

# CITY OF FREMONT ALAMEDA COUNTY, CALIFORNIA NURSERY AVENUE SAFETY IMPROVEMENTS NILES BLVD TO MISSION BLVD (ROUTE 238) CITY PROJECT NO. 8828 (PWC)

## GENERAL NOTES:

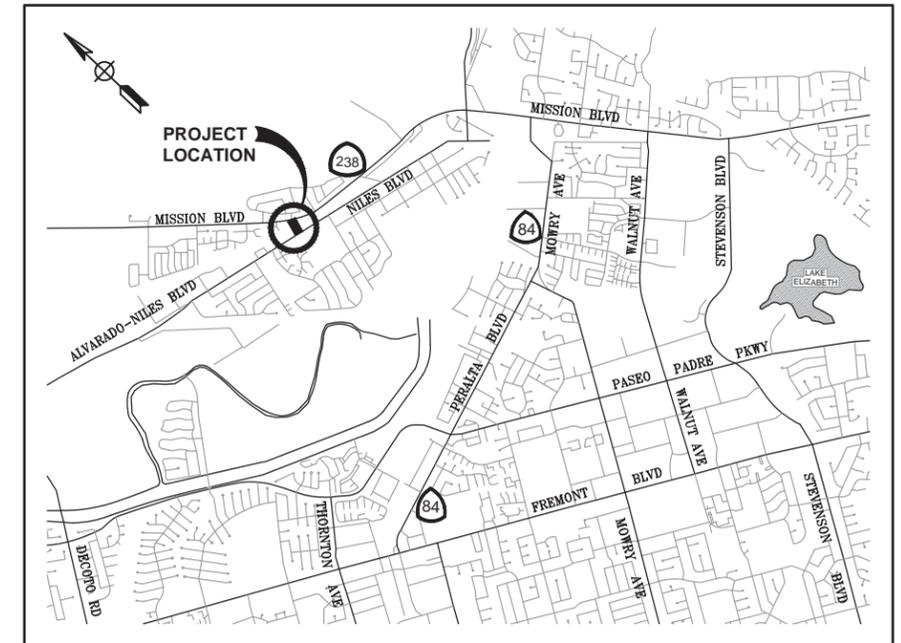
- LOCATION OF EXISTING FACILITIES WERE TAKEN PARTIALLY FROM RECORDS AND MAY BE INCOMPLETE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UTILITIES PRIOR TO ANY EXCAVATION OR TRENCHING ON THE PROJECT.
- THE CONTACTS FOR THIS PROJECT INCLUDE:
 

ALAMEDA COUNTY WATER DISTRICT (ACWD) 43885 SOUTH GRIMMER BOULEVARD FREMONT, CA 94537 PHONE: (510) 659-1970	ALAMEDA COUNTY PUBLIC WORKS 951 TURNER COURT HAYWARD, CA 94545 PHONE: (510) 670-6613
UNION SANITARY DISTRICT (USD) 5072 BENSON ROAD UNION CITY, CA 94587-2508 PHONE: (510) 477-7500	AT&T CALIFORNIA 870 N. MCCARTY BLVD. CUBE 1.167 MILPITAS, CA. 95035 PHONE: (408) 635-8831
PACIFIC GAS & ELECTRIC COMPANY (PG&E) 41800 BOSCELL ROAD FREMONT, CA 94538 PHONE: (800)745-5000	COMCAST 8470 PARDEE ROAD OAKLAND, CA 94621 PHONE: (510) 567-9211
UNION PACIFIC RAILROAD KEVIN YODER ROSEVILLE, CA 95747 (916) 789-5152	CALTRANS EINAR ACUNA 111 GRAND AVENUE OAKLAND, CA 94612 PHONE: (510) 622-5741
ABOVE NET(ZAYO) PHONE: 916-799-7490	
- AT LEAST TWO WORKING DAYS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CALL THE UNDERGROUND SERVICE ALERT FOR UTILITY LOCATIONS. PHONE: 1-800-227-2600.
- THE CONTRACTOR SHALL PROVIDE FOR INGRESS AND EGRESS FOR PRIVATE PROPERTY ADJACENT TO THE WORK THROUGHOUT THE PERIOD OF CONSTRUCTION.
- THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGMEN, OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL NECESSARY UTILITY RELOCATIONS WITH THE APPROPRIATE UTILITY COMPANY.
- THE CONTRACTOR IS ENCOURAGED TO USE RECLAIMED WATER GENERATED BY UNION SANITARY DISTRICT (USD) FOR CONSTRUCTION ACTIVITIES. FOR FURTHER INFORMATION, CONTACT USD AT (510) 477-7500.
- CONTRACTOR SHALL COORDINATE WITH UPRR ON WORK NEAR RAILROAD RIGHT OF WAY OR AFFECTING THE VEHICLE TRAFFIC AT/NEAR THE GRADE CROSSING.
- ALL WORK WITHIN THE STATE RIGHT OF WAY SHALL CONFORM TO LATEST CALTRANS STANDARD SPECIFICATIONS, STANDARD PLANS AND STANDARD SPECIAL PROVISIONS (SSPs).



*Khandan Bahmani*  
 APPROVED --- CITY ENGINEER      DATE 5/20/2020

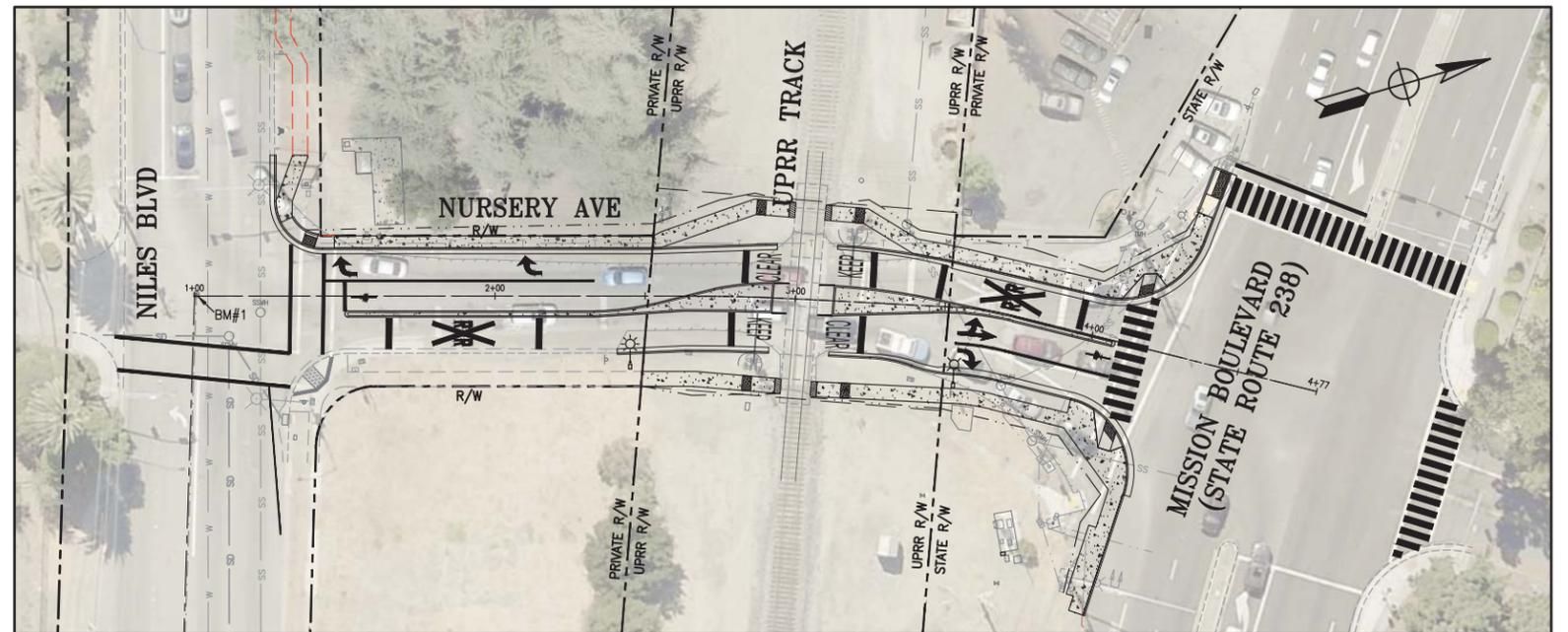
SCHEDULE OF DRAWINGS	
SHEET	DESCRIPTION
1	TITLE SHEET & GENERAL NOTES
2	TYPICAL SECTIONS, LEGEND, ABBREVIATIONS & DETAILS
3	CONSTRUCTION DETAILS
4	DEMOLITION PLAN
5	NURSERY AVENUE PLAN & PROFILE
6	UPRR CROSSING PLAN
7	SIGNING & STRIPING PLAN
8	NURSERY AVENUE CROSS SECTION PLAN
9-12	TRAFFIC SIGNAL MODIFICATION PLANS - NILES BLVD AT NURSERY AVENUE
13-15	TRAFFIC SIGNAL MODIFICATION PLANS - MISSION BLVD AT NURSERY AVENUE



**LOCATION MAP**  
SCALE: NOT TO SCALE

## BENCH MARK:

- A STANDARD CITY OF FREMONT BRASS DISK WITH PUNCH SET IN A MONUMENT WELL. THE MONUMENT IS LOCATED AT THE CENTERLINE INTERSECTION OF NILES BOULEVARD AND NURSERY AVENUE. ELEVATION: 61.65 (NGVD 29)
- A STANDARD CITY OF FREMONT BRASS DISK WITH PUNCH SET IN A MONUMENT WELL. THE MONUMENT IS LOCATED 10' NORTH OF THE CENTERLINE OF NILES BOULEVARD AND 5' WEST OF THE CENTERLINE OF HILLVIEW DRIVE. ELEVATION: 59.88 (NGVD 29), CITY REFERENCE: "NIL-HIL"



**PROJECT LOCATION**  
SCALE: NOT TO SCALE

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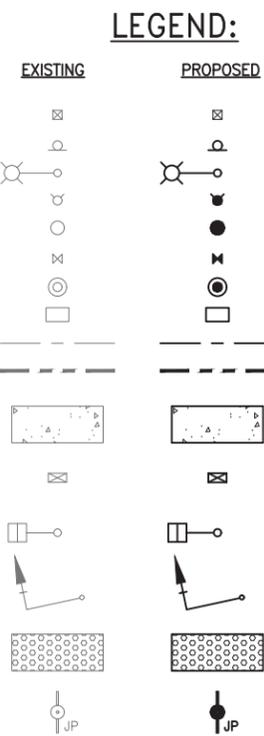
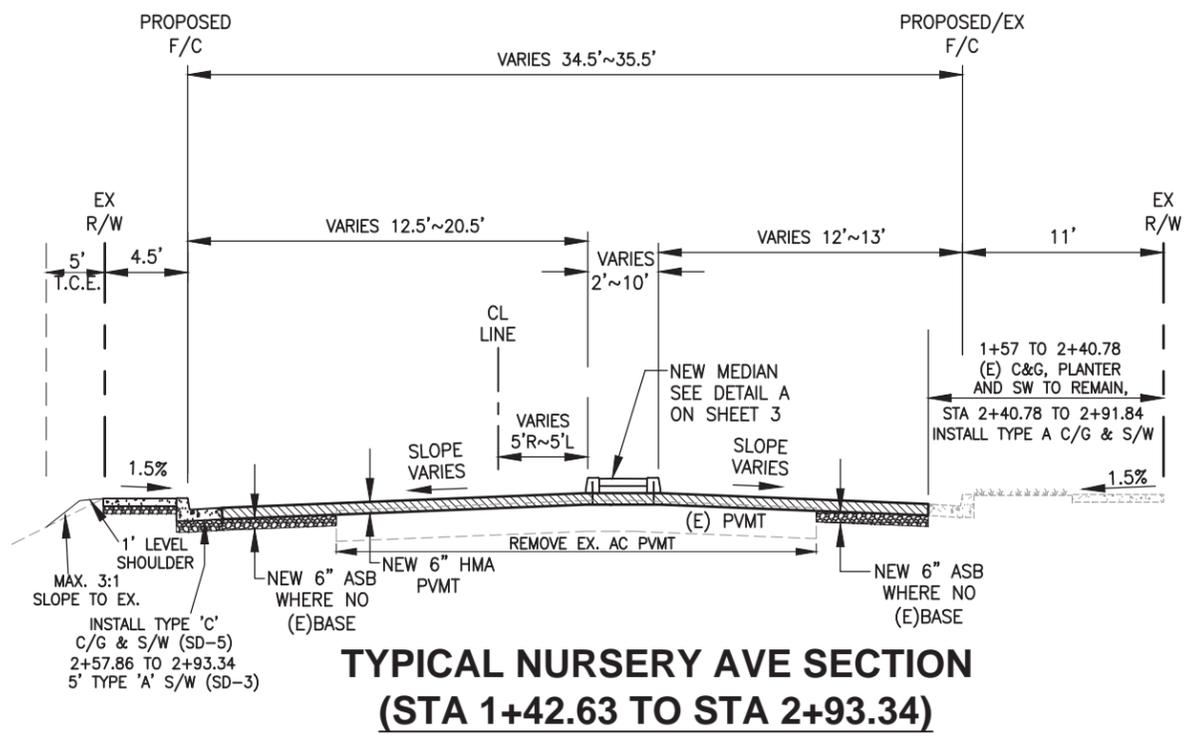


**CITY OF Fremont**  
 NURSERY AVENUE SAFETY IMPROVEMENTS  
**TITLE SHEET & GENERAL NOTES**  
 PUBLIC WORKS DEPARTMENT  
 APPROVED -- PRINCIPAL ENGINEER *[Signature]*      DATE 05/20/2020

NURSERY AVENUE SAFETY IMPROVEMENTS  
**TITLE SHEET & GENERAL NOTES**  
 PUBLIC WORKS DEPARTMENT  
 RECOMMENDED -- PROJECT MANAGER *[Signature]*      DATE 05/20/2020

CITY PROJECT: PWC 8828	SCALE: AS SHOWN	<b>1</b>	DRAWING:  SHEET 1 OF 14
FEDERAL PROJECT:	0' +-----+ 1'		
DESIGNED BY: PL	CHECKED BY: JS		
DRAWN BY: PL/BM	DATE: MAY 2020		

NOTE: VERIFY SCALE. BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES ACCORDINGLY IF BAR IS NOT ONE INCH.



**ABBREVIATIONS:**

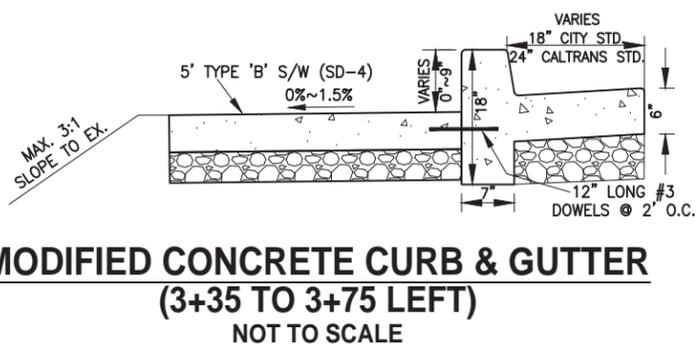
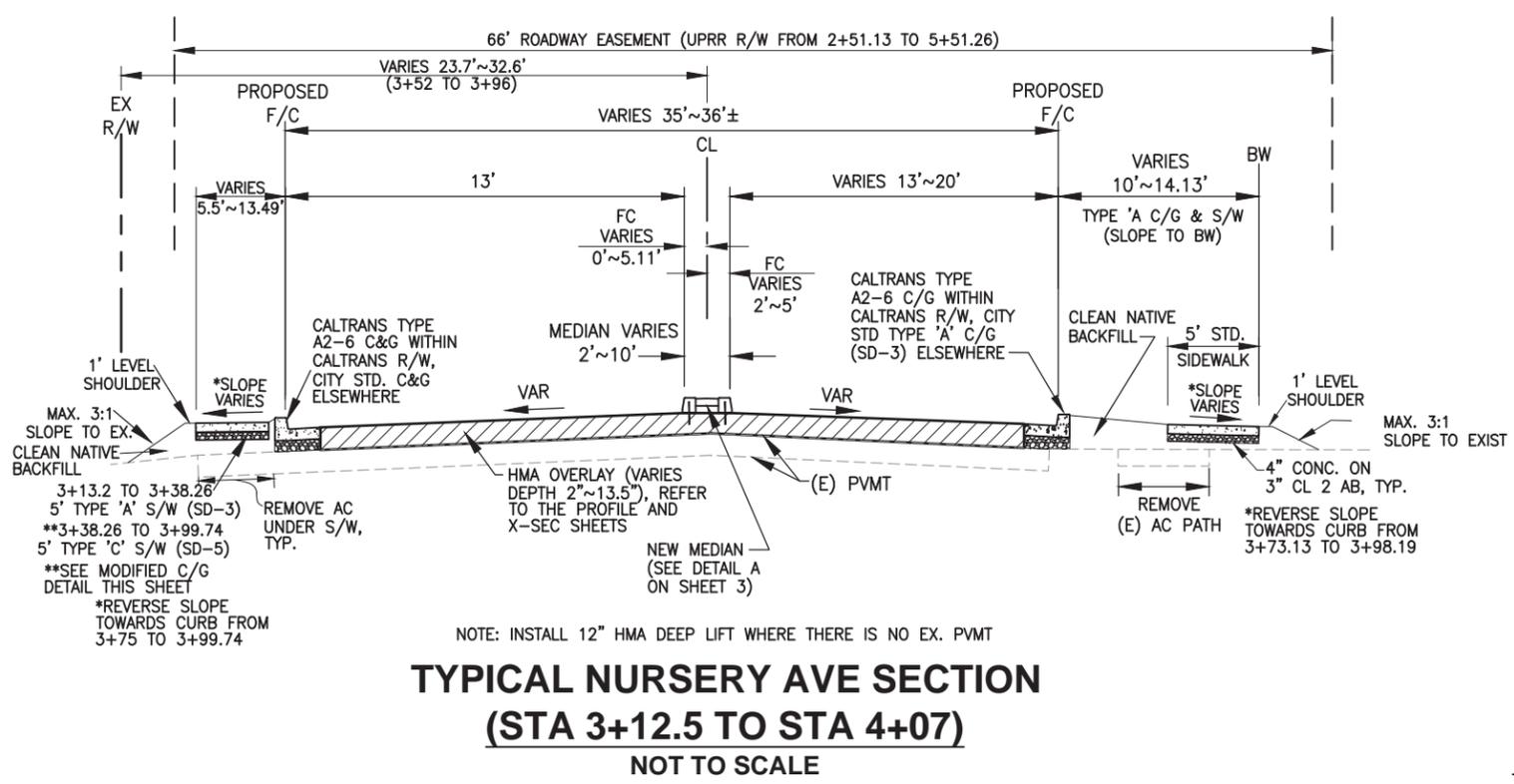
1+00 STATIONS ON MONUMENT LINE	(A) EXISTING	PVMT PAVEMENT
AC ASPHALT CONCRETE	FG FINISHED GRADE	RT RIGHT
AP ANGLE POINT	FH FIRE HYDRANT	RTC RIGHT TOP OF CURB
ASB AGGREGATE SUBBASE	F/C FACE OF CURB	R/W RIGHT OF WAY
BC BEGIN CURVE	FO FIBER OPTICS	S/W SIDEWALK
BW BACK OF SIDEWALK	FW FRONT OF WALK	SD STANDARD DETAIL
CL CENTER LINE	G GAS	SD STORM DRAIN
CAB CABINET	GB GRADE BREAK	SDI STORM DRAIN INLET
CI CURB INLET	GV GAS VALVE	SDMH STORM DRAIN MANHOLE
CL CLASS	HMA HOT MIX ASPHALT	SL STREET LIGHT
CB CATCH BASIN	JP JOINT POLE	SS SANITARY SEWER
COF CITY OF FREMONT	LF LINEAR FEET	SSCO SANITARY SEWER CLEANOUT
CR CURB RAMP	LP LOW POINT	T TELEPHONE
CTV CABLE TV	LT LEFT	TC TOP OF CURB
C&G CURB AND GUTTER	LTC LEFT TOP OF CURB	TCE TEMPORARY CONSTRUCTION EASEMENT
D/W DRIVEWAY	MH MANHOLE	TEL TELEPHONE
E ELECTRICAL LINE	MOD MODIFIED	TMH TELEPHONE MANHOLE
EC END CURVE	MON MONUMENT	TS TRAFFIC SIGNAL
EG EXISTING GRADE	M-M MONUMENT TO MONUMENT	TYP TYPICAL
ELEC ELECTRICAL	OH OVERHEAD	UPRR UNION PACIFIC RAILROAD
EP EDGE OF PAVEMENT	PB PULL BOX	W WATER
EX,(E) EXISTING	PCC PORTLAND CEMENT CONCRETE	WM WATER METER
	P/E PAVEMENT ELEVATION	WV WATER VALVE
	PL PROPERTY LINE	

**APPLICABLE CALTRANS STANDARD PLANS**

A88A	CURB RAMP DETAILS - CASE A & CASE C (2015)
A87A	TYPE A2-6 & TYPE A3-6 CURBS
ES-6A	TYPE 15 ELECTROLIER
ES-8A	ELECTRICAL SYSTEM (NON-TRAFFIC PULL BOX)

**APPLICABLE CITY OF FREMONT STANDARD DETAILS**

SD-3	TYPE "A" CURB, GUTTER AND SIDEWALK
SD-5	TYPE "C" CURB, GUTTER AND SIDEWALK
SD-7	MISCELLANEOUS CURB AND GUTTER DETAILS
SD-8	SCORE MARKS TYPICAL SPACING
SD-23	STREET NAME SIGN, TRAFFIC SIGN AND POST DETAILS
SD-24	ELECTROLIER DETAIL
SD-27	TIE-IN PAVEMENT
SD-29	COLD PLANE



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NURSERY AVENUE SAFETY IMPROVEMENTS

**TYPICAL SECTIONS, LEGEND, ABBREVIATIONS & DETAILS**

PUBLIC WORKS DEPARTMENT

APPROVED -- PRINCIPAL ENGINEER *Connie Wong*

DATE 05/20/2020

RECOMMENDED -- PROJECT MANAGER *[Signature]*

DATE 05/20/2020

CITY PROJECT: PWC 8828

FEDERAL PROJECT:

DESIGNED BY: PL

CHECKED BY: JS

DRAWN BY: PL/BM

DATE: MAY 2020

SCALE: AS SHOWN

0 +-----+ 1'

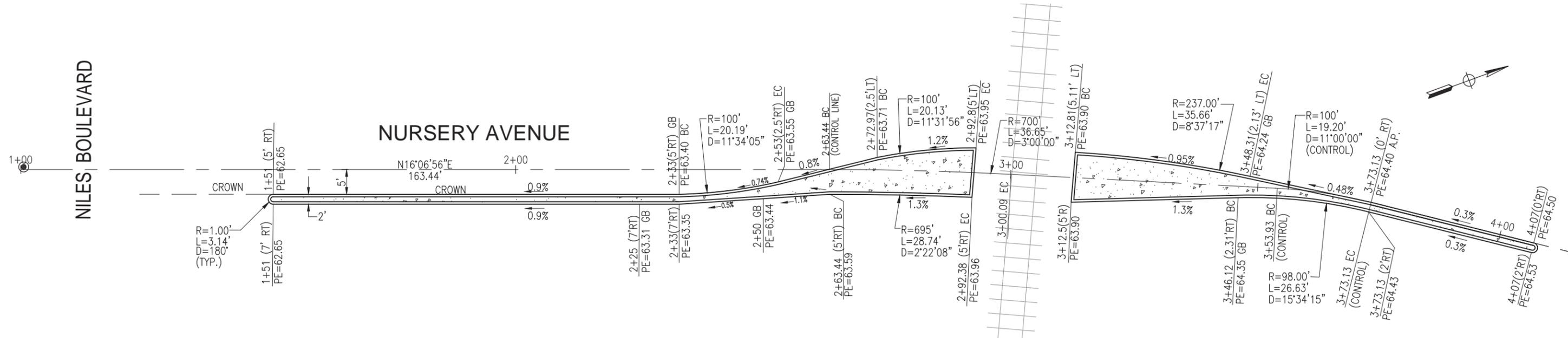
NOTE: VERIFY SCALE. BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES ACCORDINGLY IF BAR IS NOT ONE INCH.

DRAWING: **2**

SHEET 2 OF 14

NILES BOULEVARD

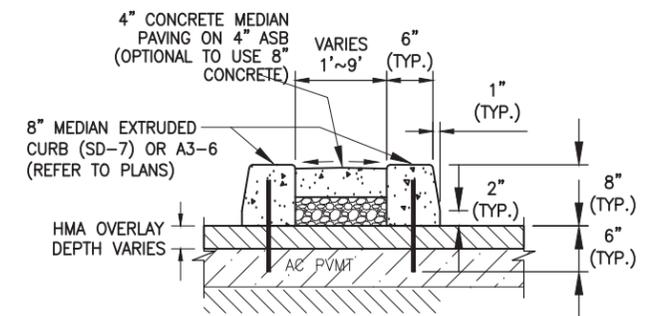
NURSERY AVENUE



**CONCRETE MEDIAN DETAIL**

SCALE: 1=20'

STATION	NORTHING	EASTING
1+00	2036988.0604	6129662.3594
2+63.44 BC	2037145.0747	6129707.7257
3+00.09 EC	2037180.0039	6129718.8165
3+53.93 BC	2037230.8801	6129736.4495
3+73.13 EC	2037248.3072	6129744.4340



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NURSERY AVENUE SAFETY IMPROVEMENTS

**CONSTRUCTION DETAILS**  
**PUBLIC WORKS DEPARTMENT**

APPROVED -- PRINCIPAL ENGINEER *Connie Wong*

DATE 05/20/2020

RECOMMENDED -- PROJECT MANAGER *J.S.*

DATE 05/20/2020

CITY PROJECT: PWC 8828

FEDERAL PROJECT:

DESIGNED BY: PL

DRAWN BY: PL/BM

CHECKED BY: JS

DATE: MAY 2020

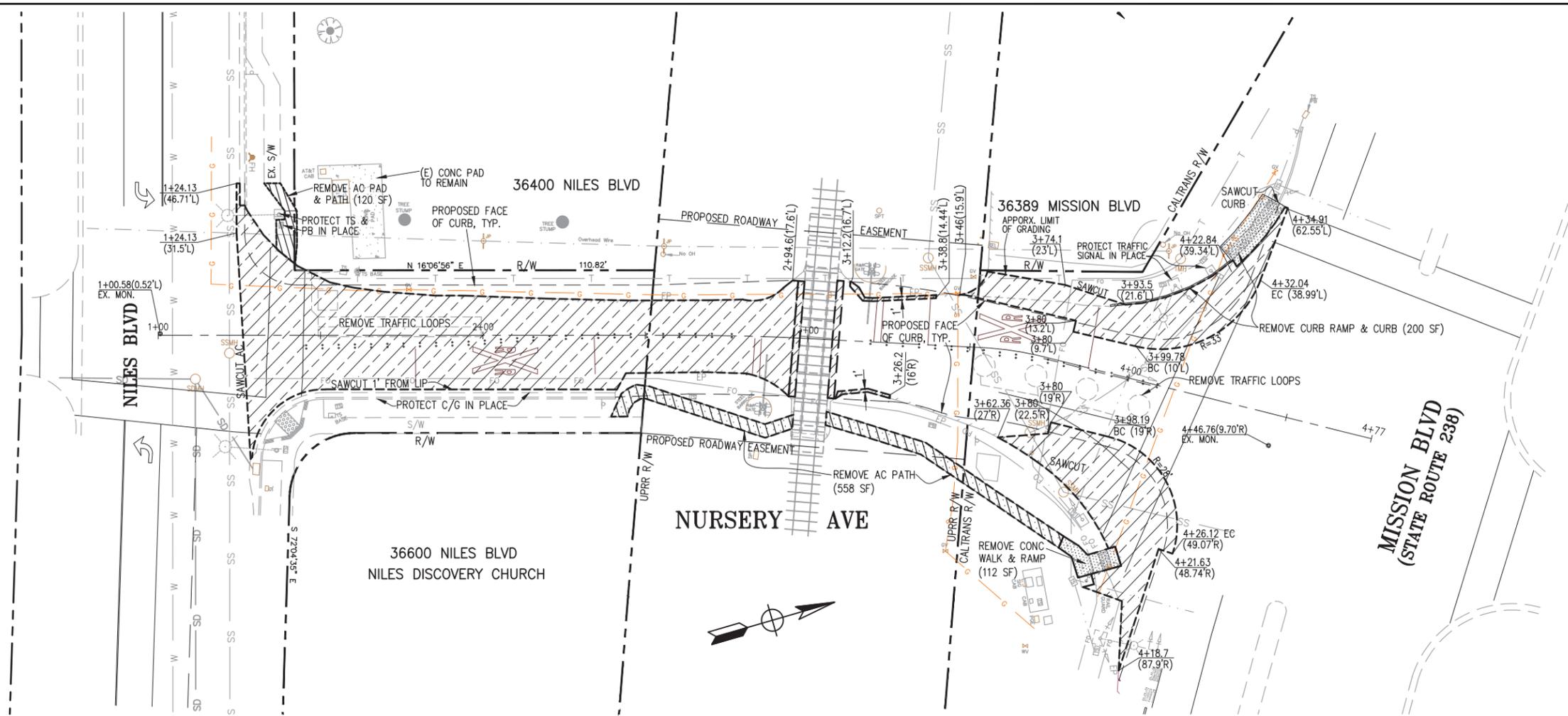
SCALE: AS SHOWN

0 |-----| 1'  
NOTE: VERIFY SCALE. BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES ACCORDINGLY IF BAR IS NOT ONE INCH.

DRAWING:

**3**

SHEET 3 OF 14



# DEMOLITION PLAN

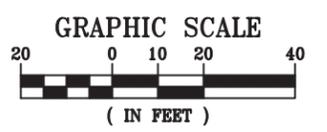
SCALE: 1" = 20'

**NOTES:**

1. SEE TRAFFIC SIGNAL PLANS FOR ALL TRAFFIC SIGNAL RELATED ITEMS.
2. ACTUAL LIMITS OF PAVEMENT REMOVAL TO BE DETERMINED IN FIELD BY CITY INSPECTOR.

**LEGEND**

-  FULL AC PAVEMENT SECTION REMOVAL
-  AC WALKWAY/PAD REMOVAL
-  REMOVE CONCRETE CURB AND SIDEWALK



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NURSERY AVENUE SAFETY IMPROVEMENTS  
**DEMOLITION PLAN**  
 PUBLIC WORKS DEPARTMENT

APPROVED -- PRINCIPAL ENGINEER *Connie Wong*

DATE 05/20/2020

RECOMMENDED -- PROJECT MANAGER *[Signature]*

DATE 05/20/2020

CITY PROJECT: PWC 8828  
 FEDERAL PROJECT:  
 DESIGNED BY: PL  
 CHECKED BY: JS  
 DRAWN BY: PL/BM  
 DATE: MAY 2020

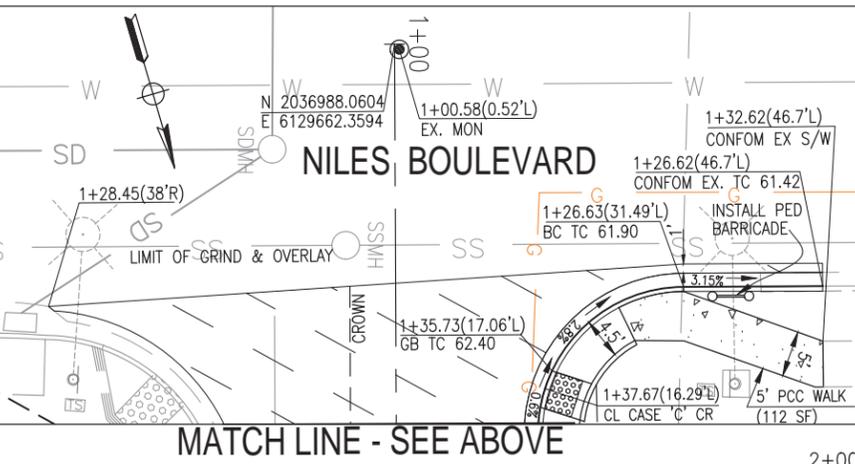
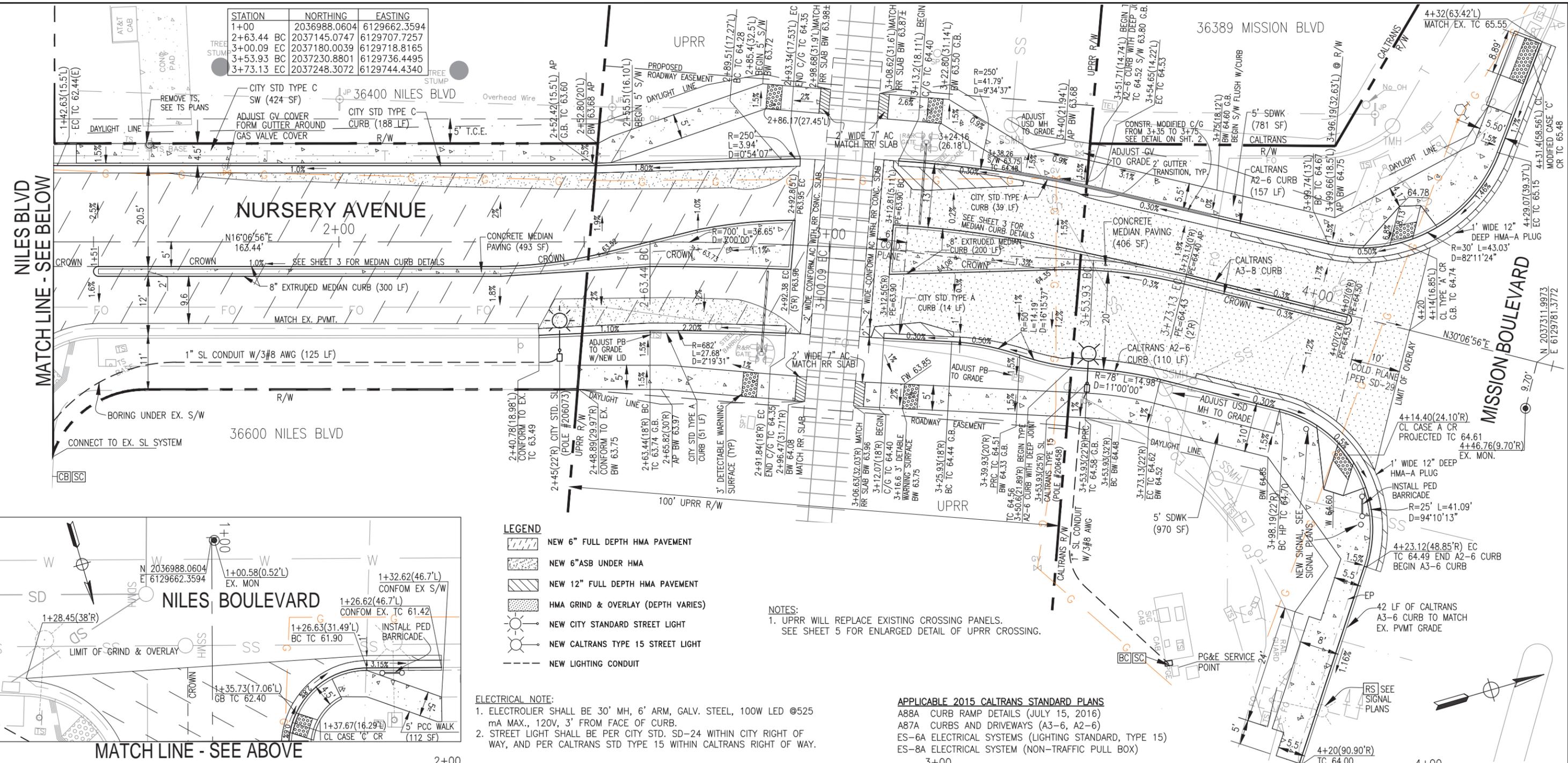
SCALE: 1"=20'  
 0 |-----| 1'  
 NOTE: VERIFY SCALE. BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES ACCORDINGLY IF BAR IS NOT ONE INCH.

DRAWING: **4**  
 SHEET 4 OF 14

STATION	NORTHING	EASTING
1+00	2036988.0604	6129662.3594
2+63.44 BC	2037145.0747	6129707.7257
3+00.09 EC	2037180.0039	6129718.8165
3+53.93 BC	2037230.8801	6129736.4495
3+73.13 EC	2037248.3072	6129744.4340

MATCH LINE - SEE BELOW

MISSION BOULEVARD



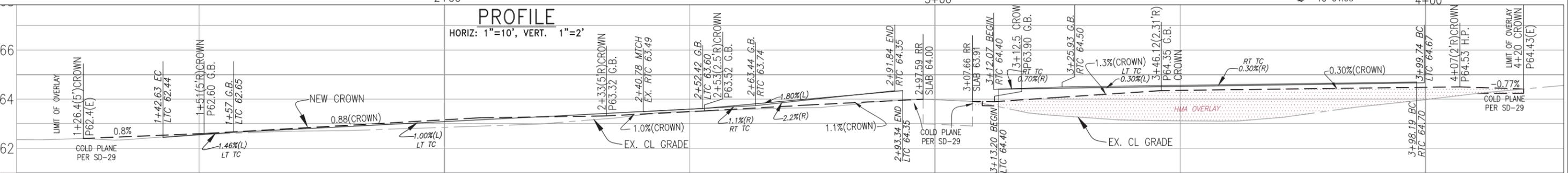
- LEGEND**
- NEW 6" FULL DEPTH HMA PAVEMENT
  - NEW 6" ASB UNDER HMA
  - NEW 12" FULL DEPTH HMA PAVEMENT
  - HMA GRIND & OVERLAY (DEPTH VARIES)
  - NEW CITY STANDARD STREET LIGHT
  - NEW CALTRANS TYPE 15 STREET LIGHT
  - NEW LIGHTING CONDUIT

**NOTES:**  
 1. UPRR WILL REPLACE EXISTING CROSSING PANELS. SEE SHEET 5 FOR ENLARGED DETAIL OF UPRR CROSSING.

**ELECTRICAL NOTE:**  
 1. ELECTROLIER SHALL BE 30" MH, 6' ARM, GALV. STEEL, 100W LED @525 mA MAX., 120V, 3' FROM FACE OF CURB.  
 2. STREET LIGHT SHALL BE PER CITY STD. SD-24 WITHIN CITY RIGHT OF WAY, AND PER CALTRANS STD TYPE 15 WITHIN CALTRANS RIGHT OF WAY.

**APPLICABLE 2015 CALTRANS STANDARD PLANS**  
 A88A CURB RAMP DETAILS (JULY 15, 2016)  
 A87A CURBS AND DRIVEWAYS (A3-6, A2-6)  
 ES-6A ELECTRICAL SYSTEMS (LIGHTING STANDARD, TYPE 15)  
 ES-8A ELECTRICAL SYSTEM (NON-TRAFFIC PULL BOX)

**PROFILE**



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**NURSERY AVENUE SAFETY IMPROVEMENTS**  
**NURSERY AVENUE PLAN & PROFILE**  
**PUBLIC WORKS DEPARTMENT**

APPROVED -- PRINCIPAL ENGINEER *Connie Wong*

DATE 05/20/2020

RECOMMENDED -- PROJECT MANAGER *J.S.*

DATE 05/20/2020

CITY PROJECT: PWC 8828  
 FEDERAL PROJECT:  
 DESIGNED BY: PL  
 CHECKED BY: JS  
 DRAWN BY: PL/BM  
 DATE: MAY 2020

SCALE: 1"=10'  
 0 +-----+ 1'  
 NOTE: VERIFY SCALE. BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES ACCORDINGLY IF BAR IS NOT ONE INCH.

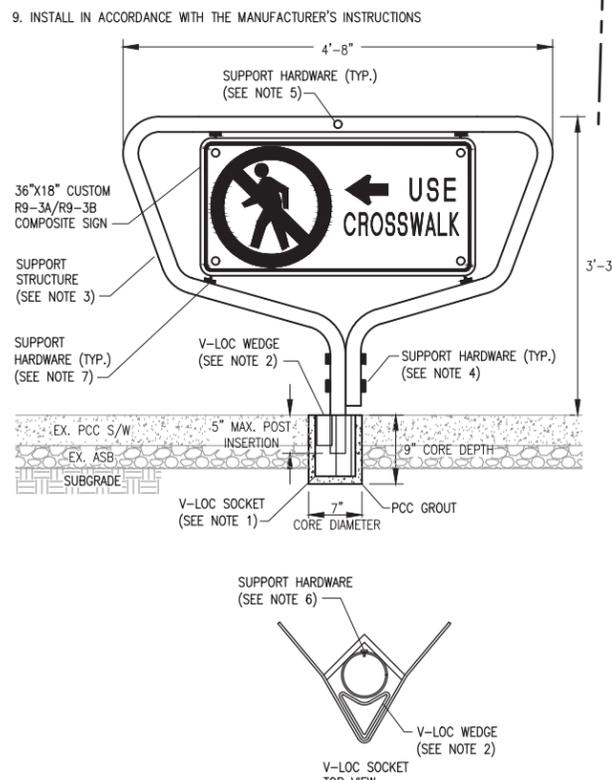
DRAWING: **5**  
 SHEET 5 OF 14



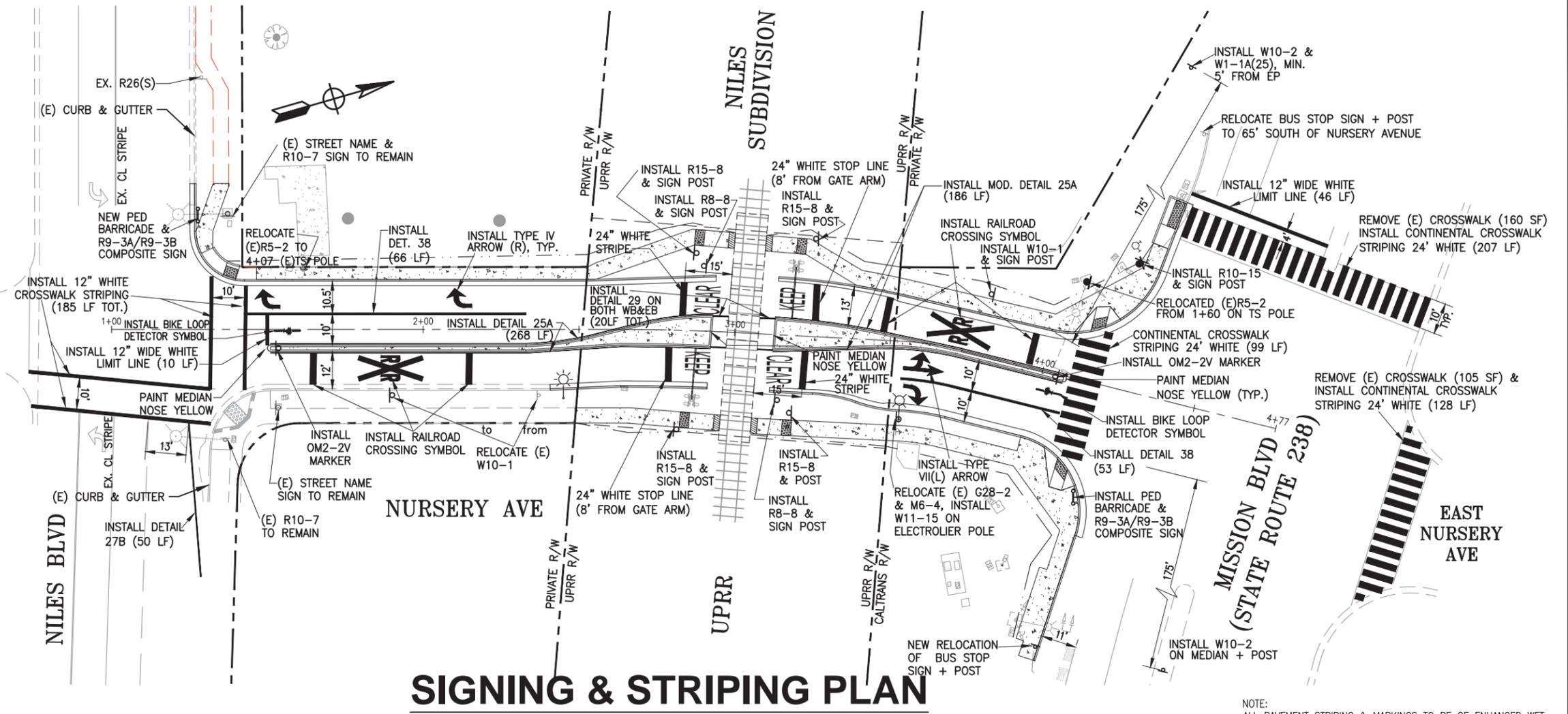
**PEDESTRIAN BARRICADE NOTES**

- V-LOC SOCKET: STABILIZER FIN IS 12 GAUGE HOT ROLLED CARBON SHEET STEEL, COMMERCIAL QUALITY. THE FIN IS FORMED FROM SHEET STEEL TO THE SHOWN CONFIGURATION. LEG ANGLE IS HOT ROLLED COMMERCIAL QUALITY. FINISH IS DIP-COATED WITH RUST INHIBITING PRIMER. FED. SPEC. TTP636.
 

DIMENSIONS	
FIN	8" X 9 1/4"
ANGLE	2 1/2" X 2 1/2" X 1/4" X 8"
WELDS	(4) 1 1/2" X 1/4"
- V-LOC WEDGE: THE V-LOC WEDGE IS 12 GA. GALVANIZED STEEL TUBING MADE TO ASTM A-513 SPECIFICATIONS, THEN PRESS FORMED INTO WEDGE SHAPE.
- SUPPORT STRUCTURE: THE POST IS WELDED MECHANICAL TUBING PRODUCED TO ASTM A-513, 2.0" O.D. 14 GA. GALVANIZED PER ASTM A-525, G-90 OR EQUIVALENT. THE POST IS FORMED, PUNCHED AND PRE-ASSEMBLED.
- SUPPORT HARDWARE: 2 EACH - 3/8" X 4 1/2" HEX HEAD BOLTS ZINC PLATED  
2 EACH - 3/8" NYLON INSERT HEX LOG NUTS ZINC PLATED  
4 EACH - 3/8" FLAT WASHERS ZINC PLATED
- SUPPORT HARDWARE: 1 EACH - 3/4" X 2 1/2" HEX HEAD BOLTS ZINC PLATED  
1 EACH - 3/4" NYLON INSERT HEX LOG NUTS ZINC PLATED  
2 EACH - 3/8" FLAT WASHERS ZINC PLATED
- SUPPORT HARDWARE: 1 EACH - #14 X 3/8" TEK SCREW (FOR ALIGNMENT STABILIZATION)
- SUPPORT HARDWARE: 4 EACH - 1/2" JACK NUTS ZINC PLATED  
4 EACH - 1/2" HEX LOG NUTS ZINC PLATED  
4 EACH - 1/2" X 4" EYE BOLTS ZINC PLATED  
4 EACH - 3/8" X 1" CARRIAGE BOLTS ZINC PLATED  
4 EACH - 3/8" FLAT WASHERS ZINC PLATED  
4 EACH - 3/8" LOCK WASHER ZINC PLATED  
4 EACH - 3/8" HEX LOG NUTS ZINC PLATED
- V-LOC "PEDESTRIAN/HANDRAIL SYSTEM" (MODEL NO. 20-M) IS A PRODUCT OF: TRAFFIC & PARKING CONTROL COMPANY (TAPCO), INC. 800 WALL STREET, ELM GROVE, WI 53122 (800) 236-0112  
AND IS SUPPLIED BY: PACIFIC PRODUCTS & SERVICES, P.O. BOX 979, 7323 LYNWOOD WAY, HIGHLAND, CA 92346, PH: (209) 825-2727, FAX: (209) 825-7557, ATTN: RICH TORRES



**PEDESTRIAN BARRICADE DETAIL**  
NO SCALE



**SIGNING & STRIPING PLAN**

SCALE: 1" = 20'

NEW SIGN SCHEDULE		
CODE	SYMBOL	NEW SIGN (EA)
R8-8		2
R15-8		4
W10-1		1
R10-15		1
W10-2		2
W1-1A(25)		1
W11-15		1
12 NEW SIGN POST		12

RELOCATE SIGN SCHEDULE		
CODE	SYMBOL	RELOCATE SIGN (EA)
R5-2		1 (ON TS POLE)

OBJECT MARKER (EA)		
OM2-2V		2

DESCRIPTION	PAVEMENT MARKING SCHEDULE	
	UNIT AREA (SF)	INSTALL UNIT (EA) TOTAL (SF)
24" WHITE STRIPE	-	8 194
RAILROAD CROSSING SYMBOL	70	2 140
TYPE IV ARROW (R)	15	3 45
TYPE VII ARROW (L)	27	1 27
12" WIDE WHITE CROSSWALK & LIMIT LINE	-	6 241
"KEEP CLEAR" PAVEMENT MARKING	51	2 102
BICYCLE LOOP SYMBOL	2	2 4
24" CONTINENTAL CROSSWALK	-	3 868

RELOCATE SIGN SCHEDULE		
CODE	SYMBOL	RELOCATE SIGN (EA)
BUS STOP		1
W10-1		1
G28-2/M6-4		1

REMOVE (E) CROSSWALK 265 SF

STRIPING SCHEDULE	
DESCRIPTION	INSTALL (LF)
DETAIL 38	119
DETAIL 29	20
DETAIL 25A	268
MODIFIED DETAIL 25A (MARKERS @ 24' O.C.)	186
DETAIL 27B	50

PAVEMENT MARKING TOTAL = 1,621 SF

**SIGNING AND STRIPING NOTES**

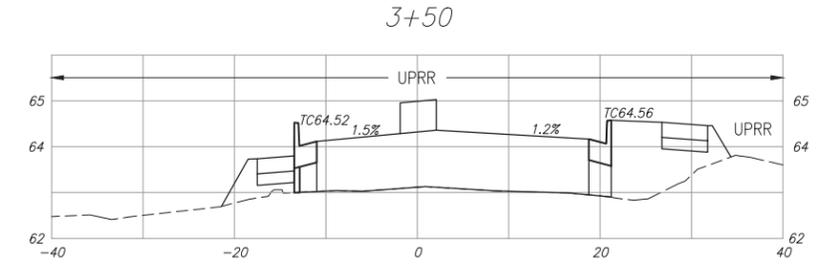
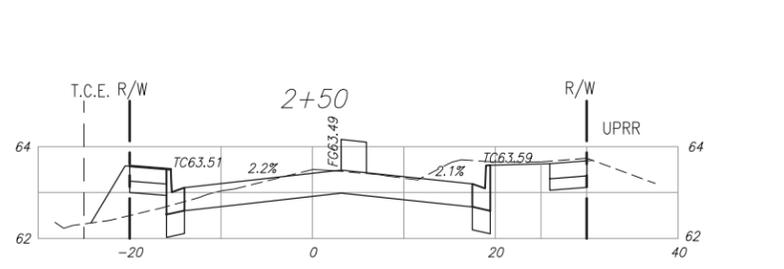
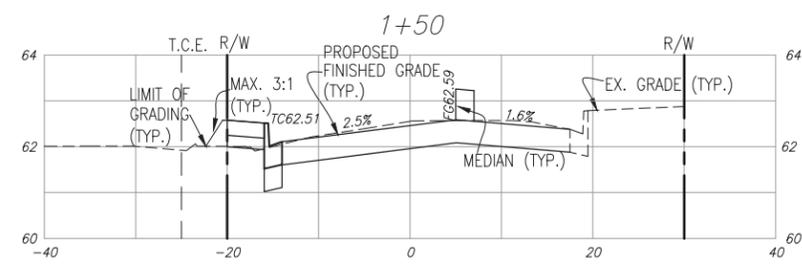
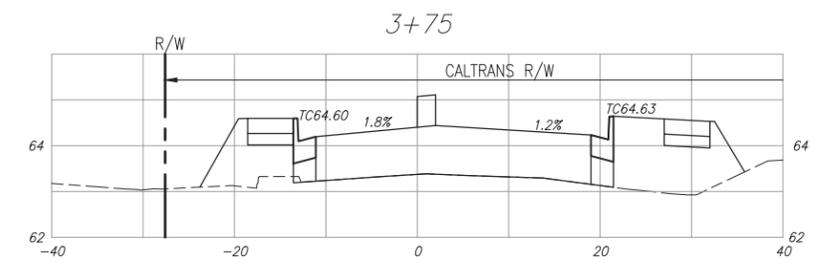
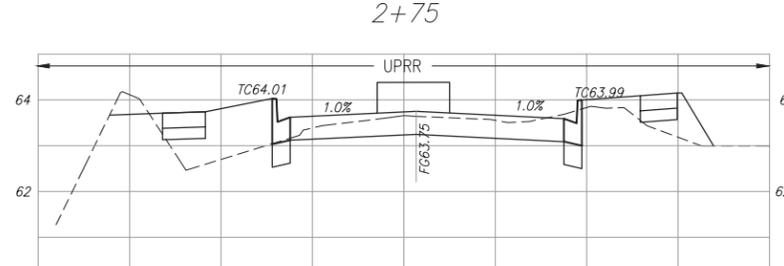
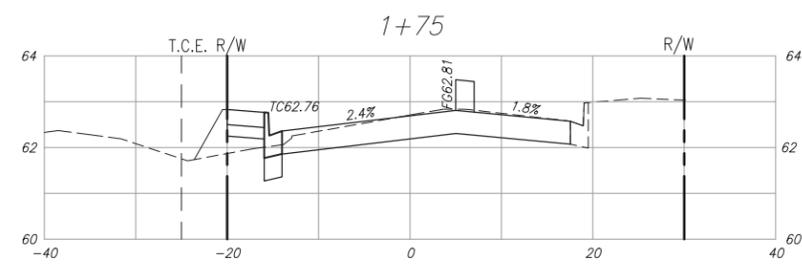
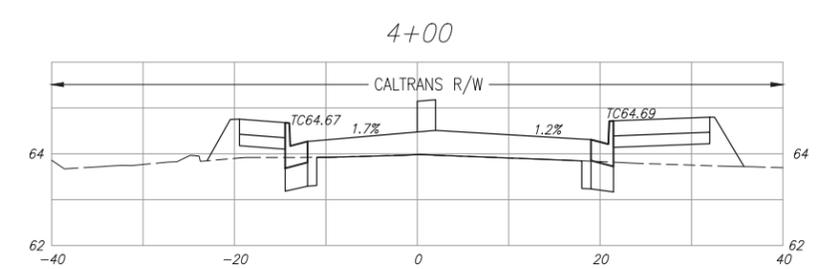
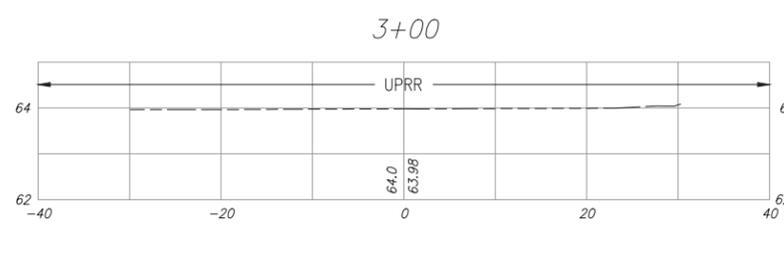
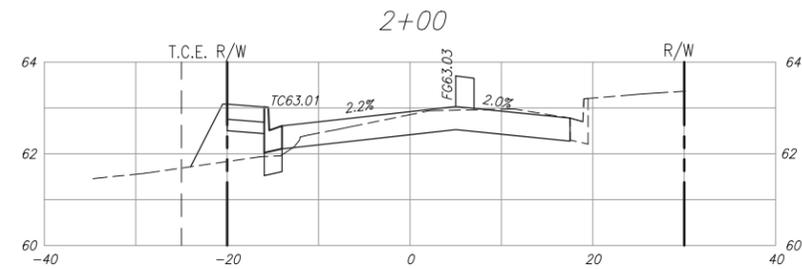
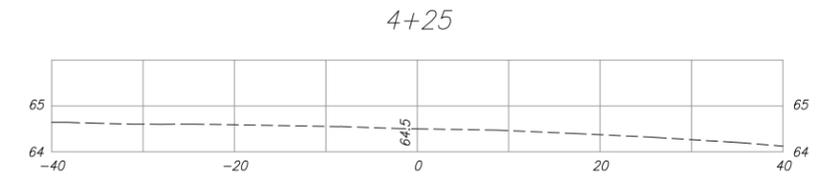
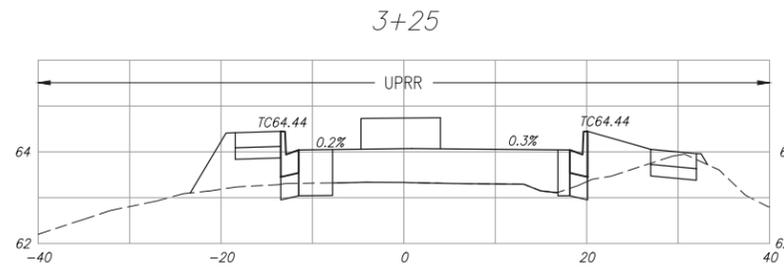
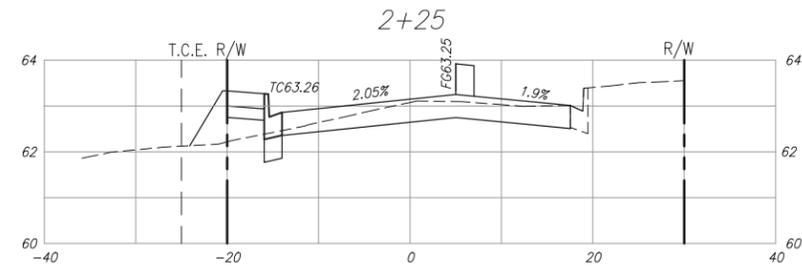
- All existing signing shown is to remain, unless otherwise noted. Location of existing signs, striping and pavement markings are approximate only.
- All new signing, striping and pavement legends shall conform to the latest provisions of the California MUTCD and Standard Plans, and the City of Fremont Standard Details.
- Any existing striping conflicting with the final striping shall be removed by sandblasting.
- All signs and posts to be removed shall be salvaged and delivered to the City of Fremont Corporation Yard, 42539 Osgood Rd, Fremont.
- The contractor shall supply all materials, and install new signs and posts. Sign posts shall be unistrut part no. 20012(1-3/4")(1-3/4") (Varies) 14 gauge galvanized post, 1.7 pounds with a 12 gauge base (2"x2"x30") and sleeve (2-1/2"x2-1/2"x16") or approved equal.
- All traffic stripes, lines and sign positions shall be approved by the Engineer prior to installation.
- Directional arrows shall be installed 20' preceding the limit lines.
- This sheet is accurate for new signing and striping layout only.
- All new striping and pavement markings shall be thermoplastic.
- Contractor shall notify AC Transit at (510)891-4909 48 hours in advance before relocating any AC Transit signs.
- The quantities of the new striping shown are approximate.
- For signs in the pedestrian area, the bottom of the sign(s) shall be at a minimum of 7' from the finished surface.
- Verify the location of all underground utilities prior to installation of sign post.

No.	DATE	REVISION	BY	APPD



NURSERY AVENUE SAFETY IMPROVEMENTS  
**SIGNING & STRIPING PLAN**  
PUBLIC WORKS DEPARTMENT  
APPROVED -- PRINCIPAL ENGINEER [Signature] DATE 05/20/2020  
RECOMMENDED -- PROJECT MANAGER [Signature] DATE 05/20/2020

CITY PROJECT: PWC 8828	SCALE: 1"=20'	DRAWING: 7
FEDERAL PROJECT:	0 +-----+ 1'	NOTE: VERIFY SCALE. BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES ACCORDINGLY IF BAR IS NOT ONE INCH.
DESIGNED BY: PL	CHECKED BY: JS	SHEET 7 OF 14
DRAWN BY: PL/BM	DATE: MAY 2020	



**CROSS SECTION**  
 SCALE: 1" = 10' HORIZ.  
 1" = 2' VERT.

No.	DATE	REVISION	BY	APPD
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**CITY OF Fremont**  
 NURSERY AVENUE SAFETY IMPROVEMENTS  
 NURSERY AVENUE CROSS SECTION PLAN  
 PUBLIC WORKS DEPARTMENT  
 APPROVED -- PRINCIPAL ENGINEER *Connie Wong*

DATE 05/20/2020  
 RECOMMENDED -- PROJECT MANAGER *JS*  
 DATE 05/20/2020

CITY PROJECT: PWC 8828  
 FEDERAL PROJECT:  
 DESIGNED BY: PL  
 CHECKED BY: JS  
 DRAWN BY: PL/BM  
 DATE: MAY 2020

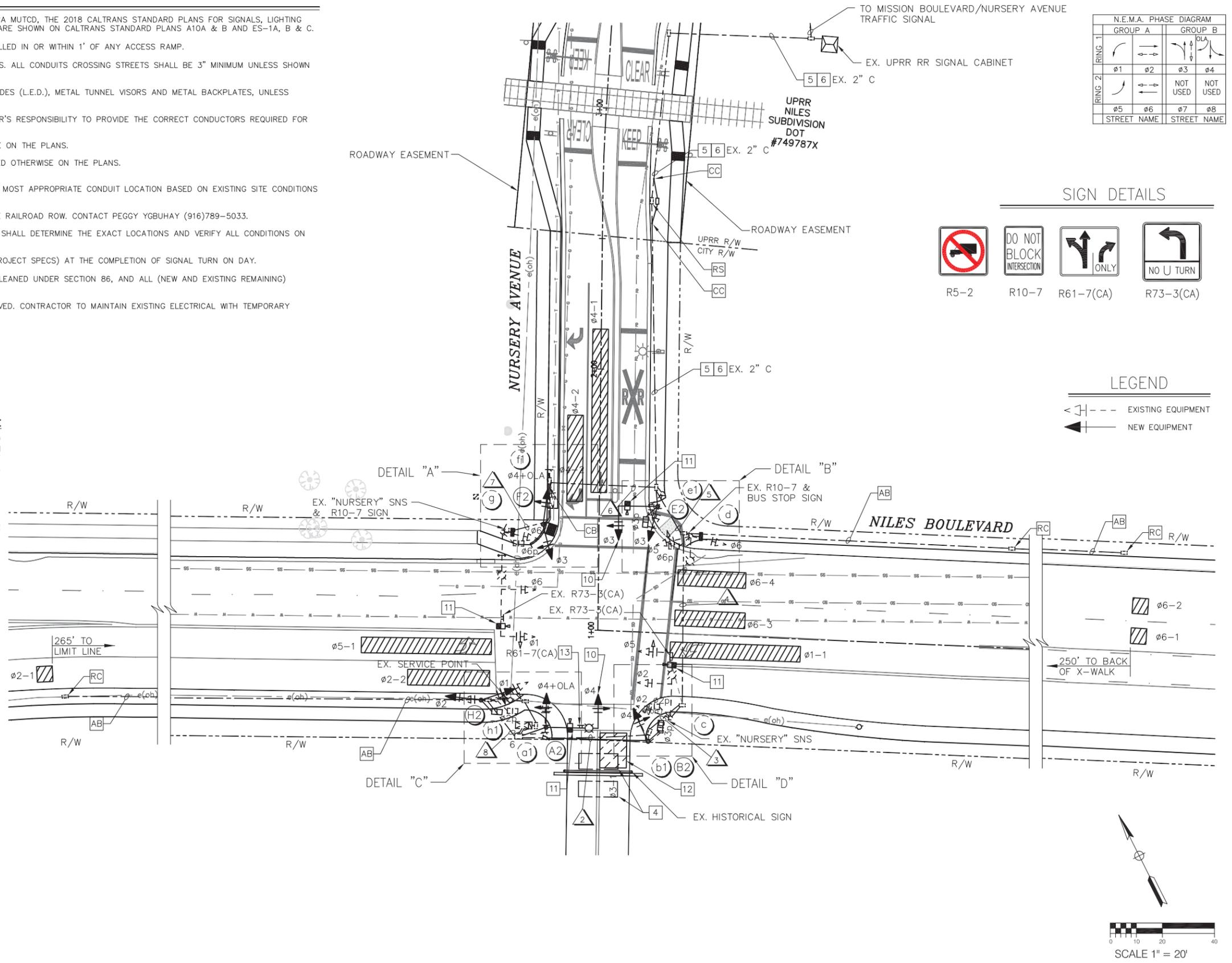
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 0 1 2 3 4 5 6 7 8 9 10  
 NOTE: VERIFY SCALE. BAR IS ONE INCH ON ORIGINAL SCALES. ADJUST SCALES ACCORDINGLY IF BAR IS NOT ONE INCH.  
**8**  
 SHEET 8 OF 14

**TRAFFIC SIGNAL GENERAL NOTES:**

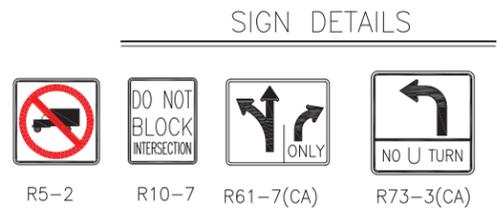
1. ALL TRAFFIC SIGNAL AND ROADWAY LIGHTING SYSTEM MODIFICATIONS SHALL CONFORM TO 2014 CA MUTCD, THE 2018 CALTRANS STANDARD PLANS FOR SIGNALS, LIGHTING AND ELECTRICAL SYSTEMS, AND THESE PLANS. ELECTRICAL SYMBOLS AND ABBREVIATIONS USED ARE SHOWN ON CALTRANS STANDARD PLANS A10A & B AND ES-1A, B & C.
2. PULL BOXES SHALL BE NO. 5 UNLESS SHOWN OTHERWISE. NO NEW PULL BOXES SHALL BE INSTALLED IN OR WITHIN 1' OF ANY ACCESS RAMP.
3. ALL NEW CONDUIT SHALL BE RIGID NON METALLIC PER CALTRANS 2018 STANDARD SPECIFICATIONS. ALL CONDUITS CROSSING STREETS SHALL BE 3" MINIMUM UNLESS SHOWN OTHERWISE.
4. ALL NEW VEHICLE INDICATIONS SHALL BE METAL 12" NOMINAL DIAMETER WITH LIGHT EMITTING DIODES (L.E.D.), METAL TUNNEL VISORS AND METAL BACKPLATES, UNLESS OTHERWISE SPECIFIED. BACKPLATES SHALL BE LOUVERED.
5. THE CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CORRECT CONDUCTORS REQUIRED FOR THE INTENDED OPERATION.
6. THE CONTRACTOR SHALL FURNISH, INSTALL, AND TEST ALL EQUIPMENT UNLESS NOTED OTHERWISE ON THE PLANS.
7. EQUIPMENT TO BE SALVAGED SHALL REMAIN THE PROPERTY OF THE CONTRACTOR, UNLESS STATED OTHERWISE ON THE PLANS.
8. NEW CONDUIT LOCATIONS SHOWN ON PLANS ARE APPROXIMATE. CONTRACTOR TO DETERMINE THE MOST APPROPRIATE CONDUIT LOCATION BASED ON EXISTING SITE CONDITIONS AND CORRESPONDING CONSTRUCTION METHOD TO GET FROM ONE LOCATION TO ANOTHER.
9. CONTRACTOR WILL COORDINATE WITH UPRR ON RAILROAD INTERCONNECTION AND WORK NEAR THE RAILROAD ROW. CONTACT PEGGY YGBUHAY (916)789-5033.
10. LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS AND VERIFY ALL CONDITIONS ON THE JOB SITE.
11. CONTRACTOR SHALL PROVIDE A COMPLETED FIELD DETECTION ASSIGNMENT FORM (PROVIDED IN PROJECT SPECS) AT THE COMPLETION OF SIGNAL TURN ON DAY.
12. ALL EXISTING CONDUCTORS MUST BE REMOVED FROM CONDUITS, THE CONDUITS MUST THEN BE CLEANED UNDER SECTION 86, AND ALL (NEW AND EXISTING REMAINING) CONDUCTORS SHALL BE PULLED IN THE CONDUIT AS ONE (1) UNIT.
13. NEW TRAFFIC SIGNAL SYSTEM SHALL BE OPERATIONAL BEFORE EXISTING SIGNAL SYSTEM IS REMOVED. CONTRACTOR TO MAINTAIN EXISTING ELECTRICAL WITH TEMPORARY POLES AND WIRING.

**TRAFFIC SIGNAL MODIFICATION CONSTRUCTION NOTES:**

1. FURNISH AND INSTALL A SIEMENS M60 NEMA CONTROLLER WITH "D" CONNECTOR, SDLC AND ETHERNET COMMUNICATION; APS CENTRAL CONTROL UNIT; AND VIDEO SENSOR COMMUNICATION INTERFACE PANEL PER CITY STANDARDS IN EXISTING TYPE P CABINET. INCLUDE ALL NECESSARY EQUIPMENT REQUIRED TO PROVIDE A COMPLETE FUNCTIONING SIGNAL SYSTEM AS SHOWN. ALL COMPONENTS AND MATERIALS SHALL BE NEW.
2. PROTECT IN PLACE AND REUSE EXISTING TYPE II ELECTRIC SERVICE EQUIPMENT ENCLOSURE.
3. FURNISH AND INSTALL A CTC MODEL X-RPS RAILROAD PREEMPTION INTERFACE WITH A NEMA "D" CONECTOR AND A 3-BAY RACK THAT INCLUDES THE P, E, AND AC OUTPUT MODULES.
4. PROTECT IN PLACE EXISTING LOOPS FOR AUTOMATIC GATE. LOOPS TO REMAIN IN OPERATION AT ALL TIMES.
5. REMOVE EXISTING 2#14 RAILROAD SIGNAL INTERCONNECT CABLE (RR SIC).
6. FURNISH AND INSTALL 19#14 AWG STRANDED CABLE FOR RR PREEMPTION FROM TRAFFIC SIGNAL CONTROLLER CABINET TO PULLBOX ADJACENT TO RR SIGNAL HOUSE COIL 20. UPRR TO MAKE FINAL CONNECTION IN RR SIGNAL HOUSE.
7. FURNISH AND INSTALL BLANKOUT SIGN PER DETAIL "E" AND DETAIL "F".
8. FURNISH AND INSTALL BLANKOUT SIGN PER DETAIL "E" AND DETAIL "G".
9. FURNISH AND INSTALL 5-SECTION VEHICLE HEAD PER DETAIL "I".
10. FURNISH AND INSTALL 4-SECTION VEHICLE HEAD PER DETAIL "H".
11. FURNISH AND INSTALL VIDEO DETECTION CAMERA WITH EXTENDER ON SIGNAL MAST ARM.
12. PROPOSED VIDEO DETECTION ZONE.
13. FURNISH AND INSTALL MASTARM MOUNTED SIGN AS NOTED. USE CALTRANS STANDARD PLAN ES-7N, DETAIL "U" FOR MOUNTING DETAILS.
14. FURNISH AND INSTALL MASTARM SIGN ON POLE. CONTRACTOR TO USE CITY OF FREMONT STANDARD DETAIL TSD-2 FOR STREET NAME SIGN SPECIFICATIONS. SIGN MESSAGE IS "NILES."
15. REMOVE EXISTING PEDESTRIAN PUSH BUTTON COMPLETE. FURNISH AND INSTALL ACCESSIBLE PEDESTRIAN SIGNAL (APS) PUSH BUTTON IN PLACE PER CITY REQUIREMENTS.
16. FURNISH AND INSTALL 4G ROUTER AND NECESSARY HARDWARE AND CABLES FOR WIRELESS COMMUNICATION FROM VIDEO DETECTION TO CITY TRAFFIC MANAGEMENT CENTER CAMERA.
17. REMOVE EXISTING PEDESTRIAN PUSH BUTTON COMPLETE. FURNISH AND INSTALL PLATE TO COVER HOLE IN SIGNAL POLE.
18. FURNISH AND INSTALL ACCESSIBLE PEDESTRIAN SIGNAL (APS) PUSH BUTTON PER CITY REQUIREMENTS.



N.E.M.A. PHASE DIAGRAM			
GROUP A		GROUP B	
RING 1	φ1	φ2	φ3
RING 2	φ4	φ5	φ6
	φ7	φ8	φ9
	STREET NAME	STREET NAME	



PLOT DATE: May 21, 2020 11:19am FILE: Z:\Engineering\City of Fremont\Nursery Ave\900 CADD\950 Drawings\Nursery at Niles.dwg

No.	DATE	REVISION	BY	APPD

15265 Allon Parkway | Suite 140 | Irvine | California | 92618  
www.railpros.com

**CITY OF Fremont**

APPROVED - PRINCIPAL ENGINEER

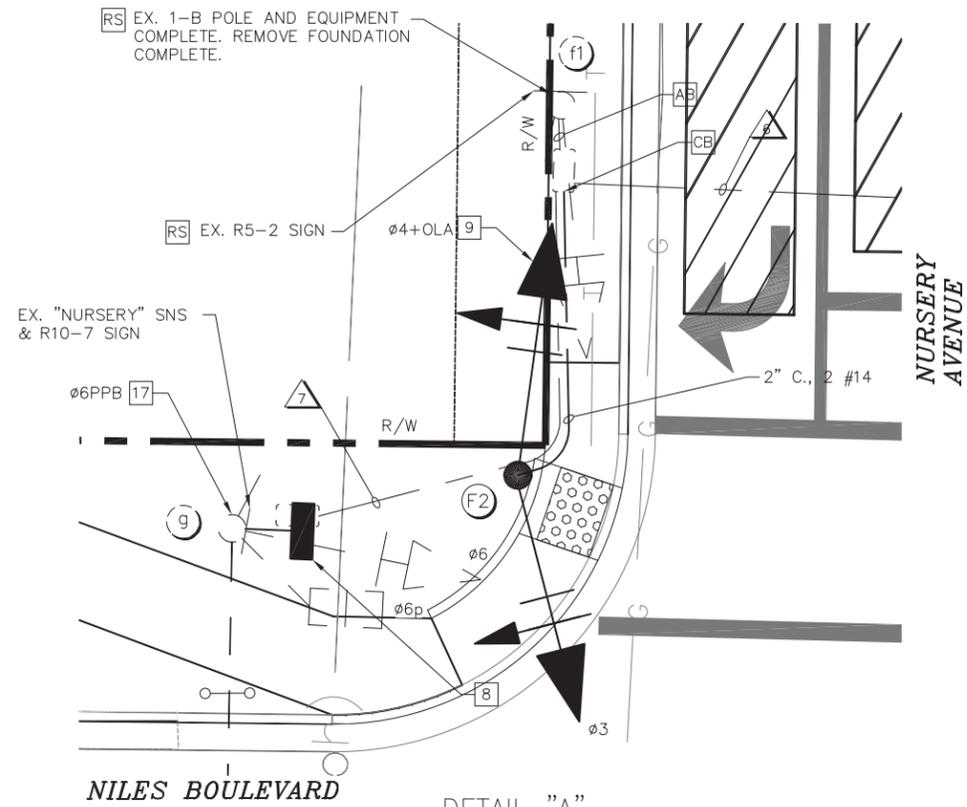
**NURSERY AVENUE - SAFETY IMPROVEMENTS**  
**NILES BOULEVARD at NURSERY AVENUE**  
**TRAFFIC SIGNAL MODIFICATION PLAN**  
**PUBLIC WORKS DEPARTMENT**

CITY PROJECT: PWC 8828  
 FEDERAL PROJECT: -  
 DESIGNED BY: AR  
 CHECKED BY: KMH  
 DRAWN BY: AR  
 DATE: MAY 2020

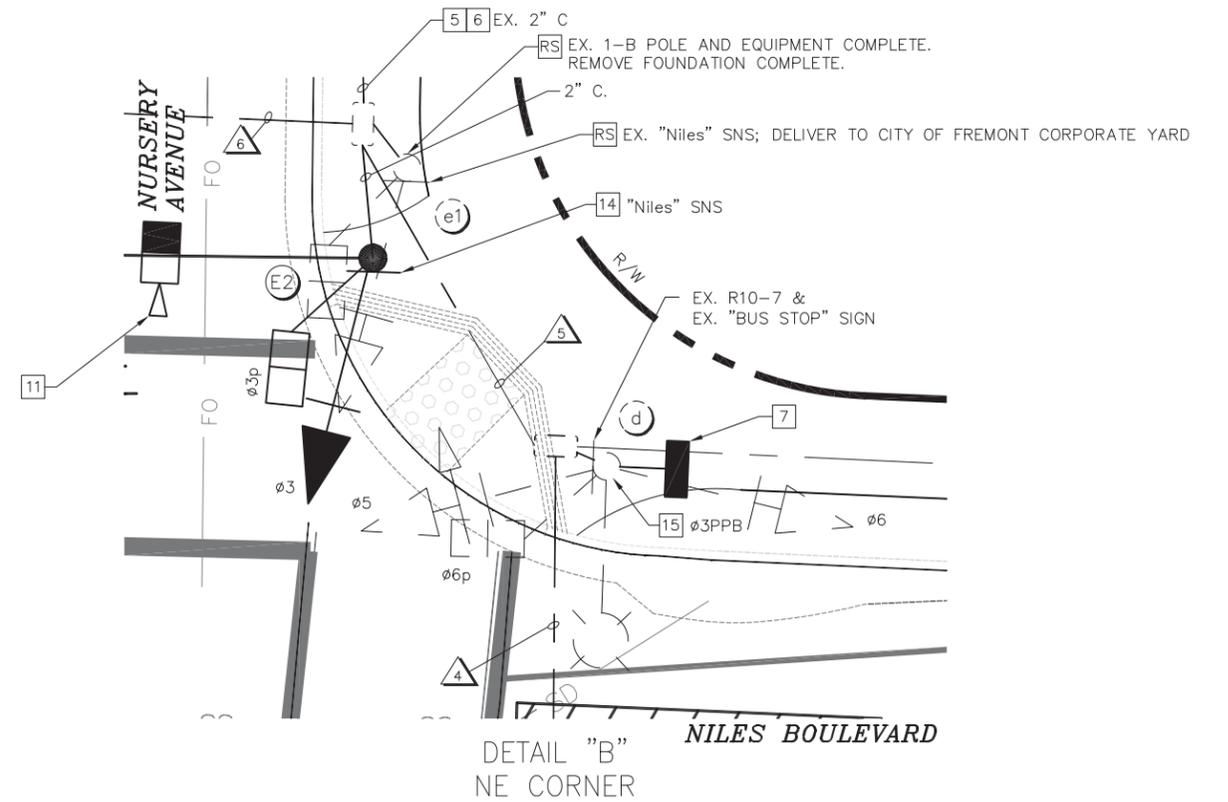
SCALE: AS SHOWN  
 0 1" 1"  
 NOTE: VERIFY SCALE. BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES ACCORDINGLY IF BAR IS NOT ONE INCH.

DRAWING: **9**  
 SHEET 9 OF 17

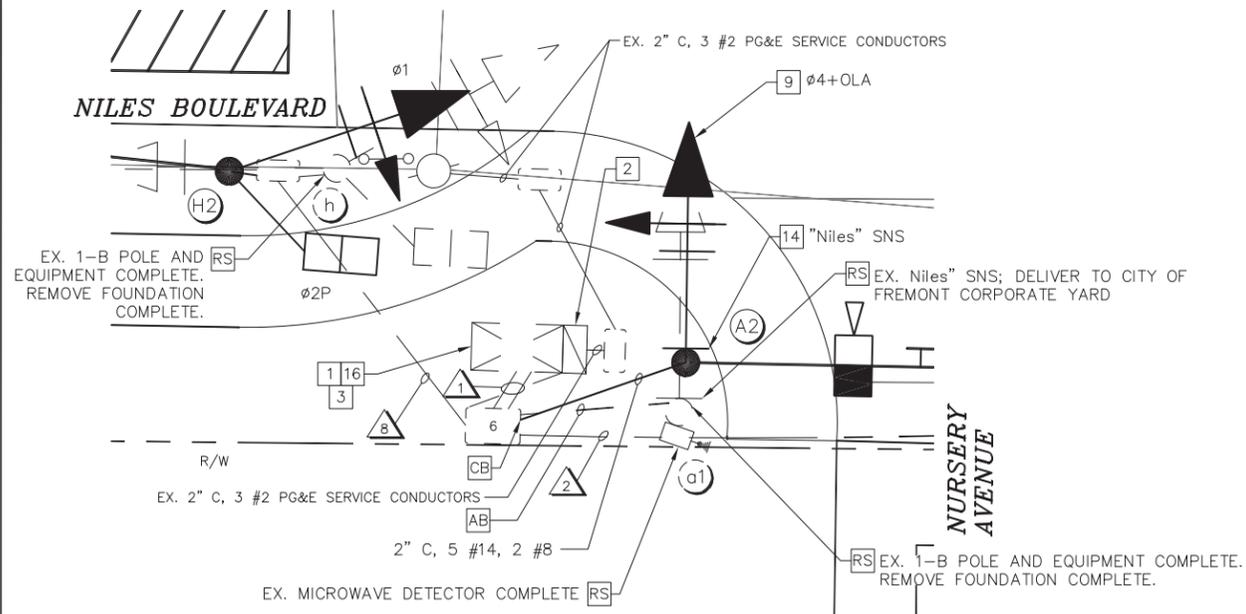
PLOT DATE: May 11, 2020 - 6:36pm FILE: Z:\Engineering\City of Fremont\Nursery Ave\900 CAD\950 Drawings\Nursery at Niles.dwg



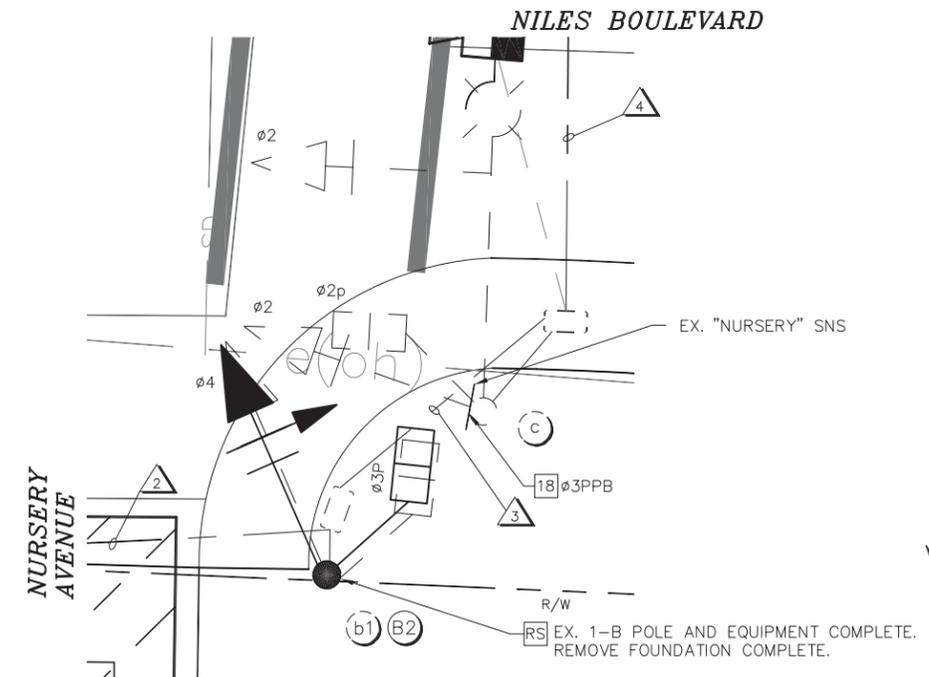
DETAIL "A"  
NW CORNER



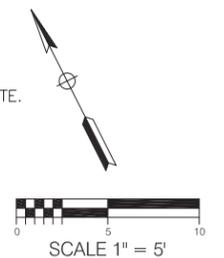
DETAIL "B"  
NE CORNER



DETAIL "C"  
SW CORNER



DETAIL "D"  
SE CORNER



No.	DATE	REVISION	BY	APPD
△				
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△				
△				



APPROVED - PRINCIPAL ENGINEER

NURSERY AVENUE - SAFETY IMPROVEMENTS  
NILES BOULEVARD at NURSERY AVENUE  
**TRAFFIC SIGNAL MODIFICATION PLAN**  
PUBLIC WORKS DEPARTMENT

DATE

RECOMMENDED - PROJECT MANAGER

DATE

CITY PROJECT:  
PWC 8828

FEDERAL PROJECT:

DESIGNED BY:  
AR

DRAWN BY:  
AR

CHECKED BY:  
KMH

DATE:  
MAY 2020

SCALE:  
AS SHOWN

0 +-----+ 1"  
NOTE: VERIFY SCALE.  
BAR IS ONE INCH ON  
ORIGINAL DRAWING.  
ADJUST SCALES  
ACCORDINGLY IF BAR  
IS NOT ONE INCH.

DRAWING:

**10**

SHEET 10 OF 17

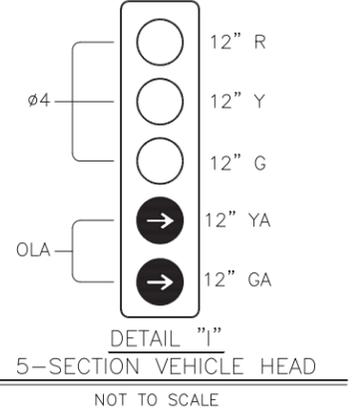
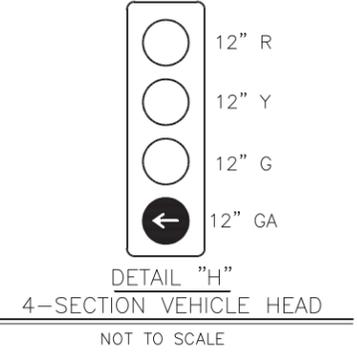
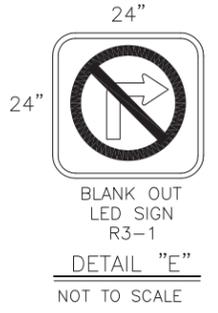
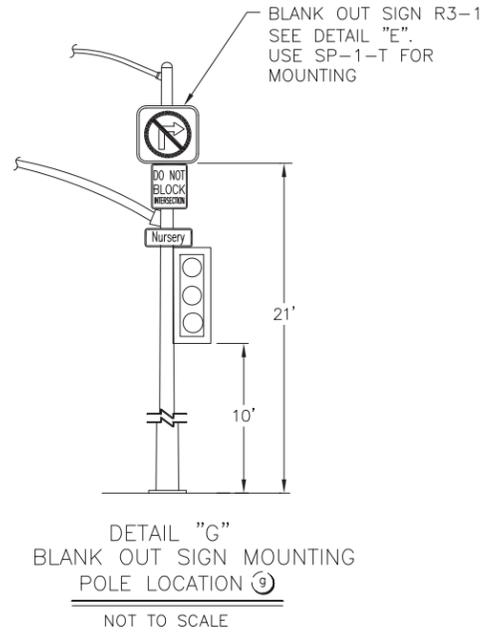
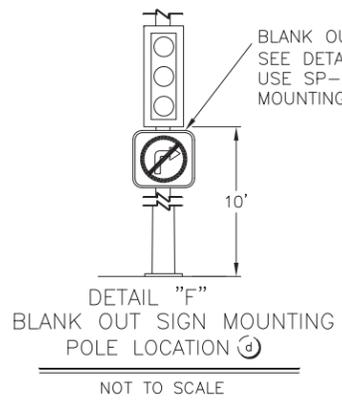
PLOT DATE: May 11, 2020 - 6:54pm FILE: Z:\Engineering\City of Fremont\Nursery Ave\900 CADD\950 Drawings\Nursery at Niles.dwg

CONDUCTOR SCHEDULE									
A.W.G.	CIRCUIT	1	2	3	4	5	6	7	8
No. 14	ø1	6	3	3	3	3	3	3	3
	ø2	6	3	3	-	-	-	-	3
	ø3	3	3	3	3	3	3	-	-
	ø4	3	3	3(N)	3(N)	3(N)	3(N)	-	-
	ø5	3	3	3	3	-	-	-	-
	ø6	3	3	3	3	3	3	3	-
	OLA	4(N)	2(N)	2(N)	2(N)	2(N)	2(N)	-	-
	ø2P	4	2	2	-	-	-	-	2
	ø3P	2	2	2	2	2	-	-	-
	ø6P	2	2	2	2	2	2	2	-
	ø2PPB	1/2(N)	1/2(N)	-	-	-	-	-	-
	ø3PPB	1/2(N)	1/2(N)	1/2(N)	1/2(N)	1/2(N)	-	-	-
	ø6PPB	1/2(N)	1/2(N)	1/2(N)	1/2(N)	1/2(N)	1/2(N)	-	-
	PEU (DIMMING)	2	2	2	-	-	-	-	-
	SPARES	3	3	3	3	3	3	3	3
TOTAL	40(N)	35(N)	28(N)	21(N)	18(N)	15(N)	11	11	
No. 10	PED COMMON	1	1	1	1	1	1	1	1
	GROUND (BARE)	1	1	1	1	1	1	1	1
	TOTAL	2	2	2	2	2	2	2	2
No. 8	LUMINAIRE	2	2	2	2	2	2	-	-
	GROUND (BARE)	1	1	1	1	1	1	1	1
	TOTAL	3	3	3	3	3	3	1	1
RR SIC (19#14 AWG CABLE)	1(N)	1(N)	1(N)	1(N)	1(N)	-	-	-	
3#16 AWG VIDEO DETECTION CABLE	4(N)	3(N)	3(N)	2(N)	2(N)	1(N)	1(N)	-	
CONDUIT SIZE	2-3"	3"	3"	3"	3"	3"	3"	3"	
CONDUIT FILL	16%	28%	26%	24%	12%	10%	3%	5%	

ALL CONDUIT AND CONDUCTORS ARE EXISTING UNLESS OTHERWISE NOTED  
(N) = NEW

POLE AND EQUIPMENT SCHEDULE * (ALL EQUIPMENT EXISTING UNLESS NOTED OTHERWISE)														
NO.	TYPE	POLE			LUMINAIRE L.E.D. WATTS	SIGNAL MOUNTING			PED PUSH BUTTON (APS)			R.S.N.S.	BLANKOUT SIGN MOUNTING	COMMENTS
		HEIGHT	SMA	LMA		VEHICLE	MAST ARM	PEDESTRIAN	PHASE	QUAD	ARROW			
ø1	1-B	10'	-	-	-	SV-1-T	-	-	-	-	-	-	-	POLE AND EQUIPMENT TO BE REMOVED AND SALVAGED COMPLETE
ø2	19-3-100(N)	30'	20'(N)	15'(N)	165(N)	SV-1-T(N)	MAS-4B(N)	-	ø2(N)	N	←	Niles (N)	-	LUMINAIRE SHALL HAVE TYPE IV PEC. INSTALL VIDEO DETECTION CAMERA
ø3	1-B	10'	-	-	-	TV-1-T	-	SP-1-T	ø3	W	-	-	-	POLE AND EQUIPMENT TO BE REMOVED AND SALVAGED COMPLETE
ø4	1-A(N)	10'	-	-	-	TV-1-T(N)	-	-	ø2(N)	N	→	-	-	-
ø5	19-3-70	30'	25'	15'	165	SV-1-T	MAS/MAS	SP-1-T	ø3(N)	W	←	Nursery	-	INSTALL VIDEO DETECTION CAMERA
ø6	TYPE 15	30'	-	12'	165	SV-2-T	-	SP-2-T(N)	ø3(N)	W	→	-	MOUNT W/ PED HEAD (SP-2-T)	-
ø7	1-B	10'	-	-	-	SV-1-T	-	SP-1-T	ø6	S	-	Niles	-	POLE AND EQUIPMENT TO BE REMOVED AND SALVAGED COMPLETE
ø8	16-2-100(N)	18.5'	15'	-	-	SV-1-T(N)	MAS(N)	-	ø6(N)	S	←	Niles (N)	-	INSTALL VIDEO DETECTION CAMERA
ø9	1-B	10'	-	-	-	TV-1-T	-	-	-	-	-	-	-	POLE AND EQUIPMENT TO BE REMOVED AND SALVAGED COMPLETE
ø10	1-A(N)	12'	-	-	-	TV-2-T(N)	-	-	ø6(N)	S	→	-	-	-
ø11	24-3-70	30'	40'	15'	165	SV-1-T	MAS/MAS	SP-1-T	-	-	-	Nursery	SP-1-T MOUNT AT 21'	EXISTING ø6 PPB TO BE REMOVED. INSTALL VIDEO DETECTION CAMERA
ø12	1-B	10'	-	-	-	TV-2-T	-	SP-1-T	-	-	-	-	-	POLE AND EQUIPMENT TO BE REMOVED AND SALVAGED COMPLETE
ø13	1-A(N)	10'	-	-	-	TV-2-T(N)	-	SP-1-T(N)	-	-	-	-	-	-

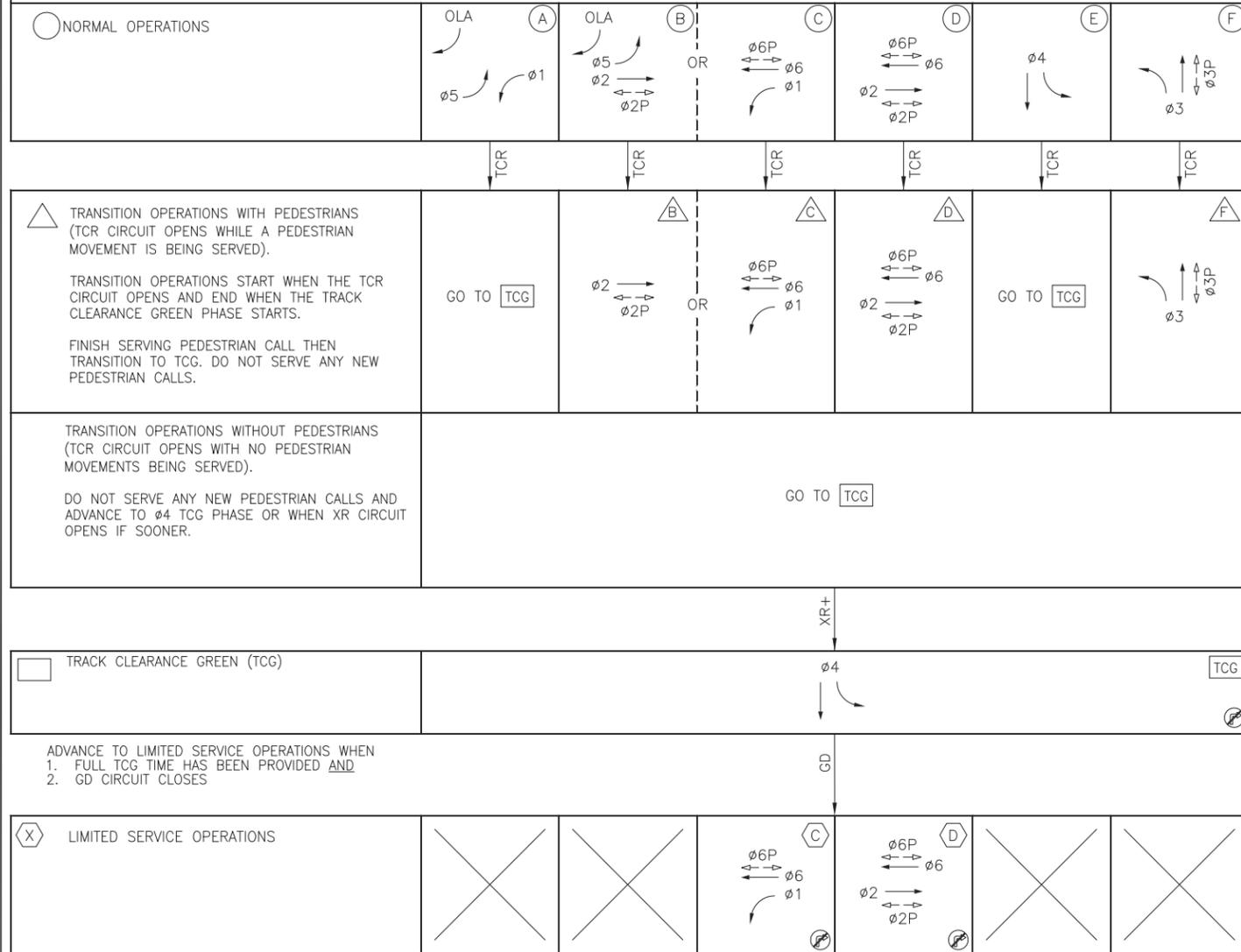
ALL EQUIPMENT IS EXISTING UNLESS OTHERWISE NOTED:  
 \* - POLE LOCATIONS ARE SCHEMATIC FINAL LOCATION OF POLES TO BE DETERMINED IN FIELD BY ENGINEER PRIOR TO POURING FOUNDATIONS  
 (N) = NEW  
 ○ EXISTING POLE  
 ○ NEW POLE



No.	DATE	REVISION	BY	APPD

			<b>NURSERY AVENUE - SAFETY IMPROVEMENTS</b> <b>NILES BOULEVARD at NURSERY AVENUE</b> <b>TRAFFIC SIGNAL MODIFICATION PLAN</b>			CITY PROJECT: PWC 8828	SCALE: AS SHOWN	DRAWING:  <b>11</b>
			<b>PUBLIC WORKS DEPARTMENT</b>			DESIGNED BY: AR	CHECKED BY: KMH	
APPROVED - PRINCIPAL ENGINEER	DATE	RECOMMENDED - PROJECT MANAGER	DATE	DATE	DATE	DRAWN BY: AR	DATE: MAY 2020	SHEET 11 OF 17

PHASE DIAGRAM – NILES BOULEVARD AND NURSERY AVENUE



- NOTES:**
1. BLANK OUT LED SIGN R3-1 IS ILLUMINATED WHEN XR CIRCUIT IS OPEN.

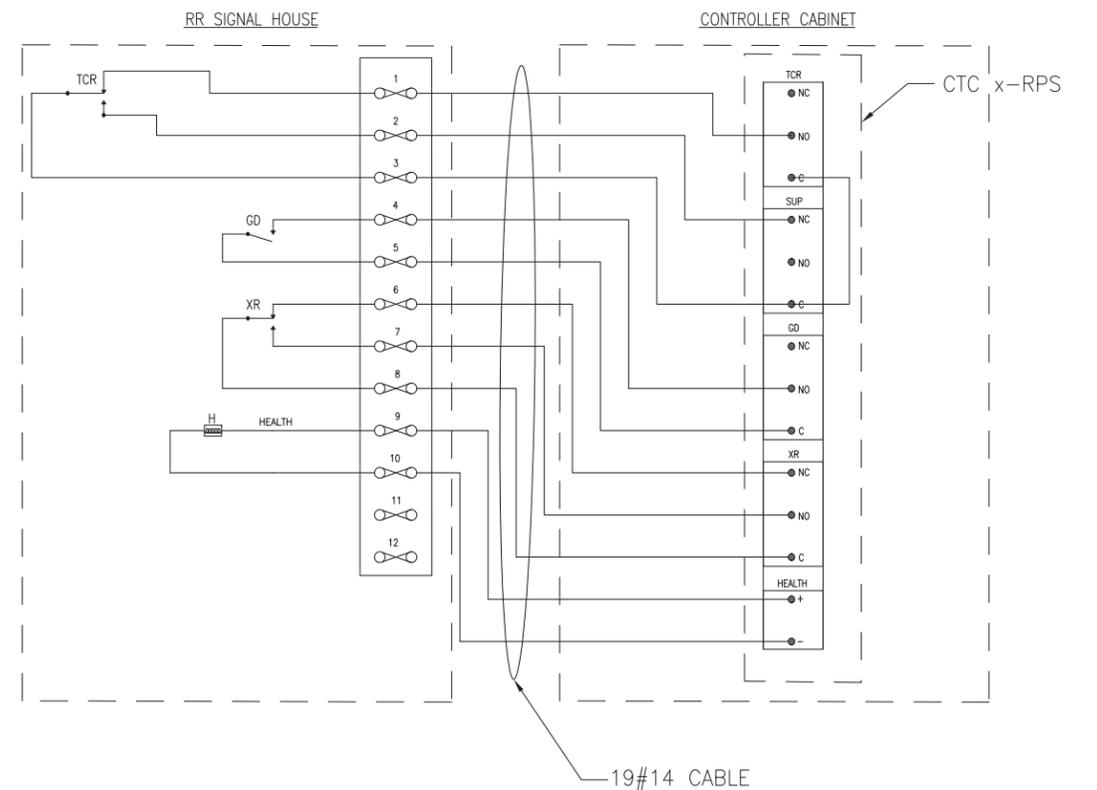
**RAILROAD RELAYS**

**TRAFFIC CONTROLLER RELAY CIRCUIT (TCR):**  
THIS CIRCUIT IS NORMALLY CLOSED. WHEN OPEN, THIS CIRCUIT INDICATES THAT A TRAIN IS APPROACHING THE CROSSING (I.E. ADVANCE PREEMPTION CALL).

**CROSSING RELAY CIRCUIT (XR):**  
THIS CIRCUIT IS NORMALLY CLOSED. WHEN OPEN, THIS CIRCUIT ACTIVATES THE RAILROAD CROSSING WARNING DEVICES (I.E. RR LIGHTS START FLASHING). BLANK OUT LED SIGN R3-1 IS ILLUMINATED WHEN XR CIRCUIT IS OPEN.

**GATE DOWN CIRCUIT (GD):**  
THIS CIRCUIT IS NORMALLY OPEN. WHEN CLOSED, THIS CIRCUIT INDICATES THAT THE RAILROAD ENTRANCE GATES ARE DOWN.

RR PREEMPTION INTERCONNECT WIRING



PLOT DATE: May 11, 2020 6:38pm FILE: Z:\Engineering\City of Fremont\Nursery Ave\900 CADD\950 Drawings\Nursery at Niles.dwg

No.	DATE	REVISION	BY	APPD
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APPROVED – PRINCIPAL ENGINEER

NURSERY AVENUE - SAFETY IMPROVEMENTS  
NILES BOULEVARD at NURSERY AVENUE  
**TRAFFIC SIGNAL MODIFICATION PLAN**  
PUBLIC WORKS DEPARTMENT

DATE

RECOMMENDED – PROJECT MANAGER

DATE

CITY PROJECT: PWC 8828

FEDERAL PROJECT:

DESIGNED BY: AR

DRAWN BY: AR

CHECKED BY: KMH

DATE: MAY 2020

SCALE: AS SHOWN

0 +-----+ 1"  
NOTE: VERIFY SCALE. BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES ACCORDINGLY IF BAR IS NOT ONE INCH.

DRAWING:

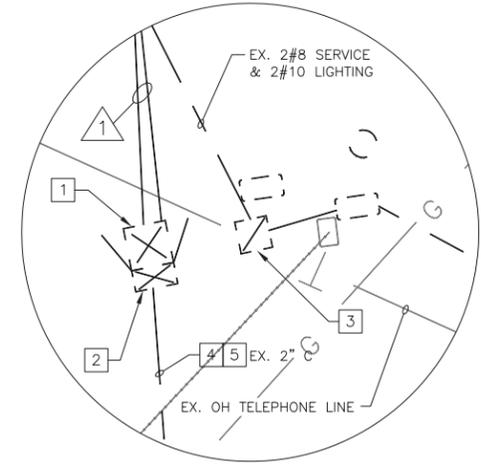
12

SHEET 12 OF 17

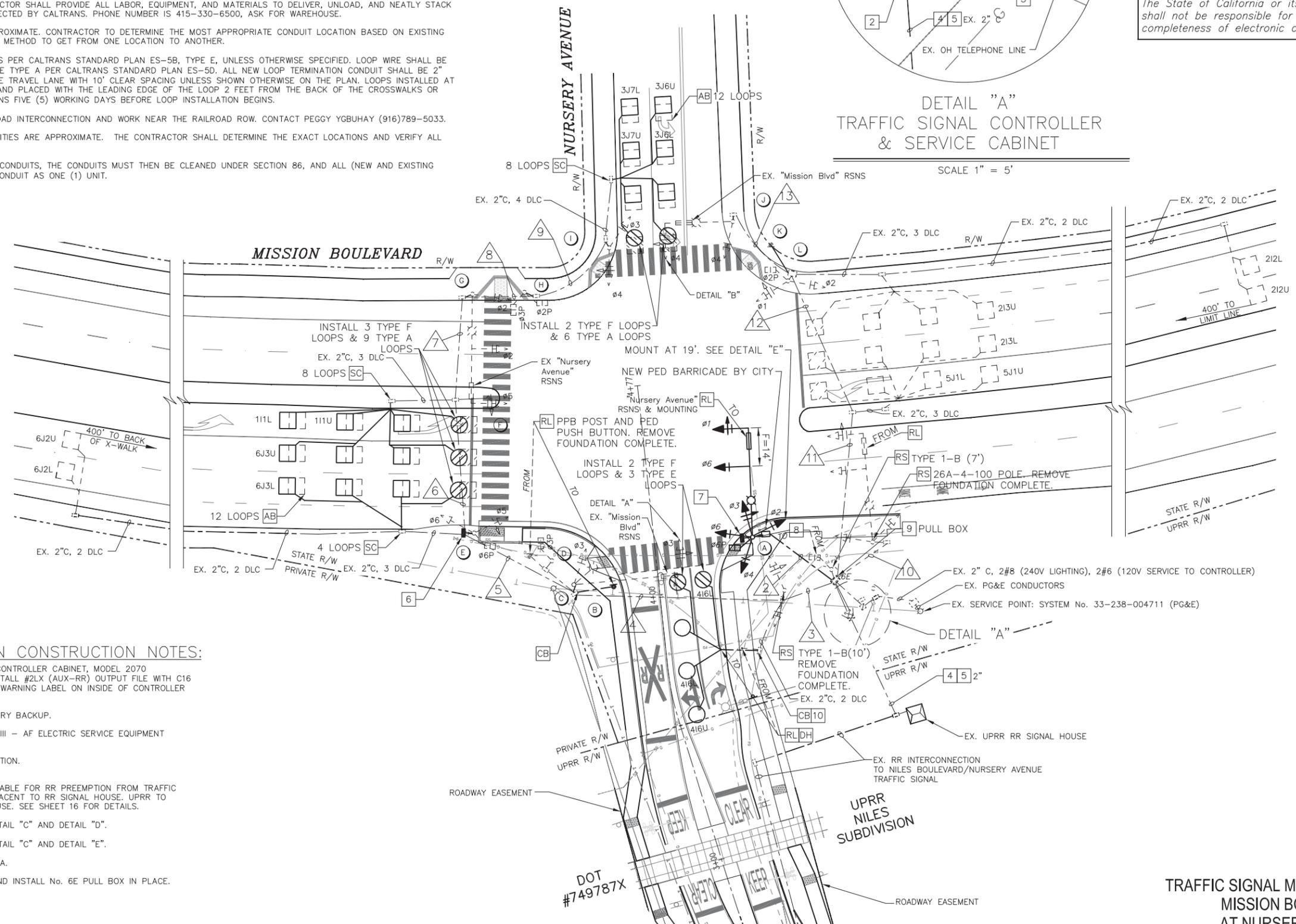
TRAFFIC SIGNAL GENERAL NOTES:

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- THE CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CORRECT CONDUCTORS REQUIRED FOR THE INTENDED OPERATION.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT UNLESS NOTED OTHERWISE ON THE PLANS.
- EQUIPMENT TO BE SALVAGED SHALL REMAIN THE PROPERTY OF THE STATE OF CALIFORNIA AND SHALL BE DELIVERED TO THE DISTRICT 4 CALTRANS MAINTENANCE YARD AT 30 RICKARD STREET, SAN FRANCISCO, CA. THE CONTRACTOR SHALL NOTIFY CALTRANS A MINIMUM OF TWO WORKING DAYS PRIOR TO DELIVERY OF THE SALVAGED EQUIPMENT. THE CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, AND MATERIALS TO DELIVER, UNLOAD, AND NEATLY STACK THE SALVAGED EQUIPMENT IN THE LOCATIONS AS DIRECTED BY CALTRANS. PHONE NUMBER IS 415-330-6500, ASK FOR WAREHOUSE.
- NEW CONDUIT LOCATIONS SHOWN ON PLANS ARE APPROXIMATE. CONTRACTOR TO DETERMINE THE MOST APPROPRIATE CONDUIT LOCATION BASED ON EXISTING SITE CONDITIONS AND CORRESPONDING CONSTRUCTION METHOD TO GET FROM ONE LOCATION TO ANOTHER.
- ALL NEW LOOPS SHALL BE 6' DIAMETER ROUND LOOPS PER CALTRANS STANDARD PLAN ES-5B, TYPE E, UNLESS OTHERWISE SPECIFIED. LOOP WIRE SHALL BE TYPE 2. ALL NEW LOOP CURB TERMINATIONS SHALL BE TYPE A PER CALTRANS STANDARD PLAN ES-5D. ALL NEW LOOP TERMINATION CONDUIT SHALL BE 2" CONDUIT. ALL NEW LOOPS SHALL BE CENTERED IN THE TRAVEL LANE WITH 10' CLEAR SPACING UNLESS SHOWN OTHERWISE ON THE PLAN. LOOPS INSTALLED AT THE CROSSWALKS OR LIMIT LINES SHALL BE TYPE D AND PLACED WITH THE LEADING EDGE OF THE LOOP 2 FEET FROM THE BACK OF THE CROSSWALKS OR LIMIT LINES. THE CONTRACTOR SHALL INFORM CALTRANS FIVE (5) WORKING DAYS BEFORE LOOP INSTALLATION BEGINS.
- CONTRACTOR WILL COORDINATE WITH UPRR ON RAILROAD INTERCONNECTION AND WORK NEAR THE RAILROAD ROW. CONTACT PEGGY YGBUHAY (916)789-5033.
- LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS AND VERIFY ALL CONDITIONS ON THE JOB SITE.
- ALL EXISTING CONDUCTORS MUST BE REMOVED FROM CONDUITS, THE CONDUITS MUST THEN BE CLEANED UNDER SECTION 86, AND ALL (NEW AND EXISTING REMAINING) CONDUCTORS SHALL BE PULLED IN THE CONDUIT AS ONE (1) UNIT.

N.E.M.A. PHASE DIAGRAM		GROUP A		GROUP B	
RING 1	↻	↻	↻	↻	↻
RING 2	↻	↻	↻	↻	↻
		φ1	φ2	φ3	φ4
		φ5	φ6	φ7	φ8
		MISSION BLVD		NURSERY AVE	



DETAIL "A"  
TRAFFIC SIGNAL CONTROLLER  
& SERVICE CABINET  
SCALE 1" = 5'



TRAFFIC SIGNAL MODIFICATION CONSTRUCTION NOTES:

- PROTECT IN PLACE AND REUSE EXISTING 332 CONTROLLER CABINET, MODEL 2070 CONTROLLER AND SOFTWARE. FURNISH AND INSTALL #2LX (AUX-RR) OUTPUT FILE WITH C16 HARNESS. INSTALL RAILROAD INTERCONNECTED WARNING LABEL ON INSIDE OF CONTROLLER CABINET DOOR. SEE SHEET 17 FOR DETAILS.
- PROTECT IN PLACE AND REUSE EXISTING BATTERY BACKUP.
- PROTECT IN PLACE AND REUSE EXISTING TYPE III - AF ELECTRIC SERVICE EQUIPMENT ENCLOSURE.
- REMOVE EXISTING 2#14 RAILROAD INTERCONNECTION.
- FURNISH AND INSTALL 19#14 AWG STRANDED CABLE FOR RR PREEMPTION FROM TRAFFIC SIGNAL SIGNAL CONTROLLER CABINET TO PULLBOX ADJACENT TO RR SIGNAL HOUSE. UPRR TO PROVIDE FINAL CONNECTION TO RR SIGNAL HOUSE. SEE SHEET 16 FOR DETAILS.
- FURNISH AND INSTALL BLANKOUT SIGN PER DETAIL "C" AND DETAIL "D".
- FURNISH AND INSTALL BLANKOUT SIGN PER DETAIL "C" AND DETAIL "E".
- RELOCATE φ6 PED HEAD AND φ6PPB TO POLE A.
- REMOVE EXISTING No. 5 PULL BOX. FURNISH AND INSTALL No. 6E PULL BOX IN PLACE.
- SPLICE NEW LOOPS TO EXISTING DLC.

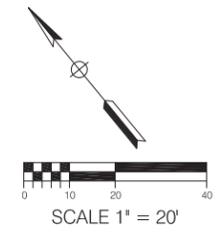
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	238	3.5/7.8	13	17

REGISTERED CIVIL ENGINEER  
MAY 11, 2020  
PLANS APPROVAL DATE

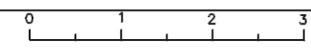
KAREN M. HANKINSON  
No. C54175  
Exp. 12/31/21  
CIVIL  
STATE OF CALIFORNIA

15265 ALTON PARKWAY, SUITE 140  
IRVINE, CA 92618  
WWW.RAILPROS.COM  
E-MAIL: INFO@RAILPROS.COM  
PHONE: (714) 734 - 8765  
FAX: (714) 734 - 8765

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TRAFFIC SIGNAL MODIFICATION PLAN  
MISSION BOULEVARD  
AT NURSERY AVENUE



Z:\Engineering\City of Fremont\Nursery Ave\900 CAD\950 Drawings\Nursery at Mission.dwg May 11, 20 6:53pm

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	238	3.5/7.8	14	17

*K.M. Hankinson*

REGISTERED CIVIL ENGINEER

MAY 11, 2020  
PLANS APPROVAL DATE

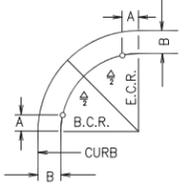


15265 ALTON PARKWAY, SUITE 140  
IRVINE, CA 92618  
WWW.RAILPROS.COM  
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FAX: (714) 734 - 8755

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NO.	STANDARD			LUMINAIRE L.E.D. WATTS	SIGNAL MOUNTING			PED PUSH BUTTON (TYPE B)		POLE LOCATION*		RSNS	BLANKOUT SIGN MOUNTING	COMMENTS	
	TYPE	HEIGHT	SMA		LMA	POLE	MAST ARM	PEDESTRIAN	PHASE	POLE QUAD	A				B
A	26-4-100(N)	30'	40'(N)	12'(N)	165(RL)	SV-3-T(N) SV-2-T(N)	2-MAS	SP-1-T(RL)	Ø6(RL)	S	12'	3'	NURSERY AVENUE → (RL)	MOUNT W/ VEH HEAD (SV-2-T) (N)	#2 VEHICLE HEAD MOUNTED AT 19' SEE DETAIL E - BLANKOUT SIGN MOUNTING
B	PPB POST (RL)	3'-6"	-	-	-	-	-	-	Ø6(RL)	N	5'	3'	-	-	-
C	26A-3-100	35'	40'	12'	165	SV-1-T	MAS	-	-	-	-	-	Mission Blvd	-	-
D	1-B	7'	-	-	-	-	-	TP-1-T	-	-	-	-	-	-	-
E	1-B	10'	-	-	-	TV-2-T	-	SP-2-T(N)	Ø3	E	-	-	-	MOUNT W/ PED HEAD (SP-2-T) (N)	SEE DETAIL D - BLANKOUT SIGN MOUNTING
F	PPB POST	3'-6"	-	-	-	-	-	-	Ø3	E	-	-	-	-	-
G	26A-3-100	35'	40'	12'	165	SV-1-T	2-MAS	-	-	-	-	-	NURSERY AVENUE	-	-
H	1-B	7'	-	-	-	-	-	TP-2-T	Ø3	W	-	-	-	-	-
I	1-B	10'	-	-	-	TV-2-T	-	-	Ø2	S	-	-	-	-	-
J	19-2-100	30'	25'	12'	165	SV-1-T	MAS	-	-	-	-	-	Mission Blvd	-	-
K	PPB POST	3'-6"	-	-	-	-	-	-	Ø2	S	-	-	-	-	-
L	1-B	10'	-	-	-	TV-2-T	-	SP-1-T	-	-	-	-	-	-	-

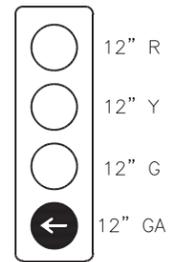
ALL EQUIPMENT IS EXISTING UNLESS OTHERWISE NOTED:  
\* - PER POLE PLACEMENT DETAIL  
(N) = NEW  
(RL) = RELOCATED



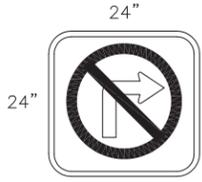
POLE PLACEMENT DETAIL  
NOT TO SCALE

CONDUCTOR SCHEDULE												
A.W.G.	CIRCUIT	1	2	3	4	5	6	7	8	9	10	11
No. 14	Ø1	6	-	-	-	-	-	-	-	-	-	-
	Ø2	6	3(N)	3	3	3	3	3	-	-	3	3
	Ø3	3(N)	3(N)	3	3	3	3	3	3	-	-	-
	Ø4	6	3(N)	-	-	-	-	-	-	-	3	3
	Ø5	3	-	3	3	3	3	3	-	-	-	-
	Ø6	6	3(N)	3	3	3	-	-	-	-	3	-
	Ø2P	4	-	2	2	2	2	2	-	-	2	2
	Ø3P	2	-	2	2	2	2	2	-	-	-	-
	Ø6P	2(N)	2(N)	2	2	2	-	-	-	-	-	-
	Ø2PPB	2	1(N)	1	1	1	1	1	1	-	1	1
	Ø3PPB	1	-	1	1	1	1	1	-	-	-	-
	Ø6PPB	1	1(N)	1	1	-	-	-	-	-	-	-
	Ø8PPB	1	-	1	1	1	1	1	-	-	-	-
	PPB COMMON	1	1(N)	1	1	1	1	1	1	-	1	1
BLANK OUT *	4	-	2	2	2	-	-	-	-	2	-	
SPARES	2	3(N)	4	4	4	3	3	3	3	1	3	
TOTAL	2	3(N)	20(N)	29	29	28	20	20	12	8	12	
No. 10	SIGNAL COMMON	1	1(N)	1	1	1	1	1	1	1	1	
	LUMINAIRE	-	2(N)	2	2	2	2	-	-	2	2	
	TOTAL	1	3(N)	3	3	3	3	1	1	3	3	
TYPE "B" DLC	111U	1	-	1	1	1	-	-	-	-	-	
	111L	1	-	1	1	1	-	-	-	-	-	
	212U	1	-	-	-	-	-	-	-	-	1	
	212L	1	-	-	-	-	-	-	-	-	1	
	213U	1	-	-	-	-	-	-	-	-	1	
	213L	1	-	-	-	-	-	-	-	-	1	
	416U	1	-	1	-	-	-	-	-	-	-	
	416L	1	-	1	-	-	-	-	-	-	-	
	5J1U	1	-	-	-	-	-	-	-	-	1	
	5J1L	1	-	-	-	-	-	-	-	-	1	
	6J2U	1	-	1	1	1	-	-	-	-	-	
	6J2L	1	-	1	1	1	-	-	-	-	-	
	6J3U	1	-	1	1	1	-	-	-	-	-	
6J3L	1	-	1	1	1	-	-	-	-	-		
TOTAL	14	-	8	6	6	3	-	-	-	6	3	
#8 SERVICE	2	-	-	-	-	-	-	-	-	-	-	
CONDUIT SIZE	2-3"	3"	2"	2"	2"	2"	2"	2"	2"	2"	2"	

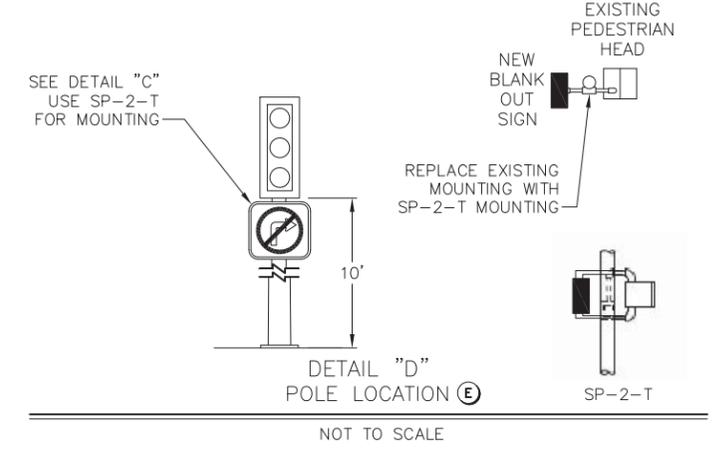
ALL CONDUIT AND WIRING IS EXISTING UNLESS NOTED AS (N) = NEW  
\* BLANKOUT SIGNS UTILIZING EXISTING SPARE WIRES.



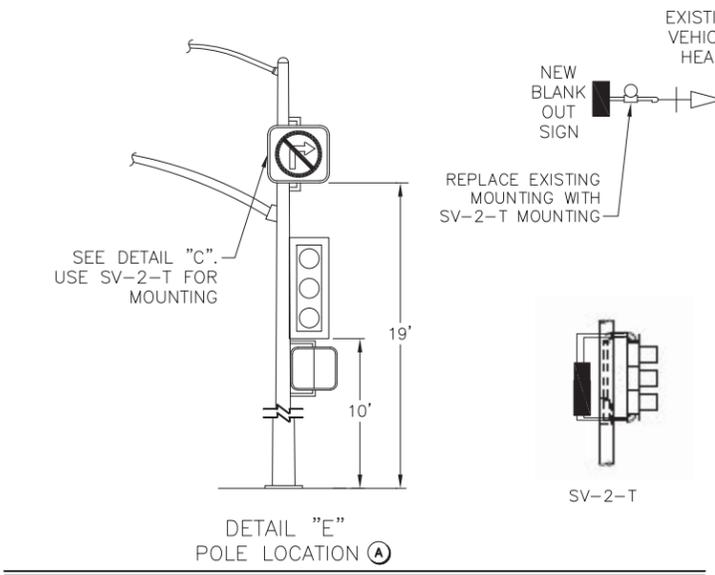
DETAIL "B"  
12", 4-SECTION VEHICLE HEAD



24"  
BLANK OUT LED SIGN R3-1  
DETAIL "C"  
NOT TO SCALE



DETAIL "D"  
POLE LOCATION E  
NOT TO SCALE



DETAIL "E"  
POLE LOCATION A  
NOT TO SCALE

TRAFFIC SIGNAL MODIFICATION PLAN  
MISSION BOULEVARD  
AT NURSERY AVENUE

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION  
 DESIGN OVERSIGHT  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 AR KH  
 DATE 9/17  
 REVISED BY  
 DATE REVIS



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	238	3.5/7.8	15	17

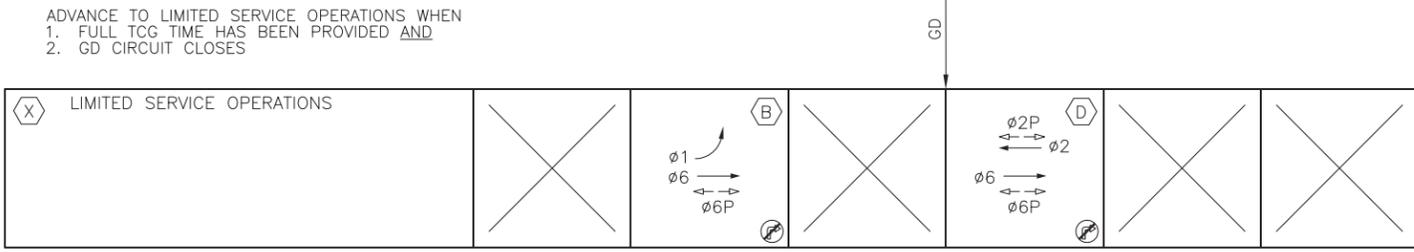
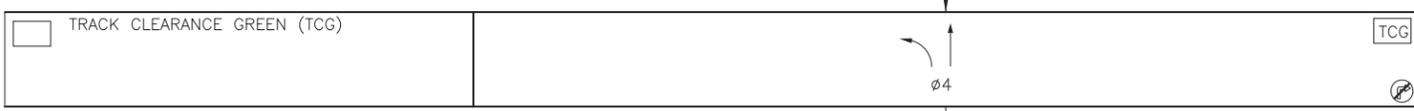
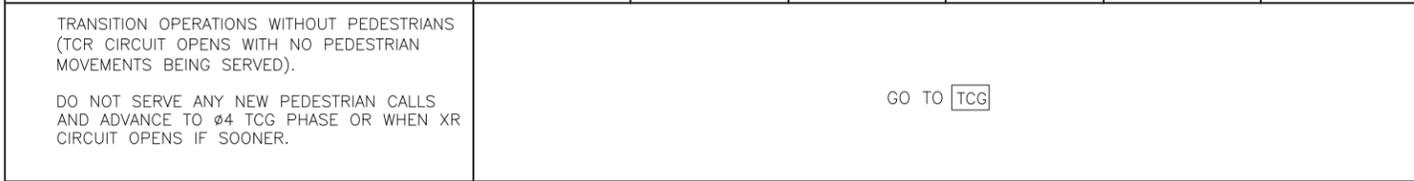
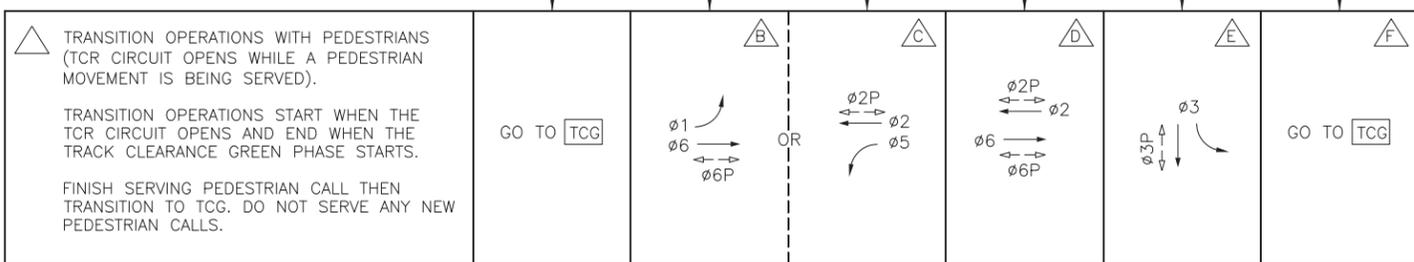
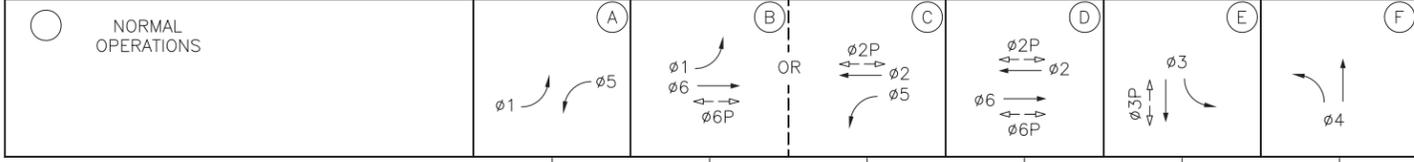
*K. Hankinson*  
**REGISTERED CIVIL ENGINEER**  
 MAY 11, 2020  
 PLANS APPROVAL DATE



15265 ALTON PARKWAY, SUITE 140  
 IRVINE, CA 92618  
 WWW.RAILPROS.COM  
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PHASE DIAGRAM – MISSION BOULEVARD AND NURSERY AVENUE



⊗ BLANKOUT SIGN IS ILLUMINATED

NOTES:  
 1. BLANK OUT LED SIGN R3-1 IS ILLUMINATED WHEN XR CIRCUIT IS OPEN.

SEE SHEET 16 FOR RAILROAD PREEMPTION WIRING

STATE OF CALIFORNIA · DEPARTMENT OF TRANSPORTATION  
**Caltrans**

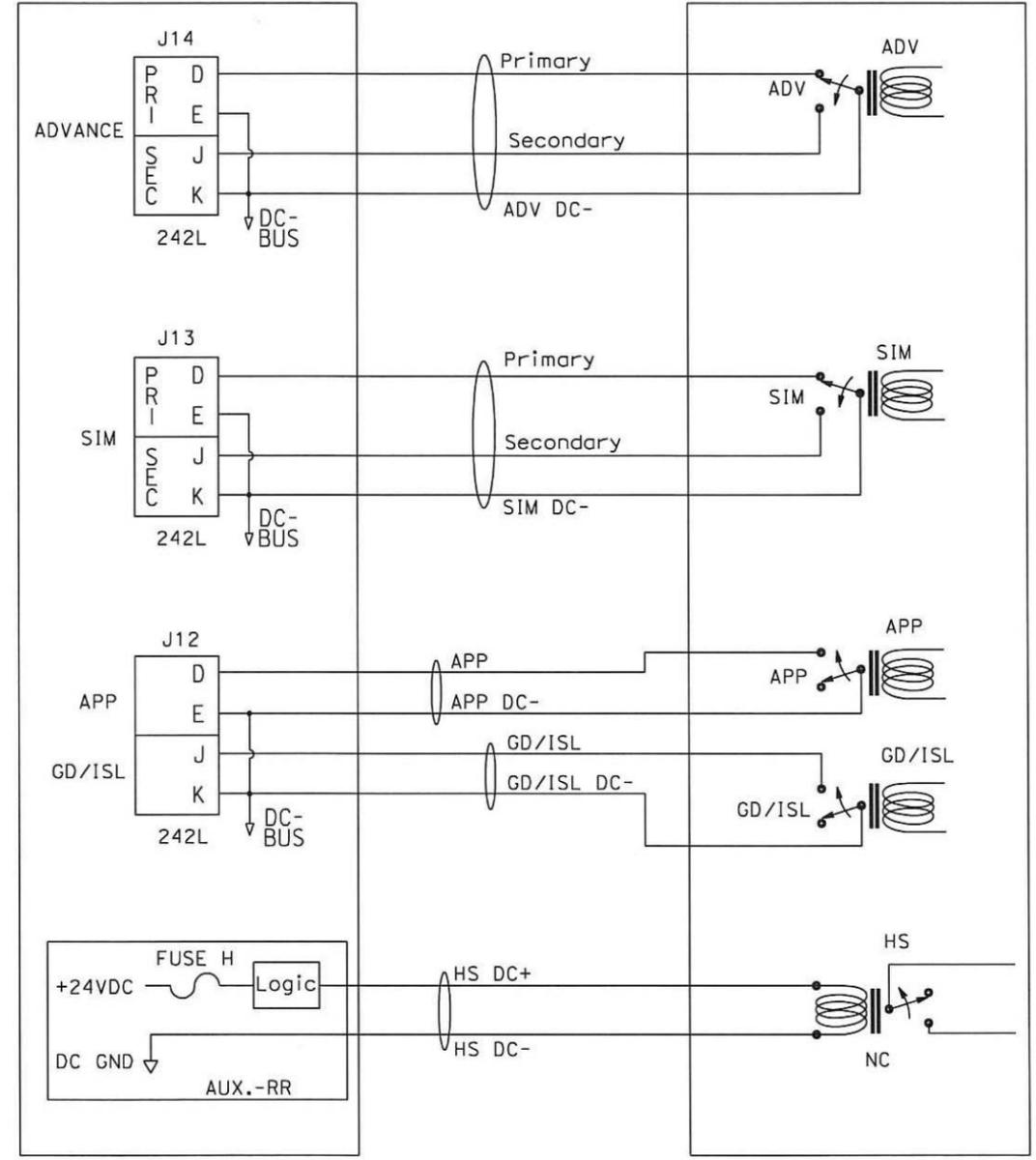
Z:\Engineering\City of Fremont\Nursery Ave\900 CAD\950 Drawings\Nursery at Mission.dwg May 11, 20 6:40pm

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	238	3.5/7.8	16	17

REGISTERED ELECTRICAL ENGINEER  
 Herosmo Iniguez  
 No. E14813  
 Exp. 06-30-21  
 STATE OF CALIFORNIA  
 December 04, 2019  
 PLANS APPROVAL DATE  
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**CALTRANS SIDE**

**RAILROAD SIDE**

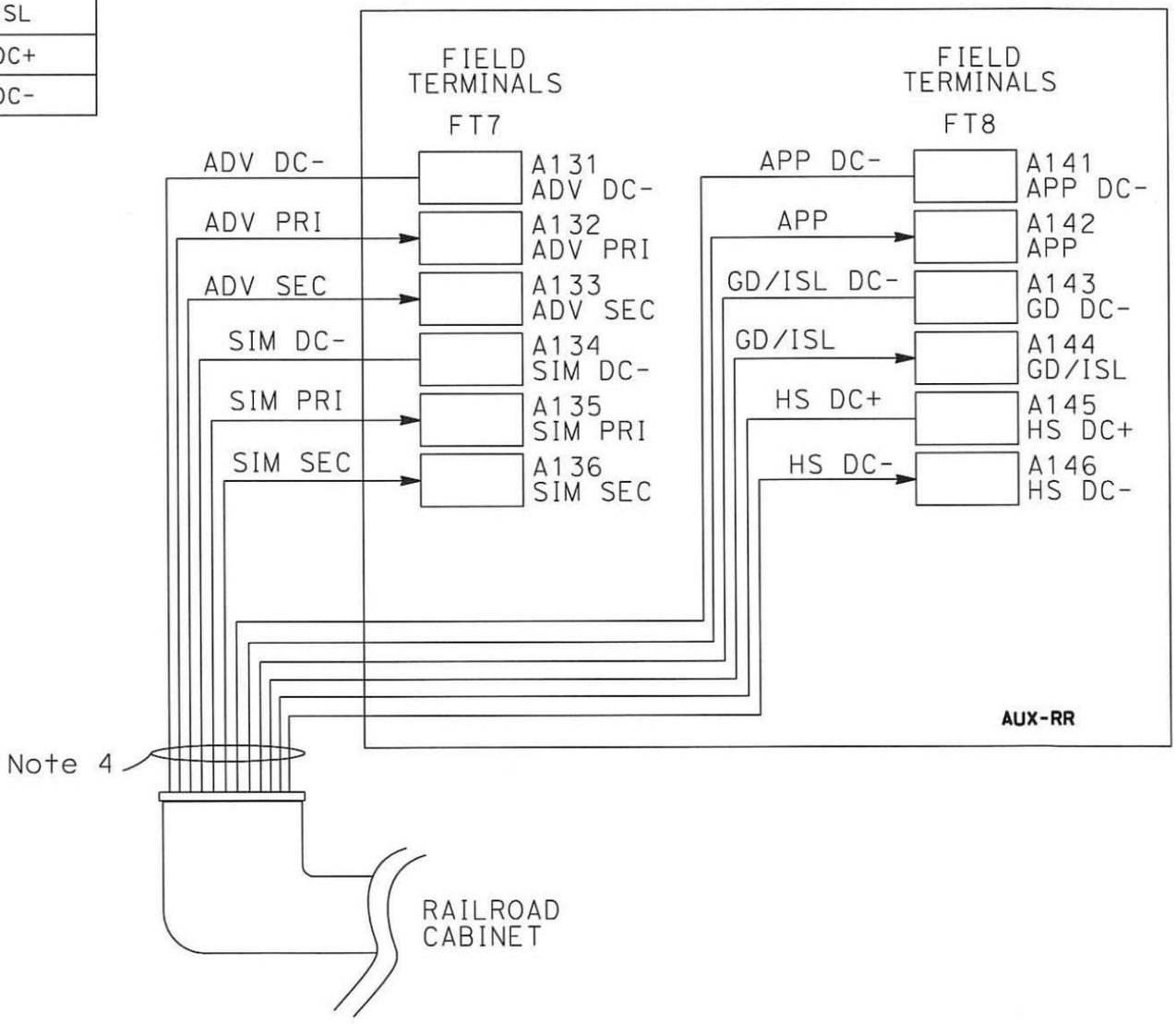


**CABLE CONDUCTORS**

BASE COLOR	TRACER COLOR	FUNCTION
Blue	-	ADV DC-
Blue	Black	ADV PRI
Blue	White	ADV SEC
Orange	-	SIM DC-
Orange	Black	SIM PRI
Orange	Red	SIM SEC
Green	White	APP DC-
Green	Black	APP
Red	White	GD/ISL DC-
Red	Black	GD/ISL
Red	-	HS DC+
White	Red	HS DC-

See note 3.

**CALTRANS CONTROLLER CABINET**



**ADV INPUT LOGIC**

PRI	SEC	STATE
ON	OFF	NORMAL
OFF	ON	PREEMPT
OFF	OFF	FAULT
ON	ON	FAULT

**SIM INPUT LOGIC**

PRI	SEC	STATE
ON	OFF	NORMAL
OFF	ON	PREEMPT
OFF	OFF	FAULT
ON	ON	FAULT

**NOTES: (THIS SHEET ONLY)**

- All dimensions are nominal.
- ADV = Advance, SIM = Simultaneous  
ISL = Island, GD = Gate Down,  
APP = Advance Pedestrian Preemption  
HS = Health Status  
PRI = Primary, SEC = Secondary
- ICEA/NEMA color code Method 1, Table E-1.
- 18 Conductors, 14-AWG, stranded conductor Cable.
- All DC relays shall have flyback diodes.

RAILROAD PREEMPTION WIRING DETAILS  
MISSION BOULEVARD  
AT NURSERY AVENUE

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**RAILROAD PREEMPTION WIRING**  
**(CONTROLLER CABINET**  
**TO RAILROAD DETAILS)**  
NO SCALE

ES-P1

REVISIONS: REVISOR: Herosmo Iniguez, DATE: 11-19-19, BY: BASHIR M. CHOUADRY  
 DESIGNED BY: Herosmo Iniguez, CHECKED BY: Stan Slaviv, Jr., CALCULATED BY: Herosmo Iniguez, FUNCTIONAL SUPERVISOR: Stan Slaviv, Jr., DEPARTMENT OF TRANSPORTATION, STATE OF CALIFORNIA

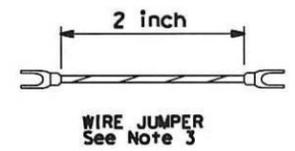
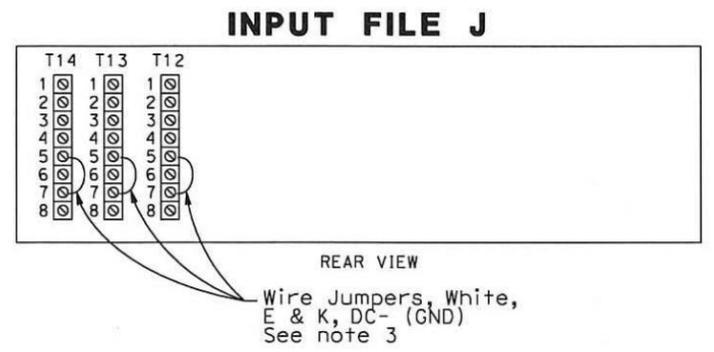
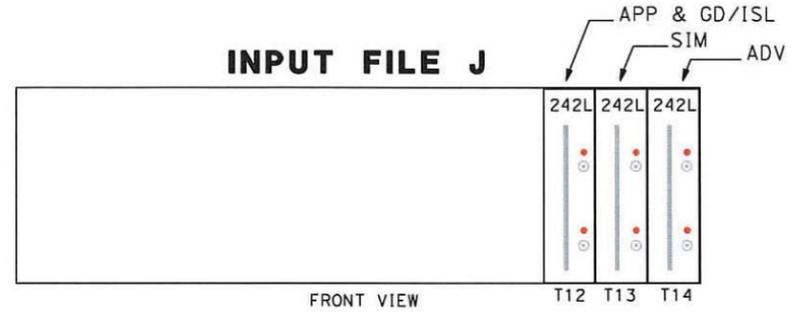
DIST	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	238	3.5/7.8	17	17

REGISTERED ELECTRICAL ENGINEER  
**December 04, 2019**  
 PLANS APPROVAL DATE

Herasmo Iniguez  
 No. E14813  
 Exp. 06-30-21  
 STATE OF CALIFORNIA

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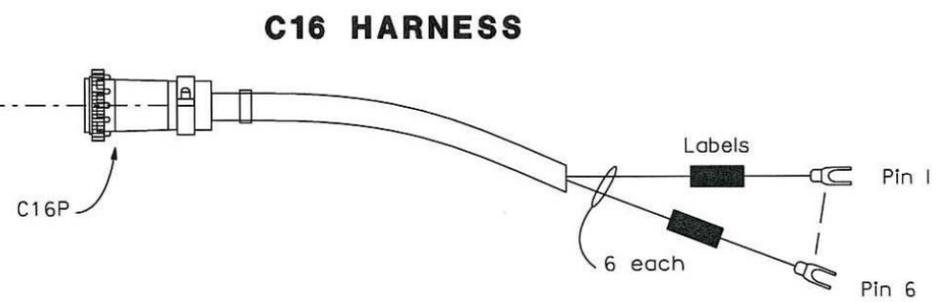
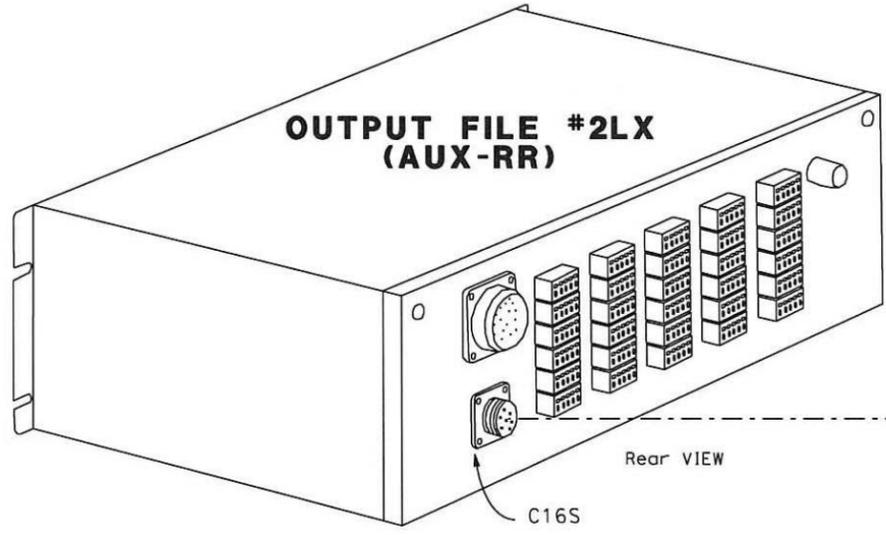
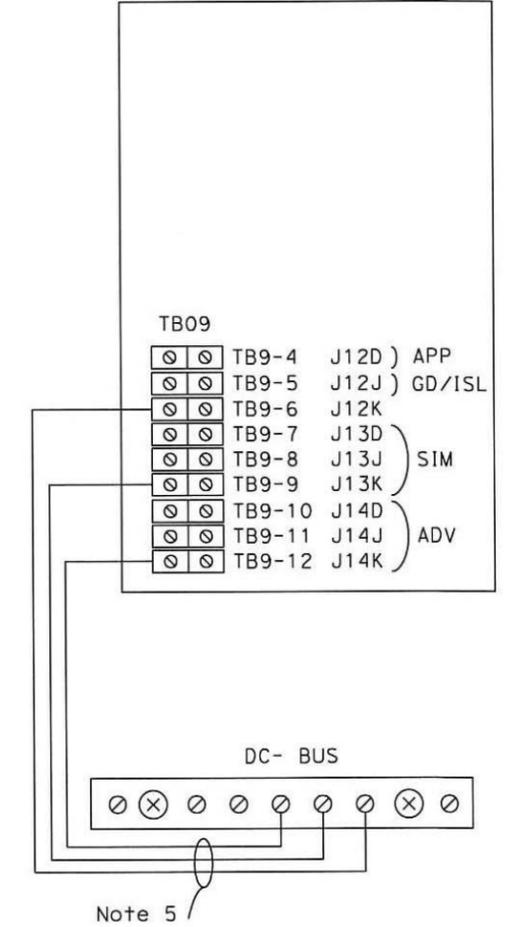
### CONTROLLER CABINET CONNECTIONS



C16 INPUT PANEL #1

Pin	TB9	Function
1	TB9-4 (J-12D)	APP
2	TB9-5 (J-12J)	GD/ISL
3	TB9-7 (J-13D)	SIM PRI
4	TB9-8 (J-13J)	SIM SEC
5	TB9-10 (J-14D)	ADV PRI
6	TB9-11 (J-14J)	ADV SEC
7	NA	NA
8	NA	NA
9	NA	NA

### CABINET INPUT PANEL #1



#### NOTES: (THIS SHEET ONLY)

- All dimensions are nominal.
- ADV = Advance, SIM = Simultaneous  
ISL = Island, GD = Gate Down  
APP = Advance Pedestrian Preemption  
HS = Health Status
- Wire jumpers, 14-AWG, White with Red stripes, stranded with spade connectors shall be placed as shown in the Input File J.
- Use the C16 Harness as provided to terminate the Railroad interconnections.
- Install 14-AWG, White with Red stripes, stranded with spade connectors on one side as shown between Input Panel #1 and DC- Bus.

RAILROAD PREEMPTION WIRING DETAILS  
MISSION BOULEVARD  
AT NURSERY AVENUE

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**RAILROAD PREEMPTION WIRING  
(CONTROLLER CABINET DETAILS)**

NO SCALE

ES-P2

REVISIONS: \*  
 REVISOR: Herasmo Iniguez  
 DATE: 12-04-19  
 CHECKED BY: Bashir M. Choudry  
 DESIGNED BY: Stan Slavov, Jr.  
 SUPERVISOR: Stan Slavov, Jr.  
 DEPARTMENT OF TRANSPORTATION  
 STATE OF CALIFORNIA