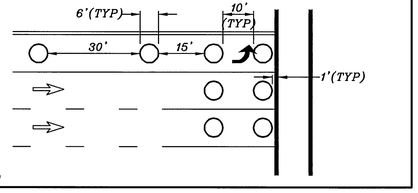
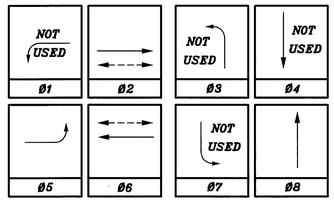
DETAIL "A" – TYPE "E" LOOP DETECTOR LAYOUT



NOT TO SCALE

PHASE DIAGRAM



FLASHING OPERATION SHALL BE ALL RED.

DETAIL "B"

N.T.S.

EQUIPMENT SCHEDULE

NO.	SIGNAL STANDARD TYPE	H'GHT	M.A.	LUMINAIRE L.A.	LUMINAIRE H.P.S.V.	SIGNAL MOUNTING VEHICLE	SIGNAL MOUNTING PEDESTRIAN	REMARKS
(I)	TYPE 17	30'	20'	15'	250W	MAS		
						SV–2–TB	SP–1–T	
(J)	TYPE 16	17'	15'		250W	MAS		
						SV–1–T		
(K)	TYPE 15	30'		15'	250W	SV–2–TB	SP–1–T	
(L)	• 1A	10'				TV–1–T		
(M)	TYPE 17	30'	20'	15'	250W	MAS		
						SV–1–T	SP–1–T	
(N)	TYPE 18 (SPEC.)							
(O)	TYPE 15	30'		15'	250W	SV–1–T	SP–1–T	

• CONTRACTOR SHALL ADJUST THE VEHICLE INDICATION TO LINE UP WITH THE CENTER LANE LINE OF THE DUAL LEFT–TURN LANES. ENGINEER OR ENGINEER'S REPRESENTATIVE SHALL BE PRESENT FOR THIS WORK.

CONDUCTOR SCHEDULE

CONTROL FUNCTION	CONDUCTORS SIZE	CONDUCTORS INSULATION	RUNS 1	2	3	4	5	6	10	20
VEHICLE HEADS	#14	T.W.								
PHASE 1			–	–	–	–	–	–	–	–
PHASE 2			–	–	–	3	–	–	–	–
PHASE 4			–	–	–	–	–	–	–	–
PHASE 5			–	3	3	3	–	–	–	–
PHASE 6			3	3	3	3	–	–	–	–
PHASE 8			3	3	3	3	–	–	–	–
PED. HEADS										
PHASE 2			–	–	–	2	2	2	–	–
PHASE 6			2	2	2	2	–	–	–	–
PED. PUSH BUTTONS										
PHASE 2			–	–	–	1	1	1	–	–
PHASE 6			1	1	1	1	–	1	–	–
12V COMMON			1	1	1	–	–	–	–	–
SPARES			3	3	3	3	3	3	–	–
DETECTORS	TYPE C	P.E.								
PHASE 1			–	–	–	–	–	–	–	–
PHASE 2			–	–	–	3	3	3	–	–
PHASE 4			–	–	–	–	–	–	–	–
PHASE 5			–	–	–	(N)4	(N)4	(N)4	–	–
PHASE 6			–	2	6	6	–	–	–	–
PHASE 8			–	–	–	6	6	–	–	–
120V COMMON	#10	T.W.	–	–	–	–	–	–	–	–
LUMINAIRES	#8	T.H.W.	2	2	2	–	2	2	2	–
SIGN LIGHTING	#8	T.H.W.	–	–	–	–	–	–	–	–
SIGNAL SERVICE	#6	T.W.	–	–	–	–	–	–	–	–
INTERCONNECT	#20	P.E.	–	–	1	1	1	1	1	1
CONDUIT SIZE			2"	2 1/2"	2 1/2"	2–3"	3"	3"	3"	3"

(N) = NEW EQUIPMENT TO BE INSTALLED

1. CONTRACTOR SHALL MODIFY THE DLC'S IN THE TYPE 332 CONTROLLER CABINET TO PROVIDE DETECTION FOR THE 5J1L LOOPS AND REMOVE THE 212U DETECTION CHANNEL.

DETECTION REPLACEMENT NOTES:

1. INSTALL TYPE "E" DETECTOR LOOPS PER DETAIL "A". SPLICE TO DLC(S) AT ADJACENT PULL BOX.
2. EACH GROUP OF LOOPS WITHIN A LANE SHALL BE WIRED IN SERIES IN THE PULL BOX, ALTERNATING CLOCKWISE TO COUNTERCLOCKWISE.
3. CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE ANY DAMAGED TRAFFIC SIGNAL EQUIPMENT DURING CONSTRUCTION WHICH INCLUDES BUT IS NOT LIMITED TO DLC(S), DETECTOR LOOPS, CONDUIT, PULL BOXES, ETC.
4. INSTALL TYPE "A" LOOP CURB TERMINATION PER CALTRANS SPECIFICATION.
5. INSTALL 6–FOOT LOOP DETECTOR, CENTERED IN THE LANE, WITH 10' (CLEAR) SPACING IN THE DIRECTION OF TRAVEL, PER CALTRANS STANDARD PLAN ES–5B, TYPE "E". LOOP SAW CUT SHALL BE 4–INCH DEEP. INSTALL LOOPS 1–FOOT OUTSIDE CROSSWALK OR LIMIT LINE AREA. ALL NEW ADVANCED DETECTION LOOPS SHALL HAVE FOUR TURNS OF LOOP WIRE.

AB	ABANDON EXISTING EQUIPMENT
I	INSTALL NEW EQUIPMENT
IS	INSTALL NEW SIGN
SC	SPLICE NEW TO EXISTING CONDUCTORS
E	EXISTING EQUIPMENT, PROTECT IN PLACE

CONSTRUCTION NOTES:

1 CONTRACTOR SHALL COORDINATE WITH CITY OF RIVERSIDE FORCES AND/OR CALTRANS TO ADJUST SIGNAL HEAD TO SERVE BOTH LEFT TURN LANES FOR THE EASTBOUND FREEWAY ENTRANCE RAMP.

CALTRANS ENCROACHMENT PERMIT # 08–07–N–MC–0768

IMPORTANT NOTICE
Section 4216/4217 of the Government Code requires a Dig Alert Identification Number to be issued before a "Permit to Excavate" will be valid. For your Dig Alert I.D. Number call
CALL TOLL FREE
TWO WORKING DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT
1–800–227–2600

ENGINEER IN RESPONSIBLE CHARGE
GILBERT M. HERNANDEZ
R.C.E. No. 69170 expires 6–30–08
DATE 4–24–08

REGISTERED PROFESSIONAL ENGINEER — GILBERT M. HERNANDEZ — No. 69170 Exp. 06–30–08 — CIVIL — STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY DMC DRAWN BY DMC CHECKED BY GMH

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		
ENGINEERING MANAGER		
TRAFFIC DIVISION		
CONSTRUCTION ADMIN.		

APPROVED BY
DIRECTOR OF PUBLIC WORKS
DATE

TRAFFIC SIGNAL MODIFICATION
FOURTEENTH STREET @ 91 FREEWAY RAMPS
SCALE: 1" = 20'

X–104A
SHEET 1 OF 1
FILE NAME: X104–2A.DWG

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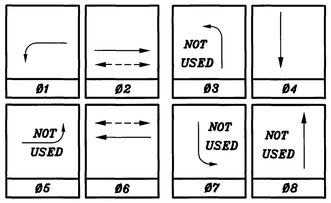
SIGNING REQUIREMENTS

LOC.	CODE NO.	SIZE	MOUNTING	FACING
C	2-G77	12'X 78"	O.H. SIGN STD.	E & W
H	R61-4 (RT)	45"X 45"	MAST ARM	N
	R59 (LT)	42"X 45"	MAST ARM	N

PHASE DIAGRAM



FLASHING OPERATION SHALL BE ALL RED.

CONSTRUCTION NOTES

1 — INSTALL VEHICLE PREEMPTION DETECTOR PER CALTRANS 2006 STANARD PLANS ES-4E. EXACT LOCATION OF DETECTOR SHALL BE DETERMINED BY THE ENGINEER'S REPRESENTATIVE IN THE FIELD.

08-07-N-SN-1287

ENGINEER IN RESPONSIBLE CHARGE

GILBERT M. HERNANDEZ
R.C.E. No. 69170 expires 6-30-08
DATE 3-3-08

REGISTERED PROFESSIONAL ENGINEER — GILBERT M. HERNANDEZ — No. 69170 Exp. 06-30-08 — CIVIL — STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY ____ DRAWN BY MAC CHECKED BY ____

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

	BY	DATE
APPROVED BY		
PRINCIPAL ENGINEER		3/4/08
ENGINEERING MANAGER		3/4/08
CONTRACT ADMIN.		
TRAFFIC ENGINEERING		3/3/08

APPROVED BY _____ CITY ENGINEER
DATE 3/20/08

TRAFFIC SIGNAL MODIFICATION
FOURTEENTH STREET @ 91 FREEWAY RAMPS
SCALE: 1" = 20'

ACCT. NO.
X-104
SHEET 1 OF 3
FILE NAME: X104-1A.DWG

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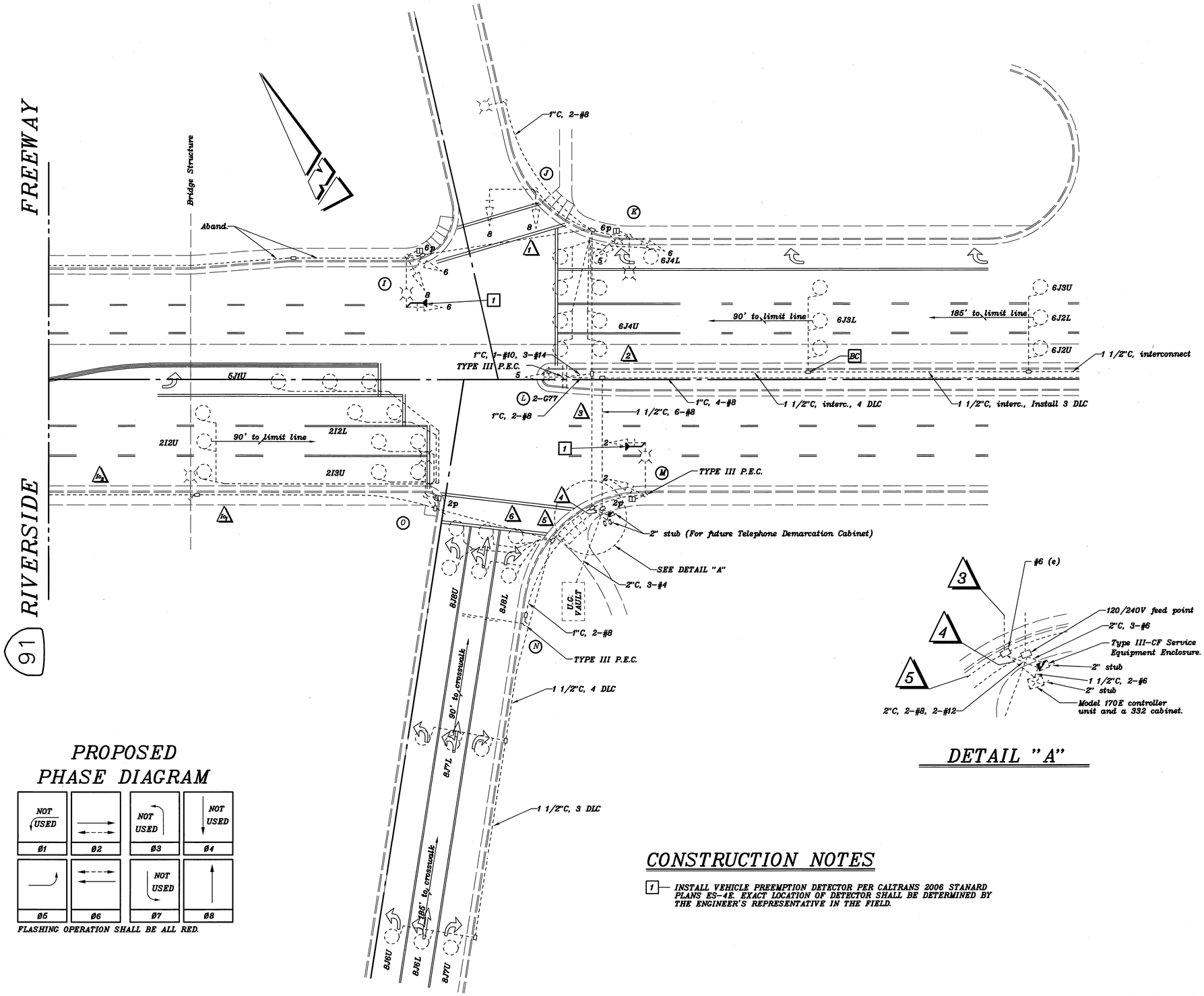

DETAIL "A"

PROPOSED PHASE DIAGRAM

FLASHING OPERATION SHALL BE ALL RED.

CONSTRUCTION NOTES

1 — INSTALL VEHICLE PREEMPTION DETECTOR PER CALTRANS 2006 STANARD PLANS ES-4E. EXACT LOCATION OF DETECTOR SHALL BE DETERMINED BY THE ENGINEER'S REPRESENTATIVE IN THE FIELD.

08-07-N-SN-1287

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1-800-227-2600

ENGINEER IN RESPONSIBLE CHARGE
GILBERT M. HERNANDEZ
R.C.E. No. 69170 expires 6-30-08
DATE 3-7-08

REGISTERED PROFESSIONAL ENGINEER — GILBERT M. HERNANDEZ — No. 69170 Exp. 06-30-08 — CIVIL — STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY ____ DRAWN BY MAC CHECKED BY ____

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

	APPROVED BY	DATE
PRINCIPAL ENGINEER		3/7/08
ENGINEERING MANAGER		3/7/08
CONTRACT ADMIN.		
TRAFFIC ENGINEERING		3/7/08

APPROVED BY _____ CITY ENGINEER
DATE 3/20/08

TRAFFIC SIGNAL MODIFICATION
FOURTEENTH STREET @ 91 FREEWAY RAMPS
SCALE: 1" = 20'

ACCT. NO.
X-104
SHEET 2 OF 3
FILE NAME: X104-2B.DWG

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CONDUCTOR SCHEDULE

CONTROL FUNCTION	CONDUCTORS SIZE	CONDUCTORS INSULATION	RUNS 1	2	3	4	5	6	8	9	10	11	12	13	14	IC1	IC2
VEHICLE HEADS	#14	T.W.															
PHASE 1			–	–	–	–	–	–	–	3	3	3	–	–	–	–	–
PHASE 2			–	–	–	3	–	–	3	6	3	–	–	–	–	–	–
PHASE 4			–	–	–	–	–	–	3	6	–	–	–	–	–	–	–
PHASE 5			–	3	3	3	–	–	–	–	–	–	–	–	–	–	–
PHASE 6			3	3	3	3	–	–	–	3	3	3	3	3	3	–	–
PHASE 8			3	3	3	3	–	–	–	–	–	–	–	–	–	–	–
PED. HEADS																	
PHASE 2			–	–	–	2	2	2	2	4	2	–	–	–	–	–	–
PHASE 6			2	2	2	2	–	–	–	2	2	2	2	2	2	–	–
PED. PUSH BUTTONS																	
PHASE 2			–	–	–	1	1	1	1	2	–	–	–	–	–	–	–
PHASE 6			1	1	1	1	–	1	–	1	1	1	1	1	–	–	–
12V COMMON			1	1	1	–	–	–	1	2	1	1	1	1	1	–	–
SPARES			3	3	3	3	3	3	–	–	–	–	–	–	–	–	–
DETECTORS	TYPE C	P.E.															
PHASE 1			–	–	–	–	–	–	–	1	1	1	1	1	1	–	–
PHASE 2			–	–	–	3	3	3	–	5	5	–	–	–	–	–	–
PHASE 4			–	–	–	–	–	–	–	5	5	5	5	–	–	–	–
PHASE 5			–	–	–	1	1	1	–	–	–	–	–	–	–	–	–
PHASE 6			–	2	6	6	–	–	–	3	3	3	3	3	3	–	–
PHASE 8			–	–	–	6	6	–	–	–	–	–	–	–	–	–	–
120V COMMON	#10	T.W.	–	–	–	–	–	–	–	1	3	1	1	1	1	–	–
LUMINAIRES	#8	T.H.W.	2	2	2	–	2	2	2	–	2	2	2	2	2	2	–
SIGN LIGHTING	#8	T.H.W.	–	–	–	–	–	–	2	–	2	2	2	–	–	–	–
SIGNAL SERVICE	#6	T.W.	–	–	–	–	–	–	2	2	–	–	–	–	–	–	–
INTERCONNECT	#20	P.E.	–	–	1	1	1	1	1	2	1	1	1	–	–	1	1
VEHICLE PREEMPTION	#19	P.E.	1(N)	1(N)	1(N)	2(N)	–	–	1(N)	2(N)	1(N)	1(N)	1(N)	–	–	–	–
CONDUIT SIZE			2"	2 1/2"	2 1/2"	2–3"	3"	3"	3 1/2"	2–3"	2–3"	2 1/2"	2 1/2"	2"	2"	3"	3"

EQUIPMENT SCHEDULE

NO.	SIGNAL STANDARD TYPE	H'GHT	M.A.	LUMINAIRE L.A.	H.P.S.V.	SIGNAL MOUNTING VEHICLE	PEDESTRIAN	REMARKS
(A)	TYPE 19	30'	30'	15'	250W	MAS		
						SV–1–T	SP–1–T	
(B)	TYPE 15	30'		6'	200W			
(C)	TYPE 15	30'		15'	250W	SV–1–T	SP–1–T	
(D)	TYPE 19	30'	25'	15'	250W	MAS		
						SV–2–TD	SP–1–T	
(E)	TYPE 17	30'	18'	6'	200W	MAS		
						SV–1–T		
(F)	TYPE 15	30'		15'	250W	SV–1–T	SP–1–T	
(G)	SIGN STD.					SV–1–T		
(H)	TYPE 18 (SPEC.)							
(I)	TYPE 17	30'	20'	15'	250W	MAS		
						SV–2–TB	SP–1–T	
(J)	TYPE 16	17'	15'		250W	MAS		
						SV–1–T		
(K)	TYPE 15	30'		15'	250W	SV–2–TB	SP–1–T	
(L)	SIGN STD.					SV–1–T		
(M)	TYPE 17	30'	20'	15'	250W	MAS		
						SV–1–T	SP–1–T	
(N)	TYPE 18 (SPEC.)							
(O)	TYPE 15	30'		15'	250W	SV–1–T	SP–1–T	

N = NEW EQUIPMENT TO BE PROVIDED AND INSTALLED. ALL OTHER EQUIPMENT, UNLESS OTHERWISE INDICATED, EXISTS AND SHALL REMAIN IN PLACE.

08–07–N–SN–1287

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CALL TOLL FREE
TWO WORKING DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT
1–800–227–2600

ENGINEER IN RESPONSIBLE CHARGE
GILBERT M. HERNANDEZ
R.C.E. No. 69170 expires 6–30–08
DATE 3–3–08

REGISTERED PROFESSIONAL ENGINEER · GILBERT M. HERNANDEZ · No. 69170 Exp. 06–30–08 · CIVIL · STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY ____ DRAWN BY MAC CHECKED BY ____

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

	BY	DATE
APPROVED BY		
PRINCIPAL ENGINEER		3/19/08
ENGINEERING MANAGER	BH	3/19/08
CONTRACT ADMIN.		
TRAFFIC ENGINEERING		3/31/08

APPROVED BY
CITY ENGINEER
DATE 3/20/08

TRAFFIC SIGNAL MODIFICATION
FOURTEENTH STREET @ 91 FREEWAY RAMPS
SCALE: 1" = 20'

ACCT. NO.
X–104
SHEET 3 OF 3
FILE NAME: X104–SA.DWG

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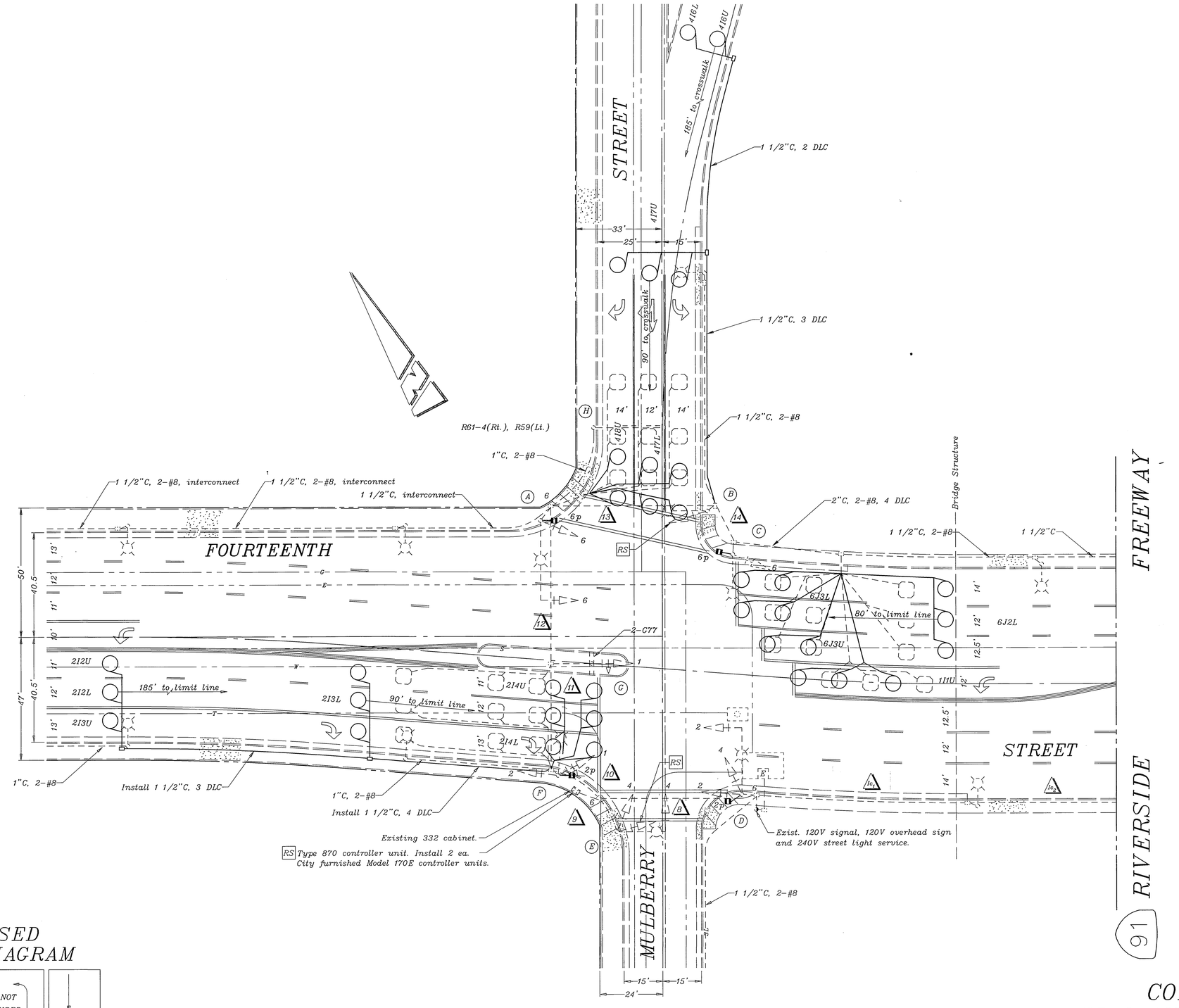

GENERAL NOTES

1 — Detector loops shall be installed in the presence of the Traffic Engineer or his representative.

2 — Typical detector loop spacing: 10', 15'. (where applicable).

PROPOSED PHASE DIAGRAM

Ø1	Ø2	Ø3	Ø4
		NOT USED	

Ø5	Ø6	Ø7	Ø8
NOT USED		NOT USED	NOT USED

FLASHING OPERATION SHALL BE ALL RED.

IMPORTANT NOTICE
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UNDERGROUND SERVICE ALERT
1-800-227-2600

ENGINEER IN RESPONSIBLE CHARGE
Richard D. McGrath
RICHARD D. McGRATH
R.C.E. No. 31952 expires 12-31-96
DATE 5-30-96

REGISTERED PROFESSIONAL ENGINEER
RICHARD D. McGRATH
No. 31952
Exp. 12-31-96
CIVIL
STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY _____ DRAWN BY MAC CHECKED BY

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

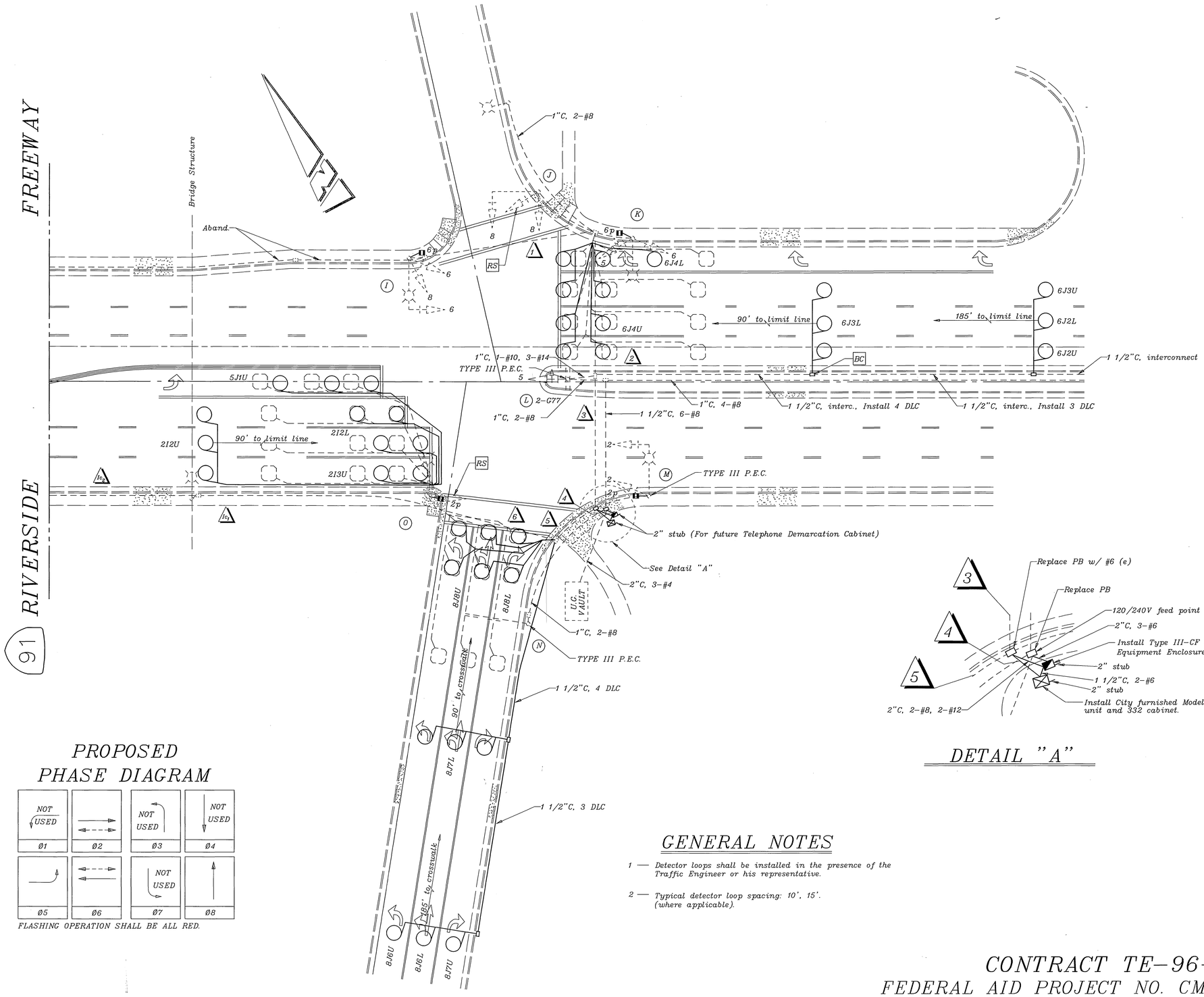
APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		5/30/96
P.W. INSPECTION	RSE	5/29/96
TRAFFIC DIVISION		5/21/96
CHIEF P.W. ENGR.	RHL	5/24/96
PUBLIC UTILITIES	RS	5/24/96

APPROVED BY _____ DIRECTOR OF PUBLIC WORKS
DATE 5/30/96

TRAFFIC SIGNAL MODIFICATION
FOURTEENTH STREET @ 91 FREEWAY RAMPS
SCALE: 1" = 20'

ACCT. NO. 0430-541600-440125-35060
X-104
SHEET 1 OF 3
FILE NAME: X104.DWG

CONTRACT TE-96-5
FEDERAL AID PROJECT NO. CMLN-5058(20)
CONTRACTOR'S LICENSE REQUIREMENTS "A" OR "C-10"



DETAIL "A"

PROPOSED PHASE DIAGRAM

FLASHING OPERATION SHALL BE ALL RED.

GENERAL NOTES

1 — Detector loops shall be installed in the presence of the Traffic Engineer or his representative.

2 — Typical detector loop spacing: 10', 15'. (where applicable).

CONTRACT TE-96-5

FEDERAL AID PROJECT NO. CMLN-5058(20)

CONTRACTOR'S LICENSE REQUIREMENTS "A" OR "C-10"

IMPORTANT NOTICE
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1-800-227-2600

ENGINEER IN RESPONSIBLE CHARGE
Richard D. McGrath
RICHARD D. McGRATH
R.C.E. No. 31952 expires 12-31-96
DATE 5-30-96

REGISTERED PROFESSIONAL ENGINEER
RICHARD D. McGRATH
No. 31952
Exp. 12-31-96
CIVIL
STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY ____ DRAWN BY MAC CHECKED BY

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		5/29/96
P.W. INSPECTION		5/23/96
TRAFFIC DIVISION		5/24/96
CHIEF P.W. ENGR.		5/29/96
PUBLIC UTILITIES		5/24/96

APPROVED BY
DIRECTOR OF PUBLIC WORKS
DATE 5/30/96

TRAFFIC SIGNAL MODIFICATION
FOURTEENTH STREET @ 91 FREEWAY RAMPS
SCALE: 1" = 20'

ACCT. NO. 0430-541600-440125-35060
X-104
SHEET 2 OF 3
FILE NAME: X104.DWG

CONDUCTOR SCHEDULE

CONTROL FUNCTION	CONDUCTORS SIZE	CONDUCTORS INSULATION	RUNS 1	2	3	4	5	6	8	9	10	11	12	13	14	1C1	1C2
VEHICLE HEADS	#14	T.W.															
PHASE 1			–	–	–	–	–	–	–	3	3	3	–	–	–	–	–
PHASE 2			–	–	–	3	–	–	3	6	3	–	–	–	–	–	–
PHASE 4			–	–	–	–	–	–	3	6	–	–	–	–	–	–	–
PHASE 5			–	3	3	3	–	–	–	–	–	–	–	–	–	–	–
PHASE 6			3	3	3	3	–	–	–	3	3	3	3	3	3	–	–
PHASE 8			3	3	3	3	–	–	–	–	–	–	–	–	–	–	–
PED. HEADS																	
PHASE 2			–	–	–	2	2	2	2	4	2	–	–	–	–	–	–
PHASE 6			2	2	2	2	–	–	–	2	2	2	2	2	2	–	–
PED. PUSH BUTTONS																	
PHASE 2			–	–	–	1	1	1	1	2	–	–	–	–	–	–	–
PHASE 6			1	1	1	1	–	1	–	1	1	1	1	1	–	–	–
12V COMMON			1	1	1	–	–	–	1	2	1	1	1	1	1	–	–
SPARES			3	3	3	3	3	3	–	–	–	–	–	–	–	–	–
DETECTORS	TYPE C	P.E.															
PHASE 1			–	–	–	–	–	–	–	1	1	1	1	1	1	–	–
PHASE 2			–	–	–	3	3	3	–	5	5	–	–	–	–	–	–
PHASE 4			–	–	–	–	–	–	–	5	5	5	5	–	–	–	–
PHASE 5			–	–	–	1	1	1	–	–	–	–	–	–	–	–	–
PHASE 6			–	2	6	6	–	–	–	3	3	3	3	3	3	–	–
PHASE 8			–	–	–	6	6	–	–	–	–	–	–	–	–	–	–
120V COMMON	#10	T.W.	–	–	–	–	–	–	–	1	3	1	1	1	1	–	–
LUMINAIRES	#8	T.H.W.	2	2	2	–	2	2	2	–	2	2	2	2	2	2	–
SIGN LIGHTING	#8	T.H.W.	–	–	–	–	–	–	2	–	2	2	2	–	–	–	–
SIGNAL SERVICE	#6	T.W.	–	–	–	–	–	–	2	2	–	–	–	–	–	–	–
INTERCONNECT	#20	P.E.	–	–	1	1	1	1	1	2	1	1	1	–	–	1	1
CONDUIT SIZE			2"	2 1/2"	2 1/2"	2–3"	3"	3"	3 1/2"	2–3"	2–3"	2 1/2"	2 1/2"	2"	2"	3"	3"
			(E)	(E)	(E)	(N)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)	(E)

1. THE TRAFFIC SIGNAL SYSTEM SHALL HAVE NEW CABLES AND CONDUCTORS.
2. THE EXISTING INTERCONNECT CABLE SHALL BE REUSED, EXCEPT THAT PORTION BETWEEN THE TRAFFIC SIGNAL CONTROLLER CABINETS. NEW CABLE SHALL BE INSTALLED, SEE CONTRACT SPECIAL PROVISIONS FOR CABLE SPECIFICATIONS.

EQUIPMENT SCHEDULE

NO.	SIGNAL STANDARD TYPE	H'GHT	M.A.	LUMINAIRE L.A.	H.P.S.V.	SIGNAL MOUNTING VEHICLE	PEDESTRIAN	REMARKS
(A)	TYPE 19	30'	30'	15'	250W	MAS		
						SV-1-T	SP-1-T(N)	
(B)	TYPE 15	30'		6'	200W			
(C)	TYPE 15	30'		15'	250W	SV-1-T	SP-1-T(N)	
(D)	TYPE 19	30'	25'	15'	250W	MAS		
						SV-2-TD	SP-1-T(N)	
(E)	TYPE 17	30'	18'	6'	200W	MAS		PROVIDE NEW FRAMEWORK FOR
						SV-1-T(N)		MOUNTING AS INDICATED.
(F)	TYPE 15	30'		15'	250W	SV-1-T	SP-1-T(N)	
(G)	SIGN STD.					SV-1-T		
(H)	TYPE 18 (SPEC.)							
(I)	TYPE 17	30'	20'	15'	250W	MAS		
						SV-2-TB	SP-1-T(N)	
(J)	TYPE 16	17'	15'		250W	MAS		PROVIDE NEW FRAMEWORK FOR
						SV-1-T(N)		MOUNTING AS INDICATED.
(K)	TYPE 15	30'		15'	250W	SV-2-TB	SP-1-T(N)	
(L)	SIGN STD.					SV-1-T		
(M)	TYPE 17	30'	20'	15'	250W	MAS		
						SV-1-T	SP-1-T(N)	
(N)	TYPE 18 (SPEC.)							
(O)	TYPE 15	30'		15'	250W	SV-1-T	SP-1-T(N)	

N = NEW EQUIPMENT TO BE PROVIDED AND INSTALLED. ALL OTHER EQUIPMENT, UNLESS OTHERWISE INDICATED, EXISTS AND SHALL REMAIN IN PLACE.
NOTE L.E.D. REQUIREMENTS SHALL NOT APPLY.

IMPORTANT NOTICE
Section 4216/4217 of the Government Code requires a Dig Alert Identification Number to be issued before a "Permit to Excavate" will be valid. For your Dig Alert I.D. Number call
CALL TOLL FREE
TWO WORKING DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT
1-800-227-2600

ENGINEER IN RESPONSIBLE CHARGE
Richard D. McGrath
RICHARD D. McGRATH
R.C.E. No. 31952 expires 12-31-96
DATE 6-30-96

REGISTERED PROFESSIONAL ENGINEER RICHARD D. McGRATH No. 31952 Exp. 12-31-96 CIVIL STATE OF CALIFORNIA

MARK	REVISIONS	APPR.	DATE

DESIGNED BY ____ DRAWN BY MAC CHECKED BY ____

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		5/30/96
P.W. INSPECTION		5/31/96
TRAFFIC DIVISION		5/24/96
CHIEF P.W. ENGR.		5/31/96
PUBLIC UTILITIES		5/24/96

APPROVED BY
DIRECTOR OF PUBLIC WORKS
DATE 5/30/96

CONTRACT TE-96-5
FEDERAL AID PROJECT NO. CMLN-5058(20)
CONTRACTOR'S LICENSE REQUIREMENTS "A" OR "C-10"

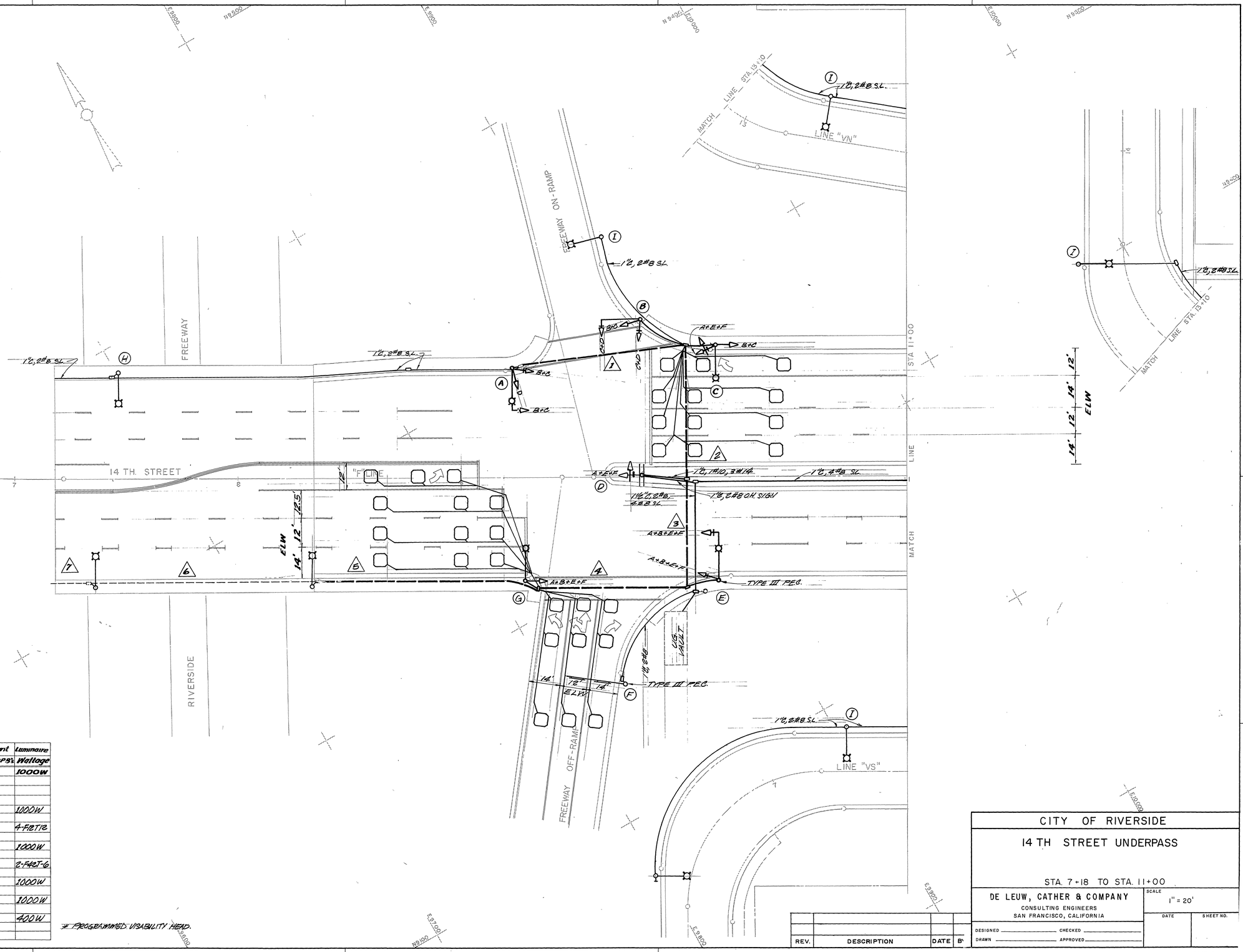
TRAFFIC SIGNAL MODIFICATION
FOURTEENTH STREET @ 91 FREEWAY RAMPS
SCALE: 1" = 20'

ACCT. NO. 0430-541600-440125-35060
X-104
SHEET 3 OF 3
FILE NAME: X104-3.DWG

SIGNING REQUIREMENTS

Loc.	Code*	Size	Mounting	Facing	Remarks
C	R53	24"x24"	Signal Std.	W	Mount above vehicle head
D	R53A	36"x22"	O.H. Sign Standard	W	Mount above vehicle head
	2-G77	18"x78"	O.H. Sign Standard	E&W	
F	R61-3(LT)	45"x45"	Mast Arm	S	
	25?(RH)	42"x45"	Mast Arm	S	

NOTE: All sign codes are California State Std.



EQUIPMENT SCHEDULE

Location	Standard	Vehicle Equipment				Ped. Equipment			Luminaire
		Heads	Mtg.'s	Back Plate	Louv.	Heads	Mtg.'s	PP's	Wattage
A	Type XVII	1W3C(12")	M-2	1					1000W
	15'LA, 20'SA	2W3C	B-2	1					
B	TYPE XII	1W3C (12")	M-2	1	3				
	15'LA	2W3C	B-2	1					
C	TYPE XII	2W3C	B-2	1					1000W
	15'LA	R,Y,12"GA							
D	SIGN STD.	1W3C(GA)*	B-1	1					4-F12T12
		R,Y,12"GA							
E	TYPE XIII	1W3C*	M-2	1					1000W
	15'LA, 20'SA	1W3C	B-1	1					
F	XVIII								2-F42T-6
	(Spec.)								
G	TYPE XI								1000W
	15'LA	1W3C	B-1	1	3				
H	TYPE XI								1000W
	15'LA								
I	TYPE XV								400W
	6'LA.								

* PROGRAMMED VISABILITY HEAD.

REV.	DESCRIPTION	DATE	BY

CITY OF RIVERSIDE

14 TH STREET UNDERPASS

STA. 7+18 TO STA. 11+00

DE LEUW, CATHER & COMPANY
CONSULTING ENGINEERS
SAN FRANCISCO, CALIFORNIA

SCALE 1" = 20'

DESIGNED ____ CHECKED ____
DRAWN ____ APPROVED ____

DATE ____ SHEET NO. ____

PROJ. NO. 2023-01

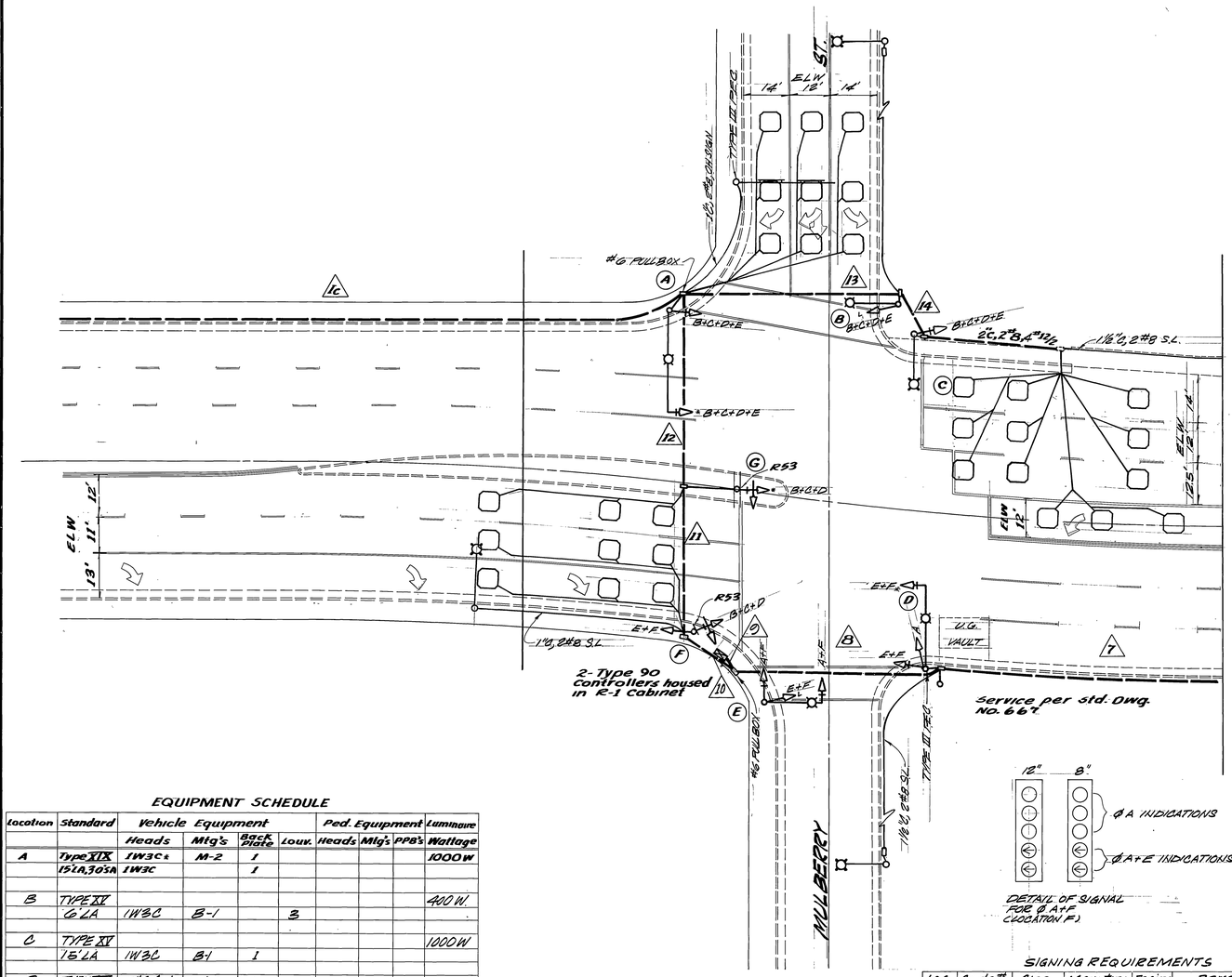
X-104

Dist.	County	Route	Post Miles Total Project	Sheet No.	Total Sheets

DESIGN ENGINEER — REGISTERED CIVIL ENGINEER

NO.

DATE APPROVED



CONDUCTOR SCHEDULE

CONTROL FUNCTION	CONDUCTORS SIZE	CONDUCTORS INSULATION	CONDUIT RUN 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VEHICLE HEADS	#14	TW								3	3											
ØA+E						3	3	3	3	3	3											
ØA+B+E+F	#10					3	3	3	3	3	3											
ØA+E+F					3	3	3	3	3	3	3											
ØB+C			3	3	3	3	3	3	3	3	3											
ØB+D	#14									3	3	3	3									
ØB+D+E										3	3	3	3	3	3	3						
ØC	#10		3	3	3	3	3	3	3	3	4											
ØE+F	#14									3	6	3										
SPARES											3	3	3	3	3	3						
SPARES	#10		3	3	3	3	3	3	3	3	3											
DET CABLE	#16	PE					1	1	1	1	4	3	3	3								
ØA							3	3	3	3	3											
ØB							3	3	3	3	3											
C				4	4	4	4	4	4	4	4											
E										3	3	1										
F										3	3	3	3	3	3	3						
D							3	3	3	3	3											
120V COMMON	#10	TW									1	1	1	1	1	1						
120V COMMON	#8		1	1	1	1	1	1	1	1	1											
SIGNAL SERVICE										2	2											
LUMINAIRES		T.H.W.	2	2	2	2	2	2	2■	2■	2		2	2	2	2						
SIGN LIGHTING	#8										2		2	2	2							
INTERCONNECT	#16	PE									1	1	1	1			1					
TOTALS	#14	TW								9	18	12	9	6	6	6						
	#10		9	12	12	15	15	15	15	15	15	16	1	1	1	1						
	#8		1	1	1	1	1	1	1	3	3											
	#16	T.H.W.	2	2	2	2	2	2	2	2	2											
	#16	PE		2	2	2	1	1	1	1	1	1	1	1			1					
	#14																					
	#10						1	1	1	1	1	1	1	1	1	1						
	#8																					
CONDUIT SIZE			2"	2½"	2½"	2½"	3"	3"	3"	3½"	3½"	3"	2½"	2½"	2½"	2"	2"	1½"				

CONDUCTORS FOR LUMINAIRES ARE No. 8 Cu. WITH 4/64" T.H.W. INSULATION RATED FOR 600V, EXCEPT AS NOTED ■ = No. 6 Cu. RUNS 5, 6 & 7.

EQUIPMENT SCHEDULE

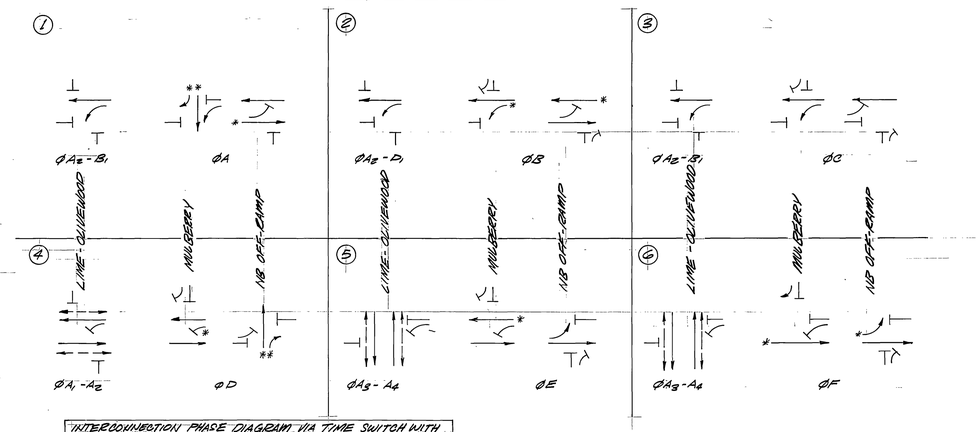
Location	Standard	Vehicle Equipment: Heads	Mtg's	Back Plate	Louv.	Ped. Equipment: Heads	Mtg's	PPB's	Luminaire: Wattage
A	Type XIX	1W3C*	M-2	1					1000W
	15'A, 30'SA	1W3C		1					
B	TYPE XV								400W
	6'A	1W3C	B-1		3				
C	TYPE XV								1000W
	15'A	1W3C	B-1	1					
D	TYPE XIX	1W3C*	M-2	1					1000W
	15'A, 15'SA	2W3C	B-2	1					
E	TYPE XVII	1W3C (12")	M-2	1					400W
	6'A, 18'SA	2W3C	B-2	1	3				
F	TYPE XV	2W3C	B-2	1					1000W
	15'A	1-R, Y, 12"GA 1-ALL B"							
G	SIGN STD.	1W3C (GA)*	B-1	1					4-F2ET12
H	XVIII (SPEC.)								2-F4ET6
I	68J10								400W

SIGNING REQUIREMENTS

Loc.	Code #	Size	Mounting	Facing	Remarks
F	R53	24"x24"	Signal Std.	E	Mount above vehicle head
G	R53A	36"x22"	Sign Std.	E	Mount above vehicle head
	2-G77	18"x76"	O.H. Sign Standard	E&W	
H	R61-4(RT)	45"x45"	Mast Arm	N	
	R59(LT)	42"x45"	Mast Arm	N	

NOTE: ALL SIGN CODES ARE CALIFORNIA STATE STANDARD.

PHASE DIAGRAM



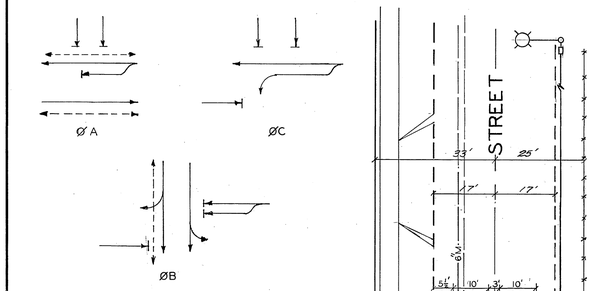
"INTERCONNECTION PHASE DIAGRAM VIA TIME SWITCH WITH PHASE C YELLOW ("Y") CONTROLLING FORCE-OFF CIRCUIT.

* DETECTOR CONTROLLING PHASE LENGTH FLASHING INDICATION: ALL RED. ALL MODULES = TYPE "S"

Approval Recommended By	Date
Design Engineer	Date
Project Engineer	Date

FORM HD.92 PF

X-104A



PHASE DIAGRAM

CONDUCTOR SCHEDULE (AT MULBERRY ST.)

CONDUCTOR RUN	1				2				3				4				5				6				7				8				9			
CONDUCTORS	8	10	12	14	8	10	12	14	8	10	12	14	8	10	12	14	8	10	12	14	8	10	12	14	8	10	12	14	8	10	12	14	8	10	12	14
Ø A				3	→			3	→			3	→			3					→			3				3								
Ø A+ØC																												3								
ØC																3				3	→			3				3								
ØB								3	→			3	→			3					→			3				3								
Ø A W-DW								2	→			2	→			2					→			2				4	←		2				2
ØB W-DW																2								2				2								
120V NEUTRAL		1				1				1				1				1				1				1				1				1		
Ø A PPB						1	→			2	→			2								2				4	←		2			1				
ØB PPB												1								1				2				3								
Ø A CALL DET.																2/12								2/12				2/12								
Ø A DET.																2/12								2/12				2/12								
ØC DET.																												2/12								
ØB DET.																												2/12								
ØB CALL DET.																												2/12								
Ø A DET.																												2/12								
LUMINAIRES	2	→			2	→			2	→			2	→							2															
SIGNAL SERVICE													2								2															
12V NEUTRAL						1				1				1				1				1				1				1				1		
INTERCONNECT																												6				6				
SPARES				3	→			3	→			3	→			3					→			3				3	←		3				3
TOT. CONDUCTORS	2	1		6	2	1	2	11	2	1	3	11	4	1	8	16	1	2	3		4	1	9	16	1	20	27		1	11	11		1	2	5
CONDUIT SIZE	1½"				1½"				1½"				2"				1½"				2"				3"				2"				2"		

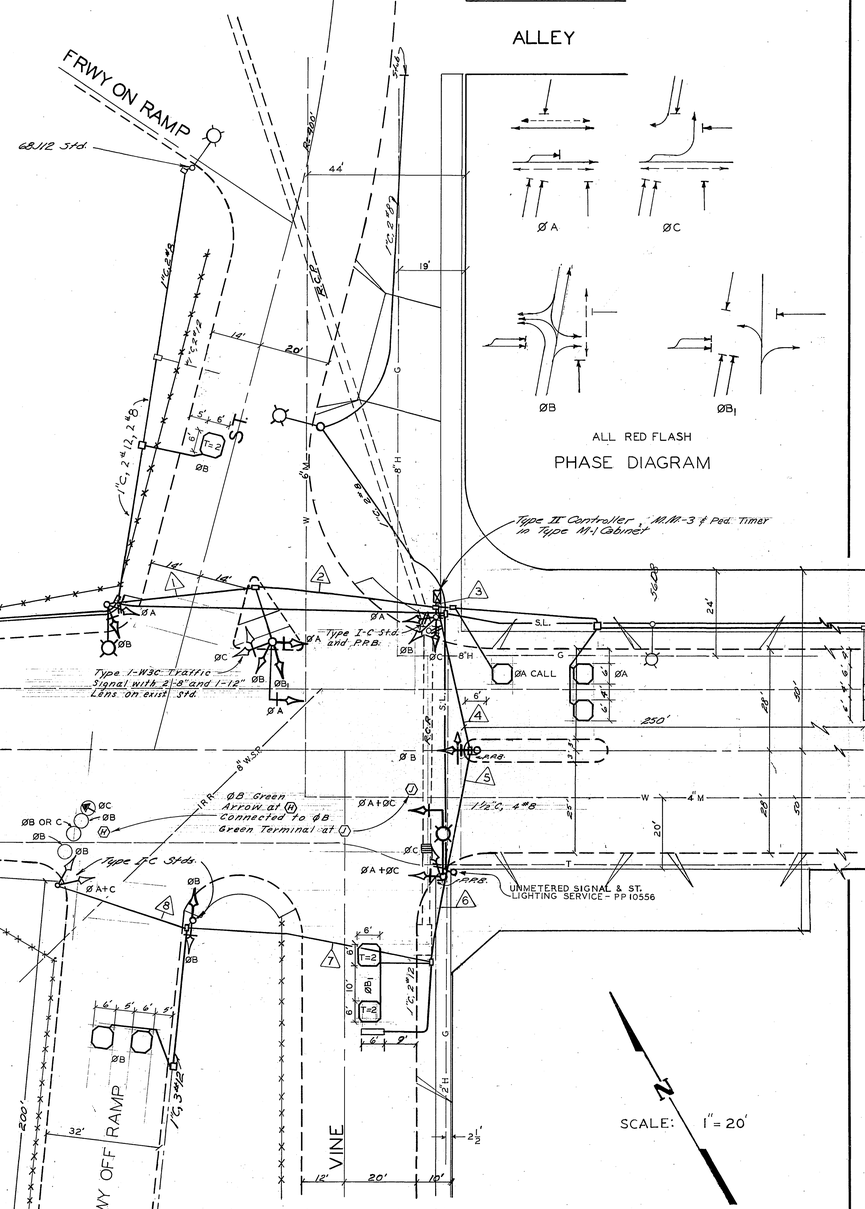
CO-ORDINATION DIAGRAM

POLE AND SIGNAL SCHEDULE (AT MULBERRY)

LOCATION	STANDARD	LUMINAIRE	SIGNALS			WALK-DON'T WALK	
			TYPE	MTG.	LENS SIZE	TYPE	MTG.
Ⓐ	I-A					I-W2C	W-1
Ⓑ	XVII	20,000MV	I-W3C I-W3C	B-1 M2-20'MA	3-8" 3-12"	2-W2C	W-3
Ⓒ	I-A		I-W3C	A-2	2-8" 1-12"		
Ⓓ	I-A		I-W3C	A-1	2-8" 1-12"	I-W2C	W-0
Ⓔ	XV	20,000MV	I-W3C	B-1	3-8"	I-W2C	W-0
Ⓕ	I-A		I-W3C	A-2	3-8"	I-W2C	W-0
Ⓖ	XVII	20,000MV	I-W3C I-W3C	B-1 M2-20'MA	3-8" 3-12"		

CONDUCTOR SCHEDULE (AT VINE ST.)

CONDUCTOR RUN	1				2				3				4				5				6				7				8			
CONDUCTORS	8	10	12	14	8	10	12	14	8	10	12	14	8	10	12	14	8	10	12	14	8	10	12	14	8	10	12	14	8	10	12	14
Ø A								3																3				3				3
Ø A + ØC												3	←			3				3												
ØC								3				6				3																
ØB				3	→			3				3	←			3	←			3	←			3	←			3				3
ØB$_1$								3				3																				
Ø B OR ØC YELL.												1	←			1	←			1	←			1	←			1				1
ØC GRN ARROW																								1				1				1
Ø A PED.			2	→				2				2																				
ØB PED.												2	←			2				2												
SPARES			3					3				3				3				3				3				3				3
120V NEUTRAL	1					1				1				1				1				1				1				1		
ØB PPB									3						2				1													
ØA DET.									2/12																							
ØA DET.			2/12				2/12																									
ØA CALL DET.									2/12																							
ØC DET.			2/12				2/12																									
ØB DET.			2/12				2/12				2/12				2/12				2/12				2/12									
ØB$_1$ DET.									2/12						2/12				2/12				2/12									
12V NEUTRAL									1						1				1													
SIGNAL SERVICE										2				2				2														
SIGN BRIDGE LTG.																						2				2						
INTERCONNECT			6				6																									
TOT. CONDUCTORS	1	6	14		1	6	23		2	1	12	23	2	1	7	15	2	1	6	13		3	4	11		3	2	11		1		11
CONDUIT SIZE	2"				2"				2				2"				2"				1½"				1½"				1½"			



REVISIONS		
MARK	DATE	DESCRIPTION
	8-8-67	As Built M.W.
	12-9-70	As Built per Contract TE-70-7 (detectors) JMW
	6-5-72	changed Ø's B & C JMW

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

CONTRACT NO. 66-3

FOURTEENTH STREET & FREEWAY RAMPS

TRAFFIC SIGNALS

DESIGNED BY	SUBMITTED BY	APPROVED BY	PROJ. NO. 7005
DRAWN BY A.D.D. / M.G.	PARK DEPT. / TRAFFIC DIV.	DIRECTOR OF PUBLIC WORKS	X-104 A
CHECKED BY	RECOMMENDED BY	DATE	SHEET OF
	ASSISTANT CITY ENGINEER		

SCALE: 1" = 20'

17' 17' 16'

30" Planer Bay

20' ALLEY

Pole No. 15392 J

FRWY ON RAMP

68 J12 Std. & Luminaire

Pull Box

R=100'

1' Tree W.M. Tree

5' Conc. Walk 155'

1½"C, 4#12

ST.

R=12'

14' 20'

5' 4'

12.4%

65'

Pull Box

1½"C, 4#12, 2#8

Bridge Rail

Fence

185.38'

2"C, 14#14, 3#12, 1#10

P.

C.P.

T.E. Dir. Service Pole Overhead feed

Hedge 4' Sidewalk Hedge

36 DB Std.

3' PULE

Type IV Controller & MM-3 in Type M Cabinet

P.P.B.

ST.

Conc. Walk

1½"C, future interconnect cable

1½"C, 3#12

Freeway Overpass

1½"C, future interconnect cable

Bridge Type P.B.

1½"C, 3#12

Conc. Walk

1½"C, 4#12

2"C, 18#14, 3#12, 1#10

Type I-C Stds.

12" Red Lens

2"C, 19#14, 9#12, 1#10

95°10'58"

52.96'

250'

40'

25'

R=3'

14TH

ST.

2"C, 15#14, 9#12, 1#10

12" Red Lens

15' Mast Arm

25'

28'

11'

12'

φ A-1 Detectors

40'

250'

20'

11'

Conc. Walk

Type I-C Stds.

P.P.B.

1½"C, 9#14, 9#12, 1#10

Conc. Bldg.

Type B-3 Curb Island, backfilled with compacted I.B.M.S. & 1½" P.M.S.

1½"C, 9#14, 3#12, 1#10

Pull Box

Pull Box

1"C, 2#12

Lighting Service Pd.

Pole #123541

45'

6' 9'

W.M.

Tel. M.H.

PHASE DIAGRAM

φ A

φ B, φ C

φ B

φ C

Fence

200'

FRWY OFF RAMP

1"C, 3#12

VINE

12' 20' 10'

6' 6' 9' 6' 6'

Pull Box

See X-104A

12-15-59 Island "As Built", H. Ball

A.D.D. 4-19-60 As Built

TRAFFIC SIGNALS

14TH ST. — VINE ST.

A.D.D. M.D. Hoge, M.A. Thiel, J.M. Mattinal, April 15, 1960

X-104