

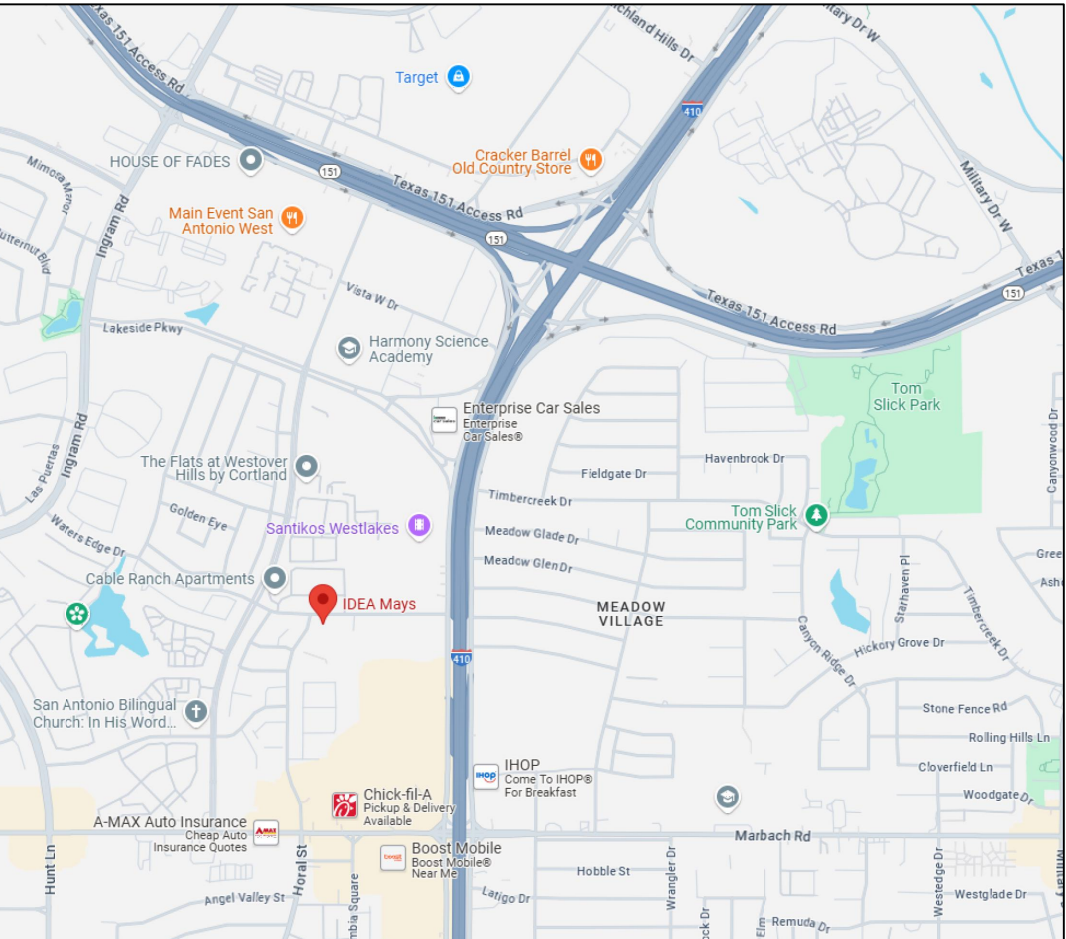
# IDEA PUBLIC SCHOOLS

## LAB CONVERSIONS AT VARIOUS CAMPUSES

### IDEA Public Schools Board of Directors 2025

Collin Sewell	Chair
Ed Rivera	Vice Chair
Erich Holmsten	Treasurer
Ryan Vaughan	Secretary
Michael Adams	Member
Gary Lindgren	Member
Theresa Barrera-Shaw	Member
Nanette Cocero	Member

### CSP#12-BSL MAYS 1025



IDEA S.A. MAYS

### D R A W I N G I N D E X

ARCHITECTURAL		MECHANICAL		ELECTRICAL		PLUMBING	
COVER	COVER SHEET	M1.01	GENERAL NOTES; TABLE OF CONTENTS	E1.01	ELECTRICAL NOTES; LEGEND	P1.05	PLUMBING PLAN - SA MAYS
				E1.02	ELECTRICAL DETAILS	P3.01	PLUMBING NOTES; DETAILS
A2.05	IDEA SA MAYS	M2.05	MECHANICAL PLAN - SA MAYS	E6.01	ELECTRICAL PLAN - SA MAYS		
A3.01	PLAN DETAILS	M3.01	MECHANICAL SCHEDULES / DETAILS				


ARCHITECTS  
GOMEZ MENDEZ SAENZ, INC.  
1150 PAREDES LINE RD. BROWNSVILLE, TX. 78521  
PH. (956) 546-0110 FAX. (956) 546-0196

MECHANICAL ENGINEERS  
ETHOS ENGINEERING  
1126 S. COMMERCE, HARLINGEN, TX 78550  
(956) 230-3435

No.

REVISIONS


BY




GMS ARCHITECTS

1150 Paredes Line Rd.  
Brownsville TX 78526  
(956) 546-0110  
fax (956) 546-0196

IDEA PUBLIC SCHOOLS  
LAB CONVERSION AT VARIOUS CAMPUSES



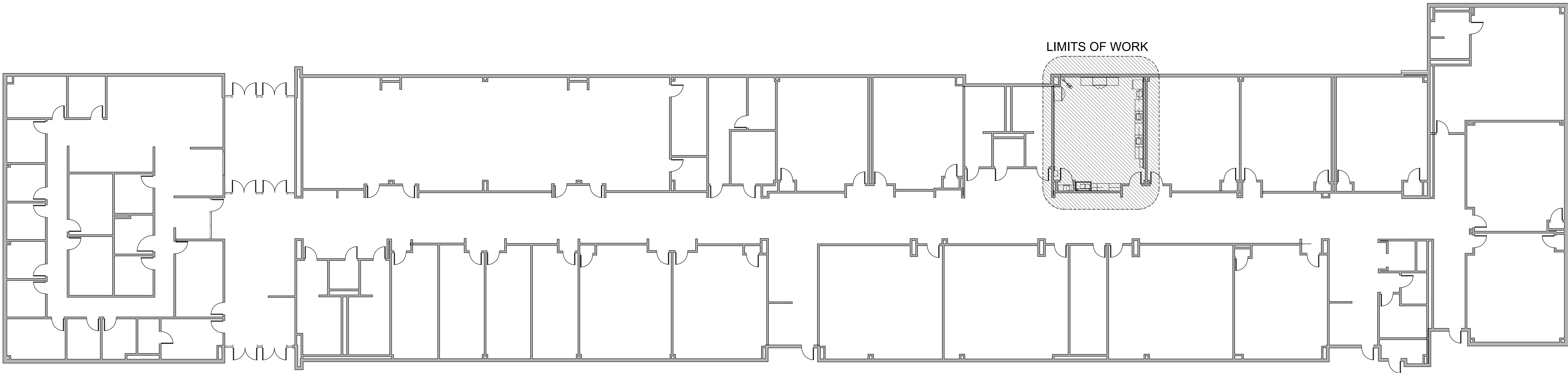
IDEA  
Public Schools



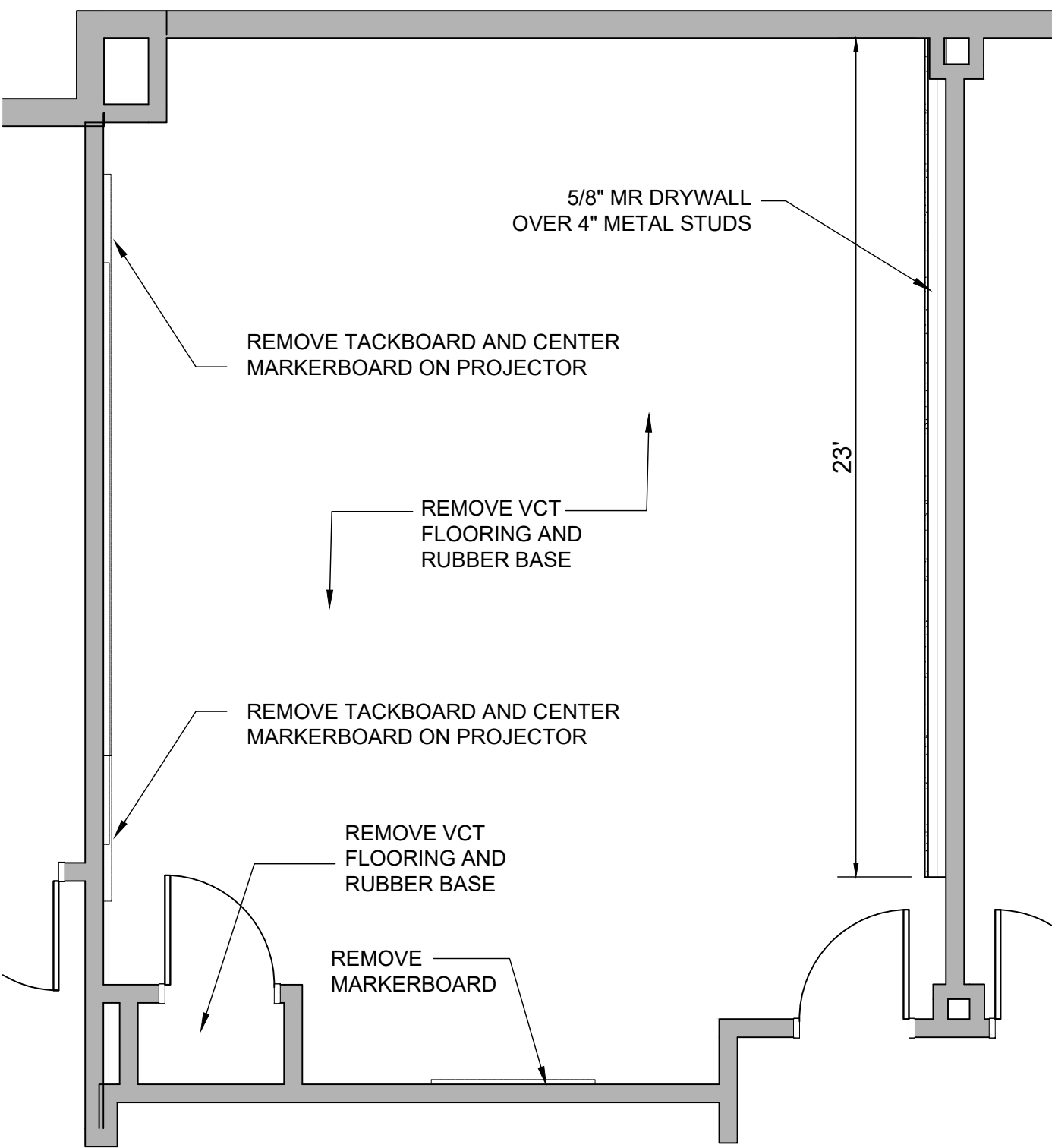
© Copyright 2024  
Gomez Mendez Saenz Inc.  
Architects-Planners  
Interior Designers

Date: October 2024  
Scale: As Noted  
Project Architect: Roan Gomez, AIA  
Drawn By: CG RG  
Job No: IDEA BSL Conversion  
Sheet: COVER



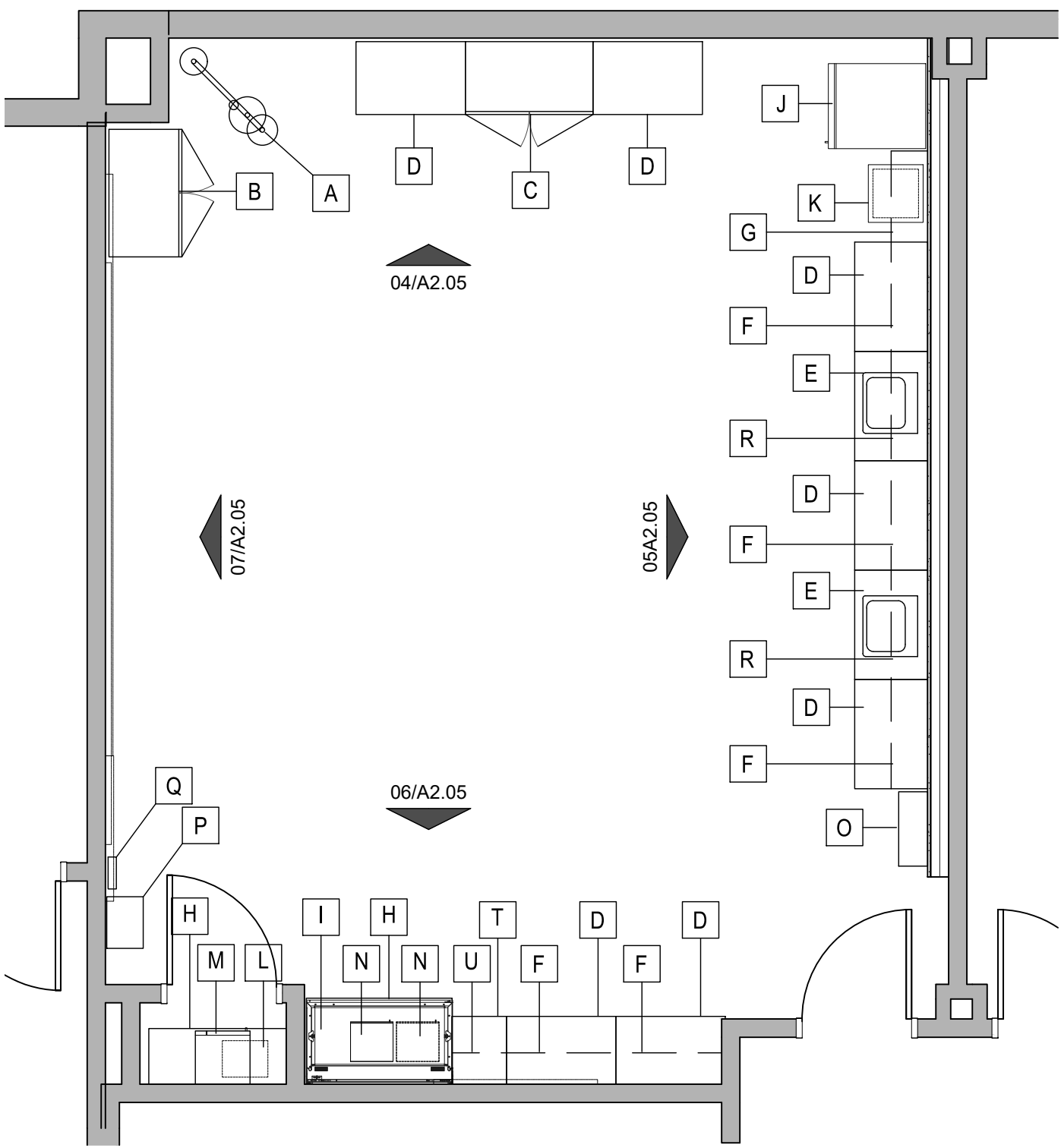


FIRST FLOOR  
**01 FLOOR PLAN**  
SCALE: 3/32"=1'-0"

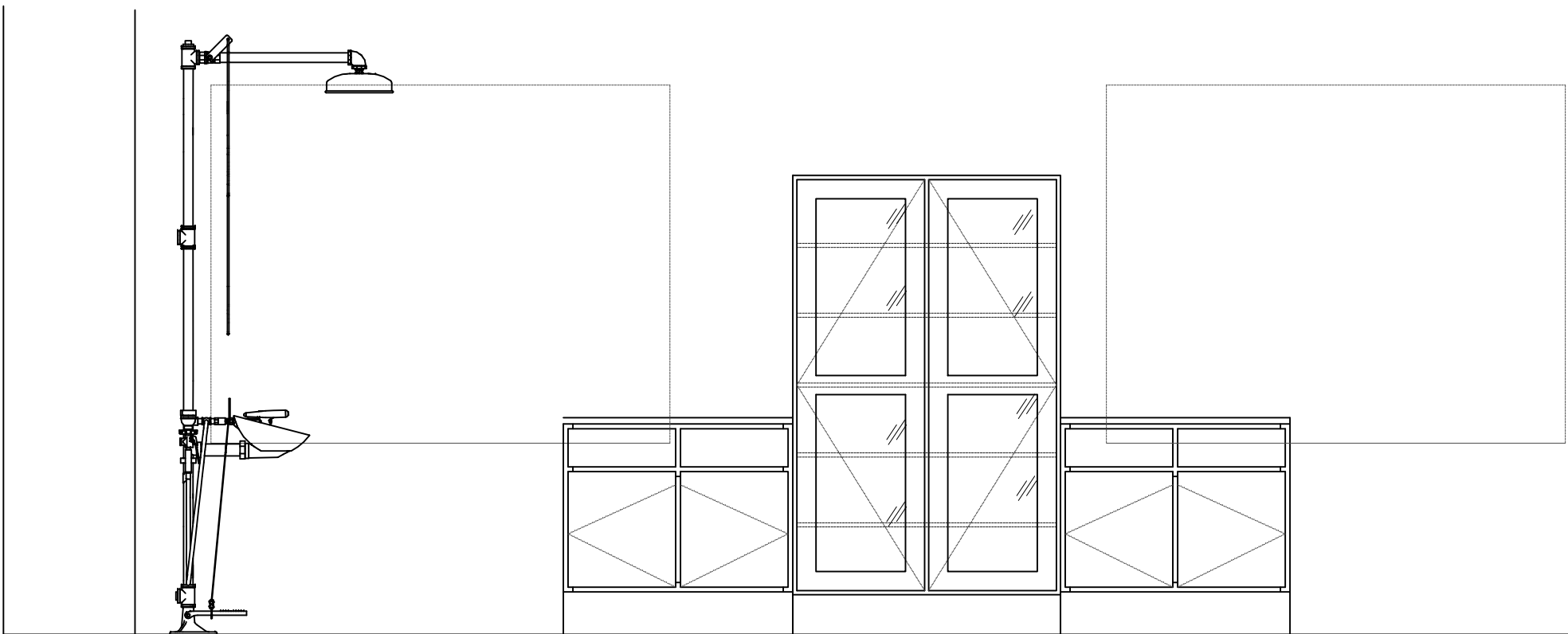


ENLARGEMENT  
**02 FLOOR PLAN**  
SCALE: 1/4" = 1'-0"

- GENERAL NOTES:
1. PATCH AND REPAIR ALL SURFACES TO REMAIN.
  2. REFER TO MEP FOR ADDITIONAL INFORMATION.
  3. PAINT ALL WALL SURFACES PRIOR TO INSTALLATION OF CABINETS, ETC.
  4. INSTALL WELDED SEAMLESS SHEET VINYL FLOORING WITH COVE BASE.
  5. INSTALL TRANSITION STRIPS AT ENTRY DOORS.



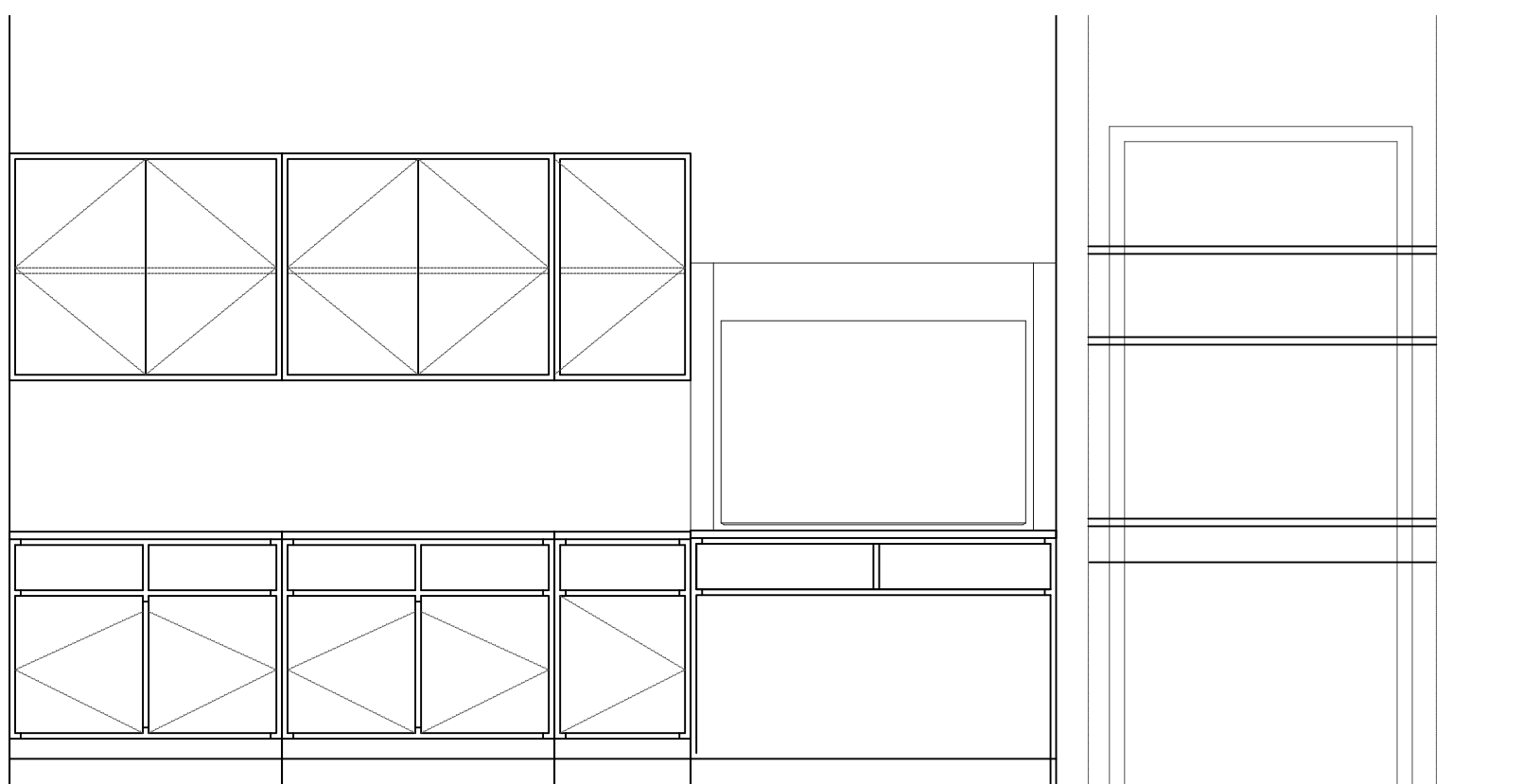
CASEWORK/EQUIPMENT  
**03 FLOOR PLAN**  
SCALE: 1/4" = 1'-0"  
REFER TO SHEET A3.01 FOR EQUIPMENT SCHEDULE AND ELEVATIONS



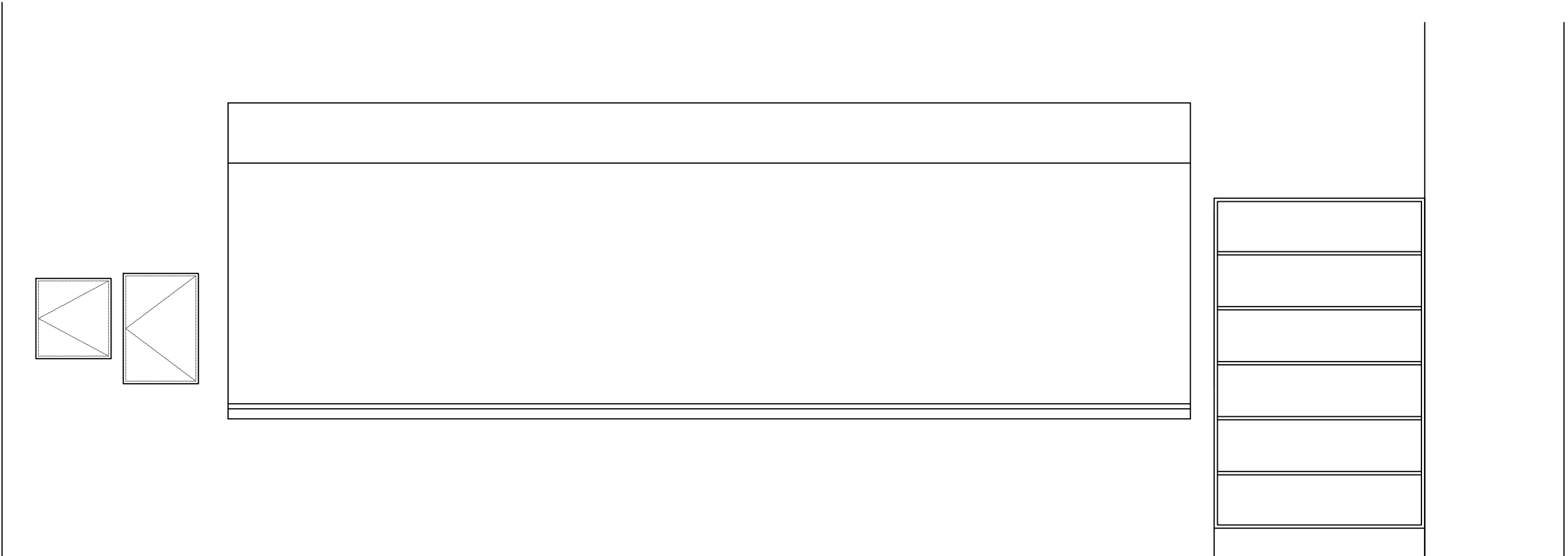
**04 WALL ELEVATION**  
SCALE: 1/2" = 1'-0"



**05 WALL ELEVATION**  
SCALE: 1/2" = 1'-0"



**06 WALL ELEVATION**  
SCALE: 1/2" = 1'-0"



**07 WALL ELEVATION**  
SCALE: 1/2" = 1'-0"

SA MAYS

No.	REVISIONS	BY

GMS ARCHITECTS  
1150 Paredes Line Rd.  
Brownsville TX 78526  
(956) 546-0110  
fax (956) 546-0196

IDEA PUBLIC SCHOOLS  
LAB CONVERSION AT VARIOUS CAMPUSES  
SAN ANTONIO, TEXAS

**IDEA** Public Schools

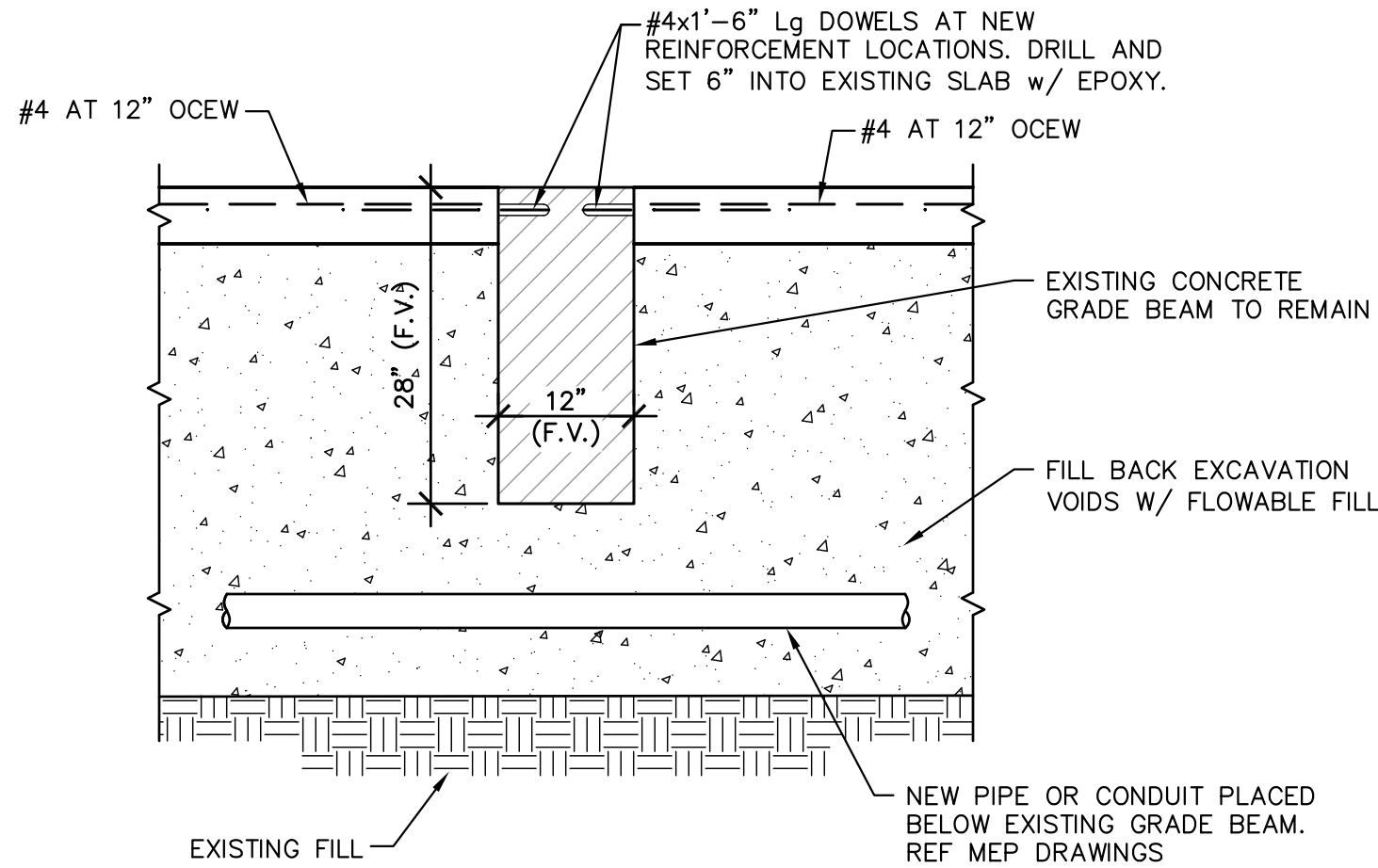
© Copyright 2024  
Gomez Mendez Saez Inc.  
Architects-Planners  
Interior Designers

Date: October 2024  
Scale: As Noted  
Project Architect: Roan Gomez, AIA  
Drawn By: CG, RG  
Job No: IDEA BLS Conversion  
Sheet:

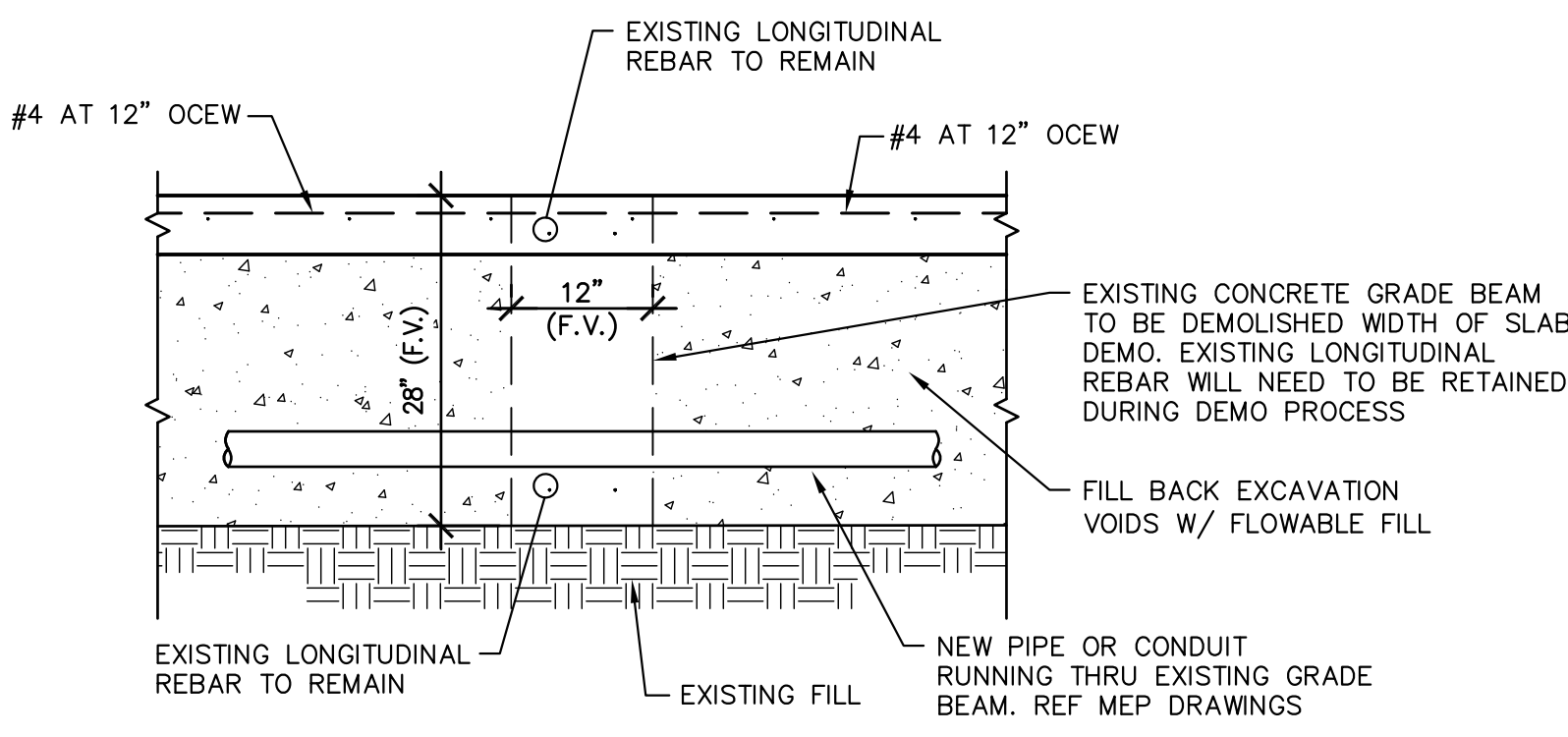
**A2.05**



CABINET SCHEDULE				
NO.	DESCRIPTION	H X D X L	MODEL NO.	REMARKS
A	EYE WASH STATION			REFER TO MEP
B	TALL BOOKCASE	84 X 22 X 42		W/ 1" ADJUSTABLE SHELVES
C	TALL BOOKCASE	84 X 22 X 42		W/ 1" ADJUSTABLE SHELVES
D	BASE CABINET	33 X 24 X 36		COUNTER TOP AT 34" A.F.F.
E	SINK BASE CABINET	33 X 24 X 36		COUNTER TOP AT 34" A.F.F.
F	CUPBOARD STORAGE	30 X 12 X 36		
G	CUPBOARD STORAGE	30 X 12 X 30		
H	BASE CABINET	34 X 30 X 48		
I	FUME HOOD	57 X 30 X 48		LABCONGO XPERT EASY ORDER-3960401
J	REFRIGERATOR			BY OWNER
K	UPRIGHT FREEZER			BY OWNER
L	FREEZER			BY OWNER
M	AUTOClave			BY OWNER
N	INCUBATOR			BY OWNER
O	SAFETY GOGGLES CASE	VERIFY W/ MANUF.	SE1000	FLINN SCIENTIFIC
P	FIRE BLANKET CASE	VERIFY W/ MANUF.	SE3006	FLINN SCIENTIFIC
Q	FIRST AID CASE	VERIFY W/ MANUF.	SE1083	FLINN SCIENTIFIC
R	CUPBOARD STORAGE	24 X 12 X 36		
S	BASE CABINET	33 X 24 X 30		COUNTER TOP AT 34" A.F.F.
T	BASE CABINET	33 X 24 X 18		COUNTER TOP AT 34" A.F.F.
U	CUPBOARD STORAGE	30 X 12 X 18		

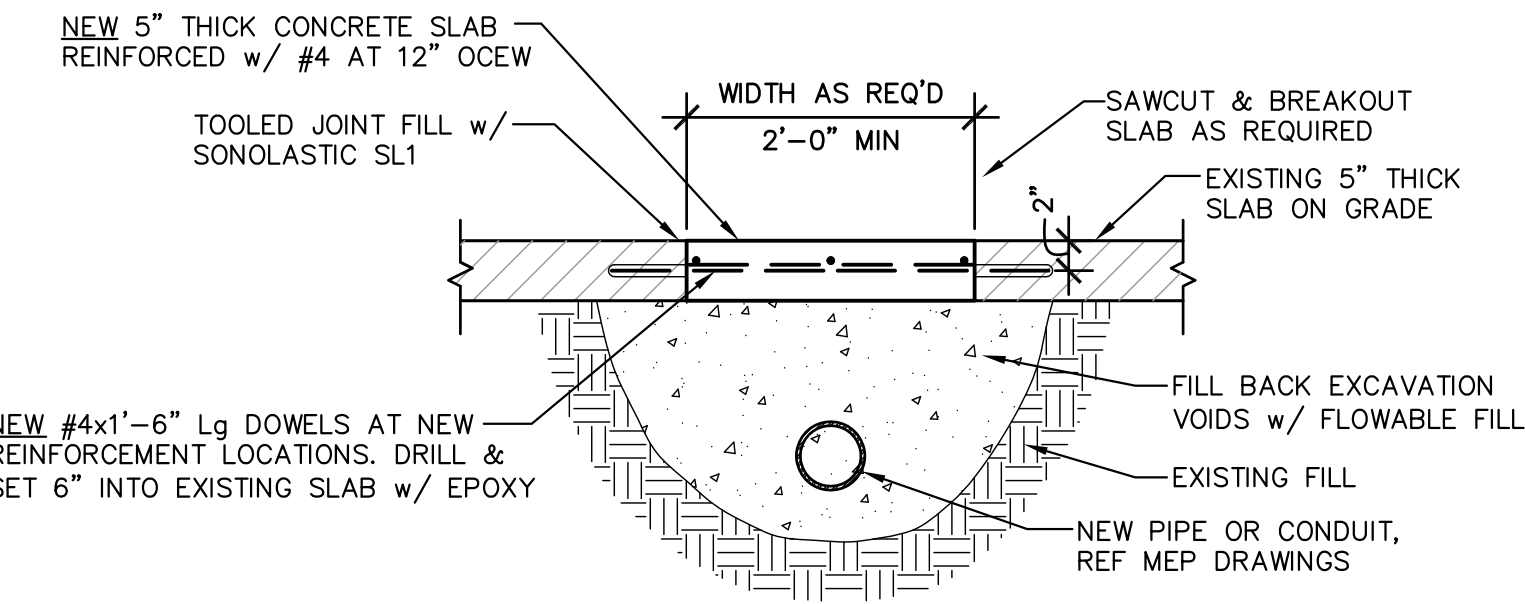


OPTION 1 IF NEW PLUMBING LINES RUN BELOW EXISTING GRADE BEAM



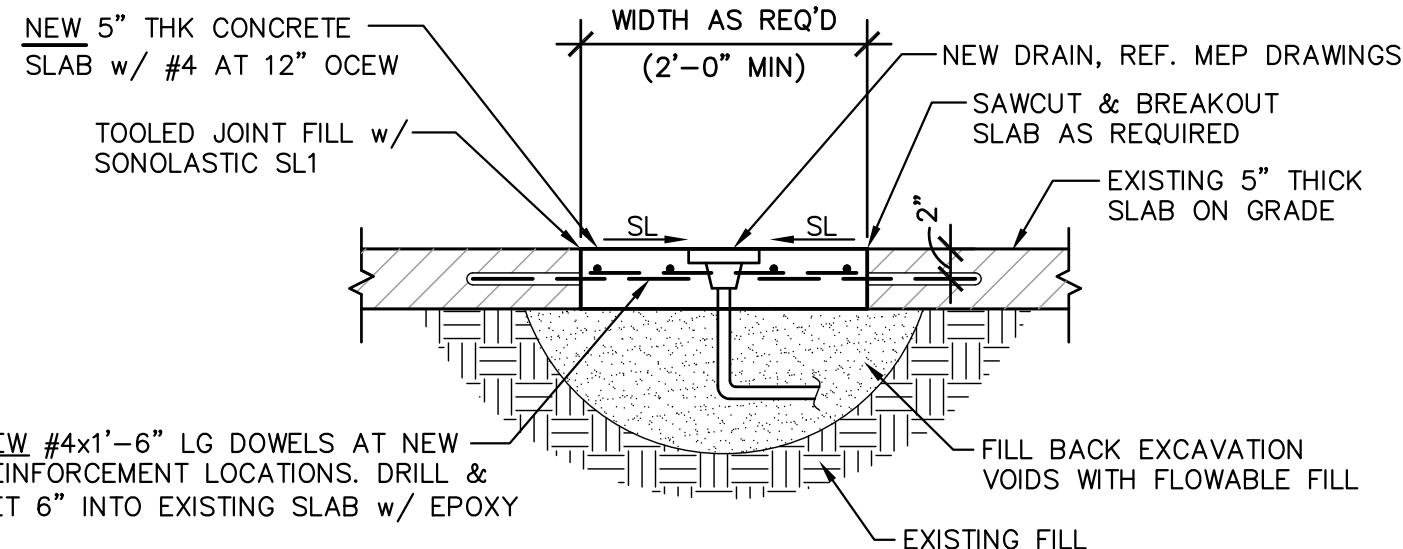
OPTION 2 IF NEW PLUMBING LINES RUN THRU EXISTING GRADE BEAM

1. CONTRACTOR TO COORDINATE LOCATIONS OF INTERIOR GRADE BEAMS IN THE FIELD.

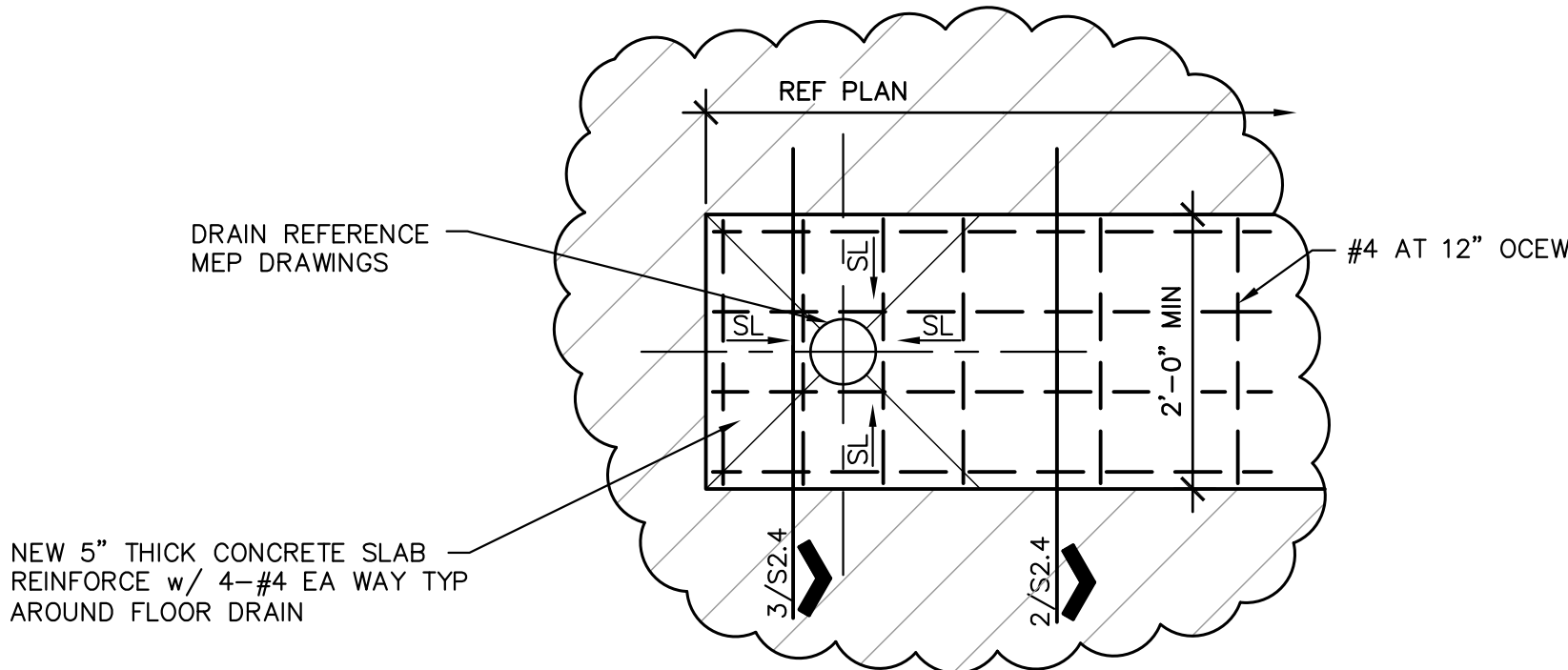


2 TYPICAL UTILITY TRENCH DETAIL

1. COORDINATE UTILITY TRENCH LOCATION WITH MEP DRAWINGS.



3



4 TYPICAL DRAIN DETAIL

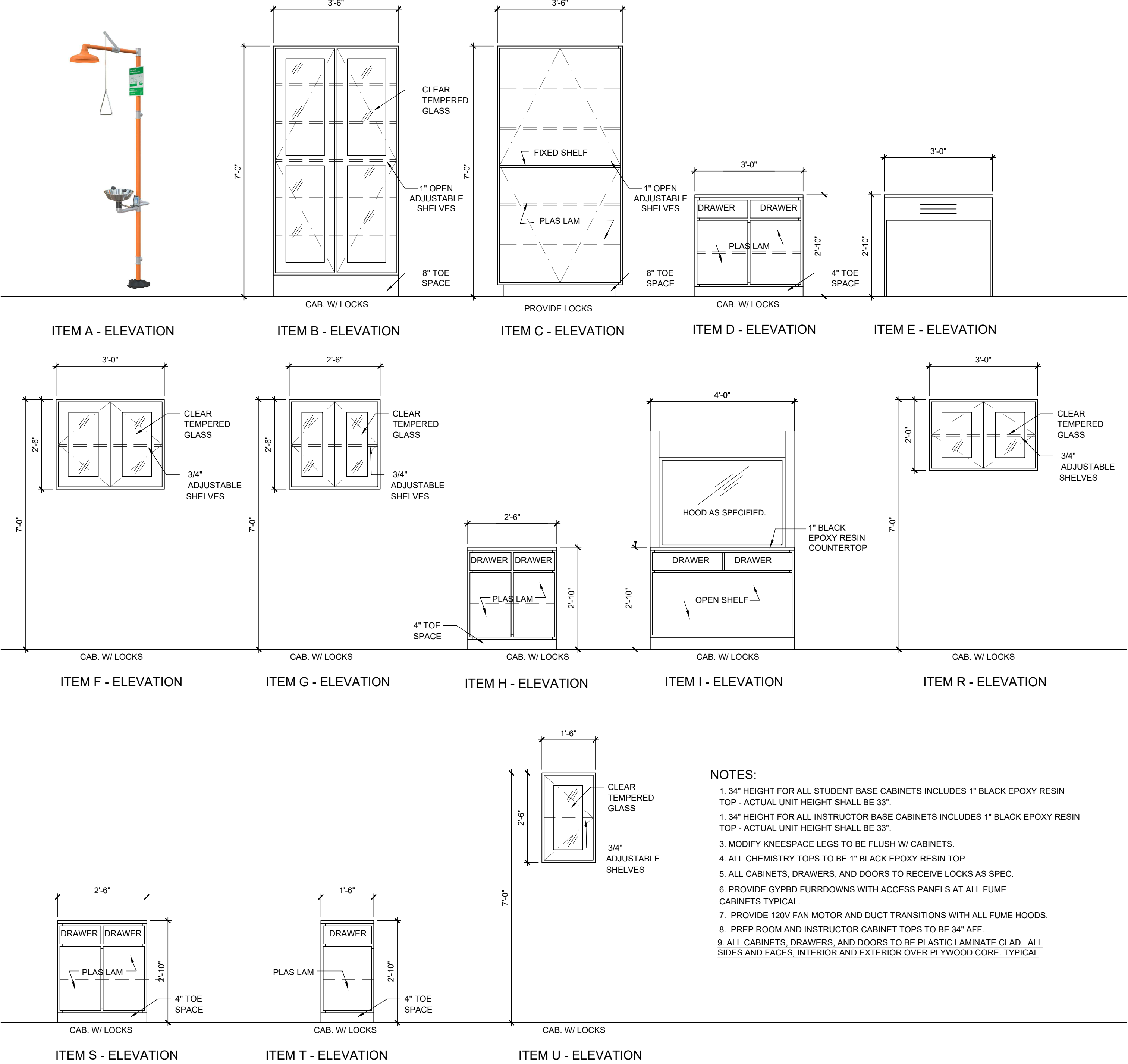
1. COORDINATE LOCATION W/ MEP DRAWINGS.

## TYPICAL EXISTING BUILDING SLAB REPAIR DETAILS

1. REF ARCH'L & PLUMBING DRAWINGS FOR LIMIT OF SCOPE AND AREA OF SLAB CUTS OF REPAIR.

## CASE WORK CABINET ELEVATION

SCALE: 1/2" = 1'-0"



- NOTES:
- 34" HEIGHT FOR ALL STUDENT BASE CABINETS INCLUDES 1" BLACK EPOXY RESIN TOP - ACTUAL UNIT HEIGHT SHALL BE 33".
  - 34" HEIGHT FOR ALL INSTRUCTOR BASE CABINETS INCLUDES 1" BLACK EPOXY RESIN TOP - ACTUAL UNIT HEIGHT SHALL BE 33".
  - MODIFY KNEESPACE LEGS TO BE FLUSH W/ CABINETS.
  - ALL CHEMISTRY TOPS TO BE 1" BLACK EPOXY RESIN TOP.
  - ALL CABINETS, DRAWERS, AND DOORS TO RECEIVE LOCKS AS SPEC.
  - PROVIDE GYPBD FURRDOWNS WITH ACCESS PANELS AT ALL FUME CABINETS TYPICAL.
  - PROVIDE 120V FAN MOTOR AND DUCT TRANSITIONS WITH ALL FUME HOODS.
  - PREP ROOM AND INSTRUCTOR CABINET TOPS TO BE 34" AFF.
  - ALL CABINETS, DRAWERS, AND DOORS TO BE PLASTIC LAMINATE GLAD. ALL SIDES AND FACES, INTERIOR AND EXTERIOR OVER PLYWOOD CORE. TYPICAL.



GENERAL NOTES:

- AFTER ABOVE CEILING WORK IS COMPLETE, REINSTALL CEILING SYSTEMS, COMPONENTS, AND CEILING DEVICES TO ORIGINAL CONDITION.
- CONTRACT RELATED:
  - COORDINATE WORK AMONG ALL DISCIPLINES. IT IS NOT THE INTENT OF THESE DOCUMENTS TO DICTATE WHO MUST DO THE WORK. ALL WORK SHOWN IS THE RESPONSIBILITY OF THE (PRIME) CONTRACTOR.
  - WORK TO BE DONE UNDER ALLOWANCES BECOMES AN INTEGRAL PART OF THE PROJECT AND RESPONSIBILITY OF CONTRACTOR ONCE ALLOWANCE IS APPROVED.
  - CONTRACTOR SHALL NOT PROCEED WITH ANY WORK INVOLVING A CHANGE IN PROJECT SCOPE OR COST WITHOUT FIRST HAVING OBTAINED ENGINEER'S APPROVAL IN WRITING. UNLESS ENGINEER HAS AGREED TO SUCH CHANGE PRIOR TO IT BEING DONE, AND HAS AGREED THAT AN INCREASE IN COST ASSOCIATED WITH SUCH CHANGE IS WARRANTED; CONTRACTOR WILL NOT BE REIMBURSED FOR SUCH CHANGE.

CODES & ORDINANCES:

- PERFORM ALL WORK PER LATEST VERSION OF INTERNATIONAL CODES, APPLICABLE STATE AND LOCAL CODES AND ORDINANCES, UNLESS DRAWINGS OR SPECIFICATIONS HAVE MORE STRINGENT REQUIREMENTS.
- NOTIFY ENGINEER OF ANY ASPECTS OF DESIGN WHICH ARE THOUGHT TO BE IN NONCOMPLIANCE WITH APPLICABLE CODES.

PERMITS:

- CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND FEES.
- OBTAIN APPROVAL FROM CITY FIRE DEPARTMENT AND BUILDING AND SAFETY DEPARTMENT PRIOR TO INSTALLATION OF ANY FIRE RELATED ITEMS.
- WITH PERMITTING OFFICER, OWNER AND ENGINEER, COORDINATE PRESSURE TESTS, INSPECTIONS AND APPROVAL FOR ALL SYSTEMS.

EXISTING CONDITIONS & COORDINATION/RENOVATION:

- COORDINATE PROJECT COMPLETION DATES WITH OWNER. PERFORM WORK IN CLOSE COORDINATION WITH OWNER.
- COORDINATE WORK AMONG ALL DISCIPLINES. IT IS NOT THE INTENT OF THESE DOCUMENTS TO DICTATE WHO MUST DO THE WORK. ALL WORK SHOWN IS THE RESPONSIBILITY OF THE (PRIME) CONTRACTOR.
- PROVIDE LIGHTED SAFETY BARRIERS AROUND WORK AREAS AT ALL TIMES.
- WORK TO BE DONE UNDER ALLOWANCES BECOMES AN INTEGRAL PART OF THE WORK AND THE RESPONSIBILITY OF THE CONTRACTOR ONCE THE ALLOWANCE IS APPROVED.
- COORDINATE WITH OWNER AND ENGINEER FOR ANY DISRUPTION IN UTILITY SERVICES, PARTICULARLY THOSE THAT MIGHT AFFECT OTHER BUILDINGS ON CAMPUS.
- CONTRACTOR SHALL NOT PROCEED WITH ANY WORK INVOLVING A CHANGE IN PROJECT SCOPE OR COST WITHOUT FIRST HAVING OBTAINED ENGINEER'S APPROVAL IN WRITING. UNLESS ENGINEER HAS AGREED TO SUCH CHANGE PRIOR TO IT BEING DONE, AND HAS AGREED THAT AN INCREASE IN COST ASSOCIATED WITH SUCH CHANGE IS WARRANTED; CONTRACTOR WILL NOT BE REIMBURSED FOR SUCH CHANGE.
- OWNER'S EQUIPMENT, MATERIALS, FURNISHINGS, CARPETS, AND INTERIOR SURFACES ARE TO BE PROTECTED FROM DUST ACCUMULATION AND DAMAGE, AND MUST BE THOROUGHLY CLEANED PRIOR TO SUBSTANTIAL COMPLETION. CARPETS ARE TO BE PROTECTED WITH HEAVY DUTY PLASTIC SHEETING. REFER TO SPECIFICATIONS SECTION 01700 EXECUTION REQUIREMENTS FOR FURTHER DETAIL.
- MAINTAIN PROJECT SITE FREE OF WASTE MATERIALS AND DEBRIS, AND CLEAN SITE AT END OF EACH WORK DAY TO GREATEST EXTENT POSSIBLE.
- SUBMISSION OF PROPOSAL IS CONSIDERED AN ACKNOWLEDGEMENT THAT CONTRACTOR VISITED SITE, VERIFIED ALL EXISTING CONDITIONS, AND INCLUDED ANY MODIFICATIONS TO EXISTING AND NEW WORK REQUIRED FOR INSTALLATION OF A COMPLETE AND OPERATIONAL SYSTEM.
- TIME OR MONEY ALLOWANCES WILL NOT BE MADE TO ACCOMMODATE CONDITIONS THAT COULD HAVE BEEN VERIFIED PRIOR TO SUBMITTING PROPOSAL.
- DRAWINGS SHOWING ALL EQUIPMENT LOCATIONS, DUCT AND PIPE SIZES, ELEVATIONS, AND ELECTRICAL INFORMATION HAVE BEEN RECREATED USING DRAWINGS AND SITE SURVEYS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL SITE CONDITIONS IN ORDER TO MAKE ANY NECESSARY ADJUSTMENTS, PRIOR TO ORDERING MATERIALS OR COMMENCING INSTALLATION. CHANGE ORDERS WILL NOT BE APPROVED FOR DIMENSIONAL VERIFICATIONS REQUIRING MINOR ADJUSTMENTS NEEDED TO COMPLETE INSTALLATION.
- FIELD VERIFY ALL CONDITIONS AND MEASURE DIMENSIONS WITHIN THE BUILDING PRIOR TO ORDERING EQUIPMENT AND/OR PROCEEDING WITH INSTALLATION.
- PROVIDE OWNER WITH MINIMUM 10 DAYS ADVANCE NOTICE OF INTENT TO PERFORM ANY WORK WHICH WILL REQUIRE CHILLER PLANT OR ELECTRICAL SERVICE TO BE SHUT DOWN.
- PROVIDE SHOP DRAWINGS TO COORDINATE EXISTING AND NEW WORK.
- CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER IF ANY MATERIALS SUSPECTED OF CONTAINING ASBESTOS ARE FOUND AND STOP WORK IMMEDIATELY.
- IT IS CONTRACTOR'S RESPONSIBILITY TO REMOVE AND DISPOSE OF ALL ITEMS INDICATED TO BE REMOVED. ONLY EXPRESSLY DESIGNATED ITEMS SHALL BE TURNED OVER TO OWNER.
- CONTRACTOR IS RESPONSIBLE FOR RESTORING ANY DISTURBED SURFACE TO ITS ORIGINAL CONDITION. ANY ROAD, TRAFFIC, OR OTHER PAINTED OR ERECTED SIGNS DAMAGED AS A RESULT OF WORK PERFORMED IN THOSE AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.
- CUTTING AND PATCHING OF WALLS DAMAGED IN THE REMOVAL OF ITEMS SHALL BE DONE, WHETHER OR NOT DRAWINGS SPECIFICALLY CALL FOR SUCH REPAIRS.
- REMOVE ALL EQUIPMENT, MATERIALS, CONTROL DEVICES, BOXES, POWER AND CONTROL WIRING, SAFETY SWITCHES, TUBING, ELECTRICAL CONDUIT, PIPING, SENSORS, ELECTRICAL DISCONNECTS, SUPPORTING DEVICES AND STRUCTURES, AND ALL RELATED AUXILIARY ITEMS ASSOCIATED WITH EQUIPMENT AND MATERIALS WHICH WILL NO LONGER BE USED AFTER THE PROJECT IS COMPLETE.

EQUIPMENT:

- EQUIPMENT INSPECTION:
  - FIELD VERIFY ALL CONDITIONS AND MEASURE DIMENSIONS WITHIN THE BUILDING PRIOR TO ORDERING EQUIPMENT AND/OR PROCEEDING WITH INSTALLATION.
  - ALL EQUIPMENT SHALL BE FACTORY TESTED, AND CONTRACTOR SHALL VERIFY EQUIPMENT CONDITION PRIOR TO INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR EQUIPMENT DAMAGED DURING MOVING AND INSTALLATION.
  - EQUIPMENT FOUND DEFECTIVE PRIOR TO FINAL ACCEPTANCE SHALL BE REPLACED AT NO COST TO OWNER.
- EQUIPMENT ACCESS:
  - INSTALL ALL VALVES, CONTROLS, DAMPERS, FANS, ETC. IN ACCESSIBLE LOCATIONS. PROVIDE ADEQUATELY SIZED ACCESS DOORS WHERE REQUIRED.
- EQUIPMENT INSTALLATION:
  - AFFIX ID TAGS TO ALL MECHANICAL EQUIPMENT PER SPECIFICATIONS.
- EQUIPMENT INSULATION:
  - INSULATE ALL SURFACES THAT ARE CAPABLE OF BECOMING COLD AND COLLECTING CONDENSATE. THIS INCLUDES SUPPLY DIFFUSERS AND CONNECTING DUCTWORK / TRANSITION PIECES.
- PLUMBING:
  - PROVIDE CODE RECOMMENDED CLEARANCE OR MINIMUM 10' BETWEEN EXHAUST FANS DISCHARGES, PLUMBING VENTS AND AIR INTAKES. COORDINATE LOCATIONS WITH PLUMBING CONTRACTOR.
- ELECTRICAL:
  - CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ELECTRICAL CONTRACTOR REGARDING EQUIPMENT SIZES AND TYPES OF ELECTRICAL INTERFACE EQUIPMENT REQUIRED.
  - DUE TO VARIATIONS IN EQUIPMENT CHARACTERISTICS BY DIFFERENT EQUIPMENT SUPPLIERS, MECHANICAL EQUIPMENT ULTIMATELY PROVIDED MAY DIFFER IN HORSEPOWER OR AMPERAGE REQUIREMENTS FROM THAT SPECIFIED IN THESE DRAWINGS. COORDINATE WITH GENERAL CONTRACTOR PRIOR TO BIDDING, AND PRIOR TO SUBMITTALS AND ORDERING EQUIPMENT, TO ENSURE THAT EQUIPMENT ELECTRICAL REQUIREMENTS ARE CONVEYED TO ELECTRICAL CONTRACTOR. IT IS SOLELY CONTRACTOR'S RESPONSIBILITY TO ENSURE COMPATIBILITY ISSUES ARE COORDINATED.

INSULATION:

- FIBERGLASS INSULATION MAY NOT BE USED ON ANY COLD PIPING SURFACES; ONLY CLOSED CELL INSULATION IS ACCEPTABLE.
- PROVIDE INSULATION ON ALL SURFACES CAPABLE OF CREATING CONDENSATION.



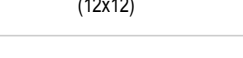
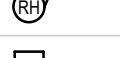




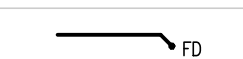





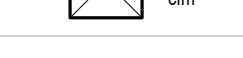


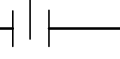
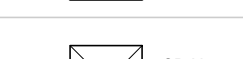

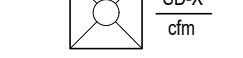
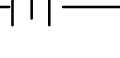




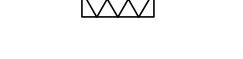
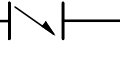


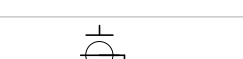

DUCTWORK:

- DUCTWORK GENERAL:
  - DRAWINGS ARE DIAGRAMMATIC IN NATURE. FOR CLARITY SAKE, MOST DUCT OFFSETS/RISES/DROPS ARE NOT SHOWN. WHERE DUCTS PENETRATE WALLS, INSTALL THEM PERPENDICULAR TO WALL.
  - RECTANGULAR AND ROUND DUCTWORK SHALL BE GALVANIZED STEEL. SIZES SHOWN ARE INSIDE CLEAR DIMENSION, UNLESS NOTED OTHERWISE.
  - VERIFY BOTTOM OF DUCT ELEVATION AND COORDINATE WITH OTHER TRADES.
  - CONSTRUCT AND LEAKAGE TEST ALL DUCTWORK BASED ON SPECIFICATIONS AND SMACNA REQUIREMENTS, WHICHEVER IS MORE STRINGENT. COORDINATE PRESSURE CLASSES WITH EQUIPMENT SCHEDULES.
  - FLEXIBLE DUCTS MAXIMUM LENGTH SHALL NOT EXCEED 6 FEET. USE OF FLEXIBLE DUCTWORK IS LIMITED TO AREAS WITH AN ACCESSIBLE SUSPENDED CEILING. PINCHED DUCT WILL HAVE TO BE REPLACED.
  - IN AREAS WHERE DUCT CONFLICTS CANNOT BE AVOIDED, ROUTE SMALLER DUCTS THROUGH ROO JOISTS.
  - LOCATE AIR DEVICES AS SHOWN. COORDINATE WITH ELECTRICAL, IF NEEDED. RELOCATE DIFFUSER TO ADJACENT TILE.
- DUCTWORK INSULATION:
  - WRAP ALL OUTSIDE AIR, SUPPLY AND RETURN DUCTWORK UNLESS NOTED OTHERWISE.
  - IN ADDITION, FOR ACOUSTICAL PERFORMANCE INTERNALLY LINE FIRST 10' OF SUPPLY AND LAST 10' OF RETURN DUCTWORK.
  - PROVIDE ACOUSTICAL LINING FOR ALL TRANSFER DUCTS AND RETURN AIR ELBOWS.
  - INSULATION ON DUCT SHOULD TO BE PROPERLY TAPED AND MASTICS MUST BE APPLIED ON SEAMS AND JOINTS AND AT ENDS ADJACENT TO DUCT FLANGES AND FITTINGS. FOR DUCT SIDES WITH DIMENSIONS LARGER THAN 18 INCHES, APPLY ADDITIONAL PINS AND CLIPS TO HOLD INSULATION TIGHTLY AGAINST SURFACE AT CROSS BRACING.
  - INSULATE ALL EXHAUST DUCTWORK 10 FEET FROM EXTERIOR OPENING.
- DUCT FITTINGS:
  - WHERE RECTANGULAR TEE FITTINGS ARE SHOWN, PROVIDE FITTING WITH ADJUSTABLE DIVIDER SHEET AND TURNING VANES.
  - WHERE RECTANGULAR MAIN AND BRANCH CONNECTIONS ARE SHOWN, PROVIDE EXTRACTOR VANES. NOT APPLICABLE TO DUCTWORK DOWNSTREAM OF VAV BOXES.
  - PROVIDE TURNING VANES IN ALL ELBOWS PER SPECS.
- DAMPERS:
  - IN AN ACCESSIBLE LOCATION, PROVIDE MANUAL-TYPE VOLUME BALANCING DUCT DAMPERS IN ALL SUPPLY, RETURN AND EXHAUST DUCT BRANCHES TO INDIVIDUAL GRILLES, REGISTERS AND DIFFUSERS (GRD). TO MINIMIZE NOISE INSTALL DAMPERS CLOSER TO THE BRANCH CONNECTION THAN TO THE GRD. IN DUCTWORK, PROVIDE ACCESS DOORS TO ALL DAMPERS.
  - ABOVE INACCESSIBLE CEILINGS AND IN CASE DUCT CONFIGURATION DOES NOT ALLOW FOR INSTALLATION OF DAMPER IN DUCTWORK, PROVIDE REMOTE MANUAL DAMPER BY YOUNG REGULATOR OR EQUAL (CABLE OPERATED SYSTEM) WITH ENGINEER'S PERMISSION CONTRACTOR MAY PROVIDE VOLUME DAMPER THAT IS INTEGRAL TO GRD.
  - PROVIDE BALANCING DAMPERS ON ALL EXHAUST GRILLES TO ACHIEVE DESIRED AIRFLOW.
  - PROVIDE DYNAMIC FIRE DAMPERS (RUSKIN DDB20, TYPE B OR EQUAL) IN ACCORDANCE WITH CODE REQUIREMENT, IN ALL PENETRATIONS OF FIRE RATED WALLS, OCCUPANCY SEPARATION WALLS, BARRIERS AND PARTITIONS, AND EXIT CORRIDORS. REFER TO ARCHITECTURAL PLANS FOR RATED WALLS. PROVIDE ACCESS DOORS AS PER CODE REQUIREMENTS. EQUAL TO RUSKIN ADH-22 FOR RECTANGULAR DUCT, ACUDOR RD FOR ROUND DUCT. WHERE GRILLE ACCESS IS INDICATED, ADDITIONAL DUCT ACCESS DOOR IS NOT REQUIRED. WHERE THE CEILING IS FIRE RATED PROVIDE FIRE RATED AIR DEVICES FOR TRANSFER & RETURN AIR GRILLES AND SUPPLY AIR DIFFUSERS AS PER CODE REQUIREMENTS. REFER TO ARCHITECTURAL PLANS FOR RATED CEILINGS.
  - PROVIDE ACCESS DOORS (NOT SHOWN IN DRAWINGS) FOR INSPECTION OF DUCT MOUNTED EQUIPMENT SUCH AS FIRE/SMOKE DAMPERS, MANUAL BALANCING DAMPERS AND TURNING VANES. IN AREAS WITH HARD CEILING COORDINATE ACCESS DOOR LOCATIONS AND CEILING ACCESS PANELS WITH OTHER TRADES.

ABBREVIATIONS

A	AMPS	EXT.	ENTERING	NO	NORMALLY OPEN
ACCU	AIR COOLED CONDENSING UNIT	EXT.	EXTERNAL OR EXTERIOR	NTS	NOT TO SCALE
ACT	ACTUATOR	FCU	FAN COIL UNIT	OA	OUTSIDE AIR
AFF	ABOVE FINISHED FLOOR	FD	FIRE DAMPER	PH	PHASE
AHU	AIR HANDLING UNIT	FM	FLOW METER	RA	RETURN AIR
B.	BOTTOM	FS	FLOW SWITCH	RAG/RG	RETURN AIR GRILLE
BAS	BUILDING AUTOMATION SYSTEM	FPI	FINS PER INCH	RD	ROOF DRAIN
BOP	BOTTOM OF PIPE	G.	GROUND	RM.	ROOM
BOTT.	BOTTOM	GA.	GAGE	RPZ	REDUCED PRESSURE ZONE
C.	CONDUIT OR COMMON	GALV.	GALVANIZED	SA	SUPPLY AIR
CHR	CHILLED WATER RETURN	GPM	GALLONS PER MINUTE	SD	SUPPLY AIR DIFFUSER
CHS	CHILLED WATER SUPPLY	GRND.	GROUND	SS	STAINLESS STEEL
CW	CHILLED WATER	HB	HOSE BIBB	SZ	SINGLE ZONE
CHWP	CHILLED WATER PUMP	HP	HORSEPOWER	TAB	TESTING & BALANCING
CR	CONDENSER WATER RETURN	HS	HUMIDITY SENSOR	T.O.L	TOP OF LOUVER
CS	CONDENSER WATER SUPPLY	HVAC	HEATING, VENTILATION, & AIR CONDITIONING	TS	TEMPERATURE SENSOR
CLG.	CEILING OR COOLING			TSTAT	THERMOSTAT
COMB.	COMBINATION	LVG.	LEAVING	UG	UNDERGROUND
CONC.	CONCRETE	MECH	MECHANICAL	UNO	UNLESS OTHERWISE NOTED
COND.	CONDUIT	MOT. STTR.	MOTOR STARTER	V	VOLTS
CT	COOLING TOWER	MS	MOTOR STARTER	VAV	VARIABLE AIR VOLUME
CU.	COPPER	MZ	MULTI-ZONE	VFD	VARIABLE FREQUENCY DRIVE
CW	CITY WATER	NC	NORMALLY CLOSED	W	WIRE
DDC	DIRECT DIGITAL CONTROLS				
DMPR.	DAMPER				
DISC.	DISCONNECT				
EAG/EG	EXHAUST AIR GRILLE				
EMS	ENERGY MANAGEMENT SYSTEM				

MECHANICAL SYMBOLS LEGEND

	DUCT SIZE: FIRST FIGURE IS SIDE SHOWN		THERMOSTAT
	BELOW DUCT SIZE: FIRST FIGURE IS SIDE SHOWN		SPACE HUMIDITY SENSOR
	DIRECTION OF FLOW-RETURN		DUCT HUMIDITY SENSOR
	DIRECTION OF FLOW-SUPPLY		SPACE CARBON DIOXIDE SENSOR
			STATIC PRESSURE SENSOR
	FIRE DAMPER		DUCT CARBON DIOXIDE SENSOR
	FLEXIBLE DUCT		CHILLED WATER RETURN
	EXHAUST AIR GRILLE		CHILLED WATER SUPPLY
			CONDENSATE PIPING
	RETURN AIR/TRANSFER AIR GRILLE		BUTTERFLY VALVE
	SUPPLY AIR DIFFUSER		MANUAL VALVE
	SIDE TAP WITH DAMPER		AUTOMATIC VALVE
	BACKDRAFT DAMPER		CHECK VALVE
	AUTO-FLOW REGULATOR		PRESSURE GAUGE & COCK
	DRAIN VALVE		TEMPERATURE SENSOR
	BALL VALVE		THERMOMETER WELL

No.

REVISIONS


BY




GMS ARCHITECTS

1150 Paredes Line Rd.  
Brownsville TX 78526  
(956) 546-0110  
fax (956) 546-0196

IDEA PUBLIC SCHOOLS  
LAB CONVERSION AT VARIOUS CAMPUSES




IDEA  
Public Schools



108611  
GOMEZ MENDOZA  
GOMEZ MENDOZA, A. GONZALEZ  
108611

© Copyright 2024  
Gomez Mendoza Saeenz Inc.  
Architects-Planners  
Interior Designers

Date: February 19, 2025  
Scale: As Noted  
Project Architect: Roan Gomez, AIA  
Drawn By: B.B.  
Job No: 24-80  
Sheet: M1.01



etos  
engineering

1128 SOUL COMMERCE ST.  
HOUSTON, TX  
PHONE: 832-228-3453  
TEXAS REGISTERED  
ENGINEERING FIRM  
F-13998



No.	REVISIONS	BY



GMS ARCHITECTS

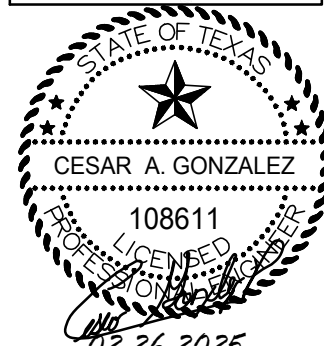
1150 Paredes Line Rd.  
Brownsville TX 78526  
(956) 546-0110  
fax (956) 546-0196

IDEA PUBLIC SCHOOLS

LAB CONVERSION AT VARIOUS CAMPUSES

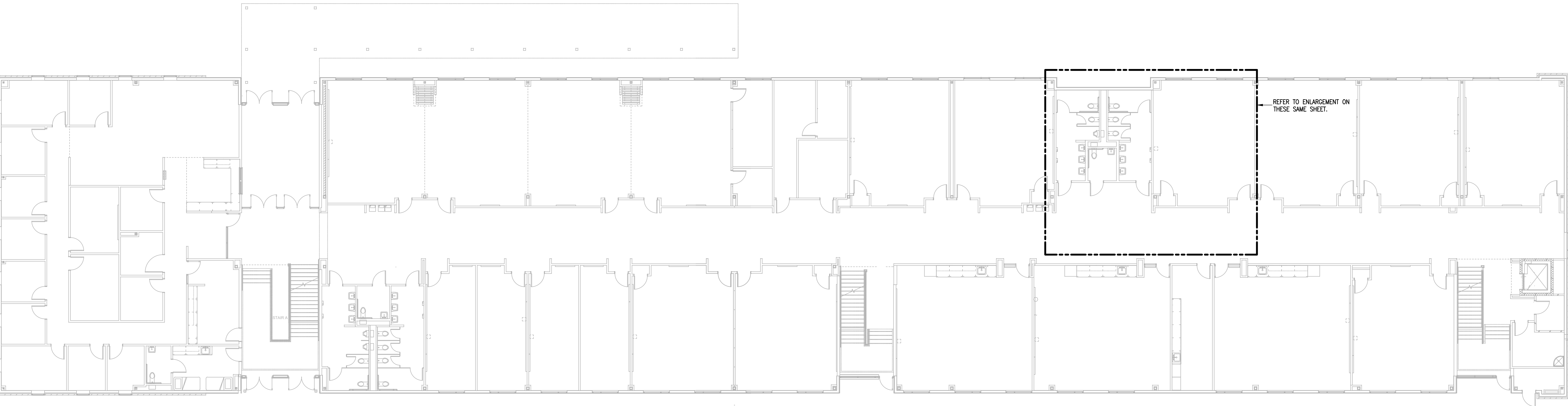
IDEA PUBLIC SCHOOLS

SAN ANTONIO, TEXAS



© Copyright 2024  
Gomez Mendez Saez Inc.  
Architects-Planners  
Interior Designers

Date: February 26, 2025  
Scale: As Noted  
Project Architect: Roan Gomez, AIA  
Drawn By: B.B.  
Job No.:  
Sheet: 24/80



IDEA MAYS

01 FIRST FLOOR PLAN

SCALE : 3/32" = 1'-0"

PLAN NORTH

DEMOLITION

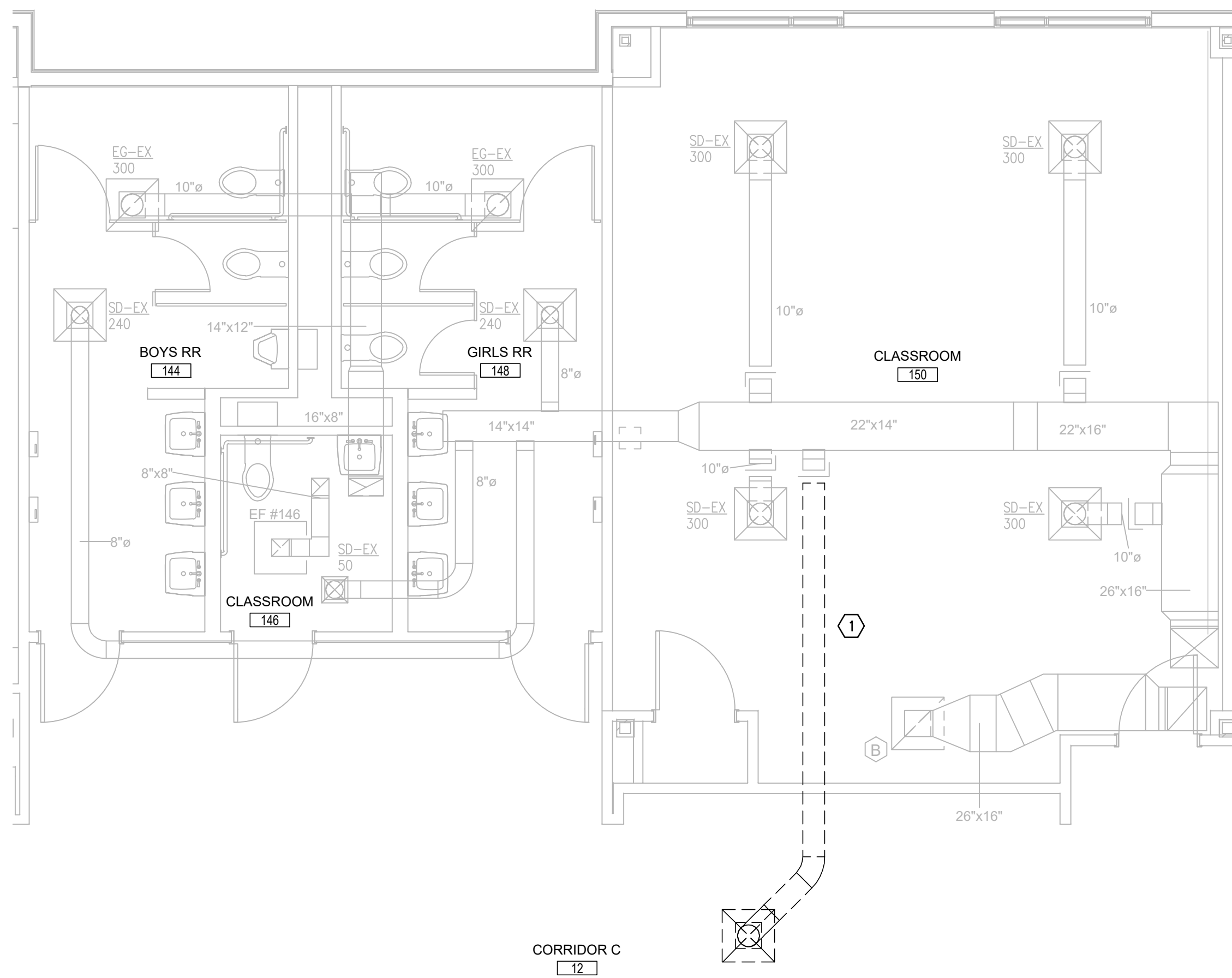
MECHANICAL KEYED NOTES:

- 1 DEMOLISH EXISTING DUCT AND DIFFUSER AS SHOWN.

RENOVATION

MECHANICAL KEYED NOTES:

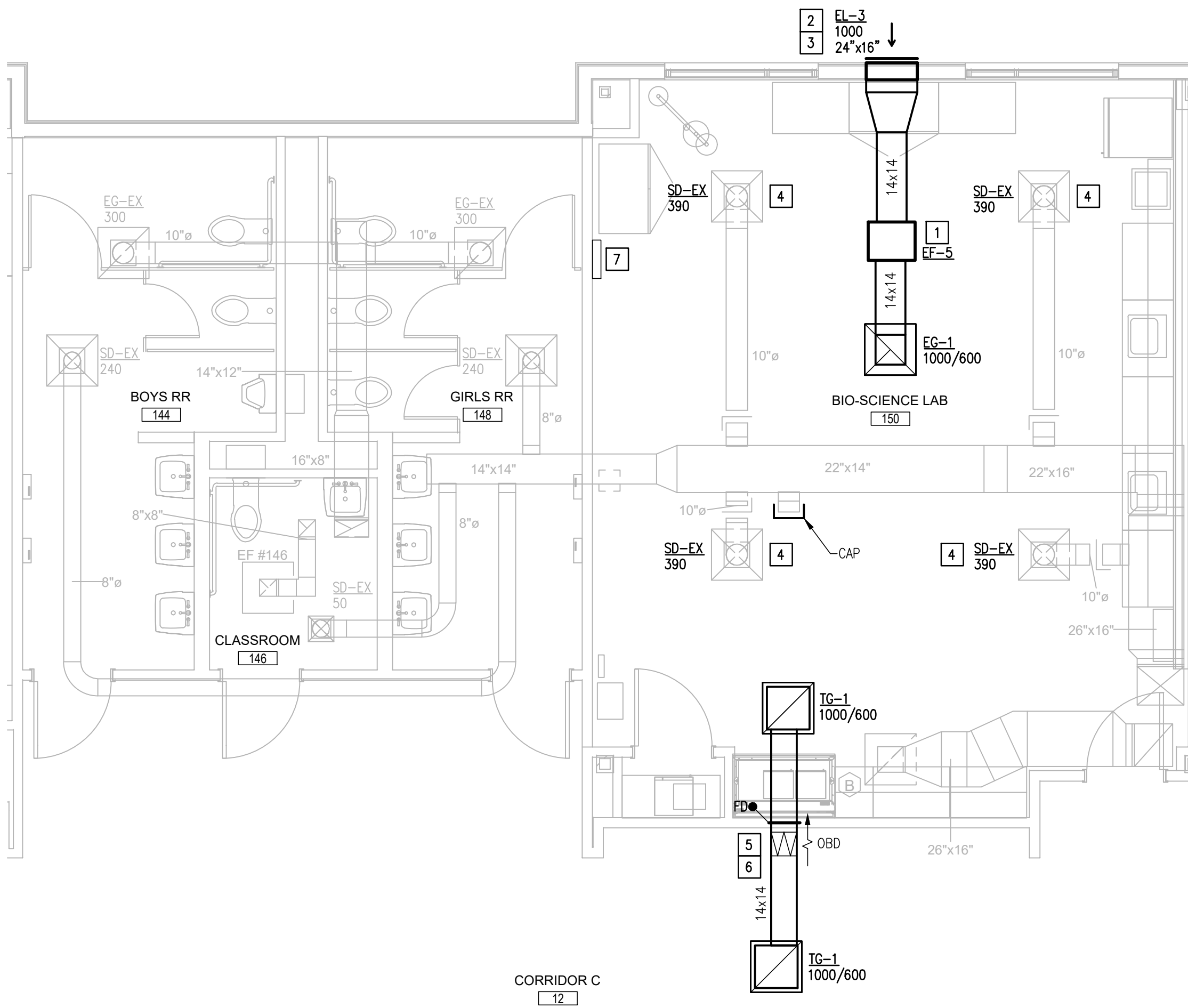
- 1 PROVIDE EXHAUST FAN AS SCHEDULED. SEE ASSOCIATED DETAIL ON DETAIL SHEET.
- 2 SLEEVE ALL WALL PENETRATIONS PER SPECIFICATIONS. SEAL AROUND DUCTS & PIPING AT ALL WALLS, AC ROOMS AND WALL LOUVER PENETRATIONS WITH FIRE-PROOF CAULKING. PROVIDE ESQUIRE PLATES AND FLASHING AROUND PENETRATION, BOTH INSIDE AND OUTSIDE TO PROVIDE A FINISH LOOK. (TYPICAL)
- 3 PROVIDE LOUVER AS SCHEDULED. COORDINATE FINAL FINISH, SIZE AND LOCATION WITH ARCHITECT PRIOR TO ORDERING. (TYPICAL)
- 4 RE-BALANCE EXISTING DIFFUSER TO CFM VALUES SHOWN.
- 5 PROVIDE ACOUSTICAL LINING FOR TRANSFER DUCT. SEE SPECIFICATIONS. (TYPICAL)
- 6 PROVIDE NEW DIFFUSER AND DUCTWORK AS SHOWN.
- 7 ISMET UTILITY CONTROLLER TO BE INTERLOCKED WITH EXHAUST FAN OPERATION.



ENLARGEMENT

02 DEMO FLOOR PLAN

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



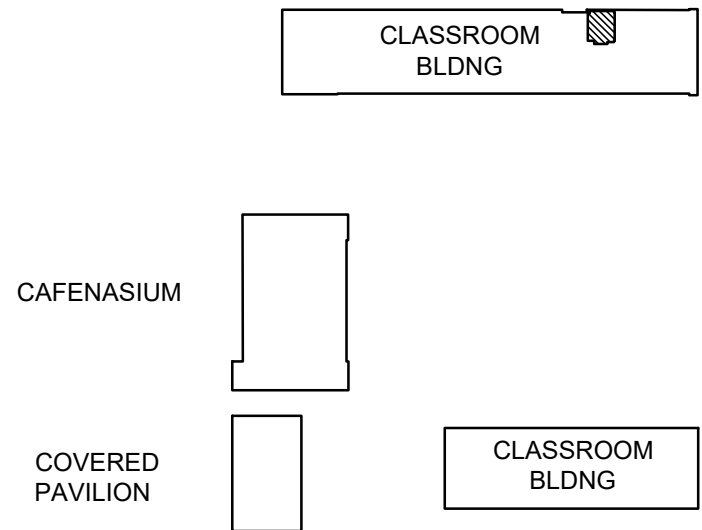
ENLARGEMENT

03 NEW FLOOR PLAN

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

LEGEND

	EXISTING DIFFUSER TO REMAIN
	EXISTING DIFFUSER TO BE RE-BALANCED
	NEW DIFFUSER/GRILLE TO BE PROVIDED
	EXISTING DUCTWORK TO REMAIN
	EXISTING DUCTWORK TO BE DEMOLISHED
	NEW DUCTWORK TO BE PROVIDED
	NEW EQUIPMENT TO BE PROVIDED



1128 SOUT COMMERCE ST.  
HARLINGEN, TX  
PHONE: 956-226-3455  
TEXAS REGISTERED  
ENGINEERING FIRM  
F-13998

MAYS



EXHAUST FAN SCHEDULE

MARK	SERVING	TYPE	ELECTRICAL V-PH-HZ	DRIVE	HIGH/LOW CFM	MOTOR HP	RPM	E.S.P. IN. H2O	SOUND IN SONES	WEIGHT (LBS)	CONTROL NOTES	NOTES	MANUFACTURER	MODEL NUMBER
EF-1	RIVERVIEWBIOLAB	SUSPENDED IN-LINE	115-1-60	DIRECT	1000/600	1/4	1526	0.4	5.3	52.0	A	ALL	GREENHECK	SQ-9-M1-VG
EF-2	ROBINDALEBIOLAB	SUSPENDED IN-LINE	115-1-60	DIRECT	1000/600	1/4	1526	0.4	5.3	52.0	A	ALL	GREENHECK	SQ-9-M1-VG
EF-3	SAN BENITOBIOLAB	SUSPENDED IN-LINE	115-1-60	DIRECT	1000/600	1/4	1526	0.4	5.3	52.0	A	ALL	GREENHECK	SQ-9-M1-VG
EF-4	TRES LAGOSBIOLAB	SUSPENDED IN-LINE	115-1-60	DIRECT	1000/600	1/4	1526	0.4	5.3	52.0	A	ALL	GREENHECK	SQ-9-M1-VG
EF-5	MAYSBIOLAB	SUSPENDED IN-LINE	115-1-60	DIRECT	1000/600	1/4	1526	0.4	5.3	52.0	A	ALL	GREENHECK	SQ-9-M1-VG

NOTES:

1. PROVIDE FACTORY MOUNTED DISCONNECT.
2. MANUFACTURER AND MODEL NUMBER LISTED ARE "OR APPROVED EQUAL." REFER TO SPECIFICATIONS.
3. PROVIDE OSHA MOTOR AND SPEED CONTROLLER.
4. PROVIDE INSULATED HOUSING FOR SOUND ATTENUATION.
5. PROVIDE SPRING TYPE VIBRATION ISOLATORS FOR SUSPENDED INLINE TYPE FANS.
6. PROVIDE MOTORIZED DAMPER AND BACKDRAFT DAMPER WITH EXHAUST FAN. REFER TO SPECIFICATIONS.

CONTROL NOTES:

- A. PROVIDE DDC START/STOP POINTS FOR LOW SPEED. HIGH SPEED TO BE CONNECTED TO ISMET SYSTEM FOR EMERGENCY EXHAUST. REFER TO SEQUENCES OF OPERATIONS.
- USE VARI-GREEN CONTROLLER ACCESSORIES AS NECESSARY TO TIE-IN CONTROLS WITH ISMET AND BAS. COORDINATE CONTROLS CONNECTION VOLTAGES WITH ELECTRICAL.

LOUVER SCHEDULE

MARK	SERVES	CFM RANGE	FACE SIZE (W X H)	MIN. FREE AREA (FT <sup>2</sup> )	NOTES	MANUFACTURER	MODEL NUMBER
EL-1	RIVERVIEWBIOLAB	1000	24X16	0.94	ALL	RUSKIN	EMES20MD
EL-2	ROBINDALEBIOLAB	1000	24X16	0.94	ALL	RUSKIN	EMES20MD
EL-3	SAN BENITOBIOLAB	1000	24X16	0.94	ALL	RUSKIN	EMES20MD
EL-4	TRES LAGOSBIOLAB	1000	24X16	0.94	ALL	RUSKIN	EMES20MD
EL-5	MAYSBIOLAB	1000	24X16	0.94	ALL	RUSKIN	EMES20MD

NOTES:

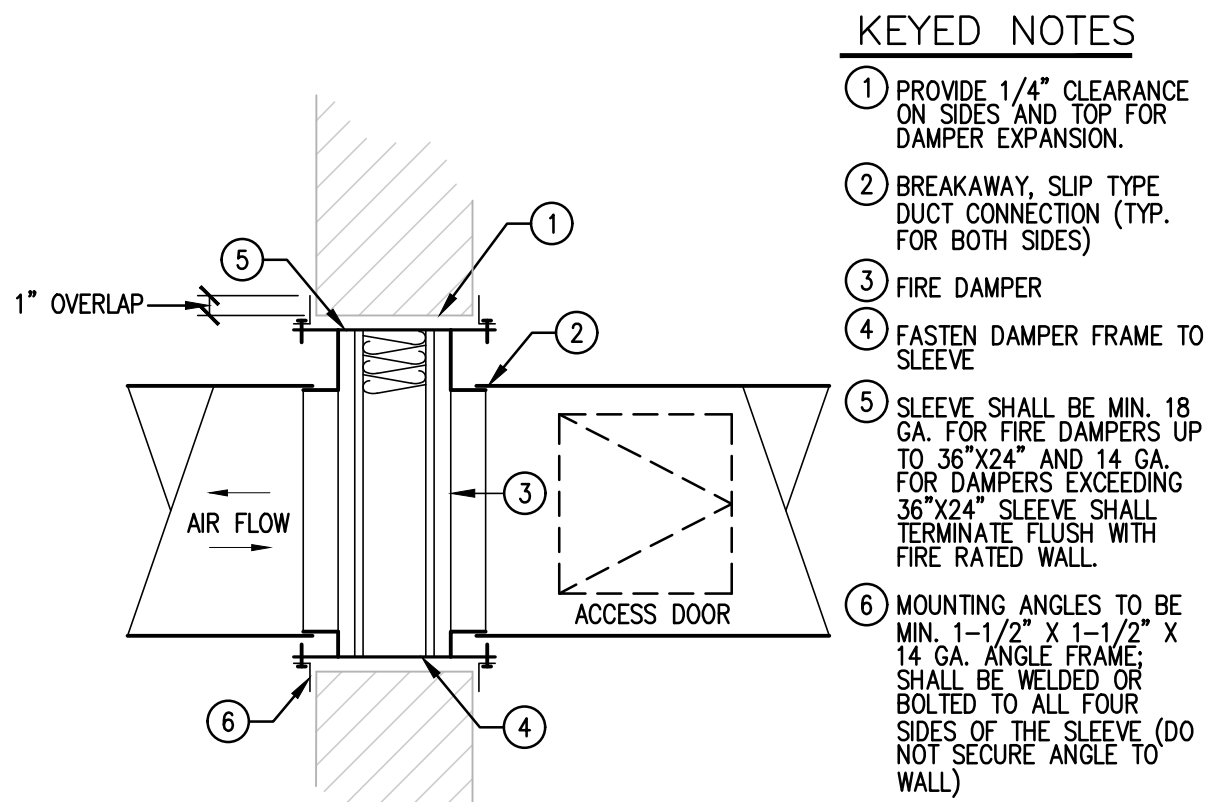
1. PRIOR TO ORDERING, COORDINATE LOUVER FINISH AND EXACT FACE SIZE WITH ENGINEER.
2. PROVIDE STAINLESS STEEL BRD SCREEN AND HARDWARE.
3. PROVIDE FACTORY APPLIED KYNAR 500 FINISH.
4. PROVIDE WITH TDI PRODUCT EVALUATION REPORT.

AIR DEVICE & DIFFUSER SCHEDULE

TITUS 50F NC x 20			DESCRIPTION: ALUMINUM GRID EGGCRATE RETURN GRILLE WITH BORDER TYPE 3 (LAY-IN).		
CFM RANGE	CLG. MODULE SIZE INCHES	NOMINAL DUCT SIZE INCHES (INLET)	DIFFUSER DIFFUSION PATTERN & CFM	NOTES	
0 - 1600	24 X 24	18 X 18	EG1-CFM (EXHAUST AIR GRILLES ONLY)	ALL	
0 - 1600	24 X 24	18 X 18	TG1-CFM (TRANSFER AIR GRILLES ONLY)	1,3,5	

NOTES:

1. PROVIDE MANUFACTURER'S STANDARD BAKED WHITE ENAMEL FINISH.
2. PROVIDE FULL SIZE BACK PAN WITH DUCT ADAPTER.
3. PROVIDE MOUNTING FRAME TYPE COMPATIBLE WITH SCHEDULED CEILING OR WALL (SURFACE OR LAY-IN).
4. PROVIDE BALANCING DAMPER ON ALL EXHAUST GRILLES.
5. AIR DEVICES SHALL MATCH ARCHITECTURAL FINISH. COORDINATE COLOR WITH ARCHITECT.



NOTES:

1. FIRE DAMPER TO BE LABELED IN ACCORDANCE WITH UL STANDARDS, AND STATE FIRE MARSHALL APPROVED.
2. INSTALLATION DETAILS SHALL MEET NFPA 90A & B REQUIREMENTS.
3. LOCATE ACCESS DOOR FOR BEST ACCESS TO LINK.
4. FUSIBLE LINK TO BE RATED FOR 50% ABOVE MAXIMUM OPERATING TEMPERATURE OF SYSTEM.
5. FOR STAINLESS STEEL FIRE DAMPER METAL GAUGE, REFER TO MANUFACTURER RECOMMENDATIONS.
6. FIRE DAMPER SHALL BE RATED FOR DYNAMIC DUTY.
7. SLEEVE SHALL TERMINATE FLUSH WITH FIRE RATED WALL.
8. PROVIDE LABEL FOR FIRE DAMPER ACCESS DOOR.

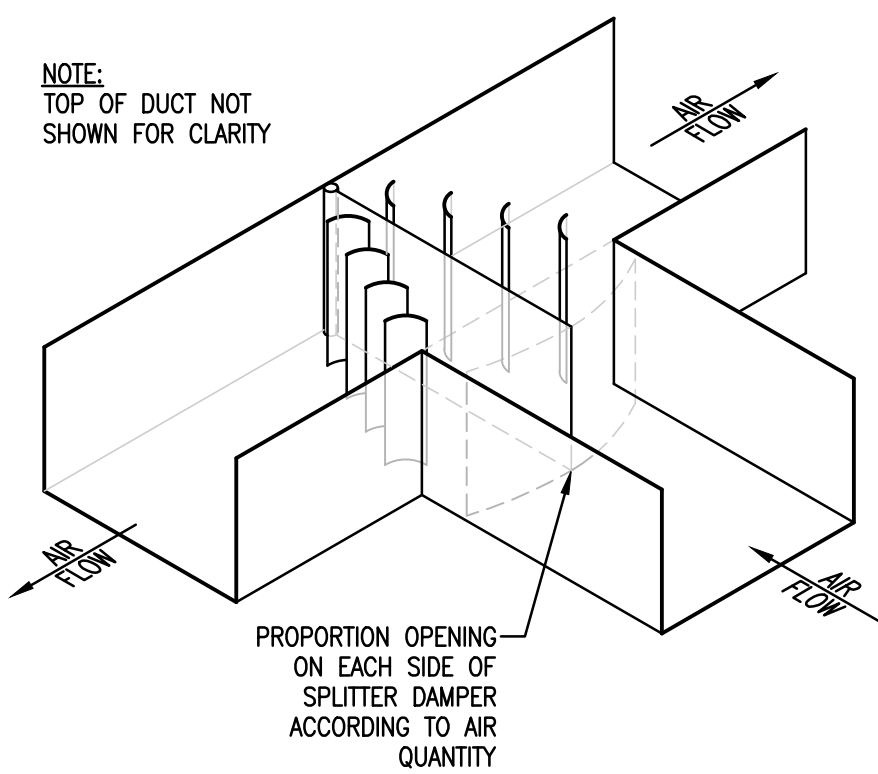
05 FIRE DAMPER WITH ACCESS PANEL

SCALE: NOT TO SCALE

KEYED NOTES

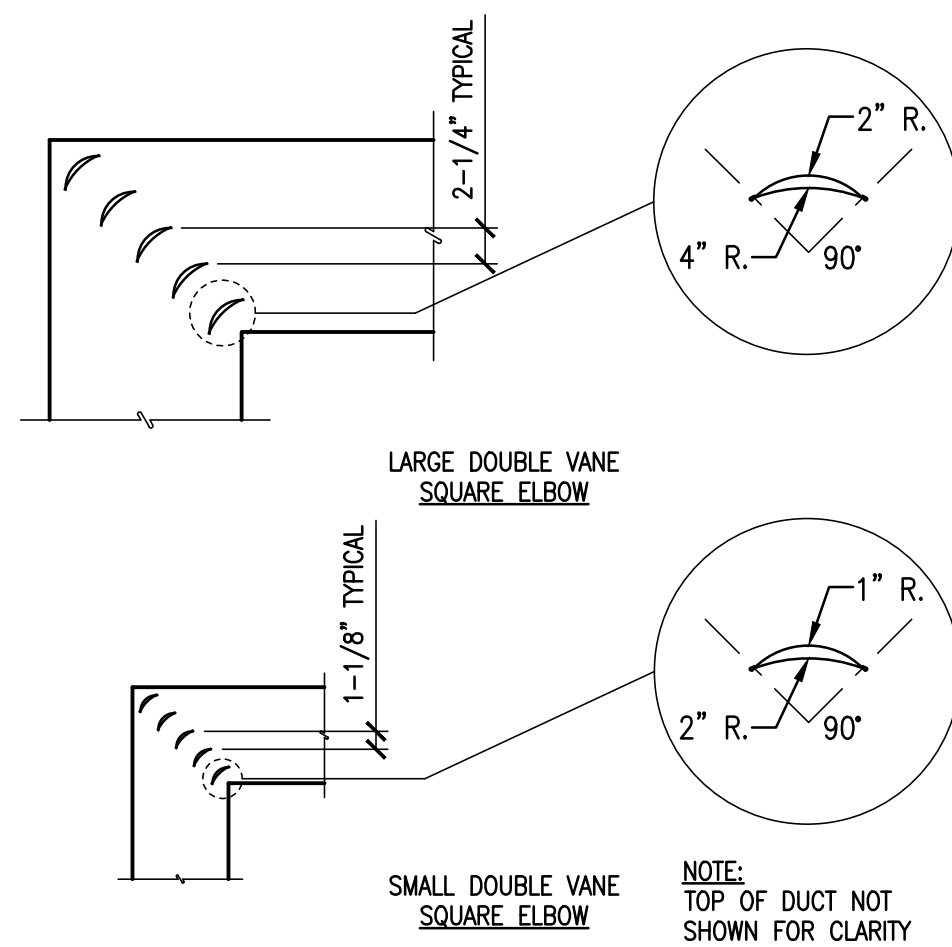
1. PROVIDE 1/4" CLEARANCE ON SIDES AND TOP FOR DAMPER EXPANSION.
2. BREAKAWAY SLIP TYPE DUCT CONNECTION (TYP. FOR BOTH SIDES).
3. FIRE DAMPER.
4. FASTEN DAMPER FRAME TO SLEEVE.
5. SLEEVE SHALL BE MIN. 18 GA. FOR FIRE DAMPERS UP TO 36" X 24" AND 14 GA. FOR DAMPERS EXCEEDING 36" X 24". SLEEVE SHALL TERMINATE FLUSH WITH FIRE RATED WALL.
6. MOUNTING ANGLES TO BE MIN. 1-1/2" X 1-1/2" X 14 GA. ANGLE FRAMING SHALL BE WELDED OR BOLTED TO ALL FOUR SIDES OF THE SLEEVE (DO NOT SECURE ANGLE TO WALL).

NOTE:  
TOP OF DUCT NOT  
SHOWN FOR CLARITY



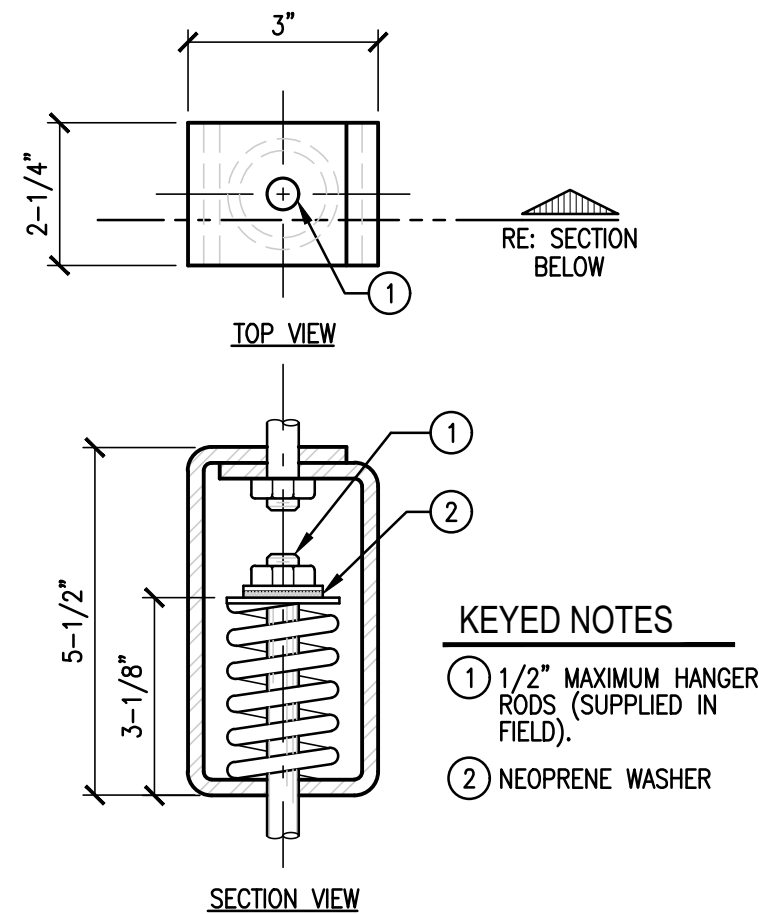
06 TYPICAL SPLITTER DAMPER

SCALE: NOT TO SCALE



TYPICAL VANED DUCT  
01 ELBOWS DETAIL

SCALE: NOT TO SCALE

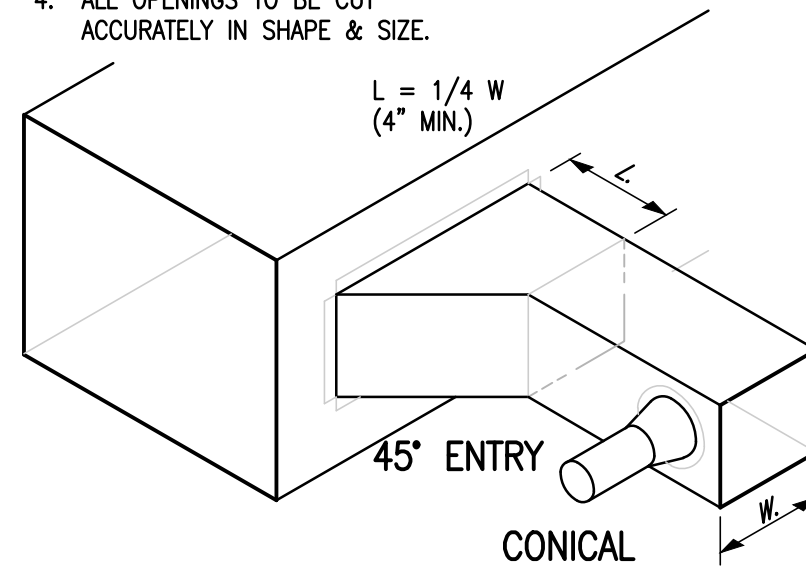


SPRING ISOLATION  
03 HANGER DETAIL

SCALE: NOT TO SCALE

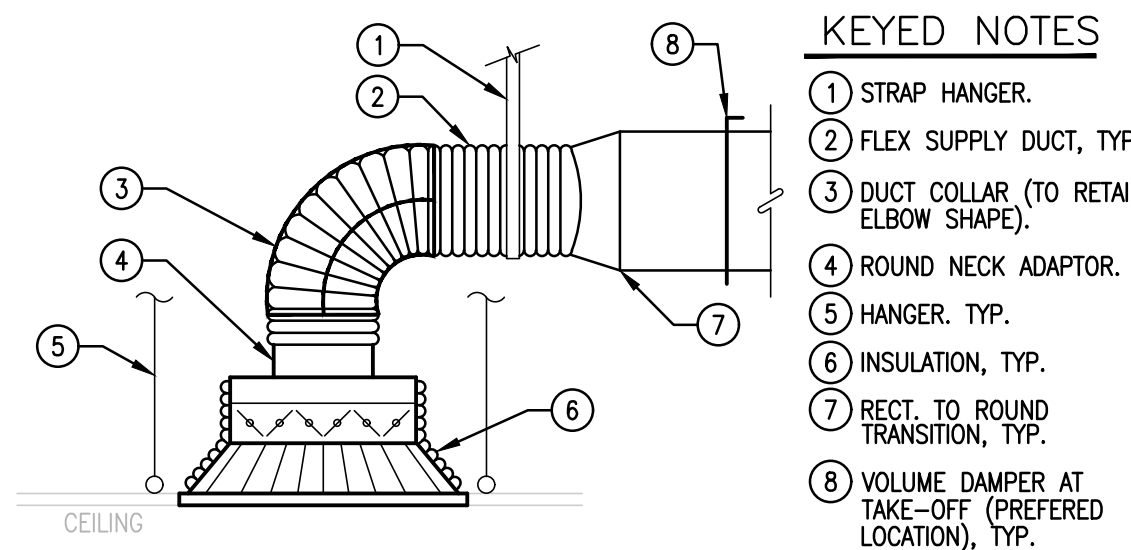
NOTES:

1. FIT ALL CONNECTIONS TO AVOID VISIBLE OPENINGS & SECURE SUITABLY FOR THE PRESSURE CLASS.
2. ADDITIONAL MECHANICAL FASTENERS REQ'D. FOR 4" W.G. & OVER.
3. DO NOT EXPOSE LINER EDGES ON LINED DUCT CONNECTIONS.
4. ALL OPENINGS TO BE CUT ACCURATELY IN SHAPE & SIZE.



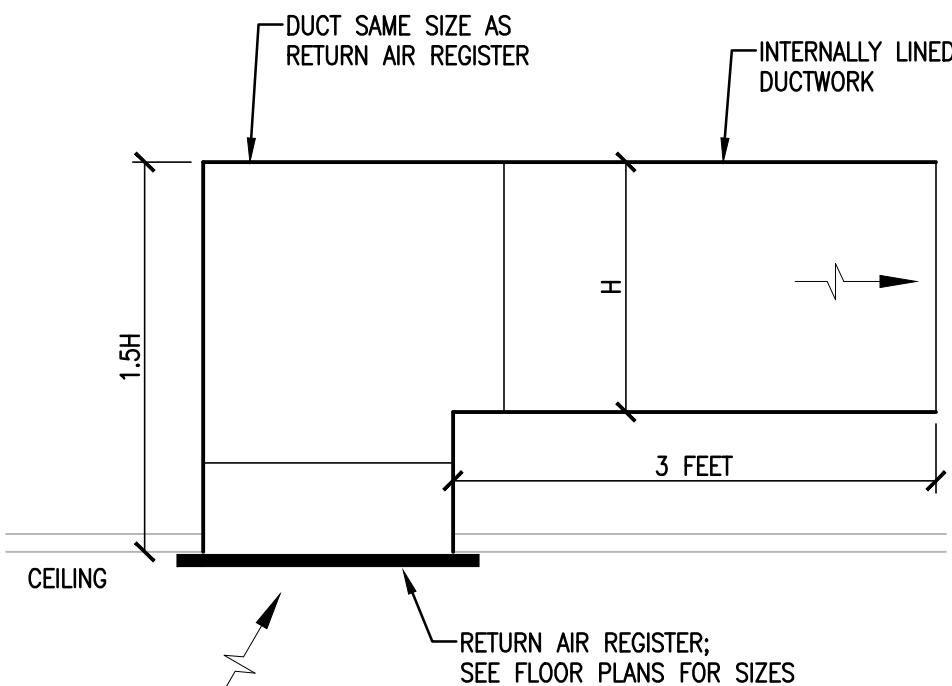
BRANCH  
02 CONNECTION DETAIL

SCALE: NOT TO SCALE



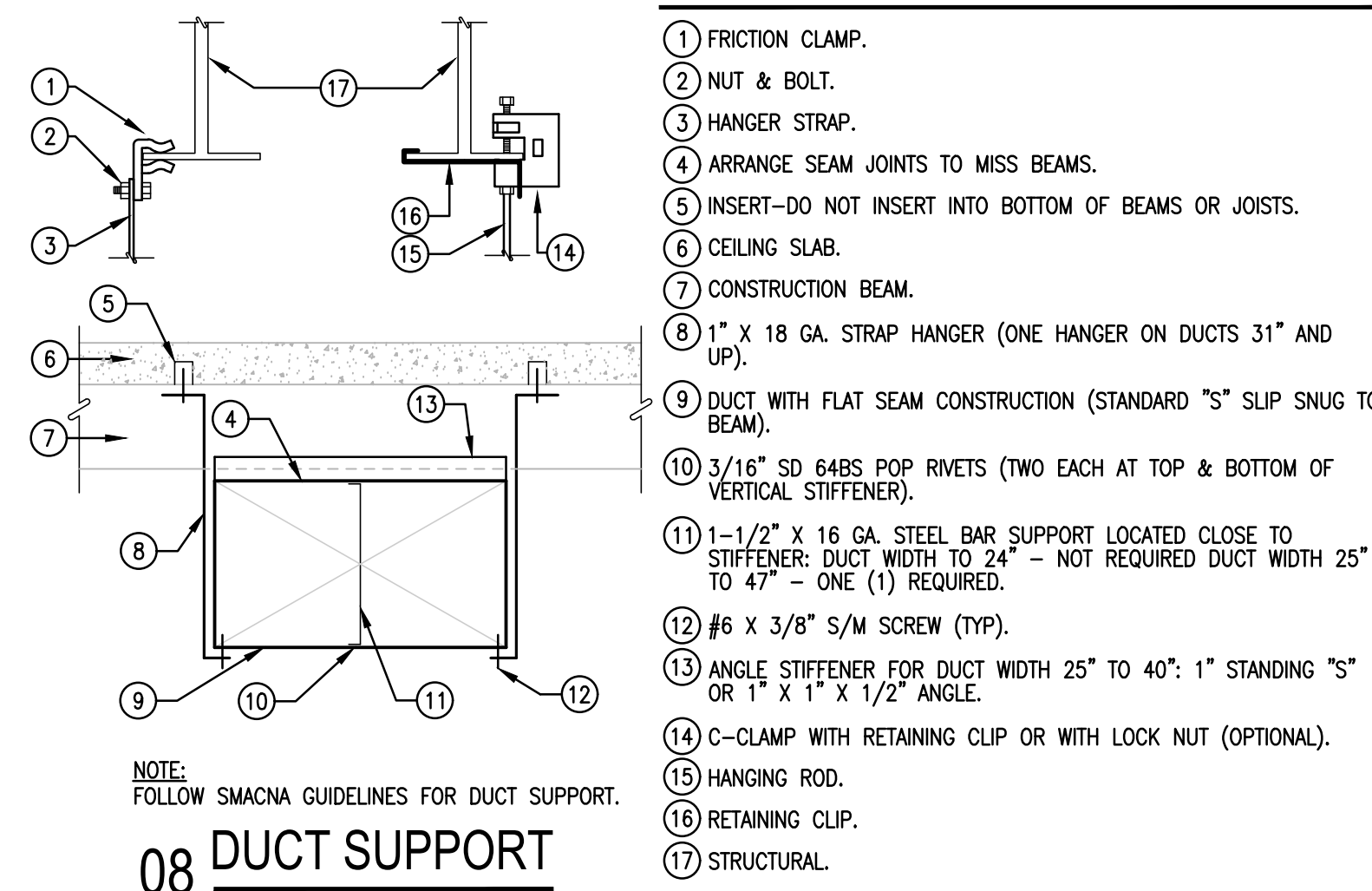
04 CEILING DIFFUSER SUPPORT

SCALE: NOT TO SCALE



07 TRANSFER AIR REGISTER

SCALE: NOT TO SCALE



NOTE:

FOLLOW SMACNA GUIDELINES FOR DUCT SUPPORT.

08 DUCT SUPPORT

SCALE: NOT TO SCALE



1128 SOUTH COMMERCE ST.  
HOUSTON, TX  
PHONE: 832-220-3455  
TEXAS REGISTERED  
ENGINEERING FIRM  
F-13998



LUMINAIRE SCHEDULE											
CALLOUT	LAMP	DESCRIPTION	DRIVER	MOUNTING	MODEL	INPUT WATTS	VOLTS	NOTE	LUMENS / LAMP	LUMENS MAINT.	HOURS
A6	LED	2'X4' LAY-IN TROFFER	0-10V	RECESSED	LITHONIA: STAK 2'X4 6000LM 80CRI 40K COLT MINI ZT MVOLT SIGNIFY: 2FGXG54L840-4-RS-UNV-DIM METALUX: 24CZ2-60-UNV-L840-CD-1	50	MULTIPLE		6061	L70	100,000
A6E	LED	2'X4' LAY-IN TROFFER	0-10V	RECESSED	LITHONIA: STAK 2'X4 6000LM 80CRI 40K COLT MINI ZT MVOLT E10W SIGNIFY: 2FGXG54L840-4-RS-UNV-DIM-BSL10LST METALUX: 24CZ2-60-UNV-E10W-L840-CD-1	50	MULTIPLE	PROVIDE WITH AN EMERGENCY BATTERY PACK.	6061	L70	100,000

GENERAL NOTES:  
1. EMERGENCY BATTERY PACKS SHALL BE COMPLETE FACTORY INSTALLED WITH NI-CAD BATTERY, CHARGER INDICATING LIGHT, ELECTRONIC CIRCUITRY, 1400 LUMENS OUTPUT, 90 MINUTES DURATION & FIVE FULL YEARS WARRANTY.  
2. FURNISH ALL 2' x 4' LAY-IN LIGHT FIXTURES WITH INTEGRAL CEILING CLIPS.  
3. INCLUDE VERIFICATION OF LIGHT FIXTURE EFFECYANCY IN LIGHT FIXTURE SUBMITTALS BY ATTACHING ONE OF THE FOLLOWING:  
• SCREENSHOT OF DLC WEBSITE LISTING FOR SPECIFIC LIGHT FIXTURE. CAN BE FOUND AT [HTTPS://WWW.DESIGNLIGHTS.ORG](https://www.designlights.org)  
• SCREENSHOT OF ENERGY STAR WEBSITE LISTING FOR SPECIFIC LIGHT FIXTURE. CAN BE FOUND AT [HTTPS://WWW.ENERGYSTAR.GOV](https://www.energystar.gov)  
• PART EFFICIENCY DOCUMENTATION IN THE FORM OF LM-79 OR LM-80 DOCUMENTS WITH ADDITIONAL DOCUMENTATION DISPLAYING THE LINK BETWEEN THE PART AND THE LIGHT FIXTURE.



LIGHT FIXTURE TYPE  
"A6" & "A6E" IMAGE

01  
SCALE: NOT TO SCALE

#### EXHAUST FAN CONNECTION SCHEDULE:

DESIGNATION	HP/WATTS	FLA	VOLTAGE	CONNECTION FOR EACH	BRANCH CIRCUIT (COPPER 60°C)
EF-1	1/4 HP	5.8	208V/3PHASE	CONNECT ABOVE CEILING. 1) 2-SPEED CONTROLLER, 2)THERMAL SWITCH. INTERLOCKING BY HVAC CONTROLS CONTRACTOR TO LAB CONTROL PANEL.	1/2" - 2#12 & #12G
EF-2	1/4 HP	5.8	208V/3PHASE	CONNECT ABOVE CEILING. 1) 2-SPEED CONTROLLER, 2)THERMAL SWITCH. INTERLOCKING BY HVAC CONTROLS CONTRACTOR TO LAB CONTROL PANEL.	1/2" - 2#12 & #12G
EF-3	1/4 HP	5.8	208V/3PHASE	CONNECT ABOVE CEILING. 1) 2-SPEED CONTROLLER, 2)THERMAL SWITCH. INTERLOCKING BY HVAC CONTROLS CONTRACTOR TO LAB CONTROL PANEL.	1/2" - 2#12 & #12G
EF-4	1/4 HP	5.8	208V/3PHASE	CONNECT ABOVE CEILING. 1) 2-SPEED CONTROLLER, 2)THERMAL SWITCH. INTERLOCKING BY HVAC CONTROLS CONTRACTOR TO LAB CONTROL PANEL.	1/2" - 2#12 & #12G
EF-5	1/4 HP	5.8	208V/3PHASE	CONNECT ABOVE CEILING. 1) 2-SPEED CONTROLLER, 2)THERMAL SWITCH. INTERLOCKING BY HVAC CONTROLS CONTRACTOR TO LAB CONTROL PANEL.	1/2" - 2#12 & #12G

1) PROVIDED BY DIV. 23.  
2) THERMAL SWITCH SQUARE "D" CLASS 2510 PROVIDED BY DIV. 26.

BSL

ROOM ELEC. ROOM			VOLTS 208Y/120V 3P 4W			AIC 10,000					
MOUNTING SURFACE			BUS AMPS 100			MAIN BKR 60					
FED FROM UTILITY			NEUTRAL 100%			LUGS STANDARD					
NOTE: PROVIDE A TYPE WRITTEN AS BUILT DIRECTORY THAT INCLUDES ROOM NUMBERS.											
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA			CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B	C				A	B	C
1	20/1	FUMEHOOD	1.8			2	20/1	RECEPT.	0.36		
3	20/1	REFRIG		0.78		4	20/1	RECEPT.		0.36	
5	20/1	UPRIGHT FREEZER			0.144	6	20/1	RECEPT.			0.54
7	20/1	FREZEER	0.44			8	20/1	(1/4HP) EF-(1,2,4,5)	0.696		
9	20/1	AUTOCLAVE		1.44		10	20/1	RECEPT.		0.54	
11	20/1	INCUBATOR			0.27	12	20/1	RECEPT.			0.54
13	20/1	SAFETY GOOGLES CASE	0.18			14	20/1	RECEPT.	0.54		
15	20/1	SPARE		0		16	20/1	RECEPT.			
17	20/1	SPARE		0	0	18	20/1	SPARE			0
19	20/1	SPARE		0		20	20/1	SPARE	0		
21	20/1	SPARE		0		22	20/1	SPARE		0	
23	20/1	SPARE			0	24	20/1	SPARE			0
TOTAL CONNECTED KVA BY PHASE									4.02	3.66	1.49
			CONN KVA			CALC KVA					
LARGEST MOTOR			0.696	0.174	(25%)	MOTORS			0.696		(100%)
						RECEPTACLES			8.47	8.47	(50%>10)
						TOTAL LOAD				9.34	
						BALANCED 3-PHASE LOAD				25.9 A	

#### GENERAL NOTES:

- COORDINATE WORK AMONG ALL DISCIPLINES. IT IS NOT THE INTENT OF THESE DOCUMENTS TO DICTATE WHO MUST DO THE WORK. ALL WORK SHOWN IS THE RESPONSIBILITY OF THE (PRIME) CONTRACTOR.
- FIELD VERIFY PROJECT SITE EXISTING CONDITIONS AND ELEVATIONS PRIOR TO BEGINNING ANY WORK.
- DRAWINGS ARE SCHEMATIC IN NATURE AND NOT NECESSARILY REFLECT ALL WORK REQUIRED TO COMPLETE PROJECT. CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, AND EQUIPMENT AS REQUIRED TO COMPLETE PROJECT WITHIN DESIGN INTENT AT NO ADDITIONAL COST TO OWNER.
- PHASING AND SEQUENCE OF CONSTRUCTION SHALL BE PER DRAWINGS AND SPECIFICATIONS.
- FIELD VERIFY/SPOT EXACT LOCATIONS AND EXISTING CONDITIONS OF EXISTING ELECTRICAL. IT IS THE INTENT OF THESE PLANS TO PROVIDE A COMPLETE AND WORKABLE SYSTEMS. SHOULD BIDDER FIND OMISSIONS OR DISCREPANCIES IN THE PLANS, BIDDER SHALL NOTIFY THE ENGINEER PRIOR TO THE BID DATE AND A WRITTEN CLARIFICATION WILL BE ISSUED.
- DAMAGED ITEMS SHALL BE REPAIRED AT NO ADDITIONAL COST TO OWNER. CONTRACTORS ARE REQUIRED TO SEARCH AND INVESTIGATE PROJECT SITE BEFORE BEGINNING ANY WORK.
- ALL MATERIALS AND LABOR, WHETHER SPECIFICALLY INDICATED ON PLANS OR NOT, WHICH ARE NECESSARY FOR THE PROPER INSTALLATION AND FUNCTION OF THE SYSTEM SHALL BE FURNISHED BY THIS CONTRACTOR. INCLUDE ALL COSTS OF CHANGES, IF/AS REQUIRED IN BID PROPOSAL.
- PROVIDE J-BOXES AS REQUIRED FOR PULL WIRING.
- IN THE EVENT A CONFLICT BETWEEN DRAWINGS AND/OR SPECIFICATIONS ARISES, THE GREATER AMOUNT OF TOTAL COST SHALL BE PRICED. CONFLICT SHALL BE PRESENTED TO ENGINEER FOR FURTHER DIRECTION(S).
- PERFORM ALL WORK PER LATEST VERSION OF NATIONAL ELECTRICAL CODE, AND APPLICABLE LOCAL CODES AND ORDINANCES, UNLESS DRAWINGS OR SPECIFICATIONS HAVE MORE STRINGENT REQUIREMENTS.
- CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND FEES ASSOCIATED WITH PROJECT, INCLUDING FEES FOR INSPECTIONS, APPLICATIONS, AND PROVISION OF NEW SERVICES.
- ALL ELECTRICAL WORK SHALL BE UNDER THE MASTER ELECTRICIAN WHO PULLED THE PERMIT AND ITS JOURNEYMAN ELECTRICIANS.
- NOTIFY ENGINEER OF ANY ASPECTS OF DESIGN WHICH ARE THOUGHT TO BE IN NONCOMPLIANCE WITH APPLICABLE CODES.
- COORDINATE ALL WORK WITH OTHER TRADES; COORDINATE SCHEDULE OF WORK WITH ALL SUB-CONTRACTORS TO ACHIEVE SMOOTH FLOW OF CONSTRUCTION.
- SEAL AROUND ELECTRICAL RACEWAYS AT ALL WALLS, A/C ROOMS AND WALL LOUVER PENETRATIONS WITH FIREPROOF CAULKING. RE: SPECS. PROVIDE FLASHING AROUND PENETRATION, BOTH INSIDE AND OUTSIDE, TO PROVIDE FINISHED LOOK.
- TIME OR MONEY ALLOWANCES WILL NOT BE MADE TO ACCOMMODATE CONFLICTS THAT CAN BE REASONABLY RESOLVED BY COORDINATION DURING SHOP DRAWING PHASE.
- CONTRACTOR SHALL REVIEW COMPLETE DOCUMENTS PRIOR TO SUBMITTAL OF PROPOSAL TO GAIN COMPLETE UNDERSTANDING OF PROJECT SCOPE, WORK BY OTHERS, AND ELECTRICAL WORK ASSOCIATED WITH OTHER DISCIPLINES.
- MAINTAIN MANUFACTURER RECOMMENDED CLEARANCE AROUND ALL EQUIPMENT.
- AFFIX ID TAGS TO ALL DIVISION 26 EQUIPMENT.
- FIELD VERIFY ALL CONDITIONS AND MEASURE DIMENSIONS WITHIN THE BUILDING PRIOR TO ORDERING EQUIPMENT AND/OR PROCEEDING WITH INSTALLATION.
- ALL EQUIPMENT SHALL BE FACTORY TESTED, AND CONTRACTOR SHALL VERIFY THEIR CONDITION PRIOR TO INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR EQUIPMENT DAMAGED DURING MOVING AND INSTALLATION.
- EQUIPMENT FOUND DEFECTIVE PRIOR TO FINAL ACCEPTANCE SHALL BE REPLACED AT NO COST TO OWNER.
- WORK TO BE DONE UNDER ALLOWANCES BECOMES AN INTEGRAL PART OF THE PROJECT AND RESPONSIBILITY OF CONTRACTOR ONCE ALLOWANCE IS APPROVED.
- PRIOR TO SUBMITTING BID CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AND MAKE PROVISION IN THEIR BID FOR CONDITIONS. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL NOT BE CONSIDERED JUSTIFICATION FOR THE OMISSION OF FAULTY INSTALLATION OF ANY WORK COVERED BY THE CONTRACT DOCUMENTS.
- CONTRACTOR SHALL NOT PROCEED WITH ANY WORK INVOLVING A CHANGE IN PROJECT SCOPE OR COST WITHOUT FIRST HAVING OBTAINED ENGINEER'S APPROVAL IN WRITING. UNLESS ENGINEER HAS AGREED TO SUCH CHANGE PRIOR TO IT BEING DONE, AND HAS AGREED THAT AN INCREASE IN COST ASSOCIATED WITH SUCH CHANGE IS WARRANTED, CONTRACTOR WILL NOT BE REIMBURSED FOR SUCH CHANGE.
- ALL INTERIOR RACEWAYS SHALL BE EMT.
- USE LONG-SWEEPS ELBOWS FOR ALL CHANGES IN DIRECTION ON CONDUIT RUNS.
- HAND-WRITTEN CIRCUIT BREAKER DIRECTORIES WILL NOT BE ACCEPTED. DIRECTORIES MUST BE COMPUTER GENERATED AND PRINTED TO REFLECT FINAL INSTALLED CONDITIONS.
- MARK ALL J-BOXES WITH INDELEIBLE INK, INDICATING POWER CIRCUITRY INFORMATION. LABEL ALL EQUIPMENT ITEMS PER SPECIFICATIONS.
- PROVIDE ADDITIONAL SPARE MATERIALS DESCRIBED BELOW FOR EACH CAMPUS. PROVIDE PROTECTIVE COVERING FOR STORAGE & IDENTIFIED WITH LABELS DESCRIBING THE CONTENTS. INCLUDE THE INSTALLATION COST, FITTINGS AND SUPPORTS IN THE BASE BID PROPOSAL:  
A. 100 LINEAR FEET: 3/4" - 2#12 & #12G

#### CEILING DEMO GENERAL NOTES:

- PRIOR TO REMOVAL OF CEILINGS REQUIRED FOR NEW ELECTRICAL WORK PREPARE REFLECTED CEILING PLAN SKETCH SHOWING LOCATIONS OF ALL CEILING COMPONENTS AND DEVICES TO BE RE-USED INCLUDING BUT NOT LIMITED TO: EXISTING LIGHT FIXTURES, SPEAKERS, FIRE ALARM DEVICES, EMERGENCY LIGHTING, WIRELESS ACCESS POINTS, ETC. IF ANY OF THE ABOVE ITEMS ARE IN NON-WORKING CONDITION, SUBMIT A WRITTEN REPORT TO OWNER/ENGINEER.
- CONTRACTOR TO EVALUATE CEILING GRID PRIOR TO REMOVAL AND DOCUMENT ALL BROKEN, CRACKED, MISSING TILES, ETC. AND PROVIDE REPORT TO OWNER AND ENGINEER. TILES DAMAGED BY CONTRACTOR SHALL BE REPLACED BY CONTRACTOR.
- ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR DETERMINING THEIR OWN ROUTES FROM POWER SOURCE AND OR HEAD-END TO EQUIPMENT.

#### DEMOLITION GENERAL NOTES:

- REFER TO ARCHITECTURAL SPECIFICATIONS FOR PHASING REQUIREMENTS.
- THE EXTENT OF DEMOLITION WORK IS INDICATED ON THE ARCHITECTURAL DRAWINGS AND BY THE REQUIREMENTS OF THIS SECTION. A VISIT TO THE SITE IS REQUIRED TO PROPERLY BID THE DEMOLITION WORK.
- REMOVED MATERIALS SHALL BELONG TO OWNER. DELIVER THEM TO OWNERS DESIGNATED LOCATION. IF OWNER DOES NOT WANT THE REMOVED MATERIALS THEN REMOVE THEM FROM SITE & PROPERLY DISPOSE OF THEM.
- IF REMOVAL OF EXISTING ELECTRICAL SYSTEMS RENDERS EXISTING ELECTRICAL SYSTEMS DOWNSTREAM TO REMAIN INOPERABLE, PROVIDE J-BOXES, CONDUIT WIRING AND SPLICES ABOVE ACCESSIBLE CEILINGS IN ORDER TO CONTINUE OPERATION.
- PROVIDE BLANK COVER PLATE FOR UNUSED BACK BOXES. PAINT TO MATCH EXISTING WALLS.
- REFER TO ARCHITECTURAL DEMOLITION DRAWINGS FOR WALL AND CEILINGS TO BE REMOVED.
- PRIOR TO DEMOLITION, IN CEILINGS SCHEDULED TO BE REMOVED AND (OR) REPLACED FOR NEW WORK, PREPARE REFLECTED CEILING PLAN SKETCH SHOWING LOCATIONS OF ALL CEILING COMPONENTS AND DEVICES TO BE RE-USED INCLUDING BUT NOT LIMITED TO:  
• LIGHT FIXTURES  
• SPEAKERS  
• WIRELESS ACCESS POINTS  
• FIRE ALARM DEVICES  
• ETC.  
IF ANY OF THE ABOVE ITEMS ARE IN NON-WORKING CONDITION, SUBMIT A WRITTEN REPORT TO OWNER/ARCHITECT. TEMPORARY SUPPORT AND OR REMOVAL OF THESE SYSTEMS SHALL BE PROVIDED FOR NEW WORK.

#### ABBREVIATIONS:

A	AMPS	EXT.	EXTERNAL OR EXTERIOR	MOOP	MAX. OVERCURRENT PROTECTION
ABC	ABOVE CEILING LINE	G.	GROUND	NTS	NOT TO SCALE
AFF	ABOVE FINISHED FLOOR	GA.	GAGE	PNL	PANELBOARD
B.	BOTTOM	GALV.	GALVANIZED	P	POLE(S)
BLC.	BELOW CEILING LINE	GRND.	GROUND	PH	PHASE
C.	CONDUIT OR COMMON	HP	HORSEPOWER	RM.	ROOM
CLG.	CEILING	HVAC	HEATING, VENTILATION, & AIR CONDITIONING	TFORMER	TRANSFORMER
COMB.	COMBINATION			TSTAT	THERMOSTAT
COND.	CONDUIT	MECH	MECHANICAL	UNO	UNLESS OTHERWISE NOTED
CU.	COPPER	MS	MOTOR STARTER	V	VOLTS
DISC.	DISCONNECT	MCA	MINIMUM CIRCUIT AMPACITY	W	WIRE

#### WIRING DEVICES SYMBOL LEGEND:

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
	QUADPLEX TAMPER RESISTANT RECEPTACLE - HUBBELL MODEL #BR20WTR (WHITE)	18" AFF
	DUPLEX RECEPTACLE FOR WHITE BOARD PROJECTOR - EXISTING	- - - -
	JUNCTION BOX W/ BLANK STAINLESS STEEL COVER PLATE - EXISTING	- - - -
	DUPLEX TAMPER RESISTANT RECEPTACLE - HUBBELL MODEL #BR20WTR (WHITE) - EXISTING	18" AFF
	DUPLEX RECEPTACLE HOSPITAL GRADE TAMPER RESISTANT W/ GROUND FAULT INTERRUPTING TYPE - HUBBELL MODEL #RST825W (WHITE)	18" AFF
	DUPLEX RECEPTACLE TAMPER RESISTANT MOUNT @ +4" HORIZONTALLY ABOVE COUNTER BACKSPASH (UNO)	4" ACB
	POWER POLE W/ WIRING DEVICES AS NOTED	- - - -

NOTES:

1.) 18" AFF INDICATED TO TOP OF DEVICE;  
UNO INDICATES UNLESS NOTED OTHERWISE.

#### GENERAL SYMBOL LEGEND:

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
	1P TOGGLE SWITCH-THERMAL TYPE - SQUARE "D" CLASS 2510 W/ RED PILOT LIGHT & HANDLE GUARD/LOCK OFF.	AS REQUIRED
	ELECTRICAL PANELBOARD - SURFACE MOUNTED	AS REQUIRED
	CONCEALED RACEWAY	AS REQUIRED
	CONDUIT OR EMT HOMERUN TO PANELBOARD CONCEALED IN WALLS OR ABOVE CEILING. LONG CROSSMARKS DENOTE NUMBER OF "HOT" CONDUCTORS. SHORT CROSSMARKS INDICATE NEUTRALS AND DOTS INDICATE NUMBER OF GROUND CONDUCTORS. ARROW INDICATES HOME RUN TO ELECTRICAL PANEL.	AS REQUIRED

#### INTERCOM SYSTEMS SYMBOL LEGEND:

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
	INTERCOM BUTTON - EXISTING	48" AFF
	LAY-IN 2' x 2' INTERCOM SPEAKER - EXISTING	CLG.

#### SPECIAL SYSTEMS SYMBOL LEGEND:

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
	DATA OUTLET/VOICE OVER IP - PROVIDE BACK BOX WITH 1" RACEWAY STUBBED INTO ACCESSIBLE CLG. WITH PULL WIRE - SEE DETAIL. NUMBER INDICATES AMOUNT OF DATA DROPS.	18" AFF
	WIRELESS ACCESS POINT - EXISTING	CLG.
	JUNCTION BOX FOR WHITE BOARD PROJECTOR - EXISTING	- - - -
	MULTIMEDIA OUTLET - EXISTING	18" AFF

#### FIRE ALARM SYMBOL LEGEND:

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
	FIRE ALARM STROBE CEILING OR WALL MOUNTED - EXISTING	80" AFF
	FIRE ALARM SPEAKER STROBE CEILING OR WALL MOUNTED - EXISTING	80" AFF

#### LIGHTING SYMBOL LEGEND:

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
	2'X4' LIGHT FIXTURE - TYPE AS NOTED	- - - -
	EMERGENCY 2'X4' LIGHT FIXTURE-TYPE AS NOTED CONNECT BATTERY PACK TO BE ON AT ALL TIMES (UNSWITCHED)	- - - -

NOTES:

1.) REFERENCE LIGHT FIXTURE SCHEDULE FOR ALL MOUNTING HEIGHTS.

#### LIGHTING CONTROL SYMBOLS:

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
	LIGHT SWITCH - EXISTING	48" AFF
	VACANCY/OCCUPANCY SENSOR - EXISTING	CLG.

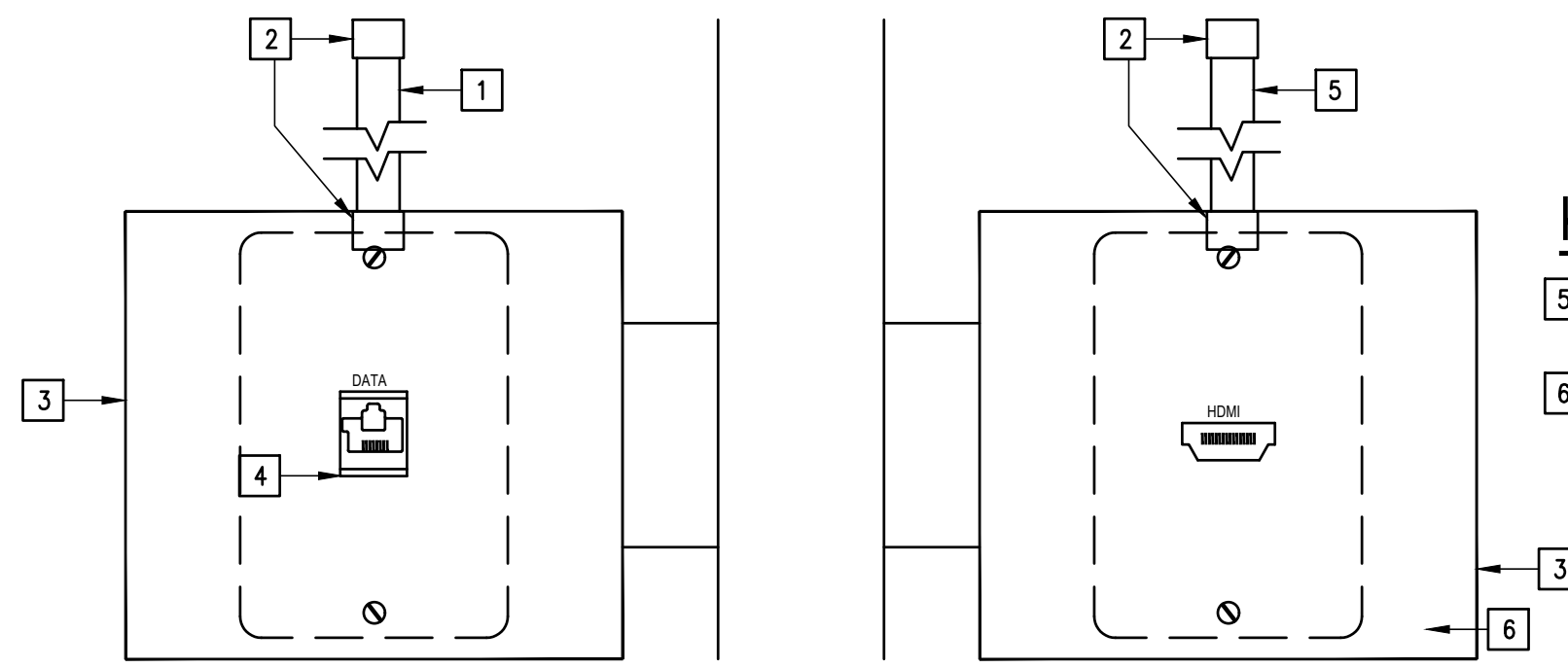
NOTES:

1.) 48" AFF INDICATES TO TOP OF DEVICE; ALL OTHER MOUNTING HEIGHTS REFER TO CENTERLINE OF DEVICE. REFERENCE LIGHTING CONTROL SCHEMATIC DETAILS FOR ALL LUTRON CONTROLS WIRING REQUIREMENTS.



# KEYED NOTES:

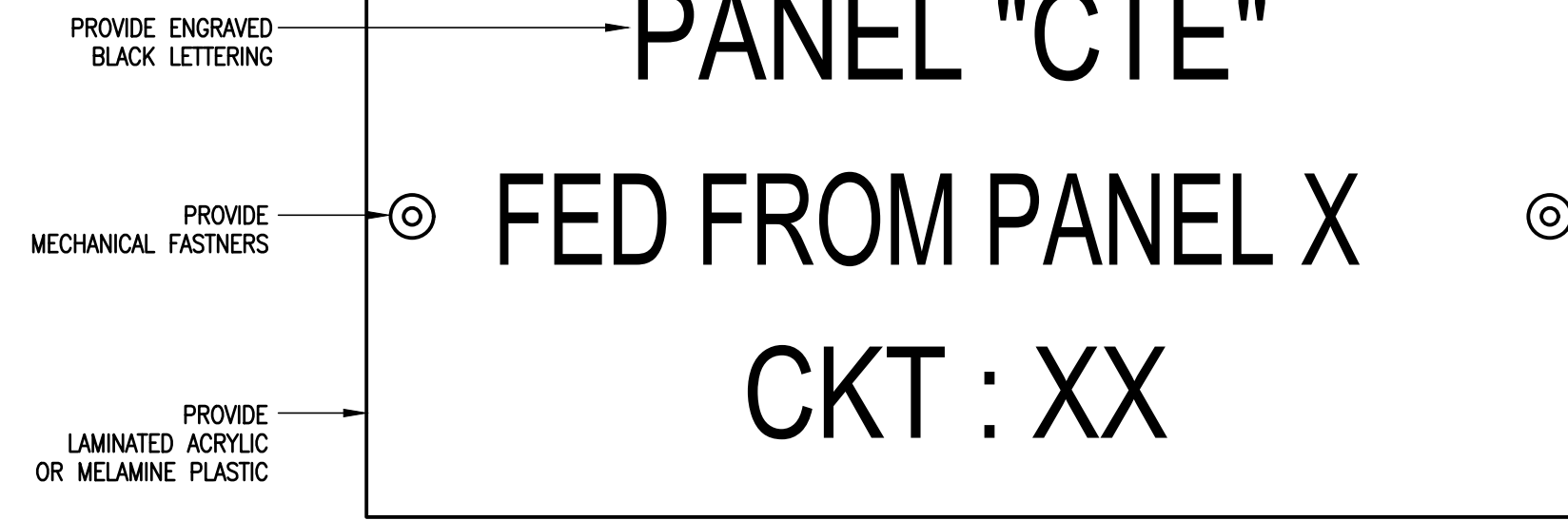
- 1 PROVIDE 1" EMT STUBBED ABOVE CLG.
- 2 PROVIDE INSULATING BUSHING.
- 3 PROVIDE 2-GANG MUD RING. PROVIDE METAL STRAP SECURE TO METAL STUD.
- 4 PROVIDE CAT6 JACK.



01 MULTI MEDIA OUTLET DETAIL  
SCALE : NOT TO SCALE

# KEYED NOTES:

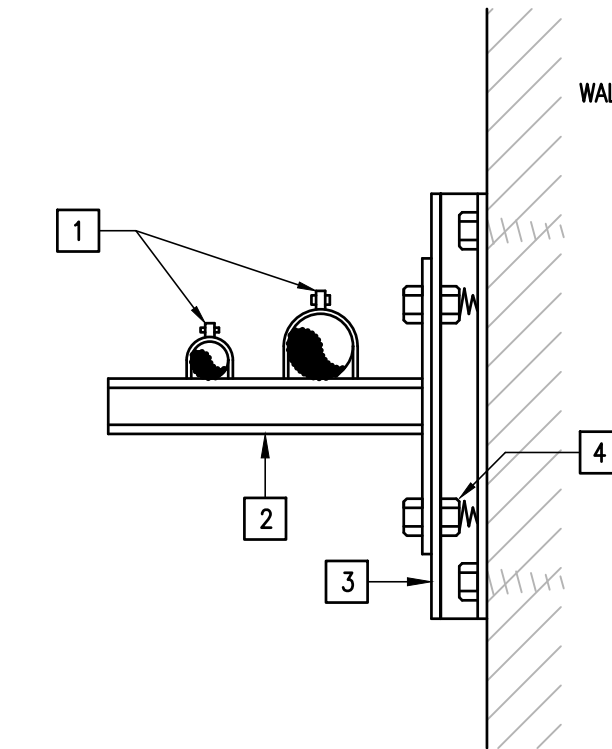
- 5 PROVIDE 1.5" EMT STUBBED ABOVE CLG.
- 6 PROVIDE A STAINLESS STEEL COVER PLATE.



02 EQUIPMENT IDENTIFICATION LABEL DETAIL  
SCALE : NOT TO SCALE

# KEYED NOTES:

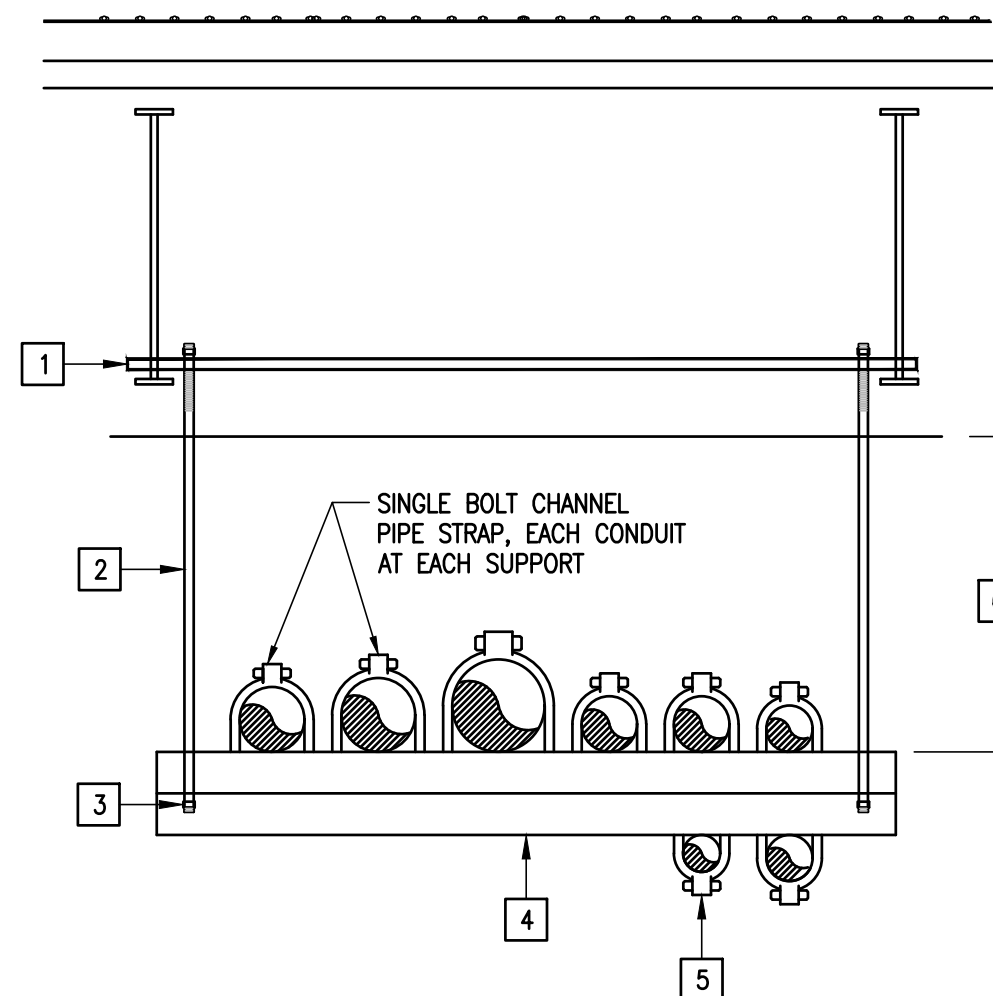
- 1 PROVIDE CONDUIT CLAMPS.
- 2 PROVIDE GALVANIZED UNISTRUT WALL BRACKET.
- 3 PROVIDE RAMSET OR BOLT GALVANIZED UNISTRUT TO WALL.
- 4 PROVIDE SELF HOLDING CLAMPING NUT WITH SPRING.



03 RACEWAY RUNS SUPPORT DETAIL  
SCALE : NOT TO SCALE

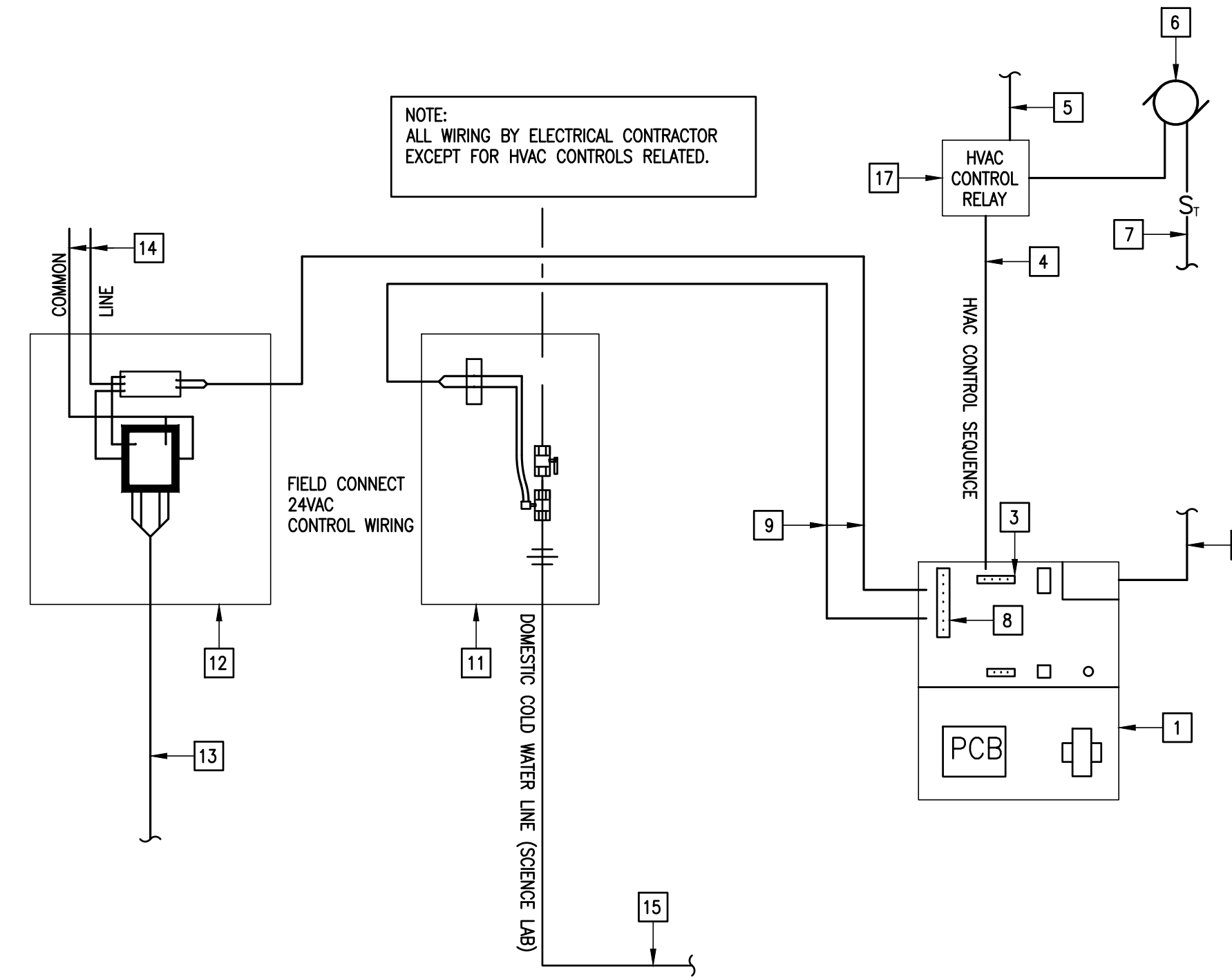
# KEYED NOTES:

- 1 PROVIDE UNISTRUT STRUCTURAL CHANNEL SECURED TO JOIST AT BOTH ENDS.
- 2 PROVIDE 1/2" GALVANIZED ROD MINIMUM.
- 3 PROVIDE LOCKNUT.
- 4 PROVIDE GALVANIZED UNISTRUT 8"-0" O/C MAXIMUM.
- 5 0"-1" MAXIMUM SIZE ON BOTTOM OF UNISTRUT.
- 6 VARIES.



04 HORIZONTAL RACEWAYS SUPPORT DETAIL  
SCALE : NOT TO SCALE

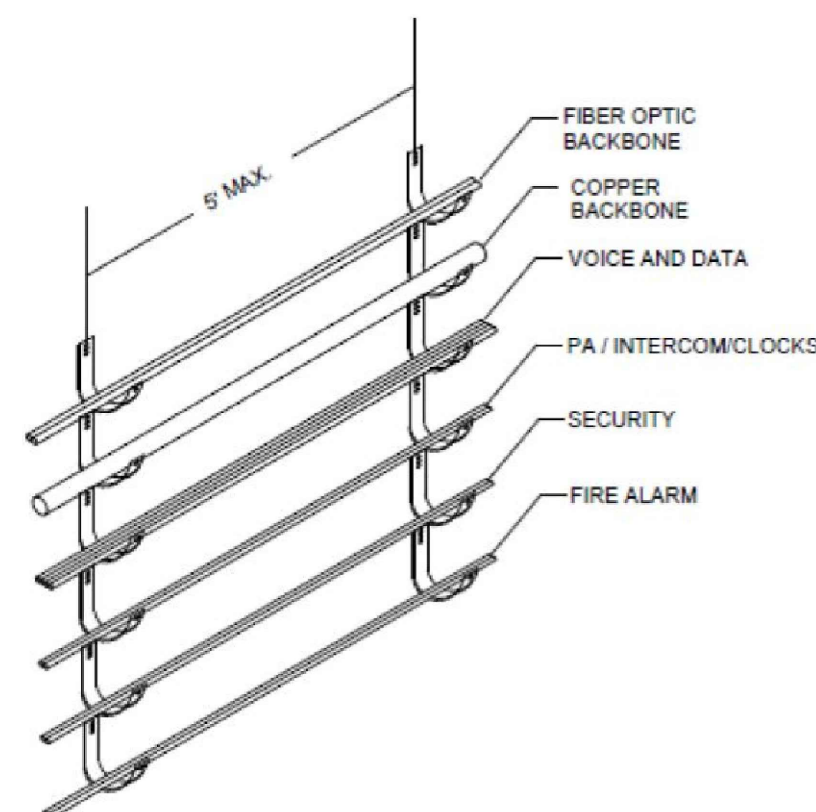
NOTE: ALL WIRING BY ELECTRICAL CONTRACTOR EXCEPT FOR HVAC CONTROLS RELATED.



05 TYPICAL SCIENCE LAB UTILITY CONTROLS DETAIL  
SCALE : NOT TO SCALE

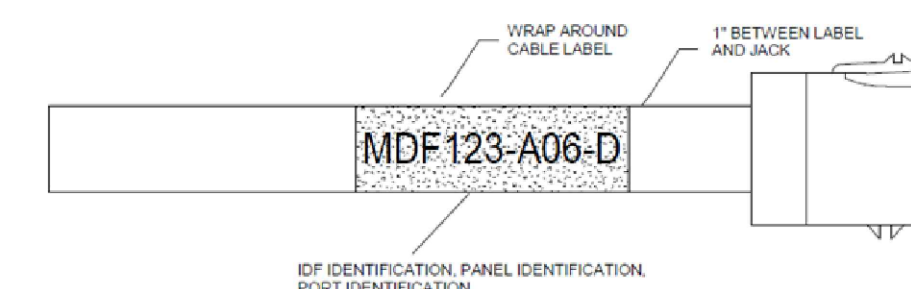
# KEYED NOTES:

- 1 PROVIDE LAB UTILITY CONTROLLER WITH PANIC BUTTON (PURGE), ADDITIONAL LOW SPEED SWITCH, FIELD CONFIGURE CONTROLS.
- 2 PROVIDE 120VAC POWER SUPPLY WIRING IN CONDUIT MAKE CONNECTION @ J-BOX.
- 3 PROVIDE ENERGY MANAGEMENT CONTROL CONTACTOR TO MAKE CONNECTIONS TO TERMINAL 1.
- 4 PROVIDE 1/2" EMT AND CONTROL WIRING FROM AIR HANDLING DEVICE.
- 5 TO HVAC CONTROL PANEL.
- 6 EXHAUST FAN BY MECHANICAL CONTRACTOR. EXHAUST FAN SHALL ACTIVATE HIGH SPEED TO PURGE MODE ON PANIC. PROVIDE ADDITIONAL LOW SPEED CONTROL SWITCH. SEE CONTROLS SEQUENCE.
- 7 PROVIDE 120V, 1Ø LINE & NEUTRAL FROM PANELBOARD.
- 8 CONNECT OUTPUT CIRCUIT WIRING TO TERMINAL 2.
- 9 PROVIDE 1/2" EMT FIELD INSTALLED. PROVIDE NEW 18AWG TO EACH SOLENOID AND RELAY.
- 10 TO ADJACENT LAB UTILITY CONTROLLER.
- 11 PROVIDE SOLENOID ENCLOSURE.
- 12 PROVIDE CONTACTOR ENCLOSURE.
- 13 PROVIDE 120VAC TO CONVENIENCE OUTLETS.
- 14 PROVIDE 120V FROM PANELBOARD.
- 15 PROVIDE CONNECTIONS TO SCIENCE LAB TABLES - TYPICAL.
- 16 HVAC CONTROL RELAY BY DIV. 23.

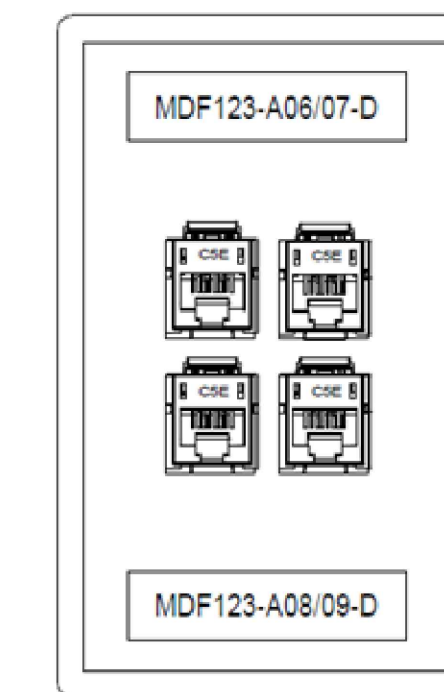


06 CABLE SUPPORT DETAIL  
SCALE : NOT TO SCALE

1. NO MORE THAN 50, 25' CABLES PER 2.5' SUPPORT.
2. SUPPORTS SHALL BE INSTALLED AT A MAXIMUM 5' ON CENTER.
3. SUPPORTS SHALL BE A MINIMUM 3" ABOVE SUSPENDED CEILING.
4. SEPERATE SUPPORTS REQUIRED FOR EACH CABLE TYPE AS ILLUSTRATED. EACH SYSTEM CONTRACTOR TO PROVIDE AND INSTALL THE SUPPORTS FOR THEIR OWN SYSTEM.
5. SUPPORTS SHALL ATTACHED TO THE BUILDING STRUCTURE.
6. ALL SUPPORTS SHALL BE INSTALLED AT A SERVICABLE HEIGHT.

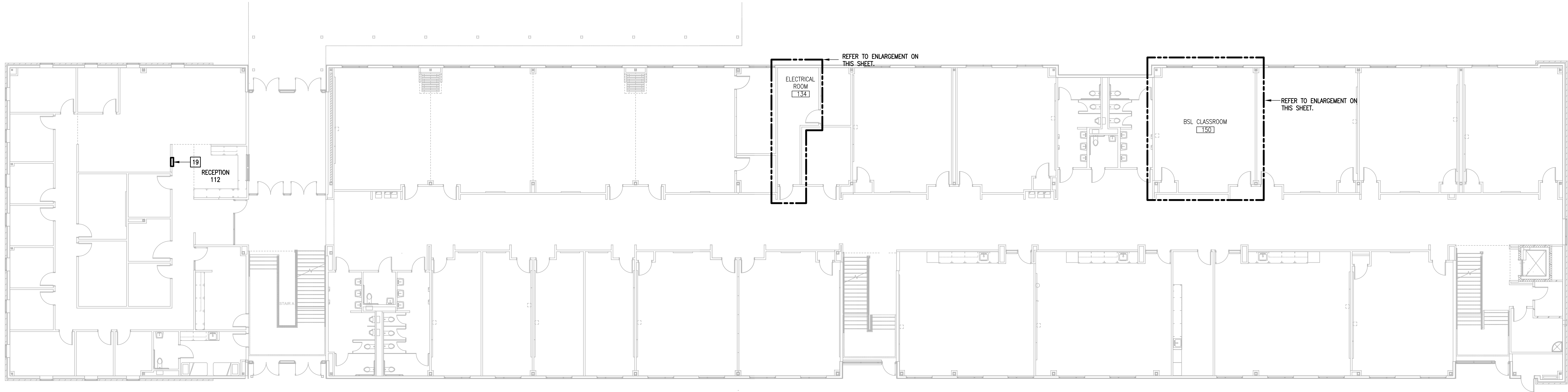


07 CABLE LABEL DETAIL  
SCALE : NOT TO SCALE

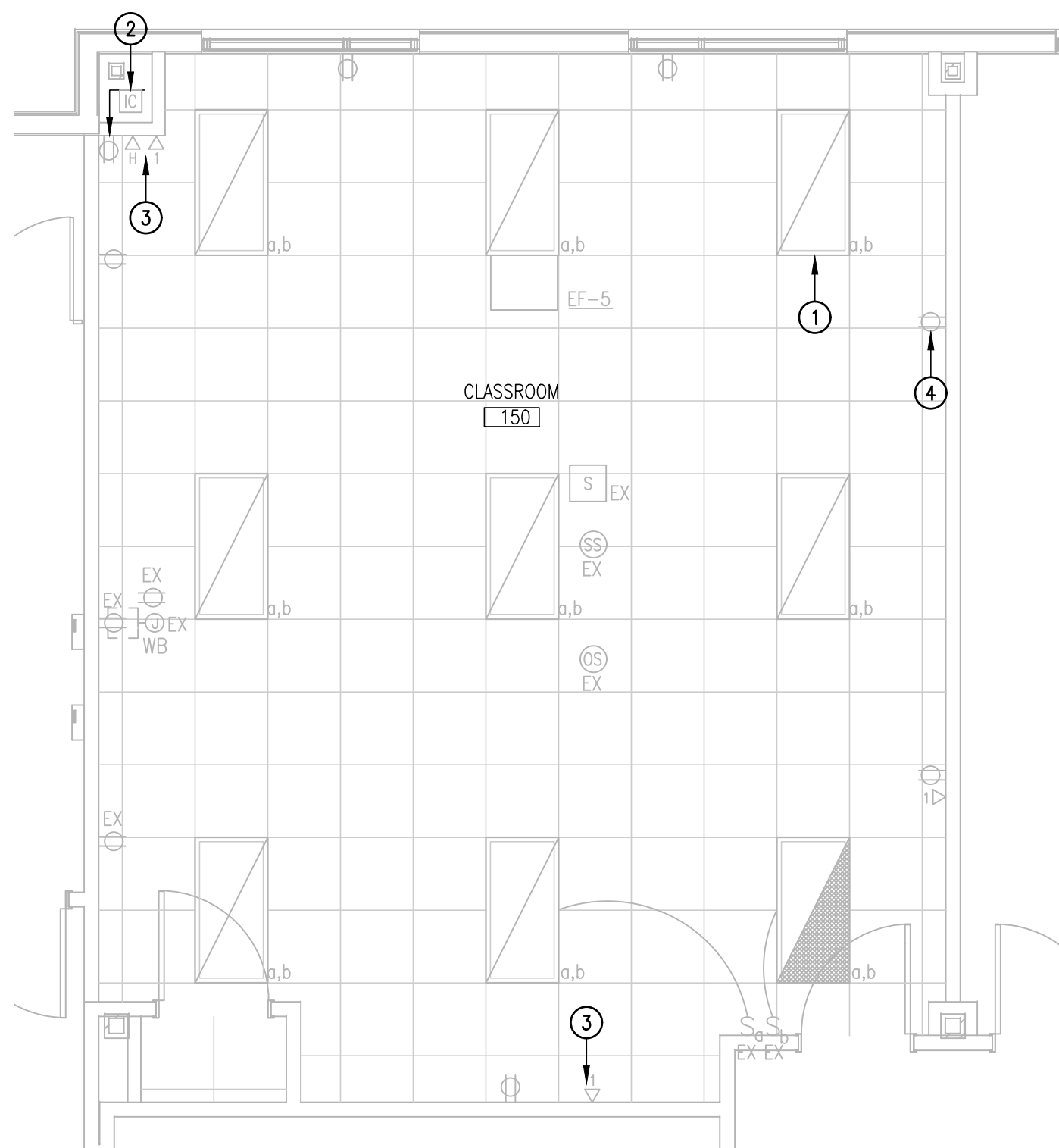


08 TYPICAL TECHNOLOGY OUTLET CONFIGURATION DETAIL  
SCALE : NOT TO SCALE

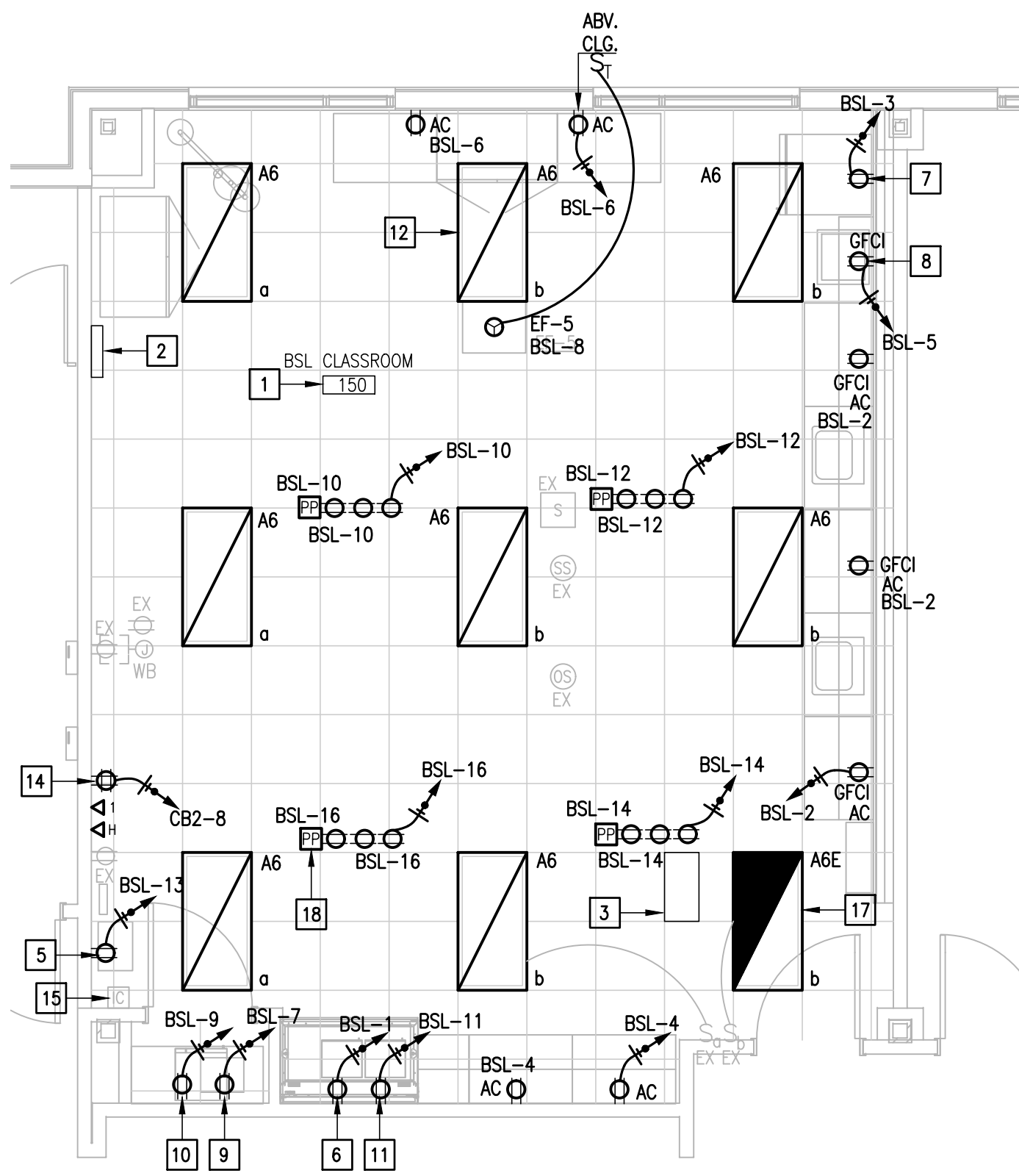




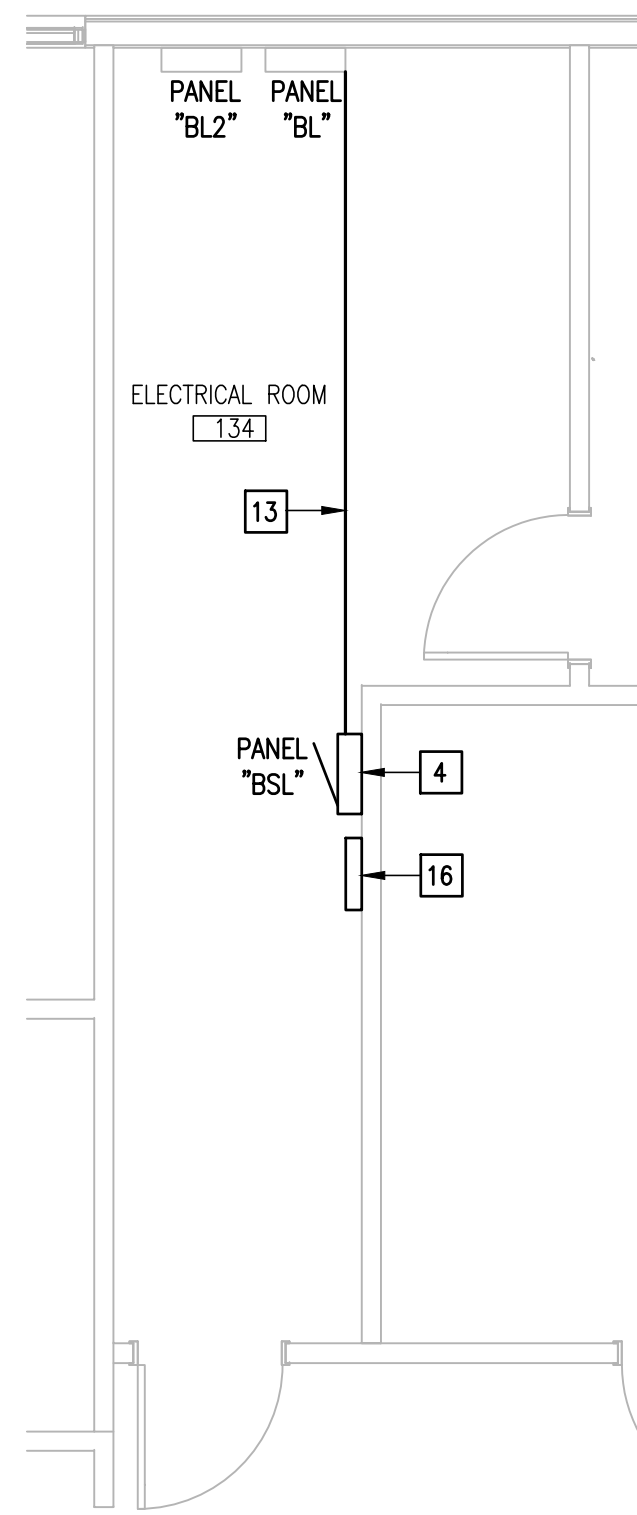
01 ELECTRICAL FIRST FLOOR PLAN  
SCALE : 3/32" = 1'-0"



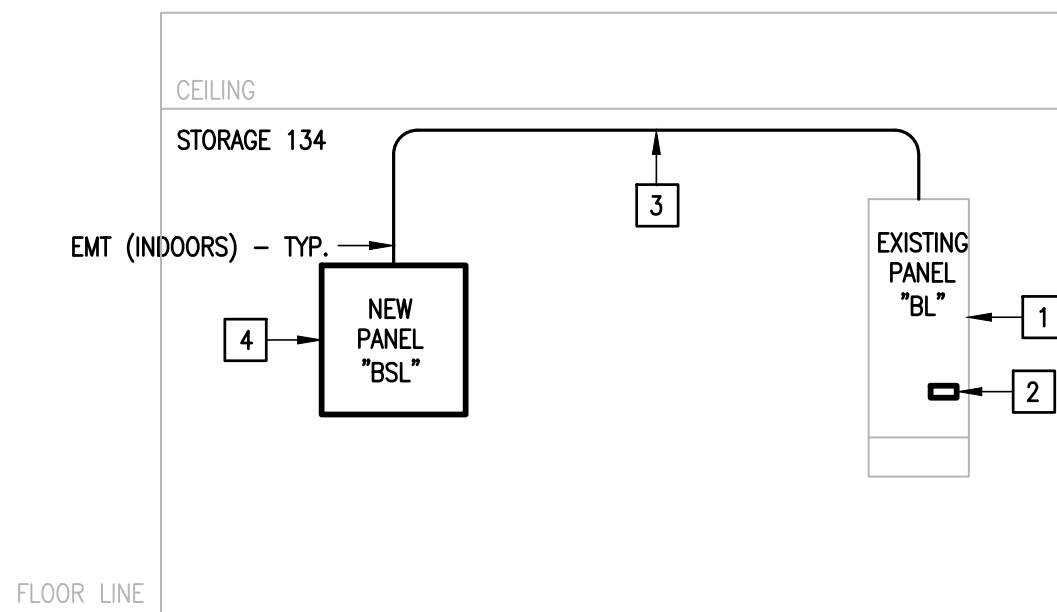
02 DEMOLITION ENLARGEMENT  
ELECTRICAL & LIGHTING PLAN  
SCALE : 1/4" = 1'-0"



03 RENOVATION ENLARGEMENT  
ELECTRICAL & LIGHTING PLAN  
SCALE : 1/4" = 1'-0"



04 ENLARGEMENT  
ELECTRICAL PLAN  
SCALE : 1/4" = 1'-0"



05 IDEA MAYS  
ELECTRICAL RISER DIAGRAM  
SCALE : NONE TO SCALE

GENERAL NOTES:

- BRANCH CIRCUIT HOMERUNS SHALL BE 3/4" - 2#12 & #12G. 20A/277V HOMERUNS EXCEEDING 200FT THE WIRE SIZE SHALL BE #10 & #8 FOR 275'.
- INTERIOR LIGHTING CONTROLS SHALL BE BY EXISTING VACANCY/OCCUPANCY SENSORS.
- PROVIDE 0-10V SIGNAL WIRING TO EACH DIMMED LIGHT EXISTING DRIVER AND WALL SWITCH.
- EACH 20A/1P BRANCH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL.
- HOMERUNS - INSTALL NO MORE THAN THREE PER RACEWAY (INCLUDING LIGHTING BRANCH CIRCUITS); 3 INSULATED "HOT", 3 INSULATED "NEUTRAL" AND 1 SHARED "GROUND".
- PROVIDE ALL ELECTRICAL RECEPTACLES INSTALLED WITH THE GROUND OPENING IN THE "UP" POSITION.
- PROVIDE J-HOOKS TO SUPPORT THE FIRE ALARM, VOICE, INTERCOM AND DATA CABLING.
- PROVIDE FIRE STOPPING AT ALL FIRE WALL PENETRATIONS; PROVIDE EXPANSION PLATES & BONDING JUMPERS AT BUILDING EXPANSION JOINTS.
- USE TAMPER RESISTANT RECEPTACLES THROUGHOUT.
- ITEMS DESIGNATED WITH AN "EX" ARE EXISTING TO REMAIN AS IS.
- WHERE RACEWAY CONDUIT CAN NOT BE CONCEALED PROVIDE STEEL SURFACE RACEWAY AND PULLBOX (WIREMOLD).

ELECTRICAL RISER DIAGRAM  
KEYED NOTES:

- EXISTING SIEMENS MODEL#P2C54JD400FTS 208/120V 3Ø, 4W PANELBOARD "BL".
- PROVIDE NEW 60A/3P BREAKER AT AVAILABLE SPACE.
- PROVIDE 1" - 4#6 & #10G.
- PROVIDE NEW PANELBOARD. REFER TO SCHEDULE.

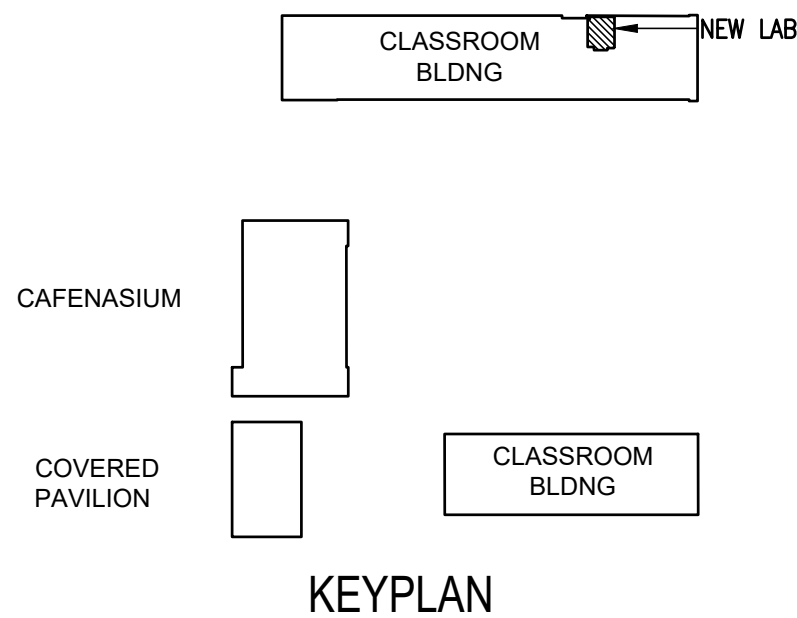
WALL LEGEND	
	DENOTES EXISTING WALL TO BE DEMOLISHED.
	DENOTES EXISTING WALL TO REMAIN.
	DENOTES NEW WALL.

DEMOLITION KEYED NOTES:

- DISCONNECT AND REMOVE EXISTING LIGHTING FIXTURE - TYPICAL.
- DISCONNECT AND REMOVE EXISTING INTERCOM DEVICE FOR RELOCATION.
- DISCONNECT AND REMOVE EXISTING DATA AND HDMI OUTLET.
- DISCONNECT AND REMOVE EXISTING RECEPTACLE - TYPICAL. RECEPTACLE WITH AN "EX" SHALL REMAIN.

RENOVATION KEYED NOTES:

- CONNECT ALL RECEPTACLE CIRCUITS (EXCLUDING THE COMPUTER RECEPTACLES AND APPLIANCES) IN THIS ROOM THROUGH THE CORRESPONDING CONTACTOR ENCLOSURES FOR EMERGENCY SHUTOFF PURPOSES THEN THROUGH THE CORRESPONDING PANEL.
- PROVIDE (SURFACE) EMERGENCY UTILITY CONTROLLER W/ PURGE FAN CIRCUIT & ADDITIONAL LOW SPEED CONTROL SWITCH FACING. CONTROLLER SHALL BE E & I COMPANY MODEL NO. LCP-3-W-E-F-RT. BRANCH CIRCUIT: 1/2" RACEWAY - 2#12 & #12G. MOUNT AT 48" A.F.F. TO CENTER OF HIGHEST SWITCH. SEE SCIENCE LAB UTILITY CONTROLS DETAIL. PROVIDE FURR-DOWN TO CONCEAL RACEWAY.
- PROVIDE (SURFACE MOUNTED) LOW VOLTAGE RELAYS FOR SOLENOID ENCLOSURE. ENCLOSURE SHALL BE E & I COMPANY VP-1-CW-3/4"-T-S. COORDINATE THE EXACT LOCATION W/ THE ARCHITECT. COORDINATE THE INSTALLATION W/ THE PLUMBING CONTRACTOR. MOUNT ABOVE CEILING. SEE SCIENCE LAB UTILITY CONTROLS DETAIL.
- NO DUCTWORK OR PIPING TO BE ROUTED ABOVE PANELBOARDS. COORDINATE WITH OTHER TRADES - TYPICAL.
- CONNECT SAFETY GOGGLE CABINET.
- CONNECT FUMEHOOD 115V, 15A. CONNECT BRANCH CIRCUIT TO THE MOTOR, LIGHT, & SWITCH. BSL-1. MOUNT THE THERMAL SWITCH ABOVE THE FUMEHOOD IN THE ACCESSIBLE CEILING SPACE.
- CONNECT REFRIGERATOR 120V, 6.5A.
- CONNECT UPRIGHT FREEZER 115V, 1.2A.
- CONNECT FREEZER 110V, 380WATTS.
- CONNECT AUTOCLAVE 120V, 12A.
- CONNECT INCUBATOR 115V, 235WATTS.
- CONNECT NEW LIGHT FIXTURE TO EXISTING LIGHTING CIRCUIT. EXTEND EXISTING BRANCH CIRCUIT AS NECESSARY TO REACH NEW POINT OF CONNECTION. MODIFY EXISTING SWITCHING AS REQUIRED FOR NEW ZONES - TYPICAL.
- PROVIDE NEW FEEDER ABOVE ACCESSIBLE CEILING SPACE.
- PROVIDE NEW WIRING DEVICE FLUSH MOUNTED IN EXISTING WALL. CONNECT NEW DEVICE TO EXISTING CIRCUIT. EXTEND EXISTING BRANCH CIRCUIT AS NECESSARY TO REACH NEW POINT OF CONNECTION - TYPICAL.
- EXISTING INTERCOM DEVICE AT NEW LOCATION. PROVIDE NEW WIRING.
- PROVIDE (SURFACE MOUNTED) CONTACTOR ENCLOSURE. ENCLOSURE SHALL BE E & I COMPANY ECP-24-FC. SEE SCIENCE LAB UTILITY CONTROLS DETAIL.
- CONNECT EMERGENCY BATTERY PACK TO BE CHARGING AT ALL TIMES (UNSWITCHED). LIGHT FIXTURE SHALL BE OPERATED BY THE CORRESPONDING SWITCH.
- PROVIDE POWER POLE HUBBELL MODEL #SP1100XXXXXXDL FURNISH WITH (3) DUPLEX RECEPTACLES - TYPICAL. COORDINATE EXACT LOCATION WITH OWNER/FURNITURE.
- APPROXIMATE LOCATION OF EXISTING FIRE ALARM CONTROL PANEL. FIELD VERIFY EXISTING MANUFACTURER.



1128 SOUT COMMERCE ST.  
HOUSTON, TX  
PHONE: 832-226-3455  
TEXAS REGISTERED  
ENGINEERING FIRM  
F-13998

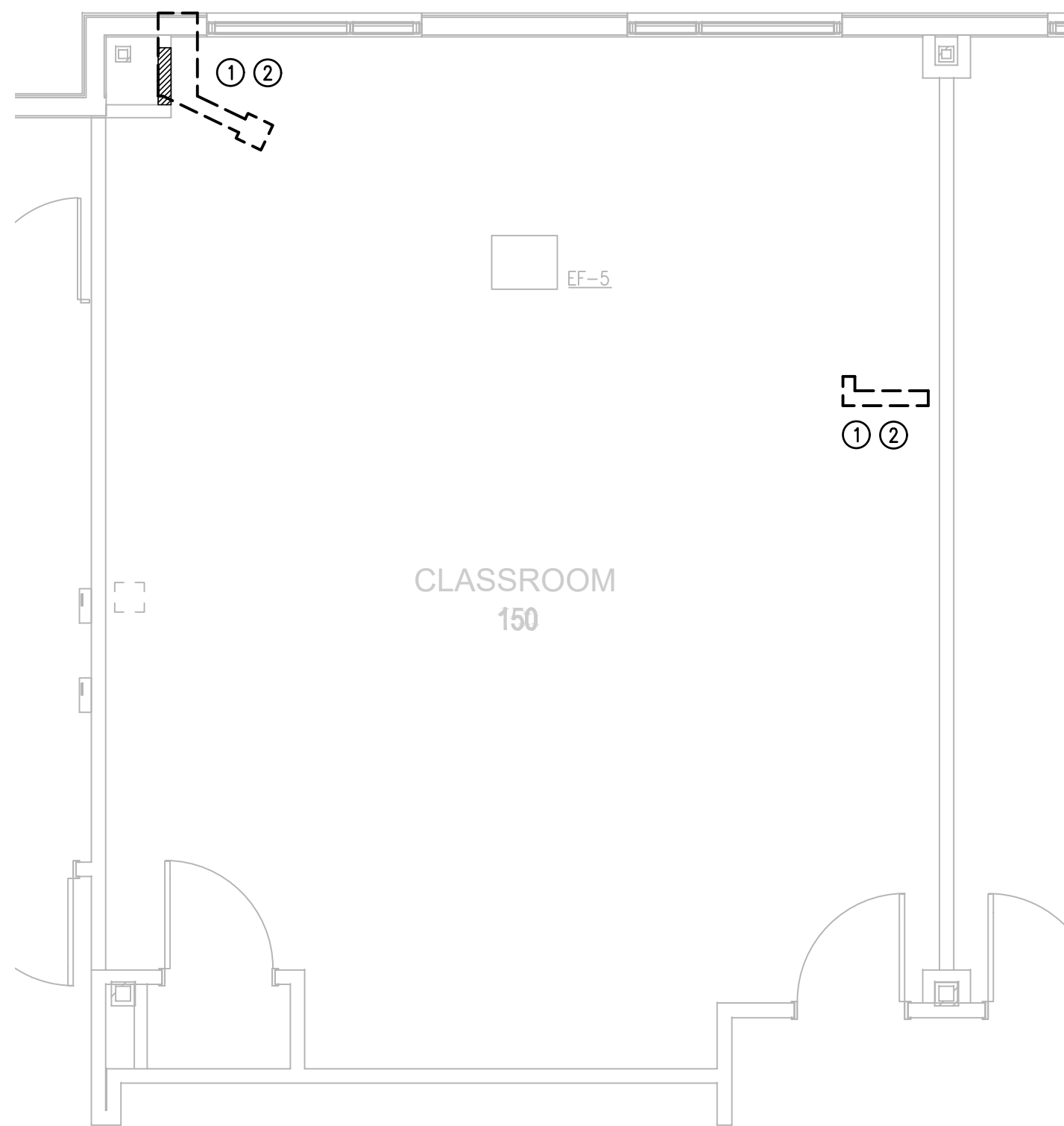
MAYS





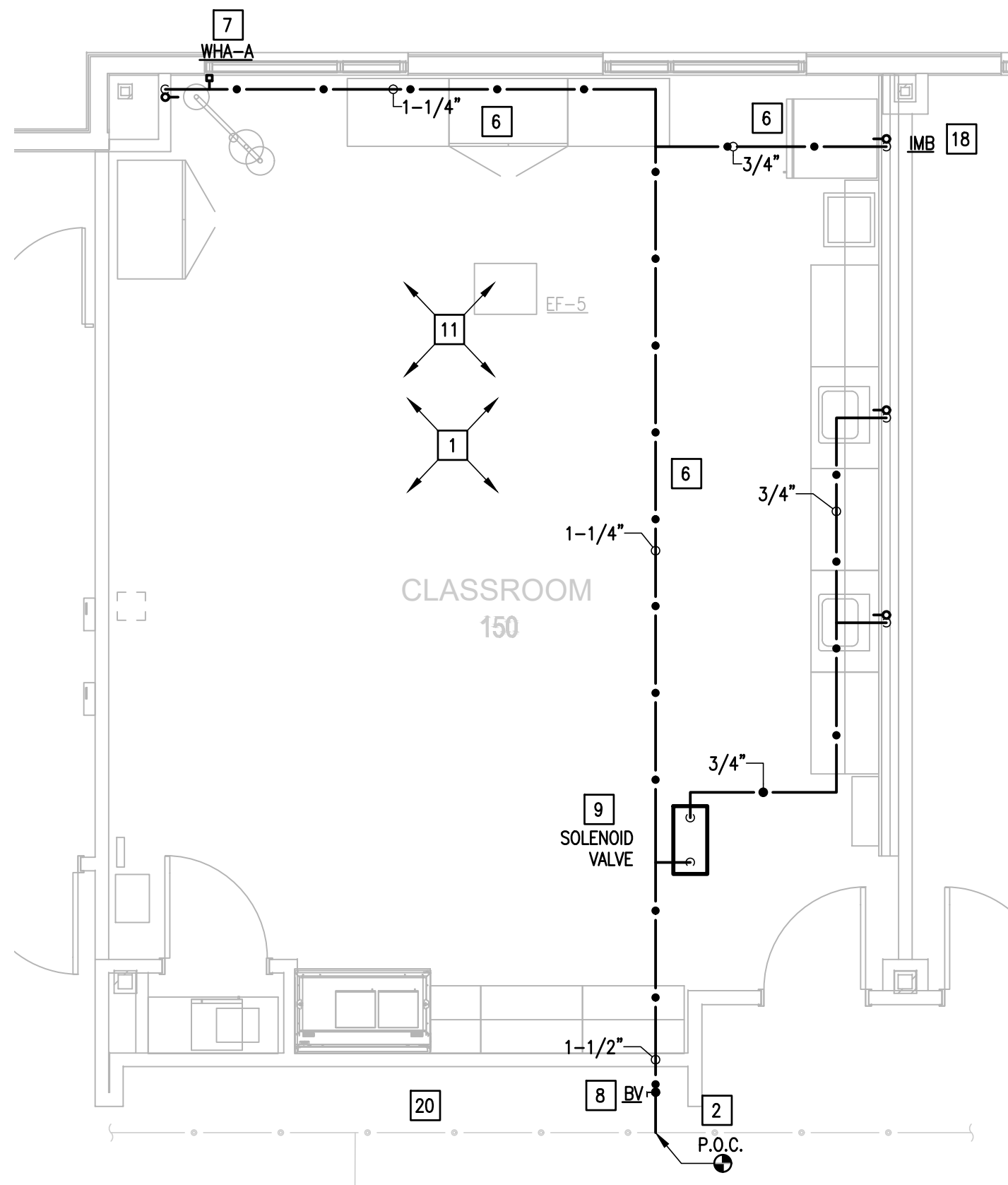
01 PLUMBING FIRST FLOOR PLAN

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



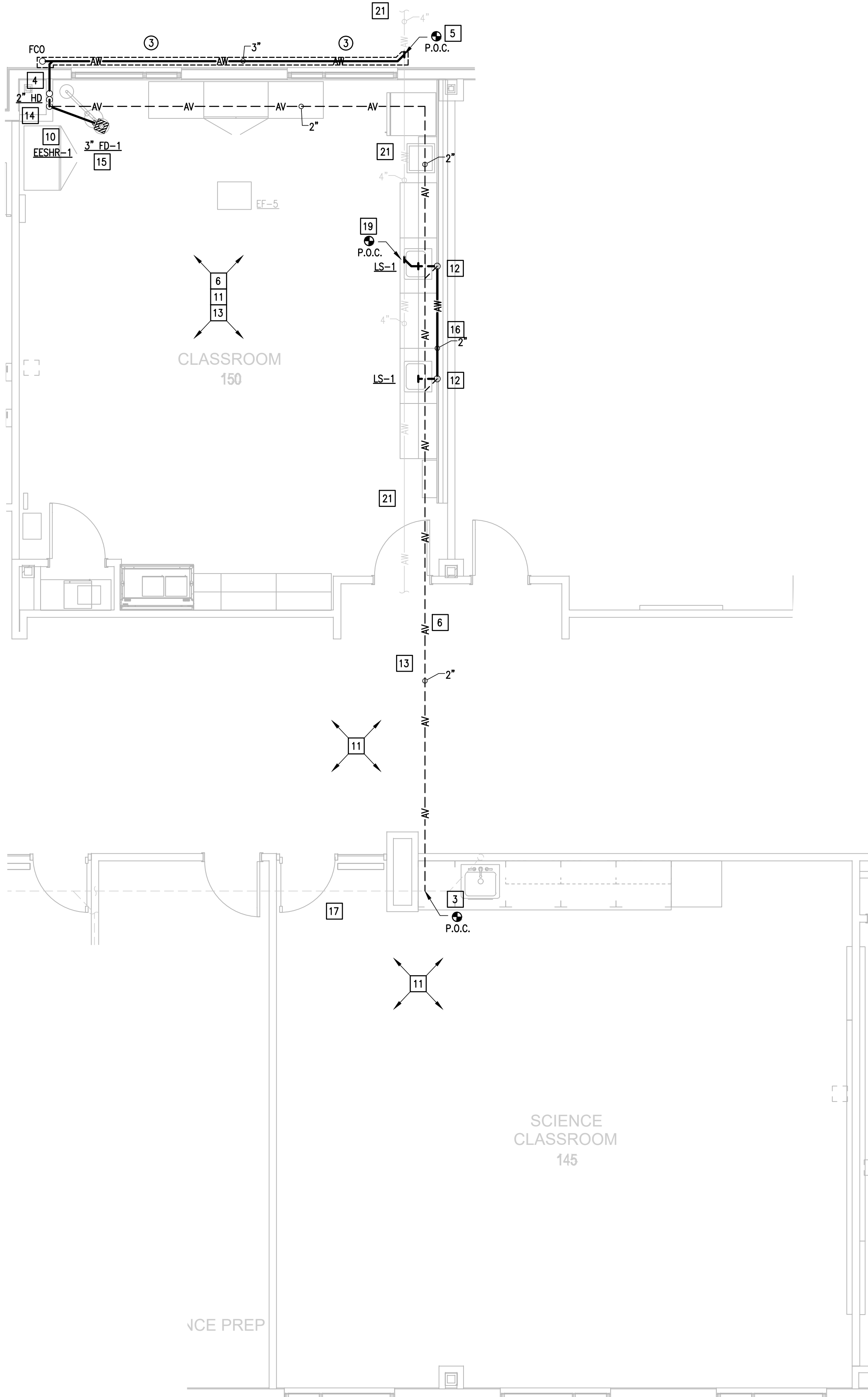
02 DEMOLITION ENLARGEMENT PLUMBING PLAN

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



03 RENOVATION ENLARGEMENT PLUMBING PLAN

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



04 RENOVATION ENLARGEMENT WASTE AND VENT PLAN

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



### PLUMBING KEYED NOTES:

1. PROVIDE NEW ROUGH-IN AND CONNECTIONS FOR ACCESSORIES SERVING NEW LAB SINK AND EMERGENCY EYE/FACE WASH AND SHOWER IN WALL CAVITY.
2. CONNECT NEW 1-1/2" COLD WATER PIPE TO EXISTING 2" COLD WATER PIPE AT THIS APPROXIMATE LOCATION.
3. CONNECT 2" ACID VENT PIPING TO EXISTING 2" ACID VENT SYSTEM AT THIS APPROXIMATE LOCATION.
4. PROVIDE NEW 3" ACID WASTE LINE TO SERVE NEW PLUMBING FIXTURES. AVOID EXISTING STRUCTURAL FOUNDATION WHEN RUNNING NEW PIPING.
5. CONNECT NEW 3" ACID WASTE PIPING INTO EXISTING 4" ACID WASTE PIPE AT THIS LOCATION PRIOR ACID NEUTRALIZATION TANK.
6. PROVIDE PIPING SUPPORT AS PER SPECS AND DETAIL. SEE ASSOCIATED DETAIL ON DETAIL SHEET. (TYPICAL)
7. PROVIDE BELLOW TYPE WATER HAMMER ARRESTOR (WHA), MIFAB (MIFB SERIES) OR APPROVED EQUAL. INDICATED MODEL (A,B,C,D,E,F) AS PER MIFAB SIZING CHART. PROVIDE 12"X12" ACCESS PANEL WHERE INSTALLED IN AN INACCESSIBLE AREA. ACCESS PANEL EQUAL TO ACUDOR MODEL UF5000 WITH CYLINDER LOCK AND KEY AND PAINT TO MATCH THE WALL/CEILING. PROVIDE VALVE IDENTIFICATION TAGS AS PER SPECIFICATIONS. (TYPICAL)
8. PROVIDE BRONZE ISOLATION BALL VALVE ABOVE CEILING OR BEHIND WALL. PROVIDE 12"X12" ACCESS PANEL WHERE INSTALLED IN AN INACCESSIBLE AREA. ACCESS PANEL EQUAL TO ACUDOR MODEL UF5000 WITH CYLINDER LOCK AND KEY AND PAINT TO MATCH THE WALL/CEILING. PROVIDE VALVE IDENTIFICATION TAGS AS PER SPECIFICATIONS. (TYPICAL)
9. DROP 3/4" DOMESTIC WATER LINE INTO SOLENOID ENCLOSURE BOX LOCATED ABOVE CEILING TO SERVE LAB SINK. SEE ASSOCIATED DETAIL ON DETAIL SHEET. SOLENOID ENCLOSURE PROVIDED BY ELECTRICAL CONTRACTOR. COORDINATE ALL CONNECTIONS AND MOUNTING HEIGHTS WITH ELECTRICAL CONTRACTOR. ADJUST SOLENOID VALVE LOCATION AS NEEDED TO AVOID ANY CONFLICT WITH EXISTING DUCTWORK, AC DEVICES, LIGHTING, ETC.
10. PROVIDE EMERGENCY EYE/FACE WASH AND SHOWER AS SCHEDULED. SEE ASSOCIATED DETAIL ON DETAIL SHEET.
11. REMOVE AND TEMPORARILY STORE CEILING TILES TO ACCOMMODATE NEW PLUMBING AND ACID VENT LINES AS REQUIRED AND REINSTALL AFTER COMPLETING WORK. (TYPICAL)
12. TURN 2" VENT PIPE INTO WALL CAVITY BEHIND BASE CABINET AND RUN PIPE UP ABOVE CEILING GRID INTO ATTIC SPACE.
13. PROVIDE ACID RESISTANT PIPING FOR ALL WASTE AND VENT SYSTEM SERVING SCIENCE LAB. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
14. PROVIDE 2" HUB DRAIN FOR EMERGENCY EYEWASH DRAIN. PROVIDE A 2'X2' HUB INCREASER. PROVIDE A 12"X12" ACCESS PANEL FOR MAINTENANCE ACCESS PANEL. EQUAL TO ACUDOR MODEL UF5000 WITH CYLINDER LOCK AND KEY AND PAINT TO MATCH THE WALL/CEILING. (REFER TO DETAIL 03/P6.02)
15. PROVIDE FLOOR DRAIN AS SCHEDULED. SET FLUSH WITH FINISHED FLOOR. SEE ASSOCIATED DETAIL ON DETAIL SHEET. (TYPICAL)
16. RUN 2" ACID WASTE LINE WITHIN WALL CAVITY & ABOVE CONCRETE AND 2" VENT LINE UP. (TYPICAL)
17. APPROXIMATE LOCATION OF EXISTING ACID VENT PIPING. FIELD VERIFY EXACT LOCATION PREVIOUS WORK BEING DONE.
18. PROVIDE ICE MAKER BOX AS SCHEDULED.
19. CONNECT NEW 2" ACID WASTE PIPING INTO EXISTING 4" ACID WASTE PIPE AT THIS LOCATION.
20. APPROXIMATE LOCATION OF EXISTING 2-1/2" DOMESTIC COLD WATER PIPING COMING FROM BACKFLOW PREVENTER. FIELD VERIFY EXACT LOCATION PREVIOUS WORK BEING DONE.
21. APPROXIMATE LOCATION OF EXISTING 4" ACID WASTE PIPING. FIELD VERIFY EXACT LOCATION PREVIOUS WORK BEING DONE.

### DEMOLITION GENERAL NOTES:

1. REFER TO ARCHITECTURAL SPECIFICATIONS FOR PHASING REQUIREMENTS.
2. ALL DEMOLITION WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CODES INCLUDING THOSE PUBLISHED BY OSHA.
3. THE EXTENT AND REQUIREMENTS OF DEMOLITION WORK IS INDICATED ON THE ARCHITECTURAL DRAWINGS AND BY THE REQUIREMENTS OF THIS SECTION. A VISIT TO THE SITE IS REQUIRED TO PROPERLY BID THE DEMOLITION WORK. ALL INFORMATION SHOWN ON THE EXISTING CONSTRUCTION WILL BE REFERENCE ONLY AND WILL NEED TO BE FIELD VERIFIED BY THE CONTRACTOR.
4. PROVIDE ALL DEMOLITION WORK REQUIRED FOR THE REMOVAL OF EXISTING NON REUSED PLUMBING EQUIPMENT AND ASSOCIATED DEVICES. PROVIDE A COMPLETE AND OPERABLE SYSTEM UPON COMPLETION OF THE PROJECT.
5. COORDINATE DEMOLITION OF DIVISION 22 SYSTEM AS REQUIRED WITH ALL OTHER TRADES.
6. ALL EXISTING EQUIPMENT AND MATERIALS REMOVED DURING CONSTRUCTION, THAT IS NOT TO BE RETURNED, SHALL BE REMOVED FROM THE JOB SITE AND PROPERLY RETURNED TO THE OWNER, IF DESIRED BY OWNER.
7. IT IS INTENDED THAT DEMOLITION WORK LEAVE THE ENTIRE AREA FREE OF ABOVE-GRADE ITEMS, INCLUDING PIPING, STRUCTURAL SUPPORTS MATERIALS AND MISCELLANEOUS ITEMS. ALL SUCH ITEMS ARE TO BE REMOVED UNLESS SPECIFICALLY INDICATED OTHERWISE.
8. OWNER MAY WISH TO KEEP DEMOLISHED EQUIPMENT AND MATERIALS. COORDINATE WITH OWNER, AND DISPOSE OF EQUIPMENT AND MATERIALS THAT OWNER DOES NOT REMAIN.
9. PREPARE AREA FOR INSTALLATION OF NEW PLUMBING SYSTEMS. REFER TO NEW PLANS AND COORDINATE WITH DEMOLITION WORK.
10. PERFORM CONCRETE SLAB SAW CUTTING AS NECESSARY TO ACCOMMODATE NEW PLUMBING FIXTURES. COORDINATE SAW CUTTING WITH GENERAL CONTRACTOR. CONTRACTOR SHALL NOT PROCEED WITH CONCRETE SLAB SAW CUTTING WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ARCHITECT.

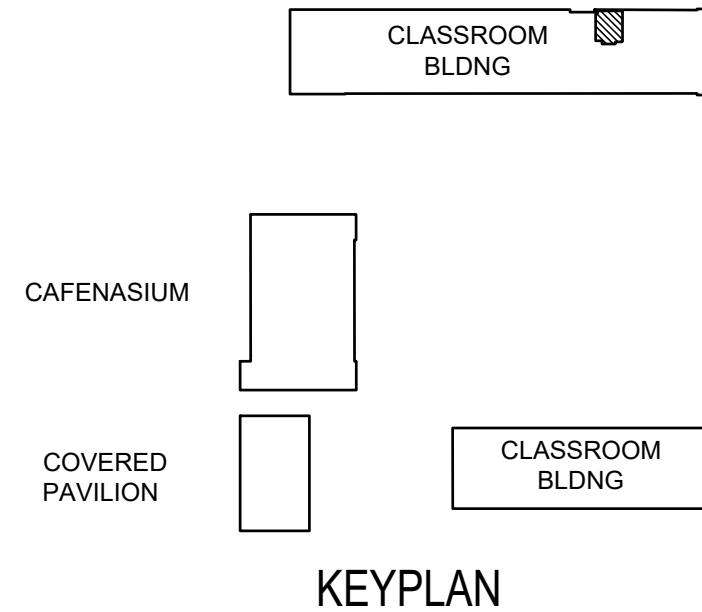
### GENERAL NOTES:

1. FOR ALL ISOLATION VALVES LOCATED ABOVE A SUSPENDED CEILING, CONTRACTOR IS TO PROVIDE A MARKER ON CEILING GRID WHICH CLEARLY INDICATES "WATER VALVE" AND WHICH CEILING TILE IS TO BE REMOVED TO ACCESS THE VALVE. THE MARKER IS TO BE ROUND DOT OF HEAVY DUTY COLORED PAPER WITH WATER FLOW DIRECTION INDICATION AND ADHESIVE BACKING. OBTAIN OWNER APPROVAL FOR COLOR, SIZE AND TYPE PRIOR TO INSTALLATION.
2. LAB SINKS (LS-1), REFRIGERATOR AND FAUCETS AT SCIENCE LAB ARE PART OF THE MILLWORK (PROVIDED BY GENERAL CONTRACTOR AND ARCHITECT). PLUMBING CONTRACTOR SHALL PROVIDE AND CONNECT ALL SERVICES AND ACCESSORIES SUCH AS WATER, SEWER, VENT, WATER STOPS, STAINLESS STEEL FLEXIBLE RISERS, P-TRAPS, ETC. COORDINATE WITH GENERAL CONTRACTOR.
3. NOT ALL ACCESSORIES REQUIRED FOR INSTALLATION ARE SHOWN ON DRAWINGS FOR CLARITY. SEE ASSOCIATED DETAILS ON THE DETAILS SHEET FOR INSTALLATION AND SPECIFICATIONS.
4. PRIOR PERFORMING THE INSTALLATION OF NEW ACID WASTE PIPING, CONTRACTOR SHALL FIELD-VERIFY THE EXISTING ACID WASTE PIPING INVERT ELEVATIONS TO ENSURE THAT NEW SYSTEMS CAN BE INSTALLED PROPERLY. CONTRACTOR SHALL NOTIFY THE A/E TEAM IF INVERT ELEVATIONS DO NOT WORK WITH THE SLOPE OF THE NEW SEWER PIPING.
5. ALL NEW ACID WASTE SYSTEM IS REQUIRED TO HAVE A MINIMUM OF 1/8" / FT SLOPE (1%)

### DEMOLITION PLUMBING KEYED NOTES:

1. PERFORM FLOOR TILE AND CONCRETE SLAB SAW CUTTING AND REPAIR AS NECESSARY TO ACCOMMODATE NEW PLUMBING FIXTURES.
2. REPAIR FLOOR TILE AND CONCRETE SLAB SAW CUTTING AREA. MATCH ARCHITECTURAL FINISH. REFER TO ARCHITECTURAL DRAWINGS AND COORDINATE WITH ARCHITECT FOR REPAIRING.
3. EXCAVATE AT THIS APPROXIMATE LOCATION TO INSTALL NEW UNDERGROUND ACID WASTE PIPING. HAND DIG AS NECESSARY TO AVOID ANY EXISTING UTILITIES. AREA TO BE TO BE BACKFILLED AND A COMPACTED TO MATCH EXISTING CONDITIONS.

PLUMBING LEGEND	
	WALL TO BE DEMOLISHED AND REPAIRED
	EXISTING COLD WATER PIPING TO REMAIN
	EXISTING ACID WASTE PIPING TO REMAIN
	EXISTING VENT PIPING TO REMAIN
	EXISTING BACKFLOW PREVENTER TO REMAIN
	NEW COLD WATER PIPING
	NEW ACID WASTE PIPING
	NEW ACID VENT PIPING
	EXCAVATION AREA



KEYPLAN



1128 SOUT COMMERCE ST.  
HARLINGEN, TX  
PHONE: 956-226-3453  
TEXAS REGISTERED  
ENGINEERING FIRM  
F-13998

MAYS



