

University of South Carolina

Project Name: **UTS MOD Closet Electrical Upgrades - Various Buildings**

Project Number: **FP00000233**

Project Manager: **Pete Fisher**

Addendum Number Two

Date: August 30, 2019

From: Belka Engineering Associates, Inc.
7 Clusters Court
Columbia, SC 29210

To All Bidders:

The following items add to, modify, clarify or otherwise alter the Drawings and/ or specifications and will be a part of the Contract Documents. Where a portion of the Drawings and/or specification is added to, modified or otherwise altered, the portion not so affected shall remain. Bidder shall include all effects that these items may have on this proposal.

Acknowledge receipt of this Addendum in the space provided in the Bid Form. Failure to do so may subject Bidder to disqualification.

This addendum consists of 4 pages and the following attachments:

- Revised Drawing E1.
- Revised Drawing E2.
- Revised Drawing E3.
- USC IT Blackout Dates Schedule

General Notes:

Construction work shall be conducted during black out periods – see attached schedule.

Clarifications from Contractor's Questions During Bid Period:

1. Q: Can the construction period for Currell Annex scope be extended due to generator lead time?
A: Yes, the scope construction period shall extend from 90 days to 150 days (all buildings).

2. Q: Can existing data racks be without power at any time?
A: No. Contractor-furnished portable generators shall be used to provide temporary power for transferring of loads. Existing rack mounted UPS units have minimum run time – Coker and Humanities, approximately 30 minutes; Currell Annex 5 to 10 minutes.
3. Q: In the existing main electrical room at Coker, the space above existing panels is limited with existing HVAC piping. How will new electrical conduits be run?
A: Wall penetrations may be made below existing HVAC piping and surface conduit be wall mounted. An alternate suggested conduit routing is shown on attached revised drawing E1.
4. Q: Does the removal of the existing generator at Currell Annex require delivery to USC surplus location?
A: Yes, Contractor shall deliver existing generator with fuel tank to 743 Greene Street. Coordinate with Frank Aycock of USC (803) 777-4217.
5. Q: Where is the recommended location for temporary portable generator for power transfer?
A: At Coker, in planting bed outside east side of building. Portable cord can be run through basement mechanical room (across the corridor from IT room) and up fresh air intake shaft.
At Humanities, in planting bed outside west side of building. Portable cord can be run upstairs and through exterior doorway.
At Currell Annex, adjacent to proposed new generator location in service courtyard. (All of these locations shall be coordinated with the USC project manager and shall provide all applicable safety provisions).
6. Q: Will the existing remote annunciator panel be replaced and if not one, where will the new panel be located?
A: There is not an existing generator remote annunciator panel. Provide new generator remote annunciator panel compatible with generator and locate on interior wall adjacent to building's main entrance. Coordinate exact location with existing furniture layout and USC project manager.
7. Q: Is the generator natural gas or diesel?
A: Diesel.
8. Q: Is a new fuel tank required if the unit is a diesel?
A: Yes. 48-hour capacity. Provide full tank of fuel for testing and immediate operation.
9. Q: Will a 60kW unit be sufficient since only a 200-amp breaker is required (60kW is rated at 205 amps, 65kW is rated at 225 amps)?
A: Agree. Generator shall be changed from 65kW to 60kW and automatic transfer switch from 225 amps to 200 amps. See revised drawing E2.

10. Q: What are the requirements for generator enclosure?

A: Weatherproof enclosure as specified in Specification Section 263213, paragraph 2.9, on pages 6 and 7.

Revisions to Drawings:

Drawing E1 –

1. In both Single Line Diagrams, change Existing Loadcenter “B” to single phase, 3 wire in lieu of 3 phase, 4 wire.
2. In both Single Line Diagrams, change the feeder for Existing Loadcenter “B” to 3#3, 1#6G. in existing 1-1/4”C. in lieu of 4#3, 1#6G.
3. In Renovated Power Single Line Diagram, add note adjacent to “Provide 75kva transformer” that reads, “Use existing concrete housekeeping pad in center of room for this transformer. Secure to transformer to floor.” See attached drawing E1.
4. In Renovated Power Single Line Diagram, add note adjacent to “Provide 200 amp disconnect switch” that reads, “Mount switch on Unistrut rack adjacent to transformer.”

Drawing E2 –

5. Change layout of new generator as shown on attached revised drawing E2 (rotate and reposition for future equipment considerations – coordinate with USC project manager).
6. Provide new 48-hour, skid mounted fuel tank with generator.
7. Change generator rating from 65kW to 60kW and automatic transfer switch from 225 amps to 200 amps. Change associated conductors/conduits as shown on attached revised drawing E2.
8. Existing generator is 30kW, not 45kW as previously shown.

Drawing E3 –

9. In In both Single Line Diagrams, change Existing Loadcenter “B” to single phase, 3 wire in lieu of 3 phase, 4 wire.
10. In both Single Line Diagrams, change the feeder for Existing Loadcenter “B” to 3#3, 1#6G. in existing 1-1/4”C. in lieu of 4#3, 1#6G.
11. In both Single Line Diagrams, add existing 100 amp disconnect switch ahead of transformer.

12. In Renovated Power Single Line Diagram, provide a 90-amp, 3 pole breaker in existing main generator-backed panel and conductors/conduits as shown on attached revised drawing E3.

Revisions to Specifications:

Section 263213 – Engine Generators

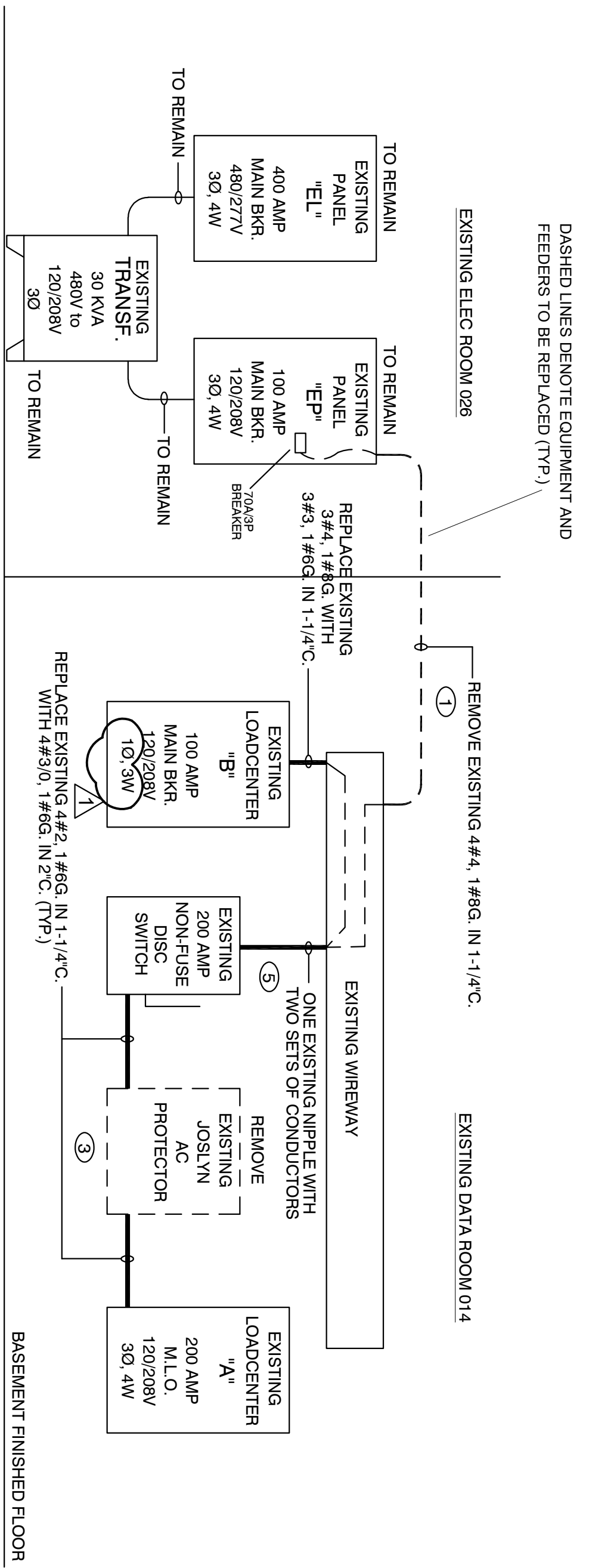
13. In paragraph 2.2 on page 3, change generator rating from 65kW (80kVA) to 60kW (75kVA). Typical of two places in paragraph.

14. Add Item B to paragraph 2.6, FUEL SYSTEM, that states as follows:

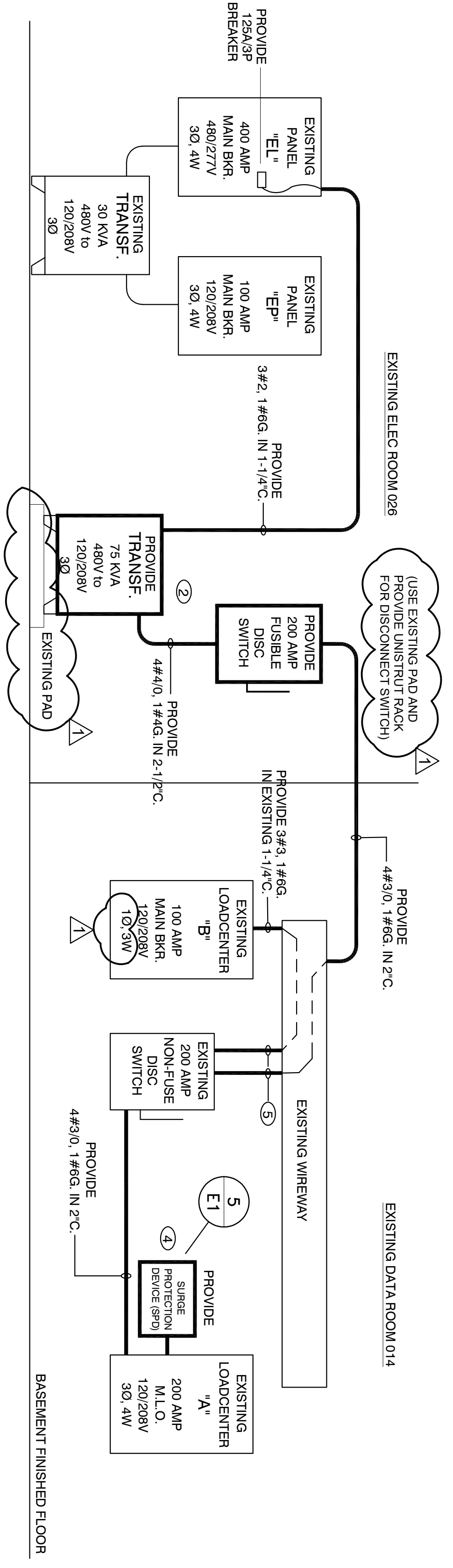
B. Fuel Sub Base Tank: Provide a double wall sub-base tank constructed to meet all local codes and requirements. A fuel tank base of 48-hour capacity shall be provided as an integral part of the enclosure. It shall be contained in a rupture basin with 110% capacity. The tank shall meet UL142 standards. A locking fill cap, a mechanical reading fuel level gauge, low fuel level alarm contact, and fuel tank rupture alarm contact shall be provided.

1. Provide 5 Gallon Fuel Fill spill containment (without exception).
2. Configure height of tank fuel so generator does not require a maintenance platform. Bottom of generator housing shall be no greater than 24 inches above pad.
3. Provide full tank of fuel for testing and immediate operation.

End of Addendum Two

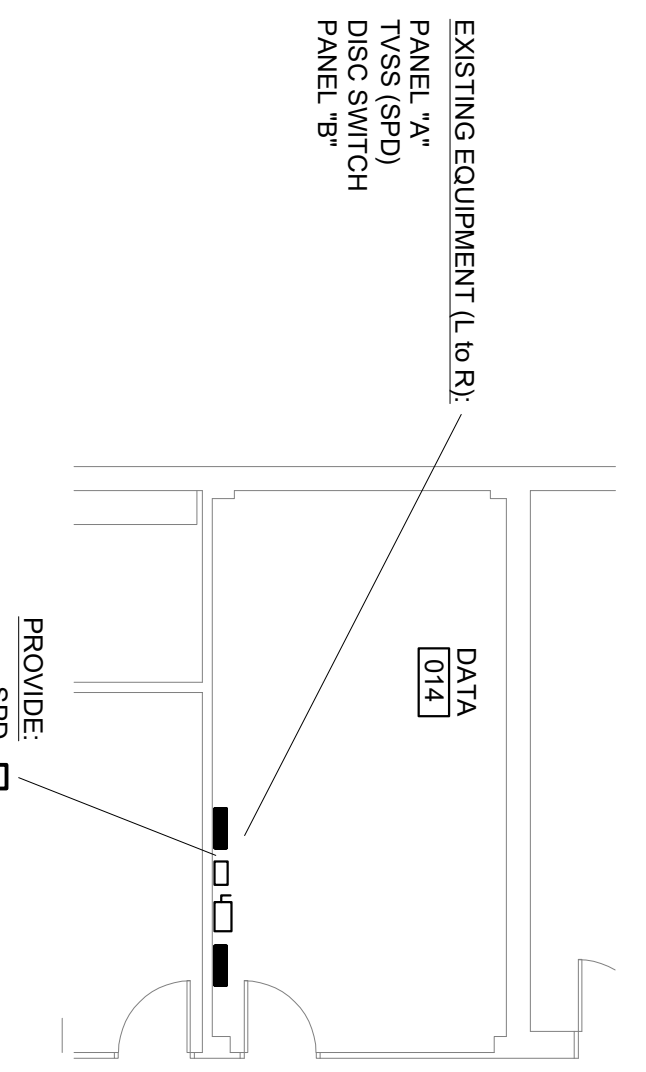


3 EXISTING POWER SINGLE LINE DIAGRAM
E1 NOT TO SCALE

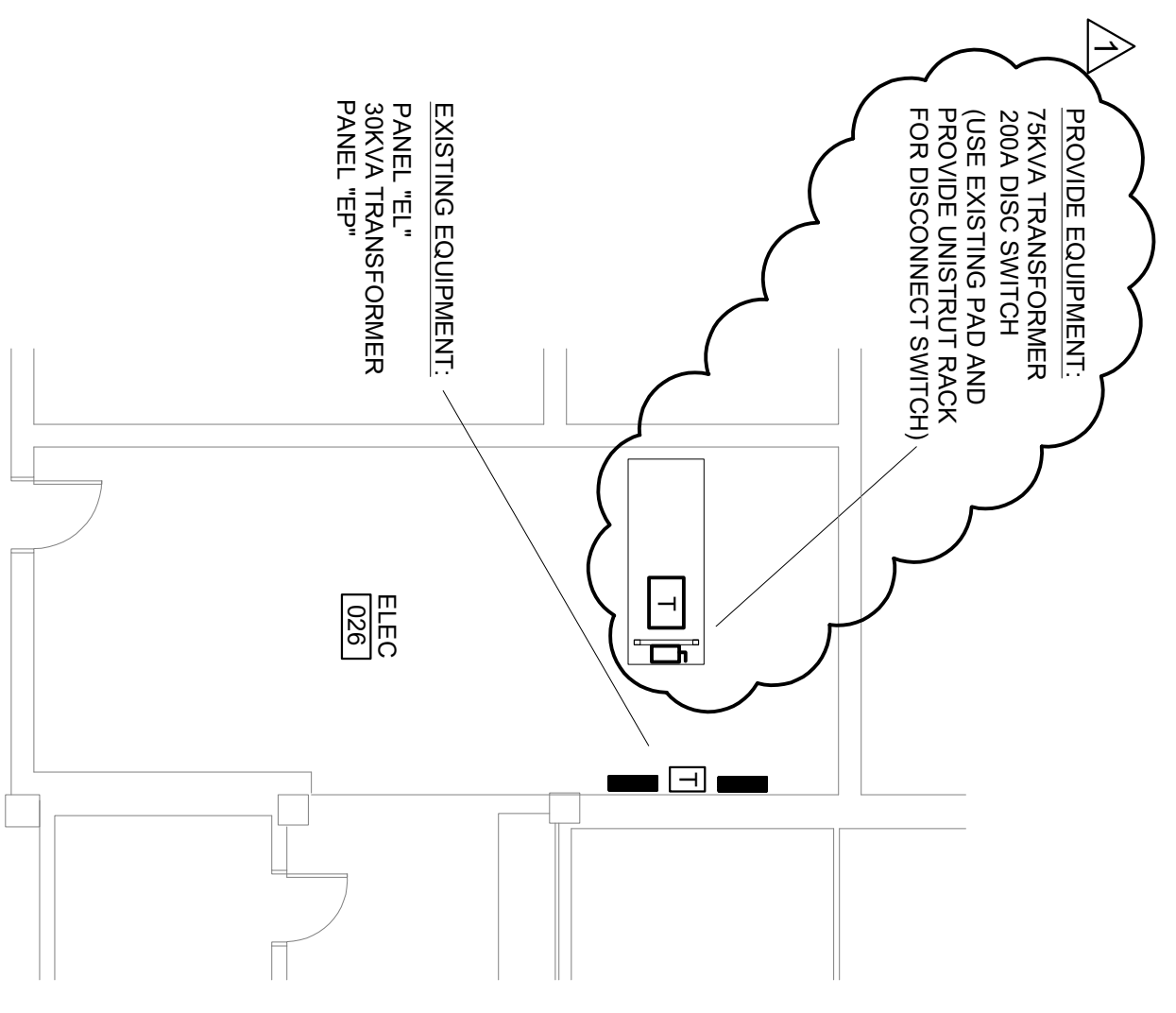


4 RENOVATED POWER SINGLE LINE DIAGRAM
E1 NOT TO SCALE

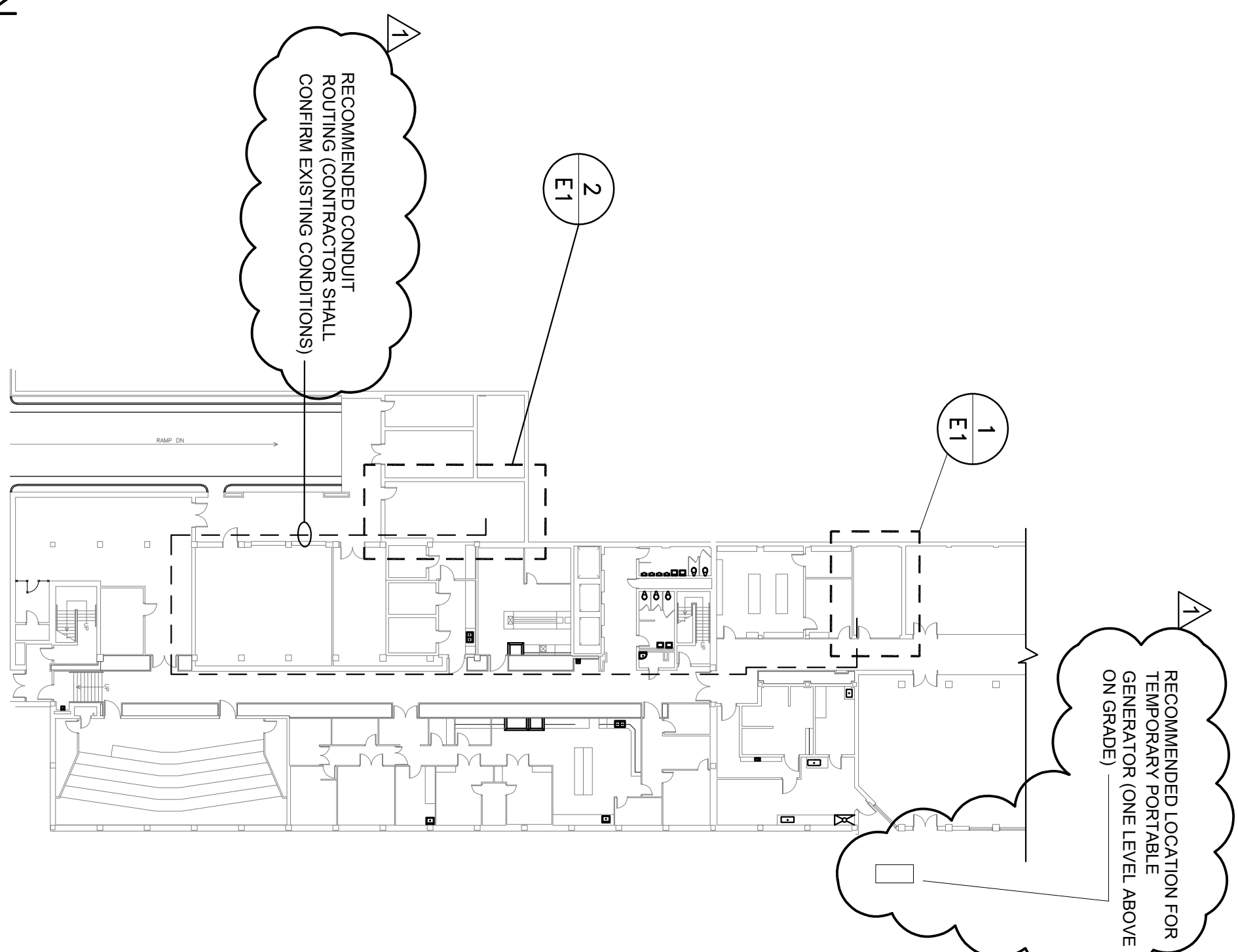
1 DATA ROOM 014 PLAN
SCALE: 1/8" = 1'-0"



2 ELECTRICAL ROOM 026 PLAN
SCALE: 1/8" = 1'-0"

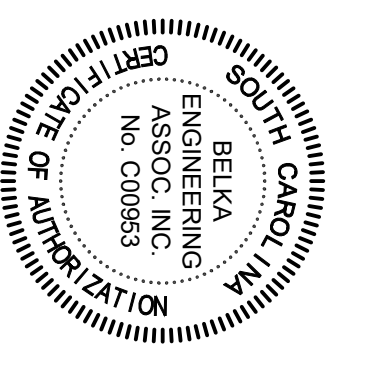
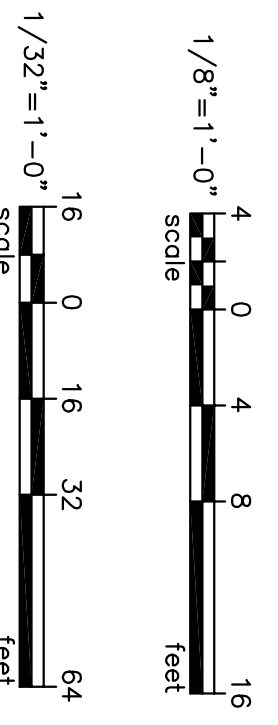


KEY PLAN
SCALE: 1/32" = 1'-0"



ELECTRICAL DRAWING INDEX

E1	ELECTRICAL PLAN - COKER LIFE SCIENCE
E2	ELECTRICAL PLAN - CURRELL ANNEX
E3	ELECTRICAL PLAN - HUMANITIES CLASSROOM BUILDING



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CLIFF@BELKAENGINEERING.COM

- ELECTRICAL NOTES**
- REMOVE EXISTING FEEDER FROM EXISTING PANEL "EP" TO DATA ROOM WIREWAY. STAGE EQUIPMENT AND COORDINATE POWER OUTAGE WITH USC GIVING 7 DAY ADVANCE NOTICE.
 - PROVIDE ZEPHRA TRANSFORMER AND 200 AMP DISCONNECT SWITCH WITH ASSOCIATED FEEDERS AS INDICATED IN RENOVATED POWER SINGLE LINE DIAGRAM. PROVIDE 125 AMP 3 POLE BREAKER IN EXISTING GENERATOR-BACKED SWITCHBOARD.
 - REMOVE EXISTING JOSI, Vn AC PROTECTOR AND FEEDER RUNNING INTO AND OUT OF. PROVIDE FEEDER BETWEEN EXISTING DISCONNECT SWITCH AND EXISTING 200 AMP LOADCENTER.
 - PROVIDE SURGE PROTECTIVE DEVICE (SPD) FOR EXISTING LOADCENTER "A". MOUNT SPD DIRECTLY ADJACENT TO LOADCENTER WITH CONDUCTOR LENGTH TO BE AS SHORT AS POSSIBLE AND STRAIGHT INTO BREAKER LUGS.
 - PROVIDE ADDITIONAL 2" PIPE BETWEEN EXISTING WIREWAY AND EXISTING DISCONNECT SWITCH TO SEPARATE TWO SETS OF CONDUCTORS.

ELECTRICAL WORK STAGING

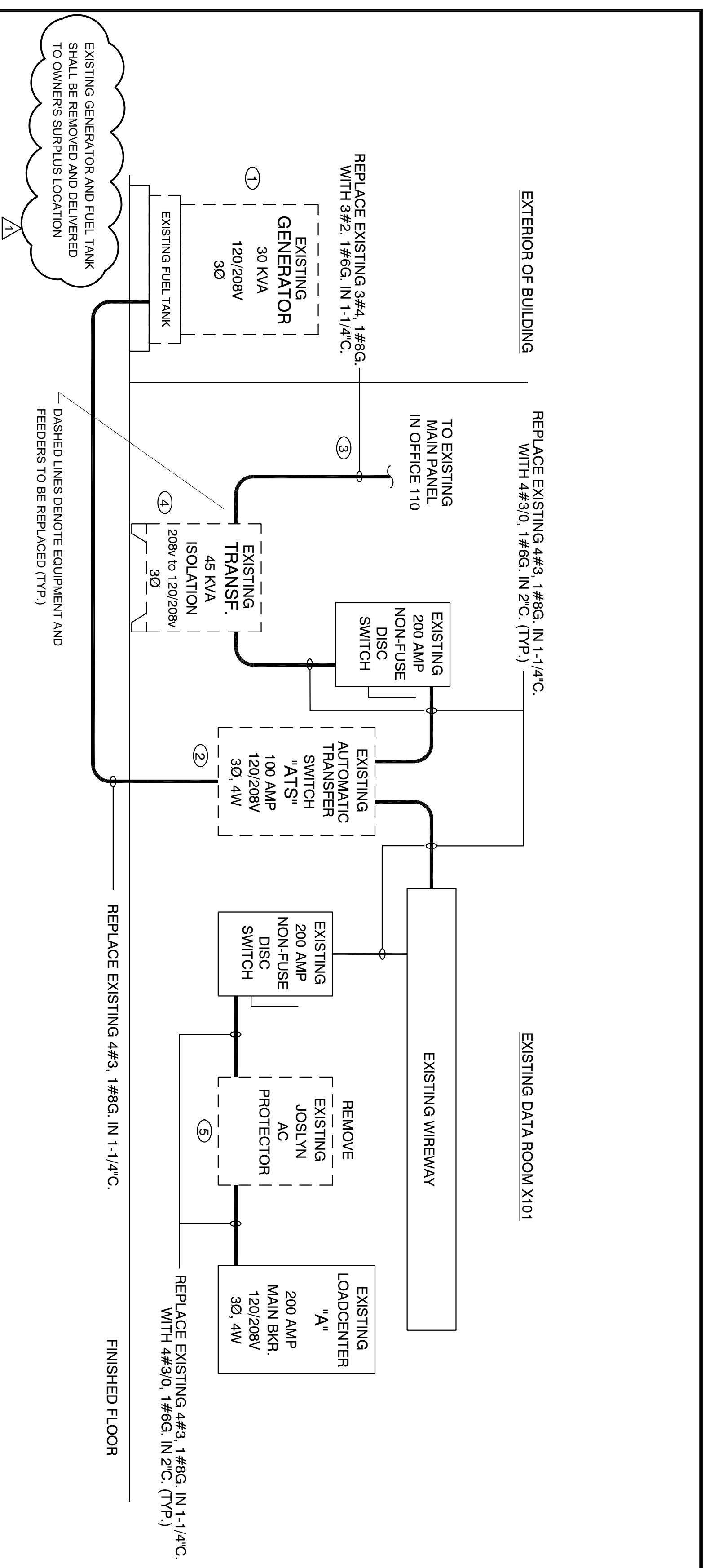
DUE TO ESSENTIAL CRITICAL DATA EQUIPMENT OPERATION, POWER STAGING DURING THIS PERIOD MUST BE COORDINATED WITH THE DATA CENTER OPERATIONS. PORTABLE GENERATORS SHALL NOT BE DISCONNECTED WITHOUT COORDINATION WITH USCS-UTS. PORTABLE GENERATOR AND TEMPORARY CONSTRUCTION LOADCENTER SHALL BE REQUIRED TO MAINTAIN POWER TO CRITICAL DATA EQUIPMENT WHILE RENOVATION TO ELECTRICAL EQUIPMENT IS PERFORMED.

BUILDING:	DRAWING:	DATE:	DRAWN BY:	CHECKED BY:	SEAL:
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REV.	DESCRIPTION	DATE	ORIG. BY	DRAWN BY	
1	ADDENDUM NO. 2	08.28.19	CES	CES	

PROJECT TITLE: UTS MOD CLOSET ELECTRICAL UPGRADES
COKER LIFE SCIENCES

UNIVERSITY OF SOUTH CAROLINA

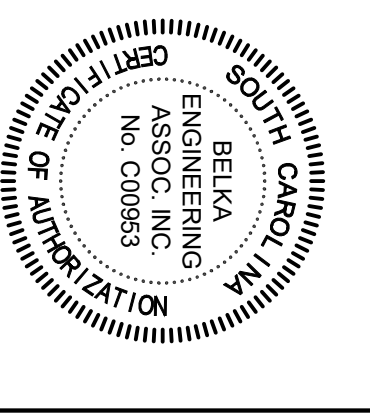
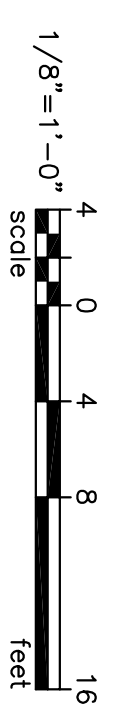
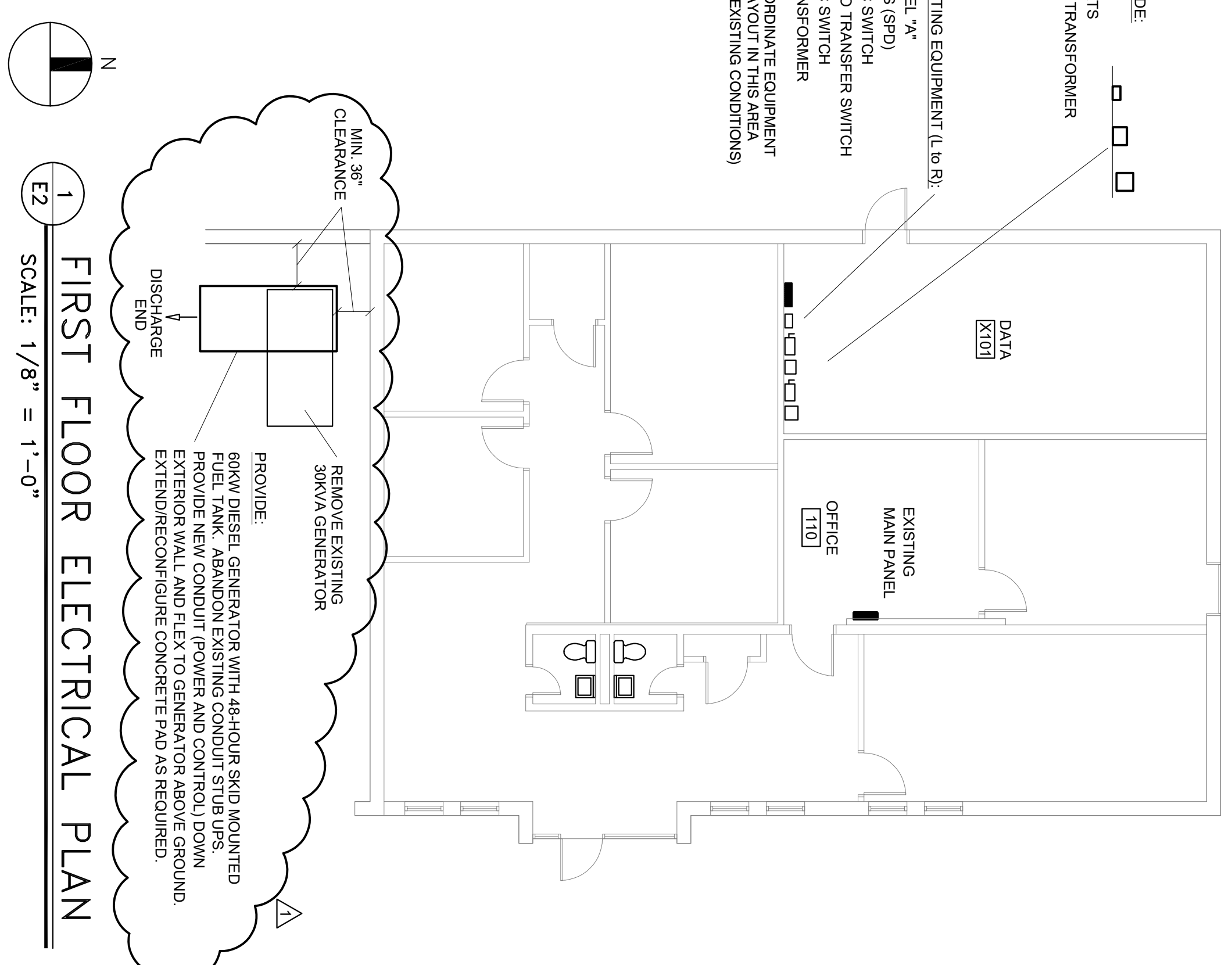
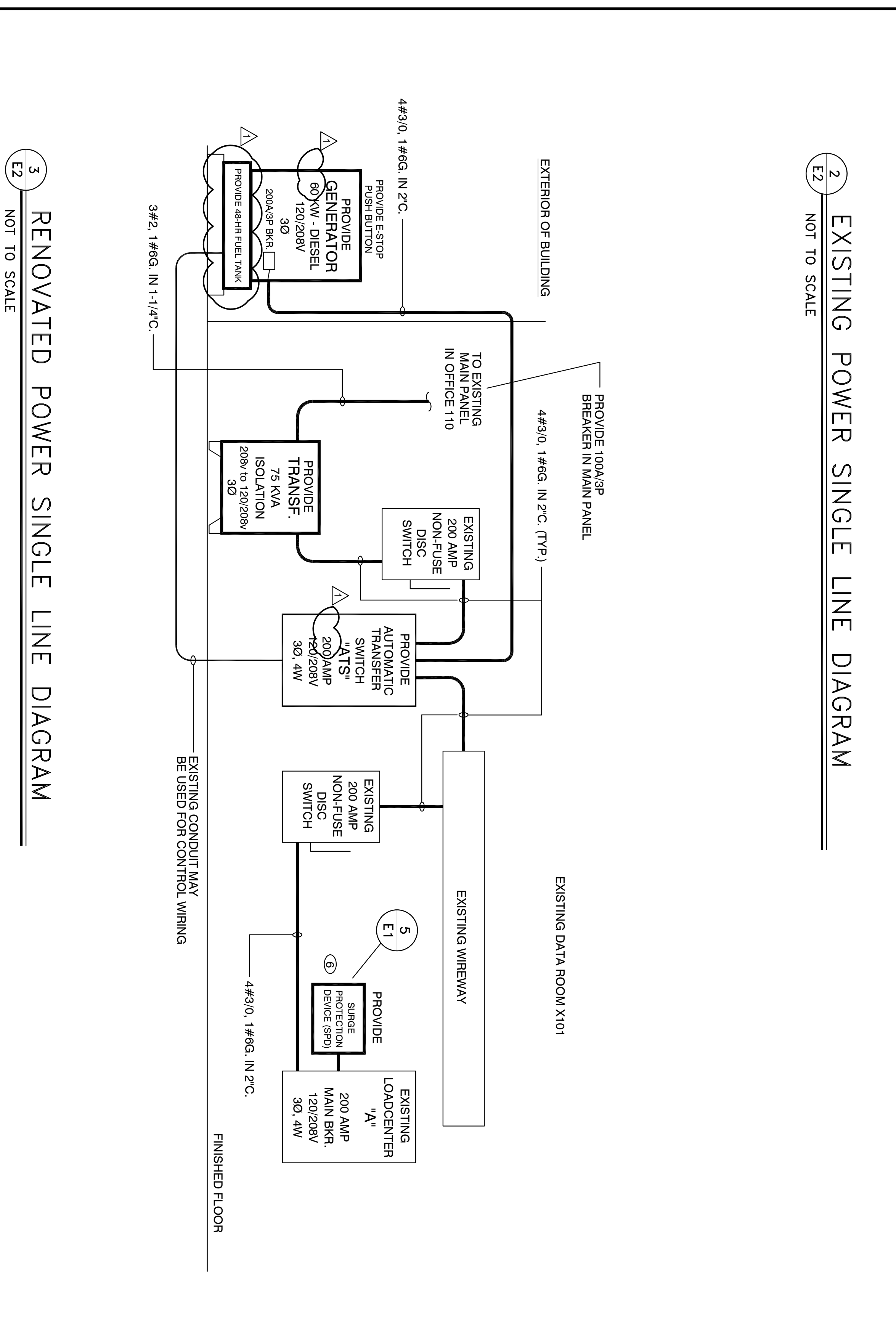
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- ELECTRICAL NOTES**
- REPLACE EXISTING 45KVA GENERATOR WITH 65KW GENERATOR (DIESEL FUEL). LOCATE IN SAME LOCATION AS EXISTING. DISCONNECT EXISTING AND RECONNECT NATURAL GAS CONNECTION TO GENERATOR. RECONNECT BLOCK HEATER AND BATTERY CHARGER CIRCUITS. PROVIDE ALL CONTROL WIRING IN CONDUIT AS REQUIRED. PROVIDE WEATHERPROOF HOUSING AND REUSE EXISTING SKID MOUNTED FUEL TANK.
 - REPLACE EXISTING 100 AMP AUTOMATIC TRANSFER SWITCH (ATS) WITH 225 AMP UNIT. PROVIDE NEW FEEDERS BETWEEN GENERATOR AND ATS. AND BETWEEN ATS AND DISCONNECT SWITCH AS INDICATED IN SINGLE LINE DIAGRAM. COORDINATE POWER OUTAGE WITH USC GIVING 7 DAY ADVANCE NOTICE.
 - REPLACE EXISTING 70 AMP 3 POLE BREAKER IN EXISTING MAIN PANEL WITH 100 AMP 3 POLE BREAKER.
 - REPLACE EXISTING 45KVA TRANSFORMER WITH 75KVA UNIT (480V TO 120/208V, 3 PHASE). PROVIDE NEW FEEDERS AS INDICATED IN SINGLE LINE DIAGRAM.
 - REMOVE EXISTING JCSLYN AC PROTECTOR AND FEEDER RUNNING IN CONDUIT. PROVIDE FEEDER BETWEEN EXISTING DISCONNECT SWITCH AND EXISTING 200 AMP LOADCENTER.
 - PROVIDE SURGE PROTECTIVE DEVICE (SPD) FOR EXISTING LOADCENTER "A". MOUNT SPD DIRECTLY ADJACENT TO LOADCENTER WITH CONDUIT LENGTH TO BE AS SHORT AS POSSIBLE AND STRAIGHT INTO BREAKER LUGS.

ELECTRICAL WORK STAGING

DUE TO ESSENTIAL CRITICAL DATA EQUIPMENT OPERATION, POWER TO ESSENTIAL DATA EQUIPMENT SHALL BE MAINTAINED THROUGHOUT RENOVATION. COORDINATE WITH USC-JITS. THOUGH EXISTING UPS UNITS ARE USED IN DATA EQUIPMENT RACKS, POWER SHALL NOT BE DISCONNECTED WITHOUT COORDINATION WITH USC-JITS. PORTABLE GENERATOR AND TEMPORARY CONSTRUCTION LOADCENTER SHALL BE REQUIRED TO MAINTAIN POWER TO CRITICAL DATA EQUIPMENT WHILE RENOVATION TO ELECTRICAL EQUIPMENT IS PERFORMED.



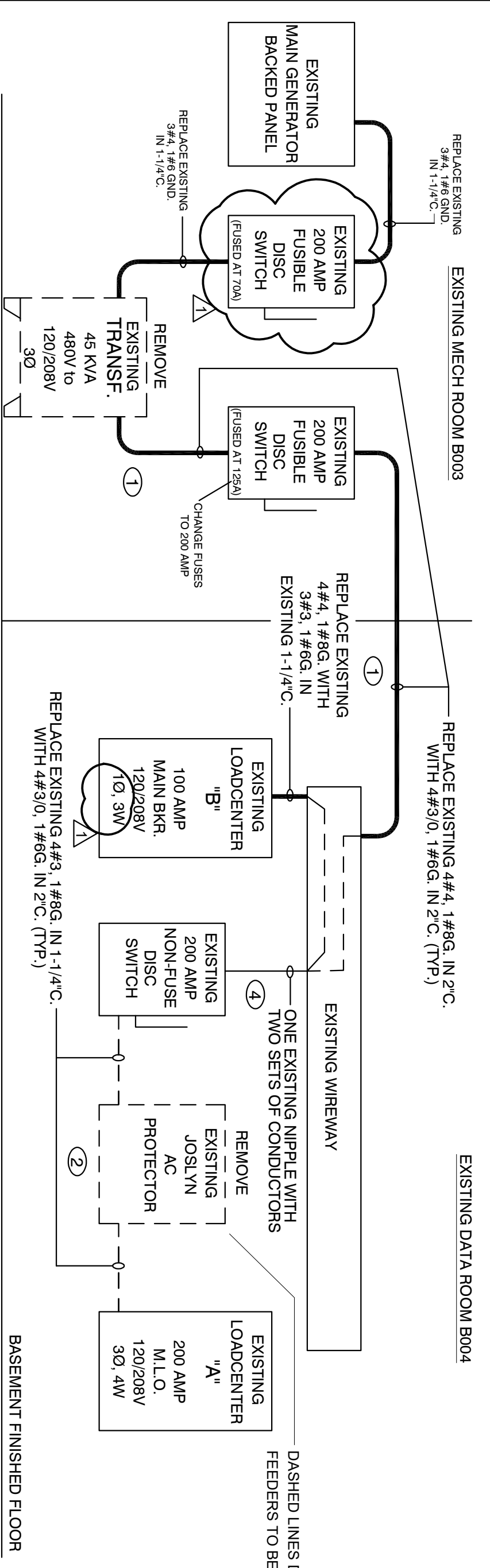
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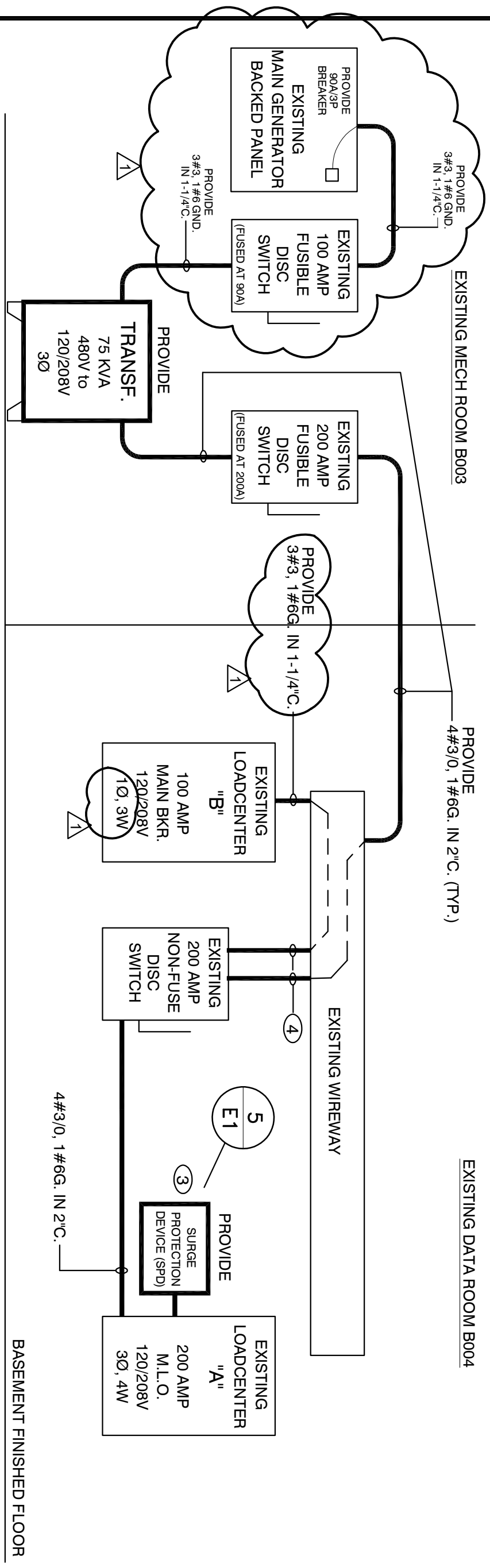
PROJECT TITLE: UTS MOD CLOSET ELECTRICAL UPGRADES
CURRELL ANNEX

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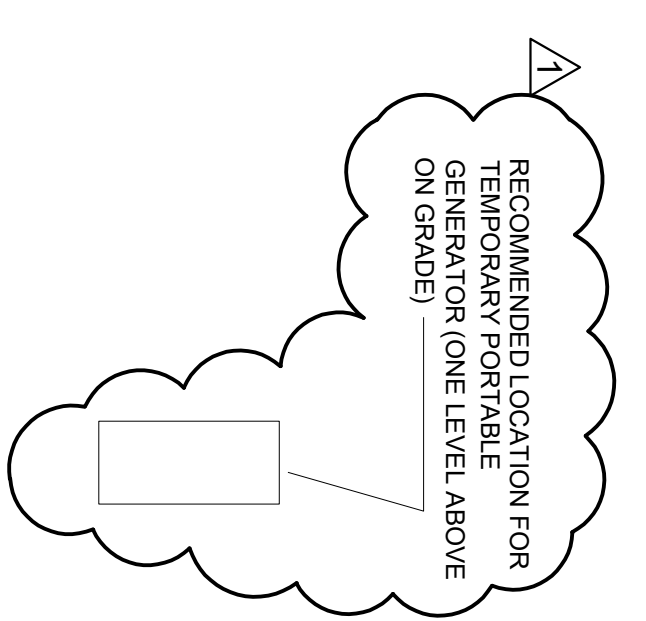
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2 EXISTING POWER SINGLE LINE DIAGRAM
NOT TO SCALE



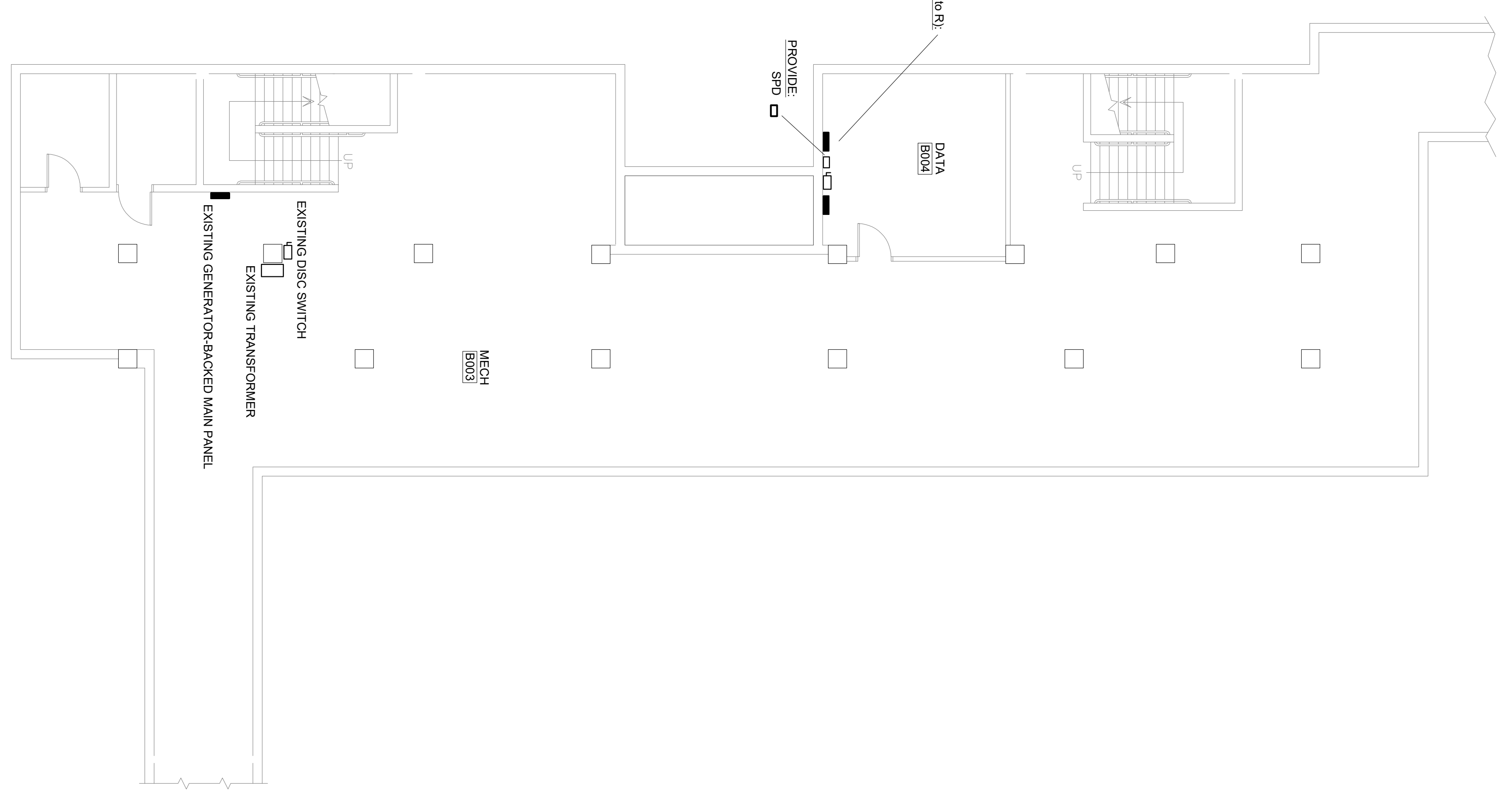
3 RENOVATED POWER SINGLE LINE DIAGRAM
NOT TO SCALE



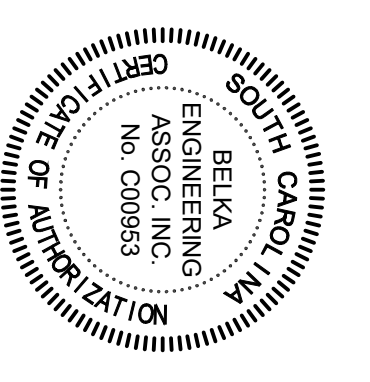
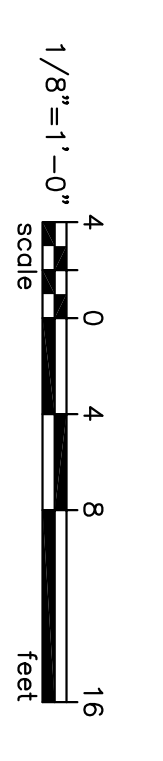
- ELECTRICAL NOTES**
- 1 REPLACE EXISTING FEEDERS (CONDUCTORS AND CONDUIT) FROM EXISTING 75KVA TRANSFORMER AND DISCONNECT SWITCHES AS INDICATED IN POWER SINGLE LINE DIAGRAM. COORDINATE POWER OUTAGE WITH USC GIVING 7 DAY ADVANCE NOTICE.
 - 2 REMOVE EXISTING JOSLYN AC PROTECTOR AND FEEDER RUNNING SWITCH AND EXISTING 200 AMP LOADCENTER.
 - 3 PROVIDE SURGE PROTECTIVE DEVICE (SPD) FOR EXISTING LOADCENTER "A". MOUNT SPD DIRECTLY ADJACENT TO LOADCENTER WITH CONDUCTOR LENGTH TO BE AS SHORT AS POSSIBLE AND STRAIGHT INTO BREAKER LUGS.
 - 4 PROVIDE ADDITIONAL 2" NIPPLE BETWEEN EXISTING WIREWAY AND EXISTING DISCONNECT SWITCH TO SEPARATE TWO SETS OF CONDUCTORS.

ELECTRICAL WORK STAGING

DUE TO ESSENTIAL CRITICAL DATA EQUIPMENT OPERATION POWER OUTAGES DURING THIS RENOVATION SHALL BE CAREFULLY COORDINATED WITH USC-UTS. THOUGH EXISTING UPS UNITS ARE USED IN DATA EQUIPMENT RACKS, POWER SHALL NOT BE DISCONNECTED WITHOUT COORDINATION WITH USC-UTS. PORTABLE GENERATOR AND TEMPORARY CONSTRUCTION LOADCENTERS SHALL BE REQUIRED TO MAINTAIN POWER TO CRITICAL DATA EQUIPMENT WHILE RENOVATION TO ELECTRICAL EQUIPMENT IS PERFORMED.

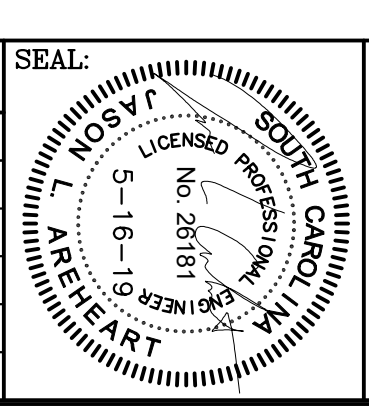


1 ELECTRICAL PLAN - BASEMENT
SCALE: 1/8" = 1'-0"









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BUILDING: 055	DRAWING: FP00000233	DATE: 15 JUL 19	DRAWN BY: CES	CHECKED BY: JLA
REV. 1	DESCRIPTION: ADDENDUM NO. 2	DATE: 08.28.19	ORIG. BY: CES	DRAWN BY: CES



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			6 week session 1)	authentication, Networking
	July 8, 2019 12am	July 10, 2019 11:59pm	OIRA Summer Freeze	Banner Data Warehouse
	July 12, 2019 12am	July 12, 2019 11:59pm	Summer exams (3 week session 3)	Blackboard/Adobe Connect/Presenter, all Authentication, Networking
(task_list sysparm.	July 16, 2019 12am	July 18, 2019 11:59pm	Fall Fee Assessment	Banner and supporting systems/servers, all Authentication
	August 2, 2019 12am	August 2, 2019 11:59pm	Summer exams (6week session 2/9 week/full Summer session)	Blackboard/Adobe Connect/Presenter, all Authentication, Networking
(/sp? id=sc_hc	August 3, 2019 12am	Aug 4, 2019 11:59pm	Fall Hiring	PeopleSoft HCM and supporting systems/servers, Networking
	August 10, 2019 12am	August 11, 2019 11:59pm	Fall Hiring	PeopleSoft HCM and supporting systems/servers, Networking
(task_list sysparm. IN-5,3,4,	August 13, 2019 12am	August 15, 2019 11:59pm	Fee payment deadline	Banner and supporting systems/servers, all Authentication
	August 17, 2019 12am	August 21, 2019 11:59pm	Move-in, start of semester	Networking, all Authentication
(report_l jvar_sel	August 17, 2019 12am	August 18, 2019 11:59pm	Upstate, Aiken and Beaufort Move In	Banner and supporting systems/servers, all Authentication
	August 21, 2019 12am	August 29, 2019 11:59pm	Beginning of Classes/Drop for Nonpayment	Banner and supporting systems/servers, all Authentication, Networking, Blackboard/Adobe Connect/Presenter, Desktop Engineering
(\$pa_da	October 15, 2019 12am	October 15, 2019 11:59pm	Early Decision Admission application due	OIM, Banner Data Warehouse
	October 23, 2019 12am	October 25, 2019 11:59pm	OIRA Fall Freeze	Banner Data Warehouse
(sysappr sysparm.	November 4, 2019 12am	November 15, 2019 11:59pm	Graduate/Undergraduate Registration	Banner and supporting systems/servers, Networking, all Authentication
	November 12, 2019 12am	November 14, 2019 11:59pm	Spring Fee Assessment	Banner and supporting systems/servers, all Authentication
	November 15, 2019 12am	November 15, 2019 11:59pm	Honors Admission application due	OIM, Banner Data Warehouse
(time_ca sysparm.	December 1, 2019 12am	December 1, 2019 11:59pm	Freshman Admissions application due	OIM, Banner Data Warehouse
