

# GEORGIA INSTITUTE OF TECHNOLOGY CHERRY EMERSON PETER YUNKER LAB FIT-UP.

**PROJECT LOCATION:**  
Cherry Emerson Building- 2nd Floor, Rooms 230, 232  
310 Ferst Drive NW  
Atlanta, Georgia 30332

**100% CONSTRUCTION DOCUMENTS**  
AUGUST 31st, 2020

**OWNER:**  
GEORGIA INSTITUTE OF TECHNOLOGY  
FACILITIES MANAGEMENT  
O'KEEFE BUILDING  
151 SIXTH STREET NW, 3RD FLOOR  
ATLANTA, GA 30332-0351  
CONTACT: NGUGI MATHU  
470.428.0160 T.

**ARCHITECT:**  
HERA LABORATORY PLANNERS  
1447 PEACHTREE ST NE  
SUITE 880  
ATLANTA, GA, 30309  
314.289.9202 T.  
314.289.6167 F.

**MEP/ FP ENGINEERS**  
VANDERWEIL  
260 PEACHTREE STREET, NW.  
SUITE 1401  
ATLANTA, GEORGIA 30303  
(617) 556-9308 T.

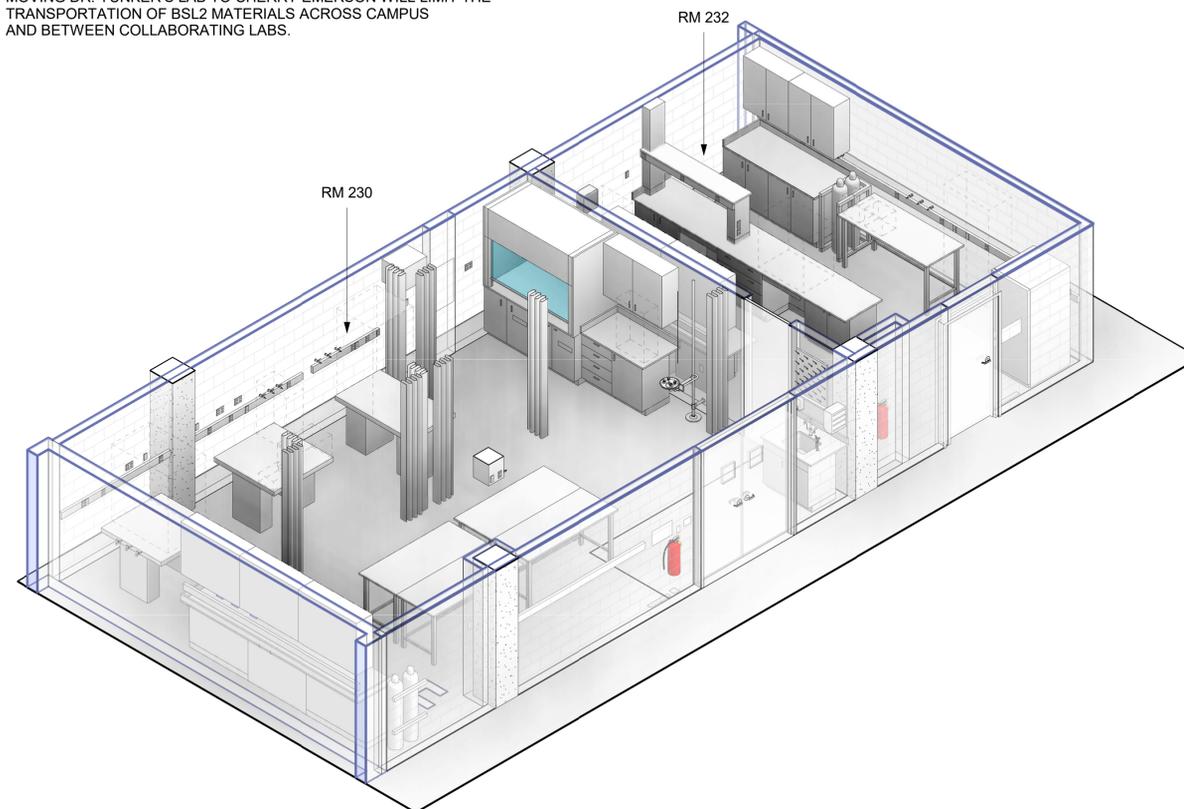
## DRAWING LIST:

GENERAL	
G-001	ABBREVIATIONS, LEGENDS AND NOTES
G-003	LIFE SAFETY PLAN
G-002	PARTITION TYPES
G-000	COVER SHEET
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ED-102	ELECTRICAL- LEVEL 2- DEMO
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E-002	ELECTRICAL SCHEDULES
E-202	ELEC LIGHTING- LEVEL 2
E-302	ELEC POWER- LEVEL 2
E-003	ELECTRICAL SPECIFICATIONS
TELECOM	
C-1	DEMO AND AREA OF NEW WORK

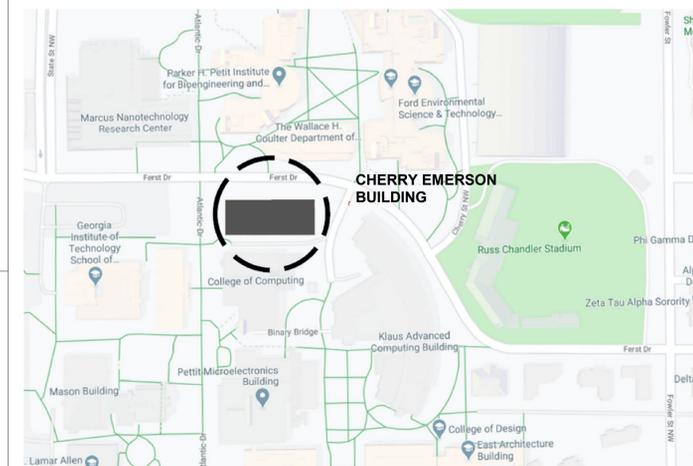
## PROJECT DESCRIPTION:

GEORGIA TECH HAS A BURGEONING INTERDISCIPLINARY FOCUS WITH STRENGTHS IN MICROBIOLOGY. IT IS CRUCIAL THAT RESEARCHERS BE CO-LOCATED IN THE SAME BUILDING TO FACILITATE COLLABORATION. DR. YUNKER'S LAB BRINGS BIOPHYSICAL EXPERTISE AND INSTRUMENTATION TO CHERRY EMERSON, PERFORMING MICROSCOPY AND MECHANICAL MEASUREMENTS OF BACTERIA.

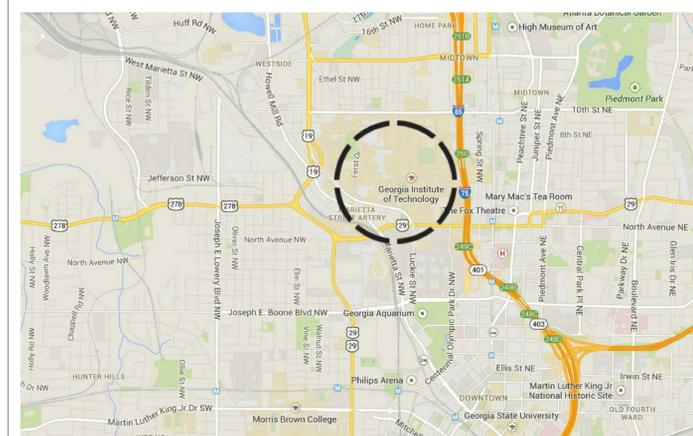
DR. YUNKER'S LAB WILL BE LOCATED NEAR HIS COLLABORATORS IN THE BUILDING, INCLUDING GENETICS (PROF. HAMMER), EVOLUTION (PROF. RATCLIFF), INFECTIOUS DISEASE DYNAMICS (PROF. BROWN), MICROBIAL PHYSIOLOGY (PROF. WHITELEY), AND MODELING (PROF. WEITZ). FURTHER, MOVING DR. YUNKER'S LAB TO CHERRY EMERSON WILL LIMIT THE TRANSPORTATION OF BSL2 MATERIALS ACROSS CAMPUS AND BETWEEN COLLABORATING LABS.



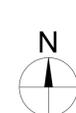
## AREA MAP



## ENLARGED CAMPUS MAP



**PROJECT AREA**  
YUNKER LAB II 2ND FLOOR  
ROOM 230, 232



**HERA Laboratory Planners**  
1447 Peachtree St. NE., Suite 880  
Atlanta, GA 30309  
314.289.9202 T. 314.289.6167 F.

www.herainc.com

Georgia Institute of Technology  
Cherry Emerson Peter Yunker Lab Fit-Up

GT PROJECT #: 0360-2020



Vanderweil  
260 Peachtree Street, NW.  
Suite 1401  
Atlanta, GA 30303  
(617) 556-9308 T

No.	Date	Description
1	08/31/2020	100% CD DOCUMENTS



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**100% CONSTRUCTION DOCUMENTS**

**COVER SHEET**

DRAWN BY: AB/NM  
PROJECT NO: 20176.00  
SHEET NO:

CHECKED BY: NJ/CPR  
DATE: 08/31/2020

**G-000**

SCALE:

**LABORATORY ABBREVIATIONS**

A	AND
@	ACCESSIBLE
ACC	ADJUSTABLE, ADJACENT
ADJ	ABOVE FINISHED FLOOR
AFF	AUTHORITY HAVING JURISDICTION
AHJ	ALTERNATE
ALT	ALUMINUM
ALUM	ARCHITECT/ARCHITECTURAL
ARCH	ARCHITECTURAL WOODWORK (SEE ARCH)
AW	

B	BALANCE
BDNG	BEDDING
BKG	BACKING
BLDG	BUILDING
BLKG	BLOCKING
BO	BOTTOM OF
BOT	BOTTOM
BRKT	BRACKET
BSC	BIOLOGICAL SAFETY CABINET
BSL-#	BIOLOGICAL SAFETY LEVEL (NUMBER)

C	CHANNEL-(SIZE)
C-#	CABINET(S)
CAV	CONSTANT AIR VOLUME
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CFOI	CONTRACTOR FURNISHED, OWNER INSTALLED
CH	CANOPY HOOD
CHEM	CHEMICAL
CL	CENTER LINE
CLG	CEILING
CLOS	CLOSURE
CLR	CLEAR
COL	COLUMN
COMP	COMPUTER
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACT(OR)
CS	CUP SINK
CSWK	CASEWORK
CTR	COUNTER
CTRL	CONTROL(LED)
CYL	CYLINDER

D	DEEP, DEPTH
DEG	DEGREE
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DN	DOWN
DWG	DRAWING(S)

E	EAST
EA	EACH
EL	ELEVATION
ELEC	ELECTRICAL
EMER	EMERGENCY
ENGR	ENGINEER
ENVIR	ENVIRONMENT(AL)
EP	ELECTRICAL PANEL (SEE ELECTRICAL)
EQ	EQUAL
EQUIP	EQUIPMENT
EST	ESTIMATE(D)
EXH	EXHAUST
EX	EXISTING
EXT	EXTERIOR
EGS	EMERGENCY GAS SHUTOFF

F	FILLER (VERIFY WIDTH)
F#	FILLER, (NUMBER) INCH WIDE
FB	FIRE BLANKET (SEE DIV 10 SECTION)
FD	FLOOR DRAIN (SEE PLUMBING)
FE	FIRE EXTINGUISHER/BRACKET (SEE DIV 10 SECTION)
PEC	FIRE EXTINGUISHER (SEE DIV 10 SECTION)
FH	FUME HOOD
FLAM	FLAMMABLE
FLR	FLOOR
FRZ	FREEZER
FT	FOOT/FEET
FUT	FUTURE

G	GAUGE
GALV	GALVANIZED
GL	GLASS
GT	GROUT
GYP BD	GYP SUM BOARD

H	HIGH/HEIGHT
HAZ	HAZARD(OUS)
HB	HOSE BIBB (SEE PLUMBING)
HDW	HARDWARE
HORIZ	HORIZONTAL
HT	HEIGHT
HVY	HEAVY

I	INSIDE DIAMETER
ID	INCHES
IN	INCUBATOR
INSUL	INSULATION
INT	INTERIOR
ISO	ISOLATION

J	JOINT
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K	KNEE SPACE
---	------------

L	ANGLE-(SIZE)
L-	LENGTH
LAB	LABORATORY
LAM	LAMINATE
LBS	POUNDS
LQ	LIQUID
LKR	LOCKER (SEE DIV 10 SECTION)
LH	LONG LEG HORIZONTAL
LV	LONG LEG VERTICAL
LN	LIQUID NITROGEN
LT	LIGHT

M	MATERIAL
MATL	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MKR BD	MARKER BOARD (SEE DIV 10 SECTION)
MTD	MOUNTED
MTG	MOUNTING
MTL	METAL

N	NORTH
N	NOT APPLICABLE
NEG	NEGATIVE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE

O	ON CENTER
OC	OUTSIDE DIAMETER
OD	OWNER FURNISHED, CONTRACTOR INSTALLED
OFCI	OWNER FURNISHED, OWNER INSTALLED
OFOI	OVERHEAD
OH	OPPOSITE HAND
OPH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
OSC	OVERHEAD SERVICE CARRIER

P	POLYETHYLENE
PE	PHENOLIC
PLAM	PLASTIC LAMINATE
PLBG	PLUMBING
PLYWD	PLYWOOD
PNL	PANEL
POS	POSITIVE
PP	POLYPROPYLENE
PROJ SCR	PROJECTION SCREEN (SEE DIV 11 SECTION)
PTD	PAPER TOWEL DISPENSER (SEE DIV 10 SECTION)
PTN	PARTITION

Q	QUANTITY
---	----------

R	RADIUS (DIMENSION)
R=	RADIUS
RAD	RADIUS
RCP	REFLECTED CEILING PLAN (SEE ARCHITECTURAL)
RE	REFER TO
RECS	RECESSED
REF	REFRIGERATOR
REQ	REQUIRE(D)
REQ'S	REQUIREMENTS
REV	REVISION
RH	RELATIVE HUMIDITY
RM	ROOM

S	SOUTH
S	SUBSTRATE
SBSTR	SLOTTED CHANNEL FRAMING (SEE DIV 05 SECTION)
SCF	SOAP DISPENSER (SEE DIV 10 SECTION)
SD	SHOWER
SHR	SHEET
SHT	SHELF/SHELVING
SHV	SIMILAR
SIM	SINK
SK	SPACE(S)
SP	SQUARE
SQ	SPECIFICATION
SPEC	SAFETY STATION (SEE PLUMBING)
SS	SOLID SURFACE MATERIAL
SSM	STAINLESS STEEL
SST	STANDARD
STD	STEEL
STL	STORAGE
STR	STRUCTURE/STRUCTURAL
STRUC	SWITCH
SW	

T	THICK(NESS)
TEMP	TEMPERATURE
THK	THICK(NESS)
THRU	THROUGH
TK BD	TACK BOARD (SEE DIV 10 SECTION)
TO	TOP OF
TR	TROUGH
TS-#	TUBE STEEL-(SIZE)
TYP	TYPICAL
TH	THERMOSTAT

U	UNDER-COUNTER, UNDER CABINET
UC	UNDER-CABINET LIGHT
UCL	UNLESS NOTED OTHERWISE
UNO	UNINTERRUPTIBLE POWER SUPPLY
UTIL	UTILITY

V	VARIABLE
VAR	VARIABLE AIR VOLUME
VAV	VERTICAL
VERT	VESTIBULE
VEST	VERIFY IN FIELD
VIF	VOLUME
VOL	

W	WEST
W	WIDE/WIDTH
W	WITH
W/O	WITHOUT
WD	WEIGHT
WT	WIREWAY (SEE ELECTRICAL)
WW	

**LABORATORY SERVICE FITTING ABBREVIATIONS**

AIR	AIR (LAB)
A	AIR, PERSONNEL (BREATHING)
ZA	ZERO AIR

ELECTRICAL AND DATA	
D	DATA
E	ELECTRICAL

NATURAL GAS	
G	GAS

OTHER PIPED SERVICES	
S	STEAM
V	VACUUM

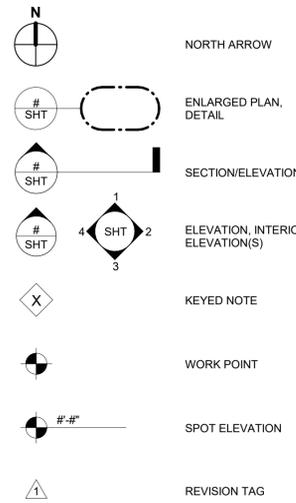
PURIFIED WATER	
DI	DEIONIZED WATER
DW	DISTILLED WATER
PW	PURE WATER
RO	REVERSE OSMOSIS WATER

SAFETY	
DH	DRENCH HOSE
EW	EYE WASH

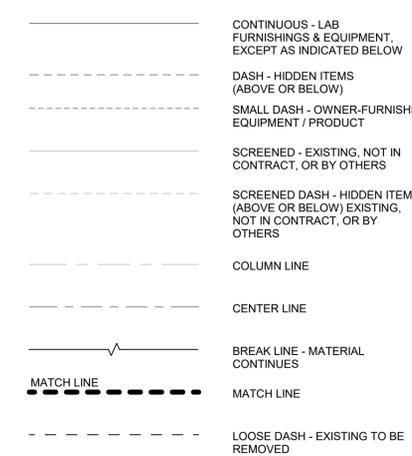
SPECIAL GAS	
AR	ARGON
CO2	CARBON DIOXIDE
H	HYDROGEN
HE	HELIUM
N	NITROGEN
O2	OXYGEN
SG-	SPECIAL GAS-(CHEMICAL SYMBOL)

WATER	
CW	COLD WATER
HW	HOT WATER
H/C	HOT & COLD WATER
PCWR	PROCESS CHILLED WATER RETURN
PCWS	PROCESS CHILLED WATER SUPPLY
PR	PRE-RINSE

**REFERENCE SYMBOLS LEGEND**



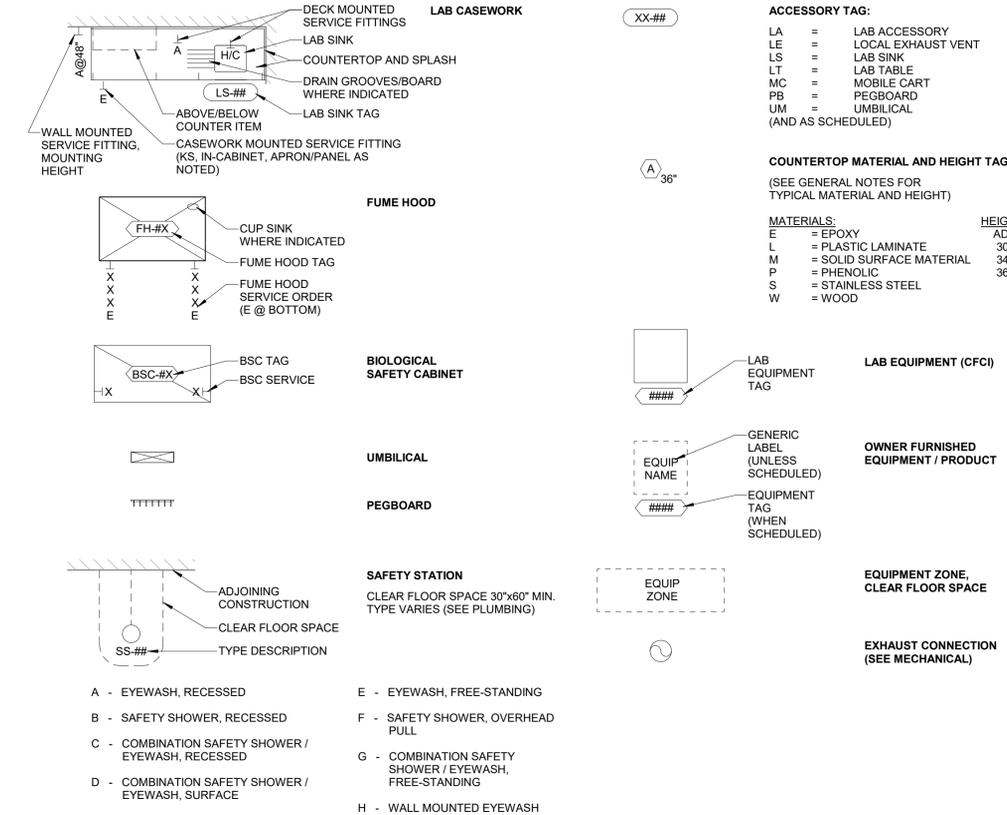
**LINE TYPE LEGEND**



**LABORATORY FURNISHINGS AND EQUIPMENT KEYED...**

1	PATCH AND FILL HOLE IN CONCRETE FLOOR FROM RELOCATED EMERGENCY SHOWER
2	ACOUSTICAL CEILING TILE; SEE SPEC. SECTION 09 5100.
3	PAPER TOWEL DISPENSER, O.F.C.I.
4	HAND SANITIZER DISPENSER, O.F.C.I.
5	ELECTROSTATICALLY APPLIED COATING; SEE SPEC. SECTION 09 9110.
7	BLACKOUT CURTAIN TRACK; SEE SPEC. SECTION 10 2123.
8	CEILING SERVICE COLUMN; SEE SPEC. SECTION 11 6000.
9	NEW EPOXY COUNTERTOP; SEE SPEC. SECTION 12 3553.
11	WALL MOUNTED GAS VALVES; SEE SPEC. SECTION 12 3553.
12	NEW PEGBOARD AT SINKS; SEE SPEC. SECTION 12 3553.
15	SALVAGE RACEWAY; SEE SPEC. SECTION ELECTRICAL DWGS.
16	NEW WOOD DOOR; SEE SHEET QL-202.
17	NEW RACEWAY; SEE ELECTRICAL DWGS.
20	NEW PRIVACY CURTAIN WITH WALL SUPPORT AT EMERGENCY SHOWER; REFER TO SHEET QL-010.
21	NEW ELECTRICAL SWITCH; SEE ELECTRICAL DRAWINGS.
22	SURFACE MOUNTED EMERGENCY SHUT-OFF VALVE; REFER TO SHEET P-202.

**LABORATORY PLAN SYMBOLS LEGEND**



**GAS FITTINGS:**  
(ALL GAS VALVES SHOWN ARE NOT REQUIRED REFER TO FLOOR PLANS)

CO2-1-1	CARBON DIOXIDE GAS VALVE WALL MOUNTED, SINGLE
CO2-2-1	CARBON DIOXIDE GAS VALVE DECK MOUNTED, SINGLE
N2-1-1	NITROGEN GAS VALVE WALL MOUNTED, SINGLE
N2-2-1	NITROGEN GAS VALVE DECK MOUNTED, SINGLE
CA-1-1	COMPRESSED AIR GAS VALVE WALL MOUNTED, SINGLE
CA-2-1	COMPRESSED AIR GAS VALVE DECK MOUNTED, SINGLE
NG-1-1	NATURAL GAS VALVE WALL MOUNTED, SINGLE
NG-2-1	NATURAL GAS VALVE DECK MOUNTED, SINGLE
NG-1-1	VACUUM GAS WALL MOUNTED, SINGLE
NG-2-1	VACUUM GAS DECK MOUNTED, SINGLE



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**ABBREVIATIONS, LEGENDS AND NOTES**

DRAWN BY: Author  
CHECKED BY: Checker  
PROJECT NO: 20176.00  
DATE: 08/31/2020  
SHEET NO:

**G-001**

SCALE:

# UL RATING

## XHEZ - Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems

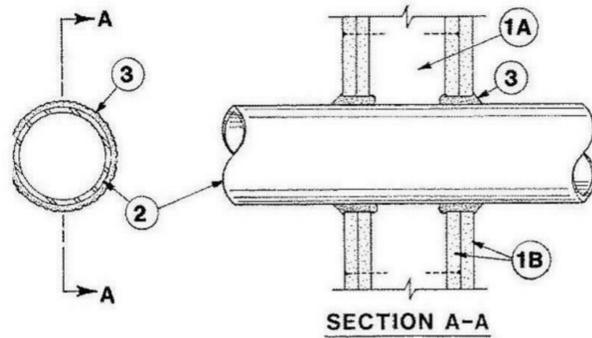
System No. W-L-1001

June 15, 2005

T Ratings — 0, 1, 2, 3, and 4 Hr (See Item 3)

L Rating At Ambient — less than 1 CFM/sq ft

L Rating At 400 F — less than 1 CFM/sq ft



1. **Wall Assembly** — The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

**A. Studs** — Wall framing may consist of either wood studs (max 2 h fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3-5/8 in. (92 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.

**B. Gypsum Board\*** — Nom 1/2 or 5/8 in. (13 or 16 mm) thick, 4 ft. (122 cm) wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire

Resistance Directory. Max diam of opening is 26 in. (660 mm).

2. **Through-Penetrant** — One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min of 0 in / (0 mm). (point contact) to max 2 in. (51 mm) Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

**A. Steel Pipe** — Nom 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

**B. Iron Pipe** — Nom 24 in. (610 mm) diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in (305 mm) diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.

**C. Conduit** — Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in (102 mm) diam (or smaller) steel electrical metallic tubing

**D. Copper Tubing** — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing

**E. Copper Pipe** — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

**F. Through Penetrating Product\*** — Flexible Metal Piping The following types of steel flexible metal gas piping may be used:

1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.  
**OMEGA FLEX INC**

2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.  
**GASTITE, DIV OF TITFLEX**

3. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

## WARD MFG L L C

3. **Fill, Void or Cavity Material\*** — **Caulk or Sealant** — Min 5/8, 1-1/4, 1-7/8 and 2-1/2 in. (16, 32, 48 and 64 mm) thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

Max Pipe or Conduit Diam In (mm)	F Rating Hr	T Rating Hr
1 (25)	1 or 2	0+, 1 or 2
1 (25)	3 or 4	3 or 4
4 (102)	1 or 2	0
6 (152)	3 or 4	0
12 (305)	1 or 2	0

+When copper pipe is used, T Rating is 0 h.

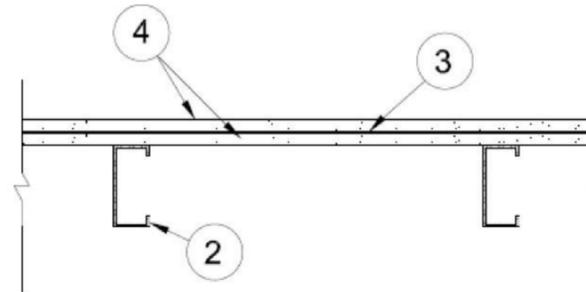
**3M COMPANY** — CP 25WB+ or FB-3000 WT.

## Design No. V497

August 22, 2017

### Nonbearing Wall Rating - 1 Hr

\* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



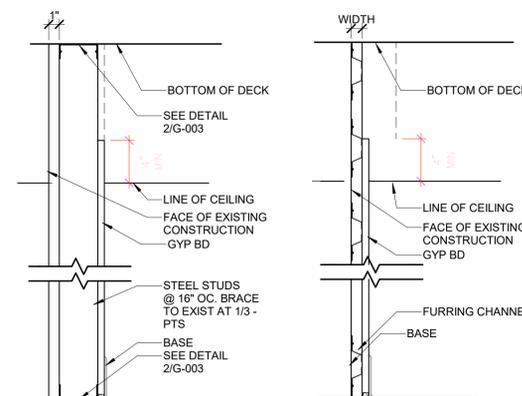
2. **Steel Studs** — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min 3-5/8 in. wide, min 1-1/4 in. flanges, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

3. **Laminating Compound** — For use with Item 4 - Used to bond outer layer wallboard to inner layer wallboard. Powder type mixed with water in accordance with instructions shown on bags. Applied to entire surface of base layer wallboard. Applied with notched trowel producing continuous beads about 1/4 in. wide and 1/4 in. high.

4. **Gypsum Board\*** — Applied to one side of steel studs (Item 2). Two layers of 5/8 in. gypsum panels with beveled, square or tapered edges. Gypsum panels applied vertically with joints centered over studs. Base layer applied with 1 in. Type S screws spaced 24 in. oc. Face layer applied vertically with joints centered over studs and offset from base layer joints by 24 in. Face layer applied with 1-5/8 in. Type S screws spaced 12 in. oc starting with a 6 in. offset from the bottom of the gypsum panel.  
**NATIONAL GYPSUM CO** — 5/8 in. thick Type eXP-C, FSL, FSW, FSK, FSW-3, FSW-5, FSW-G, FSK-G, FSW-6, FSW-8, FSW-C, FSMR-C, FSK-C, SoundBreak XP Type X Gypsum Board

## PARTITION TYPES

NOTE:  
ALL PARTITIONS MAY NOT BE USED. REFER TO FLOOR PLAN FOR WALL TYPE.



### PARTITION TYPE F PARTITION TYPE FA

TYPE	WIDTH (ACTUAL)	SOUND		FIRE		HEIGHT	REMARK
		RATING	TEST	RATING	TEST		
F1	3 1/8"	-	-	0 MIN	-	4" ABV CLG	2 1/2" STUD
F2	3 1/8"	-	-	0 MIN	-	TO DECK	2 1/2" STUD
F3	4 1/4"	-	-	0 MIN	-	4" ABV CLG	3 5/8" STUD
F4	4 1/4"	-	-	0 MIN	-	TO DECK	3 5/8" STUD
F5	6 5/8"	-	-	0 MIN	-	4" ABV CLG	6" STUD
FA1	1 1/2"	-	-	0 MIN	-	4" ABV CLG	7/8" FURRING CHANNEL
FA2	2 1/8"	-	-	0 MIN	-	4" ABV CLG	1 1/2" FURRING CHANNEL



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DOCUMENTS

## PARTITION TYPES

DRAWN BY: Author  
CHECKED BY: NJ  
PROJECT NO: 20176.00  
DATE: 08/31/2020  
SHEET NO:

G-002

SCALE:



1 SECOND FLOOR LABORATORY PLAN  
3/32" = 1'-0"

**BUILDING SUMMARY:**  
 EXISTING BUILDING: 3 STORIES ABOVE GRADE  
 NO OF STAIRS: 3  
 BUILDING FULLY SPRINKLERED: GA TECH IS IN THE PLANNING/DESIGN STAGES FOR A PRE-ACTION SPRINKLER SYSTEM.

**RENOVATION OF ROOMS 230 AND 232 IN EXISTING BUILDING:**  
 A. AREA OF ROOM 230: 664 NET SQUARE FOOTAGE  
 B. AREA OF ROOM 232: 322 NET SQUARE FOOTAGE

**NFPA 101 REQUIREMENTS:**  
 A. **OCCUPANCY CLASSIFICATION FOR ROOM 230 & 232:**  
 BASED ON THE LIFE SAFETY CODE (NFPA 101) SECTION 6.1.12: GENERAL INDUSTRIAL  
 MAX. TRAVEL DISTANCE TO AN EXIT: (NFPA 101-TABLE 40.2.6)  
 -GENERAL INDUSTRIAL: 200 FT NOT FULLY SPRINKLERED AND 250FT FULLY SPRINKLERED  
 COMMON PATH OF TRAVEL: (NFPA 101-TABLE 40.2.5)  
 -GENERAL INDUSTRIAL: 50FT NOT FULLY SPRINKLERED AND 100FT FULLY SPRINKLERED.  
 -MAX LENGTH OF DEAD END: (NFPA 101- TABLE 40.2.5)  
 -GENERAL INDUSTRIAL: 50FT  
 C. **OCCUPANT LOAD:**  
 Room 230: 664SQ.FT/50NET= 13 OCCUPANTS  
 Room 232: 322SQ.FT/50NET= 6 OCCUPANTS  
 D. **LABORATORY UNIT HAZARD CLASSIFICATION FOR ROOM 230 & 232:**  
 BASED ON NFPA 45 SECTION 4.2.2.1: LAB SHALL BE CLASSIFIED AS A CLASS C (LOW FIRE HAZARD)  
 E. **SEPARATION REQUIREMENT:**  
 PER NFPA 45 TABLE 5.1.1: FOR LAB CLASS C, 2 FLOORS ABOVE GRADE- 1 HOUR SEPARATION IS REQUIRED  
 F. **MAXIMUM QUANTITIES OF COMBUSTIBLE OR FLAMMABLE LIQUIDS:**  
 PER NFPA 45 TABLE 9.1.1.B FOR FLAMMABLE AND COMBUSTIBLE LIQUID CLASS 1, II, III IN CLASS C LABORATORY UNIT  
**IN USE:** ALLOWABLE PER 100SFT IS 4GAL WITH A MAXIMUM NOT TO EXCEED 200 GALLONS PER LABORATORY UNIT.  
**IN USE AND STORAGE:** ALLOWABLE PER 100SFT IS 8 GAL WITH A MAXIMUM NOT TO EXCEED 400 GALLONS PER LABORATORY UNIT  
 HOWEVER PER SECTION 8.2.4.1.2: QUANTITIES FOR CLASS C LABORATORY  
 ROOM 230- 4 GALLONS PER 100SFT X6.64 = 26.56 GALLONS  
 ROOM 232- 4 GALLONS PER 100SFT X 3.21= 12.88 GALLONS  
 BASED ON THE CHEMICAL LIST PROVIDED BY OWNER, SEE SHEET G-002 TOTAL FLAMMABLE AND COMBUSTIBLE LIQUIDS= 39.44 GALLON.

**ROOM 230 & 232:**  
 LIQUIDS WITH FLAMMABILITY RATING OF 4 AND 3 PER THE CHEMICAL INVENTORY LIST ON SHEET G-002  
 A) LIQUIDS WITH A FLAMMABILITY RATING OF 3- REAGENT ALCOHOL, BUTHYL METHACRYLATE  
 B) SOLIDS WITH A FLAMMABILITY RATING OF 4 - CLIENT TO PROVIDE INFORMATION.  
 C) LIQUIDS WITH A TOXICITY RATING OF 4 AND 3- SHALL BE STORED IN THE VENTED ACID CABINETS  
 G. **MAXIMUM QUANTITIES OF COMPRESSED AND LIQUEFIED GASES:**  
 THERE ARE NO FLAMMABLE GASES WITH FLAMMABILITY RATING OF 4 SEVERE HAZARD.  
 - PER NFPA 2:  
 IN NEW LAYOUT CARBON DIOXIDE CYLINDERS ARE LOCATION 20FT AWAY FROM EXISTING ELECTRICAL PANEL.

**STORAGE IN ROOM:**  
 - GASSES SHALL BE STORED WITHIN THE ROOM  
 - THE FLAMMABLE LIQUIDS SHALL BE STORED IN THE FLAMMABLE CABINETS AND ACIDS CABINET UNDER THE GENERAL PURPOSE FUMEHOOD.  
 -THE FLAMMABLE SOLIDS SHALL BE STORED IN THE FUMEHOOD.

**PER IBC REQUIREMENTS:**  
 A. **INTERIOR FIRE WINDOW IN FIRE ASSEMBLIES, SECTION 716:**  
 B) DOOR WITH VIEW PANEL LESS THAN 100 SQIN. MARKING ON THE GLAZING SHALL BE D-20 (D- MEETS FIRE DOOR ASSEMBLY CRITERIA AND MUST MEET THE NFPA 252, AND IS NOT REQUIRED TO MEET THE HOSE STREAM TEST.  
 FOR THIS PROJECT ALL EXISTING DOORS SHALL BE REPLACED AND NEW DOORS INSTALLED PER SECTION 716.  
 B. **PER IBC FIRE PARTITION SECTION 717.5.4**  
 FIRE DAMPERS ARE REQUIRED WHEN A DUCT OR AIR TRANSFER OPENING PENETRATES A FIRE PARTITION AND MUST BE RATED BASED ON THE FIRE RATING OF THE PARTITION.



HERA Laboratory Planners  
 1447 Peachtree St. NE., Suite 880  
 Atlanta, GA 30309  
 314.289.9202 T. 314.289.6167 F.

www.herainc.com  
**Georgia Institute of Technology**  
 Cherry Emerson Peter Yunker Lab Fit-Up  
 GT PROJECT #: 0360-2020



Vanderweil  
 260 Peachtree Street, NW.  
 Suite 1401  
 Atlanta, GA 30303  
 (617) 556-9308 T

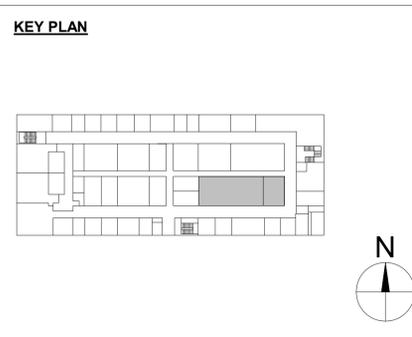
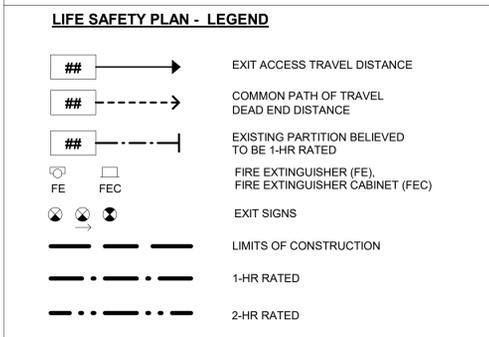
**Chemical Inventory**

Building: Cherry Emerson- 2nd Floor, Room 230 & 232		NFPA Designation				Max Container Size	Quantity	Container Material	Planned Inventory Data				Date:
Product Name (Components)	CAS Number	HEALTH	FLAMMABILITY	INSTABILITY / REACTIVITY	SPECIAL NOTICE				Liquid	Solid	Gas (Gaseous)	Gas (Liquefied)	
						liters	grams	cubic metres	cubic metres				
<b>LIQUIDS</b>													
Glycerol	56-81-5	1	1	0		2500	6 glass						
Dimethylsulfoxide	67-68-5	2	2	1		1000	1 plastic						
Mineral Oil	8042-47-5	0	1	0		1000	1 plastic						
Soybean Oil	8001-22-7	0	1	0		2840	2 plastic						
Corn Oil	8001-30-7	0	1	0		1420	1 plastic						
Molasses	N/A	0	0	0	0	3780	1 plastic						
	Mixture:												
	64-17-5												
	67-56-1												
Reagent alcohol	67-63-0	2	3	0		4000	5 plastic						
heptafluoro-1-methoxypropane	375-03-1	3	0	0		4000	1 glass						
Butyl methacrylate, methyl met	25608-33-7	2	3	0		50	1 glass						
Stearic acid	57-11-4	1	1	0		5	1 plastic						
ConcanavalinA	11028-71-0	2	1	0		1	1 plastic						
Fluorescein succinylated wheat germ agglutinin	26628-22-8	0	0	0		1	1 glass						
Phosphate buffered saline		1	0	0		500	2 plastic						
<b>SOLIDS</b>													
Poly(vinyl alcohol)	9002-89-5	0	2	0		20	1 plastic						
Poly-L-lysine-hydrobromide	25988-63-0	1	1	0		20	1 glass						
1,2-Dipalmitoyl-sn-Glycero-3-P	63-89-8	3	1	0		5	1 plastic						
Fluorescein	2321-07-5	1	1	0		100	1 plastic						
G418 sulfate	108321-42-2	2	1	0		25	1 glass						
Polystyrene beads		0	0	0		10	5 plastic						
Sudan III	85-86-9	2	0	0		250	1 glass						
Sudan IV	85-83-6	2	0	0		125	1 glass						
Oil Red O	1320-06-5	0	0	0		500	1 glass						
<b>GASES</b>													
Compressed Air	7727-37-9, 7782-44-7					8836 L	2 metal						

**GENERAL NOTES RELATING TO CHEMICAL INVENTORY:**

- IF THE NUMBER OF CHEMICALS IS LESS THAN OR EQUAL TO 30, PROVIDE ALL SDS HARDCOPIES. IF THE NUMBER OF CHEMICALS EXCEEDS 30, PROVIDE SDS HARDCOPIES FOR CHEMICALS WITH THE FOLLOWING DESIGNATIONS: SEE ATTACHED SDS SHEETS  
 A. NFPA RATING OF 3 OR 4 IN ANY CATEGORY OR  
 B. NFPA FLAMMABILITY RATING IS 1, 2, 3, OR 4 OR  
 C. ANY ENTRY IN NFPA SPECIAL NOTICE COLUMN
- A STATEMENT AT EACH FLAMMABLE STORAGE CABINET INDICATED IN THE DRAWINGS DENOTING THE AMOUNT OF MATERIAL BEING STORED AS REFERENCED FROM THE CHEMICAL LIST.
- 45 GAL FLAMMABLE STORAGE CABINET MUST BE VENTED PER GA TECH. FIRE MARSHAL REQUIREMENTS. VENTING REQUIREMENTS FOR FLAMMABLE STORAGE CABINETS WITH A CAPACITY OF LESS THAN 45 GAL WILL REVIEWED AND DETERMINED.
- AN EMERGENCY GAS SHUTOFF BUTTON IS REQUIRED FOR TWO OR MORE GASES OUTLETS PER NFPA 45 STATE FIRE MARSHAL MODIFICATIONS. INCLUDE SHUTOFF FOR TWO OR MORE GASES THAT SERVE AN EXPERIMENT.

- CODES:**
- INTERNATIONAL BUILDING CODE, 2018 EDITION WITH GA. AMENDMENTS (2020)
  - INTERNATIONAL FIRE CODE, 2018 EDITION (NO GA. AMENDMENTS)
  - INTERNATIONAL PLUMBING CODE, 2018 EDITION WITH GA. AMENDMENTS (2020)
  - INTERNATIONAL MECHANICAL CODE, 2018 EDITION WITH GA. AMENDMENTS (2020)
  - INTERNATIONAL FUEL GAS CODE, 2018 EDITION, WITH GA. AMENDMENTS (2020)
  - NATIONAL ELECTRICAL CODE, 2017 EDITION (NO GEORGIA AMENDMENTS)
  - INTERNATIONAL ENERGY CONSERVATION CODE, 2015 EDITION WITH GA. SUPPLEMENTS AND AMENDMENTS (2020)
  - 2018 NFPA 101 - LIFE SAFETY CODE WITH STATE AMENDMENTS (2020)
  - 2019 NFPA 45 - STANDARD ON FIRE PROTECTION FOR LABORATORIES USING CHEMICALS
  - GEORGIA TECH DANGEROUS GAS MANUAL 2011
  - OSHA, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, 29 CFR 1910.1001 AND 1926.1101



No.	Date	Description
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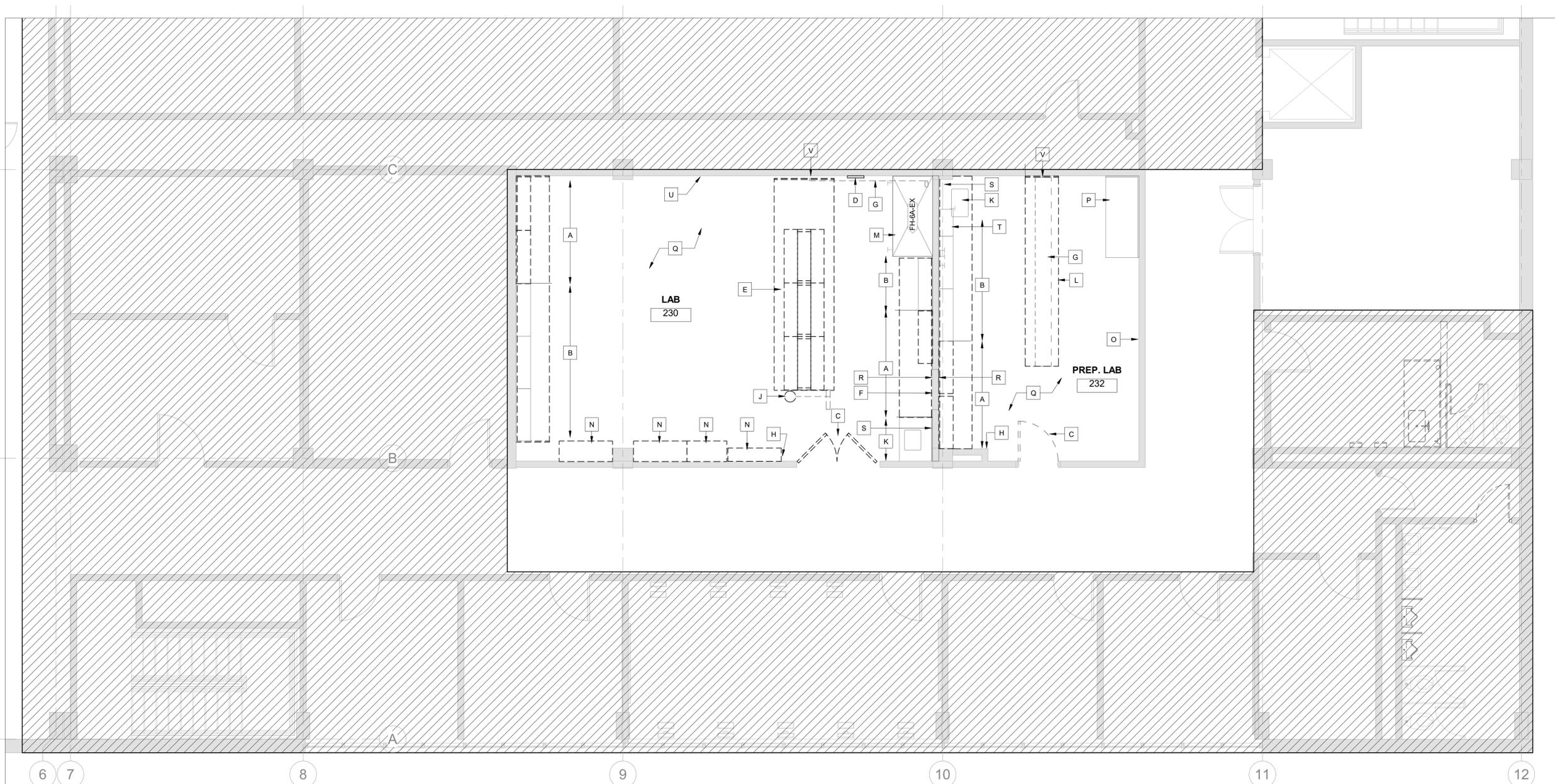
**LIFE SAFETY PLAN**

DRAWN BY: AB/NM  
 CHECKED BY: NJ  
 PROJECT NO: 20176.00  
 DATE: 08/31/2020  
 SHEET NO:

**G-003**

SCALE:

8/31/2020 4:22:56 PM



1 SECOND FLOOR LABORATORY PLAN  
1/4" = 1'-0"

No.	Date	Description
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**LABORATORY DEMOLITION PLAN KEY NOTES**

- |   |   |
|---|---|
| <p>A DEMOLISH EXISTING COUNTERTOP, BASE, AND WALL CABINETS</p> <p>B DEMOLISH COUNTERTOP ONLY. EXISTING BASE CABINETS AND WALL CABINETS TO REMAIN.</p> <p>C DEMOLISH EXISTING DOOR. REFER TO HAZARDOUS MATERIAL REPORT FOR ASBESTOS CONTAINMENT MATERIALS THAT REQUIRES ABATEMENT.</p> <p>D EXISTING ELECTRICAL PANEL AND TRANSFORMER TO REMAIN. REFER TO ELECTRICAL DRAWINGS</p> <p>E DEMOLISH ENTIRE ISLAND BENCH</p> <p>F DEMOLISH PORTION OF WALL AS NECESSARY AND PREPARE OPENING FOR INSTALLATION OF NEW DOOR AND FRAME IN NEW WORK</p> <p>G DEMOLISH EXISTING EXPOSED PIPING RUNNING ALONG WALL TO FUMEHOOD</p> <p>H FIRE EXTINGUISHER TO BE REMOVED AND SALVAGED.</p> <p>J REMOVE AND SALVAGE FLOOR TO CEILING MOUNTED EXISTING EMERGENCY SHOWER</p> <p>K DEMOLISH COUNTERTOP IN THIS AREA; SALVAGE EXISTING SINK AND FAUCET. BASE CABINETS TO REMAIN.</p> <p>L REMOVE COUNTERTOP AND SHELVES ONLY AT ISLAND; EXISTING UMBILICAL AND BASE CABINETS TO REMAIN.</p> <p>M FUMEHOOD TO REMAIN; REMOVE GAS VALVES AND REPLACE WITH NEW GAS VALVES. SEE PLUMBING DRAWINGS FOR MORE DETAILS.</p> <p>N REMOVE EXISTING TALL SHELVING UNITS</p> <p>O EXISTING RACEWAY TO REMAIN</p> | <p>P EXISTING COUNTERTOP TO REMAIN. EXISTING BASE CABINETS AND WALL CABINETS TO REMAIN</p> <p>Q DEMOLISH ALL EXISTING FLOORING AND WALL BASE</p> <p>R DEMOLISH RACEWAY</p> <p>S DEMOLISH SHELVES ABOVE SINK</p> <p>T EXISTING PURE WATER SHELF &amp; SYSTEM TO REMAIN</p> <p>U DEMOLISH AND SALVAGE THE UNISTRUT CYLINDER RESTRAINTS ALONG WALL</p> <p>V REMOVE WALL CLOCKS AND PLACE A STAINLESS STEEL COVER PLATE OVER OPENING.</p> |
|---|---|

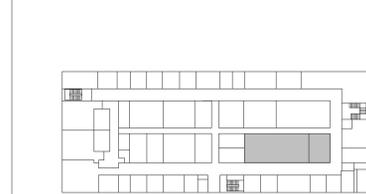
**DEMOLITION GENERAL NOTES**

- A) HAZARDOUS MATERIAL ABATEMENT SHALL BE DONE BY CONTRACTOR UNDER SEPARATE SCOPE. COORDINATE WITH OWNER. CONTRACTOR IS RESPONSIBLE FOR THE ABATEMENT, HANDLING, AND DISPOSAL OF HAZARDOUS MATERIAL FOUND ON WORK AREA.
- B) CONTRACTOR IS RESPONSIBLE FOR RESTORING THE WORK AREA AND AUXILIARY AREAS AFFECTED DURING ABATEMENT TO CONDITIONS THAT ARE EQUAL OR BETTER THAN THE ORIGINAL.
- C) REFER TO OWNER-PROVIDED HAZARDOUS MATERIAL REPORT FOR ASBESTOS CONTAINMENT MATERIALS THAT REQUIRES ABATEMENT.
- D) REFER TO THE MD-102 FOR THE HVAC DEMOLITION.
- E) REFER TO THE PD-102 FOR THE PLUMBING DEMOLITION.
- F) REFER TO THE ED-102 FOR THE ELECTRICAL DEMOLITION.

**DEMOLITION PLAN LEGEND**

- NOT IN SCOPE, EXISTING TO REMAIN
- LIMITS OF CONSTRUCTION

**KEY PLAN SECOND FLOOR**



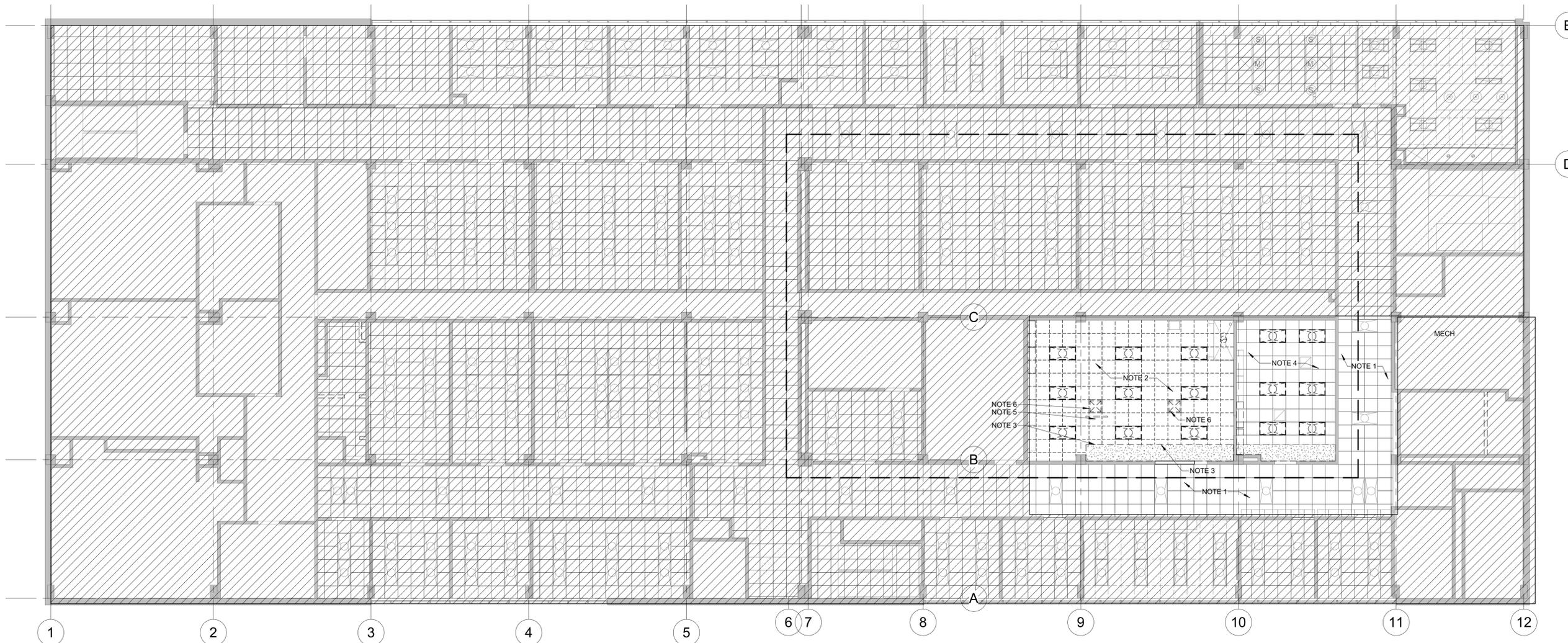
**DEMOLITION FLOOR PLAN**

DRAWN BY: AB/NM  
PROJECT NO: 20176.00  
SHEET NO:

CHECKED BY: NJ/CPR  
DATE: 08/31/2020

**AD-102**

SCALE:



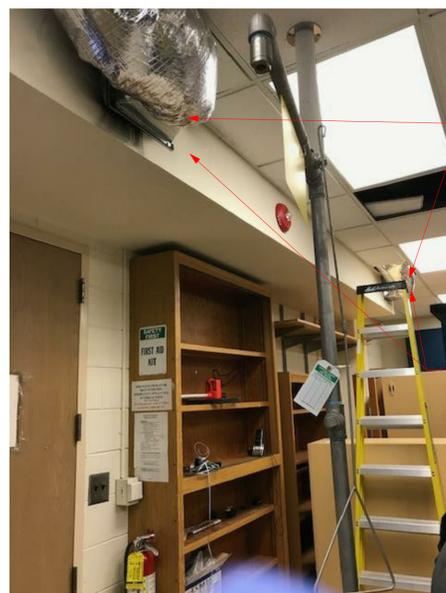
1 Working\_LEVEL 02 Ceiling DEMO  
1/8" = 1'-0"

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EXISTING EXPOSED HVAC DUCT

EXISTING GYP. SOFFIT, DEMOLISH PER NOTE 3 ON SHEET AD-402 AND REFER TO THE NEW WORK ON SHEET QL-402.

EXISTING PHOTO

**SHEET NOTES**

- DEMOLISH CEILING PLAN IN CORRIDOR WHERE REQUIRED. EXISTING LIGHT FIXTURE SHALL REMAIN ALONG CORRIDOR. CONTRACTOR TO COORDINATE AND REFER TO MEP DWGS. REPLACE CEILING TO MATCH EXISTING.
- DEMOLISH EXISTING CEILING TILE AND GRID. DEMO AND SALVAGE ALL EXISTING LIGHT FIXTURES.
- CONTRACTOR SHALL DEMOLISH A PORTION OF THE GYP. SOFFIT AROUND EXPOSED DUCT, ALLOWING THE DUCT TO BE INSTALLED ABOVE THE CEILING. NOTE THE EXISTING FIRE ALARM AND GYP SOFFIT IN THAT AREA SHALL REMAIN AS IS. CONTRACTOR TO VERIFY IN FIELD AND CONFIRM WITH ARCHITECT BEFORE STARTING DEMOLITION. REFER TO MECHANICAL DRAWING FOR ADDITIONAL INFO.
- EXISTING GRID AND CEILING TILE TO REMAIN, DEMO AND SALVAGE ALL EXISTING LIGHT FIXTURES.
- DEMOLISH EXISTING EXPOSED CEILING RACEWAY
- DEMOLISH EXISTING SUPPLY DIFFUSERS, REFER TO SHEET MD-102.

**DEMOLITION REFLECTED CEILING PLAN LEGEND**

- |  |  |  |                              |
|--|--|--|------------------------------|
|  | REMOVE 2X4 LIGHT FIXTURES, SEE ELEC DWGS |  | LIMITS OF CONSTRUCTION       |
|  | REMOVE GYPSUM BOARD BULKHEAD             |  | EXISTING UMBILICAL TO REMAIN |
|  | REMOVE ACT CEILING                       |  | NOT IN SCOPE                 |
|  | EXISTING FUMEHOOD TO REMAIN              |  |                              |
|  | REMOVE RETURN, SEE MECH DWGS             |  |                              |
|  | REMOVE SUPPLY, SEE MECH DWGS             |  |                              |

**KEY PLAN**



**DEMOLITION REFLECTED CEILING PLAN**

DRAWN BY: Author  
CHECKED BY: Checker  
PROJECT NO: 20176.00  
DATE: 08/31/2020  
SHEET NO:

**AD-402**

SCALE:

LABORATORY EQUIPMENT MATRIX																												
Equipment Tag	Equipment Description	Identification		Tracking and Location			Dimensions and Mounting				Electrical			Services					Remarks									
		Manufacturer	Model Number	Furnish & Install	Existing	New	Future	Width (in)	Depth (in)	Height (in)	Mounting Location	Weight (lbs)	Number Of Outlets	Dedicated Circuits	Hard Wire Or Plug	Volt	Amp	Cold Water		Hot Water	Drain	Comp. Air	Vacuum	CO2	Direct Exhaust	Nat. Gas		
EQ-01	MINI INCUBATOR	VWR	97025-630	OFOI	•		11"	14"	12"	B	0	0	0															
EQ-02	MINI INCUBATOR	VWR	97025-630	OFOI	•		11"	14"	12"	B	0	0	0															
EQ-03	VORTEX MIXER	VWR	ANALOG VORTEX MIXER	OFOI	•		8"	5"	8"	B	0	0	0															
EQ-04	VORTEX MIXER	VWR	ANALOG VORTEX MIXER	OFOI	•		8"	5"	8"	B	0	0	0															
EQ-05	VORTEX MIXER	VWR	ANALOG VORTEX MIXER	OFOI	•		8"	5"	8"	B	0	0	0															
EQ-06	UIC FREEZER	FISHER SCIENTIFIC	97-926-1	OFOI	•		25"	24"	34"	F	40	0	0															
EQ-07	REFRIGERATOR	FISHER SCIENTIFIC	ISOTEMP	OFOI	•		29"	34"	68"	F	40	0	0															
EQ-08	UNIVERSAL TESTING MACHINE	ZWICK/ROELL	Z0101 UTM	OFOI	•	•	36"	18"	90"	F	200	0	0									X						
EQ-09	OVEN	FISCHER SCIENTIFIC	100L OVEN GRAVITY	OFOI	•		11"	22"	34"	B	0	0	0															
EQ-10	INTERFEROMETER	ZYGO	ZEGAGE PRO	OFOI	•		45"	30"	53"	B	105	0	0															
EQ-11	INCUBATOR BOX	OKOLAB		OFOI	•		28"	16"	16"	B	15	0	0										X					
EQ-12	CO2 UNIT	OKOLAB		OFOI	•	•	12"	16"	6"	B	0	0	0															
EQ-14	NIKON	NIKON	A1/ECLIPSE TI	OFOI	•		32"	29"	66"	B	300	0	0															
EQ-15	CONFOCAL LASER UNIT	NIKON	A1R	OFOI	•		14"	24"	36"	B	95	0	0															
EQ-16	OPTICAL TABLE	TBD	TBD	OFOI	•		48"	48"	36"	F																		
EQ-17	OPTICAL TABLE	TBD	TBD	OFOI	•		60"	36"	36"	F																		
EQ-18	OPTICAL TABLE	TBD	TBD	OFOI	•		48"	48"	36"	F																		
EQ-21	FLOW CHAMBER	ERLAB	CAPTAIR FLOW	OFOI	•		36"	24"	36"	F	200	0	0															
EQ-25	WATER PURIFICATION SYSTEM	EMD MILLIPORE	ELIX	OFOI	•		24"	24"	24"	W	100	0	0			120	X											

LABORATORY FUME HOOD SCHEDULE							Comments
TAG	TYPE	VENTILATION	SASH TYPE	WORK SURFACE MATERIAL	WORK SURFACE HEIGHT (INCHES)	DETAIL	
FH-6A-EX	EXISTING GENERAL PURPOSE, BENCH TYPE	CV, GC TO CONFIRM	VERTICAL	EPOXY	36	NOTE 1,2,3,4	

**FUME HOOD SCHEDULE GENERAL NOTES:**

A. THE EXISTING FUME HOOD SHALL BE DECOMMISSIONED AND CLEANED TO REMOVE ANY HAZARDOUS MATERIAL. APPROVED COMPANIES FOR THIS SCOPE:

- Axis Remedial Science  
Gordon Reynolds, gordon.reynolds@axisonline.us  
678.858.8105
- HEPACO  
Richard Dollar, rdollar@hepaco.com  
470.277.5250
- ENV Services  
www.envservices.com  
800.394.3368

B. CLEAN AND REPAIR EXISTING FUMEHOOD LINER.  
C. ENSURE THAT THE CUP SINK AND FAUCET ARE IN GOOD WORKING CONDITION. PROVIDE NEW DRAIN STRAINER FOR CUP SINK.  
D. ENSURE THAT THE FUMEHOOD IS INSPECTED AND RECOMMISSIONED AFTER CONSTRUCTION IS COMPLETED AND BEFORE THE LAB IS TURNED OVER TO DR YUNKER.

**FUME HOOD SCHEDULE KEYED NOTES:**

- REPLACE ALL EXISTING GAS VALVES ON FUMEHOOD.
- CONTRACTOR SHALL PREP FUMEHOOD FOR ELECTROSTATICALLY APPLIED COATING PT-2. REFER TO FINISH SCHEDULE ON SHEET QL-202.
- PROVIDE A NEW 3'-0" WIDE ACID CABINET UNDER FUME HOOD, BASIS OF DESIGN: MOTT MANUFACTURING. COLOR-BRIGHT WHITE. REFER TO 3/ QL-901.
- PROVIDE A NEW 3'-0" WIDE FLAMMABLE CABINET UNDER FUMEHOOD. BASIS OF DESIGN: MOTT MANUFACTURING COLOR-BRIGHT WHITE.

LABORATORY TABLE SCHEDULE								Comments
TAG	WORK SURFACE (INCHES)			TABLE FRAME MATERIAL	WORK SURFACE MATERIAL	SUSPENDED CABINET MATERIAL	TABLE FRAME TYPE	
	W	D	H					
LT-01-EX	72	30	36	METAL	EPOXY	--	D	NOTE 1

**TABLE SCHEDULE KEYED NOTES:**

- ALL LAB TABLES SHALL BE MOVED BY OWNER FROM DR YUNKER IN BOGGS TO THE CHERRY EMERSON BUILDING

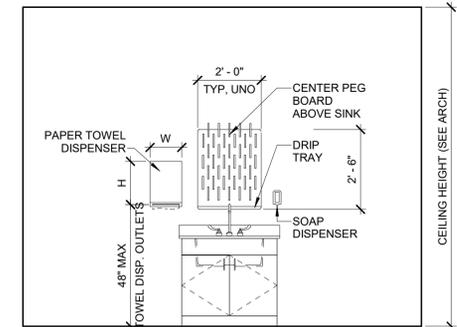
LABORATORY ACCESSORIES SCHEDULE						
TAG	DESCRIPTION	BASIS OF DESIGN		COMMENTS	DETAIL REF.	NOTES
		MANUFACTURER	MODEL NUMBER			
EW	EYEWASH	WATERSAVER	EW1022BP	DECK MOUNTED		NOTE 3
LA-A	UNISTRUT GAS CYLINDER BRACKET			GAS CYLINDER BRACKET FOR TWO CYLINDERS	8/QL-901	NOTE 1
LA-B	GAS CYLINDER RACK	SAFE-T RACK SYSTEMS	SAFE-T-RACK 2422	DOUBLE CYLINDER RACK	1/QL-901	
PB	PEG BOARD - TYPE A: STAINLESS STEEL		V VICTORIA SERIES	STAINLESS STEEL PEG BOARD W/ REMOVABLE 6" WHITE POLYPROPYLENE PEGS AND PEG HOLE COVERS; FINISHED BACK ATTACHMENT; 2" DEEP DRIP TRAY, OUTLET AND DRAIN HOSE. SIZE 24" X 30"	1/QL-010	NOTE 2
PTD-1	PAPER TOWEL DISPENSER	OWNER PROVIDED	OWNER PROVIDED			NOTE 2
SD-1	SOAP DISPENSER	OWNER PROVIDED	OWNER PROVIDED			NOTE 2

**LABORATORY ACCESSORIES SCHEDULE GENERAL NOTES:**

A. -

**LABORATORY ACCESSORIES SCHEDULE KEYED NOTES:**

- INSTALL SALVAGED UNISTRUT CYLINDER BRACKET AND PROVIDE ONE TO MATCH IN LENGTH.
- CONTRACTOR SHALL INSTALL PAPER TOWEL AND SOAP DISPENSER
- PROVIDE WITH EYEWASH WITH VACUUM BREAKER AND THERMOSTATIC MIXING VALVE



1 TYPICAL MOUNTING HEIGHTS  
3/8" = 1'-0"



Vanderweil  
260 Peachtree Street, NW.  
Suite 1401  
Atlanta, GA 30303  
(617) 556-9308 T

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SCHEDULES

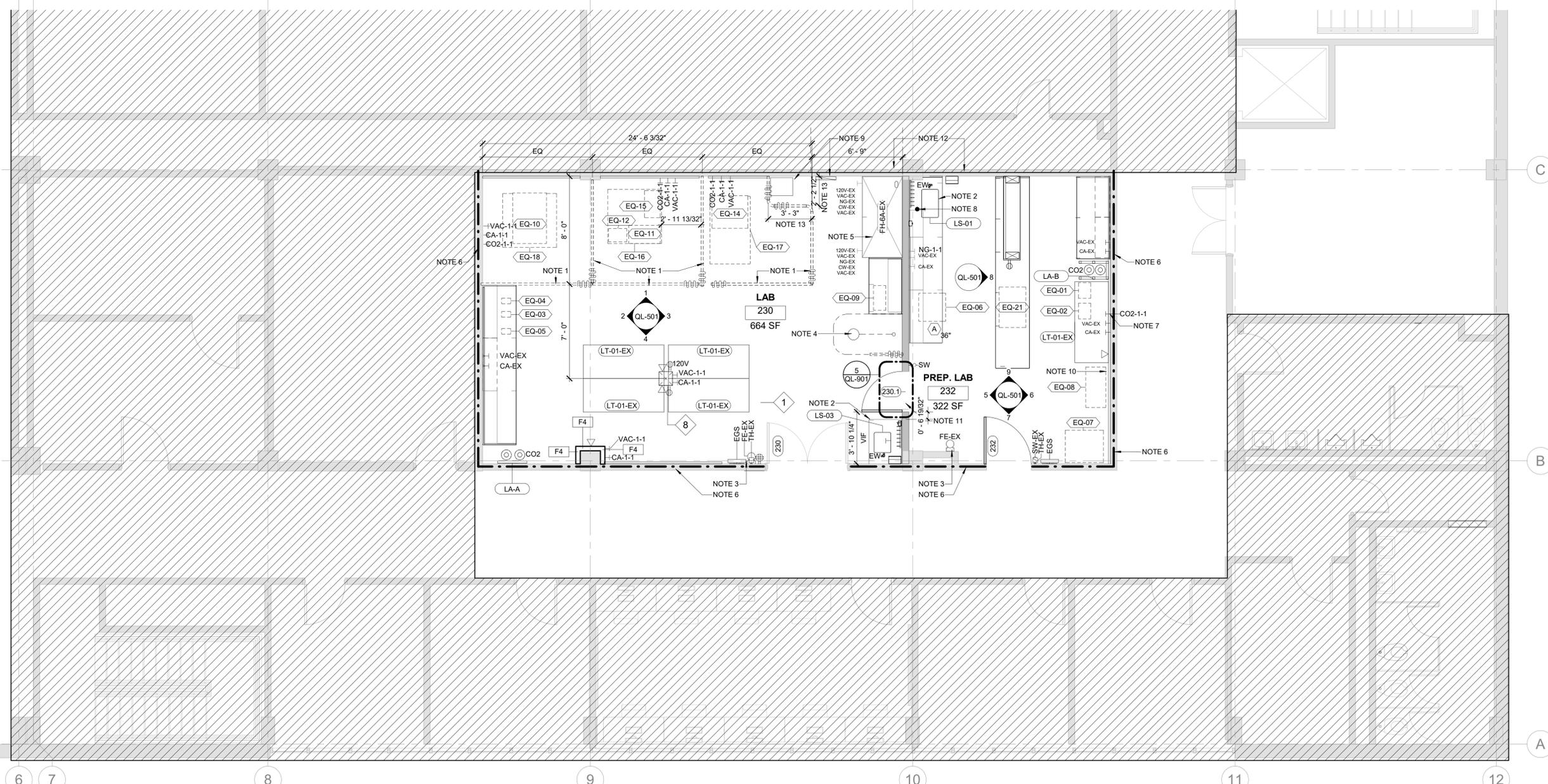
DRAWN BY: AB/NM  
PROJECT NO: 20176.00  
SHEET NO:

CHECKED BY: NJ/CPR  
DATE: 08/31/2020

QL-010

SCALE:





1 ENLARGED FLOOR PLAN  
1/4" = 1'-0"

No.	Date	Description
1	08/31/2020	100% CD DOCUMENTS



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100%  
CONSTRUCTION  
DOCUMENTS

ENLARGED  
LABORATORY  
PLAN

DRAWN BY: AB, NM  
PROJECT NO: 20176.00  
SHEET NO:

CHECKED BY: NJ  
DATE: 08/31/2020

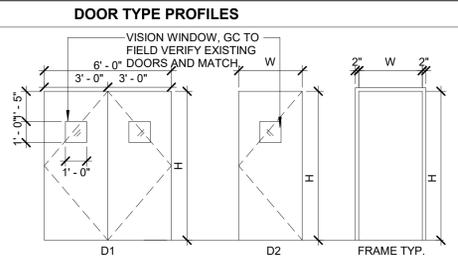
QL-202

SCALE:

ROOM	FINISH SCHEDULE	PT
ROOM 230:	WALLS: PT-1 FLOOR: VCT-1, RB-1 CEILING: ACT-1 DOOR FRAMES: PT-3	
ROOM 232:	WALLS: PT-1 FLOOR: VCT-1, RB-1 CEILING: ACT-1 DOOR FRAMES: PT-3	

PT	ROOM FINISH LEGEND
PT-1	MANUFACTURER: SHERWIN WILLIAMS, ACRYLIC LATEX, EGG SHELL, COLOR: ORIGAMI WHITE. REFER TO SPEC. SECTION 09 9123.
PT-2	ELECTROSTATICALLY APPLIED COATING, COLOR TO MATCH NEW ACID AND FLAMMABLE CABINETS UNDER FUMEHOOD. REFER TO SHEET QL-010 AND SPEC. SECTION 09 9110.
PT-3	DOOR FRAME, MANUFACTURER: SHERWIN WILLIAMS COLOR: TIN LIZZIE SW 9163 SEMI-GLOSS. REFER TO SPEC. SECTION 09 9123.
RB-1	RUBBER BASE COVE, MANUFACTURER: JOHNSONITE, COLOR: #20 CHARCOAL WG. REFER TO SPEC. SECTION 09 6513. A. HEIGHT: 4" ALONG CASEWORK AND AT FUME HOOD. B. HEIGHT: 6" ALONG WALLS.
ACT-1	2'X2' TILE ACOUSTICAL CEILING, MANUFACTURER: ARMSTRONG, ULTIMA BEVELLED TEGULAR TILE #1911. REFER TO SPEC. SECTION 09 5100.
VCT-1	1'X1' VINYL COMPOSITE TILE FLOORING, MANUFACTURER: FLOORING ARMSTRONG, STANDARD EXCELON, COLOR: #51860 SOFT COOL GRAY. REFER TO SPEC. SECTION 09 6519.

A	GENERAL FINISH SCHEDULE
A	CONTRACTOR SHALL PAINT ALL WALLS IN BOTH LABS.



**DOOR GENERAL NOTES:**

- REUSE EXISTING DOOR MOUNTED ROOM SIGNS AT TWO LAB ENTRANCES. GC TO COORDINATE SIGNAGE WITH GA TECH. MAINTAIN DOOR HEIGHT TO MATCH EXISTING DOORS IN CORRIDOR. CONTRACTOR TO FIELD VERIFY EXISTING DOOR HEIGHTS.
- GC TO SUBMIT DOOR HARDWARE SHOP DRAWING, AND DOOR WOOD SAMPLE TO ARCHITECT FOR APPROVAL. DOOR FINISH SHALL MATCH EXISTING DOORS ALONG CORRIDOR. DOOR INSTALLER TO FIELD VERIFY ALL HARDWARE AND INSTALLATION REQUIREMENTS. PROVIDE A STANDARD MORTISE SETUP. HOLLOW METAL FRAME REFER TO SPEC SECTION 08 1113.

**DOOR HARDWARE SCHEDULE:**

Hardware Group	Description	Material	Finish
HARDWARE GROUP A	CYPHER LOCKSET (7-PIN CORE CYLINDER)	LH8146B26D41	DORMAKABA BEST
1	MOP PLATES	K1050 US32D 24" X 16"	ROCKWOOD
2	MOP PLATES	K1050 US32D 24" X 40"	ROCKWOOD
1	FLUSH BOLT	2962 US26D	ROCKWOOD
2	FLOOR STOP	D5LF4 US26D	CAL ROYAL
2	SILENCER	608	ROCKWOOD
HARDWARE GROUP B	CYPHER LOCKSET (7-PIN CORE CYLINDER)	LH8146B26D41	DORMAKABA BEST
1	MOP PLATES	K1050 US32D 24" X 34"	ROCKWOOD
1	SURFACE MOUNTED CLOSER	1461 AL	LCN
3	SILENCER	608	ROCKWOOD
	GASKETS	S88BL	PEMCO
HARDWARE GROUP C	BALL BEARING HINGES	FBB191 US32D 4.5 X4.5	STANLEY
1	CYPHER LOCKSET (7-PIN CORE CYLINDER)	LH8146B26D41	DORMAKABA BEST
2	MOP PLATES	K1050 US32D 24" X 34"	ROCKWOOD
1	SURFACE MOUNTED CLOSER	1461 AL	LCN
3	SILENCER	608	ROCKWOOD
	GASKETS	S88BL	PEMCO

Mark	Width	Height	Fire Rating	Frame Material	Door Profile	Door Finish	Glazing	Door Hardware Group	Head Detail	Jamb Detail	Door Notes
230	6'-0"	7'-0"	20	HM-EX	D1	WOOD	-YES	A	EX.	EX.	1,2,3,4,5
232	3'-6"	7'-0"	20	HM-EX	D2	WOOD	YES	B	EX.	EX.	1,2,3,4,5
230.1	3'-0"	8'-0"	--	HM	D2	WOOD	-YES	C	6/QL-901	5/QL-901	1,2,4,5

Mark	Width	Height	Fire Rating	Frame Material	Door Profile	Door Finish	Glazing	Door Hardware Group	Head Detail	Jamb Detail	Door Notes
230	6'-0"	7'-0"	20	HM-EX	D1	WOOD	-YES	A	EX.	EX.	1,2,3,4,5
232	3'-6"	7'-0"	20	HM-EX	D2	WOOD	YES	B	EX.	EX.	1,2,3,4,5
230.1	3'-0"	8'-0"	--	HM	D2	WOOD	-YES	C	6/QL-901	5/QL-901	1,2,4,5

**GENERAL FLOOR PLAN NOTES**

A. REFER TO SHEET G-001 FOR ABBREVIATIONS, LEGENDS AND NOTES. REFER TO SHEET G-002 FOR PARTITION TYPES. REFER TO SHEET G-003 FOR LIFESAFETY PLAN AND CHEMICAL LIST. REFER TO SHEET QL-010 FOR EQUIPMENT MATRIX AND SCHEDULES. REFER TO SHEET QL-202 FOR ROOM FINISH AND DOOR SCHEDULE. REFER TO SHEET E-302 FOR ELECTRICAL OUTLETS. GA TECH TO PROVIDE TELECOM VOICE AND DATA SHEETS TO BE INCLUDED IN CONSTRUCTION DOCUMENT SET.

B. ALL EXISTING CASEWORK HINGES AND LATCHES SHALL BE ADJUSTED AND ALIGNED AND IN PROPER WORKING CONDITION BEFORE PROJECT IS TURNED OVER TO THE CLIENT.

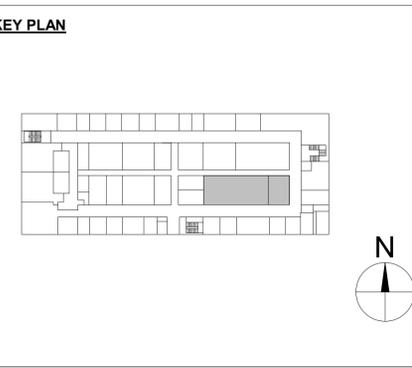
C. GC TO ENSURE THAT ALL EXISTING FAUCET ARE IN WORKING CONDITION. GC TO ENSURE THAT ALL EXISTING DI FAUCET ARE IN WORKING CONDITION. CONTRACTOR SHALL PREP ALL EXISTING CASEWORK WHERE INDICATED ON DRAWINGS FOR ELECTROSTATICALLY APPLIED COATING. COATING SHALL MATCH COLOR OF NEW FLAMMABLE AND ACID CABINET UNDER FUME HOOD. REFER TO QL-010.

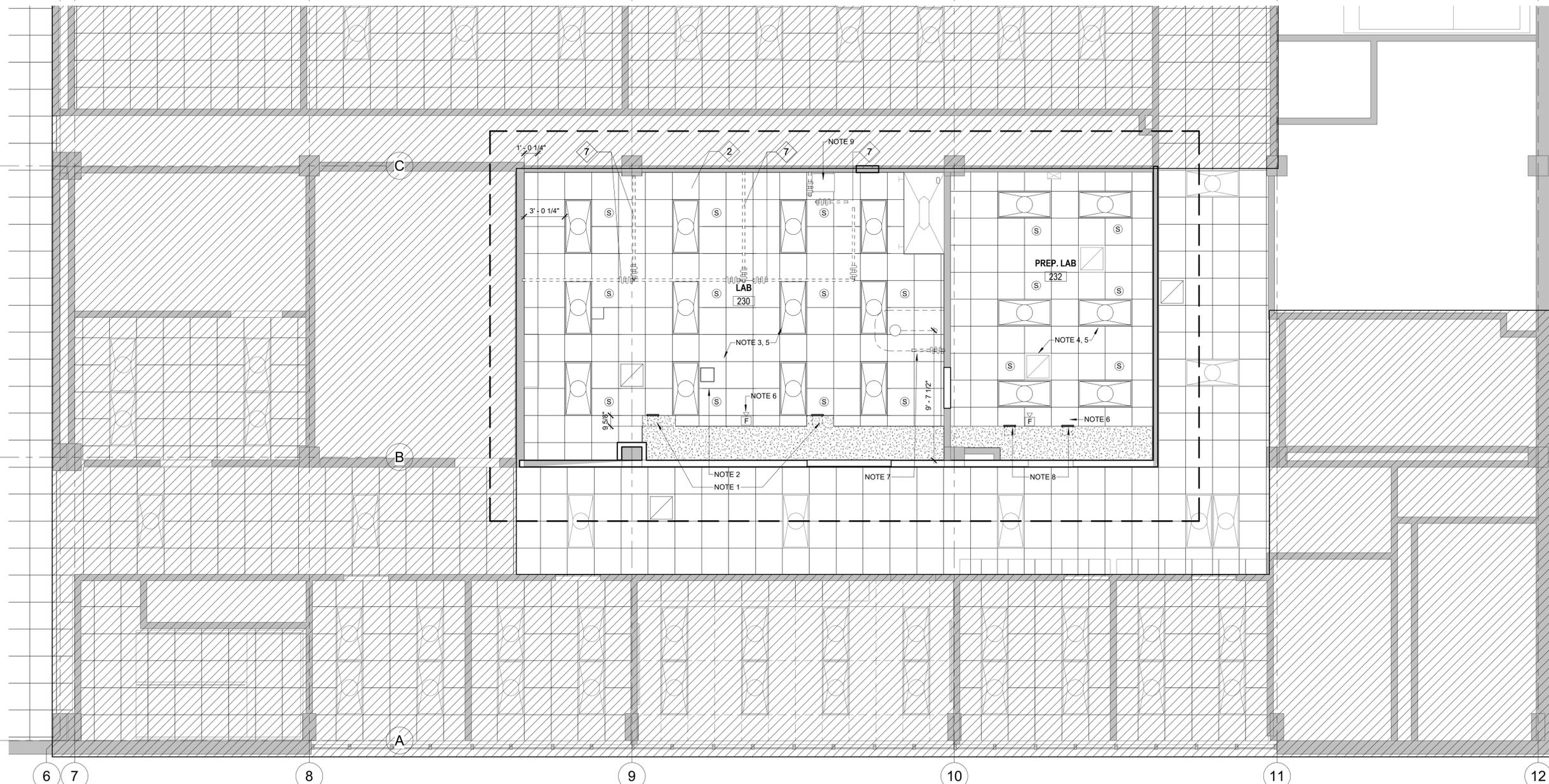
**FLOOR PLAN SHEET NOTES**

- LASER CURTAIN SHALL BE MOVED FROM THE DR YUNKER BOGGS LABORATORY TO NEW LAB RM. 230. GC SHALL PROVIDE NEW CEILING TRACK TO ACCOMMODATE EXISTING LASER CURTAIN. SALVAGED LABORATORY SINK AND FAUCET SHALL BE INSTALLED IN NEW EPOXY COUNTERTOPS.
- MOUNT TO WALL SALVAGED AND REFURBISHED FIRE EXTINGUISHER.
- RELOCATED THE SALVAGE EMERGENCY SHOWER. PROVIDE MODESTY CURTAIN, BOD GUARDIAN. EXISTING FUMEHOOD TO BE REFURBISHED. REFER TO SHEET QL-010 FOR ADDITIONAL INFORMATION.
- EXISTING WALL IS SCHEDULED AS A 1 HOUR RATED PARTITION. IF THE WALL DOES NOT EXTEND TO STRUCTURE, GC SHALL COMPLETE THE ONE HOUR RATED WALL PARTITION. FILL ANY EXISTING HOLES, AND USE A FIRE RATED CAULKING TO SEAL AROUND ALL PENETRATIONS THROUGH THE WALL.
- EXISTING RACEWAY TO REMAIN. ADD MORE OUTLETS TO EXISTING RACEWAY. REFER TO ELECTRICAL DWGS.
- PROVIDE A DEDICATED 120V OUTLET AND A COLD WATER SUPPLY A 1/2" MNPT (MALE NATIONAL PIPE THREAD) VALVE FOR THE WATER PURIFICATION SYSTEM.
- EXISTING ELECTRICAL PANEL AND TRANSFORMER ALONG WALL TO REMAIN.
- EXISTING RACEWAY TO REMAIN.
- PROVIDE NEW HOLLOW METAL DOOR FRAME AND NEW WOOD DOOR. REFER TO DOOR SCHEDULE ON SHEET QL-202.
- IF THE WALL DOES NOT EXTEND TO STRUCTURE, GC SHALL COMPLETE THE RATED WALL PARTITION. FILL ANY EXISTING HOLES, AND USE A FIRE RATED CAULKING TO SEAL AROUND ALL PENETRATIONS THROUGH THE WALL.
- PROVIDE CURVED TRACK AT THIS LOCATION AND PROVIDE ONE CURTAIN THAT CAN EXTEND TO THE WALL.

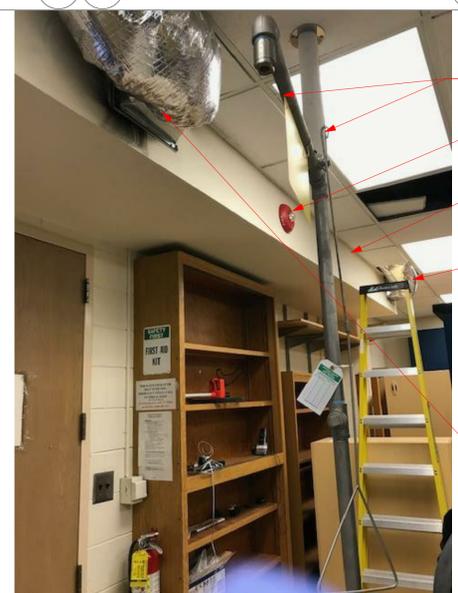
**LABORATORY FURNISHINGS AND EQUIPMENT KEYED...**

- PATCH AND FILL HOLE IN CONCRETE FLOOR FROM RELOCATED EMERGENCY SHOWER.
- CEILING SERVICE COLUMN; SEE SPEC. SECTION 11 6000.





1 REFLECTED CEILING PLAN ROOM 230, 232  
1/4" = 1'-0"



- EXISTING EMERGENCY SHOWER
- EXISTING FIRE ALARM
- EXISTING GYP. SOFFIT
- EXISTING EXPOSED HVAC DUCT
- EXISTING EXPOSED HVAC DUCT

2 EXISTING CEILING SOFFIT FOR LAB 230

**REFLECTED CEILING GENERAL NOTES:**

- A. ALL ACOUSTICAL CEILINGS ARE 9'-0" UNLESS NOTED OTHERWISE.
- B. REFER TO G-001 FOR ABBREVIATIONS, LEGENDS AND NOTES.
- C. REFER TO QL-010 FOR EQUIPMENT MATRIX, AND SCHEDULES.
- D. REFER TO MECHANICAL DRAWINGS FOR LOCATION OF SUPPLY AND EXHAUST DIFFUSER.
- E. REFER TO ELECTRICAL DRAWINGS FOR LIGHTING FIXTURE INFORMATION. PROVIDE NEW SPINKLER SYSTEM IN BOTH SPACES. CONTRACTOR SHALL CONFIRM AND COORDINATE WITH CLIENT THIS SCOPE OF WORK.
- F.

**REFLECTED CEILING SHEET NOTES:**

1. CONTRACTOR SHALL ADJUST EXISTING SOFFIT TO ENCLOSE THE EXPOSED EXISTING MECHANICAL DUCTS AND THE NEW WALL SUPPLY GRILLES IN SOFFIT. SEE MECHANICAL DRAWINGS. HOWEVER THE EXISTING FIRE ALARM SHALL STAY IN PLACE., REFER TO 2/ QL-402
2. CEILING SERVICE COLUMN, REFER TO 4/QL-901
3. PROVIDE NEW CEILING GRID, AND ACOUSTICAL CEILING TILE.
4. EXISTING CEILING AND GRID TO REMAIN
5. PROVIDE NEW LED LIGHT FIXTURES, REFER TO ELECTRICAL DWGS.
6. EXISTING FIRE ALARM, TO REMAIN.
7. RELOCATED SALVAGED EMERGENCY SHOWER.
8. EXISTING SIDE WALL SUPPLY GRILLES IN SOFFIT.
9. EXISTING TRANSFORMER TO REMAIN

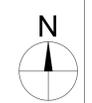
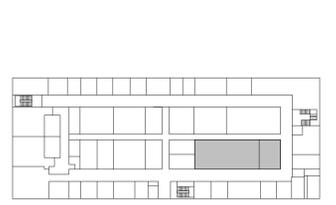
**LABORATORY FURNISHINGS AND EQUIPMENT KEYED...**

- 2 X ACOUSTICAL CEILING TILE; SEE SPEC. SECTION 09 5100.
- 7 BLACKOUT CURTAIN TRACK; SEE SPEC. SECTION 10 2123.

**LABORATORY DEMOLITION PLAN LEGEND**

- 2X4 RECESSED LIGHT FIXTURE, SEE ELEC DEWS
- GYPSUM BOARD BULKHEAD
- 2X2 ACT CEILING
- RECESSED RETURN DIFFUSERS, SEE MECH DWGS
- RECESSED SUPPLY, SEE MECH DWGS
- REINSTALLED SALVAGED CEILING TO FLOOR MOUNTED EMERGENCY SHOWER, SEE PLUMB DWGS
- REINSTALLED SALVAGED CEILING MOUNTED LASER CURTAINS, NEW TRACK IS REQUIRED
- EXISTING UMBILICAL TO REMAIN
- PROVIDE NEW UMBILICAL
- SPRINKLERS, CONTRACTOR SHALL COORDINATE WITH GEORGIA INSTITUTE OF TECHNOLOGY

**KEY PLAN**



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No.	Date	Description
1	08/31/2020	100% CD DOCUMENTS

**100% CONSTRUCTION DOCUMENTS**

**REFLECTED CEILING PLAN**

DRAWN BY: AB/NM CHECKED BY: NJ/CPR  
PROJECT NO: 20176.00 DATE: 08/31/2020  
SHEET NO:

**QL-402**

SCALE:

No.	Date	Description
1	08/31/2020	100% CD DOCUMENTS



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100%  
CONSTRUCTION  
DOCUMENTS

LABORATORY  
INTERIOR  
ELEVATIONS

DRAWN BY: Author  
CHECKED BY: Checker  
PROJECT NO: 20176.00  
DATE: 08/31/2020  
SHEET NO:

QL-501

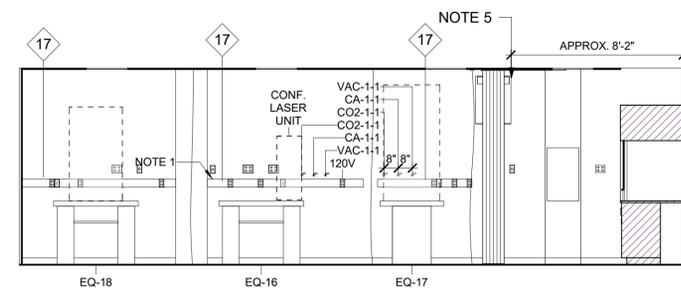
SCALE:

SHEET NOTES

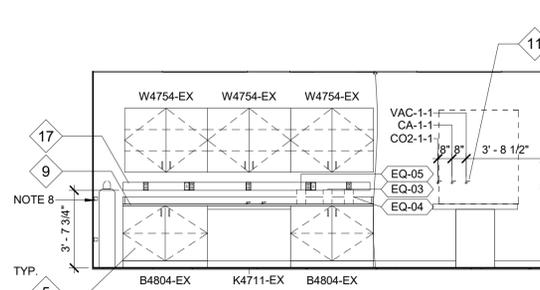
1. PROVIDE NEW RACEWAY  
PROVIDE 120V DEDICATED ELECTRICAL  
OUTLET FOR EQ-25. REFER TO ELECTRICAL  
DWGS.
2. PROVIDE NEW METAL SUPPORT FOR END OF  
COUNTERTOP. GO TO FIELD VERIFY HEIGHT  
OF EXISTING FIXED CASEWORK.
3. PROVIDE GROMMET AND ELECTRICAL  
OUTLET AT EQUIPMENT SPACE. SEE DETAIL  
2/QL-901 AND ELECTRICAL DWGS.
4. EXISTING TRANSFORMER, TO REMAIN.  
RELOCATED EMERGENCY SHOWER  
PROVIDE CW CONNECTION TO THE  
RELOCATED EMERGENCY SHOWER. REFER  
TO PLUMBING DRAWINGS.
5. RELOCATED CYLINDER RESTRAINTS  
PROVIDE A 1" EPOXY SHELF.
6. SALVAGED RACEWAY AT ISLAND BENCH.

LABORATORY FURNISHINGS AND EQUIPMENT KEYED...

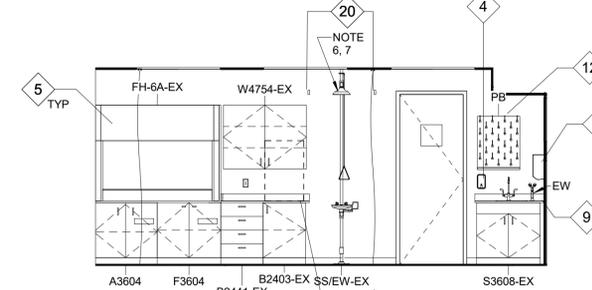
3. PAPER TOWEL DISPENSER, O.F.C.I.
4. HAND SANITIZER DISPENSER, O.F.C.I.
5. ELECTROSTATICALLY APPLIED COATING; SEE SPEC. SECTION 09  
9110.
9. NEW EPOXY COUNTERTOP; SEE SPEC. SECTION 12 3553.
11. WALL MOUNTED GAS VALVES; SEE SPEC. SECTION 12 3553.
12. NEW PEGBOARD AT SINKS; SEE SPEC. SECTION 12 3553.
15. SALVAGE RACEWAY; SEE SPEC. SECTION ELECTRICAL DWGS.
16. NEW WOOD DOOR; SEE SHEET QL-202.
17. NEW RACEWAY; SEE ELECTRICAL DWGS.
20. NEW PRIVACY CURTAIN WITH WALL SUPPORT AT EMERGENCY  
SHOWER; REFER TO SHEET QL-010.
21. NEW ELECTRICAL SWITCH, SEE ELECTRICAL DRAWINGS.
22. SURFACE MOUNTED EMERGENCY SHUT-OFF VALVE; REFER TO  
SHEET P-202.



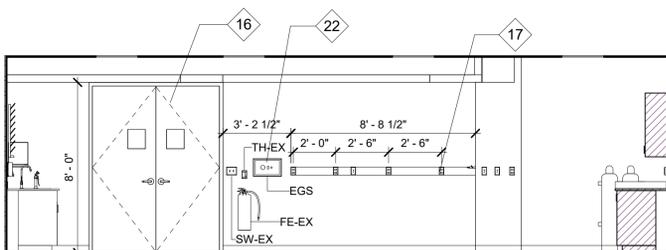
1 ROOM 230 N  
1/4" = 1'-0"



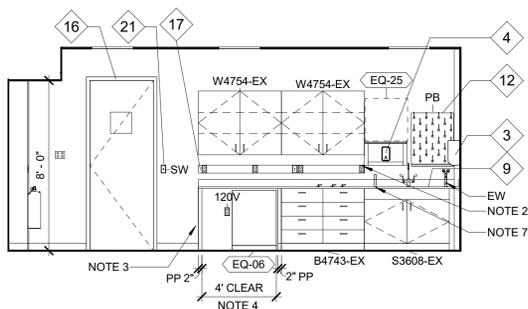
2 ROOM 230 W  
1/4" = 1'-0"



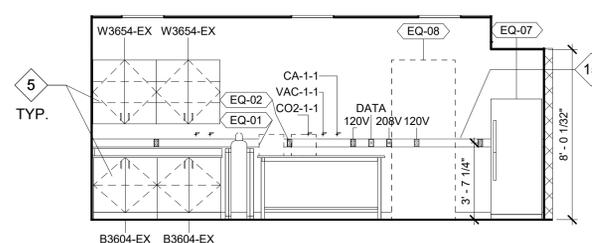
3 ROOM 230 E  
1/4" = 1'-0"



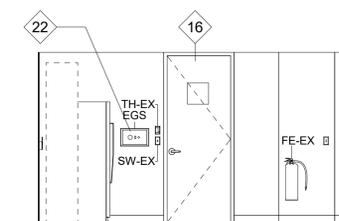
4 ROOM 230 S  
1/4" = 1'-0"



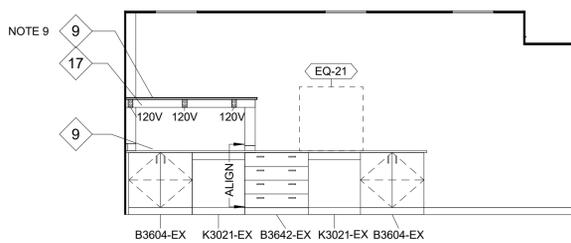
5 ROOM 232 W  
1/4" = 1'-0"



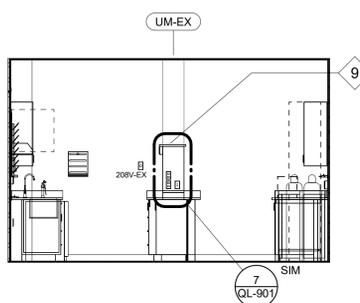
6 ROOM 232 E  
1/4" = 1'-0"



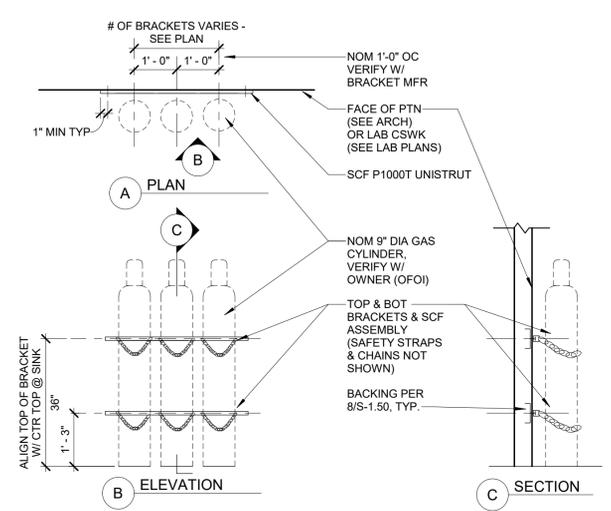
7 ROOM 232 S  
1/4" = 1'-0"



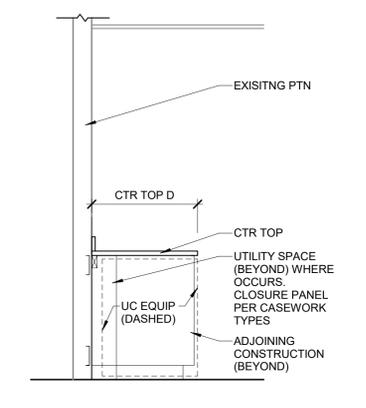
8 ROOM 232 N  
1/4" = 1'-0"



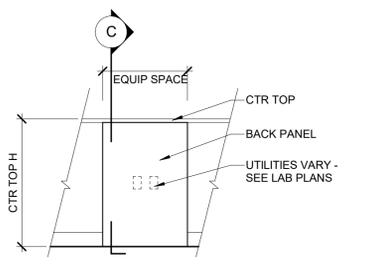
9 ROOM 242 ISLAND BENCH  
1/4" = 1'-0"



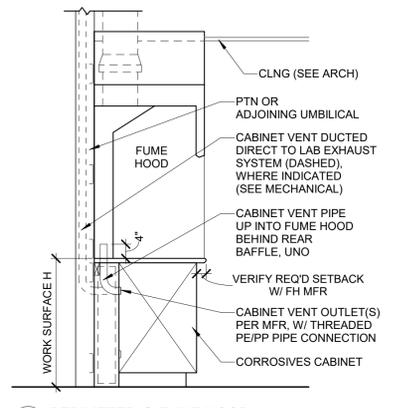
1 GAS CYLINDER RACK- TYPE A  
1/2" = 1'-0"



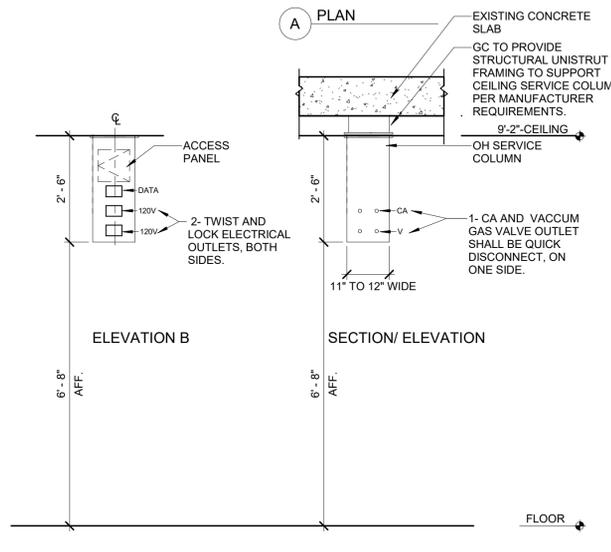
2 SECTION - PERIMETER  
1/2" = 1'-0"



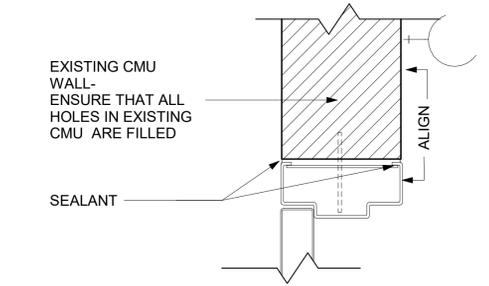
3 BACK OF PERIMETER EQUIPMENT SPACE  
1/2" = 1'-0"



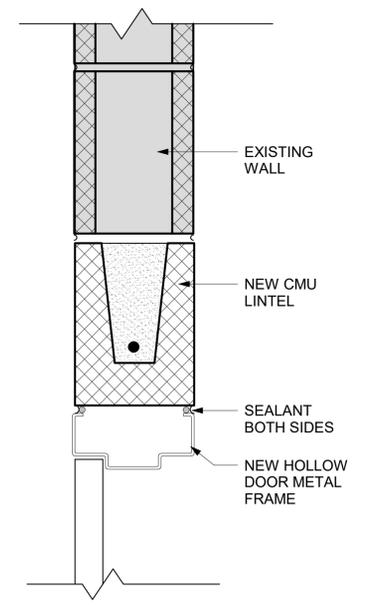
4 PERIMETER @ FUME HOOD (ISLAND / PENINSULA SIM.)  
1/2" = 1'-0"



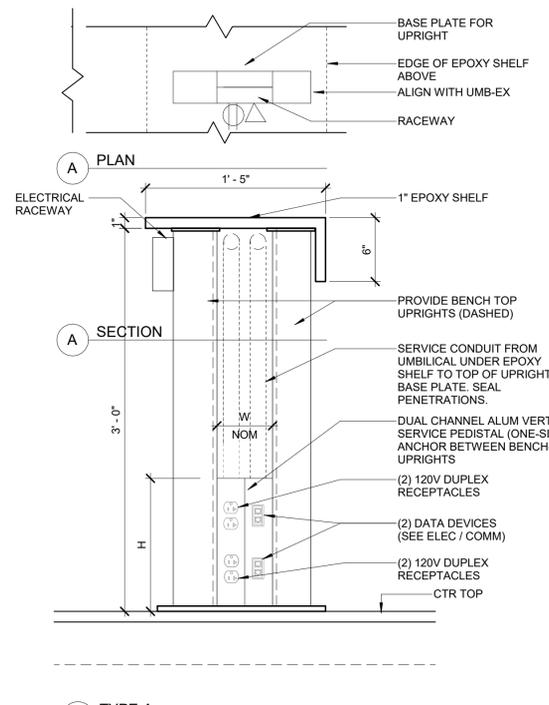
5 SECTION - CEILING SERVICE COLUMN  
1/2" = 1'-0"



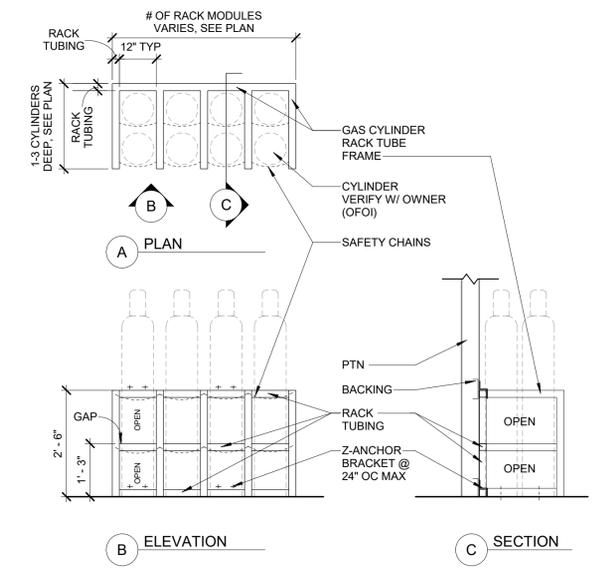
6 PLAN DETAIL @ DOOR  
3" = 1'-0"



7 DETAIL @ CMU DOOR HEAD  
3" = 1'-0"



8 EL - VERTICAL SERVICE PEDESTAL  
1 1/2" = 1'-0"



9 GAS CYLINDER RACK TYPE B  
1/2" = 1'-0"

No.	Date	Description
1	08/31/2020	100% CD DOCUMENTS



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**100% CONSTRUCTION DOCUMENTS**

**DETAILS**

DRAWN BY: Author  
CHECKED BY: Checker  
PROJECT NO: 20176.00  
DATE: 08/31/2020  
SHEET NO:

**QL-901**

SCALE:



























HERA Laboratory Planners

www.herainc.com

Georgia Institute of Technology
Cherry Emerson Peter Yunker Lab Fit-Up

GA PROJECT #: 0360-2020



Vanderweil
260 Peachtree Street, NW.
Suite 1401
Atlanta, GA 30303
(617) 556-9308 T

Table with 14 columns: TYPE, DESCRIPTION, MOUNTING, MANUFACTURER, MODEL, DIMMING, VOLTAGE, TOTAL WATTAGE, WATTAGE PER FOOT, POWER FACTOR, LUMENS OUTPUT, COLOR TEMP., LAMP, BALLAST, COMMENTS. Includes rows for 2x4 LED RECESSED LIGHT FIXTURE.

Table with 12 columns: ITEM #, QUANTITY, ELEC AFF, DESCRIPTION, VOLTAGE, PHASE, AMPS, KVA, DEVICE, BREAKER, WIRE & CONDUIT, REMARKS. Lists various lab equipment like incubators, mixers, freezers, etc.

Table with 13 columns: SYMBOL #, NEMA #, AMPS, VOLTAGE, PHASE, POLES, WIRE, STYLE, CIRCUIT BREAKER, PHASE, NEUTRAL, GROUND, CONDUIT. Lists special purpose receptacle specifications.

Panelboard schedule table including: PANEL NAME: A, BUS AMPS: 150, PANELBOARD OPTIONS & ACCESSORIES, and a detailed table of circuit types, descriptions, and loads.

Empty table with 3 columns: No., Date, Description.



08/27/2020

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ELECTRICAL SCHEDULES

DRAWN BY: Author
CHECKED BY: Checker
PROJECT NO: 30089
DATE: 08/31/2020
SHEET NO:

E-002

SCALE:

8/27/2020 2:40:04 PM

## 26130 BOXES AND DEVICES

### OUTLET BOXES

- OUTLET BOXES ON CONCEALED WORK SHALL BE AT LEAST 4" SQUARE OR OCTAGONAL, GALVANIZED PRESSED STEEL WITH PLASTER RINGS AS REQUIRED. OUTLET BOXES FOR EXPOSED CONDUIT WORK IN PUBLIC AREAS SHALL BE CAST ALUMINUM ALLOY WITH CAST ALUMINUM ALLOY COVERS, TYPE "FS" BOX.
- SWITCH BOXES, RECEPTACLE BOXES AND OTHER OUTLET BOXES SHALL BE STANDARD 4" SQUARE WITH PLASTER RINGS OR GANG COVER AS REQUIRED.
- OUTLET BOXES SHALL BE BY STEEL CITY ELECTRIC COMPANY, APPELLATION ELECTRIC COMPANY, NATIONAL ELECTRIC PRODUCTS COMPANY OR APPROVED EQUAL.
- PROVIDE ONLY ENOUGH CONDUIT OPENINGS TO ACCOMMODATE CONDUITS AT INDIVIDUAL LOCATION. EACH BOX SHALL BE LARGE ENOUGH TO ACCOMMODATE NUMBER AND SIZES OF CONDUITS, WIRES AND SPLICES TO MEET NEC REQUIREMENTS, BUT SHALL BE AT LEAST SIZE SHOWN OR SPECIFIED. NECESSARY VOLUME SHALL BE OBTAINED BY USING BOXES OF PROPER DIMENSIONS. BOX DEPTHS GREATER THAN 2" SHALL NOT BE USED TO OBTAIN NECESSARY VOLUME, BUT MAY BE USED WITH ARCHITECT'S APPROVAL TO FACILITATE INSTALLATION. OCTAGONAL HUNG CEILING BOXES WITH SUSPENSION BARS MAY BE 3 1/2" DEEP. RECTANGULAR BOXES FOR INTER-CONNECTION OF BRANCH CIRCUIT CONDUITS MAY BE 2 1/2" DEEP.

### JUNCTION BOXES, PULL BOXES AND CABLE TROUGHS

- PROVIDE CODE GAUGE GALVANIZED STEEL JUNCTION AND PULL BOXES FOR CONDUIT 1 1/4" TRADE SIZE AND LARGER, WHERE INDICATED AND AS NECESSARY TO FACILITATE INSTALLATION, OF REQUIRED DIMENSIONS, WITH ACCESSIBLE, REMOVABLE SCREW-ON COVERS. PROVIDE JUNCTION AND PULL BOXES IN SPECIAL SIZES AND SHAPES DETERMINED IN FIELD WHERE NECESSARY. JUNCTION BOXES FOR EXPOSED CONDUIT WORK IN FINISHED AREAS SHALL BE CAST ALUMINUM ALLOY WITH CAST ALUMINUM ALLOY COVERS.
- JUNCTION BOX COVERS SHALL BE READILY ACCESSIBLE. DO NOT INSTALL JUNCTION BOXES ABOVE CEILING EXCEPT WHERE CEILING IS REMOVABLE OR WHERE ACCESS PANEL IS PROVIDED.

### WIRING DEVICES AND PLATES

- PROVIDE WIRING DEVICES BY SINGLE MANUFACTURER. CATALOG DESIGNATIONS OF HUBBELL ARE SPECIFIED TO ESTABLISH STANDARDS OF QUALITY FOR MATERIALS AND PERFORMANCE ACCEPTABLE ALTERNATES ARE ARROW-HART, LEVITON, BRYANT, OR APPROVED EQUAL.
- TOGGLE SWITCHES: SINGLE-POLE SHALL BE HBL NO. 1221, 20A, 120-277 V AC. THREE-WAY SHALL BE HBL NO. 1223, 20A, 120-277 V AC. FOUR-WAY SHALL BE HBL NO. 1224, 20A, 120-277 V AC.
- RECEPTACLES: DUPLEX SHALL BE HBL NO. 5362, 125V, 20A, 2-POLE, 3W, GROUNDING. GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLES SHALL BE HOSPITAL GRADE.
- UNLESS NOTED OTHERWISE BY THE ARCHITECT, FACEPLATES SHALL BE 0.040" BRUSHED STAINLESS STEEL. NAMEPLATE DESIGNATIONS FOR DEVICE PLATES SHALL BE STICK-ON TYPE WITH PANEL AND CIRCUIT NUMBER.
- UNLESS NOTED OTHERWISE BY THE ARCHITECT, DEVICES SHALL BE THE FOLLOWING COLORS.
  - RECEPTACLES FED FROM EMERGENCY PANELS SHALL BE RED IN COLOR.
  - RECEPTACLES FED FROM UPS PANELS SHALL BE ORANGE IN COLOR.
  - RECEPTACLES FED FROM NORMAL POWER PANELS SHALL BE WHITE IN COLOR
  - ALL DEDICATED RECEPTACLES SHALL BE GRAY IN COLOR.

## 26070 TESTING AND INSPECTION

TEST WIRING AND CONNECTIONS FOR CONTINUITY AND GROUNDS BEFORE CONNECTING. DEMONSTRATE INSULATION RESISTANCE BY MEGGER TEST AS REQUIRED. INSULATION RESISTANCE BETWEEN CONDUCTORS AND GROUNDS FOR SECONDARY DISTRIBUTIONS. SYSTEMS SHALL MEET NEC REQUIREMENTS.

VERIFY AND CORRECT AS NECESSARY: VOLTAGES, TRIP SETTINGS AND PHASING ON EQUIPMENT FROM SECONDARY DISTRIBUTION SYSTEM TO POINTS OF USE. TEST SECONDARY VOLTAGES AT PANELBOARDS, AND AT OTHER LOCATIONS ON DISTRIBUTION SYSTEMS AS NECESSARY. TEST SECONDARY VOLTAGES UNDER NO-LOAD AND FULL-LOAD CONDITIONS.

PROVIDE NECESSARY TESTING EQUIPMENT AND TESTING.

FAILURE OR DEFECTS IN WORKMANSHIP OR MATERIALS REVEALED BY TESTS OR INSPECTION SHALL BE CORRECTED PROMPTLY AND RETESTED. REPLACE DEFECTIVE MATERIAL.

CLEAN PANELS. PANELBOARD INTERIORS SHALL BE CLEANED AND VACUUMED.

BEFORE ENERGIZING ANY MOTOR, IT SHALL BE VISUALLY INSPECTED FOR SERVICEABILITY. VERIFY THAT PROPER ALIGNMENT HAS BEEN PERFORMED. CHECK NAMEPLATE FOR ELECTRICAL POWER REQUIREMENTS.

CHECK BOLT TORQUES FOR FEEDER TERMINATIONS AND OTHER ASSOCIATED EQUIPMENT IN THIS SECTION BY CALIBRATED TORQUE WRENCH METHOD.

TEST RUN ALL MOTORS PREFERABLY UNCOUPLED OR UNLOADED, BEFORE PLACING INTO REGULAR SERVICE. A CHECK ON THE MOTOR FOR ROTATION, SPEED, CURRENT AND TEMPERATURE RISE SHALL BE MADE AND RESULTS RECORDED. PROVIDE TESTING OF ALL NEW CIRCUIT BREAKERS RATED 100 AMPERES AND ABOVE FOR NORMAL UTILITY POWER AND 20 AMP BREAKERS AND ABOVE FOR UPS POWER:

- CONTACT RESISTANCE SHALL BE MEASURED. CONTACT RESISTANCE SHALL BE COMPARED TO ADJACENT POLES AND SIMILAR BREAKER. DEVIATIONS OF MORE THAN FIFTY PERCENT (50%) SHALL BE INVESTIGATED.
- TIME-CURRENT CHARACTERISTIC TESTS SHALL BE PERFORMED BY PASSING THREE HUNDRED PERCENT (300%) RATED CURRENT THROUGH EACH POLE SEPARATELY. TRIP TIME SHALL BE DETERMINED.
- INSTANTANEOUS PICKUP CURRENT SHALL BE DETERMINED BY RUN-UP OR PULSE METHOD. CLEARING TIMES SHOULD BE WITHIN FOUR (4) CYCLES OR LESS. INSTANTANEOUS PICKUP CURRENT LEVELS SHOULD BE WITHIN TWENTY PERCENT (20%) OF MANUFACTURER'S PUBLISHED VALUES.
- INSULATION RESISTANCE SHALL BE DETERMINED POLE TO POLE, ACROSS POLE AND POLE TO GROUND. TEST VOLTAGE SHALL BE 1000 VOLTS D. C. INSULATION RESISTANCE SHALL NOT BE LESS THAN FIFTY (50) MEGOHMS.
- ALL TRIP TIMES SHALL FALL WITHIN TABLE BELOW. CIRCUIT BREAKERS EXCEEDING MAXIMUM THREE HUNDRED PERCENT (300%) TIME (COLUMN 5) SHALL BE REPLACED.

VALUES OF CIRCUIT BREAKER OVERCURRENT TRIP TEST					
VALUES FOR OVERCURRENT TRIP TEST (AT 300 PERCENT OF RATED CONTINUOUS CURRENT OF BREAKER)					
VOLTAGE, VOLTS	RANGE OF RATED CONTINUOUS CURRENT, AMPERES	TRIPPING TIMES, SECONDS		MAXIMUM TRIPPING TIMES FOR CABLE PROTECTION*	MAXIMUM TRIPPING TIMES FOR CABLE PROTECTION*
		THERMAL BREAKERS	MAGNETIC BREAKERS		
(1)	(2)	(3)	(4)	(5)	(6)
240	15-45	3	--	59	100
240	50-100	5	--	70	200
600	15-45	5	5	80	100
600	50-100	5	5	150	200
240	110-225	10	--	200	300
600	110-225	10	5	200	300
600	250-450	25	--	250	300

\*THESE VALUES ARE BASED ON HEAT TESTS CONDUCTED BY CIRCUIT BREAKER MANUFACTURERS ON CONDUCTORS IN CONDUIT. NEMA REFERENCE.

## 26120 RACEWAY & WIRING

### RACEWAYS

- RIGID METALLIC CONDUIT (RMC) AND ELECTRICAL METALLIC TUBING (EMT) SHALL BE OF ZINC-COATED STEEL MANUFACTURED BY ALLIED TUBE AND CONDUIT, WHEATLAND TUBE, OR APPROVED EQUAL.
- FLEXIBLE METALLIC CONDUIT SHALL BE GALVANIZED STEEL, SPIRAL WRAPPED METALLIC CONDUIT (GREENFIELD).
- CONDUIT EXPANSION FITTINGS SHALL BE THREADED HOT-DIPPED GALVANIZED MALLEABLE IRON WITH INTERNAL BONDING ASSEMBLY BY O.Z./GEDNEY OR APPROVED EQUAL.
- CONDUIT FIRE SEAL FITTINGS SHALL HAVE HEAT-ACTIVATED INTUMESCENT MATERIAL FOR FIRE RATING EQUAL TO OR HIGHER THAN THAT OF FLOOR OR WALL BY O.Z./GEDNEY OR APPROVED EQUAL.
- PROVIDE CONNECTORS AND COUPLINGS WITH INSULATED THROATS; MANUFACTURED ELBOWS, LOCKNUTS; AND PLASTIC OR BAKELITE BUSHINGS AT TERMINATIONS, AS NECESSARY. COUPLINGS AND CONNECTORS SHALL BE STEEL CONCRETE TIGHT SET SCREW. COUPLINGS AND CONNECTORS SHALL FORM POSITIVE GROUND. BUSHINGS FOR RIGID STEEL AND CONNECTORS FOR EMT SHALL HAVE INSULATING INSERTS THAT MEET REQUIREMENTS OF UL 514 FLAME TEST.

### WIRE AND CABLE (600 V INSULATION)

- PROVIDE SINGLE-CONDUCTOR, ANNEALD COPPER WIRE AND CABLE WITH INSULATION RATED 600 V, OF SIZES SPECIFIED AND SCHEDULED ON DRAWINGS BY SOUTHWIRE, OKONITE OR APPROVED EQUAL. WIRE SIZES SHOWN AND SPECIFIED ARE AMERICAN WIRE GAUGE FOR COPPER.
- WIRE #10 AND LARGER SHALL BE STRANDED. WIRE AND CABLE SHALL HAVE THWN-THHN OR XHHW INSULATION.

### TERMINATIONS

- PROVIDE STANDARD BOLT-ON LUGS WITH HEX SCREWS TO ATTACH COPPER WIRE AND CABLE TO PANELBOARDS AND ELECTRICAL EQUIPMENT.

### COLOR CODING

- MAKE TERMINATIONS AND SPLICES FOR CONDUCTORS #6 AND LARGER WITH CORROSION-RESISTANT, HIGH-CONDUCTIVITY PRESSURE INDENT, HEX SCREW OR BOLT-CLAMP CONNECTORS, WITH OR WITHOUT TONGUES, DESIGNED SPECIFICALLY FOR INTENDED SERVICE.
- COLOR CODE SHALL MATCH FACILITY STANDARD.

### WIRING METHODS

- MC CABLE IS ACCEPTABLE IN CONCEALED LOCATIONS, EMT SHALL BE USED IN EXPOSED APPLICATIONS.
- INSTALL CONNECTORS AND COUPLINGS AS RECOMMENDED BY MANUFACTURERS. COMPRESSION FITTINGS SHALL NOT BE USED WITH RIGID STEEL CONDUITS.
- SIZE RIGID STEEL CONDUIT, EMT AND FLEXIBLE METALLIC CONDUIT AS REQUIRED BY NEC EXCEPT AS SPECIFIED OR SHOWN ON DRAWINGS OTHERWISE.
- INSTALL CONDUIT SYSTEMS COMPLETE BEFORE DRAWING IN CONDUCTORS. BLOW THROUGH AND CLEAN CONDUIT FREE OF DEBRIS BEFORE CONDUCTORS ARE INSTALLED.
- CHECK RACEWAY SIZES TO DETERMINE THAT GREEN EQUIPMENT GROUND CONDUCTOR FITS IN SAME RACEWAY WITH PHASE AND NEUTRAL CONDUCTORS TO MEET NEC PERCENTAGE OF FILL REQUIREMENTS. INCREASE DUCT, CONDUIT, TUBING AND RACEWAY SIZES SHOWN OR SPECIFIED AS REQUIRED TO ACCOMMODATE CONDUCTORS.
- EXPANSION/DEFLECTION FITTINGS: CONDUIT OR EMT SECURED RIGIDLY ON OPPOSITE SIDES OF BUILDING EXPANSION JOINTS AND LONG RUNS OF EXPOSED RACEWAY SUBJECT TO STRESS SHALL HAVE EXPANSION FITTINGS. FITTINGS SHALL SAFELY DEFLECT AND EXPAND TO TWICE DISTANCE OF STRUCTURAL MOVEMENT. PROVIDE SEPARATE EXTERNAL COPPER BONDING JUMPER SECURED WITH GROUNDING STRAPS ON EACH END OF FITTING.
- ATTACH PULL ROPES TO CONDUCTORS WITH BASKET-WEAVE GRIPS ON PULLING EYES. PULL CABLES THAT SHARE CONDUIT AT SAME TIME.
- WIRE AND CONDUIT SIZES INDICATED ON HOMERUNS SHALL BE CONTINUOUS THROUGHOUT THE CIRCUIT. CONDUIT HOMERUNS SHOWN ON THE DRAWING WITH MORE THAN 3 CURRENT CARRYING CONDUCTORS ARE SHOWN DIAGRAMMATICALLY. THIS CONTRACTOR SHALL NOT INSTALL MORE THAN 3 CURRENT CARRYING CONDUCTORS IN A RACEWAY UNLESS DONE SO STRICTLY BY THE NATIONAL ELECTRIC CODE.
- THE E. C. IS RESPONSIBLE FOR ALL NECESSARY CORE DRILLING. ALSO, THE E.C. SHALL PROVIDE FIRE STOPPING AND WEATHERPROOF SEALANT AROUND THE ANNULAR OF EACH CONDUIT THAT IS CORE DRILLED.
- ALL CONDUITS SHALL BE SUPPORTED BY USE OF HOT DIPPED GALVANIZED POWER STRUT, RACKS, THREADED ROD, BEAM CLAMPS, POWER TRAP AND ALL NECESSARY ACCESSORIES FOR A COMPLETE WIRING SYSTEM. ALL RACKS SHALL BE PROVIDED WITH DOUBLE TIERS FOR FUTURE CONDUITS.
- ALL WIRING SHALL BE RUN CONCEALED WHERE POSSIBLE.

## 26060 GROUNDING AND BONDING

### GROUNDING

- PROVIDE EQUIPMENT GROUNDING SYSTEM AS PER N.E.C.
- SYSTEM SHALL MEET NEC REQUIREMENTS, MODIFIED AS SHOWN ON DRAWINGS AND AS SPECIFIED.
- A GROUNDING CONDUCTOR SHALL BE INCLUDED IN EACH RACEWAY AND SIZED IN ACCORDANCE WITH THE N.E.C.

## 26410 SAFETY DISCONNECT SWITCHES

- PROVIDE UL-LISTED QUICK-MAKE/QUICK-BREAK SAFETY SWITCHES. CURRENT-CARRYING PARTS SHALL BE HIGH-CONDUCTIVITY COPPER. CONTACTS SHALL BE SILVER-TUNGSTEN OR PLATED.
- TYPE HD, (HEAVY DUTY), UNLESS SPECIFIED OTHERWISE, PROVIDE (DUST PROOF) NEMA-1 ENCLOSURE FOR DRY APPLICATION. PROVIDE NEMA-12 ENCLOSURE FOR MECHANICAL SPACES IN DRY APPLICATIONS. PROVIDE NEMA 3R FOR WET APPLICATIONS. SWITCHES SHALL BE RATED 600V MINIMUM AS REQUIRED FOR VOLTAGE OF ASSOCIATED CIRCUIT AND SHALL BE RATED IN HORSEPOWER. FUSES SHALL INTERRUPT LOCKED ROTOR CURRENT OF ASSOCIATED MOTOR OR TEN TIMES FULL RATED LOAD CURRENT, WHICHEVER IS GREATER.
- CURRENT-CARRYING PARTS SHALL BE HIGH-CONDUCTIVITY COPPER. CONTACTS SHALL BE SILVER-TUNGSTEN OR PLATED. PROVIDE POSITIVE PRESSURE FUSE CLIPS AND SWITCH OPERATING MECHANISM SUITABLE FOR CONTINUOUS USE AT RATED CAPACITY WITHOUT AUXILIARY SPRINGS IN CURRENT PATH.
- SWITCHES SHALL WITHSTAND AVAILABLE FAULT CURRENT OR LET-THROUGH CURRENT BEFORE OPERATING, WITHOUT DAMAGE OR RATING CHANGE.

## 26010 BASIC ELECTRICAL REQUIREMENTS

### REFERENCES

- EXAMINE DRAWINGS AND OTHER SECTIONS OF SPECIFICATIONS FOR REQUIREMENTS THAT AFFECT WORK OF THIS SECTION.
- AS USED IN THIS SECTION, "PROVIDE" MEANS "FURNISH AND INSTALL" AND "POS" MEANS "PROVIDE UNDER OTHER SECTIONS"; "FURNISH" MEANS "TO PURCHASE AND DELIVER TO THE PROJECT SITE COMPLETE WITH EVERY NECESSARY APPURTENANCE AND SUPPORT," AND "INSTALL" MEANS "TO UNLOAD AT THE DELIVERY POINT AT THE SITE AND PERFORM EVERY OPERATION NECESSARY TO ESTABLISH SECURE MOUNTING AND CORRECT OPERATION AT THE PROPER LOCATION IN THE PROJECT."
- PERFORM WORK AND PROVIDE MATERIAL AND EQUIPMENT AS SHOWN ON DRAWINGS AND AS SPECIFIED OR INDICATED IN THIS SECTION OF THE SPECIFICATIONS. PROVIDE WORK SPECIFIED AND NOT SHOWN, AND WORK SHOWN AND NOT SPECIFIED AS THOUGH EXPLICITLY REQUIRED BY BOTH. ALTHOUGH WORK IS NOT SPECIFICALLY SHOWN OR SPECIFIED, PROVIDE SUPPLEMENTARY OR MISCELLANEOUS ITEMS, APPURTENANCES, DEVICES AND MATERIALS OBVIOUSLY NECESSARY FOR A SOUND, SECURE AND COMPLETE INSTALLATION. REMOVE ALL DEBRIS CAUSED BY CONTRACTORS' WORK.
- AS WORK PROGRESSES AND FOR DURATION OF CONTRACT, MAINTAIN COMPLETE AND SEPARATE SET OF PRINTS OF CONTRACT DRAWINGS AT JOB SITE AT ALL TIMES. RECORD WORK COMPLETED AND ALL CHANGES FROM ORIGINAL CONTRACT DRAWINGS CLEARLY AND ACCURATELY INCLUDING WORK INSTALLED AS A MODIFICATION OR ADDITION TO THE ORIGINAL DESIGN.
- ITEMS REFERRED TO IN SINGULAR NUMBER IN CONTRACT DOCUMENTS SHALL BE PROVIDED IN QUANTITIES NECESSARY TO COMPLETE WORK

### CONTRACT DOCUMENTS

- EXCEPT WHERE MODIFIED BY A SPECIFIC NOTATION TO THE CONTRARY, IT SHALL BE UNDERSTOOD THAT THE INDICATION AND/OR DESCRIPTION OF ANY ITEM, IN THE DRAWINGS OR SPECIFICATIONS OR BOTH, CARRIES WITH IT THE INSTRUCTION TO FURNISH AND INSTALL THE ITEM, REGARDLESS OF WHETHER OR NOT THIS INSTRUCTION IS EXPLICITLY STATED AS PART OF THE INDICATION OR DESCRIPTION.
- DRAWINGS ARE DIAGRAMMATIC. THEY ARE NOT INTENDED TO BE ABSOLUTELY PRECISE; THEY ARE NOT INTENDED TO SPECIFY OR TO SHOW EVERY CONDUIT AND COMPONENT. THE PURPOSE OF THE DRAWINGS IS TO INDICATE A SYSTEMS CONCEPT, THE MAIN COMPONENTS OF THE SYSTEMS, AND THE APPROXIMATE GEOMETRICAL RELATIONSHIPS. BASED ON THE SYSTEMS CONCEPT, THE MAIN COMPONENTS, AND THE APPROXIMATE GEOMETRICAL RELATIONSHIPS, THE CONTRACTOR SHALL PROVIDE ALL OTHER COMPONENTS AND MATERIALS NECESSARY TO MAKE THE SYSTEMS FULLY COMPLETE AND OPERATIONAL.
- BRANCH CIRCUIT WIRING MAY NOT BE GRAPHICALLY SHOWN ON DRAWINGS AND MAY BE SHOWN BY CIRCUIT NUMBERS BESIDE DEVICES AND EQUIPMENT. PROVIDE COMPLETE WIRING SYSTEM WHETHER OR NOT SHOWN GRAPHICALLY. WIRING IS SHOWN BY CONDUIT RUNS ON DRAWINGS WHERE SPECIFIC ROUTING IS REQUIRED OR FOR SPECIAL REASONS. ONLY ROOMS WITH MULTIPLE SWITCHING HAVE "SWITCH CONTROL LETTERS" ASSIGNED.
- REMOVE, EXTEND, ALTER AND RECONNECT EXISTING CONDUITS AS DIRECTED BY OWNER. RECONNECT EXISTING CONDUIT THAT IS CUT AND DISCONNECTED TO ACCOMMODATE WORK. PROVIDE NEW CONDUIT WHERE WIRE CANNOT BE PULLED IN EXISTING. CONNECT NEW AND EXISTING WORK TO FUNCTION AS COMPLETE, CONTINUOUSLY GROUNDED SYSTEM. REMOVE CONDUIT AND EQUIPMENT NOT INTENDED FOR REUSE AND STORE WHERE DIRECTED.
- THE E.C. SHALL FURNISH AND INSTALL ALL INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE ELECTRICAL WORK COMPLETE AND READY FOR OPERATION.
- EXACT LOCATION OF MECHANICAL EQUIPMENT THAT REQUIRE ELECTRICAL CONNECTIONS AS SHOWN ON THE MECHANICAL DRAWINGS.
- CHECK CONTRACT DRAWINGS, AS WELL AS SHOP DRAWINGS, OF ALL SUBCONTRACTORS BEFORE AND COORDINATE SPACES IN WHICH WORK OF THIS SECTION WILL BE INSTALLED.
- MAINTAIN MAXIMUM HEADROOM AT ALL LOCATIONS. ALL RACEWAYS, PULL BOXES, JUNCTION BOXES, AND ASSOCIATED COMPONENTS TO BE AS TIGHT TO UNDERSIDE OF STRUCTURE AS POSSIBLE.
- MAKE REASONABLE MODIFICATIONS IN LAYOUT AND COMPONENTS NEEDED TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND TO COORDINATE ACCORDING TO PARAGRAPHS ABOVE. SYSTEMS SHALL BE RUN IN A RECTILINEAR FASHION.
- WHERE CONFLICTS OR POTENTIAL CONFLICTS EXIST AND ENGINEERING GUIDANCE IS DESIRED, SUBMIT SKETCH OF PROPOSED RESOLUTION TO ARCHITECT FOR REVIEW AND APPROVAL.

### DISCREPANCIES IN DOCUMENTS

- WHERE DRAWINGS OR SPECIFICATIONS CONFLICT OR ARE UNCLEAR, ADVISE ARCHITECT IN WRITING BEFORE AWARD OF CONTRACT. OTHERWISE, ARCHITECT'S INTERPRETATION OF CONTRACT DOCUMENTS SHALL BE FINAL, AND NO ADDITIONAL COMPENSATION SHALL BE PERMITTED DUE TO DISCREPANCIES OR UNCLARITIES THUS RESOLVED.
- WHERE DRAWINGS OR SPECIFICATIONS DO NOT COINCIDE WITH MANUFACTURERS' RECOMMENDATIONS, OR WITH APPLICABLE CODES AND STANDARDS, ALERT ARCHITECT IN WRITING BEFORE INSTALLATION. OTHERWISE, MAKE CHANGES IN INSTALLED WORK AS ARCHITECT REQUIRES WITHIN CONTRACT PRICE.
- IF THE REQUIRED MATERIAL, INSTALLATION, OR WORK CAN BE INTERPRETED DIFFERENTLY FROM DRAWING TO DRAWING, OR BETWEEN DRAWINGS AND SPECS, THIS CONTRACTOR SHALL PROVIDE THAT MATERIAL, INSTALLATION, OR WORK WHICH IS OF THE HIGHER STANDARD.
- IT IS THE REQUIREMENT OF THESE CONTRACT DOCUMENTS TO HAVE THE CONTRACTOR PROVIDE SYSTEMS AND COMPONENTS THAT ARE FULLY COMPLETE AND OPERATIONAL AND FULLY SUITABLE FOR THE INTENDED USE. THERE MAY BE SITUATIONS IN THE DOCUMENTS WHERE INSUFFICIENT INFORMATION EXISTS TO PRECISELY DESCRIBE A CERTAIN COMPONENT OR SUBSYSTEM, OR THE ROUTING OF A COMPONENT OR ITS COORDINATION WITH OTHER BUILDING ELEMENTS. IN CASES SUCH AS THIS, WHERE THE CONTRACTOR HAS FAILED TO NOTIFY THE ARCHITECT OF THE SITUATION IN ACCORDANCE WITH PARAGRAPH (A) ABOVE, THE CONTRACTOR SHALL PROVIDE THE SPECIFIC COMPONENT OR SUBSYSTEM WITH ALL PARTS NECESSARY FOR THE INTENDED USE, FULLY COMPLETE AND OPERATIONAL, AND INSTALLED IN WORKMANLIKE MANNER EITHER CONCEALED OR EXPOSED PER THE DESIGN INTENT.
- IN CASES COVERED BY PARAGRAPH ABOVE, WHERE THE CONTRACTOR BELIEVES HE NEEDS ENGINEERING ASSISTANCE, HE SHALL SUBMIT A SKETCH IDENTIFYING HIS PROPOSED SOLUTION AND THE ARCHITECT SHALL REVIEW, NOTE IF NECESSARY, AND APPROVE THE SKETCH.
- WHERE DISCREPANCIES EXIST BETWEEN THE MECHANICAL, PLUMBING, FIRE PROTECTION, AND ELECTRICAL DRAWINGS IN REGARDS TO WHAT TRADE OWNS EACH ELEMENT, SUCH AS DISCONNECTS, SWITCHES, ETC., THE DISCREPANCY SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION IN ACCORDANCE WITH PARAGRAPH (A) ABOVE. IF THE SCOPE IS NOT RESOLVED PRIOR TO THE AWARD OF CONTRACT, THE ELECTRICAL CONTRACTOR SHALL PROVIDE SUCH ITEMS.

### REQUEST FOR INFORMATION (RFI'S)

- IF THE RFI IS A REQUEST TO RESOLVE A CONFLICT OR AN UNCLARITY, OR A REQUEST FOR ADDITIONAL DETAIL, CONTRACTOR'S RFI SHALL INCLUDE A SKETCH OR EQUIVALENT DESCRIPTION OF CONTRACTOR'S PROPOSED SOLUTION, IN ACCORDANCE WITH PARAGRAPHS ABOVE IN "DISCREPANCIES IN DOCUMENTS".

### CODES, STANDARDS, AUTHORITIES AND PERMITS

- PERFORM WORK IN STRICT ACCORDANCE WITH THE RULES, REGULATIONS, STANDARDS, CODES, ORDINANCES, AND LAWS OF LOCAL, STATE, AND OTHER AUTHORITIES HAVING LEGAL JURISDICTION OVER THE SITE.
- MATERIAL AND EQUIPMENT SHALL BE LISTED BY UNDERWRITERS' LABORATORIES (UL).
- GIVE NOTICES, FILE PLANS, OBTAIN PERMITS AND LICENSES, PAY FEES AND BACK CHARGES, AND OBTAIN NECESSARY APPROVALS FROM AUTHORITIES THAT HAVE JURISDICTION

## 26010 BASIC ELECTRICAL REQUIREMENTS (CONTINUED)

### WARRANTY

- WARRANTY WORK IN WRITING FOR ONE YEAR FROM DATE OF FINAL ACCEPTANCE. REPAIR OR REPLACE DEFECTIVE MATERIALS OR INSTALLATION AT NO COST TO OWNER. CORRECT DAMAGE CAUSED IN MAKING NECESSARY REPAIRS AND REPLACEMENTS UNDER WARRANTY AT NO COST TO OWNER.
- SUBMIT WARRANTY TO OWNER BEFORE FINAL PAYMENT.
- STATEMENT OF WARRANTY REQUIREMENTS SHALL NOT BE INTERPRETED TO LIMIT OWNER'S RIGHTS UNDER LAW AND THIS CONTRACT.

### SUBMITTALS

- DEFINITIONS: SHOP DRAWINGS ARE INFORMATION PREPARED BY THE CONTRACTOR TO ILLUSTRATE PORTIONS OF THE WORK IN MORE DETAIL THAN SHOWN IN THE CONTRACT DOCUMENTS.
- SHOP DRAWINGS SHALL BE SUBMITTED ACCORDING TO SPECIFICATION SECTION WITH A SEPARATE COVER SHEET COMPLETED FOR EACH PRODUCT, RATHER THAN ONE COVER SHEET FOR MULTIPLE PRODUCTS, WHETHER OR NOT SUPPLIED BY ONE MANUFACTURER OR VENDOR.
- MATERIAL AND EQUIPMENT REQUIRING SHOP DRAWING AND PRODUCT DATA SUBMITTAL SHALL INCLUDE CABLE, CONDUIT, DISCONNECTS, VFD'S AND FILTERS.

### SUBMITTAL PROCEDURES AND FORMAT

- REVIEW SUBMITTAL PACKAGES FOR COMPLIANCE WITH CONTRACT DOCUMENTS BEFORE SUBMITTING. REVIEW BY THE CONTRACTOR IS INTENDED TO ENSURE THAT THE SHOP DRAWINGS CONTAIN ADEQUATE INFORMATION TO VERIFY EACH SPECIFICATION REQUIREMENT AS WELL AS THE PERFORMANCE AND DIMENSIONAL REQUIREMENTS SHOWN ON THE DRAWINGS BEFORE SUBMISSION. IF A SHOP DRAWING IS RETURNED WITH A "REJECTED" OR "REVIEW AND RESUBMIT" IT INDICATES THAT THE SHOP DRAWING WAS NOT ADEQUATELY REVIEWED BY THE CONTRACTOR.
- RE-SUBMITTALS SHALL BE COMPLETE AND SHALL INCLUDE A COVER LETTER SUMMARIZING THE CORRECTIONS MADE IN RESPONSE TO THE REVIEW COMMENTS AND THE SUBMITTAL PAGE NUMBERS WHICH WERE REVISED.
- COORDINATION SHOP DRAWINGS SHOWING LAYOUTS OF SYSTEMS SHALL CONTAIN SUFFICIENT PLANS, ELEVATIONS, SECTIONS, DETAILS AND SCHEMATICS TO DESCRIBE WORK CLEARLY. THEY SHALL BE 1/4" = 1'-0" SCALE UNLESS SPECIFIED OTHERWISE.
- SHOP DRAWINGS SHOWING MANUFACTURER'S PRODUCT DATA SHALL CONTAIN DETAILED DIMENSIONAL DRAWINGS, WEIGHTS, CONSTRUCTION DETAILS, INSTALLATION, OPERATION AND MAINTENANCE MANUALS, ACCURATE AND COMPLETE DESCRIPTION OF MATERIALS OF CONSTRUCTION, MANUFACTURER'S PUBLISHED PERFORMANCE CHARACTERISTICS AND CAPACITY RATINGS (PERFORMANCE DATA, ALONE, IS NOT ACCEPTABLE). ELECTRICAL REQUIREMENTS AND WIRING DIAGRAMS. DRAWINGS SHALL CLEARLY INDICATE LOCATION (TERMINAL BLOCK OR WIRE NUMBER), VOLTAGE AND FUNCTION FOR ALL FIELD TERMINATIONS, AND OTHER INFORMATION NECESSARY TO DEMONSTRATE COMPLIANCE WITH ALL REQUIREMENTS OF CONTRACT DOCUMENTS. INCLUDE ALL APPLICABLE MANUFACTURER WARRANTIES AND DETAILS INVOLVING OTHER TRADES.
- PRODUCT DATA TO BE SUBMITTED SHALL BE PUBLISHED BY THE MANUFACTURERS AND SHALL CONTAIN ALL NECESSARY INFORMATION TO VERIFY EACH SPECIFICATION REQUIREMENT. THE CONTRACTOR SHALL SUBMIT PRODUCT DATA AS DESCRIBED BELOW. PRODUCT DATA WHICH DOES NOT COMPLY WITH THESE REQUIREMENTS WILL BE RETURNED FOR RE-SUBMITTAL.
- PRODUCT DATA SUBMITTALS SHALL CONTAIN ONLY INFORMATION RELEVANT TO THE PARTICULAR EQUIPMENT OR MATERIALS TO BE FURNISHED. THE CONTRACTOR SHALL NOT SUBMIT CATALOGS WHICH DESCRIBE SEVERAL DIFFERENT ITEMS IN ADDITION TO THOSE ITEMS TO BE FURNISHED AND INSTALLED ON THIS PROJECT, UNLESS ALL IRRELEVANT INFORMATION IS MARKED OUT OR RELEVANT INFORMATION IS CLEARLY MARKED. OPTIONS NOT INCLUDED SHALL BE CROSSED OUT SO AS NOT TO IMPLY THEY ARE INCLUDED. CLEARLY INDICATE THE SPECIFIC PIECE OF EQUIPMENT BEING PROVIDED.
- WHERE APPLICABLE, EQUIPMENT PRODUCT DATA SHALL INCLUDE WIRING AND INTERLOCK DIAGRAMS USING THE STANDARD WIRING DIAGRAMS WITH ALL TERMINALS, WHICH HAVE BEEN PROVIDED FOR USE BY THE DIVISION 15 AND SUBCONTRACTORS CLEARLY INDICATED.
- SCANNED NON-SEARCHABLE DOCUMENTS SHALL NOT CONSTITUTE A SHOP DRAWING AND WILL BE RETURNED FOR RE-SUBMITTAL. THE CONTRACTOR SHALL ALLOCATE ADEQUATE TIME TO PROVIDE A PROPER SUBMITTAL IN A TIMELY FASHION.

### REQUIRED USE OF ACCEPTABLE MANUFACTURERS ON THIS PROJECT

- SUBSTITUTION OF PRODUCTS OTHER THAN THOSE OF THE ACCEPTABLE MANUFACTURERS SPECIFIED HEREIN SHALL NOT BE MADE. ONLY THE SPECIFIED ITEMS OR THE COMPARABLE PRODUCT BY ONE OF THE SPECIFIED ALTERNATE MANUFACTURERS SHALL BE SUBMITTED. PRODUCTS BY OTHER MANUFACTURERS SHALL NOT BE USED ON THIS PROJECT.

### DEVIATIONS

- CONCERNING DEVIATIONS, PROPOSED DEVIATIONS FROM CONTRACT DOCUMENTS SHALL BE REQUESTED INDIVIDUALLY IN WRITING WHETHER DEVIATIONS RESULT FROM FIELD CONDITIONS, STANDARD SHOP PRACTICE, OR OTHER CAUSE. SUBMIT LETTER WITH TRANSMITTAL OF SHOP DRAWINGS WHICH FLAGS THE DEVIATION TO THE ATTENTION OF THE ARCHITECT.
- WITHOUT LETTERS FLAGGING THE DEVIATION TO THE ARCHITECT, IT IS POSSIBLE THAT THE ARCHITECT MAY NOT NOTICE SUCH DEVIATION OR MAY NOT REALIZE ITS RAMIFICATIONS, THEREFORE, IF SUCH LETTERS ARE NOT SUBMITTED TO THE ARCHITECT, THE CONTRACTOR SHALL HOLD THE ARCHITECT AND HIS CONSULTANTS HARMLESS FOR ANY AND ALL ADVERSE CONSEQUENCES RESULTING FROM THE DEVIATIONS BEING IMPLEMENTED. THIS SHALL APPLY REGARDLESS OF WHETHER THE SHOP DRAWINGS CONTAINING THE DEVIATION, HAS BEEN REVIEWED AND APPROVED AND WILL BE STRICTLY ENFORCED.
- APPROVAL OF PROPOSED DEVIATIONS, IF ANY, WILL BE MADE AT DISCRETION OF ARCHITECT

### SUBMITTAL NOTATIONS

- SUBMITTALS WILL BE RETURNED FROM THE ARCHITECT MARKED AS ILLUSTRATED BELOW:
  - REVIEWED\*
  - REVIEWED AND FOUND GENERALLY ACCEPTABLE. MINOR DEVIATIONS MAY BE NOTED. NO FURTHER SUBMITTAL REQUIRED IF NOTATIONS ARE COMPLIED WITH.
  - \*REVIEWED, DEVIATIONS NOTED, REVISE AND RESUBMIT\*
  - SUBMITTAL CONTAINS DEVIATIONS WHICH SHALL BE CORRECTED AND CONFIRMED BY A NEW SUBMITTAL.
  - \*REJECTED\*
  - SUBMITTAL IS INCORRECT TO SUCH AN EXTENT THAT MATERIAL IS UNACCEPTABLE, OR IS INCOMPLETE TO SUCH AN EXTENT THAT A COMPLETE REVIEW CANNOT BE MADE. RESUBMIT IN ACCORDANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS.\*
  - \*NO ACTION\*
  - SUBMITTAL NOT REVIEWED.

## 26010 BASIC ELECTRICAL REQUIREMENTS

### SUBMITTAL RESPONSIBILITY

- INTENT OF SUBMITTAL REVIEW IS TO CHECK FOR CAPACITY, RATING, AND CERTAIN CONSTRUCTION FEATURES. CONTRACTOR SHALL ENSURE THAT WORK MEETS REQUIREMENTS OF CONTRACT DOCUMENTS REGARDING INFORMATION THAT PERTAINS TO FABRICATION METHODS, MATERIALS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION; AND FOR COORDINATION OF WORK OF THIS AND OTHER SECTIONS. WORK SHALL COMPLY WITH SUBMITTALS MARKED "REVIEWED" TO EXTENT THAT THEY AGREE WITH CONTRACT DOCUMENTS. SUBMITTAL REVIEW SHALL NOT DIMINISH RESPONSIBILITY UNDER THIS CONTRACT FOR DIMENSIONAL COORDINATION, WIRING, SUPPORTS AND ACCESS FOR SERVICE, NOR SHOP DRAWING ERRORS OR DEVIATIONS FROM REQUIREMENTS OF CONTRACT DOCUMENTS. THE NOTING OF SOME ERRORS WHILE OVERLOOKING OTHERS WILL NOT EXCUSE THE CONTRACTOR FROM PROCEEDING IN ERROR. CONTRACT DOCUMENTS REQUIREMENTS ARE NOT LIMITED, WAIVED NOR SUPERSEDED IN ANY WAY BY REVIEW.
  - INFORM SUBCONTRACTORS, MANUFACTURERS, SUPPLIERS, ETC. OF SCOPE AND LIMITED NATURE OF REVIEW PROCESS AND ENFORCE COMPLIANCE WITH CONTRACT DOCUMENTS
- ### MATERIALS AND WORKMANSHIP
- WORK SHALL BE EXECUTED IN WORKMANLIKE MANNER AND SHALL PRESENT NEAT, RECTILINEAR AND MECHANICAL APPEARANCE WHEN COMPLETED. MAINTAIN MAXIMUM HEADROOM AT ALL TIMES. DO NOT RUN RACEWAYS EXPOSED UNLESS SHOWN EXPOSED ON DRAWINGS. MATERIAL AND EQUIPMENT SHALL BE NEW AND INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDED BEST PRACTICES SO THAT COMPLETED INSTALLATION SHALL OPERATE SAFELY AND EFFICIENTLY.

## 26510 LIGHTING CONTROLS

- INTERCONNECT LIGHTING CONTROL SYSTEM COMPONENTS, INCLUDING ROOM CONTROLLERS, SWITCHES, OCCUPANCY SENSORS, ETC. VIA HARD-WIRE CONNECTIONS; WIRELESS DEVICES ARE NOT ACCEPTABLE.
- PROVIDE ALL NECESSARY ROOM CONTROLLERS, DEVICES, POWER PAKS, CABLING, RACEWAYS, SOFTWARE, SYSTEM INTERCONNECTIONS AND PROGRAMMING REQUIRED OR RECOMMENDED BY THE MANUFACTURER FOR A COMPLETE LIGHTING CONTROL SYSTEM.
- PROVIDE UL924 LISTED EMERGENCY BYPASS RELAYS/MODULES FOR CONTROLLED EMERGENCY LIGHTING CIRCUITS TO RAISE CONTROLLED EMERGENCY LIGHTS TO FULL BRIGHTNESS DURING A POWER FAILURE.
- INSTALL DEVICES IN ACCORDANCE WITH MANUFACTURERS INSTALLATION AND WIRING INSTRUCTIONS.
- PROVIDE INDEPENDENT-PARTY FUNCTIONAL TESTING ON ENTIRE LIGHTING CONTROL SYSTEM IN ACCORDANCE WITH 2013 ASHRAE-90.1 SECTION 9.4.3.
- LOCATE ROOM CONTROLLERS / POWER PAKS TYPICALLY ABOVE CEILING AT ENTRY DOORS TO EACH ROOM FOR EASY FUTURE MAINTENANCE. EXACT LOCATIONS SHALL BE IDENTIFIED ON THE AS-BUILTS.

## 26510 LIGHTING

### LIGHTING FIXTURES

- PROVIDE LIGHTING FIXTURES, EQUIPMENT AND COMPONENTS WHERE SHOWN ON DRAWINGS AND AS SPECIFIED. PROVIDE COMPLETELY ASSEMBLED, WIRED AND ASSEMBLED. PROVIDE APPROVED CANOPIES, HANGERS AND OTHER APPURTENANCES AS REQUIRED.
- LED FIXTURES SHALL HAVE LOW LOSS, HIGH EFFICIENCY, HIGH POWER FACTOR, DRIVERS, WITH DLC RATING
- VERIFY CEILING CONSTRUCTIONS, AND PROVIDE FIXTURES, DRIVERS, AND OTHER ACCESSORIES SUITABLE FOR CONSTRUCTION ENCOUNTERED.
- REFER TO FIXTURE SCHEDULE FOR SPECIFIC LAMP REQUIREMENTS.

### INSTALLATION OF LIGHT FIXTURES

- COORDINATE INSTALLATION OF FIXTURES WITH INSTALLATION OF CEILING MATERIALS AND SUSPENSION SYSTEMS.
- DO NOT INSTALL FIXTURES UNTIL WORK OF OTHER TRADES THAT MAY DAMAGE FIXTURES IS COMPLETED.
- INVESTIGATE LIGHTING FIXTURE LOCATIONS AND SUPPORTS TO ENSURE THAT NO INTERFERENCE EXISTS WITH HANGERS, DUCTS, SPRINKLERS, PIPES AND OTHER EQUIPMENT.
- DO NOT SUSPEND OR SUPPORT LIGHTING FIXTURES OR SAFETY CHAINS FROM HUNG CEILING, CONDUIT OR DUCT. SUPPORT FIXTURES WITH THREADED ROD FROM STRUCTURAL MEMBERS ONLY.
- PROVIDE UNISTRUT BELOW DUCTS WHERE FIXTURE LOCATIONS COINCIDE WITH DUCT RUNS. PROVIDE THREADED RODS TO SUPPORT UNISTRUT.

## 26510 LIGHTING CONTROLS TESTING

- LIGHTING SYSTEM FUNCTIONAL TESTING. CONTROLS FOR AUTOMATIC LIGHTING SYSTEMS SHALL COMPLY WITH THIS SECTION.
- FUNCTIONAL TESTING. PRIOR TO ISSUING THE FINAL ELECTRICAL AFFIDAVITS, THE REGISTERED DESIGN PROFESSIONAL SHALL BE PROVIDED WITH FORMAL EVIDENCE THAT THE LIGHTING CONTROL SYSTEMS HAVE BEEN TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROPERLY FUNCTIONING AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTRUCTIONS. FUNCTIONAL TESTING SHALL BE IN ACCORDANCE WITH SECTIONS 3, 4 AND 5 FOR THE APPLICABLE CONTROL TYPE.
- OCCUPANT SENSOR CONTROLS. WHERE OCCUPANT SENSOR CONTROLS ARE PROVIDED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:
  - CERTIFY THAT THE OCCUPANT SENSOR HAS BEEN LOCATED AND AIMED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
  - FOR PROJECTS WITH SEVEN OR FEWER OCCUPANT SENSORS, EACH SENSOR SHALL BE TESTED. FOR OCCUPANT SENSOR CONTROLS TO BE TESTED, VERIFY THE FOLLOWING:
    - WHERE OCCUPANT SENSOR CONTROLS INCLUDE STATUS INDICATORS, VERIFY CORRECT OPERATION.
    - THE CONTROLLED LIGHTS TURN OFF OR DOWN TO THE PERMITTED LEVEL WITHIN THE REQUIRED TIME.
    - FOR AUTO-ON OCCUPANT SENSOR CONTROLS, THE LIGHTS TURN ON TO THE PERMITTED LEVEL WHEN AN OCCUPANT ENTERS THE SPACE.
    - FOR MANUAL-ON OCCUPANT SENSOR CONTROLS, THE LIGHTS TURN ON ONLY WHEN MANUALLY ACTIVATED.
    - THE LIGHTS ARE NOT INCORRECTLY TURNED ON BY MOVEMENT IN ADJACENT AREAS OR BY HVAC OPERATION.
  - THE ELECTRICAL CONTRACTOR IS TO PROVIDE FORMAL DOCUMENTATION THAT THE ABOVE REQUIRED TESTING HAS OCCURRED. THE ELECTRICAL CONTRACTOR IS TO SUBMIT A LIST OF ALL THE SPACES AND AREAS WITHIN THE SCOPE OF THIS PROJECT WITH LIGHTING CONTROLS. THE LIST IS TO BE ON THE CONTRACTORS LETTER HEAD AND SIGNED BY THE ELECTRICAL CONTRACTORS REPRESENTATIVE WHOSE LICENSES WAS USED TO OBTAIN THE PERMIT. THE LIST WILL INDICATE EACH AND EVERY ROOM DEFINED BY NAME AND NUMBER AND THE RESULTS OF THE REQUIRED TESTING. LIGHTING CONTROL SYSTEMS OF THE TIME BASED CONTROL, DALI, DIMMING SYSTEMS, ETC. WILL BE COMMISSIONED BY THE AUTHORIZED MANUFACTURER'S REPRESENTATIVE. FORMAL DOCUMENTATION IS TO BE INCLUDED IN THIS DOCUMENT BY THE MANUFACTURERS REPRESENTATIVE THAT THE SYSTEM(S) IS FULLY TESTED AND IN PERFECT OPERATING CONDITION. DOCUMENTATION IS TO BE ON THE MANUFACTURERS LETTER HEAD AND SIGNED.



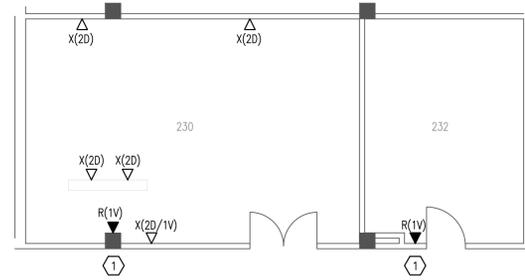
HERA Laboratory Planners

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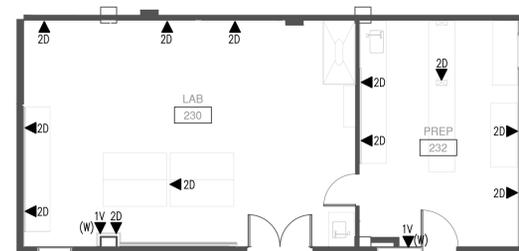
Georgia Institute of Technology  
Cherry Emerson Peter Yunker Lab Fit-Up







1 FLOOR PLAN - DEMO  
C-1 APPROXIMATE SCALE: NOT TO SCALE



2 FLOOR PLAN - CABLING  
C-1 APPROXIMATE SCALE: NOT TO SCALE

**GENERAL NOTES**

- 1 PROVIDE 1 X 7' CAT5e PATCH CABLE FOR EACH DATA CABLE INSTALLED. ALSO PROVIDE 1 CAT5e PATCH CABLE TO LENGTH FOR EVERY DATA CABLE IN IDF BETWEEN PATCH PANELS AND NETWORK SWITCH.
- 2 MOVE PATCH PANELS UP AS NEEDED TO ACCOMMODATE A SECOND NETWORK SWITCH.

**TELECOMMUNICATIONS BOXES / CONDUITS**

ELECTRICAL SHALL PROVIDE AND INSTALL ALL PATHWAYS, BOXES, CONDUITS, SLEEVES, FLOOR BOXES, ETC... FOR TELECOMMUNICATION / AV CABLING. COORDINATE WITH TELECOM, AV, AND OTHER TRADES. STUB CONDUITS ABOVE ACCESSIBLE CEILINGS. MAXIMUM OF (2) 90° BENDS AND (2) OFFSETS (45° OR LESS) BETWEEN PULL BOXES. ALL PULL BOXES SHALL BE LOCATED IN ACCESSIBLE AREAS. DO NOT DAISY CHAIN TELECOM CONDUITS. DUAL CHANNEL 4000 RACEWAY TO BE PROVIDED AND INSTALLED BY ELECTRICAL WITH CENTER DIVIDER, AND 4050 BRACKET AND 5507-6TJ FACEPLATE PROVIDED FOR LOW VOLTAGE LOCATIONS.

**KEY NOTES**

- ① FOR RELOCATED VOICE CABLES, COIL ABOVE CEILING UNTIL NEW WORK IS COMPLETED THEN DROP DOWN INTO A NEW WALL MOUNT PLATE.

**TELECOMMUNICATION SYMBOL LEGEND**

- \*D/\*V/\*C/\*A ▽ 6-PORT COMMUNICATIONS DEVICE PLATE WITH JACKS/ BLANKS AS INDICATED.
  - \*D NUMBER OF CAT5E DATA JACKS
  - \*V NUMBER OF CAT5E VOICE JACKS
  - \*C NUMBER OF COAX F-CONNECTORS
  - \*A NUMBER OF AV JACKS CAT6 SHIELDED
- E/R/X EXISTING/ RELOCATE/ REMOVE
- 1V 1-PORT STAINLESS FACEPLATE WITH TABS FOR WALL-MOUNT TELEPHONE.
- (W) WAP (1) CAT5e DATA CABLE TERMINATED IN A JACK WITH 20' ADDITIONAL CABLE COILED ABOVE CEILING FOR WIRELESS ACCESS POINT.
- \*D/\*V/\*C/\*A ▽ EXISTING LOW VOLTAGE PLATE TO BE REMOVED. DEMO CABLING AS INDICATED BACK TO IDF.
- ▣ FLOOR BOX, CABLING AS NOTED.
- \*D/\*V/\*C/\*A ▽ 12-PORT (2-GANG) INFORMATION MANAGEMENT OUTLET.

ISSUED FOR PRICING - NOT FOR CONSTRUCTION

FOR REFERENCE ONLY - BOXES AND CONDUITS BY GENERAL CONTRACTOR. CABLING BY G.T. CONTRACTOR. GENERAL CONTRACTOR SHALL COORDINATE WITH G.T. TELECOM CONTRACTOR TO PHASE DEMOLITION AND NEW WORK.

REVISIONS	DATE	DRAWN BY

ASBESTOS HAZARD NOTIFICATION  
THE OWNER IS RESPONSIBLE FOR THE REMOVAL OF ASBESTOS THAT MAY EXIST IN THE WORK AREA. DO NOT DISTURB ANY SUSPECTED ASBESTOS. SEE SPECIFIC CONDITIONS OF THE CONTRACT DOCUMENTS FOR REQUIREMENTS REGARDING ASBESTOS.

DESIGN	ISSUED
RAG	5/29/20
DRAWN	APPROVED
RAG	

CAD FILE NAME  
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SHEET TITLE  
DEMO AND AREA OF NEW WORK

DESIGN/ESTIMATE NO.  
NS8337

SHEET NO.  
C-1  
OF 1