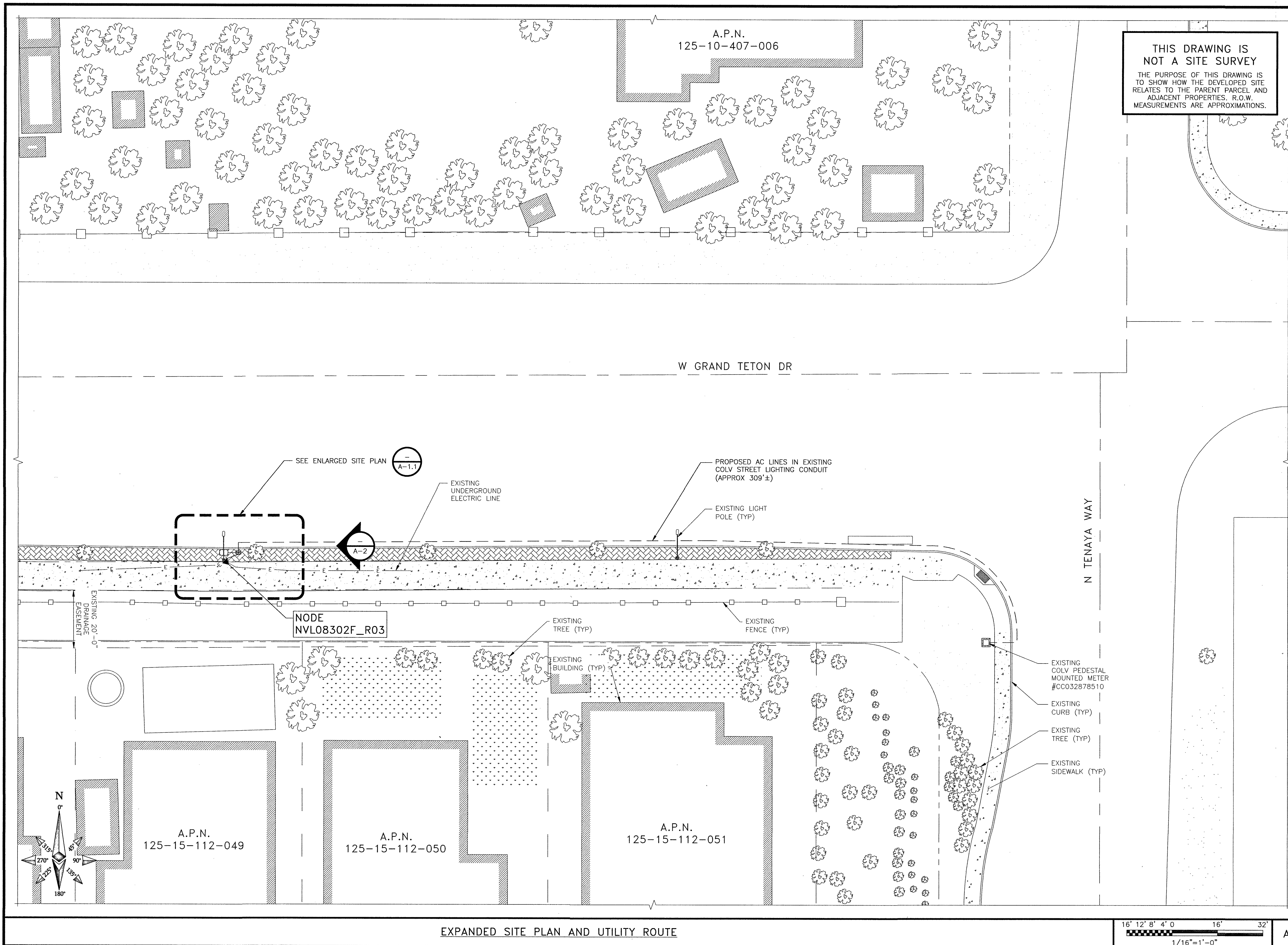




THIS DRAWING IS
NOT A SITE SURVEY
THE PURPOSE OF THIS DRAWING IS
TO SHOW HOW THE DEVELOPED SITE
RELATES TO THE PARENT PARCEL AND
ADJACENT PROPERTIES. R.O.W.
MEASUREMENTS ARE APPROXIMATIONS.



AT&T MOBILITY
10550 W. CHARLESTON
SUITE B
LAS VEGAS, NV 89135



BLACK & VEATCH

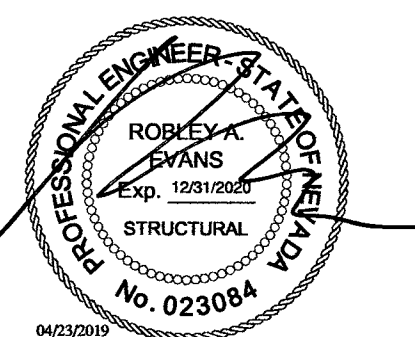
BLACK & VEATCH CORPORATION
8965 S EASTERN AVE
SUITE #325
LAS VEGAS, NV 89123

PROJECT NO: 129084:1512

DRAWN BY: GJS

CHECKED BY: GAC

REV	DATE	DESCRIPTION
0	04/15/19	ISSUED FOR CONSTRUCTION



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OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

NVL08302F_R03
ADJACENT TO
GRAND TETON & TENAYA
LAS VEGAS, NV 89131
PICO SMALL CELL

SHEET TITLE
EXPANDED SITE PLAN
AND UTILITY ROUTE

SHEET NUMBER
A-1

SITE PLAN MAP

NO SCALE

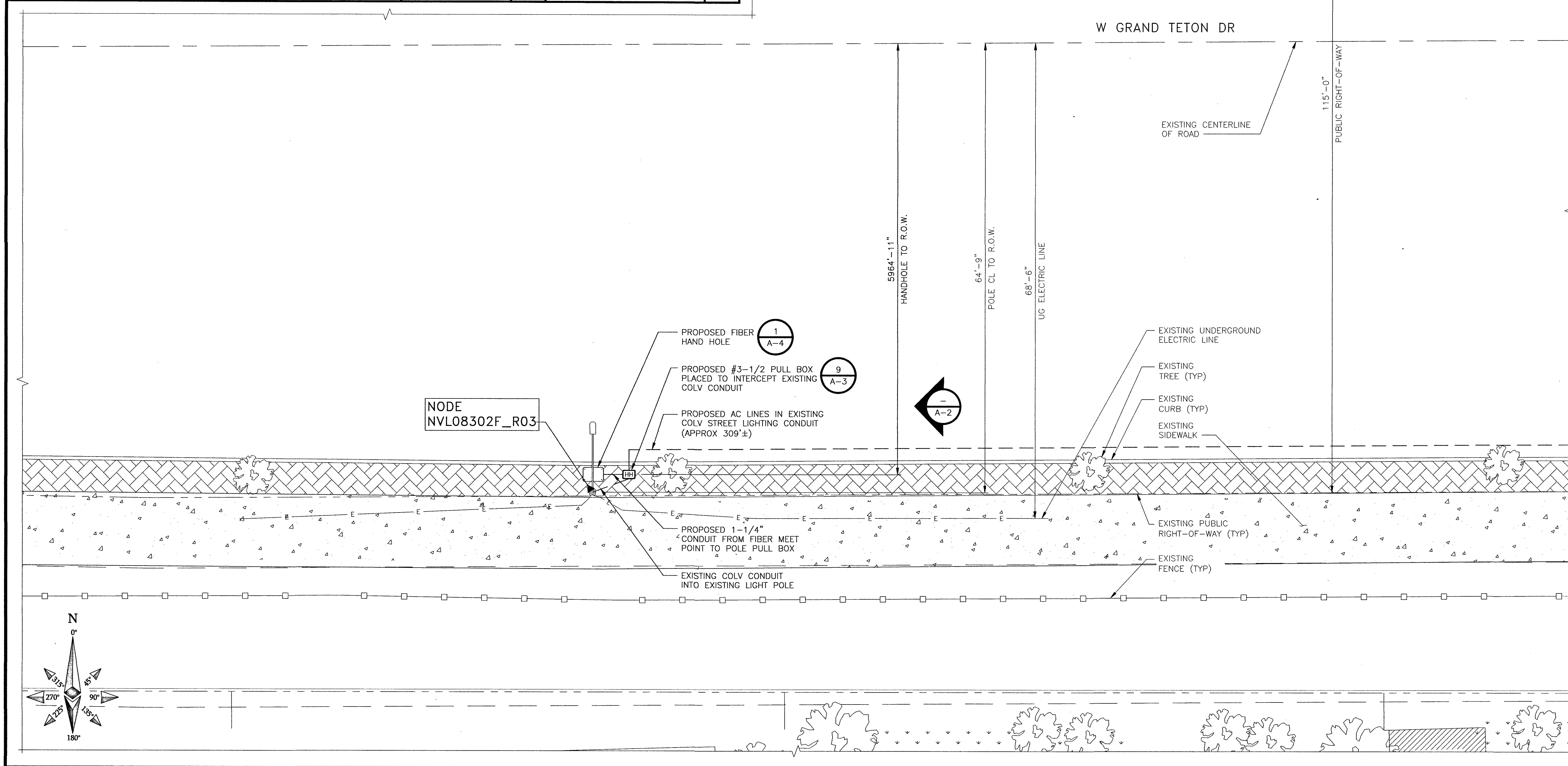
A

SITE PHOTO

B

THIS DRAWING IS
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MEASUREMENTS ARE APPROXIMATIONS.



ENLARGED SITE PLAN

AT&T MOBILITY
10550 W. CHARLESTON
SUITE B
LAS VEGAS, NV 89135

BLACK & VEATCH CORPORATION
8965 S EASTERN AVE
SUITE #325
LAS VEGAS, NV 89123

PROJECT NO:	129084:1512
DRAWN BY:	GJS
CHECKED BY:	GAC

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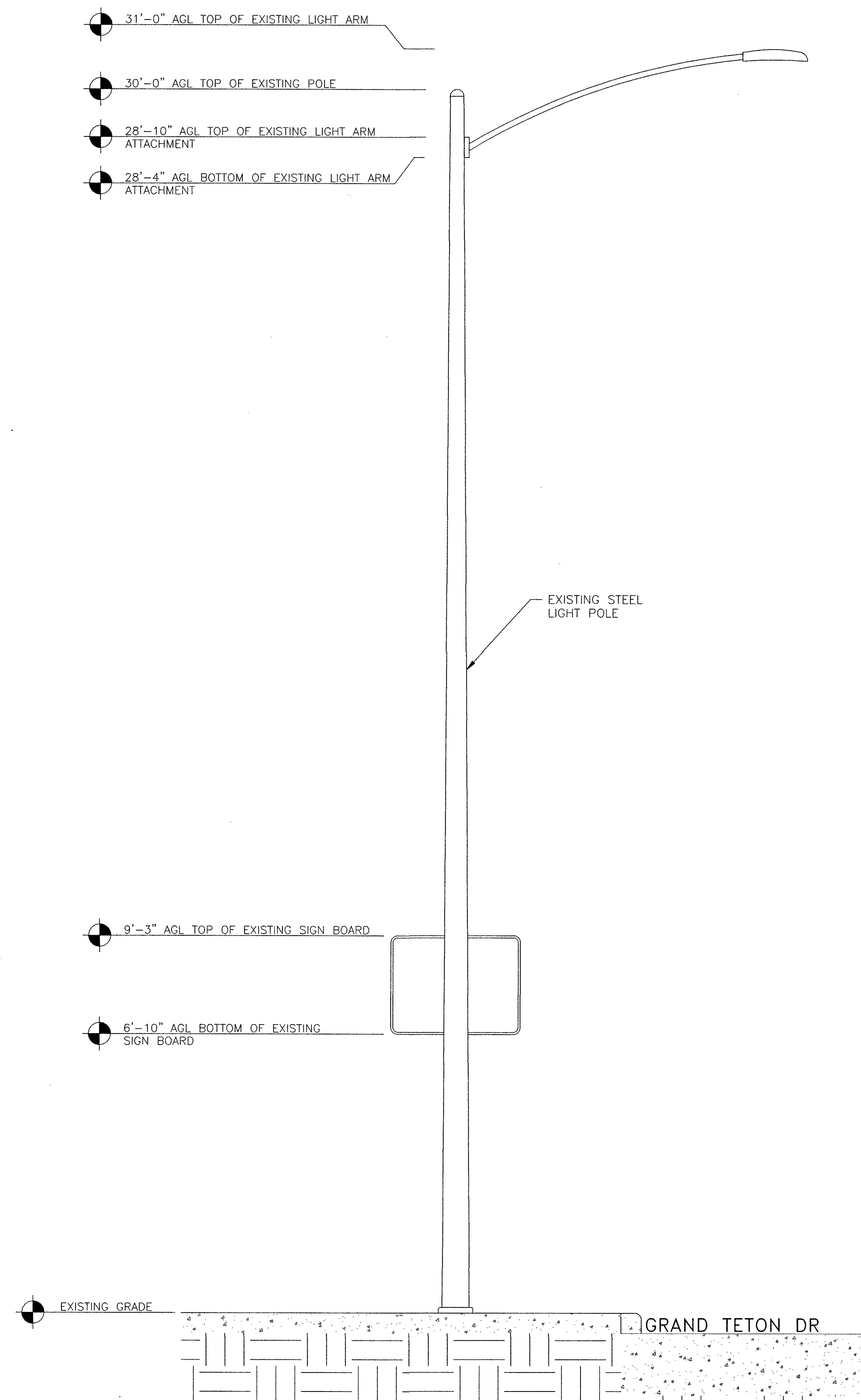
NVL08302F_R03
ADJACENT TO
GRAND TETON & TENAYA
LAS VEGAS, NV 89131
PICO SMALL CELL

SHEET TITLE
ENLARGED SITE PLAN

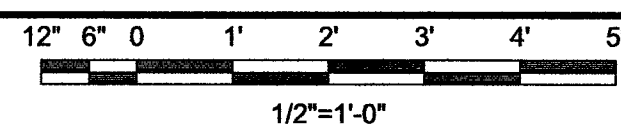
SHEET NUMBER
A-1.1

NOTE

THESE DRAWINGS HAVE BEEN CREATED BASED ON STRUCTURAL CALCULATIONS PERFORMED BY BLACK & VEATCH CONFIRMING THAT THE STRUCTURE HAS SUFFICIENT CAPACITY TO SUPPORT THE PROPOSED LOADING.



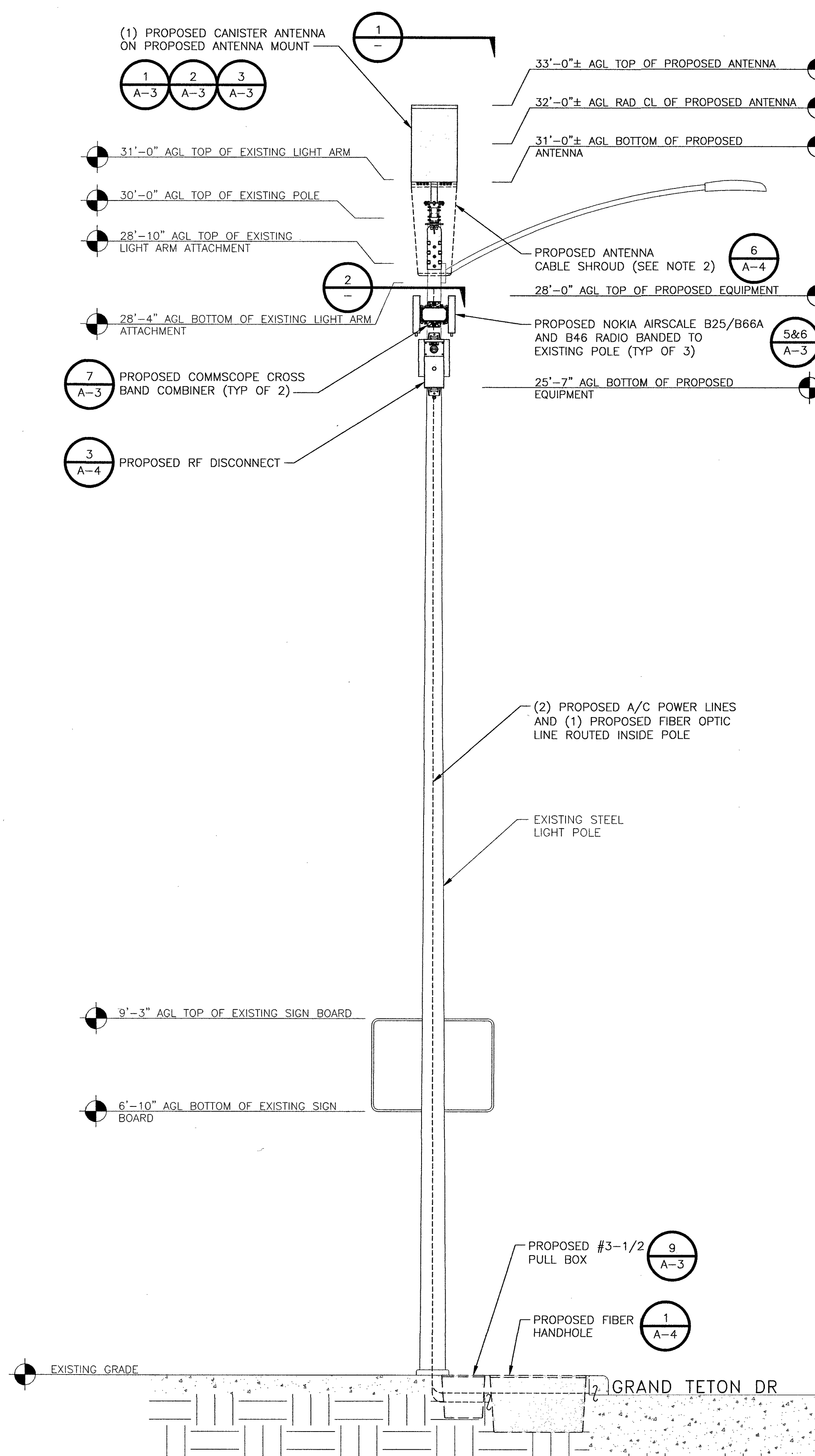
EXISTING EAST ELEVATION



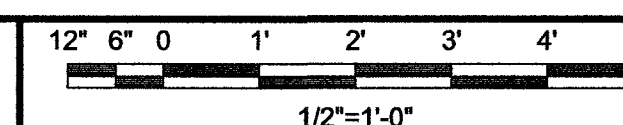
A

NOTE

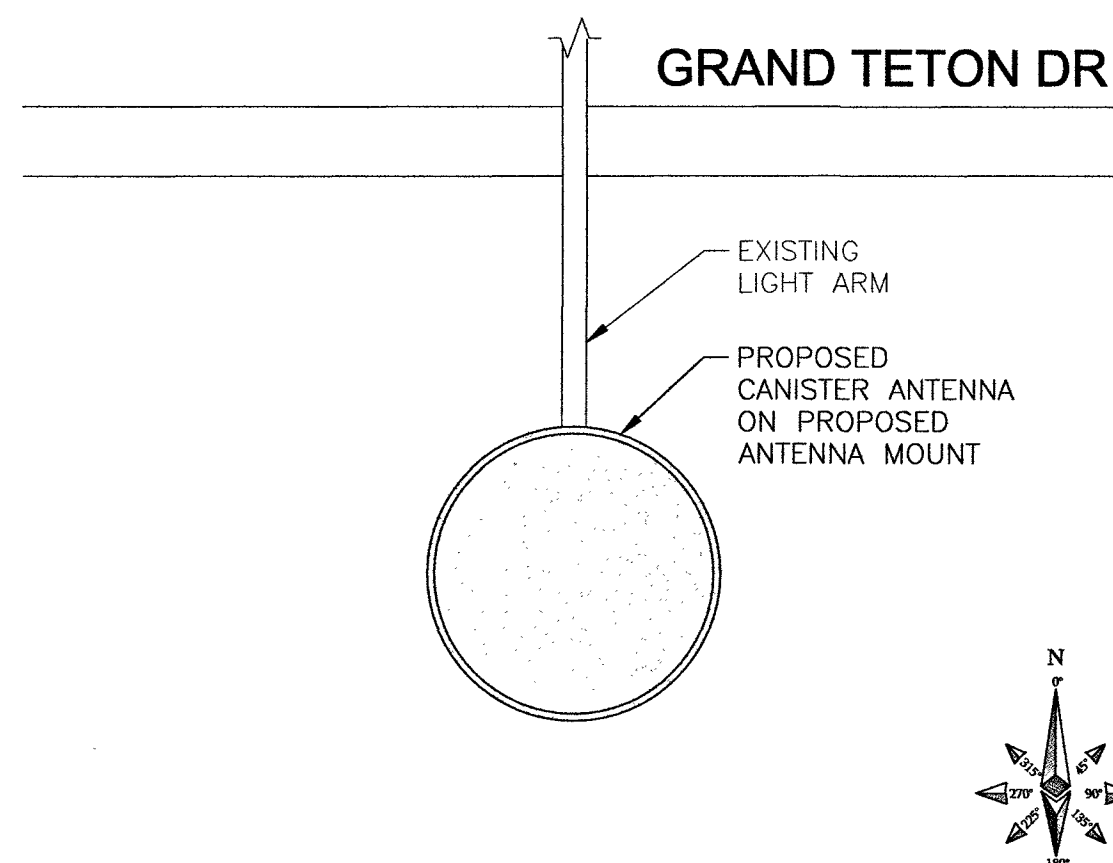
1. REFER TO THE RFDS FOR THIS NODE FOR THE AZIMUTH INFORMATION.
2. CABLE SHROUD NOT ENTIRELY SHOWN FOR CLARITY.
3. ALL EQUIPMENT TO BE PAINTED TO MATCH EXISTING STRUCTURE.



PROPOSED EAST ELEVATION



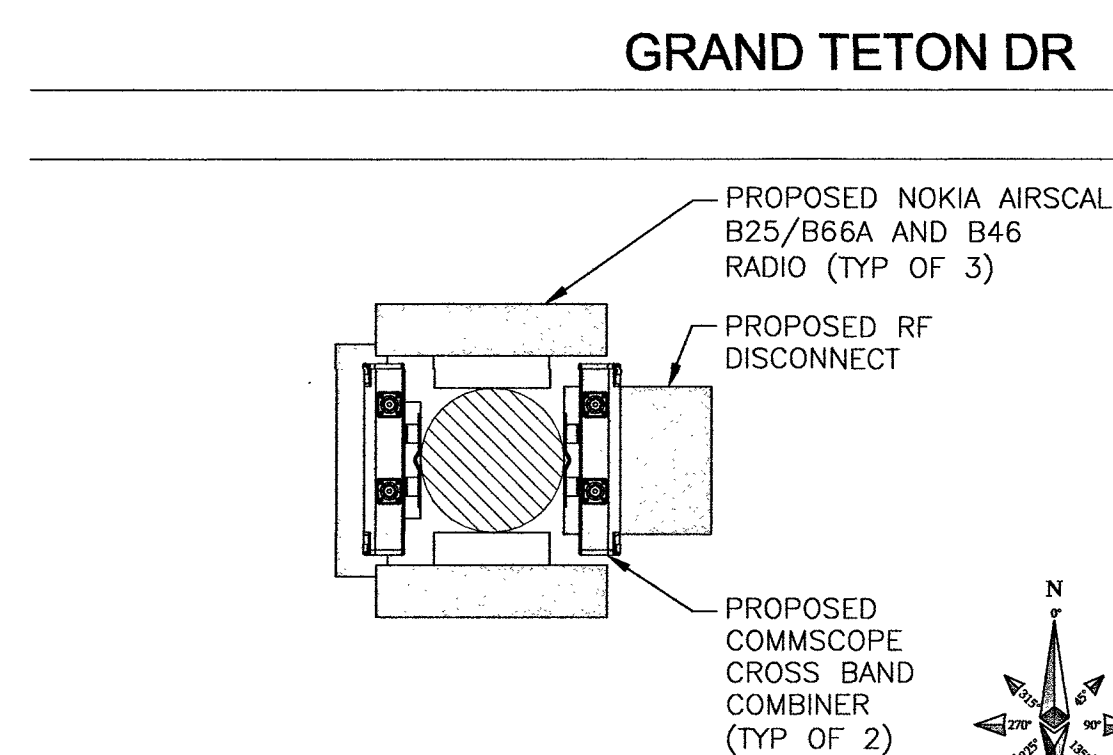
B



ANTENNA PLAN VIEW

NO SCALE

1



RADIO PLAN VIEW

NO SCALE

2

NOT USED

NO SCALE

3



AT&T MOBILITY
10550 W. CHARLESTON
SUITE B
LAS VEGAS, NV 89135



BLACK & VEATCH

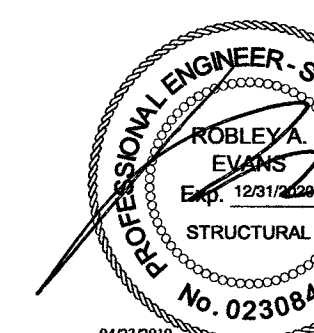
BLACK & VEATCH CORPORATION
8965 S EASTERN AVE
SUITE #325
LAS VEGAS, NV 89123

PROJECT NO: 129084:1512

DRAWN BY: GJS

CHECKED BY: GAC

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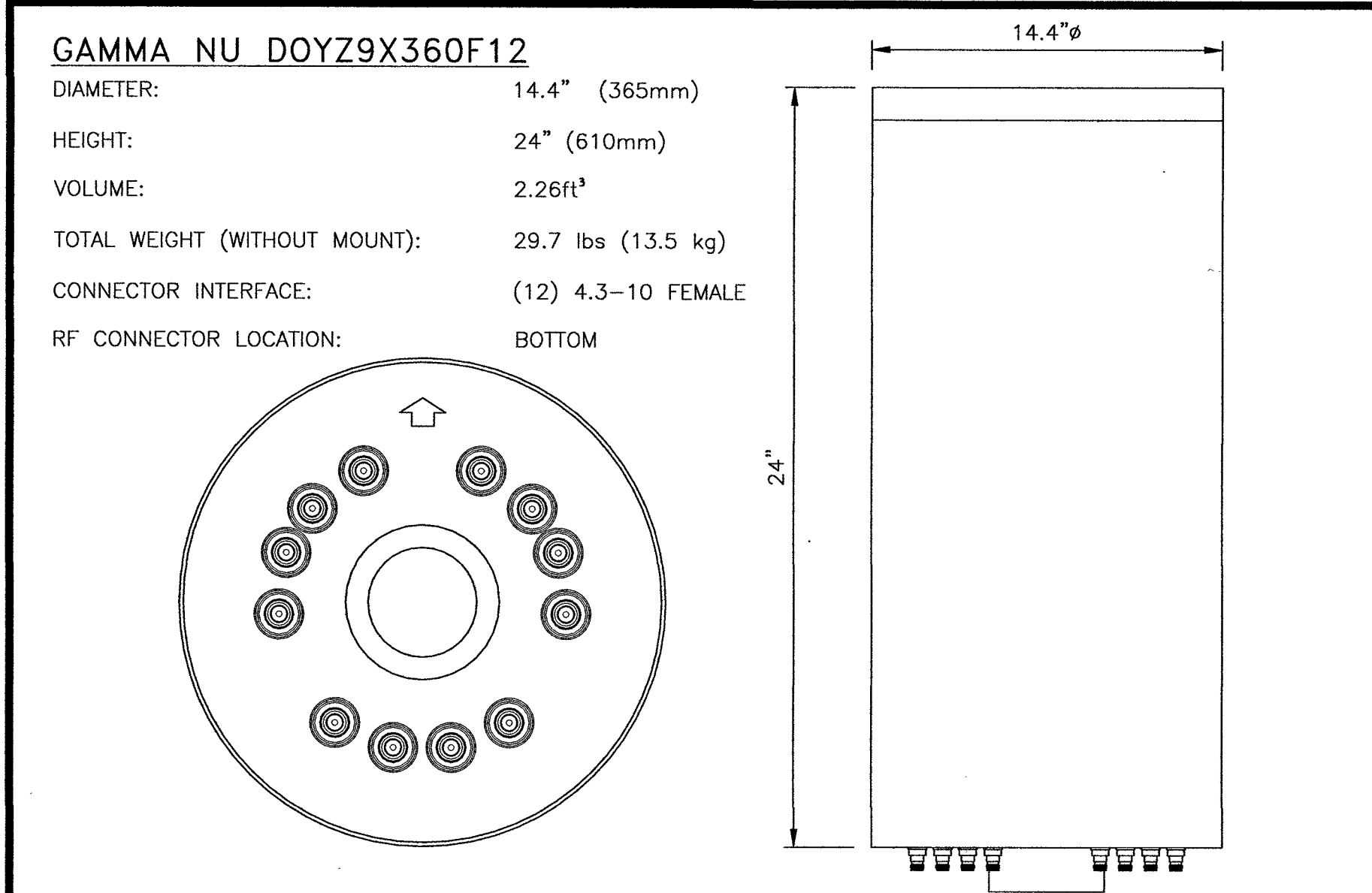
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NVL08302F_R03
ADJACENT TO
GRAND TETON & TENAYA
LAS VEGAS, NV 89131
PICO SMALL CELL

SHEET TITLE
POLE ELEVATIONS
AND RISER DETAILS

SHEET NUMBER

A-2



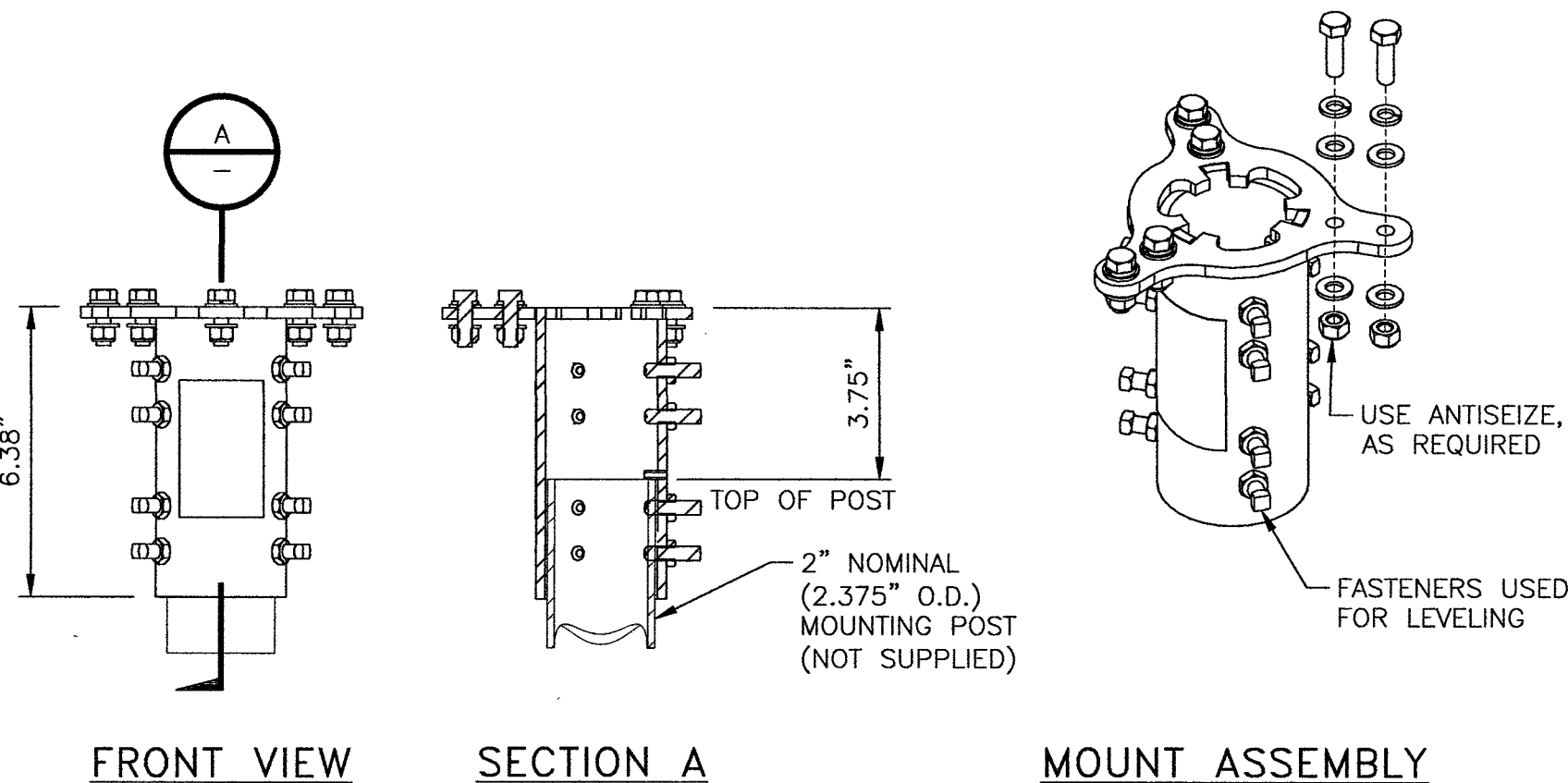
ANTENNA SPECIFICATIONS

NO SCALE

1

CONCEALFAB 900109

DIMENSIONS HxW: 6.38"x7.00" (162.05x178mm)
WEIGHT: 4.66 lbs (2.11 kg)
* DETAIL IS FOR GRAPHIC REPRESENTATION, CONTRACTOR MUST REFERENCE MANUFACTURERS DRAWINGS PRIOR TO CONSTRUCTION.



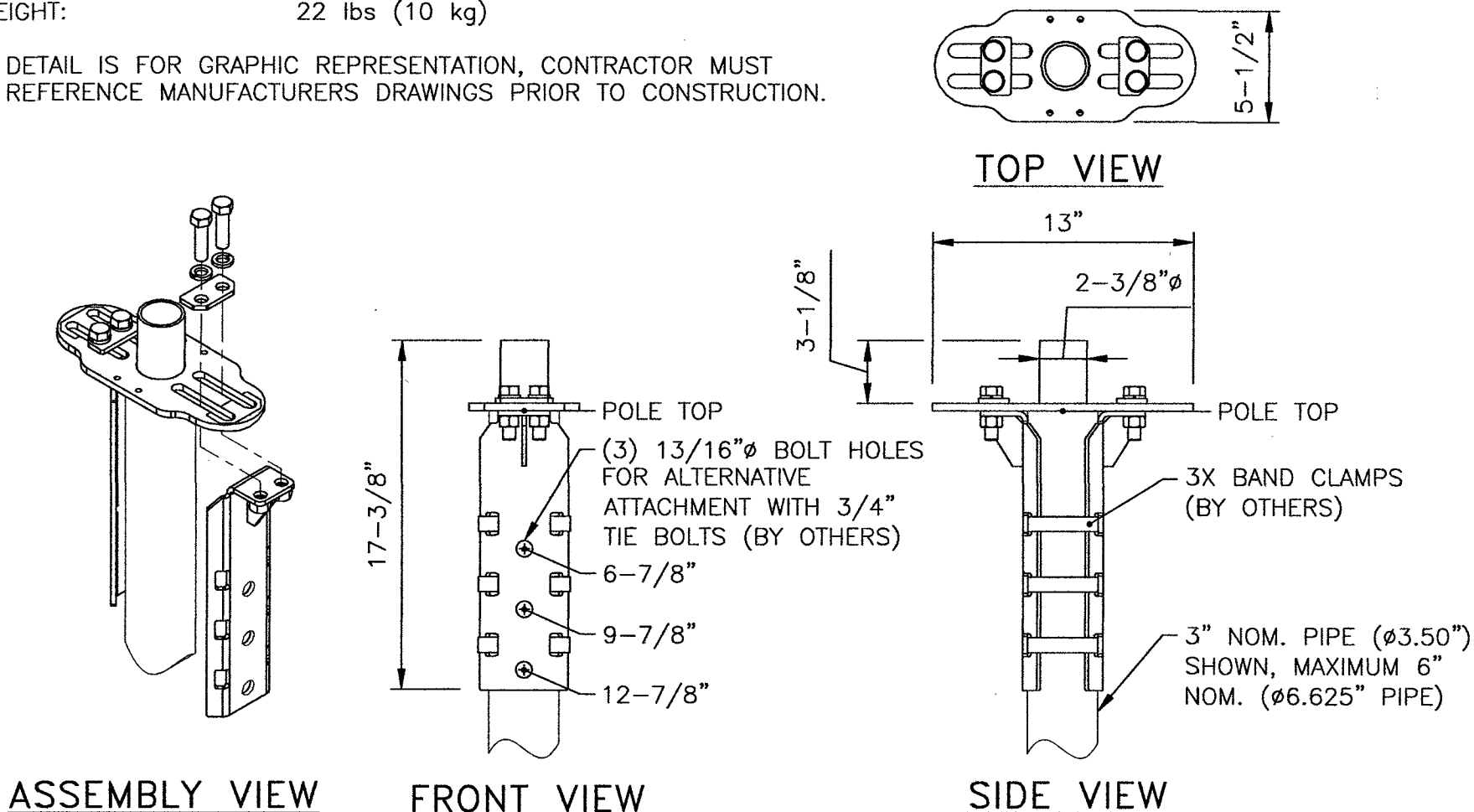
ANTENNA SLEEVE MOUNT

NO SCALE

2

CONCEALFAB 900010

DIMENSIONS HxWxL: 17.375"x5.5"x13" (442x140x330 mm)
WEIGHT: 22 lbs (10 kg)
* DETAIL IS FOR GRAPHIC REPRESENTATION, CONTRACTOR MUST REFERENCE MANUFACTURERS DRAWINGS PRIOR TO CONSTRUCTION.



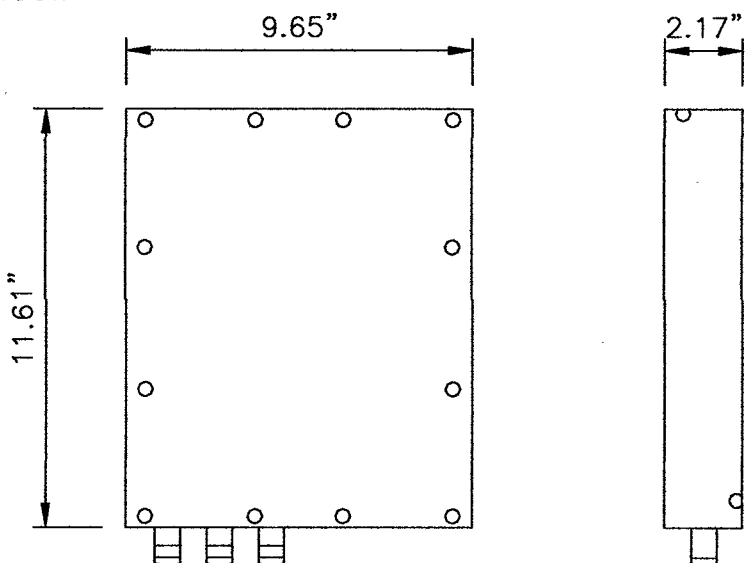
SMALL DIAMETER POLE TOP MOUNT

NO SCALE

3

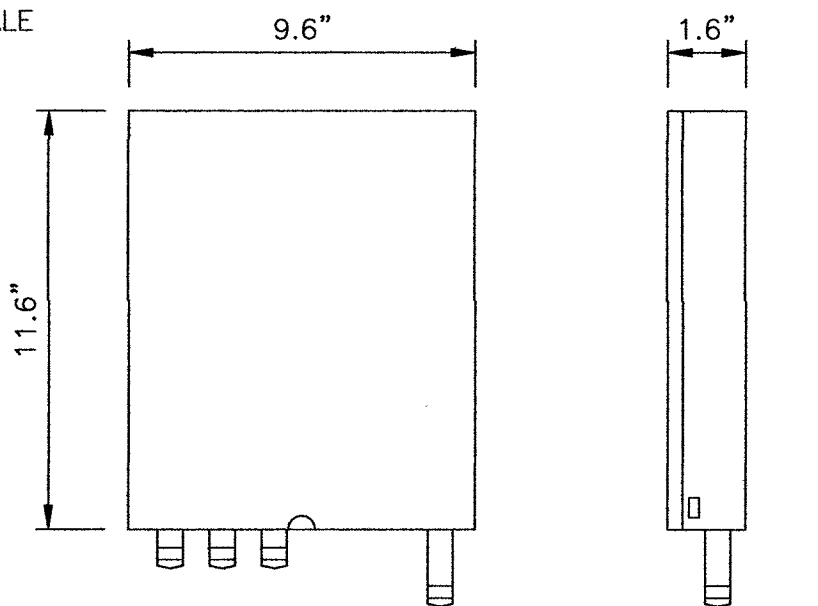
NOKIA AIRSCALE MICRO B25/B66A RRH

DIMENSIONS, HxWxD: 11.61"x9.65"x2.17" (295x245x55mm)
WEIGHT: 12.79 lbs (5.8 kg)
INTERFACES: (2) CPRI FRONTHAUL PORTS
(1) EXTERNAL ALARM PORT
POWER CONSUMPTION : TYP. 110W, MAX. 150W
TEMP. RANGE: -40°C TO +55°C



NOKIA AIRSCALE B46 (LAA) RRH

DIMENSIONS, HxWxD: 11.6"x9.6"x1.6" (294.64x243.84x40.64mm)
WEIGHT: 11.7 lbs (5.31 kg)
INTERFACES: (1) CPRI SFP INCLUDED
ANTENNA CONFIGURATION: 2T2R
RF: NEX10 PLUS FEMALE



FRONT VIEW SIDE VIEW

NOT USED

NO SCALE

4

RADIO SPECIFICATIONS

NO SCALE

5

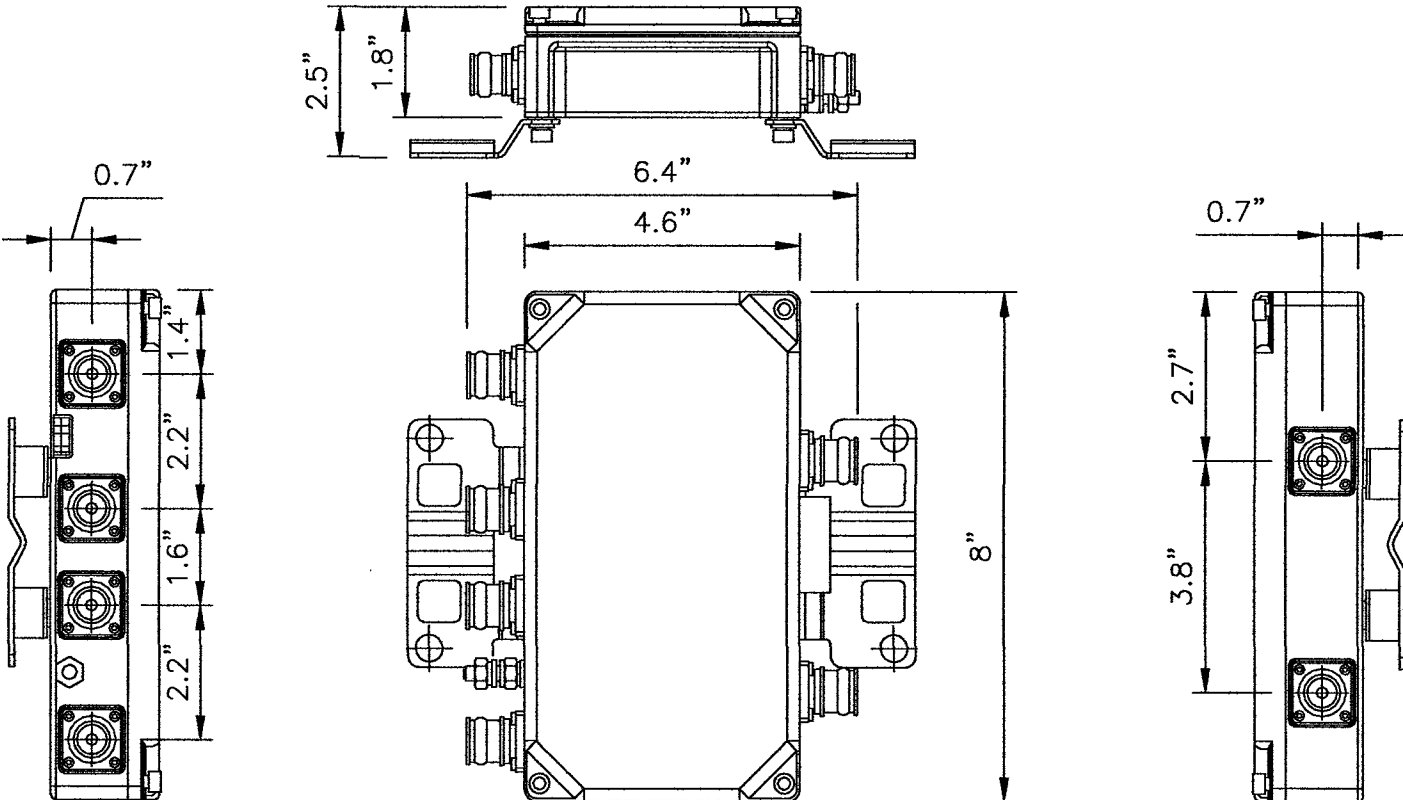
RADIO SPECIFICATIONS

NO SCALE

6

COMMSCOPE CBC1923T-4310 E11F13P06

DIMENSIONS, WxDxH: 4.6"x1.8"x8.3" (116x46x212mm)
CONNECTORS: MODULES: (4) 4.3-10 DIN FEMALE
ANT: (2) 4.3-10 DIN FEMALE
WEIGHT: 4.9 lbs (2.2 kg)



COMBINER SPECIFICATIONS

NO SCALE

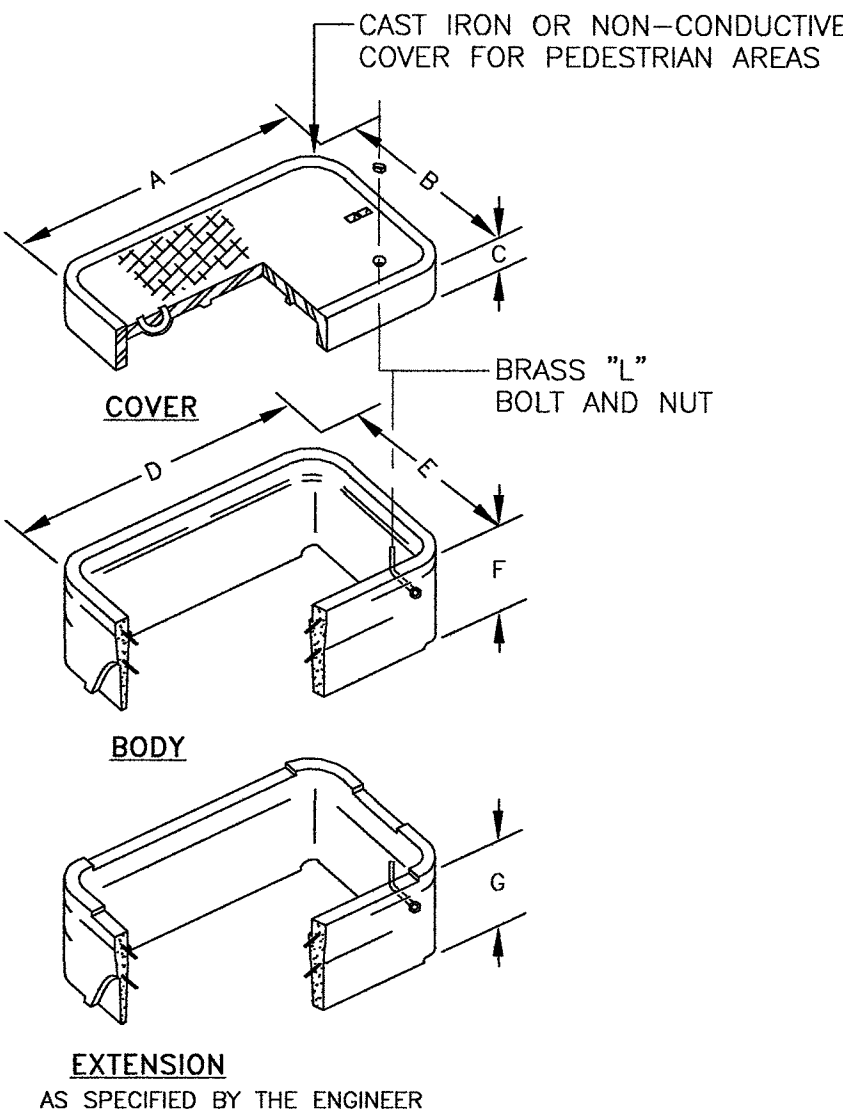
8

NOTES

- COVERS INSTALLED IN TRAFFIC AND OPEN AREAS ACCESSIBLE TO TRAFFIC SHALL BE PER STANDARD DRAWING NO. 327.
- SEE STANDARD DRAWING NO. 323 FOR COVER GROUNDING.
- REFER TO SHEET GN-1 FOR ADDITIONAL HANDHOLE NOTES.

PULL BOX SIZE (COMMERCIAL DESIGNATION)			
	3-1/2	5	7
A	15	21-3/4	30-5/8
B	10	11-3/4	17-5/8
C	3/4	2	2
D	19-3/8	25	34-3/4
E	14-3/8	15	21-3/4
F	12	12	12
G	N/A	10-1/4	11-1/2

NOMINAL DIMENSION IN INCHES



CONCRETE PULL BOX SPECIFICATIONS

NO SCALE

9



AT&T MOBILITY
10550 W. CHARLESTON
SUITE B
LAS VEGAS, NV 89135



BLACK & VEATCH

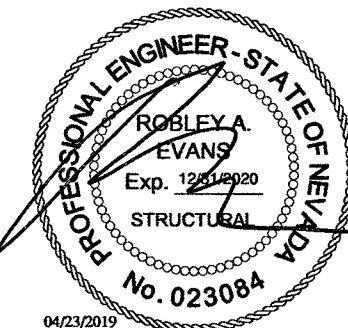
BLACK & VEATCH CORPORATION
8965 S EASTERN AVE
SUITE #325
LAS VEGAS, NV 89123

PROJECT NO: 129084:1512

DRAWN BY: GJS

CHECKED BY: GAC

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NVL08302F_R03
ADJACENT TO
GRAND TETON & TENAYA
LAS VEGAS, NV 89131
PICO SMALL CELL

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER

A-3

FCA243624T-00006 FIBERGLASS/PCX POLYMER CONCRETE ASSEMBLY

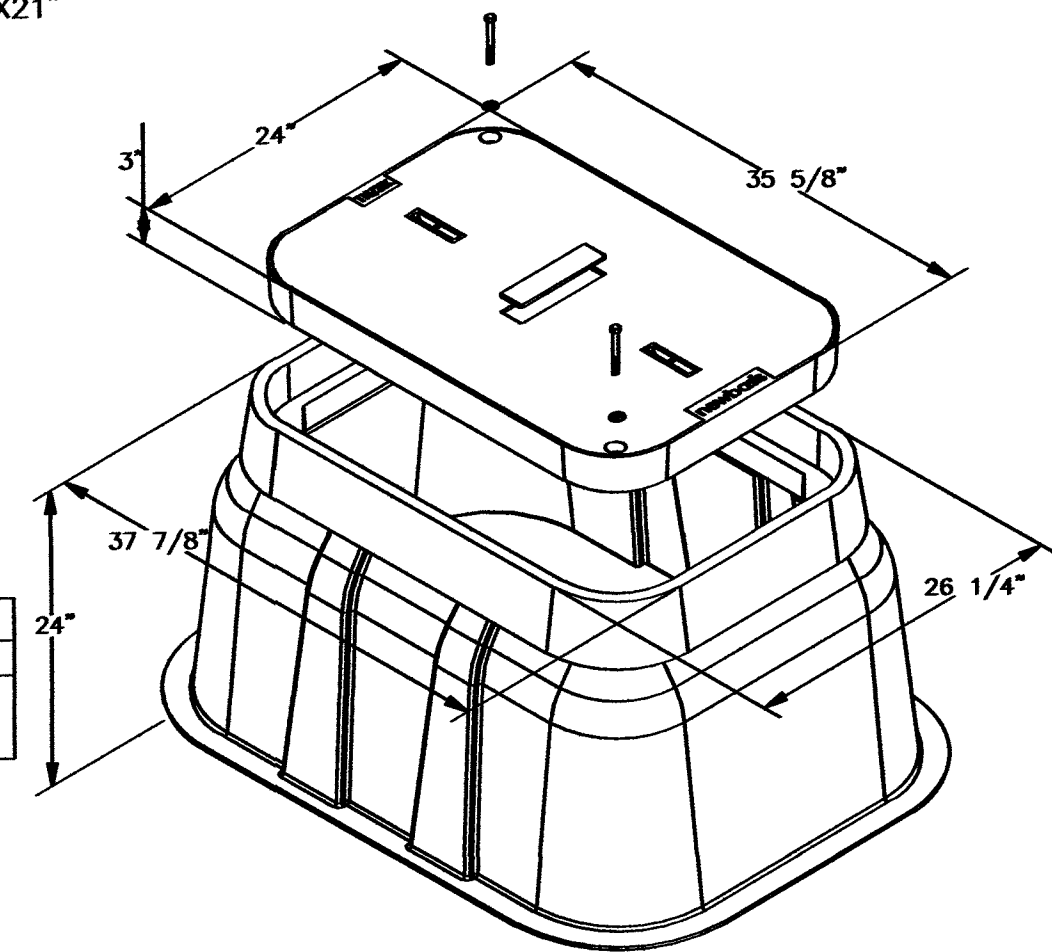
DIMENSIONS (LxWxH): 36"x24"x24"
INTERIOR DIMENSIONS (LxWxH): 33"x21"x21"

- USDA/RUS APPROVED
- DROP-IN NAMEPLATE
- SHIPPED ASSEMBLED
- SKID RESISTANT COVER
- STAINLESS STEEL BOLTS
- CAST-IN FLOATING NUT BOX
- INTEGRAL DRAIN HOLES

LOAD RATINGS:
INCIDENTAL TRAFFIC - PARKING LOT, SIDEWALK

- CONFORMS TO:
- WUC 3.6
 - ASTM C 857
 - ANSI/SCTE 77 - "T15/20K"

INSIDE DIMENSIONS		
Length	Width	Depth
33 1/8"	21 1/2"	21"
43 7/8"	32 3/8"	



HAND HOLE SPECIFICATIONS

NO SCALE

1

NOT USED

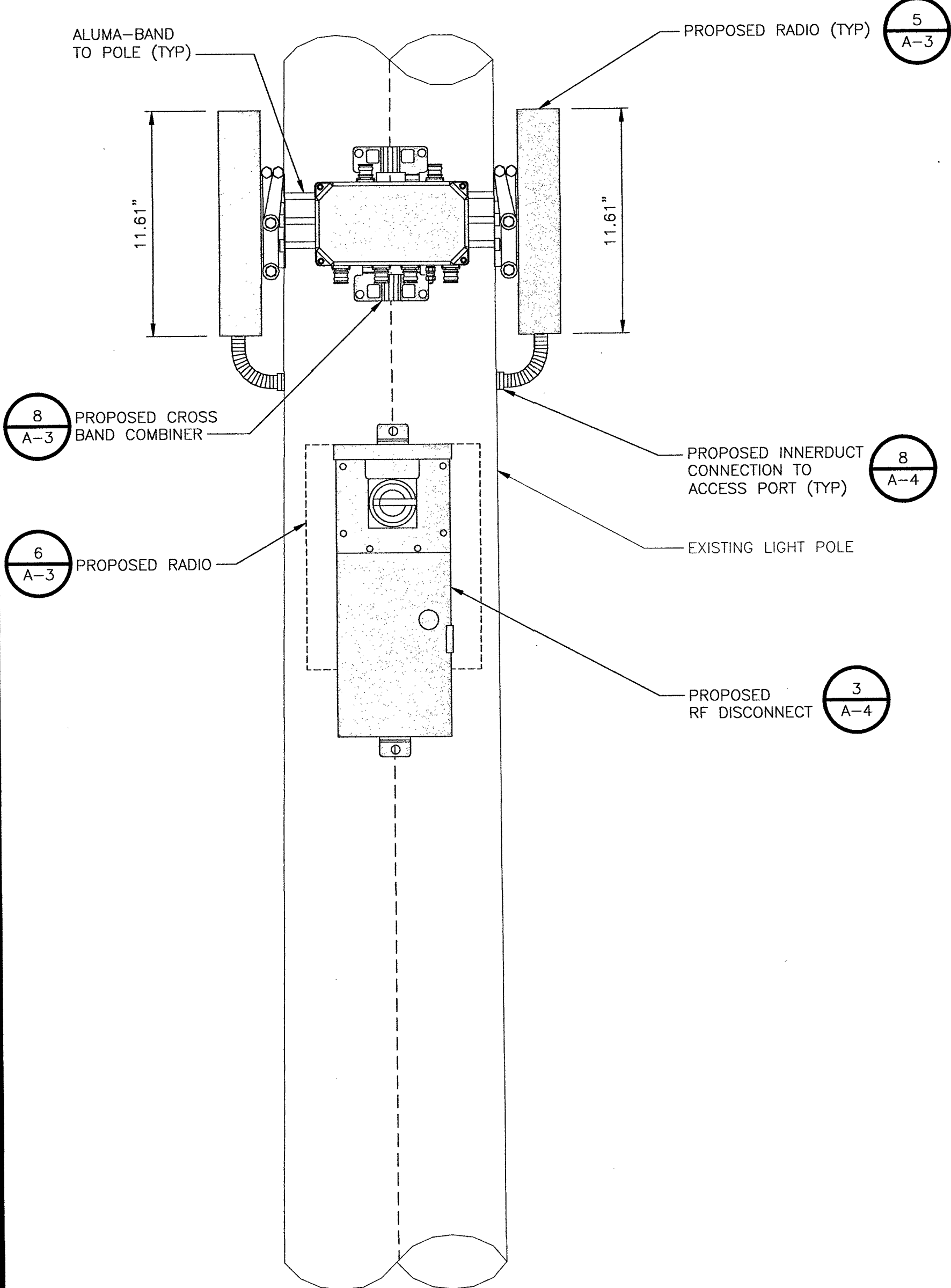
NO SCALE

2

LOAD CENTER DETAIL

NO SCALE

3



EQUIPMENT PLACEMENT DETAIL

NO SCALE

4

NOT USED

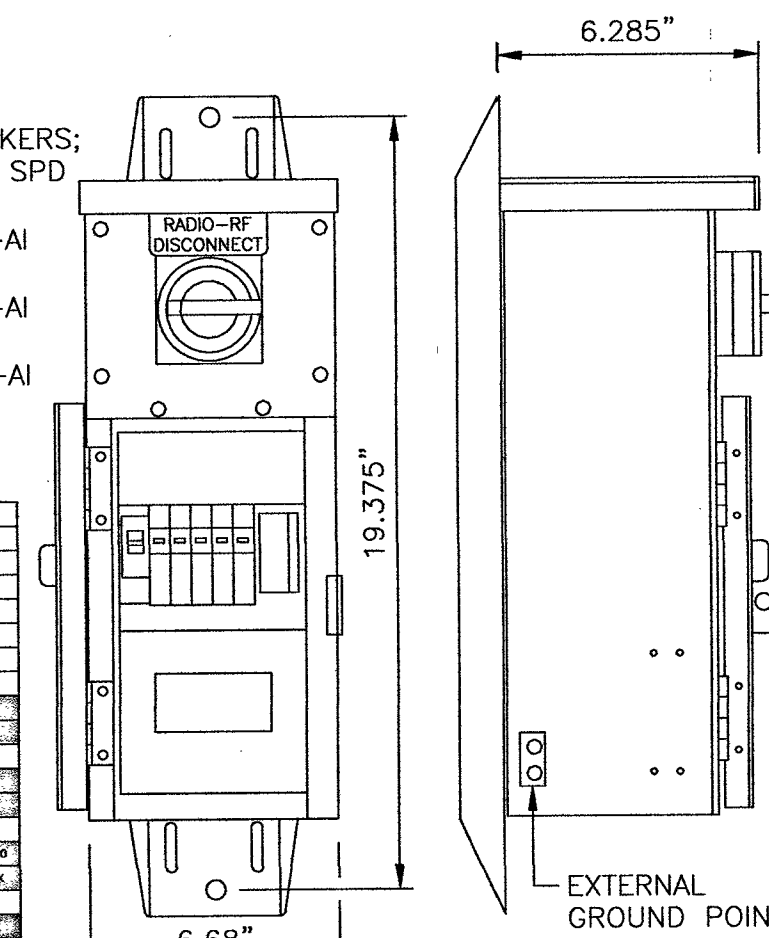
NO SCALE

7

PACTECHSOL PTS90123

DIMENSIONS, HxWxD (VOLUME): 16.15"x6.68"x6.285" (0.39ft³)
OPERATING VOLTAGE: 120 VAC
MAIN BREAKER: 60 amps
NUMBER OF BREAKERS (MAX): (5) UL-489 BREAKERS;
0-25 amp; DUAL SPD
POWER INPUT WIRE SIZE: #14-#4 awg CU-AI
POWER OUTPUT WIRE SIZE: #14-#4 awg CU-AI
NEUTRAL & GROUND CONTACTS: #14-#4 AWG CU-AI
TOTAL WEIGHT: 13 lbs

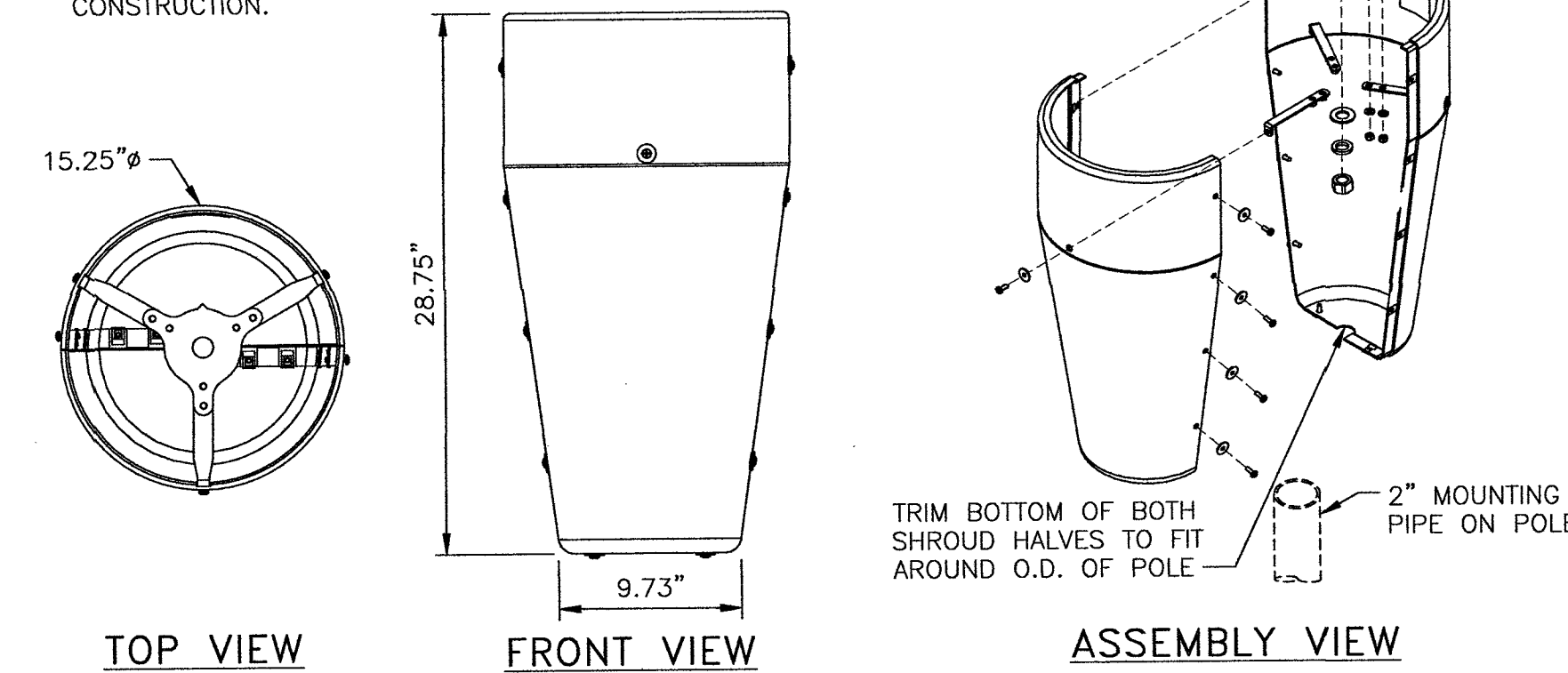
POSITION											
NO.	1	2	3	4	5	6	7	8	9	10	11
DESCRIPTION	1. MAIN BREAKER	2. 5-25 AMP BREAKERS	3. DUAL SPD	4. 14-4 AWG CU-AI	5. 14-4 AWG CU-AI	6. 14-4 AWG CU-AI	7. 14-4 AWG CU-AI	8. 14-4 AWG CU-AI	9. 14-4 AWG CU-AI	10. 14-4 AWG CU-AI	11. 14-4 AWG CU-AI
STANDARD	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
REMARKS											



CONCEALFAB 900086

HEIGHT: 28.75" (703.25 mm)
DIAMETER: 15.25" (387.35 mm)
WEIGHT: 6.95 lbs (3.15 kg)

* DETAIL IS FOR GRAPHIC REPRESENTATION, CONTRACTOR MUST REFERENCE MANUFACTURERS DRAWINGS PRIOR TO CONSTRUCTION.



TOP VIEW

FRONT VIEW

ASSEMBLY VIEW

NOT USED

NO SCALE

5

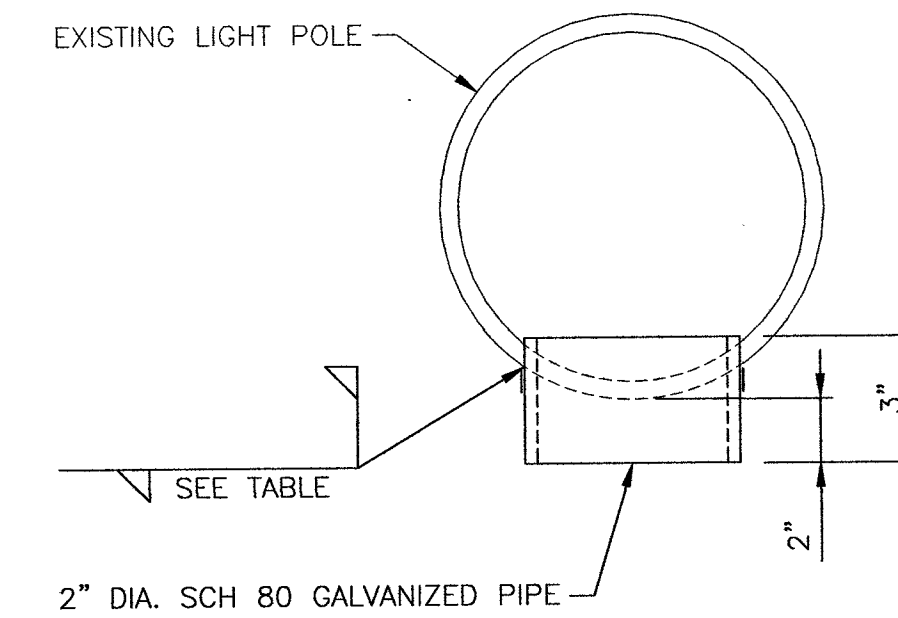
SMALL POLE TOP MOUNT CABLE SHROUD

NO SCALE

6

MINIMUM SIZE OF FILLET WELDS	
MATERIAL THICKNESS OF THICKER PART JOINED (IN.)	MINIMUM SIZE OF FILLET WELD* (IN.)
TO 1/8 INCLUSIVE	1/8
OVER 1/8 TO 1/4	3/16
OVER 1/4 TO 3/8	1/4
OVER 3/8	5/16

*LEG DIMENSION OF FILLET WELDS. SINGLE-PASS WELDS MUST BE USED.



VERTICAL ACCESS PORT DETAIL

NO SCALE

8



AT&T MOBILITY
10550 W. CHARLESTON
SUITE B
LAS VEGAS, NV 89135



BLACK & VEATCH

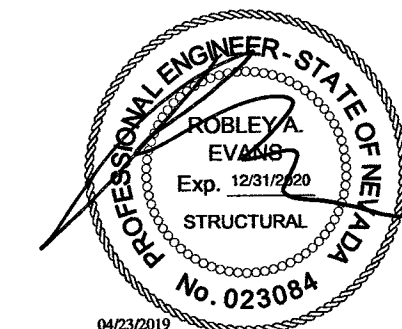
BLACK & VEATCH CORPORATION
8965 S EASTERN AVE
SUITE #325
LAS VEGAS, NV 89123

PROJECT NO: 129084:1512

DRAWN BY: GJS

CHECKED BY: GAC

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NVL08302F_R03
ADJACENT TO
GRAND TETON & TENAYA
LAS VEGAS, NV 89131
PICO SMALL CELL

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER

A-4



NOTICE

RF energy emitted by this device may exceed the FCC's general public exposure limits. Stay at least 1 foot away from the device. Call 800-638-2822 for help if you need access within 1 foot.

RF NOTICE DECAL

NOTICE

AT&T operates antennas at this structure.

Above this point you are entering an area where radio frequency (RF) fields may exceed the FCC General Population Exposure limits.

Follow safety guidelines for working in an RF environment.

Keep 1 ft. away from the fronts of antennas.

Contact AT&T at 800-638-2822, opt. 9, 3 and follow their instructions prior to performing and maintenance or repairs above this point.

This is AT&T Site USID _____

CAUTION

AT&T operates antennas at this structure.

Above this point you are entering an area where radio frequency (RF) fields may exceed the FCC General Occupational Exposure limits.

Follow safety guidelines for working in an RF environment.

Keep 1 ft. away from the fronts of antennas.

Contact AT&T at 800-638-2822, opt. 9, 3 and follow their instructions prior to performing and maintenance or repairs above this point.

Cell Site USID _____

EME PLACARD/DECAL

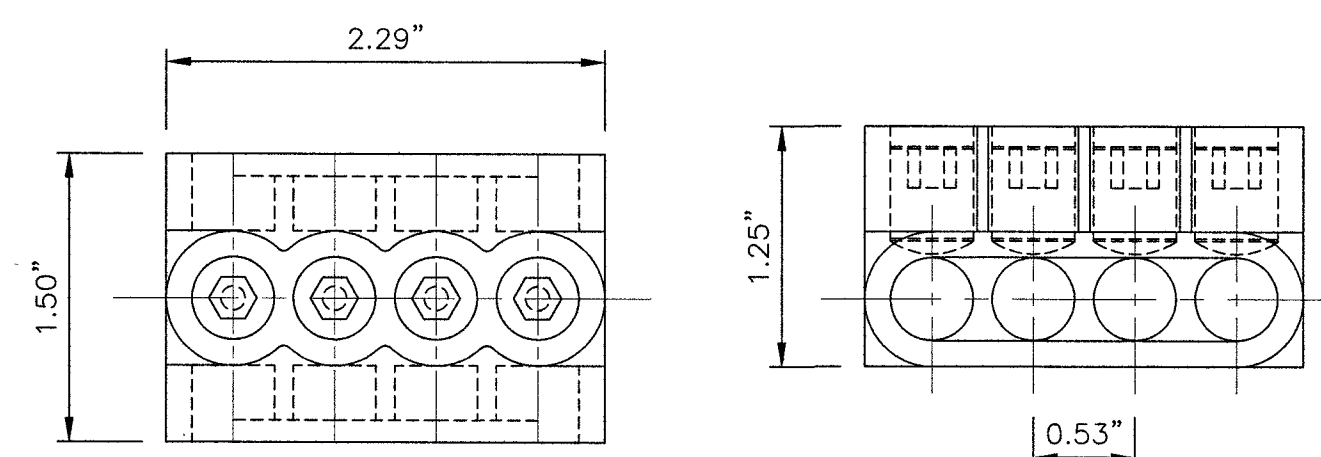
NOTE: SPECIFIC EME PLACARD WILL BE PLACED AFTER EME REPORT

RF SIGNAGE DETAIL

NO SCALE

1

MULTI-TAP CONNECTOR WITH CLEAR INSULATION, DOUBLE-SIDED (PCSB4-4-6Y)



CONNECTOR DETAIL

NO SCALE

2

BUSSMANN — HEB SERIES

BREAKAWAY MODEL#: HEB-AW-RLC-A (5.8" LONG)

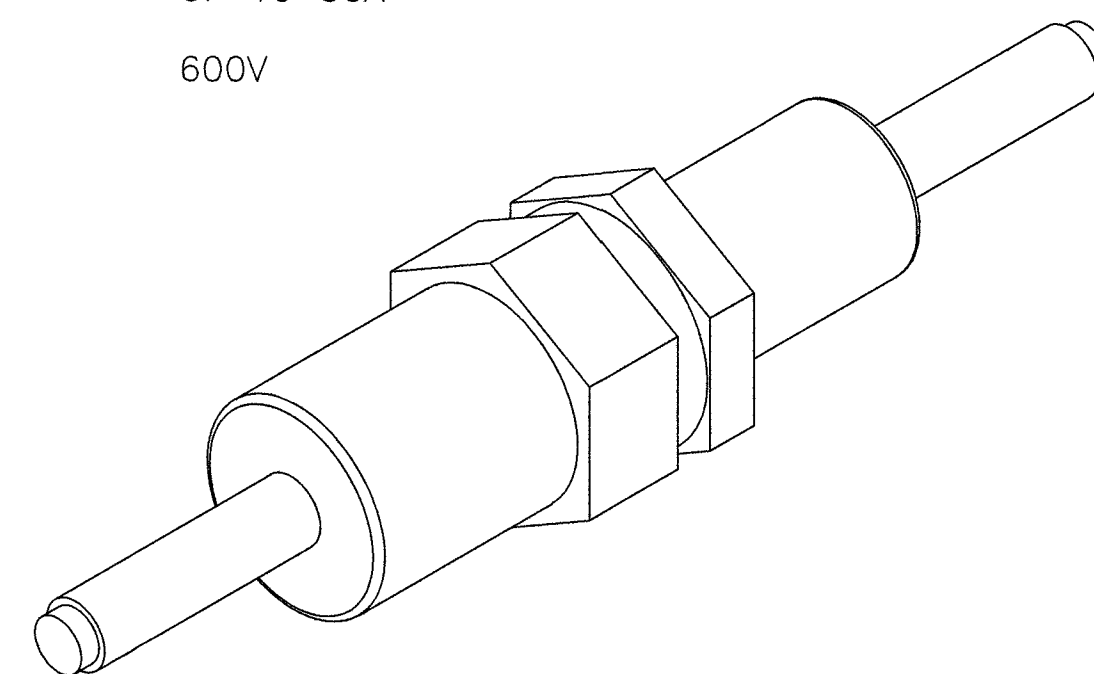
NON-BREAKAWAY MODEL#: HEB-AA (4.4" LONG)

WIRE RANGE: #8-16; (2) #12-16

RECOMMENDED FUSES: BAF, FNM, FNQ, KLM AND KTK

AMPS: UP TO 30A

VOLTS: 600V



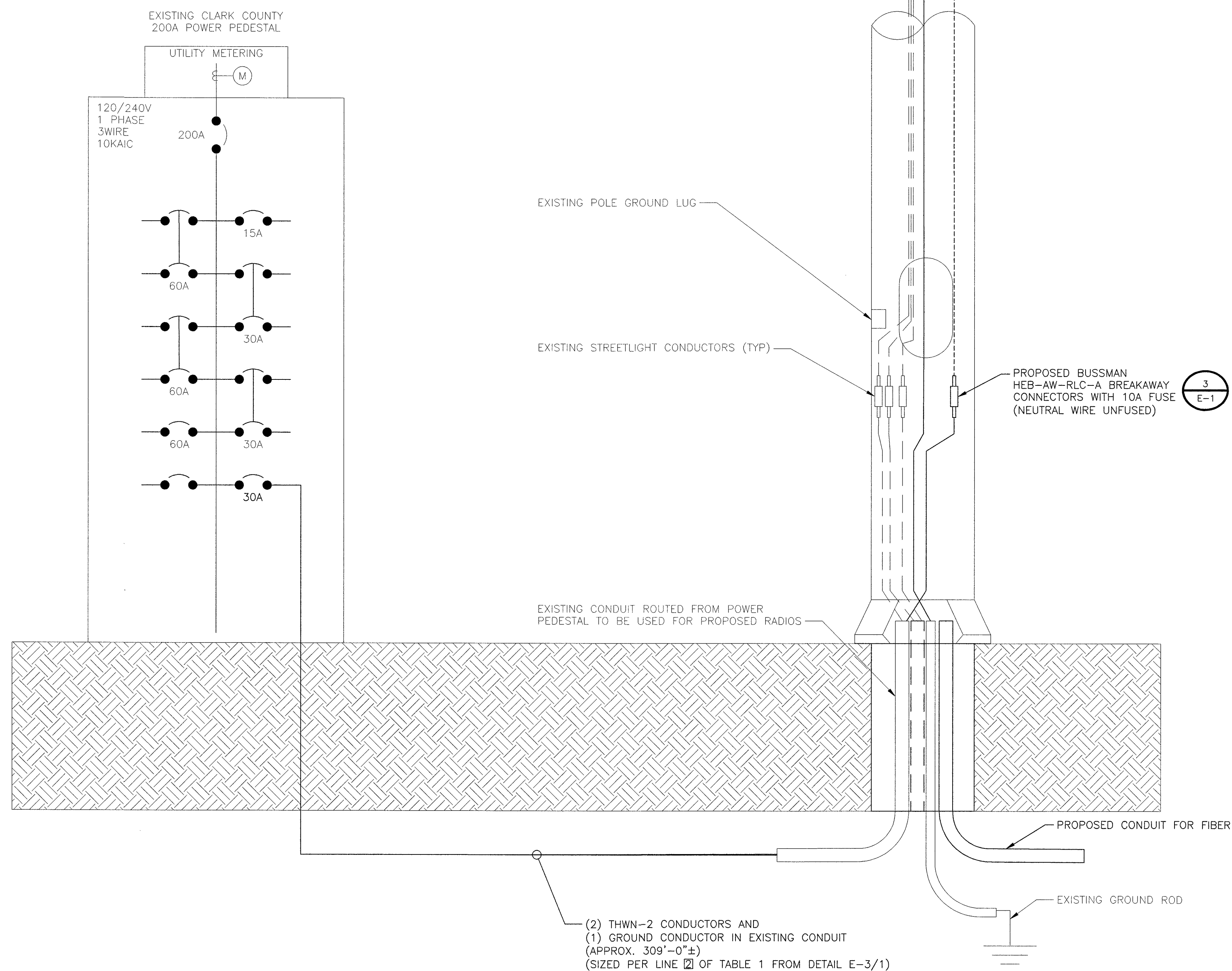
PROPOSED BREAKAWAY AND NON-BREAKAWAY IN-LINE FUSE HOLDER

NO SCALE

3

NOTES

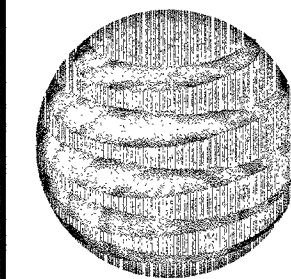
1. CONTRACTOR IS TO FIELD VERIFY ALL EXISTING ITEMS SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
2. ALL NEW CONDUCTOR WIRE TO BE INSTALLED SHALL BE COPPER THWN-2, THW-2, RHW-2, XHHW-2 WIRE UNLESS NOTED OTHERWISE.
3. ALL GROUNDING AND BONDING TO BE PER THE RECOGNIZED EDITION OF THE NATIONAL ELECTRIC CODE (NEC).
4. ALL INSTALLED CONDUCTORS AND SIGNAL CABLES TO BE CLEARLY MARKED "COX COMMUNICATIONS" WITH BRASS OR FIBERGLASS TAGS.



TYPICAL POLE SITE TEMPLATE

NO SCALE

4



at&t

AT&T MOBILITY
10550 W. CHARLESTON
SUITE B
LAS VEGAS, NV 89135



BLACK & VEATCH

BLACK & VEATCH CORPORATION
8965 S EASTERN AVE
SUITE #325
LAS VEGAS, NV 89123

PROJECT NO: 129084:1512

DRAWN BY: GJS

CHECKED BY: GAC

REV	DATE	DESCRIPTION
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1		
2		
3		
4		
5		
6		
7		
8		
9		



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NVL08302F_R03
ADJACENT TO
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LAS VEGAS, NV 89131
PICO SMALL CELL

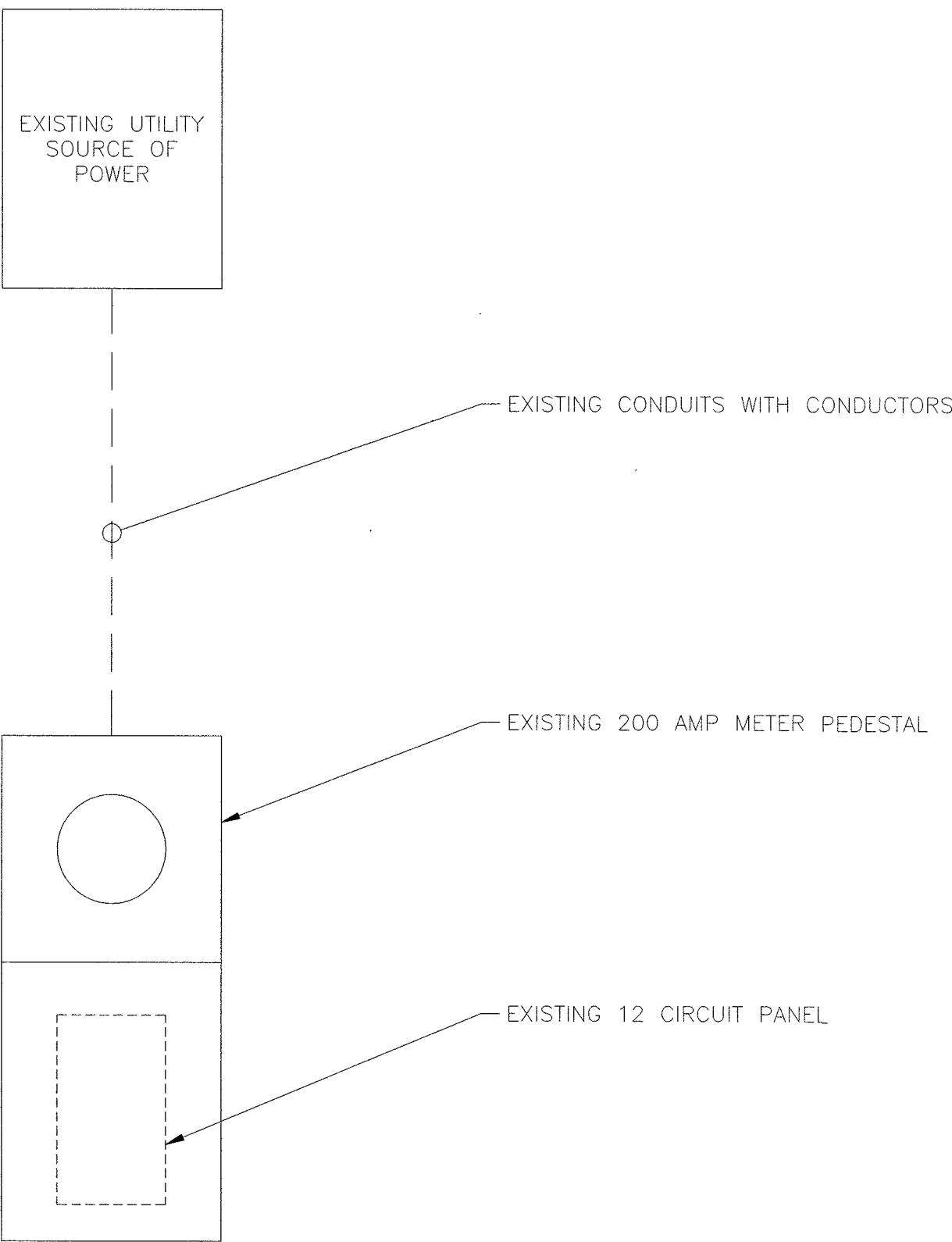
SHEET TITLE
ELECTRICAL DETAILS
AND DIAGRAMS

SHEET NUMBER

E-1

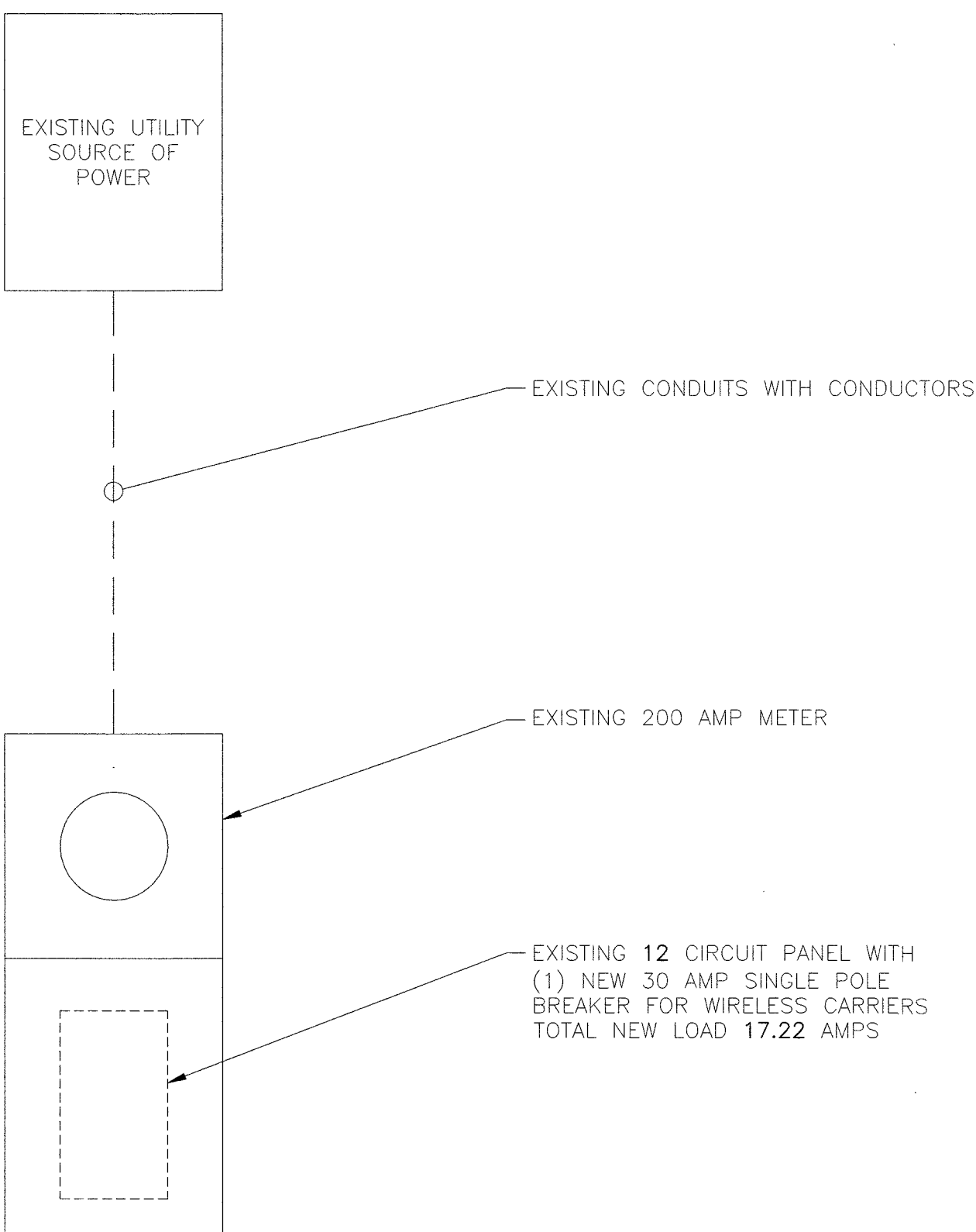
EXISTING ELECTRICAL LOAD STUDY

EXISTING LOAD.....11.90 AMPS
ALLOWED LOAD 80%.....160.00 AMPS



PROPOSED ELECTRICAL LOAD STUDY

EXISTING LOAD.....11.90 AMPS
SAFETY FACTOR 125%.....14.88 AMPS
PROPOSED LOAD.....2.34 AMPS
TOTAL LOAD.....17.22 AMPS
ALLOWED LOAD 80% OF 200 AMPS.....160.00 AMPS



EXISTING SINGLE LINE DIAGRAM

NO SCALE

1

PROPOSED SINGLE LINE DIAGRAM

NO SCALE

2

Site Name:		GRAND TETON & TENAYA						MODEL NUMBER:		EXISTING METER AND LOAD CENTER PEDESTAL							
SITE NUMBER:		CRAN_NVL08302F_R03						PHASE:		1		WIRE:		3			
VOLTAGE:		240 /120		Volts AC				BUSS RATING:		200		AMPS					
MAIN BREAKER:		200		AMPS													
MOUNT:		SURFACE															
ENCLOSURE TYPE:		NEMA 3R															
PANEL STATUS:		EXISTING															
CKT	LOAD DESCRIPTION	BREAKER AMPS	BREAKER POLES	BREAKER STATUS	SERVICE LOAD VA	Demand Factor	USAGE FACTOR	PHASE A VA	PHASE B VA	USAGE FACTOR	Demand Factor	SERVICE LOAD VA	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CKT
								0		1.00	1.00	0	ON	2	200	MAIN	
									0	1.00	1.00	0					
1	STREET LIGHTS	60	2	ON	540	1.00	1.25	750		1.25	1.00	60	ON	1	15	PHOTO CELL	2
3					540	1.00	1.25		825	1.25	1.00	120	ON	2	30	EXISTING LOAD	4
5	STREET LIGHTS	60	2	ON	732	1.00	1.25	1080		1.25	1.00	132					6
7					732	1.00	1.25		915	1.00	1.00	0	OFF	2	30	SPARE	8
9	SPARE	60	1	OFF	0	1.00	1.00	0		1.00	1.00	0					10
11									563	1.25	1.00	450	NEW	1	30	PACTEHSOL PTS90122-3-AA777-PN-8	12
								PHASE A	PHASE B								
								1830	2303	VA							
								TOTAL		KVA	4.13						
										AMPS	17.22						

PROPOSED PANEL SCHEDULE AND CALCS

NO SCALE

3



AT&T MOBILITY
10550 W. CHARLESTON
SUITE B
LAS VEGAS, NV 89135



BLACK & VEATCH

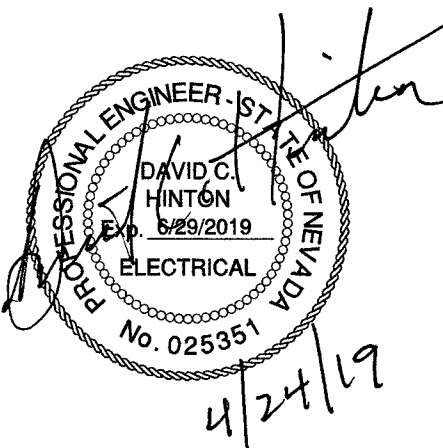
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0	04/15/19	ISSUED FOR CONSTRUCTION
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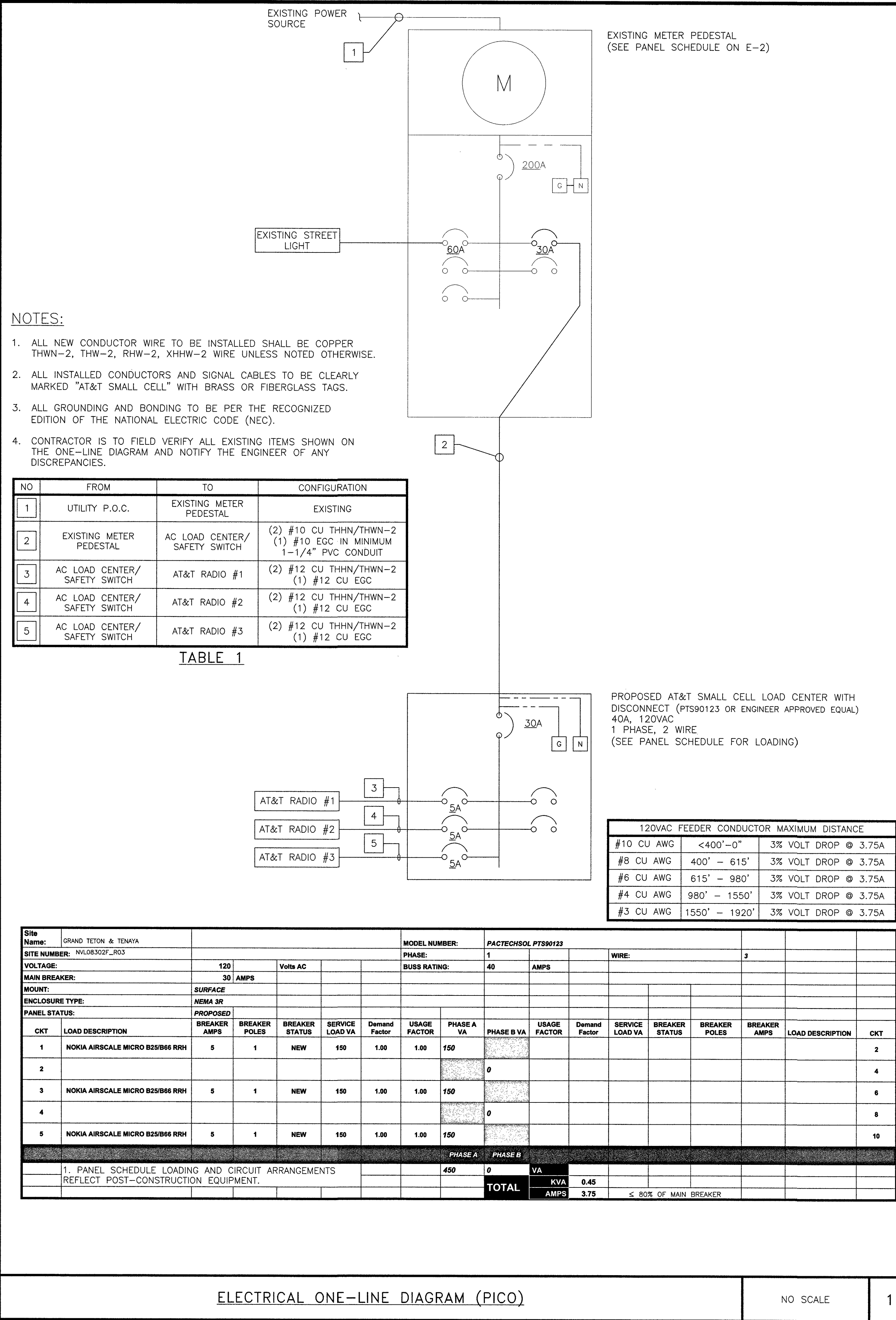
IT IS A VIOLATION OF LAW FOR ANY PERSON,
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TO ALTER THIS DOCUMENT.

NVL08302F_R03
ADJACENT TO
GRAND TETON & TENAYA
LAS VEGAS, NV 89131
PICO SMALL CELL

SHEET TITLE
ELECTRICAL CALCULATIONS
AND SCHEDULES

SHEET NUMBER

E-2



AT&T MOBILITY
10550 W. CHARLESTON
SUITE B
LAS VEGAS, NV 89135



BLACK & VEATCH

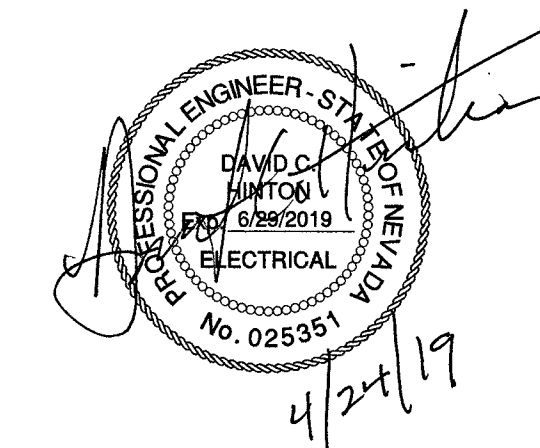
BLACK & VEATCH CORPORATION
8965 S EASTERN AVE
SUITE #325
LAS VEGAS, NV 89123

PROJECT NO: 129084:1512

DRAWN BY: GJS

CHECKED BY: GAC

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LAS VEGAS, NV 89131
PICO SMALL CELL

SHEET TITLE
ELECTRICAL ONE-LINE
DIAGRAM

SHEET NUMBER

E-3

ELECTRICAL ONE-LINE DIAGRAM (PICO)

NO SCALE

1

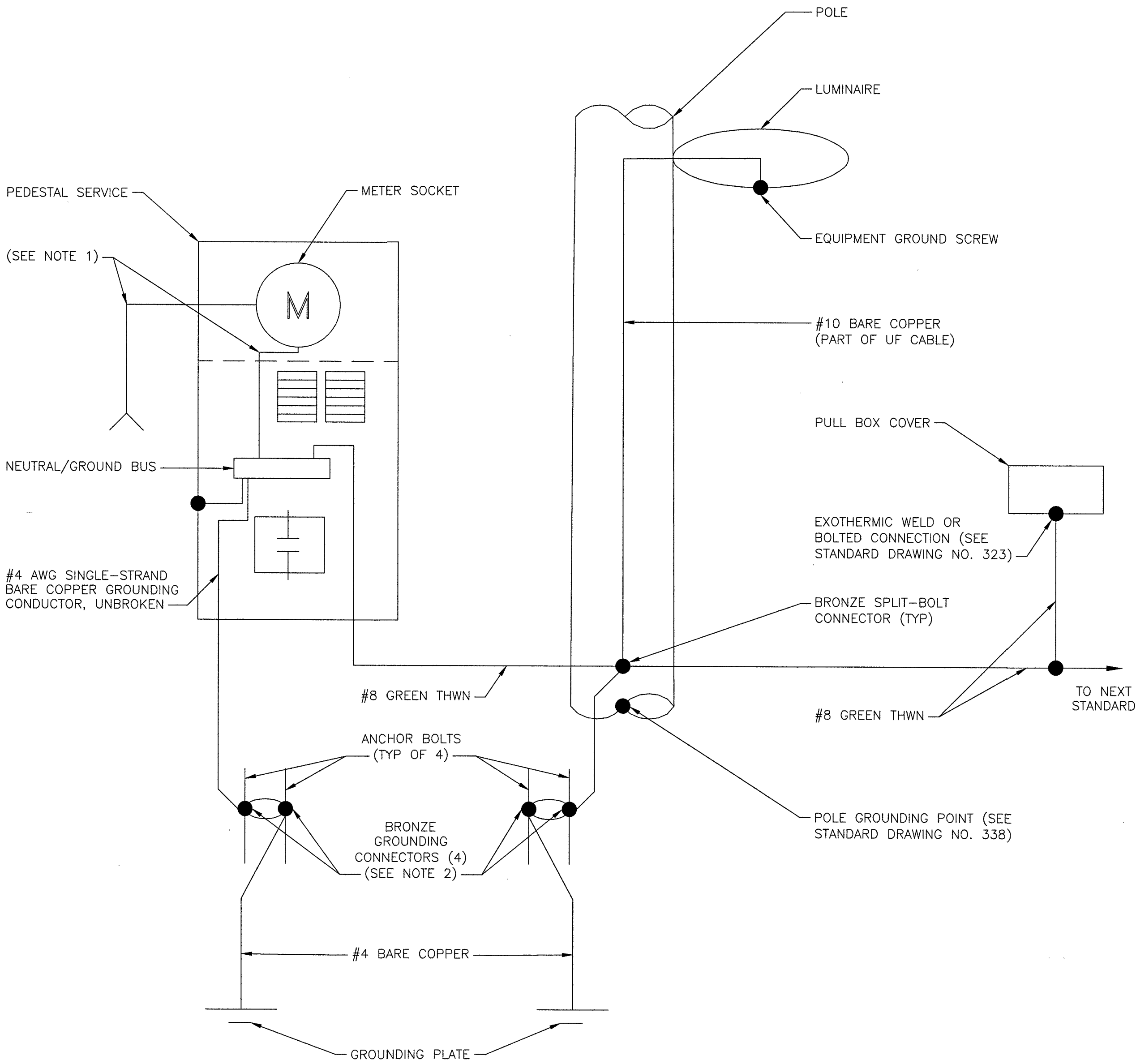
NOT USED

NO SCALE

2

NOTES

1. FOR CONDUIT SIZE AND WIRING REQUIREMENTS FOR STREETLIGHT SERVICE, SEE STANDARD DRAWING NO. 332.S2 FOR LAS VEGAS AND CLARK COUNTY ONLY AND 332.S1 FOR ALL OTHER ENTITIES.
2. SEE STANDARD DRAWING NO. 321, 332.S1, OR 332.S2.



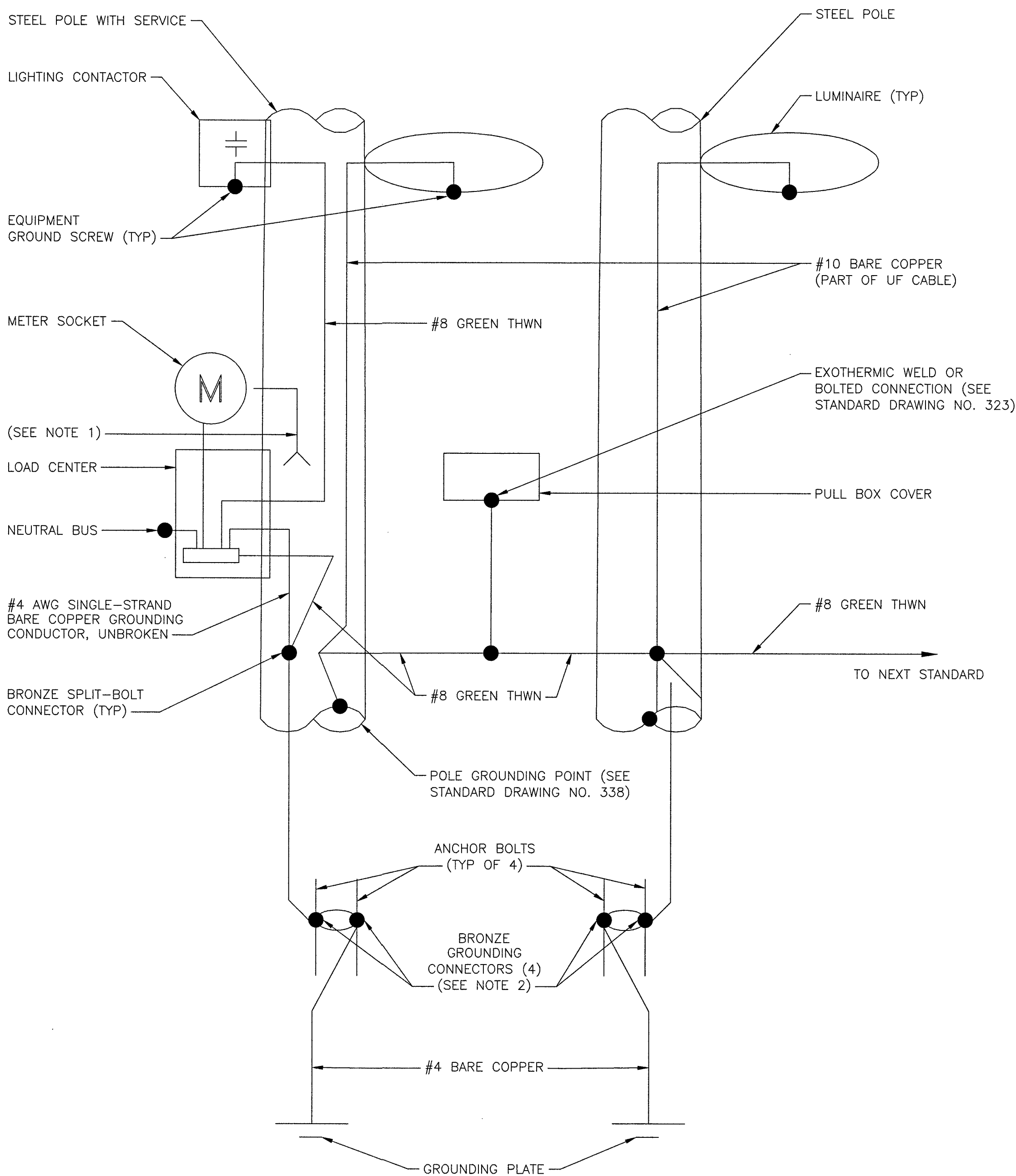
METER PEDESTAL GROUNDING DIAGRAM

NO SCALE

1

NOTES

1. 125 AMP SERVICE: 1 #4 WHITE THW
200 AMP SERVICE: 1 #1/0 WHITE THW



POLE EQUIPMENT GROUNDING DIAGRAM

NO SCALE

2



AT&T MOBILITY
10550 W. CHARLESTON
SUITE B
LAS VEGAS, NV 89135



BLACK & VEATCH

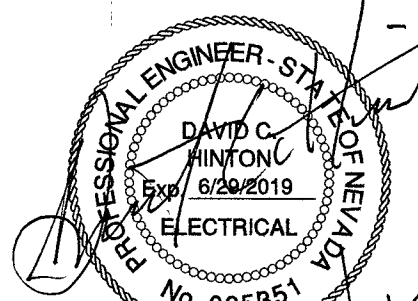
BLACK & VEATCH CORPORATION
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NVL08302F_R03
ADJACENT TO
GRAND TETON & TENAYA
LAS VEGAS, NV 89131
PICO SMALL CELL

SHEET TITLE
GROUNDING DIAGRAMS

SHEET NUMBER

G-1

- ## GENERAL NOTES

LEGEND



ABBREVIATIONS



PART 1 - GENERAL

1.1 GENERAL CONDITIONS:

A. CONTRACTOR SHALL INSPECT THE EXISTING SITE CONDITIONS PRIOR TO SUBMITTING BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE SUBCONTRACTORS FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION. NOT AFTER THE CONTRACT HAS BEEN AWARDED.

B. THE SUBCONTRACTOR SHALL OBTAIN PERMITS, LICENSES, MAKE ALL DEPOSITS, AND PAY ALL FEES REQUIRED FOR THE CONSTRUCTION PERFORMANCE FOR THE WORK UNDER THIS SECTION.

C. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL SYSTEMS AND COMPONENTS COVERED UNDER THIS SECTION. THE SUBCONTRACTOR SHALL VERIFY ALL DIMENSIONS. DRAWING SHALL NOT BE SCALED TO DETERMINE DIMENSIONS.

1.2 LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES.

A. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE 2013 EDITION OF THE CALIFORNIA ELECTRICAL CODE, AND ALL APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES. CONDUIT BENDS SHALL BE THE RADIUS BEND FOR THE TRADE SIZE OF CONDUIT IN COMPLIANCE WITH THE 2013 EDITION OF CEC.

1.3 REFERENCES:

A. THE PUBLICATIONS LISTED BELOW ARE PART OF THIS SPECIFICATION. EACH PUBLICATION SHALL BE THE LATEST REVISION AND ADDENDUM IN EFFECT ON THE DATE THIS SPECIFICATION IS ISSUED FOR CONSTRUCTION UNLESS OTHERWISE NOTED. EXCEPT AS MODIFIED BY THE REQUIREMENT SPECIFIED HEREIN OR THE DETAILS OF THE DRAWINGS, WORK INCLUDED IN THIS SPECIFICATION SHALL CONFORM TO THE APPLICABLE PROVISION OF THESE PUBLICATIONS.

1. ANSI/IEEE (AMERICAN NATIONAL STANDARDS INSTITUTE)

2. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)

3. ICE (INSULATED CABLE ENGINEERS ASSOCIATION)

4. NEMA (NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION)

5. NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)

6. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)

7. UL (UNDERWRITERS LABORATORIES, INC.)

8. AT&T GROUNDING AND BONDING STANDARDS TP-76416

1.4 SCOPE OF WORK:

A. WORK UNDER THIS SECTION SHALL CONSIST OF FURNISHING ALL LABOR, MATERIAL, AND ASSOCIATED SERVICES REQUIRED TO COMPLETE REQUIRED CONSTRUCTION AND BE OPERATIONAL.

B. ALL ELECTRICAL EQUIPMENT UNDER THIS CONTRACT SHALL BE PROPERLY TESTED, ADJUSTED, AND ALIGNED BY THE SUBCONTRACTOR

C. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATING, DRAINING, TRENCHES, BACKFILLING, AND REMOVAL OF EXCESS DIRT.

D. THE SUBCONTRACTOR SHALL FURNISH TO THE OWNER WITH CERTIFICATES OF A FINAL INSPECTION AND APPROVAL FROM THE INSPECTION AUTHORITIES HAVING JURISDICTION.

E. THE SUBCONTRACTOR SHALL PREPARE A COMPLETE SET OF AS-BUILT DRAWINGS, DOCUMENT ALL WIRING EQUIPMENT CONDITIONS, AND CHANGES WHILE COMPLETING THIS CONTRACT. THE AS-BUILT DRAWINGS SHALL BE SUBMITTED AT COMPLETION OF THE PROJECT.

PART 2 - PRODUCTS

2.1 GENERAL:

A. ALL MATERIALS AND EQUIPMENT SHALL BE UL LISTED, NEW, AND FREE FROM DEFECTS.

B. ALL ITEMS OF MATERIALS AND EQUIPMENT SHALL BE ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION AS SUITABLE FOR THE USE INTENDED.

C. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE CALIFORNIA ELECTRICAL CODE.

D. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING EQUAL TO OR GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 10,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT.

2.2 MATERIALS AND EQUIPMENT:

A. CONDUIT:

1. RIGID METAL CONDUIT (RMC) SHALL BE HOT-DIPPED GALVANIZED INSIDE AND OUTSIDE INCLUDING ENDS AND THREADS AND ENAMELED OR LACQUERED INSIDE IN ADDITION TO GALVANIZING.

2. LIQUIDTIGHT FLEXIBLE METAL CONDUIT SHALL BE UL LISTED.

3. CONDUIT CLAMPS, STRAPS AND SUPPORTS SHALL BE STEEL OR MALLEABLE IRON. ALL FITTINGS SHALL BE COMPRESSION AND CONCRETE TIGHT TYPE. GROUNDING BUSHINGS WITH INSULATED THROATS SHALL BE INSTALLED ON ALL CONDUIT TERMINATIONS.

4. NONMETALLIC CONDUIT AND FITTINGS SHALL BE SCHEDULE 40 PVC. INSTALL USING SOLVENT-CEMENT-TYPE JOINTS AS RECOMMENDED BY THE MANUFACTURER.

B. CONDUCTORS AND CABLE:

1. CONDUCTORS AND CABLE SHALL BE FLAME-RETARDANT, MOISTURE AND HEAT RESISTANT THERMOPLASTIC, SINGLE CONDUCTOR, COPPER, TYPE THHN/THWN-2, 600 VOLT, SIZE AS INDICATED, #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR USED.

2. #10 AWG AND SMALLER CONDUCTOR SHALL BE SOLID OR STRANDED AND #8 AWG AND LARGER CONDUCTORS SHALL BE STRANDED.

3. SOLDERLESS, COMPRESSION-TYPE CONNECTORS SHALL BE USED FOR TERMINATION OF ALL STRANDED CONDUCTORS.

4. STRAIN-RELIEF SUPPORTS GRIPS SHALL BE HUBBELL KELLEMS OR APPROVED EQUAL. CABLES SHALL BE SUPPORTED IN ACCORDANCE WITH THE NEC AND CABLE MANUFACTURER'S RECOMMENDATIONS.

5. ALL CONDUCTORS SHALL BE TAGGED AT BOTH ENDS OF THE CONDUCTOR, AT ALL PULL BOXES, J-BOXES, EQUIPMENT AND CABINETS AND SHALL BE IDENTIFIED WITH APPROVED PLASTIC TAGS (ACTION CRAFT, BRADY, OR APPROVED EQUAL).

C. DISCONNECT SWITCHES:

1. DISCONNECT SWITCHES SHALL BE HEAVY DUTY, DEAD-FRONT, QUICK-MAKE, QUICK-BREAK, EXTERNALLY OPERABLE, HANDLE LOCKABLE AND INTERLOCK WITH COVER IN CLOSED POSITION, RATING AS INDICATED, UL LABELED FURNISHED IN NEMA 3R ENCLOSURE, SQUARE-D OR ENGINEERED APPROVED EQUAL.

D. CHEMICAL ELECTROLYTIC GROUNDING SYSTEM:

1. INSTALL CHEMICAL GROUNDING AS REQUIRED. THE SYSTEM SHALL BE ELECTROLYTIC MAINTENANCE FREE ELECTRODE CONSISTING OF RODS WITH A MINIMUM #2 AWG CU EXOTHERMALLY WELDED PIGTAIL, PROTECTIVE BOXES, AND BACKFILL MATERIAL. MANUFACTURER SHALL BE LYNCOLE XIT GROUNDING ROD TYPES K2-(*)CS OR K2L-(*)CS. (*) 10' OR 20' AS AVAILABLE FROM MANUFACTURER, BUT NOT LESS THAN 8' MIN [REQUIRED PER CEC 250.52 A (5)].

2. GROUND ACCESS BOX SHALL BE A POLYPLASTIC BOX FOR NON-TRAFFIC APPLICATIONS, INCLUDING BOLT DOWN FLUSH COVER WITH "BREATHER" HOLES, XIT MODEL #XB-22. ALL DISCONNECT SWITCHES AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED LAMICOID NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS ID NUMBERING, AND THE ELECTRICAL POWER SOURCE.

3. BACKFILL MATERIAL SHALL BE LYNCONITE AND LYNCOLE GROUNDING GRAVEL.

E. SYSTEM GROUNDING:

1. ALL GROUNDING COMPONENTS SHALL BE TINNED AND GROUNDING CONDUCTOR SHALL BE #2 AWG BARE, SOLID, TINNED, COPPER. ABOVE GRADE GROUNDING CONDUCTORS SHALL BE INSULATED WHERE NOTED.

2. GROUNDING BUSES SHALL BE BARE, TINNED, ANNEALED COPPER BARS OF RECTANGULAR CROSS SECTION. STANDARD BUS BARS MGB, SHALL BE FURNISHED AND INSTALLED BY THE SUBCONTRACTOR. THEY SHALL NOT BE FABRICATED OR MODIFIED IN THE FIELD. ALL GROUNDING BUSES SHALL BE IDENTIFIED WITH MINIMUM 3/4" LETTERS BY WAY OF STENCILING OR DESIGNATION PLATE.

3. CONNECTORS SHALL BE HIGH-CONDUCTIVITY, HEAVY DUTY, LISTED AND LABELED AS GROUNDING CONNECTORS FOR THE MATERIALS USED. USE TWO-HOLE COMPRESSION LUGS WITH HEAT SHRINK FOR MECHANICAL CONNECTIONS. INTERIOR CONNECTIONS USE TWO-HOLE COMPRESSION LUGS WITH INSPECTION WINDOW AND CLEAR HEAT SHRINK.

4. EXOTHERMIC WELDED CONNECTIONS SHALL BE PROVIDED IN KIT FORM AND SELECTED FOR THE SPECIFIC TYPES, SIZES, AND COMBINATIONS OF CONDUCTORS AND OTHER ITEMS TO BE CONNECTED.

5. GROUND RODS SHALL BE COPPER-CLAD STEEL WITH HIGH-STRENGTH STEEL CORE AND ELECTROLYTIC-GRADE COPPER OUTER SHEATH, MOLTEM WELDED TO CORE, 5/8"x10'-0". ALL GROUNDING RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES.

6. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS IN COMPLIANCE WITH THE AT&T SPECIFICATIONS AND CEC. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULLBOXES, DISCONNECT SWITCHES, STARTERS, AND EQUIPMENT CABINETS.

F. OTHER MATERIALS:

1. THE SUBCONTRACTOR SHALL PROVIDE OTHER MATERIALS, THOUGH NOT SPECIFICALLY DESCRIBED, WHICH ARE REQUIRED FOR A COMPLETELY OPERATIONAL SYSTEM AND PROPER INSTALLATION OF THE WORK.

2. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY CEC.

G. PANELS AND LOAD CENTERS:

1. ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN.

PART 3 - EXECUTION

3.1 GENERAL:

A. ALL MATERIAL AND EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND AS SHOWN ON DSA APPROVED DWG'S.

B. EQUIPMENT SHALL BE TIGHTLY COVERED AND PROTECTED AGAINST DIRT OR WATER, AND AGAINST CHEMICAL OR MECHANICAL INJURY DURING INSTALLATION AND CONSTRUCTION PERIODS.

3.2 LABOR AND WORKMANSHIP:

A. ALL LABOR FOR THE INSTALLATION OF MATERIALS AND EQUIPMENT FURNISHED FOR THE ELECTRICAL SYSTEM SHALL BE INSTALLED BY EXPERIENCED WIREMEN, IN A NEAT AND WORKMAN-LIKE MANNER.

B. ALL ELECTRICAL EQUIPMENT SHALL BE ADJUSTED, ALIGNED AND TESTED BY THE SUBCONTRACTOR AS REQUIRED TO PRODUCE THE INTENDED PERFORMANCE.

C. UPON COMPLETION OF WORK, THE SUBCONTRACTOR SHALL THOROUGHLY CLEAN ALL EXPOSED EQUIPMENT, REMOVE ALL LABELS AND ANY DEBRIS, CRATING OR CARTONS AND LEAVE THE INSTALLATION FINISHED AND READY FOR OPERATION.

3.3 COORDINATION:

A. THE SUBCONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRICAL ITEMS WITH THE OWNER-FURNISHED EQUIPMENT DELIVERY SCHEDULE TO PREVENT UNNECESSARY DELAYS IN THE TOTAL WORK.

3.4 INSTALLATION:

A. CONDUIT:

1. ALL ELECTRICAL WIRING SHALL BE INSTALLED IN CONDUIT AS SPECIFIED. NO CONDUIT OR TUBING OF LESS THAN 3/4 INCH TRADE SIZE.

2. PROVIDE RIGID PVC SCHEDULE 80 CONDUITS FOR ALL RISERS, RMC OTHERWISE NOTED. EMT MAY BE INSTALLED FOR EXTERIOR CONDUITS WHERE NOT SUBJECT TO PHYSICAL DAMAGE.

3. THE INSTALLATION OF SCHEDULE 40 PVC AND RMC CONDUITS SHALL BE 24 INCHES MINIMUM DEPTH. ALL 90 DEGREE BENDS SHALL BE RMC. EXPANSION JOINTS ARE REQUIRED ON ALL CONDUIT RISERS.

4. USE GALVANIZED FLEXIBLE STEEL CONDUIT WHERE DIRECT CONNECTION TO EQUIPMENT WITH MOVEMENT, VIBRATION, OR FOR EASE OF MAINTENANCE. USE LIQUID TIGHT, FLEXIBLE METAL CONDUIT FOR OUTDOOR APPLICATIONS. INSTALL GALVANIZED FLEXIBLE STEEL CONDUIT AT ALL POINTS OF CONNECTION TO EQUIPMENT MOUNTED ON SUPPORT TO ALLOW FOR EXPANSION AND CONTRACTION.

5. A RUN OF CONDUIT BETWEEN BOXES OR EQUIPMENT SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF THREE QUARTER-BENDS. CONDUIT BEND SHALL BE MADE WITH THE UL LISTED BENDER OR FACTORY 90 DEGREE ELBOWS MAY BE USED.

6. FIELD FABRICATED CONDUITS SHALL BE CUT SQUARE WITH A CONDUIT CUTTING TOOL AND REAMED TO PROVIDE A SMOOTH INSIDE SURFACE.

7. PROVIDE INSULATED GROUNDING BUSHING FOR ALL CONDUITS.

8. SUBCONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL CONDUITS DURING CONSTRUCTION. TEMPORARY OPENINGS IN THE CONDUIT SYSTEM SHALL BE PLUGGED OR CAPPED TO PREVENT ENTRANCE OF MOISTURE OR FOREIGN MATTER. SUBCONTRACTOR SHALL REPLACE ANY CONDUITS CONTAINING FOREIGN MATERIALS THAT CANNOT BE REMOVED.

9. ALL CONDUITS SHALL BE SWABBED CLEAN BY PULLING AN APPROPRIATE SIZE MANDREL THROUGH THE CONDUIT BEFORE INSTALLATION OF CONDUCTORS OR CABLES. CONDUIT SHALL BE FREE OF DIRT AND DEBRIS.

10. INSTALL PULL STRINGS IN ALL CLEAN EMPTY CONDUITS. IDENTIFY PULL STRINGS AT EACH END.

11. INSTALL 2" HIGHLY VISIBLE AND DETECTABLE TAPE 12" ABOVE ALL UNDERGROUND CONDUITS AND CONDUCTORS.

12. CONDUITS SHALL BE INSTALLED IN SUCH A MANNER AS TO INSURE AGAINST COLLECTION OF TRAPPED CONDENSATION.

13. PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS TO ALLOW FOR RACEWAYS AND CABLES TO BE ROUTED THROUGH THE BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS UNLESS SPECIFICALLY SHOWN ON DSA APPROVED DWG'S. ANY CORING/CUTTING REQUIRED TO COMPLETE THE WORK, BUT NOT SHOWN ON DSA APPROVED DWG'S SHALL BE SUBJECT TO DSA REVIEW AND APPROVAL PRIOR TO BEGINNING ON SUCH WORK. SLEEVES AND/OR PENETRATION SHALL BE EFFECTIVELY SEALED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE WALL OR STRUCTURE. FIRE STOPS AT FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE, FIRE, AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.

B. CONDUCTORS AND CABLE:

1. ALL POWER WIRING SHALL BE COLOR CODED AS FOLLOWS:

DESCRIPTION	208/240/120 VOLT SYSTEMS
PHASE A	BLACK
PHASE B	RED
PHASE C	BLUE
NEUTRAL	WHITE
GROUNDING	GREEN

2. SPLICES SHALL BE MADE ONLY AT OUTLETS, JUNCTION BOXES, OR ACCESSIBLE RACEWAY CONDULETS APPROVED FOR THIS PURPOSE.

3. PULLING LUBRICANTS SHALL BE UL APPROVED. SUBCONTRACTOR SHALL USE NYLON OR HEMP ROPE FOR PULLING CONDUCTOR OR CABLES INTO THE CONDUIT.

4. CABLES SHALL BE NEATLY TRAINED, WITHOUT INTERLACING, AND BE OF SUFFICIENT LENGTH IN ALL BOXES & EQUIPMENT TO PERMIT MAKING A NEAT ARRANGEMENT. CABLES SHALL BE SECURED IN A MANNER TO AVOID TENSION ON CONDUCTORS OR TERMINALS. CONDUCTORS SHALL BE PROTECTED FROM MECHANICAL INJURY AND MOISTURE. SHARP BENDS OVER CONDUIT BUSHINGS IS PROHIBITED. DAMAGED CABLES SHALL BE REMOVED AND REPLACED AT THE SUBCONTRACTOR'S EXPENSE.

C. DISCONNECT SWITCHES:

1. INSTALL DISCONNECT SWITCHES LEVEL AND PLUMB. CONNECT TO WIRING SYSTEM AND GROUNDING SYSTEM AS INDICATED.

D. GROUNDING:

1. ALL METALLIC PARTS OF ELECTRICAL EQUIPMENT WHICH DO NOT CARRY CURRENT SHALL BE GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING MANUFACTURER, AT&T GROUNDING AND BONDING STANDARDS TP-76416, ND-00135, AND THE CALIFORNIA ELECTRICAL CODE (2013 CEC EDITION).

2. PROVIDE ELECTRICAL GROUNDING AND BONDING SYSTEM INDICATED WITH ASSEMBLY OF MATERIALS, INCLUDING GROUNDING ELECTRODES, BONDING JUMPERS AND ADDITIONAL ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.

3. ALL GROUNDING CONDUCTORS SHALL PROVIDE A STRAIGHT DOWNWARD PATH TO GROUND WITH GRADUAL BENDS AS REQUIRED. GROUNDING CONDUCTORS SHALL NOT BE LOOPED OR SHARPLY BENT. ROUTE GROUNDING CONNECTIONS AND CONDUCTORS TO GROUND IN THE SHORTEST AND STRAIGHTEST PATHS POSSIBLE TO MINIMIZE TRANSIENT VOLTAGE RISES.

4. BUILDINGS AND/OR NEW TOWERS GREATER THAN 75 FEET IN HEIGHT AND WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE SUBCONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING TO THE EXISTING GROUNDING SYSTEM. THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 AWG COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). SEE STANDARD 6.3.2.2.

5. TIGHTEN GROUNDING AND BONDING CONNECTORS, INCLUDING SCREWS AND BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR CONNECTORS AND BOLTS. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT AVAILABLE, TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUE VALUES SPECIFIED IN UL TO ASSURE PERMANENT AND EFFECTIVE GROUNDING.

6. SUBCONTRACTOR SHALL VERIFY THE LOCATIONS OF GROUNDING TIE-IN-POINTS TO THE EXISTING GROUNDING SYSTEM. ALL UNDERGROUND GROUNDING CONNECTIONS SHALL BE MADE BY THE EXOTHERMIC WELD PROCESS AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

7. ALL GROUNDING CONNECTIONS SHALL BE INSPECTED FOR TIGHTNESS. EXOTHERMIC WELDED CONNECTIONS SHALL BE APPROVED BY THE INSPECTOR HAVING JURISDICTION BEFORE BEING PERMANENTLY CONCEALED.

8. APPLY CORROSION-RESISTANCE FINISH TO FIELD CONNECTIONS AND PLACES WHERE FACTORY APPLIED PROTECTIVE COATINGS HAVE BEEN DESTROYED. USE KOPR-SHIELD ANTI-OXIDATION COMPOUND ON ALL COMPRESSION GROUNDING CONNECTIONS.

9. A SEPARATE, CONTINUOUS, INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL FEEDER AND BRANCH CIRCUITS.

10. BOND ALL INSULATED GROUNDING BUSHINGS WITH A BARE 6 AWG GROUNDING CONDUCTOR TO A GROUND BUS.

11. DIRECT BURIED GROUNDING CONDUCTORS SHALL BE INSTALLED AT A NOMINAL DEPTH OF 36" MINIMUM BELOW GRADE, OR 6" BELOW THE FROST LINE, USE THE GREATER OF THE TWO DISTANCES.

12. ALL GROUNDING CONDUCTORS EMBEDDED IN OR PENETRATING CONCRETE SHALL BE INSTALLED IN SCHEDULE 40 PVC CONDUIT.

13. THE INSTALLATION OF CHEMICAL ELECTROLYTIC GROUNDING SYSTEM IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REMOVE SEALING TAPE FROM LEACHING AND BREATHER HOLES. INSTALL PROTECTIVE BOX FLUSH WITH GRADE.

14. DRIVE GROUND RODS UNTIL TOPS ARE A MINIMUM DISTANCE OF 36" DEPTH OR 6" BELOW FROST LINE, USING THE GREATER OF THE TWO DISTANCES.

15. IF COAX ON THE ICE BRIDGE IS MORE THAN 6 FT. FROM THE GROUNDING BAR AT THE BASE OF THE TOWER, A SECOND GROUNDING BAR WILL BE NEEDED AT THE END OF THE ICE BRIDGE, TO GROUND THE COAX CABLE GROUNDING KITS AND IN-LINE ARRESTORS

16. SUBCONTRACTOR SHALL REPAIR, AND/OR REPLACE, EXISTING GROUNDING SYSTEM COMPONENTS DAMAGED DURING CONSTRUCTION AT THE SUBCONTRACTORS EXPENSE.

3.5 ACCEPTANCE TESTING:

A. CERTIFIED PERSONNEL USING CERTIFIED EQUIPMENT SHALL PERFORM REQUIRED TESTS AND SUBMIT WRITTEN TEST REPORTS UPON COMPLETION.

B. WHEN MATERIAL AND/OR WORKMANSHIP IS FOUND NOT TO COMPLY WITH THE SPECIFIED REQUIREMENTS, THE NON-COMPLYING ITEMS SHALL BE REMOVED FROM THE PROJECT SITE AND REPLACED WITH ITEMS COMPLYING WITH THE SPECIFIED REQUIREMENTS PROMPTLY AFTER RECEIPT OF NOTICE FOR NON-COMPLIANCE.

C. TEST PROCEDURES:

1. ALL FEEDERS SHALL HAVE INSULATION TESTED AFTER INSTALLATION, BEFORE CONNECTION TO DEVICES. THE CONDUCTORS SHALL TEST FREE FROM SHORT CIRCUITS AND GROUNDS. TESTING SHALL BE FOR ONE MINUTE USING 1000V DC. PROVIDE WRITTEN DOCUMENTATION FOR ALL TEST RESULTS.

2. PRIOR TO ENERGIZING CIRCUITRY, TEST WIRING DEVICES FOR ELECTRICAL CONTINUITY AND PROPER POLARITY CONNECTIONS.

3. MEASURE AND RECORD VOLTAGES BETWEEN PHASES AND BETWEEN PHASE CONDUCTORS AND NEUTRALS. SUBMIT A REPORT OF MAXIMUM AND MINIMUM VOLTAGES

4. PERFORM GROUNDING TEST TO MEASURE GROUNDING RESISTANCE OF GROUNDING SYSTEM USING THE IEEE STANDARD 3-POINT "FALL-OF-POTENTIAL" METHOD. PROVIDE PLOTTED TEST VALUES AND LOCATION SKETCH. NOTIFY THE ENGINEER IMMEDIATELY IF MEASURED VALUE IS OVER 5 OHMS.

GENERAL ELECTRICAL NOTES



AT&T MOBILITY
10550 W. CHARLESTON
SUITE B
LAS VEGAS, NV 89135



BLACK & VEATCH

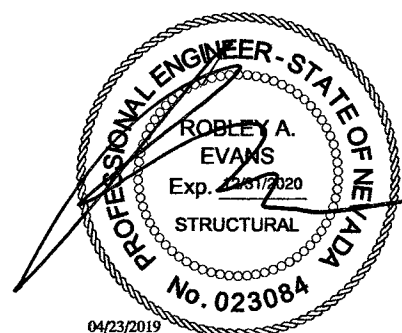
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PICO SMALL CELL

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-2

12

STRUCTURAL STEEL NOTES

- DESIGN, FABRICATION, ERECTION, ALTERATION AND MAINTENANCE SHALL CONFORM TO THE FOLLOWING, UNLESS NOTED OTHERWISE (UNO).
 - TIA-222: STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS
 - TIA-1019-A: INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS
 - AISC: MANUAL OF STEEL CONSTRUCTION
- ALL STRUCTURAL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS, UNO.
 - STRUCTURAL STEEL, ASTM A572 GRADE 65 (FY = 65 KSI).
 - ALL BOLTS, ASTM A325 TYPE 1 GALVANIZED HIGH STRENGTH BOLTS.
 - ALL NUTS, ASTM A563 CARBON AND ALLOY STEEL NUTS.
 - ALL WASHERS, ASTM F436 HARDENED STEEL WASHERS.
- ALL HOLES SHALL BE CUT WITH A GRINDER OR DRILLED. HOLES SHALL NOT BE FLAME CUT THRU STEEL UNLESS APPROVED BY THE ENGINEER OF RECORD.
- ALL FASTENERS SHALL NOT BE REUSED.
- A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED ASTM A325 BOLTS.
- ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
- HOT-DIP GALVANIZE ALL ITEMS, UNO.
GALVANIZE PER ASTM A123, ASTM A153/A153M OR ASTM A653 G90, AS APPLICABLE.
- AFTER FINAL INSPECTION, ALL EXPOSED STRUCTURAL STEEL AS THE RESULT OF THIS SCOPE OF WORK INCLUDING WELDS, FIELD DRILLED HOLES, AND SHAFT INTERIORS (WHERE ACCESSIBLE), SHALL BE CLEANED AND COLD GALVANIZING APPLIED BY BRUSH. PHOTO DOCUMENTATION IS REQUIRED TO BE SUBMITTED TO THE INSPECTOR.

WELDING NOTES

- ALL WELDING SHALL BE IN ACCORDANCE WITH THE AWS D1.1/D1.1M, "STRUCTURAL WELDING CODE-STEEL".
- ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS.
- ALL ARC WELDING ON STRUCTURES SHALL BE DONE IN ACCORDANCE WITH AWS D1.1 (LATEST EDITION). THIS SHALL INCLUDE A CERTIFIED WELDING INSPECTOR (CWI) FOR ACCEPTANCE OR REJECTION OF ALL WELDING OPERATIONS, PRE-DURING-POST, USING THE ACCEPTANCE CRITERIA OF AWS D1.1. THE CWI SHALL WORK WITH THE GC ON THE LEVEL OF INTERACTION NEEDED TO CONDUCT THE WELDING INSPECTION. THE CERTIFIED WELDING INSPECTION IS THE RESPONSIBILITY OF THE GC.
- FOR ALL WELDING, USE E80XX ELECTRODES FOR SMAW PROCESS AND E8XT-XX ELECTRODES FOR FCAW PROCESS, UNO.
- SURFACES TO BE WELDED SHALL BE FREE FROM SCALE, SLAG, RUST, MOISTURE, GREASE OR ANY OTHER FOREIGN MATERIAL THAT WOULD PREVENT PROPER WELDING. GRIND THE SURFACE ADJACENT TO THE WELD FOR A DISTANCE OF 2" MINIMUM ALL AROUND. ENSURE BOTH AREAS ARE 100% FREE OF ALL GALVANIZING.
- REPAIR THE GALVANIZED COATING. ALL AREAS AFFECTED BY THE FIELD DRILLING, FIELD GRINDING AND FIELD WELDING, BOTH INSIDE AND OUTSIDE THE MONOPOLE, SHALL BE REPAIRED. PRODUCTS TO BE APPLIED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. AREAS THAT HAVE BEEN TOUCHED UP SHOULD BE INSPECTED AS PART OF THE ROUTINE MAINTENANCE OF THE STRUCTURE. NO SPRAY PAINT IS ALLOWED. AFTER ZINC-RICH PAINT IS DRY, OVERCOAT WITH OWNER'S PAINT SPECIFICATIONS, APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- DO NOT WELD IF THE TEMPERATURE OF THE STEEL IN THE VICINITY OF THE WELD AREA IS BELOW 0° F. WHEN THE TEMPERATURE IS BETWEEN 0° F AND 32° F, PREHEAT AND MAINTAIN THE STEEL IN THE VICINITY OF THE WELD AREA AT 70° F DURING THE WELDING PROCESS.
- DO NOT WELD ON WET OR FROST-COVERED SURFACES & PROVIDE ADEQUATE PROTECTION FROM HIGH WINDS.
- MOVE ALL COAX AND OTHER FLAMMABLE MATERIALS FROM ANY AREA THAT MAY BE HEATED DURING CONSTRUCTION.
- CONTRACTOR SHALL MAKE PROPER PRECAUTIONS AND PROCEDURES TO PROTECT THE STRUCTURE FROM CATCHING FIRE DURING ALL WELDING OPERATIONS. THE FOLLOWING FIRE SAFETY PREVENTION PROTOCOL IS THE MINIMUM REQUIREMENTS DURING WELDING OPERATIONS.
 - 500 GALLON WATER TANK WITH PUMP TO BE ON SITE AT ALL TIMES.
 - 2 FIRE EXTINGUISHERS ON SITE AT ALL TIMES.
 - 2 MAN FIRE WATCH ON ANY ADJACENT STRUCTURES, FIELDS AND POLE.
 - INTERMITTENT COOLING OF WELDED SURFACE TO REDUCE HEAT IN STRUCTURE.

CLARK COUNTY NV STORMWATER BMP NOTES:

- THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL EACH DAY REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO, OR ACCUMULATED IN, THE PUBLIC RIGHTS OF WAY OF CLARK COUNTY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SUCH MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWER SYSTEM.
- ADDITIONAL CONSTRUCTION SITE DISCHARGE BEST MANAGEMENT PRACTICES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT MEET THE PERFORMANCE STANDARDS SPECIFIED IN THE LAS VEGAS VALLEY CONSTRUCTION SITE BMP GUIDANCE MANUAL.
- AT A MINIMUM, THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL DISTURBED AREAS, AREAS USED FOR STORAGE OF MATERIALS AND EQUIPMENT THAT ARE EXPOSED TO PRECIPITATION, VEHICLE ENTRANCE AND EXIT LOCATIONS, AND ALL BMPS WEEKLY, AND WITHIN 24 HOURS AFTER ANY RAIN EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR OR HIS AGENT SHALL UPDATE OR MODIFY THE STORMWATER POLLUTION PREVENTION PLAN AS NECESSARY. SOME EXCEPTIONS TO WEEKLY INSPECTIONS MAY APPLY, SUCH AS SUSPENSION OF LAND DISTURBANCE ACTIVITIES. REFER TO THE NEVADA STORMWATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITY NVR100000, SECTION III.A.12.
- ACCUMULATED SEDIMENT IN BMPS SHALL BE REMOVED WITHIN SEVEN DAYS AFTER A STORMWATER RUNOFF EVENT OR PRIOR TO THE NEXT ANTICIPATED STORM EVENT, WHICHEVER IS EARLIER. SEDIMENT MUST BE REMOVED WHEN BMP DESIGN CAPACITY HAS BEEN REDUCED BY 50 PERCENT OR MORE.
- BMPS TO BE IMPLEMENTED INCLUDE BUT ARE NOT LIMITED TO:
 - MINIMIZE DISTURBED AREA AND PROTECT NATURAL FEATURES AND SOIL
 - CONTROLLING STORMWATER FLOWING ONTO AND THROUGH THE PROJECT VIA THE USE OF SEDIMENT BERMS AND STRAW WADDLES AS APPROPRIATE
 - STABILIZING SOILS THROUGH SITE RESTORATION AT COMPLETION OF PROJECT
 - PROTECTING STORM DRAIN INLETS VIA THE USE OF SAND BAGS, STRAW WADDLES AND FILTER FABRIC AS APPROPRIATE
- BMPS MUST BE IN PLACE WHEN SOILS ARE EXPOSED (NO WAITING PERIODS)

CLARK COUNTY NV PUBLIC WORKS DEVELOPMENT NOTES

- STRUCTURAL DESIGN ACCEPTANCE IS VALID ONLY FOR POLE FOUNDATIONS INSTALLED ON LEVELED SURFACES. ANY FOUNDATION INSTALLED WITHIN (5FT) FROM A SLOPE WILL REQUIRE SLOPE STABILITY ANALYSIS AND CALCULATIONS WITH A SEPARATE STRUCTURAL REVIEW AND FEE. GEOTECHNICAL WILL BE NEEDED FOR THE REVIEW.
- SIDEWALKS MUST BE UNOBSTRUCTED AND HAVE AN ACCESS OF AT LEAST 3.0-FT FROM BACK OF CURB.

SPECIAL INSPECTIONS REQUIRED

- PERFORM THIRD PARTY SPECIAL INSPECTION FOR (STREET LIGHT FOUNDATION...).SPECIAL INSPECTION IS REQUIRED.
- INSPECTIONS SHALL BE PERFORMED BY AN ICC CERTIFIED INSPECTOR APPROVED BY CLARK COUNTY; EMPLOYED BY THE OWNER/DEVELOPER.
 - MASONRY-- PERIODIC
 - REINFORCING STEEL PLACEMENT-- PERIODIC
 - GROUT--CONTINUOUS
 - CONCRETE PLACEMENT--CONTINUOUS
 - CONCRETE STRENGTH-- CONTINUOUS
 - EPOXY FASTENED DOWELS AND ANCHORS--PERIODIC
 -
 - THE INSPECTOR SHALL SUBMIT A STATEMENT TO THE OWNER/DEVELOPER, AND STRUCTURAL ENGINEER INDICATING COMPLIANCE WITH THE PLANS AND SPECIFICATIONS.
 - SPECIAL INSPECTION OF THE FILL AROUND THE ((STREET LIGHT FOUNDATION...)) SHALL BE PROVIDED AT A FREQUENCY AS NECESSARY TO ENSURE THAT PROPER FILL AND COMPACTION IS ACHIEVED. COMPACTION TEST FOR EACH LIFT SHALL BE TAKEN PER CCAUSD 203.05.02. THE SPECIAL INSPECTOR SHALL SUBMIT A COMPLIANCE REPORT TO THE OWNER/DEVELOPER



AT&T MOBILITY
10550 W. CHARLESTON
SUITE B
LAS VEGAS, NV 89135



BLACK & VEATCH

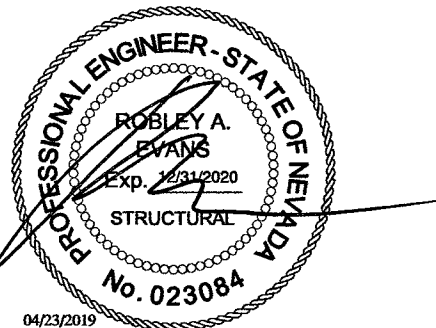
BLACK & VEATCH CORPORATION
8965 S EASTERN AVE
SUITE #325
LAS VEGAS, NV 89123

PROJECT NO: 129084:1512

DRAWN BY: GJS

CHECKED BY: GAC

0	04/15/19	ISSUED FOR CONSTRUCTION
REV	DATE	DESCRIPTION



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

NVL08302F_R03
ADJACENT TO
GRAND TETON & TENAYA
LAS VEGAS, NV 89131
PICO SMALL CELL

SHEET TITLE

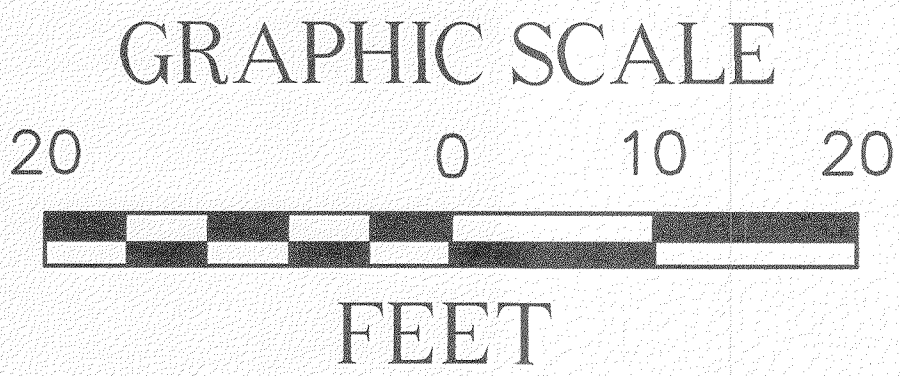
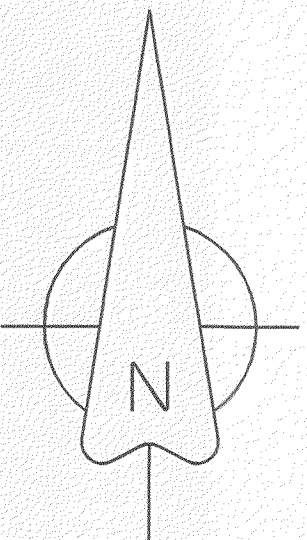
GENERAL NOTES

SHEET NUMBER

GN-3

SMALL CELL SITE SURVEY
SITE: CRAN_NVL08302F_R02
NE¼NE¼ OF SECTION 16, TOWNSHIP 19 SOUTH, RANGE 60 EAST

SITE #/PACE_NAME: CRAN_NVL08302F_R02_LTE_1C_1900
FA LOCATION CODE: 14856602
USID: 231633



A LATITUDE: 36°18'18.78"N
LONGITUDE: 115°15'49.21"W
GROUND ELEVATION: 2435.27'
NAVD '88

Legend	
	MONUMENT
	POLE
	DOWN GUY
	GAS VALVE
	PEDASTAL
	LAMP POST
	WATER VALVE
	FIRE HYDRANT
	WATER MANHOLE
	WATER METER
	SEWER MANHOLE
	UNKNOWN OR LABELED MANHOLE
	SANITARY SEWER MANHOLE
	STORM WATER MANHOLE
	ELECTRIC MANHOLE
	TELECOM MANHOLE
	TREE
	FENCELINE
	ROW LINE
	CENTER LINE
	SEWER S
	TELEPHONE T
	WATER W
	ELECTRIC E
	GAS LINE G
	OVERHEAD ELEC
	FENCE BARB X
	PROPERTY LINE

ENGINEERS:

BLACK & VEATCH
6 SUNSET WAY
SUITE B108
HENDERSON, NV 89014

SITE NO: CRAN_NVL08302F_R02
DRAWN BY: KJC
CHECKED BY: CIS

REV	DATE	DESCRIPTION
A	4/1/19	PRELIMINARY SUBMITAL

SURVEYOR:

PROFESSIONAL LAND SURVEYING
435-660-0816

CIS JOB NO:
CIS 315-1-31-94

SHEET TITLE
**SMALL CELL
SITE SURVEY**

SHEET NUMBER
1 OF 1

