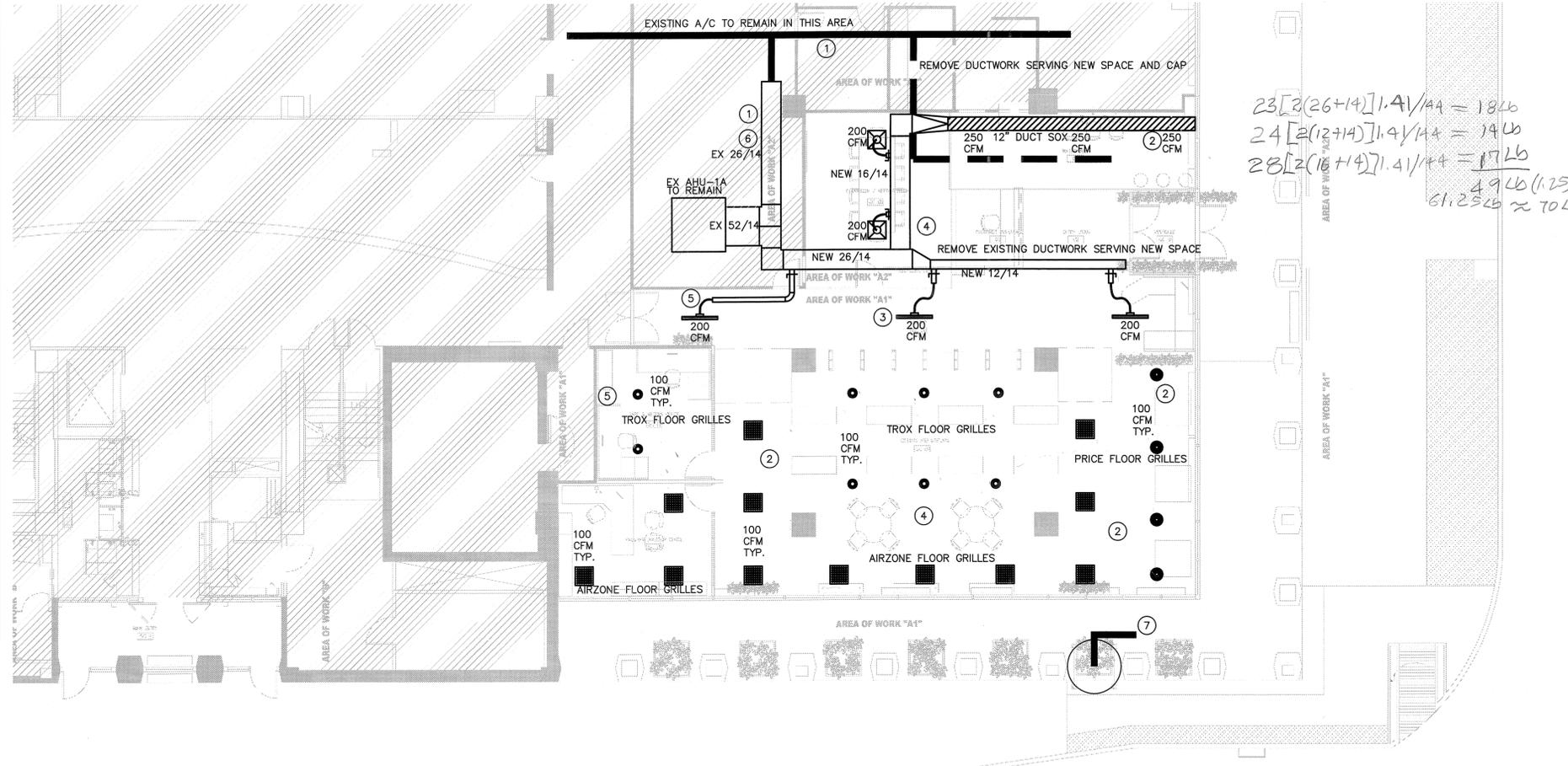


MECHANICAL GENERAL NOTES

- REFER TO MEP SPECIFICATIONS FOR ALL WORK SHOWN ON THESE DRAWINGS.
- THE MECHANICAL CONTRACTOR SHALL VISIT THE SITE AND BE RESPONSIBLE FOR COORDINATING WITH ALL OTHER TRADES PRIOR TO THE CONSTRUCTION OF DUCTWORK OR INSTALLATION OF MECHANICAL EQUIPMENT AND PIPING.
- COORDINATE ALL PENETRATIONS AND SLEEVE LOCATIONS PRIOR TO ANY FORMING OR CORING WORK.
- THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL DUCTWORK AND PIPING WITH OTHER TRADES AND PROVIDING OFFSETS IN DUCTWORK AND PIPING AS REQUIRED. ALL DUCTWORK SHALL BE ROUTED AS CLOSE TO STRUCTURE AS POSSIBLE WITH MAIN TRUNK DUCTS ABOVE BRANCH DUCTS TO CEILING AIR DEVICES.
- COORDINATE MECHANICAL EQUIPMENT ABOVE CEILING WITH LIGHT FIXTURES, ELECTRICAL EQUIPMENT, AND PIPING TO MAINTAIN CLEARANCE FOR MAINTENANCE.
- MECHANICAL CONTRACTOR SHALL COORDINATE ROOF OPENINGS WITH THE STRUCTURAL DRAWINGS.
- REFER TO THE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR LOCATION OF SMOKE DETECTORS.
- REFER TO ARCHITECTURAL CEILING PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES.
- REFER TO ARCHITECTURAL INTERIOR ELEVATION DRAWINGS FOR EXACT LOCATION OF ALL WALL MOUNTED DEVICES WHERE THE ARCHITECT HAS INDICATED ITEMS.
- VERIFY FINAL LOCATION OF THERMOSTATS WITH ARCHITECT PRIOR TO INSTALLATION. MOUNT AT 4'-6" ABOVE FINISHED FLOOR.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE DUCTWORK SHOP DRAWINGS WITH ARCHITECTURAL PLANS SHOWING FIRE AND SMOKE PARTITIONS. FURNISH AND INSTALL ALL FIRE AND SMOKE DAMPERS IN DUCTWORK PENETRATING THE RATED PARTITIONS INDICATED ON THE ARCHITECTURAL PLANS.
- THE MECHANICAL CONTRACTOR SHALL FURNISH ACCESS DOORS FOR INSTALLATION BY THE GENERAL CONTRACTOR IN WALLS AND CEILINGS WHERE ACCESS IS REQUIRED FOR CONCEALED VALVES, ADJUSTABLE EQUIPMENT, DAMPERS, AND CONTROL DEVICES.
- THE MECHANICAL CONTRACTOR SHALL PAINT FLAT BLACK ANY ITEM THAT CAN BE SEEN ABOVE CEILINGS THROUGH AIR DEVICES. COORDINATE WITH ARCHITECT.
- CEILING SUPPLY AIR DIFFUSERS ARE FOUR WAY THROW UNLESS NOTED ON THE DRAWINGS WITH FLOW ARROWS.
- SIZE RIGID ROUND AND FLEX DUCT RUN-OUTS TO DIFFUSERS IN ACCORDANCE WITH THE NECK SIZE SCHEDULE AS REQUIRED FOR THE INDICATED CFM.



ENERGY CODE COMPLIANCE

- ALL WORK SHALL COMPLY WITH CITY OF HOUSTON 2001 IECC.
- THIS BUILDING SHALL BE PROVIDED WITH A COMPLETE PROGRAMMABLE DDC CONTROLS SYSTEM FOR AIR CONDITIONING EQUIPMENT AND MISCELLANEOUS EQUIPMENT. THE SYSTEM SHALL INCORPORATE THE MINIMUM FEATURES LISTED BELOW BUT SHALL ALSO INCLUDE ADDITIONAL FEATURES AS REQUIRED BY THE SPECIFICATIONS.
 - A. THERMOSTATIC CONTROLS; THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE CONTROLLED BY INDIVIDUAL TEMPERATURE CONTROL SENSORS CAPABLE OF RESPONDING TO TEMPERATURE WITHIN THE ZONE.
 - B. SET POINT OVERLAP RESTRICTION; WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE TEMPERATURE SENSORS SHALL PROVIDE A TEMPERATURE RANGE OR DEADBAND OF AT LEAST 5 DEGREES F. WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS CAPABLE OF BEING SHUT OFF OR REDUCED TO A MINIMUM.
 - C. OFF-HOUR CONTROLS; EACH ZONE SHALL BE PROVIDED WITH THERMOSTATIC SETBACK CONTROLS THAT ARE CONTROLLED BY A PROGRAMMABLE CONTROLS SYSTEM.
 - D. THERMOSTATIC SET-BACK CAPABILITIES; THERMOSTATIC SET-BACK CONTROLS SHALL HAVE THE CAPABILITIES TO SET BACK OR TEMPORARILY OPERATE TO MAINTAIN ZONE TEMPERATURES DOWN TO 55 DEGREES F. OR UP TO 85 DEGREES F.
 - E. AUTOMATIC SET-BACK AND SHUT-DOWN CAPABILITIES; PROGRAMMABLE CONTROLS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR A MINIMUM OF SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST 10 HOURS. ADDITIONALLY, THE CONTROLS SHALL HAVE A MANUAL OVERRIDE THAT ALLOW TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS, OR A MANUALLY OPERATED TIMER CAPABLE OF BEING ADJUSTED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS, OR AN OCCUPANCY SENSOR.
 - F. TEMPERATURE RE-SET; CONTROLS SHALL BE PROVIDED THAT HAVE THE CAPABILITY TO AUTOMATICALLY RESET THE SUPPLY AIR IN RESPONSE TO MEASURED PARAMETERS REPRESENTATIVE OF BUILDING LOADS OR BY OUTSIDE AIR TEMPERATURE. TEMPERATURE SHALL BE CAPABLE OF BEING RESET BY AT LEAST 25 PERCENT OF THE DESIGN SUPPLY AIR TO ROOM AIR TEMPERATURE DIFFERENCE.
- THE AIR CONDITIONING DUCTWORK SYSTEM SHALL BE CONSTRUCTED AND SEALED.
- THE AIR CONDITIONING EQUIPMENT SHALL MEET THE EFFICIENCY REQUIREMENTS FOR AN EXCEPTION TO THE ECONOMIZER REQUIREMENT.

MECHANICAL GENERAL NOTES:

- REFER TO DRAWING MEPI FOR SPECIFICATIONS THAT APPLY TO THIS SHEET.
- THE CONTRACTOR SHALL RELOCATE OR REMOVE EXISTING DIFFUSERS AS REQUIRED TO COMPLY WITH THIS DRAWING. ANY EXISTING DIFFUSER TO REMAIN OR TO BE RELOCATED THAT IS DAMAGED SHALL BE REPLACED WITH A NEW DIFFUSER OF MATCHING TYPE.
- CONTRACTOR SHALL VERIFY THAT SUFFICIENT RETURN AIR OPENINGS ARE PROVIDED IN EXISTING WALLS ABOVE CEILING. AIR IS RETURNED TO THE CEILING PLENUM AND THEN TO THE AIR HANDLING UNITS THROUGH RETURN AIR GRILLES, ARCHITECTURAL CEILING OPENING AND LIGHTING FIXTURES.
- EXISTING TAPS TO SUPPLY DUCTWORK SHALL BE USED WHERE POSSIBLE. ANY UNUSED TAPS TO EXISTING SUPPLY DUCTWORK SHALL BE CAPPED, SEALED AIRTIGHT, AND INSULATED.
- THE ENTIRE AIR SUPPLY SYSTEM SHALL BE RE-BALANCED TO THE AIR QUANTITIES INDICATED ON THIS DRAWING BY AN INDEPENDENT AIR BALANCE CONTRACTOR. THE AIR BALANCE CONTRACTOR SHALL SUBMIT NEBB CERTIFIED AIR BALANCE REPORTS FOR ENGINEERING REVIEW AND TO BUILDING MANAGEMENT. PROVIDE AHU DRIVE ADJUSTMENTS AS REQUIRED.
- FLEXIBLE DUCTWORK LENGTHS SHALL NOT EXCEED 8'-0". USE INSULATED RIGID ROUND DUCTWORK WHERE REQUIRED. ALL NEW FLEXIBLE DUCTWORK CONNECTIONS TO AIR DEVICES SHOWN ON THE DRAWING SHALL BE SIZED ACCORDING TO THE NECK SIZE SCHEDULE.
- EXISTING MAIN TRUNK SUPPLY DUCTWORK SHALL REMAIN. CONTRACTOR SHALL VERIFY EXISTING LOCATION AND LIGHTING FIXTURE CLEARANCES AND INCLUDE IN THEIR COST THE RELOCATION OR REMOVAL OF EXISTING EQUIPMENT REQUIRED TO COMPLY WITH THIS DRAWING.
- CONTRACTOR SHALL REFER TO BUILDING MANAGEMENT'S "RULES AND REGULATIONS" TO COMPLY WITH BUILDING STANDARDS.
- AIR SUPPLY/RETURN DEVICES SHALL BE PROTECTED TO COMPLY WITH THE EXISTING BUILDING FLOOR/CEILING FIRE RATED ASSEMBLY.
- ALL 24"x24" DIFFUSERS SHOWN ARE TO BE NEW. SEE SCHEDULE.
- RELOCATE EXISTING PERIMETER SLOTS SO THEY ARE NOT LOCATED ABOVE WALLS/PARTITIONS BETWEEN ROOMS.
- CONTRACTOR TO REUSE EXISTING BASE BUILDING SLOT DIFFUSERS FOR PERIMETER UNLESS OTHERWISE NOTED. USE LARGEST NECK FOR LARGEST CFM VALUES ON THE SOUTH-FACES FIRST, THEN THE WEST AND EAST AND FINALLY THE NORTH. THEN UTILIZE SMALLER NECK SIZES AS NEEDED. PROVIDE NEW SLOT DIFFUSERS WITH NECK SIZED PER NECK SCHEDULE WHERE INDICATED.

MECHANICAL KEYED NOTES:

- EXISTING BASE BUILDING DUCT WORK TO REMAIN. REMOVE ONLY PORTIONS OF DUCTWORK IN RENOVATED SPACE AND RECONNECT EXISTING PORTIONS TO REMAIN.
- FLOOR MOUNTED GRILLES TO BE INSTALLED IN RAISE FLOOR AS SHOWN. EXISTING CONCRETE MOUNTED FLOOR GRILLES WILL SERVE THE RAISED FLOOR PLENUM AND ARE TO REMAIN.
- PROVIDE NEW SLOT DIFFUSERS TO CFM SHOWN. TYPICAL FOR ALL SLOT DIFFUSERS.
- ALL FLOOR AND CEILING SUPPLY AND RETURN AIR GRILLES ARE TO BE SUPPLIED BY THE OWNER.
- RETURN AIR BOOT ABOVE CEILING TO REMAIN. SEE DETAIL. CONTRACTOR TO ASSURE RETURN AIR PATH REMAINS.
- CONDUCT A TRAVERSE OF THIS DUCT TO CONFIRM THE QUANTITY OF AIR AND REBALANCE TO THIS QUANTITY AT THE CONCLUSION OF THE PROJECT.
- EXISTING STORM LEADER IN PLENUM TO BE TAPPED ON THE SIDE WITH A 3" LEADER GOING TO THE NEW RAIN WATER HARVESTING SYSTEM. SEE ARCHITECTURAL DRAWINGS FOR FURTHER INFORMATION.

LEED PROJECT NOTES

- THIS PROJECT IS PURSUING LEED CERTIFICATION UNDER LEED COMMERCIAL INTERIORS. THE CONTRACTOR SHALL COORDINATE EFFORTS WITH OTHER TRADES AND PROVIDE APPROPRIATE LEED DOCUMENTATION UPON REQUEST.

OUTSIDE AIR SYSTEM ANALYSIS

OUTSIDE AIR SHALL BE PROVIDED PER THE 2000 UNIFORM MECHANICAL CODE, CHAPTER 4, TABLE 4-1.

LEVEL 1 OFFICE SPACE	1,880 SF x 0.08CFM/SF	=	150.4 CFM
OFFICE SPACE	542 SF x 0.08CFM/SF	=	43.4 CFM
CONFERENCE	322 SF x 0.20CFM/SF	=	64.4 CFM
CORRIDORS	420 SF x 0.05CFM/SF	=	21 CFM
TOTAL REQUIRED O/A		=	279.2 CFM
TOTAL O/A PROVIDED (REPLACED AHU-1)		=	900 CFM
TOTAL O/A PROVIDE (EXISTING AHU 1A)		=	0 CFM
GRAND TOTAL O/A PROVIDED		=	900 CFM

NOTICE TO CONTRACTOR(S)

CONTRACTOR TO VERIFY WITH BUILDING MANAGEMENT TO EXTENT OF MECHANICAL INSTALLATION REQUIRED FOR THIS PROJECT. THIS DRAWING REFLECTS THE BASE BUILDING DUCT WORK AS EXISTING TO REMAIN WITH NEW DUCT WORK RUNOUTS AS REQUIRED TO SERVE THE SPACES. - CONTRACTOR TO VERIFY THIS PRIOR TO BID.

BUILDING COMMISSIONING

THIS PROJECT IS PERUSING THE LEED CI CREDITS FOR FUNDAMENTAL AND ENHANCED COMMISSIONING, AND AS PART OF THAT EFFORT, BUILDING COMMISSIONING ACTIVITIES WILL BE REQUIRED FOR SYSTEMS ASSOCIATED WITH THE WORK.

COMMISSIONING IS A COLLABORATIVE EFFORT THAT INVOLVES THE PARTICIPATION OF SEVERAL PARTIES. INCLUDED ON THE COMMISSIONING TEAM ARE THE FOLLOWING:

- OWNER AND OWNER'S REPRESENTATIVES
- DESIGNERS
- CONTRACTORS AND SUBCONTRACTORS RESPONSIBLE FOR THE WORK
- COMMISSIONING AGENT

SYSTEMS BEING COMMISSIONED

- ALL HVAC EQUIPMENT AND SYSTEMS ASSOCIATED WITH THE WORK
- BUILDING AUTOMATION CONTROLS ASSOCIATED WITH THE WORK
- LIGHTING CONTROLS ASSOCIATED WITH THE WORK
- DOMESTIC HOT WATER ASSOCIATED WITH THE WORK

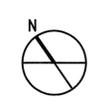
SCOPE OF CONSTRUCTION PHASE BUILDING COMMISSIONING

- CONTRACTOR SHALL PARTICIPATE IN COMMISSIONING TEAM MEETINGS TO BE COORDINATED BY THE COMMISSIONING AGENT.
- CONTRACTOR SHALL PROVIDE DOCUMENTATION THAT SYSTEMS AND SYSTEMS THAT ARE INCLUDED THE COMMISSIONING PROCESS HAVE BEEN INSTALLED, ACTIVATED, AND CALIBRATED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- CONTRACTOR SHALL DEMONSTRATE THE OPERATION OF THE SYSTEMS BEING COMMISSIONED BY DEMONSTRATING FUNCTIONAL TESTS, AS DEVELOPED AND AGREED TO BY THE COMMISSIONING TEAM PRIOR TO TESTING.
- CONTRACTOR SHALL PROVIDE OPERATIONS AND MAINTENANCE MANUALS TO THE COMMISSIONING AGENT FOR ALL EQUIPMENT AND SYSTEMS INCLUDED IN THE COMMISSIONING PROCESS.
- CONTRACTOR SHALL PROVIDE TRAINING AS SPECIFIED IN THE CONSTRUCTION DOCUMENTS AND COORDINATE THIS TRAINING WITH THE COMMISSIONING AGENT AND OWNER'S PERSONNEL.

REFER TO TO THE COMMISSIONING PLAN FOR MORE INFORMATION REGARDING THE COMMISSIONING PROCESS, RESPONSIBILITIES OF THE COMMISSIONING TEAM MEMBERS, AND COORDINATION OF THE PROCESS.

APPROVED
HVAC PLAN
THIS PLAN MUST BE KEPT ON JOB FOR ALL INSPECTORS. SEPARATE PERMIT IS REQUIRED FOR HVAC.
1-3-2-B/AB-A-φ NO. 380
9-29-2008
08054799

THIS PLAN WAS APPROVED IN THE ONE-STOP OFFICE FOR BUILDING CODE COMPLIANCE ONLY. THE ELECTRICAL, PLUMBING AND HVAC WAS NOT REVIEWED FOR CODE COMPLIANCE AND IS SUBJECT SOLELY TO FIELD INSPECTION.



1 First Floor Plan



ISSUE INFORMATION

NO.	DATE	ISSUE DESCRIPTION
06/24/2008		PERMIT SET
01/06/30/2008		PERMIT REVISION