

MN

POWER SYMBOL LIST	
SYMBOL	DESCRIPTION
	HARD WIRE CONNECTION BY ELECTRICAL CONTRACTOR
	SINGLE RECEPTACLE OUTLET
	DUPLEX RECEPTACLE OUTLET
	DUPLEX RECEPTACLE OUTLET MOUNTED 6" ABOVE FINISH COUNTER
	CEILING MOUNTED DUPLEX RECEPTACLE OUTLET
	EMERGENCY DUPLEX RECEPTACLE OUTLET
	DEDICATED DUPLEX RECEPTACLE OUTLET
	QUAD RECEPTACLE OUTLET
	DEDICATED QUAD RECEPTACLE OUTLET
	FLOOR MOUNTED DUPLEX RECEPTACLE OUTLET
	PLUG STRIP
	JUNCTION BOX (C=CEILING MOUNTED)
	RECEPTACLE PANEL
	LIGHTING PANEL
	SINGLE PHASE MOTOR
	THREE PHASE MOTOR
	NON-FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	COMBINATION MAGNETIC MOTOR STARTER

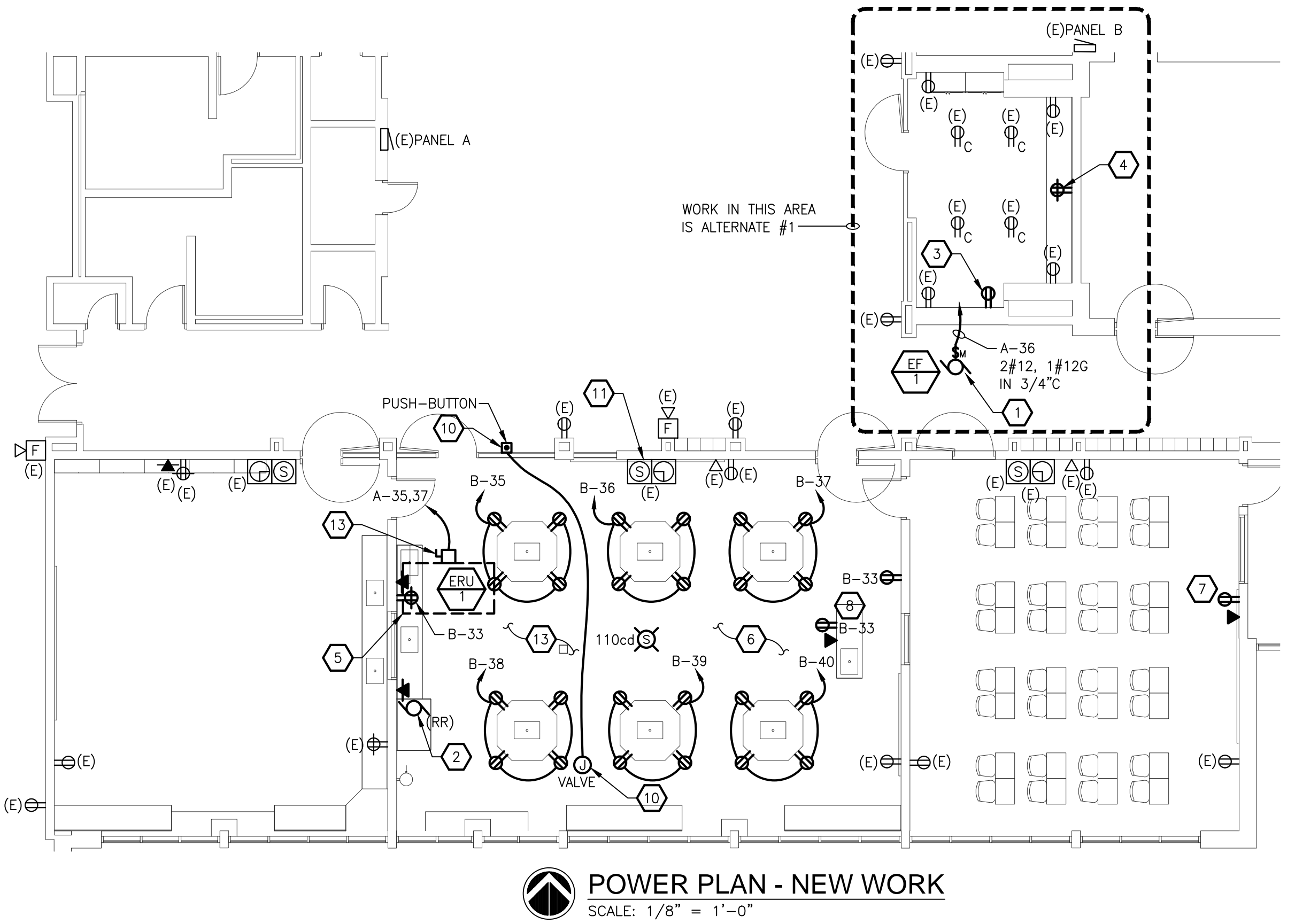
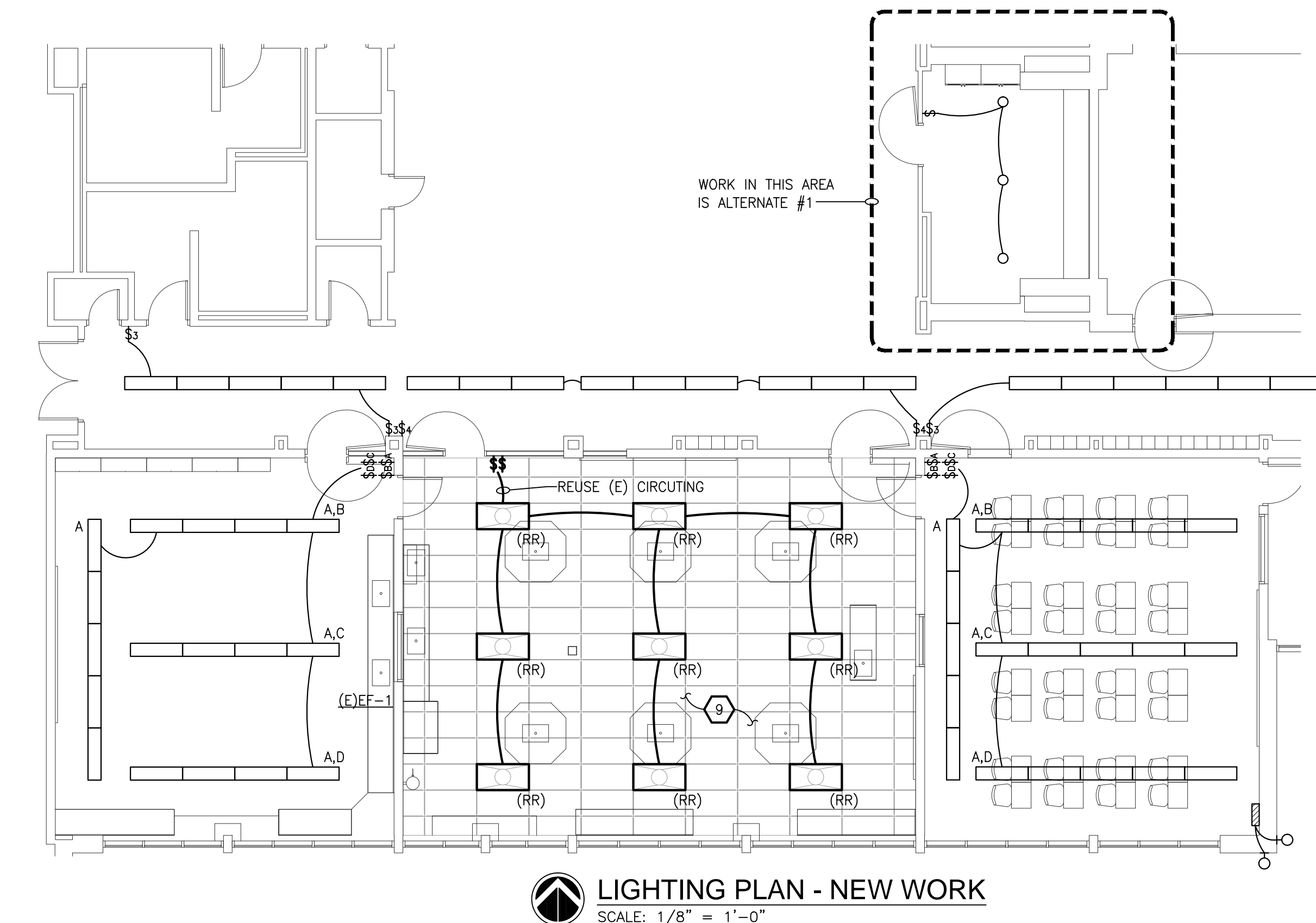
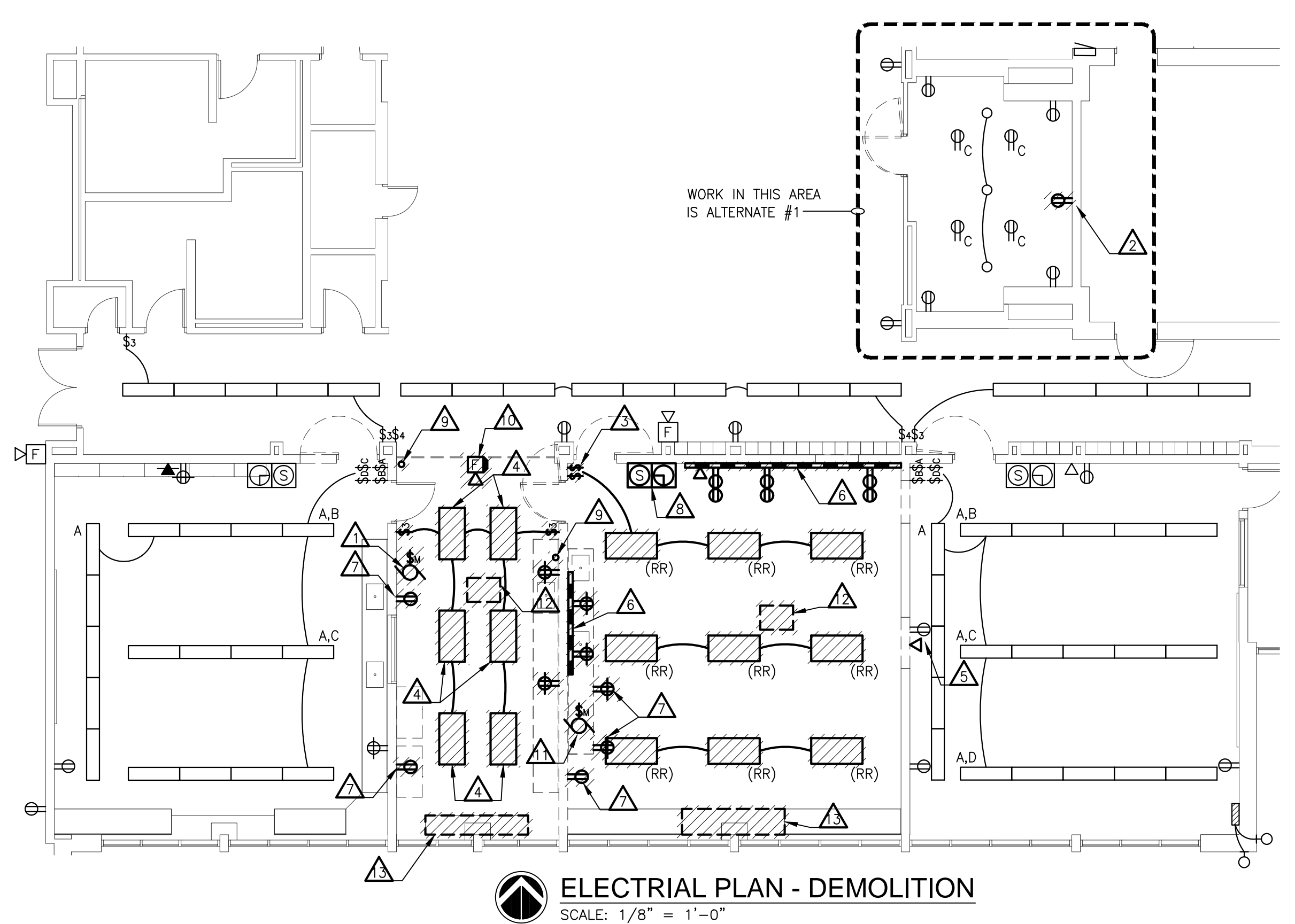
AUXILIARY SYST. SYMBOL LIST	
SYMBOL	DESCRIPTION
	TELEPHONE OUTLET
	FLOOR MOUNTED TELEPHONE OUTLET BOX (TYP.)
	TELEPHONE OUTLET MOUNTED 6" ABOVE FINISHED COUNTER
	DATA OUTLET
	COMBINATION OUTLET (VOICE, VIDEO, AND/OR DATA)
	PUSH BUTTON
	TELEVISION OUTLET
	WALL CLOCK
	DOUBLE SIDED WALL CLOCK
	COMBINATION WALL CLOCK / SPEAKER
	SPEAKER
	CAMERA

LIGHTING SYMBOL LIST	
SYMBOL	DESCRIPTION
	FLUORESCENT LIGHT FIXTURE
	FLUORESCENT NIGHT LIGHT FIXTURE
	FLUORESCENT EMERGENCY LIGHT FIXTURE
	DOWNLIGHT
	SINGLE POLE SWITCH
	MOTOR RATED SWITCH
	DUAL SWITCH

DRAWING NOTATION	
SYMBOL	DESCRIPTION
	LIGHTING FIXTURE TAG
	CONSTRUCTION KEY NOTE NUMBER 1
	DEMOLITION KEY NOTE NUMBER 1
	EQUIPMENT DESIGNATION, (I.E. EXHAUST FAN NUMBER 1)
	EXISTING DEVICES OR EQUIPMENT
	NEW OR MODIFIED DEVICES OR EQUIPMENT
	NEW OR MODIFIED UNDERGROUND WIRING
	EXISTING SYSTEM COMPONENT TO BE REMOVED

ELECTRICAL ABBREVIATIONS	
ABBREV.	DESCRIPTION
AFF	ABOVE FINISHED FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
CB	CIRCUIT BREAKER
(E)	EXISTING ELECTRICAL EQUIPMENT OR WORK
FA	FIRE ALARM
G/GRD	GROUND
GFI	GROUND FAULT INTERRUPTER
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MLO	MAIN LUG ONLY
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NF	NON-FUSIBLE
NIC	NOT IN CONTRACT
(R)	RELOCATED EXISTING ELECTRICAL EQUIPMENT
(RR)	REMOVE AND REINSTALL
RP	RECEPTACLE PANEL
TYP.	TYPICAL
WP	WEATHERPROOF

FIRE ALARM SYMBOL LIST	
SYMBOL	DESCRIPTION
	AUDIBLE DEVICE
	COMBINATION AUDIBLE/VISUAL DEVICE
	CEILING MOUNTED AUDIBLE/VISUAL DEVICE
	VISUAL DEVICE
	CEILING MOUNTED VISUAL DEVICE
	MANUAL PULL STATION



## DEMOLITION KEYED NOTES

- REMOVE EXHAUST HOOD FAN, WIRING, SWITCHES AND CONDUIT BACK TO SOURCE. RETAIN BREAKER SPACES FOR NEW EXHAUST HOOD FAN.
- REMOVE RECEPTACLE AND REPLACE ABOVE NEW COUNTER. PROVIDE FACE PLAT FOR IF BOX IS TO REMAIN IN PLACE.
- REMOVE SWITCHES, WIRE AND CONDUIT BACK TO SOURCE.
- REMOVE LIGHT FIXTURE, WIRE AND CONDUIT BACK TO SOURCE.
- RELOCATE EXISTING SMART BOARD, EXTEND EXISTING CONDUIT AND WIRE TO NEW LOCATION. PROVIDE FACE PLATES WHERE BOXES WILL BE LEFT IN PLACE.
- REMOVE RACEWAY, RECEPTACLES, WIRE AND CONDUIT BACK TO SOURCE.
- REMOVE RECEPTACLE, WIRE AND CONDUIT BACK TO SOURCE.
- MOVE CLOCK BELOW CEILING. EXTEND CONDUIT AND WIRING TO NEW LOCATION.
- REMOVE POWER CORD HANGING FROM CEILING BACK TO SOURCE.
- REMOVE FIRE ALARM DEVICE, AND WIRE COMPLETE.
- REMOVE EXHAUST HOOD FAN, WIRING, SWITCHES AND CONDUIT BACK TO SOURCE. CLEAN AND PREP FOR REUSE. RETAIN BREAKER SPACES FOR NEW EXHAUST HOOD FAN LOCATION. COORDINATE WITH MECHANICAL CONTRACTOR.
- EXISTING CONDENSING UNIT FROM ROOF BEING REMOVED. REMOVE SAFETY SWITCHES, CONDUIT, AND WIRING BACK TO SOURCE. COORDINATE WITH MECHANICAL CONTRACTOR.
- EXISTING UNIT VENTILATOR BEING REMOVED. REMOVE SAFETY SWITCHES, CONDUIT AND WIRING BACK TO SOURCE. COORDINATE WITH MECHANICAL CONTRACTOR.

## GENERAL DEMOLITION NOTES

- VISIT THE SITE PRIOR TO SUBMISSION OF BID TO EXAMINE THE EXISTING CONDITIONS AND THE EXTENT OF DEMOLITION WORK.
- EXAMINE THE DRAWINGS OF OTHER TRADES. BE FAMILIAR WITH THE DEMOLITION REQUIRED BY OTHER TRADES. PERFORM ALL INCIDENTAL ELECTRICAL DEMOLITION AND/OR RELOCATION OF DEVICES AND EQUIPMENT REQUIRED TO FACILITATE THE DEMOLITION WORK OF OTHER TRADES.
- REMOVE LIGHTING FIXTURES AND ELECTRICAL DEVICES AS INDICATED ON PLAN. DEMOLITION SHALL INCLUDE, BUT NOT BE LIMITED TO THOSE DEVICES SHOWN.
- COORDINATE WITH NEW WORK PLANS, ONE LINE AND RISER DIAGRAMS FOR EXTENT OF DEMOLITION WORK.
- COORDINATE ANY SHUTDOWN OF EXISTING SERVICES AND EQUIPMENT REMAINING IN USE WITH OWNERS' REPRESENTATIVE. WHERE EXISTING BUILDING SERVICE IS REQUIRED TO BE SHUT DOWN, INCLUDE ALL ASSOCIATED OVERTIME COST TO REQUIRE THIS WORK DURING EVENINGS AND WEEKENDS. INCLUDE ALL COSTS FOR PROVIDING TEMPORARY POWER WHERE SHUTDOWNS OCCUR FOR PERIODS LONGER THAN THE ABOVE STATED HOURS.
- COORDINATE THE SHUT DOWN OF ELECTRICAL EQUIPMENT WITH THE OWNERS' REPRESENTATIVE A MINIMUM OF 72 HOURS PRIOR TO SHUT DOWN.
- REMOVE ALL CONDUIT AND WIRE BACK TO NEAREST UPSTREAM DEVICE REMAINING IN SERVICE.
- WHERE DEMOLITION WORK AFFECTS ELECTRICAL SERVICE TO DOWNSTREAM DEVICES TO REMAIN; EXTEND CONDUIT AND WIRE AS REQUIRED TO MAINTAIN ELECTRICAL SERVICE.
- DISPOSE OF ALL MATERIALS OFF SITE AND INCLUDE ALL COSTS FOR DISPOSAL IN BID. ALL MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, INCLUDING TCLP TESTING, PRIOR TO DISPOSAL AND/OR RECYCLING OF FLUORESCENT LAMPS.
- PROVIDE BLANK COVER PLATES WHERE SWITCHES AND DEVICES ARE REMOVED AND WALL REMAINS INTACT. MARK ALL UNUSED CIRCUIT BREAKERS AS "SPARE".
- CONTRACTOR TO TAG ALL CIRCUITS AT BOTH ENDS AFFECTED BY THIS ALTERATION.
- CONTRACTOR SHALL PROVIDE UPDATED, TYPED-IN DIRECTORIES FOR ALL PANELS AFFECTED BY THIS ALTERATION.
- CONTRACTOR SHALL VERIFY ALL UNDERGROUND AND IN-SLAB UTILITIES LOCATIONS PRIOR TO SAW CUTTING OR PENETRATING ANY FLOOR SLABS.
- REFER TO NEW WORK SHEETS FOR LIGHTING AND POWER CIRCUIT DESIGNATIONS.
- EXTEND EXISTING CONDUIT AND WIRE AS REQUIRED FOR ALL RELOCATED DEVICES.

## NEW WORK KEYED NOTES

- NEW EXHAUST FAN ON ROOF. PROVIDE A NEW 15A BREAKER. ALTERNATE #1
- RELOCATED FUME HOOD. EXTEND WIRE AND CONDUIT TO NEW LOCATION. REUSE CIRCUIT.
- NEW RECEPTACLE FOR REFRIGERATOR. ALTERNATE #1
- MOVE EXISTING RECEPTACLE TO ABOVE COUNTER. ALTERNATE #1
- PROVIDE 50A CIRCUIT FOR NEW ERU-1. FEED FROM PANEL TO MAU-1 WITH 3/4, 1#100 IN 1" C. THEN FEED FROM MAU-1 TO ERU-1 WITH 3/4, 1#120 IN 3/4". VERIFY EXACT LOCATION OF MAU-1 AND ERU-1. COORDINATE WITH MECHANICAL CONTRACTOR.
- ALL OUTLETS IN SCIENCE LAB TABLES SHALL BE GFI TYPE.
- RELOCATED SMART BOARD. VERIFY EXACT LOCATION WITH OWNER. EXTEND EXISTING CONDUIT AND WIRE TO NEW LOCATION.
- NEW TEACHER STATION.
- CLEAN, RELAMP AND REUSE FIXTURES. RECONNECT TO EXISTING CIRCUIT
- PROVIDE 120V CONNECTION AND EMERGENCY PUSH BUTTON WITH PLASTIC COVER FOR SHUTOFF OF SCIENCE LAB GAS CONNECTIONS.
- EXISTING CLOCK TO BE MOVED TO BELOW NEW CEILING. EXTEND CONDUIT AND WIRING TO NEW LOCATION.
- DISCONNECT SWITCH FOR ERU-1 BY UNIT MANUFACTURER.
- STUB 1" CONDUIT INTO NEW LAB TABLES FOR FUTURE LOW VOLTAGE. COORDINATE EXACT TERMINATION POINT WITH MILLWORK DETAILS.

## POWER GENERAL NOTES

- ALL ELECTRICAL DEVICES SHOWN ON THIS PLAN SHALL BE NEW UNLESS OTHERWISE NOTED.
- ANY 120 VOLT BRANCH CIRCUIT FEEDER LONGER THAN 75'-0" TO LAST DEVICE SHALL BE SIZED TO THE NEXT LARGER STANDARD AWG SIZE. E.C. SHALL FIELD VERIFY ALL LENGTHS OF FEEDERS.
- ALL RECEPTACLES SHALL BE 20A RATED.
- ALL DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE.
- ALL RECEPTACLES WITHIN 6'-0" OF SINK OR OTHER WATER SUPPLY SHALL BE GFCI TYPE RECEPTACLE.
- REFER TO ARCHITECTURAL FLOOR PLAN AND ELEVATIONS FOR EXACT LOCATION OF DEVICES.
- ALL JUNCTION BOXES SERVING BRANCH CIRCUIT WIRING SHALL BE LABELED WITH CIRCUITS SERVED.
- ALL 120 VOLT CIRCUITS SHALL UTILIZE A SEPARATE NEUTRAL.
- ALL CONDUITS SERVING 120 VOLTS OR GREATER SHALL INCLUDE A GROUND WIRE.
- ALL CONDUITS SHALL BE ROUTED CONCEALED UNLESS NOTED OTHERWISE.
- ALL BRANCH CIRCUIT WIRING SHALL BE 2#12, 1#120ND IN 3/4" CONDUIT, UNLESS NOTED OTHERWISE.

## LIGHTING GENERAL NOTES

- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL LIGHTING FIXTURES UNLESS OTHERWISE NOTED.
- ANY 120 VOLT BRANCH CIRCUIT FEEDER LONGER THAN 75'-0" TO LAST DEVICE SHALL BE SIZED TO THE NEXT LARGER STANDARD AWG SIZE. E.C. SHALL FIELD VERIFY ALL LENGTHS OF FEEDERS.
- SEE LUMINAIRE SCHEDULE ON ELECTRICAL GENERAL INFORMATION SHEET.
- ALL ELECTRICAL DEVICES ON THIS SHEET SHALL BE NEW UNLESS OTHERWISE NOTED.
- EXIT LIGHTS AND EMERGENCY BATTERY UNITS SHALL BE UNCONTROLLED AND TIED AHEAD OF LOCAL AREA LIGHTING SWITCH, UNLESS CIRCUITED OTHERWISE.
- WHERE MORE THAN ONE LIGHT SWITCH IS INDICATED TO BE INSTALLED AT THE SAME LOCATION, THEY SHALL BE GROUPED UNDER ONE COMMON FACEPLATE.

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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed ENGINEER under the laws of the State of MICHIGAN

Fares Abdallah  
Registration Number 6201049879 Date 10/31/13

Description	Revisions	Date	Num

Comm: 134003  
Date: 4/5/2013  
Drawn: FRI  
Check: RSA

## ELECTRICAL PLANS

Scale:

E1.00