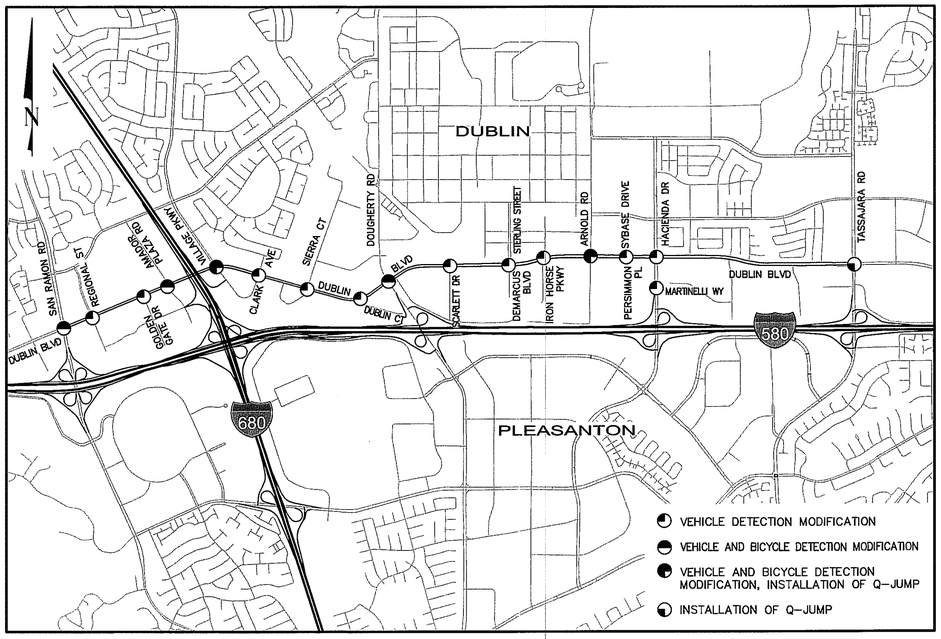
LIVERMORE AMADOR VALLEY TRANSIT AUTHORITY
DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

JANUARY 2017



LOCATION MAP
NOT TO SCALE

SHEET INDEX

OWNER
LIVERMORE AMADOR VALLEY TRANSIT AUTHORITY
1362 RUTAN COURT, SUITE 100
LIVERMORE, CA 94551
PHONE: (925) 455-7555
CONTACT: SILVIA COX

CIVIL ENGINEER
KIMLEY-HORN AND ASSOCIATES, INC.
4637 CHABOT DRIVE, SUITE 300
PLEASANTON, CA 94588
PHONE: (925) 398-4840
CONTACT: NIKITA PETROV

CITY OF DUBLIN
ENGINEERING DIVISION, TRAFFIC ENGINEER
100 CIVIL PLAZA,
DUBLIN, CA 94568
PHONE: (925) 833-6630
CONTACT: WILLIAM LAI

APPROVAL OF THESE PLANS DOES NOT RELEASE THE CONTRACTOR OF THE RESPONSIBILITY FOR CORRECTION OF MISTAKES, ERRORS, OR OMISSIONS CONTAINED THEREIN. IF DURING THE COURSE OF CONSTRUCTION OF THE IMPROVEMENTS PUBLIC INTEREST REQUIRES A MODIFICATION OF OR A DEPARTURE FROM THE SPECIFICATIONS AND DETAILS OF THE CITY OF LIVERMORE OR THESE PLANS, THE ENGINEER SHALL HAVE THE AUTHORITY TO REQUIRE SUCH MODIFICATIONS OR DEPARTURE AND TO SPECIFY THE MANNER IN WHICH SAME IS TO BE MADE.

APPROVED AS TO DESIGN ONLY BASED ON INFORMATION SUBMITTED HEREON.

APPROVED FOR THE LIVERMORE AMADOR VALLEY TRANSIT AUTHORITY:

BY: _____ 1/27/2017
MICHAEL TREE — DATE
EXECUTIVE DIRECTOR

CITY OF DUBLIN PUBLIC WORKS RECOMMENDED FOR APPROVAL

BY: _____ 1/23/2017
ANDREW RUSSELL, P.E. — DATE
CITY ENGINEER

KIMLEY-HORN AND ASSOCIATES, INC.
PREPARED UNDER THE DIRECTION OF:

_____ 01/20/17
NIKITA A. PETROV — DATE
R.C.E. 80570 — EXPIRES 03/31/17

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WWW.KIMLEY-HORN.COM

REGISTERED PROFESSIONAL ENGINEER — NIKITA A. PETROV — No. 80570 EXP. 03/31/2017 — CIVIL — STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TITLE SHEET

CV-01

1 OF 26

PROJECT GENERAL NOTES:

1. THE CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
2. THE CONTRACTOR SHALL POST EMERGENCY TELEPHONE NUMBERS FOR POLICE, FIRE, AMBULANCE, AND THOSE AGENCIES RESPONSIBLE FOR MAINTENANCE OF UTILITIES IN THE VICINITY OF JOB SITE.
3. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL OF THE WORK PERFORMED BY HIS SUBCONTRACTORS WITHOUT EXCEPTION.
4. THE CONTRACTOR SHALL IDENTIFY A RESPONSIBLE CONTACT PERSON, WHO IS AN EMPLOYEE OF THE CONTRACTOR, AND A 24-HOUR TELEPHONE NUMBER TO CALL TO RESOLVE PROBLEMS WITH NOISE, DUST OR OTHER CONSTRUCTION RELATED ISSUES.
5. THE CONTRACTOR SHALL BE REQUIRED TO KEEP ALL CONSTRUCTION ACTIVITIES WITHIN THE RIGHTS-OF-WAY AND EASEMENTS OBTAINED FOR THIS PROJECT UNLESS OTHERWISE SHOWN. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, VEHICLES AND EQUIPMENT, LIMITS OF TRENCH EXCAVATIONS, AND STOCKPILED NEW MATERIAL.
6. THE CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICES INCLUDING BARRICADES, FENCING, WARNING SIGNS, LIGHTS, FLAGGERS OR OTHER ITEMS NECESSARY TO ENSURE PUBLIC SAFETY WITHIN THE PROJECT SITE. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
7. EXISTING CITY COMMUNICATION AND SIGNAL FACILITIES ARE LOCATED IN THE PROJECT AREA. COMMUNICATION AND SIGNAL FACILITIES DAMAGED BY CONTRACTOR'S OPERATIONS SHALL BE TEMPORARILY REPAIRED AND THEN REPLACED AT THE CONTRACTOR'S EXPENSE. DAMAGED SIGNAL INTERCONNECT CABLE SHALL BE REPLACED FOR THE ENTIRE LENGTH BETWEEN CONTROLLER CABINETS.
8. CONTRACTOR SHALL EXERCISE DUE CAUTION DURING CONSTRUCTION TO PROTECT ANY EXISTING LANDSCAPING, FIXTURES, EQUIPMENT, IRRIGATION, CONCRETE SIDEWALK, CONCRETE DRIVEWAY, CONCRETE CURB AND GUTTER, AND AC PAVING TO REMAIN. ANY DAMAGE RESULTING FROM CONTRACTOR OPERATIONS SHALL BE REPAIRED AS DIRECTED BY THE CITY'S REPRESENTATIVE, AT NO ADDITIONAL COST TO THE CITY.
9. DUST SHALL BE CONTROLLED AND ADJOINING STREET AND PRIVATE DRIVEWAYS SHALL BE KEPT CLEAN OF PROJECT DIRT, MUD, MATERIALS AND DEBRIS, TO THE SATISFACTION OF THE COUNTY ENGINEER.
10. THIS PROJECT INVOLVES WORK IN PUBLIC AREAS AND NEAR PRIVATE PROPERTY. THE CONTRACTOR SHALL SPECIFICALLY INSTRUCT ALL HIS/HER WORKERS TO EXERCISE GOOD PUBLIC RELATIONS DURING THE WORK, INCLUDING BEING COURTEOUS, AVOIDING THE USE OF SWEAR WORDS, AND MINIMIZING DAMAGE TO EXISTING IMPROVEMENTS.
11. CONTRACTOR SHALL SWEEP AND CLEAN THE CONSTRUCTION SITE DAILY BEFORE THE END OF EACH WORKING DAY.
12. IT IS INTENDED THAT THESE PLANS REQUIRE ALL LABOR AND MATERIALS NECESSARY FOR COMPLETION OF WORK IN ACCORDANCE WITH THEIR TRUE INTENT AND PURPOSE. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY REGARDING ANY DISCREPANCIES OR AMBIGUITIES WHICH MAY EXIST IN PLANS OR SPECIFICATIONS. ENGINEER'S INTERPRETATION OR CORRECTION THEREOF SHALL BE FINAL AND CONCLUSIVE. WHERE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT THE ENGINEER SHALL DETERMINE THE BEST GENERAL PRACTICE TO BE USED AND ONLY MATERIALS AND WORKMANSHIP OF FIRST QUALITY SHALL BE USED.
13. THE CONTRACTOR SHALL NOTIFY THE CITY'S REPRESENTATIVE IMMEDIATELY, UPON DISCOVERY OF ANY POTENTIAL FIELD CONFLICTS.
14. PROPER TRAFFIC CONTROL SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION IN ACCORDANCE WITH THE 2014 CALIFORNIA MUTCD. CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLANS TO CITY FOR REVIEW AT PRE-CONSTRUCTION MEETING BEFORE STARTING ANY WORK. CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS AT ALL TIMES.
15. CONTRACTOR SHALL SEQUENCE WORK TO MAINTAIN PEDESTRIAN ACCESS AROUND EACH INTERSECTION AT ALL TIMES.

UTILITY NOTES:

1. ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THESE UTILITIES. CONTRACTOR SHALL NOT PERFORM ANY EXCAVATION UNTIL ALL UTILITY AGENCIES HAVE BEEN NOTIFIED AND HAVE BEEN GIVEN THE OPPORTUNITY TO MARK THEIR UNDERGROUND FACILITIES IN THE FIELD. CONTRACTOR SHALL CALL U.S.A. (800) 227-2600 AT LEAST 2 WORKING DAYS IN ADVANCE OF THE START OF CONSTRUCTION OF THE PROJECT. CONTRACTOR SHALL POTHOLE AND DETERMINE THE DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL LOCATE AND PRESERVE ALL FACILITIES INCLUDING SEWER, WATER, GAS, IRRIGATION, POWER, STREET LIGHTS, TELEPHONE, SURVEY MARKERS AND OTHERS WHICH MAY BE IN AREA OF CONSTRUCTION, PRIOR TO INSTALLATION OF SIGNAL POLES. NOT ALL LATERALS ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL LOCATE AND MARK LATERALS PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ADJUSTMENT OF ALL EXISTING UTILITIES WITH THE RESPECTIVE UTILITY COMPANIES AT NO ADDITIONAL COST.
4. CONTRACTOR SHALL MAINTAIN ALL EXISTING SEWER AND WATER SERVICE TO PROPERTIES WITHIN CONSTRUCTION AREA AT ALL TIMES DURING CONSTRUCTION.

TRAFFIC SIGNAL GENERAL NOTES:

1. ALL WORK AND MATERIALS SHALL COMPLY WITH THE 2015 STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) REVISED STANDARD PLANS AND CALTRANS REVISED STANDARD SPECIFICATIONS.
2. ALL SIGN CODES REFER TO THE 2014 CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CAMUTCD) UNLESS OTHERWISE NOTED.
3. REFER TO CALTRANS REVISED STANDARD PLANS ES-1A, ES-1B, AND ES-1C FOR KEY TO SYMBOLS AND ABBREVIATIONS.
4. ALL NEW PULL BOXES SHALL BE #5 UNLESS OTHERWISE NOTED ON THE PLANS.
5. ALL SIGNAL POLES AND SIGNAL STANDARDS SHALL BE GALVANIZED.
6. ALL NEW SIGNAL EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS SPECIFIED ON THESE PLANS AND SPECIAL PROVISIONS.
7. TRAFFIC SIGNAL POLES SHALL BE SET BACK FROM FACE OF CURB NO LESS THAN 30 INCHES TO FACE OF STANDARD OR POLE, AND THE BASE PLATE INSTALLED PARALLEL TO THE STOP BAR UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
8. CONTRACTOR SHALL PROTECT ALL EXISTING CABLES AND CONDUCTORS INSIDE EXISTING CONDUITS AND PULL BOXES WHERE NEW CABLES ARE TO BE INSTALLED.
9. AS-BUILTS USED ON THIS PROJECT MAY NOT REPRESENT ALL RECENT CHANGES. FIELD VERIFICATION IS RECOMMENDED.
10. ALL NEW ETHERNET CABLES AND EXTENDERS CONNECTED TO MICROWAVE DETECTORS SHALL BE LABELED WITH THE PHASE NUMBERS CORRESPONDING TO THE MICROWAVE DETECTOR.
11. AS BUILTS USED ON THIS PROJECT ARE SHOWN FOR REFERENCE PURPOSES ONLY TO IDENTIFY LOCATION OF EXISTING SIGNAL EQUIPMENT. ALL CONSTRUCTION NOTES AND GENERAL NOTES ASSOCIATED WITH THESE AS BUILTS SHALL NOT BE TAKEN IN CONSIDERATION. CONTRACTOR SHALL VERIFY WITH ENGINEER FOR CLARIFICATION IF CONFLICT IS DISCOVERED.

LEGEND

PROPOSED		EXISTING
	CONTROL POINT	
	CONDUIT	
	CURB	
	EDGE OF PAVEMENT	
	SIDEWALK	
	RIGHT-OF-WAY	
	OVERHEAD POWER LINE	E OH
	ELECTRICAL UNDERGROUND	E
	GAS LINE	G
	SANITARY SEWER LINE	SS
	STORM DRAIN LINE	SD
	TELEPHONE LINE	T
	WATER LINE	W
	TV CABLE	CTV
	CURB INLET	
	EMERGENCY VEHICLE PRE-EMPTION DETECTOR	
	FIRE HYDRANT	
	STREET LIGHT	
	PEDESTRIAN SIGNAL HEAD	
	PULL BOX/UTILITY VAULT	
	SERVICE CABINET	
	CONTROLLER CABINET	
	TRAFFIC SIGN	
	TRAFFIC SIGNAL HEAD	
	TRAFFIC SIGNAL MAST ARM SIGN	
	VIDEO MONITORING CAMERA	
	MS SEDCO MICROWAVE DETECTOR	
	TRAFFIC LOOPS	
	TREE	

ABBREVIATIONS

BIU	BUS INTERFACE UNIT
BOW	BACK OF WALK
CB	INSTALL CONDUIT INTO EXISTING PULL BOX
DH	DETECTOR HANDHOLE
DLC	DETECTOR LEAD-IN CABLE
EVP	EMERGENCY VEHICLE PRE-EMPTION
EX, EXIST	EXISTING
FH	FIRE HYDRANT
FOC	FACE OF CURB
LG	LIP OF GUTTER
MIN	MINIMUM
OC	ON CENTER
OLA	OVERLAP A
PB	PULL BOX
PED	PEDESTRIAN
PEU	PHOTOELECTRIC UNIT
PPB	PESESTRIAN PUSH BUTTON
R/W	RIGHT OF WAY
RC	EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR
RS	REMOVE AND SALVAGE EQUIPMENT
SNS	STREET NAME SIGN
ST	STREET
TYP	TYPICAL

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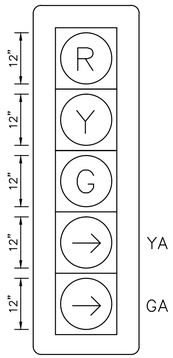
PROJECT NUMBER: 097026201
SCALE: SEE PLAN

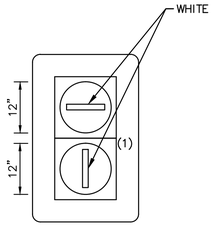
TRAFFIC SIGNAL GENERAL NOTES

GN-01



DETAIL 'A'
5-SECTION SIGNAL HEAD

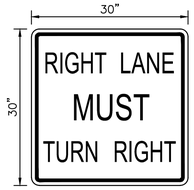
NOT TO SCALE



DETAIL 'B'
TRANSIT SIGNAL HEAD
(2-SECTION SIGNAL HEAD)

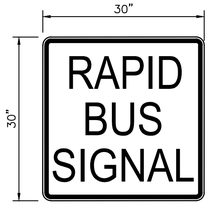
NOT TO SCALE

(1) LENS WILL BE USED IN FLASHING MODE TO INDICATE "PREPARE TO STOP"



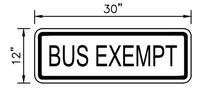
DETAIL 'C'
R3-7(R) SIGN
(BLACK ON WHITE BACKGROUND)

NOT TO SCALE



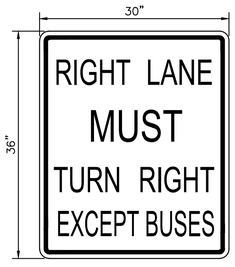
DETAIL 'D'
"RAPID BUS SIGNAL" SIGN
(BLACK ON WHITE BACKGROUND)

NOT TO SCALE



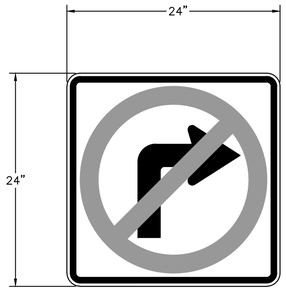
DETAIL 'E'
"BUS EXEMPT" SIGN
(BLACK ON WHITE BACKGROUND)

NOT TO SCALE



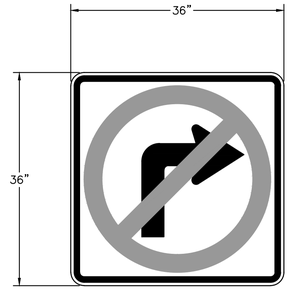
DETAIL 'F'
MODIFIED R3-7(R) SIGN
(BLACK ON WHITE BACKGROUND)

NOT TO SCALE



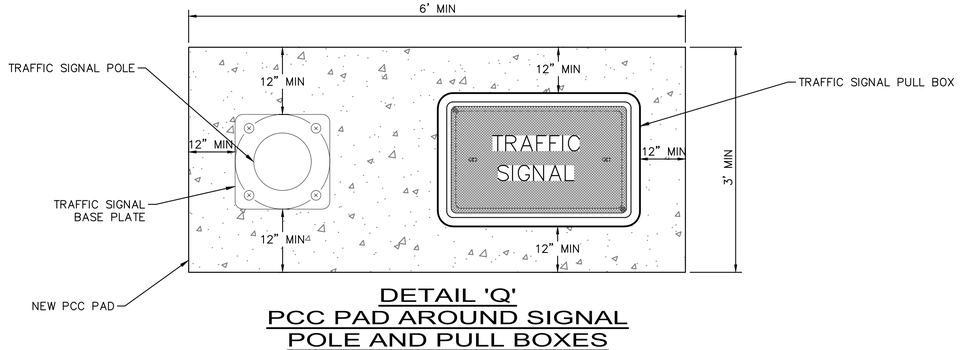
DETAIL 'G'
NO RIGHT TURN
BLANK-OUT SIGN (R3-1)

NOT TO SCALE



DETAIL 'H'
NO RIGHT TURN
BLANK-OUT SIGN (R3-1)

NOT TO SCALE



DETAIL 'Q'
PCC PAD AROUND SIGNAL
POLE AND PULL BOXES

NOT TO SCALE

NOTES:

1. CONCRETE PAD SHALL BE A MINIMUM OF 4" IN DEPTH BELOW THE GROUND AND CONFORM TO CALTRANS REVISED STANDARD SPECIAL PROVISIONS 87-1.03(3).
2. CONTRACTOR SHALL INSTALL GROUT AT THE BOTTOM OF THE PULL BOX PER REVISED CALTRANS STANDARD PLAN ES-8B.

CA: 1-800-227-2600
CALL BEFORE YOU DIG
USA
UNDERGROUND SERVICE ALERT
CA: 1-800-227-2600
CALL TWO WORKING DAYS BEFORE YOU DIG

FILE INFO: K:\BAY_TPTO\097026201 - MTC - Dublin Field Elements - NAP\CAD\Plansheets\TS-20 Details.dwg BY:nikita.petrov

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REGISTERED PROFESSIONAL ENGINEER
NAPHTALI A. PETROV
No. 80570
EXP. 03/31/2017
CIVIL
STATE OF CALIFORNIA

Wheels

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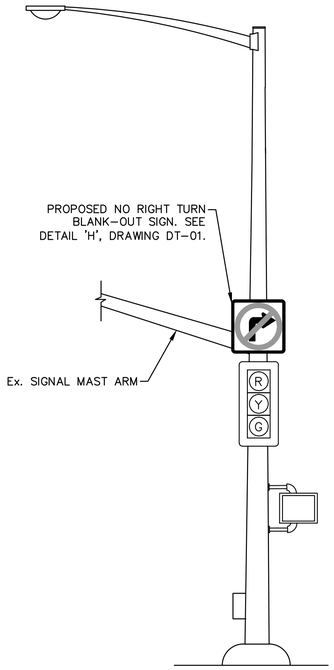
SCALE: SEE PLAN

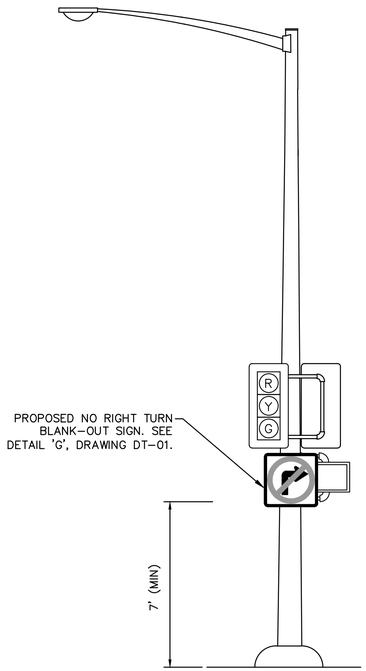
TRAFFIC SIGNAL DETAILS

DT-01



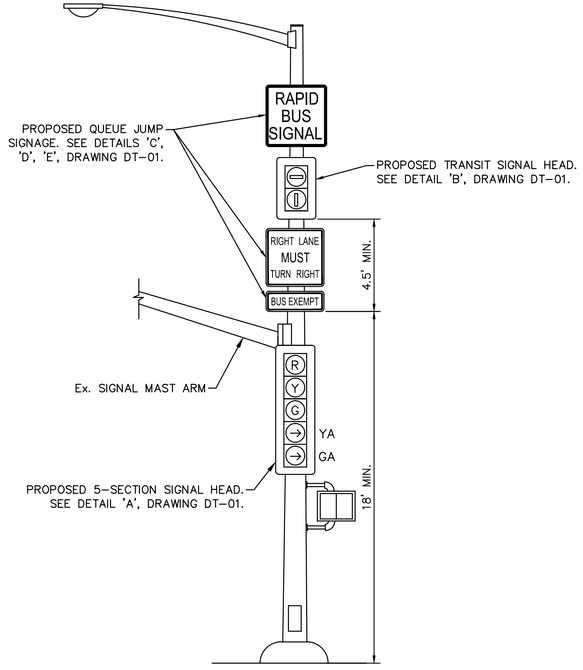
DETAIL 'J'
LOCATION OF BLANK-OUT SIGN ON POLE SHAFT

NOT TO SCALE



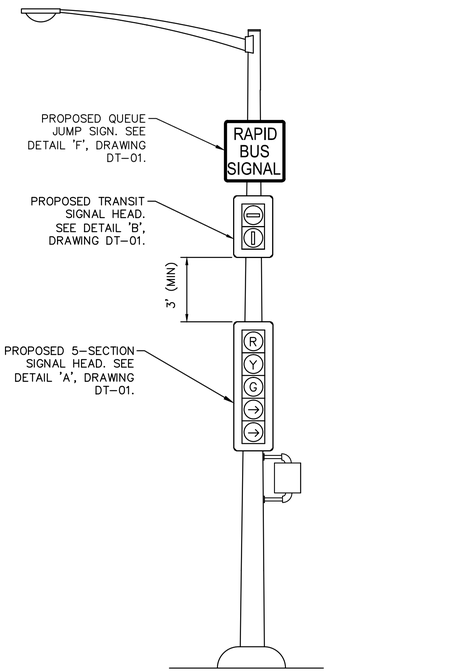
DETAIL 'K'
LOCATION OF BLANK-OUT SIGN ON POLE SHAFT

NOT TO SCALE



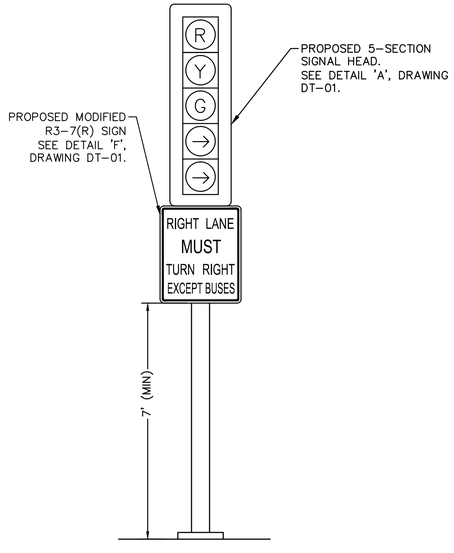
DETAIL 'L'
LOCATION OF SIGNS AND SIGNAL HEADS ON SIGNAL POLE SHAFT

NOT TO SCALE



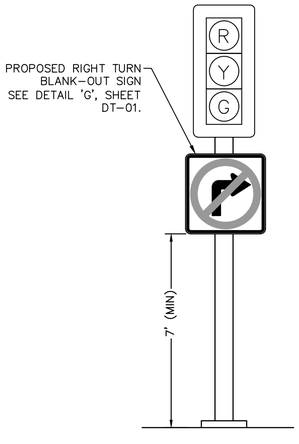
DETAIL 'R'
LOCATION OF SIGNS AND SIGNAL HEADS ON ON POLE SHAFT

NOT TO SCALE



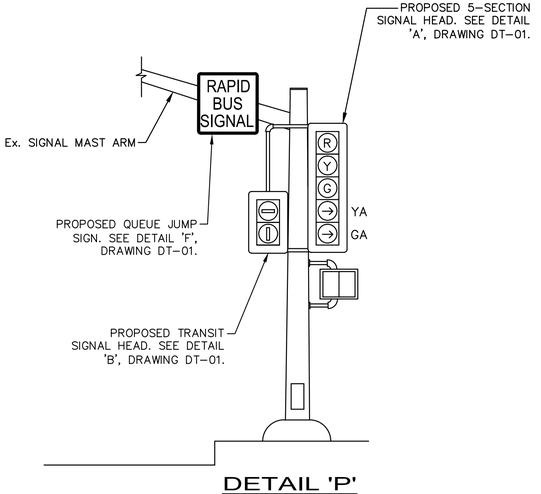
DETAIL 'M'
LOCATION OF SIGN AND SIGNAL HEAD ON 1-B POLE

NOT TO SCALE



DETAIL 'N'
LOCATION OF BLANK-OUT SIGN ON TYPE 1-B POLE

NOT TO SCALE



DETAIL 'P'
LOCATION OF SIGN ON MAST ARM AND SIGNAL HEADS ON SIGNAL POLE SHAFT

NOT TO SCALE

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SCALE: SEE PLAN

TRAFFIC SIGNAL DETAILS

DT-02

FILE INFO: K:\BAY_TPTO\097026201 - MTC - Dublin Field Elements - NAP\CAD\Plansheets\TS-21 Details 2.dwg BY:nikita.petrov

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. INSTALL OWNER FURNISHED INTERSECTOR BICYCLE/VEHICLE MICROWAVE DETECTOR ON SIGNAL MAST ARM PER SPECIFICATIONS. CONTRACTOR TO COORDINATE WITH THE ENGINEER AND WESTERN PACIFIC SIGNAL REPRESENTATIVE FOR PROGRAMMING MICROWAVE DETECTION ZONES.
2. FURNISH AND INSTALL DETECTOR CARD RACK. INSTALL OWNER FURNISHED TCIPI-4 INTERSECTOR POWER INJECTOR AND FOUR (4) TCIB INTERFACE BOARDS FOR INTERSECTOR DETECTORS IN EXISTING CABINET. FURNISH AND INSTALL ETHERNET PATCH CABLES BETWEEN THE POWER INJECTOR AND INTERFACE BOARDS.
3. FURNISH AND INSTALL PPB COMMON TO EACH PEDESTRIAN PHASE AS SHOWN BY THE CONDUCTOR SCHEDULE. COIL AT LEAST 20 FEET OF WIRE IN PULL BOX NEXT TO SIGNAL POLE WITH PUSH BUTTON. LABEL EACH WIRE WITH PHASE NUMBER.
4. DISCONNECT TWO EXISTING BACK LOOPS AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.
5. DISCONNECT EXISTING COUNT LOOPS AT THE CONTROLLER CABINET AND ABANDON IN PLACE.
6. FURNISH AND INSTALL ONE ETHERNET EXTENDER INSIDE THE SIGNAL POLE HANDHOLE, TO EXTEND ETHERNET CABLE TO INTERSECTOR DETECTOR LOCATED ON POLE (F).

SEE DRAWING GN-01 FOR TRAFFIC SIGNAL GENERAL NOTES

CONDUCTOR SCHEDULE

AWG OR CABLE		NUMBER OF CONDUCTORS — RUN NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	13	14
NO. 14	ø4 PPB COMMON	②	②	①	①	①					①	①	①	①	①
	ø6 PPB COMMON	②	②	②	①	①									
	ø8 PPB COMMON	②	①											①	①
	TOTAL NO. 14	87/⑥	70/⑤	34/③	29/②	24/②	11	3	3	11	23/①	23/①	28/①	33/②	33/②
NO. 8	TOTAL NO. 8	3	6	3	3	3	1			3	3	3	3	3	3
NO. 6	TOTAL NO. 6	2													
3/8" PULL ROPE	TOTAL PULL ROPE	2						1	1						
SIGNAL INTERCONNECT CABLE (SIC)	TOTAL SIC	1	1	1	1	1	1	1							
DETECTOR LEAD-IN CABLE	TOTAL DLC	47	47	24	17	12	12	9			8	13	13	18	24
EVP CABLES	TOTAL CABLE	4	3	1	1	1				1	1	1	2	2	2
MICROWAVE DETECTION CABLE (CAT 5E)	ø2 & ø5	①	①	①	①	①	①	①	①						
	ø4 & ø7	①	①	①	①	①									
	ø3 & ø8	①	①										①	①	①
	ø1 & ø6	①	①												
	TOTAL CABLE	④	④	②	②	②	①	①	①				①	①	①
	CONDUIT FILL (%)	24%	21%	40%	33%	27%	19%	16%	3%	7%	17%	21%	24%	30%	35%
	CONDUIT SIZE (IN)	2-4"	2-4"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"

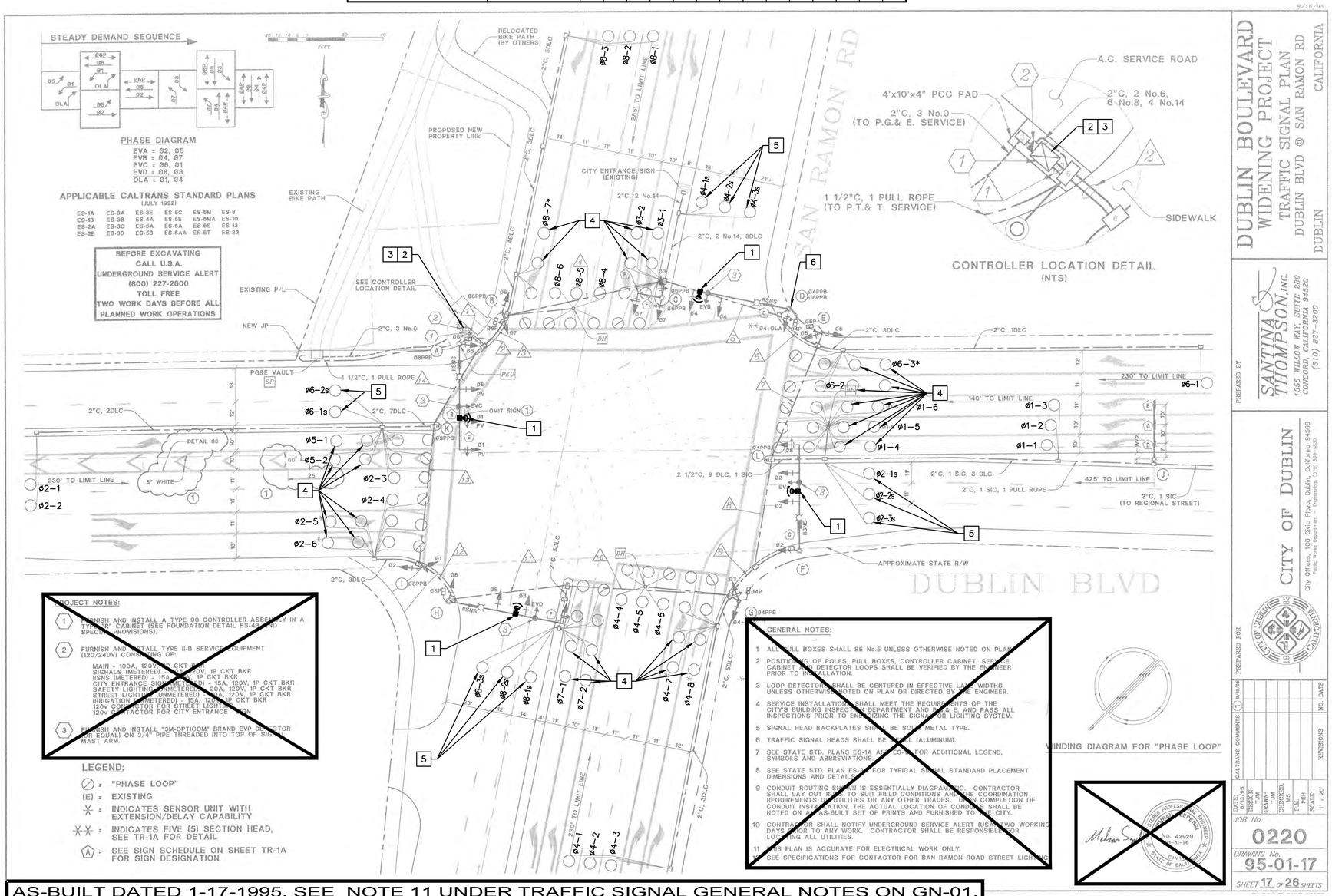
CONDUCTOR SCHEDULE NOTES (THIS SHEET ONLY)

ALL CONDUITS, CABLES, AND CONDUCTORS ARE EXISTING UNLESS OTHERWISE NOTED.

◯ = NEW CABLE OR CONDUCTOR

△ = EXISTING CONDUIT RUN

DRAWINGS MAY NOT INCLUDE ALL RECENT UPDATES. FIELD VERIFICATION IS RECOMMENDED.



AS-BUILT DATED 1-17-1995. SEE NOTE 11 UNDER TRAFFIC SIGNAL GENERAL NOTES ON GN-01.

CA: 1-800-227-2600 CALL BEFORE YOU DIG USA UNDERGROUND SERVICE ALERT CA: 1-800-227-2600
CALL TWO WORKING DAYS BEFORE YOU DIG

FILE INFO: K:\BAY_TPT\0\097026201 – MTC – Dublin Field Elements – NAP\CAD\Plansheets\TS-01 Dublin & San Ramon.dwg BY:nikita.petrov

DUBLIN BOULEVARD WIDENING PROJECT
TRAFFIC SIGNAL PLAN
DUBLIN BLVD @ SAN RAMON RD
DUBLIN CALIFORNIA

PREPARED BY: SANTINA THOMPSON, INC. 1355 WILLOW WAY, SUITE 280 CONCORD, CALIFORNIA 94520 (510) 827-8200

PREPARED FOR: CITY OF DUBLIN City Offices, 100 Civic Plaza, Dublin, California 94568 Public Works Department - Engineering (510) 833-6650

CALTRANS COMMENTS (1) 8/15/95

NO.	DATE	REVISIONS

DATE: 9-13-95 DESIGNED: TJM DRAWN: CHECKED: MS P.M. SCALE: 1" = 20'

JOB No. 0220
DRAWING No. 95-01-17
SHEET 17 OF 26 SHEETS

Kimley»Horn

4637 CHABOT DR, SUITE 300, PLEASANTON, CA 94588
PHONE: 925-398-4840
WWW.KIMLEY-HORN.COM

REGISTERED PROFESSIONAL ENGINEER No. 80570 EXP. 03/31/2017 CIVIL STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

DRAWN BY: NAP/BJS/JMP | DESIGNED BY: NAP/BJS/JMP | CHECKED BY: BES | APPROVED BY:
PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL PLAN DUBLIN BLVD & SAN RAMON RD

TS-01

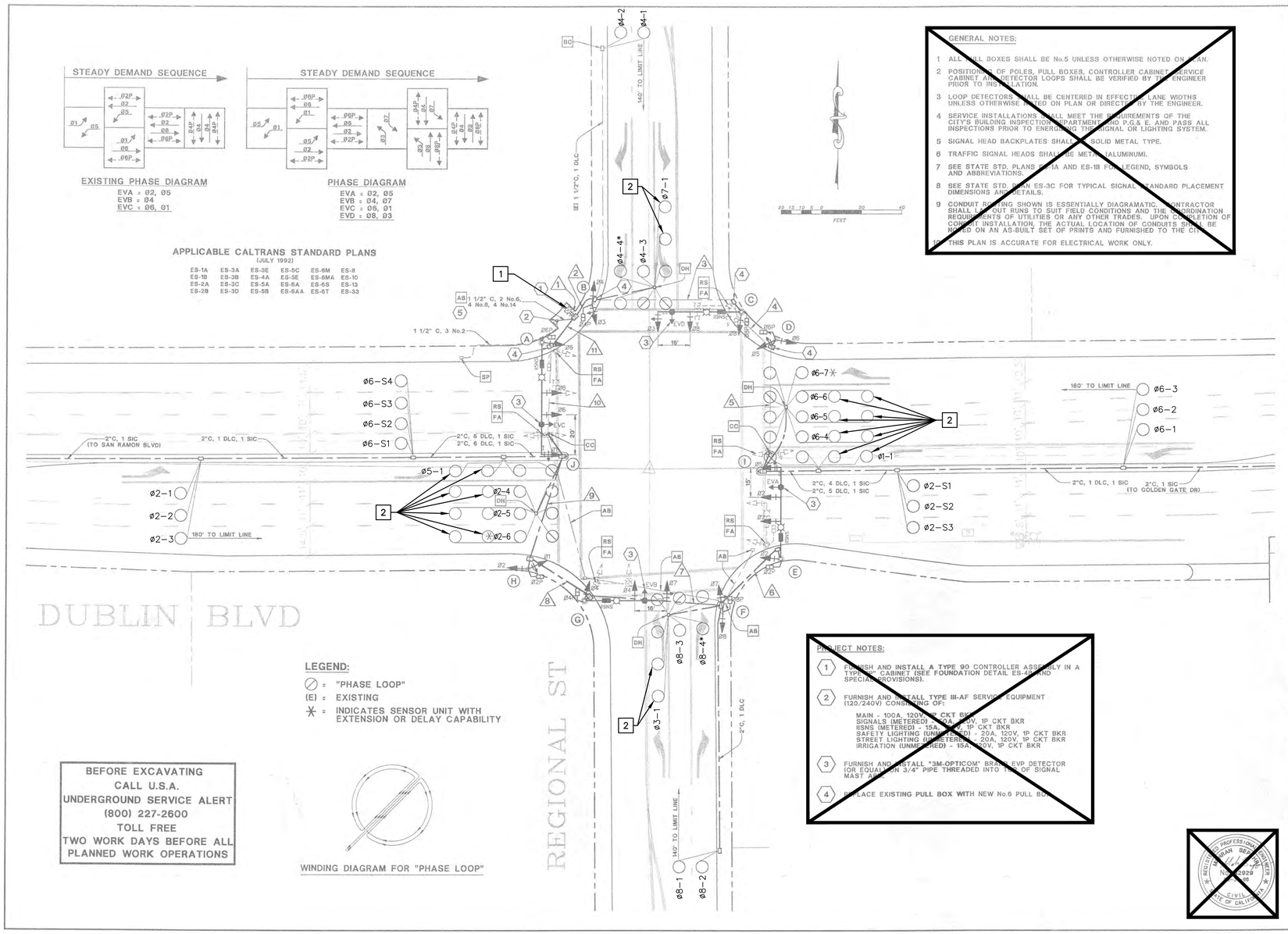
5 OF 26

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. REWIRE LOOP DETECTOR LEAD-IN CABLES IN THE CABINET SO THAT EACH DETECTOR IS WIRED TO ITS OWN CHANNEL. PROVIDE DIAGRAM SHOWING HOW CABLES ARE LANDED IN THE CABINET. LABEL EACH WIRE WITH PHASE AND DETECTOR NUMBER.
2. DISCONNECT TWO EXISTING BACK LOOPS AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.

DRAWINGS MAY NOT INCLUDE ALL RECENT UPDATES. FIELD VERIFICATION IS RECOMMENDED.

SEE DRAWING GN-01 FOR TRAFFIC SIGNAL GENERAL NOTES



AS-BUILT DATED 1-19-1995. SEE NOTE 11 UNDER TRAFFIC SIGNAL GENERAL NOTES ON GN-01.

CA: 1-800-227-2600 CALL BEFORE YOU DIG USA UNDERGROUND SERVICE ALERT CA: 1-800-227-2600
CALL TWO WORKING DAYS BEFORE YOU DIG

FILE INFO: K:\BAY_TPTO\097026201 - MTC - Dublin Field Elements - NAP\CAD\Plansheets\TS-02 Dublin & Regional.dwg BY:nikita.petrov

Kimley»Horn

4637 CHABOT DR, SUITE 300, PLEASANTON, CA 94588
PHONE: 925-398-4840
WWW.KIMLEY-HORN.COM

REGISTERED PROFESSIONAL ENGINEER — NIKITA A. PETROV — No. 80570 — EXP. 03/31/2017 — CIVIL — STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD WIDENING PROJECT
TRAFFIC SIGNAL PLAN
DUBLIN BLVD @ REGIONAL ST
DUBLIN CALIFORNIA

PREPARED BY:
SANTINA THOMPSON, INC.
1355 WILLOW WAY, SUITE 280
CONCORD, CALIFORNIA 94520
(510) 827-3300

PREPARED FOR:
CITY OF DUBLIN
City Offices, 100 Civic Plaza, Dublin, California 94568
Public Works Department – Engineering, (510) 833-6630

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

DATE: 6/15/95
DESIGNED: TJM
DRAWN: TJM
CHECKED: MS, P.M., PEH
SCALE: 1" = 20'

JOB No. 0220
DRAWING No. 95-01-19
SHEET 19 OF 26 SHEETS

H:\DCA\P\0220\220TR2

NO. DATE REVISIONS

TRAFFIC SIGNAL PLAN
DUBLIN BLVD & REGIONAL ST

TS-02

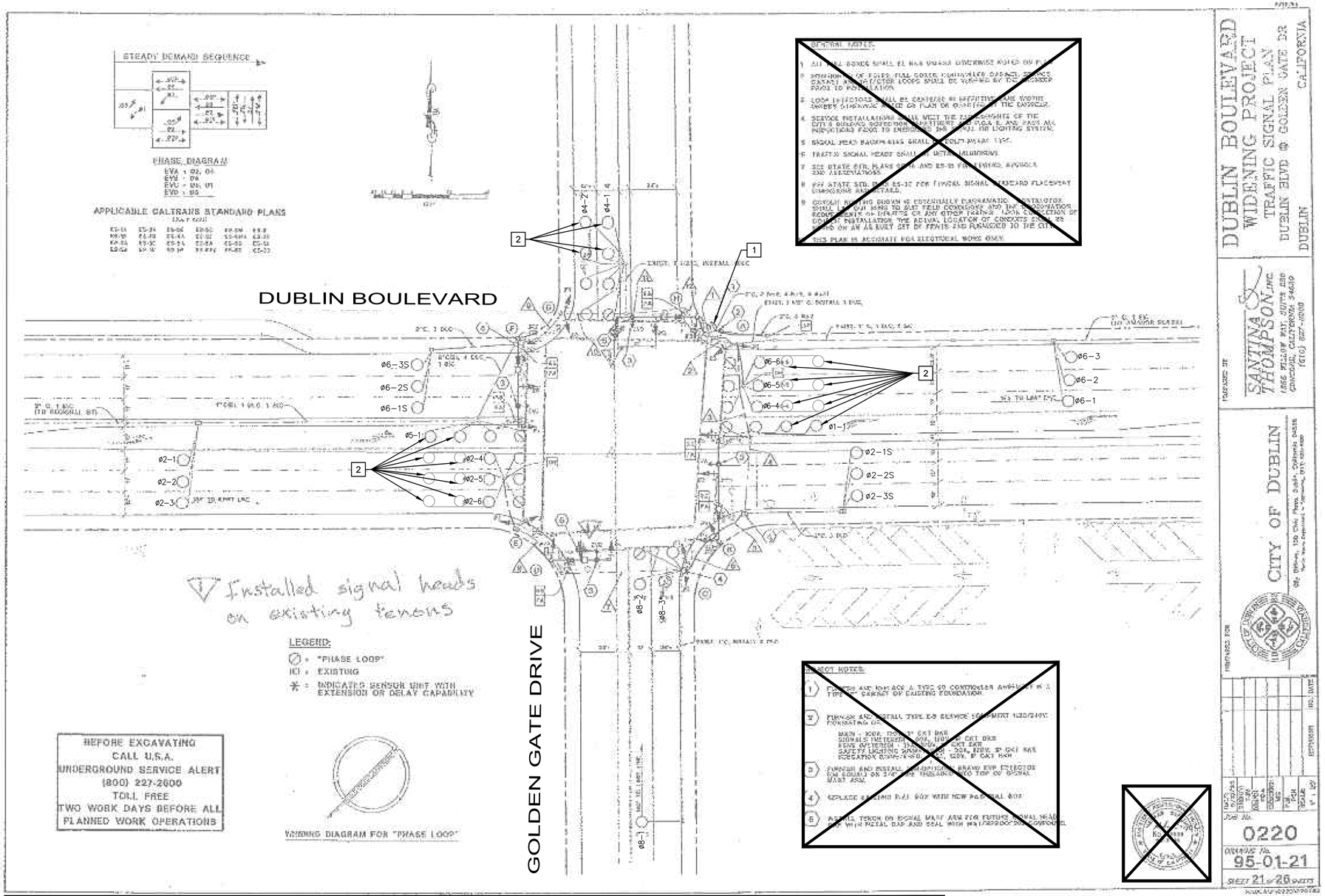
6 OF 26

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. REWIRE LOOP DETECTOR LEAD-IN CABLES IN THE CABINET SO THAT EACH DETECTOR IS WIRED TO ITS OWN CHANNEL. PROVIDE DIAGRAM SHOWING HOW CABLES ARE LANDED IN THE CABINET. LABEL EACH WIRE WITH PHASE AND DETECTOR NUMBER.
2. DISCONNECT TWO EXISTING BACK LOOPS AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.

DRAWINGS MAY NOT INCLUDE ALL RECENT UPDATES. FIELD VERIFICATION IS RECOMMENDED.

SEE DRAWING GN-01 FOR TRAFFIC SIGNAL GENERAL NOTES



AS-BUILT DATED 1-19-1995. SEE NOTE 11 UNDER TRAFFIC SIGNAL GENERAL NOTES ON GN-01.

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PHONE: 925-398-4840
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REGISTERED PROFESSIONAL ENGINEER — No. 80570 EXP. 03/31/2017 — CIVIL — STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL PLAN DUBLIN BLVD & GOLDEN GATE DR

TS-03

CONDUCTOR SCHEDULE

AWG OR CABLE		NUMBER OF CONDUCTORS — RUN NUMBER 1	2	3	4	5	6	7	8	9	10	11	12
NO. 14	ø2 PPB COMMON	①	①						①		①	①	①
	ø4 PPB COMMON	②	②										
	ø6 PPB COMMON	①	①	①	①								
	ø8 PPB COMMON	②	②	①	①	①	①	①	①	①	①	①	
	TOTAL NO. 14	65/⑥	65/⑥	30/②	28/②	13/①	5/⑤	17/①	25/②	12/①	22/②	21/②	23/①
NO. 8	TOTAL NO. 8	4	4	3	3	1	1	3		2	2	2	4
3/8" PULL ROPE	TOTAL PULL ROPE	1	1	1	1	1	1	1					
SIGNAL INTERCONNECT CABLE (SIC)	TOTAL SIC	2	2	1	1	1	1						
DETECTOR LEAD-IN CABLE	TOTAL DLC	31	31	14	7	7	4	4	3	1	5	7	6
EVP CABLES	TOTAL CABLE	4	4	1	1			1		1	1	1	2
MICROWAVE DETECTION CABLE (CAT 5E)	ø2 & ø5	①	①					①	①	①	①	①	
	ø4 & ø7	①	①							①	①	①	
	ø3 & ø8	①	①	①	①								
	ø1 & ø6	①	①										
	TOTAL CABLE	④	④	①	①			①	①	②	②	②	
	CONDUIT FILL (%)	33%	33%	31%	25%	33%	31%	32%	24%	19%	15%	16%	17%
	CONDUIT SIZE (IN)	2-3"	2-3"	3"	3"	2"	2"	2"	2"	2"	3"	3"	3"

CONDUCTOR SCHEDULE NOTES (THIS SHEET ONLY)

ALL CONDUITS, CABLES, AND CONDUCTORS ARE EXISTING UNLESS OTHERWISE NOTED.

○ = NEW CABLE OR CONDUCTOR

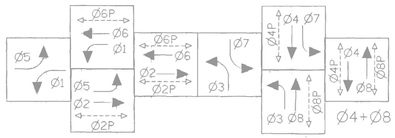
△X = EXISTING CONDUIT RUN

DRAWINGS MAY NOT INCLUDE ALL RECENT UPDATES. FIELD VERIFICATION IS RECOMMENDED.

CONSTRUCTION NOTES (THIS SHEET ONLY)

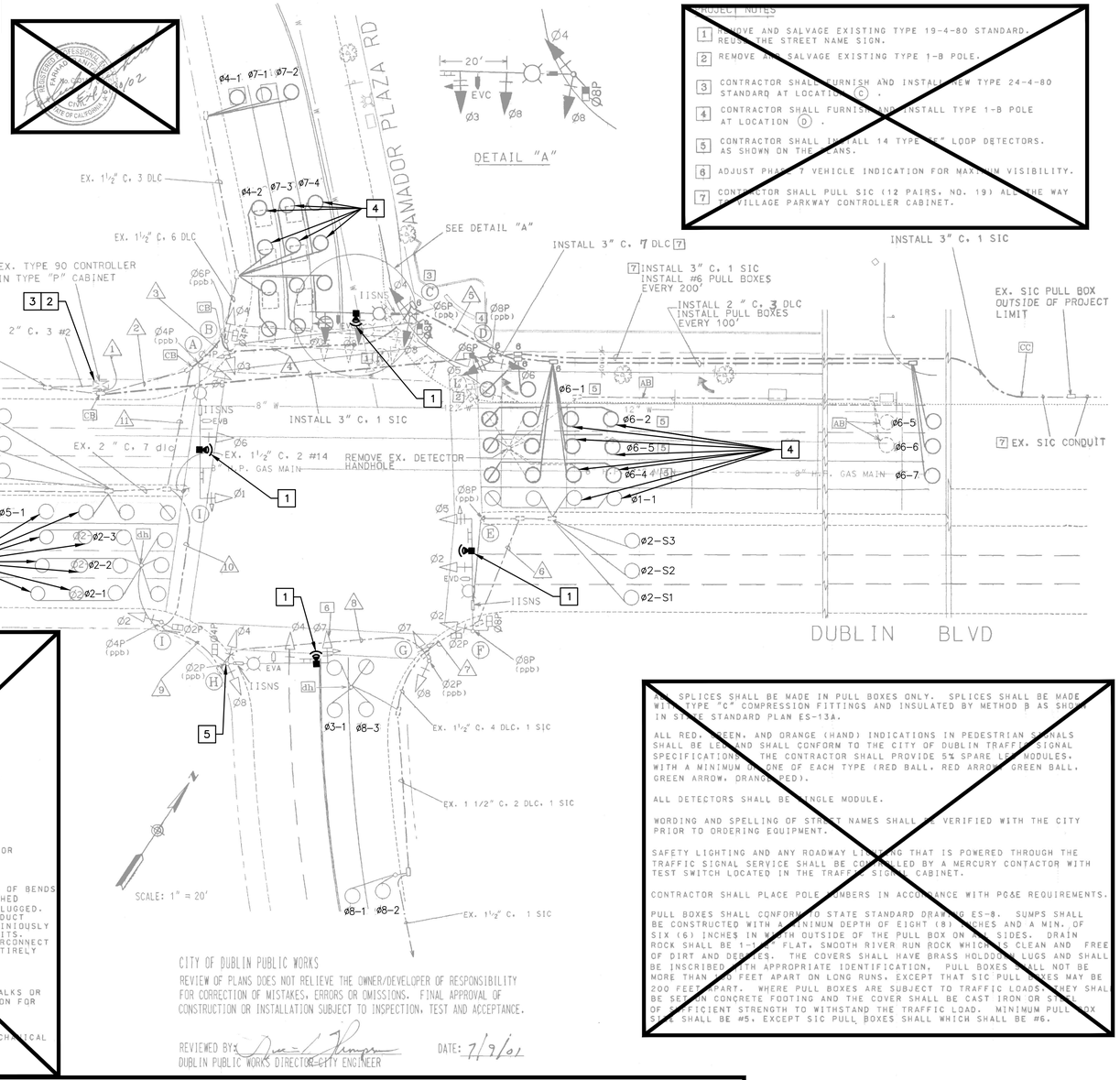
1. INSTALL OWNER FURNISHED INTERSECTOR BICYCLE/VEHICLE MICROWAVE DETECTOR ON SIGNAL MAST ARM PER SPECIFICATIONS. CONTRACTOR TO COORDINATE WITH THE ENGINEER AND WESTERN PACIFIC SIGNAL REPRESENTATIVE FOR PROGRAMMING MICROWAVE DETECTION ZONES.
2. FURNISH AND INSTALL DETECTOR CARD RACK. INSTALL OWNER FURNISHED TCIPI-4 INTERSECTOR POWER INJECTOR AND FOUR (4) TCIB INTERFACE BOARDS FOR INTERSECTOR DETECTORS IN EXISTING CABINET. FURNISH AND INSTALL ETHERNET PATCH CABLES BETWEEN THE POWER INJECTOR AND INTERFACE BOARDS.
3. FURNISH AND INSTALL PPB COMMON TO EACH PEDESTRIAN PHASE AS SHOWN BY THE CONDUCTOR SCHEDULE. COIL AT LEAST 20 FEET OF WIRE IN PULL BOX NEXT TO SIGNAL POLE WITH PUSH BUTTON. LABEL EACH WIRE WITH PHASE NUMBER.
4. DISCONNECT TWO EXISTING BACK LOOPS AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.
5. FURNISH AND INSTALL ONE ETHERNET EXTENDER INSIDE THE SIGNAL POLE HANDHOLE, TO EXTEND ETHERNET CABLE TO INTERSECTOR DETECTOR LOCATED ON POLE (F).

SEE DRAWING GN-01 FOR TRAFFIC SIGNAL GENERAL NOTES



EXISTING PHASE DIAGRAM

DETAIL "A"



PROJECT NOTES

1. REMOVE AND SALVAGE EXISTING TYPE 19-4-80 STANDARD. REUSE THE STREET NAME SIGN.
2. REMOVE AND SALVAGE EXISTING TYPE 1-B POLE.
3. CONTRACTOR SHALL FURNISH AND INSTALL NEW TYPE 24-4-80 STANDARD AT LOCATION (C).
4. CONTRACTOR SHALL FURNISH AND INSTALL TYPE 1-B POLE AT LOCATION (D).
5. CONTRACTOR SHALL INSTALL 14 TYPE "E" LOOP DETECTORS. AS SHOWN ON THE PLANS.
6. ADJUST PHASE 7 VEHICLE INDICATION FOR MAXIMUM VISIBILITY.
7. CONTRACTOR SHALL PULL SIC (12 PAIRS, NO. 19) ALL THE WAY TO VILLAGE PARKWAY CONTROLLER CABINET.

GENERAL NOTES

ALL MATERIAL AND WORKMANSHIP SHALL FULLY CONFORM TO THE NATIONAL ELECTRICAL CODE, THE STATE STANDARD SPECIFICATIONS, THE CITY OF DUBLIN TRAFFIC SIGNAL SPECIFICATIONS AND DETAILS. WHERE THERE IS A CONFLICT, THE MORE RESTRICTIVE SHALL APPLY.

LOCATIONS OF STANDARDS, PULL BOXES, AND OTHER EQUIPMENT SHOWN ON THIS PLAN ARE APPROXIMATE AND SHALL BE LOCATED IN THE FIELD BY THE ENGINEER. FINAL LOCATIONS SHALL BE DETERMINED PRIOR TO DRILLING FOR FOUNDATIONS.

DRAWINGS ARE SCHEMATIC IN NATURE. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING A COMPLETE AND FUNCTIONAL TRAFFIC SIGNAL ACCORDING TO CITY OF DUBLIN SPECIFICATIONS. ANY PERCEIVED ANOMALIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN A TIMELY MANNER.

THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF TWENTY-FOUR (24) HOURS PRIOR TO ANY EXCAVATION. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL REQUIRED CLEARANCES FROM OVERHEAD AND UNDERGROUND UTILITIES.

ALL CONDUIT AND FITTINGS SHALL BE UL APPROVED. THE MINIMUM RADIUS OF BENDS SHALL BE 18 INCHES. ALL BENDS AND/OR OFFSETS SHALL BE ACCOMPLISHED WITH FACTORY FORMED SECTIONS. ALL EMPTY CONDUIT ENDS SHALL BE PLUGGED. ALL OTHER CONDUIT SHALL HAVE BELL ENDS AND SHALL BE SEALED WITH DUCT SEAL. THE UNDERGROUND CONDUIT AND ALL METAL PARTS SHALL BE CONTINUOUSLY BONDED AND GROUNDED. PROVIDE A #10 PULL WIRE IN ALL EMPTY CONDUITS. ALL CROSSINGS SHALL BE PERPENDICULAR TO THE STREET. SIGNAL INTERCONNECT CONDUIT SHALL COMPLY WITH THE SPECIAL PROVISIONS AND SHALL BE ENTIRELY SEPARATE FROM OTHER CONDUITS.

CONDUIT SHALL BE INSTALLED AT A MINIMUM DEPTH OF 24" BELOW SIDEWALKS OR PLANTER STRIPS AND 36" BELOW ROADWAYS. REFER TO THE SPECIFICATION FOR ADDITIONAL INFORMATION REGARDING SPECIFIC LOCATIONS.

REFER TO THE CITY OF DUBLIN TRAFFIC SIGNAL SPECIFICATION. NO MECHANICAL MEANS SHALL BE USED TO PULL WIRE.

ALL SIGNAL HEADS SHALL 12" AND SHALL HAVE BACKPLATES.

ALL SPLICES SHALL BE MADE IN PULL BOXES ONLY. SPLICES SHALL BE MADE WITH TYPE "C" COMPRESSION FITTINGS AND INSULATED BY METHOD B AS SHOWN IN STATE STANDARD PLAN ES-13A.

ALL RED, GREEN, AND ORANGE (HAND) INDICATIONS IN PEDESTRIAN SIGNALS SHALL BE LED AND SHALL CONFORM TO THE CITY OF DUBLIN TRAFFIC SIGNAL SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE 5% SPARE LED MODULES, WITH A MINIMUM OF ONE OF EACH TYPE (RED BALL, RED ARROW, GREEN BALL, GREEN ARROW, ORANGE HAND, PED).

ALL DETECTORS SHALL BE SINGLE MODULE.

WORDING AND SPELLING OF STREET NAMES SHALL BE VERIFIED WITH THE CITY PRIOR TO ORDERING EQUIPMENT.

SAFETY LIGHTING AND ANY ROADWAY LIGHTING THAT IS POWERED THROUGH THE TRAFFIC SIGNAL SERVICE SHALL BE CONTROLLED BY A MERCURY CONTACTOR WITH TEST SWITCH LOCATED IN THE TRAFFIC SIGNAL CABINET.

CONTRACTOR SHALL PLACE POLE NUMBERS IN ACCORDANCE WITH PG&E REQUIREMENTS.

PULL BOXES SHALL CONFORM TO STATE STANDARD DRAWING ES-8. SUMPS SHALL BE CONSTRUCTED WITH A MINIMUM DEPTH OF EIGHT (8) INCHES AND A MIN. OF SIX (6) INCHES IN WIDTH OUTSIDE OF THE PULL BOX ON ALL SIDES. DRAIN ROCK SHALL BE 1-1/2" FLAT, SMOOTH RIVER RUN ROCK WHICH IS CLEAN AND FREE OF DIRT AND DEBRIES. THE COVERS SHALL HAVE BRASS HOLDDOWN LUGS AND SHALL BE INSCRIBED WITH APPROPRIATE IDENTIFICATION. PULL BOXES SHALL NOT BE MORE THAN 150 FEET APART ON LONG RUNS, EXCEPT THAT SIC PULL BOXES MAY BE 200 FEET APART. WHERE PULL BOXES ARE SUBJECT TO TRAFFIC LOADS THEY SHALL BE SET ON CONCRETE FOOTING AND THE COVER SHALL BE CAST IRON OR STEEL OF SUFFICIENT STRENGTH TO WITHSTAND THE TRAFFIC LOAD. MINIMUM PULL BOX SIZE SHALL BE #5, EXCEPT SIC PULL BOXES SHALL WHICH SHALL BE #6.

CITY OF DUBLIN PUBLIC WORKS

REVIEW OF PLANS DOES NOT RELIEVE THE OWNER/DEVELOPER OF RESPONSIBILITY FOR CORRECTION OF MISTAKES, ERRORS OR OMISSIONS. FINAL APPROVAL OF CONSTRUCTION OR INSTALLATION SUBJECT TO INSPECTION, TEST AND ACCEPTANCE.

REVIEWED BY: _____ DATE: 7/9/01
DUBLIN PUBLIC WORKS DIRECTOR-CITY ENGINEER

AS-BUILT DATED 6-25-2001. SEE NOTE 11 UNDER TRAFFIC SIGNAL GENERAL NOTES ON GN-01.

CALL BEFORE YOU DIG — UNDERGROUND SERVICE ALERT
CA: 1-800-227-2600
CALL TWO WORKING DAYS BEFORE YOU DIG

Kimley»Horn
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4637 CHABOT DR, SUITE 300, PLEASANTON, CA 94588
PHONE: 925-398-4840
WWW.KIMLEY-HORN.COM

REGISTERED PROFESSIONAL ENGINEER — NAPIER S. A. PETERS — No. 80570 — EXP. 03/31/2017 — CIVIL — STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL PLAN DUBLIN BLVD & AMADOR PLAZA RD

TS-04

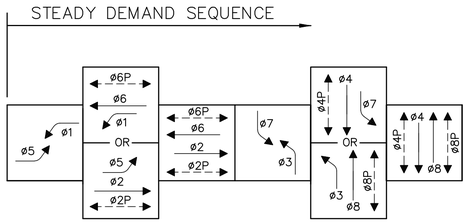
8 OF 26

CITY OF DUBLIN
TRAFFIC SIGNAL MODIFICATION AT
DUBLIN BLVD. AND AMADOR PLAZA ROAD
DRAWING NO. | SHEET 1 OF 2
SCALE: 1" = 20' | PROJECT NO.
DATE: 6/25/01

DATE: 6/25/01
REVISIONS
NO.

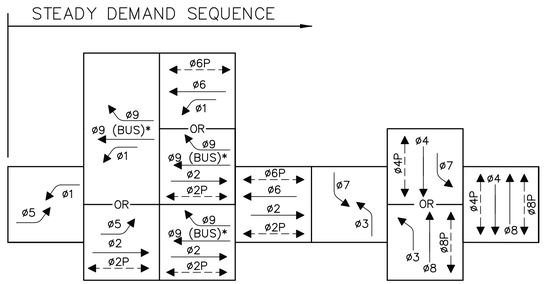
Farhad and Associates
Transportation · Traffic · Civil Engineering
2825 Mitchell Drive, Suite 180
Walnut Creek, CA 94598
(925)988-9187 Fax (925)945-7966

FILE INFO: K:\BAY_TPTO\097026201 - MTC - Dublin Field Elements - NAP\CAD\Plansheets\TS-04 Dublin & Amador Plaza.dwg BY:nikita.petrov



EXISTING PHASE DIAGRAM

EMERGENCY VEHICLE PREEMPTION
eva = ø2 & ø5
evb = ø4 & ø7
evc = ø1 & ø6
evd = ø3 & ø8

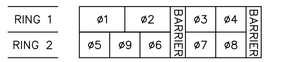


PROPOSED PHASE DIAGRAM

EMERGENCY VEHICLE PREEMPTION
eva = ø2 & ø5
evb = ø4 & ø7
evc = ø1 & ø6
evd = ø3 & ø8

ø9 ACTIVATED BY TSP

*BLANK-OUT SIGN TO BE ACTIVE DURING THIS PHASE

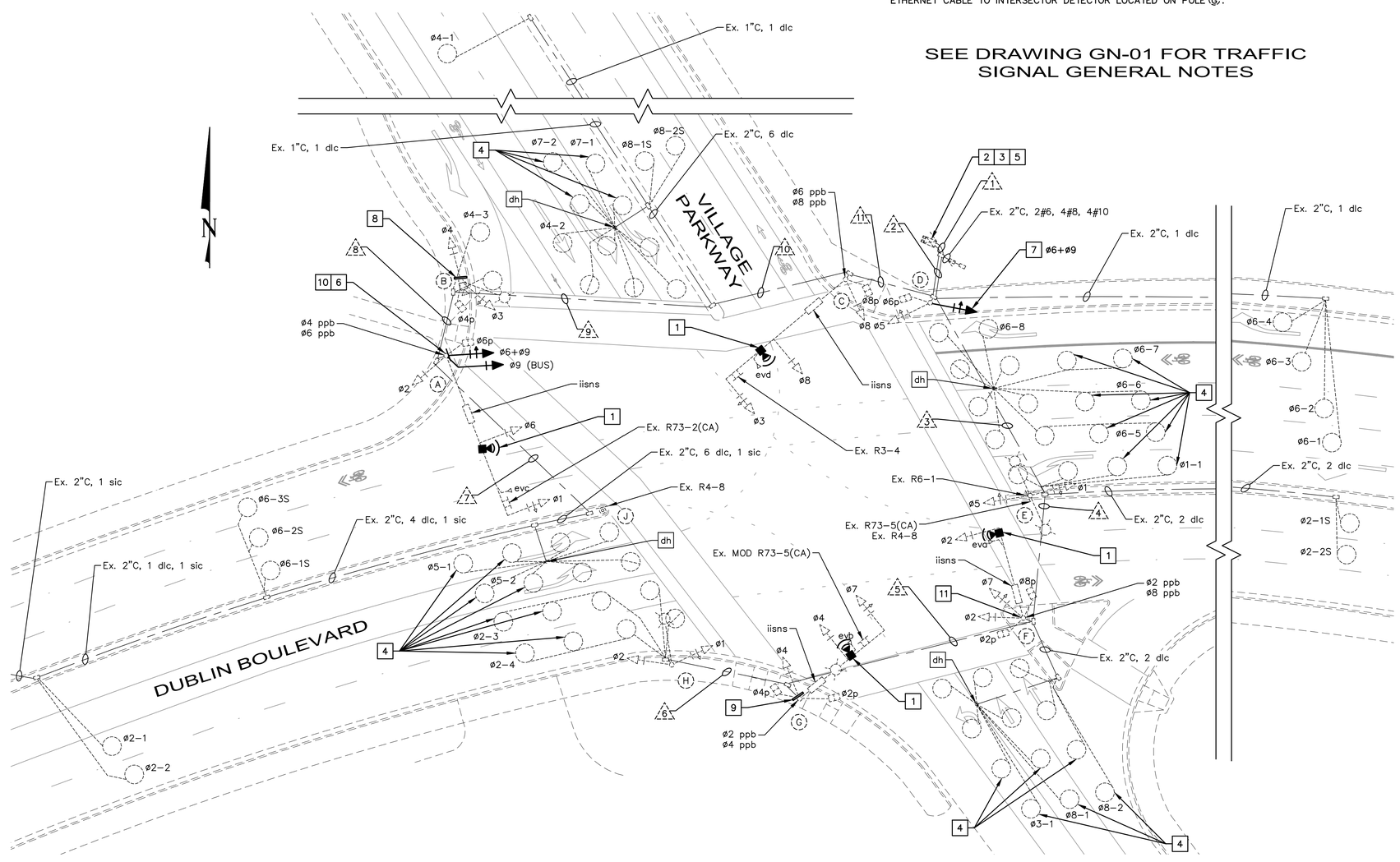


PROPOSED RING-BARRIER DIAGRAM

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. INSTALL OWNER-FURNISHED INTERSECTOR BICYCLE/VEHICLE MICROWAVE DETECTOR ON SIGNAL MAST ARM PER MANUFACTURER'S SPECIFICATIONS. CONTRACTOR TO COORDINATE WITH THE ENGINEER AND WESTERN PACIFIC SIGNAL REPRESENTATIVE FOR MICROWAVE DETECTION ZONES.
2. FURNISH AND INSTALL DETECTOR CARD RACK. INSTALL OWNER FURNISHED TCIPI-4 INTERSECTOR POWER INJECTOR AND FOUR (4) TCIB INTERFACE BOARDS FOR INTERSECTOR DETECTORS IN EXISTING CABINET. FURNISH AND INSTALL ETHERNET PATCH CABLES BETWEEN THE POWER INJECTOR AND INTERFACE BOARDS.
3. FURNISH AND INSTALL PPB COMMON TO EACH PEDESTRIAN PHASE AS SHOWN BY THE CONDUCTOR SCHEDULE. COIL AT LEAST 20 FEET OF WIRE IN PULL BOX NEXT TO SIGNAL POLE WITH PUSH BUTTON. LABEL EACH WIRE WITH PHASE NUMBER.
4. DISCONNECT TWO EXISTING BACK LOOPS AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.
5. REWIRE LOOP DETECTOR LEAD-IN CABLES IN THE CABINET SO THAT EACH DETECTOR IS WIRED TO ITS OWN CHANNEL. PROVIDE DIAGRAM SHOWING HOW CABLES ARE LANDED IN THE CABINET. LABEL EACH WIRE WITH PHASE AND DETECTOR NUMBER.
6. FURNISH AND INSTALL TRANSIT SIGNAL HEAD, "BUS SIGNAL" SIGN, AND 5-SECTION TRAFFIC SIGNAL HEAD PER DETAIL 'P' ON DRAWING DT-02.
7. FURNISH AND INSTALL 5-SECTION TRAFFIC SIGNAL HEAD AND MODIFIED R3-7 SIGN PER DETAIL 'M' ON DRAWING DT-02.
8. FURNISH AND INSTALL LED R3-1 "NO RIGHT TURN" BLANK-OUT SIGN ON EXISTING POLE PER DETAIL 'K' ON DRAWING DT-02. WIRE THE SIGN WITH BUS PHASE. SIGN TO BE ACTIVE DURING THAT PHASE ONLY.
9. FURNISH AND INSTALL LED R3-1 "NO RIGHT TURN" BLANK-OUT SIGN PER DETAIL 'J' ON DRAWING DT-02. WIRE THE SIGN WITH BUS PHASE. SIGN TO BE ACTIVE DURING THAT PHASE ONLY.
10. FURNISH AND INSTALL ONE ETHERNET EXTENDER INSIDE THE SIGNAL POLE HANDHOLE, TO EXTEND ETHERNET CABLE TO INTERSECTOR DETECTOR LOCATED ON POLE (A).
11. FURNISH AND INSTALL ONE ETHERNET EXTENDER INSIDE THE SIGNAL POLE HANDHOLE, TO EXTEND ETHERNET CABLE TO INTERSECTOR DETECTOR LOCATED ON POLE (G).

SEE DRAWING GN-01 FOR TRAFFIC SIGNAL GENERAL NOTES



CA: 1-800-227-2600
CALL BEFORE YOU DIG
USA
UNDERGROUND SERVICE ALERT
CA: 1-800-227-2600
CALL TWO WORKING DAYS BEFORE YOU DIG

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

Kimley»Horn

4637 CHABOT DR, SUITE 300, PLEASANTON, CA 94588
PHONE: 925-398-4840
WWW.KIMLEY-HORN.COM

REGISTERED PROFESSIONAL ENGINEER
NIKITA A. PETROV
No. 80570
EXP. 03/31/2017
CIVIL
STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL PLAN DUBLIN BLVD & VILLAGE PKWY

TS-05

CONDUCTOR SCHEDULE

AWG OR CABLE		NUMBER OF CONDUCTORS RUN NUMBER /1\	/2\	/3\	/4\	/5\	/6\	/7\	/8\	/9\	/10\	/11\
NO. 14	ø1	6	6	3	3	3	3		3	3	3	3
	ø2	6	6	3	3	3	3		3	3	3	3
	ø3	3	3							3	3	3
	ø4	6	6	3	3	3				3	3	3
	ø5	3	3	3								
	ø6	3	3						3	3	3	3
	ø7	3	3	3	3	3						
	ø8	3	3									3
	ø9	④	④						④	④	④	④
	ø2P	2	2	2	2	2						
	ø4P	4	4	2	2	2				2	2	2
	ø6P	2	2						2	2	2	2
	ø8P	4	4	2	2							2
	ø2PPB	2	2	2	2	2						
	ø4PPB	4	4	2	2	2		2	2	2	2	2
	ø6PPB	2	2						2	2	2	2
	ø8PPB	4	4	2	2							2
	ø2 PPB COMMON	①	①	①	①	①						
	ø4 PPB COMMON	②	②	①	①	①		①	①	①	①	①
	ø6 PPB COMMON	①	①						①	①	①	①
	ø8 PPB COMMON	②	②	①	①							①
	IISNS		4	2	2	2			2	2	2	2
	BLANK-OUT SIGN	④	④	②	②	②				②	②	②
	SPARES	6	6	3	3	3	3	3	3	3	3	3
	TOTAL NO. 14	⑭/63	⑭/67	⑤/32	⑤/29	④/25	9	①/6	⑥/20	⑧/28	⑧/28	⑨/35
NO. 8	LIGHTING		4	2	2	2	2			2	2	2
	SIGNAL NEUTRAL	2	2	1	1	1	1	1	1	1	1	1
	TOTAL NO. 8	2	6	3	3	3	3	1	1	3	3	3
NO. 6	120V CONTROLLER SERVICE	2										
DETECTOR LEAD-IN CABLE	ø1	1	1	1								
	ø2	3	3	2	2	2	2	1	1	1	1	1
	ø3	1	1	1	1							
	ø4	3	3							1	3	3
	ø5	2	2					2	2	2	2	2
	ø6	5	5									
	ø7	2	2								2	2
	ø8	1	1	1	1							
	ø2 SAMPLER LOOPS	2	2	2								
	ø6 SAMPLER LOOPS	3	3					3	3	3	3	3
	ø8 SAMPLER LOOPS	2	2								2	2
	TOTAL DLC	25	25	7	4	2	2	6	6	7	13	13
EMERGENCY VEHICLE PREEMPTION	EVA	1	1						1	1	1	1
	EVB	1	1	1	1	1						
	EVC	1	1						1	1	1	1
	EVD	1	1									1
	TOTAL EVP CABLE	4	4	1	1	1			2	2	2	3
MICROWAVE DETECTION CABLE (CAT 5E)	ø2 & ø5	①	①	①	①							
	ø4 & ø7	①	①	①	①	①						
	ø3 & ø8	①	①									①
	ø1 & ø6	①	①						①	①	①	①
	TOTAL CAT 5E CABLE	④	④	②	②	①			①	①	①	②
MISC	⅜" PULL ROPE	2	2	1				1	1	1	1	1
	CONDUIT FILL (%)	28%	29%	23%	18%	14%	7%	9%	17%	23%	27%	31%
	CONDUIT SIZE (IN)	2-3"	2-3"	3"	3" *	3" *	3"	3"	3"	3"	3"	3"

ALL CONDUITS, CABLES, AND CONDUCTORS ARE EXISTING UNLESS OTHERWISE NOTED.

○ = NEW CABLE OR CONDUCTOR

/X\ = EXISTING CONDUIT RUN

* = CONDUIT SIZE TO BE VERIFIED AT NEXT SUBMITTAL

CA: 1-800-227-2600 — CALL BEFORE YOU DIG — USA — UNDERGROUND SERVICE ALERT — CA: 1-800-227-2600

CALL TWO WORKING DAYS BEFORE YOU DIG

EQUIPMENT SCHEDULE

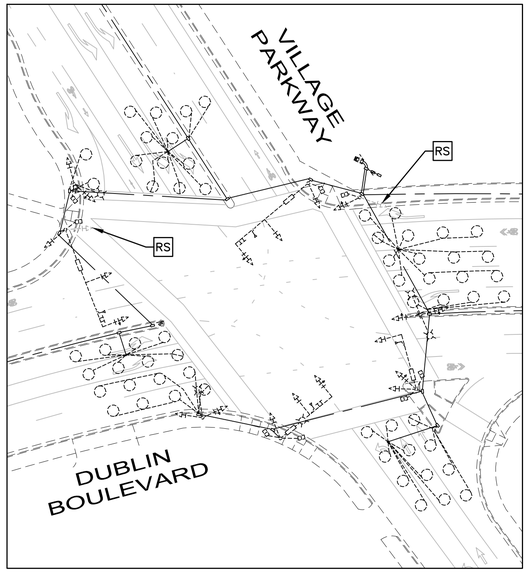
LOCATION	STANDARD TYPE	STANDARD SIGNAL MAST ARM	STANDARD LUMINAIRE MAST ARM	LED LUMINAIRE	VEHICLE SIGNAL MOUNTING MAST ARM	VEHICLE SIGNAL MOUNTING POLE	PEDESTRIAN SIGNAL MOUNT	PEDESTRIAN SIGNAL POLE QUAD	PUSH BUTTON ø	PUSH BUTTON ARROW	PUSH BUTTON POLE QUAD	IISNS LEGEND	SPECIAL NOTES
Ⓐ	28-5-80	55'	–	–	2 MAS	SV-3-T N	SP-1-T	N W E S	4 6	← ←	N W E S	Village Pkwy	INSTALL INTERSECTOR DETECTOR
Ⓑ	15TS	–	15'	133	–	SV-2-T SV-1 N	SP-1-T	N W E S	–	–	–	–	FURNISH AND INSTALL BLANK OUT SIGN
Ⓒ	28-5-80	50'	–	–	2 MAS	SV-1-T	SP-1-T	N W E S	6 8	← →	N W E S	Dublin Blvd	INSTALL INTERSECTOR DETECTOR
Ⓓ	1-B	–	–	–	–	TV-2-T N	SP-1-T	N W E S	–	–	–	–	
Ⓔ	EXISTING PG&E POLE	–	15' 15'	–	–	SV-1 SV-1	–	–	–	–	–	–	
Ⓕ	18-1-70	30'	–	–	1 MAS	SV-2-T	SP-2-T	N W E S	2 8	← →	N W E S	Village Pkwy	INSTALL INTERSECTOR DETECTOR
Ⓖ	24-4-80	35'	15'	133	2 MAS	SV-1-T	SP-2-T	N W E S	2 4	→ →	N W E S	Dublin Blvd	FURNISH AND INSTALL BLANK OUT SIGN INSTALL INTERSECTOR DETECTOR
Ⓗ	15TS	–	15'	133	–	SV-2-T SV-1 N	–	–	–	–	–	–	
Ⓙ	PEDESTRIAN PUSH BUTTON POST	–	–	–	–	–	–	–	–	–	–	–	

ALL POLES AND EQUIPMENT ARE EXISTING UNLESS OTHERWISE NOTED.

N – NEW EQUIPMENT

OTHER REQUIREMENTS ARE COVERED BY NOTES, LEGEND, SPECIAL PROVISIONS AND CALTRANS STANDARD SPECIFICATIONS. FOR TYPE OF STANDARD, VEHICLE AND PEDESTRIAN MOUNTING, SEE CALTRANS STANDARD PLANS.

FOR THE PURPOSE OF LOCATING NEW AND EXISTING EQUIPMENT ON POLES, DUBLIN BOULEVARD SHALL BE CONSIDERED AN EAST-WEST ROADWAY.



EXISTING SIGNAL EQUIPMENT

SCALE 1"=40'

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REGISTERED PROFESSIONAL ENGINEER — BRETT S. A. PETERSEN — No. 80570 EXP. 03/31/2017 — CIVIL — STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL SCHEDULES DUBLIN BLVD & VILLAGE PKWY

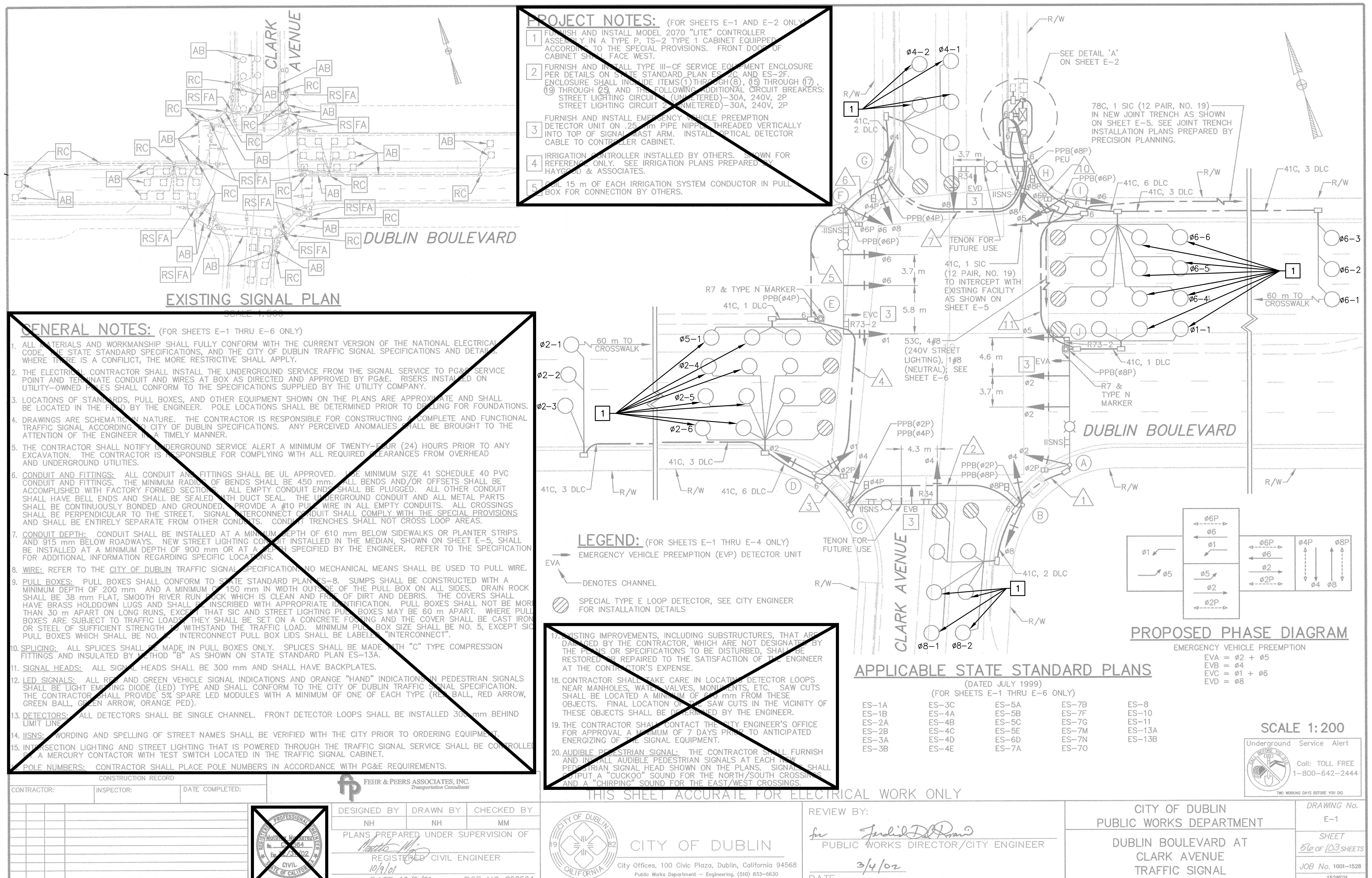
TS-06

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. DISCONNECT TWO EXISTING BACK LOOPS AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.

SEE DRAWING GN-01 FOR TRAFFIC SIGNAL GENERAL NOTES

DRAWINGS MAY NOT INCLUDE ALL RECENT UPDATES. FIELD VERIFICATION IS RECOMMENDED.



AS-BUILT DATED 3-4-2002. SEE NOTE 11 UNDER TRAFFIC SIGNAL GENERAL NOTES ON GN-01.

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UNDERGROUND SERVICE ALERT
CA: 1-800-227-2600
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REGISTERED PROFESSIONAL ENGINEER NIKITA A. PETROV No. 80570 EXP. 03/31/2017 CIVIL STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL PLAN DUBLIN BLVD & CLARK AVE

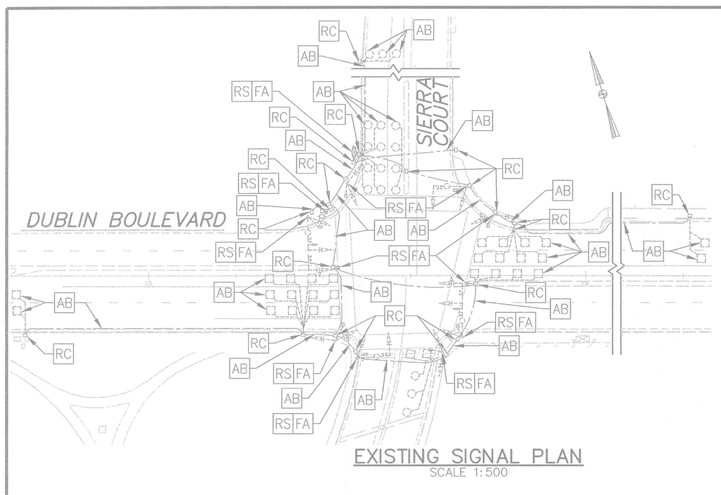
TS-07

CONSTRUCTION NOTES (THIS SHEET ONLY)

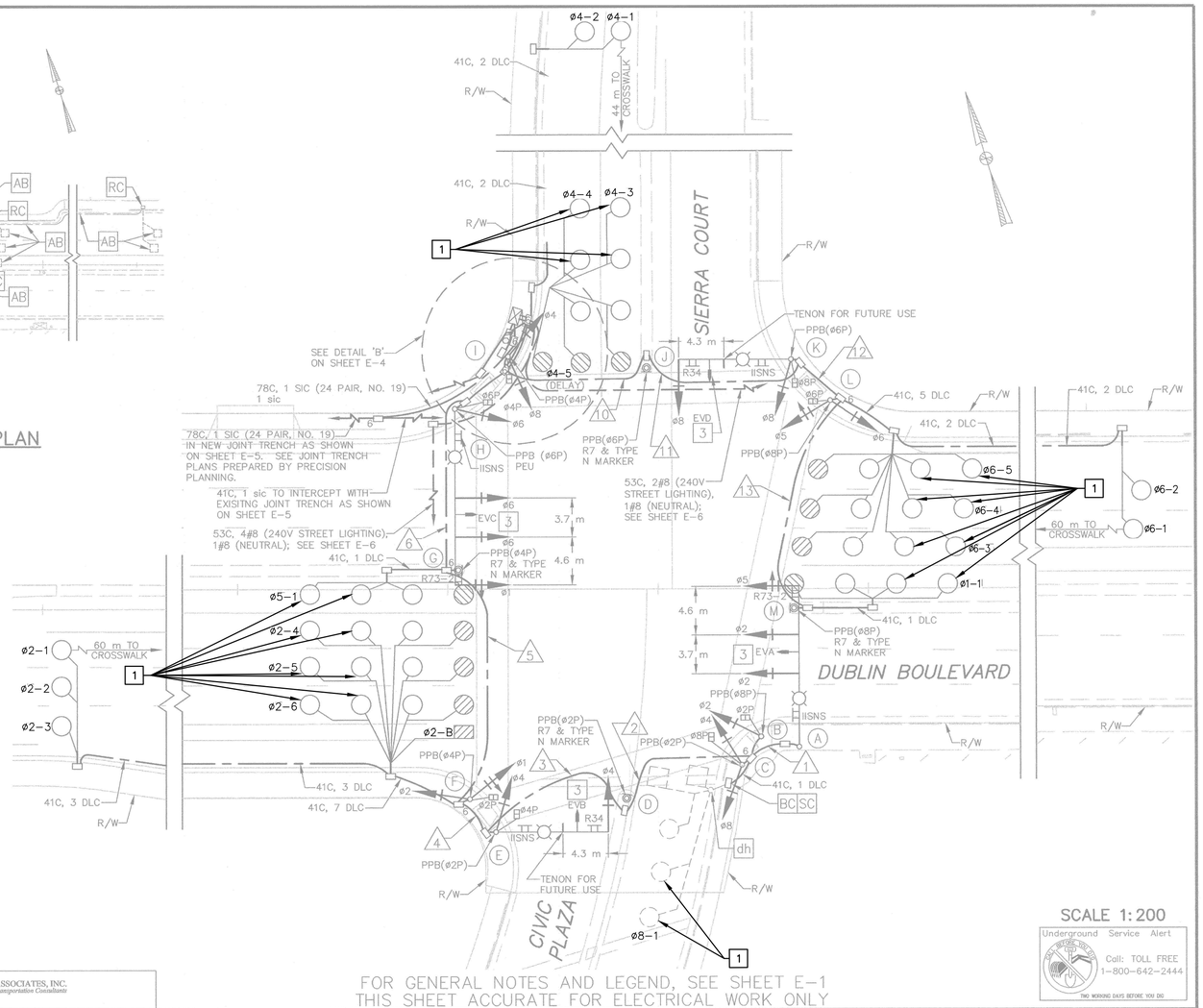
1 DISCONNECT TWO EXISTING BACK LOOPS AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.

SEE DRAWING GN-01 FOR TRAFFIC SIGNAL GENERAL NOTES

DRAWINGS MAY NOT INCLUDE ALL RECENT UPDATES. FIELD VERIFICATION IS RECOMMENDED.



EXISTING SIGNAL PLAN
SCALE 1:500

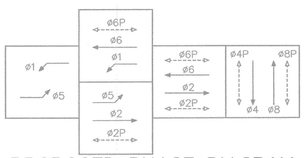


SCALE 1:200

FOR GENERAL NOTES AND LEGEND, SEE SHEET E-1
THIS SHEET ACCURATE FOR ELECTRICAL WORK ONLY

PROJECT NOTES: (FOR SHEETS E-3 AND E-4 ONLY)

1. FURNISH AND INSTALL MODEL 2070 "LITE" CONTROLLER ASSEMBLY IN A TYPE TS-2 TYPE 1 CABINET EQUIPPED ACCORDING TO THE SPECIAL PROVISIONS. FRONT DOOR OF CABINET SHALL FACE EAST.
2. FURNISH AND INSTALL TYPE III-CF SERVICE EQUIPMENT ENCLOSURE PER DETAILS ON STATE STANDARD PLAN ES-2C AND ES-2F. ENCLOSURE SHALL INCLUDE ITEMS (1) THROUGH (15) THROUGH (17), (19) THROUGH (29), AND THE FOLLOWING ADDITIONAL CIRCUIT BREAKERS:
   STREET LIGHTING CIRCUIT 3 (UNMETERED)–30A, 240V, 2P
   STREET LIGHTING CIRCUIT 4 (UNMETERED)–30A, 240V, 2P
   STREET LIGHTING CIRCUIT 5 (UNMETERED)–30A, 240V, 2P
3. FURNISH AND INSTALL EMERGENCY VEHICLE PREEMPTION DETECTOR UNIT ON .25 mm PIPE NIPPLE THREADED VERTICALLY INTO TOP OF SIGNAL MAST ARM. INSTALL OPTICAL DETECTOR CABLE TO CONTROLLER CABINET.
4. IRRIGATION CONTROLLER INSTALLED BY OTHERS. SHOWN FOR REFERENCE ONLY. SEE IRRIGATION PLANS PREPARED BY HAYGOOD & ASSOCIATES.
5. COIL LENGTH OF EACH IRRIGATION SYSTEM CONDUCTOR IN PULL BOX FOR CONNECTION BY OTHERS.



PROPOSED PHASE DIAGRAM
EMERGENCY VEHICLE PREEMPTION
EVA = ø2 + ø5
EVB = ø4
EVC = ø1 + ø6
EVD = ø8

CONSTRUCTION RECORD		
CONTRACTOR:	INSPECTOR:	DATE COMPLETED:

FEHR & PEERS ASSOCIATES, INC.
Transportation Consultants

No.	DATE	APVD.	REVISION

DESIGNED BY	DRAWN BY	CHECKED BY
NH	NH	MM

PLANS PREPARED UNDER SUPERVISION OF
REGISTERED CIVIL ENGINEER
DATE 10/9/01 RCE NO. C58564

CITY OF DUBLIN
City Offices, 100 Civic Plaza, Dublin, California 94568
Public Works Department – Engineering, (510) 833-6630

REVIEW BY:
for Freddie D'Souza
PUBLIC WORKS DIRECTOR/CITY ENGINEER
3/4/02
DATE

CITY OF DUBLIN
PUBLIC WORKS DEPARTMENT
DUBLIN BOULEVARD AT SIERRA COURT TRAFFIC SIGNAL

DRAWING No. E-3
SHEET 52 OF 103 SHEETS
JOB No. 1001-1528
FILE No. 1528E02

AS-BUILT DATED 3-4-2002. SEE NOTE 11 UNDER TRAFFIC SIGNAL GENERAL NOTES ON GN-01.

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REGISTERED PROFESSIONAL ENGINEER
NIKITA A. PETROV
No. 80570
EXP. 03/31/2017
CIVIL
STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL PLAN DUBLIN BLVD & SIERRA CT - CIVIC PLAZA

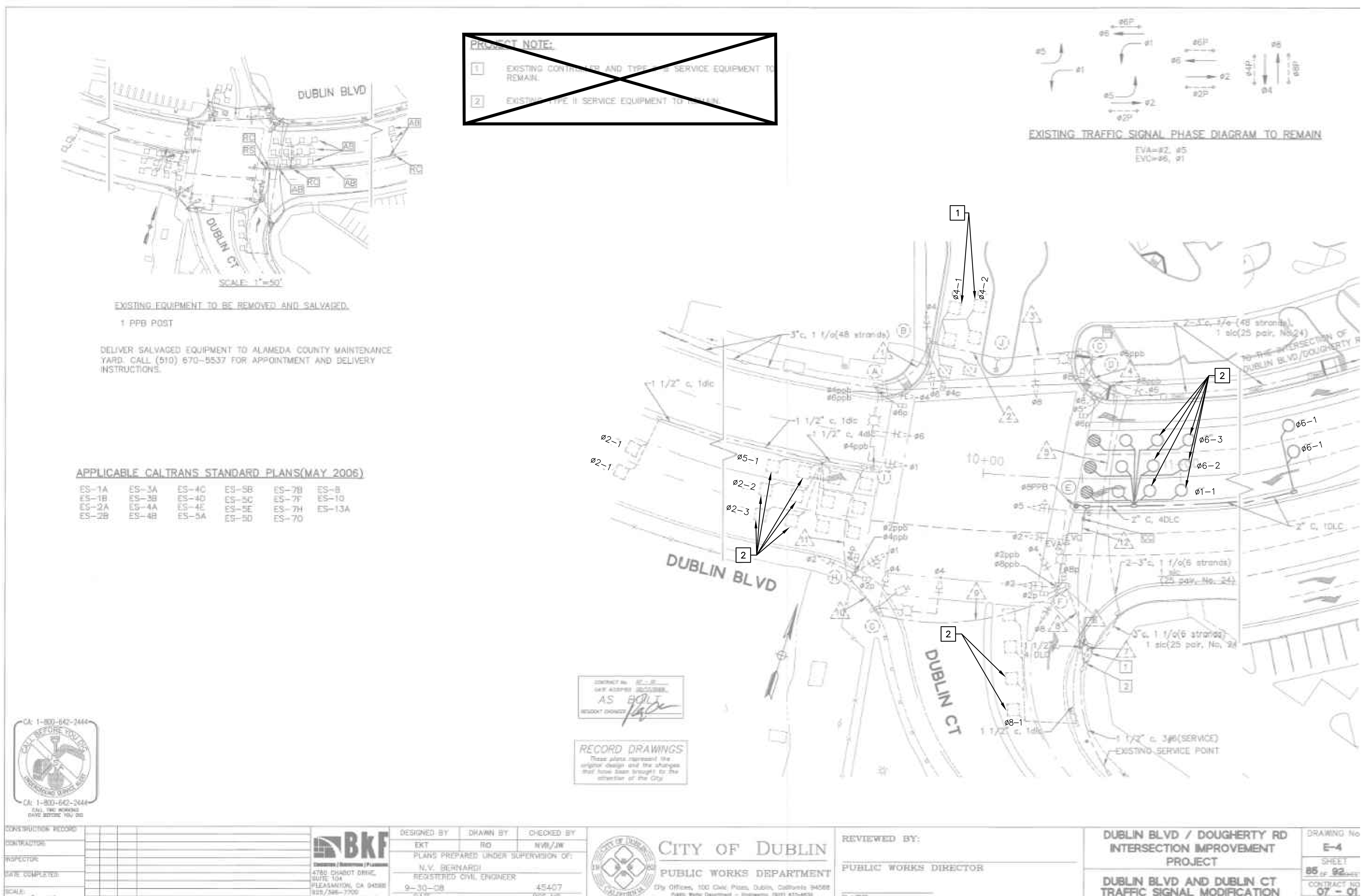
TS-08

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. DISCONNECT EXISTING BACK LOOP AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.
2. DISCONNECT TWO EXISTING BACK LOOPS AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.

DRAWINGS MAY NOT INCLUDE ALL RECENT UPDATES. FIELD VERIFICATION IS RECOMMENDED.

SEE DRAWING GN-01 FOR TRAFFIC SIGNAL GENERAL NOTES



AS-BUILT DATED 2-17-2009. SEE NOTE 11 UNDER TRAFFIC SIGNAL GENERAL NOTES ON GN-01.

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JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL PLAN DUBLIN BLVD & DUBLIN CT

TS-09

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. INSTALL OWNER FURNISHED INTERSECTOR BICYCLE/VEHICLE MICROWAVE DETECTOR ON SIGNAL MAST ARM PER SPECIFICATIONS. CONTRACTOR TO COORDINATE WITH THE ENGINEER AND WESTERN PACIFIC SIGNAL REPRESENTATIVE FOR PROGRAMMING MICROWAVE DETECTION ZONES.
2. INSTALL OWNER-FURNISHED TCIPI-4 INTERSECTOR POWER INJECTOR AND FOUR (4) TCIB INTERFACE BOARDS FOR INTERSECTOR DETECTORS IN EXISTING CABINET. FURNISH AND INSTALL ETHERNET PATCH CABLES BETWEEN THE POWER INJECTOR AND INTERFACE BOARDS.
3. FURNISH AND INSTALL PPB COMMON TO EACH PEDESTRIAN PHASE AS SHOWN BY THE CONDUCTOR SCHEDULE. COIL AT LEAST 20 FEET OF WIRE IN PULL BOX NEXT TO SIGNAL POLE WITH PUSH BUTTON. LABEL EACH WIRE WITH PHASE NUMBER.
4. DISCONNECT TWO EXISTING BACK LOOPS AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.
5. FURNISH AND INSTALL ONE ETHERNET EXTENDER INSIDE THE SIGNAL POLE HANDHOLE, TO EXTEND ETHERNET CABLE TO INTERSECTOR DETECTOR LOCATED ON POLE F.
6. FURNISH AND INSTALL ONE ETHERNET EXTENDER INSIDE THE SIGNAL POLE HANDHOLE, TO EXTEND ETHERNET CABLE TO INTERSECTOR DETECTOR LOCATED ON POLE D.
7. ROTATE EXISTING BUS SIGNAL LENSES AND REWIRE TO COMPLY WITH TRANSIT SIGNAL CONFIGURATION AS SHOWN IN DETAIL B ON DRAWING DT-01 AND PER CA MUTCD FIGURE 8C-3(CA).
8. REMOVE EXISTING R13A (CA) SIGN AND INSTALL LED R3-1 "NO RIGHT TURN" BLANK-OUT SIGN ON EXISTING POLE PER DETAIL 'K' ON DRAWING DT-02. WIRE THE SIGN WITH BUS PHASE. SIGN TO BE ACTIVE DURING THAT PHASE ONLY.
9. REMOVE EXISTING R13A (CA) SIGN AND FURNISH AND INSTALL LED R3-1 "NO RIGHT TURN" BLANK-OUT SIGN PER DETAIL 'J' ON DRAWING DT-02. WIRE THE SIGN WITH BUS PHASE. SIGN TO BE ACTIVE DURING THAT PHASE ONLY.

SEE DRAWING GN-01 FOR TRAFFIC SIGNAL GENERAL NOTES

CONDUCTOR SCHEDULE

AWG OR CABLE		NUMBER OF CONDUCTORS RUN NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	13
NO. 14	ø4 PPB COMMON	(2)	(2)	(2)	(2)	(2)	(2)	(1)	(1)		(1)	(1)		(1)
	ø6 PPB COMMON	(2)	(2)	(1)	(1)	(1)								
	ø8 PPB COMMON	(2)									(1)	(1)	(1)	
	BLANK OUT SIGN	(4)	(2)	(2)	(2)	(2)			(2)		(2)	(2)		
	TOTAL NO. 14	64/(10)	35/(6)	29/(5)	22/(5)	22/(5)	13/(2)	13/(1)	21/(3)		29/(4)	32/(4)	5/(1)	5/(1)
NO. 12	TOTAL NO. 12	3	3											
NO. 10	TOTAL NO. 10		2	2	2	2	2	2	2		2	2		
NO. 8	TOTAL NO. 8	1	3	3	3	3	3	3	3		3	3	3	
SIGNAL INTERCONNECT CABLE (SIC)	TOTAL SIC	1												
DETECTOR LEAD-IN CABLE	TOTAL DLC	40	12	12	12	10	3	7	7	4	18	18	6	3
EVP CABLES	TOTAL CABLE	4	2	2	1	1	1		1		1	2		
CCTV CABLE	TOTAL CABLE	1							1		1	1		
MICROWAVE DETECTION CABLE (CAT 5E)	ø2 & ø5	(1)										(1)		
	ø4 & ø7	(1)							(1)		(1)	(1)		
	ø3 & ø8	(1)	(1)	(1)										
	ø1 & ø6	(1)	(1)	(1)	(1)	(1)	(1)							
	TOTAL CABLE	(4)	(2)	(2)	(1)	(1)	(1)		(1)		(1)	(2)		
	CONDUIT FILL (%)	18%	14%	25%	21%	19%	11%	13%	18%	3%	21%	23%	9%	4%
	CONDUIT SIZE (IN)	2-4"	2-3"	3"	3"	3"	3"	3"	3"	3"	3½"	3½"	3"	3"

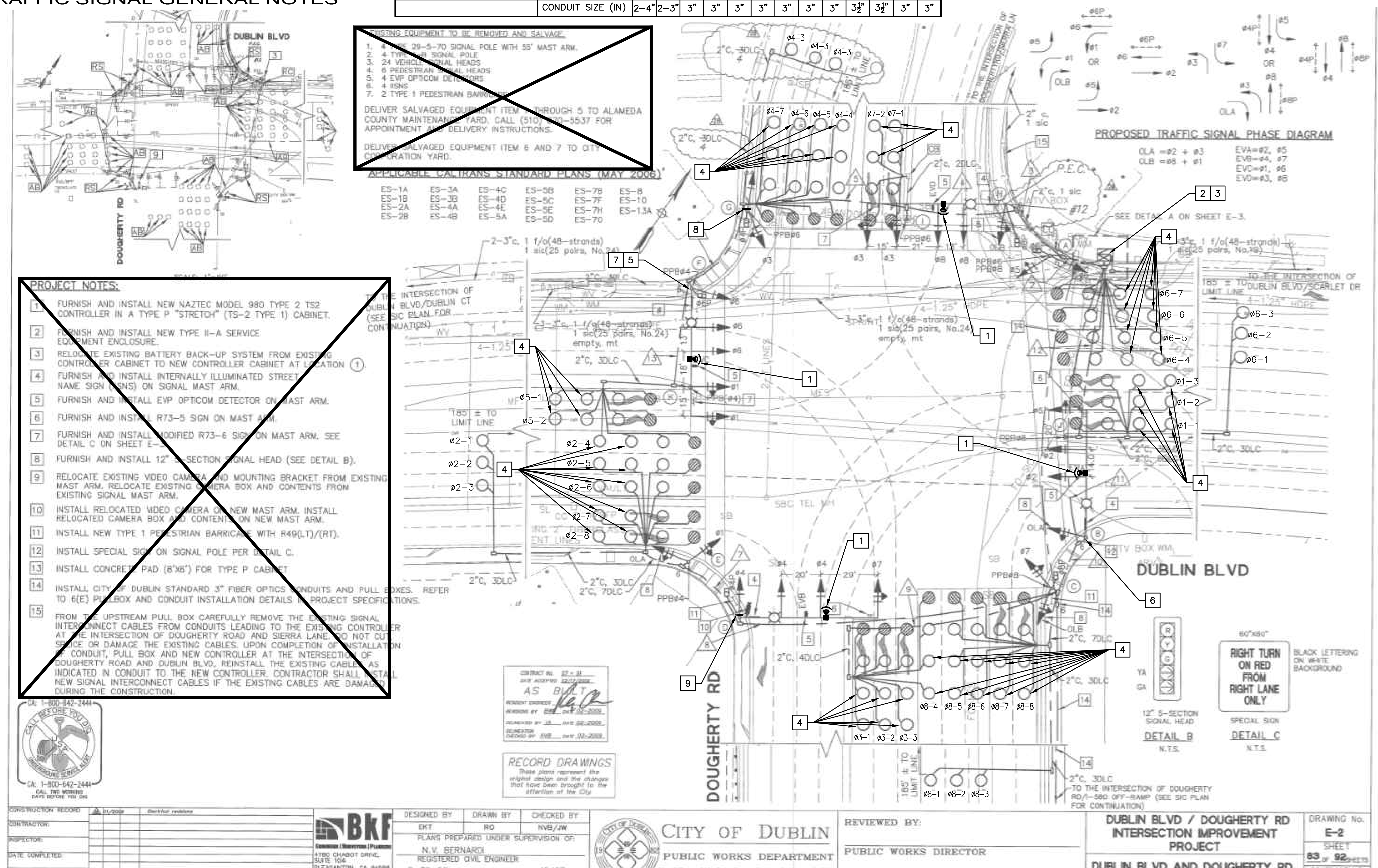
CONDUCTOR SCHEDULE NOTES (THIS SHEET ONLY)

ALL CONDUITS, CABLES, AND CONDUCTORS ARE EXISTING UNLESS OTHERWISE NOTED.

○ = NEW CABLE OR CONDUCTOR

△ = EXISTING CONDUIT RUN

DRAWINGS MAY NOT INCLUDE ALL RECENT UPDATES. FIELD VERIFICATION IS RECOMMENDED.



AS-BUILT DATED 2-17-2009. SEE NOTE 11 UNDER TRAFFIC SIGNAL GENERAL NOTES ON GN-01.

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REGISTERED PROFESSIONAL ENGINEER — NATHA A. PETROV — No. 80570 — EXP. 03/31/2017 — CIVIL — STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL PLAN DUBLIN BLVD & DOUGHERTY RD

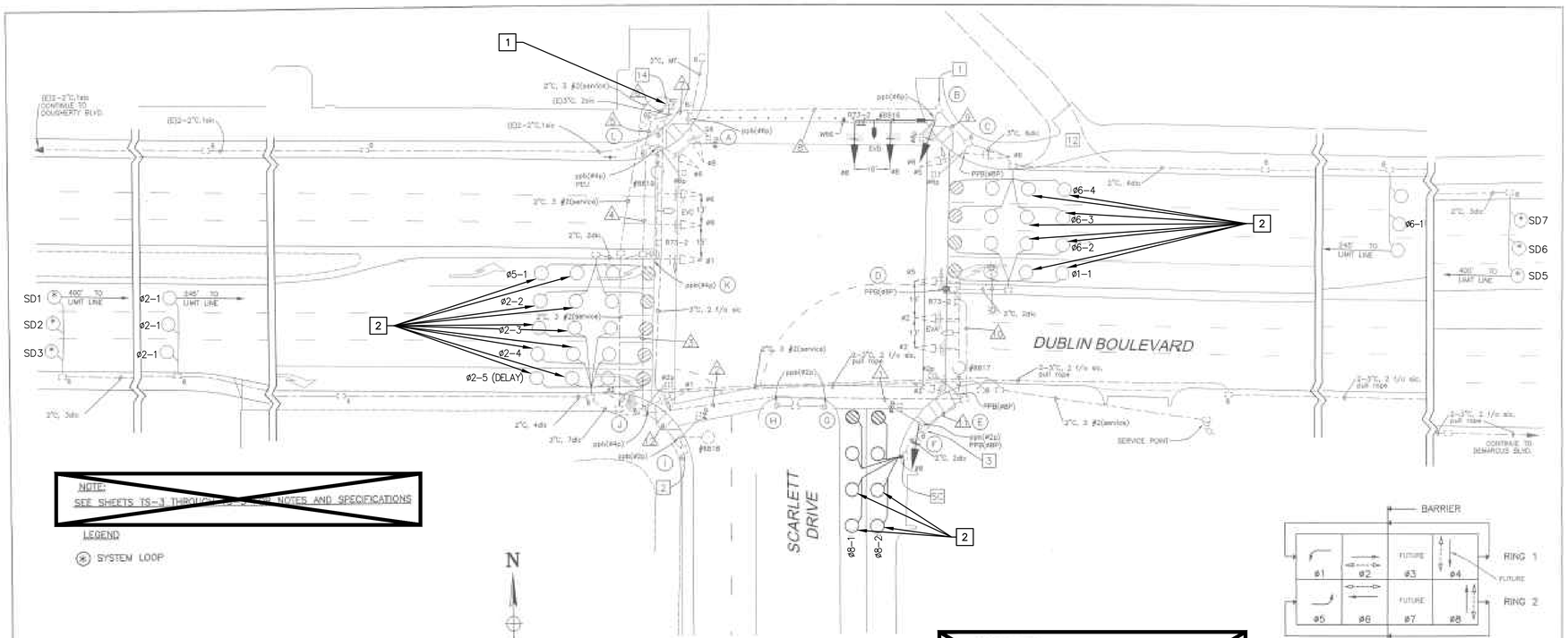
TS-10

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. REWIRE LOOP DETECTOR LEAD-IN CABLES IN THE CABINET SO THAT EACH DETECTOR IS WIRED TO ITS OWN CHANNEL. PROVIDE DIAGRAM SHOWING HOW CABLES ARE LANDED IN THE CABINET. LABEL EACH WIRE WITH PHASE AND DETECTOR NUMBER.
2. DISCONNECT TWO EXISTING BACK LOOPS AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.

DRAWINGS MAY NOT INCLUDE ALL RECENT UPDATES. FIELD VERIFICATION IS RECOMMENDED.

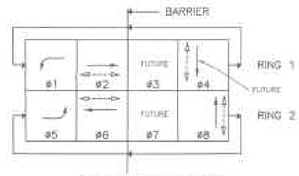
SEE DRAWING GN-01 FOR TRAFFIC SIGNAL GENERAL NOTES



NOTE:
SEE SHEETS TS-3 THROUGH TS-5 FOR NOTES AND SPECIFICATIONS

LEGEND

(S) SYSTEM LOOP



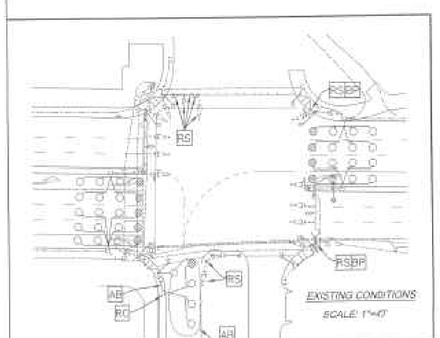
PROPOSED PHASE DIAGRAM

EMERGENCY VEHICLE PREEMPT (EVP)

CHANNEL A = ø2 + ø5
CHANNEL B = ø4 + FUTURE ø7
CHANNEL C = ø6 + ø1
CHANNEL D = ø8 + FUTURE ø3

PROJECT NOTES:

1. 3 #14 FOR ø6, 2 #14 FOR #3, EXO, 2 #8 SIGNAL AND 2 #8 STREET LIGHT WIRES COILED IN EXISTING PULL BOX. INSTALL AND COIL IN PULL BOX 3 #14 FOR FUTURE #4.
2. 3 #14 FOR #4 WIRES COILED IN EXISTING PULL BOX. INSTALL AND COIL IN PULL BOX 3 #14 FOR FUTURE #7 AND OPTICOM CABLE (YELLOW) FOR CHANNEL "B" FOR FUTURE OPERATION.
3. 3 #14 FOR ø5, 3 #14 FOR #7, 1 GND FOR #5 AND 1 DLC FOR #3 WIRES COILED IN EXISTING PULL BOX.
12. MAINTAIN ACCESS FOR TRAIL AND SIDEWALK AT ALL TIMES DURING CONSTRUCTION.



CA: 1-800-642-2444
CALL TWO WORKING DAYS BEFORE YOU DIG

TJKM Transportation Consultants
3681 Inglewood Drive, Suite 100
Pleasanton, CA 94588
Phone:(925)463-0611 Fax:(925)463-3656
email: tjkm@tjkm.com
PROJECT NO.: 157-171

CONSTRUCTION RECORD					
CONTRACTOR:					
INSPECTOR:					
DATE COMPLETED: 1-21-04					
SCALE: 1"=20'	No.	DATE	APVD.	REVISION	

DESIGNED BY	DRAWN BY	CHECKED BY
ESD	RC	ESD

PLANS PREPARED UNDER SUPERVISION OF:
REGISTERED CIVIL ENGINEER
1-27-04
DATE RCE NO.

CITY OF DUBLIN
PUBLIC WORKS DEPARTMENT
City Offices, 100 Civic Plaza, Dublin, California 94568
Public Works Department - Engineering: (925) 833-6630

REVIEWED BY:
PUBLIC WORKS DIRECTOR/CITY ENGINEER
DATE

TRAFFIC SIGNAL UPGRADE

SCARLETT DRIVE AT DUBLIN BOULEVARD

DRAWING No. TS-2
SHEET 2 OF 7 SHEETS
CONTRACT NO. 04-02

AS-BUILT DATED 1-28-2004. SEE NOTE 11 UNDER TRAFFIC SIGNAL GENERAL NOTES ON GN-01.

CA: 1-800-227-2600
CALL BEFORE YOU DIG
USA
UNDERGROUND SERVICE ALERT
CA: 1-800-227-2600
CALL TWO WORKING DAYS BEFORE YOU DIG

FILE INFO: K:\BAY_TPTO\097026201 - MTC - Dublin Field Elements - NAP\CAD\Plansheets\TS-11 Dublin & Scarlett.dwg BY:nikita.petrov

Kimley»Horn

4637 CHABOT DR, SUITE 300, PLEASANTON, CA 94588
PHONE: 925-398-4840
WWW.KIMLEY-HORN.COM

REGISTERED PROFESSIONAL ENGINEER
PAUL A. PETERSON
No. 80570
EXP. 03/31/2017
CIVIL
STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL PLAN DUBLIN BLVD & SCARLETT DR

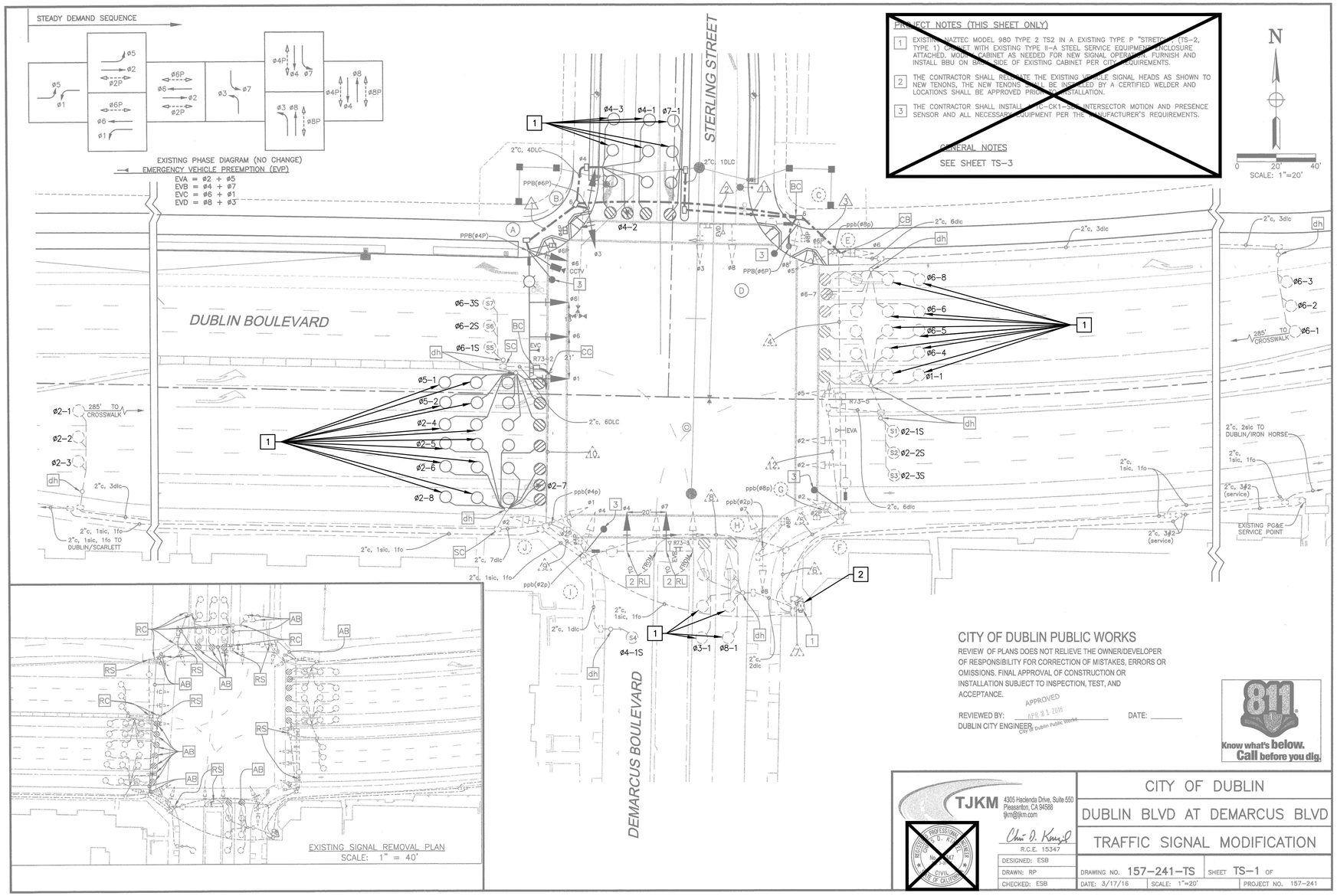
TS-11

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. DISCONNECT TWO EXISTING BACK LOOPS AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.
2. REWIRE LOOP DETECTOR LEAD-IN CABLES IN THE CABINET SO THAT EACH DETECTOR IS WIRED TO ITS OWN CHANNEL. PROVIDE DIAGRAM SHOWING HOW CABLES ARE LANDED IN THE CABINET. LABEL EACH WIRE WITH PHASE AND DETECTOR NUMBER.

DRAWINGS MAY NOT INCLUDE ALL RECENT UPDATES. FIELD VERIFICATION IS RECOMMENDED.

SEE DRAWING GN-01 FOR TRAFFIC SIGNAL GENERAL NOTES



AS-BUILT DATED 3-17-2016. SEE NOTE 11 UNDER TRAFFIC SIGNAL GENERAL NOTES ON GN-01.

CITY OF DUBLIN PUBLIC WORKS

REVIEW OF PLANS DOES NOT RELIEVE THE OWNER/DEVELOPER OF RESPONSIBILITY FOR CORRECTION OF MISTAKES, ERRORS OR OMISSIONS. FINAL APPROVAL OF CONSTRUCTION OR INSTALLATION SUBJECT TO INSPECTION, TEST, AND ACCEPTANCE.

REVIEWED BY: APPROVED APR 21 2016 City of Dublin Public Works DUBLIN CITY ENGINEER DATE: _____

Know what's below. Call before you dig. 811

CA: 1-800-227-2600 CALL BEFORE YOU DIG USA UNDERGROUND SERVICE ALERT CA: 1-800-227-2600
CALL TWO WORKING DAYS BEFORE YOU DIG

TJKM 4305 Hacienda Drive, Suite 550 Pleasanton, CA 94588 tjkm@tjkm.com
R.C.E. 15347

DESIGNED: ESB	CITY OF DUBLIN
DRAWN: RP	DUBLIN BLVD AT DEMARCUS BLVD
CHECKED: ESB	TRAFFIC SIGNAL MODIFICATION
DATE: 3/17/16	SCALE: 1"=20'
DRAWING NO. 157-241-TS	SHEET TS-1 OF
PROJECT NO. 157-241	

Kimley»Horn

4637 CHABOT DR, SUITE 300, PLEASANTON, CA 94588
PHONE: 925-398-4840
WWW.KIMLEY-HORN.COM

REGISTERED PROFESSIONAL ENGINEER NIKITA A. PETROV No. 80570 EXP. 03/31/2017 CIVIL STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL PLAN DUBLIN BLVD & DEMARCUS BLVD

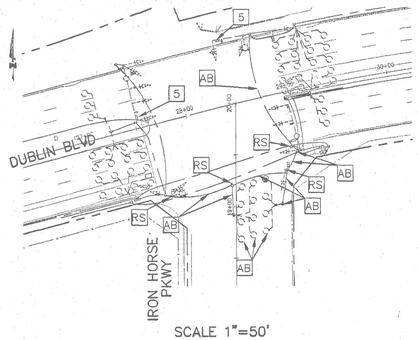
TS-12

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. DISCONNECT TWO EXISTING BACK LOOPS AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.
2. REWIRE LOOP DETECTOR LEAD-IN CABLES IN THE CABINET SO THAT EACH DETECTOR IS WIRED TO ITS OWN CHANNEL. PROVIDE DIAGRAM SHOWING HOW CABLES ARE LANDED IN THE CABINET. LABEL EACH WIRE WITH PHASE AND DETECTOR NUMBER.

DRAWINGS MAY NOT INCLUDE ALL RECENT UPDATES. FIELD VERIFICATION IS RECOMMENDED.

SEE DRAWING GN-01 FOR TRAFFIC SIGNAL GENERAL NOTES



SCALE 1"=50'

EXISTING EQUIPMENT TO BE REMOVED & SALVAGED

1. 2 10' PRB POSTS
2. 1 TYPE 1-B POLE
3. 2 PEDESTRIAN SIGNAL HEADS
4. 1 VEHICLE SIGNAL HEAD

DELIVER SALVAGED EQUIPMENT TO ALAMEDA COUNTY YARD IN HAYWARD. CALL (510) 670-5537 FOR DELIVERY APPOINTMENT AND DIRECTIONS.

PROJECT NOTES:

1. EXISTING TYPE 2070N CONTROLLER ASSEMBLY WITH TYPE "P" CABINET AND TYPE II-B SERVICE EQUIPMENT ENCLOSURE TO REMAIN. UPGRADE EXISTING TRAFFIC SIGNAL CONTROLLER BY FURNISHING AND INSTALLING A 2NZ-2S6 MODULE EQUIPPED WITH C21S AND C22S COMMUNICATION PORTS.
2. EXISTING TYPE I PEDESTRIAN BARRICADE TO REMAIN
3. ALL EVP DETECTORS SHALL BE 700 SERIES OPTICOM. CONTRACTOR SHALL VERIFY AND REPLACE ALL EXISTING 500 SERIES OPTICOM WITH 700 SERIES OPTICOM.
4. REMOVE EXISTING dlc(s), AND INSTALL NEW DLC(S) IN EXISTING CONDUIT PER CONDUCTOR AND CONDUIT SCHEDULE.
5. REMOVE EXISTING R73-5(CA) SIGN FROM EXISTING MAST ARM.
6. FROM THE UPSTREAM PULL BOX CAREFULLY REMOVE THE EXISTING dlc FROM EXISTING CONDUITS LEADING TO THE EXISTING PULL BOX. DO NOT CUT, SPLICE OR DAMAGE THE EXISTING CABLE. UPON COMPLETION OF NEW CONDUIT INSTALLATION REINSTALL THE EXISTING CABLE AS INDICATED IN NEW CONDUIT TO LOCATION OF THE EXISTING CONTROLLER. THE CONTRACTOR SHALL INSTALL NEW CABLES IF THE EXISTING CABLE IS DAMAGED DURING THE CONSTRUCTION.
7. REFER TO STREET LIGHTING PLANS FOR CONTINUATION.
8. INSTALL NEW TYPE I PEDESTRIAN BARRICADE WITH R49(CA).
9. INSTALL NEW R61-19(CA) SPECIAL SIGN ON EXISTING SIGNAL MAST ARM. SEE DETAIL A ON THIS SHEET.
10. INSTALL NEW R73-5(CA) (72"x 36") SIGN ON EXISTING MAST ARM.

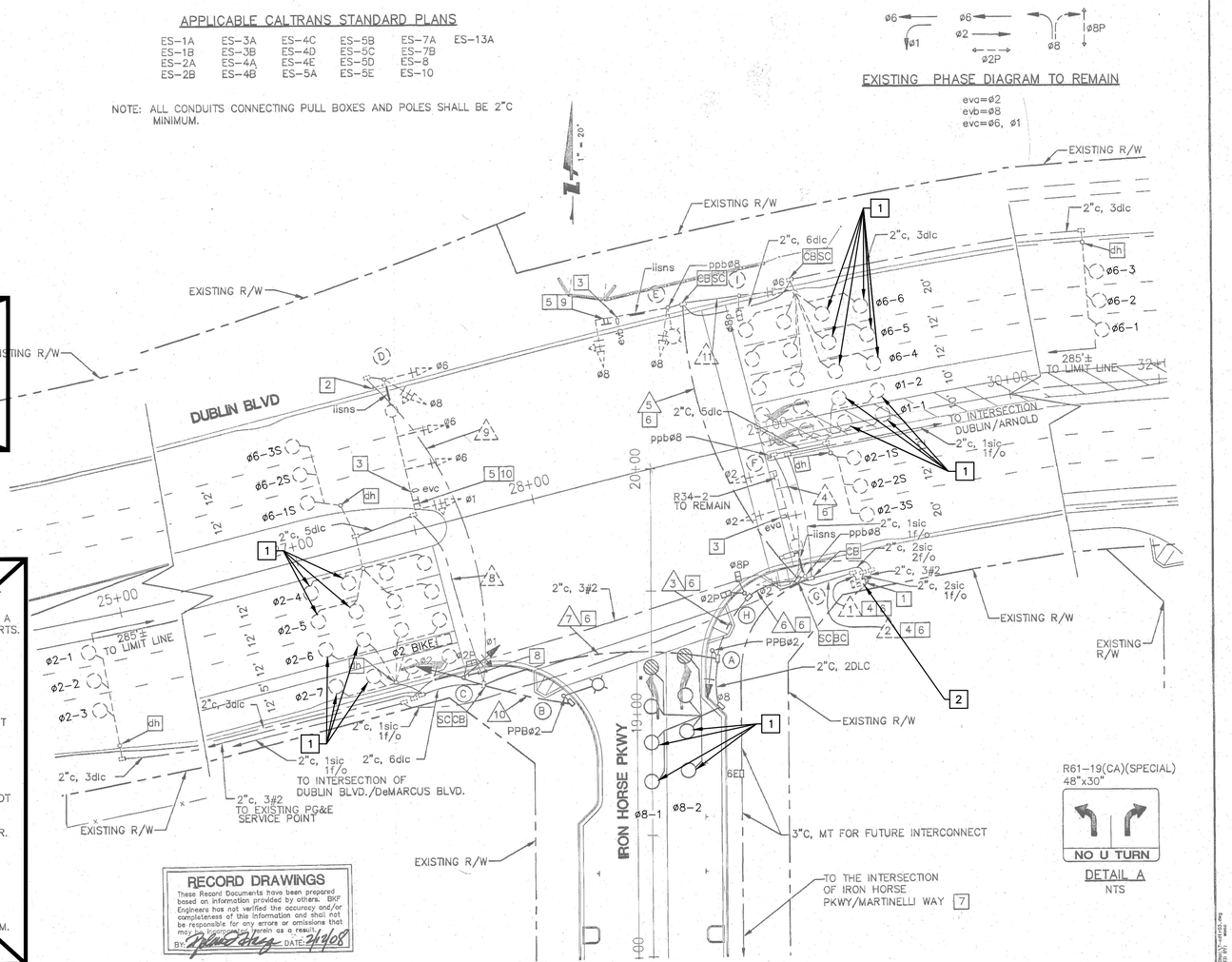
APPLICABLE CALTRANS STANDARD PLANS

ES-1A	ES-3A	ES-4C	ES-5B	ES-7A	ES-13A
ES-1B	ES-3B	ES-4D	ES-5C	ES-7B	
ES-2A	ES-4A	ES-4E	ES-5D	ES-8	
ES-2B	ES-4B	ES-5A	ES-5E	ES-10	

NOTE: ALL CONDUITS CONNECTING PULL BOXES AND POLES SHALL BE 2"C MINIMUM.

EXISTING PHASE DIAGRAM TO REMAIN

evc=ø2
evb=ø8
evc=ø6, ø1



R61-19(CA)(SPECIAL) 48"x30"

NO U TURN

DETAIL A
NTS

RECORD DRAWINGS
These Record Documents have been prepared based on information provided by others. BKF Engineers has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions that may be contained herein as a result.
BY: [illegible] DATE: 2/12/08

AS-BUILT DATED 2-12-2008. SEE NOTE 11 UNDER TRAFFIC SIGNAL GENERAL NOTES ON GN-01.

CONSTRUCTION RECORDS	REFERENCE	BY	NO.	REVISIONS	DATE	APP'D
CONTRACTOR		JV	13	RECORD DRAWINGS	1/14/08	
INSPECTOR						
DATE COMPLETED						

DESIGNED BY: RO | DRAWN BY: GW | CHECKED BY: JW

PLANS PREPARED UNDER THE SUPERVISION OF
Tsifei Wang
REGISTERED CIVIL ENGINEER
10/24/06 DATE
R.C.E. NO. 57006
EXP. 6/30/07

BKF ENGINEERS / SURVEYORS / PLANNERS
255 Shoreline Drive, Suite 200
Redwood City, CA 94065
650/482-6300
650/482-6399 (FAX)

REVIEWED BY:
PUBLIC WORKS DIRECTOR/CITY ENGINEER
DATE 12-27-06

CITY OF DUBLIN
PUBLIC WORKS DEPARTMENT
STREET IMPROVEMENT PLANS ASSOCIATED W/ PARCEL MAP 7892
FOR PORTIONS OF DeMARCUS BLVD., IRON HORSE PKWY., MARTINELLI WY., CAMPUS DR. & ALTAMIRANO AVE.
TRAFFIC SIGNAL MODIFICATION PLAN
DUBLIN BLVD. & IRON HORSE PKWY.
CITY OF DUBLIN ALAMEDA COUNTY CALIFORNIA

JOB NO. 940158.20
DRAWING NO. TS-3
SHEET 38 OF 75

CA: 1-800-227-2600
CALL BEFORE YOU DIG
USA
UNDERGROUND SERVICE ALERT
CA: 1-800-227-2600
CALL TWO WORKING DAYS BEFORE YOU DIG

FILE INFO: K:\BAY_TPTO\097026201 - MTC - Dublin Field Elements - NAP\CAD\Plansheets\TS-13 Dublin & IronHorse.dwg BY:nikita.petrov

Kimley»Horn

4637 CHABOT DR, SUITE 300, PLEASANTON, CA 94588
PHONE: 925-398-4840
WWW.KIMLEY-HORN.COM

REGISTERED PROFESSIONAL ENGINEER — ROBERT A. PETERSEN — No. 80570 EXP. 03/31/2017 — CIVIL — STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

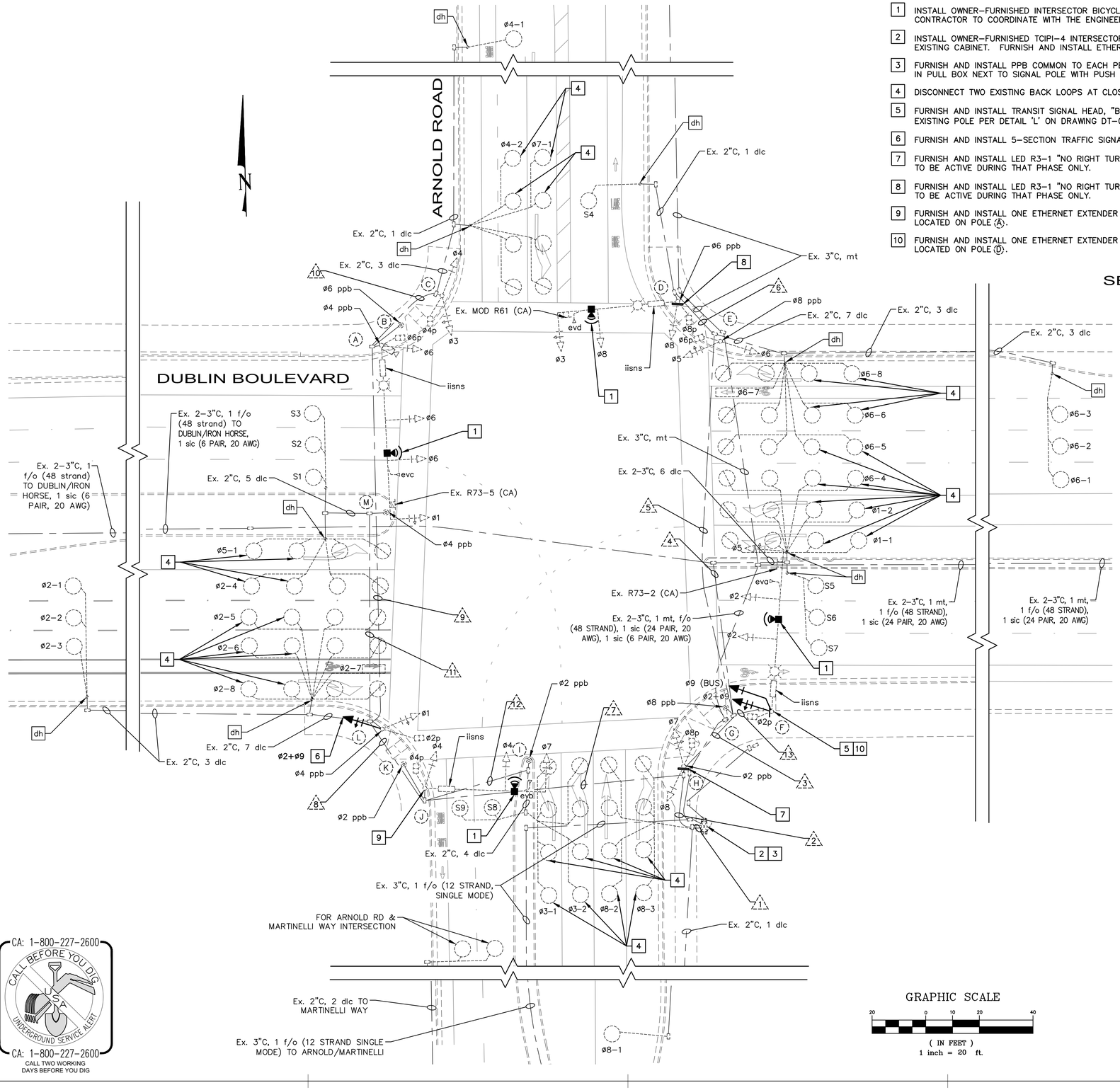
DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL PLAN DUBLIN BLVD & IRON HORSE PKWY

TS-13

17 OF 26

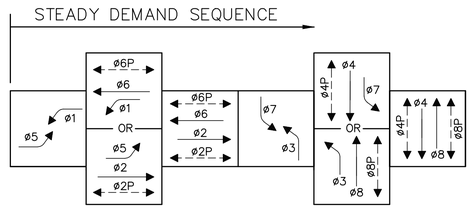


CONSTRUCTION NOTES (THIS SHEET ONLY)

1. INSTALL OWNER–FURNISHED INTERSECTOR BICYCLE/VEHICLE MICROWAVE DETECTOR ON SIGNAL MAST ARM PER MANUFACTURER'S SPECIFICATIONS. CONTRACTOR TO COORDINATE WITH THE ENGINEER AND WESTERN PACIFIC SIGNAL REPRESENTATIVE FOR MICROWAVE DETECTION ZONES.
2. INSTALL OWNER–FURNISHED TCIPI–4 INTERSECTOR POWER INJECTOR AND FOUR (4) TCIB INTERFACE BOARDS FOR INTERSECTOR DETECTORS IN EXISTING CABINET. FURNISH AND INSTALL ETHERNET PATCH CABLES BETWEEN THE POWER INJECTOR AND INTERFACE BOARDS.
3. FURNISH AND INSTALL PPB COMMON TO EACH PEDESTRIAN PHASE AS SHOWN BY THE CONDUCTOR SCHEDULE. COIL AT LEAST 20 FEET OF WIRE IN PULL BOX NEXT TO SIGNAL POLE WITH PUSH BUTTON. LABEL EACH WIRE WITH PHASE NUMBER.
4. DISCONNECT TWO EXISTING BACK LOOPS AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.
5. FURNISH AND INSTALL TRANSIT SIGNAL HEAD, "BUS SIGNAL" SIGN, R3–7 SIGN, "BUS EXEMPT" SIGN, AND 5–SECTION TRAFFIC SIGNAL HEAD ON EXISTING POLE PER DETAIL 'L' ON DRAWING DT–02.
6. FURNISH AND INSTALL 5–SECTION TRAFFIC SIGNAL HEAD. SEE DETAIL 'A' ON DRAWING DT–01.
7. FURNISH AND INSTALL LED R3–1 "NO RIGHT TURN" BLANK–OUT SIGN PER DETAIL 'N' ON DRAWING DT–02. WIRE THE SIGN WITH BUS PHASE. SIGN TO BE ACTIVE DURING THAT PHASE ONLY.
8. FURNISH AND INSTALL LED R3–1 "NO RIGHT TURN" BLANK–OUT SIGN PER DETAIL 'J' ON DRAWING DT–02. WIRE THE SIGN WITH BUS PHASE. SIGN TO BE ACTIVE DURING THAT PHASE ONLY.
9. FURNISH AND INSTALL ONE ETHERNET EXTENDER INSIDE THE SIGNAL POLE HANDHOLE, TO EXTEND ETHERNET CABLE TO INTERSECTOR DETECTOR LOCATED ON POLE (A).
10. FURNISH AND INSTALL ONE ETHERNET EXTENDER INSIDE THE SIGNAL POLE HANDHOLE, TO EXTEND ETHERNET CABLE TO INTERSECTOR DETECTOR LOCATED ON POLE (D).

SEE DRAWING GN–01 FOR TRAFFIC SIGNAL GENERAL NOTES

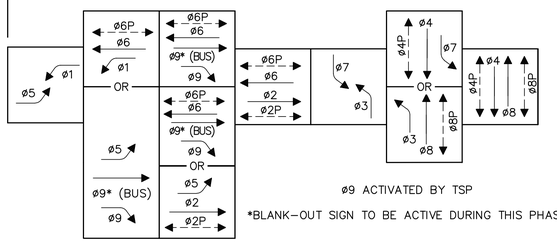
STEADY DEMAND SEQUENCE



EXISTING PHASE DIAGRAM

EMERGENCY VEHICLE PREEMPTION
eva = ø2 & ø5
evb = ø4 & ø7
evc = ø1 & ø6
evd = ø3 & ø8

STEADY DEMAND SEQUENCE



ø9 ACTIVATED BY TSP

*BLANK–OUT SIGN TO BE ACTIVE DURING THIS PHASE

PROPOSED PHASE DIAGRAM

EMERGENCY VEHICLE PREEMPTION
eva = ø2 & ø5
evb = ø4 & ø7
evc = ø1 & ø6
evd = ø3 & ø8

RING 1	ø1	ø9	ø2	BARRIER	ø3	ø4	BARRIER
RING 2	ø5		ø6		ø7	ø8	

PROPOSED RING-BARRIER DIAGRAM

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

CA: 1–800–227–2600
CALL BEFORE YOU DIG
USA
UNDERGROUND SERVICE ALERT
CA: 1–800–227–2600
CALL TWO WORKING DAYS BEFORE YOU DIG

FILE INFO: K:\BAY_TPTO\097026201 – MTC – Dublin Field Elements – NAP\CAD\Plansheets\TS–14 Dublin & Arnold.dwg BY:nikita.petrov

Kimley»Horn
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4637 CHABOT DR, SUITE 300, PLEASANTON, CA 94588
PHONE: 925–398–4840
WWW.KIMLEY–HORN.COM

REGISTERED PROFESSIONAL ENGINEER
NIKITA A. PETROV
No. 80570
EXP. 03/31/2017
CIVIL
STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL MODIFICATION DUBLIN BLVD & ARNOLD RD

TS–14

CONDUCTOR SCHEDULE

AWG OR CABLE		NUMBER OF CONDUCTORS RUN NUMBER												
		1	2	3	4	5	6	7	8	9	10	11	12	13
NO. 14	ø1	3	3					3	3	3				
	ø2	6	6	3				3	3					3
	ø3	6	6	3		3	3	3	3	3	3			
	ø4	3	3					3	3	3	3			
	ø5	3	3	3		3								3
	ø6	6	6	3		3		3	3	3				
	ø7	6	6					3						
	ø8	3	3			3	3							
	ø9	⑥	⑥	④				②	②					④
	ø2P	4	4	2				2	2					2
	ø4P	2	2					2	2	2	2			
	ø6P	4	4			2		2	2	2				
	ø8P	2	2			2	2							
	ø2PPB	2	2					1					1	
	ø4PPB	2	2					2	2	1		1		
	ø6PPB	2	2	1		1	1	1	1	1				
	ø8PPB	2	2	2	1	1								
	ø2 PPB COMMON	②	②					①				①		
	ø4 PPB COMMON	②	②					②	②	①		①		
	ø6 PPB COMMON	②	②	①		①	①	①	①	①				
	ø8 PPB COMMON	②	②	②	①	①								
	PPB COMMON	2	2	2	1	1	1	1	1	1		1	1	
	BLANK-OUT SIGN	②	②	②		②	②							
	SPARES	6	6	3		3	3	3	3	3	3			3
	TOTAL NO. 14	⑯/63	⑯/63	⑨/22	3	④/22	③/13	⑯/32	⑤/27	②/24	11	②/ 4	2	④/11
NO. 10	IISNS	4	4	2		2	2	2	2	2				2
NO. 8	LIGHTING	4	4	2		2	2	2	2	2				2
	SIGNAL NEUTRAL	2	2	1		1	1	1	1	1	1			1
	TOTAL NO. 8	6	6	3		3	3	3	3	3	1			3
DETECTOR LEAD-IN CABLE	ø1	2	2	2	2									
	ø2	8	8					8	8			1		
	ø3	2	2					2					2	
	ø4	2	2					2	2	2	2			
	ø5	1	1					1	1			1		
	ø6	8	8	8	1	7								
	ø7	1	1					1	1	1	1			
	ø8	3												
	SAMPLER LOOPS (S1, S2, S3)	3	3					3	3			3		
	SAMPLER LOOPS (S4)	1	1	1		1	1							
	SAMPLER LOOPS (S5, S6, S7)	3	3	3	3									
	SAMPLER LOOPS (S8, S9)	2	2					2					2	
	TOTAL DLC	36	33	14	6	8	1	19	15	3	3	5	4	
EMERGENCY VEHICLE PREEMPTION	EVA	1	1	1										1
	EVB	1	1					1						
	EVC	1	1					1	1	1				
	EVD	1	1	1		1	1							
	TOTAL EVP CABLE	4	4	2		1	1	2	1	1				1
MICROWAVE DETECTION CABLE (CAT 5E)	ø2 & ø5	①	①	①										①
	ø4 & ø7	①	①					①						
	ø3 & ø8	①	①	①		①	①							
	ø1 & ø6	①	①					①	①	①	①			
	TOTAL CAT 5E CABLE	④	④	②		①	①	②	①	①	①			①
COHU CABLE	POWER/COAX/DATA	1	1					1	1	1				
	CONDUIT FILL (%)	19%	18%	27%	13%	19%	23%	25%	27%	16%	16%	13%	9%	21%
	CONDUIT SIZE (IN)	2-4"	2-4"	3"	2"	3"	2"	3½"	3"	3"	2"	2"	2"	2"

ALL CONDUITS, CABLES, AND CONDUCTORS ARE EXISTING UNLESS OTHERWISE NOTED.

◯ = NEW CABLE OR CONDUCTOR

△X△ = EXISTING CONDUIT RUN

CA: 1-800-227-2600
CALL BEFORE YOU DIG
USA
UNDERGROUND SERVICE ALERT
CA: 1-800-227-2600
CALL TWO WORKING DAYS BEFORE YOU DIG

EQUIPMENT SCHEDULE

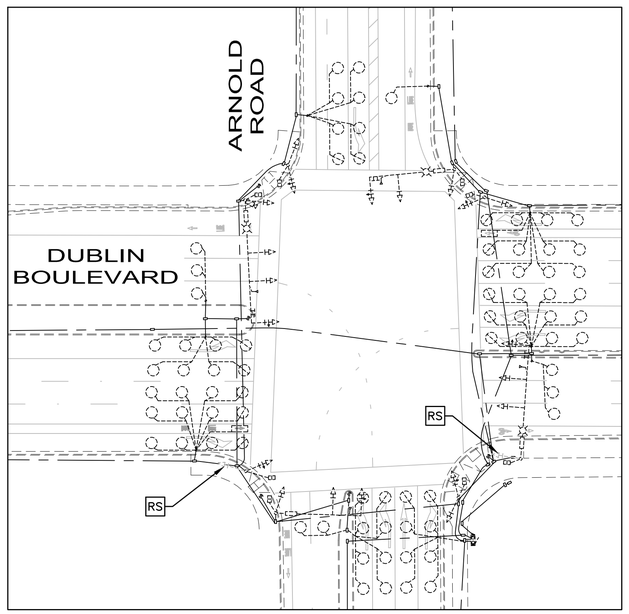
LOCATION	STANDARD TYPE	STANDARD SIGNAL MAST ARM	STANDARD LUMINAIRE MAST ARM	LED LUMINAIRE	VEHICLE SIGNAL MOUNTING MAST ARM	VEHICLE SIGNAL MOUNTING POLE	PEDESTRIAN SIGNAL MOUNT	PEDESTRIAN SIGNAL POLE QUAD	PUSH BUTTON ø	PUSH BUTTON ARROW	PUSH BUTTON POLE QUAD	IISNS LEGEND	SPECIAL NOTES
Ⓐ	61-5-80	65'	15'	104	3 MAS	SV-1-T	SP-1-T	N W E S	–	–	–	Arnold Rd	INSTALL INTERSECTOR DETECTOR
Ⓑ	PEDESTRIAN PUSH BUTTON POST	–	–	–	–	–	–	–	4	←	N W E S	–	
Ⓒ	1-B	–	–	–	–	TV-2-T	SP-1-T	N W E S	6	→	N W E S	–	
Ⓓ	26-4-70	45'	15'	104	2 MAS	SV-1-T SV-1 N	SP-1-T	N W E S	6	←	N W E S	Dublin Blvd	FURNISH AND INSTALL BLANK OUT SIGN INSTALL INTERSECTOR DETECTOR
Ⓔ	1-B	–	–	–	–	TV-2-T	SP-1-T	N W E S	8	→	N W E S	–	
Ⓕ	61-5-80	60'	15'	104	3 MAS	N SV-1-T SV-1-T	SP-1-T	N W E S	–	–	–	Arnold Rd	INSTALL INTERSECTOR DETECTOR
Ⓖ	PEDESTRIAN PUSH BUTTON POST	–	–	–	–	–	–	–	8	←	N W E S	–	
Ⓗ	1-B	–	–	–	–	TV-2-T SV-1 N	SP-1-T	N W E S	2	→	N W E S	–	FURNISH AND INSTALL BLANK OUT SIGN
Ⓘ	PEDESTRIAN PUSH BUTTON POST	–	–	–	–	–	–	–	2	↔	N W E S	–	
Ⓙ	24-4-70	45'	–	–	2 MAS	SV-1-T	SP-1-T	N W E S	–	–	–	Dublin Blvd	INSTALL INTERSECTOR DETECTOR
Ⓚ	PEDESTRIAN PUSH BUTTON POST	–	–	–	–	–	–	–	2	←	N W E S	–	
Ⓛ	1-B	–	–	–	–	TV-2-T	SP-1-T	N W E S	4	→	N W E S	–	
Ⓜ	PEDESTRIAN PUSH BUTTON POST	–	–	–	–	–	–	–	4	↔	N W E S	–	

ALL POLES AND EQUIPMENT ARE EXISTING UNLESS OTHERWISE NOTED.

N – NEW EQUIPMENT

OTHER REQUIREMENTS ARE COVERED BY NOTES, LEGEND, SPECIAL PROVISIONS AND CALTRANS STANDARD SPECIFICATIONS. FOR TYPE OF STANDARD, VEHICLE AND PEDESTRIAN MOUNTING, SEE CALTRANS STANDARD PLANS.

FOR THE PURPOSE OF LOCATING NEW AND EXISTING EQUIPMENT ON POLES, DUBLIN BOULEVARD SHALL BE CONSIDERED AN EAST-WEST ROADWAY.



EXISTING SIGNAL EQUIPMENT

SCALE 1"=40'

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PHONE: 925-398-4840
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REGISTERED PROFESSIONAL ENGINEER
NIKITA A. PETROV
No. 80570
EXP. 03/31/2017
CIVIL
STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL SCHEDULES DUBLIN BLVD & ARNOLD RD

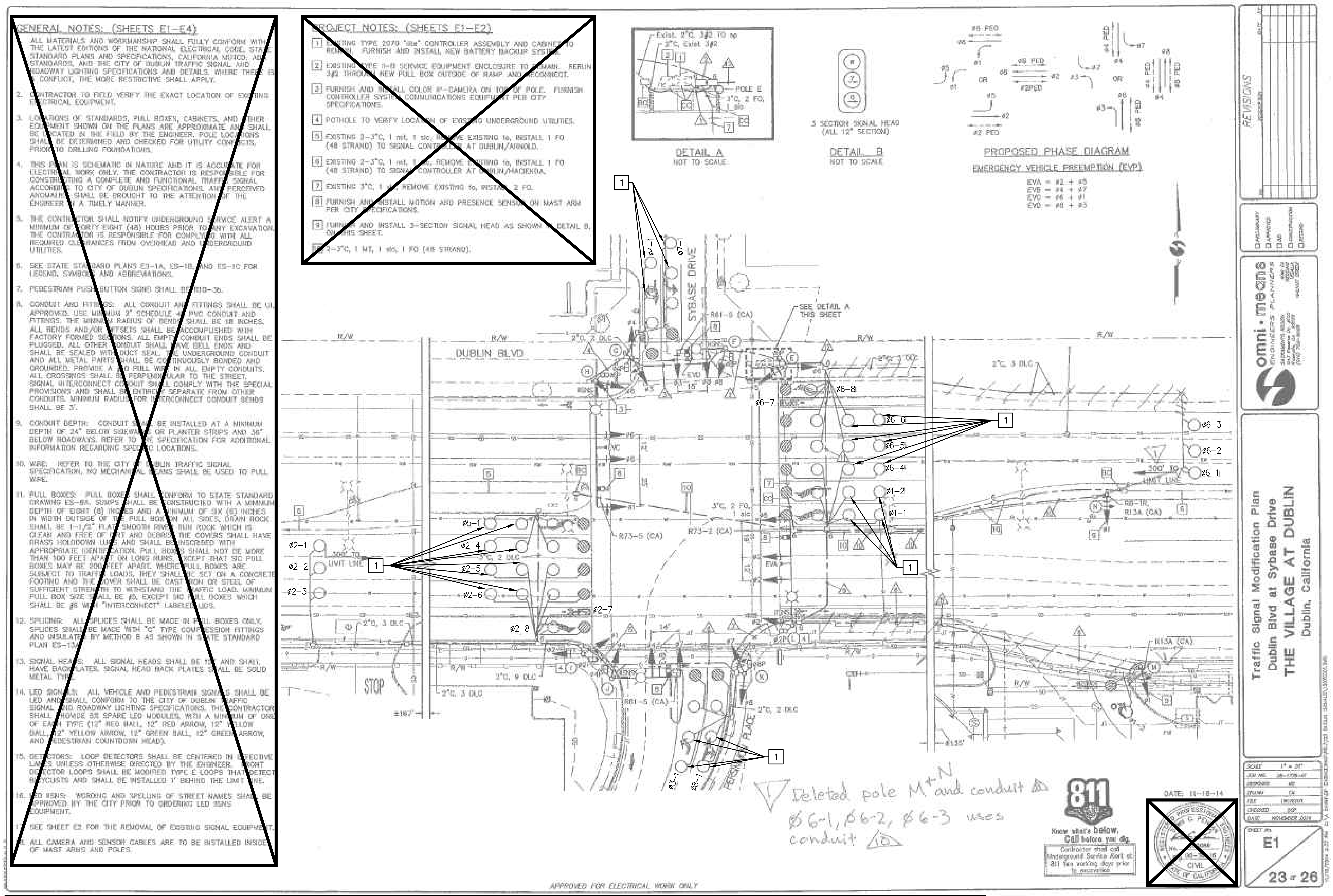
TS-15

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. DISCONNECT TWO EXISTING BACK LOOPS AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.

SEE DRAWING GN-01 FOR TRAFFIC SIGNAL GENERAL NOTES

DRAWINGS MAY NOT INCLUDE ALL RECENT UPDATES. FIELD VERIFICATION IS RECOMMENDED.



AS-BUILT DATED 11-18-2014. SEE NOTE 11 UNDER TRAFFIC SIGNAL GENERAL NOTES ON GN-01.

CA: 1-800-227-2600
CALL BEFORE YOU DIG
USA
UNDERGROUND SERVICE ALERT
CA: 1-800-227-2600
CALL TWO WORKING DAYS BEFORE YOU DIG

FILE INFO: K:\BAY_TPTO\097026201 - MTC - Dublin Field Elements - NAP\CAD\Plansheets\TS-16 Dublin & Persimmon.dwg BY:nikita.petrov

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Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL PLAN
DUBLIN BLVD & PERSIMMON PL - SYBASE DR

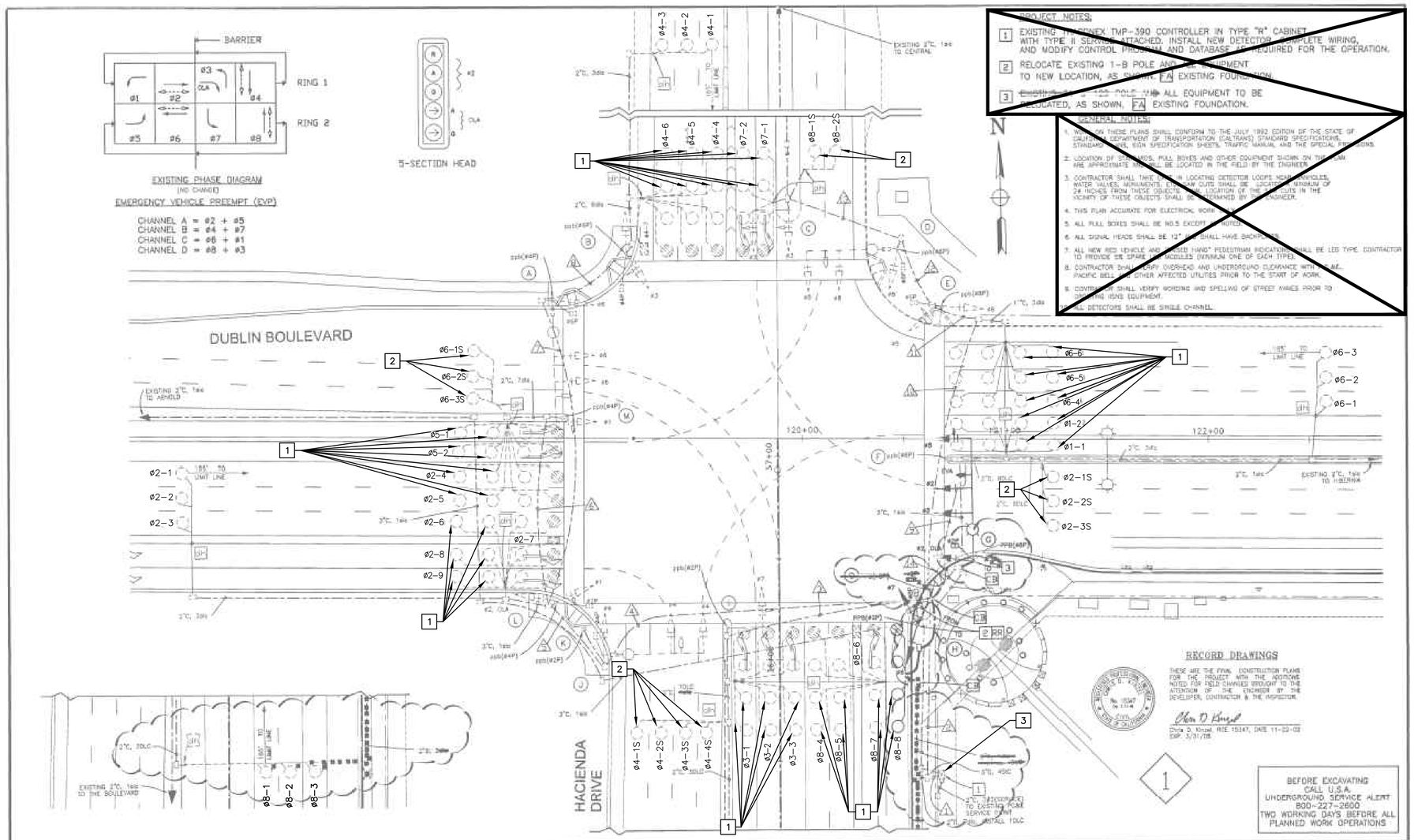
TS-16

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. DISCONNECT TWO EXISTING BACK LOOPS AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.
2. DISCONNECT EXISTING COUNT LOOPS AT THE CONTROLLER CABINET AND ABANDON IN PLACE.
3. REWIRE LOOP DETECTOR LEAD-IN CABLES IN THE CABINET SO THAT EACH DETECTOR IS WIRED TO ITS OWN CHANNEL. PROVIDE DIAGRAM SHOWING HOW CABLES ARE LANDED IN THE CABINET. LABEL EACH WIRE WITH PHASE AND DETECTOR NUMBER.

DRAWINGS MAY NOT INCLUDE ALL RECENT UPDATES. FIELD VERIFICATION IS RECOMMENDED.

SEE DRAWING GN-01 FOR TRAFFIC SIGNAL GENERAL NOTES



AS-BUILT DATED 12-16-2002. SEE NOTE 11 UNDER TRAFFIC SIGNAL GENERAL NOTES ON GN-01.

CA: 1-800-227-2600 CALL BEFORE YOU DIG USA UNDERGROUND SERVICE ALERT CA: 1-800-227-2600
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REGISTERED PROFESSIONAL ENGINEER — NIKITA A. PETROV — No. 80570 EXP. 03/31/2017 — CIVIL — STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL PLAN DUBLIN BLVD & HACIENDA DR

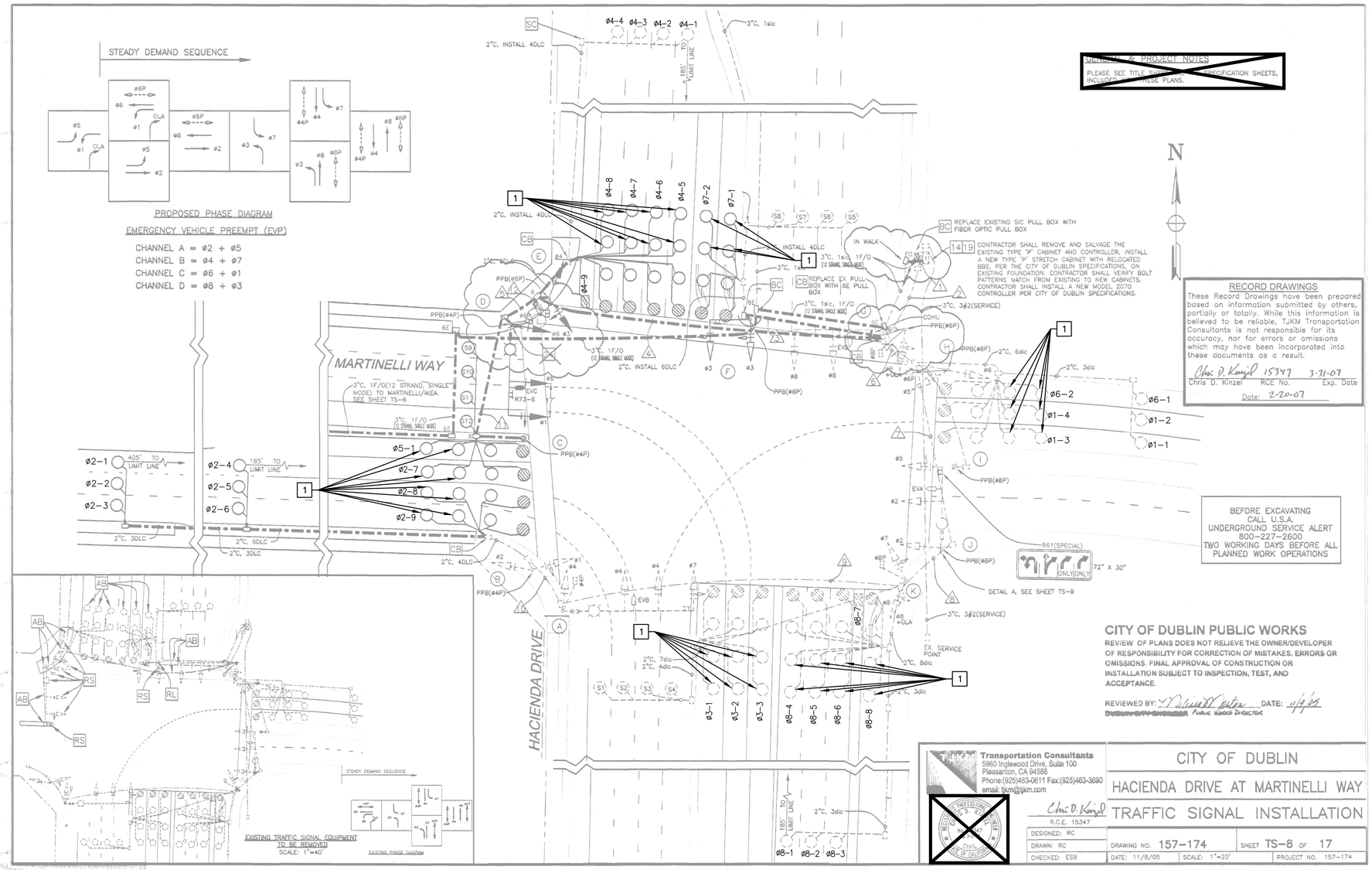
TS-17

CONSTRUCTION NOTES (THIS SHEET ONLY)

1 DISCONNECT TWO EXISTING BACK LOOPS AT CLOSEST PULL BOX. ABANDON LOOP WIRE IN PLACE.

DRAWINGS MAY NOT INCLUDE ALL RECENT UPDATES. FIELD VERIFICATION IS RECOMMENDED.

SEE DRAWING GN-01 FOR TRAFFIC SIGNAL GENERAL NOTES



RECORD DRAWINGS
These Record Drawings have been prepared based on information submitted by others, partially or totally. While this information is believed to be reliable, TJKM Transportation Consultants is not responsible for its accuracy, nor for errors or omissions which may have been incorporated into these documents as a result.
Chris D. Kinzel 15347 3-31-07
Chris D. Kinzel RCE No. Exp. Date
Date: 2-20-07

BEFORE EXCAVATING
CALL U.S.A.
UNDERGROUND SERVICE ALERT
800-227-2600
TWO WORKING DAYS BEFORE ALL PLANNED WORK OPERATIONS

CITY OF DUBLIN PUBLIC WORKS
REVIEW OF PLANS DOES NOT RELIEVE THE OWNER/DEVELOPER OF RESPONSIBILITY FOR CORRECTION OF MISTAKES, ERRORS OR OMISSIONS. FINAL APPROVAL OF CONSTRUCTION OR INSTALLATION SUBJECT TO INSPECTION, TEST, AND ACCEPTANCE.
REVIEWED BY: [signature] DATE: 1/9/06
DUBLIN CITY ENGINEER Public Works Director

AS-BUILT DATED 11-8-2005. SEE NOTE 11 UNDER TRAFFIC SIGNAL GENERAL NOTES ON GN-01.

CA: 1-800-227-2600
CALL BEFORE YOU DIG
USA
UNDERGROUND SERVICE ALERT
CA: 1-800-227-2600
CALL TWO WORKING DAYS BEFORE YOU DIG

FILE INFO: K:\BAY_TPTO\097026201 - MTC - Dublin Field Elements - NAP\CAD\Plansheets\TS-18 Hacienda & Martinelli.dwg BY:nikita.petrov

Transportation Consultants
5960 Inglewood Drive, Suite 100
Pleasanton, CA 94588
Phone:(925)463-0611 Fax:(925)463-3690
email: tjkm@tjkm.com

Chris D. Kinzel R.C.E. 15347

DESIGNED: RC		
DRAWN: RC		
CHECKED: ESB		

CITY OF DUBLIN
HACIENDA DRIVE AT MARTINELLI WAY
TRAFFIC SIGNAL INSTALLATION

DRAWING NO. 157-174	SHEET TS-8 OF 17
DATE: 11/8/05	SCALE: 1"=20'
PROJECT NO. 157-174	

REGISTERED PROFESSIONAL ENGINEER — ROBERT S. A. PETERSEN — No. 80570 — EXP. 03/31/2017 — CIVIL — STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

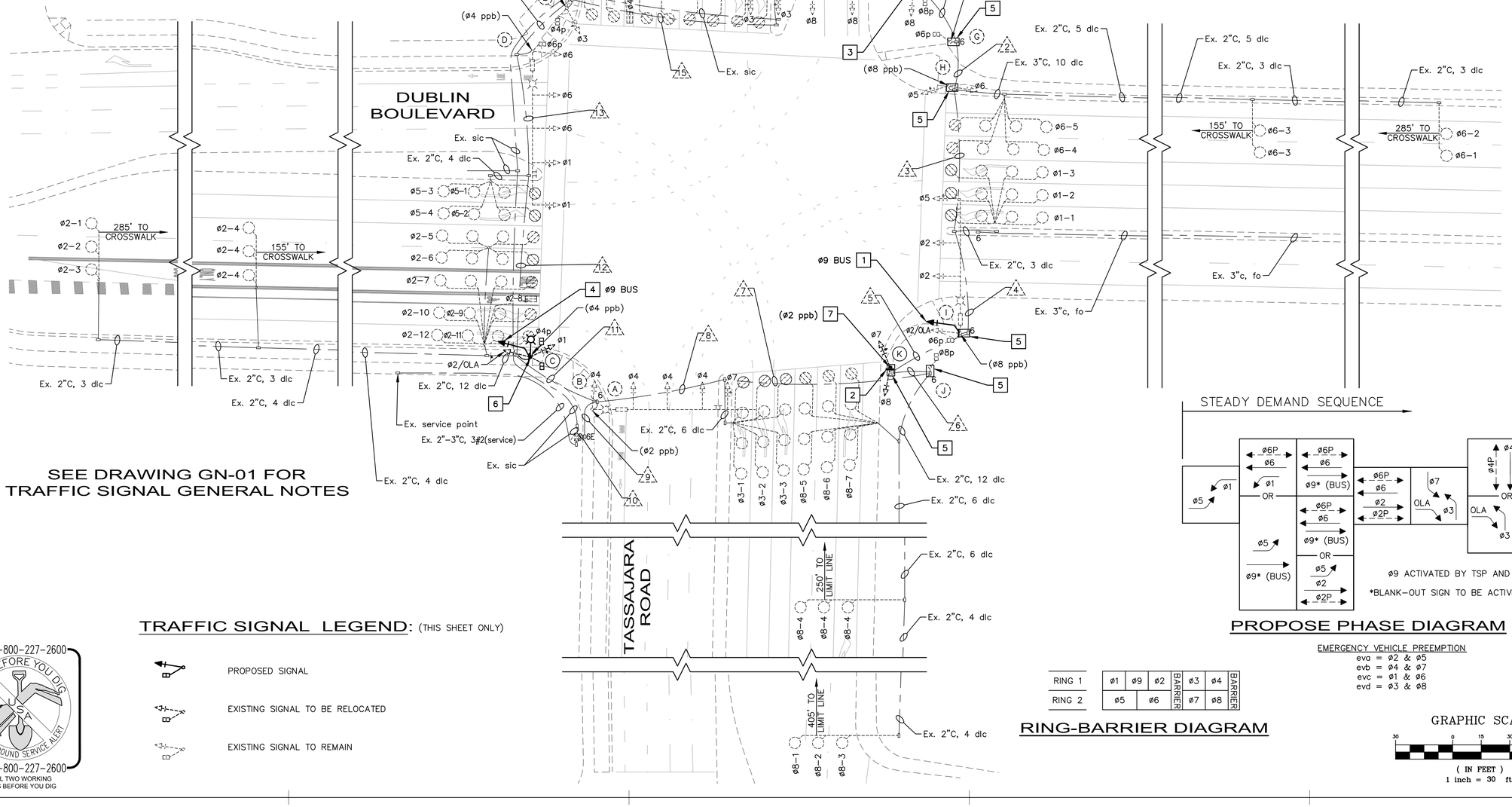
PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL PLAN
HACIENDA DR & MARTINELLI WY

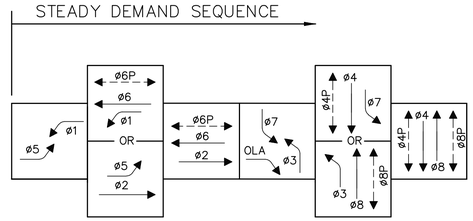
TS-18

CONSTRUCTION NOTES (THIS SHEET ONLY)

1. FURNISH AND INSTALL TRANSIT SIGNAL HEAD AND "RAPID BUS SIGNAL" SIGN ON EXISTING POLE PER DETAIL 'L' ON DRAWING DT-02.
2. FURNISH AND INSTALL LED R3-1 "NO RIGHT TURN" BLANK OUT SIGN ON NEW 1-B POLE. SEE DETAIL 'N' ON DRAWING DT-01. WIRE THE SIGN WITH THE BUS PHASE. SIGN TO BE ACTIVE DURING THAT PHASE ONLY.
3. FURNISH AND INSTALL LED R3-1 "NO RIGHT TURN" BLANK OUT SIGN ON EXISTING POLE. SEE DETAIL 'J' ON SHEET DT-02. WIRE THE SIGN WITH BUS PHASE. SIGN TO BE ACTIVE DURING THAT PHASE ONLY.
4. FURNISH AND INSTALL TRANSIT SIGNAL HEAD AND "RAPID BUS SIGNAL" SIGN ON NEW POLE PER DETAIL 'R' ON DRAWING DT-02.
5. INSTALL PCC PAD FOR SIGNAL POLE AND PULL BOX PER DETAIL 'Q' ON DRAWING DT-01. ADJUST EXISTING PULL BOX TO GRADE. THE DIMENSIONS OF THE PAD SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
6. REMOVE EXISTING POLE AND FOUNDATION. EXISTING POLE TO BE BECOME THE PROPERTY OF THE CONTRACTOR. FOUNDATION TO BE REMOVED IN ITS ENTIRETY. FURNISH AND INSTALL NEW CALTRANS STANDARD TYPE 15TS POLE AND FOUNDATION. RELOCATE ALL EXISTING SIGNAL EQUIPMENT TO NEW FRAMEWORK ON NEW POLE. MAINTAIN ROTATION AND WORKING STATE OF SIGNAL EQUIPMENT AS IT WAS ON EXISTING POLE.
7. REMOVE EXISTING POLE AND FOUNDATION. EXISTING POLE TO BE BECOME THE PROPERTY OF THE CONTRACTOR. FOUNDATION TO BE REMOVED IN ITS ENTIRETY. FURNISH AND INSTALL NEW CALTRANS STANDARD TYPE 1-B POLE AND FOUNDATION. RELOCATE ALL EXISTING SIGNAL EQUIPMENT TO NEW POLE. MAINTAIN ROTATION AND WORKING STATE OF EXISTING SIGNAL EQUIPMENT AS IT WAS ON EXISTING POLE.



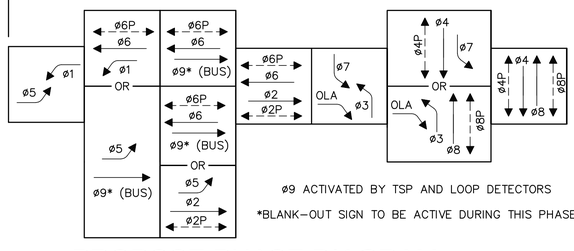
STEADY DEMAND SEQUENCE



EXISTING PHASE DIAGRAM

EMERGENCY VEHICLE PREEMPTION
eva = Ø2 & Ø5
evb = Ø4 & Ø7
evc = Ø1 & Ø6
evd = Ø3 & Ø8

STEADY DEMAND SEQUENCE



Ø9 ACTIVATED BY TSP AND LOOP DETECTORS

*BLANK-OUT SIGN TO BE ACTIVE DURING THIS PHASE

PROPOSE PHASE DIAGRAM

EMERGENCY VEHICLE PREEMPTION
eva = Ø2 & Ø5
evb = Ø4 & Ø7
evc = Ø1 & Ø6
evd = Ø3 & Ø8

SEE DRAWING GN-01 FOR TRAFFIC SIGNAL GENERAL NOTES

TRAFFIC SIGNAL LEGEND: (THIS SHEET ONLY)

- PROPOSED SIGNAL
- EXISTING SIGNAL TO BE RELOCATED
- EXISTING SIGNAL TO REMAIN

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1 inch = 30 ft.

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REGISTERED PROFESSIONAL ENGINEER — BRETT S. A. PETERSEN — No. 80570 EXP. 03/31/2017 — CIVIL — STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL MODIFICATION DUBLIN BLVD & TASSAJARA RD

TS-19

23 OF 26

CONDUCTOR SCHEDULE

AWG OR CABLE		Run 1	Run 2	Run 3	Run 4	Run 5	Run 6	Run 7	Run 8	Run 9	Run 10	Run 11	Run 12	Run 13	Run 14	Run 15
NO. 14	ø1									6	6	6	3	3		
	ø2					3		3	3	6	6	3				
	ø3	3		3	3	3		3	3	6	6	3	3	3	3	
	ø4									6	6	3	3	3	3	
	ø5		3	3	3	6		6	6	6	6					
	ø6		3	3	3	3		3	3	6	6	3	3	3		
	ø7						3	3	3	6	6					
	ø8	3		3	3	3	3	6	6	6	6					
	ø9*					◇2	(2)	◇2	◇2	◇4	◇4	◇2				
	OLA					2		2	2	4	4	2				
	ø2P					2		2	2	4	4	2				
	ø4P									4	4	4	2	2	2	
	ø6P		2	2	2	2		2	2	4	4	2	2	2		
	ø8P	2		2	2	2		4	4	4	4					
	ø2PPB						1	2	2	3	3					
	ø4PPB									2	2	2	1	1		
	ø6PPB	1		1	1	1		1	1	2	2	1	1	1	1	1
	ø8PPB		1	1	2	3		3	3	3	3					
	PPB COMMON	1	1	2	2	2	1	3	3	4	4	1	1	1	1	1
	IISNS	2		2	2	2		2	2	4	4	2	2	2		
	BLANK-OUT SIGN*	◇2	◇2	◇2	◇2	◇2	(4)	◇4	◇4	◇4	◇4					
	SPARES	1	1	4	4	2	3	3	3	4	4	1	3	3	3	3
	TOTAL NO. 14	15	13	28	29	40	(6)/11	54	54	98	98	37	24	24	13	5
NO. 8	LIGHTING (240V)	2		2	2	2		2	2	4	4	2	2	2		
	SIGNAL NEUTRAL	1	1	2	2	2	1	3	3	4	4	1	1	1	1	1
	TOTAL NO. 8	3	1	4	4	4	1	1	5	5	8	8	3	3	1	1
DETECTOR LEAD-IN CABLE	ø1				3	3		3	3	3	3					
	ø2									12	12	12				
	ø3								6	6	6					
	ø4									12	12	12	12	12	12	1
	ø5									4	4	4	4			
	ø6	10		10	10	10		10	10	10	10					
	ø7									1	1	1	1	1	1	1
	ø8															
	ø9							12	12	12	12					
	TOTAL DLC	10		10	13	13		25	31	60	60	29	17	13	13	2
CABLE	EVA					1		1	1	1	1					
	EVB									1	1					
	EVC									1	1	1	1	1		
	EVD	1		1	1	1		1	1	1	1					
	TOTAL CABLES	1		1	1	2		2	2	4	4	1	1	1		
	CONDUIT FILL (%)	17%	12%	19%	21%	25%	14%	39%	44%	23%	23%	37%	23%	20%	16%	5%
	CONDUIT SIZE (IN)	3"	2"	3"	3"	3"	2"	3"	3"	2-4"	2-4"	3"	3"	3"	3"	3"

*CONTRACTOR TO VERIFY PRESENCE OF EXISTING SPARE CONDUCTORS. CONTRACTOR SHALL USE EXISTING SPARE CONDUCTORS FOR BUS SIGNAL PHASE AND BLANK-OUT SIGN.

ALL CONDUITS, CABLES, AND CONDUCTORS ARE EXISTING UNLESS OTHERWISE NOTED.

○ = NEW CABLE OR CONDUCTOR

◇ = EXISTING SPARE CABLE OR CONDUCTOR

△ = EXISTING CONDUIT RUN

△ = NEW CONDUIT RUN

ALL EXISTING CONDUITS TO BE USED OR REUSED MUST BE CLEANED WITH A MANDREL OR CYLINDRICAL WIRE BRUSH AND BLOWN OUT WITH COMPRESSED AIR. NO CONDUCTORS MUST BE PULLED INTO EXISTING CONDUIT UNTIL THE EXISTING CONDUIT IS CLEANED OUT.

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USA
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CA: 1-800-227-2600
CALL TWO WORKING DAYS BEFORE YOU DIG

EQUIPMENT SCHEDULE

LOCATION	STANDARD: TYPE	STANDARD: SIGNAL MAST ARM	STANDARD: LUMINAIRE MAST ARM	LED LUMINAIRE NUMBER	VEHICLE SIGNAL MOUNTING: MAST ARM	VEHICLE SIGNAL MOUNTING: POLE	PEDESTRIAN SIGNAL: MOUNT	PEDESTRIAN SIGNAL: POLE QUAD	PUSH BUTTON: ø	PUSH BUTTON: ARROW	PUSH BUTTON: POLE QUAD	IISNS LEGEND	SPECIAL NOTES
(A)	SPECIAL	85'	15'	133	4 MAS	SV-1-T	–	–	–	–	–	Dublin Blvd	
(B)	PPB	–	–	–	–	–	–	–	2	←	N W E S	–	
(C)	15TS N	–	15' N	133 N	–	SV-2-T N	SP-2-T N	N W E S R	4 R	→	N W E S	–	
(D)	SPECIAL	80'	15'	133	4 MAS	SV-1-T	SP-1-T	N W E S	4	←	N W E S	Tassajara Rd	
(E)	1-B	–	–	–	–	TV-2-T	SP-1-T	N W E S	2	→	N W E S	–	
(F)	SPECIAL	85'	15'	133	4 MAS	SV-1-T / SV-1 N	SP-1-T	N W E S	8	–	–	Dublin Blvd	FURNISH AND INSTALL BLANK OUT SIGN
(G)	1-B	–	–	–	–	–	SP-1-T	N W E S	6	←	N W E S	–	
(H)	1-B	–	–	–	–	TV-1-T	–	–	8	→	N W E S	–	
(I)	SPECIAL	70'	15'	133	3 MAS	SV-1-T	SP-1-T	N W E S	2	←	N W E S	Tassajara Rd	
(J)	1-B	–	–	–	–	SV-1-T	SP-1-T	N W E S	–	–	–	–	
(K)	1-B N	–	–	–	–	TV-2-T R / SV-1 N	– R	–	6 R	→	N W E S	–	FURNISH AND INSTALL BLANK OUT SIGN

ALL POLES AND EQUIPMENT ARE EXISTING UNLESS OTHERWISE NOTED.

N – NEW EQUIPMENT

R – RELOCATED EQUIPMENT

OTHER REQUIREMENTS ARE COVERED BY NOTES, LEGEND, SPECIAL PROVISIONS AND CALTRANS STANDARD SPECIFICATIONS. FOR TYPE OF STANDARD, VEHICLE AND PEDESTRIAN MOUNTING, SEE CALTRANS STANDARD PLANS.

FOR THE PURPOSE OF LOCATING NEW AND EXISTING EQUIPMENT ON POLES, DUBLIN BOULEVARD SHALL BE CONSIDERED AN EAST-WEST ROADWAY.

Kimley-Horn

4637 CHABOT DR, SUITE 300, PLEASANTON, CA 94588
PHONE: 925-398-4840
WWW.KIMLEY-HORN.COM

REGISTERED PROFESSIONAL ENGINEER
No. 80570
EXP. 03/31/2017
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STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

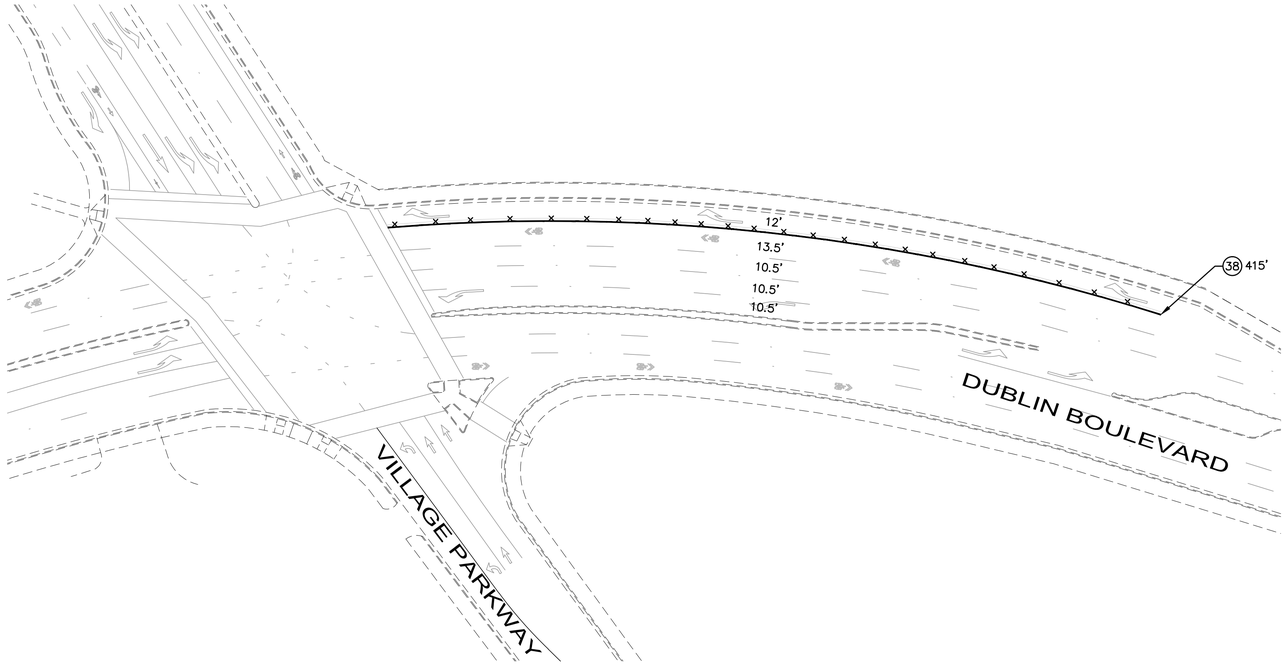
DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

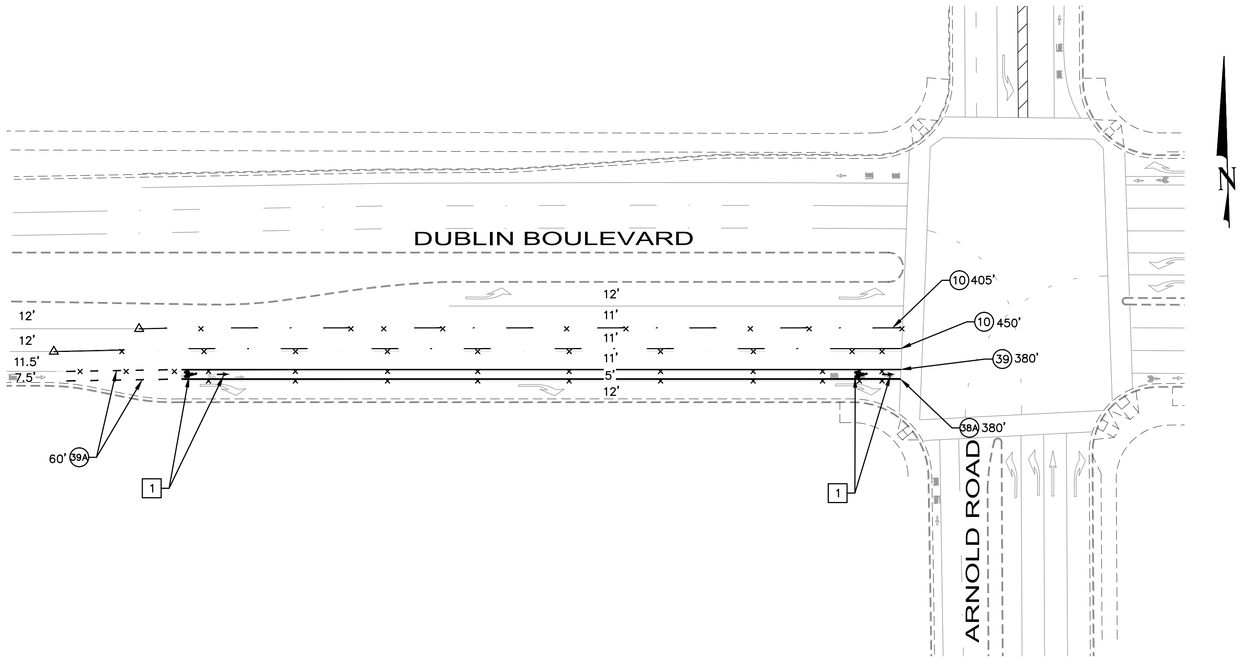
PROJECT NUMBER: 097026201
SCALE: SEE PLAN

TRAFFIC SIGNAL SCHEDULES
DUBLIN BLVD & TASSAJARA RD

TS-20

FILE INFO: K:\BAY_TPTO\097026201 - MTC - Dublin Field Elements - NAP\CAD\Plansheets\TS-0X TASSAJARA ROAD schedule.dwg BY:nikita.petrov





STRIPING LEGEND (SS-01 & SS-02)

- PROPOSED MARKING PER CALTRANS STANDARD DETAILS
- EXISTING MARKING TO REMAIN
- EXISTING MARKING TO BE REMOVED
- PROPOSED STRIPING
- EXISTING STRIPING TO REMAIN
- EXISTING STRIPING TO BE REMOVED.
- CONFORM TO EXISTING STRIPING

STRIPING NOTES (THIS SHEET ONLY)

(XX) INSTALL STRIPING DETAIL NUMBER "XX" PER CALTRANS STANDARD PLANS A20A, A20B, RSP A20C, A20D, AND RSP A24A.

[1] INSTALL CALTRANS STANDARD PAVEMENT LEGEND (THERMOPLASTIC).

GENERAL NOTES: (SS-01 & SS-02)

1. ALL SIGN CODES REFER TO THE 2014 CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CAMUTCD) UNLESS OTHERWISE NOTED.
2. ALL STRIPING DETAILS, PAVEMENT MARKING SYMBOLS, AND LEGENDS MUST BE INSTALLED PER CALTRANS STANDARD PLANS.
3. ALL EXISTING STRIPING AND PAVEMENT MARKINGS CONFLICTING WITH THE NEW STRIPING SHALL BE REMOVED.
4. ALL EXISTING SIGNS TO REMAIN UNLESS OTHERWISE NOTED.

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1 inch = 40 ft.

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ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

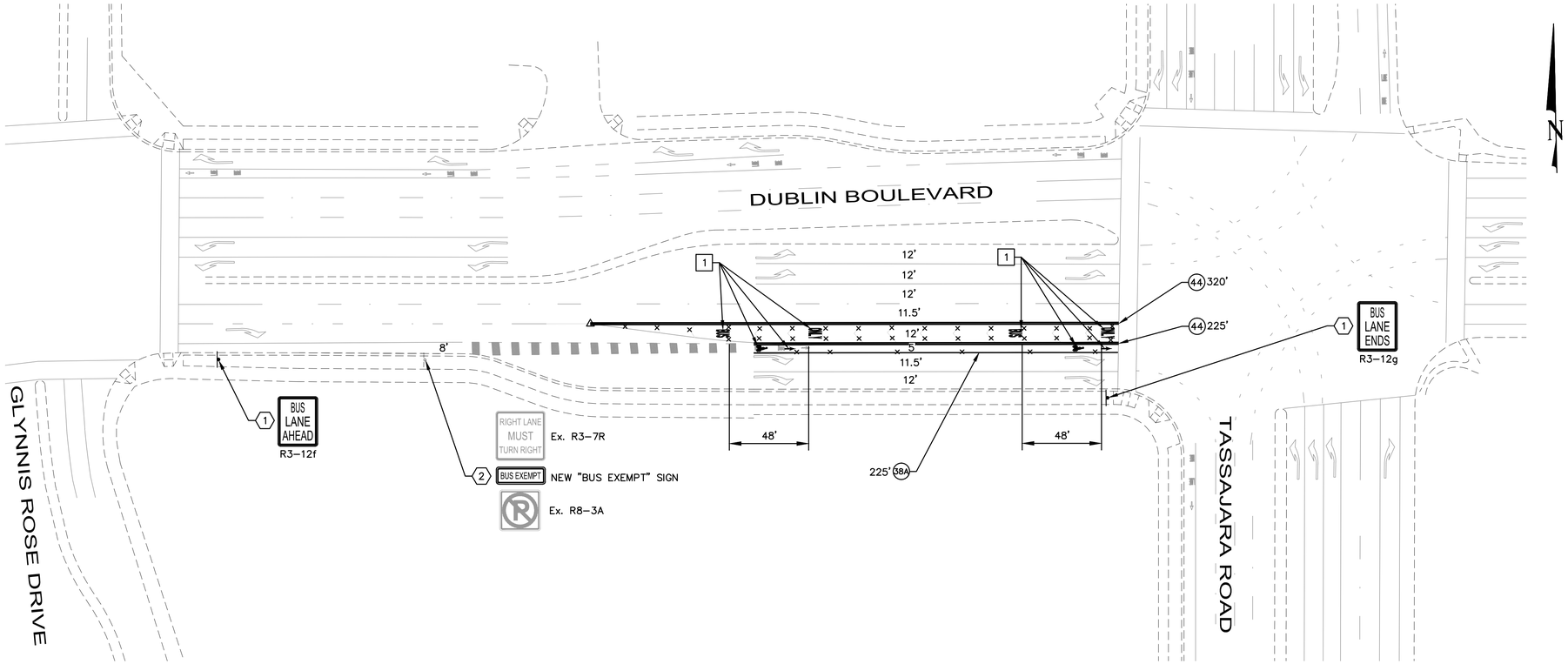
DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

SIGNING & STRIPING DUBLIN BLVD AT VILLAGE PKWY AND ARNOLD RD

SS-01

FILE INFO: K:\BAY_TPTO\097026201 - MTC - Dublin Field Elements - NAP\CAD\Plansheets\SS-01 Signing & Striping.dwg BY:nikita.petrov



STRIPING NOTES (THIS SHEET ONLY)

(XX) INSTALL STRIPING DETAIL NUMBER "XX" PER CALTRANS STANDARD PLANS A20A, A20B, RSP A20C, A20D, AND RSP A24A.

1 INSTALL CALTRANS STANDARD PAVEMENT LEGEND (THERMOPLASTIC)

SIGNING NOTES (THIS SHEET ONLY)

1 FURNISH AND INSTALL ROADSIDE SIGN.

2 FURNISH AND INSTALL NEW "BUS EXEMPT" SIGN UNDERNEATH EXISTING R15-7R SIGN. SEE DETAIL 'E' FOR SIGN DIMENSIONS. MOVE EXISTING R8-3A SIGN DOWN AS APPROPRIATE ON THE POLE.

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1 inch = 40 ft.

CA: 1-800-227-2600
CALL BEFORE YOU DIG
USA
UNDERGROUND SERVICE ALERT
CA: 1-800-227-2600
CALL TWO WORKING DAYS BEFORE YOU DIG

FILE INFO: K:\BAY_TPTO\097026201 - MTC - Dublin Field Elements - NAP\CAD\Plansheets\SS-02 Signing & Striping.dwg BY:nikita.petrov

Kimley»Horn

4637 CHABOT DR, SUITE 300, PLEASANTON, CA 94588
PHONE: 925-398-4840
WWW.KIMLEY-HORN.COM

REGISTERED PROFESSIONAL ENGINEER
NIKITA A. PETROV
No. 80570
EXP. 03/31/2017
CIVIL
STATE OF CALIFORNIA

Wheels

JANUARY 2017

ISSUES/REVISIONS

NO.	DATE	DESCRIPTION

DUBLIN BOULEVARD FIELD ELEMENTS CONSTRUCTION PROJECT

NORTH

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
NAP/BJS/JMP	NAP/BJS/JMP	BES	

PROJECT NUMBER: 097026201
SCALE: SEE PLAN

SIGNING & STRIPING DUBLIN BLVD & TASSAJARA RD

SS-02