

intelligent infrastructure

9CAB008063/SF90XSA51B LATITUDE/LONGITUDE: 37.821432/-122.270433

(E) 27'-0" STEEL LIGHT POLE

SITE ID/CASCADE ID-CANDIDATE LETTER: CROSS STREET: M.L.K. JR. WAY, S. OF 32ND ST. CITY, STATE, ZIP: OAKLAND, CA 94609



GENERAL NOTES

Attachment C

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OF EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS (N).

SITE INFORMATION						
SITE ID:	9CAB008063					
CASCADE ID:	SF90XSA51B					
LATITUDE:	37.821432					
LONGITUDE:	-122.270433					
CROSS STREET:	M.L.K. JR. WAY, S. OF 32ND ST.					
CITY, STATE, ZIP:	OAKLAND, CA 94609					
COUNTY:	ALAMEDA COUNTY					
JURISDICTION:	CITY OF OAKLAND					
PROPERTY OWNER:	PUBLIC RIGHT-OF-WAY					
APPLICANT:	MOBILITIE, LLC 2955 RED HILL AVENUE, STE. 200, COSTA MESA, CA 92626 APPLICANT: JAMES SINGLETON PHONE: 605-814-0584 EMAIL: JSingleton@mobilitie.com					

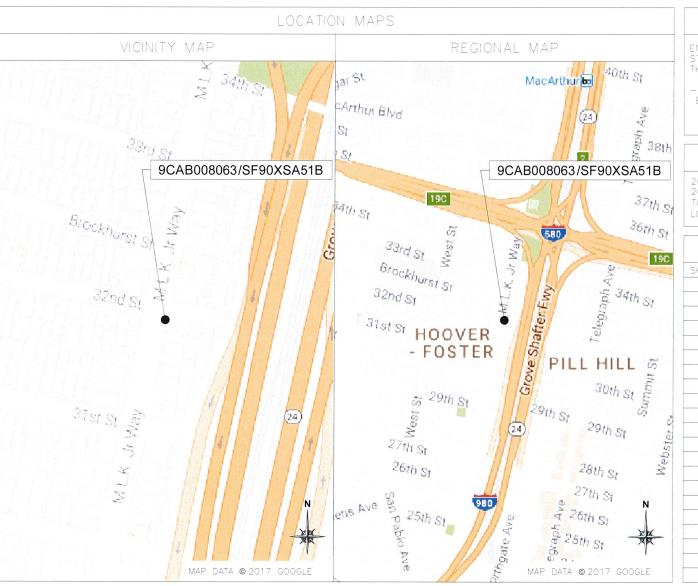
ENGINEER

CABLE ENGINEERING SERVICES 10640 SEPULVEDA BLVD. SUITE 1

JEREMY HARMON (818) 898-2352

DO NOT SCALE DRAWINGS

CONTRACTORS SHALL VERIFY ALL PLANS, (E) DIMENSIONS & FIELD CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



PROJECT DESCRIPTION

END USER PROPOSES TO INSTALL EQUIPMENT ON AN EXISTING STEEL POLE WITHIN AN EXISTING RIGHT—OF—WAY. THE SCOPE WILL CONSIST OF THE FOLLOWING:

- INSTALL PROPOSED SMALL SCALE WIRELESS EQUIPMENT ON AN EXISTING STEEL LIGHT POLE

2015 INTERNATIONAL BUILDING CODE 2017 NATIONAL ELECTRICAL CODE TIA/EIA-222-G-2 OR LATEST EDITION LOCAL BUILDING/PLANNING CODE

DRAWING INDEX

SHEET NO:	SHEET TITLE
T-1	TITLE SHEET
SP-1	EXHIBIT PHOTO & SITE PLAN
SP-2	OVERALL SITE PLAN
EV-1	POLE ELEVATIONS
EV-2	POLE ELEVATIONS
PL-1	PLUMBING & RISER DIAGRAM
EQ-1	EQUIPMENT DETAILS
EQ-2	EQUIPMENT DETAILS
E-1	ELECTRICAL DETAILS
G-1	GROUNDING DETAILS
GN-1	GENERAL NOTES
GN-2	GENERAL NOTES
GN-3	GENERAL NOTES
TC-1	TRAFFIC CONTROL PLAN





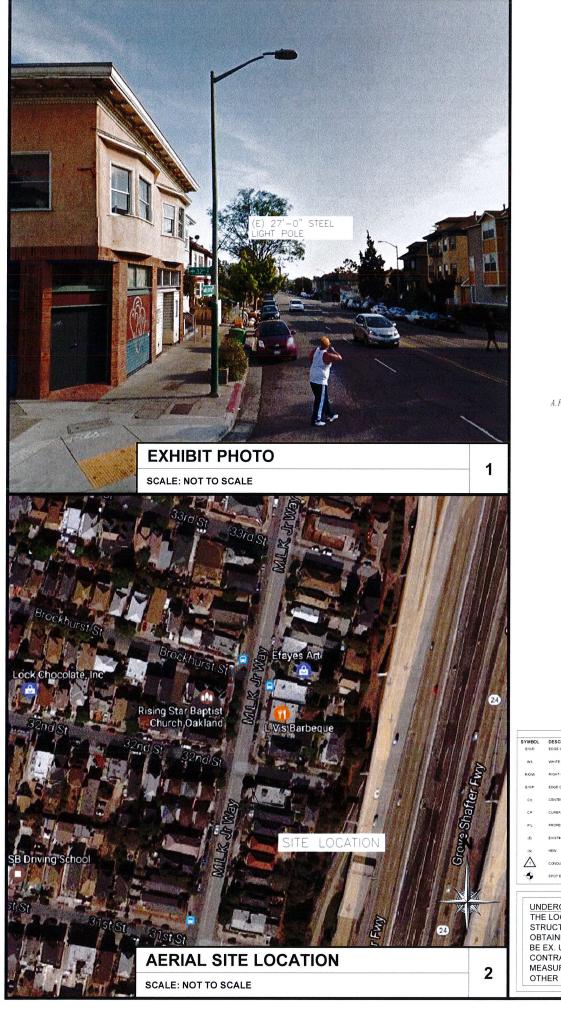
PROJECT NO:	9CAB008063
DRAWN BY:	JL
CHECKED BY:	JM

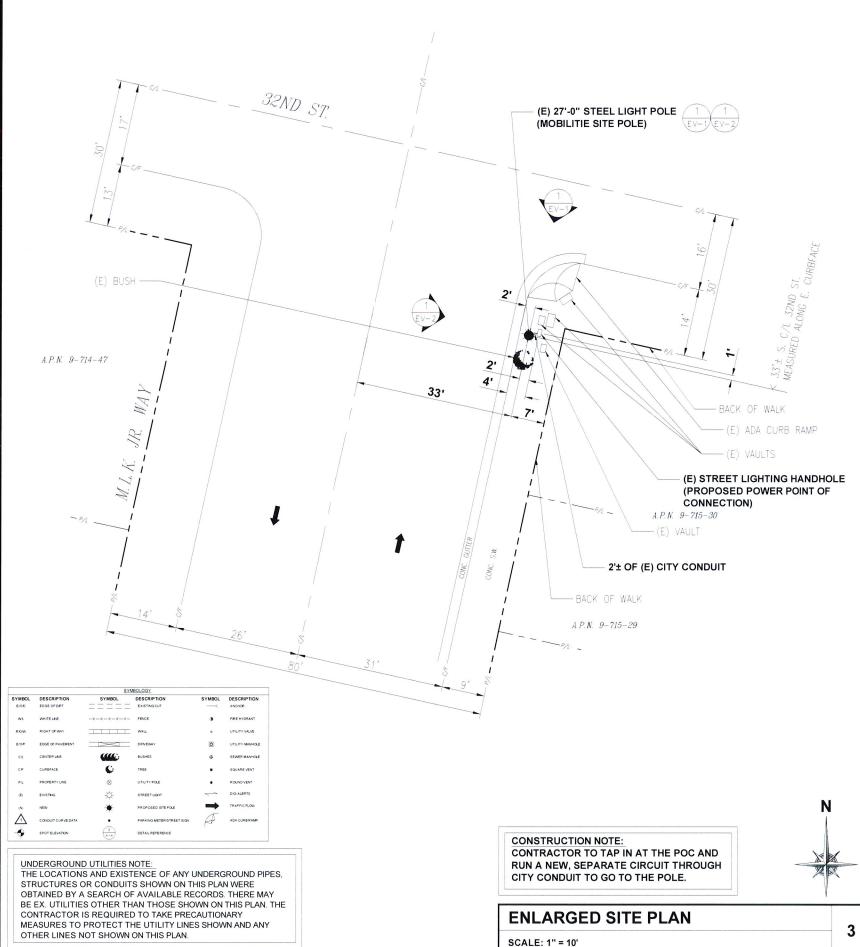
0	06/07/17	90% CONSTRUCTION					
1	09/26/17	REVISED PER PG&E STANDARDS					
2	11/16/17	PER CLIENT REVISED NOKIA CABINET A.G.L					
	-						

9CAB008063 OAKLAND, CA 94609 (E) 27'-0" STEEL LIGHT POLE

> SHEET TITLE TITLE SHEET

> > SHEET NUMBER T-1









PROJECT NO: 9CAB008063

DRAWN BY: JL

CHECKED BY:

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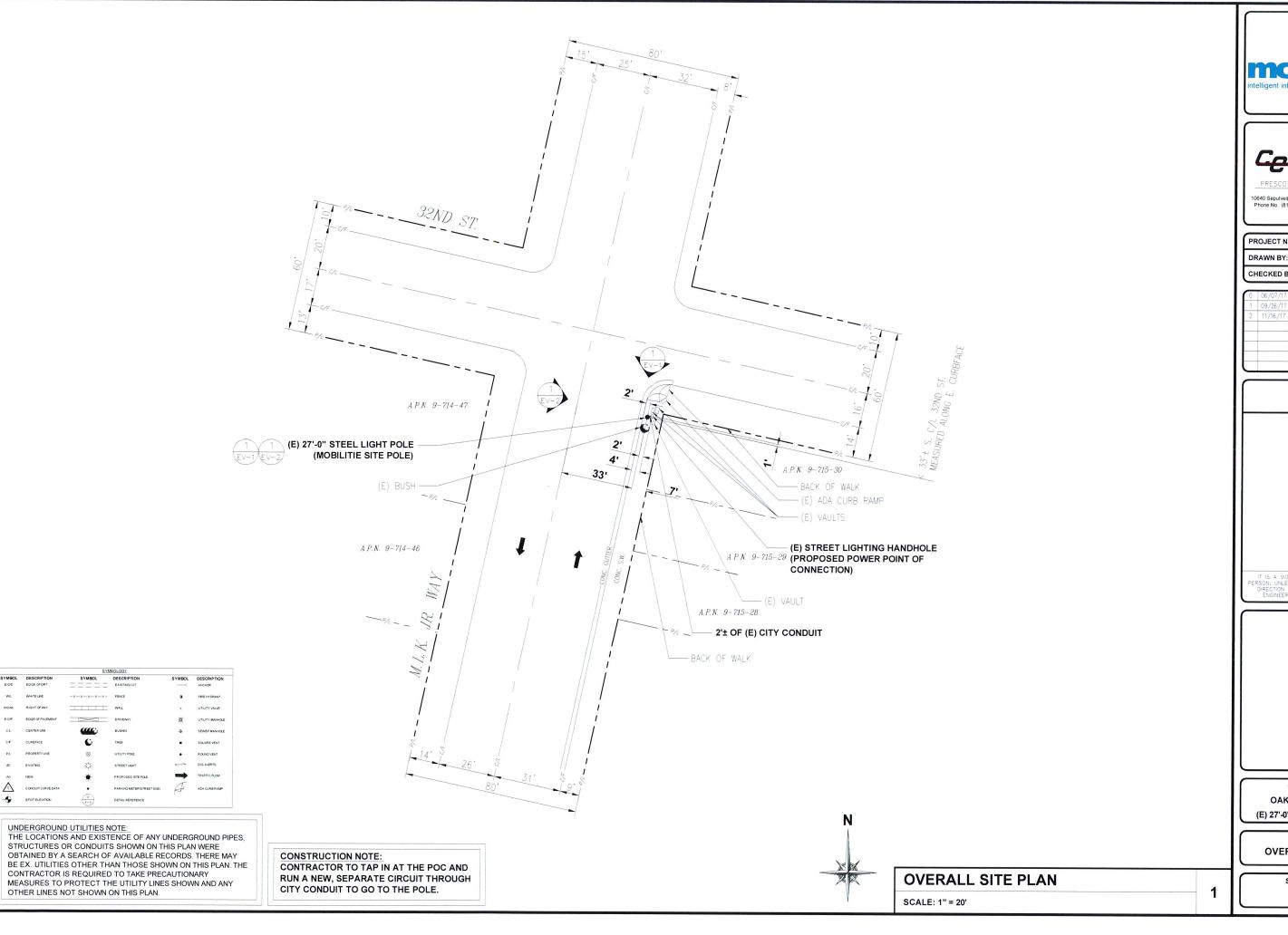
0 06/07/17 90% CONSTRUCTION
1 09/26/17 REVISED PER PG&E STANDARDS
2 111/16/17 PER CLIENT REVISED NOKIA CABINET A.G.L.

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9CAB008063 OAKLAND, CA 94609 (E) 27'-0" STEEL LIGHT POLE

SHEET TITLE
EXHIBIT PHOTO & SITE PLAN

SHEET NUMBER







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PROJECT NO:	9CAB008063
DRAWN BY:	JL
CHECKED BY:	JM

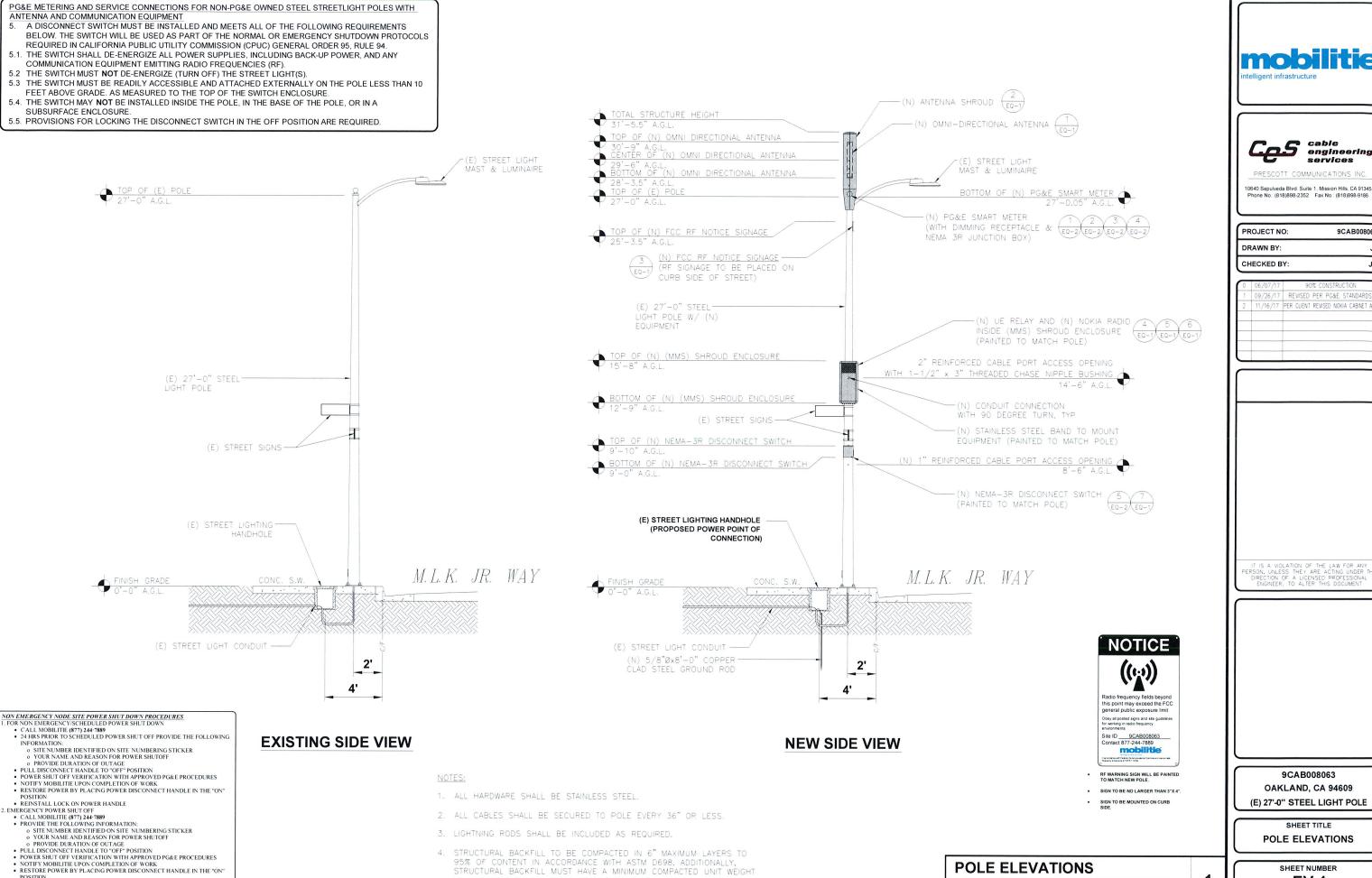
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9CAB008063 OAKLAND, CA 94609 (E) 27'-0" STEEL LIGHT POLE

SHEET TITLE
OVERALL SITE PLAN

SHEET NUMBER



95% OF CONTENT IN ACCORDANCE WITH ASTM D698. ADDITIONALLY, STRUCTURAL BACKFILL MUST HAVE A MINIMUM COMPACTED UNIT WEIGHT

OF 100 POUNDS PER CUBIC FOOT (16kN/m3)

POSITION

REINSTALL LOCK ON POWER HANDLE



PROJECT NO: 9CAB008063

JL

JM

CHECKED BY:

7 REVISED PER PG&E STANDARDS /16/17 PER CLIENT REVISED NOKIA CABINET A.G

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER TH DIRECTION OF A LIGENSED PROFESSIONAL

9CAB008063 OAKLAND, CA 94609 (E) 27'-0" STEEL LIGHT POLE

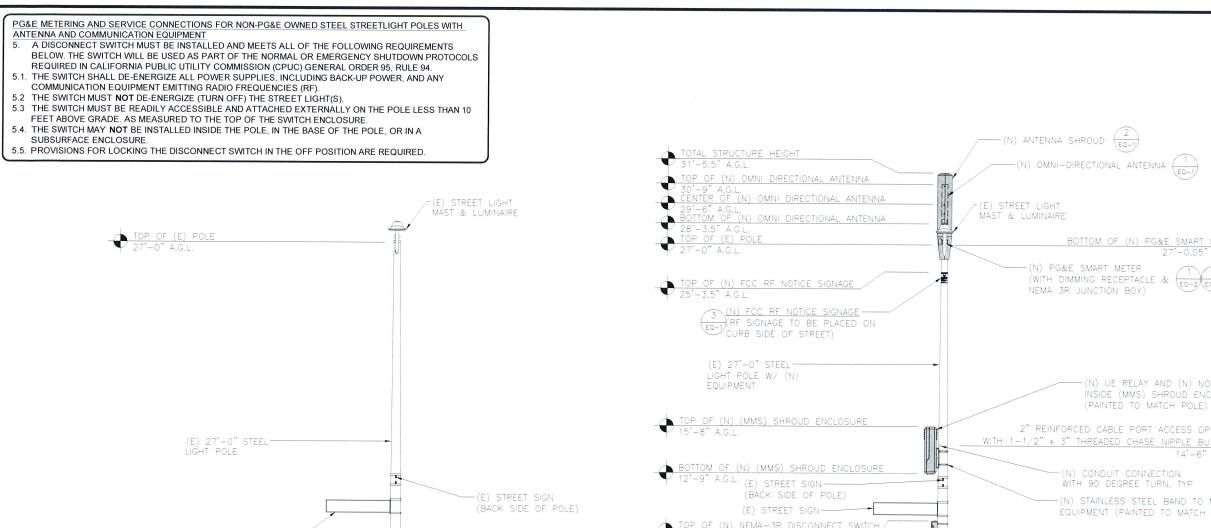
1

POLE ELEVATIONS

SCALE: 1" = 3"

POLE ELEVATIONS

SHEET NUMBER EV-1



1' this point may exceed the FCC general public exposure limit. Site ID: 9CAB008063 Contact 877-244-7889

- RF WARNING SIGN WILL BE PAINTED TO MATCH NEW POLE.

SIGN TO BE MOUNTED ON CURB

SHEET TITLE **POLE ELEVATIONS**

9CAB008063

OAKLAND, CA 94609

(E) 27'-0" STEEL LIGHT POLE

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER TO DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

Cos cable engine

PROJECT NO:

CHECKED BY:

DRAWN BY

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REVISED PER PG&E STANDARD 1/16/17 PER CLIENT REVISED NOKIA CABINET A.G

engineering services

9CAB008063

JL

JM

SHEET NUMBER EV-2



1'

NON EMERGENCY NODE SITE POWER SHUT DOWN PROCEDURES 1. FOR NON EMERGENCY/SCHEDULED POWER SHUT DOWN CALL MOBILITIE (877) 244:7889 24 HRS PRIOR TO SCHEDULED POWER SHUT OFF PROVIDE THE FOLLOWING

24 HRS PRIOR TO SCHEDULED POWER SHUT OFF PROVIDE THE FOLLOWI INFORMATION:
 SITE NUMBER IDENTIFIED ON SITE NUMBERING STICKER
 YOUR NAME AND REASON FOR POWER SHUTOFF
 PROVIDE DURATION OF OUTAGE
 PULL DISCONNECT HANDLE TO "OFF" POSITION
 POWER SHUT OFF VERIFICATION WITH APPROVED PG&E PROCEDURES
 NOTIES MOBILITIE LODG COMDITION OF WORK

FINISH GRADE 0'-0" A.G.L.

(E) STREET LIGHT CONDUIT -

(E) STREET SIGN-

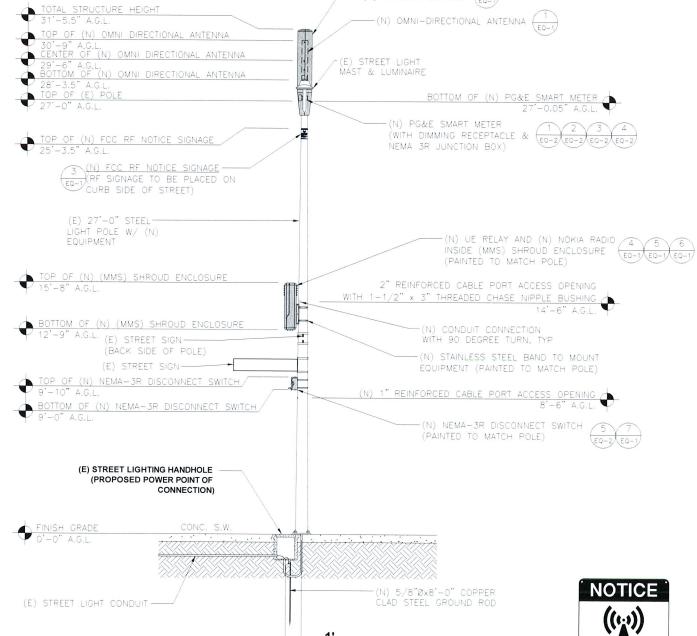
HANDHOLE

- NOTIFY MOBILITIE UPON COMPLETION OF WORK
- RESTORE POWER BY PLACING POWER DISCONNECT HANDLE IN THE "ON"
- POSITION REINSTALL LOCK ON POWER HANDLE

- o YOUR NAME AND REASON FOR POWER SHUTOFF
- o PROVIDE DURATION OF OUTAGE
- PROVIDE DURATION OF COLLAGE.
 PULL DISCONNECT HANDLE TO "OFF" POSITION
 POWER SHUT OFF VERIFICATION WITH APPROVED PG&E PROCEDURES.
- NOTIFY MOBILITIE UPON COMPLETION OF WORK
 RESTORE POWER BY PLACING POWER DISCONNECT HANDLE IN THE "ON"
- REINSTALL LOCK ON POWER HANDLE

NOTES:

- 1. ALL HARDWARE SHALL BE STAINLESS STEEL.
- 2. ALL CABLES SHALL BE SECURED TO POLE EVERY 36" OR LESS.
- 3. LIGHTNING RODS SHALL BE INCLUDED AS REQUIRED.
- 4. STRUCTURAL BACKFILL TO BE COMPACTED IN 6" MAXIMUM LAYERS TO 95% OF CONTENT IN ACCORDANCE WITH ASTM D698. ADDITIONALLY, STRUCTURAL BACKFILL MUST HAVE A MINIMUM COMPACTED UNIT WEIGHT OF 100 POUNDS PER CUBIC FOOT (16kN/m3)



NEW FRONT VIEW

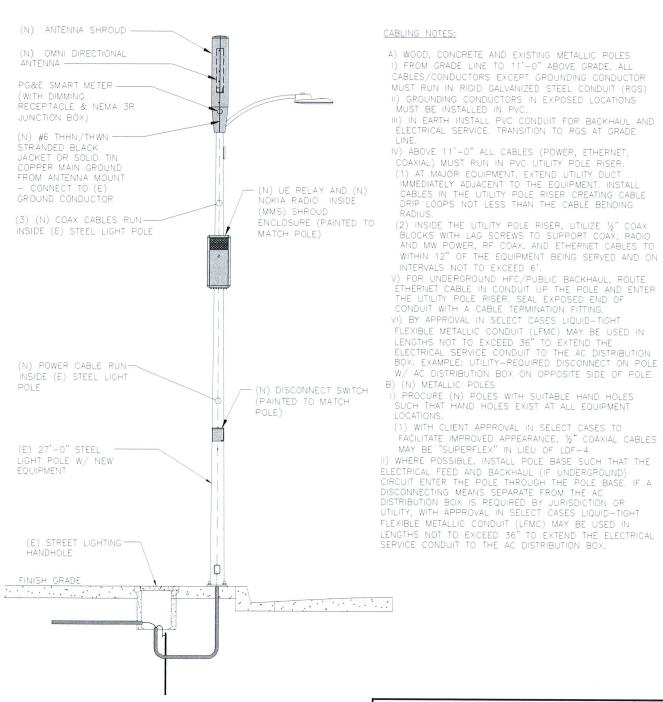
SIGN TO BE NO LARGER THAN 3"X 4

POLE ELEVATIONS

SCALE: 1" = 3"

1

CABLING DIAGRAM IS FOR CLARITY OF CABLE ROUTE AND TERMINATION ONLY. CONTRACTOR SHALL INSTALL CABLES WITH MINIMAL VISUAL IMPACT ON (E) STEEL LIGHT POLE. SEE ELEVATION DRAWING FOR EQUIPMENT AND ANTENNA LOCATIONS.



	EQUIPMENT CHART			
QTY.	DESCRIPTION	DIMENSIONS	WEIGHT 7 LBS	
1	ANTENNA MODEL #AW3477-S1-G (OMNI DIRECTIONAL ANTENNA)	29.5" × 4.5"ø		
1	CONCEALFAB ANTENNA SHROUD	47.375" x 17" x 10.75"Ø	16.11 LBS	
1	(MMS) SHROUD ENCLOSURE	35" x 15.5" x 9"	12 LBS	
1	AIRSPAN IR460 (UE RELAY)	13" × 7"Ø	8.8 LBS	
1	NOKIA RADIO (B41 FWHR) HIGH POWER	7.7" x 12.9" x 6.3"	24.64 LBS	
3	FANS (2 SMALL, 1 LARGER)		2.76 LBS	
1	SMART METER	2.67" x 4.5"Ø	_	
1	RECEPTACLE	_	_	
1	ALLEN-BRADLEY NEMA 3R JUNCTION BOX	4.53" × 2.58" × 2.17"	-	
1	SIEMENS DISCONNECT SWITCH MODEL #GNF321 NEMA-3R	9.9" X 8.8" X 4.5"	5 LBS.	
	TOTAL WEIGHT		76.31 LBS	

EQUIPMENT CHART

SCALE: NOT TO SCALE



PROJECT NO 9CAB008063 DRAWN BY JL JM CHECKED BY:

2

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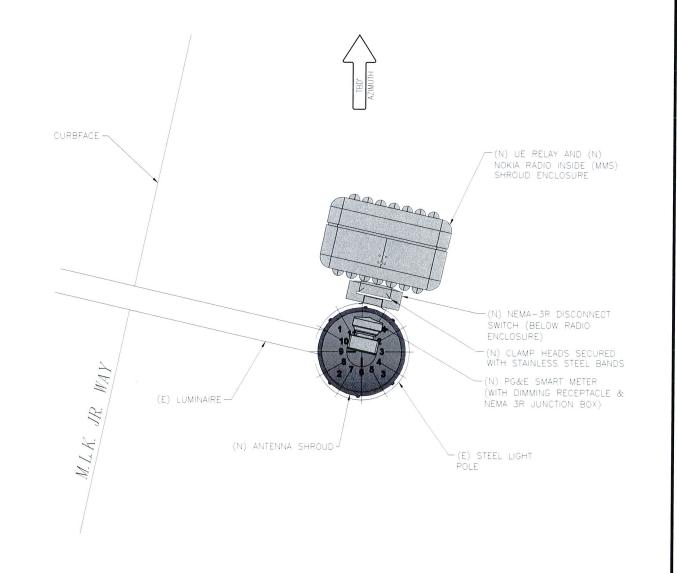
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9CAB008063 OAKLAND, CA 94609 (E) 27'-0" STEEL LIGHT POLE

SHEET TITLE PLUMBING & RISER DIAGRAM

> SHEET NUMBER PL-1



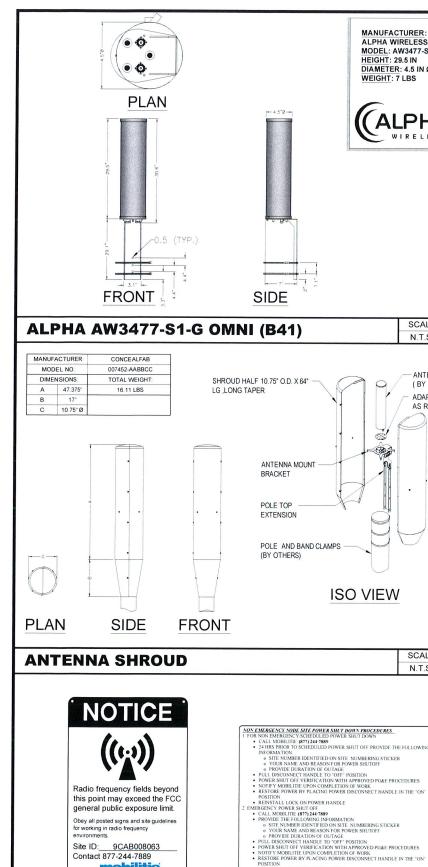
PLUMBING DIAGRAM

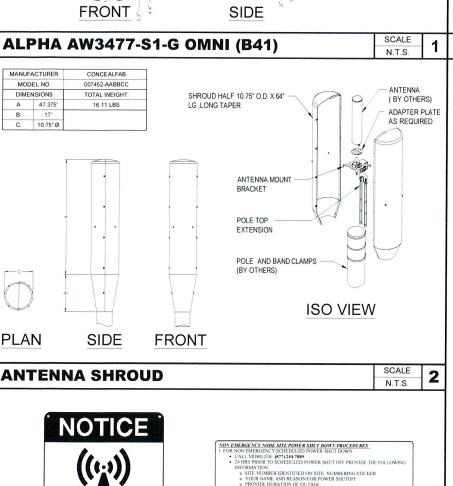
SCALE: NOT TO SCALE

SCALE: NOT TO SCALE

RISER DIAGRAM

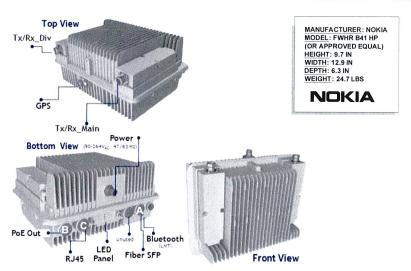
3







PORT ACCESS OPENING WITH 1-1/2" x 3" THREADED CHASE NIPPLE BUSHING -









FRONT

Ear-Lokt Buckle

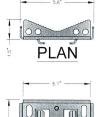
- Use G43099 Band

D51089

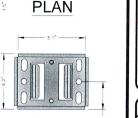












SCALE

N.T.S.

SCALE

N.T.S.

FRONT

PROJECT NO: 9CAB008063

1	DRAWN BY:	JL
	CHECKED BY:	JM
1		

CeS cable engine

engineering

6			
O	0	06/07/17	90% CONSTRUCTION
_	1	09/26/17	REVISED PER PG&E STANDARDS
	2	11/16/17	PER CLIENT REVISED NOKIA CABINET A.G.L.
	_	THE RESERVE AND ADDRESS OF	

iR460 UE RELAY/FLUSH MOUNT

BACK



- Use G43099 Band - Use G43299 Band - Use D50089 Bolt Clamp - Use D50489 Bolt Clamp

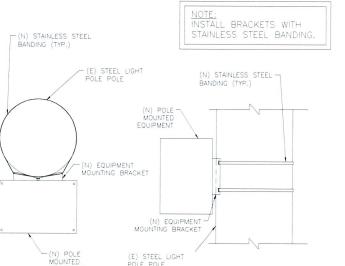


SIDE VIEW

Use double wrapped band clamp applied with G40269 tool for maximum strength and holding power.

D51289, D51389

- Use G43299 Band



TOP VIEW

SHEET TITLE

SHEET NUMBER

STAINLESS STEEL BANDS

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EQUIPMENT DETAILS

EQ-1



SCALE

N.T.S.

TOP VIEW

FRONT VIEW

SHUT DOWN PROCEDURE SIGN

MANUFACTURER

HEIGHT: 29.5 IN

WEIGHT: 7 LBS

MODEL: AW3477-S1-G

DIAMETER: 4.5 IN Ø

ALPHA WIRELESS

WEIGHT: 12 LBS

SIDE VIEW

elelelele

ANTENNA RF SIGNAGE

Site ID: 9CAB008063

. RF WARNING SIGN WILL BE PAINTED

SIGN TO BE NO LARGER THAN 3"X 4".

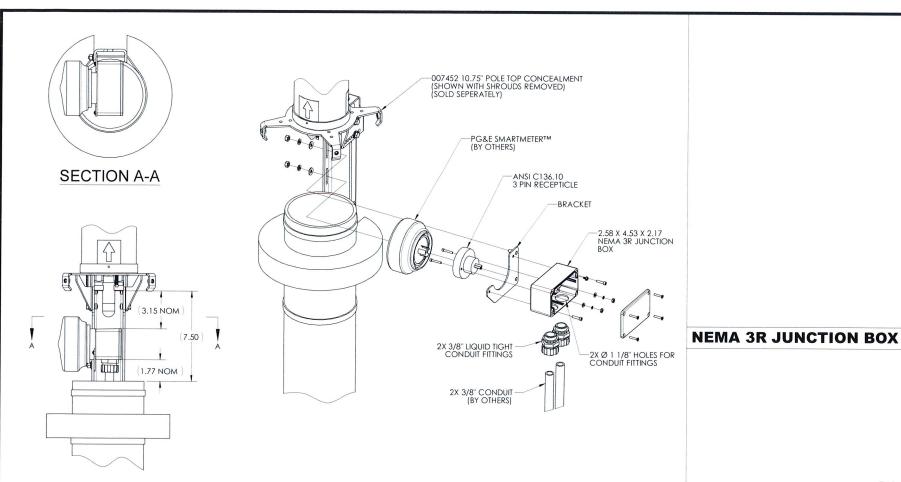
SIGN TO BE MOUNTED ON CURB SIDE.

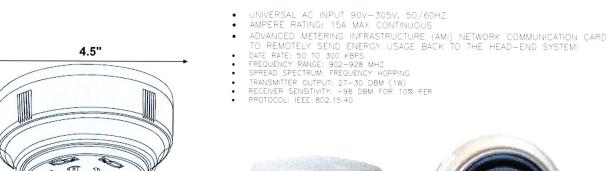
Contact 877-244-7889 mobilitie

SCALE 8 N.T.S.

POLE MOUNTED SIGNS (MMS) SHROUD ENCLOSURE **EQUIPMENT MOUNTING DETAIL**

BACK VIEW









MANUFACTURER ALLEN-BRADLEY MODEL: 598-BS533 HEIGHT: 4.53 IN WIDTH: 2.58 IN DEPTH: 2.17 IN WEIGHT: TBD

Rockwell Automation

Allen-Bradley





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N.T.S. 09/26/17 REVISED PER POWE STANDARDS 11/16/17 PER CLIENT REVISED NOKIA CABINET A.G.

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3-Pin Receptacle Receptacle Enclosure (Top View) To Customer (Load) Red Wire To Utility (Line) Neutral - White Wire Neutral - White Wire

PLAN

MANUFACTURER: SIEMENS MODEL: GNF321R (OR APPROVED EQUAL) HEIGHT: 9.9 IN WIDTH: 8.8 IN DEPTH: 4.5 IN WEIGHT: 5 LBS

SIEMENS

SCALE

N.T.S.

4

SEE DETAIL



9CAB008063 OAKLAND, CA 94609 (E) 27'-0" STEEL LIGHT POLE

SHEET TITLE **EQUIPMENT DETAILS**

> SHEET NUMBER EQ-2

SIDE

PG&E SMART METER

3.14"

PG&E SMART METER

2.67

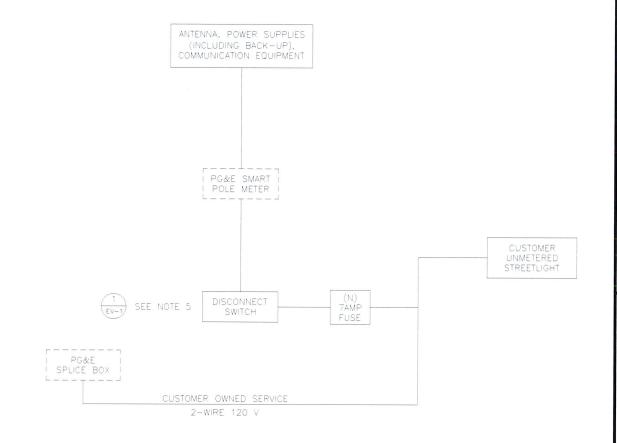
SCALE 1

N.T.S.

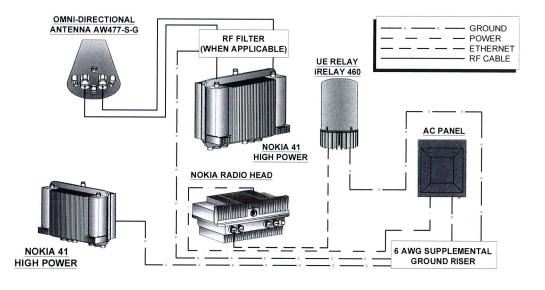
SCALE N.T.S. 2 NEMA-3R DISCONNECT SWITCH

DIMMING RECEPTACLE

FRONT



NOKIA MM RADIO W/ UE RELAY





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WIRING DIAGRAM

SCALE: NOT TO SCALE

2

- . NOMINAL POWER IS CALCULATED AS 80% OF OEM DOCUMENTED MAXIMUM POWER.
- 2. CALCULATIONS FOR UE W/ NOKIA DO NOT NEED TO INCLUDE THE POWER FOR THE UE ANTENNA AS IT IS INCLUDED IN THE MAX POWER FIGURE. CALCULATIONS FOR UE W/ AIRSPAN MUST INCLUDE UE AS IT IS NOT INCLUDED

 3. KVA IS CALCULATED FROM THE CONSUMPTION VALUE ASSUMING A PF=1, MAXIMUM POWER WAS USED FOR KVA. WHERE MAXIMUM WAS NOTED BY THE OEM THE QUOTED FIGURE WAS USED. WHERE AVERAGE/NOMINAL POWER WAS NOTED BY THE OEM MAXIMUM POWER WAS CALCULATED BY INCREASING AVERAGE/NOMINAL POWER BY A FACTOR OF 50%
- 4. COST PER KW PROVIDED BY BRAIN KOOYMAN

NOKIA SCENARIO 3	B41 HIGH POWER RAD	DIO AND	UE BACK	HAUL					
		MAX	NOMINAL	AVERAGE	CONS.				
UNIT	SUB DESCRIPTION	POWER	POWER	POWER (W)	(W)	KVA	KWH/YR	\$/YR	\$/MO
FWHR	B41 High	360	288	N/A	288	0.36	2522.88	\$276.51	\$23.04
AIRSPAN UE RELAY	IR460-SPB-ST1-P-0	N/A	N/A	N/A	0	0	0	\$-	\$-
TOTAL					288	0.36	2522.88	\$276.51	\$23.04

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9CAB008063 OAKLAND, CA 94609 (E) 27'-0" STEEL LIGHT POLE

SHEET TITLE **ELECTRICAL DETAILS**

LOAD CALCULATIONS

SCALE: NOT TO SCALE

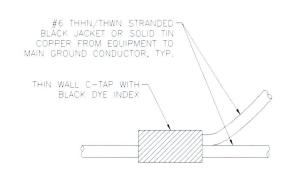
3

SHEET NUMBER E-1

ONE-LINE DIAGRAM

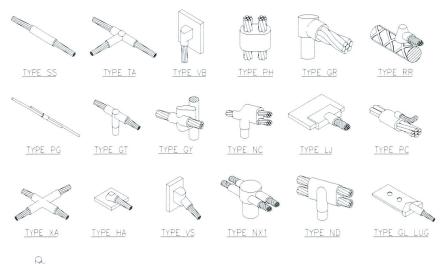
SCALE: NOT TO SCALE





C-TAP DETAIL

SCALE: NOT TO SCALE



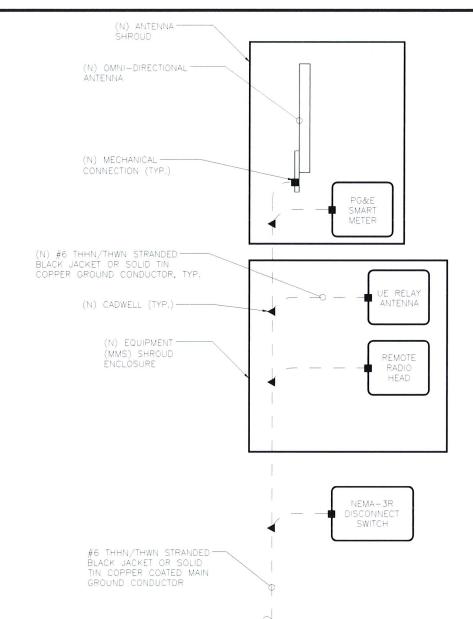


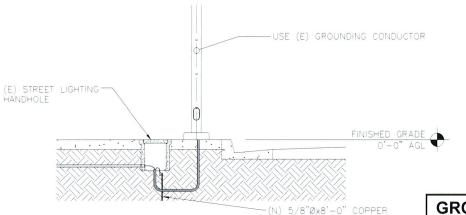
- GROUNDING BONDS: ALL BONDS ARE TO BE MADE WITH #2 AWG STRANDED COPPER IN GREEN INSULATION. (ATT-TP-76416 7, 6.7)
- EXTERIOR UNIT BONDS: ALL METALLIC OBJECTS SHALL BE BONDED TO THE GROUND ROD.
- 3. <u>Ground rod</u>: ul listed copper clad steel ground rod with minimum diameter of 5/8" and minimum length of 8 feet. All ground rods may be installed with inspection SLEEVES. GROUND RODS SHALL BE DRIVEN TO A MINIMUM DEPTH OF 30" BELOW GRADE OR 6 INCHES BELOW FROST LINE. (ATT-TP-76416 1.4 / 2.2, 3, 10)

WELD CONNECTION DETAILS

2

SCALE: NOT TO SCALE





CADWELD GROUND WIRE MECHANICAL GROUND COPPER GROUND BAR (GB) %"x 8' COPPER CLAD Steel ground rod GROUNDING SYMBOLS

NOTES:

- 1. GROUNDING RISER FOR DIAGRAMMATIC PURPOSES ONLY. SEE ELEVATION DRAWING FOR EQUIPMENT AND ANTENNA LOCATIONS. 2. ALL RGS TO BE GROUNDED AT BOTH ENDS
- 3. GROUND WIRE BELOW 11' AGL TO BE RUN

IN 1/2" SCHEDULE 40 PVC





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9CAB008063

DRAWN BY CHECKED BY: JM

PROJECT NO:

09/26/17 REVISED PER PG&E STANDARDS 11/16/17 PER CLIENT REVISED NOKIA CABINET A.G

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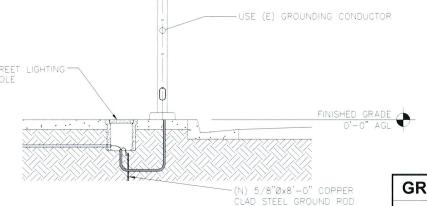
9CAB008063 OAKLAND, CA 94609 (E) 27'-0" STEEL LIGHT POLE

SHEET TITLE **GROUNDING DETAILS**

SHEET NUMBER

G-1

3



GROUNDING RISER DIAGRAM

SCALE: NOT TO SCALE

- GENERAL CONSTRUCTION NOTES:

 1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LOCAL BUILDING CODE, THE LATEST ADOPTED EDITION AND ALL OTHER APPLICABLE CODES AND ORDINANCES.
- 2. CONTRACTOR SHALL CONSTRUCT SITE IN ACCORDANCE WITH THESE DRAWINGS AND LATEST MOBILITIE CONSTRUCTION STANDARDS. THE SPECIFICATION IS THE RULING DOCUMENT AND ANY DISCREPANCIES BETWEEN THE SPECIFICATION AND THE CONSTRUCTION DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER OR MOBILITIE CM PRIOR TO THE COMMENCEMENT OF WORK.
- 3. CONTRACTOR SHALL VISIT THE JOB SITE AND SHALL FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE (N) WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED, AS SHOWN, PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER OR MOBILITIE CM PRIOR TO THE COMMENCEMENT OF WORK, NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OF FIELD CONDITIONS.
- 4. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. CONTRACTOR IS REQUIRED TO FURNISH AND INSTALL ANY/ALL ITEMS FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM SUBJECT ONLY TO OWNER-SUPPLIED ITEMS. CONTRACTOR SHALL PROVIDE ANY/ALL REQUIREMENTS FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
- 5. PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT AND APPURTENANCES, AND LABOR NECESSARY TO EFFECT ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

 OWNER PROVIDED MATERIALS WILL INCLUDE THOSE ITEMS LISTED IN THE

 EQUIPMENT DETAILS SECTION OF THESE DRAWING UNLESS OTHERWISE SPECIFIED

 OR PROVIDED TO THE CONTRACTOR IN WRITING PRIOR TO CONSTRUCTION START.
- 6. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, (E) CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING ANY DISCREPANCIES TO THE ATTENTION OF THE MOBILITIE CM, IN WRITING, PRIOR TO THE COMMENCEMENT OF WORK.
- 7. DETAILS PROVIDED ARE FOR THE PURPOSE OF SHOWING DESIGN INTENT.

 MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR SITE CONDITIONS,

 AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
- 8. CONTRACTOR SHALL PAY FOR APPLICABLE PERMITS, FEES, INSPECTIONS AND TESTING. CONTRACTOR IS TO OBTAIN PERMITS AND APPROVED SUBMITTALS PRIOR TO ORDERING MATERIALS AND THE COMMENCEMENT OF WORK.
- 9. THE TERM "PROVIDE" USED IN CONSTRUCTION DOCUMENTS AND SPECIFICATIONS. INDICATES THAT THE CONTRACTOR SHALL FURNISH AND INSTALL.
- 10. CONTRACTOR SHALL RECEIVE CLARIFICATION IN WRITING, AND SHALL RECEIVE IN WRITING AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEMS NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
- 11. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING ACCEPTED INDUSTRY-STANDARD SKILLS AND ATTENTION. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT, UNLESS OTHERWISE NOTED.
- 12. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS.
- 13. CONTRACTOR SHALL COORDINATE THEIR WORK WITH THE MOBILITIE CM AND SCHEDULE THEIR ACTIVITIES AND WORKING HOURS IN ACCORDANCE WITH THE REQUIREMENTS.

- 14. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THEIR WORK WITH THE WORK OF OTHERS AS IT MAY RELATE TO RADIO EQUIPMENT, ANTENNAS AND ANY OTHER PORTIONS OF THE WORK.
- 15. CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
- 16. CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT (E) SURFACES, EQUIPMENT, IMPROVEMENTS, PIPING ETC. AND IMMEDIATE REPAIR, TO NEW CONDITION, ANY DAMAGE THAT OCCURS DURING CONSTRUCTION AT THE SOLE COST OF THE CONTRACTOR.
- 17. IN DRILLING HOLES, OR CORING, INTO CONCRETE WHETHER FOR FASTENING OR ANCHORING PURPOSES, OR PENETRATIONS THROUGH THE FLOOR FOR CONDUIT RUNS, PIPE RUNS, ETC., MUST BE CLEARLY UNDERSTOOD THAT REINFORCING STEEL SHALL NOT BE DRILLED INTO, CUT OR DAMAGED UNDER ANY CIRCUMSTANCES (UNLESS NOTED OTHERWISE). LOCATIONS OF REINFORCING STEEL ARE NOT DEFINITELY KNOWN AND THEREFORE MUST BE LOCATED BY THE CONTRACTOR USING APPROPRIATE METHODS AND EQUIPMENT PRIOR TO ANY DRILLING OR CORING OPERATIONS IN (E) CONCRETE.
- 18. CONTRACTOR SHALL REPAIR, TO NEW CONDITION, ALL (E) WALL SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND IN WITH ADJACENT SURFACES.
- 19. CONTRACTOR SHALL SEAL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES OR MATERIALS WITH U.L. LISTED AND FIRE CODE APPROVED MATERIALS AND SYSTEMS THAT MEET OR EXCEED THE RATING OF THE ASSEMBLY IN WHICH THE NEW PENETRATION IS PLACED.
- 20. CONTRACTOR SHALL KEEP CONTRACT AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH. EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OF THE OWNER SHALL BE REMOVED. LEAVE PREMISES IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ITEMS UNTIL COMPLETION OF CONSTRUCTION.
- 21. MINIMUM BEND RADIUS OF ANTENNA CABLES SHALL BE IN ACCORDANCE WITH CABLE MANUFACTURERS RECOMMENDATIONS.
- 22. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO (E) SITE DURING CONSTRUCTION EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION SHALL BE IN CONFORMANCE WITH JURISDICTIONAL OR STATE AND LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL AND COORDINATED WITH LOCAL REGULATORY AUTHORITIES, CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ANY EROSION CONTROL MEASURES, RECORD-KEEPING, MONITORING, AND REPORTING TO THE OWNER AND REGULATORY AUTHORITIES.
- 23. ALL CONSTRUCTION WORK IS TO ADHERE TO APPLICANT'S INTEGRATED CONSTRUCTION STANDARDS UNLESS STATE OR LOCAL CODE IS MORE STRINGENT.
- 24. THE INTENT OF THE PLANS AND SPECIFICATIONS IS TO PERFORM THE CONSTRUCTION IN ACCORDANCE PER STATE BUILDING STANDARDS CODE AND STATE CODE OF REGULATIONS. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE APPROVED PLANS AND SPECIFICATIONS WHEREIN THE FINISHED WORK WILL NOT COMPLY PER STATE CODE OF REGULATIONS, A SCOPE OF WORK DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY THE JURISDICTION BEFORE PROCEEDING WITH THE WORK, A CHANGE ORDER FOR THAT SCOPE SHALL BE SUBMITTED TO THE MOBILITIE CM PRIOR TO PROCEEDING WITH THE WORK.
- 25. ADEQUATE AND REQUIRED LIABILITY INSURANCE SHALL BE PROVIDED BY THE CONTRACTOR FOR PROTECTION AGAINST PUBLIC LOSS AND ANY/ALL PROPERTY DAMAGE FOR THE DURATION OF WORK.
- 26. CONTRACTOR SHALL GUARANTEE ANY/ALL MATERIALS AND WORK FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE. ANY CORRECTIVE WORK SHALL BE COMPLETED AT THE SOLE COST OF THE CONTRACTOR.
- 27. CONTRACTOR TO TAP IN AT THE POC AND RUN A NEW, SEPARATE CIRCUIT THROUGH CITY CONDUIT TO GO TO THE POLE.

ELECTRICAL NOTES:

- 1. ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ANY/ALL ELECTRICAL WORK INDICATED. ANY/ALL CONSTRUCTION SHALL BE IN ACCORDANCE W/DRAWINGS AND ANY/ALL APPLICABLE SPECIFICATIONS. IF ANY PROBLEMS ARE ENCOUNTERED BY COMPLYING WITH THESE REQUIREMENTS, CONTRACTOR SHALL NOTIFY MOBILITIE CM AS SOON AS POSSIBLE, AFTER THE DISCOVERY OF THE PROBLEMS, AND SHALL NOT PROCEED WITH THAT PORTION OF WORK, UNTIL THE MOBILITIE CM HAS DIRECTED THE CORRECTIVE ACTIONS TO BE
- 2. ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE THEMSELVES WITH ANY/ALL CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATION INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. ALL (E) CONDITIONS OF ELECTRICAL EQUIP., ETC., THAT ARE PART OF THE FINAL SYSTEM, SHALL BE VERIFIED BY THE CONTRACTOR, PRIOR TO THE SUBMITTING OF THEIR BID. FAILURE TO COMPLY WITH THIS PARAGRAPH WILL IN NO WAY RELIEVE CONTRACTOR OF PERFORMING ALL WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM.
- 3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC, ALL CODES AND ORDINANCES OF THE LOCAL JURISDICTION, AND POWER & TELEPHONE COMPANIES HAVING JURISDICTION AND SHALL INCLUDE BUT ARE NOT BE LIMITED TO:
 - A) UL UNDERWRITERS LABORATORIES
 - B) NEC NATIONAL ELECTRICAL CODE
 - C) NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
 - D) OSHA OCCUPATIONAL SAFETY AND HEALTH ACT
 - E) SBC STANDARD BUILDING CODE
 - F) NFPA NATIONAL FIRE PROTECTION AGENCY
 - G) ANSI AMERICAN NATIONAL STANDARDS INSTITUTE
 - H) IEEE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
 - 1) ASTM AMERICAN SOCIETY FOR TESTING MATERIALS
- 4. REFER TO SITE PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, AND CONFIRM WITH MOBILITIE CM ANY SIZES AND LOCATIONS WHEN NEEDED
- 5. (E) SERVICES: CONTRACTOR SHALL NOT INTERRUPT (E) SERVICES WITHOUT WRITTEN PERMISSION OF THE OWNER.
- CONTRACTOR SHALL CONFIRM WITH LOCAL UTILITY COMPANY ANY/ALL REQUIREMENTS SUCH AS THE: LUG SIZE RESTRICTIONS, CONDUIT ENTRY, SIZE OF TRANSFORMERS, SCHEDULED DOWNTIME FOR THE OWNERS' CONFIRMATION, ETC ... ANY/ALL CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE MOBILITIE CM, PRIOR TO BEGINNING ANY WORK.
- 7. MINIMUM WIRE SIZE SHALL BE #12 AWG, NOT INCLUDING CONTROL WIRING, UNLESS NOTED OTHERWISE. ALL CONDUCTORS SHALL BE COPPER WITH THWN INSULATION, UNLESS OTHERWISE NOTED.
- 8. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET/DAMP LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.
- IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF THE CONSTRUCTION, CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING
- 10. ELECTRICAL SYSTEM SHALL BE AS COMPLETELY AND EFFECTIVELY GROUNDED, AS REQUIRED BY SPECIFICATIONS, SET FORTH BY APPLICANT.
- 11. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS, WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY FUNCTIONAL AND SHALL BE APPROVED BY THE MOBILITIE CM AND LOCAL JURISDICTION. ANY DEFICIENCIES SHALL BE CORRECTED BY AN ELECTRICAL CONTRACTOR AT THE SOLE COST OF THE CONTRACTOR.
- 12. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.





10640 Sepulveda Blvd. Suite 1, Mission Hills, CA 91345

Phone No.: (818)898-2352 Fax No.: (818)898-9186

PROJECT NO:	9CAB008063
DRAWN BY:	JL
CHECKED BY:	JM

0	06/07/17	90% CONSTRUCTION
1	09/26/17	REVISED PER PG&E STANDARDS
2	11/16/17	PER CLIENT REVISED NOKIA CABINET A.G.L

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

9CAB008063 OAKLAND, CA 94609 (E) 27'-0" STEEL LIGHT POLE

SHEET TITLE **GENERAL NOTES**

> SHEET NUMBER GN-1

ELECTRICAL NOTES CONT'D

- 13. THE CORRECTION OF ANY DEFECTS SHALL BE COMPLETED BY THE CONTRACTOR WITHOUT ANY ADDITIONAL CHARGE AND SHALL INCLUDE THE REPLACEMENT OR THE REPAIR OF ANY OTHER PHASE OF THE INSTALLATION, WHICH MAY HAVE BEEN DAMAGED THEREIN.
- 14. CONTRACTOR SHALL PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES AND DEVICES FOR ALL OUTLETS AS INDICATED.
- 15. DITCHING AND BACK FILL: CONTRACTOR SHALL PROVIDE FOR ALL UNDERGROUND INSTALLED CONDUIT AND/OR CABLES INCLUDING EXCAVATION AND BACKFILLING AND COMPACTION. REFER TO NOTES AND REQUIREMENTS 'EXCAVATION, AND BACKFILLING.
- 16. MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SHALL APPEAR ON THE LIST OF U.L. APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF THE NEC, NEMA AND IECE.
- 17. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR MANUFACTURER'S CATALOG INFORMATION OF ANY/ALL EQUIPMENT AND ALL OTHER ELECTRICAL ITEMS FOR APPROVAL BY THE MOBILITIE CM PRIOR TO INSTALLATION.
- 18. ANY CUTTING OR PATCHING DEEMED NECESSARY FOR ELECTRICAL WORK IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY AND SHALL BE INCLUDED IN THE COST FOR WORK AND PERFORMED TO THE SATISFACTION OF THE MOBILITIE CM UPON FINAL ACCEPTANCE.
- 19. THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS WITH ONLY TYPEWRITTEN DIRECTORIES. ALL ELECTRICAL WIRING SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- 20. DISCONNECT SWITCHES SHALL BE UL-RATED, H.P. RATED HEAVY-DUTY, QUICK-MAKE AND QUICK-BREAK ENCLOSURES, AS REQUIRED BY EXPOSURE TYPE.
- 21. ALL CONNECTIONS SHALL BE MADE WITH A PROTECTIVE COATING OF AN ANTI-OXIDE COMPOUND KNOWN AS "NO-OXIDE A" BY DEARBORNE CHEMICAL CO. COAT ALL WIRE SURFACES BEFORE CONNECTING. EXPOSED COPPER SURFACES, INCLUDING GROUND BARS, SHALL BE TREATED NO SUBSTITUTIONS.
- 22. RACEWAYS: CONDUIT SHALL BE SCHEDULE 80 PVC MEETING OR EXCEEDING NEMA TC2 1990. CONTRACTOR SHALL PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS 200 LBS TEST POLYETHYLENE CORD. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 2 FT. RADIUS. RGS CONDUITS WHEN SPECIFIED, SHALL MEET UL—6 FOR GALVANIZED STEEL. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT. COAT ALL THREADS WITH 'BRITE ZINC' OR 'COLD GALV'.
- 23. SUPPORT OF ALL ELECTRICAL WORK SHALL BE AS REQUIRED BY NEC.
- 24. CONDUCTORS: CONTRACTOR SHALL USE 98% CONDUCTIVITY COPPER WITH TYPE THWN INSULATION, UNLESS OTHERWISE NOTED, 600 VOLT, COLOR CODED. USE SOLID CONDUCTORS FOR WIRE UP TO AND INCLUDING NO. 8 AWG. USE STRANDED CONDUCTORS FOR WIRE ABOVE NO. 8 AWG.
- 25. CONNECTORS FOR POWER CONDUCTORS: CONTRACTOR SHALL USE PRESSURE TYPE INSULATED TWIST-ON CONNECTORS FOR NO. 10 AWG AND SMALLER. USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR NO. 8 AWG AND LARGER.
- 26. SERVICE: AS SPECIFIED ON THE DRAWINGS. OWNER OR OWNER'S AGENT WILL APPLY FOR POWER. ALL PROVISIONS FOR TEMPORARY POWER WILL BE OBTAINED BY THE CONTRACTOR.
- 27. TELEPHONE OR FIBER SERVICE: CONTRACTOR SHALL PROVIDE EMPTY CONDUITS WITH PULL STRINGS AS INDICATED ON DRAWINGS.
- 28. ELECTRICAL AND TELCO/FIBER RACEWAYS TO BE BURIED A MINIMUM DEPTH OF 30", UNLESS OTHERWISE NOTED.
- 29. CONTRACTOR SHALL PLACE 6" WIDE DETECTABLE WARNING TAPE AT A DEPTH OF 6" BELOW GROUND AND DIRECTLY ABOVE ELECTRICAL AND TELCO SERVICE CONDUITS. CAUTIONS TAPE TO READ "CAUTION BURIED ELECTRIC" OR "BURIED TELECOMM".
- 30. ALL BOLTS SHALL BE 3-16 STAINLESS STEEL
- 31. THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELS WITH ONLY TYPEWRITTEN

DIRECTORIES. ALL ELECTRICAL WIRING SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.

GROUNDING NOTES:

- ALL HARDWARE SHALL BE 3-16 STAINLESS STEEL, INCLUDING LOCK WASHERS.
 COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND, AS SPECIFIED, BEFORE
 MATING. ALL HARDWARE SHALL BE STAINLESS STEEL 3/8 INCH DIAMETER OR LARGER.
- 2. FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
- 3. ALL STEEL CONDUIT SHALL BE BONDED AT BOTH ENDS WITH GROUNDING BUSHING.
- 4. ALL ELECTRICAL AND GROUNDING AT THE POLE SITE SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 780 (LATEST EDITION), AND MANUFACTURER.
- 5. ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL GROUNDING INSTALLATION AND CONSTRUCTION MAY VARY DUE TO SITE SPECIFIC CONDITIONS.
- 6. GROUND ALL ANTENNA BASES, FRAMES, CABLE RUNS, AND OTHER METALLIC COMPONENTS USING #6 GROUND WIRES. FOLLOW ANTENNA AND BTS MANUFACTURER'S PRACTICES FOR GROUNDING REQUIREMENTS.
- 7. ALL GROUND CONNECTIONS SHALL BE #6 AWG, UNLESS OTHERWISE NOTED. ALL WIRES SHALL BE COPPER WITH THHN, UNLESS OTHERWISE NOTED. ALL GROUND WIRE SHALL BE SOLID TIN COATED OR STRANDED GREEN INSULATED WIRE.
- 8. CONTRACTOR TO VERIFY AND TEST GROUND TO SOURCE, 10 OHMS MAXIMUM. PROVIDE SUPPLEMENT GROUNDING RODS AS REQUIRED TO ACHIEVE SPECIFIED OHMS READING. GROUNDING AND OTHER OPTIONAL TESTING WILL BE WITNESSED BY THE MOBILITIE CM.
- 9. NOTIFY ARCHITECT/ENGINEER IF THERE ARE ANY DIFFICULTIES INSTALLING GROUNDING SYSTEM DUE TO SITE SOIL CONDITIONS.
- 10. ALL HORIZONTALLY RUN GROUNDING CONDUCTORS SHALL BE INSTALLED A MINIMUM OF 30" BELOW GRADE/ 6" BELOW FROST-LINE IN TRENCH, UNLESS OTHERWISE NOTED.BACK FILL SHALL BE COMPACTED AS REQUIRED BY ARCHITECT/ENGINEER.
- 11. ALL GROUND CONDUCTORS SHALL BE RUN AS STRAIGHT AND SHORT AS POSSIBLE, WITH A MINIMUM 12" BENDING RADIUS NOT LESS THAN 90 DEGREES.
- 12. ACCEPTABLE CONNECTIONS FOR GROUNDING SYSTEM SHALL BE:
- A. BURNDY, HY-GRADE U.L. LISTED CONNECTORS FOR OUTDOOR USE OR AS APPROVED BY APPLICANT PROJECT MANAGER.
- B. CADWELD, EXOTHERMIC WELDS (WELDED CONNECTIONS).
- C. ONE (1) HOLE TINNED COPPER COMPRESSION (LONG BARREL) FITTINGS.
- 13. ALL CRIMPED CONNECTIONS SHALL HAVE EMBOSSED MANUFACTURER'S DIEMARK VISIBLE AT THE CRIMP (RESULTING FROM USE OF PROPER CRIMPING DEVICES) AND WEATHER-PROOFED WITH HEAT SHRINK.
- 14. ALL CONNECTION HARDWARE SHALL BE TYPE 3-16 STAINLESS STEEL (NOT ATTRACTED TO MAGNETS).
- 15. ELECTRICAL SERVICE EQUIPMENT GROUNDING SHALL COMPLY WITH NEC, ARTICLE 250-82 AND SHALL BOND ALL (E) AND NEW GROUNDING ELECTRODES. NEW GROUNDING ELECTRODE SHALL INCLUDE BUT NOT LIMITED TO GROUND RODS.

TESTING AND EQUIPMENT TURN UP REQUIREMENTS:

- 1. RF CABLE, DATA CABLE, RADIO EQUIPMENT AND BACK HAUL EQUIPMENT TESTING WILL COMPLY WITH CURRENT INDUSTRY STANDARDS AND OR THOSE STANDARDS OF THE EQUIPMENT MANUFACTURER OR PROVIDED TO THE CONTRACTOR PRIOR TO TESTING
- 2. CONTRACTOR WILL USE THE APPROPRIATE CALIBRATED TESTING EQUIPMENT IN THE TESTING OF RF CABLE, DATA CABLE, RADIO EQUIPMENT AND BACK HAUL EQUIPMENT THAT MEET INDUSTRY STANDARDS OF THE MANUFACTURER OR THOSE STANDARDS PROVIDED TO THE CONTRACTOR PRIOR TO TESTING.
- 3. CONTRACTOR TO VERIFY AND RECORD ALL TEST RESULTS AND PROVIDE THESE RESULTS WITHIN THE FINAL CLOSE OUT PACKAGE.
- 4. ALL PERSONNEL INVOLVED IN THE TESTING OF RF CABLE, DATA CABLE, RADIO EQUIPMENT AND BACK HAUL EQUIPMENT WILL BE REQUIRED TO HAVE BEEN TRAINED AND OR CERTIFIED IN THE PROPER TESTING OF RF CABLE, DATA CABLE, RADIO EQUIPMENT AND BACK HAUL EQUIPMENT.
- 5. ALL TEST RESULTS SHALL BE TIME STAMPED, RECORDED AND PRESENTED PRIOR TO ENERGIZING AND TURN UP OF ANY EQUIPMENT.
- 6. GPS EQUIPMENT IS NOT TO BE TESTED OR ATTACHED TO ANY CABLING DURING TESTING, DOING SO WILL DAMAGE THE GPS UNIT.
- PRIOR TO TESTING IF THE CONTRACTOR HAS ANY QUESTIONS ABOUT THE TESTING PROCEDURES THEY ARE TO CALL AND OBTAIN ASSISTANCE FROM A QUALIFIED DESIGNATED TESTING REPRESENTATIVE.
- 8. EQUIPMENT IS NOT TO BE ENERGIZED UNTIL ALL TESTING HAS BEEN COMPLETED, APPROVED AND THE APPROPRIATE AUTHORITY HAS BEEN NOTIFIED AND GIVES APPROVAL TO ENERGIZE THE EQUIPMENT.

SITE WORK NOTES:

- DO NOT EXCAVATE OR DISTURB BEYOND THE PROPERTY LINES OR LEASE LINES, UNLESS OTHERWISE NOTED.
- SIZE, LOCATION AND TYPE OF ANY UNDERGROUND UTILITIES OR IMPROVEMENTS SHALL BE ACCURATELY NOTED AND PLACED ON AS—BUILT DRAWINGS BY GENERAL CONTRACTOR AND ISSUED TO ARCHITECT/ENGINEER AT COMPLETION OF PROJECT.
- 3. ALL (E) UTILITIES, FACILITIES, CONDITIONS AND THEIR DIMENSIONS SHOWN ON PLANS HAVE. BEEN PLOTTED FROM AVAILABLE RECORDS. THE ENGINEER AND OWNER ASSUME NO RESPONSIBILITY WHATSOEVER AS TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS OR THE MANNER OF THEIR REMOVAL OR ADJUSTMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL (E) UTILITIES AND FACILITIES PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL ALSO OBTAIN FROM EACH UTILITY COMPANY DETAILED INFORMATION RELATIVE TO WORKING SCHEDULES AND METHODS OF REMOVING OR ADJUSTING (E) UTILITIES.
- 4. CONTRACTOR SHALL VERIFY ALL (E) UTILITIES BOTH HORIZONTALLY AND VERTICALLY PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES OR DOUBTS AS TO THE INTERPRETATION OF PLANS SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT/ENGINEER OR MOBILITIE CM FOR RESOLUTION AND INSTRUCTION, AND NO FURTHER WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS CHECKED AND CORRECTED BY THE ARCHITECT/ENGINEER. FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT THEIR OWN RISK AND EXPENSE. CONTRACTOR SHALL CALL LOCAL UTILITY LOCATE HOT LINE, SUCH AS 811, FOR UTILITY LOCATIONS A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION.
- 5. ALL NEW AND (E) UTILITY STRUCTURES ON SITE AND IN AREAS TO BE DISTURBED BY CONSTRUCTION SHALL BE ADJUSTED TO FINISH ELEVATIONS PRIOR TO FINAL INSPECTION OF WORK. ANY COST RELATED TO ADJUSTING (E) STRUCTURES SHALL BE BORNE SOLELY BY THE CONTRACTOR.
- 6. GRADING OF THE SITE WORK AREA IS TO BE SMOOTH AND CONTINUOUS IN SLOPE AND IS TO FEATHER INTO (E) GRADES AT THE GRADING LIMITS.
- 7. ALL TEMPORARY EXCAVATIONS FOR THE INSTALLATION OF FOUNDATIONS, UTILITIES, ETC., SHALL BE PROPERLY LAID BACK OR BRACED IN ACCORDANCE WITH CORRECT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS.





10640 Sepulveda Blvd Suite 1, Mission Hills, CA 91345 Phone No.: (818)898-2352 Fax No.: (818)898-9186

ROJECT NO:	9CAB008063
RAWN BY:	JL
HECKED DV.	13.4

0	06/07/17	90% CONSTRUCTION
1	09/26/17	REVISED PER PG&E STANDARDS
2	11/16/17	PER CLIENT REVISED NOKIA CABINET A.G
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IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

9CAB008063 OAKLAND, CA 94609 (E) 27'-0" STEEL LIGHT POLE

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

SITE WORK NOTES CONT'D

- 8. STRUCTURAL FILLS SUPPORTING PAVEMENTS SHALL BE COMPACTED TO 95% OF MAXIMUM STANDARD PROCTOR DRY DENSITY, UNLESS OTHERWISE NOTED.
- NEW GRADES NOT IN BUILDING AND DRIVEWAY IMPROVEMENT AREA TO BE ACHIEVED BY FILLING WITH APPROVED CLEAN FILL AND COMPACTED TO 95% OF STANDARD PROCTOR DENSITY.
- 10. ALL FILL SHALL BE PLACED IN UNIFORM LIFTS. THE LIFTS THICKNESS SHOULD NOT EXCEED THAT WHICH CAN BE PROPERLY COMPACTED THROUGHOUT ITS ENTIRE DEPTH WITH THE EQUIPMENT AVAILABLE.
- 11. ANY FILLS PLACED ON (E) SLOPES THAT ARE STEEPER THAN 10 HORIZONTAL TO 1 VERTICAL SHALL BE PROPERLY BENCHED INTO THE (E) SLOPE AS DIRECTED BY A GEOTECHNICAL ENGINEER.
- 12. CONTRACTOR SHALL CLEAN ENTIRE SITE AFTER CONSTRUCTION SUCH THAT NO DEBRIS, PAPER, TRASH, WEEDS, BRUSH, EXCESS FILL, OR ANY OTHER DEPOSITS WILL REMAIN. ALL MATERIALS COLLECTED DURING CLEANING OPERATIONS SHALL BE DISPOSED OF OFF-SITE BY THE GENERAL CONTRACTOR.
- 13. ALL TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH THE IMPROVEMENTS SHALL BE PROTECTED BY THE GENERAL CONTRACTOR.
- 14. ALL SITE WORK SHALL BE CAREFULLY COORDINATED BY GENERAL CONTRACTOR WITH LOCAL UTILITY COMPANY, TELEPHONE COMPANY, AND ANY OTHER UTILITY COMPANIES HAVING JURISDICTION OVER THIS LOCATION.

ENVIRONMENTAL NOTES:

- ALL WORK PERFORMED SHALL BE DONE IN ACCORDANCE WITH ISSUED PERMITS.
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYMENT OF FINES AND PROPER
 CLEAN UP FOR AREAS IN VIOLATION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS DURING CONSTRUCTION FOR PROTECTION OF ADJACENT PROPERTIES, ROADWAYS AND WATERWAYS. ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE MAINTAINED IN PLACE THROUGH FINAL JURISDICTIONAL INSPECTION & RELEASE OF SITE.
- 3. CONTRACTOR SHALL INSTALL/CONSTRUCT ALL NECESSARY SEDIMENT/SILT CONTROL FENCING AND PROTECTIVE MEASURES AS REQUIRED BY THE LOCAL JURISDICTION WITHIN THE LIMITS OF SITE DISTURBANCE PRIOR TO CONSTRUCTION.
- 4. NO SEDIMENT SHALL BE ALLOWED TO EXIT THE PROPERTY, THE CONTRACTOR IS RESPONSIBLE FOR TAKING ADEQUATE MEASURES FOR CONTROLLING EROSION. ADDITIONAL SEDIMENT CONTROL FENCING MAY BE REQUIRED IN ANY AREAS SUBJECT TO EROSION.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE ON THE SITE AT ALL TIMES WITH SILT AND EROSION CONTROL MEASURES MAINTAINED ON THE DOWNSTREAM SIDE OF SITE DRAINAGE. ANY DAMAGE TO ADJACENT PROPERTY AS A RESULT OF EROSION WILL BE CORRECTED AT THE CONTRACTORS EXPENSE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY INSPECTIONS AND ANY REPAIRS
 OF ALL SEDIMENT CONTROL MEASURES INCLUDING SEDIMENT REMOVAL AS
 NECESSARY.
- CLEARING OF VEGETATION AND TREE REMOVAL SHALL BE ONLY AS PERMITTED AND BE HELD TO A MINIMUM. ONLY TREES NECESSARY FOR CONSTRUCTION OF THE FACILITIES SHALL BE REMOVED.
- 8. SEEDING AND MULCHING AND/OR SODDING OF THE SITE WILL BE ACCOMPLISHED AS SOON AS POSSIBLE AFTER COMPLETION OF THE PROJECT FACILITIES AFFECTING LAND DISTURBANCE.
- 9. CONTRACTOR SHALL PROVIDE ALL EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED BY LOCAL, COUNTY AND STATE CODES AND ORDINANCES TO PROTECT EMBANKMENTS FROM SOIL LOSS AND TO PREVENT ACCUMULATION OF SOIL AND SILT IN STREAMS AND DRAINAGE PATHS LEAVING THE CONSTRUCTION AREA. THIS MAY INCLUDE, BUT IS NOT LIMITED TO SUCH MEASURES AS SILT FENCES, STRAW BALE SEDIMENT BARRIERS, AND CHECK DAMS.
- 10. RIP RAP OF SIZES INDICATED SHALL CONSIST OF CLEAN, HARD, SOUND, DURABLE, UNIFORM IN QUALITY STONE FREE OF ANY DETRIMENTAL QUANTITY OF SOFT, FRIABLE, THIN, ELONGATED OR LAMINATED PIECES, DISINTEGRATED MATERIAL, ORGANIC MATTER, OIL, ALKALI, OR OTHER DELETERIOUS SUBSTANCES.

11. GC TO PLACE FILTER MATERIAL AT ALL CATCH BASINS ADJACENT TO
CONSTRUCTION SITE TO PREVENT SOLID WASTE CONTAMINATION FROM
ENTERING SEWER SYSTEM

FOUNDATION, EXCAVATION AND BACKFILL NOTES:

- ALL FINAL GRADED SLOPES SHALL BE A MAXIMUM OF 3 HORIZONTAL TO 1 VERTICAL, UNLESS OTHERWISE NOTED.
- 2. BACKFILL OF POLE SHALL BE PERFORMED IN ONE OF THREE OPTIONS:
 - A. PREFERRED: RAINBOW INDUSTRIES POLE SETTING FOAM SHALL BE INSTALLED PER MANUFACTURER SPECS. FOAM SHALL ALWAYS BE USED FOR POOR SOILS.
 - B. SECONDARY: CONCRETE (REQUIRES MOBILITIE CM WRITTEN APPROVAL)
 ALLOWABLE SOIL PRESSURE = 2000 PSF (ASSUMED).
 NON-NATIVE SOILS SHALL BE REMOVE FROM BORE AREA AND SHALL NOT BE REUSED FOR BACKFILL
- 3. ALL EXCAVATIONS PREPARED FOR PLACEMENT OF CONCRETE SHALL BE OF UNDISTURBED SOILS, SUBSTANTIALLY HORIZONTAL AND FREE FROM ANY LOOSE, UNSUITABLE MATERIAL OR FROZEN SOILS, AND WITHOUT THE PRESENCE OF POUNDING WATER. DEWATERING FOR EXCESS GROUND WATER SHALL BE PROVIDED WHEN REQUIRED. COMPACTION OF SOILS UNDER CONCRETE PAD FOUNDATIONS SHALL NOT BE LESS THAN 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY FOR THE SOIL IN ACCORDANCE WITH ASTM D1557.
- 4. CONCRETE FOUNDATIONS SHALL NOT BE PLACED ON ORGANIC OR UNSUITABLE MATERIAL. IF ADEQUATE BEARING CAPACITY IS NOT ACHIEVED AT THE DESIGNED EXCAVATION DEPTH, THE UNSATISFACTORY SOIL SHALL BE EXCAVATED TO ITS FULL DEPTH AND EITHER BE REPLACED WITH MECHANICALLY COMPACTED GRANULAR MATERIAL OR THE EXCAVATION SHALL BE FILLED WITH CONCRETE OF THE SAME TYPE SPECIFIED FOR THE FOUNDATION. CRUSHED STONE MAY BE USED TO STABILIZE THE BOTTOM OF THE EXCAVATION, ANY STONE SUB BASE MATERIAL, IF USED, SHALL NOT SUBSTITUTE FOR REQUIRED THICKNESS OF CONCRETE.
- 5. ALL EXCAVATIONS SHALL BE CLEAN OF UNSUITABLE MATERIAL SUCH AS VEGETATION, TRASH, DEBRIS, AND SO FORTH PRIOR TO BACK FILLING. BACK FILL SHALL CONSIST OF APPROVED MATERIALS SUCH AS EARTH, LOAM, SANDY CLAY, SAND AND GRAVEL, OR SOFT SHALE, FREE FROM CLODS OR LARGE STONES OVER 2 1/2" MAX DIMENSIONS. ALL BACK FILL SHALL BE PLACED IN COMPACTED LAYERS.
- 6. ALL FILL MATERIALS AND FOUNDATION BACK FILL SHALL BE PLACED IN MAXIMUM 6" THICK LIFTS BEFORE COMPACTION. EACH LIFT SHALL BE WETTED IF REQUIRED AND COMPACTED TO NOT LESS THAN 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY FOR SOIL IN ACCORDANCE WITH ASTM D1557.
- 7. NEWLY PLACED CONCRETE FOUNDATIONS SHALL CURE A MINIMUM OF 72 HRS PRIOR TO BACK FILLING.
- 8. FINISHED GRADING SHALL BE SLOPED TO PROVIDE POSITIVE DRAINAGE AND PREVENT STANDING WATER. THE FINAL (FINISH) ELEVATION OF SLAB FOUNDATIONS SHALL SLOPE AWAY IN ALL DIRECTIONS FROM THE CENTER. FINISH GRADE OF CONCRETE PADS SHALL BE A MAXIMUM OF 4 INCHES ABOVE FINAL FINISH GRADE ELEVATIONS. PROVIDE SURFACE FILL GRAVEL TO ESTABLISH SPECIFIED ELEVATIONS WHERE REQUIRED.
- 9. NEWLY GRADED GRAVEL SURFACE AREAS TO RECEIVE GRAVEL SHALL BE COVERED WITH GEOTEXTILE FABRIC TYPE: TYPAR-3401 AS MANUFACTURED BY TYPAR GEOSYNTHETICS OR AN APPROVED EQUIVALENT, SHOWN ON PLANS. THE GEOTEXTILE FABRIC SHALL BE BLACK IN COLOR TO CONTROL THE RECURRENCE OF VEGETATIVE GROWTH AND EXTEND TO WITHIN 1 FOOT OUTSIDE THE SITE FENCING OR ELECTRICAL GROUNDING SYSTEM PERIMETER WHICH EVER IS GREATER. ALL FABRIC SHALL BE COVERED WITH A MINIMUM OF 4" DEEP COMPACTED STONE OR GRAVEL AS SPECIFIED. I.E. FDOT TYPE NO. 57 FOR FENCED COMPOUND; FDOT TYPE NO. 67 FOR ACCESS DRIVE AREA, UNLESS OTHERWISE NOTED.
- 10. IN ALL AREAS TO RECEIVE FILL: REMOVE ALL VEGETATION, TOPSOIL, DEBRIS, WET AND UNSATISFACTORY SOIL MATERIALS, OBSTRUCTIONS, AND DELETERIOUS MATERIALS FROM GROUND SURFACE. PLOW STRIP OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL SUCH THAT FILL MATERIAL WILL BIND WITH (E)/PREPARED SOIL SURFACE.
- 11. WHEN SUB GRADE OR PREPARED GROUND SURFACE HAS A DENSITY LESS THAN THAT REQUIRED FOR THE FILL MATERIAL, SCARIFY THE GROUND SURFACE TO DEPTH REQUIRED, PULVERIZE, MOISTURE—CONDITION AND/OR AERATE THE SOILS AND RECOMPACT TO THE REQUIRED DENSITY PRIOR TO PLACEMENT OF FILLS.
- 12. IN AREAS WHICH (E) GRAVEL SURFACING IS REMOVED OR DISTURBED DURING CONSTRUCTION OPERATIONS, REPLACE GRAVEL SURFACING TO MATCH ADJACENT

GRAVEL SURFACING AND RESTORED TO THE SAME THICKNESS AND COMPACTION AS SPECIFIED. ALL RESTORED GRAVEL SURFACING SHALL BE FREE FROM CORRUGATIONS AND WAVES.

- 13. (E) GRAVEL SURFACING MAY NOT BE REUSED.
- 14. GRAVEL SUB SURFACE SHALL BE PREPARED TO REQUIRED COMPACTION AND SUB GRADE ELEVATIONS BEFORE GRAVEL SURFACING IS PLACED AND/OR RESTORED. ANY LOOSE OR DISTURBED MATERIALS SHALL BE THOROUGHLY COMPACTED AND ANY DEPRESSIONS IN THE SUB GRADE SHALL BE FILLED AND COMPACTED WITH APPROVED SELECTED MATERIAL, GRAVEL SURFACING MATERIAL SHALL NOT BE USED FOR FILLING DEPRESSIONS IN THE SUB GRADE.
- 15. PROTECT (E) GRAVEL SURFACING AND SUB GRADE IN AREAS WHERE EQUIPMENT LOADS WILL OPERATE. USE PLANKING 'MATTS' OR OTHER SUITABLE PROTECTION DESIGNED TO SPREAD EQUIPMENT LOADS AS MAY BE NECESSARY, REPAIR ANY DAMAGE TO (E) GRAVEL SURFACING OR SUB GRADE WHERE SUCH DAMAGE IS DUE TO THE CONTRACTORS OPERATIONS.
- 16. DAMAGE TO (E) STRUCTURES AND/OR UTILITIES RESULTING FROM CONTRACTORS NEGLIGENCE SHALL BE REPAIRED AND/ OR REPLACED TO THE OWNERS SATISFACTION AT NO ADDITIONAL COST TO THE CONTRACT.
- 17. ALL SUITABLE BORROW MATERIAL FOR BACK FILL OF THE SITE SHALL BE INCLUDED IN THE BID. EXCESS TOPSOIL AND UNSUITABLE MATERIAL SHALL BE DISPOSED OF OFF SITE AT LOCATIONS APPROVED BY GOVERNING AGENCIES AT NO ADDITIONAL COST TO THE CONTRACT.

MISCELLANEOUS MATERIALS

FROM TIME TO TIME IT MAY BE NECESSARY TO MAKE MINOR ADJUSTMENTS TO ACCOMMODATE, LEVEL OR SPACE ANTENNA MOUNTS AND EQUIPMENT. EXAMPLE ADDING A WASHER OR SHIM TO LEVEL OUT A BRACKET OR MOUNT TO MEET SPECIFICATIONS. HAVING TO OFFSET OR SPACE A BRACKET OR MOUNT DUE TO FLANGES AND OR OTHER SMALL PROTRUSIONS ON A POLE TOP ASSEMBLY. ANY MATERIALS, NUTS, BOLTS, SHIMS OR SPACERS USED TO ACCOMMODATE ADJUSTMENTS TO ANTENNA MOUNTS AND EQUIPMENT MUST BE PERMANENTLY AFFIXED, BOLTED TO THE MOUNT, BRACKET OR POLE; AS NEVER TO BECOME A FALL HAZARD. ALL MATERIALS NUTS, BOLTS, SHIMS OR SPACERS USED IN MINOR ADJUSTMENTS, MUST BE EITHER STAINLESS STEEL OR GALVANIZED; HALF WASHERS ARE PROHIBITED. ANY MINOR ADJUSTMENTS TO ACCOMMODATE ANTENNA MOUNTS AND EQUIPMENT SHOULD BE DONE IN A PROFESSIONAL MANOR WITH SAFETY AND AESTHETICS IN MIND. SHOULD YOU HAVE ANY QUESTIONS CONTACT YOUR ASSIGNED CONSTRUCTION PROJECT





10640 Sepulveda Blvd. Suite 1. Mission Hills. CA 91345

HECKED BY:	JM
RAWN BY:	JL
ROJECT NO:	9CAB008063

	07/17 90% CONSTRUCTION	0
	26/17 REVISED PER PG&E STANDARDS	1
.G.L	16/17 PER CLIENT REVISED NOKIA CABINET A	2
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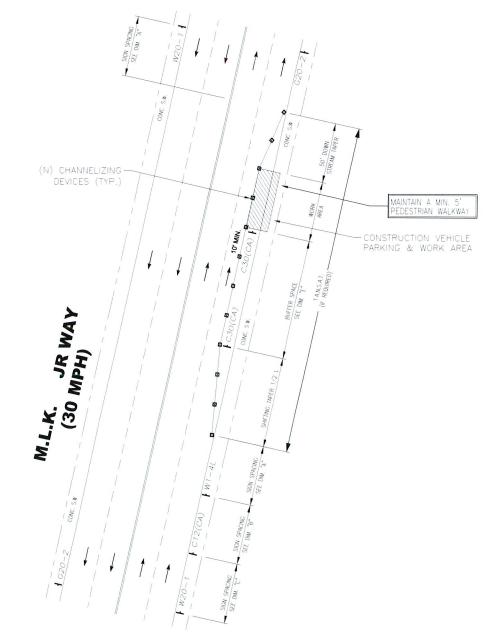
9CAB008063 OAKLAND, CA 94609 (E) 27'-0" STEEL LIGHT POLE

SHEET TITLE
GENERAL NOTES

SHEET NUMBER

DURATION NOTES

- "ROAD WORK AHEAD" and the "BE PREPARED TO STOP" signs may be omitted if all of the following conditions are met:
- Work operations are 60 minutes or less
- b. Speed limit is 45 MPH or less
- c. No sight obstructions to vehicles approaching the work area for a distance equal to the buffer space
- Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating
- e. Volume and complexity of the roadway has been



PARTIAL RIGHT LANE CLOSURE 2016 WATCH PAGE 35

LEGEND



WORK SPACE

FLAGGER

DIRECTION OF TRAFFIC

TRAFFIC CONTROL PLANS

GENERAL NOTES

- ALL WORK AND MATERIALS SHALL COMPLY WITH THE WORK AREA TRAFFIC CONTROL HANDBOOK (WATCH) 2016 EDITION.
- ALL STRIPING AND MARKINGS SHALL CONFORM TO THE STATE OF CALIFORNIA, STANDARD PLANS AND SPECIFICATIONS, INCLUDING STANDARD PLAN A-20, DETAILS.
- 3. THE CONTRACTOR SHALL PROVIDE FOR ACCESS TO ALL ADJACENT PROPERTIES.
- FLASHING YELLOW BEACONS, TYPE "B", SHALL BE USED ON ALL W20-1 SIGNS AND ON ALL TYPE III BARRICADES GUARDING THE WORK AREA OVERNIGHT.
- 5. ALL SIGNS SHALL BE REFLECTORIZED AND STANDARD SIZE.
- ALL TUBULAR DELINEATORS AND CONES SHALL BE 28" MINIMUM HEIGHT, REFLECTORIZED AND MAINTAINED ERECT IN THE INDICATED POSITION AT ALL TIMES, AND SHALL BE REPAIRED, REPLACED, OR CLEANED AS NECESSARY TO PRESERVE THEIR APPEARANCE AND CONTINUITY, AND SHALL INCLUDE A 12" HIGH-INTENSITY REFECTORIZED SLEEVE, IF USED DURING NIGHT-TIME HOURS.
- THE CONTRACTOR SHALL MAINTAIN, ON A CONTINUOUS BASIS, ALL SIGNS, DELINEATORS, BARRICADES, ETC., TO ENSURE PROPER FLOW AND SAFETY OF TRAFFIC DURING CONSTRUCTION.
- 8. THE CONTRACTOR SHALL HAVE ALL SIGNS, DELINEATORS, BARRICADES, ETC., PROPERLY INSTALLED PRIOR TO COMMENCING CONSTRUCTION.
- CONSTRUCTION OPERATIONS SHALL BE CONDUCTED IN SUCH A MANNER AS TO CAUSE AS LITTLE INCONVENIENCE AS POSSIBLE TO ABUTTING PROPERTY OWNERS.
- ADDITIONAL TRAFFIC CONTROLS, TRAFFIC SIGNS, OR BARRICADING MAY BE REQUIRED THE FIELD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLACEMENT OF ANY ADDITIONAL DEVICES NECESSARY TO ASSURE SAFETY TO THE PUBLIC AT ALL TIMES DURING CONSTRUCTION.
- EXACT LOCATION AND TYPE OF CONSTRUCTION SIGNS SHALL BE DIRECTED BY THE ENGINEER BASED UPON CONSTRUCTION CONDITIONS.
- 12. MOVE DELINEATORS AND/OR CONES TO SIDEWALK DURING NON-WORKING HOURS. REMOVE BARRICADES ETC. FROM TRAVEL LANE.
- 13. REMOVE OR TURN OFF SIGNS DURING NON-WORK HOURS.
- 14. ALL CONFLICTING LINES, EXISTING CURB PAINT, AND MARKINGS SHALL BE REMOVED BY WET SANDBLASTING OR OTHER APPROVED METHOD PRIOR TO INSTALLATION OF NEW/TEMPORARY STRIPING. ALL CONFLICTING RAISED PAVEMENT MARKERS SHALL BE REMOVED. PAVEMENT THAT IS DAMAGED DUE TO REMOVAL OF MARKERS SHALL BE REPAIRED TO THE SATISFACTION OF THE CITY ENGINEER AND/OR STATE INSPECTOR.

NOTES

- INGRESS AND EGRESS MUST BE PROVIDED TO ALL DRIVEWAYS AT ANY TIME, USE BULL NOSE TO TERMINATE TAPER AT DRIVEWAYS, STEEL PLATES TO BE USED TO MAINTAIN TRAFFIC FLOW ON ALL

SPEED MPH (2)	Dimension A/B/C ADVANCE WARNING SIGN SPACING (5)	Dimension L MERGING TAPER LENGTH	Dimension L/2 SHIFTING TAPER LENGTH	Dimension L/3 MINIMUM SHOULDER TAPER	BUFF FLAG STG	ER SPACE and GGER STA OPPING SIG STANCE (4 (-3%)	(4-A) TION GHT	MAXIMUM CHANNELIZER TAPER SPACING (3)	MAXIMUM CHANNELIZER TANGENT SPACING (3)	MAXIMUM CHANNELIZER CONFLICT SPACING (6)
MPH	ft	ft	ft	ft		ft		ft	ft	ft
25	100	125	65	45	(155)	(160)	(165)	25	50	12
30	250	180	90	60	(200)	(205)	(215)	30	60	15
35	250	245	125	85	(250)	(260)	(275)	35	70	17
40	250	320	160	110	(305)	(315)	(335)	40	80	20
45	350	540	270	180	(360)	(380)	(400)	45	90	22
50	350	600	300	200	(425)	(450)	(475)	50	100	25
55	500	660	330	220	(495)	(520)	(555)	50	100	25
60	500	720	360	240	(570)	(600)	(640)	50	100	25
65	500	780	390	260	(645)	(685)	(730)	50	100	25

osted Speed or observed operating speed (whichever is greater,

annelizer spacing shall be reduced by half at areas where work is taking place on curves or areas head—on conflict. d=on conflict.

space may be inserted in low-speed urban areas and should be inserted in high-speed urban

na rural areas. He Stopping Sight Distance should enable Road Users to see the Primary Flagger Station and safet

TRAFFIC CONTROL PLAN

SCALE: NOT TO SCALE



10640 Sepulveda Blvd. Suite 1, Mission Hills, CA 91345 Phone No.: (818)898-2352 Fax No.: (818)898-9186

PROJECT NO: 9CAB008063 DRAWN BY: JL

JM

REVISED PER POWE STANDARDS 11/16/17 PER CLIENT REVISED NOKIA CABINET A.G

CHECKED BY

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9CAB008063 OAKLAND, CA 94609 (E) 27'-0" STEEL LIGHT POLE

SHEET TITLE TRAFFIC CONTROL PLAN

> SHEET NUMBER TC-1

ACTUAL FIELD CONDITIONS.

LANE

* ADDITIONAL SIGNS MAY BE REQUIRED TO ACCOMMODATE

NARROW LANE

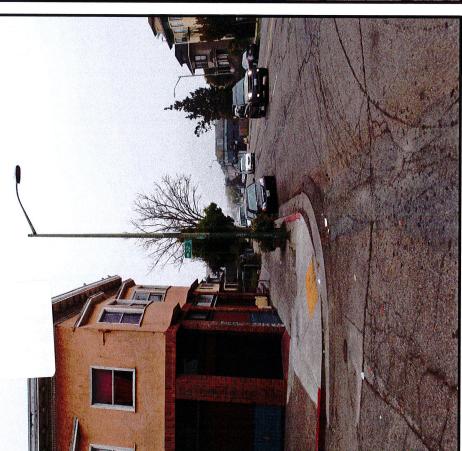
SIGNS

ROAD WORK AHEAD

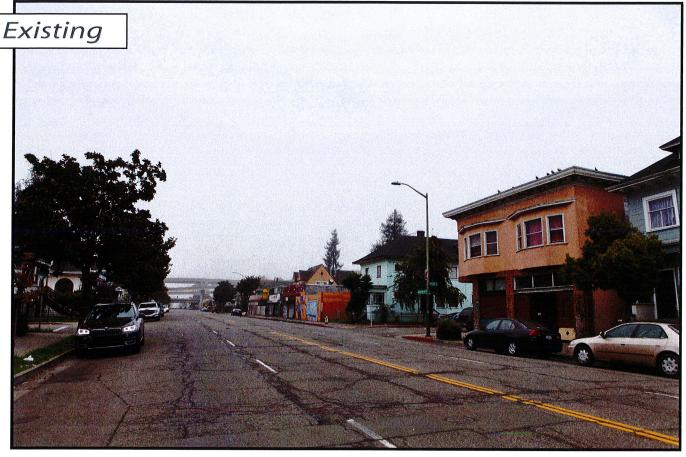
END ROAD WORK

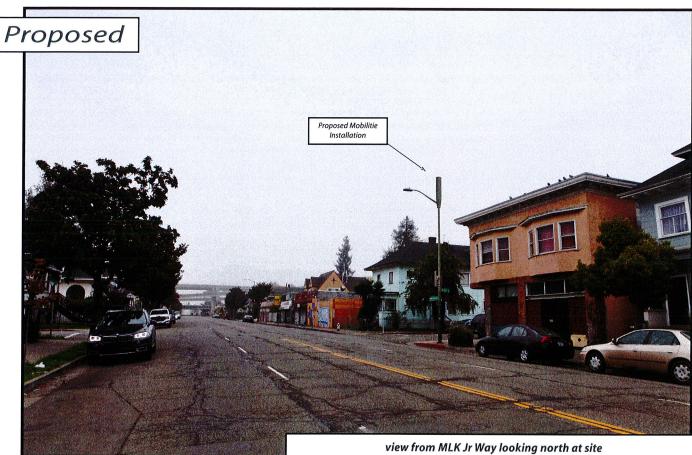
Attachment D











Advance Simple Photo Simulation Solutions Contact (925) 202-8507

mobilité intelligent infrastructure

9CAB008063 / SF90XSA51B MLK Jr Way 32nd Street, Oakland, CA **Photosims Produced on 11-17-2017**



Mobilitie, LLC 2955 Red Hill Ave. Ste. 200 Costa Mesa, CA 92626 USA Tel: 714.415.4500 www.mobilitie.com

Alternative Site Analysis

Proposed Small Cell Wireless Facility

Applicant: Mobilitie, LLC

Site ID: 9CAB008063/SF90XSA51B

Nearest Site Address: Public Right of Way near 3146 Martin Luther King, Jr. Way, Oakland, CA 94609

Latitude/Longitude: 37.821432, -122.270433

Mobilitie considered alternative sites on other street lights and utility poles in this area, but found them to not to be as desirable when taking into consideration coverage goals, constructability, geographic topography of the surrounding area, and potential visual impact in the surrounding area. The proposed location is desirable because of the limited obstructions in the area, allowing our antenna to effectively propagate a signal. Furthermore, the proposed location is the optimal solution for providing maximum coverage to the surrounding area identified. Additionally, by locating on an existing street light with equipment concealed, visual impact in the surrounding area is minimized.

Mobilitie is a privately held, CLEC (Competitive Local Exchange Carrier) regulated by the California Public Utilities Commission (CPUC) to provide telephone related services. By proposing this location on an existing street light in the public right of way, Mobilitie is proposing an appropriate co-location to existing infrastructure according to our rights under the CPUC.

The alternative locations that Mobilitie considered include, but are not limited to, the sites listed below:

Alternate B (37.821687, -122.271200) / Near 683 32nd Street: This wooden utility pole is located approximately 220 ft. west of our proposal. The existence of a power riser running up this pole precludes it from being used there because there is not enough usable space on the pole for our facility.

Alternate C (37.822720, -122.270537) / At the intersection of 33rd Street and Martin Luther King Jr Way: This wooden utility pole is located approximately 435 ft. north of our proposal. The existence of a power riser running up this pole precludes it from being used there because there is not enough usable space on the pole for our facility.

Attachment E

Radio Frequency – Electromagnetic Energy (RF-EME) Compliance Report

Site No. 9CAB008063 M.L.K. Jr. Way, S of 32nd St Oakland, California 94609 Alameda County 37.821432; -122.270433 NAD83 Light Pole

EBI Project No. 6217002855 July 12, 2017



Prepared for:

Attachment F

Mobilitie 3972 Barranca Parkway, Suite J-606 Costa Mesa, CA 92626

Prepared by:



EXECUTIVE SUMMARY

Purpose of Report

EnviroBusiness Inc. (dba EBI Consulting) has been contracted by Mobilitie to conduct radio frequency electromagnetic (RF-EME) modeling for Mobilitie Site 9CAB008063 located at M.L.K. Jr. Way, S of 32nd St in Oakland, California to determine RF-EME exposure levels from proposed wireless communications equipment at this site. As described in greater detail in Appendix A of this report, the Federal Communications Commission (FCC) has developed Maximum Permissible Exposure (MPE) Limits for general public exposures and occupational exposures. This report summarizes the results of RF-EME modeling in relation to relevant FCC RF-EME compliance standards for limiting human exposure to RF-EME fields.

This report contains a detailed summary of the RF EME analysis for the site.

This document addresses the compliance of proposed transmitting facilities independently and in relation to all existing collocated facilities at the site.

Modeling results included in this report are based on drawings dated June 7, 2017 as provided to EBI Consulting. Subsequent changes to the drawings or site design may yield changes in the MPE levels or FCC Compliance recommendations.

	Maxir	mum Permissible Exposure	(MPE) Summary	
Location	% of FCC General Public/Uncontrolled Exposure Limit	% of FCC Occupational/Controlled Exposure Limit	Power Density (mW/cm²)	Occupational Approach Distance (ft.)
		All Carrier Equipm	ent	
Antenna Face Level	114.20	22.84	1.1420	<1'0"
Ground	1.30	0.26	0.0130	<1' 0"
Adjacent Building	2.84	0.57	0.0284	<1' 0"

These results are calculated based on max power assumptions for this site. The mounted antenna will contribute the majority to these emissions. Additional equipment to be installed is operating at very low power and contributions to the overall site emission is marginal. Workers accessing any equipment on this pole should follow all safety procedures outlined by the carrier and pole owners

Statement of Compliance

Based on worst-case predictive modeling, there are no modeled exposures on any accessible ground-level or adjacent building walking/working surface related to proposed equipment in the area that exceed the FCC's occupational and/or general public exposure limits at this site. As such, the proposed project is in compliance with FCC rules and regulations.

Signage recommendations are presented in Section 9.0 to bring the site into compliance with the FCC Rules and Regulations.

1.0 LOCATION OF ALL EXISTING ANTENNAS AND FACILITIES AND EXISTING RF LEVELS

Mobilitie proposes the installation of one (I) wireless telecommunication antenna on a light pole in Oakland, California. The proposed site will have a total of one (I) antenna at the site.

2.0 LOCATION OR ALL APPROVED (BUT NOT INSTALLED) ANTENNAS AND FACILITIES AND EXPECTED RF LEVELS FROM THE APPROVED FACILITIES

There are no antennas or facilities that are approved and not installed based on information provided to EBI and Mobilitie at the time of this report.

3.0 NUMBER AND TYPES OF WIRELESS TELECOMMUNICATION SITES (WTS) WITHIN 100 FEET OF THE PROPOSED SITE

Based on aerial photography review, there are no other Wireless Telecommunication Service (WTS) sites observed within 100 feet of the proposed site.

4.0 LOCATION AND NUMBER OF THE M ANTENNAS AND BACK-UP FACILITIES PER STRUCTURE AND NUMBER AND LOCATION OF OTHER TELECOMMUNICATION FACILITIES ON THE PROPERTY

Mobilitie proposes the installation of one (I) wireless telecommunication antenna on a light pole in Oakland, California. The proposed site will have a total of one (I) antenna at the site.

There is one sector proposed at this site with one antenna in that sector. The antenna is transmitting omnidirectionally in the 2500 Mhz Frequency range. The bottom of the antenna will be 28.3 feet above the ground level.

5.0 POWER RATING FOR ALL EXISTING AND PROPOSED BACKUP EQUIPMENT SUBJECT TO THE APPLICATION

The operating power of each frequency, for modeling purposes, was assumed to be the following:

Mobilitie Operating Powers Per Sector		
Frequency (MHz)	Power (Watts)	# of Transmitters
2500	20	2

Additional transmitter information used in the modeling of Mobilitie antennas is summarized in the RoofView® export file presented in Appendix C.

6.0 TOTAL NUMBER OF WATTS PER INSTALLATION AND THE TOTAL NUMBER OF WATTS FOR ALL INSTALLATIONS ON THE STRUCTURE

The Effective Radiated Power (ERP) for each carrier and frequency is summarized below:

Effective Radiated Pow	er (ERP) per Frequency
Frequency (MHz)	ERP (Watts)
2500	173

7.0 PREFERRED METHOD OF ATTACHMENT OF PROPOSED ANTENNA INCLUDING DIRECTIONALITY OF ANTENNAS AND HEIGHT OF ANTENNAS ABOVE NEAREST WALKING SURFACE

Based on the information provided to EBI, the proposed antennas are to be mounted inside an antenna shroud on an existing light pole and operating in the directions, frequencies, and heights mentioned in section 4.0 above.

8.0 ESTIMATED AMBIENT RADIO FREQUENCY FIELDS FOR THE PROPOSED SITE

Based on worst-case predictive modeling, there are no modeled exposures on any accessible ground-level or adjacent building walking/working surface related to proposed equipment in the area that exceed the FCC's occupational and/or general public exposure limits at this site. As such, the proposed project is in compliance with FCC rules and regulations.

	Maximu	ım Permissible Exposure (M	IPE) Summary	
Location	% of FCC General Public/Uncontrolled Exposure Limit	% of FCC Occupational/Controlled Exposure Limit	Power Density (mW/cm²)	Occupational Approach Distance (ft.)
8		All Carrier Equipment	t	
Antenna Face Level	114.20	22.84	1.1420	<1, 0,,
Ground	1.30	0.26	0.0130	<1'0"
Adjacent Building	2.84	0.57	0.0284	<1' 0"

The inputs used in the modeling are summarized in the RoofView® export file presented in Appendix C.

There are no modeled areas on the ground that exceed the FCC's limits for general public or occupational exposure in front of the other carrier antennas.

9.0 SIGNAGE AT THE FACILITY IDENTIFYING ALL WTS EQUIPMENT AND SAFETY PRECAUTIONS FOR PEOPLE NEARING THE EQUIPMENT AS MAY BE REQUIRED BY THE APPLICABLE FCC ADOPTED STANDARDS

Signs are the primary means for control of access to areas where RF exposure levels may potentially exceed the MPE. However, it is not recommended that signage be placed in highly public areas where there are no exposures above the FCC general public limits. Signage at this site should be installed following carrier and local jurisdiction requirements. Additionally, any elevated workers should be alerted to any potential exposures at the antenna face. There are no exposures above the FCC limits at ground level and therefore barriers are not recommended.

Workers that are elevated above the ground may be exposed to power densities greater than the applicable FCC limits. Workers should be informed via signage about the presence of antennas and their associated fields and practice RF Safety Procedures.

Access to this site is accomplished by walking up to the light pole. Access to the antennas is gained via a lift or climbing with fall protection and therefore the antennas are considered not accessible to the general public.

10.0 STATEMENT ON PRODUCTION OF THIS REPORT AND QUALIFICATIONS

Please see the certifications attached in Appendix B below.

11.0 LIMITATIONS

This report was prepared for the use of Mobilitie. It was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same locale under like circumstances. The conclusions provided by EBI are based solely on the information provided by the client. The observations in this report are valid on the date of the investigation. Any additional information that becomes available concerning the site should be provided to EBI so that our conclusions may be revised and modified, if necessary. This report has been prepared in accordance with Standard Conditions for Engagement and authorized proposal, both of which are integral parts of this report. No other warranty, expressed or implied, is made.

12.0 SUMMARY AND CONCLUSIONS

EBI has prepared this Radiofrequency Emissions Compliance Report for the proposed Mobilitie telecommunications equipment at the site located at M.L.K. Jr. Way, S of 32nd St in Oakland, California.

EBI has conducted theoretical modeling to estimate the worst-case power density from proposed Mobilitie antennas and the other carriers' existing antennas to document potential MPE levels at this location and ensure that site control measures are adequate to meet FCC and OSHA requirements. As presented in the preceding sections, based on worst-case predictive modeling, there are no modeled exposures on any accessible ground-level or adjacent building walking/working surface related to proposed equipment in the area that exceed the FCC's occupational and/or general public exposure limits at this site. As such, the proposed project is in compliance with FCC rules and regulations.

Signage is recommended at the site as presented in Section 9.0. Posting of the signage brings the site into compliance with FCC rules and regulations.

Appendix A Federal Communications Commission (FCC) Requirements

The FCC has established Maximum Permissible Exposure (MPE) limits for human exposure to Radiofrequency Electromagnetic (RF-EME) energy fields, based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc. (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC guidelines incorporate two separate tiers of exposure limits that are based upon occupational/controlled exposure limits (for workers) and general public/uncontrolled exposure limits for members of the general public.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general public/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

General public/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Table I and Figure I (below), which are included within the FCC's OET Bulletin 65, summarize the MPE limits for RF emissions. These limits are designed to provide a substantial margin of safety. They vary by frequency to take into account the different types of equipment that may be in operation at a particular facility and are "time-averaged" limits to reflect different durations resulting from controlled and uncontrolled exposures.

The FCC's MPEs are measured in terms of power (mW) over a unit surface area (cm²). Known as the power density, the FCC has established an occupational MPE of 5 milliwatts per square centimeter (mW/cm²) and an uncontrolled MPE of 1 mW/cm² for equipment operating in the 1900 MHz and 2500 MHz frequency ranges. For the Mobilitie equipment operating at 800 MHz, the FCC's occupational MPE is 2.66 mW/cm² and an uncontrolled MPE of 0.53 mW/cm². These limits are considered protective of these populations.

(A) Limits for Occu	pational/Controlle	d Exposure		
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm²)	Averaging Time [E] ² , [H] ² , or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm²)	Averaging Time [E] ² , [H] ² , or S (minutes)
Frequency Range (MHz)	Electric Field Strength (E)	Magnetic Field Strength (H)	(mW/cm²)	$[E]^2$, $[H]^2$, or S
Frequency Range (MHz) 0.3-1.34 1.34-30	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	(mW/cm²)	[E] ² , [H] ² , or S (minutes)
Frequency Range (MHz) 0.3-1.34 1.34-30 30-300	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	(mW/cm²)	[E] ² , [H] ² , or S (minutes)
이번 물리는 때 그리고 있는 목사를 가게 하는 것이 되었다면 되었다.	Electric Field Strength (E) (V/m) 614 824/f	Magnetic Field Strength (H) (A/m) 1.63 2.19/f	(mW/cm²) (100)* (180/f²)*	[E] ² , [H] ² , or S (minutes) 30 30

f = Frequency in (MHz)

^{*} Plane-wave equivalent power density

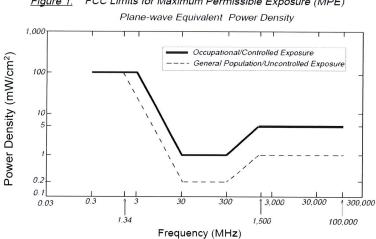


Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)

Based on the above, the most restrictive thresholds for exposures of unlimited duration to RF energy for several personal wireless services are summarized below:

Personal Wireless Service	Approximate Frequency	Occupational MPE	Public MPE
Personal Communication (PCS)	1,950 MHz	5.00 mW/cm ²	I.00 mW/cm ²
Cellular Telephone	870 MHz	2.90 mW/cm ²	0.58 mW/cm ²
Specialized Mobile Radio	855 MHz	2.85 mW/cm ²	0.57 mW/cm ²
Most Restrictive Freq, Range	30-300 MHz	I.00 mW/cm ²	0.20 mW/cm ²

MPE limits are designed to provide a substantial margin of safety. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

Personal Communication System (PCS) facilities used by Mobilitie in this area operate within a frequency range of 800-1900 MHz. Facilities typically consist of: 1) electronic transceivers (the radios or cabinets) connected to wired telephone lines; and 2) antennas that send the wireless signals created by the transceivers to be received by individual subscriber units (PCS telephones). Transceivers are typically connected to antennas by coaxial cables.

Advanced Wireless Services (AWS) facilities used by the carrier in this area operate within a frequency range of 2496 - 2690 MHz. Facilities typically consist of: I) electronic transceivers (the radios or cabinets); and 2) antennas that send the wireless signals created by the transceivers to be received by individual subscriber units. Transceivers are typically connected to antennas by coaxial cables.

Because of the short wavelength of PCS/AWS services, the antennas require line-of-site paths for good propagation, and are typically installed above ground level. Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky. This design, combined with the low power of PCS facilities, generally results in no possibility for exposure to approach Maximum Permissible Exposure (MPE) levels, with the exception of areas directly in front of the antennas.

FCC Compliance Requirement

A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits <u>and</u> there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards.

Appendix B Certifications

Reviewed and Approved by:

Expiration

JUN 3 0 2018

CIVIL JUL 1 2 2017

Anthony E. Farmand, PE Professional Engineer

Note that EBI's scope of work is limited to an evaluation of the Radio Frequency – Electromagnetic Energy (RF-EME) field generated by the antennas and broadcast equipment noted in this report. The engineering and design of the building and related structures, as well as the impact of the antennas and broadcast equipment on the structural integrity of the building, are specifically excluded from EBI's scope of work.

Preparer Certification

I, Alexandra Vest, state that:

- I am an employee of EnviroBusiness Inc. (d/b/a EBI Consulting), which provides RF-EME safety and compliance services to the wireless communications industry.
- I have successfully completed RF-EME safety training, and I am aware of the potential hazards from RF-EME and would be classified "occupational" under the FCC regulations.
- I am familiar with the FCC rules and regulations as well as OSHA regulations both in general and as they apply to RF-EME exposure.
- I have reviewed the data provided by the client and incorporated it into this Site Compliance Report such that the information contained in this report is true and accurate to the best of my knowledge.

ales to

Appendix C Roofview® Export File / Antenna Inventory

List Of Area \$U\$41:\$FX

PUBLIC UTILITIES COMMISSION

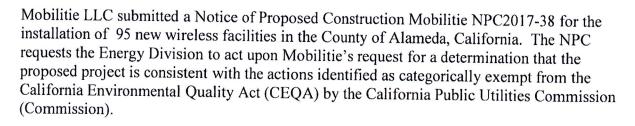
505 VAN NESS AVENUE

SAN FRANCISCO, CA 94102-3298

July 7, 2017

Ankur Patel Mobilitie LLC 2955 Red Hill Ave, Ste. 200 Costa Mesa, CA 92626

Dear Mr. Patel:



On July 22, 2010, Mobilitie submitted A.10-07-023 seeking the authority to provide full-facilities based, resold competitive local exchange, and interexchange service in California. In the application, Mobilitie explained that their projects would involve the installation of underground conduit in existing rights of way and utility easements, replacement of existing utility poles, installation of new poles, and installation of underground vaults to accommodate small cell communications equipment. Under D. 10-12-004, the Commission determined that the projects planned by Mobilitie would fall within one of several categorical exemptions under CEQA, and that further environmental review would not be required

The Energy Division has reviewed Mobilitie's proposal to install 95 new wireless facilities in the County of Alameda, California and has determined that the proposed project is consistent with the actions identified by the Commission as categorically exempt from CEQA. The Energy Division hereby grants Mobilitie with the authority to proceed with the construction of the project as described in the NPC.

Sincerely,

Jensen Uchida

California Public Utilities Commission

Jusen Clahil

Regulatory Analyst

Attachment G

