ADDENDUM 3

DATE: May 12, 2017

PROJECT: Tashman Dry Lab Construction

ITB NO: 744-B1716

OWNER: The University of Texas Health Science Center at Houston

TO: Prospective Proposers

This Addendum forms part of and modifies Proposal Documents dated, April 7, 2017, with amendments and additions noted below.

DEADLINE EXTENSION:

The deadline for ITB 744-B1716 Tashman Dry Lab Construction has been extended to Tuesday, May 23, 2017 at 2PM CST. The HUB Subcontracting Plan deadline has been extended as well to Wednesday, May 24, 2017 at 2PM CST.

Also included in this document are:

- **Responses (in orange) to questions submitted before the deadline**
- **Additional drawings and specifications**
- **Revised Section 6 – Respondent's Base Pricing and delivery Bid**
- **Shielding Specifications for BBSB Animal Lab**
- **Shielding Specifications for SCRB3 Research Lab**

1) **I just became aware of this project. Any chance we can still bid if we missed the pre-bid meeting?**
   Answer: Unfortunately, you cannot bid on this particular project. The pre-bid meeting was mandatory. Please refer to our website for future bid opportunities.

2) **Please confirm that contractors should apply the most recent Davis-Bacon minimum wage requirements for Harris County, TX (and not the prevailing wages provided as Attachment A in Exhibit B, Special Conditions).**
   Answer: Yes; that is correct although they should be the same.

3) **Section 1.5.1.1 (ITB p. 5) instructs offerors to submit two complete bid packages. Please confirm that offerors may submit one original bid package and one additional copy for a total of two bid packages.**
   Answer: Yes; that is correct. A total of two bid packages is required.

4) **In terms of content organization, please confirm that offerors may include Section 7, Execution of Offer, with Section 6, Pricing and Delivery Bid, behind the response tab for Criterion Three.**
   Answer: That is acceptable. Please make note on the table of contents. Please note- the Pricing and Delivery Section has been revised and included in this addendum.

5) **Section 3 (ITB p. 13) outlines the contents of submissions but does not reference Section 8, Respondent Questionnaire (ITB p. 25). In addition, questions #4–7 of Section 8 are repeats of items 3.1.1–3.1.4 on Criterion One (ITB p. 12). Should offerors respond to the full Section 8 questionnaire in Criterion One, instead just items 3.1.1–3.1.4?**

Answer: Section 8 should be completed in its entirety and returned with your submission. It is not necessary to duplicate efforts and repeat the answers to questions in the Bid document; it is necessary to reference the question number with the corresponding answer.

6) **May offerors use a binder clip to assemble their bid packages (instead of assembling with spiral-type binding or staples)?**

Answer: Yes; that is acceptable.

7) **Will UTHealth allow use of 11x17-inch paper (folded to 8.5x11) for the required schedule to allow for clear presentation?**

Answer: Yes; the required schedule only may be printed on 11x17 paper and folded for clear presentation.

8) **If use of 11x17-inch paper is allowed, please clarify if an 11x17 page will count as one page or two against the page limitation.**

Answer: The use of an 11x17 page will count as one page against the 50 page maximum.

9) **Please confirm that a bid bond is not required with the submission of a proposal.**

Answer: A bid bond is not required with your proposal submission.

10) **Regarding paragraph 17 of Section 7, Execution of Offer: Are offers required to submit a copy of their Affirmative Action Plan with the proposal, or will UTHealth allow the successful contractor to provide the confidential document during the contract execution process?**

Answer: The Affirmative Action Plan is required with your proposal submission.

11) **If a copy of the offeror's Affirmative Action Plan is required with proposal submission, please confirm that we may submit a copy of our 2016 plan. Our 2017 is still in the final stages of development and will be available to UTHealth upon completion.**

Answer: If your current plan is not available when before the bid due date, you may submit your previous Affirmative Action plan.

12) **Will site-specific equipment drawings be provided before the bid is due?**

Answer: Yes. They are below.

13) **Sheet EP-200S, note 27, and EP-200B, note 21, reference a wall-mounted aluminum truss to be installed around the room. Please indicate if this is to be provided by the contractor. If so, please provide detail on the system to be installed.**

Answer: Aluminum truss to be provided and installed by the contractor. See Addendum for manufacturer and model.

14) **Regarding page EP-300B, Section 01 – Partial Riser Diagram: Please specify the manufacturer/type of the existing busway to tie into.**

Answer: We do not have this information, contractor to verify.

15) **Drawing A-112 does not seem to indicate the lead shielding thickness of the South wall in Animal Lab 6210. Will lead shielding be required in this wall? If so, what thickness will it need to be?**

Answer: Per the shielding report, no shielding required at this wall. Please refer to Shielding Specifications below for both labs.

16) **Please advise the acceptable working hours for both the Animal Lab in the BBS Building and the Dry Lab in the SCRB 3 Building.**

Answer: BBS and SCRB3 – normal working hours, 8AM – 5PM.

17) **Is the base RBC to be standard wall base or flash-coved base?**

Answer: Standard

18) **Please advise on existing finishes of door/millwork plastic laminate and paint for doors/frames.**

Answer: determination to be made during submittal review.

19) **In the BBSB room is the existing epoxy flooring under warranty? If so, if that information could be provided.**

Answer: No warranty for flooring is available.

20) **In the BBSB room can the finish floor to existing deck dimension be provided for structural steel to support lead door and frame?**

Answer: Contractor to verify all existing dimensions.

21) **In the BBSB room does the new control room wall receive integral epoxy wall base to match existing profile?**

Answer: Yes.

22) **Since the existing BBSB room floor slopes to existing drains is there a concern for holding water behind the control room wall when washing down the room?**

Answer: No.

23) **In the BBSB room near the sink there are two stainless steel covers just to the right of the sink. Please advise as to what this is as it will be demo'd. Please provide some details and clarification as to what it is?**

Answer: It is not clear from the existing drawings what these coverplates are for. It should be assumed that the coverplates should be removed and reinstalled with the drywall removal and replacement and that lead lining should be provided behind whatever is behind the coverplates.

24) **Outside of the BBSB room on the corridor side there is a light switch and an intermatic control box which will need to be relocated to allow the installation of the new lead line door frame and door. Please confirm?**

Answer: If construction means and methods required the light switch and time switch to be removed to install the lead lined door frame, then they shall be removed and reinstalled to allow the room to be returned to the current animal room configuration in the future.

25) **In BBSB room sheet EP-200S note 17 install flush mounted devices to lead line wall. This is going to violate the integrity of the shielding, is this ok?**

Answer: Lead shielding should be installed behind the electrical box for this pushbutton.

26) **In Scrb 3 room 6.4651 there is a bump out on the north wall which houses the white board. What is behind this bump out area?**

Answer: Contractor to confirm what is existing.

27) **In Scrb 3 room 6.4651 can the finish floor to existing deck dimension be provided for structural steel to support lead door and frame?**

Answer: Contractor to verify all existing dimensions.

28) **In Spec section 08 80 00 2.03 B. 2. Thickness. Each of the above glass manufactures stated that they cannot make it with the specified 1-1/4 inch, they all state that 5/16 is the measurement which they can provide. Will this be acceptable?**

Answer: Yes.

29) **Please confirm that test and balance will be by owner?**

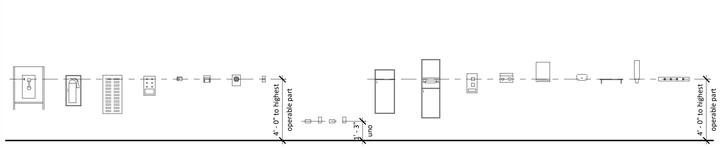
Answer: Confirmed; TAB by owner.

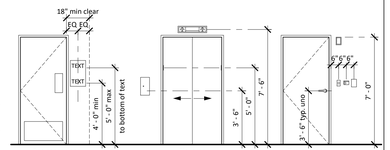
30) **Could you let us know who has controls for each of the two buildings?**

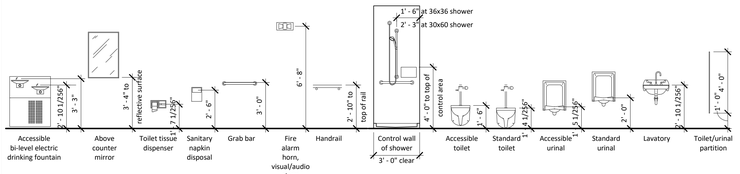
Answer: BBS-Seimans; SCRB3-Johnson.

Additional Drawings and Specifications

	The following listed drawings, dated 10 May 2017 are being issued as REVISED.	
	G-100	General Information
	A-101	Demolition Floor and Reflected Ceiling Plans – SCRB 3
	A-102	Demolition Floor and Reflected Ceiling Plans – BBSB
	A_111	Floor and Reflected Ceiling Plans – SCRB 3
	A-112	Floor and Reflected Ceiling Plans – BBSB
	A-520	Partition Types and Interior Construction Details
	A-540	Door and Window Details
	A-600	Schedules
	MP-200S	SCRB3 Partial 6th Floor Mechanical, Plumbing Demolition and Alteration Plans
	M-200B	BBS Partial 6th Floor Mechanical Demolition/Alteration Plans
	EP-200S	SCRB3 Partial 6th Floor Electrical Power Demolition/Alteration Plans
	EL-200S	SCBR3 Partial 6th Floor Lighting Demolition/Alteration Plans
	EP-200B	BBS Partial 6th Floor Electrical Power Demolition/Alteration Plans
	EL-200B	BBS Partial 6th Floor Lighting Demolition and Alteration Plans
	EP-300S	SCRB3 Electrical Riser/Schedules



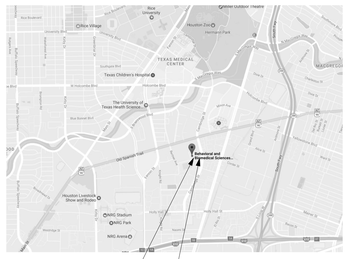




Notes:

1. All mounting heights shown are typical. Heights shown in elevations and details take precedence over the typical heights given here.
2. Mounting heights for many common elements are shown. Not all elements occur in this project.

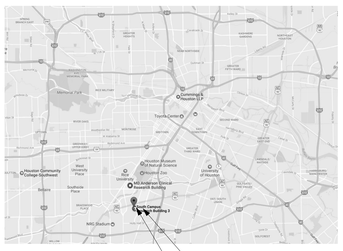
Typical Mounting Heights 14



South Campus Research Building 3
1881 East Rd.
Houston, TX 77054

Behavioral and Biomedical Sciences Building
1941 East Rd.
Houston, TX 77054

Project Location Map 10



Behavioral and Biomedical Sciences Building
1941 East Rd.
Houston, TX 77054

South Campus Research Building 3
1881 East Rd.
Houston, TX 77054

Project Vicinity Map 5

Applicable Codes and Standards
1. International Building Code, 2012 Edition (IBC)
2. NFPA 101, Life Safety Code, 2015 Edition (LSC)
3. NFPA 1, Fire Code, 2012 Edition
4. Texas Department of Licensing and Regulation (TDLR) - Texas Accessibility Standards of the Architectural Barriers Act, 2012
5. International Mechanical Code, 2012 Edition (IMC)
6. International Plumbing Code, 2012 Edition (IPC)
7. International Energy Conservation Code, 2009 Edition (IECC)
8. NFPA 10 - Fire Extinguishers (Referenced by IBC)
9. NFPA 13 - Installation of Sprinkler Systems (Referenced by IBC)
10. NFPA 70 - National Electrical Code (Referenced by IBC)
11. NFPA 72 - National Fire Alarm Code (Referenced by IBC)
12. NFPA 80 - Fire Doors and Fire Windows (Referenced by IBC)
13. NFPA 110 - Standard for Emergency and Standby Power Systems
14. NFPA 220 - Standard on Types of Building Construction (Referenced by NFPA 101)

Occupancy Classification
Business, Group B (304.1 IBC)
Industrial (6.1.12 NFPA) 2

Construction Classification
Type IB (IBC)
Type II(222) (NFPA 220)

Allowable Area/Height Based on Occupancy and Construction Classification (IBC Table 503)

1. Actual Project Area:	
SCRB 3	630 Sq. Ft.
BBSB	425 Sq. Ft.

Fire Resistance Ratings (IBC Table 601)

1. Party Walls:	N/A
2. Fire Wall:	N/A
3. Occupancy Separations:	N/A
4. Interior Bearing Walls:	N/A
5. Corridor Walls (1004.3.2.1):	Non-Rated, Smoke Resistant
6. Smoke Barrier Walls:	1-Hour, 20-Min. Doors
7. Structural Frame Supporting Roof Only (See 4 G-102):	1-Hour
8. Structural Frame (See 14 G-102):	2-Hours
9. Floor Construction (See 19 G-102):	2-Hours
10. Roof Construction (Including Beams and Joists) (See 24 G-102):	1-Hour
11. Exterior Bearing Walls:	N/A
12. Exterior Non-Bearing Walls:	Non-Combustible
13. Unprotected Exterior Openings:	Permitted (yard>30 Ft.)
14. Interior Non-Bearing Walls:	Non-Combustible
15. Shaft and Vertical Exit Enclosure Walls (707.4):	2-Hours, 90 min. doors

16. Through penetrations in fire-resistive walls and floors are protected with an approved firestop system installed as tested in accordance with ASTM E814.
17. Joints in and between fire-resistance-rated walls and floor/roof assemblies are protected with fire-resistant joint systems tested in accordance with the requirements of UL 2079.

Fire Protection
1. A sprinkler system installed in conformance to NFPA 13 is required. (IBC, TDH)
2. A manual fire alarm system and automatic fire detection system is required. An electrically supervised, automatic smoke detection system is required in corridors, and waiting areas that are open to corridors.
3. Fire extinguishers are required to be located no more than 75 ft. travel distance from any point. (NFPA 10)
4. All fire extinguishers shall have a U/L rating of 4A-60BC. (NFPA 10)
5. Maximum allowable area per fire extinguisher: 11, 250 Sq.Ft.

Egress (IBC Table 1004.1.1)
5. Maximum Exit Travel Distance (NFPA, IBC):
200 Ft., Any Point to Exit
150 Ft., Any Exit Access Door to Exit
50 Ft., Any Point in Sleeping Room to Room Door

Finishes
1. Walls and Ceilings: ASTM E 84 Class A or B (NFPA, IBC)
Exception: May be Class C in rooms with capacity less than 4. (NFPA, IBC)
Exception: Class C wainscot less than 1,000 sq. ft. permitted in lobby.

Building Code Information 26

Drawing Index 1

Reflected Ceiling Plan

Symbol	Description
	Surface mounted incandescent, compact fluorescent or LED downlight
	Recessed incandescent, compact fluorescent or LED downlight
	Recessed wall washer - shading indicates direction
	Lay-in or recessed fluorescent light troffers - prismatic lense
	Lay-in or recessed fluorescent light troffers - parabolic lense
	Lay-in or recessed direct and indirect fluorescent light
	Suspended fluorescent strip fixture
	Suspended architectural fluorescent strip fixture
	Wall mounted architectural fixture
	Under cabinet fluorescent light fixture
S	Speaker
SD	Smoke detector
	Supply air grille
	Return/exhaust air grille
	Sprinkler head
	Ceiling/wall mtd. exit sign - arrow/line indicates direction

Floorplans

Height	110V, 20A duplex outlet (Height indicated if not standard)
Height	110V, 20A duplex dedicated outlet (Height indicated if not standard)
Height	220V, 30A duplex outlet (Height indicated if not standard)
Height	110V, 20A quadplex outlet (Height indicated if not standard)
	110V, 20A flush floor mounted duplex outlet
	Flush floor mounted telephone outlet
Height	Telephone outlet (RJ11) (Height indicated if not standard)
Height	Computer data outlet (RJ45) (Height indicated if not standard)
Height	Combined telephone/computer data outlet (Height indicated if not standard)
J	Electrical/communications junction box
FAS	Fire Alarm Strobe
FAP	Fire Alarm Pull
T	Thermostat
PB	Door operator push button
CR	Card reader
NCAP	Nurse call alarm panel
$	Single pole switch
$3	3-way switch
$D	Dimmer switch
FEC	Fire extinguisher cabinet
FE	Fire extinguisher on bracket
ZV	Zone valve
	Radiation shielding (Height up to 7' a.f.f.) 7'

Elevations

E V D N	Electrical, voice, data, voice/data outlets in elevation
A V O M N S	Medical gases/Lab gas outlets (Air, Vacuum, Oxygen, Waste Anes Vac, Nitrogen, Slide

Notes:
1. See the individual drawings for additional symbol, legends for symbols not shown.
2. Refer to the Construction Specifications Institute's (CSI) publication TD-2-6, Standard Reference Symbols, 10/91 Edition, for additional building element symbols not shown here or elsewhere in the Drawings.
3. See additional legends located in the specific discipline drawings (Structural, MEP, etc.) for building element symbols used on those discipline drawings.

Standard Building Element Symbols 16

Section

Acoustical Ceiling Board	Plaster with Expanded Metal Lath
Aluminum	Plastic Glazing
Brick	Plastic Laminate (Large Scale)
Carpet	Plywood
Ceramic Tile	Precast Concrete, Cast Stone
Concrete	Resilient Flooring, Pre-Molded Joint Filler
Concrete Masonry Unit	Rigid Insulation Board
Earth	Sand, Grout
Exterior Insulation and Finishing System	Steel
Insulation - batt or blanket	
Finished Wood, Hardwood	
Glass	
Gravel, Coarse Porous Fill	
Gypsum Board	
Gypsum Sheathing	
Oriented Standard Board (OSB)	
Ornamental Metal, Bronze, Brass	
Particle Board	

Elevation

Ceramic Tile	
Concrete, Plaster, Lime-stone, Synthetic Stone	
Glass, Mirrors	
Metal, Plastic Laminate	

Reflected Ceiling Plan

Gypsum Board or Plaster	
Pre-finished Metal Suspension Grid with Lay-in Panels	

Note: Refer to the Construction Specifications Institute's (CSI) publication TD-2-6 Standard Reference Symbols, 10/91 Edition, for additional material indications not shown.

Standard Material Indications 11

Description	Symbol	Designators
Benchmark Indicator	F.F. EL = BM	BM = Coordinate, Elevation, or Station Sequence Designation
Building Section	No / SIM / Dwg	No = Detail Number Dwg = Sheet Number
Control Elevation Indicator	Name / Elevation	
Column Line or Grid Indicator	No	No = Alphanumeric Grid Designation
Detail Indicator (Enlarged Detail)	No / SIM / Dwg	No = Detail Number Dwg = Sheet Number
Detail Indicator (Section)	No / SIM / Dwg	No = Detail Number Dwg = Sheet Number
Wall Section	No / SIM / Dwg	No = Detail Number Dwg = Sheet Number
Door Tag	No / HS	No = Door Type HS = Hardware Set
Exterior Elevation/View Indicator	No / Dwg	No = Detail Number Dwg = Sheet Number
Interior Elevation/View Indicator	30 A-210	No = Detail Number Dwg = Sheet Number
Equipment Identifier	No QP ID	No = Equipment Designation
Face Dimension	Dim	Dim = Distance, Face of Finish to Face of Finish
Finish Grade Indicator (New)	Elev	Elev = Finish Grade Elevation
Finish Grade Indicator (Existing)	Elev	Elev = Finish Grade Elevation
Finish Type Identifiers	No	No = Finish Designation
Cabinet type Identifiers	No	No =Cabinet Type Identifier
Countertop Type Identifiers	No	No =Countertop Type Identifier, See 3 A560 for legend
Glass Type/Opening Identifier	No	No = Glass Type or Opening Designation
Graphic Scale	0 4' 8' 16'	
Keyed Note Indicator	No	No = Note Designation
North Indicator	PN / TN	PN = Plan North TN = True North
Partition Type Indicator	No	No = Partition Type Designation
Revision Indicator	No	No = Revision Designation
Room Identifier	Name / No	Name = Name of Space No = Room Designation
Room and Finish Type Identifier	Name / No / FT	Name = Name of Space No = Room Designation FT = Room Finish Type Designator
Toilet Accessory Identifier	No	No = Accessory Designation

Note: Refer to the Construction Specifications Institute's (CSI) publication TD-2-6 Standard Reference Symbols, 10/91 Edition, for additional material indications not shown.

Standard Reference Symbols 6

The project consists of two labs in separate buildings. The first lab will be located on the 6th floor of the M.D. Anderson SCRB 3 located at 1881 East Rd. Houston, TX 77054 and will convert and existing conference room into a human dry lab of approximately 630 s.f. The second lab will be located on the 6th floor of the M.D. Anderson BBS Building located at 1941 East Rd. Houston, TX 77054 and will renovate an existing animal lab of approximately 425 s.f. Both will require radiation shielding and MEP scope, no Structural is required.

Project Description 9

Symbol	Description
A/C	Air Conditioning
A/W	Air/Water
ACOUS	Acoustical
ADJ	Adjustable
AFF	Above Finish Floor
ALUM	Aluminum
AMP	Ampers
AMS	Automated
ANOD	Anodized
ATTN	Attenuation, Attention
AUX	Auxiliary
BLDG	Building
BLK	Black
BTU	British Thermal Units
BTUH	Btu Per Hour
C	Celsius
C.I.	Cast Iron
C.O.	Clean Out
CFM	Cubic Feet Per Minute
CJ	Construction Joint
CKT	Circuit
CLOS	Closet
CLR	Clear
CMU	Concrete Masonry Unit
COL	Column
CONC	Concrete
COND	Condensing, Condition
CONN	Connection
CONT	Continuous
CTR	Center
CW	Cold Water
D	Depth
DESCR	Description
DET	Detail
DIA	Diameter
DIM	Dimension
DL	Dead Load
DN	Down
DWG	Drawing
E.C.	Electrical Contractor
EA	Each
EDF	Electronic Drinking Fountain
EF	Exhaust Fan
EL	Elevation, Elevator
ELEC	Electrical
EMER	Emergency
EQ	Equal
EQUIP	Equipment
EXT	Exterior
F	Fahrenheit
FACP	Fire Alarm Control Panel
FD	Floor Drain
FEC	Fire Extinguisher Cabinet
FIN	Finish
FLUOR	Fluorescent
FURN	Furnish, Furniture
G.C.	General Contractor
GA MTL	Galvanized Metal
GALV	Galvanized
GFI	Ground Fault Interrupter
GND	Ground
GYP BD	Gypsum Board
H	Height
H.M.	Hollow Metal
HARDWD	Hardwood
HDW	Hardware
HPDL	High Pressure Decorative Laminate
HORIZ	Horizontal
HT	Height
HVAC	Heating, Ventilation, & A/C
HW	Hot Water
HZ	Hertz
IG	Isolated Ground
IN	Inch
INSUL	Insulation
IPS	Inside Pipe Size
JT(S)	Joint(s)
KSI	Kips Per Square Inch
KW	Kilowatt
LAM	Laminate
LL	Live Load
LTS	Lights
LPDL	Low Pressure Decorative Laminate
M.O.	Masonry Opening
MANUF	Manufacturer
MAX	Maximum
MECH	Mechanical
MED	Medium, Medical
MIN	Minimum
MISC	Miscellaneous
MTG	Mounting, Meeting
MTL	Metal, Material
N.C.	Normally Closed
N.O.	Normally Opened
N/A	Not Applicable
NO	Number
O.C.	On Center
O.D.	Overflow Drain, Outside Dimension
O/A	Outside Air
PART	Partition
PB	Push Button
PLAS	LAM Plastic Laminate
PLMBG	Plumbing
PLYWD	Plywood
PSF	Pounds Per Square Foot
PSI	Pounds Per Square Inch
PTD	Painted
PVC	Poly Vinyl Chloride
R.D.	Roof Drain
R/A	Return Air
RE	Refer To
REF	Reference
REINF	Reinforced
REQ'D	Required
RH	Relative Humidity
RO	Rough Opening
RPM	Revolutions Per Minute
RTU	Roof Top Unit
S/A	Supply Air
SC WD	Solid-core Wood
SCHED	Schedule
SIM	Similar
SPST	Single Pole, Single Throw
STD	Standard
STL	Steel
STOR	Storage
STRUCT	Structure, Structural
SYS	System
TEMP	Tempered, Temperature
THK	Thick
TTB	Telephone Terminal Board
TYP	Typical
UNO	Unless Noted Otherwise
VAC	Volt Alternative Current
VDC	Volt Direct Current
VTR	Vent Through Roof
W	Width
W/	With
WB	Wet Bulb
WD	Wood
WWF	Welded Wire Fabric
WWM	Welded Wire Mesh

Note: Refer to the Specifications for abbreviations of trade association names.

Standard Abbreviations 21

Philo Wilke Partnership
11275 S. Sam Houston Parkway W.
Suite 200
Houston, Texas 77031
(832) 554-1130
www.pwarch.com

REGISTERED ARCHITECT — CHRISTOPHER E. PHILO — 19285 — STATE OF TEXAS

03/10/2017

Consultants

MEP

E&C Engineers & Consultants, Inc.
1010 Lamar St. Suite 650
Houston, Texas 77002
(713) 580-8800

Issues / Revisions

No.	Date	Description
1	03/10/2017	Bid and Construction
2	05/10/2017	Addendum 2

Project

Dr. Tashman Dry Lab

UTHealth™
The University of Texas Health Science Center at Houston

Drawing Name

General Information

Print Date / Time: 5/11/2017 1:57:03 PM

P&W Commission Number	Sheet Number
216-042	G-100

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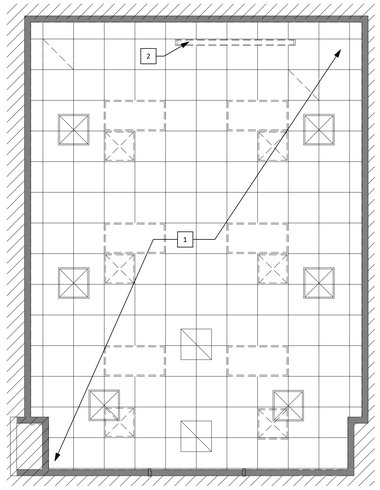


Keyed Notes: Demolition Reflected Ceiling Plan

1 Remove all ceiling grid, ceiling tiles, light fixtures, ductwork and associated supports, and wiring. Coordinate new work with MEP drawings and Specs.

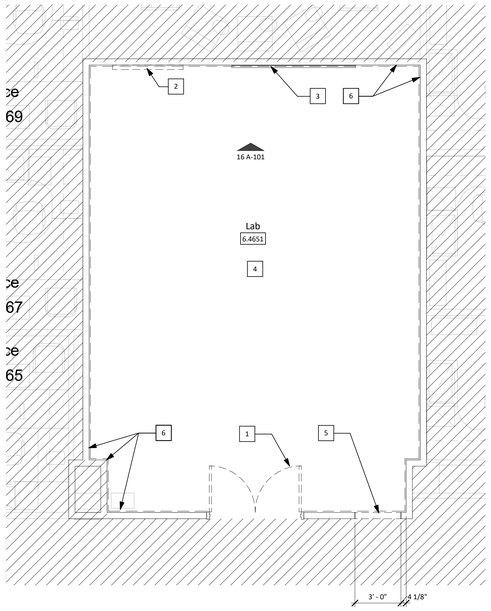
2 Remove existing projector screen.

Legend - Floor/Demo Plan

- Existing to be removed
- Existing to remain
- New Partitions
- Area not in scope

PN

SCRB 3 Reflected Ceiling Demolition Plan | 1/4" = 1'-0" | **8**



Keyed Notes:

1 Remove existing door, frame, and hardware. Salvage door and hardware for owner. Store as directed by owner.

2 Remove existing TV and mounting brackets and return to Owner.

3 Remove existing white board and return to Owner.

4 Remove all existing carpet and base. Prepare for new flooring and base.

5 Remove portion of wall for new door opening. Coordinate with new work plan.

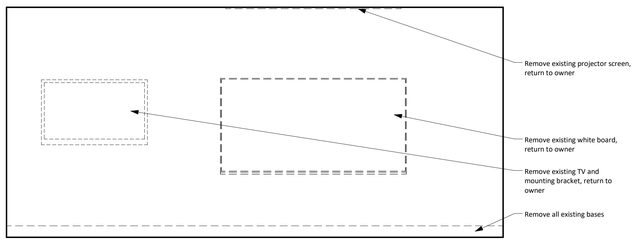
6 Remove existing drywall on interior side only up to 7' above finished floor. Prepare for new work.

Legend - Floor/Demo Plan

- Existing to be removed
- Existing to remain
- New Partitions
- Area not in scope

PN

SCRB 3 Demolition Plan | 1/4" = 1'-0" | **6**



SCRB3 - Demolition North Elevation | 3/8" = 1'-0" | **16**

Demolition Notes:

1. The Contractor shall be responsible for the protection against vandalism/unauthorized entry, etc. during the removal of and replacement of the interior envelope. Do not leave building components unprotected or uncovered after-hours.
2. Contractor to provide protection, as required during construction, at all remaining utilities (clean outs, gas valves, etc.).
3. Coordinate with Owner proper access and location for waste disposal and location of dumpsters.
4. Contractor to demolish and dispose of all items shown/noted to be removed, verify with owner items to be recycled. Items noted to be reused or returned to Owner shall be cleaned thoroughly by Contractor prior to storage or re-installation.
5. Contractor to remove all electrical outlets, voice/data outlets, light switches, and thermostats affected by demolition work. Contractor shall cap all involved wiring and revise any necessary changes on respective electrical panels.
6. The building will remain occupied during demolition/renovation. Contractor to coordinate shut-downs and tie- ins to all mechanical, electrical, plumbing, communications, fire alarms, and sprinkler systems to minimize disruptions to building occupants.
7. Contractor to protect existing smoke detectors from dust/debris during demolition/renovation to prevent accidental trigger of the alarm system.
8. Contractor will be responsible for the protection of existing furniture, equipment, finishes, etc. during demolition/ renovation. Items damaged will be repaired or replaced with new at Contractor's expense.
9. Contractor to provide and maintain corridor access and fire egress requirements during all demolition/ construction phases.
10. Contractor to protect existing doors, frames, or hardware remaining during demolition/ renovation. Contractor to paint any existing frames remaining after construction to match existing. Clean and refurbish any salvaged door hardware for re-installation. Replace any non-code compliant hardware withnew to match existing building standards.
11. Contractor to remove all existing floor and ceiling finishes in demolition area, unless noted otherwise.
12. Coordinate with Owner for removal of all cameras/readers/ etc.
13. Contractor shall adhere to all Life Safety and Indoor Air Quality Control standards at all times. Non-compliance may result in the shut-down of activities, in which no time extension or additional costs to the Owner will be allowed.
14. Maintenance of indoor air quality is critical in areas of all facilities. Construction causing disturbance of existing dust, or creating new dust, odors, etc., must be conducted in tight enclosures that prohibit the flow of particles into sensitive areas. The contractor is required to provide dust barriers as determined by theproject manager, Environmental Health and Safety and/or Infection Control.
15. Contractor shall protect all column/composite deck with existing fireproofing. Contractor will be responsible to ensure that any damaged fire proofing is replaced for approved required rating.
16. Contractor to make best effort to salvage doors, frames, hardware, etc. and confirm with O&M if they want to warehouse salvaged items.
17. Contractor responsible to inspect existing conditions for all window frames and sills for damage including but not limited to scratches, cracks and dents.

SCRB 3 Demolition Notes | **1**

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REGISTERED ARCHITECT — KEITH E. PHILO — 19285 — STATE OF TEXAS

03/10/2017

Consultants

MEP

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Houston, Texas 77002
(713) 580-8800

Issues / Revisions

No.	Date	Description
1	03/10/2017	Bid and Construction
2	05/10/2017	Addendum 2

Project

Dr. Tashman Dry Lab

UTHealth™
The University of Texas Health Science Center at Houston

Drawing Name

Demolition Floor and Reflected Ceiling Plans - SCRB 3

Print Date / Time: 5/11/2017 1:56:55 PM

P&W Commission Number: 216-042

Sheet Number: A-101

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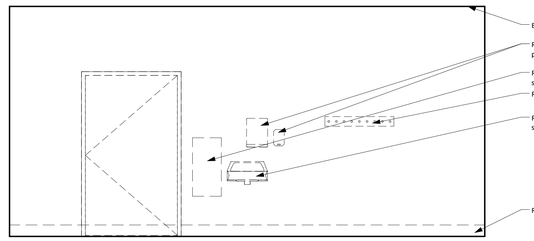
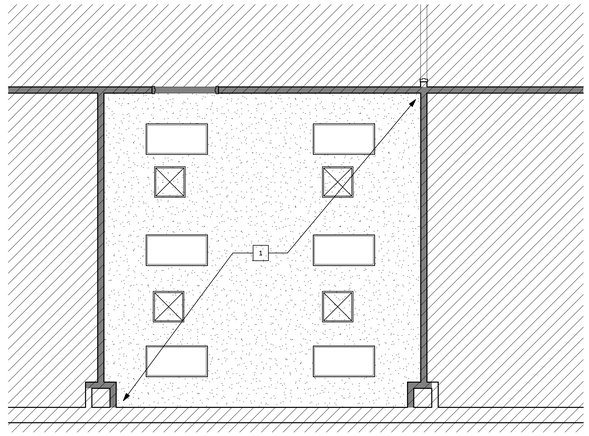


BBSB - Demolition North Elevation | 3/8" = 1'-0" | **10**



Keyed Notes: Demolition Reflected Ceiling Plan

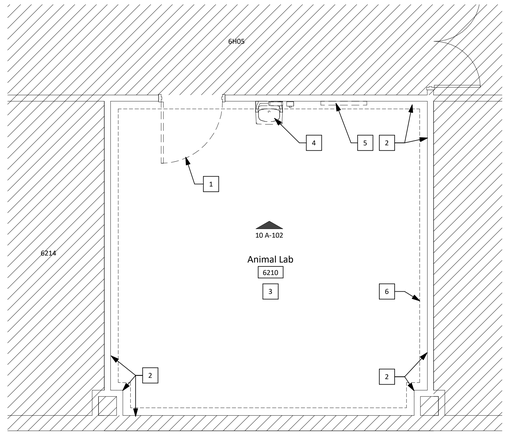
1 Existing ceiling and light fixtures to remain, coordinate with MEP additional demolition of ceiling accesories.

Legend - Floor/Demo Plan

- Existing to be removed
- Existing to remain
- New Partitions
- Area not in scope

PN

6th Floor Reflected Ceiling Demolition Plan - BBSB | 1/4" = 1'-0" | **8**



Keyed Notes:

1 Remove existing door, frame, and hardware. Salvage door and hardware for owner. Store as directed by owner.

2 Remove exe existing drywall on interior side only up to 7'-0" above the finished floor. Prepare for new work.

3 Existing epoxy floor and base to remain.

4 Remove existing plumbing fixture. Reference Plumbing Drawings.

5 Remove existing mop rack.

6 Cut base as required to complete lead lined partition. Replace base to match existing.

Legend - Floor/Demo Plan

- Existing to be removed
- Existing to remain
- New Partitions
- Area not in scope

PN

Demolition Plan - BBSB | 1/4" = 1'-0" | **6**

Demolition Notes:

1. The Contractor shall be responsible for the protection against vandalism/unauthorized entry, etc. during the removal of and replacement of the interior envelope. Do not leave building components unprotected or uncovered after-hours.
2. Contractor to provide protection, as required during construction, at all remaining utilities (clean outs, gas valves, etc.).
3. Coordinate with Owner proper access and location for waste disposal and location of dumpsters.
4. Contractor to demolish and dispose of all items shown/noted to be removed, verify with owner items to be recycled. Items noted to be reused or returned to Owner shall be cleaned thoroughly by Contractor prior to storage or re-installation.
5. Contractor to remove all electrical outlets, voice/data outlets, light switches, and thermostats affected by demolition work. Contractor shall cap all involved wiring and revise any necessary changes on respective electrical panels.
6. The building will remain occupied during demolition/renovation. Contractor to coordinate shut-downs and tie-ins to all mechanical, electrical, plumbing, communications, fire alarms, and sprinkler systems to minimize disruptions to building occupants.
7. Contractor to protect existing smoke detectors from dust/debris during demolition/renovation to prevent accidental trigger of the alarm system.
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10. Contractor to protect existing doors, frames, or hardware remaining during demolition/ renovation. Contractor to paint any existing frames remaining after construction to match existing. Clean and refurbishany salvaged door hardware for re-installation. Replace any non-code compliant hardware with new to match existing building standards.
11. Contractor to remove all existing floor and ceiling finishes in demolition area, unless noted otherwise.
12. Coordinate with Owner for removal of all cameras/readers/ etc.
13. Contractor shall adhere to all Life Safety and Indoor Air Quality Control standards at all times. Non-compliance may result in the shut-down of activities, in which no time extension or additional costs to the Owner will be allowed.
14. Maintenance of indoor air quality is critical in areas of all facilities. Construction causing disturbance of existing dust, or creating new dust, odors, etc., must be conducted in tight enclosures that prohibit the flow of particles into sensitive areas. The contractor is required to provide dust barriers as determined by the project manager, Environmental Health and Safety and/or Infection Control.
15. Contractor shall protect all column/composite deck with existing fireproofing. Contractor will be responsible to ensure that any damaged fire proofing is replaced for approved required rating.
16. Contractor to make best effort to salvage doors, frames, hardware, etc. and confirm with O&M if they want to warehouse salvaged items.
17. Contractor responsible to inspect existing conditions for all window frames and sills for damage including but not limited to scratches, cracks and dents.

Demolition Notes | 1/4" = 1'-0" | **1**

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03/10/2017

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Project

Dr. Tashman Dry Lab

UTHealth™
The University of Texas Health Science Center at Houston

Drawing Name

Demolition Floor and Reflected Ceiling Plans - BBSB

Print Date / Time: 5/11/2017 1:56:56 PM

P&W Commission Number	Sheet Number
216-042	A-102

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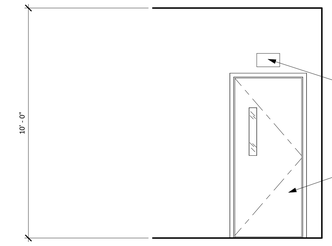
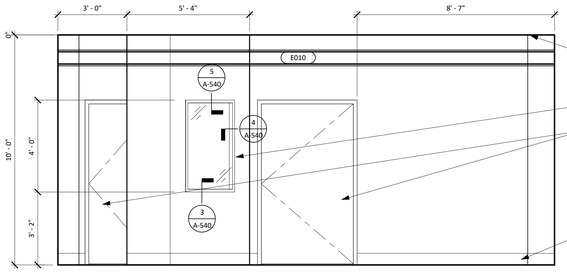
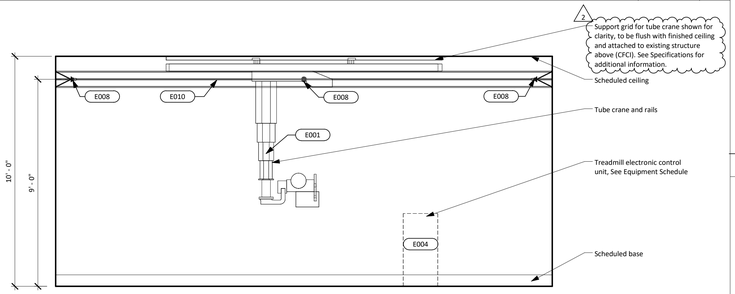


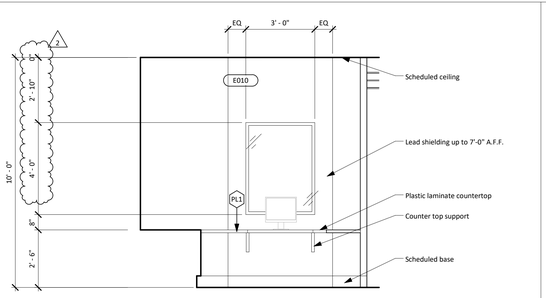
Control Room - SCRB3 - Door Elevation | 3/8" = 1'-0" | **15**



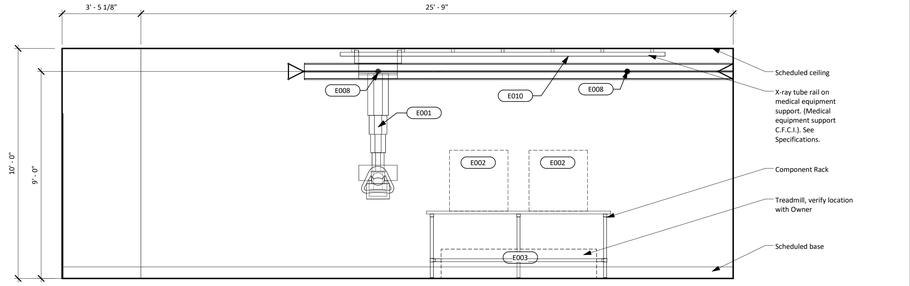
SCRB3 South Elevation | 3/8" = 1'-0" | **14**



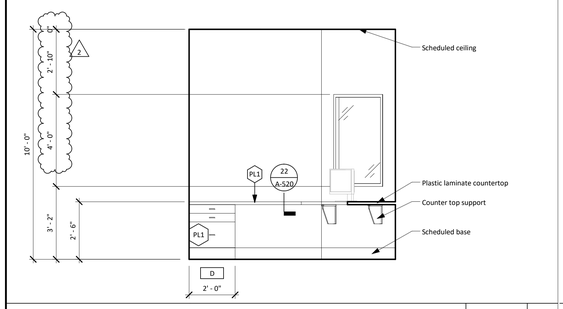
SCRB3 North Elevation | 3/8" = 1'-0" | **13**



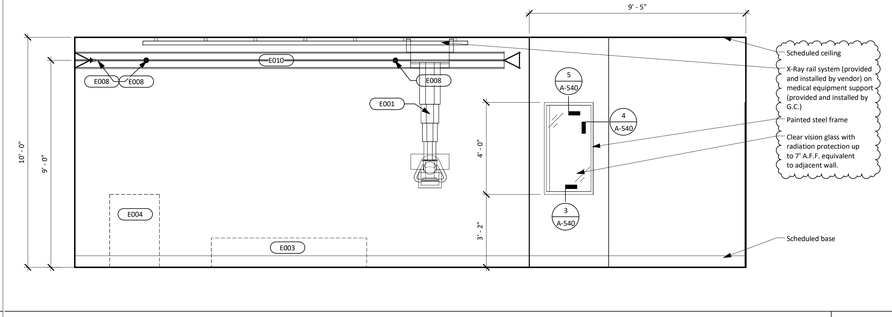
Control Room - SCRB3 - North West Elevation | 3/8" = 1'-0" | **22**



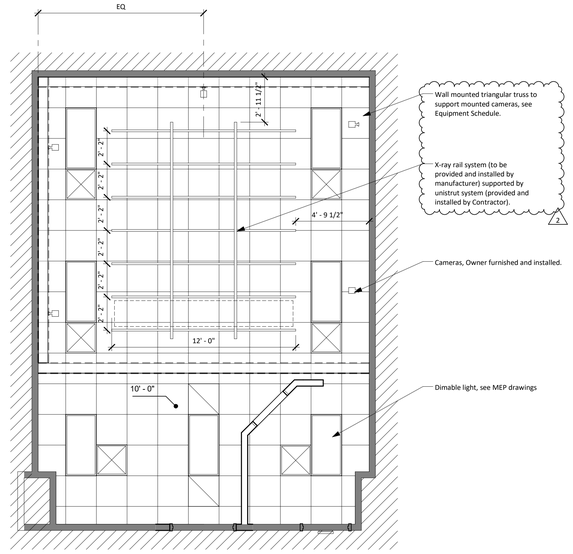
SCRB3 West Elevation | 3/8" = 1'-0" | **12**



Control Room - SCRB3 - West Elevation | 3/8" = 1'-0" | **21**



SCRB3 East Elevation | 3/8" = 1'-0" | **11**



Reflected Ceiling Plan - SCRB 3 | 1/4" = 1'-0" | **2**

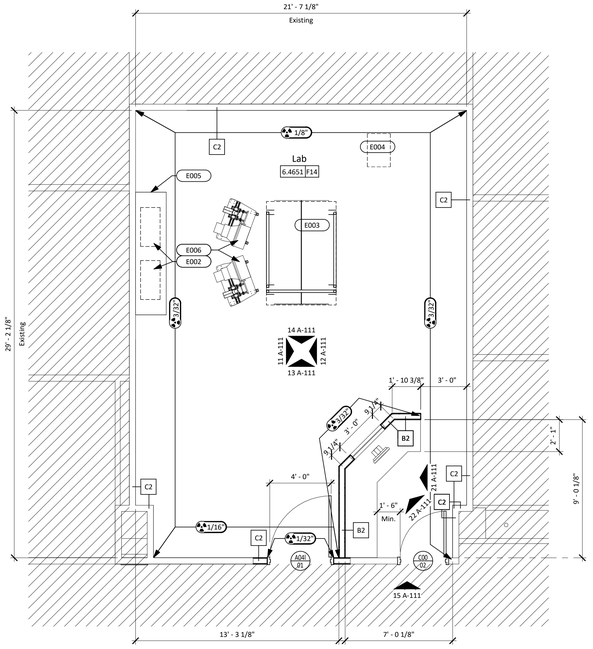
Legend - Reflected Ceiling Plan

New partition to structure. See 1 A-520 for partition schedule.

General Notes - Reflected Ceiling Plan

1. All new ceilings to be 2' x 2' lay-in acoustical ceiling tile at 10'-0" a.f.f., unless noted otherwise. See Finish Schedule for types.
2. See Interior Elevations for furr down heights and dimensions.
3. Center all down-lights, sprinkler heads, and wall washers in center of ceiling tile, unless noted otherwise.

PN



General Notes - Floor Plan

1. All new partitions are type "B2" unless noted otherwise.
2. All dimensions are to face of gypsum board or face of masonry unless noted otherwise.
3. See 1 A-520 for Partition Type Schedule.
4. See 1 A-540 for Door Type Schedule.
5. See 1 A-600 for Finish and Equipment Schedules.

Legend - Floor/Demo Plan

- Existing to be removed
- Existing to remain
- New Partitions
- Area not in scope

PN

Floor Plan - SCRB3 | 1/4" = 1'-0" | **1**

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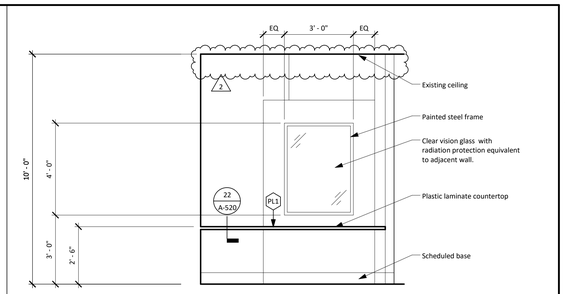
Drawing Name

Floor and Reflected Ceiling Plans - SCRB 3

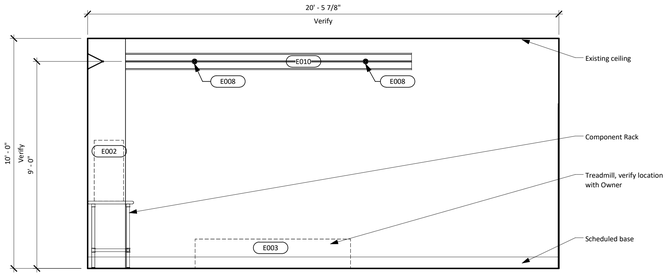
Print Date / Time: 5/11/2017 1:56:57 PM

P&W Commission Number: 216-042

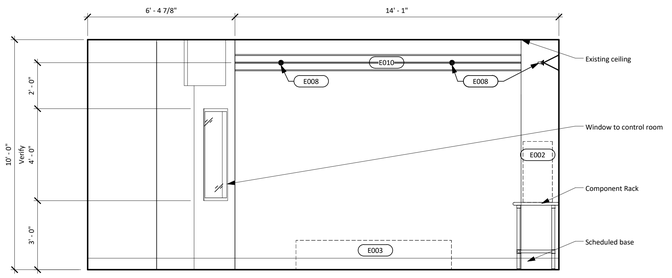
Sheet Number: A-111



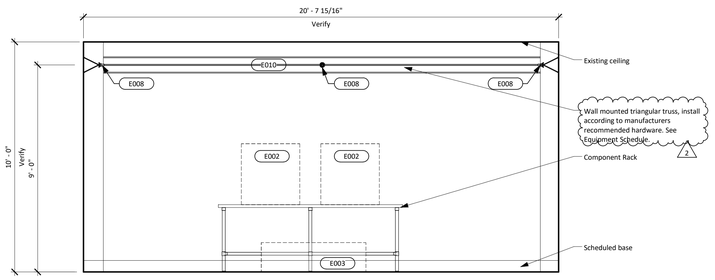
Control Room - BBSB | 3/8" = 1'-0" | 5



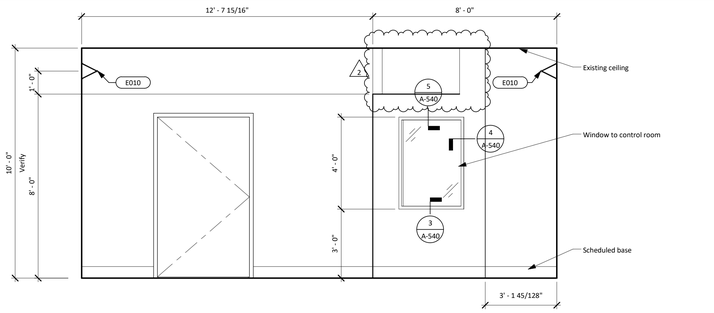
BBS West Elevation | 3/8" = 1'-0" | 14



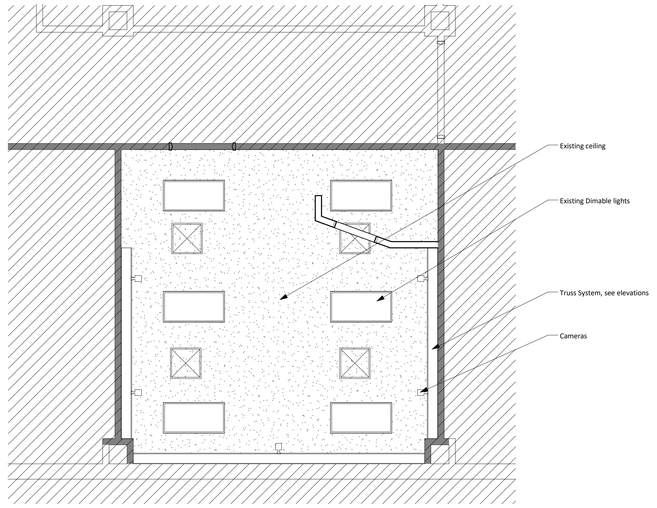
BBS East Elevation | 3/8" = 1'-0" | 13



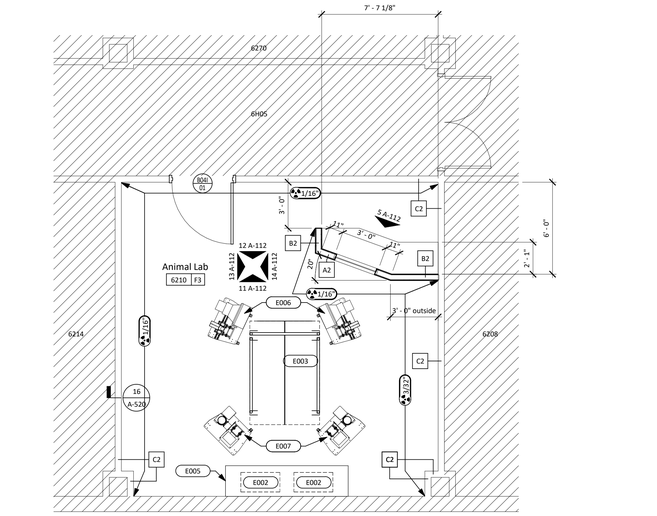
BBS South Elevation | 3/8" = 1'-0" | 12



BBS North Elevation | 3/8" = 1'-0" | 11



Reflected Ceiling Plan - BBSB | 1/4" = 1'-0" | 2



6th Floor Plan - BBS | 1/4" = 1'-0" | 1

General Notes - Floor Plan

1. All new partitions are type "B2" unless noted otherwise.
2. All dimensions are to face of gypsum board or face of masonry unless noted otherwise.
3. See 1 A-520 for Partition Type Schedule.
4. See 1 A-540 for Door Type Schedule.
5. See 1 A-600 for Finish and Equipment Schedules.
6. Mold resistant gypsum board to be used in all walls.

Legend - Floor/Demo Plan

- Existing to be removed
- Existing to remain
- New Partitions
- Area not in scope

PN

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Drawing Name

Floor and Reflected Ceiling Plans- BBS

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P&W Commission Number	Sheet Number
216-042	A-112

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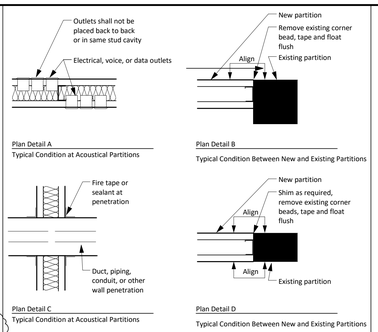
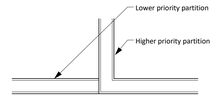


Plan Detail A
Typical Condition at Acoustical Partitions

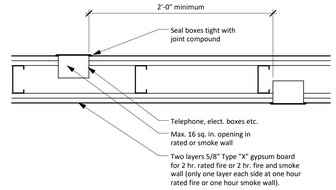
Plan Detail B
Typical Condition Between New and Existing Partitions

Plan Detail C
Typical Condition at Acoustical Partitions

Plan Detail D
Typical Condition Between New and Existing Partitions



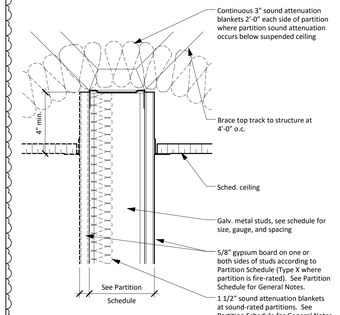
Wall Priority Legend	
2-hour fire and smoke barrier wall:	Priority 1 (Highest)
2-hour fire wall:	Priority 2
1-hour fire and smoke barrier wall:	Priority 3
1-hour fire wall:	Priority 4
Non-rated wall:	Priority 5 (Lowest)



Note:

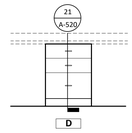
For all one hour rated partitions, two hour rated partitions and smoke partitions, the surface area of individual metallic outlet or switch boxes shall not exceed 100 square inches per 100 square feet. Boxes located on opposite sides of rated fire or smoke partitions shall be separated by a horizontal distance of 24 inches minimum.

Typical Partition Details N.T.S. **15**



Wall Priority Legend N.T.S. **10**

Metallic Boxes in Smoke and Fire-Rated Walls N.T.S. **5**



See Elevations for size and number of doors.

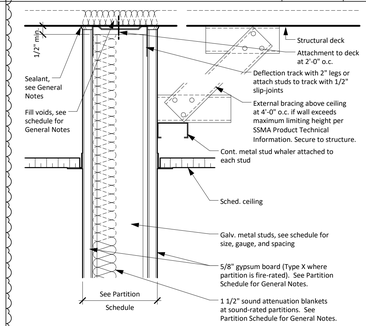
Laminate-Clad Cabinets and Countertops

1. All cabinet materials and construction details shall conform to the requirements of the AWI Architectural Woodwork Quality Standards for Custom Grade.
2. All joints shall be 1/8", typical.
3. All vertical dimensions are to top of joint unless noted otherwise.

Cabinet Hardware and Accessories

1. Cabinet hinges (standard application): Blum, Model 100 series, full overlay, self closing, No. 891M255, nickel plated steel.
2. Drawer and door pulls: Stanley, No. 4483 1/2, US32D, U.N.O.
3. Shelf supports (European style): Hafele, No. 282.11.710, 32 mm centers, nickel plated.
4. Cam locks (High Security-National lock): Hafele, No.235.10.400, flush mount, brushed chrome
5. Drawer slides: Side mounted, full-extension, zinc-plated steel drawer slides with steel ball bearings, complying with BHMA A156.9, Grade 1 and rated for the following loads:
   a. Box drawer slides: 100 lbf. - Knape & Vogt series 8400.
   b. Lateral file drawer slides: 200lbf. - Accuride AC 3640.
   c. Pencil drawer slides (3/4 extension): 45 lbf. - Accuride series AC 2006.
6. Grommets for cable passage through countertops: 2.2 inch (56 mm) OD black, molded-plastic grommets with 1.85 inch (47 mm) hole and black plastic cap with slot for wire passage. Hafele 429.93.313.

Partition at Ceiling N.T.S. **14**



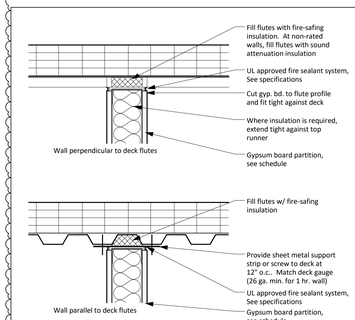
Millwork Legend and Typical Notes 3/8" = 1'-0" **4**

Paint the following identification above the ceiling, at four-foot intervals, on both sides of all fire-rated walls, demising walls, area separation walls, and smoke compartment walls. Typeface shall be in 2" high letters in bright orange or red paint. Substitute the hour-rating of the partition for the letter "X" shown below. Omit the words "AND SMOKE" for partitions that are fire barriers only. Stenciling is acceptable:

X-HOUR
FIRE AND SMOKE BARRIER
PROTECT ALL OPENINGS

Labeling for Smoke and Fire Walls **3**

Gypsum Board Partitions at Fluted Metal Deck N.T.S. **20**



Partition at Ceiling/Structural Deck N.T.S. **13**

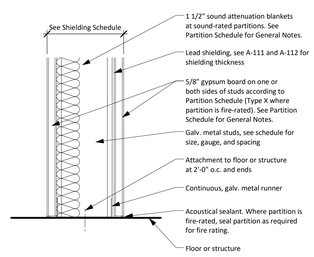
Partitions - Lead Lined Partition - Plan Detail 3" = 1'-0" **17**

Partition Detail N.T.S. **12**

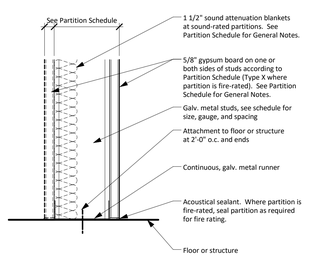
Countertop Legend 1 1/2" = 1'-0" **22**

Notes:
1. See Elevations for locations of backsplashes. Provide side splashes wherever backsplashes are shown.
2. Backsplash material and construction shall be the same as the countertop.
3. Not all types occur in project.

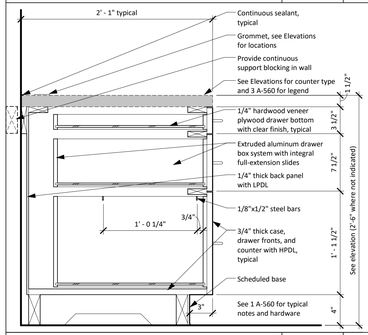
Partitions - Lead Lined Partition - Base Detail 3" = 1'-0" **16**



Partition at Floor N.T.S. **11**

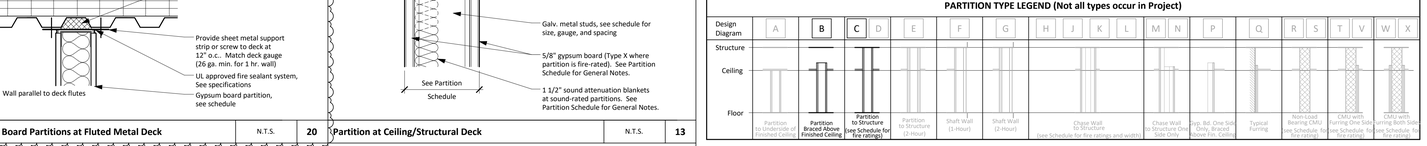


Three Drawer Base/File Cabinet 1 1/2" = 1'-0" **21**



Partition Type Legend and Schedule **1**

PARTITION TYPE LEGEND (Not all types occur in Project)



Partition Type Schedule

Type Mark	Description	Thickness	Stud/ Block Size	Stud Thickness (mil)	Stud Spacing	Limiting Height	Fire Rating		STC	Details				Notes
							Rating	Design No.		Section at Floor	Plan	Ceiling/ Structure	Design Test	
A2	Partition to underside of ceiling	4 7/8"	3 5/8"	18	2' - 0"	13' - 5"	-	-	40	11 A-520	12 A-520	14 A-520	-	1
B2	Partition to 4" above ceiling	4 7/8"	3 5/8"	18	2' - 0"	13' - 5"	-	-	40	11 A-520	12 A-520	14 A-520	-	1
C2	Partition to structure (non-rated)	4 7/8"	3 5/8"	18	2' - 0"	13' - 5"	-	-	40	11 A-520	12 A-520	13 A-520	-	1

Notes:
1. See 16 and 17, sheet A-520 for lead lined partition details. (2)

General Notes

1. All interior partitions are Type B2 unless noted otherwise.
2. Allowable deflection for all partitions shall be L/240 with a horizontal load of 5 psf. except as noted in individual partition types. The Contractor shall decrease the stud spacing or increase the stud thickness noted to insure partitions forming the substrate for brittle finishes such as ceramic tile meet an allowable deflection criteria of L/360 with a horizontal load of 5 psf.
3. Where partitions are noted to be fire-rated:
   a. Provide 5/8" Type X fire-resistive gypsum board.
   b. Where partitions meet fluted metal deck or similarly irregular surfaces, seal the partition with safing insulation and sealant as shown in detail 9 A-520 and in accordance with the reference design.
4. Sound-Rated Partitions:
   a. Sound-rated partitions and partitions with thermal insulation are indicated with a the suffix "S" (Example: A1S). Refer to the floor plans for locations.
   b. Provide 1-1/2" thick, glass-fiber sound attenuation blankets unless noted otherwise.
   c. Fill all deck voids or similarly irregular surfaces, with insulation and sealant as shown in detail 9 A-520.
   d. Seal partition perimeter and all penetrations with acoustical sealant or tape and insulation to fill voids.
   e. Arrange back-boxes for electrical, data, telephone, and other outlets as shown in detail 4 A-520.
   f. Where sound-rated partitions are also fire-rated, seal partition and fill voids as required for fire rating.
5. Nails shall comply with ASTM F 547 or ASTM C514. Screws shall meet the requirements of ASTM C 1002 or ASTM C 954.
6. Unless otherwise required by reference designs for fire-rated partitions, fasteners shall be spaced 8" o.c. along at vertical joints and 12" o.c. at floor and ceiling runners and intermediate studs. Space all fasteners in panels that are substrates for brittle finishes, such as ceramic tile or stone, a maximum of 8" o.c..
7. Joints in multi-layer gypsum board partitions shall be staggered 24" on each side and on opposite sides.
8. Metallic outlet boxes shall be permitted to be installed in walls or partitions classified as having a fire-resistance of two-hours or less. The surface area of individual boxes shall not exceed 16 square inches. The aggregate surface area of the boxes shall not exceed 100 square inches in any 100 square feet. Boxes located on opposite sides of walls or partitions shall be separated by a minimum horizontal distance of 24 inches. See detail 5 A-520.
9. Fiberglass-mat faced, siliconized gypsum-core boards shall be installed over or as part of the fire-resistance rated system in shower and tub areas to receive brittle finishes such as ceramic tile or plastic finished wall panels. When fire or sound ratings are indicated, the gypsum board required for the rating shall extend down to the floor behind fixtures.
10. Label all fire-rated and smoke compartment walls or partitions above finished ceiling as shown on detail 3 A-520.
11. Install penetration seals at all penetrations through fire-rated and smoke compartment walls or partitions in accordance with Specifications Section 07 84 00. See details 16, 17, 19, 21, 23, 26, and 28 G-102 for reference designs of penetration seal systems based upon the penetrating element.
12. Accurately align new and existing partitions in the same plane when shown on the Floor Plans. See detail 4 A-520.
13. Maintain the fire or sound rating of partitions at all intersections. Maintain the construction of the highest rated partition where partitions of two different ratings meet. See the Wall Priority Legend - detail 10 A-520.

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03/10/2017

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Issues / Revisions

No.	Date	Description
1	03/10/2017	Bid and Construction
2	05/10/2017	Addendum 2

Project

Dr. Tashman Dry Lab

UTHealth™
The University of Texas Health Science Center at Houston

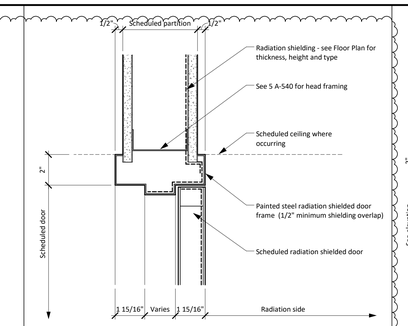
Drawing Name

Partition Types and Interior Construction Details

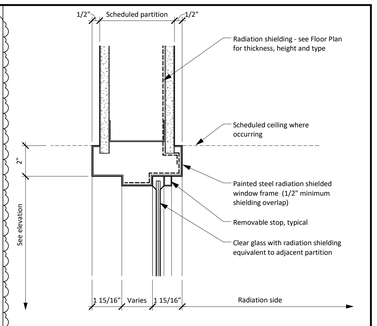
Print Date / Time: 5/11/2017 1:57:00 PM

P&W Commission Number: 216-042

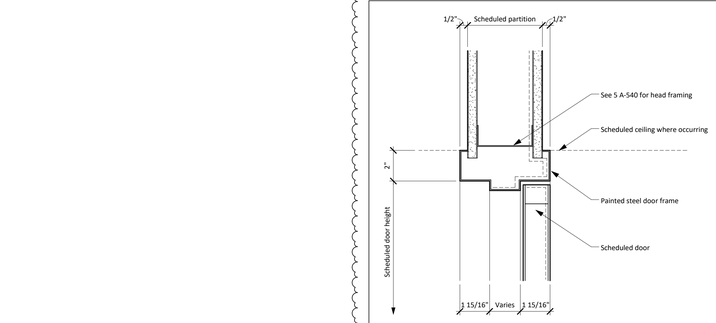
Sheet Number: A-520



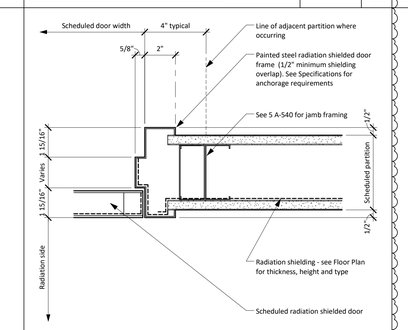
Head at Steel Radiation Shielded Door Frame | 3" = 1'-0" | **10**



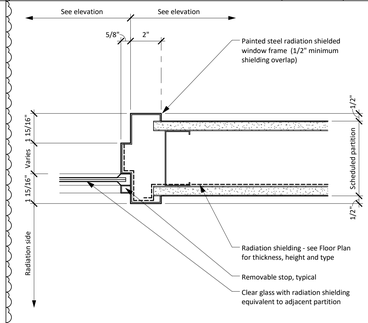
Head at Steel Radiation Shielded Window Frame | 3" = 1'-0" | **5**



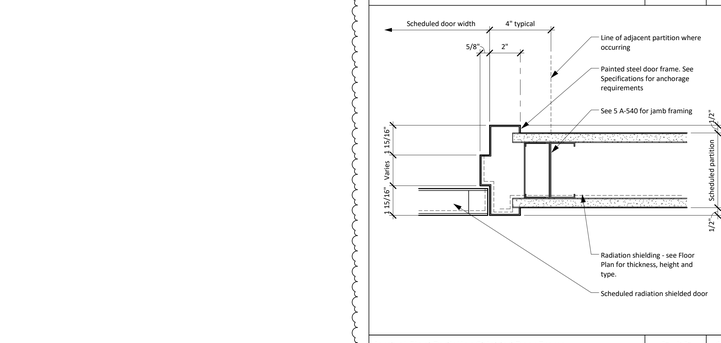
Head at Steel Radiation Shielded Door Frame | 3" = 1'-0" | **14**



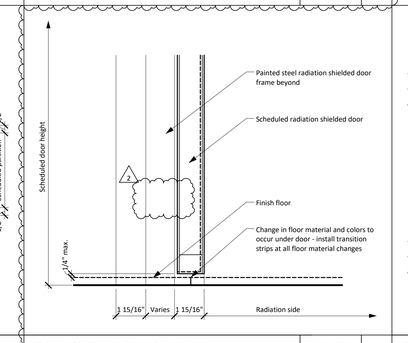
Jamb at Steel Radiation Shielded Door Frame | 3" = 1'-0" | **9**



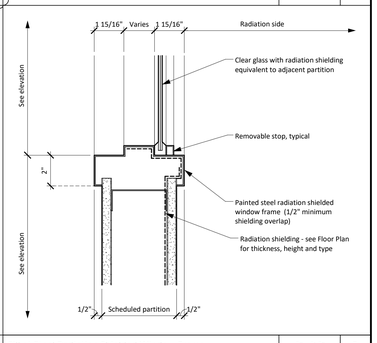
Jamb at Steel Radiation Shielded Window Frame | 3" = 1'-0" | **4**



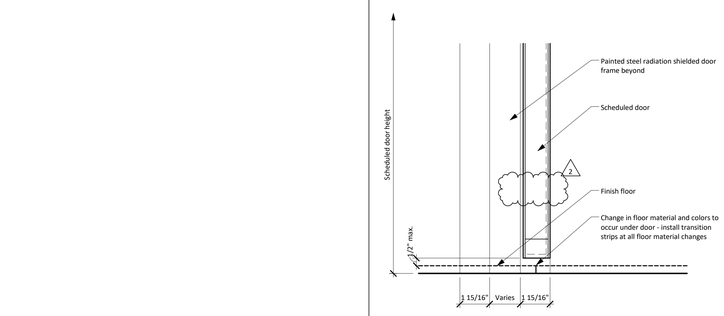
Jamb at Steel Radiation Shielded Door Frame | 3" = 1'-0" | **13**



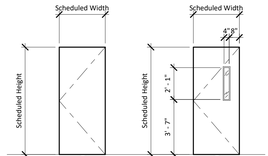
Sill at Steel Radiation Shielded Door Frame | 3" = 1'-0" | **8**



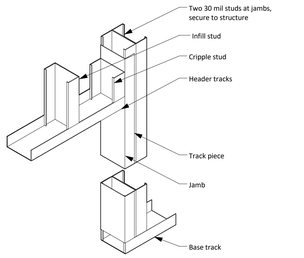
Sill at Steel Radiation Shielded Window Frame | 3" = 1'-0" | **3**



Sill at Steel Radiation Shielded Door Frame | 3" = 1'-0" | **12**



Door Panel Elevations | 1/4" = 1'-0" | **2**



Typical Framing at Opening | N.T.S. | **11**

Door Type Schedule | **1**

Door Type Schedule

Type	Description	Door Width	Door Height	Door Thick.	Door Elev. No.	Door Mat'l	Door Finish	Frame Mat'l	Frame Finish	Frame Sill Detail	Frame Jamb Detail(s)	Frame Head Detail	Fire Rating (min.)	Notes
A04I	Interior flush door (lead lined)	4' - 0"	7' - 0"	1 3/4"	1	Wood	DPT1	Steel	FPT1	8 A-540	9 A-540	10 A-540	-	
B04I	Interior flush door (lead lined)	4' - 0"	7' - 0"	1 3/4"	1	Steel	DPT1	Steel	FPT1	8 A-540	9 A-540	10 A-540	-	
C0D	Interior narrow lite door	3' - 0"	7' - 0"	1 3/4"	2	Wood	DPL1	Steel	FPT1	12 A-540	13 A-540	14 A-540	-	

Hardware 01:

1	Intermediate Pivot - transfer	E-F-ML19 3/4" OFFSET	626	Rixson
1	Pivot Set	FL147 3/4" OFFSET	626	Rixson
1	Fail Secure Lock Lead Lined	74 RX 8271 LNP	626	Sargent
1	Cylinder	Match Existing		
1	Closer Pull Side Delayed	7500 DA	689	Norton
1	Kickplate	KP1050 10" x 2" LDW HB4E CSK	US32D	McKinney
1	Wall Stop	406	US26D	Rockwood
1	Perimeter Gasket	S88BL		Pemko
1	Cable – Lock to pivot	QC-C400P		McKinney
1	Cable –Pivot to ceiling	QC-C1500P		McKinney
1	Power/DPS/reader	By Security Contractor		

Hardware 02:

1	Intermediate Pivot - transfer	E-F-M19 3/4" OFFSET	626	Rixson
1	Pivot Set	FL147 3/4" OFFSET	626	Rixson
1	Fail Secure Lock	RX 8271 LNP	626	Sargent
1	Cylinder	Match Existing		
1	Closer Pull Side Delayed	7500 DA	689	Norton
1	Kickplate	KP1050 10" x 2" LDW HB4E CSK	US32D	McKinney
1	Wall Stop	406	US26D	Rockwood
1	Perimeter Gasket	S88BL		Pemko
1	Cable – Lock to pivot	QC-C400P		McKinney
1	Cable –Pivot to ceiling	QC-C1500P		McKinney
1	Power/DPS/reader	By Security Contractor		

General Notes:

1. Lead Lined door provider to fully coordinate electrical raceway through door to maintain lead lining and angle to meet transfer pivot.

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03/10/2017

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1	03/10/2017	Bid and Construction
2	05/10/2017	Addendum 2

Project

Dr. Tashman Dry Lab

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Door and Window Details

Print Date / Time: 5/11/2017 1:57:01 PM

P&W Commission Number	Sheet Number
216-042	A-540

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Finish Material Schedule

Type Mark	Description	Manufacturer	Pattern/Line	Color	Notes
Floors					
RS	Rubber Sheet	Roppe	Envire	HL01 River Stone	
Base					
EPRB	Epoxy resin base				1
RBC	Rubber base, cove	Roppe	Envire	HL01 River Stone	
Walls					
EPT1	Epoxy paint	Sherwin Williams	Semi-Gloss	White	1
PT1	Paint	Sherwin Williams	Matt	White	1
Ceilings					
ACT1	Acoustical ceiling tile 2x2	Armstrong	Fine Fissured	1732	
Millwork					
PL1	Plastic laminate				1
Doors					
DPL1	Plastic laminate				2
DPT1	Paint (door)				3
Frames					
FPT1	Paint (frame)				3

Notes to Schedule:

1. Match existing finish.

2. Confirm finish with owner.

3. Match existing paint finish in the corridor.

Finish Material Schedule 4

Room Finish Type Schedule

Finish Type Mark	Floor	Base	Wall	Ceiling	Misc/Trim	Door	Frame	Notes
F3	Existing	EPRB	EPT1	Existing	-	DPT1	FPT1	
F14	RS	RBC	PT1	ACT1	-	DPL1	FPT1	

Notes to Schedule:

1.

Room Finish Type Schedule 2

Equipment Schedule

Mark	Description	Manufacturer	Model	Contractor Furnished	Owner Furnished	Contractor Installed	Owner Installed	Notes
E001	X-Ray Positioning System and Crane	CoREIabs	Halo RAD OTC 2500		X		X	
E002	X-Ray Generator Section	EMD Technologies	EPS 45-80		X		X	
E003	Fully IInstrumented Treadmill	Bertec	FIT		X		X	
E004	Treadmill Electronic Control Unit	-	-		X		X	
E005	Component Rack	Grainger	-		X		X	
E006	X-Ray Image Intensifier	-	-		X		X	
E007	X-Ray Source	-	-		X		X	
E008	High Speed Camera	Vision Research	Phantom Miro LC120		X		X	
E010	Mini Triangle Truss	Global Truss America	F-33 Triangular Truss	X		X		

2

General Notes:

1. Provide treated wood blocking in walls for mounting of equipment as recommended by the manufacturer.

Equipment Schedule 1

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03/10/2017

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No.	Date	Description
1	03/10/2017	Bid and Construction
2	05/10/2017	Addendum 2

Project

Dr. Tashman Dry Lab

UTHealth™
The University of Texas Health Science Center at Houston

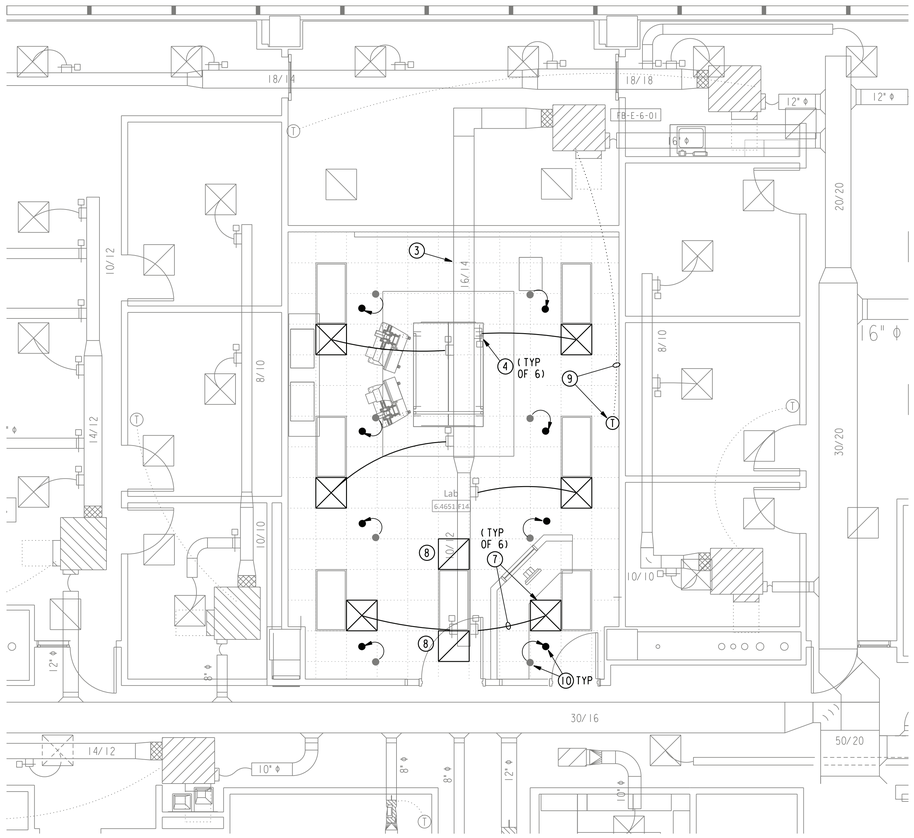
Drawing Name

Schedules

Print Date / Time: 5/11/2017 1:57:01 PM

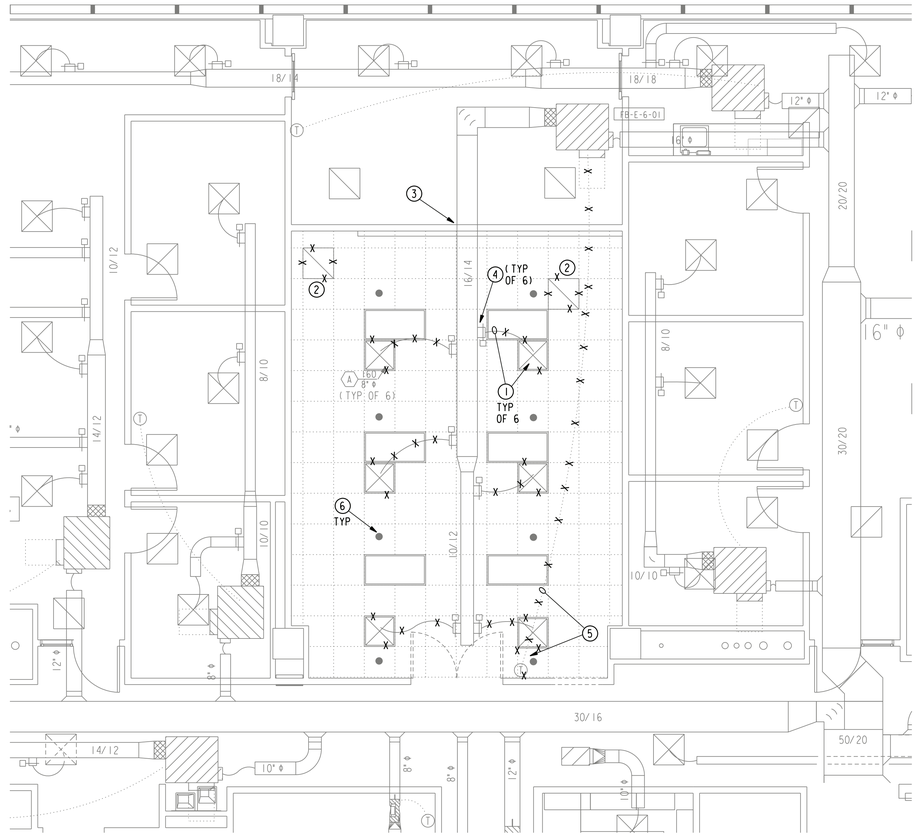
P&W Commission Number: 216-042

Sheet Number: A-600



02 6TH FLOOR ALTERATION - MECHANICAL/PLUMBING PLAN

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



01 6TH FLOOR DEMOLITION - MECHANICAL/PLUMBING PLAN

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

(9) RELOCATE EXISTING SPACE TEMPERATURE SENSOR TO NEW LOCATION SHOWN AND EXTEND SENSOR WIRING AS REQUIRED TO CONTROL REUSED EXISTING HVAC TERMINAL UNIT.

(10) RELOCATE EXISTING FIRE SPRINKLER HEAD AS SHOWN. FIELD COORDINATE EXACT LOCATION TO PROVIDE NFPA 13 REQUIRED COVERAGE. RELOCATE EXISTING ABOVE CEILING FIRE SPRINKLER PIPING AS REQUIRED TO ALLOW NEW CEILING UNISTRUT FRAMING TO BE INSTALLED.

GENERAL NOTES:

A. RE: MEP-000 FOR ADDITIONAL GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.

B. EXISTING BUILDING IS FULLY PROTECTED BY AN EXISTING STANDPIPE AND WET PIPE FIRE SPRINKLER SYSTEM. FIRE PROTECTION CONTRACTOR SHALL DESIGN AND INSTALL MODIFICATIONS TO THE EXISTING BUILDING FIRE SPRINKLER SYSTEM IN THE RENOVATED AREA RELOCATING EXISTING SPRINKLER HEADS AND ADDING NEW SPRINKLER HEADS AS REQUIRED TO SUIT THE NEW SPACE PLAN AN SPACE USE IN ACCORDANCE WITH NFPA 13, LOCAL AND STATE FIRE CODES AND OTHER APPLICABLE CODES AND REQUIREMENTS. NEW FIRE SPRINKLER HEADS, PIPE, FITTINGS AND FIRE PROTECTION MATERIALS SHALL IN GENERAL MATCH EXISTING UNLESS OTHERWISE SHOWN OR NOTED ON THE DRAWINGS OR SPECIFICATIONS. FIRE PROTECTION CONTRACTOR SHALL SUBMIT FIRE PROTECTION SHOP DRAWINGS AND HYDRAULIC OR PIPE SIZE SCHEDULE CALCULATIONS FOR ALL FIRE SPRINKLER SYSTEM MODIFICATIONS IN ACCORDANCE WITH NFPA 13 AND LOCAL AND STATE FIRE CODES. THE EXISTING FIRE SPRINKLER SYSTEM SHALL REMAIN OPERATIONAL TO THE MAXIMUM EXTENT POSSIBLE DURING PROJECT CONSTRUCTION AND A FIRE WATCH SHALL BE MAINTAINED IN AREAS WHERE THE FIRE SPRINKLER SYSTEM IS DIAABLED.

1 C. CONTRACTOR SHALL PROVIDE FILTERS AND BLANK-OFFS AS REQUIRED TO PREVENT CONSTRUCTION DUCT AND DEBRIS FROM BEING INTRODUCED INTO SUPPLY, RETURN AND EXHAUST DUCTWORK ASSOCIATED WITH THE PROJECT.

DRAWING NOTES:

(1) REMOVE EXISTING SUPPLY AIR GRILL AND FLEXIBLE DUCT. RELOCATE AND REUSE EXISTING SUPPLY AIR GRILL AS SHOWN ON ALTERATION PLAN.

(2) REMOVE EXISTING RETURN AIR GRILL. RELOCATE AND REUSE EXISTING RETURN AIR GRILL AS SHOWN ON ALTERATION PLAN.

(3) EXISTING SUPPLY AIR DUCTWORK TO REMAIN. MODIFY AS REQUIRED TO ALLOW NEW CEILING UNISTRUT FRAMING TO BE INSTALLED.

(4) EXISTING DAMPERED SPIN-IN TO REMAIN.

(5) REMOVE EXISTING SPACE TEMPERATURE SENSOR AND RELOCATE AS SHOWN ON ALTERATION PLAN.

(6) EXISTING FIRE SPRINKLER HEAD. RELOCATE AS SHOWN ON ALTERATION PLAN.

(7) RELOCATE EXISTING SUPPLY AIR GRILL TO NEW LOCATION SHOWN AND CONNECT TO REUSED EXISTING DAMPERED SPIN-IN WITH NEW 8" INSULATED FLEXIBLE DUCT. BALANCE FOR 160 CFM SUPPLY AIRFLOW.

(8) RELOCATE EXISTING RETURN AIR GRILL TO NEW LOCATION SHOWN.

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MEP Engineer

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STATE OF TEXAS
WILLIAM C CLIFFORD
44368
REGISTERED
PROFESSIONAL ENGINEER

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No.	Date	Description
	03/10/2017	Issued for Bid
1	05/10/2017	Addendum No. 2

Project

Dr. Tashman Dry Lab

UTHealth™
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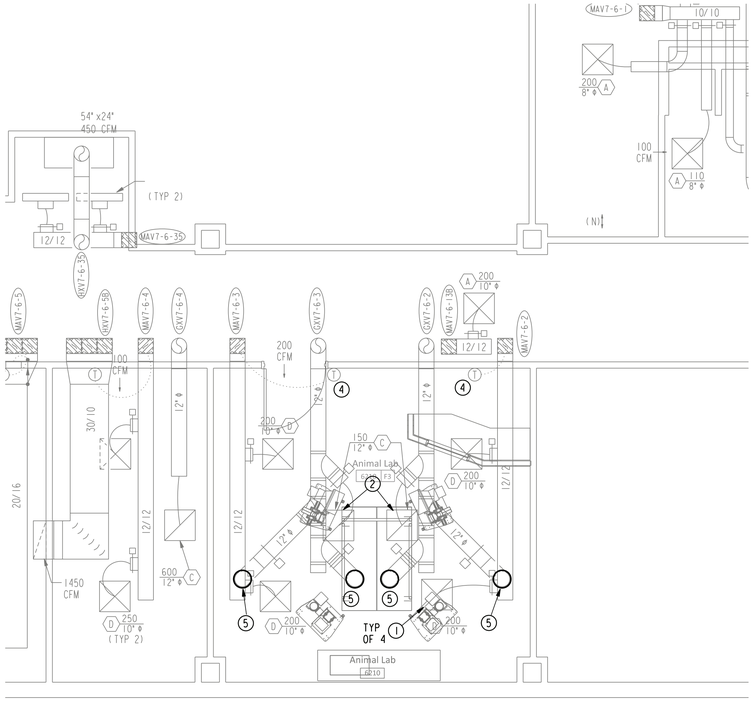
Drawing Name

SCRB3 Partial 6th Floor Mechanical/Plumbing Demolition/Alteration Plans

Print Date / Time:

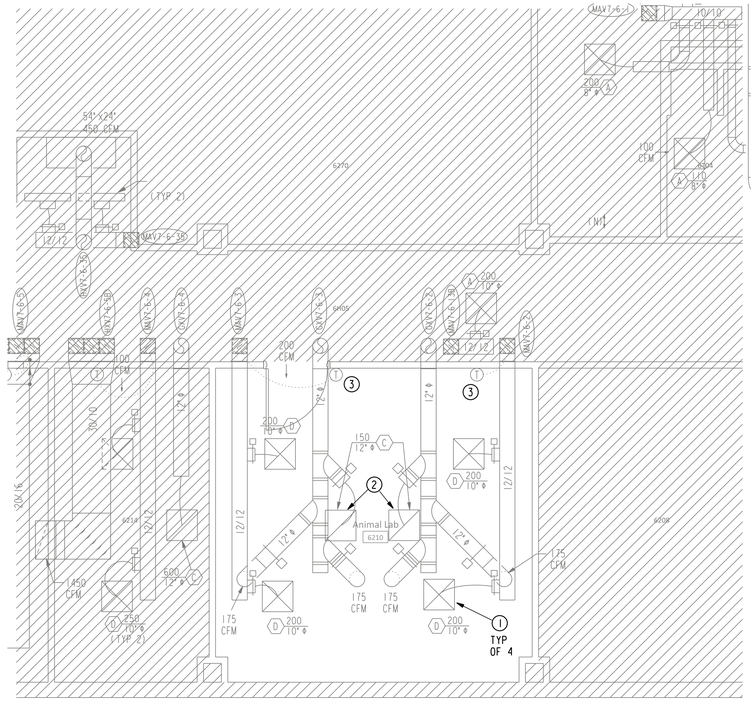
E&C Commission Number: 3410.00 3411.00

Sheet Number: MP-200S



02 BBS PARTIAL 6TH FLOOR - ALTERATION MECHANICAL PLAN

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



01 BBS PARTIAL 6TH FLOOR - DEMOLITION MECHANICAL PLAN

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

GENERAL NOTES:

A. RE: MEP-000 FOR ADDITIONAL GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.

B. SEAL ALL WALL PENETRATIONS AND WALL MOUNTED DEVICES WITH SILICONE CAULK TO VIVARIUM STANDARDS.

1 C. CONTRACTOR SHALL PROVIDE FILTERS AND BLANK-OFFS AS REQUIRED TO PREVENT CONSTRUCTION DUCT AND DEBRIS FROM BEING INTRODUCED INTO SUPPLY, RETURN AND EXHAUST DUCTWORK ASSOCIATED WITH THE PROJECT.

DRAWING NOTES:

1. EXISTING CEILING SUPPLY AIR GRILL TO REMAIN AND BE REUSED.
2. EXISTING CEILING EXHAUST GRILL TO REMAIN AND BE REUSED.
3. REMOVE EXISTING WALL MOUNTED SPACE TEMPERATURE SENSOR AS REQUIRED FOR EXISTING DRYWALL TO BE REPLACED WITH LEAD LINED DRYWALL.
4. REINSTALL EXISTING WALL MOUNTED SPACE TEMPERATURE SENSOR ON NEW LEAD LINED DRYWALL. SEAL WALL PENETRATION WITH SILICONE CAULK TO VIVARIUM STANDARDS.
5. REMOVE EXISTING CEILING THIMBLE AND CAP AND SEAL EXISTING 12" ROUND CAGE EXHAUST DUCT AS CLOSE TO CEILING AS POSSIBLE.

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STATE OF TEXAS
WILLIAM C CLIFFORD
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REGISTERED
PROFESSIONAL ENGINEER

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No.	Date	Description
	03/10/2017	Issued for Bid
1	05/10/2017	Addendum No. 2

Project

Dr. Tashman Dry Lab

UTHealth™
The University of Texas
Health Science Center at Houston

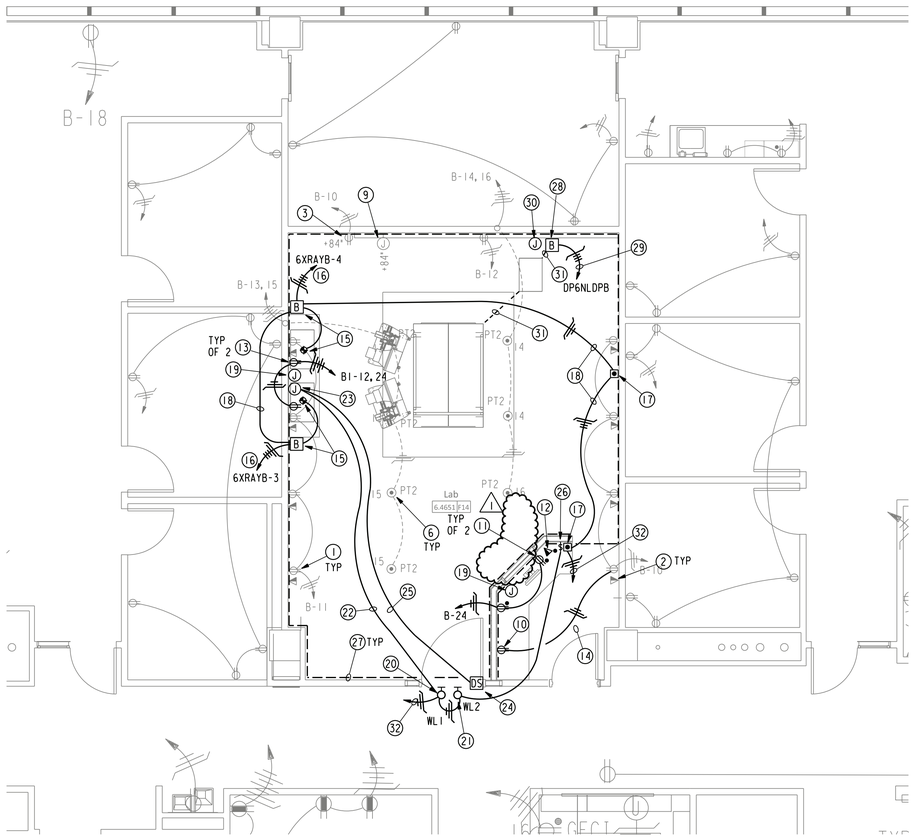
Drawing Name

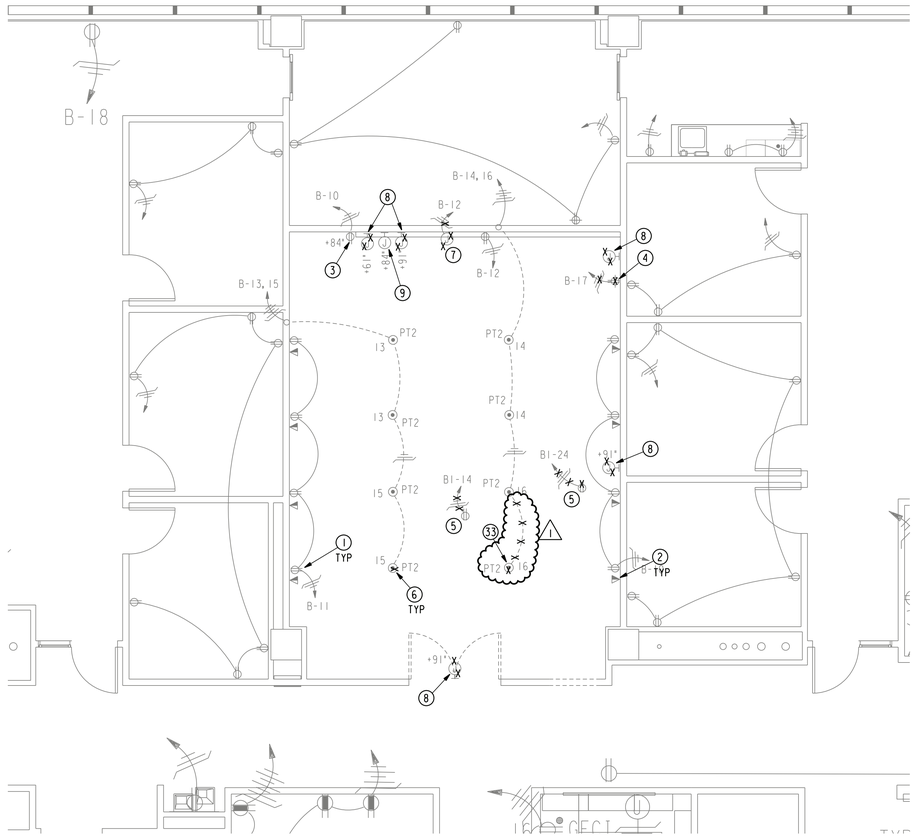
BBS Partial 6th Floor Mechanical Demolition/Alteration Plans

Print Date / Time:

E&C Commission Number: 3410.00 3411.00

Sheet Number: M-200B





02 6TH FLOOR ALTERATION - ELECTRICAL POWER PLAN

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

(28) NEW 100AF/50AT/3P/NEMA 1 ENCLOSED CIRCUIT BREAKER AT 60" AFF WITH POWER CONNECTION TO A NEW NEMA 15-50R RECEPTACLE INSTALLED BELOW CIRCUIT BREAKER AT 18" AFF FOR POWER TO TREADMILL CONTROLLER.

(29) 3 #6, #10G, 3/4" C TO A NEW 50A/3P CIRCUIT BREAKER INSTALLED IN AN EXISTING SPACE IN EXISTING DISTRIBUTION PANEL 6NLDPB IN THE BUILDING ELECTRICAL ROOM.

(30) 4" X 4" X 2-1/2" BOXES WITH OVERSIZED SPLIT COVERPLATES WITH A 1" CENTER INSULATED BUSHING AT 18'' AFF AND BEHIND WALL MOUNTED TRIANGULAR TRUSS WITH A 1-1/2" C. WITH PULLCORD BETWEEN BOXES FOR TREADMILL CABLING.

(31) HEAVY DUTY TWO CHANNEL RUBBER OVER FLOOR CABLE PROTECTOR, KABLE CONTROL CP SERIES OR AN APPROVED EQUAL.

(32) 2 #12, #12G, 3/4" HOMERUN TO A NEW 20A/1P CIRCUIT BREAKER INSTALLED IN AN EXISTING SPACE IN EXISTING PANEL 6NPLB OR 6NPLB1 IN THE BUILDING ELECTRICAL ROOM.

1 (33) REMOVE EXISTING FLUSH FLOOR POKE-THRU OUTLET AND ASSOCIATED BRANCH CIRCUIT AND VOICE CABLING AND CONDUIT AND INSTALL A WIREMOLD ABPLUGG ABANDONMENT PLUG IN FLOOR PENETRATION TO ALLOW NEW PARTITION TO BE INSTALLED.

(12) NEW DRYWALL RING AND PULL STRING VOICE/DATA OUTLET ROUGH-IN ABOVE COUNTER.

(13) NEW DEDICATED DUPLEX RECEPTACLE AT 18" AFF.

(14) CIRCUIT NEW RECEPTACLE TO BRANCH CIRCUIT SERVING EXISTING RECEPTACLE INDICATED.

(15) NEW SHUNT TRIP ENCLOSED CIRCUIT BREAKER AT 60" AFF WITH POWER CONNECTION TO X-RAY GENERATOR. RE: 01/EP-300S FOR BREAKER AND FEEDER SIZE.

(16) RE: 01/EP-300S FOR BREAKER AND FEEDER SIZE.

(17) NEW FLUSH MOUNTED NON-ILLUMINATED, SINGLE POLE, NORMALLY OPEN, 120 VOLT AC, 20 AMP MOMENTARY CONTACT X-RAY EMERGENCY OFF PUSHBUTTON WITH RED COLOR CAP AND GUARD AT 48" AFF. SQUARE D CLASS 9001, KR2RH5 PUSHBUTTON, K25 FLUSH STAINLESS STEEL PLATE, EMERGENCY OFF NAMEPLATE AND K60 COVER OR APPROVED EQUAL.

(18) NEW #12 SHUNT TRIP WIRING IN 3/4" C. TO X-RAY CIRCUIT BREAKERS. WIRE BOTH PUSHBUTTONS IN PARALLEL SO THAT EITHER PUSHBUTTONS TRIPS BOTH X-RAY CIRCUIT BREAKERS.

(19) 4" X 4" X 2-1/2" BOXES WITH OVERSIZED SPLIT COVERPLATES WITH A 1" CENTER INSULATED BUSHING AT 18'' AFF AND BEHIND WALL MOUNTED TRIANGULAR TRUSS WITH A 1-1/2" C. WITH PULLCORD BETWEEN BOXES FOR X-RAY CABLING.

(20) X-RAY IN USE LIGHT, TYPE AS INDICATED, MOUNTED ABOVE ROOM DOOR FLUSH AGAINST IN USE LIGHT.

(21) IN USE LIGHT, TYPE AS INDICATED, MOUNTED ABOVE ROOM DOOR FLUSH AGAINST X-RAY IN USE LIGHT.

(22) 3 #12, 3/4" C. FOR X-RAY IN USE LIGHT CONTROL BY X-RAY SYSTEMS CABINET. WIRE PER X-RAY ROUGH-IN DRAWINGS.

(23) 4" X 4" X 2-1/2" BOX WITH OVERSIZED SPLIT COVERPLATE WITH A 1" CENTER INSULATED BUSHING AT 18'' AFF FOR X-RAY INTERFACE WIRING.

(24) DOOR SWITCH, SQUARE D CLASS 9007 TYPE AO OR AN APPROVED EQUAL.

(25) 2 #12, 3/4" C. FOR X-RAY SYSTEMS CABINET DOOR SWITCH INTERFACE. WIRE PER X-RAY ROUGH-IN DRAWINGS.

(26) ILLUMINATED WHEN ON TOGGLE SWITCH AT 48" AFF FOR CONTROL OF IN USE LIGHT. ENGRAVE COVERPLATE "ROOM IN USE LIGHT".

(27) WALL MOUNTED ALUMINUM TRIANGULAR TRUSS MOUNTED 12" BELOW ROOM CEILING FOR CAMERA MOUNTING AND CAMERA AND X-RAY CABLING, RE: ARCHITECTURAL DRAWINGS.

01 6TH FLOOR DEMOLITION - ELECTRICAL POWER PLAN

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

GENERAL NOTES:

A. RE: MEP-000 FOR ADDITIONAL GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.

B. UPDATE PANEL SCHEDULES AND LABEL CIRCUIT BREAKERS WHICH ARE FREED DURING DEMOLITION AND NOT REUSED IN ALTERATION AS SPARE.

C. COORDINATE REQUIRED ELECTRICAL ROUGH-IN FOR X-RAY EQUIPMENT WITH X-RAY EQUIPMENT INSTALLER PRIOR TO ROUGH-IN.

1 D. PROVIDE LEAD SHIELDING BEHIND ALL NEW AND EXISTING ELECTRICAL BOXES AND PENETRATIONS IN LEAD SHIELDED PARTITIONS AS AD DETAILED ON THE ARCHITECTURAL DRAWINGS AND PER THE ARCHITECTURAL SPECIFICATIONS.

DRAWING NOTES:

(1) EXISTING DUPLEX RECEPTACLE TO REMAIN AND BE REUSED. REMOVE AND REINSTALL COVERPLATE AS REQUIRED FOR EXISTING DRYWALL TO BE REPLACED WITH LEAD LINED DRYWALL.

(2) EXISTING VOICE/DATA OUTLET TO REMAIN. REMOVE AND REINSTALL COVERPLATE AS REQUIRED FOR EXISTING DRYWALL TO BE REPLACED WITH LEAD LINED DRYWALL.

(3) EXISTING DUPLEX RECEPTACLE FOR FLAT SCREEN DISPLAY TO REMAIN AND BE REUSED. REMOVE AND REINSTALL COVERPLATE AS REQUIRED FOR EXISTING DRYWALL TO BE REPLACED WITH LEAD LINED DRYWALL.

(4) REMOVE EXISTING AV RECEPTACLE AND ASSOCIATED WALLBOX AND BRANCH CIRCUIT HOMERUN.

(5) REMOVE EXISTING CEILING RECEPTACLE AND ASSOCIATED CEILING BOX AND BRANCH CIRCUIT HOMERUN.

(6) EXISTING POKE-THRU FLOOR BOX AND ASSOCIATED BRANCH CIRCUIT WIRE AND CONDUIT AND HOMERUN TO REMAIN. REMOVE AND REINSTALL COVERPLATE AS REQUIRED FOR NEW FLOORING TO BE INSTALLED.

(7) REMOVE EXISTING PROJECTION SCREEN POWER CONNECTION AND ASSOCIATED BRANCH CIRCUIT HOMERUN. REMOVE EXISTING SCREEN CONTROL WALL SWITCH AND ASSOCIATED WALLBOX, CONDUIT AND WIRING.

(8) REMOVE EXISTING AV WALL BOX AND ASSOCIATED CONDUIT AND AV CABLING.

(9) EXISTING AV WALL BOX AND ASSOCIATED CONDUIT FOR FLAT SCREEN DISPLAY TO REMAIN AND BE REUSED. REMOVE AND REINSTALL COVERPLATE AS REQUIRED FOR EXISTING DRYWALL TO BE REPLACED WITH LEAD LINED DRYWALL.

(10) NEW DUPLEX RECEPTACLE AT 18" AFF.

(11) NEW DEDICATED DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER.

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STATE OF TEXAS · WILLIAM C CLIFFORD · 44368 · REGISTERED · PROFESSIONAL ENGINEER

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E&C Engineers & Consultants Inc.
Texas Firm Registration No: F-003068

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Dr. Tashman Dry Lab

UTHealth™
The University of Texas Health Science Center at Houston

Drawing Name

SCRB3 Partial 6th Floor Electrical Power Demolition/Alteration Plans

Print Date / Time:

E&C Commission Number: 3410.00 3411.00

Sheet Number: EP-200S

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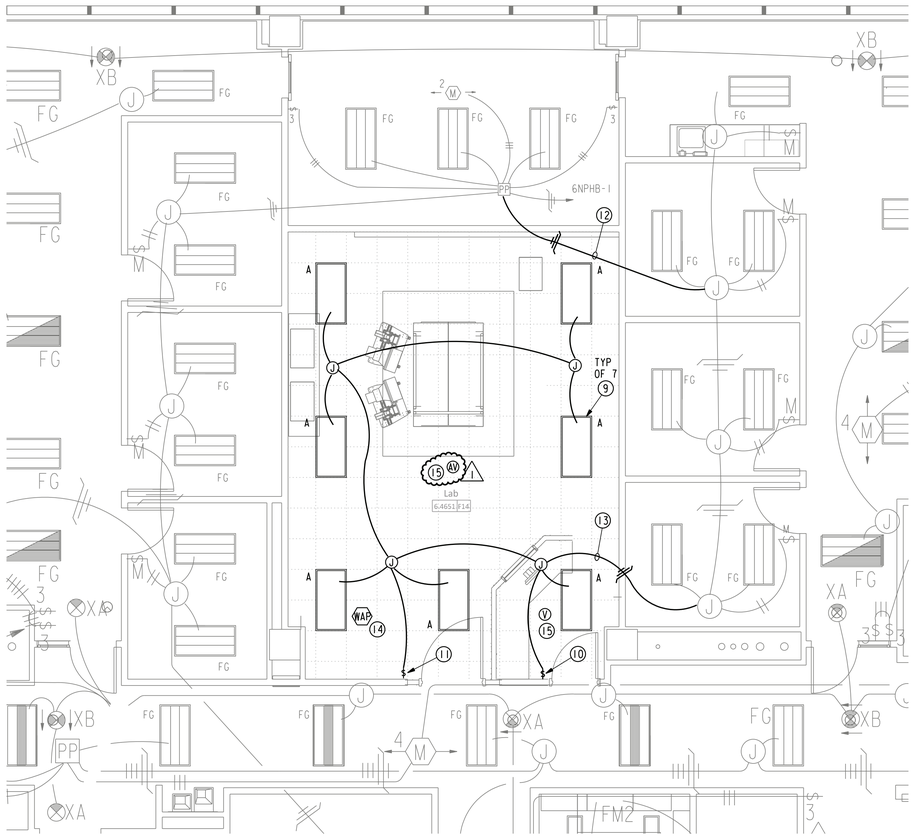

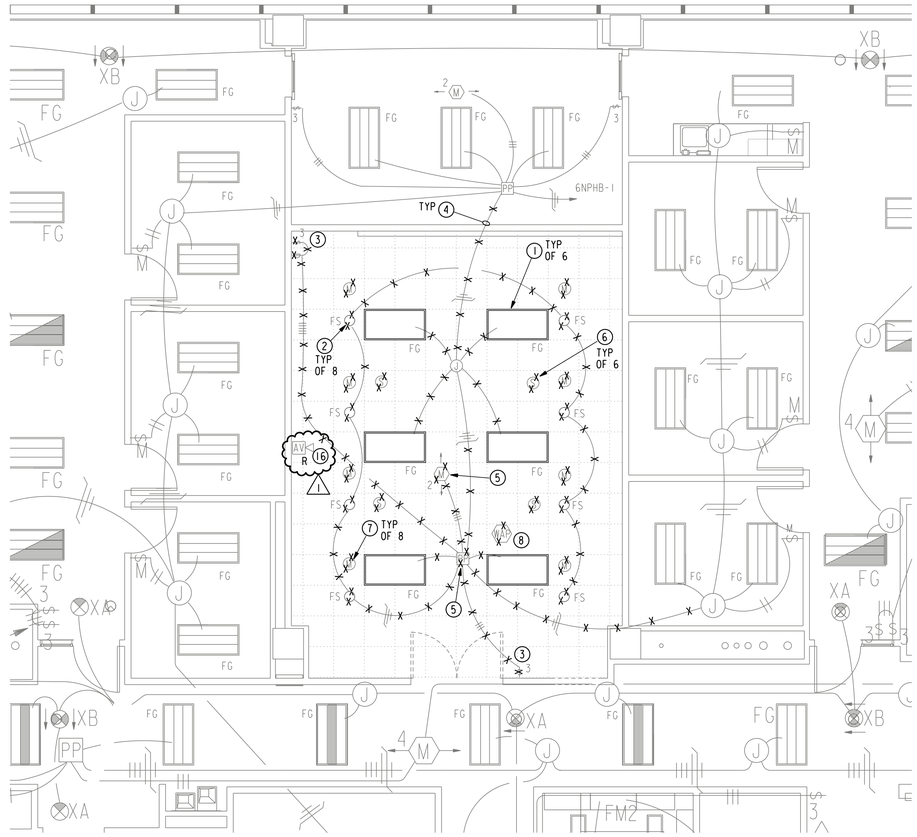

02 6TH FLOOR RENOVATION - ELECTRICAL LIGHTING PLAN

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

(8) EXISTING CEILING MOUNTED WIRELESS ACCESS POINT TO BE REMOVED AND REINSTALLED IN NEW CEILING BY UTHEALTH VOICE/DATA CABLING SUBCONTRACTOR.

(9) NEW LED 2 X 4 FIXTURE WITH INTEGRAL OCCUPANCY SENSOR AND WIRELESS DIMMING, TYPE AS INDICATED.

(10) NEW WALL SWITCH WITH ON OFF AND LIGHT FIXTURE COMPATIBLE WIRELESS DIMMING CONTROL FOR X-RAY CONTROL ROOM LIGHT FIXTURE.

(11) NEW WALL SWITCH WITH ON OFF AND LIGHT FIXTURE COMPATIBLE WIRELESS DIMMING CONTROL FOR ROOM LIGHT FIXTURES.

(12) NEW BRANCH CIRCUIT CONNECTION TO BE INSTALLED DURING DEMOLITION TO MAINTAIN CONTINUITY TO SPACES WHICH ARE NOT BEING REMODELED.

(13) POWER NEW LIGHT FIXTURES FROM EXISTING BRANCH CIRCUIT.

(14) UTHEALTH VOICE/DATA CABLING SUBCONTRACTOR TO REINSTALL EXISTING CEILING MOUNTED WIRELESS ACCESS POINT IN NEW LOCATION INDICATED.

1 (15) PROPOSED LOCATION FOR NEW FIRE ALARM CEILING MOUNTED SPEAKER/STROBE, RE: FIRE ALARM SYSTEM DESIGN AND FIRE ALARM GENERAL NOTES FOR ADDITIONAL INFORMATION.

1 (16) REMOVE EXISTING WALL MOUNTED FIRE ALARM SPEAKER/STROBE. RE: FIRE ALARM SYSTEM DESIGN AND FIRE ALARM GENERAL NOTES FOR ADDITIONAL INFORMATION.

D. FIRE ALARM SPEAKERS SHALL BE PROVIDED IN ALL SPACES WHERE REQUIRED BY THE PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS AND THE AHJ. SPEAKERS SHALL BE LOCATED TO MEET THE MAXIMUM SOUND LEVEL REQUIREMENTS AND MESSAGE INTELLIGIBILITY REQUIREMENTS OF NFPA 72, THE PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS AND THE AHJ. FIRE ALARM SPEAKERS AND SPEAKER/STROBES SHALL TYPICALLY BE CEILING MOUNTED IN FINISHED AREAS WITH CEILINGS.

E. FIRE ALARM STROBES SHALL BE PROVIDED IN ALL SPACES WHERE REQUIRED BY THE PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS AND THE AHJ. ALL WALL AND CEILING MOUNTED FIRE ALARM STROBES SHALL COMPLY WITH NFPA 72 REQUIREMENTS FOR FLASH COVERAGE, LAMP TYPE, LAMP COLOR, PULSE DURATION, INTENSITY, SYNCHRONIZATION AND FLASH RATE. FIRE ALARM STROBES AND SPEAKER/STROBES SHALL TYPICALLY BE CEILING MOUNTED IN FINISHED AREAS WITH CEILINGS.

F' FIRE ALARM CEILING SMOKE DETECTORS SHALL BE PROVIDED IN ALL SPACES WHERE REQUIRED BY THE PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS AND THE AHJ.

DRAWING NOTES:

(1) REMOVE EXISTING 2 X 4 FLUORESCENT LIGHT FIXTURE AND ASSOCIATED FIXTURE WHIP. STORE REMOVED LIGHT FIXTURES AS DIRECTED BY UTHEALTH PROJECT MANAGER.

(2) REMOVE EXISTING DOWNLIGHT AND ASSOCIATED BRANCH CIRCUIT WIRING. STORE REMOVED LIGHT FIXTURES AS DIRECTED BY UTHEALTH PROJECT MANAGER.

(3) REMOVE EXISTING SWITCH(ES) AND ASSOCIATED WALLBOX AND BRANCH CIRCUIT WIRING.

(4) REMOVE EXISTING BRANCH CIRCUIT WIRE AND CONDUIT AS SHOWN. RE: ALTERATION PLAN FOR RECIRCUITING TO MAINTAIN CONTINUITY TO SPACES WHICH ARE NOT BEING REMODELED.

(5) REMOVE EXISTING CEILING OCCUPANCY SENSOR AND ABOVE CEILING LIGHTING CONTROL POWER PACK.

(6) REMOVE EXISTING CEILING SPEAKER AND ASSOCIATED WIRING.

(7) REMOVE EXISTING CEILING MICROPHONE AND ASSOCIATED WIRING.

01 6TH FLOOR DEMOLITION - ELECTRICAL LIGHTING PLAN

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

GENERAL NOTES:

A. RE: MEP-000 FOR ADDITIONAL GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.

1 B. PROVIDE LEAD SHIELDING BEHIND ALL NEW AND EXISTING ELECTRICAL BOXES AND PENETRATIONS IN LEAD SHIELDED PARTITIONS AS AD DETAILED ON THE ARCHITECTURAL DRAWINGS AND PER THE ARCHITECTURAL SPECIFICATIONS.

FIRE ALARM SYSTEM DESIGN:

A. THE BUILDING FIRE ALARM SYSTEM SHALL BE DESIGNED, PREPARED, DOCUMENTED AND SIGNED BY A STATE OF TEXAS LICENSED FIRE ALARM PLANNING SUPERINTENDENT EMPLOYED BY THE STATE LICENSED FIRE ALARM CONTRACTOR INSTALLING THE BUILDING FIRE ALARM SYSTEM IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, ALL APPLICABLE CODES AND STANDARDS, THE REQUIREMENTS OF THE AHJ AND ALL APPLICABLE HISD STANDARDS.

B. FIRE ALARM DEVICES SHOWN ON THE DRAWINGS ARE FOR GENERAL SCOPE AND COORDINATION ONLY AND ALL FIRE ALARM DEVICES AND COMPONENTS REQUIRED BY THE PROJECT SPECIFICATIONS, ALL APPLICABLE CODES AND STANDARDS AND THE AHJ SHALL BE PROVIDED. ALL FIRE ALARM DEVICES AND FUNCTIONS, INCLUDING DEVICES AND FUNCTIONS IN ADDITION TO THOSE REQUIRED BY THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS AND AS REQUIRED BY ALL APPLICABLE CODES AND STANDARDS AND THE AHJ SHALL BE PROVIDED AS PART OF THE PROJECT SCOPE. WHERE ADDITIONAL FIRE ALARM DEVICES ARE SHOWN ON THE DRAWINGS AND ARE ALLOWED BY APPLICABLE CODES AND STANDARDS AND THE AHJ, THESE DEVICES SHALL BE INCLUDED IN THE PROJECT FIRE ALARM SYSTEM DESIGN.

FIRE ALARM GENERAL NOTES:

A. RE: MEP-000 FOR ADDITIONAL GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.

B. ALL NEW FIRE ALARM DEVICES SHALL BE WIRED TO THE EXISTING BUILDING FIRE ALARM SYSTEM WITH INTERFACE AND PROGRAMMING AS REQUIRED, ADDITIONAL AMPLIFIERS AND POWER SUPPLIES SHALL BE PROVIDED AS REQUIRED FOR NEW FIRE ALARM DEVICES AND POWER TO THESE DEVICES FROM THE BUILDING EMERGENCY POWER PANELS SHALL BE PART OF THE FIRE ALARM SCOPE.

C. ALL FIRE ALARM WIRING SHALL BE RUN PARALLEL AND PERPENDICULAR TO THE BUILDING LINES AND SHALL IN GENERAL FOLLOW THE SAME PATH AS THE VOICE/DATA CABLING. FIRE ALARM WIRING SHALL BE SUPPORTED ON J HOOKS OR ATTACHED TO CEILING SUPPORT WIRES USING APPROVED CLIPS, WHERE APPROVED IN WRITING BY THE CEILING CONTRACTOR. FIRE ALARM WIRING SHALL NOT BE SUPPORTED ON THE CEILING GRID OR TILE.

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Texas Firm Registration No: F-003068

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Dr. Tashman Dry Lab

UTHealth™
The University of Texas Health Science Center at Houston

Drawing Name

SCRB3 Partial 6th Floor Lighting Demolition/ Alteration Plans

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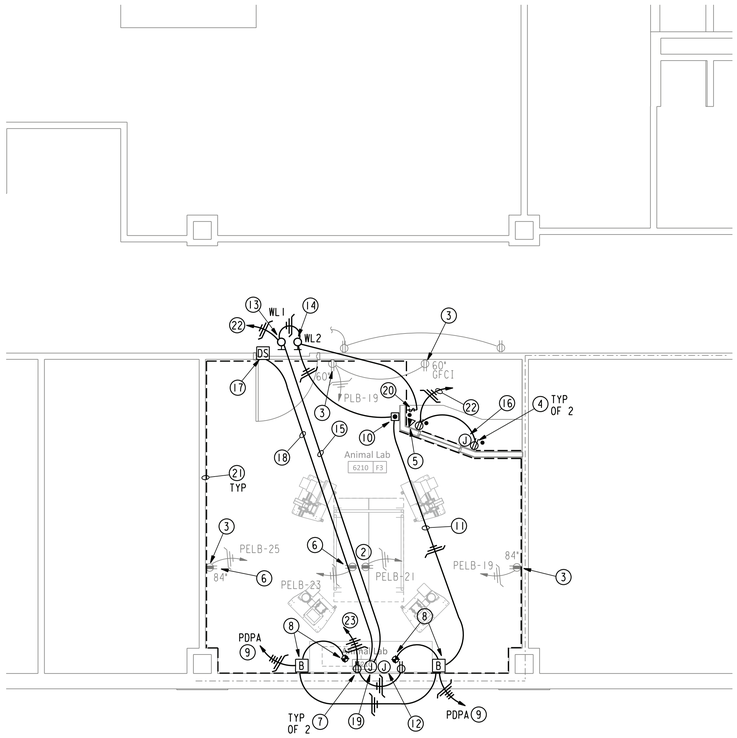
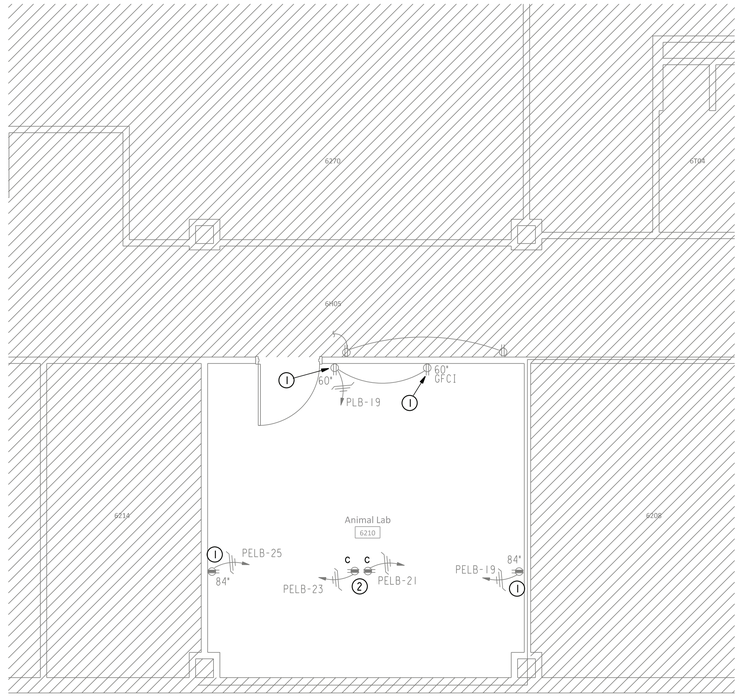


02 BBS PARTIAL 6TH FLOOR - ALTERATION POWER PLAN

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



01 BBS PARTIAL 6TH FLOOR - DEMOLITION POWER PLAN

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

GENERAL NOTES:

A. RE: MEP-000 FOR ADDITIONAL GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.

B. UPDATE PANEL SCHEDULES AND LABEL CIRCUIT BREAKERS WHICH ARE FREED DURING DEMOLITION AND NOT REUSED IN ALTERATION AS SPARE.

C. ALL OUTLET AND SWITCH BOXES IN VIVARIUM SHALL BE CROUSE HINES FD OR EQUAL CONDUIT BODIES WITH THREADED HUBS AND EMT CONDUIT CONNECTIONS WITH COMPRESSION CONNECTORS. SEAL JOINT BETWEEN BOX AND DRYWALL WITH SILICONE CAULK. AFTER WIRING IS INSTALLED IN BOX, ALL CONDUIT ENTRIES AND EXITS FROM BOX SHALL BE INTERNALLY SEALED WITH 1" OF SILICONE CAULK.

D. COORDINATE REQUIRED ELECTRICAL ROUGH-IN FOR X-RAY EQUIPMENT WITH X-RAY EQUIPMENT INSTALLER PRIOR TO ROUGH-IN.

1 E. PROVIDE LEAD SHIELDING BEHIND ALL NEW AND EXISTING ELECTRICAL BOXES AND PENETRATIONS IN LEAD SHIELDED PARTITIONS AS AD DETAILED ON THE ARCHITECTURAL DRAWINGS AND PER THE ARCHITECTURAL SPECIFICATIONS.

DRAWING NOTES:

1. EXISTING DUPLEX WALL RECEPTACLE WITH A UL LISTED FLIP-UP COVER REMAIN AND BE REUSED. REMOVE AND REINSTALL COVERPLATE AS REQUIRED FOR EXISTING DRYWALL TO BE REPLACED WITH LEAD LINED DRYWALL.
2. EXISTING CEILING DUPLEX RECEPTACLE TO REMAIN AND BE REUSED.
3. AFTER LEAD LINED DRYWALL IS INSTALLED, SEAL AROUND PERIMETER OF EXISTING BOX WITH SILICONE CAULK AND REINSTALL AND SEAL REINSTALL UL LISTED FLIP-UP COVER ON EXISTING RECEPTACLE TO MATCH ORIGINAL INSTALLATION. RE: GENERAL NOTE C FOR ADDITIONAL INFORMATION.
4. NEW DEDICATED DUPLEX WALL RECEPTACLE MOUNTED ABOVE COUNTER WITH A UL LISTED FLIP-UP COVER TO MATCH EXISTING. RE: GENERAL NOTE C FOR ADDITIONAL INFORMATION.
5. NEW VOICE/DATA OUTLET ROUGH-IN WITH 1" C. W/PULLCORD TO EXISTING FLOOR IDF ROOM. RE: GENERAL NOTE C FOR ADDITIONAL INFORMATION.
6. USE EXISTING CEILING MOUNTED RECEPTACLE ON 120 VOLT DEDICATED CIRCUIT FOR TREADMILL POWER.
7. NEW DEDICATED DUPLEX WALL RECEPTACLE AT 18" AFF WITH A UL LISTED FLIP-UP COVER TO MATCH EXISTING. RE: GENERAL NOTE C FOR ADDITIONAL INFORMATION.
8. NEW SHUNT TRIP ENCLOSED CIRCUIT BREAKER AT 60" AFF WITH POWER CONNECTION TO X-RAY GENERATOR. RE: 01/EP-300B FOR BREAKER AND FEEDER SIZE.
9. RE: 01/EP-300B FOR BREAKER AND FEEDER SIZE.
10. NEW FLUSH MOUNTED NON-ILLUMINATED, SINGLE POLE, NORMALLY OPEN, 120 VOLT AC, 20 AMP MOMENTARY CONTACT X-RAY EMERGENCY OFF PUSHBUTTON WITH RED COLOR CAP AND GUARD AT 48" AFF. SQUARE D CLASS 9001, KR2RH5 PUSHBUTTON, K25 FLUSH STAINLESS STEEL PLATE, EMERGENCY OFF NAMEPLATE AND K60 COVER OR APPROVED EQUAL.
11. NEW 2#12 SHUNT TRIP WIRING IN 3/4" C. TO X-RAY CIRCUIT BREAKERS. WIRE PUSHBUTTON SO THAT IT TRIPS BOTH X-RAY CIRCUIT BREAKERS.
12. 4" X 4" X 2-1/2" SURFACE MOUNTED BOXES WITH OVERSIZED SPLIT COVERPLATES WITH A 1" CENTER INSULATED BUSHING AT 18'' AFF AND INSIDE WALL MOUNTED TRIANGULAR TRUSS WITH A 1-1/2" C. WITH PULLCORD BETWEEN BOXES FOR X-RAY CABLING.
13. X-RAY IN USE LIGHT, TYPE AS INDICATED, MOUNTED ABOVE ROOM DOOR FLUSH AGAINST IN USE LIGHT.
14. IN USE LIGHT, TYPE AS INDICATED, MOUNTED ABOVE ROOM DOOR FLUSH AGAINST X-RAY IN USE LIGHT.
15. 3 #12, 3/4" C. FOR X-RAY IN USE LIGHT CONTROL BY X-RAY SYSTEMS CABINET. WIRE PER X-RAY ROUGH-IN DRAWINGS.
16. 4" X 4" X 2-1/2" BOX WITH OVERSIZED SPLIT COVERPLATE WITH A 1" CENTER INSULATED BUSHING AT 18'' AFF AND BEHIND WALL MOUNTED TRIANGULAR TRUSS WITH A 1-1/2" C. WITH PULLCORD BETWEEN BOXES FOR X-RAY INTERFACE CABLING.
17. DOOR SWITCH, SQUARE D CLASS 9007 TYPE AO OR AN APPROVED EQUAL.
18. 2 #12, 3/4" C. FOR X-RAY SYSTEMS CABINET DOOR SWITCH INTERFACE. WIRE PER X-RAY ROUGH-IN DRAWINGS.
19. 4" X 4" X 2-1/2" BOX WITH OVERSIZED SPLIT COVERPLATE WITH A 1" CENTER INSULATED BUSHING AT 18'' AFF FOR X-RAY INTERFACE CABLING.
20. ILLUMINATED WHEN ON TOGGLE SWITCH AT 48" AFF FOR CONTROL OF IN USE LIGHT. ENGRAVE COVERPLATE 'ROOM IN USE LIGHT'.
21. WALL MOUNTED ALUMINUM TRIANGULAR TRUSS MOUNTED 12" BELOW ROOM CEILING FOR CAMERA MOUNTING AND CAMERA AND X-RAY CABLING, RE: ARCHITECTURAL DRAWINGS.
22. 2 #12, #12G, 3/4" HOMERUN TO A NEW 20A/1P CIRCUIT BREAKER INSTALLED IN AN EXISTING SPACE IN EXISTING PANEL PLA OR PLB IN THE PENTHOUSE ELECTRICAL ROOM. INDICATE CIRCUIT NUMBER USED ON PROJECT RECORD DRAWINGS.
23. 4 #12, #12G, 3/4" HOMERUN TO (2) NEW 20A/1P CIRCUIT BREAKER INSTALLED IN AN EXISTING SPACE IN EXISTING PANEL PLA OR PLB IN THE PENTHOUSE ELECTRICAL ROOM. INDICATE CIRCUIT NUMBERS USED ON PROJECT RECORD DRAWINGS.

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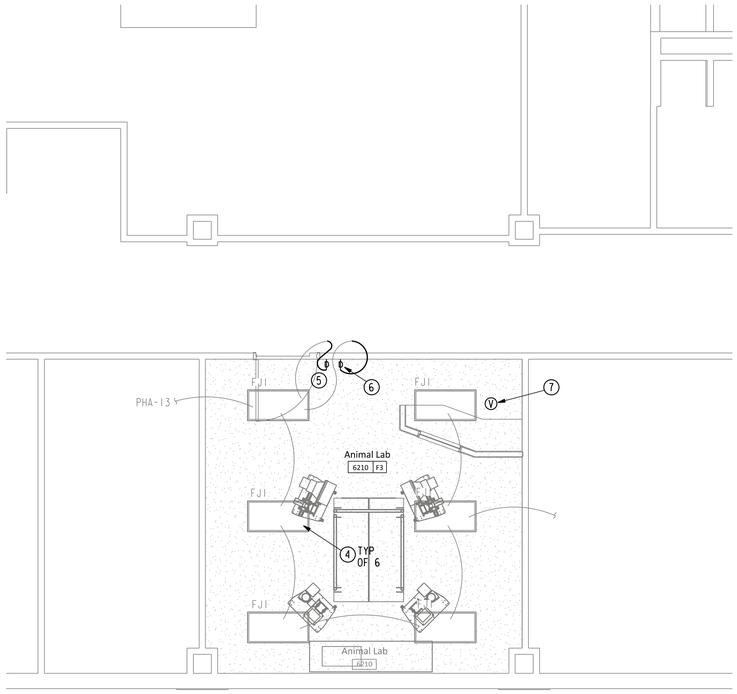


02 BBS PARTIAL 6TH FLOOR - ALTERATION LIGHTING PLAN

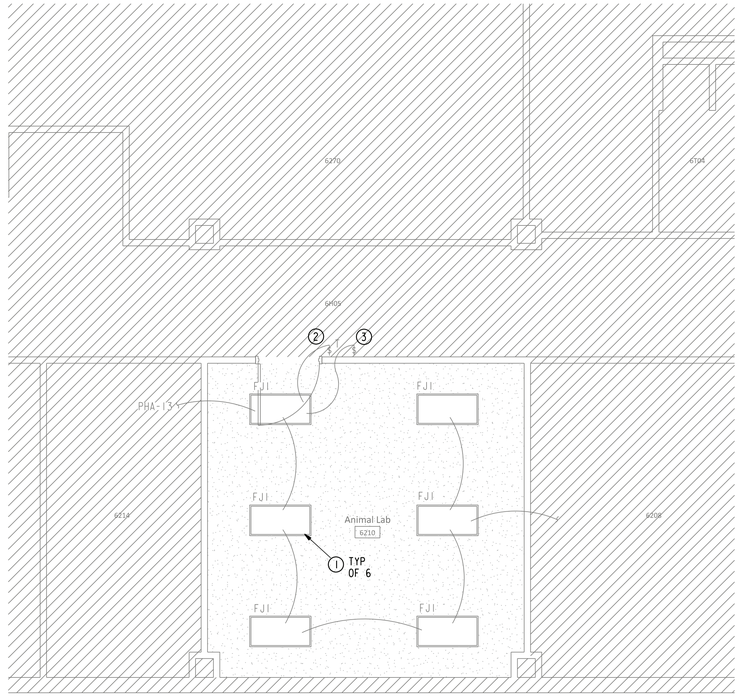
SCALE: 1/4" = 1'-0"

E. FIRE ALARM STROBES SHALL BE PROVIDED IN ALL SPACES WHERE REQUIRED BY THE PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS AND THE AHJ. ALL WALL AND CEILING MOUNTED FIRE ALARM STROBES SHALL COMPLY WITH NFPA 72 REQUIREMENTS FOR FLASH COVERAGE, LAMP TYPE, LAMP COLOR, PULSE DURATION, INTENSITY, SYNCHRONIZATION AND FLASH RATE. FIRE ALARM STROBES AND SPEAKER/STROBES SHALL TYPICALLY BE CEILING MOUNTED IN FINISHED AREAS WITH CEILINGS.

F. FIRE ALARM CEILING SMOKE DETECTORS SHALL BE PROVIDED IN ALL SPACES WHERE REQUIRED BY THE PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS AND THE AHJ.

DRAWING NOTES:

1. EXISTING 6 LAMP FLORESCENT LIGHT FIXTURE WITH DUAL LEVEL SWITCHING TO REMAIN AND BE MODIFIED AS SHOWN NON THE LIGHTING ALTERATION PLAN.
2. EXISTING WALL MOUNTED TIME SWITCH TO REMAIN FOR FUTURE REUSE. DISCONNECT EXISTING TIME SWITCH WIRING. EXISTING CONDUIT AND SWITCH LEG TO BE RECONFIGURED FOR NEW DIMMER INSIDE ROOM AT LOCATION SHOWN ON THE LIGHTING ALTERATION PLAN.
3. EXISTING WALL MOUNTED SWITCH TO REMAIN FOR FUTURE REUSE. DISCONNECT EXISTING SWITCH WIRING. EXISTING CONDUIT AND SWITCH LEG TO BE RECONFIGURED FOR NEW DIMMER INSIDE ROOM AT LOCATION SHOWN ON THE LIGHTING ALTERATION PLAN.
4. EXISTING 6 LAMP FLUORESCENT LIGHT FIXTURE WITH WHITE FLUORESCENT LAMPS, (1) 2 LAMP BALLAST, (1) 4 LAMP BALLAST AND DUAL LEVEL SWITCHING TO REMAIN AND BE REUSED. REMOVE EXISTING 2 LAMP AND 4 LAMP BALLASTS AND REPLACE WITH (3) 3 LAMP NEW LUTRON HI-LUME 1% DIMMING BALLASTS AND REWIRE FIXTURE SO THAT EACH HI-LUME BALLAST CONTROLS ALTERNATING LAMPS. STORE REMOVED BALLASTS AS DIRECTED BY UTHEALTH PROJECT MANAGER.
5. NEW WALL BOX, SEE GENERAL NOTE B, INSTALLED INSIDE ROOM WHEN EXISTING DRYWALL IS REMOVED TO BE REPLACED WITH LEAD LINED DRYWALL WITH A LUTRON 3-WIRE FLUORESCENT DIMMER WITH A UL LISTED FLIP-UP COVER TO CONTROL (6) 3 LAMP HI-LUME BALLASTS. MODIFY EXISTING SWITCH LEG AND BRANCH CIRCUIT WIRING FOR REQUIRED 3-WIRE DIMMING CONTROL.
6. NEW WALL BOX, SEE GENERAL NOTE B, INSTALLED INSIDE ROOM WHEN EXISTING DRYWALL IS REMOVED TO BE REPLACED WITH LEAD LINED DRYWALL WITH A LUTRON 3-WIRE FLUORESCENT DIMMER WITH A UL LISTED FLIP-UP COVER TO CONTROL (6) 3 LAMP HI-LUME BALLASTS. MODIFY EXISTING SWITCH LEG AND BRANCH CIRCUIT WIRING FOR REQUIRED 3-WIRE DIMMING CONTROL.
7. PROPOSED LOCATION FOR NEW FIRE ALARM CEILING MOUNTED STROBE, RE: FIRE ALARM SYSTEM DESIGN AND FIRE ALARM GENERAL NOTES FOR ADDITIONAL INFORMATION.



01 BBS PARTIAL 6TH FLOOR - DEMOLITION LIGHTING PLAN

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

GENERAL NOTES:

A. RE: MEP-000 FOR ADDITIONAL GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.

B. ALL OUTLET AND SWITCH BOXES IN VIVARIUM SHALL BE CROUSE HINES FD OR EQUAL CONDUIT BODIES WITH THREADED HUBS AND EMT CONDUIT CONNECTIONS WITH COMPRESSION CONNECTORS. AFTER WIRING IS INSTALLED IN BOX. ALL CONDUIT ENTRIES AND EXITS FROM BOX SHALL BE INTERNALLY SEALED WITH 1" OF SILICONE CAULK.

1 C. PROVIDE LEAD SHIELDING BEHIND ALL NEW AND EXISTING ELECTRICAL BOXES AND PENETRATIONS IN LEAD SHIELDED PARTITIONS AS AD DETAILED ON THE ARCHITECTURAL DRAWINGS AND PER THE ARCHITECTURAL SPECIFICATIONS.

FIRE ALARM SYSTEM DESIGN:

A. THE BUILDING FIRE ALARM SYSTEM SHALL BE DESIGNED, PREPARED, DOCUMENTED AND SIGNED BY A STATE OF TEXAS LICENSED FIRE ALARM PLANNING SUPERINTENDENT EMPLOYED BY THE STATE LICENSED FIRE ALARM CONTRACTOR INSTALLING THE BUILDING FIRE ALARM SYSTEM IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, ALL APPLICABLE CODES AND STANDARDS, THE REQUIREMENTS OF THE AHJ AND ALL APPLICABLE HISD STANDARDS.

B. FIRE ALARM DEVICES SHOWN ON THE DRAWINGS ARE FOR GENERAL SCOPE AND COORDINATION ONLY AND ALL FIRE ALARM DEVICES AND COMPONENTS REQUIRED BY THE PROJECT SPECIFICATIONS, ALL APPLICABLE CODES AND STANDARDS AND THE AHJ SHALL BE PROVIDED. ALL FIRE ALARM DEVICES AND FUNCTIONS, INCLUDING DEVICES AND FUNCTIONS IN ADDITION TO THOSE REQUIRED BY THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS AND AS REQUIRED BY ALL APPLICABLE CODES AND STANDARDS AND THE AHJ SHALL BE PROVIDED AS PART OF THE PROJECT SCOPE. WHERE ADDITIONAL FIRE ALARM DEVICES ARE SHOWN ON THE DRAWINGS AND ARE ALLOWED BY APPLICABLE CODES AND STANDARDS AND THE AHJ, THESE DEVICES SHALL BE INCLUDED IN THE PROJECT FIRE ALARM SYSTEM DESIGN.

FIRE ALARM GENERAL NOTES:

A. RE: MEP-000 FOR ADDITIONAL GENERAL NOTES, SYMBOLS AND ABBREVIATIONS.

B. ALL NEW FIRE ALARM DEVICES SHALL BE WIRED TO THE EXISTING BUILDING FIRE ALARM SYSTEM WITH INTERFACE AND PROGRAMMING AS REQUIRED, ADDITIONAL AMPLIFIERS AND POWER SUPPLIES SHALL BE PROVIDED AS REQUIRED FOR NEW FIRE ALARM DEVICES AND POWER TO THESE DEVICES FROM THE BUILDING EMERGENCY POWER PANELS SHALL BE PART OF THE FIRE ALARM SCOPE.

C. ALL FIRE ALARM WIRING SHALL BE RUN PARALLEL AND PERPENDICULAR TO THE BUILDING LINES AND SHALL IN GENERAL FOLLOW THE SAME PATH AS THE VOICE/DATA CABLING. FIRE ALARM WIRING SHALL BE SUPPORTED ON J HOOKS OR ATTACHED TO CEILING SUPPORT WIRES USING APPROVED CLIPS, WHERE APPROVED IN WRITING BY THE CEILING CONTRACTOR. FIRE ALARM WIRING SHALL NOT BE SUPPORTED ON THE CEILING GRID OR TILE.

D. FIRE ALARM SPEAKERS SHALL BE PROVIDED IN ALL SPACES WHERE REQUIRED BY THE PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS AND THE AHJ. SPEAKERS SHALL BE LOCATED TO MEET THE MAXIMUM SOUND LEVEL REQUIREMENTS AND MESSAGE INTELLIGIBILITY REQUIREMENTS OF NFPA 72. THE PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS AND THE AHJ. FIRE ALARM SPEAKERS AND SPEAKER/STROBES SHALL TYPICALLY BE CEILING MOUNTED IN FINISHED AREAS WITH CEILINGS.

Philo Wilke Partnership
11275 S. Sam Houston Parkway W.
Suite 200
Houston, Texas 77031
(832) 554-1130
www.pwarch.com

Consultants

MEP Engineer
E&C Engineers & Consultant, Inc.
TX Firm Registration No: F-003068
1010 Lamar, Suite 650
Houston, Texas 77002

STATE OF TEXAS · WILLIAM C CLIFFORD · 44368 · REGISTERED · PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY

William C. Clifford
2017.05.10 14:35:13-05'00'

E&C Engineers & Consultants Inc.
Texas Firm Registration No: F-003068

Issues / Revisions

No.	Date	Description
	03/10/2017	Issued for Bid
1	05/10/2017	Addendum No. 2

Project

Dr. Tashman Dry Lab

UTHealth™
The University of Texas Health Science Center at Houston

Drawing Name

BBS Partial 6th Floor Lighting Demolition/ Alteration Plans

Print Date / Time:

E&C Commission Number: 3410.00 3411.00

Sheet Number: EL-200B

LIGHT FIXTURE SCHEDULE

FIXTURE TYPE	MANUFACTURER	CATALOG NUMBER	LAMP TYPE (a) (b)	BALLAST/DRIVER TYPE	VOLTAGE	FIXTURE WATTS	MOUNTING	DESCRIPTION
A	CREE	ZR24-40L-40K-CMA	4000 LM 4000 K 90 CRI LED	<10% THD WIRELESS DIMMING LED DRIVER	120/277 V	44 W	LAY-IN	2' x 4' HIGH EFFICIENCY LED TROFFER WITH DIMMING DRIVER AND SMARTCAST INTEGRAL MOTION AND AMBIENT SENSORS AND WIRELESS COMMUNICATIONS.
A Configuration Tool	CREE	CCT-CWC-1	--	--	--	--	--	WIRELESS HAND-HELD REMOTE FOR PROGRAMMING TYPE A LIGHT FIXTURES. PROVIDE (1) IN PROJECT SCOPE.
A Dimmer Switch	CREE	CWD-CWC-WH WITH MATCHING COVERPLATE	--	--	120/277 V	--	WALL	LIGHT SWITCH WITH WIRELESS DIMMING CAPABILITY FOR WIRED ON/OFF CONTROL AND WIRELESS DIMMING FOR TYPE A LIGHT FIXTURES. PROVIDE WHERE SHOWN ON DRAWINGS.
WL1	SIGNAL-TECH	SBL77R-270	RED LED	INTEGRAL LED DRIVER	120/277 V	5 W	SURFACE	LED BACKLIT X-RAY IN USE SIGN. FACE BLACKED OUT WHEN OFF AND "X-RAY IN USE" IN RED LETTERS ON A BLACK BACKGROUND WHEN POWERED.
WL2	SIGNAL-TECH	SBL77R-195	GREEN LED	INTEGRAL LED DRIVER	120/277 V	5 W	SURFACE	LED BACKLIT ROOM IN USE SIGN. FACE BLACKED OUT WHEN OFF AND "IN USE" IN GREEN LETTERS ON A BLACK BACKGROUND WHEN POWERED.

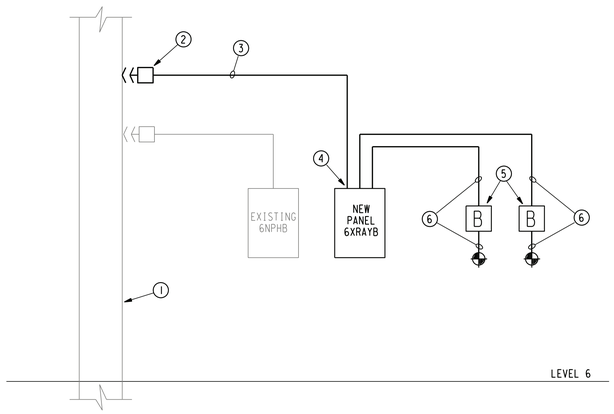
New Panel 6XRAYB — Project - UTHealth Dr. Tashman
Location - Level 6 Electrical Room — E&C No. 3410.00

Panel Information		Panel Loads	Phase A	Phase B	Phase C	Total
Voltage	277/480V, 3P, 4W	Panel Lighting VA	0	0	0	0
Panel Type	Panelboard	Panel Receptacle VA	0	0	0	0
Bus Amps	225A, 100% Neutral	Panel Equipment VA	50000	50000	50000	150000
Bus Type	Copper/65,000AIC	FTL VA	0	0	0	0
Panel Mains	225A MLO	Total Connected VA	50000	50000	50000	150000
Breaker Mtg	Bolt-In	Total Connected Amps	181	181	181	181
Enclosure	NEMA 1 Surface	NEC VA	50000	50000	50000	150000
Accessories	Ground Bus	NEC Amps	181	181	181	181

Ckt.	Bkr.	Circuit Use	Load	Type	Ph.	Ckt.	Bkr.	Circuit Use	Load	Type
1	--	--	25000	1	A	2	--	--	25000	1
3	60/3	Lab 6,4651 X-Ray Generator	25000	1	B	4	60/3	Lab 6,4651 X-Ray Generator	25000	1
5	--	--	25000	1	C	6	--	--	25000	1
7		Space			A	8		Space		
9		Space			B	10		Space		
11		Space			C	12		Space		
13		Space			A	14		Space		
15		Space			B	16		Space		
17		Space			C	18		Space		
19		Space			A	20		Space		
21		Space			B	22		Space		
23		Space			C	24		Space		
25					A	26				
27					B	28				
29					C	30				
31					A	32				
33					B	34				
35					C	36				
37					A	38				
39					B	40				
41					C	42				

Load Types: 0 = Receptis (per NEC), 1 = Equip. (100%), 2 = Lighting (125%), 3 = A/C (100%), 4 = Heating (100%), 5 = Lgst. Motor (125%), 6 = Kitchen Equip. (per NEC)

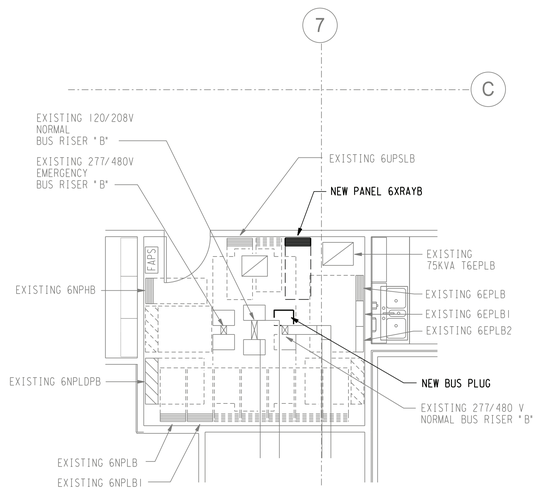
1 PANELBOARD MANUFACTURER SHALL MATCH THE EXISTING BUILDING ELECTRICAL GEAR MANUFACTURER.



01 PARTIAL POWER RISER DIAGRAM
NOT TO SCALE

RISER NOTES:

1. EXISTING 277/480V, 3P, 4W+G, 1200 AMP PLUG-IN BUSWAY.
2. NEW 225AF/225AT/3P/LSI CIRCUIT BREAKER BUS PLUG.
3. NEW 4 #4/0, #4G, 2-1/2" C. FEEDER
4. <65,000 ASC.
5. NEW 100AF/60AT/3P/NEMA 1 65,000 AIC ENCLOSED CIRCUIT BREAKER WITH NEUTRAL AND GROUND ACCESSORIES AND 120V SHUNT TRIP.
6. NEW 4 #3, #8G, 1-1/4" C. FEEDER.



02 PENTHOUSE ELECTRICAL ROOM
SCALE: 1/4" = 1'-0"

Philo Wilke Partnership
11275 S. Sam Houston Parkway W.
Suite 200
Houston, Texas 77031
(832) 554-1130
www.pwarch.com

Consultants

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1010 Lamar, Suite 650
Houston, Texas 77002

STATE OF TEXAS — WILLIAM C CLIFFORD — 44368 — REGISTERED — PROFESSIONAL ENGINEER

WE DO NOT GUARANTEE OR WARRANT THE ELECTRONIC FILE AS RECEIVED OR MODIFIED BY OTHERS

William C. Clifford
2017.05.10
14:37:07-05'00'

E&C Engineers & Consultants Inc.
Texas Firm Registration No: F-003068

Issues / Revisions

No.	Date	Description
	03/10/2017	Issued for Bid
1	05/10/2017	Addendum No. 2

Project

Dr. Tashman Dry Lab

UTHealth™
The University of Texas Health Science Center at Houston

Drawing Name

SCRB3 Electrical Riser/Schedules

Print Date / Time:

E&C Commission Number: 3410.00 3411.00

Sheet Number: EP-300S

*****REVISED*****

SECTION 6 – RESPONDENT'S BASE PRICING AND DELIVERY BID

TO: The University of Texas
Health Science Center at Houston

BY: _____
(Company Name)

_____
(Address)

_____
(City, State, Zip Code)

_____
(Date)

PROJECT: ITB 744-B1716 – Tashman Dry Lab Construction

Dear Sir:

Having carefully examined the Project Requirements, the General Conditions, the Plans and Specifications and any Addenda to the Plans and Specifications as prepared by the University of Texas Health Science Center at Houston (the Owner of this Project), as well as the premises and all conditions affecting the work, the undersigned promises to furnish all equipment, labor, materials, supervision, services, and required bonding to complete the entire work in complete accordance with the above document for the following firm, fixed prices. The University will not accept bids which include assumptions or exceptions to the work identified in the Project Requirements.

6.1 TOTAL BASE PRICE FOR THE BEHAVIORAL AND BIOMEDICAL SCIENCES BUILDING

Price: $_____

_____DOLLARS

NOTE: Amounts shall be shown in both written and figure form. In the event of a discrepancy between the written amount and the figure amount, the written amount shall govern.

6.1.1 BREAKDOWN OF BASE PRICE FOR THE BEHAVIORAL AND BIOMEDICAL SCIENCES BUILDING

Total Materials Cost	$_____
Total Labor Cost	$_____
Total General Conditions	$_____
Total Overhead	$_____
Total Profit	$_____

6.2 TOTAL BASE PRICE FOR THE SOUTH CAMPUS RESEARCH BUILDING 3

Price: $_____
_____

_____DOLLARS

NOTE: Amounts shall be shown in both written and figure form. In the event of a discrepancy between the written amount and the figure amount, the written amount shall govern.

6.2.1 BREAKDOWN OF BASE PRICE FOR THE SOUTH CAMPUS RESEARCH BUILDING 3

Total Materials Cost	$_____
Total Labor Cost	$_____
Total General Conditions	$_____
Total Overhead	$_____
Total Profit	$_____

Please provide a Schedule of Values along with your Pricing Bid

6.3 UNIVERSITY'S PAYMENT TERMS

University's standard payment terms for services are "Net 30 days." Proposer agrees that University will be entitled to withhold five percent (5%) of the total payment due under the Agreement until after University's acceptance of the final work product. Indicate below the prompt payment discount that Proposer will provide to University:

Prompt Payment Discount: _____%_____days/net 30 days.

6.4 BASE DELIVERY SCHEDULE

Indicate total time for completion of entire project.

Calendar Days to Complete _____

Time is of the essence in the performance of Contractor's duties. Failure of the Contractor to notify UTHealth sufficiently in advance of inability to complete within the delivery schedule, shall grant UTHealth the option of imposing liquidated damages in the amount of fifteen hundred dollars ($1,500.00) per calendar day. Notwithstanding the foregoing, UTHealth shall have no obligation to accept late performance or waive timely performance by Contractor.

The undersigned acknowledges that he has read and complies with the Bidding Requirements and General Requirements and Terms and Conditions of this ITB.

The undersigned acknowledges receipt of the following Addenda to this ITB:

Addendum No 1. ____

Addendum No 2. ____

Addendum No 3. ____

Addendum No 4. ____

Addendum No 5. ____

The undersigned agrees, if awarded the Contract, to execute the Contract within ten (10) days after notification of award, and to commence work within ten (10) days after the Notice to Proceed is issued by The University of Texas Health Science Center at Houston.

Respectfully Submitted,

_____
(Company Name)

By: _____

Title: _____

Date: _____

(SEAL: If bid is by a Corporation)

Report on Shielding Specifications for SCRB3 Research Lab

The following conditions apply (NOTE: if any of these conditions are incorrect or underestimate the workload, bring this to the attention of the physicist immediately so that a corrected report can be issued):

1. The Information on this project was provided by Cathryn E Horan, Philo Wilke Partnership and Dr. Scott Tashman who is responsible for the operation of the lab, dated 09/02/2016.
2. The NCRP Report 147: Structural Shielding Design for Medical X-ray Imaging Facilities, was used as the guideline for the shielding design calculations.
3. Shielding is for two mobile fluoroscopic tubes in one room **without fail-safe primary beam blocker**.
4. This shielding analysis and our radiation safety assessment are based on the following: The estimated weekly workload per week is 30 subjects undergoing specific research fluoroscopic protocols.
5. Radiation scatter and primary radiation per patient were assigned according to NCRP recommendations for fluoroscopic procedures.
6. Design criteria are based on the following requirements of the State of Texas:
    a. Shielding for uncontrolled areas are based on the State of Texas Administrative Code Title 25 Part 1 Chapter 289 Subchapter E Rule §289.231(o)(1)(A) & (B) which states the TEDE to individual members of the public from exposure to radiation from radiation machines does not exceed 0.5 rem (5 mSv) in a year, exclusive of the dose contribution from background radiation, exposure of patients to radiation for the purpose of medical diagnosis or therapy, or to voluntary participation in medical research programs; and (B) the dose in any unrestricted area from registered external sources does not exceed 0.002 rem (0.02 mSv) in any 1 hour.
    b. Shielding for controlled areas are based on the State of Texas Administrative Code Title 25 Part 1 Chapter 289 Subchapter E Rule §289.231(m)(1)(A) which states that the registrant shall control the occupational dose to individuals to an annual TEDE of not more than 5 rems (0.05 Sv).
    c. Recommended shielding is additionally designed for protection to conservatively low levels necessary to meet the spirit of the State of Texas Statute §289.231(l) which states that the registrant shall use, to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and public doses that are ALARA. An ALARA target of 5 mSv per year for occupational radiation workers is used in many clinics and was applied in this design. An ALARA target of 1 mSv per year is recommended for members of the public and is used in the design provided in this report.
7. All shielding recommendations are minimum thickness requirements. Shielding may be thicker, if desired.
8. Unless otherwise noted, all shielding for walls is to extend from the floor to at least seven feet above the floor.

9. All leaded gypsum wallboard (sheetrock) must be installed with an overlapping flap or strip of equivalent-thickness lead between sections to seal the junctions.
10. All areas of any wall under the seven foot limit that have holes (as for mounting electric boxes or telephone connections etc.), must have the boxes shielded on the back with a patch at least 1" larger on each side than the hole. For the intake grills of air ducts, shield the opposite and surrounding walls of the air-duct at the level of the grill. For solid concrete columns, no extra lead shielding is needed. Call the consultant physicist at 713-500-7671 if there are questions on shielding any such areas.
11. Lead caps for nails or screws used to hang sheetrock are not necessary.
12. All windows must have same lead equivalent as the walls, unless otherwise specified.
13. All door and window frames must have shielding equivalent to that of the door or window.
14. For purposes of research performed in this suite, the x-ray beam will be oriented in a lateral direction toward the walls and not toward the ceiling or floors.

Description of the room to be shielded:

The research lab is located on the sixth floor of the South Campus Research Building 3 (SCRB3) surrounding with offices. The room is about 29 by 21 feet with total of 540 square feet.

Recommended shielding:

The diagram below specifies the shielding recommendations:

Wall indicated by **RED** solid line requires 1/8th-inch lead shielding. It can be achieved by putting 1/16th inch lead equivalent sheetrock on both side of existing sheetrock.

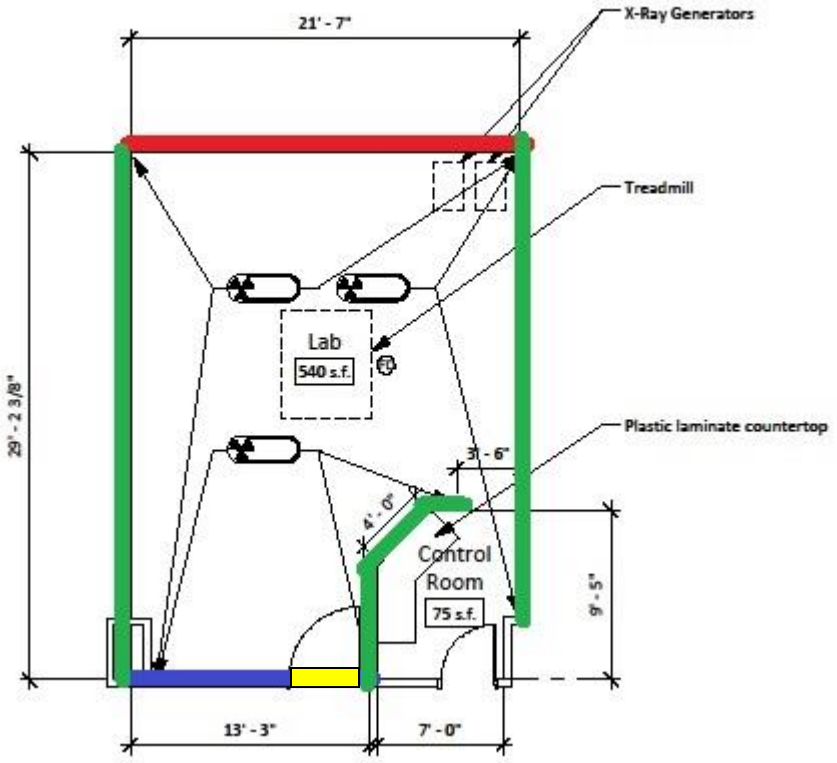
Walls indicated by **GREEN** solid line require 3/32nd-inch lead-equivalent sheetrock. (window on control wall must be have same lead-equivalent as wall).

Wall indicated by **BLUE** solid line requires 1/16th-inch lead-equivalent sheetrock or 1/32nd-inch leaded door.

Door indicated by **YELLOW** solid line requires 1/32nd-inch leaded door.

The ceiling and floor do not require additional shielding.

NOTE: Any wall may be shielded with thicker lead.



The shielding installation should be inspected prior to job completion.

Prepared by:

Janet Ching-Mei Feng, Ph.D.

Janet Ching-Mei Feng, Ph.D., DABR (D)(T)
Texas License FMP00010222
UT Medical Physics Service Group
University of Texas Health Science Center at Houston

Reviewed and Approved by:

Louis K. Wagner, Ph.D.

Louis K. Wagner, Ph.D., DABR
Texas License FMP00000082

Report on Shielding Specifications for BBSB Animal Lab

The following conditions apply (NOTE: if any of these conditions are incorrect or underestimate the workload, bring this to the attention of the physicist immediately so that a corrected report can be issued):

1. The Information on this project was provided by Cathryn E Horan, Philo Wilke Partnership and Dr. Scott Tashman who is responsible for the operation of the lab, dated 09/02/2016.
2. The NCRP Report 147: Structural Shielding Design for Medical X-ray Imaging Facilities, was used as the guideline for the shielding design calculations.
3. Shielding is for two mobile fluoroscopic tubes in one room **without fail-safe primary beam blocker**.
4. This shielding analysis and our radiation safety assessment are based on the following: The estimated weekly workload per week is 30 subjects undergoing specific research fluoroscopic protocols.
5. Radiation scatter and primary radiation per patient were assigned according to NCRP recommendations for fluoroscopic procedures.
6. Design criteria are based on the following requirements of the State of Texas:
    a. Shielding for uncontrolled areas are based on the State of Texas Administrative Code Title 25 Part 1 Chapter 289 Subchapter E Rule §289.231(o)(1)(A) & (B) which states the TEDE to individual members of the public from exposure to radiation from radiation machines does not exceed 0.5 rem (5 mSv) in a year, exclusive of the dose contribution from background radiation, exposure of patients to radiation for the purpose of medical diagnosis or therapy, or to voluntary participation in medical research programs; and (B) the dose in any unrestricted area from registered external sources does not exceed 0.002 rem (0.02 mSv) in any 1 hour.
    b. Shielding for controlled areas are based on the State of Texas Administrative Code Title 25 Part 1 Chapter 289 Subchapter E Rule §289.231(m)(1)(A) which states that the registrant shall control the occupational dose to individuals to an annual TEDE of not more than 5 rems (0.05 Sv).
    c. Recommended shielding is additionally designed for protection to conservatively low levels necessary to meet the spirit of the State of Texas Statute §289.231(l) which states that the registrant shall use, to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and public doses that are ALARA. An ALARA target of 5 mSv per year for occupational radiation workers is used in many clinics and was applied in this design. An ALARA target of 1 mSv per year is recommended for members of the public and is used in the design provided in this report.
7. All shielding recommendations are minimum thickness requirements. Shielding may be thicker, if desired.
8. Unless otherwise noted, all shielding for walls is to extend from the floor to at least seven feet above the floor.

9. All leaded gypsum wallboard (sheetrock) must be installed with an overlapping flap or strip of equivalent-thickness lead between sections to seal the junctions.
10. All areas of any wall under the seven foot limit that have holes (as for mounting electric boxes or telephone connections etc.), must have the boxes shielded on the back with a patch at least 1" larger on each side than the hole. For the intake grills of air ducts, shield the opposite and surrounding walls of the air-duct at the level of the grill. For solid concrete columns, no extra lead shielding is needed. Call the consultant physicist at 713-500-7671 if there are questions on shielding any such areas.
11. Lead caps for nails or screws used to hang sheetrock are not necessary.
12. All windows must have same lead equivalent as the walls, unless otherwise specified.
13. All door and window frames must have shielding equivalent to that of the door or window.
14. For purposes of research performed in this suite, the x-ray beam will be oriented in a lateral direction toward the walls and not toward the ceiling or floors.

Description of the room to be shielded:

The animal research lab is located on the sixth floor of the Behavioral and Biomedical Sciences Building (BBSB). The room is about 20 by 20 feet with total of 375 square feet. Around the lab are office, animal housing room and cage washing area.

Recommended shielding:

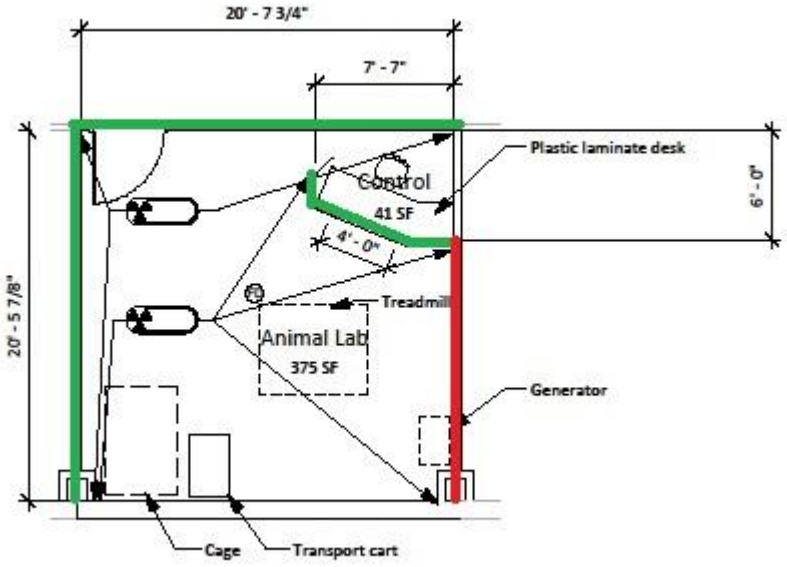
The diagram below specifies the shielding recommendations:

Wall indicated by **RED** solid line requires 3/32-inch lead-equivalent sheetrock.

Walls indicated by **GREEN** solid line require 1/16-inch lead-equivalent sheetrock. (window on control wall must be have same lead-equivalent as wall).

The ceiling and floor do not require additional shielding.

NOTE: Any wall may be shielded with thicker lead.



The shielding installation should be inspected prior to job completion.

Prepared by:

Janet Ching-Mei Feng, Ph.D.

Janet Ching-Mei Feng, Ph.D., DABR (D)(T)
Texas License FMP00010222
UT Medical Physics Service Group
University of Texas Health Science Center at Houston

Reviewed and Approved by:

Louis K. Wagner, Ph.D.

Louis K. Wagner, Ph.D., DABR
Texas License FMP00000082

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END OF ADDENDUM 3