

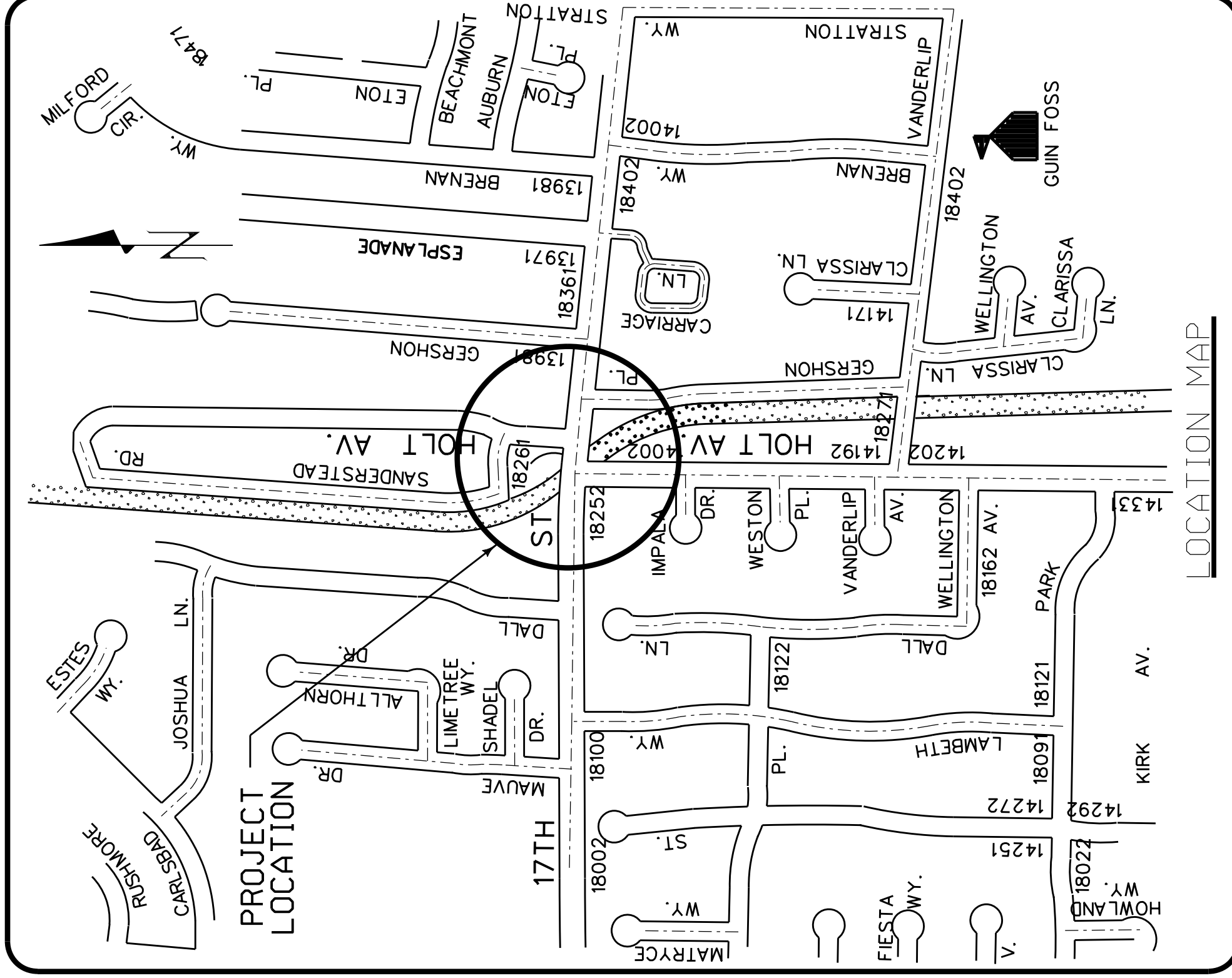
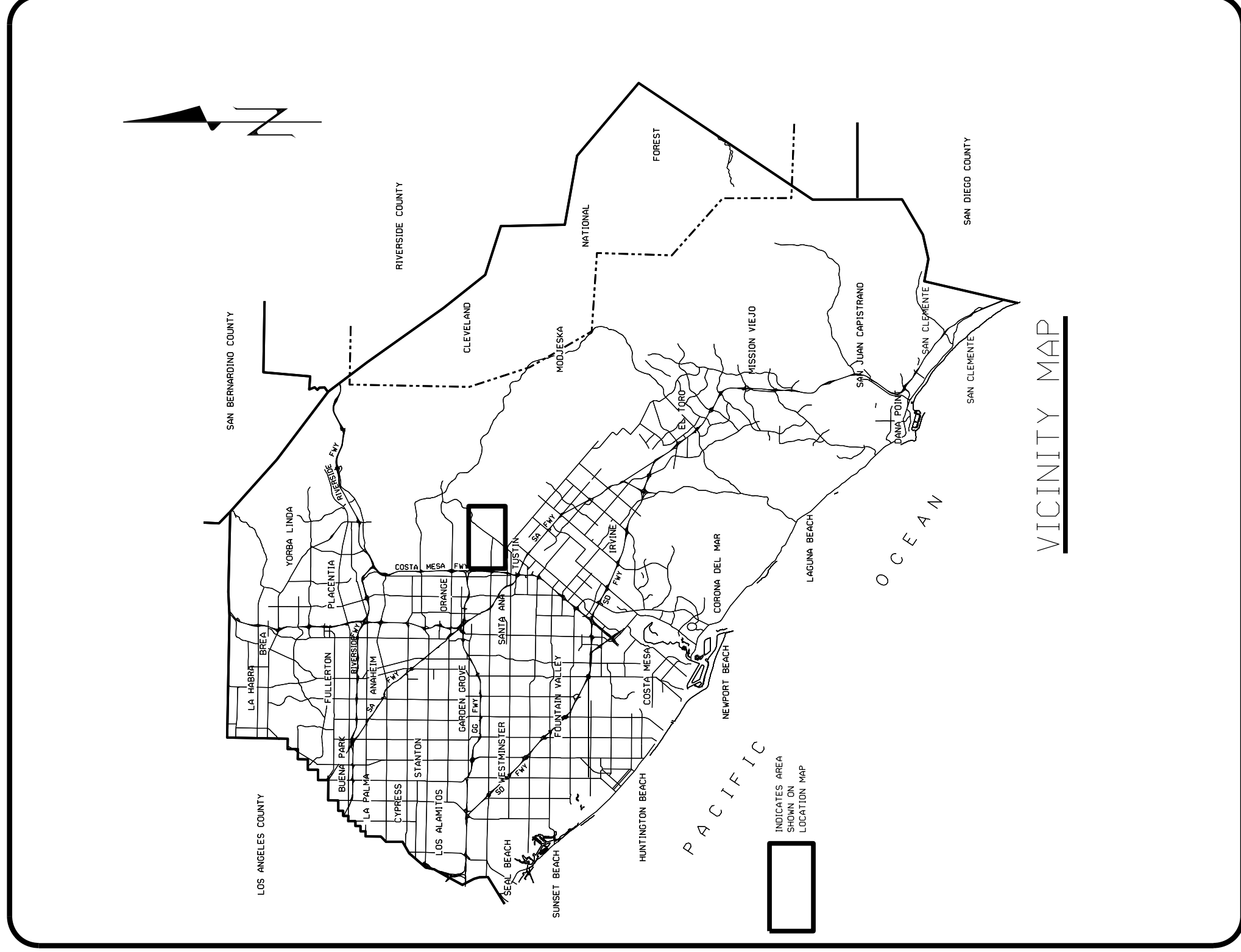
OC PUBLIC WORKS
SANTA ANA, CALIFORNIA
SHANE L. SILSBY, DIRECTOR
PLANS FOR MODIFICATION OF
TRAFFIC SIGNAL AT
17TH STREET
AT

W.O. NO. ER18022

MARCH 2019

FUNDED BY: ROAD FUNDS
POST-PROJECT OWNERSHIP AND MAINTENANCE RESPONSIBILITY :
COUNTY OF ORANGE

OC PUBLIC WORKS	
SUBMITTED:	DATE
RICARDO DIAZ, P.E., T.E. SENIOR CIVIL ENGINEER TRAFFIC ENGINEERING	
APPROVED:	DATE
DENIS BILODEAU, P.E., T.E. COUNTY TRAFFIC ENGINEER	



SHEET	DESCRIPTION
1	TITLE SHEET
2	TRAFFIC SIGNAL MODIFICATION PLAN
3	DETAIL SHEET

UTILITY	OWNER	CONTACT	PHONE NO.
SOE		CHAD MINTON	(714)973-5526 (OFFICE) (310)755-8307 (CELL) (714)973-5790 (FAX)
AT&T		RICHARD RANSOM	(714)237-6646
TIME WARNER		DAVE DOLNEY	(714)591-4869
US NAVY PIPELINE		MANNY CALUZA	(424)703-8266
SOUTHERN GAS		ROSALYN SQUIRES	(818)701-4546
WILCON		JOSE CUELA JR.	(213)550-5233 (310)634-9551
CITY OF TUSTIN	WATER	ERIC JOHNSON	(714)573-3320

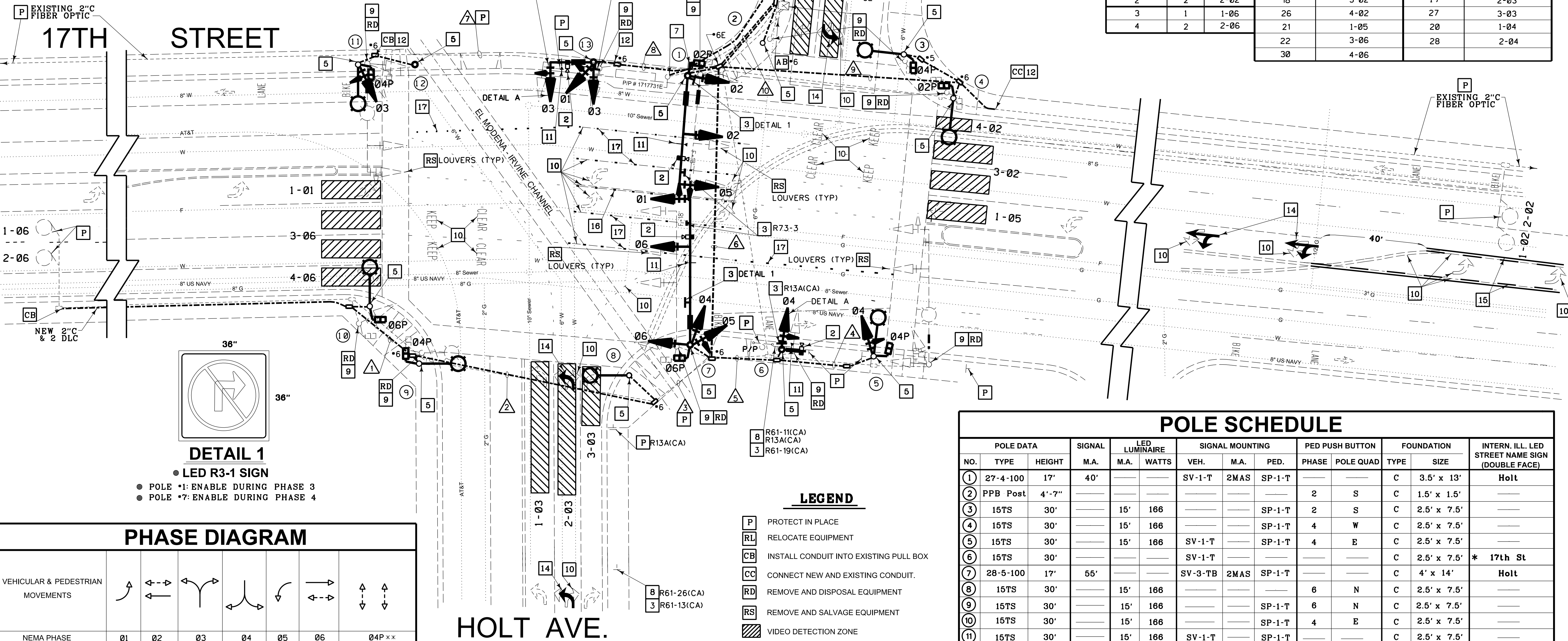
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W. O. NO.	ER18022
DWG. NO.	

SHEET 1 OF 3

CONSTRUCTION NOTES:

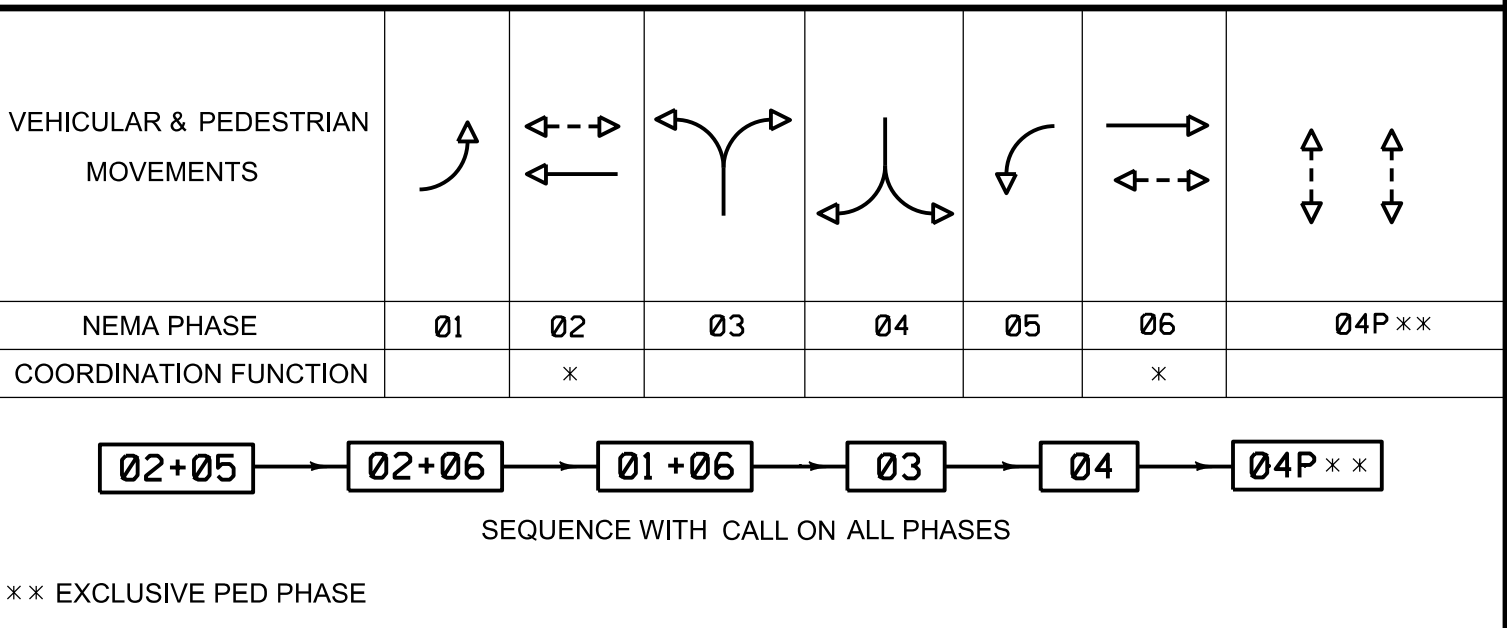
- FURNISH & INSTALL AN ALUMINUM SERVICE CABINET 120/240 VOLT TYPE III-BF WITH THE FOLLOWING 120 VOLT CIRCUIT BREAKER: ONE 50 AMPERE FOR TRAFFIC SIGNAL, ONE 30 AMPERE FOR SAFETY LIGHTING, ONE 15 AMPERE FOR STREET NAME SIGN. ALSO INSTALL TWO TYPE V PHOTOELECTRIC CONTROL IN CLIENT AREA (BELOW METER AREA), ONE FOR SAFETY LIGHTING AND ONE FOR STREET NAME SIGN. PHOTOELECTRIC UNITS SHALL BE TIME DELAY TYPE.
- FURNISH AND INSTALL VIDEO DETECTION CAMERA PER SPECIAL PROVISIONS. CAMERA LOCATIONS PER DIRECTION O.C. TRAFFIC SIGNAL OPERATIONS PERSONNEL.
- FURNISH & INSTALL SIGN AS INDICATED.
- CONSTRUCT CONTROLLER CABINET FOUNDATION PER O.C SPECIFICATIONS AND DETAIL D SHEET 3. RELOCATE AND RE-USE EXISTING CONTROLLER CABINET TO NEW FOUNDATION. PROTECT IN PLACE ALL EQUIPMENT INSIDE CABINET AND EXISTING FIBER OPTIC. RE-INSTALL IT TO BE FULLY FUNCTIONAL AS EXISTING STATE. FURNISH AND INSTALL NEW ECONOLITE COBALT CONTROLLER WITH DATA KEY AND PER O.C SPECIFICATIONS.
- FURNISH AND INSTALL NEW POLE AND EQUIPMENT PER POLE SCHEDULE AND PER CONDUCTOR SCHEDULE.
- FURNISH & INSTALL CONDUIT AND CONDUCTOR AS INDICATED IN CONDUCTOR SCHEDULE. RE-USE EXISTING FIBER OPTIC CABLE.
- FURNISH AND INSTALL CONDUIT PER SCE SPECIFICATIONS FROM POWER POLE # 1717731E TO NEW SERVICE CABINET LOCATION. INSTALL NEW PULL BOX HANDHOLE 6' AWAY FROM POWER POLE. ALL SWEEPS SHALL BE 36" RADIUS. TERMINATE CONDUIT 1' ABOVE GROUND AND TAPE OFF @ POWER POLE.
- REMOVE EXISTING SIGN.
- REMOVE EXISTING FOUNDATIONS.
- REMOVE EXISTING STRIPING AND MARKINGS AS SHOWN BY SANDBLASTING.
- FURNISH & INSTALL EMERGENCY VEHICLE PRE-EMPTION PER O.C. SPECIFICATIONS AND MOUNTING LOCATION PER TRAFFIC SIGNAL OPERATIONS PERSONNEL.
- CONTRACTOR SHALL PROTECT FIBER OPTIC CABLE WHEN CONNECT NEW AND EXISTING CONDUIT.
- FURNISH AND INSTALL NEW CLARY BBS AND CABINET MOUNT TO RIGHT SIDE OF CONTROLLER CABINET PER OC SPECIFICATIONS.
- STENCIL ARROW AS SHOWN PER CALTRANS STANDARD DETAIL A24A TYPE IV (L OR R), TYPE VII (L).
- PAINT 6" DOUBLE YELLOW TWO-WAY LEFT TURN LANE PER CALTRANS STANDARD DETAIL 32.
- PAINT 6" YELLOW LINE PER CALTRANS STANDARD DETAIL 41.
- PAINT 6" WHITE LINE PER CALTRANS STANDARD DETAIL 40.



DETAIL 1

- LED R3-1 SIGN
- POLE *1: ENABLE DURING PHASE 3
- POLE *7: ENABLE DURING PHASE 4

PHASE DIAGRAM



LEGEND

- P PROTECT IN PLACE
- RL RELOCATE EQUIPMENT
- CB INSTALL CONDUIT INTO EXISTING PULL BOX
- CC CONNECT NEW AND EXISTING CONDUIT.
- RD REMOVE AND DISPOSAL EQUIPMENT
- RS REMOVE AND SALVAGE EQUIPMENT
- VIDEO DETECTION ZONE
- VIDEO DETECTION CAMERA
- EMERGENCY VEHICLE PRE-EMPTION
- EX. SIGN
- PED BARRICADE

GENERAL NOTES ON SHEET 3

CONDUCTOR SCHEDULE

AWG	CIRCUIT	RUN											
		1	2	3	4	5	6	7	8	9	10	11	
3 CSC	02, 04 & 06 PPB	1	2	3	4	1	4	1	1	2	7	8	
	LED R3-1 SIGN	—	—	—	—	—	1	—	—	—	2	2	
12 CSC	01, 02, 03, 04, 05, 06 02P, 06P AND EXCLUSIVE 04P	1	2	2	1	2	6	1	2	2	10	10	
3 # 20	EVP	—	—	—	—	1	2	—	1	—	4	4	
3 # 18	VIDEO DETECTION	—	—	—	—	1	2	—	1	—	4	4	
TOTAL		2	4	5	2	5	15	2	5	4	27	28	
#10	LUMINAIRE	2	2	2	2	2	2	2	2	2	2	—	
	LED ISNS	—	—	—	—	1	1	—	1	—	1	—	
DLC	02	—	—	—	—	—	—	—	—	2	2	2	
	06	2	2	2	—	—	2	—	—	—	2	2	
* FIBER OPTIC CABLE		—	—	—	—	—	—	1	1	1	1	1	
CONDUIT SIZE		3"	3"	* 2"	3"	3"	4"	* 2"	3"	3"	2-4"	2-4"	

CONDUCTORS AND CONDUITS ARE NEW UNLESS OTHERWISE NOTED. * EXISTING

INDUCTIVE LOOP DETECTOR SCHEDULE			VIDEO DETECTOR SCHEDULE			
DETECTOR #	CHANNEL	DET. PHASE	DETECTOR #	DETECTION PHASE	DETECTOR #	DETECTION PHASE
1	1	1-02	17	1-01	11	1-03
2	2	2-02	18	3-02	19	2-03
3	1	1-06	26	4-02	27	3-03
4	2	2-06	21	1-05	20	1-04
			22	3-06	28	2-04
			30	4-06		

POLE SCHEDULE

POLE DATA			SIGNAL		LED LUMINAIRE		SIGNAL MOUNTING			PED PUSH BUTTON		FOUNDATION		INTERN. ILL. LED STREET NAME SIGN (DOUBLE FACE)
NO.	TYPE	HEIGHT	M.A.	M.A.	WATTS	VEH.	M.A.	PED.	PHASE	POLE QUAD	TYPE	SIZE		
①	27-4-100	17'	40'	—	—	SV-1-T	2MAS	SP-1-T	—	—	C	3.5' x 13'	Holt	
②	PPB Post	4'-7"	—	—	—	—	—	—	2	S	C	1.5' x 1.5'	—	
③	15TS	30'	—	15'	166	—	—	SP-1-T	2	S	C	2.5' x 7.5'	—	
④	15TS	30'	—	15'	166	—	—	SP-1-T	4	W	C	2.5' x 7.5'	—	
⑤	15TS	30'	—	15'	166	SV-1-T	—	SP-1-T	4	E	C	2.5' x 7.5'	—	
⑥	15TS	30'	—	—	—	SV-1-T	—	—	—	—	C	2.5' x 7.5'	* 17th St	
⑦	28-5-100	17'	55'	—	—	SV-3-TB	2MAS	SP-1-T	—	—	C	4' x 14'	Holt	
⑧	15TS	30'	—	15'	166	—	—	—	6	N	C	2.5' x 7.5'	—	
⑨	15TS	30'	—	15'	166	—	—	SP-1-T	6	N	C	2.5' x 7.5'	—	
⑩	15TS	30'	—	15'	166	—	—	SP-1-T	4	E	C	2.5' x 7.5'	—	
⑪	15TS	30'	—	15'	166	SV-1-T	—	SP-1-T	—	—	C	2.5' x 7.5'	—	
⑫	PPB Post	4'-7"	—	—	—	—	—	—	4	W	C	1.5' x 1.5'	—	
⑬	16-3-100	18.5'	15'	—	—	SV-2-TA	MAS	—	—	—	C	3.5' x 12'	17th St	

EXACT POLE LOCATIONS DETERMINED BY ENGINEER IN THE FIELD. POTHOLE POLE FOUNDATION LOCATIONS PRIOR TO ORDERING POLES. ALL EQUIPMENT IS NEW.

C = CIRCULAR

* = MOUNT 8' CANTILEVER AT 15' HEIGHT, SINGLE FACE, BACK FACE WITH METAL PLATE.



PREPARED UNDER THE RESPONSIBLE CHARGE OF:

DATE

RICARDO DIAZ

DESIGNED BY: T. PHAM

CHECKED BY: R. DIAZ

DRAWN BY: T. PHAM

DRAWING CODE:

FILE NAME: 17TH-HOLT.DGN

PLOT DATE: 10/25/2015

SCALE: AS SHOWN

COUNTY OF ORANGE
OC PUBLIC WORKS

PREPARED BY:
TRAFFIC ENGINEERING SECTION

17TH STREET
AT
HOLT AVENUE
TRAFFIC SIGNAL
PLAN

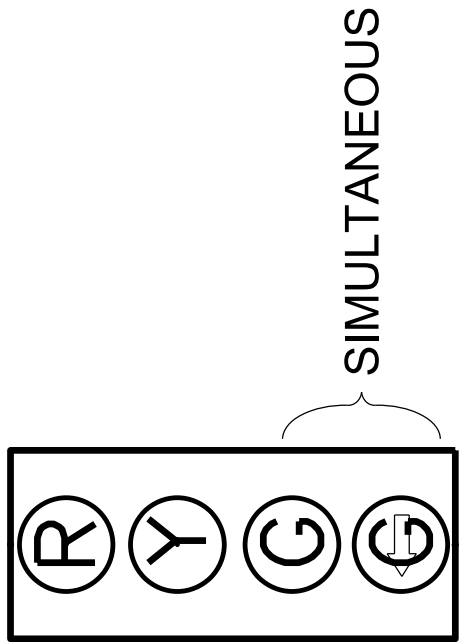
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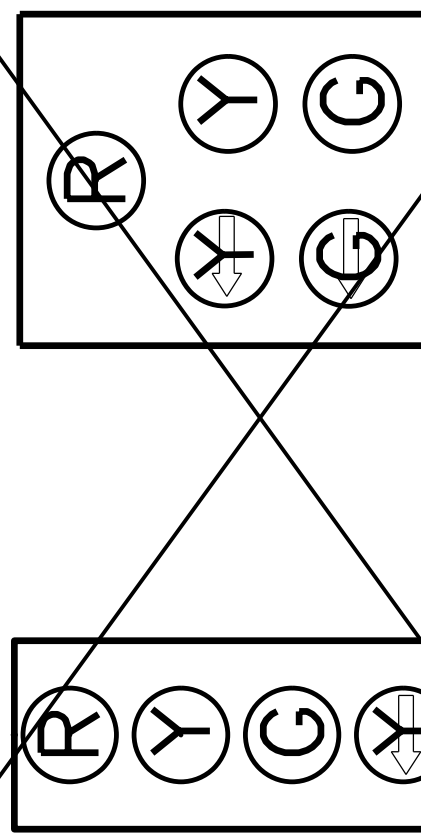
DETAIL A

4-SECTION SIGNAL HEAD
12" LENSES



DETAIL E

5-SECTION SIGNAL HEAD
12" LENSES

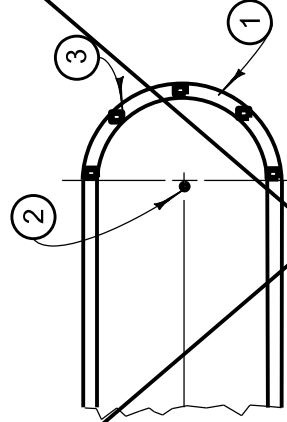


- USE ON POLE.

- BAND STRAP OR BOLT FRAME WORK AT TOP, TO SIGNAL POLE. AS DIRECTED BY ENGINEER.
- NO CAST ALUMINUM TERMINAL BLOCKS ALLOWED.

DETAIL F

RAISED MEDIAN MARKING

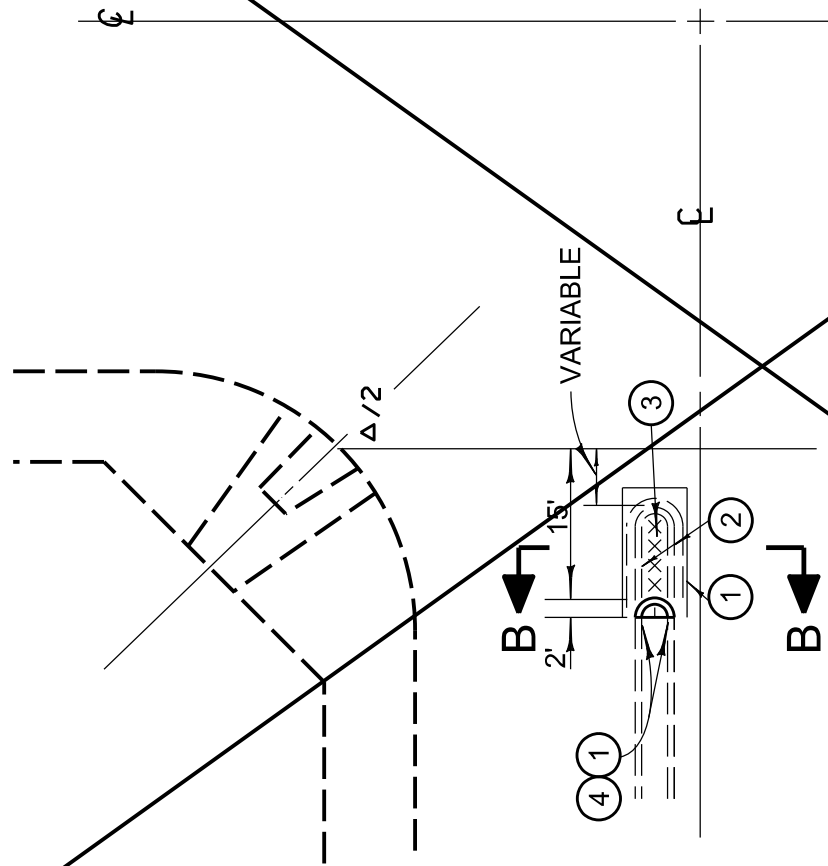


NOTES - DETAIL N

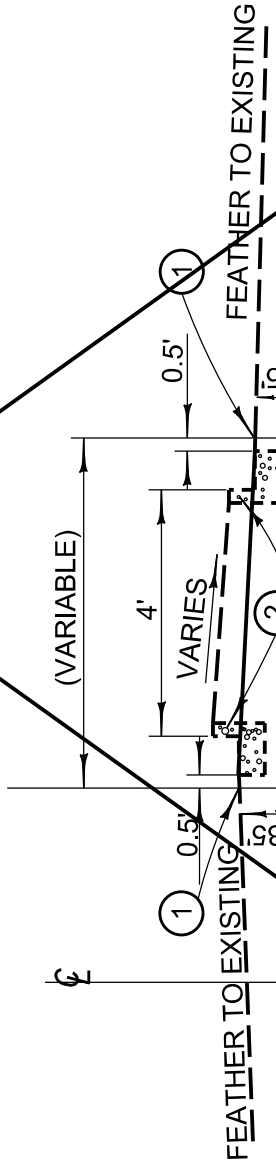
- PAINT MEDIAN ROSE WITH HIGHLY REFLECTIVE PREMIUM YELLOW TRAFFIC PAINT WITH GLASS BEADS.
- INSTALL FLEXIBLE VERTICAL TYPE K MARKER RT R10 OR TYPE N-1 ON TELEPOST POST AS INDICATED ON PLAN.
- INSTALL YELLOW REFLECTIVE PAVEMENT MARKERS ON TOP SURFACE OF MEDIAN CURB NOSE AT 2' ON SPACING (MINIMUM 5 MARKERS). PLACE REFLECTIVE SURFACE OF MARKERS PERPENDICULAR TO ϕ OF ROADWAY.

DETAIL B

INTERSECTIONS RAISED MEDIAN



SECTION B - B

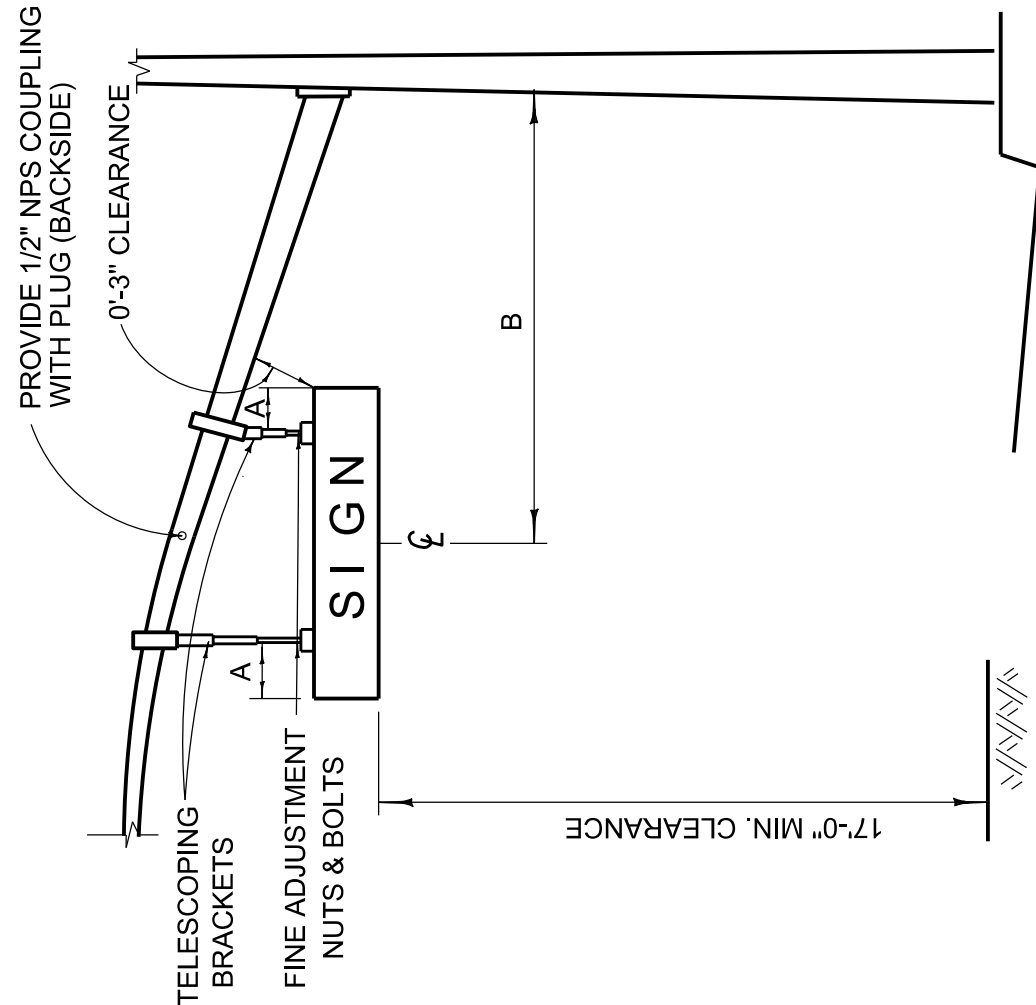


NOTES - DETAILS B

- SAWCUT AND JOIN EXISTING
- REMOVE CONCRETE
- CONSTRUCT 0.85' AC OVER NATIVE SOIL
- CONSTRUCT TYPE A1-8 CONCRETE CURB PER APWA STD. PLAN 1204.

DETAIL C

INTERNALLY ILLUMINATED LED STREET
NAME SIGN COMPONENTS

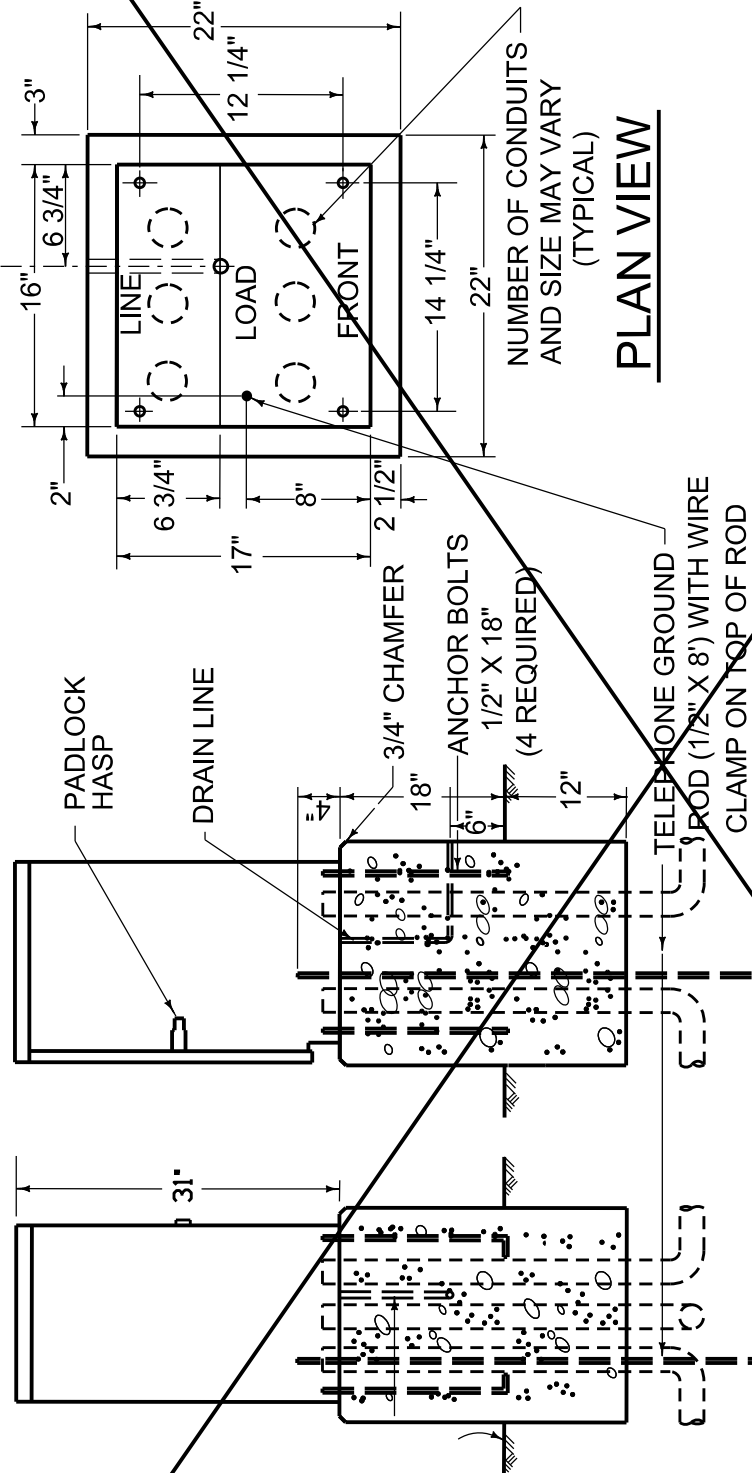


NOTES - DETAIL C

- 1'-6" (18"x72" SIGN), 2'-0" (18"x96" SIGN)
- 10'-6" CENTERLINE OF SIGN TO FACE OF POLE

DETAIL G

INTERCONNECT SPLICE CABINET

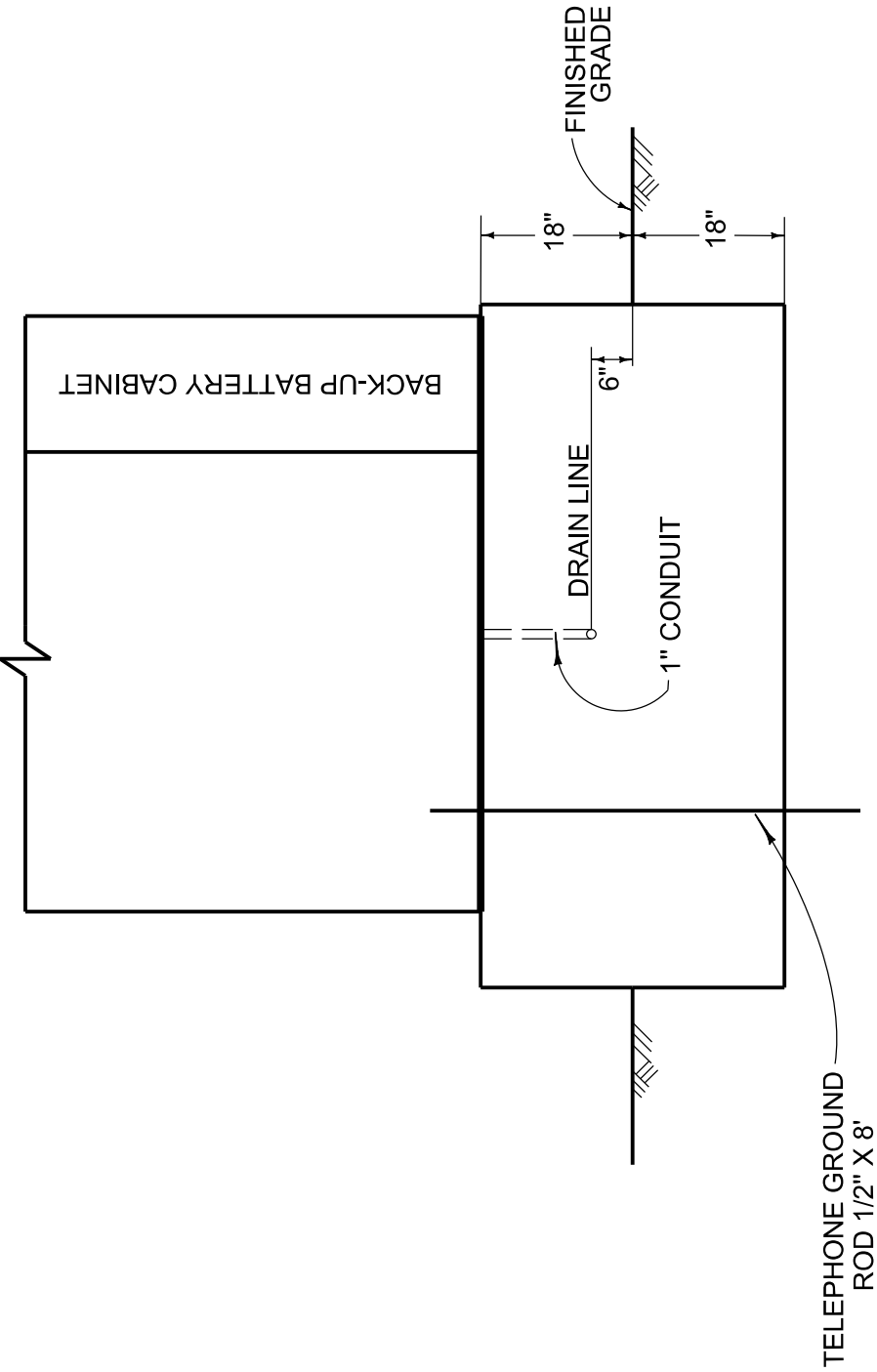


NOTES - DETAIL F

- FOUNDATION TO BE 22" X 22". ANCHOR BOLT PLACEMENT PER CABINET MFG. TEMPLATE.
- ENCLOSURE SHALL BE ALUMINUM AND FURNISHED WITH A DETACHABLE MOUNTING BASE.
- ALL FACTORY INSTALLED COMPONENTS SHALL BE U.L. LISTED OR PER PUBLISHED N.E.C. STANDARDS.
- A 3/4" CONSTRUCTION GRADE PLYWOOD PANEL SHALL BE FASTENED TO THE REAR WALL. PANEL SHALL BE 12" X 24" AND SHALL HAVE A NO. 10-25 AND R-41 STANDOFF FASTENED IN THE CENTER OF THE PANEL.
- ENCLOSURE FINISH SHALL CONFORM TO A.S.T.M. B-117. PAINT TO BE APPLIED TO EXTERNAL AND INTERNAL CABINET SURFACE SHALL BE WHITE ANTI-GRAFFITI CARDINAL'S 6409 G SERIES OR APPROVED EQUAL. ANTI-GRAFFITI PAINT SHALL BE APPLIED TO CABINET AT THE TIME OF MANUFACTURE.
- PROVIDE 1 1/2" CONDUIT FOR FUTURE 115 VAC SERVICE.
- PROVIDE GROUND BUS INSIDE SPLICE CABINET.

DETAIL D

CONTROLLER CABINET



GENERAL NOTES :

- ALL WORK, MATERIALS AND EQUIPMENT SHALL CONFORM TO THE LATEST STATE OF THE CALIFORNIA, DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS FOR THIS PROJECT.
- UTILITIES SHOWN ON THESE PLANS ARE CORRECT AND ACCURATE TO THE EXTENT OF AVAILABLE RECORDS AND KNOWLEDGE. THE CONTRACTOR, HOWEVER, IS REQUIRED TO ASCERTAIN THE EXACT LOCATION OF UNDERGROUND FACILITIES PRIOR TO DOING WORK THAT MAY INTERFERE WITH SUCH FACILITIES. CONTACT USA DIG ALERT 1-800-227-2800 48 HOURS IN ADVANCE.
- 48 HOURS PRIOR TO BEGINNING OF CONSTRUCTION, THE CONTRACTOR SHALL CONTACT OC PUBLIC WORK DEPARTMENT FOR INSPECTION AT 714-567-7800.
- THE ENGINEER SHALL APPROVE POLE AND LOOP DETECTION PLACEMENT IN THE FIELD PRIOR TO INSTALLATION.
- ALL CONDUITS SHALL BE 3" SCHEDULE 80 PVC. CONDUIT SHALL BE MINIMUM 30" OF DEPTH UNLESS OTHERWISE NOTED.
- ALL PULL BOXES SHALL BE #5 UNLESS OTHERWISE NOTED AND 200" SPACING APART. ALL LIDS SHALL BE NON-PCC MATERIAL PER CALTRANS SPECIFICATIONS AND STANDARD PLAN.
- ALL SALVAGED EQUIPMENT SHALL BE DELIVERED UNDAMAGED BY CONTRACTOR TO THE ORANGE COUNTY YARD AT 1152 EAST FRUIT ST., SANTA ANA, CA. CONTRACTOR SHALL GIVE A 48-HOUR NOTICE TO THE COUNTY PRIOR TO THE DELIVERY DATE.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY TELEPHONE AND ELECTRICAL SERVICE LINES AND INTERCONNECT HOOK-UPS BETWEEN THE LOCAL CONTROLLER AND THE SYSTEM MASTER.
- PEDESTRIAN INDICATIONS SHALL BE L.E.D. INTERNATIONAL SYMBOL AND COUNT DOWN.
- PEDESTRIAN PUSH BUTTONS SHALL BE TYPE B WITH INTERNATIONAL SYMBOL PLATE.
- ALL VEHICLE INDICATIONS SHALL BE L.E.D. 12" DIA. WITH BACKPLATES, UNLESS SHOWN OTHERWISE.
- CONTRACTOR SHALL POTHOLE POLE LOCATIONS AND VERIFY FOUNDATION LOCATIONS AS DIRECTED BY ENGINEER.
- CONTRACTOR SHALL AVOID DAMAGING EXISTING UTILITIES. (SEE SPECIAL PROVISIONS).
- DETECTOR LOOPS SHALL BE CIRCULAR 6" DIAMETER. ALL DETECTOR LOOPS SHALL HAVE FOUR (4) TURNS WITH 9" SPACING, CENTERED IN LANES AND SEAL WITH HOT-MELT RUBBERIZED ASPHALT SEALANT.
- ALL DETECTOR CABLE HOMERUNS SHALL BE IN THE CROSSWALK AREA.
- TRAFFIC CONTROLLER CABINET FOUNDATION SHALL BE 18" ABOVE AND BELOW FINISHED GRADE (SEE DETAIL D).
- INSTALL " CABINET DOOR OPEN" CIRCUIT IN CONTROLLER CABINET PER MANUFACTURER'S SPECIFICATIONS.
- CONCRETE REPLACEMENT TO MATCH EXISTING.
- CONTRACTOR SHALL MAINTAIN TRAFFIC SIGNAL FULL OPERATIONAL DURING CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL COMMUNICATION EQUIPMENT SUCH AS MODEM, SWITCHES ETC. AND EXISTING FIBER OPTIC CABLE & I.C. WHEN TRANSFER FROM OLD TO NEW CABINET AND REINSTALL IT TO BE FULLY FUNCTIONAL AS EXISTING STATE.
- HANDLING FIBER OPTIC CABLE SHALL BE BY CERTIFIED FIBER OPTIC TECHNICIAN OR PERSONNEL WHEN REMOVE, RE-USE AND INSTALL FIBER OPTIC.
- ALL WIRING AND EQUIPMENT SHALL BE MARKED (TAGGED) WITHIN THE CONTROLLER CABINET FOR PHASE IDENTIFICATION AND DESIGNATION OF POLE.
- CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL EXISTING COMMUNICATION FIBER OPTIC CABLE IN THE FIELD.
- CONDUCTOR SCHEDULE IS FOR REFERENCE ONLY. CONTRACTOR SHALL PROVIDE ALL NECESSARY CONDUCTORS TO MAKE TRAFFIC SIGNAL SYSTEM FULLY OPERATIONAL.