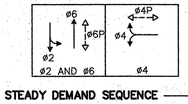
GENERAL NOTES

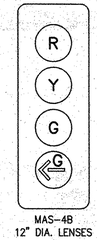
1. WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND SPECIFICATIONS, SIGN SPECIFICATIONS SHEETS, THE 2003 EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), THE 2003 MUTCD CALIFORNIA SUPPLEMENT, CITY OF FRESNO STANDARD SPECIFICATIONS AND DRAWINGS AND THE SPECIAL PROVISIONS. SIGNAL STANDARDS FOR 113 KM/H WIND VELOCITY SHALL BE PER THE STATE STANDARD PLANS AND SPECIFICATIONS, DATED JULY 1997.
2. THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.
3. SCHEDULING OF WORK SHALL CONFORM TO THE PROVISIONS IN SECTION 86-1.07, "SCHEDULING OF WORK", IN THE STATE STANDARD SPECIFICATIONS. PARTICULAR ATTENTION SHALL BE DIRECTED TO "NO ABOVE GROUND WORK, EXCEPT SERVICE EQUIPMENT, SHALL BE PERFORMED UNTIL THE CONTRACTOR HAS ALL MATERIALS ON HAND TO COMPLETE THAT PARTICULAR SIGNAL LOCATION OR LIGHTING CIRCUIT."
4. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL EXISTING UTILITIES WITHER OR NOT THEY ARE SHOWN ON THESE PLANS AND SHALL PROVIDE PROTECTION PRIOR TO, DURING AND AFTER TRENCHING, JACKING AND/OR BORING. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA), TOLL FREE (800) 642-2444, AT LEAST 48 HOURS BEFORE BEGINNING WORK.
5. THE CONTRACTOR SHALL ARRANGE WITH UTILITY COMPANIES FOR ALL REQUIRED UTILITY RELOCATIONS, INCLUDING OVERHEAD CONFLICTS.
6. ALL TRAFFIC SIGNAL AND LIGHTING FACILITIES, INCLUDING CABINETS, STANDARDS, PULL BOXES, CONDUITS AND LOOP DETECTORS, ARE SHOWN IN THEIR APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL MARK FINAL LOCATIONS IN THE FIELD AND NOTIFY THE ENGINEER AT LEAST 2 WORKING DAYS PRIOR TO COMMENCING WORK TO VERIFY THE MARKED LOCATIONS.
7. ALL SALVAGED EQUIPMENT SHALL BE DELIVERED TO THE CITY CORPORATION YARD AT 2102 "G" STREET, FRESNO. THE CONTRACTOR SHALL NOTIFY THE CITY TRAFFIC SIGNAL SHOP AT (559) 621-1312, AT LEAST 2 WORKING DAYS PRIOR TO DELIVERY.
20. PULL BOXES SHALL BE NO. 5(E) UNLESS OTHERWISE NOTED ON THE PLAN. PULL BOXES SHALL NOT BE INSTALLED IN CURB RAMPS. PULL BOX SPACING SHALL BE A MAXIMUM OF 200'. ALL BOXES & VAULTS SHALL CONFORM TO CITY STANDARD DWG. E-4 REGARDING REQUIREMENTS FOR GROUT SEALING, DRAIN HOLE, CRUSHED ROCK AND EXTENSIONS.
21. ALL RESURFACING SHALL MATCH EXISTING SURFACES AFTER SIGNAL AND LIGHTING FACILITIES ARE REMOVED AND/OR RELOCATED.
22. ALL VEHICLE AND PEDESTRIAN SIGNAL SECTIONS SHALL UTILIZE LIGHT EMITTING DIODE (L.E.D.) SIGNAL MODULES IN ACCORDANCE WITH THE CITY STANDARD SPECIFICATIONS. VEHICLE SIGNAL SECTIONS SHALL HAVE 12" DIAMETER LENSES.
23. PEDESTRIAN PUSH BUTTONS SHALL HAVE 2" DIAMETER ACTUATORS AND COMPLY WITH THE AMERICAN DISABILITIES ACT (ADA).
24. FIXTURE BALLASTS SHALL HAVE HIGH POWER FACTOR.
25. THE CONTRACTOR TO FURNISH AND INSTALL A COMPLETE OPTICOM (3M) EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM IN ACCORDANCE WITH CITY OF FRESNO STANDARD SPECIFICATIONS. EVP DETECTOR UNITS SHALL BE INSTALLED ON SIGNAL MAST ARMS AS SHOWN ON THE PLANS, CENTERED OVER THE NUMBER ONE THROUGH LANE, WHITH BRACKETS APPROVED BY THE TRAFFIC SIGNAL SUPERVISOR. THE CONTRACTOR SHALL DELIVER THE DISCRIMINATORS TO THE CITY CORPORATION YARD AT 2101 "G" STREET, FRESNO, AND NOTIFY THE CITY TRAFFIC SIGNAL SHOP, (559) 621-1312, AT LEAST 2 WORKING DAYS PRIOR TO DELIVERY.
26. ALL EXISTING TRAFFIC SIGNAL SYSTEMS, INCLUDING DETECTION, SHALL REMAIN OPERATIONAL DURING CONSTRUCTION UNLESS AUTHORIZED IN WRITING BY THE ENGINEER.
27. ALL SIGNS SHALL BE AVERY DENNISON T6500 SERIES REFLECTUVE SHEETING AND SHALL BE COVERED WITH AVERY DENNISON OL100 ANTI-GRAFFITI OVERLAY FILM.
28. INSTALL CIRCULAR LOOP DETECTORS (TYPE E) PER CITY OF FRESNO STANDARD DRAWING E-14. INSTALL TYPE D LOOP DETECTORS PER CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLAN ES-5B.
29. THE LIMITS OF WORK ARE ENCOMPASSED BY THE RIGHT-OF-WAY AND SHALL INCLUDE ONLY SUCH WORK AS IS SHOWN ON THIS PLAN.
30. THE CITY OF FRESNO, THE CITY ENGINEER & DESIGN PROFESSIONAL ACCEPT NO LIABILITY FOR THE ACCURACY OR COMPLETENESS OF EXISTING UTILITIES SHOWN ON THIS PLAN.
31. THE CONTRACTOR SHALL VERIFY THE INFORMATION SHOWN ON THIS PLAN WITH THE ABOVE AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES 48 HOURS PRIOR TO COMMENCING WORK.

PROPOSED
PHASE DIAGRAM

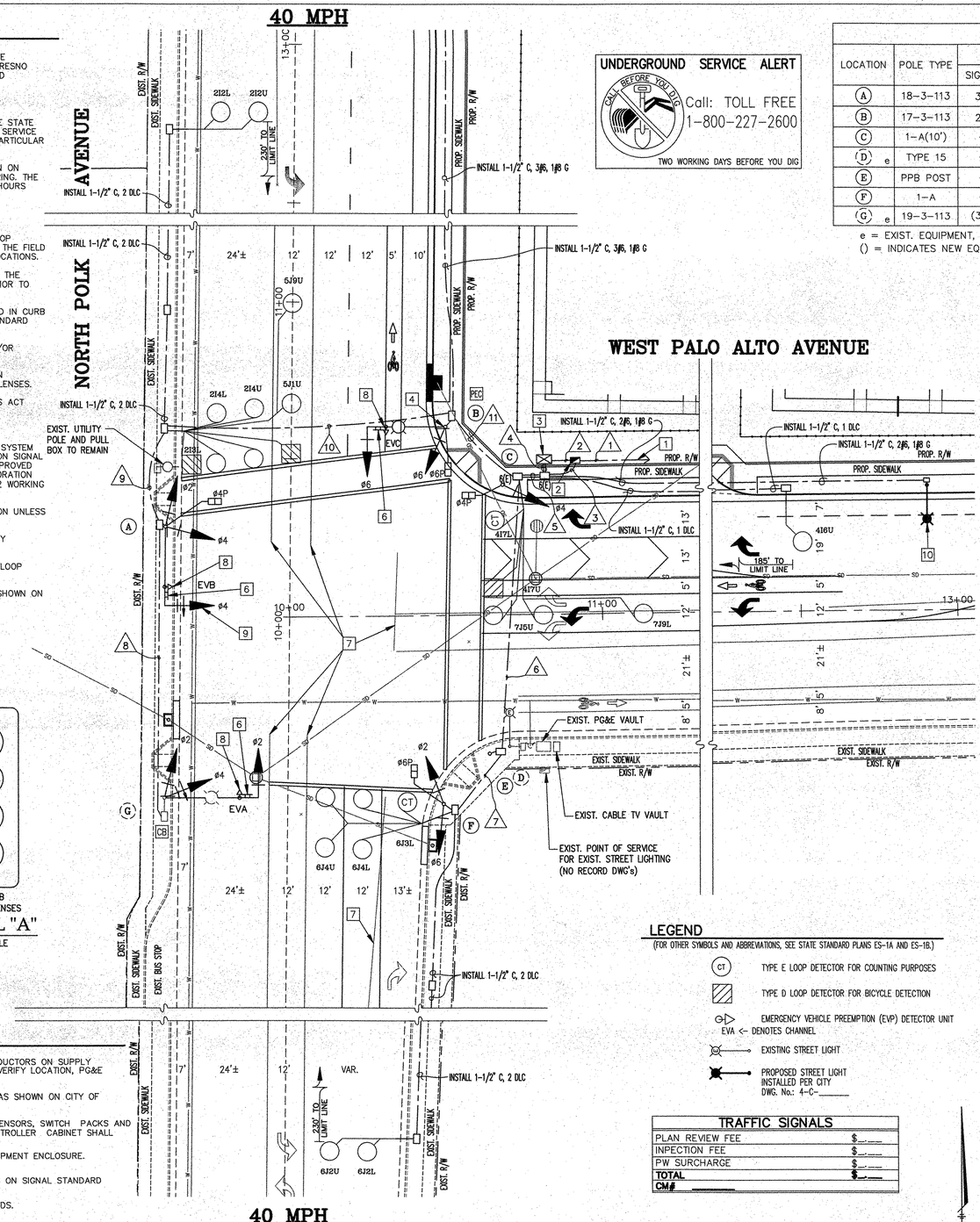


STEADY DEMAND SEQUENCE →

PROPOSED
EMERGENCY VEHICLE PREEMPTION
EVA = ø2
EVB = ø4
EVC = ø6



MAS-4B
12" DIA. LENSES
DETAIL "A"
NO SCALE



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

POLE AND EQUIPMENT SCHEDULE

LOCATION	POLE TYPE	MAST ARM		SIGNAL MOUNTING		PED SIGNALS		BACK PLATE	PPB		STREET NAME SIGN LEGEND	120V LUMINAIRES H.P.S.	REMARKS
		SIGNAL	LUMINAIRE	VEHICLE	MAST ARM	ø	PEDESTRIAN		ø	ARROW			
A	18-3-113	30'	–	SV-2-TA	MAS-4B	4	SP-1-T	2	4	LEFT	N Polk Ave 6002-	–	5 6 8 9 EVB
B	17-3-113	25'	15'	SV-1-T	MAS	6	SP-1-T	2	4	LEFT	W Palo Alto Ave 5400-	200W	5 6 8 PEC EVC
C	1-A(10')	–	–	TV-1-T	–	4	SP-1-T	1	6	RIGHT	–	–	–
D e	TYPE 15	–	12'	–	–	–	–	–	–	–		150W	TO REMAIN UNCHANGED
E	PPB POST	–	–	–	–	–	–	–	6	LEFT	–	–	
F	1-A	–	–	TV-2-T	–	6	SP-1-T	2	–	–		–	
G e	19-3-113	(30')	15'	(SV-2-TD)	(MAT MAS)	–	–	(3)	–	–	W Palo Alto Ave 5400-	150W	5 6 8 (EVA)

e = EXIST. EQUIPMENT, SEE REMARKS & NOTES
() = INDICATES NEW EQUIPMENT ADDED TO EXIST. POLE AND/OR MAST ARM, SEE REMARKS & NOTES

CONDUIT & CONDUCTOR SCHEDULE

AWG OR CABLE*	STD	Ø	1 2"	2 2"	3 2"	4 2-4"	5 2-4"	6 4"	7 3"	8 3"	9 3"	10 4"	11 4"						
7 COND CABLE (VEH)	A	2,4 4P				1 1	1 1				1 1	1 1	1 1						
	B	6 6P				1 1	1 1						1 1						
	C	4 4P				1 1	1 1												
	D	– –																	
	E	– –																	
5 COND CABLE (PED)	F	2,6 6P				1 1	1 1	1 1	1 1										
	G	2,4 –				1 0	1 0			1 0	1 0	1 0	1 0						
TOTAL						5 4	5 4	1 1	1 1	1 0	2 1	2 1	3 2						
3 COND CABLE (PPB)	A	4P				1	1				1	1	1						
	B	4P,6P				1	1						1						
	E	6P				1	1	1											
TOTAL						3	3	1	1		1		1						
TYPE C DLC (PPB)													1						
# 2	SERVICE (PG&E)	3																	
# 4	SIGNAL			2															
# 6	STREET LIGHTS				3		3						3						
# 8	SAFETY LIGHTS				4		2	2	2	2	2	2	2						
# 8	BONDING			1	1	1	1	1	1	1	1	1	1						
# 12	PEC					3	3						3						
EVP CABLE 3#20	EVA					1	1			1	1	1	1						
	EVB					1	1				1	1	1						
	EVC					1	1						1						
	–																		
	TOTAL					3	3			1	2	2	3						
DETECTORS																			
TYPE "C" DLC	–																		
	ø2					5	5					5	5						
	–																		
	ø4					3	3												
	ø5					2	2					2	2						
	ø6					5	5	5	5										
	ø7					2	2												
	–																		
	TOTAL					17	17	5	5	0	0	7	7						

* = NUMBER INDICATIONS ARE THE NUMBER OF CABLES WITHIN CONDUIT

LEGEND
(FOR OTHER SYMBOLS AND ABBREVIATIONS, SEE STATE STANDARD PLANS ES-1A AND ES-1B.)

- CT — TYPE E LOOP DETECTOR FOR COUNTING PURPOSES
- TYPE D LOOP DETECTOR FOR BICYCLE DETECTION
- EMERGENCY VEHICLE PREEMPTION (EVP) DETECTOR UNIT
  EVA ← DENOTES CHANNEL
- EXISTING STREET LIGHT
- PROPOSED STREET LIGHT INSTALLED PER CITY DWG. No.: 4-C-_____

TRAFFIC SIGNALS

PLAN REVIEW FEE	$_____
INPECTION FEE	$_____
PW SURCHARGE	$_____
TOTAL	$_____
CM#	

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

☐ NEED STREET LIGHT PLANS FROM CITY FOR EXISTING STREET LIGHTS & SAFETY LIGHT.

REVIEWED: _____ DATE
CITY TRAFFIC ENGINEERING

REVIEWED: _____ DATE
SUPERVISOR, TRAFFIC SIGNALS AND STREET LIGHTS

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. CONTRACTOR TO FURNISH AND INSTALL 2" GALVANIZED RIGID CONDUIT FOR RUN "1" WITH 3 EACH #2 AWG CONDUCTORS ON SUPPLY SIDE OF SERVICE EQUIPMENT ENCLOSURE. CONTACT PG&E AT (559) 263-7400 PRIOR TO DOING ANY WORK TO VERIFY LOCATION, PG&E REQUIREMENTS AND COORDINATE CONNECTION OF SERVICE.
2. CONTRACTOR TO FURNISH AND INSTALL TESCO 26-100 SERVICE EQUIPMENT ENCLOSURE FOR 120/240V SERVICE AS SHOWN ON CITY OF FRESNO STANDARD DRAWINGS E-15 AND E-17. ENCLOSURE DOOR SHALL FACE SOUTH.
3. CONTRACTOR TO FURNISH AND INSTALL ONE (1) MODEL 170E CONTROLLERS IN MODEL 332 CABINET WITH LOOP SENSORS, SWITCH PACKS AND ALL AUXILIARY EQUIPMENT NECESSARY FOR FULL EIGHT PHASE TRAFFIC SIGNAL OPERATION. FRONT DOOR OF CONTROLLER CABINET SHALL FACE WEST.
4. FURNISH AND INSTALL POLE TOP PEC ON POLE "B" AND CONNECT TO LIGHTING CONTACTOR IN THE SERVICE EQUIPMENT ENCLOSURE. OTHER INTERSECTION SAFETY LIGHTING SHALL HAVE SHORTING CAPS.
5. CONTRACTOR TO FURNISH AND INSTALL CITY APPROVED OVERSIZED STREET NAME SIGN AND MOUNTING BRACKETS ON SIGNAL STANDARD PURSUANT TO CITY STANDARD DRAWING P-90.
6. CONTRACTOR TO FURNISH AND INSTALL 24" X 24" R34 SIGN ON SIGNAL MAST ARM PURSUANT TO CITY STANDARDS.
7. STRIPING TO BE REMOVED & INTALLED PER STRIPING PLAN. SEE CITY DWG. No.: 15-C-_____
8. THE CONTRACTOR TO FURNISH AND INSTALL A COMPLETE OPTICOM (3M) EMERGENCY VEHICLE PREEMPTION (EVP) SYSTEM IN ACCORDANCE WITH CITY OF FRESNO STANDARD SPECIFICATIONS. EVP DETECTOR UNITS SHALL BE INSTALLED ON SIGNAL MAST ARMS AS SHOWN ON THE PLANS, CENTERED OVER THE NUMBER ONE THROUGH LANE, WHITH BRACKETS APPROVED BY THE TRAFFIC SIGNAL SUPERVISOR. THE CONTRACTOR SHALL DELIVER THE DISCRIMINATORS TO THE CITY CORPORATION YARD AT 2101 "G" STREET, FRESNO, AND NOTIFY THE CITY TRAFFIC SIGNAL SHOP, (559) 621-1312, AT LEAST 2 WORKING DAYS PRIOR TO DELIVERY.
9. INSTALL FOUR SECTION MAS VEHICLE HEAD - SEE DETAIL 'A'.
10. PROPOSED STREET LIGHT(S) INSTALLED PER CITY DWG. No.: 4-C-_____

PREPARED BY:
YAMABE & HORN ENGINEERING, INC.
1300 EAST SHAW AVE., SUITE 176
FRESNO, CA 93710
(559)244-3123 - FAX (559)244-3120

PREPARED FOR:
ASHWOOD CONSTRUCTION CO., INC.
5755 E. KINGS CANYON ROAD, SUITE 110
FRESNO, CA 93727

FOR REVIEW ONLY: 2ND SUB.

MONTY SCOTT TYLER R.C.E. 64462 DATE

REGISTERED PROFESSIONAL ENGINEER MONTY SCOTT TYLER No. 64462 Exp. 6/30/07 CIVIL STATE OF CALIFORNIA

PW File No. _____
Proj. ID. _____
Fund _____
Org. _____
Ref. & Rev. C-05-048

CITY OF FRESNO
Department of Public Works

NORTH POLK AVENUE AND WEST PALO ALTO AVENUE TRAFFIC SIGNAL INSTALLATION

City Engineer _____ Reviewed
Const. Eng. _____ Office Eng. _____
Dr. By: _____ Sheet No. 8
Ch. By: _____ of 9 Sheets
Date: _____
Scale: As Noted
4-E-_____

11/21/06 0418STSP.DWG