

MECHANICAL LEGEND AND ABBREVIATIONS

ABBREVIATIONS - MECHANICAL	
ABV	ABOVE
ACD	AUTOMATIC CONTROL DAMPER
AD	ACCESS DOOR
AL	ACOUSTICAL LINING
ARCH	ARCHITECTURAL
ATC	AUTOMATIC TEMPERATURE CONTROL
BD	BALANCING DAMPER
BDD	BACK DRAFT DAMPER
BO	BLANK OFF
BHP	BRAKE HORSE POWER
BTU	BRITISH THERMAL UNIT
CC	COOLING COIL
CD	CEILING DIFFUSER
CF	CAP FOR FUTURE
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CO	CLEAN OUT
COMP	COMPRESSOR
CONV	CONVECTOR
CR	CEILING REGISTER
CU	CONDENSING UNIT
CW	CONDENSER WATER
DB	DRY BULB
DIA	DIAMETER
DN	DOWN
DX	DIRECT EXPANSION
(E)	EXISTING TO REMAIN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	EVAPORATIVE CONDENSER
EDB	ENTERING DRY BULB
EF	EXHAUST FAN
EFF	EFFICIENCY
EHC	ELECTRIC HEATING COIL
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
*F	DEGREES FAHRENHEIT
F	FILTER
FBO	FURNISHED BY OTHERS
FC	FLEXIBLE CONNECTION (DUCT OR PIPE)
FCC	FIRE CONTROL CENTER
FD	FUSIBLE LINK FIRE DAMPER W/ DUCT ACCESS DOOR
FLR	FLOOR
FLA	FULL LOAD AMPS
FPI	FINS PER INCH
FRE	FIRE RATED ENCLOSURE
FSD	COMBINATION FIRE AND SMOKE DAMPER
FT	FEET
GPM	GALLONS PER MINUTE
HC	HEATING COIL
HTR	HEAT RUMP
HP	HORSE POWER
HR	HOUR
ID	INSIDE DIMENSION
KW	KILOWATT
KWH	KILOWATT HOURS
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LD	LINEAR DIFFUSER (CEILING, WALL, SILL OR FLOOR)
LRA	LOCK ROTOR AMPS
LWS	LOUVER WITH WIRE SCREEN
LWT	LEAVING WATER TEMPERATURE
MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MFG	MANUFACTURER
MFS	MAXIMUM FUSE SIZE
MM	MILLIMETER
MOP	MAXIMUM OVERCURRENT PROTECTION
(N)	NEW
NC	NORMALLY CLOSED
NFA	NET FREE AREA
NC	NOT IN THIS CONTRACT
NK	NECK
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR INTAKE
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIMENSION
PD	PRESSURE DROP
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH (GAUGE)
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
(R)	EXISTING TO BE RELOCATED
RA	RETURN AIR
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SAD	SEE ARCHITECTURAL DRAWINGS
SD	SMOKE DAMPER
SF	SUPPLY FAN
SED	SEE ELECTRICAL DRAWINGS
SENS	SENSIBLE
SM	SHEET METAL
SP	STATIC PRESSURE

ABBREVIATIONS - MECHANICAL	
SQFT	SQUARE FEET
ST	SOUND TRAP
SX	SMOKE EXHAUST
TRD	TRANSFER DUCT
TRG	TRANSFER GRILLE
TX	TOILET EXHAUST
TYP	TYPICAL
UN	UNLESS OTHERWISE NOTED
VAR	VARIABLE
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
W	WITH
WB	WET BULB
WG	WATER GAUGE
WMS	WIRE MESH SCREEN
WO-SIZE	WALL OPENING - [SIZE]
(X)	EXISTING TO BE DEMOLISHED
(300)	CUBIC FEET OR AIR PER MINUTE OR GALLONS PER MINUTE

MISCELLANEOUS	
	DIFFERENTIAL PRESSURE SENSOR
	DIFFERENTIAL PRESSURE SWITCH
	NEW WORK
	EXISTING WORK
	EXISTING WORK TO BE REMOVED
	POINT OF NEW CONNECTION TO EXISTING WORK
	EXHAUST FAN
	OVAL
	DIAMETER
	UNDERCUT DOOR
	DETAIL DESIGNATION
	EQUIPMENT DESIGNATION
	TERMINAL DESIGNATION
	AIR OUTLET/INLET DEVICE DESIGNATION
	LINEAR DIFFUSER DEVICE DESIGNATION

PIPING LEGEND	
	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN
	ARROW INDICATES DIRECTION OF FLOW
	PITCH PIPE DOWN IN DIRECTION OF ARROW
	DRAIN LINE
	PIPE ANCHOR
	PIPE GUIDE
	EXPANSION COMPENSATOR
	EXPANSION LOOP (SIZE AxB)
	CONCENTRIC REDUCER (INCREASES)
	ECCENTRIC REDUCER (INCREASES)
	UNION
	CAPPED PIPE WITH SHUT-OFF VALVE
	T-TYPE STRAINER WITH HOSE END BLOW OFF VALVE
	Y-TYPE STRAINER
	BASKET TYPE STRAINER
	DUPLEX STRAINER
	ELBOW TURNED UP

PIPING LEGEND (CONTINUED)	
	ELBOW TURNED DOWN
	BOTTOM PIPE CONNECTION
	TOP PIPE CONNECTION
	SLOPED CHANGE IN PIPE ELEVATION
	FLEXIBLE CONNECTION
	SHUT-OFF VALVE
	AUTOMATIC FLOW CONTROL VALVE
	CALIBRATED BALANCE VALVE
	GLOBE VALVE
	CHECK VALVE
	AUTOMATIC THREE-WAY CONTROL VALVE
	AUTOMATIC TWO-WAY CONTROL VALVE
	RELIEF VALVE
	ANGLE RELIEF VALVE
	PRESSURE REDUCING VALVE (PRV)
	LUBRICATED PLUG VALVE
	LOCKSHIELD GLOBE VALVE
	SOLENOID VALVE
	BUTTERFLY VALVE (MANUAL)
	BUTTERFLY VALVE (MOTORIZED)
	BALL VALVE
	CENTER LINE
	PIPE SLEEVE
	PIPE CAP
	PIPE BLIND FLANGE

CONTROLS LEGEND	
	TOTALIZING BTU METER
	EMERGENCY BREAK GLASS SWITCH FOR EQUIPMENT SHUT-DOWN
	FLOW MEASURING STATION
	FLOW SWITCH
	CARBON MONOXIDE SENSOR WITH ZONE DESIGNATION
	CARBON DIOXIDE SENSOR WITH ZONE DESIGNATION
	TEMPERATURE SENSOR/THERMOSTAT WITH ZONE OR EQUIPMENT DESIGNATION
	HUMIDITY SENSOR WITH HUMIDIFIER DESIGNATION
	COMBINATION TEMPERATURE/HUMIDITY SENSOR
	DUCT SMOKE DETECTOR SUPPLIED BY ELECTRICAL TRADE, INSTALLED BY MECHANICAL TRADE
	STATIC PRESSURE SENSOR WITH DESIGNATION
	REFRIGERANT SENSOR WITH DESIGNATION

DUCTWORK LEGEND	
	DUCT SPLIT WITH SPLIT SIZE
	RADIUS ELBOW
	ELBOW WITH TURNING VANES
	RECTANGULAR BRANCH TAKEOFF WITH BALANCING DAMPER
	RECTANGULAR SUPPLY DUCT UP
	RECTANGULAR SUPPLY DUCT DOWN
	RECTANGULAR RETURN OR EXHAUST DUCT UP
	RECTANGULAR RETURN OR EXHAUST DUCT DOWN
	SLOPING RISE IN DUCTWORK
	SLOPING DROP IN DUCTWORK
	DUCT SIZE (CLEAR INSIDE DIMENSION) FIRST FIGURE INDICATES PLAN SIZE
	ROUND DUCT DIAMETER SIZE (CLEAR INSIDE DIMENSION)
	OVAL DUCT SIZE
	SIDE, TOP OR BOTTOM DUCT ACCESS DOOR
	ACOUSTIC LINING IN DUCT (DUCT SIZE NOTED INDICATES INSIDE DIMENSIONS)
	RECTANGULAR OR SQUARE TO ROUND OR OVAL TRANSITION
	FLEXIBLE CONNECTION
	DUCT ENDCAP
	FLEXIBLE DUCT
	VOLUME DAMPER IN DUCT
	AUTOMATIC CONTROL DAMPER
	BACK DRAFT DAMPER WITH DUCT ACCESS DOOR
	LINEAR DIFFUSER
	LINEAR DIFFUSER WITH PLENUM
	CEILING DIFFUSER
	CEILING DIFFUSER WITH FLEXIBLE DUCT CONNECTION
	RETURN/EXHAUST REGISTER OR GRILLE
	RETURN/EXHAUST REGISTER OR GRILLE WITH FLEXIBLE DUCT CONNECTION
	TRANSFER GRILLES ON BOTH SIDES OF PARTITION OR WALL (SIZE)
	WALL OPENING ABOVE HUNG CEILING (SIZE)
	SUPPLY REGISTER WITH AIR OUTLET DEVICE DESIGNATION
	RETURN OR EXHAUST REGISTER OR GRILLE WITH AIR INLET DEVICE DESIGNATION

432 PARK AVE\_61B\_TENANT\_FITOUT

MECHANICAL DRAWING LIST				ISSUE DATE			
#.	DWG. NO.	DESCRIPTION	SCALE	03/20/2017 - ISSUED FOR PROGRESS	05/06/2017 - ISSUED FOR PROGRESS	05/24/2017 - ISSUED FOR PROGRESS	06/09/2017 - ISSUED FOR DOB
1	M-000.00	MECHANICAL DRAWING LIST, SYMBOLS & ABBREVIATIONS SHEET	NTS	●	●	●	●
2	M-001.00	MECHANICAL SCOPE OF WORK, AND NOTES SHEET	NTS	●	●	●	●
3	M-002.00	MECHANICAL SPECIFICATION SHEET 1	NTS	●	●	●	●
4	M-003.00	MECHANICAL SPECIFICATION SHEET 2	NTS	●	●	●	●
5	M-004.00	MECHANICAL SPECIFICATION SHEET 3	NTS	●	●	●	●
6	M-201.00	MECHANICAL 61ST FLOOR DEMOLITION PLAN	1/4"	●	●	●	●
7	M-300.00	MECHANICAL 60TH FLOOR CONSTRUCTION PLAN	1/4"	●	●	●	●
8	M-301.00	MECHANICAL 61ST FLOOR CONSTRUCTION PLAN	1/4"	●	●	●	●
9	M-600.00	MECHANICAL SCHEDULE & CONTROLS SHEET	NTS	●	●	●	●
10	M-700.00	MECHANICAL DETAIL SHEET 1	NTS	●	●	●	●
11	M-701.00	MECHANICAL DETAIL SHEET 2	NTS	●	●	●	●
12	M-702.00	MECHANICAL DETAIL SHEET 3	NTS	●	●	●	●
13	EN-000.00	ENERGY CODE COMPLIANCE SHEET	NTS	●	●	●	●

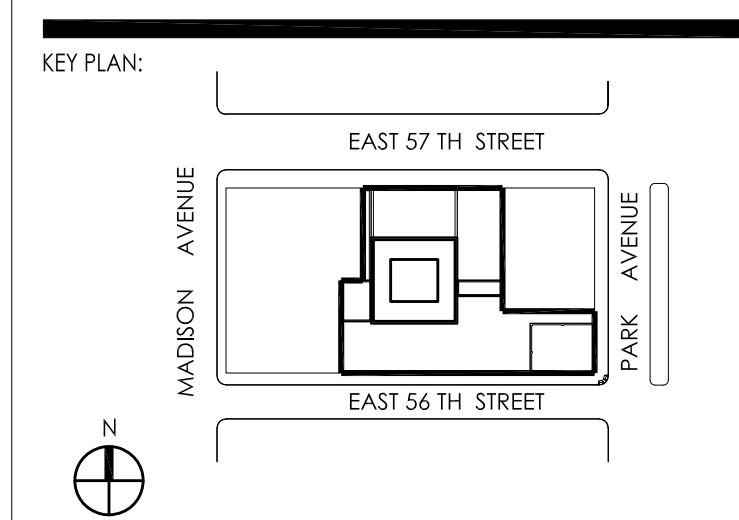
GENERAL NEW YORK CITY BUILDING CODE NOTES	
GENERAL NEW YORK CITY BUILDING CODE NOTES (BUILDING CODE, CITY OF NEW YORK, EFFECTIVE JANUARY 2015 AND ALL AMENDMENTS SHALL BE COMPLIED WITH)	
1. MATERIALS & EQUIPMENT SUBJECT TO CONTROLLED INSPECTION	
A. MECHANICAL SYSTEMS - BUILDING CODE BC 1704.16	
2. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. ARE TO COMPLY WITH NYC CODE:	
WORK ITEMS OR MATERIALS	
A. DUCT CONSTRUCTION	
B. AIR INTAKES & OUTLETS	
C. ELECTRIC WIRING & EQUIPMENT	
D. CONTROLS	
E. HEATING CAPACITY	
F. TEST PROCEDURES FOR	
G. INTAKES, EXHAUSTS, RELIEFS	
H. PIPING	
I. SPRINKLER SYSTEMS	
3. MINIMUM TEMPERATURE TO BE MAINTAINED DURING HEATING SEASON: 70°F WHEN OUTSIDE TEMPERATURE IS 5°F (WITH 15 MPH WIND).	
4. THE VENTILATION FOR ALL AREAS COMPLIES WITH THE MINIMUM CODE REQUIREMENTS.	
5. ALL SAFETY REQUIREMENTS SHALL BE MET AS SPECIFIED IN NYC CODE. CONTROLLED INSPECTIONS SHALL BE MADE TO INSURE COMPLIANCE WITH APPLICABLE BUILDING CODE SECTIONS AND SHALL INCLUDE THE FOLLOWING ITEMS WHERE REQUIRED:	
A. AIR CONDITIONING AND VENTILATING SYSTEMS.	
6. TO THE BEST OF THE APPLICANT'S KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT THESE PLANS ARE IN COMPLIANCE WITH THE NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE.	
7. THESE PLANS ARE APPROVED ONLY FOR THE 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.	

PROGRESS INSPECTIONS FOR ENERGY CODE COMPLIANCE - COMMERCIAL BUILDINGS				
INSPECTION/TEST	PERIOD (MINIMUM)	REFERENCE STANDARD (SEE ECC CHAPTER 6) OR OTHER CRITERIA	ECC OR OTHER CITATION	
IIB	MECHANICAL INSPECTIONS			
IIB3	HVAC EQUIPMENT SIZING, EFFICIENCIES AND OTHER PERFORMANCE FACTORS OF ALL MAJOR EQUIPMENT UNITS, AS DETERMINED BY THE APPLICANT OF RECORD, AND NO LESS THAN 15% OF MINOR EQUIPMENT UNITS, SHALL BE VERIFIED BY VISUAL INSPECTION AND, WHERE NECESSARY, REVIEW OF MANUFACTURER'S DATA.	PRIOR TO FINAL PLUMBING AND CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS	503.2, 504.2, 504.7; ASHRAE 90.1 - 6.3, 6.4.1, 6.4.2, 6.8; 7.4, 7.8
IIB4	HVAC SYSTEM CONTROLS: NO LESS THAN 20% OF EACH TYPE OF REQUIRED CONTROLS SHALL BE VERIFIED BY VISUAL INSPECTION AND TESTED FOR FUNCTIONALITY AND PROPER OPERATION. SUCH CONTROLS SHALL INCLUDE, BUT ARE NOT LIMITED TO: • THERMOSTATIC • SET POINT OVERLAP RESTRICTION • OFF-HOUR • SHUTOFF DAMPER • ZONES • AIR SYSTEMS • VENTILATION • TEMPERATURE  CONTROLS WITH SEASONALLY DEPENDENT FUNCTIONALITY: CONTROLS WHOSE COMPLETE OPERATION CANNOT BE DEMONSTRATED DUE TO PREVAILING WEATHER CONDITIONS TYPICAL OF THE SEASON DURING WHICH PROGRESS INSPECTIONS WILL BE PERFORMED SHALL BE PERMITTED TO BE SIGNED OFF FOR THE PURPOSE OF A TEMPORARY CERTIFICATE OF OCCUPANCY WITH ONLY A VISUAL INSPECTION, PROVIDED, HOWEVER, THAT THE PROGRESS INSPECTOR SHALL PERFORM A SUPPLEMENTAL INSPECTION WHERE THE CONTROLS ARE VISUALLY INSPECTED AND TESTED FOR FUNCTIONALITY AND PROPER OPERATION DURING THE NEXT IMMEDIATE SEASON THEREAFTER.  THE OWNER SHALL PROVIDE FULL ACCESS TO THE PROGRESS INSPECTOR WITHIN TWO WEEKS OF THE PROGRESS INSPECTOR'S REQUEST FOR SUCH ACCESS TO PERFORM THE PROGRESS INSPECTION.  FOR SUCH SUPPLEMENTAL INSPECTIONS, THE DEPARTMENT SHALL BE NOTIFIED BY THE APPROVED PROGRESS INSPECTION AGENCY OF ANY UNRESOLVED DEFICIENCIES IN THE INSTALLED WORK WITHIN 180 DAYS OF SUCH SUPPLEMENTAL INSPECTION.	AFTER INSTALLATION AND PRIOR TO FINAL ELECTRICAL AND CONSTRUCTION INSPECTION, EXCEPT THAT FOR CONTROLS WITH SEASONALLY DEPENDENT FUNCTIONALITY, SUCH TESTING SHALL BE PERFORMED BEFORE SIGN-OFF OR ISSUANCE OF A FINAL CERTIFICATE OF OCCUPANCY	APPROVED CONSTRUCTION DOCUMENTS, INCLUDING CONTROL SYSTEM NARRATIVES; ASHRAE GUIDELINE 1: THE HVAC COMMISSIONING PROCESS WHERE APPLICABLE	503.2.4, 503.2.5.1, 503.2.11, 503.3, 503.4, 504.3, 504.6, 504.7; ASHRAE 90.1 - 6.3, 6.4, 6.5, 6.7.2.4; 7.4.4, 7.4.5
IIB5	DUCT & PLENUM INSULATION AND SEALING: INSTALLED DUCT INSULATION SHALL BE VISUALLY INSPECTED TO VERIFY PROPER INSULATION PLACEMENT AND VALUES.  JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTIONS IN DUCTWORK SHALL BE VISUALLY INSPECTED FOR PROPER SEALING.	AFTER INSTALLATION AND PRIOR TO CLOSING SHAFTS, CEILINGS AND WALLS	APPROVED CONSTRUCTION DOCUMENTS; SMACNA DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE	503.2.7, 503.2.8, 504.5; ASHRAE 90.1 - 6.3, 6.4.4.2, 6.8.2, 6.8.3; 7.4.3
IIB6	AIR LEAKAGE TESTING FOR HIGH-PRESSURE DUCT SYSTEMS: FOR DUCT SYSTEMS DESIGNED TO OPERATE AT STATIC PRESSURES IN EXCESS OF 3 INCHES W.G. (746 PA), REPRESENTATIVE SECTIONS, AS DETERMINED BY THE PROGRESS INSPECTOR, TOTALING AT LEAST 25% OF THE DUCT AREA, PER ECC 503.2.7.1.3, SHALL BE TESTED TO VERIFY THAT ACTUAL AIR LEAKAGE IS BELOW ALLOWABLE AMOUNTS.	AFTER INSTALLATION AND PRIOR TO CLOSING SHAFTS, CEILINGS AND WALLS	APPROVED CONSTRUCTION DOCUMENTS; SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL	503.2.7.1.3; ASHRAE 90.1 - 6.4.4.2

- NOTES:  
1. REFER TO ARCHITECTURAL DRAWING SET FOR ALL SPECIAL INSPECTIONS WITH REGARDS TO PROJECT ENVELOPE SCOPE OF WORK.  
2. REFER TO ELECTRICAL DRAWING SET FOR ALL SPECIAL INSPECTIONS WITH REGARDS TO PROJECT ELECTRICAL SCOPE OF WORK.

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SCALE: NTS



DRAWING TITLE:  
**MECHANICAL DRAWING LIST, SYMBOLS, & ABBREVIATIONS SHEET**

SEAL & SIGNATURE:	DATE:
PROJECT No:	DRAWN BY: DD
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<b>M-000.00</b>	CADD FILE No:
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