A. GENERAL

1. HVAC CONTRACTOR SHALL VISIT THE SITE TO UNDERSTAND THE EXISTING FIELD CONDITIONS AND DETERMINE THE SCOPE OF WORK PRIOR TO SUBMITTING THE BID. NO ALLOWANCE WILL BE MADE AFTER CONTRACT IS AWARDED.

2. REMOVAL AND RELOCATION OF CERTAIN EXISTING WORK WILL BE NECESSARY FOR THE PERFORMANCE OF THE WORK. EXISTING CONDITIONS ARE NOT COMPLETELY DETAILED ON THE DRAWINGS. CONTRACTOR SHALL SURVEY THE SITE AND INCLUDE ALLOWANCE FOR SUCH REMOVALS AND RELOCATIONS.

3. WORK IN THIS BUILDING SHALL BE DONE WHEN AND AS DIRECTED AND SHALL BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO ITS OCCUPANTS. PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO AVOID INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES.

4. MATERIALS, DOCUMENTATION AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS, LOCAL CODES AND AS SPECIFIED. CONTRACTOR SHALL OBTAIN THE LATEST VERSION OF THE ALTERATION SPECIFICATIONS FROM THE BUILDING MANAGEMENT OFFICE.

5. TAKE AIR READING PRIOR TO CONSTRUCTION TO DETERMINE EXISTING CONDITIONS SERVING THE AREA OF WORK AND EFFECTING ADJACENT SPACES. TRAVERSE SUPPLY AIR MAIN DUCTS AND TAKE AIR OUTLET READINGS. SUBMIT READINGS TO ENGINEER PRIOR TO FABRICATING NEW DUCTWORK.

6. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIALS, EQUIPMENT AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW WORK.

7. FIREPROOFING AND INSULATION DISTURBED BY NEW CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITION.

8. SUPPORT ALL DUCTWORK AND PIPING FROM BUILDING STRUCTURE AND/OR FRAMING IN AN APPROVED MANNER. WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING OF SUPPORTS FOR EQUIPMENT, FURNISH ADDITIONAL FRAMING.

9. SEAL OPENINGS AROUND DUCTS AND PIPING THROUGH PARTITIONS, WALLS AND FLOORS WITH MINERAL WOOL OR OTHER NON-COMBUSTIBLE MATERIAL.

10. EXACT LOCATIONS AND COLOR OF ALL WALL MOUNTED THERMOSTATS, HUMIDISTAT, FAN COIL SWITCHES, ALARM PANELS, ETC., SHALL BE SUBJECT TO ARCHITECT'S APPROVAL.

11. PROVIDE 3' x 1' WALL OPENINGS ABOVE THE HUNG CEILING ABOVE THE DOORWAY IN ALL ROOMS FULLY ENCLOSED WITH SLAB-TO-SLAB PARTITIONS.

12. UNLESS OTHERWISE NOTED ON PLANS, ALL RETURN AIR INTO THE HUNG CEILING PLENUM SHALL BE VIA ARCHITECTURAL SLOTS IN THE CEILING CONSTRUCTION.

13. PROVIDE PERFORATED LIGHT SHIELDS PAINTED BLACK FOR ALL RETURN GRILLES.

B. EQUIPMENT

1. INVESTIGATE PATH THROUGH WHICH EQUIPMENT WILL BE MOVED. EQUIPMENT SHALL BE BROKEN DOWN IN SECTIONS AS NEEDED FOR MOVING THROUGH BUILDING SPACES. ASCERTAIN FROM BUILDING MANAGEMENT WHAT TIMES OF DAY EQUIPMENT MAY BE MOVED.

2. ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED IN FULL COMPLIANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

3. INSTALL EQUIPMENT AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE (INCLUDING FILTER CHANGES) AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE REQUIRED TO ACCOMPLISH THIS.

4. CHANGES IN ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL AND PLUMBING REQUIREMENTS FOR SUBSTITUTED EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE BIDDER WISHING TO MAKE THE SUBSTITUTION. THIS SHALL INCLUDE THE COST OF ANY REDESIGN BY THE AFFECTED DESIGNERS AND REFILLING IF REQUIRED. ANY ADDITIONAL COST INCURRED BY THE AFFECTED SUBCONTRACTORS SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR AND NOT THE OWNER.

5. REFER TO SCHEDULES FOR SELECTIONS OF AC UNITS, FANS, PUMPS, AIR OUTLETS, FPB , ETC..

6. FIRE SMOKE DAMPERS - RUSKIN MODEL FSD60 OR FSD-60 OW (FOR OUT OF WALL APPLICATIONS) WITH 120 VOLT NORMALLY CLOSED ACTUATOR LOCATED OUT OF AIR STREAM. (BSA #176-82-SM). SMOKE DAMPERS SHALL BE RUSKIN MODEL SD60 WITH 120 VOLT N.C. ACTUATOR.

7. MOTORIZED DAMPERS SHALL BE RUSKIN MODEL CD-50, AIRFOIL OPPOSED BLADE TYPE WITH SPRING RETURNED ELECTRIC OPERATOR MOUNTED OUT OF AIR STREAM.

8. LINEAR DIFFUSERS BASED ON TITUS MODEL ML FURNISHED WITH CABLE-OPERATED VOLUME DAMPER FOR EACH DUCT TAP. SEE DRAWINGS FOR SIZES.

9. PROVIDE AUXILIARY PAN WITH LEAK DETECTOR UNDER AC UNIT. DRIP PAN SHALL BE WATER TIGHT WITH 2-INCH LIP HEMMED FOR RIGIDITY AND SMOOTH EDGE. LEAK DETECTORS SHALL BE LIEBERT LT410 WITH 2 INDEPENDENT OUTPUTS. PROVIDE 120/24 VOLTS CONTROL TRANSFORMER FOR EACH LEAK DETECTOR.

10. CONDENSATE PUMP FOR FLOOR OR CEILING MOUNTED AC SHALL BE RATED AT 45 GPH AT 10 FEET HEAD, 20 FEET SHUTOFF HEAD, 120 VOLTS/1 PHASE/ 60 HERTZ, WITH HIGH LEVEL ALARM SWITCH INSIDE G.F. POLYPROPYLENE RECEIVER. HARD WIRE POWER TO JUNCTION BOX WITH DISCONNECT SWITCH AT PUMP. PUMP SHELL BE UL 2043 PLENUM RATED. LITTLE GIANT MODEL VCC-20-P.

11. PROVIDE LOCKING COVERS FOR ALL HIGH LIMIT AND LOW LIMIT THERMOSTATS.

12. PUMP LEAD/LAG CONTROL PANEL SHALL HAVE NEMA 1 GASKETED ENCLOSURE, TWO MAGNETIC STARTERS WITH INDIVIDUAL FUSE BLOCKS, COMMON MAIN DISCONNECT, 1-AUTO-2 CONTINUOUS LEAD PUMP SELECTOR WITH TIME CLOCK ALTERNATOR, INDIVIDUAL PUMP FAILURE CIRCUIT VIA LINE VOLTAGE DP SWITCH ACROSS EACH PUMP; STEP DOWN CONTROL TRANSFORMER, RUNNING AND ALARM LIGHTS FOR EACH PUMP, AUDIBLE ALARM WITH RESET SILENCER AND SUFFICIENT DRY CONTACTS FOR DP SWITCHES AND FOR REMOTE ALARM ANNUNCIATION OF PUMP FAILURE.

13. ALL HVAC EQUIPMENT AND CONTROL DEVICES ABOVE INACCESSIBLE CEILING SHALL BE PROVIDED WITH ACCESS DOORS AT CEILING FOR SERVICE AND MAINTENANCE.

14. AC THERMOSTAT SHALL BE ELECTRONIC PROGRAMMABLE COOLING AND HEATING.

15. FLOOR STANDING AC EQUIPMENT SHALL BE MOUNTED ON 4" HIGH CONCRETE PAD WITH 1" NEOPRENE PAD INSIDE DRIP PAN.

16. HANG AC UNIT AND EXHAUST FANS WITH SPRING VIBRATION ISOLATORS TIGHT TO UNDERSIDE OF SLAB AND BETWEEN BEAMS. FIELD LOCATE UNITS SO THAT SUFFICIENT SERVICE CLEARANCES AROUND UNITS CAN BE PROVIDED AS PER UNIT MANUFACTURER'S RECOMMENDATIONS.

17. CHECK AND SET FIRE DAMPERS OPEN AND REPLACE ANY DEFECTIVE FUSIBLE LINKS IN NEW AND EXISTING FIRE DAMPERS.

18. CONTROLS CONTRACTOR, WHO IS THE SUB-CONTRACTOR OF MECHANICAL CONTRACTOR, SHALL PROVIDE CONTROL WIRING AND CONTROL DEVICES AS REQUIRED PER SPECIFICATIONS.

C. DUCTWORK

1. HVAC CONTRACTOR SHALL INSPECT ALL EXISTING DUCTWORK FOR SIGNIFICANT AIR LEAKS. PATCH LEAKS WITH NON-HARDENING 3M DUCT SEALANT.

2. ALL NEW DUCTWORK DOWNSTREAM OF FPB AND UPSTREAM & DOWNSTREAM OF AC UNITS AND EXHAUST FANS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE FUNCTIONAL CRITERIA OF SMACNA STANDARDS FOR LOW PRESSURE (2" WG) DUCTWORK. ALL DUCTWORK UPSTREAM OF FPB TO BE CONSTRUCTED AS PER SMACNA STANDARDS FOR MEDIUM PRESSURE DUCTWORK (4" WG). PRESSURE TEST MEDIUM PRESSURE DUCTWORK AS SPECIFIED.

3. DIMENSIONS SHOWN FOR LINED DUCTWORK SHALL BE CLEAR INSIDE DIMENSIONS. 1" THICKNESS UNLESS OTHERWISE NOTED.

4. FOR SUPPLY AIR DUCTWORK WITHIN UNCONDITIONED SPACE (ABOVE CEILING, INSIDE MECHANICAL ROOM, ETC..) AS WELL AS SUPPLY AND RETURN AIR DUCTWORK LOCATED OUTDOORS, SEE BOOK SPECIFICATIONS FOR ADDITIONAL THICKNESS REQUIREMENTS ON ACOUSTIC LINING.

5. DUCTWORK & PIPING LAYOUT SHOWN ON THIS PLAN IS SCHEMATIC ONLY. ACTUAL RUN SHALL BE FIELD DETERMINED, BASED ON EXISTING BEAM LAYOUT, DUCTWORK LAYOUT, LIGHTING LAYOUT AND SPRINKLER LAYOUT. FULL COORDINATION BETWEEN ALL TRADES (HVAC, ELEC., PLBG., SPKR. AND GENERAL CONTRACTORS) INCLUDING THE PREPARATION OF COORDINATION DRAWINGS IS REQUIRED TO AVOID CONFLICTS DURING CONSTRUCTION. OFFSET NEW DUCTWORK OR PIPING IF REQUIRED TO CLEAR OBSTRUCTIONS.

6. CONTRACTOR SHALL PROVIDE 1" ACOUSTICAL LINING ON DUCTWORK 20' DOWNSTREAM OF FPB . ENTIRE RUN OF DUCTWORK DOWNSTREAM OF FPBS SERVING CONFERENCE ROOMS SHALL BE LINED.

7. ALL DUCTWORK 20' UPSTREAM AND DOWNSTREAM OF AC/CAC UNITS SHALL BE 1" ACOUSTICAL LINED. ENTIRE RUN OF DUCTWORK UPSTREAM AND DOWNSTREAM OF AC UNITS SERVING CONFERENCE ROOMS SHALL BE LINED.

8. SEALANT SHALL BE APPLIED TO LONGITUDINAL SEAMS IN THE SHOP DURING FABRICATION. FIELD APPLY SEALANT TO TRAVERSE SEAMS AND CONNECTIONS TO BRANCH DUCTWORK AND AIR OUTLETS.

9. FOR EXACT LOCATIONS OF CEILING DIFFUSERS AND REGISTERS, COORDINATE WITH REFLECTED CEILING PLANS PREPARED BY ARCHITECT.

10. BORDER TYPES, COLOR, FINISHES, AND METHOD OF ATTACHMENT FOR ALL DIFFUSERS, GRILLES AND REGISTERS SHALL BE COORDINATED WITH THE ARCHITECTURAL CEILING DETAILS AND SPECIFICATIONS.

11. ALL DUCT SPLITS AND TAKE-OFFS SHALL BE PROVIDED WITH VOLUME DAMPERS. SPLITTER DAMPERS AND AIR EXTRACTORS ARE NOT ACCEPTABLE. PROVIDE CABLE-OPERATED VOLUME DAMPERS FOR ALL DAMPERS ABOVE INACCESSIBLE CEILING.

12. VOLUME DAMPERS IN BRANCH DUCTS SHALL BE LOCATED AS FAR AS POSSIBLE FROM AIR OUTLET OR INLET IN ORDER TO REDUCE NOISE AND TURBULENCE AT AIR OUTLETS. DAMPERS SHALL INCLUDE RAISED SADDLES FOR LOCKING QUADRANT HANDLE, 3/8 INCH ROD AND SEALED END BEARINGS.

13. ALL DUCT OPENINGS IN EXISTING DUCTWORK NOT IN USE SHALL BE BLANKED OFF AIR TIGHT WITH SHEET METAL PATCH SECURED WITH SHEET METAL SCREWS AND 3M SEALER.

14. RADIUS ELBOWS SHALL BE USED IN ALL DUCT OFFSETS (HORIZONTAL OR VERTICAL). MITERED ELBOWS WITHOUT TURNING VANES ARE NOT ACCEPTABLE. SQUARE THROAT RADIUS ELBOWS ARE NOT ACCEPTABLE.

15. ALL ACTIVE OPEN END DUCTWORK SHALL BE PROVIDED WITH WIRE MESH SCREEN.

16. FIRST 25 FEET OF DUCTWORK FROM AC UNIT OVER 3000 CFM SHALL BE FABRICATED WITH 16 GA. SHEET METAL AND REINFORCED WITH 1-1/2"x1-1/2"x1/8" WELDED ANGLE IRON EVERY 18" APART, AND SHALL BE ACOUSTICALLY LINED.

17. FIRST 20 FEET OF DUCTWORK CONNECTED TO BUILDING RISER SHAFT SHALL BE FABRICATED WITH 16 GA. SHEET METAL AND REINFORCED WITH 1-1/2"x1-1/2"x1/8" WELDED ANGLE IRON EVERY 18" APART, AND SHALL BE ACOUSTICALLY LINED.

18. SEE SPECIFICATIONS FOR DUCT CONSTRUCTION STANDARDS.

D. PIPING

1. PIPING SYSTEMS SHALL BE CLEANED, PRESSURE TESTED AND A CERTIFICATE OF CLEAN WATER SHALL BE SUBMITTED TO BUILDING MANAGEMENT PRIOR TO FINAL CONNECTION TO BUILDING SYSTEM. CONTRACTOR SHALL ENGAGE THE SERVICES OF THE BUILDING'S WATER TREATMENT COMPANY.

2. WHERE PIPING CONNECTIONS FOR EQUIPMENT SUCH AS PUMPS, AC UNITS, COILS, ETC. DIFFER FROM THE LINE SIZE PIPING, IT SHALL BE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO FURNISH AND INSTALL THE NECESSARY REDUCER/EXPANDER FITTINGS TO ENABLE CONNECTION BETWEEN THE PIPING SYSTEM AND EQUIPMENT.

3. PROVIDE DIELECTRIC FITTINGS BETWEEN TWO DISSIMILAR METALS.

4. GRAVITY DRAIN PIPING SHALL BE PITCHED DOWN 1/8 INCH PER FOOT IN THE DIRECTION OF FLOW.

5. EXISTING CONDENSER WATER RISERS SHALL BE DRAINED DOWN FOR NEW TAPS, COORDINATE WITH BUILDING MANAGEMENT FOR SCHEDULING. ALL CONDENSER WATER TIE-IN TO EXISTING RISERS SHALL BE DONE ON OVERTIME.

E. EXISTING EQUIPMENT

1. CONTRACTOR TO REBALANCE EXISTING DIFFUSERS, FPB AND AC UNITS TO CFM SHOWN.

2. CONTRACTOR TO TEST AND CALIBRATE ALL AC UNITS AND EXHAUST FANS ALONG WITH ASSOCIATED THERMOSTATS AND SWITCHES. CHECK REFRIGERANT CIRCUITS FOR SIGNS OF LEAK AND CHECK FOR PROPER CHARGE.

3. FIELD VERIFY ALL THERMOSTATS. CLEAN, REPAIR OR REPLACE AS REQUIRED TO ENSURE PROPER SYSTEM WORKING ORDER.

4. CONTRACTOR TO INSPECT, CLEAN, REPAIR OR REPLACE ALL DIFFUSERS TO REMAIN. REPLACE ALL MISSING DIFFUSERS TO MATCH EXISTING IN FIELD.

F. DEMOLITION

1. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS BEFORE ANY WORK IS BEGUN.

2. ALL EXITS SHALL BE KEPT READILY ACCESSIBLE AND UNOBSTRUCTED AT ALL TIMES.

3. ALL WASTE AND DEBRIS SHALL BE REMOVED IN APPROVED CONTAINERS ON A DAILY BASIS.

4. REMOVE ALL WASTE RUBBLE AND REFUSE FROM THE INTERIOR AND EXTERIOR OF BUILDING.

5. REMOVE DUCTWORK AS INDICATED ON DRAWING. EQUIPMENT, DIFFUSERS AND DUCTWORK NOT SHOWN ON PLANS ARE TO REMAIN, UNLESS OTHERWISE NOTED.

6. COORDINATE ALL WORK WITH OTHER TRADES. CONTRACTOR SHALL VERIFY IN FIELD AND NOTIFY ENGINEER ANY AND ALL PIPING AND DUCTWORK THAT SERVES OTHER TENANTS PRIOR TO REMOVAL.

7. REMOVE ALL EXISTING DUCTWORK, FANS, AC UNIT AS SHOWN ON THIS PLAN. CUT BACK MAIN SUPPLY AND RETURN DUCTS TO MAIN RISER SHAFT LEAVING A MINIMUM OF 14" STUB OR MORE FOR RETURN DUCT SO AS TO MAINTAIN EXISTING DUCT SMOKE DETECTORS IN PLACE AND OPERATIONAL.

8. PROVIDE TEMPORARY DUCT CAP ON SUPPLY, RETURN, EXHAUST AND TOILET EXHAUST DUCTS, TO AVOID DUST FROM ENTERING THE BASE BUILDING SYSTEM.

9. ALL EXISTING BASE BUILDING CORE, UTILITIES, RISERS AND ALL SHAFTS SHALL REMAIN UNLESS OTHERWISE NOTED.

10. ALL PERIMETER HVAC ELEMENTS SUCH AS; INDUCTION UNITS, AIR AND WATER RISERS VALVES, AND CONTROLS SHALL REMAIN.

11. PROTECT PERIMETER HVAC APPARATUS WITH HEAVY WEIGHT PAPER, CARDBOARD OR MASONITE ON TOP AND FRONT BEFORE WORK IS BEGUN.

G. BUILDING DEPARTMENT NOTES

1. ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF THE NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE, NEW YORK CITY CONSTRUCTION CODES, EFFECTIVE NOVEMBER 2022 AND ALL AMENDMENTS TO DATE.

2. CONTRACTOR SHALL OBTAIN SERVICE EQUIPMENT PERMIT FOR MECHANICAL WORK PRIOR TO COMMENCING CONSTRUCTION.

3. MECHANICAL WORK SUBJECT TO SPECIAL INSPECTIONS AS APPLICABLE:

a. MECHANICAL SYSTEMS (BC 1704.16)
b. ENERGY CODE INSPECTIONS

4. MECHANICAL SYSTEM CAPACITIES, COMPONENT MATERIALS AND INSTALLATION SHALL COMPLY WITH NYC CODE REFERENCE INCLUDING BUT NOT LIMITED TO:

a. EXHAUST SYSTEMS (MC 501)
b. DUCT SYSTEMS (MC 601.1 - MC 609.1)
c. OUTDOOR AIR VENTILATION (MC 403)
d. AIR FILTERS (MC 605)
e. NOISE CONTROL (MC 928)

5. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALL LOCATIONS AND RATED CONSTRUCTION

6. MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACE DURING HEATING SEASON SHALL BE 68°F WHEN OUTDOOR TEMPERATURE IS 5°F AND WIND VELOCITY NOT MORE THAN 15 MPH.

7. DUCT SUPPORTS SHALL BE IN ACCORDANCE WITH MC 603 AND SMACNA STANDARDS

8. FIRE DAMPERS SHALL COMPLY WITH UL555 AND BE APPROVED FOR USE IN NEW YORK CITY. RATING SHALL BE MINIMUM 1 1/2 HRS FOR UP TO 3-HR ASSEMBLIES AND 3 HRS FOR ASSEMBLIES 3HRS AND ABOVE. FUSIBLE LINK SHALL BE 50°F ABOVE NORMAL DUCT TEMPERATURE BUT NOT LESS THAN 160°F.

SYMBOL LIST

SYMBOL	DESCRIPTION
	SINGLE LINE DUCTWORK, NEW
	SINGLE LINE DUCTWORK WITH A.L., NEW
	SINGLE LINE DUCTWORK, EXISTING
	SINGLE LINE DUCTWORK, FUTURE
	DUCTWORK TO BE REMOVED
	DUCT UP
	DUCT DOWN
	DUCTWORK WITH ACOUSTIC LINING
	DUCT UNDER PRESSURE (SUPPLY AIR OR FAN DISCHARGE)
	DUCT UNDER NEGATIVE PRESSURE (RETURN OR EXHAUST)
FD	FIRE DAMPER AND ACCESS DOOR
R	RISE IN DUCTWORK
D	DROP IN DUCTWORK
FSD	FIRE/SMOKE DAMPER AND ACCESS DOOR
	PIPE GUIDE
	PIPE ANCHOR
	STEAM FLOAT AND THERMOSTATIC (F&T) TRAP
	CALIBRATED BALANCING VALVE
	GLOBE VALVE
	LUBRICATED PLUG VALVE
	NEW PIPE WITH DIRECTION OF FLOW
	PIPE DOWN
	PIPE UP
	VALVE IN VERTICAL
	SWING CHECK VALVE
	EXISTING PIPE
	FUTURE PIPE
	EXISTING PIPE TO BE REMOVED
	GATE VALVE (STEAM SYSTEM ONLY)
	SRI/TORK VALVE (WATER SYSTEM) USE FULL PORT BALL VALVE UP TO 2" USE BUTTERFLY VALVE FOR 2 1/2" AND LARGER.
	BUTTERFLY VALVE
	UNION
	STRAINER W/ BLOW OFF
	FULL PORT BALL VALVE
	MOTORIZED BALL VALVE
	MANUAL AIR VENT
	2-WAY OR 3-WAY (GLOBE) CONTROL VALVE
	2-WAY (BUTTERFLY) CONTROL VALVE
	3-WAY (BUTTERFLY) CONTROL VALVE
FM	FLOW METER (RATE)
L	DOOR LOUVER
UC	UNDERCUT DOOR
	POINT OF CONNECTION
	POINT OF DISCONNECTION
(100)	SQUARE CEILING DIFFUSER, 4-WAY THROW, 100 CFM
(100)	ROUND CEILING DIFFUSER, 100 CFM
	CEILING GRILLE
(100)	CEILING RETURN/EXAUST REGISTER, 100 CFM
CO 2	CO2 SENSOR
(100)	CEILING SUPPLY REGISTER, 100 CFM
(100)	SIDEWALL SUPPLY REGISTER, 100 CFM
(100)	SIDEWALL RETURN/EXHAUST REGISTER, 100 CFM
	SQUARE FOOT
(1000) RPM	FAN POWERED VAV BOX, 1000 CFM MAXIMUM SETTING (FAN CFM)
T	THERMOSTAT, TEMPERATURE SENSOR
T HL	HIGH LIMIT THERMOSTAT WITH LOCKING COVER
PS	PRESSURE SENSOR

ADD ALTERNATES: PROVIDE ACOUSTICAL ENCLOSURES FOR AC-40-1,2,3,4 AND AC-48-1,2

ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION
AC	AIR CONDITIONING UNIT
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
BMS	BUILDING MANAGEMENT SYSTEM
BTUH	BTU PER HOUR
CFM	CUBIC FEET PER MINUTE
COD	CABLE OPERATED DAMPER
CP	CONDENSATE PUMP
CD	CEILING DIFFUSER
CG	CEILING GRILLE
CR	CEILING REGISTER
DB	DRY BULB TEMPERATURE
(E)	EXISTING
EWT	ENTERING WATER TEMPERATURE
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
F	DEGREES FAHRENHEIT
FC	FLEXIBLE CONNECTION
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FLA	FULL LOAD AMPERE
FSD	FIRE SMOKE DAMPER
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
LAT	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
LD	LINEAR DIFFUSER
MBH	THOUSAND BTUH
MCA	MINIMUM CIRCUIT AMPACITY
MFS	MAXIMUM FUSE SIZE
(N)	NEW
PD	PRESSURE DROP
PSI	POUNDS PER SQUARE INCH
PSIG	PSI GAUGE
(R)	RELOCATE
RPM	REVOLUTIONS PER MINUTE
SD	SMOKE DETECTOR
SKD	SMOKE DAMPER
SP	STATIC PRESSURE
TR	TOP REGISTER
TR GR	TRANSFER GRILLE
TSP	TOTAL STATIC PRESSURE
TX	TOILET EXHAUST
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
WB	WET BULB TEMPERATURE
WMS	WIRE MESH SCREEN

PIPING DESIGNATIONS

ABBREVIATIONS	DESCRIPTION
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
CPD	CONDENSATE PUMP DISCHARGE
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN

MECHANICAL DRAWING LIST

DWG No.	DESCRIPTION
M-001.00	MECHANICAL NOTES, SYMBOLS AND ABBREVIATIONS
M-100.00	MECHANICAL SCHEDULES
M-200.00	MECHANICAL DETAILS
DM-340.00	40TH FL MECHANICAL FLOOR DEMO PLAN
DM-346.00	46TH FL MECHANICAL FLOOR DEMO PLAN
DM-140.00	40TH FL MECHANICAL DEMOLITION PLAN - PHASE 1
DM-640.00	40TH FL MECHANICAL DEMOLITION PLAN - PHASE 2
M-700.00	40TH FL MECHANICAL PLAN - PHASE 1 TEMP
DM-146.00	46TH FL MECHANICAL DEMOLITION PLAN
M-340.00	40TH FL MECHANICAL FLOOR PAN
M-346.00	46TH FL MECHANICAL FLOOR PLAN
M-348.00	48TH FL MECHANICAL FLOOR PLAN
M-349.00	49TH FL MECHANICAL FLOOR PLAN
M-440.00	40TH FL MECHANICAL PLAN - PHASE 1
M-446.00	46TH FL MECHANICAL PLAN
M-448.00	48TH FL MECHANICAL PLAN
M-449.00	49TH FL MECHANICAL PLAN
M-640.00	40TH FL MECHANICAL PLAN - PHASE 2
M-540.00	40TH FL MECHANICAL PIPING PLAN - PHASE 1
M-546.00	46TH FL MECHANICAL PIPING PLAN
M-548.00	48TH FL MECHANICAL PIPING PLAN
M-549.00	49TH FL MECHANICAL PIPING PLAN
M-740.00	40TH FL MECHANICAL PIPING PLAN - PHASE 2

PROJECT NOTES:

1. TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 NEW YORK CITY ENERGY CONSERVATION CODE.
2. BOOK SPECIFICATION IS PART OF THIS CONTRACT
3. "THIS PLAN IS APPROVED ONLY FOR WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON, OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES."

FLOODZONE NOTES:

1. **PROPERTY IS IN SPECIAL FLOOD HAZARD AREA, ZONE _____ , PER EFFECTIVE 2007 FIRM.**
2. **THE APPLICANT HAS BEEN ADVISED BY DOB AND ACKNOWLEDGES THAT THE PROPERTY IS NOW LOCATED IN SFHA, ZONE _____ , PER PRELIMINARY FLOOD MAPS RELEASED IN 2013.**
3. **PROPERTY IS NOT IN SFHA**

PLACE GRAPHIC SCALE HERE

THESE DOCUMENTS CONTAIN POTENTIALLY SENSITIVE INFORMATION AND SHALL BE USED FOR THEIR INTENDED PURPOSE. ONCE THE INTENDED PURPOSE HAS CEASED, THE DOCUMENTS SHALL BE DESTROYED IN A SECURE MANNER.

IT IS A VIOLATION OF STATE EDUCATION LAW FOR ANY PERSON, UNLESS UNDER THE DIRECTION OF A LICENSED ARCHITECT/ENGINEER TO ALTER THIS DOCUMENT IN ANYWAY. ALTERATION MUST HAVE THE SEAL AFFIXED ALONG WITH A DESCRIPTION OF THE ALTERATION, DATE AND ARCHITECTS/ENGINEER'S SIGNATURE.

NYC DOB EMPLOYEE STAMP/SIGNATURE

NYC DOB BSCAN

AECOM

PROJECT

BOA OBP - AMER
NA

CLIENT

XXXXXX

ARCHITECT

AECOM
125 BROAD STREET, 15TH FLOOR
NEW YORK, NY 10004
TEL: +1(212) 377-8400
ARCHITECT OF RECORD :
JEFFREY BURKE
PROJECT MANAGER:
JASON FOSTER

MEP ENGINEER

RDA
ROBERT DERECTOR ASSOCIATES
MEP ENGINEERING | COMMISSIONING | MISSION CRITICAL
IT/MULTIMEDIA/SECURITY | ENERGY & SUSTAINABILITY | ACOUSTICS
19 WEST 44TH STREET NEW YORK, NY 10036 | 212-764-7272
PROJ. ENG. DPG/TXP PROJ. MGR. KC

STRUCTURAL ENGINEER

UPDATE
????
????

AV / IT CONSULTANT

UPDATE
????
????

ISSUE/REVISION

5	09/13/24	ISSUED FOR BID	4
4	08/23/24	ISSUED FOR 75% CD	3
3	08/02/24	ISSUED FOR 50% CD	2
1	07/12/24	ISSUED FOR 25% CD	1

ISSUE NO.	DATE	DESCRIPTION	

KEY PLAN

N

PROJECT NAME
BOA OBP - AMER

PROJECT NUMBER
1520069

SHEET TITLE
MECHANICAL NOTES, SYMBOLS, AND ABBREVIATIONS

DRAWN BY: Author

CHECKED BY: Checker

SEAL & SIGNATURE

SHEET NUMBER
M-001

DOB NOW:

DRAWING NUMBER

ANEMOSTAT LINEAR DIFFUSER (INTERIOR ZONES)

TYPE	SLOT WIDTH (IN.) AND QTY.	CAPACITY (CFM/LF)	PRESSURE DROP (IN. H2O)	NOISE CRITERIA	MODEL	
A,B	1"; 1-SLOT	50	0.07	25	FBBF-100 1-SLOT	SEE NOTES
C	1.5"; 1-SLOT	60	0.05	19	FBBF-150 1-SLOT	SEE NOTES
D	1"; 2-SLOT	75	0.04	22	FBBF-100 2-SLOT	SEE NOTES
E	1.5"; 2-SLOT	95	0.03	16	FBBF-150 2-SLOT	SEE NOTES
F	2"; 2-SLOT	115	0.03	21	FBBF-200 2-SLOT	SEE NOTES

REMARKS:
1. LINEAR DIFFUSER BASED ON ANEMOSTAT MODEL FFBF.
2. INACTIVE SECTIONS OF LINEAR DIFFUSERS TO BE USED FOR RETURN. PROVIDE INACTIVE SECTION OF LINEAR WITH PERFORATED LIGHT SHIELD.
3. RETURN LINEAR DIFFUSERS BASED ON ANEMOSTAT MODEL FFBF. SLOT WIDTH AND QUANTITY TO MATCH SUPPLY TYPE. PROVIDE INACTIVE SECTION OF LINEAR WITH PERFORATED LIGHT SHIELD.
4. LINEARS TO BE TAPE AND SPACKLE BORDER

ANEMOSTAT LINEAR DIFFUSER (PERIMETER ZONES)

TYPE	SLOT WIDTH (IN.) AND QUANTITY	CAPACITY (CFM/LF)	PRESSURE DROP (IN. H2O)	NOISE CRITERIA	MODEL	
G	1"; 2-SLOT	75	0.04	22	FFSB-100 2-SLOT	SEE NOTES
H	1.5"; 2-SLOT	95	0.03	16	FFSB-150 2-SLOT	SEE NOTES
I	2"; 2-SLOT	115	0.03	21	FFSB-200 2-SLOT	SEE NOTES

REMARKS:
1. LINEAR DIFFUSER BASED ON ANEMOSTAT MODEL FFSB.
2. INACTIVE SECTIONS OF LINEAR DIFFUSERS TO BE USED FOR RETURN. PROVIDE INACTIVE SECTION OF LINEAR WITH PERFORATED LIGHT SHIELD.
3. RETURN LINEAR DIFFUSERS BASED ON ANEMOSTAT MODEL FFBF. SLOT WIDTH AND QUANTITY TO MATCH SUPPLY TYPE. PROVIDE INACTIVE SECTION OF LINEAR WITH PERFORATED LIGHT SHIELD.
4. LINEARS TO BE TAPE AND SPACKLE BORDER

VIBRATION ISOLATION SCHEDULE

UNIT		ISOLATOR TYPE (MASON AS BOD)	STATIC DEFLECTION
FAN POWERED BOXES, WSHPs, AND FCUs		30N	1"
EXHAUST/OA FANS	-UNDER 8000 CFM	30N	1"
	-8000 CFM OR GREATER	30N	2"
TRANSFORMERS/ INVERTERS	-<150 KVA	ND/HD	0.35"
	->150 KVA	SLR/SLF	1"
REFER TO BOOK SPECIFICATIONS FOR ADDITIONAL VIBRATION ISOLATION REQUIREMENTS			

PROJECT NOTES:
1. TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 NEW YORK CITY ENERGY CONSERVATION CODE.
2. BOOK SPECIFICATION IS PART OF THIS CONTRACT
3. "THIS PLAN IS APPROVED ONLY FOR WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON, OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES."

FLOODZONE NOTES:
1. **PROPERTY IS IN SPECIAL FLOOD HAZARD AREA, ZONE _____ , PER EFFECTIVE 2007 FIRM.**
2. **THE APPLICANT HAS BEEN ADVISED BY DOB AND ACKNOWLEDGES THAT THE PROPERTY IS NOW LOCATED IN SFHA, ZONE _____ , PER PRELIMINARY FLOOD MAPS RELEASED IN 2013.**
3. **PROPERTY IS NOT IN SFHA**

WATER COOLED COMPUTER AC UNIT SCHEDULE

UNIT NO.			CRAC-40-1,2, CRAC-46-1, CRAC-48-1, CRAC-49-1
SERVICE			IDF ROOM
LOCATION			FLOOR MOUNTED
MANUFACTURER			VERTIV
MODEL NO.			PX011HW1A8
EER			3.38
FAN	CFM		1800
	E.S.P. (IN. W.G.)		0.2
	MOTOR HP		1.26
DX COIL	CFM		1800
	ENT'G AIR	DB °F	75
		R.H.	45
	CAPACITY MBH	TOTAL	47
		SENSIBLE	41
CONDENSER	E.W.T. (°F)		85
	L.W.T. (°F)		94.1
	GPM		13.1
	P.D. (FT. OF H_2O)		13
	WORKING PRESSURE (PSI)		400
COMPRESSOR	QUANTITY		1
	REFRIGERANT		R-410A
	HP or RLA (EA.)		3.8 HP
FILTER	TYPE		MERV 8
	NO. / SIZE		2"
ELECTRICAL DATA	VOLTS/PH/Hz		460/3/60
	FLA/MCA MOCP		11.6/13.7/20
DIMENSIONAL DATA	LxWxH (IN.)		34.5x32.5x78
	WEIGHT (LBS)		620
REMARKS:			
-			

ANEMOSTAT CEILING DIFFUSER SCHEDULE AND RETURN GRILLE (ROUND NECK)

NECK SIZE	CEILING MODULE	CFM RANGE	NC	MODEL	SYMBOL
6	12x12	0-100	<20	CG	
8	24x24	UP TO 150	<20	CG	
10	24x24	151-200	<20	CG	
12	24x24	201-350	<20	CG	
14	24x24	351-500	<20	CG	
16	24x24	501-675	<20	CG	
-	12x12	UP TO 125	-	3PD	
-	24x24	UP TO 700	-	3PD	

FOR NON 4-WAY DIFFUSERS, THE CFM RANGE SHALL BE READJUSTED ACCORDINGLY. FOR EXAMPLE, A 3-WAY 8" DIFFUSER SHALL HAVE A MAXIMUM CFM OF 150 AND A 2-WAY 12" DIFFUSER SHALL HAVE A MAXIMUM CFM OF 200. MAXIMUM NECK VELOCITY PERMITTED BASED ON ROOM NC CRITERIA SHALL BE AS FOLLOWS: NC-40 SHALL BE 600FPM, NC-35 SHALL BE 500FPM, NC-30 SHALL BE 400FPM.

REMARKS:
1. SUPPLY DIFFUSERS BASED ON ANEMOSTAT CG MODEL WITH 4 WAY THROW.
2. RETURN GRILLES BASED ON ANEMOSTAT, TO MATCH SUPPLY.
3. PROVIDE DIRECTIONAL BLOW CLIP (FIELD INSTALLED) TO CONVERT STANDARD 4-WAY DIFFUSER TO 1-, 2-, OR 3-WAY AS SHOWN ON PLANS.
4. COORDINATE BORDER TYPE TO ALL AIR OUTLETS WITH CEILING CONSTRUCTION.
5. DIFFUSERS LOCATED IN ACCESSIBLE GYP CEILINGS TO BE PROVIDED WITH YOUNG REGULATOR MODEL 800AW CABLE OPERATED DAMPERS.
6. ALL CEILING RETURN GRILLES TO BE "NO-SIGHT" CONSTRUCTION, PROVIDE LIGHT SHIELD ON ALL RETURNS.

BRANCH DUCT SCHEDULE

CFM RANGE	DUCT SIZE
UP TO 175	12 X 6
180 - 245	14 x 6
250 - 285	16 x 6, 12 x 8
290 - 335	18 x 6
340 - 375	20 X 6, 14 X 8
380 - 435	16 X 8
440 - 515	18 x 8, 14 x 10
520 - 585	20 x 8, 16 x 10
590 - 645	22 x 8
650 - 715	24 x 8, 18 x 10
720 - 825	26 x 8, 20 x 10
830 - 895	28 x 8, 22 x 10
900 - 1005	32 x 8, 24 x 10, 20 x 12
REMARKS:	
THIS SCHEDULE APPLIES TO BRANCH DUCTS TO INDIVIDUAL DIFFUSERS THAT ARE NOT SIZED ON PLANS.	

FAN POWERED TERMINAL UNIT SCHEDULE

MODEL	SIZE			PRIMARY CFM		FAN		STATIC PRESSURE			NC Levels		ATTEN.	CONTROLS	ELECTRICAL		
	UNIT	INLET	OUTLET	MAX	MIN	ESP	HP	INLET	DOWN	MIN	RADIATED	DISCHARGE			VOLT/PH	MCA	MOP
DTFS-F	B	08	20.5x12.5	400	150	0.27	0.33	1	0.25	0.04	18	18	No	DDC	277/1	3.2	15
DTFS-F	C	10	20.5x12.5	900	270	0.32	0.33	1	0.25	0.11	23	23	No	DDC	277/1	3.2	15
DTFS-F	D	12	25x17.5	1500	450	0.31	0.50	1	0.25	0.08	29	28	No	DDC	277/1	5.1	15

REMARKS:
1. DDC CONTROLLERS, D.P. TRANSDUCERS, HOT WATER CONTROL VALVES FURNISHED BY CONTROLS CONTRACTOR.
2. TERMINAL UNITS SHALL BE FURNISHED WITH TOGGLE DISCONNECT , 1" THICK INDUCED AIR FILTER, INTERNAL AND EXTERNAL ATTENUATORS FACTORY INSTALLED, 1" NATUAL FIBER INSULATION, 20 GAUGE CASING, TWO TOP AND TWO BOTTOM ACCESS PANELS, SINGLE POINT CONNECTION, ECM MOTOR WITH MANUAL OR REMOTE PWM CONTROLLER AS SPECIFIED AND FOUR POINT CENTER AVERAGING AIRFLOW SENSOR.
3. FPB SHALL BE SERIES TYPE, PRESSURE INDEPENDENT , SEQUENCE OF OPERATION TO BE HEATING, COOLING, AUTO CHANGOVER WITH MORNING WARM-UP AND NON-ADJUSTIBLE TO AVOID TAMPERING IN CUSTOM COLOR PER ARCHITECT RECOMMENDATIONS.
4. NOTE TO BALANCER: FAN POWERED BOXES MAXIMUM PRIMARY AIR VALUE SHALL BE 75% OF THE TOTAL AIR VALUE INDICATED ON THE PLANS
5. OPTIONAL REMOTE PWM ALLOWS FOR A 0-10V SIGNAL TO MODULATE FAN RPM TO MIN/MAX, IF BMS NEEDS TO STOP THE FAN OPTIONAL CONTROL SEQUENCE IS AVAILABLE WITH A 0-2V ACTING AS A STOP SIGNAL AND A 2.1-10V SIGNAL AS A FAN MIN/MAX SETTING.
6. REFER TO M-500 SERIES FOR GPM RATINGS FOR HOT WATER COILS.
7. PROVIDE MINIMUM 6" DUCT INLET BOOT POINTED UPWARDS.
8. ALL FAN POWERED BOXES SHALL HAVE A DRY CONTACT FOR TIE IN TO FIRE ALARM SYSTEM FOR FAN SHUT DOWN.
9. HOT WATER COILS SHALL BE RATED FOR 300 PSI OPERATING PRESSURE AND BE 1-ROW AS STANDARD

WATER SOURCE HEAT PUMP SCHEDULE

UNIT NO.		AC-48-4	AC-40-4, AC-46-1 AC-48-3,5, AC-49-1,2	AC-40-3, AC-48-6	AC-48-2	AC-40-2, AC-48-1	AC-40-1
SERVICE		-	-	-	-	-	MULTIPURPOSE ROOM
LOCATION		ABOVE CEILING	ABOVE CEILING	ABOVE CEILING	ABOVE CEILING	ABOVE CEILING	ABOVE CEILING
MANUFACTURER		-	-	-	-	-	-
MODEL NO.		CL012	CL018	CL024	CL036	CL048	CL060
REFRIGERANT TYPE		R454B	R454B	R454B	R454B	R454B	R454B
FAN PERFORMANCE	CFM	405	600	800	1200	1600	2000
	ESP (IN. W.G.)	0.4	0.5	0.5	0.5	0.5	0.5
	MOTOR HP	0.1	0.33	0.5	0.75	0.75	1
CONDENSER WATER	GPM	3	4.5	6	9	12	15
	P.D. (FT. OF H_2O)	9.1	10	10.4	11.5	11.6	10.6
	WORKING PRESSURE (PSIG)	-	-	-	-	-	-
COOLING PERFORMANCE	EWT/LWT (°F)	85/94.4	85/95	85/94.9	85/95.3	85/94.9	85/97.8
	EAT (°F DB/WB)	80/67	80/67	80/67	80/67	80/67	80/67
	TOTAL COOLING CAPACITY (BTUH)	11,600	18,900	24,200	39,000	48,600	60,000
	SENSIBLE COOLING CAPACITY (BTUH)	9,200	14,700	19,200	29,000	38,000	47,400
	EER	12.5	14.5	14.8	13.9	14.7	14
HEATING PERFORMANCE	EWT/LWT (°F)	70/62	70/60.9	70/61.3	70/61.4	70/61.5	70/61
	EAT (°F DB)	70	70	70	70	70	70
	HEAT CAPACITY (BTUH)	14,900	24,400	31,400	47,000	62,000	84,300
	COP	4.6	4.7	4.7	4.6	4.7	4.7
COMPRESSOR	QUANTITY	1	1	1	1	1	1
	HP or RLA	3.5 RLA	7.6 RLA	3.8 RLA	5.8 RLA	6.4 RLA	8.3 RLA
ELECTRICAL DATA	VOLTS/PH/HZ	265/1/60	265/1/60	460/3/60	460/3/60	460/3/60	460/3/60
	FLA/MCA/MOCP	5.8/6.7/X	10.2/12.1/X	5.9/6.9/X	9/10.4/X	9.6/11.2/X	12.3/14.3/X
DIMENSIONAL DATA	LxWxH (IN.)	33x19x11.5	44x21.5x17	44x21.5x18	47x21.5x19	54x24x21	54x24x21
	WEIGHT (LB.)	-	-	-	-	-	-
REMARKS:							
1. PROVIDE (UNLESS OTHERWISE NOTED): DUAL-ACTING WATER-REGULATING HEAD-PRESSURE CONTROL VALVES, OR SEPARATE HEATING AND COOLING WATER-REGULATING CONTROL VALVES.							

FAN SCHEDULE

UNIT NO.		EF-40-3,4	EF-40-1,2,5; EF-46-1; EF-48-1,2,3; EF-49-1	TXF-46-1; TXF-48-1; TXF-49-1	TXF-40-1
SERVICE		40TH FL ELEC CLOSETS	40TH FL MPR AV CLOSETS, 48TH FL MPR AV CLOSETS, PANTRY	RESTROOMS	RESTROOMS
LOCATION		CEILING	CEILING	CEILING	CEILING
MANUFACTURER		GREENHECK	GREENHECK	GREENHECK	GREENHECK
MODEL NO.		CSP-A1050-VG	CSP-A700-VG	CSP-A710	CSP-A710-VG
TYPE		INLINE	INLINE	INLINE	INLINE
CFM		1000	400	475	475
SP (IN. W.G.)		0.25	0.25	0.5	0.75
RPM		1146	790	1080	1480
MOTOR	TYPE				
	WATTS	228	40	277	177
	RPM	1146	790	1080	1480
	VOLTS/PH/Hz	115 / 1 / 60	115 / 1 / 60	115 / 1 / 60	115 / 1 / 60
DIMENSIONAL DATA	LxWxH (IN.)	24 X 14 X 15	24 X 12 X 12	18 X 14 X 15	18 X 14 X 15
	WEIGHT (LB.)	49	39	44	36
REMARKS:					
- ALL FANS TO HAVE SPEED CONTROLLER MOUNTED OR WITHIN REACH OF ASSOCIATED FAN - VIBRATION ISOLATION - PROVIDE HIGH LIMIT THERMOSTAT FOR ALL IDF ROOMS - PROVIDE TIME CLOCK FOR ALL RESTROOM AND PANTRY FANS					

PLACE GRAPHIC SCALE HERE

NYC DOB EMPLOYEE STAMP/SIGNATURE

NYC DOB BSCAN

AECOM

PROJECT

BOA OBP - AMER
NA

CLIENT

XXXXXX

ARCHITECT

AECOM
125 BROAD STREET, 15TH FLOOR
NEW YORK, NY 10004
TEL: +1(212) 377-8400
ARCHITECT OF RECORD :
JEFFREY BURKE
PROJECT MANAGER:
JASON FOSTER

MEP ENGINEER

RDA
ROBERT DERECTOR ASSOCIATES
MEP ENGINEERING | COMMISSIONING | MISSION CRITICAL
IT/MULTIMEDIA/SECURITY | ENERGY & SUSTAINABILITY | ACOUSTICS
19 WEST 44TH STREET NEW YORK, NY 10036 | 212-764-7272
PROJ.ENG DPG/TXP PROJ.MGR KC

STRUCTURAL ENGINEER

UPDATE
????
????

AV / IT CONSULTANT

UPDATE
????
????

ISSUE/REVISION

5	09/13/24	ISSUED FOR BID	4
4	08/23/24	ISSUED FOR 75% CD	3
3	08/02/24	ISSUED FOR 50% CD	2
1	07/12/24	ISSUED FOR 25% CD	1

ISSUE NO.	DATE	DESCRIPTION	

KEY PLAN

N

PROJECT NAME
BOA OBP - AMER

PROJECT NUMBER
1520069

SHEET TITLE
MECHANICAL SCHEDULES

DRAWN BY: Author

CHECKED BY: Checker

SEAL & SIGNATURE

SHEET NUMBER
M-100

DOB NOW:

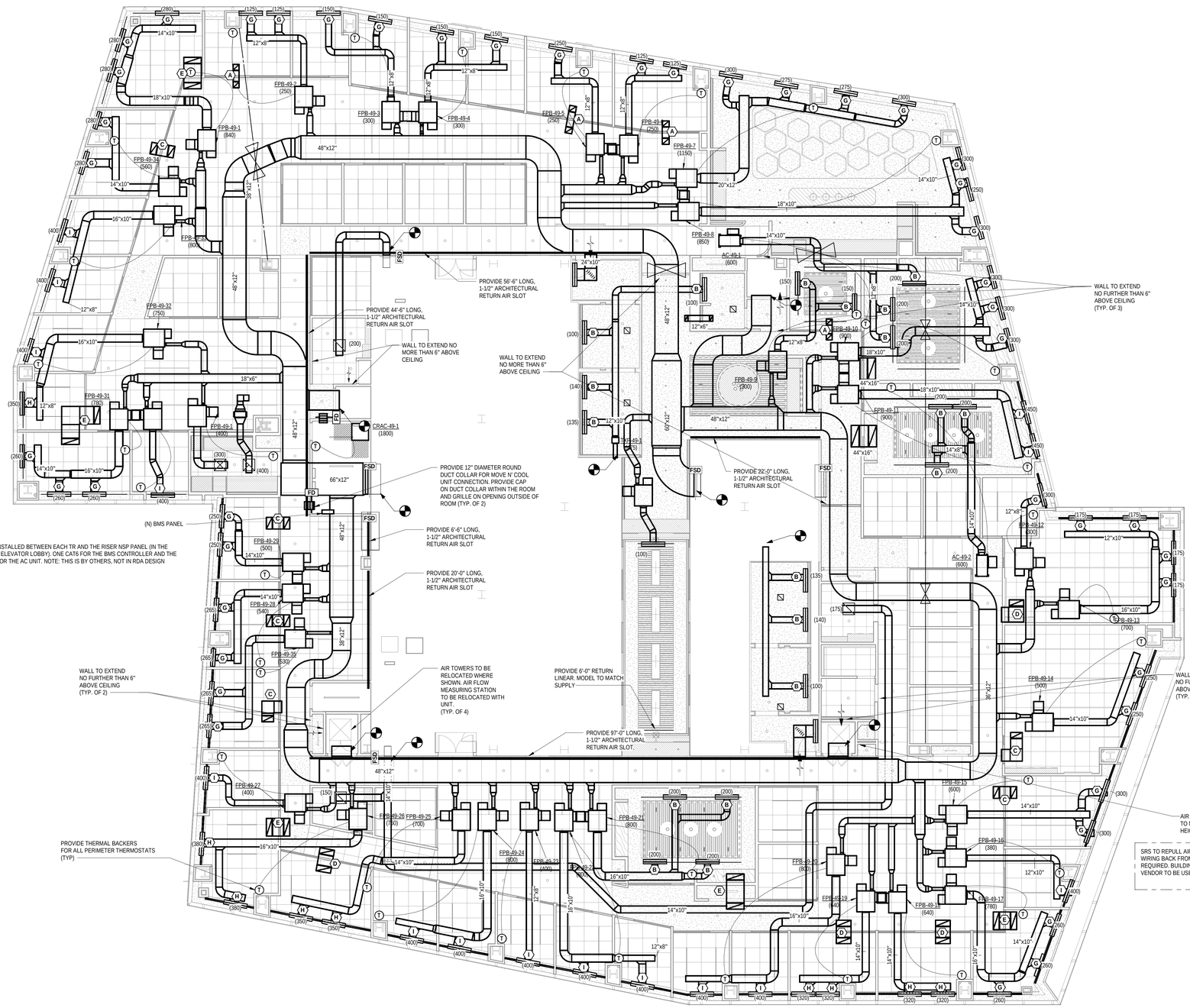
DRAWING NUMBER

PROJECT NOTES:

1. TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 NEW YORK CITY ENERGY CONSERVATION CODE.
2. BOOK SPECIFICATION IS PART OF THIS CONTRACT
3. "THIS PLAN IS APPROVED ONLY FOR WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON, OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES."

FLOODZONE NOTES:

1. **PROPERTY IS IN SPECIAL FLOOD HAZARD AREA, ZONE _____ , PER EFFECTIVE 2007 FIRM.**
2. **THE APPLICANT HAS BEEN ADVISED BY DOB AND ACKNOWLEDGES THAT THE PROPERTY IS NOW LOCATED IN SFHA, ZONE _____ , PER PRELIMINARY FLOOD MAPS RELEASED IN 2013.**
3. **PROPERTY IS NOT IN SFHA**



GENERAL NOTES:
THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE FOLLOWING:
1. DUCT SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING SMACNA HVAC DUCT CONSTRUCTION STANDARDS:
a. DUCT WORK DOWNSTREAM OF FPB BOXES 2 INCH PRESSURE CLASS PER TABLE 1-5, CLASS A SEALED.
b. DUCT WORK UPSTREAM OF VAV BOXES 4 INCH PRESSURE CLASS PER TABLE 1-8, CLASS A SEALED.
c. THE SUCTION AND DISCHARGE OF ALL EXHAUST SYSTEMS SHALL BE 2 INCH PRESSURE CLASS PER TABLE-5, CLASS A SEALED.
d. NO FLEXIBLE DUCT
2. ALL AIR BALANCING MUST BE PERFORMED BY A TESTING AND BALANCING AGENCY APPROVED BY BUILDING MANAGEMENT.
3. ALL DAMPERS (FIRE, SMOKE, ETC), VALVING AND EQUIPMENT THAT REQUIRE ACCESS SHALL BE LOCATED ABOVE ACCESSIBLE CEILING OR ACCESS DOORS SHALL BE PROVIDED FOR.
4. ALL NEW AND EXISTING DUCTWORK TO BE REUSED SHALL BE INSULATED WITH FIBROUS GLASS BLANKET, FOIL-SCRIM KRAFT FACING; 1 1/2-INCH THICK INSULATION.

HVAC NOTES:
1. ALL TAKE-OFFS SHALL BE PROVIDED WITH VOLUME DAMPERS. PROVIDE CABLE-OPERATED VOLUME DAMPERS FOR ALL DIFFUSERS WHERE CEILING IS INACCESSIBLE.
2 PROVIDE TRANSFER DUCTS ABOVE DOOR OF ALL CONFERENCE ROOMS, BOARD ROOMS, EXECUTIVE OFFICES, AND SPECIALTY ROOMS THAT ARE FULL HEIGHT CONSTRUCTION. (SIZE AS PER DETAIL ON M-200 DRAWING).
3 CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION OF DUCTWORK.
4. KEEP ALL DUCTWORK TIGHT TO UNDERSIDE OF SLAB. CROSS DUCTWORK BETWEEN BEAMS WHEREVER POSSIBLE, AND AVOID CROSSING DUCTWORK ABOVE RECESSED LIGHT FIXTURES TO PROVIDE MAXIMUM CLEARANCES. RUN DUCTWORK THROUGH EXISTING BEAM CUTS WHERE POSSIBLE TO ACHIEVE MAXIMUM CEILING CLEARANCE.
GC TO PROVIDE ACCESS DOORS AS REQUIRED FOR ALL EQUIPMENT REQUIRING ACCESS ABOVE INACCESSIBLE CEILINGS, INCLUDING BUT NOT LIMITED TO: VAV BOXES, FANS, DAMPERS, SENSORS, ETC. MAINTAIN ACCESS TO ALL EXISTING DAMPERS, SENSORS, ACTUATORS AND CONTROLLERS. FINAL LOCATION TO BE FIELD COORDINATED AND APPROVED BY BUILDING MANAGEMENT.
5. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION OF DUCTWORK.
6. COORDINATE ALL THERMOSTAT LOCATIONS WITH ARCHITECT
7. CONTRACTOR SHALL PROVIDE THERMOSTAT LOCATION SHOP DRAWINGS FOR ENGINEER AND ARCHITECT APPROVAL
8. ALL DUCTWORK OVER BAFFLE CEILINGS AND METAL MESH CEILINGS SHALL BE CONSIDERED EXPOSED, AND COMPLY WITH NOTE #5 AND ACOUSTICAL NOTES.
9. CO2 SENSORS TO BE CONNECTED TO EXISTING LANDLORD AIRCUITY SYSTEM
10. ALL EQUIPMENT AND AIR OUTLETS SHALL BE BALANCED TO THE CFMs SHOWN ON PLANS. SUBMIT FINAL BALANCE REPORT AND PERFORM SUBSEQUENT COMFORT BALANCE AT CLOSE OUT OF PROJECT. IN ADDITION, CONTRACTOR TO PERFORM ADDITIONAL COMFORT BALANCE DURING NEXT SEASON. I.E. IF PROJECT IS COMPLETED IN WINTER, CONTRACTOR TO RETURN TO SITE AND PERFORM SUBSEQUENT COMFORT BALANCE IN SUMMER.
11. ALL EQUIPMENT SHOWN ON THIS PLAN TO BE LABELED WITH ITS ASSOCIATED UNIT TAG. PROVIDE PHYSICAL LABELS ON EACH PIECE OF EQUIPMENT THAT ARE VISIBLE VIA THE ACCESS AREA.
12. UNDERFLOOR AIR PLENUM SHALL BE PRESSURE TESTED TO ENSURE LEAKAGE RATES OF LESS THAN 2% ACROSS THE ENTIRE FLOOR.
13. ALL FILTERS ON ALL UNITS, NEW AND EXISTING, TO BE REPLACED POST CONSTRUCTION. ALL EQUIPMENT TO BE CLEANED POST CONSTRUCTION.
14. ALL RETURN OPENINGS TO BE PROTECTED DURING DEMOLITION AND CONSTRUCTION

ACOUSTICAL NOTES:
1. PROVIDE 1 1/2" INTERNAL FIBERGLASS DUCT LINER AS FOLLOWS (TOTAL R VALUE OF 6 OR GREATER):-15 FEET DOWNSTREAM OF FPB BOXES-15 FEET UPSTREAM AND DOWSNTREAM OF EXHAUST FANS
2. ALL NEW AND EXISTING DUCTWORK ABOVE CEILINGS NOT INTERNALLY LINED SHALL BE INSULATED WITH FIBROUS GLASS BLANKET, FOIL-SCRIM KRAFT FACING; 1 1/2-INCH THICK INSULATION (TOTAL R VALUE OF 6 OR GREATER).
3. PROVIDE VIBRATION ISOLATORS AS INDICATED BELOW; COORDINATE ADDITIONAL REQUIREMENTS WITH RDA BOOK SPECIFICATIONS-EXHAUST FANS AND FPBs: COMBINATION SPRING AND NEOPRENE HANGER W/ 1.0" STATIC DEFLECTION (MASON INDUSTRIES TYPE 30N)
4. REFER TO M-001 DRAWING FOR SHEETMETAL GAUGE AND CONSTRUCTION SPECIFICATIONS

PLACE GRAPHIC SCALE HERE

Autodesk Docs://BP-AMER (USA)/6072609-BOA OBP 40,46,48,49 FLOORS/S120069 BOA OBP MEP -AMER_R22.rvt
Printed on ___% Post-Consumer Recycled Content Paper

AECOM

PROJECT

BOA OBP - AMER
NA

CLIENT

XXXXXX

ARCHITECT

AECOM
125 BROAD STREET, 15TH FLOOR
NEW YORK, NY 10004
TEL: +1(212) 377-8400
ARCHITECT OF RECORD :
JEFFREY BURKE
PROJECT MANAGER:
JASON FOSTER

MEP ENGINEER

RDA
ROBERT DERECTOR ASSOCIATES
MEP ENGINEERING | COMMISSIONING | MISSION CRITICAL
IT/MULTIMEDIA/SECURITY | ENERGY & SUSTAINABILITY | ACOUSTICS
19 WEST 44TH STREET| NEW YORK, NY 10036 | (212) 764-7272
PROJ. ENG. DPG/TXP PROJ. MGR. KC

STRUCTURAL ENGINEER

UPDATE
????
????

AV / IT CONSULTANT

UPDATE
????
????

ISSUE/REVISION

5	09/13/24	ISSUED FOR BID	4
4	08/23/24	ISSUED FOR 75% CD	3
3	08/02/24	ISSUED FOR 50% CD	2
1	07/12/24	ISSUED FOR 25% CD	1

ISSUE NO.	DATE	DESCRIPTION	Δ

KEY PLAN

N

PROJECT NAME
BOA OBP - AMER

PROJECT NUMBER
1520069

SHEET TITLE
49TH FLOOR MECHANICAL PLAN

DRAWN BY: Author
CHECKED BY: Checker

SEAL & SIGNATURE

SHEET NUMBER
M-449.00

DOB NOW:

DRAWING NUMBER

THESE DOCUMENTS CONTAIN POTENTIALLY SENSITIVE INFORMATION AND SHALL BE USED FOR THEIR INTENDED PURPOSE. ONCE THE INTENDED PURPOSE HAS CEASED, THE DOCUMENTS SHALL BE DESTROYED IN A SECURE MANNER.

IT IS A VIOLATION OF STATE EDUCATION LAW FOR ANY PERSON, UNLESS UNDER THE DIRECTION OF A LICENSED ARCHITECT/ENGINEER TO ALTER THIS DOCUMENT IN ANYWAY. ALTERATION MUST HAVE THE SEAL AFFIXED ALONG WITH A DESCRIPTION OF THE ALTERATION, DATE AND ARCHITECTS/ENGINEER'S SIGNATURE.

NYC DOB EMPLOYEE STAMP/SIGNATURE

NYC DOB BSCAN