USCL NURSING SIM LAB

OSE# H37-9515
476 HUBBARD DRIVE
LANCASTER, S.C. 29720

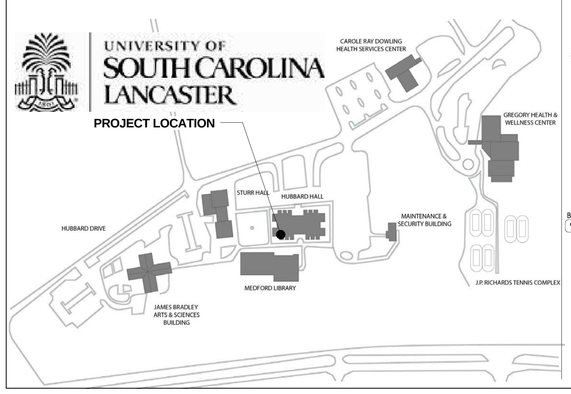
for

UNIVERSITY OF SOUTH CAROLINA LANCASTER

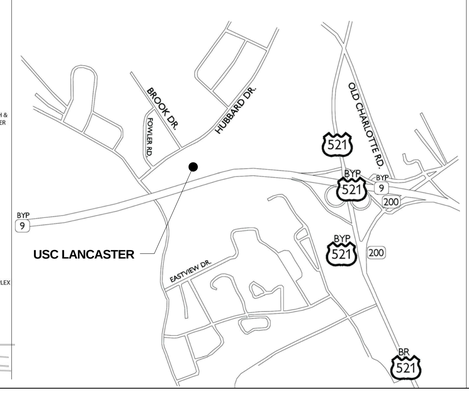
PROJECT TEAM

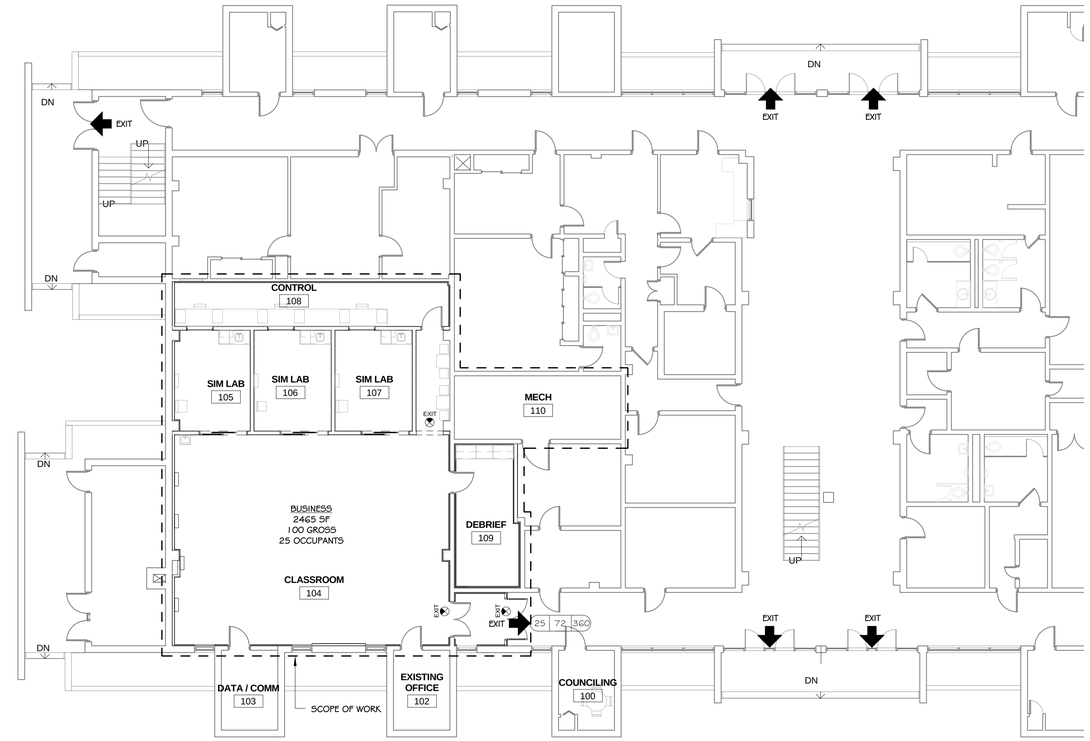
ARCHITECTS	GOODWYN MILLS AND CAWOOD, INC.
INTERIOR DESIGNERS	GOODWYN MILLS AND CAWOOD, INC.
ELECTRICAL ENGINEERS	LAND ENGINEERING ASSOCIATES
MECHANICAL ENGINEERS	MECHANICAL DESIGN INC.

CAMPUS MAP



VICINITY MAP





NOTE TO AHJ: THIS RENOVATION DOES NOT ALTER THE EXISTING EXIT OR EXIT ACCESS STRATEGY FOR HUBBARD HALL.

1 LIFE SAFETY PLAN
SCALE: 3/32" = 1'-0"

BUILDING CODE SUMMARY

Name of Project: USCL NURSING LAB RENOVATION
Address: 476 Hubbard Dr. Lancaster SC 29720
Proposed Use: CLASSROOM (HIGHER EDUCATION) = BUSINESS
Owner or Authorized Agent: USC LANCASTER Phone # (803) 313-7000
Owned By: ☐ City/County ☐ Private ■ State
Code Enforcement Jurisdiction: ■ OSE / USC ☐ County

LEAD DESIGN PROFESSIONAL: Michael Keeshen, Architect 864.527.0460 mike.keeshen@gmcnetwork.com

DESIGNER	FIRM	NAME	PHONE #	E-MAIL
Project Mgr	Goodwyn, Mills & Cawood	Matthew King	864.527.0460	matthew.king@gmcnetwork.com

YEAR EDITION OF CODE: 2012 International Existing Building Code
☐ New Construction ☐ Renovation (Existing Bldg.) ■ Upfit ☐ Alteration

BUILDING DATA IBC
Construction Type: ■ II-B
Sprinklers: ■ No ☐ Yes
Standpipes: ■ No ☐ Yes
Fire District: ■ No ☐ Yes
Building Height: 2 Story
Mezzanine: ■ No ☐ Yes
High Rise: ■ No ☐ Yes

Gross Building Area (sq. ft.):

FLOOR	EXISTING	NEW	REN0/ UPFIT
BASEMENT	NA	NA	NA
FIRST FLOOR	22,555	0	2,465
SECOND FLOOR	15,055	0	0
THIRD FLOOR	NA	NA	NA
FOURTH FLOOR	NA	NA	NA
TOTAL	37,610	0	2,465

ALLOWABLE AREA
Primary Occupancy: ■ Business
Mixed Occupancy: ■ No

FIRE PROTECTION REQUIREMENTS
Life Safety Plan Sheet #, if provided A-001

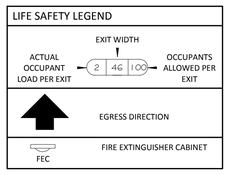
BUILDING ELEMENT

Corridor Separation	NA (No Change to Corridor)
Tenant Separation	NA

LIFE SAFETY SYSTEM REQUIREMENTS
Emergency Lighting: ☐ No ■ Yes
Exit Signs: ☐ No ■ Yes
Fire Alarm: ☐ No ■ Yes
Smoke Detection Systems: ☐ No ■ Yes

EXIT REQUIREMENTS
NUMBER AND ARRANGEMENT OF EXITS
1 EXIT CLEARLY MARKED IN THE SPACE (EXISTING)

LIFE SAFETY LEGEND



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A-102	FLOOR PLAN
A-103	REFLECTED CEILING PLAN
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A-601	DOOR & WINDOW TYPES, SCHEDULES AND DETAILS
M-101	MECHANICAL FLOOR PLANS
M-200	MECHANICAL SCHEDULES, NOTES AND DETAILS
P-100	PLUMBING DETAILS AND SCHEDULES
P-200	PLUMBING FLOOR PLAN - COMP AIR AND VACUUM PIPING
P-300	PLUMBING FLOOR PLAN - WASTE, VENT AND WATER PIPING
E1.00	GENERAL NOTES, LEGEND, AND SCHEDULES
E2.00	SINGLE-LINE DIAGRAMS AND DETAILS
E2.01	ACCESS CONTROL DETAILS
E2.02	LIGHTING AND FIRE ALARM SINGLE-LINE DIAGRAMS
E3.00	LIGHTING RENOVATION PLAN - FIRST FLOOR
E3.01	LIGHTING DEMOLITION PLAN - FIRST FLOOR
E4.00	ELECTRICAL RENOVATION PLAN - FIRST FLOOR
E4.01	ELECTRICAL DEMOLITION PLAN - FIRST FLOOR
E5.00	SYSTEMS RENOVATION PLAN - FIRST FLOOR

STATE OF SOUTH CAROLINA — MICHAEL P. KEESHEN — GREENVILLE SC — No. 2657 — REGISTERED ARCHITECT

STATE OF SOUTH CAROLINA — GOODWYN, MILLS & CAWOOD, INC — GREENVILLE, SC — No. 01039 — REGISTERED ARCHITECT

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101 East Washington Street, Suite 200 | Greenville, SC 29601
Tel 864.527.0460 | GMCNETWORK.COM

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Issue for Bid	02/24/2015

drawn by: WAS/JJN
checked by: MEK

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GMC # AGRE140025
OSE# H37-9515
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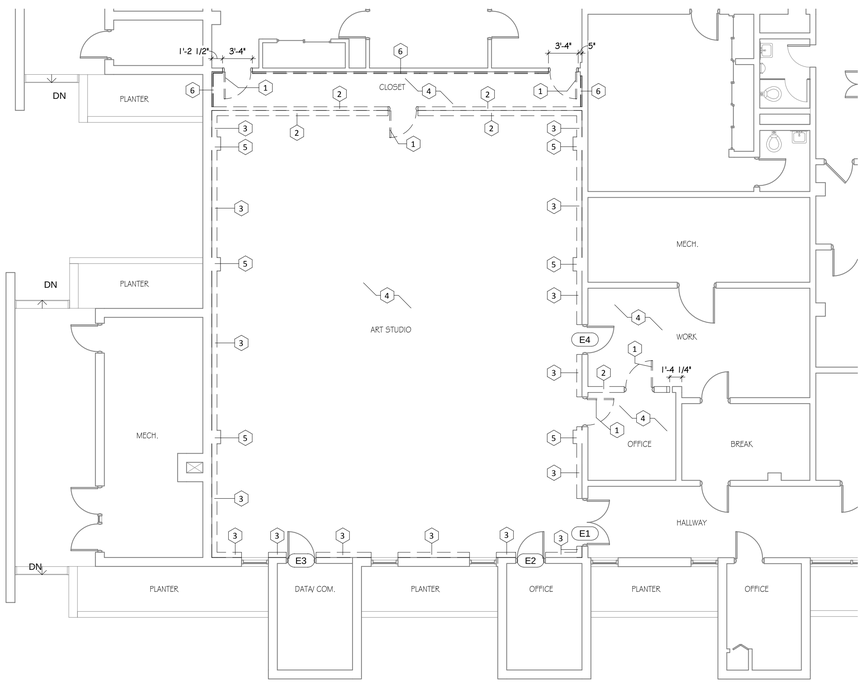
COVER SHEET

A-001
sheet 1 of 6



1 DEMOLITION PLAN

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

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL VERIFY ALL CONDITIONS IN FIELD PRIOR TO DEMOLITION.
2. REFER TO MEP DOCUMENTS FOR FULL SCOPE OF DEMOLITION.

KEYED DEMOLITION NOTES

1. DEMOLISH DOOR AND FRAME. PREPARE OPENING TO ACCEPT NEW WALL IN-FILL.
2. DEMOLISH WALL.
3. DEMOLISH WALL FURRING.
4. DEMOLISH EXISTING FLOORING SYSTEM.
5. EXISTING COLUMN TO REMAIN.
6. DEMOLISH EXISTING WOOD PANELING.
7. DEMOLISH EXISTING CEILING SYSTEM.

2 DEMOLITION REFLECTED CEILING PLAN

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

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MICHAEL P. KEASLER
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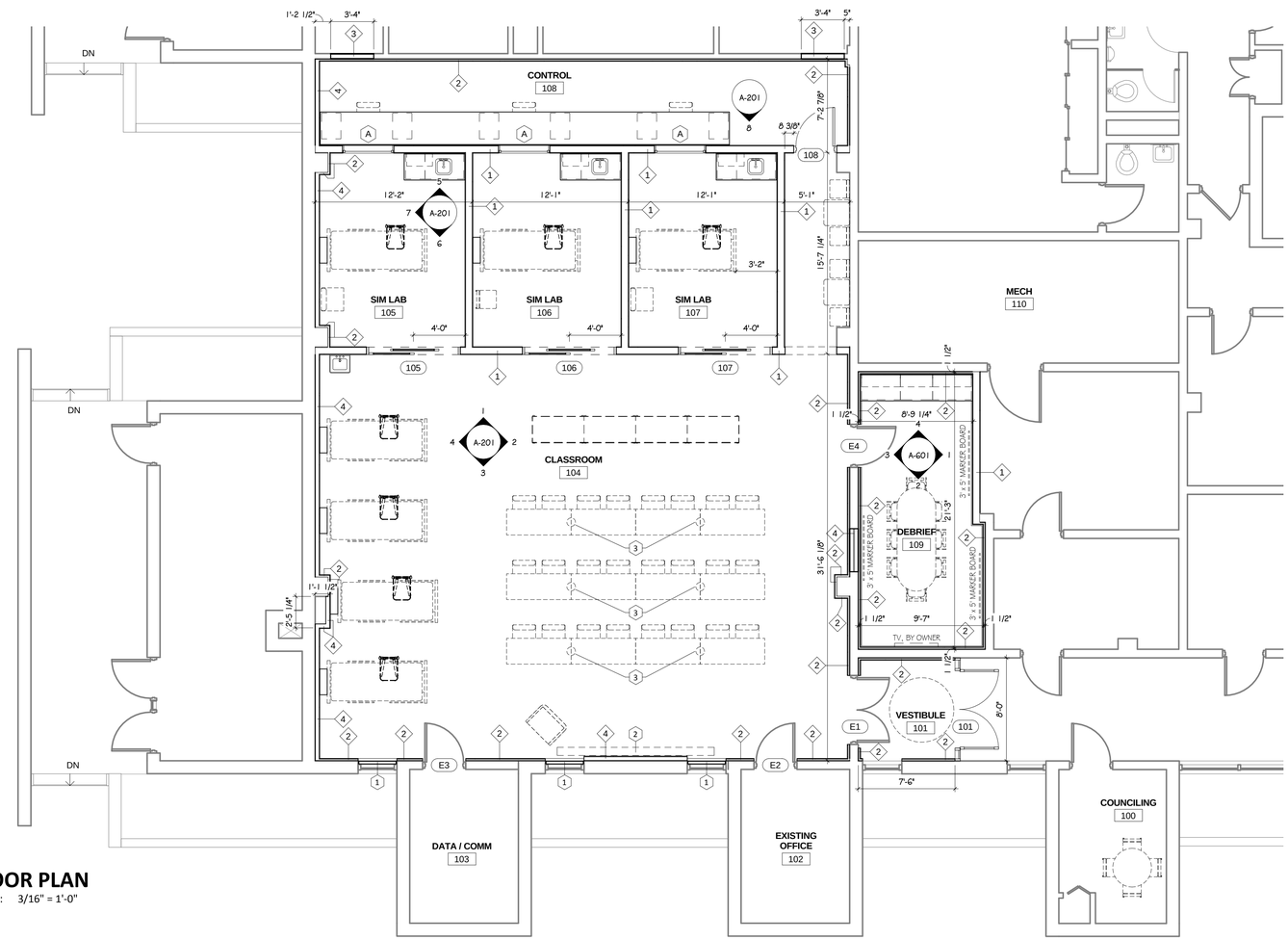
DEMOLITION FLOOR PLAN AND REFLECTED CEILING PLAN

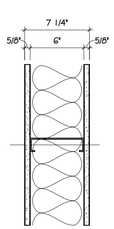
A-101
sheet 2 of 6



1 **FLOOR PLAN**
SCALE: 3/16" = 1'-0"

1. WINDOW TREATMENT- MECHO ROLLER SHADE OR SIMILAR. REFER TO SPECS.
2. CEILING RECESSED PROJECTION SCREEN, SEE SPEC.
3. FLOOR OUTLET LOCATIONS. REFER TO ELECTRICAL DRAWINGS.

KEYED NOTES



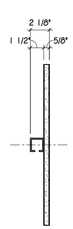
FRAMING:
6" METAL STUDS @ 16" O.C.
22 GA MINIMUM

SHEATHING:
5/8" TYPE GYPSUM BOARD BOTH SIDES

PARTITION HEIGHT:
EXTEND 6" ABOVE CEILING

INSULATION:
(a): SOUND ATTENUATION BLANKETS

WALL TYPE 1

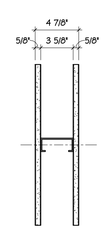


FRAMING:
1 1/2" METAL STUD FURRING @ 16" O.C. (VERTICAL)
22 GA MINIMUM

SHEATHING:
5/8" TYPE GYPSUM BOARD ROOM SIDES

PARTITION HEIGHT:
EXTEND 6" ABOVE CEILING

WALL TYPE 2



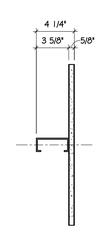
FRAMING:
3 5/8" METAL STUDS @ 16" O.C.
22 GA MINIMUM

SHEATHING:
5/8" TYPE GYPSUM BOARD BOTH SIDES

PARTITION HEIGHT:
EXTEND 6" ABOVE CEILING

MATCH EXISTING AT IN-FILL LOCATIONS

WALL TYPE 3



FRAMING:
3 5/8" METAL STUDS @ 16" O.C.
22 GA MINIMUM (VERTICAL)

SHEATHING:
5/8" TYPE GYPSUM BOARD ROOM SIDES

PARTITION HEIGHT:
EXTEND 6" ABOVE CEILING

MATCH EXISTING AT IN-FILL LOCATIONS

WALL TYPE 4

WALL TYPE LEGEND
SCALE: 1 1/2" = 1'-0"

STATE OF SOUTH CAROLINA
MICHAEL P. KEASLER
GREENVILLE, SC
No. 2657
REGISTERED ARCHITECT

STATE OF SOUTH CAROLINA
GOODWYN, MILLS & CAWOOD, INC
GREENVILLE, SC
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FLOOR PLAN

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sheet 3 of 6

1 **REFLECTED CEILING PLAN**
SCALE: 3/16" = 1'-0"

GENERAL RCP NOTES

1. INTERIOR CEILING HEIGHTS AS INDICATED ON THE REFLECTED CEILING PLANS.

2. LOCATION OF LIGHTS, DIFFUSERS, AND RETURN AIR GRILLES TO BE COORDINATED BETWEEN REFLECTED CEILING PLANS, LIGHTING PLANS, AND HVAC PLANS.

3. ALL BULKHEADS TO BE 2' BELOW ADJACENT ACT CEILING UNLESS NOTED OTHERWISE

4. SEE SPECIFICATIONS FOR ADDITIONAL CEILING FINISH INFORMATION AND REQUIREMENTS. NOTIFY ARCHITECT WITH ANY DISCREPANCIES BETWEEN SPECIFICATION AND DRAWINGS.

REFLECTED CEILING PLAN LEGEND

CEILING FINISHES:

2X2' LAY-IN ACOUSTICAL CEILING AND GRID SYSTEM

LIGHTING:

NEW OR RELOCATED 2X4 LIGHT FIXTURE

NEW 1X8 PENDANT LIGHT FIXTURE

NEW 8" RECESSED CAN LIGHT FIXTURE

NEW EXIT SIGN

STATE OF SOUTH CAROLINA
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GOODWYN MILLS & CAWOOD, INC
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REFLECTED CEILING PLAN

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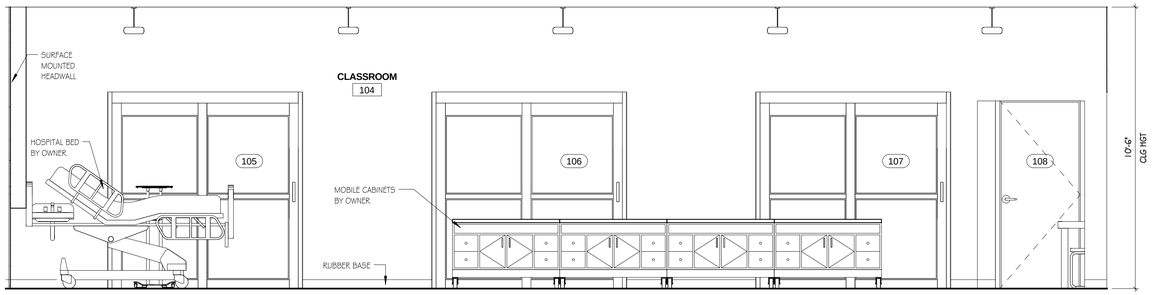
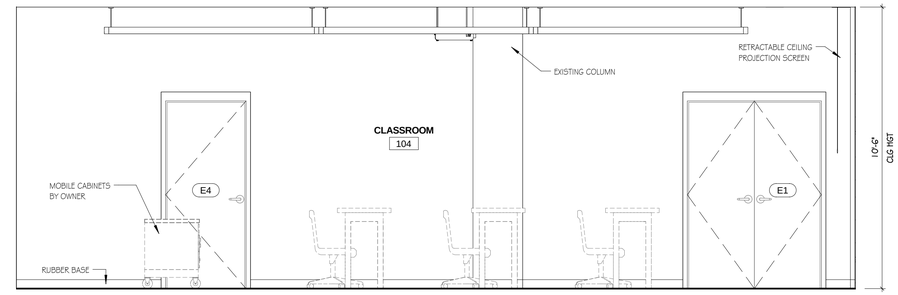
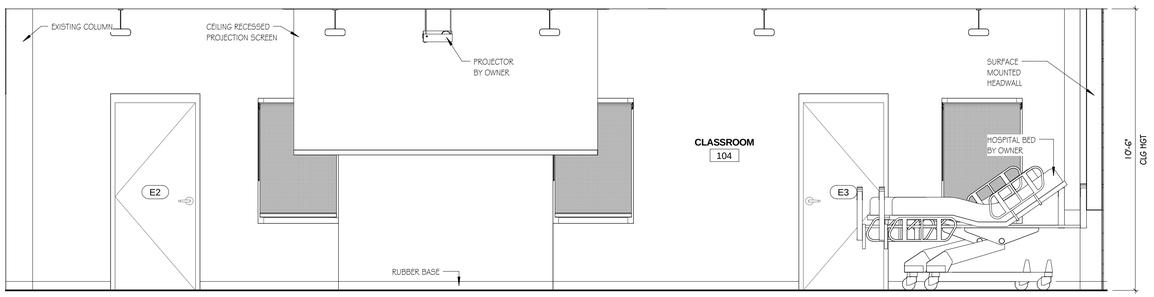
sheet 4 of 6



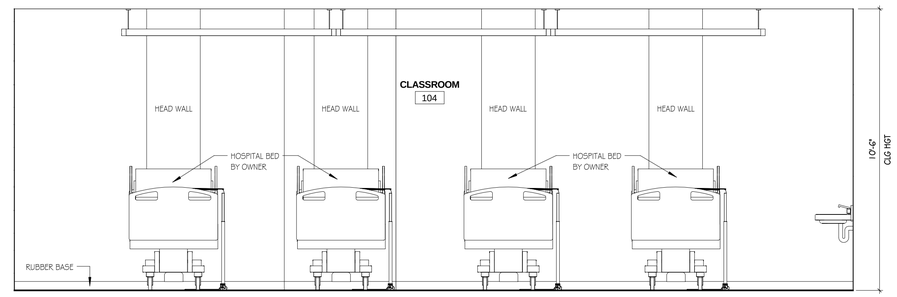
1 ROOM 104 - INT. ELEV. 1
SCALE: 3/8" = 1'-0"



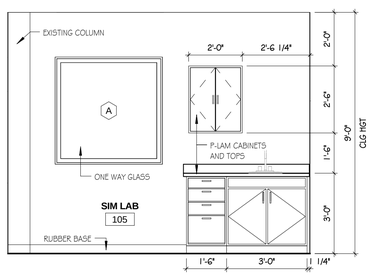
2 ROOM 104 - INT. ELEV. 2
SCALE: 3/8" = 1'-0"



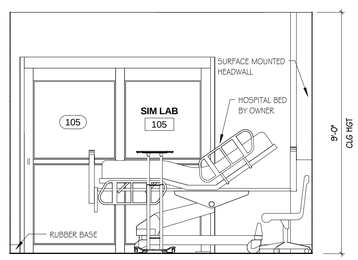
3 ROOM 104 - INT. ELEV. 3
SCALE: 3/8" = 1'-0"



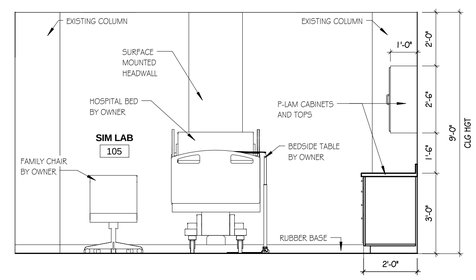
4 ROOM 104 - INT. ELEV. 4
SCALE: 3/8" = 1'-0"



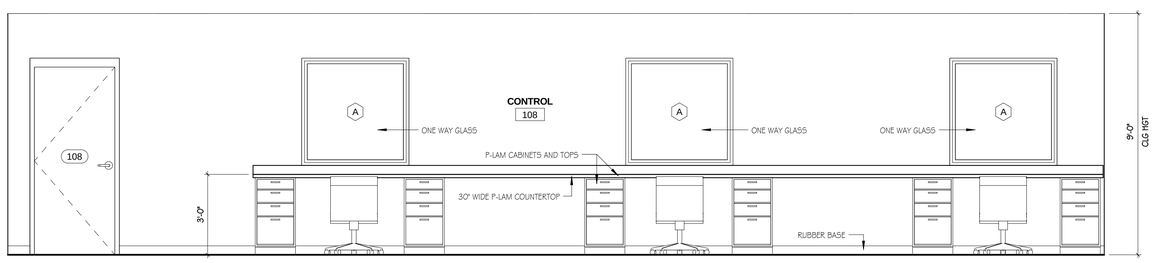
5 ROOM 105 - INT. ELEV. 1
SCALE: 3/8" = 1'-0"



6 ROOM 105 - INT. ELEV. 2
SCALE: 3/8" = 1'-0"



7 ROOM 105 - INT. ELEV. 3
SCALE: 3/8" = 1'-0"



8 ROOM 108 - INT. ELEV. 1
SCALE: 3/8" = 1'-0"

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INTERIOR ELEVATIONS

A-201
sheet 5 of 6

Room Schedule

Number	Name	Floors: Floor Finish	Floors: Base Finish	Walls: N Wall Finish	Walls: E Wall Finish	Walls: S Wall Finish	Walls: W Wall Finish	Ceilings: Ceiling Finish	Ceilings: Ceiling Height	Comments
100	COUNCILING	LVT-1	RB	PNT-1	PNT-1	PNT-1	PNT-1	ACT	9' - 0"	PNT-2 ON ALL EXISTING HM DOORS & FRAMES
101	VESTIBULE	LVT-1	RB	PNT-1	PNT-1	PNT-1	PNT-1	ACT	9' - 0"	PNT-2 ON ALL EXISTING HM DOORS & FRAMES
102	EXISTING OFFICE	LVT-1	RB	PNT-1	PNT-1	PNT-1	PNT-1	ACT	9' - 0"	PNT-2 ON ALL EXISTING HM DOORS & FRAMES
103	DATA / COMM	LVT-1	RB	PNT-1	PNT-1	PNT-1	PNT-1	ACT	9' - 0"	PNT-2 ON ALL EXISTING HM DOORS & FRAMES
104	CLASSROOM	LVT-2	RB	PNT-1	PNT-1	PNT-1	PNT-1	ACT	10' - 6"	PNT-2 ON ALL EXISTING HM DOORS & FRAMES
105	SIM LAB	LVT-1	RB	PNT-1	PNT-1	PNT-1	PNT-1	ACT	9' - 0"	
106	SIM LAB	LVT-1	RB	PNT-1	PNT-1	PNT-1	PNT-1	ACT	9' - 0"	
107	SIM LAB	LVT-1	RB	PNT-1	PNT-1	PNT-1	PNT-1	ACT	9' - 0"	
108	CONTROL	LVT-2	RB	PNT-1	PNT-1	PNT-1	PNT-1	ACT	9' - 0"	
109	DEBRIEF	LVT-1	RB	PNT-1	PNT-1	PNT-1	PNT-1	ACT	9' - 0"	PNT-2 ON ALL EXISTING HM DOORS & FRAMES

DOOR SCHEDULE

Door Number	Type	Door: Width	Door: Height	Door: Thickness	Door: Material	Door: Finish	Frame Type	Frame: Material	Frame: Finish	Details: Head	Details: Jamb	Details: Sill	Hardware	Comments
101	AL-P2	6' - 0"	7' - 0"	0' - 2"	ALUMINUM	ALUMINUM	F3	ALUMINUM	ALUMINUM	H2	J2	S2	SEE SPEC.	PROVIDE FROSTED FILM EQUAL TO "3M SCOTCHCAL SERIES 77255E" TO ALL GLAZING ON DOOR
105	AL-P1	7' - 2 7/8"	7' - 4"	0' - 1 3/4"	ALUMINUM	MFG	F2	ALUMINUM	ALUMINUM	MFG	MFG	MFG	SEE SPEC.	
106	AL-P1	7' - 2 7/8"	7' - 4"	0' - 1 3/4"	ALUMINUM	MFG	F2	ALUMINUM	ALUMINUM	MFG	MFG	MFG	SEE SPEC.	
107	AL-P1	7' - 2 7/8"	7' - 4"	0' - 1 3/4"	ALUMINUM	MFG	F2	ALUMINUM	ALUMINUM	MFG	MFG	MFG	SEE SPEC.	
108	WD-1	3' - 0"	7' - 0"	0' - 1 3/4"	WD	STN	F1	HM	PNT	H1	J1	S1	SEE SPEC.	

EXISTING DOOR SCHEDULE

Door Number	Type	Door: Door Finish	Frame: Frame Finish	Comments
E1	ETR	ETR	PNT	EXISTING DOOR, PAINT FRAME
E2	ETR	ETR	PNT	EXISTING DOOR, PAINT FRAME
E3	ETR	ETR	PNT	EXISTING DOOR, PAINT FRAME
E4	ETR	ETR	PNT	EXISTING DOOR, PAINT FRAME

FINISH LEGEND

FLOOR

NUMBER	TYPE	DETAIL DESCRIPTION
LVT-1	LUXURY VINYL TILE	MANUFACTURER: ARMSTRONG TYPE: NATURAL CREATIONS - EARTHCUTS COLOR: COOL STONE STYLE: RAW CRETE NUMBER: TP548 SIZE: 18" x 18"
LVT-2	LUXURY VINYL TILE	MANUFACTURER: ARMSTRONG TYPE: NATURAL CREATIONS -EARTHCUTS COLOR: IGNEOUS ROCK STYLE: RAW CRETE NUMBER: TP547 SIZE: 18" x 18"

BASE

RB	RUBBER BASE	MANUFACTURER: ROPPE COLOR: BLACK BROWN NUMBER: 193 SIZE: 5" PROFILE: TBD

DOOR STAIN

STN	DOOR STAIN	MANUFACTURER: TBD COLOR: TBD

WALL

NUMBER	TYPE	DETAIL DESCRIPTION
PNT-1	WALL PAINT	MANUFACTURER: TBD TYPE: TBD COLOR: TBD
PNT-2	WALL PAINT	MANUFACTURER: TBD TYPE: TBD COLOR: TBD
PNT-3	DOOR FRAME PAINT	MANUFACTURER: TBD TYPE: TBD COLOR: TBD

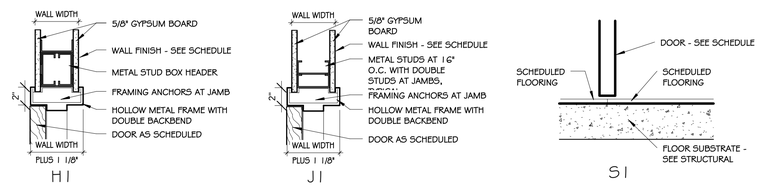
CEILING

NUMBER	TYPE	DETAIL DESCRIPTION
ACT	ACOUSTICAL CEILING TILE SYSTEM	MANUFACTURER: ARMSTRONG TYPE: TBD COLOR: TBD SIZE: 2' x 2'

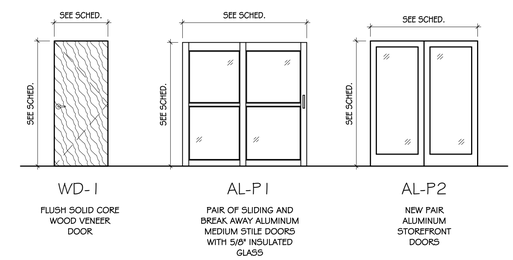
P-LAM

NUMBER	TYPE	DETAIL DESCRIPTION
PLAM-1	PLASTIC LAMINATE COUNTERTOP	MANUFACTURER: FORMICA COLOR: NATURAL MAPLE STYLE: TBD NUMBER: TBD
PLAM-2	PLASTIC LAMINATE CABINETS	MANUFACTURER: FORMICA COLOR: NATURAL MAPLE STYLE: TBD NUMBER: TBD
PLAM-3	PLASTIC LAMINATE COUNTERTOP	MANUFACTURER: FORMICA COLOR: BLACK (TBD) STYLE: TBD NUMBER: TBD
PLAM-4	PLASTIC LAMINATE CABINETS	MANUFACTURER: FORMICA COLOR: BLACK (TBD) STYLE: TBD NUMBER: TBD

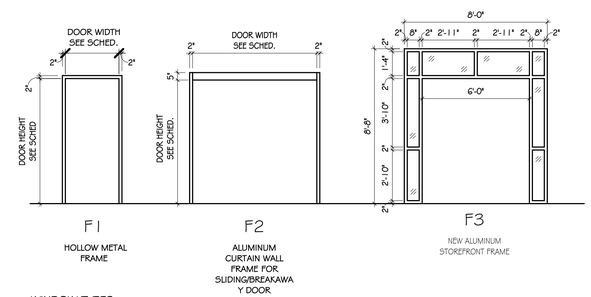
DOOR DETAILS



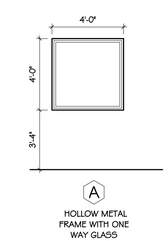
DOOR TYPES

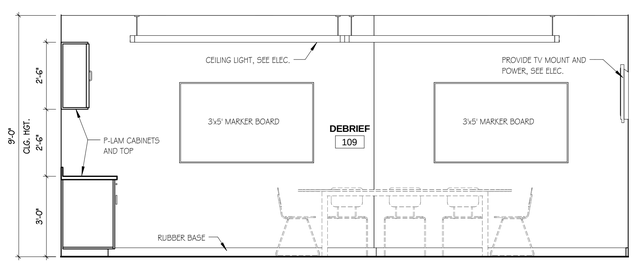


FRAME TYPES

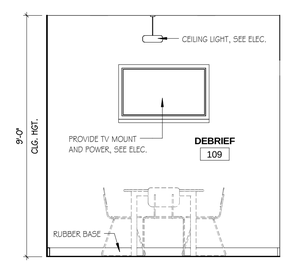


WINDOW TYPES

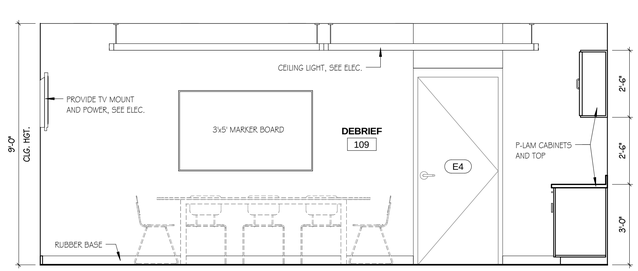




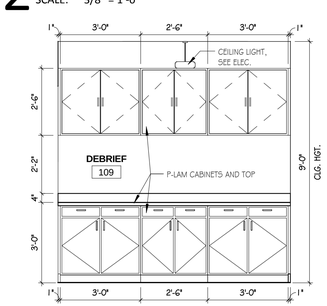
1 **ROOM 109 - INT. ELEV.1**
SCALE: 3/8" = 1'-0"



2 **ROOM 109 - INT. ELEV.2**
SCALE: 3/8" = 1'-0"



3 **ROOM 109 - INT. ELEV.3**
SCALE: 3/8" = 1'-0"



4 **ROOM 109 - INT. ELEV.4**
SCALE: 3/8" = 1'-0"

STATE OF SOUTH CAROLINA
MICHAEL P. KEISLER
GOODWYN MILLS & CAWOOD, INC
SC No. 2657
REGISTERED ARCHITECT

STATE OF SOUTH CAROLINA
GOODWYN, MILLS & CAWOOD, INC
GREENVILLE, SC
No. 01039
REGISTERED ARCHITECT

2/24/2015 11:16:41 AM

GOODWYN | MILLS | CAWOOD
101 East Washington Street, Suite 200 | Greenville, SC 29601
Tel 864.527.0460 | GMCNETWORK.COM

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drawn by: WAS/JJN
checked by: MEK

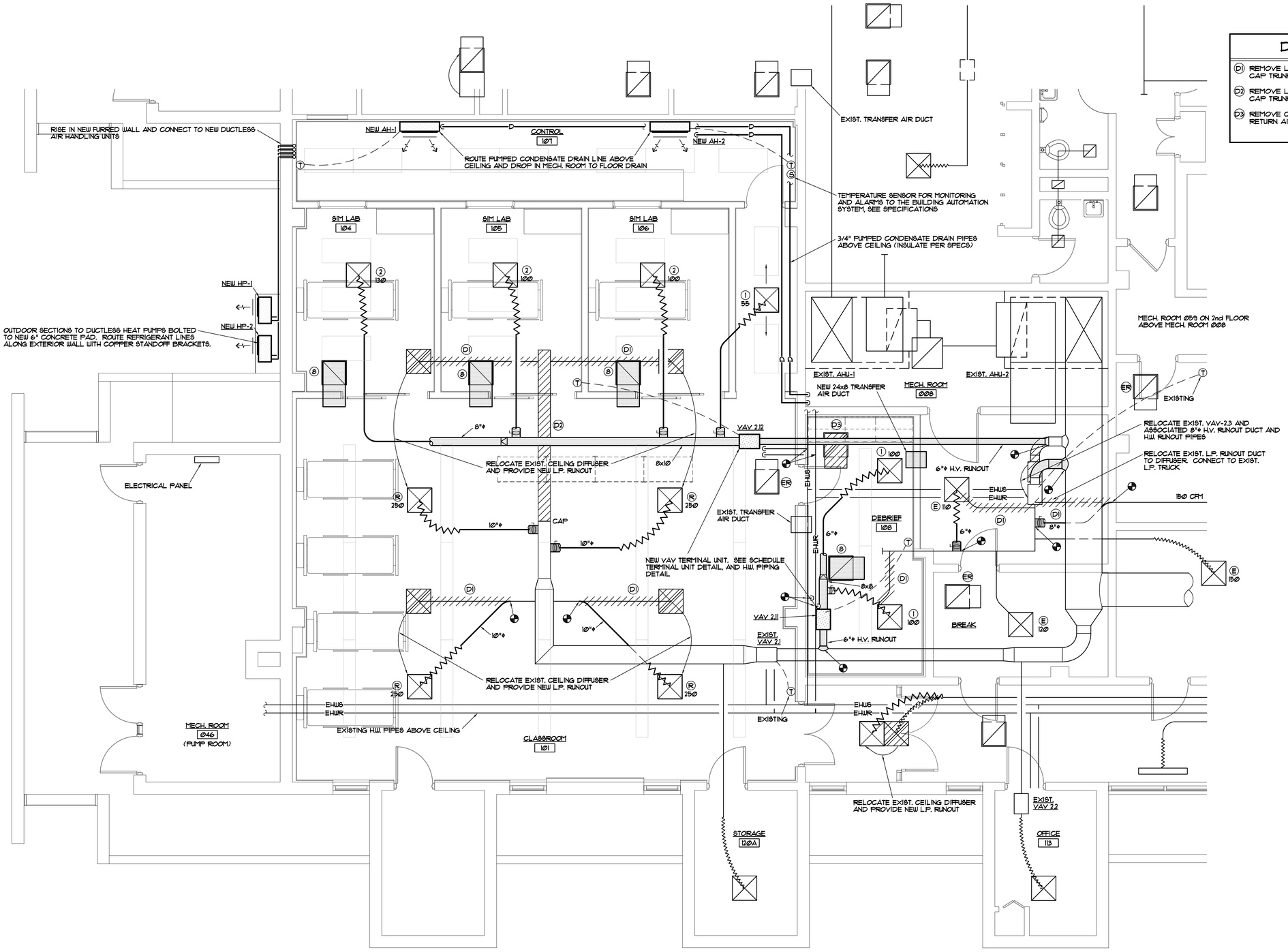
USCL NURSING SIM LAB

476 Hubbard Dr.
Lancaster, SC 29720

GMC # AGRE140025
OSE# H37-9515
Issue for Bid

DOOR & WINDOW TYPES, SCHEDULES AND DETAILS

A-601
sheet 6 of 6



DEMOLITION NOTES

D1 REMOVE L.P. RUNOUT DUCT COMPLETE INCLUDING HANGERS. CAP TRUNK DUCT AND REPAIR INSULATION.

D2 REMOVE L.P. TRUNK DUCT COMPLETE INCLUDING HANGERS. CAP TRUNK AND INSULATE CAP COMPLETE.

D3 REMOVE CEILING RETURN GRILLE COMPLETE INCLUDING RETURN AIR SIGHT/SOUND ELBOW AND SUPPORTS.

NORTH

PARTIAL FIRST FLOOR HVAC FLOOR PLAN

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

MECHANICAL DESIGN INC.
4403 Broad River Road
Columbia, S.C. 29210
(803) 731-9834
(803) 731-9837 FAX
CONTACT: DANNY WILDS

DATE: 02/24/15 COMM. NO. 143145

GOODWYN | MILLS | CAWOOD
101 East Washington Street, Suite 200 | Greenville, SC 29601
Tel 864.527.0460 | GMCNETWORK.COM

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checked by: CDW

SOUTH CAROLINA MECHANICAL DESIGN, INC. Columbia, SC No. C00096 CERTIFICATE OF AUTHORIZATION

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476 Hubbard Dr. Lancaster SC

GMC # AGRE140025
OSE# H37-9515
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SOUTH CAROLINA PROFESSIONAL ENGINEER No. 11155 2-24-15 DANNY WILDS REGISTERED

MECHANICAL FLOOR PLANS

M-100

sheet 1 of 2

DUCTLESS SPLIT SYSTEM HEAT PUMP SCHEDULE (1)

AIR HANDLING UNIT				HEAT PUMP							
MARK	DAIKIN MODEL (2)	CFM	H.P.	MARK	DAIKIN MODEL (2)	COOLING (3)				HEATING @ 47°F (4)	
						TOTAL	SENS.	ENT.AIR	SEER	CAPACITY	HSPF
AH-1 (5)	FAQ18	500	1/8	HP-1	RZQ18	18.0	14.1	80/67	17.2	20.0	10.1
AH-2 (5)	FAQ18	500	1/8	HP-2	RZQ18	18.0	14.1	80/67	17.2	20.0	10.1

(1) AIR HANDLING UNIT AND HEAT PUMP UNIT TO MATCH AVAILABLE ELECTRICAL SERVICE, SEE ELECTRICAL. AIR HANDLING UNIT SHALL HAVE ONE POINT OF POWER CONNECTION.

(2) OR EQUAL BY CARRIER, MITSUBISHI, OR APPROVED EQUAL, SEE SPECIFICATIONS.

(3) BASED ON 95°F CONDENSER AIR TEMPERATURE.

(4) BASED ON 70°F ENTERING AIR TEMPERATURE.

(5) PROVIDE WITH WIRED WALL THERMOSTAT (NO REMOTE CONTROL), LOW AMBIENT CONTROL, HARD START KIT, ANTI-SHORT CYCLING PROTECTION, AND FACTORY INSTALLED HIGH CAPACITY CONDENSATE PUMP.

V.A.V. TERMINAL UNIT SCHEDULE (2)(4)

MARK	TRANE MODEL (1)	AIR INLET NOMINAL DIA.	TOTAL UNIT N.C. LEVEL (3)	AIR VALVE			HOT WATER HEATING COIL		
				MAX. CFM	P.D.@ MAX. CFM	MINIMUM SETPOINT	MBH @ 160°F ENT. WATER TEMP.	GPM	PIPE RUNOUT SIZE
2.11	VCWF	6"ø	30	200	0.1"	60	6.5	0.5	1/2"
2.12	VCWF	6"ø	30	355	0.23"	110	11.5	0.8	1/2"
RELOCATED 2.3	VCWF	8"ø	30	530 (5)	0.16"	160	6.2	0.5	1/2"

(1) TERMINAL UNITS SHALL BE TRANE MODEL VCWF OR EQUAL BY CARRIER, METALAIRE, PRICE OR APPROVED EQUAL

(2) DIRECT DIGITAL CONTROLS SHALL BE FACTORY MOUNTED AND WIRED BY THE ATC CONTROLS SUB-CONTRACTOR. PROVIDE CONTROLS POWER TRANSFORMER.

(3) RADIATED SOUND FOR AIR VALVE AND FAN BASED ON ARI 885-90

(4) PROVIDE 1" MATTED FACED INSULATION.

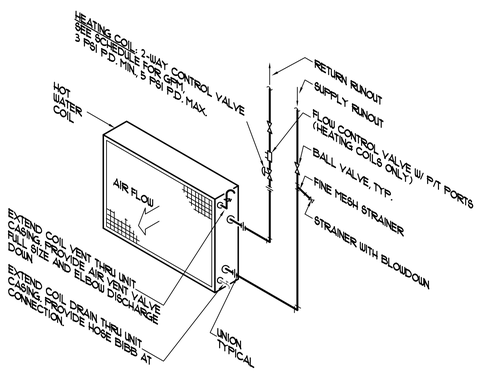
(5) DECREASE MAX. AIR FLOW FROM 700 CFM.

NOTES

1. DO NOT SCALE DRAWINGS. ROUGH FROM ARCHITECTURAL, EXISTING CONDITIONS, AND EQUIPMENT MANUFACTURER'S DRAWINGS.
2. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED. DUCT SIZES SHOWN ON DRAWINGS ARE INTERIOR DIMENSIONS.
3. WHENEVER THE WORD "PROVIDE" IS USED IT SHALL MEAN FURNISH AND INSTALL COMPLETE AND READY FOR USE.
4. PROVIDE GLASSFAB AND MASTIC ON ALL DUCT INSULATION, SEE SPECIFICATIONS. DUCT TAPE WILL NOT BE ACCEPTED.
5. CONSTRUCT DUCTWORK AS JOB PROGRESSES AND AFTER COORDINATING WITH ALL CONCERNED TRADES AND EXISTING CONDITIONS.
6. INSTALLATION OF EQUIPMENT, DUCTWORK, AND PIPING, INCLUDING VIBRATION ISOLATION SHALL COMPLY WITH 2012 INTERNATIONAL BUILDING CODE FOR SEISMIC PROTECTION. SDC IS "D".
7. THE MINIMUM DISTANCE BETWEEN TAKEOFFS ON THE SAME SIDE OF THE DUCTS SHALL BE FOUR (4) TIMES THE DIAMETER OF THE FIRST TAKEOFF.
8. FIELD VERIFY PIPE SIZE AND ROUTING

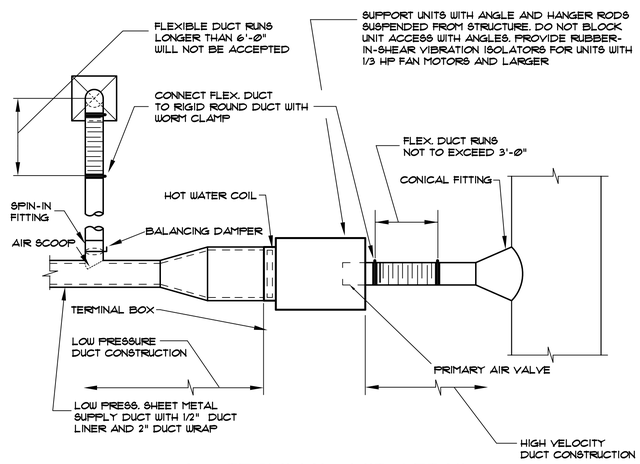
SYMBOLS

	FLEXIBLE DUCT (6 FT. MAX. LENGTH)
	RIGID ROUND RUNOUT DUCT
	NEW MATERIAL
	MATERIAL TO BE REMOVED
CFM	AIR FLOWRATE, CUBIC FEET PER MINUTE
(E) 100	EXISTING GRILLE OR DIFFUSER, BALANCING CFM
(R) 100	RELOCATED GRILLE OR DIFFUSER, BALANCING CFM
(T)	THERMOSTAT, NEW UNLESS OTHERWISE NOTED
	CONNECT NEW TO EXISTING



WATER COIL PIPING DIAGRAM

NOT TO SCALE



V.A.V. TERMINAL UNIT DETAIL

NOT TO SCALE

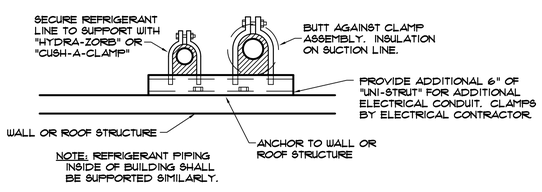
GRILLE AND DIFFUSER SCHEDULE

MARK	SERVICE	NECK SIZE	MAX CFM	RUNOUT SIZE	REMARKS
(1)	SUPPLY	6"ø	120	6"ø	W/ BUTTERFLY DPR
(2)	SUPPLY	8"ø	230	8"ø	W/ BUTTERFLY DPR
(8)	RETURN	8"x8"	250	8"x8"	

GRILLE/ DIFFUSER	CEILING TYPE	METALAIRE # MODEL NO.	MATERIAL
SQUARE SUPPLY	NOTE 4	5750	ALUMINUM
SQUARE RETURN	NOTE 4	7000R	ALUMINUM

* OR EQUAL BY CARNES, TITUS, NAILOR, KREUGER OR APPROVED EQUAL.

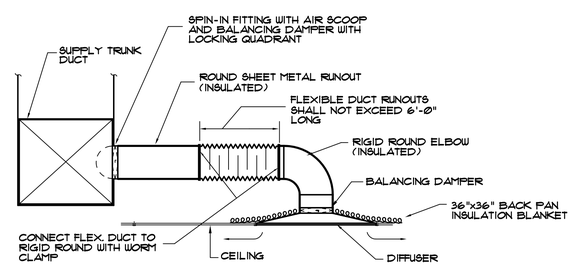
NOTES:
1. GRILLE AND DIFFUSER LOCATIONS SHOWN ON FLOOR PLANS ARE APPROXIMATE, SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION.
2. GRILLES AND DIFFUSERS SHALL MATCH CEILING TYPE, SEE ARCHITECTURAL DRAWINGS FOR CEILING TYPE.
3. GRILLE AND DIFFUSER COLORS SHALL BE SELECTED BY ARCHITECT, SUBMIT COLOR SAMPLES TO ARCHITECT.
4. LAY-IN EGGCRATE SHALL HAVE FULL FACE (24x24) AND FULL SIZE STEEL BACK PLATE WITH DUCT CONNECTOR COLLAR. INTERIOR OF GRILLE SHALL BE FLAT BLACK.



NOTE: REFRIGERANT PIPING INSIDE OF BUILDING SHALL BE SUPPORTED SIMILARLY.

REFRIGERANT PIPE SUPPORT DETAIL

NOT TO SCALE



CEILING DIFFUSER INSTALLATION

NOT TO SCALE

MECHANICAL DESIGN INC.
4403 Broad River Road
Columbia, S.C. 29210
(803) 731-9834
(803) 731-9837 FAX
CONTACT: DANNY WILDS
DATE: 02/24/15 COMM. NO. 143145

GOODWYN | MILLS | CAWOOD
101 East Washington Street, Suite 200 | Greenville, SC 29601
Tel 864.527.0460 | GMCNETWORK.COM

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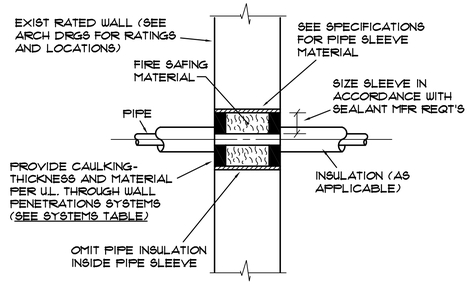
MECHANICAL SCHEDULES, NOTES & DETAILS

M200

sheet 2 of 2

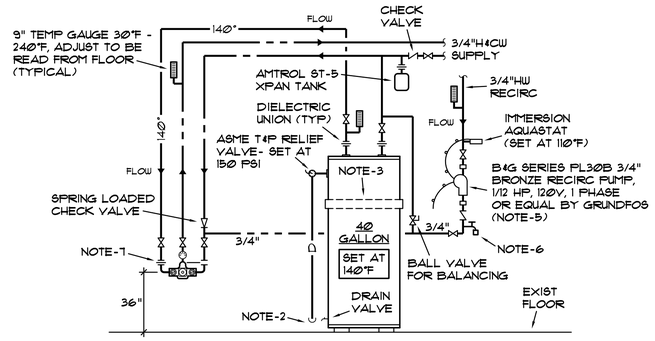


RW / P1 — ALL SHTS

PIPE THRU RATED WALL DETAIL

NOT TO SCALE

NOTE:
CONTRACTOR SHALL MAINTAIN SHOP DRAWINGS/DATA SHEETS FOR U.L. RATED PIPE PENETRATIONS AT BOILER ROOM FOR REVIEW. FAILURE TO COMPLY PRIOR TO INSTALLATION OF CAULKING MATERIALS SHALL REQUIRE THE REMOVAL AND REPLACEMENT OF MATERIALS WITH SPECIFIED PRODUCTS.



EWH / P3 P1

ELECTRIC WATER HEATER DETAIL

NO SCALE

NOTES:
1. AO SMITH ECT-40, 40 GALLON STORAGE, 4.5 KW INPUT. SEE ELECTRICAL DRAWINGS FOR VOLTAGE REQUIREMENTS.
2. PIPE T&P WASTE LINE TO EXISTING FLOOR DRAIN AND ELBOW DOWN (TYPE L COPPER). SECURE TO FLOOR WITH STAND-OFF BRACKETS.
3. PROVIDE SEISMIC BRACING FOR ELECTRIC WATER HEATER AS DIRECTED BY SEISMIC SUPPLIER. (SEE SPECS)
4. PROVIDE HEAT TRAP NIPPLES AT HOT AND COLD WATER INLETS TO HEATER PER IECC SECTION 504.4.
5. PROVIDE STAND-OFF BRACKETS AND MOUNT RECIRC PUMP PER MFR INSTRUCTIONS. SEE ELECTRICAL DRGS FOR FOR WIRING (DIVISION 26).
6. PROVIDE HAMMOND 2002 3/4" HOSEBIBB WITH WATTS 8A VACUUM BREAKER FOR SYSTEM DRAIN AND TEST.
7. SYMMONS T-200A THERMOSTATIC CONTROLLER (SET AT 120°F)

PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	CW	HW	WASTE	VENT	MOUNTING HEIGHT
P1	HAND WASH LAVATORY	1/2"	1/2"	2"	1-1/2"	31"
P2	EXAM SINK	1/2"	1/2"	2"	1-1/2"	SEE ARCH

FIXTURE KEY:

WA / P1 P1 — (A) SEE WASTE ARM DETAIL AND ROUGH LAVATORY AS INDICATED.

PLUMBING NOTES

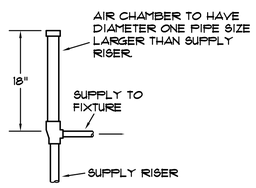
1. DO NOT SCALE DRAWINGS. ROUGH FROM ARCHITECTURAL AND EQUIPMENT MANUFACTURER'S DRAWINGS.
2. COORDINATE PLUMBING SYSTEMS WITH ALL TRADES TO AVOID INTERFERENCE AND CONFLICTS PRIOR TO INSTALLATION OF PIPING, FIXTURES, AND EQUIPMENT.
3. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE (IBC) BUILDING AND (IPC) PLUMBING CODES, 2012 EDITIONS OF THE (ICC) INTERNATIONAL CODE COUNCIL AND ALL LOCAL CODES AND ORDINANCES.
4. WHENEVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN FURNISH AND INSTALL COMPLETE AND READY FOR USE.
5. UNLESS OTHERWISE SHOWN OR NOTED, ALL PIPING SHALL BE RUN CONCEALED IN WALLS, CHASES AND/OR ABOVE CEILINGS.
6. PROVIDE AIR CHAMBERS ON HOT AND COLD WATER SUPPLY TO EACH FIXTURE. SIZE ONE PIPE SIZE LARGER THANS SUPPLY. (SEE DETAIL) — AC / P1 P1
7. LOCATE GATE VALVES ABOVE CEILING TO PERMIT EASY ACCESS. (SEE NOTE-2)
8. COLLECT ALL VENTS ABOVE CEILING WHERE SHOWN. CONNECT TO EXISTING VENT PIPING AS REQUIRED.
9. INSTALLATION OF EQUIPMENT AND PIPING SHALL COMPLY WITH THE (IBC) BUILDING CODE 2012 EDITION FOR SEISMIC PROTECTION.
10. SAWCUTTING, CUTTING AND REMOVAL OF EXIST FLOOR SLABS AS REQUIRED FOR THE INSTALLATION OF PLUMBING SYSTEMS SHALL BE BY THE GENERAL CONTRACTOR. PATCHING OF FINISHED SURFACES SHALL BE BY THE GENERAL CONTRACTOR.
11. COREDRILLING AND REMOVAL OF EXIST WALLS SHALL BE BY THE PLUMBING CONTRACTOR. PATCHING OF FINISHED SURFACES SHALL BE BY THE GENERAL CONTRACTOR.

HW SYSTEM SETTINGS / OPERATING SEQUENCE

HW SYSTEM SETTINGS:
1. WATER HEATER SHALL BE SET AT 140°F STORED WATER TEMP AT ALL TIMES.
2. THERMOSTATIC MIXING VALVE SHALL BE SET AT 120°F DELIVERY TEMP AT ALL TIMES.
3. AQUASTAT CONTROLLER SHALL BE SET AT 110°F RETURN TEMP AT ALL TIMES.

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION
———	SANITARY WASTE PIPING
— — — —	SANITARY VENT PIPING
——— – ———	COLD WATER PIPING
——— – – ———	HOT WATER PIPING (120°F)
——— – – – ———	HOT WATER RECIRC PIPING (110°F)
——140°——	HOT WATER PIPING (140°F)
—— CA ——	COMPRESSED AIR PIPING
—— V ——	VACUUM PIPING
—— D ——	DRAIN PIPING
⋈	BALL VALVE
|||	UNION
○ FCO	FLOOR CLEANOUT
|| WCO	WALL CLEANOUT
CW, HW, HWR	COLD WATER, HOT WATER, HOT WATER RECIRC
HDC'D	HANDICAPPED
EWH	ELECTRIC WATER HEATER
AFF	ABOVE FINISHED FLOOR
RD	ROOF DRAIN

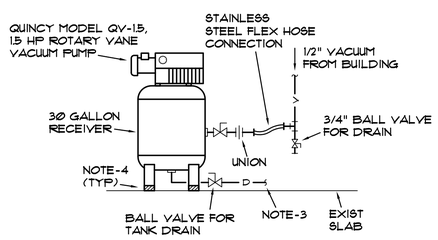


AC / P1 P1

AIR CHAMBER DETAIL

NO SCALE

SPECIAL NOTES:
1. (IPC) PLUMBING CODE PARAGRAPH 604.3 APPLIES TO QUICK-CLOSING VALVES ONLY.
2. THIS PROJECT DOES NOT CONTAIN QUICK-CLOSING VALVES.

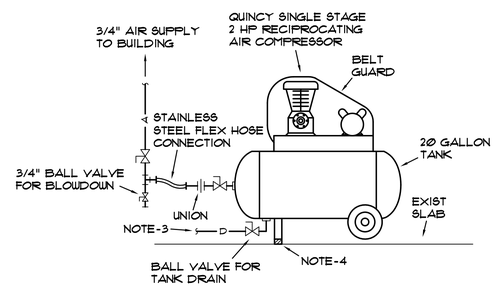


VP / P3 P1

VACUUM PUMP DETAIL

NOT TO SCALE

NOTES:
1. QUINCY MODEL QV-15, 1.5 HP ROTARY VANE VACUUM PUMP FACTORY MOUNTED ON 30 GALLON RECEIVER, 230V, 1 PH, 60 Hz.
   - INLET CHECK VALVE / FILTER
   - FULL VOLTAGE MOTOR STARTER
   - ASME RATED PRESSURE VESSEL
   - GAUGE AND DRAIN CONNECTIONS
2. VACUUM PUMP RATED AT 19 ACFM AT 29.9" HgV.
3. PIPE TANK DRAIN TO EXIST FLOOR DRAIN AND ELBOW DOWN WITH AIR GAP (TYPE L COPPER). SECURE TO EXIST FLOOR SLAB WITH STAND-OFF BRACKETS.
4. PROVIDE ISOLATION PADS AND SECURE VACUUM PUMP TO EXIST SLAB WITH HILTI FASTENERS AS DIRECTED.



AP / P3 P1

AIR COMPRESSOR DETAIL

NO SCALE

NOTES:
1. QUINCY SINGLE STAGE 2 HP RECIPROCATING AIR COMPRESSOR, 120V, 1 PHASE, 60 Hz.
   - START-STOP PRESSURE SWITCH
   - FULLY ENCLOSED BELT GUARD
   - ASME SAFETY RELIEF VALVE
2. AIR COMPRESSOR CAPACITY - COMPRESSOR RATED AT 8.3 ACFM AT 135 PSI DELIVERY.
3. PIPE TANK DRAIN TO EXIST FLOOR DRAIN AND ELBOW DOWN WITH AIR GAP (TYPE L COPPER). SECURE TO EXIST FLOOR SLAB WITH STAND-OFF BRACKETS.
4. PROVIDE ISOLATION PADS AND SECURE COMPRESSOR TO EXIST SLAB WITH HILTI FASTENERS AS DIRECTED.

MECHANICAL DESIGN INC.
4403 Broad River Road
Columbia, S.C. 29210
(803) 731-9834
(803) 731-9837 FAX
CONTACT: M. HENDRIX
DATE: 02/24/15 COMM. NO. 143145

GOODWYN | MILLS | CAWOOD
101 East Washington Street, Suite 200 | Greenville, SC 29601
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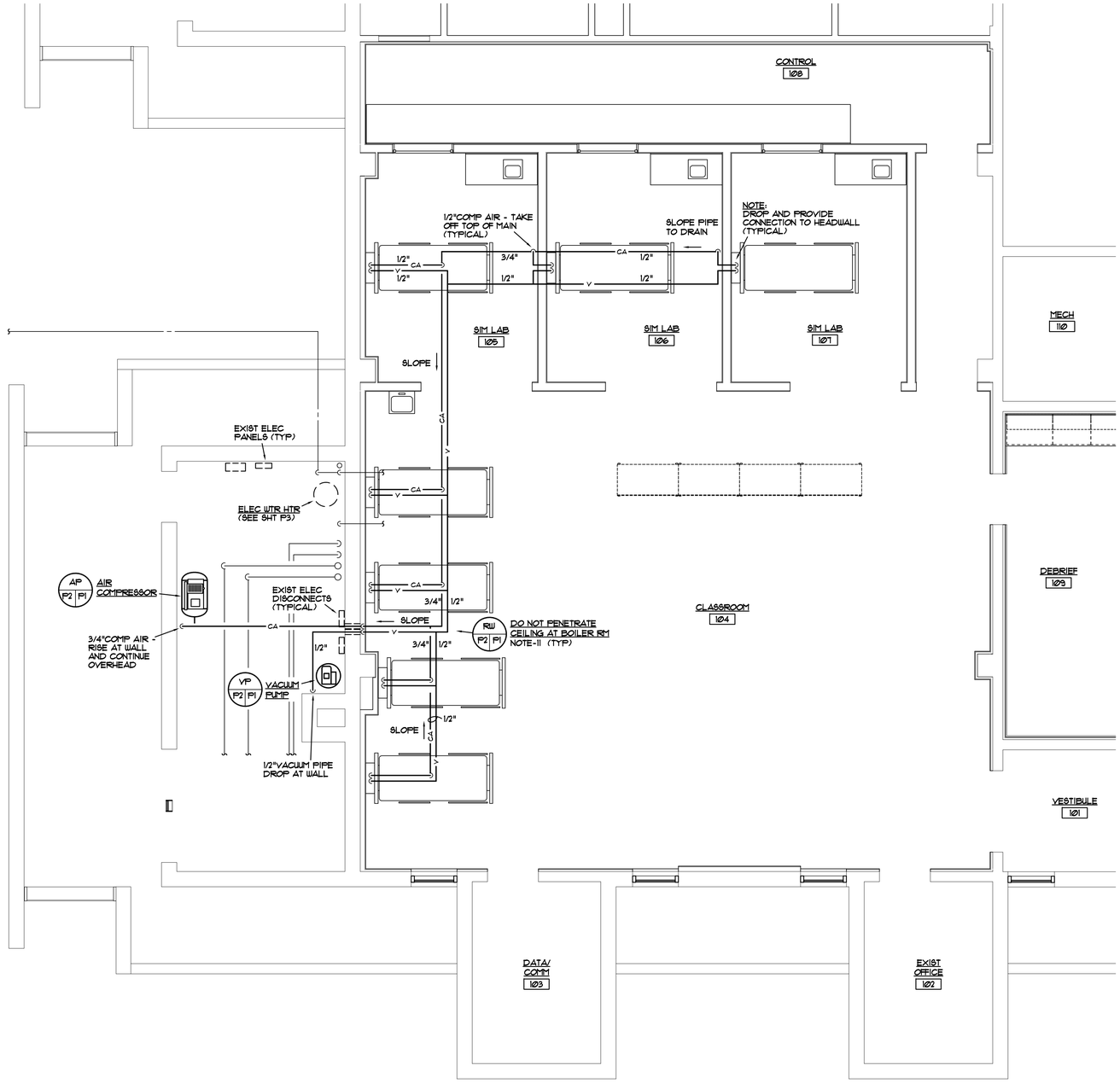
PLUMBING DETAILS AND SCHEDULES

P-100

sheet 1 of 3



PLUMBING FLOOR PLAN - COMPRESSED AIR AND VACUUM PIPING RISER

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

SPECIAL NOTE:
LOCATIONS OF EQUIPMENT AND PIPING ARE APPROXIMATE. EXACT LOCATION OF EQUIP AND PIPING SHALL BE APPROVED BY USC PERSONNEL AND DETERMINED IN THE FIELD, TO AVOID EXIST PIPING AND MAINTAIN CLEARANCES.

MECHANICAL DESIGN INC.
4403 Broad River Road
Columbia, S.C. 29210
(803) 731-9834
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checked by: DLF

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USCL NURSING SIM LAB

476 Hubbard Dr. Lancaster SC

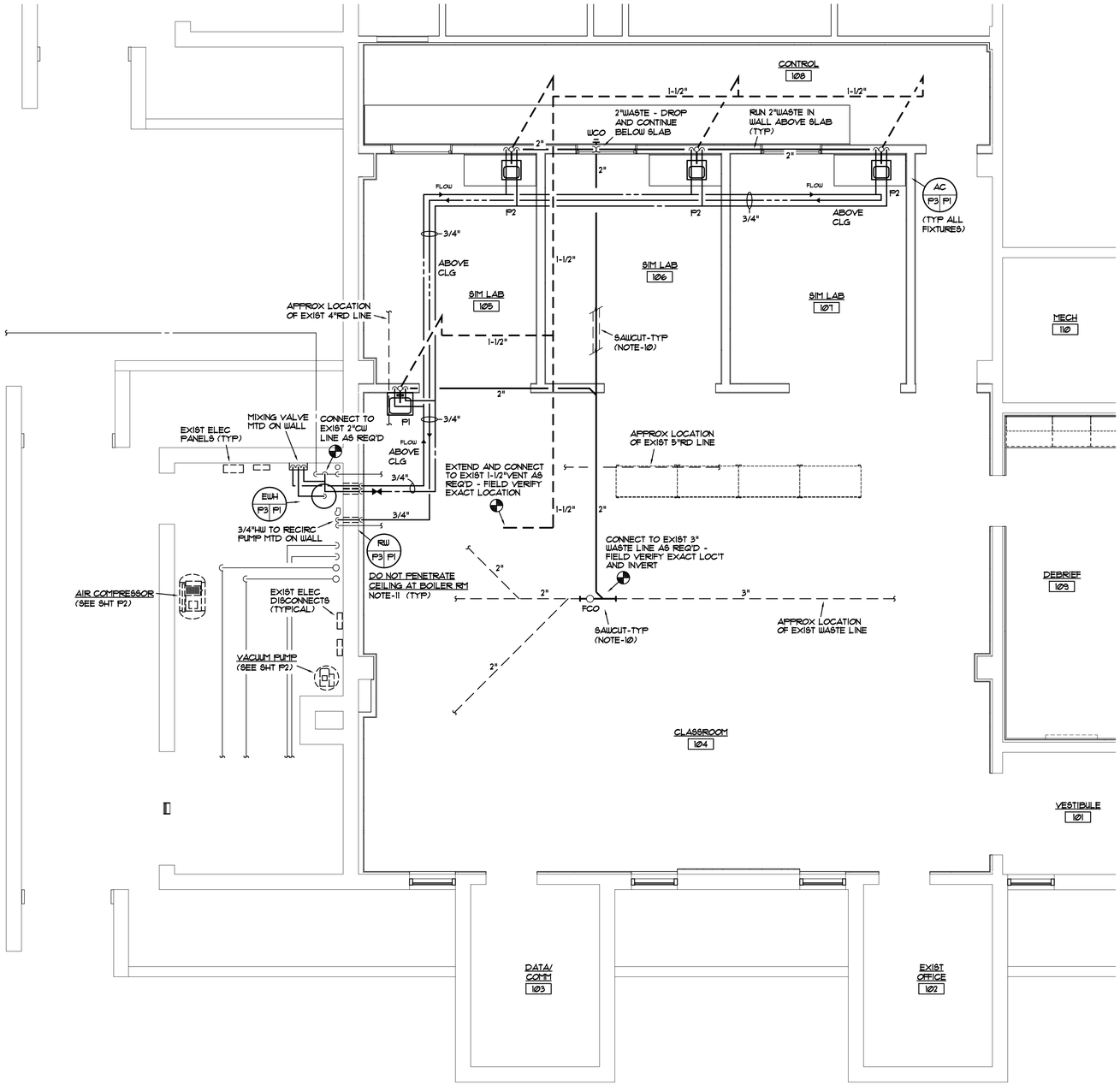
GMC # AGRE140025
OSE# H37-9515
Issue for Bid

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 11155 2-24-15 DANNY WILDS

PLUMBING FLOOR PLAN - COMP AIR AND VACCUM PIPING

P-200

sheet 2 of 3



PLUMBING FLOOR PLAN - WASTE, VENT AND WATER PIPING RISER

SCALE: 1/4" = 1'-Ø"

SPECIAL NOTE:
LOCATIONS OF EQUIPMENT AND PIPING ARE APPROXIMATE. EXACT LOCATION OF EQUIP AND PIPING SHALL BE APPROVED BY USC PERSONNEL AND DETERMINED IN THE FIELD, TO AVOID EXIST PIPING AND MAINTAIN CLEARANCES.

MECHANICAL DESIGN INC.
4403 Broad River Road
Columbia, S.C. 29210
(803) 731-9834
(803) 731-9837 FAX
CONTACT: M. HENDRIX
DATE: 02/24/15
COMM. NO. 143145

GOODWYN | MILLS | CAWOOD
101 East Washington Street, Suite 200 | Greenville, SC 29601
Tel 864.527.0460 | GMCNETWORK.COM

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PLUMBING FLOOR PLAN - WASTE, VENT AND WATER PIPING

P-300

sheet 3 of 3

LIGHTING FIXTURE SCHEDULE

SYMBOL	TYPE	DESCRIPTION	MANUFACTURER	MODEL NUMBER	OPTICAL ELEMENT	MOUNTING	VOLTS	LAMPS (PHILIPS)
	A	2'x4' SPEC. GRADE DIRECT/ INDIRECT FLUORESCENT TROFFER WITH 1 BALLAST AND 2 LAMPS.	WILLIAMS	DIG-S24-232-WPR-EB2-UNV	0.125" ACRYLIC LENS	CEILING GRID	120V	2 - F32T8/TL841/ALTO
	AE	2'x4' SPEC. GRADE DIRECT/ INDIRECT FLUORESCENT TROFFER WITH 1 BALLAST, 2 LAMPS, AND A 1400 LUMEN BATTERY PACK.	WILLIAMS	DIG-S24-232-WPR-EB2-UNV-EM1400	0.125" ACRYLIC LENS	CEILING GRID	120V	2 - F32T8/TL841/ALTO
	B	2'x4' SPEC. GRADE DIRECT/ INDIRECT FLUORESCENT TROFFER WITH 1 BALLAST AND 3 LAMPS.	WILLIAMS	DIG-S24-332-WPR-EB3-UNV	0.125" ACRYLIC LENS	CEILING GRID	120V	3 - F32T8/TL841/ALTO
	BE	2'x4' SPEC. GRADE DIRECT/ INDIRECT FLUORESCENT TROFFER WITH 1 BALLAST, 3 LAMPS, AND A 1400 LUMEN BATTERY PACK.	WILLIAMS	DIG-S24-332-WPR-EB3-UNV-EM1400	0.125" ACRYLIC LENS	CEILING GRID	120V	3 - F32T8/TL841/ALTO
	C	2'x4' SPEC. GRADE DIRECT/ INDIRECT FLUORESCENT TROFFER WITH 1 DIMMING BALLAST AND 3 LAMPS.	WILLIAMS	DIG-S24-332-WPR-EB3D-AD-MKX	0.125" ACRYLIC LENS	CEILING GRID	120V	3 - F32T8/TL841/ALTO
	CE	2'x4' SPEC. GRADE DIRECT/ INDIRECT FLUORESCENT TROFFER WITH 1 DIMMING BALLAST, 3 LAMPS AND A 1400 LUMEN BATTERY PACK.	WILLIAMS	DIG-S24-332-WPR-EBD3-AD-MKX-EM1400	0.125" ACRYLIC LENS	CEILING GRID	120V	3 - F32T8/TL841/ALTO
	D	8' DIRECT/INDIRECT LINEAR FLUORESCENT FIXTURE WITH 2 DIMMING BALLASTS AND 6 LAMPS.	FINELITE	S12-ID-DCO-8'-3T8-SC-91W-STO-120-FA-C1 with LUTRON DIMMING BALLASTS	DIFFUSE CENTER OPTIC	AIRCRAFT CABLE AT 18" BELOW CLG	120V	6 - F32T8/TL841/ALTO
	DE	8' DIRECT/INDIRECT LINEAR FLUORESCENT FIXTURE WITH 2 DIMMING BALLASTS, 6 LAMPS, AND TWO 1400 LUMEN BATTERY PACKS.	FINELITE	S12-ID-DCO-8'-3T8-SC-91W-STO-120-FA-C1 with LUTRON DIMMING BALLASTS & EM1400	DIFFUSE CENTER OPTIC	AIRCRAFT CABLE AT 18" BELOW CLG	120V	6 - F32T8/TL841/ALTO
	F	6" L.E.D. DOWNLIGHT WITH DIMMABLE DRIVER.	INDY	LC4S-1300-40-W-U-L400-P-CL-WH	0.125" ACRYLIC LENS	CEILING SURFACE	120V	L.E.D./1100 lumen/19W/4000K
	G	6" PODIUM SPOTLIGHT WITH ADJUSTABLE EYEBALL , WHITE BAFFLE AND WHITE TRIM.	INDY	LA4-2300-40-1-LA400-F-CL-WH-LB27	WHITE BAFFLE	CEILING RECESSED	120V	1 - PAR30/75W
		EDGLE -LIT TYPE L.E.D. EXIT SIGN WITH SINGLE FACE, GREEN LETTERING, AND A 90 MINUTE BATTERY PACK.	EMERGI-LITE	PN-G-6	CLEAR WITH GREEN LETTERING	UNIVERSAL WALL OR CEILING	120V	L.E.D. - COMPLY WITH 2012 IBC

NOTE: BATTERY PACK FOR FLUORESCENT FIXTURES SHALL OPERATE 2 LAMPS IN FIXTURE.

GENERAL CONSTRUCTION NOTES

1. PROVIDE ALL WORK IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS:

INTERNATIONAL BUILDING CODE	2012 EDITION
NFPA 70 - NATIONAL ELECTRICAL CODE	2011 EDITION
NFPA 72 - NATIONAL FIRE ALARM CODE	2010 EDITION
ANSI A117.1 - ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES	2009 EDITION

2. PROVIDE RACEWAY AND WIRING TO ALL DEVICES, FIXTURES, AND EQUIPMENT INDICATED ON THE CONTRACT DRAWINGS. THE DRAWINGS INDICATE PARTIAL RACEWAY AND WIRING REQUIREMENTS TO HELP CLARIFY DESIGN INTENT. WHERE RACEWAY AND/OR WIRING IS NOT INDICATED FOR DEVICES, FIXTURES, OR EQUIPMENT THE ARRANGEMENT, GROUPING, AND ROUTING SHALL BE PROVIDED IN ACCORDANCE WITH THE 2011 EDITION OF THE NATIONAL ELECTRICAL CODE.
3. ALL CONDUIT PENETRATIONS THROUGH WALLS AND CEILINGS SHALL BE 2-HOUR FIRESTOPPED.
4. RACEWAYS SHALL BE EMT WITH COMPRESSION TYPE FITTINGS UNLESS NOTED OR DETAILED OTHERWISE.
5. INSTALL ELECTRICAL SYSTEMS WITHOUT INTERFERING WITH DUCTS, PIPES, STRUCTURAL MEMBERS, OR OTHER SYSTEMS.
6. CUTTING, DRILLING, AND PATCHING: PROVIDE CHASES, SLOTS, AND OPENINGS IN EXISTING BUILDING COMPONENTS TO ALLOW FOR ELECTRICAL INSTALLATIONS. PERFORM CUTTING, DRILLING, FITTING, AND PATCHING REQUIRED TO:

   A) INSTALL EQUIPMENT, MATERIALS, AND RACEWAYS IN EXISTING STRUCTURES.

   B) REMOVE AND REPLACE DEFECTIVE WORK THAT DOES NOT CONFORM TO REQUIREMENTS OF THE CONTRACT DOCUMENTS.

   C) UPON WRITTEN INSTRUCTIONS FROM THE ARCHITECT/ENGINEER, UNCOVER AND RESTORE WORK TO PROVIDE FOR ARCHITECT/ENGINEER OBSERVATION OF CONCEALED WORK.

   PROTECT EXISTING STRUCTURES, FURNISHINGS, FINISHES, MECHANICAL SYSTEMS, AND ELECTRICAL SYSTEMS WHILE PERFORMING CUTTING, DRILLING, FITTING, AND PATCHING.

   PATCH EXISTING SURFACES AND BUILDING COMPONENTS USING NEW MATERIALS THAT MATCH EXISTING MATERIALS. PATCHING SHALL BE PERFORMED BY EXPERIENCED INSTALLERS.

GENERAL DEMOLITION NOTES

1. REMOVE AND LEGALLY DISPOSE OF ALL EXISTING POWER AND COMMUNICATIONS SYSTEMS EQUIPMENT, CONTROLS, DEVICES, LIGHTING FIXTURES, EXIT SIGNS, AND ALL ASSOCIATED RACEWAY AND WIRING. INTENT OF THIS CONTRACT IS FOR THE CONTRACTOR TO DEMOLISH ALL EXISTING POWER, LIGHTING, AND SYSTEMS COMPONENTS AND ALL ASSOCIATED RACEWAY AND WIRING SYSTEMS INTHE AREA OF CONSTRUCTION, UNLESS SPECIFICALLY NOTED OTHERWISE. THE CONTRACTOR SHALL VISIT THE SITE/BUILDING TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID AND SHALL INCLUDE ALL WORK REQUIRED FOR COMPLETE DEMOLITION IN HIS BID.

ELECTRICAL DRAWING INDEX

E1.00	GENERAL NOTES, LEGEND, AND SCHEDULES
E2.00	ELECTRICAL SINGLE-LINE DIAGRAMS AND SCHEDULES
E2.01	ACCESS CONTROL DETAILS
E2.02	LIGHTING AND FIRE ALARM SINGLE-LINE DIAGRAMS
E3.00	LIGHTING RENOVATION PLAN - FIRST FLOOR
E3.01	LIGHTING DEMOLITION PLAN - FIRST FLOOR
E4.00	ELECTRICAL RENOVATION PLAN - FIRST FLOOR
E4.01	ELECTRICAL DEMOLITION PLAN - FIRST FLOOR
E5.00	SYSTEMS RENOVATION PLAN - FIRST FLOOR

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
A 14a	LIGHTING FIXTURE; TYPE, CIRCUIT NUMBER, AND SWITCHLEG AS INDICATED. SEE THE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL SYMBOLS AND TYPES.
	SINGLE OR DOUBLE FACE EXIT SIGN, CEILING MOUNTED. PROVIDE DIRECTIONAL ARROWS/CHEVRONS AS INDICATED ON PLAN.
	SINGLE OR DOUBLE FACE EXIT SIGN, WALL OR BACK MOUNTED. PROVIDE DIRECTIONAL CHEVRONS (ARROWS) AS INDICATED ON PLAN.
S	SINGLE-POLE TOGGLE SWITCH RATED 120 VOLTS, 20 AMPS. FLUSH MOUNT SWITCH IN WALL AT 42 INCHES AFF UNLESS NOTED OTHERWISE.
S3	THREE-WAY TOGGLE SWITCH RATED 120 VOLTS, 20 AMPS. FLUSH MOUNT DEVICE IN WALL AT 42 INCHES AFF UNLESS NOTED OTHERWISE.
SM	MOTOR RATED TOGGLE SWITCH RATED 1 HORSEPOWER. FLUSH MOUNT DEVICE IN WALL AT 42 INCHES AFF UNLESS NOTED OTHERWISE.
SD	LIGHTING DIMMER SWITCH, LUTRON NOVA-T- FLUORESCENT, INCANDESCENT OR MAGNETIC LOW-VOLTAGE TYPE, AS APPLICABLE. FLUSH MOUNT SWITCH IN WALL AT 42" AFF UNLESS NOTED OR DETAILED OTHERWISE.
SPLT	SINGLE-POLE TOGGLE SWITCH WITH "ON WHEN ON" PILOT LIGHT RATED 120 VOLTS, 20 AMPS. MOUNT DEVICE IN WALL AT 42 INCHES AFF UNLESS NOTED OTHERWISE.
SQSG	6-ZONE DIMMER CONTROL UNIT (LUTRON #QSGRJ-6P-WH). FLUSH MOUNT PANEL IN WALL WITH TOP AT 48" AFF.
SQSW	4-PRESET CONTROL UNIT (LUTRON #QSWS2-5BI-WH-NST). FLUSH MOUNT PANEL IN WALL WITH TOP AT 48" AFF.
SOVR	LIGHTING CONTROL PANEL REMOTE OVERRIDE SWITCH WITH INTEGRAL PILOT LIGHT (WATTSTOPPER). FLUSH MOUNT SWITCH IN WALL AT 48" AFF. PROVIDE WIRING/CABLING PER WATTSTOPPER RECOMMENDATIONS. PROVIDE A CUSTOM LAMINATE SIGN ABOVE SWITCH THAT READS, "LIGHTING SYSTEM 2-HOUR TIME OVERRIDE SWITCH. PRESS SWITCH TO PROVIDE 2 HOURS OF EXTENDED LIGHTING EACH TIME CLASSROOM AREA LIGHTS BLINK ON AND OFF. IF BUTTON IS NOT PRESSED WITHIN 5 MINUTES OF LIGHTS BLINKING, ALL LIGHTS IN CLASSROOM AREA WILL AUTOMATICALLY TURN OFF".
RF	OCCUPANCY SENSOR, RADIO-FREQUENCY TYPE (LUTRON #LRF2-OCR2B-P-WH). FLUSH MOUNT DETECTOR IN ACOUSTICAL DROP CEILING. PROVIDE A CEILING GRID SUPPORT BRACKET FOR BACKBOX.
N	NIGHT-LIGHT SYMBOL - INDICATES THAT ASSOCIATED LIGHTING FIXTURE SHALL NOT BE SWITCHED LOCALLY (WIRED DIRECTLY TO CIRCUIT BREAKER).
	ONE-SECTION PANELBOARD, SURFACE MOUNTED WITH TOP AT 66" AFF.
	ELECTRICAL CONNECTIONS TO A MOTOR OR TO MOTOR DRIVEN EQUIPMENT.
	SAFETY DISCONNECT SWITCH - TYPE AND RATINGS AS INDICATED ON PLAN. COORDINATE MOUNTING LOCATION WITH MECHANICAL CONTRACTOR TO ENSURE PROPER WORKING CLEARANCES PER THE NEC.
	SYSTEM GROUNDING - PROVIDE GROUNDING IN ACCORDANCE WITH NEC ARTICLE 250.
J	STEEL JUNCTION BOX, WALL MOUNTED.
J	STEEL JUNCTION BOX, UNIT OR CEILING MOUNTED UNLESS NOTED OTHERWISE.
	DUPLEX RECPTACLE, NEMA 5-20R. FLUSH MOUNT DEVICE IN WALL AT 18"AFF UNLESS NOTED OTHERWISE.
	QUADPLEX RECEPTACLE (TWO DUPLEX RECEPTACLES, AS DESCRIBED ABOVE, MOUNTED IN A COMMON BOX). FLUSH MOUNT DEVICES IN WALL AT 18" AFF UNLESS NOTED OTHERWISE.
	DUPLEX RECEPTACLE AS DESCRIBED ABOVE EXCEPT THAT MOUNTING HEIGHT SHALL BE 42 INCHES AFF OR APPROXIMATELY 6 INCHES ABOVE COUNTER TOP. COORDINATE MOUNTING LOCATION WITH ARCHITECTURAL MILLWORK WHERE APPLICABLE.
GFI	DUPLEX, GROUND-FAULT-INTERRUPT TYPE RECEPTACLE, NEMA 5-20R. FLUSH MOUNT DEVICE AT 18" AFF UNLESS NOTED OTHERWISE.
GFI	DUPLEX, GROUND-FAULT-INTERRUPT TYPE RECEPTACLE, NEMA 5-20R. FLUSH MOUNT DEVICE IN WALL AT 42" AFF OR APPROXIMATELY 6" ABOVE COUNTER. COORDINATE MOUNTING LOCATION WITH ARCHITECTURAL MILLWORK WHERE APPLICABLE.
WP/GFI	DUPLEX, GROUND-FAULT-INTERRUPT TYPE RECEPTACLE, NEMA 5-20R, WITH A WEATHERPROOF IN-USE TYPE BOX/COVER. SURFACE MOUNT DEVICE HORIZONTALLY IN WALL AT APPROXIMATELY 18" AFF OR AFG, AS APPLICABLE.
A	HOSPITAL-GRADE DUPLEX RECEPTACLE, NEMA 5-20R, WHITE IN COLOR. FLUSH MOUNT DEVICE IN HOSPITAL BED HEADWALL - COORDINATE LOCATION IN HEAD WALL WITH HEAD WALL SHOP DRAWINGS. PROVIDE GFI TYPE DEVICE WHERE NOTED ON PLAN.
B	HOSPITAL-GRADE DUPLEX RECEPTACLE, NEMA 5-20R, RED IN COLOR. FLUSH MOUNT DEVICE IN HOSPITAL BED HEADWALL - COORDINATE LOCATION IN HEAD WALL WITH HEAD WALL SHOP DRAWINGS. PROVIDE GFI TYPE DEVICE WHERE NOTED ON PLAN.
	DUPLEX RECPTACLE, NEMA 5-20R. PROVIDE A 4" SQUARE STEEL BACKBOX WITH SINGLE-GANG PLASTER RING FLUSH MOUNTED IN ACOUSTICAL DROP CEILING TILE AT LOCATION DIRECTED BY OWNER (OUTLET TO SERVE OVERHEAD PROJECTOR). PROVIDE A CEILING GRID BRACKET TO SUPPORT BACKBOX.
	A.D.A. COMPLIANT FLUSH FLOOR BOX WITH TWO 5-20R DUPLEX RECEPTACLES AND ONE TWO-PORT DATA WALLPLATE w/ TWO CATEGORY-6 RJ-45 JACKS. FLUSH MOUNT BOX IN EXISTING CONCRETE FLOOR PER MANUFACTURER'S INSTRUCTIONS.
J PJ	12"x12"x4" STEEL JUNCTION BOX WITH SCREW COVER FOR DATA WIRING TO OWNER-FURNISHED PROJECTOR. MOUNT BOX TO STRUCTURE ABOVE CEILING AT LOCATION DIRECTED BY OWNER.
J PS	STEEL HANDY BOX FOR POWER TO OWNER-FURNISHED PROJECTOR SCREEN. MOUNT BOX ABOVE CEILING AT LOCATION DIRECTED BY OWNER.

SYMBOL	DESCRIPTION
	COMMUNICATIONS EQUIPMENT BACKBOARD. BACKBOARD SHALL BE SECURELY FASTENED TO WALL.
	VOICE/DATA COMMUNICATIONS OUTLET. PROVIDE A 4" SQUARE STEEL BOX WITH PLASTER RING MOUNTED IN WALL AT 18" AFF UNLESS NOTED OTHERWISE. PROVIDE A ONE INCH EMT RACEWAY WITH PULL STRING FROM OUTLET TO COMMUNICATIONS BACKBOARD "CB1". PROVIDE A FIBER BUSHING ON BOTH ENDS OF RACEWAY.
	VOICE/DATA COMMUNICATIONS OUTLET. PROVIDE A 4" SQUARE STEEL BOX WITH PLASTER RING FLUSH MOUNTED IN WALL AT 54" AFF OR 6" ABOVE COUNTERTOP UNLESS NOTED OTHERWISE. COORDINATE MOUNTING LOCATION WITH ARCHITECTURAL MILLWORK WHERE APPLICABLE. PROVIDE A ONE INCH EMT RACEWAY WITH PULL STRING FROM OUTLET TO COMMUNICATIONS BACKBOARD "CB1". PROVIDE A FIBER BUSHING ON BOTH ENDS OF RACEWAY.
	DATA COMMUNICATIONS OUTLET. PROVIDE A 4" SQUARE STEEL BOX WITH SINGLE-GANG PLASTER RING FLUSH MOUNTED IN ACOUSTICAL DROP CEILING TILE AT LOCATION DIRECTED BY OWNER (OUTLET TO SERVE OVERHEAD PROJECTOR). PROVIDE A CEILING GRID BRACKET TO SUPPORT BACKBOX. PROVIDE A ONE INCH EMT RACEWAY WITH PULL STRING FROM OUTLET TO COMMUNICATIONS BACKBOARD "CB1". PROVIDE A FIBER BUSHING ON BOTH ENDS OF RACEWAY.
TV	CABLE TELEVISION OUTLET. PROVIDE A 4" SQUARE STEEL BOX WITH SINGLE-GANG PLASTER RING FLUSH MOUNTED IN WALL AT 18" AFF. PROVIDE A ONE INCH EMT RACEWAY WITH PULL STRING FROM OUTLET TO COMMUNICATIONS BACKBOARD "CB1". PROVIDE A FIBER BUSHING ON BOTH ENDS OF RACEWAY.
SP	SOUND SYSTEM SPEAKER OUTLET. PROVIDE A SINGLE-GANG STEEL BOX AND WALLPLATE WITH 3/8" BUSHED OPENING MOUNTED TO STRUCTURE ABOVE CEILING. PROVIDE A 3/4" INCH EMT RACEWAY WITH PULL STRING FROM OUTLET TO FLUSH BOX AS SHOWN ON PLAN. PROVIDE A FIBER BUSHING ON ALL ENDS OF RACEWAY.
	SURFACE MOUNTED CONTROL PANEL, TYPE AS NOTED ON PLAN.
	FLUSH MOUNTED CONTROL PANEL, TYPE AS NOTED ON PLAN.
RIM	FIRE ALARM SYSTEM ADDRESSABLE RELAY INTERFACE CONTROL MODULE. MOUNT MODULE IN A STEEL NEMA-1 ENCLOSURE.
F	FIRE ALARM MANUAL PULL STATION. SURFACE MOUNT STATION ON WALL WITH TOP OF STATION AT 48 INCHES ABOVE FINISHED FLOOR. PROVIDE STATION MANUFACTURER'S CUSTOM SURFACE BACKBOX TO MOUNT STATION.
S	ADDRESSABLE PHOTO-ELECTRIC SMOKE DETECTOR. SEMI-FLUSH MOUNT DETECTOR IN CEILING. PROVIDE CEILING-GRID SUPPORT BRACKET TO SUPPORT DETECTOR BACKBOX. MAINTAIN U.L. LISTED SPACING WHEN DETERMINING EXACT DETECTOR MOUNTING LOCATION.
V 15cd	VISIBLE (STROBE) NOTIFICATION APPLIANCE. SEMI-FLUSH MOUNT APPLIANCE IN CEILING. PROVIDE CEILING-GRID SUPPORT BRACKET TO SUPPORT APPLIANCE BACKBOX. PROVIDE STROBE MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE STROBE IS MOUNTED ON NON-ACCESSIBLE CEILINGS. PROVIDE STROBE WITH CANDELA RATING NOTED ON PLAN.
V 15cd	VISIBLE (STROBE) NOTIFICATION APPLIANCE. SEMI-FLUSH MOUNT APPLIANCE IN WALL WITH BOTTOM OF APPLIANCE A MINIMUM OF 80 INCHES ABOVE FINISHED FLOOR AND/OR TOP OF APPLIANCE A MAXIMUM OF 96 INCHES ABOVE FINISHED FLOOR. PROVIDE STROBE MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE STROBE IS MOUNTED ON NON-ACCESSIBLE WALL. PROVIDE STROBE WITH CANDELA RATING NOTED ON PLAN.
15cd	COMBINATION AUDIBLE/VISIBLE (SPEAKER & STROBE) NOTIFICATION APPLIANCE. SEMI-FLUSH MOUNT APPLIANCE IN ACCESSIBLE CEILINGS. PROVIDE CEILING-GRID SUPPORT BRACKET TO SUPPORT APPLIANCE BACKBOX. PROVIDE APPLIANCE MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE APPLIANCE IS MOUNTED ON NON-ACCESSIBLE CEILINGS. PROVIDE APPLIANCE WITH STROBE CANDELA RATING NOTED ON PLAN.
F 15cd	COMBINATION AUDIBLE/VISIBLE (SPEAKER & STROBE) NOTIFICATION APPLIANCE. SEMI-FLUSH MOUNT APPLIANCE IN WALL WITH BOTTOM OF APPLIANCE A MINIMUM OF 80 INCHES ABOVE FINISHED FLOOR AND/OR TOP OF APPLIANCE A MAXIMUM OF 96 INCHES ABOVE FINISHED FLOOR. PROVIDE APPLIANCE MANUFACTURER'S CUSTOM SURFACE BACKBOX WHERE APPLIANCE IS MOUNTED ON NON-ACCESSIBLE WALL. PROVIDE APPLIANCE WITH STROBE CANDELA RATING NOTED ON PLAN.
	CCTV CAMERA OUTLET. PROVIDE A SINGLE-GANG STEEL BOX FLUSH MOUNTED IN CEILING TILE. PROVIDE AN ERICO GRID SUPPORT BRACKET FOR BOX. PROVIDE A 3/4" INCH EMT RACEWAY WITH PULL STRING FROM OUTLET TO CONTROL PANEL "CCTV1" OR "CCTV2" AS NOTED ON PLAN. PROVIDE A FIBER BUSHING ON BOTH ENDS OF RACEWAY.
	CCTV CAMERA OUTLET. PROVIDE A SINGLE-GANG STEEL BOX AND WALLPLATE WITH 3/8" BUSHED OPENING FLUSH IN WALL AT 84" AFF. PROVIDE A 3/4" INCH EMT RACEWAY WITH PULL STRING FROM OUTLET TO CONTROL PANEL "CCTV1" OR "CCTV2" AS NOTED ON PLAN. PROVIDE A FIBER BUSHING ON BOTH ENDS OF RACEWAY.
A	ARLINGTON #TVBU505 2-GANG (1 POWER & 1 LOW-VOLTAGE) WHITE RECESSED TV BOX.
B	ARLINGTON #TVBU507 3-GANG (1 POWER & 2 LOW-VOLTAGE) WHITE RECESSED TV BOX.
E	EXISTING 2'x4' FLUORESCENT TROFFER - TO REMAIN IN PLACE.
R	EXISTING 2'x2' FLUORESCENT TROFFER - REMOVE
R	EXISTING 8' FLUORECENT STRIP FIXTURE - REMOVE.
R	EXISTING EYEBALL DOWNLIGHT - REMOVE.
R	EXISTING WALL MOUNTED LIGHT SWITCH - REMOVE.
R	EXISTING 120-VOLT WALL MOUNTED RECEPTACLE - REMOVE.
R	EXISTING WALL MOUNTED DATA OUTLET - REMOVE.
R	EXISTING CEILING MOUNTED CAMERA - REMOVE AND TURN OVER TO OWNER.

GOODWYN | MILLS | CAWOOD

101 E. Washington Street, Suite 320 | Greenville, SC 29601

Tel 864.233.2804 | GMCNETWORK.COM

ISSUE	DATE
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drawn by: JSJ

checked by: JWL

NORTH CAROLINA NATIONAL ENGINEERING ASSOC., LLC COA-4406 CERTIFICATE OF AUTHORITY

USCL NURSING SIM LAB

476 Hubbard Dr, Lancaster SC

GMC # AGRE140025

ose # H37-9515

Issue for Bid

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL No. 19085 02/24/2015 REGISTERED JOSEPH W. LAMB

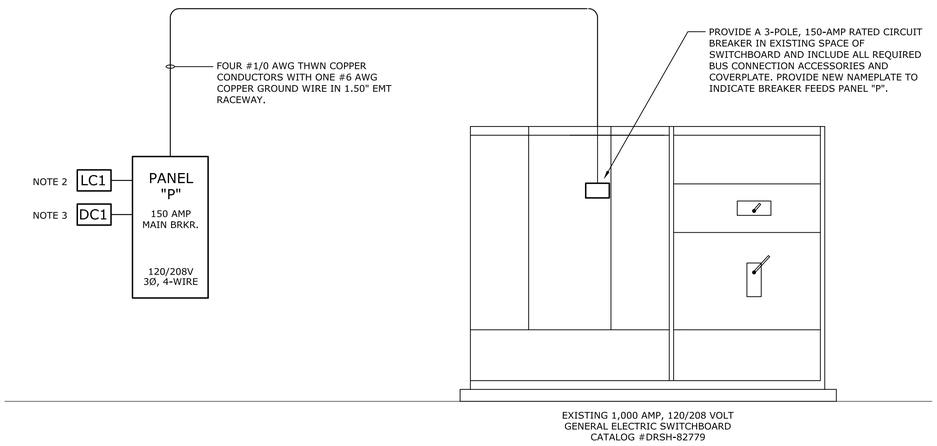
GENERAL NOTES, LEGEND, AND DETAILS

E1.00

sheet of

ELECTRICAL SINGLE-LINE DIAGRAM NOTES

1. PANELBOARD GROUNDING: VERIFY THAT NEUTRAL BUS IN PANELBOARD "P" IS ISOLATED FROM GROUND.
2. LIGHTING CONTROL PANEL "LC1": PROVIDE A WATTSTOPPER #LMCP LIGHTING CONTROL PANEL WITH A MINIMUM OF 6 RELAYS. SEE LIGHTING CONTROL PANEL SCHEDULE ON THIS DRAWING. PROGRAM ALL RELAYS TO RESPOND TO OVERRIDE INPUTS. PROCURE THE SERVICES OF A FACTORY-CERTIFIED WATTSTOPPER TECHNICIAN TO PROVIDE STARTUP AND CUSTOM TIME SCHEDULE PROGRAMMING AS DIRECTED BY OWNER.
3. DIMMER CONTROL PANEL "DC1": PROVIDE A LUTRON #4000 GRAFIK-EYE CONTROL PANEL/SYSTEM TO CONTROL LIGHTS IN CLASSROOM AND INTERFACE WITH OWNER-FURNISHED CRESTRON CONTROL SYSTEM. PROVIDE SYSTEM PROGRAMMING AS DIRECTED BY THE OWNER.

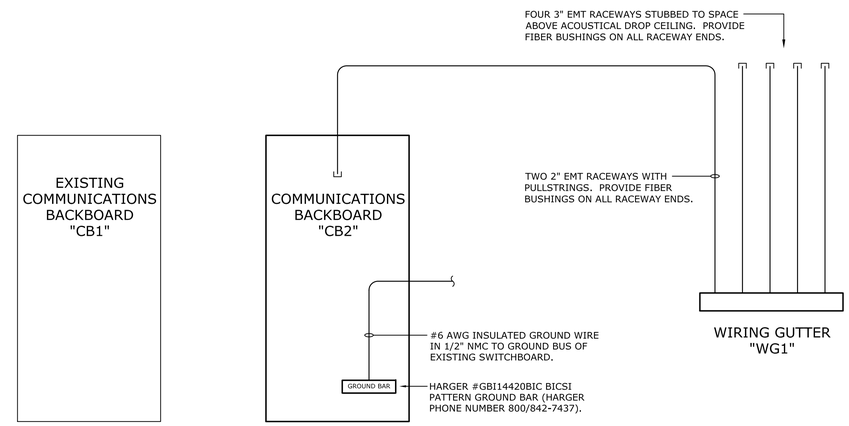


1 E2.00 POWER SINGLE-LINE DIAGRAM

NOT TO SCALE

COMMUNICATIONS SINGLE-LINE DIAGRAM NOTES

1. BACKBOARD "CB2" SHALL BE A 8' HIGH BY 4' WIDE BY 3/4" THICK SHEET OF PLYWOOD AND SHALL BE PAINTED WITH TWO COATS OF GRAY FIRE RETARDANT TYPE PAINT ON ALL SIDES.
2. WIRING GUTTER "WG1" SHALL BE A 4'x6"x6" STEEL WIRING GUTTER WITH STEEL SCREW COVER, SURFACE MOUNTED AT 24" AFF. PROVIDE FOUR 3" DIAMETER GROMMETED CIRCULAR OPENINGS, EVENLY SPACED ALONG BOTTOM SIDE OF BOX FOR CABLE EXIT.



2 E2.00 COMMUNICATIONS SINGLE-LINE DIAGRAM

NOT TO SCALE

120/208V, 3Ø, 4-WIRE, 60 HZ
150 AMP MAIN BREAKER, TOP FED
NEMA-1 ENCLOSURE, SURFACE MOUNTED
42,000 A.I.C. SYM. (MINIMUM)

PANEL "P"

LOADS SERVED	BKR. AMP	LOAD KVA	CKT. NO.	(S / N)	CKT. NO.	LOAD KVA	BKR. AMP	LOADS SERVED
FIRE ALARM CONTROL PANEL	20	0.2	1		2	1.2	20	RECEPTS: SIM LAB 105
CONTROL POWER & GRAFIK-EYE	20	0.8	3		4	1.0	20	RECEPTS: SIM LAB 106 (BED)
RECEPTS: EQUIPMENT ROOM 103	20	1.2	5		6	1.2	20	RECEPTS: SIM LAB 106
EXIT SIGNS	20	0.2	7		8	1.4	20	RECEPTS: CORR. & CONTROL RM
LIGHTS: CLASSROOM 101	20	1.3	9		10	0.8	20	RECEPTS: CONTROL ROOM
LIGHTS: CLASSROOM 101	20	1.4	11		12	1.2	20	RECEPTS: CONTROL ROOM
LIGHTS: DEBRIEF, CORR, CONTROL	20	1.5	13		14	1.6	20	RECEPTS: CONTROL ROOM
LIGHTS: LABS 104, 105, 106	20	0.8	15		16	1.2	20	RECEPTS: CONTROL ROOM
RECEPTS, CLASSROOM 101	20	1.4	17		18	1.2	20	ACCESS CONTROL & CCTV
RECEPTS, ROOM101,104,105,106	20	1.4	19		20	1.4	20	LAB HVAC: CU–CR–1/AH–CR–1
FLOOR RECEPTS: ROOM 101	20	0.8	21		22	1.4		
FLOOR RECEPTS: ROOM 101	20	0.8	23		24	1.4	20	LAB HVAC: CU–CR–1/AH–CR–1
FLOOR RECEPTS: ROOM 101	20	0.8	25		26	1.4		
RECEPTS: PODIUM & PROJECTOR	20	1.0	27		28	2.3	20	NURSING LAB WATER HEATER
RECEPTS: ROOM 101, BED #1	20	1.0	29		30	2.3		
RECEPTS: ROOM 101, BED #2	20	1.0	31		32	1.0	20	NURSING LAB VACUUM PUMP
RECEPTS: ROOM 101, BED #3	20	1.0	33		34	1.0		
RECEPTS: ROOM 101, BED #4	20	1.0	35		36	1.6	20	NURSING LAB AIR COMPRESSOR
RECEPTS: SIM LAB 104 (BED)	20	1.0	37		38	O.6	20	RECEPTS: DEBRIEF ROOM
RECEPTS: SIM LAB 104	20	1.2	39		40	1.2	20	RECEPTS: DEBRIEF ROOM
RECEPTS: SIM LAB 105 (BED)	20	1.0	41		42	1.0	20	RECIRC PUMP, VAV BOXES

TOTAL LOAD (KVA) = 47.3

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checked by: JWL

NORTH CAROLINA LAND ENGINEERING ASSOC. LLC COA–4406 NOT A CERTIFICATE OF AUTHORITY

USCL NURSING SIM LAB

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GMC # AGRE140025
ose # H37-9515
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL No. 19085 REGISTERED 02/24/2015 JOSEPH W. LAND

ELECTRICAL SINGLE-LINE DIAGRAMS AND DETAILS

E2.00

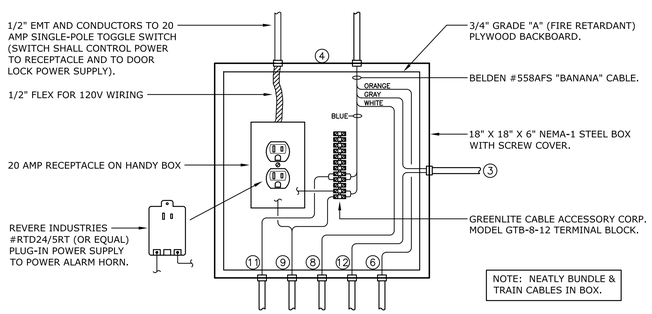
sheet of

DOOR DETAIL LEGEND

1	20 AMP SINGLE POLE TOGGLE SWITCH. SWITCH SHALL BE WIRED TO CONTROL POWER TO DOOR LOCK POWER SUPPLY AND THE RECEPTACLE LOCATED IN THE ACCESS CONTROL JUNCTION BOX.
2	FIRE ALARM ADDRESSABLE RELAY INTERFACE MODULE (FOR DOOR RELEASE). WIRE TO DOOR RELEASE INPUT CONTACTS ON DOOR POWER SUPPLY. SEE NOTE 8.
3	SINGLE-DOOR OR DOUBLE-DOOR LOCK POWER SUPPLY - FURNISHED BY DOOR HARDWARE SUPPLIER. SEE NOTE 1.
4	ACCESS CONTROL JUNCTION BOX. PROVIDE BOX IN ACCORDANCE WITH DETAIL 3 OR 4 ON THIS DRAWING, AS APPLICABLE.
5	ACCESS CONTROL SYSTEM PANEL - FURNISHED BY THE OWNER. CONTRACTOR SHALL MOUNT PANEL, PROVIDE BELDEN "BANANA" CABLE FROM PANEL TO ACCESS CONTROL JUNCTION BOXES, AND PROVIDE 120V POWER TO PANEL.
6	CARD READER BACKBOX - MOUNT ON NON-SECURE SIDE OF DOOR. CARD READER WILL BE FURNISHED AND INSTALLED BY THE OWNER.
7	DOOR MOUNTED ELECTRIC POWER TRANSFER DEVICE - FURNISHED BY DOOR HARDWARE SUPPLIER. SEE NOTES 2 & 3.
8	MAGNETIC DOOR POSITION SWITCH (RECTANGULAR NEMA CONFIG-URATION) - FURNISHED BY DOOR HARDWARE SUPPLIER. SEE NOTE 2.
9	DOOR ALARM SOUNDER/HORN - PROVIDE EDWARDS MODEL #875-G1. SEMI-FLUSH MOUNT HORN ABOVE DOOR (NON-SECURE SIDE) ON A 4"x4"x2-1/8" STEEL BACKBOX. FIELD ADJUST VOLUME POTENTIOMETER TO SUIT OWNER REQUIREMENTS.
10	EGRESS HARDWARE WITH INTEGRAL ELECTRIC VERTICAL ROD RETRACTION AND REX SWITCH - FURNISHED BY DOOR HARDWARE SUPPLIER. SEE NOTE 2.
11	EGRESS HARDWARE WITH INTEGRAL REX SWITCH - FURNISHED BY DOOR HARDWARE SUPPLIER. SEE NOTE 2.
12	ELECTRIC DOOR STRIKE - FURNISHED BY DOOR HARDWARE SUPPLIER. SEE NOTES 2 & 3.
13	STEEL DOOR FRAME BACKBOX - SEE NOTE 3.
14	PLUG-IN POWER SUPPLY TO POWER ALARM HORN - PROVIDE REVERE INDUSTRIES #RTD24/5RT (OR EQUAL).

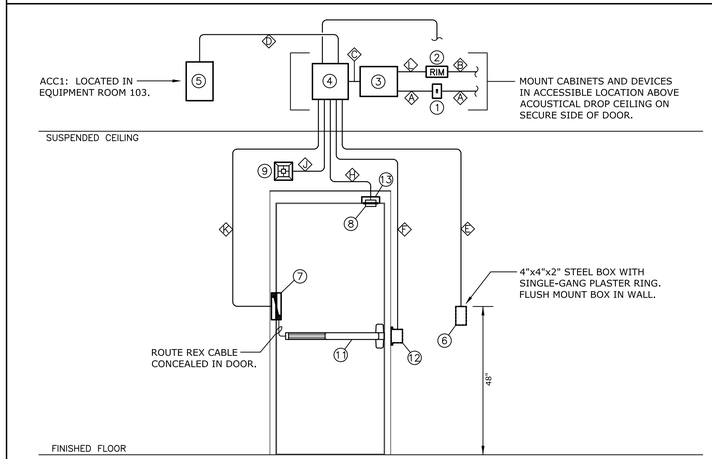
WIRE & RACEWAY LEGEND

A	120 VAC: 1/2" EMT WITH THREE #12 AWG THWN WIRES FROM PANELBOARD "P".
B	FIRE ALARM CONTROL: 1/2" EMT RUN TO FIRE ALARM SIGNALING LINE AND 12-VDC POWER CIRCUITS. CABLES SHALL BE PER FIRE ALARM MANUFACTURER'S RECOMMENDATION.
C	CABINET INTERCONNECTION: 1" EMT ROUTED BETWEEN ACCESS CONTROL SYSTEM CABINETS.
D	1" EMT WITH ONE BELDEN #558AFS "BANANA" CABLE RUN TO ACCESS CONTROL SYSTEM PANEL.
E	CARD READER: 1/2" EMT RUN WITH ONE CONTINUOUS LENGTH OF CARD READER CABLE (ORANGE) FROM THE BELDEN #558AFJ COMPOSITE CABLE. COIL 18" OF SLACK CABLE IN CARD READER BACKBOX.
F	DOOR STRIKE POWER: 1/2" EMT RUN WITH ONE STRIPPED-OUT LENGTH OF DOOR LOCK POWER CABLE (GRAY) FROM THE BELDEN #558AFJ COMPOSITE CABLE (ROUTE THROUGH DOOR LOCK POWER SUPPLY).
G	DOOR LOCK POWER AND REX SWITCH COMBINED: 1/2" EMT RUN WITH ONE STRIPPED-OUT LENGTH OF DOOR LOCK POWER CABLE (GRAY) AND ONE STRIPPED-OUT LENGTH OF REQUEST-TO-EXIT CABLE (BLUE) FROM THE BELDEN #558AFJ COMPOSITE CABLE. ROUTE GRAY CABLE THROUGH DOOR LOCK POWER SUPPLY. ROUTE BOTH CABLES THROUGH POWER TRANSFER HINGE TO REX SWITCH AND TO ELECTRIC DOOR LOCK.
H	DOOR POSITION SWITCH: 1/2" EMT RUN WITH ONE STRIPPED-OUT LENGTH OF DOOR POSITION SWITCH CABLE (WHITE) FROM THE BELDEN #558AFJ COMPOSITE CABLE.
J	DOOR ALARM HORN: 1/2" EMT RUN WITH ONE STRIPPED-OUT LENGTH OF BLUE CABLE FROM THE BELDEN #558AFJ COMPOSITE CABLE.
K	REX SWITCH: 1/2" EMT WITH ONE STRIPPED-OUT LENGTH OF REQUEST-TO-EXIT CABLE (BLUE) FROM THE BELDEN #558AFJ COMPOSITE CABLE (ROUTE CABLE THROUGH POWER TRANSFER HINGE REX SWITCH).
L	FIRE ALARM INTERFACE: 1/2" EMT WITH ONE BELDEN #8719 CABLE.



3 E2.01 ACCESS CONTROL JUNCTION BOX

NOT TO SCALE



1 E2.01 ACCESS CONTROLLED DOOR DETAIL: SINGLE

NOT TO SCALE DOOR 108

ACCESS CONTROL SYSTEM NOTES

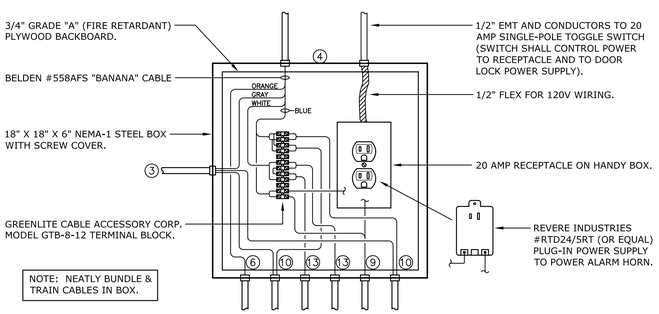
1. DOOR LOCK POWER SUPPLIES FOR DOOR HARDWARE WILL BE FURNISHED BY THE DOOR HARDWARE SUPPLIER. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR MOUNTING AND WIRING EACH POWER SUPPLY UNIT.
2. ELECTRIC STRIKES, ELECTRIC LOCK MECHANISMS, POWER TRANSFER HINGES, AND NEMA DOOR POSITION SWITCHES WILL BE FURNISHED BY THE DOOR HARDWARE SUPPLIER. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE FOLLOWING:

   WIRING FROM THE JUNCTION BOX AND THE DOOR LOCK POWER SUPPLY ABOVE THE DOOR TO ELECTRIC LOCK MECHANISMS, TO ELECTRIC DOOR STRIKES, TO DOOR POSITION SWITCHES, AND TO REQUEST-TO-EXIT (REX) SWITCHES, AS APPLICABLE.

   WIRING THROUGH POWER TRANSFER HINGES TO DOOR HARDWARE, INCLUDING SPLICES TO TRANSFER HINGE PIGTAILS.

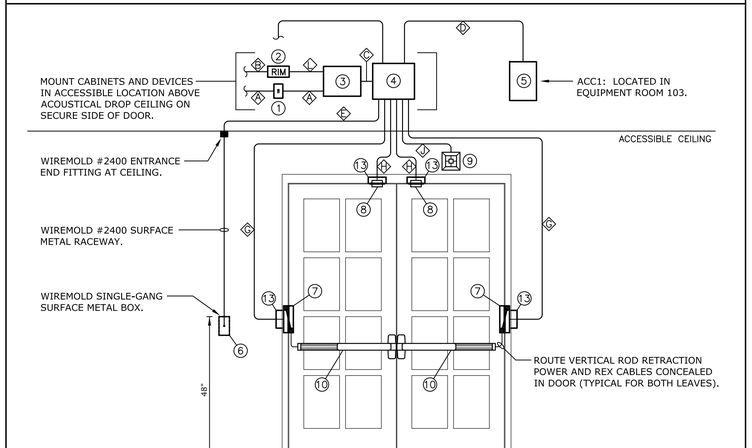
   DRILLING REQUIRED TO INSTALL WIRING IN FRAMES AND DOORS.

   REMOVING AND RE-INSTALLING HARDWARE AND DOOR COMPONENTS AS REQUIRED TO TROUBLESHOOT AND MAKE ANY REQUIRED ADJUSTMENTS.
3. COORDINATE WITH DOOR HARDWARE AND DOOR FRAME MANUFACTURERS TO ENSURE THAT PROPERLY SIZED ELECTRICAL BACKBOXES ARE PROVIDED FOR EACH POWER TRANSFER HINGE AND EACH MAGNETIC DOOR POSITION SWITCH.
4. ALL ACCESS CONTROL SYSTEM WIRES AND CABLES SHALL BE INSTALLED IN RACEWAY. LABEL ALL WIRES AND CABLES AT EACH END.
5. ACCESS CONTROL SYSTEM RACEWAYS SHALL BE CONCEALED IN WALLS AND ABOVE ACOUSTICAL DROP CEILINGS UNLESS NOTED OTHERWISE. RACEWAYS MAY BE INSTALLED EXPOSED IN EQUIPMENT ROOMS. LABEL ALL RACEWAYS ABOVE CEILINGS, NEAR EACH END.
6. EDGE PROTECTION: ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING EDGE PROTECTION FOR DOORS, DOOR FRAMES, DOOR HARDWARE, AND RACEWAYS ASSOCIATED WITH ACCESS CONTROL SYSTEM WIRING. RUBBER GROMMETS AND/OR FOAM-IN-PLACE TYPE EDGE PROTECTION SHALL BE PROVIDED. EDGE PROTECTION METHODS SHALL NOT INHIBIT FUTURE REPLACEMENT OF WIRING. CABLES WITH DAMAGED INSULATION AND/OR OUTER JACKETS SHALL BE COMPLETELY REPLACED AT THE ELECTRICAL CONTRACTOR'S EXPENSE; ELECTRICAL CONTRACTOR SHALL NOT ATTEMPT TO REPAIR DAMAGED CABLES.
7. SPLICES IN ACCESS CONTROL WIRING SHALL BE KEPT TO A MINIMUM. WHERE SPLICES ARE REQUIRED TO CONNECT PIGTAIL WIRING TO FIELD CABLES, ELECTRICAL CONTRACTOR SHALL USE THE COMBINATION OF AN INSULATED BUTT-SPLICE CONNECTOR AND HEAT-SHRINKABLE TUBING FOR EACH SPLICE. EACH SPLICED CIRCUIT SHALL BE PROPERLY TESTED FOR CONTINUITY.
8. FIRE ALARM SYSTEM: PROVIDE PROGRAMMING FOR FIRE ALARM CONTROL PANEL AS REQUIRED TO CAUSE ACCESS CONTROLLED DOORS TO BE RELEASED (UNLOCKED) WHEN A GENERAL FIRE ALARM OCCURS.
9. INDIVIDUAL DOOR DETAILS DEPICT DOORS AS SEEN FROM SECURE SIDE OF DOOR. VERIFY EACH DOOR CONFIGURATION PRIOR TO ROUGH-IN TO ENSURE BACKBOXES AND CONDUITS ARE PROPERLY INSTALLED TO ALL DEVICES AS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM.



4 E2.01 ACCESS CONTROL JUNCTION BOX

NOT TO SCALE



2 E2.01 ACCESS CONTROLLED DOOR DETAIL: DOUBLE

NOT TO SCALE DOOR 101

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SOUTH CAROLINA PROFESSIONAL ENGINEER SEAL No. 19085 02/24/2015 JOSEPH W. LANDRUM

ACCESS CONTROL DETAILS

E2.01

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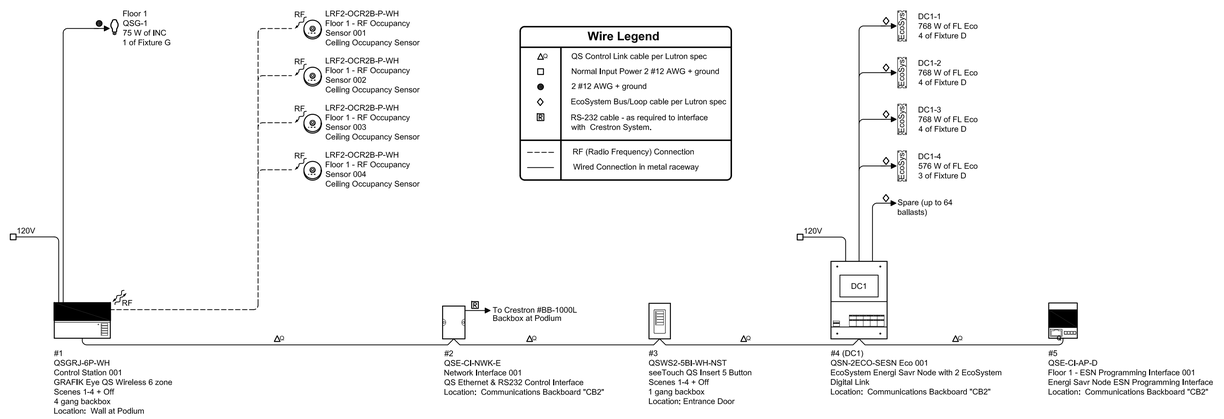
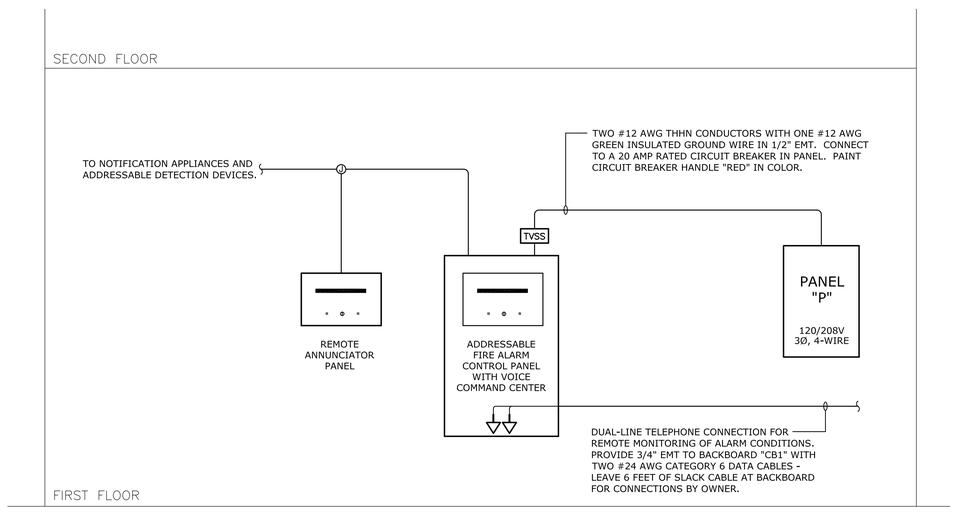


1 E2.02 GRAFIK Eye SINGLE-LINE DIAGRAM

NOT TO SCALE



2 E2.02 FIRE ALARM SINGLE-LINE DIAGRAM

NOT TO SCALE

FIRE ALARM SYSTEM NOTES

1. FURNISH SHOP DRAWINGS FROM THE FIRE ALARM MANUFACTURER INDICATING ALL WIRING FOR DETECTION AND NOTIFICATION CIRCUITS. INCLUDE EQUIPMENT TYPES AND LOCATIONS, RACEWAY SIZES, NUMBER AND TYPES OF WIRES/CABLES, DIAMETERS OF CABLES/WIRES AND COLOR CODING FOR EACH CIRCUIT TYPE. SHOP DRAWINGS SHALL BE PROVIDED ON 24" X 36" (D-SIZE) PRINTS.
2. ALL STROBES SHALL BE SYNCHRONIZED. ALL AUDIBLE NOTIFICATION DEVICES SHALL BE TEMPORAL CODED AND SHALL BE SYNCHRONIZED. PROVIDE BATTERY CALCULATIONS TO VERIFY THE SECONDARY POWER SUPPLY HAS ADEQUATE CAPACITY IN ACCORDANCE WITH NFPA 72.
3. PROVIDE THREE SETS OF OPERATION AND MAINTENANCE MANUALS FOR THE FIRE ALARM SYSTEM. PROVIDE A BINDER FOR EACH SET.
4. PROVIDE A COMPLETE FIRE ALARM TEST IN ACCORDANCE WITH NFPA 72. ALL SMOKE DETECTORS SHALL BE TESTED WITH AN APPROVED AERASOL SMOKE PRODUCT. PROVIDE A WRITTEN RECORD OF THE INSPECTIONS, TESTS, AND DETAILED TEST RESULTS IN THE FORM OF A TEST LOG. SUBMIT LOG UPON THE SATISFACTORY COMPLETION OF TESTS.
5. PROVIDE 8 HOURS OF TRAINING FOR TROUBLE-SHOOTING AND MAINTENANCE OF THE FIRE ALARM SYSTEM. SCHEDULE TRAINING WITH OWNER.
6. PROVIDE FOR TWO SITE VISITS BY A FIRE ALARM SYSTEM TECHNICIAN AFTER PROJECT COMPLETION TO REPROGRAM THE FIRE ALARM SYSTEM AND/OR ADJUST SPEAKER TAP SETTINGS AS REQUESTED BY THE OWNER.

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101 E. Washington Street, Suite 320 | Greenville, SC 29601
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LIGHTING AND FIRE ALARM SINGLE-LINE DIAGRAMS

E2.02

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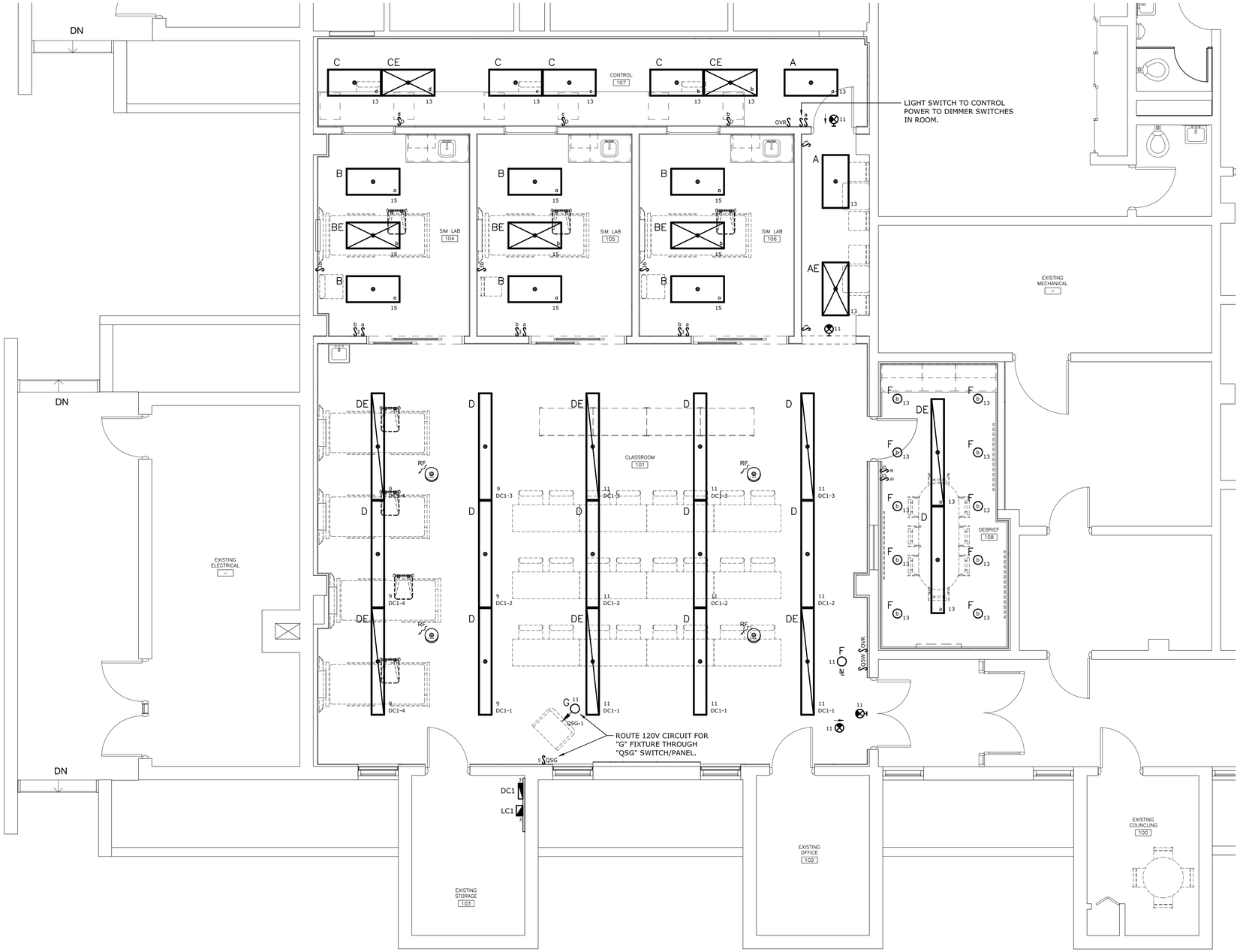

LIGHTING NOTES

1. LIGHTING CIRCUITS INDICATED ON PLAN SHALL BE SERVED FROM PANEL "P" UNLESS NOTED OTHERWISE. ALL CIRCUITS SHALL BE TWO #12 AWG THHN WITH ONE #12 AWG GREEN INSULATED GROUND WIRE IN 3/4" EMT RACEWAY UNLESS NOTED OTHERWISE. PROVIDE #12 AWG THHN TRAVELERS AS REQUIRED FOR SWITCHING CIRCUITS.
2. LC1: ALL LIGHTING CIRCUITS SHALL BE ROUTED THROUGH RELAYS OF LIGHTING CONTROL PANEL "LC1" EXCEPT AS FOLLOWS:
   A) CIRCUITS SERVING EXIT SIGNS & NIGHT LIGHTS.
   B) GRAFIK-EYE LIGHTING CIRCUITS.

NOTE: A NON-SWITCHED PHASE CONDUCTOR SHALL BE ROUTED TO ALL LIGHTING FIXTURES WITH BATTERY PACKS (FOR CHARGING AND FOR CIRCUIT LOSS DETECTION).

GRAFIK Eye LOAD SCHEDULE

ZONE	LOAD DESCRIPTION	VOLTAGE	AMPS	WATTS
DC1-1	FLUORESCENT	120	4.25	510
DC1-2	FLUORESCENT	120	4.25	510
DC1-3	FLUORESCENT	120	4.25	510
DC1-4	FLUORESCENT	120	4.25	510
DC1-5	SPARE	120	-	-
QSG-1	INCANDESCENT	120	0.63	75

N
PLAN NORTH

1 / E3.00 LIGHTING RENOVATION PLAN - FIRST FLOOR
SCALE: 1/4" = 1'-0"

1/4"=1'-0" 2 0 2 4 8 scale feet

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LIGHTING RENOVATION
PLAN - FIRST FLOOR

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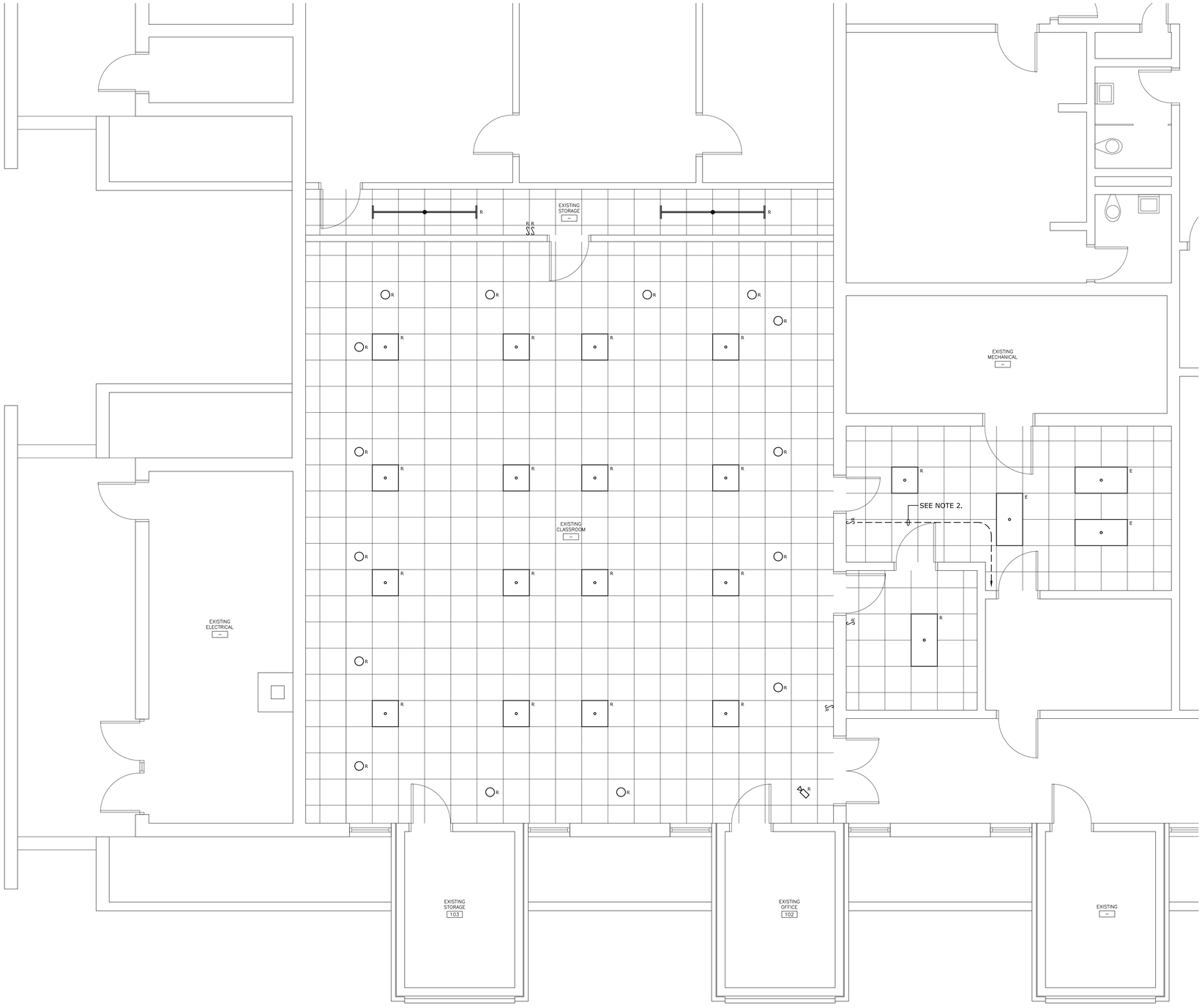

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PLAN NORTH

1/4"=1'-0" 2 0 2 4 8 scale feet

1 / E3.01 LIGHTING DEMOLITION PLAN - FIRST FLOOR

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

DEMOLITION NOTES

1. REMOVE AND LEGALLY DISPOSE OF ALL EXISTING LIGHTING SYSTEM FIXTURES, CONTROLS, DEVICES, AND ALL ASSOCIATED RACEWAY AND WIRING. INTENT OF THIS CONTRACT IS FOR THE CONTRACTOR TO DEMOLISH ALL EXISTING LIGHTING SYSTEM COMPONENTS AND ALL ASSOCIATED RACEWAY AND WIRING IN ROOMS THAT ARE BEING RENOVATED, UNLESS SPECIFICALLY NOTED OTHERWISE. THE CONTRACTOR SHALL VISIT THE SITE/BUILDING TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID AND SHALL INCLUDE ALL WORK REQUIRED FOR A COMPLETE DEMOLITION IN HIS BID. LIGHTING SYSTEM FIXTURES, CONTROLS, AND DEVICES SHOWN ON PLANS WERE COPIED FROM ORIGINAL CONSTRUCTION DRAWINGS AND HAVE NOT BEEN FIELD VERIFIED FOR ACCURACY - THE CONTRACTOR SHALL REMOVE ANY AND ALL ADDITIONAL LIGHTING SYSTEM FIXTURES, CONTROLS, AND DEVICES AND ALL ASSOCIATED RACEWAYS AND WIRING THAT ARE NOT SHOWN ON THE DRAWINGS, BUT CURRENTLY EXIST IN THE SPACES BEING RENOVATED.

   COORDINATE WITH THE OWNER AND ALLOW THE OWNER'S PERSONNEL TO SALVAGE ANY REMOVED LIGHTING FIXTURES AND/OR DEVICES PRIOR TO THEIR DISPOSAL.

2. RELOCATE EXISTING OCCUPANCY SENSOR TO NEW LOCATION AND PROVIDE/REWORK CONDUIT AND WIRING TO ONLY CONTROL LIGHTING FIXTURES IN ROOM THAT ARE EXISTING AND ARE TO REMAIN IN PLACE.

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LIGHTING DEMOLITION PLAN - FIRST FLOOR

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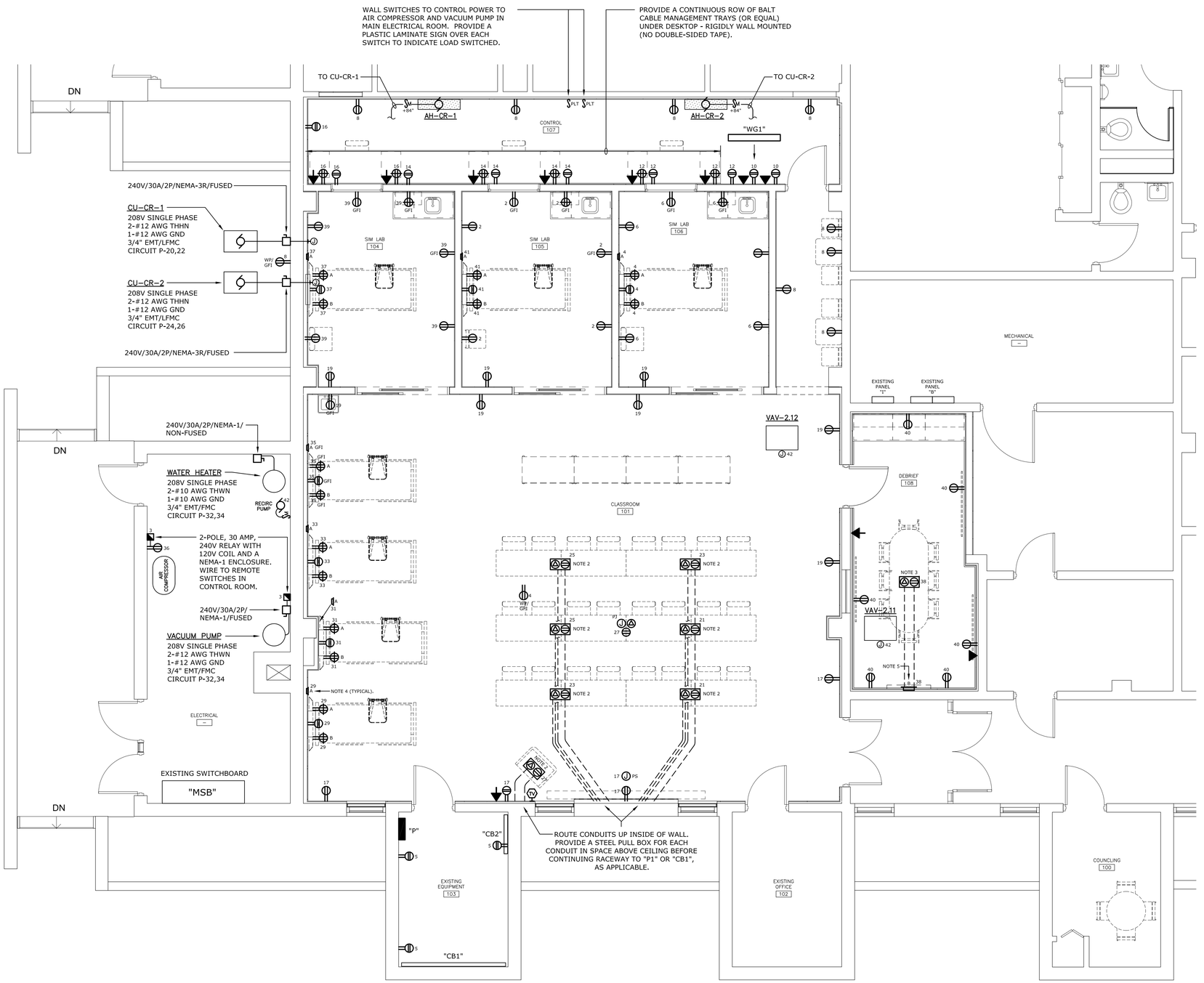

ELECTRICAL NOTES

1. POWER CIRCUITS INDICATED ON PLAN SHALL BE SERVED FROM PANEL "P" UNLESS NOTED OTHERWISE. ALL CIRCUITS SHALL BE TWO #12 AWG THHN WITH ONE #12 AWG GREEN INSULATED GROUND WIRE IN 3/4" EMT RACEWAY UNLESS NOTED OTHERWISE.
2. CLASSROOM 101: PROVIDE A DEDICATED 1" EMT RACEWAY WITH PULLSTRING FROM EXISTING COMMUNICATIONS BACKBOARD "CB1" TO COMMUNICATION SECTION OF EACH FLOOR BOX. PROVIDE 3/4" EMT RACEWAY FROM PANELBOARD "P" TO POWER SECTION OF FLOOR BOXES. SAWCUT AND PATCH EXISTING CONCRETE FLOOR AS REQUIRED TO INSTALL UNDERFLOOR RACEWAYS AND FLUSH FLOOR BOXES.
3. DEBRIEF 108: PROVIDE A DEDICATED 1" EMT RACEWAY WITH PULLSTRING FROM TV BOX IN ROOM TO COMMUNICATION SECTION OF FLOOR BOX. PROVIDE 3/4" EMT RACEWAY FROM TV BOX TO POWER SECTION OF FLOOR BOX. SAWCUT AND PATCH EXISTING CONCRETE FLOOR AS REQUIRED TO INSTALL UNDERFLOOR RACEWAYS AND FLUSH FLOOR BOX.
4. TYPE "A" TV BOXES: PROVIDE A 1" EMT RACEWAY WITH PULL STRING FROM THE LOW-VOLTAGE BOX TO SPACE ABOVE ACOUSTICAL DROP CEILING. PROVIDE A COMMERCIAL GRADE TVSS DUPLEX RECEPTACLE IN POWER BOX AND PROVIDE CIRCUIT AS NOTED.
5. TYPE "B" TV BOXES: PROVIDE A 1" EMT RACEWAY WITH PULL STRING FROM ONE LOW-VOLTAGE BOX TO COMMUNICATIONS BACKBOARD "CB1". PROVIDE A 1" EMT RACEWAY WITH PULL STRING FROM THE OTHER LOW-VOLTAGE BOX TO SPACE ABOVE ACOUSTICAL DROP CEILING. PROVIDE A COMMERCIAL GRADE TVSS DUPLEX RECEPTACLE IN POWER BOX AND PROVIDE CIRCUIT AS NOTED.

PLAN NORTH

1 E4.00 ELECTRICAL RENOVATION PLAN - FIRST FLOOR

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

1/4"=1'-0" 2 0 2 4 8 scale feet

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ELECTRICAL RENOVATION PLAN - FIRST FLOOR

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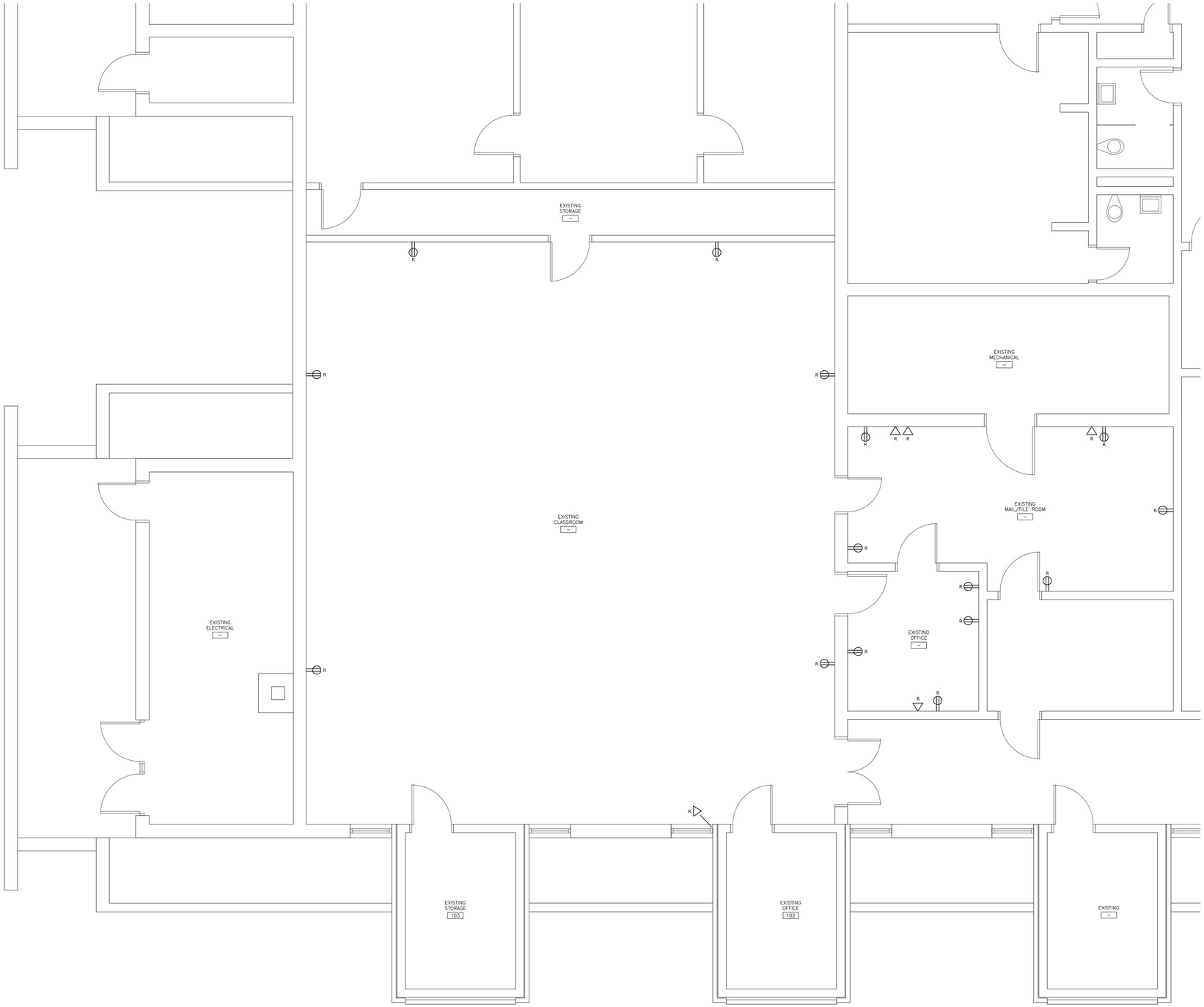

N
PLAN NORTH

1/4"=1'-0" 2 0 2 4 8
scale feet

1 / E4.01 ELECTRICAL DEMOLITION PLAN - FIRST FLOOR

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

DEMOLITION NOTES

1. REMOVE AND LEGALLY DISPOSE OF ALL EXISTING POWER AND SYSTEMS EQUIPMENT, CONTROLS, DEVICES, AND ALL ASSOCIATED RACEWAY AND WIRING. INTENT OF THIS CONTRACT IS FOR THE CONTRACTOR TO DEMOLISH ALL EXISTING POWER AND SYSTEMS COMPONENTS AND ALL ASSOCIATED RACEWAY AND WIRING SYSTEMS IN ROOMS THAT ARE BEING RENOVATED, UNLESS SPECIFICALLY NOTED OTHERWISE. THE CONTRACTOR SHALL VISIT THE SITE/BUILDING TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID AND SHALL INCLUDE ALL WORK REQUIRED FOR A COMPLETE DEMOLITION IN HIS BID. POWER AND SYSTEMS EQUIPMENT, CONTROLS, AND DEVICES SHOWN ON PLANS WERE COPIED FROM ORIGINAL CONSTRUCTION DRAWINGS AND HAVE NOT BEEN FIELD VERIFIED FOR ACCURACY - THE CONTRACTOR SHALL REMOVE ANY AND ALL ADDITIONAL POWER AND SYSTEMS EQUIPMENT, CONTROLS, AND DEVICES AND ALL ASSOCIATED RACEWAYS AND WIRING THAT ARE NOT SHOWN ON THE DRAWINGS, BUT CURRENTLY EXIST IN THE SPACES BEING RENOVATED.

   NOTE: "SYSTEMS" INCLUDE VOICE & DATA COMMUNICATIONS SYSTEMS AND CCTV SYSTEMS.

   COORDINATE WITH THE OWNER AND ALLOW THE OWNER'S PERSONNEL TO SALVAGE ANY REMOVED SYSTEMS EQUIPMENT, CONTROLS, AND/OR DEVICES PRIOR TO THEIR DISPOSAL.

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USCL NURSING SIM LAB

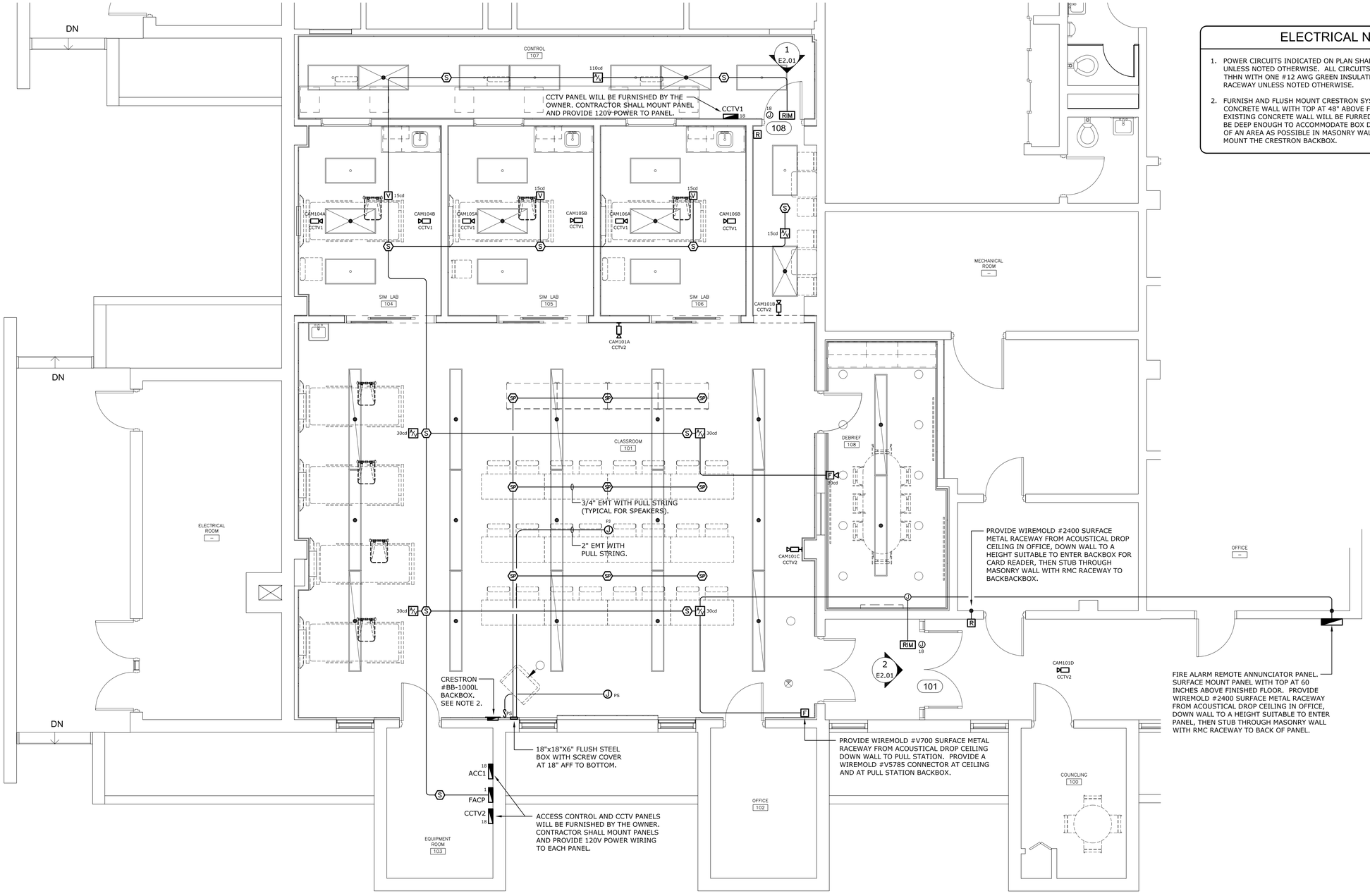
476 Hubbard Dr. Lancaster SC

GMC # AGRE140025
ose # H37-9515
Issue for Bid

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 19085 02/24/2015 REGISTERED JOSEPH W. LANG

ELECTRICAL DEMOLITION PLAN - FIRST FLOOR

E4.01
sheet of



ELECTRICAL NOTES

1. POWER CIRCUITS INDICATED ON PLAN SHALL BE SERVED FROM PANEL "P" UNLESS NOTED OTHERWISE. ALL CIRCUITS SHALL BE TWO #12 AWG THHN WITH ONE #12 AWG GREEN INSULATED GROUND WIRE IN 3/4" EMT RACEWAY UNLESS NOTED OTHERWISE.
2. FURNISH AND FLUSH MOUNT CRESTRON SYSTEM BACKBOX IN EXISTING CONCRETE WALL WITH TOP AT 48" ABOVE FINISHED FLOOR. NOTE THAT EXISTING CONCRETE WALL WILL BE FURRED-OUT, BUT FURRING WILL NOT BE DEEP ENOUGH TO ACCOMMODATE BOX DEPTH - DEMOLISH AS SMALL OF AN AREA AS POSSIBLE IN MASONRY WALL AS REQUIRED TO FLUSH MOUNT THE CRESTRON BACKBOX.

N
PLAN NORTH

1 / E5.00 SYSTEMS RENOVATION PLAN - FIRST FLOOR

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

1/4"=1'-0" scale — 2 0 2 4 8 feet

GOODWYN | MILLS | CAWOOD
101 E. Washington Street, Suite 320 | Greenville, SC 29601
Tel 864.233.2804 | GMCNETWORK.COM

ISSUE	DATE
Issue for Bid	02/24/15

drawn by: JSJ
checked by: JWL

SOUTH CAROLINA NOTIFICATION OF LAND ENGINEERING ASSOC., LLC COA-4406 CERTIFICATE OF AUTHORIZATION

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SYSTEMS RENOVATION PLAN - FIRST FLOOR

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