ISSUE FOR CONSTRUCTION

07/03/2024

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MECHANICAL ENGINEER

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FIRE ALARM

Baird, Hampton & Brown Paul Morris 3801 William D. Tate, Suite 500 Grapevine, TX 76051 E: pmorris@bhbinc.com P: 682.348.0765

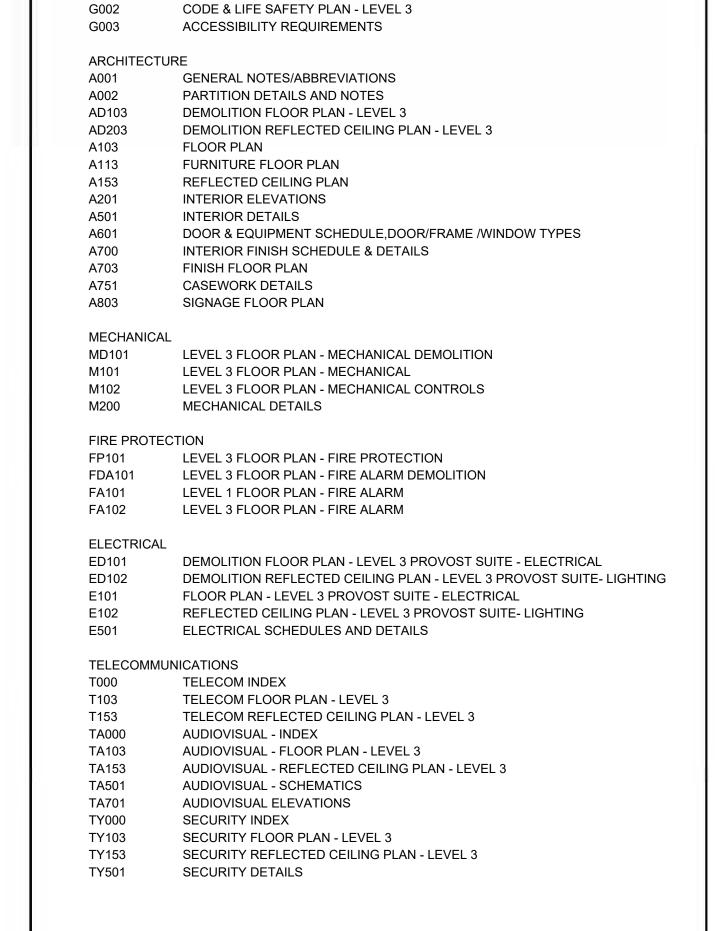
AUDIO VISUAL

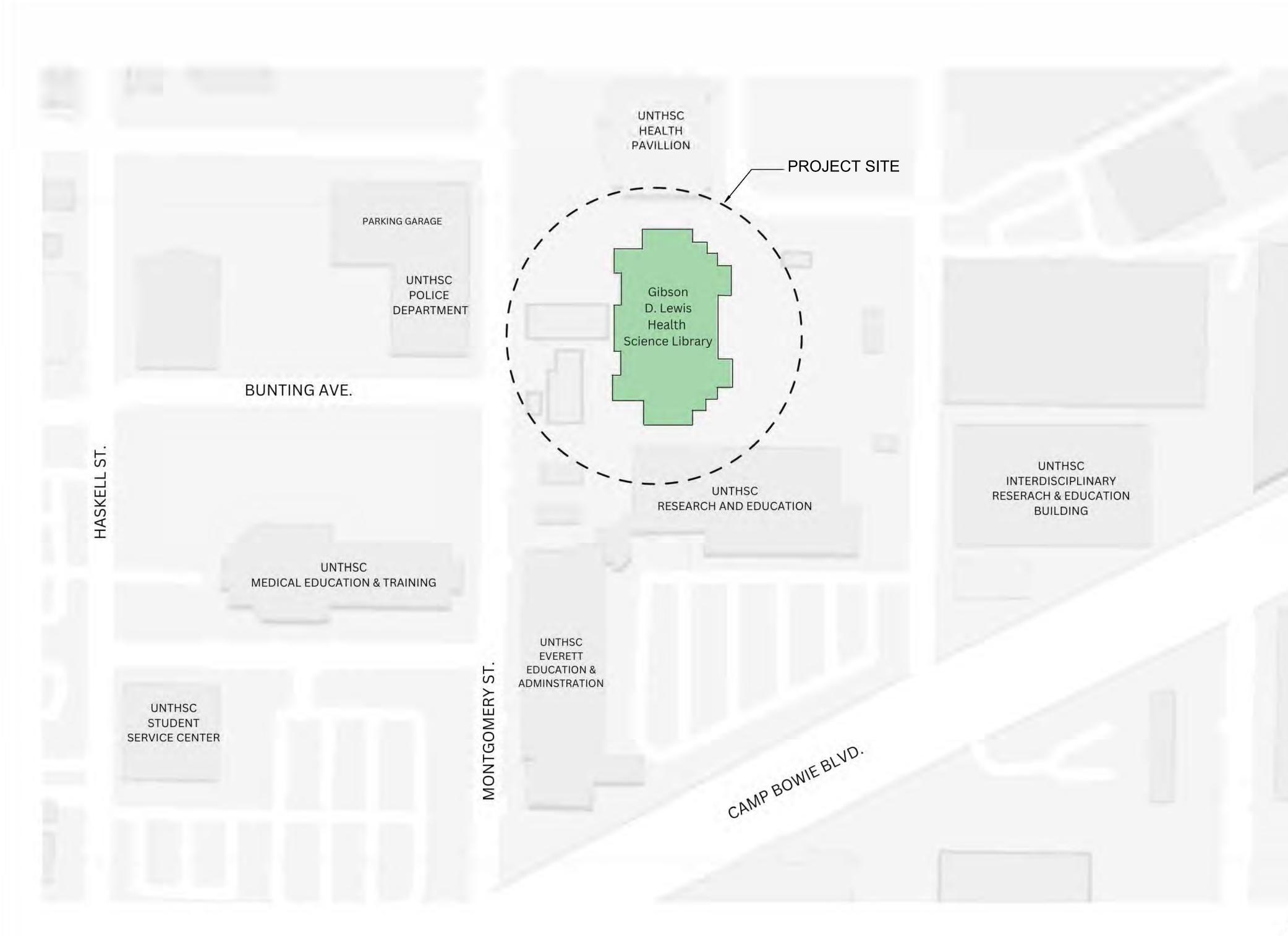
4b Technology Group, LLC Joel Davis 390 Glenborough, Suite 290 Houston, TX 77067 E: j.davis@4btechnology.com P: 832.249.9379

FIRE PROTECTION

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INDEX OF DRAWINGS





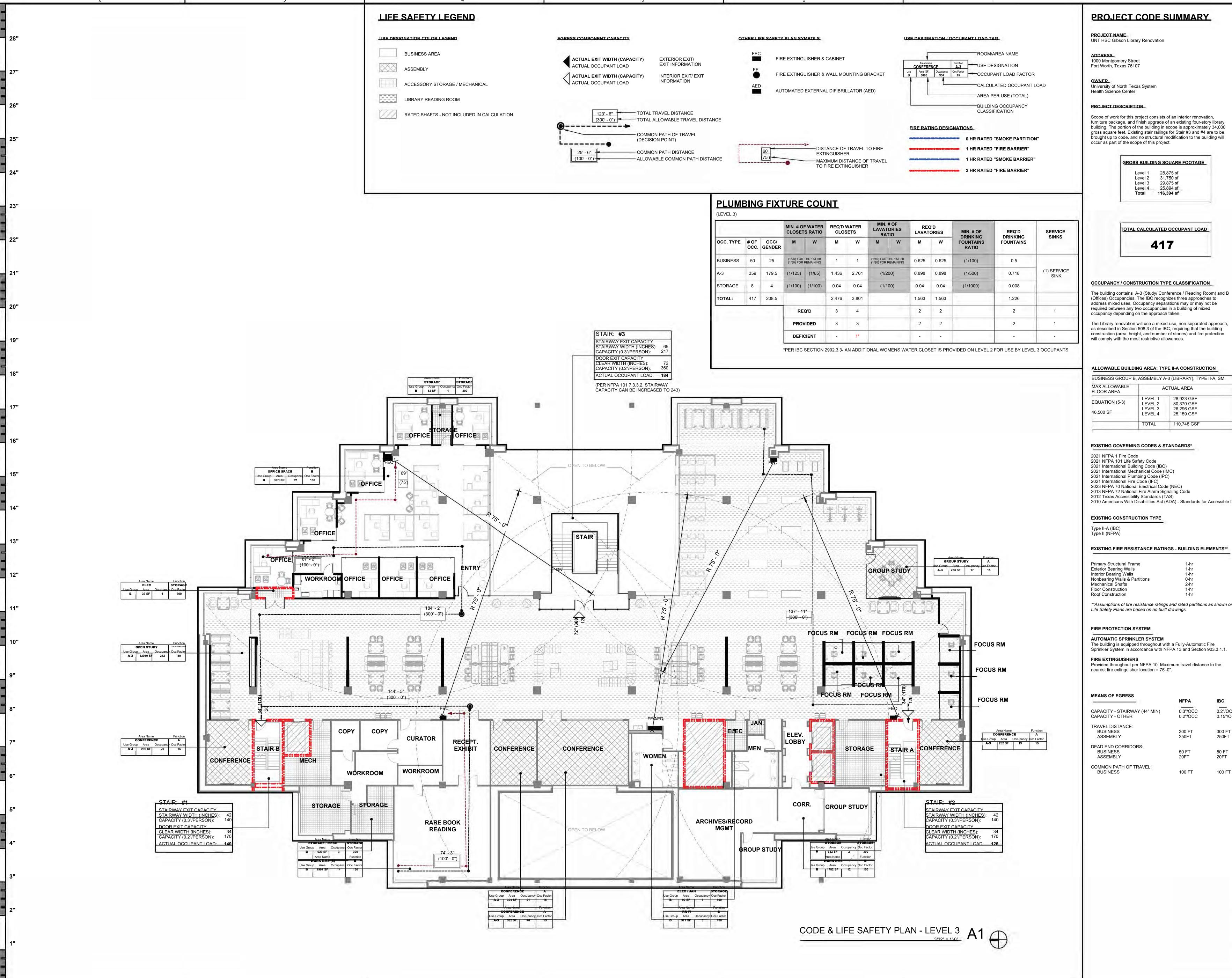


CENTER

CIENCE

INDEX OF DRAWINGS

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Scope of work for this project consists of an interior renovation, furniture package, and finish upgrade of an existing four-story library building. The portion of the building in scope is approximately 34,000 gross square feet. Existing stair railings for Stair #3 and #4 are to be brought up to code, and no structural modification to the building will

GROSS BUILDING SQUARE FOOTAGE

TOTAL CALCULATED OCCUPANT LOAD

OCCUPANCY / CONSTRUCTION TYPE CLASSIFICATION

(Offices) Occupancies. The IBC recognizes three approaches to address mixed uses. Occupancy separations may or may not be required between any two occupancies in a building of mixed

as described in Section 508.3 of the IBC, requiring that the building construction (area, height, and number of stories) and fire protection

ALLOWABLE BUILDING AREA: TYPE II-A CONSTRUCTION

BUSINESS GROUP I	B, ASSEMBLY A	3 (LIBRARY), TYPE II-A	, SM.
MAX ALLOWABLE FLOOR AREA	A	CTUAL AREA	
EQUATION (5-3)	LEVEL 1 LEVEL 2	28,923 GSF 30,370 GSF	
46,500 SF	LEVEL 3 LEVEL 4	26,296 GSF 25,159 GSF	
	TOTAL	110 749 CSE	

2013 NFPA 72 National Fire Alarm Signaling Code 2010 Americans With Disabilities Act (ADA) - Standards for Accessible Design

EXISTING FIRE RESISTANCE RATINGS - BUILDING ELEMENTS**

	OO - BOILDING ELEN	
T		
Primary Structural Frame	1-hr	
Exterior Bearing Walls	1-hr	
Interior Bearing Walls	1-hr	
Nonbearing Walls & Partitions	0-hr	
Mechanical Shafts	2-hr	
Floor Construction	1-hr	
Roof Construction	1-hr	

**Assumptions of fire resistance ratings and rated partitions as shown on

The building is equipped throughout with a Fully-Automatic Fire Sprinkler System in accordance with NFPA 13 and Section 903.3.1.1.

Provided throughout per NFPA 10. Maximum travel distance to the

	- CONTROL OF EGREGO	NFPA	IBC
	CAPACITY - STAIRWAY (44" MIN) CAPACITY - OTHER	0.3"/OCC 0.2"/OCC	0.2"/OCC 0.15"/OCC
	TRAVEL DISTANCE: BUSINESS ASSEMBLY	300 FT 250FT	300 FT 250FT
	DEAD END CORRIDORS: BUSINESS ASSEMBLY	50 FT 20FT	50 FT 20FT
l	COMMON PATH OF TRAVEL: BUSINESS	100 FT	100 FT

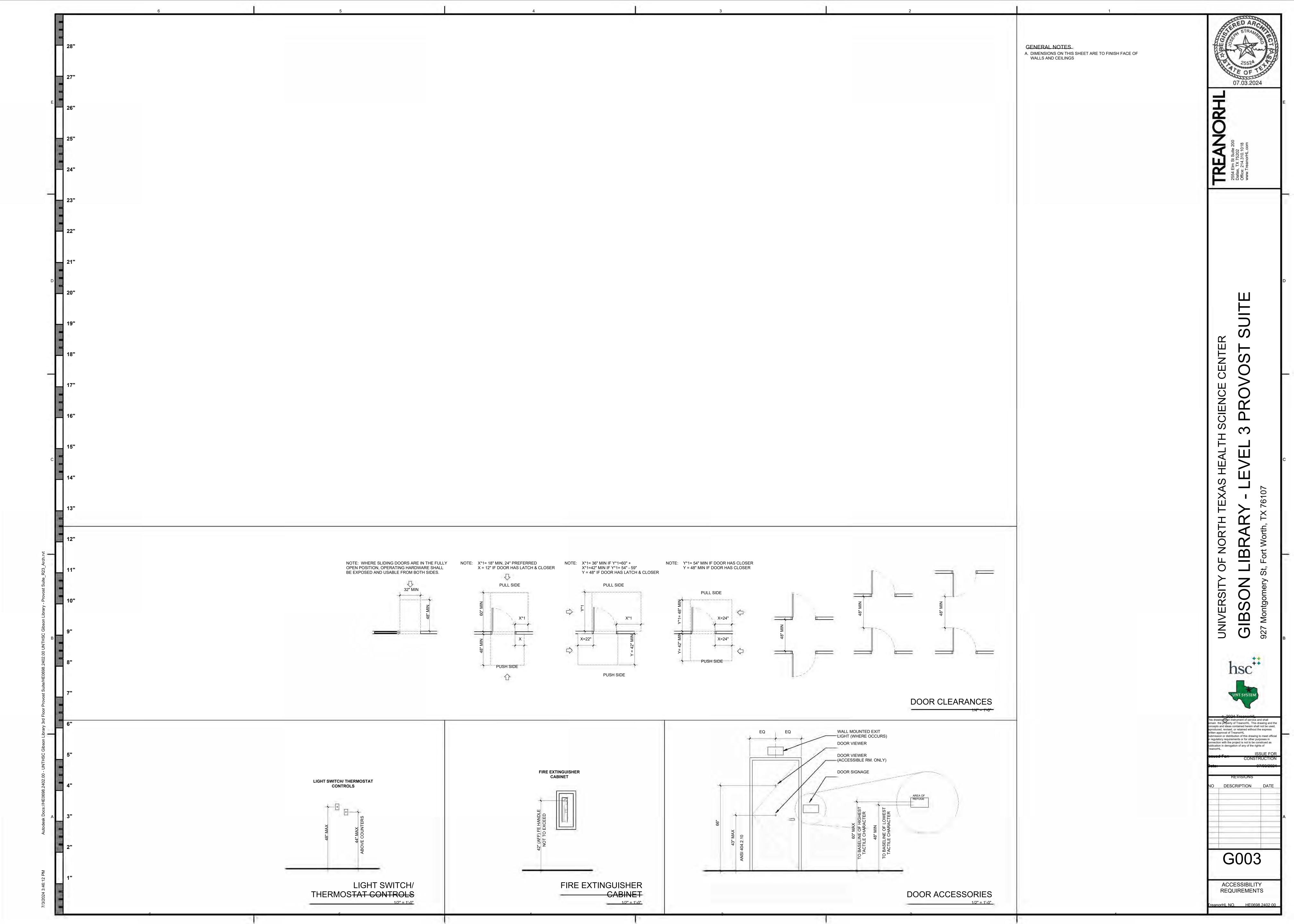


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DESCRIPTION DATE

G002

CODE & LIFE SAFETY PLAN - LEVEL 3



	AB	BREVIATIONS				
28"	AA	AUTOMATICALLY ACTUATED	FLUOR	FLUORESCENT	PNL	PANEL
	ABS ABV	ABSOLUTE ABOVE	FND FOC	FOUNDATION FACE OF CONCRETE	PR PSF	PAIR POUNDS PER SQUARE FOOT
	AC	ABOVE COUNTER	FOF	FACE OF FINISH	PSI	POUNDS PER SQUARE INCH
27"	ACMU ACOUS	ARCHITECTURAL CEMENTITIOUS MASONRY UNIT ACOUSTICAL	FOM FOS	FACE OF MASONRY FACE OF STUCCO	PT PTR	PAINT, PAINTED PAPER TOWEL RECEPTOR
21	ACP	ACOUSTICAL CEILING PANEL	FP	FIREPROOF(ING)	PVC	POLYVINYL CHLORIDE
	AD ADA	AREA DRAIN AMERICANS WITH DISABILITIES ACT	FR FRP	FIRE RATED FIBERGLASS REINFORCED PLASTIC	PVMT QT	PAVEMENT QUARRY TILE
	ADJ	ADJUSTABLE	FS	FLOOR SINK	QTY	QUANTITY
26"	AFF	ABOVE FINISHED FLOOR	FT	FEET	R	RADIUS OR RISER
20	AG AHU	ACRYLIC GLAZING AIR HANDLING UNIT	FTG FUR	FOOTING FURRING	RA RAD	RETURN AIR RADIUS
	ALT	ALTERNATE	FUT	FUTURE	RB	RUBBER BASE
	ALUM ANCH	ALUMINUM ANCHOR	GA GALV	GAUGE GALVANIZED	RBT RCP	RABBET REFLECTED CEILING PLAN
25"	AP	ACCESS PANEL	GALV	GRAB BAR	RD	ROOF DRAIN
25	APX	APPROXIMATE	GC	GENERAL CONTRACTOR	RE	REFERENCE
	ARCH AUTO	ARCHITECT(URAL) AUTOMATIC	GD GF	GRADE/GRADING GROUND FACE	RECEP REF	RECEPTACLE REFERENCE
	BD	BOARD	GFRC	GLASS FIBER REINFORCED CONCRETE	REFR	REFRIGERATOR
24"	BLDG	BUILDING	GR	GRADE, GRADING	REG	REGISTER REPUBLICATION OF THE PROPERTY OF THE
4	BLK BM	BLOCK BENCH MARK	GYP GYP BD	GYPSUM GYPSUM BOARD	REINF REM	REINFORCED(ING) REMOVE
	ВО	BOTTOM OF	Н	HIGH/HEIGHT	REQ	REQUIRE(D)
	BOD BOT	BASIS OF DESIGN BOTTOM	HB HM	HOSE BIB HOLLOW METAL	RES RET	RESILIENT RETURN
23"	BR	BRICK	HO	HOLD OPEN	REV	REVISION
.3	BRG	BEARING	HORZ	HORIZONTAL	RFG	ROOFING
	BS BSMT	BOTH SIDES BASEMENT	HR HT	HOUR HEIGHT	RFL RFS	REFLECT(ED), (IVE), (OR) ROOM FINISH SCHEDULE
	BUR	BUILT UP ROOFING	HVAC	HEATING/VENTILATING/AIR CONDITIONING	RH	RIGHT HAND
·~"	CAR	CARD ACTUATED	HWD	HOT WATER	RM	ROOM BOUGH OPENING
22"	CAB CB	CABINET CHALKBOARD	HWD ID	HARD WOOD INSIDE DIAMETER	RO RTU	ROUGH OPENING ROOF TOP UNIT
	CCTV	CLOSED CIRCUIT TELEVISION	IN	INCHES	RVRS	REVERSE
	CF CFCI	CORK FLOORING CONTRACTOR FURNISHED CONTRACTOR INSTALLED	INCL INSUL	INCLUDE(D), (ING) INSULATION, INSULATING	S SA	SOUTH SUPPLY AIR
م	CFCI	CORNER GUARD	INSUL	INSULATION, INSULATING INTERIOR	SAM	SUPPLY AIR SELF-ADHERED MEMBRANE
21"	СН	CONDUCTOR HEAD	INTM	INTERMEDIATE	SAN	SANITARY
	CI CIP	CAST IRON CAST IN PLACE	JB JF	JUNCTION BOX JOINT FILLER	SCHED SD	SCHEDULE STORM DRAIN
	CJ	CONTROL JOINT	JST	JOINT FILLER JOIST	SECT	SECTION SECTION
	CL	CENTER LINE	JT	JOINT	SF	SQUARE FEET
20"	CLG CLR	CEILING CLEAR	KB KIT	KEYBOARD KITCHEN	SHT SHTH	SHEET SHEATHING
	СМИ	CONCRETE MASORY UNIT	КО	KNOCK OUT	SHWR	SHOWER
	CO	CLEAN OUT	KS	KNEE SPACE	SIM	SIMILAR
	COL	COLUMN CONCRETE	LAM	LONG/LENGTH LAMINATE	SLNT SND	SEALANT SANITARY NAPKIN DISPENSER
9"	COND	CONDITION	LAV	LAVATORY	SNR	SANITARY NAPKIN RECEPTACLE
	CONST	CONSTRUCTION	LH	LINOLEUM	SPC SPCR	SPACE
	CONT CORR	CONTINUOUS, CONTINUE CORRIDOR	LIN LLH	LINOLEUM LONG LEG HORIZONTAL	SPEC	SPACER SPECIFICATION(S)
	СРТ	CARPET	LLV	LONG LEG VERTICAL	SPKR	SPEAKER
18"	CR CS	CARD READER CUSTOM STEEL	LMS LT	LIMESTONE LIGHT	SQ SS	SQUARE SOLID SURFACE
	CT	CERAMIC TILE	LTL	LINTEL	SSK	SERVICE SINK
	CTR	COUNTER	LW	LIGHT WEIGHT	SST	STAINLESS STEEL
	CTSK CW	COUNTERSUNK COLD WATER	LWC LWCMU	LIGHT WEIGHT CONCRETE LIGHT WEIGHT CONCRETE MASONRY UNIT	ST STA	SPECIAL TREATMENT STATION
7"	D	DEEP/DEPTH/DRAIN	M	METER(S)	STD	STANDARD
	DBL DF	DOUBLE DRINKING FOUNTAIN	MAS MAT	MASONRY MATERIAL (S)	STL STN	STEEL STONE
	DFS	DOOR AND FRAME SCHEDULE	MAX	MATERIAL(S) MAXIMUM	STOR	STORAGE
	DIA	DIAMETER	MB	MARKERBOARD	STP	STANDPIPE
6"	DIM DIV	DIMENSION DIVISION	MDF MECH	MEDIUM DENSITY FIBERBOARD MECHANICAL	STRUCT SUSP	STRUCTURAL SUSPENDED
	DN	DOWN	MED	MEDIUM	SY	SQUARE YARD
	DPR	DISPENSER	MEMB	MEMBRANE	SYM	SYMMETRICAL
	DR DS	DOOR DOWNSPOUT	MFR MH	MANUFACTURE/MANUFACTURER MANHOLE	SYS	SYSTEM TREAD
5"	DTL	DETAIL	МНО	MAGNETIC HOLD OPEN	T&G	TONGUE AND GROOVE
	DWG	DRAWING EAST	MIN MIR	MINIMUM MIRRORED	TBD TD	TO BE DETERMINED TRENCH DRAIN
	EA	EACH	MISC	MISCELLANEOUS	TEL	TELEPHONE
	EB	EXPANSION BOLT	MLD	MOLDING, MOULDING	THK	THICK(NESS)
4"	ECUH EF	ELECTRIC CABINET UNIT HEATER EACH FACE	MO MOD	MASONRY OPENING MODULAR	THRU	THROUGH TOILET
	EIFS	EXTERIOR INSUL. FINISH SYSTEM	MS	METAL STUDS	ТО	TOP OF
	EJ	EXPANSION JOINT	MT	MOUNT(ED), (ING)	TOC	TOP OF CONCRETE
	EL ELEC	ELEVATION ELECTRIC(AL)	MTFR MTL	METAL FURRING METAL	TOS TOW	TOP OF STEEL, TOP OF SLAB TOP OF WALL
3"	ELEV	ELEVATION/ELEVATOR	MTLR	METAL ROOF	TPD	TOILET PAPER DISPENSER
	EMER ENC	EMERGENCY ENCLOSURE	MULL N	MULLION NORTH	TPTN TS	TOILET PARTITION TUBE STEEL
	EOS	EDGE OF SLAB	N	NOT IN CONTRACT	TYP	TYPICAL
	EP	ELECTRICAL PANEL	NO	NUMBER	TZ	TERRAZZO
2"	EPS EQ	EXPANDED POLYSTYRENE EQUAL	NOM NR	NOMINAL NOISE REDUCTION	UC UNF	UNDER CONTRACT UNFINISHED
	EQUIP	EQUIPMENT	NRC	NOISE REDUCTION COEFFICIENT	UNO	UNLESS NOTED OTHERWISE
	EST	ESTIMATE EXISTING TO DEMAIN	NTS	NOT TO SCALE	UR	URINAL
	ETR EWC	EXISTING TO REMAIN ELECTRIC WATER COOLER	OC OD	ON CENTER OUTSIDE DIAMETER (or) OVERFLOW DRAIN	US VB	URINAL SCREEN VAPOR BARRIER
1"	EXIST	EXISTING	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED	VCT	VINYL COMPOSITE TILE
-	EXP	EXPANSION	OFOL	OWNER FURNISHED OWNER INSTALLED	VERT	VESTIBLILE
	EXT FA	EXTERIOR FRESH AIR	OFVI OH	OWNER FURNISHED VENDOR INSTALLED OVERHEAD	VEST VFCI	VESTIBULE VENDOR FURNISHED CONTRACTOR INSTALL
	FAAP	FIRE ALARM ANNUNCIATOR PANEL	OPH	OPPOSITE HAND	VFOI	VENDOR FURNISHED OWNER INSTALLED
0"	FACP FAS	FIRE ALARM CONTROL PANEL	OPNG OPP	OPPOSITE	VFVI VIF	VENDOR FURNISHED VENDOR INSTALLED
	FAS FB	FASTENER FACE BRICK	PAR	OPPOSITE PARAPET	W	VERIFY IN FIELD WIDE/WIDTH
	FBO	FURNISHED BY OTHERS	PAV	PAVING	W/	WITH
	FD FDC	FLOOR DRAIN FIRE DEPARTMENT CONFICTION	PB PC	PUSH BUTTON PORTLAND CEMENT	W/O WC	WITHOUT WATER CLOSET
)"	FDC	FIRE DEPARTMENT CONECTION FIRE EXTINGUISHER	PCC	PORTLAND CEMENT PRECAST CONCRETE	WC	WOOD WOOD
•	FEB	FIRE EXTINGUISHER BRACKET	PED	PEDESTRIAN	WDB	WOOD BASE
	FEC FF	FIRE EXTINGUISHER CABINET\ FINISH FLOOR	PERIM PERP	PERIMETER PERPENDICULAR	WDO WG	WINDOW WIRE GLASS
	FFCO	FLUSH FLOOR CLEANOUT	PERP	PERPENDICULAR PREFABRICATE(D)	WG	WHERE OCCURS
	FFE	FINISHED FLOOR ELEVATION	PIC	POLYISOCYANURATE	WPG	WATERPROOFING
3"	FFL	FINISHED FLOOR LINE FLAT HEAD	PK PL	PARKING PLATE	WS WS	WRITABLE SURFACE WATERSTOP
	FHC	FIRE HOSE CABINET	PL	PROPERTY LINE	WSCT	WAIRSTOP
	FHMS	FLAT HEAD MACHINE SCREW	PLAM	PLASTIC LAMINATE	WT	WEIGHT
	FHWS	FLAT HEAD WOOD SCREW	PLAS	PLASTER	WTW	WALL TO WALL
, 11	FIN	FINISH	PLBG	PLUMBING	WWF	WELDED WIRE FABRIC

MATERIALS SYMBOLS DETAIL NUMBER FACE BRICK (PLAN/SECTION) **ELEVATION LEVEL** DETAIL SECTION ELEVATION CAST STONE (ELEVATION) RIGID INSULATION SHEET NUMBER DETAIL NUMBER SPRAYED INSULATION CEILING TAG W/ HEIGHT/MATERIAL BUILDING SECTION 4 1'-0" HEIGHT ABOVE FINISH CONCRETE MASONRY APC1 FLOOR, UNO
CEILING TYPE CONCRETE SHEET NUMBER DETAIL NUMBER METAL STUD/STEEL DOOR TAG =(01A)= WALL SECTION GYPSUM BOARD UNIQUE ID —SHEET NUMBER ROOM NUMBER PLYWOOD 1 — DETAIL NUMBER BLANKET OR LOOSE FILL INSULATION BUILDING ELEVATION WINDOW TAGS INTERIOR ELEVATION 3'-0" AFF (WIN. SILL) WOOD FINISH SHEET NUMBER **DEMOLITION** — DETAIL NUMBER EXISTING PLAN DETAIL PLAN NOTE & DEMO NOTE (P01) NEW PARTITION SHEET NUMBER — **GRID LINE - NEW** REVISION NUMBER REVISION TAG GRID LINE - EXISTING (0) — — — **NORTH ARROW** ROOM NAME __ROOM NAME **ROOM TAG** 101 ROOM NUMBER PARTITION TYPE ____DIMENSIONAL MODIFIER PARTITION TYPE __TYPE MODIFIER ROOM NAME ROOM NAME INDICATOR RATING - WHERE APPLIES ROOM TAG 150 SF ROOM NUMBER W/ AREA AWI # or PRODUCT # CASEWORK TAG SPECIALTY EQUIPMTNT TAG (1i) DEPTH GRAPHIC SCALE

GENERAL NOTES

STANDARD.

- 1. GENERAL NOTES APPLY TO WORK OF THIS PROJECT, INCLUDING CHANGES TO THE WORK APPROVED BY THE OWNER. 2. VISIT SITE AND BECOME FAMILIAR WITH LOCAL CONDITIONS.
- CORRELATE PERSONAL OBSERVATIONS WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS. 3. CONTRACT DOCUMENTS INDICATE THE DESIGN INTENT. PROVIDE MINOR MODIFICATIONS NECESSARY TO SUIT JOB CONDITIONS AS PART OF THE WORK, WITH ARCHITECT'S DIRECTION. 4. CONTRACT DOCUMENTS ARE COMPLEMENTARY. BEFORE STARTING EACH PORTION OF THE WORK, STUDY AND COMPARE THE CONTRACT DOCUMENTS RELATIVE TO THAT PORTION OF THE
- WORK, TAKE FIELD MEASUREMENTS OF EXISTING CONDITIONS RELATED TO THAT PORTION OF THE WORK, AND OBSERVE CONDITIONS AT THE SITE AFFECTING IT, TO FACILITATE COORDINATION AND CONSTRUCTION. REPORT ERRORS, OMISSIONS AND INCONSISTENCIES IMMEDIATELY TO THE 5. FEES, TAXES, PERMITS, APPLICATIONS, CERTIFICATES OF
- INSPECTION, AND THE FILING OF WORK WITH GOVERNMENTAL AGENCIES, ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR, U.N.O. 6. COMPLY WITH APPLICABLE CODES, ORDINANCES, REGULATIONS,

AND AUTHORITIES HAVING JURISDICTION, AS A MINIMUM

- 7. COOPERATE WITH AUTHORITIES HAVING JURISDICTION AND SPECIAL INSPECTORS. PROVIDE TIMELY NOTIFICATION IN ADVANCE OF INSPECTIONS, AND ASSISTANCE AND FACILITIES TO ACCOMMODATE INSPECTIONS. 8. DO NOT PERFORM CHANGES TO THE WORK AFFECTING THE CONTRACT SUM OR CONTRACT TIME WITHOUT WRITTEN
- AUTHORIZATION FROM THE ARCHITECT. 9. MINIMIZE INTERFERENCE WITH USE OF PUBLIC WAYS AND ADJACENT FACILITIES. DO NOT CLOSE, BLOCK OR OTHERWISE OBSTRUCT USE OF PUBLIC WAYS OR FACILITIES WITHOUT CONSENT OF OWNER AND/OR AUTHORITIES HAVING JURISDICTION. 10. PROTECT EXISTING UTILITIES INDICATED TO REMAIN IN SERVICE. 11. DO NOT INTERRUPT EXISTING UTILITIES UNLESS AUTHORIZED BY OWNER AND/OR AUTHORITIES HAVING JURISDICTION. WHEN REQUIRED, PROVIDE ALTERNATE TEMPORARY SERVICES
- ACCEPTABLE TO GOVERNING AUTHORITIES. 12. PROVIDE WORK TO MEET OR EXCEED THE LEVEL OR STANDARD OF QUALITY INDICATED ON THE CONSTRUCTION DOCUMENTS. 13. INSTALL MANUFACTURED ITEMS, MATERIALS AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS, U.N.O. 14. WHERE A MANUFACTURER IS SPECIFIED, THE NAME OR PRODUCT

LISTED IS A BASIS OF DESIGN. WHERE THE TERM "OR APPROVED

- EQUAL" OR "OR EQUIVALENT" IS USED, THE ARCHITECT SHALL DETERMINE EQUIVALENCE AND ACCEPTABILITY BASED UPON THE INFORMATION SUBMITTED, PRIOR TO USE. 15. WHERE PRODUCTS ARE INDICATED, NOTED, NAMED, DESCRIBED, OR REFERENCED IN THE PROJECT DOCUMENTS BUT NOT FULLY DETAILED OR FULLY SPECIFIED, PROVIDE SUCH PRODUCT, INSTALLED IN ACCORDANCE WITH CURRENT (1) REFERENCED BUILDING CODES, ORDINANCES, AND REGULATIONS, (2) PRODUCT MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS, (3) GENERALLY ACCEPTED GOOD CONSTRUCTION PRACTICE STANDARDS, WITH PRECEDENCE IN THAT ORDER. PROVIDE SUCH PRODUCTS COMPLETE WITH HARDWARE, ACCESSORIES, ATTACHMENTS, CONTROLS AND OTHER DEVICES REQUIRED FOR THE PROPER INSTALLATION TO PROVIDE A COMPLETE OPERATIONAL SYSTEM WITH THE QUALITY OF WORKMANSHIP NOT LESS THAN INDUSTRY-ACCEPTED STANDARDS OF THAT TRADE. 16. INSTALL PLUMBING, MECHANICAL AND ELECTRICAL EQUIPMENT TO OPERATE QUIETLY AND WITH MINIMAL VIBRATION. 17. KEEP THE WORK FREE OF ACCUMULATIONS OF WASTE MATERIALS AND DEBRIS. USE METHODS AGREEABLE TO THE OWNER FOR
- 19. FIELD-VERIFY GRADES, LINES, LEVELS AND DIMENSIONS SHOWN ON THE DRAWINGS. 20. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SHALL GOVERN. DETAILS SHALL GOVERN OVER PLANS AND ELEVATIONS; LARGE SCALE DETAILS SHALL GOVERN OVER SMALL SCALE DETAILS. 21. PROTECT EXISTING PROPERTY AND WORK FROM DAMAGE. REPAIR OR REPLACE ITEMS DAMAGED BY CONSTRUCTION ACTIVITY TO MATCH CONDITIONS PRIOR TO START OF WORK. 22. PROTECT THE WORK FROM WEATHER-RELATED DAMAGE.

23. PROVIDE LINTELS AT OPENINGS, RECESSES AND NICHES IN

18. ARCHITECTURAL DIMENSIONS ARE TO FACE OF FINISH.

WASTE REMOVAL.

EXPOSED TO VIEW.

- MASONRY WALLS AND PARTITIONS. REFERENCE LINTEL SCHEDULE FOR REQUIREMENTS. 24. PROVIDE CAST-IN-PLACE CONCRETE BASES FOR FLOOR-MOUNTED MECHANICAL AND ELECTRICAL EQUIPMENT. VERIFY SIZE AND LOCATION OF BASES WITH MECHANICAL AND ELECTRICAL CONTRACTORS.
- 25. PROVIDE 3-1/2" HIGH, CAST-IN-PLACE RECTANGULAR CONCRETE PADS WHERE ELECTRICAL CONDUITS PENETRATE FLOORS AND ARE EXPOSED TO VIEW. EXTEND PADS LATERALLY 4" MIN. FROM CONDUITS. 26. PROVIDE (FIRE-RETARDANT TREATED, WHERE REQUIRED) WOOD BLOCKING FOR SUPPORT OF CASEWORK, GRAB BARS, TOILET, BATH AND CLOSET ACCESSORIES, VISUAL DISPLAY SURFACES AND EQUIPMENT, DOOR STOPS, FIXTURES AND SPECIALTY ITEMS. KERF BLOCKING TO FIT SNUGLY BETWEEN STUDS AND TO FIT TIGHTLY AGAINST BACK OF GYPSUM BOARD. BLOCK CONTINUOUSLY AT TOP AND BOTTOM OF BASE, WALL AND TALL CABINETS. 27. PROTECT EXISTING CONSTRUCTION, MATERIALS AND FINISHES WITH ENCLOSURES AND OTHER SUITABLE MEASURES. COMPLY WITH GOVERNING REGULATIONS REGARDING ENVIRONMENTAL PROTECTION. REPAIR ANY DAMAGE TO MATCH CONDITIONS PRIOR TO START OF WORK. 28. INFILL OR PATCH UNUSED OPENINGS IN FLOOR, WALL, CEILING

AND ROOF ASSEMBLIES, AS REQUIRED TO MAINTAIN SMOKE, FIRE OR SOUND RATING, AND /OR STRUCTURAL CAPACITY. MATCH TEXTURE, COLOR AND FINISH OF ADJACENT SURFACE WHERE

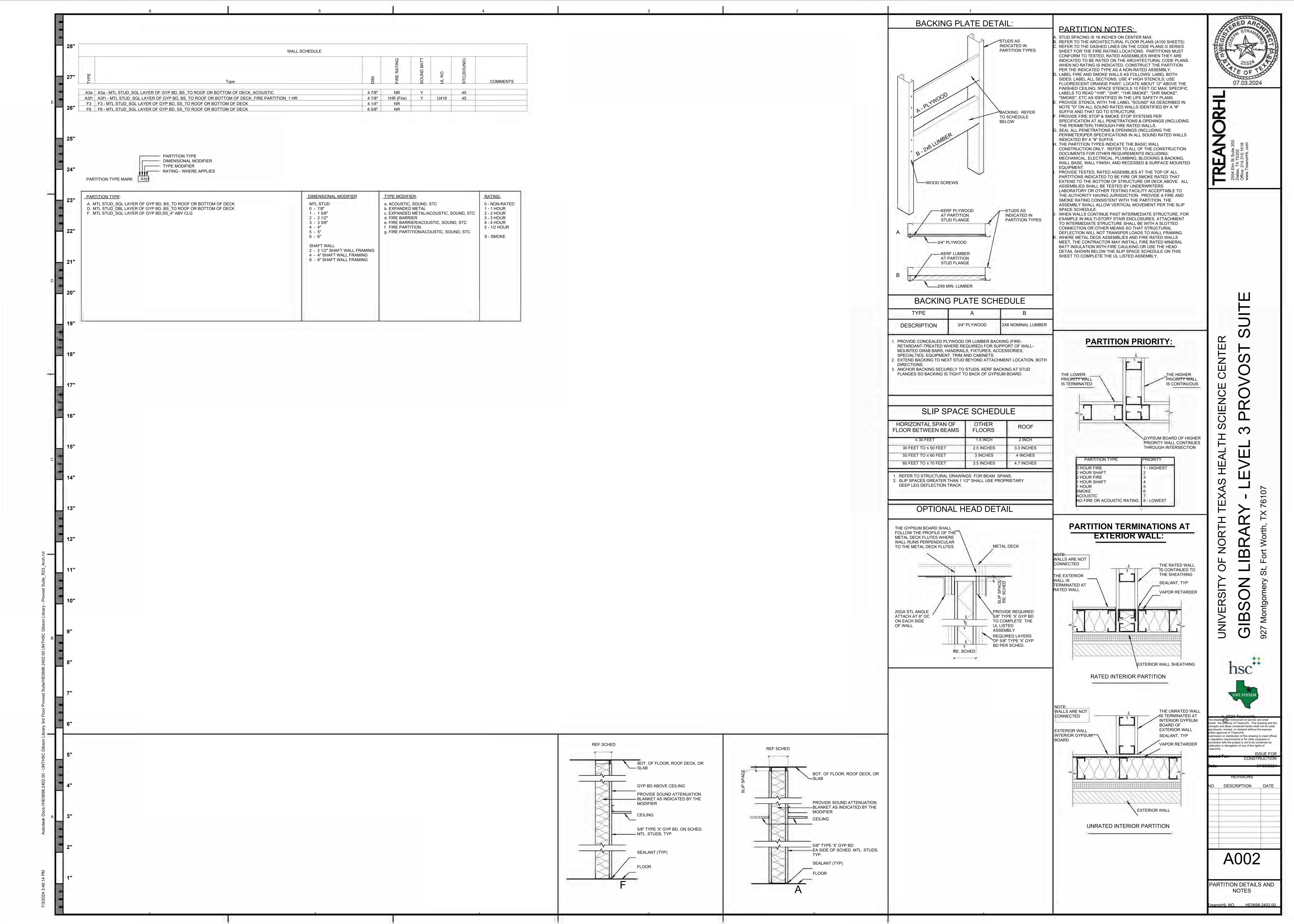


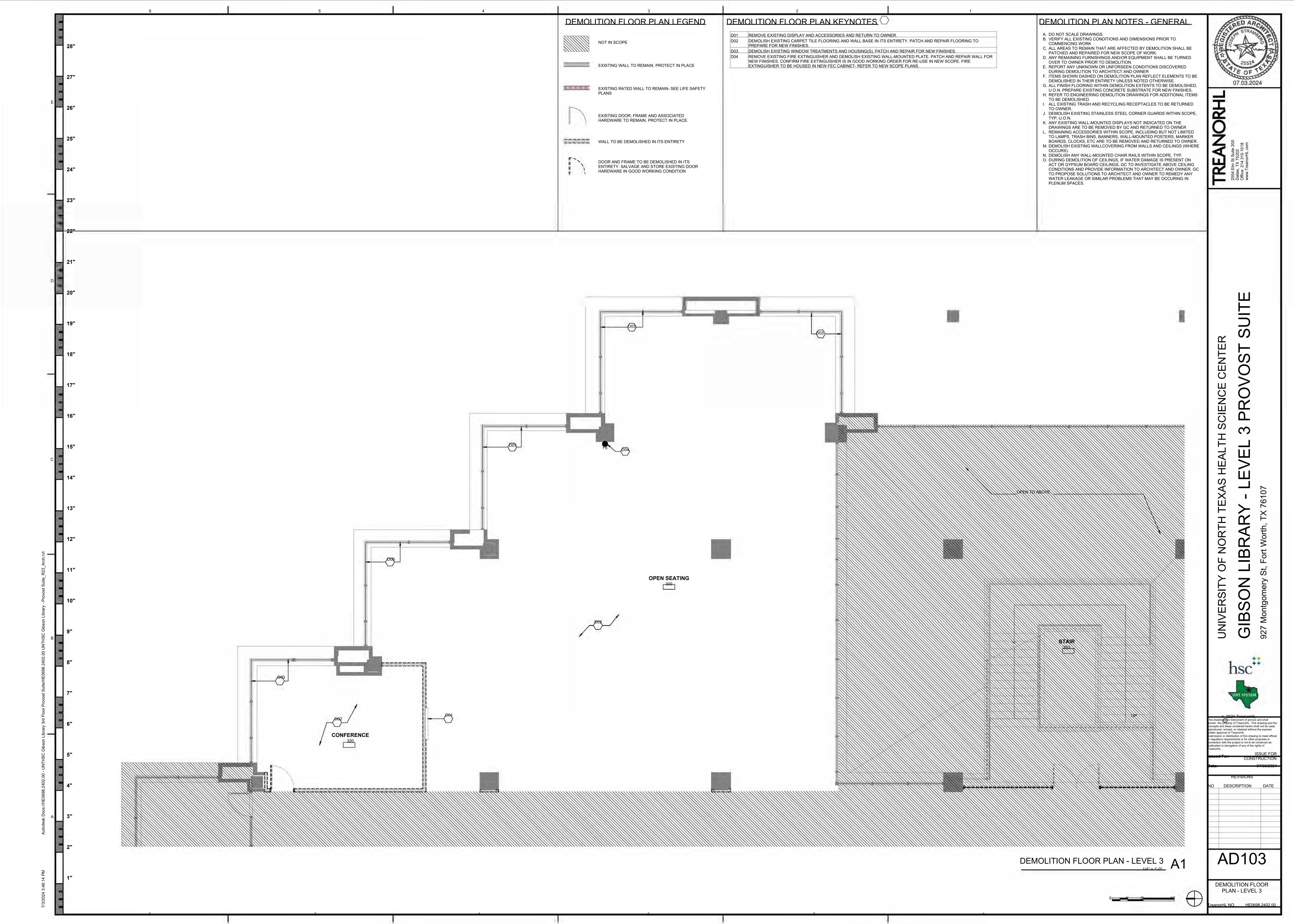
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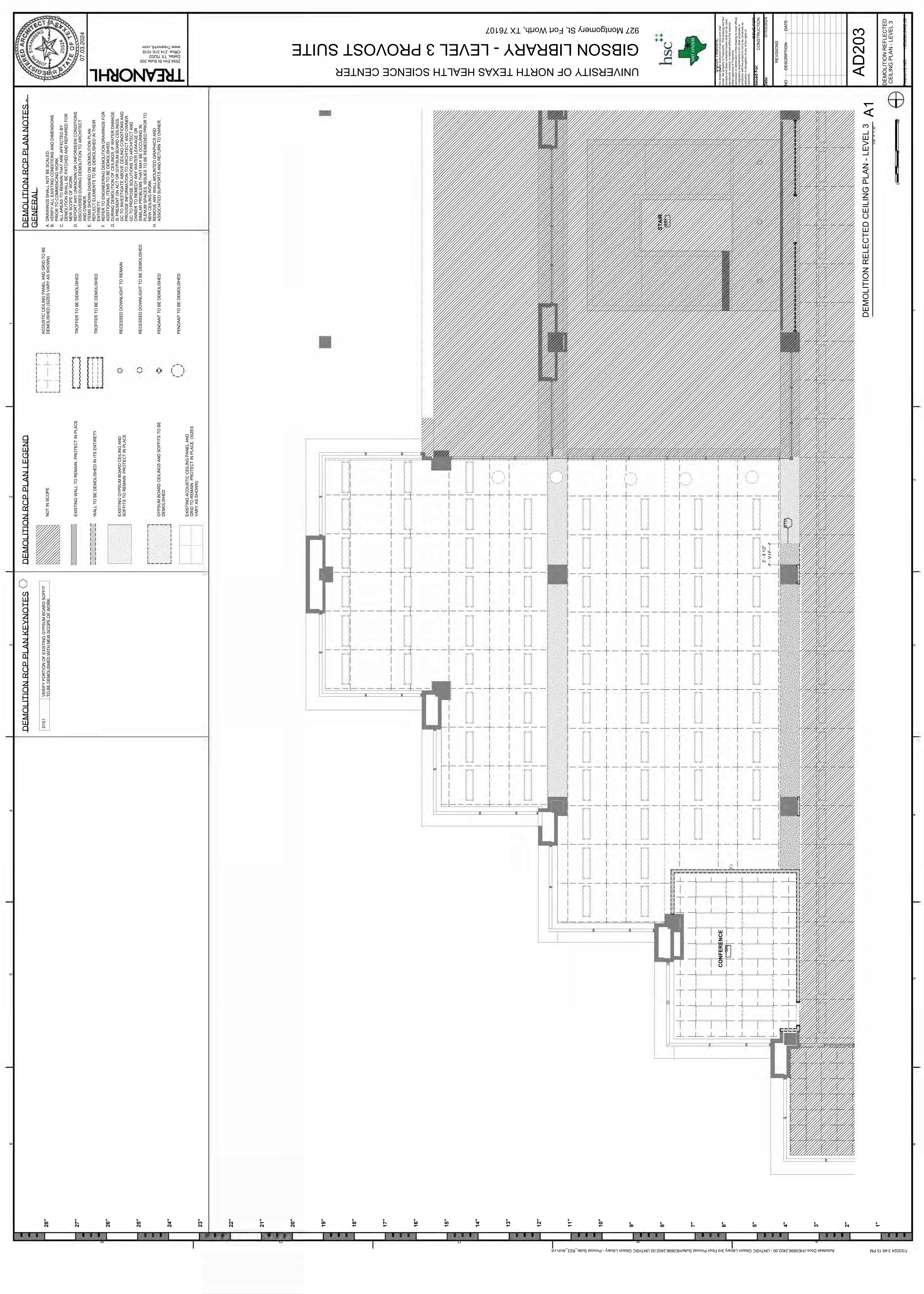
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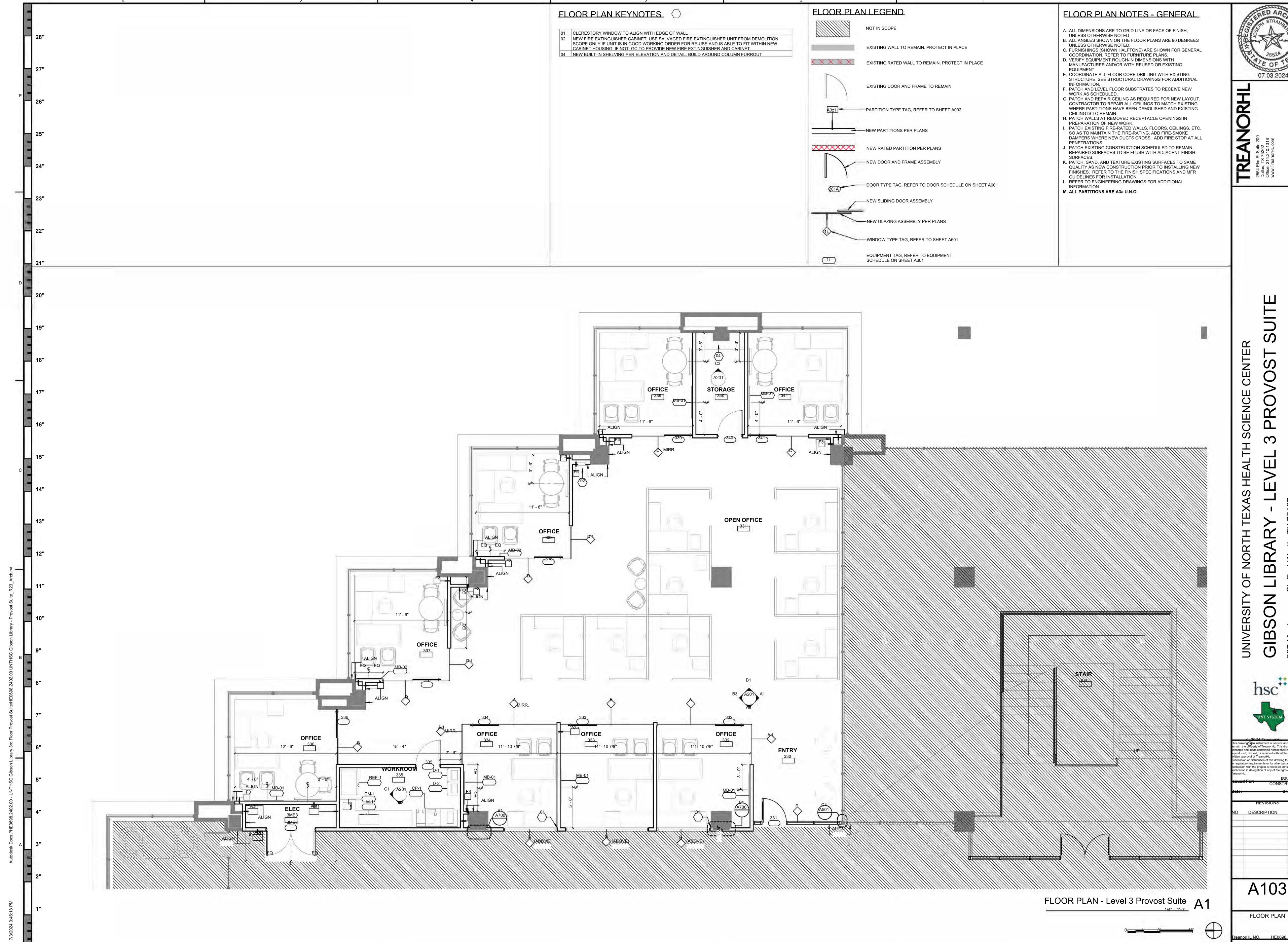
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GENERAL NOTES/ABBREVIATIONS





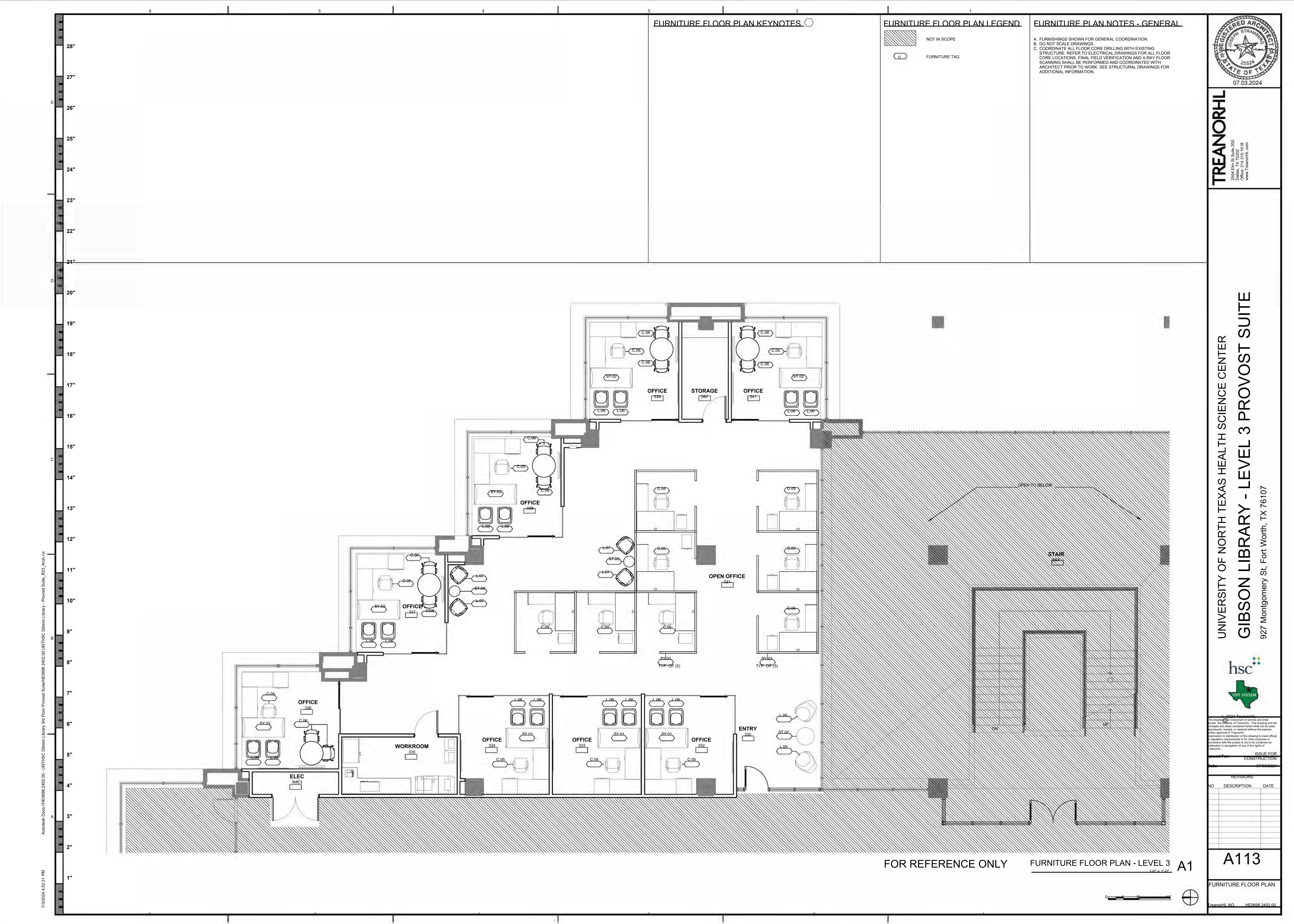


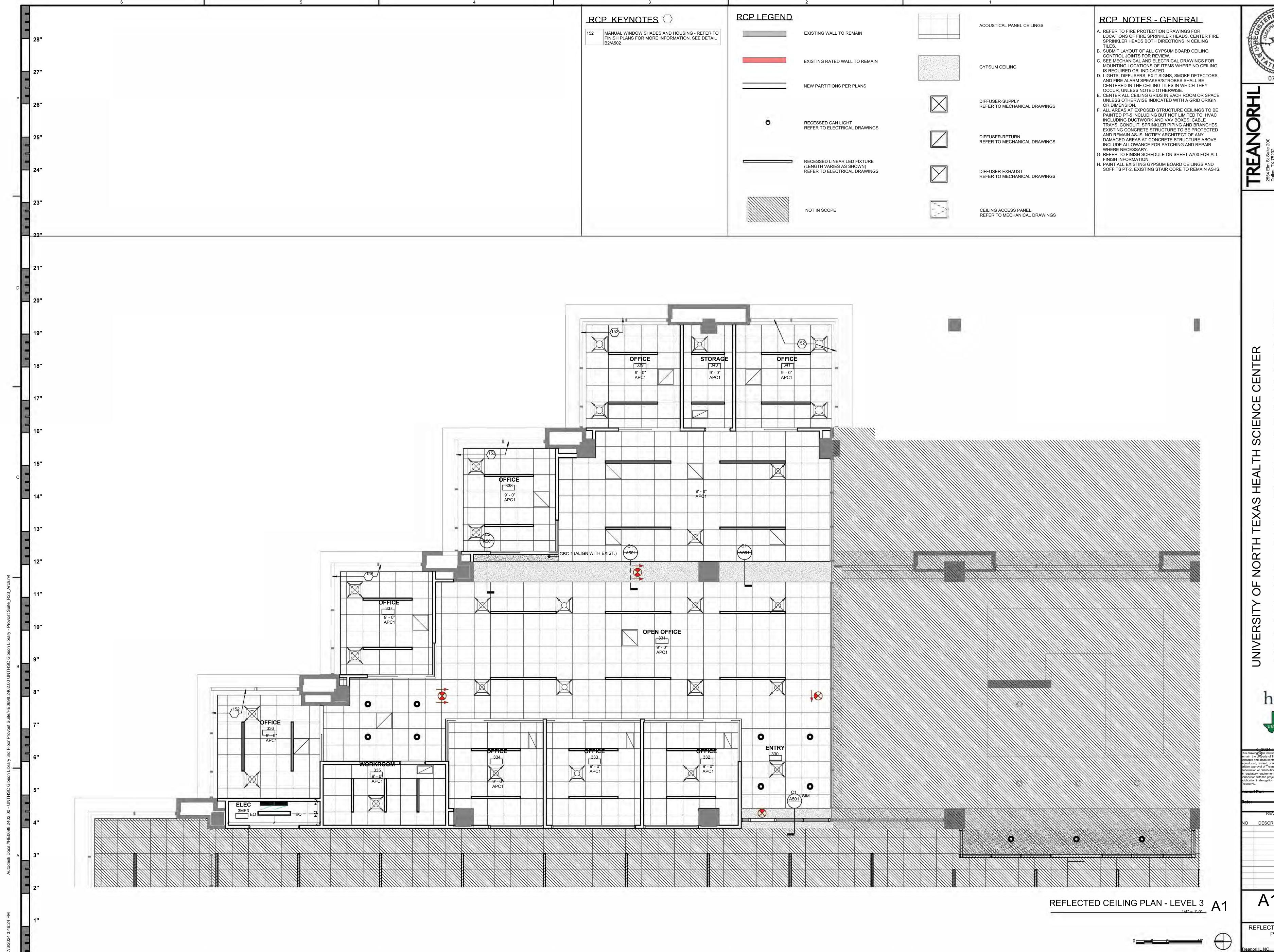


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DESCRIPTION DATE

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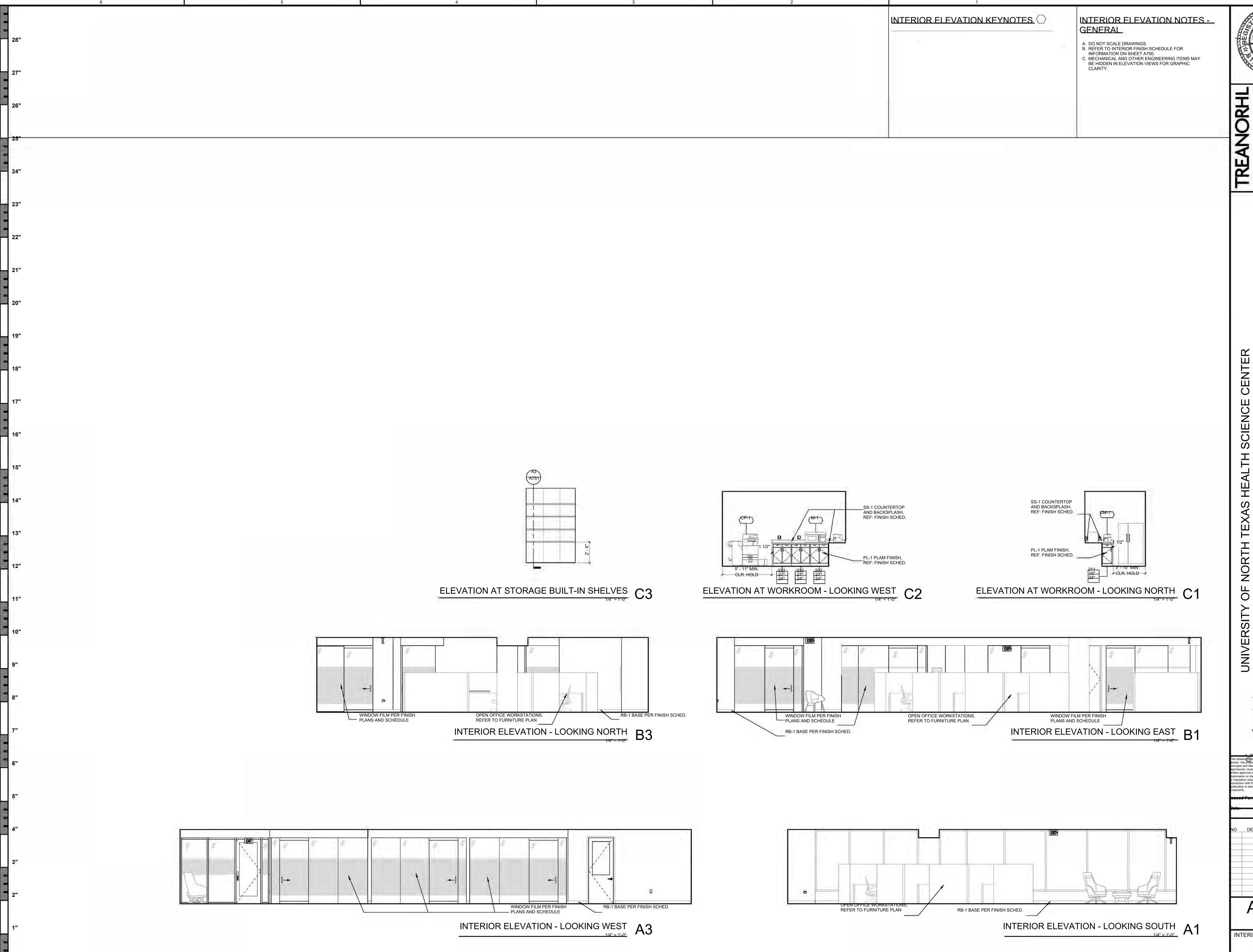




oncepts and ideas contained herein shall not be used, eproduced, revised, or retained without the express written approval of TreanorHL Submission or distribution of this drawing to meet official

DESCRIPTION DATE

REFLECTED CEILING PLAN



SCIENCE NORTH IBR

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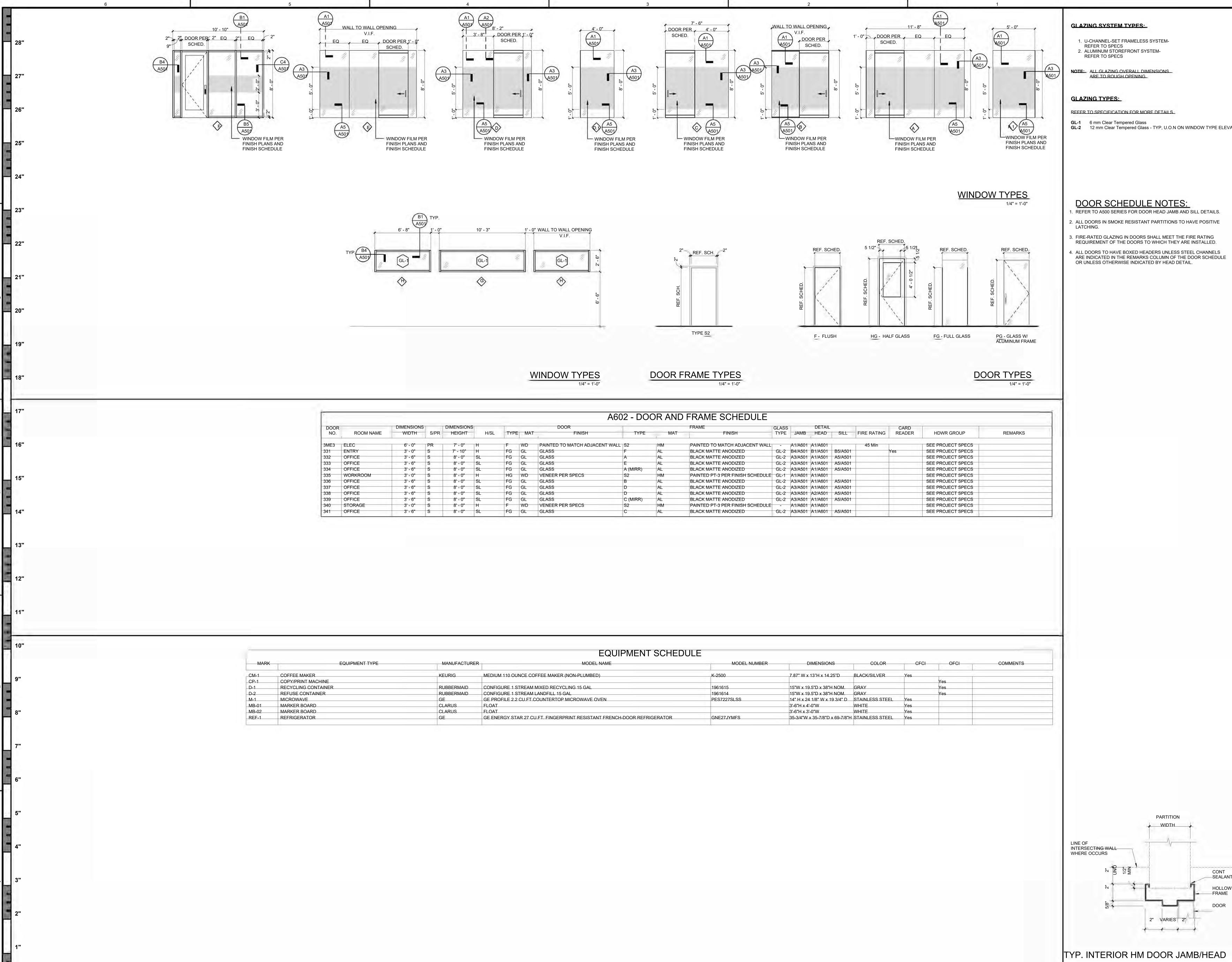
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INTERIOR ELEVATIONS

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INTERIOR DETAILS



REFER TO SPECIFICATION FOR MORE DETAILS

GL-1 6 mm Clear Tempered Glass GL-2 12 mm Clear Tempered Glass - TYP, U.O.N ON WINDOW TYPE ELEVATIONS

- 2. ALL DOORS IN SMOKE RESISTANT PARTITIONS TO HAVE POSITIVE
- 3. FIRE-RATED GLAZING IN DOORS SHALL MEET THE FIRE RATING REQUIREMENT OF THE DOORS TO WHICH THEY ARE INSTALLED.
- 4. ALL DOORS TO HAVE BOXED HEADERS UNLESS STEEL CHANNELS ARE INDICATED IN THE REMARKS COLUMN OF THE DOOR SCHEDULE

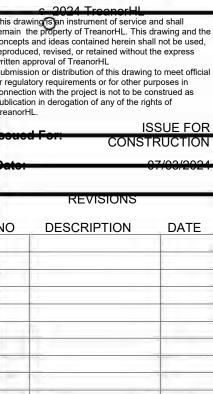
DOOR SCHEDULE NOTES:

OR UNLESS OTHERWISE INDICATED BY HEAD DETAIL.

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PARTITION

SEALANT, TYP

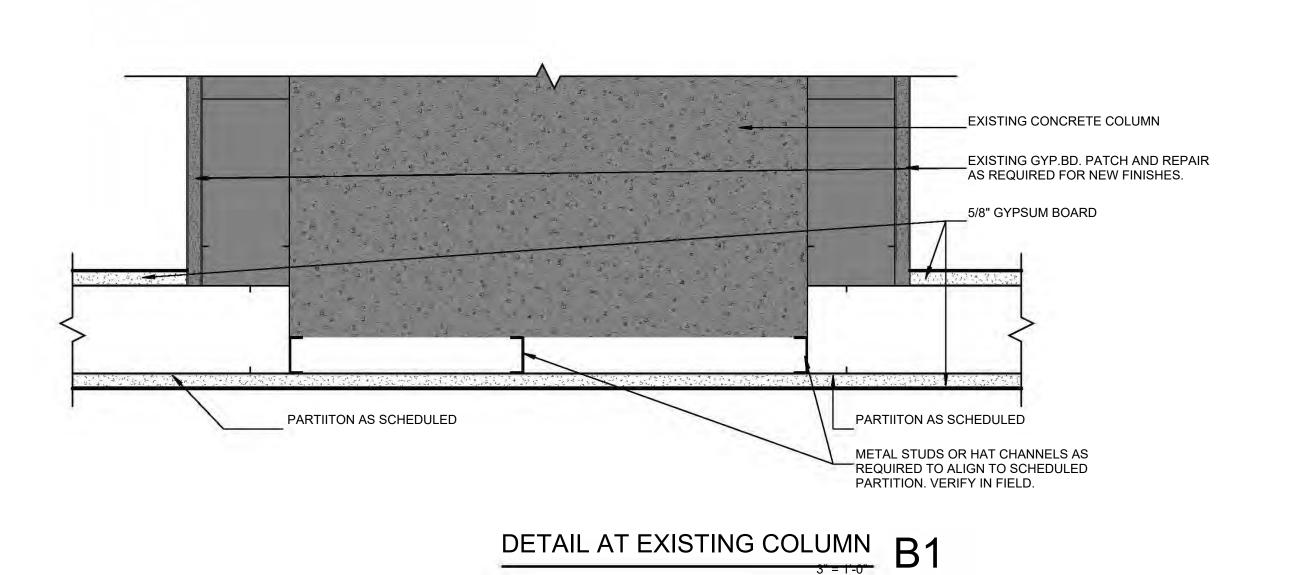
FRAME

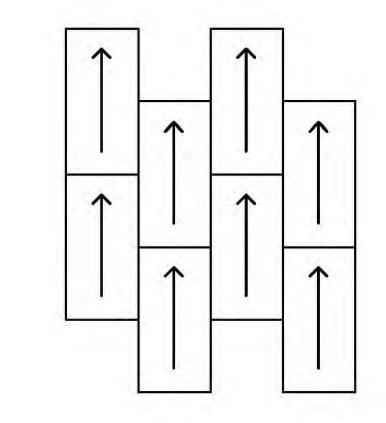
DOOR

HOLLOW METAL

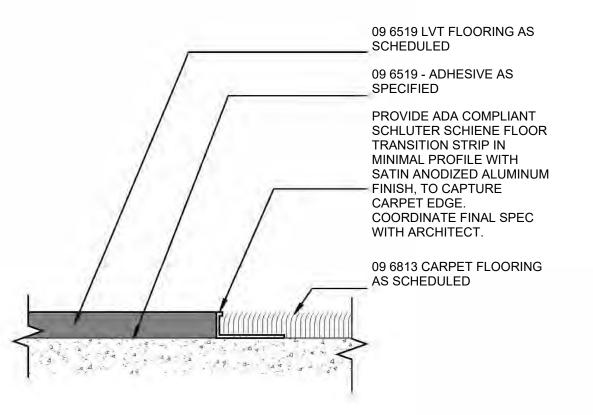
A601

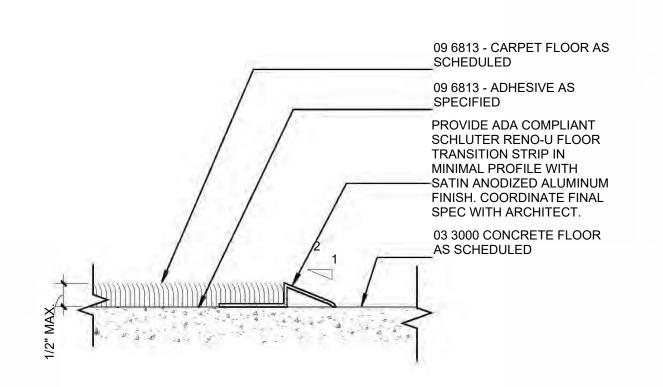
SCHEDULE, DOOR/FRAME /WINDOW TYPES





TILE INSTALL METHOD- ASHLAR B2



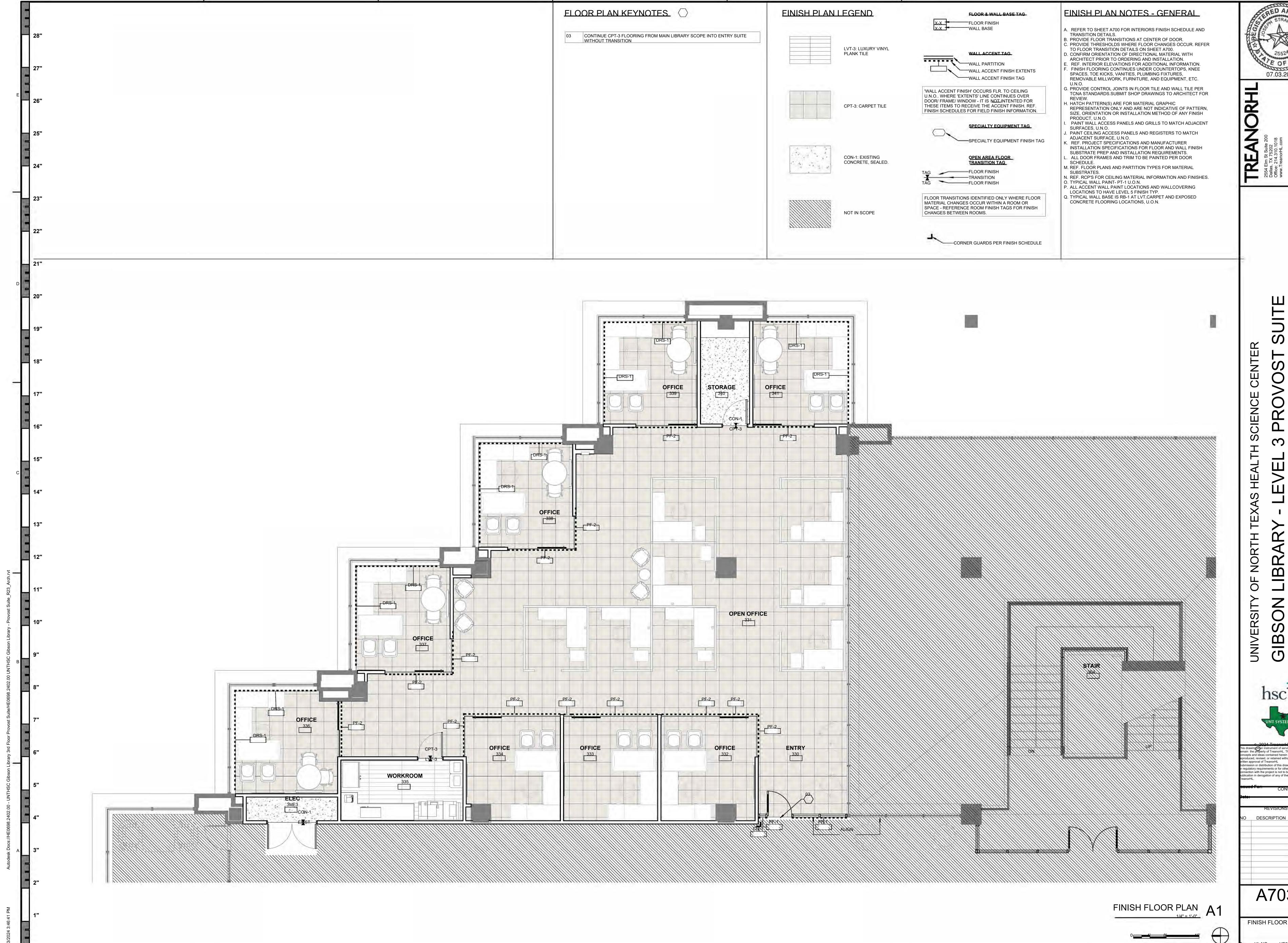


CARPET TO CONCRETE A1

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A700

INTERIOR FINISH SCHEDULE & DETAILS

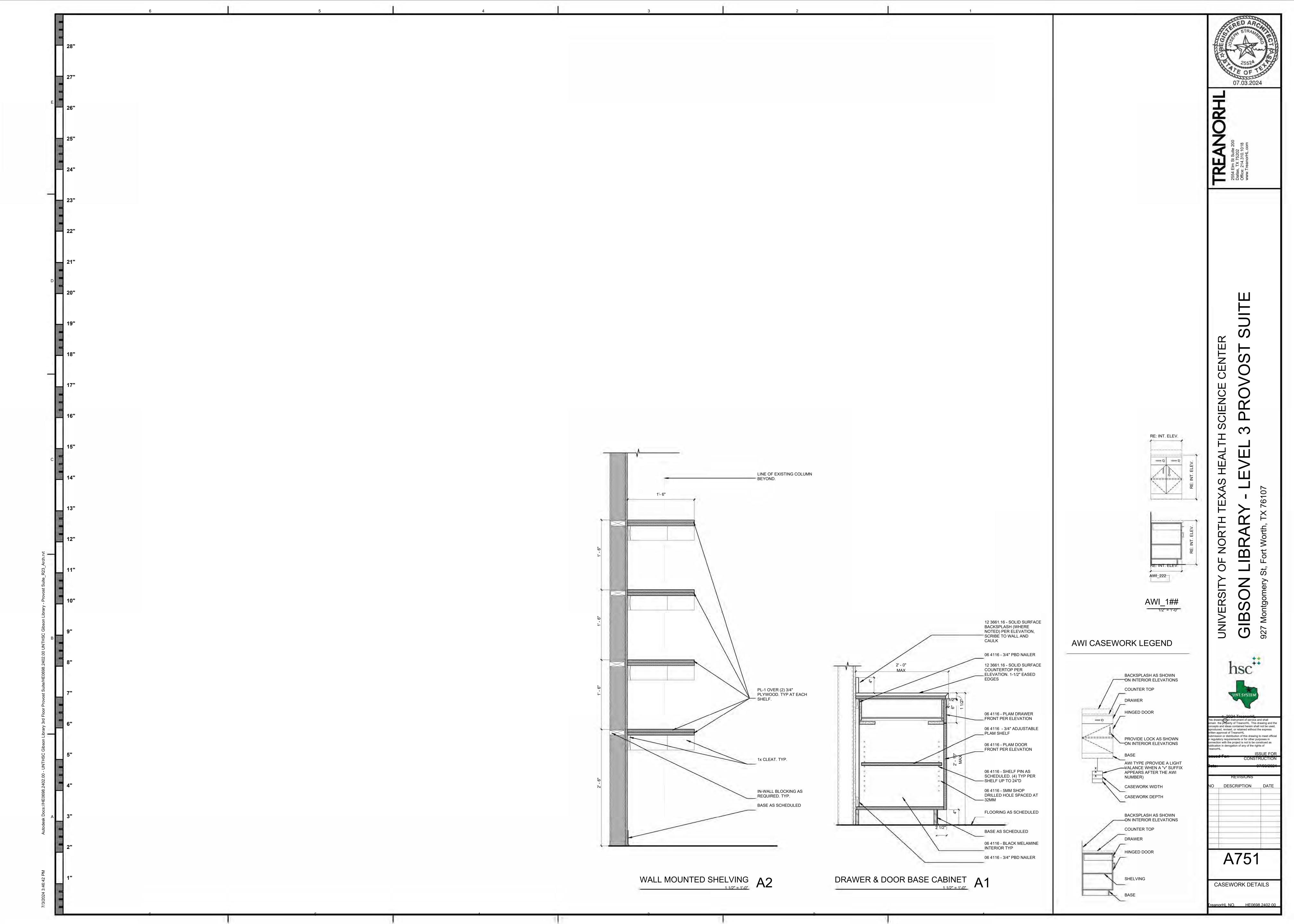


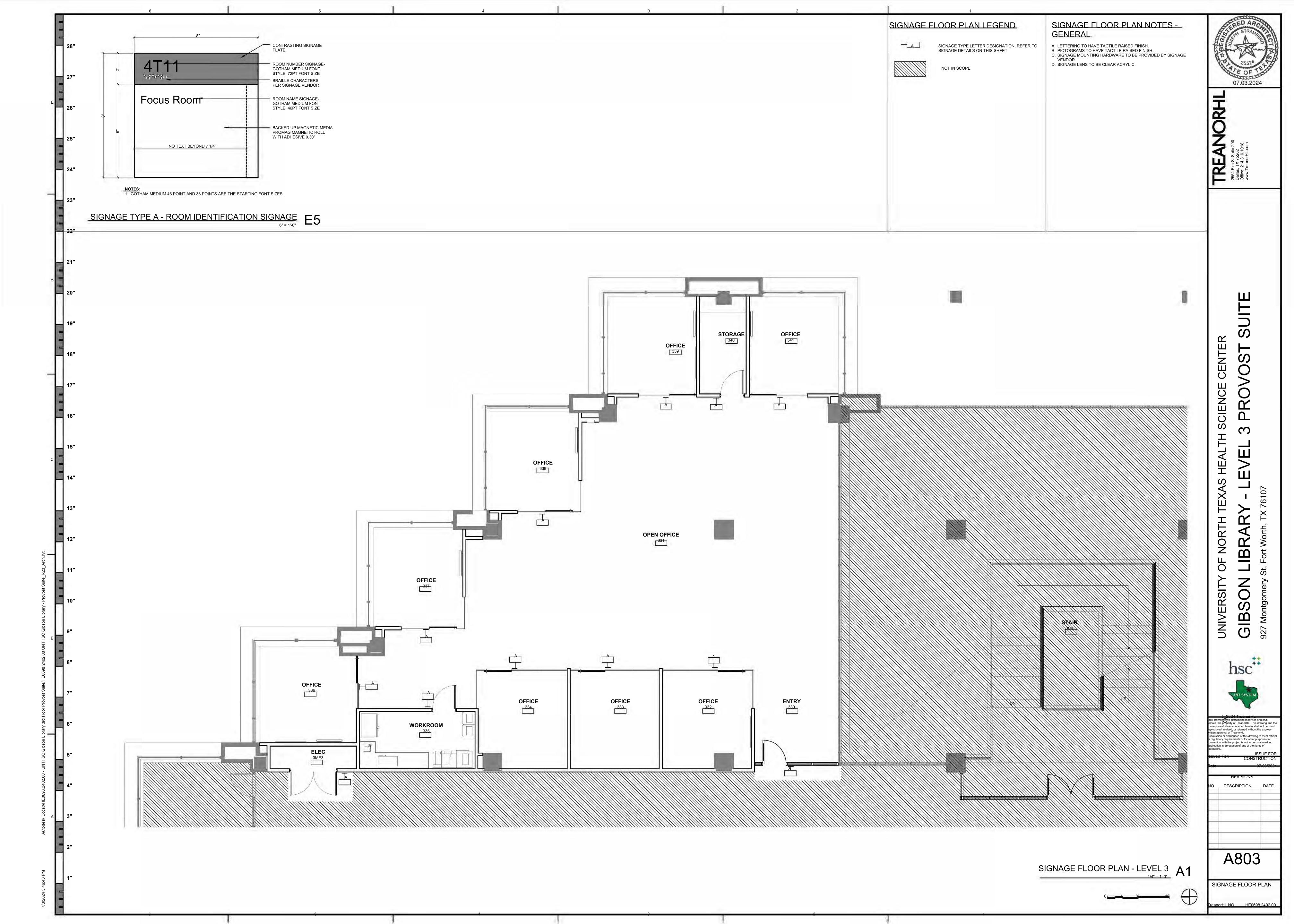
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A703

FINISH FLOOR PLAN





COMMENCING WORK.

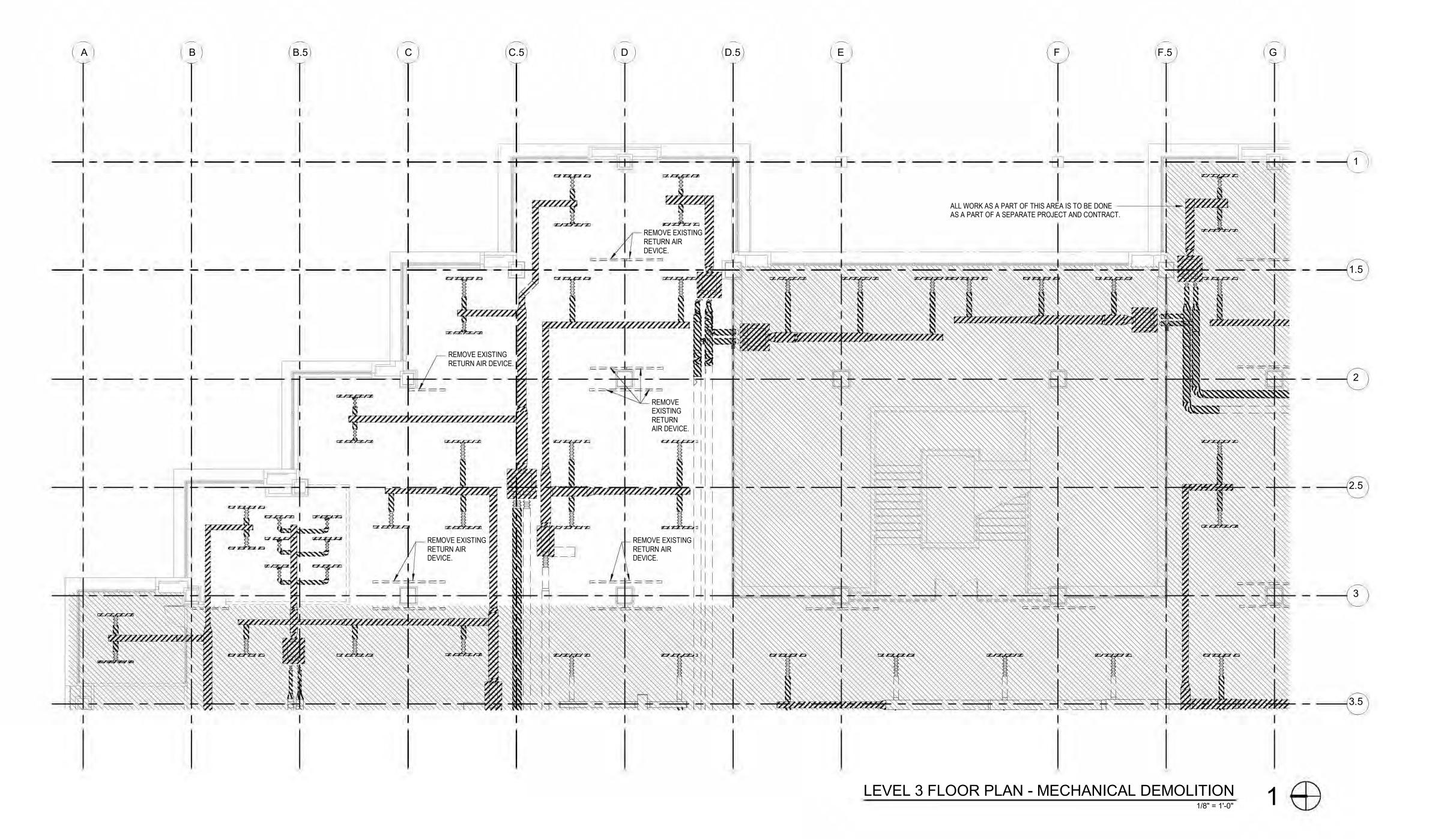
DUCTWORK IS ALLOWED. 2. ANY VAV BOXES AND THEIR ASSOCIATED CONTROLLERS THAT ARE TO BE DEMOLISHED SHALL BE SALVAGED AND RETURNED TO THE OWNER. CONTRACTOR SHALL COORDINATE ITEM TYPE, QUANTITY, AND STORAGE LOCATION WITH THE OWNER.

3. ANY MEDIUM PRESSURE DUCTWORK THAT IS TO BE CAPPED AIR-TIGHT SHALL BE CAPPED PER SMACNA STANDARDS AND RECOMMENDATIONS. 4. ALL EXISTING DUCTWORK TO REMAIN SHALL BE CLEANED AND

PRESSURE TESTED. 5. CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL EXISTING PIPING AND DUCTWORK AND NOTIFY THE DESIGN TEAM IF THERE ARE ANY CONFLICTS WITH NEW WALL LOCATIONS PRIOR TO

6. REFER TO SHEET M200 FOR MECHANICAL GENERAL NOTES AND 7. THERE ARE MULTIPLE LOCATIONS WHERE EXISTING INSULATION AND ASSOCIATED MASTIC TESTED POSTIVE FOR ASBESTOS CONTAINING MATERIAL (ACM). THE ACM REMOVAL WILL BE A PART OF A SEPERATE CONTRACT. AS A PART OF THIS CONTRACT, CONTRACTOR SHALL CONFIRM WORK AREA LOCATIONS WITH THE GENERAL CONTRACTOR AND OWNER TO ENSURE THE ABATEMENT EFFORTS ARE CORRECT AND COMPLETED PRIOR TO ANY ADDITIONAL DEMOLITION OR NEW WORK. IN ADDITION, ALL PIPING AND DUCTWORK WITH ACM THAT IS SHOWN TO BE EXISTING TO REMAIN SHALL BE RE-INSULATED AS A PART OF THIS CONTRACT.

COORDIANTE AREAS WITH ACM CONTRACTOR. 8. THIS BUILDING WILL BE OCCUPIED DURING THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL CAREFULLY COORDINATE AND SCHEDULE ANY REQUIRED SHUTDOWNS WITH THE UNIVERSITY TO MINIMIZE DISTRUPTIONS TO BUILDING OCCUPANTS.



6300 Ridglea Pl., Ste. 700 Fort Worth, TX 76116 mail@bhbinc.com • (817)338-1277 • bhbinc.com TBPELS Firm #44, #10011300, #10011302, #10194146 BHB Project # 2023.029.010

MD101 LEVEL 3 FLOOR PLAN -MECHANICAL DEMOLITION TreanorHL NO. HE0698.2402.00

REVISIONS

DESCRIPTION DATE

UNIVERSIT

BAIRD, HAMPTON & BROWN building partners

TERMINAL UNIT SCHEDULE (SINGLE DUCT)										
TAG	LOCATION	NECK SIZE	MAX. CFM	MIN. CFM	MIN. INLET S.P. (IN. OF WTR.)	MAX. RD. DISCH. NC	MANUFACTURER	MODEL NUMBER		
VAV-07-03-10	LEVEL 3	5"	255	85	0.50	<25	Enviro Tec Inc.	SDR-05		
VAV-07-03-11	LEVEL 3	4"	100	30	0.50	<25	Enviro Tec Inc.	SDR-04		
VAV-07-03-12	LEVEL 3	4"	100	30	0.50	<25	Enviro Tec Inc.	SDR-04		
VAV-07-03-13	LEVEL 3	4"	100	30	0.50	<25	Enviro Tec Inc.	SDR-04		
VAV-07-03-14	LEVEL 3	10"	730	235	0.50	<25	Enviro Tec Inc.	SDR-10		
VAV-07-03-15	LEVEL 3	8"	445	155	0.50	<25	Enviro Tec Inc.	SDR-08		

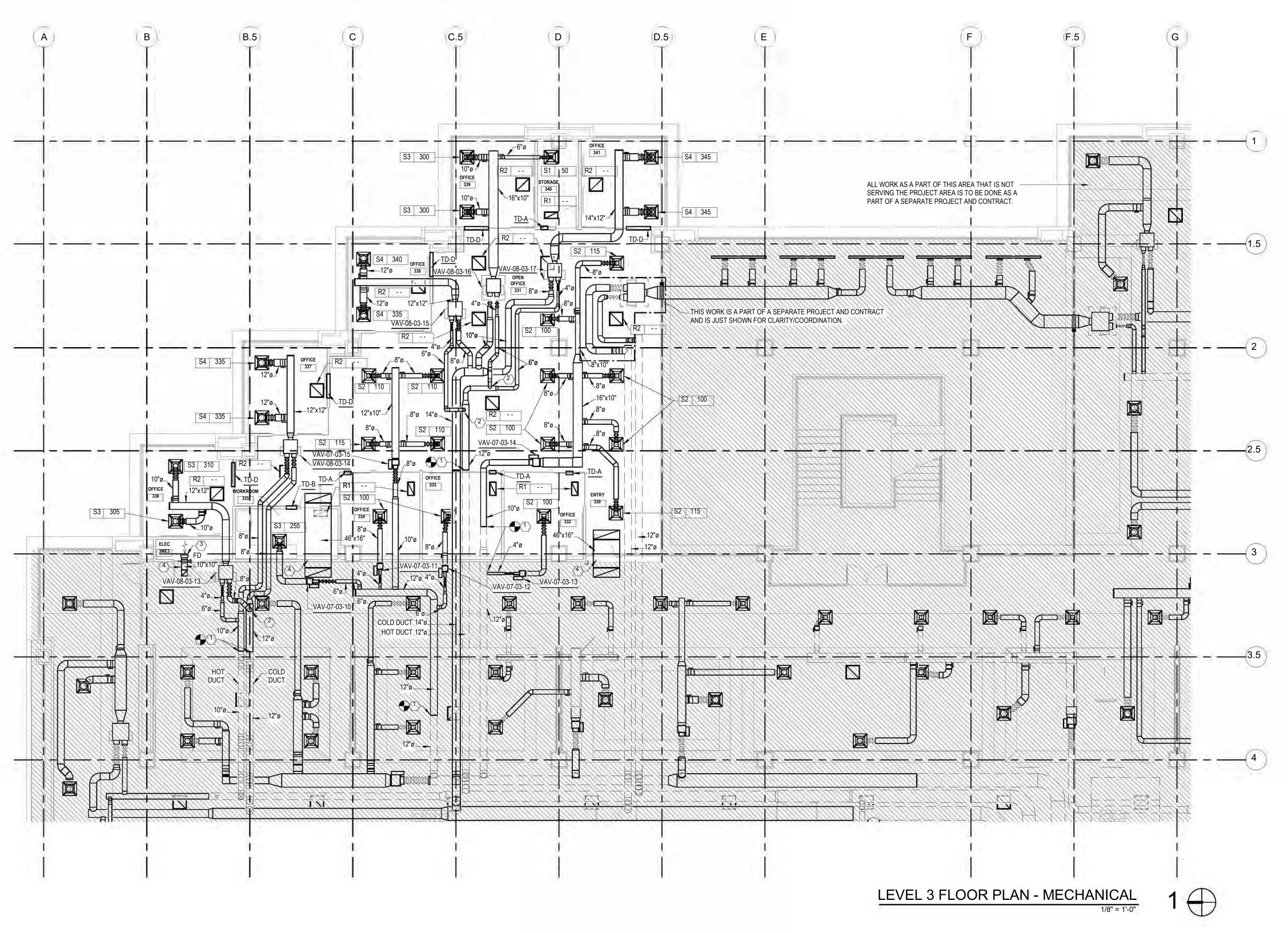
	AIR DEVICE SCHEDULE									
TAG	DESCRIPTION	OPPOSED BLADE DAMPER	FINISH	MANUFACTURER	MODEL NO					
S1	24"x24" SQ. PLAQUE FACE CEILING DIFFUSER 6"ø NECK	YES	B12 WHITE	PRICE	SPD					
S2	24"x24" SQ. PLAQUE FACE CEILING DIFFUSER 8"ø NECK	YES	B12 WHITE	PRICE	SPD					
S3	24"x24" SQ. PLAQUE FACE CEILING DIFFUSER 10"ø NECK	YES	B12 WHITE	PRICE	SPD					
S4	24"x24" SQ. PLAQUE FACE CEILING DIFFUSER 12"ø NECK	YES	B12 WHITE	PRICE	SPD					
R1	12"x24" PERFORATED FACE CEILING GRILLE 10"x22" NECK	NO	B12 WHITE	PRICE	PDDR					
R2	24"x24" PERFORATED FACE CEILING GRILLE 22"x22" NECK	NO	B12 WHITE	PRICE	PDDR					

- COORDINATE FINAL AIR DEVICE FINISH COLOR SELECTION WITH ARCHITECT.
- REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- ALL AIR DEVICES INSTALLED IN GYP BOARD, PLASTER, OR OTHER HARD CEILING SHALL HAVE A SEPARATE MOUNTING FRAME.
- PROVIDE ALL CEILING MOUNTED RETURN AIR DEVICES WITH RETURN AIR CANOPIES EQUAL TO PRICE #RAC.

TAG	SIZE	MAX VELOCITY (FPM)	MAX AIRFLOW (CFM)	MANUFACTURER	MODEL NO
TD-A	12"x12"	200	200	PRICE	RAS-LP
TD-B	18"x18"	200	450	PRICE	RAS-LP
TD-D	42"x14"	200	815	PRICE	RAS-LP

NOTES BY SYMBOL: " (2)"

- 1 CONNECT NEW DUCTWORK TO EXISTING DUCTWORK ABOVE CEILING AND CONTINUE AS SHOWN.
- 2 TAP DUCT INTO TOP OF MAIN. ROUTE OVER DUCT THEN
- OFFSET BELOW STRUCTURE AND CONTINUE AS SHOWN. 3 TERMINATE TRANSFER AIR DUCT WITH 6" LONG, 45 DEG
- FLANGE AND 1/2" BIRDSCREEN. 4 INTSTALL TRANSFER DUCT ABOVE CEILING. DUCTWORK SHALL BE LINED WITH 1-1/2" THICK ACOUSTICAL LINING (MINIMUM INSTALLED R-VALUE = R-6). TERMINATE TRANSFER AIR DUCT WITH AN ELBOW UP AND 1/2" BIRD



SHEET NOTES:

- 1. REFER TO SHEET M200 FOR MECHANICAL GENERAL NOTES AND LEGEND. 2. ALL EXISTING DUCTWORK TO REMAIN SHALL BE CLEANED AND PRESSURE TESTED. 3. CROSS TALK ATTENUATORS (EQUAL TO PRICE RAS-LP) SHALL BE PROVIDED FOR RETURN AIR FROM EACH ENCLOSED SPACE AND SHALL BE LOCATED ABOVE
- 4. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE AND SMOKE RATED PARTITIONS AND ASSOCIATED REQUIREMENTS. 5. CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL EXISTING PIPING AND
- NEW WALL LOCATIONS PRIOR TO COMMENCING WORK. 6. THERE ARE MULTIPLE LOCATIONS WHERE EXISTING INSULATION AND ASSOCIATED MASTIC TESTED POSTIVE FOR ASBESTOS CONTAINING MATERIAL (ACM). THE ACM REMOVAL WILL BE A PART OF A SEPERATE CONTRACT. AS A PART OF THIS CONTRACT, CONTRACTOR SHALL CONFIRM WORK AREA LOCATIONS WITH THE GENERAL CONTRACTOR AND OWNER TO ENSURE THE ABATEMENT EFFORTS ARE CORRECT AND COMPLETED PRIOR TO ANY ADDITIONAL DEMOLITION OR NEW WORK. IN ADDITION, ALL PIPING AND DUCTWORK WITH ACM THAT IS SHOWN TO BE EXISTING TO REMAIN SHALL BE RE-INSULATED AS A PART OF THIS CONTRACT. COORDIANTE

DUCTWORK AND NOTIFY THE DESIGN TEAM IF THERE ARE ANY CONFLICTS WITH

AREAS WITH ACM CONTRACTOR. 7. THIS BUILDING WILL BE OCCUPIED DURING THE CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL CAREFULLY COORDINATE AND SCHEDULE ANY REQUIRED SHUTDOWNS WITH THE UNIVERSITY TO MINIMIZE DISTRUPTIONS TO BUILDING OCCUPANTS.



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LEVEL 3 FLOOR PLAN -MECHANICAL

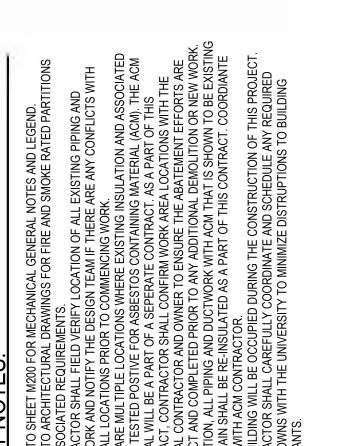


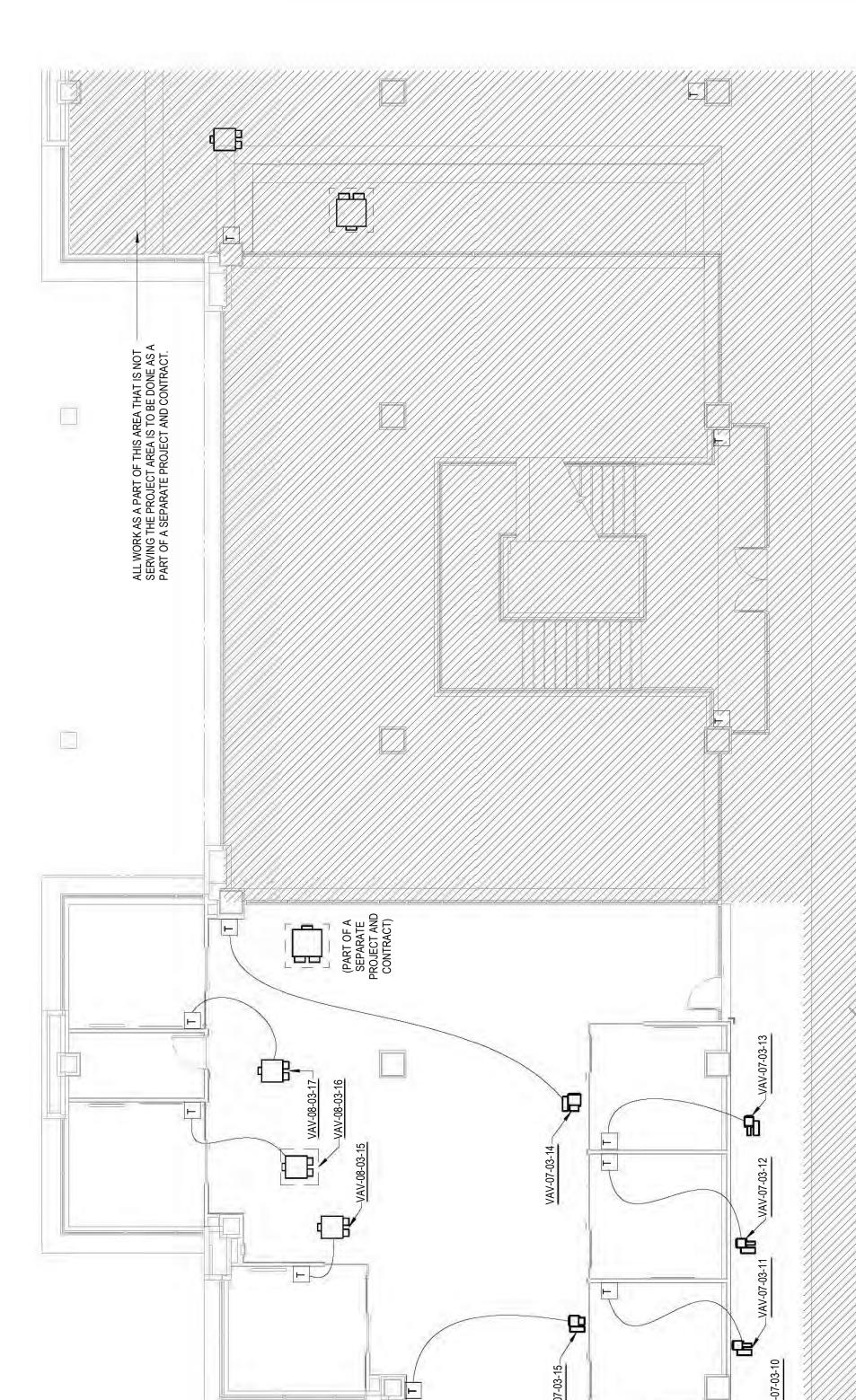
M102











RUIN CONDITIONS - SCHEDULED:
THE UNIT SHALL RUIN ACCORDING TO A USER DEFINABLE TIME SCHEDULE IN THE FOLLOWING MODES:

OCCUPIED MODE: THE UNIT SHALL MAINTAIN

• A 74°F (ADJ.) COOLING SETPOINT

• A 69°F (ADJ.) HEATING SETPOINT

• A 69°F (ADJ.) HEATING SETPOINT

• A 56°F (ADJ.) HEATING SETPOINT

• CCUPIED ROOM TEMPERATURE ALARM: AN ALARM SHALL BE SENT AFTER HAVING BEEN IN THE OCCUPIED MODE FOR AT LEAST 60

MINUTES (ADJ.) THE ROOM TEMPERATURE ALARM: AN ALARM SHALL BE SENT IF, IN UNOCCUPIED MODE, THE ROOM TEMPERATURE IS BELOW

THE UNOCCUPIED ROOM TEMPERATURE HEATING SETPOINT BY 5°F (ADJ.) OR ABOVE

THE UNOCCUPIED ROOM TEMPERATURE HEATING SETPOINT BY 5°F (ADJ.) OR ABOVE

THE UNOCCUPIED ROOM TEMPERATURE HEATING SETPOINT BY 5°F (ADJ.) OR ABOVE

THE UNOCCUPIED ROOM TEMPERATURE HEATING SETPOINT BY 5°F (ADJ.) OR ABOVE

THE UNOCCUPIED ROOM TEMPERATURE HEATING SETPOINT BY 5°F (ADJ.) OR ABOVE

THE UNOCCUPIED ROOM TEMPERATURE HEATING SETPOINT BY 5°F (ADJ.) OR ABOVE

THE UNOCCUPIED ROOM TEMPERATURE (ADJ.) FOR A PERIOD OF 60 MINUTES (ADJ.).

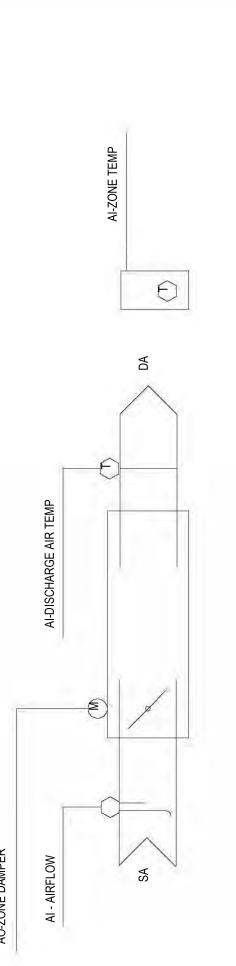
ZONE OPTIMAL START: THE UNIT SHALL USE AN OPTIMAL START ALGORITHM FOR MORNING START-UP. THIS ALGORITHM SHALL MINIMIZE THE UN COOL-DOWN PERIOD WHILE STILL ACHIEVING COMFORT CONDITIONS BY THE START OF SCHEDULED OCCUPIED PERIOD.

FLOW CONTROL: THE UNIT SHALL MAINTAIN ZONE SETPO

OCCUPIED:
WHEN ZONE TEMPERATURE IS GREATER THAN ITS COOLING SETPOINT, THE COLD DUCT DAMPER SHALL MODULATE BETWEEN THE
MINIMUM OCCUPIED AIRFLOW (ADJ.) AND THE MAXIMUM COOLING AIRFLOW (ADJ.) UNTIL THE ZONE IS SATISFIED.
WHEN THE ZONE TEMPERATURE IS BETWEEN THE COOLING SETPOINT AND THE HEATING SETPOINT, THE COLD DUCT DAMPER SHALL
MAINTAIN THE MINIMUM REQUIRED ZONE VENTILATION (ADJ.).
WHEN ZONE TEMPERATURE IS LESS THAN ITS HEATING SETPOINT, THE HOT DUCT DAMPER SHALL MODULATE UP TO THE MAXIMUM
HEATING AIRFLOW (ADJ.) UNTIL THE ZONE IS SATISFIED.
UNOCCUPIED:
WHEN AIR TERMINAL BOX GROUP TIME CHART IS SCHEDULED UNOCCUPIED, OR WHEN MASTER HOLIDAY CHART IS SCHEDULED UNOCCUPIED:
THE COLD DECK AND HOT DECK VOLUME DAMPERS SHALL BE FULLY CLOSED EXCEPT UNDER THE FOLLOWING CONDITIONS:
SETBACK: WHEN THE PRIMARY AIR UNIT IS OPERATING IN SETUP, THE AIR TERMINAL BOX SHALL OPERATE AS IN OCCUPIED MODE.
SETUP: WHEN THE PRIMARY AIR UNIT IS OPERATING IN SETUP, THE AIR TERMINAL BOX SHALL OPERATE AS IN OCCUPIED MODE.
BYPASS: BYPASS OPERATION SHALL BE ACTIVE FOR THE OVERRIDE PERIOD UPON ACTIVATION OF THE OVERRIDE PUSHBUTTON. ALL BOXES IN THE ASSOCIATED AIR TERMINAL BOX GROUP SHALL OPERATE AS IN OCCUPIED MODE.

VARIABLE VOLUME DUAL DUCT TERMINAL UNIT CONTROL DIAGRAM AND SEQUENCE OF OPERATIONS NOT TO SCALE

DISCHARGE AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE DISCHARGE AIR TEMPERATURE.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
• HIGH DISCHARGE AIR TEMP: IF THE DISCHARGE AIR TEMPERATURE IS GREATER THAN 110°F (ADJ.).
• LOW DISCHARGE AIR TEMP: IF THE DISCHARGE AIR TEMPERATURE IS LESS THAN 45°F (ADJ.).



RUN CONDITIONS - SCHEDULED:
THE UNIT SHALL MAINTAIN

OCCUPIED MODE: THE UNIT SHALL MAINTAIN

A 74°F (ADJ.) COOLING SETPOINT

A 74°F (ADJ.) COOLING SETPOINT

A 86°F (ADJ.) HEATING SETPOINT

A 86°F (ADJ.) SENDOR IN SETPOINT

A 86°F (ADJ.) SETPOINT BY 10°F (ADJ.) IF

A 86°F (ADJ.) SETPOINT BY 10°F (ADJ.) IF

A 86°F (ADJ.) SETPOINT BY 10°F (ADJ.) IF

A 86°F (ADJ.) SETPOINT BY 10°F (ADJ.) SETPOINT BY 10°F (ADJ.) IF

A 86°F (ADJ.) SETPOINT BY 10°F (ADJ.) FOR A BERIOD OF 60 MINUTES (ADJ.)

A 86°F (ADJ.) SETPOINT BY 10°F (ADJ.) FOR A PERIOD OF 60 MINUTES (ADJ.) ZONE OPTIMAL START: THE UNIT SHALL USE AN OPTIMAL START ALGORITHM FOR MORNING START-UP. THIS ALGORITHM SHALL MINIMIZE THE PERIOD WHILE STILL ACHIEVING COMFORT CONDITIONS BY THE START OF SCHEDULED OCCUPIED PERIOD.

WHEN ZONE TEMPERATURE IS GREATER THAN ITS COOLING SETPOINT, THE ZONE DAMPER SHALL MODULATE BETWEEN THE MINIMUM OCCUING AIRFLOW (ADJ.) AND THE MAXIMUM COOLING AIRFLOW (ADJ.) UNTIL THE ZONE IS SATISFIED.
 WHEN THE ZONE TEMPERATURE IS LESS THAN THE COOLING SETPOINT, THE ZONE DAMPER SHALL MAINTAIN THE MINIMUM REQUIRED ZONE (ADJ.).
 UNOCCUPIED:
 WHEN AIR TERMINAL BOX GROUP TIME CHART IS SCHEDULED UNOCCUPIED, OR WHEN MASTER HOLIDAY CHART IS SCHEDULED UNOCCUPIED.
 THE VOLUME DAMPER SHALL BE FULLY CLOSED EXCEPT UNDER THE FOLLOWING CONDITIONS:
 SETBACK: WHEN THE PRIMARY AIR UNIT IS OPERATING IN SETBACK, THE AIR TERMINAL BOX SHALL OPERATE AS IN OCCUPIED MODE.
 SETUP: WHEN THE PRIMARY AIR UNIT IS OPERATING IN SETUP, THE AIR TERMINAL BOX SHALL OPERATE AS IN OCCUPIED MODE.
 BYPASS: BYPASS OPERATION SHALL BE ACTIVE FOR THE OVERRIDE PERIOD UPON ACTIVATION OF THE OVERRIDE PUSHBUTTON. ALL BOXES ASSOCIATED AIR TERMINAL BOX GROUP SHALL OPERATE AS IN OCCUPIED MODE.

DISCHARGE AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE DISCHARGE AIR TEMPERATURE.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
• HIGH DISCHARGE AIR TEMP: IF THE DISCHARGE AIR TEMPERATURE IS GREATER THAN 110°F (ADJ.).
• LOW DISCHARGE AIR TEMP: IF THE DISCHARGE AIR TEMPERATURE IS LESS THAN 45°F (ADJ.).

SINGLE DUCT VARIABLE AIR VOLUME UNIT CONTROL
DIAGRAM AND SEQUENCE OF OPERATIONS
NOT TO SCALE

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M200

MECHANICAL DETAILS

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MAIN SUPPLY MAIN EXHAUST OR RETURN METAL DUCT. BRANCH DUCT -PROVIDE VOLUME DAMPER WHEN SHOWN ON PLANS **BRANCH DUCT TAKE-OFF DETAIL**

UNI-STRUT SUPPORT CONTINUOUS

PROVIDE 36" CLEAR

ON BOTH SIDES

1. HOT AND COLD DECK INLETS SHALL BE HARD DUCTED FROM THE HIGH PRESSURE DUCT MAINS OR BRANCH DUCTS AND TRANSITION TO

HIGH PRESSURE FLEX DUCT PRIOR TO CONNECTION TO THE INLETS OF THE VAV BOX. HIGH PRESSURE FLEX DUCT SHALL BE FULLY

2. HOT AND COLD DECK INLET AIR DUCTS SHALL EACH HAVE A MINIMUM OF 3 DUCT DIAMETERS OF STRAIGHT RUN UPSTREAM OF THE

3. A BRANCH DUCT SERVING AN INDIVIDUAL BOX MAY BE THE SAME SIZE AS THE BOX INLET, PROVIDED THE EQUIVALENT LENGTH OF THE

BRANCH DUCT, AS SHOWN, DOES NOT EXCEED 10 FEET. FOR LONGER LENGTHS, INCREASE THE DUCT SIZE AND PROVIDE A DUCT

CONNECTION

1. THE TERMINAL UNIT'S CONTROL ENCLOSURE SHALL HAVE AN UNOBSTRUCTED, ACCESSIBLE CLEARANCE OF 2'-6" MINIMUM DIRECTLY IN FRONT OF ENCLOSURE FROM THE

3. PRIMARY AIR INLET DUCT SHALL BE HARD DUCTED FROM THE HIGH PRESSURE DUCT MAIN OR BRANCH DUCT AND TRANSITION TO HIGH PRESSURE FLEX DUCT PRIOR TO

4. ALL TERMINAL UNIT'S INSTALLED ABOVE A GYP. CEILING SHALL HAVE AN ACCESS PANEL LOCATED DIRECTLY BENEATH THE CONTROL ENCLOSURE. COORDINATE CEILING TYPE

5. A BRANCH DUCT SERVING AN INDIVIDUAL BOX MAY BE THE SAME SIZE AS THE BOX INLET, PROVIDED THE EQUIVALENT LENGTH OF THE BRANCH DUCT, AS SHOWN, DOES NOT

6. TERMINAL UNITS SHALL BE PROVIDED WITH MANUFACTURER'S FACTORY MOUNTED DISCONNECT SWITCHES. CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS WITH

SINGLE DUCT TERMINAL UNIT DETAIL

EXCEED 10 FEET. FOR LONGER LENGTHS, INCREASE THE DUCT SIZE AND PROVIDE A DUCT TRANSITION TO MAINTAIN THE DUCT STATIC PRESSURE DROP AT OR BELOW 0.2"/100'.

2. PRIMARY AIR INLET DUCT SHALL HAVE A MINIMUM OF 3 DUCT DIAMETERS OF STRAIGHT RUN UPSTREAM OF THE TERMINAL UNIT INLET.

CONNECTION TO THE INLET OF THE VAV BOX. HIGH PRESSURE FLEX DUCT SHALL BE FULLY EXTENDED AND ROUTED STRAIGHT.

TERMINAL UNIT DETAIL

TERMINAL UNIT

THREADED ROD HANGER, REFER TO

SPECIFICATIONS FOR ADDITIONAL INFORMATION.

WITH EXISTING STRUCTURAL CONDITIONS PRIOR

ATTACH ROD HANGERS TO TERMINAL UNIT'S **FACTORY SUPPORTS**

DISCHARGE AIR TO ZONE

4. TERMINAL UNITS SHALL BE PROVIDED WITH MANUFACTURER'S FACTORY MOUNTED DISCONNECT SWITCHES. CONTRACTOR SHALL

SUSPENDED DUAL DUCT VARIABLE AIR VOLUME

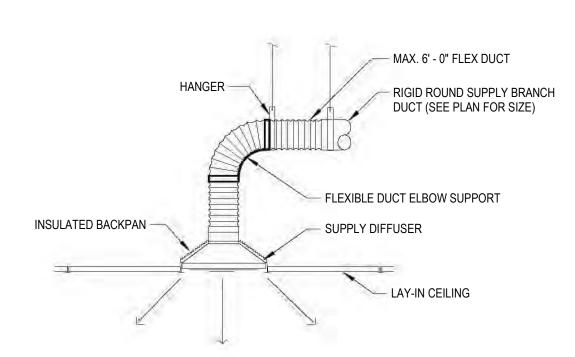
REFER TO PLANS

TRANSITION TO MAINTAIN THE DUCT STATIC PRESSURE DROP AT OR BELOW 0.2"/100'.

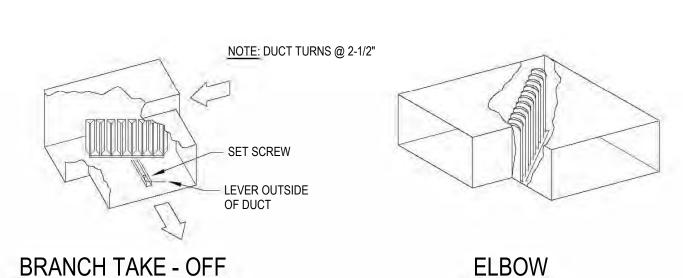
COORDINATE ALL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.

MAINTENANCE ACCESS

ON TWO SIDES OF THE UNIT



DIFFUSER CONNECTION DETAIL

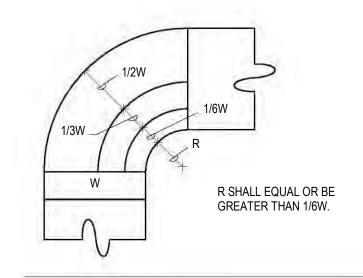


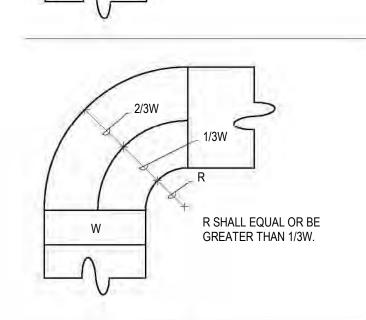
- PROPORTION OPENING ON EACH SIDE OF SPLITTER DAMPER ACCORDING TO

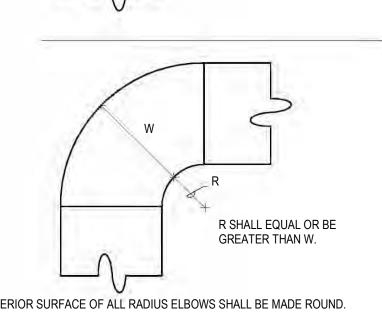
SPLITTER DAMPER **TURNING VANE**

DUCT CONSTRUCTION DETAILS

AIR QUANTITY



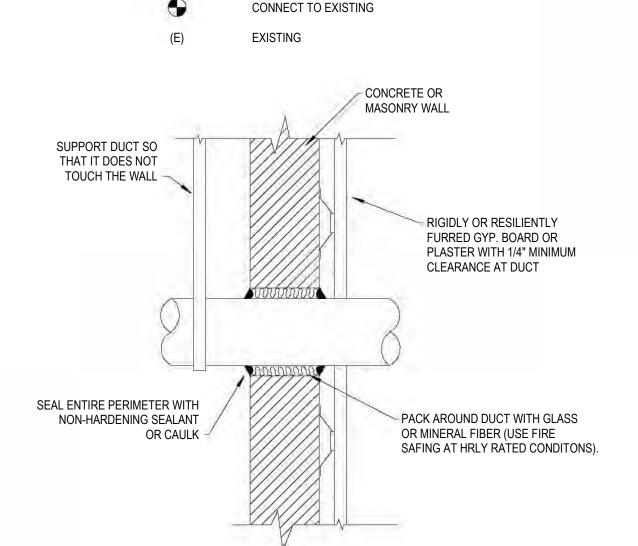




NOTES:

1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND. 2. ALL STANDARD RADIUS ELBOWS SHOWN ON PLANS MAY BE MADE SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

RADIUS ELBOW DUCT DETAIL



HVAC LEGEND

———— EXISTING TO REMAIN

ITEM TO BE REMOVED

NEW DUCTWORK

RETURN GRILLE

EXHAUST GRILLE

VOLUME DAMPER

FIRE/SMOKE DAMPER

FIRE DAMPER

SIDEWALL GRILLE/DIFFUSER

ROUND FLEXIBLE DUCTWORK (MAX. 6'-0" LENGTH)

TEMPERATURE SENSOR (MOUNT 4'-0" ABOVE FLOOR)

INDICATES 12" x 8" INS. DIM. NET (1ST FIGURE = SIDE

SHOWN, 2ND FIGURE = SIDE NOT SHOWN)

DIFFUSER OR GRILLE DESIGNATION

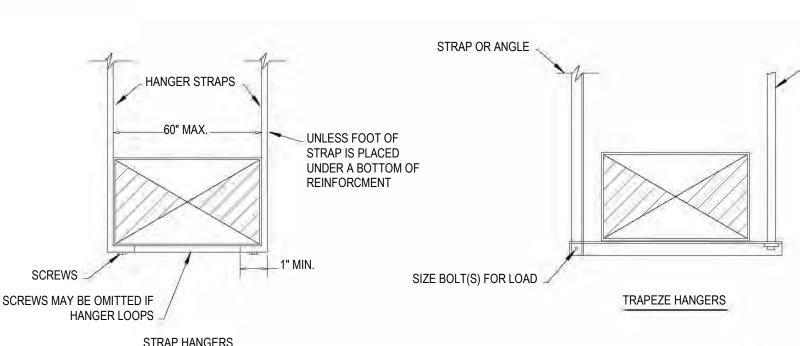
THERMOSTAT (MOUNT 4'-0" ABOVE FLOOR)

LINEAR SLOT DIFFUSER

SUPPLY AIR DIFFUSER

THIS DETAIL SHALL PERTAIN TO ALL MECHANICAL, PLUMBING, FIRE PROTECTION AND ELECTRICAL WALL PENETRATIONS OF ANY WALL DESIGNATED AS AN ACOUSTICAL PARTITION.

DUCT PENETRATION DETAIL CONCRETE OR MASONRY



		REC	TANGULAR DU	ICT HANGE	RS MINIMUM	SIZE				
MAXIMUM	PAIR AT 10 FT	. SPACING	PAIR AT 8 FT.	SPACING	ACING PAIR AT 5 FT. SPACING			PAIR AT 4 FT. SPACING		
HALF OF DUCT PERIMETER	STRAP	WIRE/ROD	STRAP	WIRE/ROD	STRAP	WIRE/ROD	STRAP	WIRE/ROD		
P/2=30"	1" X 22 GA.	10 GA. (.135")	1" X 22 GA. 10	GA. (.135") 1" X 22 GA.	12 GA. (.106")	1" X 22 GA.	10 GA. (.135		
P/2=72"	1" X 18 GA.	3/8"	1" X 20 GA.	1/4"	1" X 22 GA.	1/4"	1" X 22 GA.	1/4"		
P/2=96"	1" X 16 GA.	3/8"	1" X 18 GA.	3/8"	1" X 20 GA.	3/8"	1" X 22 GA.	1/4"		
P/2=120"	1-1/2" X 16 GA.	1/2"	1" X 16 GA.	3/8"	1" X 18 GA.	3/8"	1" X 20 GA.	1/4"		
P/2=168"	1-1/2" X 16 GA.	1/2"	1-1/2" X 16 GA.	1/2"	1" X 16 GA.	3/8"	1" X 18 GA.	3/8"		
P/2=192"	NOT GIVEN	1/2"	1-1/2" X 16 GA.	1/2"	1" X 16 GA.	3/8"	1" X 16 GA.	3/8"		
P/2=193" UP			SPEC	IAL ANALY	ALYSYS REQUIRED					
	PS ARE LAP JO MINIMUM FAST				SINGLE HANGER MAXIMUM ALLOWABLE LOA STRAP WIRE OR ROD (DIA					
1" X 16GA 1-1/2" X 16 G	2 GATWO #10 TWO 1/4" DIA. :ATWO 3/8" DIA 'ENERS IN SERI	Α.		1 1 1	" X 22 GA 2 " X 20 GA 3 " X 18 GA 4 " X 16 GA 7 -1/2" X 16 GA	20 LBS 20 LBS 00 LBS	0.106" - 80 L 0.135" - 120 0.162" - 160 1/4" - 270 LE 3/8" - 680 LE 1/2" - 1250 L 5/8" 2000 LE 3/4" - 3000 L	LBS LBS 3S 3S BS		

1. REFER TO LATEST EDITION OF SMACNA HVAC DUCT CONSTRUCTION STANDARDS FOR ADDITIONAL DETAIL. DUCT HANGERS SHALL MEET THIS STANDARD

- 2. DIMENSIONS OTHER THAN GAGE ARE IN INCHES.
- 3. TABLES ALLOW FOR DUCT WEIGHT, 1 LB./SF INSULATION WEIGHT AND NORMAL REINFORCMENT AND TRAPEZE WEIGHT, BUT NO EXTERNAL LOADS!
- 4. STRAPS ARE GALVANIZED STEEL; OTHER MATERIALS ARE UNCOATED STEEL
- 5. ALLOWABLE LOADS FOR P/2 ASSUME THAT DUCTS ARE 16 GA MAXIMUM, EXCEPT THAT WHEN MAZIMUM DUCT DIMENSION (W) IS OVER 60" THEN P/2 MAXIMUM IS 1.25 W.
- 6. 12, 10, OR 8 GA. WIRE IS STEEL OF BLACK ANNEALED, BRIGHT BASIC, OR GALVANIZED TYPE.

RECTANGULAR DUCT HANGERS

HVAC GENERAL NOTES

1. FURNISH AND INSTALL ALL MATERIALS AND LABOR REQUIRED TO PROVIDE COMPLETE AND OPERABLE HVAC SYSTEMS WITH ALL ITEMS AND APPURTENANCES NECESSARY EVEN THOUGH NOT SPECIFICALLY IDENTIFIED.

2. ALL WORK AND/OR MATERIALS SHALL BE INSTALLED BY A LICENSED CONTRACTOR AND SHALL CONFORM TO ALL APPLICABLE NATIONAL AND LOCAL

BUILDING AND MECHANICAL CODES. 3. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS. INSTALL TURNING VANES IN ALL DUCTWORK

4. WHERE DUCTWORK IS INDICATED TO BE EXPOSED TO VIEW IN OCCUPIED SPACES, PROVIDE MATERIALS THAT ARE FREE FROM VISUAL IMPERFECTIONS INCLUDING PITTING, SEAM MARKS, ROLLER MARKS, AND STAINS AND DISCOLORATIONS, AND OTHER IMPERFECTIONS, INCLUDING THOSE THAT WOULD

5. ALL INTERIOR DUCTS SHALL BE CONSTRUCTED WITH G-60 OR BETTER GALVANIZED STEEL (ASTM A 653/A 653M) LFQ, CHEM TREAT. DUCT EXPOSED TO HIGH HUMIDITY CONDITIONS (I.E. MOISTURE LADEN EXHAUSTS NOT SPECIFIED TO BE STAINLESS STEEL) SHALL BE G-90 OR BETTER GALVANIZED STEEL

6. COORDINATE EXACT ROUTING OF ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION OF WORK. 7. MECHANICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION AND ROUTING OF DUCTWORK WITH REFLECTED CEILING PLANS AND ELECTRICAL

LIGHTING LAYOUT. MECHANICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL AIR DEVICES WITH REFLECTED CEILING PLANS AND 8. ALL SUPPLY AND RETURN AIR DUCTWORK SHALL BE INSULATED WITH 2" THICK, 0.75 LB/CF (MINIMUM) FSK WRAP INSULATION (MINIMUM INSTALLED R-VALUE = R-6). FOR DUCTWORK WITH INTERNAL LINER, WRAP INSULATION MAY BE OMITTED.

10. FLEXIBLE DUCTWORK RUNOUTS SHALL BE LIMITED TO 6'-0" EXTENDED LENGTH. FLEXIBLE DUCTWORK SHALL BE EQUAL TO ATCO #036. FLEXIBLE DUCTS, BOTH SUPPLY AND RETURN, SHALL HAVE INSULATION WITH A MINIMUM R-VALUE OF 6.0, PER IECC. DUCT SHALL HAVE A CONTINUOUS FLEXIBLE FIBERGLASS SHEATH WITH UL APPROVED METALIZED POLYESTER BARRIER JACKET

9. ALL SUPPLY/RETURN DUCTWORK FROM AIR HANDLING UNITS AND TERMINAL UNITS SHALL BE LINED WITH 1-1/2" THICK ACOUSTICAL LINING 20' BEYOND

11. INSTALL FLEXIBLE DUCTWORK CONNECTIONS AT ALL DUCT CONNECTIONS TO AIR HANDLING UNITS, AND FANS.

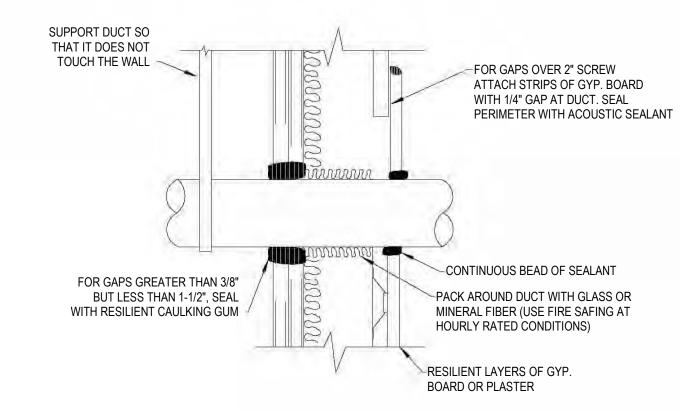
12. ALL DUCT DIMENSIONS SHOWN ARE NET CLEAR INSIDE DIMENSIONS. 13. MOUNT ALL TEMPERATURE SENSORS 4'-0" ABOVE FLOOR (TYPICAL).

14. FOR ALL VOLUME DAMPERS LOCATED ABOVE A HARD CEILING, PROVIDE AND INSTALL A WORM GEAR REMOTE VOLUME DAMPER REGULATOR, INSTALL KEY ACCESS IN THE CEILING DIRECTLY BELOW THE DAMPER AND PAINT CAP TO MATCH CEILING.

15. DO NOT ROUTE ANY DUCTWORK OVER ELECTRICAL PANELS OR I.T. SERVERS. 16. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER'S TESTING AND BALANCING AGENCY TO TEST AND BALANCE THE HVAC SYSTEMS. SYSTEMS SHALL BE BALANCED PER SPECIFICATION REQUIREMENTS. THE CONTRACTOR SHALL PLACE ALL SYSTEMS AND EQUIPMENT INTO FULL OPERATION FOR TESTING AND BALANCING. ONE COPY OF THE FINAL TEST AND BALANCE REPORT WITH THE AABC NATIONAL PERFORMANCE GUARANTY SHALL BE SENT DIRECTLY TO THE ENGINEER OF RECORD. PROVIDE FIVE (5) ADDITIONAL COPIES TO THE CONTRACTOR.

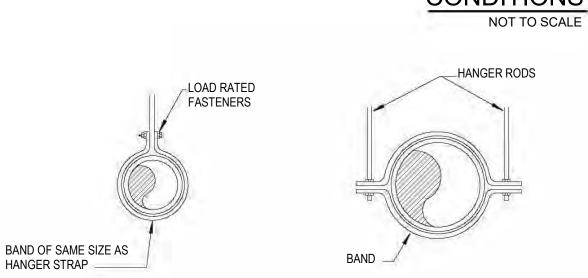
17. ALL EXISTING DUCTWORK TO REMAIN SHALL BE PROPERLY FASTENED AND NEATLY INSTALLED. 18. FLEXIBLE DUCTS SHALL BE SECURED TO THE MAIN SUPPLY HEADER WITH STEEL STRAPS.

19. EACH BRANCH DUCT SHALL BE PROVIDED WITH A MANUAL VOLUME BALANCING DAMPER. ALL MANUAL VOLUME BALANCING DAMPERS SHALL BE PROVIDED WITH ORANGE RIBBON ON THE HANDLE FOR TEST AND BALANCING



THIS DETAIL SHALL PERTAIN TO ALL MECHANICAL, PLUMBING, FIRE PROTECTION AND ELECTRICAL WALL PENETRATIONS OF ANY WALL DESIGNATED AS AN ACOUSTICAL PARTITION.

DUCT PENETRATION DETAIL STUD WALL - SEVERAL CONDITIONS



50" DIA. AND UNDER

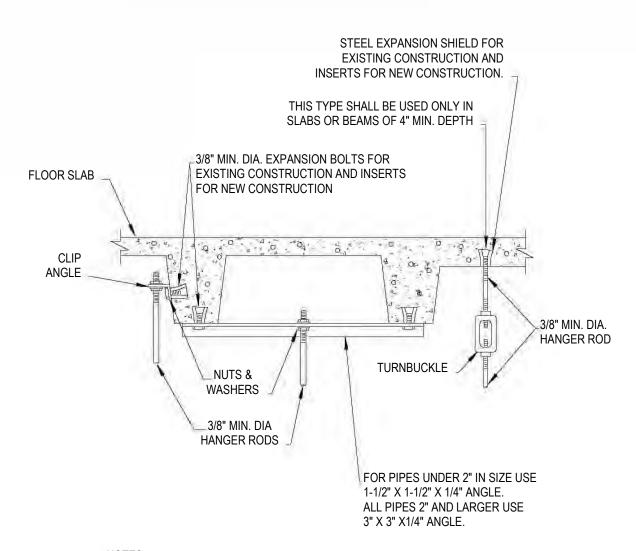
60" TWO 3/8" DIA. RODS 1320 12

84" TWO 1/2" DIA. RODS 2500 12

				3
	HANGER STRAPS OR	RODS		NOTES:
MAX. DUCT DIA.	HANGER	MAX. LOAD LBS.	MAX. SPACING FT.	 TABULATED DATA FROM SMACNA ALLOW DUCT REINFORCING AND INSULATION, BU EXTERNAL LOAD.
26"	ONE 1" X 22 GA STRAP	260	12	
36"	ONE 1" X 18 GA STRAP	420	12	
50"	ONE 1" X 16 GA STRAP	700	12	

OVER 50" DIA.

ROUND DUCT HANGERS



1. CONTRACTOR SHALL COORDIANTE ALL REQUIREMENTS WITH STRUCTURAL ENGINEER AND EXISTING STRUCTURAL CONDITIONS PRIOR TO INSTALLATION.

TYPICAL METHOD OF SECURING HANGER RODS



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THREADED ROD HANGER. REFER TO SPECIFICATIONS FOR

CONNECTION

ADDITIONAL INFORMATION. COORDINATE ALL

INSTALLATION REQUIREMENTS WITH EXISTING

CONTROL

ENCLOSURE-

TERMINAL UNIT INLET.

AIR INLET

CONTROL ENCLOSURE MAINTENANCE CLEARANCE CONTROL

ENCLOSURE -

BOTTOM OF THE CEILING UP TO THE TOP OF THE ENCLOSURE.

AND ACCESS PANEL WITH THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.

STRUCTURAL CONDITIONS PRIOR TO INSTALLATION.