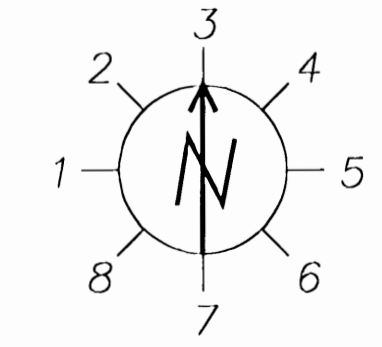


LEGEND

- Remove existing traffic signal mast arm pole
- Remove and relocate existing controller
- Reinstall existing controller
- Install type (T) riser frame under controller cabinet (B=bolted, W=welded)
- Retain and protect existing power pole (May be relocated in field)
- Install interior illuminated "LEFT TURN YIELD ON GREEN ●"
- Install type (T) standard traffic signal mast arm pole
- Install type (T) standard traffic signal mast arm pole with luminaire pole extension (35 ft mounting height)
- Install (L) ft. traffic signal mast arm
- Install remote power service post
- Install phase (Ph) vehicle signal
- Install phase (*) vehicle signal and phase (*) 5 section vehicle signal (Doghouse type)
- Install phase (Ph) pedestrian signal, pushbutton and instruction decal
- Install LED retrofit kit (see Special Provisions 02920.51)
- Install terminal cabinet
- Install 8"x16"x20" service cabinet, 120/240 volt, for sign, signal and illumination circuits (See I.E.S. Drwg. IS-127)
- Install 120/240 volt meter base
- Install 22"x12"x12" (min. dimension) precast concrete junction box
- Install 30"x17"x12" (min. dimension) precast concrete junction box
- Install (N) No. 8 type THWN (Signal system common)
- Install (N) No. (G) type THWN wires
- Includes 3 spare wires for phase (Ph)
- Install (S) inch electrical conduit
- Detector conduit (See Detector Plan)
- Install conduit and wire as required by power company
- Install channel (Ch), (N) barrel fire pre-emption detector unit
- Install channel (Ch) fire pre-emption detector feeder cable
- Install 400 watt high pressure sodium luminaire, type M-C III, 208, 240 multi-volt mag-regulator ballast
- Install photoelectric cell on luminaire head
- Install (L) ft luminaire arm (35 ft mounting height)
- Install interior illuminated street name sign (QUEEN AVE)
- Install interior illuminated street name sign (HILL ST)
- Install 5 new amplifiers
- Install interior illuminated right arrow "ONLY" sign

POLE ENTRANCE CHART

Pole Number	1	2	3	4
Terminal Cabinet	1	3	5	7
Pedestrian Signal	1,7	1,3	3,5	5,7
Pedestrian Pushbutton	3,5	5,7	1,7	1,3
Mast Arm	5	7	1	3
Luminaire Arm	5	-	1	-



Orientation looking down on pole.
Number indicates side of pole on which holes are drilled.

AS CONSTRUCTED 12-21-98



JOB No. _____		QUEEN AVE. @ HILL ST.	
DESIGNED BY: WEGJR		SIGNALIZATION PLAN	
DRAWN BY: WEGJR			
CHECKED BY: DCC			
DATE: 12-21-98	SCALE: _____	SHEET 1 OF 1	DRAWING NUMBER _____
Lancaster Engineering 800 NW 6th Avenue, Suite 206, Portland, OR 97209 (503) 248-0313 Fax (503) 248-9251			

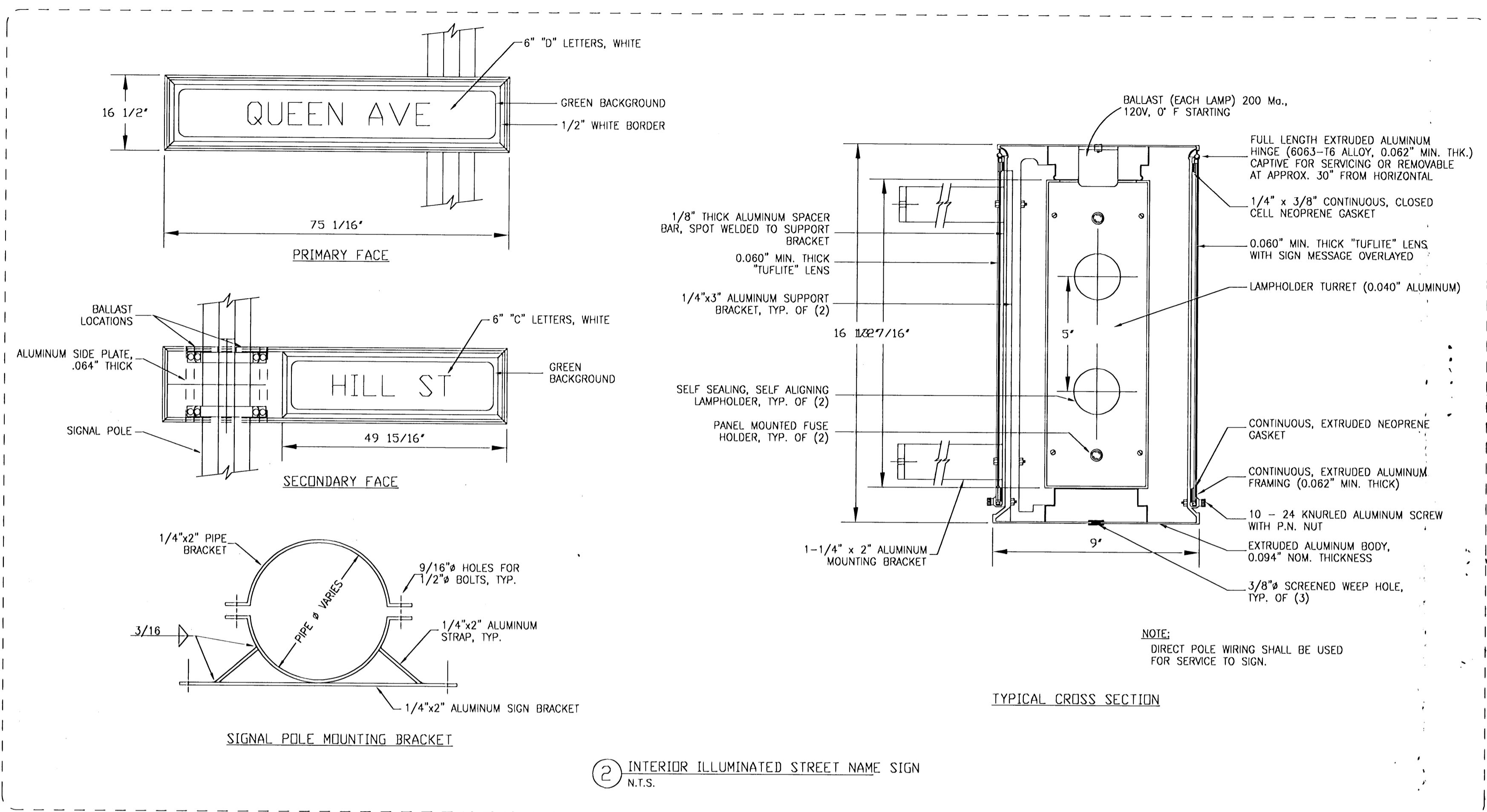
Loop Number	Phase	Function	Slot
1	8	E,C,CO	J6U
2	8	E,C,CO	J6L
3	S	8	J7U
4	S	3	15U
5	S	3	19L
6	S	2	12U
7	S	2	12L
8	S	2	13L
9	S	2	13U
10	S	2	14U
11	S	5	J1U
12	S	5	J9U
13	S	4	16U
14	S	4	16L
15	S	4	17U
16	S	7	J5U
17	S	7	J9L
18	S	6	J2U
19	S	6	J2L
20	S	6	J3U
21	S	6	J3L
22	S	1	11U
23	S	1	19U

Controller Cabinet

Program Transfer to 14U

Program Transfer to 13L

Program Transfer to J4U

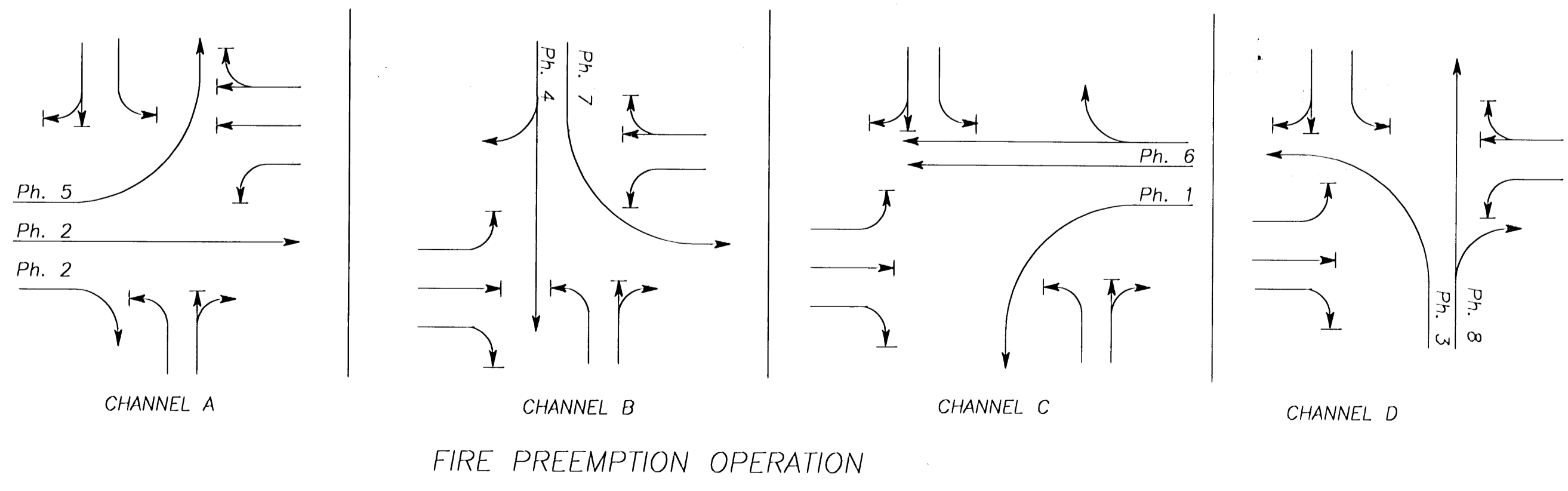
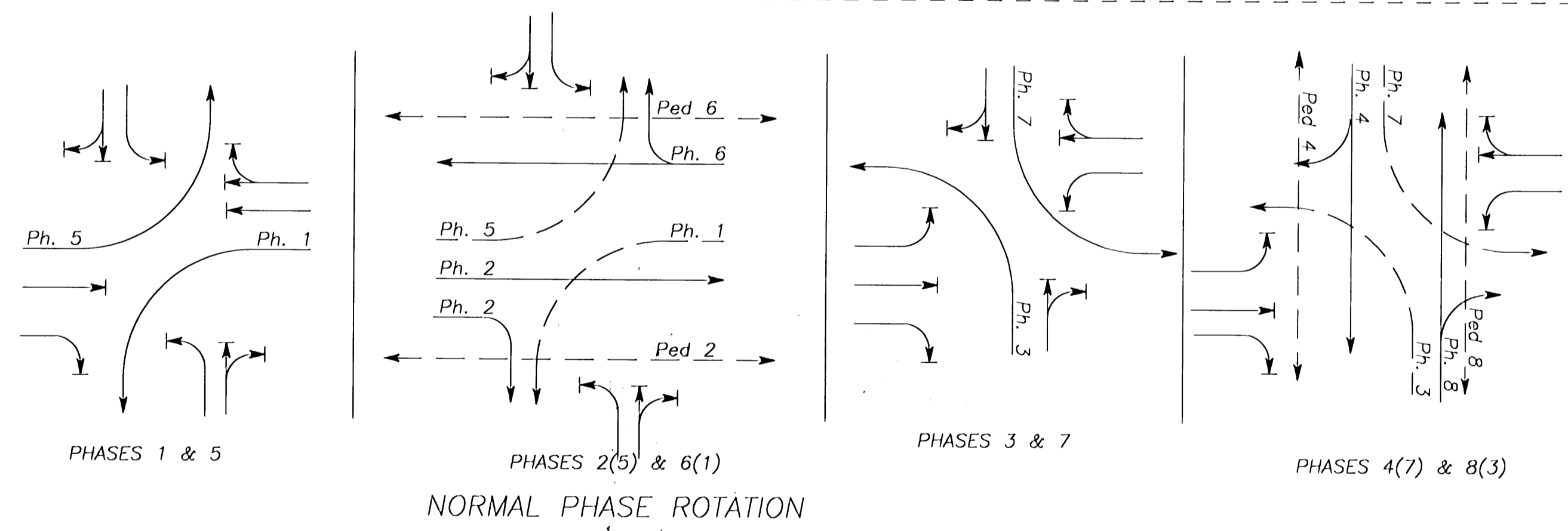


2 INTERIOR ILLUMINATED STREET NAME SIGN
N.T.S.

LOOP DETECTOR WIRING DIAGRAM

S=Series, E=Extension, C=Call, CO=Carry-over, D=Delay
See T.E.S. Drwg. No. TS-129 for loop detector details
Center all loops in travel lanes or as shown on plan

* NOT INSTALLED

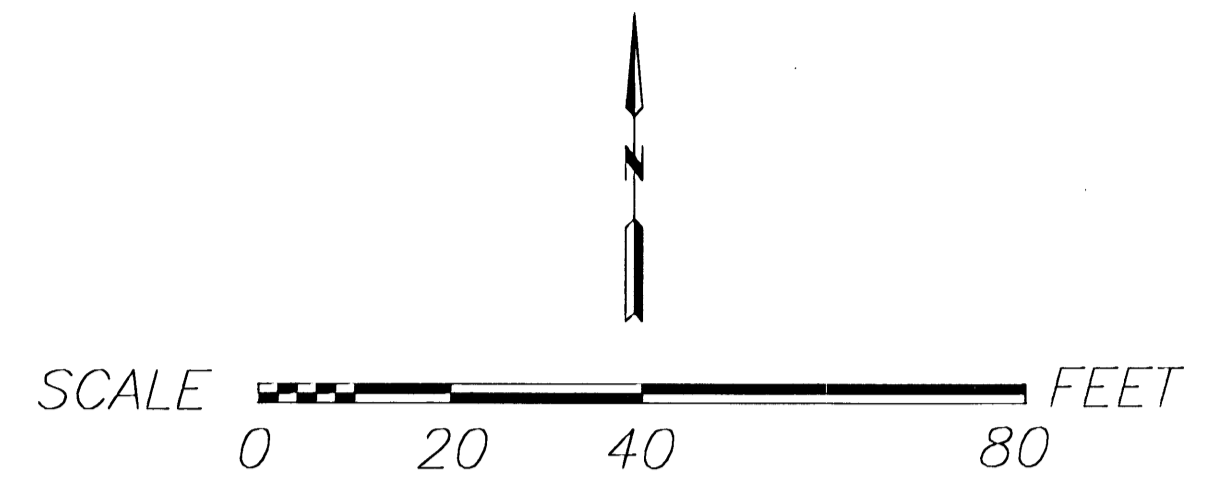
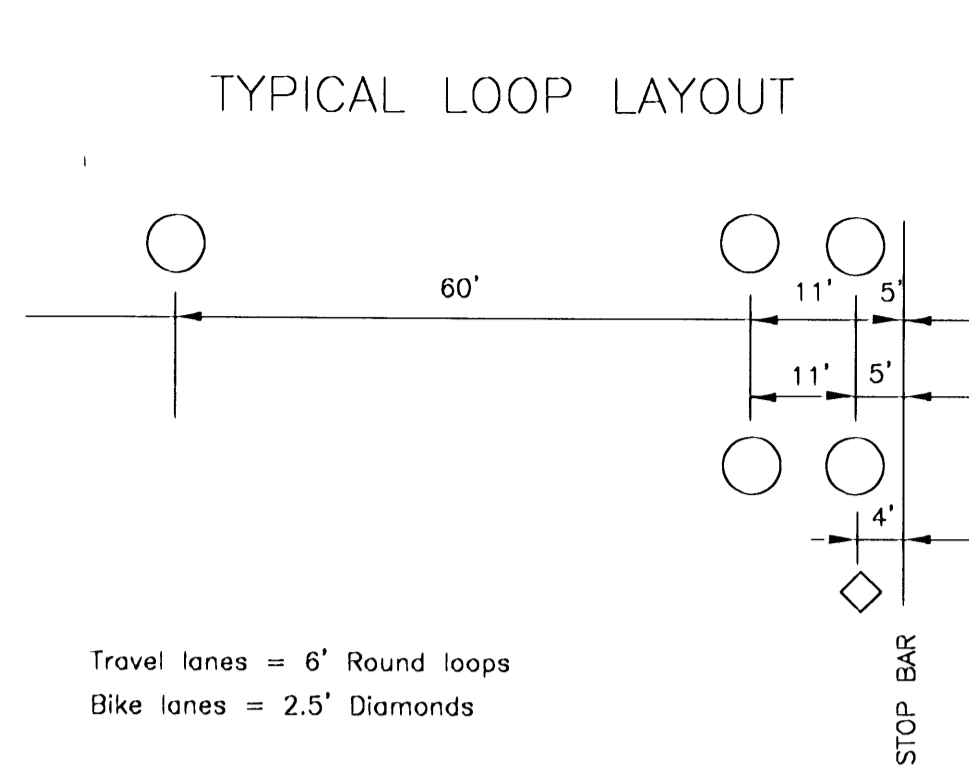


AS CONSTRUCTED 12-21-98



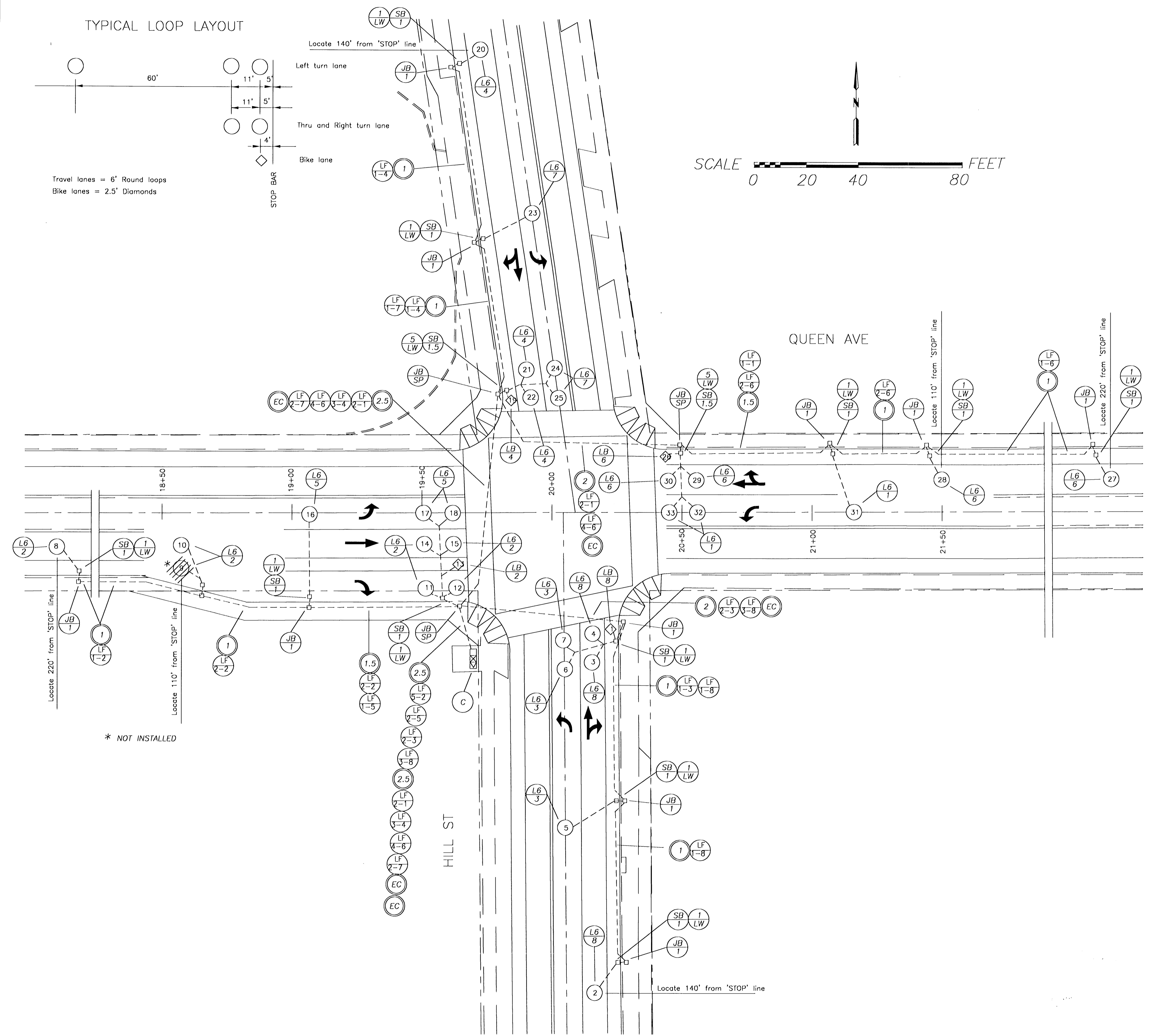
JOB No. _____	QUEEN AVE. @ HILL ST.	
DESIGNED BY: WECJR	DETAIL SHEET	
DRAWN BY: WECJR	DRAWING NUMBER _____	
CHECKED BY: DCC	DATE: 12-21-98	SCALE: _____ SHEET _____ OF _____
Lancaster Engineering 800 NW 6th Avenue, Suite 206, Portland, OR 97209 (503) 248-0313 Fax (503) 248-9251		

TYPICAL LOOP LAYOUT



LEGEND

- (C) Controller (See Signal Plan)
 - (JB/SP) Junction box (See Signal Plan)
 - (JB/1) Install 17"x10"x12" (min. dimension) precast concrete junction box
 - (JB/2) Install 22"x12"x12" (min. dimension) precast concrete junction box
 - (SB/S) Install 4"x4"x4" galv. cast iron street box with (S) inch conduit to junction box
 - (LB/Ph) Install phase (Ph) 2.5 ft. diamond bicycle detector loop
 - (L6/Ph) Install phase (Ph) 6 ft. round vehicle detector loop
 - (LF/X-Ph) Install (X) phase (Ph) loop feeder cables
 - (N/LW) Install (N) pair of loop wires
 - (S) Install (S) inch electrical conduit
 - (EC) Electrical Conduit (See Signal Plan)
- Ph = Phase shown N = Number shown
X = Number of cables shown S = Size shown



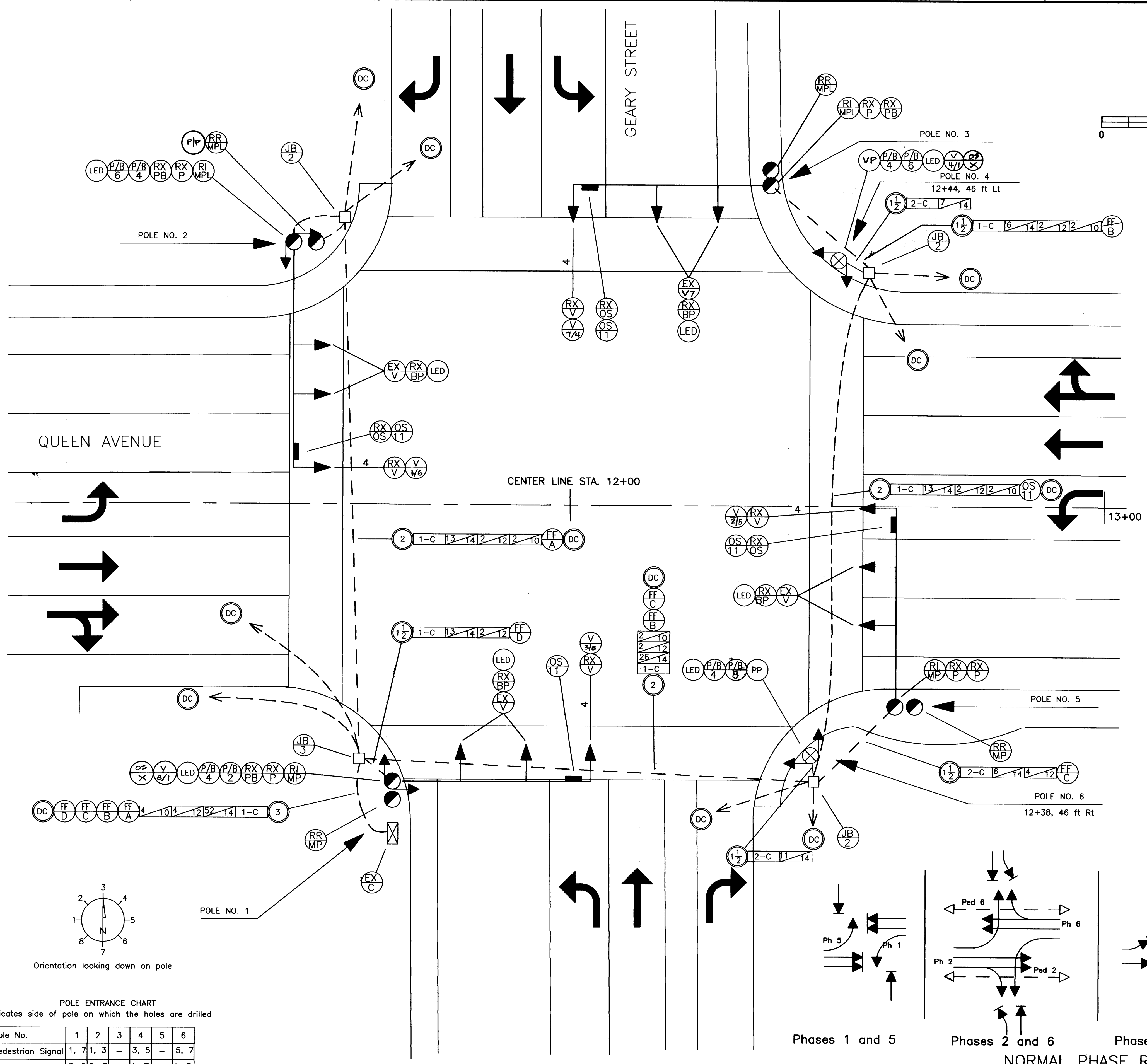
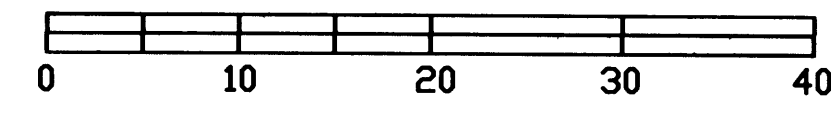
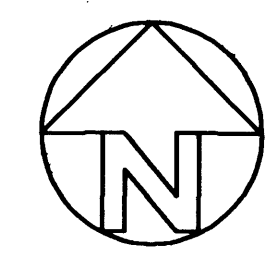
* NOT INSTALLED

AS CONSTRUCTED 12-21-98



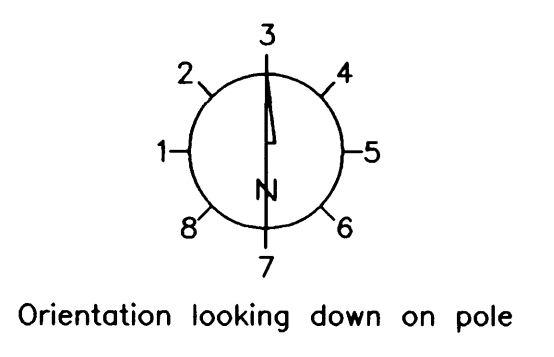
JOB No. _____	DESIGNED BY: WECJR	QUEEN AVE. @ HILL ST. DETECTOR PLAN	SCALE: _____	SHEET 1 OF 1	DRAWING NUMBER _____
DRAWN BY: WECJR	CHECKED BY: DCC		DATE: 12-21-98		
Lancaster Engineering 800 NW 5th Avenue, Suite 206, Portland, OR 97209 (503) 248-2113 Fax (503) 248-9231					

REVISIONS		DESIGNED	TR.
DATE	NO.	BY	WVC
2/24/17	AS-BUILT	RAJ	
		CHECKED	
		SCALE:	
		HORIZ.	1" = 10'
		VERT.	



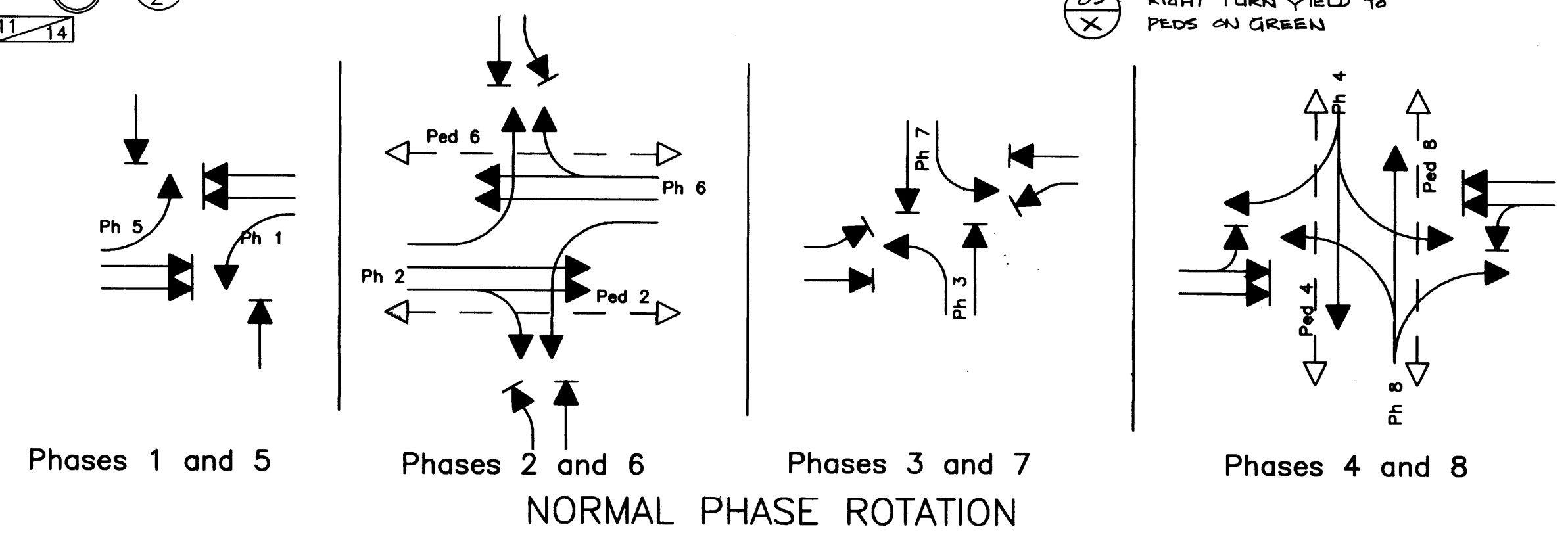
LEGEND

- Retain and protect existing controller
 - Remove and relocate existing traffic signal mast arm pole
 - Remove and relocate existing traffic signal mast arm pole with luminaire extension
 - Remove existing pedestrian signals
 - Remove existing pedestrian pushbuttons and pedestrian signs
 - Remove existing vehicle signal
 - Remove existing interior illuminated sign
 - Install pedestrian signal pedestal with frangible base
 - Install phase (Ph) vehicle signal without backplate
 - Install phase (Ph) clamshell type pedestrian signal, pushbutton, and instruction sign on extruded aluminum assembly
 - Install interior illuminated Left Turn Yield On Green Ball sign
 - Install 22 1/4" x 12 1/4" x 13" precast concrete junction box
 - Install 30" x 17" x 12" precast concrete junction box
 - Install (S) inch electrical conduit
 - Detector conduit (see Detector Plan)
 - Retain and protect existing electrical conduit
 - Reinstall existing traffic signal mast arm pole
 - Reinstall existing traffic signal mast arm pole with luminaire extension
 - Install channel (Ch) fire pre-emption detector feeder cable
 - Retain and protect existing vehicle signal
 - Remove existing vehicle signal backplate
 - Install LED retrofit kit(s)
 - Install 412W or 412B2 Prom board with latest version of W4IKS program (Contractor supplied)
 - Install (N) no. 8 type THWN wires (signal system common)
 - Install (N) no. (G) type THWN wires
- Ph = Phase shown
N = Number shown
G = AWG size shown
S = size shown
4 = 12" R, 12" YLTA, 12" Y, 12" GLTA, 12" G
- RIGHT TURN YIELD TO PEDES ON GREEN



POLE ENTRANCE CHART
Number indicates side of pole on which the holes are drilled

Pole No.	1	2	3	4	5	6
Pedestrian Signal	1, 7	1, 3	-	3, 5	-	5, 7
Ped Pushbutton	3, 5	5, 7	-	1, 7	-	1, 3



Note:
Install LED retrofit kits in all vehicle signal red arrow and red ball sections and pedestrian orange wait sections. See special provisions for specifications.

94244SIG.DWG

LANCASTER ENGINEERING
Union Station, Suite 206
800 N.W. 6th Avenue
Portland, OR 97209
(503) 248-0315



CITY OF ALBANY, OREGON
PUBLIC WORKS DEPARTMENT
ENGINEERING/UTILITIES DIVISION

SIGNAL PLAN
QUEEN/GEARY INTERSECTION

12/96

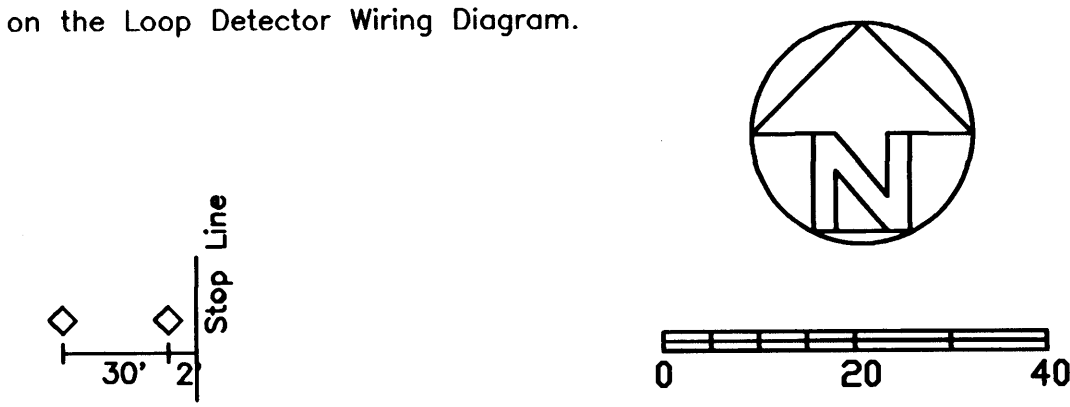
ST-94-8

LOOP DETECTOR WIRING DIAGRAM

DATE	REVISIONS	DESIGNED	TRK
2/14/97	AS-BUILT	PAJ	3/28/95
			CHECKED
			SCALE:
			HORIZ. 1" = 20'
			VERT.

Loop No.	Phase	Function	Slot
1	S	2	E, C, CO — I2U
2	S	2	E, C, CO — I2L
3	S	2	E, C, CO — I2L
4	S	2	E, C, CO — I2L
5	S	2	E, C, CO — I3U
6	S	2	E, C, CO — I3L
7	S	2	E, C, CO — I3L
8	S	2	E, C, CO — I3L
9	S	2	E, C, CO — I3L
10	S	2	E, C, CO — I3L
11	S	5	E, C, CO — J1U
12	S	5	E, C, CO — J1U
13	S	5	E, C, CO — J1U
14	S	4	E, C, CO — I6U
15	S	4	E, C, CO — I6L
16	S	4	E, C, CO — I6L
17	S	4	E, C, CO — I6L
18	S	4	E, C, CO — I7U
19	S	4	E, C, CO — I7L
20	S	4	E, C, CO — I7L
21	S	4	E, C, CO — I7L
22	S	4	E, C, CO — I7L
23	S	7	E, C, CO — J5U
24	S	7	E, C, CO — J5U
25	S	7	E, C, CO — J5U
26	S	7	E, C, CO — J5U
27	S	6	E, C, CO — J2U
28	S	6	E, C, CO — J2L
29	S	6	E, C, CO — J2L
30	S	6	E, C, CO — J2L
31	S	6	E, C, CO — J3U
32	S	6	E, C, CO — J3L
33	S	6	E, C, CO — J3L
34	S	6	E, C, CO — J3L
35	S	6	E, C, CO — J3L
36	S	1	E, C, CO — I1U
37	S	1	E, C, CO — I9U
38	S	1	E, C, CO — I9U
39	S	1	E, C, CO — I9U
40	S	8	E, C, CO — J6U
41	S	8	E, C, CO — J6L
42	S	8	E, C, CO — J6L
43	S	8	E, C, CO — J6L
44	S	8	E, C, CO — J7U
45	S	8	E, C, CO — J7L
46	S	8	E, C, CO — J7L
47	S	8	E, C, CO — J7L
48	S	8	E, C, CO — J7L
49	S	3	E, C, CO — I5U
50	S	3	E, C, CO — I9L
51	S	3	E, C, CO — I9L
52	S	3	E, C, CO — I9L

S = Series, E = Extension, C = Call, CO = Carryover
See TES Drwg. TS-129 for loop detector details
Center all loops in travel lanes or as shown on plan
All loops are to be individually wound clockwise and series wired at junction box or controller as shown on the Loop Detector Wiring Diagram.



Program transfer to I4U
Controller Cabinet

Program transfer to I8U

Program transfer to J4U

Program transfer to J8U

Locate 220 ft from Stop Line

Locate 110 ft from Stop Line

QUEEN AVENUE

GEARY STREET

Locate 220 ft from Stop Line
Locate 180 ft from Stop Line

Locate 90 ft from Stop Line
Locate 110 ft from Stop Line

Locate 180 ft from Stop Line
Locate 220 ft from Stop Line

Locate 110 ft from Stop Line
Locate 90 ft from Stop Line

Locate 110 ft from Stop Line

Locate 220 ft from Stop Line

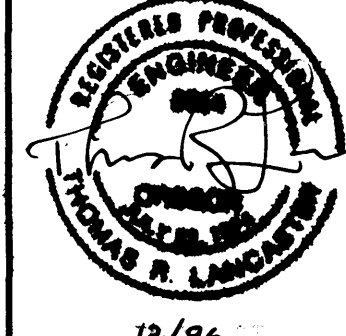
LEGEND

- Retain and protect existing controller
- Junction box (see signal plan)
- Install 17 1/4" x 10 1/2" x 12" precast concrete junction box
- Install phase (Ph) 2 ft diamond preformed bicycle detector loop
- Install phase (Ph) 3 ft diamond preformed vehicle detector loop
- Install phase (Ph) 4 ft diamond preformed vehicle detector loop
- Install (X) phase (Ph) loop feeder cables
- Install (N) pair of loop wires
- Install (S) inch electrical conduit
- Electrical conduit (see Signal Plan)

Ph = Phase shown
X = Number of cables shown
N = Number shown
S = Size shown (inches)

MATCH LINE A1

LANCASTER ENGINEERING
Union Station, Suite 206
800 N.W. 6th Avenue
Portland, OR 97209
(503) 248-0313



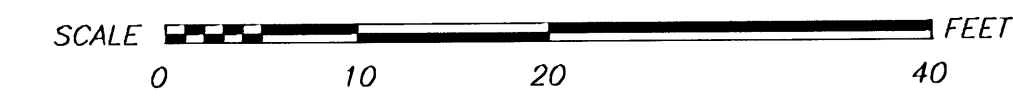
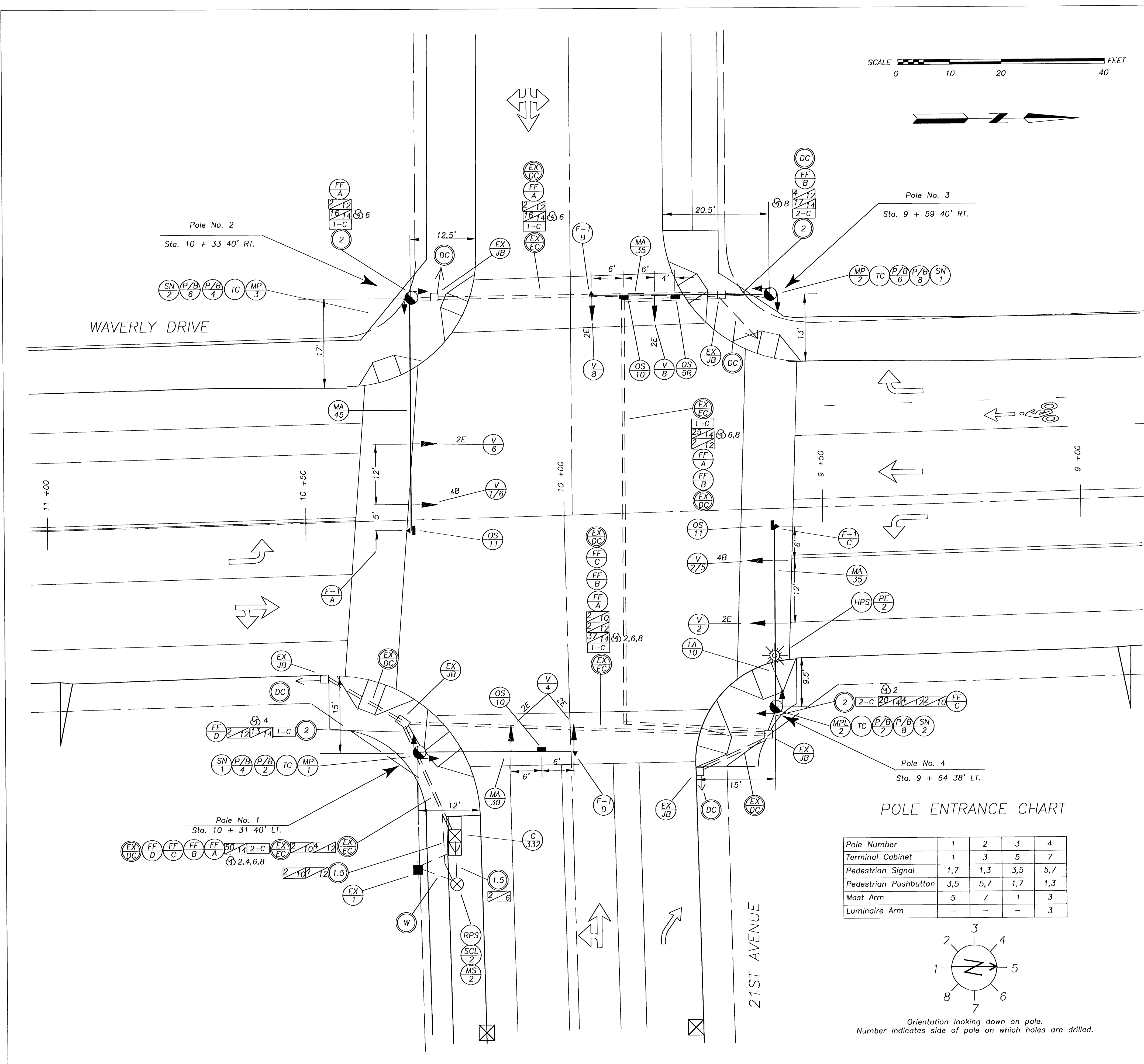
CITY OF ALBANY, OREGON
PUBLIC WORKS DEPARTMENT
ENGINEERING/UTILITIES DIVISION

**DETECTOR PLAN
QUEEN/GEARY INTERSECTION**

94244DET.DWG
12/96

94244DET.DWG

ST-94-8



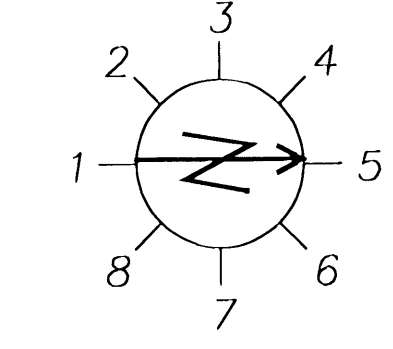
LEGEND

- Retain and protect existing junction box
- Retain and protect existing power pole (Power source)(Approximate location)
- Install model 170 controller in model 332 cabinet with riser frame, orient front (louvered) door as shown
- Install terminal cabinet
- Install type (T) standard traffic signal mast arm pole
- Install type (T) standard traffic signal mast arm pole with luminaire pole extension (35 ft mounting height)
- Install (L) ft. traffic signal mast arm
- Install remote power service post
- Install phase (Ph) vehicle signal with LEDs
- Install phase (*) and phase(*) 5 section vehicle signal with LEDs (Doghouse type)
- Install phase (Ph) pedestrian signal with LEDs, pushbutton and instruction decal
- Install interior illuminated (30" x 36") right arrow "ONLY" sign
- Install interior illuminated (30" x 36") "LEFT TURN YIELD TO ONCOMING TRAFFIC" sign (OR17-1)
- Install interior illuminated (30" x 36") "LEFT TURN YIELD ON GREEN ●"
- Install 8"x16"x20" service cabinet, 120/240 volt, for signal, sign and illumination circuits (See T.M.S. Drawg. IM-405)
- Install 120/240 volt meter base
- Install (N) No. 8 type THWN (Signal system common)
- Install (N) No. (G) type THWN wires
- Includes 3 spare wires for phase (Ph)
- Install (S) inch electrical conduit
- Detector conduit (See Detector Plan)
- Install conduit and wire as required by power company
- Install channel (Ch), (N) barrel fire pre-emption detector unit
- Install channel (Ch) fire pre-emption detector feeder cable
- Install 250 watt high pressure sodium luminaire, type M-C III, 208, 240 multi-volt mag-regulator ballast
- Install photoelectric cell on luminaire head
- Install (L) ft luminaire arm (35 ft mounting height)
- Install interior illuminated street name sign (WAVERLY DR)
- Install interior illuminated street name sign (21ST AVE)
- Retain and protect existing electrical conduit
- Retain and protect existing detector conduit

H = Height shown S = Size shown
 T = Type shown Ch = Channel shown
 L = Length shown B = Adjustable signal bracket (Install 1" smooth hole in lieu of tenon)
 Ph = Phase shown E = Elevator plumbizer
 N = Number shown 2 = 12"R, 12"Y, 12"G
 G = AWG size shown 4 = 12"R, 12"YLTA, 12"Y, 12"GLTA, 12"G

POLE ENTRANCE CHART

Pole Number	1	2	3	4
Terminal Cabinet	1	3	5	7
Pedestrian Signal	1,7	1,3	3,5	5,7
Pedestrian Pushbutton	3,5	5,7	1,7	1,3
Mast Arm	5	7	1	3
Luminaire Arm	-	-	-	3

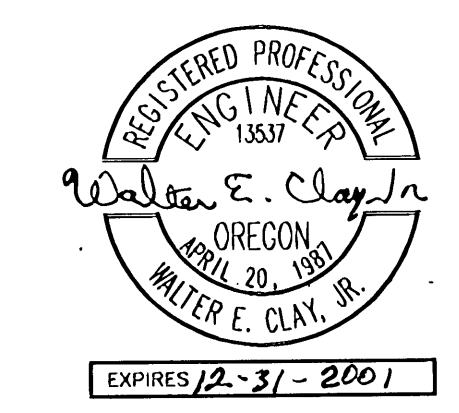


Orientation looking down on pole.
 Number indicates side of pole on which holes are drilled.

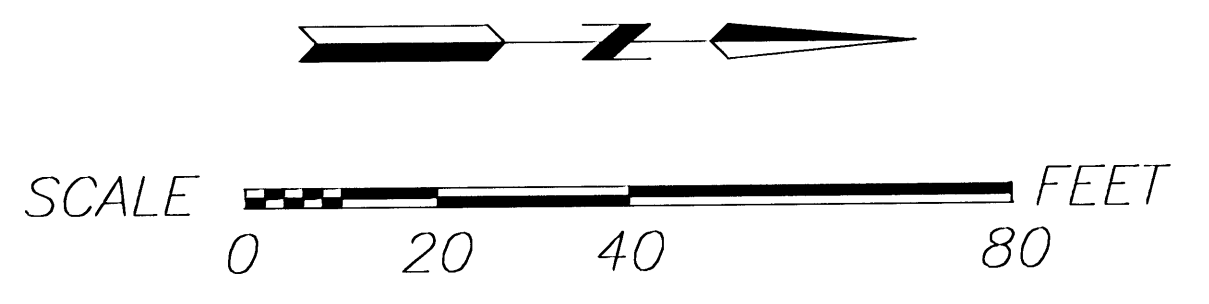
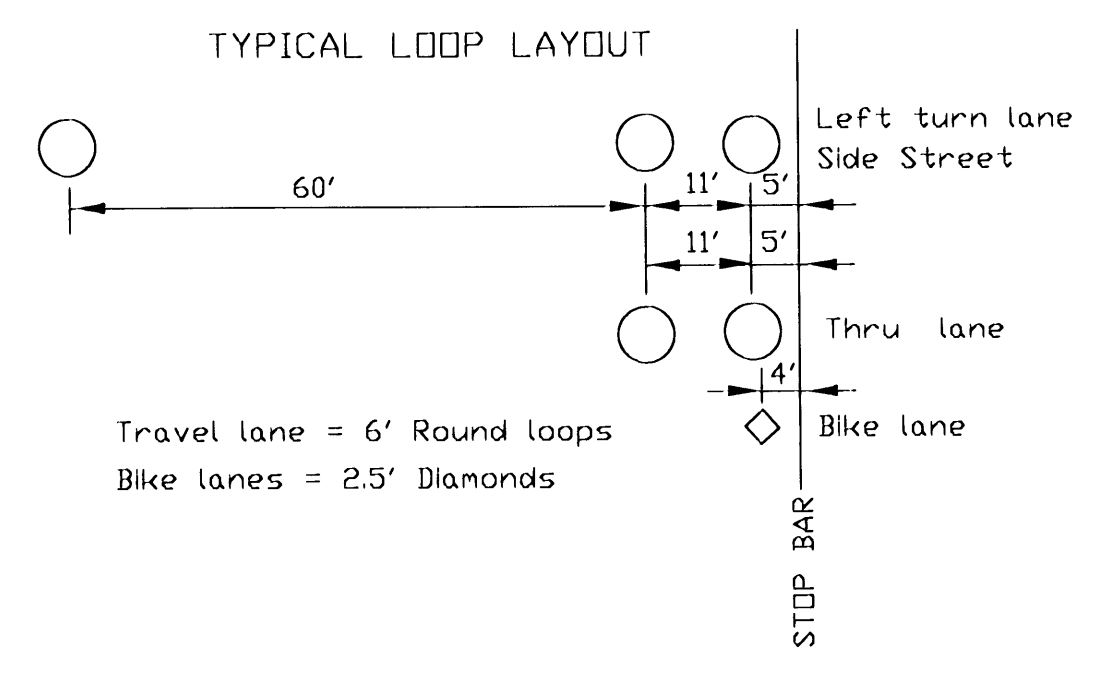
As Constructed 7-26-2000

JOB No. _____	WAVERLY DRIVE @ 21ST AVENUE	
DESIGNED BY: WEGJR	SIGNALIZATION PLAN	
DRAWN BY: WEGJR		
CHECKED BY: DCCTRL		
DATE: 10-20-99	SCALE: _____	SHEET 1 OF 1
DATE: _____	DRAWING NUMBER _____	

Lancaster Engineering
 800 NW 6th Avenue, Suite 206, Portland, OR 97209
 (503) 248-0113 Fax (503) 248-9231

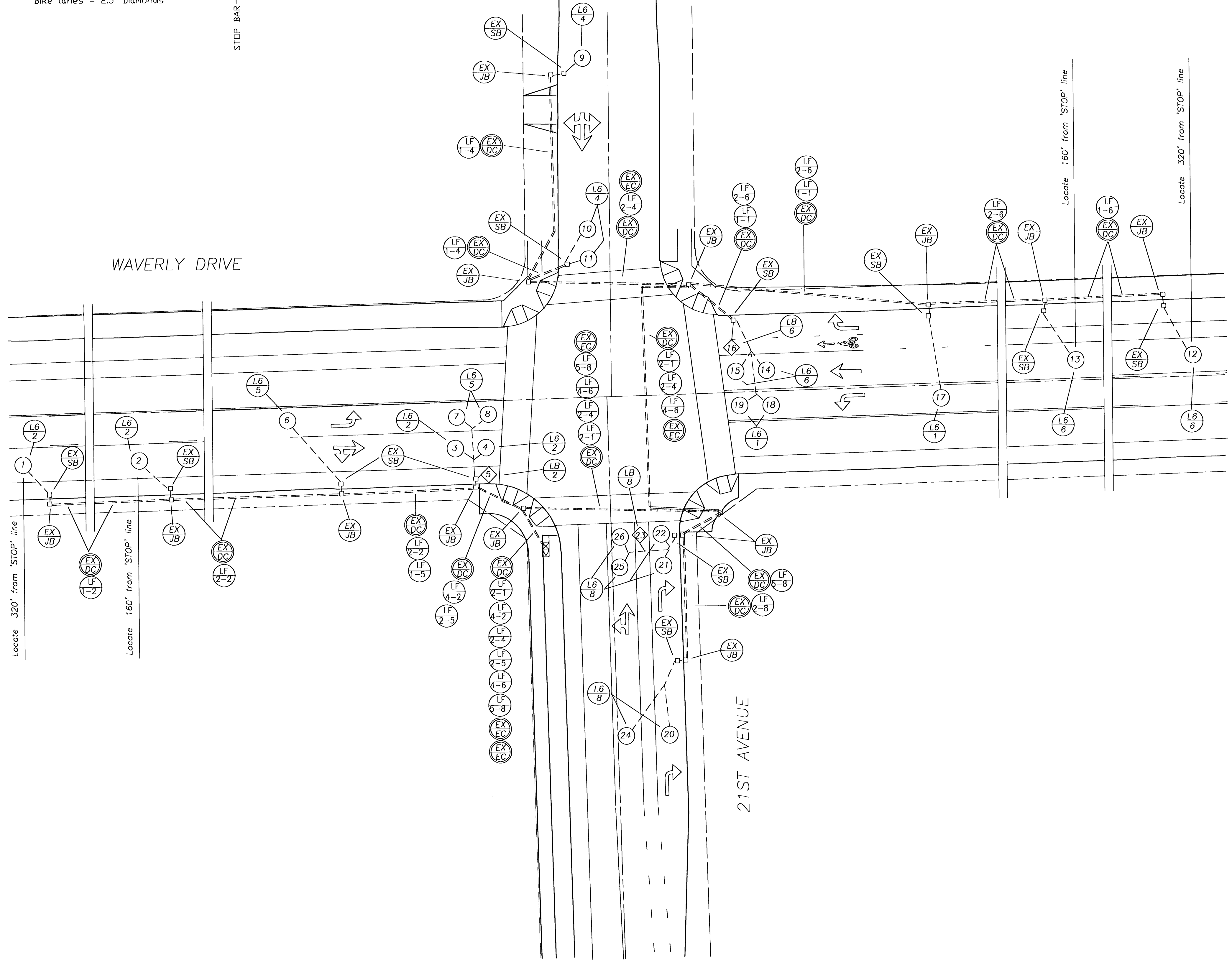


SI-99-08



LEGEND

- Retain and protect existing electrical conduit
- Retain and protect existing detector conduit
- Retain and protect existing junction box
- Retain and protect existing street box
- Install phase (Ph) 6ft. round vehicle detector loop
- Install phase (Ph) 2 1/2 ft. diamond bicycle detector loop
- Install (X) phase (Ph) loop feeder cables



As Constructed 7-26-2000



JOB No. _____	WAVERLY DRIVE @21ST AVENUE		DRAWING NUMBER _____
DESIGNED BY: WECJR	DETECTOR PLAN		
DRAWN BY: WECJR	SCALE: _____	SHEET 1 OF 1	
CHECKED BY: DCC	DATE: 10-20-99		
DATE: _____	Lancaster Engineering 800 NW 6th Avenue, Suite 206, Portland, OR 97209 (503) 248-0313 Fax (503) 248-9251		

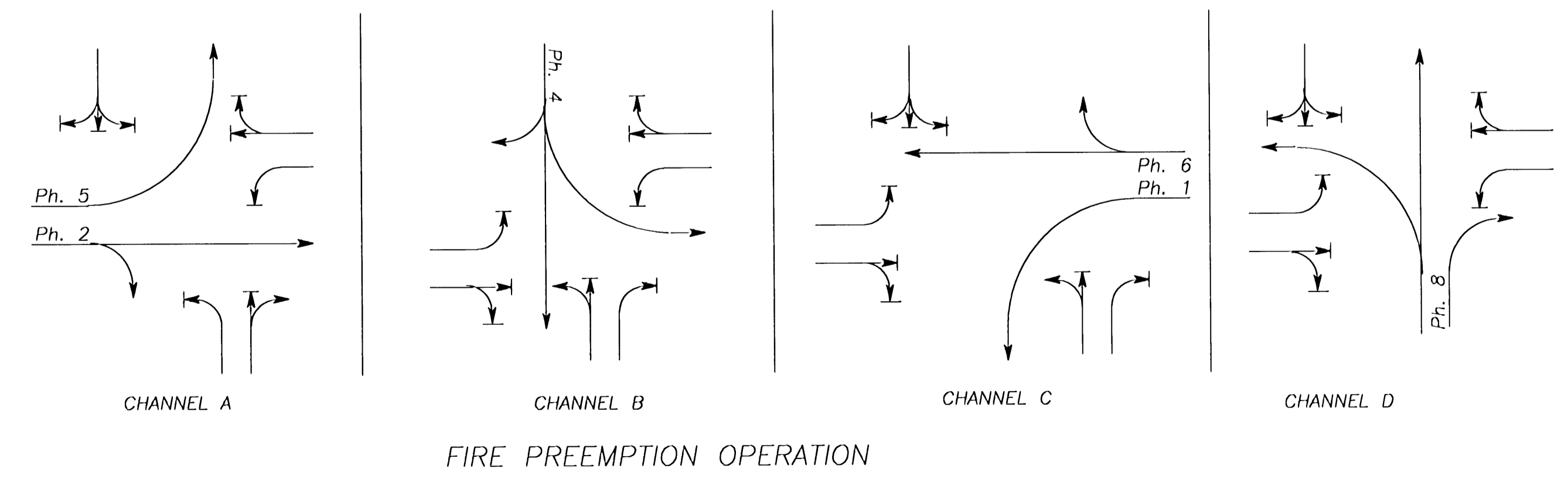
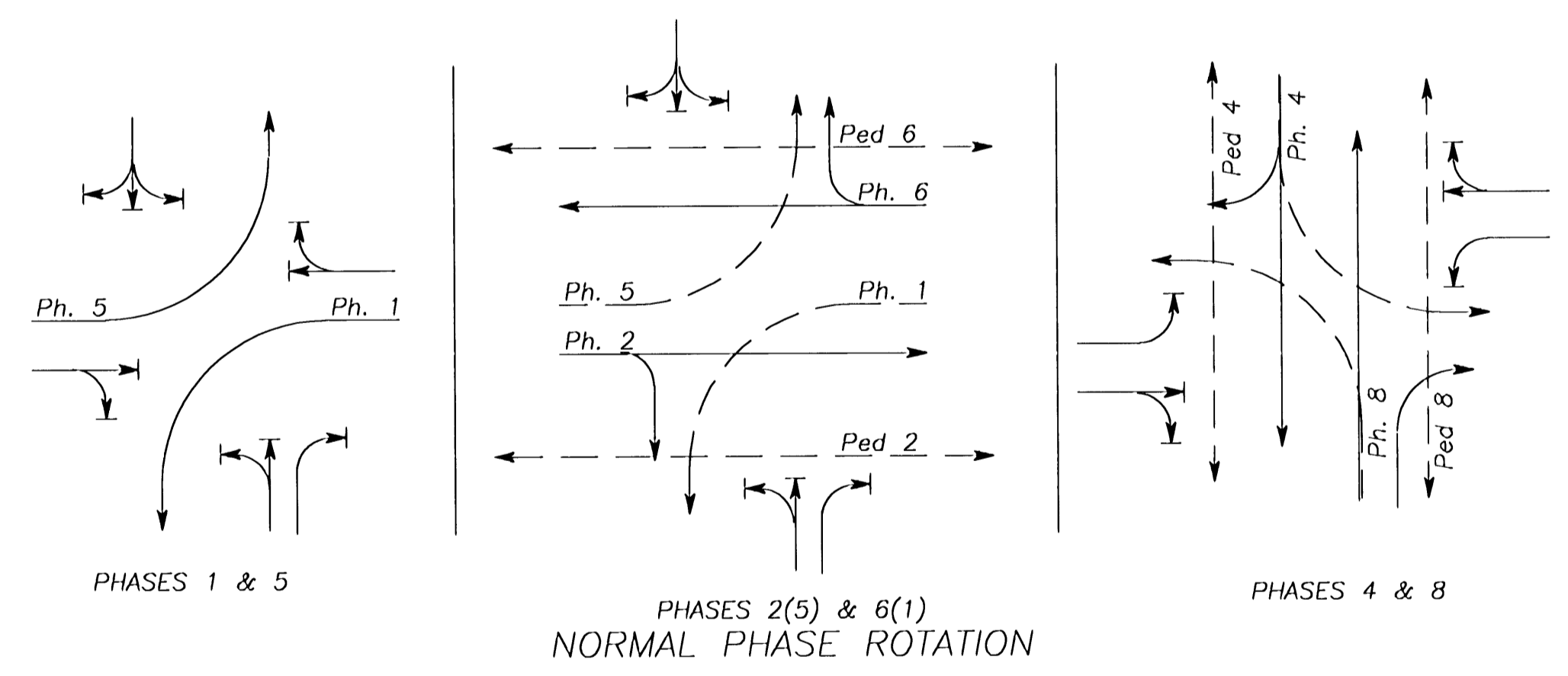
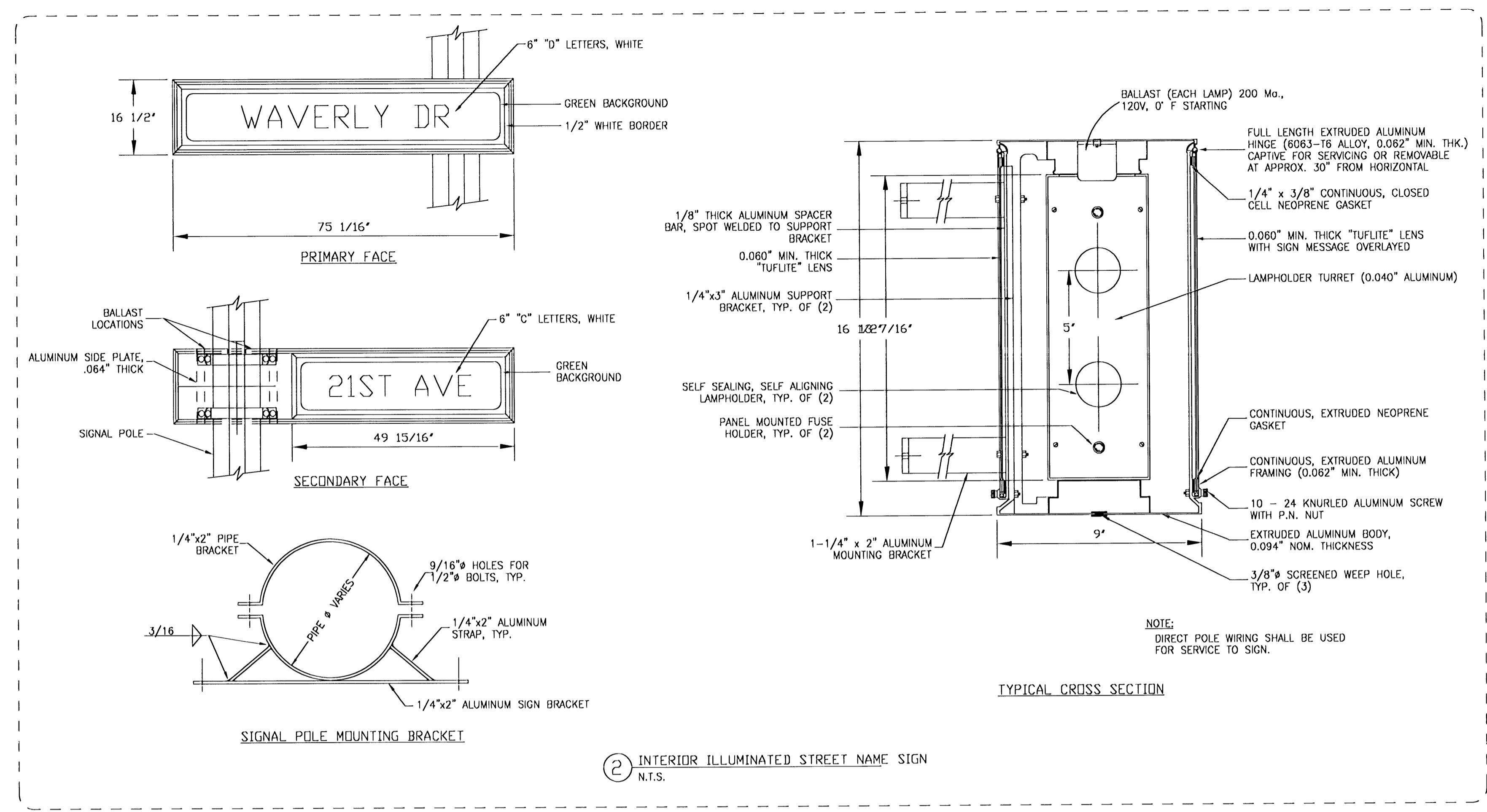
SI-99-08

Loop Number	Phase	Function	Slot
1	2	E,C,CO	I2U
2	2	E,C,CO	I2L
3	S		
4	2	E,C	I3L
5	2	E,C	I3U
6	5	E,C,CO	J1U
7	S		
8	5	E,C	J9U
9	4	E,C,CO	I6U
10	S		
11	4	E,C	I6L
12	6	E,C,CO	J2U
13	6	E,C,CO	J2L
14	S		
15	6	E,C	J3L
16	6	E,C,CO	J3U
17	1	E,C,CO	I1U
18	S		
19	1	E,C	I9U
20	8	E,C,CO,D	J6U
21	S		
22	8	E,C,D	J7L
23	8	E,C,CO	J7U
24	8	E,C,CO	J6L
25	S		
26	8	E,C	J8U

Controller Cabinet
Program Transfer to I4U
Program Transfer to J4U
Program Transfer to J8U
Program Transfer to J7L

LOOP DETECTOR WIRING DIAGRAM

S=Series, E=Extension, C=Call, CO=Carry-over, D=Delay
See TM-408 for loop detector details
Center all loops in travel lanes or as shown on plan

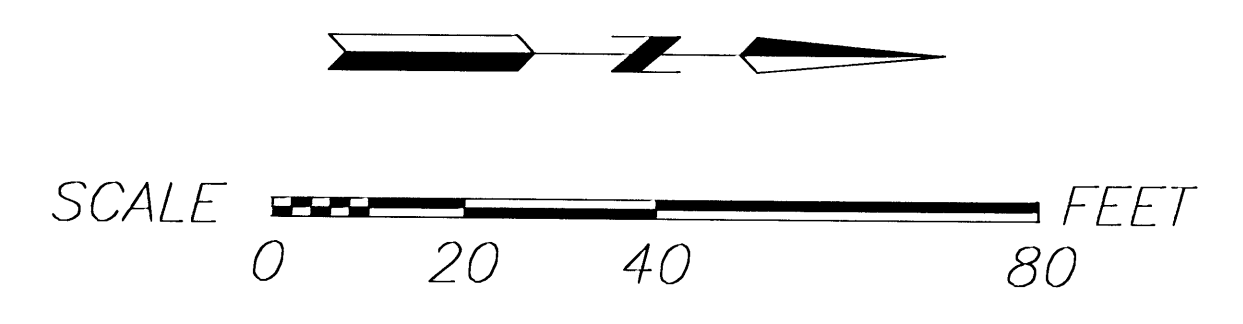


As Constructed 7-26-2000



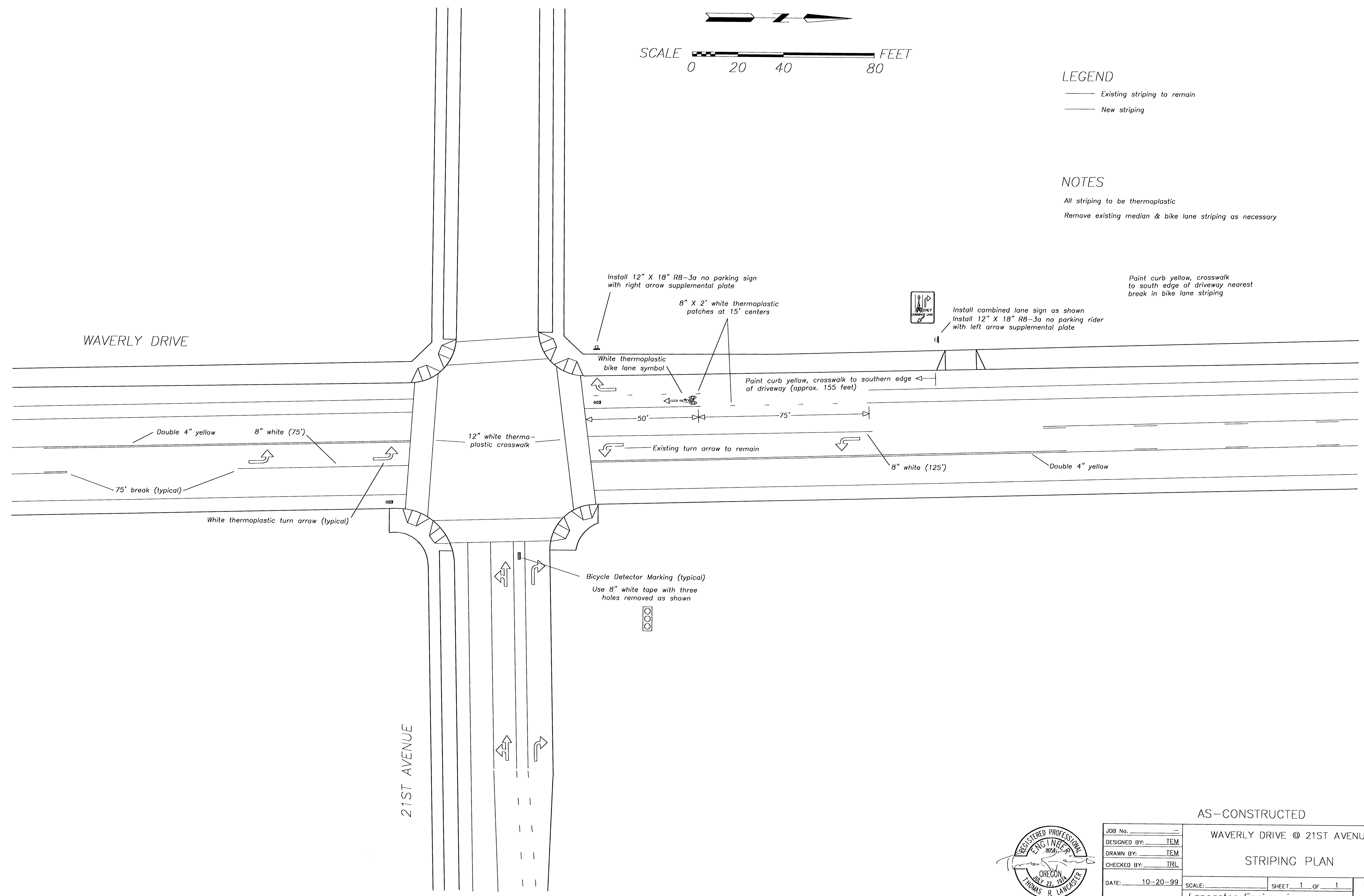
JOB No. _____	WAVERLY DRIVE @ 21ST AVENUE	
DESIGNED BY: WECJR	DETAIL SHEET	
DRAWN BY: WECJR	DRAWING NUMBER _____	
CHECKED BY: DCC	SCALE: _____ SHEET _____ OF _____	
DATE: 10-20-99	Lancaster Engineering 800 NW 6th Avenue, Suite 206, Portland, OR 97209 (503) 248-0313 Fax (503) 248-9221	
DATE: _____	EXPIRES 12-31-2001	

SI-99-08



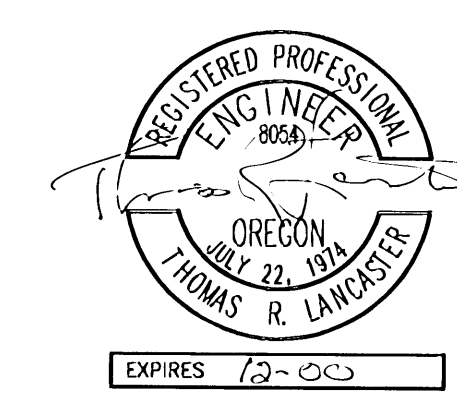
LEGEND
 — Existing striping to remain
 — New striping

NOTES
 All striping to be thermoplastic
 Remove existing median & bike lane striping as necessary

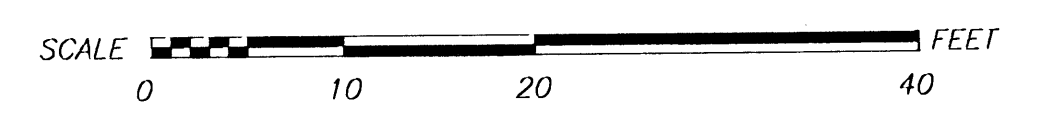


AS-CONSTRUCTED

JOB No.:	---	WAVERLY DRIVE @ 21ST AVENUE	
DESIGNED BY:	TEM	STRIPING PLAN	
DRAWN BY:	TEM	SCALE:	SHEET 1 OF 1
CHECKED BY:	TRL	DATE:	DRAWING NUMBER
DATE:	10-20-99	Lancaster Engineering	
DATE:		800 NW 6th Avenue, Suite 206, Portland, OR 97209	
		(503) 248-0313 Fax (503) 248-9251	



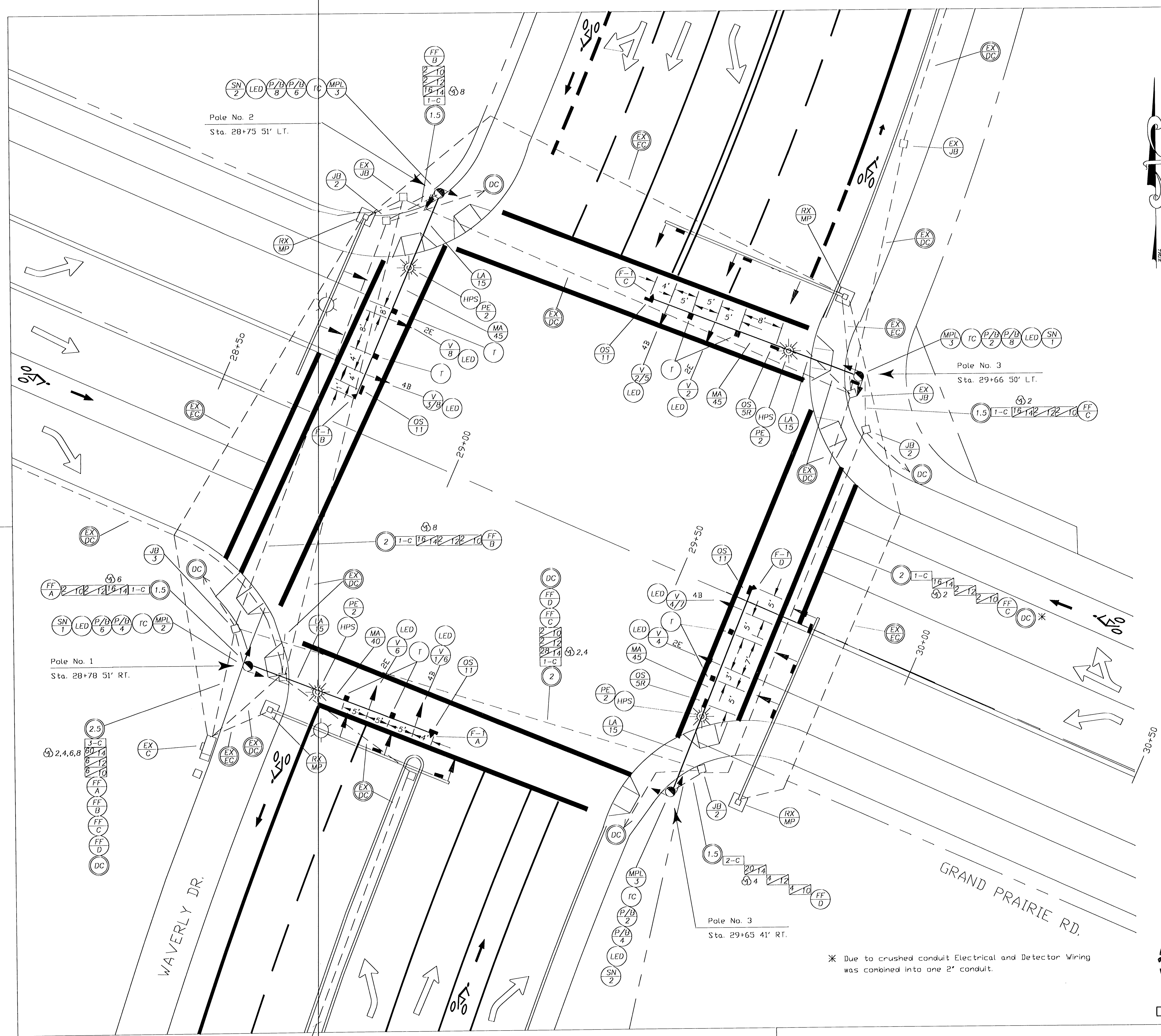
55-99-08



LEGEND

- Retain and protect existing controller
- Retain and protect existing junction box
- Retain and protect existing electrical conduit
- Retain and protect existing detector conduit
- Remove existing mast arm pole and all equipment attached
- Install type (T) standard traffic signal mast arm pole with luminaire pole extension (35 ft mounting height)
- Install (L) ft. traffic signal mast arm
- Install phase (Ph) vehicle signal
- Install phase (*) and phase (*) 5 section vehicle signal (Dog house type)
- Install phase (Ph) pedestrian signal, extruded pushbutton and instruction sign
- Install LED retrofit kit (see Special Provisions 02920.51)
- Install terminal cabinet
- Install 22"x12"x12" (min. dimension) precast concrete junction box
- Install 30"x17"x12" (min. dimension) precast concrete junction box
- Install (N) No. 8 type THWN (Signal system common)
- Install (N) No. (G) type THWN wires
- Includes 3 spare wires for phase (Ph)
- Install (S) inch electrical conduit
- Detector conduit (See Detector Plan)
- Install channel (Ch), (N) barrel fire pre-emption detector unit
- Install channel (Ch) fire pre-emption detector feeder cable
- Install 400 watt high pressure sodium luminaire, type M-S III, 240 multi-volt mag-regulator ballast
- Install photoelectric cell on luminaire head
- Install (L) ft luminaire arm (35 ft mounting height)
- Install interior illuminated street name sign (GRAND PRAIRIE RD.)
- Install interior illuminated street name sign (WAVERLY DR.)
- Install interior illuminated 30" X 36" right arrow "ONLY" sign
- Install interior illuminated 30"X36" "LEFT TURN YIELD ON GREEN ●"
- Install and cap Tenon (For future use)

H = Height shown S = Size shown
 T = Type shown Ch = Channel shown
 L = Length shown A = Standard plumbizer
 Ph = Phase shown E = Elevator plumbizer
 N = Number shown 2 = 12"R, 12"Y, 12"G
 G = AWG size shown 4 = 12"R, 12"Y/LTA, 12"Y, 12"GLTA, 12"G
 B = Adjustable signal bracket (Install 1" smooth hole in lieu of tenon)

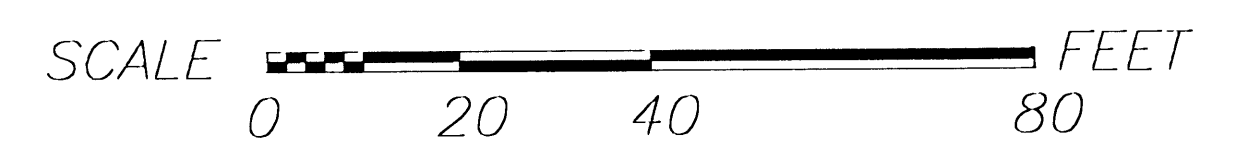


* Due to crushed conduit Electrical and Detector Wiring was combined into one 2" conduit.



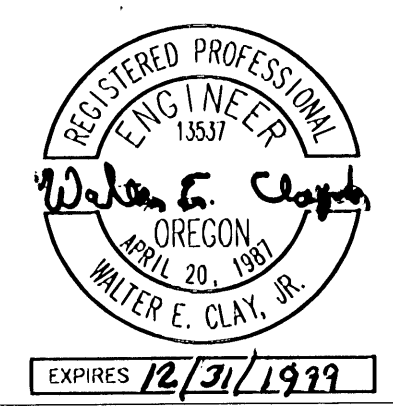
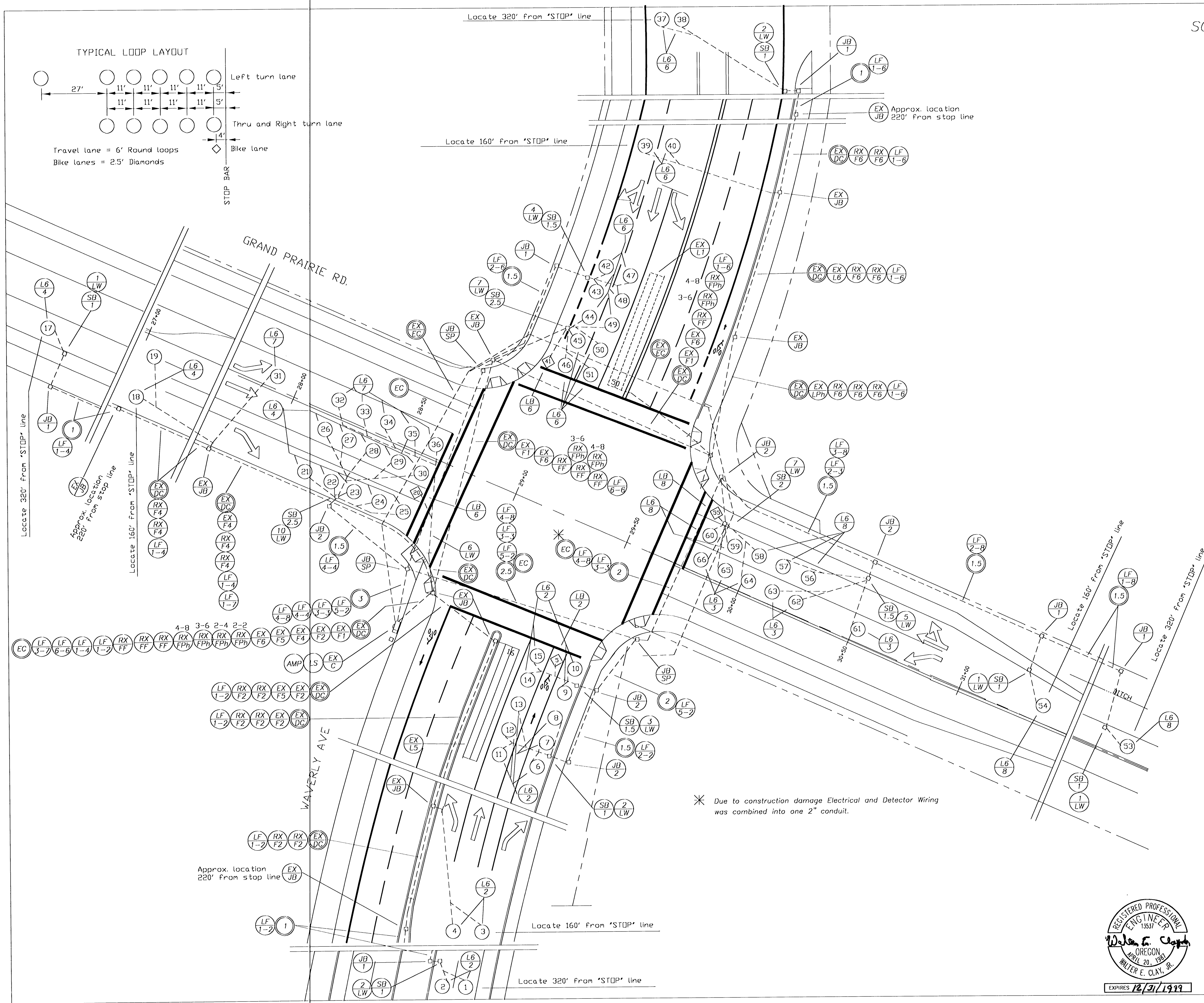
As constructed 5/18/1998

JOB No.:	1997 STREET REHABILITATION
DESIGNED BY: WEGJR	ST-96-5
DRAWN BY: WEGJR	SIGNAL IMPROVEMENTS WAVERLY DR. @ GRAND PRAIRIE
CHECKED BY: DCC	SIGNALIZATION PLAN
DATE: 3-18-97	SCALE: SHEET OF DRAWING NUMBER
	S1
	Lancaster Engineering 800 NW 6th Avenue, Suite 206, Portland, OR 97209 (503) 248-0313 Fax (503) 248-9251



LEGEND

- Retain and protect existing controller
 - Retain and protect existing junction box
 - Retain and protect existing phase (Ph) vehicle detector loop
 - Retain and protect existing phase (Ph) loop feeder cable
 - Retain and protect existing electrical conduit
 - Retain and protect existing detector conduit
 - Remove existing phase (Ph) loop feeder cable
 - Remove existing fire pre-emption Feeder cable
 - Junction box (See Signal Plan)
 - Install 17"x10"x12" (min. dimension) precast concrete junction box
 - Install 22"x12"x12" (min. dimension) precast concrete junction box
 - Install 4"x4"x4" galv. cast iron street box with (S) inch conduit to junction box
 - Install phase (Ph) 2.5ft. diamond bicycle detector loop
 - Install phase (Ph) 6ft. round vehicle detector loop
 - Install (X) phase (Ph) loop feeder cables
 - Install (N) pair of loop wires
 - Install (S) inch electrical conduit
 - Electrical Conduit (See Signal Plan)
 - Install new program board in monitor
 - Install 1 new load switchpack
 - Install 6 new amplifiers
- Ph = Phase shown N = Number shown
X = Number of cables shown S = Size shown



As Constructed 5/18/1998

JOB No. _____	1997 STREET REHABILITATION
DESIGNED BY: WEGJR	ST-96-5
DRAWN BY: WEGJR	SIGNAL IMPROVEMENTS WAVERLY DR. @ GRAND PRAIRIE
CHECKED BY: DCC	DETECTOR PLAN
DATE: 3-18-97	SCALE: _____ SHEET _____ OF _____
DATE: _____	DRAWING NUMBER
	S2

Lancaster Engineering
900 NW 5th Avenue, Suite 206, Portland, OR 97209
(503) 248-2113 Fax (503) 248-2851

Loop Number	Phase	Function	Slot
1	S		12U
2	S		12L
3	S		13U
4	S		13L
5	S		14U
6	S		14L
7	S		14U
8	S		14L
9	S		14U
10	S		14L
11	S		14U
12	S		14L
13	S		14U
14	S		14L
15	S		14U
16	S		14L
17	S		14U
18	S		14L
19	S		14U
20	S		14L
21	S		14U
22	S		14L
23	S		14U
24	S		14L
25	S		14U
26	S		14L
27	S		14U
28	S		14L
29	S		14U
30	S		14L
31	S		14U
32	S		14L
33	S		14U
34	S		14L
35	S		14U
36	S		14L
37	S		14U
38	S		14L
39	S		14U
40	S		14L
41	S		14U
42	S		14L
43	S		14U
44	S		14L
45	S		14U
46	S		14L
47	S		14U
48	S		14L
49	S		14U
50	S		14L
51	S		14U
52	S		14L
53	S		14U
54	S		14L
55	S		14U
56	S		14L
57	S		14U
58	S		14L
59	S		14U
60	S		14L
61	S		14U
62	S		14L
63	S		14U
64	S		14L
65	S		14U
66	S		14L

Controller Cabinet

Program Transfer to 14U

Program Transfer to 13L

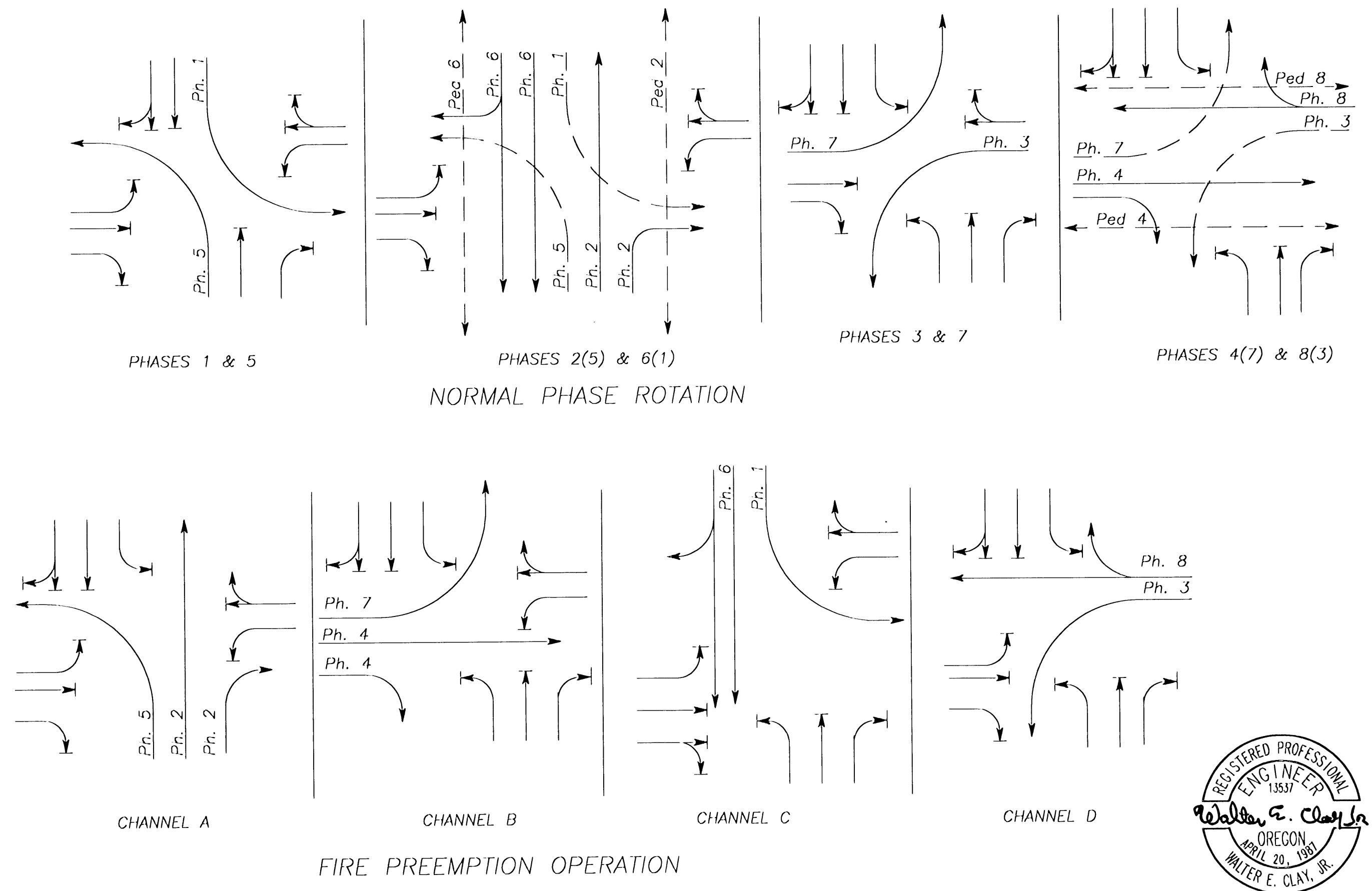
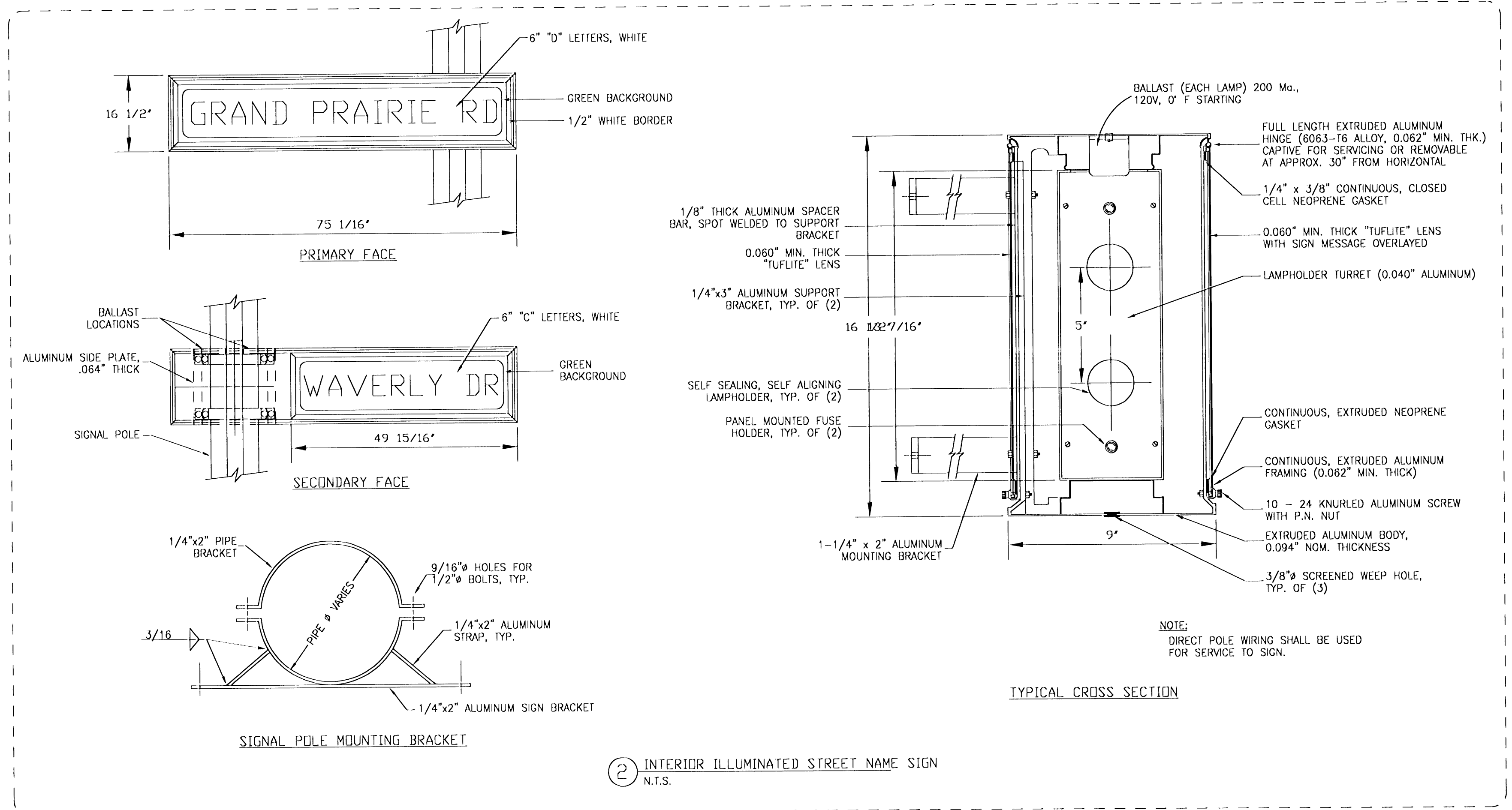
Program Transfer to 18U

Program Transfer to 17L

Program Transfer to J4U

Program Transfer to J3L

Program Transfer to J8U



LOOP DETECTOR WIRING DIAGRAM

S=Series, E=Extension, C=Call, CO=Carry-over, D=Delay
See T.E.S. Drwg. No. TS-129 for loop detector details
Center all loops in travel lanes or as shown on plan



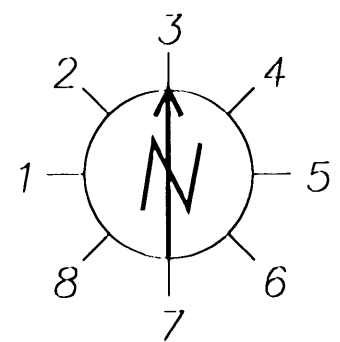
As Constructed 5/18/1998

JOB No. _____	1997 STREET REHABILITATION
DESIGNED BY: WEC/JR	ST-96-5
DRAWN BY: WEC/JR	SIGNAL IMPROVEMENTS WAVERLY DR. @ GRAND PRAIRIE
CHECKED BY: DCC	DETAIL SHEET
DATE: 3-18-97	SCALE: _____ SHEET _____ OF _____
DATE: _____	DRAWING NUMBER: S3

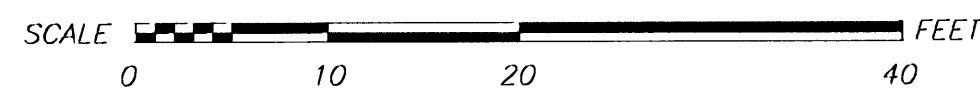
Lancaster Engineering
800 NW 6th Avenue, Suite 206, Portland, OR 97209
(503) 248-0313 Fax (503) 248-9251

POLE ENTRANCE CHART

Pole Number	1	2	3	4	5
Terminal Cabinet	1	3	5	7	-
Pedestrian Signal	-	-	-	-	1,7
Pedestrian Pushbutton	-	-	-	-	3,5
Mast Arm	5	7	1	3	-
Luminaire Arm	5	7	1	3	-



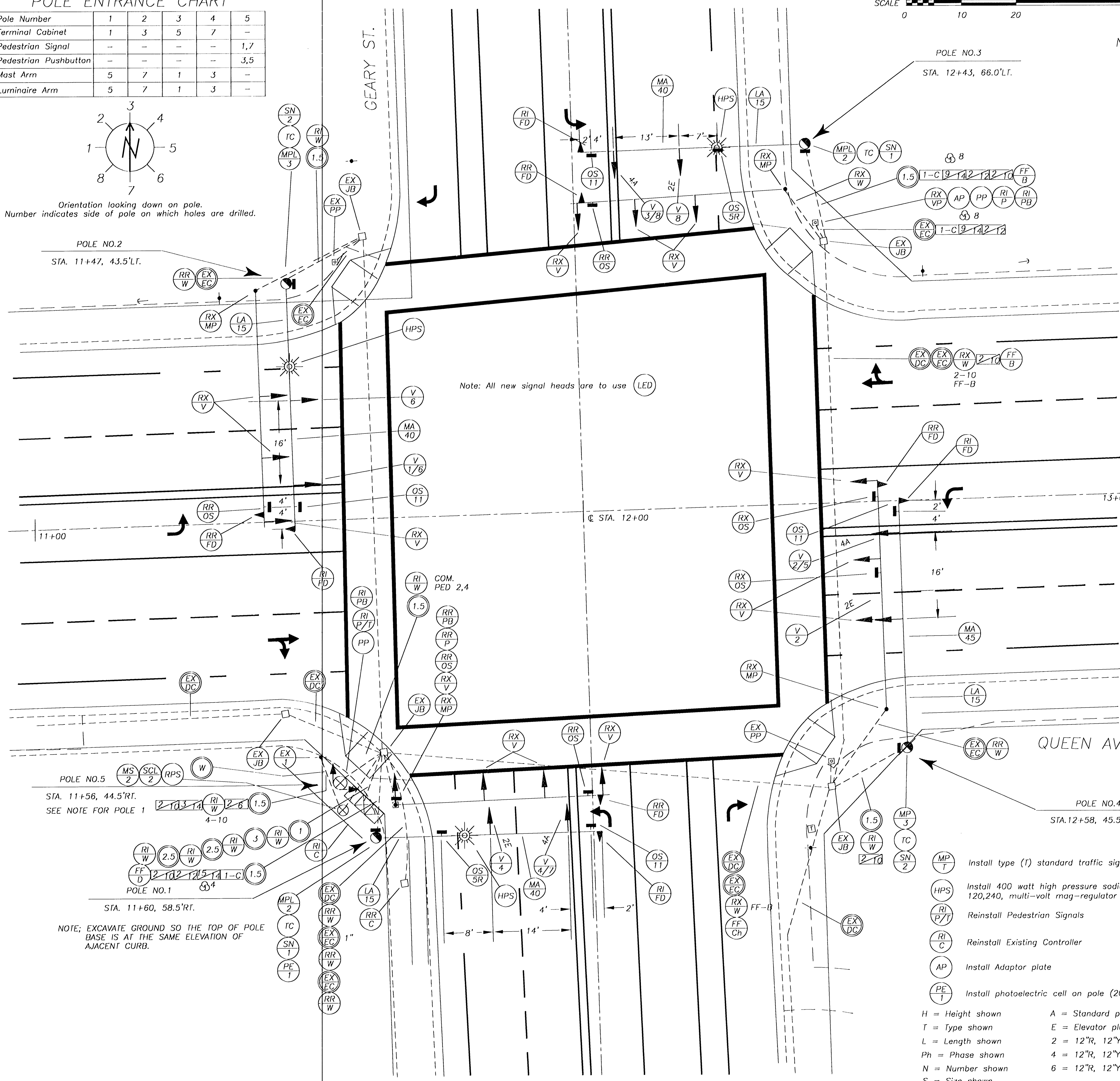
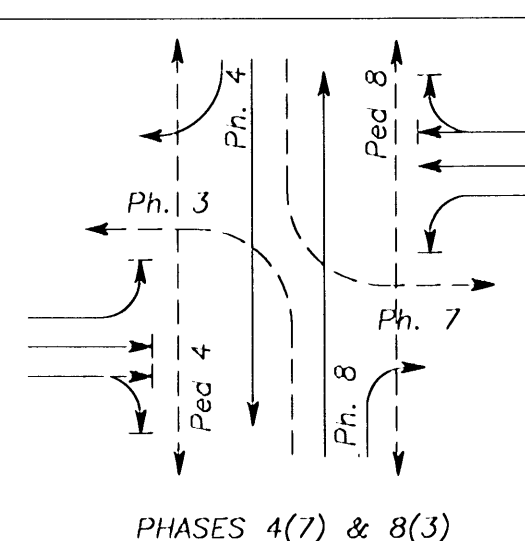
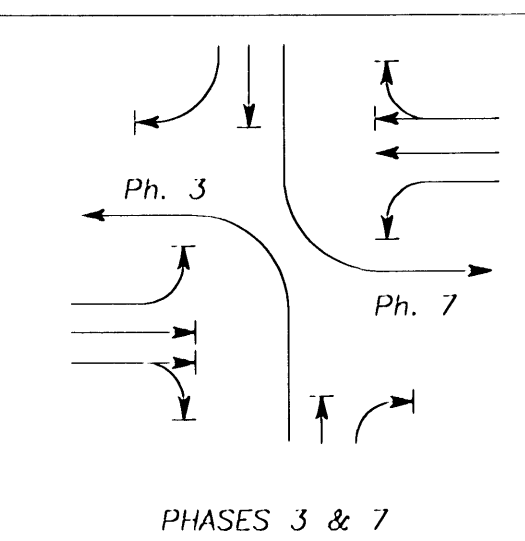
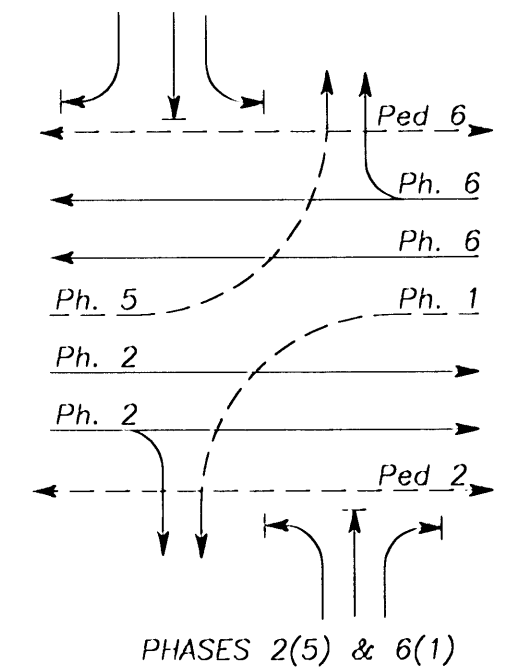
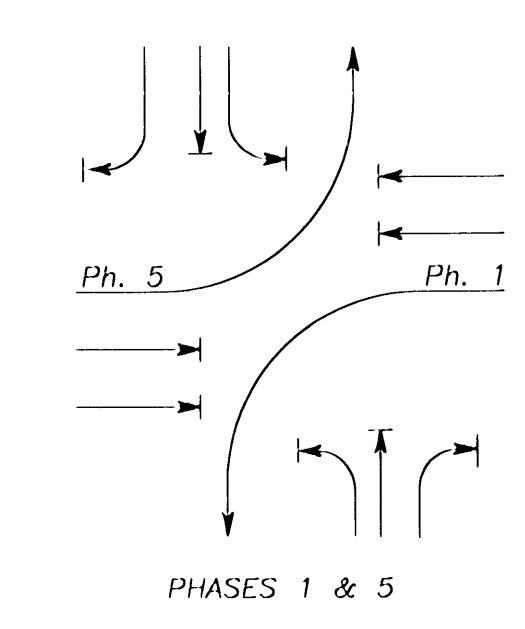
Orientation looking down on pole.
Number indicates side of pole on which holes are drilled.



LEGEND

- (EX T) Retain and protect existing power pole (power source)
- (RR C) Remove and relocate existing controller
- (EX PP) Retain and protect existing pedestrian signal pedestal
- (RX VP) Remove existing vehicle pedestal
- (EX JB) Retain and protect existing junction box
- (EX EC) Retain and protect existing electrical conduit
- (EX DC) Retain and protect existing detector conduit
- (RX MP) Remove existing traffic signal mast arm pole
- (RX V) Remove existing vehicle signal
- (RX OS) Remove existing interior illuminated sign
- (RX W) Remove existing wiring
- (RR P) Remove and relocate existing pedestrian signal
- (RR PB) Remove and relocate existing pedestrian pushbutton and instruction sign
- (RR OS) Remove and relocate existing interior illuminated sign
- (RR W) Remove and relocate existing wiring
- (RR FD) Remove and relocate existing fire pre-emption unit
- (RI P) Reinstall existing pedestrian signal
- (RI PB) Reinstall existing pedestrian pushbutton and instruction sign
- (OS T) Install 30" x 36" interior illuminated Left Turn Yield On Green Ball sign
- (RI W) Reinstall existing wiring
- (RI FD) Reinstall existing fire pre-emption detector unit
- (MPL T) Install type (T) standard traffic signal mast arm pole with luminaire pole extension (35 ft. mounting ht.)
- (MA L) Install (L) ft. traffic signal mast arm
- (LA L) Install (L) ft. luminaire arm
- (PP) Install pedestrian signal pedestal with frangible base
- (RPS) Install remote power service post
- (V Ph) Install phase (Ph) vehicle signal
- (LED) Install LED retrofit kit (see Special Provisions 02920.51)
- (OS 5R) Install interior illuminated right arrow "ONLY" sign
- (SN T) Install Interior Illuminated street name sign (QUEEN AVENUE)
- (SN S) Install Interior Illuminated street name sign (GEARY STREET)
- (TC) Install terminal cabinet
- (SCL 2) Install service cabinet, 120/240 volt, for both signal and illumination circuits
- (MS 2) Install 120/240 volt meter base
- (N-C) Install (N) No. 8 type THWN (Signal system common)
- (N-G) Install (N) No. (G) type THWN wires
- (3) Ph Includes 3 spare wires for phase (Ph) as per table
- (S) Install (S) inch electrical conduit
- (W) Install conduit and wire as required by power company
- (FF Ch) Install channel (Ch) fire pre-emption detector detector cable

NORMAL PHASE ROTATION



Note: All new signal heads are to use (LED)

- (MPL T) Install type (T) standard traffic signal mast arm pole
- (HPS) Install 400 watt high pressure sodium luminaire, type M-C-III, 120,240, multi-volt mag-regulator ballast
- (RI P/T) Reinstall Pedestrian Signals
- (RI C) Reinstall Existing Controller
- (AP) Install Adaptor plate
- (PE T) Install photoelectric cell on pole (20-35' above pole base)

- H = Height shown
- T = Type shown
- L = Length shown
- Ph = Phase shown
- N = Number shown
- S = Size shown
- A = Standard plumbizer
- E = Elevator plumbizer
- 2 = 12"R, 12"Y, 12"G
- 4 = 12"R, 12"Y/LTA, 12"Y, 12"GLTA, 12"G
- 6 = 12"R, 12"YRTA, 12"Y, 12"GRTA, 12"G



JOB No. _____	1997 STREET REHABILITATION
DESIGNED BY: WECJR	ST-96-5
DRAWN BY: WECJR	SIGNAL IMPROVEMENTS QUEEN AVE. @ GEARY ST.
CHECKED BY: DCC	SIGNALIZATION PLAN
DATE: 3-18-97	SCALE: _____ SHEET _____ OF _____
DATE: _____	Lancaster Engineering 800 NW 6th Avenue, Suite 206, Portland, OR 97209 (503) 248-0313 Fax (503) 248-3251
	DRAWING NUMBER S4