CROWN CASTLE

PALO ALTO
TOWN & COUNTRY NODES

SF PALO ALTO 033m2
SF PALO ALTO 034m1
SF PALO ALTO 035m2

PALO ALTO, CA

VICINITY MAP

SHEET NO.	DESCRIPTION
CT-1	OVERALL NODE TITLE SHEET
C-1	TITLE SHEET - 033m2
C-2	CONDITIONS OF APPROVAL - 033m2
C-3	CONDITIONS OF APPROVAL - 033m2
D-1	DETAILS & NOTES - 033m2
D-2	DETAILS & NOTES - 033m2
D-3	DETAILS & NOTES - 033m2
D-4	DETAILS & NOTES - 033m2
D-5	DETAILS & NOTES - 033m2
D-6	DETAILS & NOTES - 033m2
T1.1	SPECIAL TREE PROTECTION INSTRUCTIONS - 033m2
T1.2	SPECIAL TREE PROTECTION INSTRUCTIONS - 033m2
T1.3	SPECIAL TREE PROTECTION INSTRUCTIONS - 033m2
T1.4	SPECIAL TREE PROTECTION INSTRUCTIONS - 033m2
P-1	PHOTOS - 033m2
P-2	PHOTOSIM - 033m2
P-3	PROFILE - 033m2
P-4	PROFILE - 033m2
SP-1	SITE PLAN - 033m2
SP-2	ENLARGED SITE PLAN - 033m2
OC-1	O'CALCS - 033m2
T01	TRAFFIC CONTROL - 033m2
T02	TRAFFIC CONTROL - 033m2
C-1	TITLE SHEET - 034m1
C-2	CONDITIONS OF APPROVAL - 034m1
C-3	CONDITIONS OF APPROVAL - 034m1
D-1	DETAILS & NOTES - 034m1
D-2	DETAILS & NOTES - 034m1
D-3	DETAILS & NOTES - 034m1
D-4	DETAILS & NOTES - 034m1
D-5	DETAILS & NOTES - 034m1
D-6	DETAILS & NOTES - 034m1
T1.1	SPECIAL TREE PROTECTION INSTRUCTIONS - 034m1
T1.2	SPECIAL TREE PROTECTION INSTRUCTIONS - 034m1
T1.3	SPECIAL TREE PROTECTION INSTRUCTIONS - 034m1
T1.4	SPECIAL TREE PROTECTION INSTRUCTIONS - 034m1
P-1	PHOTOS - 034m1
P-2	PHOTOSIM - 034m1
P-3	PROFILE - 034m1
P-4	PROFILE - 034m1
SP-1	SITE PLAN - 034m1
SP-2	ENLARGED SITE PLAN - 034m1
OC-1	O'CALCS - 034m1
T01	TRAFFIC CONTROL - 034m1
T02	TRAFFIC CONTROL - 034m1

SHEET INDEX

SHEET NO.	DESCRIPTION
C-1	TITLE SHEET - 035m2
C-2	CONDITIONS OF APPROVAL - 035m2
C-3	CONDITIONS OF APPROVAL - 035m2
D-1	DETAILS & NOTES - 035m2
D-2	DETAILS & NOTES - 035m2
D-3	DETAILS & NOTES - 035m2
D-4	DETAILS & NOTES - 035m2
D-5	DETAILS & NOTES - 035m2
D-6	DETAILS & NOTES - 035m2
T1.1	SPECIAL TREE PROTECTION INSTRUCTIONS - 035m2
T1.2	SPECIAL TREE PROTECTION INSTRUCTIONS - 035m2
T1.3	SPECIAL TREE PROTECTION INSTRUCTIONS - 035m2
T1.4	SPECIAL TREE PROTECTION INSTRUCTIONS - 035m2
P-1	PHOTOS - 035m2
P-2	PHOTOSIM - 035m2
P-3	PROFILE - 035m2
P-4	PROFILE - 035m2
SP-1	SITE PLAN - 035m2
SP-2	ENLARGED SITE PLAN - 035m2
OC-1	O'CALCS - 035m2
T01	TRAFFIC CONTROL - 035m2
T02	TRAFFIC CONTROL - 035m2

SHEET INDEX

SIGNATURE BLOCK		
TITLE	SIGNATURE	DATE
PROJECT MANAGER		
RF ENGINEER		
NODE ENGINEER		
CONSTRUCTION MANAGER		

CROWN CASTLE TO INSTALL THE FOLLOWING:

- SMALL CELL ANTENNA AND ITS ANCILLARY EQUIPMENT ON STREET LIGHT POLE.

PROJECT SUMMARY

PROJECT MANAGER:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
JOHN GRIFFITHS
(408) 468-5524
JOHN.GRIFFITHS@CROWNCASTLE.COM

NODE ENGINEER:
COASTAL COMMUNICATIONS
5841 EDISON PL, STE. 200
CARLSBAD, CA 92008
TODD THREW
(760) 929-0910 ext. 101
TODD@COASTALCOMMINC.COM

PROJECT TEAM

PALO ALTO

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:
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www.crowncastle.com

PREPARED BY:
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PROPRIETARY INFORMATION

THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS IS PROPRIETARY AND CONFIDENTIAL TO VERIZON. ANY USE OR DISCLOSURE OTHER THAN AS IT RELATES TO VERIZON IS STRICTLY PROHIBITED.

DIGALERT
1-800-227-2600
CALL AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT
TICKET #_____

REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp.03-31-18
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
SFPA 033m2, SFPA 034m1, SFPA 035m2

(ADDRESSES VARY)
PALO ALTO, CA

TITLE SHEET

DRAWN BY:	DRAFT DATE:	APPROVED BY:
BMW	09/02/18	TT

SHEET NO.
CT-1

CROWN CASTLE

SF PALO ALTO 033m2

ACROSS FROM 103 KELLOGG AVE ON ALMA ST

PALO ALTO, CA

DIRECTIONS FROM 695 RIVER OAKS PARKWAY, SAN JOSE CA 95124:

HEAD NORTHEAST ON RIVER OAKS PARKWAY TOWARD VILLAGE CENTER DR, TURN LEFT ONTO RESEARCH PL, TURN RIGHT ONTO MONTAUE EXPY, MERGE ONTO US-101 N VIA THE RAMP TO SAN FRANCISCO, MERGE ONTO US-101 N, TAKE EXIT 402 FOR EMBARCADERO RD/OREGON EXPWY, KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR OREGON EXPWAY, CONTINUE ONTO OREGON EXPY, SLIGHT RIGHT TOWARD OREGON AVE, CONTINUE STRAIGHT ONTO OREGON AVE, TURN RIGHT ONTO ALMA ST, AND LOCATION WILL BE AT THE INTERSECTION OF ALMA ST & KELLOGG AVE.

DRIVING DIRECTIONS

1. STREET USE PERMIT SHALL BE OBTAINED BY CONTRACTOR PRIOR TO COMMENCING WORK.
2. ALL WORK TO BE CONDUCTED IN THE RIGHT OF WAY.
3. ALL DISTURBED LANDSCAPING SHALL BE REPLACED TO SIMILAR EXISTING CONDITION.
4. ANY SIDEWALK CLOSURE SHALL BE COORDINATED WITH THE CITY AND PROPER SIGNING WILL BE PLACED.
5. NO MATERIALS OR EQUIPMENT SHALL BE STORED ON PRIVATE PROPERTY OR BLOCK ACCESS TO PRIVATE PROPERTY.
6. CLEANUP OF SITE WILL BE COMPLETED EACH EVENING AND THE SITE WILL BE RETURNED TO EXISTING CONDITIONS AT THE COMPLETION OF CONSTRUCTION AT EACH SITE.

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR RESPONSIBLE FOR SAME.

GENERAL CONTRACTOR NOTES



VICINITY MAP

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C-1	TITLE SHEET
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T01	TRAFFIC CONTROL
T02	TRAFFIC CONTROL

SHEET INDEX

CROWN CASTLE TO INSTALL THE FOLLOWING:

- INSTALL NEW 50' CLASS III SERVICE POLE.
- TRANSFER EXISTING TELCO TO 22'-8".
- TRANSFER EXISTING CATV TO 23'-8".
- INSTALL DOUBLE GUARD ARM AT 24'-0".
- INSTALL SECONDARY SERVICE AT 28'-0".
- INSTALL NEW VGR.
- INSTALL STANDOFF BRACKET(TYP.).
- INSTALL NEW POWER DISCONNECT BOX ON STANDOFF BRACKET AT 8'-0" TO 8'-9".
- INSTALL NEW WTR ENCLOSURE ON STANDOFF BRACKET AT 9'-6" TO 10'-6".
- INSTALL NEW STANDOFF BRACKET KIT WITH (1) RRUS-11 AT 11'-0" TO 12'-5".
- INSTALL NEW RRUS BRACKET KIT WITH (2) RRUS-32 AT 16'-3".
- INSTALL NEW 2" SCHEDULE 80 COMM RISER.
- INSTALL NEW 1" SCHEDULE 80 POWER RISER.
- INSTALL (1) NEW 48" AMPHENOL ANTENNA MODEL #CUUT360X12F124S0 WITH CONCEALMENT COVER.
- INSTALL NOTICE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

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TODD@COASTALCOMMINC.COM

PROJECT TEAM

SF PALO ALTO 033m2
PALO ALTO

CROWN CASTLE PROJECT NO.
VZW366241CA

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TICKET #_____

REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp.03-31-20
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ACROSS FROM 103 KELLOGG AVE
ON ALMA ST
PALO ALTO, CA
37.436396 / -122.152953

TITLE SHEET

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/05/18	TT

SHEET NO.
C-1

PENDING C.O.A .

SF PALO ALTO 033m2
PALO ALTO

CROWN CASTLE PROJECT NO.
VZW366241CA

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SAN JOSE, CA 95134
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CONDITIONS OF APPROVAL

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/05/18	TT

SHEET NO.
C-2

Applicant shall comply with the following comments/requirements.

1. Applicant shall install new street lighting poles with new foundations that are identical to the existing poles. New street lighting poles shall be installed as close as possible to the existing street lighting poles. Applicant shall ensure to maintain present illumination level on the streets.

2. Receptacles on street lights need to be pre-wired and mounted on the top of the street light. The receptacles shall be wired into the secondary voltage source and not the street light circuit.

3. New street lighting pole's drawing is approved. Applicant shall replace the existing street lighting poles with identical poles. If there is any deviation then it must be approved by Utilities Engineering prior to installation.

4. Locations for new street lighting poles shall be as close as possible to the existing street lighting poles. No street or location shall be left dark. After removal of existing street pole/s, new street lighting poles shall be installed and energized as soon as possible. Applicant to coordinate with Scott Yahne (650-444-8823) our Street Lighting Supervisor prior to making any electric connection/s.

5. An inner duct of adequate size shall be installed inside the street lighting poles so to keep antenna wiring separate from street lighting circuits. Power to the antenna or any other equipment mounted on the street lighting pole shall be tapped from the designated secondary electric service point and not from the street lighting circuit.

6. If the street lighting pole gets knocked down, the City shall replace the pole but the City shall not be responsible for any damages to the antenna or any other equipment mounted on the street lighting pole/s.

7. Applicant has submitted certified structural calculations pertaining to equipment loading on the new street lighting poles.

8. Utility's Engineer has reviewed applicant's proposed fiber infrastructure and confirmed acceptance as long as applicant maintains required clearances and protect our distribution lines.

9. Voltage at all the locations identified for applicant's equipment installation may not be Applicant shall accept the voltage available at the closest location. Applicant shall be responsible for installing additional substructure per City's standards and specifications, if required.

10. Applicant shall contact Utilities Engineering (650-566-4535) prior to entering any energized box or vault.

11. Applicant shall install substructure per City's standard and specifications and maintain required clearances as shown on the City's standard drawings. The City's Underground Electric Inspector will inspect the substructure for electric utility. Applicant must contact Underground Electric Inspector at 650-496-6936 or his designated representative for scheduling an inspection prior to back filling the trench.

12. Applicant shall pot hole and locate underground facilities prior to trenching or boring. Applicant must contact USA (800-227-2600) and have underground facilities marked prior to excavation/trenching or boring.

13. At few locations, proposed trenching/boring route conflicts with our existing high voltage distribution lines, boxes/vaults etc. Extreme caution must be exercised to protect our utility lines and associated substructures.

14. Applicant shall protect existing underground utilities. Applicant has not submitted any trench profile as requested by Utilities. Hence, applicant shall bore/ trench at his/her risk. Applicant will be solely responsible for any damages caused during the construction.

15. Street opening permits shall be obtained from Public Works Engineering (PWE) Department prior to trenching or boring.

16. Traffic control plans must be submitted to Transportation Department and approval must be obtained prior to lane closures. Construction hours shall be per Transportation Department's requirements.

17. Applicant shall contact the Public Works Engineering (PWE) Department (650-566-4535) and obtain electric permit and cost estimate for each location. Any changes made to the original design or to the designated electric service point/s shall be coordinated with the PWE Department. Applicant must pay all fees/cost estimates prior to final service connections.

ANTENNA CAUTION SIGN

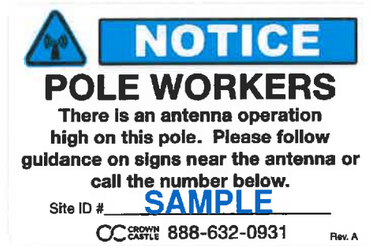
ANTENNA SIGNAGE:
ON WOOD POLES - SIGN ON ALUMINUM WITH SS SCREW TO THE POLE
ON METAL POLES - ADHESIVE VINYL OR PLACARD STRAPPED WITH SS TIES
ON CONCRETE / COMPOSITE - PLACARD STRAPPED WITH SS TIES
SIGN PLACEMENT:
AFFIX TO THE STRUCTURE ON OR JUST BELOW THE ANTENNA(S)
SIZE APPROX. 8" x 5"



A | SCALE N.T.S.

ANTENNA NOTICE SIGN

ANTENNA SIGNAGE:
ON WOOD POLES - SIGN ON ALUMINUM WITH SS SCREWS TO THE POLE
ON METAL POLES - ADHESIVE VINYL OR PLACARD STRAPPED WITH SS TIES
ON CONCRETE / COMPOSITE - PLACARD STRAPPED WITH SS TIES
SIGN PLACEMENT:
AFFIX TO THE STRUCTURE NEAR THE BOTTOM OF POLE OR ON THE SHROUD



B | SCALE N.T.S.

SF PALO ALTO 033m2
PALO ALTO

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:
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STATE OF CALIFORNIA

SITE NAME & ADDRESS:
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37.436396 / -122.152953

CONDITIONS OF APPROVAL

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/05/18	TT

SHEET NO.
C-3

LEGEND

SYMBOL	DESCRIPTION
	PROPOSED
	2' X 3' VAULT
	CABINET
	PCC SIDEWALK
	TRENCH AND FIBER CONDUIT (PVT)
	DIRECTIONAL BORING
	BORE PIT
	EXISTING
	EXISTING STREET LIGHT
	EXISTING VAULT HANDHOLE
MB	EXISTING MAILBOX
	EXISTING TREE
	EXISTING TRUE NORTH
	STATION POINTS (100' INCREMENTS)
	EXISTING CURB RAMP
C&G	EXISTING CURB & GUTTER
	EXISTING FACE OF BUILDING
	EXISTING PARKING STRIPING
R/W	EXISTING RIGHT OF WAY
	EXISTING CENTER LINE
W	EXISTING WATER LINE
W	EXISTING WATER LATERAL
S	EXISTING SEWER LINE
S	EXISTING SEWER LATERAL
G	EXISTING GAS LINE
G	EXISTING GAS LATERAL
SD	EXISTING STORM DRAIN LINE
	SUBJECT CURRENTLY UNDER SEPARATE PERMIT

ABBREVIATIONS

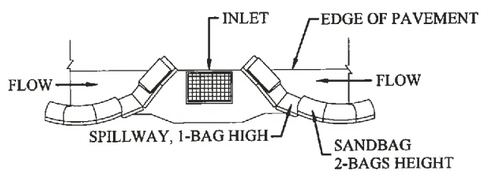
A/C	ASPHALT CURB
B.O.C.	BACK OF CURB
B/EOP	BACK OF EDGE OF PAVEMENT
C&G	CURB & GUTTER
CL	CENTERLINE
EX.	EXISTING
EOP	EDGE OF PAVEMENT
F.O.C.	FACE OF CURB
F/EOP	FACE OF EDGE OF PAVEMENT
PL	PROPERTY LINE
R/W	RIGHT OF WAY
S/B	SUBDIVISION BOUNDARY

EROSION AND SEDIMENT CONTROL NOTES:

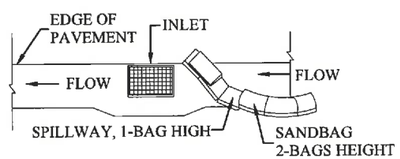
TEMPORARY EROSION/SEDIMENT CONTROL. PRIOR TO COMPLETION OF FINAL IMPROVEMENTS, SHALL BE PERFORMED BY THE CONTRACTOR OR QUALIFIED PERSON AS INDICATED BELOW:

1. ALL REQUIREMENTS OF THE CITY ``LAND DEVELOPMENT MANUAL, STORM WATER STANDARDS" MUST BE INCORPORATED INTO THE DESIGN AND CONSTRUCTION OF THE PROPOSED PUBLIC IMPROVEMENTS CONSISTENT WITH THE EROSION CONTROL PLAN AND/OR WATER POLLUTION CONTROL PLAN (WPCP), IF APPLICABLE.
2. FOR STORM DRAIN INLETS, PROVIDE A GRAVEL BAG SILT BASIN IMMEDIATELY UPSTREAM OF INLET AS INDICATED ON DETAILS.
3. THE CONTRACTOR OR QUALIFIED PERSON SHALL BE RESPONSIBLE FOR CLEANUP OF SILT AND MUD ON ADJACENT STREET(S) AND STORM DRAIN SYSTEM DUE TO CONSTRUCTION ACTIVITY.
4. THE CONTRACTOR SHALL REMOVE SILT AND DEBRIS AFTER EACH MAJOR RAINFALL.
5. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON.
6. THE CONTRACTOR SHALL RESTORE ALL EROSION/SEDIMENT CONTROL DEVICES TO WORKING ORDER TO THE SATISFACTION OF THE CITY ENGINEER OR RESIDENT ENGINEER AFTER EACH RUN-OFF PRODUCING RAINFALL.
7. THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION/SEDIMENT CONTROL MEASURES AS MAY BE REQUIRED BY THE RESIDENT ENGINEER DUE TO UNFORESEEN CIRCUMSTANCES, WHICH MAY ARISE.
8. ALL EROSION/SEDIMENT CONTROL MEASURES PROVIDED PER THE APPROVED IMPROVEMENT PLAN SHALL BE INCORPORATED HEREON. ALL EROSION/SEDIMENT CONTROL FOR INTERIM CONDITIONS SHALL BE DONE TO THE SATISFACTION OF THE RESIDENT ENGINEER.
9. ALL REMOVABLE PROTECTIVE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN RAIN IS IMMINENT.
10. THE CONTRACTOR SHALL ARRANGE FOR WEEKLY MEETINGS DURING OCTOBER 1ST TO APRIL 30TH FOR PROJECT TEAM (GENERAL CONTRACTOR, QUALIFIED PERSON, EROSION CONTROL SUBCONTRACTOR IF ANY, ENGINEER OF WORK, OWNER/DEVELOPER AND THE RESIDENT ENGINEER) TO EVALUATE THE ADEQUACY OF THE EROSION/SEDIMENT CONTROL MEASURES AND OTHER RELATED CONSTRUCTION ACTIVITIES.

STORMDRAIN INLET PROTECTION



TYPICAL PROTECTION FOR INLET WITH OPPOSING FLOW DIRECTIONS



TYPICAL PROTECTION FOR INLET WITH SINGLE FLOW DIRECTION

NOTES:
1. INTENDED FOR SHORT - TERM USE.
2. USE TO INHIBIT NON - STORM WATER FLOW.
3. ALLOW FOR PROPER MAINTENANCE AND CLEANUP.
4. BAGS MUST BE REMOVED AFTER ADJACENT OPERATION IS COMPLETED.
5. NOT APPLICABLE IN AREAS WITH HIGH SILTS AND CLAYS WITHOUT FILTER FABRIC.

NOTES:

1. CONTRACTOR TO POTHOLE ALL UTILITY CROSSINGS.
2. CONTRACTOR TO PLACE SANDBAGS AROUND ANY/ALL STORM DRAIN INLETS TO PREVENT CONTAMINATED WATER.
3. SPOILS PILE WILL BE COVERED AND CONTAINED AND STREET WILL BE SWEPT AND CLEANED AS NEEDED.
4. CONTRACTOR TO REPAIR DAMAGED PUBLIC IMPROVEMENTS TO THE SATISFACTION OF THE CITY ENGINEER.
5. C&G TO BE PROTECTED IN PLACE. SIDEWALK TO BE REPLACED TO THE SATISFACTION OF THE CITY ENGINEER.
6. THE CONTRACTOR SHALL RESTORE THE ROADWAY BACK TO ITS ORIGINAL CONDITION SATISFACTORY TO THE CITY ENGINEER INCLUDING, BUT NOT LIMITED TO PAVING, STRIPING, BIKE LANES, PAVEMENT LEGENDS, SIGNS, AND TRAFFIC LOOP DETECTORS.
7. SIDEWALK SHALL BE RESTORED/REPLACED PER CITY STANDARD DRAWINGS.
8. PEDESTRIAN RAMP WILL NOT BE DISTURBED.

ROW GROUND CONSTRUCTION NOTES:

1. GROUND CONSTRUCTION TO REMOVE/CLEAN ALL DEBRIS, NAILS, STAPLES, OR NON-USED VERTICALS OFF THE POLE.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH MUNICIPAL, COUNTY, STATE, FEDERAL, GO95 AND GO128 STANDARDS AND REGULATIONS.
3. CALL USA 48 HOURS PRIOR TO EXCAVATING AT (800) 227-2600 OR 811.
4. ALL LANDSCAPING TO BE RESTORED TO ORIGINAL CONDITION OR BETTER.
5. ALL EQUIPMENT TO BE BONDED.
6. METERING CABINET REQUIRES 36" CLEARANCE AT DOOR OPENING.
7. CAULK CABINET BASE AT PAD.

NORMAL LOCATION OF UNDERGROUND UTILITIES NOTES:

1. LOCATION AND DEPTH OF EXISTING AND PROPOSED UTILITIES MUST BE PROVIDED BY THE SUBDIVIDER AND SHOWN ON ANY PLANS SUBMITTED TO THE DEPT. OF PUBLIC WORKS FOR APPROVAL.
2. CHANGES MAY BE PERMITTED BY THE DEPT. OF PUBLIC WORKS IN CASES OF CONFLICTING FACILITIES.
3. CONFLICTS BETWEEN UTILITY COMPANIES FACILITIES, EXISTING AND PROPOSED, MUST BE MUTUALLY RESOLVED BY THE UTILITY COMPANIES.
4. FOR COMMERCIAL SIDEWALKS, THE FIRE HYDRANT SHALL BE PLACED WITHIN THE SIDEWALK 1'-6" BEHIND FACE OF CURB.
5. MAXIMUM 2" DIAMETER GAS MAINS MAY BE PLACED IN JOINT UTILITIES TRENCH SUBJECT TO APPROVAL OF CITY ENGINEER (IN TRACTS).

GENERAL CONTRACTOR NOTES:

1. STREET USE PERMIT SHALL BE OBTAINED BY CONTRACTOR PRIOR TO COMMENCING WORK.
2. ALL WORK TO BE CONDUCTED IN THE RIGHT OF WAY.
3. ALL DISTURBED LANDSCAPING SHALL BE REPLACED TO SIMILAR EXISTING CONDITION.
4. ANY SIDEWALK CLOSURE SHALL BE COORDINATED WITH THE CITY AND PROPER SIGNING WILL BE PLACED.
5. NO MATERIALS OR EQUIPMENT SHALL BE STORED ON PRIVATE PROPERTY OR BLOCK ACCESS TO PRIVATE PROPERTY.
6. CLEANUP OF SITE WILL BE COMPLETED EACH EVENING AND THE SITE WILL BE RETURNED TO EXISTING CONDITIONS AT THE COMPLETION OF CONSTRUCTION AT EACH SITE.

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR RESPONSIBLE FOR SAME.

CALIFORNIA STATE CODE COMPLIANCE:

ALL WORK AND MATERIALS SHALL BE PREFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

- CALIFORNIA ADMINISTRATIVE CODE (INCLUDING TITLES 24 & 25) 2016
- 2016 CALIFORNIA BUILDING CODES WHICH ADOPTS THE 2016 UBC, 2016 UMC, 2016 UPC AND THE 2016 NEC.
- BUILDING OFFICIALS & CODE ADMINISTRATORS (BOCA)
- 2016 CALIFORNIA MECHANICAL CODE
- ANSI/EIA-222-F LIFE SAFETY CODE NFPA-101
- 2016 CALIFORNIA PLUMBING CODE
- 2016 CALIFORNIA ELECTRICAL CODE
- 2016 LOCAL BUILDING CODE
- CITY/COUNTY ORDINANCES

ACCESSIBILITY REQUIREMENTS:
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS REQUIREMENTS DO NOT APPLY IN ACCORDANCE WITH THE 2010 CALIFORNIA BUILDING CODE.

FCC NOTE:
THIS WIRELESS COMMUNICATION FACILITY COMPLIES WITH FEDERAL STANDARDS FOR RADIO FREQUENCY IN ACCORDANCE WITH THE TELECOMMUNICATION ACT OF 1996 AND SUBSEQUENT AMENDMENTS AND ANY OTHER REQUIREMENTS IMPOSED BY STATE OR FEDERAL REGULATORY AGENCIES.

CITY OF PALO ALTO UTILITIES ENGINEERING NOTES:

- APPLICANT SHALL TAP ELECTRIC SERVICE TO THE SMALL CELL DISTRIBUTED ANTENNA SYSTEM FROM THE LOCATIONS JOINTLY IDENTIFIED DURING THE FIELD INVESTIGATION.
- SERVICE VOLTAGE TO ALL THE PROPOSED LOCATIONS MAY NOT BE THE SAME. APPLICANT SHALL DESIGN THEIR SYSTEM TO OPERATE AT THE AVAILABLE VOLTAGE IN THE VICINITY.
- IF BRAND NEW POLES NEED TO BE INSTALLED FOR APPLICANT'S SYSTEM THEN THE POLES MUST MATCH EXISTING POLES IN THE DOWN TOWN AREA.
- AFTER EXCAVATION IS COMPLETED ON THE PUBLIC RIGHT OF WAY, EXISTING STREETS INCLUDING SIDEWALKS/ CURB/ GUTTER OR ANY DECORATIVE PATHS MUST BE BROUGHT TO ITS ORIGINAL CONDITION AND MUST BE APPROVED BY PUBLIC WORKS ENGINEERING DEPARTMENT'S INSPECTOR. POTHOLING MUST BE DONE AND ALL THE UTILITIES MUST BE IDENTIFIED PRIOR TO COMMENCING EXCAVATION.
- EXCAVATION AND RESTORATION WORK MUST BE IN COMPLIANCE WITH PUBLIC WORKS ENGINEERING STANDARDS AND SPECIFICATIONS THAT ARE AVAILABLE ON THE FOLLOWING WEBSITE:
http://www.cityofpaloalto.org/news/displaynews.asp?NewsID=1834&TargetID=145
- APPLICANTS SHALL BE RESPONSIBLE FOR MAINTAINING THEIR SYSTEM INCLUDING SUBSTRUCTURE. IN CASE OF KNOCK DOWNS, THE CITY WILL RE-INSTALL ITS STREET LIGHTING POLES BUT NOT APPLICANT'S EQUIPMENT ON OR OFF THE POLE.
- A FIELD MEETING IS RECOMMENDED WITH UTILITIES ENGINEERING PRIOR TO COMMENCING THE WORK.
- PLANS SHALL INCLUDE A NOTE: CONTRACTOR TREE INSPECTION REQUIREMENTS: MODIFIED TYPE III TRUNK WRAPPING SHALL BE VERIFIED BY URBAN FORESTRY PRIOR TO ANY WORK IN THE VICINITY. FOR EACH TREE SITE WRAPPED FOR PROTECTION WITHIN 15' OF ANY WORK ZONE OR CONCRETE FORM SECTION, A BILLABLE TREE INSPECTION BY URBAN FORESTRY (650-496-5953, 24-HOUR ADVANCE IS REQUIRED) SHALL BE COMPLETED PRIOR TO DEMOLITION, DRILLING, EXCAVATING,FORMING OR STREET LIGHT ACTIVITY. CONTRACTOR SHALL ARRANGE PAYMENTS AT THE DEVELOPMENT CENTER, 285 HAMILTON AVE, PALO ALTO, CA.
- THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITIES DEPARTMENT 650/329-2413 OR 650/496-6982 IF THE EXISTING WATER, WASTEWATER OR GAS MAINS ARE DISTURBED OR DAMAGED. A QUALIFIED CONTRACTOR MAY PERFORM REPAIRS ON CITY WATER AND WASTEWATER MAINS UNDER THE DIRECT SUPERVISION OF THE WGW UTILITIES INSPECTOR. FOR WATER REPAIRSALL THE DISINFECTION REQUIREMENTS OF THE WGW UTILITY STANDARDS AND THESE CONDITIONS SHALL BE ADHERED TO. ALL REPAIRS TO THE CITY GAS SYSTEM MUST BE PERFORMED BY THE CITY OF PALO ALTO UTILITIES.
- NO WATER VALVES OR OTHER FACILITIES OWNED BY UTILITIES DEPARTMENT SHALL BE OPERATED FOR ANY PURPOSE BY THE APPLICANT'S CONTRACTOR. ALL REQUIRED OPERATION WILL ONLY BE PERFORMED BY AUTHORIZED UTILITIES DEPARTMENT PERSONNEL. WATER VALVES MAY BE OPERATED BY THE CONTRACTOR UNDER THE DIRECT SUPERVISION OF THE WGW UTILITIES INSPECTOR. THE APPLICANT'S CONTRACTOR SHALL NOTIFY THE UTILITIES DEPARTMENT NOT LESS THAN FORTY-EIGHT (48) HOURS IN ADVANCE OF THE TIME THAT SUCH OPERATION IS REQUIRED.

SF PALO ALTO 033m2
PALO ALTO

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:
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SAN JOSE, CA 95134
www.crowncastle.com

PREPARED BY:
Coastal Communications
Telecommunications Engineering
5841 EDISON PLACE, SUITE 200
CARLSBAD, CA 92008
PHONE: (760) 929-0910
FAX: (760) 929-0936
www.coastalcomminc.com

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REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp.03-31-20
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS.
ACROSS FROM 103 KELLOGG AVE
ON ALMA ST
PALO ALTO, CA

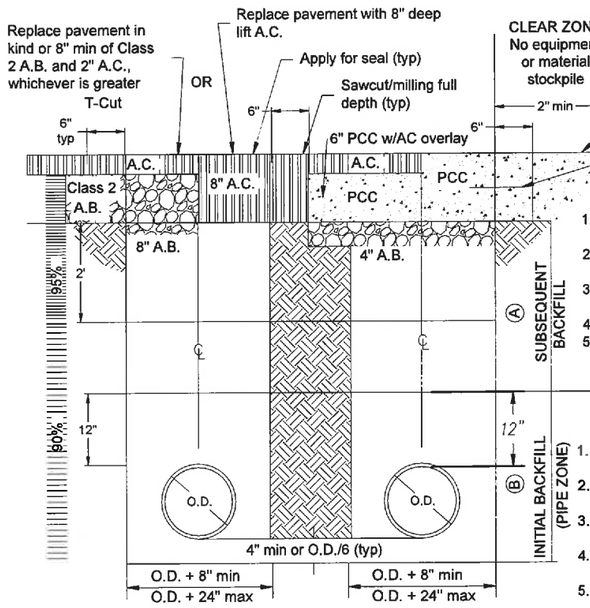
37.436396 / -122.152953

DETAILS & NOTES

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/05/18	TT

SHEET NO.
D-1

CITY OF PALO ALTO
STANDARD
(DRAWING NO. 401)
TRENCHES
TYPICAL CROSS-SECTIONS
N.T.S.



(A) SUBSEQUENT BACKFILL ALTERNATIVES

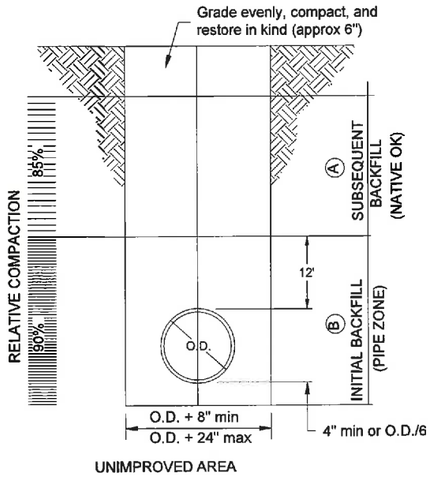
1. Clean natural sand per Caltrans Std Specs Sec 19-3.025B
2. Class 2 aggregate base per Caltrans Std Specs Sec 26-1.02
3. Graded granular material per City Std Specs Sec 17-4F
4. Clean quarry fines
5. Controlled Density Fill (CDF) per City Std Specs Sec 17-4E4b as approved by PWE

(B) INITIAL BACKFILL ALTERNATIVES

1. Clean natural sand per Caltrans Std Specs Sec 19-3.025B (required for gas and water pipes)
2. Class 1, type A & B, permeable per Caltrans Std Specs Sec 68-1.025
3. Graded granular material per City Std Specs Sec 17-4E4
4. Controlled Density Fill (CDF) per City Std Specs Sec 17-4E4b as approved by PWE
5. For W-G-W trench, refer to Utility Standards

GENERAL NOTES

1. PCC shall contain a minimum of 6 sacks concrete with a desired 28-day strength of 3,500 PSI
2. Extend T-cut to lip of Gutter per City Std Specs 17-G
3. Refer to City Std Dwg 403 for trench limits of restoration
4. Match existing AC thickness on PCC overlays

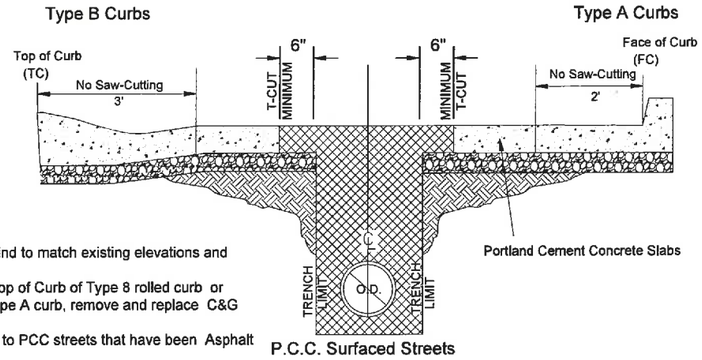


UNIMPROVED AREA

JETTING NOTES

1. IMPROVED AREAS
   a. INITIAL BACKFILL- jetting of sand OK
   b. SUBSEQUENT BACKFILL-jetting of sand subject to approval of City Engineer, except for top 2 ft, which must be mechanically compacted
2. UNIMPROVED AREA: jetting of sand OK
3. WHEN JETTING IS PERMITTED:
   a. Excess water shall be collected at low points and removed by pumping
   b. Sand to be jetted shall be placed in lifts no thicker than 4 ft
   c. Jetting shall be performed at intervals along the trench not to exceed 6 ft

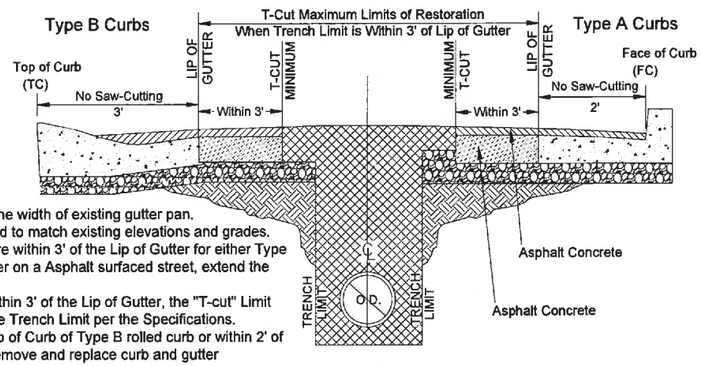
CITY OF PALO ALTO STANDARD
(DRAWING NO. 403)
TRENCHES
LIMITS OF RESTORATION
N.T.S.



P.C.C. Surfaced Streets

NOTES

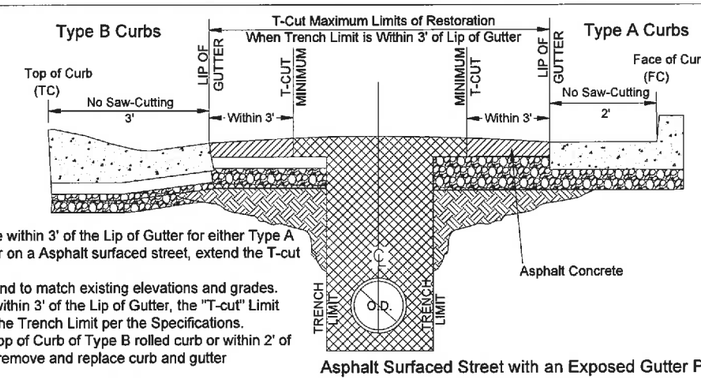
1. Restore all materials in kind to match existing elevations and grades.
2. If Sawcut is within 3' of Top of Curb of Type B rolled curb or within 2' of the face of Type A curb, remove and replace C&G monolithically.
3. These notes also pertain to PCC streets that have been Asphalt overlaid.



NOTES

1. Remove asphalt to verify the width of existing gutter pan.
2. Restore all materials in kind to match existing elevations and grades.
3. When "Trench Limits" is are within 3' of the Lip of Gutter for either Type A or Type B curb and gutter on a Asphalt surfaced street, extend the T-cut to the Lip of Gutter.
4. If "Trench Limit" is NOT within 3' of the Lip of Gutter, the "T-cut" Limit shall be located 6" from the Trench Limit per the Specifications.
5. If Sawcut is within 3' of Top of Curb of Type B rolled curb or within 2' of the face of Type A curb, remove and replace curb and gutter monolithically.

Asphalt Surfaced Street with No Exposed Gutter Pan



NOTES

1. When "Trench Limits" are within 3' of the Lip of Gutter for either Type A or Type B curb and gutter on a Asphalt surfaced street, extend the T-cut to the Lip of Gutter.
2. Restore all materials in kind to match existing elevations and grades.
3. If "Trench Limit" is NOT within 3' of the Lip of Gutter, the "T-cut" Limit shall be located 6" from the Trench Limit per the Specifications.
4. If Sawcut is within 3' of Top of Curb of Type B rolled curb or within 2' of the face of Type A curb, remove and replace curb and gutter monolithically.

Asphalt Surfaced Street with an Exposed Gutter Pan

SF PALO ALTO 033m2
PALO ALTO

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REGISTERED PROFESSIONAL ENGINEER
JERRY M. CHAL
No. C42590
Exp.03-31-20
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ACROSS FROM 103 KELLOGG AVE
ON ALMA ST
PALO ALTO, CA

37.436396 / -122.152953

DETAILS & NOTES

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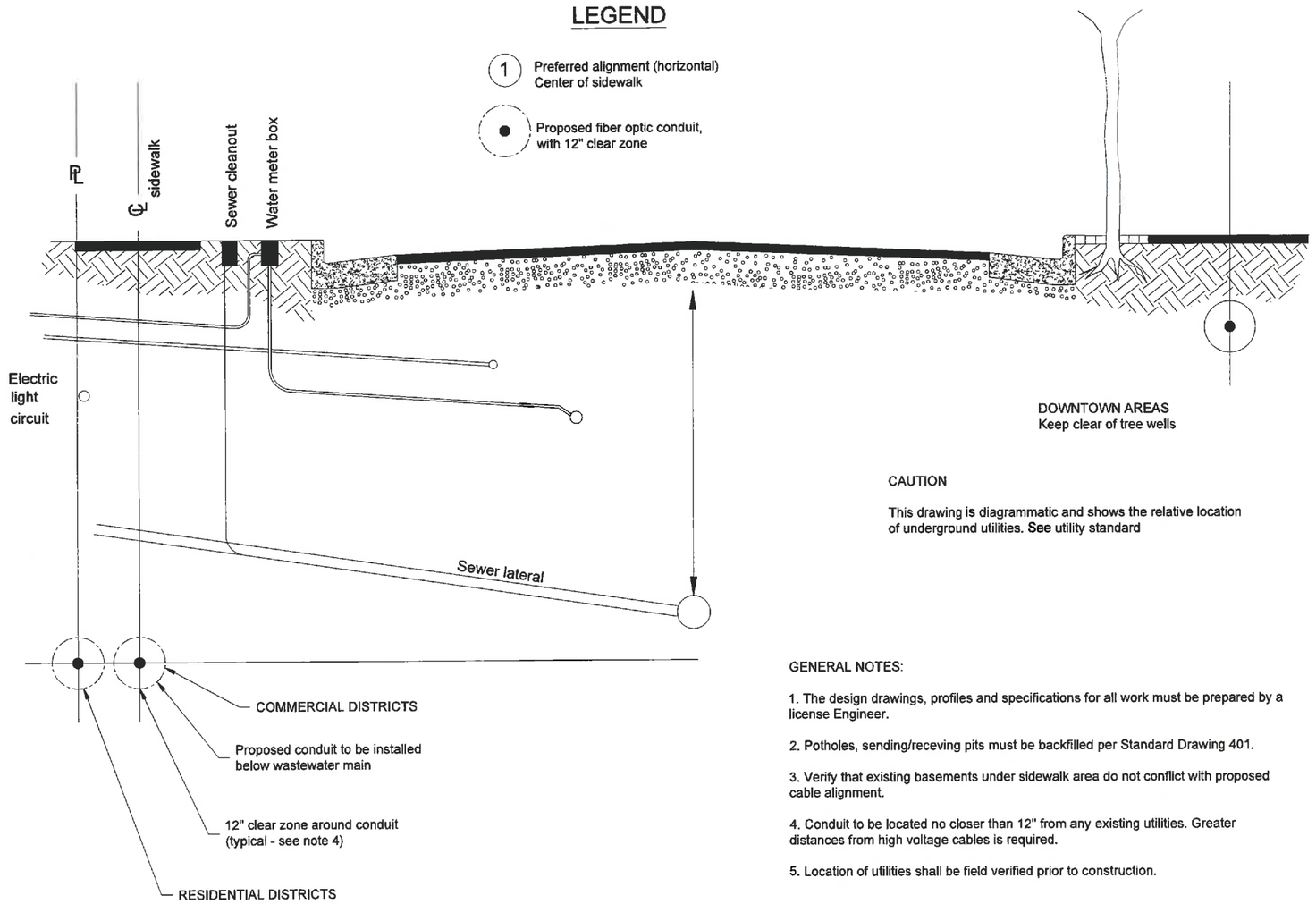
SHEET NO.
D-2

CITY OF PALO ALTO STANDARD
(DRAWING NO. 402)
CONDUIT LOCATION DETAIL
TELECOMMUNICATIONS
N.T.S.

LEGEND

1 Preferred alignment (horizontal)
Center of sidewalk

Proposed fiber optic conduit,
with 12" clear zone



DOWNTOWN AREAS
Keep clear of tree wells

CAUTION

This drawing is diagrammatic and shows the relative location of underground utilities. See utility standard

GENERAL NOTES:

1. The design drawings, profiles and specifications for all work must be prepared by a license Engineer.

2. Potholes, sending/receving pits must be backfilled per Standard Drawing 401.

3. Verify that existing basements under sidewalk area do not conflict with proposed cable alignment.

4. Conduit to be located no closer than 12" from any existing utilities. Greater distances from high voltage cables is required.

5. Location of utilities shall be field verified prior to construction.

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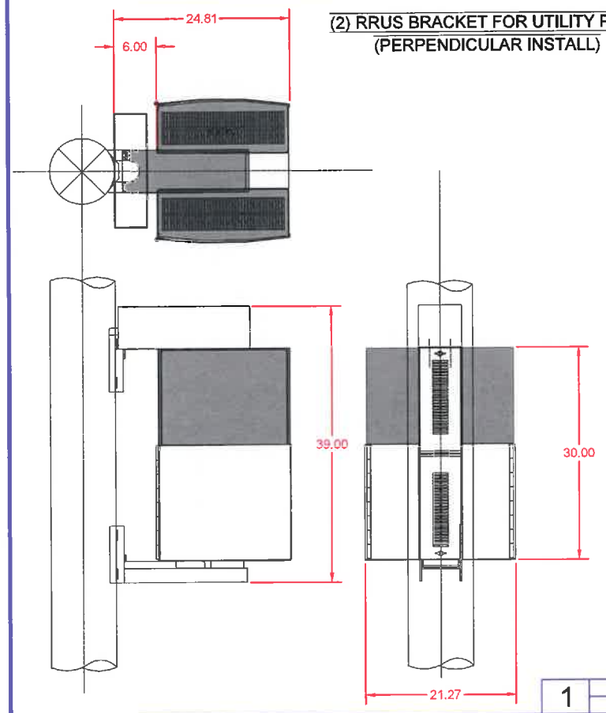
37.436396 / -122.152953

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AGR	06/05/18	TT

SHEET NO.
D-3

(2) RRUS BRACKET FOR UTILITY POLE
(PERPENDICULAR INSTALL)

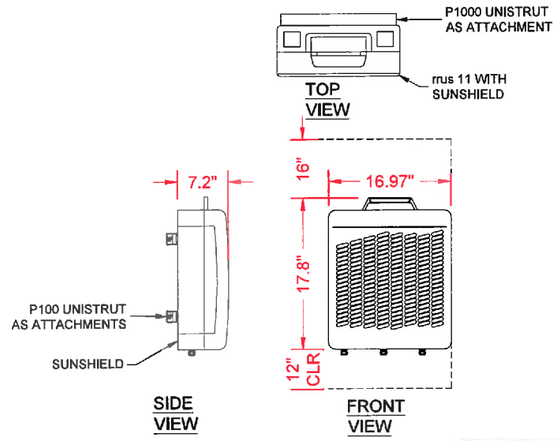


1 SCALE N.T.S.

ERICSSON rrus-11 REMOTE RADIO UNIT
(TYPICAL SECTION: N.T.S)

ERICSSON rrus-11 REMOTE RADIO UNIT
COLOR: GRAY
DIMENSIONS: 17.8" TALL X 16.97" WIDE
X 7.2" DEEP (INCLUDING SUNSHIELD & HANDHOLE)

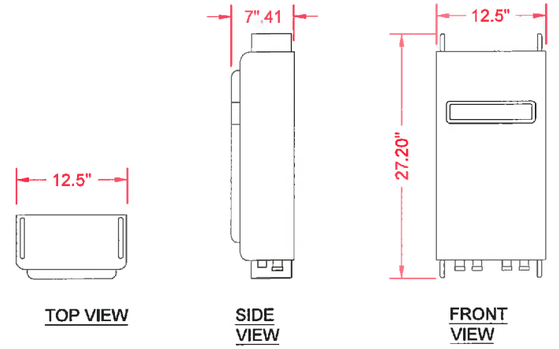
WEIGHT, INCLUDING MOUNTING HARDAWARE:50.7 lbs



2 SCALE N.T.S.

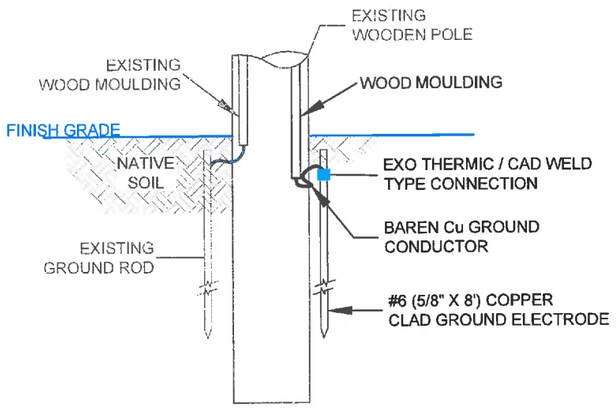
ERICSSON rrus-32 REMOTE RADIO UNIT
(TYPICAL SECTION: N.T.S)

ERICSSON rrus-32 REMOTE RADIO UNIT
COLOR: GRAY
DIMENSIONS: 27.2" TALL X 12.5" WIDE
X 7.41"
TOTAL WEIGHT: 55.12 LBS



3 SCALE N.T.S.

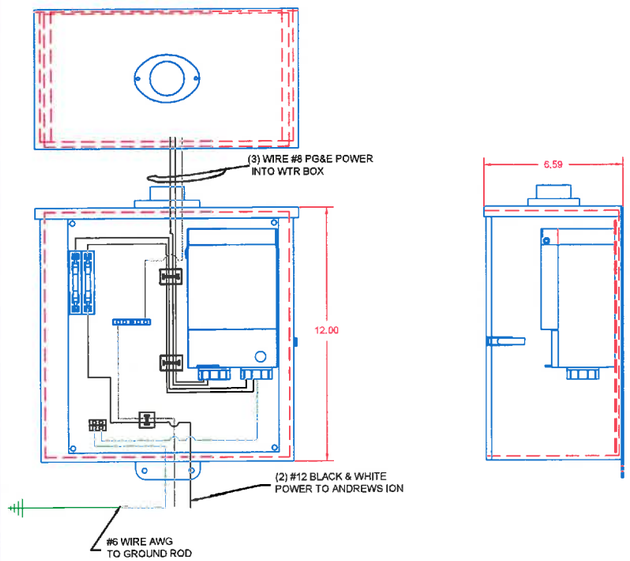
GROUND ROD INSTALLATION FOR WOODEN POLES
TYPICAL SECTION: N.T.S.



NOTE:
UTILITY POLE GROUND SHALL COMPLY WITH PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA GENERAL ORDER No. 95 (SECTION 59.4, 92.4)

4 SCALE N.T.S.

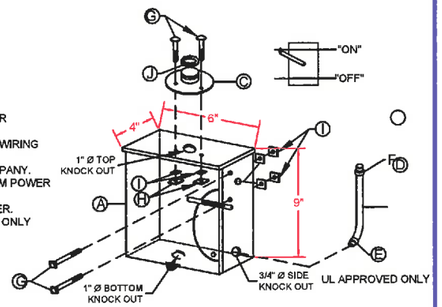
WEIGMANN ENCLOSURE
(12 X 12 X 6 ENCL, SCE CONFIGURATION)



5 SCALE N.T.S.

DISCONNECT BOX
TYPICAL SECTION: N.T.S.

NOTES:
1. MAIN DISCONNECT BREAKER.
2. MANUFACTURER SQUARE D - (OR EQUIVALENT).
3. BREAKER SIZE AND INCIDENTAL WIRING SPECIFIED BY CLIENT.
4. KAIC SPECIFIED BY POWER COMPANY.
5. 1" CLOSE NIPPLE FOR FEED FROM POWER SOURCE.
6. 3/4" LIQUID FLEX TO TRANSCEIVER.
7. CABINET LOCKABLE FOR CLIENT ONLY



PARTS LIST		
CALLOUT	QTY	DESCRIPTION
A	1	CABINET WATER PART #
B	1	BREAKER AMP KAIC 2 POLE 120/140 VAC SINGLE PHASE
C	1	1" CLOSE NIPPLE STRAIGHT
D	1	3/4" X 4' LIQUID TIGHT METALLIC FLEX CONDUIT WITH CONNECTOR
E	1	3/4" Ø LIQUID TIGHT FLEX CONNECTOR 45°
F	1	3/4" Ø LIQUID TIGHT FLEX CONNECTOR - STRAIGHT
G	4	5/6" X 1" BOLT - STAINLESS STEEL
H	4	5/6" LOCK WASHER - STAINLESS STEEL
I	4	5/16" NUT - STAINLESS STEEL
J	1	1" LOCK NUT

6 SCALE N.T.S.

SF PALO ALTO 033m2
PALO ALTO

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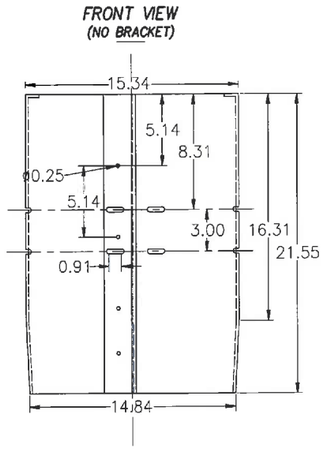
DETAILS & NOTES

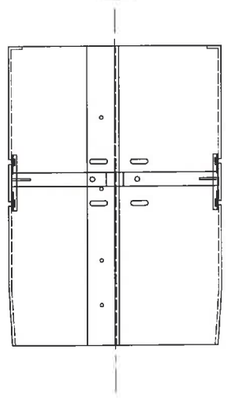
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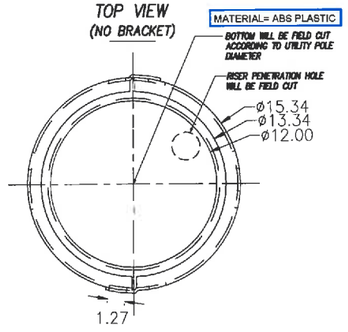
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D-4

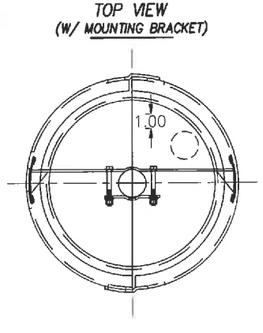
CONCEALMENT COVER
TYPICAL SECTION: N.T.S.

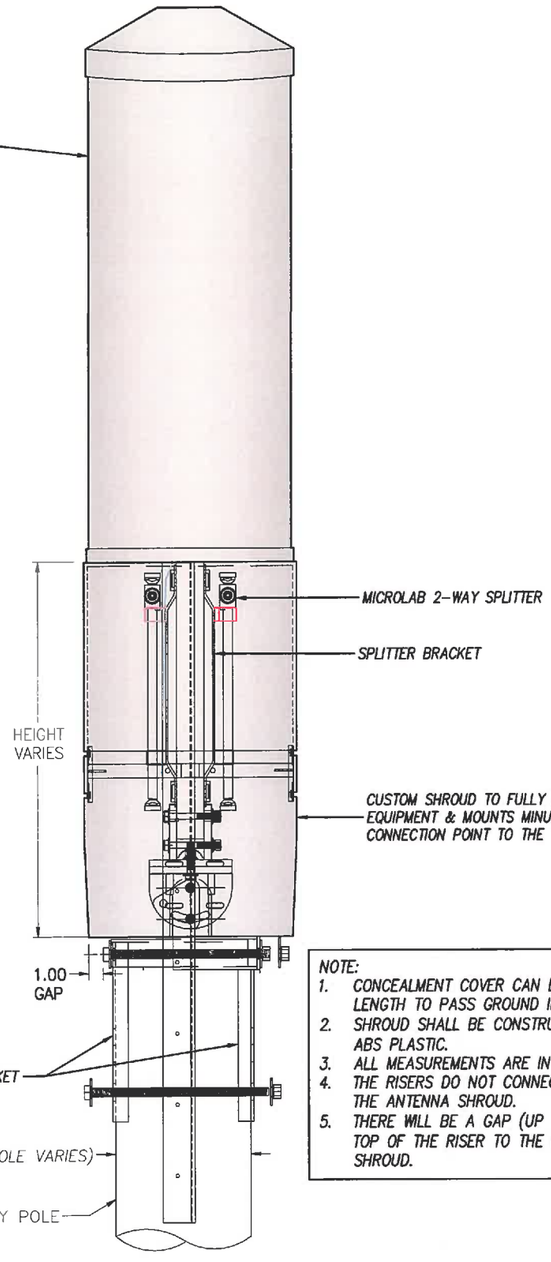
NOTE: PAINT ANTENNA AND CUSTOM CONCEALMENT SHROUD TO MATCH POLE.



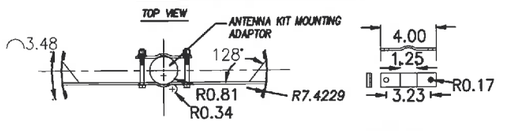


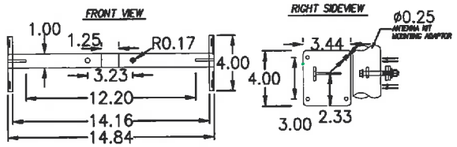






RADOME MOUNTING COMPONENTS





NOTE:
1. CONCEALMENT COVER CAN BE ADJUSTED IN LENGTH TO PASS GROUND INSPECTION.
2. SHROUD SHALL BE CONSTRUCTED OF 1/4" ABS PLASTIC.
3. ALL MEASUREMENTS ARE IN INCHES.
4. THE RISERS DO NOT CONNECT OR GO INTO THE ANTENNA SHROUD.
5. THERE WILL BE A GAP (UP TO 6") FROM THE TOP OF THE RISER TO THE BOTTOM OF THE SHROUD.

7 | SCALE N.T.S.

CUUT360X12F124s0

Electrical Characteristics	Low Band		High Bands #1 and #2			
Frequency Bands (MHz)	696-960 MHz		(2x) 1695-2700 MHz			
	696-806	806-960	1695-1880	1850-1990	1920-2200	2300-2700
Polarization	±45°		(2x) ±45°			
Horizontal Beamwidth	360°	360°	360°	360°	360°	360°
Vertical Beamwidth	20°	15°	7.5°	7.0°	6.5°	6.0°
Gain	5.5 dBi	6.0 dBi	9.0 dBi	9.5 dBi	10.0 dBi	10.3 dBi
Electrical Downtilt (°)	(x) 0, 2, 4, 6, 8, 10, 12		(y) 0, 4, 8, 12			
Impedance	50Ω		50Ω			
VSWR	≤ 1.5:1		≤ 1.5:1			
Upper Sidelobe Suppression	> 15 dB		> 15 dB			
Isolation Between Ports	20 dB		25 dB			
IM3 (2x20W carrier)	< -153 dBc		< -153 dBc			
Input Power	(2x) 500 W		(4x) 300 W			
Diplexed	No					
Number of Sectors / Sector Spacing	3 Sectors / Pseudo Omni					
Lightning Protection	Direct Ground					

Mechanical Characteristics				
Antenna Dimensions (Height x Diameter)	1219 x 371	mm	48.0 x 14.6	in
Weight without Mounting Bracket Kit	17.3	kg	38.1	lbs
Antenna Volume	0.13	m^3	4.7	ft^3
Survival Wind Speed	200	km/hr	125	mph
Wind Area	0.47	m^2	5.0	ft^2
Wind Load (160 km/hr or 100 mph)	391	N	88	lbf

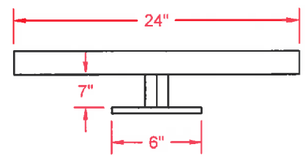


8 | SCALE N.T.S.

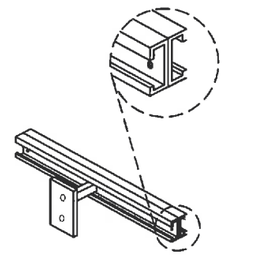
STANDOFF BRACKET

FRONT VIEW OF STAND OFF BRACKET:





TOP VIEW STAND OFF BRACKET:



3D VIEW OF STAND OFF BRACKET:

9 | SCALE N.T.S.

SF PALO ALTO 033m2
PALO ALTO

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:
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695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
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5841 EDISON PLACE, SUITE 200
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FAX: (760) 929-0936
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REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp.03-31-20
CIVIL
STATE OF CALIFORNIA

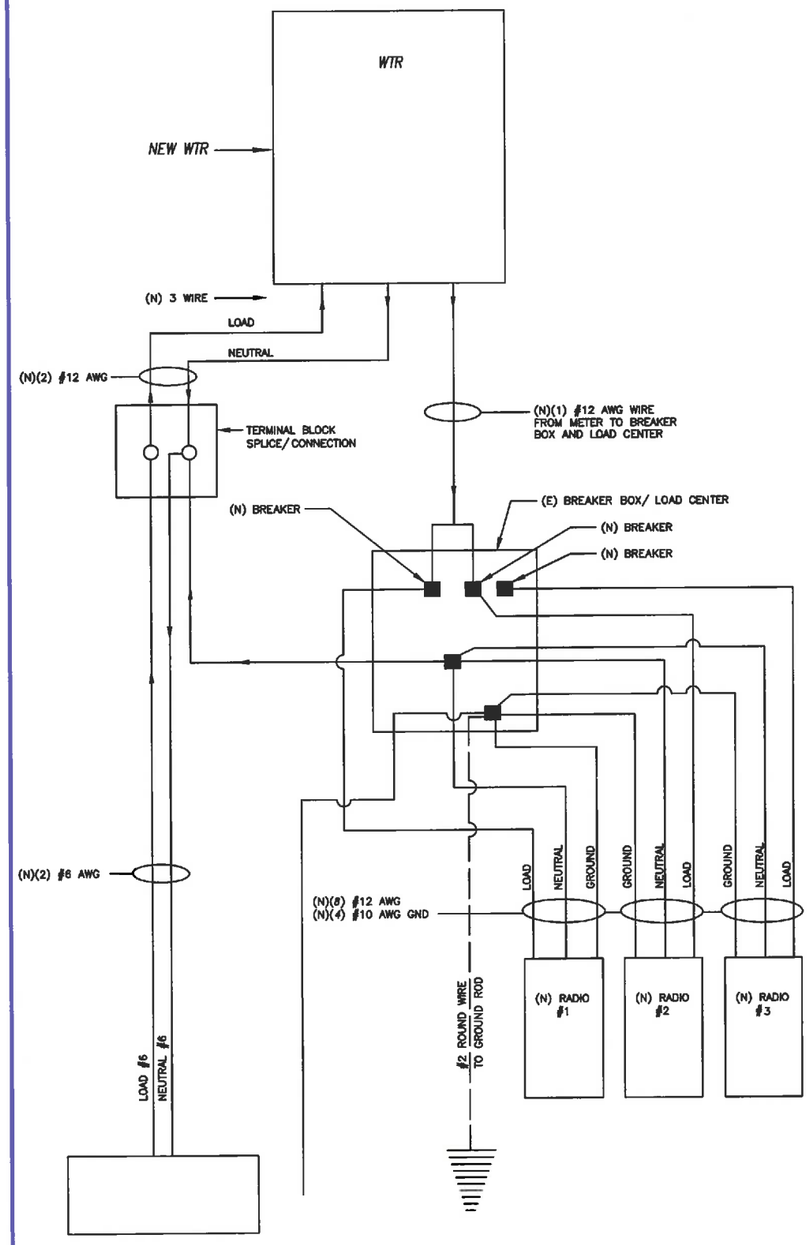
SITE NAME & ADDRESS:
ACROSS FROM 103 KELLOGG AVE
ON ALMA ST
PALO ALTO, CA
37.436396 / -122.152953

DETAILS & NOTES

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/05/18	TT

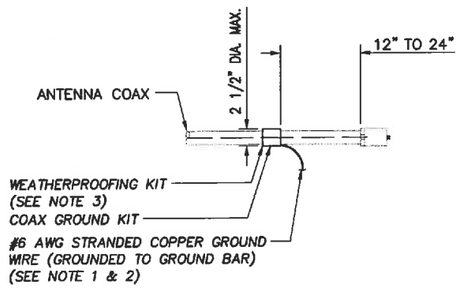
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D-5

SINGLE LINE DIAGRAM



10 SCALE N.T.S.

CONNECTION OF COAX GROUND KIT TO ANTENNA COAX

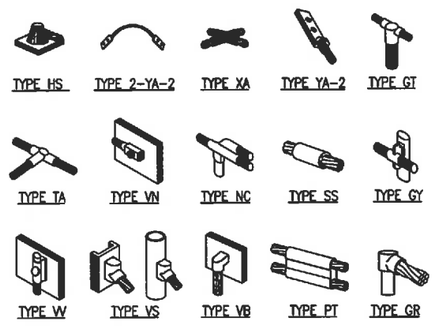


NOTES:

1. DO NOT INSTALL COAX GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PARK NUMBER AS SUPPLIED OR RECOMMENDED BY COAX MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

11 SCALE N.T.S.

WELD CONNECTION DETAILS

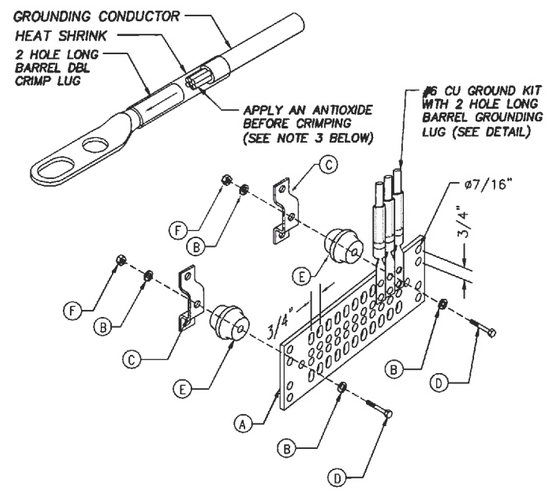


NOTE:

ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH PROJECT MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.

12 SCALE N.T.S.

TYPICAL GROUND BAR



NOTES:

1. CRIMP (COMPRESSION) TYPE TWO HOLE BOLTED TONGUE CONNECTORS SHALL BE USED TO TERMINATE STRANDED GROUNDING CONDUCTORS. THE CONNECTORS SHALL BE TIN PLATED COPPER, LONG BARREL LUG, AND SHALL BE LISTED FOR THEIR INTENDED USE BY AN NRTL.
2. CRIMP TYPE CONNECTORS USED ON SOLID CONDUCTORS MUST BE LISTED BY AN NRTL FOR USE ON SOLID CONDUCTORS, AND MUST BE CRIMPED WITH THE DIES SPECIFIED BY THE MANUFACTURER OF THE CONNECTOR. USE A HYDRAULIC CRIMPING TOOL.
3. WIRES SHALL BE INSERTED THE ENTIRE LENGTH OF THE LUG. ENSURE COAX OUTER INSULATION IS SNUG TO LUG BARREL. PROVIDE AN ANTIOXIDE COMPOUND ON THE CONDUCTOR BEFORE CRIMPING (NO OX). INSTALL A TRANSPARENT HEAT SHRINK INSULATING TUBING ALONG THE ENTIRE LENGTH OF THE CRIMP.
4. USE #6 AWG STRANDED-THOMAS & BETTS 455578 OR EQUIVALENT.

PARTS LIST		PARTS LIST	
A	COPPER GROUND BAR, USE STYLE "I" GTI TELECOM, INC. OR EQUAL (ACTUAL GROUND BAR SIZE WILL VARY BASED ON NUMBER OF GROUND CONNECTIONS)	C	WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056 OR EQUAL
		D	5/8-11 X 1" HHCS BOLTS, NEWTON INSTRUMENT CO. CAT. NO. A-6056 OR EQUAL
B	5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8 OR EQUAL	E	INSULATORS SHALL BE INSTALLED
		F	5/8-11 NUT

13 SCALE N.T.S.

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PALO ALTO

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JERRY L. MICHAL
No. C42590
Exp. 03-31-20
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ACROSS FROM 103 KELLOGG AVE
ON ALMA ST
PALO ALTO, CA
37.436396 / -122.152953

DETAILS & NOTES

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/05/18	TT

SHEET NO.
D-6

CITY OF PALO ALTO
TREE PROTECTION - IT'S PART OF THE PLAN!
Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree. For detailed information on Palo Alto's regulated trees and protection during development, review the City Tree Technical Manual (TTM) found at www.cityofpaloalto.org/trees/.

TREE DISCLOSURE STATEMENT

CITY OF PALO ALTO
Planning Division, 250 Hamilton Avenue
Palo Alto, CA 94301
(650) 329-2441
http://www.cityofpaloalto.org

Palo Alto Municipal Code, Chapter 8.10.040, requires disclosure and protection of certain trees located on private and public property, and that they be shown on submitted and approved site plans. A completed *tree disclosure statement* must accompany all permit applications that include exterior work, all demolition or grading permit applications, or other development activity.

PROPERTY ADDRESS: Across from 103 Kellogg Avenue on Alma Street, Palo Alto, CA

Are there Regulated[1] trees on or adjacent to the property? **YES** **NO** (If no, proceed to Section 4)

[Sections 1- 4 MUST be completed by the applicant. Please circle and/or check where applicable.]

1. Where are the trees? Check those that apply. **(Plans must be submitted showing all trees over 4" diameter)**

- ☐ On the property
- ☐ On adjacent property overhanging the project site
- ☐ In the City planter strip or right-of-way easement within 30' of property line (Street Trees)*

*Street trees[1] **require special protection by a fenced enclosure,** per the attached instructions. Prior to receiving any permit, you must provide an authorized Street Tree Protection Verification form. Contact Public Works Operations at (650) 496-5953 for inspection of type I, II or III fencing (see attached Detail #605) required for all street trees.

2. Are there any Protected[1] or Designated[1] Trees? **YES** (Check where applicable) **NO**

- ☐ Protected Tree (s)
- ☐ Designated Tree (s)
- ☐ On or overhanging the property

3. Is there activity or grading within the dripline? (radius 10 times the trunk diameter) of these trees? **YES** **NO**

*If Yes, a **Tree Preservation Report** must be prepared by an ISA certified arborist and submitted for staff review (see TTM[2], Section 6.25). Attach this report to Sheet T-1,:Tree Protection, its Part of the Plan!", per Site Plan Requirements.*

4. Are the Site Plan Requirements** completed? **YES** **NO**

**Plans. Protection of Regulated trees during development require the following: (1) Plans must show the measured trunk diameter and canopy dripline; (2) Plans must denote, as a bold dashed line, a fenced enclosure area out to the dripline, per Sheet T-1 and Detail #605 - http://www.cityofpaloalto.org/trees/forms.htm (See also TTM[2], Section 2.15 for area to be fenced)

I, the undersigned, agree to the conditions of this disclosure. I understand that knowingly or negligently providing false or misleading information in response to this disclosure requirement constitutes a violation of the Palo Alto Municipal Code Section 8.10.040, which can lead to criminal and/or civil legal action.

Signature: Ben Willis (Prop. Owner or Agent) Print: Ben Willis Date: 9/07/18

FOR STAFF USE:

Protective Fencing
Sections 5-6 must be **completed by staff** for the issuance of any development permit (demolition, grading or building permit).

5. Protected Trees. The specified tree fencing is in place. A written statement is attached verifying that protective fencing is correctly in place around protected and/or designated trees. **YES** **NO**
(N/A if there are no protected trees, check here ☐)

6. Street Trees. A signed Public Works Street Tree Protection Verification form is attached. **YES** **NO**
(N/A if there are no street trees, check here ☐).

[1] Regulated Trees – a) Street trees – trees on public property; b) Protected trees – Coast Live Oaks or Valley Oaks which are 11.5" in diameter or larger, Coast Redwoods which are 18" in diameter or larger, when measured 54" above natural grade; and Heritage trees are trees designated by City Council; and c) Designated Trees – commercial or non-residential property trees, which are part of an approved landscape plan.

[2] Palo Alto Tree Technical Manual (TTM) contains instructions for all requirements on this form, available at www.cityofpaloalto.org/trees/technical-manual.html

Tree technical Manual

To purchase the tree Technical Manual

June, 2001 First Edition

View by section:

- o Table of Contents (PDF, 87KB)
- o Intent and Purpose (PDF, 1.05MB)
- o Introduction - Use of Manual (PDF, 1.05MB)
- o Section 1.0 - Definitions (PDF, 96KB)
- o Section 2.0 - Protection of Trees During Construction (PDF, 259KB)
- o Section 3.0 - Removal, Replacement & Planting of Trees (PDF, 117KB)
- o Section 4.0 - Hazardous Trees (PDF, 105KB)
- o Section 5.0 - Tree Maintenance Guidelines (PDF, 110KB)
- o Section 6.0 - Tree Reports (PDF, 84KB)

View ALL sections:

- o Tree Technical Manual - Full (PDF, 1.84MB)

APPENDICES
A. Palo Alto Municipal Code Chapter 8.10, Tree Preservation & Management Regulations
B: Tree City - USA
C: ISA Hazard Evaluation Form
D: List of Inherent Failure Patterns for Selected Species (Reference source) E: ISA Tree Pruning Guidelines (PDF, 1.85MB)
F: Tree Care Safety Standards, ANSI Z133.1-1994 (Reference source)
G: Pruning Performance Standards, ANSI A300-1995 (Reference source) H: Tree Planting Details, Diagram 504 & 505 I: Tree Disclosure Statement
J: Palo Alto Standard Tree Protection Instructions

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Exp.03-31-20
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
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SPECIAL TREE PROTECTION INSTRUCTION SHEET

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/05/18	TT

SHEET NO.
T1.1

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TREE PROTECTION - IT'S PART OF THE PLAN!
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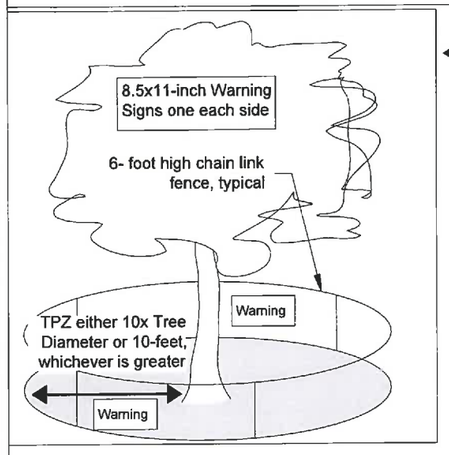
Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree. For detailed information on Palo Alto's regulated trees and protection during development, review the City Tree Technical Manual (TTM) found at www.cityofpaloalto.org/trees/.

For written specifications associated with illustrations below, see Public Works Specifications Section 31

Detailed specifications are found in the Palo Alto Tree Technical Manual (TTM)(ww.cityofpaloalto.org/trees/)

Tree Protection (TPZ) shown in gray (radius of TPZ equals 10-times the diameter if the tree or 10-feet, whichever is greater).

- Restricted activity area – see Tree Technical Manual Sec 2.15(E).
- Restricted trenching area – see Tree Technical Manual Sec 2.20(C-D), any proposed trench or form work within TPZ of a protected tree requires approval from Public Works Operations. Call 650-496-5953.



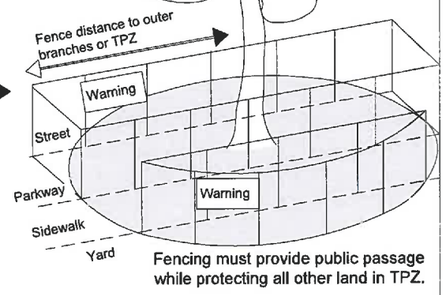
Type I Tree Protection

For all Ordinance Protected & Designated trees, as detailed in the site specific tree preservation report (TPR) prepared by the applicant's project arborist as diagramed on the plans.

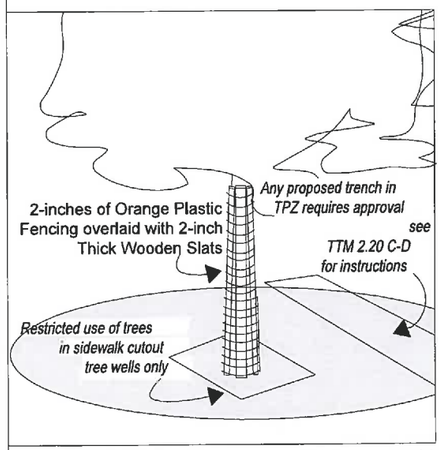
Note: Ordinance Protected & Designated Trees. Issuance of a permit requires applicant's project arborist written verification Type I is installed correctly according to the plans and Tree Preservation Report

Any inadvertent sidewalk or curb replacement or trenching requires approval

Type II Tree Protection



Fencing must provide public passage while protecting all other land in TPZ.



Note: Street Trees. Issuance of a permit requires Public Works Operations inspection and signed approval on the Street Tree Verification (STV) form provided.

Type III Tree Protection

(to be used only with approval of Public Works Operations)

Tree fencing is required and shall be erected before demolition, grading or construction begins.

PALO ALTO
STREET TREE PROTECTION INSTRUCTIONS
--SECTION 31–

a. Tree protection has three primary functions, I) to keep the foliage canopy and branching structure clear from contact by equipment, materials and activities; 2) to preserve roots and soil conditio ns in an intact and non-compacted state and 3) to identify the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities arc restricted, unless otherwise approved.
b. The Tree Protection Zone (TPZ) is a restricted area around the base of the h·ec with a radius of ten-times the diameter of the tree's trunk or ten feet; whichever is greater, enclosed by fencing.

31-2 Reference Documents

a. Detail 605- illustration of situations described below.
b. Tree Technical Manual (TTM) Forms (http://www.cityofpaloalto.org/trees/)
1. Trenching Restriction Zones (TITM, Section 2.20(C))
2. Arborist Reporting Protocol (TITM, Sectio n 6.30)
3. Site Plan Requirements (TITM, Sect ion 6.35)
4. Tree Disclosure Statement (TTM, Appendix J)
c. Street Tree Verification (STV) Form (http://www.cityofpalo alto.org/trees/forms)

31-3 Execution

a. Type I Tree Protection: The fence shall enclose the entire TPZ of the trce(s) to be protected throughout the life of the construction project. In some parking areas, if fencing is located on paving or concrete that will not be demolished, then the posts may be supported by an appropriate grade level concrete base, if approved by Public Works Operations.
b. Type II Tree Protection: For trees situated within a planting strip, only the planting strip and yard side of the TPZ shall be enclosed with the required chain link protective fencing in order to keep the sidewalk and street open for public use.
c. Type III Tree Protection: To be used Q!!]y with approval of Public Works Operations. Trees situate d in a tree well or sidewalk planter pit, shall be wrapped with 2-inches of orange plastic fencing from the ground to the first branch and overlaid with 2-inch thick wooden slats bound securely (slats shall not be allowed to dig into the bark). During installation of the plastic fencing, caution shall be used to avoid damaging any branches. Major limbs may also require plastic fencing as directed by the City Arborist.
d. Size, type and area to be fenced. All trees to be preserved shall be protected with six (6') foot high chain link fences. Fences arc to be mounted on two-inch diameter galvanized iron posts, driven into the ground to a depth of at least2-feet at no more than JO-foot spacing. Fencing shall extend to the outer branching, unless specifically approved on the STV Form.
e. 'Warning' signs. A warning sign shall be weather proof and prominently displayed on each fence at 20-foot intervals. The sign shall be minimum 8.5-inchcsx I I-inches and clearly state in half inch tall letters: "WARNING - Tree Protection Zone - This fence shall not be removed and is subject to a fine according to PAMC Section 8.10.110."
f. Duration. Tree fencing shall be erected before demolition; grading or construction begins and remain in place until final inspection of the project, except for work specifically allowed in the TPZ . Work or soil disturbance in the TPZ requires approval by the project arborist or City Arborist (in the case of work around Street Trees). Excavations within the public right of way require a Street Work Permit from Public Works.

g. During construction

1. All neighbors' trees that overhang the project site shall be protected from impact of any kind.
2. The applicant shall be responsible for the repair or replacement plus penalty of any publicly owned trees that are damaged during the course of construction, pursuant to Section 8.04.070 of the Palo Alto Municipal Code.
3. The following tree preservation measures apply to all trees to be retained:
a. No storage of material, topsoil, vehicles or equipment shall be permitted within the TPZ.
b. The ground under and around the tree canopy area shall not be altered.
c. Trees to be retained shall be irrigated, aerated and maintained as necessary to ensure survival.

END OF SECTION

City of Palo Alto 2004 Standard Drawings and Specifications
Street Tree Vcrification of Protection, PWE, Section 31

Revised 08/06

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PALO ALTO

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Table 2-2 Palo Alto Tree Technical Manual
ARBORIST INSPECTION SCHEDULE

All Checked Items Apply to this project:

1. ☑ Inspection of Protective Tree Fencing. The Street Tree Verification Form shall be signed by the City Arborist. For other Protected Trees, the project arborist shall provide a written statement with a photograph verifying that he has conducted a field inspection of the trees and that the protective tree fencing is in place prior to issuance of a demolition, grading, or building permit. (see Verification of Tree Protection, Section 1.39).

2. ☑ Pre-Construction Meeting. Prior to commencement of construction, the applicant or contractor shall conduct a pre-construction meeting to discuss tree protection with the job site superintendent, grading equipment operators, project arborist, City Arborist, and, if a city maintained irrigation system exists, the Parks Manager (Contact 650-496-6962).

3. ☐ Inspection of Rough Grading. The project arborist shall perform an inspection during the course of rough grading ACROSS FROM the TPZ to ensure trees will not be injured by compaction, cut or fill, drainage and trenching, and if required, inspect aeration systems, tree wells, drains and special paving. The contractor shall provide the project arborist at least 48 hours advance notice of such activity.

4. ☐ Monthly Inspections. The project arborist shall perform a monthly activity inspection to monitor and advise for conditions and tree health. The City Arborist shall be in receipt of the activity report during the first week of each calendar month or, immediately if there are any revisions to the approved plans or protection measures. Fax to (650) 329-2154. (see Monthly Inspection Report, Section 1.17).

5. ☐ Special activity within the Tree Protection Zone. Work in this area (TPZ - described in #7 below) requires the direct onsite supervision of the project arborist (see Trenching, Excavation and Equipment, Section 2.20 C).

6. ☐ Landscape Architect Inspection. For discretionary development projects, prior to temporary or final occupancy the applicant or contractor shall arrange for the Landscape Architect to perform an on site inspection of all plant stock, quality of the materials and planting (see Quality, Section 5.20.1 A) and that the irrigation is functioning consistent with the approved construction plans. The City shall be in receipt of written verification of Landscape Architect approval prior to scheduling the final inspection, unless otherwise approved.

7. ☐ Other (please describe)_____

City of Palo Alto
Tree Department
Public Works Operations
PO Box 10250 Palo Alto, CA 94303
6501496-5953 FAX: 6501852-9289
treeprotection@CityofPaloAlto.org

Verification of Street Tree Protection

Applicant Instruction: Complete upper portion of this form. Mail or FAX this form along with the signed tree Disclosure Statement to Public Works Dept. Public Works Tree Staff will inspect and notify applicant.

APPLICATION DATE:	
ADDRESS/LOCATION OF STREET TREES TO BE PROTECTED:	
APPLICANT'S NAME:	
APPLICANT'S ADDRESS:	
APPLICANT'S TELEPHONE & FAX NUMBERS:	

This section to be filled out by City Tree Staff

1. The Street Trees at the above address(es) are adequately protected. The type of protection used is:	YES NO *If NO, go to #2 below
Inspected by:	
Date of Inspection:	

2. The Street Trees at the above address are NOT adequately protected. The following modifications are required: Indicate how the required modifications were communicated to the applicant.	_____ _____ _____ _____ _____ _____ _____

Subsequent Inspection

Street trees at above address were found to be adequately protected: inspected by:	YES NO *If NO, indicate in "Notes" below the disposition of case.
Date of Inspection:	

Notes: List City street trees by species, site, condition and type of tree protection installed. Also note if pictures were taken. Use back of sheet if necessary.	

Return approved sheet to Applicant for demolition or building permit issuance.
S:PWD/OPS/Tree/DS/St TreeProtect 5/1706

SF PALO ALTO 033m2
PALO ALTO

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
www.crowncastle.com

PREPARED BY:
Coastal Communications
Telecommunications Engineering
5841 EDISON PLACE, SUITE 200
CARLSBAD, CA 92008
PHONE: (760) 929-0910
FAX: (760) 929-0936
www.coastalcomminc.com

PROPRIETARY INFORMATION
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TICKET #_____

REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp.03-31-20
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ACROSS FROM 103 KELLOGG AVE
ON ALMA ST
PALO ALTO, CA
37.436396 / -122.152953

SPECIAL TREE PROTECTION INSTRUCTION SHEET

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/05/18	TT

SHEET NO.
T1.3

CITY OF PALO ALTO
TREE PROTECTION - IT'S PART OF THE PLAN!
Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree. For detailed information on Palo Alto's regulated trees and protection during development, review the City Tree Technical Manual (TTM) found at www.cityofpaloalto.org/trees/.

Arborist Firm Data Here

City of Palo Alto Tree Technical Manual

ADDENDUM 11

email:
RCA/ISA Certified Arborist #WE-000
Conact Cell #:

Monthly Tree Activity Report- Construction Site

Inspection Date: _____ Inspection #_____	Site Address: _____ Palo Alto, CA	Contractor- Main Site Contact Information	#1: Job site superintendent Company: Email: Job site: Office: Cell: Mail:
		Also present:	• _____ • _____
Distribution:	1. City of Palo Alto 2. Others	Attn: Dave Dockter	Dave.dockter@cityofpaloalto.org 650-329-2440

Provide the requested minimum information with each report, customize as necessary. To be completed by project site arborist. Send monthly to city arborist at above address until project completion. Use additional sheets as needed.

1. Assignment Activity (Demolition/grading/sewer/trenching/foundation/list relevant visits)
   a. Pre-construction meeting requirement with sub-contractors
   b. Inspect to verify that tree protection measures are in place
   c. Determine if field adjustments, watering or plan revisions may be needed

2. Field Observations (general site-wide and list by individual tree number)
   a. Tree Protection Fences (TPF) are...
   b. Trenching has/will occur

3. Action Items (list site-wide, by tree number and date to be satisfied) and Date Due
   a. Tree Protection Fence (TPF) needs adjusting (tree # x, x, x)
   b. Root zone buffer material (wood chips) can be installed next
   c. Schedule sewer trench, foundation dig with...

4. Photographs (use often)

5. Tree location Map (mandatory 8.5 x 11 sheet)

6. Recommendations, notes or monitor items for projects/staff/schedule

7. Past visits (list carry-over items satisfied/still outstanding

Respectfully submitted,

Project site arborist
Consultant contact information (Include email, cell #, and mailing)

Enter date CPA Monthly Tree activity Report: Type site address here

---WARNING---
Tree Protection Zone

This fencing shall not be removed without City Arborist approval (650-496-5953)

Removal without permission is subject to a $500 fine per day*

*Palo Alto Municipal Code Section 8.10.110

City of Palo Alto Tree Protection Instructions are located at http://www.cithofpalo-alto.ca.us/trees/technical-manual.html

SPECIAL INSTRUCTIONS — PLANNING DEPARTMENT

TREE PROTECTION INSPECTIONS MANDATORY

PAMC 8.10 PROTECTED TREES. CONTRACTOR SHALL ENSURE PROJECT SITE ARBORIST IS PERFORMING REQUIRED TREE INSPECTION AND SITE MONITORING. PROVIDE WRITTEN MONTHLY TREE ACTIVITY REPORTS TO THE PLANNING DEPARTMENT LANDSCAPE REVIEW STAFF BEGINNING 14 DAYS AFTER BUILDING PERMIT ISSUANCE.

BUILDING PERMIT DATE: _____

DATE OF 1ST TREE ACTIVITY REPORT: _____

CITY STAFF: _____

REPORTING DETAILS OF THE MONTHLY TREE ACTIVITY REPORT SHALL CONFORM TO SHEET T-1 FORMAT, VERIFY THAT ALL TREE PROTECTION MEASURES ARE IMPLEMENTED AND WILL INCLUDE ALL CONTRACTOR ACTIVITY, SCHEDULED OR UNSCHEDULED, WTIHIN A TREE A TREE PROTECTION ROOT ZONE. NON-COMPLIANCE IS SUBJECT TO VIOLATION OF PAMC 8.10.080. REFERENCE: PALO ALTO TREE TECHNICAL MANUAL, SECTION 2.00 AND ADDENDUM 11.

ALL OTHER TREE-RELATED REPORTS SHALL BE ADDED USING ADDITIONAL "T" SHEETS AS NEEDED.

SF PALO ALTO 033m2
PALO ALTO

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SPECIAL TREE PROTECTION INSTRUCTION SHEET

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/05/18	TT

SHEET NO.
T1.4



A | KEY MAP



B | 10 O'CLOCK VIEW



C | 12 O'CLOCK VIEW



D | 3 O'CLOCK VIEW

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PHOTOS

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/05/18	TT

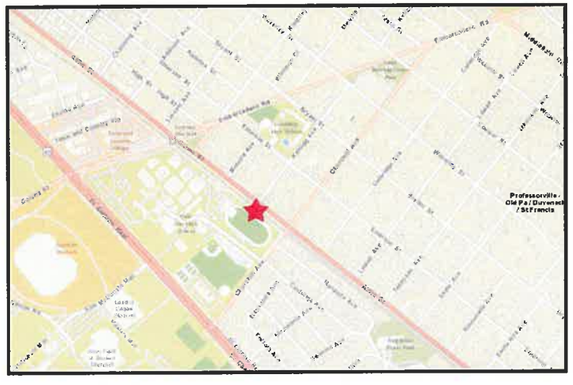
SHEET NO.
P-1



EXISTING SITE

CROWN CASTLE

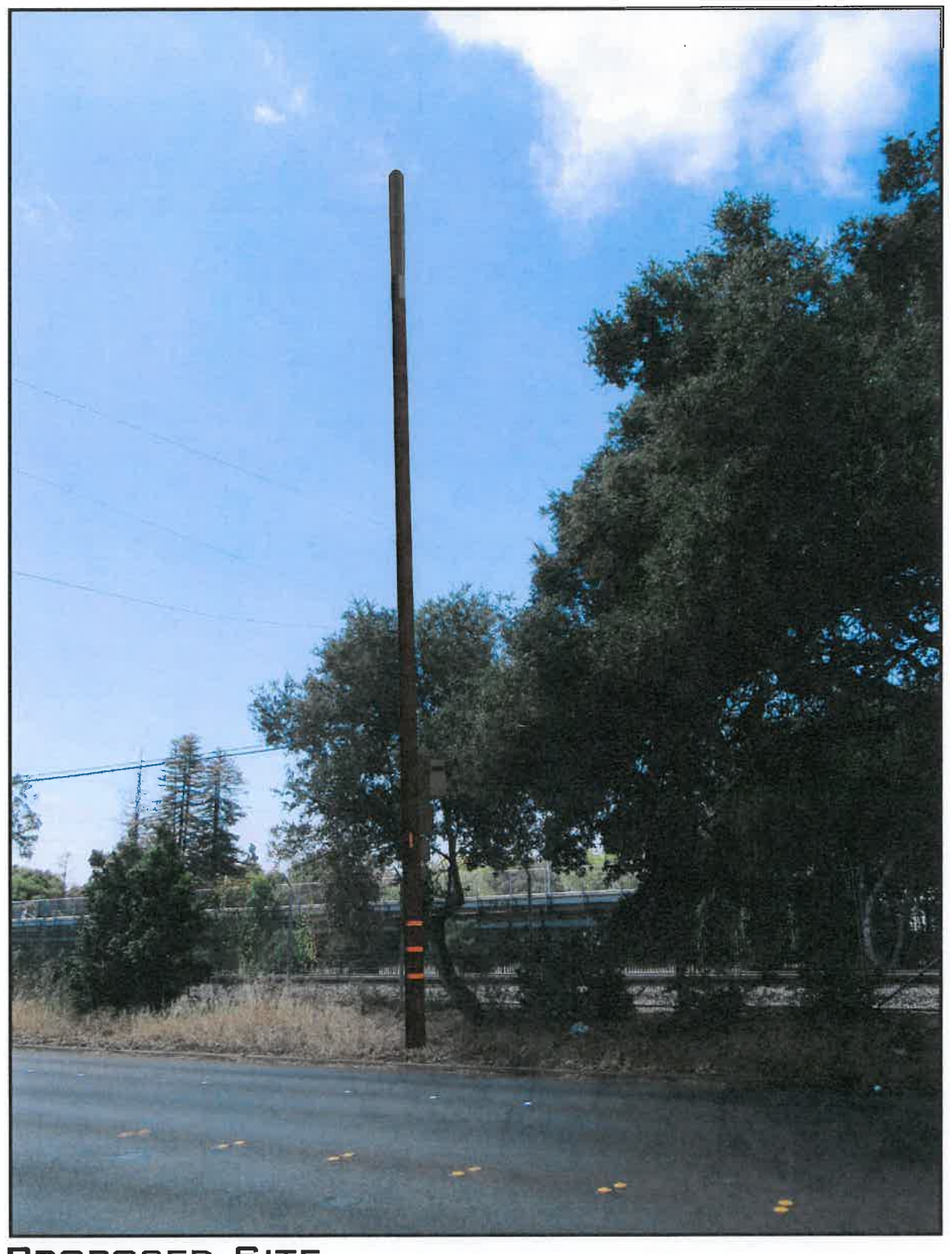
VICINITY MAP



SF PALO ALTO 33M2

ACROSS FROM 103 KELLOGG AVE ON ALMA ST

PALO ALTO, CA



PROPOSED SITE

SF PALO ALTO 033m2
PALO ALTO

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PHOTOSIM

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/05/18	TT

SHEET NO.
P-2

POLE ID #NT

TOP OF EXISTING POLE: 24'-6"

TOP OF NEW POLE: 43'-0"

TOP OF ANTENNA(S): 48'-0"

RAD CENTER: 46'-0"

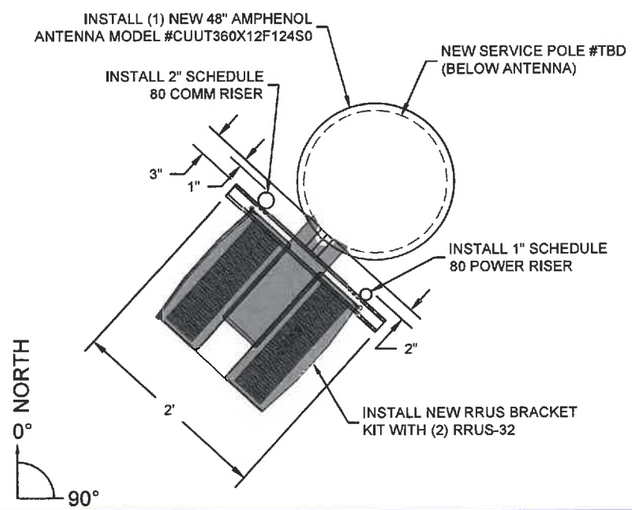
AZIMUTH(S): OMNI

PROFILE VIEW: 3 O' CLOCK

A PROFILE NOTES

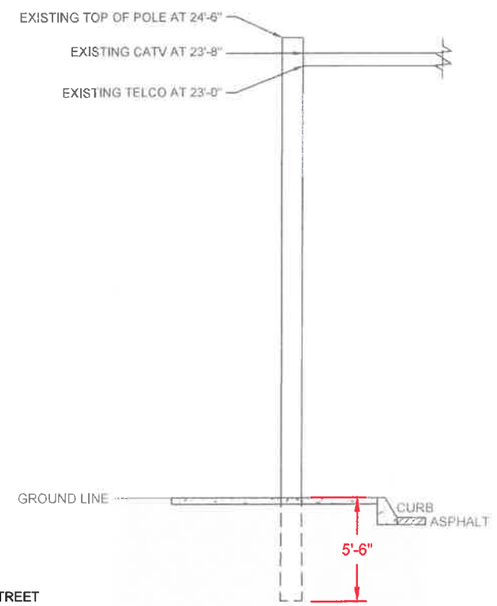
- INSTALL NEW 50' CLASS III SERVICE POLE.
- TRANSFER EXISTING TELCO TO 22'-8".
- TRANSFER EXISTING CATV TO 23'-8".
- INSTALL DOUBLE GUARD ARM AT 24'-0".
- INSTALL SECONDARY SERVICE AT 28'-0".
- INSTALL NEW VGR.
- INSTALL STANDOFF BRACKET(TYP.).
- INSTALL NEW POWER DISCONNECT BOX ON STANDOFF BRACKET AT 8'-0" TO 8'-9".
- INSTALL NEW WTR ENCLOSURE ON STANDOFF BRACKET AT 9'-6" TO 10'-6".
- INSTALL NEW STANDOFF BRACKET KIT WITH (1) RRUS-11 AT 11'-0" TO 12'-5".
- INSTALL NEW RRUS BRACKET KIT WITH (2) RRUS-32 AT 16'-3".
- INSTALL NEW 2" SCHEDULE 80 COMM RISER.
- INSTALL NEW 1" SCHEDULE 80 POWER RISER.
- INSTALL (1) NEW 48" AMPHENOL ANTENNA MODEL #CUUT360X12F124S0 WITH CONCEALMENT COVER.
- INSTALL NOTICE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

B CONSTRUCTION NOTES



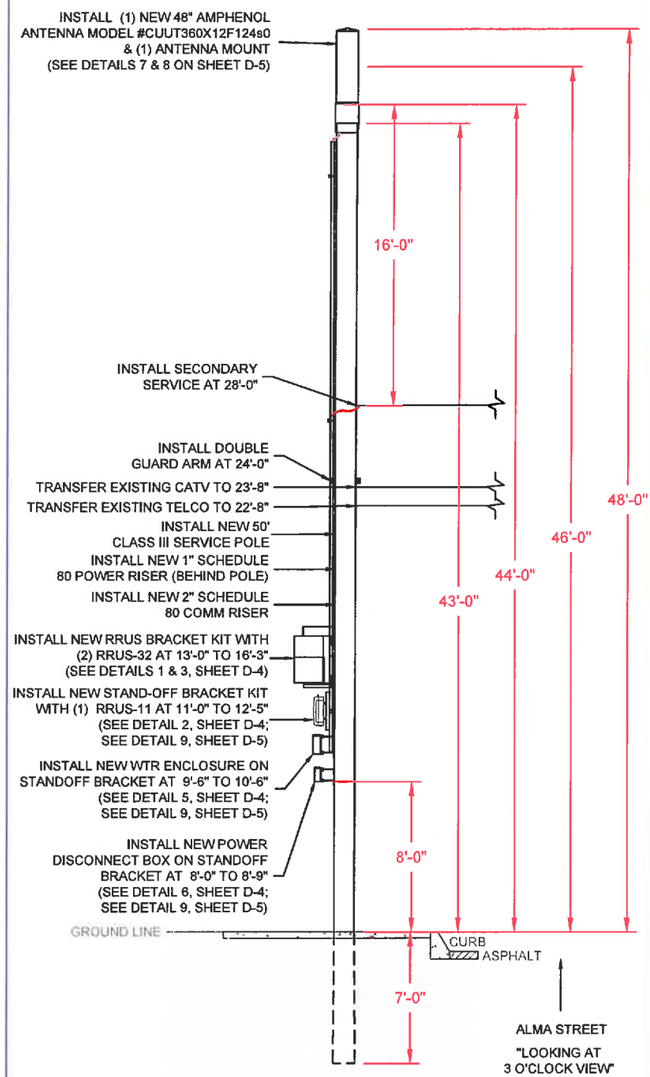
C TOP VIEW

N.T.S.



D EXISTING - 3 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
24"x36" SCALE: 1/2" = 1'-0"



NOTE: ALL EQUIPMENT SHALL BE PAINTED TO MATCH EXISTING POLE.

E PROPOSED - 3 O'CLOCK ELEVATION

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SF PALO ALTO 033m2
PALO ALTO

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No. C42590
Exp. 03-31-20
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ACROSS FROM 103 KELLOGG AVE
ON ALMA ST
PALO ALTO, CA

37.436396 / -122.152953

PROFILE

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/05/18	TT

SHEET NO.
P-3

POLE ID #NT

TOP OF EXISTING POLE: 24'-6"

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TOP OF ANTENNA(S): 48'-0"

RAD CENTER: 46'-0"

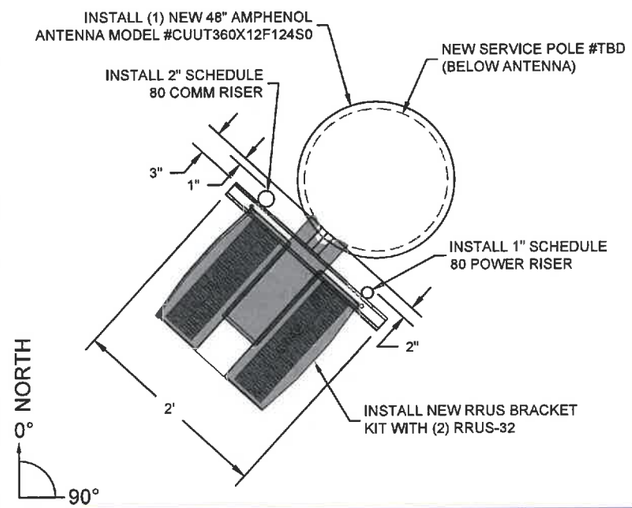
AZIMUTH(S): OMNI

PROFILE VIEW: 6 O' CLOCK

F PROFILE NOTES

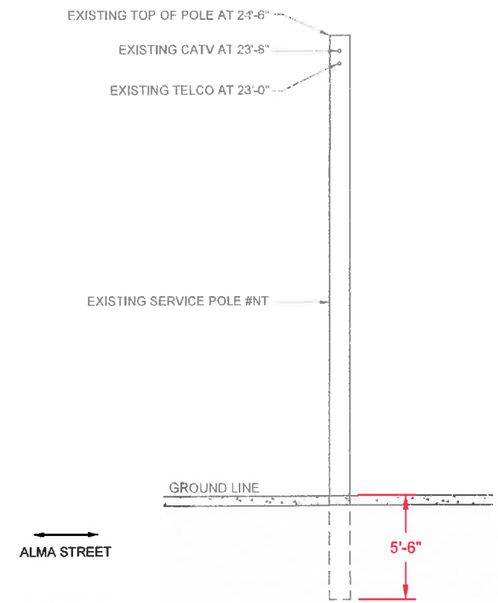
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G CONSTRUCTION NOTES



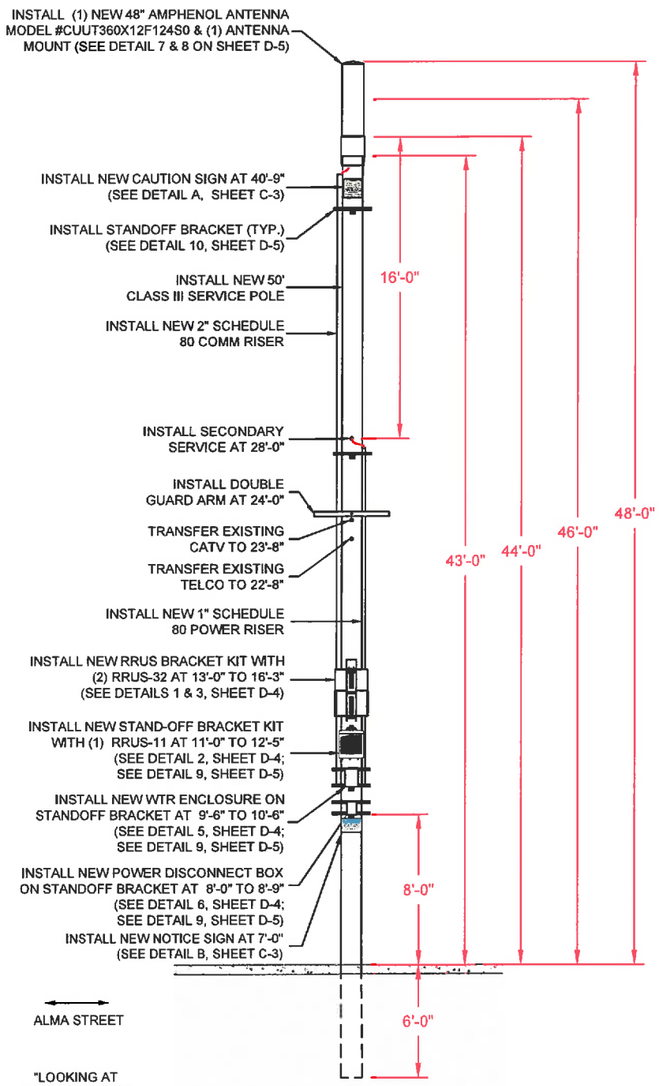
H TOP VIEW

N.T.S.



I EXISTING - 6 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
24"x36" SCALE: 1/2" = 1'-0"



NOTE: ALL EQUIPMENT SHALL BE PAINTED TO MATCH EXISTING POLE.

J PROPOSED - 6 O'CLOCK ELEVATION

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SF PALO ALTO 033m2
PALO ALTO

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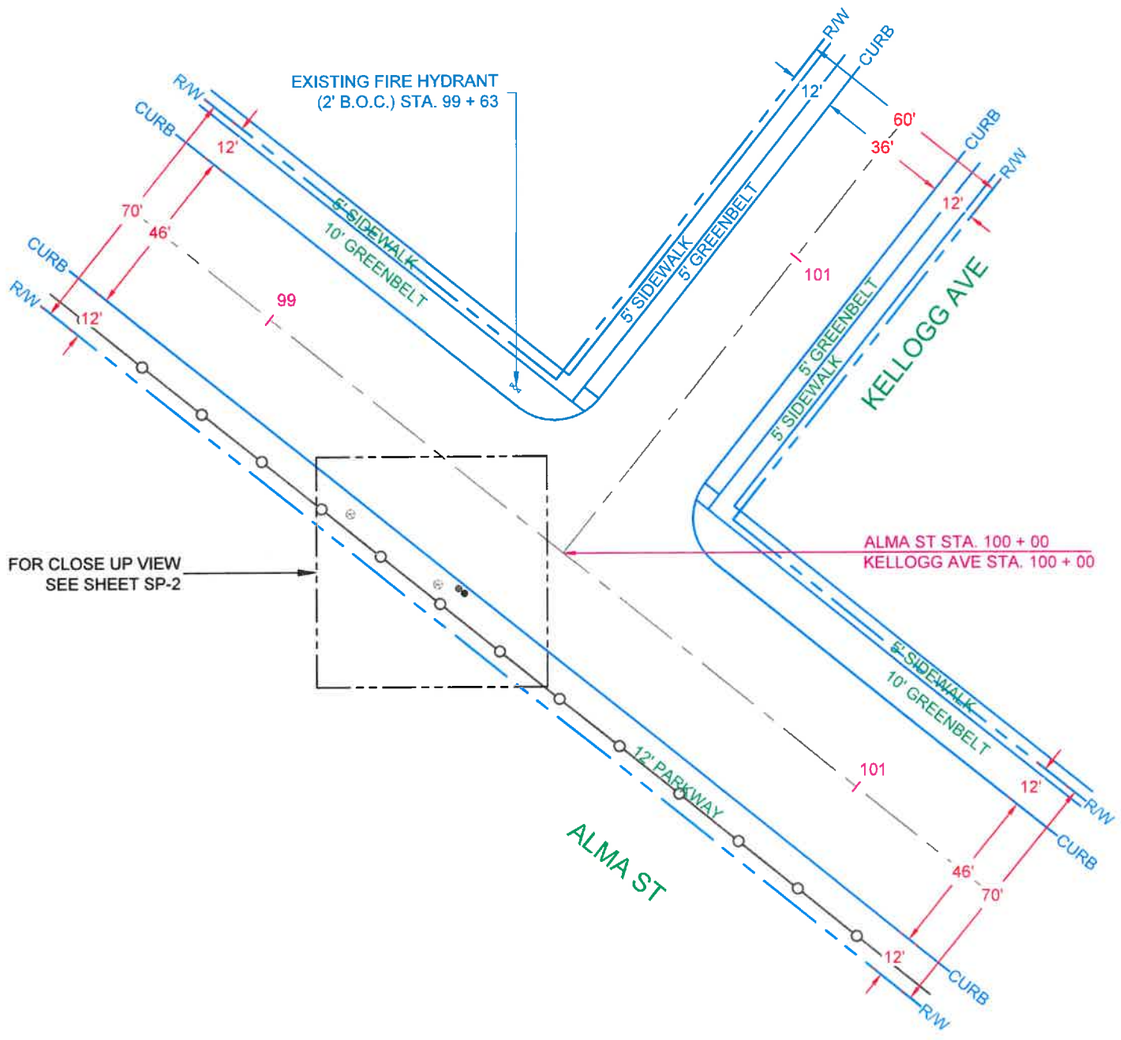
SHEET NO.
P-4

UTILITIES PLACED ON THIS DRAWING HAS BEEN REFERENCED PER THE CITY OF PALO ALTO CPA WGW UTILITY INFORMATION 130 EMBARCADERO RD

TREE PROTECTION IS REQUIRED AND SHALL BE ERECTED AROUND ANY TREE WITHIN 15' OF IMPROVEMENTS OR WORK ZONE BEFORE CONSTRUCTION BEGINS. REFER TO SHEETS T1.1 - T1.4.

IN CASE OF ENCOUNTERING MASSIVE / EXTENSIVE TREE ROOTS AROUND WORK AREA DURING CONSTRUCTION, CONTACT CITY OF PALO ALTO ARBORIST AT (650) 496-5953 FOR FURTHER GUIDANCE & SUPERVISION

ALL UTILITIES AS SHOWN PER CITY OF PALO ALTO MAPS



NORTH

11"x17" SCALE: 1" = 40'
24"x36" SCALE: 1" = 20'

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37.436396 / -122.152953

SITE PLAN

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/05/18	TT

SHEET NO.
SP-1

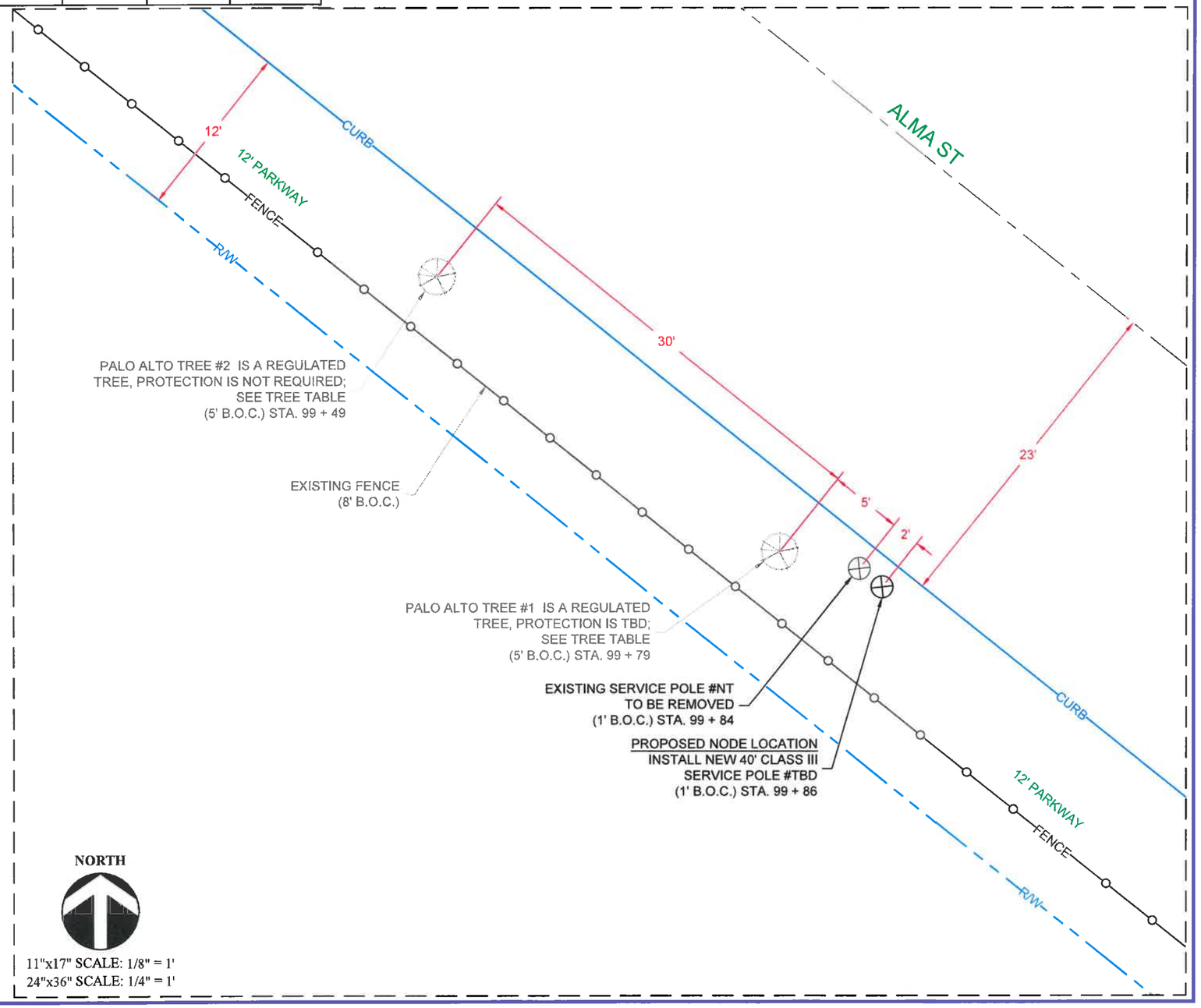
EXISTING TREE TABLE							
PALO ALTO TREE #	SPECIES:	COMMON NAME:	GROW SPACE:	TRUNK DIA. AT BREAST HT.:	PROTECTION LINE:	DISTANCE TO CONST.	PROTECTION MEASURES REQUIRED
1	QUERCUS AGRIFOLIA	COAST LIVE OAKS	PARKWAY	-	X' x10= X'-0"	5'-0"	YES - TYPE II
2	QUERCUS AGRIFOLIA	COAST LIVE OAKS	PARKWAY	-	X' x10= X'-0"	30'-0"	YES - TYPE II

NODE COORDINATES	
LATITUDE:	37.436396
LONGITUDE:	-122.152953

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ALL EQUIPMENT SHALL BE PAINTED TO MATCH EXISTING POLE



NORTH

11"x17" SCALE: 1/8" = 1'
24"x36" SCALE: 1/4" = 1'

SF PALO ALTO 033m2
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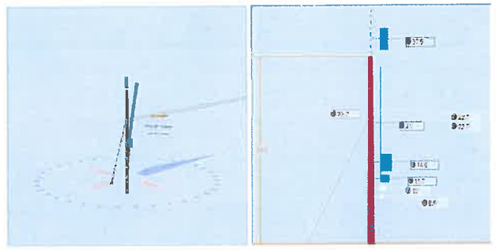
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ACROSS FROM 103 KELLOGG AVE
ON ALMA ST
PALO ALTO, CA
37.436396 / -122.152953

ENLARGED SITE PLAN

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/05/18	TT

SHEET NO.
SP-2

Pole Num:	NT	Pole Length / Class:	40 / 1	Code:	GO 95	Structure Type:	Deadend
CLIENT	CROWN CASTLE	Species:	DOUGLAS FIR	GO 95 Rule:	At Installation (New)	Pole Strength Factor:	0.25
PROJECT	VZW366241CA	Setting Depth (ft):	5.50	Construction Grade:	A	Transverse Wind LF:	1.00
HUB	SFPA033	G/L Circumference (in):	41.21	Loading District:	Light	Wire Tension LF:	1.00
APP/GRID	Unset	G/L Fiber Stress (psi):	8,000	Ice Thickness (in):	0.00	Vertical LF:	1.00
SITE	PA033	Allowable Stress (psi):	2,000	Wind Speed (mph):	55.90	Pole Factor of Safety:	6.36
Aux Data 6	Unset	Fiber Stress Ht. Reduc:	No	Wind Pressure (psf):	8.00	Vertical Factor of Safety:	58.82
Latitude:	0.000000 Deg	Longitude:	0.000000 Deg	Elevation:	0 Feet	Bending Factor of Safety:	6.67



Pole Capacity Utilization (%) Crossarm allowance 300 lbs	Height (ft)	Wind Angle (deg)
Maximum	62.9	0.0	52.7
Groundline	62.9	0.0	52.7
Vertical	6.8	22.4	0.0

Pole Moments (ft-lb) Crossarm allowance 300 lbs	Load Angle (deg)	Wind Angle (deg)
Max Cap Util	22,139	20.3	52.7
Groundline	22,139	20.3	52.7
GL Allowable	36,921		

Guy System Component Summary

Description	Lead Length (ft)	Lead Angle (deg)	Height (ft)	Load From Worst Wind Angle on Pole: Nominal Capacity (%)	Load From Worst Wind Angle on Pole: Wind Angle (deg)	Individual Maximum Load: Max Load Capacity (%)	Individual Maximum Load: Wind Angle (deg)
1" X 8' Expanding w/Tripleye	8.0	180.0		48.6	52.7	50.2	0.0
EHS 3/8 (Down)			23.7	87.2	52.7	91.2	0.0
			System Capacity Summary:	Adequate		Near Capacity	

Groundline Load Summary - Reporting Angle Mode: Load - Reporting Angle: 20.3°

	Shear Load* (lbs)	Applied Load (%)	Bending Moment (ft-lb)	Applied Moment (%)	Pole Capacity (%)	Bending Stress (+/- psi)	Vertical Load (lbs)	Vertical Stress (psi)	Total Stress (psi)	Pole Capacity (%)
Comms	2,818	220.0	53,432	241.4	144.7	3,537	8	0	3,537	176.9
GuyBraces	-1,922	-150.0	-37,211	-168.1	-100.8	-2,463	6,397	47	-2,416	-120.8
GenericEquipments	173	13.5	2,872	13.0	7.8	190	115	1	191	9.5
Pole	211	16.5	3,041	13.7	8.2	201	1,350	10	211	10.6
Insulators	0	0.0	5	0.0	0.0	0	10	0	0	0.0
Pole Load	1,281	100.0	22,139	100.0	60.0	1,466	7,880	58	1,524	76.2
Pole Reserve Capacity			14,782		40.0	534			476	23.8

Load Summary by Owner - Reporting Angle Mode: Load - Reporting Angle: 20.3°

	Shear Load* (lbs)	Applied Load (%)	Bending Moment (ft-lb)	Applied Moment (%)	Pole Capacity (%)	Bending Stress (+/- psi)	Vertical Load (lbs)	Vertical Stress (psi)	Total Stress (psi)	Pole Capacity (%)
CATV	-512	-40.0	-9,916	-44.8	-26.9	-656	6,406	47	-609	-30.4
TELCO	1,409	110.0	26,142	118.1	70.8	1,731	9	0	1,731	86.5
PROP CC	173	13.5	2,872	13.0	7.8	190	115	1	191	9.5
PA	211	16.5	3,041	13.7	8.2	201	1,350	10	211	10.6
Totals:	1,281	100.0	22,139	100.0	60.0	1,466	7,880	58	1,524	76.2

Detailed Load Components:

Comm

		Owner	Height (ft)	Horiz. Offset (in)	Cable Diameter (in)	Sag at Max Temp (ft)	Cable Weight (lbs/ft)	Lead/Span Length (ft)	Span Angle (deg)	Wire Length (ft)	Tension (lbs)	Tension Moment* (ft-lb)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Overlashed Bundle	6.6M Strand	CATV	23.67	7.51	0.2500	0.10	0.104	79.0	0.0	79.0	1,500	33,304	2	48	33,355
Overlashed Bundle	6M	TELCO	22.67	7.57	0.2420	0.10	0.104	79.0	0.0	79.0	1,500	31,897	2	45	31,944
											Totals:	65,202	5	93	65,299

GenericEquipment

		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Cylinder	48" Amphenol Antenna W/ Pole Mount	PROP CC	37.50	1.40	270.0	0.0	40.00	48.00	--	14.60	--	-2	1,233	1,231
Cylinder	Riser	PROP CC	21.00	6.18	80.0	0.0	10.00	250.00	--	2.00	--	3	493	495
Cylinder	Riser	PROP CC	21.00	6.18	120.0	0.0	10.00	250.00	--	2.00	--	-1	493	492
Box	RRUS Bracket Kit W/ 2 RRUS-32	PROP CC	14.63	18.00	90.0	0.0	10.00	39.00	24.81	--	21.27	5	1,013	1,018

Box	RRUS Bracket Kit W/ 1 RRUS-11	PROP CC	11.74	9.37	90.0	0.0	10.00	17.67	7.17	--	16.97	3	161	164
Box	WTR	PROP CC	10.00	9.15	90.0	0.0	15.00	12.00	6.50	--	12.00	4	75	79
Box	Electrical Disconnect	PROP CC	8.46	8.00	90.0	0.0	20.00	9.00	4.00	--	6.00	5	27	31
											Totals:	17	3,483	3,510

Insulator

		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Bolt	Dead End Bolt	CATV	23.67	0.00	0.0	0.0	5.00	3.00	0.00	3	0	3
Bolt	Dead End Bolt	TELCO	22.67	0.00	0.0	0.0	5.00	3.00	0.00	3	0	3
									Totals:	6	0	6

Guy Wire and Brace		Owner	Attach Height (ft)	End Height (ft)	Lead/Span Length (ft)	Wire Diameter (in)	Percent Solid (%)	Lead Angle (deg)	Incline Angle (deg)	Wire Weight (lbs/ft)	Rest Length (ft)	Stretch Length (in)
EHS 3/8	Down	CATV	23.67	0.00	8.00	0.375	75.00	180.0	71.0	0.273	24.65	1.05

Guy Wire and Brace (Loads and Reactions)		Elastic Modulus (psi)	Rated Tensile Strength (lbs)	Guy Strength Factor	Allowable Tension (lbs)	Initial Tension (lbs)	Loaded Tension*² (lbs)	Maximum Tension² (lbs)	Applied Tension³ (lbs)	Vertical Load (lbs)	Shear Load in Guy Dir (lbs)	Shear Load At Report Angle (lbs)	Moment at GL* (ft-lb)
EHS 3/8	Down	2.30e+7	15,400	0.50	7,700	700	7,024	7,024	6,713	6,348	2,181	-2,046	-45,476
									Totals:	6,348	2,181	-2,046	-45,476

Anchor/Rod Load Summary	Owner	Rod Length AGL (in)	Lead Length (ft)	Lead Angle (deg)	Strength of Assembly (lbs)	Anchor/Rod Strength Factor	Allowable Load (lbs)	Max Load² (lbs)	Load at Pole MCU² (lbs)	Max Required Capacity² (%)
1" X 8' Expanding w/Tripleye	CATV	0.00	8.00	180.0	21,000	0.67	14,000	7,024	6,713	50.2

Pole Buckling

Buckling Constant	Buckling Column Height* (ft)	Buckling Section Height (% Buckling Col. Hgt.)	Buckling Section Diameter (in)	Minimum Buckling Diameter at GL (in)	Diameter at Tip (in)	Diameter at GL (in)	Modulus of Elasticity (psi)	Pole Density (pcf)	Ice Density (pcf)	Pole Tip Height (ft)	Buckling Load Capacity at Height (lbs)	Buckling Load Applied at Height (lbs)	Buckling Load Factor of Safety
0.71	22.43	33.36	12.14	17.06	8.60	13.12	1.60e+6	60.00	57.00	34.50	115,679	1158.79	14.71

SF PALO ALTO 033m2
PALO ALTO

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
www.crowncastle.com

PREPARED BY:
Coastal Communications
Telecommunications Engineering
5841 EDISON PLACE, SUITE 200
CARLSBAD, CA 92008
PHONE: (760) 929-0910
FAX: (760) 929-0936
www.coastalcommInc.com

PROPRIETARY INFORMATION

THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS IS PROPRIETARY AND CONFIDENTIAL TO VERIZON. ANY USE OR DISCLOSURE OTHER THAN AS IT RELATES TO VERIZON IS STRICTLY PROHIBITED.

DIGALERT
1-800-227-2600
CALL AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT TICKET #_____

REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp. 03-31-20
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ACROSS FROM 103 KELLOGG AVE
ON ALMA ST
PALO ALTO, CA

37.436396 / -122.152953

O'CALCS

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/05/18	TT

SHEET NO.
OC-1

TRAFFIC CONTROL PLAN GENERAL NOTES:

1. WORK HOURS TO BE RESTRICTED TO _____ TO_____UNLESS APPROVED OTHERWISE.
2. PEDESTRIAN CONTROLS WILL BE PROVIDED AS SHOWN.
3. PEDESTRIANS SHALL BE PROTECTED FROM ENTERING THE EXCAVATION BY PHYSICAL BARRIERS DESIGNED, INSTALLED, AND MAINTAINED TO THE SATISFACTION OF THE CITY ENGINEER.
4. TEMPORARY "NO PARKING/TOW AWAY" SIGNS STATING THE DATE AND TIME OF PROHIBITION WILL BE POSTED 72 HOURS PRIOR TO COMMENCING WORK. CALL POLICE DISPATCH TO VALIDATE POSTING.
5. ACCESS WILL BE MAINTAINED TO ALL DRIVEWAYS UNLESS OTHER ARRANGEMENTS ARE MADE.
6. TRENCHES MUST BE BACKFILLED OR PLATED DURING NON-WORKING HOURS UNLESS K-RAIL BARRIERS ARE PROVIDED. K-RAIL IS APPROVED ONLY WHEN SPECIFICALLY SHOWN ON THE APPROVED TRAFFIC CONTROL PLAN. PLATES SHALL HAVE CLEATS AND COLD MIX AT THE EDGES AS APPROVED BY THE INSPECTOR.
7. STRIPING WILL BE REPLACED BY THE CONTRACTOR WITHIN 24 HOURS, IF REMOVED OR DAMAGED.
8. WORK THAT DISTURBS NORMAL TRAFFIC SIGNAL TIMING OPERATIONS SHALL BE COORDINATED WITH THE CITY. CONTACT PUBLIC WORKS DEPARTMENT 72 HOURS PRIOR TO COMMENCING WORK.
9. TRAFFIC SIGNALS SHALL REMAIN FULLY ACTUATED AT ALL TIMES, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER OR HIS/HER REPRESENTATIVE. IF TRAFFIC SIGNAL LOOP DETECTORS ARE RENDERED INOPERATIVE BY THE PROPOSED WORK, VIDEO DETECTION SHALL BE USED TO PROVIDE ACTUATION.
10. FLAGGERS SHALL BE EQUIPPED WITH A WHITE HARD HAT, AN ORANGE VEST, AND A "STOP/SLOW" PADDLE ON A 5 FOOT STAFF.
11. ALL TRAFFIC CONTROL DEVICES MUST BE MAINTAINED 24 HOURS A DAY, 7 DAYS PER WEEK, BY THE CONTRACTOR.
12. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2014 EDITION.
13. TRAFFIC CONTROL PLAN SUBMITTALS ARE REQUIRED FOR EACH PHASE OF THE WORK IN THE DETAIL, FORMAT, AND QUALITY ILLUSTRATED ON THIS SHEET.
14. ALL TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM VIEW OR COVERED WHEN NOT IN USE.
15. THE CITY ENGINEER OR HIS/HER REPRESENTATIVE HAS THE AUTHORITY TO INITIATE FIELD CHANGES TO INSURE PUBLIC SAFETY.
16. ALL WORK AFFECTING BUS STOPS SHALL BE COORDINATED WITH CITY'S TRANSIT DISTRICT. CONTRACTOR SHALL CALL TRANSIT DISTRICT AT LEAST 72 HOURS IN ADVANCE OF STARTING WORK.
17. CHANGEABLE MESSAGE SIGNS SHALL BE USED IN ADVANCE OF TRAFFIC CONTROL ON MAJOR AND PRIME ARTERIALS, UNLESS OTHERWISE APPROVED. THESE SIGNS SHALL BE SHOWN ON THE TRAFFIC CONTROL PLAN.

SIGNAGE NOTES:

1. AT LEAST ONE PERSON SHALL BE ASSIGNED TO FULL TIME MAINTENANCE OF TRAFFIC CONTROL DEVICES ON ALL NIGHT LANE CLOSURES.
2. ALL WARNING SIGNS FOR NIGHT LANE CLOSURES SHALL BE ILLUMINATED OR REFLECTORIZED AS SPECIFIED IN THE SPECIFICATIONS.
3. ALL ADVANCE WARNING SIGN INSTALLATIONS SHALL BE EQUIPPED WITH FLAGS FOR DAYTIME CLOSURES OF ALL MAJOR AND PRIME ARTERIALS. FLASHING BEACONS SHALL BE USED DURING NIGHT LANE CLOSURES.
4. A G20-2 "END ROAD WORK" SIGN SHALL BE PLACED AT THE END OF THE LANE CLOSURE UNLESS THE END OF THE WORK AREA IS OBVIOUS, OR ENDS WITHIN A LARGER PROJECT LIMITS.
5. ALL CONES USED FOR NIGHT LANE CLOSURES SHALL BE ILLUMINATED TRAFFIC CONES OR FITTED WITH 13" REFLECTIVE SLEEVES.
6. FLASHING ARROW SIGNS SHALL BE USED PER CA MUTCD 2014 EDITION. SILENT TYPE SHALL BE USED IN RESIDENTIAL AREAS.
7. THE MAXIMUM SPACING BETWEEN CONES SHALL BE THE WORK AREA'S SPEED LIMIT.
8. ADDITIONAL ADVANCE FLAGGERS SHALL BE REQUIRED WHEN TRAFFIC QUEUES DEVELOP. FLAGGER STATIONS FOR WORK AT NIGHT SHALL BE ILLUMINATED AS NOTED IN SECTION 6G.20 OF THE MUTCD.
9. ALL REQUIRED SIGNS THAT ARE TO BE LEFT IN PLACE OVER A WEEKEND OR HOLIDAY SHALL BE POST MOUNTED.
10. CONSTRUCTION AREA TRAFFIC CONTROL DEVICES SHALL MEET THE PROVISIONS OF 2014 CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

SIGN LEGEND

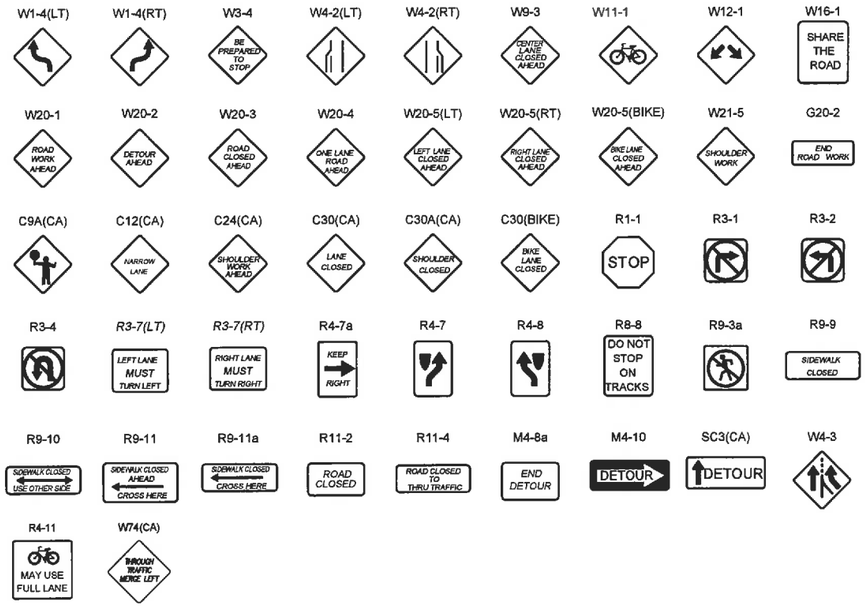


Table 6C-1. Recommended Advance Warning Sign Minimum Spacing

Road Type	Distance Between Signs*		
	A	B	C
Urban (low speed) – 25 mph or less	100 ft	100 ft	100 ft
Urban (high speed) – more than 25 mph to 40 mph	250 ft	250 ft	250 ft
Urban (high speed) – more than 40 mph	350 ft	350 ft	350 ft
Rural	500 ft	500 ft	500 ft
Expressway / Freeway	1,000 ft	1,000 ft	1,000 ft

* Speed category to be determined by the highway agency.
** The column headings A,B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The "first sign" is the sign in a three-sign series that is closest to the TTC zone. The "third sign is the sign that is furthest upstream from the TTC zone.)

LEGEND

	DIRECTION OF TRAVEL	Y	FLAG TREE
	PAVEMENT ARROW		FLASHING ARROW BOARD
	PORTABLE SIGN	TS	TRAFFIC SIGNAL
	TRAFFIC CONE / DELINEATOR		K-RAIL (TYPE 50 CONCRETE BARRIER)
I	TYPE II BARRICADE	CMS	CHANGEABLE MESSAGE SIGN
∓	TYPE III BARRICADE		FLAGGER
	WORK AREA	D/W	DRIVEWAY

Table 6C-2. Stopping Sight Distance as a Function of Speed on Level Roads.
(Used as suggested longitudinal buffer space length or location for flagger station)

Speed*	Distance
20 mph	115 feet
25 mph	155 feet
30 mph	200 feet
35 mph	250 feet
40 mph	305 feet
45 mph	360 feet
50 mph	425 feet
55 mph	495 feet
60 mph	570 feet
65 mph	645 feet
70 mph	730 feet
75 mph	820 feet

* Posted speed, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph.

Table 6C-3 (CA). Taper Length Criteria for Temporary Traffic Control Zones (for 12 feet Offset Width)

Speed* S (mph)	Minimum Taper Length** for Width of Offset 12 feet (w)			
	Merging L (feet)	Shifting L/2 (feet)	Shoulder L/3 (feet)	Down Stream (feet)***
20	80	40	27	50
25	125	63	42	50
30	180	90	60	50
35	245	123	82	50
40	320	160	107	50
45	540	270	180	50
50	600	300	200	50
55	660	330	220	50
60	720	360	240	50
65	780	390	260	50
70	840	420	280	50

* – Posted speed limit, off peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph.
** – For other offsets use the following merging taper length formula for L:
For speeds of 40 mph or less, $L=WS^2/60$
For speeds of 45 mph or more, $L=WS$
Where L = taper length in feet
W = width of offset in feet
S = posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph.
*** – Maximum downstream taper length is 100 feet. See Section 6C.08.



OWNER / DEVELOPER:
CROWN CASTLE
200 SPECTRUM CENTER DR, SUITE 1800
IRVINE, CA 92618

TRAFFIC CONTROL SHEET FOR:
ALMA ST AND KELLOGG AVE
VZW366241CA-SFPA033-SFO

CITY OF:
PALO ALTO

HUB ID:
VZW366241CA

PROJECT NUMBER:
SFPA033

PROJECT MANAGER:
JOHN GRIFFITHS

DIGALERT
1-800-227-2600
UNDERGROUND SERVICE ALERT
TICKET #_____

PLANS PREPARED BY:
Coastal Communications
Telecommunications Engineering
5841 EDISON PLACE, STE. 200
CARLSBAD, CA 92008
PH: (760) 929-0810
FX: (760) 929-0835

REVISIONS:

DATE:	COMPLETED BY:

DRAFTED BY: VY DATE: 6/6/18

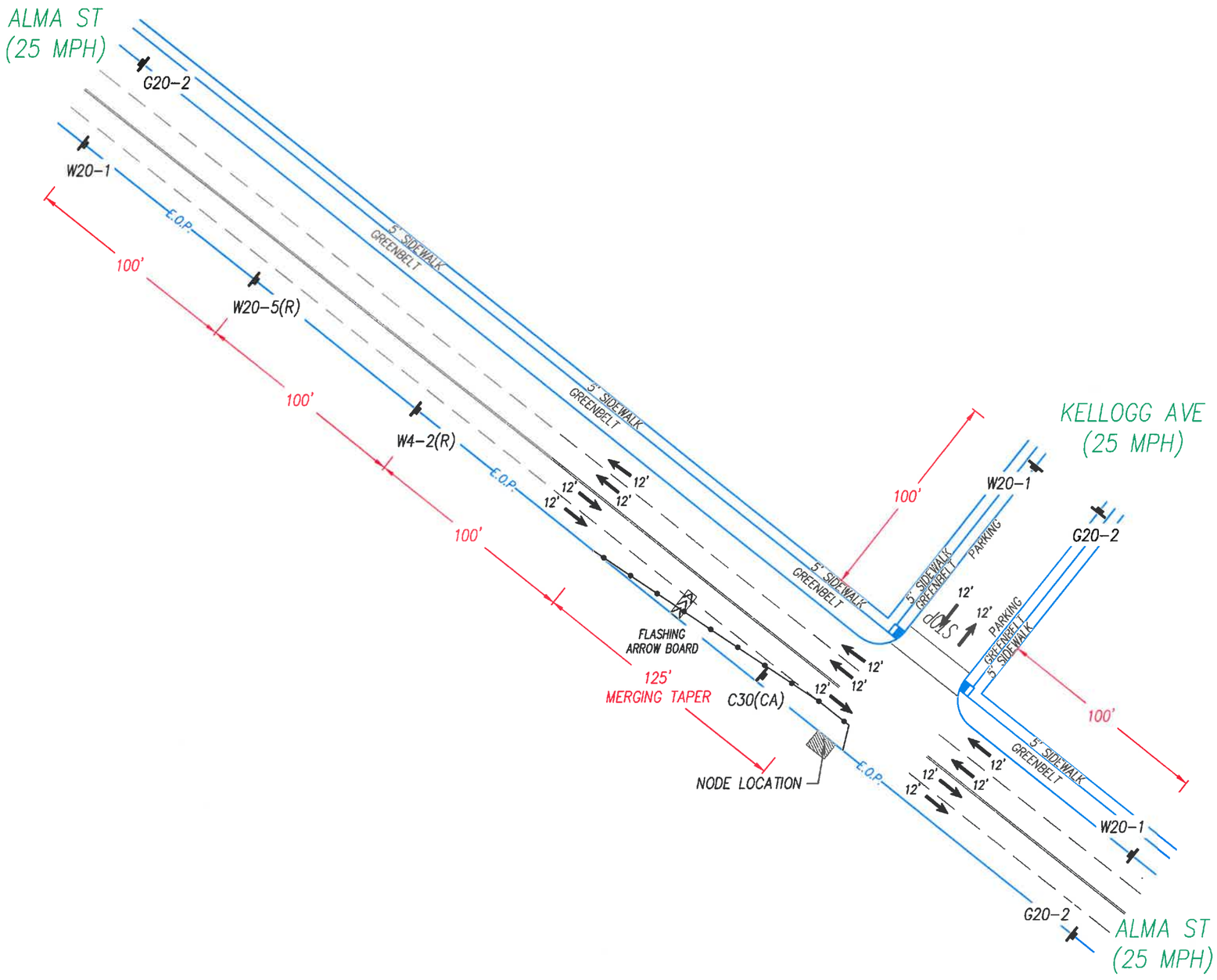
REVIEWED BY: CG DATE: 6/6/18

FILE NAME:
VZW366241CA-SFPA033-SF

SHEET NUMBER:
T01 OF T02

NOTES:

1. CONTRACTOR TO MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.
2. W20-1 & G20-2 SHALL BE PLACED ON AFFECTED CROSS STREETS ACCORDING TO THE SPEED LIMIT OF THE CROSS STREET.
3. CONTRACTOR SHALL ASSIST PEDESTRIANS THROUGH WORK AREA.



N.T.S.

REGISTERED PROFESSIONAL ENGINEER
GERRY L. MICHAL
C 42590
Exp 3-31-20
CIVIL
STATE OF CALIFORNIA

OWNER / DEVELOPER:
CROWN CASTLE
200 SPECTRUM CENTER DR, SUITE 1800
IRVINE, CA 92618

TRAFFIC CONTROL SHEET FOR:
ALMA ST AND KELLOGG AVE
VZW366241CA-SFPA033-SFO

CITY OF:
PALO ALTO

HUB ID:
VZW366241CA

PROJECT NUMBER:
SFPA033

PROJECT MANAGER:
JOHN GRIFFITHS

DIGALERT
1-800-227-2600
CALL AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT
TICKET #_____

PLANS PREPARED BY:
Coastal Communications
Telecommunications Engineering
5941 EDISON PLACE, STE. 200
CARLSBAD, CA 92008
PH: (760) 929-0810
FX: (760) 929-0938

REVISIONS:

DATE:	COMPLETED BY:

DRAFTED BY:	DATE:
VY	6/6/18

REVIEWED BY:	DATE:
CG	6/6/18

FILE NAME:
VZW366241CA-SFPA033-SF

SHEET NUMBER:
T02 OF T02

CROWN CASTLE

SF PALO ALTO 034m1

ROW ADJACENT TO 63 ENCINA AVE

PALO ALTO, CA

DIRECTIONS FROM 695 RIVER OAKS PARKWAY, SAN JOSE CA 95124:

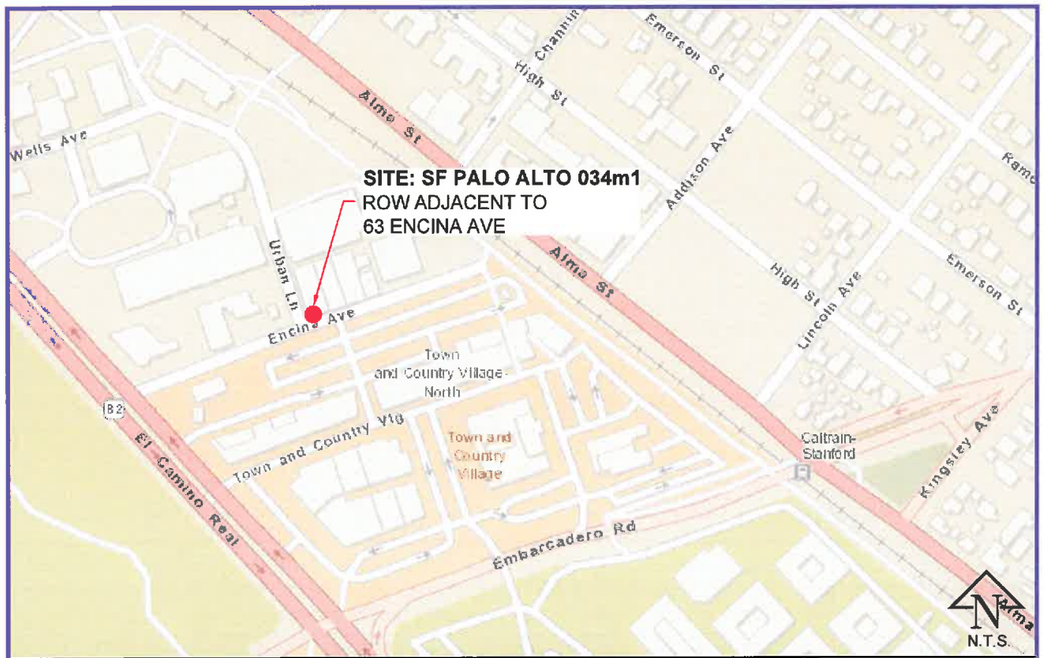
HEAD NORTHEAST ON RIVER OAKS PARKWAY TOWARD VILLAGE CENTER DR, TURN LEFT ONTO RESEARCH PL, TURN RIGHT ONTO MONTAUE EXPY, MERGE ONTO US-101 N VIA THE RAMP TO SAN FRANCISCO, MERGE ONTO US-101 N, TAKE EXIT 402 FOR EMBARCADERO RD, KEEP LEFT, FOLLOW SIGNS FOR EMBARCADERO RD W AND MERGE ONTO EMBARCADERO RD, MERGE ONTO EMBARCADERO RD, KEEP LEFT TO STAY ON EMBARCADERO RD, TURN RIGHT ONTO EL CAMINO REAL, TURN RIGHT ONTO ENCINA AVE AND CONTINUE TO 63 ENCINA AVE.

DRIVING DIRECTIONS

1. STREET USE PERMIT SHALL BE OBTAINED BY CONTRACTOR PRIOR TO COMMENCING WORK.
2. ALL WORK TO BE CONDUCTED IN THE RIGHT OF WAY.
3. ALL DISTURBED LANDSCAPING SHALL BE REPLACED TO SIMILAR EXISTING CONDITION.
4. ANY SIDEWALK CLOSURE SHALL BE COORDINATED WITH THE CITY AND PROPER SIGNING WILL BE PLACED.
5. NO MATERIALS OR EQUIPMENT SHALL BE STORED ON PRIVATE PROPERTY OR BLOCK ACCESS TO PRIVATE PROPERTY.
6. CLEANUP OF SITE WILL BE COMPLETED EACH EVENING AND THE SITE WILL BE RETURNED TO EXISTING CONDITIONS AT THE COMPLETION OF CONSTRUCTION AT EACH SITE.

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR RESPONSIBLE FOR SAME.

GENERAL CONTRACTOR NOTES



VICINITY MAP

SHEET NUMBER:	DESCRIPTION
C-1	TITLE SHEET
C-2	CONDITIONS OF APPROVAL
C-3	CONDITIONS OF APPROVAL
D-1	DETAILS & NOTES
D-2	DETAILS & NOTES
D-3	DETAILS & NOTES
D-4	DETAILS & NOTES
D-5	DETAILS & NOTES
D-6	DETAILS & NOTES
T1.1	SPECIAL TREE PROTECTION INSTRUCTION SHEET
T1.2	SPECIAL TREE PROTECTION INSTRUCTION SHEET
T1.3	SPECIAL TREE PROTECTION INSTRUCTION SHEET
T1.4	SPECIAL TREE PROTECTION INSTRUCTION SHEET
P-1	PHOTOS
P-2	PHOTOSIM
P-3	PROFILE
P-4	PROFILE
SP-1	SITE PLAN
SP-2	ENLARGED SITE PLAN
OC-1	O'CALC'S
T01	TRAFFIC CONTROL
T02	TRAFFIC CONTROL

SHEET INDEX

CROWN CASTLE TO INSTALL THE FOLLOWING:

- INSTALL NEW 40' CLASS III SERVICE POLE.
- ATTACH SECONDARY POWER AT 26'-0".
- INSTALL GUARD ARM AT 22'-5".
- TRANSFER EXISTING OHG AT 20'-8".
- TRANSFER EXISTING TELCO AT 21'-0".
- TRANSFER EXISTING CATV AT 22'-0".
- INSTALL NEW VGR.
- INSTALL STANDOFF BRACKET(TYP.).
- INSTALL NEW POWER DISCONNECT BOX ON STANDOFF BRACKET AT 8'-0" TO 8'-9".
- INSTALL NEW WTR ENCLOSURE ON STANDOFF BRACKET AT 9'-6" TO 10'-6".
- INSTALL NEW STANDOFF BRACKET KIT WITH (1) RRUS-11 AT 11'-0" TO 12'-5".
- INSTALL NEW RRUS BRACKET KIT WITH (2) RRUS-32 AT 16'-3".
- INSTALL NEW 2" SCHEDULE 80 COMM RISER.
- INSTALL NEW 1" SCHEDULE 80 POWER RISER.
- INSTALL (1) NEW 48" AMPHENOL ANTENNA MODEL #CUUT360X12F124S0 & (1) ANTENNA MOUNT.
- INSTALL NOTICE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

PROJECT SUMMARY

PROJECT MANAGER:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
JOHN GRIFFITHS
(408) 468-5524
JOHN.GRIFFITHS@CROWNCASTLE.COM

NODE ENGINEER:
COASTAL COMMUNICATIONS
5841 EDISON PL, STE. 200
CARLSBAD, CA 92008
TODD THREW
(760) 929-0910 ext. 101
TODD@COASTALCOMMINC.COM

PROJECT TEAM

SF PALO ALTO 034m1
PALO ALTO

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
www.crowncastle.com

PREPARED BY:
Coastal Communications
Telecommunications Engineering
5841 EDISON PLACE, SUITE 200
CARLSBAD, CA 92008
PHONE: (760) 929-0910
FAX: (760) 929-0936
www.coastalcomminc.com

PROPRIETARY INFORMATION

THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS IS PROPRIETARY AND CONFIDENTIAL TO VERIZON. ANY USE OR DISCLOSURE OTHER THAN AS IT RELATES TO VERIZON IS STRICTLY PROHIBITED.

DIGALERT
1-800-227-2600
CALL AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT
TICKET #_____

REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp.03-31-18
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ROW ADJACENT TO 63 ENCINA AVE
PALO ALTO, CA
37.439328 / -122.160244

TITLE SHEET

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/04/18	TT

SHEET NO.
C-1

PENDING C.O.A .

SF PALO ALTO 034m1
PALO ALTO

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REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JEREMY T. CHAL
No. C42590
Exp.03-31-18
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ROW ADJACENT TO 63 ENCINA AVE
PALO ALTO, CA
37.439328 / -122.160244

CONDITIONS OF APPROVAL

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/04/18	TT

SHEET NO.
C-2

Applicant shall comply with the following comments/requirements.

1. Applicant shall install new street lighting poles with new foundations that are identical to the existing poles. New street lighting poles shall be installed as close as possible to the existing street lighting poles. Applicant shall ensure to maintain present illumination level on the streets.

2. Receptacles on street lights need to be pre-wired and mounted on the top of the street light. The receptacles shall be wired into the secondary voltage source and not the street light circuit.

3. New street lighting pole's drawing is approved. Applicant shall replace the existing street lighting poles with identical poles. If there is any deviation then it must be approved by Utilities Engineering prior to installation.

4. Locations for new street lighting poles shall be as close as possible to the existing street lighting poles. No street or location shall be left dark. After removal of existing street pole/s, new street lighting poles shall be installed and energized as soon as possible. Applicant to coordinate with Scott Yahne (650-444-8823) our Street Lighting Supervisor prior to making any electric connection/s.

5. An inner duct of adequate size shall be installed inside the street lighting poles so to keep antenna wiring separate from street lighting circuits. Power to the antenna or any other equipment mounted on the street lighting pole shall be tapped from the designated secondary electric service point and not from the street lighting circuit.

6. If the street lighting pole gets knocked down, the City shall replace the pole but the City shall not be responsible for any damages to the antenna or any other equipment mounted on the street lighting pole/s.

7. Applicant has submitted certified structural calculations pertaining to equipment loading on the new street lighting poles.

8. Utility's Engineer has reviewed applicant's proposed fiber infrastructure and confirmed acceptance as long as applicant maintains required clearances and protect our distribution lines.

9. Voltage at all the locations identified for applicant's equipment installation may not be Applicant shall accept the voltage available at the closest location. Applicant shall be responsible for installing additional substructure per City's standards and specifications, if required.

10. Applicant shall contact Utilities Engineering (650-566-4535) prior to entering any energized box or vault.

11. Applicant shall install substructure per City's standard and specifications and maintain required clearances as shown on the City's standard drawings. The City's Underground Electric Inspector will inspect the substructure for electric utility. Applicant must contact Underground Electric Inspector at 650-496-6936 or his designated representative for scheduling an inspection prior to back filling the trench.

12. Applicant shall pot hole and locate underground facilities prior to trenching or boring. Applicant must contact USA (800-227-2600) and have underground facilities marked prior to excavation/trenching or boring.

13. At few locations, proposed trenching/boring route conflicts with our existing high voltage distribution lines, boxes/vaults etc. Extreme caution must be exercised to protect our utility lines and associated substructures.

14. Applicant shall protect existing underground utilities. Applicant has not submitted any trench profile as requested by Utilities. Hence, applicant shall bore/ trench at his/her risk. Applicant will be solely responsible for any damages caused during the construction.

15. Street opening permits shall be obtained from Public Works Engineering (PWE) Department prior to trenching or boring.

16. Traffic control plans must be submitted to Transportation Department and approval must be obtained prior to lane closures. Construction hours shall be per Transportation Department's requirements.

17. Applicant shall contact the Public Works Engineering (PWE) Department (650-566-4535) and obtain electric permit and cost estimate for each location. Any changes made to the original design or to the designated electric service point/s shall be coordinated with the PWE Department. Applicant must pay all fees/cost estimates prior to final service connections.

ANTENNA CAUTION SIGN

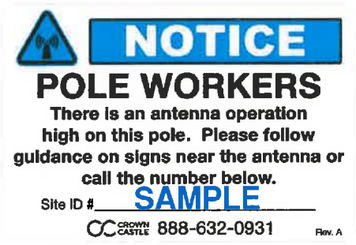
ANTENNA SIGNAGE:
ON WOOD POLES - SIGN ON ALUMINUM WITH SS SCREW TO THE POLE
ON METAL POLES - ADHESIVE VINYL OR PLACARD STRAPPED WITH SS TIES
ON CONCRETE / COMPOSITE - PLACARD STRAPPED WITH SS TIES
SIGN PLACEMENT:
AFFIX TO THE STRUCTURE ON OR JUST BELOW THE ANTENNA(S)
SIZE APPROX. 8" x 5"



A | SCALE N.T.S.

ANTENNA NOTICE SIGN

ANTENNA SIGNAGE:
ON WOOD POLES - SIGN ON ALUMINUM WITH SS SCREWS TO THE POLE
ON METAL POLES - ADHESIVE VINYL OR PLACARD STRAPPED WITH SS TIES
ON CONCRETE / COMPOSITE - PLACARD STRAPPED WITH SS TIES
SIGN PLACEMENT:
AFFIX TO THE STRUCTURE NEAR THE BOTTOM OF POLE OR ON THE SHROUD



B | SCALE N.T.S.

SF PALO ALTO 034m1
PALO ALTO

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REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
TERRY L. MICHAL
No. C42590
Exp.03-31-19
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ROW ADJACENT TO 63 ENCINA AVE
PALO ALTO, CA
37.439328 / -122.160244

CONDITIONS OF APPROVAL

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/04/18	TT

SHEET NO.
C-3

LEGEND

SYMBOL	DESCRIPTION
	PROPOSED
	2'X 3' VAULT
	CABINET
	PCC SIDEWALK
	TRENCH AND FIBER CONDUIT (PVT)
	DIRECTIONAL BORING
	BORE PIT
	EXISTING
	EXISTING STREET LIGHT
	EXISTING VAULT HANDHOLE
MB	EXISTING MAIL BOX
	EXISTING TREE
	EXISTING TREE WELL
	STATION POINTS (100' INCREMENTS)
	EXISTING CURB RAMP
C&G	EXISTING CURB & GUTTER
	EXISTING FACE OF BUILDING
	EXISTING PARKING STRIPING
R/W	EXISTING RIGHT OF WAY
	EXISTING CENTERLINE
W	EXISTING WATER LINE
W	EXISTING WATER LATERAL
S	EXISTING SEWER LINE
S	EXISTING SEWER LATERAL
G	EXISTING GAS LINE
G	EXISTING GAS LATERAL
SD	EXISTING STORM DRAIN LINE
	STREET CURRENTLY UNDER MORATORIUM

ABBREVIATIONS

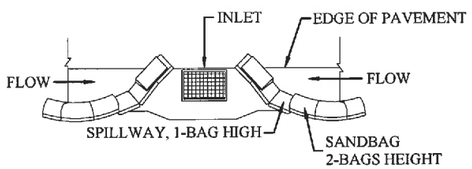
A/C	ASPHALT CURB
B.O.C.	BACK OF CURB
B/EOP	BACK OF EDGE OF PAVEMENT
C&G	CURB & GUTTER
CL	CENTERLINE
EX.	EXISTING
EOP	EDGE OF PAVEMENT
F.O.C.	FACE OF CURB
F/EOP	FACE OF EDGE OF PAVEMENT
PL	PROPERTY LINE
R/W	RIGHT OF WAY
S/B	SUBDIVISION BOUNDARY

EROSION AND SEDIMENT CONTROL NOTES:

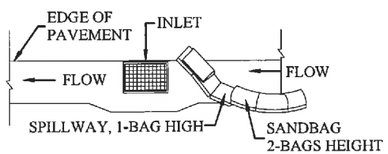
TEMPORARY EROSION/SEDIMENT CONTROL, PRIOR TO COMPLETION OF FINAL IMPROVEMENTS, SHALL BE PERFORMED BY THE CONTRACTOR OR QUALIFIED PERSON AS INDICATED BELOW:

1. ALL REQUIREMENTS OF THE CITY ``LAND DEVELOPMENT MANUAL, STORM WATER STANDARDS" MUST BE INCORPORATED INTO THE DESIGN AND CONSTRUCTION OF THE PROPOSED PUBLIC IMPROVEMENTS CONSISTENT WITH THE EROSION CONTROL PLAN AND/OR WATER POLLUTION CONTROL PLAN (WPCP), IF APPLICABLE.
2. FOR STORM DRAIN INLETS, PROVIDE A GRAVEL BAG SILT BASIN IMMEDIATELY UPSTREAM OF INLET AS INDICATED ON DETAILS.
3. THE CONTRACTOR OR QUALIFIED PERSON SHALL BE RESPONSIBLE FOR CLEANUP OF SILT AND MUD ON ADJACENT STREET(S) AND STORM DRAIN SYSTEM DUE TO CONSTRUCTION ACTIVITY.
4. THE CONTRACTOR SHALL REMOVE SILT AND DEBRIS AFTER EACH MAJOR RAINFALL.
5. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON.
6. THE CONTRACTOR SHALL RESTORE ALL EROSION/SEDIMENT CONTROL DEVICES TO WORKING ORDER TO THE SATISFACTION OF THE CITY ENGINEER OR RESIDENT ENGINEER AFTER EACH RUN-OFF PRODUCING RAINFALL.
7. THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION/SEDIMENT CONTROL MEASURES AS MAY BE REQUIRED BY THE RESIDENT ENGINEER DUE TO UNFORESEEN CIRCUMSTANCES, WHICH MAY ARISE.
8. ALL EROSION/SEDIMENT CONTROL MEASURES PROVIDED PER THE APPROVED IMPROVEMENT PLAN SHALL BE INCORPORATED HEREON. ALL EROSION/SEDIMENT CONTROL FOR INTERIM CONDITIONS SHALL BE DONE TO THE SATISFACTION OF THE RESIDENT ENGINEER.
9. ALL REMOVABLE PROTECTIVE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN RAIN IS IMMINENT.
10. THE CONTRACTOR SHALL ARRANGE FOR WEEKLY MEETINGS DURING OCTOBER 1ST TO APRIL 30TH FOR PROJECT TEAM (GENERAL CONTRACTOR, QUALIFIED PERSON, EROSION CONTROL SUBCONTRACTOR IF ANY, ENGINEER OF WORK, OWNER/DEVELOPER AND THE RESIDENT ENGINEER) TO EVALUATE THE ADEQUACY OF THE EROSION/SEDIMENT CONTROL MEASURES AND OTHER RELATED CONSTRUCTION ACTIVITIES.

STORMDRAIN INLET PROTECTION



TYPICAL PROTECTION FOR INLET WITH OPPOSING FLOW DIRECTIONS



TYPICAL PROTECTION FOR INLET WITH SINGLE FLOW DIRECTION

NOTES:
1. INTENDED FOR SHORT - TERM USE.
2. USE TO INHIBIT NON - STORM WATER FLOW.
3. ALLOW FOR PROPER MAINTENANCE AND CLEANUP.
4. BAGS MUST BE REMOVED AFTER ADJACENT OPERATION IS COMPLETED.
5. NOT APPLICABLE IN AREAS WITH HIGH SILTS AND CLAYS WITHOUT FILTER FABRIC.

NOTES:

1. CONTRACTOR TO POTHOLE ALL UTILITY CROSSINGS.
2. CONTRACTOR TO PLACE SANDBAGS AROUND ANY/ALL STORM DRAIN INLETS TO PREVENT CONTAMINATED WATER.
3. SPOILS PILE WILL BE COVERED AND CONTAINED AND STREET WILL BE SWEPT AND CLEANED AS NEEDED.
4. CONTRACTOR TO REPAIR DAMAGED PUBLIC IMPROVEMENTS TO THE SATISFACTION OF THE CITY ENGINEER.
5. C&G TO BE PROTECTED IN PLACE. SIDEWALK TO BE REPLACED TO THE SATISFACTION OF THE CITY ENGINEER.
6. THE CONTRACTOR SHALL RESTORE THE ROADWAY BACK TO ITS ORIGINAL CONDITION SATISFACTORY TO THE CITY ENGINEER INCLUDING, BUT NOT LIMITED TO PAVING, STRIPING, BIKE LANES, PAVEMENT LEGENDS, SIGNS, AND TRAFFIC LOOP DETECTORS.
7. SIDEWALK SHALL BE RESTORED/REPLACED PER CITY STANDARD DRAWINGS.
8. PEDESTRIAN RAMP WILL NOT BE DISTURBED.

ROW GROUND CONSTRUCTION NOTES:

1. GROUND CONSTRUCTION TO REMOVE/CLEAN ALL DEBRIS, NAILS, STAPLES, OR NON-USED VERTICALS OFF THE POLE.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH MUNICIPAL, COUNTY, STATE, FEDERAL, G095 AND G0128 STANDARDS AND REGULATIONS.
3. CALL USA 48 HOURS PRIOR TO EXCAVATING AT (800) 227-2600 OR 811.
4. ALL LANDSCAPING TO BE RESTORED TO ORIGINAL CONDITION OR BETTER.
5. ALL EQUIPMENT TO BE BONDED.
6. METERING CABINET REQUIRES 36" CLEARANCE AT DOOR OPENING.
7. CAULK CABINET BASE AT PAD.

NORMAL LOCATION OF UNDERGROUND UTILITIES NOTES:

1. LOCATION AND DEPTH OF EXISTING AND PROPOSED UTILITIES MUST BE PROVIDED BY THE SUBDIVIDER AND SHOWN ON ANY PLANS SUBMITTED TO THE DEPT. OF PUBLIC WORKS FOR APPROVAL.
2. CHANGES MAY BE PERMITTED BY THE DEPT. OF PUBLIC WORKS IN CASES OF CONFLICTING FACILITIES.
3. CONFLICTS BETWEEN UTILITY COMPANIES FACILITIES, EXISTING AND PROPOSED, MUST BE MUTUALLY RESOLVED BY THE UTILITY COMPANIES.
4. FOR COMMERCIAL SIDEWALKS, THE FIRE HYDRANT SHALL BE PLACED WITHIN THE SIDEWALK 1'-6" BEHIND FACE OF CURB.
5. MAXIMUM 2" DIAMETER GAS MAINS MAY BE PLACED IN JOINT UTILITIES TRENCH SUBJECT TO APPROVAL OF CITY ENGINEER (IN TRACTS).

GENERAL CONTRACTOR NOTES:

1. STREET USE PERMIT SHALL BE OBTAINED BY CONTRACTOR PRIOR TO COMMENCING WORK.
2. ALL WORK TO BE CONDUCTED IN THE RIGHT OF WAY.
3. ALL DISTURBED LANDSCAPING SHALL BE REPLACED TO SIMILAR EXISTING CONDITION.
4. ANY SIDEWALK CLOSURE SHALL BE COORDINATED WITH THE CITY AND PROPER SIGNING WILL BE PLACED.
5. NO MATERIALS OR EQUIPMENT SHALL BE STORED ON PRIVATE PROPERTY OR BLOCK ACCESS TO PRIVATE PROPERTY.
6. CLEANUP OF SITE WILL BE COMPLETED EACH EVENING AND THE SITE WILL BE RETURNED TO EXISTING CONDITIONS AT THE COMPLETION OF CONSTRUCTION AT EACH SITE.

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR RESPONSIBLE FOR SAME.

CALIFORNIA STATE CODE COMPLIANCE:

ALL WORK AND MATERIALS SHALL BE PREFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

- CALIFORNIA ADMINISTRATIVE CODE (INCLUDING TITLES 24 & 25) 2016
- 2016 CALIFORNIA BUILDING CODES WHICH ADOPTS THE 2016 UBC, 2016 UMC, 2016 UPC AND THE 2016 NEC.
- BUILDING OFFICIALS & CODE ADMINISTRATORS (BOCA)
- 2016 CALIFORNIA MECHANICAL CODE
- ANSI/EIA-222-F LIFE SAFETY CODE NFPA-101
- 2016 CALIFORNIA PLUMBING CODE
- 2016 CALIFORNIA ELECTRICAL CODE
- 2016 LOCAL BUILDING CODE
- CITY/COUNTY ORDINANCES

ACCESSIBILITY REQUIREMENTS:
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS REQUIREMENTS DO NOT APPLY IN ACCORDANCE WITH THE 2010 CALIFORNIA BUILDING CODE.

FCC NOTE:
THIS WIRELESS COMMUNICATION FACILITY COMPLIES WITH FEDERAL STANDARDS FOR RADIO FREQUENCY IN ACCORDANCE WITH THE TELECOMMUNICATION ACT OF 1996 AND SUBSEQUENT AMENDMENTS AND ANY OTHER REQUIREMENTS IMPOSED BY STATE OR FEDERAL REGULATORY AGENCIES.

CITY OF PALO ALTO UTILITIES ENGINEERING NOTES:

- APPLICANT SHALL TAP ELECTRIC SERVICE TO THE SMALL CELL DISTRIBUTED ANTENNA SYSTEM FROM THE LOCATIONS JOINTLY IDENTIFIED DURING THE FIELD INVESTIGATION.
- SERVICE VOLTAGE TO ALL THE PROPOSED LOCATIONS MAY NOT BE THE SAME. APPLICANT SHALL DESIGN THEIR SYSTEM TO OPERATE AT THE AVAILABLE VOLTAGE IN THE VICINITY.
- IF BRAND NEW POLES NEED TO BE INSTALLED FOR APPLICANT'S SYSTEM THEN THE POLES MUST MATCH EXISTING POLES IN THE DOWN TOWN AREA.
- AFTER EXCAVATION IS COMPLETED ON THE PUBLIC RIGHT OF WAY, EXISTING STREETS INCLUDING SIDEWALKS/ CURB/ GUTTER OR ANY DECORATIVE PATHS MUST BE BROUGHT TO ITS ORIGINAL CONDITION AND MUST BE APPROVED BY PUBLIC WORKS ENGINEERING DEPARTMENT'S INSPECTOR. POTHOLING MUST BE DONE AND ALL THE UTILITIES MUST BE IDENTIFIED PRIOR TO COMMENCING EXCAVATION.
- EXCAVATION AND RESTORATION WORK MUST BE IN COMPLIANCE WITH PUBLIC WORKS ENGINEERING STANDARDS AND SPECIFICATIONS THAT ARE AVAILABLE ON THE FOLLOWING WEBSITE:
  http://www.cityofpaloalto.org/news/displaynews.asp?NewsID=1834&TargetID=145
- APPLICANT'S SHALL BE RESPONSIBLE FOR MAINTAINING THEIR SYSTEM INCLUDING SUBSTRUCTURE. IN CASE OF KNOCK DOWNS, THE CITY WILL RE-INSTALL ITS STREET LIGHTING POLES BUT **NOT** APPLICANT'S EQUIPMENT ON OR OFF THE POLE.
- A FIELD MEETING IS RECOMMENDED WITH UTILITIES ENGINEERING PRIOR TO COMMENCING THE WORK.
- PLANS SHALL INCLUDE A NOTE: CONTRACTOR TREE INSPECTION REQUIREMENTS: MODIFIED TYPE III TRUNK WRAPPING SHALL BE VERIFIED BY URBAN FORESTRY PRIOR TO ANY WORK IN THE VICINITY. FOR EACH TREE SITE WRAPPED FOR PROTECTION WITHIN 15' OF ANY WORK ZONE OR CONCRETE FORM SECTION, A BILLABLE TREE INSPECTION BY URBAN FORESTRY (650-496-5953, 24-HOUR ADVANCE IS REQUIRED) SHALL BE COMPLETED PRIOR TO DEMOLITION, DRILLING, EXCAVATING,FORMING OR STREET LIGHT ACTIVITY. CONTRACTOR SHALL ARRANGE PAYMENTS AT THE DEVELOPMENT CENTER, 285 HAMILTON AVE, PALO ALTO, CA.
- THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITIES DEPARTMENT 650/329-2413 OR 650/496-6982 IF THE EXISTING WATER, WASTEWATER OR GAS MAINS ARE DISTURBED OR DAMAGED. A QUALIFIED CONTRACTOR MAY PERFORM REPAIRS ON CITY WATER AND WASTEWATER MAINS UNDER THE DIRECT SUPERVISION OF THE WGW UTILITIES INSPECTOR. FOR WATER REPAIRSALL THE DISINFECTION REQUIREMENTS OF THE WGW UTILITY STANDARDS AND THESE CONDITIONS SHALL BE ADHERED TO. ALL REPAIRS TO THE CITY GAS SYSTEM MUST BE PERFORMED BY THE CITY OF PALO ALTO UTILITIES.
- NO WATER VALVES OR OTHER FACILITIES OWNED BY UTILITIES DEPARTMENT SHALL BE OPERATED FOR ANY PURPOSE BY THE APPLICANT'S CONTRACTOR. ALL REQUIRED OPERATION WILL ONLY BE PERFORMED BY AUTHORIZED UTILITIES DEPARTMENT PERSONNEL. WATER VALVES MAY BE OPERATED BY THE CONTRACTOR UNDER THE DIRECT SUPERVISION OF THE WGW UTILITIES INSPECTOR. THE APPLICANT'S CONTRACTOR SHALL NOTIFY THE UTILITIES DEPARTMENT NOT LESS THAN FORTY-EIGHT (48) HOURS IN ADVANCE OF THE TIME THAT SUCH OPERATION IS REQUIRED.

SF PALO ALTO 034m1
PALO ALTO
CROWN CASTLE PROJECT NO.
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REVISION / ISSUE	DATE

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No. C42590
Exp.03-31-18
CIVIL
STATE OF CALIFORNIA

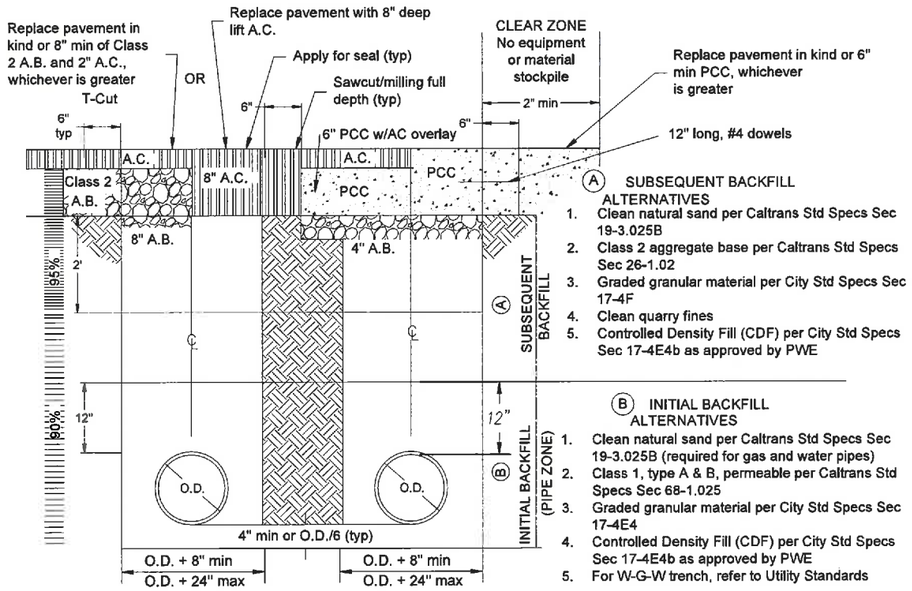
SITE NAME & ADDRESS:
ROW ADJACENT TO 63 ENCINA AVE
PALO ALTO, CA
37.439328 / -122.160244

DETAILS & NOTES

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/04/18	TT

SHEET NO.
D-1

CITY OF PALO ALTO
STANDARD
(DRAWING NO. 401)
TRENCHES
TYPICAL CROSS-SECTIONS
N.T.S.

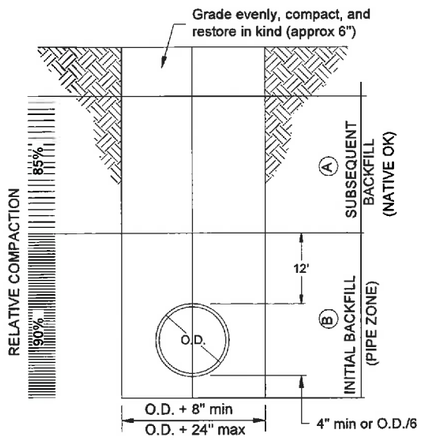


(A) SUBSEQUENT BACKFILL ALTERNATIVES

1. Clean natural sand per Caltrans Std Specs Sec 19-3.025B
2. Class 2 aggregate base per Caltrans Std Specs Sec 26-1.02
3. Graded granular material per City Std Specs Sec 17-4F
4. Clean quarry fines
5. Controlled Density Fill (CDF) per City Std Specs Sec 17-4E4b as approved by PWE

(B) INITIAL BACKFILL ALTERNATIVES

1. Clean natural sand per Caltrans Std Specs Sec 19-3.025B (required for gas and water pipes)
2. Class 1, type A & B, permeable per Caltrans Std Specs Sec 68-1.025
3. Graded granular material per City Std Specs Sec 17-4E4
4. Controlled Density Fill (CDF) per City Std Specs Sec 17-4E4b as approved by PWE
5. For W-G-W trench, refer to Utility Standards



UNIMPROVED AREA

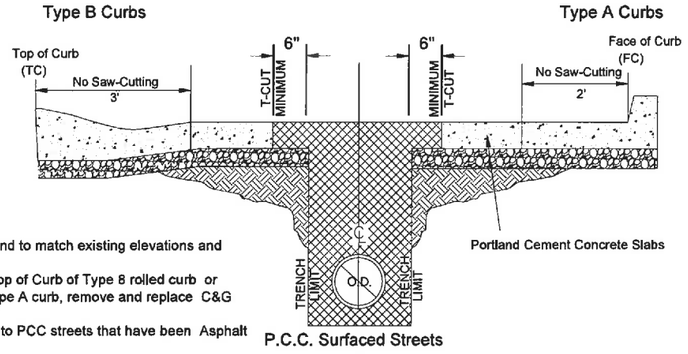
GENERAL NOTES

1. PCC shall contain a minimum of 6 sacks concrete with a desired 28-day strength of 3,500 PSI
2. Extend T-cut to lip of Gutter per City Std Specs 17-G
3. Refer to City Std Dwg 403 for trench limits of restoration
4. Match existing AC thickness on PCC overlays

JETTING NOTES

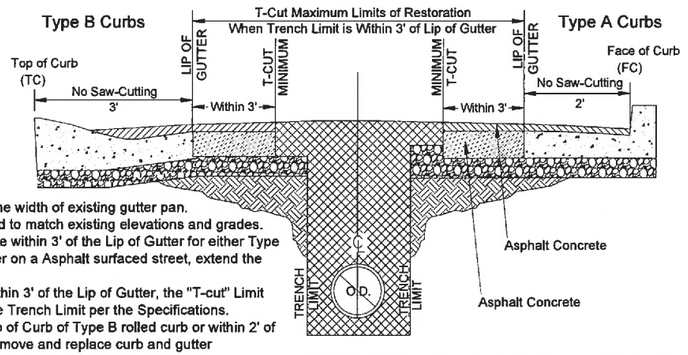
1. IMPROVED AREAS
   a. INITIAL BACKFILL- jetting of sand OK
   b. SUBSEQUENT BACKFILL-jetting of sand subject to approval of City Engineer, except for top 2 ft, which must be mechanically compacted
2. UNIMPROVED AREA: jetting of sand OK
3. WHEN JETTING IS PERMITTED:
   a. Excess water shall be collected at low points and removed by pumping
   b. Sand to be jetted shall be placed in lifts no thicker than 4 ft
   c. Jetting shall be performed at intervals along the trench not to exceed 6 ft

CITY OF PALO ALTO STANDARD
(DRAWING NO. 403)
TRENCHES
LIMITS OF RESTORATION
N.T.S.



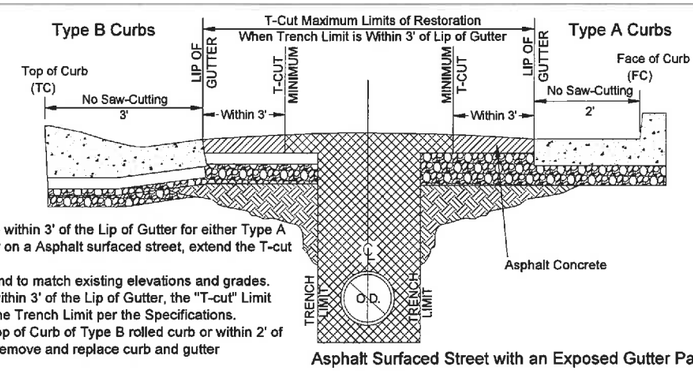
NOTES

1. Restore all materials in kind to match existing elevations and grades.
2. If Sawcut is within 3' of Top of Curb of Type B rolled curb or within 2' of the face of Type A curb, remove and replace C&G monolithically.
3. These notes also pertain to PCC streets that have been Asphalt overlaid.



NOTES

1. Remove asphalt to verify the width of existing gutter pan.
2. Restore all materials in kind to match existing elevations and grades.
3. When "Trench Limits" is are within 3' of the Lip of Gutter for either Type A or Type B curb and gutter on a Asphalt surfaced street, extend the T-cut to the Lip of Gutter.
4. If "Trench Limit" is NOT within 3' of the Lip of Gutter, the "T-cut" Limit shall be located 6" from the Trench Limit per the Specifications.
5. If Sawcut is within 3' of Top of Curb of Type B rolled curb or within 2' of the face of Type A curb, remove and replace curb and gutter monolithically.



NOTES

1. When "Trench Limits" are within 3' of the Lip of Gutter for either Type A or Type B curb and gutter on a Asphalt surfaced street, extend the T-cut to the Lip of Gutter.
2. Restore all materials in kind to match existing elevations and grades.
3. If "Trench Limit" is NOT within 3' of the Lip of Gutter, the "T-cut" Limit shall be located 6" from the Trench Limit per the Specifications.
4. If Sawcut is within 3' of Top of Curb of Type B rolled curb or within 2' of the face of Type A curb, remove and replace curb and gutter monolithically.

SF PALO ALTO 034m1
PALO ALTO
CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
www.crowncastle.com

PREPARED BY:
Coastal Communications
Telecommunications Engineering
5841 EDISON PLACE, SUITE 200
CARLSBAD, CA 92008
PHONE: (760) 929-0910
FAX: (760) 929-0936
www.coastalcommunc.com

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TICKET #

REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp. 03-31-18
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ROW ADJACENT TO 63 ENCINA AVE
PALO ALTO, CA
37.439328 / -122.160244

DETAILS & NOTES

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/04/18	TT

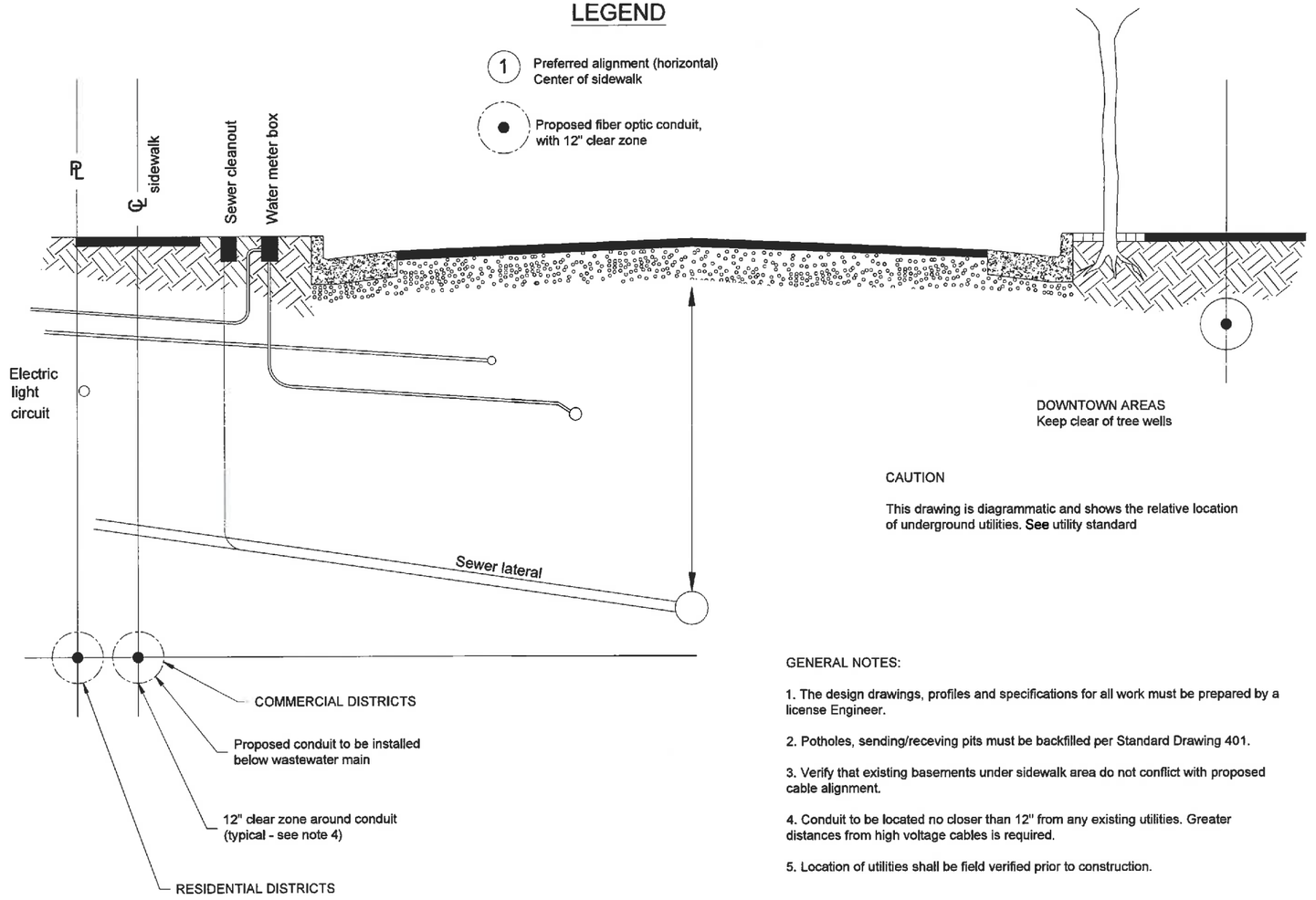
SHEET NO.
D-2

CITY OF PALO ALTO STANDARD
(DRAWING NO. 402)
CONDUIT LOCATION DETAIL
TELECOMMUNICATIONS
N.T.S.

LEGEND

1 Preferred alignment (horizontal)
Center of sidewalk

Proposed fiber optic conduit, with 12" clear zone



DOWNTOWN AREAS
Keep clear of tree wells

CAUTION

This drawing is diagrammatic and shows the relative location of underground utilities. **See** utility standard

GENERAL NOTES:

1. The design drawings, profiles and specifications for all work must be prepared by a license Engineer.

2. Potholes, sending/receving pits must be backfilled per Standard Drawing 401.

3. Verify that existing basements under sidewalk area do not conflict with proposed cable alignment.

4. Conduit to be located no closer than 12" from any existing utilities. Greater distances from high voltage cables is required.

5. Location of utilities shall be field verified prior to construction.

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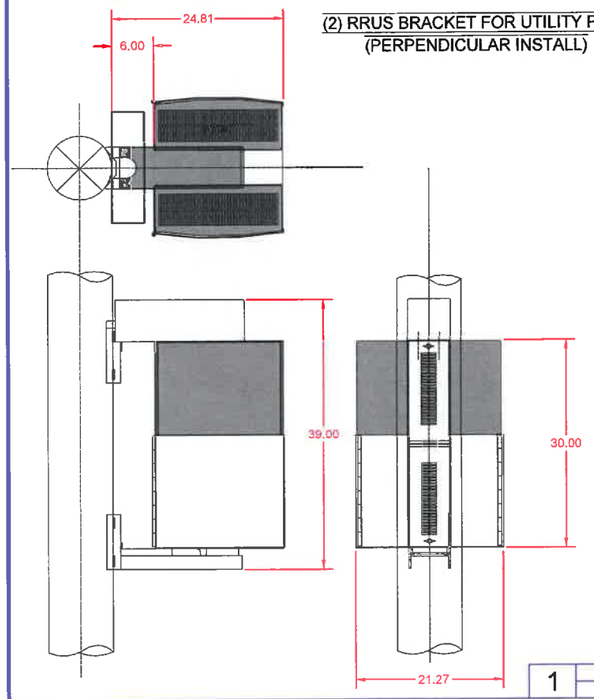
SITE NAME & ADDRESS
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AGR	06/04/18	TT

SHEET NO.
D-3

(2) RRUS BRACKET FOR UTILITY POLE
(PERPENDICULAR INSTALL)

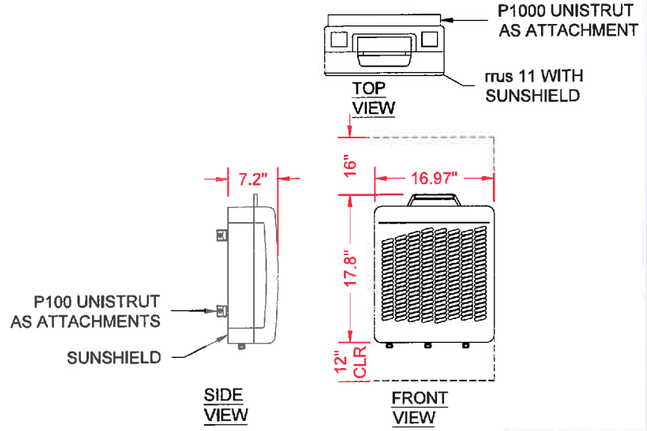


1 SCALE N.T.S.

ERICSSON rrus-11 REMOTE RADIO UNIT
(TYPICAL SECTION: N.T.S)

ERICSSION rrus-11 REMOTE RADIO UNIT
COLOR: GRAY
DIMENSIONS: 17.8" TALL X 16.97" WIDE
X 7.2" DEEP (INCLUDING SUNSHIELD & HANDHOLE)

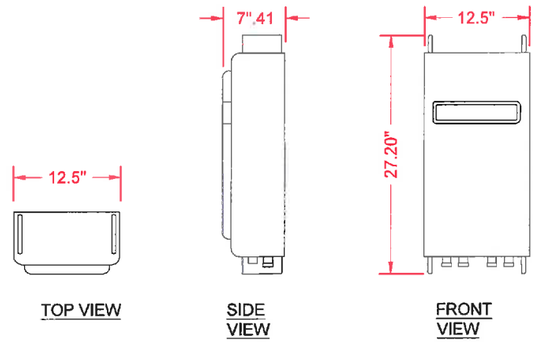
WEIGHT, INCLUDING MOUNTING HARDAWARE:50.7 lbs



2 SCALE N.T.S.

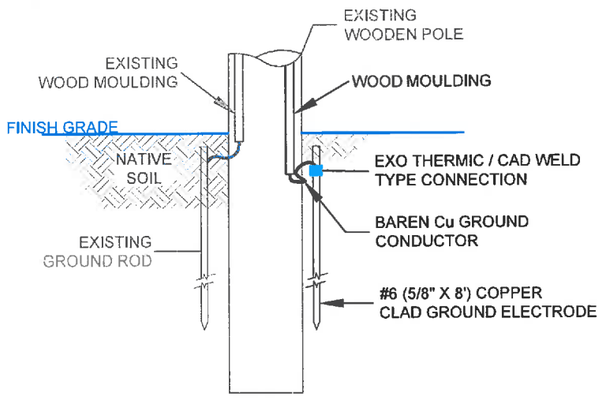
ERICSSON rrus-32 REMOTE RADIO UNIT
(TYPICAL SECTION: N.T.S)

ERICSSION rrus-32 REMOTE RADIO UNIT
COLOR: GRAY
DIMENSIONS: 27.2" TALL X 12.5" WIDE
X 7.41"
TOTAL WEIGHT: 55.12 LBS



3 SCALE N.T.S.

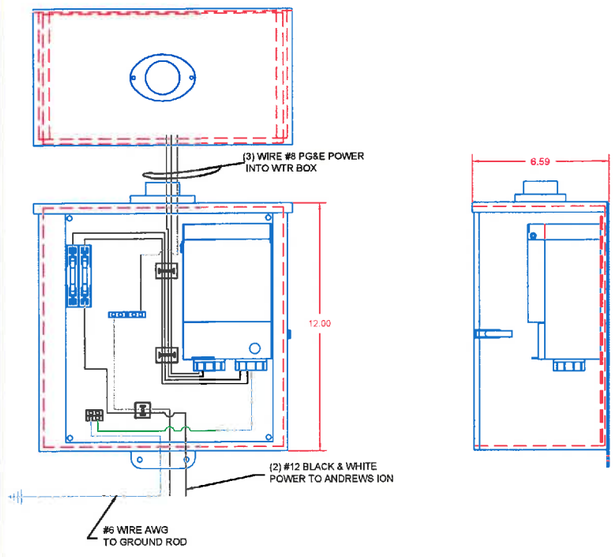
GROUND ROD INSTALLATION FOR WOODEN POLES
TYPICAL SECTION: N.T.S.



NOTE:
UTILITY POLE GROUND SHALL COMPLY WITH PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA GENERAL ORDER No. 95 (SECTION 59.4, 92.4)

4 SCALE N.T.S.

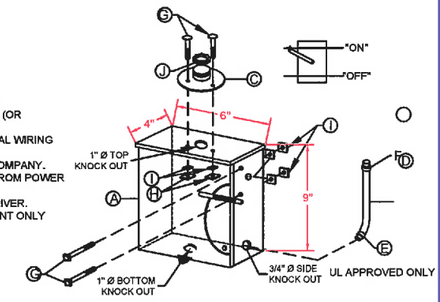
WEIGMANN ENCLOSURE
(12 X 12 X 6 ENCL, SCE CONFIGURATION)



5 SCALE N.T.S.

DISCONNECT BOX
TYPICAL SECTION: N.T.S.

NOTES:
1. MAIN DISCONNECT BREAKER.
2. MANUFACTURER SQUARE D - (OR EQUIVALENT).
3. BREAKER SIZE AND INCIDENTAL WIRING SPECIFIED BY CLIENT.
4. KAIC SPECIFIED BY POWER COMPANY.
5. 1" CLOSE NIPPLE FOR FEED FROM POWER SOURCE.
6. 3/4" LIQUID FLEX TO TRANSCEIVER.
7. CABINET LOCKABLE FOR CLIENT ONLY



PARTS LIST		
CALLOUT	QTY	DESCRIPTION
A	1	CABINET WATER PART #
B	1	BREAKER AMP KAIC 2 POLE 120/140 VAC SINGLE PHASE
C	1	1" CLOSE NIPPLE STRAIGHT
D	1	3/4" X 4' LIQUID TIGHT METALLIC FLEX CONDUIT WITH CONNECTOR
E	1	3/4" Ø LIQUID TIGHT FLEX CONNECTOR 45°
F	1	3/4" Ø LIQUID TIGHT FLEX CONNECTOR - STRAIGHT
G	4	5/6" X 1" BOLT - STAINLESS STEEL
H	4	5/6" LOCK WASHER - STAINLESS STEEL
I	4	5/16" NUT - STAINLESS STEEL
J	1	1" LOCK NUT

6 SCALE N.T.S.

SF PALO ALTO 034m1
PALO ALTO

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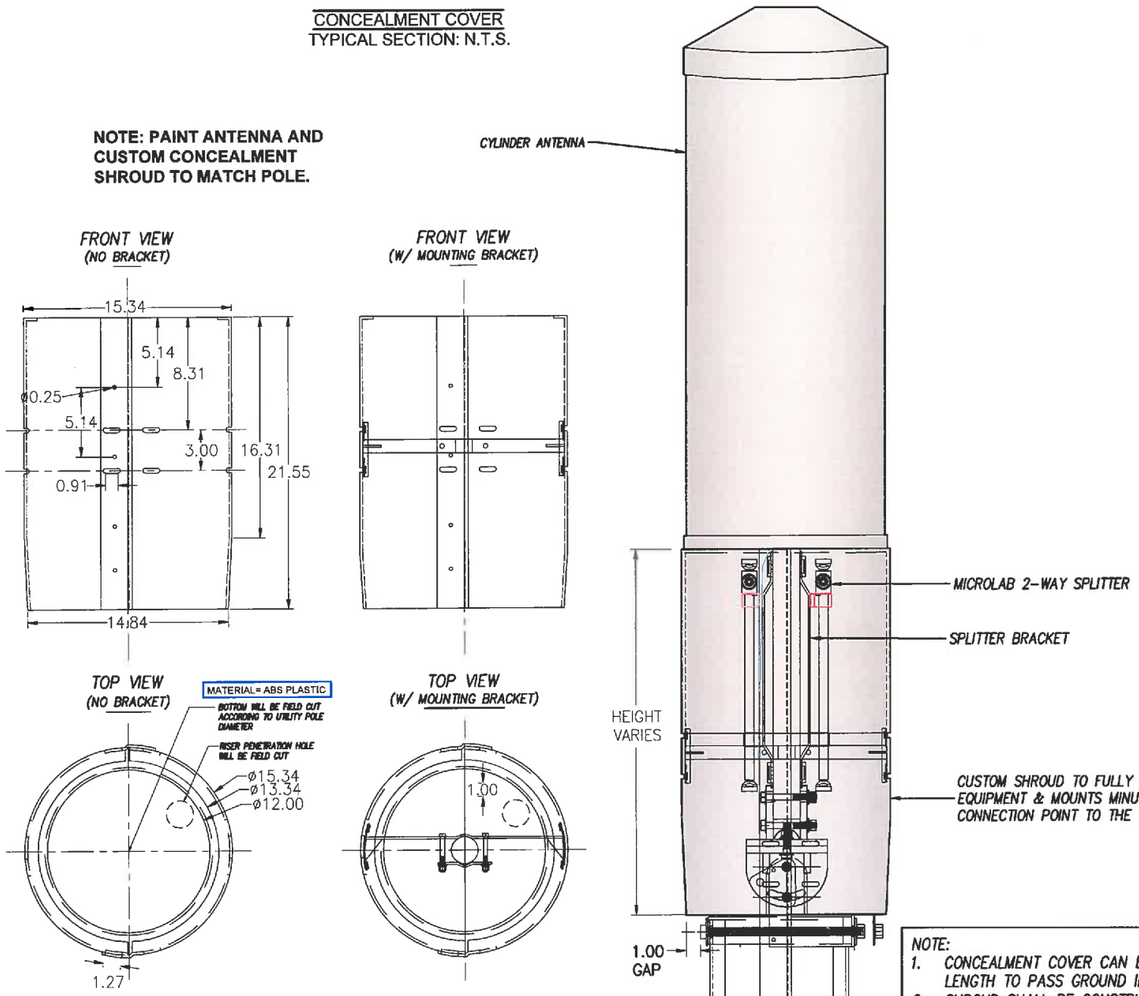
DETAILS & NOTES

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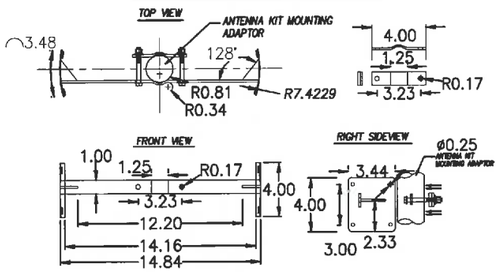
SHEET NO.
D-4

CONCEALMENT COVER
TYPICAL SECTION: N.T.S.

NOTE: PAINT ANTENNA AND CUSTOM CONCEALMENT SHROUD TO MATCH POLE.



RADOME MOUNTING COMPONENTS



NOTE:
1. CONCEALMENT COVER CAN BE ADJUSTED IN LENGTH TO PASS GROUND INSPECTION.
2. SHROUD SHALL BE CONSTRUCTED OF 1/4" ABS PLASTIC.
3. ALL MEASUREMENTS ARE IN INCHES.
4. THE RISERS DO NOT CONNECT OR GO INTO THE ANTENNA SHROUD.
5. THERE WILL BE A GAP (UP TO 6") FROM THE TOP OF THE RISER TO THE BOTTOM OF THE SHROUD.

7 | SCALE N.T.S.

CUUT360X12F124s0

Electrical Characteristics	Low Band		High Bands #1 and #2			
Frequency Bands (MHz)	696-960 MHz		(2x) 1695-2700 MHz			
	696-806	806-960	1695-1880	1850-1990	1920-2200	2300-2700
Polarization	±45°		(2x) ±45°			
Horizontal Beamwidth	360°	360°	360°	360°	360°	360°
Vertical Beamwidth	20°	15°	7.5°	7.0°	6.5°	6.0°
Gain	5.5 dBi	6.0 dBi	9.0 dBi	9.5 dBi	10.0 dBi	10.3 dBi
Electrical Downtilt (°)	(x) 0, 2, 4, 6, 8, 10, 12		(y) 0, 4, 8, 12			
Impedance	50Ω		50Ω			
VSWR	≤ 1.5:1		≤ 1.5:1			
Upper Sidelobe Suppression	> 15 dB		> 15 dB			
Isolation Between Ports	20 dB		25 dB			
IM3 (2x20W carrier)	< -153 dBc		< -153 dBc			
Input Power	(2x) 500 W		(4x) 300 W			
Diplexed	No					
Number of Sectors / Sector Spacing	3 Sectors / Pseudo Omni					
Lightning Protection	Direct Ground					

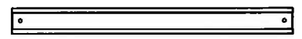
Mechanical Characteristics				
Antenna Dimensions (Height x Diameter)	1219 x 371	mm	48.0 x 14.6	in
Weight without Mounting Bracket Kit	17.3	kg	38.1	lbs
Antenna Volume	0.13	m³	4.7	ft³
Survival Wind Speed	200	km/hr	125	mph
Wind Area	0.47	m²	5.0	ft²
Wind Load (160 km/hr or 100 mph)	391	N	88	lbf

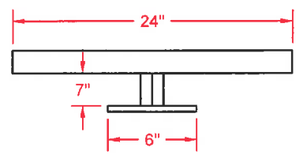


8 | SCALE N.T.S.

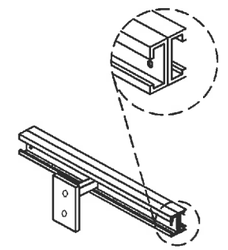
STANDOFF BRACKET

FRONT VIEW OF STAND OFF BRACKET:





TOP VIEW STAND OFF BRACKET:



3D VIEW OF STAND OFF BRACKET:

9 | SCALE N.T.S.

SF PALO ALTO 034m1
PALO ALTO
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No. 042590
Exp. 03-31-19
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STATE OF CALIFORNIA

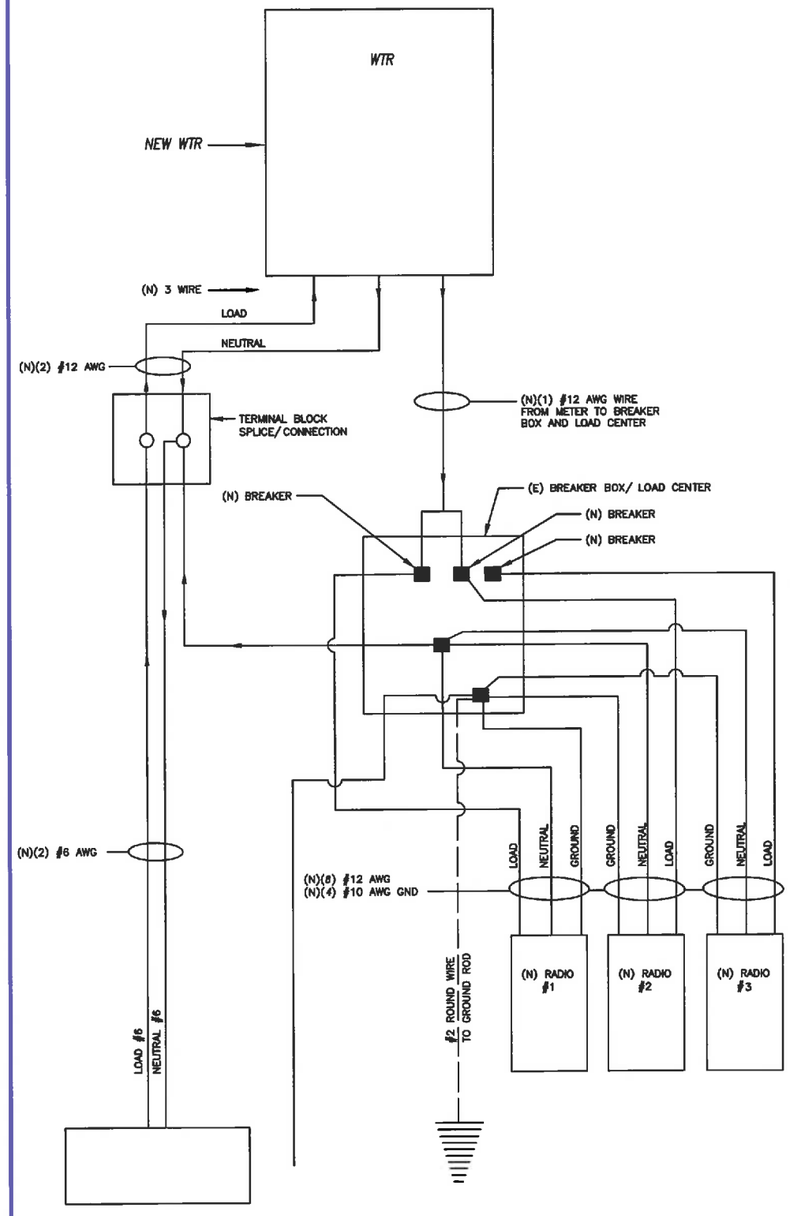
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37.439328 / -122.160244

DETAILS & NOTES

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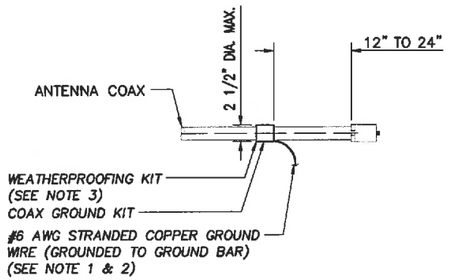
SHEET NO.
D-5

SINGLE LINE DIAGRAM



10 | SCALE N.T.S.

CONNECTION OF COAX GROUND KIT TO ANTENNA COAX

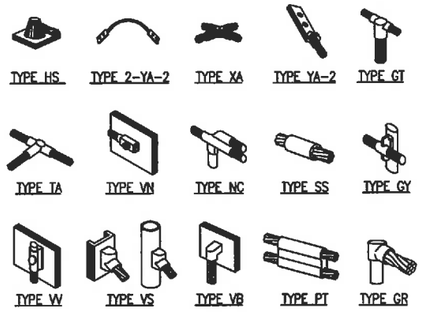


NOTES:

1. DO NOT INSTALL COAX GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PARK NUMBER AS SUPPLIED OR RECOMMENDED BY COAX MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

11 | SCALE N.T.S.

WELD CONNECTION DETAILS

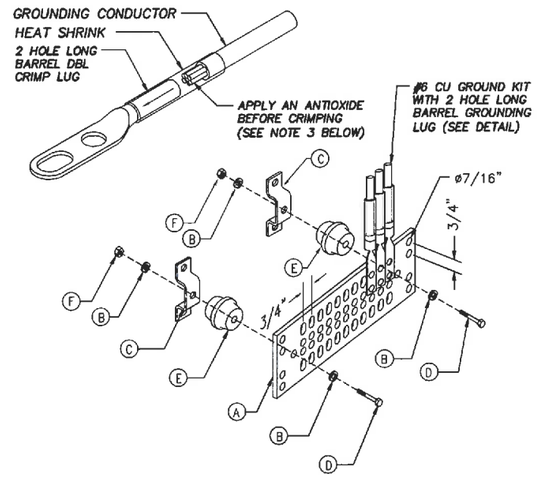


NOTE:

ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH PROJECT MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.

12 | SCALE N.T.S.

TYPICAL GROUND BAR



NOTES:

1. CRIMP (COMPRESSION) TYPE TWO HOLE BOLTED TONGUE CONNECTORS SHALL BE USED TO TERMINATE STRANDED GROUNDING CONDUCTORS. THE CONNECTORS SHALL BE TIN PLATED COPPER, LONG BARREL LUG, AND SHALL BE LISTED FOR THEIR INTENDED USE BY AN NRTL.
2. CRIMP TYPE CONNECTORS USED ON SOLID CONDUCTORS MUST BE LISTED BY AN NRTL FOR USE ON SOLID CONDUCTORS, AND MUST BE CRIMPED WITH THE DIES SPECIFIED BY THE MANUFACTURER OF THE CONNECTOR. USE A HYDRAULIC CRIMPING TOOL.
3. WIRES SHALL BE INSERTED THE ENTIRE LENGTH OF THE LUG. ENSURE COAX OUTER INSULATION IS SNUG TO LUG BARREL. PROVIDE AN ANTIOXIDE COMPOUND ON THE CONDUCTOR BEFORE CRIMPING (NO OX). INSTALL A TRANSPARENT HEAT SHRINK INSULATING TUBING ALONG THE ENTIRE LENGTH OF THE CRIMP.
4. USE #6 AWG STRANDED-THOMAS & BETTS 455578 OR EQUIVALENT.

PARTS LIST		PARTS LIST	
A	COPPER GROUND BAR, USE STYLE "I" GTI TELECOM, INC. OR EQUAL (ACTUAL GROUND BAR SIZE WILL VARY BASED ON NUMBER OF GROUND CONNECTIONS)	C	WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056 OR EQUAL
		D	5/8-11 X 1" HHCS BOLTS, NEWTON INSTRUMENT CO. CAT. NO. A-6056 OR EQUAL
B	5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8 OR EQUAL	E	INSULATORS SHALL BE INSTALLED
		F	5/8-11 NUT

13 | SCALE N.T.S.

SF PALO ALTO 034m1
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AGR	06/04/18	TT

SHEET NO.
D-6

CITY OF PALO ALTO
TREE PROTECTION - IT'S PART OF THE PLAN!
Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree. For detailed information on Palo Alto's regulated trees and protection during development, review the City Tree Technical Manual (TTM) found at www.cityofpaloalto.org/trees/.

TREE DISCLOSURE STATEMENT

CITY OF PALO ALTO
Planning Division, 250 Hamilton Avenue
Palo Alto, CA 94301
(650) 329-2441
http://www.cityofpaloalto.org

Palo Alto Municipal Code, Chapter 8.10.040, requires disclosure and protection of certain trees located on private and public property, and that they be shown on submitted and approved site plans. A completed *tree disclosure statement* must accompany all permit applications that include exterior work, all demolition or grading permit applications, or other development activity.

PROPERTY ADDRESS: Right of Way adjacent to 63 Encina Ave., Palo Alto, CA

Are there Regulated[1] trees on or adjacent to the property? **YES** **(NO)** (If no, proceed to Section 4)

[Sections 1- 4 MUST be completed by the applicant. Please circle and/or check where applicable.]

1. Where are the trees? Check those that apply. **(Plans must be submitted showing all trees over 4" diameter)**

- ☐ On the property
- ☐ On adjacent property overhanging the project site
- ☐ In the City planter strip or right-of-way easement within 30' of property line (Street Trees)*

*Street trees[1] **require special protection by a fenced enclosure**, per the attached instructions. Prior to receiving any permit, you must provide an authorized Street Tree Protection Verification form. Contact Public Works Operations at (650) 496-5953 for inspection of type I, II or III fencing (see attached Detail #605) required for all street trees.

2. Are there any Protected[1] or Designated[1] Trees? **YES** (Check where applicable) **NO**

- ☐ Protected Tree (s)
- ☐ Designated Tree (s)
- ☐ On or overhanging the property

3. Is there activity or grading within the dripline? (radius 10 times the trunk diameter) of these trees? **YES** **NO**

*If Yes, a **Tree Preservation Report** must be prepared by an ISA certified arborist and submitted for staff review (see TTM[2], Section 6.25). Attach this report to Sheet T-1,:Tree Protection, its Part of the Plan!", per Site Plan Requirements.*

4. Are the Site Plan Requirements** completed? **(YES)** **NO**

**Plans. Protection of Regulated trees during development require the following: (1) Plans must show the measured trunk diameter and canopy dripline; (2) Plans must denote, as a bold dashed line, a fenced enclosure area out to the dripline, per Sheet T-1 and Detail #605 - http://www.cityofpaloalto.org/trees/forms.htm (See also TTM[2], Section 2.15 for area to be fenced)

I, the undersigned, agree to the conditions of this disclosure. I understand that knowingly or negligently providing false or misleading information in response to this disclosure requirement constitutes a violation of the Palo Alto Municipal Code Section 8.10.040, which can lead to criminal and/or civil legal action.

Signature: Ben Willis (Prop. Owner or Agent) Print: Ben Willis Date: 9/07/18

FOR STAFF USE:

Protective Fencing
Sections 5-6 must be **completed by staff** for the issuance of any development permit (demolition, grading or building permit).

5. Protected Trees. The specified tree fencing is in place. A written statement is attached verifying that protective fencing is correctly in place around protected and/or designated trees. **YES** **NO**
(N/A if there are no protected trees, check here ☐)

6. Street Trees. A signed Public Works Street Tree Protection Verification form is attached. **YES** **NO**
(N/A if there are no street trees, check here ☐).

[1] Regulated Trees – a) Street trees – trees on public property; b) Protected trees – Coast Live Oaks or Valley Oaks which are 11.5" in diameter or larger, Coast Redwoods which are 18" in diameter or larger, when measured 54" above natural grade; and Heritage trees are trees designated by City Council; and c) Designated Trees – commercial or non-residential property trees, which are part of an approved landscape plan.

[2] Palo Alto Tree Technical Manual (TTM) contains instructions for all requirements on this form, available at www.cityofpaloalto.org/trees/technical-manual.html

Tree technical Manual

To purchase the tree Technical Manual

June, 2001 First Edition

View by section:

- o Table of Contents (PDF, 87KB)
- o Intent and Purpose (PDF, 1.05MB)
- o Introduction - Use of Manual (PDF, 1.05MB)
- o Section 1.0 - Definitions (PDF, 96KB)
- o Section 2.0 - Protection of Trees During Construction (PDF, 259KB)
- o Section 3.0 - Removal, Replacement & Planting of Trees (PDF, 117KB)
- o Section 4.0 - Hazardous Trees (PDF, 105KB)
- o Section 5.0 - Tree Maintenance Guidelines (PDF, 110KB)
- o Section 6.0 - Tree Reports (PDF, 84KB)

View ALL sections:

- o Tree Technical Manual - Full (PDF, 1.84MB)

APPENDICES
A. Palo Alto Municipal Code Chapter 8.10, Tree Preservation & Management Regulations
B: Tree City - USA
C: ISA Hazard Evaluation Form
D: List of Inherent Failure Patterns for Selected Species (Reference source) E: ISA Tree Pruning Guidelines (PDF, 1.85MB)
F: Tree Care Safety Standards, ANSI Z133.1-1994 (Reference source)
G: Pruning Performance Standards, ANSI A300-1995 (Reference source) H: Tree Planting Details, Diagram 504 & 505 I: Tree Disclosure Statement
J: Palo Alto Standard Tree Protection Instructions

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PALO ALTO
CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:
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www.crowncastle.com

PREPARED BY:
Coastal Communications
Telecommunications Engineering
5841 EDISON PLACE, SUITE 200
CARLSBAD, CA 92008
PHONE: (760) 929-0910
FAX: (760) 929-0936
www.coastalcomminc.com

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REGISTERED PROFESSIONAL ENGINEER
JERRY W. MICHAL
No. C42590
Exp. 03-31-19
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS.
ROW ADJACENT TO 63 ENCINA AVE
PALO ALTO, CA
37.439328 / -122.160244

SPECIAL TREE PROTECTION INSTRUCTION SHEET

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/04/18	TT

SHEET NO.
T1.1

CITY OF PALO ALTO
TREE PROTECTION - IT'S PART OF THE PLAN!
Make sure your crews and subs do the job right!

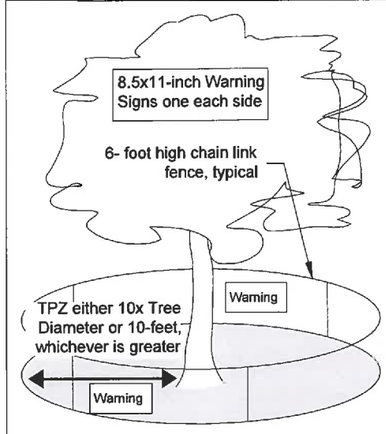
Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree. For detailed information on Palo Alto's regulated trees and protection during development, review the City Tree Technical Manual (TTM) found at www.cityofpaloalto.org/trees/.

For written specifications associated with illustrations below, see Public Works Specifications Section 31

Detailed specifications are found in the Palo Alto Tree Technical Manual (TTM)(ww.cityofpaloalto.org/trees/)

Tree Protection (TPZ) shown in gray (radius of TPZ equals 10-times the diameter if the tree or 10-feet, whichever is greater).

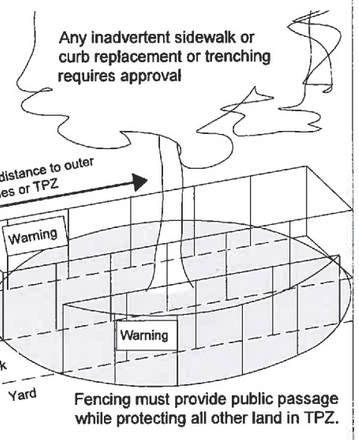
- Restricted activity area – see Tree Technical Manual Sec 2.15(E).
- Restricted trenching area -- see Tree Technical Manual Sec 2.20(C-D), any proposed trench or form work within TPZ of a protected tree requires approval from Public Works Operations. Call 650-496-5953.



Type I Tree Protection

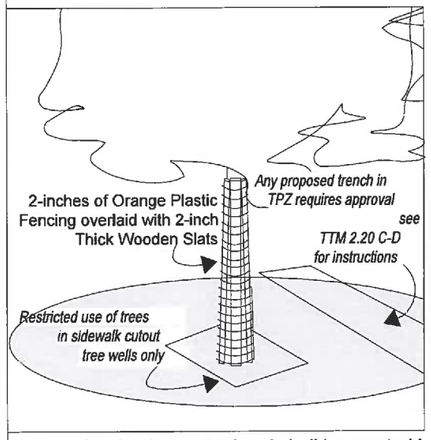
For all Ordinance Protected & Designated trees, as detailed in the site specific tree preservation report (TPR) prepared by the applicant's project arborist as diagramed on the plans.

Note: Ordinance Protected & Designated Trees. Issuance of a permit requires applicant's project arborist written verification Type I is installed correctly according to the plans and Tree Preservation Report



Type II Tree Protection

Fencing must provide public passage while protecting all other land in TPZ.



Note: Street Trees. Issuance of a permit requires Public Works Operations inspection and signed approval on the Street Tree Verification (STV) form provided.

Type III Tree Protection

(to be used only with approval of Public Works Operations)

Tree fencing is required and shall be erected before demolition, grading or construction begins.

PALO ALTO
STREET TREE PROTECTION INSTRUCTIONS
--SECTION 31--

a. Tree protection has three primary functions, I) to keep the foliage canopy and branching structure clear from contact by equipment, materials and activities; 2) to preserve roots and soil conditio ns in an intact and non-compacted state and 3) to identify the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities arc restricted, unless otherwise approved.
b. The Tree Protection Zone (TPZ) is a restricted area around the base of the h·ec with a radius of ten-times the diameter of the tree's trunk or ten feet; whichever is greater, enclosed by fencing.

31-2 Reference Documents

a. Detail 605- illustration of situations described below.
b. Tree Technical Manual (TTM) Forms (http://www.cityofpaloalto.org/trees/)
1. Trenching Restriction Zones (TITM, Section 2.20(C))
2. Arborist Reporting Protocol (TITM, Sectio n 6.30)
3. Site Plan Requirements (TITM, Sect ion 6.35)
4. Tree Disclosure Statement (TTM, Appendix J)
c. Street Tree Verification (STV) Form (http://www.cityofpalo alto.org/trees/forms)

31-3 Execution

a. Type I Tree Protection: The fence shall enclose the entire TPZ of the trce(s) to be protected throughout the life of the construction project. In some parking areas, if fencing is located on paving or concrete that will not be demolished, then the posts may be supported by an appropriate grade level concrete base, if approved by Public Works Operations.
b. Type II Tree Protection: For trees situated within a planting strip, only the planting strip and yard side of the TPZ shall be enclosed with the required chain link protective fencing in order to keep the sidewalk and street open for public use.
c. Type III Tree Protection: To be used Q!!ly with approval of Public Works Operations. Trees situate d in a tree well or sidewalk planter pit, shall be wrapped with 2-inches of orange plastic fencing from the ground to the first branch and overlaid with 2-inch thick wooden slats bound securely (slats shall not be allowed to dig into the bark). During installation of the plastic fencing, caution shall be used to avoid damaging any branches. Major limbs may also require plastic fencing as directed by the City Arborist.
d. Size, type and area to be fenced. All trees to be preserved shall be protected with six (6') foot high chain link fences. Fences arc to be mounted on two-inch diameter galvanized iron posts, driven into the ground to a depth of at least2-feet at no more than JO-foot spacing. Fencing shall extend to the outer branching, unless specifically approved on the STV Form.
e. 'Warning' signs. A warning sign shall be weather proof and prominently displayed on each fence at 20-foot intervals. The sign shall be minimum 8.5-inchcsx I I-inches and clearly state in half inch tall letters: "WARNING - Tree Protection Zone - This fence shall not be removed and is subject to a fine according to PAMC Section 8.10.110."
f. Duration. Tree fencing shall be erected before demolition; grading or construction begins and remain in place until final inspection of the project, except for work specifically allowed in the TPZ . Work or soil disturbance in the TPZ requires approval by the project arborist or City Arborist (in the case of work around Street Trees). Excavations within the public right of way require a Street Work Permit from Public Works.

g. During construction

1. All neighbors' trees that overhang the project site shall be protected from impact of any kind.
2. The applicant shall be responsible for the repair or replacement plus penalty of any publicly owned trees that are damaged during the course of construction, pursuant to Section 8.04.070 of the Palo Alto Municipal Code.
3. The following tree preservation measures apply to all trees to be retained:
   a. No storage of material, topsoil, vehicles or equipment shall be permitted within the TPZ.
   b. The ground under and around the tree canopy area shall not be altered.
   c. Trees to be retained shall be irrigated, aerated and maintained as necessary to ensure survival.

END OF SECTION

City of Palo Alto 2004 Standard Drawings and Specifications
Street Tree Vcrification of Protection, PWE, Section 31

Revised 08/06

SF PALO ALTO 034m1
PALO ALTO

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REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp. 03-31-18
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ROW ADJACENT TO 63 ENCINA AVE
PALO ALTO, CA
37.439328 / -122.160244

SPECIAL TREE PROTECTION INSTRUCTION SHEET

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/04/18	TT

SHEET NO.
T1.2

CITY OF PALO ALTO
TREE PROTECTION - IT'S PART OF THE PLAN!
Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree. For detailed information on Palo Alto's regulated trees and protection during development, review the City Tree Technical Manual (TTM) found at www.cityofpaloalto.org/trees/.

Table 2-2 Palo Alto Tree Technical Manual
ARBORIST INSPECTION SCHEDULE

All Checked Items Apply to this project:

1. ☑ Inspection of Protective Tree Fencing. The Street Tree Verification Form shall be signed by the City Arborist. For other Protected Trees, the project arborist shall provide a written statement with a photograph verifying that he has conducted a field inspection of the trees and that the protective tree fencing is in place prior to issuance of a demolition, grading, or building permit. (see Verification of Tree Protection, Section 1.39).

2. ☑ Pre-Construction Meeting. Prior to commencement of construction, the applicant or contractor shall conduct a pre-construction meeting to discuss tree protection with the job site superintendent, grading equipment operators, project arborist, City Arborist, and, if a city maintained irrigation system exists, the Parks Manager (Contact 650-496-6962).

3. ☐ Inspection of Rough Grading. The project arborist shall perform an inspection during the course of rough grading ACROSS FROM the TPZ to ensure trees will not be injured by compaction, cut or fill, drainage and trenching, and if required, inspect aeration systems, tree wells, drains and special paving. The contractor shall provide the project arborist at least 48 hours advance notice of such activity.

4. ☐ Monthly Inspections. The project arborist shall perform a monthly activity inspection to monitor and advise for conditions and tree health. The City Arborist shall be in receipt of the activity report during the first week of each calendar month or, immediately if there are any revisions to the approved plans or protection measures. Fax to (650) 329-2154. (see Monthly Inspection Report, Section 1.17).

5. ☐ Special activity within the Tree Protection Zone. Work in this area (TPZ - described in #7 below) requires the direct onsite supervision of the project arborist (see Trenching, Excavation and Equipment, Section 2.20 C).

6. ☐ Landscape Architect Inspection. For discretionary development projects, prior to temporary or final occupancy the applicant or contractor shall arrange for the Landscape Architect to perform an on site inspection of all plant stock, quality of the materials and planting (see Quality, Section 5.20.1 A) and that the irrigation is functioning consistent with the approved construction plans. The City shall be in receipt of written verification of Landscape Architect approval prior to scheduling the final inspection, unless otherwise approved.

7. ☐ Other (please describe)_____

	City of Palo Alto Tree Department Public Works Operations PO Box 10250 Palo Alto, CA 94303 6501496-5953 FAX: 6501852-9289 treeprotection@CityofPaloAlto.org	Verification of Street Tree Protection

Applicant Instruction: Complete upper portion of this form. Mail or FAX this form along with the signed tree Disclosure Statement to Public Works Dept. Public Works Tree Staff will inspect and notify applicant.

APPLICATION DATE:	
ADDRESS/LOCATION OF STREET TREES TO BE PROTECTED:	
APPLICANT'S NAME:	
APPLICANT'S ADDRESS:	
APPLICANT'S TELEPHONE & FAX NUMBERS:	

This section to be filled out by City Tree Staff

1. The Street Trees at the above address(es) are adequately protected. The type of protection used is:	YES NO *If NO, go to #2 below
Inspected by:	
Date of Inspection:	

2. The Street Trees at the above address are NOT adequately protected. The following modifications are required: Indicate how the required modifications were communicated to the applicant.	_____ _____ _____ _____ _____ _____ _____

Subsequent Inspection

Street trees at above address were found to be adequately protected: inspected by:	YES NO *If NO, indicate in "Notes" below the disposition of case.
Date of Inspection:	

Notes: List City street trees by species, site, condition and type of tree protection installed. Also note if pictures were taken. Use back of sheet if necessary.	

Return approved sheet to Applicant for demolition or building permit issuance.
S:PWD/OPS/Tree/DS/St TreeProtect 5/1706

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No. C42590
Exp. 03-31-18
CIVIL
STATE OF CALIFORNIA

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SPECIAL TREE PROTECTION INSTRUCTION SHEET

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/04/18	TT

SHEET NO.
T1.3

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Arborist Firm Data Here

City of Palo Alto Tree Technical Manual

ADDENDUM 11

email:
RCA/ISA Certified Arborist #WE-000
Conact Cell #:

Monthly Tree Activity Report- Construction Site

Inspection Date: _____ Inspection #_____	Site Address: _____ Palo Alto, CA	Contractor- Main Site Contact Information	#1: Job site superintendent Company: Email: Job site: Office: Cell: Mail:
		Also present:	• _____ • _____
Distribution:	1. City of Palo Alto 2. Others	Attn: Dave Dockter	Dave.dockter@cityofpaloalto.org 650-329-2440

Provide the requested minimum information with each report, customize as necessary. To be completed by project site arborist. Send monthly to city arborist at above address until project completion. Use additional sheets as needed.

1. Assignment Activity (Demolition/grading/sewer/trenching/foundation/list relevant visits)
   a. Pre-construction meeting requirement with sub-contractors
   b. Inspect to verify that tree protection measures are in place
   c. Determine if field adjustments, watering or plan revisions may be needed

2. Field Observations (general site-wide and list by individual tree number)
   a. Tree Protection Fences (TPF) are...
   b. Trenching has/will occur

3. Action Items (list site-wide, by tree number and date to be satisfied) and Date Due
   a. Tree Protection Fence (TPF) needs adjusting (tree # x, x, x)
   b. Root zone buffer material (wood chips) can be installed next
   c. Schedule sewer trench, foundation dig with...

4. Photographs (use often)

5. Tree location Map (mandatory 8.5 x 11 sheet)

6. Recommendations, notes or monitor items for projects/staff/schedule

7. Past visits (list carry-over items satisfied/still outstanding

Respectfully submitted,

Project site arborist
Consultant contact information (Include email, cell #, and mailing)

Enter date CPA Monthly Tree activity Report: Type site address here

---WARNING---
Tree Protection Zone

This fencing shall not be removed without City Arborist approval (650-496-5953)

Removal without permission is subject to a $500 fine per day*

*Palo Alto Municipal Code Section 8.10.110

City of Palo Alto Tree Protection Instructions are located at http://www.cithofpalo-alto.ca.us/trees/technical-manual.html

SPECIAL INSTRUCTIONS — PLANNING DEPARTMENT

TREE PROTECTION INSPECTIONS MANDATORY

PAMC 8.10 PROTECTED TREES. CONTRACTOR SHALL ENSURE PROJECT SITE ARBORIST IS PERFORMING REQUIRED TREE INSPECTION AND SITE MONITORING. PROVIDE WRITTEN MONTHLY TREE ACTIVITY REPORTS TO THE PLANNING DEPARTMENT LANDSCAPE REVIEW STAFF BEGINNING 14 DAYS AFTER BUILDING PERMIT ISSUANCE.

BUILDING PERMIT DATE: _____

DATE OF 1ST TREE ACTIVITY REPORT: _____

CITY STAFF: _____

REPORTING DETAILS OF THE MONTHLY TREE ACTIVITY REPORT SHALL CONFORM TO SHEET T-1 FORMAT, VERIFY THAT ALL TREE PROTECTION MEASURES ARE IMPLEMENTED AND WILL INCLUDE ALL CONTRACTOR ACTIVITY, SCHEDULED OR UNSCHEDULED, WTIHIN A TREE A TREE PROTECTION ROOT ZONE. NON-COMPLIANCE IS SUBJECT TO VIOLATION OF PAMC 8.10.080. REFERENCE: PALO ALTO TREE TECHNICAL MANUAL, SECTION 2.00 AND ADDENDUM 11.

ALL OTHER TREE-RELATED REPORTS SHALL BE ADDED USING ADDITIONAL "T" SHEETS AS NEEDED.

SF PALO ALTO 034m1
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SPECIAL TREE PROTECTION INSTRUCTION SHEET

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AGR	06/04/18	TT

SHEET NO.
T1.4



A | KEY MAP



B | 10 O'CLOCK VIEW



C | 12 O'CLOCK VIEW



D | 2 O'CLOCK VIEW

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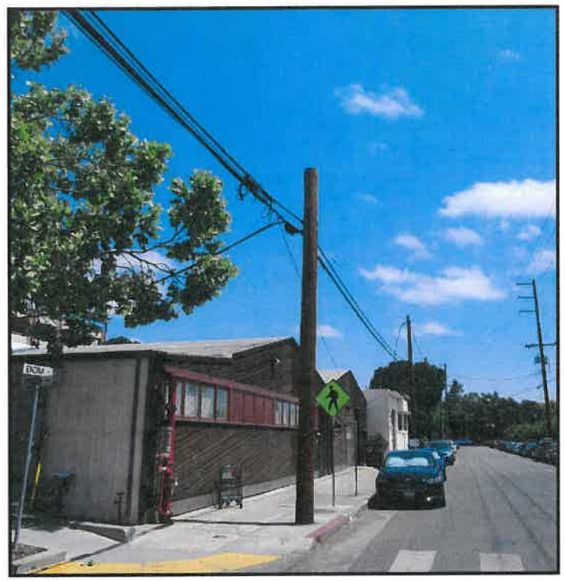
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SHEET NO.
P-1



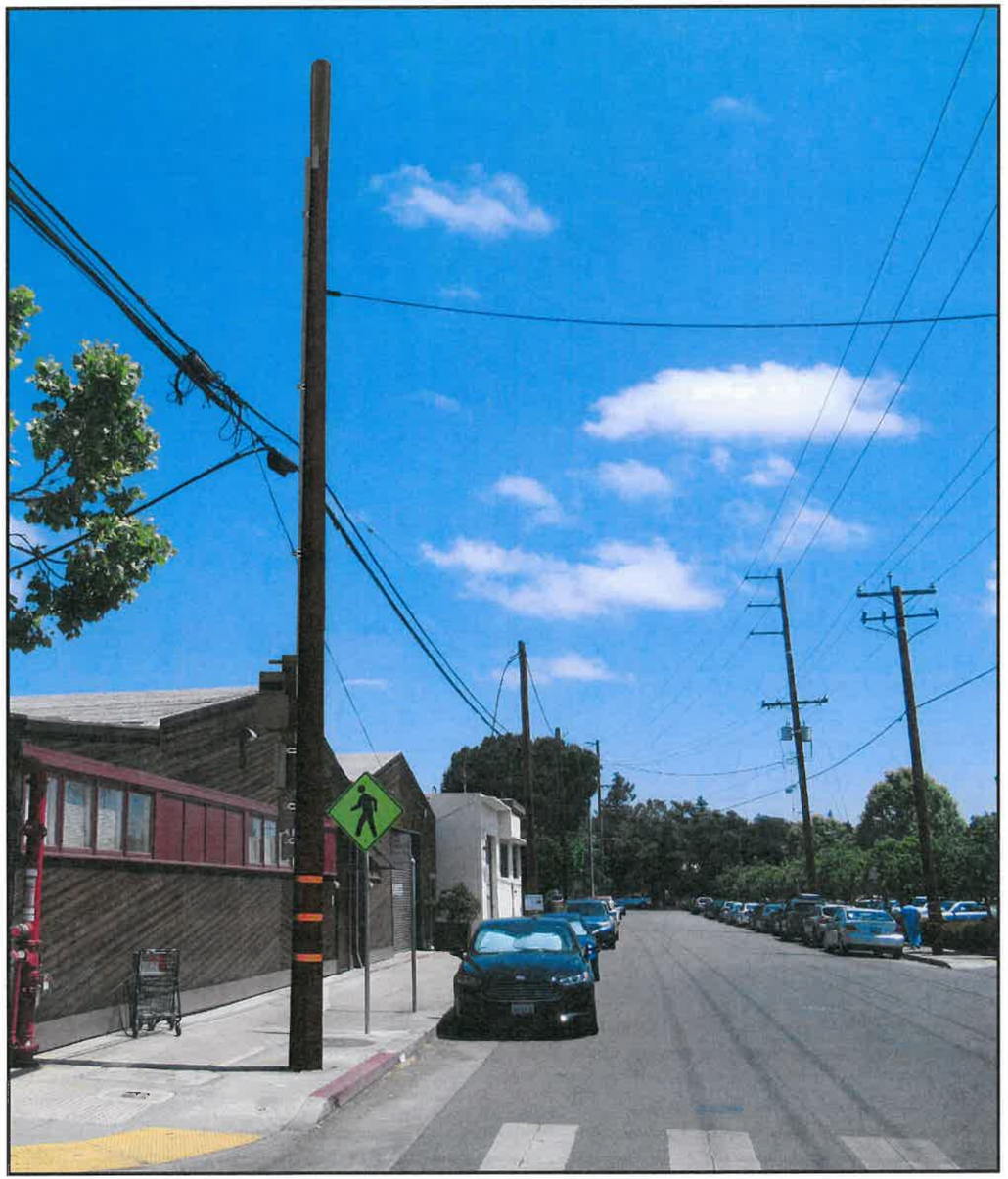
EXISTING SITE

CROWN CASTLE

SF PALO ALTO 034M1
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PALO ALTO, CA



VICINITY MAP



PROPOSED SITE

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SHEET NO.
P-2

POLE ID #NT

TOP OF EXISTING POLE: 26'-1"

TOP OF NEW POLE: 34'-0"

TOP OF ANTENNA(S): 40'-6"

RAD CENTER: 38'-6"

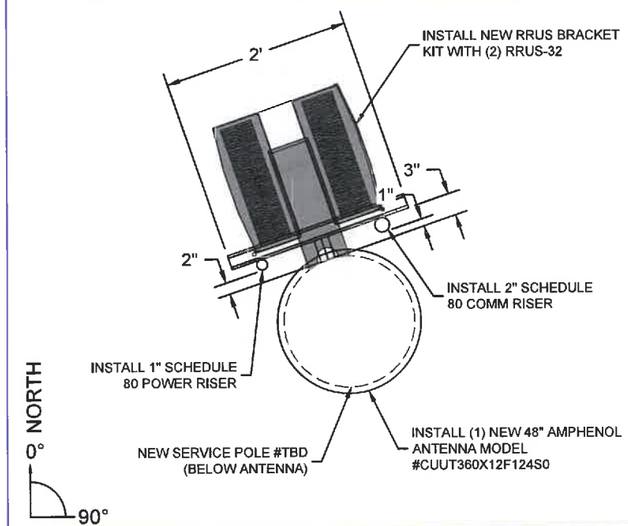
AZIMUTH(S): OMNI

PROFILE VIEW: 3 O' CLOCK

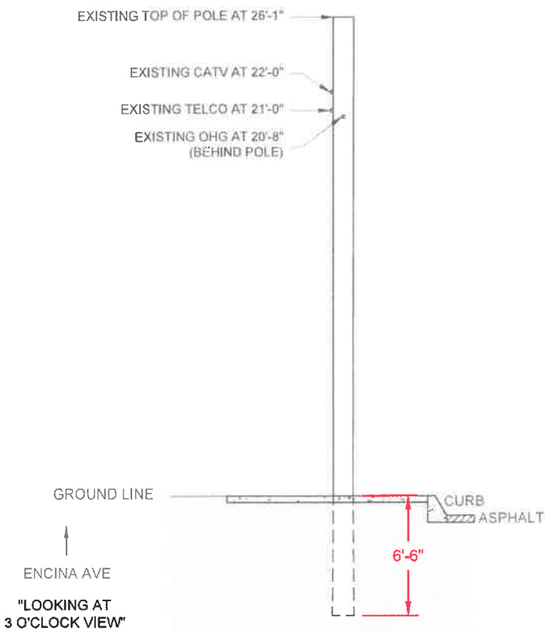
A PROFILE NOTES

- INSTALL NEW 40' CLASS III SERVICE POLE.
- ATTACH SECONDARY POWER AT 26'-0".
- INSTALL GUARD ARM AT 22'-5".
- TRANSFER EXISTING OHG AT 20'-8".
- TRANSFER EXISTING TELCO AT 21'-0".
- TRANSFER EXISTING CATV AT 22'-0".
- INSTALL NEW VGR.
- INSTALL STANDOFF BRACKET(TYP.).
- INSTALL NEW POWER DISCONNECT BOX ON STANDOFF BRACKET AT 8'-0" TO 8'-9".
- INSTALL NEW WTR ENCLOSURE ON STANDOFF BRACKET AT 9'-6" TO 10'-6".
- INSTALL NEW STANDOFF BRACKET KIT WITH (1) RRUS-11 AT 11'-0" TO 12'-5".
- INSTALL NEW RRUS BRACKET KIT WITH (2) RRUS-32 AT 16'-3".
- INSTALL NEW 2" SCHEDULE 80 COMM RISER.
- INSTALL NEW 1" SCHEDULE 80 POWER RISER.
- INSTALL (1) NEW 48" AMPHENOL ANTENNA MODEL #CUUT360X12F124s0 & (1) ANTENNA MOUNT.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

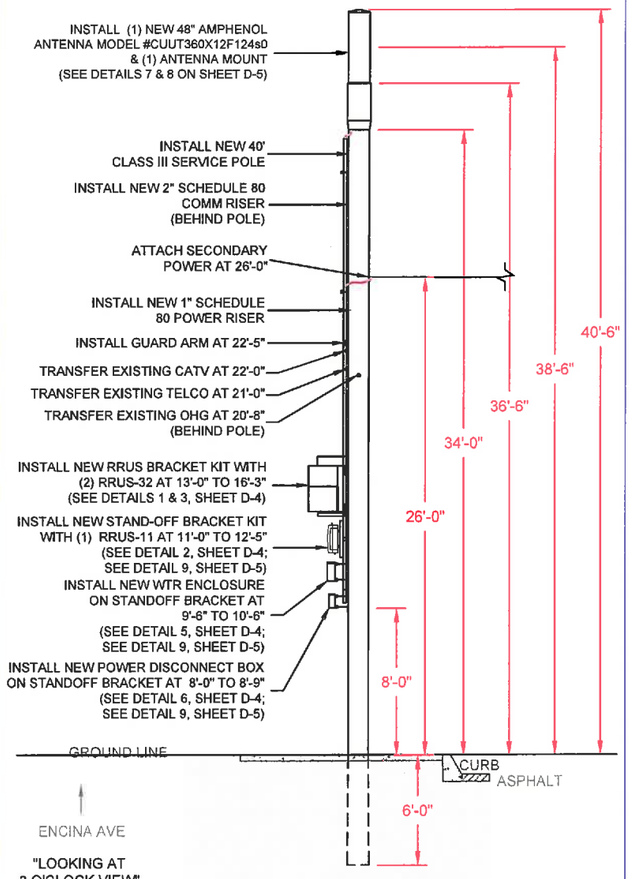
B CONSTRUCTION NOTES



C TOP VIEW N.T.S.



D EXISTING - 3 O'CLOCK ELEVATION 11"x17" SCALE: 1/4" = 1'-0" 24"x36" SCALE: 1/2" = 1'-0"



NOTE: ALL EQUIPMENT SHALL BE PAINTED TO MATCH EXISTING POLE.

E PROPOSED - 3 O'CLOCK ELEVATION 11"x17" SCALE: 1/4" = 1'-0" 24"x36" SCALE: 1/2" = 1'-0"

SF PALO ALTO 034m1
PALO ALTO

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
www.crowncastle.com

PREPARED BY:
Coastal Communications
Telecommunications Engineering
5841 EDISON PLACE, SUITE 200
CARLSBAD, CA 92008
PHONE: (760) 929-0910
FAX: (760) 929-0936
www.coastalcommunc.com

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TICKET #_____

REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp.03-31-19
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ROW ADJACENT TO 63 ENCINA AVE
PALO ALTO, CA
37.439328 / -122.160244

PROFILE

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/04/18	TT

SHEET NO.
P-3

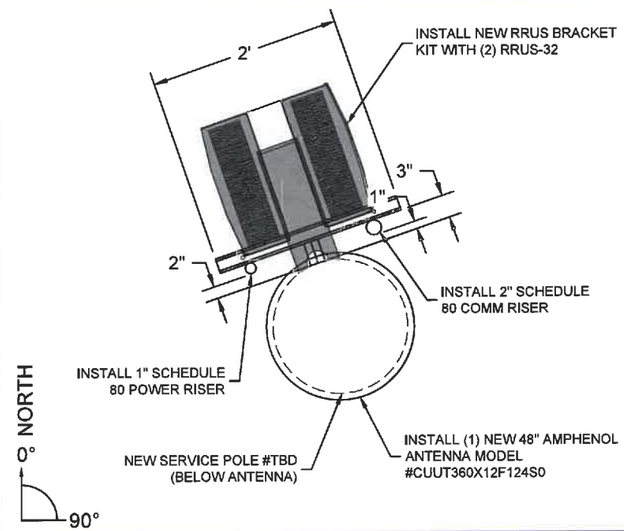
POLE ID #NT

TOP OF EXISTING POLE: 26'-1"
TOP OF NEW POLE: 34'-0"
TOP OF ANTENNA(S): 40'-6"
RAD CENTER: 38'-6"
AZIMUTH(S): OMNI
PROFILE VIEW: 6 O' CLOCK

F PROFILE NOTES

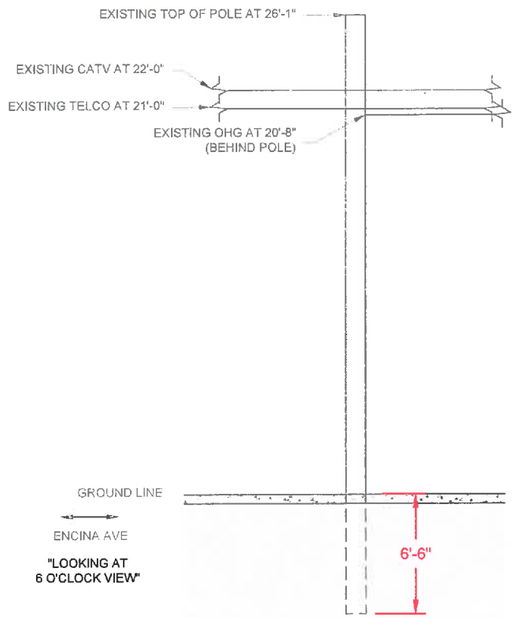
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- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

G CONSTRUCTION NOTES



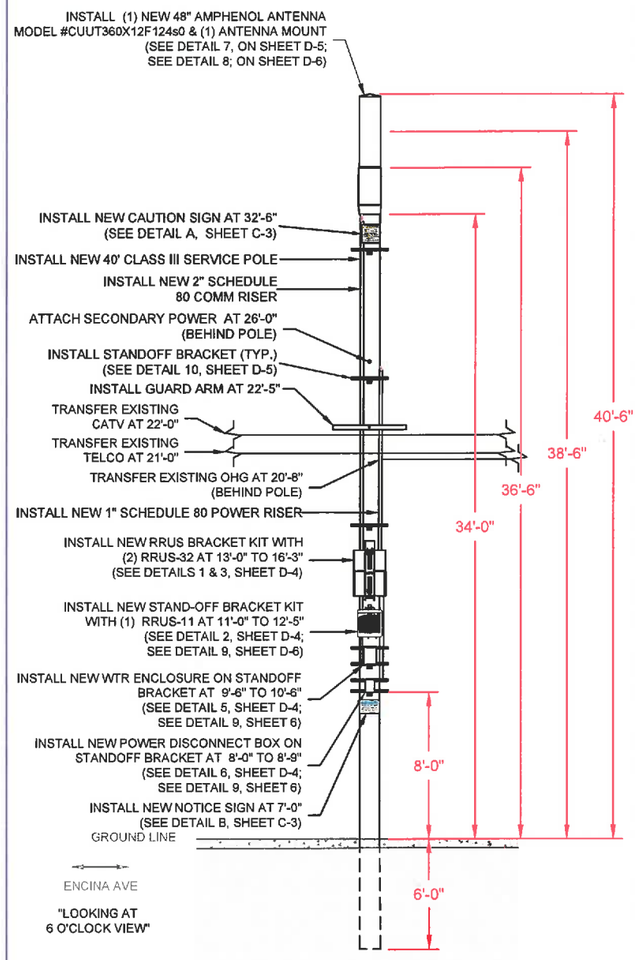
H TOP VIEW

N.T.S.



I EXISTING - 6 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
24"x36" SCALE: 1/2" = 1'-0"



NOTE: ALL EQUIPMENT SHALL BE PAINTED TO MATCH EXISTING POLE.

J PROPOSED - 6 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
24"x36" SCALE: 1/2" = 1'-0"

SF PALO ALTO 034m1
PALO ALTO

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REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp. 03-31-20
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
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PALO ALTO, CA
37.439328 / -122.160244

PROFILE

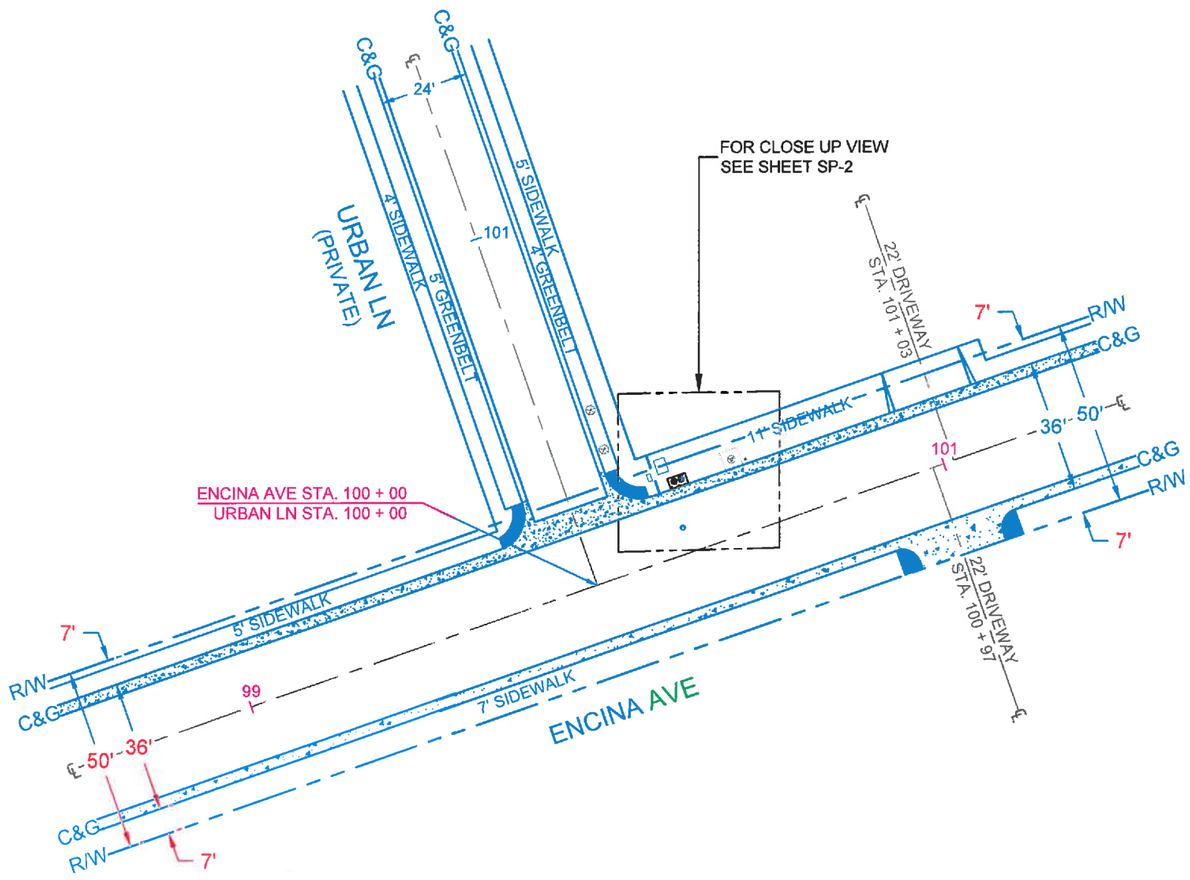
DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/04/18	TT

SHEET NO.
P-4

IN CASE OF ENCOUNTERING MASSIVE / EXTENSIVE TREE ROOTS AROUND WORK AREA DURING CONSTRUCTION, CONTACT CITY OF PALO ALTO ARBORIST AT (650) 496-5953 FOR FURTHER GUIDANCE & SUPERVISION

TREE PROTECTION IS REQUIRED AND SHALL BE ERECTED AROUND ANY TREE WITHIN 15' OF IMPROVEMENTS OR WORK ZONE BEFORE CONSTRUCTION BEGINS. REFER TO SHEETS T1.1 - T1.4.

ALL UTILITIES AS SHOWN PER CITY OF PALO ALTO MAPS



NORTH

11"x17" SCALE: 1" = 40'
24"x36" SCALE: 1" = 20'

SF PALO ALTO 034m1
PALO ALTO

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REVISION / ISSUE	DATE

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JERRY MICHAL
No. C42590
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CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ROW ADJACENT TO 63 ENCINA AVE
PALO ALTO, CA
37.439328 / -122.160244

SITE PLAN

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/04/18	TT

SHEET NO
SP-1

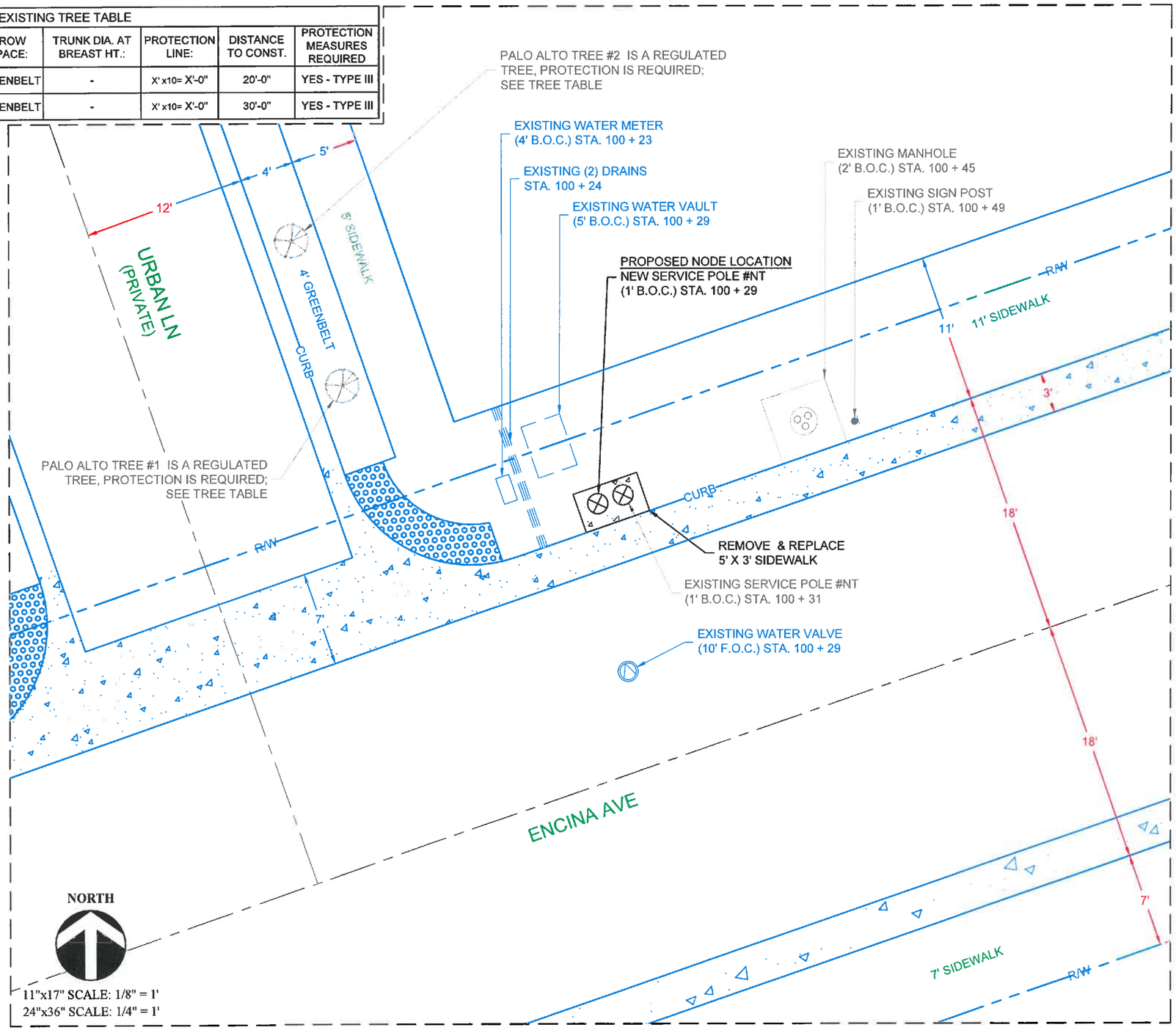
EXISTING TREE TABLE							
PALO ALTO TREE #	SPECIES:	COMMON NAME:	GROW SPACE:	TRUNK DIA. AT BREAST HT.:	PROTECTION LINE:	DISTANCE TO CONST.	PROTECTION MEASURES REQUIRED
1	PLATANUS X HISPANICA	LONDON PLANE SYCAMORES	GREENBELT	-	X' x10= X'-0"	20'-0"	YES - TYPE III
2	PLATANUS X HISPANICA	LONDON PLANE SYCAMORES	GREENBELT	-	X' x10= X'-0"	30'-0"	YES - TYPE III

NODE COORDINATES	
LATITUDE:	37.439328
LONGITUDE:	-122.160244

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ALL EQUIPMENT SHALL BE PAINTED TO MATCH EXISTING POLE



11"x17" SCALE: 1/8" = 1'
24"x36" SCALE: 1/4" = 1'

SF PALO ALTO 034m1
PALO ALTO
CROWN CASTLE PROJECT NO.
VZW366241CA

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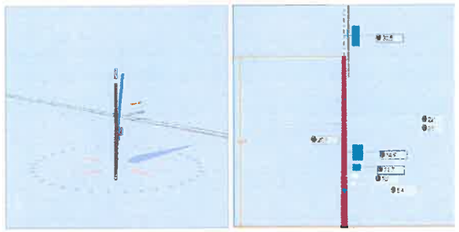
SITE NAME & ADDRESS:
ROW ADJACENT TO 63 ENCINA AVE
PALO ALTO, CA
37.439328 / -122.160244

ENLARGED SITE PLAN

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/04/18	TT

SHEET NO.
SP-2

Pole Num:	NT	Pole Length / Class:	40 / 1	Code:	GO 95	Structure Type:	Guyed Tangent
CLIENT	CROWN CASTLE	Species:	DOUGLAS FIR	GO 95 Rule:	At Installation (New)	Pole Strength Factor:	0.33
PROJECT	SF PALO ALTO	Setting Depth (ft):	5.50	Construction Grade:	B	Transverse Wind LF:	1.00
HUB	Unset	G/L Circumference (in):	41.21	Loading District:	Light	Wire Tension LF:	1.00
APP/GRID	Unset	G/L Fiber Stress (psi):	8,000	Ice Thickness (in):	0.00	Vertical LF:	1.00
SITE	034m1	Allowable Stress (psi):	2,667	Wind Speed (mph):	55.90	Pole Factor of Safety:	9.52
Aux Data 6	Unset	Fiber Stress Ht. Reduc:	No	Wind Pressure (psf):	8.00	Vertical Factor of Safety:	600.00
Latitude:	0.000000 Deg	Longitude:	0.000000 Deg	Elevation:	0 Feet	Bending Factor of Safety:	9.66



Pole Capacity Utilization (%) Crossarm allowance 300 lbs		Height (ft)	Wind Angle (deg)
Maximum	31.5	0.0	0.0
Groundline	31.5	0.0	0.0
Vertical	0.5	16.8	270.0

Pole Moments (ft-lb) Crossarm allowance 300 lbs		Load Angle (deg)	Wind Angle (deg)
Max Cap Util	15,288	0.0	0.0
Groundline	15,288	0.0	0.0
GL Allowable	48,228		

Guy System Component Summary				Load From Worst Wind Angle on Pole		Individual Maximum Load	
Description	Lead Length (ft)	Lead Angle (deg)	Height (ft)	Nominal Capacity (%)	Wind Angle (deg)	Max Load Capacity (%)	Wind Angle (deg)
Guy Pole	93.0	90.0		6.0	0.0	3.2	270.0
EHS 3/8 (Span/Head)			20.7	6.0	0.0	6.6	270.0
			System Capacity Summary:	Adequate		Adequate	

Groundline Load Summary - Reporting Angle Mode: Load - Reporting Angle: 0.0°

	Shear Load* (lbs)	Applied Load (%)	Bending Moment (ft-lb)	Applied Moment (%)	Pole Capacity (%)	Bending Stress (+/- psi)	Vertical Load (lbs)	Vertical Stress (psi)	Total Stress (psi)	Pole Capacity (%)
Comms	184	25.4	4,173	27.3	8.5	216	115	1	217	8.1
GuyBraces	12	1.6	250	1.6	0.5	13	13	0	13	0.5
GenericEquipments	157	21.6	3,256	21.3	6.6	169	86	1	169	6.3
Pole	250	34.4	4,607	30.1	9.4	238	1,350	10	248	9.3
Risers	123	17.0	2,994	19.6	6.1	155	69	1	155	5.8
Insulators	0	0.0	7	0.1	0.0	0	10	0	0	0.0
Pole Load	726	100.0	15,288	100.0	31.1	791	1,642	12	803	30.1
Pole Reserve Capacity			33,940		68.9	1,875			1,863	69.9

Load Summary by Owner - Reporting Angle Mode: Load - Reporting Angle: 0.0°

	Shear Load* (lbs)	Applied Load (%)	Bending Moment (ft-lb)	Applied Moment (%)	Pole Capacity (%)	Bending Stress (+/- psi)	Vertical Load (lbs)	Vertical Stress (psi)	Total Stress (psi)	Pole Capacity (%)
CATV	50	6.9	1,167	7.6	2.4	60	30	0	61	2.3
TELCO	45	6.2	994	6.5	2.0	52	15	0	52	1.9
Telco	90	12.3	2,019	13.2	4.1	105	80	1	105	3.9
PA	261	36.0	4,857	31.8	9.9	251	1,362	10	261	9.8
PROP CC	280	38.6	6,251	40.9	12.7	324	155	1	325	12.2
Totals:	726	100.0	15,288	100.0	31.1	791	1,642	12	803	30.1

Detailed Load Components:

Comm		Owner	Height (ft)	Horiz. Offset (in)	Cable Diameter (in)	Sag at Max Temp (ft)	Cable Weight (lbs/ft)	Lead/Span Length (ft)	Span Angle (deg)	Wire Length (ft)	Tension (lbs)	Tension Moment* (ft-lb)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Overlashed Bundle	6.6M Strand	CATV	22.00	6.01	0.2500	0.50	0.104	93.0	90.0	93.0	1,500	3	3	256	262
CATV	500 COAX	CATV	21.97	6.01	0.5000		0.150	93.0	90.0	93.0			5	256	260
Overlashed Bundle	6.6M Strand	CATV	22.00	6.01	0.2500	0.64	0.104	106.0	270.0	106.0	1,500	-3	4	292	292
CATV	500 COAX	CATV	21.97	6.01	0.5000		0.150	106.0	270.0	106.0			5	291	297
Overlashed Bundle	6M	TELCO	21.00	6.11	0.2420	1.25	0.104	93.0	90.0	93.0	1,500	3	3	439	445
Telco	TELE 1.0	Telco	20.96	7.93	1.0000		0.400	93.0	90.0	93.0			12	438	451
Telco	TELE 1.0	Telco	20.86	8.31	1.0000		0.400	93.0	90.0	93.0			13	438	451
Overlashed Bundle	6M	TELCO	21.00	6.11	0.2420	1.57	0.104	106.0	270.0	106.0	1,500	-3	4	500	501
Telco	TELE 1.0	Telco	20.96	7.93	1.0000		0.400	106.0	270.0	106.0			14	500	514

Telco	TELE 1.0	Telco	20.96	8.31	1.0000		0.400	106.0	270.0	106.0				15	500	514
												Totals:	0	78	3,910	3,988

GenericEquipment		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Cylinder	48" Amphenol Antenna W/ Pole Mount	PROP CC	38.50	1.34	270.0	0.0	40.00	48.00	--	14.80	--	0	1,499	1,499
Box	RRUS Bracket Kit W/ 2 RRUS-32	PROP CC	14.63	21.00	0.0	0.0	10.00	39.00	24.81	--	21.27	18	1,078	1,096
Box	RRUS Bracket Kit RRUS-11	PROP CC	11.74	12.37	0.0	0.0	10.00	17.67	7.17	--	16.97	10	313	323
Box	WTR	PROP CC	10.00	12.20	0.0	0.0	15.00	12.00	6.59	--	12.00	15	128	143
Box	Disconnect	PROP CC	8.38	11.01	0.0	0.0	11.00	9.00	4.00	--	6.00	10	40	50
											Totals:	53	3,058	3,111

Riser		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Riser 50.0*	Riser	PROP CC	34.50	6.66	50.0	50.0	34.50	414.00	3.50	3.50	414.00	12	1,418	1,430
Riser 310.0*	Riser	PROP CC	34.50	6.66	310.0	310.0	34.50	414.00	3.50	3.50	414.00	12	1,418	1,430
											Totals:	24	2,837	2,861

Insulator		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Bolt	Three Bolt Clamp	CATV	22.00	0.00	0.0	90.0	5.00	3.00	0.00	3	0	3
Bolt	Three Bolt Clamp	TELCO	21.00	0.00	0.0	90.0	5.00	3.00	0.00	3	0	3
									Totals:	7	0	7

Guy Wire and Brace		Owner	Attach Height (ft)	End Height (ft)	Lead/Span Length (ft)	Wire Diameter (in)	Percent Solid (%)	Lead Angle (deg)	Incline Angle (deg)	Wire Weight (lbs/ft)	Rest Length (ft)	Stretch Length (in)
EHS 3/8	Span/Head	PA	20.67	20.67	93.00	0.375	75.00	90.0	0.0	0.273	90.07	0.00

Guy Wire and Brace (Loads and Reactions)		Elastic Modulus (psi)	Rated Tensile Strength (lbs)	Guy Strength Factor	Allowable Tension (lbs)	Initial Tension (lbs)	Loaded Tension[2] (lbs)	Maximum Tension[2] (lbs)	Applied Tension[2] (lbs)	Vertical Load (lbs)	Shear Load in Guy Dir (lbs)	Shear Load At Report Angle (lbs)	Moment at GL* (ft-lb)
EHS 3/8	Span/Head	2.30e+7	15,400	0.50	7,700	700	428	428	0	0	0	0	239
									Totals:	0	0	0	239

Anchor/Rod Load Summary	Owner	Rod Length AGL (in)	Lead Length (ft)	Lead Angle (deg)	Strength of Assembly (lbs)	Anchor/Rod Strength Factor	Allowable Load (lbs)	Max Load[2] (lbs)	Load at Pole MCU[3] (lbs)	Max Required Capacity[4] (%)
Guy Pole	PA	90.00	93.00	90.0	20,000	0.67	13,333	428	0	3.2

Pole Buckling

Buckling Constant	Buckling Column Height* (ft)	Buckling Section Height (% Buckling Col. Hgt.)	Buckling Section Diameter (in)	Minimum Buckling Diameter at GL (in)	Diameter at Tip (in)	Diameter at GL (in)	Modulus of Elasticity (psi)	Pole Density (pcf)	Ice Density (pcf)	Pole Tip Height (ft)	Buckling Load Capacity at Height (lbs)	Buckling Load Applied at Height (lbs)	Buckling Load Factor of Safety
0.71	18.78	32.52	12.40	6.76	6.60	13.12	1.60e+6	60.00	57.00	34.50	300,988	3284.98	200.00

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UNDERGROUND SERVICE ALERT TICKET #_____

REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp. 03-31-19
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ROW ADJACENT TO 63 ENCINA AVE
PALO ALTO, CA
37.439328 / -122.160244

O'CALC

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	06/04/18	TT

SHEET NO.
OC-1

TRAFFIC CONTROL PLAN GENERAL NOTES:

1. WORK HOURS TO BE RESTRICTED TO _____ TO_____UNLESS APPROVED OTHERWISE.
2. PEDESTRIAN CONTROLS WILL BE PROVIDED AS SHOWN.
3. PEDESTRIANS SHALL BE PROTECTED FROM ENTERING THE EXCAVATION BY PHYSICAL BARRIERS DESIGNED, INSTALLED, AND MAINTAINED TO THE SATISFACTION OF THE CITY ENGINEER.
4. TEMPORARY "NO PARKING/TOW AWAY" SIGNS STATING THE DATE AND TIME OF PROHIBITION WILL BE POSTED 72 HOURS PRIOR TO COMMENCING WORK. CALL POLICE DISPATCH TO VALIDATE POSTING.
5. ACCESS WILL BE MAINTAINED TO ALL DRIVEWAYS UNLESS OTHER ARRANGEMENTS ARE MADE.
6. TRENCHES MUST BE BACKFILLED OR PLATED DURING NON-WORKING HOURS UNLESS K-RAIL BARRIERS ARE PROVIDED. K-RAIL IS APPROVED ONLY WHEN SPECIFICALLY SHOWN ON THE APPROVED TRAFFIC CONTROL PLAN. PLATES SHALL HAVE CLEATS AND COLD MIX AT THE EDGES AS APPROVED BY THE INSPECTOR.
7. STRIPING WILL BE REPLACED BY THE CONTRACTOR WITHIN 24 HOURS, IF REMOVED OR DAMAGED.
8. WORK THAT DISTURBS NORMAL TRAFFIC SIGNAL TIMING OPERATIONS SHALL BE COORDINATED WITH THE CITY. CONTACT PUBLIC WORKS DEPARTMENT 72 HOURS PRIOR TO COMMENCING WORK.
9. TRAFFIC SIGNALS SHALL REMAIN FULLY ACTUATED AT ALL TIMES, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER OR HIS/HER REPRESENTATIVE. IF TRAFFIC SIGNAL LOOP DETECTORS ARE RENDERED INOPERATIVE BY THE PROPOSED WORK, VIDEO DETECTION SHALL BE USED TO PROVIDE ACTUATION.
10. FLAGGERS SHALL BE EQUIPPED WITH A WHITE HARD HAT, AN ORANGE VEST, AND A "STOP/SLOW" PADDLE ON A 5 FOOT STAFF.
11. ALL TRAFFIC CONTROL DEVICES MUST BE MAINTAINED 24 HOURS A DAY, 7 DAYS PER WEEK, BY THE CONTRACTOR.
12. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2014 EDITION.
13. TRAFFIC CONTROL PLAN SUBMITTALS ARE REQUIRED FOR EACH PHASE OF THE WORK IN THE DETAIL, FORMAT, AND QUALITY ILLUSTRATED ON THIS SHEET.
14. ALL TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM VIEW OR COVERED WHEN NOT IN USE.
15. THE CITY ENGINEER OR HIS/HER REPRESENTATIVE HAS THE AUTHORITY TO INITIATE FIELD CHANGES TO INSURE PUBLIC SAFETY.
16. ALL WORK AFFECTING BUS STOPS SHALL BE COORDINATED WITH CITY'S TRANSIT DISTRICT. CONTRACTOR SHALL CALL TRANSIT DISTRICT AT LEAST 72 HOURS IN ADVANCE OF STARTING WORK.
17. CHANGEABLE MESSAGE SIGNS SHALL BE USED IN ADVANCE OF TRAFFIC CONTROL ON MAJOR AND PRIME ARTERIALS, UNLESS OTHERWISE APPROVED. THESE SIGNS SHALL BE SHOWN ON THE TRAFFIC CONTROL PLAN.

SIGNAGE NOTES:

1. AT LEAST ONE PERSON SHALL BE ASSIGNED TO FULL TIME MAINTENANCE OF TRAFFIC CONTROL DEVICES ON ALL NIGHT LANE CLOSURES.
2. ALL WARNING SIGNS FOR NIGHT LANE CLOSURES SHALL BE ILLUMINATED OR REFLECTORIZED AS SPECIFIED IN THE SPECIFICATIONS.
3. ALL ADVANCE WARNING SIGN INSTALLATIONS SHALL BE EQUIPPED WITH FLAGS FOR DAYTIME CLOSURES OF ALL MAJOR AND PRIME ARTERIALS. FLASHING BEACONS SHALL BE USED DURING NIGHT LANE CLOSURES.
4. A G20-2 "END ROAD WORK" SIGN SHALL BE PLACED AT THE END OF THE LANE CLOSURE UNLESS THE END OF THE WORK AREA IS OBVIOUS, OR ENDS WITHIN A LARGER PROJECT LIMITS.
5. ALL CONES USED FOR NIGHT LANE CLOSURES SHALL BE ILLUMINATED TRAFFIC CONES OR FITTED WITH 13" REFLECTIVE SLEEVES.
6. FLASHING ARROW SIGNS SHALL BE USED PER CA MUTCD 2014 EDITION. SILENT TYPE SHALL BE USED IN RESIDENTIAL AREAS.
7. THE MAXIMUM SPACING BETWEEN CONES SHALL BE THE WORK AREA'S SPEED LIMIT.
8. ADDITIONAL ADVANCE FLAGGERS SHALL BE REQUIRED WHEN TRAFFIC QUEUES DEVELOP. FLAGGER STATIONS FOR WORK AT NIGHT SHALL BE ILLUMINATED AS NOTED IN SECTION 6G.20 OF THE MUTCD.
9. ALL REQUIRED SIGNS THAT ARE TO BE LEFT IN PLACE OVER A WEEKEND OR HOLIDAY SHALL BE POST MOUNTED.
10. CONSTRUCTION AREA TRAFFIC CONTROL DEVICES SHALL MEET THE PROVISIONS OF 2014 CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

SIGN LEGEND

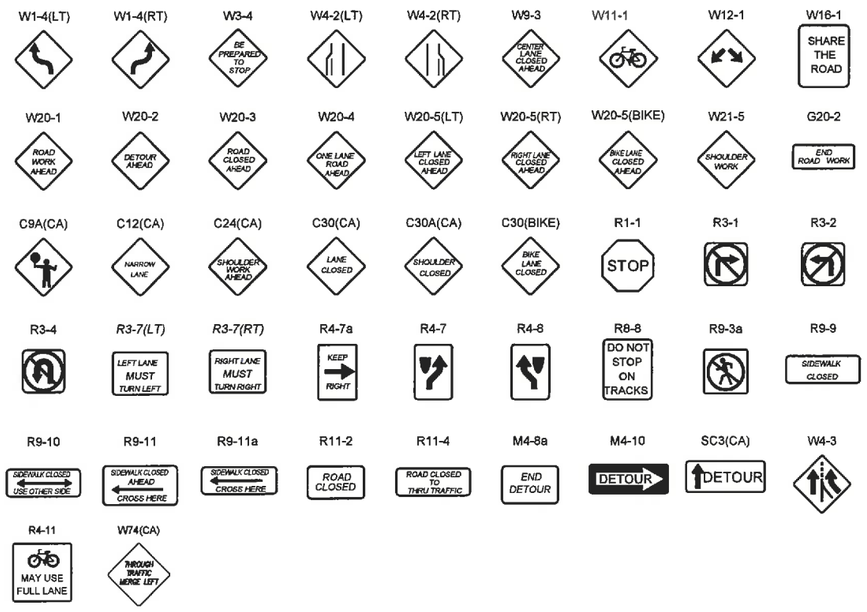


Table 6C-1. Recommended Advance Warning Sign Minimum Spacing

Road Type	Distance Between Signs*		
	A	B	C
Urban (low speed) – 25 mph or less	100 ft	100 ft	100 ft
Urban (high speed) – more than 25 mph to 40 mph	250 ft	250 ft	250 ft
Urban (high speed) – more than 40 mph	350 ft	350 ft	350 ft
Rural	500 ft	500 ft	500 ft
Expressway / Freeway	1,000 ft	1,000 ft	1,000 ft

* Speed category to be determined by the highway agency.
** The column headings A,B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The "first sign" is the sign in a three-sign series that is closest to the TTC zone. The "third sign is the sign that is furthest upstream from the TTC zone.)

LEGEND

→	DIRECTION OF TRAVEL	Y	FLAG TREE
⇒	PAVEMENT ARROW	>>>	FLASHING ARROW BOARD
	PORTABLE SIGN	TS	TRAFFIC SIGNAL
•	TRAFFIC CONE / DELINEATOR		K-RAIL (TYPE 50 CONCRETE BARRIER)
I	TYPE II BARRICADE	CMS	CHANGEABLE MESSAGE SIGN
∓	TYPE III BARRICADE		FLAGGER
	WORK AREA	D/W	DRIVEWAY

Table 6C-2. Stopping Sight Distance as a Function of Speed on Level Roads.
(Used as suggested longitudinal buffer space length or location for flagger station)

Speed*	Distance
20 mph	115 feet
25 mph	155 feet
30 mph	200 feet
35 mph	250 feet
40 mph	305 feet
45 mph	360 feet
50 mph	425 feet
55 mph	495 feet
60 mph	570 feet
65 mph	645 feet
70 mph	730 feet
75 mph	820 feet

* Posted speed, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph.

Table 6C-3 (CA). Taper Length Criteria for Temporary Traffic Control Zones (for 12 feet Offset Width)

Speed* S (mph)	Minimum Taper Length** for Width of Offset 12 feet (w)			
	Merging L (feet)	Shifting L/2 (feet)	Shoulder L/3 (feet)	Down Stream (feet)**
20	80	40	27	50
25	125	63	42	50
30	180	90	60	50
35	245	123	82	50
40	320	160	107	50
45	540	270	180	50
50	600	300	200	50
55	660	330	220	50
60	720	360	240	50
65	780	390	260	50
70	840	420	280	50

* – Posted speed limit, off peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph.
** – For other offsets use the following merging taper length formula for L:
For speeds of 40 mph or less, $L=WS^2/60$
For speeds of 45 mph or more, $L=WS$
Where L = taper length in feet
W = width of offset in feet
S = posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph.
*** – Maximum downstream taper length is 100 feet. See Section 6C.08.



OWNER / DEVELOPER:
CROWN CASTLE
200 SPECTRUM CENTER DR, SUITE 1800
IRVINE, CA 92618

TRAFFIC CONTROL SHEET FOR:
URBAN LN & ENCINA AVE
VZW366241CA-SFPA034m1-SFO

CITY OF:
PALO ALTO

HUB ID:
VZW366241CA

PROJECT NUMBER:
SFPA034

PROJECT MANAGER:
JOHN GRIFFITHS

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CALL AT LEAST TWO DAYS BEFORE YOU DIG
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TICKET #_____

PLANS PREPARED BY:
Coastal Communications
Telecommunications Engineering
5841 EDISON PLACE, STE. 200
CARLSBAD, CA 92008
PH: (760) 929-0810
FX: (760) 929-0838

REVISIONS:

DATE:	COMPLETED BY:

DRAFTED BY: VY DATE: 6/6/18

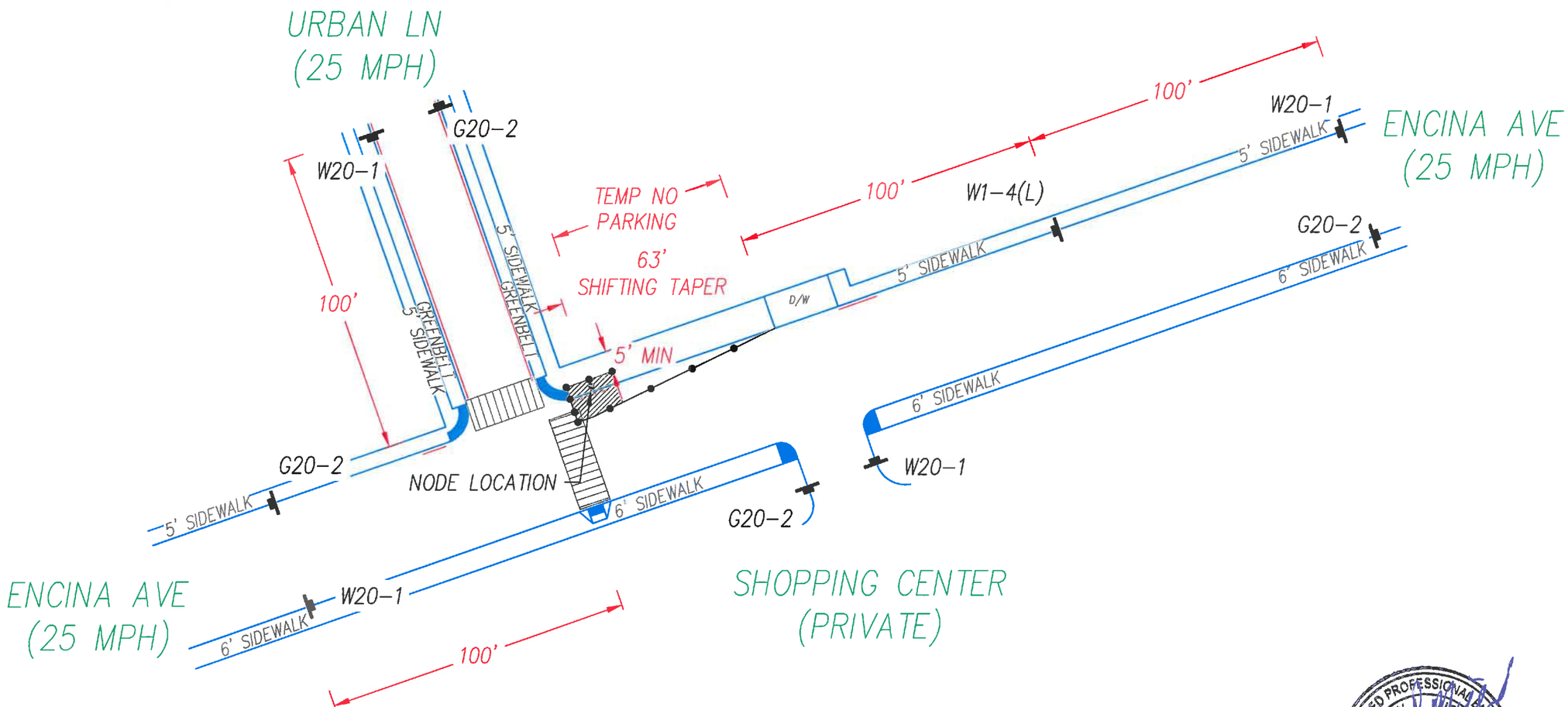
REVIEWED BY: CG DATE: 6/6/18

FILE NAME:
VZW366241CA-SFPA034-SFO

SHEET NUMBER:
T01 OF T02

NOTES:

1. CONTRACTOR TO MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.
2. W20-1 & G20-2 SHALL BE PLACED ON AFFECTED CROSS STREETS ACCORDING TO THE SPEED LIMIT OF THE CROSS STREET.
3. CONTRACTOR SHALL ASSIST PEDESTRIANS THROUGH WORK AREA.



REGISTERED PROFESSIONAL ENGINEER
GARY L. MICHAL
C 42590
Exp 3-31-20
CIVIL
STATE OF CALIFORNIA

OWNER / DEVELOPER:
CROWN CASTLE
200 SPECTRUM CENTER DR, SUITE 1800
IRVINE, CA 92618

TRAFFIC CONTROL SHEET FOR:
URBAN LN & ENCINA AVE
VZW366241CA-SFPA034m1-SFO

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REVISIONS:

DATE:	COMPLETED BY:

DRAFTED BY:	DATE:
VY	6/6/18

REVIEWED BY:	DATE:
CG	6/6/18

FILE NAME:
VZW366241CA-SFPA034-SFO

SHEET NUMBER:
T02 OF T02

CROWN CASTLE

SF PALO ALTO 035m2

ACROSS FROM 102 KINGSLEY AVE ON ALMA ST
PALO ALTO, CA

SHEET NUMBER:	DESCRIPTION
C-1	TITLE SHEET
C-2	CONDITIONS OF APPROVAL
C-3	CONDITIONS OF APPROVAL
D-1	DETAILS & NOTES
D-2	DETAILS & NOTES
D-3	DETAILS & NOTES
D-4	DETAILS & NOTES
D-5	DETAILS & NOTES
D-6	DETAILS & NOTES
T1.1	SPECIAL TREE PROTECTION INSTRUCTION SHEET
T1.2	SPECIAL TREE PROTECTION INSTRUCTION SHEET
T1.3	SPECIAL TREE PROTECTION INSTRUCTION SHEET
T1.4	SPECIAL TREE PROTECTION INSTRUCTION SHEET
P-1	PHOTOS
P-2	PHOTOSIM
P-3	PROFILE
P-4	PROFILE
SP-1	SITE PLAN
SP-2	ENLARGED SITE PLAN
OC-1	O'CALCS
T01	TRAFFIC CONTROL
T02	TRAFFIC CONTROL

SHEET INDEX

CROWN CASTLE TO INSTALL THE FOLLOWING:

- INSTALL NEW 50' CLASS I SERVICE POLE.
- INSTALL SECONDARY POWER AT 31'-1".
- TRANSFER EXISTING COMM TO 23'-11".
- TRANSFER EXISTING CATV WITH DOWN GUY TO 25'-1".
- INSTALL NEW VGR.
- INSTALL STANDOFF BRACKET(TYP.).
- INSTALL NEW POWER DISCONNECT BOX ON STANDOFF BRACKET AT 8'-0" TO 8'-9".
- INSTALL NEW WTR ENCLOSURE ON STANDOFF BRACKET AT 9'-6" TO 10'-6".
- INSTALL NEW STANDOFF BRACKET KIT WITH (1) RRUS-11 AT 11'-0" TO 12'-5".
- INSTALL NEW RRUS BRACKET KIT WITH (2) RRUS-32 AT 16'-3".
- INSTALL NEW 2" SCHEDULE 80 COMM RISER.
- INSTALL NEW 1" SCHEDULE 80 POWER RISER.
- INSTALL 7'-0" POLE MOUNTED EXTENSION & (1) NEW 48" AMPHENOL ANTENNA MODEL #CUUT360X12F124S0 WITH CUSTOM SHROUD CONCEALMENT COVER.
- INSTALL NOTICE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

PROJECT SUMMARY

PROJECT MANAGER:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
JOHN GRIFFITHS
(408) 468-5524
JOHN.GRIFFITHS@CROWNCASTLE.COM

NODE ENGINEER:
COASTAL COMMUNICATIONS
5841 EDISON PL, STE. 200
CARLSBAD, CA 92008
TODD THREW
(760) 929-0910 ext. 101
TODD@COASTALCOMMINC.COM

PROJECT TEAM

DIRECTIONS FROM 695 RIVER OAKS PARKWAY, SAN JOSE CA 95124:

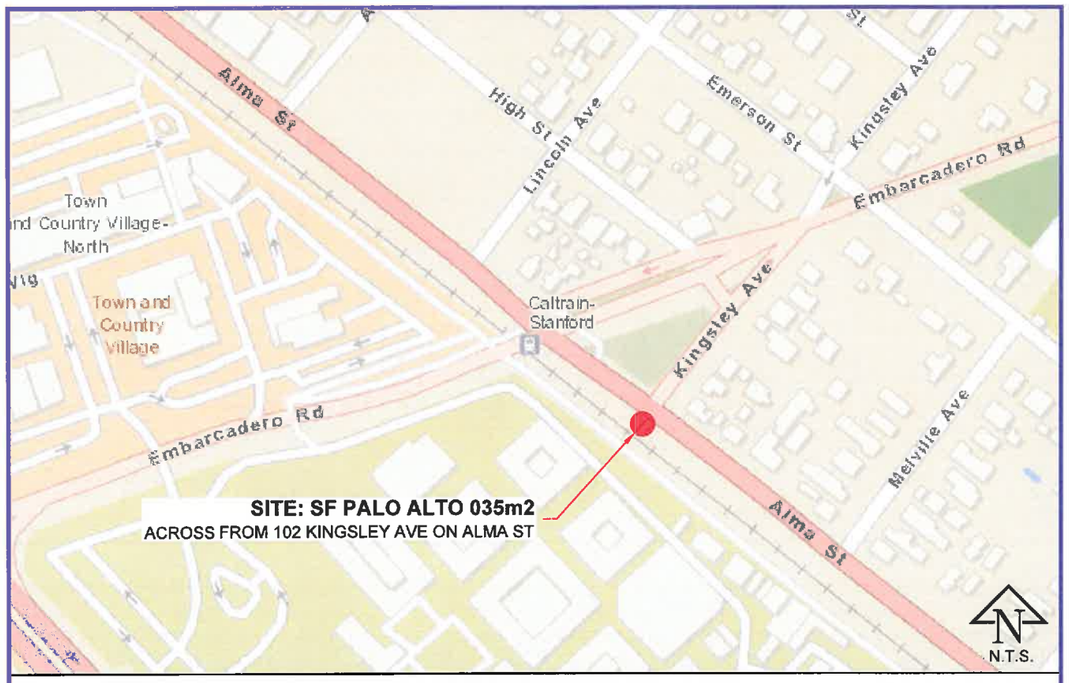
HEAD NORTHEAST ON RIVER OAKS PARKWAY TOWARD VILLAGE CENTER DR, TURN LEFT ONTO RESEARCH PL, TURN RIGHT ONTO MONTAUE EXPY, MERGE ONTO US-101 N VIA THE RAMP TO SAN FRANCISCO, MERGE ONTO US-101 N, TAKE EXIT 402 FOR EMBARCADERO RD/OREGON EXPWY, KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR OREGON EXPWAY, CONTINUE ONTO OREGON EXPY, SLIGHT RIGHT TOWARD OREGON AVE, CONTINUE STRAIGHT ONTO OREGON AVE, TURN LEFT ONTO ALMA ST, AND LOCATION WILL BE AT THE INTERSECTION OF ALMA ST & LINCOLN AVE.

DRIVING DIRECTIONS

1. STREET USE PERMIT SHALL BE OBTAINED BY CONTRACTOR PRIOR TO COMMENCING WORK.
2. ALL WORK TO BE CONDUCTED IN THE RIGHT OF WAY.
3. ALL DISTURBED LANDSCAPING SHALL BE REPLACED TO SIMILAR EXISTING CONDITION.
4. ANY SIDEWALK CLOSURE SHALL BE COORDINATED WITH THE CITY AND PROPER SIGNING WILL BE PLACED.
5. NO MATERIALS OR EQUIPMENT SHALL BE STORED ON PRIVATE PROPERTY OR BLOCK ACCESS TO PRIVATE PROPERTY.
6. CLEANUP OF SITE WILL BE COMPLETED EACH EVENING AND THE SITE WILL BE RETURNED TO EXISTING CONDITIONS AT THE COMPLETION OF CONSTRUCTION AT EACH SITE.

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR RESPONSIBLE FOR SAME.

GENERAL CONTRACTOR NOTES



VICINITY MAP

SF PALO ALTO 035m2
PALO ALTO
CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
www.crowncastle.com

PREPARED BY:
Coastal Communications
Telecommunications Engineering
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CARLSBAD, CA 92008
PHONE: (760) 929-0910
FAX: (760) 929-0936
www.coastalcomminc.com

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REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp.03-31-20
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ACROSS FROM 102 KINGSLEY AVE ON ALMA ST
PALO ALTO, CA
37.437892 / -122.155318

TITLE SHEET

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	08/02/18	TT

SHEET NO.
C-1

PENDING C.O.A .

SF PALO ALTO 035m2
PALO ALTO

CROWN CASTLE PROJECT NO.
VZW366241CA

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695 RIVER OAKS PARKWAY
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Exp.03-31-20
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STATE OF CALIFORNIA

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37.437892 / -122.155318

CONDITIONS OF APPROVAL

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	08/02/18	TT

SHEET NO.
C-2

Applicant shall comply with the following comments/requirements.

1. Applicant shall install new street lighting poles with new foundations that are identical to the existing poles. New street lighting poles shall be installed as close as possible to the existing street lighting poles. Applicant shall ensure to maintain present illumination level on the streets.

2. Receptacles on street lights need to be pre-wired and mounted on the top of the street light. The receptacles shall be wired into the secondary voltage source and not the street light circuit.

3. New street lighting pole's drawing is approved. Applicant shall replace the existing street lighting poles with identical poles. If there is any deviation then it must be approved by Utilities Engineering prior to installation.

4. Locations for new street lighting poles shall be as close as possible to the existing street lighting poles. No street or location shall be left dark. After removal of existing street pole/s, new street lighting poles shall be installed and energized as soon as possible. Applicant to coordinate with Scott Yahne (650-444-8823) our Street Lighting Supervisor prior to making any electric connection/s.

5. An inner duct of adequate size shall be installed inside the street lighting poles so to keep antenna wiring separate from street lighting circuits. Power to the antenna or any other equipment mounted on the street lighting pole shall be tapped from the designated secondary electric service point and not from the street lighting circuit.

6. If the street lighting pole gets knocked down, the City shall replace the pole but the City shall not be responsible for any damages to the antenna or any other equipment mounted on the street lighting pole/s.

7. Applicant has submitted certified structural calculations pertaining to equipment loading on the new street lighting poles.

8. Utility's Engineer has reviewed applicant's proposed fiber infrastructure and confirmed acceptance as long as applicant maintains required clearances and protect our distribution lines.

9. Voltage at all the locations identified for applicant's equipment installation may not be Applicant shall accept the voltage available at the closest location. Applicant shall be responsible for installing additional substructure per City's standards and specifications, if required.

10. Applicant shall contact Utilities Engineering (650-566-4535) prior to entering any energized box or vault.

11. Applicant shall install substructure per City's standard and specifications and maintain required clearances as shown on the City's standard drawings. The City's Underground Electric Inspector will inspect the substructure for electric utility. Applicant must contact Underground Electric Inspector at 650-496-6936 or his designated representative for scheduling an inspection prior to back filling the trench.

12. Applicant shall pot hole and locate underground facilities prior to trenching or boring. Applicant must contact USA (800-227-2600) and have underground facilities marked prior to excavation/trenching or boring.

13. At few locations, proposed trenching/boring route conflicts with our existing high voltage distribution lines, boxes/vaults etc. Extreme caution must be exercised to protect our utility lines and associated substructures.

14. Applicant shall protect existing underground utilities. Applicant has not submitted any trench profile as requested by Utilities. Hence, applicant shall bore/ trench at his/her risk. Applicant will be solely responsible for any damages caused during the construction.

15. Street opening permits shall be obtained from Public Works Engineering (PWE) Department prior to trenching or boring.

16. Traffic control plans must be submitted to Transportation Department and approval must be obtained prior to lane closures. Construction hours shall be per Transportation Department's requirements.

17. Applicant shall contact the Public Works Engineering (PWE) Department (650-566-4535) and obtain electric permit and cost estimate for each location. Any changes made to the original design or to the designated electric service point/s shall be coordinated with the PWE Department. Applicant must pay all fees/cost estimates prior to final service connections.

ANTENNA CAUTION SIGN

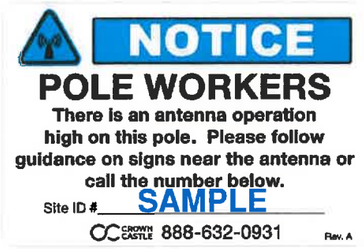
ANTENNA SIGNAGE:
ON WOOD POLES - SIGN ON ALUMINUM WITH SS SCREW TO THE POLE
ON METAL POLES - ADHESIVE VINYL OR PLACARD STRAPPED WITH SS TIES
ON CONCRETE / COMPOSITE - PLACARD STRAPPED WITH SS TIES
SIGN PLACEMENT:
AFFIX TO THE STRUCTURE ON OR JUST BELOW THE ANTENNA(S)
SIZE APPROX. 8" x 5"



A | SCALE N.T.S.

ANTENNA NOTICE SIGN

ANTENNA SIGNAGE:
ON WOOD POLES - SIGN ON ALUMINUM WITH SS SCREWS TO THE POLE
ON METAL POLES - ADHESIVE VINYL OR PLACARD STRAPPED WITH SS TIES
ON CONCRETE / COMPOSITE - PLACARD STRAPPED WITH SS TIES
SIGN PLACEMENT:
AFFIX TO THE STRUCTURE NEAR THE BOTTOM OF POLE OR ON THE SHROUD



B | SCALE N.T.S.

SF PALO ALTO 035m2
PALO ALTO
CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
www.crowncastle.com

PREPARED BY:
Coastal Communications
Telecommunications Engineering
5841 EDISON PLACE, SUITE 200
CARLSBAD, CA 92008
PHONE: (760) 929-0910
FAX: (760) 929-0936
www.coastalcomminc.com

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SITE NAME & ADDRESS:
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CONDITIONS OF APPROVAL

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	08/02/18	TT

SHEET NO.
C-3

LEGEND

SYMBOL	DESCRIPTION
	PROPOSED
	2 X 3' VAULT
	CABINET
	PCC SIDEWALK
	TRENCH AND FIBER CONDUIT (PVT)
	DIRECTIONAL BORING
	BORE PIT
	EXISTING
	EXISTING STREET LIGHT
	EXISTING VAULT / HANDHOLE
MB	EXISTING MAILBOX
	EXISTING TREE
	EXISTING TREE WELL
	STATION POINTS (100' INCREMENTS)
	EXISTING CURB RAMP
C&G	EXISTING CURB & GUTTER
	EXISTING FACE OF BUILDING
	EXISTING PARKING STRIPING
R/W	EXISTING RIGHT OF WAY
℄	EXISTING CENTERLINE
W	EXISTING WATER LINE
W	EXISTING WATER LATERAL
S	EXISTING SEWER LINE
S	EXISTING SEWER LATERAL
G	EXISTING GAS LINE
G	EXISTING GAS LATERAL
SD	EXISTING STORM DRAIN LINE
	STREET CURRENTLY UNDER MORATORIUM

ABBREVIATIONS

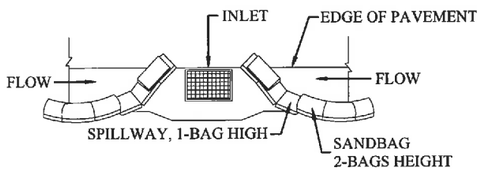
A/C	ASPHALT CURB
B.O.C.	BACK OF CURB
B/EOP	BACK OF EDGE OF PAVEMENT
C&G	CURB & GUTTER
CL	CENTERLINE
EX.	EXISTING
EOP	EDGE OF PAVEMENT
F.O.C.	FACE OF CURB
F/EOP	FACE OF EDGE OF PAVEMENT
PL	PROPERTY LINE
R/W	RIGHT OF WAY
S/B	SUBDIVISION BOUNDARY

EROSION AND SEDIMENT CONTROL NOTES:

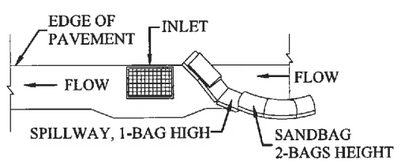
TEMPORARY EROSION/SEDIMENT CONTROL, PRIOR TO COMPLETION OF FINAL IMPROVEMENTS. SHALL BE PERFORMED BY THE CONTRACTOR OR QUALIFIED PERSON AS INDICATED BELOW:

1. ALL REQUIREMENTS OF THE CITY "LAND DEVELOPMENT MANUAL, STORM WATER STANDARDS" MUST BE INCORPORATED INTO THE DESIGN AND CONSTRUCTION OF THE PROPOSED PUBLIC IMPROVEMENTS CONSISTENT WITH THE EROSION CONTROL PLAN AND/OR WATER POLLUTION CONTROL PLAN (WPCP). IF APPLICABLE.
2. FOR STORM DRAIN INLETS, PROVIDE A GRAVEL BAG SILT BASIN IMMEDIATELY UPSTREAM OF INLET AS INDICATED ON DETAILS.
3. THE CONTRACTOR OR QUALIFIED PERSON SHALL BE RESPONSIBLE FOR CLEANUP OF SILT AND MUD ON ADJACENT STREET(S) AND STORM DRAIN SYSTEM DUE TO CONSTRUCTION ACTIVITY.
4. THE CONTRACTOR SHALL REMOVE SILT AND DEBRIS AFTER EACH MAJOR RAINFALL.
5. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON.
6. THE CONTRACTOR SHALL RESTORE ALL EROSION/SEDIMENT CONTROL DEVICES TO WORKING ORDER TO THE SATISFACTION OF THE CITY ENGINEER OR RESIDENT ENGINEER AFTER EACH RUN-OFF PRODUCING RAINFALL.
7. THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION/SEDIMENT CONTROL MEASURES AS MAY BE REQUIRED BY THE RESIDENT ENGINEER DUE TO UNFORESEEN CIRCUMSTANCES, WHICH MAY ARISE.
8. ALL EROSION/SEDIMENT CONTROL MEASURES PROVIDED PER THE APPROVED IMPROVEMENT PLAN SHALL BE INCORPORATED HEREON. ALL EROSION/SEDIMENT CONTROL FOR INTERIM CONDITIONS SHALL BE DONE TO THE SATISFACTION OF THE RESIDENT ENGINEER.
9. ALL REMOVABLE PROTECTIVE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN RAIN IS IMMINENT.
10. THE CONTRACTOR SHALL ARRANGE FOR WEEKLY MEETINGS DURING OCTOBER 1ST TO APRIL 30TH FOR PROJECT TEAM (GENERAL CONTRACTOR, QUALIFIED PERSON, EROSION CONTROL SUBCONTRACTOR IF ANY, ENGINEER OF WORK, OWNER/DEVELOPER AND THE RESIDENT ENGINEER) TO EVALUATE THE ADEQUACY OF THE EROSION/SEDIMENT CONTROL MEASURES AND OTHER RELATED CONSTRUCTION ACTIVITIES.

STORMDRAIN INLET PROTECTION



TYPICAL PROTECTION FOR INLET WITH OPPOSING FLOW DIRECTIONS



TYPICAL PROTECTION FOR INLET WITH SINGLE FLOW DIRECTION

NOTES:
1. INTENDED FOR SHORT - TERM USE.
2. USE TO INHIBIT NON - STORM WATER FLOW.
3. ALLOW FOR PROPER MAINTENANCE AND CLEANUP.
4. BAGS MUST BE REMOVED AFTER ADJACENT OPERATION IS COMPLETED.
5. NOT APPLICABLE IN AREAS WITH HIGH SILTS AND CLAYS WITHOUT FILTER FABRIC.

NOTES:

1. CONTRACTOR TO POTHOLE ALL UTILITY CROSSINGS.
2. CONTRACTOR TO PLACE SANDBAGS AROUND ANY/ALL STORM DRAIN INLETS TO PREVENT CONTAMINATED WATER.
3. SPOILS PILE WILL BE COVERED AND CONTAINED AND STREET WILL BE SWEPT AND CLEANED AS NEEDED.
4. CONTRACTOR TO REPAIR DAMAGED PUBLIC IMPROVEMENTS TO THE SATISFACTION OF THE CITY ENGINEER.
5. C&G TO BE PROTECTED IN PLACE. SIDEWALK TO BE REPLACED TO THE SATISFACTION OF THE CITY ENGINEER.
6. THE CONTRACTOR SHALL RESTORE THE ROADWAY BACK TO ITS ORIGINAL CONDITION SATISFACTORY TO THE CITY ENGINEER INCLUDING, BUT NOT LIMITED TO PAVING, STRIPING, BIKE LANES, PAVEMENT LEGENDS, SIGNS, AND TRAFFIC LOOP DETECTORS.
7. SIDEWALK SHALL BE RESTORED/REPLACED PER CITY STANDARD DRAWINGS.
8. PEDESTRIAN RAMP WILL NOT BE DISTURBED.

ROW GROUND CONSTRUCTION NOTES:

1. GROUND CONSTRUCTION TO REMOVE/CLEAN ALL DEBRIS, NAILS, STAPLES, OR NON-USED VERTICALS OFF THE POLE.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH MUNICIPAL, COUNTY, STATE, FEDERAL, GO95 AND GO128 STANDARDS AND REGULATIONS.
3. CALL USA 48 HOURS PRIOR TO EXCAVATING AT (800) 227-2600 OR 811.
4. ALL LANDSCAPING TO BE RESTORED TO ORIGINAL CONDITION OR BETTER.
5. ALL EQUIPMENT TO BE BONDED.
6. METERING CABINET REQUIRES 36" CLEARANCE AT DOOR OPENING.
7. CAULK CABINET BASE AT PAD.

NORMAL LOCATION OF UNDERGROUND UTILITIES NOTES:

1. LOCATION AND DEPTH OF EXISTING AND PROPOSED UTILITIES MUST BE PROVIDED BY THE SUBDIVIDER AND SHOWN ON ANY PLANS SUBMITTED TO THE DEPT. OF PUBLIC WORKS FOR APPROVAL.
2. CHANGES MAY BE PERMITTED BY THE DEPT. OF PUBLIC WORKS IN CASES OF CONFLICTING FACILITIES.
3. CONFLICTS BETWEEN UTILITY COMPANIES FACILITIES, EXISTING AND PROPOSED, MUST BE MUTUALLY RESOLVED BY THE UTILITY COMPANIES.
4. FOR COMMERCIAL SIDEWALKS, THE FIRE HYDRANT SHALL BE PLACED WITHIN THE SIDEWALK 1'-6" BEHIND FACE OF CURB.
5. MAXIMUM 2" DIAMETER GAS MAINS MAY BE PLACED IN JOINT UTILITIES TRENCH SUBJECT TO APPROVAL OF CITY ENGINEER (IN TRACTS).

GENERAL CONTRACTOR NOTES:

1. STREET USE PERMIT SHALL BE OBTAINED BY CONTRACTOR PRIOR TO COMMENCING WORK.
2. ALL WORK TO BE CONDUCTED IN THE RIGHT OF WAY.
3. ALL DISTURBED LANDSCAPING SHALL BE REPLACED TO SIMILAR EXISTING CONDITION.
4. ANY SIDEWALK CLOSURE SHALL BE COORDINATED WITH THE CITY AND PROPER SIGNING WILL BE PLACED.
5. NO MATERIALS OR EQUIPMENT SHALL BE STORED ON PRIVATE PROPERTY OR BLOCK ACCESS TO PRIVATE PROPERTY.
6. CLEANUP OF SITE WILL BE COMPLETED EACH EVENING AND THE SITE WILL BE RETURNED TO EXISTING CONDITIONS AT THE COMPLETION OF CONSTRUCTION AT EACH SITE.

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR RESPONSIBLE FOR SAME.

CALIFORNIA STATE CODE COMPLIANCE:

ALL WORK AND MATERIALS SHALL BE PREFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

- CALIFORNIA ADMINISTRATIVE CODE (INCLUDING TITLES 24 & 25) 2016
- 2016 CALIFORNIA BUILDING CODES WHICH ADOPTS THE 2016 UBC, 2016 UMC, 2016 UPC AND THE 2016 NEC.
- BUILDING OFFICIALS & CODE ADMINISTRATORS (BOCA)
- 2016 CALIFORNIA MECHANICAL CODE
- ANSI/EIA-222-F LIFE SAFETY CODE NFPA-101
- 2016 CALIFORNIA PLUMBING CODE
- 2016 CALIFORNIA ELECTRICAL CODE
- 2016 LOCAL BUILDING CODE
- CITY/COUNTY ORDINANCES

ACCESSIBILITY REQUIREMENTS:
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS REQUIREMENTS DO NOT APPLY IN ACCORDANCE WITH THE 2010 CALIFORNIA BUILDING CODE.

FCC NOTE:
THIS WIRELESS COMMUNICATION FACILITY COMPLIES WITH FEDERAL STANDARDS FOR RADIO FREQUENCY IN ACCORDANCE WITH THE TELECOMMUNICATION ACT OF 1996 AND SUBSEQUENT AMENDMENTS AND ANY OTHER REQUIREMENTS IMPOSED BY STATE OR FEDERAL REGULATORY AGENCIES.

CITY OF PALO ALTO UTILITIES ENGINEERING NOTES:

- APPLICANT SHALL TAP ELECTRIC SERVICE TO THE SMALL CELL DISTRIBUTED ANTENNA SYSTEM FROM THE LOCATIONS JOINTLY IDENTIFIED DURING THE FIELD INVESTIGATION.
- SERVICE VOLTAGE TO ALL THE PROPOSED LOCATIONS MAY NOT BE THE SAME. APPLICANT SHALL DESIGN THEIR SYSTEM TO OPERATE AT THE AVAILABLE VOLTAGE IN THE VICINITY.
- IF BRAND NEW POLES NEED TO BE INSTALLED FOR APPLICANT'S SYSTEM THEN THE POLES MUST MATCH EXISTING POLES IN THE DOWN TOWN AREA.
- AFTER EXCAVATION IS COMPLETED ON THE PUBLIC RIGHT OF WAY, EXISTING STREETS INCLUDING SIDEWALKS/ CURB/ GUTTER OR ANY DECORATIVE PATHS MUST BE BROUGHT TO ITS ORIGINAL CONDITION AND MUST BE APPROVED BY PUBLIC WORKS ENGINEERING DEPARTMENT'S INSPECTOR. POTHOLING MUST BE DONE AND ALL THE UTILITIES MUST BE IDENTIFIED PRIOR TO COMMENCING EXCAVATION.
- EXCAVATION AND RESTORATION WORK MUST BE IN COMPLIANCE WITH PUBLIC WORKS ENGINEERING STANDARDS AND SPECIFICATIONS THAT ARE AVAILABLE ON THE FOLLOWING WEBSITE:
http://www.cityofpaloalto.org/news/displaynews.asp?NewsID=1834&TargetID=145
- APPLICANTS SHALL BE RESPONSIBLE FOR MAINTAINING THEIR SYSTEM INCLUDING SUBSTRUCTURE. IN CASE OF KNOCK DOWNS, THE CITY WILL RE-INSTALL ITS STREET LIGHTING POLES BUT **NOT** APPLICANT'S EQUIPMENT ON OR OFF THE POLE.
- A FIELD MEETING IS RECOMMENDED WITH UTILITIES ENGINEERING PRIOR TO COMMENCING THE WORK.
- PLANS SHALL INCLUDE A NOTE: CONTRACTOR TREE INSPECTION REQUIREMENTS: MODIFIED TYPE III TRUNK WRAPPING SHALL BE VERIFIED BY URBAN FORESTRY PRIOR TO ANY WORK IN THE VICINITY. FOR EACH TREE SITE WRAPPED FOR PROTECTION WITHIN 15' OF ANY WORK ZONE OR CONCRETE FORM SECTION, A BILLABLE TREE INSPECTION BY URBAN FORESTRY (650-496-5953, 24-HOUR ADVANCE IS REQUIRED) SHALL BE COMPLETED PRIOR TO DEMOLITION, DRILLING, EXCAVATING,FORMING OR STREET LIGHT ACTIVITY. CONTRACTOR SHALL ARRANGE PAYMENTS AT THE DEVELOPMENT CENTER, 285 HAMILTON AVE, PALO ALTO, CA.
- THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITIES DEPARTMENT 650/329-2413 OR 650/496-6982 IF THE EXISTING WATER, WASTEWATER OR GAS MAINS ARE DISTURBED OR DAMAGED. A QUALIFIED CONTRACTOR MAY PERFORM REPAIRS ON CITY WATER AND WASTEWATER MAINS UNDER THE DIRECT SUPERVISION OF THE WGW UTILITIES INSPECTOR. FOR WATER REPAIRSALL THE DISINFECTION REQUIREMENTS OF THE WGW UTILITY STANDARDS AND THESE CONDITIONS SHALL BE ADHERED TO. ALL REPAIRS TO THE CITY GAS SYSTEM MUST BE PERFORMED BY THE CITY OF PALO ALTO UTILITIES.
- NO WATER VALVES OR OTHER FACILITIES OWNED BY UTILITIES DEPARTMENT SHALL BE OPERATED FOR ANY PURPOSE BY THE APPLICANT'S CONTRACTOR. ALL REQUIRED OPERATION WILL ONLY BE PERFORMED BY AUTHORIZED UTILITIES DEPARTMENT PERSONNEL. WATER VALVES MAY BE OPERATED BY THE CONTRACTOR UNDER THE DIRECT SUPERVISION OF THE WGW UTILITIES INSPECTOR. THE APPLICANT'S CONTRACTOR SHALL NOTIFY THE UTILITIES DEPARTMENT NOT LESS THAN FORTY-EIGHT (48) HOURS IN ADVANCE OF THE TIME THAT SUCH OPERATION IS REQUIRED.

SF PALO ALTO 035m2
PALO ALTO
CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:
CROWN CASTLE
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REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp.03-31-20
CIVIL
STATE OF CALIFORNIA

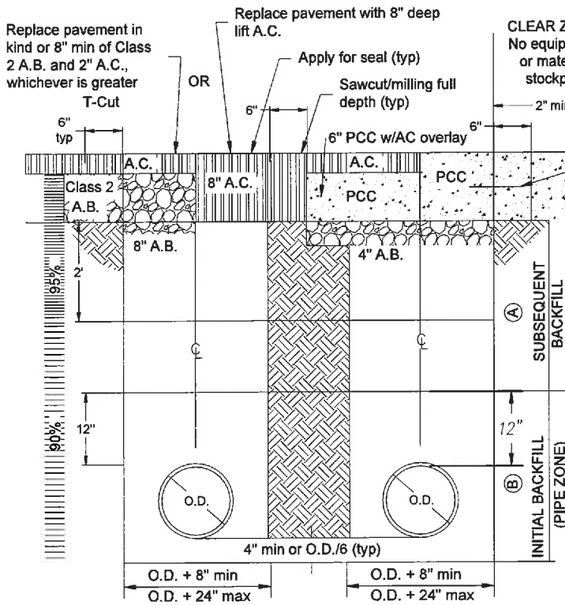
SITE NAME & ADDRESS:
ACROSS FROM 102 KINGSLEY AVE ON ALMA ST
PALO ALTO, CA
37.437892 / -122.155318

DETAILS & NOTES

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	08/02/18	TT

SHEET NO.
D-1

CITY OF PALO ALTO
STANDARD
(DRAWING NO. 401)
TRENCHES
TYPICAL CROSS-SECTIONS
N.T.S.



ASPHALT CONCRETE PAVEMENT

PCC PAVEMENT

Ⓐ SUBSEQUENT BACKFILL ALTERNATIVES

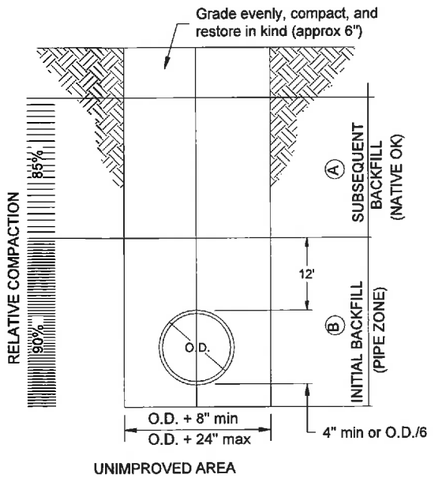
1. Clean natural sand per Caltrans Std Specs Sec 19-3.025B
2. Class 2 aggregate base per Caltrans Std Specs Sec 26-1.02
3. Graded granular material per City Std Specs Sec 17-4F
4. Clean quarry fines
5. Controlled Density Fill (CDF) per City Std Specs Sec 17-4E4b as approved by PWE

Ⓑ INITIAL BACKFILL ALTERNATIVES

1. Clean natural sand per Caltrans Std Specs Sec 19-3.025B (required for gas and water pipes)
2. Class 1, type A & B, permeable per Caltrans Std Specs Sec 68-1.025
3. Graded granular material per City Std Specs Sec 17-4E4
4. Controlled Density Fill (CDF) per City Std Specs Sec 17-4E4b as approved by PWE
5. For W-G-W trench, refer to Utility Standards

GENERAL NOTES

1. PCC shall contain a minimum of 6 sacks concrete with a desired 28-day strength of 3,500 PSI
2. Extend T-cut to lip of Gutter per City Std Specs 17-G
3. Refer to City Std Dwg 403 for trench limits of restoration
4. Match existing AC thickness on PCC overlays

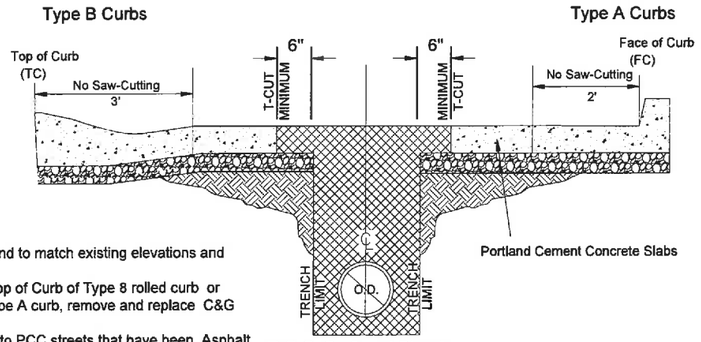


UNIMPROVED AREA

JETTING NOTES

1. IMPROVED AREAS
   a. INITIAL BACKFILL- jetting of sand OK
   b. SUBSEQUENT BACKFILL-jetting of sand subject to approval of City Engineer, except for top 2 ft, which must be mechanically compacted
2. UNIMPROVED AREA: jetting of sand OK
3. WHEN JETTING IS PERMITTED:
   a. Excess water shall be collected at low points and removed by pumping
   b. Sand to be jetted shall be placed in lifts no thicker than 4 ft
   c. Jetting shall be performed at intervals along the trench not to exceed 6 ft

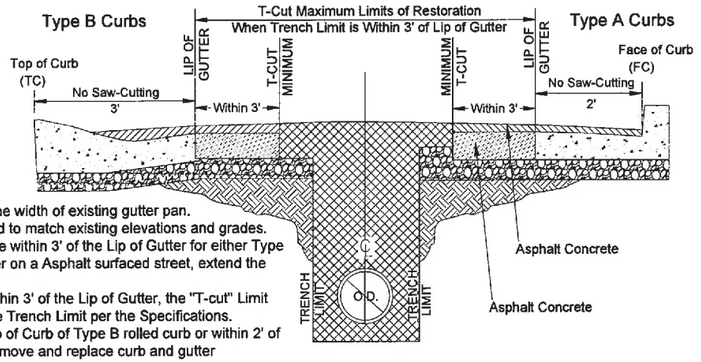
CITY OF PALO ALTO STANDARD
(DRAWING NO. 403)
TRENCHES
LIMITS OF RESTORATION
N.T.S.



NOTES

1. Restore all materials in kind to match existing elevations and grades.
2. If Sawcut is within 3' of Top of Curb of Type 8 rolled curb or within 2' of the face of Type A curb, remove and replace C&G monolithically.
3. These notes also pertain to PCC streets that have been Asphalt overlaid.

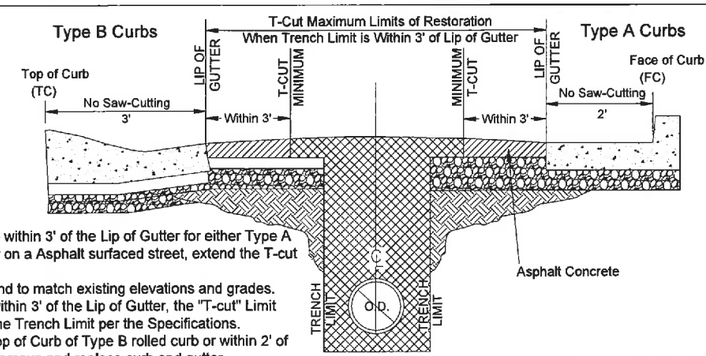
P.C.C. Surfaced Streets



NOTES

1. Remove asphalt to verify the width of existing gutter pan.
2. Restore all materials in kind to match existing elevations and grades.
3. When "Trench Limits" are within 3' of the Lip of Gutter for either Type A or Type B curb and gutter on a Asphalt surfaced street, extend the T-cut to the Lip of Gutter.
4. If "Trench Limit" is NOT within 3' of the Lip of Gutter, the "T-cut" Limit shall be located 6" from the Trench Limit per the Specifications.
5. If Sawcut is within 3' of Top of Curb of Type B rolled curb or within 2' of the face of Type A curb, remove and replace curb and gutter monolithically.

Asphalt Surfaced Street with No Exposed Gutter Pan



NOTES

1. When "Trench Limits" are within 3' of the Lip of Gutter for either Type A or Type B curb and gutter on a Asphalt surfaced street, extend the T-cut to the Lip of Gutter.
2. Restore all materials in kind to match existing elevations and grades.
3. If "Trench Limit" is NOT within 3' of the Lip of Gutter, the "T-cut" Limit shall be located 6" from the Trench Limit per the Specifications.
4. If Sawcut is within 3' of Top of Curb of Type B rolled curb or within 2' of the face of Type A curb, remove and replace curb and gutter monolithically.

Asphalt Surfaced Street with an Exposed Gutter Pan

SF PALO ALTO 035m2
PALO ALTO
CROWN CASTLE PROJECT NO.
VZW366241CA

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REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp. 03-31-20
CIVIL
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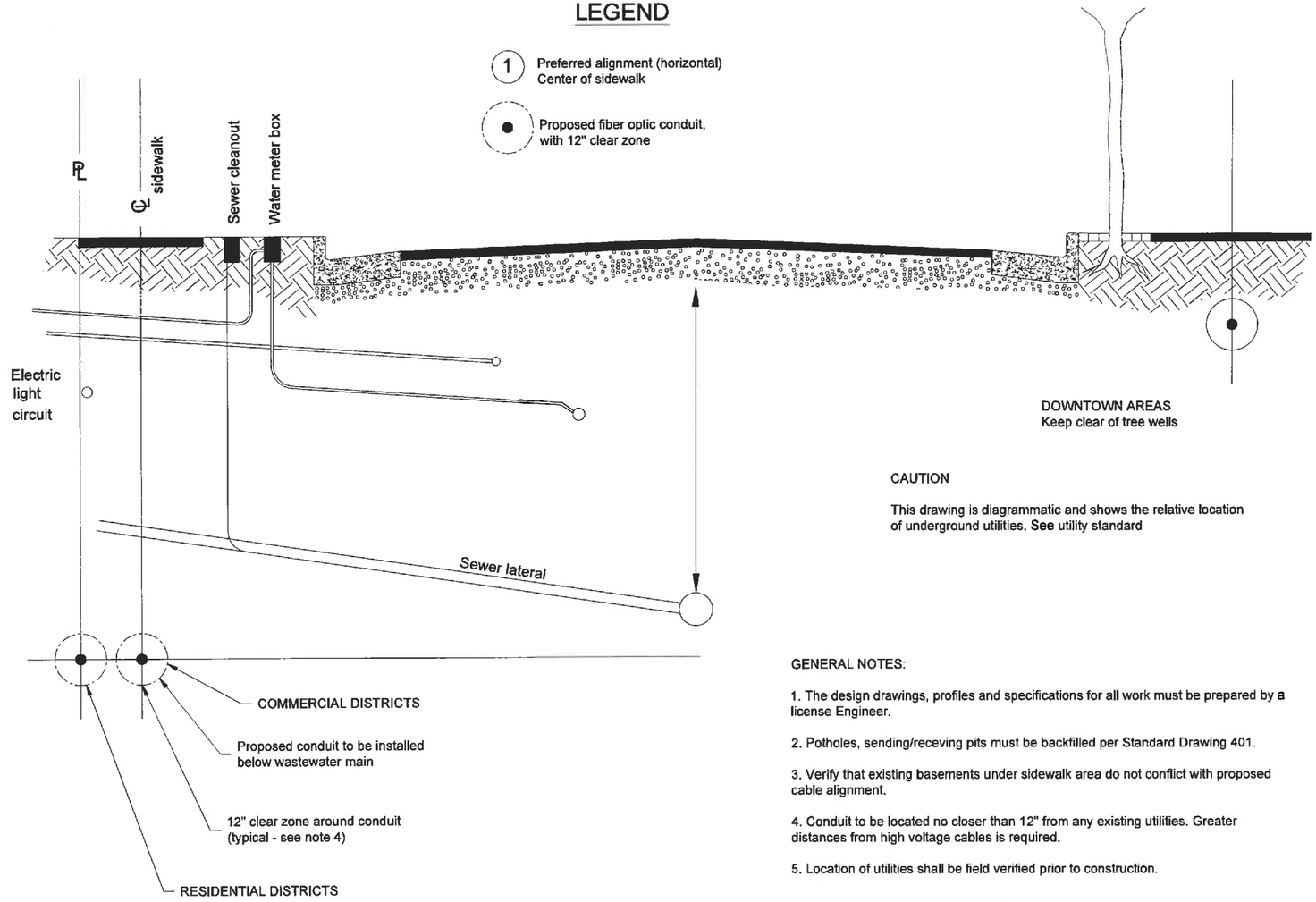
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DETAILS & NOTES

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AGR	08/02/18	TT

SHEET NO.
D-2

CITY OF PALO ALTO STANDARD
(DRAWING NO. 402)
CONDUIT LOCATION DETAIL
TELECOMMUNICATIONS
N.T.S.



CAUTION

This drawing is diagrammatic and shows the relative location of underground utilities. See utility standard

GENERAL NOTES:

1. The design drawings, profiles and specifications for all work must be prepared by a license Engineer.

2. Potholes, sending/receving pits must be backfilled per Standard Drawing 401.

3. Verify that existing basements under sidewalk area do not conflict with proposed cable alignment.

4. Conduit to be located no closer than 12" from any existing utilities. Greater distances from high voltage cables is required.

5. Location of utilities shall be field verified prior to construction.

SF PALO ALTO 035m2
PALO ALTO

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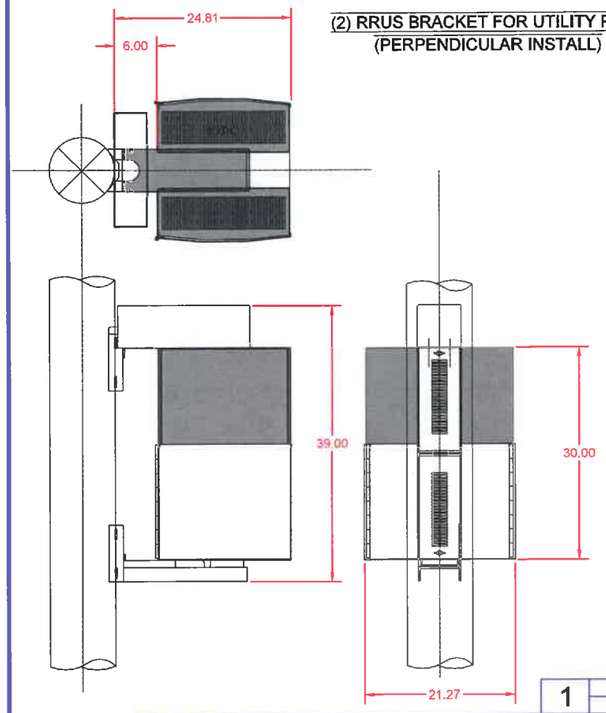
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DETAILS & NOTES

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AGR	08/02/18	TT

SHEET NO.
D-3

(2) RRUS BRACKET FOR UTILITY POLE
(PERPENDICULAR INSTALL)

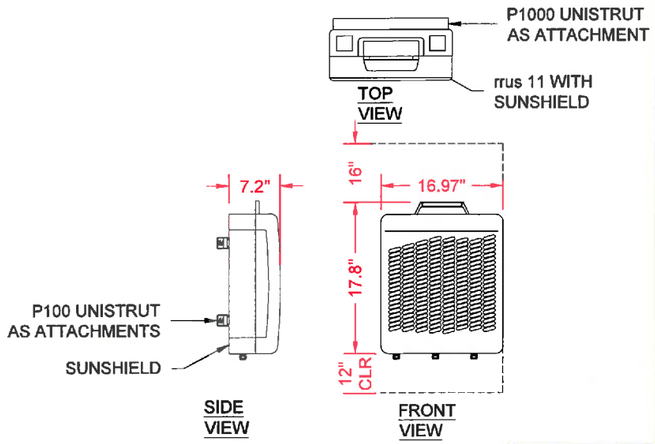


1 SCALE N.T.S.

ERICSSON rrus-11 REMOTE RADIO UNIT
(TYPICAL SECTION: N.T.S)

ERICSSON rrus-11 REMOTE RADIO UNIT
COLOR: GRAY
DIMENSIONS: 17.8" TALL X 16.97" WIDE
X 7.2" DEEP (INCLUDING SUNSHIELD & HANDHOLE)

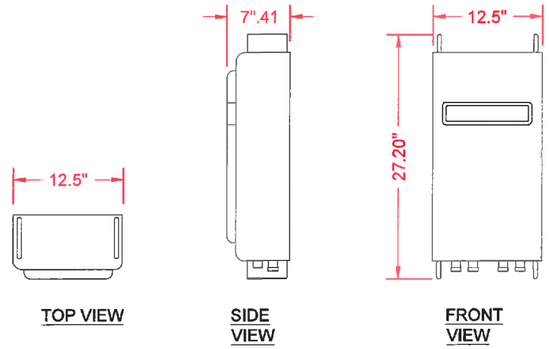
WEIGHT, INCLUDING MOUNTING HARDAWARE:50.7 lbs



2 SCALE N.T.S.

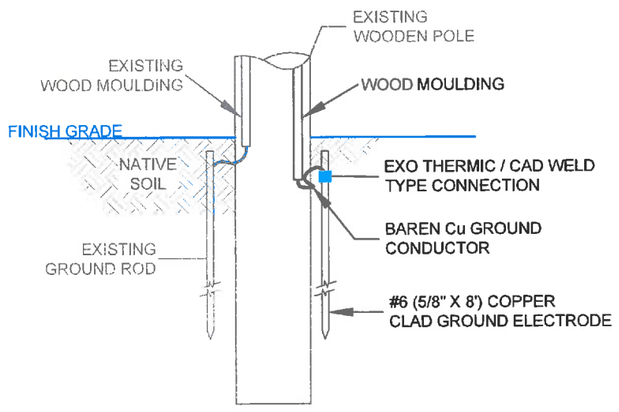
ERICSSON rrus-32 REMOTE RADIO UNIT
(TYPICAL SECTION: N.T.S)

ERICSSON rrus-32 REMOTE RADIO UNIT
COLOR: GRAY
DIMENSIONS: 27.2" TALL X 12.5" WIDE
X 7.41"
TOTAL WEIGHT: 55.12 LBS



3 SCALE N.T.S.

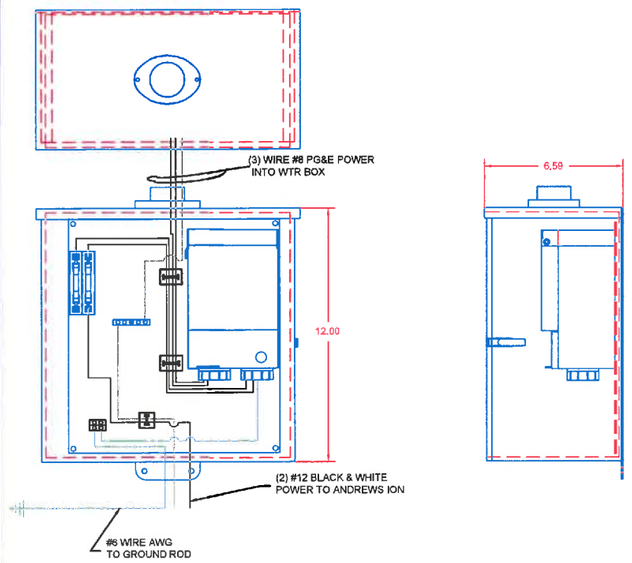
GROUND ROD INSTALLATION FOR WOODEN POLES
TYPICAL SECTION: N.T.S.



NOTE:
UTILITY POLE GROUND SHALL COMPLY WITH PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA GENERAL ORDER No. 95 (SECTION 59.4, 92.4)

4 SCALE N.T.S.

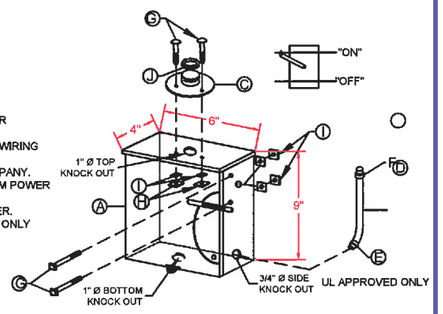
WEIGMANN ENCLOSURE
(12 X 12 X 6 ENCL, SCE CONFIGURATION)



5 SCALE N.T.S.

DISCONNECT BOX
TYPICAL SECTION: N.T.S.

NOTES:
1. MAIN DISCONNECT BREAKER.
2. MANUFACTURER SQUARE D - (OR EQUIVALENT).
3. BREAKER SIZE AND INCIDENTAL WIRING SPECIFIED BY CLIENT.
4. KAIC SPECIFIED BY POWER COMPANY.
5. 1" CLOSE NIPPLE FOR FEED FROM POWER SOURCE.
6. 3/4" LIQUID FLEX TO TRANSCEIVER.
7. CABINET LOCKABLE FOR CLIENT ONLY



PARTS LIST

CALLOUT	QTY	DESCRIPTION
A	1	CABINET WATER PART #
B	1	BREAKER AMP KAIC 2 POLE 120/140 VAC SINGLE PHASE
C	1	1" CLOSE NIPPLE STRAIGHT
D	1	3/4" X 4' LIQUID TIGHT METALLIC FLEX CONDUIT WITH CONNECTOR
E	1	3/4" Ø LIQUID TIGHT FLEX CONNECTOR 45°
F	1	3/4" Ø LIQUID TIGHT FLEX CONNECTOR - STRAIGHT
G	4	5/6" X 1" BOLT - STAINLESS STEEL
H	4	5/6" LOCK WASHER - STAINLESS STEEL
I	4	5/16" NUT - STAINLESS STEEL
J	1	1" LOCK NUT

6 SCALE N.T.S.

SF PALO ALTO 035m2
PALO ALTO

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
www.crowncastle.com

PREPARED BY:
Coastal Communications
Telecommunications Engineering
5841 EDISON PLACE, SUITE 200
CARLSBAD, CA 92008
PHONE: (760) 929-0910
FAX: (760) 929-0936
www.coastalcommInc.com

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REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp.03-31-20
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ACROSS FROM 102 KINGSLEY AVE ON ALMA ST
PALO ALTO, CA
37.437892 / -122.155318

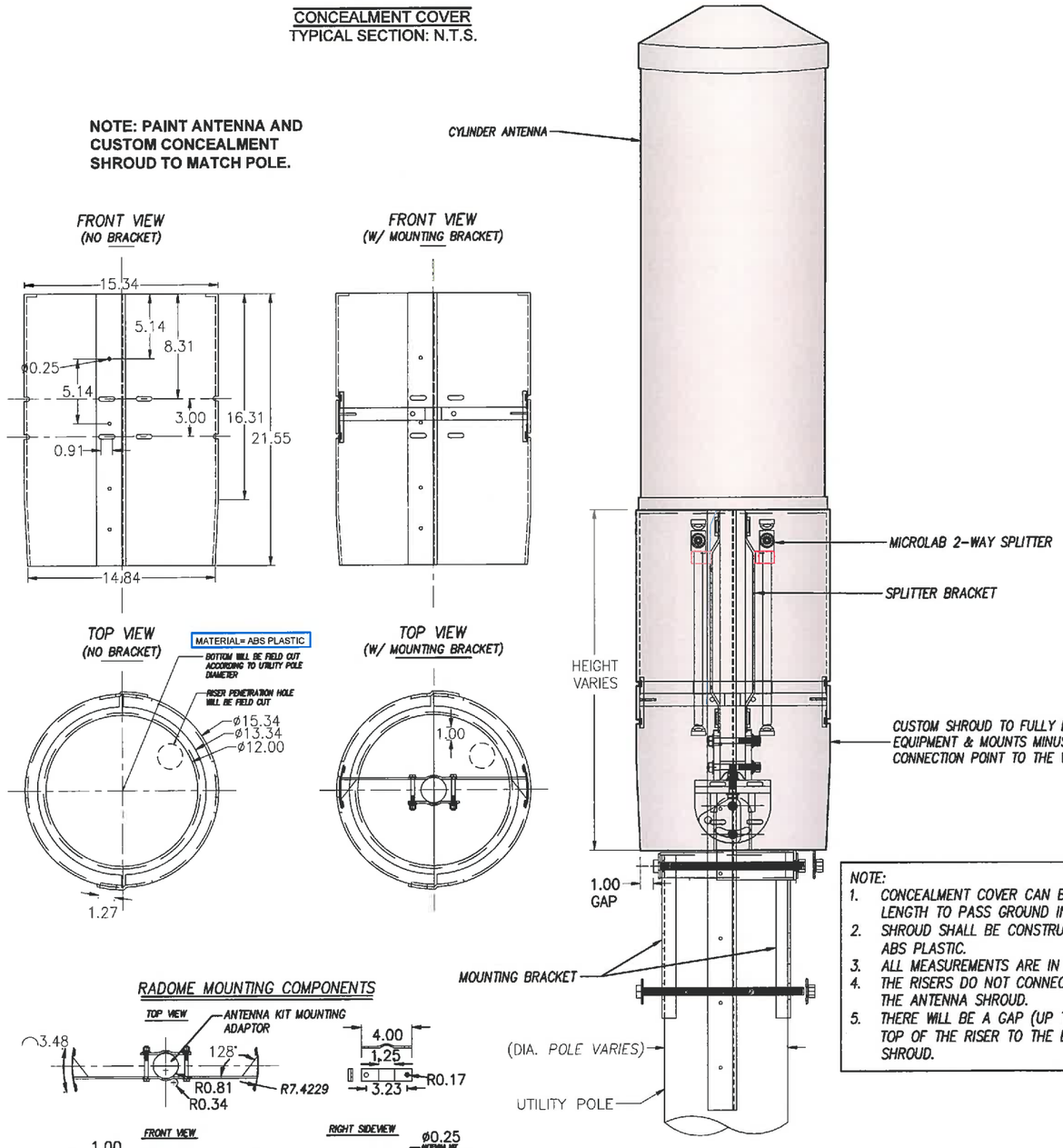
DETAILS & NOTES

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	08/02/18	TT

SHEET NO.
D-4

CONCEALMENT COVER
TYPICAL SECTION: N.T.S.

NOTE: PAINT ANTENNA AND CUSTOM CONCEALMENT SHROUD TO MATCH POLE.



RADOME MOUNTING COMPONENTS

NOTE:
1. CONCEALMENT COVER CAN BE ADJUSTED IN LENGTH TO PASS GROUND INSPECTION.
2. SHROUD SHALL BE CONSTRUCTED OF 1/4" ABS PLASTIC.
3. ALL MEASUREMENTS ARE IN INCHES.
4. THE RISERS DO NOT CONNECT OR GO INTO THE ANTENNA SHROUD.
5. THERE WILL BE A GAP (UP TO 6") FROM THE TOP OF THE RISER TO THE BOTTOM OF THE SHROUD.

7 | SCALE N.T.S.

CUUT360X12F124s0

Electrical Characteristics	Low Band		High Bands #1 and #2			
Frequency Bands (MHz)	696-960 MHz		(2x) 1695-2700 MHz			
	696-806	806-960	1695-1880	1850-1990	1920-2200	2300-2700
Polarization	±45°		(2x) ±45°			
Horizontal Beamwidth	360°	360°	360°	360°	360°	360°
Vertical Beamwidth	20°	15°	7.5°	7.0°	6.5°	6.0°
Gain	5.5 dBi	6.0 dBi	9.0 dBi	9.5 dBi	10.0 dBi	10.3 dBi
Electrical Downtilt (°)	(x) 0, 2, 4, 6, 8, 10, 12		(y) 0, 4, 8, 12			
Impedance	50Ω		50Ω			
VSWR	≤ 1.5:1		≤ 1.5:1			
Upper Sidelobe Suppression	> 15 dB		> 15 dB			
Isolation Between Ports	20 dB		25 dB			
IM3 (2x20W carrier)	< -153 dBc		< -153 dBc			
Input Power	(2x) 500 W		(4x) 300 W			
Diplexed	No					
Number of Sectors / Sector Spacing	3 Sectors / Pseudo Omni					
Lightning Protection	Direct Ground					

Mechanical Characteristics				
Antenna Dimensions (Height x Diameter)	1219 x 371	mm	48.0 x 14.6	in
Weight without Mounting Bracket Kit	17.3	kg	38.1	lbs
Antenna Volume	0.13	m³	4.7	ft³
Survival Wind Speed	200	km/hr	125	mph
Wind Area	0.47	m²	5.0	ft²
Wind Load (160 km/hr or 100 mph)	391	N	88	lbf

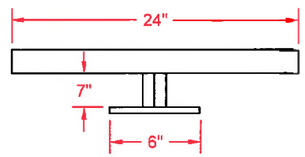


8 | SCALE N.T.S.

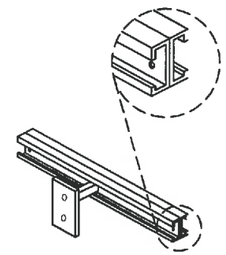
STANDOFF BRACKET

FRONT VIEW OF STAND OFF BRACKET:





TOP VIEW STAND OFF BRACKET:



3D VIEW OF STAND OFF BRACKET:

9 | SCALE N.T.S.

SF PALO ALTO 035m2
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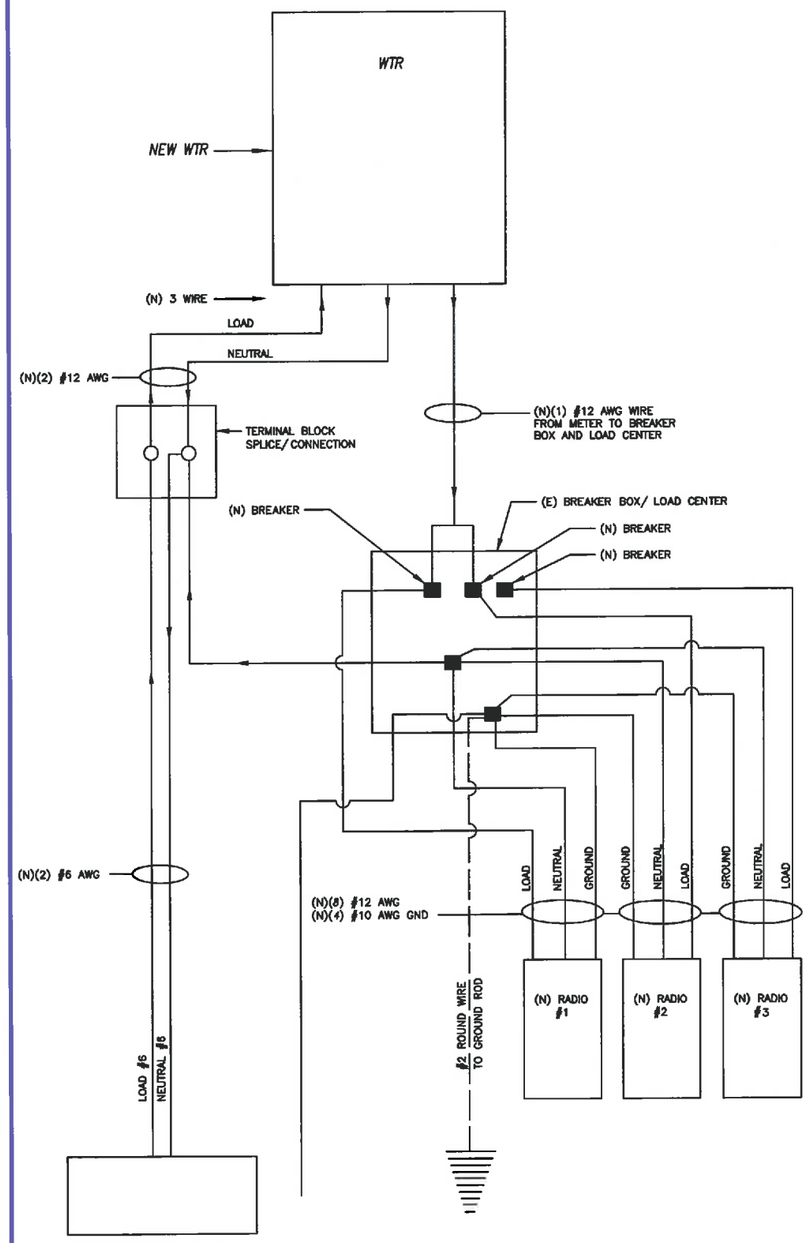
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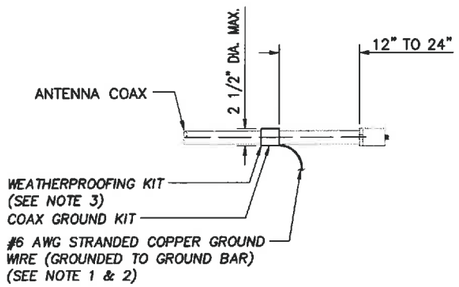
SHEET NO.
D-5

SINGLE LINE DIAGRAM



10 SCALE N.T.S.

CONNECTION OF COAX GROUND KIT TO ANTENNA COAX

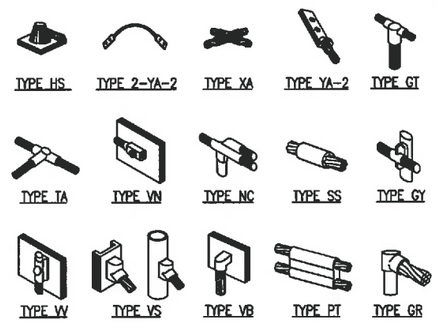


NOTES:

1. DO NOT INSTALL COAX GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PARK NUMBER AS SUPPLIED OR RECOMMENDED BY COAX MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

11 SCALE N.T.S.

WELD CONNECTION DETAILS

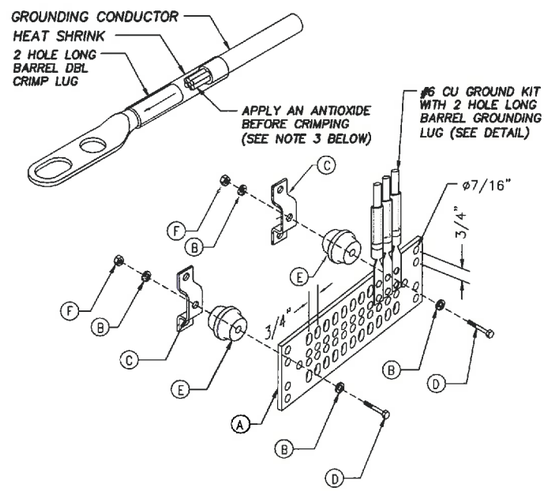


NOTE:

ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH PROJECT MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.

12 SCALE N.T.S.

TYPICAL GROUND BAR



NOTES:

1. CRIMP (COMPRESSION) TYPE TWO HOLE BOLTED TONGUE CONNECTORS SHALL BE USED TO TERMINATE STRANDED GROUNDING CONDUCTORS. THE CONNECTORS SHALL BE TIN PLATED COPPER, LONG BARREL LUG, AND SHALL BE LISTED FOR THEIR INTENDED USE BY AN NRTL.
2. CRIMP TYPE CONNECTORS USED ON SOLID CONDUCTORS MUST BE LISTED BY AN NRTL FOR USE ON SOLID CONDUCTORS, AND MUST BE CRIMPED WITH THE DIES SPECIFIED BY THE MANUFACTURER OF THE CONNECTOR. USE A HYDRAULIC CRIMPING TOOL.
3. WIRES SHALL BE INSERTED THE ENTIRE LENGTH OF THE LUG. ENSURE COAX OUTER INSULATION IS SNUG TO LUG BARREL. PROVIDE AN ANTIOXIDE COMPOUND ON THE CONDUCTOR BEFORE CRIMPING (NO OX). INSTALL A TRANSPARENT HEAT SHRINK INSULATING TUBING ALONG THE ENTIRE LENGTH OF THE CRIMP.
4. USE #6 AWG STRANDED-THOMAS & BETTS 455578 OR EQUIVALENT.

PARTS LIST		PARTS LIST	
A	COPPER GROUND BAR, USE STYLE "I" GTI TELECOM, INC. OR EQUAL (ACTUAL GROUND BAR SIZE WILL VARY BASED ON NUMBER OF GROUND CONNECTIONS)	C	WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056 OR EQUAL
		D	5/8-11 X 1" HHCS BOLTS, NEWTON INSTRUMENT CO. CAT. NO. A-6056 OR EQUAL
B	5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8 OR EQUAL	E	INSULATORS SHALL BE INSTALLED
		F	5/8-11 NUT

13 SCALE N.T.S.

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REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp.03-31-20
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ACROSS FROM 102 KINGSLEY AVE ON ALMA ST
PALO ALTO, CA

37.437892 / -122.155318

DETAILS & NOTES

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	08/02/18	TT

SHEET NO.
D-6

CITY OF PALO ALTO
TREE PROTECTION - IT'S PART OF THE PLAN!
Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree. For detailed information on Palo Alto's regulated trees and protection during development, review the City Tree Technical Manual (TTM) found at www.cityofpaloalto.org/trees/.

TREE DISCLOSURE STATEMENT

CITY OF PALO ALTO
Planning Division, 250 Hamilton Avenue
Palo Alto, CA 94301
(650) 329-2441
http://www.cityofpaloalto.org

Palo Alto Municipal Code, Chapter 8.10.040, requires disclosure and protection of certain trees located on private and public property, and that they be shown on submitted and approved site plans. A completed *tree disclosure statement* must accompany all permit applications that include exterior work, all demolition or grading permit applications, or other development activity.

PROPERTY ADDRESS: Across from 102 Kingsley Avenue on Alma Street, Palo Alto, CA

Are there Regulated[1] trees on or adjacent to the property? **YES** **(NO)** (If no, proceed to Section 4)

[Sections 1- 4 MUST be completed by the applicant. Please circle and/or check where applicable.]

1. Where are the trees? Check those that apply. **(Plans must be submitted showing all trees over 4" diameter)**

☐ On the property
☐ On adjacent property overhanging the project site
☐ In the City planter strip or right-of-way easement within 30' of property line (Street Trees)*

*Street trees[1] **require special protection by a fenced enclosure**, per the attached instructions. Prior to receiving any permit, you must provide an authorized Street Tree Protection Verification form. Contact Public Works Operations at (650) 496-5953 for inspection of type I, II or III fencing (see attached Detail #605) required for all street trees.

2. Are there any Protected[1] or Designated[1] Trees? **YES** (Check where applicable) **NO**

☐ Protected Tree (s)
☐ Designated Tree (s)
☐ On or overhanging the property

3. Is there activity or grading within the dripline? (radius 10 times the trunk diameter) of these trees? **YES** **NO**

*If Yes, a **Tree Preservation Report** must be prepared by an ISA certified arborist and submitted for staff review (see TTM[2], Section 6.25). Attach this report to Sheet T-1,:Tree Protection, its Part of the Plan!", per Site Plan Requirements.*

4. Are the Site Plan Requirements** completed? **(YES)** **NO**

**Plans. Protection of Regulated trees during development require the following: (1) Plans must show the measured trunk diameter and canopy dripline; (2) Plans must denote, as a bold dashed line, a fenced enclosure area out to the dripline, per Sheet T-1 and Detail #605 - http://www.cityofpaloalto.org/trees/forms.htm (See also TTM[2], Section 2.15 for area to be fenced)

I, the undersigned, agree to the conditions of this disclosure. I understand that knowingly or negligently providing false or misleading information in response to this disclosure requirement constitutes a violation of the Palo Alto Municipal Code Section 8.10.040, which can lead to criminal and/or civil legal action.

Signature: Ben Willis (Prop. Owner or Agent) Print: Ben Willis Date: 9/07/18

FOR STAFF USE:

Protective Fencing
Sections 5-6 must be **completed by staff** for the issuance of any development permit (demolition, grading or building permit).

5. Protected Trees. The specified tree fencing is in place. A written statement is attached verifying that protective fencing is correctly in place around protected and/or designated trees. **YES** **NO**
(N/A if there are no protected trees, check here ☐)

6. Street Trees. A signed Public Works Street Tree Protection Verification form is attached. **YES** **NO**
(N/A if there are no street trees, check here ☐).

[1] Regulated Trees – a) Street trees – trees on public property; b) Protected trees – Coast Live Oaks or Valley Oaks which are 11.5" in diameter or larger, Coast Redwoods which are 18" in diameter or larger, when measured 54" above natural grade; and Heritage trees are trees designated by City Council; and c) Designated Trees – commercial or non-residential property trees, which are part of an approved landscape plan.

[2] Palo Alto Tree Technical Manual (TTM) contains instructions for all requirements on this form, available at www.cityofpaloalto.org/trees/technical-manual.html

Tree technical Manual

To purchase the tree Technical Manual

June, 2001 First Edition

View by section:

- o Table of Contents (PDF, 87KB)
- o Intent and Purpose (PDF, 1.05MB)
- o Introduction - Use of Manual (PDF, 1.05MB)
- o Section 1.0 - Definitions (PDF, 96KB)
- o Section 2.0 - Protection of Trees During Construction (PDF, 259KB)
- o Section 3.0 - Removal, Replacement & Planting of Trees (PDF, 117KB)
- o Section 4.0 - Hazardous Trees (PDF, 105KB)
- o Section 5.0 - Tree Maintenance Guidelines (PDF, 110KB)
- o Section 6.0 - Tree Reports (PDF, 84KB)

View ALL sections:

- o Tree Technical Manual - Full (PDF, 1.84MB)

APPENDICES
A. Palo Alto Municipal Code Chapter 8.10, Tree Preservation & Management Regulations
B: Tree City - USA
C: ISA Hazard Evaluation Form
D: List of Inherent Failure Patterns for Selected Species (Reference source) E: ISA Tree Pruning Guidelines (PDF, 1.85MB)
F: Tree Care Safety Standards, ANSI Z133.1-1994 (Reference source)
G: Pruning Performance Standards, ANSI A300-1995 (Reference source) H: Tree Planting Details, Diagram 504 & 505 I: Tree Disclosure Statement
J: Palo Alto Standard Tree Protection Instructions

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SITE NAME & ADDRESS:
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SPECIAL TREE PROTECTION INSTRUCTION SHEET

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	08/02/18	TT

SHEET NO.
T1.1

CITY OF PALO ALTO
TREE PROTECTION - IT'S PART OF THE PLAN!
Make sure your crews and subs do the job right!

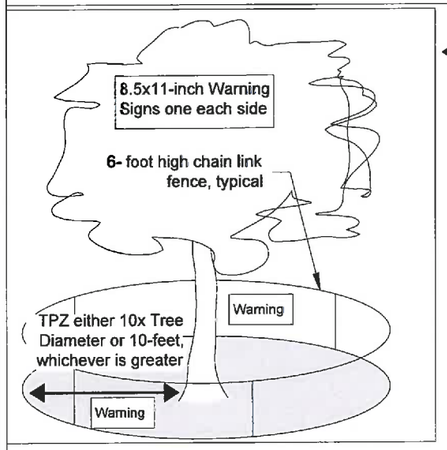
Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree. For detailed information on Palo Alto's regulated trees and protection during development, review the City Tree Technical Manual (TTM) found at www.cityofpaloalto.org/trees/.

For written specifications associated with illustrations below, see Public Works Specifications Section 31

Detailed specifications are found in the Palo Alto Tree Technical Manual (TTM)(ww.cityofpaloalto.org/trees/)

Tree Protection (TPZ) shown in gray (radius of TPZ equals 10-times the diameter if the tree or 10-feet, whichever is greater).

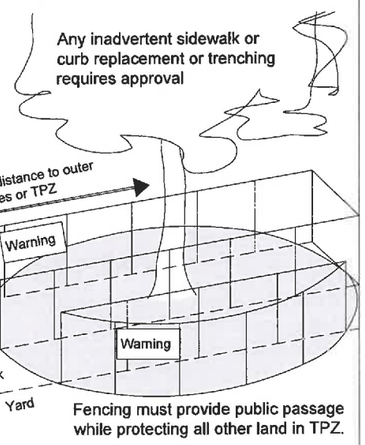
- Restricted activity area – see Tree Technical Manual Sec 2.15(E).
- Restricted trenching area – see Tree Technical Manual Sec 2.20(C-D), any proposed trench or form work within TPZ of a protected tree requires approval from Public Works Operations. Call 650-496-5953.



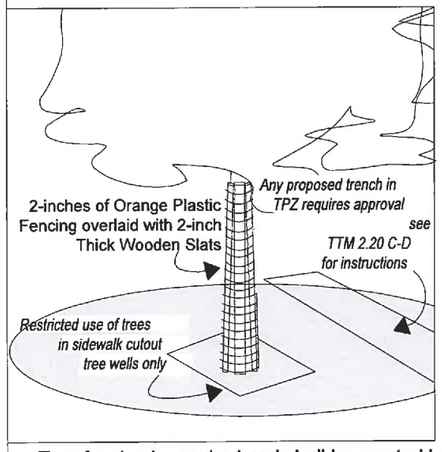
Type I Tree Protection

For all Ordinance Protected & Designated trees, as detailed in the site specific tree preservation report (TPR) prepared by the applicant's project arborist as diagramed on the plans.

Note: Ordinance Protected & Designated Trees. Issuance of a permit requires applicant's project arborist written verification Type I is installed correctly according to the plans and Tree Preservation Report



Type II Tree Protection



Note: Street Trees. Issuance of a permit requires Public Works Operations inspection and signed approval on the Street Tree Verification (STV) form provided.

Type III Tree Protection

(to be used only with approval of Public Works Operations)

Tree fencing is required and shall be erected before demolition, grading or construction begins.

PALO ALTO
STREET TREE PROTECTION INSTRUCTIONS
--SECTION 31–

a. Tree protection has three primary functions, I) to keep the foliage canopy and branching structure clear from contact by equipment, materials and activities; 2) to preserve roots and soil conditio ns in an intact and non-compacted state and 3) to identify the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities arc restricted, unless otherwise approved.
b. The Tree Protection Zone (TPZ) is a restricted area around the base of the h·ec with a radius of ten-times the diameter of the tree's trunk or ten feet; whichever is greater, enclosed by fencing.

31-2 Reference Documents

a. Detail 605- illustration of situations described below.
b. Tree Technical Manual (TTM) Forms (http://www.cityofpaloalto.org/trees/)
1. Trenching Restriction Zones (TITM, Section 2.20(C))
2. Arborist Reporting Protocol (TITM, Sectio n 6.30)
3. Site Plan Requirements (TITM, Sect ion 6.35)
4. Tree Disclosure Statement (TTM, Appendix J)
c. Street Tree Verification (STV) Form (http://www.cityofpalo alto.org/trees/forms)

31-3 Execution

a. Type I Tree Protection: The fence shall enclose the entire TPZ of the trce(s) to be protected throughout the life of the construction project. In some parking areas, if fencing is located on paving or concrete that will not be demolished, then the posts may be supported by an appropriate grade level concrete base, if approved by Public Works Operations.
b. Type II Tree Protection: For trees situated within a planting strip, only the planting strip and yard side of the TPZ shall be enclosed with the required chain link protective fencing in order to keep the sidewalk and street open for public use.
c. Type III Tree Protection: To be used Q!!]y with approval of Public Works Operations. Trees situate d in a tree well or sidewalk planter pit, shall be wrapped with 2-inches of orange plastic fencing from the ground to the first branch and overlaid with 2-inch thick wooden slats bound securely (slats shall not be allowed to dig into the bark). During installation of the plastic fencing, caution shall be used to avoid damaging any branches. Major limbs may also require plastic fencing as directed by the City Arborist.
d. Size, type and area to be fenced. All trees to be preserved shall be protected with six (6') foot high chain link fences. Fences arc to be mounted on two-inch diameter galvanized iron posts, driven into the ground to a depth of at least2-feet at no more than JO-foot spacing. Fencing shall extend to the outer branching, unless specifically approved on the STV Form.
e. 'Warning' signs. A warning sign shall be weather proof and prominently displayed on each fence at 20-foot intervals. The sign shall be minimum 8.5-inchcsx I I-inches and clearly state in half inch tall letters: "WARNING - Tree Protection Zone - This fence shall not be removed and is subject to a fine according to PAMC Section 8.10.110."
f. Duration. Tree fencing shall be erected before demolition; grading or construction begins and remain in place until final inspection of the project, except for work specifically allowed in the TPZ . Work or soil disturbance in the TPZ requires approval by the project arborist or City Arborist (in the case of work around Street Trees). Excavations within the public right of way require a Street Work Permit from Public Works.

g. During construction

1. All neighbors' trees that overhang the project site shall be protected from impact of any kind.
2. The applicant shall be responsible for the repair or replacement plus penalty of any publicly owned trees that are damaged during the course of construction, pursuant to Section 8.04.070 of the Palo Alto Municipal Code.
3. The following tree preservation measures apply to all trees to be retained:
a. No storage of material, topsoil, vehicles or equipment shall be permitted within the TPZ.
b. The ground under and around the tree canopy area shall not be altered.
c. Trees to be retained shall be irrigated, aerated and maintained as necessary to ensure survival.

END OF SECTION

City of Palo Alto 2004 Standard Drawings and Specifications
Street Tree Vcrification of Protection, PWE, Section 31

Revised 08/06

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PALO ALTO

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SITE NAME & ADDRESS:
ACROSS FROM 102 KINGSLEY AVE ON ALMA ST
PALO ALTO, CA

37.437892 / -122.155318

SPECIAL TREE PROTECTION INSTRUCTION SHEET

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	08/02/18	TT

SHEET NO.
T1.2

CITY OF PALO ALTO
TREE PROTECTION - IT'S PART OF THE PLAN!
Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree. For detailed information on Palo Alto's regulated trees and protection during development, review the City Tree Technical Manual (TTM) found at www.cityofpaloalto.org/trees/.

Table 2-2 Palo Alto Tree Technical Manual
ARBORIST INSPECTION SCHEDULE

All Checked Items Apply to this project:

1. ☑ Inspection of Protective Tree Fencing. The Street Tree Verification Form shall be signed by the City Arborist. For other Protected Trees, the project arborist shall provide a written statement with a photograph verifying that he has conducted a field inspection of the trees and that the protective tree fencing is in place prior to issuance of a demolition, grading, or building permit. (see Verification of Tree Protection, Section 1.39).

2. ☑ Pre-Construction Meeting. Prior to commencement of construction, the applicant or contractor shall conduct a pre-construction meeting to discuss tree protection with the job site superintendent, grading equipment operators, project arborist, City Arborist, and, if a city maintained irrigation system exists, the Parks Manager (Contact 650-496-6962).

3. ☐ Inspection of Rough Grading. The project arborist shall perform an inspection during the course of rough grading ACROSS FROM the TPZ to ensure trees will not be injured by compaction, cut or fill, drainage and trenching, and if required, inspect aeration systems, tree wells, drains and special paving. The contractor shall provide the project arborist at least 48 hours advance notice of such activity.

4. ☐ Monthly Inspections. The project arborist shall perform a monthly activity inspection to monitor and advise for conditions and tree health. The City Arborist shall be in receipt of the activity report during the first week of each calendar month or, immediately if there are any revisions to the approved plans or protection measures. Fax to (650) 329-2154. (see Monthly Inspection Report, Section 1.17).

5. ☐ Special activity within the Tree Protection Zone. Work in this area (TPZ - described in #7 below) requires the direct onsite supervision of the project arborist (see Trenching, Excavation and Equipment, Section 2.20 C).

6. ☐ Landscape Architect Inspection. For discretionary development projects, prior to temporary or final occupancy the applicant or contractor shall arrange for the Landscape Architect to perform an on site inspection of all plant stock, quality of the materials and planting (see Quality, Section 5.20.1 A) and that the irrigation is functioning consistent with the approved construction plans. The City shall be in receipt of written verification of Landscape Architect approval prior to scheduling the final inspection, unless otherwise approved.

7. ☐ Other (please describe)_____

City of Palo Alto
Tree Department
Public Works Operations
PO Box 10250 Palo Alto, CA 94303
6501496-5953 FAX: 6501852-9289
treeprotection@CityofPaloAlto.org

Verification of Street Tree Protection

Applicant Instruction: Complete upper portion of this form. Mail or FAX this form along with the signed tree Disclosure Statement to Public Works Dept. Public Works Tree Staff will inspect and notify applicant.

APPLICATION DATE:	
ADDRESS/LOCATION OF STREET TREES TO BE PROTECTED:	
APPLICANT'S NAME:	
APPLICANT'S ADDRESS:	
APPLICANT'S TELEPHONE & FAX NUMBERS:	

This section to be filled out by City Tree Staff

1. The Street Trees at the above address(es) are adequately protected. The type of protection used is:	YES NO *If NO, go to #2 below
Inspected by:	
Date of Inspection:	

2. The Street Trees at the above address are NOT adequately protected. The following modifications are required: Indicate how the required modifications were communicated to the applicant.	_____ _____ _____ _____ _____ _____

Subsequent Inspection

Street trees at above address were found to be adequately protected: inspected by:	YES NO *If NO, indicate in "Notes" below the disposition of case.
Date of Inspection:	

Notes: List City street trees by species, site, condition and type of tree protection installed. Also note if pictures were taken. Use back of sheet if necessary.	

Return approved sheet to Applicant for demolition or building permit issuance.
S:PWD/OPS/Tree/DS/St TreeProtect 5/1706

SF PALO ALTO 035m2
PALO ALTO
CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
www.crowncastle.com

PREPARED BY:
Coastal Communications
Telecommunications Engineering
5841 EDISON PLACE, SUITE 200
CARLSBAD, CA 92008
PHONE: (760) 929-0910
FAX: (760) 929-0936
www.coastalcommunic.com

PROPRIETARY INFORMATION
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DIGALERT
1-800-227-2600
CALL AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT
TICKET #_____

REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp.03-31-20
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ACROSS FROM 102 KINGSLEY AVE ON ALMA ST
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Arborist Firm Data Here

City of Palo Alto Tree Technical Manual

ADDENDUM 11

email:
RCA/ISA Certified Arborist #WE-000
Conact Cell #:

Monthly Tree Activity Report- Construction Site

Inspection Date: _____ Inspection #_____	Site Address: _____ Palo Alto, CA	Contractor- Main Site Contact Information	#1: Job site superintendent Company: Email: Job site: Office: Cell: Mail:
		Also present:	• _____ • _____
Distribution:	1. City of Palo Alto 2. Others	Attn: Dave Dockter	Dave.dockter@cityofpaloalto.org 650-329-2440

Provide the requested minimum information with each report, customize as necessary. To be completed by project site arborist. Send monthly to city arborist at above address until project completion. Use additional sheets as needed.

1. Assignment Activity (Demolition/grading/sewer/trenching/foundation/list relevant visits)
   a. Pre-construction meeting requirement with sub-contractors
   b. Inspect to verify that tree protection measures are in place
   c. Determine if field adjustments, watering or plan revisions may be needed

2. Field Observations (general site-wide and list by individual tree number)
   a. Tree Protection Fences (TPF) are...
   b. Trenching has/will occur

3. Action Items (list site-wide, by tree number and date to be satisfied) and Date Due
   a. Tree Protection Fence (TPF) needs adjusting (tree # x, x, x)
   b. Root zone buffer material (wood chips) can be installed next
   c. Schedule sewer trench, foundation dig with...

4. Photographs (use often)

5. Tree location Map (mandatory 8.5 x 11 sheet)

6. Recommendations, notes or monitor items for projects/staff/schedule

7. Past visits (list carry-over items satisfied/still outstanding

Respectfully submitted,

Project site arborist
Consultant contact information (Include email, cell #, and mailing)

Enter date CPA Monthly Tree activity Report: Type site address here

---WARNING---
Tree Protection Zone

This fencing shall not be removed without City Arborist approval (650-496-5953)

Removal without permission is subject to a $500 fine per day*

*Palo Alto Municipal Code Section 8.10.110

City of Palo Alto Tree Protection Instructions are located at http://www.cithofpalo-alto.ca.us/trees/technical-manual.html

SPECIAL INSTRUCTIONS — PLANNING DEPARTMENT

TREE PROTECTION INSPECTIONS MANDATORY

PAMC 8.10 PROTECTED TREES. CONTRACTOR SHALL ENSURE PROJECT SITE ARBORIST IS PERFORMING REQUIRED TREE INSPECTION AND SITE MONITORING. PROVIDE WRITTEN MONTHLY TREE ACTIVITY REPORTS TO THE PLANNING DEPARTMENT LANDSCAPE REVIEW STAFF BEGINNING 14 DAYS AFTER BUILDING PERMIT ISSUANCE.

BUILDING PERMIT DATE: _____

DATE OF 1ST TREE ACTIVITY REPORT: _____

CITY STAFF: _____

REPORTING DETAILS OF THE MONTHLY TREE ACTIVITY REPORT SHALL CONFORM TO SHEET T-1 FORMAT, VERIFY THAT ALL TREE PROTECTION MEASURES ARE IMPLEMENTED AND WILL INCLUDE ALL CONTRACTOR ACTIVITY, SCHEDULED OR UNSCHEDULED, WTIHIN A TREE A TREE PROTECTION ROOT ZONE. NON-COMPLIANCE IS SUBJECT TO VIOLATION OF PAMC 8.10.080. REFERENCE: PALO ALTO TREE TECHNICAL MANUAL, SECTION 2.00 AND ADDENDUM 11.

ALL OTHER TREE-RELATED REPORTS SHALL BE ADDED USING ADDITIONAL "T" SHEETS AS NEEDED.

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SHEET NO.
T1.4



A | KEY MAP



B | 10 O'CLOCK VIEW



C | 12 O'CLOCK VIEW



D | 2 O'CLOCK VIEW

SF PALO ALTO 035m2
PALO ALTO

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PHOTOS

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	08/02/18	TT

SHEET NO.
P-1



EXISTING SITE

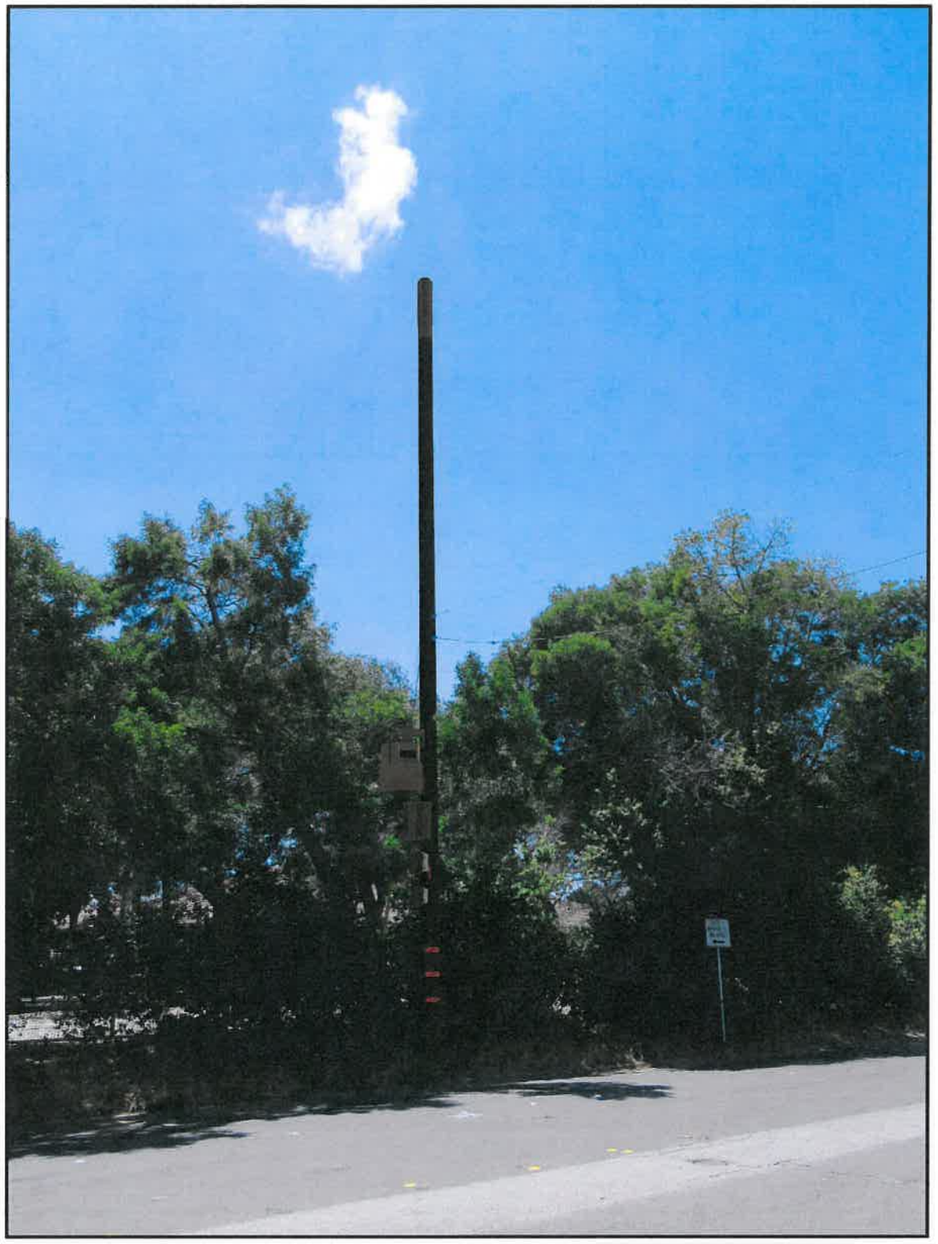
CROWN CASTLE

SF PALO ALTO 035M2

ACROSS FROM 102 KINGSLEY AVE
ON ALMA ST
PALO ALTO,CA



VICINITY MAP



PROPOSED SITE

SF PALO ALTO 035m2
PALO ALTO

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PHOTOSIM

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SHEET NO.
P-2

POLE ID #TBD

TOP OF EXISTING POLE: 29'-2"

TOP OF NEW POLE: 43'-0"

TOP OF ANTENNA(S): 48'-0"

RAD CENTER: 46'-0"

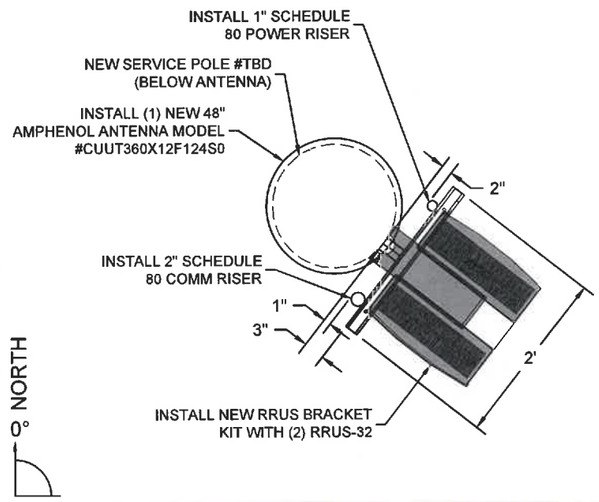
AZIMUTH(S): OMNI

PROFILE VIEW: 3 O' CLOCK

A PROFILE NOTES

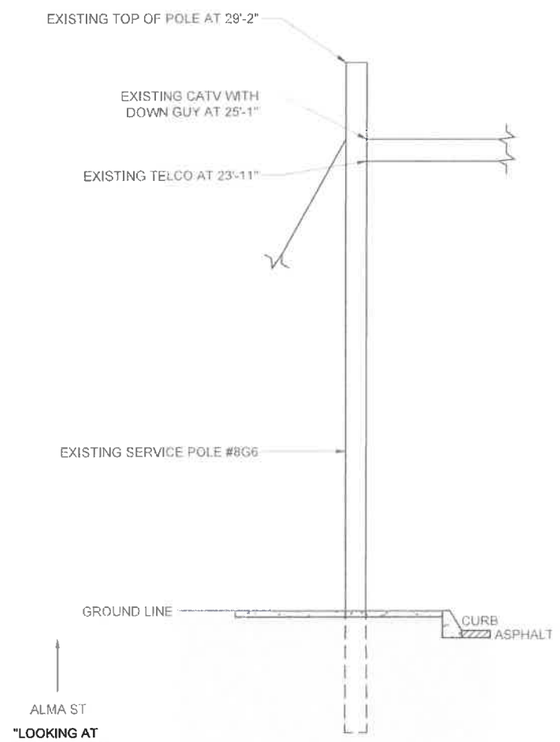
- INSTALL NEW 50' CLASS I SERVICE POLE.
- INSTALL SECONDARY POWER AT 31'-1".
- TRANSFER EXISTING TELCO WITH DOWN GUY TO 23'-11".
- TRANSFER EXISTING CATV WITH DOWN GUY TO 25'-1".
- INSTALL NEW VGR.
- INSTALL STANDOFF BRACKET(TYP.).
- INSTALL NEW POWER DISCONNECT BOX ON STANDOFF BRACKET AT 8'-0" TO 8'-9".
- INSTALL NEW WTR ENCLOSURE ON STANDOFF BRACKET AT 9'-6" TO 10'-6".
- INSTALL NEW STANDOFF BRACKET KIT WITH (1) RRUS-11 AT 11'-0" TO 12'-5".
- INSTALL NEW RRUS BRACKET KIT WITH (2) RRUS-32 AT 16'-3".
- INSTALL NEW 2" SCHEDULE 80 COMM RISER.
- INSTALL NEW 1" SCHEDULE 80 POWER RISER.
- INSTALL 7'-0" POLE MOUNTED EXTENSION & (1) NEW 48" AMPHENOL ANTENNA MODEL #CUUT360X12F124s0 WITH CUSTOM SHROUD CONCEALMENT COVER.
- INSTALL NOTICE & CAUTION SIGNS.
- ALL EQUIPMENT SHALL BE PAINTED TO MATCH TEXTURE AND COLOR.

B CONSTRUCTION NOTES



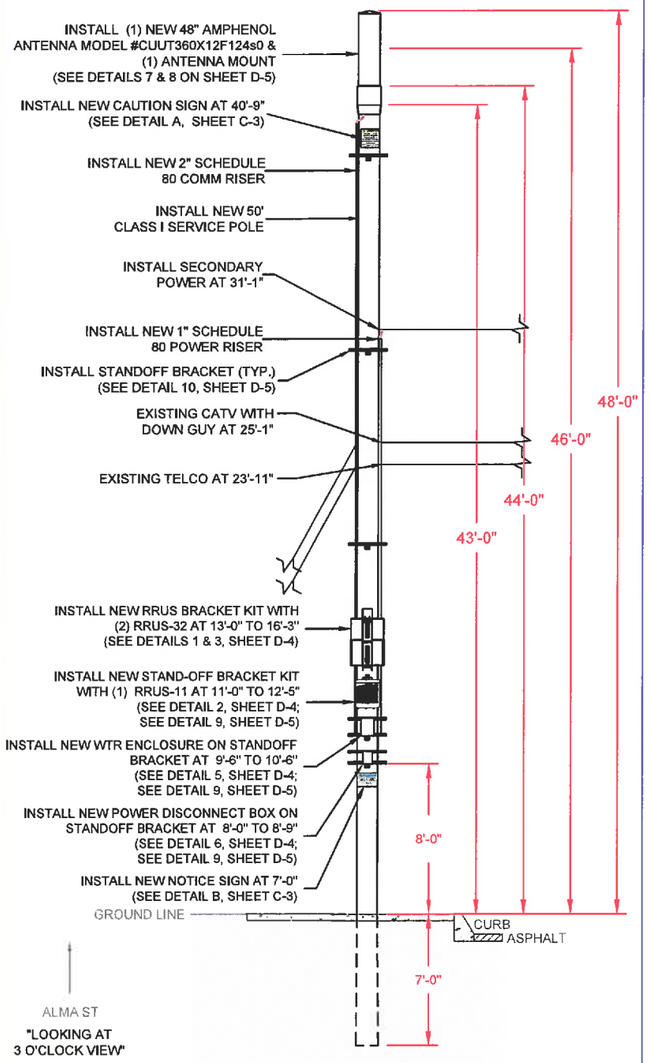
C TOP VIEW

N.T.S.



D EXISTING - 3 O'CLOCK ELEVATION

11"x17" SCALE: 1/4" = 1'-0"
24"x36" SCALE: 1/2" = 1'-0"



NOTE: ALL EQUIPMENT SHALL BE PAINTED TO MATCH EXISTING POLE.

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SF PALO ALTO 035m2
PALO ALTO

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Exp. 03-31-20
CIVIL
STATE OF CALIFORNIA

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PROFILE

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	08/02/18	TT

SHEET NO.
P-3

POLE ID #TBD

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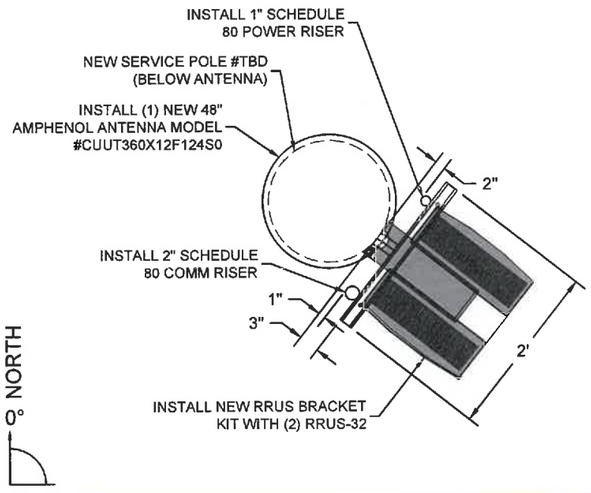
AZIMUTH(S): OMNI

PROFILE VIEW: 12 O' CLOCK

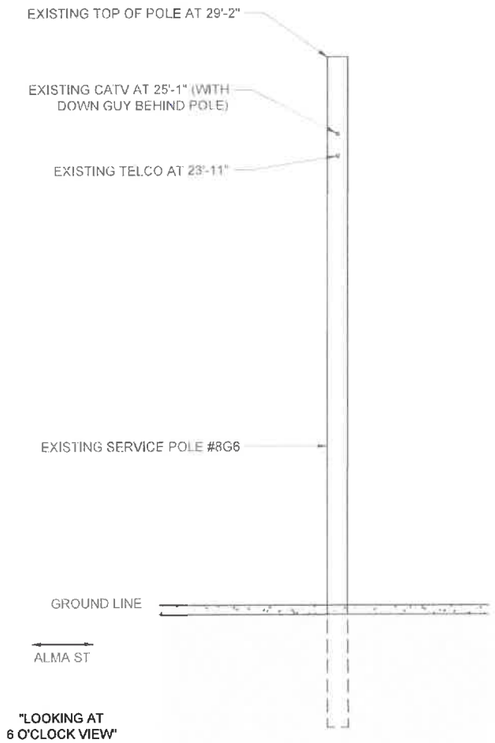
F | PROFILE NOTES

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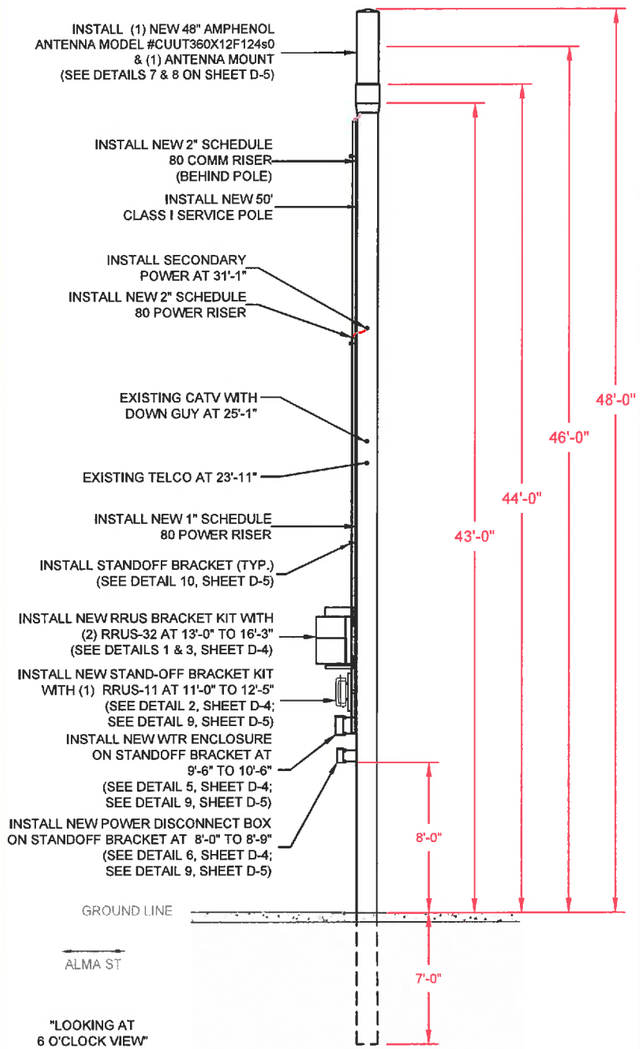


H | TOP VIEW | N.T.S.



"LOOKING AT 6 O'CLOCK VIEW"

I | EXISTING - 12 O'CLOCK ELEVATION | 11"x17" SCALE: 1/4" = 1'-0" 24"x36" SCALE: 1/2" = 1'-0"



"LOOKING AT 6 O'CLOCK VIEW"

NOTE: ALL EQUIPMENT SHALL BE PAINTED TO MATCH EXISTING POLE.

J | PROPOSED - 12 O'CLOCK ELEVATION | 11"x17" SCALE: 1/4" = 1'-0" 24"x36" SCALE: 1/2" = 1'-0"

SF PALO ALTO 035m2
PALO ALTO

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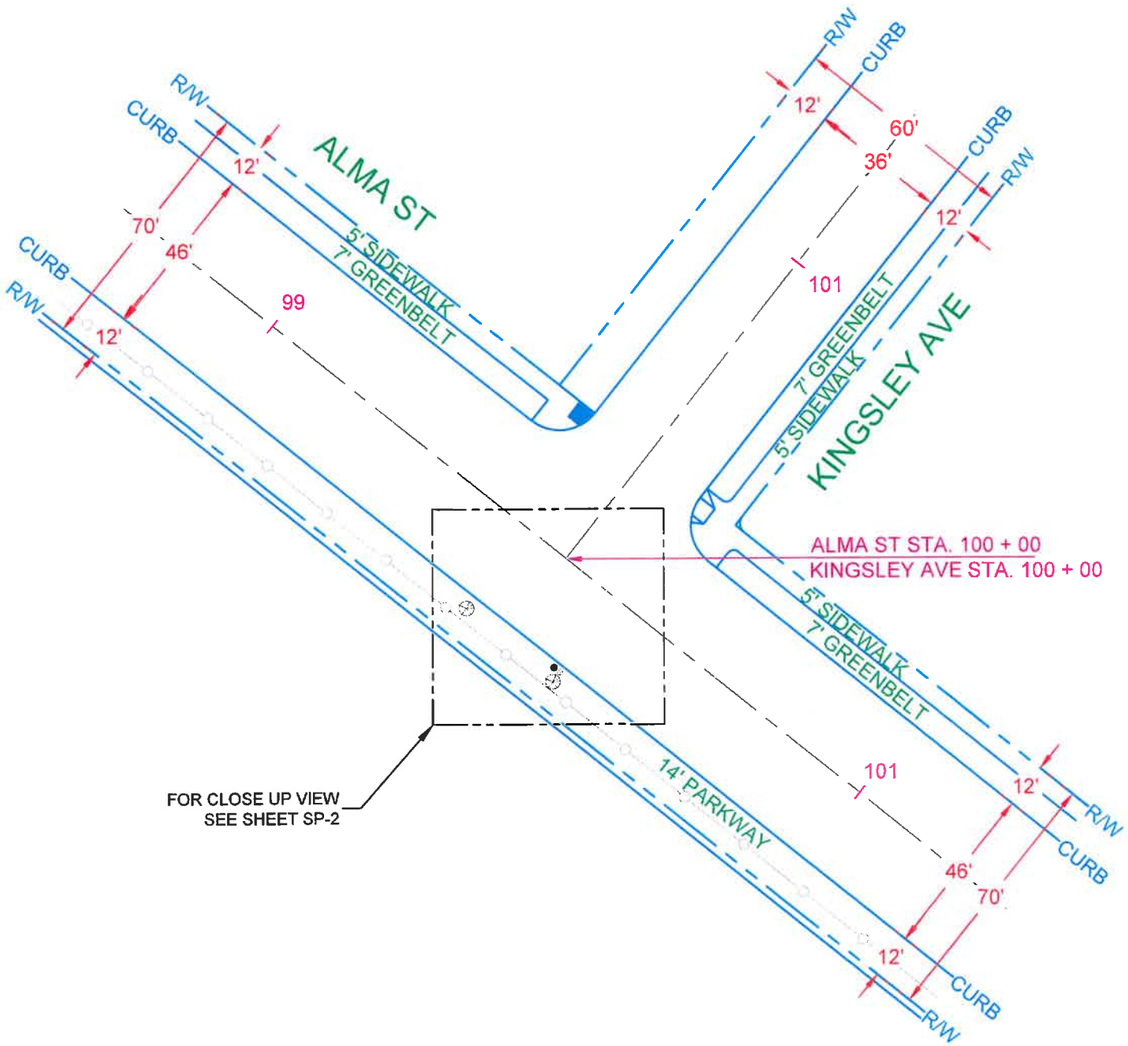
SHEET NO.
P-4

UTILITIES PLACED ON THIS DRAWING HAS BEEN REFERENCED PER THE CITY OF PALO ALTO CPA WGW UTILITY INFORMATION 130 EMBARCADERO RD

TREE PROTECTION IS REQUIRED AND SHALL BE ERECTED AROUND ANY TREE WITHIN 15' OF IMPROVEMENTS OR WORK ZONE BEFORE CONSTRUCTION BEGINS. REFER TO SHEETS T1.1 - T1.4.

IN CASE OF ENCOUNTERING MASSIVE / EXTENSIVE TREE ROOTS AROUND WORK AREA DURING CONSTRUCTION, CONTACT CITY OF PALO ALTO ARBORIST AT (650) 496-5953 FOR FURTHER GUIDANCE & SUPERVISION

ALL UTILITIES AS SHOWN PER CITY OF PALO ALTO MAPS



NORTH

11"x17" SCALE: 1" = 40'

24"x36" SCALE: 1" = 20'

SF PALO ALTO 035m2
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ENLARGED SITE PLAN

DRAWN BY:	DRAFT DATE:	APPROVED BY:
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SP-1

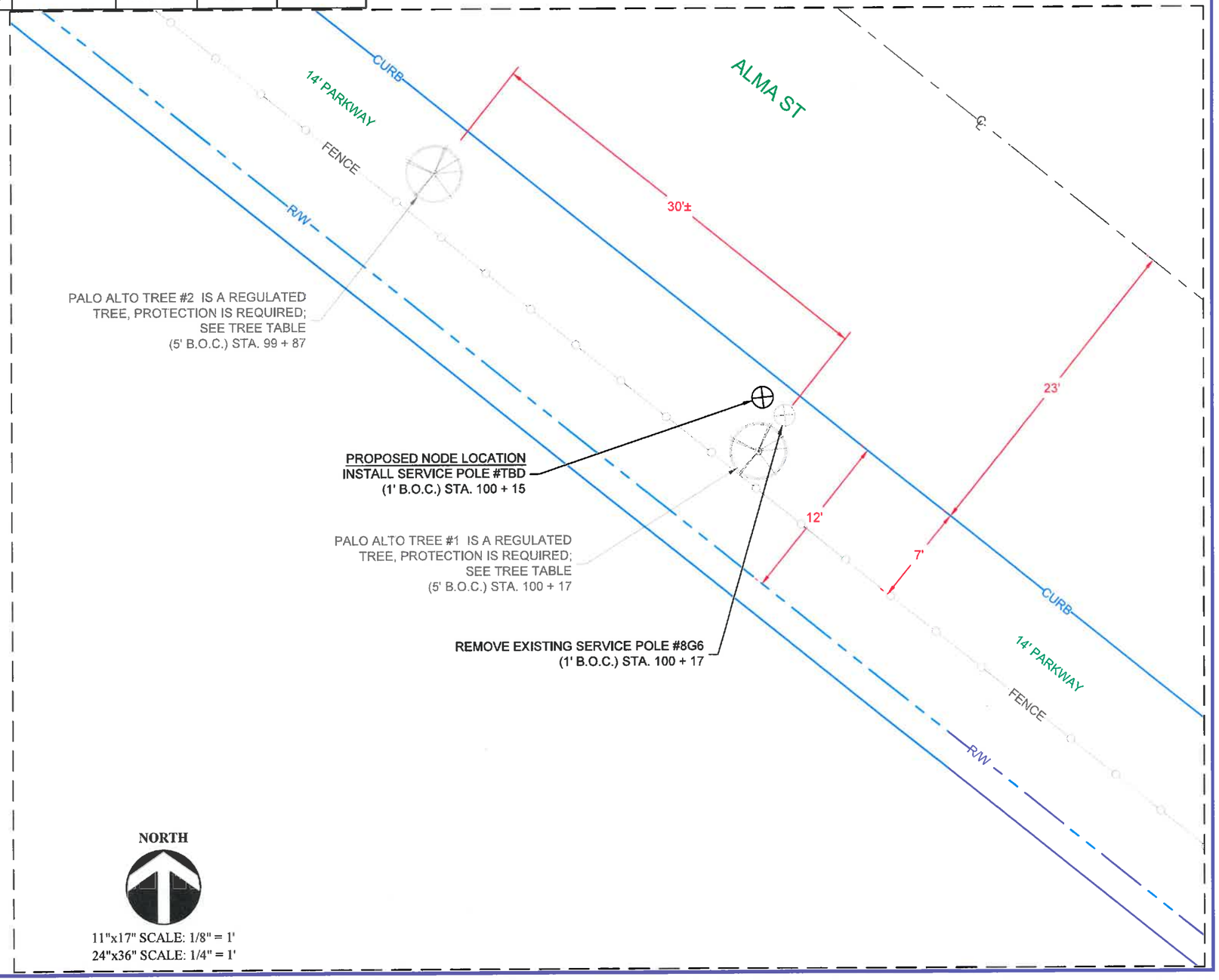
EXISTING TREE TABLE							
PALO ALTO TREE #	SPECIES:	COMMON NAME:	GROW SPACE:	TRUNK DIA. AT BREAST HT.:	PROTECTION LINE:	DISTANCE TO CONST.	PROTECTION MEASURES REQUIRED
1	ACACIA X MELANOXYLON	BLACKWOOD ACACIAS	PARKWAY	-	X' x10= X'-0"	1'-0"	YES - TYPE III
2	ACACIA X MELANOXYLON	BLACKWOOD ACACIAS	PARKWAY	-	X' x10= X'-0"	30'-0"	YES - TYPE II

NODE COORDINATES	
LATITUDE:	37.437892
LONGITUDE:	-122.155318

TREE PROTECTION IS REQUIRED AND SHALL BE ERECTED AROUND ANY TREE WITHIN 15' OF IMPROVEMENTS OR WORK ZONE BEFORE CONSTRUCTION BEGINS. REFER TO SHEETS T1.1 - T1.4.

IN CASE OF ENCOUNTERING MASSIVE / EXTENSIVE TREE ROOTS AROUND WORK AREA DURING CONSTRUCTION, CONTACT CITY OF PALO ALTO ARBORIST AT (650) 496-5953 FOR FURTHER GUIDANCE & SUPERVISION

ALL EQUIPMENT SHALL BE PAINTED TO MATCH EXISTING POLE



NORTH

11"x17" SCALE: 1/8" = 1'
24"x36" SCALE: 1/4" = 1'

SF PALO ALTO 035m2
PALO ALTO

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:
CROWN CASTLE
695 RIVER OAKS PARKWAY
SAN JOSE, CA 95134
www.crowncastle.com

PREPARED BY:
Coastal Communications
Telecommunications Engineering
5841 EDISON PLACE, SUITE 200
CARLSBAD, CA 92008
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PROPRIETARY INFORMATION

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UNDERGROUND SERVICE ALERT
TICKET #_____

REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp.03-31-20
CIVIL
STATE OF CALIFORNIA

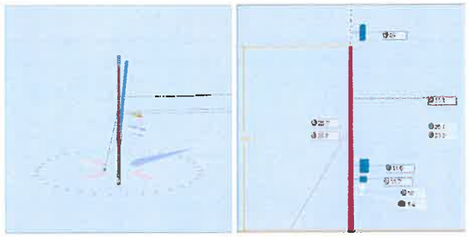
SITE NAME & ADDRESS:
ACROSS FROM 102 KINGSLEY AVE ON ALMA ST
PALO ALTO, CA
37.437892 / -122.155318

ENLARGED SITE PLAN

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	08/02/18	TT

SHEET NO.
SP-2

Pole Num:	NT	Pole Length / Class:	50 / 1	Code:	GO 95	Structure Type:	Deadend
CLIENT	CROWN CASTLE	Species:	DOUGLAS FIR	GO 95 Rule:	At Installation (New)	Pole Strength Factor:	0.25
PROJECT	VZW366241CA	Setting Depth (ft):	6.50	Construction Grade:	A	Transverse Wind LF:	1.00
HUB	Unset	G/L Circumference (in):	44.80	Loading District:	Light	Wire Tension LF:	1.00
APP/GRID	Unset	G/L Fiber Stress (psi):	8,000	Ice Thickness (in):	0.00	Vertical LF:	1.00
SITE	PA035m2	Allowable Stress (psi):	2,000	Wind Speed (mph):	55.90	Pole Factor of Safety:	6.32
Aux Data 6	Unset	Fiber Stress Ht. Reduc:	No	Wind Pressure (psf):	8.00	Vertical Factor of Safety:	44.44
Latitude:	0.000000 Deg	Longitude:	0.000000 Deg	Elevation:	0 Feet	Bending Factor of Safety:	6.76



Pole Capacity Utilization (%) Crossarm allowance 300 lbs		Height (ft)	Wind Angle (deg)
Maximum	63.3	0.0	96.3
Groundline	63.3	0.0	96.3
Vertical	9.0	23.8	39.0

Pole Moments (ft-lb) Crossarm allowance 300 lbs		Load Angle (deg)	Wind Angle (deg)
Max Cap Util	28,080	59.7	96.3
Groundline	28,080	59.7	96.3
GL Allowable	47,435		

Guy System Component Summary				Load From Worst Wind Angle on Pole		Individual Maximum Load	
Description	Lead Length (ft)	Lead Angle (deg)	Height (ft)	Nominal Capacity (%)	Wind Angle (deg)	Max Load Capacity (%)	Wind Angle (deg)
1 1/4" X 10' Galv w/Tripleye	6.0	180.0		81.6	96.3	85.8	40.0
EHS 3/8 (Down)			25.1	73.7	96.3	77.6	40.0
EHS 3/8 (Down)			23.9	74.6	96.3	78.4	40.0
			System Capacity Summary:	Adequate		Adequate	

GenericEquipment		Owner	Height (ft)	Hortz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Cylinder	48" Amphenol Antenna W/ Pole Mount	PROP CC	46.00	1.43	309.0	0.0	40.00	48.00	--	14.60	--	-2	1,438	1,436
Box	RRUS Bracket Kit W/ 2 RRUS-32	PROP CC	14.63	21.58	129.0	0.0	10.00	39.00	24.81	--	21.27	6	956	963
Box	RRUS Bracket Kit RRUS-11	PROP CC	11.74	12.95	129.0	0.0	10.00	17.67	7.17	--	16.97	4	160	164
Box	WTR	PROP CC	10.00	12.77	129.0	0.0	15.00	12.00	6.59	--	12.00	6	74	79
Box	Disconnect	PROP CC	8.38	11.58	129.0	0.0	11.00	9.00	4.00	--	6.00	4	26	29
											Totals:	18	2,653	2,671

Insulator		Owner	Height (ft)	Hortz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Spool	Spool Insulator - 20 kV	PA	31.08	0.00	39.0	270.0	1.00	2.50	2.12	1	7	8
Bolt	Three Bolt Clamp	CATV	25.08	0.00	39.0	270.0	5.00	3.00	0.00	3	0	3
Bolt	Three Bolt Clamp	TELCO	23.92	0.00	39.0	270.0	5.00	3.00	0.00	3	0	3
									Totals:	7	7	14

Guy Wire and Brace		Owner	Attach Height (ft)	End Height (ft)	Lead/Span Length (ft)	Wire Diameter (in)	Percent Solid (%)	Lead Angle (deg)	Incline Angle (deg)	Wire Weight (lbs/ft)	Rest Length (ft)	Stretch Length (in)
EHS 3/8	Down	PA	25.08	0.00	6.00	0.375	75.00	219.0	76.3	0.273	25.69	0.92
EHS 3/8	Down	PA	23.92	0.00	6.00	0.375	75.00	219.0	75.6	0.273	24.55	0.89

Guy Wire and Brace (Loads and Reactions)		Elastic Modulus (psi)	Rated Tensile Strength (lbs)	Guy Strength Factor	Allowable Tension (lbs)	Initial Tension (lbs)	Loaded Tension*² (lbs)	Maximum Tension* (lbs)	Applied Tension* (lbs)	Vertical Load (lbs)	Shear Load In Guy Dir (lbs)	Shear Load At Report Angle (lbs)	Moment at GL* (ft-lb)
EHS 3/8	Down	2.30e+7	15,400	0.50	7,700	700	5,974	5,974	5,678	5,515	1,349	-1,282	-28,737
EHS 3/8	Down	2.30e+7	15,400	0.50	7,700	700	6,037	6,037	5,747	5,567	1,427	-1,335	-28,990
									Totals:	11,082	2,776	-2,596	-57,727

Anchor/Rod Load Summary	Owner	Rod Length AGL (in)	Lead Length (ft)	Lead Angle (deg)	Strength of Assembly (lbs)	Anchor/Rod Strength Factor	Allowable Load (lbs)	Max Load* (lbs)	Load at Pole MCU* (lbs)	Max Required Capacity*² (%)
1 1/4" X 10' Galv w/Tripleye	PA	0.00	6.00	180.0	28,000	0.50	14,000	12,010	11,425	85.8

Groundline Load Summary - Reporting Angle Mode: Load - Reporting Angle: 59.7°

	Shear Load* (lbs)	Applied Load (%)	Bending Moment (ft-lb)	Applied Moment (%)	Pole Capacity (%)	Bending Stress (+/- psi)	Vertical Load (lbs)	Vertical Stress (psi)	Total Stress (psi)	Pole Capacity (%)
Powers	602	41.8	13,747	49.0	29.0	788	7	0	788	39.4
Comms	2,809	195.1	50,589	180.2	106.7	2,902	5	0	2,901	145.1
GuyBraces	-2,358	-163.8	-42,437	-151.1	-89.5	-2,434	11,152	70	-2,364	-118.2
GenericEquipments	121	8.4	1,963	7.0	4.1	113	86	1	113	5.7
Pole	266	18.5	4,207	15.0	8.9	241	1,897	12	253	12.7
Insulators	0	0.0	10	0.0	0.0	1	11	0	1	0.0
Pole Load	1,439	100.0	28,080	100.0	59.2	1,611	13,158	82	1,693	84.6
Pole Reserve Capacity			19,355		40.8	390			307	15.4

Load Summary by Owner - Reporting Angle Mode: Load - Reporting Angle: 59.7°

	Shear Load* (lbs)	Applied Load (%)	Bending Moment (ft-lb)	Applied Moment (%)	Pole Capacity (%)	Bending Stress (+/- psi)	Vertical Load (lbs)	Vertical Stress (psi)	Total Stress (psi)	Pole Capacity (%)
PA	-1,490	-103.5	-24,477	-87.2	-51.6	-1,404	13,057	82	-1,322	-66.1
CATV	1,404	97.6	25,899	92.2	54.6	1,485	8	0	1,485	74.3
TELCO	1,404	97.6	24,894	87.9	52.1	1,416	8	0	1,416	70.8
PROP CC	121	8.4	1,963	7.0	4.1	113	86	1	113	5.7
Totals:	1,439	100.0	28,080	100.0	59.2	1,611	13,158	82	1,693	84.6

Detailed Load Components:

Power		Owner	Height (ft)	Horiz. Offset (in)	Cable Diameter (in)	Sag at Max Temp (ft)	Cable Weight (lbs/ft)	Lead/Span Length (ft)	Span Angle (deg)	Wire Length (ft)	Tension (lbs)	Tension Moment* (ft-lb)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Secondary	#9 SSC CU	PA	31.08	7.36	0.5800	0.65	0.275	50.0	39.0	50.0	640	18,606	4	89	18,700
											Totals:	18,606	4	89	18,700

Comm		Owner	Height (ft)	Horiz. Offset (in)	Cable Diameter (in)	Sag at Max Temp (ft)	Cable Weight (lbs/ft)	Lead/Span Length (ft)	Span Angle (deg)	Wire Length (ft)	Tension (lbs)	Tension Moment* (ft-lb)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Overlashed Bundle	6.6M Strand	CATV	25.08	8.00	0.2500	0.04	0.104	50.0	39.0	50.0	1,500	35,191	2	35	35,227
Overlashed Bundle	6M	TELCO	23.92	8.07	0.2420	0.04	0.104	50.0	39.0	50.0	1,500	33,555	2	32	33,588
											Totals:	68,745	3	67	68,816

Pole Buckling

Buckling Constant	Buckling Column Height* (ft)	Buckling Section Height (% Buckling Col. Hgt.)	Buckling Section Diameter (in)	Minimum Buckling Diameter at GL (in)	Diameter at Tip (in)	Diameter at GL (in)	Modulus of Elasticity (psi)	Pole Density (pcf)	Ice Density (pcf)	Pole Tip Height (ft)	Buckling Load Capacity at Height (lbs)	Buckling Load Applied at Height (lbs)	Buckling Load Factor of Safety
0.71	23.77	33.26	13.23	22.70	8.60	14.27	1.60e+6	60.00	57.00	43.50	145,558	1462.02	11.11

SF PALO ALTO 035m2
PALO ALTO

CROWN CASTLE PROJECT NO.
VZW366241CA

CLIENT:
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695 RIVER OAKS PARKWAY
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REVISION / ISSUE	DATE

REGISTERED PROFESSIONAL ENGINEER
JERRY L. MICHAL
No. C42590
Exp.03-31-20
CIVIL
STATE OF CALIFORNIA

SITE NAME & ADDRESS:
ACROSS FROM 102 KINGSLEY AVE ON ALMA ST
PALO ALTO, CA

37.437892 / -122.155318

O'CALC

DRAWN BY:	DRAFT DATE:	APPROVED BY:
AGR	08/02/18	TT

SHEET NO.
OC-1

TRAFFIC CONTROL PLAN GENERAL NOTES:

1. WORK HOURS TO BE RESTRICTED TO _____ TO_____UNLESS APPROVED OTHERWISE.
2. PEDESTRIAN CONTROLS WILL BE PROVIDED AS SHOWN.
3. PEDESTRIANS SHALL BE PROTECTED FROM ENTERING THE EXCAVATION BY PHYSICAL BARRIERS DESIGNED, INSTALLED, AND MAINTAINED TO THE SATISFACTION OF THE CITY ENGINEER.
4. TEMPORARY "NO PARKING/TOW AWAY" SIGNS STATING THE DATE AND TIME OF PROHIBITION WILL BE POSTED 72 HOURS PRIOR TO COMMENCING WORK. CALL POLICE DISPATCH TO VALIDATE POSTING.
5. ACCESS WILL BE MAINTAINED TO ALL DRIVEWAYS UNLESS OTHER ARRANGEMENTS ARE MADE.
6. TRENCHES MUST BE BACKFILLED OR PLATED DURING NON-WORKING HOURS UNLESS K-RAIL BARRIERS ARE PROVIDED. K-RAIL IS APPROVED ONLY WHEN SPECIFICALLY SHOWN ON THE APPROVED TRAFFIC CONTROL PLAN. PLATES SHALL HAVE CLEATS AND COLD MIX AT THE EDGES AS APPROVED BY THE INSPECTOR.
7. STRIPING WILL BE REPLACED BY THE CONTRACTOR WITHIN 24 HOURS, IF REMOVED OR DAMAGED.
8. WORK THAT DISTURBS NORMAL TRAFFIC SIGNAL TIMING OPERATIONS SHALL BE COORDINATED WITH THE CITY. CONTACT PUBLIC WORKS DEPARTMENT 72 HOURS PRIOR TO COMMENCING WORK.
9. TRAFFIC SIGNALS SHALL REMAIN FULLY ACTUATED AT ALL TIMES, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER OR HIS/HER REPRESENTATIVE. IF TRAFFIC SIGNAL LOOP DETECTORS ARE RENDERED INOPERATIVE BY THE PROPOSED WORK, VIDEO DETECTION SHALL BE USED TO PROVIDE ACTUATION.
10. FLAGGERS SHALL BE EQUIPPED WITH A WHITE HARD HAT, AN ORANGE VEST, AND A "STOP/SLOW" PADDLE ON A 5 FOOT STAFF.
11. ALL TRAFFIC CONTROL DEVICES MUST BE MAINTAINED 24 HOURS A DAY, 7 DAYS PER WEEK, BY THE CONTRACTOR.
12. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2014 EDITION.
13. TRAFFIC CONTROL PLAN SUBMITTALS ARE REQUIRED FOR EACH PHASE OF THE WORK IN THE DETAIL, FORMAT, AND QUALITY ILLUSTRATED ON THIS SHEET.
14. ALL TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM VIEW OR COVERED WHEN NOT IN USE.
15. THE CITY ENGINEER OR HIS/HER REPRESENTATIVE HAS THE AUTHORITY TO INITIATE FIELD CHANGES TO INSURE PUBLIC SAFETY.
16. ALL WORK AFFECTING BUS STOPS SHALL BE COORDINATED WITH CITY'S TRANSIT DISTRICT. CONTRACTOR SHALL CALL TRANSIT DISTRICT AT LEAST 72 HOURS IN ADVANCE OF STARTING WORK.
17. CHANGEABLE MESSAGE SIGNS SHALL BE USED IN ADVANCE OF TRAFFIC CONTROL ON MAJOR AND PRIME ARTERIALS, UNLESS OTHERWISE APPROVED. THESE SIGNS SHALL BE SHOWN ON THE TRAFFIC CONTROL PLAN.

SIGNAGE NOTES:

1. AT LEAST ONE PERSON SHALL BE ASSIGNED TO FULL TIME MAINTENANCE OF TRAFFIC CONTROL DEVICES ON ALL NIGHT LANE CLOSURES.
2. ALL WARNING SIGNS FOR NIGHT LANE CLOSURES SHALL BE ILLUMINATED OR REFLECTORIZED AS SPECIFIED IN THE SPECIFICATIONS.
3. ALL ADVANCE WARNING SIGN INSTALLATIONS SHALL BE EQUIPPED WITH FLAGS FOR DAYTIME CLOSURES OF ALL MAJOR AND PRIME ARTERIALS. FLASHING BEACONS SHALL BE USED DURING NIGHT LANE CLOSURES.
4. A G20-2 "END ROAD WORK" SIGN SHALL BE PLACED AT THE END OF THE LANE CLOSURE UNLESS THE END OF THE WORK AREA IS OBVIOUS, OR ENDS WITHIN A LARGER PROJECT LIMITS.
5. ALL CONES USED FOR NIGHT LANE CLOSURES SHALL BE ILLUMINATED TRAFFIC CONES OR FITTED WITH 13" REFLECTIVE SLEEVES.
6. FLASHING ARROW SIGNS SHALL BE USED PER CA MUTCD 2014 EDITION. SILENT TYPE SHALL BE USED IN RESIDENTIAL AREAS.
7. THE MAXIMUM SPACING BETWEEN CONES SHALL BE THE WORK AREA'S SPEED LIMIT.
8. ADDITIONAL ADVANCE FLAGGERS SHALL BE REQUIRED WHEN TRAFFIC QUEUES DEVELOP. FLAGGER STATIONS FOR WORK AT NIGHT SHALL BE ILLUMINATED AS NOTED IN SECTION 6G.20 OF THE MUTCD.
9. ALL REQUIRED SIGNS THAT ARE TO BE LEFT IN PLACE OVER A WEEKEND OR HOLIDAY SHALL BE POST MOUNTED.
10. CONSTRUCTION AREA TRAFFIC CONTROL DEVICES SHALL MEET THE PROVISIONS OF 2014 CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

SIGN LEGEND

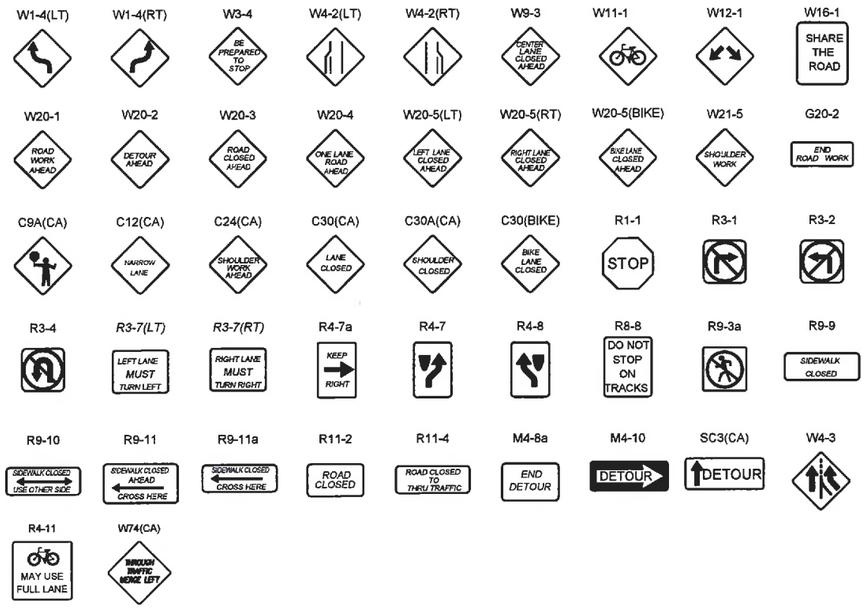


Table 6C-1. Recommended Advance Warning Sign Minimum Spacing

Road Type	Distance Between Signs*		
	A	B	C
Urban (low speed) – 25 mph or less	100 ft	100 ft	100 ft
Urban (high speed) – more than 25 mph to 40 mph	250 ft	250 ft	250 ft
Urban (high speed) – more than 40 mph	350 ft	350 ft	350 ft
Rural	500 ft	500 ft	500 ft
Expressway / Freeway	1,000 ft	1,000 ft	1,000 ft

* Speed category to be determined by the highway agency.
** The column headings A,B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The "first sign" is the sign in a three-sign series that is closest to the TTC zone. The "third sign is the sign that is furthest upstream from the TTC zone.)

LEGEND

→	DIRECTION OF TRAVEL	Y	FLAG TREE
⇒	PAVEMENT ARROW	>>>	FLASHING ARROW BOARD
▮	PORTABLE SIGN	TS	TRAFFIC SIGNAL
●	TRAFFIC CONE / DELINEATOR	═	K-RAIL (TYPE 50 CONCRETE BARRIER)
I	TYPE II BARRICADE	CMS	CHANGEABLE MESSAGE SIGN
⊤	TYPE III BARRICADE	⚑	FLAGGER
▨	WORK AREA	D/W	DRIVEWAY

Table 6C-2. Stopping Sight Distance as a Function of Speed on Level Roads. (Used as suggested longitudinal buffer space length or location for flagger station)

Speed*	Distance
20 mph	115 feet
25 mph	155 feet
30 mph	200 feet
35 mph	250 feet
40 mph	305 feet
45 mph	360 feet
50 mph	425 feet
55 mph	495 feet
60 mph	570 feet
65 mph	645 feet
70 mph	730 feet
75 mph	820 feet

* Posted speed, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph.

Table 6C-3 (CA). Taper Length Criteria for Temporary Traffic Control Zones (for 12 feet Offset Width)

Speed* S (mph)	Minimum Taper Length** for Width of Offset 12 feet (w)			
	Merging L (feet)	Shifting L/2 (feet)	Shoulder L/3 (feet)	Down Stream (feet)**
20	80	40	27	50
25	125	63	42	50
30	180	90	60	50
35	245	123	82	50
40	320	160	107	50
45	540	270	180	50
50	600	300	200	50
55	660	330	220	50
60	720	360	240	50
65	780	390	260	50
70	840	420	280	50

* – Posted speed limit, off peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph.
** – For other offsets use the following merging taper length formula for L:
For speeds of 40 mph or less, $L=WS^2/60$
For speeds of 45 mph or more, $L=WS$
Where L = taper length in feet
W = width of offset in feet
S = posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph.
*** – Maximum downstream taper length is 100 feet. See Section 6C.08.



OWNER / DEVELOPER:
CROWN CASTLE
200 SPECTRUM CENTER DR, SUITE 1800
IRVINE, CA 92618

TRAFFIC CONTROL SHEET FOR:
ACROSS FROM 102 KINGSLEY AVE ON ALMA ST
37.437892 / -122.155318

CITY OF:
PALO ALTO

HUB ID:
VZW366241CA

PROJECT NUMBER:
SFPA035m2

PROJECT MANAGER:
JOHN GRIFFITHS

DIGALERT
1-800-227-2600
UNDERGROUND SERVICE ALERT
TICKET #_____

PLANS PREPARED BY:
Coastal Communications
Telecommunications Engineering
5841 EDISON PLACE, STE. 200
CARLSBAD, CA 92008
PH: (760) 929-0010
FX: (760) 929-0836

REVISIONS:

DATE:	COMPLETED BY:

DRAFTED BY: JJ — DATE: 07/31/18

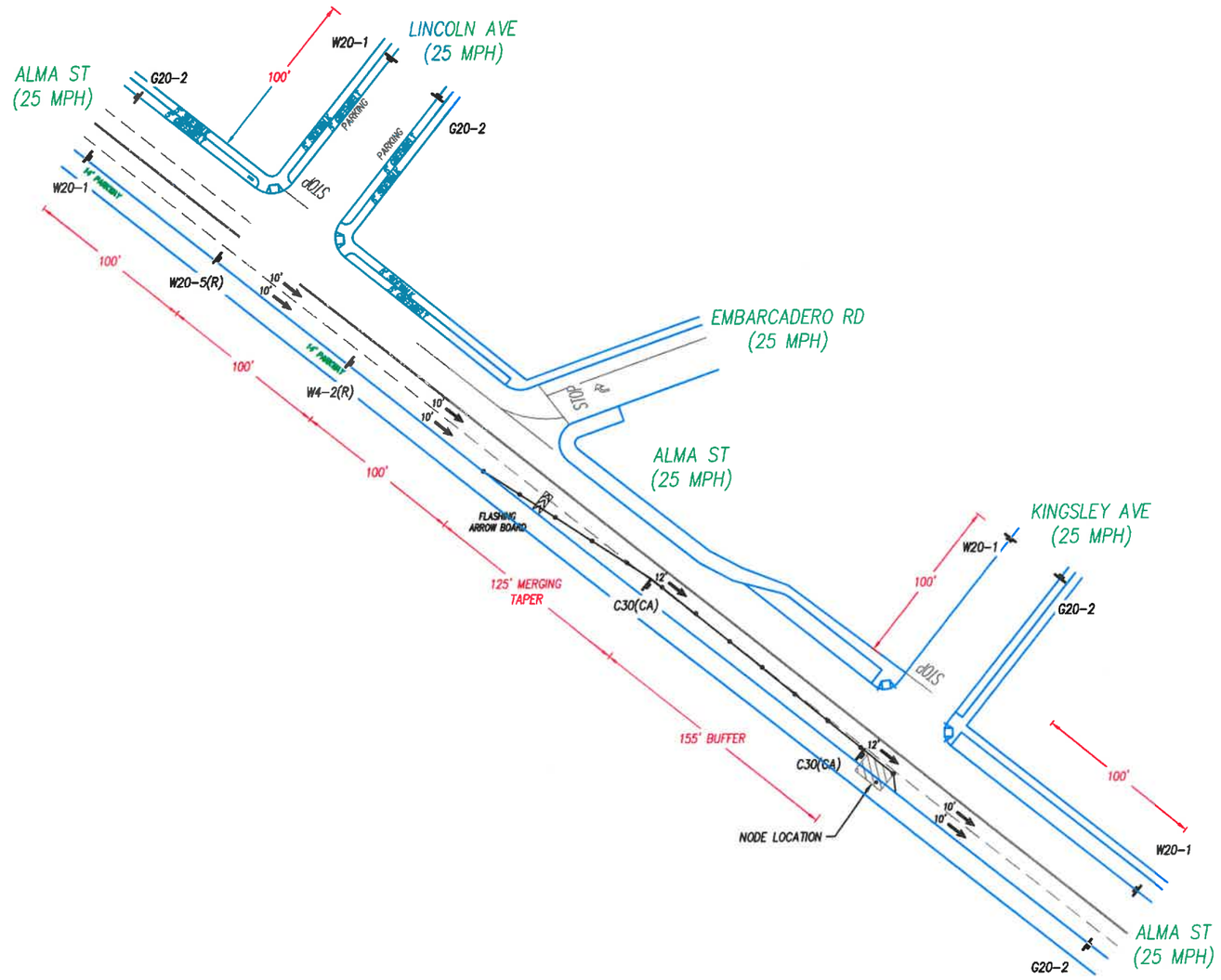
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FILE NAME:
VZW366241CA-SFPA035-SFO

SHEET NUMBER:
T01 OF T02

NOTES:

1. CONTRACTOR TO MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.
2. W20-1 & G20-2 SHALL BE PLACED ON AFFECTED CROSS STREETS ACCORDING TO THE SPEED LIMIT OF THE CROSS STREET.
3. CONTRACTOR SHALL ASSIST PEDESTRIANS THROUGH WORK AREA.



N.T.S.

REGISTERED PROFESSIONAL ENGINEER
JERRY L. WHITAL
C 42590
3-31-20
CIVIL
STATE OF CALIFORNIA

OWNER / DEVELOPER:
CROWN CASTLE
200 SPECTRUM CENTER DR, SUITE 1800
IRVINE, CA 92618

TRAFFIC CONTROL SHEET FOR:
ACROSS FROM 102 KINGSLEY AVE ON ALMA ST
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CITY OF:
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FX: (760) 929-0638

REVISIONS:

DATE:	COMPLETED BY:

DRAFTED BY:	DATE:
JJ	07/31/18

REVIEWED BY:	DATE:
CG	07/31/18

FILE NAME:
VZW366241CA-SFPA035-SFO

SHEET NUMBER:
T02 OF T02