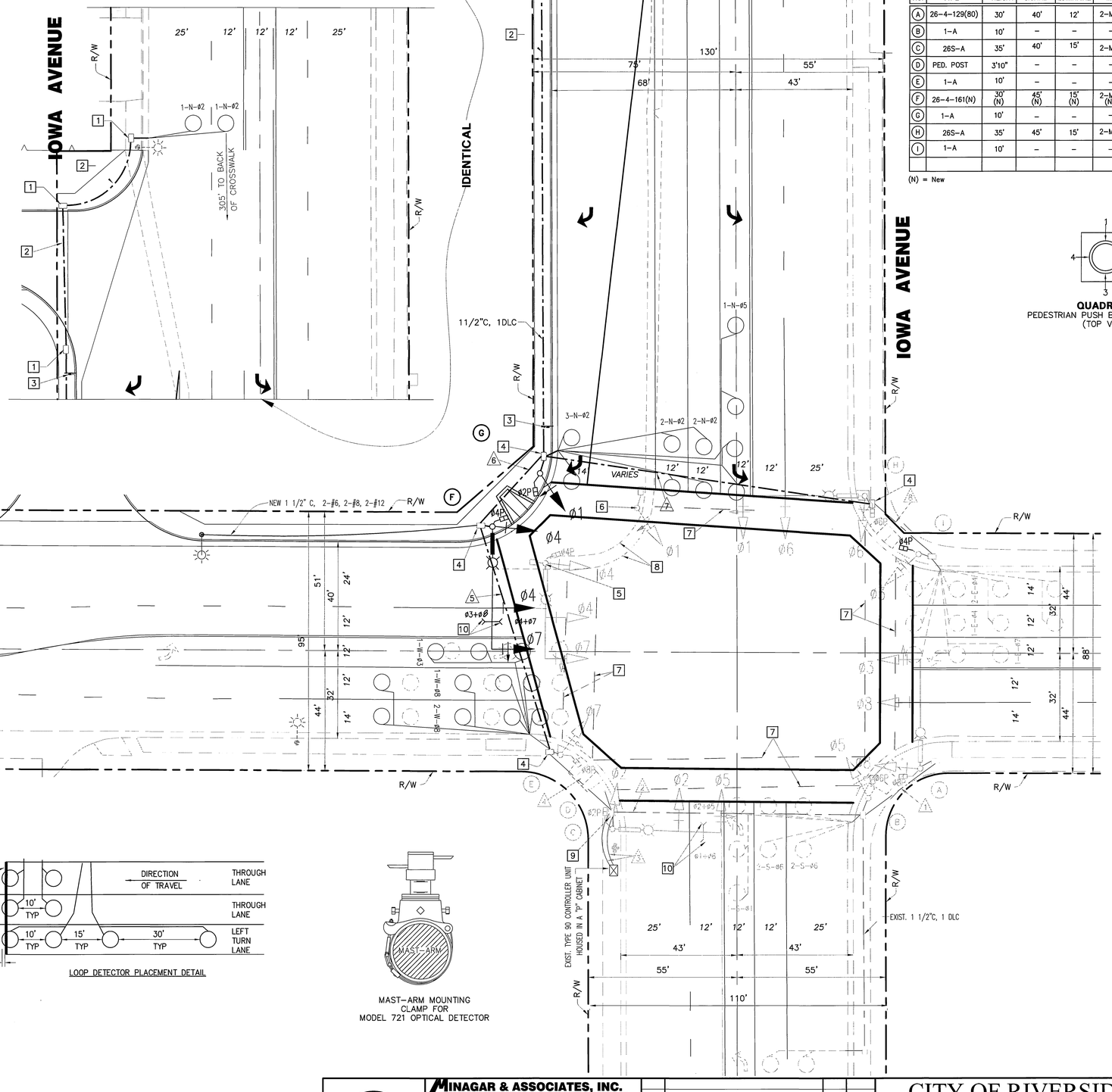
CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE OR CIRCUIT	CONDUIT SIZE AND RUN NUMBER 2" /1	2.5" /2	2–3" /3	3.5" /4	3.5" /5	3.5" /6	3.5" /7	2" /8
12 CONDUCTOR / 3 CONDUCTOR	POLE – A	1	1	1	1	–	–	–	–
	B	–	–	1	1	–	–	–	–
	C	–	–	–	1	–	–	–	–
	D	–	–	–	–	1	–	–	–
	E	–	–	–	1	1	–	–	–
	F	–	–	–	1	1	1	–	–
	G	–	–	–	1	1	1	1	–
	H	–	–	1	1	1	1	1	–
	I	–	–	–	1	1	1	1	1
	TOTAL	1	1	2	8	5	4	3	2
#12	I.I.S.N.S.	2	2	2	2	2	2	2	–
#10	LUMINAIRES	2	2	2	2	2	2	2	–
DLC (TYPE "B")	ø1	–	1	1	–	–	–	–	–
	ø2	–	3	1	3	3	3	–	–
	ø3	–	–	1	1	–	–	–	–
	ø4	–	–	2	2	2	2	2	2
	ø5	–	–	1	1	1	1	–	–
	ø6	–	2	2	–	–	–	–	–
	ø7	–	–	1	1	1	1	1	1
	ø8	–	–	2	2	–	–	–	–
	TOTAL	–	3	13	10	7	7	3	3
3M OPTICOM CABLE #138		–	–	4	2	2	–	–	–
CONDUIT FILL RATIO						26%	21%	14%	
		(E)	(E)	(E)	(E)	(N)	(N)	(N)	(E)

INSTALL ALL NEW CONDUCTOR UNLESS OTHERWISE NOTED:
(E) – EXISTING CONDUIT
(N) – NEW CONDUIT
△X△ – EXISTING RUNS
△X△ – NEW RUNS



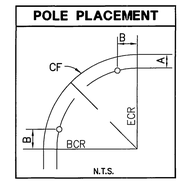
POLE SCHEDULE

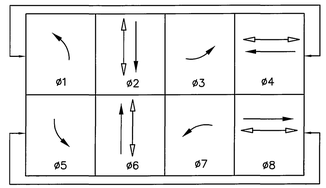
NO.	POLE TYPE	POLE HEIGHT	MAST ARM LENGTH SIGNAL	MAST ARM LENGTH LUMINAIRE	SIGNAL MOUNTING MA	SIGNAL MOUNTING POLE	SIGNAL MOUNTING PED	PPB ø	PPB QUAD	H.P.S.V. LUMINAIRE	LOCATION A	LOCATION B	I.I.S.N.S. LEGEND (SHAFT MOUNT)	REMARKS
A	26–4–129(80)	30'	40'	12'	2–MAS	SV–1–T	SP–1–T	6	4	400 W	EX	EX	IOWA Av – 2800	
B	1–A	10'	–	–	–	TV–1–T	SP–1–T	8	1		EX	EX		
C	26S–A	35'	40'	15'	2–MAS	SV–1–T	SP–1–T	–	–	400 W	EX	EX	SPRUCE	
D	PED. POST	3'10"	–	–	–	–	–	8	1		EX			
E	1–A	10'	–	–	–	TV–1–T	SP–1–T	2	2	–	EX	EX		
F	26–4–161(N)	30' (N)	45' (N)	15' (N)	2–MAS (N)	SV–1–T (N)	SP–1–T (N)	2	2	400 W	3'	12'	IOWA Av – 2900	RELOCATE EXIST I.I.S.N.S. AND 721 OPTICAL DETECTORS
G	1–A	10'	–	–	–	TV–1–T	SP–1–T (N)	4	3	–	3'	10'		RELOCATE EXIST POLE AND SIGNAL MOUNTING
H	26S–A	35'	45'	15'	2–MAS	SV–1–T	SP–1–T	4	3	400 W	EX	EX	SPRUCE	
I	1–A	10'	–	–	–	TV–1–T	SP–1–T (N)	6	4	–	EX	EX		

(N) = New

QUADRANT
PEDESTRIAN PUSH BUTTON LOCATION
(TOP VIEW)

POLE PLACEMENT





PHASE DIAGRAM

SENSOR TABLE

LOOP DESIGNATION	NUMBER OF LOOPS
1–S–ø1	3
1–N–ø2	2
2–N–ø2	4
1–W–ø3	3
1–E–ø4	4
2–E–ø4	4
1–N–ø5	3
1–S–ø6	2
2–S–ø6	4
1–E–ø7	3
1–W–ø8	4
2–W–ø8	4
3–N–ø2	2

CONSTRUCTION NOTES:

1. FURNISH AND INSTALL NO. 5 PULL BOX
2. FURNISH AND INSTALL 1 1/2 " CONDUIT AND 1 DLC
3. FURNISH AND INSTALL R3–7 SIGN
4. FURNISH AND INSTALL NO. 6 PULL BOX
5. REMOVE AND SALVAGE SIGNAL FACILITIES
6. REMOVE AND RELOCATE SIGNAL FACILITIES
7. REMOVE CONFLICTING STRIPING BY SAND BLASTING
8. EXISTING CURB AND SIDEWALK
9. FURNISH AND INSTALL NO. 6 E PULL BOX
10. EXISTING MODEL 721 OPTICAL DETECTORS

FOR SIGNING AND STRIPING DETAILS, REFER TO THE SIGNING AND STRIPING PLAN

LOOP DETECTOR PLACEMENT DETAIL

MAST–ARM MOUNTING CLAMP FOR MODEL 721 OPTICAL DETECTOR

SCALE: 1"=20'
20' 10' 0' 20' 40'

Underground Service Alert
DIAL BEFORE YOU DIG — TWO WORKING DAYS YOU DIG
TOLL FREE 1–800–227–2600
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

NOTE:
WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND / OR A GRADING PERMIT HAS BEEN ISSUED.

The private engineer signing these plans is responsible for accuracy and acceptability of the design hereon.In the event of discrepancies arising after county approval or during construction, the private engineer shall be responsible for determining an acceptable solution and revising the plans for approval by the county.

REGISTERED PROFESSIONAL ENGINEER FRED MINAGAR No. 53466 EXP. 6/30/07 CIVIL STATE OF CALIFORNIA

MINAGAR & ASSOCIATES, INC.
ITS–TRAFFIC ENGINEERING–TRANSPORTATION PLANNING–CIVIL
18662 MACARTHUR BLVD, SUITE 435, AIRPORT BUSINESS CENTER
IRVINE, CA 92612
Tel: (949) 727–3399 www.minagarinc.com
Fax: (949) 727–4418
FRED MINAGAR Sept. 13, 06 DATE
R.C.E. 53466 EXP. 6–30–07

MARK	REVISIONS	APPR	DATE

DESIGNED BY AK DRAWN BY DSS CHECKED BY AK

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER	9-19-06	
TRAFFIC DIVISION	9-19-06	Emk

APPROVED BY
CITY ENGINEER
DATE 9/20/06

TRAFFIC SIGNAL PLAN

SPRUCE STREET
AND
IOWA AVENUE

HORIZ. SCALE: 1"=20' VERT. SCALE: N/A

ACCOUNT NO.
X-443A
SHEET 1 OF 1
W.O. 24169

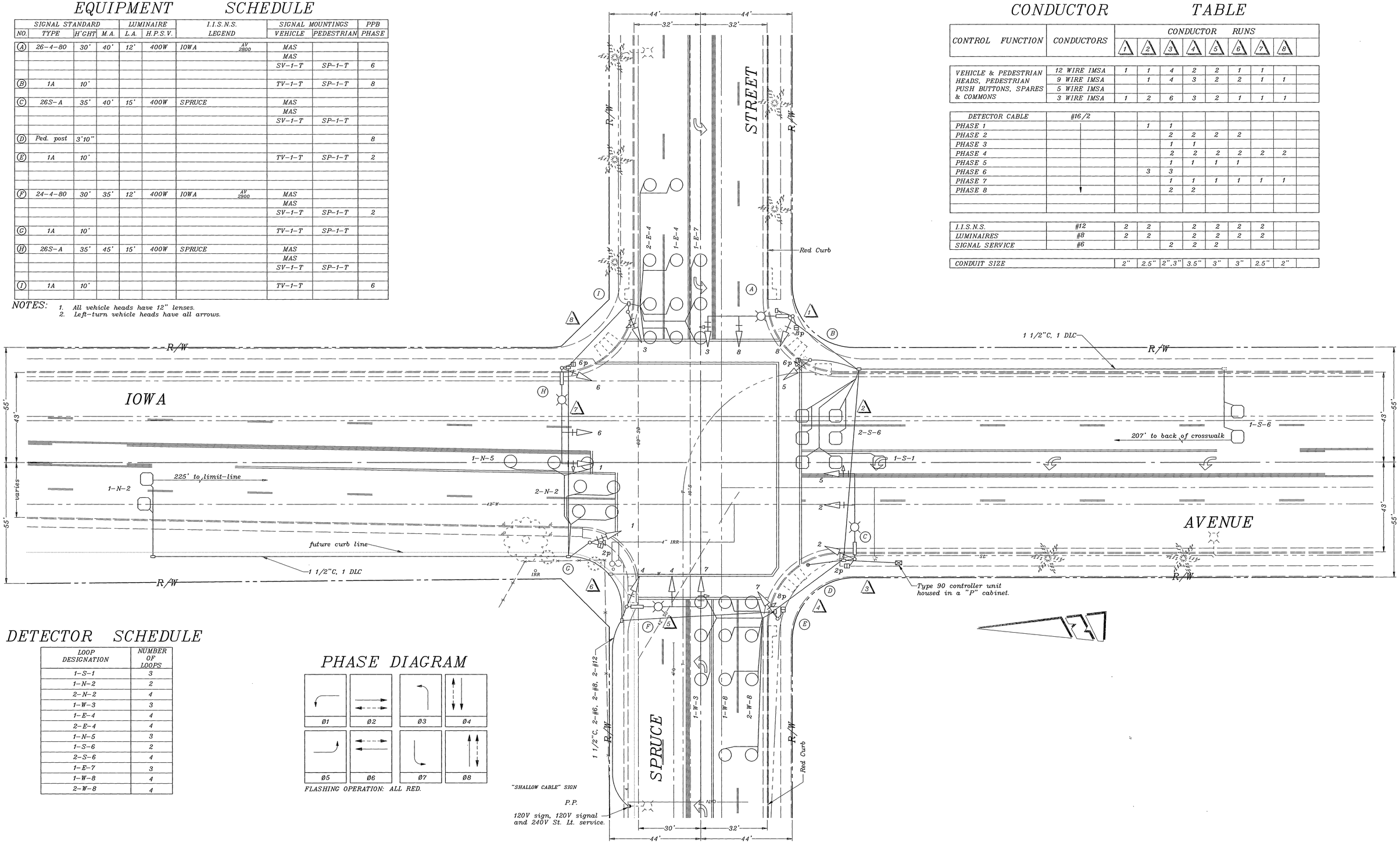
EQUIPMENT SCHEDULE

NO.	SIGNAL STANDARD TYPE	H'GHT	M.A.	LUMINAIRE L.A.	H.P.S.V.	I.I.S.N.S. LEGEND	SIGNAL MOUNTINGS VEHICLE	PEDESTRIAN	PPB PHASE
(A)	26-4-80	30'	40'	12'	400W	IOWA AV 2800	MAS		
							MAS		
							SV-1-T	SP-1-T	6
(B)	1A	10'					TV-1-T	SP-1-T	8
(C)	26S-A	35'	40'	15'	400W	SPRUCE	MAS		
							MAS		
							SV-1-T	SP-1-T	
(D)	Ped. post	3'10"							8
(E)	1A	10'					TV-1-T	SP-1-T	2
(F)	24-4-80	30'	35'	12'	400W	IOWA AV 2900	MAS		
							MAS		
							SV-1-T	SP-1-T	2
(G)	1A	10'					TV-1-T	SP-1-T	
(H)	26S-A	35'	45'	15'	400W	SPRUCE	MAS		
							MAS		
							SV-1-T	SP-1-T	
(I)	1A	10'					TV-1-T		6

NOTES:
1. All vehicle heads have 12" lenses.
2. Left-turn vehicle heads have all arrows.

CONDUCTOR TABLE

CONTROL FUNCTION	CONDUCTORS	CONDUCTOR RUNS 1	2	3	4	5	6	7	8
VEHICLE & PEDESTRIAN HEADS, PEDESTRIAN PUSH BUTTONS, SPARES & COMMONS	12 WIRE IMSA	1	1	4	2	2	1	1	
	9 WIRE IMSA		1	4	3	2	2	1	1
	5 WIRE IMSA								
	3 WIRE IMSA	1	2	6	3	2	1	1	1
DETECTOR CABLE	#16/2								
PHASE 1			1	1					
PHASE 2				2	2	2	2		
PHASE 3				1	1				
PHASE 4				2	2	2	2	2	2
PHASE 5				1	1	1	1		
PHASE 6			3	3					
PHASE 7				1	1	1	1	1	1
PHASE 8				2	2				
I.I.S.N.S.	#12	2	2		2	2	2	2	
LUMINAIRES	#8	2	2		2	2	2	2	
SIGNAL SERVICE	#6			2	2	2			
CONDUIT SIZE		2"	2.5"	2",3"	3.5"	3"	3"	2.5"	2"



DETECTOR SCHEDULE

LOOP DESIGNATION	NUMBER OF LOOPS
1-S-1	3
1-N-2	2
2-N-2	4
1-W-3	3
1-E-4	4
2-E-4	4
1-N-5	3
1-S-6	2
2-S-6	4
1-E-7	3
1-W-8	4
2-W-8	4

PHASE DIAGRAM

FLASHING OPERATION: ALL RED.

48 HOURS BEFORE YOU DIG
CALL
UNDERGROUND SERVICE ALERT
1-800-422-4133

ENGINEER IN RESPONSIBLE CHARGE

RICHARD D. McGRATH
R.C.E. No. 31952 expires

DATE

MARK	REVISIONS	APPR	DATE
	As-built per Plan R-3392	MAC	1/96
	As-built per Plan R-2733	MAC	1/95
	As-built SEC Plan R-2583	MHL	
	Loop install. per 83 Rehab.	MHL	6/84
	As-built per Contract TE-76-2	JS	6/77
	Moved controller SW to NW corner	CL	2/76
	Correct T-lines of check print	CKP	3/75

DESIGNED BY ____ DRAWN BY MAC CHECKED BY ____

CITY OF RIVERSIDE, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY	BY	DATE
PRINCIPAL ENGINEER		
P.W. INSPECTION		
TRAFFIC DIVISION		
CHIEF P.W. ENGR.		
PUBLIC UTILITIES		

APPROVED BY
DIRECTOR OF PUBLIC WORKS
DATE

TRAFFIC SIGNAL
IOWA AVENUE @ SPRUCE ST.
SCALE: 1" = 20'

ACCT. NO.
X-443
SHEET 1 OF 1
FILE NAME: X443B.DWG

Pole Schedule

Pole No.	Type	Mast Arm Lum.	Mast Arm Sig.	Pole Height	Veh Sig. HGT.	Veh Sig. MTG.	Ped. Sig. HGT.	Ped. Sig. MTG.	Ped. Sig. SIG.	Ped. Sig. PPB	Luminaire	Location
(A)	18(special)		30'	17'0"	23'/23'/10'	(2)MAS SV-1-T	7'	SP-2-T	C/C	B	—	N.W. Corner
(B)	I-A	-	-	10'	10'	TV-1-T	—	—	—	B	—	N.W. Corner
(C)	17-S-A	15'	15'	35'-9"	23'/10'	MAS SV-1-T	—	-	—	B	400W/40,000 Lum.	N.E Corner
(D)	I-A	-	-	10'	10'	TV-1-T	7'	SP-2-T	C/C	B	—	N.E. Corner
(E)	19S-A	15'	30'	35'-9"	23'/23'/10'	(2) MAS SV-1-T	7'	SP-1-T	C	B	400W/40,000 Lum.	S.E. Corner
(F)	I-A	-	-	10'	10'	TV-2-T	7'	SP-1-T	C	B	-	S.E. Corner
(G)	17-S-A	15'	20'	35'-9"	23'/10'	MAS SV-1-T	7"	SP-1-T	C	B	400W/40,000 Lum	S.W Corner
(H)	I-A	-	-	10'	10'	TV-1-T	7'	SP-1-T	C	B	-	S.W. Corner

1. Type & size of signal head shown by # referenced to Detail Sheet. #5
2. Type I A Standards to be aluminum, and will be City Furnished, including anchor bolts.
3. Luminaires to be the High Pressure Sodium Vapor Type
4. All new standards shall be installed 3' behind face of curb unless noted otherwise.
5. Type 18 (special) standard shall be manufactured to accomodate internally illuminated St. Name Sign.
6. TRAFFIC CONTROL SIGNS, R73A AND R73 SHALL BE 38"X22" AND 30"X36", RESPECTIVELY AND SHALL CONFORM TO THE STATE OF CALIF. UNIFORM SIGN CHART DATED OCT. 1974.

CONDUCTOR TABLE

AWG	CIRCUIT	1	2	3	4	5	6	7	8
#14 U.F.	A1 VEHICLE SIGNAL				3	3			
	A2 " "	3	3	3	3				
	A3				6	3			
	A4 " (B2)	3	3	3(2)	6(4)	3(2)	3(2)	3	3
	B1 VEHICLE SIGNAL				3	3	3	3	
	B2 " "		3	3	3	3	3		
	B3 (FUTURE)								
	Ap1 PED. SIGNAL				2	2	2	2	
	Ap2 " "	2	2	2	2				
	Bp1 " "	2	2	2	4	2	2	2	2
	Bp2 " "				4	2			
	Ap1 PED. PUSH BUTTON				2	2	2	1	
	Ap2 " " "		1	2	2				
	Bp1 " " "	1	1	1	2	1	1	1	1
	Bp2 " " "				2	1			
	12 V Common	1	1	1	2	1	1	1	1
	SPARES	3	3	3	6	3	3	3	3
TOTAL #14		15	19	22	56	31	22	16	10
#12/2 P.E.	A1 DET.				2	2	2	2	2
	A2 DET.								
	A3 DET.				1	1	1	1	1
	A4 DET.								
	B1 DET.		1	1	1				
	B2 DET.				3	3	3		
	B3 DET.								
TOTAL #12/2			1	1	7	6	6	3	3
#12 U.F.	Ill. St. Name Signs	2	2	2	4	2	2	2	
TOTAL #12		2	2	2	4	2	2	2	
#10 U.F.	120 V. COMMON	1	1	1	2	1	1	1	1
#8 U.F.	SIGNALS								
#8 THW.	LUMINAIRES			2	4	2	2	2	
CONDUIT SIZE		2"	2"	2½"	3½"	3"	2½"	2½"	2"

TE-76-2

DESIGNED	H.J.K.
DRAWN	R.G.
CHECKED	H. J.K
JOB No.	254-01.66
SCALE	1" = 20'

KE krueper engineering & associates
civil engineering • land surveying
568 north mountain view, suite 230
san bernardino, california 92401
884-2159
Date Jan. 75 Calif. Reg. No. 12953

MARK	REVISIONS	APPR.	DATE
	AS BUILT PER CONTRACT TE-76-2		
	AS BUILT PER ST. LIGHT PLAN LS-4931	MMC	7-15-82
	AS BUILT LOOPS PER 84 REHAB	MMC	9-4-87

DESIGNED BY ____ DRAWN BY ____ CHECKED BY JMW

CITY OF RIVERSIDE
PUBLIC WORKS DEPARTMENT

APPROVED BY		
PRINCIPAL ENGINEER		2/19/76
PARK DEPARTMENT		
TRAFFIC DIVISION		4-28-75
CHIEF P. W. ENGINEER		
PUBLIC UTILITIES		

APPROVED BY
PUBLIC WORKS DIRECTOR
DATE 2-21-76

TRAFFIC SIGNALS
BLAINE STREET & CANYON CREST DRIVE
HORIZ. SCALE: 1" = 20' VERT. SCALE: 1" -

ACCOUNT NO. 30-576-365-07
X-443
SHEET 3 OF 5
FILE NO.