE CONC. WALK

GREENVIEW DRIVE RT STA 15+44

REMOVE CONC. WALK

CONSTRUCTION LIMITS

EXISTING CB 1' RT STA 19+65
INPLACE 15" X 6' RCP W/APRON
REMOVE CB
REMOVE 6'

EXISTING CB 8' RT STA 19+65
INPLACE 15" RCP W/APRON
REMOVE CB
REMOVE 8'

0 25 50 100
SCALE IN FEET

PROFILE 60' RT.
PROFILE 60' LT.

PVC = 12+50
ELEV = 1017.49

LOW PT = 13+68.57
ELEV = 1016.75

PVT = 16+50
ELEV = 1020.91

PVI = 14+50
ELEV = 1015.00
400' V.C.

PVC = 19+00
ELEV = 1028.29

PI STA = 21+00
ELEV = 1034.20
400' V.C.

PVT = 23+00
ELEV = 1037.50

-1.24%

2.95%

1.65%

9+00	10+00	11+00	12+00	13+00	14+00	15+00	16+00	17+00	18+00	19+00	20+00	21+00	22+00	23+00	24+00
1020.60	1019.36	1018.11	1017.00	1016.80	1017.66	1019.56	1022.38	1025.34	1028.29	1031.08	1033.55	1035.69	1037.50		
1019.39	1018.08	1017.73	1017.42	1017.47	1016.86	1016.92	1017.16	1018.59	1020.11	1022.62	1025.24	1027.79	1029.50	1030.84	1032.41	1033.83	1035.23	1035.79	1036.62	1037.48	

AS-BUILT
APR 05 2011
ENGINEERING

GRADING | CERTIFIED BY Paul M Pramuk REG. NO. 19917 2/11 20 09 LICENSED PROFESSIONAL ENGINEER | S.P. 55-622-43 & S.P. 55-625-22 | SHEET NO. 10 OF 99 SHEETS

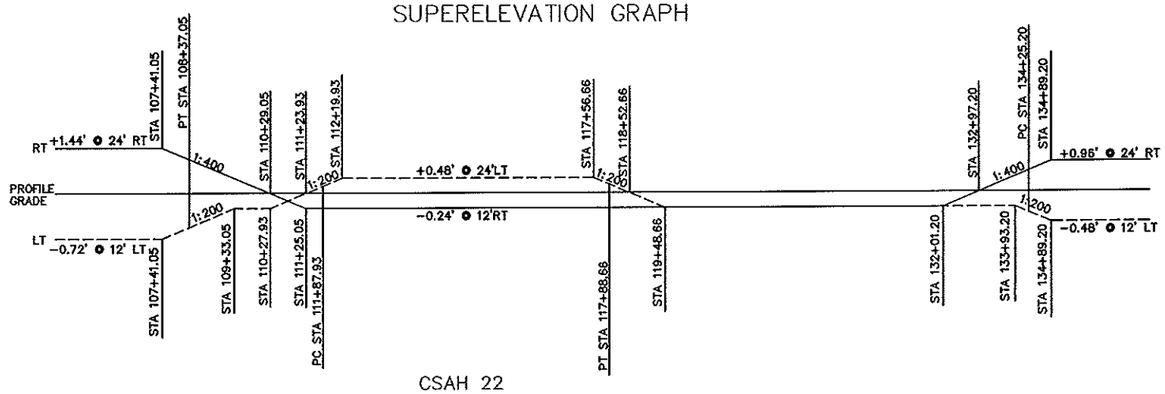
EXISTING STORM SEWER

STRUCTURE NO.	STATION	LOCATION	TOP CASTING ELEV.	TYPE OF WORK
EX C.B. 2	111+56	8.00' LT.	1016.75	REMOVAL
EX C.B. 3	112+61	8.00' LT.	1017.05	REMOVAL
EX C.B. 4	115+62	2.00' RT.	1017.07	REMOVAL
EX C.B. 5	115+59	48.00' RT.	1017.66	RECONSTRUCT – ADJUST
EX C.B. 6	116+58	48.00' RT.	1017.75	RECONSTRUCT – ADJUST
EX C.B. 7	134+53	8.00' RT.	1018.71	REMOVE & REPLACE WITH C.B. 22
EX C.B. 8	149+00	46.00' RT.	1021.90	REMOVE & REPLACE WITH C.B. 28
EX C.B. 9	13+33	11.00' RT.	1015.65	REMOVE & REPLACE WITH C.B. 29
EX C.B. 11	17+78	35.00' LT.	1023.42	RECONSTRUCT – ADJUST
EX C.B. 14	20+45	35.00' LT.	1031.59	RECONSTRUCT – ADJUST
EX C.B. 12	19+65	1.00' RT.	1029.76	REMOVAL
EX C.B. 13	19+65	8.00' RT.	1029.79	REMOVAL
EX C.B. 10	15+61	64.00' LT.	1016.85	REMOVE & REPLACE WITH C.B. 31
EX C.B. 1	105+32	8.00 Rt		Reconstruct - Adjust

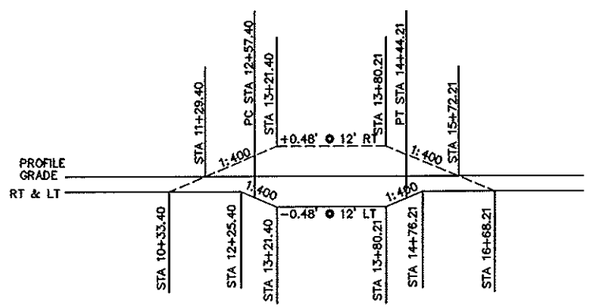
SURFACE DRAINAGE REMOVAL

STATIONING	LOCATION	INPLACE	REMOVE			REMARKS
			C.M.P (LIN FT)	R.C.P. (LIN FT)	R.C.P. APRONS	
108+97	CENTERLINE–STORM SEWER	24" x 141' RCP W/APRON		135		PLUG 24" RCP
111+52	CENTERLINE–STORM SEWER	15" x 57' RCP W/APRON		63		INCLUDES APRON
112+61	CENTERLINE	24" x 126' RCP W/APRONS		138		INCLUDES APRON
113+93	FOX VALLEY DRIVE	15" x 94' RCP W/APRONS		106		INCLUDES APRONS
115+62	CENTERLINE–STORM SEWER	15" x 50' RCP		50		PLUG EXISTING CB
116+92	FRONTAGE ROAD	24" RCP CULVERT W/APRON			1	NEW MH LOCATION
119+95	FRONTAGE ROAD	24" RCP CULVERT W/APRON			1	NEW MH LOCATION
121+18	CENTERLINE	29" x 108' RCP–ARCH W/APRONS		120		INCLUDES APRONS
121+32	CENTERLINE	29" x 108' RCP–ARCH W/APRONS		120		INCLUDES APRONS
121+48	CENTERLINE	29" x 108' RCP–ARCH W/APRONS		120		INCLUDES APRONS
134+53	CENTERLINE–STORM SEWER	29" x 102' RCP–ARCH W/APRONS		114		INCLUDES APRONS
149+00	CENTERLINE–STORM SEWER	12" RCP		4		NEW CB LOCATION
13+33	CENTERLINE–STORM SEWER	15" x 46' RCP W/APRON		52		INCLUDES APRON
15+61	GREENVIEW DRIVE	42" x 298' CMP W/APRONS	309			INCLUDES APRONS
19+65	EX CB12 TO EX CB 13	15" x 6' RCP W/APRONS		6		NEW CB LOCATION
19+65	CENTERLINE–STORM SEWER	15" RCP		8		NEW CB LOCATION
TOTALS			309	1036	2	

SUPERELEVATION GRAPH

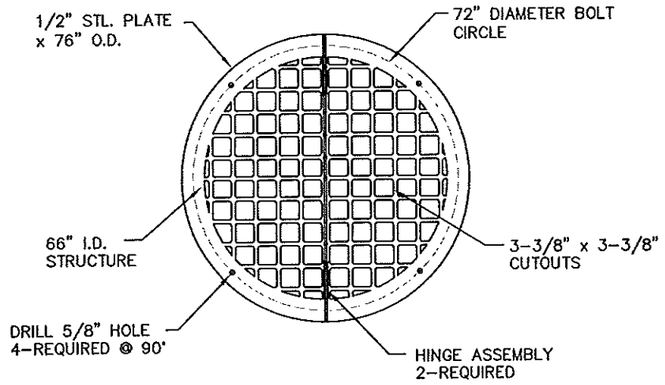


CSAH 22



CSAH 25

SPECIAL GRATE



NOTES:

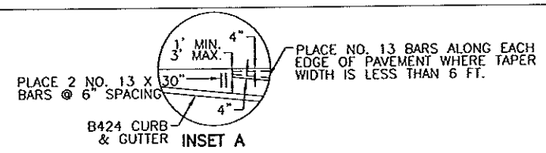
1. GRATE TO BE MADE IN TWO (2) PIECES
2. ALL METAL SHALL BE HIP DIPPED GALVANIZED.
3. FASTEN GRATE TO STRUCTURE WITH FOUR (4) 1/2"-13 UNC HEX HEAD SS BOLTS W/NUTS AND WASHERS.

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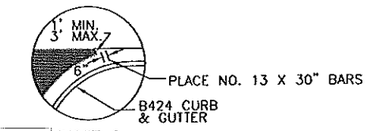
℄ CULV. STA 107+85
CONST. 3–15' REINF. PANELS
PER LANE EASTBOUND

C2A–D CONTRACTION JOINTS ARE 15' SPACING AND INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

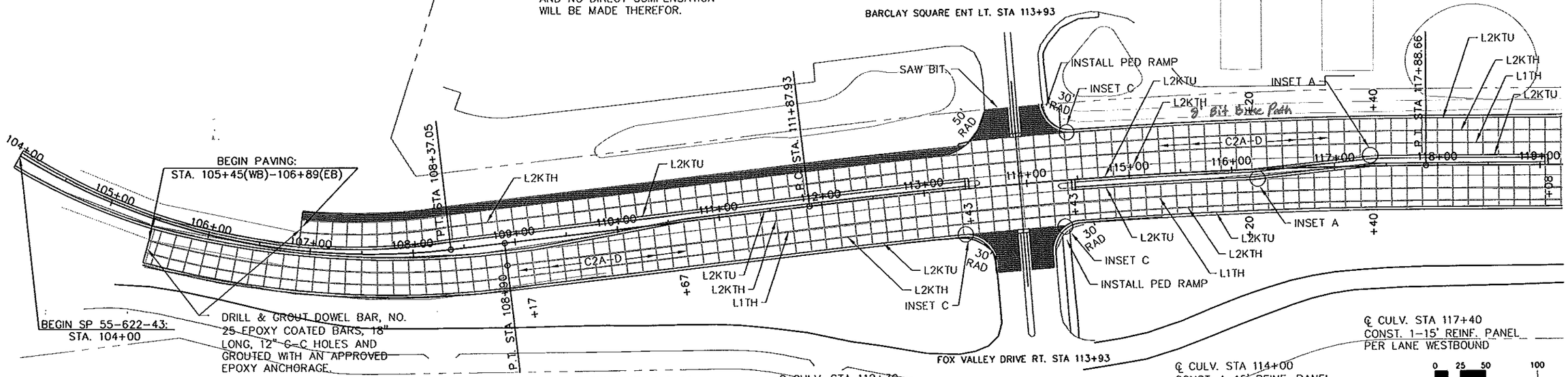
ALL REINFORCEMENT BARS ARE INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.



INSET A



INSET C



℄ CULV. STA 108+25
CONST. 3–15' REINF. PANELS
PER LANE WESTBOUND

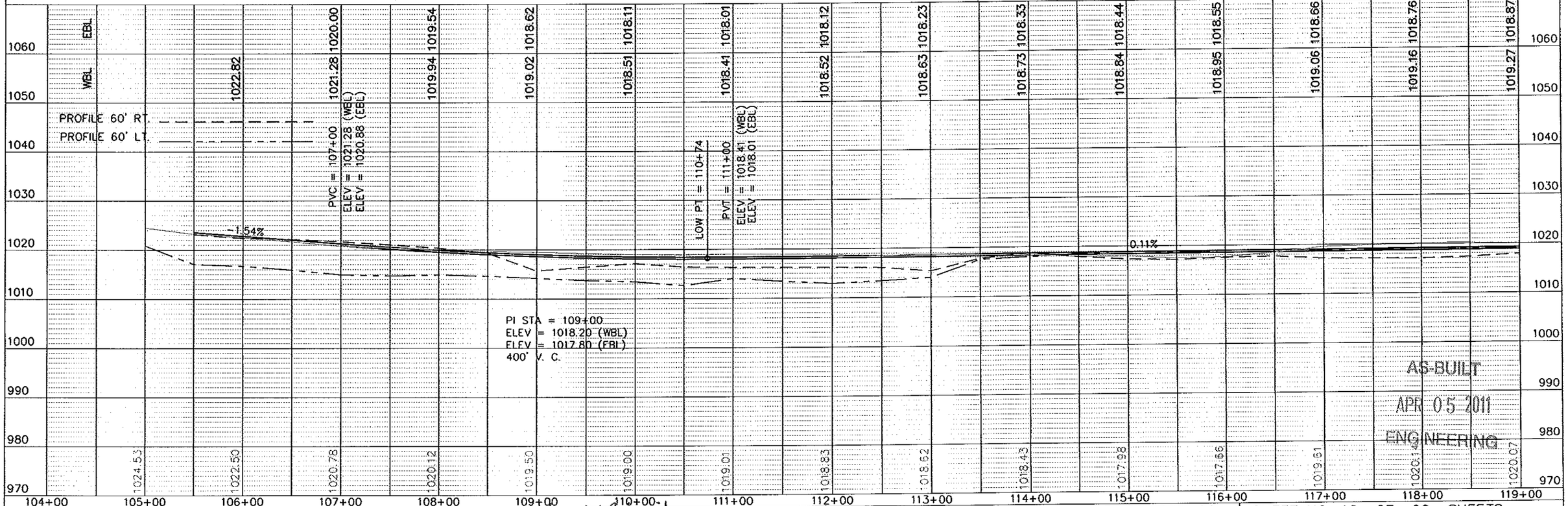
℄ CULV. STA 110+60
CONST. 2–15' REINF. PANELS
PER LANE WESTBOUND

℄ CULV. STA 112+30
CONST. 2–15' REINF. PANELS
PER LANE WB & EB

℄ CULV. STA 114+00
CONST. 1–15' REINF. PANEL
PER LANE WESTBOUND

℄ CULV. STA 117+40
CONST. 1–15' REINF. PANEL
PER LANE WESTBOUND

0 25 50 100
SCALE IN FEET



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PAVING | CERTIFIED BY Dave McDonald LICENSED PROFESSIONAL ENGINEER REG. NO. 19917 2/11 20 09 | S.P. 55–622–43 & S.P. 55–625–22 | SHEET NO. 12 OF 99 SHEETS

GREENVIEW DRIVE LT. STA 119+58

℄ CULV. STA 120+38
CONST. 2–15' REINF. PANELS
PER LANE EASTBOUND

P.C. STA 12+23.17

CSAH 25 INTERSECTION LT. STA 124+25

℄ CULV. STA 124+69
CONST. 2–15' REINF. PANELS
PER LANE EASTBOUND

C2A–D CONTRACTION JOINTS ARE 15' SPACING AND INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

ALL REINFORCEMENT BARS ARE INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

GREENVIEW DRIVE LT. STA 131+81

INSTALL PED RAMP
INSET C
SAW BIT.
INSTALL PED RAMP
INSET C
INSET B
8' MEDIAN NOSE
INSET B
INSET B
8' MEDIAN NOSE
INSET B
SAW BIT.
L2KTH
L1TH
L2KTU
C2A–D
4' SHLD
4' SHLD
25' RAD
25' RAD
30' RAD
30' RAD
INSET A
INSET A
L2KTU
L2KTH
L1TH
L2KTH
L2KTH
L2KTU
L1TH
L2KTH
L2KTU
INSET A

℄ CULV. STA 120+17
CONST. 2–15' REINF. PANELS
PER LANE WESTBOUND

PLACE 2 NO. 13 X 30" BARS @ 6" SPACING
1" MIN. 3" MAX.
4"
4"
B424 CURB & GUTTER
INSET A
PLACE NO. 13 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER WIDTH IS LESS THAN 6 FT.

℄ CULV. STA 124+65
CONST. 2–15' REINF. PANELS
PER LANE WESTBOUND

CONTRACTION JOINT
PLACE 2 NO. 13 X 30" BARS @ 6" SPACING
1" MIN. 3" MAX.
4"
4"
INSET B
PLACE NO. 13 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER WIDTH IS LESS THAN 6 FT.

1" MIN. 3" MAX.
6"
PLACE NO. 13 X 30" BARS
B424 CURB & GUTTER
INSET C

℄ CULV. STA 131+30
CONST. 1–15' REINF. PANEL
PER LANE WESTBOUND

0 25 50 100
SCALE IN FEET

EBL 1018.87 1019.13 1019.46 1019.79 1020.12 1020.45 1020.78 1021.11 1021.44 1021.60 1021.33 1021.05 1020.78 1020.50 1020.23
WBL 1019.27 1019.53 1019.86 1020.19 1020.52 1020.85 1021.18 1021.51 1021.84 1022.00 1021.73 1021.45 1021.18 1020.90 1020.63

PROFILE 60' RT.
PROFILE 60' LT.

0.11%
0.33%
0.28%

PI STA = 119+33
ELEV = 1019.30 (WBL)
ELEV = 1018.90 (EBL)

PI STA = 127+73
ELEV = 1022.08 (WBL)
ELEV = 1021.68 (EBL)

1020.07 1020.05 1020.58 1020.59 1020.94 1020.63 1021.35 1021.62 1021.89 1022.13 1022.57 1021.99 1021.38 1020.80 1020.93

1060 1050 1040 1030 1020 1010 1000 990 980 970

118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130+00 131+00 132+00 133+00

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APR 05 2011
ENGINEERING

PAVING | CERTIFIED BY Kaye M Friemuth LICENSED PROFESSIONAL ENGINEER REG. NO. 19917 2/11 20 09 | S.P. 55-622-43 & S.P. 55-625-22 | SHEET NO. 13 OF 99 SHEETS

℄ CULV. STA 134+21
CONST. 3–15' REINF. PANELS
PER LANE EASTBOUND

SAW BIT.

CARRIAGE DRIVE LT. STA 141+08

30' RAD

30' RAD

1" MIN. 3" MAX. 4"
PLACE 2 NO. 13 X 30" BARS @ 6" SPACING
30"
4"
B424 CURB & GUTTER
INSET A

PLACE NO. 13 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER WIDTH IS LESS THAN 6 FT.

DRILL & GROUT DOWEL BAR, NO. 25 EPOXY COATED BARS, 18" LONG, 12" C–C HOLES AND GROUTED WITH AN APPROVED EPOXY ANCHORAGE.

L1TH
L2KTU
L2KTH
C2A–D
INSET A
+82
+40
+30
+90
+58
+38
+80
+40
+26
+76
+06
+22
+00
134+25.20
131+00
133+00
135+00
136+00
137+00
138+00
139+00
140+00
141+00
142+00
143+00
144+00
146+00
148+00
149+00

℄ CULV. STA 138+00
CONST. 1–15' REINF. PANEL
PER LANE WESTBOUND

WOODLAND DRIVE RT. STA 141+08

℄ CULV. STA 145+75
CONST. 3–15' REINF. PANELS
PER LANE WESTBOUND

DRILL & GROUT DOWEL BAR, NO. 25 EPOXY COATED BARS, 18" LONG, 12" C–C HOLES AND GROUTED WITH AN APPROVED EPOXY ANCHORAGE.

℄ CULV. STA 133+92
CONST. 1–15' REINF. PANEL
PER LANE WESTBOUND

1" MIN. 3" MAX.
6"
PLACE NO. 13 X 30" BARS
B424 CURB & GUTTER
INSET C

C2A–D CONTRACTION JOINTS ARE 15' SPACING AND INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

ALL REINFORCEMENT BARS ARE INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

0 25 50 100
SCALE IN FEET

EBL
WBL
PROFILE 60' RT.
PROFILE 60' LT.

	132+00	133+00	134+00	135+00	136+00	137+00	138+00	139+00	140+00	141+00	142+00	143+00	144+00	145+00	146+00	147+00
EBL		1020.23	1020.01	1020.51	1021.01	1021.50	1022.00	1022.50	1023.50	1024.41	1024.65	1024.24	1023.73	1023.22	1022.71	1022.20
WBL		1020.63	1020.41	1020.91	1021.41	1021.90	1022.70	1023.50	1024.30	1025.10	1024.92	1024.73	1024.55	1024.37	1024.18	1024.00
		1020.93	1020.81	1020.76	1021.20	1022.11	1022.88	1023.71	1024.06	1024.38	1024.21	1024.03	1023.92	1024.43	1024.02	1021.57

(WBL)
PI STA = 137+00
ELEV = 1021.90

PVC = 140+25
ELEV = 1024.50

(WBL)
PI STA = 141+00
ELEV = 1025.10
150' V. C.

PVT = 141+75
ELEV = 1024.96

PI STA = 133+92
ELEV = 1020.37 (WBL)
ELEV = 1019.97 (EBL)

(EBL)
PI STA = 139+00
ELEV = 1022.50

PVC = 140+50
ELEV = 1024.00

(EBL)
PI STA = 141+50
ELEV = 1025.00
200' V. C.

PVT = 142+50
ELEV = 1024.49

-0.28%
0.50%
0.80% (WBL)
1.00% (EBL)
-0.18% (WBL)
-0.51% (EBL)

AS-BUILT
APR 05 2011
ENGINEERING

PAVING	CERTIFIED BY Raymond Bruner LICENSED PROFESSIONAL ENGINEER REG. NO. 19917 2/11 20 09	S.P. 55–622–43 & S.P. 55–625–22	SHEET NO. 14 OF 99 SHEETS

END MAINLINE PAVING
STA 147+00

DRILL & GROUT TIE BAR, NO. 13 EPOXY COATED BARS, 2'-6" LONG, 30" C-C HOLES AND GROUTED WITH AN APPROVED EPOXY ANCHORAGE.

DRILL & GROUT DOWEL BAR, NO. 25 EPOXY COATED BARS, 18" LONG, 12" C-C HOLES AND GROUTED WITH AN APPROVED EPOXY ANCHORAGE.

P.T. STA 147+72.08

+00 147+00 +03 148+00 149+00 150+00 151+00 152+00

+16

END CURB & GUTTER STA 149+50

SAW CONCRETE AND REMOVE EXISTING PERMANENT TERMINAL HEADER WB & EB LANES

℄ CULV. STA 149+00
CONST. 1-15' REINF. PANEL PER LANE WESTBOUND

0 25 50 100
SCALE IN FEET

EBL 1022.20
WBL 1024.00

PROFILE 60' RT.
PROFILE 60' LT.

-0.18% (WBL)
-0.51% (EBL)

1022.85 1022.60 1021.85 1021.60 1021.36 1021.11

1060 1050 1040 1030 1020 1010 1000 990 980 970

146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00 161+00

AS-BUILT
APR 05 2011
ENGINEERING

PAVING

CERTIFIED BY Barry M Burnett REG. NO. 19917 2/11 20 09
LICENSED PROFESSIONAL ENGINEER

S.P. 55-622-43 & S.P. 55-625-22

SHEET NO. 15 OF 99 SHEETS

GREENVIEW DRIVE LT STA 15+44

PLACE 2 NO. 13 X 30" BARS @ 6" SPACING

1' MIN. 3' MAX. 4"

PLACE NO. 13 BARS ALONG EACH EDGE OF PAVEMENT WHERE TAPER WIDTH IS LESS THAN 6 FT.

B424 CURB & GUTTER

INSET A

INSET B

℄ CULV. STA 11+00 (RAMP)
CONST. 1–15' OF REINF. PANEL WB

CSAH 25 STA 10+00 =
CSAH 22 STA 124+25:

℄ CULV. STA 10+70
CONST. 2–15' OF REINF. PANELS
PER LANE WESTBOUND

℄ CULV. STA 13+74
CONST. 1–15' OF REINF. PANEL
PER LANE WESTBOUND

PLACE NO. 13 X 30" BARS

INSET C

C2A–D CONTRACTION JOINTS ARE 15' SPACING AND INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

ALL REINFORCEMENT BARS ARE INCIDENTAL TO PAVING ITEMS AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

CONTRACTION JOINT

DRILL & GROUT DOWEL BAR, NO. 25 EPOXY COATED BARS, 18" LONG, 12" C–C HOLES AND GROUTED WITH AN APPROVED EPOXY ANCHORAGE.

L2KTU
L1TH
L2KTH
SAW BIT.
INSTALL PED RAMP
30' RAD
C2A–D
LEFT IN-PLACE

BEGIN SP 55–625–22:
STA 10+34

END SP 55–625–22:
STA 23+08

℄ CULV. STA 10+50
CONST. 1–15' OF REINF. PANEL
PER LANE EASTBOUND

GREENVIEW DRIVE RT STA 15+44

DRILL & GROUT TIE BAR, NO. 13 EPOXY COATED BARS, 2'–6" LONG, 24" C–C HOLES AND GROUTED WITH AN APPROVED EPOXY ANCHORAGE.

0 25 50 100
SCALE IN FEET

PROFILE 60' RT.
PROFILE 60' LT.

PVC = 12+50
ELEV = 1017.49

LOW PT = 13+68.57
ELEV = 1016.75

PVT = 16+50
ELEV = 1020.91

PVI = 14+50
ELEV = 1015.00
400' V.C.

PI STA = 21+00
ELEV = 1034.20
400' V.C.

PVC = 19+00
ELEV = 1028.29

PVT = 23+00
ELEV = 1037.50

-1.24%
2.95%
1.65%

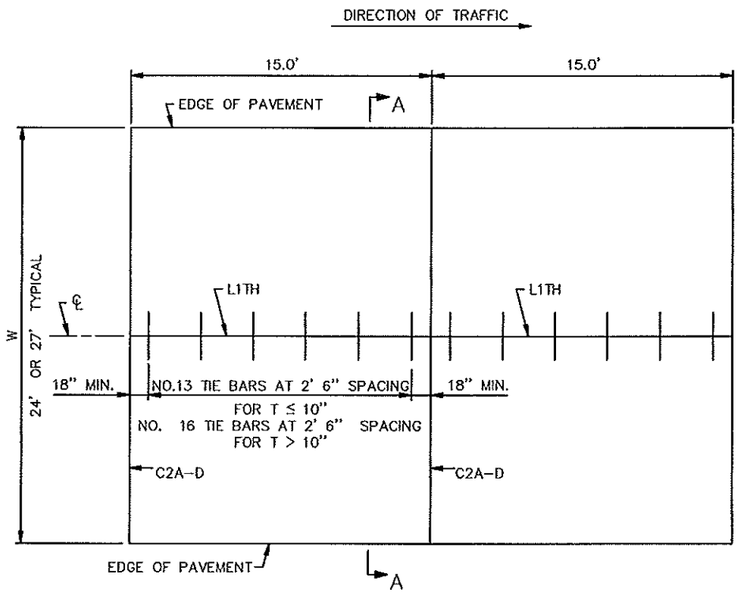
AS-BUILT
APR 05 2011
ENGINEERING

PAVING

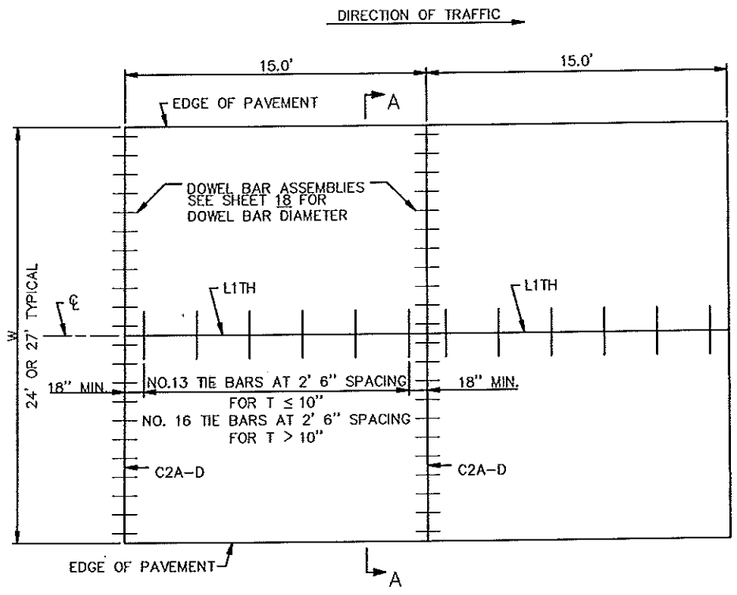
CERTIFIED BY Paul M Perreault REG. NO. 19917 2/11 20 09
LICENSED PROFESSIONAL ENGINEER

S.P. 55–622–43 & S.P. 55–625–22

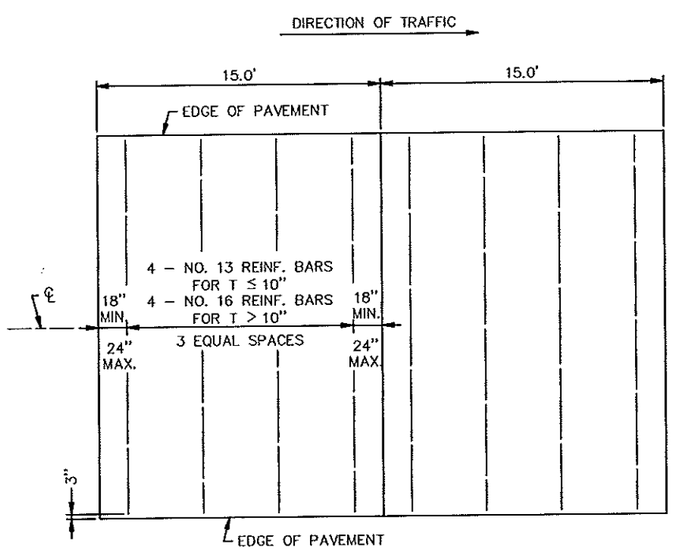
SHEET NO. 16 OF 99 SHEETS



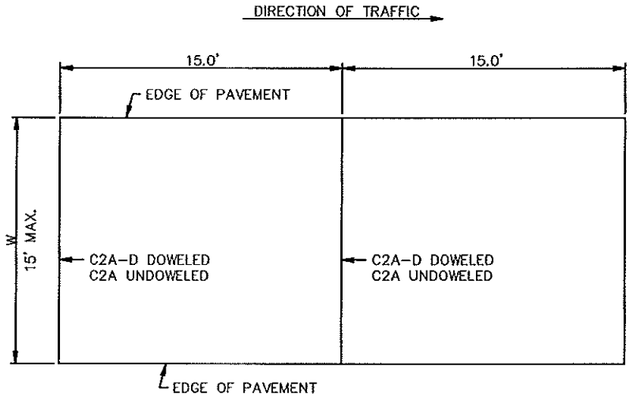
MAINLINE PAVEMENT
UNDOWELED



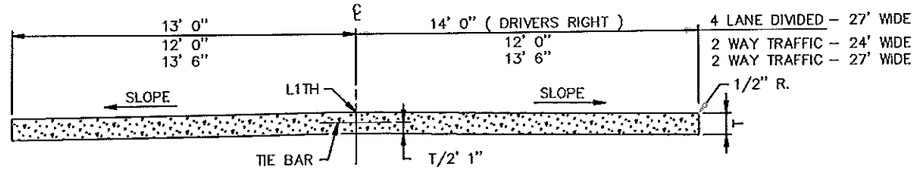
MAINLINE PAVEMENT
DOWELED



SUPPLEMENTAL PANEL REINFORCEMENT



PAVEMENT 2 FT. THRU 15 FT. WIDTH



SECTION A–A

GENERAL NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

SEE TYPICAL SECTIONS AND PLAN SHEETS FOR CROSS SLOPES AND PAVEMENT THICKNESS, T.

WHEN RIGID PAVEMENT ADJOINS FLEXIBLE PAVEMENT, BRIDGE APPROACHES, R. R. CROSSINGS OR OTHER TYPES OF FREE ENDS, THE FOLLOWING MODIFICATIONS SHALL BE MADE: THE FIRST OR LAST 10 JOINTS SHALL BE DOWELED CONTRACTION JOINTS, C4E–D.

DOWEL BAR ASSEMBLIES, WHEN REQUIRED, SHALL BE SIMILAR TO THOSE SHOWN ON STANDARD PLATE 1103.

ALL REINFORCING BARS SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301 AND SHALL MEET THE REQUIREMENTS OF GRADE 60 FOR AASHTO M–31 OR M–53. FOR ADDITIONAL REINFORCEMENT OVER CULVERTS, SEE STANDARD PLATE 1070.

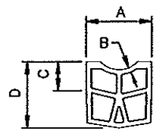
TIE BARS:
USE NO. 13 BARS 2' 6" LONG, AT 2' 6" SPACING. FOR T ≤ 10" USE NO. 16 BARS 3' 0" LONG AT 2' 6" SPACING FOR T > 10".

SUPPLEMENTAL PANEL REINFORCEMENT:
PLACE IN PANELS WHERE PAVEMENT WIDTH EXTEEDS 15.0' WITHOUT A LONGITUDINAL JOINT, AND IN THE MIDDLE LANE(S) WHERE TIED PAVEMENT WIDTH EXCEEDS 4 LANES. USE NO. 13 BARS FOR PAVEMENT THICKNESS 10" OR LESS. USE NO. 16 BARS FOR PAVEMENT THICKNESS GREATER THAN 10". PLACEMENT DEPTH SHALL BE PLANNED T/2' 1".
NO MORE THAN TWO LANES SHALL BE PAVED AT THE SAME TIME.

STANDARD SHEET NO. 5–297.217	TITLE: CONCRETE MAINLINE PAVEMENT 15.0 FT. PANEL LENGTH
STANDARD APPROVED: OCTOBER 1, 1998	
REVISION DATE 1–21–2000	S.P. 55–622–43 & S.P. 55–625–22 SHEET NO. 17 OF 99 SHEETS

REQUIRED DIMENSIONS

JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	11/16" USE IN ALL 3/8" JOINTS
A	0.80" +0.14" −0.05"
B	0.08" ± 0.02"
C	0.60" MIN.
D	0.80" MIN.
WEB AND WALL THICKNESS, UNLESS NOTED	0.03" MIN.



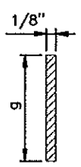
SPEC. REFERENCE 3721

TYPICAL SHAPE FOR SATISFACTORY INSTALLATION IN JOINT (5 CELL MIN.)

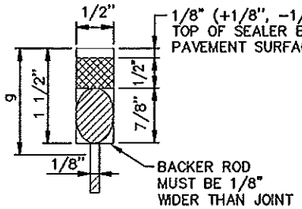
NOTES:
"A" DIMENSION SHALL APPLY AT ANY POINT THROUGHOUT
"C" DEPTH. IN ITS FINAL POSITION, THE TOP CORNERS OF THE PREFORMED JOINT SEALER SHALL BE PLACED NOT LESS THAN 1/8 IN., NOR MORE THAN 5/16 IN. BELOW THE PAVEMENT SURFACE.

SHARP INTERNAL CORNERS WILL NOT BE PERMITTED. ALL CORNERS SHALL BE PROVIDED WITH SUITABLE FILLET. CURRENTLY APPROVED CONFIGURATIONS ARE ON FILE IN THE MATERIALS ENGINEERING SECTION, MINNESOTA DEPARTMENT OF TRANSPORTATION.

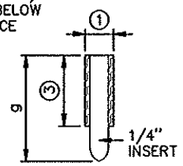
CONTRACTION JOINT SEALER
PREFORMED ELASTIC TYPE



DETAIL A
FORMED & SAWED



DETAIL B②
SAWED



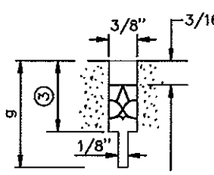
DETAIL C
FORMED
(INSERT TO BE REMOVED)

CONTRACTION JOINT CLASS DESIGNATION, DETAIL & SEALER SPEC. TABLE

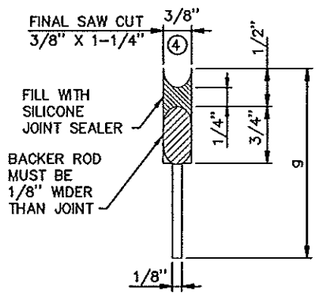
CLASS DESIGNATION		JOINT DETAIL	JOINT SEALER SPEC.
WITHOUT DOWELS	WITH DOWELS		
C1A	C1A–D	A	UNSEALED
C2A	C2A–D	A	3725
C2B	C2B–D	B	3725
C2X	C2X–D	B OR C	3725
C3D	C3D–D	D	3721
C3X	C3X–D	C OR D	3721
C4E	C4E–D	E	3722

DOWEL BAR DIAMETER TABLE

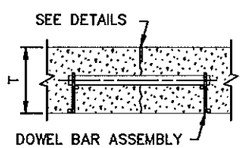
PAVEMENT THICKNESS T	DOWEL BAR DIAMETER
6"– 6–1/4"	1"
6–1/2"–10–1/4"	1–1/4"
10–1/2"–12–1/2"	1–1/2"
13"–14"	1–3/4"



DETAIL D
SAWED



DETAIL E
SAWED



SECTION AT JOINT

LEGEND
C = CONTRACTION JOINT
NO.= SEALANT TYPE
1 = UNSEALED
2 = 3725
3 = 3721
4 = 3722
LETTER= DETAIL
X = MORE THAN 1 DETAIL
–D = DOWEL BARS

EXAMPLE
C2B–D

NOTES:
① DESIGN C3X OR C3X–D – PRIOR TO INSTALLING PREFORMED JOINT SEALER IN THE FORMED JOINT (DETAIL C), THE JOINT SHALL BE WIDENED TO A NOMINAL WIDTH OF 3/8" BY SAWING ALONG THE FULL LENGTH OF THE FORMED JOINT.

DESIGN C2X OR C2X–D – PRIOR TO SEALING FORMED JOINT (DETAIL C), WITH HOT POUR SEALER, THE JOINT SHALL BE WIDENED TO A NOMINAL WIDTH OF 1/2". SAW ALONG FULL LENGTH OF THE FORMED JOINT TE DEPTH OF 3/4" (+1/8", – 1/16") THE SEALER SHALL BE FILLED TO THE SAME DEPTH AS SHOWN IN DETAIL B.

② DESIGN C2B OR C2B–D – PRIOR TO SEALING JOINT (DETAIL B) WITH HOT POUR JOINT SEALER, A 5/8" DIA. CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 5/8" BELOW THE SURFACE OF THE PAVEMENT.

③ WHEN USING PREFORMED JOINT SEALER, THE DEPTH SHALL BE 1/4" MORE THAN THE PREFORMED SEALER, WHEN COMPRESSED, TO FIT THE JOINT DESIGN WIDTH.

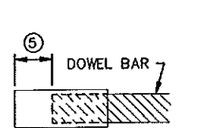
④ THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT, A 1/2" DIA. CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 1/2" BELOW THE SURFACE OF THE PAVEMENT. NON SELF–LEVELING SILICONE SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEALANT BEAD THICKNESS OF 1/4".

GENERAL NOTES:
SEE STANDARD PLATE 1103, DOWEL BAR ASSEMBLY.
SEE STANDARD PLATE 1150, CONSTRUCTION OF HEADER JOINTS, SEE STANDARD PLANS 5–297.217 AND 5–297.219, CONCRETE MAINLINE/RAMP PAVEMENT.

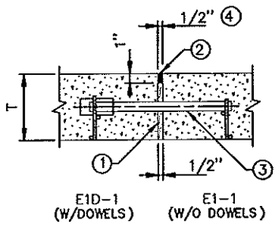
SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATION TO BE USED AND SPECIAL REINFORCEMENT REQUIRED.

FOR UNBONDED OVERLAYS, THE JOINT DEPTH " 9" SHALL BE T/3.
FOR CONCRETE PAVEMENT, THE JOINT DEPTH "9" SHALL BE T/4.

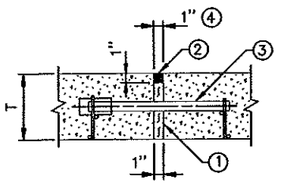
CONTRACTION JOINTS
DESIGN C



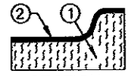
DOWEL BAR SLEEVE DETAIL



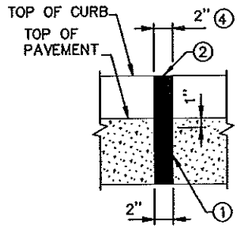
E1D–1 (W/DOWELS) E1–1 (W/O DOWELS)
DETAIL A



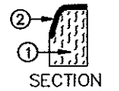
E2D–1 (W/DOWELS) E2–1 (W/O DOWELS)
DETAIL C



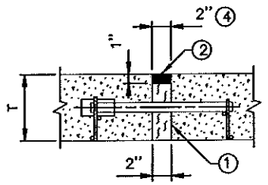
SECTION THRU CURB E2–1



E4–1 (W/O DOWELS)
DETAIL D



SECTION THRU CURB E4–1



E4D–1 (W/DOWELS)
DETAIL E

EXPANSION JOINTS

CLASS DESIGNATION		JOINT DETAIL	JOINT SEALER SPEC.
WITH DOWELS	WITHOUT DOWELS		
E1D–1	E1–1	A	3723
E2D–1	E2–1	C	3723
	E4–1	D	3723
E4D–1		E	3723
	E8S–1	⑥	3725

LEGEND
E = EXPANSION JOINT
NO. = JOINT REFERENCE ④
D = DOWEL BARS
S = CONCRETE SILL
–1 = HOT POURED SEAL

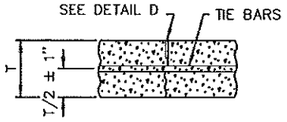
EXAMPLE
E1D–1
HOT POURED SEAL
DOWEL BARS
JOINT REFERENCE
EXPANSION JOINT

NOTES:
① PREFORMED JOINT FILLER MATERIAL, SPEC. 3702.
② JOINT SEALER SPEC. 3723. TOP OF SEALER, FLUSH TO 1/8 IN. BELOW TOP OF PAVEMENT SURFACE. MAKE TOP OF SEALER FOR CURB SECTION E JOINTS FLUSH WITH SURFACE ± 1/8 IN.
③ DOWEL BAR ASSEMBLY, SEE STANDARD PLATE 1103.
④ THE FIRST NUMBER IN THE JOINT DESIGNATION IS EQUAL TO HALF OF THE JOINT NUMBER IN 1/2" INTERVALS (I.E. E1 = 1/2", E2 = 1", E4 = 2 IN., E8 = 4 IN.).
⑤ SPACE FROM END OF DOWEL BAR TO END OF SLEEVE TO BE EQUAL TO EXPANSION JOINT WIDTH.
⑥ SEE STANDARD PLAN 5–297.223 FOR E8S JOINT DETAIL.

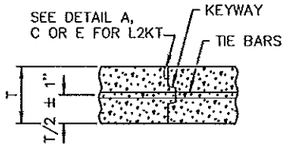
EXPANSION JOINTS
DESIGN E

STANDARD SHEET NO. 5–297.221 (1 OF 2)
STANDARD APPROVED: JUNE 6, 2005

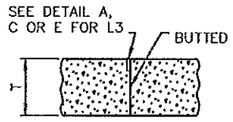
TITLE: PAVEMENT JOINTS
CONTRACTION (DESIGN C) AND EXPANSION (DESIGN E)



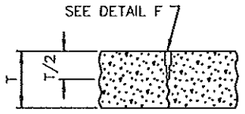
L1 & L1T



L2KT



L3



L4

LONGITUDINAL JOINT CLASS DESIGNATION, DETAIL & SEALER SPECIFICATION TABLE

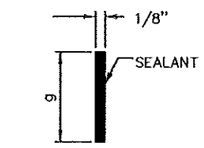
CLASS DESIGNATION				JOINT DETAIL	JOINT SEALER SPECIFICATION
WITHOUT TIE BARS	WITH TIE BARS	WITH KEYWAY & TIE BARS	BUTTED		
L1H	L1TH			B	3723
		L2KTH		D OR E	3723
		L2KTS		C	3722
			L3H	D OR E	3723
			L3S	C	3722
L4S				F	3722

LEGEND

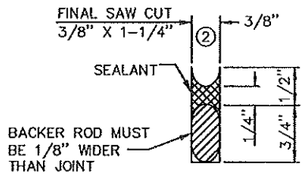
L = LONGITUDINAL JOINT
NO. = JOINT REFERENCE
K = KEYWAY
T = TIE BARS
U = UNSEALED
H = HOT POUR (SEALANT)
S = SILICONE (SEALANT)

JOINT REFERENCE NUMBERS

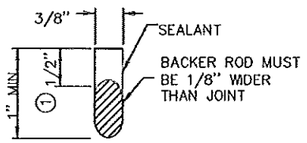
1 = SAWED TO A DEPTH OF T/3
2 = KEYED CONSTRUCTION JOINT
3 = BUTTED CONSTRUCTION JOINT
4 = SAWED TO A DEPTH OF T/2



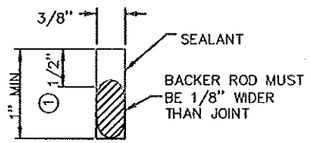
DETAIL B
(SAWED & SEALED WITH SPEC. 3723)



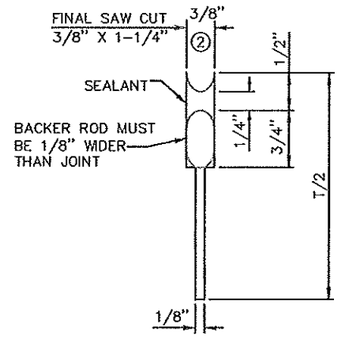
DETAIL C
(SAWED AND SEALED WITH SPEC. 3722)



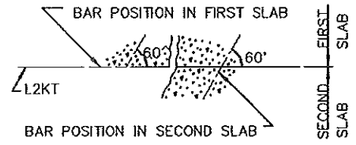
DETAIL D
(FORMED & SEALED WITH SPEC. 3723)



DETAIL E
(SAWED & SEALED WITH SPEC. 3723)



DETAIL F
(SAWED AND SEALED WITH SPEC. 3722)



TIE BAR BENDING DETAIL

LONGITUDINAL JOINT NOTES:

ALL REBARS ARE IN METRIC DESIGNATIONS

THE TIE BAR SPACING FOR ALL L2KT JOINTS SHALL BE 2' – 6" CENTER TO CENTER AND BENT 60^ AS SHOWN, EXCEPT WHEN NOTED OTHERWISE IN THE PLANS.

TIE BARS IN THE L2KT JOINTS SHALL BE THE SAME SIZE AND LENGTH AS USED FOR THE L1T JOINTS, WHEN TYING PAVEMENT TO PAVEMENT. TIE BARS IN THE L2KT JOINTS SHALL BE NO. 13 X 2' – 6", WHEN TYING CURB & GUTTER TO PAVEMENT.

ALL TIE BARS SHALL MEET THE REQUIREMENTS OF GRADE 60 FOR AASHTO M–31 OR M–53.

NORMALLY, TIED PAVEMENT WIDTHS SHALL NOT EXCEED FOUR LANES, EXCEPT BRIDGE APPROACH PANELS AND PAVEMENT TAPERS.

JOINT WIDTH TOLERANCE IS + 1/16 IN. TO – 1/32 IN.

FOR CONCRETE PAVEMENT THE JOINT DEPTH " g " SHALL BE T/3 INCHES.

SPEC. 3723 SEALER – TOP OF SEALER FLUSH TO -- 3/16 IN. BELOW TOP OF PAVEMENT SURFACE.

(1) THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT, A CLOSED CELL BACKER ROD CAPABLE OF WITHSTANDING SEALANT TEMPERATURES OF 400 DEGREES F, WITH A DIAMETER 1/8 IN. LARGER THAN THE JOINT OPENING, MAY BE PLACED 1/2 IN. BELOW THE TOP OF THE PAVEMENT.

(2) THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT. A 1/2 IN. DIAMETER CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 1/2 IN. BELOW THE SURFACE OF THE PAVEMENT. NON–SELF–LEVELING SILICONE SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEALANT BEAD THICKNESS OF 1/4 IN.

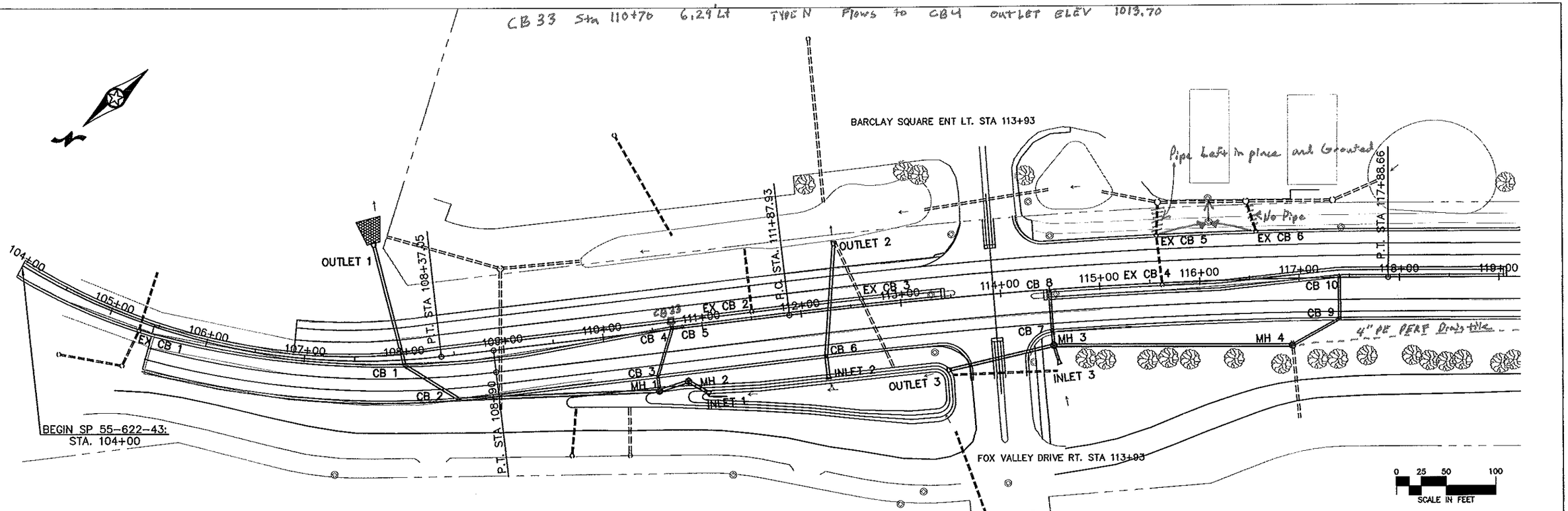
GENERAL NOTES:

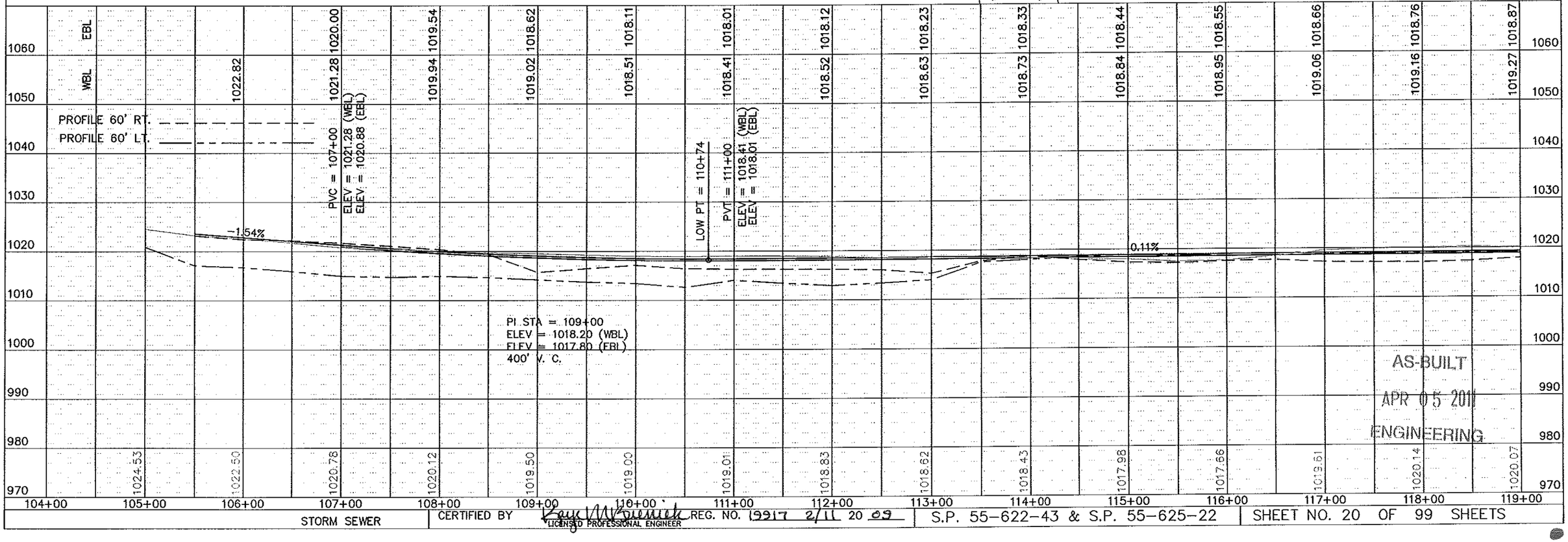
SEE STANDARD PLATE 1103, DOWEL BAR ASSEMBLY. SEE STANDARD PLATE 1141, PAVEMENT KEYWAY. SEE STANDARD PLANS 5–297.217 AND 5–297.219 FOR CONCRETE MAINLINE AND RAMP PAVEMENT.

SEE PAVING LAYOUTS IN THE PLANS FOR JOINT CLASS DESIGNATIONS TO BE USED & SPECIAL REINFORCEMENT REQUIRED.

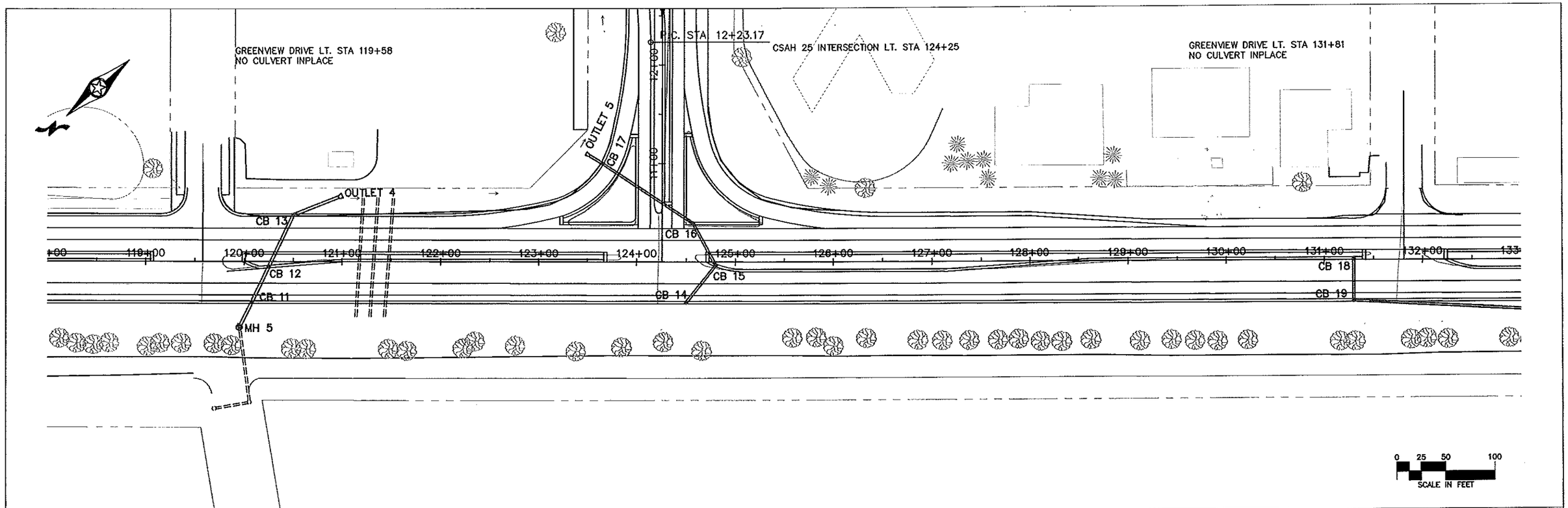
STANDARD SHEET NO.	TITLE:
5–297.221 (2 OF 2)	PAVEMENT JOINTS
STANDARD APPROVED: JUNE 6, 2005	LONGITUDINAL (DESIGN L)

CB 33 Sta 110+70 6.29' Lt TYPE N Flows to CB 4 OUTLET ELEV 1013.70



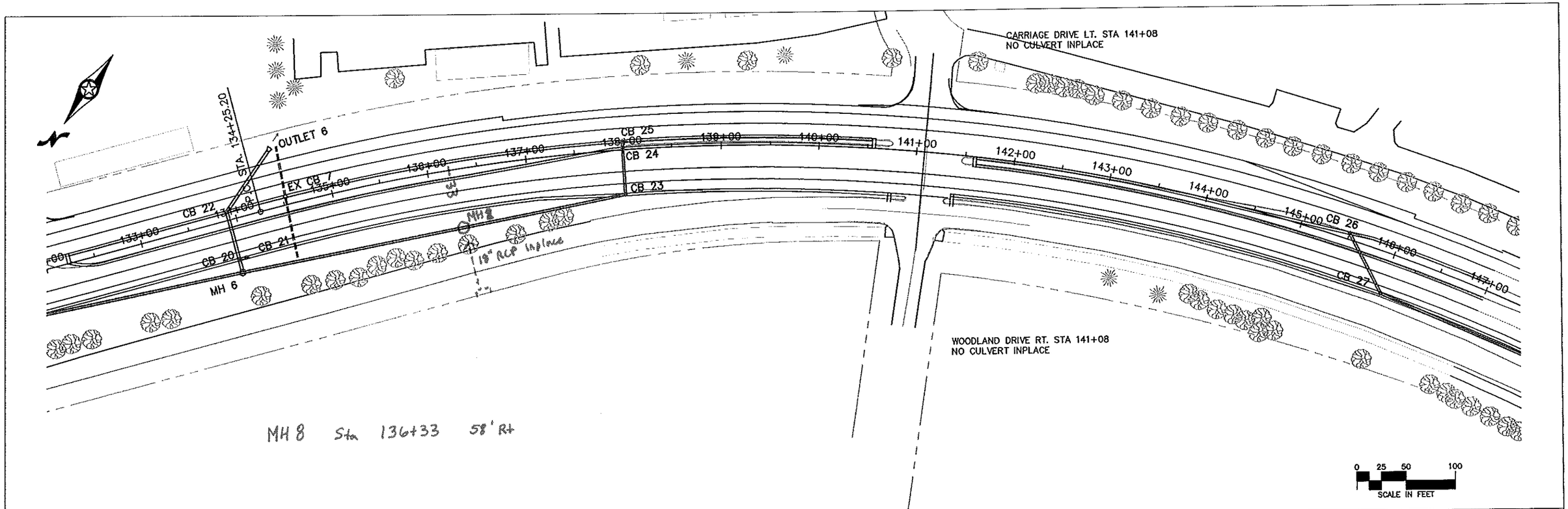


STORM SEWER	CERTIFIED BY Paul M. Bierwirth LICENSED PROFESSIONAL ENGINEER REG. NO. 19917 2/11 20 09	S.P. 55-622-43 & S.P. 55-625-22	SHEET NO. 20 OF 99 SHEETS

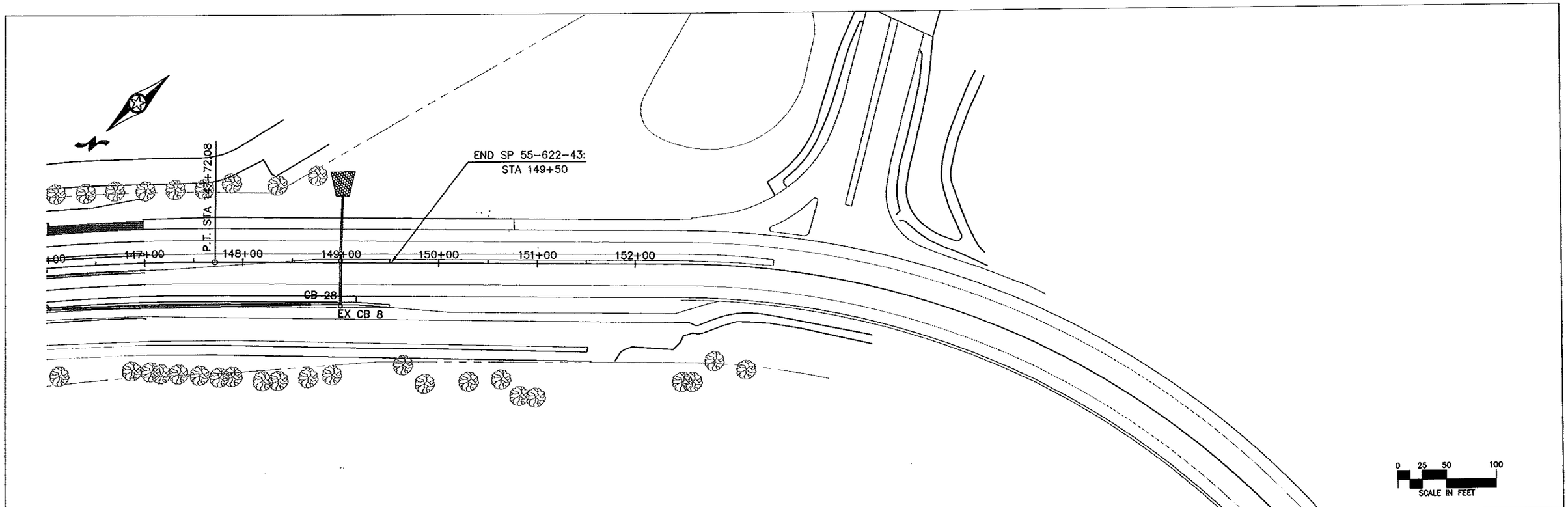


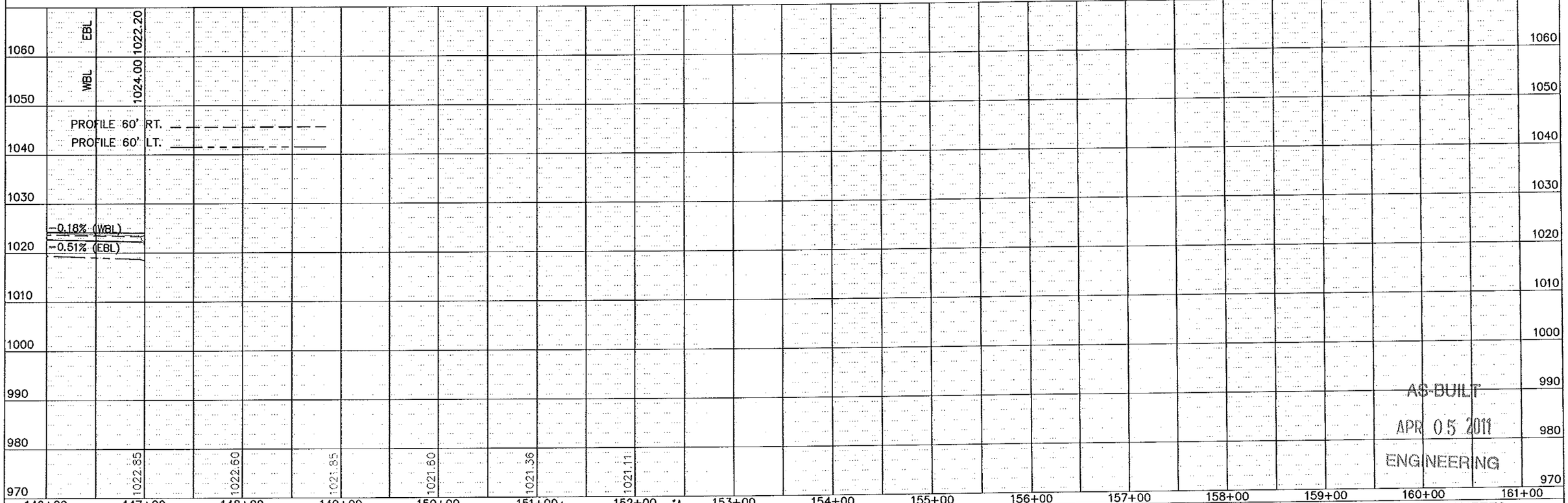
AS-BUILT
APR 05 2011
ENGINEERING

STORM SEWER	CERTIFIED BY Lauri M Swenk LICENSED PROFESSIONAL ENGINEER REG. NO. 19917 2/11 20 09	S.P. 55-622-43 & S.P. 55-625-22	SHEET NO. 21 OF 99 SHEETS



STORM SEWER | CERTIFIED BY Gary M Bowman LICENSED PROFESSIONAL ENGINEER REG. NO. 19917 2/11 20 09 | S.P. 55-622-43 & S.P. 55-625-22 | SHEET NO. 22 OF 99 SHEETS





AS-BUILT
APR 05 2011
ENGINEERING

STORM SEWER | CERTIFIED BY Paul M Reinwald LICENSED PROFESSIONAL ENGINEER REG. NO. 19917 2/11 20 09 | S.P. 55-622-43 & S.P. 55-625-22 | SHEET NO. 23 OF 99 SHEETS

CSAH 25 STA 10+00 =
CSAH 22 STA 124+25:

BEGIN SP 55-625-22:
STA 10+34

END SP 55-625-22:
STA 23+10

CB 15 | CB 16 | CB 17 | OUTLET 5 | INLET 4 | OUTLET 7 | CB 30 | CB 29 | EX CB 9 | CB 31 | EX CB 10 | MH 7 | OUTLET 8 | EX CB 11 | CB 32 | EX CB 12-13 | EX CB 14

EX CB Found under Pavement

P.C. STA 12+23.17
P.C. STA 12+57.40
P.T. STA 14+44.21

0 25 50 100
SCALE IN FEET

PROFILE 60' RT. — — — — —
PROFILE 60' LT. ———————

PVC = 12+50
ELEV = 1017.49
-1.24%
LOW PT = 13+68.57
ELEV = 1016.75
PVT = 16+50
ELEV = 1020.91
2.95%
PVC = 19+00
ELEV = 1028.29
PVT = 23+00
ELEV = 1037.50
1.65%
PI STA = 21+00
ELEV = 1034.20
400' V.C.
PVI = 14+50
ELEV = 1015.00
400' V.C.

	9+00	10+00	11+00	12+00	13+00	14+00	15+00	16+00	17+00	18+00	19+00	20+00	21+00	22+00	23+00	24+00
1060		1020.60	1019.36	1018.11	1017.00	1016.80	1017.66	1019.56	1022.38	1025.34	1028.29	1031.08	1033.55	1035.69	1037.50	
1050																
1040																
1030																
1020																
1010																
1000																
990																
980																
970			1019.39	1018.08	1017.73	1017.42	1017.47	1016.86	1016.92	1017.16	1018.59	1020.11	1022.62	1025.24	1027.79	1029.50	1030.84	1032.41	1033.83	1035.23	1035.79	1036.62	1037.48	

AS-BUILT
APR 05 2011
ENGINEERING

STORM SEWER | CERTIFIED BY Kurt M Bauerfeind REG. NO. 19917 2/11 20 05 LICENSED PROFESSIONAL ENGINEER | S.P. 55-622-43 & S.P. 55-625-22 | SHEET NO. 24 OF 99 SHEETS

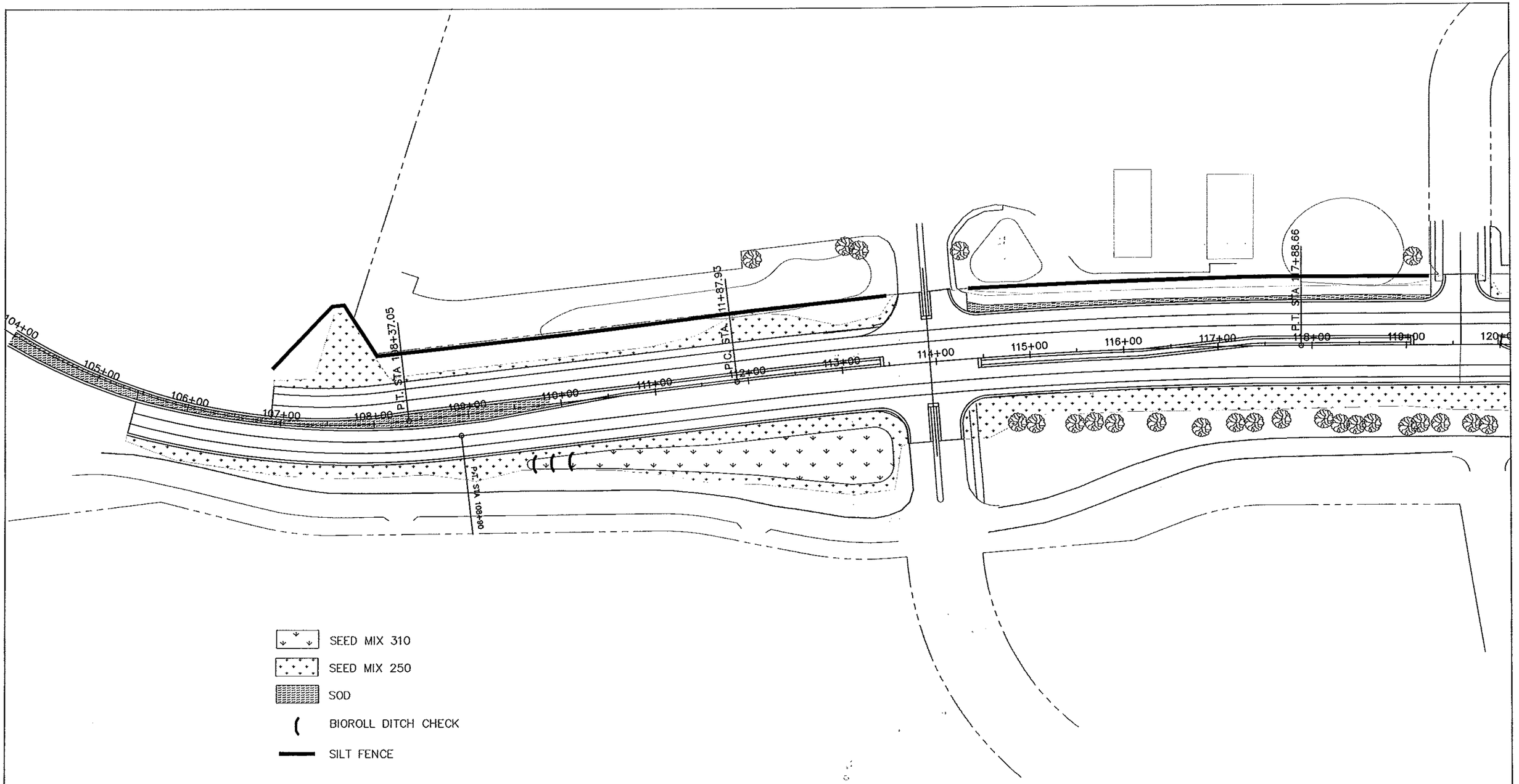
NEW STORM SEWER

STRUCTURE NO.	STATION	LOCATION	CONSTRUCTION DESIGN M.H.	CONSTRUCTION DESIGN C.B.	TOP CASTING ELEV.	INLET ELEV.	INLET ELEV.	OUTLET ELEV.	FRAME CASTING NO.	GRATE NO.	CURB BOX NO.	12" R.C.PIPE LIN.FT.	15" R.C.PIPE LIN.FT.	18" R.C.PIPE LIN.FT.	21" R.C.PIPE LIN.FT.	24" R.C.PIPE LIN.FT.	30" R.C.PIPE LIN.FT.	36" R.C.PIPE LIN.FT.	36" R.C. R.C. ARCH PIPE LIN.FT.	FLOWS TO	% GRADE	CLASS	APRON
OUTLET 1	107+70	118.00' LT.						1007.00															1
C.B. 1	108+00	5.61' RT.	54-4020		1019.82	1008.32 N		1008.27 S	806	816	825						~~121~~ 117			OUTLET 1	1.0	III	
C.B. 2	108+50	44.59' RT.	54-4020		1020.00	1009.00 W		1008.95 S	806	816	825						~~63~~62			C.B. 1	1.0	III	
M.H. 1	110+50	60.00' RT.	66-4020		1016.50	1011.10 W	1012.25 S	1011.00 E	SPECIAL GRATE								201			C.B. 2	1.0	III	
M.H. 2	110+80	55.00' RT.	48-4020		1018.50	1011.75 N		1011.40 E	700-7	715							~~31~~ 23			M.H. 1	1.0	III	
C.B. 3	110+50	45.29' RT.		N	1018.22	1012.75 S		1012.50 N	806	816	825		15							M.H. 1	1.7	III	
C.B. 4	110+70	1.29' LT.		N	1018.28	1013.55 W		1013.50 N	806	816	825	50								C.B. 3	1.5	IV	
C.B. 5	110+80	1.29' LT.		N	1018.28			1013.70 E	806	816	825	~~10~~ 9								C.B. 4	1.5	IV	
INLET 1	111+00	70.00' RT.				1012.00										21 ~~19~~				~~C.B. 3~~MH 2	1.0	III	1
INLET 2	112+20	67.00' RT.				1014.00										14 ~~17~~				C.B. 6	2.0	III	1
C.B. 6	112+20	45.29' RT.		G	1017.74	1013.54 N		1013.49 S	806	816	825					109				OUTLET 2	2.3	III	
OUTLET 2	112+40	68.00' RT.						1010.80															1
OUTLET 3	113+40	72.00' RT.						1013.20															1
M.H. 3	114+50	56.00' RT.	66-4020		1018.50	1013.55 W	1014.50 S&N	1013.50 E	700-7	715							102			OUTLET 3	0.3	III	
C.B. 7	114+50	41.29' RT.		N	1017.95	1014.70 S		1014.65 N	806	816	825		~~15~~ 14							M.H. 3	1.0	III	
C.B. 8	114+50	1.29' RT.		N	1018.07			1014.90 N	806	816	825	40								C.B. 7	0.5	IV	
INLET 3	114+55	75.00' RT.				1015.00							~~14~~ 12							M.H. 3	2.5	III	1
M.H. 4	116+92	67.00' RT.	60-4020		1020.00	1015.20 S	1017.00 N	1014.25 E	700-4	715							~~239~~ 234			M.H. 3	0.3	III	
C.B. 9	117+40	41.29' RT.		N	1018.25	1015.70 S		1015.45 N	806	816	825		~~54~~ 52							M.H. 4	0.5	III	
C.B. 10	117+40	1.29' LT.		N	1018.77			1015.90 N	806	816	825	~~43~~ 42								C.B. 9	0.5	IV	
M.H. 5	119+95	67.00' RT.		G	1020.50	1016.90 N		1016.00 S	700-4	715						29				C.B. 11	2.0	III	
C.B. 11	120+08	41.29' RT.	54-4020		1019.19	1015.41 N		1015.36 S	806	816	825								40	C.B. 12	0.5	IIA	
C.B. 12	120+25	5.21' RT.	54-4020		1019.41	1015.16 N		1015.11 S	806	816	825								~~58~~ 56	C.B. 13	0.5	IIA	
C.B. 13	120+50	47.29' LT.	54-4020		1018.45	1014.82 N		1014.77 S	806	816	825								~~46~~ 50	OUTLET 4	0.5	IIA	
OUTLET 4	121+00	67.00' LT.						1014.50															1
C.B. 14	124+50	41.29' RT.		N	1020.65			1016.60 S	806	816	825		~~49~~ 48							C.B. 15	1.0	III	
C.B. 15	124+80	3.52' RT.		N	1020.86	1016.10 N		1016.05 S	806	816	825		~~49~~ 48							C.B. 16	1.0	III	
C.B. 16	124+57	39.29' LT.		N	1019.95	1015.55 N		1015.50 S	806	816	825		~~110~~ 111							C.B. 17	1.0	III	
C.B. 17	123+65	100.00' LT		N	1017.97	1014.40 N		1014.10 S	806	816	825			~~14~~ 13						OUTLET 5	0.5	III	
OUTLET 5	123+48.5	110.00' LT.						1014.00															1
C.B. 18	131+~~30~~5	1.29' LT.		N	1020.77			1017.40 N	806	816	825	43								C.B. 19	0.5	IV	
C.B. 19	131+~~30~~5	41.29' RT.		G	1020.73	1017.20 S		1017.00 W	806	816	825			~~262~~255						M.H. 6	0.3	III	
M.H. 6	133+92	55.00' RT.	54-4020		1020.50	1016.20 E	1016.20 W	1016.00 S	700-7	715					~~44~~16					C.B. 20	0.4	III	
C.B. 20	133+92	41.29' RT.		G	1019.43	1015.95 N	1016.30 W	1015.90 S	806	816	825				50					C.B. 22	0.4	III	
C.B. 21	134+00	41.29' RT.		N	1019.47			1016.38 E	806	816	825		8							C.B. 20	1.0	III	
C.B. 22	133+92	8.71' LT.		G	1019.85	1015.70 N		1015.50 S	806	816	825					71 ~~70~~				OUTLET 6	0.4	III	
OUTLET 6	134+50	60.00' LT.						1015.20															1
C.B. 23	138+00	45.29' RT.		G	1021.22	1018.00 S		1017.80 E	806	816	825			~~398~~401						M.H. 6	0.4	III	
C.B. 24	138+00	1.29' LT.		N	1022.38	1018.44 S		1018.24 N	806	816	825		~~47~~46							C.B. 23	0.5	III	
C.B. 25	138+00	8.71' LT.		N	1021.88			1018.50 N	806	816	825	8								C.B. 24	0.8	IV	
C.B. 26	145+50	6.30' LT.		N	1022.81			1019.88 N	806	816	825	~~69~~66								C.B. 27			
C.B. 27	146+00	41.29' RT.		N	1022.86	1019.53 S		1019.48 W	806	816	825	29~~8~~								C.B. 28	0.3	IV	
C.B. 28	149+00	41.29' RT.		N	1022.00	1018.59 E		1018.54 S	806	816	825									EXIST. C.B.	2.0		
C.B. 29	13+68	0.64' LT.		N	1016.26			1013.44 N	806	816	825	37								C.B. 30	0.5	IV	
C.B. 30	13+80	35.29' LT.		N	1015.68	1013.25		1013.11 N	806	816	825		~~16~~14							OUTLET 7	0.5	III	
OUTLET 7	13+90	55.00' LT.						1013.00															1
INLET 4	15+00	59.00' LT.				1012.50												~~58~~ 61		C.B. 31	0.5	III	1
C.B. 31	15+60.7	63.85' LT.	54-4020		1017.00	1012.20 W		1012.15 E	806	816	825							218		M.H. 7	0.45	III	
M.H. 7	17+78	81.20' LT.	60-4020		1016.50	1011.20 W		1011.15 E	700-7	715								21 ~~22~~		OUTLET 8			
OUTLET 8	18+05	94.00' LT.						1011.00															1
C.B. 32	19+70.5	1.29' RT.		N	1029.97			1025.72 S	806	816	825	14	~~16~~							EXIST. C.B.	2.0	IV	
TOTALS												~~596~~	393	~~674~~	~~64~~	~~244~~	~~757~~	~~301~~	~~144~~				

CERTIFIED BY Lawrence M Brimich LICENSED PROFESSIONAL ENGINEER REG. NO. 19917 2/11 2002

S.P. 55-622-43 & S.P. 55-625-22

AS-BUILT
APR 05 2011
ENGINEERING



SEED MIX 310

SEED MIX 250

SOD

BIOROLL DITCH CHECK

SILT FENCE

NOTES:

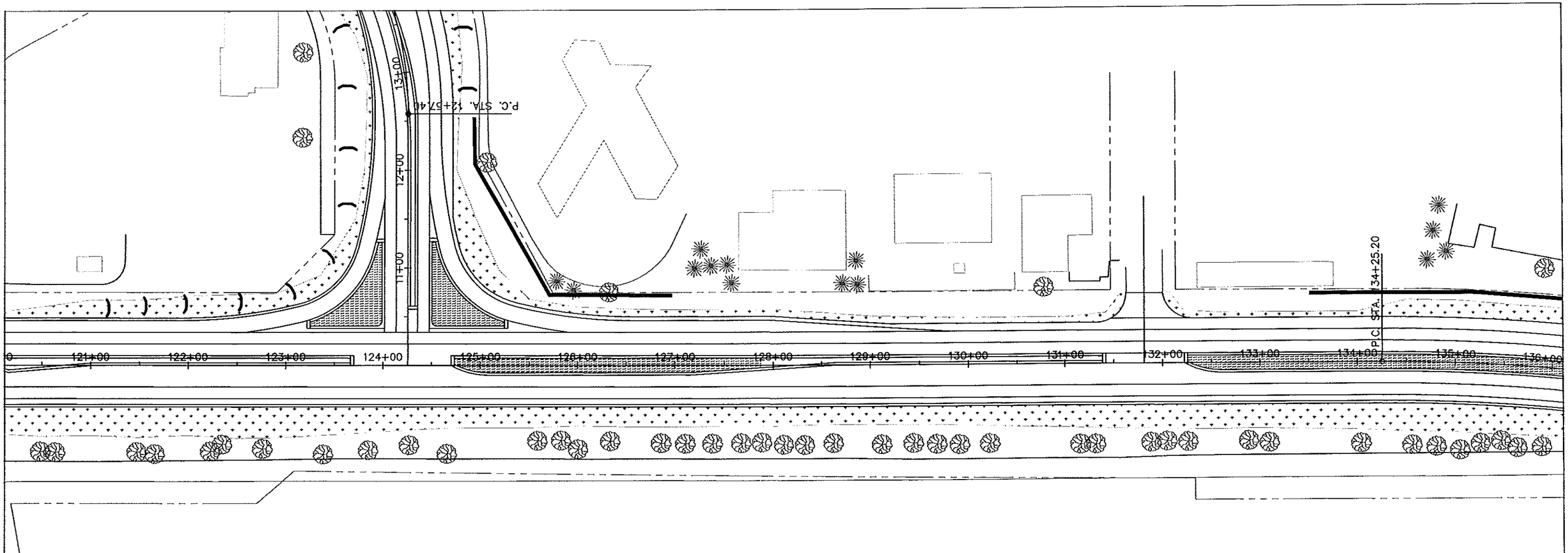
ALL REMAINING DISTURBED AREAS IN GRADING PROCESS TO BE SEEDED, DISC ANCHORED, AND MULCHED.

ALL EROSION CONTROL LOCATIONS ARE APPROXIMATE AND SHALL BE DESIGNATED IN THE FIELD BY THE ENGINEER.

EROSION CONTROL

CERTIFIED BY Kayce M Poienick REG. NO. 19917 2/11 2009
LICENSED PROFESSIONAL ENGINEER

S.P. 55-622-43 & S.P. 55-625-22



SEED MIX 310

SEED MIX 250

SOD

BIOROLL DITCH CHECK

SILT FENCE

NOTES:

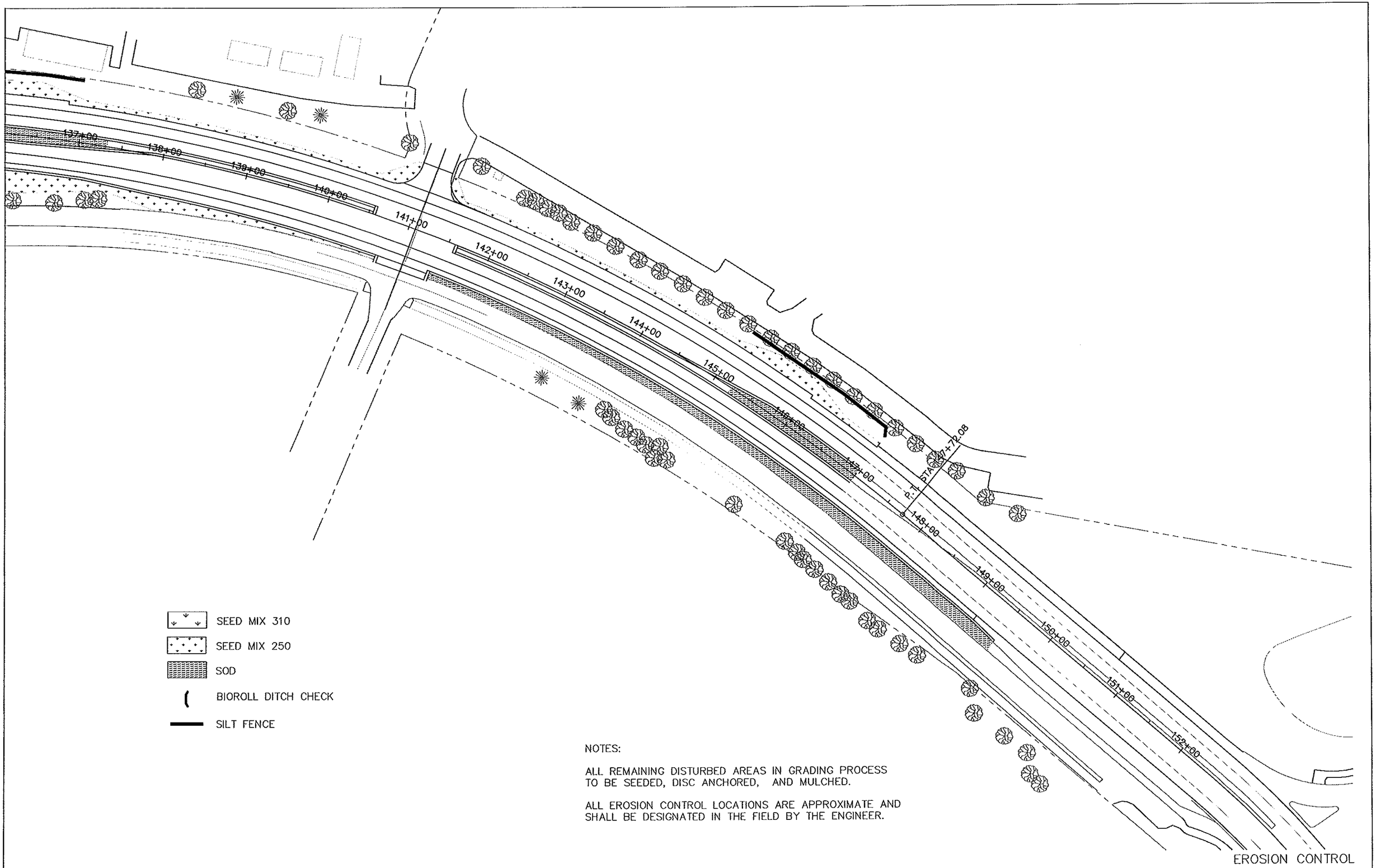
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EROSION CONTROL

CERTIFIED BY Kay M Brinnith REG. NO. 19917 2/11 2009
LICENSED PROFESSIONAL ENGINEER

S.P. 55-622-43 & S.P. 55-625-22



SEED MIX 310

SEED MIX 250

SOD

BIOROLL DITCH CHECK

SILT FENCE

NOTES:

ALL REMAINING DISTURBED AREAS IN GRADING PROCESS TO BE SEEDED, DISC ANCHORED, AND MULCHED.

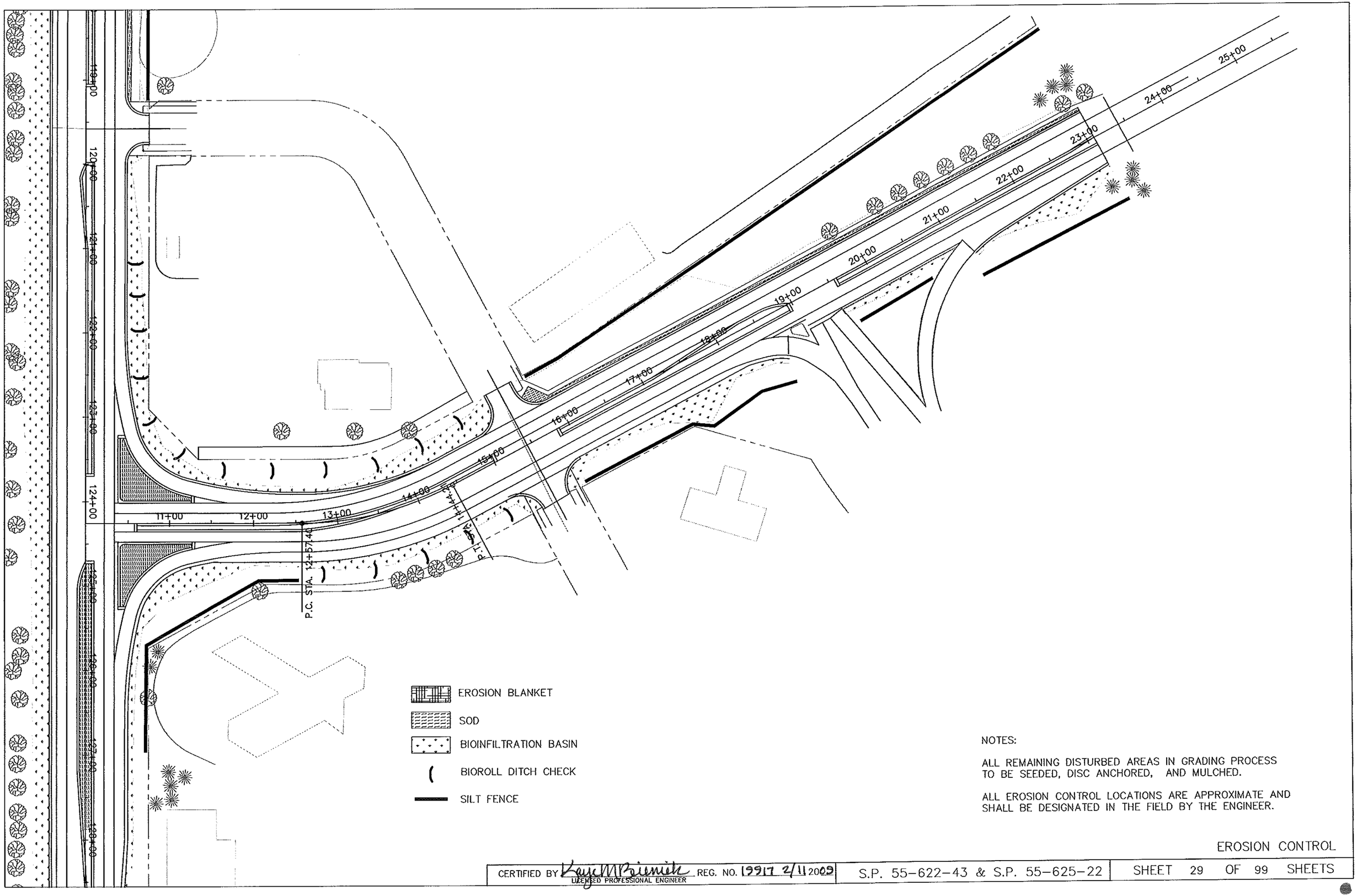
ALL EROSION CONTROL LOCATIONS ARE APPROXIMATE AND SHALL BE DESIGNATED IN THE FIELD BY THE ENGINEER.

EROSION CONTROL

CERTIFIED BY Kay M Biemith REG. NO. 19917 2/11/2003
LICENSED PROFESSIONAL ENGINEER

S.P. 55-622-43 & S.P. 55-625-22

SHEET 28 OF 99 SHEETS



NOTES:

ALL REMAINING DISTURBED AREAS IN GRADING PROCESS TO BE SEEDED, DISC ANCHORED, AND MULCHED.

ALL EROSION CONTROL LOCATIONS ARE APPROXIMATE AND SHALL BE DESIGNATED IN THE FIELD BY THE ENGINEER.

EROSION CONTROL

CERTIFIED BY Kayce M Primich REG. NO. 19917 2/11 2009
LICENSED PROFESSIONAL ENGINEER

S.P. 55-622-43 & S.P. 55-625-22

SHEET 29 OF 99 SHEETS

ABBREVIATIONS

APS	ACCESSIBLE PEDESTRIAN SIGNAL
AWF	ADVANCED WARNING FLASHER
BL	BLUE
BL/BLK	BLUE WITH BLACK TRACER
BLK	BLACK
BLK/R	BLACK WITH RED TRACER
BLK/WH	BLACK WITH WHITE TRACER
C.D.	COUNT DOWN
CH. SW.	CHECK SWITCH
CLR	CLEAR
D2–1 (e.g.)	DETECTOR (PHASE 2, NO. 1)
DBL	DOUBLE
DWK	DON'T WALK
EQ.G	EQUIPMENT GROUND
EVP	EMERGENCY VEHICLE PRE-EMPTION
F&I	FURNISH AND INSTALL
FL	FLASH/FLASHING
G	GREEN
G/BLK	GREEN WITH BLACK TRACER
GLTA	GREEN LEFT TURN ARROW
GRN	GREEN
GR. RD.	GROUND ROD
GRTA	GREEN RIGHT TURN ARROW
GTHA	GREEN THRU ARROW
HH	HANDHOLE
HPS	HIGH PRESSURE SODIUM
IMC	INTERMEDIATE METAL CONDUIT
INP	INPLACE
INS. GR.	INSULATED GROUND
JB	JUNCTION BOX
LED	LIGHT EMITTING DIODE
LHT	LIGHT
LUM	LUMINAIRE
NEU	NEUTRAL
NMC	NONMETALLIC CONDUIT
O	ORANGE
O/BLK	ORANGE WITH BLACK TRACER
P1–1 (e.g.)	PEDESTRIAN INDICATION (PHASE 1, NO. 1)
PB	PUSH BUTTON
PB2–1 (e.g.)	PUSH BUTTON (PHASE 2, NO. 1)
PEC	PHOTOELECTRIC CELL
PED	PEDESTRIAN
R	RED
R&S	REMOVE AND SALVAGE
R/BLK	RED WITH BLACK TRACER
RLTA	RED LEFT TURN ARROW
RSC	RIGID STEEL CONDUIT
S & I	SALVAGE AND INSTALL
SOP	SOURCE OF POWER
SPR	SPARE
ST LHT	STREET LIGHT
STA	STATION
SW	SWITCH
SWD	SWITCHED
TDW	TELEPHONE DROP WIRE
WH	WHITE
WH/BLK	WHITE WITH BLACK TRACER
WH/R	WHITE WITH RED TRACER
WLK	WALK
YEL	YELLOW
YLTA	YELLOW LEFT TURN ARROW
YRTA	YELLOW RIGHT TURN ARROW

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
BLK/R	–	BLACK WITH RED TRACER
WH/R	–	WHITE WITH RED TRACER

SYMBOLS

- EQ. G CONNECTION
- EVP DETECTOR W/LIGHT
- LUMINAIRE NO. (2)
- SIGNAL BASE NO. (3)
- SIGNAL FACE NO./FLASHER FACE NO. (5-2)
- SPLICE
- VIDEO DETECTION (2)
- CONTROLLER AND SERVICE EQPT. NO'S. (A)
- CONTROLLER AND CABINET
- HANDHOLE
- HANDHOLE IN PLACE
- NEW CONDUIT TO BE F & I
- INPLACE CONDUIT
- SIGNAL FACE WITH BACKGROUND SHIELD
- PEDESTRIAN INDICATORS
- PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE
- PEDESTRIAN PUSH BUTTONS STATION
- TRAFFIC SIGNAL POLE AND MAST ARM
- STREET LIGHT POLE AND LUMINARE
- MAST ARM AND LUMINAIRE
- MAST ARM AND LUMINAIRE IN PLACE
- WOOD POLE
- WOOD POLE IN PLACE
- SOURCE OF POWER
- RIGHT OF WAY LINE
- CENTERLINE
- CURB LINE
- STOP BAR

FOR PLANS AND UTILITIES SYMBOLS
SEE TECHNICAL MANUAL

STANDARD PLATES – SIGNAL SYSTEMS

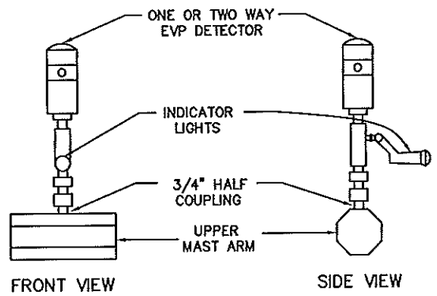
THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
► 8000 I	STANDARD BARRICADES
► 8110 D	TRAFFIC SIGNAL BRACKETING – POLE MOUNTED
► 8111 D	TRAFFIC SIGNAL BRACKETING – PEDESTAL MOUNTED
► 8112 E	PEDESTAL FOUNDATION
► 8114 A	PVC HANDHOLE/PULLBOX
► 8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
8118 D	SERVICE EQUIPMENT AND POLE–TRAFFIC SIGNALS
8119 C	GROUND MOUNTED CABINET FOUNDATION
8120 M	POLE FOUNDATION (PA85)
► 8121 E	TRANSFORMER BASE AND POLE BASE PLATE
► 8122 D	PEDESTAL AND PEDESTAL BASE
► 8123 E	POLE AND MAST ARM
► 8124 E	MAST ARM SIGNAL HEAD MOUNTS
► 8126 H	POLE FOUNDATION (PA90 AND PA100)
►	STANDARD PLATES APPLICABLE TO THIS PROJECT

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO	ITEM	UNIT	TOTAL ESTIMATED QUANTITY
2565.601	TRAFFIC CONTROL INTERCONNECTION	LUMP SUM	1
2565.602	PVC HANDHOLE	EACH	9
2565.603	4" NON–METALLIC CONDUIT	LIN. FT.	325
2565.616	REVISE SIGNAL SYSTEM A	SYSTEM	1
2565.616	REVISE SIGNAL SYSTEM B	SYSTEM	1
2565.616	VIDEO DETECTOR SYSTEM	SYSTEM	1

EVP DETECTOR AND LIGHT
MOUNTING DETAIL ON MAST ARM



S.P. 55–622–43
S.P. 55–625–22

DRAWN BY: JMG	NO.	BY	DATE	REVISIONS
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM				

I HEREBY CERTIFY THAT THIS PLAN 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.
Date: February 9, 2009 Name: John M. Gray, PE Lic. No. 22457

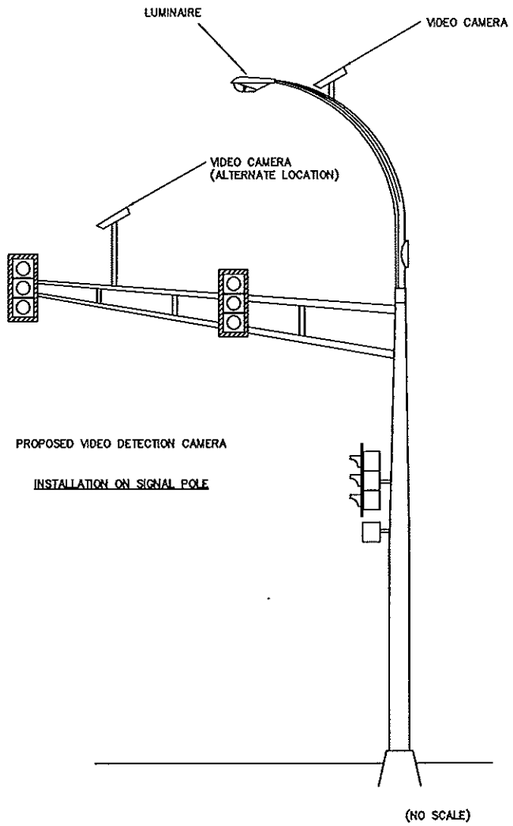
SEH
PHONE: (651) 490–2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

REVISE SIGNAL SYSTEMS 'A-B'
DETAILS + STANDARD PLATES
CSAH 22 (SALEM ROAD SW)/
CSAH 25 (16TH STREET SW)

FILE NO. 106609
DATE 02/09/2009
33 / 99

02/09/2009
S:\PW\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIDDETS.DWG



VIDEO DETECTION DETAILS

NOTES:

1. ALL CAMERA DETECTION DEVICES AND EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
2. THE CONTRACTOR SHALL RUN ONE CONTINUOUS PULL (WITHOUT SPLICES) OF VIDEO CABLE AND POWER CABLE BETWEEN THE TRAFFIC SIGNAL BASE AND THE TRAFFIC SIGNAL CONTROLLER CABINET FOR EACH CAMERA.
3. CABLES FOR CAMERA OPERATION SHALL MEET THE FOLLOWING SPECIFICATION: "Belden 8281"
4. CAMERA CABLE AND 5½ Pr CABLE SHALL BE SPLICED IN EACH SIGNAL BASE WITH EACH WIRE BEING A TWISTED OVERLAP, SOLDERED INDIVIDUALLY INSULATED AND THE ENTIRE SPLICE HEAT SHRINK JACKETED.

MAST ARM MOUNTED SIGNS
SIGN PANELS – TYPE C & D (INPLACE–SALVAGE & INSTALL)

SIGNAL SYSTEM	SIGN PANEL	POLE NO.	a (FT)	b (FT)	APPROX. SIZE (IN)	MOUNTING BRACKET QUANTITY	MOUNTING BRACKET SPACING (1)	NO. REQ.	SIGN LEGEND
A	D–1	2	–	25'	102 x 24	4	---	1	16TH ST SW (w/ARROW)
A	D–2	3	3'	–	36 x 42	2	---	1	CSAH 22 (w/ARROW)
A	D–3	3	–	12'	96 x 24	4	---	1	SALEM RD SW
A	D–4	4	–	10'	102 x 24	4	---	1	16TH ST SW (w/ARROW)
B	D–5	1	–	28'	72 x 24	3	---	1	FOX VALLEY DR
B	D–6	2	2'	–	60 x 24	3	---	1	SALEM RD
B	D–7	3	–	28'	72 x 24	3	---	1	FOX VALLEY DR
A	R10–12	2	1'	–	36 x 48	2	---	1	LEFT TURN YIELD ON GREEN
					TOTAL QUANTITIES			8	

SIGNS FOR TRAFFIC SIGNAL SYSTEMS
SIGN PANELS – TYPE D (FURNISH AND INSTALL)

SIGNAL SYSTEM	SIGN PANEL	POLE NO.	a (FT)	b (FT)	SIZE (IN)	MOUNTING BRACKET QUANTITY	MOUNTING BRACKET SPACING (1)	AREA/SIGN (SQ. FT.)	NO. REQ.	PANEL LEGEND
A	D–8	2	–	14'	36 x 48	2	---	12.00	1	CSAH 25 (w/LEFT ARROW)
A	D–9	4	1'	–	36 x 48	2	---	12.00	1	CSAH 25 (w/RIGHT ARROW)
B	D–10	2	–	12'	36 x 48	2	---	12.00	1	CSAH 22 (w/DOUBLE ARROW)
B	D–11	4	–	12'	36 x 48	2	---	12.00	1	CSAH 22 (w/DOUBLE ARROW)
					TOTAL QUANTITIES			48.00	4	

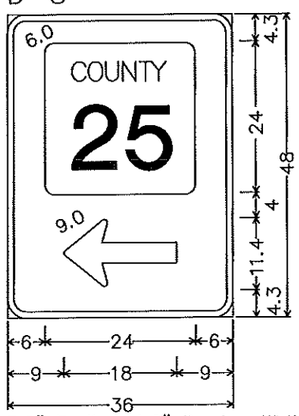
(1) = SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE 7/06/2007) FOR BRACKET SPACING REQUIREMENTS.

SIGNS FOR TRAFFIC SIGNAL SYSTEMS
SIGN PANELS – TYPE C (FURNISH AND INSTALL)

SIGNAL SYSTEM	SIGN PANEL	POLE NO.	a (FT)	b (FT)	SIZE (IN)	MOUNTING BRACKET QUANTITY	MOUNTING BRACKET SPACING (1)	AREA/SIGN (SQ. FT.)	NO. REQ.	PANEL LEGEND
A	R9–3a	1	–	–	18 x 18	①	---	2.25	2	NO PEDESTRIAN CROSSING
B	R9–3a	1,2,3,4	–	–	18 x 18	①	---	2.25	6	NO PEDESTRIAN CROSSING
B	R10–12	1, 3	1'	–	36 x 48	2	---	12.00	2	LEFT TURN YIELD ON GREEN
					TOTAL QUANTITIES			42.00	10	

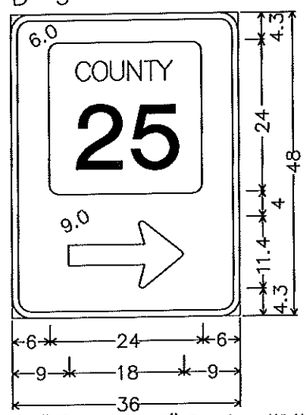
(1) = SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE 7/06/2007) FOR BRACKET SPACING REQUIREMENTS.

D–8



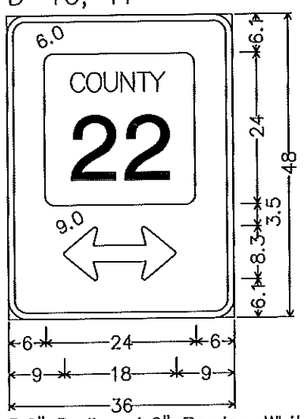
3.0" Radius, 1.0" Border, White on Green;
"County" "25" Black Legend
Arrow 14 – 18.0" 180°

D–9



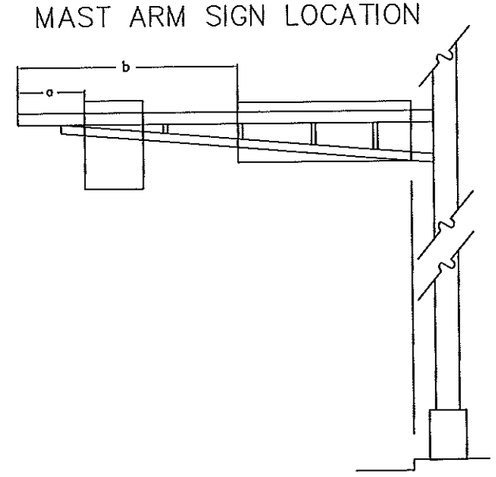
3.0" Radius, 1.0" Border, White on Green;
"County" "25" Black Legend
Arrow 14 – 18.0" 0°

D–10, 11



3.0" Radius, 1.0" Border, White on Green;
"County" "22" Black Legend
Double Headed Arrow 3 – 18.0" 0°

MAST ARM SIGN LOCATION



SIGNING NOTES:

1) ALL NEW TYPE C AND TYPE D SIGN PANELS SHALL BE FABRICATED USING HP SHEETING. SEE SPECIAL PROVISIONS.
2) FURNISHING AND INSTALLING TYPE C AND TYPE D SIGNS, AND SALVAGING AND INSTALLING TYPE C AND TYPE D SIGNS, SHALL BE CONSIDERED INCIDENTAL.
3) ① = INSTALL SIGN PANEL ON TRAFFIC SIGNAL MAST ARM POLE OR ON PEDESTAL POLE.
4) SEE STANDARD SIGNS MANUAL FOR DETAILED DRAWINGS OF TYPE C SIGN PANELS.
5) COLOR FOR NEW TYPE D SIGNS SHALL BE WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED.
6) CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
7) SEE STANDARD SIGNS MANUAL FOR ARROW AND OVERLAY DETAILS.

S.P. 55–622–43
S.P. 55–625–22

DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				

I HEREBY CERTIFY THAT THIS PLAN 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.
Name: John M. Gray, PE
Date: February 9, 2009 Lic. No. 22457

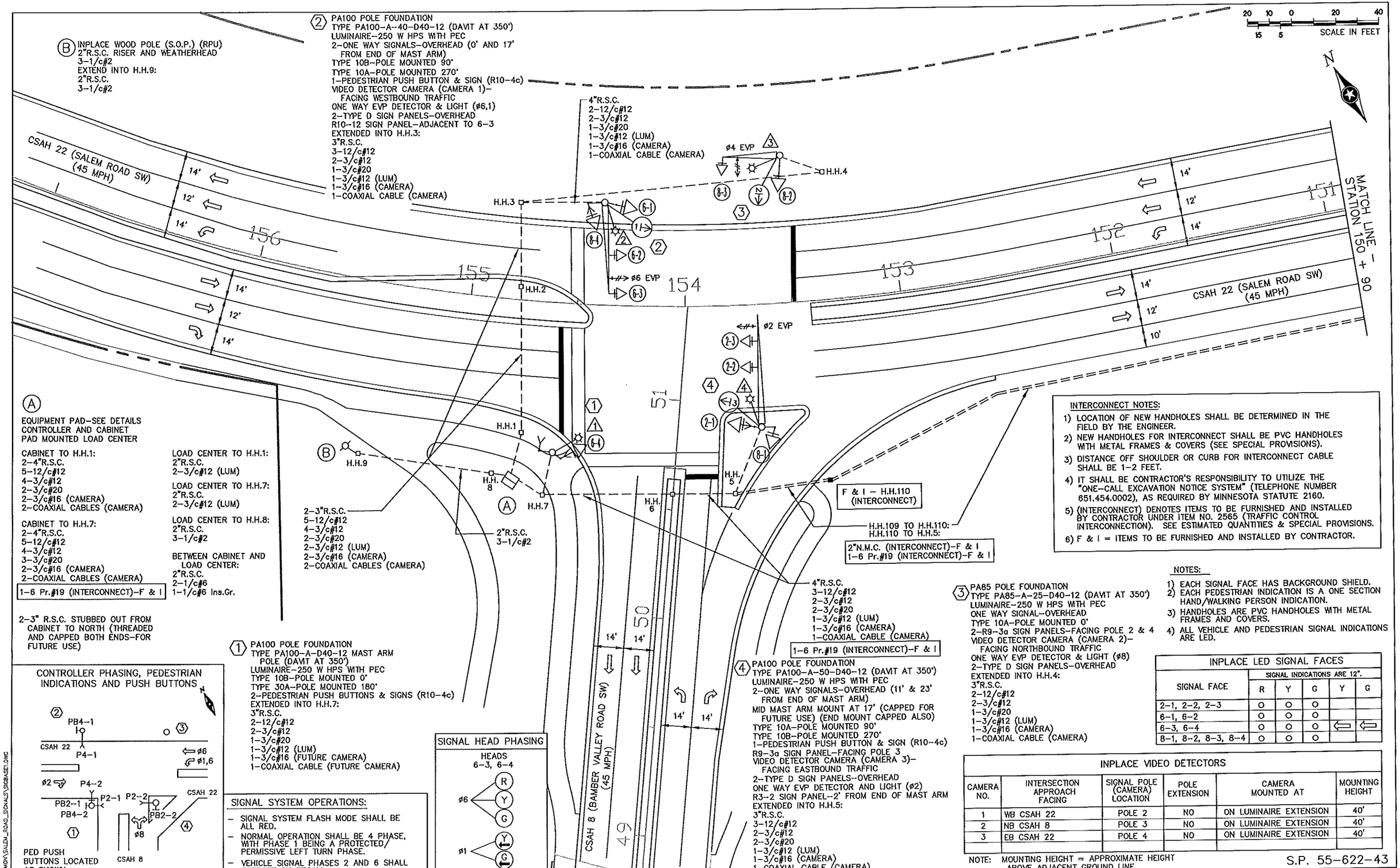
SEH
PHONE: (651) 490–2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

REVISE SIGNAL SYSTEMS 'A-B' MISCELLANEOUS DETAILS
CSAH 22 (SALEM ROAD SW)/ CSAH 25 (16TH STREET SW)

FILE NO. 106609
DATE 02/09/2009
34 / 99

02/09/2009
S:\PT\R\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGDETS.DWG



Ⓑ INPLACE WOOD POLE (S.O.P.) (RPU)
2"R.S.C. RISER AND WEATHERHEAD
3–1/c#2
EXTEND INTO H.H.9:
2"R.S.C.
3–1/c#2

② PA100 POLE FOUNDATION
TYPE PA100–A–40–D40–12 (DAVIT AT 350')
LUMINAIRE–250 W HPS WITH PEC
2–ONE WAY SIGNALS–OVERHEAD (0' AND 17' FROM END OF MAST ARM)
TYPE 10B–POLE MOUNTED 90'
TYPE 10A–POLE MOUNTED 270'
1–PEDESTRIAN PUSH BUTTON & SIGN (R10–4c)
VIDEO DETECTOR CAMERA (CAMERA 1)–FACING WESTBOUND TRAFFIC
ONE WAY EVP DETECTOR & LIGHT (ø6,1)
2–TYPE D SIGN PANELS–OVERHEAD
R10–12 SIGN PANEL–ADJACENT TO 6–3
EXTENDED INTO H.H.3:
3"R.S.C.
3–12/c#12
2–3/c#12
1–3/c#20
1–3/c#12 (LUM)
1–3/c#16 (CAMERA)
1–COAXIAL CABLE (CAMERA)

4"R.S.C.
2–12/c#12
2–3/c#12
1–3/c#20
1–3/c#12 (LUM)
1–3/c#16 (CAMERA)
1–COAXIAL CABLE (CAMERA)

Ⓐ
EQUIPMENT PAD–SEE DETAILS
CONTROLLER AND CABINET
PAD MOUNTED LOAD CENTER

CABINET TO H.H.1:
2–4"R.S.C.
5–12/c#12
4–3/c#12
2–3/c#20
2–3/c#16 (CAMERA)
2–COAXIAL CABLES (CAMERA)

CABINET TO H.H.7:
2–4"R.S.C.
5–12/c#12
4–3/c#12
3–3/c#20
2–3/c#16 (CAMERA)
2–COAXIAL CABLES (CAMERA)

1–6 Pr.#19 (INTERCONNECT)–F & I

LOAD CENTER TO H.H.1:
2"R.S.C.
2–3/c#12 (LUM)

LOAD CENTER TO H.H.7:
2"R.S.C.
2–3/c#12 (LUM)

LOAD CENTER TO H.H.8:
2"R.S.C.
3–1/c#2

BETWEEN CABINET AND LOAD CENTER:
2"R.S.C.
2–1/c#6
1–1/c#6 Ins.Gr.

① PA100 POLE FOUNDATION
TYPE PA100–A–D40–12 MAST ARM POLE (DAVIT AT 350')
LUMINAIRE–250 W HPS WITH PEC
TYPE 10B–POLE MOUNTED 0'
TYPE 30A–POLE MOUNTED 180'
2–PEDESTRIAN PUSH BUTTONS & SIGNS (R10–4c)
EXTENDED INTO H.H.7:
3"R.S.C.
2–12/c#12
2–3/c#12
1–3/c#20
1–3/c#12 (LUM)
1–3/c#16 (FUTURE CAMERA)
1–COAXIAL CABLE (FUTURE CAMERA)

④ PA100 POLE FOUNDATION
TYPE PA100–A–50–D40–12 (DAVIT AT 350')
LUMINAIRE–250 W HPS WITH PEC
2–ONE WAY SIGNALS–OVERHEAD (11' & 23' FROM END OF MAST ARM)
MID MAST ARM MOUNT AT 17' (CAPPED FOR FUTURE USE) (END MOUNT CAPPED ALSO)
TYPE 10A–POLE MOUNTED 90'
TYPE 10B–POLE MOUNTED 270'
1–PEDESTRIAN PUSH BUTTON & SIGN (R10–4c)
R9–3a SIGN PANEL–FACING POLE 3
VIDEO DETECTOR CAMERA (CAMERA 3)–FACING EASTBOUND TRAFFIC
2–TYPE D SIGN PANELS–OVERHEAD
ONE WAY EVP DETECTOR AND LIGHT (ø2)
R3–2 SIGN PANEL–2' FROM END OF MAST ARM
EXTENDED INTO H.H.5:
3"R.S.C.
3–12/c#12
2–3/c#12
2–3/c#20
1–3/c#12 (LUM)
1–3/c#16 (CAMERA)
1–COAXIAL CABLE (CAMERA)

4"R.S.C.
3–12/c#12
2–3/c#12
2–3/c#20
1–3/c#12 (LUM)
1–3/c#16 (CAMERA)
1–COAXIAL CABLE (CAMERA)

1–6 Pr.#19 (INTERCONNECT)–F & I

③ PA85 POLE FOUNDATION
TYPE PA85–A–25–D40–12 (DAVIT AT 350')
LUMINAIRE–250 W HPS WITH PEC
ONE WAY SIGNAL–OVERHEAD
TYPE 10A–POLE MOUNTED 0'
2–R9–3a SIGN PANELS–FACING POLE 2 & 4
VIDEO DETECTOR CAMERA (CAMERA 2)–FACING NORTHBOUND TRAFFIC
ONE WAY EVP DETECTOR & LIGHT (ø8)
2–TYPE D SIGN PANELS–OVERHEAD
EXTENDED INTO H.H.4:
3"R.S.C.
2–12/c#12
2–3/c#12
1–3/c#20
1–3/c#12 (LUM)
1–3/c#16 (CAMERA)
1–COAXIAL CABLE (CAMERA)

INTERCONNECT NOTES:
1) LOCATION OF NEW HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2) NEW HANDHOLES FOR INTERCONNECT SHALL BE PVC HANDHOLES WITH METAL FRAMES & COVERS (SEE SPECIAL PROVISIONS).
3) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CABLE SHALL BE 1–2 FEET.
4) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE–CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651.454.0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
5) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES & SPECIAL PROVISIONS.
6) F & I = ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.

NOTES:
1) EACH SIGNAL FACE HAS BACKGROUND SHIELD.
2) EACH PEDESTRIAN INDICATION IS A ONE SECTION HAND/WALKING PERSON INDICATION.
3) HANDHOLES ARE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
4) ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS ARE LED.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

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.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

SIGNAL HEAD PHASING

INPLACE LED SIGNAL FACES

SIGNAL FACE	SIGNAL INDICATIONS ARE 12".				
	R	Y	G	Y	G
2–1, 2–2, 2–3	O	O	O		
6–1, 6–2	O	O	O		
6–3, 6–4	O	O	O	⇦	⇦
8–1, 8–2, 8–3, 8–4	O	O	O		

INPLACE VIDEO DETECTORS

CAMERA NO.	INTERSECTION APPROACH FACING	SIGNAL POLE (CAMERA) LOCATION	POLE EXTENSION	CAMERA MOUNTED AT	MOUNTING HEIGHT
1	WB CSAH 22	POLE 2	NO	ON LUMINAIRE EXTENSION	40'
2	NB CSAH 8	POLE 3	NO	ON LUMINAIRE EXTENSION	40'
3	EB CSAH 22	POLE 4	NO	ON LUMINAIRE EXTENSION	40'

NOTE: MOUNTING HEIGHT = APPROXIMATE HEIGHT ABOVE ADJACENT GROUND LINE.

S.P. 55–622–43

DRAWN BY:	JMG
DESIGNER:	JMG
CHECKED BY:	JMG
DESIGN TEAM	

NO.	BY	DATE	REVISIONS

I HEREBY CERTIFY THAT THIS PLAN 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.
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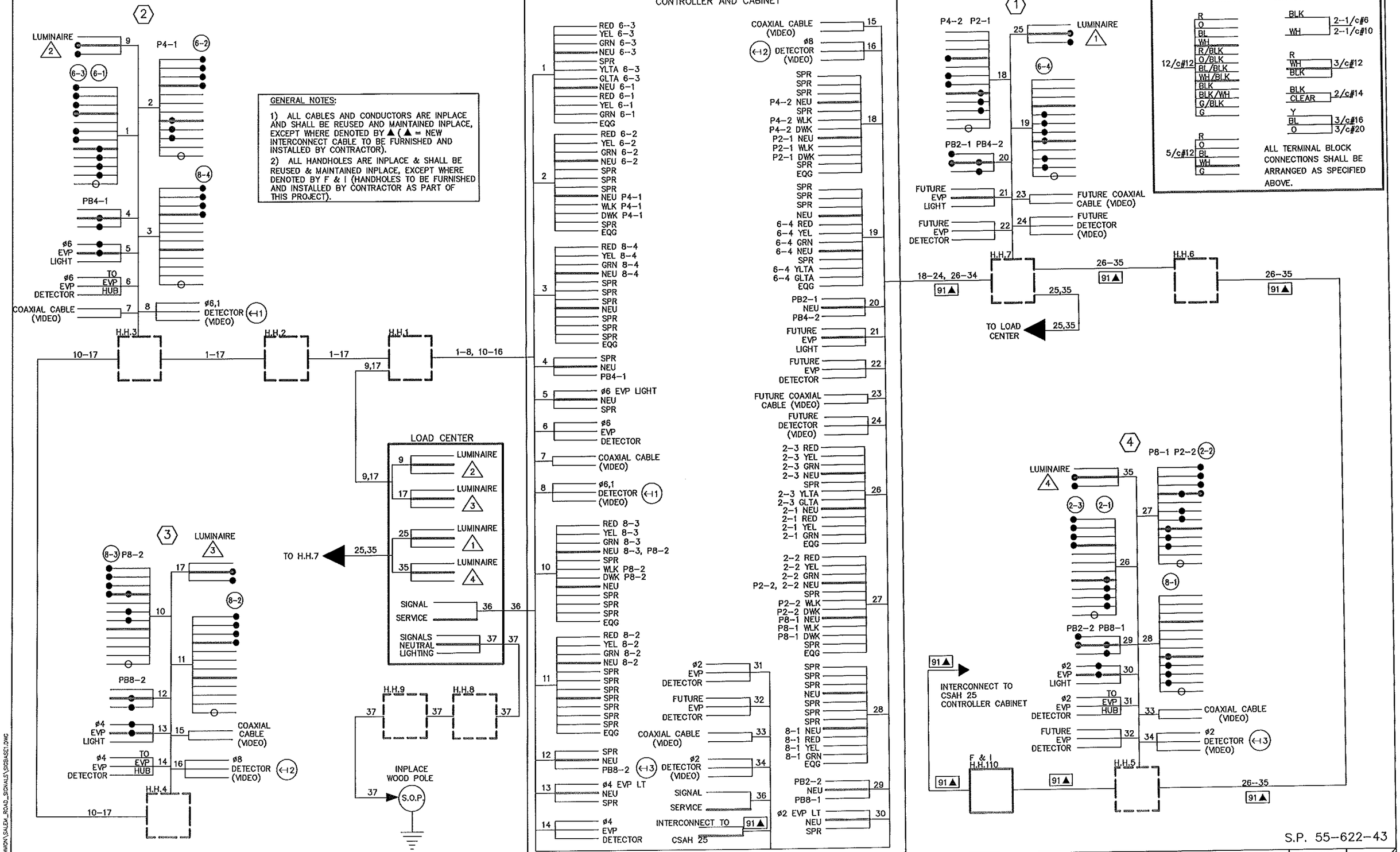
SEH
PHONE: (651) 490–2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

TRAFFIC SIGNAL INTERCONNECT
INTERSECTION LAYOUT
CSAH 22 (SALEM ROAD SW) AT
CSAH 8 (BAMBER VALLEY ROAD SW)

FILE NO. 106609
DATE 02/09/2009
35 / 99

02/09/2009
S:\PT\R\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGBASE1.DWG



DRAWN BY: JMG				I HEREBY CERTIFY THAT THIS PLAN 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.	SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110
DESIGNER: JMG				Name: John M. Gray, PE	OLMSTED COUNTY, MINNESOTA
CHECKED BY: JMG				Date: February 9, 2009 Lic. No. 22457	CITY OF ROCHESTER
DESIGN TEAM	NO.	BY	DATE	REVISIONS	TRAFFIC SIGNAL INTERCONNECT FIELD WIRING DIAGRAM CSAH 22 (SALEM ROAD SW) AT CSAH 8 (BAMBER VALLEY ROAD SW)

FILE NO. 106609 | DATE 02/09/2009 | 36/99

02/09/2009
S:\PT\R\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGBASE1.DWG

NOTES:

1) LOCATION OF NEW HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2) NEW HANDHOLES FOR INTERCONNECT SHALL BE PVC HANDHOLES WITH METAL FRAMES & COVERS (SEE SPECIAL PROVISIONS).
3) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CABLE SHALL BE 1–2 FEET.
4) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE–CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651.454.0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
5) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
6) F & I = ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.

20 10 0 20 40
15 5 SCALE IN FEET

N

MATCH LINE – STATION 150 + 90

CSAH 22 (SALEM ROAD SW)
(45 mph)

150+00

WEST FRONTAGE ROAD

145+00

MATCH LINE – STATION 144 + 50

CSAH 22 (SALEM ROAD SW)
(45 mph)

F & I – H.H.109
(INTERCONNECT)

H.H.109 TO H.H.110:
2"N.M.C. (INTERCONNECT)–F & I
1–6 Pr.#19 (INTERCONNECT)–F & I

F & I – H.H.108
(INTERCONNECT)

H.H.107 TO H.H.108:
H.H.108 TO H.H.109:
2"N.M.C. (INTERCONNECT)–F & I
1–6 Pr.#19 (INTERCONNECT)–F & I

S.P. 55–622–43

DRAWN BY: JMG	NO.	BY	DATE	REVISIONS
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM				

I HEREBY CERTIFY THAT THIS PLAN 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.
Name: John M. Gray, PE
Date: February 9, 2009 Lic. No. 22457

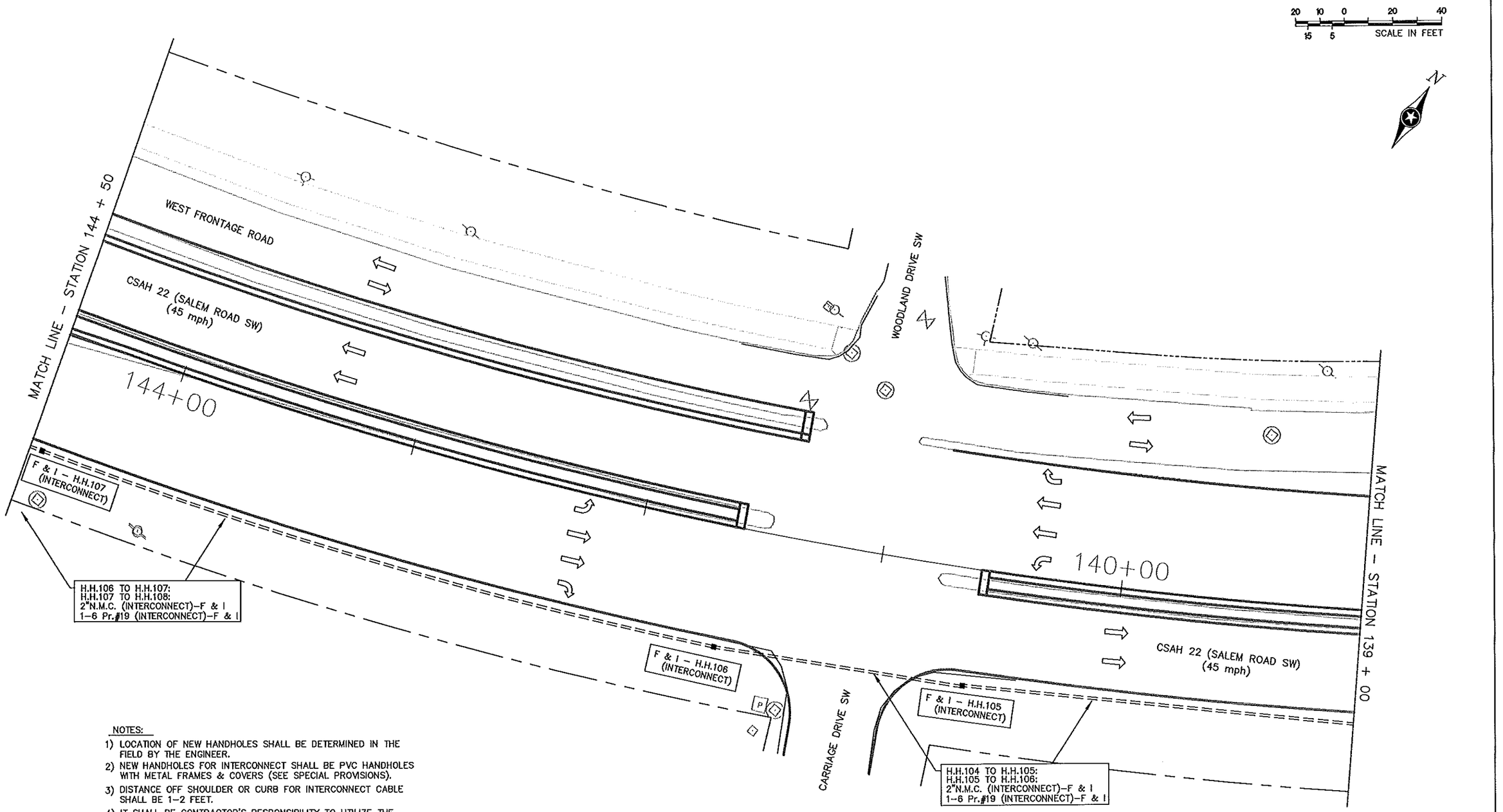
SEH
PHONE: (651) 490–2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

TRAFFIC SIGNAL INTERCONNECT
INTERSECTION LAYOUT
CSAH 22 (SALEM ROAD SW)
(CSAH 25 TO CSAH 8)

FILE NO. 106609
DATE 02/09/2009
37/99

02/09/2009
S:\P\R\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGBASE1.DWG



NOTES:

1) LOCATION OF NEW HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2) NEW HANDHOLES FOR INTERCONNECT SHALL BE PVC HANDHOLES WITH METAL FRAMES & COVERS (SEE SPECIAL PROVISIONS).
3) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CABLE SHALL BE 1–2 FEET.
4) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE–CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651.454.0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
5) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
6) F & I = ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.

S.P. 55–622–43

DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				

I HEREBY CERTIFY THAT THIS PLAN 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.
Date: February 9, 2009 Name: John M. Gray, PE Lic. No. 22457

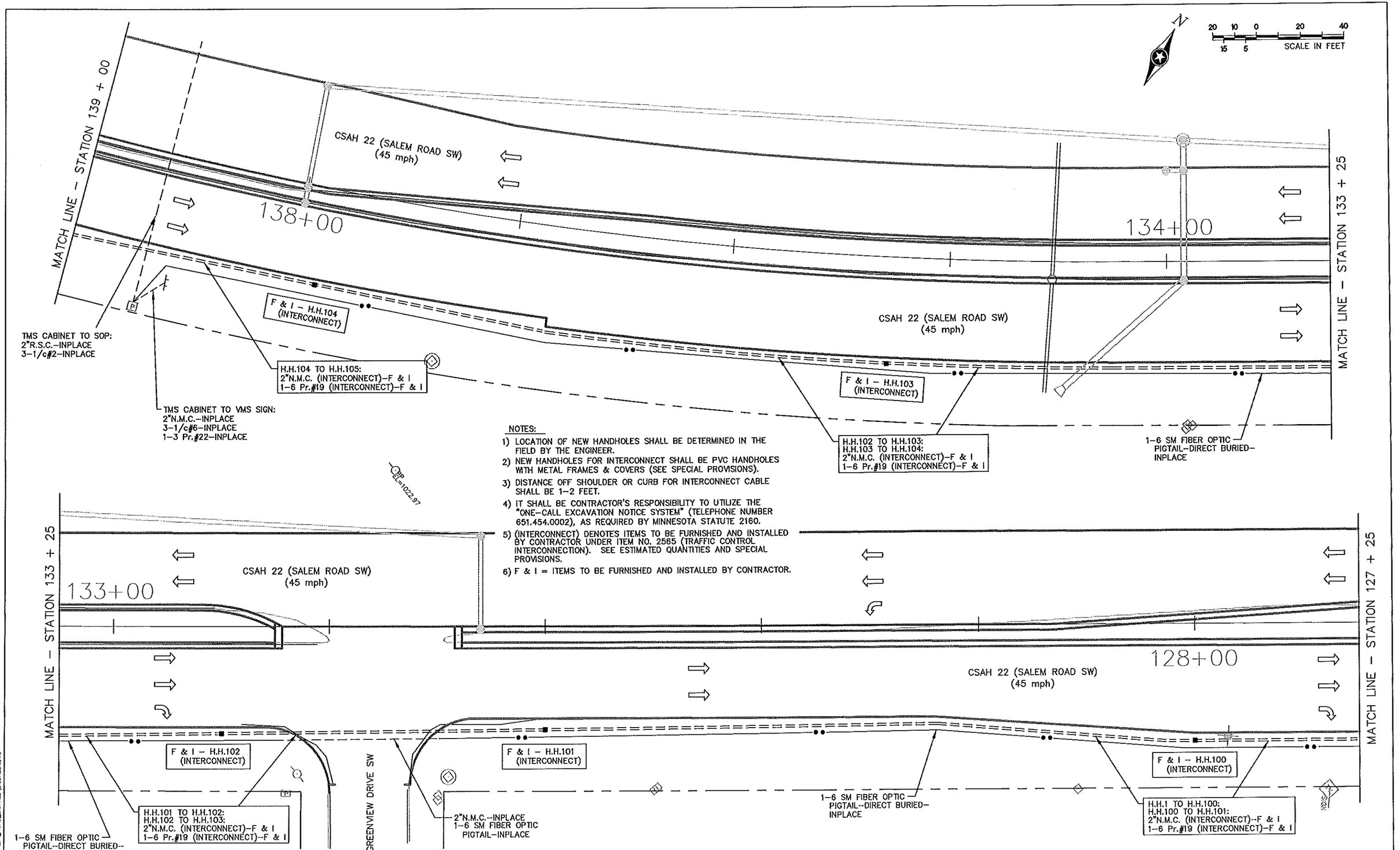
SEH
PHONE: (651) 490–2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

TRAFFIC SIGNAL INTERCONNECT INTERSECTION LAYOUT
CSAH 22 (SALEM ROAD SW)
(CSAH 25 TO CSAH 8)

FILE NO. 106609
DATE 02/09/2009
38 / 99

02/09/2009
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S.P. 55–622–43

02/09/2009
S:\PTVR\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGBASE1.DWG

DESIGN TEAM	NO.	BY	DATE	REVISIONS
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Date: February 9, 2009 Name: John M. Gray, PE Lic. No. 22457

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OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

TRAFFIC SIGNAL INTERCONNECT
INTERSECTION LAYOUT
CSAH 22 (SALEM ROAD SW)
(CSAH 25 TO CSAH 8)

FILE NO. 106609
DATE 02/09/2009
39 / 99

INPLACE VIDEO DETECTORS (REUSE AS SHOWN)					
CAMERA NO.	INTERSECTION APPROACH FACING	SIGNAL POLE (CAMERA) LOCATION	10' POLE EXTENSION AND ASTRO BRACKET	CAMERA MOUNTED AT	MOUNTING HEIGHT
1	WB CSAH 22	POLE 2	NO	ON LUMINAIRE EXTENSION	40'
2	NB CSAH 25	POLE 3	NO	ON LUMINAIRE EXTENSION	40'
3	EB CSAH 22	POLE 4	NO	ON LUMINAIRE EXTENSION	40'

NOTE: MOUNTING HEIGHT = APPROXIMATE HEIGHT ABOVE ADJACENT GROUND LINE.

VIDEO DETECTION		
CAMERA NUMBER	DETECTION PHASES	APPROX. DETECTION DISTANCE FROM STOP BAR
1	1 AND 6	10', 40', 300'
2	4	0', 15', 180'
3	2	300'

⬭ = DETECTION AREA

20 10 0 20 40
15 5 SCALE IN FEET

N

SEE NEXT SHEET FOR GENERAL NOTES AND FOR POLE NOTES.

Ⓒ INPLACE (MAINTAIN INPLACE)
- SERVICE EQUIPMENT FOUNDATION (TMS)
- PAD MOUNTED LOAD CENTER (TMS)
- DISCONNECT TO H.H.10:
  - 2"R.S.C.
  - 1–3/c#8
- METER TO S.O.P.
- 2"R.S.C. (SEE B)

Ⓓ INPLACE (MAINTAIN INPLACE)
- 40' METAL POLE (TIP DOWN)
- CONCRETE FOUNDATION
- CCTV CAMERA–POLE MOUNTED
- CONTROL CABINET–POLE MOUNTED
- EXTENDED INTO H.H.11:
  - 2"N.M.C.
  - 1–6 SM FIBER OPTIC PIGTAIL
  - 1–3/c#8

H.H.1 TO H.H.2, H.H.2 TO H.H.3, AND H.H.3 TO H.H.4:
4"N.M.C.–INPLACE (REMOVE)
H.H.1 TO H.H.2A, H.H.2A TO H.H.3A, AND H.H.3A TO H.H.4:
F & I
- 4"N.M.C.
- 5–12/c#14
- 2–3/c#14
- 2–3/c#20
- 2–COAXIAL CABLES (CAMERA)
- 2–3/c#16 (CAMERA)
- 2–3/c#14 (LUM)
- 2–1/c#6 (GRD)

INPLACE (S & I) — 1–6 Pr.#19 (INTERCONNECT)

INPLACE (S & I)
- 1–6 Pr.#19 (INTERCONNECT)
- SALVAGE BACK FROM CONTROLLER CABINET TO H.H.5, AND REINSTALL BACK TO CONTROLLER CABINET AS SHOWN

H.H.4 TO H.H.5:
3"N.M.C.–INPLACE
F & I
- 2–12/c#14
- 1–3/c#14
- 1–3/c#20
- 1–COAXIAL CABLE (CAMERA)
- 1–3/c#16 (CAMERA)
- 1–3/c#14 (LUM)
- 1–1/c#6 (GRD)

INPLACE (S & I) — 1–6 Pr.#19 (INTERCONNECT)

INPLACE CONDUIT
1–6 Pr.#19–INPLACE
(TO FOX VALLEY SIGNAL)

MATCH LINE – STATION 127 + 25

CSAH 22 (SALEM ROAD SW)
(45 mph)

127+00

122+00

CSAH 22 (SALEM ROAD SW)
(45 mph)

MATCH LINE – STATION 121 + 25

9' 12' 14'

9' 12' 12' 13'

14' 12' 12'

H.H.4–INP.

H.H.5–INP.

ø4 EVP

ø6,1 EVP

ø2 EVP

H.H.3A–F & I

H.H.3–INP. (REMOVE)

H.H.2A–F & I

H.H.2–INP. (REMOVE)

H.H.6–INP. (REMOVE)

H.H.6A–F & I

H.H.8–INP. (REMOVE)

H.H.1–INP.

H.H.8A–F & I

H.H.7–INP. (REMOVE)

H.H.7A–F & I

H.H.9–INP.

H.H.11–INP.

H.H.10–INP.

S.O.P.

H.H.1 TO H.H.100:
2"N.M.C. (INTERCONNECT)–F & I
1–6 Pr.#19 (INTERCONNECT)–F & I

2–6 SM FIBER OPTIC PIGTAILS–DIRECT BURIED (INPLACE TO WEST)

Ⓑ INPLACE (MAINTAIN INPLACE)
- WOOD POLE (S.O.P.) (RPU)
- 2"R.S.C. RISER AND WEATHERHEAD (SIGNALS)
- 3–1/c#2
- EXTENDED INTO SIGNAL SERVICE CABINET:
  - 2"R.S.C.
  - 3–1/c#2
  - 2"R.S.C. RISER AND WEATHERHEAD (TMS)
  - 3–1/c#6
  - EXTENDED INTO TMS SERVICE CABINET:
    - 2"R.S.C.
    - 3–1/c#6

1–6 SM FIBER OPTIC PIGTAIL–DIRECT BURIED (INPLACE TO EAST)

H.H.8 TO H.H.9:
4"N.M.C.–INPLACE (REMOVE)
H.H.8A TO H.H.9:
F & I
- 4"N.M.C.
- 3–12/c#14
- 1–3/c#14
- 1–3/c#20
- 1–COAXIAL CABLE (CAMERA)
- 1–3/c#16 (CAMERA)
- 1–3/c#14 (LUM)
- 2–1/c#6 (GRD)

H.H.10 TO H.H.11:
2"N.M.C.–INPLACE
1–6 SM FIBER OPTIC PIGTAIL–INPLACE
1–3/c#8–INPLACE

H.H.9 TO H.H.110:
2"N.M.C. (INTERCONNECT)–F & I
(FOR FUTURE USE)

CSAH 25 (16TH ST SW)
(35 mph)

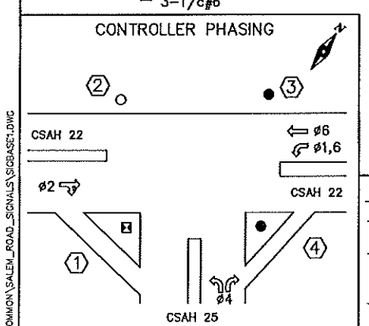
17' 14' 14'

MATCH LINE – STATION 12 + 00

H.H.6 TO H.H.7, AND H.H.7 TO H.H.8:
4"N.M.C.–INPLACE (REMOVE)
H.H.6A TO H.H.7A, AND H.H.7A TO H.H.8A:
F & I
- 4"N.M.C.
- 2–12/c#14
- 1–3/c#14
- 1–3/c#20
- 1–COAXIAL CABLE (CAMERA)
- 1–3/c#16 (CAMERA)
- 1–3/c#14 (LUM)
- 1–1/c#6 (GRD)

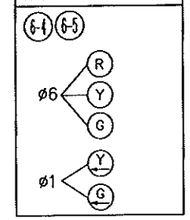
2"N.M.C.–INPLACE
2–6 SM FIBER OPTIC PIGTAILS–INPLACE

CONTROLLER PHASING



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.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

SIGNAL HEAD PHASING



STATUS:
1) INPLACE, REUSE INPLACE.
2) INPLACE, SALVAGE & INSTALL.
3) NEW – FURNISH & INSTALL.
4) REMOVE EXISTING LED LENSES, FURNISH & INSTALL NEW LED LENSES.

LED SIGNAL FACES						
SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12". R	Y	G	Y	G	STATUS
2–1, 2–2, 2–3	○	○	○			2
4–1	○	○	○			2
4–2	●	●	●		⟸	3
4–3	⟸	⟸	⟸			2, 4
4–4	⟸	⟸	⟸			1, 4
6–1	○	○	○			1
6–2	○	○	○			2
6–3	●	●	●			3
6–4, 6–5	○	○	○	⟸	⟸	2

○⟸ = INPLACE LED INDICATION (REUSE AS SHOWN).
●⟸ = NEW LED INDICATION (FURNISH & INSTALL).

S.P. 55–622–43
S.P. 55–625–22

02/09/2009
S:\PTW\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGBASE1.DWG

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG
DESIGN TEAM

NO.	BY	DATE	REVISIONS

I HEREBY CERTIFY THAT THIS PLAN 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.
Date: February 9, 2009
Name: John M. Gray, PE
Lic. No. 22457

SEH
PHONE: (651) 490–2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

REVISE SIGNAL SYSTEM 'A'
INTERSECTION LAYOUT
CSAH 22 (SALEM ROAD SW) AT CSAH 25 (16TH STREET SW)

FILE NO. 106609
DATE 02/09/2009
40 / 99

NOTES:

1) LOCATION OF NEW FOUNDATIONS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2) NEW HANDHOLES 2A, 3A, 6A, 7A, AND 8A SHALL BE PVC HANDHOLES WITH METAL FRAMES & COVERS (SEE SPECIAL PROVISIONS).
3) CONTRACTOR SHALL ADJUST AND REVISE INPLACE HANDHOLES 1, 4, 5, 9, 10, AND 11 SO THAT THESE HANDHOLES ARE FLUSH WITH SURROUNDING GROUNDLINE AND ARE LEVELED TO THE SATISFACTION OF ENGINEER. INPLACE HANDHOLES 2, 3, 6, 7 AND 8 SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR AS PART OF THIS PROJECT.
4) EACH NEW SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
5) ALL NEW VEHICLE SIGNAL INDICATIONS SHALL BE LED (EXISTING VEHICLE SIGNAL INDICATIONS ARE LED AS SHOWN).
6) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETING FOR ALL POLE MOUNTED VEHICLE SIGNAL FACES (TO ALLOW FOR ROTATION WITHIN BRACKETS).
7) ALL INPLACE CABLES AND CONDUCTORS SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR, EXCEPT AS OTHERWISE NOTED ON THE PLANS. NEW CABLES AND CONDUCTORS SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR IN ACCORDANCE WITH THE PLANS AND SPECIAL PROVISIONS.
8) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED (OR SALVAGED AND INSTALLED) BY CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
9) (CAMERA) DENOTES ITEMS TO BE FURNISHED AND INSTALLED (OR SALVAGED AND INSTALLED) BY CONTRACTOR AS PART OF REVISE SYSTEM "A". SEE DETAILS AND SPECIAL PROVISIONS (INCIDENTAL).
10) CONTRACTOR SHALL REPAINT ALL NEW AND EXISTING ITEMS OF REVISE SIGNAL SYSTEM "A". SEE SPECIAL PROVISIONS (INCIDENTAL).
11) SEE DETAILS AND SPECIAL PROVISIONS REGARDING SIGNING TO BE FURNISHED & INSTALLED (OR SALVAGED & INSTALLED) BY THE CONTRACTOR (INCIDENTAL).
12) F & I = ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
    S & I = ITEMS TO BE SALVAGED AND INSTALLED BY CONTRACTOR.
13) CONTRACTOR SHALL MAINTAIN OPERATION OF THIS SIGNAL SYSTEM AT ALL TIMES, UNTIL APPROVED BY ENGINEER FOR SYSTEM TO BE TURNED OFF TO FACILITATE CONSTRUCTION.

(1) INPLACE (S & I)
- PEDESTAL POLE, BASE, AND WND COLLAR TYPE 5A

INPLACE (REMOVE)
- PEDESTAL FOUNDATION
- 2"N.M.C. TO H.H.8:
- 1-12/c#12
- 2-1/c#6 (GRD)

F & I
- PEDESTAL FOUNDATION
- 2-R9-3a SIGN PANELS-FACING POLES 2 AND 4
- EXTEND INTO H.H.8A:
- 3"N.M.C.
- 1-12/c#14
- 1-1/c#6 (GRD)

(2) INPLACE (MAINTAIN INPLACE)
- PA90 POLE FOUNDATION
- TYPE PA90-A-D40-9 MAST ARM POLE (DAVIT AT 315')
- LUMINAIRE-250 W HPS
- 2-TYPE 10A-POLE MOUNTED 0° & 270° (4-4, 6-1)
- R9-3a SIGN PANEL-FACING POLE 1
- VIDEO DETECTOR CAMERA (CAMERA 1) WITH LUMINAIRE MOUNTING HARDWARE-LUMINAIRE EXTENSION MOUNTED (FACING WB TRAFFIC)
- EXTENDED INTO H.H.4:
- 3"N.M.C.

INPLACE (S & I)
- 2-ONE WAY SIGNALS-OVERHEAD (MOUNT AT 0' & 21' FROM END OF NEW MAST ARM) (6-4, 6-2)
- R10-12 SIGN PANEL-ADJACENT TO 6-4
- TYPE D SIGN PANEL-OVERHEAD (D-1)
- ONE WAY EVP DETECTOR & LIGHT (ø6,1)

INPLACE (SALVAGE)
- 35' MAST ARM
- R-Y-G LED LENSES (4-4)

INPLACE (REMOVE)
- 2-12/c#12
- 1-3/c#12
- 1-3/c#20
- 1-COAXIAL CABLE
- 1-3/c#16
- 1-3/c#12 (LUM)
- 1-1/c#6 (GRD)

F & I
- 40' STANDARD "TRUSS" MAST ARM (WITH MID-MOUNTS AT 10' & 21' FROM LEFT END OF MAST ARM)
- 1-ONE WAY SIGNAL-OVERHEAD AT 10' (6-3)
- RLTA-YLTA-GLTA LED LENSES (4-4)
- CAP UNUSED POLE HUBS AT 90° & 180°
- TYPE D SIGN PANEL-OVERHEAD (D-8)
- 3-12/c#14
- 1-3/c#14
- 1-3/c#20
- 1-COAXIAL CABLE (CAMERA)
- 1-3/c#16 (CAMERA)
- 1-3/c#14 (LUM)
- 1-1/c#6 (GRD)

(3) INPLACE (S & I)
- TYPE PA90-A-20-D40-9 (DAVIT AT 315')
- LUMINAIRE-250 W HPS
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (4-3)
- TYPE 10A-POLE MOUNTED 270° (4-1)
- R9-3a SIGN PANEL-FACING POLE 4
- VIDEO DETECTOR CAMERA (CAMERA 2) WITH LUMINAIRE MOUNTING HARDWARE-LUMINAIRE EXTENSION MOUNTED (FACING NB TRAFFIC) (CAMERA)
- TYPE D SIGN PANEL-OVERHEAD (D-2)
- TYPE D SIGN PANEL-OVERHEAD (D-3)
- ONE WAY EVP DETECTOR & LIGHT (ø4)

INPLACE (SALVAGE) — R-Y-G LED LENSES (4-3)

INPLACE (REMOVE)
- PA90 POLE FOUNDATION
- 3"N.M.C. TO H.H.5:
- 1-12/c#12
- 2-3/c#12
- 1-3/c#20
- 1-COAXIAL CABLE
- 1-3/c#16
- 1-3/c#12 (LUM)
- 1-1/c#6 (GRD)

F & I
- PA90 POLE FOUNDATION
- WELDED MID-MOUNT AT 10' FROM END OF MAST ARM (FOR 4-2)
- 1-ONE WAY SIGNAL-OVERHEAD AT 10' (4-2)
- CAP UNUSED POLE HUBS AT 0°, 90° & 180°
- RLTA-YLTA-GLTA LED LENSES (4-3)
- EXTEND INTO H.H.5:
- 3"N.M.C.
- 2-12/c#14
- 1-3/c#14
- 1-3/c#20
- 1-COAXIAL CABLE (CAMERA)
- 1-3/c#16 (CAMERA)
- 1-3/c#14 (LUM)
- 1-1/c#6 (GRD)

(4) INPLACE (S & I)
- TYPE PA90-A-25-D40-9 (DAVIT AT 350')
- LUMINAIRE-250 W HPS
- 2-ONE WAY SIGNALS-OVERHEAD (MOUNT AT END OF 5' EXTENSION & 6' FROM LEFT END OF MAST ARM) (2-3, 2-2)
- TYPE 10A-POLE MOUNTED 270° (2-1)
- 2-R9-3a SIGN PANELS-FACING POLES 1 AND 3
- VIDEO DETECTOR CAMERA (CAMERA 3) WITH LUMINAIRE MOUNTING HARDWARE-LUMINAIRE EXTENSION MOUNTED (FACING EB TRAFFIC) (CAMERA)
- TYPE D SIGN PANEL-OVERHEAD (D-4)
- ONE WAY EVP DETECTOR & LIGHT (ø2)

INSTALL — 5' EXTENSION (RELOCATED FROM SYSTEM "B" - POLE 1)

INPLACE (REMOVE)
- PA90 POLE FOUNDATION
- 3"N.M.C. TO H.H.6:
- 2-12/c#12
- 2-3/c#12
- 1-3/c#20
- 1-COAXIAL CABLE
- 1-3/c#16
- 1-3/c#12 (LUM)
- 1-1/c#6 (GRD)

F & I
- PA90 POLE FOUNDATION
- WELDED MID-MOUNT AT 6' FROM END OF MAST ARM (FOR 2-2)
- CAP UNUSED MID-MOUNT AT 11' FROM LEFT END OF 25' MAST ARM
- CAP UNUSED POLE HUBS AT 0°, 90° & 180°
- TYPE D SIGN PANEL-OVERHEAD (D-9)
- EXTEND INTO H.H.6A:
- 3"N.M.C.
- 2-12/c#14
- 1-3/c#14
- 1-3/c#20
- 1-COAXIAL CABLE (CAMERA)
- 1-3/c#16 (CAMERA)
- 1-3/c#14 (LUM)
- 1-1/c#6 (GRD)

(A) INPLACE (MAINTAIN INPLACE)
- EQUIPMENT PAD FOUNDATION
- CONTROLLER AND CABINET
- SIGNAL SERVICE CABINET
- BETWEEN CONTROLLER CABINET AND SERVICE CABINET:
- 2"N.M.C.
- 2-1/c#6
- 1-1/c#6 Ins.Gr.
- CONTROLLER CABINET TO H.H.1:
- 4"N.M.C.

INPLACE (S & I) — 1-6 Pr.#19 (INTERCONNECT)

INPLACE (REMOVE)
- 3-12/c#12
- 3-3/c#12
- 2-3/c#20
- 2-COAXIAL CABLES
- 2-3/c#16
- 2-1/c#6 (GRD)

F & I
- 5-12/c#14
- 2-3/c#14
- 2-3/c#20
- 2-COAXIAL CABLES (CAMERA)
- 2-3/c#16 (CAMERA)
- 2-1/c#6 (GRD)
- 1-6 Pr.#19 (INTERCONNECT)

INPLACE (MAINTAIN INPLACE) — CONTROLLER CABINET TO H.H.9:
- 4"N.M.C.

INPLACE (REMOVE)
- 3-12/c#12
- 2-3/c#12
- 1-3/c#20
- 1-COAXIAL CABLE
- 1-3/c#16
- 1-1/c#6 (GRD)

F & I
- 3-12/c#14
- 1-3/c#14
- 1-3/c#20
- 1-COAXIAL CABLE (CAMERA)
- 1-3/c#16 (CAMERA)
- 2-1/c#6 (GRD)

INPLACE (MAINTAIN INPLACE) — SERVICE CABINET TO H.H.1:
- 2"N.M.C.

INPLACE (REMOVE) — 3-3/c#12 (LUM)

F & I — 3-3/c#14 (LUM)

INPLACE (MAINTAIN INPLACE) — BETWEEN H.H.1 AND H.H.9:
- 2"N.M.C.

INPLACE (REMOVE) — 1-3/c#12 (LUM)

F & I — 1-3/c#14 (LUM)

S.P. 55-622-43
S.P. 55-625-22

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG
DESIGN TEAM

NO.	BY	DATE	REVISIONS

I HEREBY CERTIFY THAT THIS PLAN 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.
Name: John M. Gray, PE
Date: February 9, 2009 Lic. No. 22457

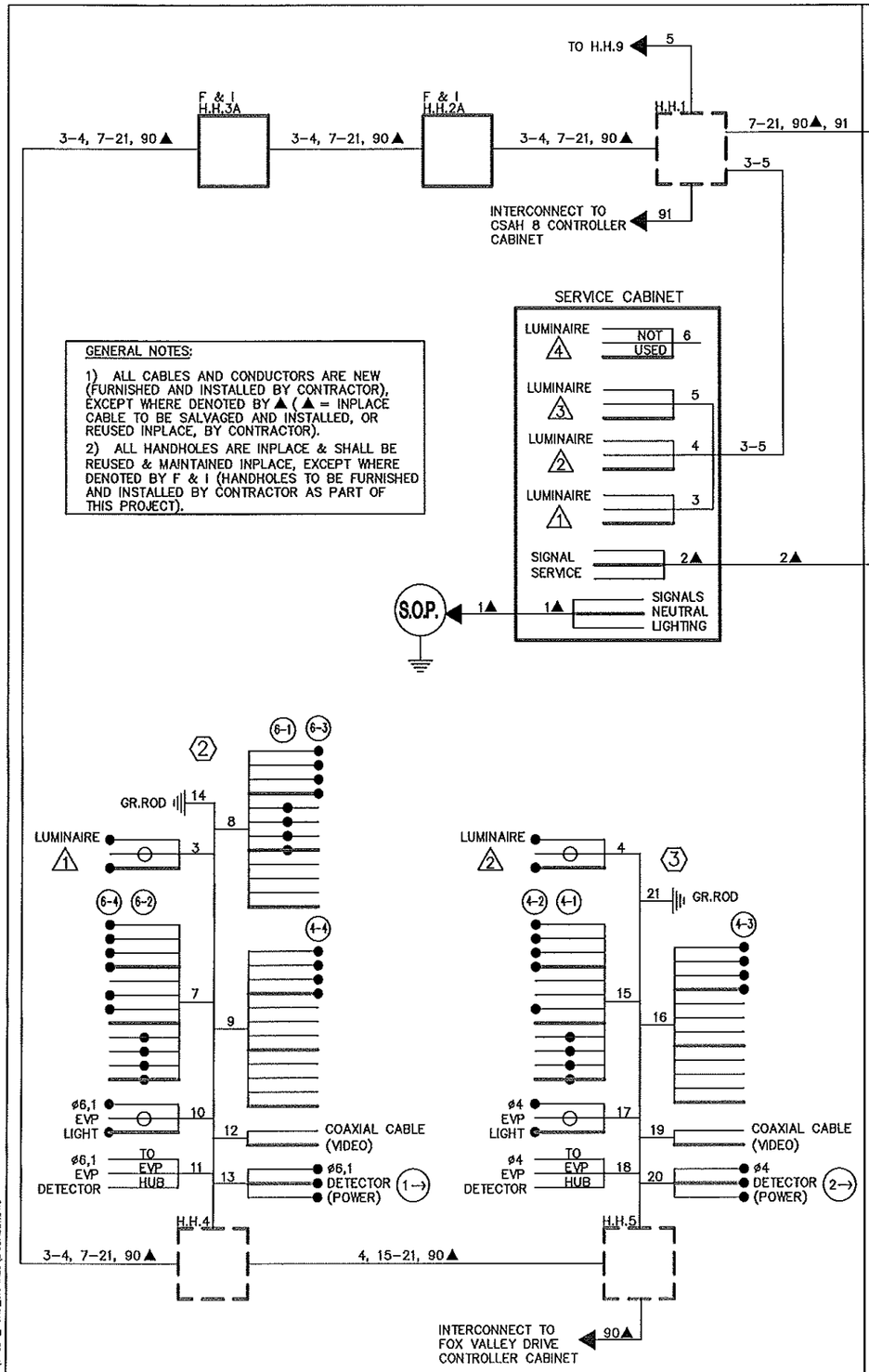
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

REVISE SIGNAL SYSTEM 'A'
INTERSECTION LAYOUT
CSAH 22 (SALEM ROAD SW) AT CSAH 25 (16TH STREET SW)

FILE NO. 106609
DATE 02/09/2009
41/99

02/09/2009
S:\PTVR\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGBASE1.DWG



S.P. 55-622-43
S.P. 55-625-22

02/09/2009
S:\PTW\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGBASE1.DWG

DESIGN TEAM		NO.	BY	DATE	REVISIONS
DRAWN BY:	JMG				
DESIGNER:	JMG				
CHECKED BY:	JMG				

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Name: John M. Gray, PE
Date: February 9, 2009
Lic. No. 22457

SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

REVISE SIGNAL SYSTEM 'A'
FIELD WIRING DIAGRAM
CSAH 22 (SALEM ROAD SW) AT CSAH 25 (16TH STREET SW)

FILE NO. 106609
DATE 02/09/2009
42
99

20 10 0 20 40
15 5
SCALE IN FEET

N

MATCH LINE – STATION 12 + 00

CSAH 25 (16TH ST SW)
(35 mph)

13+00

GREENVIEW DRIVE SW

17+00

CSAH 25 (16TH ST SW)
(35 mph)

MATCH LINE – STATION 17 + 75

F & I – H.H.111
(INTERCONNECT)

F & I – H.H.112
(INTERCONNECT)

F & I – H.H.113
(INTERCONNECT)

H.H.9 TO H.H.111:
H.H.111 TO H.H.112:
2"N.M.C. (INTERCONNECT)–F & I
(FOR FUTURE USE)

SIGN

H.H.112 TO H.H.113:
H.H.113 TO H.H.50:
2"N.M.C. (INTERCONNECT)–F & I
(FOR FUTURE USE)

GREENVIEW DRIVE SW

NOTES:

1) LOCATION OF NEW HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2) NEW HANDHOLES FOR INTERCONNECT SHALL BE PVC HANDHOLES WITH METAL FRAMES & COVERS (SEE SPECIAL PROVISIONS).
3) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CABLE SHALL BE 1–2 FEET.
4) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE–CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651.454.0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
5) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
6) F & I = ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.

S.P. 55–625–22

02/09/2009
S:\PW\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGBASE1.DWG

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG
DESIGN TEAM

NO.	BY	DATE	REVISIONS

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Name: John M. Gray, PE
Date: February 9, 2009 Lic. No. 22457

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ST. PAUL, MN 55110

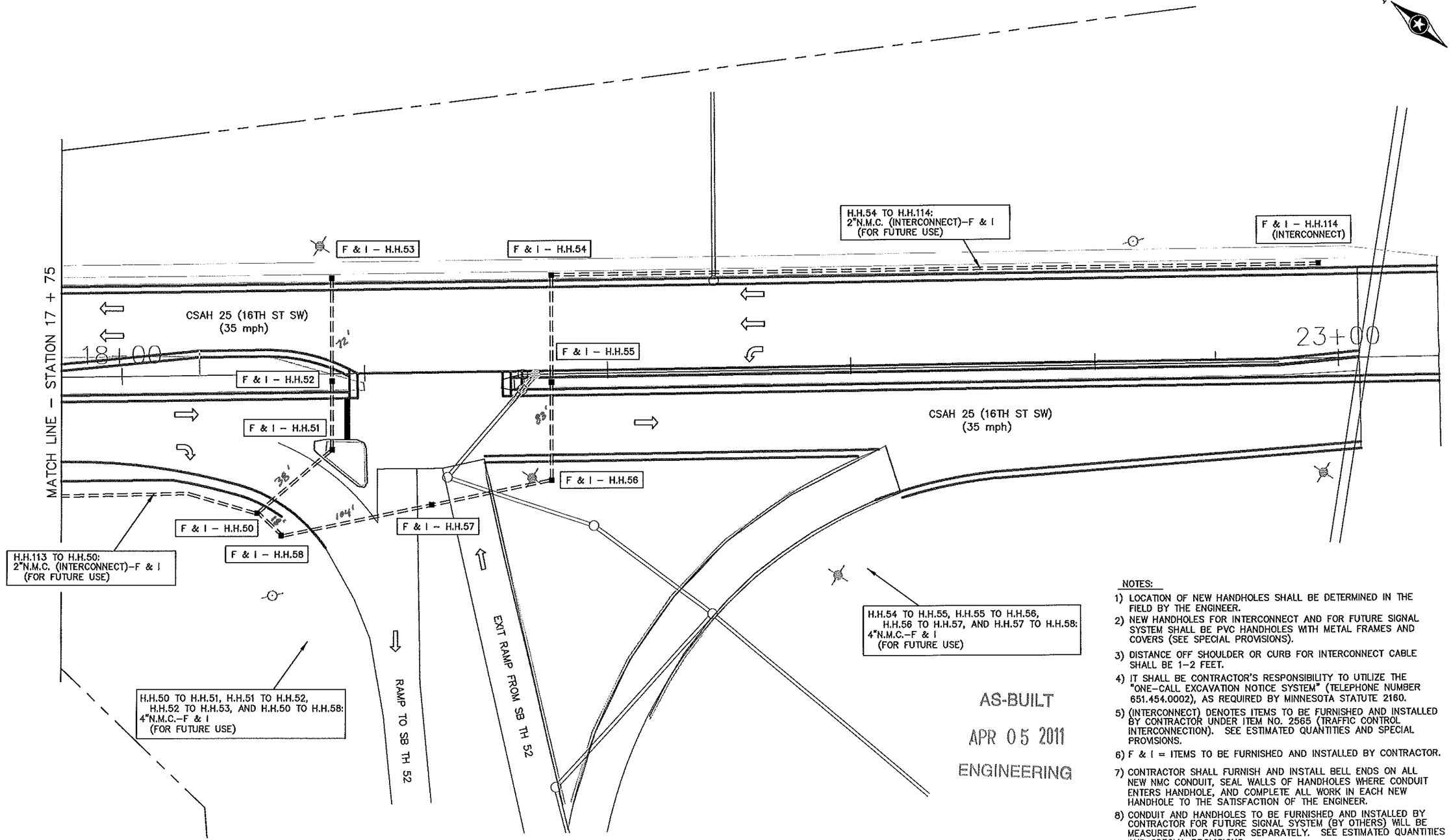
OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

CONDUIT FOR FUTURE INTERCONNECT
INTERSECTION LAYOUT
CSAH 25 (16TH STREET SW)
(CSAH 22 TO TH 52 WEST RAMPS)

FILE NO. 106609
DATE 02/09/2009
43 / 99

20 10 0 20 40
15 5 SCALE IN FEET

N



AS-BUILT

APR 05 2011

ENGINEERING

NOTES:

1) LOCATION OF NEW HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2) NEW HANDHOLES FOR INTERCONNECT AND FOR FUTURE SIGNAL SYSTEM SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS (SEE SPECIAL PROVISIONS).
3) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CABLE SHALL BE 1–2 FEET.
4) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE–CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651.454.0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
5) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
6) F & I = ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
7) CONTRACTOR SHALL FURNISH AND INSTALL BELL ENDS ON ALL NEW NMC CONDUIT, SEAL WALLS OF HANDHOLES WHERE CONDUIT ENTERS HANDHOLE, AND COMPLETE ALL WORK IN EACH NEW HANDHOLE TO THE SATISFACTION OF THE ENGINEER.
8) CONDUIT AND HANDHOLES TO BE FURNISHED AND INSTALLED BY CONTRACTOR FOR FUTURE SIGNAL SYSTEM (BY OTHERS) WILL BE MEASURED AND PAID FOR SEPARATELY. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.

S.P. 55–625–22

02/09/2009
S:\PTV\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGBASE1.DWG

DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				

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ST. PAUL, MN 55110

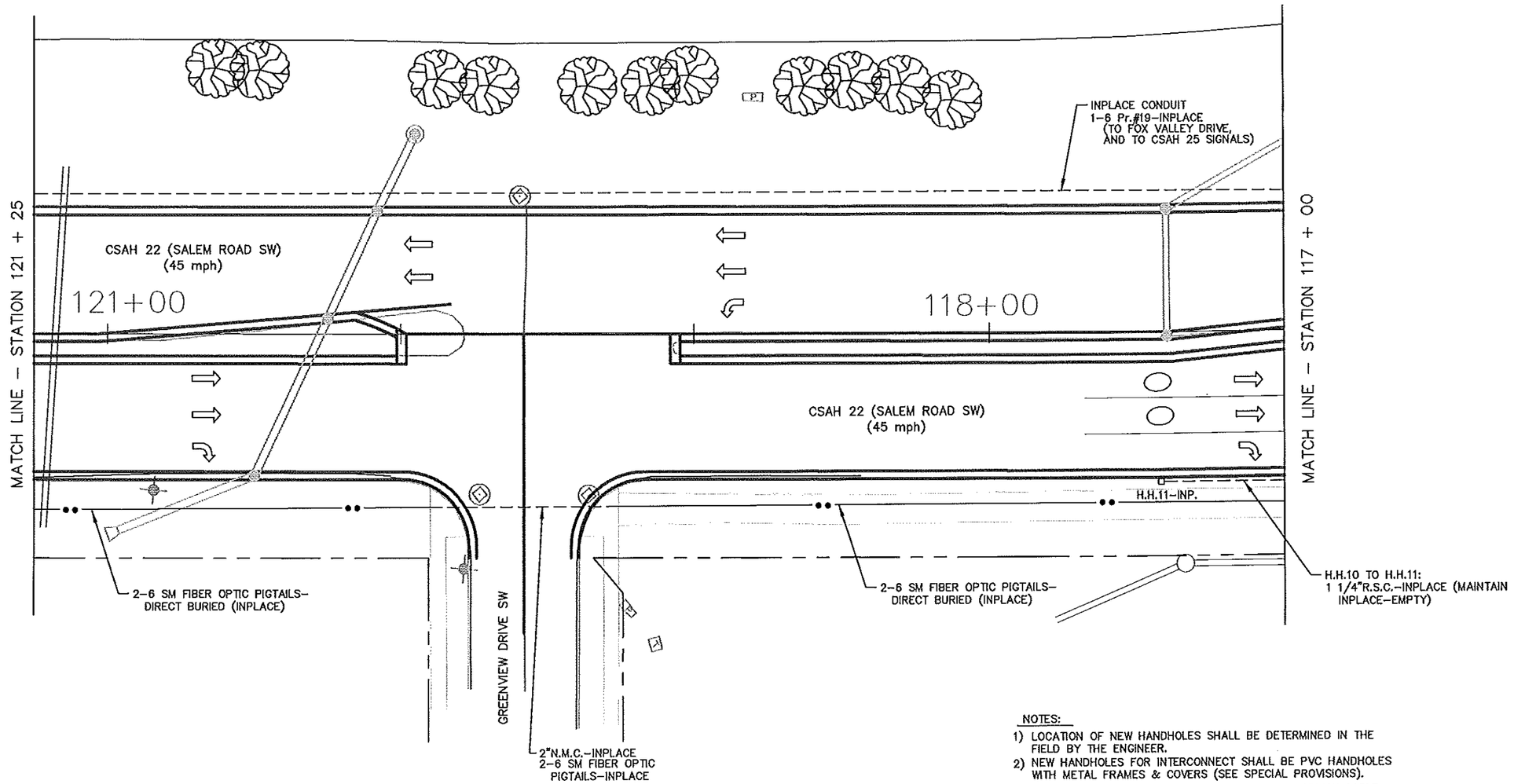
OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

CONDUIT FOR FUTURE USE
INTERSECTION LAYOUT
CSAH 25 (16TH STREET SW) AT
TRUNK HIGHWAY 52 WEST RAMPS

FILE NO. 106609
DATE 02/09/2009

20 10 0 20 40
15 5 SCALE IN FEET

N



NOTES:

1) LOCATION OF NEW HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2) NEW HANDHOLES FOR INTERCONNECT SHALL BE PVC HANDHOLES WITH METAL FRAMES & COVERS (SEE SPECIAL PROVISIONS).
3) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CABLE SHALL BE 1–2 FEET.
4) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE–CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651.454.0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
5) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED (OR SALVAGED AND INSTALLED) BY CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
6) F & I = ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
S & I = ITEMS TO BE SALVAGED AND INSTALLED BY CONTRACTOR.

S.P. 55-622-43

02/09/2009
S:\PTR\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGBASE1.DWG

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG
DESIGN TEAM

NO.	BY	DATE	REVISIONS

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Date: February 9, 2009
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SEH
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3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

TRAFFIC SIGNAL INTERCONNECT INTERSECTION LAYOUT
CSAH 22 (SALEM ROAD SW)
(FOX VALLEY DRIVE TO CSAH 25)

FILE NO. 106609
DATE 02/09/2009

VIDEO DETECTORS (FURNISH AND INSTALL)					
CAMERA NO.	INTERSECTION APPROACH FACING	SIGNAL POLE (CAMERA) LOCATION	10' POLE EXTENSION AND ASTRO BRACKET	CAMERA MOUNTED AT	MOUNTING HEIGHT
1	WB CSAH 22	POLE 1	NO	ON LUMINAIRE EXTENSION	40'
2	NB BARCLAY SQUARE	POLE 2	NO	ON LUMINAIRE EXTENSION	40'
3	EB CSAH 22	POLE 3	NO	ON LUMINAIRE EXTENSION	40'
4	SB FOX VALLEY DRIVE	POLE 4	NO	ON LUMINAIRE EXTENSION	40'

NOTE: MOUNTING HEIGHT = APPROXIMATE HEIGHT ABOVE ADJACENT GROUND LINE.

VIDEO DETECTION		
CAMERA NUMBER	DETECTION PHASES	APPROX. DETECTION DISTANCE FROM STOP BAR
1	1 AND 6	10', 40', 300'
2	8	0', 15', 80'
3	2 AND 5	10', 40', 300'
4	4	0', 15', 90'

⬭ = DETECTION AREA

SEE NEXT SHEET FOR GENERAL NOTES AND FOR POLE NOTES.

20 10 0 20 40
15 5 SCALE IN FEET

N

H.H.1 TO H.H.2:
4"R.S.C.–INPLACE
F & I – 5–12/c#14
2–3/c#14
2–3/c#20
2–COAXIAL CABLES (CAMERA)
2–3/c#16 (CAMERA)
2–3/c#14 (LUM)
3–1/c#2
2–1/c#6 (GRD)
INPLACE (S & I) – 1–12 SM FIBER OPTIC CABLE (INTERCONNECT)

Ⓑ INPLACE (MAINTAIN INPLACE) – WOOD POLE (S.O.P.) (RPU)
100A 120/240 DISCONNECT–WOOD POLE MOUNTED
2"R.S.C. RISER AND WEATHERHEAD ABOVE DISCONNECT
3–1/c#2
EXTENDED BELOW DISCONNECT INTO H.H.2:
2"R.S.C.
INPLACE (REMOVE) – 3–1/c#2
F & I – 3–1/c#2

H.H.2 TO H.H.3:
3"R.S.C.–INPLACE
F & I – 3–12/c#14
1–3/c#14
1–3/c#20
1–COAXIAL CABLE (CAMERA)
1–3/c#16 (CAMERA)
1–3/c#14 (LUM)
1–1/c#6 (GRD)
INPLACE (S & I) – 1–12 SM FIBER OPTIC CABLE (INTERCONNECT)

H.H.3 TO H.H.4, AND H.H.4 TO H.H.5:
1 1/4"R.S.C.–INPLACE (MAINTAIN INPLACE–EMPTY)

FOX VALLEY DRIVE SW (30 mph)

S.O.P. Ⓑ

INPLACE CONDUIT
1–6 Pr.#19–INPLACE
(TO CSAH 25 SIGNAL)

H.H.1–INP.
H.H.2–INP.
H.H.3–INP.
H.H.4–INP.
H.H.5–INP.
H.H.13–INP.
H.H.12–INP. (REMOVE)
H.H.12A–F&I
H.H.6–INP. (REMOVE)
H.H.6A–F&I
H.H.7A–F&I
H.H.7–INP. (REMOVE) will be used as a Splice vault for Fiber interconnect
H.H.8–INP. (REMOVE)
H.H.9–INP.
H.H.10–INP.

ø8 EVP
ø6 EVP
ø2 EVP
ø4 EVP

CSAH 22 (SALEM ROAD SW)
(45 mph)
116+00
111+00

MATCH LINE – STATION 117 + 00

2–6 SM FIBER OPTIC PIGTAILS–DIRECT BURIED (INPLACE TO WEST)

2–6 SM FIBER OPTIC PIGTAILS–DIRECT BURIED (INPLACE TO EAST)

1–12 SM FIBER OPTIC CABLE–DIRECT BURIED (INPLACE TO EAST)

H.H.9 TO H.H.10, AND H.H.10 TO H.H.11:
1 1/4"R.S.C.–INPLACE (MAINTAIN INPLACE–EMPTY)

H.H.9 TO H.H.12, AND H.H.12 TO H.H.13:
3"R.S.C.–INPLACE (REMOVE)
H.H.9 TO H.H.12A, AND H.H.12A TO H.H.13:
F & I – 4"N.M.C.
2–12/c#14
1–3/c#14
1–2/c#14
1–3/c#20
1–COAXIAL CABLE (CAMERA)
1–3/c#16 (CAMERA)
1–3/c#14 (LUM)
1–1/c#6 (GRD)

2"N.M.C.–INPLACE
2–6 SM FIBER OPTIC PIGTAILS–INPLACE

H.H.7 TO H.H.8:
1 1/4"R.S.C.–INPLACE (REMOVE)

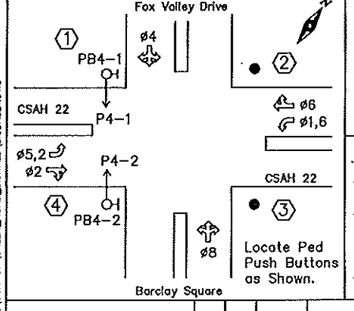
H.H.3 TO H.H.6, AND H.H.6 TO H.H.7:
3"R.S.C.–INPLACE (REMOVE)
H.H.3 TO H.H.6A, AND H.H.6A TO H.H.7A:
F & I – 4"N.M.C.
3–12/c#14
1–3/c#14
1–3/c#20
1–COAXIAL CABLE (CAMERA)
1–3/c#16 (CAMERA)
1–3/c#14 (LUM)
1–1/c#6 (GRD)
INPLACE (S & I) – 1–12 SM FIBER OPTIC CABLE (INTERCONNECT)

INPLACE (S & I) – 1–12 SM FIBER OPTIC CABLE–SALVAGE BACK FROM CONTROLLER CABINET TO WEST OF H.H.7, AND REINSTALL INTO NEW H.H.7A AND BACK TO CONTROLLER CABINET AS SHOWN (INTERCONNECT)

AS-BUILT
BARCLAY SQUARE ACCESS
APR 05 2011
ENGINEERING

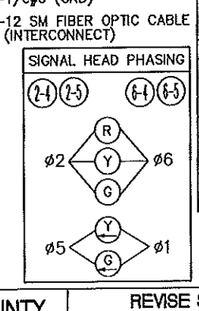
STATUS:
1) INPLACE, REUSE INPLACE.
2) INPLACE, SALVAGE & INSTALL.
3) NEW – FURNISH & INSTALL.
4) REMOVE EXISTING LED LENSES, FURNISH & INSTALL NEW LED LENSES.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATIONS:
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 & 5 BEING REVISED FROM PROTECTED TO PROTECTED/PERMISSIVE LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

SIGNAL HEAD PHASING



LED SIGNAL FACES						
SIGNAL FACE	ALL SIGNAL INDICATIONS SHALL BE 12". R	Y	G	Y	G	STATUS
2–1, 2–2	○	○	○			2
2–3	●	●	●			2, 4
2–4, 2–5	●	●	●	⟵	⟵	3
4–1, 4–3	○	○	○			2
4–2	○	○	○			1
6–1, 6–2	○	○	○			2
6–3	●	●	●			2, 4
6–4, 6–5	●	●	●	⟵	⟵	3
8–1, 8–2, 8–3	○	○	○			2

○ = INPLACE LED INDICATION (REUSE AS SHOWN).
● ⟵ = NEW LED INDICATION (FURNISH & INSTALL).

S.P. 55–622–43

DRAWN BY:	JMG		
DESIGNER:	JMG		
CHECKED BY:	JMG		
DESIGN TEAM	NO.	BY	DATE

REVISIONS

I HEREBY CERTIFY THAT THIS PLAN 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.
Date: February 9, 2009
Name: John M. Gray, PE
Lic. No. 22457

SEH
PHONE: (651) 490–2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

REVISE SIGNAL SYSTEM 'B' INTERSECTION LAYOUT
CSAH 22 (SALEM ROAD SW) AT FOX VALLEY DRIVE SW/BARCLAY SQUARE

FILE NO. 106609
DATE 02/09/2009
46/99

02/09/2009
S:\PW\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGBASE1.DWG

NOTES:

1) LOCATION OF NEW FOUNDATIONS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2) NEW HANDHOLES 6A, 7A, AND 12A SHALL BE PVC HANDHOLES WITH METAL FRAMES & COVERS (SEE SPECIAL PROVISIONS).
3) CONTRACTOR SHALL ADJUST AND REVISE INPLACE HANDHOLES 1, 2, 3, 4, 5, 9, 10, 11, AND 13 SO THAT THESE HANDHOLES ARE FLUSH WITH SURROUNDING GROUNDLINE AND ARE LEVELED TO SATISFACTION OF ENGINEER. INPLACE HANDHOLES 6, 7, 8, AND 12 SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR AS PART OF THIS PROJECT.
4) ALL INPLACE LOOP DETECTORS MAY BE ABANDONED INPLACE (REMOVE AND DISPOSE OF 2/C#14 CABLES AND LOOP DETECTOR SPLICE KITS, AND CUT OFF ROADWAY WIRES IN HANDHOLE).
5) EACH NEW SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
6) PEDESTRIAN INDICATIONS ARE ONE-SECTION LED COUNTDOWN TIMER "HAND/WALKING PERSON" INDICATIONS AND ARE INPLACE (REUSE AND MAKE OPERATIONAL AS SHOWN).
7) ALL NEW VEHICLE SIGNAL INDICATIONS SHALL BE LED (EXISTING VEHICLE SIGNAL INDICATIONS ARE LED AS SHOWN).
8) CONTRACTOR SHALL PROVIDE EXTENDED BRACKETING FOR ALL POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL FACES (TO ALLOW FOR ROTATION WITHIN BRACKETS).
9) ALL INPLACE CABLES AND CONDUCTORS SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR, EXCEPT AS OTHERWISE NOTED ON THE PLANS. NEW CABLES AND CONDUCTORS SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR IN ACCORDANCE WITH THE PLANS AND SPECIAL PROVISIONS.
10) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED (OR SALVAGED AND INSTALLED) BY CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
11) (CAMERA) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF NEW VIDEO DETECTION SYSTEM. SEE DETAILS, SPECIAL PROVISIONS, AND ESTIMATED QUANTITIES.
12) CONTRACTOR SHALL REPAINT ALL NEW AND EXISTING ITEMS OF REVISE SIGNAL SYSTEM "B". SEE SPECIAL PROVISIONS (INCIDENTAL).
13) SEE DETAILS AND SPECIAL PROVISIONS REGARDING SIGNING TO BE FURNISHED & INSTALLED (OR SALVAGED & INSTALLED) BY THE CONTRACTOR (INCIDENTAL).
14) F & I = ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR. S & I = ITEMS TO BE SALVAGED AND INSTALLED BY CONTRACTOR.
15) CONTRACTOR SHALL MAINTAIN OPERATION OF THIS SIGNAL SYSTEM AT ALL TIMES, UNTIL APPROVED BY ENGINEER FOR SYSTEM TO BE TURNED OFF TO FACILITATE CONSTRUCTION.

① INPLACE (S & I)
- TYPE R100-A-D40-12 MAST ARM POLE (DAVIT AT 350')
- LUMINAIRE-250 W HPS WITH PEC
- 2-ONE WAY SIGNALS-OVERHEAD (MOUNT AT 11' & 23' FROM END OF NEW MAST ARM) (6-3, 6-2)
- 2-ONE WAY SIGNALS-POLE MOUNTED (8-3, 6-1)
- 1-SET CD PEDESTRIAN INDICATIONS (P4-1)
- TYPE D SIGN PANEL-OVERHEAD (D-5)
- ONE WAY EVP DETECTOR & LIGHT (ø6)
- RADIO INTERCONNECT ANTENNA-MOUNTED ON LUMINAIRE EXTENSION (6-8' ABOVE MAST ARM)
- RADIO INTERCONNECT CABLE (FROM CONTROLLER CABINET TO ANTENNA, VIA H.H.13)

INPLACE (SALVAGE)
- 35' MAST ARM
- 5' EXTENSION (RELOCATE TO SYSTEM "A" - POLE 4)
- RLTA-YLTA-GLTA LED LENSES (6-3)

INPLACE (REMOVE)
- P90 POLE FOUNDATION
- TYPE 20B BRACKETING-POLE MOUNTED 270'
- 1-PEDESTRIAN PUSH BUTTON, SIGN (R10-4c) AND "MEANING OF WALK" STICKER AT 270'
- 3"R.S.C. TO H.H.13
- 2-12/c#12
- 2-3/c#12
- 1-3/c#20
- 4-1/c#6 (LUM)

F & I
- PA100 POLE FOUNDATION
- 45' "CLASSIC" STYLE MAST ARM (WITH MID-MOUNTS AT 11' AND 23' FROM LEFT END OF MAST ARM)
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (6-4)
- R-Y-G LED LENSES (6-3)
- TYPE 10B BRACKETING-POLE MOUNTED 90' (FOR 8-3, P4-1)
- TYPE 10A BRACKETING-POLE MOUNTED 180' (FOR 6-1)
- CAP UNUSED POLE HUBS AT 0' & 270'
- 1-PEDESTRIAN PUSH BUTTON & SIGN (R10-3e) AT 270'
- 1-R9-3a SIGN PANEL-FACING POLE 2
- R10-12 SIGN PANEL-ADJACENT TO 6-4
- VIDEO DETECTOR CAMERA (CAMERA 1) WITH LUMINAIRE MOUNTING HARDWARE-LUMINAIRE EXTENSION MOUNTED (FACING WB TRAFFIC) (CAMERA)
- EXTEND INTO H.H.13:
- 3"N.M.C.
- 3-12/c#14
- 1-3/c#14
- 1-2/c#14
- 1-3/c#20
- 1-COAXIAL CABLE (CAMERA)
- 1-3/c#16 (CAMERA)
- 1-3/c#14 (LUM)
- 1-1/c#6 (GRD)

② INPLACE (S & I)
- TYPE R100-A-30-D40-12 (DAVIT AT 350')
- LUMINAIRE-250 W HPS WITH PEC
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (8-2)
- TYPE 10A-POLE MOUNTED 180' (8-1)
- TYPE D SIGN PANEL-OVERHEAD (D-6)
- ONE WAY EVP DETECTOR & LIGHT (ø8)

INPLACE (SALVAGE)
- 1-ONE WAY SIGNAL-POLE MOUNTED 0' (RLTA-YLTA-GLTA)

INPLACE (REMOVE)
- P100 POLE FOUNDATION
- TYPE 10A BRACKETING-POLE MOUNTED 0'
- 3"R.S.C. TO H.H.2:
- 2-12/c#12
- 1-3/c#12
- 1-3/c#20
- 4-1/c#6 (LUM)

F & I
- PA100 POLE FOUNDATION
- TYPE 10A-POLE MOUNTED 90' (2-5)
- CAP UNUSED POLE HUBS AT 0' & 270'
- 2-R9-3a SIGN PANELS-FACING POLES 1 & 3
- TYPE D SIGN PANEL-OVERHEAD (D-10)
- VIDEO DETECTOR CAMERA (CAMERA 2) WITH LUMINAIRE MOUNTING HARDWARE-LUMINAIRE EXTENSION MOUNTED (FACING NB TRAFFIC) (CAMERA)
- EXTEND INTO H.H.2:
- 3"N.M.C.
- 2-12/c#14
- 1-3/c#14
- 1-3/c#20
- 1-COAXIAL CABLE (CAMERA)
- 1-3/c#16 (CAMERA)
- 1-3/c#14 (LUM)
- 1-1/c#6 (GRD)

③ INPLACE (S & I)
- TYPE R100-A-45-D40-12 (DAVIT AT 350')
- LUMINAIRE-250 W HPS WITH PEC
- 2-ONE WAY SIGNALS-OVERHEAD (MOUNT AT 11' & 23' FROM END OF MAST ARM) (2-3, 2-2)
- 2-ONE WAY SIGNALS-POLE MOUNTED (4-3, 2-1)
- TYPE D SIGN PANEL-OVERHEAD (D-7)
- ONE WAY EVP DETECTOR & LIGHT (ø2)

INPLACE (SALVAGE)
- RLTA-YLTA-GLTA LED LENSES (2-3)

INPLACE (REMOVE)
- P90 POLE FOUNDATION
- TYPE 20A BRACKETING-POLE MOUNTED 270'
- 3"R.S.C. TO H.H.7:
- 2-12/c#12
- 1-3/c#12
- 1-3/c#20
- 2-1/c#6 (LUM)

F & I
- PA100 POLE FOUNDATION
- WELDED MID-MOUNTS AT 11' AND 23' FROM END OF MAST ARM (CAP MID-MOUNT AT 15')
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (2-4)
- R-Y-G LED LENSES (2-3)
- 2-TYPE 10A BRACKETING-POLE MOUNTED 90' (FOR 4-3) AND 180' (FOR 2-1)
- CAP UNUSED POLE HUBS AT 0' & 270'
- 2-R9-3a SIGN PANELS-FACING POLES 2 AND 4
- R10-12 SIGN PANEL-ADJACENT TO 2-4
- VIDEO DETECTOR CAMERA (CAMERA 3) WITH LUMINAIRE MOUNTING HARDWARE-LUMINAIRE EXTENSION MOUNTED (FACING EB TRAFFIC) (CAMERA)
- EXTEND INTO H.H.7A:
- 3"N.M.C.
- 3-12/c#14
- 1-3/c#14
- 1-3/c#20
- 1-COAXIAL CABLE (CAMERA)
- 1-3/c#16 (CAMERA)
- 1-3/c#14 (LUM)
- 1-1/c#6 (GRD)

Ⓐ INPLACE (MAINTAIN INPLACE)
- EQUIPMENT PAD FOUNDATION
- CONTROLLER AND CABINET PAD MOUNTED LOAD CENTER
- BETWEEN CONTROLLER CABINET AND LOAD CENTER:
- 1 1/4"R.S.C.
- 2-1/c#6
- 1-1/c#6 Br.Gr.
- CONTROLLER CABINET TO H.H.1:
- 4"R.S.C.

INPLACE (S & I)
- 1-12 SM FIBER OPTIC CABLE (INTERCONNECT)

INPLACE (REMOVE)
- 4-12/c#12
- 2-3/c#12
- 2-3/c#20
- 8-2/c#14

F & I
- 5-12/c#14
- 2-3/c#14
- 2-3/c#20
- 2-COAXIAL CABLES (CAMERA)
- 2-3/c#16 (CAMERA)
- 2-1/c#6 (GRD)

INPLACE (MAINTAIN INPLACE)
- CONTROLLER CABINET TO H.H.13:
- 4"R.S.C.

INPLACE (S & I)
- 1-6 Pr.#19 (INTERCONNECT)
- 1-RADIO INTERCONNECT CABLE

INPLACE (REMOVE)
- 4-12/c#12
- 4-3/c#12
- 2-3/c#20
- 3-2/c#14

F & I
- 5-12/c#14
- 2-3/c#14
- 2-2/c#14
- 2-3/c#20
- 2-COAXIAL CABLES (CAMERA)
- 2-3/c#16 (CAMERA)
- 2-1/c#6 (GRD)

INPLACE (MAINTAIN INPLACE)
- LOAD CENTER TO H.H.1:
- 2"R.S.C.

INPLACE (REMOVE)
- 3-1/c#2
- 2-1/c#6 (LUM)

F & I
- 3-1/c#2
- 2-3/c#14 (LUM)

INPLACE (MAINTAIN INPLACE)
- LOAD CENTER TO H.H.13:
- 2"R.S.C.

INPLACE (REMOVE)
- 2-1/c#6 (LUM)

F & I
- 2-3/c#14 (LUM)

④ INPLACE (MAINTAIN INPLACE)
- P100 POLE FOUNDATION
- TYPE R100-A-30-D40-12 (DAVIT AT 350')
- LUMINAIRE-250 W HPS WITH PEC
- 1-ONE WAY SIGNAL-OVERHEAD AT 0' (4-2)
- TYPE D SIGN PANEL-OVERHEAD
- ONE WAY EVP DETECTOR & LIGHT (ø4)
- 3"R.S.C. INTO H.H.9

INPLACE (S & I)
- 1-ONE WAY SIGNAL-POLE MOUNTED (4-1)
- 1-SET CD PEDESTRIAN INDICATIONS (P4-2)

INPLACE (SALVAGE)
- 1-ONE WAY SIGNAL-POLE MOUNTED 270' (RLTA-YLTA-GLTA)

INPLACE (REMOVE)
- TYPE 20B BRACKETING-POLE MOUNTED 270'
- 1-PEDESTRIAN PUSH BUTTON, SIGN (R10-4c) AND "MEANING OF WALK" STICKER AT 0'
- 2-12/c#12
- 2-3/c#12
- 1-3/c#20
- 2-1/c#6 (LUM)

F & I
- TYPE 10A-POLE MOUNTED 90' (6-5)
- TYPE 10B BRACKETING-POLE MOUNTED 180' (FOR 4-1, P4-2)
- CAP UNUSED POLE HUBS AT 0' & 270'
- 1-PEDESTRIAN PUSH BUTTON & SIGN (R10-3e) AT 0'
- 1-R9-3a SIGN PANEL-FACING POLE 3
- TYPE D SIGN PANEL-OVERHEAD (D-11)
- VIDEO DETECTOR CAMERA (CAMERA 4) WITH LUMINAIRE MOUNTING HARDWARE-LUMINAIRE EXTENSION MOUNTED (FACING SB TRAFFIC) (CAMERA)
- 2-12/c#14
- 1-3/c#14
- 1-2/c#14
- 1-3/c#20
- 1-COAXIAL CABLE (CAMERA)
- 1-3/c#16 (CAMERA)
- 1-3/c#14 (LUM)
- 1-1/c#6 (GRD)

S.P. 55-622-43

DRAWN BY: JMG	NO.	BY	DATE	REVISIONS
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM				

I HEREBY CERTIFY THAT THIS PLAN 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.
Date: February 9, 2009
Name: John M. Gray, PE
Lic. No. 22457

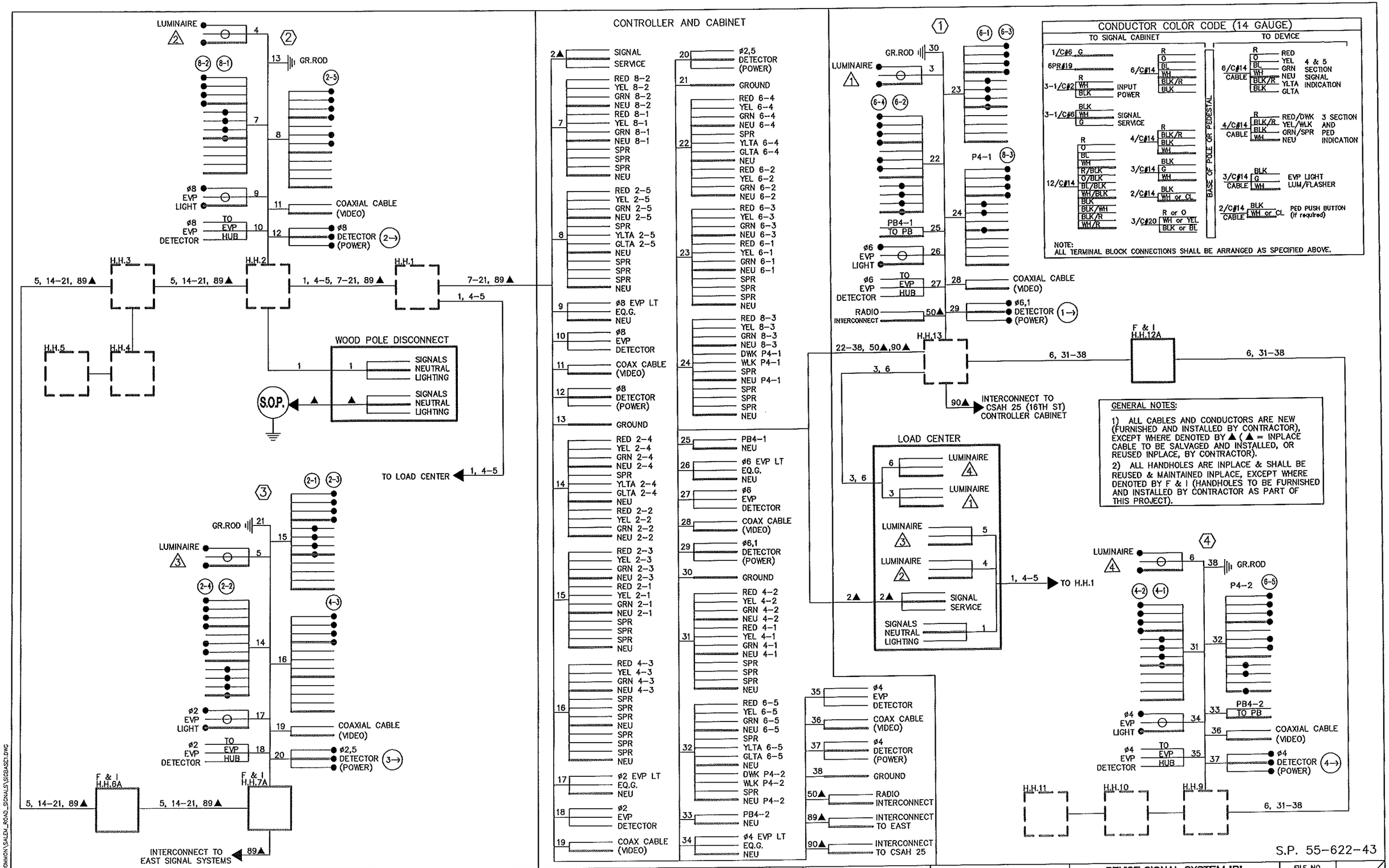
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

REVISE SIGNAL SYSTEM "B"
INTERSECTION LAYOUT
CSAH 22 (SALEM ROAD SW) AT
FOX VALLEY DRIVE SW/BARCLAY SQUARE

FILE NO. 106609
DATE 02/09/2009
47 / 99

02/09/2009
S:\PTV\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGBASE1.DWG



02/09/2009
S:\PT\R\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGBASE1.DWG

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DESIGNER: JMG
CHECKED BY: JMG
DESIGN TEAM

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3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

REVISE SIGNAL SYSTEM "B"
FIELD WIRING DIAGRAM
CSAH 22 (SALEM ROAD SW) AT
FOX VALLEY DRIVE SW/BARCLAY SQUARE

FILE NO. 106609
DATE 02/09/2009
48/99

VIDEO DETECTION

DESIGNATION	DETECTION PHASE	MOUNTING LOCATION
VIDEO DETECTOR 2	1&6	POLE 2
VIDEO DETECTOR 3	4	POLE 3
VIDEO DETECTOR 4	2	POLE 4

- ALL DETECTORS SHALL BE ITERIS VIDEO UNITS

LED SIGNAL FACES

FACE	R	Y	G	R	Y	G
2-1, 2-2, 2-3	●	●	●			
4-1, 4-2, 4-3	●	●	●			
6-1, 6-2	●	●	●			
6-3, 6-4	●	●	●		←	←

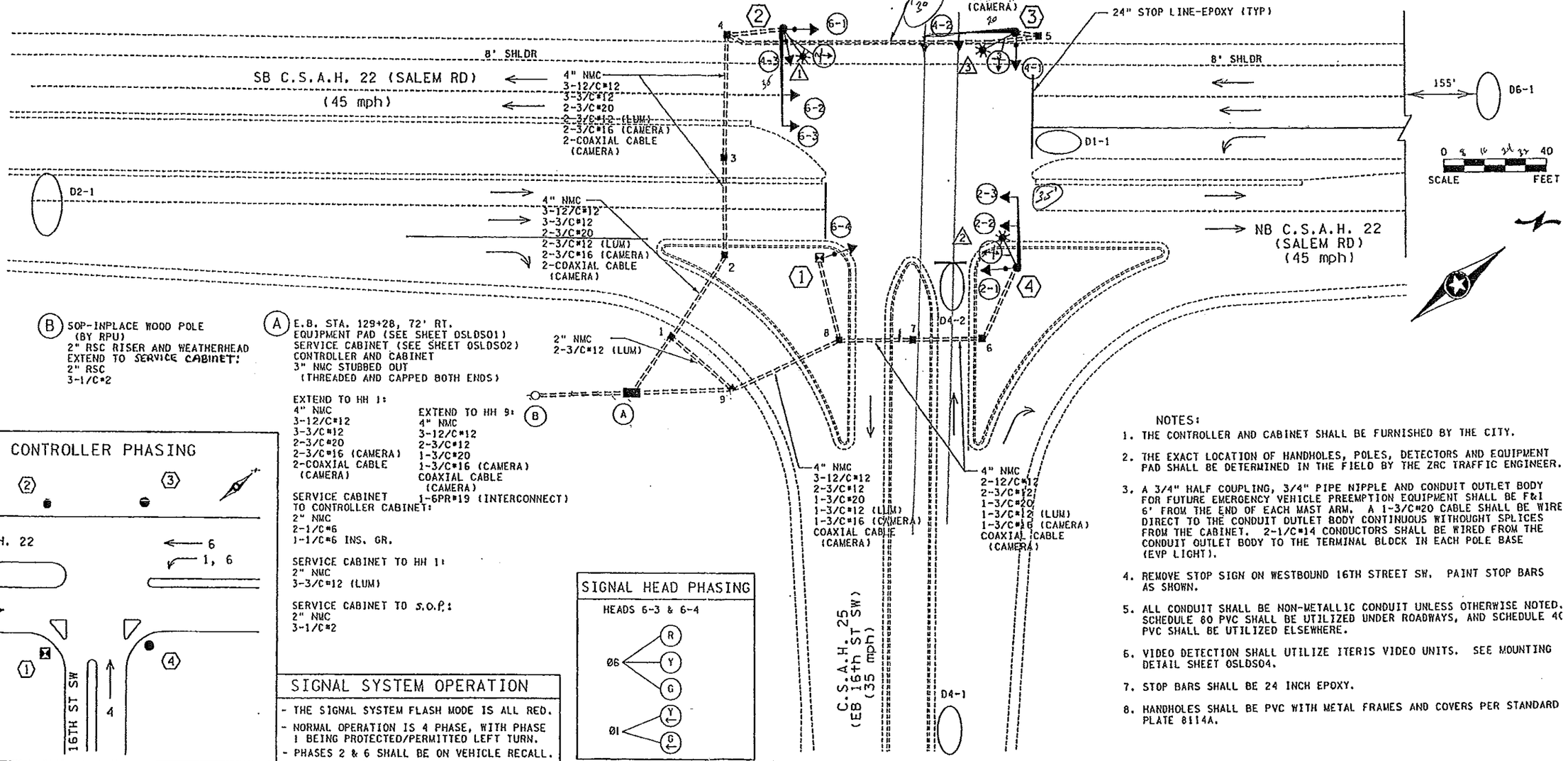
-ALL SIGNAL INDICATIONS SHALL BE 12"
-ALL SIGNAL INDICATIONS SHALL BE LED
-ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD

(1) PEDESTAL FOUNDATION
10' SIGNAL PEDESTAL
1-TYPE 5A POLE MOUNTED
~~2-TYPE R9-3A SIGNS (NO PEDS) FACING POLE 2 & POLE 4~~
EXTEND TO HHB:
2" NMC
1-12/C*12

(2) PA90 POLE FOUNDATION
TYPE PA90-A-35-D40-9 (DAVIT AT 315°)
2-ONE WAY SIGNALS OVERHEAD AT 0' AND 11' (FROM END OF MAST ARM)
1-TYPE 10A POLE MOUNTED AT 0°
1-TYPE 10A POLE MOUNTED AT 270°
LUMINAIRE-250W HPS
VIDEO DETECTION CAMERA
1-TYPE "D" SIGN PANEL (D-3) 16TH STREET SW
1-TYPE R10-12 SIGN (NO LEFT TURN)
1-TYPE R9-3A SIGN (NO PEDS) FACING POLE 1
EXTEND TO HH 4:
3" NMC
2 - 12/C*12
1 - 3/C*12
1 - 3/C*20
1 - 3/C*12 (LUM)
1 - 3/C*16 (CAMERA)
COAXIAL CABLE (CAMERA)

(3) PA90 POLE FOUNDATION
~~TYPE PA90-A-20-D40-9~~
(DAVIT AT 350°)
1-ONE WAY SIGNAL OVERHEAD AT 0°
1-TYPE 10A POLE MOUNTED AT 270°
VIDEO DETECTION CAMERA
1-TYPE "D" SIGN PANEL (D-2) CSAH 22
1-TYPE "D" SIGN PANEL (D-1) SALEM RD
1-TYPE R9-3A SIGN (NO PEDS)
FACING POLE 4
EXTEND TO HH 5:
3" NMC
1 - 12/C*12
2 - 3/C*12
1 - 3/C*20
1 - 3/C*12 (LUM)
1 - 3/C*16 (CAMERA)
COAXIAL CABLE (CAMERA)

(4) PA90 POLE FOUNDATION
~~TYPE PA90-A-25-D40-9~~
(DAVIT AT 350°)
2-ONE WAY SIGNALS OVERHEAD AT 0'& 11'
1-TYPE 10A POLE MOUNTED AT 270°
LUMINAIRE-250W HPS
VIDEO DETECTION CAMERA
2-TYPE R9-3A SIGNS (NO PEDS)
FACING POLE 1 & POLE 3
EXTEND TO HH 6:
3" NMC
2 - 12/C*12
2 - 3/C*12
1 - 3/C*20
1 - 3/C*12 (LUM)
1 - 3/C*16 (CAMERA)
COAXIAL CABLE (CAMERA)



(B) SOP-INPLACE WOOD POLE (BY RPU)
2" RSC RISER AND WEATHERHEAD
EXTEND TO SERVICE CABINET:
2" RSC
3-1/C*2

(A) E.B. STA. 129+28, 72' RT.
EQUIPMENT PAD (SEE SHEET OSLDS01)
SERVICE CABINET (SEE SHEET OSLDS02)
CONTROLLER AND CABINET
3" NMC STUBBED OUT
(THREADED AND CAPPED BOTH ENDS)

2" NMC
2-3/C*12 (LUM)

EXTEND TO HH 1:

4" NMC	EXTEND TO HH 9:
3-12/C*12	4" NMC
3-3/C*12	3-12/C*12
2-3/C*20	2-3/C*12
2-3/C*16 (CAMERA)	1-3/C*20
2-COAXIAL CABLE (CAMERA)	1-3/C*16 (CAMERA) COAXIAL CABLE (CAMERA)
SERVICE CABINET	1-6PR*19 (INTERCONNECT)

TO CONTROLLER CABINET:
2" NMC
2-1/C*6
1-1/C*6 INS. GR.

SERVICE CABINET TO HH 1:
2" NMC
3-3/C*12 (LUM)

SERVICE CABINET TO S.O.P.:
2" NMC
3-1/C*2

CONTROLLER PHASING

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 4 PHASE, WITH PHASE 1 BEING PROTECTED/PERMITTED LEFT TURN.
- PHASES 2 & 6 SHALL BE ON VEHICLE RECALL.

SIGNAL HEAD PHASING

HEADS 6-3 & 6-4

NOTES:
1. THE CONTROLLER AND CABINET SHALL BE FURNISHED BY THE CITY.
2. THE EXACT LOCATION OF HANDHOLES, POLES, DETECTORS AND EQUIPMENT PAD SHALL BE DETERMINED IN THE FIELD BY THE ZRC TRAFFIC ENGINEER.
3. A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR FUTURE EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE PLACED 6' FROM THE END OF EACH MAST ARM. A 1-3/C*20 CABLE SHALL BE WIRED DIRECT TO THE CONDUIT OUTLET BODY CONTINUOUS WITHOUGHT SPLICES FROM THE CABINET. 2-1/C*14 CONDUCTORS SHALL BE WIRED FROM THE CONDUIT OUTLET BODY TO THE TERMINAL BLOCK IN EACH POLE BASE (EVP LIGHT).
4. REMOVE STOP SIGN ON WESTBOUND 16TH STREET SW. PAINT STOP BARS AS SHOWN.
5. ALL CONDUIT SHALL BE NON-METALLIC CONDUIT UNLESS OTHERWISE NOTED. SCHEDULE 80 PVC SHALL BE UTILIZED UNDER ROADWAYS, AND SCHEDULE 40 PVC SHALL BE UTILIZED ELSEWHERE.
6. VIDEO DETECTION SHALL UTILIZE ITERIS VIDEO UNITS. SEE MOUNTING DETAIL SHEET OSLDS04.
7. STOP BARS SHALL BE 24 INCH EPOXY.
8. HANDHOLES SHALL BE PVC WITH METAL FRAMES AND COVERS PER STANDARD PLATE 8114A.

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

S.P. 55-622-43
S.P. 55-625-22

02/09/2009
S:\PT\R\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGDETS.DWG

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG
DESIGN TEAM

NO.	BY	DATE	REVISIONS

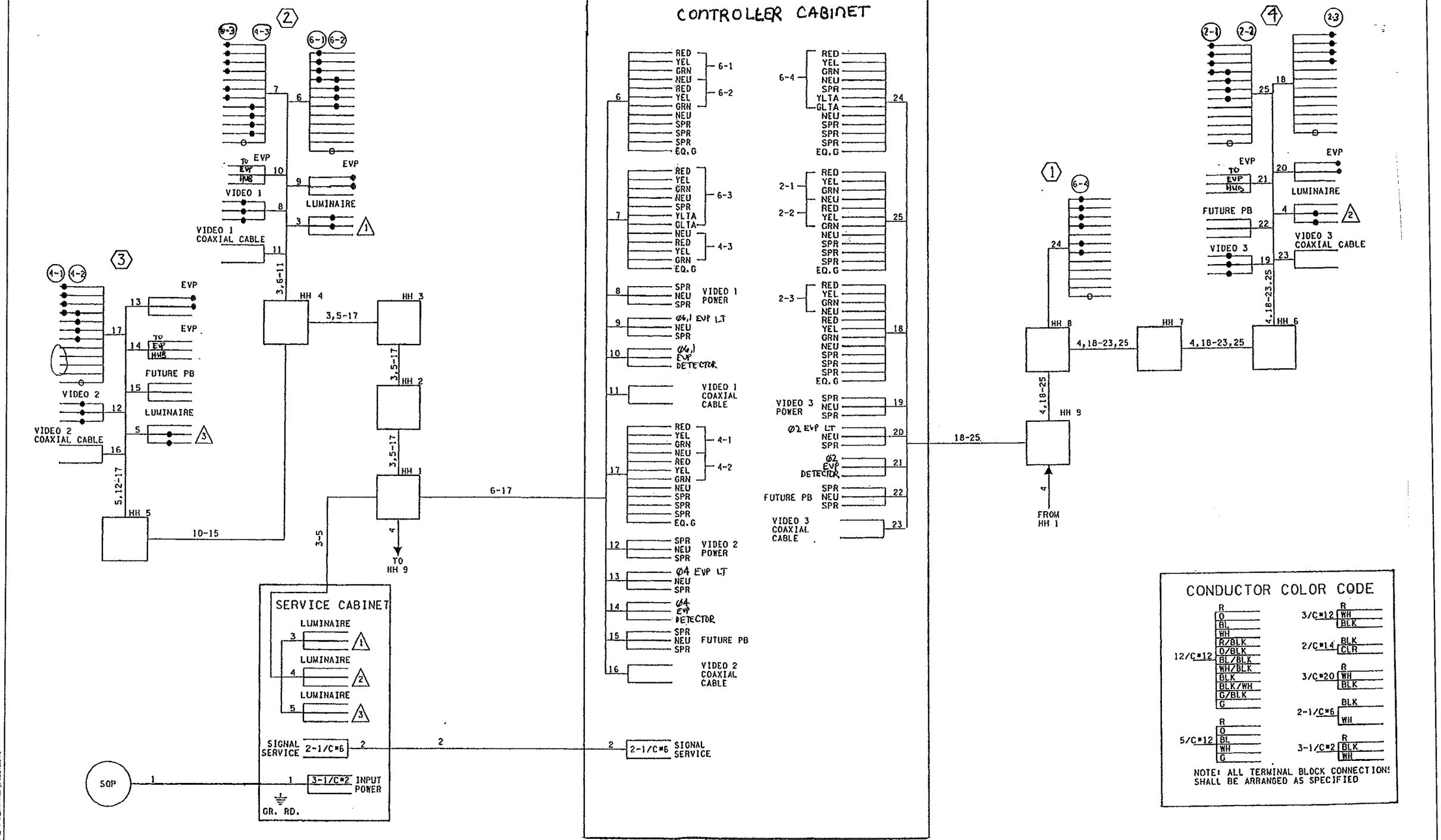
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Date: February 9, 2009 Name: John M. Gray, PE Lic. No. 22457

SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

INPLACE SIGNAL SYSTEM "A"
"FOR INFORMATION ONLY"
CSAH 22 (SALEM ROAD SW) AT CSAH 25 (16TH STREET SW)

FILE NO. 106609
DATE 02/09/2009
49 / 99



NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

S.P. 55-622-43
S.P. 55-625-22

02/09/2009
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3535 VADNAIS CENTER DR.
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OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

INPLACE SIGNAL SYSTEM 'A'
'FOR INFORMATION ONLY'
CSAH 22 (SALEM ROAD SW) AT CSAH 25 (16TH STREET SW)

FILE NO. 106609
DATE 02/09/2009

50 / 99

NOTES:

(1-1, 1-2, 5-1, 5-2 ARE RLTA-YLTA-GLTA).

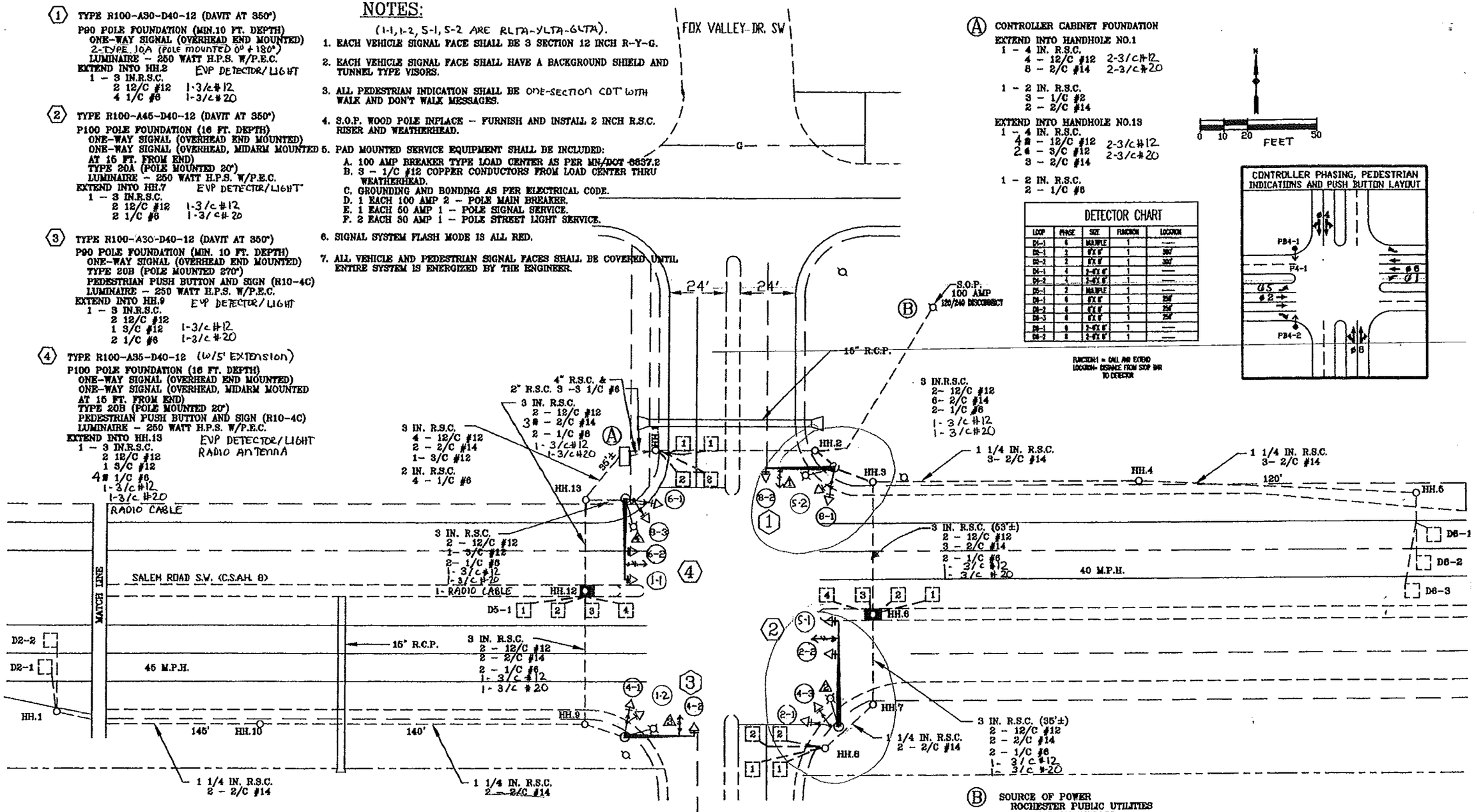
1. EACH VEHICLE SIGNAL FACE SHALL BE 3 SECTION 12 INCH R-Y-G.
2. EACH VEHICLE SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD AND TUNNEL TYPE VISORS.
3. ALL PEDESTRIAN INDICATION SHALL BE ONE-SECTION CDT WITH WALK AND DON'T WALK MESSAGES.
4. S.O.P. WOOD POLE INPLACE – FURNISH AND INSTALL 2 INCH R.S.C. RISER AND WEATHERHEAD.
5. PAD MOUNTED SERVICE EQUIPMENT SHALL BE INCLUDED:
   A. 100 AMP BREAKER TYPE LOAD CENTER AS PER MN/DOT 8857.2
   B. 3 – 1/C #12 COPPER CONDUCTORS FROM LOAD CENTER THRU WEATHERHEAD.
   C. GROUNDING AND BONDING AS PER ELECTRICAL CODE.
   D. 1 EACH 100 AMP 2 – POLE MAIN BREAKER.
   E. 1 EACH 50 AMP 1 – POLE SIGNAL SERVICE.
   F. 2 EACH 30 AMP 1 – POLE STREET LIGHT SERVICE.
6. SIGNAL SYSTEM FLASH MODE IS ALL RED.
7. ALL VEHICLE AND PEDESTRIAN SIGNAL FACES SHALL BE COVERED UNTIL ENTIRE SYSTEM IS ENERGIZED BY THE ENGINEER.

(1) TYPE R100-A30-D40-12 (DAVIT AT 350°)
P90 POLE FOUNDATION (MIN.10 FT. DEPTH)
ONE-WAY SIGNAL (OVERHEAD END MOUNTED)
2-TYPE 10A (POLE MOUNTED 0° & 180°)
LUMINAIRE – 250 WATT H.P.S. W/P.E.C.
EXTEND INTO HH.2 EVP DETECTOR/LIGHT
1 – 3 IN.R.S.C.
2 12/C #12 1-3/c#12
4 1/C #6 1-3/c#20

(2) TYPE R100-A45-D40-12 (DAVIT AT 350°)
P100 POLE FOUNDATION (16 FT. DEPTH)
ONE-WAY SIGNAL (OVERHEAD END MOUNTED)
ONE-WAY SIGNAL (OVERHEAD, MIDARM MOUNTED AT 15 FT. FROM END)
TYPE 20A (POLE MOUNTED 20')
LUMINAIRE – 250 WATT H.P.S. W/P.E.C.
EXTEND INTO HH.7 EVP DETECTOR/LIGHT
1 – 3 IN.R.S.C.
2 12/C #12 1-3/c#12
2 1/C #6 1-3/c#20

(3) TYPE R100-A30-D40-12 (DAVIT AT 350°)
P90 POLE FOUNDATION (MIN. 10 FT. DEPTH)
ONE-WAY SIGNAL (OVERHEAD END MOUNTED)
TYPE 20B (POLE MOUNTED 270°)
PEDESTRIAN PUSH BUTTON AND SIGN (R10-4C)
LUMINAIRE – 250 WATT H.P.S. W/P.E.C.
EXTEND INTO HH.9 EVP DETECTOR/LIGHT
1 – 3 IN.R.S.C.
2 12/C #12
1 3/C #12 1-3/c#12
2 1/C #6 1-3/c#20

(4) TYPE R100-A35-D40-12 (W/5' EXTENSION)
P100 POLE FOUNDATION (16 FT. DEPTH)
ONE-WAY SIGNAL (OVERHEAD END MOUNTED)
ONE-WAY SIGNAL (OVERHEAD, MIDARM MOUNTED AT 15 FT. FROM END)
TYPE 20B (POLE MOUNTED 20')
PEDESTRIAN PUSH BUTTON AND SIGN (R10-4C)
LUMINAIRE – 250 WATT H.P.S. W/P.E.C.
EXTEND INTO HH.13 EVP DETECTOR/LIGHT
RADIO ANTENNA
1 – 3 IN.R.S.C.
2 12/C #12
1 3/C #12
4# 1/C #6
1-3/c#12
1-3/c#20



(A) CONTROLLER CABINET FOUNDATION
EXTEND INTO HANDHOLE NO.1
1 – 4 IN. R.S.C.
4 – 12/C #12 2-3/c#12
8 – 2/C #14 2-3/c#20
1 – 2 IN. R.S.C.
3 – 1/C #2
2 – 2/C #14
EXTEND INTO HANDHOLE NO.13
1 – 4 IN. R.S.C.
4# – 12/C #12 2-3/c#12
2# – 3/C #12 2-3/c#20
3 – 2/C #14
1 – 2 IN. R.S.C.
2 – 1/C #6

0 10 20 50 FEET

DETECTOR CHART

LOOP	PHASE	SIZE	FUNCTION	LOCATION
D1-1	6	MAUPLE	1	—
D2-1	2	6'X 6'	1	300'
D2-2	2	6'X 6'	1	300'
D4-1	4	2-6'X 6'	1	—
D4-2	4	2-6'X 6'	1	—
D5-1	2	MAUPLE	1	—
D6-1	6	6'X 6'	1	250'
D6-2	6	6'X 6'	1	250'
D6-3	6	6'X 6'	1	250'
D8-1	8	2-6'X 6'	1	—
D8-2	8	2-6'X 6'	1	—

FUNCTION: 1 = CALL AND EXTEND
LOCATION: DISTANCE FROM STOP BAR TO DETECTOR

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTON LAYOUT

(B) SOURCE OF POWER
ROCHESTER PUBLIC UTILITIES
POWER POLE INPLACE
FURNISH AND INSTALL 2 IN. RISER WITH WEATHERHEAD
EXTEND INTO HANDHOLE NO.2
1 – 2 IN. R.S.C.
3 – 1/C #2

BARCLAY SQUARE

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

S.P. 55-622-43

02/05/2009
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DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG
DESIGN TEAM

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OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

INPLACE SIGNAL SYSTEM 'B'
'FOR INFORMATION ONLY'
CSAH 22 (SALEM ROAD SW) AT FOX VALLEY DRIVE SW/BARCLAY SQUARE

FILE NO. 106609
DATE 02/09/2009
51 / 99

ABBREVIATIONS

EQUIPMENT AND INDICATIONS

BKD-BACKBOARD
YEL-YELLOW
GRN-GREEN
LTA-LEFT TURN ARROW
THA-THRU ARROW
RTA-RIGHT TURN ARROW
TRA-THRU AND RIGHT ARROW
WLK-WALK
NEU-NEUTRAL
DWK-DON'T WALK
SV-SWITCH
SVB-SWITCHED
LUM-LUMINAIRE
BKL-BOX/LIGHT
SHLD-SHIELDED CABLE

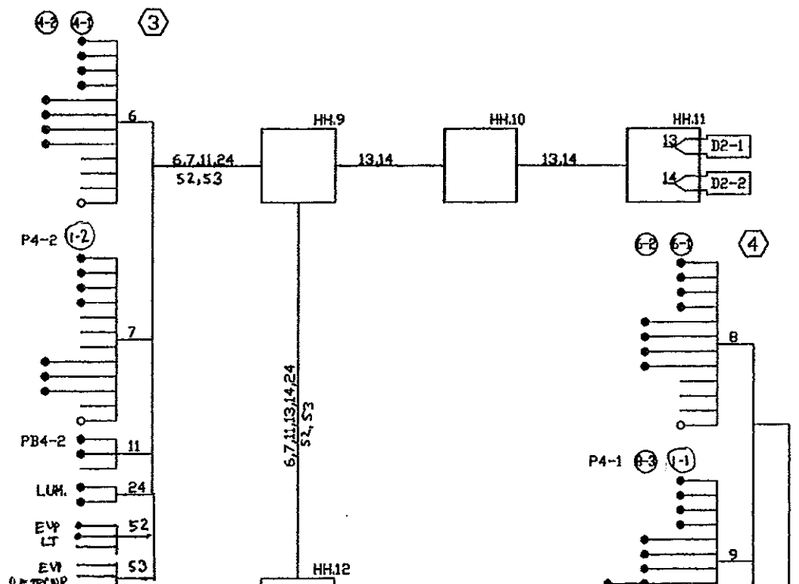
PI-1 PEDESTRIAN INDICATION-PHASE 1
PBE-1 - PUSH BUTTON-PHASE 2
S-1 - SIGNAL HEAD-PHASE 2
D1-4 - DETECTOR-PHASE 1
HH-HANDHOLE
BLK-ENGLISH BOX
SERV-SERVICE
PED-PHOTOELECTRIC CELL
ST.LHT.-STREET LIGHT
CH-CHECK

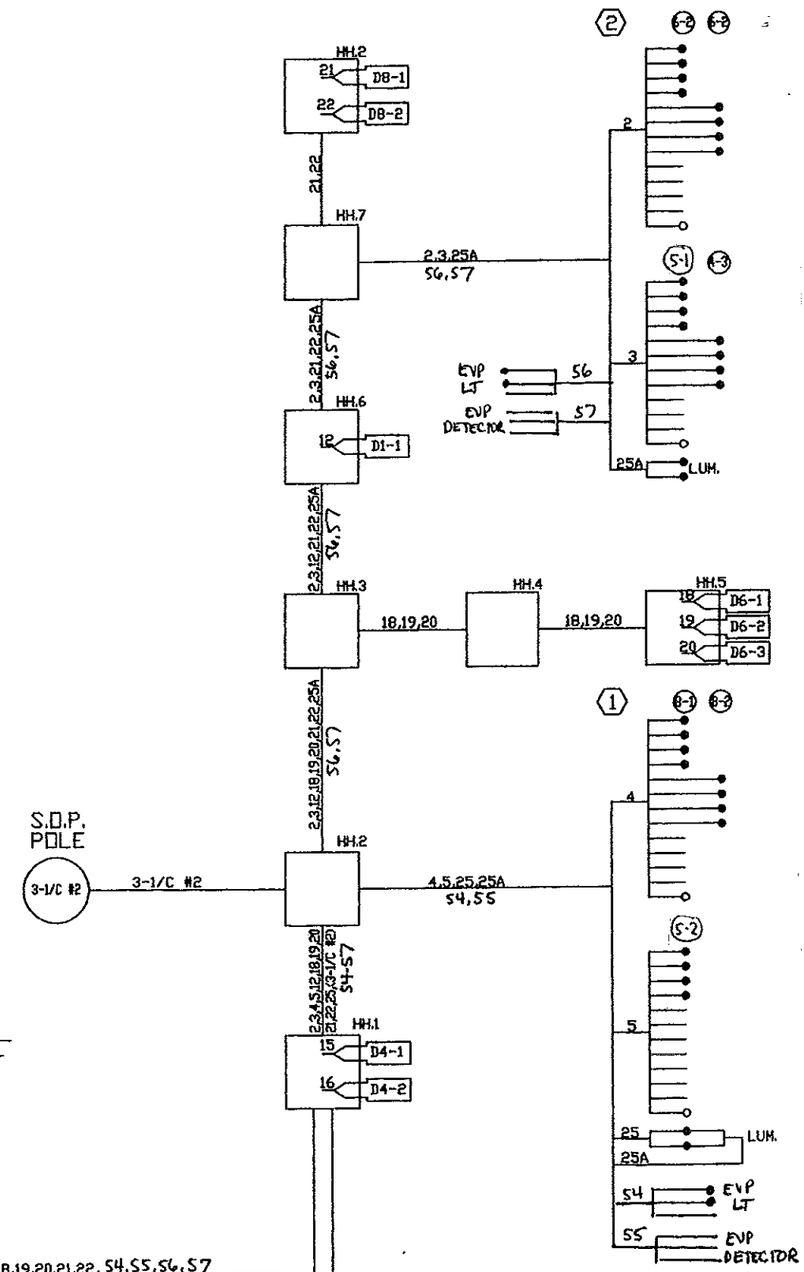
CONDUCTOR COLOR CODE

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

CONTROLLER CABINET

RLTA	1-2	R	236	1	BLK 412	AC+
YLTA	1-2	O	234		WH NB1	AC- SERVICE
GLTA	1-2	BL	232	7	R 211	2-1 RED
NEU	1-2	WH			O 209	2-1 YEL
SPR		R/BLK			BL 207	2-1 GRN
SPR		O/BLK			WH	2-1 NEU
SPR		BL/BLK			R/BLK 212	2-2 RED
NEU	P4-2	W/BLK			O/BLK 210	2-2 YEL
WLK	P4-2	BLK	256	2	BL/BLK 208	2-2 GRN
DWK	P4-2	BL/WH	260		W/BLK	2-2 NEU
SPR		G/BLK			BLK	SPR
EQG		G			BL/WH	SPR
RED	6-1	R	235		G/BLK	SPR
YEL	6-1	O	233		G	EQG
GRN	6-1	BL	231		R 211	5-1 RLTA
NEU	6-1	WH			O 209	5-1 YLTA
RED	6-2	R/BLK	236		BL 207	5-1 GLTA
YRL	6-2	O/BLK	234	8	WH	5-1 NEU
GRN	6-2	BL/BLK	232		R/BLK 223	4-3 RED
NEU	6-2	W/BLK			O/BLK 221	4-3 YEL
SPR		BLK		3	BL/BLK 219	4-3 GRN
SPR		BL/WH			W/BLK	4-3 NEU
SPR		G/BLK			BLK	SPR
EQG		G			BL/WH	SPR
RLTA	1-1	R	235		G/BLK	SPR
YLTA	1-1	O	233		G	EQG
GLTA	1-1	BL	231		R 247	8-1 RED
NEU	1-1 &8-3	WH			O 245	8-1 YEL
RED	8-3	R/BLK	247		BL 243	8-1 GRN
YEL	8-3	O/BLK	245	9	WH	8-1 NEU
GRN	8-3	BL/BLK	243		R/BLK 248	8-2 RED
NEU	P4-1	W/BLK			O/BLK 246	8-2 YEL
WLK	P4-1	BLK	255	4	BL/BLK 244	8-2 GRN
DWK	P4-1	BL/WH	259		W/BLK	8-2 NEU
SPR		G/BLK			BLK	SPR
EQG		G			BL/WH	SPR
	PB4-1	BLK	312		G/BLK	SPR
COM		WH		10	G	EQG
SPR		R			R 212	5-2 RLTA
	PB4-1	BLK	312		O 210	5-2 YLTA
COM		WH		11	BL 208	5-2 GLTA
SPR		R			WH	5-2 NEU
		BLK	301		R/BLK	SPR
	D1-1	CLR	302	12	O/BLK	SPR
		BLK	304		BL/BLK	SPR
	D2-1	CLR	305	13	W/BLK	SPR
		BLK	306	5	BLK	SPR
	D2-2	CLR	307	14	BL/WH	SPR
		BLK	309		G/BLK	SPR
	D4-1	CLR	310	15	G	EQG
		BLK	313		R 223	4-1 RED
	D4-2	CLR	314	16	O 221	4-1 YEL
		BLK	316		BL 219	4-1 GRN
	D5-1	CLR	317	17	WH	4-1 NEU
		BLK	318		R/BLK 224	4-2 RED
	D6-1	CLR	319	18	O/BLK 222	4-2 YEL
		BLK	321	6	BL/BLK 220	4-2 GRN
	D6-2	CLR	322	19	W/BLK	4-2 NEU
		BLK	325		BLK	SPR
	D6-3	CLR	326	20	BL/WH	SPR
		BLK	328		G/BLK	SPR
	D8-1	CLR	329	21	G	EQG
		BLK	330			
	D8-2	CLR	331	22	CABLES 50-57 (EVP)	GRND.





NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

S.P. 55-622-43

02/09/2009
S:\PT\RY\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGDETS.DWG

DRAWN BY:	JMG	NO.	BY	DATE	REVISIONS
DESIGNER:	JMG				
CHECKED BY:	JMG				
DESIGN TEAM					

I HEREBY CERTIFY THAT THIS PLAN 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
Date: February 9, 2009
Name: John M. Gray, PE
Lic. No. 22457

SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

INPLACE SIGNAL SYSTEM 'B'
'FOR INFORMATION ONLY'
CSAH 22 (SALEM ROAD SW) AT
FOX VALLEY DRIVE SW/BARCLAY SQUARE

FILE NO. 106609
DATE 02/09/2009
52/99

(1) POLE TIP-DOWN DIRECTION - SEE ARROW. TIP-DOWN MUST NOT EXTEND OVER OR NEAR ANY ROADWAY WHEN TIPPED DOWN, CCTV MAY BE INSTALLED AT ALTERNATE LOCATION IN SE QUADRANT OF INTERSECTION, FINAL LOCATION TO BE DETERMINED BY DG TRAFFIC ENGINEER

(2) F & I 2" NMC, 1-3/C*8, 1-FO PIGTAIL (6SM)

(3) F & I PVC HANDHOLES NO. 1, 2

(4) INSTALL CABINET (CAB. NO. VMS-NBCR22-1) AND EQUIPMENT
F & I CABINET FOUNDATION, SERVICE EQUIPMENT TYPE B (SEE SHEET 01TM009)
F & I FO MODEM AND PATCH PANEL
TERMINATE PIGTAILS

(5) F & I 2" RSC - BORED, 3-1/C*2

(6) INPLACE WOODPOLE S.O.P. (RPU) POLE #09453 120/240V
F & I SERVICE INSTALLATION TYPE A (SEE DETAIL SHEET 01TM007)

(7) F & I 2" NMC WITH CONNECTORIZED FITTING, 3-1/C*6, 1-3PR*22

(8) INSTALL MnDOT PROVIDED VMS (VMS-NBCR22-1) (VMS-6) (FULL MATRIX BRICK) - SIGN POST MOUNTED (SEE SHEETS SI009-SI011, MN/DOT D.C.N. 3656 FOR STRUCTURAL DETAILS) (FOR SIGN AIMING SEE SHEET 01TMX03)

(9) F & I 2-FO PIGTAILS (6SM)

(10) F & I 2" NMC - BORED, 2-FO PIGTAILS (6SM)

(11) F &I 1-FO PIGTAIL (6SM)

(12) F & I 2" NMC - BORED, 1-FO PIGTAIL (6SM)

(13) F & I 2" NMC, 1-3/C*8

(14) INPLACE WOODPOLE S.O.P. (RPU) 120/240V
F & I SERVICE INSTALLATION TYPE A (SEE DETAIL SHEET 01TM007)

(15) F & I 2" NMC - BORED, 1-FO PIGTAIL (6SM), 1-3/C*8

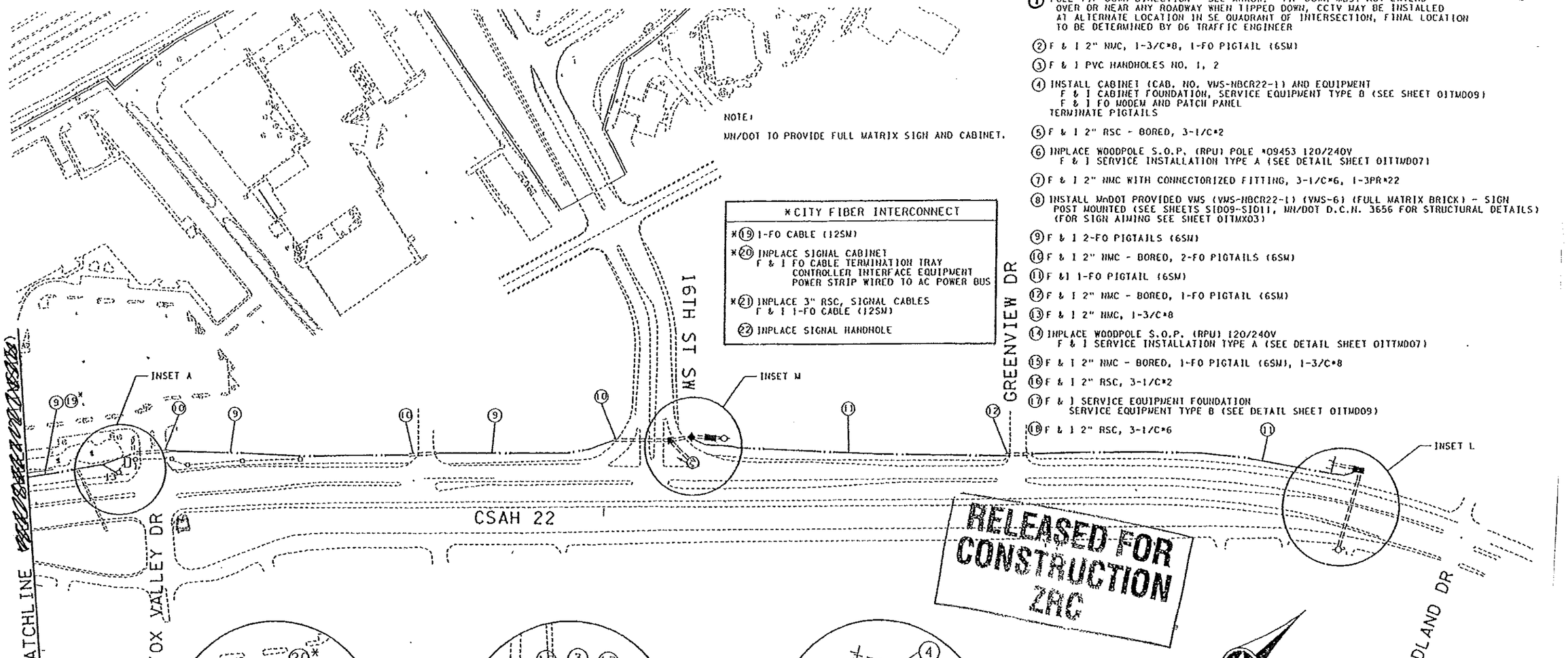
(16) F & I 2" RSC, 3-1/C*2

(17) F & I SERVICE EQUIPMENT FOUNDATION
SERVICE EQUIPMENT TYPE B (SEE DETAIL SHEET 01TM009)

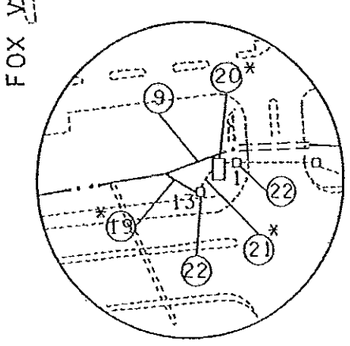
(18) F & I 2" RSC, 3-1/C*6

NOTE:
MN/DOT TO PROVIDE FULL MATRIX SIGN AND CABINET.

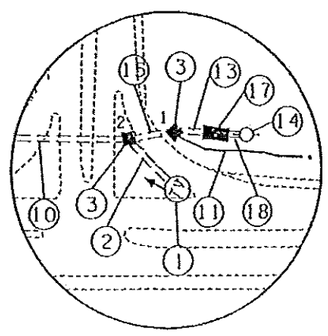
*CITY FIBER INTERCONNECT
*(19) 1-FO CABLE (12SM)
*(20) INPLACE SIGNAL CABINET F & I FO CABLE TERMINATION TRAY CONTROLLER INTERFACE EQUIPMENT POWER STRIP WIRED TO AC POWER BUS
*(21) INPLACE 3" RSC, SIGNAL CABLES F & I 1-FO CABLE (12SM)
(22) INPLACE SIGNAL HANDHOLE



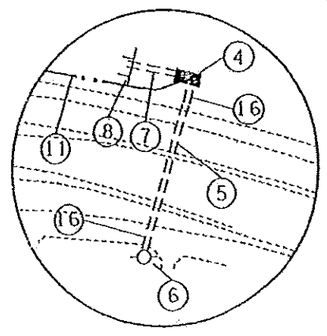
RELEASED FOR CONSTRUCTION
ZRC



INSET A



INSET M



INSET L
VMS-NBCR22-1

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

S.P. 55-622-43

02/09/2009
S:\PW\ROCHE\COMMON\SALEM_ROAD_SIGNALS\SIGDETS.DWG

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CHECKED BY: JMG				
DESIGN TEAM				

I HEREBY CERTIFY THAT THIS PLAN 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.
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OLMSTED COUNTY, MINNESOTA
CITY OF ROCHESTER

INPLACE TRAFFIC MANAGEMENT
"FOR INFORMATION ONLY"
CSAH 22 (SALEM ROAD SW)
(FOX VALLEY DRIVE TO WEST)

FILE NO. 106609
DATE 02/09/2009