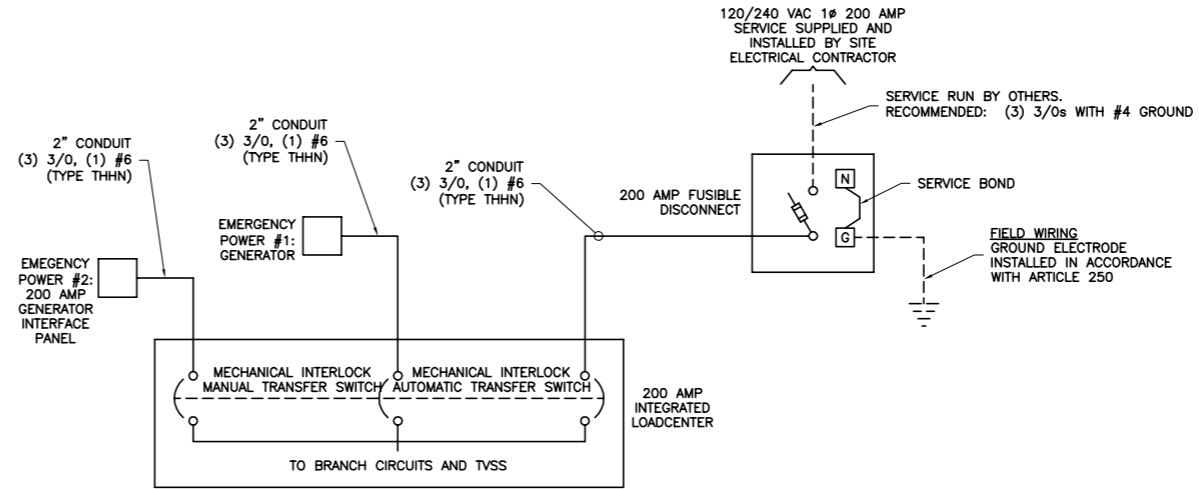


ELECTRICAL NOTES

- SUBMITTAL OF BID INDICATES THAT THE CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
- CONTRACTOR SHALL PERFORM ALL VERIFICATIONS, OBSERVATION TESTS, AND EXAMINATION WORK PRIOR TO ORDERING OF ANY EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE PROJECT MANAGER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
- VERIFY HEIGHTS WITH PROJECT MANAGER PRIOR TO INSTALLATION.
- THESE PLANS ARE DIAGRAMMATIC ONLY, FOLLOW AS CLOSELY AS POSSIBLE.
- CONTRACTOR SHALL COORDINATE ALL WORK BETWEEN TRADES AND ALL OTHER SCHEDULING AND PROVISIONARY CIRCUMSTANCES SURROUNDING THE PROJECT.
- CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR COMPLETE AND FUNCTIONALLY OPERATING SYSTEMS ENERGIZED AND READY FOR USE THROUGHOUT AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. ELECTRICAL MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORIES AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION OVER THE CONSTRUCTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH ALL CURRENT APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBFU. ALL MATERIALS AND EQUIPMENT SHALL BE APPROVED FOR THEIR INTENDED USE AND LOCATION.
- ALL WORK SHALL COMPLY WITH ALL APPLICABLE GOVERNING STATE, COUNTY AND CITY CODES AND OSHA, NFPA, NEC & ASHRAE REQUIREMENTS.
- ENTIRE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF JOB ACCEPTANCE. ALL WORK, MATERIAL AND EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE CONTRACTOR.
- PROPERLY SEAL ALL PENETRATIONS. PROVIDE UL LISTED FIRE-STOPS WHERE PENETRATIONS ARE MADE THROUGH FIRE-RATED ASSEMBLIES. WATER-TIGHT USING SILICONE SEALANT.
- DELIVER ALL BROCHURES, OPERATING MANUALS, CATALOGS AND SHOP DRAWINGS TO THE PROJECT MANAGER AT JOB COMPLETION. PROVIDE MAINTENANCE MANUALS FOR MECHANICAL EQUIPMENT. AFFIX MAINTENANCE LABELS TO MECHANICAL EQUIPMENT.
- ALL CONDUCTORS SHALL BE COPPER. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG., UNLESS OTHERWISE NOTED. CONDUCTORS SHALL BE TYPE THHN, RATED IN ACCORDANCE WITH NEC 110-14(C).
- ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THE MAXIMUM INTERRUPTING CURRENT TO WHICH THEY MAY BE SUBJECTED.
- THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE; ARTICLES 250 & 810 AND THE UTILITY COMPANY STANDARDS.
- CONDUIT:
 - RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR. RIGID CONDUIT IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3.
 - ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL, FITTINGS SHALL BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
 - LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE U.L. LISTED AND SHALL BE USED AT FINAL CONNECTIONS TO MECHANICAL EQUIPMENT & RECTIFIERS AND WHERE PERMITTED BY CODE. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL CONTAIN A FULL-SIZE GROUND CONDUCTOR.
 - CONDUIT RUNS SHALL BE SURFACE MOUNTED ON CEILINGS OR WALLS UNLESS NOTED OTHERWISE. ALL CONDUIT SHALL RUN PARALLEL OR PERPENDICULAR TO WALLS, FLOOR, CEILING, OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH THE PROJECT MANAGER PRIOR TO INSTALLING.
 - PVC CONDUIT MAY BE PROVIDED ONLY WHERE SHOWN, OR IN UNDERGROUND INSTALLATIONS. PROVIDE UV-RESISTANT CONDUIT WHERE EXPOSED TO THE ATMOSPHERE. PROVIDE GROUND CONDUCTOR IN ALL PVC RUNS; EXCEPT WHERE PERMITTED BY CODE TO OMIT.
- ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS. BACKGROUND SHALL BE BLACK WITH WHITE LETTERS; EXCEPT AS REQUIRED BY CODE TO FOLLOW A DIFFERENT SCHEME.
- UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO PROJECT MANAGER. GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 5 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE PROJECT MANAGER FOR FURTHER INSTRUCTION ON METHODS FOR REDUCING THE RESISTANCE VALUE.
- CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION. LEGALLY DISPOSE OF ALL REMOVED, UNUSED AND EXCESS MATERIAL GENERATED BY THE WORK OF THIS CONTRACT. DELIVER ITEMS INDICATED ON THE DRAWINGS TO THE OWNER IN GOOD CONDITION. OBTAIN SIGNED RECEIPT UPON DELIVERY.
- COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS SHALL BE PAID BY THE CONTRACTOR.
- VERIFY ALL EXISTING CIRCUITRY PRIOR TO REMOVAL AND NEW WORK. MAINTAIN POWER TO ALL OTHER AREAS & CIRCUITS NOT SCHEDULED FOR REMOVAL.
- RED LINED AS-BUILT PLANS SHALL BE PROVIDED TO THE CONSTRUCTION MANAGER.

- INDOOR CONDUCTORS SHALL BE INSTALLED IN EMT UNLESS NOTED OTHERWISE. OUTDOOR CONDUCTORS SHALL BE INSTALLED IN RIGID GALVANIZED STEEL CONDUIT UNLESS NOTED OTHERWISE.
- NY SMSA TO PROVIDE SURGE SUPPRESSOR FOR TELCO BOARD SERVING NEW EQUIPMENT, THE SURGE SUPPRESSOR TO BE INSTALLED BY CONTRACTOR AND GROUNDED TO MGB.
- SEAL AROUND PENETRATIONS RESULTING FROM CONDUIT ROUTING WITH FIRE-STOPPING FOAM SEALANT HAVING A UL-LISTED RATING OF 2 HOURS. HAMMER-DRILLING IS NOT PERMITTED. CORE-DRILLING TO BE COORDINATED WITH BUILDING OWNER'S REPRESENTATIVE.
- PROVIDE (2) FUSES OF SIZE RECOMMENDED BY CONDENSING UNIT MANUFACTURER.
- PROVIDE SMOKE DETECTOR COMPATIBLE WITH EXISTING BUILDING FIRE ALARM SYSTEM. TIE TO LOCAL ZONE. COORDINATE WITH BUILDING OWNER'S FIRE ALARM SYSTEM CONTRACTOR. PROVIDE SENTROL 449CRT PHOTOELECTRIC SMOKE DETECTOR WITH AUXILIARY RELAY FOR ACU-1 SHUTDOWN.
- PROVIDE GENERATOR CONNECTOR RECEPTACLE AND ENCLOSED CIRCUIT BREAKER IN LOCATION SUITABLE FOR PORTABLE GENERATOR ACCESS. COORDINATE WITH BUILDING OWNER FOR EXACT LOCATION. PAINT TO MATCH EXISTING WALL COLOR.
- PROVIDE ALARM TERMINAL CABINET HIGH/LOW ALARMS MOUNTED ON TELCO BOARD.
- PROVIDE DOOR ALARM CONTACT.



1 POWER DIAGRAM
E-2 NTS

LOAD	DESCRIPTION	QTY.	UNIT V.A.	LOAD PER PHASE (VA)		WIRE COLOR	LOADS CONTINUOUS	LOADS NON-CONT	LOADS SUB-PANEL	WIRE SIZE	GROUNDING WIRE SIZE	TRIP	TRIP	GROUNDING WIRE SIZE	WIRE SIZE	LOADS SUB-PANEL	LOADS NON-CONT	LOADS CONTINUOUS	WIRE COLOR	LOAD PER PHASE (VA)		UNIT V.A.	QTY.	DESCRIPTION			
				PHASE																PHASE							
				A	B															A	B						
1	HVAC #1	1	3324	3324		BLK								40	(10)	8		X	BLK	3324		3324	1	HVAC #2	2		
3		1	3324		3324	RED													RED		3324	3324	1		4		
5	RECTIFIER #1	1	800	800		BLK	X							20	(12)	12		X	BLK	2360		2360	1	GFCI RECEPTACLE & BLOCK HEATER BAT. CHARGER & BAT. WARMER	6		
7		1	800		800	RED								20	-	12			RED		900	180	5	INTERIOR RECEPTACLES & CORD REEL	8		
9	RECTIFIER #2	1	800	800		BLK								20	12	12		X	BLK	143		64/15	2/1	INTERIOR LIGHTS	10		
11		1	800		800	RED								20	12	12		X	RED		300	150	2	EXTERIOR LIGHTS	12		
13	RECTIFIER #3	1	800	800		BLK								20	(12)	12		X	BLK	360		180	2	EXTERIOR GFCI RECEPTACLES	14		
15		1	800		800	RED								20					RED		-	-	-	SPARE BREAKER	16		
17	RECTIFIER #4	1	800	800		BLK													BLK						18		
19		1	800		800	RED													RED						20		
21	RECTIFIER #5	1	800	800		BLK													BLK						22		
23		1	800		800	RED													RED						24		
25	RECTIFIER #6	1	800	800		BLK	X												BLK						26		
27		1	800		800	RED													RED						28		
29	RECTIFIER #7	1	800	800		BLK													BLK						30		
31		1	800		800	RED													RED						32		
33	RECTIFIER #8	1	800	800		BLK													BLK						34		
35		1	800		800	RED													RED						36		
37	RECTIFIER #9	1	800	800		BLK	X												BLK						38		
39		1	800		800	RED													RED						40		
41						BLK													BLK						42		
SUBTOTAL CONTINUOUS				7200	7200															503	1200			SUBTOTAL CONTINUOUS	TOTAL KVA CONT x 1.25	20.1	
SUBTOTAL NON-CONTINUOUS				3324	3324																3324	3324			SUBTOTAL NON-CONTINUOUS	TOTAL KVA NON-CONTINUOUS	13.3
SUBTOTAL SUB-PANEL				-	-																-	-			SUBTOTAL SUB-PANEL	TOTAL KVA SUB-PANEL	-
PANEL DESIGNATION: ELECTRICAL PANEL (ITEM 1)																						TOTAL KVA		33.4			
MAIN LUGS/N/A		MAIN BREAKER: 200 AMP		MAIN BREAKER A.I.C RATING: 22,000 A.I.C		BRANCH BREAKER A.I.C RATING: 10,000 A.I.C		BRANCH BREAKER TYPE: SQUARE D -- BOLT ON		TOTAL KVA		33.4															
VOLTAGE: 120/240		CYCLE: 60		PHASE: 1		WIRES: 3		MAIN COPPER BUS: 200 AMPS		NEUTRAL: 200 AMPS		TOTAL AMPS		139.2													

2 PANEL SCHEDULE
E-2 NTS

ENGINEER

NB+C
TOTALLY COMMITTED.
NB+C ENGINEERING SERVICES, LLC.
100 APOLLO DRIVE
SUITE 303
CHELSEA, MA 01924
(978) 856-6308

APPLICANT

at&t
mobility corp.
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

SITE INFORMATION

ME5372
LUCAS TREE
636 RIVERSIDE STREET
PORTLAND, ME 04103
CITY OF PORTLAND

DESIGN RECORD

REV	DATE	DESCRIPTION	BY
7	12/12/16	REVISED PER RF SHEET	MJS
6	02/09/15	FINAL CDS	KMD
5	01/05/15	REVISED PER RF SHEET	KMD
4	08/27/14	REVISED COORDINATES	KMD
3	06/06/14	REVISED PER COMMENTS	DAK
2	05/22/14	PRELIMINARY CDS	DAK
1	03/20/14	REVISED PER COMMENTS	DAK
0	10/10/13	PRELIMINARY ZDS	DAK

PROFESSIONAL STAMP

STATE OF MAINE
KRUPAKRAN KOLANDAIVELU
No. 112979
LICENSED PROFESSIONAL ENGINEER

ENGINEER

KRUPAKRAN KOLANDAIVELU P.E.
ME PROFESSIONAL ENGINEER LIC. #12979

SHEET TITLE

ELECTRICAL PANEL SCHEDULE, DIAGRAM & NOTES

SHEET NUMBER

E-2