RAMSEY COUNTY

DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PLAN FOR: GRADING, AGGREGATE BASE, CONCRETE SURFACING, STORM SEWER, CONCRETE CURB & GUTTER, CONCRETE SIDEWALK, UTILITY IMPROVEMENTS, AND TRAFFIC SIGNAL IMPROVEMENTS.

LARPENTEUR AVE.

C.S.A.H. 30

S.A.P. 62-630-45

BETWEEN: ARONA STREET AND OXFORD STREET

BEGINNING: AT A POINT 209.22 m EAST OF THE SOUTHWEST CORNER OF SECTION 15; TOWNSHIP 29N; RANGE 23W

ENDING: AT A POINT 171.44 m EAST OF THE SOUTHWEST CORNER OF SECTION 14; TOWNSHIP 29N; RANGE 23W

INDEX

THIS PLAN CONTAINS 121 SHEETS

SCALES IN METERS

PLAN	0 10 20 30 / 5 15 25	GROSS LENGTH	1571.0 m 1.571 km
PROFILE HORIZ.	0 10 20 30 / 5 15 25	BRIDGE LENGTH	---- ----
PROFILE VERT.	0 2 6 / 1 3	EXCEPTIONS	---- ----
INDEX	0 500 1000 / 250 750	NET LENGTH	1571.0 m 1.571 km

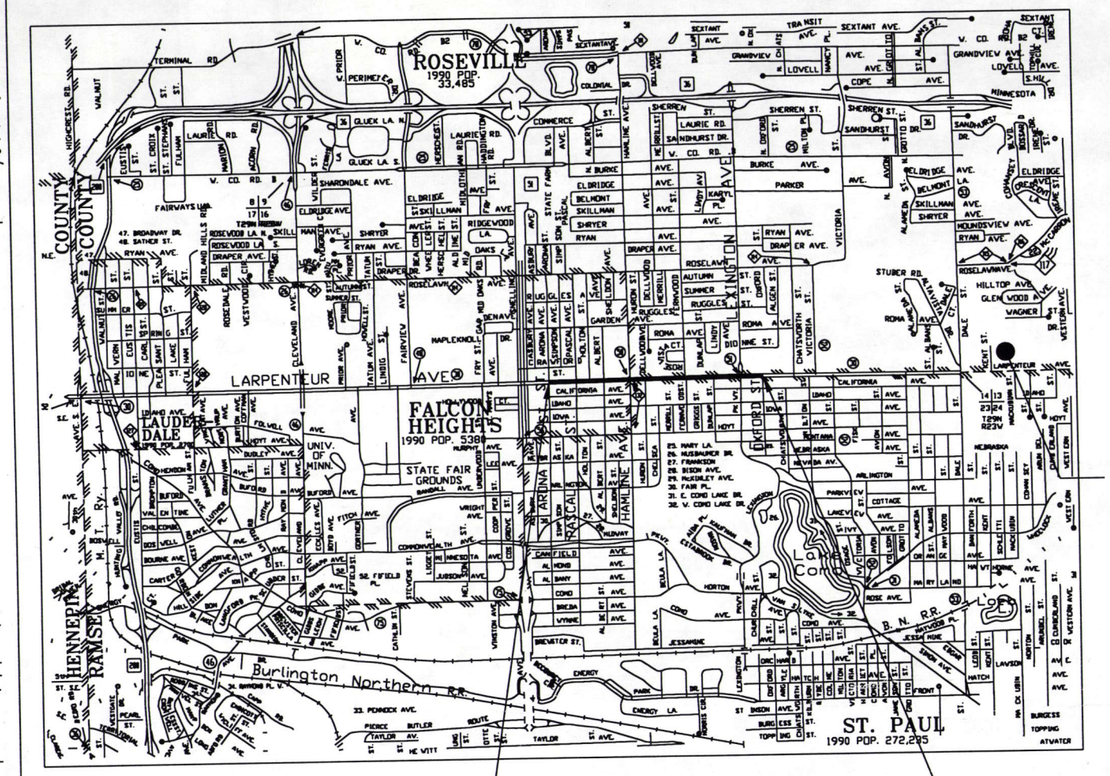
PLAN SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
EXISTING RIGHT OF WAY LINE
PROPOSED RIGHT OF WAY LINE
PROPERTY LINE
CORPORATE OR CITY LIMITS
RETAINING WALL
RAILROAD
RAILROAD RIGHT-OF-WAY
RIVER OF CREEK
CULVERT
GUARDRAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
STONE WALL
HEDGE
RAILROAD CROSSING SIGN
CROSSING GATE
MEANDER CORNER
SLOPE EASEMENT (CONST. LIMITS) — SE — SE
MARSH
DECIDUOUS TREE
CONIFEROUS TREE
WOODS
CATCH BASIN
BRIDGE
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE OR METAL)
WOODEN HUB

UTILITY SYMBOLS

UTILITY POLE
GUY OR ANCHOR
STREET LIGHT
TELEPHONE PEDESTAL
GAS MAIN — G — G —
WATER MAIN — I — I —
TELEPHONE VAULT
ELECTRIC VAULT
BURIED TELEPHONE CABLE — T-BUR —
BURIED ELECTRIC CABLE — P-BUR —
SEWER (SANITARY OR STORM) — > —
SEWER MANHOLE
GATE VALVE
CONTROLLER CABINET
EXISTING HYDRANT
BURIED TELEPHONE CABLE — CATV —

FOR PLANS AND UTILITIES SYMBOLS SEE MN/DOT TECHNICAL MANUAL.



-GOVERNING SPECIFICATIONS-

THE 1995 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL APPLY.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JAN. 1998."

TITLE3 2/9/2000

DESIGN DESIGNATION

	ARONA ST. TO PASCAL ST.	PASCAL ST. TO HAMLINE AVE.	HAMLINE AVE. TO OXFORD ST.
PRESENT ADT (2000)	14,900	16,950	16,950
PROJECTED ADT (2020)	19370	22035	22035
FUNCTIONAL CLASS	HIGH DENSITY ARTERIAL	HIGH DENSITY ARTERIAL	HIGH DENSITY ARTERIAL
TRAFFIC LANES	4	4	4
PARKING LANES	1	0	0
DESIGN SPEED	60 km/h	60 km/h	60 km/h
STABILOMETER "R" VALUE (240 PSI)	60	60	60
DESIGN LOAD	9t	9t	9t
CESALS	3,485,00	3,485,000	2,999,000

BASED ON STOPPING DISTANCE
HEIGHT OF EYE: 1070 millimeter
HEIGHT OF OBJECT: 150 millimeters

DESIGN SQUAD BJ, DH, DM DATE 7 - 98
DRAWN BY DH, DM, KL, DM, JC DATE 7 - 98
CHECKED BY BJ - LKF - KR DATE 7 - 98

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

Daniel E. Soler REG. NO. 20452 DATE 2/11/2000

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PO
DATE: 1-22-13

RECOMMENDED FOR APPROVAL _____ COUNTY ENGINEER DATE 2/15/00
APPROVED _____ CITY OF FALCON HEIGHTS DATE 2/15/00
APPROVED _____ CITY OF ROSEVILLE DATE 2/15/00
APPROVED Thomas J. Egan CITY OF ST. PAUL DATE 2/15/00

MINNESOTA DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL N/A STATE AID PLANS & SPEC. ENGR. DATE _____
Patt J. Loken METRO-ASSN'T DIV. ENGR.-STATE AID: REVIEWED FOR COMPLIANCE WITH STATE AID RULES / POLICY DATE 2/25/00
RECOMMENDED FOR APPROVAL Larry K. Zoldbrod DATE 3/10/00
APPROVED FOR STATE AID FUNDING Patt J. Loken STATE AID ENGINEER DATE 2/25/00

PLAN REVISIONS		
DATE	SHEET NO. & DESCRIPTION	BY

S.A.P. NO. 62-630-45, M.S.A.P. 124-020-05 SHEET NO. 1 OF 121 SHEETS

ZB-289

STATEMENT OF ESTIMATED QUANTITIES

CHART	NOTE	ITEM NO.	CONTRACT ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	TOTAL FINAL QUANTITIES	62-630-45 100% CSAH (GROUP 1) ESTIMATED QUANTITIES	62-630-45 100% CSAH (GROUP 1) FINAL QUANTITIES	62-630-45 124-020-05 80% CSAH 20% FALCON HEIGHTS (GROUP 2) ESTIMATED QUANTITIES	62-630-45 124-020-05 80% CSAH 20% FALCON HEIGHTS (GROUP 2) FINAL QUANTITIES	62-630-45 124-020-05 50% CSAH 50% FALCON HEIGHTS (GROUP 3) ESTIMATED QUANTITIES	62-630-45 124-020-05 50% CSAH 50% FALCON HEIGHTS (GROUP 3) FINAL QUANTITIES	62-630-45 50% CSAH 25% ROSEVILLE 25% ST. PAUL (GROUP 4) ESTIMATED QUANTITIES	62-630-45 50% CSAH 25% ROSEVILLE 25% ST. PAUL (GROUP 4) FINAL QUANTITIES	100% FALCON HEIGHTS (GROUP 5) ESTIMATED QUANTITIES	100% FALCON HEIGHTS (GROUP 5) FINAL QUANTITIES	100% ST. PAUL (GROUP 6) ESTIMATED QUANTITIES	100% ST. PAUL (GROUP 6) FINAL QUANTITIES	62-630-45 STORM SEWER (GROUP 7) ESTIMATED QUANTITIES	62-630-45 STORM SEWER (GROUP 7) FINAL QUANTITIES
		2011.601	CONSTRUCTION LAYOUT STAKING	LS	1		1													
		2021.501	MOBILIZATION	LS	1		1													
F		2101.502	CLEARING	TREE	19		19													
F		2101.507	GRUBBING	TREE	21		21													
M	1	2104.501	REMOVE PIPE SEWERS	m	348		348													
A	2	2104.501	REMOVE CURB & GUTTER	m	2 978		2 978													
C		2104.501	REMOVE CHAIN LINK FENCE	m	30		30													
C		2104.501	REMOVE WOOD FENCE - PRIVACY	m	20		20													
U		2104.503	REMOVE FLAGSTONE RETAINING WALL	m^2	28		28													
U		2104.503	REMOVE CONCRETE RETAINING WALL - PRECAST	m^2	3		3													
A		2104.503	REMOVE CONCRETE MEDIAN	m^2	1 914		1 914													
A	2	2104.503	REMOVE CONCRETE SIDEWALK	m^2	1 299		1 299													
A	3	2104.503	REMOVE CONCRETE PAVEMENT	m^2	33 502		33 502													
L	3	2104.503	REMOVE BITUMINOUS PAVEMENT	m^2	815		815													
X		2104.509	REMOVE MANHOLE OR CATCH BASIN	EACH	10		10													
B	7	2104.511	SAWCUT CONCRETE PAVEMENT	m	71		71													
E		2104.513	SAWCUT BITUMINOUS PAVEMENT	m	524		524													
C		2104.521	SALVAGE WOOD FENCE - SPLIT RAIL	m	58.4		58.4													
		2104.523	SALVAGE PRECAST CONCRETE CURB STOPS	EACH	33		33													
X		2104.523	SALVAGE CASTING	EACH	17		17													
		2104.523	SALVAGE SIGN TYPE C	EACH	73		73													
P	6	2104.602	RELOCATE COMMERCIAL SIGN	EACH	1		1													
D		2105.501	COMMON EXCAVATION (EV)	m^3	31 004		31 004													
D		2105.522	SELECT GRANULAR BORROW (LV)	m^3	30 855		30 855													
		2105.525	TOPSOIL BORROW (LV)	m^3	232		232													
	17	2105.601	CONCRETE PAVEMENT DISPOSAL SPECIAL	LS	1		1													
D	8	2105.607	EXCAVATION SPECIAL (EV)	m^3	17 590														17 590	
	12	2123.610	TRACTOR MOUNTED BACKHOE	HOUR	50		50													
	4	2130.501	WATER	m^3	400		400													
T	18	2211.503	AGG. BASE (CV) CLASS 7	m^3	6 209		5 774		435											
S		2301.502	CONCRETE PAVEMENT STANDARD WIDTH 200 mm	m^2	23 245		23 245													
S		2301.503	CONCRETE PAVEMENT IRREGULAR WIDTH 200 mm	m^2	9 329		9 329													
		2301.513	STRUCTURAL CONCRETE HE	m^3	5 775		5 775													
		2301.513	STRUCTURAL CONCRETE HE SPECIAL (COLORED)	m^3	741		741													
		2301.529	REINFORCEMENT BARS (EPOXY COATED)	kg	21 234		21 234													
		2301.538	DOWEL BARS	EACH	20 299		20 299													
V	9	2340.508	TYPE 31 WEARING COURSE MIXTURE	t	33		33													
V	10	2340.508	TYPE 41 WEARING COURSE MIXTURE	t	62		62													
V	9	2340.510	TYPE 31 BINDER COURSE MIXTURE	t	34		34													
V	10	2340.510	TYPE 41 BINDER COURSE MIXTURE	t	93		93													
V	11	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	LITER	182		182													
		2411.507	CONCRETE STEPS	EACH	3		3													
	15	2411.604	CONCRETE BLOCK RETAINING WALL	m^2	90.6		90.6													
	16	2451.503	GRANULAR BACKFILL (LV)	m3	150		150													
Q		2502.541	100mm PERFORATED P.E. DRAIN PIPE	m	2 985		2 985													
Y		2503.541	375mm RCP SEWER, DES. 3006, CL V	m	205.9														205.9	
Y		2503.541	450mm RCP SEWER, DES. 3006, CL V	m	179.8														179.8	
Y		2503.541	600mm RCP SEWER, DES. 3006, CL III	m	12.5														12.5	
	6	2503.603	PIPE JOINT REPAIR	m	15.0															
	6	2503.601	SEWER PIPE INSPECTION (STORM)	LS	1														15.0	
N		2503.602	CONSTRUCT BULKHEAD	EACH	1												1		1	

H:\DWGS\LARP-3\CHART3 2/16/2000

7-21-98

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

SEE QUANTITY NOTES AND INDEX TO TABULATION CHARTS SHEET NO. 4

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
DANIEL K. FILLBACH
REG. NO. 13501 DATE 3/10/00

28-289

ESTIMATED QUANTITIES

S.A.P. 62-630-45, M.S.A.P. 124-020-05 SHEET NO. 2 OF 121 SHEETS

STATEMENT OF ESTIMATED QUANTITIES

CHART	NOTE	ITEM NO.	CONTRACT ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	TOTAL FINAL QUANTITIES	62-630-45 100% CSAH (GROUP 1) ESTIMATED	62-630-45 100% CSAH (GROUP 1) FINAL	62-630-45 124-020-05 80% CSAH 20% FALCON HEIGHTS (GROUP 2) ESTIMATED	62-630-45 124-020-05 80% CSAH 20% FALCON HEIGHTS (GROUP 2) FINAL	62-630-45 124-020-05 50% CSAH 50% FALCON HEIGHTS (GROUP 3) ESTIMATED	62-630-45 124-020-05 50% CSAH 50% FALCON HEIGHTS (GROUP 3) FINAL	62-630-45 50% CSAH 25% ROSEVILLE 25% ST. PAUL (GROUP 4) ESTIMATED	62-630-45 50% CSAH 25% ROSEVILLE 25% ST. PAUL (GROUP 4) FINAL	100% FALCON HEIGHTS (GROUP 5) ESTIMATED	100% FALCON HEIGHTS (GROUP 5) FINAL	100% ST. PAUL (GROUP 6) ESTIMATED	100% ST. PAUL (GROUP 6) FINAL	62-630-45 STORM SEWER (GROUP 7) ESTIMATED	62-630-45 STORM SEWER (GROUP 7) FINAL
K		2504.602	ADJUST GATE VALVE BOX	EACH	27		27													
H		2504.602	ADJUST CURB STOP BOX	EACH	68		68													
I		2504.602	ADJUST HYDRANT	EACH	8		8													
J		2504.604	100mm POLYSTYRENE INSULATION	m^2	12		12													
Y		2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN A OR F	EACH	2														2	
Y		2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN C OR G	EACH	19														19	
	13	2506.602	CONSTRUCT CONTROL STRUCTURE	EACH	2		2													
X		2506.503	RECONSTRUCT DRAINAGE STRUCTURE	m	38.7														38.7	
X	19	2506.602	RECONSTRUCT DRAINAGE STRUCTURE SPECIAL	EACH	1														1	
X		2506.516	CASTING ASSEMBLY	EACH	9														9	
X		2506.521	INSTALL CASTING	EACH	22														22	
X		2506.522	ADJUST FRAME & RING CASTING	EACH	43														43	
S		2521.501	100mm CONCRETE WALK	m^2	2 403		112		2 291											
S		2531.501	CONC. CURB & GUTTER, DES. B624	m	2 588		2 588													
S		2531.501	CONC. CURB & GUTTER, DES. B612	m	1 350		1 350													
S		2531.501	CONC. CURB, DES. B6	m	1 925		1 925													
S		2531.507	150 mm CONCRETE DRIVEWAY PAVEMENT-HIGH EARLY	m^2	210		210													
S		2531.507	200 mm CONCRETE DRIVEWAY PAVEMENT-HIGH EARLY	m^2	884		884													
	14	2531.602	CONCRETE MEDIAN NOSE - DESIGN 7113	EACH	20		20													
		2531.602	PEDESTRIAN CURB RAMP	EACH	14		14													
	20	2545.602	HANDHOLE SPECIAL (LIGHTING)	EACH	19		19													
	20	2545.603	53 mm NON METALLIC CONDUIT (LIGHTING)	m	476		476													
Z		2557.501	WIRE FENCE, DESIGN 1.2 m 9322	m	124		124													
C	5	2557.603	INSTALL WOOD FENCE - SPLIT RAIL	m	58.4		58.4													
Z	5	2557.603	WOOD FENCE - PRIVACY	m	20		20													
		2563.601	TRAFFIC CONTROL	LS.	1		1													
		2563.613	FLASHER TYPE A (LOW INTENSITY)	UN/DAY	200		200													
		2563.613	TYPE III BARRICADES	UN/DAY	100		100													
		2563.613	REFLECTORIZED PLASTIC SAFETY DRUM	UN/DAY	200		200													
		2564.602	PAVEMENT MESSAGE (LEFT ARROW) EPOXY	EACH	31		31													
		2564.603	100mm SOLID LINE WHITE-EPOXY	m	3 337		3 337													
		2564.603	100mm SOLID LINE YELLOW-EPOXY	m	2 506		2 506													
		2564.603	100mm BROKEN LINE WHITE-EPOXY	m	2 769		2 769													
		2564.603	100mm BROKEN LINE YELLOW-EPOXY	m	502		502													
		2564.604	CROSSWALK MARKING - EPOXY	m^2	376		376													
		2564.531	F & I SIGN PANELS TYPE C	m^2	39.4		39.4													
		2564.531	F & I SIGN PANELS TYPE D	m^2	23.8		23.8													
		2565.511	FULL T. ACT T. CONTROL SIGNAL SYSTEM E	SIG. SYS	1						1									
		2565.511	FULL T. ACT T. CONTROL SIGNAL SYSTEM F	SIG. SYS	1		1													
		2565.511	FULL T. ACT T. CONTROL SIGNAL SYSTEM I	SIG. SYS	1		1													
		2565.616	REVISE SIGNAL SYSTEM G	SIG. SYS	1								1							
		2565.616	REVISE SIGNAL SYSTEM H	SIG. SYS	1								1							
		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM E	LS	1						1									
		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM F	LS	1		1													
		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM G	LS	1								1							
		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM H	LS	1								1							
		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM I	LS	1		1													
		2565.601	TRAFFIC CONTROL INTERCONNECT	LS	1		1													
		2565.602	PVC HANDHOLE	EACH	12		12													
		2565.603	53 mm NON METALLIC CONDUIT	m	1025		1025													
		2565.603	6/C FIBER OPTIC CABLE	m	1633		1633													
R		2573.502	SILT FENCE, TYPE HEAVY DUTY	m	237		237													
		2575.505	SODDING, TYPE LAWN	m^2	3 050		3 050													
		2575.532	COMMERCIAL FERT., ANALYSIS 10-20-20	kg	120		120													

7-6-98

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

SEE QUANTITY NOTES AND INDEX TO TABULATION CHARTS SHEET NO. 4

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Barry K. Fiddler
REG. NO. 13501 DATE 3-10-00

28-289

H:\DWGS\LARP-3\CHART3 2/9/2000

ESTIMATED QUANTITIES

S.A.P. 62-630-45, M.S.A.P. 124-020-05 SHEET NO. 3 OF 121 SHEETS

BASIS FOR ESTIMATED QUANTITIES

2211.501 – AGGREGATE BASE – 2242.54 kg PER m3
2340.XXX – BITUMINOUS MIXTURES – 60.0 kg PER 25 mm THICKNESS PER m2
2357.502 – BITUMINOUS MATERIAL FOR TACK COAT ESTIMATED AT 0.23 LITRE PER m2 PER APPLICATION
2575.531 – FERTILIZER 392 kg / ha

QUANTITY NOTES

1. SHALL INCLUDE APRONS
2. REMOVE TO NEAREST JOINT OR SAWCUT AS DIRECTED
3. ALL PAVEMENT REGARDLESS OF THICKNESS
4. FOR DUST CONTROL
5. LOCATIONS TO BE DETERMINED BY ENGINEER
6. SEE SPECIAL PROVISIONS
7. SAWCUT SHALL BE FULL DEPTH
8. EXCAVATION IN GOTTFRIED POND
9. ENTRANCES AND PARKING LOTS
10. SIDESTREETS
11. ENTRANCES–64 liter, SIDESTREETS–118 liter
12. TO BE USED FOR UTILITY LOCATIONS
13. SURVEY MONUMENT HOLE – SEE DETAIL SHEET 15
14. SEE CONCRETE PAVING LAYOUT SHEETS 22 – 24
15. SEE PRECAST WALL DETAIL SHEET 120
16. FOR REPLACEMENT OF UNSUITABLE TRENCH EXCAVATION MATERIALS
17. CONCRETE STOCKPILE LOCATED AT LARPENTEUR AVE. AND DALE STREET. ESTIMATED AT 6 300 m3. HAUL ALL MATERIAL AT LUMP SUM PRICE.
18. SHALL CONTAIN GLASS SUBJECT TO AVAILABILITY AS DETERMINED BY THE ENGINEER, DESIGNATED CLASS 7 IN THE SPECIAL PROVISIONS.
19. LOCATED IN LARPENTEUR LIFT STATION. SEE SPECIAL PROVISIONS
20. SEE ELECTRICAL CONDUIT LAYOUT, SHEETS 118–119

INDEX OF TABULATION CHARTS

SHEET NO.	CHART	DESCRIPTION
7	A	REMOVE CONC. PAVE., C&G, MEDIAN, WALK
7	B	SAWCUT CONCRETE
10	C	S& I WOOD FENCE; REMOVE C–L FENCE
7	D	EARTHWORK SUMMARY
8	E	SAWCUT BITUMINOUS PAVEMENT
8	F	CLEAR & GRUB
8	G	EXISTING POWER POLES
9	H	WATER SERVICES EXISTING
9	I	HYDRANTS – ADJUSTS & RELOCATES
9	J	100 mm POLYSTYRENE INSULATION
9	K	GATE VALVE ADJUST & RELOCATE
9	L	REMOVE BITUMINOUS PAVEMENT
10	M	REMOVE PIPE SEWER
10	N	SANITARY SEWER SERVICE REPAIR
10	O	BENCH MARK CHART
10	P	SALVAGE AND RELOCATE SIGNS
10	Q	100 mm PE PERFORATED PIPE
10	R	SILT FENCE
11	S	CONCRETE QUANTITIES
11	T	AGGREGATE BASE, CLASS 6 (CV)
11	U	REMOVE RETAINING WALLS
11	V	BITUMINOUS QUANTITIES
11	W	WATERMAIN CL52 (ST. PAUL WATER REVIEW)
12–13	X	EXISTING STRUCTURES
14	Y	PROPOSED STORM SEWER STRUCTURES
9	Z	CHAIN LINK FENCE, WOOD FENCE – PRIVACY

CONSTRUCTION NOTES

WATER, GAS, ELECTRIC, TELEPHONE, SEWER, AND T.V. CABLE LINES SHOWN ON THE DRAWINGS AND CROSS–SECTIONS ARE PLOTTED FROM THE BEST INFORMATION AVAILABLE AT THE TIME OF PLAN PREPARATION, BUT MAY NOT REFLECT ACTUAL LOCATIONS OR ELEVATIONS. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES BEFORE BEGINNING CONSTRUCTION WHICH MAY BE AFFECTED BY A UTILITY CONFLICT. THE CONTRACTOR SHALL GIVE 48 HOURS NOTICE TO THE OWNERS OF ALL KNOWN UTILITIES BEFORE STARTING ANY OPERATIONS AFFECTING THOSE PROPERTIES, OR BEGINNING EXCAVATION IN THE VICINITY OF THOSE PROPERTIES. THE CONTRACTORS ATTENTION IS DIRECTED TO SECTION 1507 IN THE STANDARD SPECIFICATIONS.

UTILITY COMPANIES WILL RELOCATE THEIR FACILITIES CONCURRENTLY WITH THE CONSTRUCTION OPERATIONS UNDER THIS CONTRACT. CONTRACTOR SHALL SCHEDULE CONSTRUCTION IN COOPERATION WITH UTILITY RELOCATION.

CONTRACTOR SHALL NOTIFY PROPERTY OWNERS 72 HOURS IN ADVANCE OF DISRUPTION TO SANITARY SEWER AND WATERMAIN SERVICES.

CONTRACTOR SHALL MINIMIZE INTERRUPTION OF SANITARY SEWER AND WATER SERVICE TO ADJACENT PROPERTIES. ANY PROPERTY OUT OF SERVICE LONGER THAN 8 HOURS MUST BE PROVIDED WITH TEMPORARY SERVICE.

NEW SANITARY SEWER AND WATER SERVICE LOCATIONS ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR WITH THE CITY PRIOR TO CONSTRUCTION. SERVICE LOCATIONS MAY BE ADJUSTED AS REQUESTED BY THE CITY AND AS APPROVED BY THE ENGINEER.

ANY DEWATERING AND OR ANY USE OF TRENCH BOX, SHEETING, SHORING OR OTHER METHODS OR MEANS OF CONSTRUCTION NECESSARY TO COMPLETE CONSTRUCTION WITHIN THE CONSTRUCTION LIMITS OR SLOPE EASEMENTS SHOWN WILL BE CONSIDERED TO BE INCIDENTAL AND NO DIRECT COMPENSATION WILL BE MADE THEREFORE.

PROVIDE FOR REMOVAL AND DISPOSAL (OUTSIDE THE CONSTRUCTION ZONE) OF ALL INPLACE STRUCTURES THAT WILL INTERFERE WITH CONSTRUCTION. DISPOSAL OF ITEMS REMOVED UNDER THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF 2104.303.

EXCESS EXCAVATED AND UNSUITABLE MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF 2104.303 AND 2105.3D

SODDING QUANTITIES ALONG ROADWAY SLOPES ARE BASED ON SODDING LIMITS FROM THE BACK OF THE CURB TO THE CONSTRUCTION LIMITS. SOD SHALL BE PLACED IN FALCON HEIGHTS ONLY.

COMPACTION IN GRADING ITEMS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH SPEC. 2105.3F2 "QUALITY COMPACTION METHOD".

WHEN EXCAVATING ADJACENT TO INPLACE PAVEMENT, NO MATERIAL SHALL BE REMOVED FROM INSIDE AN APPROXIMATE 1/2:1 SLOPED LINE DRAWN DOWNWARD AND OUTWARD FROM THE BOTTOM OF THE INPLACE PAVEMENT.

WHEN CONNECTION TO EXISTING BITUMINOUS PAVEMENT IS REQUIRED, THE EDGE OF EXISTING PAVEMENT SHALL BE CUT TO A NEAT LINE PRIOR TO CONSTRUCTING ASPHALT SURFACING.

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

USE TACK COAT BETWEEN ALL BITUMINOUS LIFTS.
COMPACTION OF ALL BITUMINOUS ITEMS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE "ORDINARY COMPACTION METHOD".

THE CONTRACTOR SHALL MAINTAIN A MINIMUM CLEARANCE OF 0.3 METERS BETWEEN CROSSING OF EXISTING MINOR WATER LINES AND PROPOSED STORM SEWER LINES. WHERE CONFLICTS OCCUR, THE WATER LINE SHALL BE RELOCATED WHERE DIRECTED BY THE ENGINEER. METHOD OF COMPENSATION IS COVERED UNDER THE SPECIAL PROVISIONS.

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

ALL EXISTING TRAFFIC SIGNS ON THE PROJECT WILL BE SALVAGED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

PEDESTRIAN CURB RAMPS SHALL BE INSTALLED IN ALL STREET RADII, IN FALCON HEIGHTS ONLY.
THE EXACT LOCATION SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. RAMPS SHALL BE PER STANDARD PLATE 7036 AND DETAILED IN THIS PLAN.

THE CONTRACTOR SHALL NOTIFY THE RAMSEY COUNTY SURVEYOR AT 651–266–2620 IN ADVANCE OF ANY DISTURBANCE TO INPLACE MONUMENTATION – THIS NOTIFICATION MAY BE MADE THROUGH THE PROJECT ENGINEER.

STANDARD DETAIL PLATES

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

PLATE NO.	DESCRIPTION
M1070 L	REINFORCED PANEL OVER CULVERTS
M1103 J	TYPICAL DOWEL BAR ASSEMBLY
M1141 D	PAVEMENT KEYWAY FOR KEYED JOINT CONSTRUCTION
M1150 Q	CONSTRUCTION OF HEADER JOINTS
M3000 L	REINFORCED CONCRETE PIPE
M3006 G	GASKET JOINT FOR REINFORCED CONCRETE PIPE
M3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
M4000 J	MANHOLE OR CATCH BASIN DESIGN A
M4002 F	MANHOLE OR CATCH BASIN DESIGN C
M4005 L	MANHOLE OR CATCH BASIN DESIGN F
M4006 L	MANHOLE OR CATCH BASIN DESIGN G AND H
M4010 H	CONCRETE SHORT CONE AND ADJUSTING RING
M4011 E	PRECAST CONCRETE BASE
M4020 H	MANHOLE OR CATCH BASIN FOR USE UNDER TRAFFIC LOADS
M4101 D	RING CASTING FOR MANHOLE OR CATCH BASIN
M4110 G	COVER CASTING FOR MANHOLE
M4140 D	SPECIAL GRATE CASTINGS FOR CATCH BASIN
M4180 J	MANHOLE OR CATCH BASIN STEP
M7000 E	INTEGRANT CURBS
M7020 J	CONCRETE CURB
M7035 K	CONCRETE WALK & CURB RETURNS AT ENTRANCES
M7036 D	PEDESTRIAN CURB RAMP FOR THE HANDICAPPED
M7100 G	CONCRETE CURB & GUTTER
M7111 J	INSTALLATION & REINFORCEMENT OF CATCH BASIN CASTINGS
M7112 C	INSTALLATION & REINFORCEMENT OF CATCH BASINS AND MANHOLES
M7113 A	CONCRETE APPROACH NOSE DETAIL
M8000 I	STANDARD BARRICADE
M8110 D	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
M8114 A	P.V.C. HANDHOLE / PULLBOX
M8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
M8120 K	POLE FOUNDATION (PA85)
M8121 D	TRANSFORMER BASE WITH POLE BASE PLATE
M8123 D	POLE AND MAST ARM (LUMINAIRE AND TRAFFIC LIGHTS)
M8124 E	MAST ARM SIGNAL HEAD MOUNTS
M8126 F	POLE FOUNDATION (PA90M AND PA100M)
M8130 D	SAW CUT LOOP DETECTORS
M9102 D	TURF ESTABLISHMENT AREAS
M9322 J	CHAIN LINK FENCE

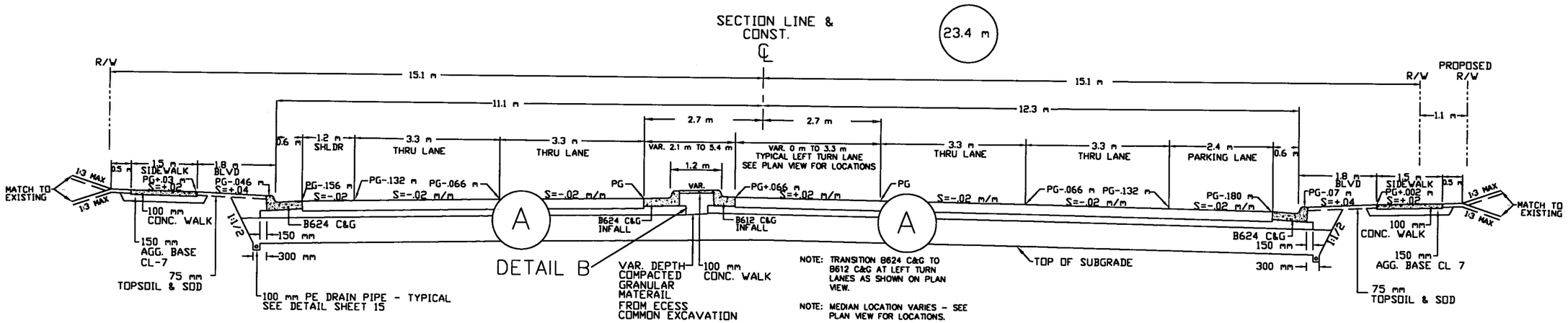
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Danny K. Tuddyke
REG. NO. 13501 DATE 3/10/00

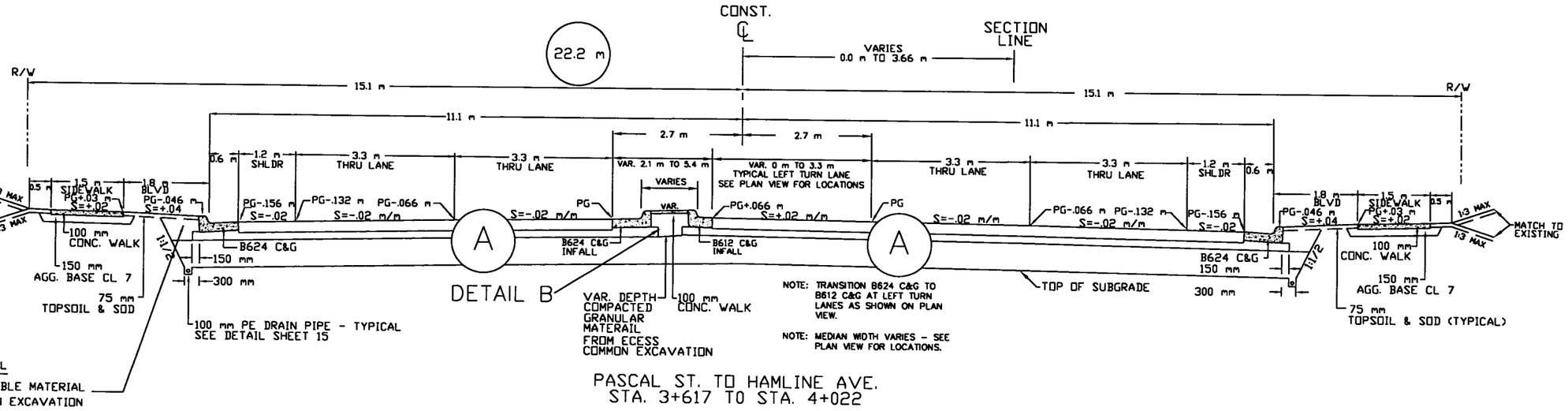
INDEX OF TABULATIONS
CONSTRUCTION NOTES
STANDARD DETAIL PLATES
QUANTITY NOTES

28-289

H:\DWGS\LARP-3\CHART3 2/16/2000



ARONA AVE. TO PASCAL ST.
STA. 3+420 TO STA. 3+617

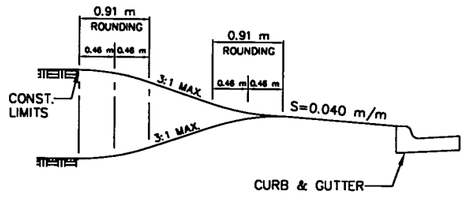


EMBANKMENT MATERIAL

BACKFILL WITH SUTABLE MATERIAL FROM EXCESS COMMON EXCAVATION

PASCAL ST. TO HAMLINE AVE.
STA. 3+617 TO STA. 4+022

PG=PROFILE GRADE LINE



SLOPE ROUNDING DETAIL

NOTE: A 0.5 m CLEAR ZONE IS REQUIRED FROM FACE OF CURB TO ANY FIXED OBJECT.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RCJ
DATE: 1-22-13

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Barry K. Fiddler
REG. NO. 13501 DATE 3/20/00

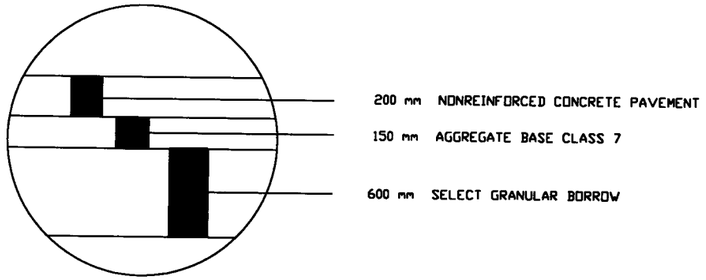
28-289

TYPICAL SECTIONS

S.A.P. 62-630-45

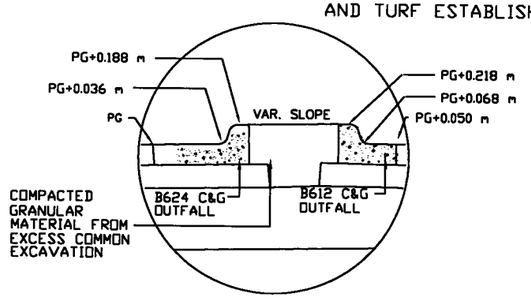
SHEET NO. 5 OF 121 SHEETS

H:\DWGS\LARP-3\TYP3 Date Plotted 2/16/2000

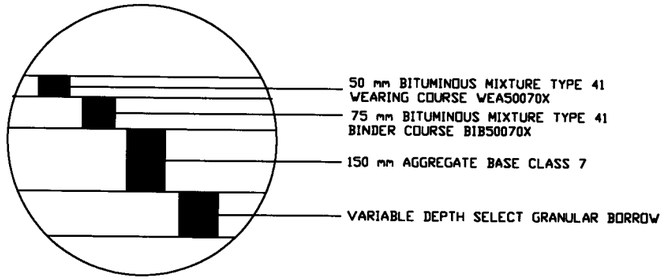


DETAIL A

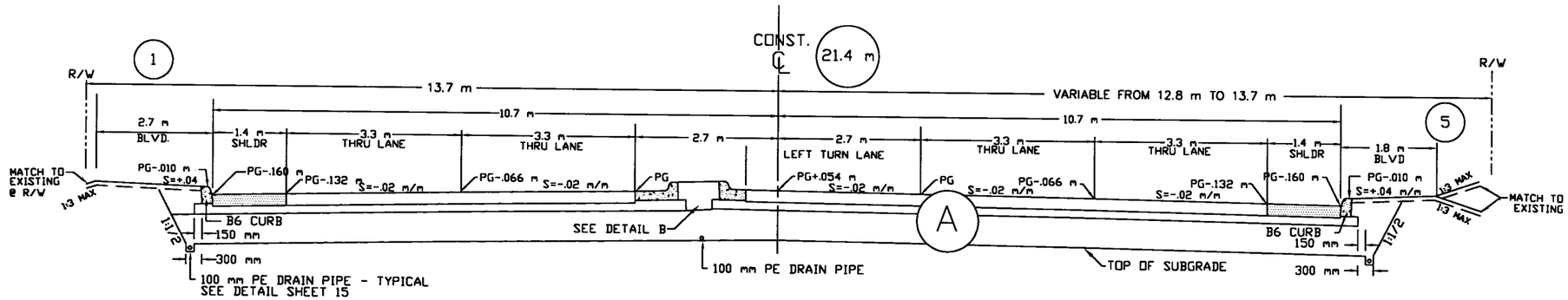
GRADE MEDIAN ONLY. SIDEWALK
AND TURF ESTABLISHMENT BY OTHERS



DETAIL B



DETAIL C
SIDE STREET TYPICAL



(1) GRADE BLVD. ONLY. SIDEWALK
AND TURF ESTABLISHMENT BY OTHERS
SEE CONCRETE BLOCK WALL DETAIL
FOR WALL NO. 3 LOCATION.

HAMLINE AVE. TO OXFORD ST.
STA. 4+022 TO STA. 4+991

(5) GRADE BLVD. ONLY. SIDEWALK
AND TURF ESTABLISHMENT BY OTHERS
SEE CONCRETE BLOCK RETAINING
WALL DETAIL SHEET 118 FOR
WALL NO. 1, 2 AND WALL NO. 4 LOCATIONS.

NOTE: A 0.5 m CLEAR ZONE IS REQUIRED FROM FACE
OF CURB TO ANY FIXED OBJECT.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

28-289

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Larry K. Fildahl
REG. NO. 13501 DATE 3/10/00

H:\DWGS\LARP-3\TYP3 Date Plotted 2/16/2000

TYPICAL SECTIONS

S.A.P. 62-630-45

A

REMOVE CONCRETE PAVEMENT, CURB AND GUTTER, MEDIAN, AND SIDEWALK

STATION	LOCATION LT/RT	PAVEMENT m^2	CONCRETE C & G m	SIDEWALK m^2	MEDIAN m^2	REMARKS
STA. 3+270 TO 3+360					108	TRAFFIC CONTROL
ARONA TO PASCAL						
STA. 3+420 TO 3+616	RT & LT	4039	404		219	
STA 3+423 TO 3+609	RT			275.0		PUBLIC WALK
STA 3+423 TO 3+466	LT			74.0		PUBLIC WALK
STA. 3+439	RT			1.5		PRIVATE WALK (1510)
STA. 3+471	LT			2.5		PRIVATE WALK (1503)
STA. 3+471	RT			1.9		PRIVATE WALK (1504)
STA. 3+488	LT			2.5		PRIVATE WALK (1499)
STA. 3+494	RT			1.9		PRIVATE WALK (1496)
STA. 3+508	RT			2.3		PRIVATE WALK (1490)
STA. 3+513	LT			7.5		PRIVATE WALK (1495)
STA. 3+531	RT			10.0		PRIVATE WALK (1486)
STA. 3+548	LT			2.5		PRIVATE WALK (1483)
STA. 3+561	RT			10.0		PRIVATE WALK (1472)
STA. 3+576	LT			5.0		PRIVATE WALK (1469)
STA. 3+593	RT			1.5		PRIVATE WALK (1466)
STA. 3+600	LT			2.5		PRIVATE WALK (1463)
STA. 3+609	RT			7.5		S.W. RAD. PASCAL
PASCAL TO ALBERT						
STA. 3+616 TO 3+819	RT & LT	4392	399		196	
STA. 3+630	RT			0.8		PRIVATE WALK (1456)
STA. 3+646	RT			2.5		PRIVATE WALK (1452)
STA. 3+660	RT			2.1		PRIVATE WALK (1446)
STA. 3+677	RT			2.2		PRIVATE WALK (1442)
STA. 3+693	RT			2.5		PRIVATE WALK (1436)
STA. 3+728	RT			5.3		PRIVATE WALK (1426) ①
STA. 3+742	RT			3.0		PRIVATE WALK (1422) ①
STA. 3+754	RT			3.0		PRIVATE WALK (1416) ①
STA. 3+773	RT			1.5		PRIVATE WALK (1410)
STA. 3+787	RT			1.5		PRIVATE WALK (1406)
ALBERT TO HAMLINE						
STA. 3+819 TO 4+022	RT & LT	4328	384		224	
STA. 3+883	RT			4.0		PRIVATE WALK (1376)
STA. 3+898	RT			4.0		PRIVATE WALK (1372)
STA. 3+915	RT			4.0		PRIVATE WALK (1368)
STA. 3+928	RT			2.1		PRIVATE WALK (1362)
STA. 3+944	RT			1.3		PRIVATE WALK (1358)
STA. 4+001	LT			4.0		PRIVATE WALK (1347)
4+001 TO 4+116	RT	15				PATIO SLAB
STA. 4+010 & 4+030	RT			26.0		SW & SE RAD. HAMLINE
SUBTOTALS		12 774	1 187	477.9	747	
HAMLINE TO FERNWOOD						
STA. 4+022 TO 4+432	RT & LT	8341	719		461	
STA. 4+046 TO 4+060	RT			21.0		PUBLIC WALK
STA. 4+068 TO 4+072	RT			6.0		PUBLIC WALK
STA. 4+035 TO 4+187	LT			228.0		PUBLIC WALK
STA. 4+294	RT			3.0		APT. BUILDING ENT.
STA. 4+390 TO 4+425	RT			61.0		PUBLIC WALK
STA. 4+425	RT			7.5		S.W. CORNER OF FERNWOOD
FERNWOOD TO DUNLAP						
STA. 4+432 TO 4+635	RT & LT	4794	422		223	
STA. 4+440 TO 4+530	LT			135.0		PUBLIC WALK
STA. 4+440	RT			13.0		S.E. CORNER OF FERNWOOD
STA. 4+530 TO 4+575	LT			67.0		PUBLIC WALK
STA. 4+625	RT			10.0		PUBLIC WALK
DUNLAP TO LEXINGTON						
STA. 4+635 TO 4+818	RT & LT	3911	352		201	
STA. 4+782 TO 4+803	RT			31.5		PUBLIC WALK
STA. 4+807	LT			9.0		PUBLIC WALK
LEXINGTON TO OXFORD						
STA. 4+818 TO 4+995	RT & LT	3682	298		186	
STA. 4+828	RT			7.6		S.E. RAD. LEXINGTON
STA. 4+830 TO 4+867	LT			88.0		PUBLIC WALK
STA. 4+838 TO 4+849	RT			16.5		PUBLIC WALK
STA. 4+873 TO 4+912	LT			93.0		PUBLIC WALK
4+980 TO 4+986	RT			24		PUBLIC WALK
STA. 4+998 TO 5+076	RT & LT				96	TRAFFIC CONTROL
SUBTOTALS		20728	1791	821.1	1167	
TOTALS		33 502	2 978	1 299	1 914	

① REMOVAL SHALL BE INCLUDE REMOVAL OF EXISTING STEPS.

B

SAWCUT CONCRETE

STATION	LOCATION	QUANTITY m	REMARKS
STA. 3+420	RT	1	C & G ARONA AVE.
STA. 3+422	LT	1	C & G ARONA AVE.
STA. 3+439	RT	1.5	HOUSE #1510 SIDEWALK
STA. 3+471	LT	0.5	HOUSE #1503 SIDEWALK
STA. 3+488	LT	0.5	HOUSE #1499 SIDEWALK
STA. 3+508	LT	1.5	HOUSE #1490 SIDEWALK
STA. 3+513	RT	1.5	HOUSE #1495 & #1491 SDWLK
STA. 3+531	RT	2	HOUSE #1486 SIDEWALK
STA. 3+548	LT	0.5	HOUSE #1483 & #1475 SDWLK
STA. 3+561	RT	2	HOUSE #1472 SIDEWALK
STA. 3+576	LT	1	HOUSE #1469 SIDEWALK
STA. 3+600	LT	0.5	HOUSE #1463 SIDEWALK
STA. 3+611	RT	1	C & G PASCAL ST.
STA. 3+620	RT	1	C & G PASCAL ST.
STA. 3+620	LT	1	C & G PASCAL ST.
STA. 3+728	RT	1.5	HOUSE #1426 SIDEWALK
STA. 3+742	RT	1	HOUSE #1422 SIDEWALK
STA. 3+754	RT	1	HOUSE #1416 SIDEWALK
STA. 3+773	RT	0.5	HOUSE #1410 SIDEWALK
STA. 3+787	RT	0.5	HOUSE #1406 SIDEWALK
STA. 3+814	RT	1	C & G ALBERT ST.
STA. 3+814	LT	1	C & G ALBERT ST.
STA. 3+823	RT	1	C & G ALBERT ST.
STA. 3+824	LT	1	C & G ALBERT ST.
STA. 3+883	RT	2	HOUSE #1376 SIDEWALK
STA. 3+898	RT	2	HOUSE #1372 SIDEWALK
STA. 3+915	RT	2	HOUSE #1368 SIDEWALK
STA. 4+001	LT	2	HOUSE #1347 SIDEWALK
STA. 4+012	RT	1	C & G HAMLINE AVE.
STA. 4+013	LT	1	C & G HAMLINE AVE
SUBTOTAL		35	
STA. 4+026	RT	1	C & G HAMLINE AVE.
STA. 4+030	LT	1	C & G HAMLINE AVE
STA. 4+098 TO 4+114	RT	16	PATIO SLAB
STA. 4+284	RT	2	APT. ENTRANCE SIDEWALK
STA. 4+415	LT	1	C & G FERNWOOD AVE
STA. 4+429	LT	1	C & G FERNWOOD AVE
STA. 4+433	LT	1	C & G FERNWOOD AVE
STA. 4+440	RT	1	C & G FERNWOOD AVE
STA. 4+628	LT	1	C & G DUNLAP AVE.
STA. 4+628	RT	1	C & G DUNLAP AVE.
STA. 4+637	RT	1	C & G DUNLAP AVE.
STA. 4+638	LT	1	C & G DUNLAP AVE.
STA. 4+809	LT	1	C & G LEXINGTON AVE.
STA. 4+810	RT	1	C & G LEXINGTON AVE.
STA. 4+824	RT	1	C & G LEXINGTON AVE.
STA. 4+827	LT	1	C & G LEXINGTON AVE.
STA. 4+985	RT	1	C & G OXFORD ST.
STA. 4+994	RT	1	C & G OXFORD ST.
STA. 5+001	RT	1	C & G OXFORD ST.
STA. 5+001	LT	1	C & G OXFORD ST.
SUBTOTAL		36	
TOTALS		71	

D

EARTHWORK SUMMARY

LOCATION	EXCAVATION		EMBANKMENT	
	COMMON m^3 ①	SPECIAL m^3	SELECT GRANULAR m^3	REGULAR m^3
GOTTFRIED POND		17 590		
3+420 to 4+028	16 061		9 443	389
4+028 to 5+000	23 352		14 292	630
SUBTOTALS	39 413 E.V.	17 590 E.V.	23 735 C.V.	1 019 C.V.
			X 1.3	X 1.3
TOTALS	39 413 E.V.	17 590 E.V.	30 855 L.V.	1 325 L.V.
COMMON EXCAVATION	39 413 E.V.			
REMOVALS ①	-8 409 E.V.			
	31 004 E.V.	COMMON EXCAVATION PAY QUANTITY (E.V.)		

① COMMON EXCAVATION QUANTITY (39 119 m3 E.V.) INCLUDES ALL EARTHWORK AND MATERIALS BETWEEN THE EXISTING GROUND LINE AND THE BOTTOM OF THE SUBCUT. REMOVAL OF CONCRETE PVMT., CONCRETE MEDIANS, CONCRETE WALKS, AND BIT. PAVEMENTS ARE PAID FOR BY INDIVIDUAL PAY ITEMS.
EXCESS EXCAVATED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR, THE DISPOSAL OF WHICH SHALL BE HIS RESPONSIBILITY WITH NO ADDITIONAL COMPENSATION PAID OTHER THAN THE PRICE BID FOR COMMON EXCAVATION.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RCT
DATE: 1-22-13

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Shawn K. Fuldbak
REG. NO. 13501 DATE 3/9/00

28-289

CHARTS

H:\DWGS\LARP-3\CHART3 11/30/99

E

SAWCUT BITUMINOUS PAVEMENT

STATION	LOCATION	QUANTITY m	REMARKS
STA. 3+617	LT/RT	19	PASCAL ST. N & S
STA. 3+651	LT	3	HOUSE 1445
STA. 3+683	LT	2.5	HOUSE 1441
STA. 3+720	LT	8	HOLTON ST.
STA. 3+755	LT	3	HOUSE 1411
STA. 3+780	LT	11	HOUSE 1407
STA. 3+818	LT/RT	19	ALBERT ST.
STA. 3+872	LT	4	HOUSE 1389
STA. 3+888	LT	3	HOUSE 1381
STA. 3+908	LT	3	HOUSE 1375
STA. 3+928	LT	2.5	HOUSE 1371
STA. 3+947	LT	3	HOUSE 1365
STA. 3+962	LT	3	HOUSE 1357
STA. 3+974	RT	12	HOUSE 1350
SUBTOTAL	RT & LT	96	
STA. 4+020	RT & LT	43	HAMLINE AVE N & S
STA. 4+040	RT	10	HOUSE 1330
STA. 4+065	RT	10	HOUSE 1330
STA. 4+074	RT	5	ALLEY
STA. 4+081	LT	8	HOUSE 1329
STA. 4+089	RT	8	HOUSE 1318
STA. 4+125	RT	11	HURON AVE.
STA. 4+126	LT	10.5	HOUSE 1315/1319
STA. 4+145	RT	9	CHELSEA HTS.
STA. 4+171	LT	8	HOUSE 1315
STA. 4+173	RT	11	CHELSEA HTS.
STA. 4+271	RT	8	CHELSEA HTS.
STA. 4+300	LT	6	HOUSE 1255
STA. 4+327	RT	9	CHELSEA HTS.
STA. 4+333	LT	3	HOUSE 1255
STA. 4+343	LT	6.5	HOUSE 1233
STA. 4+352	RT	10.5	CHELSEA HTS.
STA. 4+376	LT	7	HOUSE 1233
STA. 4+380	RT	6.5	ALLEY-HOUSE 1677
STA. 4+385	LT	10	HOUSE 1227
STA. 4+406	LT	10	HOUSE 1227
STA. 4+428	LT	14	FERNWOOD ST.
STA. 4+431	RT	10	FERNWOOD ST.
STA. 4+465	LT	7.5	HOUSE 1215
STA. 4+485	RT	7	HOUSE 1670
STA. 4+574	LT	9	SHOPPING CENTER
STA. 4+596	RT	7	APPARTMENTS
STA. 4+634	RT/LT	19	DUNLAP ST.
STA. 4+692	RT	6	HOUSE 1136
STA. 4+713	RT	6	HOUSE 1132
STA. 4+729	RT	6	HOUSE 1124
STA. 4+767	LT	9	SHOPPING CENTER
STA. 4+770	RT	8	HOUSE 1102
STA. 4+818	RT/LT	33	LEXINGTON AVE.
STA. 4+834	RT	6	HOUSE 1676
STA. 4+851	RT	7	HOUSE 1676
STA. 4+862	RT	10	HOUSE 1084
STA. 4+870	LT	8	HOUSE 1694
STA. 4+890	RT	8	HOUSE 1084
STA. 4+916	LT	6.5	HOUSE 1694
STA. 4+936	LT	8	
STA. 4+960	LT	5.5	BIT. PATH
STA. 4+989	RT	8.5	OXFORD ST.
STA. 4+990	LT	9	
TOTALS		524	

10-5-99

F

CLEAR & GRUB CHART

STATION	LOCATION CONST. ℄	DESCRIPTION	CLEAR TREE	GRUB TREE	NOTES
3+435	LT 15.8	600 mm ASH			OK
3+451	LT 15.5	750 mm ELM			OK
3+462	RT 17.1	750 mm ELM	1	1	
3+463	LT 15.4	750 mm ELM			OK
3+476	RT 17.2	1000 mm ELM	1	1	
3+496	LT 15.2	750 mm ELM			OK
3+504	RT 18.4	200 mm CRAB			OK
3+506	LT 15.6	750 mm ELM			OK
3+519	LT 15.3	75 mm LINDEN			OK
3+524	RT 17.9	125 mm MAPLE			PROTECT
3+540	RT 17.2	STUMP		1	
3+546	LT 15.1	750 mm ELM			OK
3+587	RT 17.0	200 mm CRAB	1	1	
3+595	LT 15.4	150 mm CRAB	1	1	
3+603	LT 15.3	150 mm CRAB	1	1	
3+631	RT 16.8	200 mm ASH			PROTECT
3+635	RT 17.1	125 mm CRAB			PROTECT
3+645	RT 16.6	SHRUB			PROTECT
3+648	RT 16.8	SHRUB			PROTECT
3+650	RT 16.4	SHRUB			PROTECT
3+651	RT 16.5	SHRUB			PROTECT
3+653	RT 17.0	SHRUB			PROTECT
3+681	RT 17.9	75 mm LINDEN			PROTECT
3+735	RT 16.3	700 mm ELM	1	1	
3+745	RT 16.1	125 mm CRAB	1	1	
3+757	RT 16.0	200 mm CRAB	1	1	
3+766	RT 17.5	300 mm SPRUCE	1	1	
3+830	LT 15.5	500 mm PINE	1	1	
3+831	RT 15.6	200 mm CRAB			PROTECT
3+844	LT 15.1	500 mm PINE	1	1	
3+844	LT 15.1	450 mm PINE	1	1	
3+899	LT 16.5	75 mm SPRUCE			OK
3+890-3+903	LT 15.2	HEDGE			TRIM TO R/W - INCIDENTAL
3+923	LT 16.9	450 mm SPRUCE			PROTECT
3+932	LT 15.7	50 mm MAPLE			PROTECT
3+937	LT 14.4	50 mm MAPLE	1	1	
3+939	LT 14.6	75 mm MAPLE	1	1	
3+954	RT 15.3	125 mm CRAB	1	1	
3+964	RT 15.8	125 mm MAPLE			PROTECT
3+971	LT 15.8	400 mm ELM			OK
		SUBTOTALS	15	16	
4+068	LT 16.3	75 mm ASH			OK
4+078	RT 23.9	250 mm MAPLE			OK
4+078	RT 20.9	250 mm MAPLE			OK
4+078	RT 18.2	250 mm MAPLE			OK
4+087	LT 14.6	75 mm ASH			OK
4+094	LT 13.7	STUMP		1	
4+102	LT 13.7	100 mm ASH	1	1	
4+105	LT 14.2	150 mm ASH	1	1	
4+115	RT 15.0	?			OK
4+121	LT 13.4	100 mm ELM	1	1	
4+140	LT 15.2	SHRUB			OK
4+162	LT 15.9	SHRUB			OK
4+280	RT 18.6	50 mm MAPLE			OK
4+420	RT 17.4	25 mm APPLE			PROTECT
4+490-4+593	RT 14.5	HEDGE			TRIM TO R/W - INCIDENTAL
4+829	LT 43.3	?			OK
4+943	LT 12.8	200 mm LINDEN	1	1	
4+943	RT 15.9	SHRUB			OK
		SUBTOTALS	4	5	
		TOTALS	19	21	

CLEARING & GRUBBING SHALL BE IN ACCORDANCE WITH SPEC. 2101.502 CLEARING & 2101.507 GRUBBING

EXISTING POWER POLES

STATION	LOCATION CONST. C.L.	REMARKS
ARONA		
3+452	RT 13.2	
3+500	RT 13.2	
3+538	RT 13.1	
3+576	RT 13.1	
PASCAL		
3+623	RT 13.2	Relocate
3+671	RT 13.3	In Sidewalk
3+710	RT 13.0	In Sidewalk
HOLTON		
3+748	RT 13.3	In Sidewalk
3+778	RT 13.0	In Sidewalk
ALBERT		
3+825	RT 13.1	Relocate
3+875	RT 13.3	In Sidewalk
3+920	RT 13.2	In Sidewalk
3+967	RT 13.1	In Sidewalk
3+996	RT 12.9	In Sidewalk
4+000	RT 13.1	In Sidewalk
HAMLINE		
4+030	RT 16.2	Relocate
4+071	RT 12.4	
4+117	RT 12.9	
HORTON		
4+165	RT 13.2	
4+210	RT 13.4	
4+252	RT 13.3	
4+301	RT 13.2	
4+346	RT 12.7	
4+389	RT 12.0	
FERNWOOD		
4+430	LT 19.9	
4+439	RT 12.0	Relocate
4+480	RT 11.6	
4+521	RT 11.7	
4+563	RT 11.5	
4+606	RT 11.5	
DUNLAP		
4+639	RT 15.4	Relocate
4+645	RT 12.1	
4+681	RT 11.5	
4+695	RT 12.2	
4+740	LT 12.1	
4+772	LT 17.9	
4+785	RT 12.4	
LEXINGTON		
4+827	RT 12.9	Relocate
4+880	RT 11.4	
4+890	LT 14.6	
4+919	RT 12.0	
4+927	LT 27.2	
4+932	LT 13.3	
4+963	RT 12.2	
OXFORD		
4+997	RT 12.3	Relocate

6-20-97

POWER POLES SHALL BE RELOCATED BY OTHERS. A 0.457 m CLEAR ZONE SHALL BE MAINTAINED FROM FACE OF CURB TO FIXED OBJECTS.

DESIRED LOCATIONS OF POWER POLES W/WALK

ARONA TO PASCAL: RT. 12.76 TO 13.8
LT. 11.56 TO 12.6

PASCAL TO HAMLINE RT. 11.56 TO 12.6
LT. 11.56 TO 12.6

FINAL LOCATIONS OF POWER POLES SHALL BE AGREED UPON BY THE OWNER AND THE ENGINEER PRIOR TO RELOCATION.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RCG
DATE: 1-22-13

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Larry K. Fiddler
REG. NO. 19501 DATE 3/10/00

28-289

CHARTS

H:\DWGS\LARP\CHART3 11/30/99

H

WATER SERVICES EXISTING

STATION	LOCATION (m)	HOUSE NUMBER	EXISTING SIZE-TYPE	ADJUST CURB BOX EACH	TRENCH EXCAVATION (m) (1)	REMARKS
3+440	LT 13.0	1688	50 mm COPPER	1		
3+441	RT 12.8	1510	50 mm COPPER	1		
3+461	LT 5.5	1511	50 mm COPPER	1		
3+467	RT 3.8	1504	50 mm COPPER	1		
3+478	LT 13.0	1503	25 mm COPPER	1		
3+479	LT 13.0	1503	25 mm COPPER	1		
3+483	LT 13.0	1499	25 mm COPPER	1		
3+488	RT 2.0	1496	37.5 mm COPPER	1		
3+503	RT 3.8	1490	37.5 mm COPPER	1		
3+505	LT 13.3	1495	25 mm LEAD	1		(1) REPLACE BY ST. PAUL WATER
3+524	LT 14.0	1491	25 mm LEAD	1		(1) REPLACE BY ST. PAUL WATER
3+538	LT 13.5	1483	25 mm COPPER	1		
3+540.5	RT 12.7	1486	50 mm COPPER	1		
3+555	LT 13.3	1475	25 mm COPPER	1		
3+557	RT 14.0	1472	50 mm COPPER	1		
3+575.5	LT 4.4	1469	37.5 mm COPPER	1		
3+594	LT 12.9	1463	25 mm COPPER	1		
3+594	RT 12.2	1466	50 mm COPPER	1		
3+630	RT 12.5	1456	25 mm COPPER	1		
3+647	LT 13.2	1453	25 mm COPPER	1		
3+648	RT 12.8	1452	25 mm COPPER	1		
3+653	LT 13.5	1445	25 mm LEAD	1		(1) REPLACE BY ST. PAUL WATER
3+664	RT 12.9	1446	25 mm COPPER	1		
3+680	LT 13.1	1441	25 mm LEAD	1		(1) REPLACE BY ST. PAUL WATER
3+680.5	RT 3.7	1442	37.5 mm COPPER	1		
3+689.5	LT 12.6	1433	25 mm COPPER	1		
3+697	RT 13.0	1436	25 mm COPPER	1		
3+719	RT 12.8	1426	25 mm COPPER	1		
3+734	RT 13.1	1422	25 mm COPPER	1		
3+765	RT 12.8	1416	25 mm COPPER	1		
3+774	RT 12.7	1410	25 mm COPPER	1		
3+783	RT 12.8	1406	25 mm COPPER	1		
3+804	RT 3.1	1402	37.5 mm COPPER	1		
3+834	RT 12.9	1396	25 mm COPPER	1		
3+840	LT 12.2	1397	18.75 mm COPPER	1		
3+857	RT 13.5	1386	25 mm COPPER	1		
3+857.5	RT 13.5	1382	25 mm COPPER	1		
3+865	LT 6.0	1389	37.5 mm COPPER	1		
3+877.5	LT 13.3	1381	18.75 mm COPPER	1		
3+890.5	RT 11.8	1376	25 mm COPPER	1		
3+891	RT 11.8	1372	25 mm COPPER	1		
3+901	LT 13.2	1375	25 mm COPPER	1		
3+916	LT 12.9	1371	25 mm COPPER	1		
3+926	RT 13.1	1368	25 mm COPPER	1		
3+926.5	RT 13.1	1362	25 mm COPPER	1		
3+933	LT 12.6	1365	25 mm COPPER	1		
3+942	RT 13.2	1358	25 mm COPPER	1		
3+942.5	RT 13.2	1354	25 mm COPPER	1		
3+951	LT 12.4	1357	25 mm COPPER	1		
3+972	LT 12.2	–	25 mm COPPER	1		VACANT LOT
3+991	LT 13.0	1347	25 mm COPPER	1		
4+098	LT 16.7	1319	25 mm COPPER	–		OUTSIDE LIMITS OF CONSTRUCTION
4+136	LT 13.8	1315	37.5 mm COPPER	1		
4+277	RT 12.0			1		
4+321	RT 11.5			1		
4+529	RT 11.9		100 mm CAST IRON	1		
4+545	RT 11.1		100 mm CAST IRON	1		
4+672	RT 9.2	1144	37.5 mm COPPER	1		
4+689	RT 13.1	1136	37.5 mm COPPER	1		
4+722	RT 13.3	1132	37.5 mm COPPER	1		
4+726	RT 12.3	1124	37.5 mm COPPER	1		
4+752	RT 10.7		18.75 mm COPPER	1		
4+777	RT 10.3		18.75 mm COPPER	1		
4+789	LT 12.7	1101		1		NEW CONSTRUCTION, VERIFY SERVICE
4+794	RT 11.2	1102	18.75 mm COPPER	1		
4+851	LT 11.9			1		SHOPPING CENTER, VERIFY SERVICE
4+853	RT 14.1	1676	25 mm COPPER	1		
4+878	RT 8.7	1084	50 mm COPPER	1		VERIFY LOCATION
4+884	RT 11.7		18.75 mm COPPER	1		
5+015	RT 16.5	1038	25 mm COPPER	---		OUTSIDE LIMITS
5+026	RT 16.5	1034	25 mm COPPER	---		OUTSIDE LIMITS
TOTALS				68		

(1) ST. PAUL WATER SHALL EXCAVATE AND REPLACE WATER SERVICES.

I

HYDRANT-ADJUSTS & RELOCATES

STATION	LOCATION	ADJUST EACH	RELOCATE (NOTE)	REMARKS
3+428	LT 15.2		(NOTE)	BY ST. PAUL WATER UTILITY
3+610	LT 18.5	1		
3+711	LT 19.5	1		
3+832	LT 12.1		(NOTE)	BY ST. PAUL WATER UTILITY
				VERIFY LOCATION
4+005	RT 9.3		(NOTE)	BY ST. PAUL WATER UTILITY
4+260	RT 9.3	1		
4+427	RT 13.1		(NOTE)	BY ST. PAUL WATER UTILITY
4+647	RT 9.21	1		
4+682	LT 14.2	1		
4+746	LT 14.2	1		
4+841	RT 8.3	1		
4+926	LT 15.3	1		
4+980	RT 9.7		(NOTE)	BY ST. PAUL WATER UTILITY
TOTALS		8		

NOTE: RELOCATION OF HYDRANT ASSEMBLY SHALL BE BY ST. PAUL WATER UTILITY SEE SPECIAL PROVISIONS

K

GATE VALVE BOX-ADJUSTS

STATION	LOCATION	ADJUST BOX EACH	RELOCATE WITH HYDRANT	NOTES
3+413	LT 6.5			OUTSIDE LIMITS
3+423	RT 10.1	1		
3+428	LT 12.6	1	X	BY ST. PAUL WATER UTILITY
3+614	LT 18.6	1		
3+614	LT 7.6	1		
3+616	LT 0.8	1		
3+616	RT 12.3	1		
3+713	LT 19.4	1		
3+728	LT 6.5	1		
3+816	RT 6.8	1		
3+830+/-	LT 12 +/-	1		VERIFY LOCATION
4+016	LT 5.2	1		
4+018	RT 13.2	1		
4+021	RT 14.8	1		
4+021	RT 10.5	1		
SUBTOTAL		14		
4+426	RT 5.0	1		
4+430	RT 16.0	1		
4+441	RT 7.6	1		
4+533	LT 14.5	1		
4+630	RT 11.2	1		
4+648	RT 4.1	1		
4+682	LT 11.7	1		
4+730	LT 13.7	1		
4+746	LT 11.5	1		
4+805	RT 6.7	1		
4+816	RT 14.5	1		
4+829	LT 11.3	1		
4+841	RT 12.4	1		
SUBTOTAL		13		
TOTALS		27		

FINAL ADJUSTMENT OF ALL GATE VALVE BOXES SHALL BE UNDER THIS CONTRACT AND PAID FOR AS ITEM 2504, 602, ADJUST GATE VALVE BOX BY THE EACH.

J

100mm POLYSTYRENE INSULATION

STATION	LOCATION	QUANTITY	REMARKS
3+514.6	RT-CB 251	6.0 m2	WATERMAIN/STORM SEWER
3+602.5	RT-CB 253	6.0 m2	WATERMAIN/STORM SEWER
TOTAL		12 m2	

L

REMOVE BITUMINOUS PAVEMENT

STATION	LOCATION	HOUSE #/ SIDESTREET	QUANTITY m2
STA. 3+683	LT.	# 1441 ENT.	4
STA. 4+033	RT.	# 1330 WALK	4
STA. 4+052	RT.	# 1330 WALK	25
STA. 4+093 TO 4+117	RT.	# 1318 WALK	50
STA. 4+328	RT.	LARP. APTS. ENT	24
STA. 4+351	RT.	LARP. APTS. ENT	28
STA. 4+485	RT.	# 1203 ENT	21
STA. 4+574	LT.	SHOPPING CNTR	38
STA. 4+653 TO 4+686	RT.	# 1144 LOT	75
STA. 4+695 TO 4+710	RT.	# 1136/1132 LOT	27
STA. 4+716 TO 4+726	RT.	# 1132 LOT	11
STA. 4+731 TO 4+767	RT.	# 1124 LOT	44
STA. 4+874 TO 4+912	LT.	# 1694 WALK	102
STA. 4+894 TO 4+985	RT.	# 1050 WALK	272
STA. 4+918 TO 4+985	LT.	BIT. PATH	90
TOTAL			815

EXACT LOCATIONS SHALL BE DESIGNATED IN THE FIELD

Z

CHAIN LINK FENCE

STATION	LOCATION	QUANTITY	REMARKS
4+093-4+023	LT	30 m	CONNECT TO EXISTING
3+602.5	RT 13.7 TYP	34 m	WALL NO. 1
3+602.5	RT 13.7 TYP	45 m	WALL NO. 2
3+602.5	LT 16.2 TYP	15 m	WALL NO. 3
TOTAL		124 m	

WOOD FENCE - PRIVACY

STATION	LOCATION	QUANTITY	REMARKS
4+009± - 4+115±	RT	20 m	CONNECT TO EXISTING
TOTAL		20 m	

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

28-289

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Danny K. Fiddler
REG. NO. 13501 DATE 3/10/00

H:\DWGS\LARP\CHART3 2/11/2000

M

REMOVE PIPE SEWERS

STATION	STRUCTURE TO STRUCTURE	METER RCP LENGTH	METER RCP DIAMETER	METER CMP LENGTH	METER CMP DIAMETER
3+606 RT	CB 1798–CB 1797	8 m	(300 mm)		
3+616 RT	CB 1799–CB 1798	8 m	(300 mm)		
4+380 RT	SD 1863–CB 2056			31 m	(450 mm)
4+359 RT	CB 1859–CB 2056	2.5 m	(450 mm)		
4+445 RT ①	CB 1867–CB 1865	12.5 m	(600 mm)		
4+433 RT ①	CB 1879–CB 1867	88 m	(450 mm)		
4+622 RT ①	CB 1883–CB 1879	88 m	(450 mm)		
4+646 RT ①	CB 1885–CB 1883	25 m	(375 mm)		
4+731 RT ①	SD 1886–CB 1885	85 m	(375 mm)		
		317 m		31 m	
TOTALS		348 m			

PAYMENT SHALL BE MADE AS ITEM 2104.501 REMOVE PIPE SEWER BY THE m REGARDLESS OF THE TYPE OF MATERIAL, FOR ALL PIPE RUNS

11-24-99

① R.C.P. SHALL BE REPLACED WITH NEW R.C.P. AT THESE LOCATIONS, PAYMENT SHALL BE MADE AS ITEM 2503.541

N

REPAIR EXISTING SEWER SERVICES

STATION	LOCATION	HOUSE NUMBER	CONSTRUCT BULKHEAD	REMARKS
4+905.58	RT 9.01 m	1050	1	BULKHEAD WYE AS DIRECTED
TOTALS			1 ea	

SANITARY SEWER REPAIR SHALL BE AS DIRECTED BY CITY OF ST. PAUL

O

BENCH MARK CHART

STATION/LOCATION	ELEVATION	FINAL ELEVATION
3/4" ALUM. ROD NE COR LARP. & ARONA	290.2418	
3/4" ALUM. ROD NW COR LARP. & FERNWOOD	277.6219	

11-22-96

Q

100 mm PE PERFORATED PIPE

DRAIN FROM STRUC./STA.	DRAIN TO STRUC./STA.	METER LT	METER RT	METER MEDIAN
ARONA AVE.				
3+425	CB 251		99	
3+425	CB 254	99		
CB 251	CB 255		88	
CB 254	CB 258	91		
PASCAL AVE.				
3+626	CB 264		80	
3+626	CB 263	80		
HOLTON AVE.				
CB 264	CB 267		100	
3+728	CB 268	80		
ALBERT ST.				
3+829	CB 269		87	
3+829	CB 272	87		
CB 269	CB 273		84	
CB 272	CB 276	90		
HAMLINE AVE.				
SUBTOTALS		527	538	
4+034	CB 1834		102	
4+038	CB 1829	40		
CB 1829	CB 1849	58		
CB 1834	CB 1836		50	
CB 1849	CB 1840	56		
CB 1836	CB 2056		166	
CB 1840	CB 1857	85		
4+219	4+256			47
4+281	4+356	75		
4+420	4+359		61	
4+407	4+362	45		
FERNWOOD ST.				
4+533	4+445		88	
4+536	4+437	99		
4+560	4+507			63
4+621	4+533		88	
4+623	4+537	86		
DUNLAP ST.				
4+730	4+647		83	
4+734	4+625	109		
4+741	4+701			50
4+802	4+732		70	
4+802	4+735	67		
LEXINGTON AVE.				
4+833	4+962	129	129	
5+000	4+963	37	37	
OXFORD ST.				
SUBTOTALS		886	874	160
PROJECT TOTAL		2985		

10-5-99

R

SILT FENCE HEAVY DUTY

STATION TO STATION	RT-LT	m
STA. 4+175 TO 4+280	LT.	105 m
STRUCTURE	RT-LT	m
44 CB @ 3m each		132 m
TOTAL		237 m

10-5-99

SILT FENCE SHALL BE INSTALLED PER DETAIL ON SHEET 16. PAYMENT SHALL BE IN ACCORDANCE WITH SPEC. 2573 EXCEPT AS MODIFIED IN SPECIAL PROVISIONS.

P

SALVAGE AND RELOCATE SIGNS

ITEM	STATION	LOCATION CONST. C/L	RELOCATE EACH	SALVAGE EACH	NOTES
SUPER AMERICA SIGN	4+005±	RT 19.5			PROTECT
PATRICK'S BAR SIGN	4+096±	RT 15.5			PROTECT
LARP APTS. SIGN	4+199±	RT 14.1			PROTECT
G. E. LAUNDRY SIGN	4+359±	LT 17.8			PROTECT
CALIFORNIA APTS. SIGN	4+623±	RT 14.3			PROTECT
ANIMAL HOSPITAL SIGN	4+687±	RT 14.3			PROTECT
SHOPPING CENTER SIGN	4+693±	LT 17.2			PROTECT
MGM LIQUORS SIGN	4+765±	RT 15.1			PROTECT
SHOPPING CENTER SIGN	4+835±	LT 19.5			PROTECT
TED'S BAR SIGN	4+879±	RT 14.2			PROTECT
TED'S BAR SIGN	4+880±	RT 14.2			PROTECT
HEALTH OFFICES SIGN	4+903±	RT 15.2			PROTECT
HEALTH OFFICES SIGN	4+982±	RT 15.1	1		2 STEEL POSTS w/ELECTRIC
TYPE C SIGN		LT		21	
TYPE C SIGN		RT		27	
TYPE C SIGN		MEDIAN		25	
TOTAL SIGNS			1	73	

THE FINAL LOCATION OF ALL SIGNS SHALL BE DETERMINED IN THE FIELD. PAYMENT BY THE EACH SHALL BE COMPENSATION IN FULL FOR ALL WORK AND MATERIALS REQUIRED, INCLUDING, BUT NOT LIMITED TO, CONCRETE BASE, REINFORCEMENT BARS, ANCHOR BOLTS, WOOD MATERIALS, AND ELECTRICAL WORK, IF SO REQUIRED.

C

SALVAGE & INSTALL WOOD FENCE

ITEM	STATION	LOCATION	QUANTITY m
SPLIT RAIL FENCE	3+424±	RT	12.5
SPLIT RAIL FENCE	3+728 TO 3+756	LT	33.7
SPLIT RAIL FENCE	3+876±	RT	6.1
SPLIT RAIL FENCE	3+891±	RT	6.1
TOTAL			58.4

REMOVE FENCE

ITEM	STATION	LOCATION	QUANTITY m
1.2 m CHAIN LINK FENCE	4+093± to 4+423±	LT	30
1.2 m WOOD FENCE – PRIVACY	4+099± to 4+115±	RT	20

NOTE: THE EXACT LOCATION OF ALL INSTALL FENCE SHALL BE DETERMINED IN THE FIELD.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Barry K. Fidler
REG. NO. 13501 DATE 3/10/00

28-289

CHARTS

H:\DWGS\LARP-3\CHART3 11/30/99

S

CONCRETE QUANTITIES CHART

STATION TO STATION	CURB AND GUTTER (m) B612	B6		B624			SIDEWALK 100 mm m2		MEDIAN SIDEWALK 100 mm m2	DRIVEWAY 150 mm m2	DRIVEWAY 200 mm m2		PAVEMENT 200 mm STANDARD WIDTH		IRREGULAR WIDTH		IRREGULAR WIDTH SHOULDER SPECIAL		COLORED CROSS-WALK SPECIAL	
	MEDIAN	LT.	RT.	MEDIAN	LT.	RT.	LT.	RT.		LT.	LT.	RT.	LT.	RT.	LT.	RT.	LT.	RT.	LT.	RT.
3+270 TO 3+360	75			90																
3+420 TO 5+000													10217 ①	10019 ①						
3+420 TO 3+618	208			148	200	200	277.5	277.5	211					231 ②						
3+420 TO 3+620													264 ②	360 ③	424	657				
3+618 TO 3+718	109			49	103		121.5		94	29					94					
3+620 TO 4+020													297 ②	379.5 ②	492	775				
3+618 TO 3+818						292		283.5								211				
3+718 TO 3+818	60			94	102		127.5		186	54					92					
3+818 TO 4+022	206			147	201	197	235.5	267	210	87		64			205	205				
ARONA to HAMLINE SUBTOTALS	658			528	606	689	762	828	701	170		64			1307	1848				
4+022 TO 4+127	69	113	91	69							55	115	214.5 ②				122 ④	122 ④	184 ⑤	184 ⑤
4+127 TO 4+310	108	183	175	122							73	98	83 ②	81 ②			256 ④	256 ④		
4+310 TO 4+432	58	115	122	58							72	71		181.5 ②			137 ④	145 ④	162 ⑤	162 ⑤
4+022 TO 4+432															104	945				
4+432 TO 4+633	147	202	202	214							72	44	132 ②	115.5 ②	117	125	242 ④	243 ④		
4+633 TO 4+819	143	181	181	176							28	60	115.5 ②	148.5 ②	316	444	212 ④	219 ④	150 ⑤	150 ⑤
4+819 TO 5+002	167	179	181	126					112	40	68	64	247 ②	159 ②	152	265	198 ④	198 ④	182 ⑤	182 ⑤
SUBTOTALS	692	973	952	765					112	40	368	452	11570	11675	689	1779	1167	1183	678	678
TOTALS	1350	1925		2588			2403			210	884		23245		9329					

NOTES: ①MAINLINE ②LT TURN LANES ③SHOULDER ④CONCRETE PAVEMENT SPECIAL-SHOULDER ⑤CONCRETE PAVEMENT SPECIAL-CROSSWALK

V BITUMINOUS QUANTITIES SUMMARY-TONS OF MIXTURE

STATION TO STATION		LOCATION	SIDE STREETS TYPE 41 BINDER METRIC TON	SIDE STREETS TYPE 41 WEAR METRIC TON	ENTRANCES TYPE 31 BINDER METRIC TON	ENTRANCES TYPE 31 WEAR METRIC TON
3+617±	PASCAL ST.	LT	5	3		
3+617±	PASCAL ST.	RT	6	4		
3+651	HOUSE 1445	LT			0.3	0.3
3+688	HOUSE 1441	LT			0.2	0.2
3+718±	HOLTON ST.	LT	5	3		
3+755	HOUSE 1411	LT			0.3	0.3
3+780	HOUSE 1407	LT			1.0	1.0
3+818	ALBERT ST.	LT	5	3		
3+818	ALBERT ST.	RT	5	4		
3+873	HOUSE 1389	LT			0.3	0.3
3+888	HOUSE 1381	LT			0.3	0.3
3+908	HOUSE 1375	LT			0.3	0.3
3+928	HOUSE 1371	LT			0.2	0.2
3+947	HOUSE 1365	LT			0.3	0.3
3+963	HOUSE 1357	LT			0.3	0.3
3+975	HOUSE 1350(S. A.)	RT			1.1	1.1
XXXXX	HOUSE 1350(S. A.)	RT			0.6	0.6
4+022	HAMLINE AVE.	LT	12	8		
4+022	HAMLINE AVE.	RT	9	7		
4+040	HOUSE 1330	RT			CLOSE	CLOSE
4+065	HOUSE 1330	RT			1.2	1.2
4+080	HOUSE 1329	LT			1.6	1.6
4+089	HOUSE 1318	RT			1.0	1.0
4+126	HOUSE 1319-1315	LT			1.5	1.5
4+172	HOUSE 1315	LT			1.2	1.2
4+145	HOUSE 1260	RT			1.0	1.0
4+173	HOUSE 1260	RT			1.3	1.3
4+270	HOUSE 1260	RT			1.1	1.1
4+299	HOUSE 1255	LT			0.7	0.7
4+327	HOUSE 1260	RT			1.1	1.1
4+332	HOUSE 1255	LT			0.4	0.4
4+348	HOUSE 1233	LT			1.5	1.5
4+352	HOUSE 1260	RT			1.2	1.2
4+376	HOUSE 1233	LT			1.0	1.0
4+380	HOUSE 1260	RT			0.8	0.8
4+386	HOUSE 1227	LT			CLOSE	CLOSE
4+405	HOUSE 1227	LT			CLOSE	CLOSE
4+425	FERNWOOD ST.	LT	8	5		
4+430	FERNWOOD ST.	RT	5	3		
4+465	HOUSE 1215	LT			1.0	1.0
4+485	HOUSE ?	RT			0.8	0.8
4+496	HOUSE ?	RT			0.8	0.8
4+633	DUNLAP ST.	LT	6	4		
4+633	DUNLAP ST.	RT	5	4		
4+691	HOUSE 1136	RT			0.7	0.7
4+713	HOUSE 1132	RT			0.8	0.8
4+729	HOUSE 1124	RT			0.7	0.7
4+768	HOUSE 1101	LT			1.1	1.1
4+770	HOUSE 1102	RT			0.9	0.9
4+787	HOUSE 1101	LT			CLOSE	CLOSE
4+797	HOUSE 1101	LT			CLOSE	CLOSE
4+818	LEXINGTON AVE.	LT	9	6		
4+818	LEXINGTON AVE.	RT	8	5		
4+835	HOUSE 1676	RT			CLOSE	CLOSE
4+852	HOUSE 1676	RT			0.8	0.8
4+863	HOUSE 1084	RT			1.2	1.2
4+870	HOUSE 1694	LT			0.9	0.9
4+890	HOUSE 1084	RT			0.9	0.9
4+915	HOUSE 1694	LT			0.8	0.8
4+990	OXFORD ST.	RT	5	3		
4+936	HOUSE ?	LT			---	---
4+990	CEMETARY	LT			---	---
TOTALS			93	62	33	33
TACK COAT		LT & RT	118 L		64 L	

12-18-98

T

AGGREGATE BASE CLASS 7 (CV)

LOCATION AREA	LOCATION	QUANTITY m3
CONCRETE ROADWAY	LT & RT	5 370
SIDE STREETS	LT & RT	175
ENTRANCES	LT & RT	208
100mm CONCRETE WALK	LT & RT	456
TOTALS		6 209

U

REMOVE FLAGSTONE RETAINING WALL

ITEM	STATION	LOCATION	QUANTITY METER^2
FLAGSTONE RETAINING WALL	4+393 TO 4+423	LT 13.5±	28
TOTALS			28

REMOVE PRECAST BLOCKWALL

ITEM	STATION	LOCATION	QUANTITY METER^2
PRECAST BLOCK WALL	4+436 TO 4+439	LT 16	3
TOTALS			3

10-5-99

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Shawn K. Tuldahl
REG. NO. 13501 DATE 3/10/00

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

H:\DWGS\LARP-3\CHART3 2/16/2000

28-289

CHARTS

EXISTING STRUCTURES CHART

STATION	LOCATION CONST C/L	NUMBER	DESIGN	TYPE	PROFILE ELEVATION	ORIG. GRATE ELEVATION	NEW GRATE ELEVATION	CB/MH INVERT	ADJUST CASTING	RECONST. m	INSTALL CASTING	REMOVE STRUCTURE	SALVAGE CASTING		REMARKS
3+402.5	RT 10.7	CB 1778	CB-RC 2	STORM	----	289.845	----	288.230							
3+404.6	LT 10.0	CB 1779	CB-RC 2	STORM	----	299.855	----	288.135							OK
															OK
3+410.7	LT 15.8	CB 1780	CB-RC 2	STORM	----	289.720	----	287.860							
3+411.3	LT 52.4	CB 1781	CB-RC 2	STORM	----	289.635	----	288.295							OK
3+411.6	LT 59.4	CB 1782	CB-RC 2	STORM	----	289.660	----	288.350							OK
3+416.8	LT 11.9	MH 1786	MH	SAN	----	289.830	----	286.540							OK
															OK
ARONA ST.															
3+422.9	LT 60.0	CB 1783	CB-RC 2	STORM	----	289.685	----	288.971							
3+422.9	LT 52.4	CB 1784	CB-RC 2	STORM	----	289.655	----	288.620							OK
3+422.9	LT 13.1	CB 1785	CB-RC 2	STORM	290.09	289.710	289.7±	287.670		1.3	Ⓐ		1		OK
3+423.5	LT 10.0	MH 1787	MH	STORM	289.97	289.795	289.82	287.540	1						CONVERT TO MH & SALVAGE CASTING: MAKE 375mm CONNECTION
3+431.7	RT 12.8	MH 1788	MH	SAN	289.97	290.055	289.92	287.250		1.6	1				
3+468.3	RT 13.7	MH 1790	MH	VAULT	289.91	290.085	289.90	287.310	1						
3+514.6	LT 10.4	CB 1789	CB-RC 2	STORM	289.84	289.615	289.67	286.995		1.5	Ⓐ		1		CONVERT TO MH & SALVAGE CASTING: MAKE 375mm CONNECTION
3+514.6	RT 10.4	CB 1792	CB-RC 2	STORM	289.84	289.605	----	288.110				1	1		REMOVE & SALVAGE CASTING: EXTEND 375mm PIPE TO CB#251
3+516.5	LT 12.2	MH 1791	MH	SAN	289.83	289.870	289.82	286.275	1						
3+529.0	RT 12.8	MH 1794	MH	SAN	289.81	290.065	289.76	286.775	1						
3+605.5	LT 10.4	CB 1793	CB-RC 2	STORM	289.69	289.460	289.52	286.380		1.5	Ⓐ		1		CONVERT TO MH & SALVAGE CASTING: MAKE 375mm CONNECTION
3+606.1	RT 10.4	CB 1797	CB-RC 2	STORM	289.69	289.415	289.54	288.195		1.2	Ⓐ		1		CONVERT TO MH & SALVAGE CASTING: MAKE 375mm CONNECTION
3+611.6	RT 16.8	CB 1798	CB-RC 2	STORM	289.68	289.495	----	288.640				1	1		REMOVE & SALVAGE CASTING: REMOVE 300mm R.C. PIPE
3+612.5	LT 18.6	CB 1800	CB-RC 2	STORM	289.68	289.570	289.57	287.895	1						
PASCAL ST.															
3+616.1	LT 12.8	MH 1795	MH	SAN	289.67	289.540	289.69	285.945	1						
3+616.1	RT 12.8	MH 1796	MH	SAN	289.67	289.530	289.72	286.450	1						
3+620.7	RT 16.8	CB 1799	CB-RC 2	SAN	289.67	289.500	----	288.800				1	1		REMOVE & SALVAGE CASTING: REMOVE 300mm R.C. PIPE
3+621.0	LT 18.3	CB 1801	CB-RC 2	STORM	289.66	289.565	289.57	287.980	1						
3+707.3	RT 10.4	CB 1802	CB-RC 2	STORM	289.45	289.220	----	287.755				1	1		REMOVE & SALVAGE CASTING
3+707.3	LT 10.4	CB 1803	CB-RC 2	STORM	289.45	289.235	289.30	286.035		1.5	Ⓐ		1		CONVERT TO MH & SALVAGE CASTING: MAKE 375mm CONNECTION
3+713.1	LT 21.0	CB 1804	CB-RC 2	STORM	289.40	289.195	----	287.425							OK
3+716.4	RT 12.8	MH 1806	MH	SAN	289.37	289.390	289.39	286.070	1						
HOLTON ST.															
3+718.9	LT 12.2	MH 1807	MH	SAN	289.34	288.180	289.33	285.615	1						
3+722.5	LT 21.3	CB 1805	CB-RC 2	STORM	289.31	289.045	----	287.550							
															OK
3+808.8	RT 10.4	CB 1808	CB-RC 2	STORM	288.48	288.260	288.32	286.705		1.4	Ⓐ		1		CONVERT TO MH & SALVAGE CASTING: MAKE 375mm CONNECTION
3+808.8	LT 10.4	CB 1809	CB-RC 2	STORM	288.48	288.215	288.33	285.470		1.3	Ⓐ		1		CONVERT TO MH & SALVAGE CASTING: MAKE 375mm CONNECTION
3+814.3	RT 17.7	CB 1814	CB-RC 2	STORM	288.44	288.260	288.26	286.860	1						
3+814.9	LT 16.8	CB 1810	CB-RC 2	STORM	288.43	288.250	288.25	286.145	1						
ALBERT ST.															
3+819.1	RT 12.5	MH 1812	MH	SAN	288.40	288.300	288.41	285.620	1						
3+819.4	LT 11.9	MH 1813	MH	SAN	288.40	288.225	288.38	285.270	1						
3+824.3	LT 16.8	CB 1811	CB-RC 2	STORM	288.37	288.175	288.18	286.835	1						
3+917.3	RT 10.4	CB 1815	CB-RC 2	STORM	288.02	287.790	----	286.510				1	1		REMOVE & SALVAGE CASTING
3+917.9	LT 10.4	CB 1816	CB-RC 2	STORM	288.02	287.775	287.87	284.910		1.6	Ⓐ		1		CONVERT TO MH & SALVAGE CASTING: MAKE 375mm CONNECTION
3+919.1	RT 12.2	MH 1817	MH	SAN	288.02	287.970	288.01	285.350	1						
4+007.2	RT 11.6	CB 1820	CB-RC 2	STORM	287.70	287.455	----	286.175				1	1		REMOVE & SALVAGE CASTING: CONSTRUCT CB#263
4+008.1	LT 10.4	MH 1826	MH	STORM	287.70	287.500	287.55	284.330	1						
4+008.7	LT 11.9	CB 1819	CB-RC 2	STORM	287.70	287.440	287.44	285.945		0.5	1				
4+011.7	RT 14.0	MH 1823	MH	????	287.68	287.540	287.72	285.560	1						
4+013.3	LT 20.4	CB 1821	CB-RC 2	STORM	287.68	287.530	287.53	286.035	1						
4+013.9	RT 14.0	MH 1825	MH	SAN	287.68	287.510	287.66	282.910	1						
4+014.8	LT 12.2	MH 1824	MH	SAN	287.67	287.510	287.64	283.150	1						
4+021.8	RT 12.2	MH 1827	MH	????	287.62	287.540	287.59	284.125	1						
HAMLINE AVE.															
4+025.2	RT 11.0	MH 1828	MH	????	287.59	287.505	287.39	285.995		1.5	1				
4+029.1	LT 19.5	CB 1822	CB-RC 2	STORM	287.54	287.525	----	286.060				1	1		REMOVE & SALVAGE CASTING: EXTEND 375mm R.C.PIPE TO CB#264
4+078.8	LT 10.4	CB 1829	CB-RC 2	STORM	286.12	285.910	285.97	283.685	1						
4+118.4	LT 13.1	MH 2054	MH	SAN	284.50	284.450	284.512	282.225	1						OK
4+119.7	RT 18.3	CB 1830	CB-LP 4	STORM	284.45	284.255	----	283.370							
HURON AVE.															
4+124.5	RT 21.3	MH 1833	MH	SAN	284.25	284.225	----	282.245							OK
4+130.0	RT 15.5	CB 1831	CB-LP 4	STORM	284.02	284.155	----	282.935							OK
4+136.1	RT 10.4	CB 1834	CB-RC 2	STORM	283.76	283.535	283.56	281.980	1						
4+137.7	LT 10.4	CB 1832	CB-RC 2	STORM	283.69	283.490	283.49	281.295	1						
4+179.7	LT 13.4	MH 1837	MH	SAN	281.79	282.000	281.83	279.865	1						
4+181.2	LT 18.6	CB 1841	CB-RC 2	STORM	281.73	281.995	----	281.140							OK
4+186.1	RT 22.5	SD 1835	SD	STORM	281.53	279.735	----	277.630							OK
4+190.7	RT 10.4	CB 1836	CB-RC 2	STORM	281.34	281.280	281.14	279.755	1						
4+194.6	LT 10.4	CB 1849	CB-RC 2	STORM	281.18	281.09	280.98	277.13		1.0	1				

Ⓐ F & I A – 8 CASTING ASSEMBLY. PAYMENT SHALL BE MADE AS ITEM 2506.516 CASTING ASSEMBLY BY THE EACH FINAL ADJUSTMENT SHALL BE INCLUDED IN PRICE OF CASTING

CASTING ASSEMBLIES
A–8 RING CASTING NO. 700–8 : MN/DOT STANDARD PLATE M4101C
COVER CASTING NO. 716 : MN/DOT STANDARD PLATE M4110E

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
REG. NO. 13501 DATE 3/10/00

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RA
DATE: 1-22-13

H:\DWGS\LARP\CHART3 11/30/99

EXISTING STRUCTURES CHART

S.A.P. 62-630-45

28-289

EXISTING STRUCTURES CHART

STATION	LOCATION CONST. C/L	NUMBER	DESIGN	TYPE	PROFILE ELEVATION	ORIG. GRATE ELEVATION	NEW GRATE ELEVATION	CB/MH INVERT	ADJUST CASTING	RECONST. m	INSTALL CASTING	REMOVE STRUCTURE	SALVAGE CASTING		REMARKS
4+241.0	LT 22.2	LS 1850	LIFT STA.	SAN	279.28	279.860	----	268.835							
4+249.5	LT 35.0	S 1844	STRUCTURE	STORM	278.93	272.160	----	----							OK
4+250.7	RT 18.0	SD 1838	SD	STORM	278.89	279.115	----	276.675							OK
4+255.3	LT 31.7	CB 1845	CB-RC 2	STORM	278.71	272.450	----	----							OK
4+257.7	LT 43.3	CB 1847	CB-RC 2	STORM	278.62	271.950	----	----							OK
4+261.1	LT 37.2	CB 1846	CB-RC 2	STORM	278.50	272.100	----	----							OK
4+264.1	LT 27.7	MH 1853	MH	STORM	278.40	278.690	----	272.470							OK
4+264.8	RT 14.3	SD 1839	SD	STORM	278.38	278.635	----	273.940							OK
4+277.6	LT 13.4	MH 1843	MH	SAN	277.98	277.960	278.02	276.255	1						OK
4+277.9	LT 51.2	MH 1855	MH	SAN	277.97	277.640	----	275.905							
4+279.7	LT 49.7	SD 1854	SD	STORM	277.92	277.625	----	276.405							OK
4+280.3	LT 10.4	CB 1840	CB-RC 2	STORM	277.90	277.775	277.70	273.355		1.0	1				OK
4+284.0	LT 12.2	MH 1842	MH	STORM	277.80	277.865	277.81	274.330	1						
4+335.5	RT 26.5	SD 1858	SD	STORM	276.90	277.230	----	275.370							
4+335.8	RT 18.0	MH 1856	MH	STORM	276.89	277.070	----	275.300							OK
4+354.7	RT 16.1	SD 1861	SD	STORM	276.80	276.640	----	275.725							OK
4+356.8	LT 10.4	CB 1857	CB-RC 2	STORM	276.80	276.655	276.60	274.155		1.0	1				OK
4+356.8	RT 10.4	CB 2056	CB-RC 2	STORM	276.80	276.585	----	274.330				1	1		
4+359.2	RT 11.0±	CB 1859	CB-LP 4	STORM	276.80	276.815	----	275.595				1			
4+361.4	LT 11.0	CB 1860	CB-LP 4	STORM	276.80	276.830	----	275.490				1			
4+365.9	LT 12.2	SD 1862	SD	STORM	276.81	276.880	276.82	274.840		1.0	Ⓐ		1		CONVERT TO MH & SALVAGE CASTING
4+380.3	RT 21.3	SD 1863	SD	STORM	276.89	276.395	276.4	275.000		1.2	1				SEE PROPOSED CHART SHEET 14
4+399.8	LT 12.5	MH 1875	MH	STORM	277.10	277.155	277.12	275.420	1						
4+408.3	LT 10.4	SD 1866	SD	STORM	277.24	277.085	277.04	275.195		1.0	1				
4+413.8	LT 17.0	MH 1872	MH	SAN	277.35	278.140	278.14	276.435	1						
4+418.7	LT 29.3	CB 1873	CB-RC 2	STORM	277.45	277.290	----	276.040							
4+420.5	LT 11.9	MH 1868	MH	SAN	277.49	277.305	277.50	275.445	1						OK
4+420.8	RT 10.4	CB 1864	CB-RC 2	STORM	277.49	277.235	277.29	275.530		1.0	1				
4+431.2	LT 31.7	CB 1874	CB-RC 2	STORM	277.74	277.550	----	276.455							OK
FERNWOOD ST.															
4+432.4	RT 11.0	MH 1865	MH	STORM	277.77	277.610	277.74	275.810		1.6	1				
4+432.7	LT 10.4	MH 1869	MH	STORM	277.78	277.540	277.34	276.350		1.0	1				
4+436.4	LT 16.8	MH 1871	MH	STORM	277.87	277.790	277.8±	275.990	1						
4+436.7	LT 12.8	CB 1870	CB-RC 2	STORM	277.88	277.635	278.00	276.600	1						
4+444.9	RT 10.4	CB 1867	CB-RC 2	STORM	278.08	277.800	277.93	276.125		1.5	1				
4+465.0	LT 19.2	SD 1876	SD	STORM	278.57	278.565	----	277.470							
4+496.4	LT 12.5	MH 1878	MH	SAN	279.28	279.305	279.25	276.255	1						OK
4+515.9	RT 23.8	MH 1877	MH	STORM	279.63	280.165	----	279.280							
4+533.3	RT 10.4	CB 1879	CB-RC 2	STORM	279.92	279.775	279.77	278.070		1.4	1				OK
4+536.6	LT 10.4	CB 1880	CB-RC 2	STORM	279.98	279.835	279.83	278.280	1						
4+569.9	LT 16.4	SD 1882	SD	STORM	280.65	280.475	----	276.545							OK
4+581.1	LT 38.4	SD 1888	SD	STORM	280.98	280.905	----	279.840							OK
4+581.4	LT 39.6	SD 1889	SD	STORM	280.99	280.895	----	278.855							OK
4+581.4	LT 40.5	SD 1890	SD	STORM	280.99	280.895	----	280.285							OK
4+621.7	RT 10.4	CB 1883	CB-RC 2	STORM	282.37	282.185	282.22	280.540		1.4	1				
4+625.0	LT 10.4	SD 1884	SD	STORM	282.49	282.305	282.34	280.965	1						
DUNLAP ST.															
4+646.1	RT 10.4	CB 1885	CB-RC 2	STORM	283.21	282.980	283.06	281.180		1.6	1				
4+731.4	RT 10.4	SD 1886	SD	STORM	285.31	285.080	285.16	283.375		1.5	1				
4+734.4	LT 10.4	SD 1887	SD	STORM	285.37	285.135	285.22	283.610	1						
LEXINGTON AVE.															
4+829.5	LT 10.0	MH 1891	MH	STORM	286.85	286.665	287.00	284.745	1						
4+857.9	RT 11.3	MH 1892	MH	SAN	286.60	286.455	285.56	283.405		1.0	1				
4+918.5	LT 11.0	MH 1893	MH	SAN	286.06	285.930	286.03	283.370		1.0	1				
4+923.4	RT 11.3	MH 2059	MH	SAN	286.02	285.980	285.99	282.690		1.0	1				
4+962.4	RT 10.4	CB 1894	CB-RC 2	STORM	285.70	285.590	285.49	284.035		1.0	1				
4+962.1	LT 10.4	CB 1895	CB-RC 2	STORM	285.71	285.610	285.50	284.240		1.0	1				
4+989.9	RT 11.3	MH 1896	MH	STORM/SAN	285.90	285.770	285.87	282.225	1						
4+965.5	LT 11.3	MH 1897	MH	SAN	285.69	285.840	285.66	283.340		1.6	1				
5+001.0	LT	CB 1899	CB-RC 2	STORM	286.07	285.84	285.84	283.340	1						
5+001.0	RT	CB 1898	CB-RC 2	STORM	286.07	285.78	285.78	283.070	1						
GOTTFRIED POND SPECIAL STRUCTURE		1200 mm TYPE A		STORM		273.44	273.44	270.52							SEE GOTTFRIED POND SHEET 121 AND SPECIAL PROVISIONS
								TOTALS	43	38.7	22	10	17		

Ⓐ F & I A - 8 CASTING ASSEMBLY. PAYMENT SHALL BE MADE AS ITEM 2506.516 CASTING ASSEMBLY BY THE EACH
FINAL ADJUSTMENT SHALL BE INCLUDED IN PRICE OF CASTING ASSEMBLY
A - 8 RING CASTING NO. 700-8 : MN/DOT STANDARD PLATE M4101C
COVER CASTING NO. 716 : MN/DOT STANDARD PLATE M410E

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RA
DATE: 1-22-13

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
REG. NO. 13601 DATE 3/10/00

28-289

EXISTING STRUCTURES CHART

S.A.P. 62-630-45

H:\DWGS\LARP\CHART3 11/30/99

PROPOSED STORM SEWER STRUCTURE CHART

STATION	OFFSET CONST ℄	NUMBER	TYPE	DESIGN	CASTING ASSEMBLY	ELEVATION PROFILE	ELEVATION NEW GRATE OR RING	ELEVATION C.B./M.H. OR APRON INVERT	F & I R.C. PIPE SEWER 375 mm CLASS V	450 mm CLASS V	600 mm CLASS III	675 mm	750 mm	DRAINS TO STRUCT. NO.	DRAINS TO INVERT ELEVATION	REMARKS
ARONA AVENUE																
3+422.6	LT. 18	250	CB	C or G	B-2	290.0±	289.7±	288.1	5.1					1785	287.80	RECONSTRUCT 1785
3+514.6	RT. 12	251	CB	C or G	B-2	289.84	289.64	288.13	1.0					RCP	288.1±	MAKE SUITABLE CONNECTION 375 mm
3+511.0	LT. 10.8	252	CB	C or G	B-2	289.85	289.67	288.07	2.4					1789	288.0±	RECONSTRUCT 1789
PASCAL STREET																
3+602.5	RT. 12	253	CB	C or G	B-2	289.70	289.50	288.22	2.4					1797	288.2±	RECONSTRUCT 1797
3+611.6	RT. 19.6	254	CB	C or G	B-2	289.68	289.4±	288.30	10.5					1797	288.2±	
3+620.7	RT. 19.6	255	CB	C or G	B-2	289.67	289.4±	288.40	9.5					254	288.3±	
3+601.9	LT. 8.1	256	CB	C or G	B-2	289.70	289.50	288.02	2.4					1793	288.0±	RECONSTRUCT 1793
HOLTON STREET																
3+707.3	RT. 10.8	257	CB	C or G	B-2	289.45	289.27	287.76	0.5					RCP	287.75	MAKE SUITABLE CONNECTION 375 mm
3+703.7	LT. 10.8	258	CB	C or G	B-2	289.46	289.28	287.76	2.4					1803	287.75	RECONSTRUCT 1803
ALBERT STREET																
3+805.2	RT. 10.8	259	CB	C or G	B-2	288.52	288.34	286.76	2.4					1808	286.71	RECONSTRUCT 1808
3+805.2	LT. 10.8	260	CB	C or G	B-2	288.52	288.34	286.83	2.4					1809	286.82	RECONSTRUCT 1809
3+917.3	RT. 10.8	261	CB	C or G	B-2	288.02	287.84	286.52	0.5					RCP	286.5±	MAKE SUITABLE CONNECTION 375 mm
3+913.7	LT. 10.8	262	CB	C or G	B-2	288.03	287.85	286.10	2.4					1816	286.06	RECONSTRUCT 1816
HAMLINE AVENUE																
4+007.2	RT. 12.3	263	CB	C or G	B-2	287.70	287.45	286.17	0.3					RCP	290.59	MAKE SUITABLE CONNECTION 375 mm
4+031.1	LT. 19.5	264	CB	C or G	B-2	287.51	287.4±	286.1±	2.0					RCP	286.06	MAKE SUITABLE CONNECTION 375 mm
4+356.8	RT. 10.5	265	CB	A or F	B-2	276.80	276.6±	274.33						1857	274.16	BUILD OVER EXISTING PIPE
4+358.66	RT. 10.5	265A	CB	C or G	B-2	276.80	276.6±	274.44		1.9				265	274.33	
4+360.6	RT. 10.5	265B	CB	C or G	B-2	276.80	276.6±	274.51		1.9				265A	274.47	
4+378.3	RT. 11.5	265C	SD	C or G	M-7	276.89	276.7±	274.81	17.7					265B	274.54	
4+361.2	LT. 10.5	266	CB	A or F	B-2	276.80	276.6±	274.25						1857	274.16	BUILD OVER EXISTING PIPE
4+380.3	RT. 21.3	EXISTING 1863	SD	----	----	----	----	----	10.0					265C	274.84	
4+444.9	RT. 10.4	EXISTING 1867	CB	----	----	----	----	----			12.5			1865	275.81	RECONSTRUCT 1865
4+533.3	RT. 10.4	EXISTING 1879	CB	----	----	----	----	----		88.0				1867	276.12	RECONSTRUCT 1867
4+621.7	RT. 10.4	EXISTING 1883	CB	----	----	----	----	----		88.0				1879	278.07	RECONSTRUCT 1879
4+646.1	RT. 10.4	EXISTING 1885	CB	----	----	----	----	----	25.0					1883	280.54	RECONSTRUCT 1883
4+647.0	LT. 10.5	267	CB	C or G	B-2	283.18	283.03	281.63	22.0					1884	281.41	MAKE SUITABLE CONNECTION
4+731.4	RT. 10.4	EXISTING 1886	SD	----	----	----	----	----	85.0					1885	281.18	RECONSTRUCT 1885
							TOTAL		205.9	179.8	12.5					

CASTING ASSEMBLIES – INCLUDE IN UNIT PRICE BID FOR STRUCTURE BY THE EACH. SPEC. REFERENCE 2506.4 A.

A-8: RING CASTING NO. 700-8; MN/DOT STANDARD PLATE M4101D
COVER CASTING NO. 716; MN/DOT STANDARD PLATE M4110G

B-2: RING CASTING NO. 802 A; MN/DOT STANDARD PLATE M4129G
GRATE CASTING NO. 811; MN/DOT STANDARD PLATE M4151B
CURB BOX NO. 823; MN/DOT STANDARD PLATE M4160D

M-7: RING CASTING NO. 700-7; MN/DOT STANDARD PLATE M4101D
GRATE CASTING NO. 721; MN/DOT STANDARD PLATE M4140D

STRUCTURE DESIGN

DESIGN A-MN/DOT STANDARD PLATE M4000J
DESIGN F-MN/DOT STANDARD PLATE M4005L
DESIGN C-MN/DOT STANDARD PLATE M4002F
DESIGN G-MN/DOT STANDARD PLATE M4006L

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RO
DATE: 1-22-13

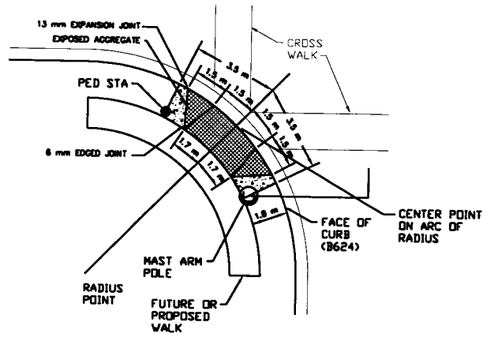
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
REG. NO. 13501 DATE 3/10/00

28-289

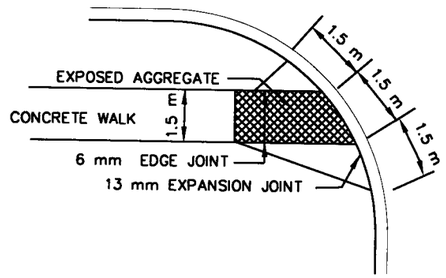
PROPOSED STORM SEWER

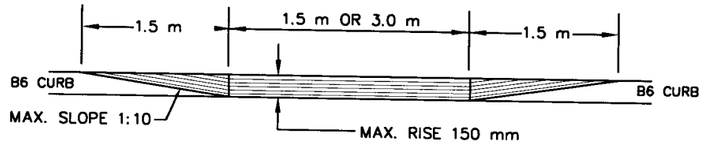
H:\DWGS\LARP\CHART3 11/30/99

PEDESTRIAN CURB RAMP DETAIL
AT ALL SIGNALIZED LOCATIONS.

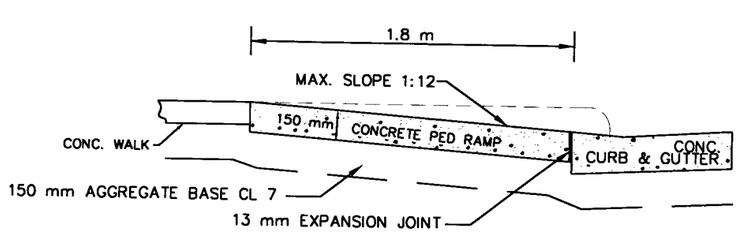


PEDESTRIAN CURB RAMP DETAIL
AT NON-SIGNALIZED LOCATIONS.





TYPICAL RAMP ELEVATION



TYPICAL RAMP PROFILE

NOTES:

PEDESTRIAN CURB RAMPS SHALL BE CONSTRUCTED PER STANDARD PLATE M7306 AND AS DETAILED THIS SHEET.
CONSTRUCT PEDESTRIAN CURB RAMPS AT ALL STREET RADII AND ENTRANCES AS INDICATED IN THE PLANS.
DESIGN OF INDIVIDUAL RAMPS SHALL BE AS SHOWN AT EACH LOCATION ON PLAN SHEETS.
PAYMENT SHALL BE MADE AS ITEM 2531.602, BY THE EACH, REGARDLESS OF TYPE.
ADJACENT CONC. WALK SHALL BE PAID FOR AS 100 mm CONC. WALK, BY THE m2

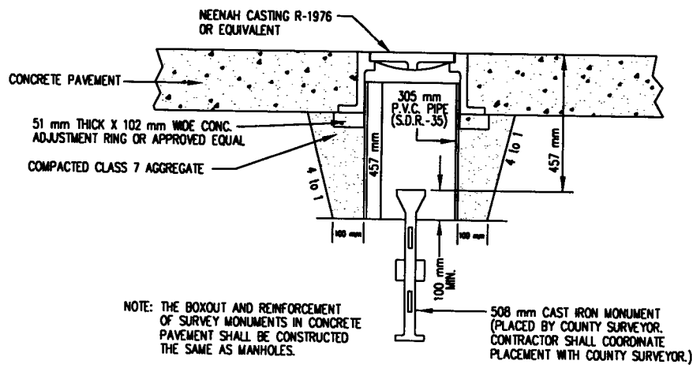
PEDESTRIAN CURB RAMPS SHALL BE CONSTRUCTED FROM ARONA ST. TO HAMLINE AVE. ONLY.
HAMLINE AVE. TO OXFORD ST. THE CURB SHALL BE DEPRESSED FOR FUTURE CONSTRUCTION OF PEDESTRIAN CURB RAMPS.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: Rey
DATE: 1-22-13

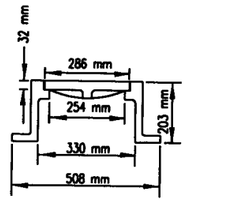
H:\DWGS\LARP-3\DET-MET3 12/17/99

CONTROL STRUCTURE

(SURVEY MONUMENT MANHOLE)
(FOR CONCRETE PAVEMENT) - METRIC



NOTE: THE BOXOUT AND REINFORCEMENT OF SURVEY MONUMENTS IN CONCRETE PAVEMENT SHALL BE CONSTRUCTED THE SAME AS MANHOLES.



NEENAH CASTING R-1976
OR EQUIVALENT

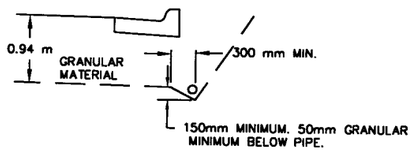
WEIGHT = 43.2 kg

CASTING ASSEMBLY

NOTE : PAYMENT SHALL BE MADE AS ITEM 2506.602 CONSTRUCT CONTROL STRUCTURE , BY THE EACH, WHICH SHALL BE PAYMENT IN FULL FOR ALL WORK AND MATERAILS REQUIRED.

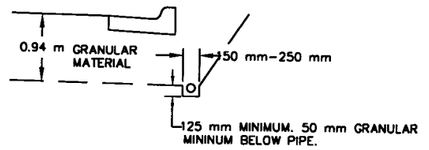
100 mm LONGITUDINAL P.E. PIPE DETAIL
(SUBCUT DRAINAGE)

100 mm PERFORATED P.E. PIPE DRAIN WITH 3733 TYPE 1 GEOTEXTILE WRAP SHALL BE INSTALLED PER SPEC. REFERENCE NO. 2502



OPTION NO. 1

100 mm PERFORATED P.E. PIPE DRAIN WITH 3733 TYPE 1 GEOTEXTILE WRAP SHALL BE INSTALLED PER SPEC. REFERENCE NO. 2502



OPTION NO. 2

NOTE: PAYMENT SHALL INCLUDE ALL WORK AND MATERIALS REQUIRED TO CONNECT TO CATCH BASINS.

100mm P.E. PIPE SHALL BE INSTALLED BEHIND ALL PRECAST BLOCK WALLS - SEE WALL DETAILS AND CHART Q FOR LOCATIONS.

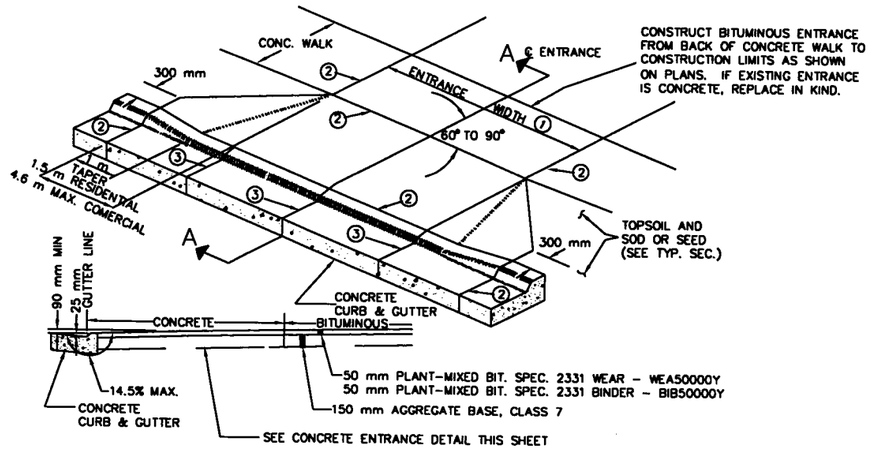
REVISED 12/10/97 D.H.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Danny K. Fiddler
REG. NO. 13501 DATE 3/10/00

28-289

PED RAMP, CTRL STRUCTURE, P.E. PIPE DETAILS

RESIDENTIAL BITUMINOUS ENTRANCE DETAIL



SECTION A-A

ALL BITUMINOUS ENTRANCES SHALL BE CONSTRUCTED WITH A CONCRETE SECTION (150 mm) TO THE BACK OF WALK. SEE CONCRETE ENTRANCE DETAIL.

NOTES:

① ENTRANCE WIDTHS - 3.6 m MIN.
RESIDENTIAL - 8 m MAX.

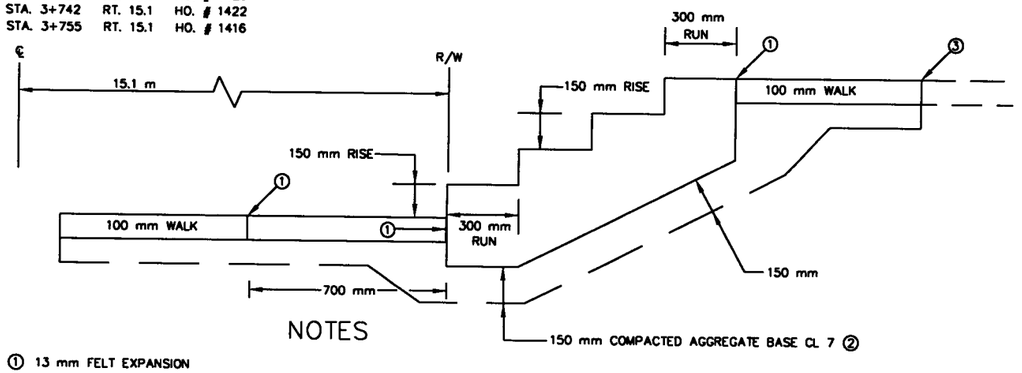
② 12 mm EXPANSION JOINT

③ PLACE JOINTS AS REQUIRED FOR CONCRETE CONSTRUCTION

CONCRETE STEP DETAIL

CONCRETE STEP LOCATIONS

STA. 3+728 RT. 15.1 HO. # 1426
STA. 3+742 RT. 15.1 HO. # 1422
STA. 3+755 RT. 15.1 HO. # 1416



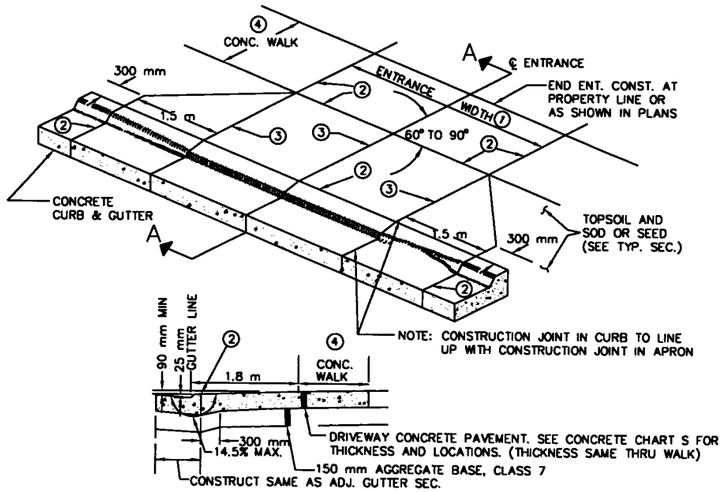
NOTES

① 13 mm FELT EXPANSION

② AGGREGATE BASE CL 7 SHALL BE INCLUDED IN THE BID PRICE FOR CONCRETE STEPS BY THE EACH.

③ THE CONTRACTOR SHALL REMOVE INPLACE WALK TO THE CLOSEST JOINT AND MATCH AS DIRECTED. THE EXACT LOCATION AND ELEVATION SHALL BE VERIFIED PRIOR TO CONSTRUCTION. THE CONCRETE MIX SHALL BE 3A32.

CONCRETE ENTRANCE DETAIL



SECTION A-A

NOTES:

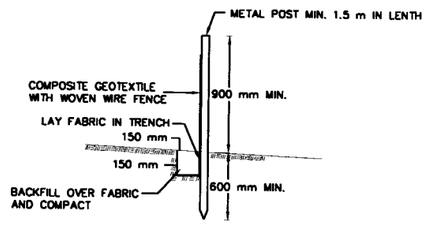
① ENTRANCE WIDTHS
RESIDENTIAL - 3.6 m MIN.
- 8.0 m MAX.

② 12mm EXPANSION JOINT

③ PLACE JOINTS AS REQUIRED FOR CONCRETE CONSTRUCTION

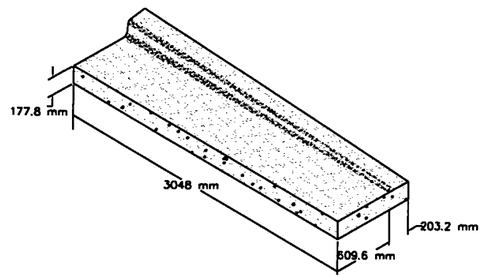
④ SEE PLANS FOR SIDEWALK LOCATION

HEAVY DUTY SILT FENCE INSTALLATION



SILT FENCE SHALL BE INSTALLED WITH WOVEN WIRE BACKING AND METAL POST. INSTALLATION SHALL BE IN ACCORDANCE WITH SPEC. REFERENCE 2573 & 3886. PAYMENT SHALL BE MADE AS ITEM 2573.502, AS MODIFIED IN THE SPECIAL PROVISIONS.

TRANSITION B624 VERTICAL TAPER



FOR OTHER DIMENSIONS SEE STD. PLATE NO. 7100

TO BE INSTALLED ON SIDE STREETS WHERE NO CURB & GUTTER EXISTS
PAYMENT SHALL BE MADE AS B624 C & G BY THE METER

LOCATIONS:

HOLTON ST.
ALBERT ST.
HURON ST.
COMMERCIAL ENTRANCES @ STA. X+XXX , X+XXX, & X+XXX.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RH
DATE: 1-22-13

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Henry K. Tilden
REG. NO. 13501 DATE 3/10/00

H: \DWGS\LARP-3\DET-MET3 12/17/99

SILT FENCE, PIPE DRAIN, ENTRANCE DETAILS

7-8-789

SECTION LINE = CONSTRUCTION LINE P.I.
STA: 3+210.78
OFFSET 0.00
N 52802.3476
E 169472.9919

R.C. MON. 445

48.62 m

GRAPHIC SCALE
(IN METERS)
1 : 500

FALCON HEIGHTS

TRUNK HIGHWAY 51

ARONA ST.

ARONA STREET N.
STA: 3+416.48
CONST. CENTERLINE
N 52805.0641
E 169678.6740

EXISTING R/W

15.09 m

3+210.78 3+240 3+270 3+300 3+330 3+360 3+390 3+420 3+450 3+480 3+510 3+540

15.09 m CONSTRUCTION CENTERLINE = SECTION LINE

ARONA STREET S.
STA: 3+415.18
CONST. CENTERLINE
N 52805.0469
E 169677.3741

PASCAL STREET
STA: 3+616.35
CONST. CENTERLINE
N 52807.7035
E 169678.5265

HOLTON ST.

HOLTON STREET
STA: 3+717.74
CONST. CENTERLINE
N 52809.0425
E 169979.9077

ALBERT STREET
STA: 3+819.37
CONST. CENTERLINE
N 52810.3846
E 170081.5288

3+540 3+570 3+600 3+630 3+660 3+690 3+720 3+750 3+780 3+810 3+840 3+870 3+900

811.3817 m N89°14'36"E

15.09 m CONSTRUCTION CENTERLINE = SECTION LINE

PASCAL

ALBERT

FALCON HEIGHTS

SECTION LINE = CONST. LINE P.I.
STA: 4+022.16
OFFSET 0.00 L
N 52813.0631
E 170284.3029

ROSEVILLE

HAMLINE AVE.

HAMLINE AVENUE
STA: 4+022.03
CONST. CENTERLINE
N 52813.0609
E 170284.1712

HAMLINE

ST. PAUL

HURON AVE.

HURON AVENUE
STA: 4+125.35
CONST. CENTERLINE
N 52816.3429
E 170387.4408

CONST. CENTERLINE
361.8191 m N88°10'43"E
SECTION LINE
795.9186 m N88°4

3+900 3+930 3+960 3+990 4+020 4+050 4+080 4+110 4+140 4+170 4+200 4+230 4+260

13.72 m

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
REG. NO. 13501 DATE 3/10/00

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RA

S.P. No. 62-630-45 Sheet No. 17 of 121 Sheets

28-289

ROSEVILLE

ST.

GRAPHIC SCALE
(IN METERS)
1 : 500

EXISTING R/W

CONST. CENTERLINE

EXISTING R/W

13.72 m

434.2161 N 88°45'29"E

°10'43"E

0 4+290 4+320 4+350 4+380 4+410 4+440 4+470 4+500 4+530 4+560 4+590 4+620 4+650

13.72 m

m N88°45'27"E

CONSTRUCTION LINE P.I.
STA: 4+383.98
OFFSET 3.66 L
N 52824.5630
E 170645.9392

SECTION LINE

10.06 m

FERNWOOD ST.

FERNWOOD STREET
STA: 4+432.78
CONST. CENTERLINE
N 52825.6207
E 170694.7277

ST. PAUL

DUNLAP ST.

DUN
STA
CON
N 5
E 1

ROSEVILLE

SECTION LINE
STA: 4+18.10
OFFSET 0.00 R
N 52830.3170
E 171080.0345

AVE.

CONSTRUCTION LINE P.I.
STA: 4+818.19
OFFSET 3.66 L
N 52833.9746
E 171080.0533

GRAPHIC SCALE
(IN METERS)
1 : 500

EXISTING R/W

EXISTING R/W

29"E

13.72 m

13.72 m

13.72 m

13.72 m

0 4+650 4+680 4+710 4+740 4+770 4+800 4+830 4+860 4+890 4+920 4+950 4+980 5+010

9.14 m

9.14 m

13.72 m

13.72 m

15.09 m

DUNLAP ST.

DUNLAP STREET
STA: 4+633.99
CONST. CENTERLINE
N 52829.9818
E 170895.4905

ST. PAUL

T 29 N R 23 W
15 14
22 23
T 29 N R 23 W

LEXINGTON

LEXINGTON AVENUE
STA: 4+818.44
CONST. CENTERLINE
N 52833.9726
E 171080.3033

OXFORD STREET
STA: 4+989.84
CONST. CENTERLINE
N 52832.6165
E 171251.6979

OXFORD ST.

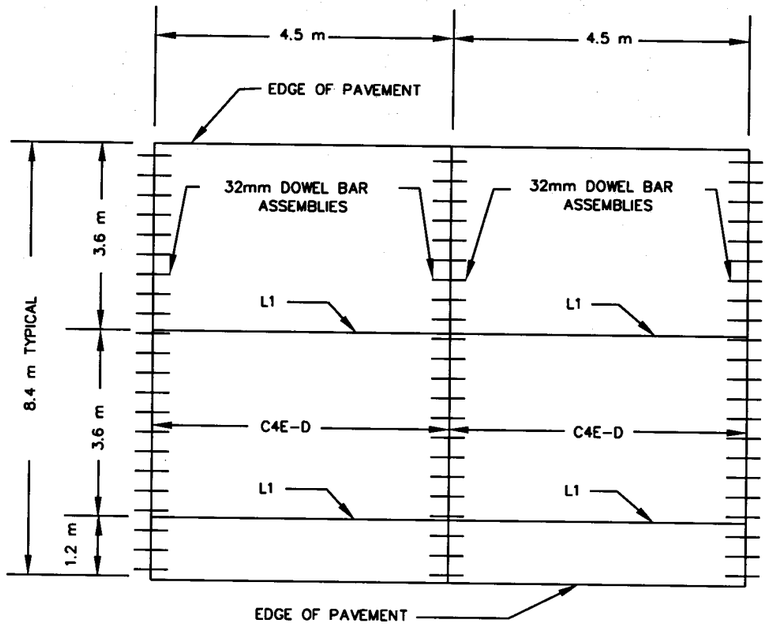
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
DENNIS K. HILLEMANN
REG. NO. 13601 DATE 3/10/99

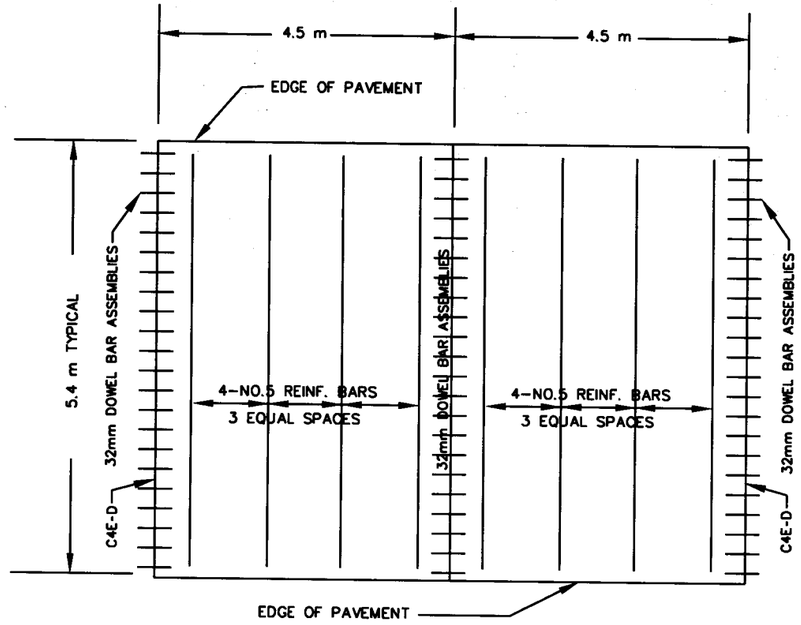
28-289

G:\DWGS\LAMP\E-ALIGN 11/20/98

S.P. No. 62-630-45 Sheet No. 18 of 121 Sheets



MAINLINE PAVEMENT
DOWELED



SUPPLEMENTAL PANEL REINFORCEMENT
- SEE CONCRETE PAVING LAYOUT FOR LOCATIONS -
CONSTRUCT WITH CROWN AT C/L FOR DRAINAGE.
STA. 2+832 TO 3+002

GENERAL NOTES:

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

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.

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

SUPPLEMENTAL PANEL REINFORCEMENT:

PLACE NO. 5 BARS IN PANELS WHERE PAVEMENT WIDTHS EXCEED 5.0 m WITHOUT A LONGITUDINAL JOINT, AND IN THE MIDDLE LANE WHERE TIED PAVEMENT WIDTHS EXCEED 9.1 m. PLACEMENT DEPTH SHALL BE PLANNED T/2 + OR - 25 mm.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

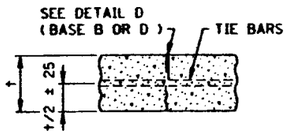
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Barry K. Hilbert
REG. NO. 13501 DATE 3/10/00

REVISED 9/21/99 D.H.

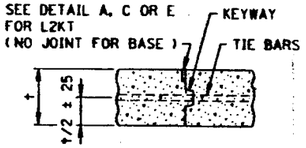
H:\DWGS\LARP-3\DET-MET3 11/30/99

NON-REINFORCED CONCRETE MAINLINE PAVEMENT
WITH PERPENDICULAR JOINTS

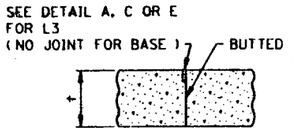
28-289



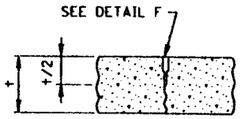
L1, L1T, L1B & L1TB



L2KT & L2KTB



L3 & L3B



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
L1BU	L1TBU			A OR B	UNSEALED
		L2KTH		D OR E	3723
		L2KTS		C	SILICONE
			L3H	D OR E	3723
			L3S	C	SILICONE
L4S				F	SILICONE

LEGEND

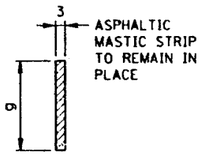
L = LONGITUDINAL JOINT
NO. = JOINT REFERENCE
K = KEYWAY
T = TIE BARS
B = CONCRETE BASE
U = UNSEALED
H = HOT POUR
S = SILICONE

JOINT REFERENCE NUMBERS

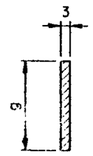
1 = SAWED TO A DEPTH OF t/3
2 = KEYED CONSTRUCTION JOINT
3 = BUTTED CONSTRUCTION JOINT
4 = SAWED TO A DEPTH OF t/2

LONGITUDINAL JOINT DEPTH TABLE

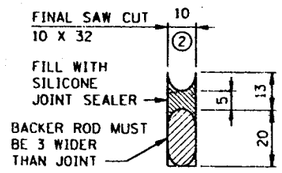
PAVEMENT THICKNESS t	CONCRETE PAVEMENT JOINT DEPTH g	CONCRETE BASE JOINT DEPTH g
150	50	50
165	55	50
180	57	57
190	65	57
205	68	65
215	73	65
230	75	70
240	83	75
255	86	
265	90	
280	93	
290	98	
300	100	
315	105	
330	113	
345	115	
355	118	



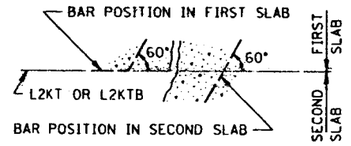
DETAIL A
(FORMED & UNSEALED)



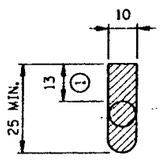
DETAIL B
(SAWED & SEALER, SPEC. 3723)
(BASE JOINTS UNSEALED)



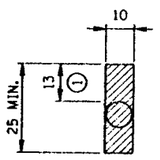
DETAIL C
(SAWED)



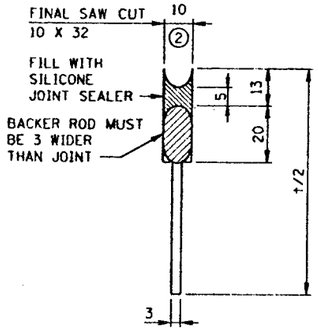
TIE BAR BENDING DETAIL



DETAIL D
(FORMED & SEALED SPEC. 3723)



DETAIL E
(SAWED & SEALER SPEC. 3723)



DETAIL F
(SAWED)

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

LONGITUDINAL JOINT NOTES:

TIE BARS FOR L1TB JOINTS SHALL BE THE SAME SIZE AND SPACING AS SHOWN ON STANDARD PLAN SHEETS 5-297.216M - .219M.

EXCEPT WHEN NOTED OTHERWISE IN THE PLANS, THE TIE BAR SPACING FOR ALL L2KT AND L2KTB JOINTS SHALL BE 0.8 m C. TO C. AND BENT 60° AS SHOWN.

TIE BARS IN THE L2KT AND L2KTB JOINTS SHALL BE THE SAME SIZE AND LENGTH AS USED FOR THE L1T OR L1TB JOINTS, WHEN TYING PAVEMENT TO PAVEMENT OR BASE TO BASE. TIE BARS IN THE L2KT OR L2KTB JOINTS SHALL BE NO. 4 X 0.8 m, WHEN TYING CURB & GUTTER TO PAVEMENT OR BASE.

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

NORMALLY, TIED PAVEMENT WIDTHS SHALL NOT EXCEED 8 METERS, EXCEPT BRIDGE APPROACH PANELS AND PAVEMENT TAPERS.

JOINT WIDTH TOLERANCE IS + 2 mm TO - 1 mm.

SPEC. 3723 SEALER - TOP OF SEALER FLUSH TO - 4 mm 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 205 DEGREES C, WITH A DIAMETER 3 mm LARGER THAN THE JOINT OPENING, MAY BE PLACED 13 mm 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 13 mm DIAMETER CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 13 mm BELOW THE SURFACE OF THE PAVEMENT. SILICONE SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEALANT BEAD THICKNESS OF 5 mm.

GENERAL NOTES:

SEE THE FOLLOWING STANDARD PLATES AND STANDARD PLAN SHEETS FOR ADDITIONAL DETAILS: DOWEL BAR ASSEMBLY M1103, PAVEMENT KEYWAY M1141 AND CONCRETE PAVEMENT WITH SKEWED JOINTS 5-297.216M - .219M.

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

28-289

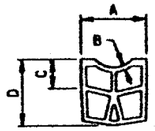
NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

STANDARD SHEET NO.	TITLE:
5-297.221M (2 OF 2)	PAVEMENT JOINTS
STANDARD APPROVED: JANUARY 25, 1993	LONGITUDINAL (DESIGN L)

STATE PROJ. NO. S.A.P. 62-630-45 SHEET NO. 20 OF 121 SHEETS

REQUIRED DIMENSIONS

JOINT TYPE	TRANSVERSE
NOMINAL SEALER SIZE	21 mm USE IN ALL 10 JOINTS
A	20 mm +3.6 -1.3
B	2 mm ±0.5
C	15 mm MIN.
D	20 mm MIN.
WEB AND WALL THICKNESS, UNLESS NOTED	0.8 mm MIN.



SPEC. REFERENCE 3721

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

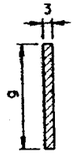
NOTES:

"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 3 mm, NOR MORE THAN 7 mm BELOW THE PAVEMENT SURFACE.

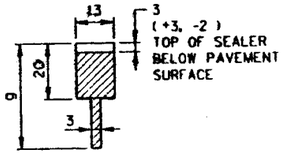
SHARP INTERNAL CORNERS WILL NOT BE PERMITTED. ALL CORNERS SHALL BE PROVIDED WITH SUITABLE FILLET. CURRENTLY APPROVED CONFIGURATIONS ARE ON FILE IN THE MATERIALS ENGINEERING SECTION, MINNESOTA DEPARTMENT OF TRANSPORTATION.

CONTRACTION JOINT SEALER

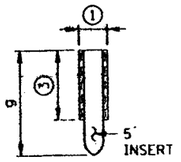
PREFORMED ELASTIC TYPE



DETAIL A
FORMED & SAWED



DETAIL B ②
SAWED



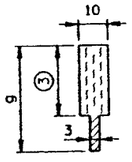
DETAIL C
FORMED
(INSERT TO BE REMOVED)

CONTRACTION JOINT CLASS DESIGNATION, DETAIL & SEALER SPEC. TABLE

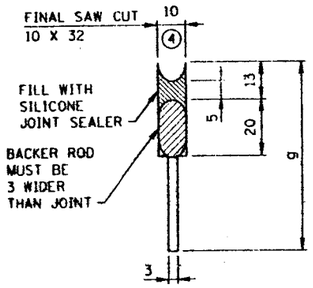
CLASS DESIGNATION		JOINT DETAIL	JOINT SEALER SPEC.
WITHOUT DOWELS	WITH DOWELS		
C1A	C1A-D	A	UNSEALED
C2B	C2B-D	B	3723
C2X	C2X-D	B OR C	3723
C3D	C3D-D	D	3721
C3X	C3X-D	C OR D	3721
C4E	C4E-D	E	SILICONE

CONTRACTION JOINT DEPTH & DOWEL BAR TABLE

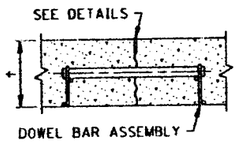
PAVEMENT THICKNESS †	CONCRETE PAVEMENT JOINT DEPTH g ⑤	CONCRETE BASE JOINT DEPTH g	DOWEL BAR DIAMETER
150-170	45	35	20
180-210	50	40	25
220-270	65	50	35
280-320	80	—	40
330-360	90	—	45



DETAIL D
SAWED



DETAIL E
SAWED



SECTION AT JOINT

LEGEND — EXAMPLE C2B-D

C = CONTRACTION JOINT
NO. = SEALANT TYPE
1 = UNSEALED
2 = 3723
3 = 3721
4 = SILICONE
LETTER = DETAIL
X = MORE THAN 1 DETAIL
-D = DOWEL BARS

CONTRACTION JOINT NOTES:

IN CONCRETE BASE CONSTRUCTION THE CONTRACTION JOINTS SHALL BE SPACED AT 9 m INTERVALS AND AT RIGHT ANGLES TO THE LONGITUDINAL JOINTS, EXCEPT AS NOTED BELOW. WHERE THE CONCRETE BASE IS CONSTRUCTED ADJACENT TO EXISTING PAVEMENT OR BASE, THE CONTRACTION JOINTS IN THE NEW BASE SHALL MATCH THOSE IN THE EXISTING PAVEMENT OR BASE, EXCEPT THAT THE SPACING SHALL NOT BE LESS THAN 4.6 m, NOR MORE THAN 9 m.

JOINT WIDTH TOLERANCES: + 2 mm AND - 1 mm.

GENERAL NOTES:

SEE THE FOLLOWING STANDARD PLATES AND STANDARD PLAN SHEET FOR ADDITIONAL DETAILS: DOWEL BAR ASSEMBLY, M1103; CONSTRUCTION OF HEADER JOINTS, M1150; AND CONCRETE PAVEMENT WITH SKEWED JOINTS, 5-297.215M - .219M.

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

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 10 mm BY SAWING ALONG THE FULL LENGTH OF THE FORMED JOINT.

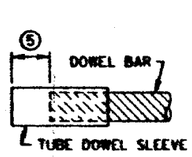
DESIGN C2X OR C2X-D - PRIOR TO SEALING FORMED JOINT (DETAIL C), WITH HOT POUR SEALER, THE JOINT SHALL BE WIDENED TO A NOMINAL WIDTH WIDTH OF 13 mm FOR A DEPTH OF 20 mm, + 3 mm, 2 mm, BY SAWING ALONG THE FULL LENGTH OF THE FORMED JOINT. THE SEALER SHALL BE FILLED TO THE SAME DEPTH AS SHOWN IN DETAIL B.

② DESIGN C2B OR C2B-D - PRIOR TO SEALING JOINT (DETAIL B) WITH HOT POUR JOINT SEALER, A STRIP OF PAPER 13 mm WIDE SHALL BE PLACED ON THE BOTTOM OF THE 13 mm WIDE JOINT.

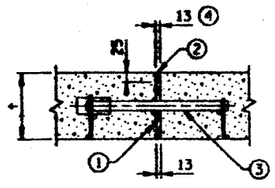
③ WHEN USING PREFORMED JOINT SEALER, THE DEPTH SHALL BE 5 mm MORE THAN THE PREFORMED SEALER, WHEN COMPRESSED, TO FIT THE JOINT DESIGN WIDTH.

④ THE JOINT FACES SHALL BE CLEANED AND DRIED BY SANDBLASTING AND AIR BLASTING. PRIOR TO SEALING THE JOINT, A 13 mm DIA. CLOSED CELL BACKER ROD SHALL BE PLACED SUCH THAT THE TOP OF THE BACKER ROD IS 13 mm BELOW THE SURFACE OF THE PAVEMENT. SILICONE SHALL BE TOOLED INTO THE JOINT MAINTAINING A SEALANT BEAD THICKNESS OF 5 mm.

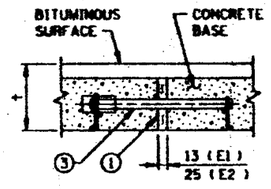
⑤ FOR UNBONDED OVERLAYS, THE JOINT DEPTH "G" SHALL BE T/3.



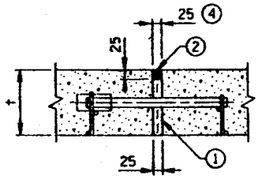
DOWEL BAR SLEEVE DETAIL



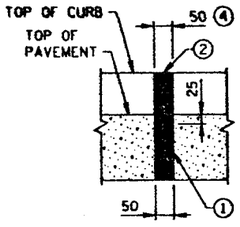
DETAIL A



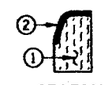
DETAIL B

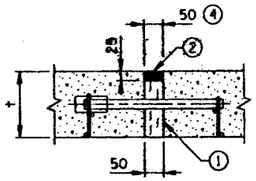


DETAIL C



DETAIL D





DETAIL E

EXPANSION JOINTS

CLASS DESIGNATION		JOINT DETAIL	JOINT SEALER SPEC.
WITH DOWELS	WITHOUT DOWELS		
E1D-1	E1-1	A	②
E1DB	E1B	B	UNSEALED
E2D-1	E2-1	C	②
E2DB	E2B	B	UNSEALED
	E4-1	D	②
E4D-1		E	②

LEGEND

E = EXPANSION JOINT
NO. = JOINT REFERENCE
-1 = HOT POURED SEAL ②
D = DOWEL BARS
B = CONCRETE BASE
S = CONCRETE SILL

EXAMPLE

E1D-1
- HOT POURED SEAL ②
- DOWEL BARS
- JOINT REFERENCE
- EXPANSION JOINT

NOTES:

① PREFORMED JOINT FILLER MATERIAL, SPEC. 3702.

② JOINT SEALER SPEC. 3723. TOP OF SEALER, FLUSH TO 3 mm BELOW TOP OF PAVEMENT SURFACE. MAKE TOP OF SEALER FOR CURB SECTION E JOINTS FLUSH WITH SURFACE (0 IN.) ± 3 mm.

③ DOWEL BAR ASSEMBLY, SEE STANDARD PLATE M1103.

④ JOINT WIDTH IS EQUAL TO HALF OF THE JOINT NUMBER IN 13 mm. INTERVALS (i.e. E1 = 13 mm, E2 = 25 mm, E3 = 38 mm, E4 = 50 mm, E8 = 100 mm).

⑤ SPACE FROM END OF DOWEL BAR TO END OF SLEEVE TO BE EQUAL TO EXPANSION JOINT WIDTH.

EXPANSION JOINTS

DESIGN E

28-289

NOTE: ALL DIMENSIONS ARE IN MILLIMETERS, EXCEPT AS NOTED.

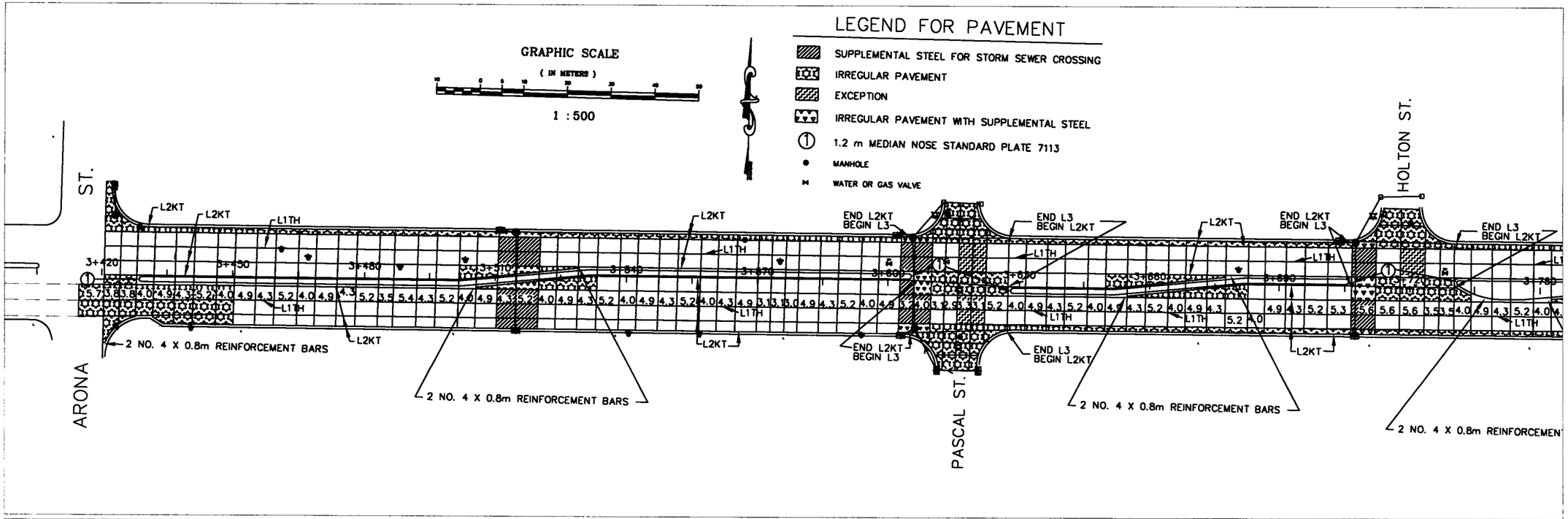
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RBr
DATE: 1-22-13

CONTRACTION JOINTS

STANDARD SHEET NO.	TITLE:
5-297.221M (1 OF 2)	PAVEMENT JOINTS
STANDARD APPROVED: JANUARY 25, 1993	CONTRACTION (DESIGN C) AND EXPANSION (DESIGN E)

STATE PROJ. NO. S.A.P. 62-630-45 SHEET NO. 21 OF 121 SHEETS

SERVER CA64S11/USR/STANDARDS FILE NAME SM2211A93.SPN



RUCTURE

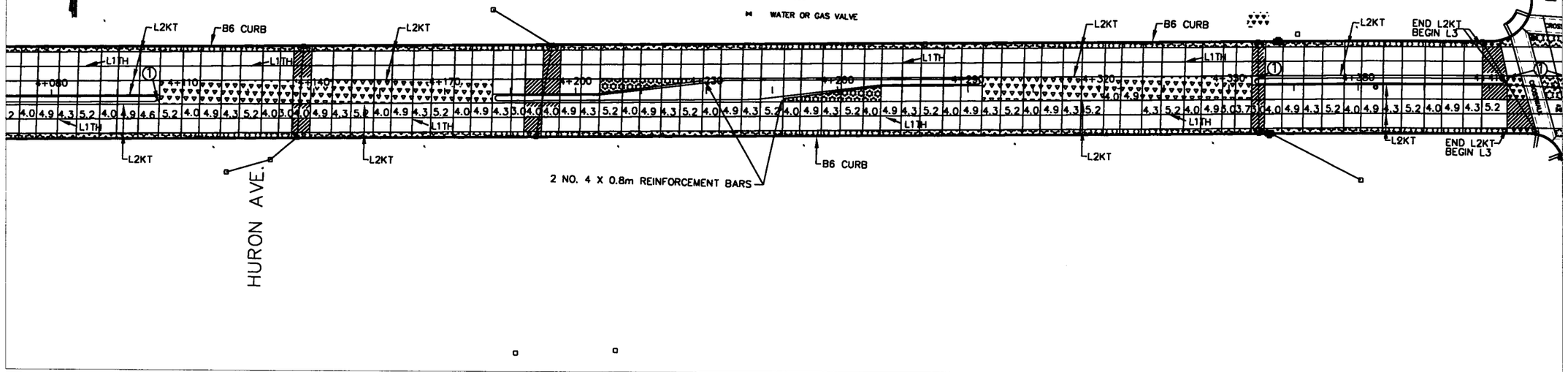
GRAPHIC SCALE

(IN METERS)

1 : 500

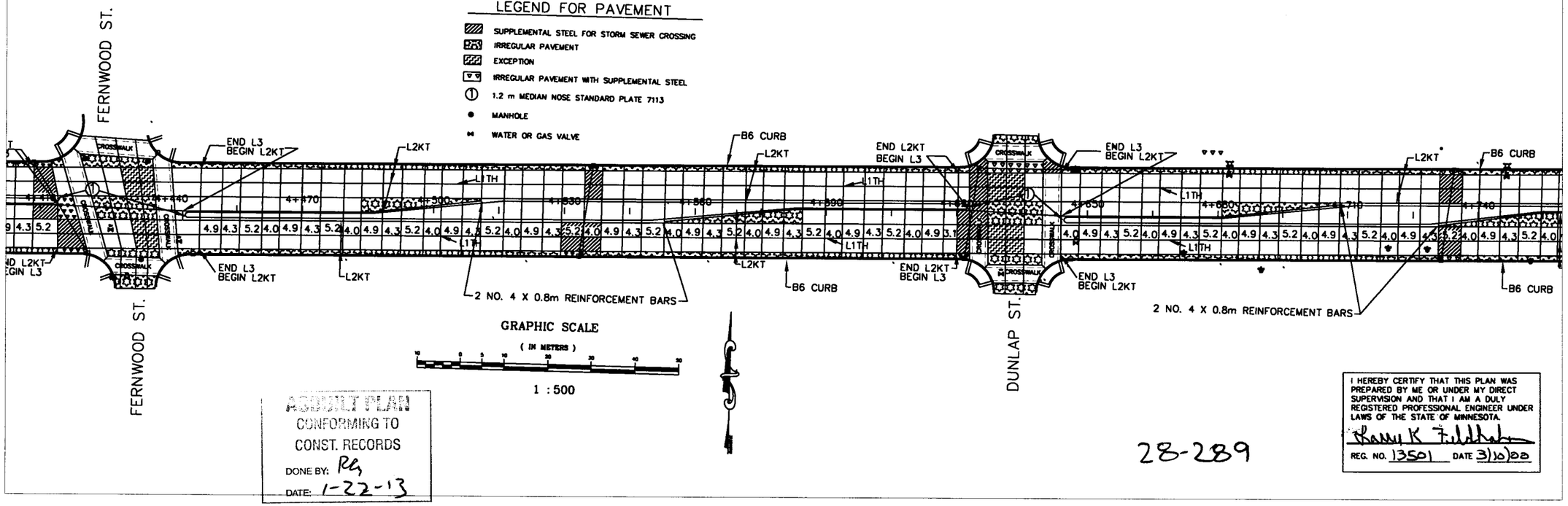
LEGEND FOR PAVEMENT

- SUPPLEMENTAL STEEL FOR STORM SEWER CROSSING
- IRREGULAR PAVEMENT
- EXCEPTION
- IRREGULAR PAVEMENT WITH SUPPLEMENTAL STEEL
- ① 1.2 m MEDIAN NOSE STANDARD PLATE 7113
- MANHOLE
- WATER OR GAS VALVE



LEGEND FOR PAVEMENT

- SUPPLEMENTAL STEEL FOR STORM SEWER CROSSING
- IRREGULAR PAVEMENT
- EXCEPTION
- IRREGULAR PAVEMENT WITH SUPPLEMENTAL STEEL
- ① 1.2 m MEDIAN NOSE STANDARD PLATE 7113
- MANHOLE
- WATER OR GAS VALVE



GRAPHIC SCALE

(IN METERS)

1 : 500

AS-BUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

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

Randy K Fjeldheim

REG. NO. 13501 DATE 3/10/00

28-289

\drwgs\Varp-3\pave13 Date Plotted: 2/16/2000

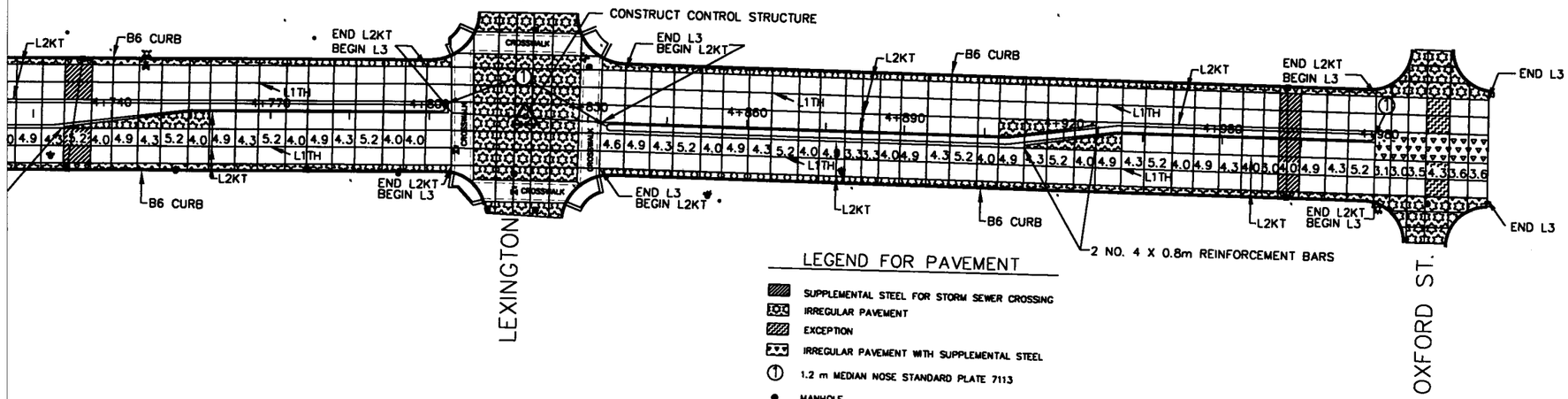
NOTE:

THE CONTRACTOR IS ADVISED THAT THE CONSTRUCTION SEQUENCING OF THE ENTIRE LEXINGTON AVE INTERSECTION IS SUBJECT TO RESTRICTIONS. SEE TRAFFIC CONTROL PLAN SHEETS AND SPECIAL PROVISIONS.

GRAPHIC SCALE

(IN METERS)

1 : 500



LEGEND FOR PAVEMENT

- SUPPLEMENTAL STEEL FOR STORM SEWER CROSSING
- IRREGULAR PAVEMENT
- EXCEPTION
- IRREGULAR PAVEMENT WITH SUPPLEMENTAL STEEL
- 1.2 m MEDIAN NOSE STANDARD PLATE 7113
- MANHOLE
- WATER OR GAS VALVE

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

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

Barry K Fuldner

REG. NO. 13501 DATE 3/10/00

Z8-289

\\engr\vrp-1\june13 Date Plotted 2/16/2000

GRAPHIC SCALE
(IN METERS)
1 : 500

BEGIN S.A.P. 62-630-45 STA 3+420.00

SECTION LINE & CONSTRUCTION C/L

EXISTING R/W

LEAD SERVICE 12 m

SALVAGE & INSTALL SPLIT RAIL FENCE

CONSTRUCT CONC. STEPS

SEE TRAFFIC CONTROL FOR MEDIAN REMOVAL WEST OF ARONA ST.

ARONA ST.

PASCAL ST.

LEGEND

1. SAWCUT BITUMINOUS
2. SAWCUT CONCRETE
3. ADJUST G.V. BOX
4. RELOCATE HYDRANT BY OTHERS
5. ADJUST CURB STOP BOX
6. REMOVE/REPLACE SIDEWALK
7. ADJUST HYDRANT
8. INSULATE UTILITY
9. REMOVE SIDEWALK

PVI STA = 3+698.50
PVI ELEV = 289.54
A.D. = -0.802
K = 38.016
30.48 m VC
BVCS: 3+683.259
BVCE: 289.564
EVCS: 3+713.741
EVCE: 289.394

EXISTING PROFILE GRADE
PROPOSED PROFILE GRADE

750 mm RCP
900 mm RCP
250 mm VCP SANITARY SEWER

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
REG. NO. 13501 DATE 3/10/00

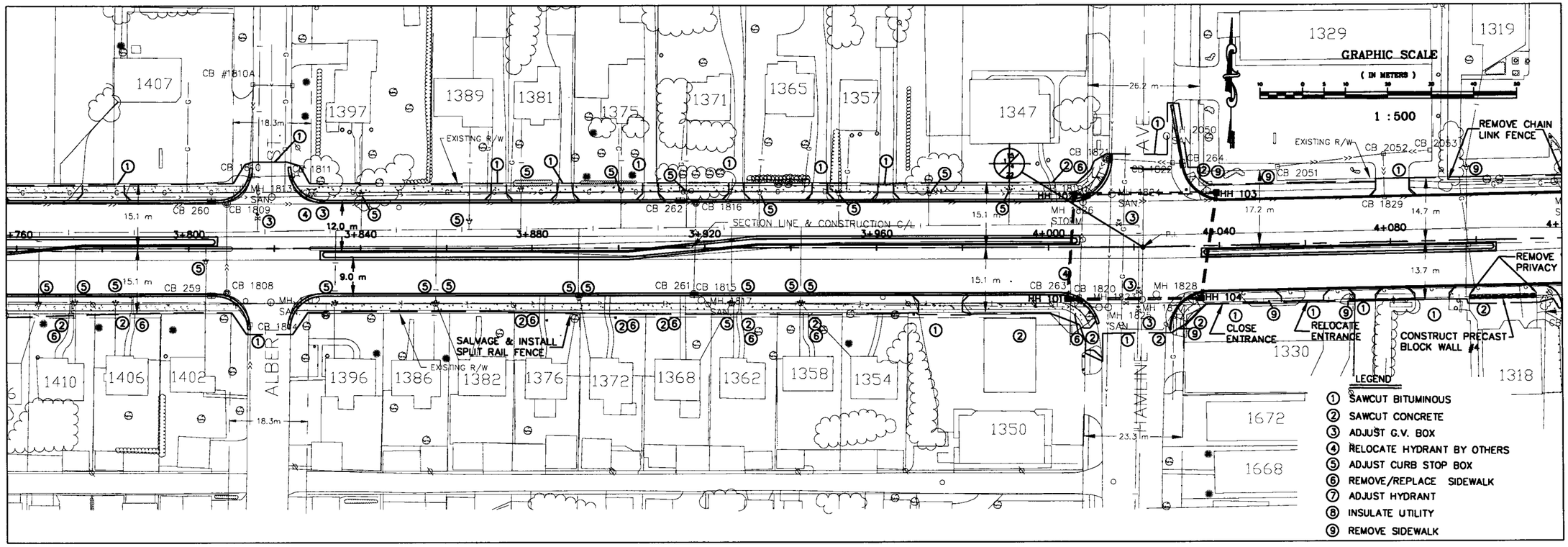
AS BUILT
CONFORMING TO CONST. RECORDS
DONE BY: BC
DATE: 1-22-13

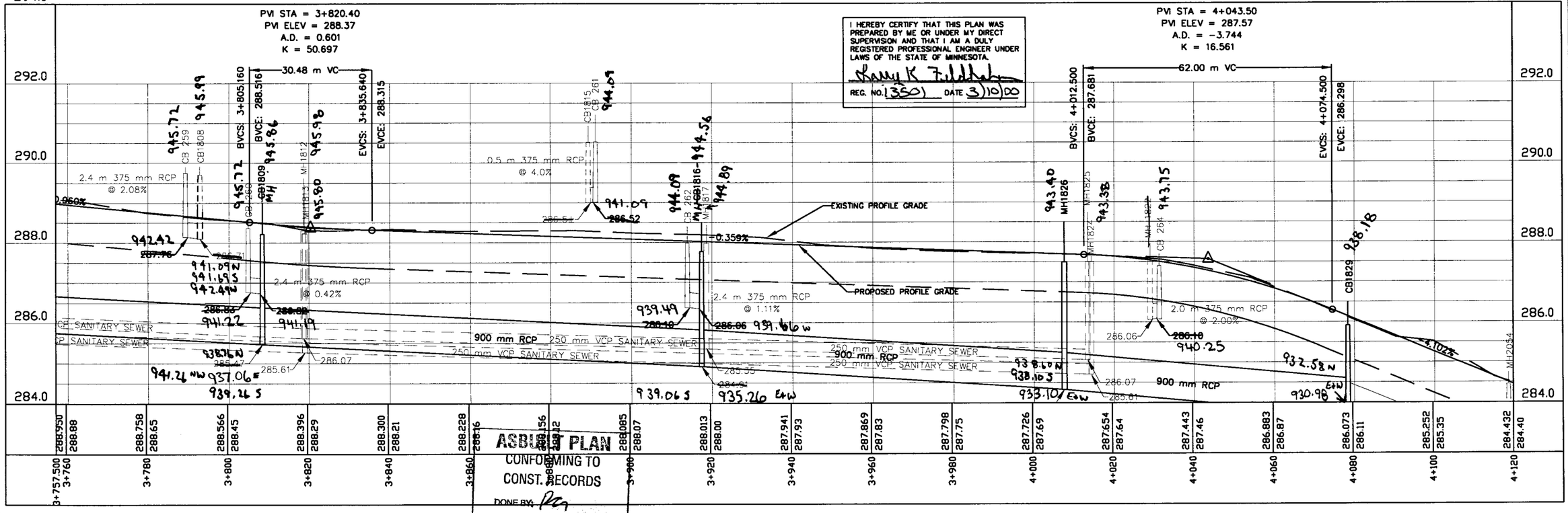
28-289

ramsey county metric

S.A.P. 62-630-45 SHEET NO. 25 OF 121 SHEETS

\dwgs\varp-3\e3-const Date Plotted 2/18/2000





ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RCJ
DATE: 1-22-13

\dwgs\orp-3\e3-const Date Plotted 2/18/2000

ramsey county metric

28-289

S.A.P. 62-630-45

GRAPHIC SCALE
(IN METERS)
1 : 500

REMOVE PRECAST BLOCK WALL, CONSTRUCT PRECAST BLOCK WALL #3

CLOSE ENTRANCES AT OWNERS REQUEST

CONSTRUCT PRECAST BLOCK WALL #2

REMOVE FLAGSTONE WALL, CONSTRUCT PRECAST BLOCK WALL #1

LEGEND
1. SAWCUT BITUMINOUS
2. SAWCUT CONCRETE
3. ADJUST G.V. BOX
4. RELOCATE HYDRANT BY OTHERS
5. ADJUST CURB STOP BOX
6. REMOVE/REPLACE SIDEWALK
7. ADJUST HYDRANT
8. INSULATE UTILITY
9. REMOVE SIDEWALK

PVI STA = 4+125.160
PVI ELEV = 284.220
-5.411%
200 mm VCP SANITARY SEWER
250 mm RCP STORM SEWER
PVI STA = 4+186.140
PVI ELEV = 281.530
EXISTING PROFILE GRADE
PROPOSED PROFILE GRADE
BVCS: 4+244.060
BVCE: 279.153
-4.104%
182.88 m VC
LOW POINT ELEV = 276.801
LOW POINT STA = 4+358.660
PVI STA = 4+335.500
PVI ELEV = 275.400
A.D. = 6.549
K = 27.923
EVCS: 4+426.940
EVCE: 277.636
BVCS: 4+475.660
1.9m 450 mm RCP
2.11%
1.9m 450 mm RCP
5.79%
750 mm RCP STORM SEWER
17.7m 375 mm RCP
1.52%
10.0m 375 mm RCP
1.60 %
600 mm RCP
300 mm VCP SANITARY SEWER
2.44%

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Danny K Fuldner
REG. NO. 13501 DATE 3/10/00

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RCH
DATE: 1-22-13

ramsey county metric

S.A.P. 62-630-45

SHEET NO. 27 OF 121 SHEETS

28-289

\dwgs\corp-3\e3-const Date Plotted 2/18/2000

GRAPHIC SCALE
(IN METERS)
1 : 500

① SAWCUT BITUMINOUS
② SAWCUT CONCRETE
③ ADJUST G.V. BOX
④ RELOCATE HYDRANT BY OTHERS
⑤ ADJUST CURB STOP BOX
⑥ REMOVE/REPLACE SIDEWALK
⑦ ADJUST HYDRANT
⑧ INSULATE UTILITY
⑨ REMOVE SIDEWALK

SD 1890
SD 1889
SD 1888
SD 1882
SD 1884
SD 1887
SD 1886
CB 1880
CB 1879
CB 1883
CB 267
CB 1885
MH 1878
MH 1877 STORM
MH 1876 SAN
MH 1875 SAN
MH 1874 WATER
EXISTING R/W
1.5m PATHWAY EASEMENT
CONSTRUCTION C/L
SECTION LINE
HH-117
HH-118
HH-115
HH-116
HH-114
4+480
4+520
4+560
4+600
4+640
4+680
4+720
4+760
4+800
15.2 m
13.7 m
8.6 m
11.6 m
10.1 m
3.7 m
18.3m
27.1 m
1203
1101
1102
1136
1132
1124
1144
DUNLAP ST
EXINGTON AVE.

PVI STA = 4+666.200
PVI ELEV = 283.900
A.D. = -1.270
K = 28.349
36.00 m VC
BVCS: 4+648.200
BVCE: 283.282
EVCS: 4+684.200
EVCE: 284.289
PROPOSED PROFILE GRADE
EXISTING PROFILE GRADE
2.161%
1.718%
0.924%
-0.738%
250 mm DIP WATERMAIN
375 mm RCP
450 mm RCP
200 mm VCP SANITARY SEWER
22m 375mm RCP @ 1.0%
1.706%
3.431%

PVI STA = 4+806.700
PVI ELEV = 286.820
A.D. = -0.793
K = 19.214
BVCS: 4+799.080
BVCE: 286.689
EVCS: 4+814.320
EVCE: 286.890
15.24 m

PVI STA = 4+567.100
PVI ELEV = 280.500
A.D. = 1.725
K = 20.871
36.00 m VC
BVCS: 4+549.100
BVCE: 280.193
EVCS: 4+585.100
EVCE: 281.118

PVI STA = 4+490.900
PVI ELEV = 279.200
A.D. = -0.739
K = 41.230
30.48 m VC
BVCS: 4+475.660
BVCE: 278.827
EVCS: 4+506.140
EVCE: 279.460

PVI STA = 4+780.50
PVI ELEV = 286.37
A.D. = -0.443
K = 68.738
BVCS: 4+765.280
BVCE: 286.041
EVCS: 4+795.740
EVCE: 286.632
30.48 m

PVI STA = 4+818.600
PVI ELEV = 286.950
PVI STA = 4+830.800
PVI ELEV = 286.840

916.42
917.67
929.41E
WALG.REENS
1/19/13
912.77E&W
912.87N
921.00
922.46E
923.42
922.73W
923.03E
925.80
926.43
928.42
921.46S

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
DANIEL K. FILLMORE
REG. NO. 13501 DATE 3/10/00

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

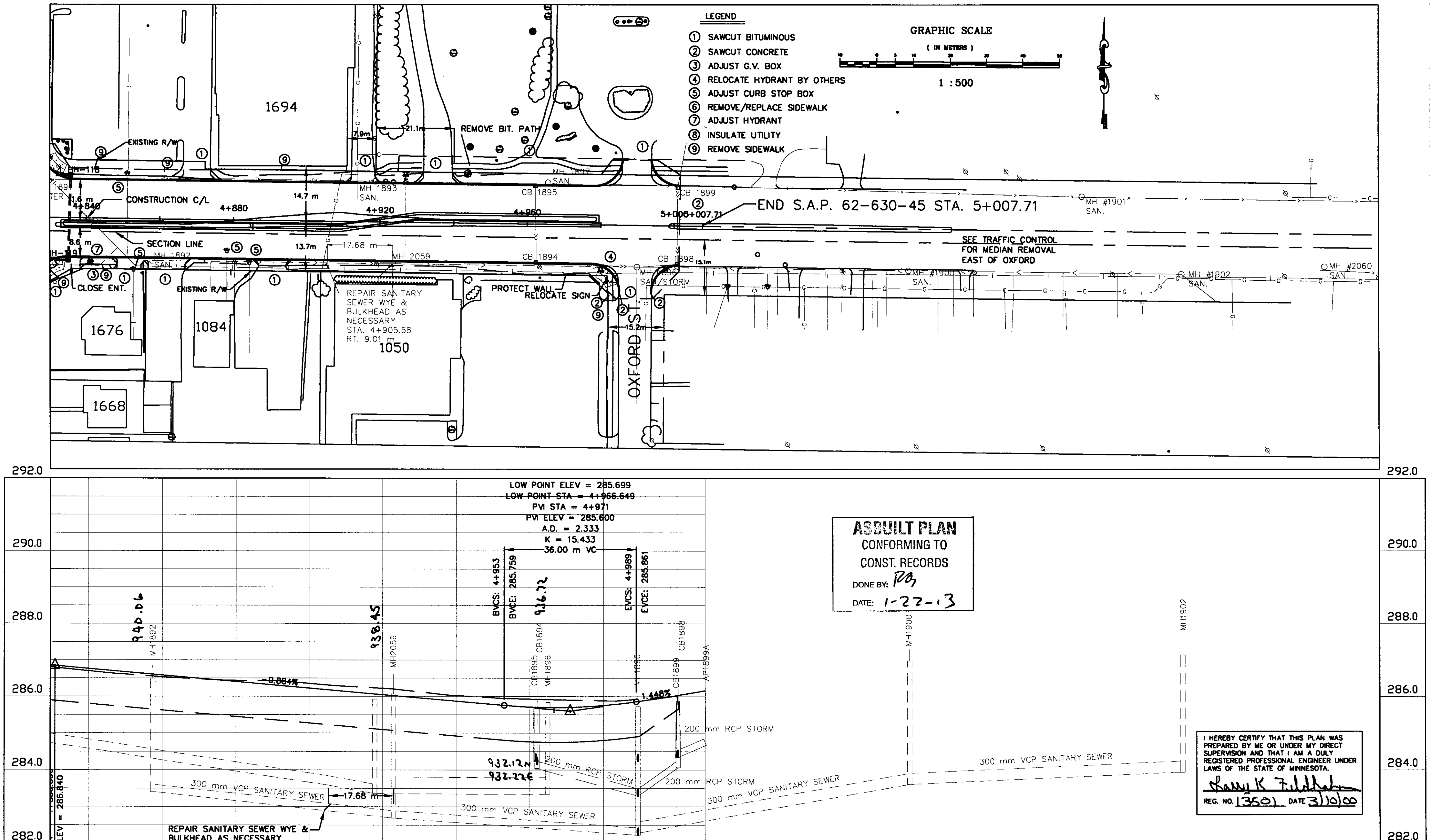
ramsey county metric

28-289

S.A.P. 62-630-45

SHEET NO. 28 OF 121 SHEETS

\dwgs\varp-3\e3-const Date Plotted 2/18/2000



Station		
4+830	286.840	286.77
4+840	286.759	286.67
4+860	286.582	286.53
4+880	286.405	286.33
4+900	286.228	286.15
4+920	286.051	285.99
4+940	285.874	285.87
4+960	285.705	285.83
4+980	285.756	285.83
5+000	286.054	285.99
5+020	286.367	286.26
5+040	286.680	286.56
5+060	286.993	286.84
5+080	287.306	286.94
5+100	287.498	287.15
5+120	287.467	287.14
5+140	287.278	287.13
5+160	287.082	287.00
5+180	286.886	286.83
5+192.500		286.69

\dwgs\larp-3\e3-const Date Plotted 2/18/2000

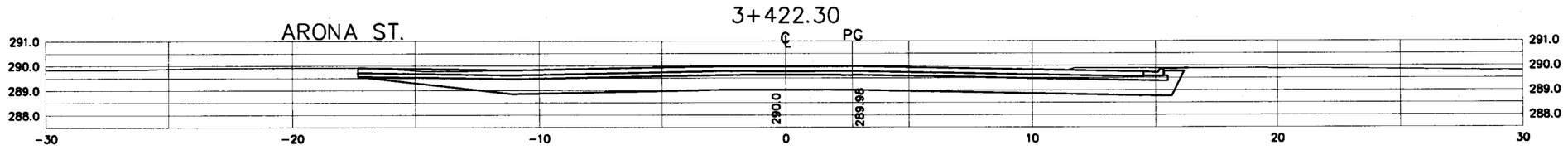
Z8-289

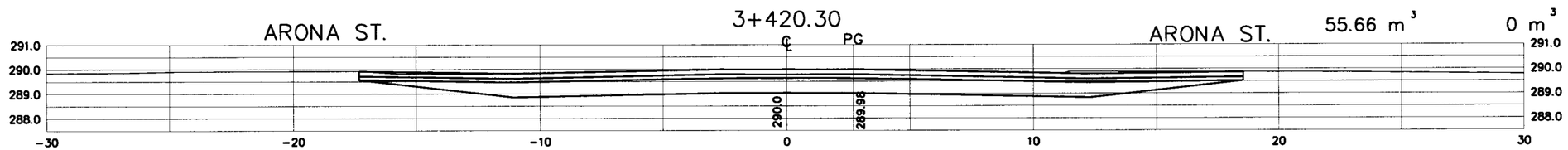
ramsey county metric

S.A.P. 62-630-45

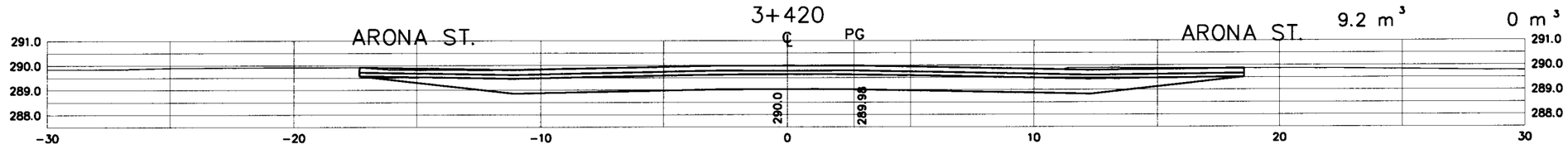
SHEET NO. 29 OF 121 SHEETS

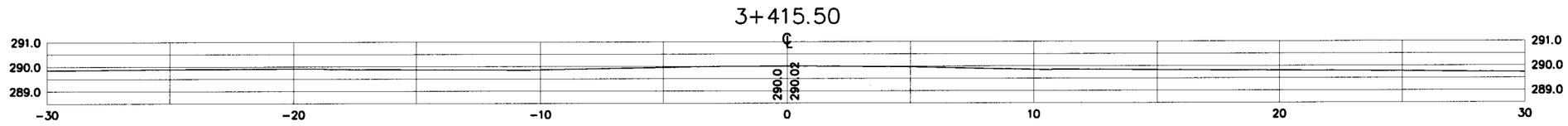
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	519.13 m^3	12.24 m^3	344.3 m^3
	454.27 m^3	12.24 m^3	302.58 m^3
	55.66 m^3	0 m^3	36.31 m^3
	9.2 m^3	0 m^3	5.41 m^3

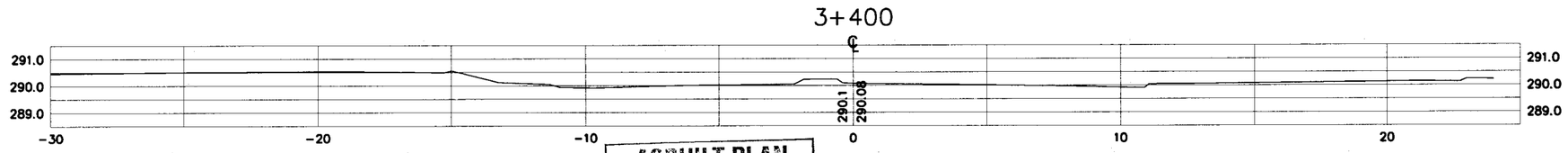




BEGIN CONSTRUCTION 3+420







ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

h: \dwgs\orp3\e3-xsect 11/30/99

STA. 3+400 TO 3+422.30

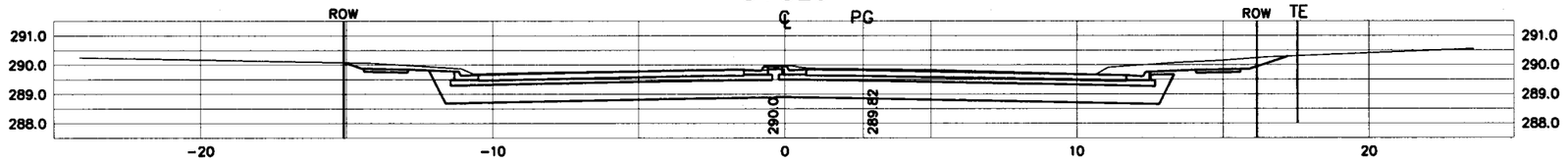
28-289

S.A.P. 62-630-45

SHEET NO. 30 OF 121 SHEETS

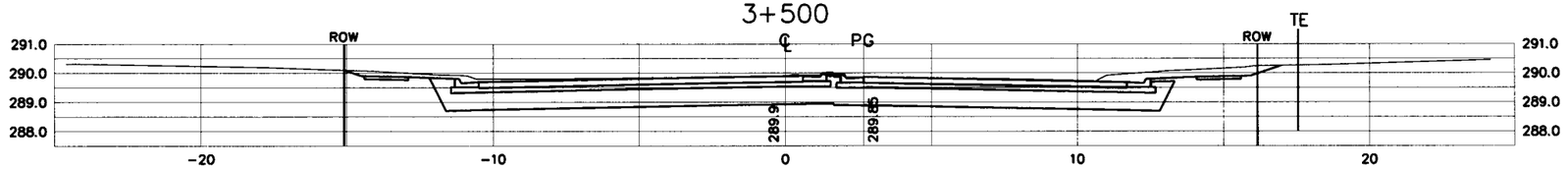
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	2719.9 m³	68.0 m³	1575.0 m³

3+520



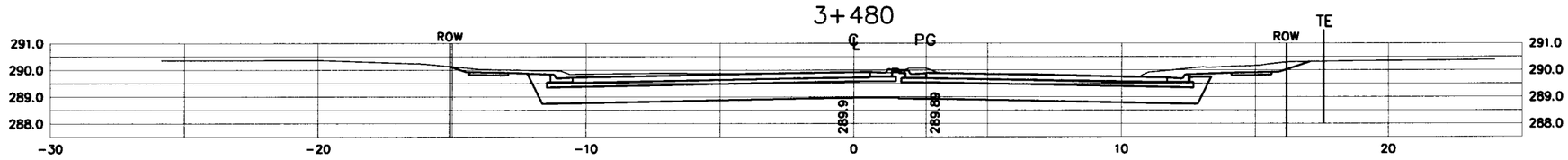
557.0 m³	13.6 ³	315.0 m³

3+500



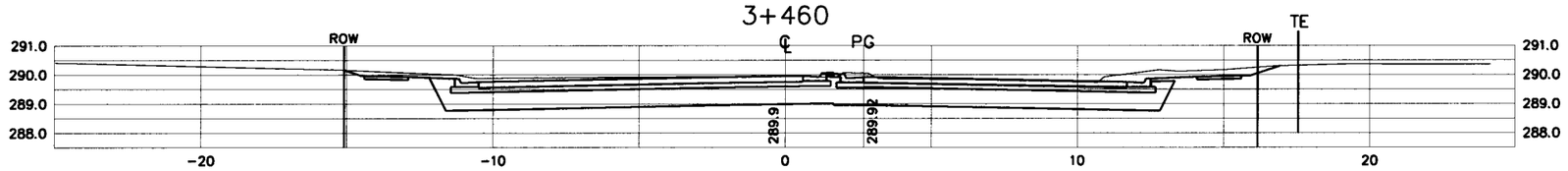
549.1 m³	13.6 m³	315.0 m³
544.3 ³	13.6 m³	315.0 m³

3+480



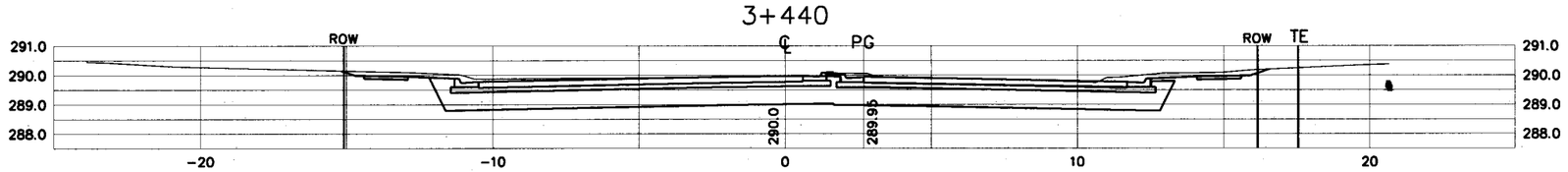
539.7 m³	13.6 m³	315.0 m³

3+460



529.8 m³	13.6 m³	315.0 m³

3+440



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

STA. 3+440 TO 3+520

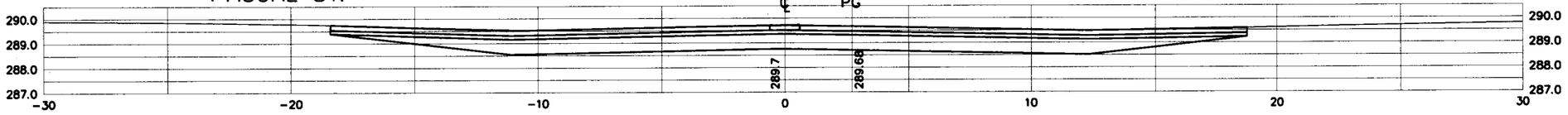
Z8-289

S.A.P. 62-630-45 SHEET NO. 31 OF 121 SHEETS

h: \dwgs \orp3 \e3-xsect

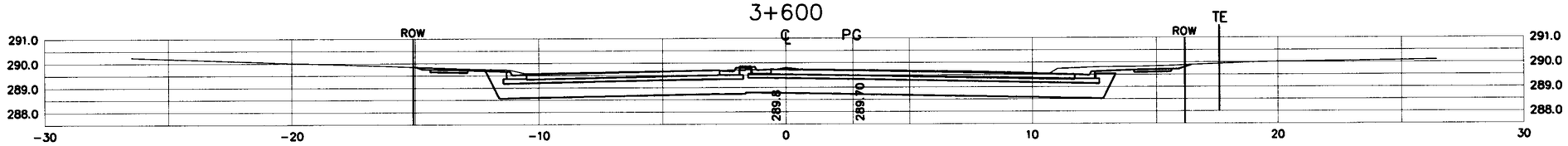
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	2165.46 m^3	48.96 m^3	1232.05 m^3
	144.02 m^3	0.0 m^3	82.39 m^3

PASCAL ST.

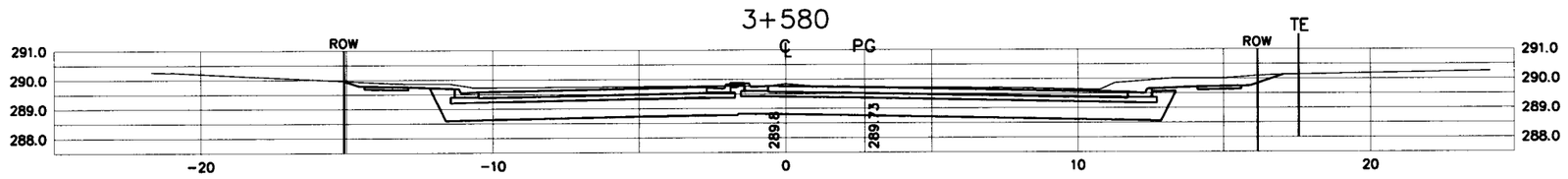


PASCAL ST.

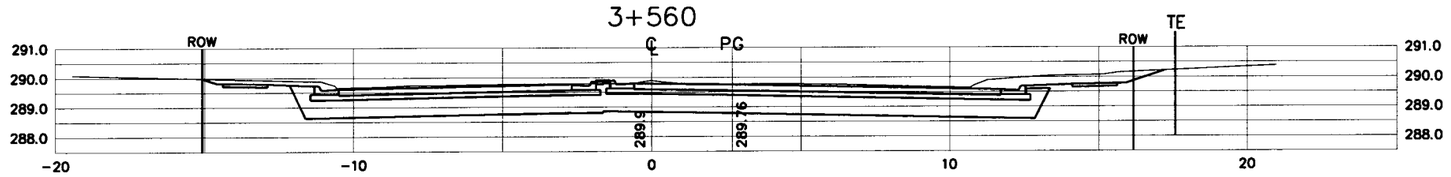
	349.14 m^3	8.16 m^3	204.66 m^3



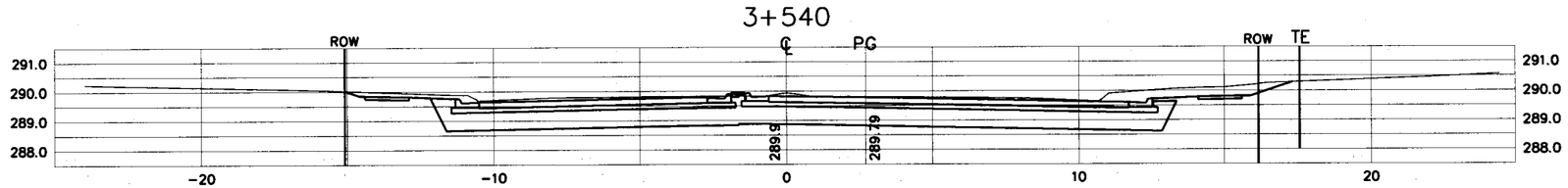
	549.1 m^3	13.6 m^3	315.0 m^3



	564.2 m^3	13.6 m^3	315.0 m^3



	559.0 m^3	13.6 m^3	315.0 m^3



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

STA. 3+540 TO 3+612

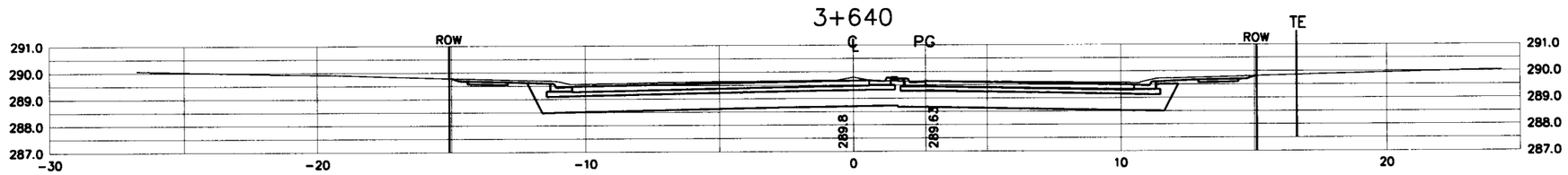
28-289

h: \dwgs\orp3\e3-xsect

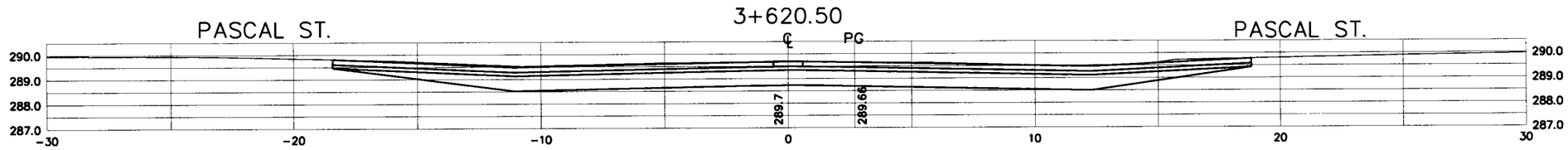
S.A.P. 62-630-45

SHEET NO. 32 OF 121 SHEETS

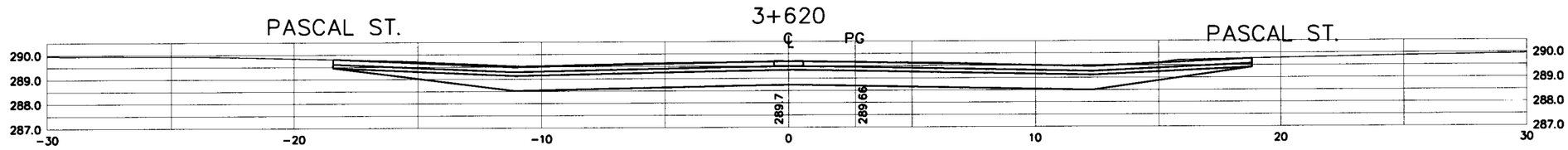
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	988.53 m^3	21.15 m^3	565.32 m^3
	288.32 m^3	7.55 m^3	165.94 m^3



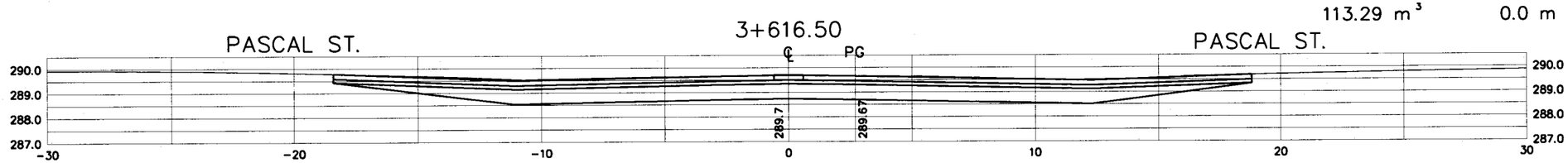
	570.57 m^3	13.6 m^3	325.26 m^3



	16.35 m^3	0.0 m^3	9.30 m^3



	113.29 m^3	0.0 m^3	64.82 m^3



STA. 3+616.50 TO 3+640

28-289

S.A.P. 62-630-45

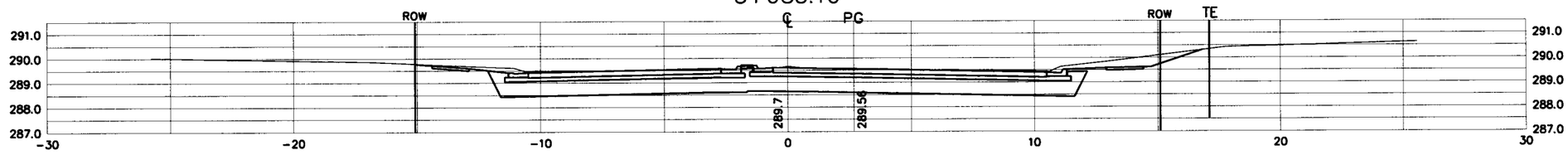
SHEET NO. 33 OF 121 SHEETS

h: \dwgs\arp3\e3-xsect

	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	1277.66 m^3	33.25 m^3	731.04 m^3

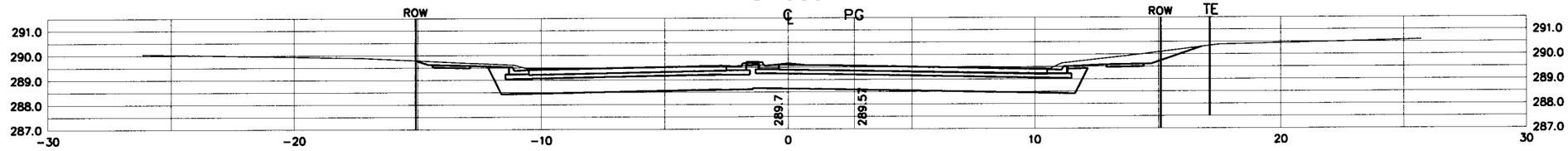
436.78 m^3 11.49 m^3 252.65 m^3

3+683.10



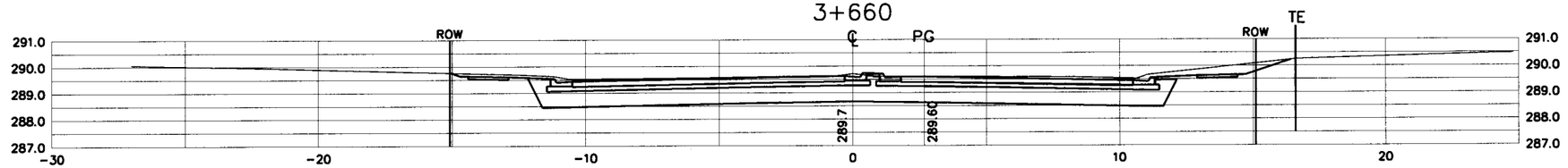
80.29 m^3 2.11 m^3 46.34 m^3

3+680



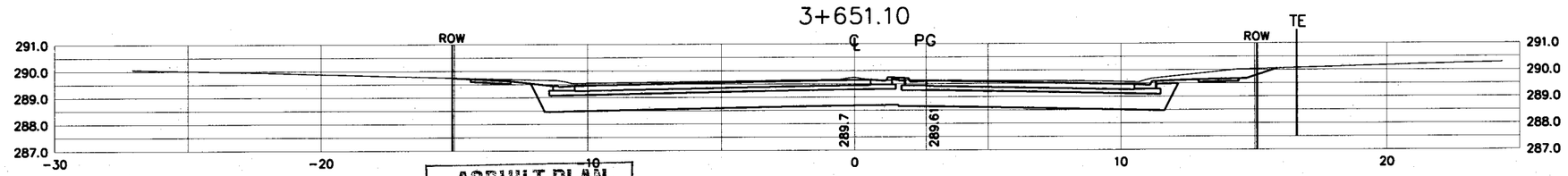
525.1 m^3 13.6 m^3 299.0 m^3

3+660



235.49 m^3 6.05 m^3 133.05 m^3

3+651.10



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RO
DATE: 1-22-13

STA. 3+651.10 TO 3+683.10

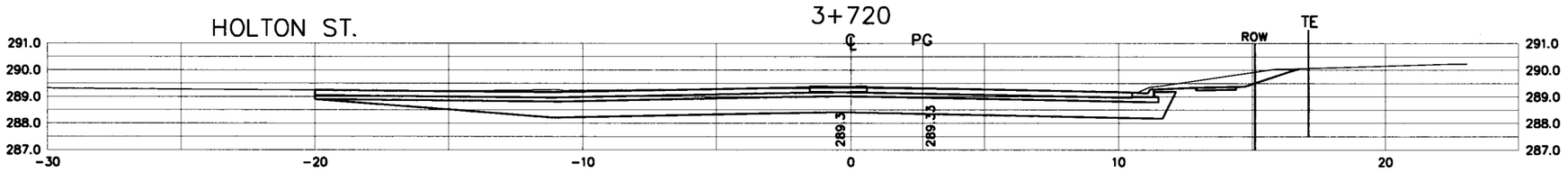
ZB-289

h: \dwgs\orp3\e3-xsect

S.A.P. 62-630-45

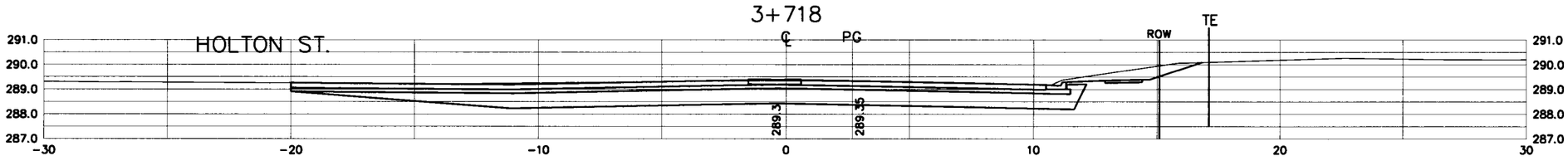
SHEET NO. 34 OF 121 SHEETS

	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	631.66 m^3	12.25 m^3	356.13 m^3

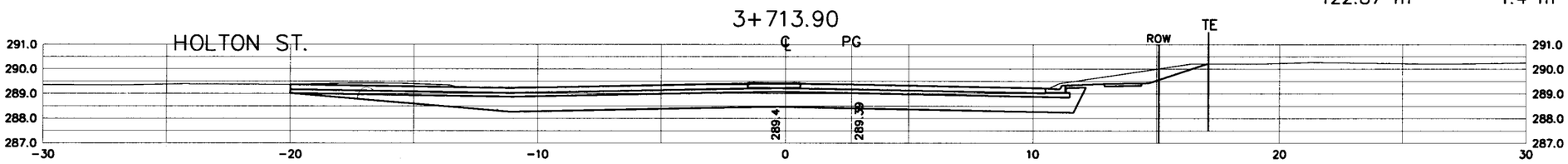


60.14 m^3 0.7 m^3 33.52 m^3

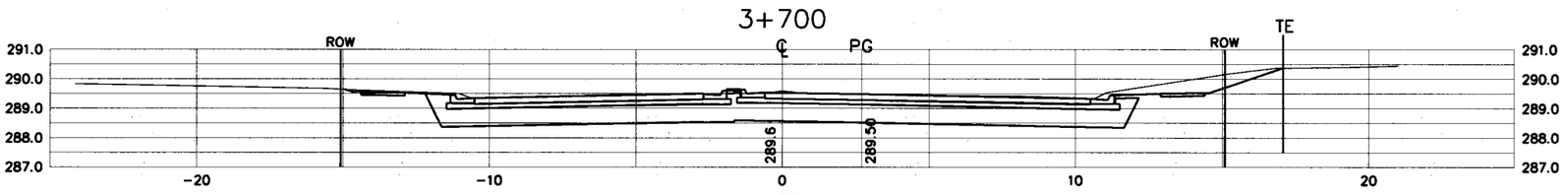
60.15 m^3 0.7 m^3 33.52 m^3



122.87 m^3 1.4 m^3 68.71 m^3



388.5 m^3 9.45 m^3 220.38 m^3



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

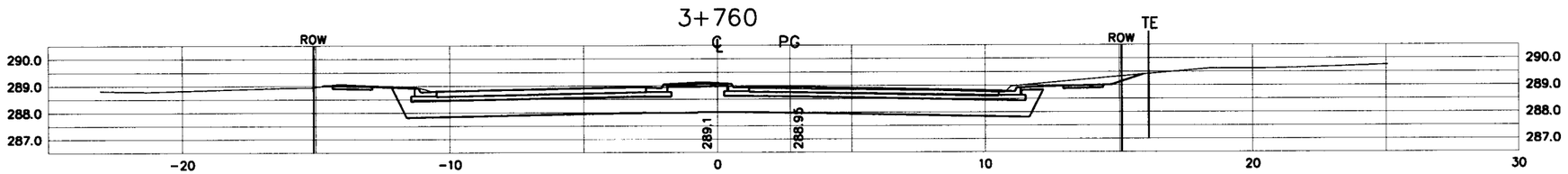
28-289

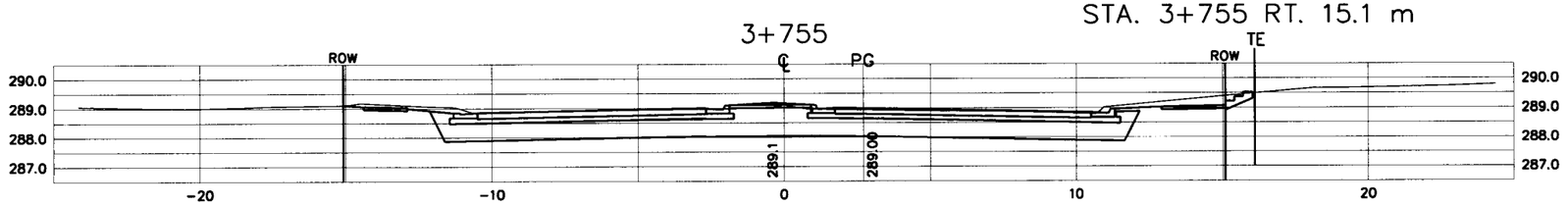
STA. 3+700 TO 3+720

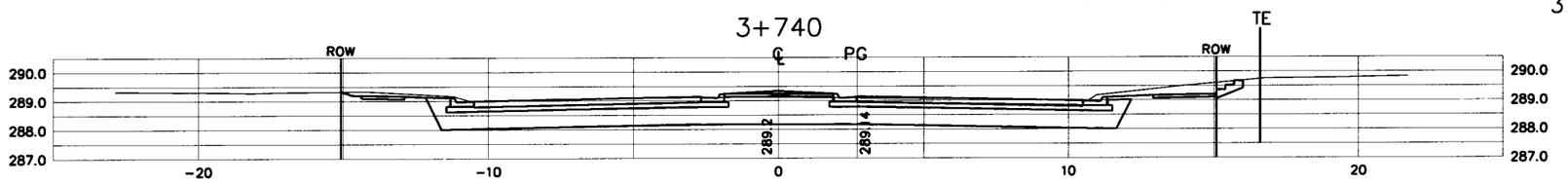
h:\dwgs\orp3\e3-xsect

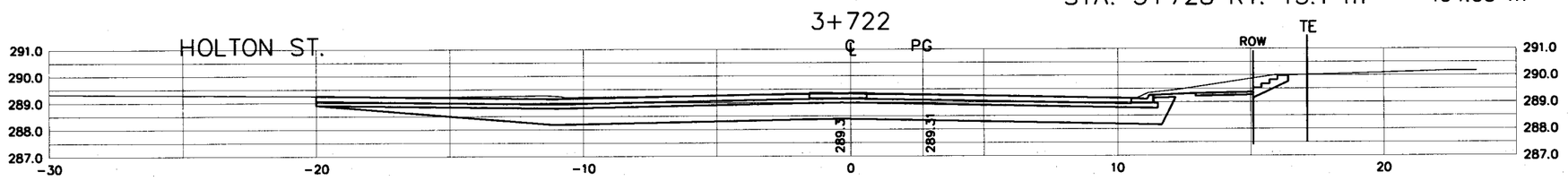
S.A.R. 62-630-45 SHEET NO. 35 OF 121 SHEETS

	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	1449.22 m^3	39.44 m^3	895.15 m^3
	460.1 m^3	13.6 m^3	303.8 m^3
CONSTRUCT CONCRETE STEPS STA. 3+755 RT. 15.1 m	121.82 m^3	3.4 m^3	75.95 m^3
CONSTRUCT CONCRETE STEPS STA. 3+742 RT. 15.1 m	372.75 m^3	10.2 m^3	227.85 m^3
CONSTRUCT CONCRETE STEPS STA. 3+728 RT. 15.1 m	494.55 m^3	12.24 m^3	287.55 m^3









ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

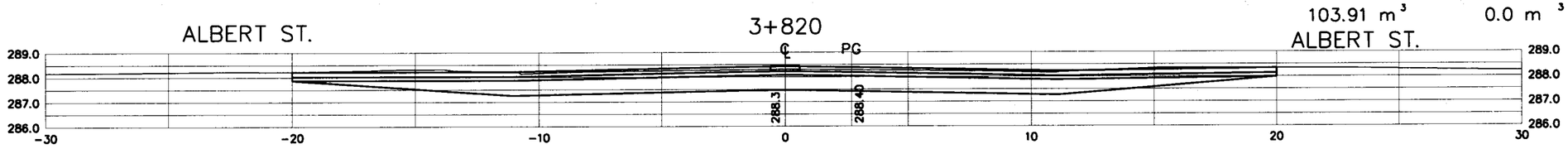
78-289

STA. 3+722 TO 3+760

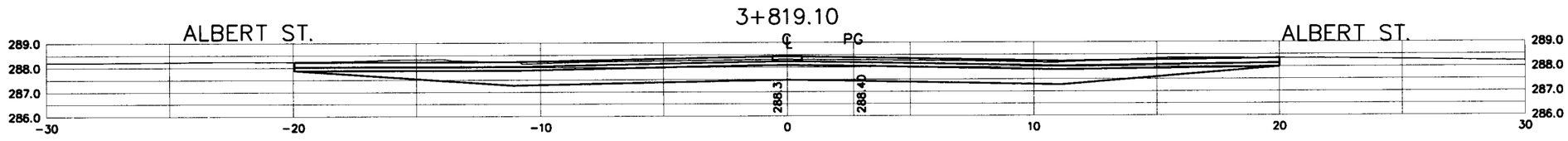
h: \dwgs\orp3\e3-xsect

S.A.P. 62-630-45 SHEET NO. 36 OF 121 SHEETS

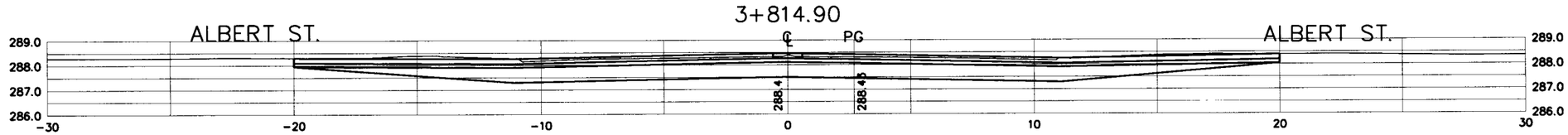
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	1084.6 m^3	23.73 m^3	714.77 m^3
	103.91 m^3	0.0 m^3	62.0 m^3



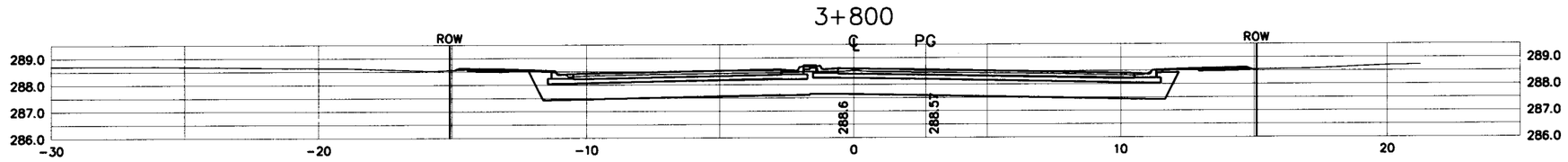
28.27 m^3	0.0 m^3	16.91 m^3



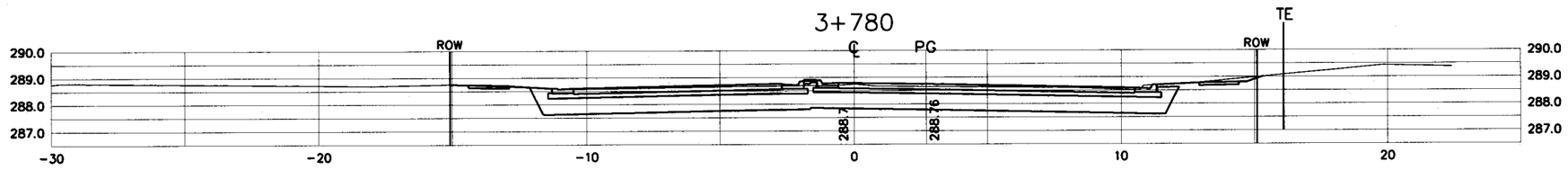
132.36 m^3	0.0 m^3	78.91 m^3



392.16 m^3	10.13 m^3	253.15 m^3



427.9 m^3	13.6 m^3	303.8 m^3



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

78-289

STA. 3+780 TO 3+820

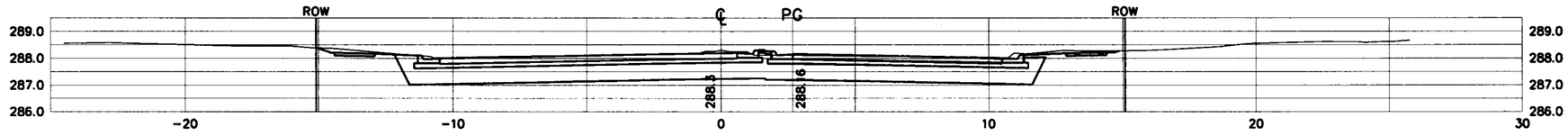
h: \dwgs\orp3\e3-xsect

S.A.P. 62-630-45

SHEET NO. 37 OF 121 SHEETS

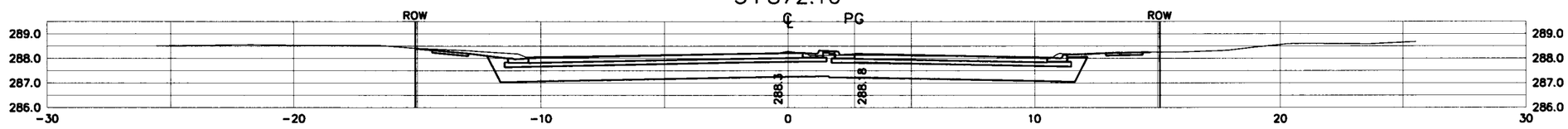
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	1572.7 m^3	43.66 m^3	989.06 m^3

3+880



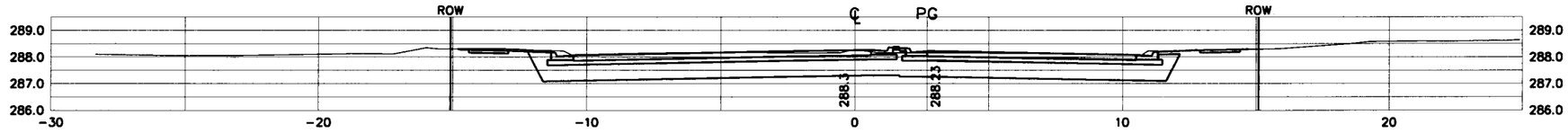
	181.95 m^3	5.1 m^3	111.75 m^3
	191.06 m^3	5.37 m^3	117.71 m^3

3+872.10



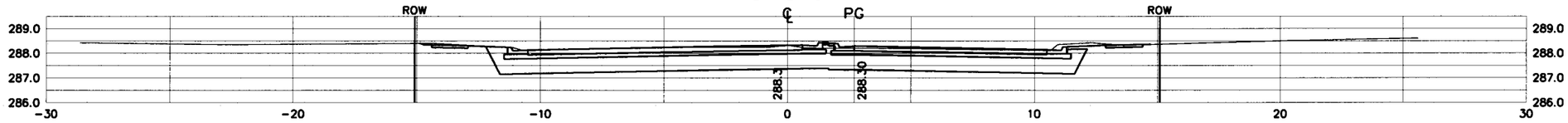
	287.37 m^3	8.23 m^3	180.29 m^3

3+860



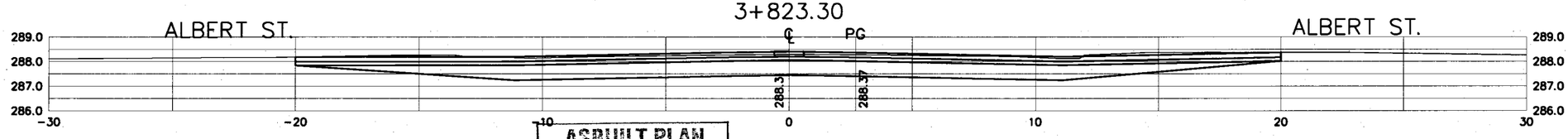
	459.0 m^3	13.6 m^3	298.0 m^3

3+840



	453.32 m^3	11.36 m^3	281.31 m^3

3+823.30



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

STA. 3+823.30 TO 3+880

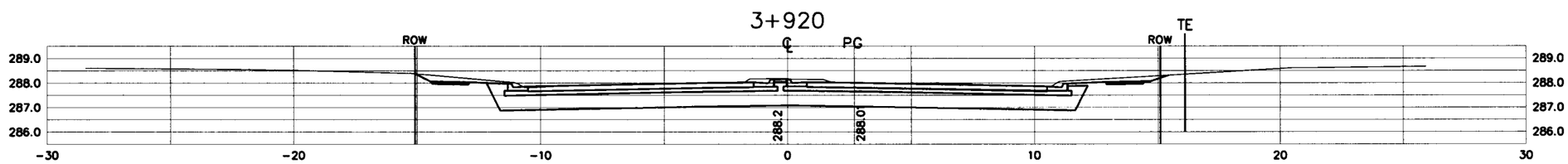
28-289

S.A.P. 62-630-45

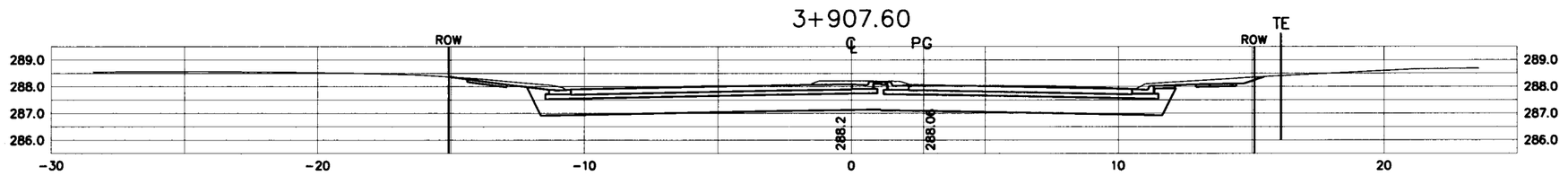
SHEET NO. 38 OF 121 SHEETS

h:\dwgs\orp3\e3-xsect

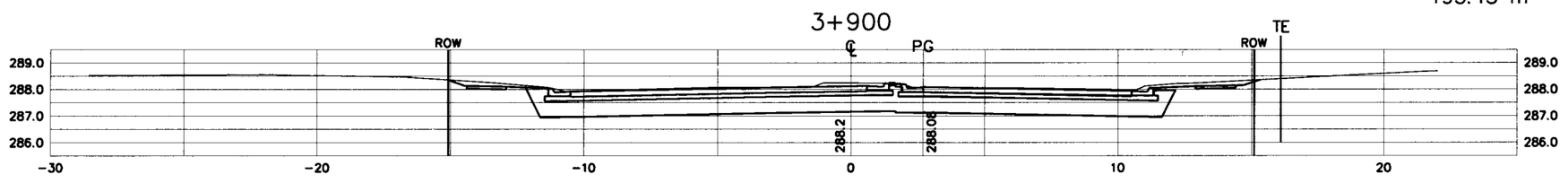
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	1008.95 m^3	27.13 m^3	445.51 m^3



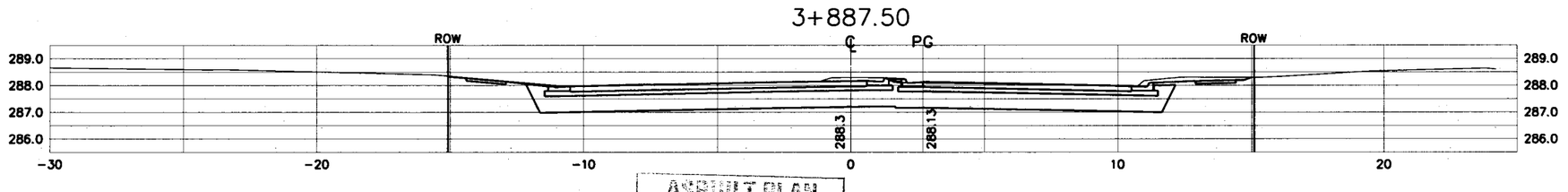
191.73 m^3	5.03 m^3	110.26 m^3



312.65 m^3	8.43 m^3	184.76 m^3



193.45 m^3	5.17 m^3	113.24 m^3



311.12 m^3	8.5 m^3	37.25 m^3

AS-BUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RCT
DATE: 1-22-13

STA. 3+887.50 TO 3+920

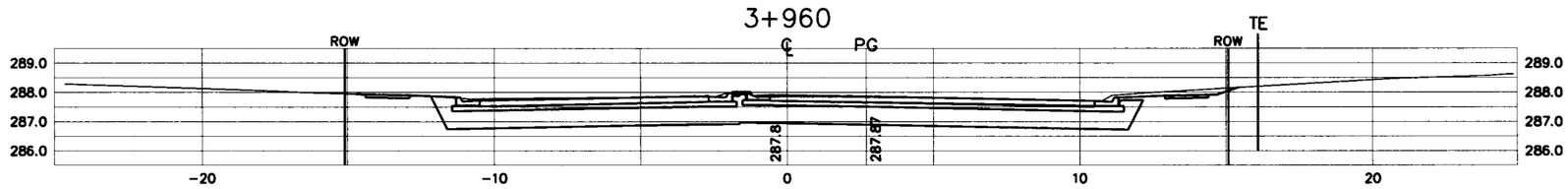
28-289

S.A.P. 62-630-45

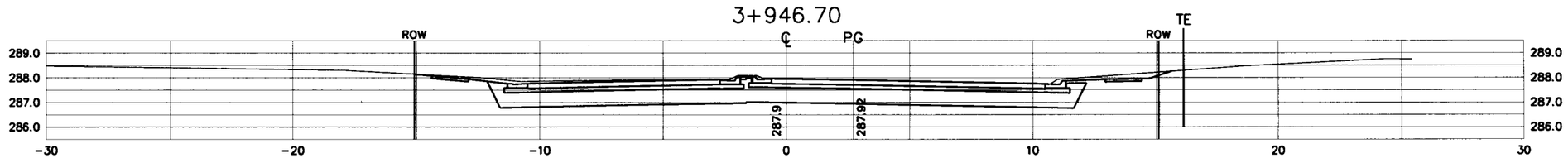
SHEET NO. 39 OF 121 SHEETS

h: \dwgs\Vorp3\e3-xsect

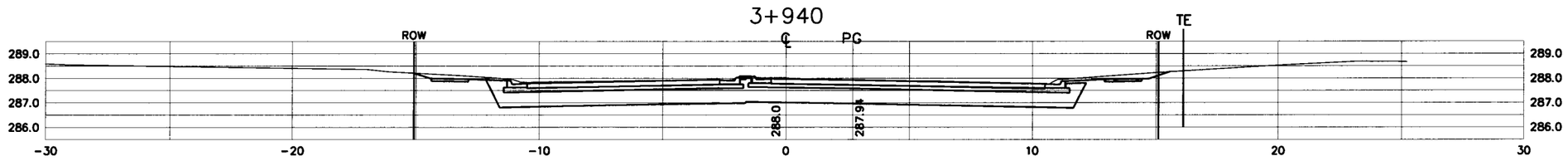
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	875.51 m^3	23.46 m^3	517.03 m^3



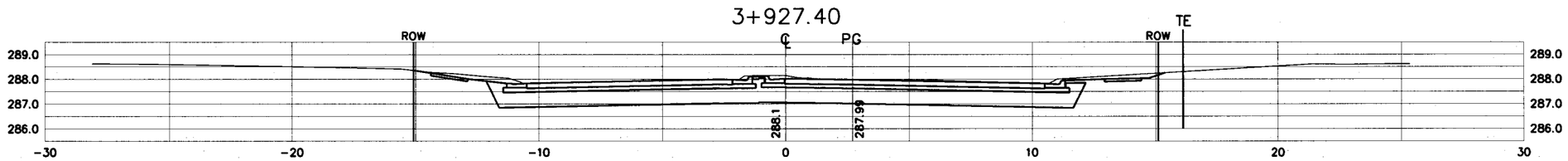
49.65 m^3	1.43 m^3	31.29 m^3



330.1 m^3	9.04 m^3	198.17 m^3



170.18 m^3	4.56 m^3	99.83 m^3



325.58 m^3	8.43 m^3	187.74 m^3

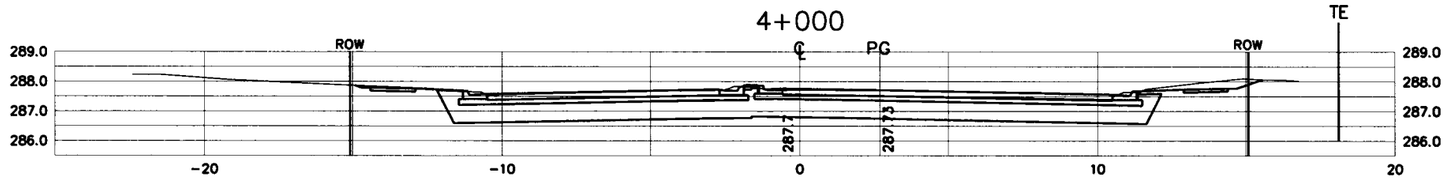
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

STA. 3+927.40 TO 3+960

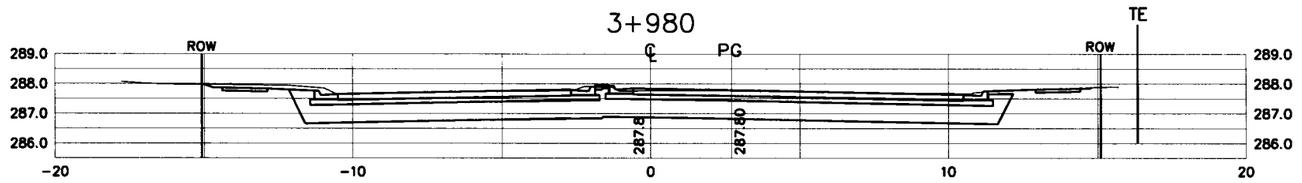
ZB-289

h: \dwgs\lorp3\e3-xsect

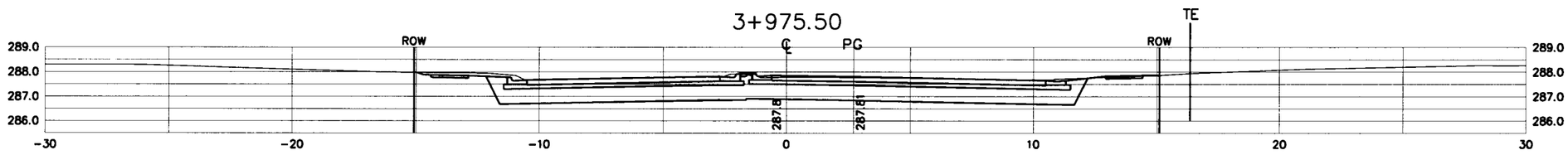
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	1219.69 m^3	33.93 m^3	765.17 m^3



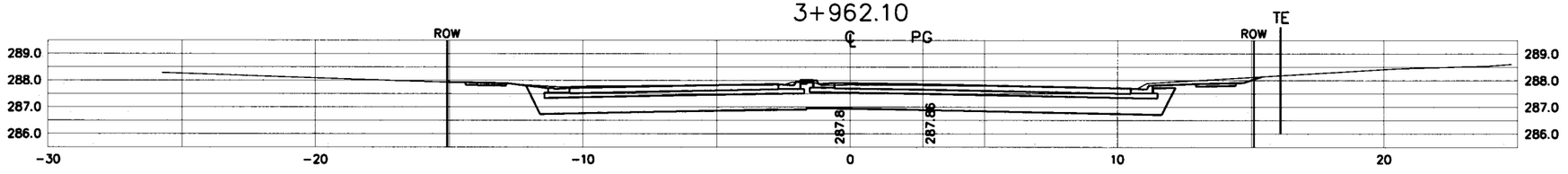
328.98 m^3 8.16 m^3 200.46 m^3



469.8 m^3 13.6 m^3 298.0 m^3



105.81 m^3 3.06 m^3 67.05 m^3



315.10 m^3 9.11 m^3 199.66 m^3

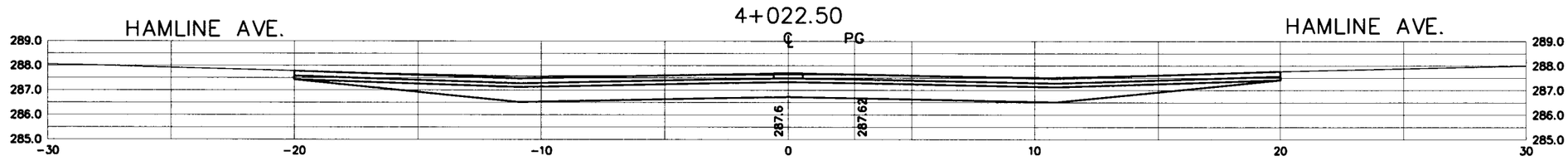
AS BUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

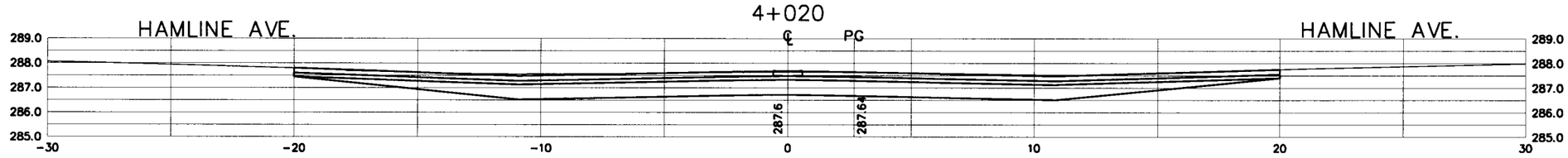
STA. 3+962.10 TO 4+000
ZB-ZB9

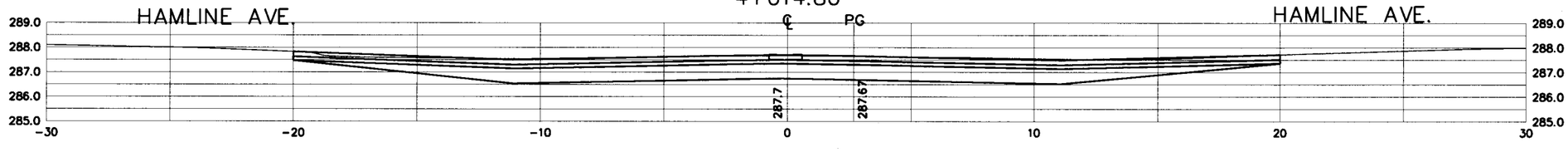
S.A.R. 62-630-45 SHEET NO. 41 OF 121 SHEETS

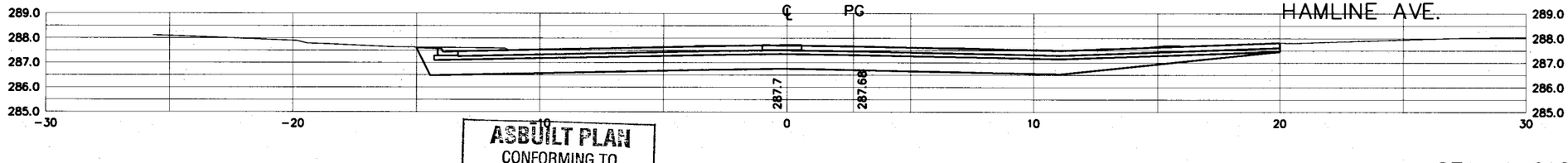
h:\dwgs\larp3\e3-xsect

	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	547.97 m^3	1.9 m^3	312.05 m^3
	202.98 m^3	0.0 m^3	113.7 m^3
	84.2 m^3	0.0 m^3	47.37 m^3
	171.57 m^3	0.0 m^3	98.54 m^3
	89.22 m^3	1.9 m^3	52.44 m^3









ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

STA. 4+012 TO 4+022.50

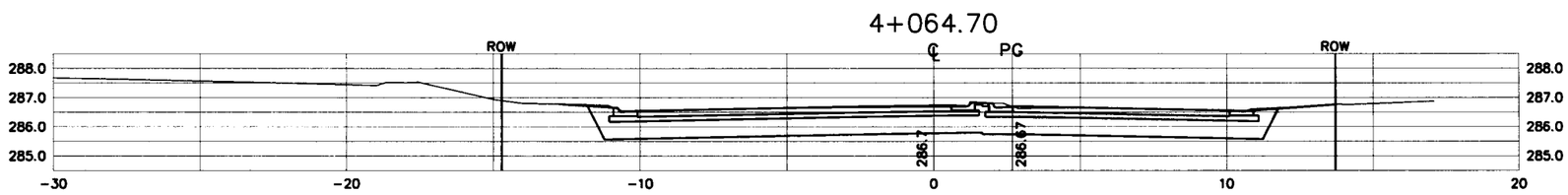
28-289

S.A.R. 62-630-45

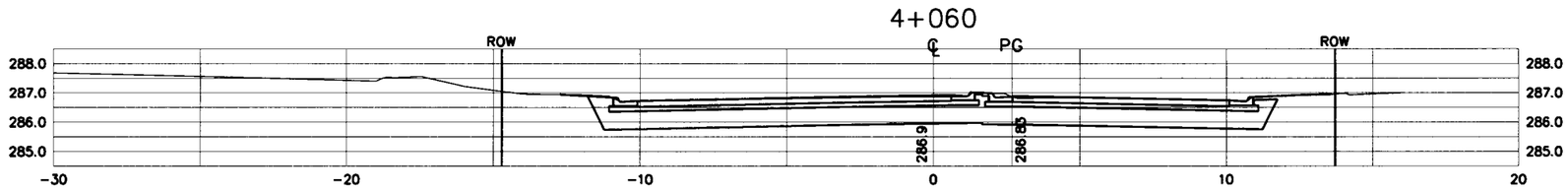
SHEET NO. 42 OF 121 SHEETS

h:\dwgs\lorp3\e3-xsect

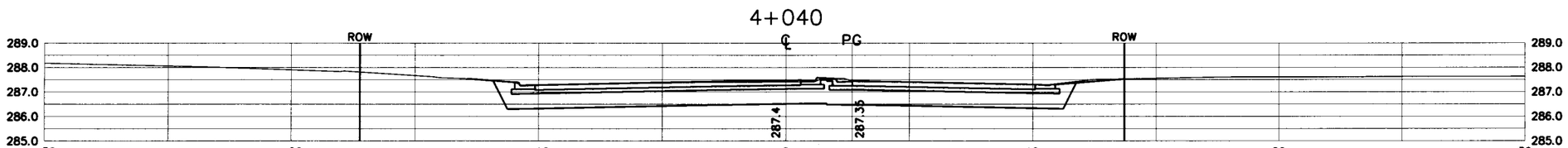
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	1075.90 m^3	30.94 m^3	676.58 m^3



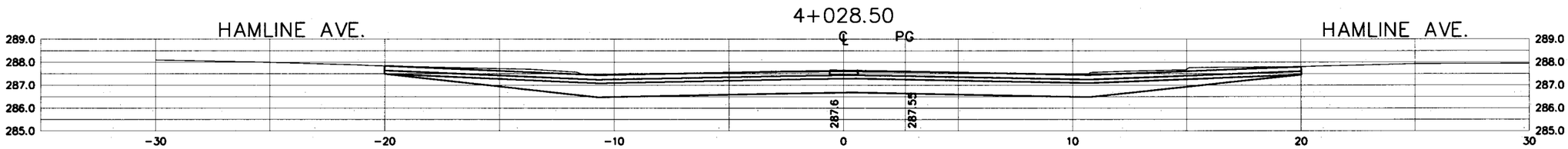
207.71 m^3	6.32 m^3	132.8 m^3



103.0 m^3	3.2 m^3	67.11 m^3



441.3 m^3	13.6 m^3	285.6 m^3



323.89 m^3	7.82 m^3	191.07 m^3

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

STA. 4+028.50 TO 4+064.70

28-289

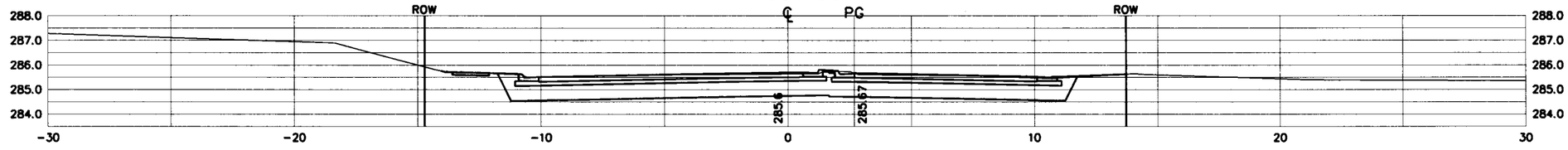
S.A.P. 62-630-45

SHEET NO. 43 OF 121 SHEETS

h:\dwgs\orp3\e3-xsect

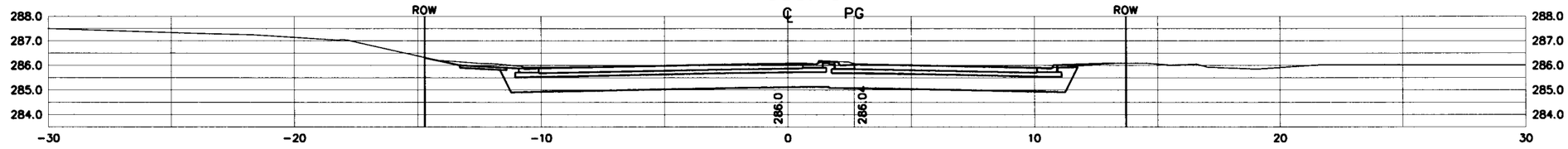
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	600.67 m^3	14.02 m^3	362.28 m^3

4+089.80



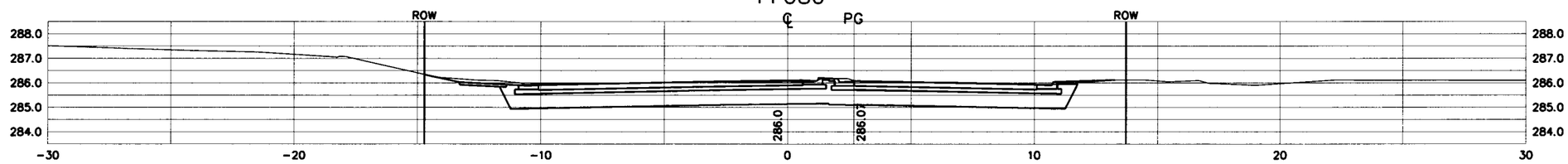
243.47 m^3 7.45 m^3 145.65 m^3

4+080.70



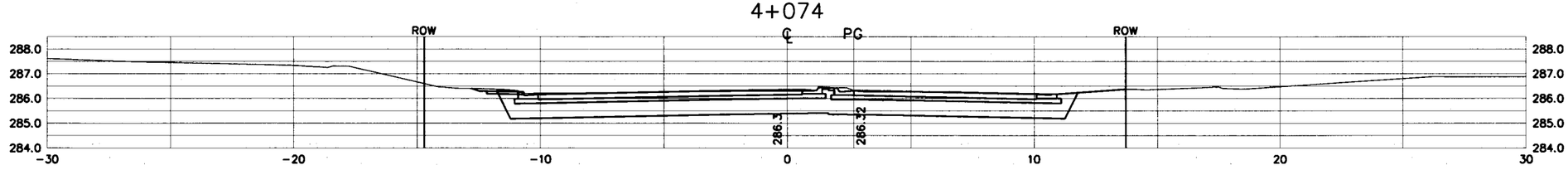
205.97 m^3 1.62 m^3 129.95 m^3

4+080



16.2 m^3 0.57 m^3 1.0 m^3

4+074



135.03 m^3 4.38 m^3 85.68 m^3

STA. 4+074 TO 4+089.80

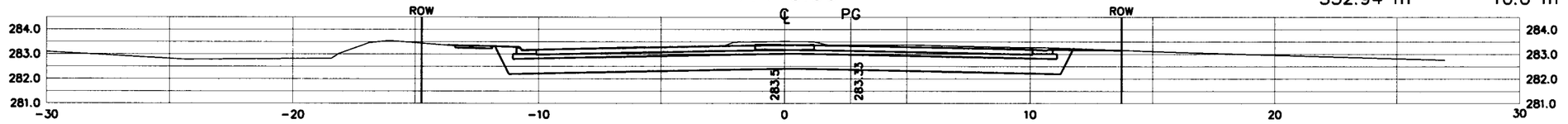
28-289

h:\dwgs\larp3\e3-xsect

S.A.P. 62-630-45 SHEET NO. 44 OF 121 SHEETS

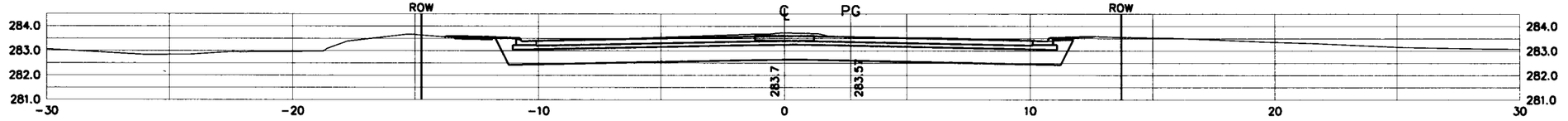
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	1404.39 m^3	43.05 m^3	857.3 m^3

4+145.30



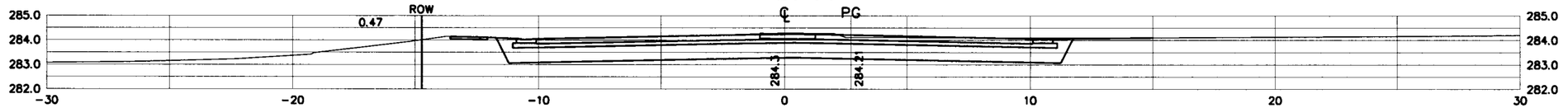
352.94 m^3	10.0 m^3	210.43 m^3

4+140



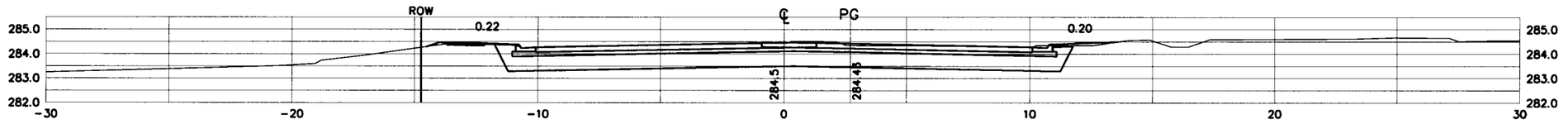
123.78 m^3	3.6 m^3	75.68 m^3

4+125.30



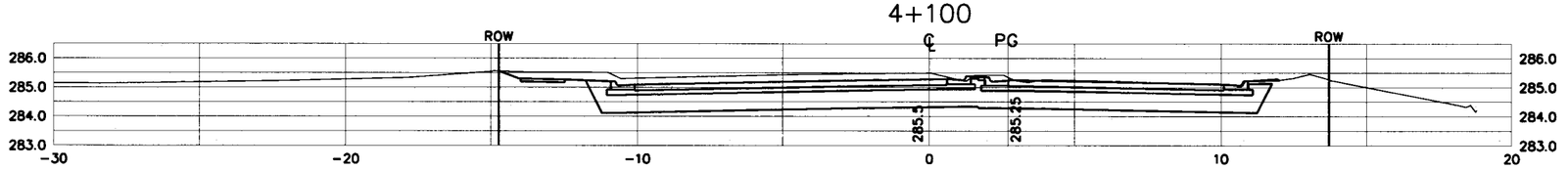
328.91 m^3	9.72 m^3	209.91 m^3

4+120



115.96 m^3	4.13 m^3	75.68 m^3

4+100



482.8 m^3	15.6 m^3	285.6 m^3

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY:
DATE: 1-22-13

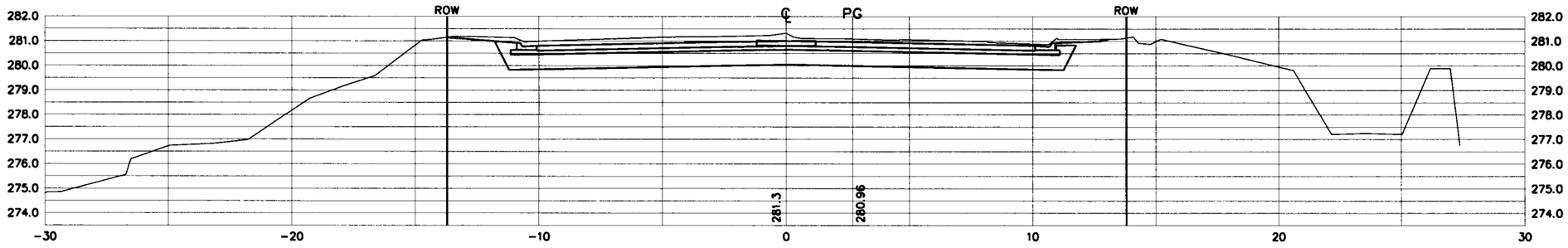
STA. 4+100 TO 4+145.30

28-289

h:\dwgs\lorp3\e3-xsect

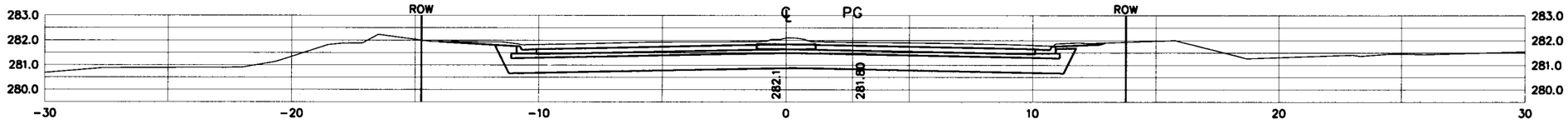
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	1573.61 m^3	40.8 m^3	861.0 m^3

4+200



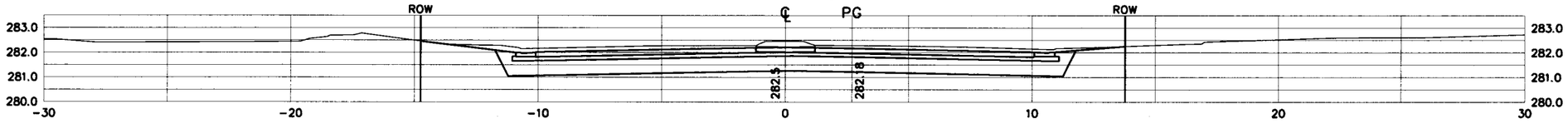
	527.0 m^3	13.6 m^3	287.0 m^3

4+180



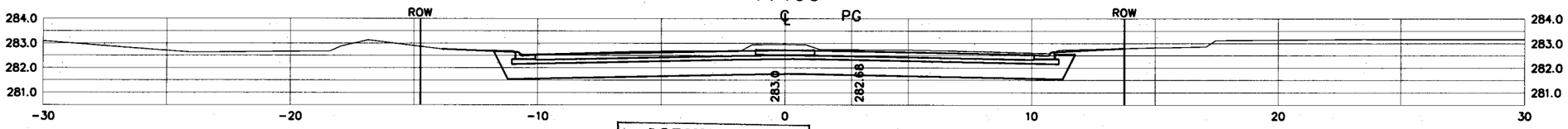
	534.6 m^3	13.6 m^3	287.0 m^3

4+171.40



	225.87 m^3	5.85 m^3	123.41 m^3

4+160



	286.14 m^3	7.75 m^3	163.59 m^3

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

STA. 4+160 TO 4+200

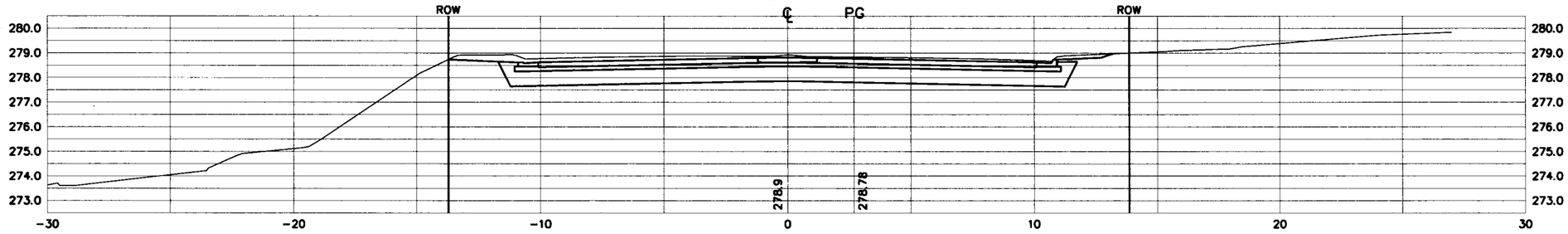
28-289

S.A.P. 62-630-45

h:\dwgs\arp3\e3-xsect

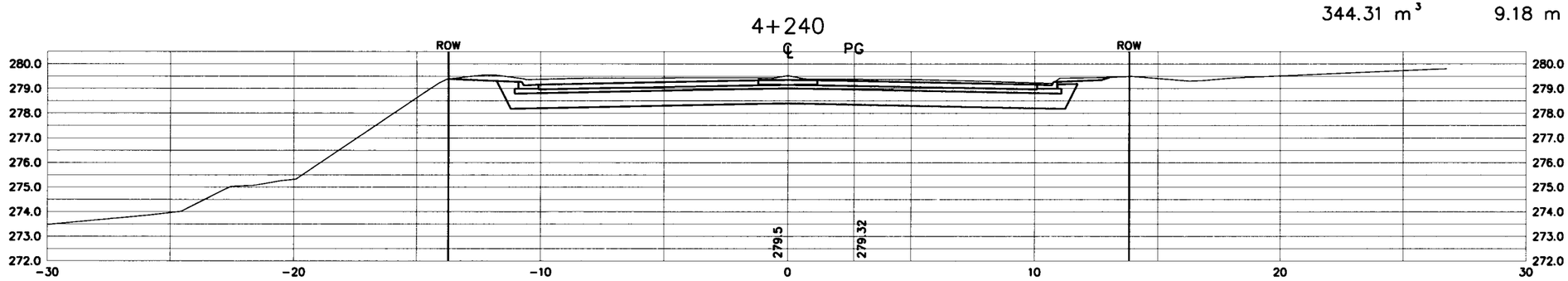
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	1021.75 m^3	27.2 m^3	573.99 m^3

4+253.50



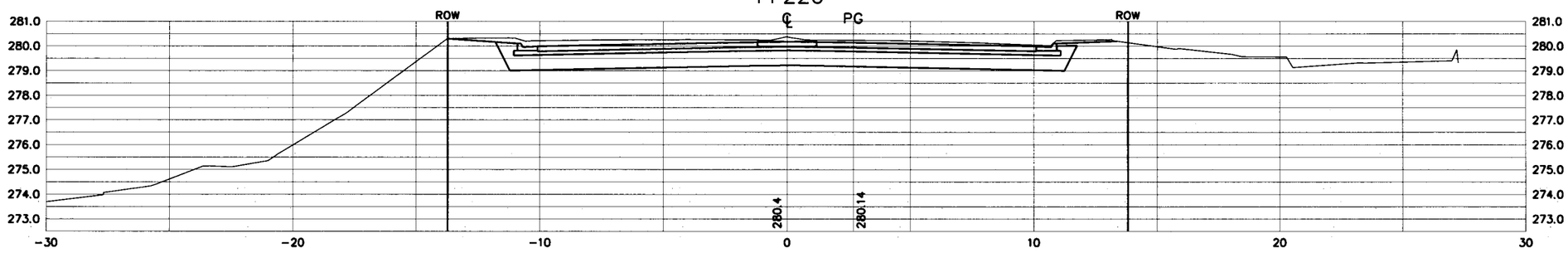
	160.94 m^3	4.42 m^3	93.27 m^3

4+240



	344.31 m^3	9.18 m^3	193.72 m^3

4+220



	516.5 m^3	13.6 m^3	287.0 m^3

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

STA. 4+220 TO 4+253.50

28-289

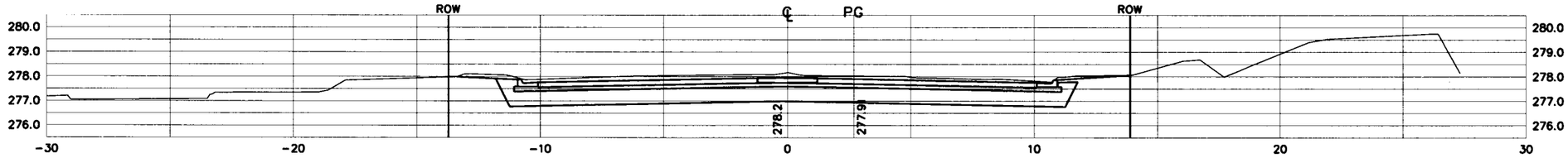
S.A.P. 62-630-45

SHEET NO. 47 OF 121 SHEETS

h: \dwgs\orp3\e3-xsect

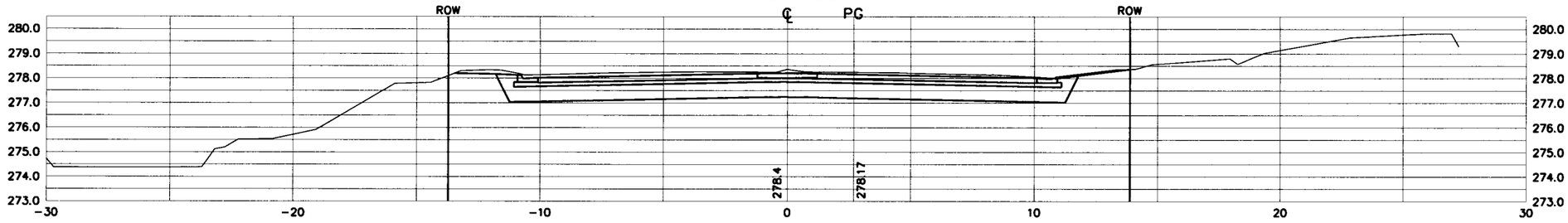
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	980.95 m^3	26.66 m^3	562.51 m^3

4+280



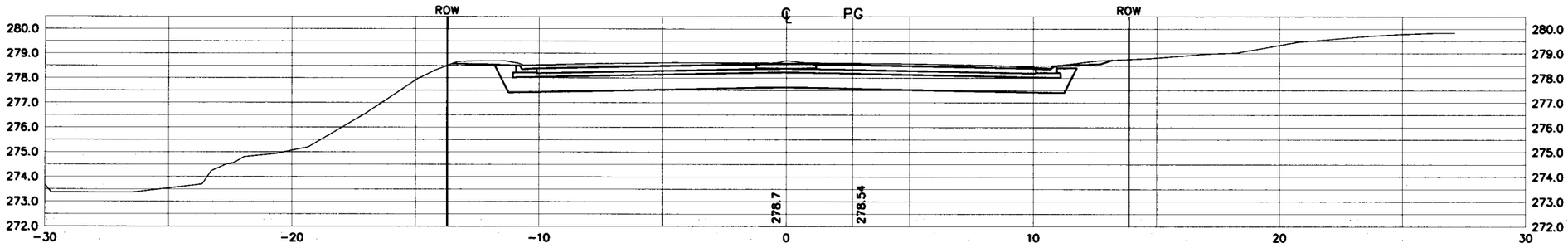
	482.59 m^3	13.06 m^3	275.52 m^3

4+271.30



	218.63 m^3	5.92 m^3	124.84 m^3

4+260



	279.73 m^3	7.68 m^3	162.15 m^3

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RLG
DATE: 1-22-13

STA. 4+260 TO 4+280

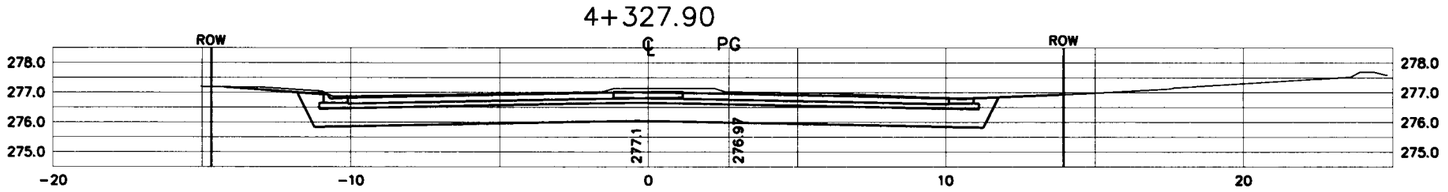
28-289

h: \dwgs \orp3 \e3-xsect

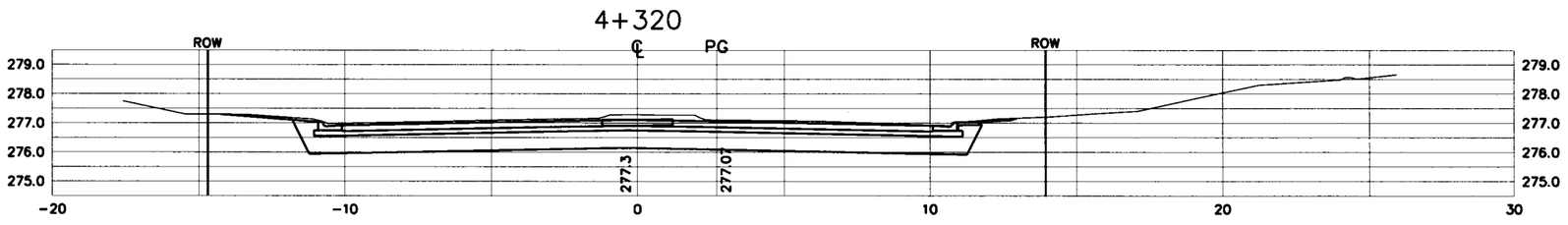
S.A.P. 62-630-45

SHEET NO. 48 OF 121 SHEETS

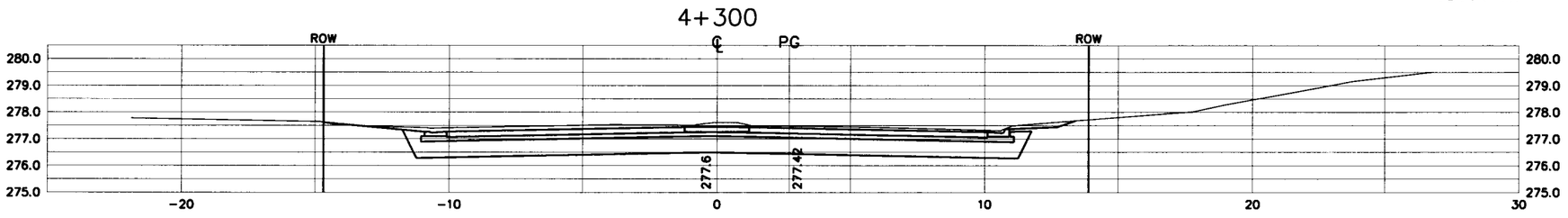
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	991.38 m^3	22.65 m^3	470.28 m^3



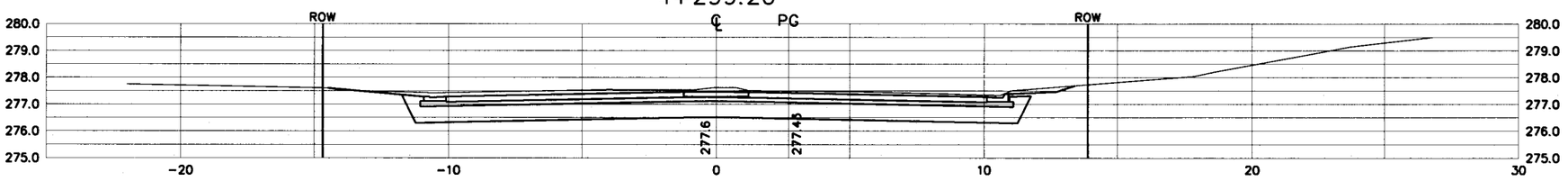
99.81 m^3 3.14 m^3 58.83 m^3



193.07 m^3 5.37 m^3 112.97 m^3



497.4 m^3 13.6 m^3 287.0 m^3



20.10 m^3 0.54 m^3 11.48 m^3

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

STA. 4+299.20 TO 4+327.90

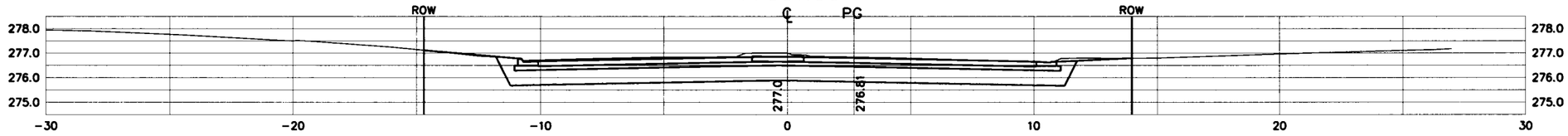
78-289

S.A.P. 62-630-45 SHEET NO. 49 OF 121 SHEETS

h: \dwgs\orp3\e3-xsect

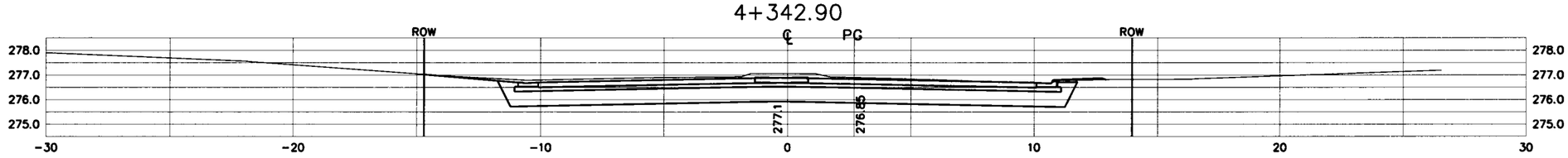
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	668.36 m^3	21.36 m^3	401.79 m^3
	198.22 m^3	6.03 m^3	121.97 m^3

4+351.50



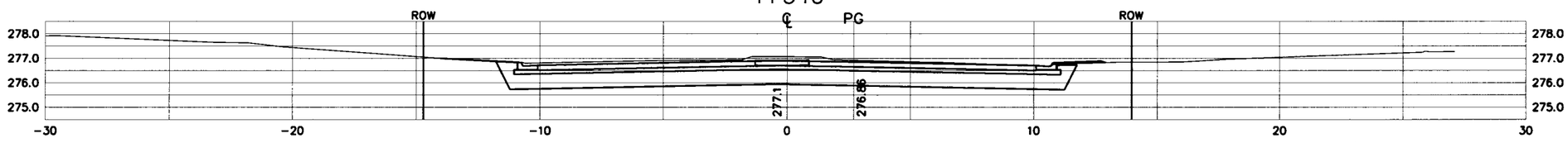
205.32 m^3	6.28 m^3	123.41 m^3

4+342.90



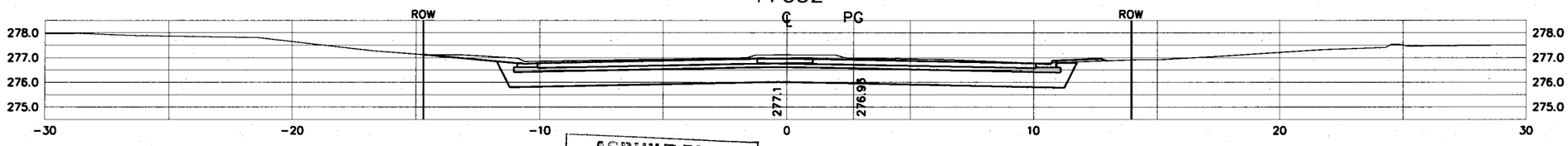
70.06 m^3	2.33 m^3	41.61 m^3

4+340



194.76 m^3	6.72 m^3	114.8 m^3

4+332



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

STA. 4+332 TO 4+351.50

ZB-289

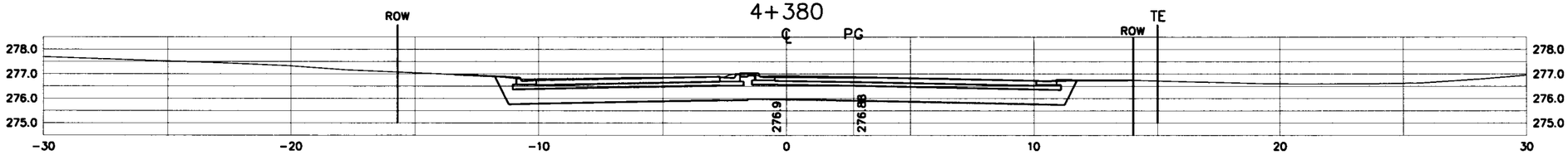
S.A.P. 62-630-45

SHEET NO. 50 OF 121 SHEETS

h:\dwgs\orp3\e3-xsect

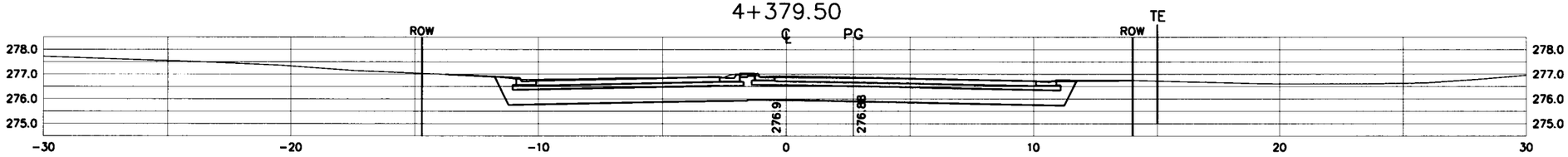
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	567.43 m^3	19.3 m^3	361.61 m^3
	115.98 m^3	3.99 m^3	74.62 m^3

4+380



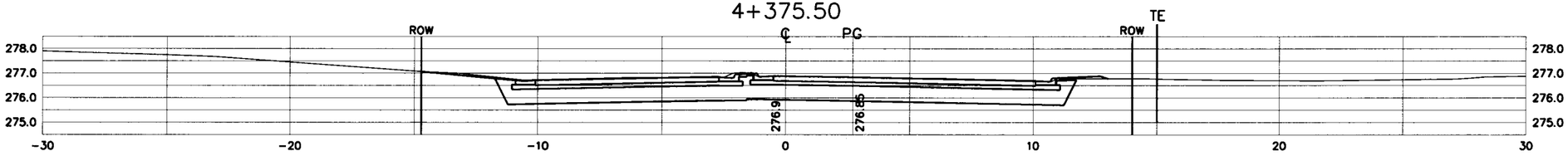
	11.15 m^3	0.34 m^3	7.17 m^3

4+379.50



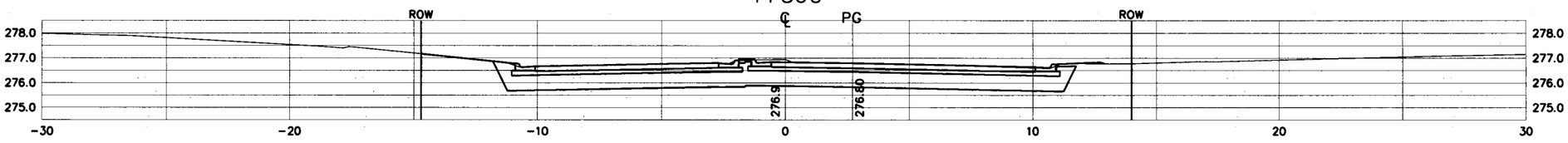
	89.54 m^3	2.98 m^3	57.4 m^3

4+375.50



	350.76 m^3	12.01 m^3	222.42 m^3

4+360



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

STA. 4+360 TO 4+380

Z8-289

S.A.P. 62-630-45

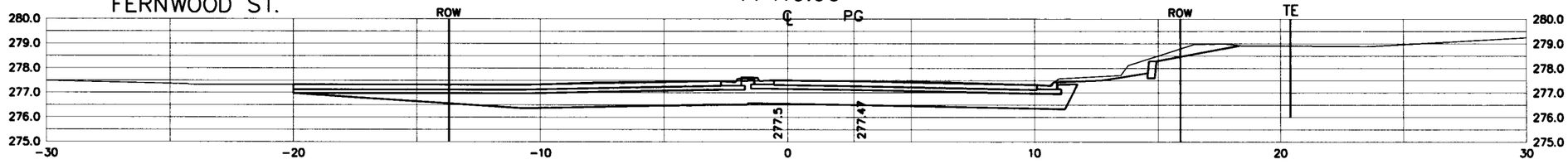
SHEET NO. 51 OF 121 SHEETS

h:\dwgs\orp3\e3-xsect

	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	523.45 m^3	32.42 m^3	514.2 m^3
	2.98 m^3	0.07 m^3	1.63 m^3

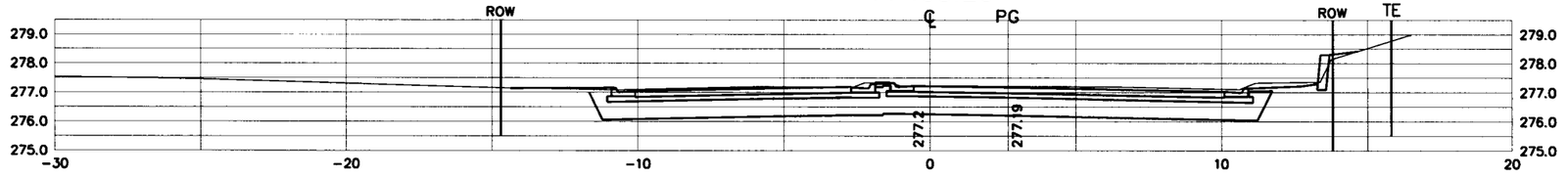
FERNWOOD ST.

4+419.90



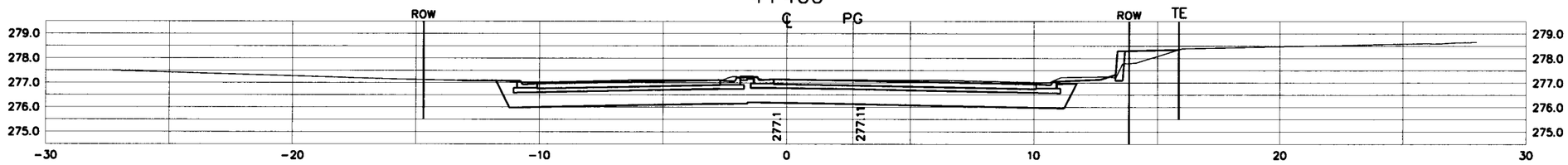
	396.09 m^3	10.6 m^3	225.57 m^3

4+405.20



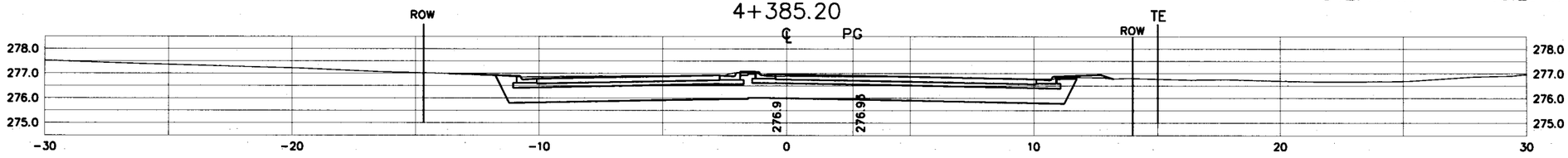
	124.38 m^3	5.48 m^3	74.62 m^3

4+400



	342.47 m^3	16.27 m^3	212.38 m^3

4+385.20



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

STA. 4+385.20 TO 4+419.90

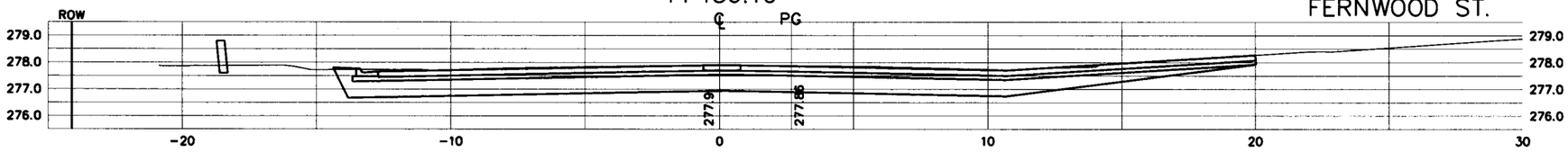
ZB-289

h: \dwgs\orp3\e3-xsect

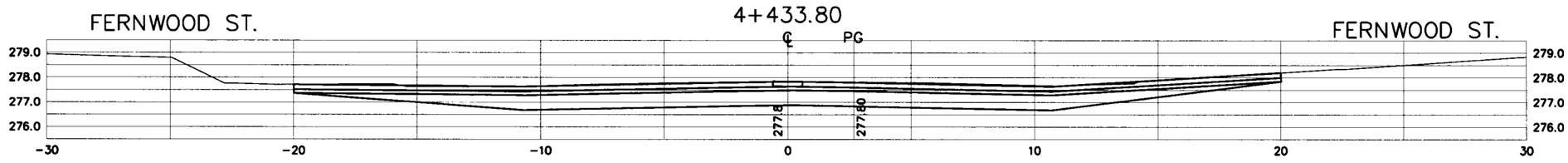
S.A.P. 62-630-45

SHEET NO. 52 OF 121 SHEETS

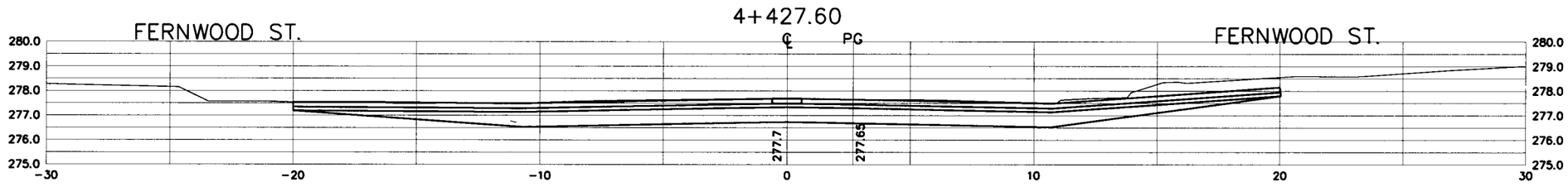
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	631.08 m^3	4.1 m^3	354.07 m^3



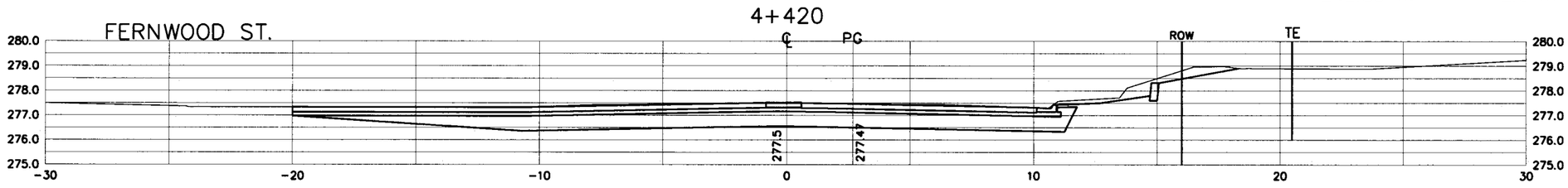
	106.51 m^3	1.5 m^3	64.66 m^3



	73.16 m^3	0.0 m^3	41.93 m^3



	208.56 m^3	0.0 m^3	114.94 m^3



	242.85 m^3	2.6 m^3	132.54 m^3

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

STA. 4+420 TO 4+436.10

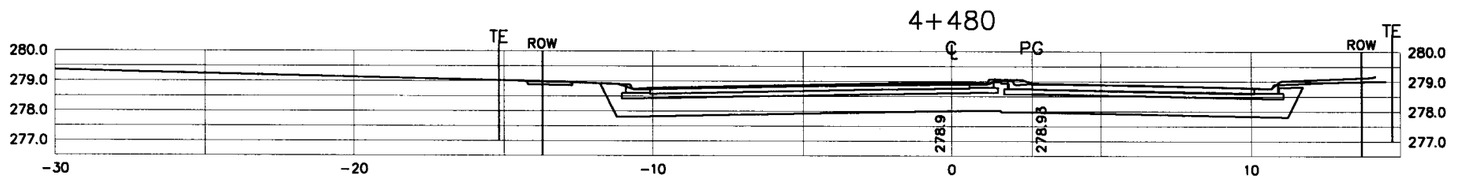
28-289

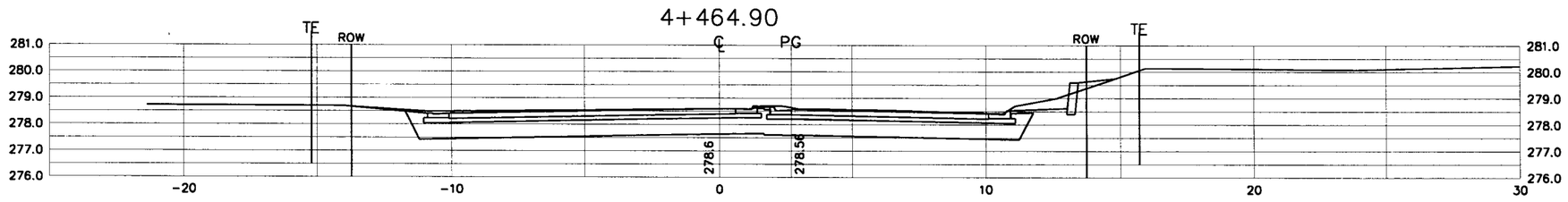
h: \dwgs\orp3\e3-xsect

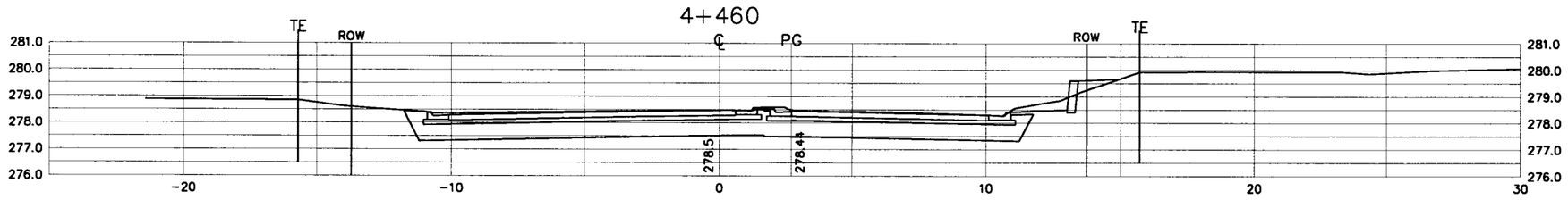
S.A.P. 62-630-45

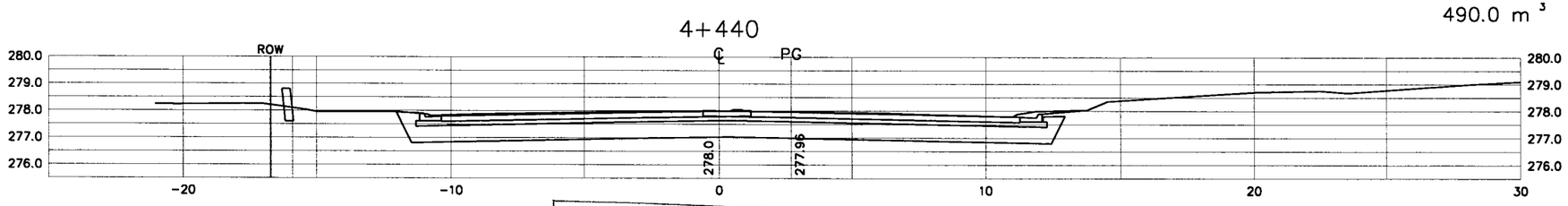
SHEET NO. 53 OF 121 SHEETS

	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	1073.52 m^3	37.33 m^3	645.82 m^3
	103.70 m^3	3.2 m^3	66.83 m^3
	357.64 m^3	11.93 m^3	214.72 m^3
	122.18 m^3	4.8 m^3	69.67 m^3
	490.0 m^3	17.4 m^3	294.6 m^3









ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

STA. 4+440 TO 4+480

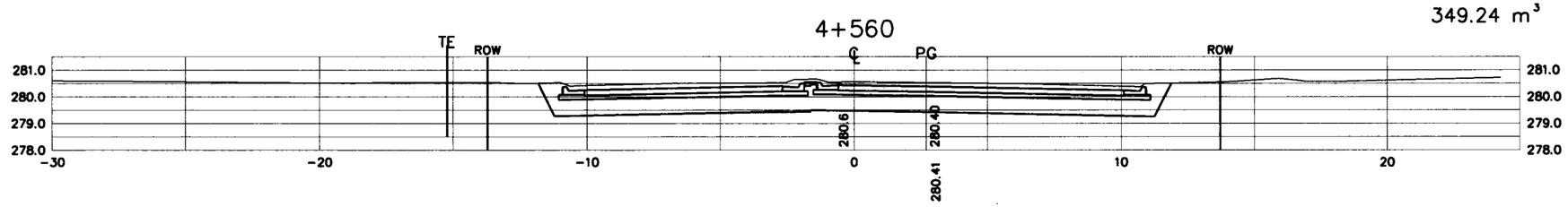
28-289

h:\dwgs\arp3\e3-xsect

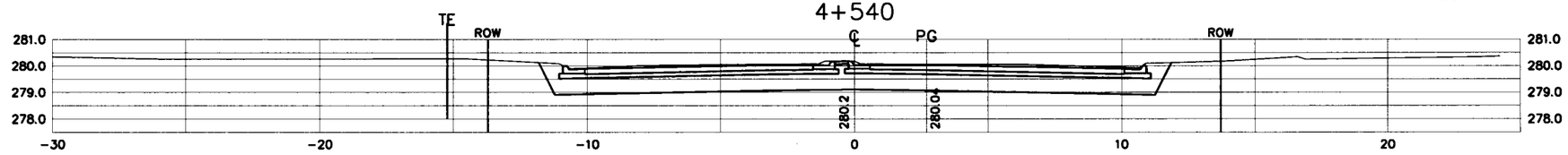
S.A.P. 62-630-45

SHEET NO. 54 OF 121 SHEETS

	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	2096.20 m^3	60.45 m^3	1264.15 m^3

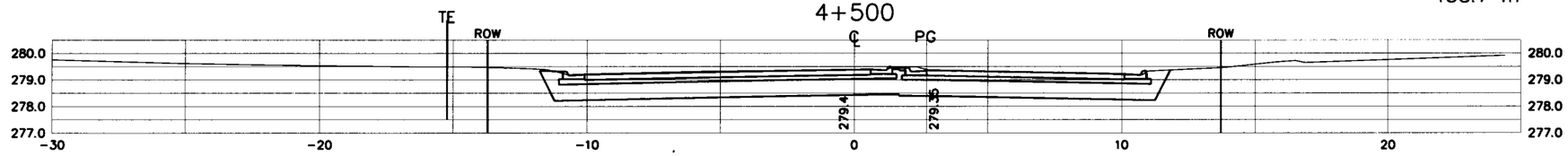


349.24 m^3 | 9.25 m^3 | 193.39 m^3

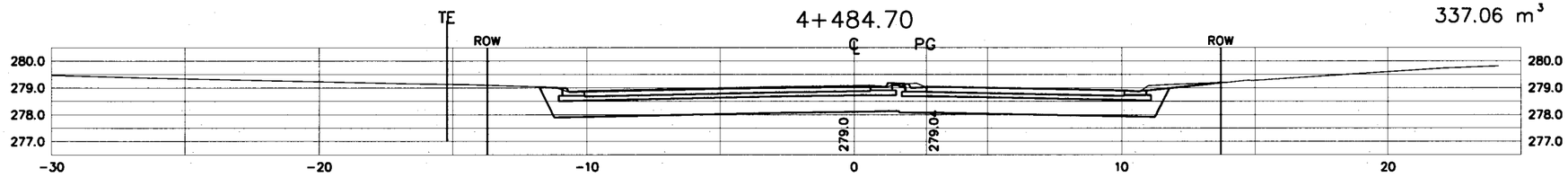


485.6 m^3 | 13.6 m^3 | 284.4 m^3

465.6 m^3 | 13.6 m^3 | 284.4 m^3



458.7 m^3 | 13.6 m^3 | 284.4 m^3



337.06 m^3 | 10.4 m^3 | 217.56 m^3

STA. 4+484.70 TO 4+560

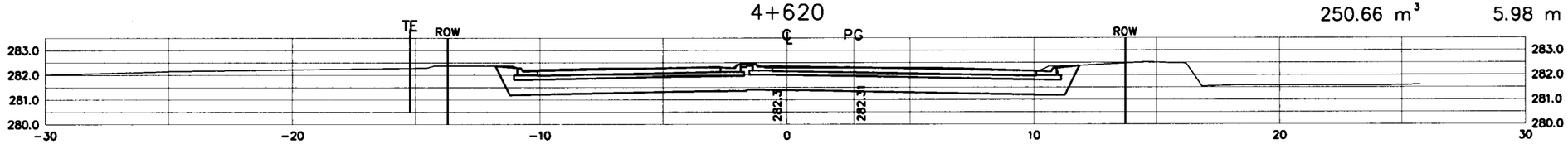
28-289

h: \dwgs\orp3\e3-xsect

S.A.P. 62-630-45

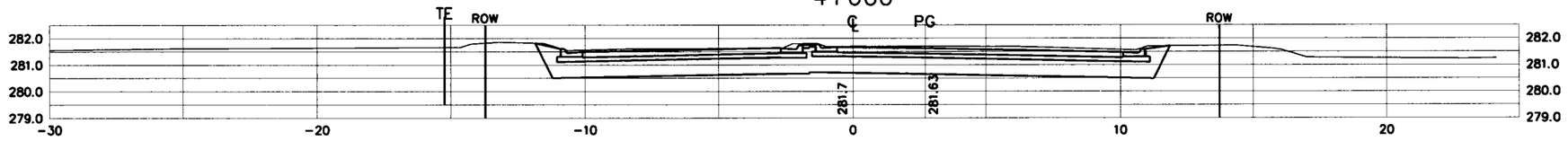
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	1366.25 m^3	37.53 m^3	804.87 m^3

4+620



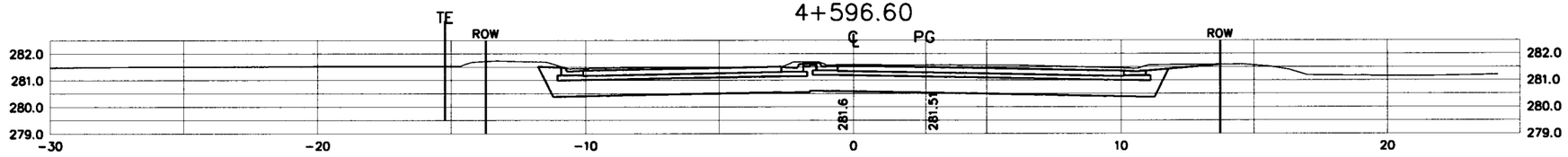
250.66 m^3	5.98 m^3	145.07 m^3

4+600



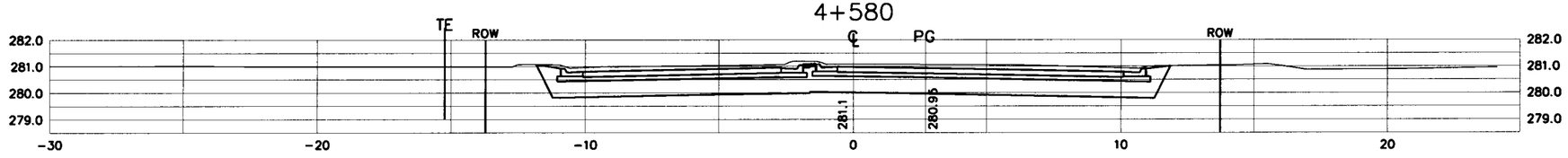
459.6 m^3	13.6 m^3	284.4 m^3

4+596.60



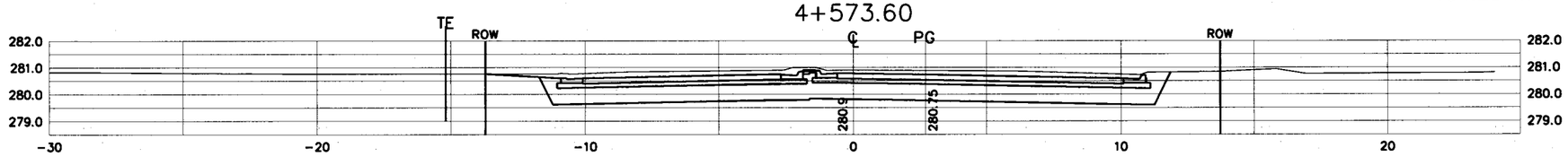
80.81 m^3	2.31 m^3	48.35 m^3

4+580



410.93 m^3	11.29 m^3	236.05 m^3

4+573.60



164.25 m^3	4.35 m^3	91.0 m^3

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

4+573.60 TO 4+620

28-289

h:\dwgs\orp3\e3-xsect

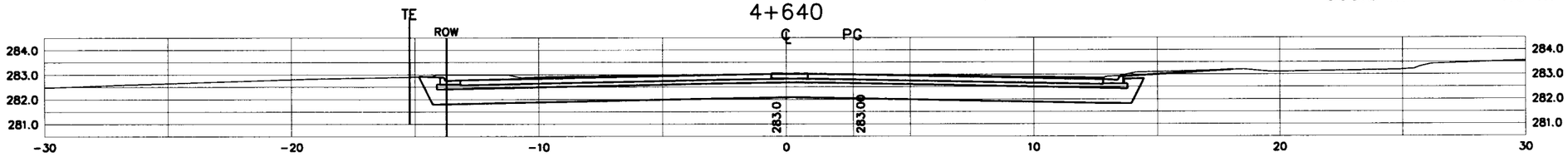
S.A.P. 62-630-45

SHEET NO. 56 OF 121 SHEETS

	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	886.84 m^3	1.0 m^3	530.95 m^3

503.8 m^3 1.0 m^3 322.1 m^3

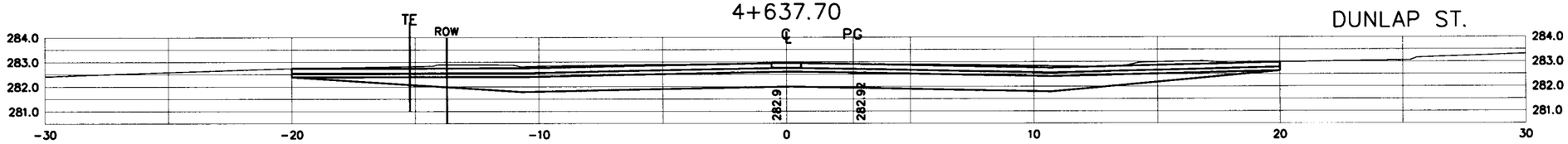
4+640



74.01 m^3 0.0 m^3 41.98 m^3

DUNLAP ST.

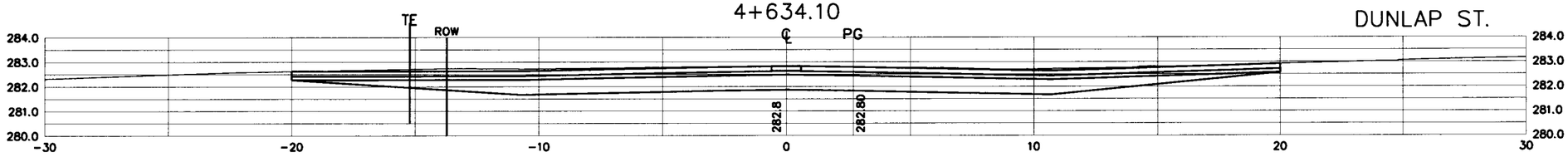
4+637.70



125.55 m^3 0.0 m^3 67.5 m^3

DUNLAP ST.

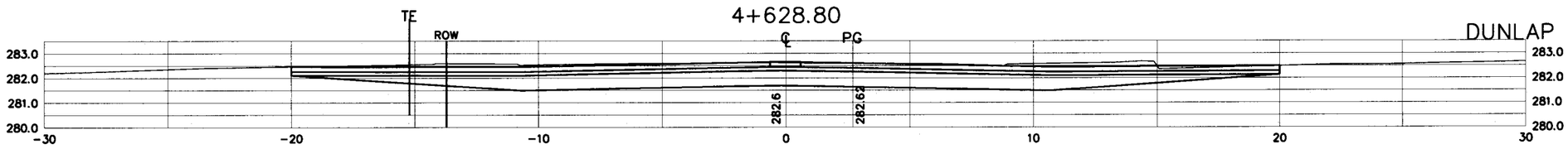
4+634.10



183.48 m^3 0.0 m^3 99.37 m^3

DUNLAP ST.

4+628.80



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-16

4+628.80 TO 4+640

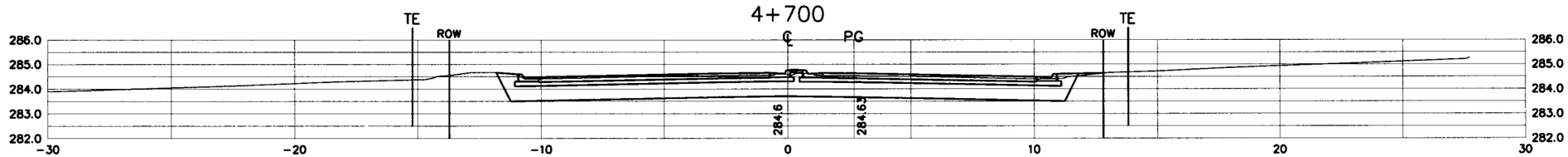
28-289

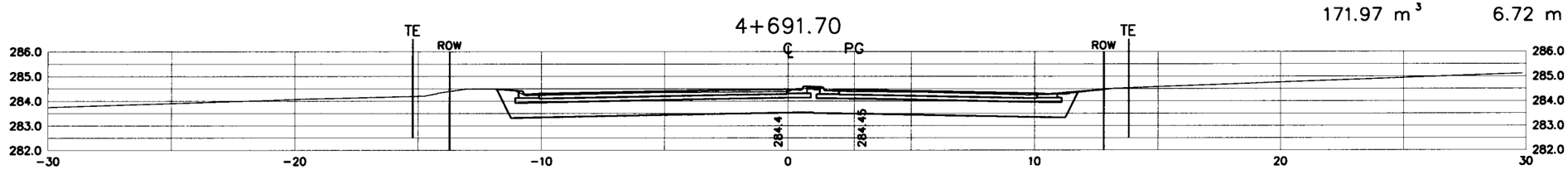
h:\dwgs\larp3\e3-xsect

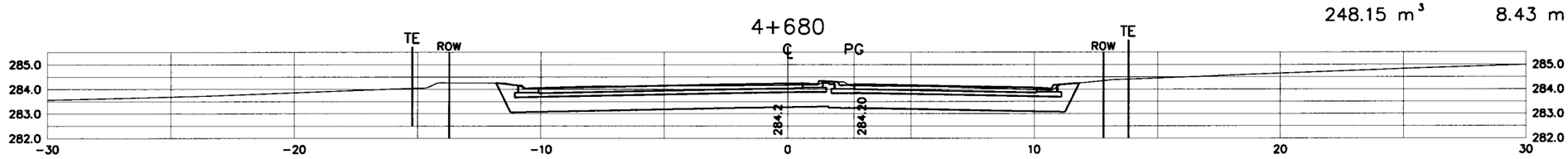
S.A.P. 62-630-45

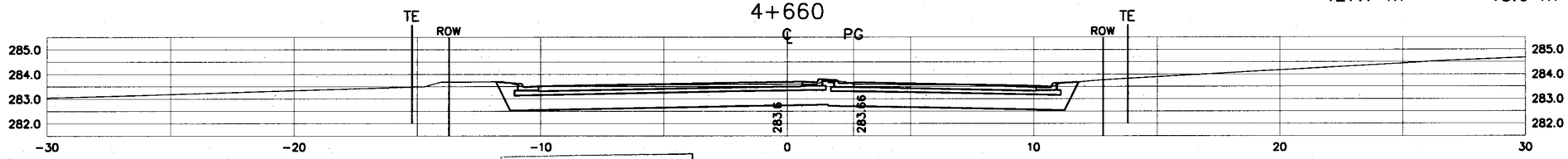
SHEET NO. 57 OF 121 SHEETS

	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	1131.41 m^3	34.61 m^3	777.4 m^3
	283.59 m^3	5.86 m^3	199.41 m^3
	171.97 m^3	6.72 m^3	119.93 m^3
	248.15 m^3	8.43 m^3	169.06 m^3
	427.7 m^3	13.6 m^3	289.0 m^3









ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

STA. 4+660 TO 4+700

28-289

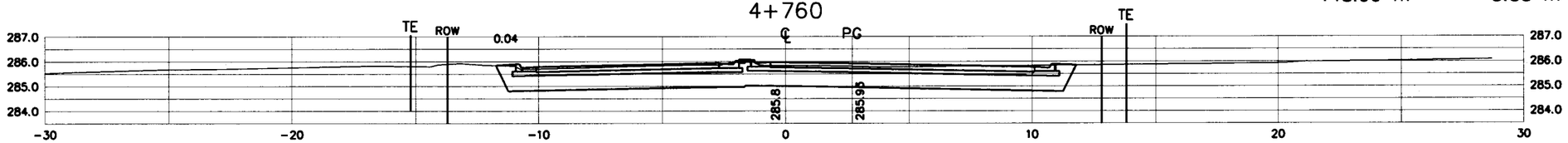
S.A.P. 62-630-45

SHEET NO. 58 OF 121 SHEETS

h:\dwgs\larp3\e3-xsect

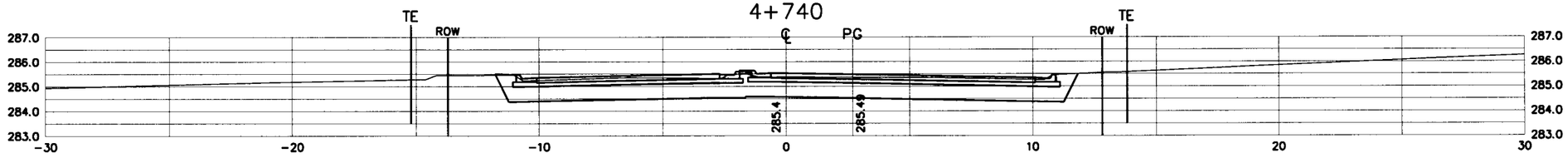
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	1091.03 m^3	35.4 m^3	770.17 m^3

4+760



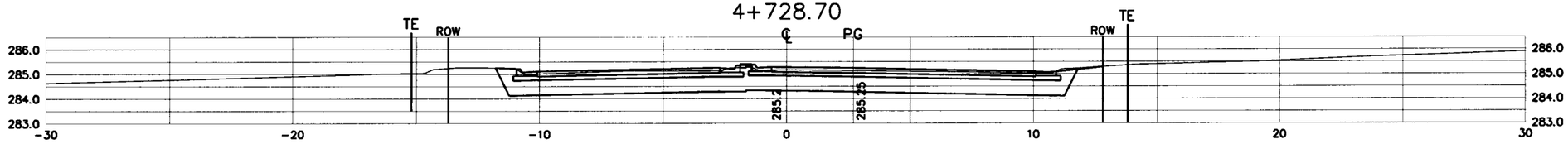
148.99 m^3	5.35 m^3	102.59 m^3

4+740



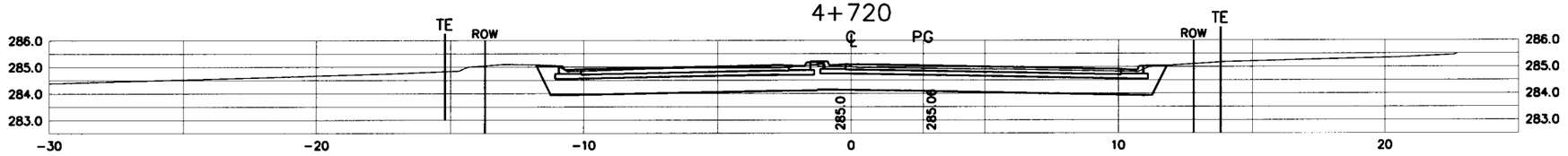
409.8 m^3	13.6 m^3	289.0 m^3

4+728.70



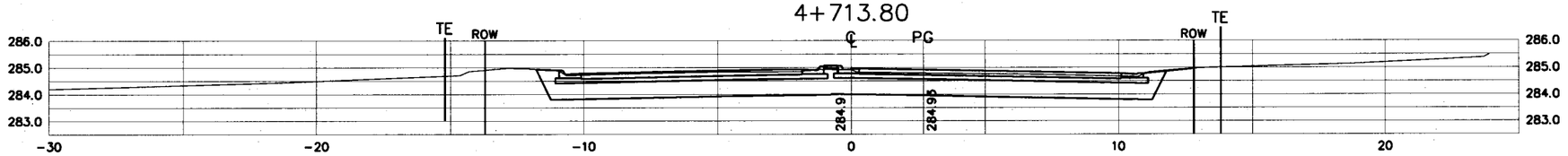
228.03 m^3	7.68 m^3	163.28 m^3

4+720



177.61 m^3	4.56 m^3	125.71 m^3

4+713.80



126.6 m^3	4.21 m^3	89.59 m^3

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

STA. 4+713.60 TO 4+760

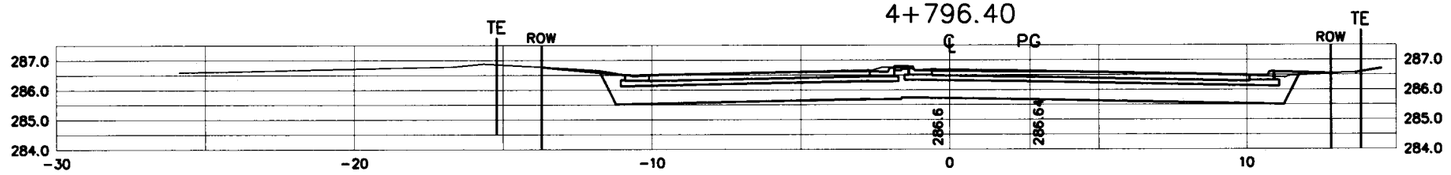
28-289

h:\dwgs\arp3\e3-xsect

S.A.P. 62-630-45

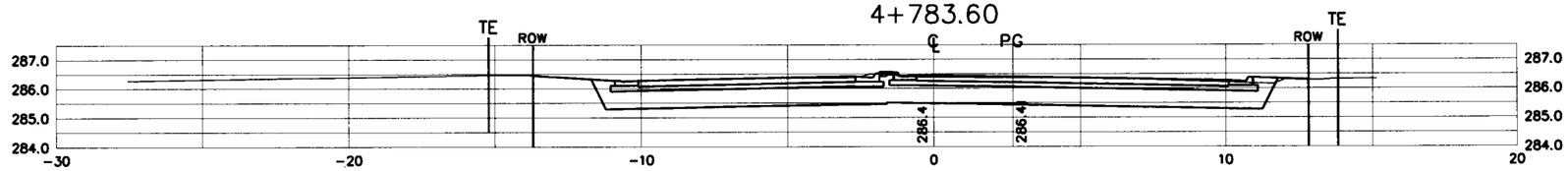
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	701.46 m^3	27.91 m^3	475.4 m^3

4+796.40



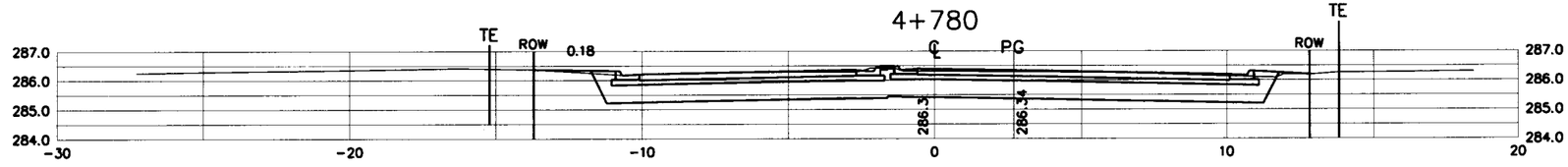
78.53 m^3	3.01 m^3	52.02 m^3

4+783.60



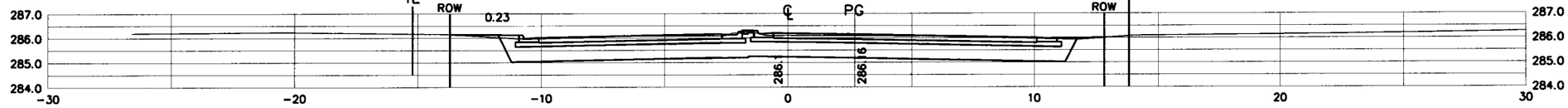
275.07 m^3	11.0 m^3	184.96 m^3

4+780



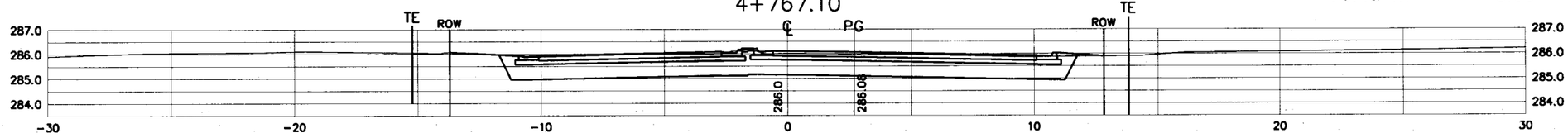
76.39 m^3	5.17 m^3	52.02 m^3

4+770.90



192.05 m^3	7.64 m^3	131.49 m^3

4+767.10



79.42 m^3	3.09 m^3	54.91 m^3

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

STA. 4+767.10 TO 4+796.40

28-289

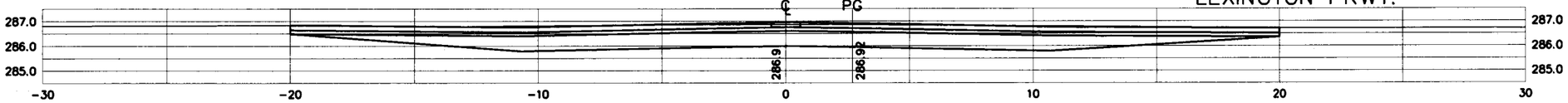
S.A.P. 62-630-45

SHEET NO. 60 OF 121 SHEETS

h:\dwgs\orp3\e3-xsect

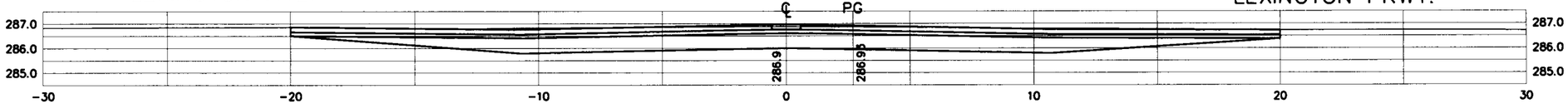
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	754.74 m^3	4.32 m^3	446.99 m^3
	163.42 m^3	0.0 m^3	93.8 m^3

LEXINGTON AVE. 4+820 LEXINGTON PKWY.



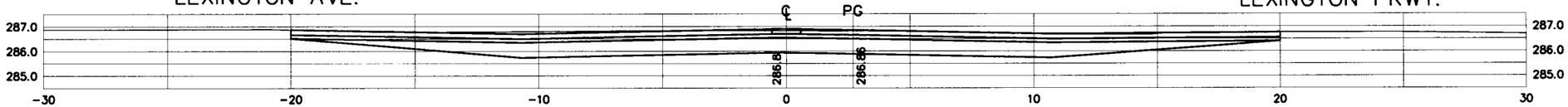
	61.93 m^3	0.0 m^3	35.64 m^3

LEXINGTON AVE. 4+818.10 LEXINGTON PKWY.



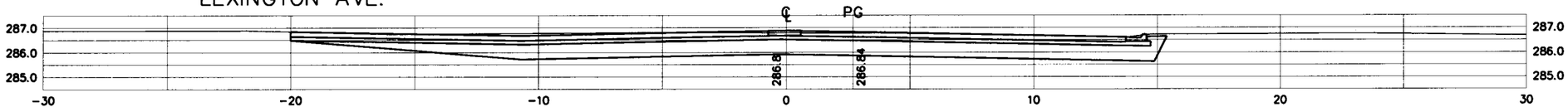
	222.92 m^3	0.3 m^3	127.56 m^3

LEXINGTON AVE. 4+811.30 LEXINGTON PKWY.



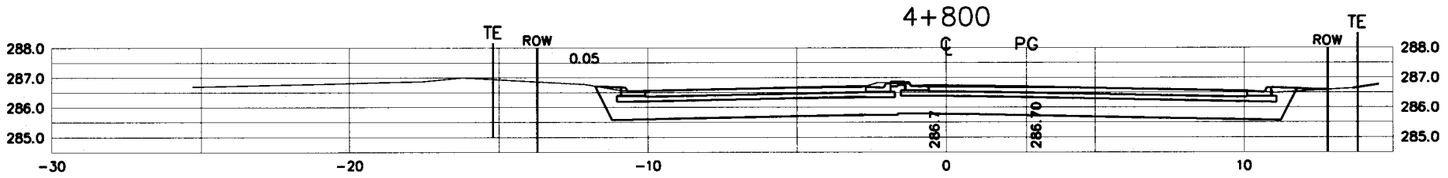
	54.14 m^3	0.0 m^3	31.69 m^3

LEXINGTON AVE. 4+809.60



	252.33 m^3	4.02 m^3	158.3 m^3

4+800



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PA
DATE: 1-22-13

STA. 4+800 TO 4+820

28-289

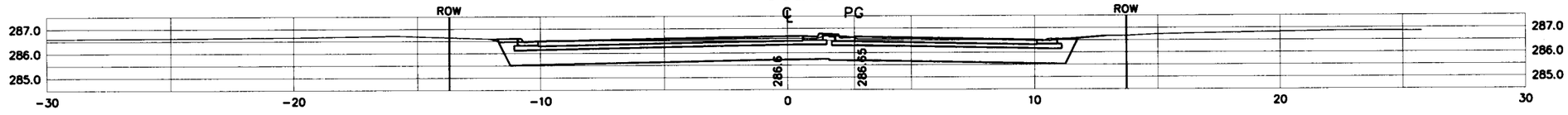
h:\dwgs\orp3\e3-xsect

S.A.P. 62-630-45

SHEET NO. 61 OF 121 SHEETS

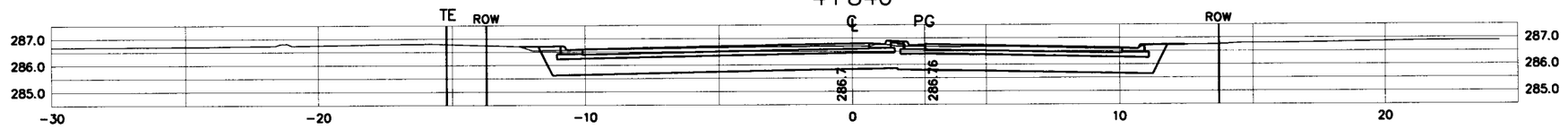
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	803.08 m^3	22.7 m^3	532.04 m^3

4+852.20



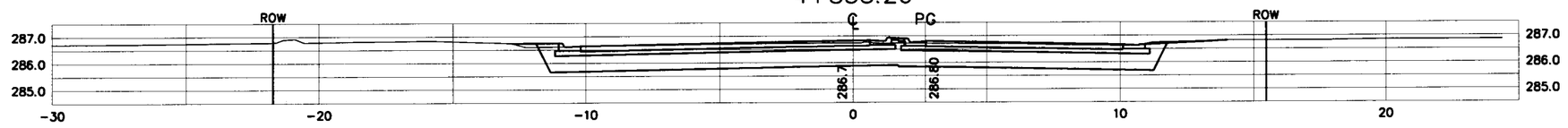
	165.08 m^3	5.88 m^3	112.55 m^3

4+840



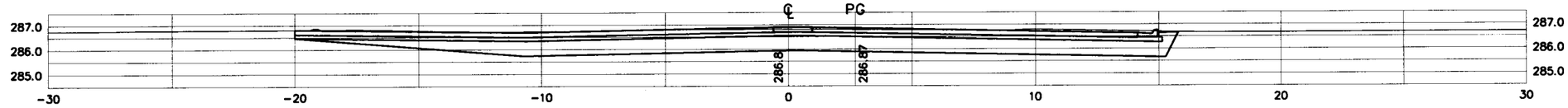
	257.42 m^3	8.3 m^3	176.04 m^3

4+835.20



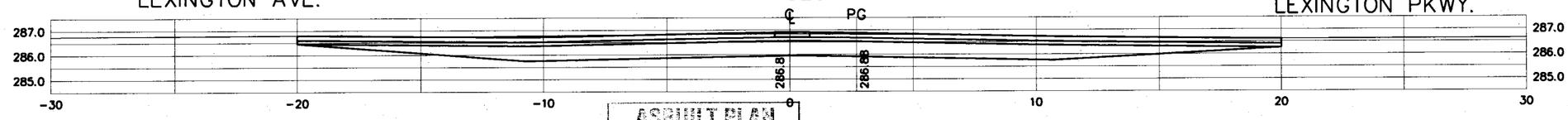
	101.56 m^3	3.26 m^3	69.26 m^3

LEXINGTON AVE. 4+826.90



	218.24 m^3	4.96 m^3	138.40 m^3

LEXINGTON AVE. 4+825 LEXINGTON PKWY.



	60.78 m^3	0.3 m^3	35.79 m^3

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

STA. 4+825 TO 4+852.20

ZB-289

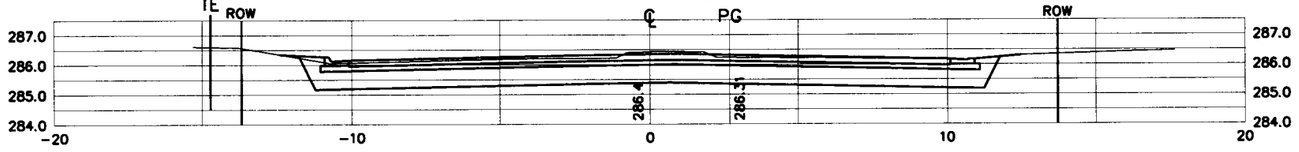
S.A.P. 62-630-45

SHEET NO. 62 OF 121 SHEETS

h: \dwgs \orp3 \e3-xsect

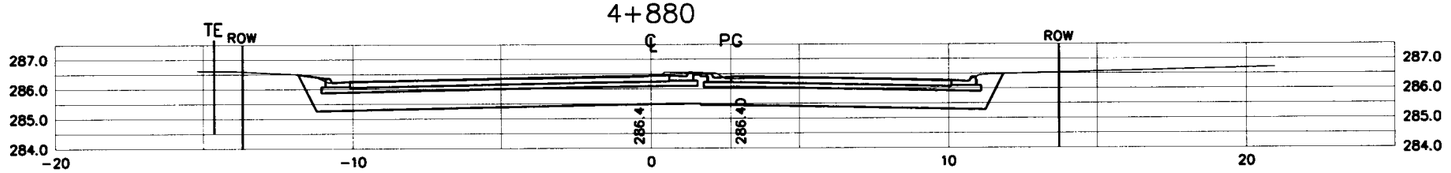
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	854.68 m^3	27.14 m^3	577.2 m^3

4+890.70



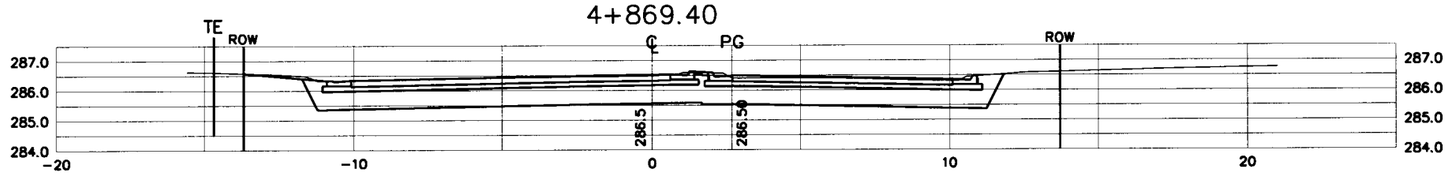
	196.97 m^3	6.32 m^3	134.2 m^3

4+880



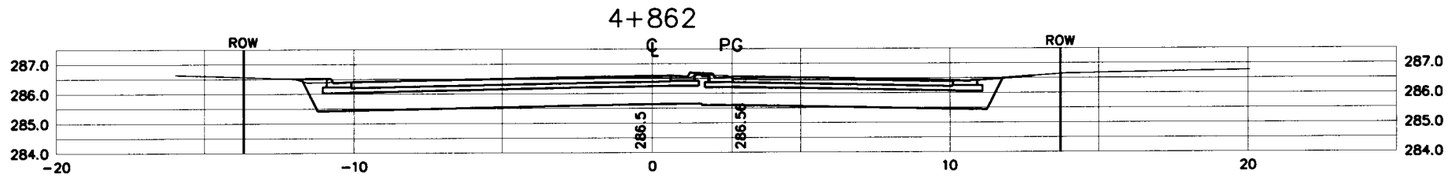
	230.0 m^3	7.28 m^3	154.4 m^3

4+869.40



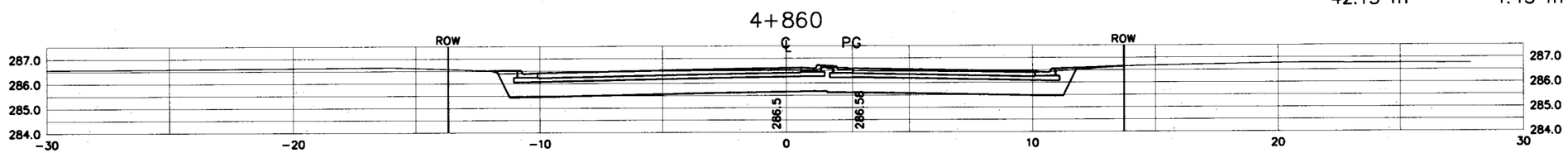
	232.30 m^3	7.21 m^3	152.96 m^3

4+862



	158.28 m^3	4.9 m^3	106.78 m^3

4+860



	42.13 m^3	1.43 m^3	28.86 m^3

AS-BUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

STA. 4+860 TO 4+890.70

28-289

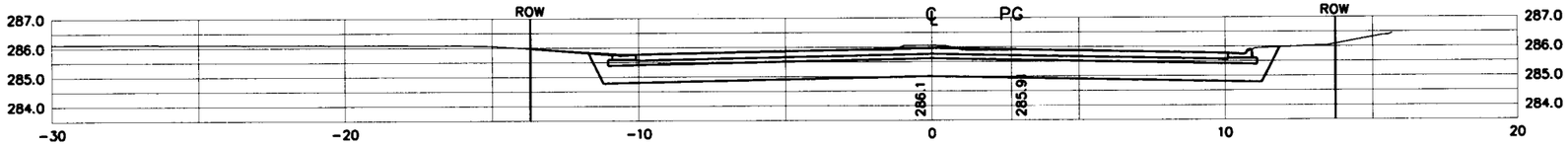
S.A.P. 62-630-45

SHEET NO. 63 OF 121 SHEETS

h:\dwgs\larp3\e3-xsect

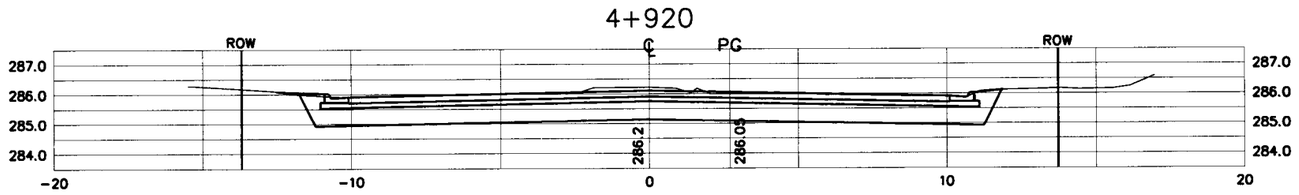
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	881.60 m^3	27.2 m^3	577.19 m^3

4+935.70



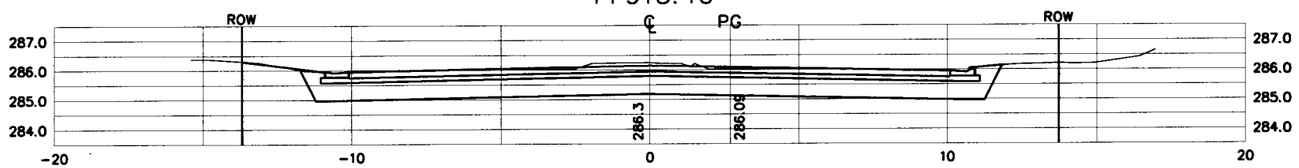
	96.90 m^3	2.92 m^3	62.05 m^3

4+920



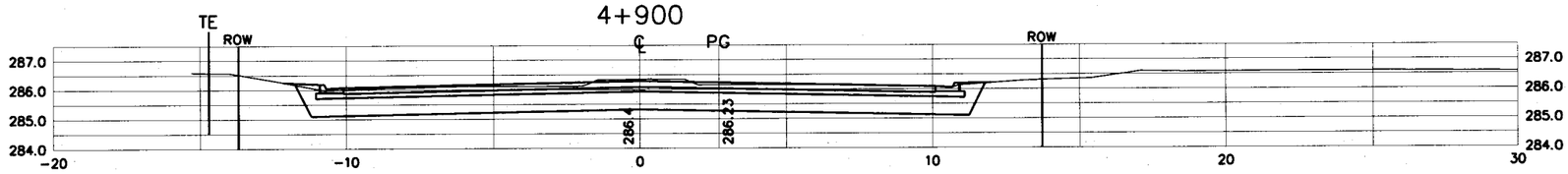
	348.77 m^3	10.68 m^3	226.55 m^3

4+915.40



	101.75 m^3	3.13 m^3	66.37 m^3

4+900



	334.18 m^3	10.47 m^3	222.22 m^3

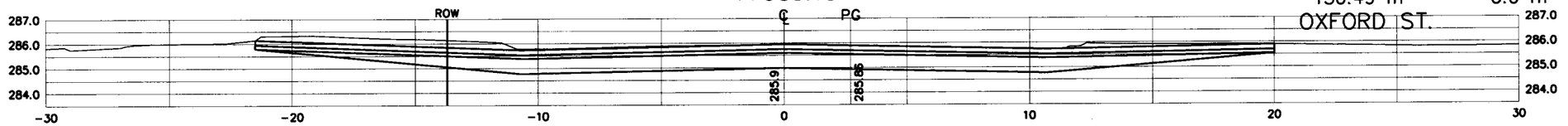
AS-BUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

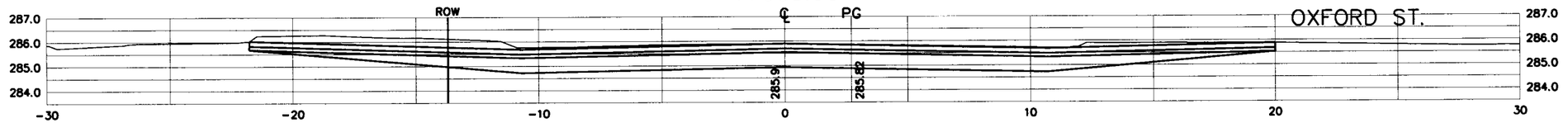
STA. 4+900 TO 4+935.70
28-289

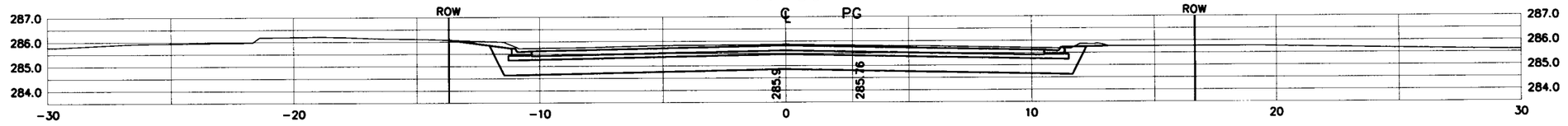
S.A.P. 62-630-45 SHEET NO. 64 OF 121 SHEETS

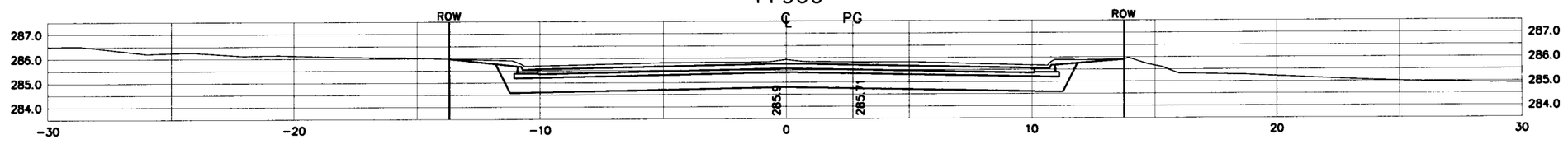
h:\dwgs\arp3\e3-xsect

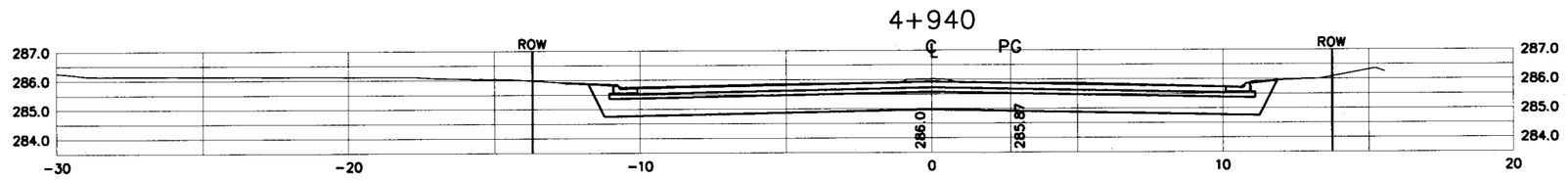
	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	1446.37 m^3	29.2 m^3	772.87 m^3
4+989.10	136.49 m^3	0.0 m^3	807.22 m^3
4+985.90	122.33 m^3	0.0 m^3	61.63 m^3
4+980	188.97 m^3	2.0 m^3	99.38 m^3
4+960	510.8 m^3	13.6 m^3	288.6 m^3
4+940	487.78 m^3	13.6 m^3	288.6 m^3











ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

28-289

STA. 4+940 TO 4+989.10

S.A.P. 62-630-45

SHEET NO. 65 OF 121 SHEETS

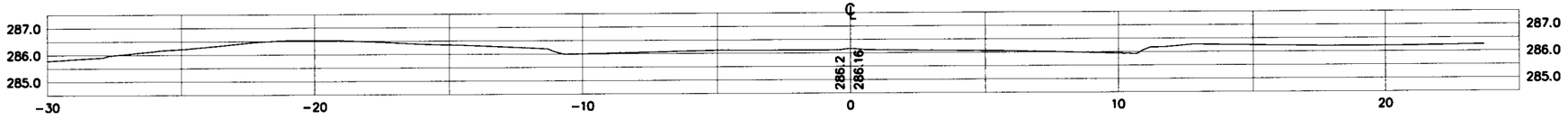
h: \dwgs \orp3 \e3-xsect

SEE EARTHWORKS SUMMARY CHART
FOR TOTAL EARTHWORK QUANTITIES

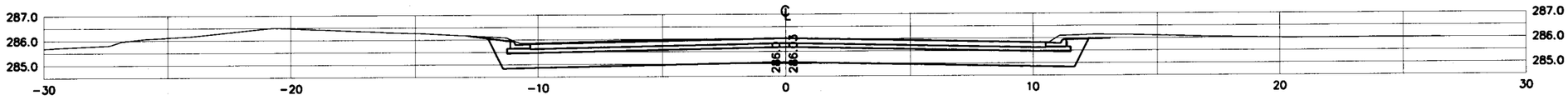
TOTAL EXCAVATION	TOTAL EMBANKMENT	TOTAL SELECT GRANULAR BORROW
39412.84 m^3	1018.87 m^3	23735.15 m^3

	EXCAVATION	EMBANKMENT	SELECT GRANULAR BORROW
SUBTOTAL :	225.71 m^3	2.48 m^3	121.91 m^3

5+007.71

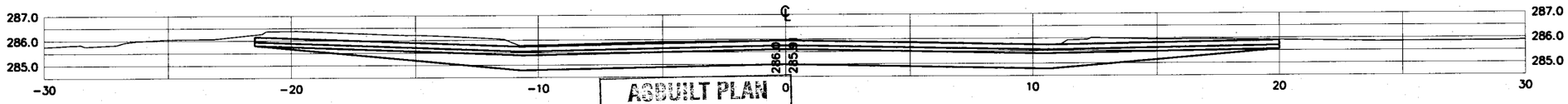


5+000



225.71 m^3 2.48 m^3 121.91 m^3

4+992.70



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

STA. 4+992.70 TO 5+007.71

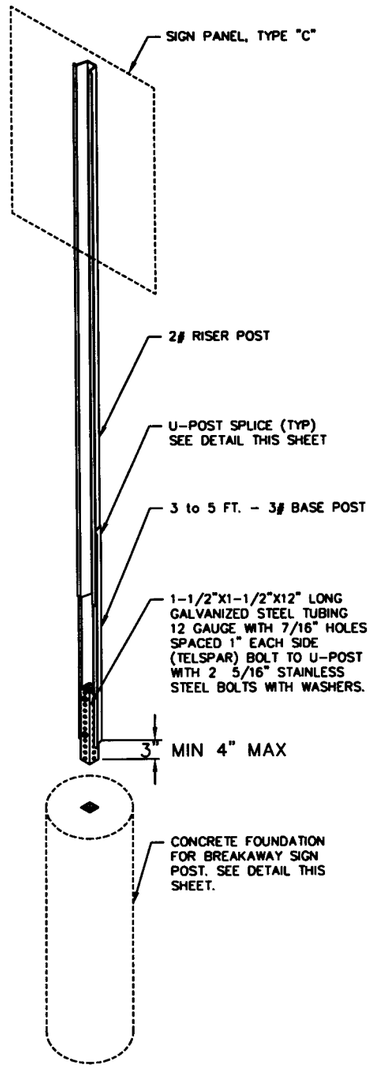
28-289

S.A.P. 62-630-45

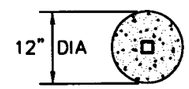
SHEET NO. 66 OF 121 SHEETS

h:\dwgs\orp3\e3-xsect

BREAKAWAY SIGN POST
(FOR TYPE "C" SIGNS INSTALLED IN CONCRETE)



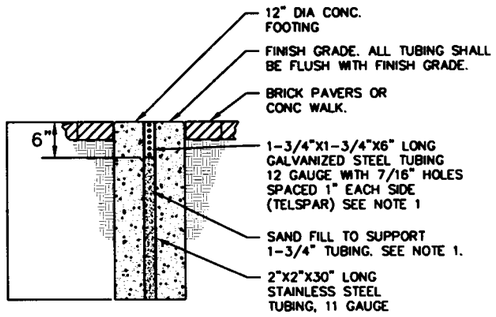
BREAKAWAY SIGN POST FOUNDATION
(FOR TYPE "C" SIGNS INSTALLED IN CONCRETE)



PLAN

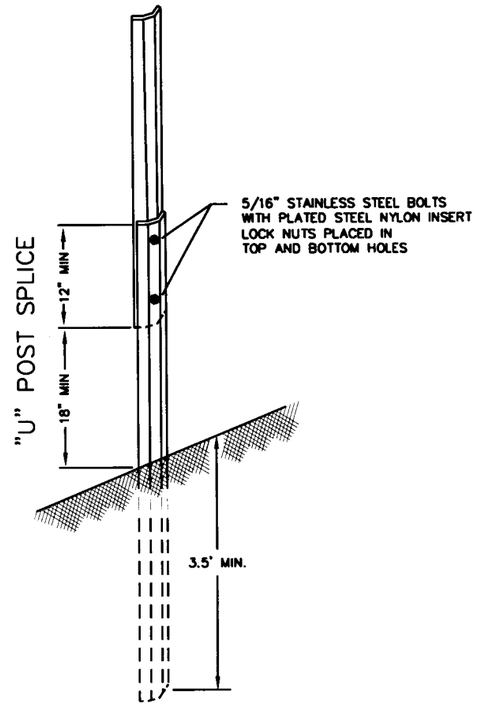
NOTES:

1. THE 1-3/4" X 6" TUBING SHALL NOT BE WELDED OR BOLTED TO THE 2" STAINLESS STEEL TUBING.
2. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
3. CONCRETE MIX SHALL BE 3A32 OR EQUAL.



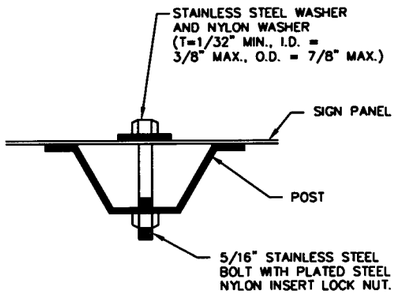
SECTION

TYPE "C" POST
(GROUND INSTALLATION)



NOTES:

1. USE 3# RISER STUB POSTS, WITH 2# RISER POSTS, ALL SHALL CONFORM TO MN/DOT SPECIFICATION 3401.
2. MOUNTING (PUNCHING CODE) FOR TYPE "C" SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
3. ALL RISER (VERTICAL) "U" POSTS SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7 FEET LONG.
4. USE STAINLESS STEEL 5/16" BOLTS AND WASHERS WITH PLATED STEEL NYLON INSERT LOCK NUTS AS SHOWN.
5. STAINLESS STEEL WASHER WITH THE SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
6. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS – APRIL 1995."
7. ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.



"U" POST MOUNTING
TYPE "C" SIGNS

TYPE "C" SIGN POST INSTALLATIONS		
TYPE OF INSTALLATION	QUANTITY	REMARKS
GROUND	43	
CONCRETE	44	

DD

SIGN PANELS TYPE C			
SIGN NUMBER	SIZE	QUANTITY	REMARKS
M1-6	24"X24"	9	
R1-1	30"X30"	7	
R2-1	24"X30"	5	
R3-X2	30"X30"	14	
R3-9b	36"X48"	3	
R4-7	24"X30"	15	
R6-1r	36"X12"	13	
R8-3a	18"X18"	32	
X4-2	18"X18"	3	
X4-4	12"X36"	1	

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Daniel E. Sahr
REG. NO. 20452 DATE 3/7/00

H:\DWGS\LARP-3\E3-SIGNPOST 12/3/99

DIMENSIONS ARE IN ENGLISH UNITS

TYPE C SIGN MOUNTING DETAILS

S.P. 62-630-45

SHEET NO. 67 OF 121 SHEETS

28-289

PASCAL ST.

HOLTON ST.

ALBERT ST.

HAMLINE AVE.

HURON AVE.

R8-3a 18"X18"
R3-X2 30"X30" LEFT TURN LANE
R1-1 30"X30" STOP
R4-7 24"X30"
R4-4 24"X24"
R2-1 24"X30" SPEED LIMIT 35
R6-1R 36"X12"
X4-4L 12"X36"
X4-2 18"X18" YELLOW on BLACK
100 mm Solid White
100 mm Skip White
100 mm Solid Yellow
100 mm Solid Yellow(Double)

NOTES:

1. EXACT LOCATIONS WILL BE DETERMINED IN FIELD BY THE ENGINEER.
2. SIGN PANELS ARE IN ENGLISH UNITS.
3. ALL SIGNS INSTALLED IN SIDEWALKS AND MEDIANS SHALL HAVE BREAKAWAY POST AND FOUNDATION - SEE SIGN DETAILS.
4. SKIP STRIPING CYCLE SHALL BE 2 m STRIPE - 8 m GAP.
5. CROSSWALK BLOCKS SHALL BE 2'-6" WIDE X 6'-0" LONG (ENGLISH UNITS)
6. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - APRIL 1995."
7. ALL TRAFFIC CONTROL DEVICES SHALL HAVE VIP DIAMOND GRADE RETROREFLECTIVE SHEETING.

AS-BUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Daniel E. Soler
REG. NO. 20452 DATE 3/1/00

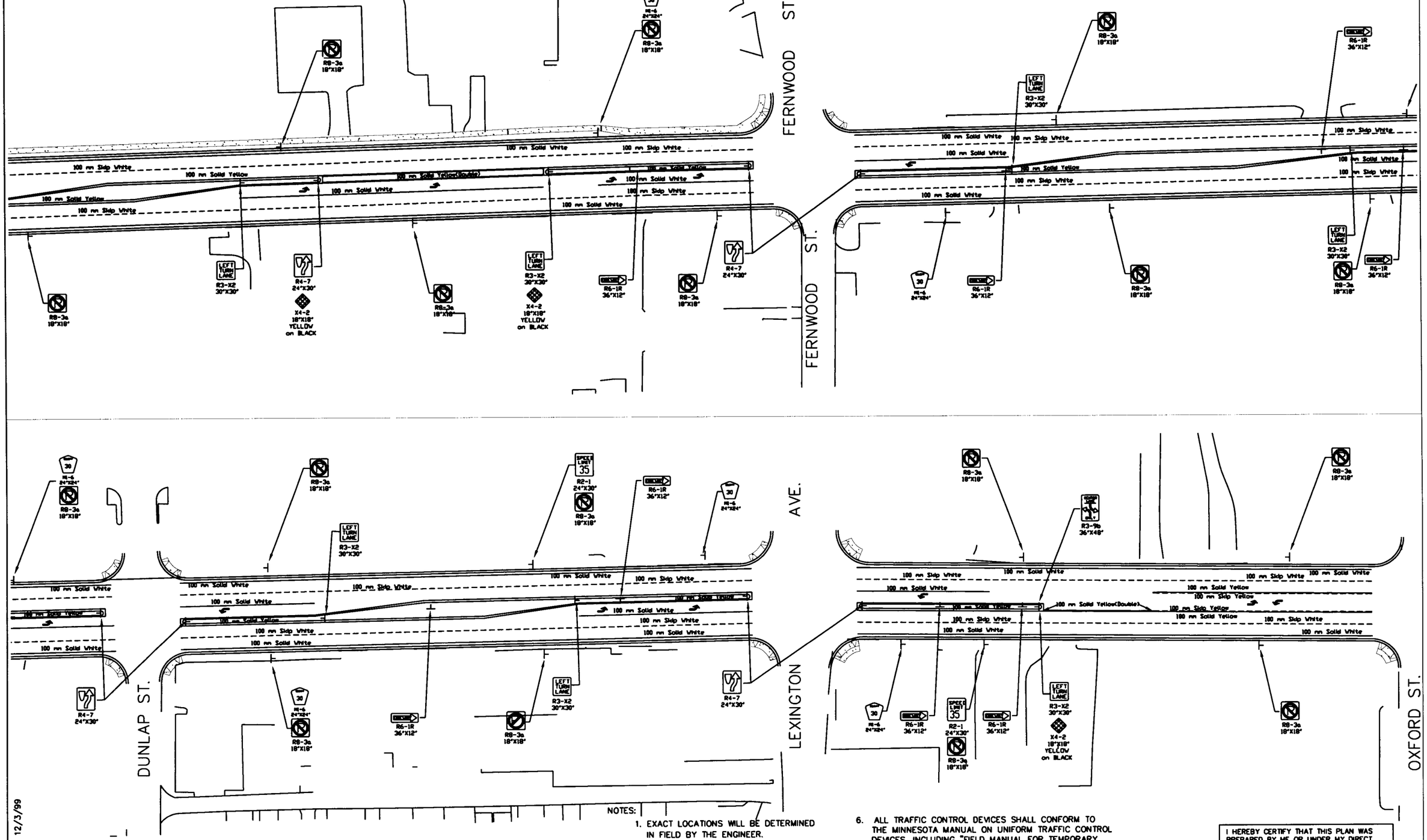
H:\DWGS\LARP-3\E3-TRAF 12/3/99

PERMANENT SIGNING & STRIPING LAYOUT

S.P. 62-630-45

SHEET NO. 68 OF 121 SHEETS

28-289



NOTES:

1. EXACT LOCATIONS WILL BE DETERMINED IN FIELD BY THE ENGINEER.
2. SIGN PANELS ARE IN ENGLISH UNITS.
3. ALL SIGNS INSTALLED IN SIDEWALKS AND MEDIANS SHALL HAVE BREAKAWAY POST AND FOUNDATION – SEE SIGN DETAILS.
4. SKIP STRIPING CYCLE SHALL BE 2 m STRIPE – 8 m GAP.
5. CROSSWALK BLOCKS SHALL BE 2'–6" WIDE X 6'–0" LONG (ENGLISH UNITS).
6. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS – APRIL 1995."
7. ALL TRAFFIC CONTROL DEVICES SHALL HAVE VIP DIAMOND GRADE RETROREFLECTIVE SHEETING.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Daniel E. Soler
REG. NO. 20452 DATE 3/7/00

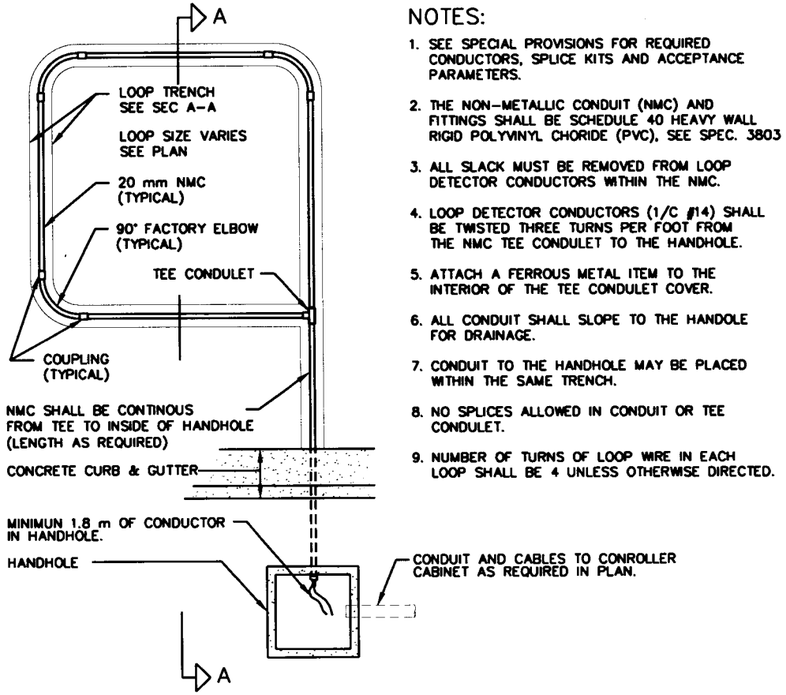
PERMANENT SIGNING & STRIPING LAYOUT

S.P. 62-630-45 SHEET NO. 69 OF 121 SHEETS

H:\DWGS\LARP-3\E3-TRAF 12/3/99

28-289

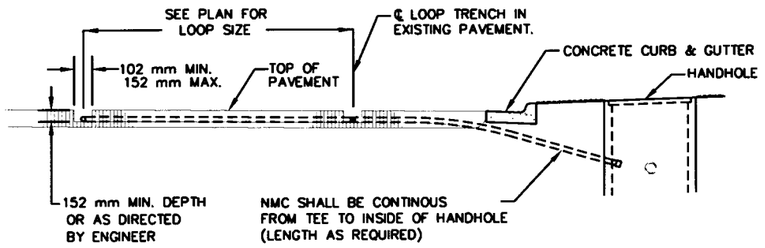
NMC LOOP DETECTOR DETAIL



PLAN VIEW

NOTES:

1. SEE SPECIAL PROVISIONS FOR REQUIRED CONDUCTORS, SPLICE KITS AND ACCEPTANCE PARAMETERS.
2. THE NON-METALLIC CONDUIT (NMC) AND FITTINGS SHALL BE SCHEDULE 40 HEAVY WALL RIGID POLYVINYL CHORIDE (PVC), SEE SPEC. 3803
3. ALL SLACK MUST BE REMOVED FROM LOOP DETECTOR CONDUCTORS WITHIN THE NMC.
4. LOOP DETECTOR CONDUCTORS (1/C #14) SHALL BE TWISTED THREE TURNS PER FOOT FROM THE NMC TEE CONDULET TO THE HANDHOLE.
5. ATTACH A FERROUS METAL ITEM TO THE INTERIOR OF THE TEE CONDULET COVER.
6. ALL CONDUIT SHALL SLOPE TO THE HANDOLE FOR DRAINAGE.
7. CONDUIT TO THE HANDHOLE MAY BE PLACED WITHIN THE SAME TRENCH.
8. NO SPLICES ALLOWED IN CONDUIT OR TEE CONDULET.
9. NUMBER OF TURNS OF LOOP WIRE IN EACH LOOP SHALL BE 4 UNLESS OTHERWISE DIRECTED.



SECTION A-A

NOTES:

THE FOLLOWING NOTES SHALL APPLY WHERE PVC LOOPS ARE INSTALLED IN EXISTING PAVEMENT.

1. ACHIEVE A MINIMUM 50 mm VERTICAL EDGE ON ALL CUTS.
2. AN AIR COMPRESSOR UNIT IS REQUIRED FOR REMOVING ALL LOOSE MATERIAL FROM THE LOOP TRENCH PRIOR TO TACK COAT.
3. BOTTOM AND EDGES OF LOOP TRENCH SHALL BE THOROUGHLY COVERED WITH TACK. (EMULSIFIED ASPHALT - MN/DOT SPEC. 2357.2A)
4. USE TYPE 41 WEARING COURSE FOR LOOP TRENCH BACKFILL. (TYPE 41WEA50055X OR Y)
5. DO NOT USE PETROLEUM DISTILLATES AS A RELEASE AGENT.
6. COMPACTION SHALL BE OBTAINED BY THE ORDINARY COMPACTION METHOD. A MINIMUM OF TWO LIFTS SHALL BE USED TO EXCLUDE DAMAGE TO PVC.
7. CREATE AN OVERFILL OF 6 to 12 mm OVER EXISTING PAVEMENT SURFACE.
8. APPLY A COAT OF TACK OVER THE FINAL ROADWAY SURFACE. IF UNDER TRAFFIC, SPRINKLE WITH SAND TO PREVENT TRACKING AND SPRAYING.

ABBREVIATIONS

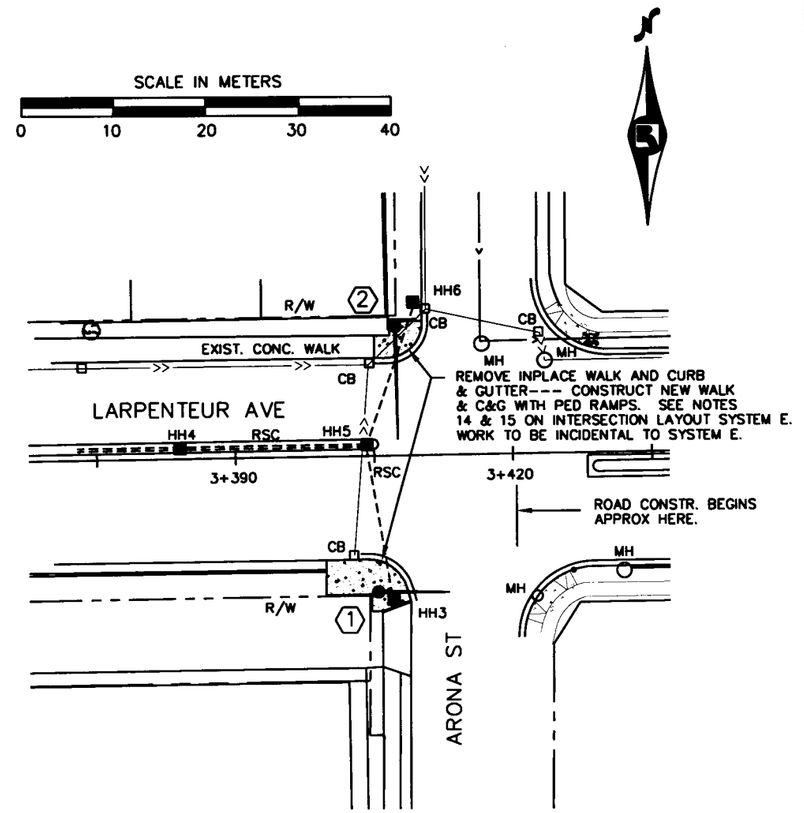
3-1 (e.g.)	-SIGNAL HEAD, PHASE "3", NO. "1"
BL	-BLUE
BLK	-BLACK
BLK/WH	-BLACK WITH WHITE TRACER
BL/BLK	-BLUE WITH WHITE TRACER
BR. GR.	-BARE GROUND
CH. SW.	-CHECK SWITCH
CLR	-CLEAR
D2-1 (e.g.)	-DETECTOR, PHASE "2", NO."1"
DNL	-DOWNLIGHT
DWK	-DON'T WALK
EQG	-EQUIPMENT GROUND
EVP	-EMERGENCY VEHICLE PRE-EMPTION
F&I	-FURNISH AND INSTALL
FL	-FLASH/FLASHING
G	-GREEN
GLTA	-GREEN LEFT TURN ARROW
GRN	-GREEN
GRTA	-GREEN RIGHT TURN ARROW
GR.R.	-GROUND ROD
GTHA	-GREEN THROUGH ARROW
G/BLK	-GREEN WITH BLACK TRACER
HPS	-HIGH PRESSURE SODIUM
H.H.	-HANDHOLE
IMC	-INTERMEDIATE METAL CONDUIT
J.B.	-JUNCTION BOX
LTA	-LEFT TURN ARROW
LUM	-LUMINAIRE
MV	-MERCURY VAPOR
NEU	-NEUTRAL
NMC	-NON-METALLIC 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"
PED	-PEDESTRIAN
P.E.C.	-PHOTOELECTRIC CELL
R	-RED
R&S	-REMOVE AND SALVAGE
RSC	-RIGID STEEL CONDUIT
RTA	-RIGHT TURN ARROW
R/BLK	-REN WITH BLACK TRACER
SPR	-SPARE
STA	-STATION
ST. LHT.	-STREET LIGHT
SW	-SWITCH
SWD	-SWITCHED
S.O.P.	-SOURCE OF POWER
TDW	-TELEPHONE DROP WIRE
WH	-WHITE
WH/BLK	-WHITE WITH BLACK TRACER
WLK	-WALK
YEL	-YELLOW
YLTA	-YELLOW LEFT TURN ARROW
YRTA	-YELLOW RIGHT TURN ARROW
YTHA	-YELLOW THROUGH ARROW

FOR PLANS AND UTILITIES SYMBOLS SEE MN/DOT TECHNICAL MANUAL.

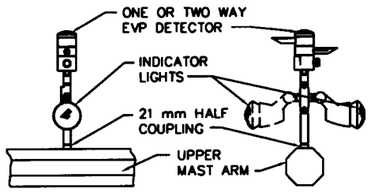
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PCT
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel A. Soler
Date 3/7/00 Reg. No. 20452

WALK & PEDESTRIAN RAMPS SYSTEM E



EVP DETECTOR & LIGHT MOUNTING DETAIL ON MAST ARM



FRONT VIEW SIDE VIEW

DETAILS

T:\TRAFFIC\SIGPLAN\LARP\5800TLS.dwg 12/3/99

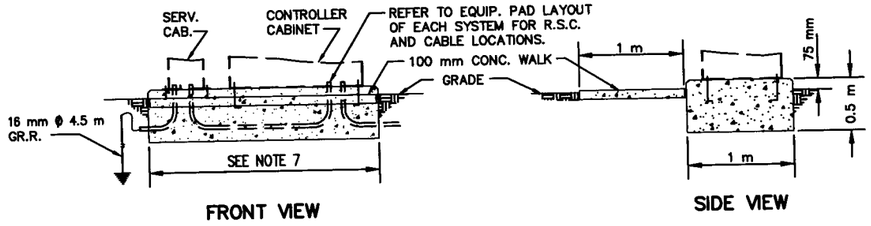
S.A.P. No. 62-630-45 Sheet No. 70 of 121 Sheets

28-289

EQUIPMENT PAD FOUNDATION

NOTES:

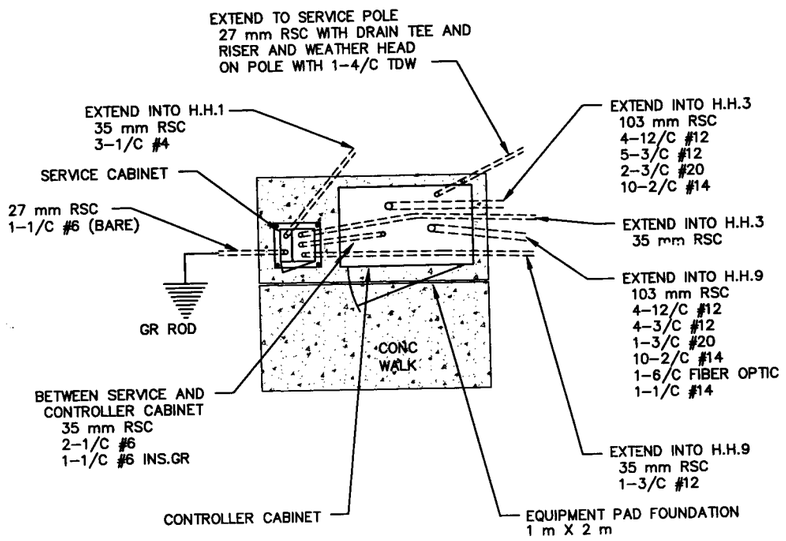
1. ANCHOR RODS, NUTS AND WASHERS PER MN/DOT 3385 OR APPROVED EQUAL SET AS RECOMMENDED BY CABINET MANUFACTURER (NUMBER, SIZE AND LENGTH OF ANCHOR RODS) SHALL BE AS REQUIRED BY THE CABINET (MANUFACTURER).
2. UPPER PART OF FOUNDATION SHALL BE BEVELED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER IN THE FIELD.
3. TOP OF CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED). CONDUIT SHALL PROJECT A MINIMUM OF 50 mm ABOVE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER BUT SHALL NOT INTERFERE WITH CABINET FUNCTIONS.
4. CONCRETE MIX 3A32 OR EQUAL SHALL BE USED FOR FOUNDATION AND CONCRETE WALK.
5. CONDUITS WHICH HAVE BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BELOW THE CONCRETE.
6. EXACT LOCATIONS OF CONDUIT WITHIN THE PAD SHALL BE AS DETERMINED BY THE ENGINEER IN THE FIELD.
7. REFER TO EQUIPMENT PAD LAYOUT OF EACH SYSTEM FOR FOUNDATION SIZE, CONDUIT PLACEMENT AND EQUIPMENT TO BE INSTALLED.



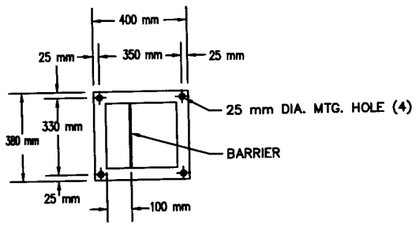
FRONT VIEW

SIDE VIEW

EQUIPMENT PAD LAYOUT
SYSTEM E
LARPENTEUR AVE & ARONA ST



SERVICE CABINET DETAILS



BASE LAYOUT

NOTES:

PEDESTAL SHALL BE FABRICATED FROM ALUMINUM, 3 mm THICK WITH WELDED SEAMS FOR USE AS AN OUTDOOR WEATHE PROOF SERVICE.

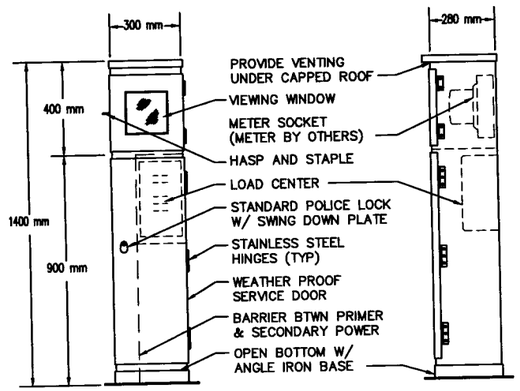
DOOR OPENINGS SHALL BE SEALED WITH NEOPRENE GASKET.

ALL HINGES, HINGE PINS AND LOCKS SHALL BE MADE FROM NON-CORRODING MATERIALS.

THE VIEWING WINDOW SHALL BE LEXAN MATERIAL-175x175mm MIN.

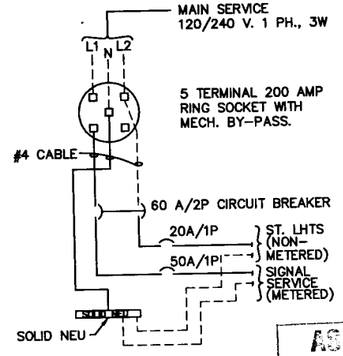
THE PEDESTAL CABINET SHALL BE PROTECTED INSIDE AND OUT WITH A ANODIC COATING. SEE SPECIAL PROVISIONS.

ANCHOR RODS, NUTS & WASHERS - SEE EQUIPMENT PAD NOTE No. 1.



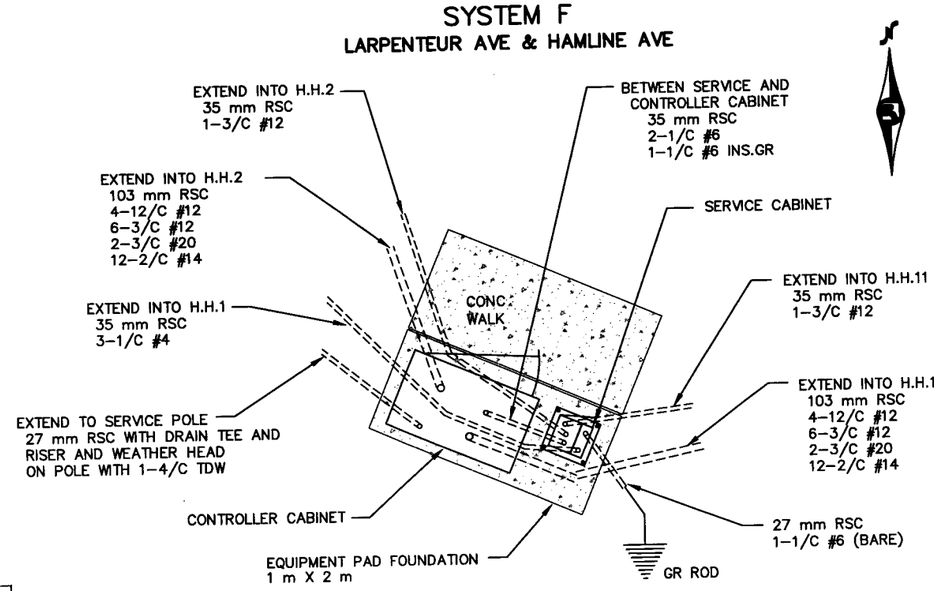
FRONT ELEVATION

SIDE ELEVATION



WIRING DIAGRAM

EQUIPMENT PAD LAYOUT
SYSTEM F
LARPENTEUR AVE & HAMLINE AVE



T:\TRAFFIC\SIGPLAN\LARP\580rDTLS.dwg 5/24/00

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

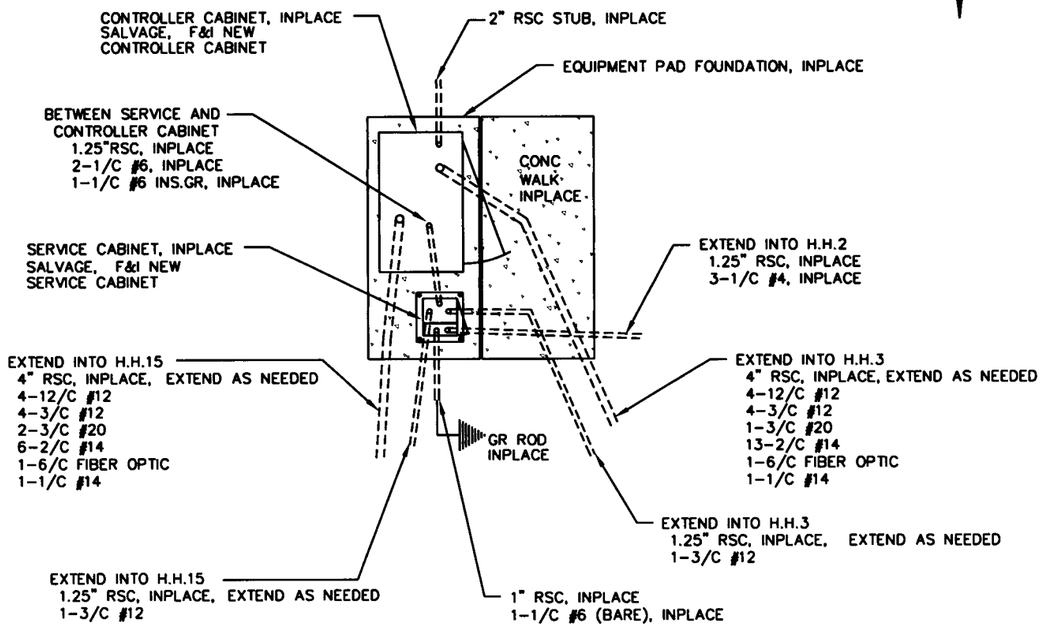
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel E. Soler
Date 6/13/00 Reg. No. 20452

28-289

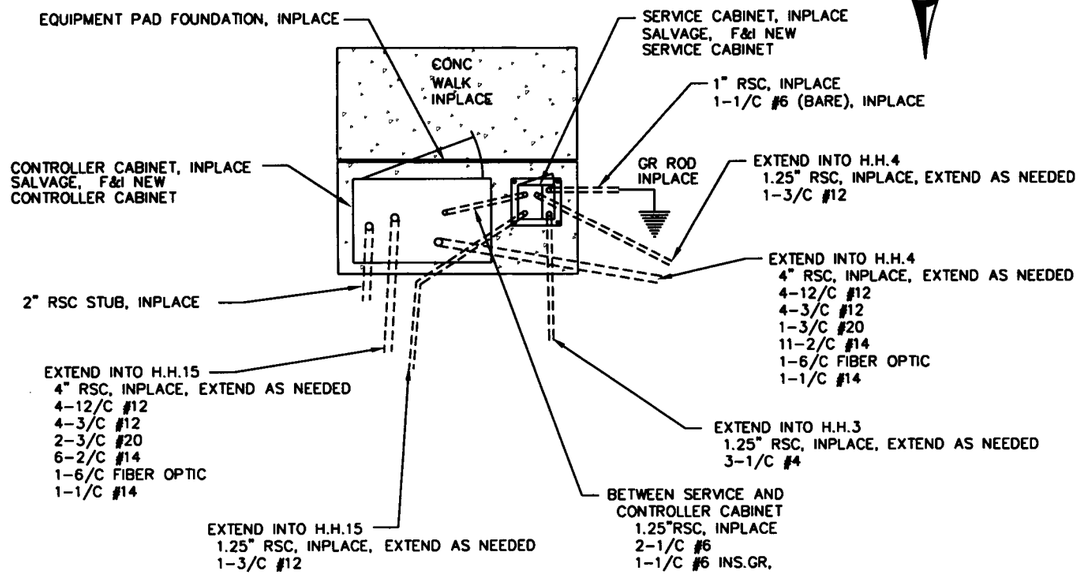
DETAILS
REVISED 5/24/00

S.A.P. No. 62-630-45

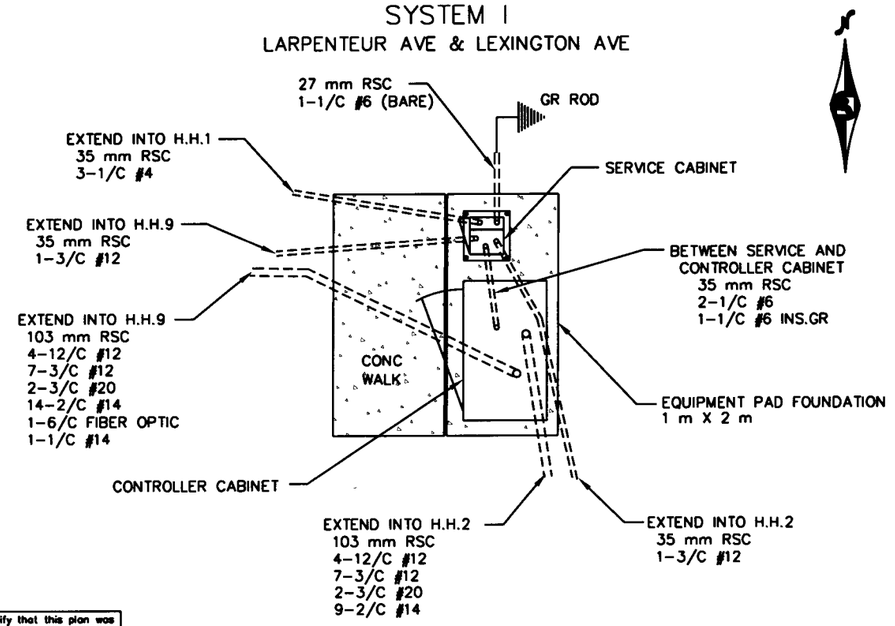
EQUIPMENT PAD LAYOUT
SYSTEM G
LARPENTEUR AVE & FERNWOOD ST



EQUIPMENT PAD LAYOUT
SYSTEM H
LARPENTEUR AVE & DUNLAP ST



EQUIPMENT PAD LAYOUT
SYSTEM I
LARPENTEUR AVE & LEXINGTON AVE



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel E. Soler
Date 3/7/00 Reg. No. 20452

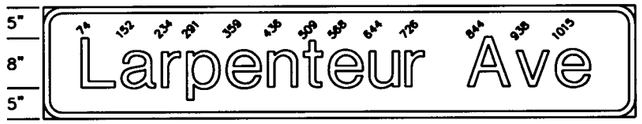
28-289

DETAILS

T:\TRAFFIC\SIGPLAN\LARP\5800TLS.dwg 12/3/99

S.A.P. No. 62-630-45 Sheet No. 72 of 121 Sheets

D-1, D-3, D-5, D-7, D-10, D-12, D-14, D-16, D-17, D-19



114" X 18",3" R., 1" B
LINE 1 = 99.20" : 8"-6" "E" MOD.

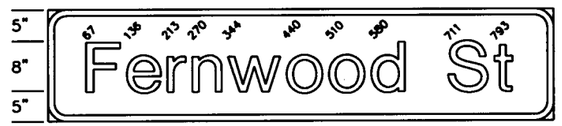
D-2 & D-4

72" X 18",3" R., 1" B
LINE 1 = 55.98" : 8"-6" "E" MOD.

D-6 & D-8

96" X 18",3" R., 1" B
LINE 1 = 81.07" : 8"-6" "E" MOD.

D-9 & D-11



90" X 18",3" R., 1" B
LINE 1 = 76.64" : 8"-6" "E" MOD.

D-13

96" X 18",3" R., 1" B
LINE 1 = 84.03" : 5-13 ARROW-180°, 8"-6" "E" MOD.

D-15

96" X 18", 3" R., 1" B
LINE 1 = 84.03" : 8"-6" "E" MOD., 5-13 ARROW-0°

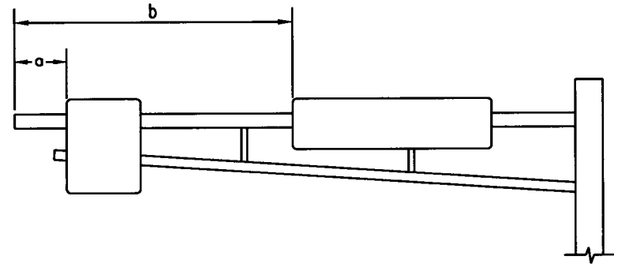
D-18 & D-20

102" X 18", 3" R., 1" B
LINE 1 = 91.56" : 8"-6" "E" MOD.

TYPE "D" SIGNS - SIGNALS								
SIGN PANEL	SIZE (INCH)	QUANTITY REQUIRED	BRACKETS PER SIGN	BRACKET SPACING	SQUARE FEET PER SIGN	a (FT)	b (FT)	SYSTEM & POLE NUMBER
D-1	114" x 18"	1	3	36"	14.25		5	(E) ①
D-2	72" x 18"	1	2	42"	9.00		23	(E) ②
D-3	114" x 18"	1	3	36"	14.25		5	(E) ③
D-4	72" x 18"	1	2	42"	9.00		23	(E) ④
D-5	114" x 18"	1	3	36"	14.25		10	(F) ①
D-6	96" x 18"	1	2	54"	12.00		19	(F) ②
D-7	114" x 18"	1	3	36"	14.25		10	(F) ③
D-8	96" x 18"	1	2	54"	12.00		19	(F) ④
D-9	90" x 18"	1	2	54"	11.25		16	(G) ①
D-10	114" x 18"	1	3	36"	14.25		5	(G) ②
D-11	90" x 18"	1	2	54"	11.25		18	(G) ③
D-12	114" x 18"	1	3	36"	14.25		5	(G) ④
D-13	96" x 18"	1	2	54"	12.00		18	(H) ①
D-14	114" x 18"	1	3	36"	14.25		5	(H) ②
D-15	96" x 18"	1	2	54"	12.00		21	(H) ③
D-16	114" x 18"	1	3	36"	14.25		5	(H) ④
D-17	114" x 18"	1	3	36"	14.25		17	(I) ①
D-18	102" x 18"	1	3	45"	12.75		19	(I) ②
D-19	114" x 18"	1	3	36"	14.25		15	(I) ③
D-20	102" x 18"	1	3	45"	12.75		17	(I) ④

TOTAL 256.50 SQ. FT.
(23.83 m2)

(E) - SYSTEM E



MAST ARM SIGN DIMENSIONING DETAIL

NOTES:

1. COLOR - WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED WITH PRISMATIC LENS REFLECTIVE SHEETING.
2. CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
3. BOARDERS SHALL BE 1".
4. SEE STANDARD SIGN MANUAL FOR ARROW DETAILS
5. FOR STRUCTURAL DETAILS, TYPE "D" SIGNS SEE STANDARD SIGNS MANUAL, PAGE 105.
6. FOR TYPE "D" STRINGER AND PANEL - JOINT DETAIL, SEE STANDARD SIGNS MANUAL, PAGE 105.
7. LETTERING STYLE SHALL BE HIGHWAY GOTHIC CONFORMING TO MN/DOT STANDARDS.
8. FURNISHING AND INSTALLING TYPE "D" SIGNS SHALL BE MEASURED AND PAID FOR UNDER ITEM NO 2564.531 (SIGN PANELS - TYPE "D")

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RCO
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
David F. Sohn
Date 3/7/00 Reg. No. 20452

MAST ARM SIGNS (TYPE D)
SYSTEMS E, F, G, H & I

THIS SHEET IS IN ENGLISH UNITS

T:\TRAFFIC\SIGPLAN\LARP\SIGSIGN.dwg 12/3/99

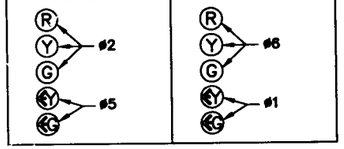
78-289

SIGNAL INDICATION CHART

FACE	PHASE	INDICATION SIZE 300mm R(LED)	Y	G	⟲Y	⟲G
2-1	2	●	●	●		
2-2	2 and 5	●	●	●	⟲	⟲
2-3	2 and 5	●	●	●	⟲	⟲
2-4	2	●	●	●		
4-1	4	●	●	●		
4-2	4	●	●	●		
4-3	4	●	●	●		
6-1	6	●	●	●		
6-2	1 and 6	●	●	●	⟲	⟲
6-3	1 and 6	●	●	●	⟲	⟲
6-4	6	●	●	●		
8-1	8	●	●	●		
8-2	8	●	●	●		
8-3	8	●	●	●		

SIGNAL HEAD PHASING

HEADS 2-2 and 2-3 | HEADS 6-2 and 6-3



SIGNING

F&I OVERHEAD TYPE D SIGNS, SEE DETAILS ON SEPARATE SHEET. (SEPARATE PAY ITEM)

F&I OVERHEAD TYPE R10-12 (36"X48") SIGNS ON MAST ARM POLES 2 & 4 ADJACENT TO 2-2 AND 6-2.

F&I PEDESTRIAN PUSH BUTTON SIGNS, TYPE R10-4b (9"X12") WITH SYMBOL MESSAGE ABOVE EACH PUSH BUTTON INSTALLATION.

SIGNAL SYSTEM OPERATION

THE SIGNAL SYSTEM FLASH MODE IS ALL RED.

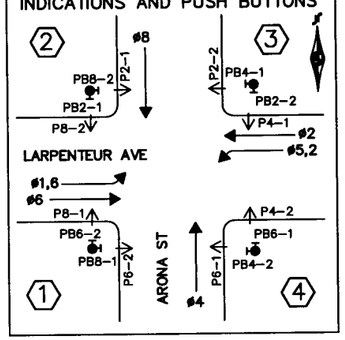
PHASES 1 AND 5 ARE PROTECTED/PERMISSIVE LEFT TURNS.

PHASES 1,4,5 AND 8 ARE NON-LOCK DETECTION.

PHASES 2 AND 6 ARE LOCK DETECTION.

PHASES 2 AND 6 ARE ON VEHICLE RECALL.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



T:\TRAFFIC\SIGPLAN\LARP\580EPLN.dwg 5/24/00

VEHICLE DETECTION

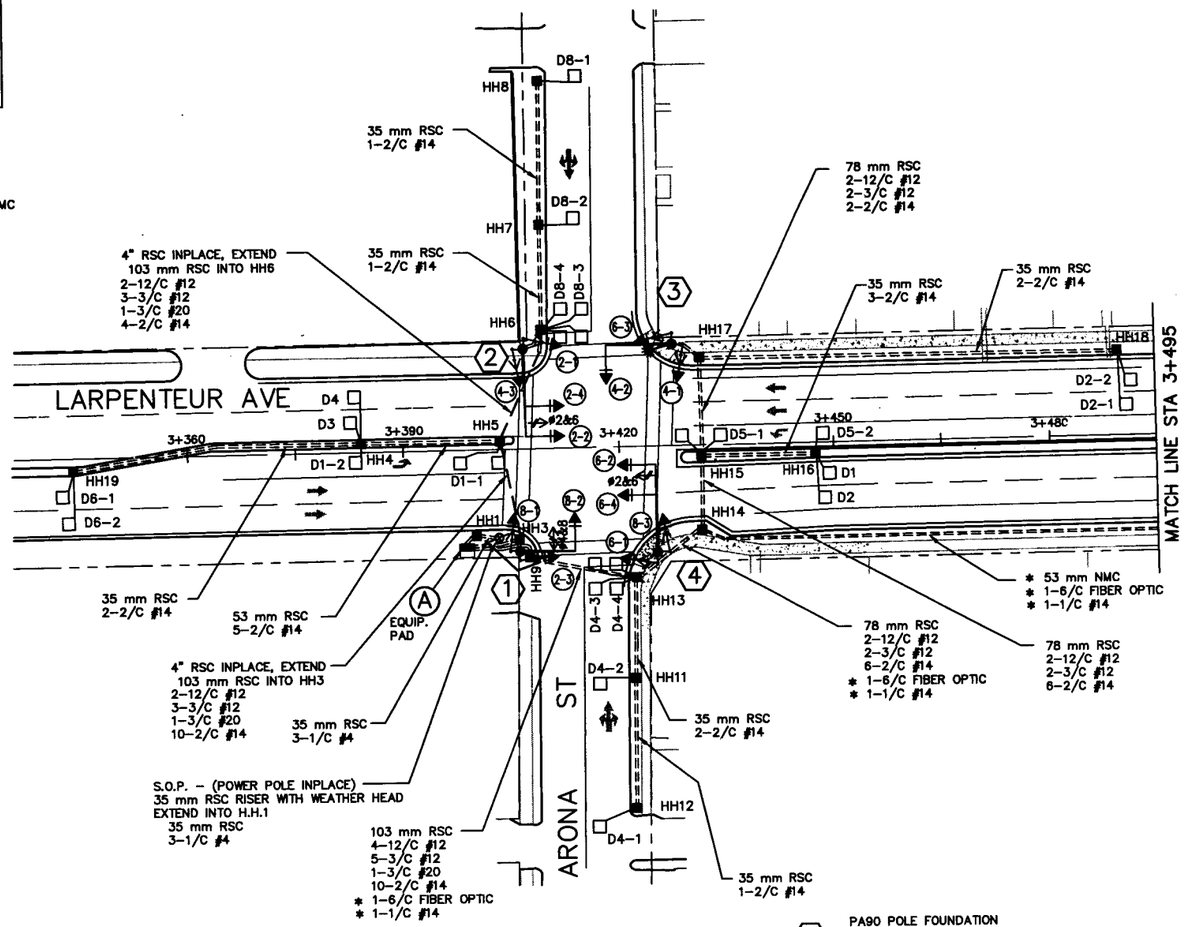
	NO.	SIZE (m)	FUNCTION	LOC (m)
SAW CUT	D1-1	2-1.7 x 1.7	C&E (TD)	0, 5
SAW CUT	D1-2	1.7 x 1.7	C&E	20
	D2-1	1.7 x 1.7	C&E	62
	D2-2	1.7 x 1.7	C&E	82
	D4-1	1.7 x 1.7	C&E	35
	D4-2	1.7 x 1.7	C&E	15
	D4-3	2-1.7 x 1.7	C&E	0, 5
	D4-4	2-1.7 x 1.7	C&E (TD)	0, 5
	D5-1	2-1.7 x 1.7	C&E (TD)	0, 5
	D5-2	1.7 x 1.7	C&E	20
SAW CUT	D6-1	1.7 x 1.7	C&E	62
SAW CUT	D6-2	1.7 x 1.7	C&E	62
	D8-1	1.7 x 1.7	C&E	35
	D8-2	1.7 x 1.7	C&E	15
	D8-3	2-1.7 x 1.7	C&E	0, 5
	D8-4	2-1.7 x 1.7	C&E (TD)	0, 5
	D1	1.7 x 1.7	COUNT	SEE PLAN
	D2	1.7 x 1.7	COUNT	SEE PLAN
SAW CUT	D3	1.7 x 1.7	COUNT	SEE PLAN
SAW CUT	D4	1.7 x 1.7	COUNT	SEE PLAN

C&E =CALL & EXTEND
C =CALL ONLY
E =EXTEND ONLY
(TD) =TIME DELAYED

ALL NEW LOOPS SHALL BE INSTALLED IN NMC UNLESS OTHERWISE INDICATED.

(2) PA90 POLE FOUNDATION
PA90-A-12
2-ONE WAY SIGNALS - OVERHEAD AT 0 AND 4.2 m
TYPE 10B- POLE MOUNTED 90°
TYPE 10B- POLE MOUNTED 180°
2-PEDESTRIAN PUSH BUTTONS AT 0° & 270°
ONE WAY EVP DETECTOR AND LIGHT OVERHEAD, 1.8 m FROM END OF ARM
EXTEND INTO H.H. 6
78 mm RSC
2-12/C #12
3-3/C #12
1-3/C #20

(3) PA85 POLE FOUNDATION
PA85-A-9-T12-3 (TRUSS AT 350°)
LUMINAIRE- 200 WATT HPS
ONE WAY SIGNAL - OVERHEAD
TYPE 10B - POLE MOUNTED 90°
TYPE 10B- POLE MOUNTED 180°
2-PEDESTRIAN PUSH BUTTONS AT 0° & 270°
EXTEND INTO H.H. 17
78 mm RSC
2-12/C #12
2-3/C #12



(A) EQUIPMENT PAD-SEE DETAILS
SERVICE CABINET
EXTEND INTO H.H.1
35 mm RSC
3-1/C #4
EXTEND INTO H.H.3
35 mm RSC

EXTEND INTO H.H.9
35 mm RSC
1-3/C #12
CONTROLLER CABINET
EXTEND INTO H.H.3
103 mm RSC
4-12/C #12
5-3/C #12
2-3/C #20
10-2/C #14
EXTEND INTO H.H.9
103 mm RSC
4-12/C #12
4-3/C #12
1-3/C #20
10-2/C #14
* 1-6/C FIBER OPTIC
* 1-1/C #14
EXTEND TO SERVICE POLE
27 mm RSC WITH DRAIN TEE AND RISER WITH WEATHER ON POLE: 1-2/C TDW
BETWEEN SERVICE AND CONTROLLER CABINET
35 mm RSC
2-1/C #6
1-1/C #6 (INS. GRD.)

(1) PA85 POLE FOUNDATION
PA85-A-7.5
ONE WAY SIGNAL - OVERHEAD
TYPE 10B - POLE MOUNTED 90°
TYPE 10B - POLE MOUNTED 180°
2-PEDESTRIAN PUSH BUTTONS AT 0° & 270°
TWO WAY EVP DETECTOR AND LIGHT OVERHEAD, 600 mm FROM END OF ARM
EXTEND INTO H.H. 3
53 mm RSC
2-12/C #12
3-3/C #12
1-3/C #20

(4) PA90 POLE FOUNDATION
PA90-A-12
2-ONE WAY SIGNALS - OVERHEAD AT 0 AND 4.2 m
TYPE 10B - POLE MOUNTED 90°
TYPE 10B - POLE MOUNTED 180°
2-PEDESTRIAN PUSH BUTTONS AT 0° & 270°
ONE WAY EVP DETECTOR AND LIGHT OVERHEAD, 1.8 m FROM END OF ARM
EXTEND INTO H.H. 13
78 mm RSC
2-12/C #12
3-3/C #12
1-3/C #20

SCALE IN METERS
0 10 20 30 40

NOTES:

1. POLE AND DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
2. THE CONTRACTOR SHALL SALVAGE TWO (2) EVP DETECTORS FROM EXISTING SIGNAL SYSTEM AND INSTALL ON NEW SYSTEM. THE CONTRACTOR SHALL F&I NEW EVP INDICATOR LAMP HOLDERS AND LAMPS. SEE SPECIAL PROVISIONS. THE CONTRACTOR SHALL F&I ONE (1) ADDITONAL EVP DETECTOR AND LAMP ON MAST ARM POLE 1. ALSO, ONE (1) ADDITIONAL EVP PHASE SELLECTOR SHALL BE F&I IN THE CONTROLLER CABINET. SEE SPEC.
3. A 21 mm HALF COUPLING SHALL BE FURNISHED APPROXIMATLY 1.8 METERS FROM END OF THE MAST ARM ON EACH POLE.
4. ALL PEDESTRIAN INDICATIONS SHALL BE ONE-SECTION HAND/WALKING PERSON INDICATION. THE HAND SYMBOL SHALL BE ILLUMINATED WITH PORTLAND ORANGE LED's. SEE SPECIAL PROVISIONS.
5. ALL SIGNAL FACES SHALL HAVE A BACK-GROUND SHIELD.
6. EACH LUMINAIRE SHALL HAVE A PHOTO ELECTRIC CELL AND STREET LIGHT CHECK SWITCH.
7. WHERE INPLACE RSC IS UTILIZED IN THE NEW SIGNAL SYSTEM, THE CONTRACTOR SHALL EXTEND RSC INTO HANDHOLES AS DIRECTED BY THE ENGINEER
8. REFER TO SPECIAL PROVISIONS FOR TRAFFIC CONTROL DURING SIGNAL CON-STRUCTION.
9. SALVAGE INPLACE SIGNAL AS DIRECTED BY THE ENGINEER. SEE SPECIAL PROVISIONS. REFER TO OTHER PLAN SHEETS IN THIS PLAN FOR ADDITIONAL INFORMATION ON THE EXISTING SIGNAL SYSTEM.
10. THE MEDIAN ON LARPENTEUR AVE WEST OF ARONA ST WILL BE REMOVED FOR TRAFFIC CONTROL DURING CONSTRUCTION. SEE CONSTRUCTION PLAN FOR MORE INFORMATION.
11. ALL RED VEHICLE INDICATIONS SHALL BE ILLUMINATED WITH RED LED's. SEE SPECIAL PROVISIONS.
12. ALL LOOPS SHALL BE INSTALLED IN NMC. EXCEPT AS NOTED IN DETECTION CHART.
13. * DENOTES SEPARATE PAY ITEM FOR INTERCONNECT. SEE PLAN QUANTITIES AND SPECIAL PROVISIONS.
14. REMOVE INPLACE BITUMINOUS WALK IN S.W. CORNER AND CONC. WALK IN N.W. CORNER. CONSTRUCT CONCRETE WALK IN BOTH AREAS PER STANDARD PLATES 7035J AND 7036C. (APPROX. QUANT. = 56 m2.) WORK TO BE INCIDENTAL TO SYSTEM E SEE DETAIL SHEET.
15. S.W. AND N.W. CORNER ----- REMOVE INPLACE CONCRETE CURB AND GUTTER AND CONSTRUCT B624 CONCRETE CURB AND GUTTER WITH PEDESTRIAN CURB RAMP PER MN/DOT STANDARD PLATES 7036C AND 7100F. (APPROX. QUANT.= 16 m). WORK TO BE INCIDENTAL TO SYSTEM E. SEE DETAIL SHEET.
15. HANDHOLES 4, 5, 15, 16 AND 19 ARE SPECIAL HANDHOLES. SEE SPECIAL PROVISIONS.

ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: RCN
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel P. Soler
Date 6/13/00 Reg. No. 20452

METER ADDRESS: 1524 W. LARPENTEUR AVE.
RAMSEY COUNTY INTERSECTION I.D. No. TRF 520

28-289

INTERSECTION LAYOUT
LARPENTEUR AVE. & ARONA ST
SYSTEM E
REVISED 5/24/00

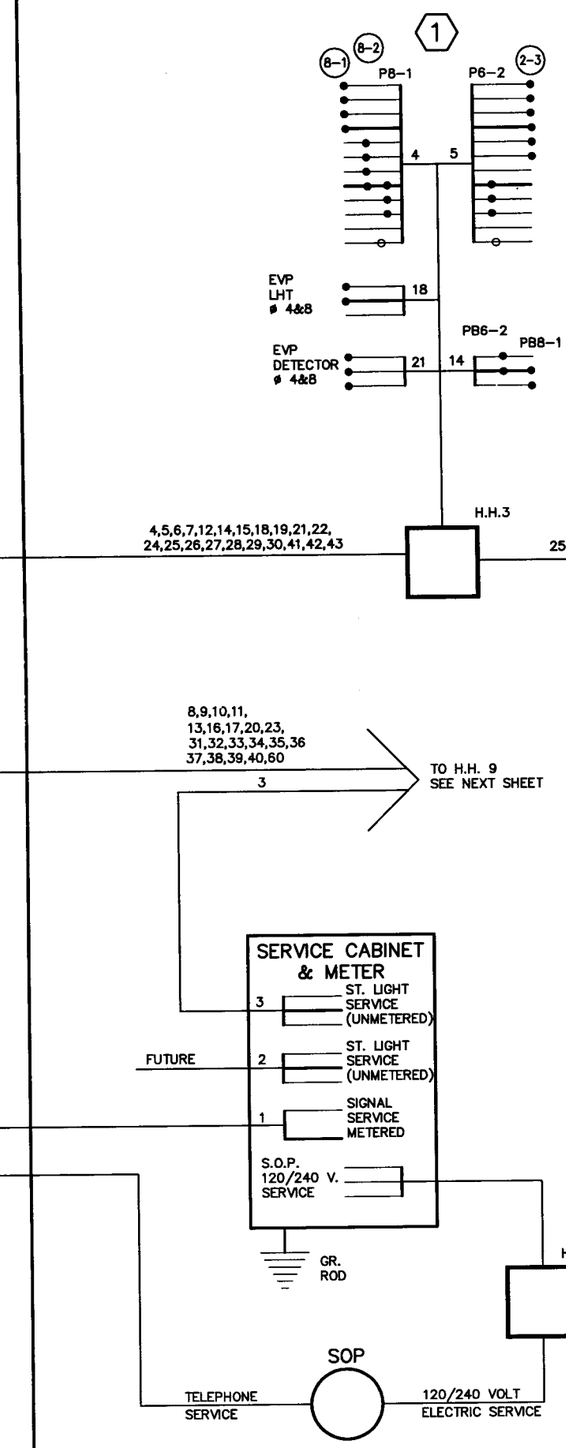
S.A.P. 62-630-45

SHEET NO. 74 OF 121 SHEETS

CONTROLLER CABINET

		SIGNAL SERVICE	1
4	RED 8-1, YEL 8-1, GRN 8-1, NEU 8-1, RED 8-2, YEL 8-2, GRN 8-2, NEU 8-2, P8-1, WLK P8-1, DWK P8-1, SPR, EQG	8-3 RED, 8-3 YEL, 8-3 GRN, 8-3 NEU, 6-1 RED, 6-1 YEL, 6-1 GRN, P6-1, 6-1 NEU, P6-1 WLK, P6-1 DWK, SPR, EQG	8
5	RED 2-3, YEL 2-3, GRN 2-3, NEU 2-3, YEL LTA 2-3, GRN LTA 2-3, SPR, NEU P6-2, WLK P6-2, DWK P6-2, SPR, EQG	6-2 RED, 6-2 YEL, 6-2 GRN, 6-2 NEU, 6-2 YEL LTA, 6-2 GRN LTA, SPR, 6-4 NEU, 6-4 RED, 6-4 YEL, 6-4 GRN, EQG	9
6	RED 4-3, YEL 4-3, GRN 4-3, NEU 4-3, RED 2-1, YEL 2-1, GRN 2-1, NEU 2-1, P2-1, WLK P2-1, DWK P2-1, SPR, EQG	4-1 RED, 4-1 YEL, 4-1 GRN, 4-1 NEU, 4-2 RED, 4-2 YEL, 4-2 GRN, P4-1, 4-2 NEU, P4-1 WLK, P4-1 DWK, SPR, EQG	10
7	RED 2-2, YEL 2-2, GRN 2-2, NEU 2-2, YEL LTA 2-2, GRN LTA 2-2, SPR, NEU 2-4, RED 2-4, YEL 2-4, GRN 2-4, EQG	6-3 RED, 6-3 YEL, 6-3 GRN, 6-3 NEU, 6-3 YEL LTA, 6-3 GRN LTA, SPR, P2-2 NEU, P2-2 WLK, P2-2 DWK, SPR, EQG	11
12	WLK P8-2, NEU P8-2, DWK P8-2	PB6-2 NEU, PB8-1	14
13	WLK P4-2, NEU P4-2, DWK P4-2	PB2-1 NEU, PB8-2	15
18	EVP LIGHT ø 4&8	PB6-1 NEU, PB4-2	16
19	EVP LIGHT ø 2&6	PB2-2 NEU, PB4-1	17
20	EVP LIGHT ø 2&6	INTERCONNECT TO LARPENTEUR AVE & HAMLINE AVE	60
21	EVP DETECTOR ø 4&8		
22	EVP DETECTOR ø 2&6	TELEPHONE SERVICE	44
23	EVP DETECTOR ø 2&6	D5-2	36
		D1	37
24	D6-1	D2	38
25	D6-2	D2-1	39
26	D1-1	D2-2	40
27	D8-3	D1-2	41
28	D8-4	D3	42
29	D8-2	D4	43
30	D8-1		
31	D4-1		
32	D4-2		
33	D4-3		
34	D4-4		
35	D5-1		

F:\TRAFFIC\SIGPLAN\LARP\580EHWIRE.dwg 5/24/00



CONDUCTOR COLOR CODING

12/C#12: R, O, BL, WH, R/BLK, O/BLK, BL/BLK, WH/BLK, BLK, BLK/WH, G/BLK, G

- BLK / WH — 2-1/C#6, 2-1/C#10
- R / WH / BLK — 3/C#12
- R OR O / WH OR YEL / BL OR BLK — 3/C#20
- BLK / CLEAR — 2/C#14

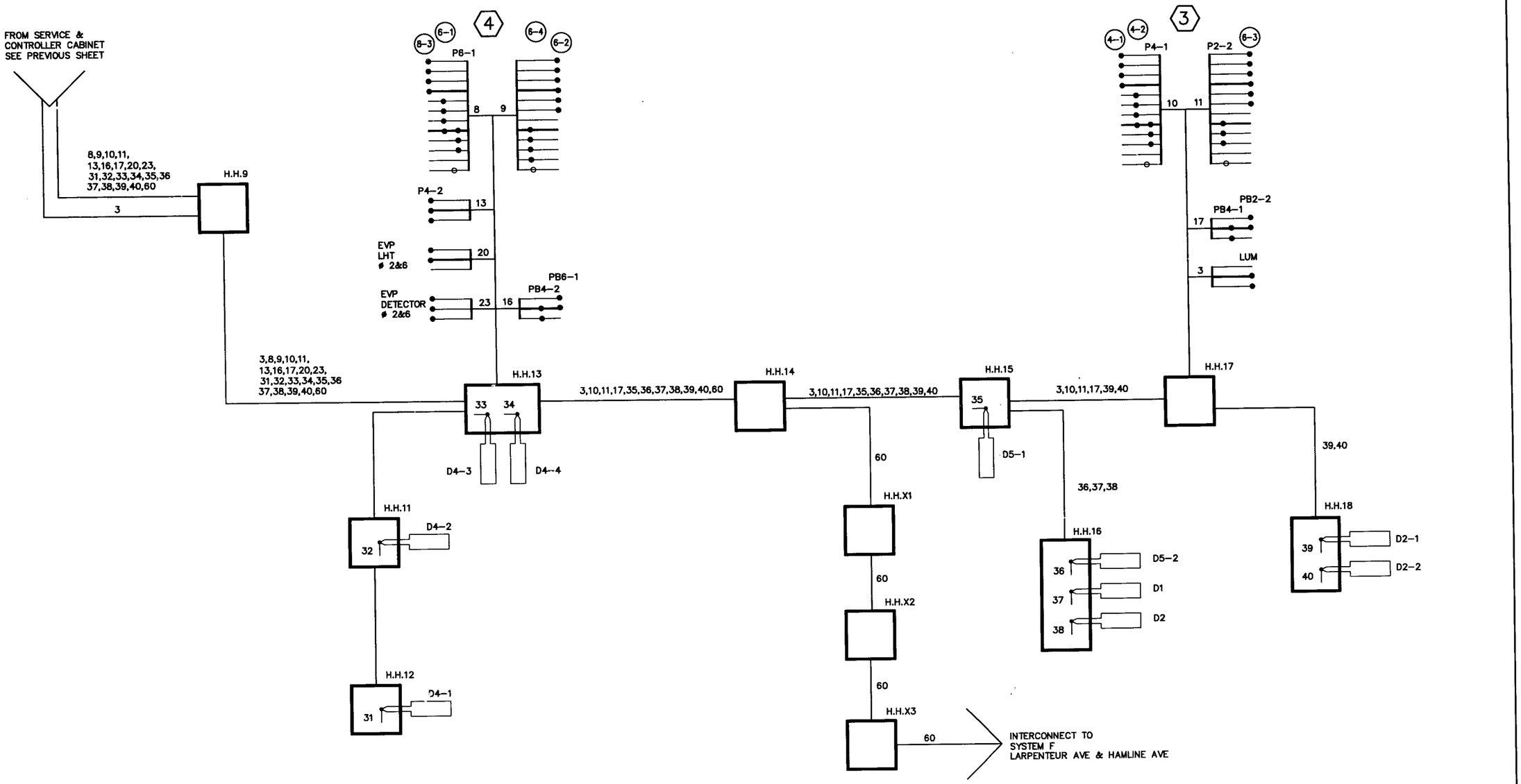
NOTE: ALLTERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel E. Soler
Date 6/13/00 Reg. No. 20452

28-289

FIELD WIRING DIAGRAM
LARPENTEUR AVENUE & ARONA ST
SYSTEM E
REVISED 5/24/00



F:\TRAFFIC\SIGPLAN\LARP\S80ESWIRE.dwg 5/24/00

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel F. Soler
Date 6/13/00 Reg. No. 20452

28-289

FIELD WIRING DIAGRAM
LARPENTEUR AVENUE & ARONA ST
SYSTEM E
REVISED 5/24/00

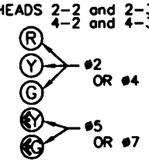
S.A.P. 62-630-45

SIGNAL INDICATION CHART

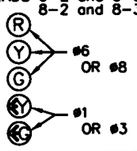
FACE	PHASE	INDICATION SIZE 300mm				
		R Bb	Y	G	Y	G
2-1	2	●	●	●		
2-2	2 and 5	●	●	●	←	←
2-3	2 and 5	●	●	●	←	←
2-4	2	●	●	●		
4-1	4	●	●	●		
4-2	4 and 7	●	●	●	←	←
4-3	4 and 7	●	●	●	←	←
6-1	6	●	●	●		
6-2	1 and 6	●	●	●	←	←
6-3	1 and 6	●	●	●	←	←
6-4	6	●	●	●		
8-1	8	●	●	●		
8-2	3 and 8	●	●	●	←	←
8-3	3 and 8	●	●	●	←	←

SIGNAL HEAD PHASING

HEADS 2-2 and 2-3, 4-2 and 4-3



HEADS 6-2 and 6-3, 8-2 and 8-3



SIGNING

Fdt OVERHEAD TYPE D SIGNS, SEE DETAILS ON SEPARATE SHEET. (SEPARATE PAY ITEM)

Fdt OVERHEAD TYPE R10-12 (36"X48") SIGN ON MAST ARM POLES 1, 2, 3 AND 4 ADJACENT TO VEHICLE IND. 2-2, 4-2, 6-2 AND 8-2.

Fdt PEDESTRIAN PUSH BUTTON SIGNS, TYPE R10-4b (9"X12") WITH SYMBOL MESSAGE ABOVE EACH PUSH BUTTON INSTALLATION

SIGNAL SYSTEM OPERATION

THE SIGNAL SYSTEM FLASH MODE IS ALL RED.

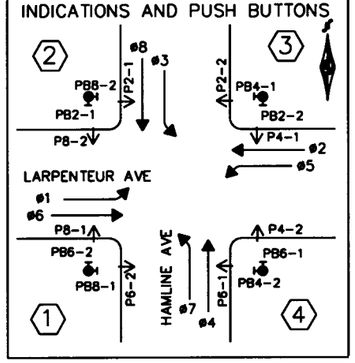
PHASES 1, 3, 5 & 7 ARE PROTECTED/PERMISSIVE LEFT TURNS.

PHASES 1,3,5 & 7 ARE NON-LOCK DETECTION.

PHASES 2,4,6 & 8 ARE LOCK DETECTION.

PHASES 2 AND 6 ARE ON VEHICLE RECALL.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



T:\TRAFFIC\SIGPLAN\LARP\580FPLAN 12/3/99

VEHICLE DETECTION

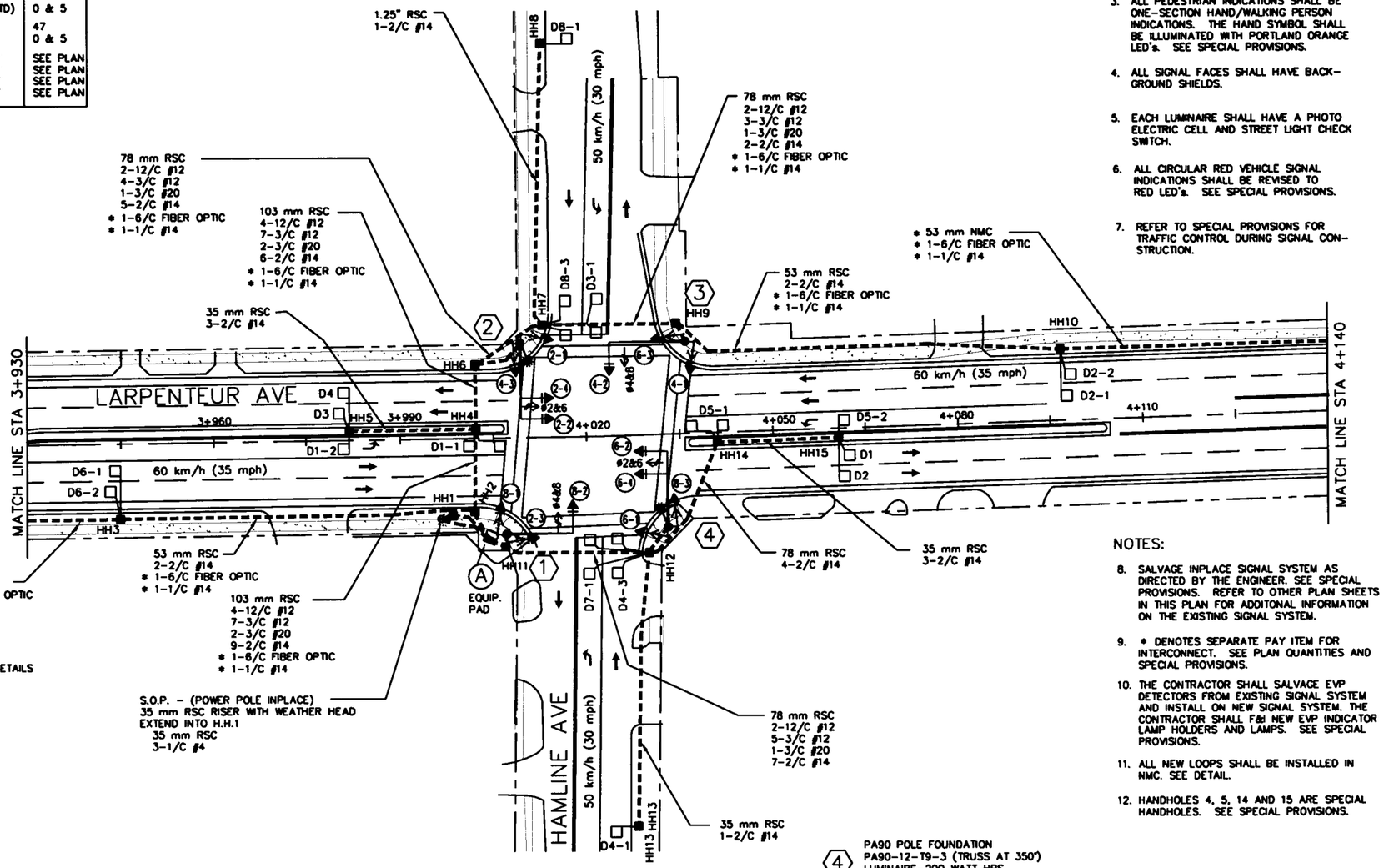
NO.	SIZE (m)	FUNCTION	LOC (m)
D1-1	2-1.7 x 1.7	C&E (TD)	0 & 5
D1-2	1.7 x 1.7	C&E	25
D2-1	1.7 x 1.7	C&E	62
D2-2	1.7 x 1.7	C&E	62
D3-1	2-1.7 x 1.7	C&E (TD)	0 & 5
D4-1	1.7 x 1.7	C&E	47
D4-3	2-1.7 x 1.7	C&E	0'
D5-1	2-1.7 x 1.7	C&E (TD)	0 & 5
D5-2	1.7 x 1.7	C&E	25
D6-1	1.7 x 1.7	C&E	62
D6-2	1.7 x 1.7	C&E	62
D7-1	2-1.7 x 1.7	C&E (TD)	0 & 5
D8-1	1.7 x 1.7	C&E	47
D8-3	2-1.7 x 1.7	C&E	0 & 5
D1	1.7 x 1.7	COUNT	SEE PLAN
D2	1.7 x 1.7	COUNT	SEE PLAN
D3	1.7 x 1.7	COUNT	SEE PLAN
D4	1.7 x 1.7	COUNT	SEE PLAN

C&E =CALL & EXTEND
C =CALL ONLY
E =EXTEND ONLY
(TD) =TIME DELAYED

ALL LOOPS SHALL BE INSTALLED IN NMC

(2) PA90 POLE FOUNDATION
PA90-A-12-T12-3 (TRUSS AT 350')
LUMINAIRE-200 WATT HPS
2-ONE WAY SIGNALS - OVERHEAD AT 0 & 3.3 m
TYPE 10B - POLE MOUNTED AT 90°
TYPE 10B - POLE MOUNTED AT 180°
2-PEDESTRIAN PUSH BUTTONS AT 0° & 270°
ONE WAY EVP DETECTOR AND LIGHT OVERHEAD
EXTEND INTO H.H. 6
78 mm RSC
2-12/C #12
6-3/C #12
1-3/C #20

(3) PA90 POLE FOUNDATION
PA90-A-12
ONE WAY SIGNAL - OVERHEAD
TYPE 10B - POLE MOUNTED 90°
TYPE 10B - POLE MOUNTED 180°
2-PEDESTRIAN PUSH BUTTONS AT 0° & 270°
ONE WAY EVP DETECTOR AND LIGHT OVERHEAD
EXTEND INTO H.H. 9
78 mm RSC
2-12/C #12
3-3/C #12
1-3/C #20



SCALE IN METERS
0 10 20 30 40

NOTES:

1. POLE AND DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
2. A 21 mm HALF COUPLING SHALL BE FURNISHED APPROXIMATELY 1.8 METERS FROM END OF THE MAST ARM ON EACH POLE.
3. ALL PEDESTRIAN INDICATIONS SHALL BE ONE-SECTION HAND/WALKING PERSON INDICATIONS. THE HAND SYMBOL SHALL BE ILLUMINATED WITH PORTLAND ORANGE LED's. SEE SPECIAL PROVISIONS.
4. ALL SIGNAL FACES SHALL HAVE BACK-GROUND SHIELDS.
5. EACH LUMINAIRE SHALL HAVE A PHOTO ELECTRIC CELL AND STREET LIGHT CHECK SWITCH.
6. ALL CIRCULAR RED VEHICLE SIGNAL INDICATIONS SHALL BE REVISED TO RED LED's. SEE SPECIAL PROVISIONS.
7. REFER TO SPECIAL PROVISIONS FOR TRAFFIC CONTROL DURING SIGNAL CONSTRUCTION.

NOTES:

8. SALVAGE INPLACE SIGNAL SYSTEM AS DIRECTED BY THE ENGINEER. SEE SPECIAL PROVISIONS. REFER TO OTHER PLAN SHEETS IN THIS PLAN FOR ADDITONAL INFORMATION ON THE EXISTING SIGNAL SYSTEM.
9. * DENOTES SEPARATE PAY ITEM FOR INTERCONNECT. SEE PLAN QUANTITIES AND SPECIAL PROVISIONS.
10. THE CONTRACTOR SHALL SALVAGE EVP DETECTORS FROM EXISTING SIGNAL SYSTEM AND INSTALL ON NEW SIGNAL SYSTEM. THE CONTRACTOR SHALL Fdt NEW EVP INDICATOR LAMP HOLDERS AND LAMPS. SEE SPECIAL PROVISIONS.
11. ALL NEW LOOPS SHALL BE INSTALLED IN NMC. SEE DETAIL.
12. HANDHOLES 4, 5, 14 AND 15 ARE SPECIAL HANDHOLES. SEE SPECIAL PROVISIONS.

(A) EQUIPMENT PAD-SEE DETAILS
SERVICE CABINET
EXTEND INTO H.H.1
35 mm RSC
3-1/C #4
EXTEND INTO H.H.2
35 mm RSC
1-3/C #12
EXTEND INTO H.H.11
35 mm RSC
1-3/C #12
CONTROLLER CABINET
EXTEND INTO H.H.2
103 mm RSC
4-12/C #12
7-3/C #12
2-3/C #20
11-2/C #14
* 2-6/C FIBER OPTIC
* 2-1/C #14
EXTEND INTO H.H.11
103 mm RSC
4-12/C #12
6-3/C #12
2-3/C #20
7-2/C #14
EXTEND TO SERVICE POLE
27 mm RSC WITH DRAIN TEE AND RISER WITH WEATHER HEAD ON POLE; 1-4/C TDW
BETWEEN SERVICE AND CONTROLLER CABINET
35 mm RSC
2-1/C #6
1-1/C #6 INS. GR.

(1) PA90 POLE FOUNDATION
PA90-A-10.5
ONE WAY SIGNAL - OVERHEAD MOUNTED AT 0 m
TYPE 10B - POLE MOUNTED 90°
TYPE 10B - POLE MOUNTED 180°
2-PEDESTRIAN PUSH BUTTONS AT 0° & 270°
ONE WAY EVP DETECTOR AND LIGHT OVERHEAD
EXTEND INTO H.H. 11
78 mm RSC
2-12/C #12
4-3/C #12
1-3/C #20

(4) PA90 POLE FOUNDATION
PA90-12-T9-3 (TRUSS AT 350')
LUMINAIRE-200 WATT HPS
2-ONE WAY SIGNALS - OVERHEAD AT 0 & 3.6 m
TYPE 10B - POLE MOUNTED 90°
TYPE 10B - POLE MOUNTED 180°
2-PEDESTRIAN PUSH BUTTONS AT 0° & 270°
ONE WAY EVP DETECTOR AND LIGHT OVERHEAD
EXTEND INTO H.H. 12
3" RSC
2-12/C #12
5-3/C #12
1-3/C #20

ASBUILT PLANS
CONFORMING TO CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel E. Sahr
Date 3/7/00 Reg. No. 20452

INTERSECTION LAYOUT
LARPENTEUR AVE & HAMLINE AVE
SYSTEM F

METER ADDRESS: 1340 LARPENTEUR AVE WEST
RAMSEY COUNTY INTERSECTION I.D. No. : TRF 521

S.A.P. NO. 62-630-45

SHEET NO. 77 OF 121 SHEETS

28-289

CONTROLLER CABINET

4: RED 8-1, YEL 8-1, GRN 8-1, NEU 8-1, RED 8-2, YEL 8-2, GRN 8-2, NEU 8-2, YEL LTA 8-2, GRN LTA 8-2, SPR, EQG

5: RED 2-3, YEL 2-3, GRN 2-3, NEU 2-3, YEL LTA 2-3, GRN LTA 2-3, SPR, NEU P6-2, WLK P6-2, DWK P6-2, SPR, EQG

6: RED 6-2, YEL 6-2, GRN 6-2, NEU 6-2, YEL LTA 6-2, GRN LTA 6-2, SPR, NEU 6-4, RED 6-4, YEL 6-4, GRN 6-4, EQG

7: RED 8-3, YEL 8-3, GRN 8-3, NEU 8-3, YEL LTA 8-3, GRN LTA 8-3, SPR, NEU 6-1, RED 6-1, YEL 6-1, GRN 6-1, EQG

1: SIGNAL SERVICE

8: 4-3 RED, 4-3 YEL, 4-3 GRN, 4-3 NEU, 4-3 YEL LTA, 4-3 GRN LTA, SPR, 2-1 NEU, 2-1 RED, 2-1 YEL, 2-1 GRN, EQG

9: 2-2 RED, 2-2 YEL, 2-2 GRN, 2-2 NEU, 2-2 YEL LTA, 2-2 GRN LTA, SPR, 2-4 NEU, 2-4 RED, 2-4 YEL, 2-4 GRN, EQG

10: 6-3 RED, 6-3 YEL, 6-3 GRN, 6-3 NEU, 6-3 YEL LTA, 6-3 GRN LTA, SPR, P2-2 NEU, P2-2 WLK, P2-2 DWK, SPR, EQG

11: 4-1 RED, 4-1 YEL, 4-1 GRN, 4-1 NEU, 4-2 RED, 4-2 YEL, 4-2 GRN, 4-2 NEU, 4-2 YEL LTA, 4-2 GRN LTA, SPR, EQG

12: WLK P8-1, NEU P8-1, DWK P8-1

14: WLK P4-2, NEU P4-2, DWK P4-2

20: PB6-2 NEU, PB8-1

13: WLK P6-1, NEU P6-1, DWK P6-1

15: WLK P2-1, NEU P2-1, DWK P2-1

21: PB6-1 NEU, PB4-2

16: WLK P8-2, NEU P8-2, DWK P8-2

22: PB2-1 NEU, PB8-2

17: WLK P4-1, NEU P4-1, DWK P4-1

23: PB2-2 NEU, PB4-1

18: ø 2&6 EVP LHT ø 4&8

25: EVP DETECTOR ø 2&6

60: INTERCONNECT FROM LARP.& ARONA

19: ø 2&6 EVP LHT ø 4&8

26: EVP DETECTOR ø 2&6

61: INTERCONNECT TO LARP.& FERNWOOD

24: EVP DETECTOR ø 4&8

27: EVP DETECTOR ø 4&8

49: TELEPHONE SERVICE

28: D6-1

29: D6-2

30: D1-1

31: D1-2

32: D3

33: D4

34: D8-3

35: D3-1

36: D8-1

37: D2-1

38: D2-2

39: D4-1

40: D4-3

42: D7-1

43: D5-1

46: D5-2

47: D1

48: D2

F:\TRAFFIC\SIGPLAN\LARP\580FWIRE 12/3/99

1

8-1, 8-2

P6-2, 2-3

4, 5

EVP LHT ø 4&8

18, 18

PB6-2

PB8-1

EVP DETECTOR ø 4&8

24, 20

P8-1

12

H.H.11

4,5,6,7,12,13,14,18,20,21,24,25, 39,40,41,42,43,44,45

2

8,9,10,11,15,16,17,19,22,23 26,27,28,29,30,31,32,33, 34,35,36,37,38,60,61

3

TO H.H. 2 SEE NEXT SHEET

SERVICE CABINET & METER

3 ST. LIGHT SERVICE (UNMETERED)

2 ST. LIGHT SERVICE (UNMETERED)

1 SIGNAL SERVICE METERED

S.O.P. 120/240 V. SERVICE

H.H.1

GR. ROD

SOP

TELEPHONE SERVICE

120/240 VOLT ELECTRIC SERVICE

4

8-3, 6-1

6-4, 6-2

7, 6

P4-2 14 2 LUM

EVP LHT ø 2&6 18 13 P6-1

EVP DETECTOR ø 2&6 25 21 PB6-1 PB4-2

2,6,7,13,14,18,21,25, 39,40,41,42,43,44,45

H.H.12

40, 41

D4-3, D7-1

42,43,44,45

H.H.14

42 D5-1

35

H.H.15

43 D5-2

44 D1

45 D2

39

H.H.13

39 D4-1

R, O, BL, WH, R/BLK, O/BLK, BL/BLK, WH/BLK, BLK, BLK/WH, G/BLK, G — 12/C#12

BLK, WH — 2-1/C#6, 2-1/C#10

R, WH, BLK — 3/C#12

R OR O; WH OR YEL, BL OR BLK — 3/C#20

BLK, CLEAR — 2/C#14

CONDUCTOR COLOR CODING

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

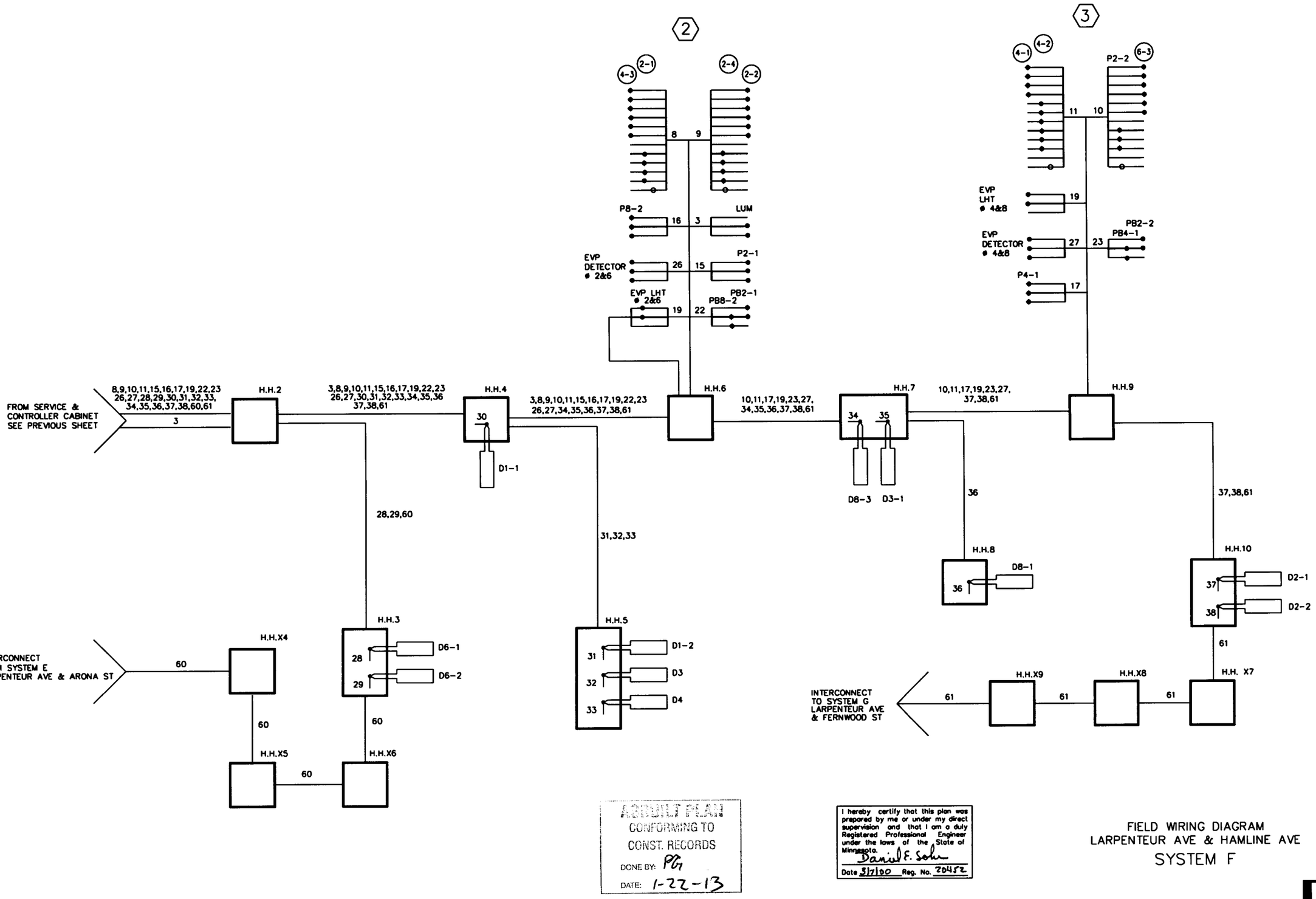
ACCEPTED PLAN CONFORMING TO CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel E. Soler
Date 3/7/00 Reg. No. 20452

FIELD WIRING DIAGRAM
LARPENTEUR AVE & HAMLINE AVE
SYSTEM F

S.A.P. No. 62-630-45 Sheet No. 78 of 121 Sheets

Z8-289



AS BUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel F. Sohn
Date 3/7/00 Reg. No. 20452

FIELD WIRING DIAGRAM
LARPENTEUR AVE & HAMLINE AVE
SYSTEM F

F:\TRAFFIC\SIGPLAN\LARP\580FWIRE 12/3/99

28-289

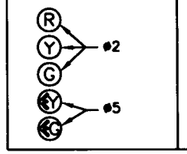
ALL OF THE FOLLOWING INDICTIONS ARE INPLACE
REVISE ALL RED INDICATIONS TO LED's SEE NOTE 9.

SIGNAL INDICATION CHART

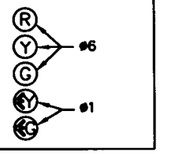
FACE	PHASE	INDICATION SIZE 300mm					
		R(LED)	Y	G	↺Y	↺G	
2-1	2	●	●	●			
2-2	2 and 5	●	●	●	↺	↺	
2-3	2 and 5	●	●	●	↺	↺	
2-4	2	●	●	●			
4-1	4	●	●	●			
4-2	4	●	●	●			
4-3	4	●	●	●			
6-1	6	●	●	●			
6-2	1 and 6	●	●	●	↺	↺	
6-3	1 and 6	●	●	●	↺	↺	
6-4	6	●	●	●			
8-1	8	●	●	●			
8-2	8	●	●	●			
8-3	8	●	●	●			

SIGNAL HEAD PHASING

HEADS 2-2 and 2-3



HEADS 6-2 and 6-3



SIGNING

ALL INPLACE SIGNING SHALL BE SALVAGED AND THE FOLLOWING WORK DONE:

- Fȣ OVERHEAD TYPE D SIGNS, SEE DETAILS ON SEPARATE SHEET. * (SEPARATE PAY ITEM)
- Fȣ OVERHEAD TYPE R10-12 (36"X48") SIGNS ON MAST ARM POLES 1 & 3 ADJACENT TO 2-2 AND 6-2.
- Fȣ PEDESTRIAN PUSH BUTTON SIGNS, TYPE R10-4b (9"X12") WITH SYMBOL MESSAGE ABOVE EACH PUSH BUTTON INSTALLATION.

SIGNAL SYSTEM OPERATION

THE SIGNAL SYSTEM FLASH MODE IS ALL RED.

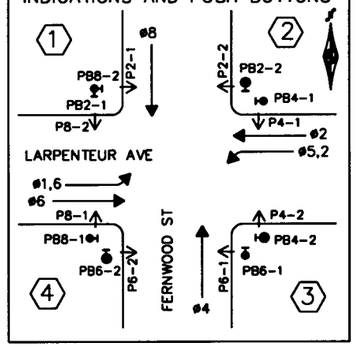
PHASES 1 AND 5 ARE PROTECTED/PERMISSIVE LEFT TURNS.

PHASES 1,4,5 AND 8 ARE NON-LOCK DETECTION.

PHASES 2 AND 6 ARE LOCK DETECTION.

PHASES 2 AND 6 ARE ON VEHICLE RECALL.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



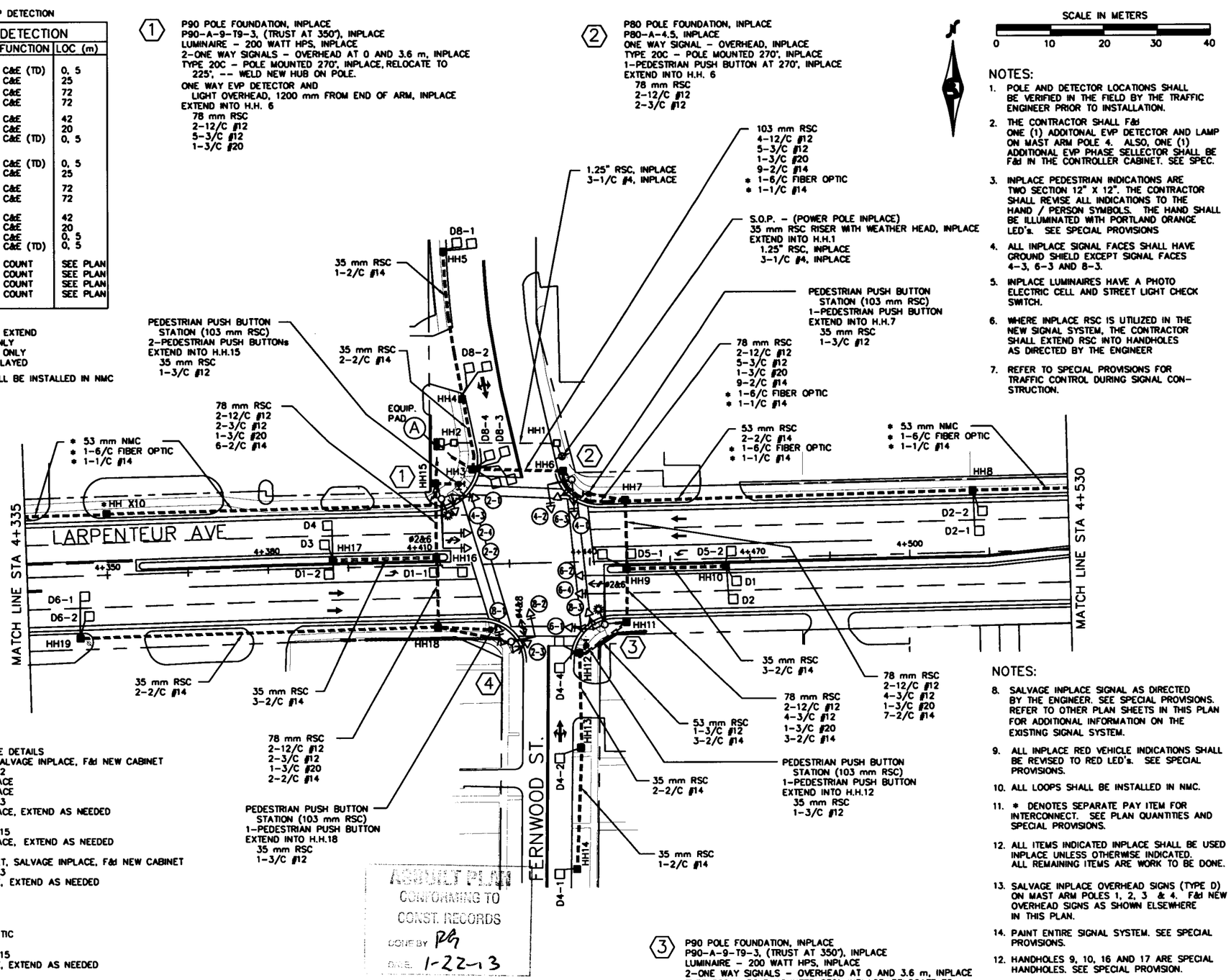
Fȣ ALL NEW LOOP DETECTION

VEHICLE DETECTION

NO.	SIZE (m)	FUNCTION	LOC (m)
D1-1	2-1.7 x 1.7	C&E (TD)	0, 5
D1-2	1.7 x 1.7	C&E	25
D2-1	1.7 x 1.7	C&E	72
D2-2	1.7 x 1.7	C&E	72
D4-1	1.7 x 1.7	C&E	42
D4-2	1.7 x 1.7	C&E	20
D4-4	2-1.7 x 1.7	C&E (TD)	0, 5
D5-1	2-1.7 x 1.7	C&E (TD)	0, 5
D5-2	1.7 x 1.7	C&E	25
D6-1	1.7 x 1.7	C&E	72
D6-2	1.7 x 1.7	C&E	72
D8-1	1.7 x 1.7	C&E	42
D8-2	1.7 x 1.7	C&E	20
D8-3	2-1.7 x 1.7	C&E	0, 5
D8-4	2-1.7 x 1.7	C&E (TD)	0, 5
D1	1.7 x 1.7	COUNT	SEE PLAN
D2	1.7 x 1.7	COUNT	SEE PLAN
D3	1.7 x 1.7	COUNT	SEE PLAN
D4	1.7 x 1.7	COUNT	SEE PLAN

C&E =CALL & EXTEND
C =CALL ONLY
E =EXTEND ONLY
(TD) =TIME DELAYED

ALL NEW LOOPS SHALL BE INSTALLED IN NMC



SCALE IN METERS
0 10 20 30 40

NOTES:

1. POLE AND DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
2. THE CONTRACTOR SHALL Fȣ ONE (1) ADDITONAL EVP DETECTOR AND LAMP ON MAST ARM POLE 4. ALSO, ONE (1) ADDITIONAL EVP PHASE SELLECTOR SHALL BE Fȣ IN THE CONTROLLER CABINET. SEE SPEC.
3. INPLACE PEDESTRIAN INDICATIONS ARE TWO SECTION 12" X 12". THE CONTRACTOR SHALL REVISE ALL INDICATIONS TO THE HAND / PERSON SYMBOLS. THE HAND SHALL BE ILLUMINATED WITH PORTLAND ORANGE LED's. SEE SPECIAL PROVISIONS
4. ALL INPLACE SIGNAL FACES SHALL HAVE GROUND SHIELD EXCEPT SIGNAL FACES 4-3, 6-3 AND 8-3.
5. INPLACE LUMINAIRES HAVE A PHOTO ELECTRIC CELL AND STREET LIGHT CHECK SWITCH.
6. WHERE INPLACE RSC IS UTILIZED IN THE NEW SIGNAL SYSTEM, THE CONTRACTOR SHALL EXTEND RSC INTO HANDHOLES AS DIRECTED BY THE ENGINEER
7. REFER TO SPECIAL PROVISIONS FOR TRAFFIC CONTROL DURING SIGNAL CONSTRUCTION.

NOTES:

8. SALVAGE INPLACE SIGNAL AS DIRECTED BY THE ENGINEER. SEE SPECIAL PROVISIONS. REFER TO OTHER PLAN SHEETS IN THIS PLAN FOR ADDITIONAL INFORMATION ON THE EXISTING SIGNAL SYSTEM.
9. ALL INPLACE RED VEHICLE INDICATIONS SHALL BE REVISED TO RED LED's. SEE SPECIAL PROVISIONS.
10. ALL LOOPS SHALL BE INSTALLED IN NMC.
11. * DENOTES SEPARATE PAY ITEM FOR INTERCONNECT. SEE PLAN QUANTITIES AND SPECIAL PROVISIONS.
12. ALL ITEMS INDICATED INPLACE SHALL BE USED INPLACE UNLESS OTHERWISE INDICATED. ALL REMAINING ITEMS ARE WORK TO BE DONE.
13. SALVAGE INPLACE OVERHEAD SIGNS (TYPE D) ON MAST ARM POLES 1, 2, 3 & 4. Fȣ NEW OVERHEAD SIGNS AS SHOWN ELSEWHERE IN THIS PLAN.
14. PAINT ENTIRE SIGNAL SYSTEM. SEE SPECIAL PROVISIONS.
12. HANDHOLES 9, 10, 16 AND 17 ARE SPECIAL HANDHOLES. SEE SPECIAL PROVISION.

(1) P90 POLE FOUNDATION, INPLACE
P90-A-9-T9-3, (TRUST AT 350'), INPLACE
LUMINAIRE - 200 WATT HPS, INPLACE
2-ONE WAY SIGNALS - OVERHEAD AT 0 AND 3.6 m, INPLACE
TYPE 20C - POLE MOUNTED 270', INPLACE, RELOCATE TO 225', -- WELD NEW HUB ON POLE.
ONE WAY EVP DETECTOR AND LIGHT OVERHEAD, 1200 mm FROM END OF ARM, INPLACE
EXTEND INTO H.H. 6
78 mm RSC
2-12/C #12
5-3/C #12
1-3/C #20

(2) P80 POLE FOUNDATION, INPLACE
P80-A-4.5, INPLACE
ONE WAY SIGNAL - OVERHEAD, INPLACE
TYPE 20C - POLE MOUNTED 270', INPLACE
1-PEDESTRIAN PUSH BUTTON AT 270', INPLACE
EXTEND INTO H.H. 6
78 mm RSC
2-12/C #12
2-3/C #12

(A) EQUIPMENT PAD-SEE DETAILS
SERVICE CABINET, SALVAGE INPLACE, Fȣ NEW CABINET
EXTEND INTO H.H.2
1.25" RSC, INPLACE
3-1/C #4, INPLACE
EXTEND INTO H.H.3
1.25" RSC, INPLACE, EXTEND AS NEEDED
1-3/C #12
EXTEND INTO H.H.15
1.25" RSC, INPLACE, EXTEND AS NEEDED
1-3/C #12
CONTROLLER CABINET, SALVAGE INPLACE, Fȣ NEW CABINET
EXTEND INTO H.H.3
4" RSC, INPLACE, EXTEND AS NEEDED
4-12/C #12
4-3/C #12
1-3/C #20
13-2/C #14
* 1-6/C FIBER OPTIC
* 1-1/C #14
EXTEND INTO H.H.15
4" RSC, INPLACE, EXTEND AS NEEDED
4-12/C #12
4-3/C #12
2-3/C #20
6-2/C #14
* 1-6/C FIBER OPTIC
* 1-1/C #14
INPLACE 2" RSC STUB
BETWEEN SERVICE AND CONTROLLER CABINET
1.25" RSC, INPLACE
2-1/C #6, INPLACE
1-1/C #6 (INS. GRD.), INPLACE

(3) P90 POLE FOUNDATION, INPLACE
P90-A-9-T9-3, (TRUST AT 350'), INPLACE
LUMINAIRE - 200 WATT HPS, INPLACE
2-ONE WAY SIGNALS - OVERHEAD AT 0 AND 3.6 m, INPLACE
TYPE 20C - POLE MOUNTED 270', INPLACE, RELOCATE TO 225', -- WELD NEW HUB ON POLE.
1-PEDESTRIAN PUSH BUTTONS AT 270', INPLACE
ONE WAY EVP DETECTOR AND LIGHT OVERHEAD, 1200 mm FROM END OF ARM, INPLACE
EXTEND INTO H.H. 11
78 mm RSC
2-12/C #12
5-3/C #12
1-3/C #20

(4) P80 POLE FOUNDATION, INPLACE
P80-A-4.5, INPLACE
ONE WAY SIGNAL - OVERHEAD, INPLACE
TYPE 10B - POLE MOUNTED 90', INPLACE
TYPE 10B - POLE MOUNTED 180', INPLACE
1-PEDESTRIAN PUSH BUTTON AT 270', INPLACE
TWO WAY EVP DETECTOR AND LIGHT OVERHEAD, 600 mm FROM END OF ARM, Fȣ
EXTEND INTO H.H. 18
78 mm RSC
2-12/C #12
3-3/C #12
1-3/C #20

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY PG
DATE 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
David E. Sohn
Date 3/7/00 Reg. No. 20452

METER ADDRESS: 1685 FERNWOOD ST
RAMSEY COUNTY INTERSECTION I.D. No. TRF 570

REVISED
INTERSECTION LAYOUT
LARPENTEUR AVE. & FERNWOOD ST
SYSTEM G

S.A.P. 62-630-45

SHEET NO. 80 OF 121 SHEETS

I:\TRAFFIC\SIGPLAN\LARP\SBOGPLAN.dwg 12/3/99

28-289

CONTROLLER CABINET

4	RED 4-3	4-1 RED	1 SIGNAL SERVICE
	YEL 4-3	4-1 YEL	
	GRN 4-3	4-1 GRN	
	NEU 4-3	4-1 NEU	
	RED 2-1	4-2 RED	
	YEL 2-1	4-2 YEL	
	GRN 2-1	4-2 GRN	8
	NEU 2-1, P2-1	P4-1, 4-2 NEU	
	WLK P2-1	P4-1 WLK	
	DWK P2-1	P4-1 DWK	
	SPR	SPR	
	EOG	EOG	
5	RED 2-2	6-3 RED	
	YEL 2-2	6-3 YEL	
	GRN 2-2	6-3 GRN	
	NEU 2-2	6-3 NEU	
	YEL LTA 2-2	6-3 YEL LTA	
	GRN LTA 2-2	6-3 GRN LTA	9
	SPR	SPR	
	NEU 2-4	P2-2 NEU	
	RED 2-4	P2-2 WLK	
	YEL 2-4	P2-2 DWK	
	GRN 2-4	SPR	
	EOG	EOG	
6	RED 8-1	8-3 RED	
	YEL 8-1	8-3 YEL	
	GRN 8-1	8-3 GRN	
	NEU 8-1	8-3 NEU	
	RED 8-2	6-1 RED	
	YEL 8-2	6-1 YEL	
	GRN 8-2	6-1 GRN	10
	NEU 8-2, P8-1	P6-1, 6-1 NEU	
	WLK P8-1	P6-1 WLK	
	DWK P8-1	P6-1 DWK	
	SPR	SPR	
	EOG	EOG	
7	RED 2-3	6-2 RED	
	YEL 2-3	6-2 YEL	
	GRN 2-3	6-2 GRN	
	NEU 2-3	6-2 NEU	
	YEL LTA 2-3	6-2 YEL LTA	
	GRN LTA 2-3	6-2 GRN LTA	11
	SPR	SPR	
	NEU P6-2	6-4 NEU	
	WLK P6-2	6-4 RED	
	DWK P6-2	6-4 YEL	
	SPR	6-4 GRN	
	EOG	EOG	
12	WLK P8-2	PB2-1 NEU	19
	NEU P8-2	PB8-2	
	DWK P8-2		
13	WLK P4-2	PB6-2 NEU	20
	NEU P4-2	PB8-1	
	DWK P4-2		
14	# 2&6 EVP LHT # 4&8	PB2-2 NEU	21
		PB4-1	
15	# 2&6 EVP LHT	PB6-1 NEU	22
		PB4-2	
16	EVP DETECTOR # 2&6	INTERCONNECT TO LARP.& DUNLAP	60
17	EVP DETECTOR # 4&8	INTERCONNECT FROM LARP.& HAMLINE	61
18	EVP DETECTOR # 2&6		

23	D1-1	31 D8-2	D4-4 39
24	D1-2	32 D8-1	D4-2 40
25	D3	33 D2-1	D4-1 41
26	D4	34 D2-2	
27	D6-1	35 D5-1	
28	D6-2	36 D5-2	
29	D8-3	37 D1	
30	D8-4	38 D2	

T:\TRAFFIC\SIGPLAN\LARP\SBOGWIRE 12/3/99

CONDUCTOR COLOR CODING

12/C#12	R	BLK WH 2-1/C#6 2-1/C#10
	O	
	BL	
	WH	
	R/BLK	R WH 3/C#12
	O/BLK	BLK
	BL/BLK	
	WH/BLK	R OR O
	BLK	WH OR YEL 3/C#20
	BLK/WH	BL OR BLK
	G/BLK	
	G	BLK CLEAR 2/C#14

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

1

4-3 2-1 P2-1 2-4 2-2

4 5

P8-2 12 2 LUM

EVP DETECTOR # 2&6 16

EVP LHT # 2&6 14 19 SPARE 19

H.H.15

4,5,6,7,12,14,16,17,19,20, 23,24,25,26,27,28,61

2

8,9,10,11,13,15,18, 21,22,29,30,31,32, 33,34,35,36,37, 38,39,40,41,60

3

TO H.H. 3 SEE NEXT SHEET

SERVICE CABINET & METER

3 ST. LIGHT SERVICE (UNMETERED)

2 ST. LIGHT SERVICE (UNMETERED)

1 SIGNAL SERVICE METERED

S.O.P. 120/240 V. SERVICE

GR. ROD

INPLACE H.H.2

INPLACE H.H.1

SOP

120/240 VOLT ELECTRIC SERVICE

PED PUSH BUTTON STA PB2-1

PB8-2 19

H.H.16

6,7,14,17,20,23,24,25,26,27,28

23

D1-1

61

H.H.X10

61

H.H.X9

61

H.H.X8

61

H.H.X7

61

INTERCONNECT FROM SYSTEM F LARPENTEUR AVE & HAMLINE AVE

4

8-1 8-2 P8-1 P6-2 2-3

6 7

EVP LHT # 4&8 14

EVP DETECTOR # 4&8 17

PB6-2 20 20

H.H.18

6,7,14,17,20,27,28

24,25,26

PED PUSH BUTTON STA PB8-1 20

27,28

H.H.19

27 D6-1

28 D6-2

H.H.17

24 D1-2

25 D3

26 D4

ASBUILT PLAN CONFORMING TO CONST. RECORDS

DONE BY: PG

DATE: 1-22-13

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

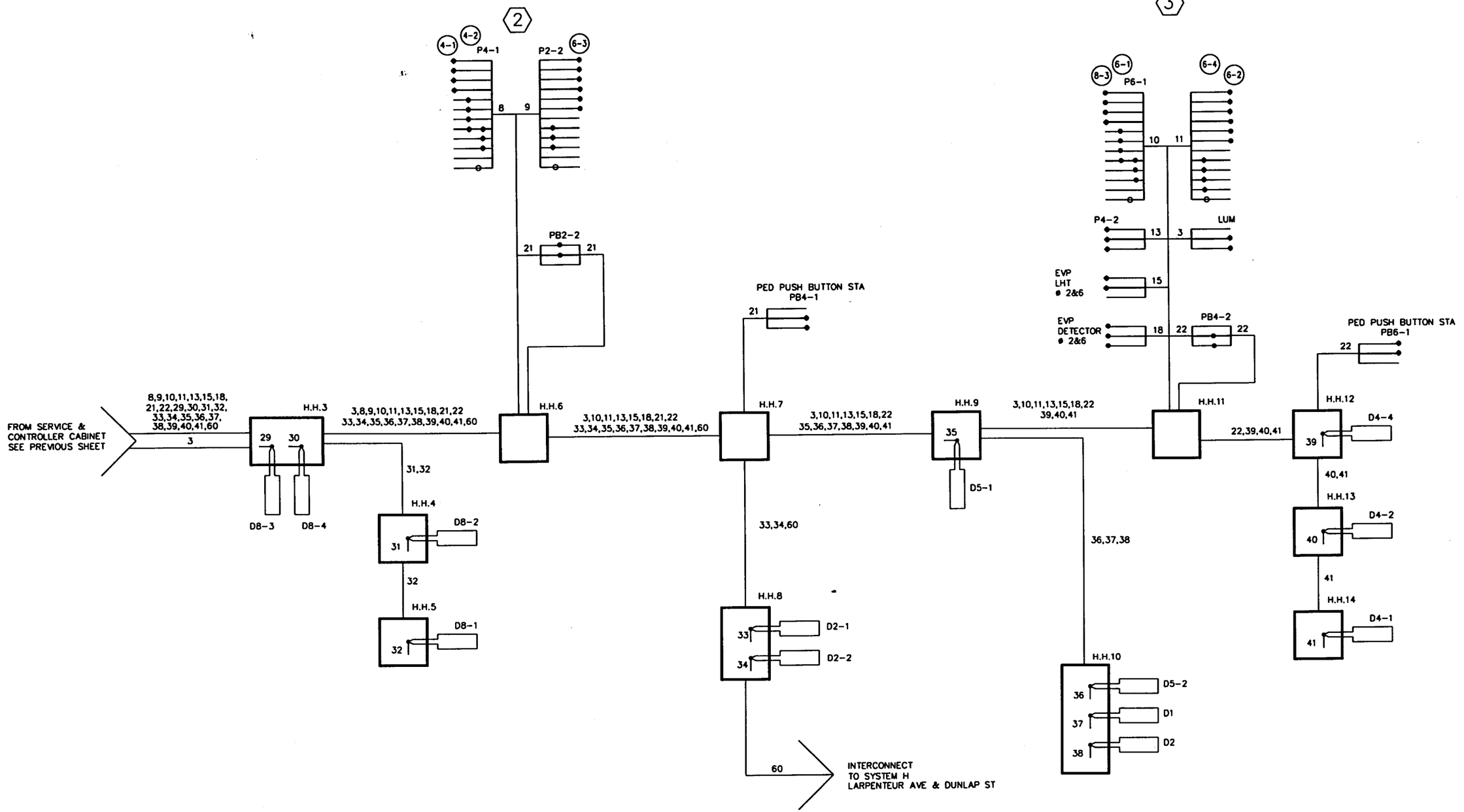
Daniel R. Soh

Date 3/7/00 Reg. No. 20452

FIELD WIRING DIAGRAM
LARPENTEUR AVE & FERNWOOD ST
SYSTEM G

S.A.P. No. 62-630-45 Sheet No. 81 of 121 Sheets

28-289



F:\TRAFFIC\SIGPLAN\LARP\SIGGNRE 12/3/99

AS-BUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel F. Soha
Date 3/7/00 Reg. No. 20452

FIELD WIRING DIAGRAM
LARPENTEUR AVE & FERNWOOD ST
SYSTEM G

S.A.P. No. 62-630-45 Sheet No. 82 of 121 Sheets

28-289

ALL OF THE FOLLOWING INDICTIONS ARE INPLACE
REVISE ALL RED INDICATIONS TO LED's SEE NOTE 9.

SIGNAL INDICATION CHART

FACE	PHASE	INDICATION SIZE 300mm				
		R(LED)	Y	G	←Y	←G
2-1	2	●	●	●		
2-2	2 and 5	●	●	●	←	←
2-3	2 and 5	●	●	●	←	←
2-4	2	●	●	●		
4-1	4	●	●	●		
4-2	4	●	●	●		
4-3	4	●	●	●		
6-1	6	●	●	●		
6-2	1 and 6	●	●	●	←	←
6-3	1 and 6	●	●	●	←	←
6-4	6	●	●	●		
8-1	8	●	●	●		
8-2	8	●	●	●		
8-3	8	●	●	●		

SIGNAL HEAD PHASING

HEADS 2-2 and 2-3: R, Y, G, ←Y, ←G — ø2, ø5

HEADS 6-2 and 6-3: R, Y, G, ←Y, ←G — ø6, ø1

SIGNING

ALL INPLACE SIGNING SHALL BE SALVAGED AND THE FOLLOWING WORK DONE:

- F&I OVERHEAD TYPE D SIGNS, SEE DETAILS ON SEPARATE SHEET. * (SEPARATE PAY ITEM)
- F&I OVERHEAD TYPE R10-12 (36"X48") SIGNS ON MAST ARM POLES 1 & 3 ADJACENT TO 2-2 AND 6-2.
- F&I PEDESTRIAN PUSH BUTTON SIGNS, TYPE R10-4b (9"X12") WITH SYMBOL MESSAGE ABOVE EACH PUSH BUTTON INSTALLATION.

SIGNAL SYSTEM OPERATION

THE SIGNAL SYSTEM FLASH MODE IS ALL RED.

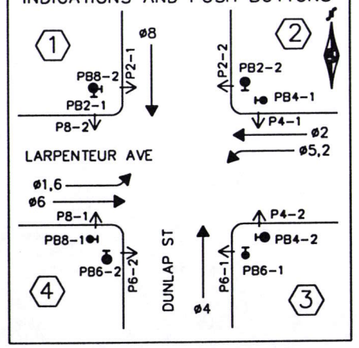
PHASES 1 AND 5 ARE PROTECTED/PERMISSIVE LEFT TURNS.

PHASES 1,4,5 AND 8 ARE NON-LOCK DETECTION.

PHASES 2 AND 6 ARE LOCK DETECTION.

PHASES 2 AND 6 ARE ON VEHICLE RECALL.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



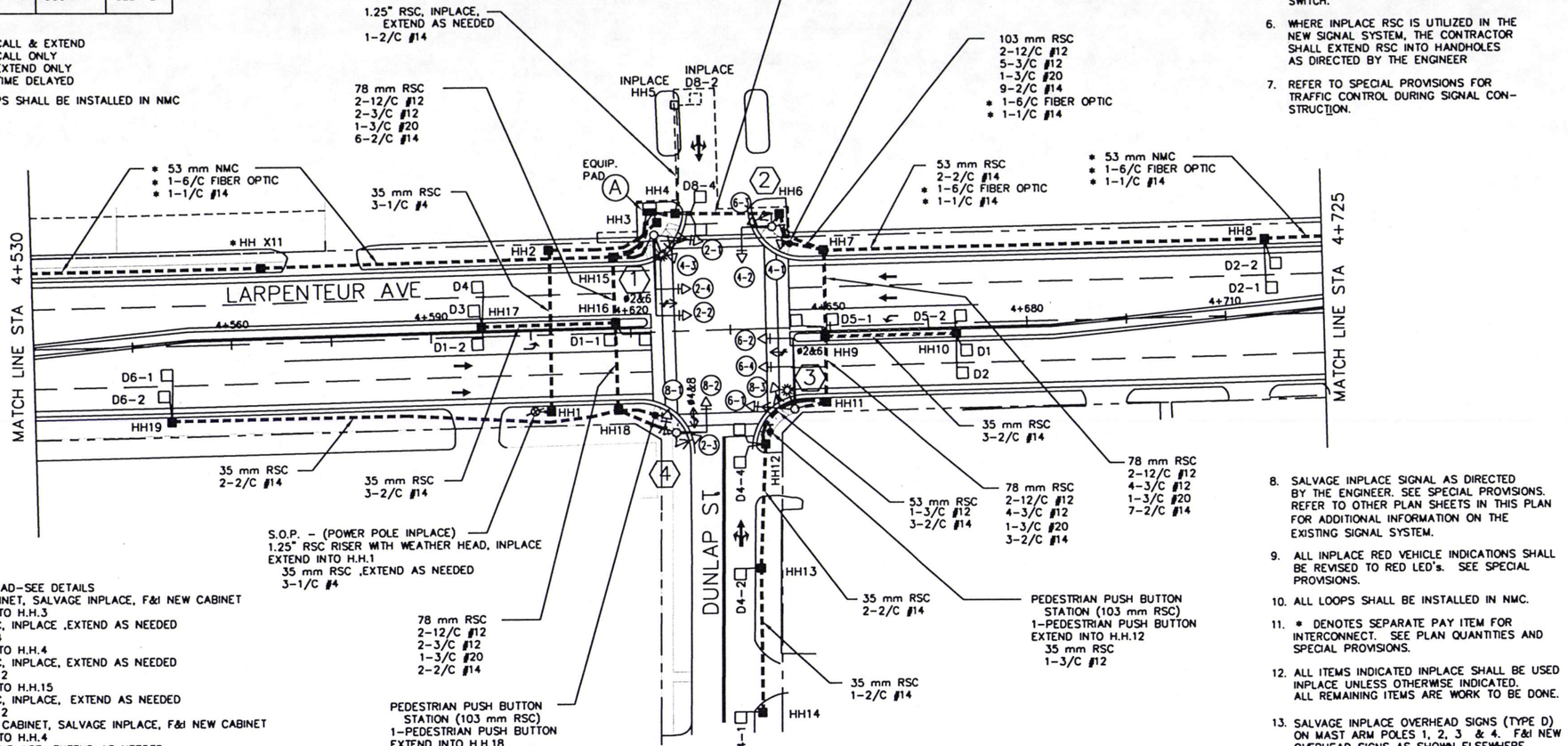
F&I ALL NEW LOOP DETECTION EXCEPT D8-2

VEHICLE DETECTION

	NO.	SIZE (m)	FUNCTION	LOC (m)	
	D1-1	2-1.7 x 1.7	C&E (TD)	0, 5	
	D1-2	1.7 x 1.7	C&E	25	
	D2-1	1.7 x 1.7	C&E	72	
	D2-2	1.7 x 1.7	C&E	72	
	D4-1	1.7 x 1.7	C&E	42	
	D4-2	1.7 x 1.7	C&E	20	
	D4-4	2-1.7 x 1.7	C&E (TD)	0, 5	
	D5-1	2-1.7 x 1.7	C&E (TD)	0, 5	
	D5-2	1.7 x 1.7	C&E	25	
	D6-1	1.7 x 1.7	C&E	72	
	D6-2	1.7 x 1.7	C&E	72	
INPLACE	D8-2	1.7 x 1.7	C&E	18	NMC
	D8-4	2-1.7 x 1.7	C&E (TD)	0, 5	
	D1	1.7 x 1.7	COUNT	SEE PLAN	
	D2	1.7 x 1.7	COUNT	SEE PLAN	
	D3	1.7 x 1.7	COUNT	SEE PLAN	
	D4	1.7 x 1.7	COUNT	SEE PLAN	

C&E =CALL & EXTEND
C =CALL ONLY
E =EXTEND ONLY
(TD) =TIME DELAYED

ALL NEW LOOPS SHALL BE INSTALLED IN NMC



Ⓐ EQUIPMENT PAD-SEE DETAILS
SERVICE CABINET, SALVAGE INPLACE, F&I NEW CABINET
EXTEND INTO H.H.3
1.25" RSC, INPLACE ,EXTEND AS NEEDED
3-1/C #4
EXTEND INTO H.H.4
1.25" RSC, INPLACE, EXTEND AS NEEDED
1-3/C #12
EXTEND INTO H.H.15
1.25" RSC, INPLACE, EXTEND AS NEEDED
1-3/C #12
CONTROLLER CABINET, SALVAGE INPLACE, F&I NEW CABINET
EXTEND INTO H.H.4
4" RSC, INPLACE, EXTEND AS NEEDED
4-12/C #12
4-3/C #12
1-3/C #20
11-2/C #14
* 1-6/C FIBER OPTIC
* 1-1/C #14
EXTEND INTO H.H.15
4" RSC, INPLACE, EXTEND AS NEEDED
4-12/C #12
4-3/C #12
2-3/C #20
6-2/C #14
* 1-6/C FIBER OPTIC
* 1-1/C #14
BETWEEN SERVICE AND CONTROLLER CABINET
1.25" RSC, INPLACE
2-1/C #6, INPLACE
1-1/C #6 (INS. GRD.), INPLACE
INPLACE 2" RSC STUB.

① P100 POLE FOUNDATION, INPLACE
P100-A-12-T9-3, (TRUST AT 350'), INPLACE
LUMINAIRE - 200 WATT HPS, INPLACE
2-ONE WAY SIGNALS - OVERHEAD AT 0 AND 4 m, INPLACE
TYPE 20C - POLE MOUNTED 270', INPLACE
1-PEDESTRIAN PUSH BUTTONS AT 270', INPLACE
ONE WAY EVP DETECTOR AND LIGHT OVERHEAD, 1200 mm FROM END OF ARM, INPLACE
1-PEDESTRIAN PUSH BUTTONS AT 0', F&I
EXTEND INTO H.H. 15
78 mm RSC
2-12/C #12
5-3/C #12
1-3/C #20

② P80 POLE FOUNDATION, INPLACE
P80-A-4.5, INPLACE
ONE WAY SIGNAL - OVERHEAD, INPLACE
TYPE 10B- POLE MOUNTED 90', INPLACE
TYPE 10B - POLE MOUNTED 180', INPLACE
1-PEDESTRIAN PUSH BUTTON AT 270', INPLACE
EXTEND INTO H.H. 6
78 mm RSC
2-12/C #12
2-3/C #12

Ⓐ P80 POLE FOUNDATION, INPLACE
P80-A-4.5, INPLACE
ONE WAY SIGNAL - OVERHEAD, INPLACE
TYPE 10B - POLE MOUNTED 90', INPLACE
TYPE 10B - POLE MOUNTED 180', INPLACE
1-PEDESTRIAN PUSH BUTTON AT 270', INPLACE
TWO WAY EVP DETECTOR AND LIGHT OVERHEAD, 600 mm FROM END OF ARM, F&I
EXTEND INTO H.H. 18
78 mm RSC
2-12/C #12
3-3/C #12
1-3/C #20

③ P100 POLE FOUNDATION, INPLACE
P100-A-10.5-T9-3, (TRUST AT 350'), INPLACE
LUMINAIRE - 200 WATT HPS, INPLACE
2-ONE WAY SIGNALS - OVERHEAD AT 0 AND 4.3 m, INPLACE
TYPE 20C - POLE MOUNTED 270', INPLACE
1-PEDESTRIAN PUSH BUTTONS AT 270', INPLACE
ONE WAY EVP DETECTOR AND LIGHT OVERHEAD, 1200 mm FROM END OF ARM, INPLACE
EXTEND INTO H.H. 11
78 mm RSC
2-12/C #12
5-3/C #12
1-3/C #20

METER ADDRESS: 1161 W. LARPENTEUR AVE
RAMSEY COUNTY INTERSECTION I.D. No. TRF 571

SCALE IN METERS
0 10 20 30 40

NOTES:

1. POLE AND DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
2. THE CONTRACTOR SHALL F&I ONE (1) ADDITONAL EVP DETECTOR AND LAMP ON MAST ARM POLE 4. ALSO, ONE (1) ADDITIONAL EVP PHASE SELLECTOR SHALL BE F&I IN THE CONTROLLER CABINET. SEE SPEC.
3. INPLACE PEDESTRIAN INDICATIONS ARE TWO SECTION 12" X 12". THE CONTRACTOR SHALL REVISE ALL INDICATIONS TO THE HAND / PERSON SYMBOLS. THE HAND SHALL BE ILLUMINATED WITH PORTLAND ORANGE LED's. SEE SPECIAL PROVISIONS
4. ALL INPLACE SIGNAL FACES SHALL HAVE GROUND SHIELD EXCEPT SIGNAL FACES 4-3 AND 8-3.
5. INPLACE LUMINAIRES HAVE A PHOTO ELECTRIC CELL AND STREET LIGHT CHECK SWITCH.
6. WHERE INPLACE RSC IS UTILIZED IN THE NEW SIGNAL SYSTEM, THE CONTRACTOR SHALL EXTEND RSC INTO HANDHOLES AS DIRECTED BY THE ENGINEER
7. REFER TO SPECIAL PROVISIONS FOR TRAFFIC CONTROL DURING SIGNAL CONSTRUCTION.
8. SALVAGE INPLACE SIGNAL AS DIRECTED BY THE ENGINEER. SEE SPECIAL PROVISIONS. REFER TO OTHER PLAN SHEETS IN THIS PLAN FOR ADDITIONAL INFORMATION ON THE EXISTING SIGNAL SYSTEM.
9. ALL INPLACE RED VEHICLE INDICATIONS SHALL BE REVISED TO RED LED's. SEE SPECIAL PROVISIONS.
10. ALL LOOPS SHALL BE INSTALLED IN NMC.
11. * DENOTES SEPARATE PAY ITEM FOR INTERCONNECT. SEE PLAN QUANTITIES AND SPECIAL PROVISIONS.
12. ALL ITEMS INDICATED INPLACE SHALL BE USED INPLACE UNLESS OTHERWISE INDICATED. ALL REMAINING ITEMS ARE WORK TO BE DONE.
13. SALVAGE INPLACE OVERHEAD SIGNS (TYPE D) ON MAST ARM POLES 1, 2, 3 & 4. F&I NEW OVERHEAD SIGNS AS SHOWN ELSEWHERE IN THIS PLAN.
14. PAINT ENTIRE SIGNAL SYSTEM. SEE SPECIAL PROVISIONS.
15. HANDHOLES 9, 10, 16 AND 17 ARE SPECIAL HANDHOLES. SEE SPECIAL PROVISION.

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel F. Soha
Date 3/7/00 Reg. No. 20452

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RLG
DATE: 1-22-13

REVISED
INTERSECTION LAYOUT
LARPENTEUR AVE. & DUNLAP ST
SYSTEM H

S.A.P. 62-630-45

SHEET NO. 83 OF 121 SHEETS

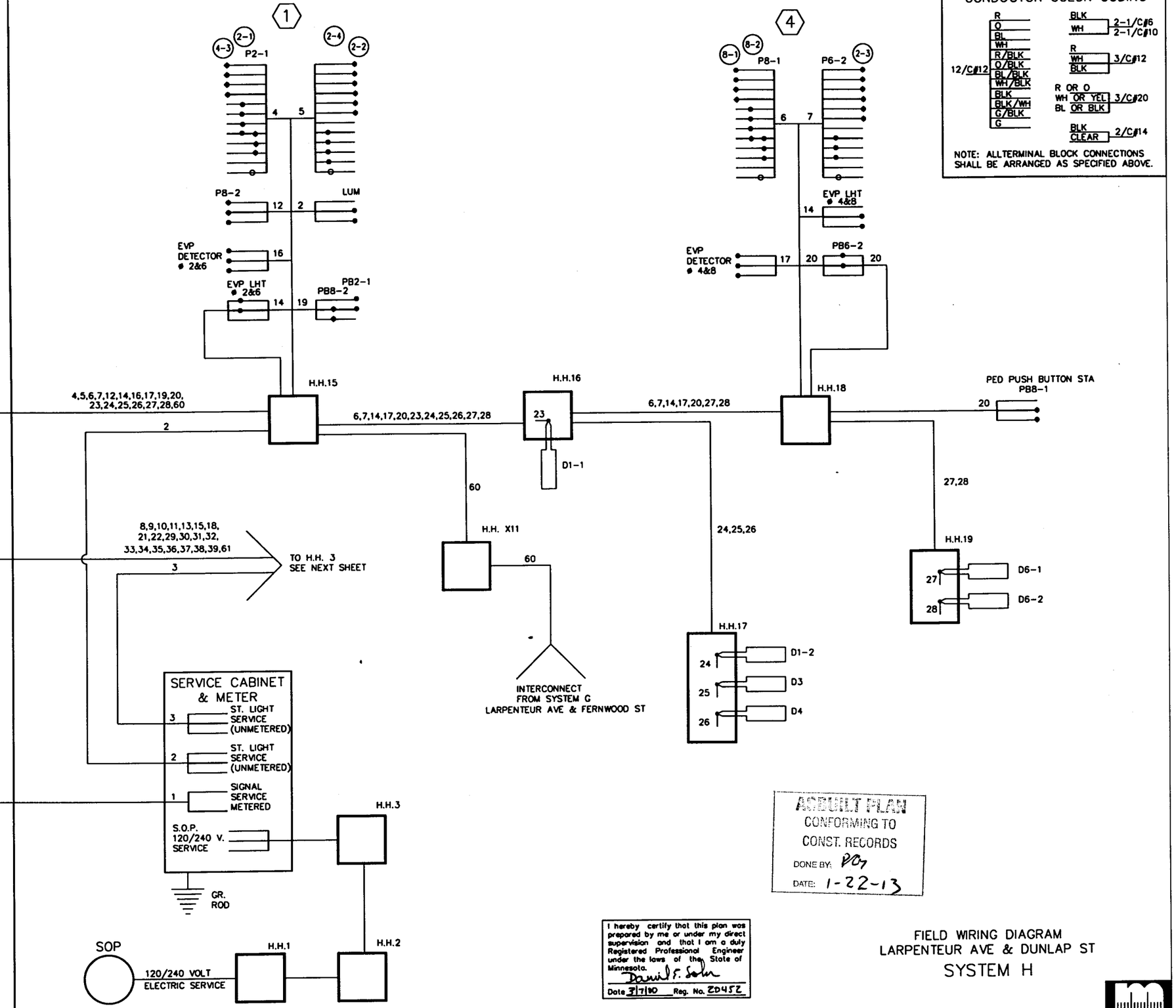
T:\TRAFFIC\SIGPLAN\LARP\SBOHPLAN.dwg 12/3/99

78-289

CONTROLLER CABINET

		SIGNAL SERVICE	1
4	RED 4-3, YEL 4-3, GRN 4-3, NEU 4-3, RED 2-1, YEL 2-1, GRN 2-1, NEU 2-1, P2-1, WLK P2-1, DWK P2-1, SPR, EOG	4-1 RED, 4-1 YEL, 4-1 GRN, 4-1 NEU, 4-2 RED, 4-2 YEL, 4-2 GRN, P4-1, 4-2 NEU, P4-1 WLK, P4-1 DWK, SPR, EOG	8
5	RED 2-2, YEL 2-2, GRN 2-2, NEU 2-2, YEL LTA 2-2, GRN LTA 2-2, SPR, NEU 2-4, RED 2-4, YEL 2-4, GRN 2-4, EOG	6-3 RED, 6-3 YEL, 6-3 GRN, 6-3 NEU, 6-3 YEL LTA, 6-3 GRN LTA, SPR, P2-2 NEU, P2-2 WLK, P2-2 DWK, SPR, EOG	9
6	RED 8-1, YEL 8-1, GRN 8-1, NEU 8-1, RED 8-2, YEL 8-2, GRN 8-2, NEU 8-2, P8-1, WLK P8-1, DWK P8-1, SPR, EOG	8-3 RED, 8-3 YEL, 8-3 GRN, 8-3 NEU, 6-1 RED, 6-1 YEL, 6-1 GRN, P6-1, 6-1 NEU, P6-1 WLK, P6-1 DWK, SPR, EOG	10
7	RED 2-3, YEL 2-3, GRN 2-3, NEU 2-3, YEL LTA 2-3, GRN LTA 2-3, SPR, NEU P6-2, WLK P6-2, DWK P6-2, SPR, EOG	6-2 RED, 6-2 YEL, 6-2 GRN, 6-2 NEU, 6-2 YEL LTA, 6-2 GRN LTA, SPR, 6-4 NEU, 6-4 RED, 6-4 YEL, 6-4 GRN, EOG	11
12	WLK P8-2, NEU P8-2, DWK P8-2	PB2-1 NEU PB8-2	19
13	WLK P4-2, NEU P4-2, DWK P4-2	PB6-2 NEU PB8-1	20
14	# 2&6 EVP LHT, # 4&8	PB2-2 NEU PB4-1	21
15	# 2&6 EVP LHT	PB6-1 NEU PB4-2	22
16	EVP DETECTOR # 2&6	INTERCONNECT FROM LARP.& FERNWOOD	60
17	EVP DETECTOR # 4&8	INTERCONNECT TO LARP.& LEXINGTON	61
18	EVP DETECTOR # 2&6		
23	D1-1	D2-1	31
24	D1-2	D2-2	32
25	D3	D5-1	33
26	D4	D5-2	34
27	D6-1	D1	35
28	D6-2	D2	36
29	D8-4	D4-4	37
30	D8-2	D4-2	38
		D4-1	39

T:\TRAFFIC\SIGPLAN\LARP\S60HWIRE 12/3/99



CONDUCTOR COLOR CODING

NOTE: ALLTERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

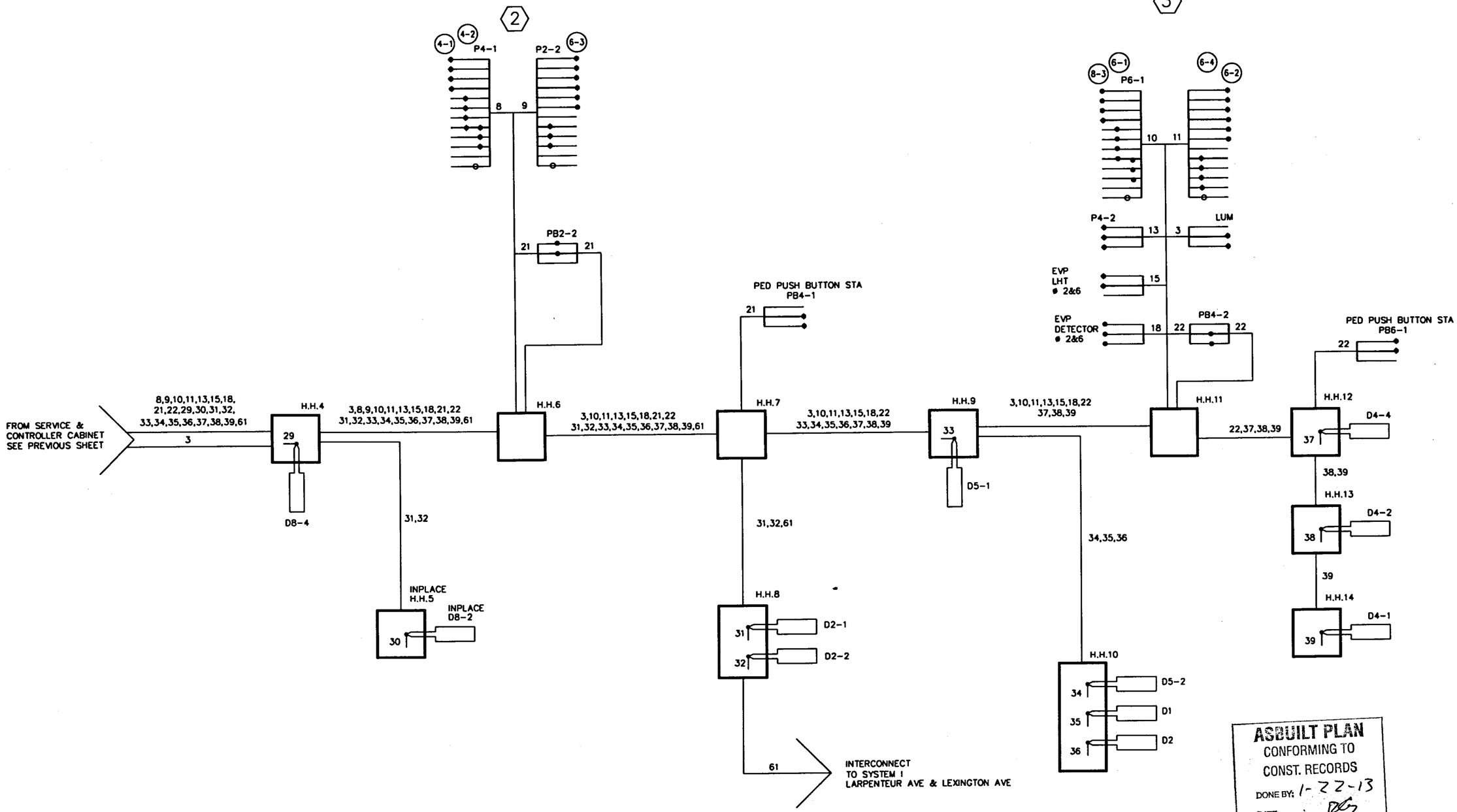
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PCJ
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
David E. Sohn
Date 3/7/00 Reg. No. 20452

FIELD WIRING DIAGRAM
LARPENTEUR AVE & DUNLAP ST
SYSTEM H

S.A.P. No. 62-630-45 Sheet No. 84 of 121 Sheets

28-289



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: 1-22-13
DATE:

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel F. Soha
Date 3/7/00 Reg. No. 20452

FIELD WIRING DIAGRAM
LARPENTEUR AVE & DUNLAP ST
SYSTEM H

T:\TRAFFIC\SIGPLAN\LARP\580HWIRE 12/3/99

S.A.P. No. 62-630-45 Sheet No. 85 of 121 Sheets

28-289

SIGNAL INDICATION CHART

FACE	PHASE	INDICATION SIZE 300mm				
		R or Ped	Y	G	⟲Y	⟲G
2-1	2	●	●	●		
2-2	2 and 5	●	●	●	●	●
2-3	2 and 5	●	●	●	●	●
2-4	2	●	●	●		
4-1	4	●	●	●		
4-2	4 and 7	●	●	●	●	●
4-3	4 and 7	●	●	●	●	●
4-4	4	●	●	●		
6-1	6	●	●	●		
6-2	1 and 6	●	●	●	●	●
6-3	1 and 6	●	●	●	●	●
6-4	6	●	●	●		
8-1	8	●	●	●		
8-2	3 and 8	●	●	●	●	●
8-3	3 and 8	●	●	●	●	●
8-4	8	●	●	●		

SIGNAL HEAD PHASING

HEADS 2-2 and 2-3, 4-2 and 4-3: R, Y, G → #2 OR #4; ⟲Y, ⟲G → #5 OR #7

HEADS 6-2 and 6-3, 8-2 and 8-3: R, Y, G → #6 OR #8; ⟲Y, ⟲G → #1 OR #3

SIGNING

F&I OVERHEAD TYPE D SIGNS, SEE DETAILS ON SEPARATE SHEET. (SEPARATE PAY ITEM)

F&I OVERHEAD TYPE R10-12 (36"X48") SIGN ON MAST ARM POLES 1, 2, 3 AND 4 ADJACENT TO VEHICLE IND. 2-2, 4-2, 6-2 AND 8-2.

F&I PEDESTRIAN PUSH BUTTON SIGNS, TYPE R10-4b (9"X12") WITH SYMBOL MESSAGE.

SIGNAL SYSTEM OPERATION

THE SIGNAL SYSTEM FLASH MODE IS ALL RED.

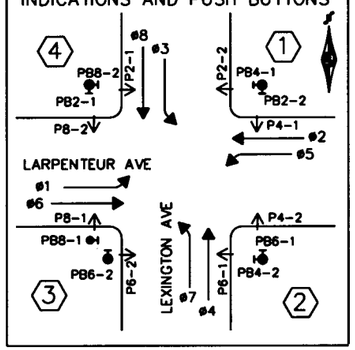
PHASES 1, 3, 5 & 7 ARE PROTECTED/PERMISSIVE LEFT TURNS.

PHASES 1,3,5 & 7 ARE NON-LOCK DETECTION.

PHASES 2,4,6 & 8 ARE LOCK DETECTION.

PHASES 2 AND 6 ARE ON VEHICLE RECALL.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

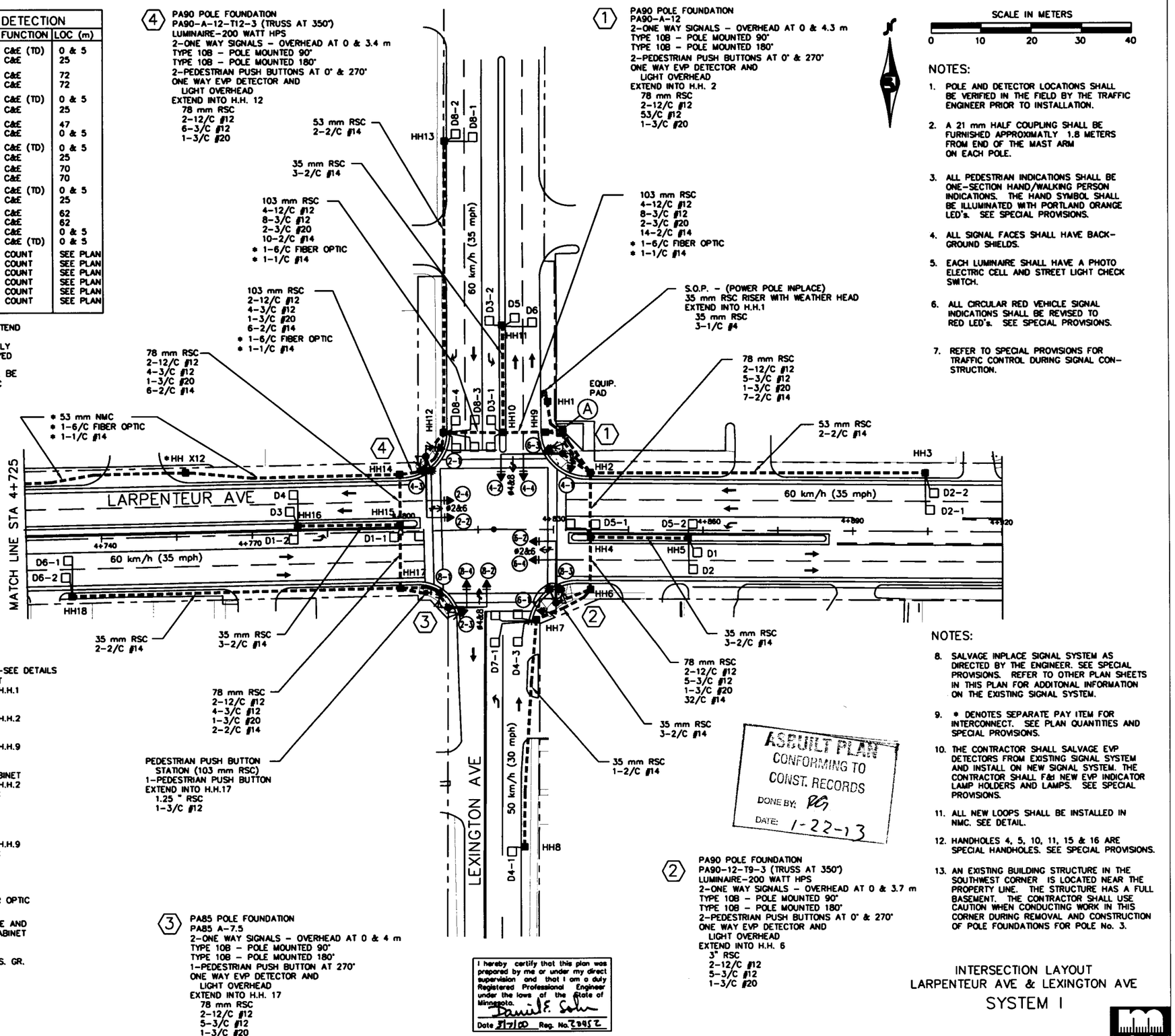


VEHICLE DETECTION

NO.	SIZE (m)	FUNCTION	LOC (m)
D1-1	2-1.7 x 1.7	C&E (TD)	0 & 5
D1-2	1.7 x 1.7	C&E	25
D2-1	1.7 x 1.7	C&E	72
D2-2	1.7 x 1.7	C&E	72
D3-1	2-1.7 x 1.7	C&E (TD)	0 & 5
D3-2	1.7 x 1.7	C&E	25
D4-1	1.7 x 1.7	C&E	47
D4-3	2-1.7 x 1.7	C&E	0 & 5
D5-1	2-1.7 x 1.7	C&E (TD)	0 & 5
D5-2	1.7 x 1.7	C&E	25
D6-1	1.7 x 1.7	C&E	70
D6-2	1.7 x 1.7	C&E	70
D7-1	2-1.7 x 1.7	C&E (TD)	0 & 5
D7-2	1.7 x 1.7	C&E	25
D8-1	1.7 x 1.7	C&E	62
D8-2	1.7 x 1.7	C&E	62
D8-3	2-1.7 x 1.7	C&E	0 & 5
D8-4	2-1.7 x 1.7	C&E (TD)	0 & 5
D1	1.7 x 1.7	COUNT	SEE PLAN
D2	1.7 x 1.7	COUNT	SEE PLAN
D3	1.7 x 1.7	COUNT	SEE PLAN
D4	1.7 x 1.7	COUNT	SEE PLAN
D5	1.7 x 1.7	COUNT	SEE PLAN
D6	1.7 x 1.7	COUNT	SEE PLAN

C&E =CALL & EXTEND
C =CALL ONLY
E =EXTEND ONLY
(TD) =TIME DELAYED

ALL LOOPS SHALL BE INSTALLED IN NMC



(A) EQUIPMENT PAD-SEE DETAILS
SERVICE CABINET
EXTEND INTO H.H.1
35 mm RSC
3-1/C #4
EXTEND INTO H.H.2
35 mm RSC
1-3/C #12
EXTEND INTO H.H.9
35 mm RSC
1-3/C #12
CONTROLLER CABINET
EXTEND INTO H.H.2
103 mm RSC
4-12/C #12
7-3/C #12
2-3/C #20
9-2/C #14
EXTEND INTO H.H.9
103 mm RSC
4-12/C #12
7-3/C #12
2-3/C #20
14-2/C #14
* 1-6/C FIBER OPTIC
* 1-1/C #14
BETWEEN SERVICE AND CONTROLLER CABINET
35 mm RSC
2-1/C #6
1-1/C #6 INS. GR.

(3) PA85 POLE FOUNDATION
PA85 A-7.5
2-ONE WAY SIGNALS - OVERHEAD AT 0 & 4 m
TYPE 10B - POLE MOUNTED 90°
TYPE 10B - POLE MOUNTED 180°
1-PEDESTRIAN PUSH BUTTON AT 270°
ONE WAY EVP DETECTOR AND LIGHT OVERHEAD
EXTEND INTO H.H. 17
78 mm RSC
2-12/C #12
5-3/C #12
1-3/C #20

(2) PA90 POLE FOUNDATION
PA90-12-T9-3 (TRUSS AT 350')
LUMINAIRE-200 WATT HPS
2-ONE WAY SIGNALS - OVERHEAD AT 0 & 3.7 m
TYPE 10B - POLE MOUNTED 90°
TYPE 10B - POLE MOUNTED 180°
2-PEDESTRIAN PUSH BUTTONS AT 0° & 270°
ONE WAY EVP DETECTOR AND LIGHT OVERHEAD
EXTEND INTO H.H. 6
3" RSC
2-12/C #12
5-3/C #12
1-3/C #20

SCALE IN METERS
0 10 20 30 40

NOTES:

1. POLE AND DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
2. A 21 mm HALF COUPLING SHALL BE FURNISHED APPROXIMATLY 1.8 METERS FROM END OF THE MAST ARM ON EACH POLE.
3. ALL PEDESTRIAN INDICATIONS SHALL BE ONE-SECTION HAND/WALKING PERSON INDICATIONS. THE HAND SYMBOL SHALL BE ILLUMINATED WITH PORTLAND ORANGE LED's. SEE SPECIAL PROVISIONS.
4. ALL SIGNAL FACES SHALL HAVE BACK-GROUND SHIELDS.
5. EACH LUMINAIRE SHALL HAVE A PHOTO ELECTRIC CELL AND STREET LIGHT CHECK SWITCH.
6. ALL CIRCULAR RED VEHICLE SIGNAL INDICATIONS SHALL BE REVISED TO RED LED's. SEE SPECIAL PROVISIONS.
7. REFER TO SPECIAL PROVISIONS FOR TRAFFIC CONTROL DURING SIGNAL CONSTRUCTION.
8. SALVAGE INPLACE SIGNAL SYSTEM AS DIRECTED BY THE ENGINEER. SEE SPECIAL PROVISIONS. REFER TO OTHER PLAN SHEETS IN THIS PLAN FOR ADDITONAL INFORMATION ON THE EXISTING SIGNAL SYSTEM.
9. * DENOTES SEPARATE PAY ITEM FOR INTERCONNECT. SEE PLAN QUANTITIES AND SPECIAL PROVISIONS.
10. THE CONTRACTOR SHALL SALVAGE EVP DETECTORS FROM EXISTING SIGNAL SYSTEM AND INSTALL ON NEW SIGNAL SYSTEM. THE CONTRACTOR SHALL F&I NEW EVP INDICATOR LAMP HOLDERS AND LAMPS. SEE SPECIAL PROVISIONS.
11. ALL NEW LOOPS SHALL BE INSTALLED IN NMC. SEE DETAIL.
12. HANDHOLES 4, 5, 10, 11, 15 & 16 ARE SPECIAL HANDHOLES. SEE SPECIAL PROVISIONS.
13. AN EXISTING BUILDING STRUCTURE IN THE SOUTHWEST CORNER IS LOCATED NEAR THE PROPERTY LINE. THE STRUCTURE HAS A FULL BASEMENT. THE CONTRACTOR SHALL USE CAUTION WHEN CONDUCTING WORK IN THIS CORNER DURING REMOVAL AND CONSTRUCTION OF POLE FOUNDATIONS FOR POLE No. 3.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel E. Soler
Date 11-7-00 Reg. No. 20952

INTERSECTION LAYOUT
LARPENTEUR AVE & LEXINGTON AVE
SYSTEM I

METER ADDRESS: 1091 LARPENTEUR AVE WEST
RAMSEY COUNTY INTERSECTION I.D. No. : TRF 522

S.A.P. NO. 62-630-45 SHEET NO. 86 OF 121 SHEETS

T:\TRAFFIC\SIGPLAN\LARP\580PLAN 12/3/99

28-289

CONTROLLER CABINET

SIGNAL SERVICE → 1

4 — RED 4-1, YEL 4-1, GRN 4-1, NEU 4-1, RED 4-2, YEL 4-2, GRN 4-2, NEU 4-2, YEL LTA 4-2, GRN LTA 4-2, SPR, EQG

8 — 4-3 RED, 4-3 YEL, 4-3 GRN, 4-3 NEU, 4-3 YEL LTA, 4-3 GRN LTA, SPR, 2-1 NEU, 2-1 RED, 2-1 YEL, 2-1 GRN, EQG

5 — RED 6-3, YEL 6-3, GRN 6-3, NEU 6-3, YEL LTA 6-3, GRN LTA 6-3, SPR, NEU 4-4, RED 4-4, YEL 4-4, GRN 4-4, EQG

9 — 2-4 RED, 2-4 YEL, 2-4 GRN, 2-4 NEU, 2-2 RED, 2-2 YEL, 2-2 GRN, 2-2 NEU, 2-2 YEL LTA, 2-2 GRN LTA, SPR, EQG

6 — RED 8-3, YEL 8-3, GRN 8-3, NEU 8-3, YEL LTA 8-3, GRN LTA 8-3, SPR, NEU 6-1, RED 6-1, YEL 6-1, GRN 6-1, EQG

10 — 8-1 RED, 8-1 YEL, 8-1 GRN, 8-1 NEU, 8-2 RED, 8-2 YEL, 8-2 GRN, 8-2 NEU, 8-2 YEL LTA, 8-2 GRN LTA, SPR, EQG

7 — RED 6-4, YEL 6-4, GRN 6-4, NEU 6-4, RED 6-2, YEL 6-2, GRN 6-2, NEU 6-2, YEL LTA 6-2, GRN LTA 6-2, SPR, EQG

11 — 2-3 RED, 2-3 YEL, 2-3 GRN, 2-3 NEU, 2-3 YEL LTA, 2-3 GRN LTA, SPR, 8-4 NEU, 8-4 RED, 8-4 YEL, 8-4 GRN, EQG

12	WLK P8-2, NEU P8-2, DWK P8-2	14 — WLK P6-2, NEU P6-2, DWK P6-2	PB2-2, NEU, PB4-1 — 22
13	WLK P2-1, NEU P2-1, DWK P2-1	15 — WLK P8-1, NEU P8-1, DWK P8-1	PB6-1, NEU, PB4-2 — 23
16	WLK P2-2, NEU P2-2, DWK P2-2	18 — WLK P4-2, NEU P4-2, DWK P4-2	PB2-1, NEU, PB8-2 — 24
17	WLK P4-1, NEU P4-1, DWK P4-1	19 — WLK P6-1, NEU P6-1, DWK P6-1	PB6-2, NEU, PB8-1 — 25
20	# 2&6, EVP LHT, # 4&8	27 — EVP DETECTOR # 2&6	
21	# 2&6, EVP LHT, # 4&8	28 — EVP DETECTOR # 2&6	INTERCONNECT FROM LARP.& DUNLAP — 61
26	EVP DETECTOR # 4&8	29 — EVP DETECTOR # 4&8	
30	D2-1	38 — D4-1	D8-2 — 46
31	D2-2	39 — D3-1	D1-1 — 47
32	D5-1	40 — D3-2	D1-2 — 48
33	D5-2	41 — D5	D3 — 49
34	D1	42 — D6	D4 — 50
35	D2	43 — D8-3	D6-1 — 51
36	D7-1	44 — D8-4	D6-2 — 52
37	D4-3	45 — D8-1	

T:\TRAFFIC\SIGPLAN\LARP\SIGWIRE 12/3/99

(1)

4-1, 4-2, 4-4, 6-3 — 4 5

P2-2 — 16 — 20 — EVP LHT # 4&8 — 20

P4-1 — 17 — 22 — PB4-1 — PB2-2

EVP DETECTOR # 4&8 — 26

H.H.2

4,5,6,7,16,17,18,19,20,22,23 26,27,30,31,32,33,34,35,36,37,38

2

8,9,10,11,12,13,14 15,21,24,25,28,29,39, 40,41,42,43,44,45,46, 47,48,49,50,51,52,61

3

TO H.H. 9 SEE NEXT SHEET

2,6,7,18,19,20,23,27 32,33,34,35,36,37,38

H.H.4 — 32 — D5-1

30,31

H.H.3 — 30 — D2-1 — 31 — D2-2

2,6,7,18,19,20, 23,27,36,37,38

33,34,35

H.H.5 — 33 — D5-2 — 34 — D1 — 35 — D2

(2)

8-3, 6-1, 6-2, 6-4 — 6 7

P4-2 — 18 — 2 — LUM

EVP LHT # 2&6 — 20 — 19 — P6-1

EVP DETECTOR # 2&6 — 27 — 23 — PB4-2 — PB6-1

H.H.6

36,37,38

H.H.7 — 36 — D7-1 — 37 — D4-3

38

H.H.8 — 38 — D4-1

SERVICE CABINET & METER

3 — ST. LIGHT SERVICE (UNMETERED)

2 — ST. LIGHT SERVICE (UNMETERED)

1 — SIGNAL SERVICE METERED

S.O.P. 120/240 V. SERVICE → H.H.1

GR. ROD

SOP — 120/240 VOLT ELECTRIC SERVICE

CONDUCTOR COLOR CODING

12/C#12: R, O, BL, WH, R/BLK, O/BLK, BL/BLK, WH/BLK, BLK, BLK/WH, G/BLK, G

- BLK, WH — 2-1/C#6, 2-1/C#10
- R, WH, BLK — 3/C#12
- R OR O: WH OR YEL, BL OR BLK — 3/C#20
- BLK, CLEAR — 2/C#14

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

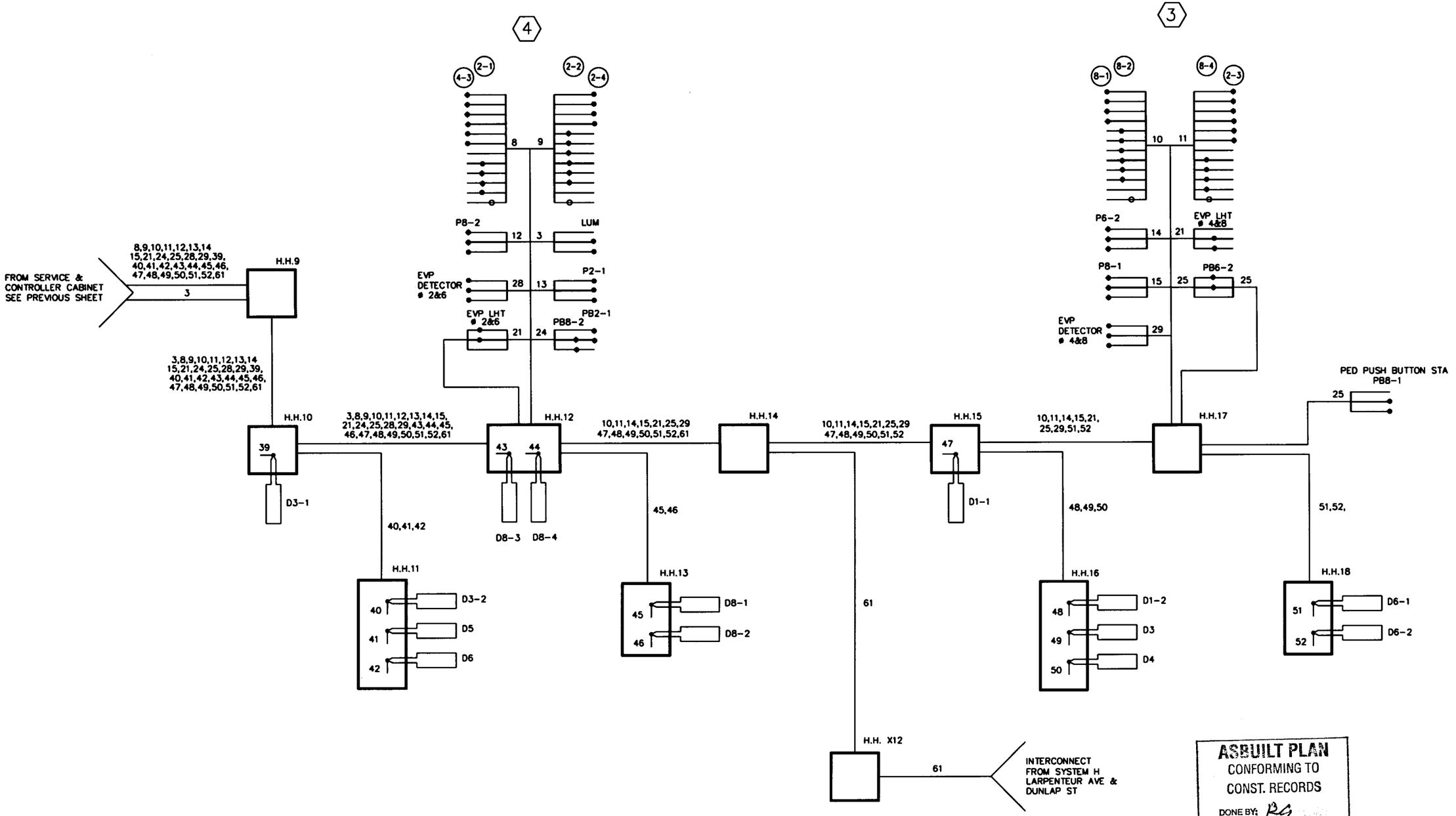
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel G. Sohn
Date 3/7/00 Reg. No. 20452

FIELD WIRING DIAGRAM
LARPENTEUR AVE & LEXINGTON AVE
SYSTEM I

S.A.P. No. 62-630-45 — Sheet No. 87 of 121 Sheets

28-289



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
David J. Sohn
Date 3/7/00 Reg. No. 20452

FIELD WIRING DIAGRAM
LARPENTEUR AVE & LEXINGTON AVE
SYSTEM I

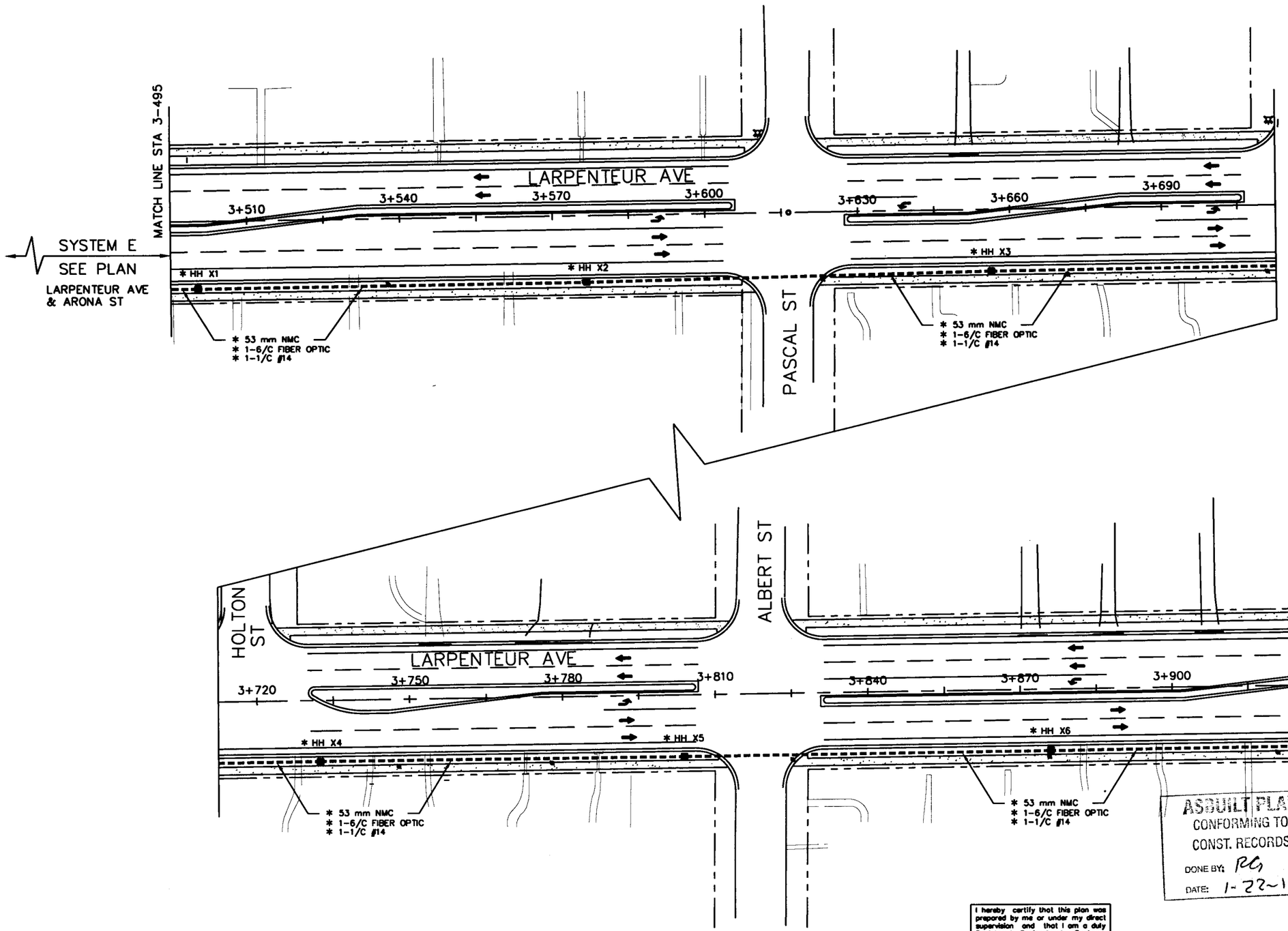
T:\TRAFFIC\SIGPLAN\LARP\SBDWIRE 12/3/99

S.A.P. No. 62-630-45 Sheet No. 88 of 121 Sheets

28-289

SCALE IN METERS

0 10 20 30 40



NOTES:

1. * DENOTES SEPARATE PAY ITEM FOR INTERCONNECT. SEE PLAN QUANTITIES AND SPECIAL PROVISIONS.
2. FURNISH AND INSTALL A WARNING TAPE OVER ALL CONDUIT THAT CONTAINS FIBER OPTIC CABLE. SEE SPECIAL PROVISIONS.

AS-BUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel F. Sohn
Date 3/7/00 Reg. No. 20452

INTERCONNECT
LARPENTEUR AVENUE
ARONA ST TO HAMLINE AVE AVE

T:\TRAFFIC\SIGPLAN\LARP\SBONNTER.dwg 12/3/99

S.A.P. No. 62-630-45 SHEET NO. 89 OF 121 SHEETS

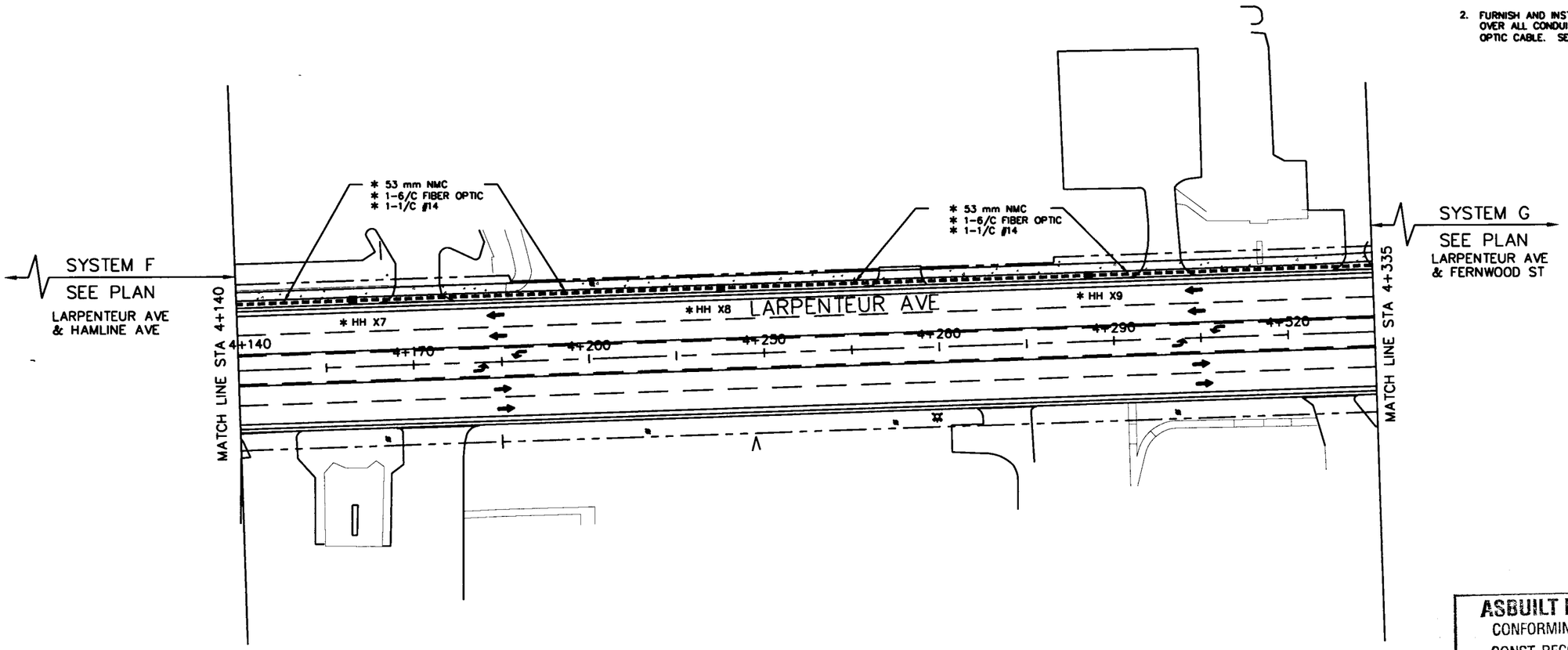
28-289

SCALE IN METERS

0 10 20 30 40

NOTES:

1. * DENOTES SEPARATE PAY ITEM FOR INTERCONNECT. SEE PLAN QUANTITIES AND SPECIAL PROVISIONS.
2. FURNISH AND INSTALL A WARNING TAPE OVER ALL CONDUIT THAT CONTAINS FIBER OPTIC CABLE. SEE SPECIAL PROVISIONS.



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel F. Sohn
Date 3/7/00 Reg. No. 20452

INTERCONNECT
LARPENTEUR AVENUE
HAMLINE AVE TO LEXINGTON AVE

T:\TRAFFIC\SIGPLAN\LARP\SIGINTER.dwg 12/3/99

S.A.P. No. 62-630-45 SHEET NO. 90 OF 121 SHEETS

28-289

NOTE:

1) ALL ITEMS SHOWN OR NOTED INPLACE SHALL BE USED INPLACE UNLESS OTHERWISE SPECIFIED.
2) SEE SPECIAL PROVISIONS FOR STATE FURNISHED EQUIPMENT.
3) ALL PEDESTRIAN INDICATIONS ARE 9" X 9" EXCEPT P4-1, P4-2, P4-3 AND P4-4 WHICH ARE 12".
4) ALL SIGNAL FACES SHALL HAVE BACKGROUND SHIELDS EXCEPT FACE NO'S. 2-2, 4-1, 4-2, 4-3 AND 4-4.
5) ALL SIGNAL FACES SHALL BE 12" 3 SECTION R-Y-G EXCEPT FACE NO.'S 1-1 AND 5-1 WHICH SHALL BE 12" 3 SECTION RLTA-YLTA-GLTA.
6) A MID-MAST ARM MOUNT SHALL BE LOCATED 12' FROM THE END OF THE MAST ARM AT POLES 1 AND 3.
7) REMOVE AND SALVAGE ALL ITEMS OF THE EXISTING SIGNAL SYSTEM NOT USED AS PART OF NEW SIGNAL SYSTEM 6. SEE SHEET 59 FOR EXISTING SIGNAL SYSTEM

LOOP DETECTORS.			
NUMBER	SIZE	FUNCTION	LOCATION
D1-1	6' X 40'	1	5'
D2-1	INPLACE	1	150'
D4-1	6' X 20'	1	5'
D4-2	6' X 20'	1	5'
D4-3	6' X 20'	1	5'
D4-4	6' X 20'	1	5'
D5-1	6' X 40'	1	5'
D6-1	6' X 6'	1	150'
D6-2	6' X 6'	1	150'

LOCATION = DISTANCE FROM STOP LINE TO DETECTOR

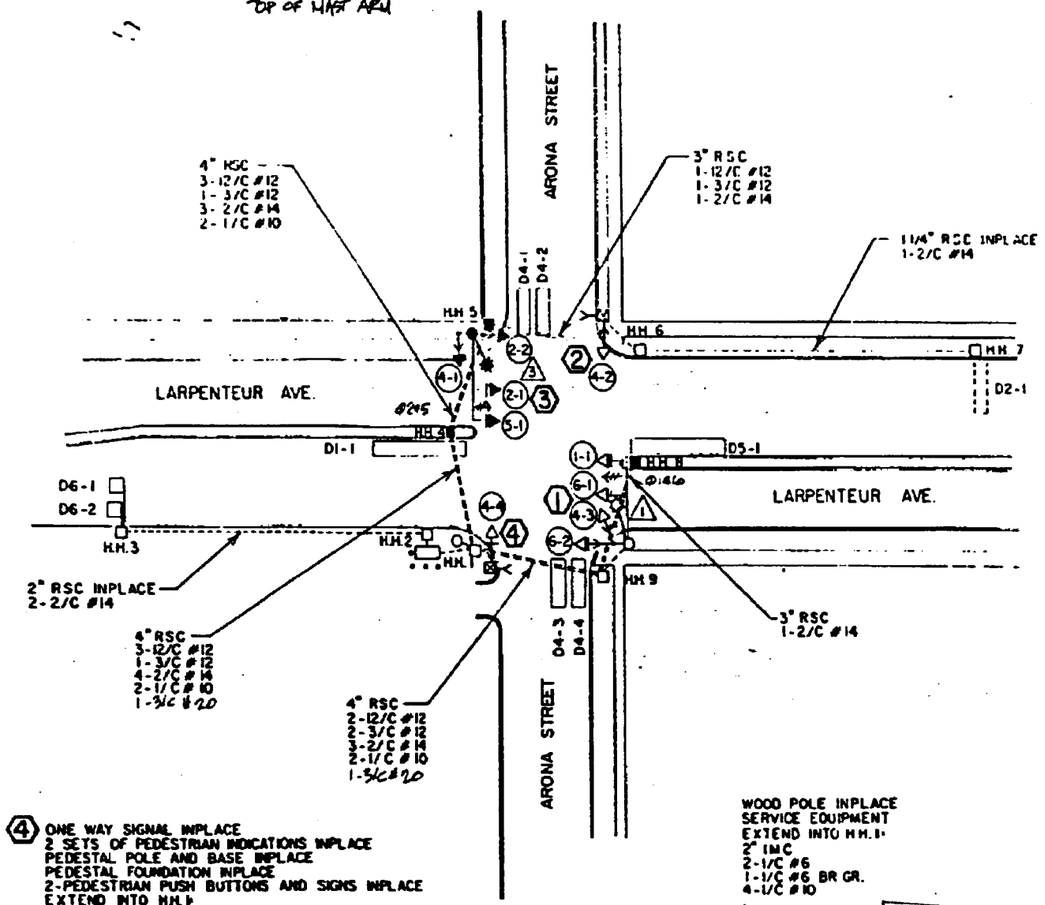
LOOP DETECTOR FUNCTIONS

1 CALL AND EXTEND

CONTROLLER AND CABINET INPLACE
CABINET FOUNDATION INPLACE
4 STEEL GUARD POSTS INPLACE
EXTEND INTO H.H. 1.
2-3" R.S.C. INPLACE
6-12/C #12
5-3/C #12 2-3/C#20
2-1/C #6
1-1/C #6 BR GR.
7-2/C #14
EXTEND INTO H.H. 2.
3" RSC INPLACE
2-2/C #14

③ TYPE A-30-T30-15 INPLACE SALVAGE AND REVISE TO A-35-T30-15
P80 POLE FOUNDATION
INSTALL 2 SALVAGE ONE WAY SIGNALS-OVERHEAD
INSTALL SALVAGED TYPE 10B-POLE MOUNTED 90°
INSTALL SALVAGED TYPE 10B-POLE MOUNTED 180°
INSTALL SALVAGED R10-25L SIGN
INSTALL SALVAGED SIGN PANEL TYPE "D"
LUMINAIRE INPLACE
1-PEDESTRIAN PUSH BUTTON AND SIGN INPLACE
1-PEDESTRIAN PUSH BUTTON AND SIGN, RELOCATE TO SOUTH SIDE OF POLE
EXTEND INTO H.H. 5.
3" IMC
2-12/C #12
2-3/C #12 1-3/C#20
2-1/C #10

EVP DETECTOR & LIGHT MTD TOP OF MAST ARM



② ONE WAY SIGNAL INPLACE
2 SETS OF PEDESTRIAN INDICATIONS INPLACE
PEDESTAL POLE AND BASE INPLACE
PEDESTAL FOUNDATION INPLACE
2-PEDESTRIAN PUSH BUTTONS AND SIGNS INPLACE
EXTEND INTO H.H. 6 INPLACE.
2" RSC INPLACE
1-12/C #12
1-12/C #12

0 10 20 30 40 50 100
DISTANCE IN FEET

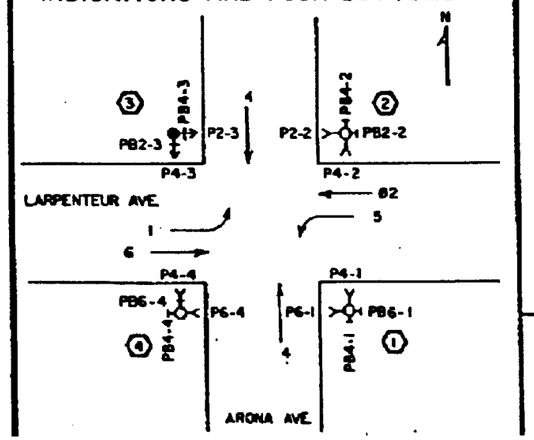
④ ONE WAY SIGNAL INPLACE
2 SETS OF PEDESTRIAN INDICATIONS INPLACE
PEDESTAL POLE AND BASE INPLACE
PEDESTAL FOUNDATION INPLACE
2-PEDESTRIAN PUSH BUTTONS AND SIGNS INPLACE
EXTEND INTO H.H. 4
2" RSC INPLACE
1-12/C #12
1-3/C #12

WOOD POLE INPLACE
SERVICE EQUIPMENT
EXTEND INTO H.H. 1.
2" IMC
2-1/C #6
1-1/C #6 BR GR.
4-1/C #10

① 30
TYPE A35-T48-15 (DAVIT AT 320°) INPLACE
POLE FOUNDATION INPLACE
2-ONE WAY SIGNALS-OVERHEAD INPLACE
TYPE 20C-POLE MOUNTED 270° INPLACE
LUMINAIRE INPLACE
2-PEDESTRIAN PUSH BUTTONS AND SIGNS INPLACE
DWL PEC INPLACE
EXTEND INTO H.H. 9. INPLACE.
3" RSC INPLACE
2-12/C #12
2-3/C #12
2-1/C #10
1-3/C #20

EVP DETECTOR & LIGHT MTD. TOP DWL

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 5 PHASE WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURNS.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

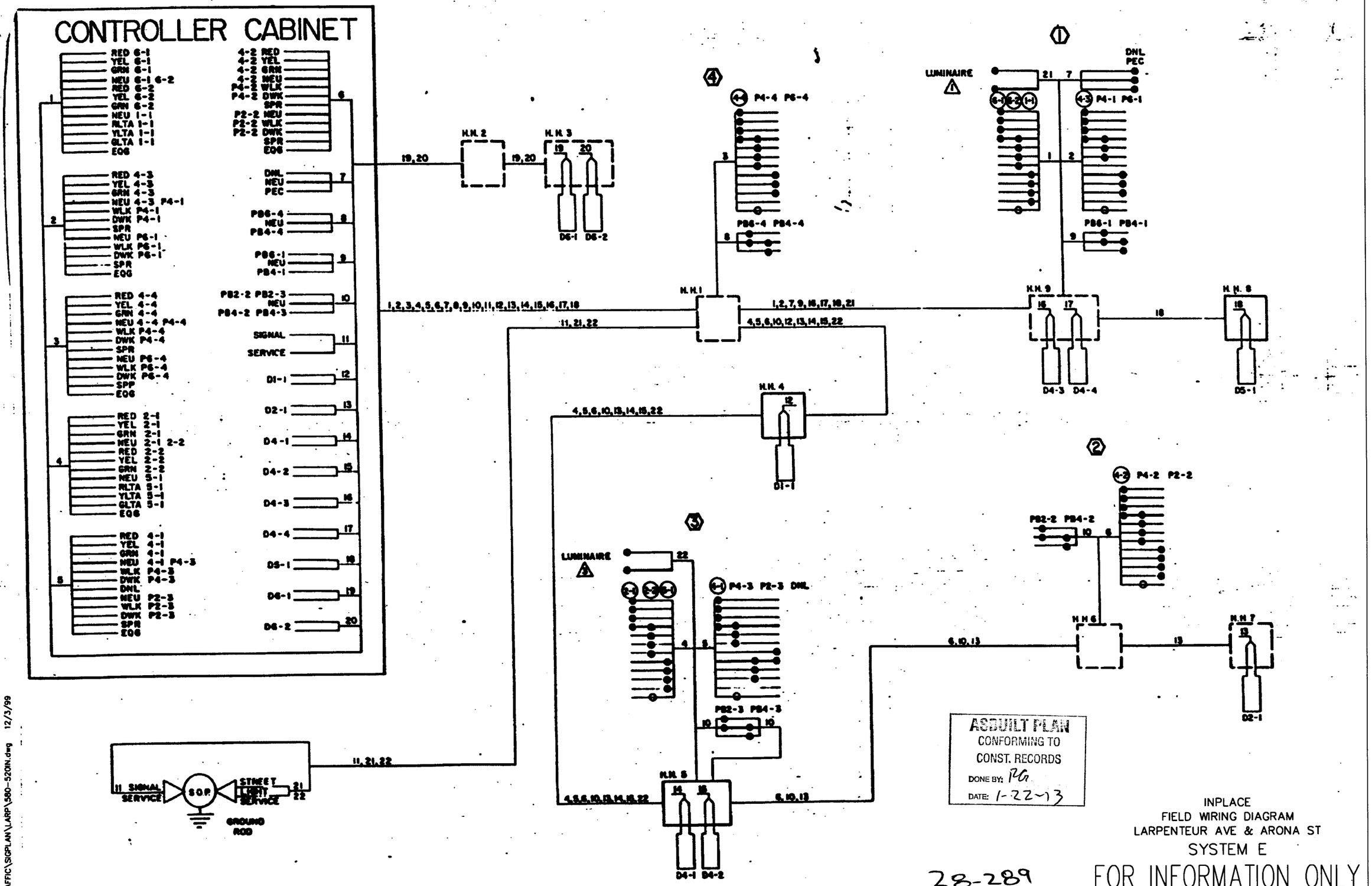
INPLACE
INTERSECTION LAYOUT
LARPENTEUR AVE & ARONA ST
SYSTEM E

FOR INFORMATION ONLY

S.A.P. No. 62-630-45 Sheet No. 91 of 121 Sheets

28-289

T:\TRAFFIC\SIGPLAN\LARP\580-520IN.dwg 12/3/99



T:\TRAFFIC\SIGPLAN\LARP\580-520IN.dwg 12/3/99

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

INPLACE
FIELD WIRING DIAGRAM
LARPENTEUR AVE & ARONA ST
SYSTEM E

28-289

FOR INFORMATION ONLY

S.A.P. No. 62-630-45

Sheet No. 92 of 121 Sheets

LEGEND OF SYMBOLS

- SIGNAL BASE No.
- SIGNAL FACE No.
- CONTROLLER AND CABINET
- CONTROLLER AND CABINET-INPLACE
- HANDHOLE
- HANDHOLE-INPLACE
- RIGID STEEL CONDUIT (RSC)/NON METALLIC CONDUIT (NMC)
- RIGID STEEL CONDUIT (RSC)-INPLACE
- SIGNAL FACE
- SIGNAL FACE WITH BACKGROUND SHIELD
- SIGNAL FACE - INPLACE
- PEDESTRIAN INDICATIONS
- PEDESTRIAN INDICATIONS-INPLACE
- PEDESTRIAN PUSH BUTTON ON PEDESTAL OR POLE
- PEDESTRIAN PUSH BUTTON STATION
- TRAFFIC SIGNAL PEDESTAL
- TRAFFIC SIGNAL PEDESTAL-INPLACE
- TRAFFIC SIGNAL POLE AND MAST ARM
- TRAFFIC SIGNAL POLE AND MAST ARM-INPLACE
- MAST ARM AND LUMINAIRE
- MAST ARM AND LUMINAIRE-INPLACE
- WOOD POLE
- WOOD POLE-INPLACE
- SOURCE OF POWER
- EMERGENCY VEHICLE PRE-EMPTION DETECTOR LOCATION

VEHICLE DETECTION

	NO	SIZE	OPERATION	LOC
	D1-1	2-6'X 15'	C&E (TD)	0'
	D2-1	6'X 6'	C&E	205'
	D2-2	6'X 6'	C&E	205'
*	D2-3	2-6'X 6'	C	0'
*	D3-1	2-6'X 15'	C&E (TD)	0'
	D4-1	6'X 6'	C&E	140'
	D4-3	6'X 6'	C	0'
	D5-1	2-6'X 15'	C&E (TD)	0'
	D6-1	6'X 6'	C&E	205'
	D6-2	6'X 6'	C&E	205'
	D6-3	2-6'X 6'	C	0'
	D7-1	2-6'X 15'	C&E (TD)	0'
	D8-1	6'X 6'	C&E	140'
*	D8-3	6'X 6'	C	0'
	D-1	6'X 6'	COUNT	SEE PLAN
	D-2	6'X 6'	COUNT	SEE PLAN

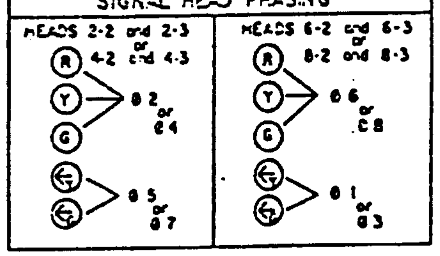
LOC = DISTANCE FROM STOP LINE TO DETECTOR
C&E = CALL & EXTEND
C = CALL ONLY
E = EXTEND ONLY
(TD) = TIME DELAY

SIGNAL INDICATION CHART

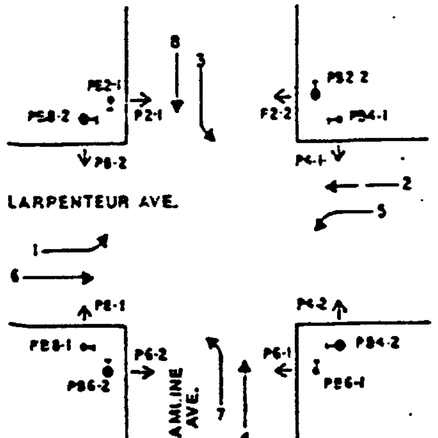
FACE	PHASE	INDICATION SIZE R	Y	G	← Y	← G
2-1	2	12"	12"	12"	-	-
2-2	2 and 5	12"	12"	12"	12"	12"
2-3	2 and 5	12"	12"	12"	12"	12"
2-4	2	12"	12"	12"	-	-
4-1	4	12"	12"	12"		
4-2	4 and 7	12"	12"	12"	12"	12"
4-3	4 and 7	12"	12"	12"	12"	12"
6-1	6	12"	12"	12"	-	-
6-2	1 and 6	12"	12"	12"	12"	12"
6-3	1 and 6	12"	12"	12"	12"	12"
6-4	6	12"	12"	12"	-	-
8-1	8	12"	12"	12"	-	-
8-2	3 and 8	12"	12"	12"	12"	12"
8-3	3 and 8	12"	12"	12"	12"	12"

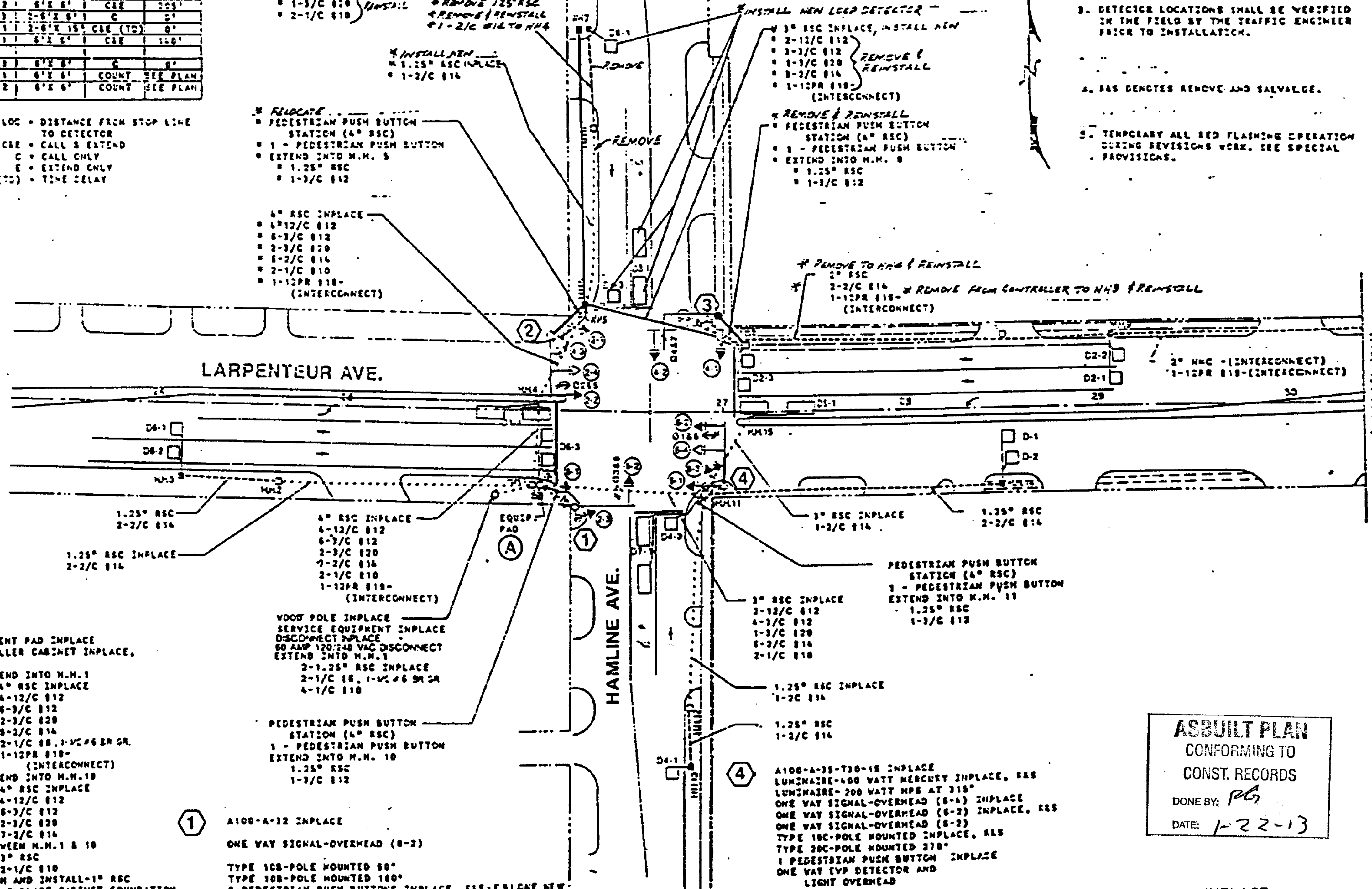
FLASH MODE = ALL RED

SIGNAL HEAD PHASING



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS





② A100-A-33-T30-15 INPLACE

LUMINAIRE-200 WATT HPS AT 315°
ONE WAY SIGNAL-OVERHEAD (2-4) INPLACE

ONE WAY SIGNAL-OVERHEAD (2-2)

TYPE 20C-POLE MOUNTED 225°
* 2 PEDESTRIAN PUSH BUTTONS INPLACE, S&S-FB1 ONE NEW
ONE WAY EVP DETECTOR AND LIGHT OVERHEAD
EXTEND INTO M.H.5
3" RSC INPLACE
* 2-12/C #12
* 6-3/C #12
* 1-3/C #20
* 2-1/C #10
(REMOVE & REINSTALL)

③ * REMOVE & REINSTALL
* A100-A-35

* ONE WAY SIGNAL-OVERHEAD (4-2)

* TYPE 10B-POLE MOUNTED 50°
* TYPE 10B-POLE MOUNTED 180°
* 2-PEDESTRIAN PUSH BUTTONS INPLACE,

* ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD
EXTEND INTO M.H.8
3" RSC INPLACE
* 2-12/C #12
* 4-3/C #12
* 1-3/C #20

Ⓐ EQUIPMENT PAD INPLACE
CONTROLLER CABINET INPLACE,

EXTEND INTO M.H.1
4" RSC INPLACE
4-12/C #12
6-3/C #12
2-3/C #20
8-2/C #14
2-1/C #6, 1-#6 BR GR.
1-12PR #19-(INTERCONNECT)
EXTEND INTO M.H.10
4" RSC INPLACE
4-12/C #12
6-3/C #12
2-3/C #20
7-2/C #14
BETWEEN M.H.1 & 10
3" RSC
2-1/C #10
FURNISH AND INSTALL-1" RSC INTO INPLACE CABINET FOUNDATION, EXTEND FROM CABINET TO SERVICE POLE WITH DRAIN TEE, 1" RSC RISER, WEATHERHEAD AND 1-2/C TELEPHONE DROP WIRE

① A100-A-32 INPLACE

ONE WAY SIGNAL-OVERHEAD (8-2)

TYPE 10B-POLE MOUNTED 60°
TYPE 10B-POLE MOUNTED 160°
2-PEDESTRIAN PUSH BUTTONS INPLACE, S&S-FB1 ONE NEW
ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD
EXTEND INTO M.H.10
3" RSC INPLACE
2-12/C #12
5-3/C #12
1-3/C #20

④ A100-A-35-T30-15 INPLACE
LUMINAIRE-400 WATT MERCURY INPLACE, S&S
LUMINAIRE-200 WATT HPS AT 315°
ONE WAY SIGNAL-OVERHEAD (6-4) INPLACE
ONE WAY SIGNAL-OVERHEAD (6-2) INPLACE, S&S
ONE WAY SIGNAL-OVERHEAD (6-2)
TYPE 10C-POLE MOUNTED INPLACE, S&S
TYPE 20C-POLE MOUNTED 270°
1 PEDESTRIAN PUSH BUTTON INPLACE
ONE WAY EVP DETECTOR AND LIGHT OVERHEAD
EXTEND INTO M.H.11
3" RSC INPLACE
2-12/C #12
5-3/C #12
1-3/C #20
2-1/C #10

SCALE IN FEET
0 30 50 100

* NOTES

1. ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE USED INPLACE UNLESS OTHERWISE NOTED WITH A * (*= WORK TO BE DONE, THIS SHEET ONLY).
2. SEE SHEETS 38-40 FOR EXISTING SIGNAL SYSTEM.
3. DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
4. S&S DENOTES REMOVE AND SALVAGE.
5. TEMPORARY ALL RED FLASHING OPERATION DURING REVISIONS WORK. SEE SPECIAL PROVISIONS.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

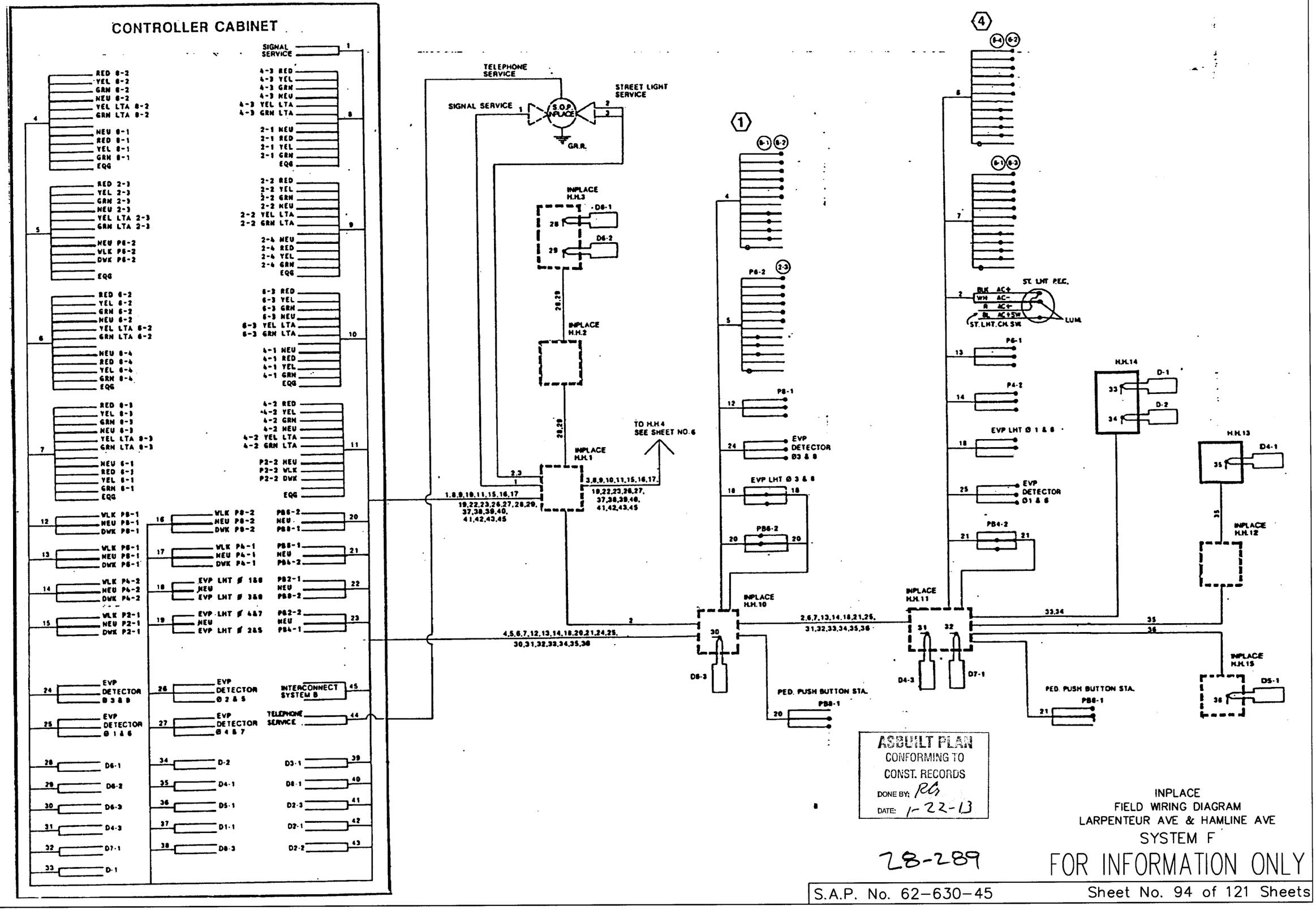
INPLACE
INTERSECTION LAYOUT
LARPENTEUR AVE & HAMLINE AVE
SYSTEM F

FOR INFORMATION ONLY

28-289

T:\TRAFFIC\SIGPLAN\LARP\580-521IN.dwg 12/3/99

S.A.P. No. 62-630-45



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

28-289

INPLACE
FIELD WIRING DIAGRAM
LARPENTEUR AVE & HAMLINE AVE
SYSTEM F

FOR INFORMATION ONLY

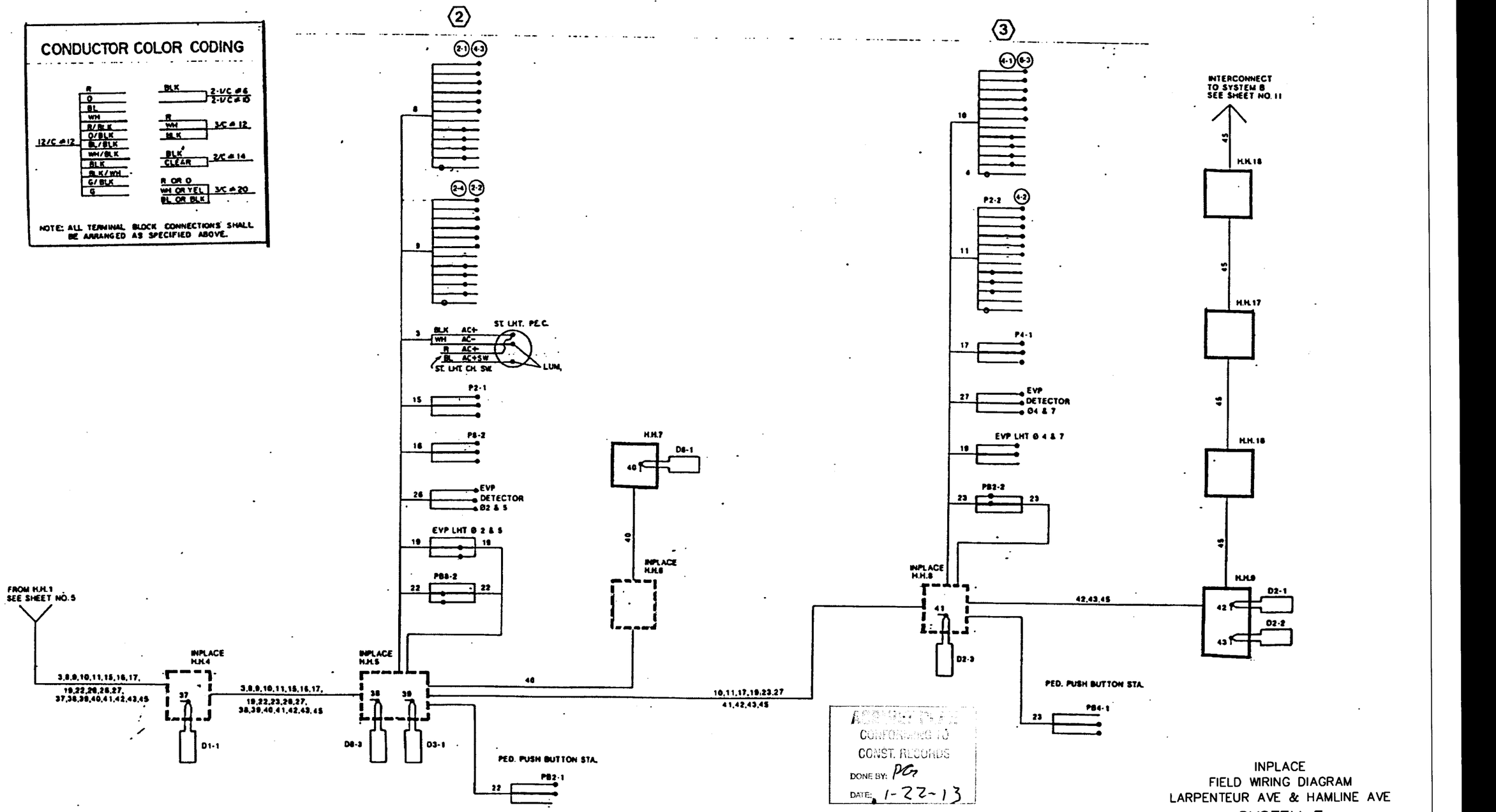
S.A.P. No. 62-630-45

Sheet No. 94 of 121 Sheets

T:\TRAFFIC\SIGPLAN\LARP\580-521IN.dwg 12/3/99

CONDUCTOR COLOR CODING

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



ACCEPTED AS CONFORMING TO CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

28-289

INPLACE
FIELD WIRING DIAGRAM
LARPENTEUR AVE & HAMLINE AVE
SYSTEM F

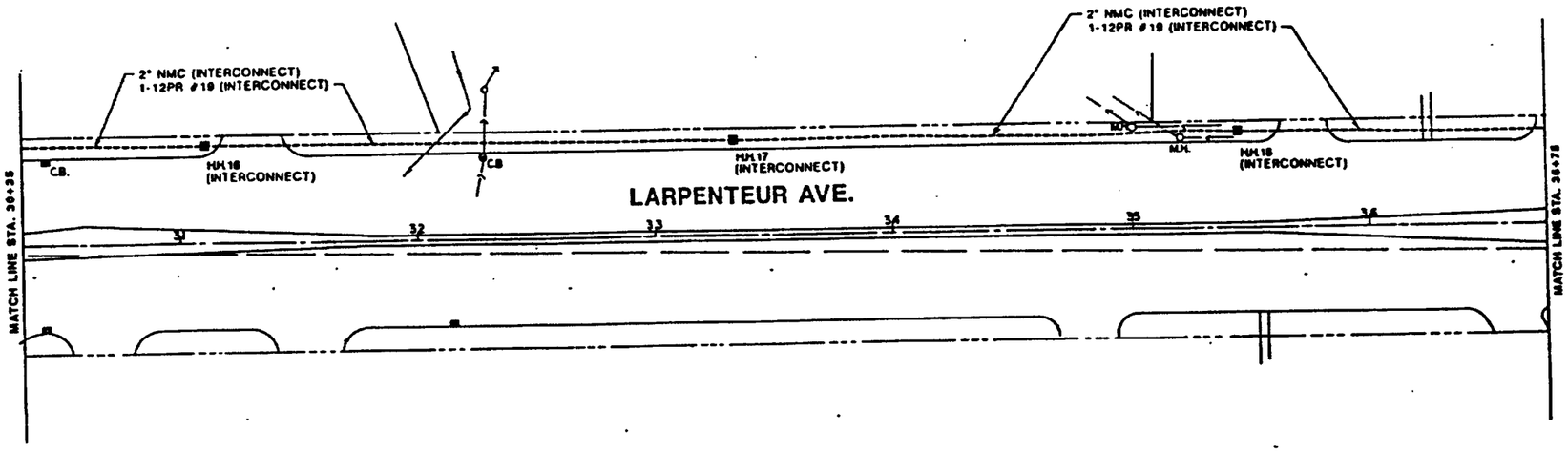
FOR INFORMATION ONLY

T:\TRAFFIC\SIGPLAN\LARP\580-521IN.dwg 12/3/99

SCALE IN FEET
0 30 50 100

NOTES

1. (INTERCONNECT) DENOTES ITEM TO BE PAID FOR UNDER SEPARATE PAY ITEM. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

INPLACE
INTERCONNECT
LARPENTEUR AVE
FROM HAMLINE AVE TO FERNWOOD ST

28-289

FOR INFORMATION ONLY

S.A.P. No. 62-630-45 Sheet No. 96 of 121 Sheets

T:\TRAFFIC\SIGPLAN\LARP\580-521IN.dwg 12/3/99

LEGEND OF SYMBOLS

SIGNAL BASE No. (5)
SIGNAL FACE No. (2-1)
CONTROLLER AND CABINET
CONTROLLER AND CABINET-INPLACE
HANDHOLE
HANDHOLE-INPLACE
RIGID STEEL CONDUIT (RSC)/NON-METALLIC CONDUIT (NMC)
RIGID STEEL CONDUIT (RSC)-INPLACE
SIGNAL FACE
SIGNAL FACE WITH BACKGROUND SHIELD
SIGNAL FACE-INPLACE
PEDESTRIAN INDICATIONS
PEDESTRIAN INDICATIONS-INPLACE
PEDESTRIAN PUSH BUTTON ON PEDESTAL OR POLE
PEDESTRIAN PUSH BUTTON STATION
TRAFFIC SIGNAL PEDESTAL
TRAFFIC SIGNAL PEDESTAL-INPLACE
TRAFFIC SIGNAL POLE AND MAST ARM
TRAFFIC SIGNAL POLE AND MAST ARM-INPLACE
MAST ARM AND LUMINAIRE
MAST ARM AND LUMINAIRE-INPLACE
WOOD POLE
WOOD POLE-INPLACE
SOURCE OF POWER
EMERGENCY VEHICLE PRE-EMPTION DETECTOR LOCATION

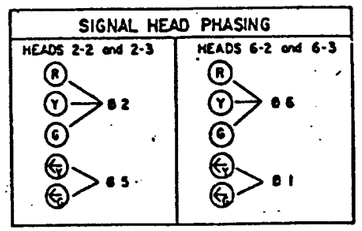
VEHICLE DETECTION			
NO	SIZE	OPERATION	LOC
D1-1	2-6'X 15'	C&E (TD)	0'
D2-1	6'X 6'	C&E	240'
D2-2	6'X 6'	C&E	240'
D4-1	6'X 6'	C&E	140'
D4-2	6'X 6'	C&E	65'
D4-3	6'X 15'	C&E (TD)	0'
D5-1	2-6'X 15'	C&E (TD)	0'
D6-1	6'X 6'	C&E	240'
D6-2	6'X 6'	C&E	240'
D8-1	2-6'X 6'	C&E	140'
D8-2	2-6'X 6'	C&E	65'
D8-3	2-6'X 15'	C&E (TD)	0'

LOC = DISTANCE FROM STOP LINE TO DETECTOR
C&E = CALL & EXTEND
C = CALL ONLY
E = EXTEND ONLY
(TD) = TIME DELAY

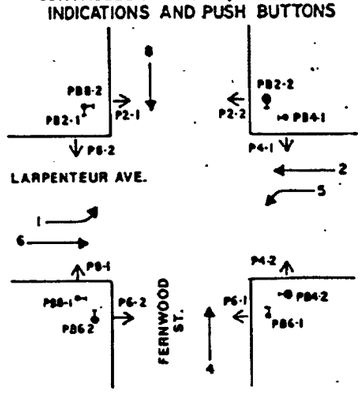
SIGNAL INDICATION CHART							
FACE	PHASE	INDICATION SIZE					
		R	Y	G	←Y	←G	
2-1	2	12"	12"	12"	-	-	
2-2	2 and 5	12"	12"	12"	12"	12"	
2-3	2 and 5	12"	12"	12"	12"	12"	
2-4	2	12"	12"	12"	-	-	
4-1	4	12"	12"	12"	-	-	
4-2	4	12"	12"	12"	-	-	
4-3	4	12"	12"	12"	-	-	
6-1	6	12"	12"	12"	-	-	
6-2	1 and 6	12"	12"	12"	12"	12"	
6-3	1 and 6	12"	12"	12"	12"	12"	
6-4	6	12"	12"	12"	-	-	
8-1	8	12"	12"	12"	-	-	
8-2	8	12"	12"	12"	-	-	
8-3	8	12"	12"	12"	-	-	

FLASH MODE = ALL RED

SIGNAL HEAD PHASING



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



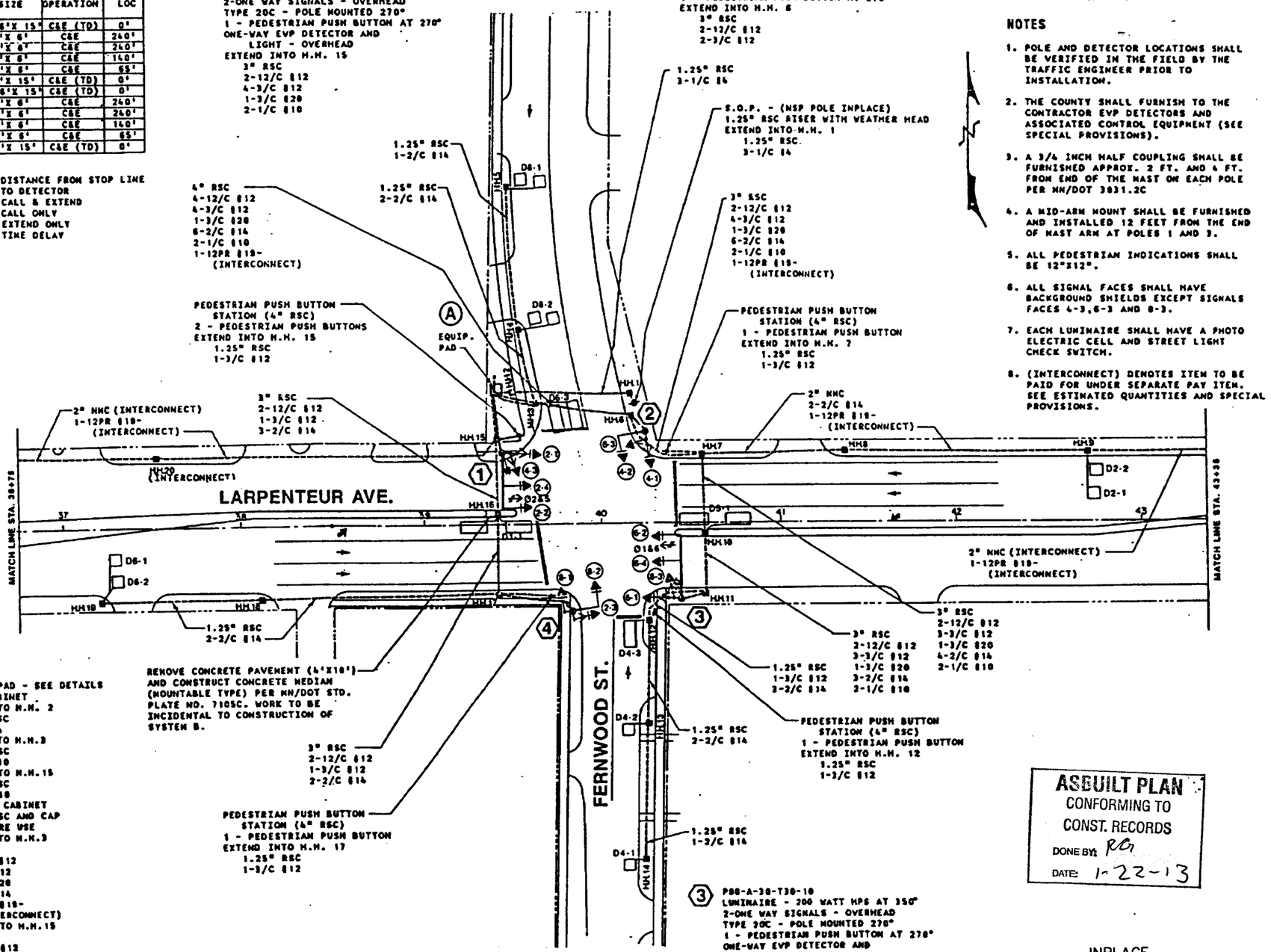
① P80-A-30-T30-10
LUMINAIRE - 200 WATT HPS AT 350°
2-ONE WAY SIGNALS - OVERHEAD
TYPE 20C - POLE MOUNTED 270°
1 - PEDESTRIAN PUSH BUTTON AT 270°
ONE-WAY EVP DETECTOR AND LIGHT - OVERHEAD
EXTEND INTO H.M. 15
3" RSC
2-12/C #12
4-3/C #12
1-3/C #20
2-1/C #10

② P80-A-15
ONE WAY SIGNAL - OVERHEAD
TYPE 20C - POLE MOUNTED 270°
1 - PEDESTRIAN PUSH BUTTON AT 270°
EXTEND INTO H.M. 6
3" RSC
2-12/C #12
2-3/C #12

SCALE IN FEET
0 30 50 100

NOTES

1. POLE AND DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
2. THE COUNTY SHALL FURNISH TO THE CONTRACTOR EVP DETECTORS AND ASSOCIATED CONTROL EQUIPMENT (SEE SPECIAL PROVISIONS).
3. A 3/4 INCH HALF COUPLING SHALL BE FURNISHED APPROX. 2 FT. AND 4 FT. FROM END OF THE MAST ON EACH POLE PER MN/DOT 3831.2C
4. A MID-ARM MOUNT SHALL BE FURNISHED AND INSTALLED 12 FEET FROM THE END OF MAST ARM AT POLES 1 AND 3.
5. ALL PEDESTRIAN INDICATIONS SHALL BE 12"X12".
6. ALL SIGNAL FACES SHALL HAVE BACKGROUND SHIELDS EXCEPT SIGNALS FACES 4-3, 6-3 AND 8-3.
7. EACH LUMINAIRE SHALL HAVE A PHOTO ELECTRIC CELL AND STREET LIGHT CHECK SWITCH.
8. (INTERCONNECT) DENOTES ITEM TO BE PAID FOR UNDER SEPARATE PAY ITEM. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.



Ⓐ EQUIPMENT PAD - SEE DETAILS
SERVICE CABINET
EXTEND INTO H.M. 2
1.25" RSC
3-1/C #4
EXTEND INTO H.M.3
1.25" RSC
2-1/C #10
EXTEND INTO H.M.15
1.25" RSC
2-1/C #10
CONTROLLER CABINET
STUB 3" RSC AND CAP FOR FUTURE USE
EXTEND INTO H.M.3
4" RSC
4-12/C #12
4-3/C #12
1-3/C #20
6-2/C #14
2-1/C #10
1-12PR #19- (INTERCONNECT)
EXTEND INTO H.M.15
4" RSC
4-12/C #12
4-3/C #12
1-3/C #20
6-2/C #14
2-1/C #10
1-12PR #19- (INTERCONNECT)
BETWEEN SERVICE AND CONTROLLER CABINET
1.25" RSC
3-1/C #8
1-1/C #8 (BARE)

REMOVE CONCRETE PAVEMENT (4'X10') AND CONSTRUCT CONCRETE MEDIAN (MOUNTABLE TYPE) PER MN/DOT STD. PLATE NO. 7105C. WORK TO BE INCIDENTAL TO CONSTRUCTION OF SYSTEM B.

3" RSC 2-12/C #12 1-3/C #12 2-2/C #14

PEDESTRIAN PUSH BUTTON STATION (4" RSC) 1 - PEDESTRIAN PUSH BUTTON EXTEND INTO H.M. 17 1.25" RSC 1-3/C #12

④ P80-A-15
ONE WAY SIGNAL - OVERHEAD
TYPE 10C - POLE MOUNTED 90°
TYPE 10B - POLE MOUNTED 180°
1 - PEDESTRIAN PUSH BUTTON AT 270°
EXTEND INTO H.M. 17
3" RSC
2-12/C #12
2-3/C #12

③ P80-A-30-T30-10
LUMINAIRE - 200 WATT HPS AT 350°
2-ONE WAY SIGNALS - OVERHEAD
TYPE 20C - POLE MOUNTED 270°
1 - PEDESTRIAN PUSH BUTTON AT 270°
ONE-WAY EVP DETECTOR AND LIGHT - OVERHEAD
EXTEND INTO H.M. 11
3" RSC
2-12/C #12
4-3/C #12
1-3/C #20
2-1/C #10

3" RSC 2-12/C #12 3-3/C #12 1-3/C #20 4-2/C #14 2-1/C #10
3" RSC 2-12/C #12 3-3/C #12 1-3/C #20 3-2/C #14 3-1/C #10
1.25" RSC 1-3/C #12 3-2/C #14
1.25" RSC 2-2/C #14
PEDESTRIAN PUSH BUTTON STATION (4" RSC) 1 - PEDESTRIAN PUSH BUTTON EXTEND INTO H.M. 12 1.25" RSC 1-3/C #12
1.25" RSC 1-3/C #14

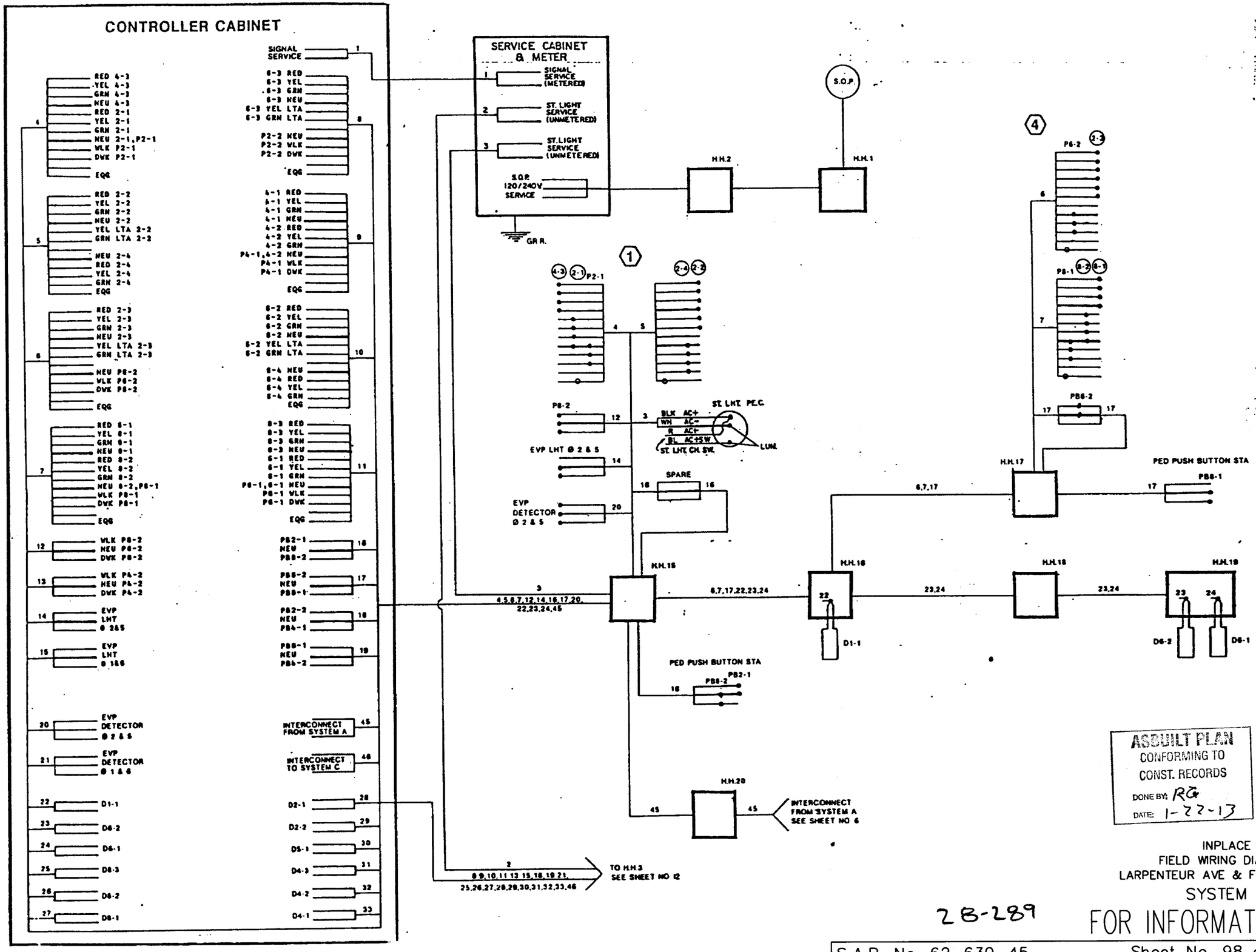
ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

INPLACE
INTERSECTION LAYOUT
LARPENTEUR AVE & FERNWOOD ST
SYSTEM G

28-289

FOR INFORMATION ONLY

T:\TRAFFIC\SIGPLAN\LARP\580-570IN.dwg 12/3/99



T:\TRAFFIC\SIGPLAN\LARP\580-570IN.dwg 12/3/99

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

INPLACE
FIELD WIRING DIAGRAM
LARPENTEUR AVE & FERNWOOD ST
SYSTEM G

28-289

FOR INFORMATION ONLY

S.A.P. No. 62-630-45

CONDUCTOR COLOR CODING

12/C #12	R, O, BL, WH, R/BLK, O/BLK, BL/BLK, WH/BLK, BLK, BLK/WH, G/BLK, G	BLK — 2-1/C #6, 2-1/C #8
		R, WH, BLK — 3/C #12
		BLK, CLEAR — 2/C #14
		R OR O, WH OR YEL, BL OR BLK — 3/C #20

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

FROM SERVICE AND CONTROLLER CABINET SEE SHEET NO. 11

2

8,9,10,11,13,15,18,19,21, 25,26,27,28,29,30,31,32,33,46

H.H.3

25

D8-3

2,8,9,10,11,13,15,18,19,21, 28,29,30,31,32,33,46

H.H.6

2,10,11,13,15,18,19,21, 28,29,30,31,32,33,46

H.H.7

PED PUSH BUTTON STA

PB4-1

19

26,27

H.H.4

26

D8-2

27

H.H.5

27

D8-1

2

P2-2

6-3

9

P4-1

4-2 4-1

9

PB2-2

18 18

INTERCONNECT TO SYSTEM C SEE SHEET NO. 14

46

H.H.9

D2-1

28

D2-2

29

28,29,46

H.H.8

28,29,46

H.H.10

2,10,11,13,15,19,21, 30,31,32,33

30

D5-1

2,10,11,13,15,19,21, 31,32,33

H.H.11

19,32,33

H.H.12

31

D4-3

3

6-4 6-2

10

P6-1

6-1 6-3

11

2

BLK AC+
WH AC−
R AC+
BL AC+SW

ST. LHT. PE.C.

ST. LHT. CH. SW.

LUM.

P4-2

13

15

EVP LHT @ 1 & 6

21

EVP DETECTOR @ 1 & 6

19 PB4-2 19

H.H.14

D4-1

33

33

H.H.13

D4-2

32

32,33

PED PUSH BUTTON STA

PB6-1

19

ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

INPLACE
FIELD WIRING DIAGRAM
LARPENTEUR AVE & FERNWOOD ST
SYSTEM G

28-289

FOR INFORMATION ONLY

T:\TRAFFIC\SIGPLAN\LARP\580-570IN.dwg 12/3/99

S.A.P. No. 62-630-45

Sheet No. 99 of 121 Sheets

LEGEND OF SYMBOLS

SIGNAL BASE No. ⑤
SIGNAL FACE No. 4-3
CONTROLLER AND CABINET
CONTROLLER AND CABINET-INPLACE
HANDHOLE
HANDHOLE-INPLACE
RIGID STEEL CONDUIT (RSC) NON-METALLIC CONDUIT (NMC)
RIGID STEEL CONDUIT (RSC)-INPLACE
SIGNAL FACE
SIGNAL FACE WITH BACKGROUND SHIELD
SIGNAL FACE-INPLACE
PEDESTRIAN INDICATIONS
PEDESTRIAN INDICATIONS-INPLACE
PEDESTRIAN PUSH BUTTON ON PEDESTAL OR POLE
PEDESTRIAN PUSH BUTTON STATION
TRAFFIC SIGNAL PEDESTAL
TRAFFIC SIGNAL PEDESTAL-INPLACE
TRAFFIC SIGNAL POLE AND MAST ARM
TRAFFIC SIGNAL POLE AND MAST ARM-INPLACE
MAST ARM AND LUMINAIRE
MAST ARM AND LUMINAIRE-INPLACE
WOOD POLE
WOOD POLE-INPLACE
SOURCE OF POWER
EMERGENCY VEHICLE PRE-EMPTON DETECTOR LOCATION

SIGNAL INDICATION CHART

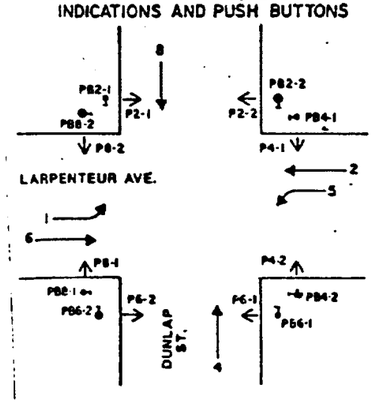
FACE	PHASE	INDICATION SIZE R	Y	G	←Y	←G	
2-1	2	12"	12"	12"	-	-	
2-2	2 and 5	12"	12"	12"	12"	12"	
2-3	2 and 5	12"	12"	12"	12"	12"	
2-4	2	12"	12"	12"	-	-	
4-1	4	12"	12"	12"	-	-	
4-2	4	12"	12"	12"	-	-	
4-3	4	12"	12"	12"	-	-	
6-1	6	12"	12"	12"	-	-	
6-2	1 and 6	12"	12"	12"	12"	12"	
6-3	1 and 6	12"	12"	12"	12"	12"	
6-4	6	12"	12"	12"	-	-	
8-1	8	12"	12"	12"	-	-	
8-2	8	12"	12"	12"	-	-	
8-3	8	12"	12"	12"	-	-	

FLASH MODE = ALL RED

SIGNAL HEAD PHASING

HEADS 2-2 and 2-3	HEADS 6-2 and 6-3
R, Y, G → Ø2	R, Y, G → Ø6
←Y, ←G → Ø5	←Y, ←G → Ø1

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



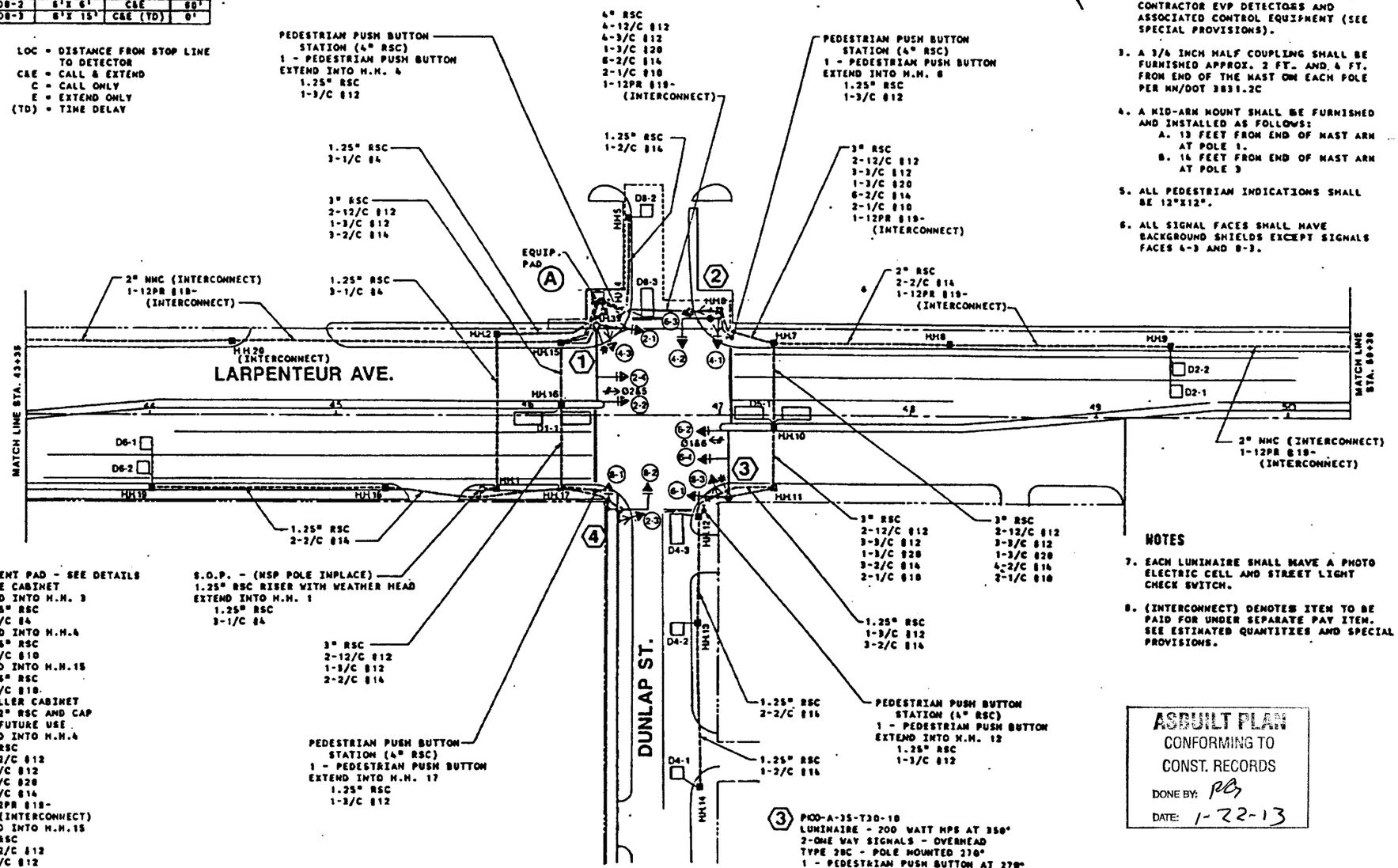
VEHICLE DETECTION

NO	SIZE	OPERATION	LOC
D1-1	2-6'X 15'	C&E (TD)	0'
D2-1	6'X 6'	C&E	240'
D2-2	6'X 6'	C&E	240'
D4-1	6'X 6'	C&E	140'
D4-2	6'X 6'	C&E	65'
D4-3	6'X 15'	C&E (TD)	0'
D5-1	2-6'X 15'	C&E (TD)	0'
D6-1	6'X 6'	C&E	240'
D6-2	6'X 6'	C&E	240'
D8-2	6'X 6'	C&E	60'
D8-3	6'X 15'	C&E (TD)	0'

LOC = DISTANCE FROM STOP LINE TO DETECTOR
C&E = CALL & EXTEND
C = CALL ONLY
E = EXTEND ONLY
(TD) = TIME DELAY

① P100-A-40-T30-10
LUMINAIRE - 200 WATT HPS AT 350°
2-ONE WAY SIGNALS - OVERHEAD
TYPE 20C - POLE MOUNTED 270°
1 - PEDESTRIAN PUSH BUTTON AT 270°
ONE-WAY EVP DETECTOR AND LIGHT - OVERHEAD
EXTEND INTO H.H. 15
3" RSC
2-12/C #12
3-3/C #12
1-3/C #20
2-1/C #10

② P80-A-1S
ONE WAY SIGNAL - OVERHEAD
TYPE 10B - POLE MOUNTED 90°
TYPE 10B - POLE MOUNTED 180°
1 - PEDESTRIAN PUSH BUTTON AT 270°
EXTEND INTO H.H. 8
3" RSC
2-12/C #12
2-3/C #12



Ⓐ EQUIPMENT PAD - SEE DETAILS
SERVICE CABINET
EXTEND INTO H.H. 3
1.25" RSC
3-1/C #4
EXTEND INTO H.H.4
1.25" RSC
2-1/C #10
EXTEND INTO H.H.15
1.25" RSC
2-1/C #10
CONTROLLER CABINET
STUB 2" RSC AND CAP FOR FUTURE USE
EXTEND INTO H.H.4
4" RSC
4-12/C #12
5-3/C #12
1-3/C #20
8-2/C #14
1-12PR #19-(INTERCONNECT)
EXTEND INTO H.H.15
4" RSC
4-12/C #12
4-3/C #12
1-3/C #20
3-2/C #14
1-12PR #19-(INTERCONNECT)
BETWEEN SERVICE AND CONTROLLER CABINET
1.25" RSC
2-1/C #8
1-1/C #6 (BARE)

④ P80-A-1S
ONE WAY SIGNAL - OVERHEAD
TYPE 10B - POLE MOUNTED 90°
TYPE 10B - POLE MOUNTED 180°
1 - PEDESTRIAN PUSH BUTTON AT 270°
EXTEND INTO H.H. 17
3" RSC
2-12/C #12
2-3/C #12

③ P100-A-3S-T30-10
LUMINAIRE - 200 WATT HPS AT 350°
2-ONE WAY SIGNALS - OVERHEAD
TYPE 20C - POLE MOUNTED 270°
1 - PEDESTRIAN PUSH BUTTON AT 270°
ONE-WAY EVP DETECTOR AND LIGHT - OVERHEAD
EXTEND INTO H.H. 11
3" RSC
3-12/C #12
4-3/C #12
1-3/C #20
2-1/C #10

SCALE IN FEET
0 30 50 100

NOTES

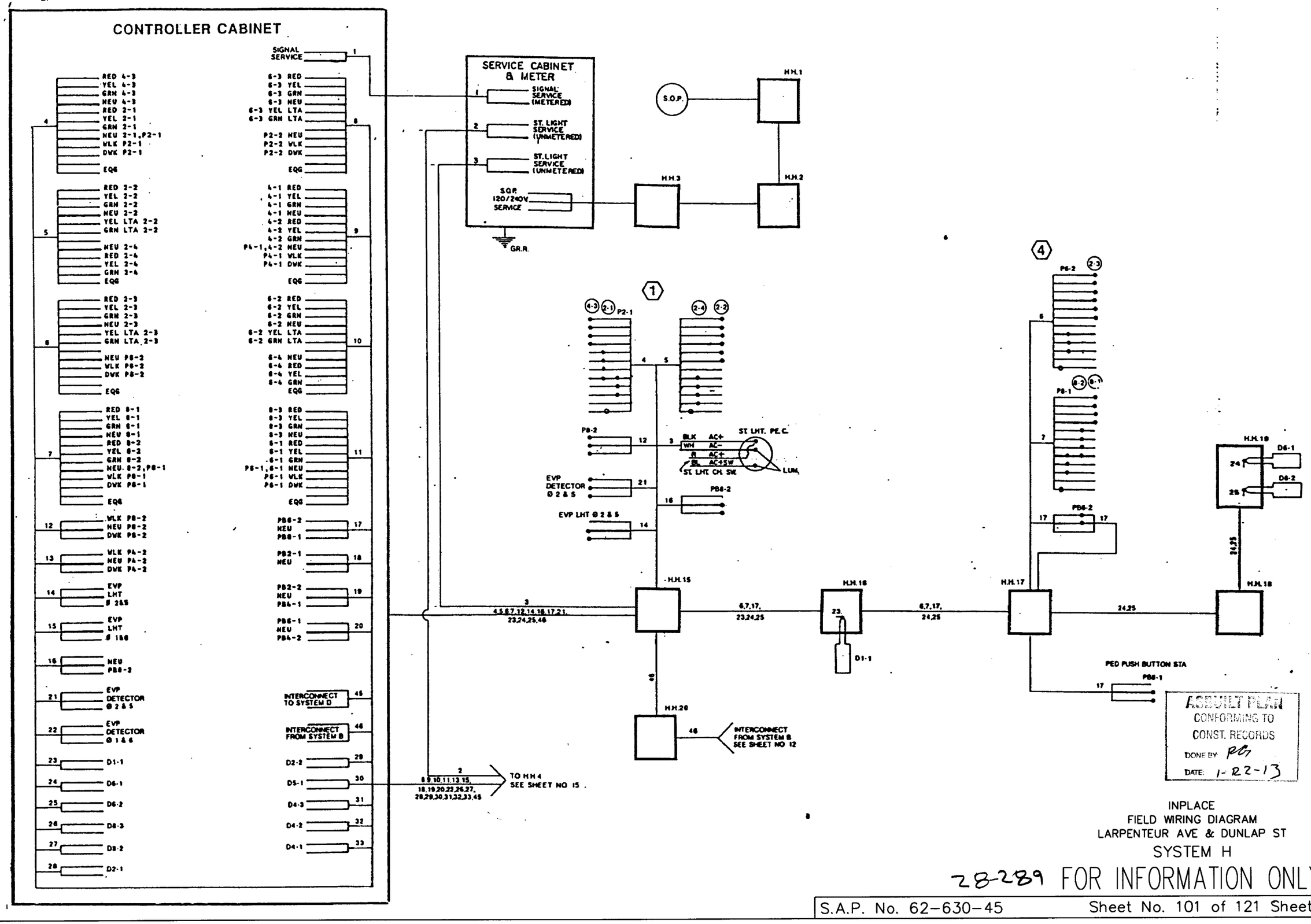
1. POLE AND DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
2. THE COUNTY SHALL FURNISH TO THE CONTRACTOR EVP DETECTORS AND ASSOCIATED CONTROL EQUIPMENT (SEE SPECIAL PROVISIONS).
3. A 3/4 INCH HALF COUPLING SHALL BE FURNISHED APPROX. 2 FT. AND 4 FT. FROM END OF THE MAST ON EACH POLE PER MN/DOT 3831.2C
4. A MID-ARM MOUNT SHALL BE FURNISHED AND INSTALLED AS FOLLOWS:
   A. 13 FEET FROM END OF MAST ARM AT POLE 1.
   B. 14 FEET FROM END OF MAST ARM AT POLE 3
5. ALL PEDESTRIAN INDICATIONS SHALL BE 12"X12".
6. ALL SIGNAL FACES SHALL HAVE BACKGROUND SHIELDS EXCEPT SIGNALS FACES 4-3 AND 8-3.
7. EACH LUMINAIRE SHALL HAVE A PHOTO ELECTRIC CELL AND STREET LIGHT CHECK SWITCH.
8. (INTERCONNECT) DENOTES ITEM TO BE PAID FOR UNDER SEPARATE PAY ITEM. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PCJ
DATE: 1-22-13

INPLACE
INTERSECTION LAYOUT
LARPENTEUR AVE & DUNLAP ST
SYSTEM H

28-289 FOR INFORMATION ONLY

T:\TRAFFIC\SIGPLAN\LARP\580-571IN.dwg 12/3/99



T:\TRAFFIC\SIGPLAN\LARP\580-571IN.dwg 12/3/99

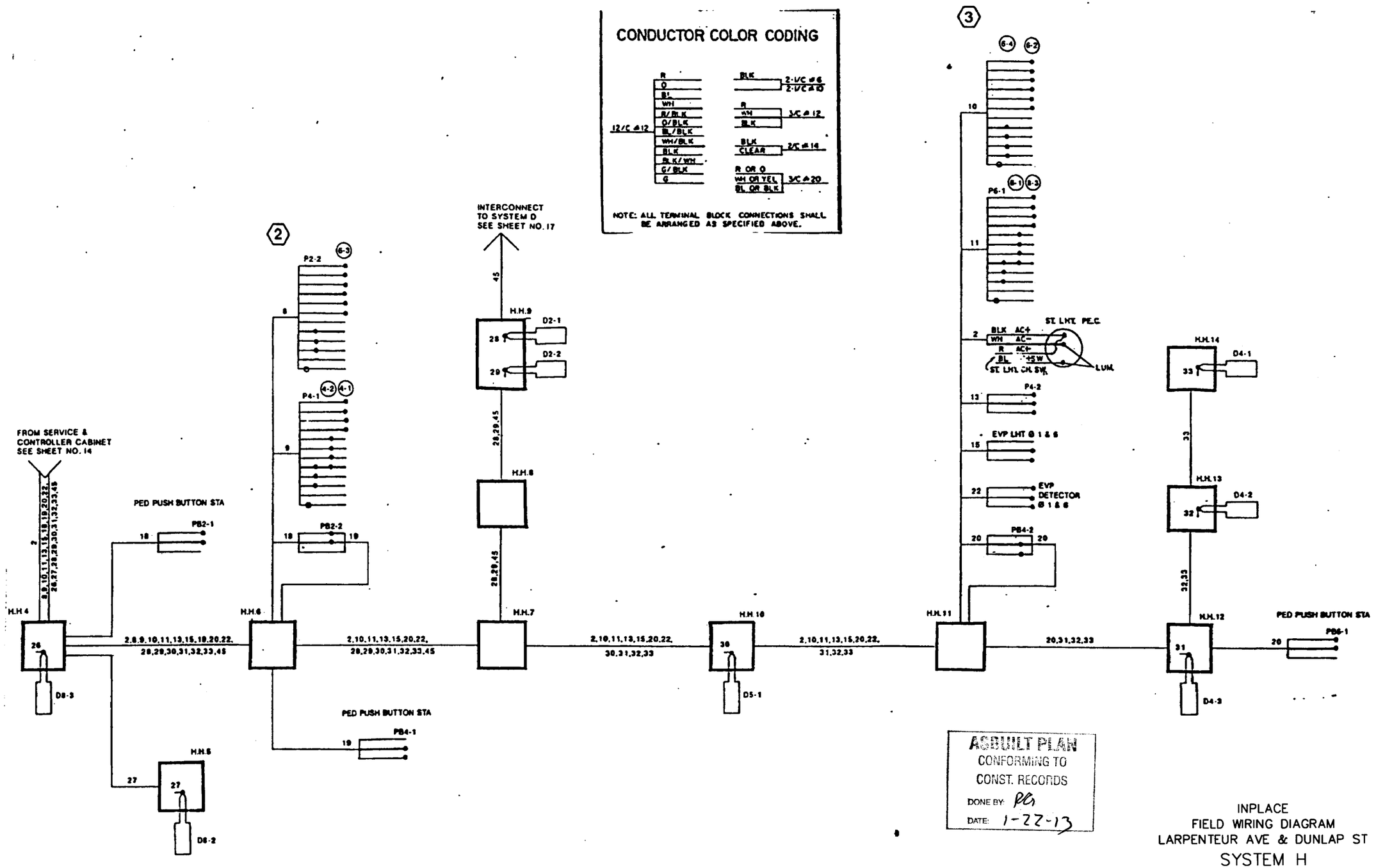
INPLACE
FIELD WIRING DIAGRAM
LARPENTEUR AVE & DUNLAP ST
SYSTEM H

28-289 FOR INFORMATION ONLY

S.A.P. No. 62-630-45 Sheet No. 101 of 121 Sheets

CONDUCTOR COLOR CODING

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



T:\TRAFFIC\SIGPLAN\LARP\580-571IN.dwg 12/3/99

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

INPLACE
FIELD WIRING DIAGRAM
LARPENTEUR AVE & DUNLAP ST
SYSTEM H

28-289

FOR INFORMATION ONLY

S.A.P. No. 62-630-45 Sheet No. 102 of 121 Sheets

LEGEND OF SYMBOLS

SIGNAL BASE No. ⑤
SIGNAL FACE No. 4-3
CONTROLLER AND CABINET
CONTROLLER AND CABINET-INPLACE
HANDHOLE
HANDHOLE-INPLACE
RIGID METALLIC CONDUIT (RSC)/NON-METALLIC CONDUIT (NMC)
RIGID STEEL CONDUIT (R.S.C.)-INPLACE
SIGNAL FACE
SIGNAL FACE WITH BACKGROUND SHIELD
SIGNAL FACE - INPLACE
PEDESTRIAN INDICATIONS
PEDESTRIAN INDICATIONS - INPLACE
PEDESTRIAN PUSH BUTTON ON PEDESTAL OR POLE
PEDESTRIAN PUSH BUTTON STATION
TRAFFIC SIGNAL PEDESTAL
TRAFFIC SIGNAL PEDESTAL-INPLACE
TRAFFIC SIGNAL POLE AND MAST ARM
TRAFFIC SIGNAL POLE AND MAST ARM-INPLACE
MAST ARM AND LUMINAIRE
MAST ARM AND LUMINAIRE-INPLACE
WOOD POLE
WOOD POLE-INPLACE
SOURCE OF POWER
EMERGENCY VEHICLE PRE-EMPTION DETECTOR LOCATION

SIGNAL INDICATION CHART

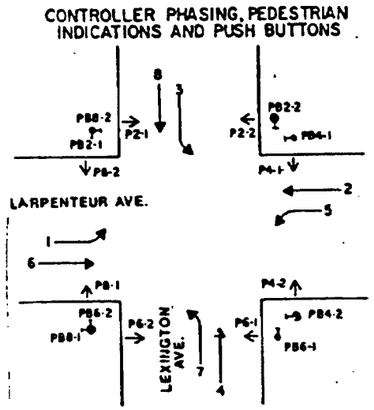
	FACE	PHASE	INDICATION SIZE R	Y	G	←Y	←G
*	2-1	2	12"	12"	12"	-	-
*	2-2	2 and 5	12"	12"	12"	12"	12"
*	2-3	2 and 5	12"	12"	12"	12"	12"
	2-4	2	12"	12"	12"	-	-
*	4-1	4	12"	12"	12"	-	-
*	4-2	4 and 7	12"	12"	12"	12"	12"
*	4-3	4 and 7	12"	12"	12"	12"	12"
*	6-1	6	12"	12"	12"	-	-
*	6-2	1 and 6	12"	12"	12"	12"	12"
*	6-3	1 and 6	12"	12"	12"	12"	12"
	6-4	6	12"	12"	12"	-	-
*	8-1	8	12"	12"	12"	-	-
*	8-2	3 and 8	12"	12"	12"	12"	12"
*	8-3	3 and 8	12"	12"	12"	12"	12"
	8-4	8	12"	12"	12"	-	-

FLASH MODE = ALL RED

* SIGNAL HEAD PHASING

HEADS 2-2 and 2-3 or 4-2 and 4-3	HEADS 6-2 and 6-3 or 8-2 and 8-3
Ø2 or Ø4	Ø6 or Ø8
Ø5 or Ø7	Ø1 or Ø3

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



* VEHICLE DETECTION

	NO	SIZE	OPERATION	LOC
*	D1-1	2-6'X 15'	C&E (TD)	0'
*	D2-1	6'X 6'	C&E	240'
*	D2-2	6'X 6'	C&E	240'
*	D3-1	2-6'X 15'	C&E (TD)	0'
*	D4-1	6'X 6'	C&E	140'
*	D4-3	6'X 6'	C	0'
*	D5-1	2-6'X 15'	C&E (TD)	0'
*	D6-1	6'X 6'	C&E	240'
*	D6-2	6'X 6'	C&E	240'
*	D6-3	2-6'X 15'	C	0'
*	D7-1	2-6'X 15'	C&E (TD)	0'
*	D8-1	6'X 6'	C&E	155'
*	D8-2	6'X 6'	C&E	155'
*	D8-3	2-6'X 6'	C	0'
*	D-3	6'X 6'	COUNT	SEE PLAN
*	D-4	6'X 6'	COUNT	SEE PLAN

LOC = DISTANCE FROM STOP LINE TO DETECTOR
C&E = CALL & EXTEND
C = CALL ONLY
E = EXTEND ONLY
(TD) = TIME DELAY

④ B100-A-38-T30-15 INPLACE
* LUMINAIRE-400 WATT MERCURY INPLACE, R&S
* LUMINAIRE- 200 WATT HPS AT 315°
ONE WAY SIGNAL-OVERHEAD (2-4) INPLACE
* ONE WAY SIGNAL-OVERHEAD (2-2) INPLACE, R&S
* ONE WAY SIGNAL-OVERHEAD (2-2)
* TYPE 10C-POLE MOUNTED INPLACE, R&S
* TYPE 20C-POLE MOUNTED 225°
* 2 PEDESTRIAN PUSH BUTTONS INPLACE, R&S
* ONE WAY EVP DETECTOR AND LIGHT OVERHEAD
EXTEND INTO H.H.13
3" RSC INPLACE
* 2-12/C #12
* 5-3/C #12
* 1-3/C #20
* 2-1/C #10

* 1.25" RSC
* 2-2/C #14

1.25" RSC INPLACE
* 2-2/C #14

3" RSC INPLACE
* 2-12/C #12
* 4-3/C #12
* 1-3/C #20
* 6-2/C #14
* 2-1/C #10
* 1-12PR #19-(INTERCONNECT)

* PEDESTRIAN PUSH BUTTON STATION (4" RSC)
* 2 - PEDESTRIAN PUSH BUTTONS
* EXTEND INTO H.H. 13
* 1.25" RSC
* 1-3/C #12

* 2" NMC -(INTERCONNECT)
* 1-12PR #19-(INTERCONNECT)

* 2" RSC
* 2-2/C #14
* 1-12PR #19-(INTERCONNECT)

HH17 (INTERCONNECT)

MATCH LINE STA. 60+30

LARPENTEUR AVE.

* 1.25" RSC
* 2-2/C #14

3" RSC INPLACE
* 1-2/C #14

1.25" RSC INPLACE
* 2-2/C #14

Ⓐ EQUIPMENT PAD INPLACE
* CONTROLLER CABINET INPLACE, R&S
* CONTROLLER CABINET
* 1 GUARD POST & FOUNDATION INPLACE, R&S
EXTEND INTO H.H.1
4" RSC INPLACE
* 4-12/C #12
* 6-3/C #12
* 2-3/C #20
* 7-2/C #14
* 2-1/C #6, 1-I/C #6 BR.GR.
* 1-12PR #19-(INTERCONNECT)
EXTEND INTO H.H.2
4" RSC INPLACE
* 4-12/C #12
* 1-3/C #12
* 2-3/C #20
* 10-2/C #14
BETWEEN H.H.1 & 2
3" RSC INPLACE
* 3" RSC
* 2-1/C #10

③ A100-A-23 INPLACE
ONE WAY SIGNAL-OVERHEAD (8-4) INPLACE
* ONE WAY SIGNAL-OVERHEAD (8-2) INPLACE, R&S
* ONE WAY SIGNAL-OVERHEAD (8-2)
* TYPE 10B-POLE MOUNTED INPLACE, R&S
* TYPE 30A-POLE MOUNTED INPLACE, R&S
* TYPE 10B-POLE MOUNTED 90°
* TYPE 10B-POLE MOUNTED 180°
* 2-PEDESTRIAN PUSH BUTTONS INPLACE, R&S-F&I TWO NEW
* ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD
EXTEND INTO H.H.8
3" RSC INPLACE
* 2-12/C #12
* 4-3/C #12
* 1-3/C #20

3" RSC INPLACE
* 2-12/C #12
* 4-3/C #12
* 1-3/C #20
* 3-2/C #14

3" RSC INPLACE
* 2-12/C #12
* 4-3/C #12
* 1-3/C #20
* 4-2/C #14

LEXINGTON AVE.

① A100-A-35 INPLACE
* 2-ONE WAY SIGNALS-OVERHEAD INPLACE, R&S
* ONE WAY SIGNAL-OVERHEAD (4-2)
* TYPE 10C-POLE MOUNTED INPLACE, R&S
* TYPE 20C-POLE MOUNTED 270°
* 2-PEDESTRIAN PUSH BUTTONS INPLACE, R&S-F&I NEW
* ONE WAY EVP DETECTOR AND LIGHT-OVERHEAD
EXTEND INTO H.H.1
3" RCS INPLACE
* 2-12/C #12
* 5-3/C #12
* 1-3/C #20

WOOD POLE INPLACE
SERVICE EQUIPMENT INPLACE
* DISCONNECT INPLACE R&S
* 60 AMP 120/240 VAC DISCONNECT
EXTEND INTO H.H.1
2-1.25" RSC INPLACE
* 2-1/C #8, 1-I/C #6 BR.GR.
* 4-1/C #10

3" RSC INPLACE
* 2-12/C #12
* 4-3/C #12
* 1-3/C #20
* 7-2/C #14
* 2-1/C #10
* 1-12PR #19-(INTERCONNECT)

* PEDESTRIAN PUSH BUTTON STATION (4" RSC)
* 1 - PEDESTRIAN PUSH BUTTON
* EXTEND INTO H.H. 1
* 1.25" RSC
* 1-3/C #12

1.25" RSC INPLACE
* 2-2/C #14

Ⓐ EQUIP. PAD

4" RSC INPLACE
* 4-12/C #12
* 7-3/C #12
* 2-3/C #20
* 6-2/C #14
* 2-1/C #10

4" RSC INPLACE
* 4-12/C #12
* 7-3/C #12
* 2-3/C #20
* 7-2/C #14
* 2-1/C #10

* PEDESTRIAN PUSH BUTTON STATION (4" RSC)
* 1 - PEDESTRIAN PUSH BUTTON
* EXTEND INTO H.H. 5
* 1.25" RSC
* 1-3/C #12

1.25" RSC INPLACE
* 1-2C #14

* 1.25" RSC
* 1-2/C #14

② A100-A-33-T30-15 INPLACE
* LUMINAIRE-400 WATT MERCURY INPLACE, R&S
* LUMINAIRE- 200 WATT HPS AT 315°
ONE WAY SIGNAL-OVERHEAD (8-4) INPLACE
* ONE WAY SIGNAL-OVERHEAD (8-2) INPLACE, R&S
* ONE WAY SIGNAL-OVERHEAD (8-2)
* TYPE 10B-POLE MOUNTED INPLACE, R&S
* TYPE 30A-POLE MOUNTED INPLACE, R&S
* TYPE 10B-POLE MOUNTED 90°
* TYPE 10B-POLE MOUNTED 225°
* 2 PEDESTRIAN PUSH BUTTONS INPLACE, R&S-F&I ONE NEW
* ONE WAY EVP DETECTOR AND LIGHT OVERHEAD
EXTEND INTO H.H.5
3" RSC INPLACE
* 2-.2/C #12
* 6-3/C #12
* 1-3/C #20
* 2-1/C #10

SCALE IN FEET
0 1 30 50 100

* NOTES

1. ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE USED INPLACE UNLESS OTHERWISE NOTED WITH A * (* WORK TO BE DONE, THIS SHEET ONLY).
2. SEE SHEETS 19 - 20 FOR EXISTING SIGNAL SYSTEM.
3. DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
4. REMOVE AND SALVAGE INPLACE DOWN LIGHTS MOUNTED OVERHEAD (4 TOTAL). PLUG UNUSED MOUNTINGS
5. WELD NEW 1.5" DIA HALF COUPLINGS FOR REVISED SIGNAL HEAD MOUNTINGS ON POLES 2,3 AND 4. PLUG UNUSED MOUNTINGS
6. R&S DENOTES REMOVE AND SALVALGE.
7. REMOVE AND SALVAGE ALL CONTROL CABLE AND INSTALL NEW.
8. TEMPORARY ALL RED FLASHING OPERATION DURING REVISIONS WORK. SEE SPECIAL PROVISIONS.
9. ALL PEDESTRIAN INDICATIONS SHALL BE 12"X12".

* NOTES

10. ALL NEW SIGNAL FACES SHALL HAVE BACKGROUND SHIELDS EXCEPT SIGNAL FACES 4-3 AND 6-3.
11. EACH LUMINAIRE SHALL HAVE A PHOTO ELECTRIC CELL AND STREET LIGHT CHECK SWITCH.
12. THE COUNTY SHALL FURNISH TO THE CONTRACTOR EVP DETECTORS AND ASSOCIATED CONTROL EQUIPMENT (SEE SPECIAL PROVISIONS).
13. HANDHOLES 1,2,3,4,5,8,9,10,11,12, 13 AND 14 ARE INPLACE. USE INPLACE.
14. (INTERCONNECT) DENOTES ITEM TO BE PAID FOR UNDER SEPARATE PAY ITEM. SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
15. HANDHOLE 8 HAS NO METAL FRAME AND COVER. REINSTALL METAL FRAME AND COVER. SEE DETAIL ON SHEET NO. 2.
16. PAINT REVISED SIGNAL SYSTEM (SEE SPECIAL PROVISIONS)

AS-BUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

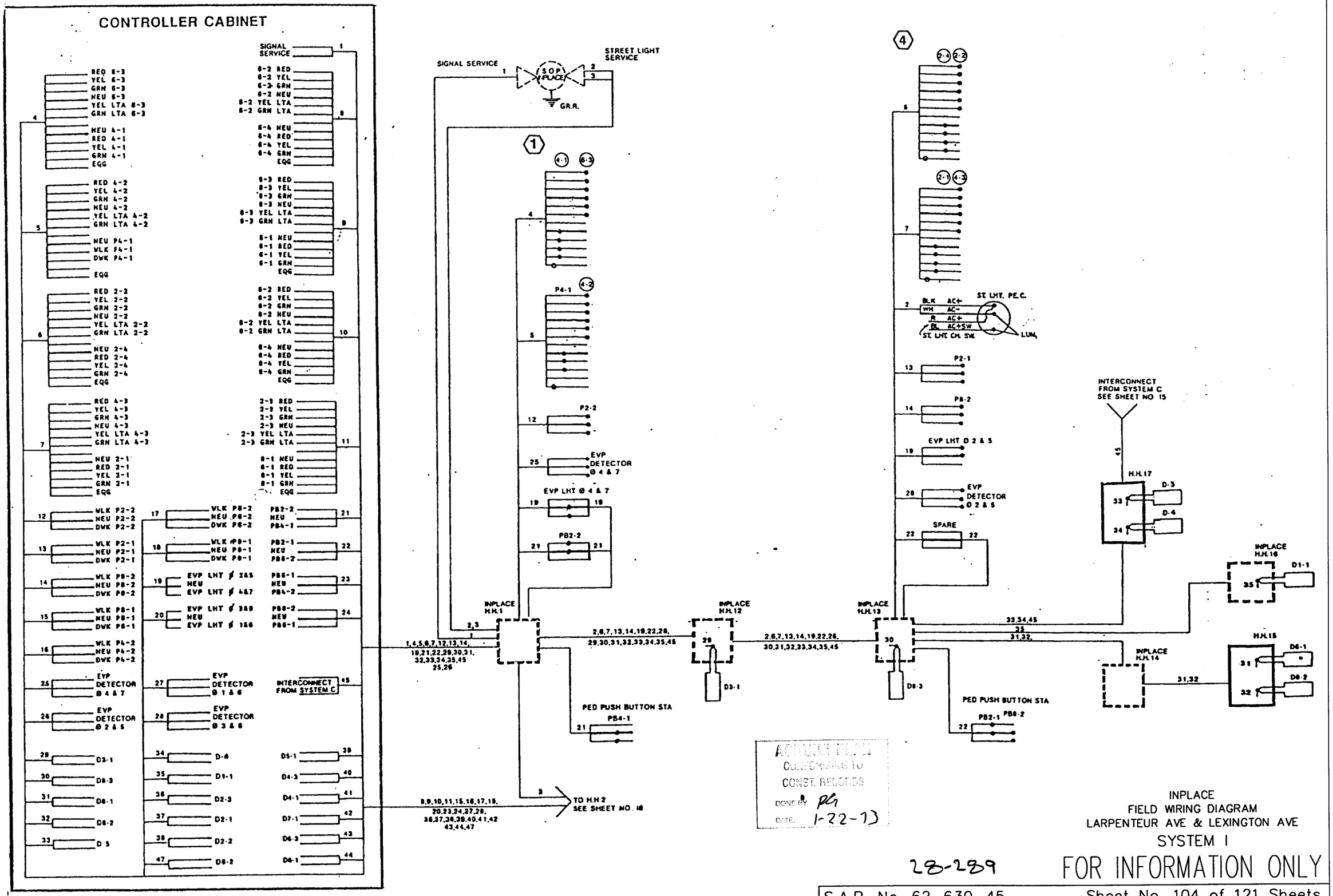
INPLACE
INTERSECTION LAYOUT
LARPENTEUR AVE & LEXINGTON AVE
SYSTEM I

FOR INFORMATION ONLY

28-289

S.A.P. No. 62-630-45

T:\TRAFFIC\SIGPLAN\LARP\580-522IN.dwg 12/3/99



T:\TRAFFIC\SIGPLAN\LARP\580-522IN.dwg 12/3/99

INPLACE
FIELD WIRING DIAGRAM
LARPENTEUR AVE & LEXINGTON AVE
SYSTEM I

28-289

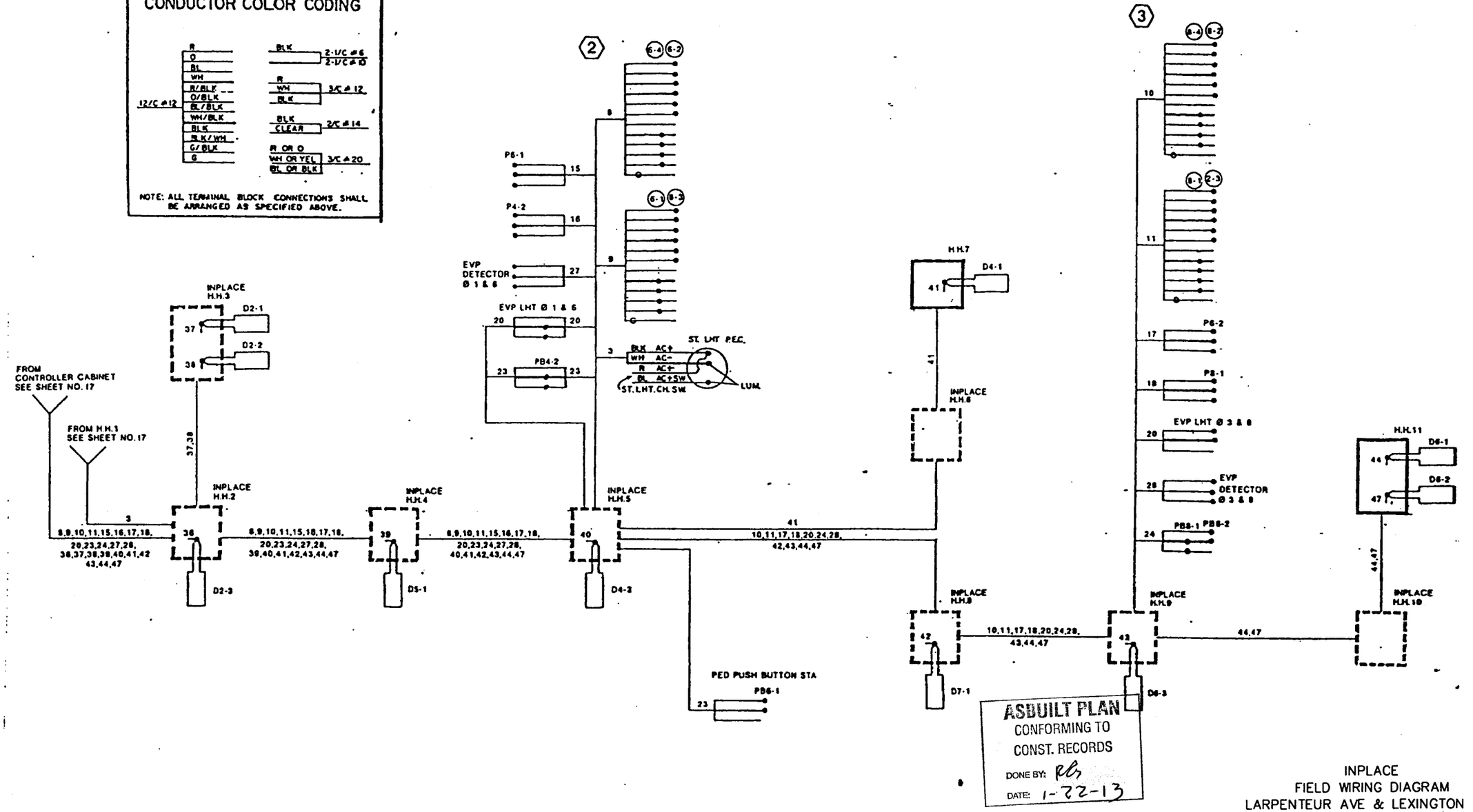
FOR INFORMATION ONLY

S.A.P. No. 62-630-45 Sheet No. 104 of 121 Sheets

CONDUCTOR COLOR CODING

12/C #12	R O BL WH R/BLK O/BLK BL/BLK WH/BLK BLK BLK/WH G/BLK G	BLK — 2-1/C #6, 2-1/C #10 R, WH, BLK — 3/C #12 BLK CLEAR — 3/C #14 R OR O, WH OR YEL, BL OR BLK — 3/C #20

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



INPLACE
FIELD WIRING DIAGRAM
LARPENTEUR AVE & LEXINGTON AVE
SYSTEM I

28-239

FOR INFORMATION ONLY

T:\TRAFFIC\SIGPLAN\LARP\580-522IN.dwg 12/3/99

SIGN OR DEVICE	SIGN	COLOR	SIZE	QUANTITY		
				PHASE 1	PHASE 2	PHASE 3
STOP	R1-1	WHITE ON RED	36"X36"	7	11	11
			48"X48"	12	12	12
SPEED LIMIT 30	R2-1	BLACK ON WHITE	24"X30"	15	15	15
ALL WAY	R1-4	WHITE ON RED	18"X6"	12	12	12
CROSS TRAFFIC DOES NOT STOP	R1-X2	BLACK ON WHITE	36"X12"	4	4	4
① LARPENTEUR AVENUE ROAD WORK ARONA ST. to OXFORD ST. BEGINS DATE	G20-X2	BLACK ON ORANGE	132"X108"	x	x	x
② LARPENTEUR AVENUE ROAD WORK ARONA ST. to OXFORD ST. BEGINS DATE	G20-X2	BLACK ON ORANGE	168"X132"	2	2	2
END ROAD WORK	G20-2A	BLACK ON ORANGE	48"X24"	2	2	2
	W3-1a	BLACK RED, WHITE ON YELLOW	36"X36"	15	15	15
	W6-3	BLACK ON ORANGE	30"X30"	16	16	0
ROAD WORK AHEAD	W20-1	BLACK ON ORANGE	48"X48"	19	19	19
MERGE	W20-X3 R or L	BLACK ON ORANGE	48"X48"	0	0	0
RIGHT LANE MUST EXIT CLOSED	W21-X5 R or L	BLACK ON ORANGE	48"X48"	6	6	6
RIGHT LANE MUST TURN RIGHT	R3-7R	BLACK ON WHITE	30"X30"	1	1	1
	R4-7	BLACK ON WHITE	24"X30"	5	5	2

NOTE: ALL SIGNS ARE IN ENGLISH UNITS

① SIGN PLACEMENT - EASTBOUND LARPENTEUR AVENUE - WEST OF T.H. 51
- WESTBOUND LARPENTEUR AVENUE - EAST OF VICTORIA ST. SIGNAL
- SOUTHBOUND LEXINGTON AVE - SOUTH OF COUNTY ROAD B
- NORTHBOUND LEXINGTON AVE - SOUTH OF HOYT AVE

② SIGN PLACEMENT - NORTHBOUND T.H. 51, 1/2 MILE SOUTH OF LARPENTEUR AVENUE
- SOUTHBOUND T.H. 51, 1/2 MILE NORTH OF LARPENTEUR AVENUE

SIGN OR DEVICE	SIGN	COLOR	SIZE	QUANTITY		
				PHASE 1	PHASE 2	PHASE 3
4" SOLID LINE WHITE-REMOVABLE				148m	96m	0
4" SOLID LINE YELLOW-REMOVABLE				320m	3159m	75m
4" SOLID LINE YELLOW-PAINT				2778m	0	0
4" SOLID LINE WHITE-PAINT				0	0	0
PAVEMENT MESSAGE RIGHT TURN ARROW (REMOVABLE)				1	1	1
	W1-7 MTD ON TYPE III BARRICADE	BLACK ON ORANGE	48"X24"	0	1	0
	W1-6 MTD ON TYPE III BARRICADE	BLACK ON ORANGE	48"X24"	12	10	8
	PLASTIC DRUM	WHITE ON ORANGE	18"X36" MINUMUM	190	187	275
	TYPE III	WHITE ON ORANGE	6 FT MINUMUM	64	66	68

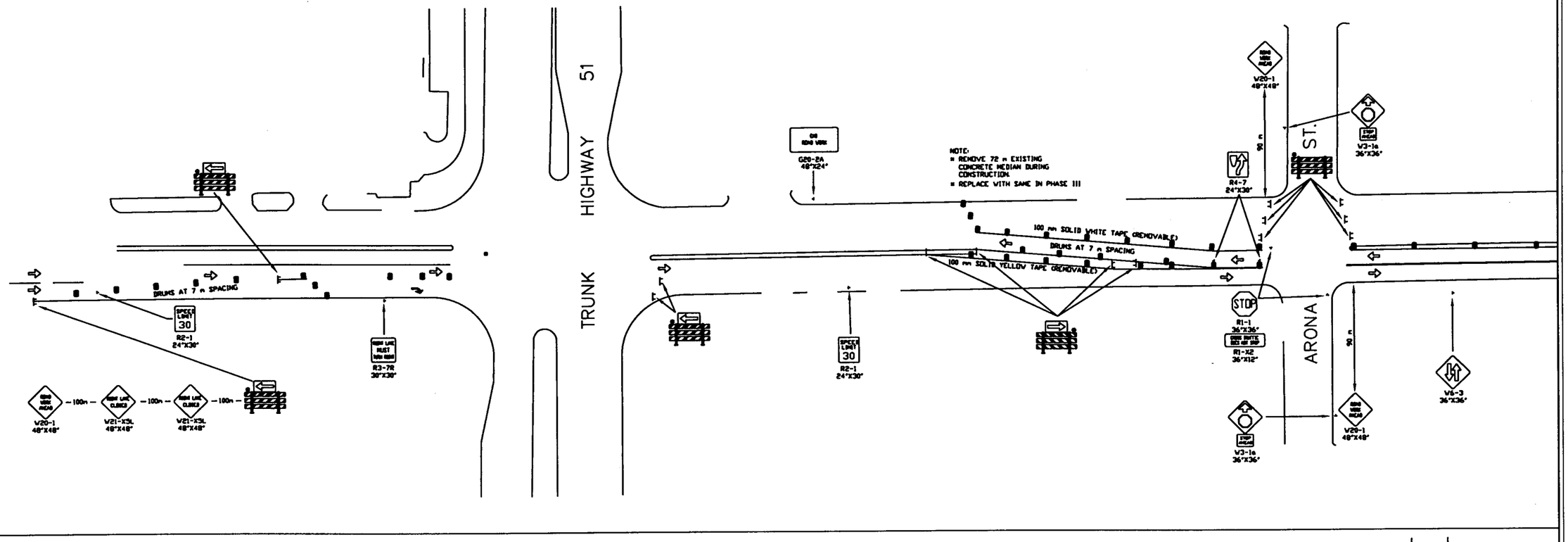
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

H:\DWGS\LARP-3\E3-SIGN 12/3/99

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel E. John
Date 3/17/00 Reg. No. 20452

28-289

SIGN & MARKING TABULATION
FOR TRAFFIC CONTROL



NOTES:

1. ALL SIGNS ARE IN ENGLISH UNITS.
2. EXACT LOCATIONS SHALL BE DETERMINED IN FIELD BY THE ENGINEER.
3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS – APRIL 1995."
4. ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RCh
DATE: 1-22-13

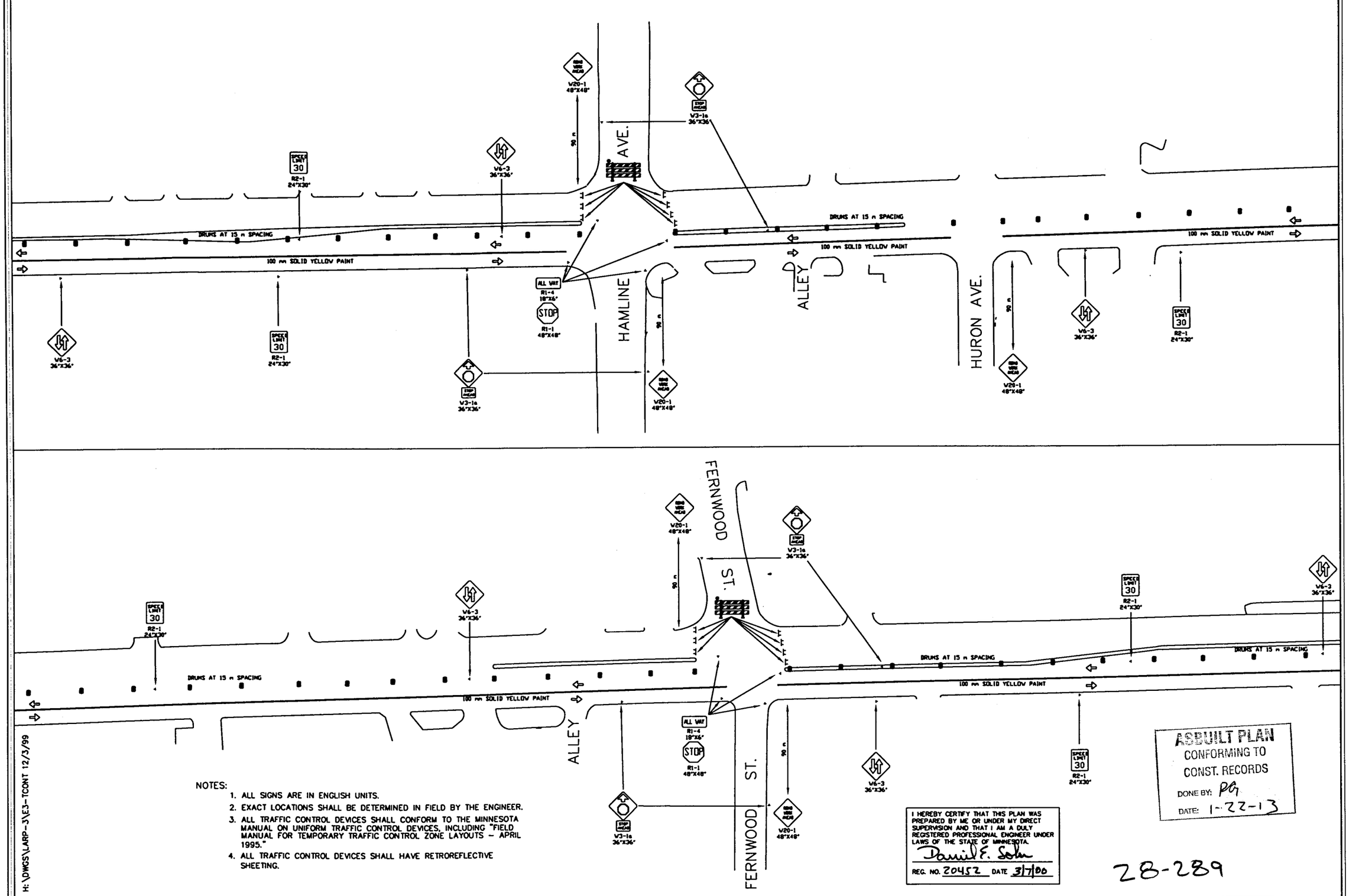
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
David C. Sohn
REG. NO. 20452 DATE 3/7/00

28-289

H:\DWGS\LARP-3\E3-TCONT 12/3/99

TRAFFIC CONTROL PLAN – PHASE 1

S.A.P. 62-630-45 SHEET NO. 107 OF 121 SHEETS



NOTES:

1. ALL SIGNS ARE IN ENGLISH UNITS.
2. EXACT LOCATIONS SHALL BE DETERMINED IN FIELD BY THE ENGINEER.
3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS – APRIL 1995."
4. ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

H:\DWGS\LARP-3\E3-TCONT 12/3/99

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

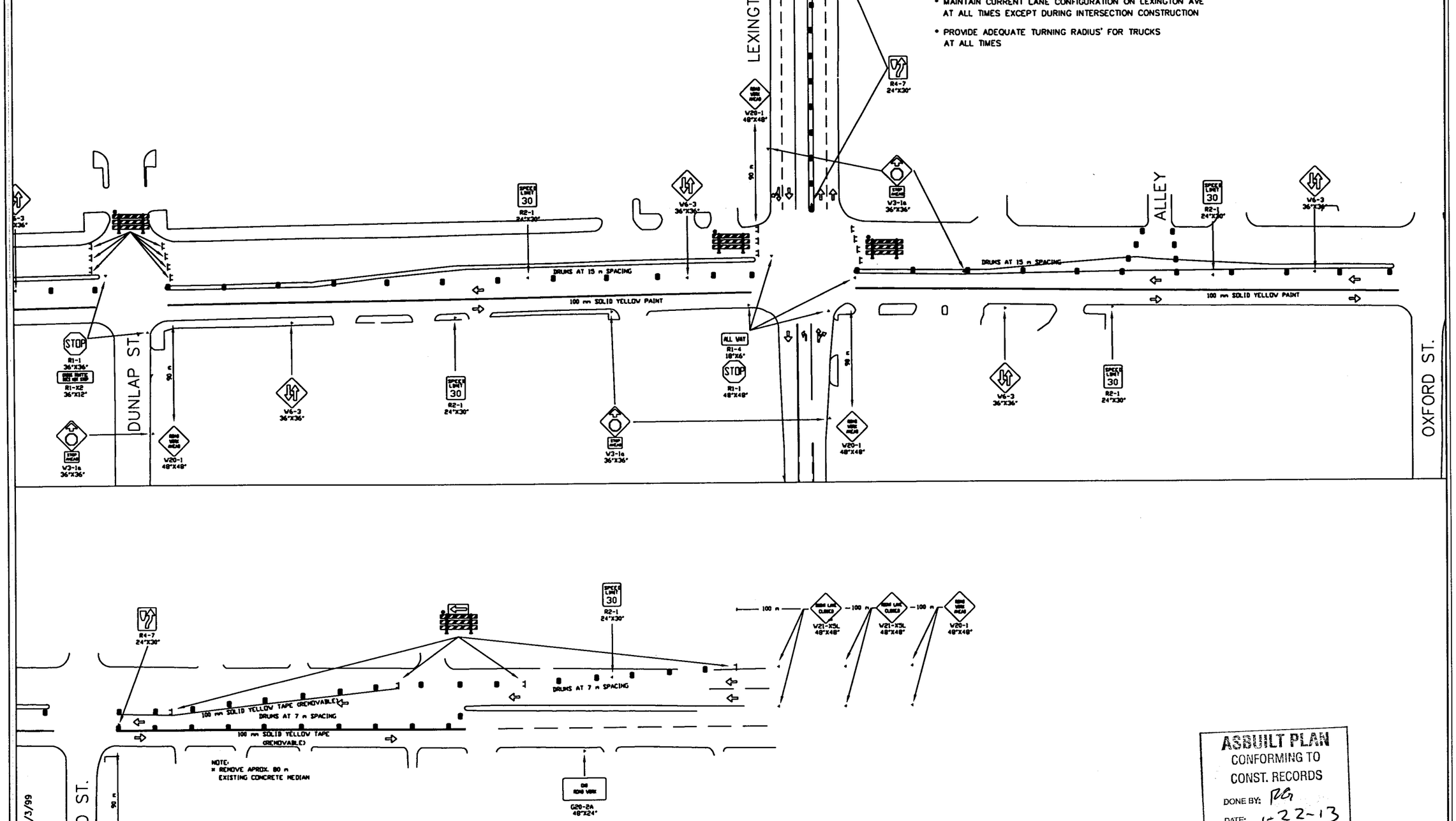
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Daniel E. Sohn
REG. NO. 20452 DATE 3/7/00

28-289

TRAFFIC CONTROL PLAN – PHASE 1

S.A.P. 62-630-45 SHEET NO. 108 OF 121 SHEETS

- MAINTAIN CURRENT LANE CONFIGURATION ON LEXINGTON AVE AT ALL TIMES EXCEPT DURING INTERSECTION CONSTRUCTION
- PROVIDE ADEQUATE TURNING RADIUS' FOR TRUCKS AT ALL TIMES



NOTE:
* REMOVE APROX. 80 m EXISTING CONCRETE MEDIAN

NOTES:

1. ALL SIGNS ARE IN ENGLISH UNITS.
2. EXACT LOCATIONS SHALL BE DETERMINED IN FIELD BY THE ENGINEER.
3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS – APRIL 1995."
4. ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

H:\DWGS\LARP-3\E3-TCONT 12/3/99

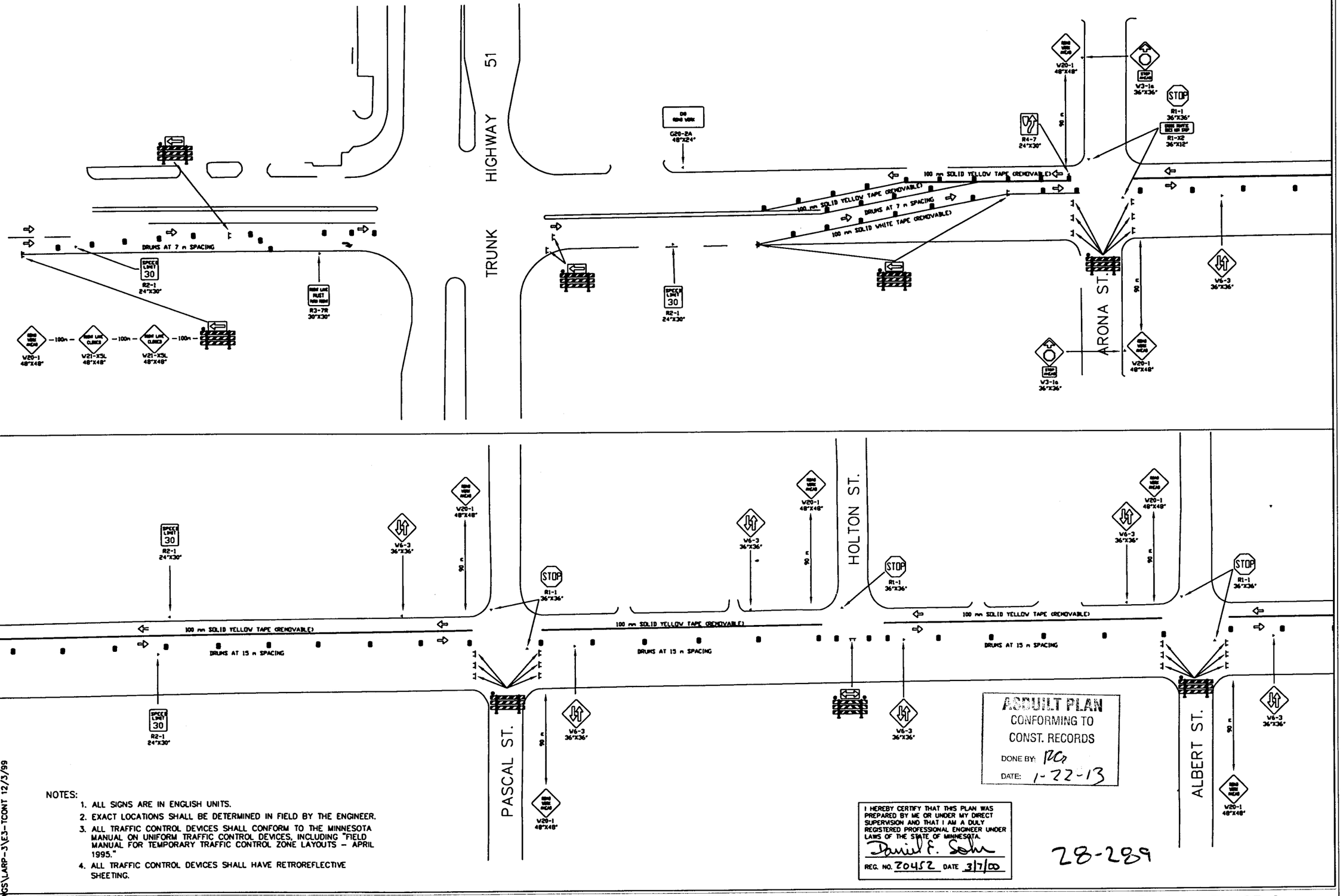
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Daniel F. Soler
REG. NO. 20452 DATE 3/7/00

28-289

TRAFFIC CONTROL PLAN – PHASE 1

S.A.P. 62-630-45 SHEET NO. 109 OF 121 SHEETS



NOTES:

1. ALL SIGNS ARE IN ENGLISH UNITS.
2. EXACT LOCATIONS SHALL BE DETERMINED IN FIELD BY THE ENGINEER.
3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS – APRIL 1995."
4. ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RCA
DATE: 1-22-13

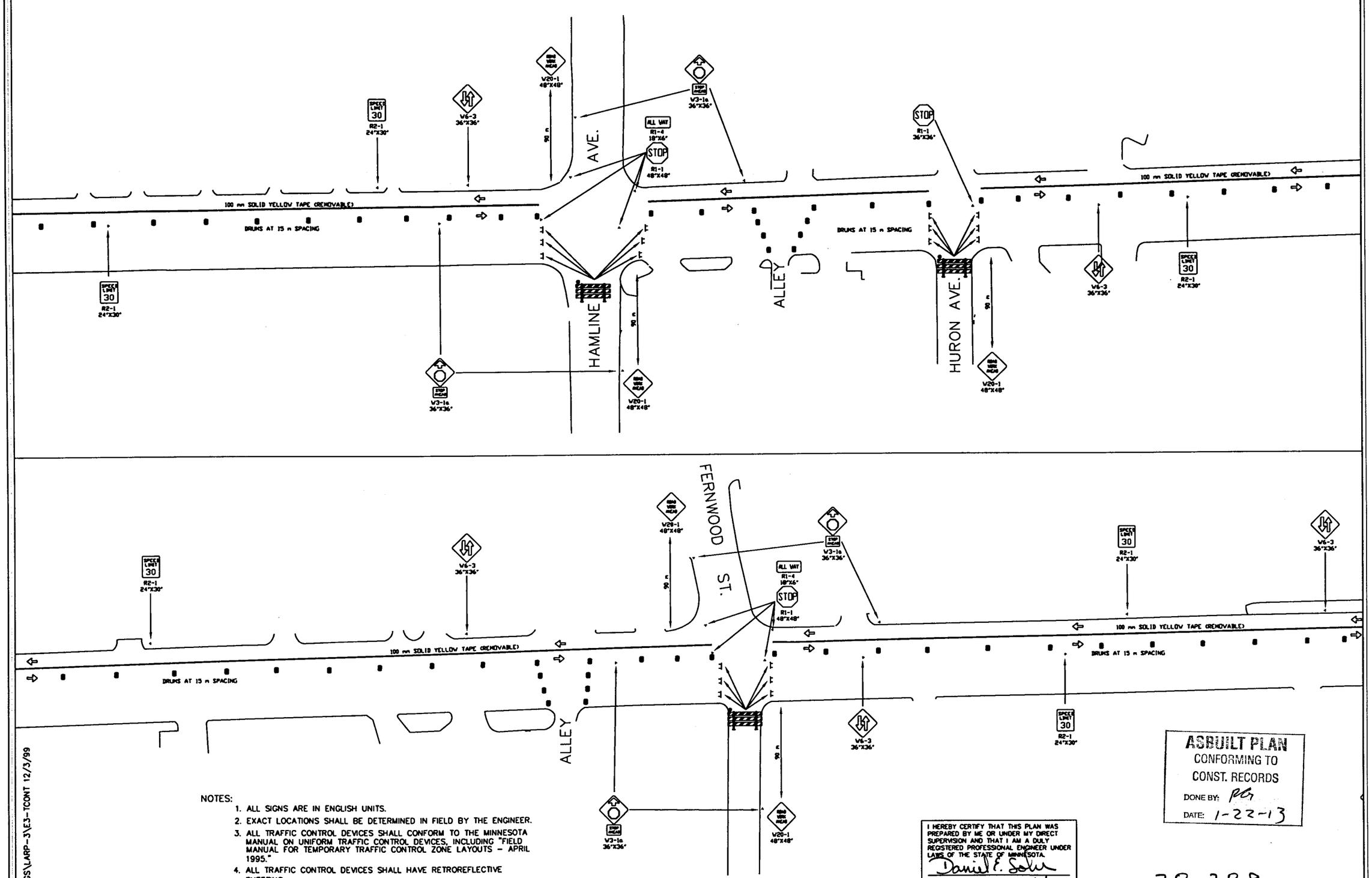
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Daniel F. Sohn
REG. NO. 20452 DATE 3/7/00

28-289

H:\DWGS\LARP-3\E3-TCONT 12/3/99

TRAFFIC CONTROL PLAN – PHASE 2

S.A.P. 62-630-45



NOTES:

1. ALL SIGNS ARE IN ENGLISH UNITS.
2. EXACT LOCATIONS SHALL BE DETERMINED IN FIELD BY THE ENGINEER.
3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS – APRIL 1995."
4. ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

H:\DWGS\LARP-3\E3-TCONT 12/3/99

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

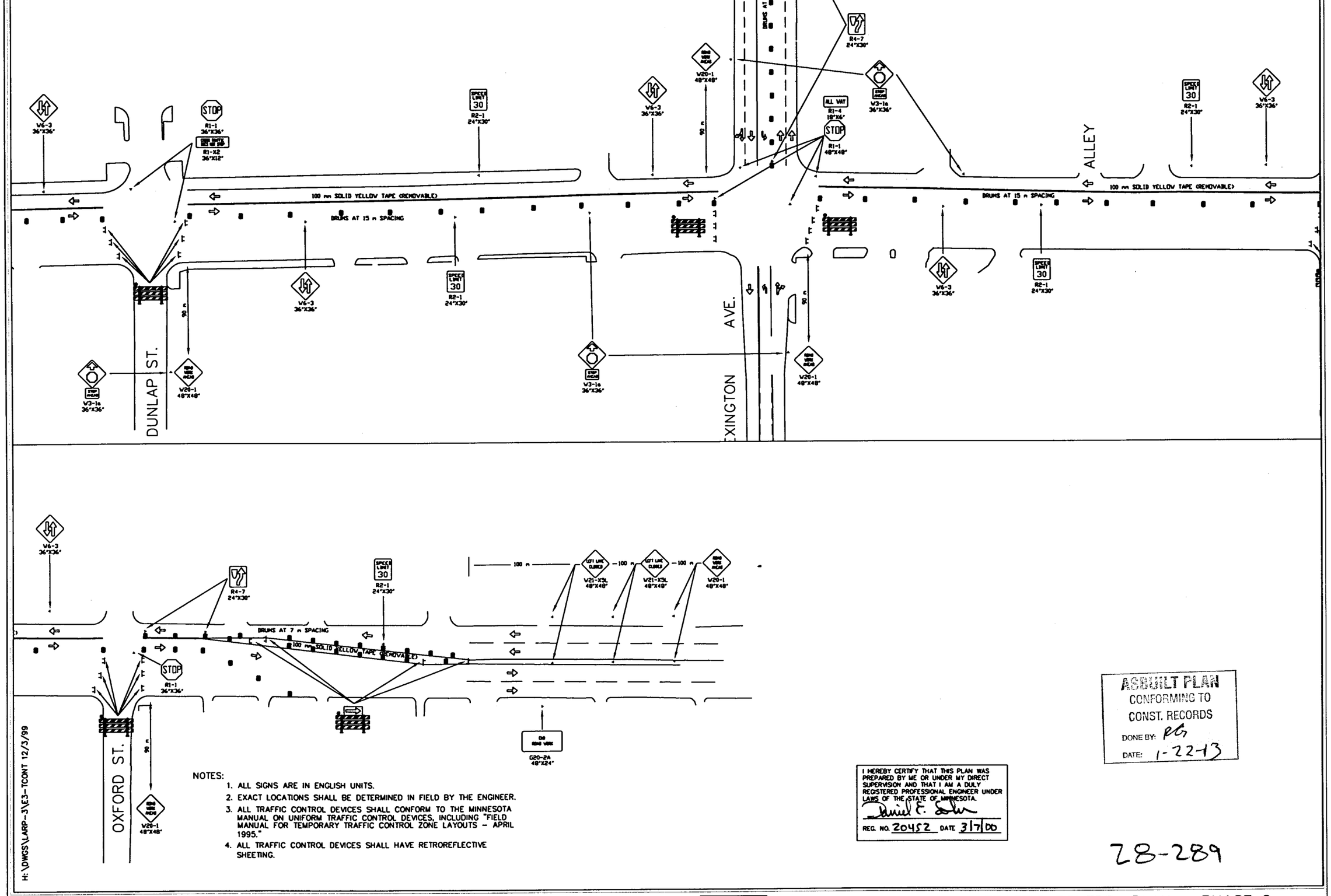
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Daniel F. Solum
REG. NO. 20452 DATE 3/7/00

28-289

TRAFFIC CONTROL PLAN – PHASE 2

S.A.P. 62-630-45

SHEET NO. 111 OF 121 SHEETS



NOTES:

1. ALL SIGNS ARE IN ENGLISH UNITS.
2. EXACT LOCATIONS SHALL BE DETERMINED IN FIELD BY THE ENGINEER.
3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS – APRIL 1995."
4. ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

H:\DWGS\LARP-3\E3-TCONT 12/3/99

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

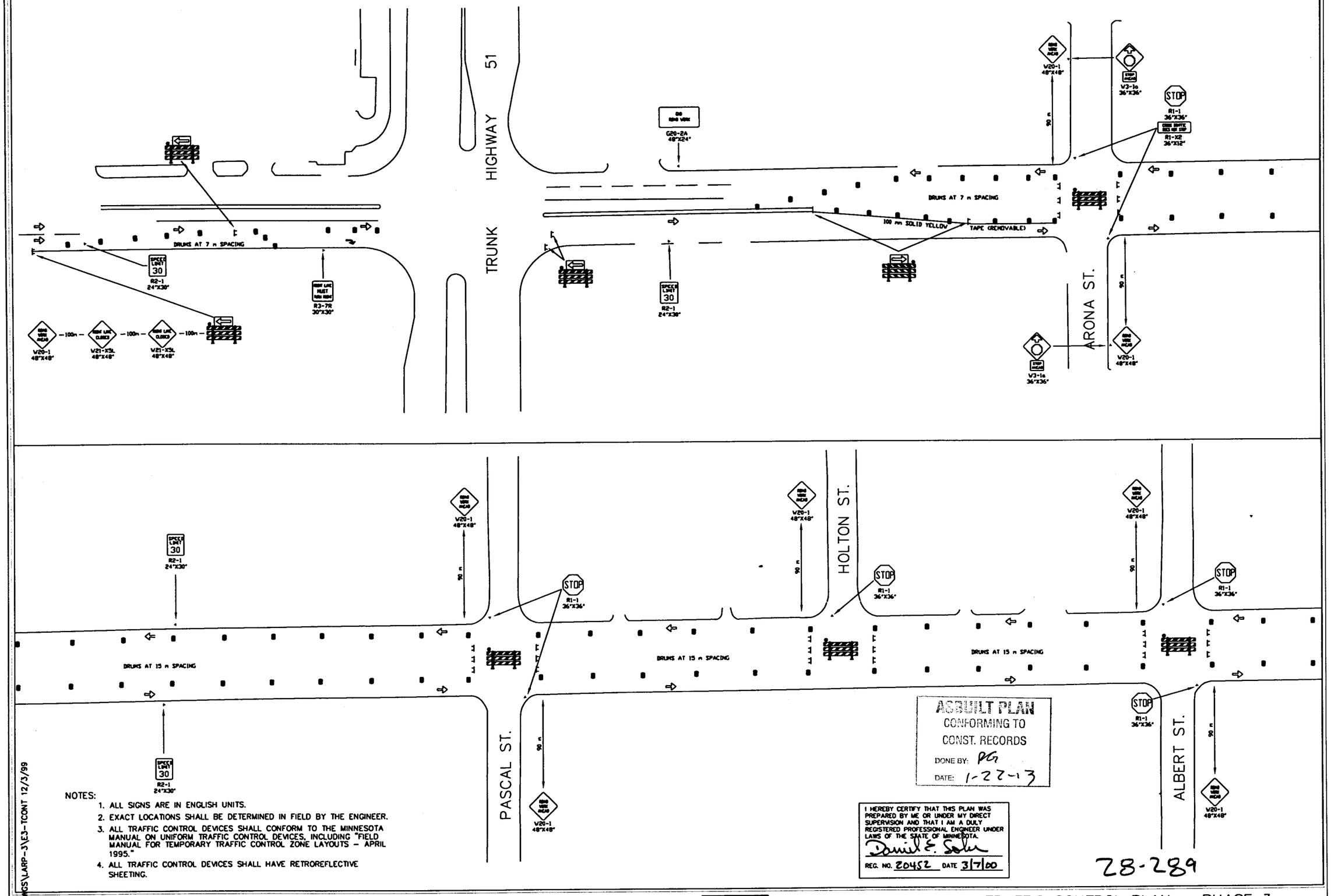
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
DANIEL E. SOLUM
REG. NO. 20452 DATE 3/7/00

28-289

TRAFFIC CONTROL PLAN – PHASE 2

S.A.P. 62–630–45

SHEET NO. 112 OF 121 SHEETS



NOTES:

1. ALL SIGNS ARE IN ENGLISH UNITS.
2. EXACT LOCATIONS SHALL BE DETERMINED IN FIELD BY THE ENGINEER.
3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS – APRIL 1995."
4. ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

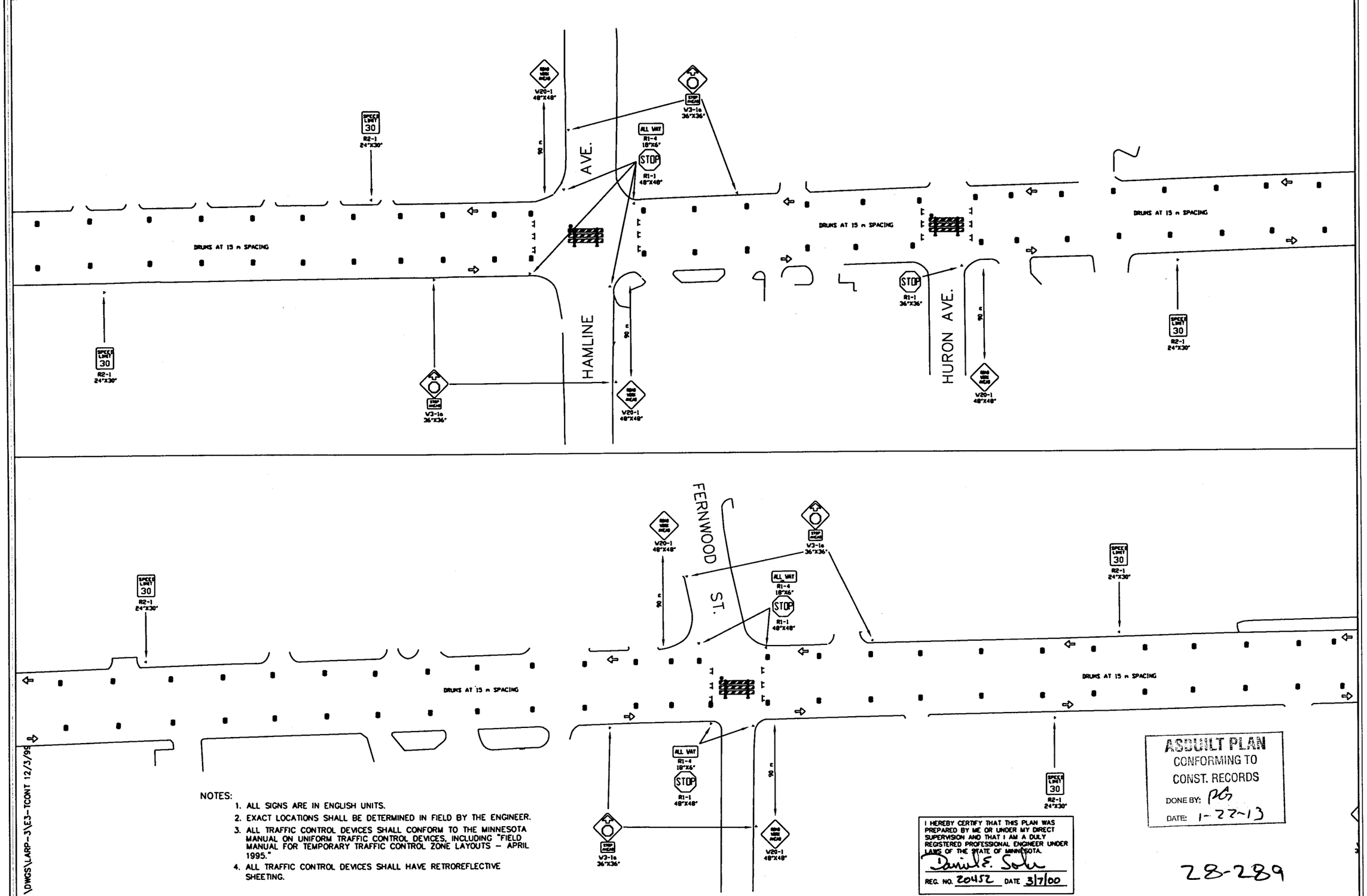
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
David E. Sohn
REG. NO. 20452 DATE 3/7/00

28-289

H:\DWGS\LARP-3\E3-TCONT 12/3/99

TRAFFIC CONTROL PLAN – PHASE 3

S.A.P. 62-630-45



NOTES:

1. ALL SIGNS ARE IN ENGLISH UNITS.
2. EXACT LOCATIONS SHALL BE DETERMINED IN FIELD BY THE ENGINEER.
3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS – APRIL 1995."
4. ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
David E. Sohn
REG. NO. 20452 DATE 3/7/00

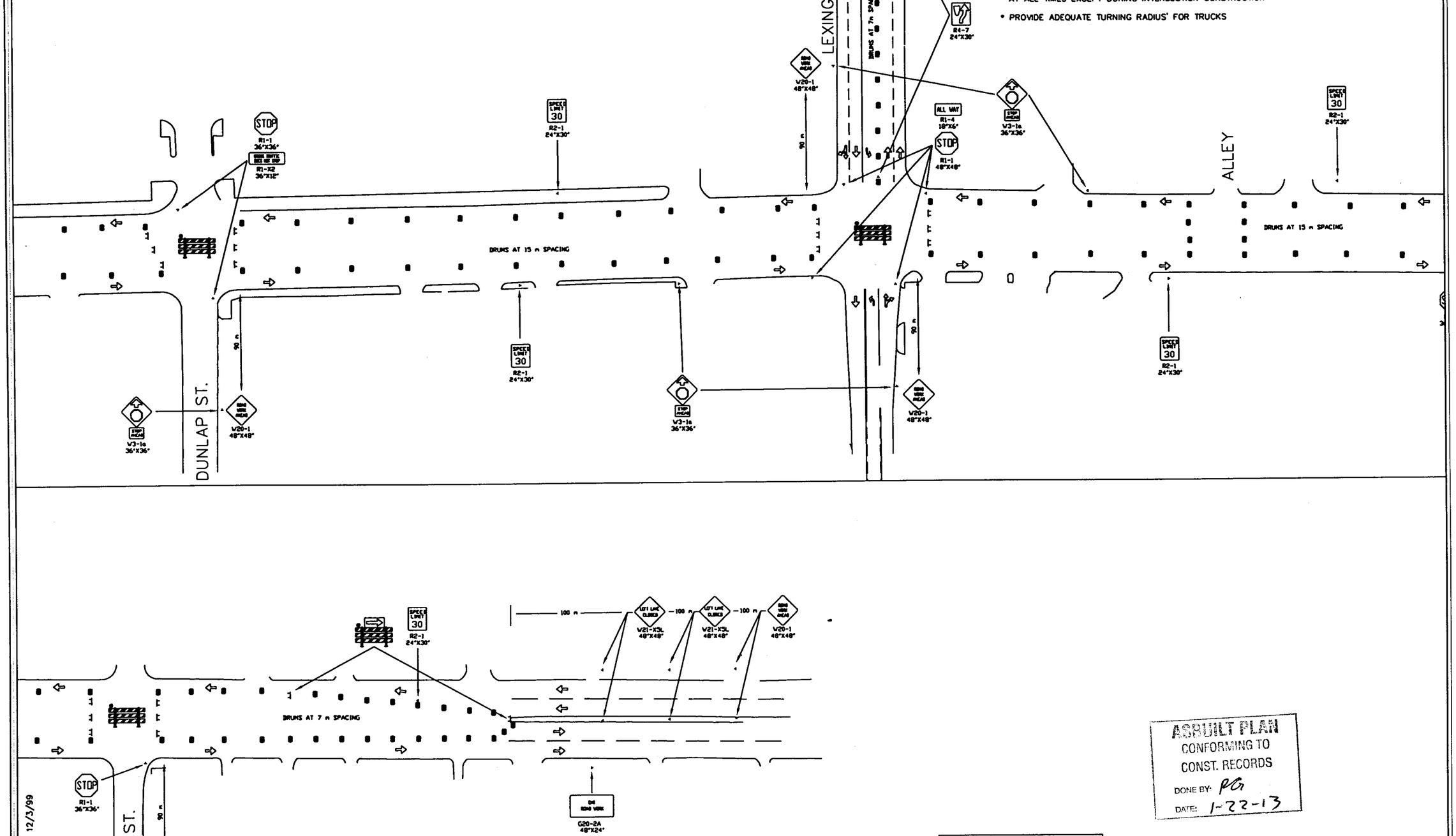
ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

28-289

H:\DWGS\LARP-3\E3-TCONT 12/3/99

TRAFFIC CONTROL PLAN – PHASE 3

S.A.P. 62-630-45 SHEET NO. 114 OF 121 SHEETS



NOTES:

1. ALL SIGNS ARE IN ENGLISH UNITS.
2. EXACT LOCATIONS SHALL BE DETERMINED IN FIELD BY THE ENGINEER.
3. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS – APRIL 1995."
4. ALL TRAFFIC CONTROL DEVICES SHALL HAVE RETROREFLECTIVE SHEETING.

- PROVIDE ADEQUATE TURNING RADIUS' FOR TRUCKS

H:\DWGS\LARP-3\E3-TCONT 12/3/99

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

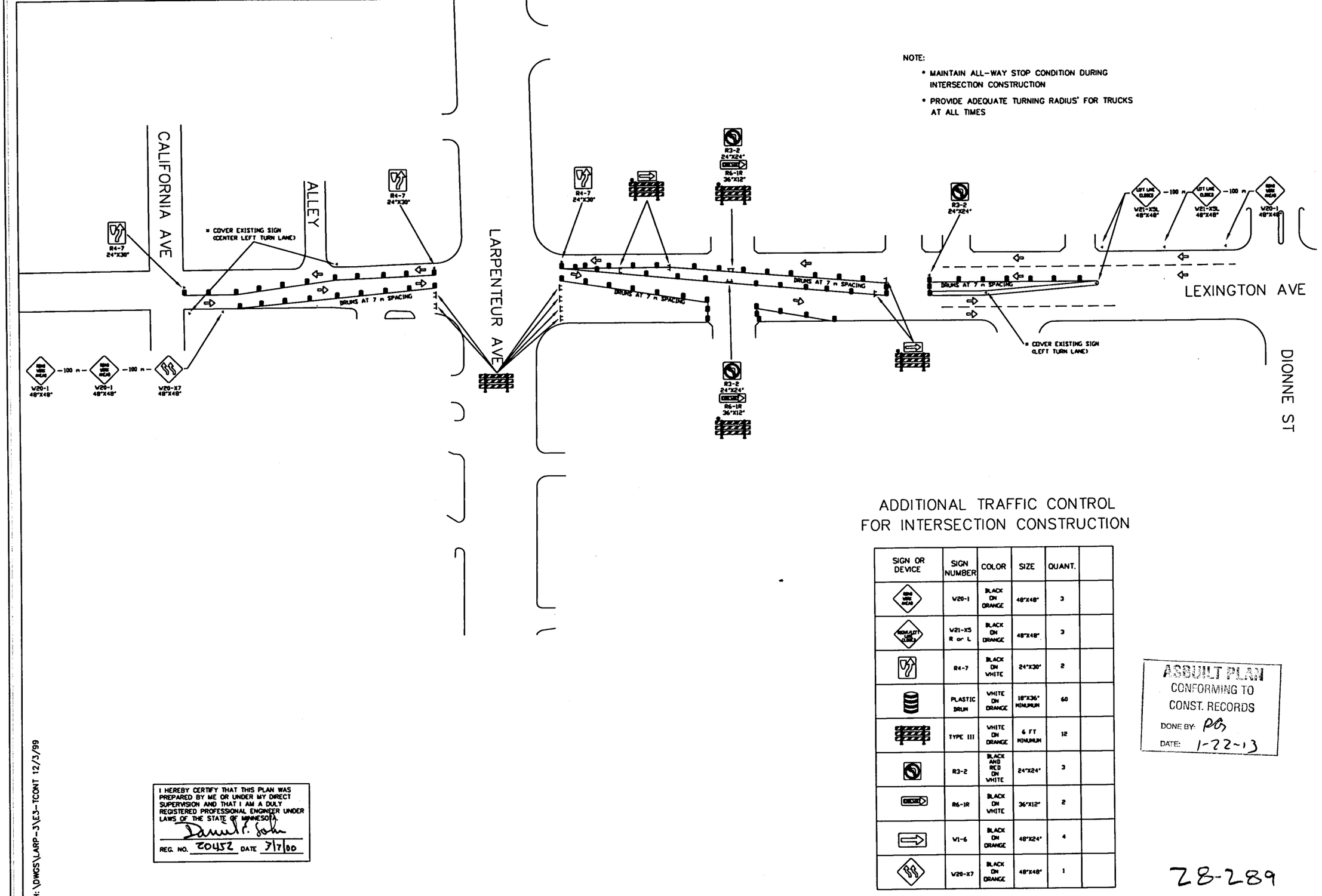
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Daniel E. Soltis
REG. NO. 20452 DATE 3/7/00

28-289

TRAFFIC CONTROL PLAN – PHASE 3

S.A.P. 62-630-45

SHEET NO. 115 OF 121 SHEETS



ADDITIONAL TRAFFIC CONTROL FOR INTERSECTION CONSTRUCTION

SIGN OR DEVICE	SIGN NUMBER	COLOR	SIZE	QUANT.	
	W20-1	BLACK ON ORANGE	48"X48"	3	
	W21-X5 R or L	BLACK ON ORANGE	48"X48"	3	
	R4-7	BLACK ON WHITE	24"X30"	2	
	PLASTIC DRUM	WHITE ON ORANGE	18"X36" MINIMUM	60	
	TYPE III	WHITE ON ORANGE	6 FT MINIMUM	12	
	R3-2	BLACK AND RED ON WHITE	24"X24"	3	
	R6-1R	BLACK ON WHITE	36"X12"	2	
	W1-6	BLACK ON ORANGE	48"X24"	4	
	W20-X7	BLACK ON ORANGE	48"X48"	1	

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
Daniel P. Soha
REG. NO. 20452 DATE 3/7/00

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

28-289

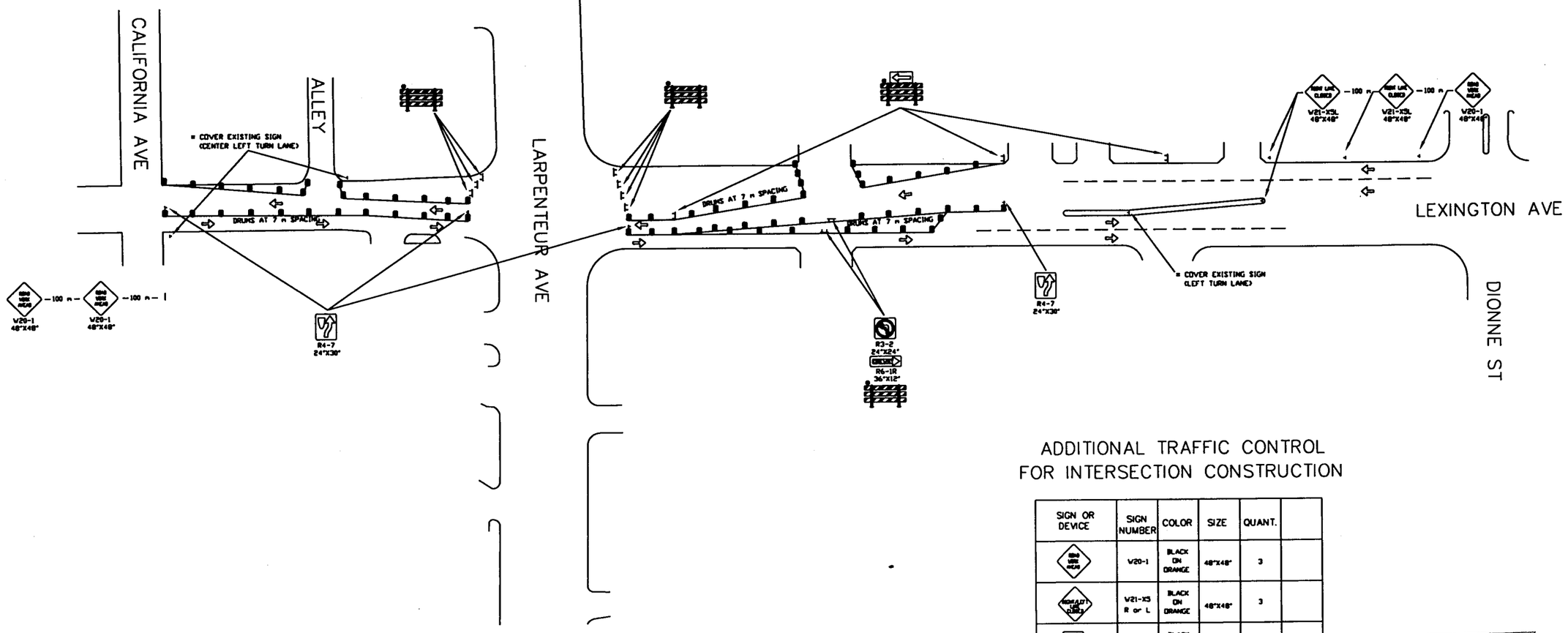
H:\DWGS\LARP-3\E3-TCONT 12/3/99

TRAFFIC CONTROL PLAN – LEX. AVE.

S.A.P. 62-630-45 SHEET NO. 116 OF 121 SHEETS

NOTE:

- MAINTAIN ALL-WAY STOP CONDITION DURING INTERSECTION CONSTRUCTION
- PROVIDE ADEQUATE TURNING RADIUS' FOR TRUCKS AT ALL TIMES



ADDITIONAL TRAFFIC CONTROL FOR INTERSECTION CONSTRUCTION

SIGN OR DEVICE	SIGN NUMBER	COLOR	SIZE	QUANT.	
	W20-1	BLACK ON ORANGE	48"X48"	3	
	W21-X3 R or L	BLACK ON ORANGE	48"X48"	3	
	R4-7	BLACK ON WHITE	24"X30"	2	
	PLASTIC DRUM	WHITE ON ORANGE	18"X36" MINIMUM	60	
	TYPE III	WHITE ON ORANGE	6 FT MINIMUM	12	
	R3-2	BLACK AND RED ON WHITE	24"X24"	3	
	R6-1R	BLACK ON WHITE	36"X12"	2	
	W1-6	BLACK ON ORANGE	48"X24"	4	
	W20-X7	BLACK ON ORANGE	48"X48"	1	

AS BUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
David E Sohn
REG. NO. 20452 DATE 3/7/00

H:\DWGS\LARP-3\E3-TCONT 12/3/99

28-289

TRAFFIC CONTROL PLAN – LEX. AVE.

S.A.P. 62-630-45

SHEET NO. 117 OF 121 SHEETS

GRAPHIC SCALE
(IN METERS)
1 :500

1329
1319
1315
1347
1255
1330
1318
1672
1668
1350
1360
1695
1227
1215
1677
1673
1671
1670
1203
1144
1136
1132
1124
1153
1145
1133
1125

AVE.
HAMLINE
HURON AVE.
FERNWOOD ST.
DUNLAP ST.
ANNAPOLIS
REGISTERED LAND SURVEY 362
SEALOTA HEIGHTS

EXISTING R/W
CLOSE ENTRANCE
RELOCATE ENTRANCE
CONSTRUCT PRECAST BLOCK WALL #4
REMOVE WOOD PRIVACY FENCE
CONSTRUCTION C/L
SECTION LINE
HH 101
HH 102
HH 103
HH 104
HH 105
HH-106
HH-107
HH-108
HH-109
HH-110
HH-111
HH-112
HH-113
HH-114
HH-115
P.I.
33 m – 53 mm NON MET. CON.
24 m – 53 mm NON MET. CON.
32 m – 53 mm NON MET. CON.
25 m – 53 mm NON MET. CON.
27 m – 53 mm NON MET. CON.
28 m – 53 mm NON MET. CON.
23 m – 53 mm NON MET. CON.
12 m – 53 mm NON MET. CON.
26.2 m
23.3 m
20.1 m
18.3 m
17.2 m
15.1 m
15.2 m
14.7 m
13.7 m
11.6 m
10.7 m
10.1 m
8.6 m
7.620m
6.096m
4+000
4+040
4+080
4+120
4+160
4+200
4+240
4+280
4+320
4+360
4+400
4+440
4+480
4+520
4+560
4+600
4+640
4+680
4+720

REMOVE PRECAST BLOCK WALL, CONSTRUCT PRECAST BLOCK WALL #3
EASEMENT
INGRESS/EGRESS EASEMENT
STORM SEWER EASEMENT 6
STORM SEWER EASEMENT 8
CLOSE ENTRANCES AT OWNERS REQUEST
REMOVE FLAGSTONE WALL, CONSTRUCT PRECAST BLOCK WALL #1
CONSTRUCT PRECAST BLOCK WALL #2
STORM SEWER EASEMENT
WATER EASEMENT
TRAFFIC DEVICE EASEMENT DOC. NO.T 906625
1.5m PATHWAY EASEMENT

ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: RCH
DATE: 1-22-13

28-289

ELECTRICAL CONDUIT LAYOUT

S.A.P. 62-630-45

SHEET NO. 118 OF 121 SHEETS

ramsey county metric

\dwgs\larp-3\E3-elec Date Plotted 12/3/99

GRAPHIC SCALE
(IN METERS)
1 : 500

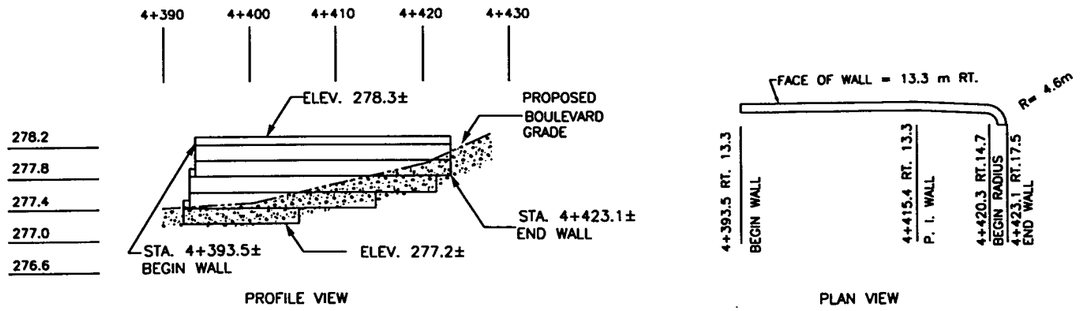
EXISTING R/W
PATHWAY EASEMENT
1101
HH-117
HH-118
1694
EXISTING R/W
WATER EASEMENT
UTILITY EASEMENT
SEWER EASEMENT
REMOVE BIT PATH
4.27m PATHWAY EASEMENT
DOC. NO. 2016022
LEXINGTON AVE.
27.1m
21.1m
7.9m
8.6 m
11.6 m
14.7 m
13.7m
4+680
4+720
4+760
4+800
4+840
4+880
4+920
4+960
5+006+007.71
33 m - 53 mm NON MET. CON.
23 m - 53 mm NON MET. CON.
12 m - 53 mm NON MET. CON.
32 m - 53 mm NON MET. CON.
CONSTRUCTION C/L
SECTION LINE
HH-115
HH-116
HH-119
10.1 m
3.7 m
15.1m
15.2m
CLOSE ENT.
EXISTING R/W
PROTECT WALL
RELOCATE SIGN
OXFORD ST.
1102
1676
1084
INGRESS/EGRESS EASEMENT
3.048m
1050
18.2m
7.626m
4.578m
INGRESS/EGRESS EASEMENT
1668
1144
1136
1132
1124
C O M M O N
C O M
7

ADDENDUM PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: RCG
DATE: 1-22-13

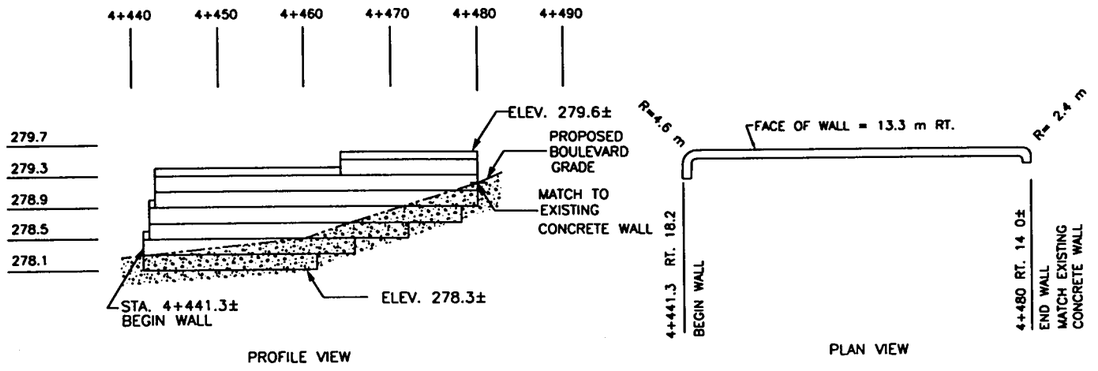
28-289

\dwgs\lorp-3\EJ-etec Date Plotted 12/3/99

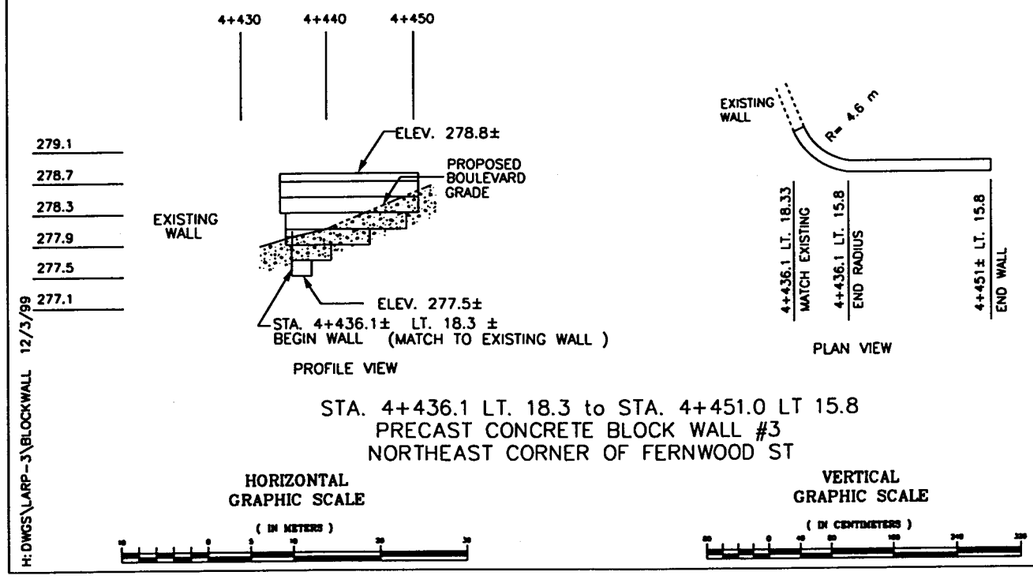
ELECTRICAL CONDUIT LAYOUT
S.A.P. 62-630-45
SHEET NO. 119 OF 121 SHEETS



STA. 4+393.5 RT. 13.3 TO STA. 4+423.1 RT. 17.5
PRECAST CONCRETE BLOCK WALL #1
SOUTHWEST CORNER FERNWOOD ST



STA. 4+441.3 RT. 18.2 TO STA. 4+480.0 RT. 14.0
PRECAST CONCRETE BLOCK WALL #2
SOUTHEAST CORNER FERNWOOD ST

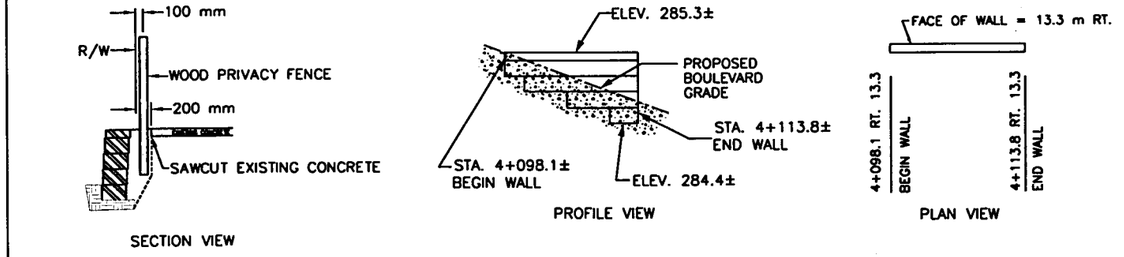


STA. 4+436.1 LT. 18.3 to STA. 4+451.0 LT 15.8
PRECAST CONCRETE BLOCK WALL #3
NORTHEAST CORNER OF FERNWOOD ST

HORIZONTAL GRAPHIC SCALE (IN METERS)

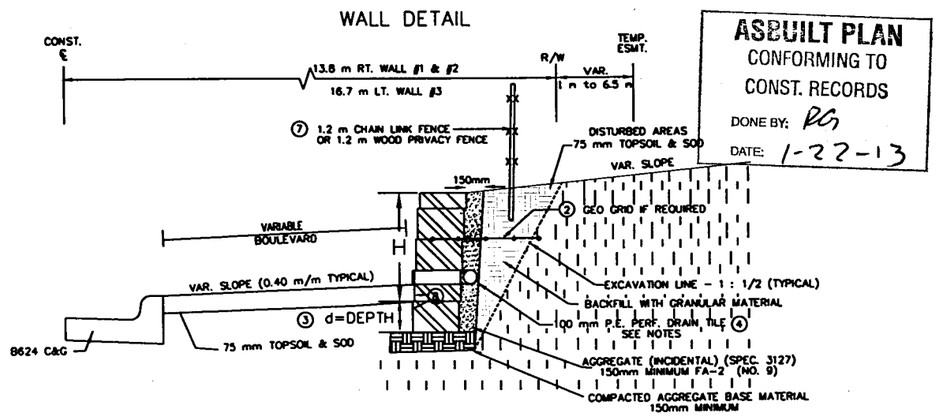
VERTICAL GRAPHIC SCALE (IN CENTIMETERS)

H:\DWGS\LARP-3\BLOCKWALL 12/3/99



NOTE:
CONTRACTOR SHALL CONSTRUCT 1.2 m WOOD PRIVACY FENCE. FENCE SHALL MATCH EXISTING WOOD FENCE IN SIZE AND STYLE. PAYMENT SHALL INCLUDE ALL WORK AND MATERIALS, INCLUDING BUT NOT LIMITED TO WOOD POSTS, CONCRETE ANCHORAGES, AND WOOD FENCES.

STA. 4+098.1 RT. 13.3 TO STA. 4+113.8 RT. 13.3
PRECAST CONCRETE BLOCK WALL #4
AT PATRICK'S LOUNGE



ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

CONSTRUCTION NOTES:

THIS IS A TYPICAL DRAWING OF A PRECAST CONCRETE WALL. WALL DRAWINGS MUST BE DONE BY A QUALIFIED ENGINEER. SEE SPECIAL PROVISIONS.

① DESIGN WALL LOCATIONS ARE TO THE FACE OF THE BOTTOM COURSE OF BLOCK. THE LOCATIONS AND ELEVATIONS SHOWN SHALL BE VERIFIED IN THE FIELD PRIOR TO THE BEGINNING OF THE WORK. LOCATIONS AND ELEVATIONS SHALL BE ADJUSTED AS REQUIRED.

② PLACE GEOGRID IF STRUCTURAL ANALYSIS INDICATES IT IS REQUIRED. SEE SPECIAL PROVISION.

③ MINIMUM ONE COURSE BURIED OR MANUFACTURERS SPECIFICATIONS

④ FURNISH & INSTALL 100 mm (4") P.E. PREFORATED DRAIN TILE BEHIND WALLS 1, 2, AND 3 PER MANUFACTURERS RECOMMENDATION. THE UPSTREAM ENDS OF THE DRAIN TILE SHALL BE CAPPED.

⑤ PAYMENT BY THE m2 OF WALL SHALL INCLUDE, BUT NOT BE LIMITED TO, GEOTEXTILE GRID, GRANULAR BACKFILL MATERIAL, AGGREGATE BACKFILL MATERIAL, COMPACTED BASE MATERIAL, PRECAST BLOCKS, AND 100 mm P.E. PIPE DRAIN TILE

⑥ BLOCKS FOR WALL #3 SHALL MATCH THE INPLACE WALL IN SIZE, COLOR, TEXTURE, AND ELEVATION. PART OF THE INPLACE WALL IS TO BE REMOVED BY THE CONTRACTOR. THESE BLOCKS MAY BE USED IN THE CONSTRUCTION OF WALL #3 IF SAID BLOCKS ARE IN SUITABLE CONDITION AND ARE APPROVED BY THE ENGINEER.

⑦ CHAIN LINK FENCE (WALLS 1,2 AND 3) SHALL BE INSTALLED AS CLOSE TO THE BACK OF THE BLOCK WALL AS POSSIBLE. IF GEOGRID IS REQUIRED, THE CONTRACTOR SHALL USE SUITABLE MEANS OF INSTALLING THE POSTS TO PROTECT THE GEOGRID MATERIAL. PAYMENT FOR THE CHAIN LINK FENCE SHALL INCLUDE ALL BRACES, PULL POSTS, HARDWARE, AND GROUNDING RODS. SEE Mn/DOT 2557 AND SPECIAL PROVISIONS. WOOD PRIVACY FENCE (WALL 4) SHALL BE INSTALLED @13.82 m RIGHT.

⑧ CONSTRUCT ALL WALLS AT 6% BATTER

WALL NOTES

- BLOCKS SHALL BE NOMINAL 204 mm H X 457 mm W X 305 mm D AND HAVE ROCK FACE (OR APPROVED EQUAL).
- BLOCKS SHALL BE 34 kg
- CAP UNITS SHALL BE USED ON TOP COURSE OF WALL.
- CAP UNITS MAY BE EITHER 102 mm OR 204 mm IN HEIGHT.
- GEOTEXTILE GRID SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATION
- PLACE 75 mm TOPSOIL & SOD IN DISTURBED AREAS.
- GRADE TO ELEVATIONS INDICATED OR AS ADJUSTED.
- PAYMENT SHALL BE MADE BY m2 OF GROSS FACE CONSTRUCTED.

ESTIMATED QUANTITIES

WALL #1	29.1 m2
WALL #2	46.2 m2
WALL #3	13.8 m2
WALL #4	9.9 m2
TOTAL	99.0 m2

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
KENNETH K. [illegible]
REG. NO. 13501 DATE 3/10/00

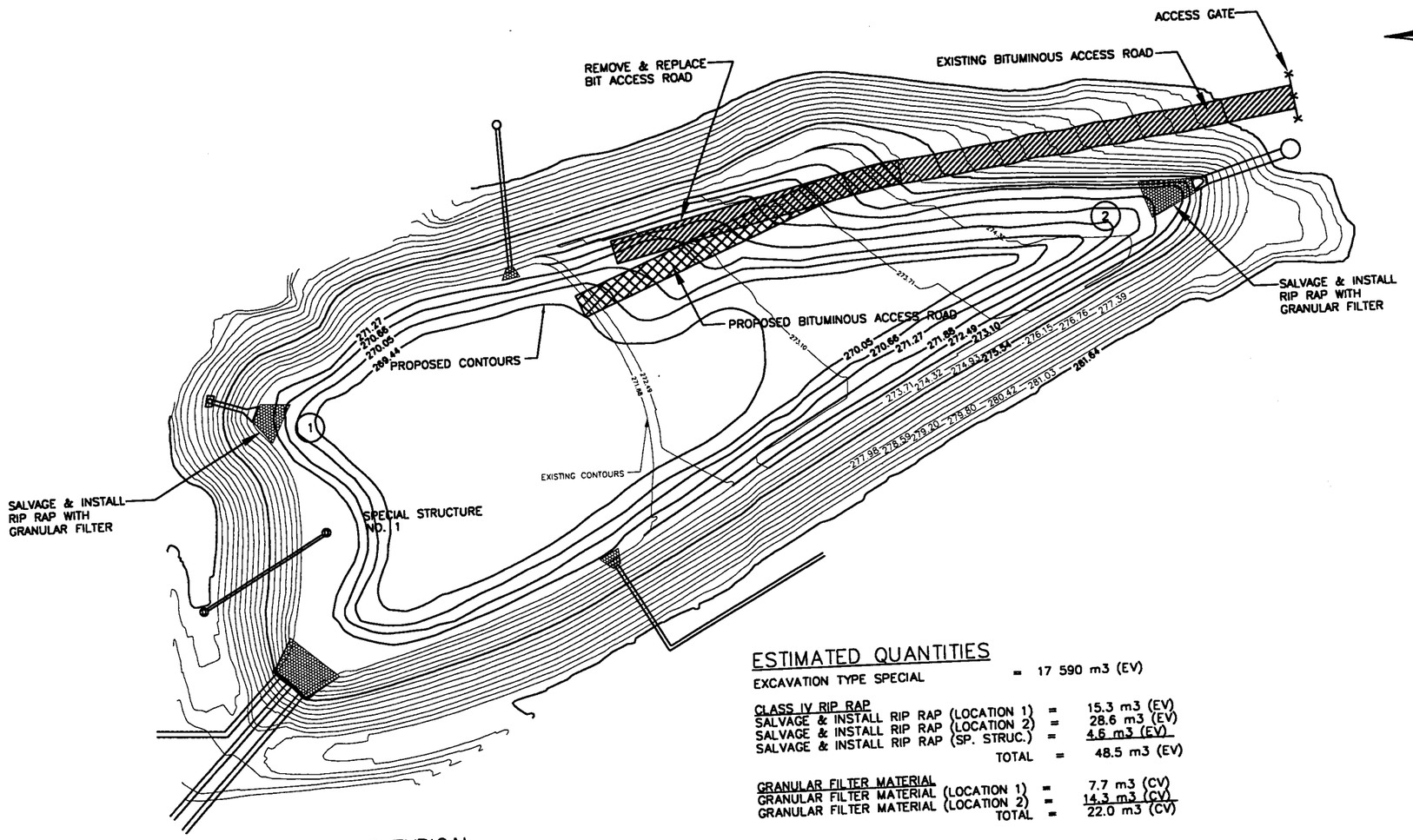
28-289

PRECAST CONCRETE BLOCK WALLS

GRAPHIC SCALE

(IN METERS)

1 : 500



CONSTRUCTION NOTES

CONTRACTOR SHALL EXCAVATE TO CONTOURS AS SHOWN. ACCESS SHALL BE GAINED THROUGH EXISTING GATE AT NORTH END OF POND. GATE SHALL BE LOCKED AT ALL TIMES WHEN WORK IS NOT BEING PERFORMED WITHIN THE POND SITE.

EXCAVATION SHALL BE PAID FOR AS ITEM EXCAVATION, TYPE SPECIAL, BY THE m3 (EV) WHICH SHALL BE PAYMENT IN FULL FOR EXCAVATION, HAULING, AND THE DISPOSAL OF ALL MATERIAL OUTSIDE THE LIMITS OF THE PROJECT.

CONTRACTOR SHALL SALVAGE RIP RAP AT LOCATION 1 & 2 AS NECESSARY FOR POND EXCAVATION. CONTRACTOR SHALL REINSTALL RIP RAP WITH GRANULAR FILTER CONFORMING TO SPEC. 3149 AND 3601.2B1b. THE PRICE OF SALVAGE AND INSTALL RIP RAP, AND FURNISH AND INSTALL GRANULAR FILTER, SHALL BE INCLUDED IN THE PRICE BID FOR SPECIAL EXCAVATION.

CONTRACTOR SHALL REMOVE THE EXISTING TRASH RACK FROM THE STRUCTURE AND PLUG THE 4 EXISTING 150 mm DRAIN HOLES LOCATED APPROXIMATELY 1.6 m BELOW THE TOP OF THE STRUCTURE. THE MEANS OF PLUGGING SHALL BE AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL THEN DRILL 4 NEW 150 mm HOLES AT THE 1/4 POINTS OF THE UPPER CONE SECTION AT AN ELEVATION 0.95 m FROM THE TOP OF THE SECTION. CONTRACTOR SHALL THEN REPLACE THE TRASH RACK. THIS WORK MAY REQUIRE THE MOVING OF SOME OF THE EXISTING CLASS 4 RIPRAP IN ORDER TO DRILL THE NEW HOLES. IF SO, THE RIPRAP SHALL BE REPLACED IN ITS ORIGINAL POSITION AS SPECIFIED.
PAYMENT SHALL BE MADE AS ITEM 2506.602, RECONSTRUCT DRAINAGE STRUCTURE SPECIAL, WHICH SHALL BE PAYMENT IN FULL FOR ALL WORK AND MATERIALS REQUIRED IN THE PERFORMANCE OF THIS WORK.

28-289

ASPHALT PLAN CONFORMING TO CONST. RECORDS
DONE BY: RCS
DATE: 1-22-13

ESTIMATED QUANTITIES

EXCAVATION TYPE SPECIAL = 17 590 m3 (EV)

CLASS IV RIP RAP
SALVAGE & INSTALL RIP RAP (LOCATION 1) = 15.3 m3 (EV)
SALVAGE & INSTALL RIP RAP (LOCATION 2) = 28.6 m3 (EV)
SALVAGE & INSTALL RIP RAP (SP. STRUC.) = 4.6 m3 (EV)
TOTAL = 48.5 m3 (EV)

GRANULAR FILTER MATERIAL
GRANULAR FILTER MATERIAL (LOCATION 1) = 7.7 m3 (CV)
GRANULAR FILTER MATERIAL (LOCATION 2) = 14.3 m3 (CV)
TOTAL = 22.0 m3 (CV)

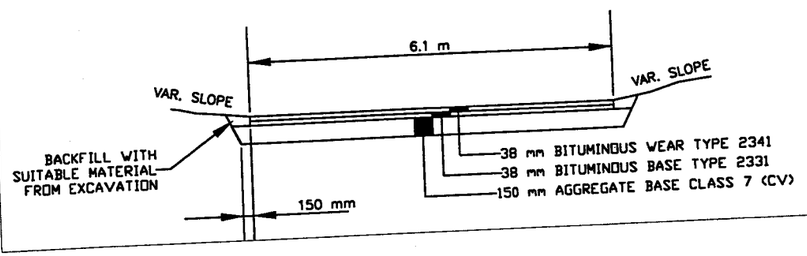
BITUMINOUS MATERIAL
BITUMINOUS MATERIAL TYPE 2341 WEAR = 38 t
BITUMINOUS MATERIAL TYPE 2331 BASE = 38 t

AGGREGATE BASE
AGGREGATE BASE CLASS 7 = 140 m3 (CV)

THE ABOVE ESTIMATED QUANTITIES SHALL BE INCLUDED IN THE PRICE BID FOR EXCAVATION SPECIAL.

2506.602
RECONSTRUCT SPECIAL STRUCTURE = 1 EA.

BITUMINOUS TYPICAL



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MINNESOTA.
DANIEL K FIELDSA
REG. NO. 13501 DATE 3/10/00

DETAILS\DWGS\LARP3\STUFF\PONDSP2 DATE PLOTTED 2/10/2000

GOTTFRIED POND

S.A.P. 62-630-45

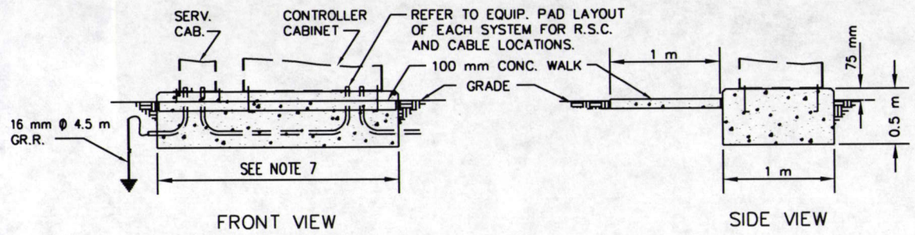
SHEET NO. 121 OF 121 SHEETS

EQUIPMENT PAD FOUNDATION

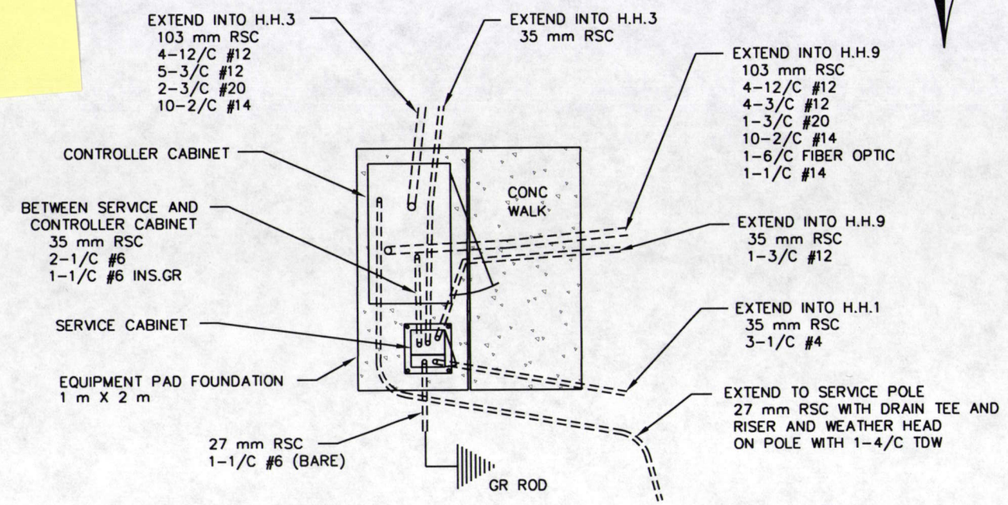
NOTES:

1. ANCHOR RODS, NUTS AND WASHERS PER MN/DOT 3385 OR APPROVED EQUAL SET AS RECOMMENDED BY CABINET MANUFACTURER (NUMBER, SIZE AND LENGTH OF ANCHOR RODS) SHALL BE AS REQUIRED BY THE CABINET (MAN-UFACTURER).
2. UPPER PART OF FOUNDATION SHALL BE BEVELED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER IN THE FIELD.
3. TOP OF CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED). CONDUIT SHALL PROJECT A MINIMUM OF 50 mm ABOVE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER BUT SHALL NOT INTERFERE WITH CABINET FUNCTIONS.
4. CONCRETE MIX 3A32 OR EQUAL SHALL BE USED FOR FOUNDATION AND CONCRETE WALK.
5. CONDUITS WHICH HAVE BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BELOW THE CONCRETE.
6. EXACT LOCATIONS OF CONDUIT WITHIN THE PAD SHALL BE AS DETERMINED BY THE ENGINEER IN THE FIELD.
7. REFER TO EQUIPMENT PAD LAYOUT OF EACH SYSTEM FOR FOUNDATION SIZE, CONDUIT PLACEMENT AND EQUIPMENT TO BE INSTALLED.

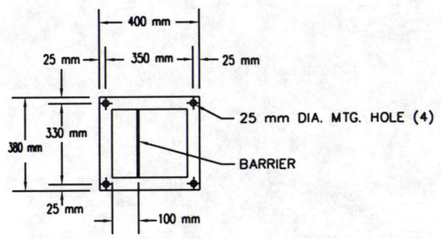
SAVE



EQUIPMENT PAD LAYOUT
SYSTEM E
LARPENTEUR AVE & ARONA ST



SERVICE CABINET DETAILS



BASE LAYOUT

NOTES:

PEDESTAL SHALL BE FABRICATED FROM ALUMINUM, 3 mm THICK WITH WELDED SEAMS FOR USE AS AN OUTDOOR WEATHE PROOF SERVICE.

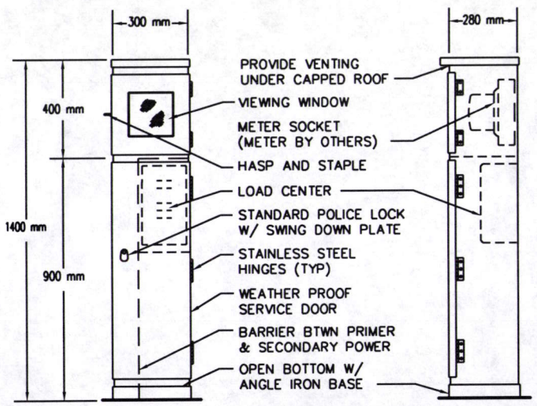
DOOR OPENINGS SHALL BE SEALED WITH NEOPRENE GASKET.

ALL HINGES, HINGE PINS AND LOCKS SHALL BE MADE FROM NON-CORRODING MATERIALS.

THE VIEWING WINDOW SHALL BE LEXAN MATERIAL-175x175mm MIN.

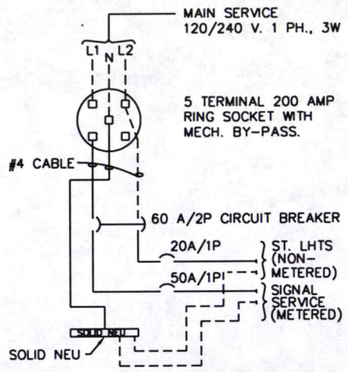
THE PEDESTAL CABINET SHALL BE PROTECTED INSIDE AND OUT WITH A ANODIC COATING. SEE SPECIAL PROVISIONS.

ANCHOR RODS, NUTS & WASHERS - SEE EQUIPMENT PAD NOTE No. 1.



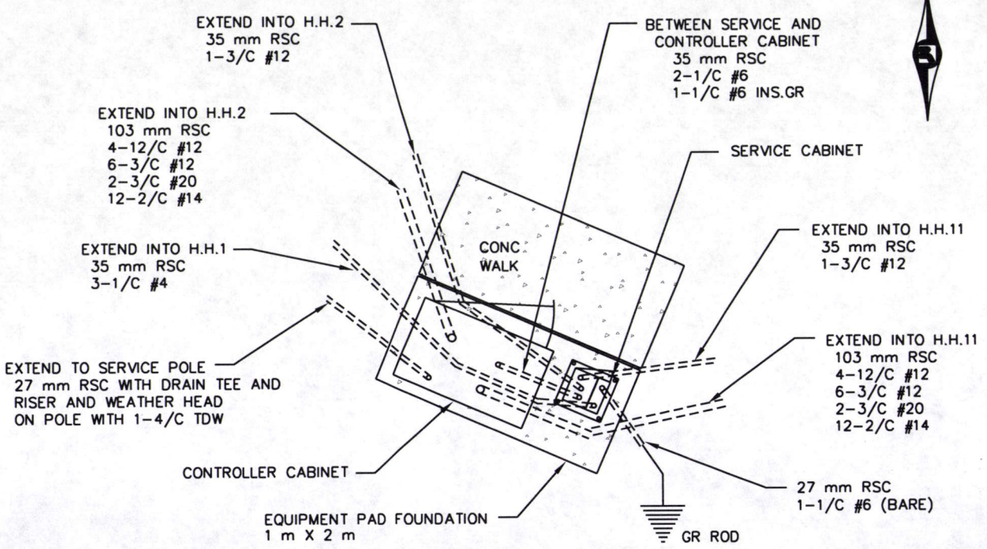
FRONT ELEVATION

SIDE ELEVATION



WIRING DIAGRAM

EQUIPMENT PAD LAYOUT
SYSTEM F
LARPENTEUR AVE & HAMLINE AVE



I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel E. Soler
Date 3/7/00 Reg. No. 20452

28-289

DETAILS

T:\TRAFFIC\SIGPLAN\LARP\580DTLS.dwg 12/3/99

SIGNAL INDICATION CHART

FACE	PHASE	INDICATION SIZE 300mm					
		R(LED)	Y	G	↶Y	↶G	
2-1	2	●		●			
2-2	2 and 5	●		●	↶	↶	
2-3	2 and 5	●		●	↶	↶	
2-4	2	●		●			
4-1	4	●		●			
4-2	4	●		●			
4-3	4	●		●			
6-1	6	●		●			
6-2	1 and 6	●		●	↶	↶	
6-3	1 and 6	●		●	↶	↶	
6-4	6	●		●			
8-1	8	●		●			
8-2	8	●		●			
8-3	8	●		●			

SIGNAL HEAD PHASING

HEADS 2-2 and 2-3	HEADS 6-2 and 6-3
R, Y, G, ↶Y, ↶G → ø2, ø5	R, Y, G, ↶Y, ↶G → ø6, ø1

SIGNING

F&I OVERHEAD TYPE D SIGNS, SEE DETAILS ON SEPARATE SHEET. (SEPARATE PAY ITEM)

F&I OVERHEAD TYPE R10-12 (36"X48") SIGNS ON MAST ARM POLES 2 & 4 ADJACENT TO 2-2 AND 6-2.

F&I PEDESTRIAN PUSH BUTTON SIGNS, TYPE R10-4b (9"X12") WITH SYMBOL MESSAGE ABOVE EACH PUSH BUTTON INSTALLATION.

SIGNAL SYSTEM OPERATION

THE SIGNAL SYSTEM FLASH MODE IS ALL RED.

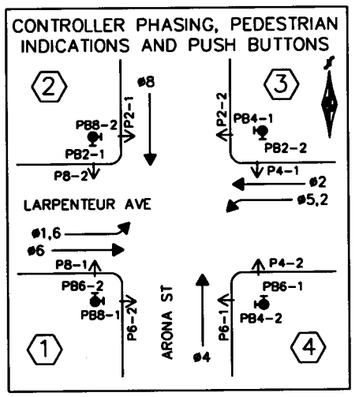
PHASES 1 AND 5 ARE PROTECTED/PERMISSIVE LEFT TURNS.

PHASES 1,4,5 AND 8 ARE NON-LOCK DETECTION.

PHASES 2 AND 6 ARE LOCK DETECTION.

PHASES 2 AND 6 ARE ON VEHICLE RECALL.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



T:\TRAFFIC\SIGPLAN\LARP\SIGPLAN.dwg 12/3/99

VEHICLE DETECTION

	NO.	SIZE (m)	FUNCTION	LOC (m)
SAW CUT	D1-1	2-1.7 x 1.7	C&E (TD)	0, 5
SAW CUT	D1-2	1.7 x 1.7	C&E	20
	D2-1	1.7 x 1.7	C&E	62
	D2-2	1.7 x 1.7	C&E	62
	D4-1	1.7 x 1.7	C&E	35
	D4-2	1.7 x 1.7	C&E	15
	D4-3	2-1.7 x 1.7	C&E	0, 5
	D4-4	2-1.7 x 1.7	C&E (TD)	0, 5
	D5-1	2-1.7 x 1.7	C&E (TD)	0, 5
	D5-2	1.7 x 1.7	C&E	20
SAW CUT	D6-1	1.7 x 1.7	C&E	62
SAW CUT	D6-2	1.7 x 1.7	C&E	62
	D8-1	1.7 x 1.7	C&E	35
	D8-2	1.7 x 1.7	C&E	15
	D8-3	2-1.7 x 1.7	C&E	0, 5
	D8-4	2-1.7 x 1.7	C&E (TD)	0, 5
	D1	1.7 x 1.7	COUNT	SEE PLAN
	D2	1.7 x 1.7	COUNT	SEE PLAN
SAW CUT	D3	1.7 x 1.7	COUNT	SEE PLAN
SAW CUT	D4	1.7 x 1.7	COUNT	SEE PLAN

C&E =CALL & EXTEND
C =CALL ONLY
E =EXTEND ONLY
(TD) =TIME DELAYED

ALL NEW LOOPS SHALL BE INSTALLED IN NMC UNLESS OTHERWISE INDICATED.

Ⓐ EQUIPMENT PAD-SEE DETAILS
SERVICE CABINET
EXTEND INTO H.H.2
35 mm RSC
3-1/C #4
EXTEND INTO H.H.3
35 mm RSC

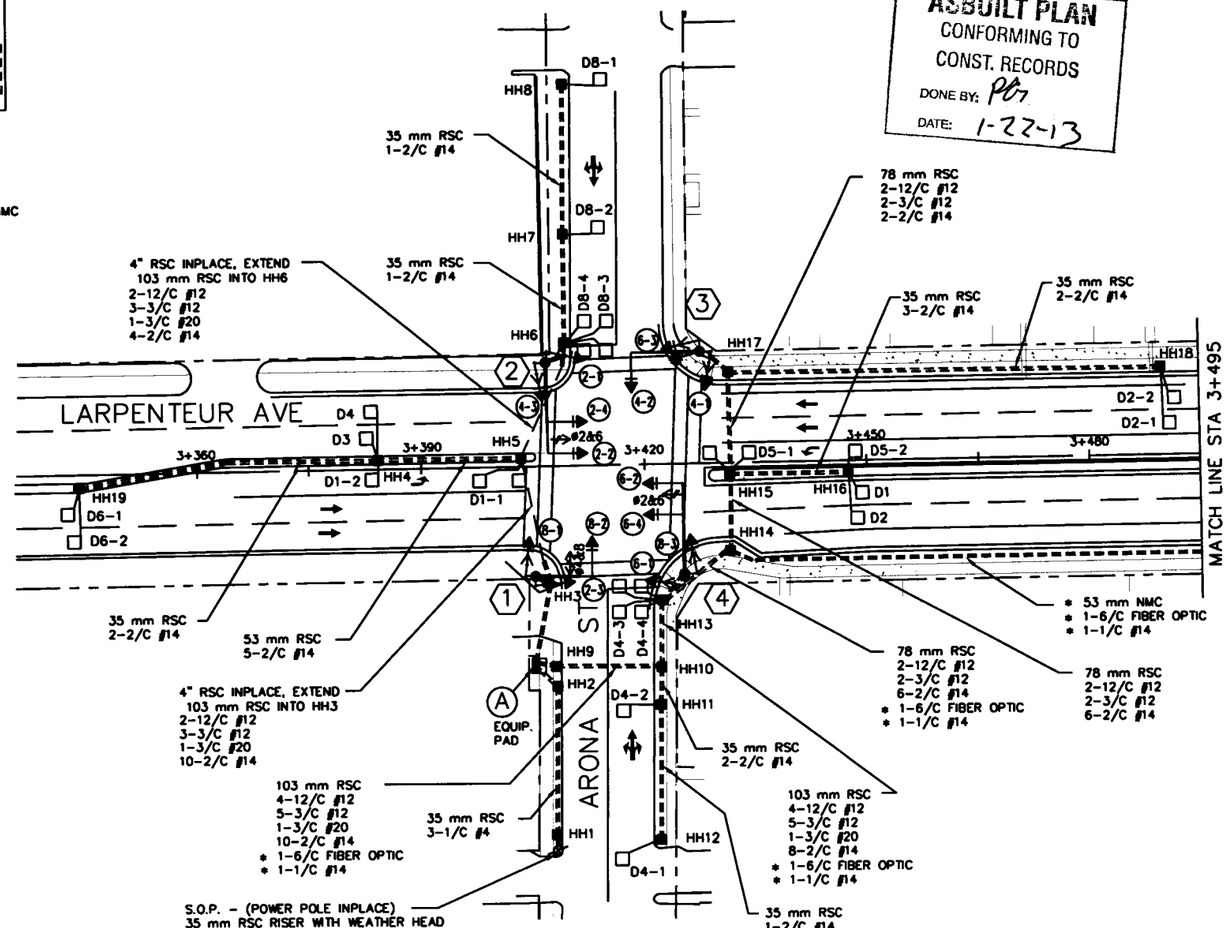
EXTEND INTO H.H.9
35 mm RSC
1-3/C #12
CONTROLLER CABINET
EXTEND INTO H.H.3
103 mm RSC
4-12/C #12
5-3/C #12
2-3/C #20
10-2/C #14
EXTEND INTO H.H.9
103 mm RSC
4-12/C #12
4-3/C #12
1-3/C #20
10-2/C #14
* 1-6/C FIBER OPTIC
* 1-1/C #14
EXTEND TO SERVICE POLE
27 mm RSC WITH DRAIN TEE AND RISER WITH WEATHER ON POLE: 1-2/C TDW
BETWEEN SERVICE AND CONTROLLER CABINET
35 mm RSC
2-1/C #6
1-1/C #6 (INS. GRD.)

① PA85 POLE FOUNDATION
PA85-A-7.5
ONE WAY SIGNAL - OVERHEAD
TYPE 10B - POLE MOUNTED 90°
TYPE 10B - POLE MOUNTED 180°
2-PEDESTRIAN PUSH BUTTONS AT 0° & 270°
TWO WAY EVP DETECTOR AND
LIGHT OVERHEAD, 600 mm FROM END OF ARM
EXTEND INTO H.H. 3
78 mm RSC
2-12/C #12
2-3/C #12
1-3/C #20

② PA90 POLE FOUNDATION
PA90-A-12
2-ONE WAY SIGNALS - OVERHEAD AT 0 AND 4.2 m
TYPE 10B - POLE MOUNTED 90°
TYPE 10B - POLE MOUNTED 180°
2-PEDESTRIAN PUSH BUTTONS AT 0° & 270°
ONE WAY EVP DETECTOR AND
LIGHT OVERHEAD, 1.8 m FROM END OF ARM
EXTEND INTO H.H. 6
78 mm RSC
2-12/C #12
3-3/C #12
1-3/C #20

③ PA85 POLE FOUNDATION
PA85-A-9-T12-3 (TRUSS AT 350°)
LUMINAIRE- 200 WATT HPS
ONE WAY SIGNAL - OVERHEAD
TYPE 10B - POLE MOUNTED 90°
TYPE 10B- POLE MOUNTED 180°
2-PEDESTRIAN PUSH BUTTONS AT 0° & 270°
EXTEND INTO H.H. 17
78 mm RSC
2-12/C #12
2-3/C #12

④ PA90 POLE FOUNDATION
PA90-A-12
2-ONE WAY SIGNALS - OVERHEAD AT 0 AND 4.2 m
TYPE 10B - POLE MOUNTED 90°
TYPE 10B - POLE MOUNTED 180°
2-PEDESTRIAN PUSH BUTTONS AT 0° & 270°
ONE WAY EVP DETECTOR AND
LIGHT OVERHEAD, 1.8 m FROM END OF ARM
EXTEND INTO H.H. 13
78 mm RSC
2-12/C #12
3-3/C #12
1-3/C #20



ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

SCALE IN METERS
0 10 20 30 40

NOTES:

1. POLE AND DETECTOR LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
2. THE CONTRACTOR SHALL SALVAGE TWO (2) EVP DETECTORS FROM EXISTING SIGNAL SYSTEM AND INSTALL ON NEW SYSTEM. THE CONTRACTOR SHALL F&I NEW EVP INDICATOR LAMP HOLDERS AND LAMPS. SEE SPECIAL PROVISIONS. THE CONTRACTOR SHALL F&I ONE (1) ADDITONAL EVP DETECTOR AND LAMP ON MAST ARM POLE 1. ALSO, ONE (1) ADDITIONAL EVP PHASE SELLECTOR SHALL BE F&I IN THE CONTROLLER CABINET. SEE SPEC.
3. A 21 mm HALF COUPLING SHALL BE FURNISHED APPROXIMATLY 1.8 METERS FROM END OF THE MAST ARM ON EACH POLE.
4. ALL PEDESTRIAN INDICATIONS SHALL BE ONE-SECTION HAND/WALKING PERSON INDICATION. THE HAND SYMBOL SHALL BE ILLUMINATED WITH PORTLAND ORANGE LED's. SEE SPECIAL PROVISIONS.
5. ALL SIGNAL FACES SHALL HAVE A BACK-GROUND SHIELD.
6. EACH LUMINAIRE SHALL HAVE A PHOTO ELECTRIC CELL AND STREET LIGHT CHECK SWITCH.
7. WHERE INPLACE RSC IS UTILIZED IN THE NEW SIGNAL SYSTEM, THE CONTRACTOR SHALL EXTEND RSC INTO HANDHOLES AS DIRECTED BY THE ENGINEER
8. REFER TO SPECIAL PROVISIONS FOR TRAFFIC CONTROL DURING SIGNAL CON-STRUCTION.
9. SALVAGE INPLACE SIGNAL AS DIRECTED BY THE ENGINEER. SEE SPECIAL PROVISIONS. REFER TO OTHER PLAN SHEETS IN THIS PLAN FOR ADDITIONAL INFORMATION ON THE EXISTING SIGNAL SYSTEM.
10. THE MEDIAN ON LARPENTEUR AVE WEST OF ARONA ST WILL BE REMOVED FOR TRAFFIC CONTROL DURING CONSTRUCTION. SEE CONSTRUCTION PLAN FOR MORE INFORMATION.
11. ALL RED VEHICLE INDICATIONS SHALL BE ILLUMINATED WITH RED LED's. SEE SPECIAL PROVISIONS.
12. ALL LOOPS SHALL BE INSTALLED IN NMC. EXCEPT AS NOTED IN DETECTION CHART.
13. * DENOTES SEPARATE PAY ITEM FOR INTERCONNECT. SEE PLAN QUANTITIES AND SPECIAL PROVISIONS.
14. REMOVE INPLACE BITUMINOUS WALK IN S.W. CORNER AND CONC. WALK IN N.W. CORNER. CONSTRUCT CONCRETE WALK IN BOTH AREAS PER STANDARD PLATES 7035J AND 7036C. (APPROX. QUANT. = 56 m2.) WORK TO BE INCIDENTAL TO SYSTEM E SEE DETAIL SHEET.
15. S.W. AND N.W. CORNER ----- REMOVE INPLACE CONCRETE CURB AND GUTTER AND CONSTRUCT B624 CONCRETE CURB AND GUTTER WITH PEDESTRIAN CURB RAMP PER MN/DOT STANDARD PLATES 7036C AND 7100F. (APPROX. QUANT.= 16 m). WORK TO BE INCIDENTAL TO SYSTEM E. SEE DETAIL SHEET.
15. HANDHOLES 4, 5, 15, 16 AND 19 ARE SPECIAL HANDHOLES. SEE SPECIAL PROVISIONS.

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel E. Soler
Date 3/7/00 Reg. No. 20452

METER ADDRESS: 1524 W. LARPENTEUR AVE.
RAMSEY COUNTY INTERSECTION I.D. No. TRF 520

28-289

INTERSECTION LAYOUT
LARPENTEUR AVE. & ARONA ST
SYSTEM E

CONTROLLER CABINET

SIGNAL SERVICE — 1

4
- RED 8-1
- YEL 8-1
- GRN 8-1
- NEU 8-1
- RED 8-2
- YEL 8-2
- GRN 8-2
- NEU 8-2, P8-1
- WLK P8-1
- DWK P8-1
- SPR
- EQG

8
- 8-3 RED
- 8-3 YEL
- 8-3 GRN
- 8-3 NEU
- 6-1 RED
- 6-1 YEL
- 6-1 GRN
- P6-1, 6-1 NEU
- P6-1 WLK
- P6-1 DWK
- SPR
- EQG

5
- RED 2-3
- YEL 2-3
- GRN 2-3
- NEU 2-3
- YEL LTA 2-3
- GRN LTA 2-3
- SPR
- NEU P6-2
- WLK P6-2
- DWK P6-2
- SPR
- EQG

9
- 6-2 RED
- 6-2 YEL
- 6-2 GRN
- 6-2 NEU
- 6-2 YEL LTA
- 6-2 GRN LTA
- SPR
- 6-4 NEU
- 6-4 RED
- 6-4 YEL
- 6-4 GRN
- EQG

6
- RED 4-3
- YEL 4-3
- GRN 4-3
- NEU 4-3
- RED 2-1
- YEL 2-1
- GRN 2-1
- NEU 2-1, P2-1
- WLK P2-1
- DWK P2-1
- SPR
- EQG

10
- 4-1 RED
- 4-1 YEL
- 4-1 GRN
- 4-1 NEU
- 4-2 RED
- 4-2 YEL
- 4-2 GRN
- P4-1, 4-2 NEU
- P4-1 WLK
- P4-1 DWK
- SPR
- EQG

7
- RED 2-2
- YEL 2-2
- GRN 2-2
- NEU 2-2
- YEL LTA 2-2
- GRN LTA 2-2
- SPR
- NEU 2-4
- RED 2-4
- YEL 2-4
- GRN 2-4
- EQG

11
- 6-3 RED
- 6-3 YEL
- 6-3 GRN
- 6-3 NEU
- 6-3 YEL LTA
- 6-3 GRN LTA
- SPR
- P2-2 NEU
- P2-2 WLK
- P2-2 DWK
- SPR
- EQG

12
- WLK P8-2
- NEU P8-2
- DWK P8-2

14
- PB6-2 NEU
- PB8-1

13
- WLK P4-2
- NEU P4-2
- DWK P4-2

15
- PB2-1 NEU
- PB8-2

18
- EVP LIGHT # 4&8

16
- PB6-1 NEU
- PB4-2

19
- EVP LIGHT # 2&6

17
- PB2-2 NEU
- PB4-1

20
- EVP LIGHT # 2&6

INTERCONNECT TO LARPENTEUR AVE & HAMLINE AVE — 60

21
- EVP DETECTOR # 4&8

TELEPHONE SERVICE — 44

22
- EVP DETECTOR # 2&6

23
- EVP DETECTOR # 2&6

36
- D5-2

37
- D1

38
- D2

24
- D6-1

30
- D8-1

39
- D2-1

25
- D6-2

31
- D4-1

40
- D2-2

26
- D1-1

32
- D4-2

41
- D1-2

27
- D8-3

33
- D4-3

42
- D3

28
- D8-4

34
- D4-4

43
- D4

29
- D8-2

35
- D5-1

12/3/99

F:\TRAFFIC\SIGPLAN\LARP\3800EWIRE.dwg

1

8-1 8-2 P8-1 — P6-2 2-3

4 5

EVP LHT # 4&8 — 18

EVP DETECTOR # 4&8 — 21

PB6-2 — PB8-1 — 14

H.H.3

4,5,6,7,12,14,15,18,19,21,22, 24,25,26,27,28,29,30,41,42,43

H.H.5

6,7,12,15,19,22,24, 25,26,27,28,29,30,41,42,43

26

D1-1

6,7,12,15,19,22, 27,28,29,30

H.H.6

27 28

D8-3 D8-4

29,30

H.H.7

29

D8-2

8,9,10,11, 13,16,17,20,23, 31,32,33,34,35,36 37,38,39,40,60

3

TO H.H. 9 SEE NEXT SHEET

2

4-3 2-1 P2-1 — 2-4 2-2

6 7

P8-2 — 12

EVP LHT # 2&6 — 19

EVP DETECTOR # 2&6 — 22

PB8-2 — PB2-1 — 15

24,25, 41,42,43

H.H.4

41 D1-2

42 D3

43 D4

24,25

H.H.19

24 D6-1

25 D6-2

H.H.8

30

D8-1

SERVICE CABINET & METER

3 ST. LIGHT SERVICE (UNMETERED)

FUTURE — 2 ST. LIGHT SERVICE (UNMETERED)

1 SIGNAL SERVICE METERED

S.O.P. 120/240 V. SERVICE

GR. ROD

H.H.2

H.H.1

SOP

TELEPHONE SERVICE

120/240 VOLT ELECTRIC SERVICE

CONDUCTOR COLOR CODING

12/C#12:
- R
- O
- BL
- WH
- R/BLK
- O/BLK
- BL/BLK
- WH/BLK
- BLK
- BLK/WH
- C/BLK
- G

BLK, WH — 2-1/C#6, 2-1/C#10

R, WH, BLK — 3/C#12

R OR O, WH OR YEL, BL OR BLK — 3/C#20

BLK, CLEAR — 2/C#14

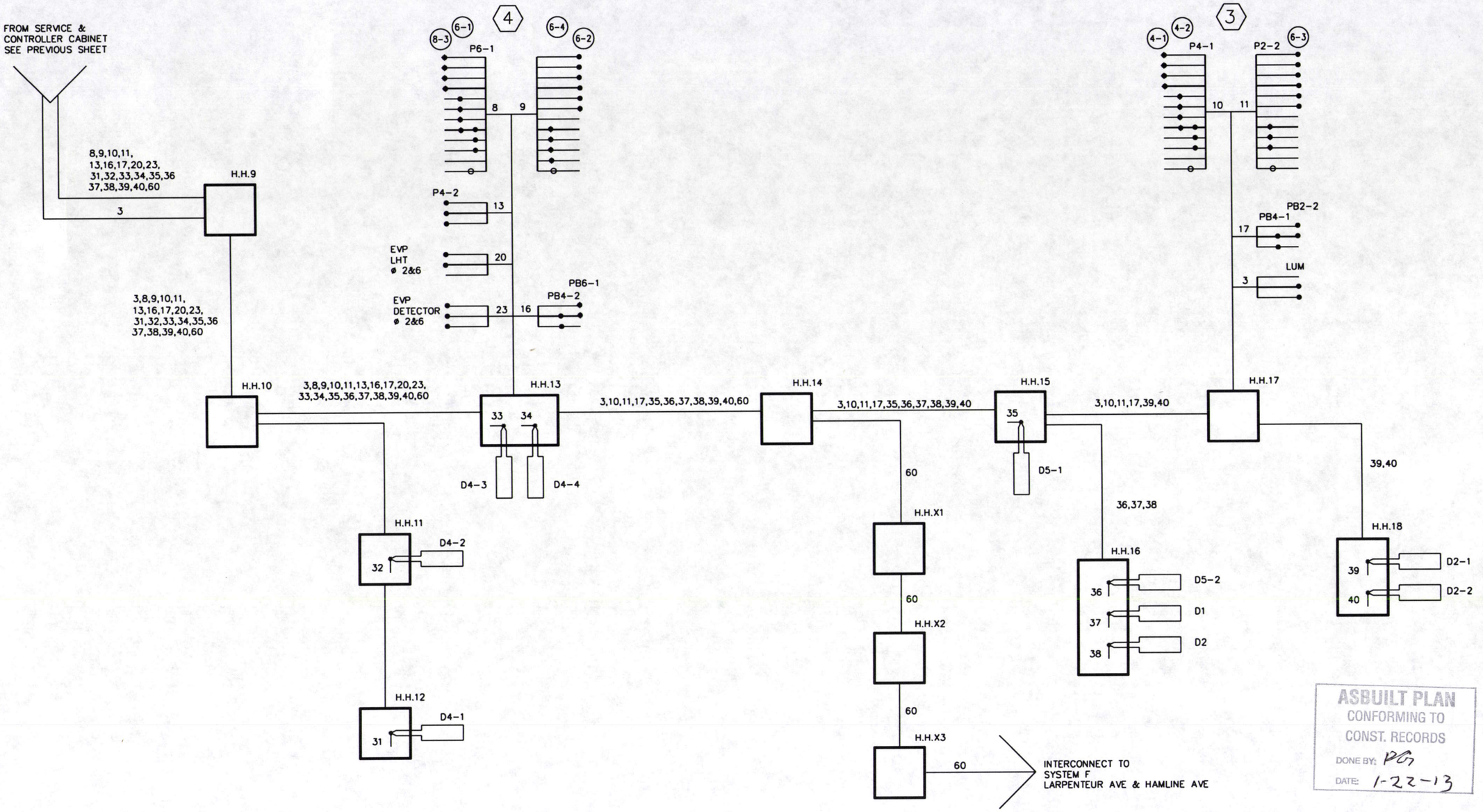
NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

AS-BUILT PLAN CONFORMING TO CONST. RECORDS
DONE BY: RG
DATE: 1-22-13

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
Daniel E. Soha
Date 3/7/00 Reg. No. 20452

Z8-289

FIELD WIRING DIAGRAM
LARPENTEUR AVENUE & ARONA ST
SYSTEM E



ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: PG
DATE: 1-22-13

28-289

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
David E. Sohn
Date 5/7/00 Reg. No. 20452

FIELD WIRING DIAGRAM
LARPENTEUR AVENUE & ARONA ST
SYSTEM E

F:\TRAFFIC\SIGPLAN\LARP\580EWIRE.dwg 12/3/99