verizon

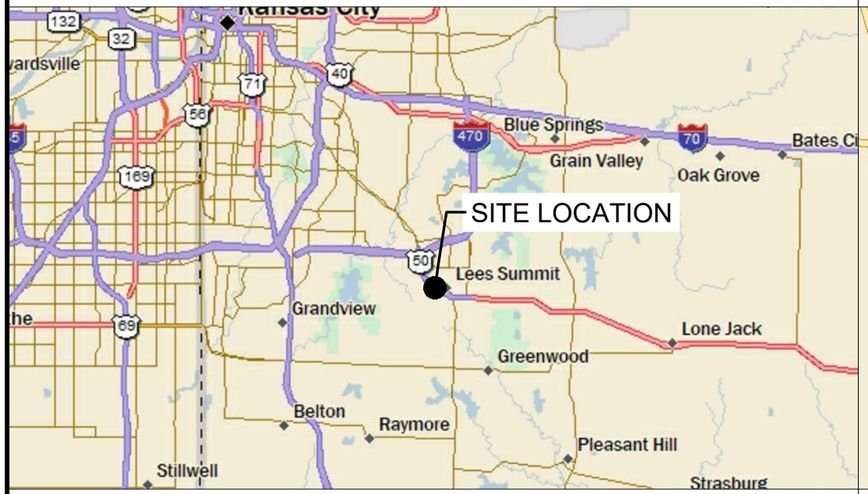
10740 NALL AVE,
SUITE 400
OVERLAND PARK, KS 66211
PHONE: 913-344-2800

KCYC LEES SUMMIT

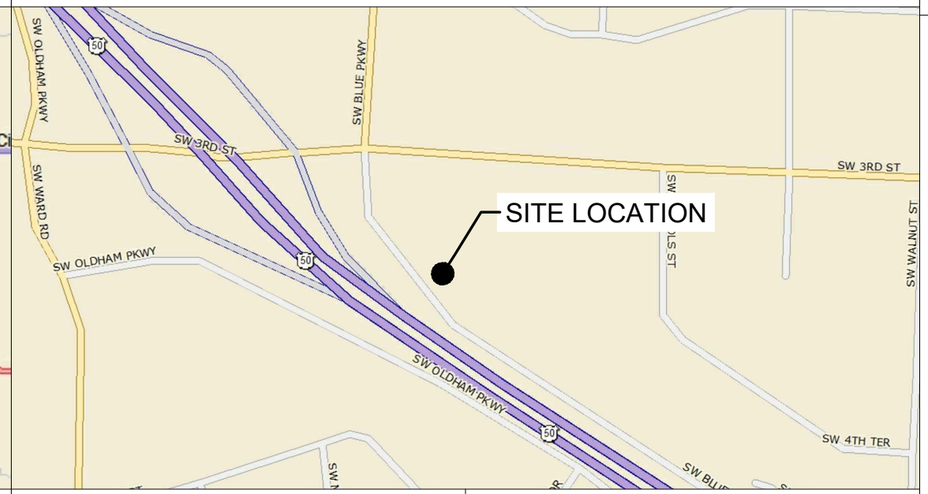
C-BAND - CARRIER ADD

900 SW BLUE PKWY
LEES SUMMIT, MO 64063

REGIONAL MAP



VICINITY MAP



CONTRACTOR PMI REQUIREMENTS

PMI ACCESSED AT	https://pmi.vzwsmart.com
SMART TOOL VENDOR PROJECT NUMBER	10023391
VZW LOCATION CODE (PSLC)	140684
FUZE ID	16248298

*** PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

MOUNT MODIFICATION REQUIRED	Y
VZW APPROVED SMART KIT VENDORS	
REFER TO MOUNT MODIFICATION DRAWINGS PAGE FOR VZW SMART KIT APPROVED VENDORS	

SCOPE OF WORK

- ADD L-SUB6 5G
- INSTALL 4449 AND 8843 ON THE TOWER.
- REMOVE EXISTING 4449 INSIDE THE SHELTER.
- UPGRADE ANTENNAS

TOWER INFORMATION

LATITUDE:	38° 54' 36.63" N
LONGITUDE:	94° 23' 28.47" W
GROUND ELEVATION:	1017 FT A.M.S.L.
OVERALL STRUCTURE HEIGHT:	154 FT ± A.G.L.
TOWER HEIGHT:	150 FT ± A.G.L.
VZW CL HEIGHT:	150 FT A.G.L.

VERIZON WIRELESS DEPARTMENTAL APPROVALS

	INITIALS:	DATE:
RF ENGINEER	CF	12/28/20
TRANSPORT ENGINEER		
OPERATIONS MANAGER		
CONSTRUCTION ENGINEER	BW	12/29/20
CONSTRUCTION MANAGER		
REAL ESTATE MANAGER	SK	1/26/21

PROFESSIONAL ENGINEER'S STAMP

STATE OF MISSOURI
ADAM J. BROWN
NUMBER PE-2010015545
PROFESSIONAL ENGINEER

10/28/21

LESSOR / LICENSOR APPROVAL

PRINTED NAME:_____ SIGNATURE:_____ DATE: _____

☐ NO CHANGES ☐ CHANGES REQUESTED, SEE COMMENTS ON PLANS

PROJECT TEAM

A&E CONSULTANT:	TERRA CONSULTING GROUP, LTD 600 BUSSE HIGHWAY PARK RIDGE, IL 60068 PHONE: (847) 698-6400 FAX: (847) 698-6401
SITE ACQUISITION:	FAULK & FOSTER POC: SHARLA BATES (816) 678-2184
STRUCTURAL:	PROVIDED BY TOWER OWNER

PROJECT INFORMATION

PROJECT DESCRIPTION:	C-BAND - CARRIER ADD
SITE NAME:	KCYC LEES SUMMIT
LOCATION #:	140684
VERIZON PROJECT #:	20202201695
FUZE PROJECT ID:	16248298
SITE ADDRESS:	900 SW BLUE PKWY LEES SUMMIT, MO 64063
TOWER OWNER:	ATC SITE NAME: LEE'S SUMMIT 2 SITE #: 209106 FCC ASR#: 1280041
APPLICANT:	VERIZON WIRELESS 10740 NALL AVE, SUITE 400 OVERLAND PARK, KS 66211 (913) 344-2896
POWER COMPANY:	EVERGY RON DEJARNETTE (816) 810-5234 ACCT#: 9035668338

SHEET INDEX

SHEET	DESCRIPTION	REV.
T-1	TITLE SHEET	0
C-1	SITE LAYOUT	0
ANT-1	SITE ELEVATION	0
ANT-2	ANTENNA KEYS & LAYOUT	0
ANT-3	SECTOR PLAN & ELEVATION DETAILS	0
ANT-4	COAX ENTRY PANEL & PARTS LIST	0
ANT-5	ANTENNA PLUMBING DIAGRAM	0
ANT-6	SITE DETAILS	0
E-1	ELECTRICAL SITE PLAN	0
E-1A	ELECTRICAL FLOOR PLAN	0
E-1B	SITE GROUNDING PLAN	0
E-2	ONE LINE DEMOLITION	0
E-3	ONE LINE DIAGRAM & PANEL LAYOUT	0
E-4	ELECTRICAL NOTES	0
N-1	GENERAL NOTES & SITE PHOTOS	0
N-2	SITE PHOTOS	0
MOUNT MODIFICATION DESIGN BY OTHERS		
T-1	TITLE SHEET	-
S-1	BILL OF MATERIALS	-
S-2	MODIFICATION NOTES	-
S-3	MODIFICATION NOTES	-
S-4	MODIFICATION DETAILS	-
S-5	MODIFICATION DETAILS	-
S-6	MOUNT PHOTOS	-
-	SPECIFICATION SHEETS	-

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600 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

REVISIONS

NO.	DESCRIPTION	DATE	BY
A	ISSUED FOR REVIEW	12/17/20	JGL
B	POWER UPGRADE	08/17/21	BE
0	ISSUED FOR CONSTRUCTION	09/01/21	BE

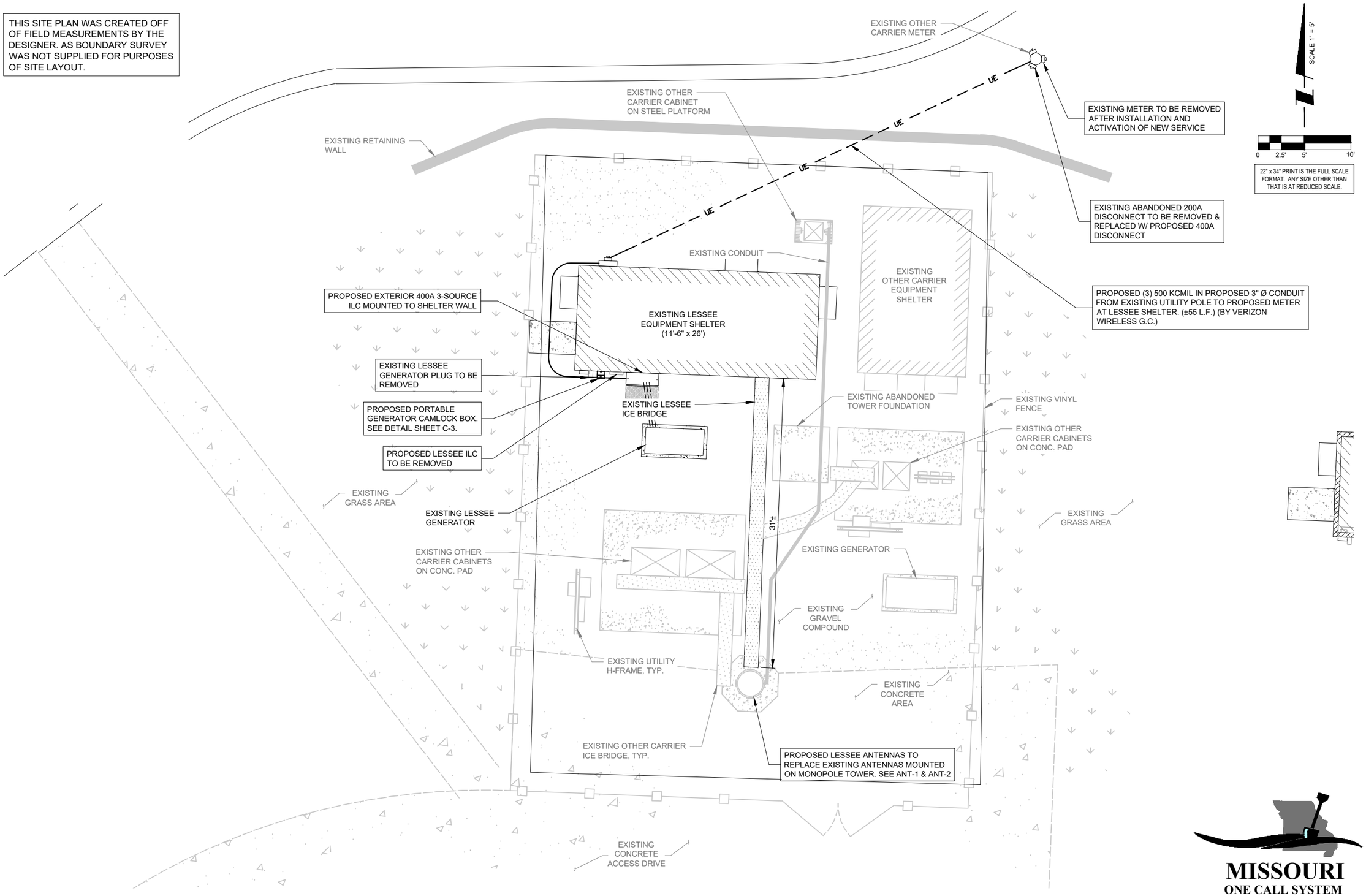
LOC# 140684
KCYC
LEES SUMMIT
900 SW BLUE PKWY
LEES SUMMIT, MO 64063

DRAWN BY:	JGL
CHECKED BY:	AJB
DATE:	12/17/20
PROJECT #:	54-1356

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

THIS SITE PLAN WAS CREATED OFF OF FIELD MEASUREMENTS BY THE DESIGNER. AS BOUNDARY SURVEY WAS NOT SUPPLIED FOR PURPOSES OF SITE LAYOUT.



1 SITE LAYOUT
SCALE: 1" = 5'

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TOLL FREE

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LOC# 140684
KCYC
LEES SUMMIT

900 SW BLUE PKWY
LEES SUMMIT, MO 64063

DRAWN BY:	JGL
CHECKED BY:	AJB
DATE:	12/17/20
PROJECT #:	54-1356

SHEET TITLE
SITE LAYOUT

SHEET NUMBER
C-1

UTILITY NOTES:

WORK INCLUDES:
THESE NOTES AND ACCOMPANYING DRAWINGS COMPLEMENT THE PROVISIONS AND INSTALLATIONS BY THE ELECTRICAL CONTRACTOR, OF ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO INSTALL THE ELECTRICAL WORK COMPLETE IN CONNECTION WITH THIS VERIZON WIRELESS SITE AND SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

1. THE PROVISIONS, INSTALLATION, AND CONNECTION OF A GROUNDING ELECTRODE SYSTEM COMPLETE WITH A BUILDING AND SECONDARY GROUNDING, CELLULAR TELEPHONE COMMUNICATIONS TOWER AND CONNECTIONS TO THE INCOMING ELECTRICAL DISTRIBUTION EQUIPMENT.
2. THE PROVISION AND INSTALLATION OF AN OVERHEAD ELECTRICAL SERVICE OR UNDERGROUND ELECTRICAL SERVICE AND ALL ASSOCIATED WIRE AND CONDUIT AS REQUIRED AND/OR INDICATED ON PLANS.
3. THE PROVISION, INSTALLATION OF CONDUIT AND CONNECTIONS FOR LOCAL TELEPHONE SERVICE.
4. THE FURNISHING AND INSTALLATION OF THE ELECTRICAL SERVICE ENTRANCE CONDUCTORS, CONDUITS, METER SOCKET, AND CONNECTIONS TO THE SERVICE EQUIPMENT WITHIN THE ENCLOSURE.
5. TWO INCH (2") AND THREE INCH (3") DIAMETER PVC CONDUITS SCHEDULE 40.
6. ALL PVC CONDUITS SHOULD BE LEFT WITH NYLON PULL CORD FOR FUTURE USE.
7. EXCAVATION, TRENCHING, AND BACKFILLING FOR CONDUIT(S), CABLE(S), AND EXTERNAL GROUNDING SYSTEM.

CODES, PERMITS, AND FEES:

1. ALL REQUIRED PERMITS, LICENSES, INSPECTIONS AND APPROVALS SHALL BE SECURED AND ALL FEES FOR SAME PAID BY CONTRACTOR.
2. THE INSTALLATION SHALL COMPLY WITH ALL APPLICABLE CODES: STATE, LOCAL AND NATIONAL, AND THE DESIGN, PERFORMANCE CHARACTERISTICS AND METHODS OF CONSTRUCTION OF ALL ITEMS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST ISSUE OF THE VARIOUS APPLICABLE STANDARD SPECIFICATIONS OF THE FOLLOWING AUTHORITIES:

N.E.C.	NATIONAL ELECTRIC CODE
A.N.S.I.	AMERICAN NATIONAL STANDARDS INSTITUTE
I.E.E.E.	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
A.S.T.M.	AMERICAN SOCIETY FOR TESTING MATERIALS
N.E.M.A.	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
U.L.	UNDERWRITERS LABORATORIES, INC.
N.F.P.A.	NATIONAL FIRE PROTECTION ASSOCIATION

RACEWAYS AND WIRING:

1. WIRING OF EVERY KIND MUST BE INSTALLED IN CONDUIT, UNLESS NOTED OTHERWISE, OR AS APPROVED BY THE ENGINEER.
2. UNLESS OTHERWISE SPECIFIED, ALL WIRING SHALL BE COPPER (CU) TYPE THWN, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
3. RACEWAYS SHALL BE GALVANIZED STEEL, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, UNLESS OTHERWISE NOTED. ALL RACEWAYS SHALL BE APPROVED FOR THE INSTALLATION.
4. PULL OR JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO FACILITATE INSTALLATION OF RACEWAYS AND WIRING. PROVIDE JUNCTION AND PULLBOXES FOR CONDUIT RUNS WITH MORE THAN (360) DEGREES OF BENDS.
5. PROVIDE A COMPLETE RACEWAY AND WIRING INSTALLATION, PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE AND LOCAL CODES.
6. ELECTRICAL PANELBOARD TO BE FURNISHED BY VERIZON WIRELESS AND INSTALLED BY THE GENERAL CONTRACTOR/ELECTRICAL CONTRACTOR.
7. ALL STEEL CONDUIT SHALL BE BONDED AT BOTH ENDS WITH GROUNDING BUSHING.

GENERAL NOTES:
SEE DETAILS AND SCHEDULES ON DRAWINGS AND SPECIFICATIONS FOR MEANING OF ABBREVIATIONS AND ADDITIONAL REQUIREMENTS AND INFORMATION. CHECK ARCHITECTURAL, STRUCTURAL AND OTHER MECHANICAL AND ELECTRICAL DRAWINGS FOR SCALE, SPACE LIMITATIONS, COORDINATION, AND ADDITIONAL INFORMATION, ETC. REPORT ANY DISCREPANCIES, CONFLICTS, ETC. TO ENGINEER BEFORE SUBMITTING BID. ALL EQUIPMENT FURNISHED BY OTHERS (FBO) SHALL BE PROVIDED WITH PROPER MOTOR STARTERS, DISCONNECTS, CONTROLS, ETC. BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE. THE ELECTRICAL CONTRACTOR SHALL INSTALL AND COMPLETELY WIRE ALL ASSOCIATED EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S WIRE DIAGRAMS AND AS REQUIRED FOR A COMPLETE OPERATING INSTALLATION. ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF (FBO) EQUIPMENT PRIOR TO ROUGH-IN OF CONDUIT AND WIRING TO AVOID CONFLICTS.

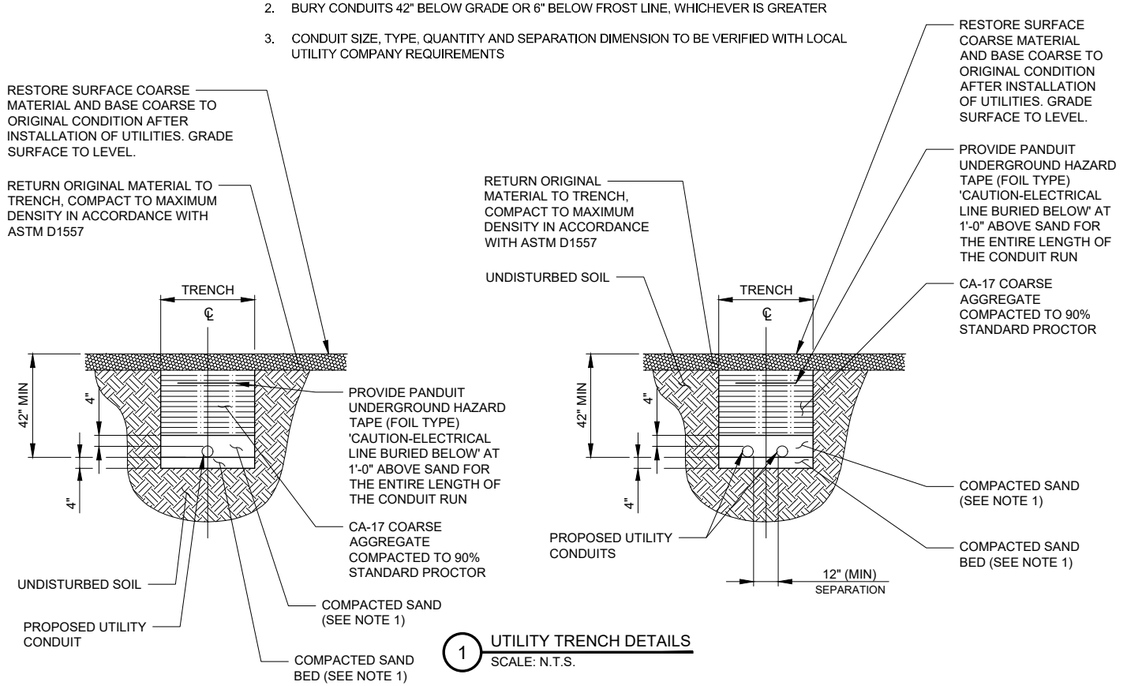
COORDINATION WITH UTILITY COMPANY:
THE ELECTRICAL CONTRACTOR SHALL COORDINATE COMPLETE ELECTRICAL SERVICE WITH LOCAL UTILITY COMPANY FOR A COMPLETE OPERATIONS SYSTEM, INCLUDING TRANSFORMER CONNECTIONS, CONCRETE TRANSFORMER PADS, IF REQUIRED, METER SOCKETS, PRIMARY CABLE RACEWAY REQUIREMENTS, SECONDARY SERVICE, ETC. PRIOR TO SUBMITTING BID TO INCLUDE ALL LABOR AND MATERIALS. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN THE BID ANY OPTIONAL OR EXCESS FACILITY CHARGES ASSOCIATED WITH PROVIDING ELECTRICAL SERVICE FROM LOCAL UTILITY COMPANY. VERIFY BEFORE BIDDING TO INCLUDE ALL COSTS. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE AVAILABLE FAULT CURRENT WITH THE LOCAL UTILITY COMPANY PRIOR TO SUBMITTING BID. ADJUST A.I.C. RATINGS OF ALL OVER CURRENT PROTECTION DEVICES IN DISTRIBUTION EQUIPMENT AS REQUIRED TO COORDINATE WITH AVAILABLE FAULT CURRENT FROM LOCAL UTILITY COMPANY. ALL GROUNDING RODS PROVIDED BY THE POWER OR TELEPHONE UTILITY COMPANIES MUST BE TIED INTO THE MAIN EXTERNAL GROUND RING.

ELECTRICAL CONTRACTOR SHALL COORDINATE WITH POWER COMPANY FOR ENTRY INTO FENCED AREA BY EITHER MAILING A KEY TO A SLAVE LOCKED CHAIN AT THE FENCE GATE OR CALLING AND LEAVING A COMBINATION.

FOR CONTINUATION AND CONNECTION OF ELECTRIC AND FIBER SERVICE. COORDINATE WITH ELECTRIC AND FIBER COMPANY.

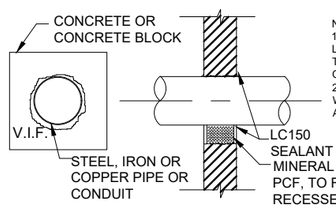
NOTES:

1. LEAN CONCRETE, RED-COLORED TOP, MAY BE USED IN PLACE OF COMPACTED SAND.
2. BURY CONDUITS 42" BELOW GRADE OR 6" BELOW FROST LINE, WHICHEVER IS GREATER
3. CONDUIT SIZE, TYPE, QUANTITY AND SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS



1 UTILITY TRENCH DETAILS
SCALE: N.T.S.

MISSOURI
ONE CALL SYSTEM
CALL BEFORE YOU
DIG - DRILL - BLAST
1-800-344-7483
TOLL FREE



NOTE:
1. CONTRACTOR SHALL X-RAY TO LOCATE EXISTING REBAR PRIOR TO DRILLING OR CORING. DO NOT CUT REBAR.
2. CONTRACTOR SHALL ENSURE WATER-TIGHTNESS AT ALL WALL AND FLOOR PENETRATIONS.

PENETRANT	MAXIMUM TRADE SIZE (IN.)	SEALANT DEPTH (IN.)	MINERAL WOOL (IN.)	ANNULUS (IN.)	
				MINIMUM	MAXIMUM
STEEL OR IRON	24	1/2	3	POINT CONTACT	2
STEEL OR IRON	4	1	NONE REQ'D.	POINT CONTACT	1-1/2
COPPER	4	1/2	3	POINT CONTACT	2

2 UL C-AJ-1213 FIRE STOP DETAIL (FOR ALL PENETRATIONS)
SCALE: N.T.S.

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OVERLAND PARK, KS 66211

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PARK RIDGE, IL 60068
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FAX: 847-698-6401

REVISIONS

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LOC# 140684
KCYC
LEES SUMMIT
900 SW BLUE PKWY
LEES SUMMIT, MO 64063

DRAWN BY:	JGL
CHECKED BY:	AJB
DATE:	12/17/20
PROJECT #:	54-1356

SHEET TITLE
SITE DETAILS

SHEET NUMBER
C-2

SERIES NUMBER	PRODUCT CONFIGURATION*
ICGC-1P-400	1Ø, L1, L2, N, AND G
ICGC-1P-400-CBL	1Ø, L1, L2, N, AND G WITH DEUTSCH CONNECTOR AND 20' CBL
ICGC-3P-400	3Ø, L1, L2, N, AND G
ICGC-3P-400-CBL	3Ø, L1, L2, N, AND G WITH DEUTSCH CONNECTOR AND 20' CBL
ACCESSORIES	
ICGC-CBL	1Ø OR 3Ø DEUTSCH CONNECTOR AND 20' CABLE ASSEMBLY
ICGC-MB	MOUNTING BOX FOR USE WITH 1Ø OR 3Ø ICGC ENCLOSURES
400LKB-1P	400A LUG KIT BURNDY (8 LUGS) 3/0 CU 1-HOLD SHORT LUGS
400LKB-3P	400A LUG KIT BURNDY (10 LUGS) 3/0 CU 1-HOLD SHORT LUGS
400LKP-1P	400A LUG KIT PANDUIT (8 LUGS) 3/0 CU 1-HOLD SHORT LUGS
400LKP-3P	400A LUG KIT PANDUIT (10 LUGS) 3/0 CU 1-HOLD SHORT LUGS

*ALL PARTS LISTED INCLUDE MALE CAM LOK-STYLE CONNECTORS. UNITS ARE UL 1008 TRANSFER SWITCH POWER INLET
STANDARD RATED FOR USE ON 120/240 OR 120/208 V UP TO 400 AMP INSTALLATIONS.

General Data

Enclosure dimensions (H x W x D)
23 x 10 x 9.5 inches

Weight
14 lbs (approx.)

Enclosure
- UL Type 3R aluminum enclosure
- Uses die-cast pin hinges, black powder coated
- Dead front panel protects utility gen set wiring connections (Fig 1)
- Gasket provided to help insure water-tight seal
- Flush mount weld
- Bottom closure employs an integrated hinge for integrity, strength and durability while keeping bugs and critters out when gen set is not connected (Fig 2)
- Bottom closure hinges open to provide 7.25" W x 3"D opening for cable conductors
- Cable management system is a bridge lance for plastic zip ties
- Optional Deutsch connector is connected via an "O ring" to base

Powder coat paint
UL RAL 7035 - Lilght grey

Door
- Pad lockable
- Ships with left opening; may open to the right by moving hinges to the opposite side of cabinet (Fig 3)

UL
UL 1008, 5th ed, or current
- Single phase, rated 240/120, 400 A, 10 kA short circuit
- Three phase, rated 208/120, 400 amps, 10 kA short circuit

Manufacturer's warranty
5 years

Cam Lok-Style Connectors

Type
Male

Electrical
- UL Listed Cam Lok-style, 180° twist on/off single-pole receptacles
- Conforms to NEC
- Rated up to 400 A, 208/120 V
- May be used for 240/120 single phase applications
- CamLok terminal acceptance 400 A
  - Single hole lugs suitable for 3/0 AWG copper per CamLok Listing
  - Two crimped 3/0 AWG copper wires per terminal
  - UL Listed lugs (Fig 4, kits available as Accessories)

Power connectors
- Solid brass machined connectors
- Color coded:
  Green– Ground
  White–Neutral
  Black – Line 1
  Red– Line 2
  Blue–Line 3

Intersect™, Inc.

1 CAM-LOK DETAIL
SCALE: N.T.S.

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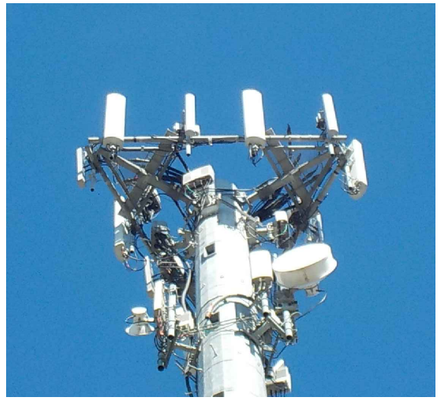
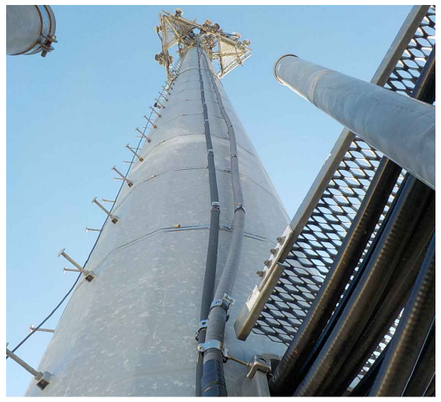
PROJECT #:	54-1356

SHEET TITLE
SITE DETAILS

SHEET NUMBER
C-3



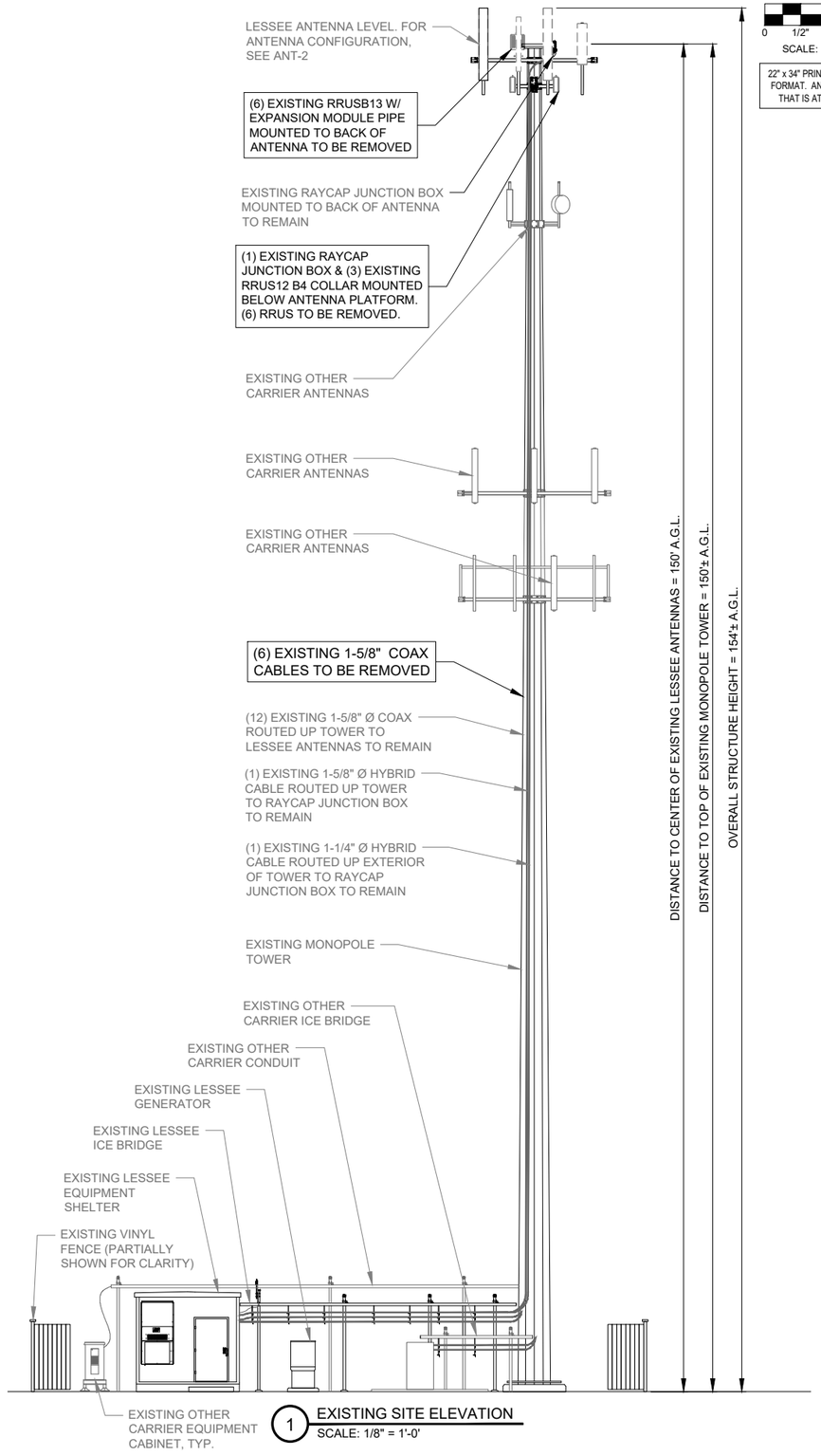
3 TYPICAL LESSEE ANTENNA SECTOR



4 LESSEE COAX ROUTE ON TOWER

NOTES

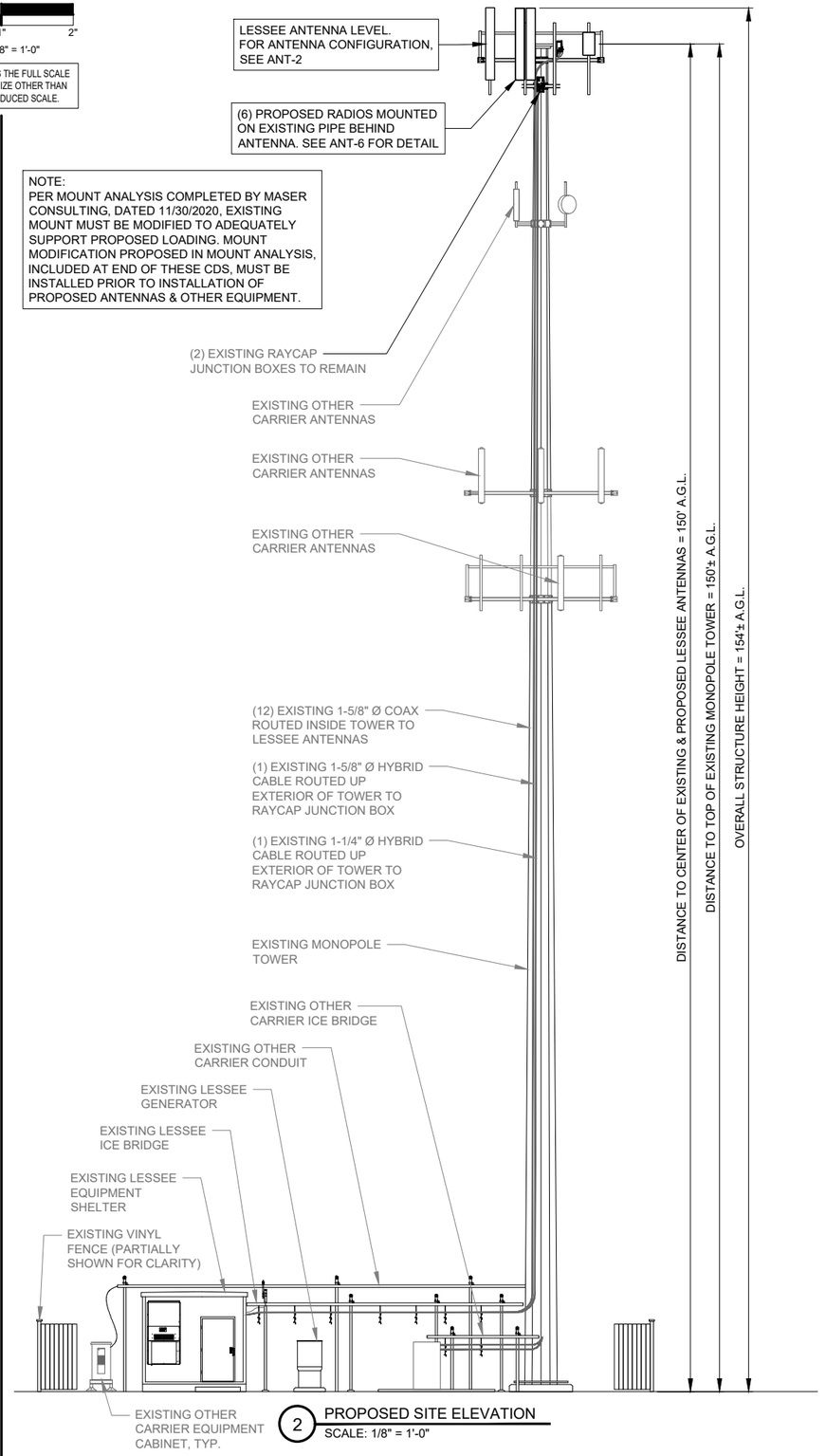
1. THIS DRAWING IS FOR EXHIBIT AND LAYOUT PURPOSES ONLY.
2. REFER TO PASSING STRUCTURAL ANALYSIS BY TOWER OWNER.
3. REFER TO MOUNT MODIFICATION DESIGN ATTACHED TO THIS SET.



1 EXISTING SITE ELEVATION
SCALE: 1/8" = 1'-0'

0 1/2" 1" 2"
SCALE: 1/8" = 1'-0"

22" x 34" PRINT IS THE FULL SCALE FORMAT. ANY SIZE OTHER THAN THAT IS AT REDUCED SCALE.



2 PROPOSED SITE ELEVATION
SCALE: 1/8" = 1'-0"

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SHEET TITLE
SITE ELEVATION

SHEET NUMBER
ANT-1

EXISTING ANTENNA KEY

	Position	Status	Antenna Centerline (ft AGL)	Antenna Make / Model	Antenna Count	Height (in)	Width (in)	Depth (in)	Weight (lbs)	Azimuth (true north)	Mech Downtilt	Electrical Downtilt	TMA Make/Model	TMA Count	Diplexer Make/Model	Diplexer Count	Coax Make/Model	Coax Count	Coax Size	Coax Length	RRU Make/Model	RRU Count	Distribution Box Make/Model	Raycap Count	Hybrid Cable Make/Model	Hybrid Cable Count	Hybrid Cable Size	Hybrid Cable Length	Hybrid Jumper Count	Hybrid Jumper Size	Hybrid Jumper Length	RF Jumper Count	RF Jumper Length
Mainline Cable & Distribution																							RFS DB-B1-6C-12AB-0Z	2	RFS/HBF-158-13U6S6	1	1-5/8"	200					
																									RFS/HBF-114-13U6S12	1	1-1/4"	200					
Alpha Sector	A	remove	150	ANTEL BXA-171063-12CF	1	72.5	6.1	4.1	12.8	0	3	2	ADC/CG-1900DD	2			AVA7-50	2	1-5/8"	200	E//// RRUS 12	1			RFS/HBF058-08U1S2-15F				1	5/8"	15	2	10
	B	remove	150	ANDREW LNX-6515DS-A1M	1	96.6	11.9	7.1	43.7	0	0	5					AVA7-50	1	1-5/8"	200	E/// RRUS 11 B13 w/ A2	1			RFS/HBF058-08U1S2-15F				1	5/8"	15	2	10
	C	remove	150	ANTEL BXA-171063-12CF	1	72.5	6.1	4.1	12.8	0	3	2					*AVA7-50	2	1-5/8"	200												2	10
	D	existing	150	ANDREW LNX-6515DS-A1M	1	96.6	11.9	7.1	43.7	0	4	5			CBC78-DF-2X	2	AVA7-50	1	1-5/8"	200												2	10
Beta Sector	E	remove	150	ANTEL BXA-171063-12CF	1	72.5	6.1	4.1	12.8	120	2	2	ADC/CG-1900DD	2			AVA7-50	2	1-5/8"	200	E//// RRUS 12	1			RFS/HBF058-08U1S2-15F				1	5/8"	15	2	10
	F	remove	150	ANDREW LNX-6515DS-A1M	1	96.6	11.9	7.1	43.7	120	3	5					AVA7-50	1	1-5/8"	200	E/// RRUS 11 B13 w/ A2	1			RFS/HBF058-08U1S2-15F				1	5/8"	15	2	10
	G	remove	150	ANTEL BXA-171063-12CF	1	72.5	6.1	4.1	12.8	120	2	2					*AVA7-50	2	1-5/8"	200												2	10
	H	existing	150	ANDREW LNX-6515DS-A1M	1	96.6	11.9	7.1	43.7	120	3	3			CBC78-DF-2X	2	AVA7-50	1	1-5/8"	200												2	10
Gamma Sector	I	remove	150	ANTEL BXA-171063-12CF	1	72.5	6.1	4.1	12.8	240	2	2	ADC/CG-1900DD	2			AVA7-50	2	1-5/8"	200	E//// RRUS 12	1			RFS/HBF058-08U1S2-15F				1	5/8"	15	2	10
	J	remove	150	ANDREW LNX-6515DS-A1M	1	96.6	11.9	7.1	43.7	240	3	5					AVA7-50	1	1-5/8"	200	E/// RRUS 11 B13 w/ A2	1			RFS/HBF058-08U1S2-15F				1	5/8"	15	2	10
	K	remove	150	ANTEL BXA-171063-12CF	1	72.5	6.1	4.1	12.8	240	2	2					*AVA7-50	2	1-5/8"	200												2	10
	L	existing	150	ANDREW LNX-6515DS-A1M	1	96.6	11.9	7.1	43.7	240	2	3			CBC78-DF-2X	2	AVA7-50	1	1-5/8"	200												2	10
				Antenna Total	**12**								**TMA Total**	**6**	**Diplexer Total**	**6**	**Coax Total**	**18**			**RRU Total**	**6**	**Distro Box Total**	**2**	**Hybrid Cable Total**	**2**	**Jumper Total**	**6**	**RF Jumper Total**	**24**			
																	*COAX TO BE REMOVED																

PROPOSED ANTENNA KEY

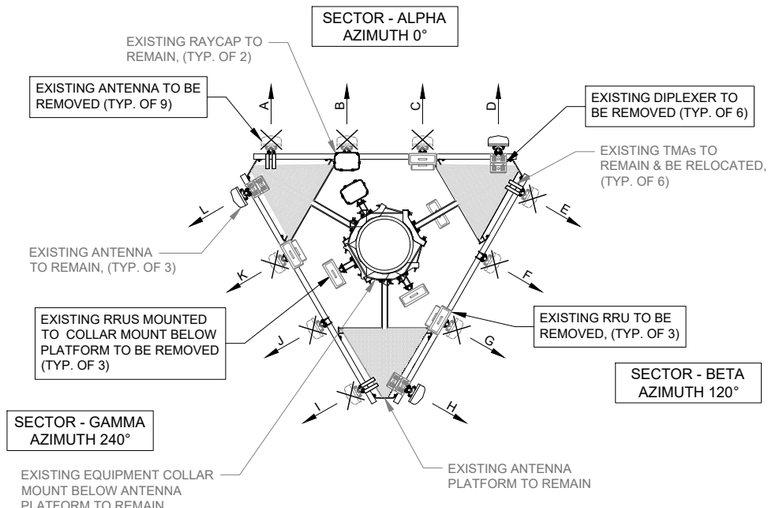
	Position	Status	Antenna Centerline (ft AGL)	Antenna Make / Model	Antenna Count	Height (in)	Width (in)	Depth (in)	Weight (lbs)	Azimuth (true north)	Mech Downtilt	Electrical Downtilt	TMA Make/Model	TMA Count	Diplexer Make/Model	Diplexer Count	Coax Make/Model	Coax Count	Coax Size	Coax Length	RRU Make/Model	RRU Count	Distribution Box Make/Model	Raycap Count	Hybrid Cable Make/Model	Hybrid Cable Count	Hybrid Cable Size	Hybrid Cable Length	Hybrid Jumper Count	Hybrid Jumper Size	Hybrid Jumper Length	RF Jumper Count	RF Jumper Length
Mainline Cable & Distribution																							RFS/RFS DB-B1-6C-12AB-0Z	2	RFS/HBF-158-13U6S6	1	1-5/8"	200					
																									RFS/HBF-114-13U6S12	1	1-1/4"	200					
Alpha Sector	A	proposed	150	nL-SUB6 VZE01	1	30.4	15.9	8.1	81.6	0	0	3													HBF058-08U2S1-15FY				2	5/8"	15		
	B	empty																																
	C	proposed	150	COMMSCOPE NHH-65C-R2B	1	96	11.9	7.1	51.6	0	0	5	ADC/CG-1900DD	2			AVA7-50	2	1-5/8"	200	E// 8843	1			HBF058-08U2S1-15FY				1	5/8"	15	8	10
	D	proposed	150	COMMSCOPE NHH-65C-R2B	1	96	11.9	7.1	51.6	0	0	5									E// 4449	1			HBF058-08U2S1-15FY				1	5/8"	15	4	10
	E	existing	150	Andrew/LNX-6515DS-A1M	1	96.6	11.9	7.1	43.7	0	4	5					AVA7-50	2	1-5/8"	200												2	10
Beta Sector	F	proposed	150	nL-SUB6 VZE01	1	30.4	15.9	8.1	81.6	120	0	3													HBF058-08U2S1-15FY				2	5/8"	15		
	G	empty																																
	H	proposed	150	COMMSCOPE NHH-65C-R2B	1	96	11.9	7.1	51.6	120	0	8	ADC/CG-1900DD	2			AVA7-50	2	1-5/8"	200	E// 8843	1			HBF058-08U2S1-15FY				1	5/8"	15	8	10
	I	proposed	150	COMMSCOPE NHH-65C-R2B	1	96	11.9	7.1	51.6	120	0	8									E// 4449	1			HBF058-08U2S1-15FY				1	5/8"	15	4	10
	J	existing	150	Andrew/LNX-6515DS-A1M	1	96.6	11.9	7.1	43.7	120	3	5					AVA7-50	2	1-5/8"	200												2	10
Gamma Sector	K	proposed	150	nL-SUB6 VZE01	1	30.4	15.9	8.1	81.6	240	0	3													HBF058-08U2S1-15FY				2	5/8"	15		
	L	empty																																
	M	proposed	150	COMMSCOPE NHH-65C-R2B	1	96	11.9	7.1	51.6	240	0	8	ADC/CG-1900DD	2			AVA7-50	2	1-5/8"	200	E// 8843	1			HBF058-08U2S1-15FY				1	5/8"	15	8	10
	N	proposed	150	COMMSCOPE NHH-65C-R2B	1	96	11.9	7.1	51.6	240	0	8									E// 4449	1			HBF058-08U2S1-15FY				1	5/8"	15	4	10
	O	existing	150	Andrew/LNX-6515DS-A1M	1	96.6	11.9	7.1	43.7	240	2	5					AVA7-50	2	1-5/8"	200												2	10
				Antenna Total	**12**								**TMA Total**	**6**	**Diplexer Total**	**0**	**Coax Total**	**12**			**RRU Total**	**6**	**Distro Box Total**	**2**	**Hybrid Cable Total**	**2**	**Jumper Total**	**12**	**RF Jumper Total**	**42**			

1 ANTENNA KEYS

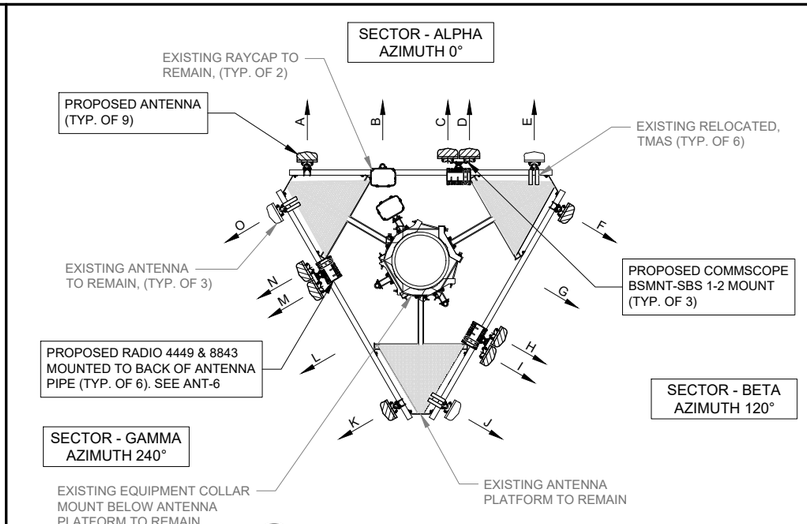
NOTES

1. THIS DRAWING IS FOR EXHIBIT AND LAYOUT PURPOSES ONLY.
2. REFER TO PASSING STRUCTURAL ANALYSIS BY TOWER OWNER.
3. G.C. TO VERIFY ANTENNA TECHNOLOGIES PRIOR TO REMOVAL OF ANY ANTENNAS.

NOTE:
PER MOUNT ANALYSIS COMPLETED BY MASER CONSULTING, DATED 11/30/2020, EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT PROPOSED LOADING. MOUNT MODIFICATION PROPOSED IN MOUNT ANALYSIS, INCLUDED AT END OF THESE CDS, MUST BE INSTALLED PRIOR TO INSTALLATION OF PROPOSED ANTENNAS & OTHER EQUIPMENT.



2 EXISTING ANTENNA LAYOUT
N.T.S.



3 PROPOSED ANTENNA LAYOUT
N.T.S.

verizon
10740 NALL AVE, SUITE 400
OVERLAND PARK, KS 66211

TERRA CONSULTING GROUP, LTD.
600 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

REVISIONS

NO.	DESCRIPTION	DATE	BY
A	ISSUED FOR REVIEW	12/17/20	JGL
B	POWER UPGRADE	08/17/21	BE
0	ISSUED FOR CONSTRUCTION	09/01/21	BE

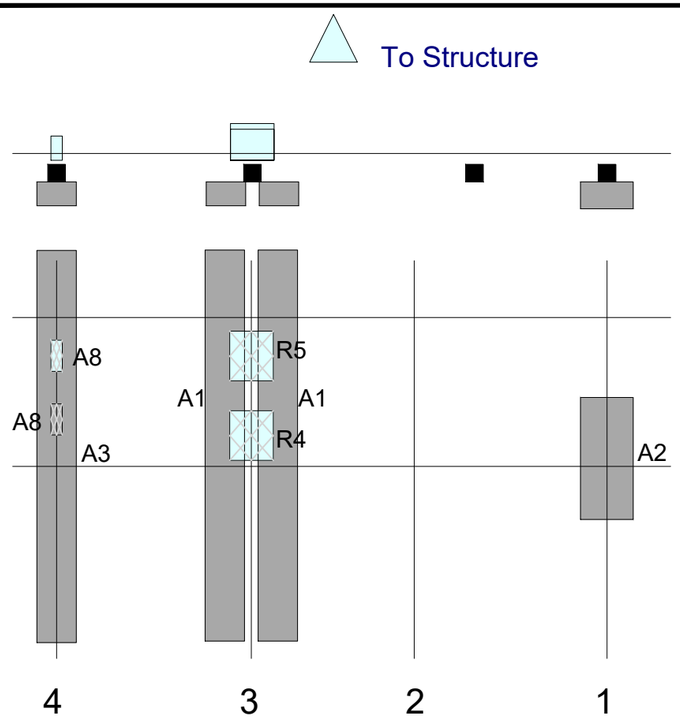
LOC# 140684
KCYC
LEES SUMMIT

900 SW BLUE PKWY
LEES SUMMIT, MO 64063

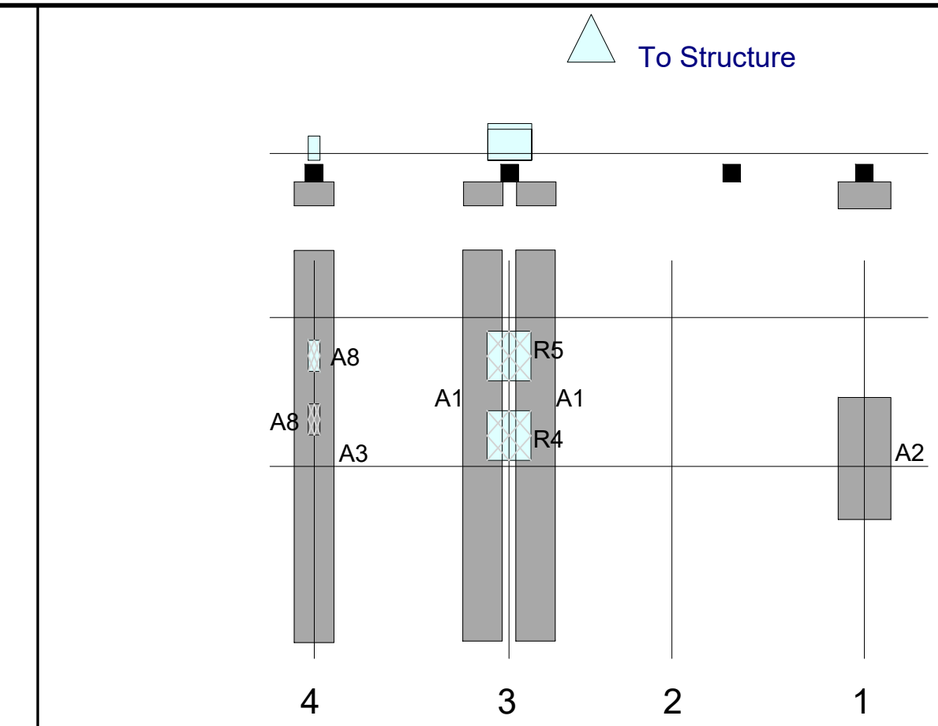
DRAWN BY:	JGL
CHECKED BY:	AJB
DATE:	12/17/20
PROJECT #:	54-1356

SHEET TITLE
ANTENNA KEYS & LAYOUT

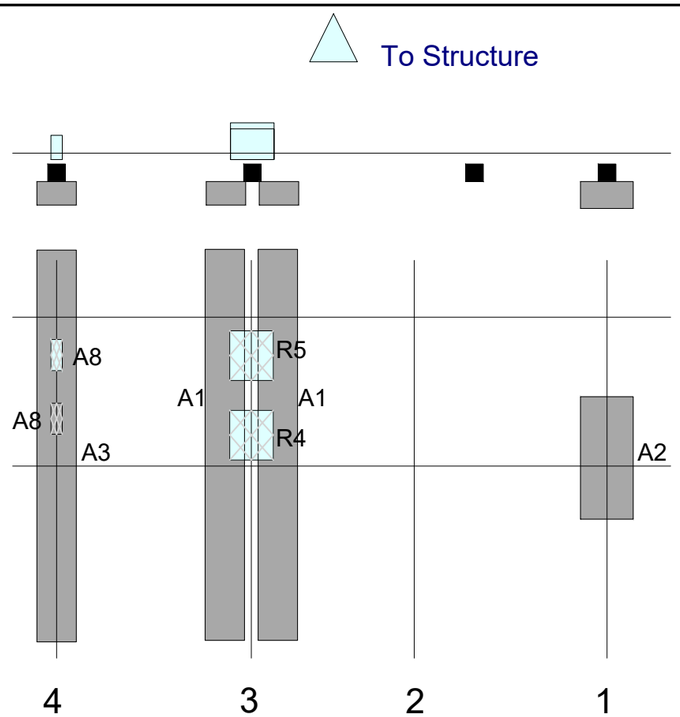
SHEET NUMBER
ANT-2



SECTOR: A



SECTOR: B



SECTOR: C

SECTOR: A

Ref#	Model	Height (in)	Width (in)	H Dist Frm L. #	Pipe	Pipe Pos	V Ant Pos	C. Ant Frm T.	H Ant Off	Status	Validation
A2	VZE01	30.4	15.9	144	1	a	Front	48	0	Added	
A1	NHH-65C-R2B	96	11.9	59	3	a	Front	45	-6	Added	
A1	NHH-65C-R2B	96	11.9	59	3	b	Front	45	-6	Added	
R4	4449	15	13.2	59	3	a	Behind	42	0	Added	
R5	8843	15	13.2	59	3	a	Behind	24	0	Added	
A3	LNX-6515DS-A1M	96.4	11.9	12	4	a	Front	45	0	Retained	11/09/2017
A8	LGP13513	12.2	4.8	12	4	B	Behind	24	0	Added	
A8	LGP13513	12.2	4.8	12	4	B	Behind	39	0	Added	

SECTOR: B

Ref#	Model	Height (in)	Width (in)	H Dist Frm L. #	Pipe	Pipe Pos	V Ant Pos	C. Ant Frm T.	H Ant Off	Status	Validation
A2	VZE01	30.4	15.9	144	1	a	Front	48	0	Added	
A1	NHH-65C-R2B	96	11.9	59	3	a	Front	45	-6	Added	
A1	NHH-65C-R2B	96	11.9	59	3	b	Front	45	-6	Added	
R4	4449	15	13.2	59	3	a	Behind	42	0	Added	
R5	8843	15	13.2	59	3	a	Behind	24	0	Added	
A3	LNX-6515DS-A1M	96.4	11.9	12	4	a	Front	45	0	Retained	11/09/2017
A8	LGP13513	12.2	4.8	12	4	B	Behind	24	0	Added	
A8	LGP13513	12.2	4.8	12	4	B	Behind	39	0	Added	

SECTOR: C

Ref#	Model	Height (in)	Width (in)	H Dist Frm L. #	Pipe	Pipe Pos	V Ant Pos	C. Ant Frm T.	H Ant Off	Status	Validation
A2	VZE01	30.4	15.9	144	1	a	Front	48	0	Added	
A1	NHH-65C-R2B	96	11.9	59	3	a	Front	45	-6	Added	
A1	NHH-65C-R2B	96	11.9	59	3	b	Front	45	-6	Added	
R4	4449	15	13.2	59	3	a	Behind	42	0	Added	
R5	8843	15	13.2	59	3	a	Behind	24	0	Added	
A3	LNX-6515DS-A1M	96.4	11.9	12	4	a	Front	45	0	Retained	11/09/2017
A8	LGP13513	12.2	4.8	12	4	B	Behind	24	0	Added	
A8	LGP13513	12.2	4.8	12	4	B	Behind	39	0	Added	

ANTENNA PLACEMENT

verizon
10740 NALL AVE, SUITE 400
OVERLAND PARK, KS 66211

TERRA
CONSULTANTS GROUP, LTD.
600 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

REVISIONS

NO.	DESCRIPTION	DATE	BY
A	ISSUED FOR REVIEW	12/17/20	JGL
B	POWER UPGRADE	08/17/21	BE
0	ISSUED FOR CONSTRUCTION	09/01/21	BE

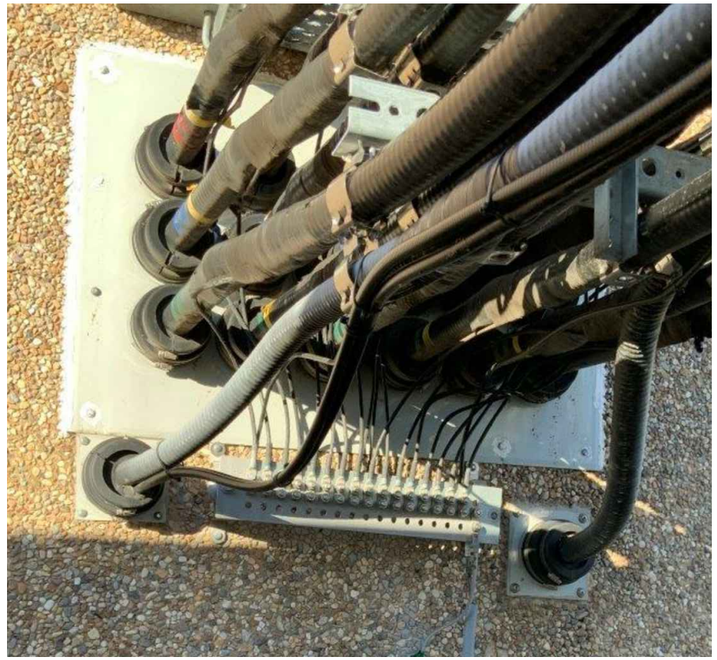
LOC# 140684
KCYC
LEES SUMMIT

900 SW BLUE PKWY
LEES SUMMIT, MO 64063

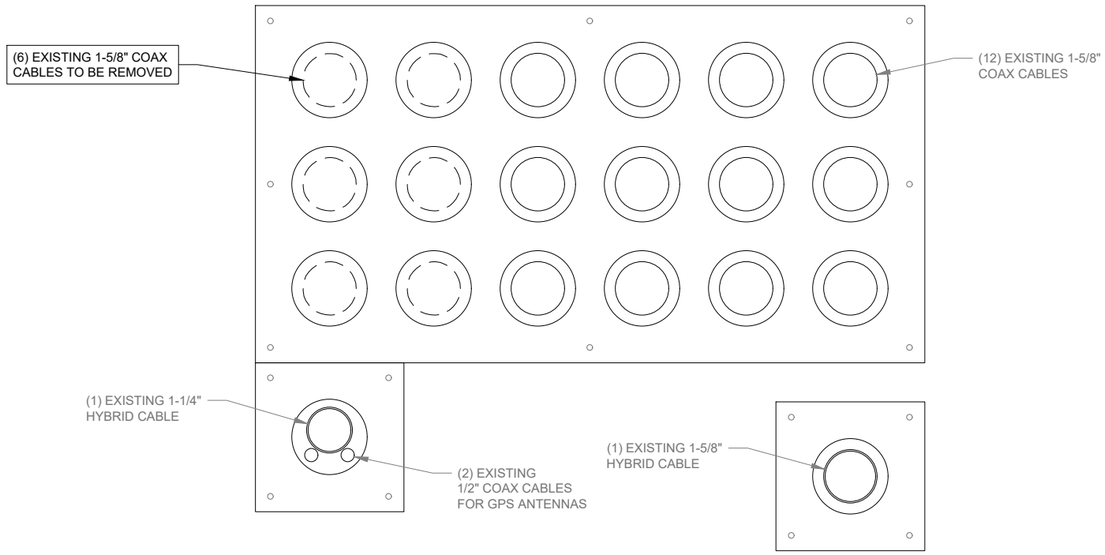
DRAWN BY:	JGL
CHECKED BY:	AJB
DATE:	12/17/20
PROJECT #:	54-1356

SHEET TITLE
SECTOR PLAN
& ELEVATION DETAILS

SHEET NUMBER
ANT-3



1 LESSEE ENTRY PANEL

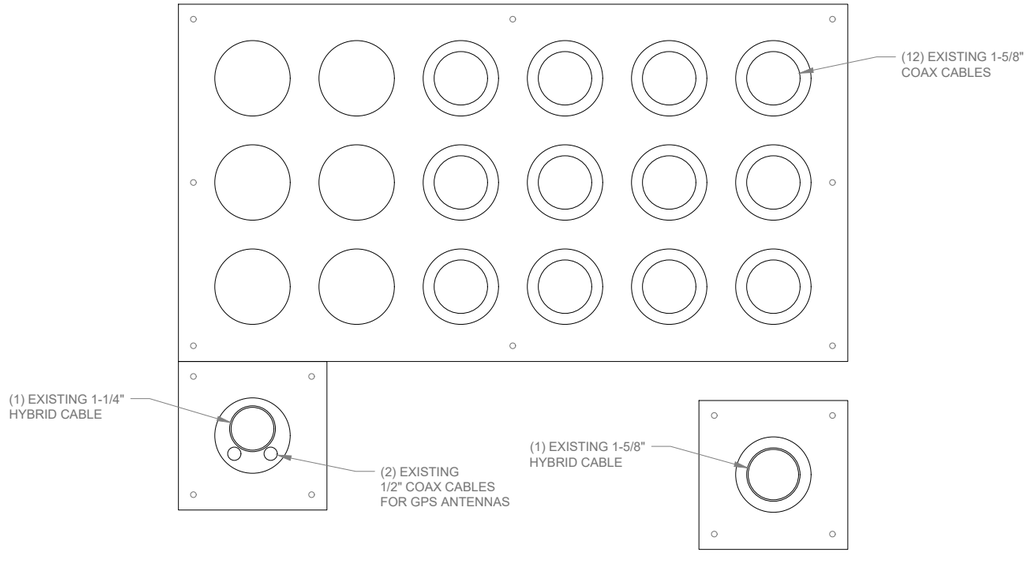


NOTE:
G.C. TO VERIFY CORRECT LINES PRIOR TO DISCONNECTION

2 EXISTING ENTRY PANEL LAYOUT FROM OUTSIDE SHELTER
N.T.S.

PARTS LIST

- (1) NEW L-SUB6 BBU
- (3) ERICSSON 5G VZE01
- (3) ERICSSON 8843 FOR AWS LTE
- (3) ERICSSON 4449 FOR 700, 850 LTE
- (6) COMMSCOPE NHH-65C-R2B
- (3) COMMSCOPE BRACKET BSAMNT-SBS-1-2
- (6) Y-CABLES RFS HBF058-08U2S1-15FY
- (6) 5/8"± FIBER JUMPERS



3 PROPOSED ENTRY PANEL LAYOUT FROM OUTSIDE SHELTER
N.T.S.

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OVERLAND PARK, KS 66211

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600 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

REVISIONS

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LOC# 140684
KCYC
LEES SUMMIT

900 SW BLUE PKWY
LEES SUMMIT, MO 64063

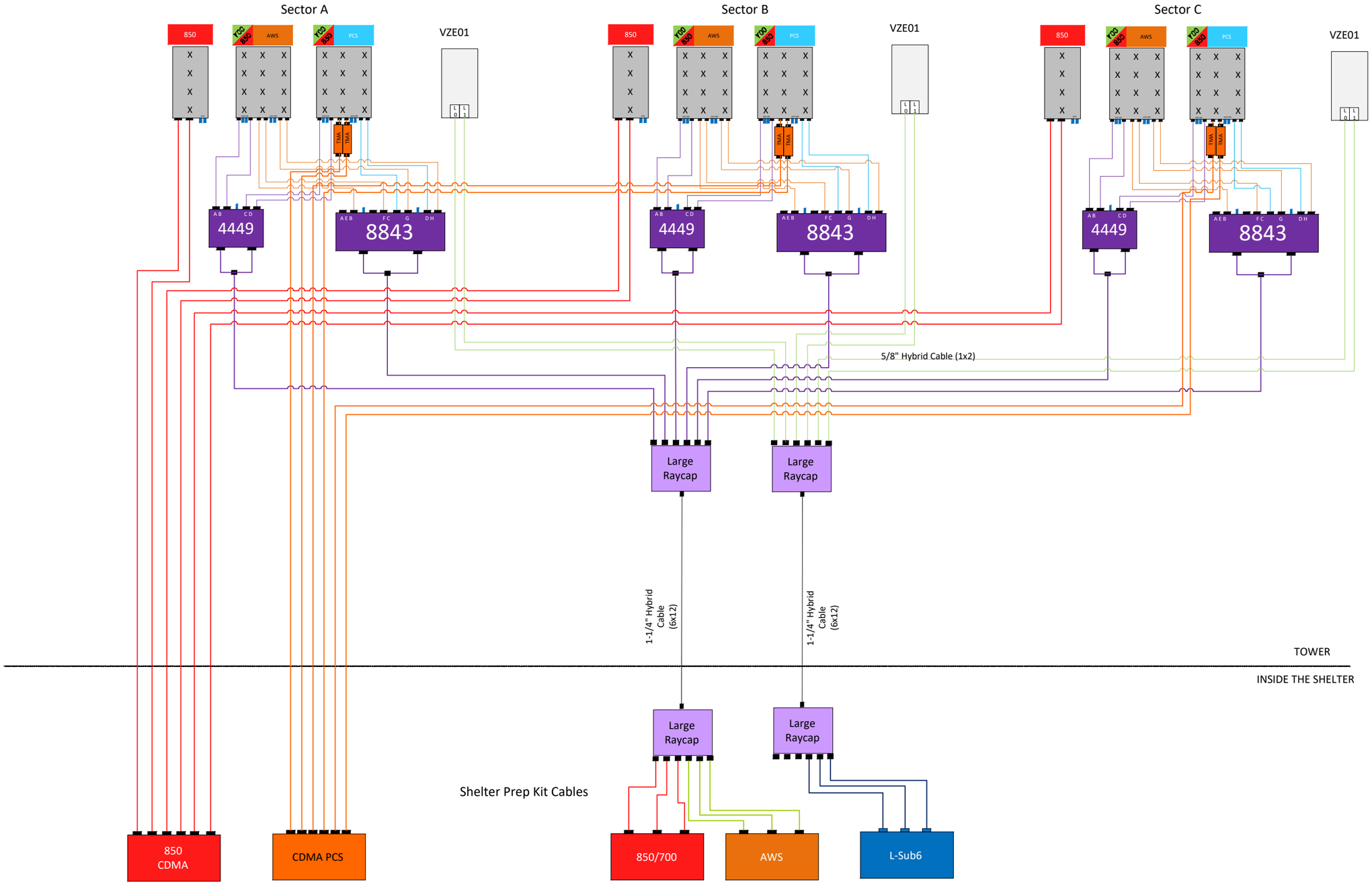
DRAWN BY:	JGL
CHECKED BY:	AJB
DATE:	12/17/20
PROJECT #:	54-1356

SHEET TITLE
COAX ENTRY PANEL
&
PARTS LIST

SHEET NUMBER
ANT-4

Arrangement of Antennas may not match arrangement on the tower

CDMA 850 / CDMA PCS / 700 LTE / AWS LTE / 850 LTE / 850 5G / L-Sub6



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OVERLAND PARK, KS 66211

TERRA
TERRA CONSULTING GROUP, LTD.
600 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

REVISIONS

NO.	DESCRIPTION	DATE	BY
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0	ISSUED FOR CONSTRUCTION	09/01/21	BE

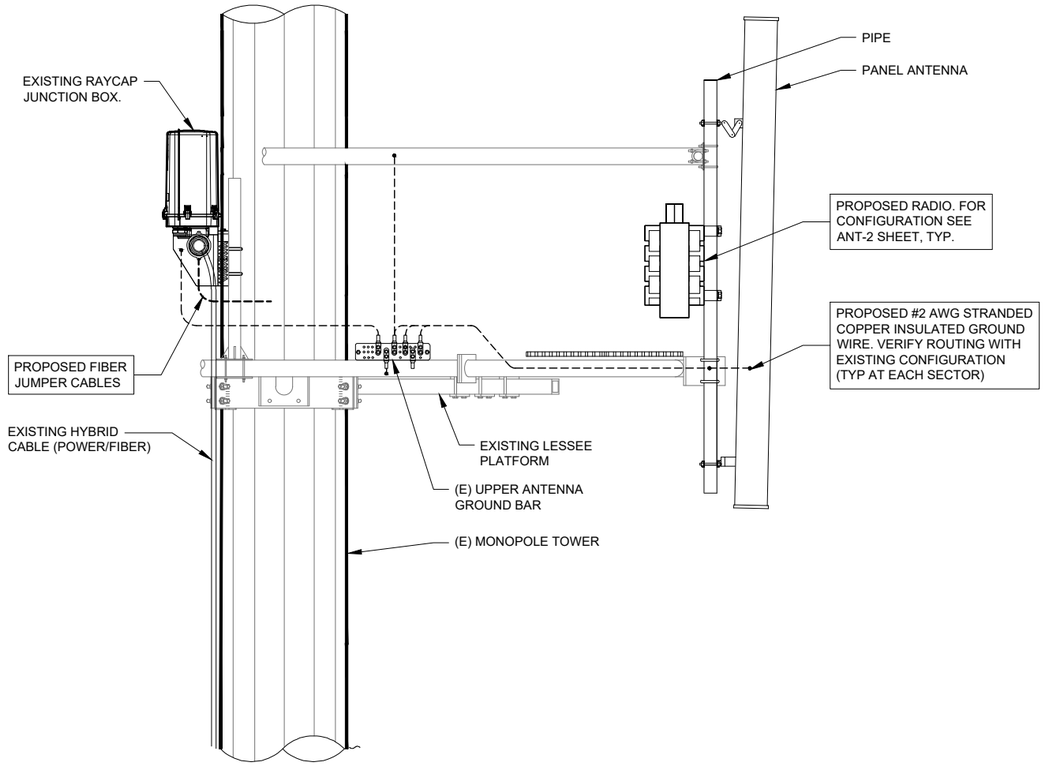
LOC# 140684
KCYC
LEES SUMMIT

900 SW BLUE PKWY
LEES SUMMIT, MO 64063

DRAWN BY:	JGL
CHECKED BY:	AJB
DATE:	12/17/20
PROJECT #:	54-1356

SHEET TITLE
ANTENNA PLUMBING DIAGRAM

SHEET NUMBER
ANT-5



1 ANTENNA, RRU & RAYCAP JUNCTION BOX MOUNTING DETAIL
SCALE: N.T.S.

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OVERLAND PARK, KS 66211

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PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

REVISIONS			
NO	DESCRIPTION	DATE	BY
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0	ISSUED FOR CONSTRUCTION	09/01/21	BE

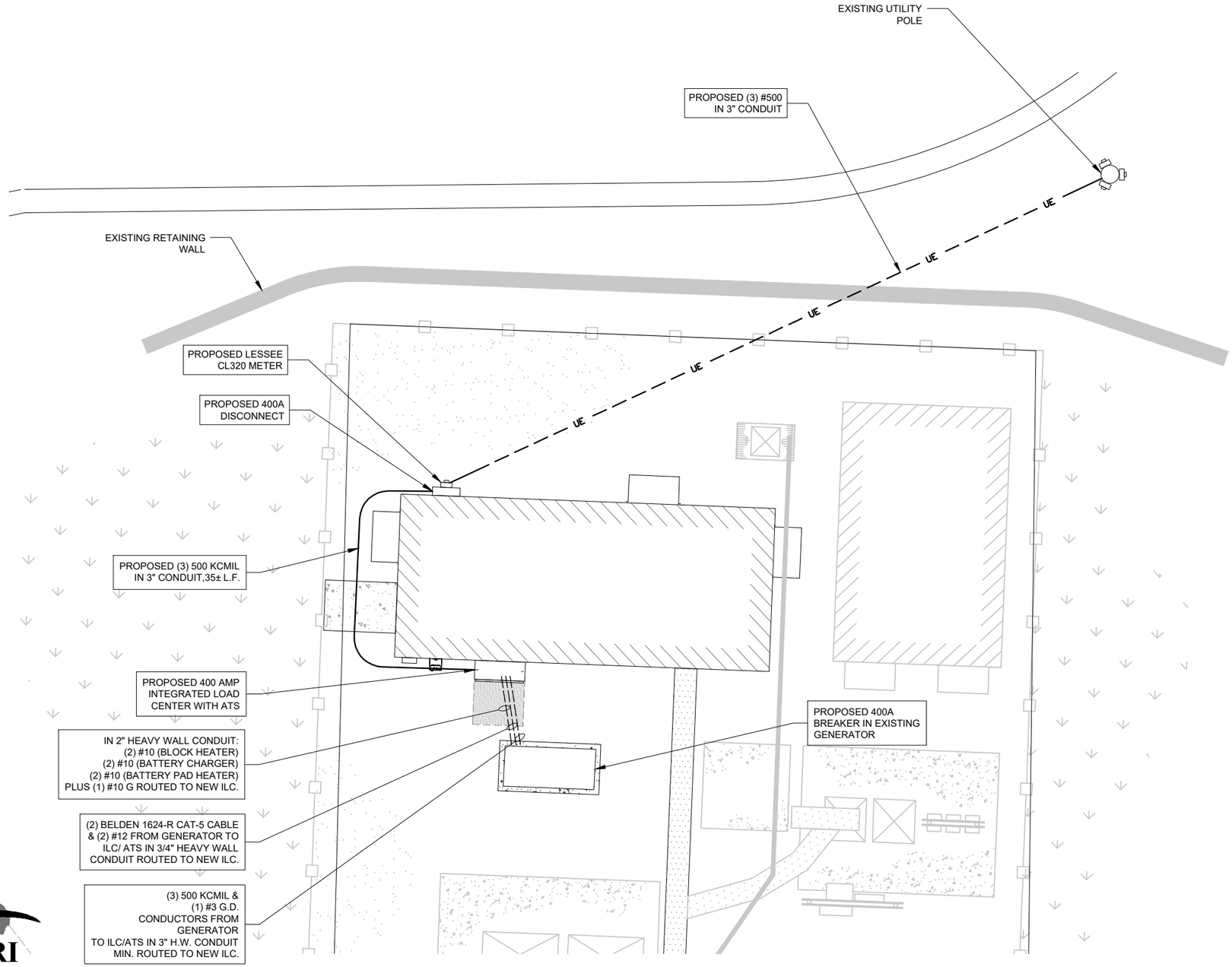
LOC# 140684
KCYC
LEES SUMMIT

900 SW BLUE PKWY
LEES SUMMIT, MO 64063

DRAWN BY:	JGL
CHECKED BY:	AJB
DATE:	12/17/20
PROJECT #:	54-1356

SHEET TITLE
SITE DETAILS

SHEET NUMBER
ANT-6



1 ELECTRICAL SITE PLAN
SCALE: 1" = 4'

SCALE 1" = 4'
0 1/2" 1" 2"

22" x 34" PRINT IS THE FULL SCALE FORMAT. ANY SIZE OTHER THAN THAT IS AT REDUCED SCALE.

MISSOURI ONE CALL SYSTEM
CALL BEFORE YOU DIG - DRILL - BLAST
1-800-344-7483
TOLL FREE

THIS SITE PLAN WAS CREATED OFF OF FIELD MEASUREMENTS BY THE DESIGNER AND ARCHIVE SURVEY INFORMATION AS A BOUNDARY SURVEY WAS NOT SUPPLIED FOR PURPOSES OF SITE LAYOUT.

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OVERLAND PARK, KS 66211

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PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

REVISIONS

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0	ISSUED FOR CONSTRUCTION	09/01/21	BE

LOC# 140684
KCYC
LEES SUMMIT

900 SW BLUE PKWY
LEES SUMMIT, MO 64063

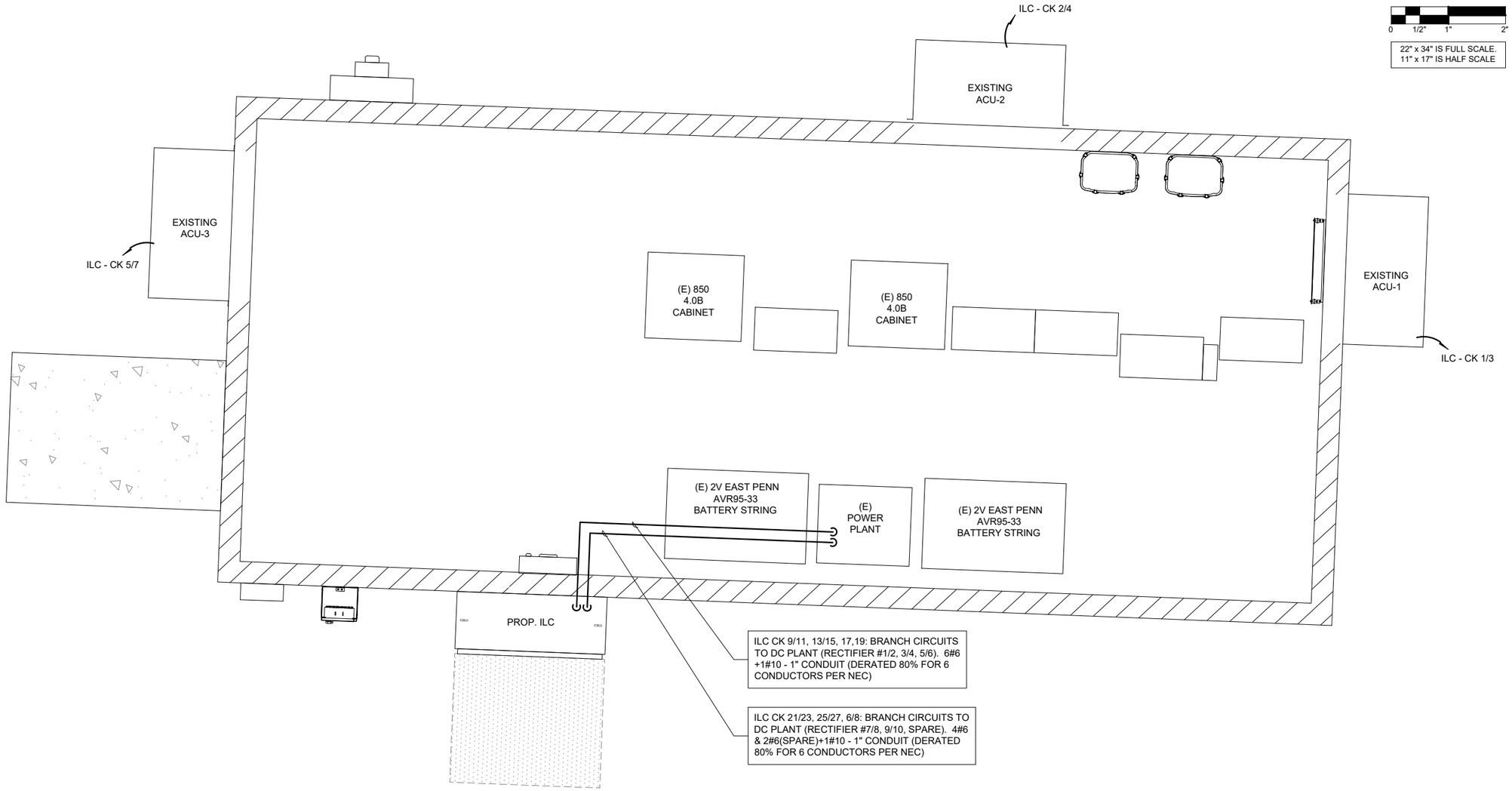
DRAWN BY:	JGL
CHECKED BY:	AJB
DATE:	12/17/20
PROJECT #:	54-1356

SHEET TITLE
ELECTRICAL SITE PLAN

SHEET NUMBER
E-1

NOTES:

1. CONTRACTOR SHALL VERIFY ALL EXISTING & PROPOSED EQUIPMENT ARE PROPERLY GROUNDED TO THE GROUNDING SYSTEM.
2. CONDUITS SHOWN SCHEMATICALLY.



SCALE: 3/4" = 1'-0"

0 1/2" 1" 2"

22" x 34" IS FULL SCALE.
11" x 17" IS HALF SCALE

1 ELECTRICAL FLOOR PLAN
SCALE: 3/4" = 1'-0"

ILC NOTE:
CONTRACTOR TO PROVIDE FIELD-MARKING: "THIS ASSEMBLY HAS MULTIPLE SOURCES OF SUPPLY"

verizon
10740 NALL AVE, SUITE 400
OVERLAND PARK, KS 66211

TERRA CONSULTING GROUP, LTD.
600 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

REVISIONS

NO.	DESCRIPTION	DATE	BY
A	ISSUED FOR REVIEW	12/17/20	JGL
B	POWER UPGRADE	08/17/21	BE
0	ISSUED FOR CONSTRUCTION	09/01/21	BE

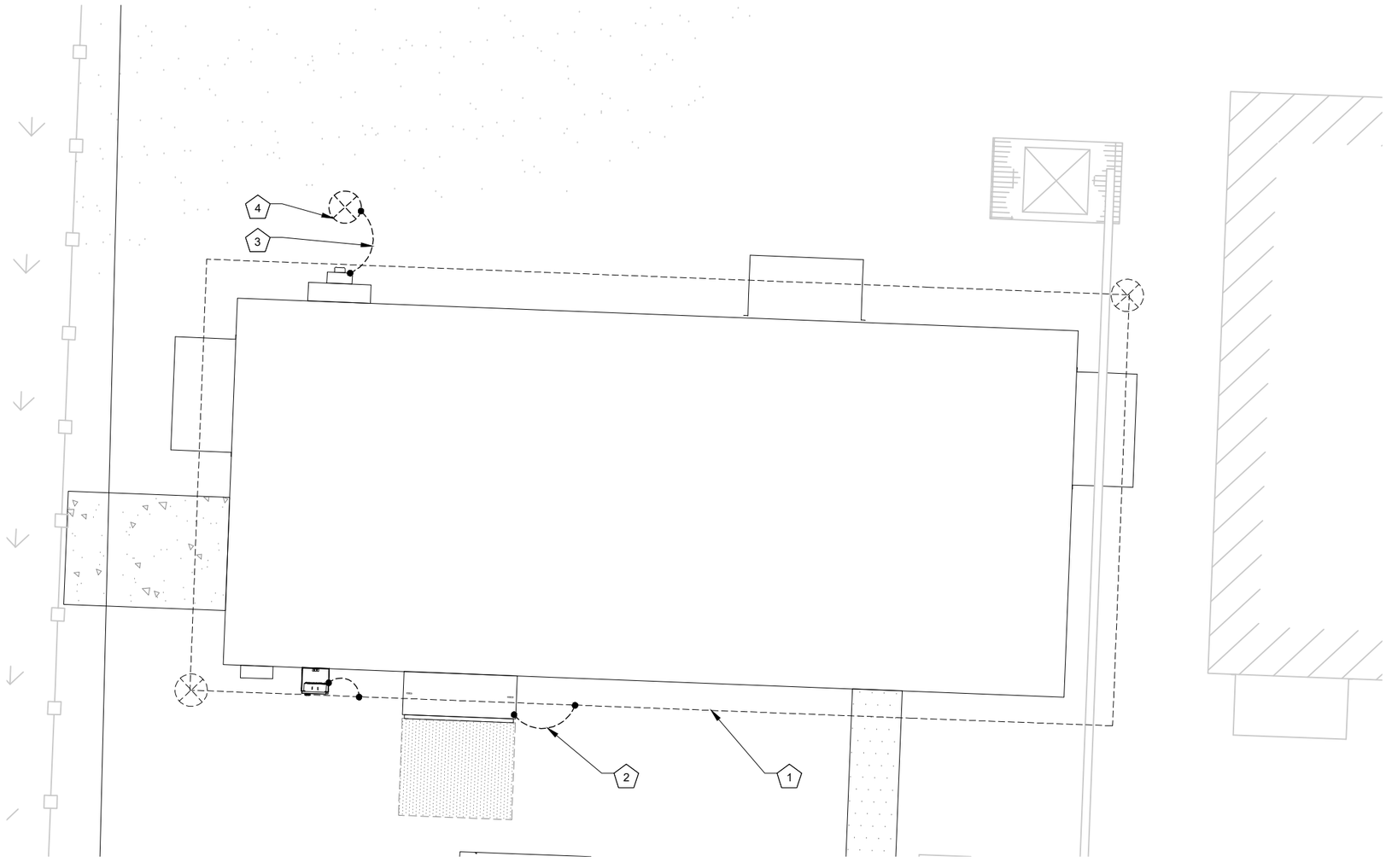
LOC# 140684
KCYC
LEES SUMMIT

900 SW BLUE PKWY
LEES SUMMIT, MO 64063

DRAWN BY:	JGL
CHECKED BY:	AJB
DATE:	12/17/20
PROJECT #:	54-1356

SHEET TITLE
ELECTRICAL FLOOR PLAN

SHEET NUMBER
E-1A



1 SITE GROUNDING PLAN
SCALE: 1" = 2'-0"

SCALE 1" = 2'

0 1/2" 1" 2"

22" x 34" PRINT IS THE FULL SCALE FORMAT. ANY SIZE OTHER THAN THAT IS AT REDUCED SCALE.

MISSOURI
ONE CALL SYSTEM
CALL BEFORE YOU
DIG - DRILL - BLAST
1-800-344-7483
TOLL FREE

KEY NOTES:

1. LOCATION OF BURIED GROUND RING, GROUNDING LEADS FROM BUILDING EXTERIOR AND CONNECTIONS TO AND FROM EQUIPMENT ARE SHOWN FOR REFERENCE ONLY. ACTUAL LEAD LOCATIONS ARE TO BE FIELD VERIFIED AS NEEDED.
2. #2 AWG TNND SOLID BARE COPPER CONDUCTOR 42" BELOW GRADE (TYPICAL) MINIMUM 24" BENDING RADIUS
3. DISCONNECT & ELECTRIC SERVICE GROUND TO GROUND ROD
4. 5/8" DIAMETER X 10'-0" LONG COPPER CLAD GROUND ROD

verizon
10740 NALL AVE, SUITE 400
OVERLAND PARK, KS 66211

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LOC# 140684
KCYC
LEES SUMMIT

900 SW BLUE PKWY
LEES SUMMIT, MO 64063

DRAWN BY:	JGL
CHECKED BY:	AJB
DATE:	12/17/20
PROJECT #:	54-1356

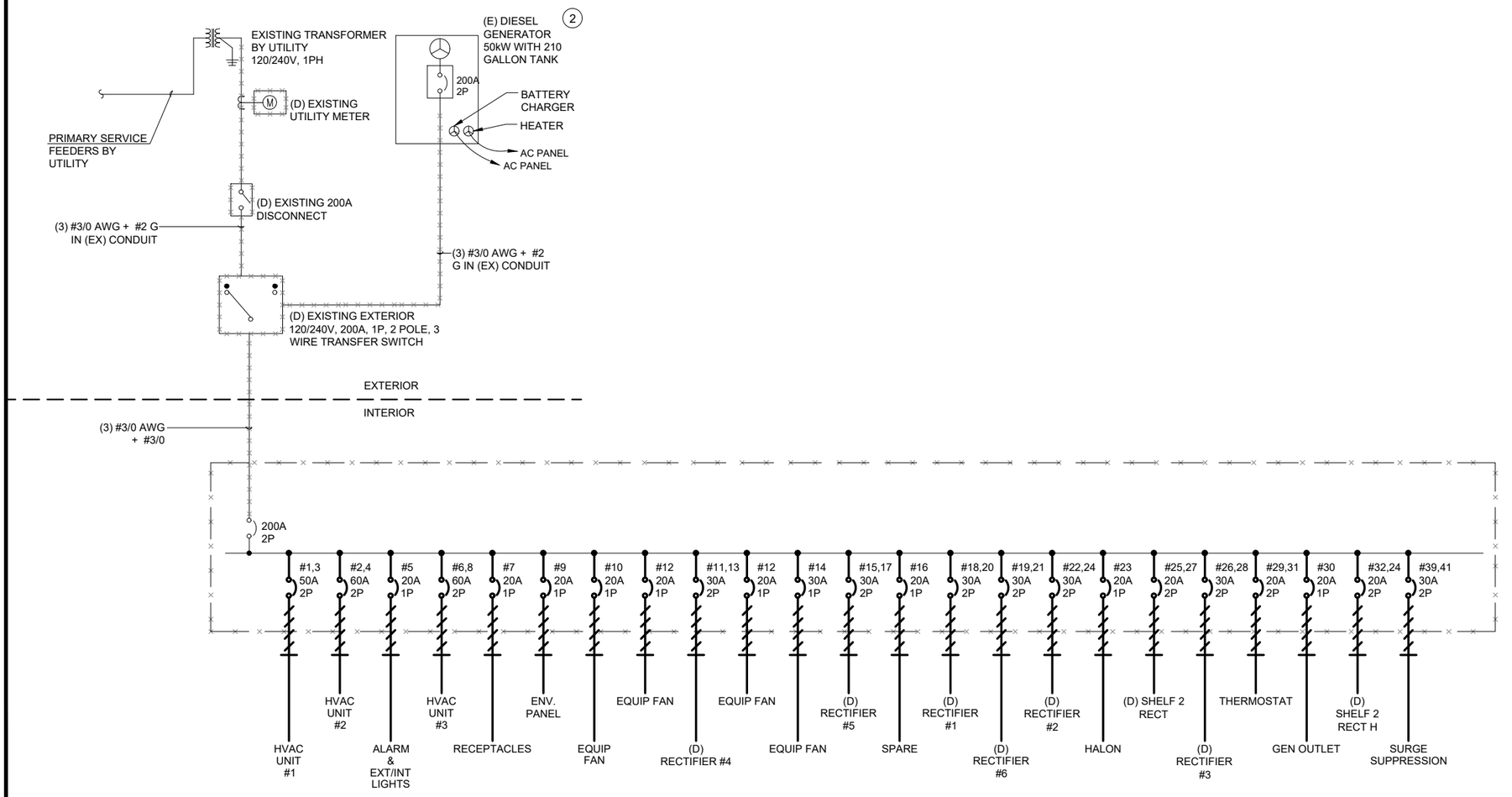
SHEET TITLE
SITE
GROUNDING PLAN

SHEET NUMBER
E-1B

LEGEND:

~~DEMO~~

PARTIAL DEMO



1 ONE LINE DEMOLITION
SCALE: N.T.S.

NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND DETERMINE THE EXACT EXTENT OF WORK, COORDINATION, DEMOLITION, TEMPORARY FACILITIES, UTILITIES, ETC. NECESSARY TO COMPLETE THE PROJECT AS INDICATED ON THE CONTRACT DOCUMENTS.
2. VERIFY LOCATION IN THE FIELD OF ALL UNDERGROUND UTILITIES PRIOR TO EXCAVATING. COORDINATE WITH PUBLIC UTILITIES AS NECESSARY TO COMPLETE REQUIRED WORK AS INDICATED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR/REPLACEMENT OF ALL DAMAGED UTILITIES AT THE EXPENSE OF THE CONTRACTOR.
3. PANELBOARDS AND SWITCHBOARDS DO NOT SHOW ALL BRANCH CIRCUITS. REFER TO SCHEDULES.
4. PROVIDE SEPARATE INSULATED GROUNDING CONDUCTOR IN ALL FEEDER AND BRANCH CIRCUITS.
5. PROVIDE A 4" HOUSEKEEPING PAD FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT, INCLUDING SWITCHBOARDS, TRANSFORMERS AND TRANSFER SWITCHES.
6. SEE PANELBOARD AND SWITCHBOARD SCHEDULES FOR PANEL AND SWITCHBOARD BUS AND FEEDER LOADS.
7. PROVIDE 2-HOLE LUGS CAPABLE OF ACCEPTING MULTIPLE CRIMPS FOR ALL POWER AND GROUNDING CONNECTIONS TO A BUS OR WHERE FEASIBLE. USE MANUFACTURER'S COMPRESSION TOOL WITH PROPER DIE FOR EACH CONNECTOR. MANUFACTURER'S EMBOSSED CODING SYSTEM IS REQUIRED. A UNIVERSAL OR DIE-LESS TYPE CRIMPING TOOL SHALL NOT BE USED. PROVIDE LUGS WITH INSPECTOR HOLE FOR ALL INTERIOR INSTALLATIONS. PROVIDE CLOSED LUGS (NO INSPECTION HOLE) FOR EXTERIOR OR UNDERGROUND CONNECTIONS.
8. PANEL/SWB/SWGR/AIC RATING IS BASED UPON LOWEST RATED CIRCUIT BREAKER INSTALLED IN EQUIPMENT.
9. VERIFY LASHING REQUIREMENTS FOR SERVICE ENTRANCE AND MAIN DISTRIBUTION EQUIPMENT WITH MANUFACTURER. INSTALL LASHING PER MANUFACTURER REQUIREMENTS.

KEY NOTES:

1. COORDINATE METER BOX AND METER LOCATION WITH EXISTING UTILITY.
2. EXISTING 50 kW DIESEL GENERATOR TO REMAIN.
3. SEE EXISTING 200A AC PANEL FOR ALL SINGLE PHASE AC LOADS. EXISTING 200A AC PANEL TO BE REMOVED.

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REVISIONS

NO.	DESCRIPTION	DATE	BY
A	ISSUED FOR REVIEW	12/17/20	JGL
B	POWER UPGRADE	08/17/21	BE
0	ISSUED FOR CONSTRUCTION	09/01/21	BE

LOC# 140684
KCYC
LEES SUMMIT
900 SW BLUE PKWY
LEES SUMMIT, MO 64063

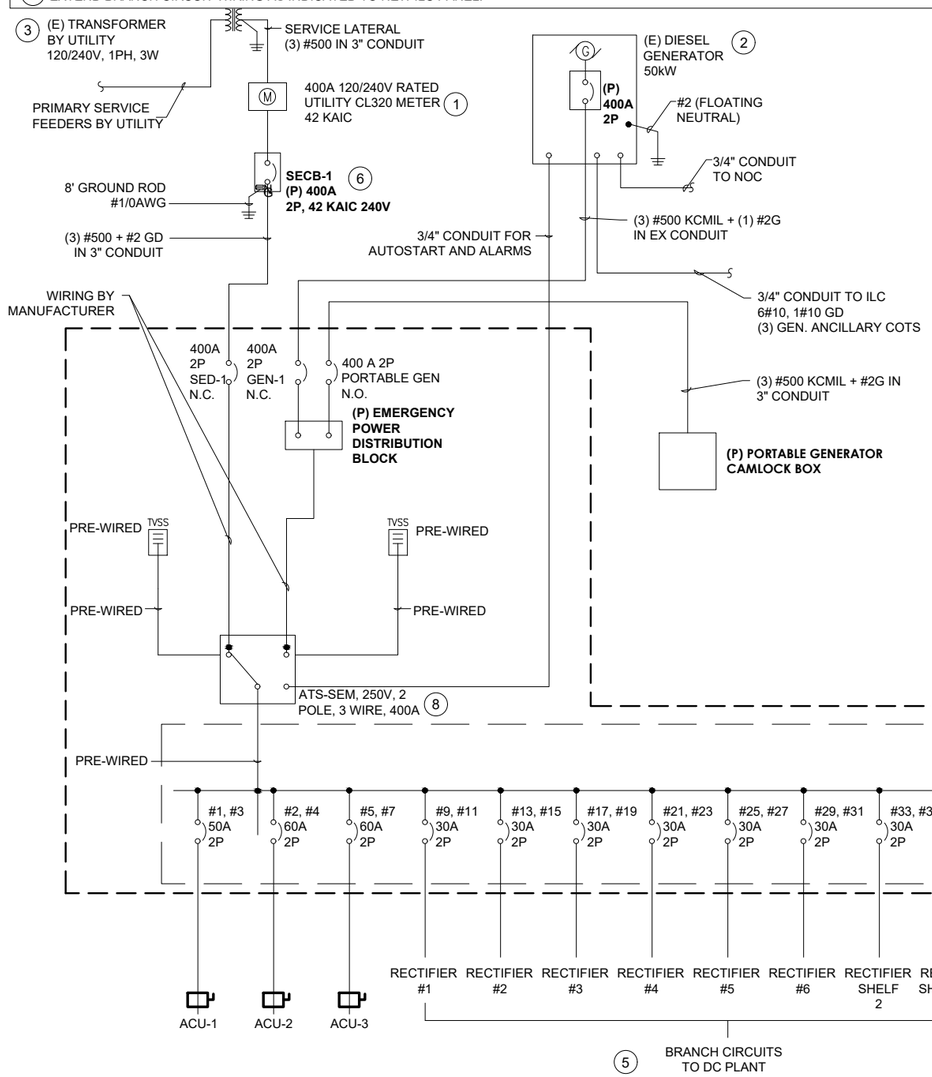
DRAWN BY:	JGL
CHECKED BY:	AJB
DATE:	12/17/20
PROJECT #:	54-1356

SHEET TITLE
ONE LINE DEMOLITION

SHEET NUMBER
E-2

KEY NOTES:

1. COORDINATE METER BOX AND METER LOCATION WITH EXISTING UTILITY.
2. (E) 50 kW DIESEL GENERATOR. PROVIDE NEW MAIN LINE CIRCUIT BREAKER AS INDICATED. RECONNECT ANCILLARY LOADS.
3. COORDINATE WITH LOCAL UTILITY FOR TRANSFORMER UPGRADE AS REQUIRED AND ASSOCIATED ARC FLASH INFORMATION.
4. INTEGRATED LOAD CENTER (ILC) IS PREPURCHASED BY VERIZON WIRELESS FOR INSTALLATION, START UP AND TESTING UNDER THIS PROJECT, SOLID NEUTRAL.
5. RECTIFIERS (PROPOSED & FUTURE) ARE 50 AMP, MODEL #NE050AC48ATEZ
6. "SECB-1 "400A DISCONNECT SHALL BE A SEPARATELY ENCLOSED SERVICE ENTRANCE RATED CIRCUIT BREAKER. WITH NEUTRAL AND GROUND KITS. PROVIDE ARC FLASH WARNING LABEL FOR SERVICE ENTRANCE BREAKER INDICATING NOMINAL SYSTEM VOLTAGE, ARC FLASH BOUNDARY, AND INCIDENT ARC FLASH ENERGY
   - A. VERIZON FURNISHED INTEGRATED LOAD CENTER (SEE PRE-PURCHASE SCHEDULE)
   - B. 120/240V, 1P, 3W, 400A, 42 POLE MAIN DISTRIBUTION PANELBOARD.
   - C. 400A, 2P UTILITY SOURCE BREAKER, WITH NEUTRAL KIT.
   - D. ONE MECHANICALLY INTERLOCKED 400A, 2P STANDBY SOURCE BREAKER (PERMANENT GEN).
   - E. NORMAL SOURCE UTILITY INPUT VOLTAGE SENSING RELAY.
   - F. NORMAL AND STANDBY SOURCE TVSS UNITS.
   - G. NEMA 1 ENCLOSURE.
   - H. 42 KAIC RATED (ATS AND ALL BREAKERS).
   - I. WALL MOUNTED.
7. INDICATED WIRESIZE IS BASED ON ADJUSTMENT FACTOR OF 0.8 FOR 4-6 CONDUCTORS IN A CONDUIT.
8. EXTEND BRANCH CIRCUIT WIRING AS INDICATED TO NEW ILC PANEL.



SHEET NOTES:

1. PROVIDE SEPARATE INSULATED GROUNDING CONDUCTOR IN ALL FEEDER & BC.
2. FEEDER CIRCUITS, GROUND LEADS, & DEDICATED EQUIPMENT CIRCUITS SHALL NOT BE SPLICED.
3. VERIFY LASHING REQUIREMENTS FOR SERVICE ENTRANCE & MAIN DISTRIBUTION EQUIPMENT WITH MANUFACTURER. INSTALL LASHING PER MANUFACTURER'S REQUIREMENTS.

COMPRESSION LUG NOTES:

REFER TO SPECIFICATION SECTION 260519 & NSTD516 REGARDING REQUIREMENTS FOR A SAMPLE COMPRESSION LUG SUBMITTAL ON ALL PROJECTS. FAILURE TO PROVIDE CORRECT LUGS & SUBMIT A SAMPLE COMPRESSION LUG TO VZW PRIOR TO INSTALLATION OF ANY LUGS MAY RESULT IN REJECTION OF THE INSTALLATION & REPLACEMENT OF ALL LUGS & ASSOCIATED CABLE, WHERE REQUIRED, AT NO COST TO VZW.

PANEL NAME			LOCATION:	VOLTAGE: 240 / 120V 1 Ø							MOUNTING SURFACE			
ILC PANEL			**SHELTER EXTERIOR**	MAIN C/B: 400 AMPS							AVAIL. FAULT CURRENT:			
				BUS RATING: 400 AMPS							SHORT CIRCUIT RATING: 42 KAIC			
AMPS	POLES	TYPE	CIRCUIT DESCRIPTION	KVA	CKT	A		B	CKT	KVA	CIRCUIT DESCRIPTION	TYPE	POLES	AMPS
50	2	AC	ACU-1	4.44	1	8.88			2	4.44	ACU-2	AC	2	60
		AC		4.44	3			8.88	4	4.44		AC		
60	2	AC	ACU-3	4.44	5	5.44			6	1.00	ALARM & INT/EXT LIGHTS	R	1	20
		AC		4.44	7			4.84	8	0.40	RECEPTACLES	R	1	20
30	2	R	(E) RECTIFIER #1	2.00	9	3.00			10	1.00	ENV. PANEL	R	1	20
		R		2.00	11			2.50	12	0.50	EQUIP FAN	M	1	20
30	2	R	(E) RECTIFIER #2	2.00	13	2.50			14	0.50	EQUIP FAN	M	1	20
		R		2.00	15			2.50	16	0.50	EQUIP FAN	M	1	20
30	2	R	(E) RECTIFIER #3	2.00	17	2.50			18	0.50	EQUIP FAN	M	1	20
		R		2.00	19			2.75	20	0.75	GFCI	R	1	20
30	2	R	(E) RECTIFIER #4	2.00	21	2.50			22	0.50	HALON	R	1	20
		R		2.00	23			2.50	24	0.50	THERMOSTAT	R	1	20
30	2	R	(E) RECTIFIER #5	2.00	25	3.00			26	1.00	GEN OUTLET	E	1	20
		R		2.00	27			3.00	28	1.00	SPARE	R	1	20
30	2	R	(E) RECTIFIER #6	2.00	29	2.20			30	0.20	SURGE SUPPRESSION	R	2	30
		R		2.00	31			2.20	32	0.20		R		
30	2	R	(E) RECTIFIER SHELF 2	2.00	33	2.00			34		BLANK		1	
		R		2.00	35			2.00	36		BLANK		1	
30	2	R	(E) RECTIFIER SHELF 2-H	2.00	37	2.00			38		BLANK		1	
		R		2.00	39			2.00	40		BLANK		1	
	1		BLANK		41				42		BLANK		1	
PHASE TOTAL						34.02		33.17	KVA					
											TOTAL CONNECTED LOAD	67	KVA	280
											TOTAL DEMAND LOAD	50	KVA	210

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900 SW BLUE PKWY
LEES SUMMIT, MO 64063

DRAWN BY:	JGL
CHECKED BY:	AJB
DATE:	12/17/20
PROJECT #:	54-1356

SHEET TITLE
ONE LINE DIAGRAM AND PANEL LAYOUT

SHEET NUMBER
E-3

SECTION 16010
GENERAL PROVISIONS

A. WORK INCLUDED:
1. SCOPE
2. GENERAL REQUIREMENTS
3. CODES, PERMITS, FEES, AND SALES TAX
4. MATERIALS SUBSTITUTIONS
5. DRAWINGS AND SPECIFICATIONS
6. CUTTING AND PATCHING
7. CLEANUP AND PAINTING
8. IDENTIFICATIONS AND INSTRUCTIONS
9. SAFETY PRECAUTIONS
10. FINAL TESTS AND DEMONSTRATIONS
11. GUARANTEES
12. RECORD DRAWINGS
13. REVISIONS AND REMOVAL OF EXISTING EQUIPMENT

B. THE FOLLOWING IS INTENDED TO SERVE AS AN ELECTRICAL INDEX ONLY, WITHOUT INTENDING TO RESTRICT THE VOLUME OF WORK REQUIRED.

SECTION 16010 - GENERAL PROVISIONS
SECTION 16100 - BASIC MATERIALS AND METHODS
SECTION 16400 - STANDBY GENERATOR

2. GENERAL REQUIREMENTS
A. THIS SECTION OF THE SPECIFICATIONS IS A SEPARATE CONTRACT AND INCLUDES THE FURNISH ALL LABOR, MATERIALS, TOOL, TRANSPORTATION, TEST EQUIPMENT, PERMITS, CERTIFICATES , TEMPORARY PROTECTION, AND STORAGE REQUIRED TO COMPLETE THE ELECTRICAL WORK

B. WHEREVER THE WORDS " THE ELECTRICAL CONTRACTOR " "CONTRACTOR" OR "THIS CONTRACTOR" APPEAR IN THIS DIVISION OF THE SPECIFICATIONS THEY APPLY SPECIFICALLY TO THE ELECTRICAL CONTRACTOR.

C. ELECTRICAL CONTRACTOR TO REVIEW ALL PROJECT CONTRACT DOCUMENTS, AND PROVIDE ALL MATERIALS AND LABOR FOR ALL ELECTRICAL REQUIREMENTS INDICATED.

D. CONTRACTOR SHALL READ THE ENTIRE SPECIFICATION, AND SHALL EXAMINE ALL THE PROJECTS PLANS THE PROPOSED CONSTRUCTION SITE AS HE WILL BE REQUIRED TO DO ALL OF THE ELECTRICAL WORK WHETHER OR NOT SPECIFICALLY MENTIONED HEREIN OR INDICATED OR SHOWN ON THE ELECTRICAL PLANS.

E. SUCCESSFUL BIDDER WILL NOT BE ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY MATTER OR THIING CONCERNING WHICH SUCH BIDDER MIGHT HAVE INFORMED HIMSELF PRIOR TO THE BID OPENING IT SHALL BE UNDERSTOOD THAT THE ACT OF SUBMITTING A BID CARRIES WITH IT THE AGREEMENT TO ALL ITEMS AND CONDITIONS REFEREED OR INDICATED OR IMPLIED ON THE CONTRACT DOCUMENT DRAWINGS AND THE SPECIFICATIONS.

F. IN THE EVENT OF A REQUEST FOR ADDITIONAL PAYMENT DUE TO CHANGES , SUBCONTRACTOR TO PROVIDE TO THE ENGINEERS A DETAILED DESCRIPTION OF CHANGES REQUIRED, INCLUDING REASONS FOR PROPOSED WORK AND A COMPLETE MATERIAL AND LABOR BREAKDOWN OF ALL ASSOCIATED COSTS.

G. THIS CONTRACTOR SHALL FURNISH AND REMOVE UPON COMPLETION OF THE PROJECT ALL SCAFFOLDING, RIGGING, HOISTING, AND SERVICES NECESSARY FOR DELIVERY, ERECTION, AND INSTALLATION OF ALL EQUIPMENT AND APPARATUS REQUIRED TO BE INSTALLED BY THIS CONTRACTOR.

3. CODES, PERMITS, FEES, AND SALES TAX

A. INSTALLATION SHALL COMPLY WITH RULES AND REGULATIONS OF THE LATEST EDITION OF THE OCCUPATIONAL SAFETY AND HEALTH ACT, NATIONAL ELECTRICAL CODE, STATE ELECTRICAL CODE, LOCAL MUNICIPAL CODE, AMERICANS WITH DISABILITIES ACT (AD), THE ELECTRIC UTILITY FURNISHING ELECTRICAL ENERGY TO THIS PROJECT AND ANY OTHER BOARD HAVING JURISDICTION OVER THE ELECTRICAL INSTALLATION.
B. CONTRACTOR SHALL BE LICENSED TO PERFORM ELECTRICAL WORK IN THE MUNICIPALITY IN WHICH THE PROJECT IS LOCATED AND SHALL OBTAIN ALL NECESSARY PERMITS FOR ELECTRICAL WORK AND SHALL PAY ALL REQUIRED FEES AND SALES OR USE TAX AS APPLICABLE TO THIS BRANCH OF WORK. UPON COMPLETION OF THE WORK, DELIVER TO THE OWNER WITHOUT COST ALL REQUIRED CERTIFICATES OF INSPECTION AN D APPROVAL.

4. MATERIAL AND EQUIPMENT SUBSTITUTIONS
A. MATERIAL OF OF THE TYPES FOR WHICH THERE ARE NATIONAL BOARD OF FIRE UNDERWRITERS (U.L.) LISTING AND LABEL SERVICE, SHALL SO BE LABELED AND SHALL BE USED BY THE CONTRACTOR.

B. CONTRACTOR SHALL BID ON ITEMS AS SPECIFIED . IF THE CONTRACTOR DESIRES TO SUBSTITUTE ANY MATERIAL OR HE SHALL SUBMIT ALTERNATE BID ITEMS, WHICH SHALL BE LISTED ON A SEPARATE SHEET ACCOMPANYING THE BID, STATING MANUFACTURER, TRADE NAME, CATALOG DESIGNATION, AND AMOUNT OF DEDUCT FROM BASE BID IF ANY.

C. MATERIALS BY MANUFACTURES OTHER THAN THOSE NAMED WILL BE CONSIDERED IF SUCH SUBSTITUTE ITEMS ARE EQUAL IN QUALITY AND OTHERWISE SIMILAR IN COMPOSITION, DESIGN, CONSTRUCTION, DIMENSION, CAPACITY, EFFICIENCY, FINNISH AND PERFORMANCE.

D. WHERE THE SUBSTITUTIONS HAVE BEEN ACCEPTED BY THE ENGINEERS AND IT IS LATER FOUND SUCH SUBSTITUTIONS ALTER THE DESIGN OR SPACE REQUIREMENTS INDICATED ON THE PLANS, THE CONTRACTORS SHALL BE RESPONSIBLE FOR THE COST INVOLVED TO REVISE THE BUILDING DESIGN AND CONSTRUCTION INCLUDING THE COST OF AO ALL ALLIED TRADES INVOLVED.

5. DRAWINGS AND SPECIFICATIONS

A. WORK CALLED FOR IN THESE SPECIFICATIONS, BUT NOT SHOWN ON THE DRAWINGS IN THEIR PRESENT FORM OR VICE VERSA, AND WORK NOT SPECIFIED IN EITHER CONTRACT SPECIFICATIONS OR DRAWINGS, BUT INVOLVED IN CARRYING OUT THEIR INTENT OR NECESSARY FOR COMPLETE AND PROPER EXECUTION OF THE WORK IS IS REQUIRED AND SHALL BE PERFORMED AS THOUGH IT WERE SPECIFICALLY OUTLINED OR DESCRIBED.

B. THE INTENT OF THESE SPECIFICATIONS AND THE DRAWINGS IS TO INCLUDE A COMPLETE WIRING SYSTEM FORM SERVICE ENTRANCE TO EACH OUTLET INDICATED OR SPECIFIED , INCLUDING CONNECTING ALL ELECTRICAL DEVICES AND OR EQUIPMENT FURNISHED BY THE OWNER OR OTHER CONTRACTORS.

C. ANY CONFLICT BETWEEN DRAWINGS AND SPECIFICATIONS SHALL BE DEEMED TO HAVE BEEN ESTIMATED THE MORE EXPENSIVE WAY OF THE THE WORK AND/OR THE MOST STRINGENT REQUIREMENTS SHALL PREVAIL.

D. THE DRAWINGS , WHICH CONSTITUTE A PART OF THE CONTRACT, ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF CIRCUITS AND OUTLETS. GENERALLY, OUTLETS SHALL BE LOCATED REQUIRED BY CODE OR FOR PROPER INSTALLATION OF EQUIPMENT AND TO BE COORDINATED WITH WORK OF EQUIPMENT SUPPLIER.

6. CUTTING AND PATCHING

A. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING NECESSARY FOR THE ELECTRICAL WORK. IN THE EVENT HOLES MUST BE CUT THOUGH REINFORCED CONCRETE, THEY MUST BE CORE DRILLED AND WITH SPECIFIC APPROVAL OF THE ENGINEER.

B. DAMAGE DONE BY THE ELECTRICAL CONTRACTOR SHALL BE REPAIRED BY THE ELECTRICAL CONTRACTOR SO THAT ALL THE DAMAGED AREA WILL MATCH SURROUNDING AREAS AND WILL FUNCTION AS ORIGINALLY INTENDED.

7. CLEANUP AND PAINTING

A. REMOVE FROM THE SITE ALL DEBRIS AND RUBBISH ACCUMULATING AS A RESULT OF THE ELECTRICAL INSTALLATION. UPON COMPLETION OF THE PROJECT, DISPOSE OF ALL DEBRIS AND RUBBISH AND:
1. LEAVE ELECTRICAL EQUIPMENT AREAS BROOM CLEAN
2. CLEAN INTERIOR OF ALL PANEL CABINETS, PULL BOXES, AND OTHER EQUIPMENT ENCLOSURES.

B. WHERE PAINTED SURFACE OF EQUIPMENT HAVE BEEN ABUSED, REMOVED OR RUSTED DURING CONSTRUCTION, THIS CONTRACTOR SHALL PAINT SAME TO MATCH ORIGINAL FACTORY OR SURROUNDING FINISH.

8. IDENTIFICATIONS AND INSTRUCTIONS

A. THE LOAD CENTER SHALL BE EQUIPPED WITH A DIRECTORY ACCURATELY INDICATING EQUIPMENT BEING SERVED.

B. ON BRANCH CIRCUITS, USE SHALL BE MADE OF ALL STANDARD COLORS AVAILABLE. WHERE WIRES OF DIFFERENT SYSTEMS JUNCTION IN A COMMON BOX, EACH CABLE SHALL BE GROUPED WITH ITS OWN SYSTEMS AND IDENTIFIED USING TAGS OR IDENTIFICATION STRIPS. ALL CONTROL AND SPECIAL SYSTEM WIRES SHALL ALSO BE CLEARLY IDENTIFIED BY DESCRIPTION AND LOCATION.

9. SAFETY PRECAUTIONS

A. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND PLACE GUARDS FOR PREVENTING OF ACCIDENTS FOR ALL WORK COVERED BY THIS CONTRACT. HE SHALL PROVIDE AND MAINTAIN ANY NECESSARY OSHA REQUIRED CONSTRUCTION NECESSARY TO SECURE SAFETY OF LIFE OR PROPERTY.

10. FINAL TESTS AND DEMONSTRATIONS

A. UPON COMPLETION OF THE WORK, THE ELECTRICAL INSTALLATION SHALL TEST ENTIRELY FREE OF GROUNDS AND SHORT CIRCUITS. ALL FEEDERS TOP BE MEGGERED. MADE ELECTRODES TO BE TESTED WITH A DIRECT READING GROUND RESISTANCE TESTER. ONE (1) COPY OF MEGGER READINGS AND GROUND RESISTANCE TEST TO BE SUBMITTED TO OWNER AND ONE (1) COPY TO ENGINEER.

B. ALL AUXILIARY SYSTEMS SHALL BE CHECKED FOR OPTIMUM PERFORMANCE AND ALL MOTORS SHALL BE CHECKED FOR PROPER ROTATION.

C. CONTRACTOR SHALL BALANCE LOAD AMONG THE FEEDER CONDUCTORS AT THE LOAD CENTER, AND SHALL RECONNECT LOADS AS MAY BE NECESSARY TO OBTAIN A MAXIMUM OF 7 1/2% UNBALANCE OF LOAD ON EACH LEG.

D. THE CONTRACTOR SHALL UPON REQUEST DEMONSTRATE PROPER OPERATION OF ALL ELECTRICAL SYSTEMS AND EQUIPMENT IN THE PRESENCE OF THE ENGINEER AND/OR OTHER DESIGNATED PERSONS.

II. GUARANTEES

A. ELECTRICAL CONTRACTOR SHALL LEAVE THE ENTIRE ELECTRICAL SYSTEMS IN GOOD WORKING ORDER AND SHALL AT HIS EXPENSE REPAIR, REBUILD, REMOVAL, AND MAKE GOOD AND ACCEPTABLE ALL DEFECTIVE LABOR AND MATERIALS THAT MATERIALS THAT MAY DEVELOP WITHIN ONE (1) YEAR AFTER COMPLETION AND FINAL ACCEPTANCE OF THE WORK HERE UNDER AND AS FURTHER DESCRIBED UNDER DIVISIONS OF THE SPECIFICATIONS

B. IT MAY BE NECESSARY TO ENERGIZE PORTIONS OF THE ELECTRICAL SYSTEM PRIOR TO FINAL ACCEPTANCE OF THE COMPLETED WORK BY THE OWNER . IT IS THE INTENT OF THESE SPECIFICATIONS THAT THE GUARANTEE PERIOD SHALL BE ONE (1) FULL YEAR AFTER FINAL ACCEPTANCE.

12. RECORD DRAWINGS

A. CONTRACTOR SHALL KEEP AN UP TO DATE SET OF "RECORD DRAWINGS" KEPT CURRENT ON A DAILY BASIS. SUCH DRAWINGS SHALL BE AVAILABLE TO THE ENGINEER OR HIS REPRESENTATIVE AT THE JOB SITE AT ALL TIMES. UPON COMPLETION OF THE CONTRACT TURN OVER TO THE ENGINEER ONE COMPLETE SET OF REPRODUCIBLE DRAWINGS

13. REVISIONS AND REMOVAL OF EXISTING EQUIPMENT

A. CONTRACTOR SHALL NOTE THAT THE EXISTING BUILDING WILL REMAIN IN SERVICE DURING CONSTRUCTION. ALL WORK SHALL BE DONE IN A TIMELY MANOR AND IN COMPLIANCE WITH THE "SEQUENCE OF CONSTRUCTION" LISTED ON THE PLANS.

B. ANY EXISTING CIRCUITS OR EQUIPMENT NOT SHOWN ON THE DRAWINGS AND WHICH ARE LOGICALLY EXPECTED TO BE CONTINUED IN SERVICE AND WHICH MAY BE INTERRUPTED OR DISTURBED DURING CONSTRUCTION, SHALL BE RECONNECTED IN A APPROVED MANNER. IN ADDITION, ANY EXISTING CIRCUIT OR EQUIPMENT, WHICH MAY REQUIRE RELOCATION OR REROUTING AS A RESULT OF CONSTRUCTION, SHALL BE CONSIDERED A PART OF THE WORK OF THIS BRANCH AND SHALL BE DONE BY THIS CONTRACTOR WITH NO ADDITIONAL COMPENSATION.

C. KEEP ALL EXISTING ELECTRIC CIRCUITS, TELEPHONE SERVICE, AND ALARM SIGNAL SYSTEMS IN OPERATION DURING CONSTRUCTION AS REQUIRED BY THE OWNER.

SECTION 16100
BASIC MATERIALS AND METHODS

1. SCOPE

A. THIS SECTION OF WORK INCLUDES THE BASIC MATERIALS TO INSTALL, CONNECT AND COMPLETE ELECTRICAL WORK IN A FINISHED WORKMANLIKE MANNER.

B. WORK INCLUDED:

1. SCOPE
2. RACEWAY SYSTEM
3. SUPPORT OF CONDUIT
4. CONDUIT FITTINGS
5. FIRE STOPS
6. LOCATION OF EQUIPMENT
7. WIRE AND WIRING METHOD-600 VOLT AND BELOW
8. CONCRETE PLATFORMS AND BASES.

2. RACEWAY SYSTEMS
A. FURNISH AND INSTALL A COMPLETE CONDUIT RACEWAY SYSTEMS FOR ALL FEEDERS, BRANCH CIRCUITS AND COMMUNICATION CIRCUITS AS SHOWN ON
THE PLANS.

B. ALL CONDUIT SHALL BE FURNISHED IN MANUFACTURED LENGTHS AND U.L. LISTED FOR EACH MANUFACTURED LENGTH. RIGID HEAVY WALL CONDUIT
SHALL BE FULL WEIGHT, HOT DIP GALVANIZED STEEL CONDUIT. E.M.T. SHALL BE ELETRO-GALVANIZED MILD STEEL WITH THOROUGHLY WELDED SEAMS.

C. RIGID HEAVY WALL STEEL CONDUIT MUST BE USED IN THE FOLLOWING LOCATION:
1. ALL CONDUIT EXPOSED OUTDOORS.
2. ALL CONDUIT INSTALLED IN CONCERT THAT IS ON GRADE OR BELOW GRADE.
3. ALL CONDUIT RUN UNDERGROUND.

D. DIRECT BURIED CONDUIT SHALL BE:
1. RIGID HEAVY WALL STEEL CONDUIT.
2. WHERE HEAVY TRUCK TRAFFIC IS ANTICIPATED, CONDUIT TO BE ENCASED IN A 3" CONCRETE ENVELOPE IN THAT AREA.
3.INSTALLED ON UNDISTURBED EARTH AND SURROUNDED BY A 3" SAND ENVELOPE (WHEN NOT CONCRETE ENCASED.)

E. ELECTRIC METALLIC TUBING (THIN WALL CONDUIT) BEARING THE UL LABEL OF APPROVAL MAY BE USED FOR BRANCH CIRCUIT WIRING AND FOR AUXILIARY SYSTEMS EXCEPT IT SHALL NOT BE USED FOR RUNS SPECIFIED TO BE INSTALLED IN RIGID CONDUIT. (SEE PARAGRAPH C.)

F. CONDUIT SHALL BE CONTINUOUS FROM OUTLET, AND FROM OUTLETS TO CABINETS, JUNCTION OR PULL BOXES, SUCH THAT EACH SYSTEM SHALL BE ELECTRICALLY CONTINUOUS FROM POINT OF SERVICE TO ALL OUTLETS. ENTIRE RACEWAY SYSTEMS SHALL BE MADE WATER TIGHT WHERE INSTALLED IN WET PLACES, UNDERGROUND OR WHERE BURIED IN MASONRY OR CONCRETE.

G. CONDUIT RUNS THAT EXTEND THROUGH AREAS OF DIFFERENT TEMPERATURE OR ATMOSPHERIC CONDITIONS OR THAT ARE PARTLY INDOORS AND PARTLY OUTDOORS, SHALL BE SEALED AND INSTALLED IN A MANNER THAT WILL PREVENT DRAINAGE OF CONDENSED OR ENTRAPPED MOISTURE INTO CABINETS, MOTOR AND EQUIPMENT ENCLOSURES. OVERHEAD CONDUIT SHALL BE PROVIDE WITH SEAL AND DRAIN FITTINGS TO PROVIDE CONTINUOUS AUTOMATIC DRAINAGE.

H. CONDUIT AND SLEEVES SHALL BE LOCATED AS CLOSE TO THE MIDDLE OF CONCRETE SLABS AS PRACTICAL WITHOUT DISTURBING THE REINFORCEMENT. OUTSIDE DIAMETER SHALL NOT EXCEED 1/3 OF THE SLAB THICKNESS AND CONDUIT SHALL NOT BE SPACED CLOSER THAN THREE TIMES CONDUIT DIAMETER AND SHALL OTHERWISE COMPLY WITH THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE "MANUAL OF CONCRETE PRACTICE - AC1-347"

I. FLEXIBLE METAL CONDUIT IN CODE APPROVED LENGTHS AND SIZES SHALL BE USED FOR FINAL CONNECTIONS OF ALL EQUIPMENT SUBJECT TO VIBRATION OR MOVEMENT, FOR ALL MOTORS. LIQUID TIGHT FLEXIBLE CONDUIT SHALL BE USED IN WET LOCATIONS. A SEPARATE GROUND WIRE SHALL BE PROVIDE THOUGH ALL FLEXIBLE CONNECTIONS.

3. SUPPORT OF CONDUIT

A. CONDUIT SHALL BE SECURELY FASTENED TO STRUCTURAL PARTS OF THE BUILDING. SUPPORTING DEVICES SHALL BE SPECIFICALLY DESIGNED FOR THE APPLICATION. PERFORATED HANGER IRON IS NOT ACCEPTABLE.

B. FURNISH SUPPORTS ASM REQUIRED BY CODE, BUT IN ANY EVENT DO NOT EXCEED 10' BETWEEN ANT SUPPORTS.
4. CONDUIT FITTINGS
A. CONDUIT TERMINATION AT CABINETS AND BOXES SHALL BE RIGIDLY SECURED WITH GALVANIZED LOCK NUTS AND BUSHINGS AS REQUIRED BY CODE.

1. TERMINATION FOR RIGID HEAVY WALL STEEL CONDUIT SHALL BE LIQUID TIGHT , MADE OF STEEL WITH INSULATED THROATS AND DOUBLE LOCK NUTS
2. TERMINATION FOR E.M.T. SHALL BE RAIN-TIGHT COMPRESSION TYPE MADE OF STEEL. MALE FITTINGS TO HAVE INSULATED THROATS.
3.INDETOR, SET-SCREW CAST OR DRIVEN-ON TYPE COUPLINGS OR CONNECTORS ARE NOT ACCEPTABLE.
4. APPROVED MANUFACTURES: RACO, STEEL CITY, T&B MIDWEST OR APPLETION.

B. RUNNING THREADS WILL NOT BE PERMITTED. WHERE REQUIRED,USE MANUFACTURED THREAD'S COUPLINGS. SET SCREW AND SPLIT TYPE CONNECTORS ARE NOT ACCEPTABLE.

C. PROVIDE EXPANSION -DEFLECTION FITTINGS IN ALL METALLIC CONDUIT RUNS WHERE CROSSING EXPANSION JOINTS IN A STRUCTURAL WALL OR SLAB.

D. CONDUITS PASSING THOUGH EXTERIOR FOUNDATION WALLS OF THE BUILDING SHALL BE EQUIPPED WITH WALL ENTRANCE SEALS, O.Z. TYPE FSK, FSC, WSK, WSC, OR FST.

5. FIRE STOPS

A. WHERE CONDUITS OR EXPOSED CABLES PENETRATE FIRE STOPPED WALLS, PARTITIONS, CEILINGS ,FLOORS, ETC. APPROVED FIRE STOP DEVICES SHALL BE USED TO KEEP FIRE RATING INTEGRITY.
B. FIRE STOPS TO BE NELSON ELECTRIC TYPE MCT OR HUBBELL FP OR WALKER 1600/1500 SERIES.

6. LOCATION OF OUTLETS AND EQUIPMENT

A. LOCATION OF OUTLETS AND EQUIPMENT AS SHOWN ON PLANS IS APPROXIMATE AND EXACT LOCATION IS TO BE VERIFIED BY THE CONTRACTOR AND WILL BE DETERMINED BY:
1. EQUIPMENT MANUFACTURER'S DRAWINGS
B. MINOR MODIFICATIONS IN THE LOCATION OF OUTLETS AND EQUIPMENT IS CONSIDERED A PART OF THIS SPECIFICATION AND SHALL BE MADE WITH NO ADDITIONAL COMPENSATION

7. WIRE AND WIRING METHOD-600VOLT AND BELOW
A. ALL WIRE SIZES AND ALL CONDUIT SIZES SHOWN ON THE PLANS ARE FOR COPPER CONDUCTORS. CONDUCTORS FOR FEEDERS, BRANCH CIRCUITS CONTROL, AND OTHER CIRCUITS 600 VOLTS AND BELOW SHALL HAVE 600 VOLT INSULATION: NO. 12MINMUM UNLESS NOTED OTHERWISE, FACTORY COLOR CODED (SEE PARAGRAPH B) ALL WIRE AND CABLE SHALL BE AS MANUFACTURED BY OKONITE, ROME,COLLYER,CABLEC,OR AS OTHERWISE APPROVED AND AS FOLLOWS.

1. TYPE THWN/THHN SOLID OR STRANDED IN ALL GENERAL AREAS FOR NO. 12 AND NO.10 AWG BRANCH CIRCUIT WIRING.
2. TYPE THWN/THHN STRANDED FOR ALL WIRE NO. 8 AWG AND LARGER.

B. CONDUCTORS FOR ALARM SYSTEM SHALL BE AS MANUFACTURED BY BELDEN CORPORATION AND AS FURTHER DESCRIBED HEREIN:
1. IN GENERAL, NO.16 AWG 2 CONDUCTOR, TINNED COPPER, POLYETHYLENE INSULATED, CONDUCTORS CABLE, STRANDED TINNED COPPER DRAIN WIRE AND CHROME VINYL OUTER JACKET.

C. JOINTS, TAPS, AND SPLICES IN CONDUCTORS NO.10 AWG AND SMALLER SHALL BE MADE WITH COMPRESSION TYPE SOLDER LESS CONNECTORS WITH PLASTIC COVERS AND SHALL BE 3M "SCOTCHLOK", IDEAL "SUPER NUT" OR BUCHANON "B-CAPS".

D. JOINTS, TAPS, AND SPLICES IN CONDUCTORS NO. AWG AND LARGER SHALL BE MADE WITH SOLDER LESS PRESSURE TYPE CONNECTORS SIMILAR TO BURNDY, ANDERSON, THOMAS & BETTS COMPANY OR APPROVED EQUAL. EACH TAP, JOINT AND SPLICE IN CONDUCTORS NO.8 AWG AND LARGER SHALL BE TAPED WITH TWO HALF-LAP LAYERS OF SCOTCH NO. 33 VINYL PLASTIC ELECTRICAL TAPE. MARKING TO BE MADE BY SCOTCH NO. 35 COLOR CODING TAPE. EQUAL TAPES BY PLYMOUTH ARE ACCEPTABLE.

8. CONCRETE PLATFORMS AND BASES

A. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL CONCRETE PLATFORMS AND BASES SHOWN ON THE ELECTRICAL PLANS . THIS SHALL INCLUDE BASES FOR STAND BY GENERATOR.

B. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO CHECK MANUFACTURER'S CERTIFIED EQUIPMENT DRAWINGS IN ORDER TO DETERMINE EXACT DIMENSIONS AND OTHER REQUIREMENT. CONTRACTOR SHALL FURNISH AND INSTALL ALL ANCHOR BOLTS REQUIRED.

SECTION 16400
STANDBY GENERATOR

1. THIS SECTION OF THE WORK INCLUDES ALL THE NECESSARY EQUIPMENT, MATERIALS AND WORK REQUIRED TO RECEIVE, INSTALL AND WIRE A COMPLETE EMERGENCY GENERATOR SYSTEM.

B. WORK INCLUDED:
1. SCOPE
2. GROUNDING
3. FEEDERS
4. BRANCH CIRCUITS
5. STANDBY GENERATOR

2. GROUNDING

A. A COMPLETE GROUNDING GRID SYSTEM SHALL BE (PROVIDE AS SHOWN ON THE PLANS AND SHALL BE TIED INTO THE BUILDING GROUND GRID AS SHOWN.

B. CARE MUST BE TAKEN TO DIG UP AND EXPOSE THE EXISTING UNDERGROUND BUILDING GROUND GRID.

C. HEAVY DUTY EXOTHERMIC (CAD WELD) CONNECTIONS MUST BE MADE FROM THE GENERATOR GROUND GRID TO THE BUILDING GROUND GRID AS SHOWN ON THE PLANS AT THE TWO LOCATIONS INDICTED.

D. IF THE BUILDING GROUND GRID IS DAMAGED DURING THE EXCAVATION OF THE GENERATOR GROUND GRID OR THE INSTALLATION OF THE UNDERGROUND CONDUIT SYSTEM BETWEEN THE GENERATOR AND THE BUILDING, IT MUST BE RESTORED TO ITS ORIGINAL CONFIGURATION AND OPERATING CONDITION.

3. FEEDERS

A. FURNISH, INSTALL, AND CONNECT FEEDERS IN ACCORDANCE WITH INFORMATION ON THE DRAWINGS WITH CONDUCTORS INSULATION TO CONFORM TO REQUIREMENT OF THESE SPECIFICATION.

B. EACH CONDUIT RACEWAY SHALL CONTAIN ONLY THOSE CONDUCTORS CONSTITUTING A SINGLE FEEDER CIRCUIT.

C. FEEDER CONDUCTORS SHALL BE SIZED SO TO PROVIDE A MAXIMUM OF 5% VOLTAGE DROP PER N.E.C. ARTICLE 215(B)-(F.P.N. NO2).

D. CONDUCTOR SUPPORTS IN VERTICAL RACEWAYS SHALL MEET THE REQUIREMENTS OF ARTICLE 300-19 OF THE N.E.C. LATEST ADDITION.

4. BRANCH CIRCUITS

FURNISH AND INSTALL A COMPLETE BRANCH CIRCUIT AND CONTROL WIRING SYSTEM AS INDICATED ON THE PLANS. BALANCED LOAD ON THE PANEL BOARD BUS IS TO THE DETERMINE FACTOR IN ARRANGEMENT OF CIRCUIT. PANEL BOARD LOADING SHALL BE BALANCED TO ±10%

B. NO WIRE SMALLER THEN 12 AWG (UNLESS OTHERWISE NOTED) SHALL BE USED FOR BRANCH CIRCUIT WIRING INCLUDING MOTOR CIRCUITS. BRANCH CIRCUITS 15 AMP AND 20 AMP MUST BE SIZED FOR LENGTH OF RUN ON THE FOLLOWING BASIS:

1. IN GENERAL, BRANCH CIRCUIT WIRING SHALL BE PROVIDE TO LIMIT VOLTAGE DROP TO 3% AT ANY OUTLET PER I.E. ARTICLE 210.19(a)(F.P.N. NO. 4)

2. THE FOLLOWING WILL BE CONSIDERED AS MINIMUM REQUIREMENTS.

a. 120 VOLT CIRCUITS
(1) 0 TO 75 FOOT RUNS FROM PANEL BOARD TO FIRST OUTLET: NO. 12 AWG MINIMUM.
(2) 75 TO 150 FOOT RUN: INCREASE ONE WIRE SIZE TO NO.10 AWG.

5. STANDBY GENERATOR

A. THE STANDBY GENERATOR SHALL BE FURNISH BY LESSEE AND SHALL BE RECEIVED, INSTALLED AND WIRED BY THE ELECTRICAL CONTRACTOR AS SHOWN ON THE PLANS

B. THE GENERATOR SHALL BE RATED NOT LESS THAN 48 KW AS MANUFACTURED BY GENERAC POWER SYSTEMS, INC.

C. AUTOMATIC TRANSFER SWITCHES SHALL BE FURNISHED BY LESSEE, INSTALLED AND WIRED BY THE ELECTRICAL CONTRACTOR AS SHOWN ON THE PLANS AND AS INDICATED IN THE SEQUENCE OF CONSTRUCTION.

D. AFTER INSTALLATION BUT PRIOR TO CONNECTION TO THE BUILDING LOAD CENTER A STARTUP TEST MUST BE RUN AND ALL COMPONENTS CHECKED OUT FOR PROPER INSTALLATION. STARTUP TEST MUST BE DONE BY THERMFLO WITH THE ELECTRICAL CONTRACTOR PRESENT. LOADS SHALL BE TESTED AT 75% AT THE RATE KW FOR 2 HOURS AND AT RATED KW FOR 2HOURS. CHECK VOLTAGE FREQUENCY OIL PRESSURE, WATER TEMPERATURE. PROVIDE A TEST REPORT ON ALL THE RESULTS. RECORDS GENERATOR FRAME TEMPERATURE AT HOTTEST AFTER THE UNIT HAS CARRIED THE FULL LOAD FOR 2 HOURS. ALL ADJUSTMENTS AND REPLACEMENTS OF UNSATISFACTORY EQUIPMENT MUST BE MADE BY THE GENERATOR MANUFACTURER PRIOR TO FINAL CONNECTION TO THE LOAD CENTER.

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PARK RIDGE, IL 60068
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FAX: 847-698-6401

REVISIONS

NO.	DESCRIPTION	DATE	BY
A	ISSUED FOR REVIEW	12/17/20	JGL
B	POWER UPGRADE	08/17/21	BE
0	ISSUED FOR CONSTRUCTION	09/01/21	BE

LOC# 140684
KCYC
LEES SUMMIT
900 SW BLUE PKWY
LEES SUMMIT, MO 64063

DRAWN BY:	JGL
CHECKED BY:	AJB
DATE:	12/17/20
PROJECT #:	54-1356

SHEET TITLE
ELECTRICAL NOTES

SHEET NUMBER
E-4

GENERAL NOTES

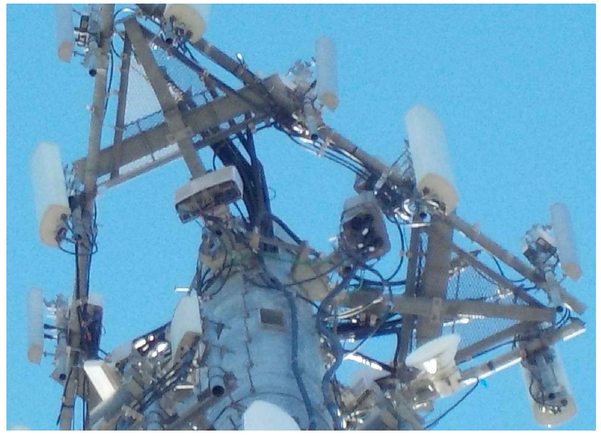
1. THE CONTRACTOR SHALL SUPERVISE AND DIRECT ALL WORK USING HIS OR HER BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES AND SEQUENCES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
2. THE CONTRACTOR SHALL VISIT THE JOB SITE TO REVIEW THE SCOPE OF WORK AND EXISTING CONDITIONS INCLUDING, BUT NOT LIMITED TO ELECTRICAL SERVICE AND OVERALL COORDINATION.
3. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING HIS BID. ANY DISCREPANCIES, CONFLICTS OR OMISSIONS, ETC. SHALL BE REPORTED TO VERIZON WIRELESS BEFORE PROCEEDING WITH THE WORK.
4. THE CONTRACTOR SHALL PROTECT ALL AREAS FROM DAMAGE WHICH MAY OCCUR DURING CONSTRUCTION. ANY DAMAGE TO NEW AND EXISTING CONSTRUCTION, STRUCTURE, OR EQUIPMENT SHALL BE IMMEDIATELY REPAIRED OR REPLACED TO THE SATISFACTION OF VERIZON WIRELESS, AT THE EXPENSE OF THE CONTRACTOR.
5. THE CONTRACTOR SHALL SAFEGUARD THE OWNER'S PROPERTY DURING CONSTRUCTION AND SHALL REPLACE ANY DAMAGED PROPERTY OF THE OWNER TO ORIGINAL CONDITION WITH THE APPROVAL OF THE OWNER.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSES FOR REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED IN CONJUNCTION WITH THE EXECUTION OF WORK.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE SITE WHILE THE JOB IS IN PROGRESS AND UNTIL THE JOB IS COMPLETE.
8. ALL CONSTRUCTION WORK SHALL CONFORM TO THE I.B.C. AND ALL APPLICABLE LOCAL REGULATIONS, ORDINANCES, STATUTES AND CODES.
9. VERIZON WIRELESS SHALL OBTAIN THE CONSTRUCTION PERMIT, UNLESS JURISDICTION REQUIRES PERMIT TO BE PICKED UP BY A GENERAL CONTRACTOR. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, LICENSES AND INSPECTIONS NECESSARY FOR PERFORMANCE OF THE WORK AND INCLUDE THOSE IN THE COST OF THE WORK TO THE OWNER.
10. CITY APPROVED PLANS SHALL BE KEPT IN A PLAN BOX AND SHALL NOT BE USED BY WORKMEN. ALL CONSTRUCTION SETS SHALL REFLECT SAME INFORMATION. THE CONTRACTOR SHALL ALSO MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES. THESE ARE TO BE UNDER THE CARE OF JOB SUPERINTENDENT.
11. THE CONTRACTOR SHALL PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-A:10-B:C WITHIN 75 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF THE BUILD OUT AREA DURING CONSTRUCTION.
12. ANY CONNECTION FEES FOR TEMPORARY ELECTRICAL SERVICE SHALL BE PAID BY THE CONTRACTOR.
13. THE GENERAL CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY POWER. CONTRACTOR SHALL NOT USE THE VERIZON WIRELESS GENERATOR ON SITE.

ABBREVIATIONS

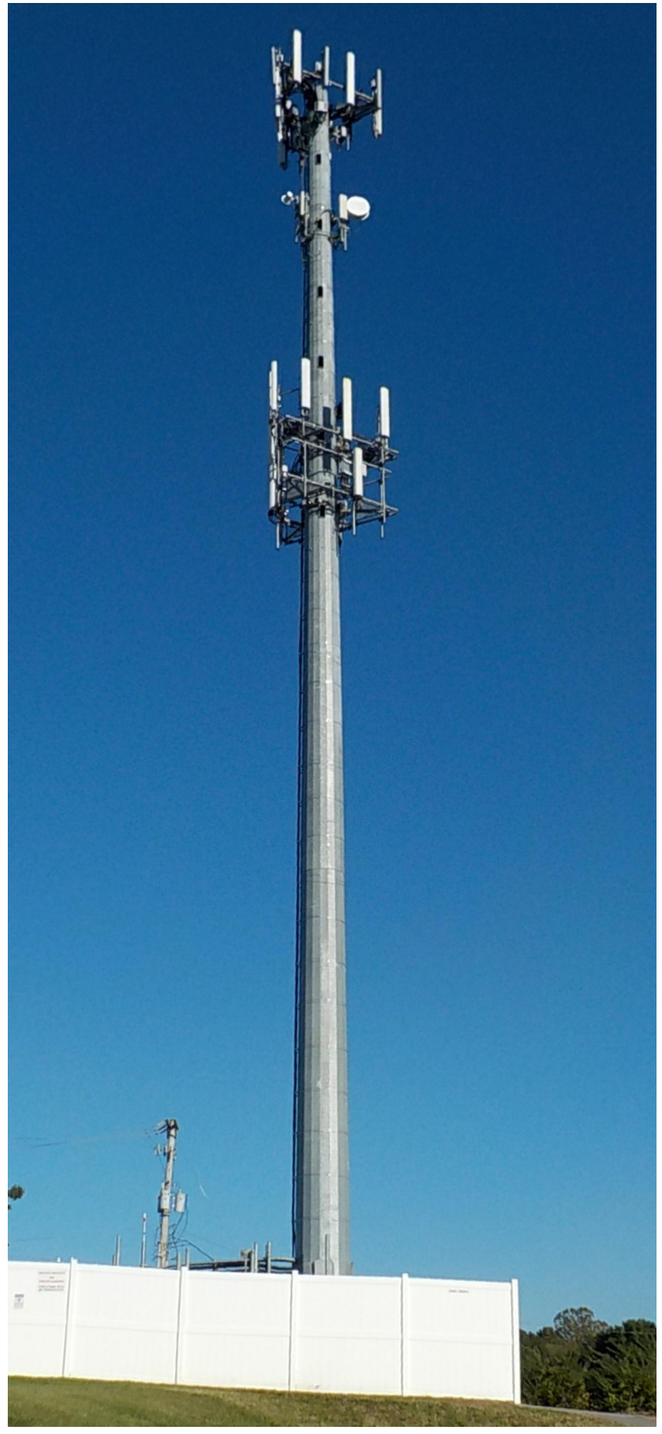
AGL	ABOVE GRADE LINE	GC	GENERAL CONTRACTOR
AMP	AMPERE	GND	GROUND
ARCH	ARCHITECT	HT	HEIGHT
BLDG	BUILDING	LF	LINEAR FEET
CL	CENTER LINE	MIN	MINIMUM
CONC	CONCRETE	MISC	MISCELLANEOUS
CONST	CONSTRUCTION	NTS	NOT TO SCALE
CONTR	CONTRACTOR	OC	ON CENTER
DET	DETAIL	PL	PLATE
DIA	DIAMETER	REQ'D	REQUIRED
DIAG	DIAGONAL	SF	SQUARE FEET
DIM	DIMENSION	SHT	SHEET
DN	DOWN	SIM	SIMILAR
DWG	DRAWING	SPECS	SPECIFICATIONS
EA	EACH	STD	STANDARD
ELEC	ELECTRICAL	STL	STEEL
ELEV	ELEVATOR, ELEVATION	STRUCT	STRUCTURAL
EQ	EQUAL	TC	TOP OF CURB
EQUIP	EQUIPMENT	TERRA	TERRA CONSULTING GROUP, L.T.D.
EXIST	EXISTING	TOP	TOP OF PAVING
FND	FOUNDATION	TOS	TOP OF STEEL
FTG	FOOTING	TOC	TOP OF CONCRETE
GA	GAUGE	TYP	TYPICAL
GALV	GALVANIZED	UNO	UNLESS NOTED OTHERWISE

1 EXISTING ASR SIGN PHOTO
N.T.S.

2 LESSEE COAX ROUTE ON ICE BRIDGE
N.T.S.



3 LESSEE COAX ROUTE @ TOP
N.T.S.



4 EXISTING TOWER PHOTO
N.T.S.

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REVISIONS

NO	DESCRIPTION	DATE	BY
A	ISSUED FOR REVIEW	12/17/20	JGL
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0	ISSUED FOR CONSTRUCTION	09/01/21	BE

LOC# 140684
KCYC
LEES SUMMIT
900 SW BLUE PKWY
LEES SUMMIT, MO 64063

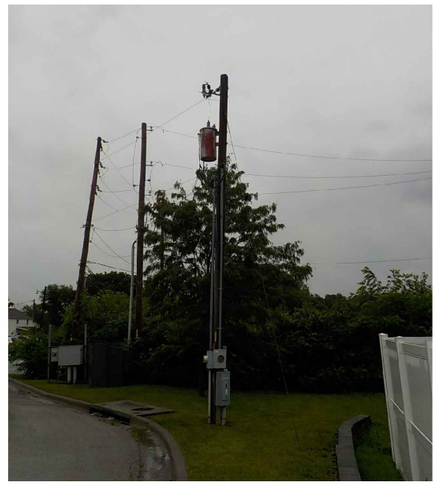
DRAWN BY:	JGL
CHECKED BY:	AJB
DATE:	12/17/20
PROJECT #:	54-1356

SHEET TITLE
GENERAL NOTES
&
SITE PHOTOS

SHEET NUMBER
N-1

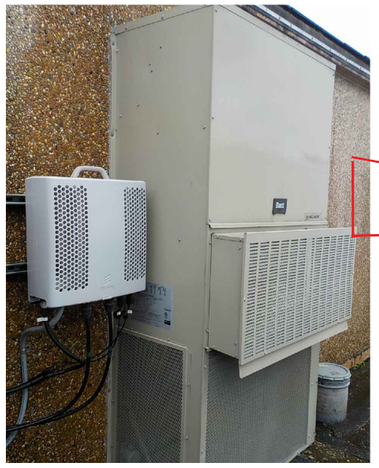
1 EXISTING ATS TO BE REMOVED

2 PROPOSED ILC LOCATION



3 EXISTING UTILITY POLE

4 EXISTING LOAD PANEL



5 PROPOSED METER LOCATION

6 EXISTING GENERATOR TO REMAIN

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900 SW BLUE PKWY
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CHECKED BY:	AJB
DATE:	12/17/20
PROJECT #:	54-1356

SHEET TITLE
SITE PHOTOS

SHEET NUMBER
N-2

PROJECT NOTES

1. SEE MODIFICATION NOTES
2. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITY COMPANIES OR OTHER PUBLIC/GOVERNING AUTHORITIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
4. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AS A RESULT OF CONSTRUCTION OF THIS FACILITY AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
6. THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING THE BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND CONSTRUCTION DRAWINGS.
8. THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THESE DRAWINGS MUST BE VERIFIED. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
9. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY POTENTIALLY DANGEROUS EXPOSURE LEVELS.
10. NO NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS FACILITY AS TO CAUSE A NUISANCE.
11. THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS IS REQUIRED).

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MOUNT MODIFICATION DRAWINGS
EXISTING 13.33' PLATFORM MOUNT

SITE NAME: LEES SUMMIT
SITE NUMBER: 140684

900 SW BLUE PKWY
LEES SUMMIT, MO 64063
JACKSON COUNTY

PROJECT INFORMATION

SITE INFORMATION

LATITUDE:	38.910175° N
LONGITUDE:	94.391244° W
JURISDICTION	JACKSON COUNTY

APPLICANT/LESSEE

COMPANY	VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY	VERIZON WIRELESS
ADDRESS	10740 NALL AVE., STE. 400
CITY, STATE, ZIP	OVERLAND PARK, KS 66211
CONTACT	SHARRHONDA KELLY
E-MAIL	SHARRHONDA.KELLY@VERIZONWIRELESS.COM

PROJECT MANAGER

COMPANY	MASER CONSULTING
CONTACT	KRISTINA ROSS
PHONE	(615) 686-2575
E-MAIL	KROSS@MASERCONSULTING.COM

SHEET INDEX

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION	HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #	10023391
VZW LOCATION CODE (PSLC)	140684
FUZE ID	16248298

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

REFERENCED DOCUMENTS

FAILING MOUNT ANALYSIS REPORT

SMART TOOL PROJECT #	10017276
MASER CONSULTING PROJECT #	20780195A
ANALYSIS DATE	11/13/2020

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SCALE :	JOB NUMBER :
AS SHOWN	20780195A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
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0	11/30/2020	ISSUED FOR CONSTRUCTION	AF	LR

STATE OF MISSOURI
Ismaias Recinos
NUMBER
PE-2019026032
PROFESSIONAL ENGINEER

Ismaias Recinos
MISSOURI PROFESSIONAL ENGINEER
LICENSE NUMBER: 2019026032
MASER CONSULTING, INC.
11/30/2020

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

SITE NAME:

LEES SUMMIT
140684

900 SW BLUE PKWY
LEES SUMMIT, MO 64063
JACKSON COUNTY

NASHVILLE OFFICE
5141 Virginia Way
Suite 420
Brentwood, TN 37027
Phone: 615.686.2575
Fax: 615.523.2456

SHEET TITLE : TITLE SHEET

SHEET NUMBER : T-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES
VZWSMART KITS				
1	VZWSMART	VZWSMART-PLK7	MONOPOLE COLLAR MOUNT ASSEMBLY	
1		VZWSMART-PLK1	SUPPORT RAIL KIT	FINAL LENGTH TO BE DETERMINED IN FIELD, CONTRACTOR TO TRIM AS REQUIRED
1		VZWSMART-PLK5	KICKER KIT	FINAL LENGTH TO BE DETERMINED IN FIELD, CONTRACTOR TO TRIM AS REQUIRED
1		VZWSMART-MSK5	CROSSOVER PLATE	

OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES
1	-	-	36" LONG 2.0 STD PIPE	GALVANIZED
2	-	-	1/2"Ø SQUARE U-BOLT FOR 4" SQUARE TUBE	GALVANIZED

NOTE: ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM
METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM
PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM
SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM
SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM

NOTE: WHEN SPECIFIED, VZWSMART KITS SHALL BE REQUIRED AND WILL BE VERIFIED DURING THE DESKTOP PMI

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STATE OF MISSOURI
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NUMBER
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SITE NAME:
LEES SUMMIT
140684
900 SW BLUE PKWY
LEES SUMMIT, MO 64063
JACKSON COUNTY

NASHVILLE OFFICE
5141 Virginia Way
Suite 420
Brentwood, TN 37027
Phone: 615.686.2575
Fax: 615.523.2456

SHEET TITLE : BILL OF MATERIALS

SHEET NUMBER : S-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

GENERAL NOTES

1. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES.
2. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES. ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THE CONTRACTOR'S WORK OR FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE BEGINNING WORK, ORDERING MATERIAL, AND PREPARING OF SHOP DRAWINGS. ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, NOTIFY THE ENGINEER IMMEDIATELY.
4. IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
5. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
6. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN AND SHALL MEET ANSI/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSI/TIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
7. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
8. WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 30-MPH). THE STRUCTURE SHOWN ON THE DRAWINGS IS STRUCTURALLY SOUND ONLY IN THE COMPLETED FORM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT, SHORING, BRACING AND ANY OTHER STRUCTURAL SYSTEMS AS REQUIRED TO RESIST ALL FORCES THAT MAY OCCUR DURING HANDLING AND ERECTION UNTIL THE STRUCTURE IS FULLY COMPLETED. TEMPORARY SUPPORTS, BRACING AND OTHER STRUCTURAL SYSTEMS REQUIRED DURING CONSTRUCTION SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THEIR USE.
9. ALL INSTALLATIONS PERFORMED ON THIS STRUCTURE SHALL BE COMPLETED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS, ANSI/TIA-322.
10. CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
11. CONNECTIONS BETWEEN ITEMS SUPPORTED BY THE STRUCTURE AND THE STRUCTURE NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH CONNECTIONS SHALL BE DESIGNED, COORDINATED AND INSPECTED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SUBMIT SIGNED AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
12. DO NOT SCALE DRAWINGS.
13. DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
14. ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZE AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
15. THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

DESIGN LOADS

WIND LOADS

a. BASIC WIND SPEED (3 SECOND GUST), V = 109 MPH
b. EXPOSURE CATEGORY C
c. TOPOGRAPHIC CATEGORY I
d. MEAN BASE ELEVATION (AMSL) = 1017.33'

ICE LOADS

a. ICE WIND SPEED (3 SECOND GUST), V = 40 MPH
b. ICE THICKNESS = 1.5 IN

SEISMIC LOADS

a. SEISMIC DESIGN CATEGORY B
b. SHORT TERM MCER GROUND MOTION, S_S = .100
c. LONG TERM MCER GROUND MOTION, S_1 = .068

STRUCTURAL STEEL

1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
   a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
   b. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
   c. AISC CODE OF STANDARD PRACTICE
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE

3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
4. PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
   a. SUBMIT SHOP DRAWINGS TO KROSS@MASERCONSULTING.COM
   b. PROVIDE MASER CONSULTING PROJECT # AND MASER CONSULTING PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
5. DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
6. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
7. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
9. WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
10. FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
11. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS 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.
12. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
13. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
14. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINGA OR ZINC COTE), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
15. ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

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STATE OF MISSOURI
Ismaias Recinos
NUMBER
PE-2019026032
PROFESSIONAL ENGINEER

Ismaias Recinos
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5141 Virginia Way
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Phone: 615.686.2575
Fax: 615.523.2456

SHEET TITLE :
MODIFICATION NOTES

SHEET NUMBER :
S-2

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

MODIFICATION INSPECTION NOTES

MI CHECKLIST	
CONSTRUCTION/ INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY EOR)	REPORT ITEM
PRE-CONSTRUCTION	
X	MI CHECKLIST DRAWING
X	EOR APPROVED SHOP DRAWINGS
NA	FABRICATION INSPECTION
NA	FABRICATOR CERTIFIED WELD INSPECTION
X	MATERIAL TEST REPORT (MTR)
NA	FABRICATOR NDE INSPECTION
X	PACKING SLIPS
ADDITIONAL TESTING AND INSPECTIONS:	
CONSTRUCTION	
X	CONSTRUCTION INSPECTIONS
NA	CONTRACTOR'S CERTIFIED WELD INSPECTION AND NDE REPORTS
X	ON SITE COLD GALVANIZING VERIFICATION
X	GC AS-BUILT DOCUMENTS
ADDITIONAL TESTING AND INSPECTIONS:	
POST-CONSTRUCTION	
X	MI INSPECTOR REDLINE OR RECORD DRAWING(S)
X	VZW PMI DOCUMENTS
X	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTE: X DENOTES A DOCUMENT REQUIRED FOR THE MI REPORT
NA DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE MI REPORT

THE MODIFICATION INSPECTION (MI) IS A VISUAL INSPECTION OF MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, NOR DOES THE MI INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.

TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PURCHASE ORDER (PO) IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY.

MI INSPECTOR

THE MI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE MI TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS

THE MI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GC INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MI REPORT TO EOR.

GENERAL CONTRACTOR

THE GC IS REQUIRED TO CONTACT THE MI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MI INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS

THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MI CHECKLIST.

RECOMMENDATIONS

THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING AN MI REPORT:

- IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.
- THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RE-TENSIONING OPERATIONS.
- IT MAY BE BENEFICIAL TO INSTALL ALL MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTIONS TO ALLOW THE FOUNDATION AND MI INSPECTION(S) TO COMMENCE WITH ONE SITE VISIT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE ANY DEFICIENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MI CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

CORRECTION OF FAILING MI'S

IF THE MODIFICATION INSTALLATION WOULD FAIL THE MI ("FAILED MI"), THE GC SHALL WORK WITH THE OWNER TO COORDINATE A REMEDIATION PLAN:

- CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MI.

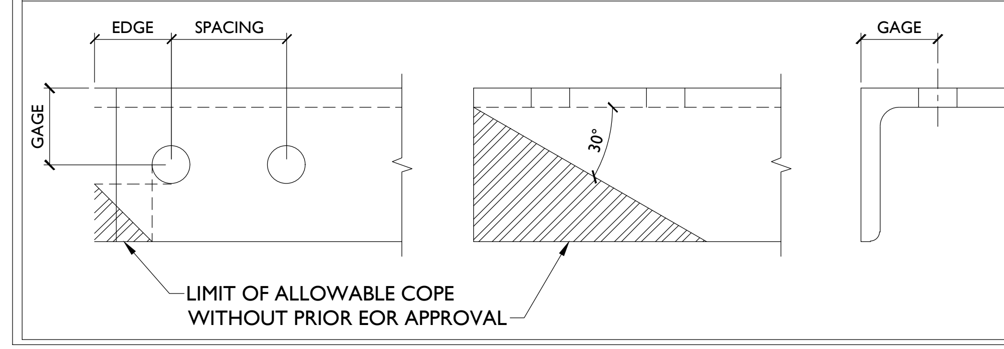
REQUIRED PHOTOS

BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:

- PRE-CONSTRUCTION GENERAL SITE CONDITION
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION
  - RAW MATERIALS
  - PHOTOS OF ALL CRITICAL DETAILS
  - FOUNDATION MODIFICATIONS
  - WELD PREPARATION
  - BOLT INSTALLATION
  - FINAL INSTALLED CONDITION
  - SURFACE COATING REPAIR
- POST CONSTRUCTION PHOTOGRAPHS
  - FINAL INFIELD CONDITION

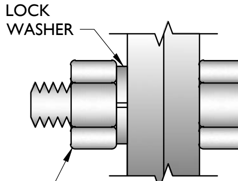
PHOTOS OF ELEVATED MODIFICATIONS TAKEN ONLY FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

ALLOWABLE COPING



BOLT SCHEDULE (IN.)				
BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16 x 11/16	7/8	1 1/2
5/8	11/16	11/16 x 7/8	1 1/8	1 7/8
3/4	13/16	13/16 x 1	1 1/4	2 1/4
7/8	15/16	15/16 x 1 1/8	1 1/2	2 5/8
1	1 1/16	1 1/16 x 1 5/16	1 3/4	3

WORKABLE GAGES (IN.)	
LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



TYP. BOLT ASSEMBLY

NOTES:

1. ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
2. THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
3. SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
4. MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.

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STATE OF MISSOURI ★ Ismaias Recinos NUMBER PE-2019026032 ★ PROFESSIONAL ENGINEER
Ismaias Recinos
MISSOURI PROFESSIONAL ENGINEER
LICENSE NUMBER: 2019026032
MASER CONSULTING, INC.
11/30/2020

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140684

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JACKSON COUNTY

NASHVILLE OFFICE
5141 Virginia Way
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Phone: 615.686.2575
Fax: 615.523.2456

SHEET TITLE :
MODIFICATION NOTES

SHEET NUMBER :
S-3

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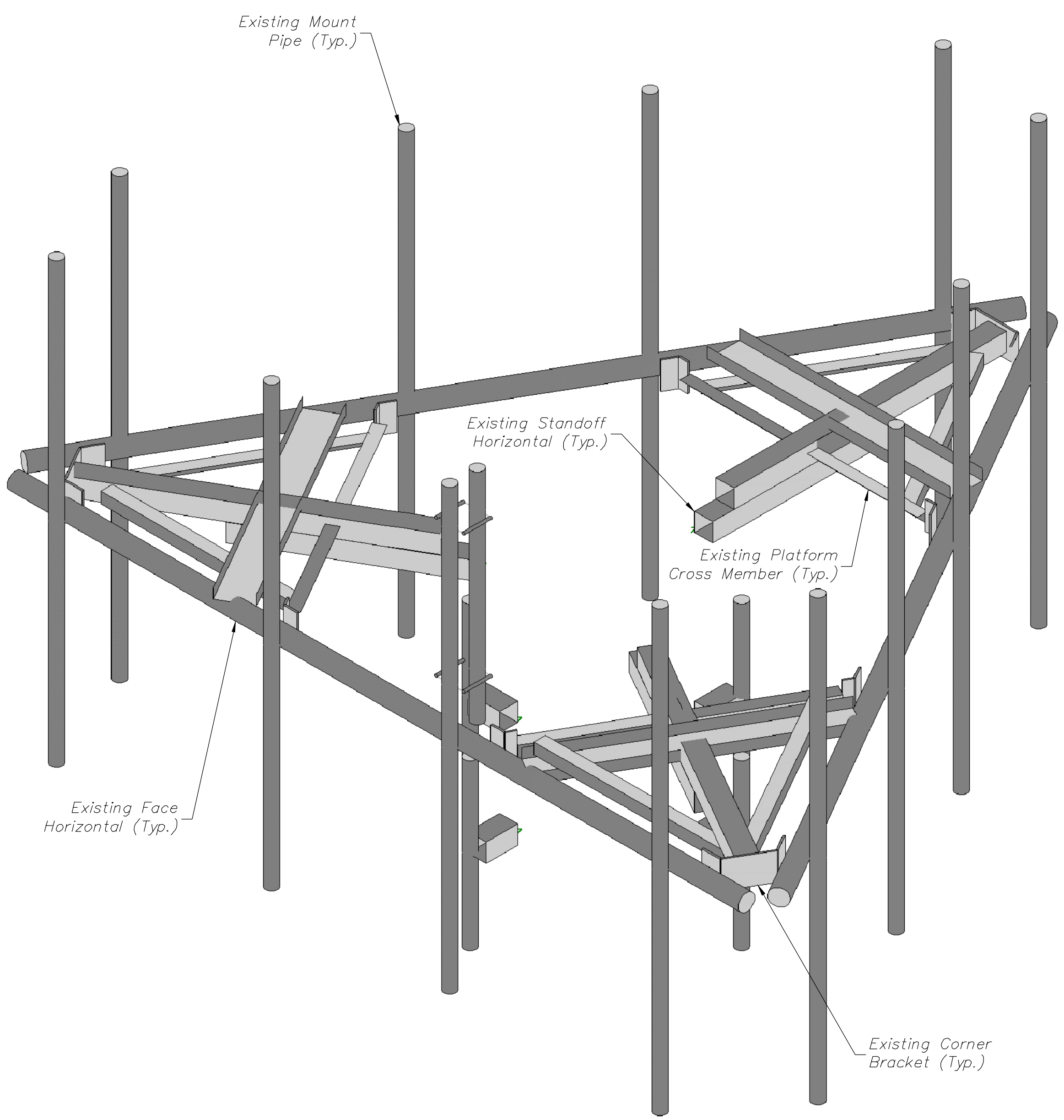
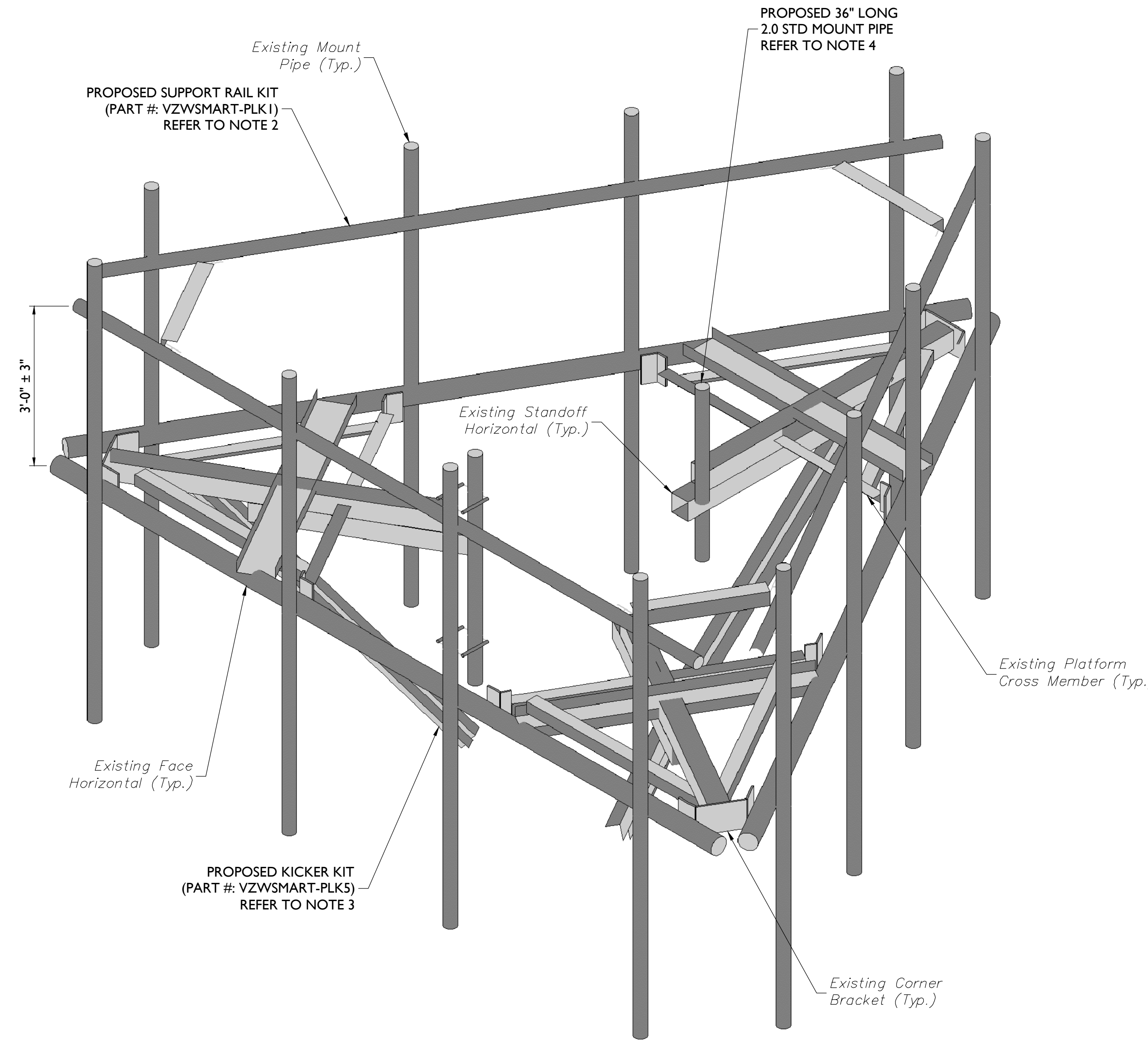


1 EXISTING PLATFORM ISOMETRIC VIEW

SCALE : N.T.S.



2 PROPOSED PLATFORM ISOMETRIC VIEW

SCALE : N.T.S.

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY HIGHTOWER SOLUTIONS, INC. ON 11/06/2017, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (146'-9") ARE IN GOOD CONDITION. MASER DOES NOT WARRANT THIS INFORMATION.

2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

MODIFICATION NOTES:

1. MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.

2. RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE.

3. CONTRACTOR SHALL REMOVE THE RRH RING MOUNT DIRECTLY BENEATH THE PLATFORM PRIOR TO THE INSTALLATION OF THE KICKER KIT.CONNECT NEW KICKER TO EXISTING MONOPOLE USING PROPOSED MONOPOLE COLLAR MOUNT ASSEMBLY (PART #: VZWSMART-PLK7). CONTRACTOR TO FIELD VERIFY FINAL LENGTH OF MEMBERS AND TRIM AS NECESSARY.

4. CONTRACTOR SHALL RELOCATE THE EXISTING RAYCAP FROM THE RING MOUNT TO NEW 36" LONG P2.0 STD PIPE. NEW PIPE SHALL BE CONNECTED TO THE EXISTING STANDOFF MEMBERS WITH NEW VZWSMART-MSK5 AND (2) 1/2"Ø SQUARE U-BOLTS.

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MODIFICATION DETAILS

SHEET NUMBER :

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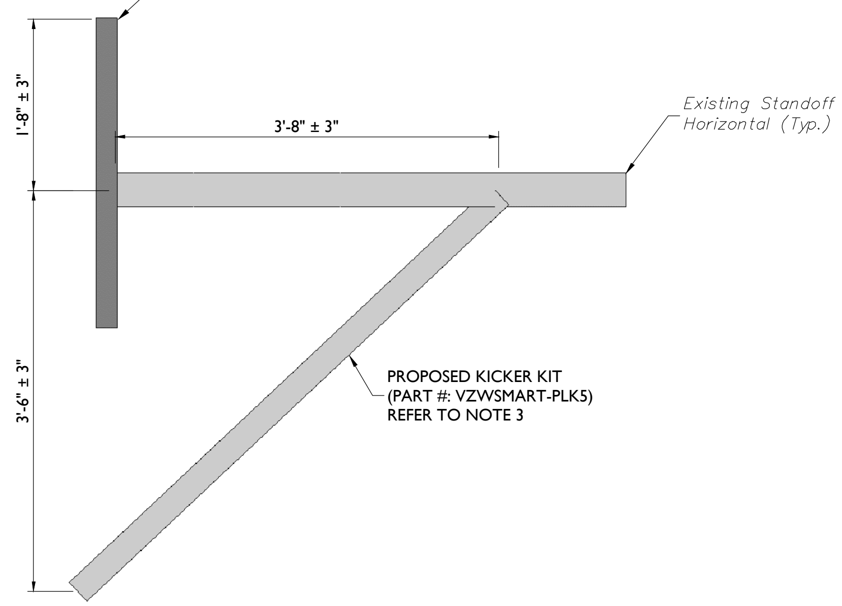
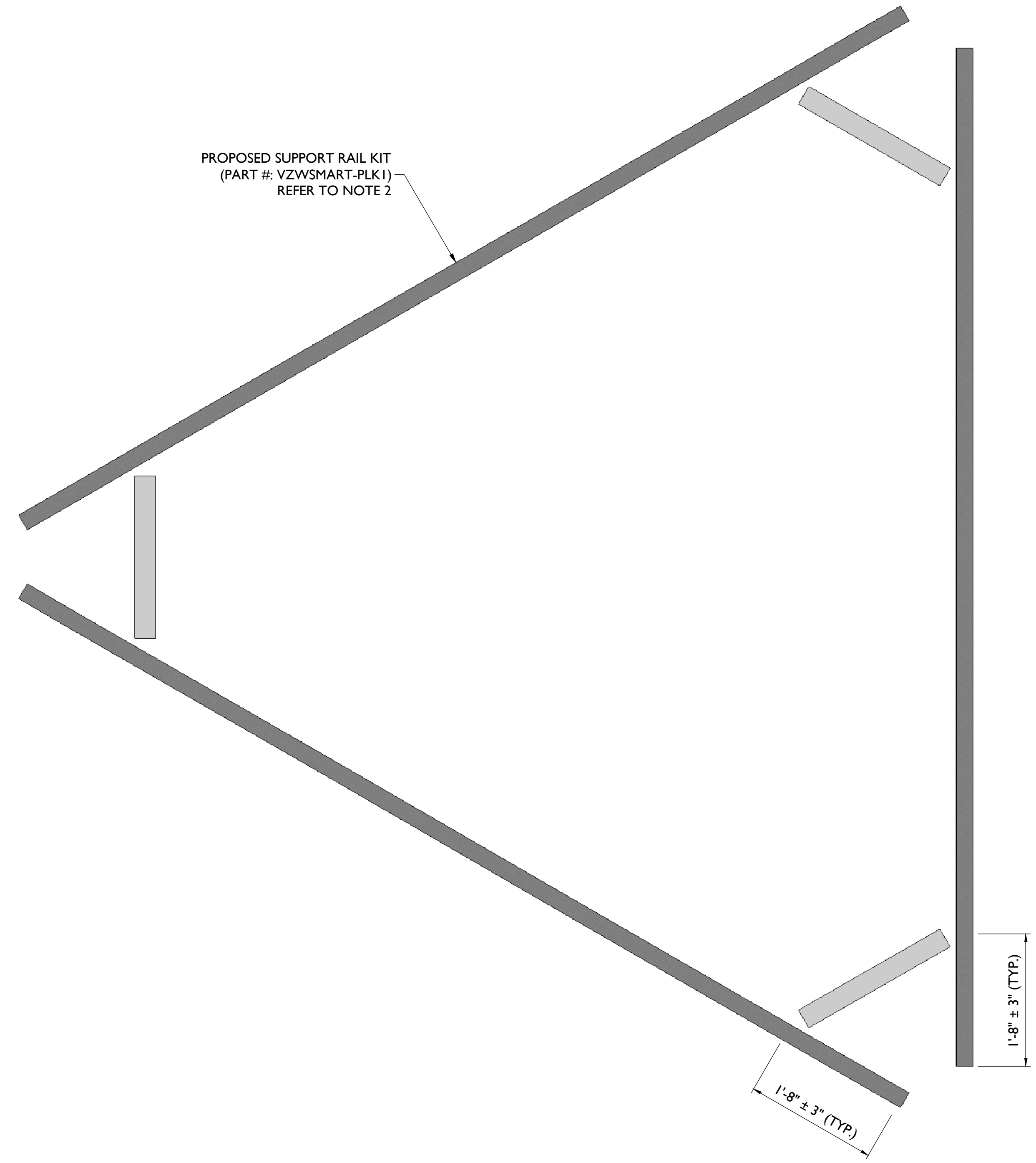


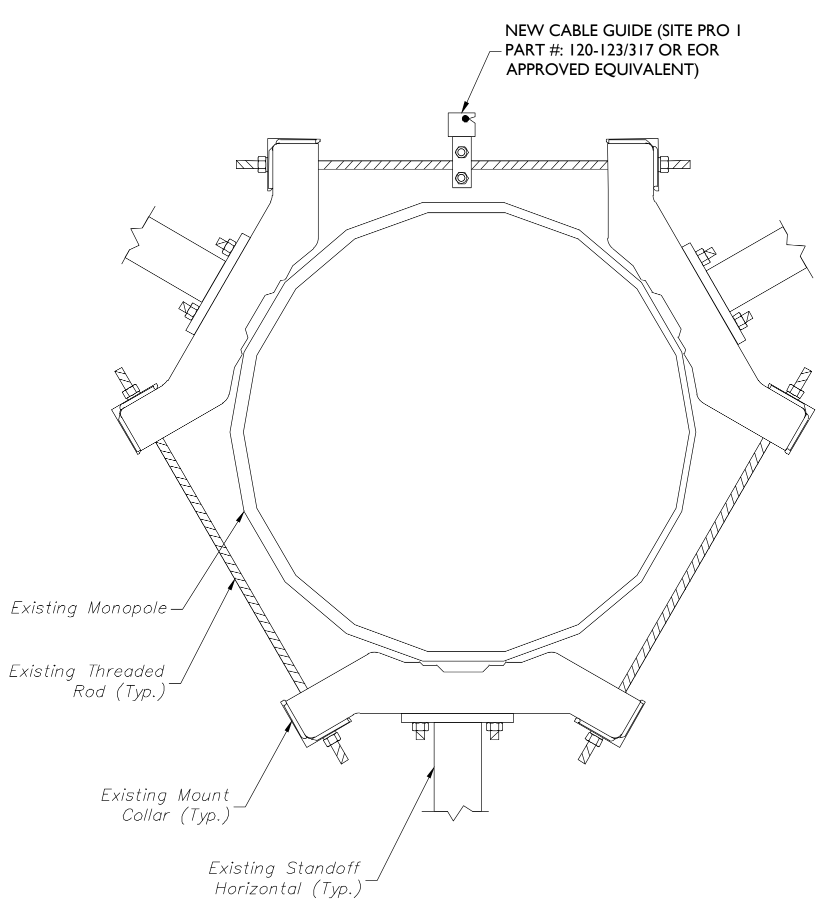
1 PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)

SCALE : N.T.S.



2 PROPOSED PLAN VIEW

SCALE : N.T.S.



3 CABLE GUIDE THREADED ROD ATTACHMENT - PLAN VIEW

MODIFICATION NOTES:

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3. CONTRACTOR SHALL REMOVE THE RRH RING MOUNT DIRECTLY BENEATH THE PLATFORM PRIOR TO THE INSTALLATION OF THE KICKER KIT.CONNECT NEW KICKER TO EXISTING MONOPOLE USING PROPOSED MONOPOLE COLLAR MOUNT ASSEMBLY (PART #: VZWSMART-PLK7). CONTRACTOR TO FIELD VERIFY FINAL LENGTH OF MEMBERS AND TRIM AS NECESSARY.
4. CONTRACTOR SHALL RELOCATE THE EXISTING RAYCAP FROM THE RING MOUNT TO NEW 36" LONG P2.0 STD PIPE. NEW PIPE SHALL BE CONNECTED TO THE EXISTING STANDOFF MEMBERS WITH NEW VZWSMART-MSK5 AND (2) 1/2"Ø SQUARE U-BOLTS.

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SCALE :	JOB NUMBER :
AS SHOWN	20780195A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
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.	.	.	.	.
.	.	.	.	.
0	11/30/2020	ISSUED FOR CONSTRUCTION	AF	LR

STATE OF MISSOURI
Ismaias Recinos
NUMBER
PE-2019026032
PROFESSIONAL ENGINEER

Ismaias Recinos
MISSOURI PROFESSIONAL ENGINEER
LICENSE NUMBER: 2019026032
MASER CONSULTING, INC.

11/30/2020

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

SITE NAME:

LEES SUMMIT
140684

900 SW BLUE PKWY
LEES SUMMIT, MO 64063
JACKSON COUNTY

NASHVILLE OFFICE
5141 Virginia Way
Suite 420
Brentwood, TN 37027
Phone: 615.686.2575
Fax: 615.523.2456

SHEET TITLE :
MODIFICATION DETAILS

SHEET NUMBER :
S-5

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

MOUNT PHOTO 1

MOUNT PHOTO 2

MOUNT PHOTO 3

MOUNT PHOTO 4

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SCALE :	JOB NUMBER :
AS SHOWN	20780195A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
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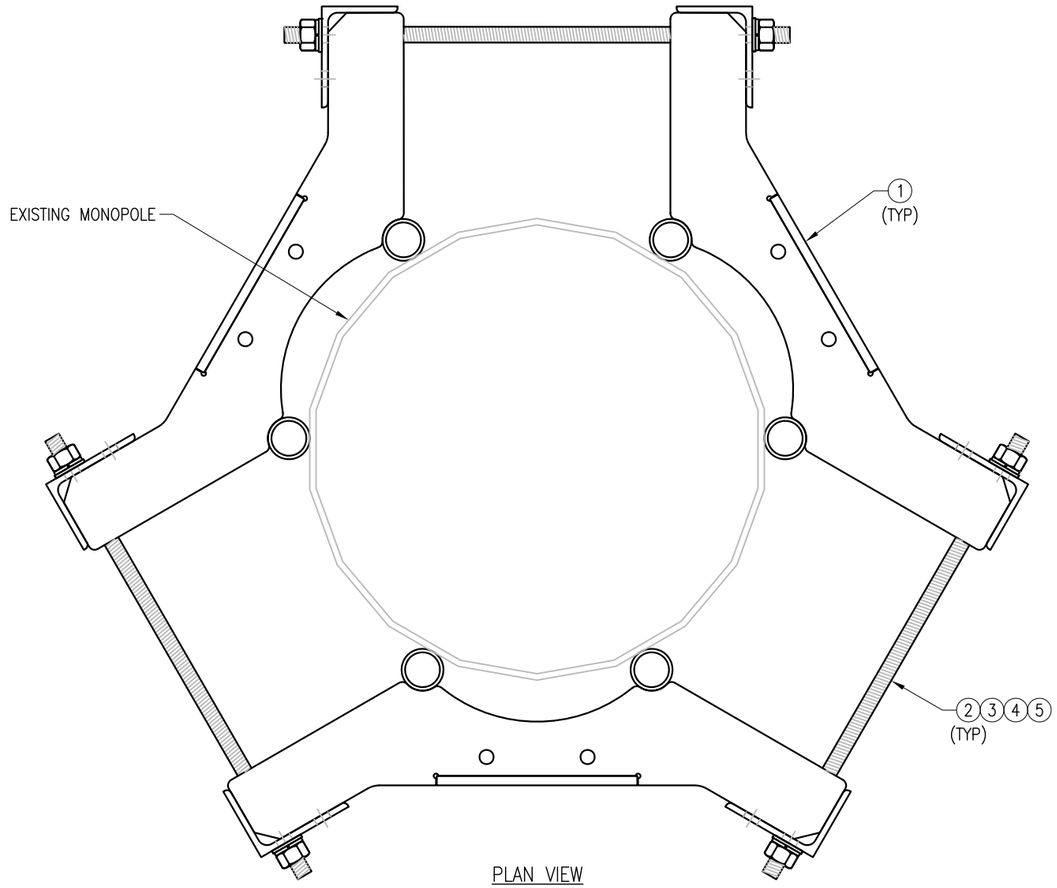
Brentwood, TN 37027

Phone: 615.686.2575
Fax: 615.523.2456

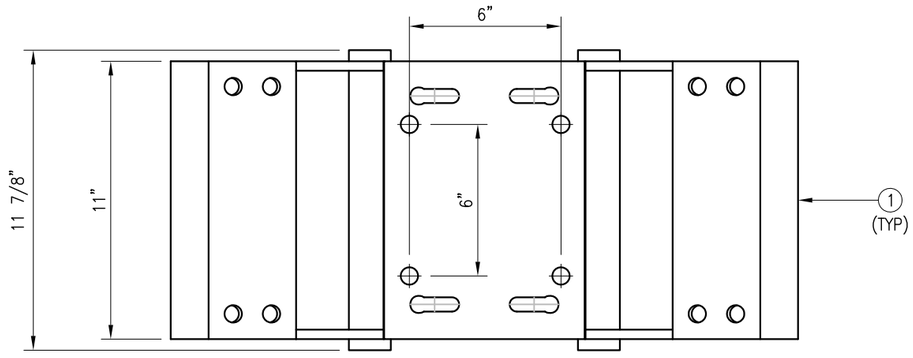
SHEET TITLE :
MOUNT PHOTOS

SHEET NUMBER :
S-6

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



PLAN VIEW
MONOPOLE COLLAR MOUNT ASSEMBLY



FRONT VIEW

NOTES:
1. FIT 12" TO 45" DIA MONOPOLE.
2. HOT-DIPPED GALVANIZED PER ASTM A123.

VZWSMART-PLK7 (MONOPOLE COLLAR MOUNT ASSEMBLY)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	CM-1245	COLLAR MOUNT ASSEMBLY	PLK7-F1	147
2	6	---	THREADED ROD 5/8" X 4'-0" A193-B7	---	
3	12	FW-625	5/8" HDG USS FLAT WASHER	---	1
4	12	LW-625	5/8" HDG LOCK WASHER	---	0
5	12	NUT-625	5/8" HDG HEX NUT	---	1
				GALVANIZED WT	150

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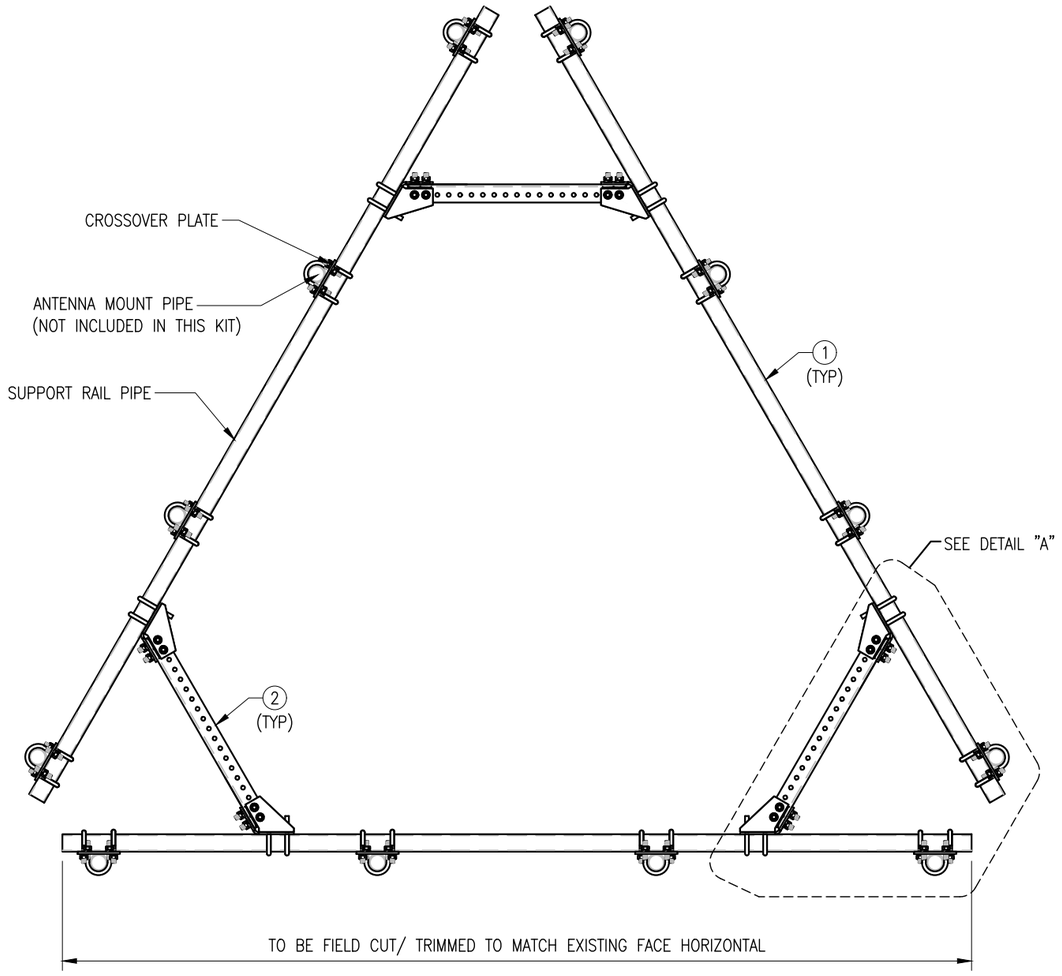
DRAWN BY: BT | CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BT	05/11/20

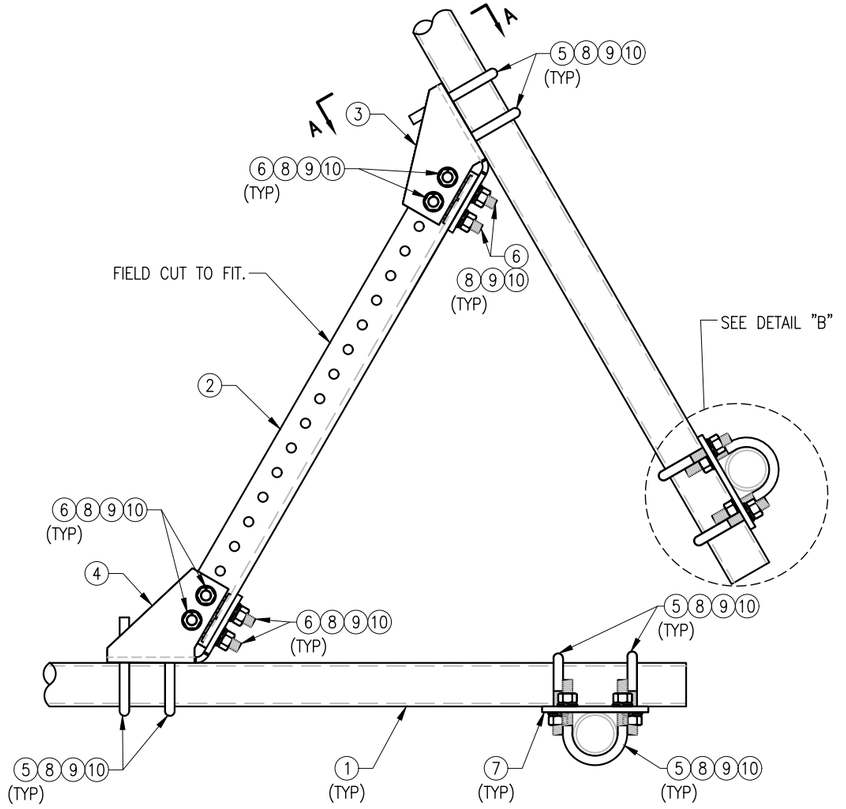
SHEET TITLE:
VZWSMART-PLK7
MONOPOLE COLLAR
MOUNT ASSEMBLY

SHEET NUMBER: VZWSMART-PLK7

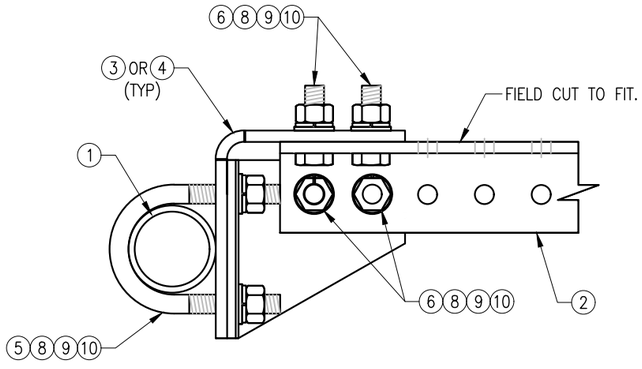
REV #: 0



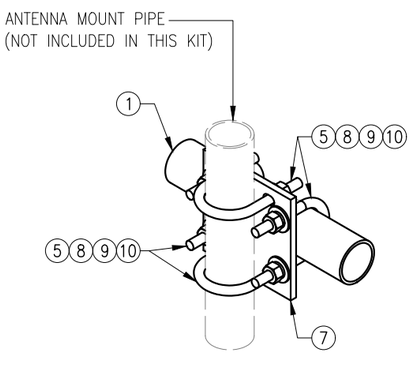
PLAN VIEW



DETAIL "A"



SECTION "A–A"



DETAIL "B"

NOTES:
1. HOT–DIPPED GALVANIZED PER ASTM A123.

VZW SMART–PLK1 (SUPPORT RAIL KIT)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	PST2875–12.5	2.5" PST (2.875" O.D. X 0.203" THK.) X 12'–6" A53 GR–B	PLK1–F1	292
2	3	L33375–3	L 3" X 3" X 3/8" X 3'–0" A36	PLK1–F1	66
3	3	CBP–L	CORNER BENT PLATE BRACKET	PLK1–F2	28
4	3	CBP–R	CORNER BENT PLATE BRACKET	PLK1–F2	28
5	60	MS02–625–300–500	RU–BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC–1	82
6	24	---	BOLT 5/8" X 2" A325	---	9
7	12	PL375–857	PL 3/8" X 8 1/2" X 7'–0" A36	PLK1–F3	77
8	144	FW–625	5/8" HDG USS FLAT WASHER	---	12
9	144	LW–625	5/8" HDG LOCK WASHER	---	3
10	144	NUT–625	5/8" HDG HEX NUT	---	17
				GALVANIZED WT	504

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DRAWN BY: H.R | CHECKED BY: HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	H.R	05/08/20

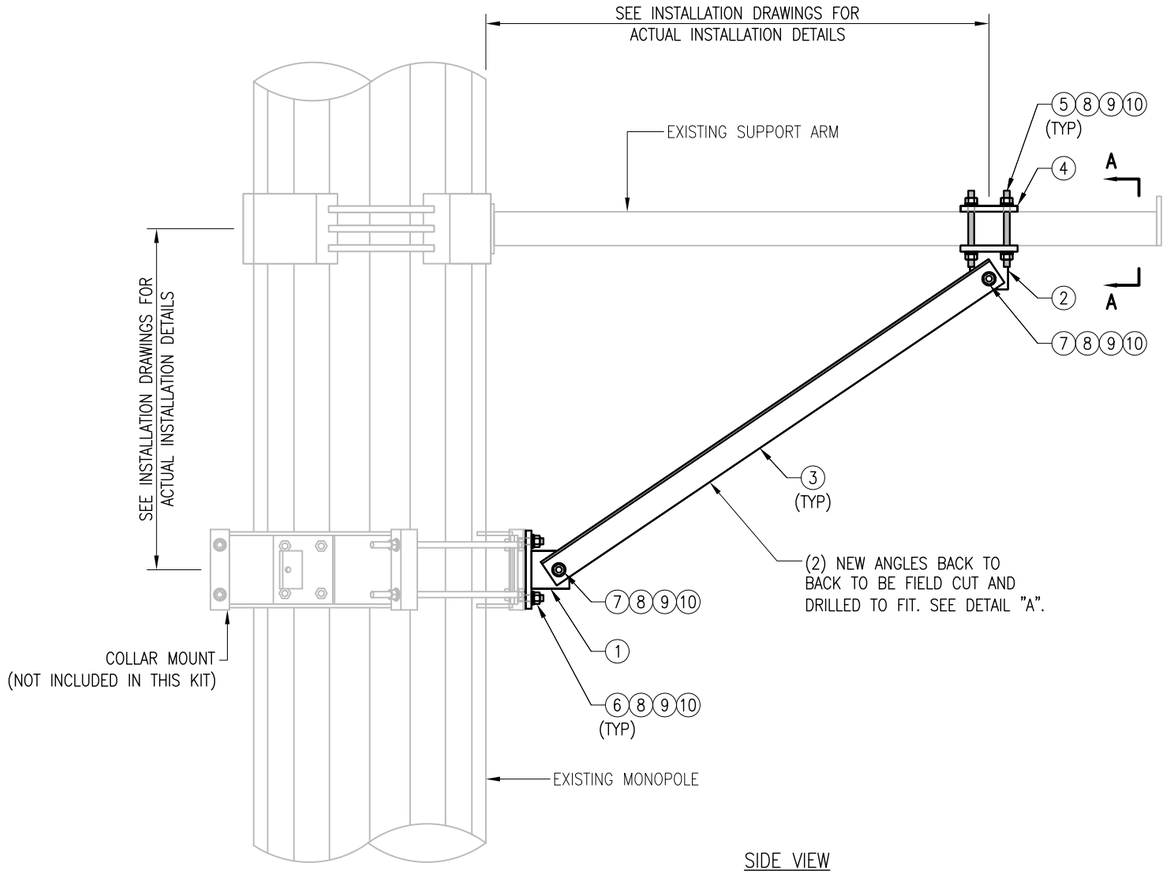
SHEET TITLE:

VZWSMART–PLK1
SUPPORT RAIL KIT

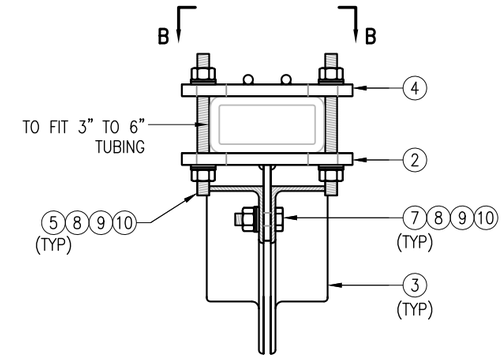
SHEET NUMBER: VZWSMART–PLK1

REV #: 0

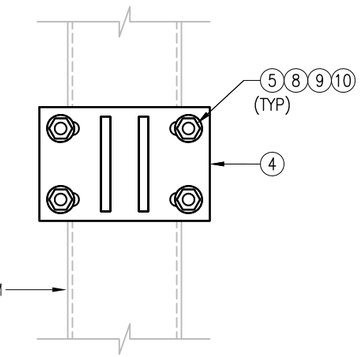
NOTE:
THE LOCATION OF KICKER AND EXISTING ANTENNA MOUNT SHOWN ON THE DRAWING IS FOR REPRESENTATION PURPOSE ONLY. SEE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION OF DETAILS.



SIDE VIEW
KICKER KIT

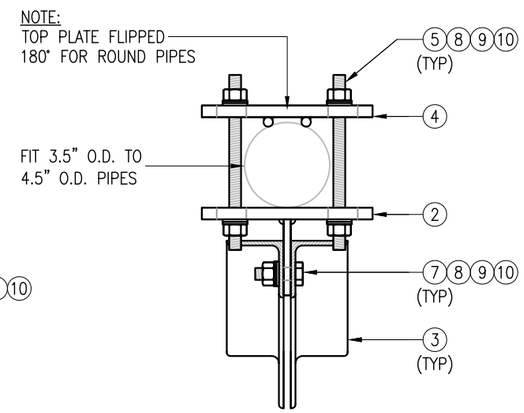


SECTION "A–A"
RECT. HSS MOUNTING

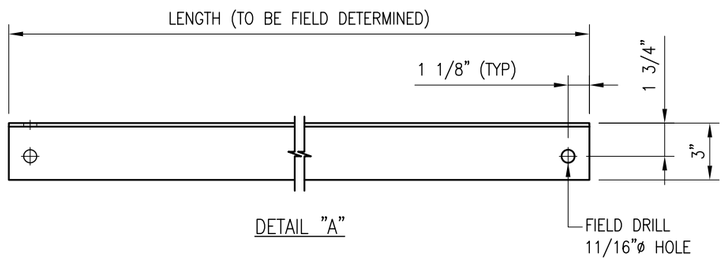


SECTION "B–B"

NOTE:
TOP PLATE FLIPPED 180° FOR ROUND PIPES



SECTION "A–A"
ROUND PIPE MOUNTING



DETAIL "A"

NOTES:
1. ALL HOLES ARE 11/16" DIA. U.N.O
2. HOT–DIPPED GALVANIZED PER ASTM A123.
3. FIT UP TO 6" SQ. TUBING OR 4 1/2" O.D. PIPE

VZWSMART–PLK5 (KICKER KIT)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	BRKW–XXX	BRACKET WELDMENT A36	PLK5–F3	43.8
2	3	BRKW–XXXX	BRACKET WELDMENT A36	PLK5–F2	35.7
3	6	L331875–8	L 3" X 3" X 3/16" X 8'–0" A36	PLK5–F4	182.9
4	3	PL–KI	PL 5/8" X 6" X 9" A36	PLK5–F1	29.0
5	12	---	THREADED ROD 5/8" DIA. X 1'–0" F1554–36 HDG	---	--
6	6	---	BOLT 5/8" X 2" A325	---	--
7	12	---	BOLT 5/8" X 2 1/2" A325	---	--
8	42	FW–625	5/8" HDG USS FLAT WASHER	---	3
9	42	LW–625	5/8" HDG LOCK WASHER	---	1
10	42	NUT–625	5/8" HDG HEX NUT	---	5
				GALVANIZED WT	291

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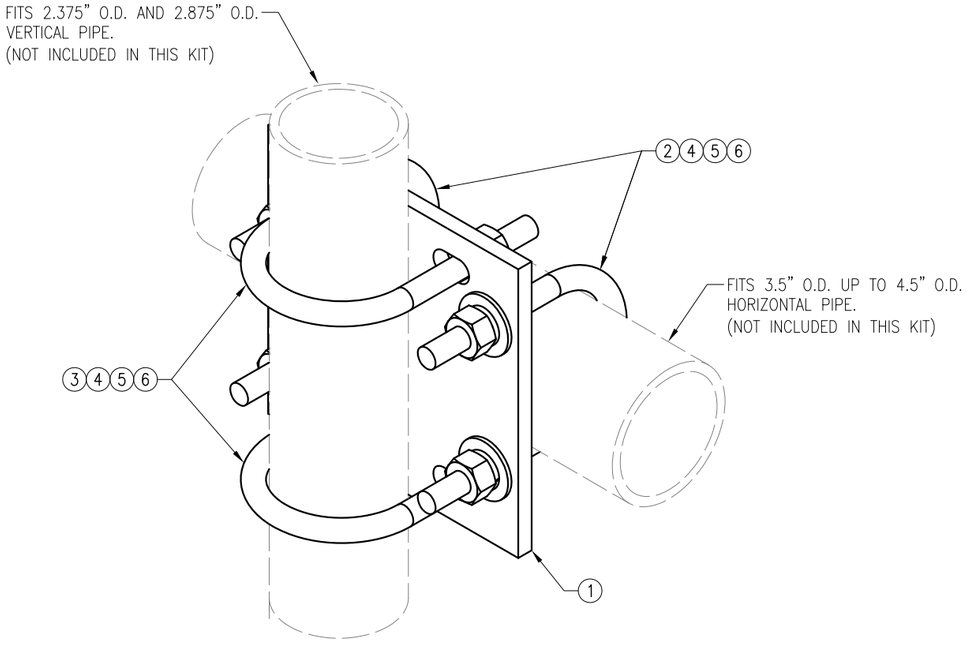
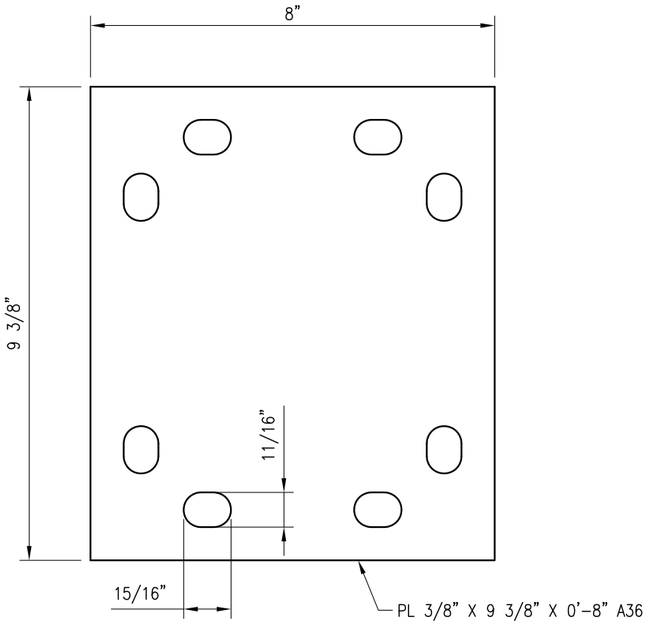
DRAWN BY: MN | CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	05/08/20

SHEET TITLE:
VZWSMART–PLK5
KICKER KIT

SHEET NUMBER: VZWSMART–PLK5
REV #: 0





PL375-93758

NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

VZWSMART-MSK5 (CROSSOVER PLATE)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	PL375-93758	PL 3/8" X 9 3/8" X 0'-8" A36	MSK5-F1	8
2	2	MS02-625-4625-700	RU-BOLT 5/8" X 4 5/8" I.W. X 7" I.L. A36 (OR EQUIV.)	RBC-1	3
3	2	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	3
4	8	FW-625	5/8" HDG USS FLAT WASHER	---	1
5	8	LW-625	5/8" HDG LOCK WASHER	---	0
6	8	NUT-625	5/8" HDG HEX NUT	---	1
				GALVANIZED WT	16

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DRAWN BY: H.R | CHECKED BY: HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	H.R	05/08/20

SHEET TITLE:
VZWSMART-MSK5
CROSSOVER PLATE

SHEET NUMBER: VZWSMART-MSK5

REV #: 0

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Mount Modification

Purpose – to provide Maser Consulting the proper documentation in order to complete the required Mount Desktop review of the Post Modification Inspection Report.

- Contractor is responsible for making certain the photos provided as noted below provide confirmation that the modification was completed in accordance with the modification drawings.
- Contractor shall relay any data that can impact the performance of the mount or the mount modification, this includes safety issues.

Base Requirements:

- Any special photos outside of the standard requirements will be indicated on the drawings
- Provide "as built drawings" showing contractor's name, preparer's signature, and date. Any deviations from the drawings (proposed modification) must be shown.
- Notation that all hardware was properly installed, and the existing hardware was inspected for any issues.
- Verification that loading is as communicated in the modification drawings. NOTE If loading is different than what is conveyed in the modification drawing contact Maser Consulting immediately.
- Each photo should be time and date stamped
- Photos should be high resolution and submitted in a Zip File and should be organized in the file structure as depicted in Schedule A attached.
- Contractor shall ensure that the safety climb wire rope is supported and not adversely impacted by the install of the modification components. This may involve the install of wire rope guides, or other items to protect the wire rope.
- The photos in the file structure should be uploaded to **https://pmi.vzwsmart.com** as depicted on the drawings

Photo Requirements:

- *Base and "During Installation Photos"*
  - Base pictures include
    - Photo of Gate Signs showing the tower owner, site name, and number
    - Photo of carrier shelter showing the carrier site name and number if available
    - Photos of the galvanizing compound and/or paint used (if applicable), clearly showing the label and name
  - "During Installation Photos if provided - must be placed only in this folder
- *Photos taken at ground level*
  - Overall tower structure before and after installation of the modifications
  - Photos of the appropriate mount before and after installation of the modifications; if the mounts are at different rad elevations, pictures must be provided for all elevations that the modifications were installed

- *Photos taken at Mount Elevation*
    - Photos showing each individual sector before and also after installation of modifications. Each entire sector must be in one photo to show in the inter-connection of members.
        - These photos should also certify that the placement and geometry of the equipment on the mount is as depicted on the sketch and table in the mount analysis
    - Close-up photos of each installed modification per the modification drawings; pictures should also include connection hardware (U-bolts, bolts, nuts, all-threaded rods, etc.)
    - Photos showing the measurements of the installed modification member sizes (i.e. lengths, widths, depths, diameters, thicknesses)
    - Photos showing the elevation or distances of the installed modifications from the appropriate reference locations shown in the modification drawings
    - Photos showing the installed modifications onto the tower with tape drop measurements (if applicable) (i.e. ring/collar mounts, tie-backs, V-bracing kits, etc.); if the existing mount elevation needs to be changed according to the modification drawings, a tape drop measurement shall be provided before the elevation change
    - Photos showing the safety climb wire rope above and below the mount prior to modification.
    - Photos showing the climbing facility and safety climb if present.

Material Certification:

- Materials utilized must be as per specification on the drawings or the equivalent as validated by Maser Consulting.

    - If the drawings are as specified on the drawings
        - The contractor should provide the packing list or the materials utilized to perform the mount modification
    - If an equivalent is utilized
        - It is required that the Maser Consulting certification of such is included in the contractor submission package. There may be an additional charge for this certification if the equivalent submission doesn't meet specifications as prescribed in the drawings.

- The contractor must certify that the materials meet these specifications by one of these methods.

☐ The Material utilized was as specified on the Maser Consulting Mount Modification Drawings and included in the Material certification folder is a packing list or invoice for these materials

☐ The material utilized was an "equivalent" and included as part of the contractor submission is the Maser Consulting certification, invoices, or specifications validating accepted status

Certifying Individual: Company _____

Name _____

Signature _____

Antenna & equipment placement and Geometry Confirmation:

- The contractor must certify that the antenna & equipment placement and geometry is in accordance with the antenna placement diagrams as included in this mount analysis.

☐ The contractor certifies that the photos support and the equipment on the mount is as depicted on the antenna placement diagrams as included in this mount analysis.

☐ The contractor notes that the equipment on the mount is not in accordance with the antenna placement diagrams and has accordingly marked up the diagrams or provided a diagram outlining the differences.

Certifying Individual: Company _____

Name _____

Signature _____

Special Instructions / Validation as required from the MA or Mod Drawings:

Issue:

Contractor shall reroute the existing safety climb wire rope between the threaded rods of the existing and proposed collar mounts and the monopole tower. Contractor shall install safety climb wire rope guides to further prevent contact with the collar mount threaded rods. Contractor shall remove the existing RRH ring mount beneath the existing platform and relocate the existing surge suppressor onto a new 3' long P2.0 STD pipe, connected to the standoff horizontal with new VZWSmart-MSK5 crossover plate and (2) 1/2" dia. square U-bolts.

Response:

Schedule A – Photo & Document File Structure

- VzW Site Number / Name
  - Base & “During Installation” Photos
  - Pre-Installation Photos
    - Alpha
    - Beta
    - Gamma
    - Ground Level
    - Tape Drop
  - Post-Installation Photos
    - Alpha
    - Beta
    - Gamma
    - Ground Level
    - Tape Drop
    - Photos of climbing facility and safety climb – If Present
  - Certifications – Submission of this document including certifications
  - Specific Required Additional Photos