HVAC DRAWINGS FOR:
LINCOLN EQUITIES BUILDING B
SOUTHEAST, NY

SYMBOLS

- AUTOMATIC AIR VENT
- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- CIRCUIT SETTER
- FLANGE BREAK
- FLEX CONNECTOR
- FLOW DIRECTION
- FLOW SWITCH
- GATE VALVE
- GLOBE VALVE
- HOSE END VALVE
- MOTORIZED VALVE
- PIPE ANCHOR
- PIPE DOWN
- PIPE UP
- PIPE "T" UP
- PIPE "T" DOWN
- PIPE GUIDE
- PETE'S PLUG
- PNEUMATIC VALVE
- PRESSURE GAUGE
- PRESSURE REDUCING VALVE
- PRESSURE REDUCING VALVE w/ SENSING PORT
- PRESSURE SAFETY VALVE
- REDUCER (CONCENTRIC)
- REDUCER (ECCENTRIC)
- SLOPED PIPE (2%)
- SOLENOID VALVE
- STRAINER
- SUCTION DIFFUSER
- THERMOMETER
- THREE WAY VALVE
- TRIPLE DUTY VALVE
- UNION
- DEMO PIPE OR EQUIPMENT
- CO — CARBON DIOXIDE DETECTOR
- CO — CARBON MONOXIDE SENSOR
- CONNECT NEW TO EXISTING
- DEMOLITION EXTENTS
- H — HUMIDISTAT
- SD — SMOKE DETECTOR
- T — THERMOSTAT
- S — THERMOSTATIC SENSOR
- SECTION NUMBER / SHEET SECTION APPEARS ON — SECTION CUT
- MATCH LINE

- SUPPLY AIR DOWN
- SUPPLY AIR UP
- RETURN AIR DOWN
- RETURN AIR UP
- EXHAUST AIR / OUTSIDE AIR UP
- EXHAUST AIR / OUTSIDE AIR DN
- RECTANGULAR VANED ELBOW
- RECTANGULAR RADIUS ELBOW
- ROUND ELBOW
- SQUARE TO SQUARE 45° TAP
- ROUND TO ROUND 45° TAP
- 90° CONICAL TAP
- VOLUME DAMPER (B)
- BACKDRAFT DAMPER
- MOTORIZED DAMPER (M)
- 10x8 — RECTANGULAR DUCTWORK
- 8Ø — ROUND DUCTWORK
- 10/8 — OVAL DUCTWORK
- RECT. TO ROUND TRANSITION
- LINED ACOUSTICAL DUCT
- WRAPPED DUCT DIMENSIONS FOR FREE NET AREA
- R — DUCT RISE (R) OR DROP (D) IN DIRECTION OF AIRFLOW

- SPIN-IN FITTING WITH DAMPER (SIDE OF DUCT)
- ROUND FLEXIBLE DUCT
- # / SHEET — DETAIL REFERENCE TAG
- EQUIP / # — EQUIPMENT TAG
- TYPE / CFM — DIFFUSER TAG
- U — UNDERCUT DOOR
- UNIT HEATER
- CABINET UNIT HEATER
- EXHAUST FAN
- FIRE DAMPER
- SMOKE DAMPER
- FIRE / SMOKE DAMPER

PIPING LINE TYPES

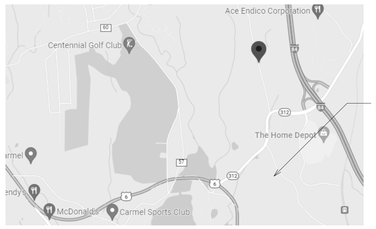
CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
CA	COMPRESSED AIR
CD	CONDENSATE DRAIN PIPING
CS	CONDENSER WATER SUPPLY
CR	CONDENSER WATER RETURN
FO	FUEL OIL
G	GAS PIPING
HWS	HEATING WATER SUPPLY
HWR	HEATING WATER RETURN
HG	REFRIGERANT HOT GAS
LPS	LOW PRESSURE STEAM
LPC	LOW PRESSURE CONDENSATE
MPS	MEDIUM PRESSURE STEAM
MPC	MEDIUM PRESSURE CONDENSATE
HPS	HIGH PRESSURE STEAM
HPC	HIGH PRESSURE CONDENSATE
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION

* NOTE: NOT ALL PIPING LINE TYPES, SYMBOLS, OR ABBREVIATIONS ARE UTILIZED ON EVERY PROJECT.

ABBREVIATIONS

AAV	AUTOMATIC AIR VENT
AC	AIR CURTAIN
ACC	AIR COOLED CONDENSER
ACH	AIR CHANGES PER HOUR
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AMP	AMPERE
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ARU	AIR ROTATION UNIT
AS	AIR SEPERATOR
ATR	ALL THREAD ROD
AV	MANUAL AIR VENT
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
BB	BASEBOARD HEATER
BD	BYPASS DAMPER
BDD	BACK DRAFT DAMPER
BFF	BELOW FINISHED FLOOR
BHP	BRAKE HORSEPOWER
BMS	BUILDING MANAGEMENT SYSTEM
BOD	BOTTOM OF DUCT
BOE	BOTTOM OF EQUIPMENT
BOL	BOTTOM OF LOUVER
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STEEL
BP	BYPASS
BTUH	BTU PER HOUR
BWE	BAKED WHITE ENAMEL
CAP.	CAPACITY
CEF	CEILING EXHAUST FAN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHWP	CHILLED WATER PUMP
CLG	CEILING
CONN.	CONNECTION
CRAC	COMPUTER ROOM AIR CONDITIONING UNIT
CRU	CONDENSATE RETURN UNIT
CT	COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CWP	CONDENSER WATER PUMP
DB	DRY BULB, (°F)
DDC	DIRECT DIGITAL CONTROL
DDHU	DESICANT DEHUMIDIFICATION UNIT
DISC	DISCONNECT
DN	DOWN
DOAS	DEDICATED OUTSIDE AIR SUPPLY UNIT
DP	DEW POINT
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE, (°F) (DB/WB)
EBBH	ELECTRIC BASEBOARD HEATER
EC	ELECTRICAL WORK CONTRACTOR
EF	EXHAUST FAN
ECM	ELECTRONICALLY COMPUTATED MOTOR
EMS	ENERGY MANAGEMENT SYSTEM
ENT	ENTERING
EQPT	EQUIPMENT
ERU	ENERGY RECOVERY UNIT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EVAP	EVAPORATOR (REFRIGERATION)
EWH	ELECTRIC WALL HEATER
EWT	ENTERING WATER TEMPERATURE (°F)
EXF	EXFILTRATION AIR
EXH	EXHAUST
FA	FIRE ALARM
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FF	FINISHED FLOOR
FIN	FINISH
FLA	FULL LOAD AMPS
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FSD	FIRE / SMOKE DAMPER
FT. HD	FEET OF HEAD (PRESSURE DROP)
FTU	FAN TERMINAL UNIT
FV	FIELD VERIFY
GAL	GALLONS
GC	GENERAL WORK CONTRACTOR
GPM	WATER FLOW, (GALLONS PER MINUTE)
GPR	GAS PRESSURE REGULATOR
GUH	GAS UNIT HEATER
GWH	GAS WATER HEATER
H	HUMIDITY SENSOR
HEV	HOSE END VALVE
HP	HORSEPOWER
HVLS	HIGH VOLUME LOW SPEED
HWP	HOT WATER PUMP
HX	HEAT EXCHANGER
HZ	HERTZ
ID	INSIDE DIAMETER
IH	INTAKE HOOD
IN W.C.	INCHES OF WATER COLUMN
IOM	INSTALLATION AND OPERATION MANUAL
KW	KILOWATT
L	LOUVER
LAT	LEAVING AIR TEMPERATURE, (°F)
LBS	POUNDS
LLSV	LIQUID LINE SOLENOID VALVE
LP	LIQUID PETROLEUM GAS
LVG	LEAVING
LWT	LEAVING WATER TEMPERATURE (°F)
MA	MIXED AIR (OA + RA)
MAU	MAKE-UP AIR UNIT
MAX.	MAXIMUM
MBH	1,000 BTU PER HOUR
MC	MECHANICAL WORK CONTRACTOR
MCA	MINIMUM CIRCUIT AMPERES
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MIN.	MINIMUM
MOCP	MAXIMUM OVER CURRENT PROTECTION
MUW	MAKE-UP WATER
MVD	MANUAL VOLUME DAMPER
NC	NORMALLY CLOSED
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO.	NUMBER
NPPW	NON POTABLE PROCESS WATER
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
P	PUMP
PC	PLUMBING WORK CONTRACTOR
PCF	POUNDS/CUBIC FOOT (DENSITY)
PH	PHASE (ELECTRICAL)
POS.	POSITION
PPH	POUNDS PER HOUR
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS/SQUARE FOOT (PRESSURE)
PSI	POUNDS/SQUARE INCH (ABSOLUTE PRESSURE)
PSIG	POUNDS/SQUARE INCH (GAUGE PRESSURE)
PTAC	PACKAGE TERMINAL AIR CONDITIONER
QTY	QUANTITY
RA	RETURN AIR
RC	REFRIGERATION CONTRACTOR
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RLF	RELIEF AIR
RLH	RELIEF HOOD
RPM	REVOLUTIONS PER MINUTE
RTU	ROOF TOP UNIT (PACKAGED)
SA	SUPPLY AIR
SC	SHADING COEFFICIENT
SD	SMOKE DAMPER
SEF	SMOKE EXHAUST FAN
SEN	SENSIBLE COOLING CAPACITY, (BTU/ HR)
SF	SUPPLY FAN
SFT	SOFT WATER
SS	STAINLESS STEEL
ST	STORAGE TANK
STD	STANDARD
STL	STEEL
TA	TRANSFER AIR
TAB	TEST AND BALANCE CONTRACTOR
TCC	TEMPERATURE CONTROL CONTRACTOR
TDV	TRIPLE DUTY VALVE
TEMP	TEMPORARY
TOT	TOTAL NET CAPACITY, (BTU/HR)
TSP	TOTAL STATIC PRESSURE
TXV	THERMAL EXPANSION VALVE
TYP	TYPICAL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UTR	UP THOUGH ROOF
V	VOLT
VAV	VARIABLE AIR VOLUME TERMINAL UNIT
VF	VENTILATION FAN
VFD	VARIABLE FREQUENCY DRIVE
VSD	VARIABLE SPEED DRIVE
VTA	VENT TO ATMOSPHERE
VTR	VENT TO ROOM
W	WATT
W/	WITH
WB	WET BULB, (°F)
WG	WATER GAUGE
WP	WEATHERPROOF
WPD	WATER PRESSURE DROP

SITE LOCATION MAP



PROJECT DESIGN CONDITIONS

OUTDOOR DESIGN CONDITIONS	LOCATION	ZONE	SUMMER 1% (F DB / F WB)	WINTER 99% (F DB)	SEISMIC DESIGN CAT	SEISMIC SITE CLASS	WIND (MPH)
	SOUTHEAST, NY	5A	90.2 / 72.9	9.5	B	D	115

ENVELOPE CONDITIONS	AREA	LOW WALL R-VALUE	UPPER WALL R-VALUE	ROOF R-VALUE	GLASS U-VALUE	GLASS SC	PARTITION U-VALUE
	WAREHOUSE	1.5	14 (SEE NOTE 1)	20	0.35	N/A	N/A

APPLICABLE CODES
2020 NY STATE BUILDING CODE
2020 NY STATE MECHANICAL CODE
2020 NY STATE ENERGY CONSERVATION CODE

LOAD ASSUMPTIONS

ROOM DESIGN PARAMETERS	SPACE TYPE	COOLING	HEATING	PEOPLE			LIGHTING	MISC	OUTDOOR AIR	
		F / MAX RH	F / MIN RH	SQFT / PERSON	SENS. GAIN / PERSON (BTUH)	LATENT GAIN / PERSON (BTUH)	W / SQFT	W / SQFT	CFM / PERSON	CFM / SQFT
	WAREHOUSE	N/A	55	N/A	N/A	N/A	N/A	N/A	5	0.06

NOTES:
1. WALL INSULATION PROVIDED FROM 4'-0" AFF. TO DECO ON NON-DOCK WALLS AND 13'-0" AFF. TO DECK ON DOCK WALLS.

HVAC SHEET LIST

SHEET NUMBER	SHEET NAME	CURRENT REVISION	CURRENT REVISION DESCRIPTION
M000	COVER SHEET	05/20/2022	QA/QC SET
M100	OVERALL FLOOR PLAN	05/20/2022	QA/QC SET
M101	OVERALL ROOF PLAN	05/20/2022	QA/QC SET
M400	SCHEDULES	05/20/2022	QA/QC SET
M500	DETAILS	05/20/2022	QA/QC SET

SPECIFICATIONS:

SECTION 1 – HVAC CRITERIA

1.0 GENERAL

A. THESE DOCUMENTS ARE INTENDED TO PROVIDE ALL DRAWINGS, NOTATIONS, DETAILS, AND SCHEDULES NECESSARY FOR THE INSTALLATION OF A COMPLETE HVAC SYSTEM. THESE DOCUMENTS ARE PREPARED TO EXCLUDE ALL WORK NOT SPECIFICALLY INCLUDED IN THE SET.

B. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY LABOR AND MATERIALS FOR A COMPLETE SYSTEM TO MEET THE INTENT OF THE DESIGN AND AS INDICATED IN THE DESIGN DOCUMENTS. ANY ACCESSORIES OR MATERIALS OBVIOUSLY A PART OF THE SYSTEM AND INTEGRAL IN ITS OPERATION, ALTHOUGH NOT SPECIFICALLY MENTIONED HEREIN, SHALL BE FURNISHED AND INSTALLED AS IF CALLED FOR IN DETAIL.

C. THIS CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING COMPLETE AND OPERATING SYSTEMS. THIS CONTRACTOR ACKNOWLEDGES AND UNDERSTANDS THAT THE CONTRACT DOCUMENTS ARE A TWO-DIMENSIONAL REPRESENTATION OF A THREE-DIMENSIONAL OBJECT, SUBJECT TO HUMAN INTERPRETATION. THIS REPRESENTATION MAY INCLUDE IMPERFECT DATA, INTERPRETED CODES, UTILITY GUIDELINES, THREE-DIMENSIONAL CONFLICTS, AND REQUIRED FIELD COORDINATION ITEMS. SUCH DEFICIENCIES CAN BE CORRECTED WHEN IDENTIFIED PRIOR TO ORDERING MATERIAL AND STARTING INSTALLATION. THIS CONTRACTOR AGREES TO CAREFULLY STUDY AND COMPARE THE INDIVIDUAL CONTRACT DOCUMENTS AND REPORT AT ONCE IN WRITING TO THE DESIGN TEAM ANY DEFICIENCIES THIS CONTRACTOR MAY DISCOVER. THIS CONTRACTOR FURTHER AGREES TO REQUIRE EACH SUBCONTRACTOR TO LIKEWISE STUDY THE DOCUMENTS AND REPORT AT ONCE ANY DEFICIENCIES DISCOVERED.

D. ALL MATERIAL AND EQUIPMENT USED SHALL BE NEW AND FREE FROM DEFECTS.

E. THIS CONTRACTOR SHALL PERFORM WORK IN A SAFE MANNER. COMPLY WITH ALL APPLICABLE OSHA SAFETY GUIDELINES IN ACCORDANCE WITH 29 CFR 1926 OSHA CONSTRUCTION INDUSTRY REGULATIONS DURING THE COURSE OF COMPLETING THE WORK DESCRIBED IN THESE DOCUMENTS.

F. THIS CONTRACTOR SHALL KEEP AND MAINTAIN ON SITE A COPY OF ALL SAFETY DATA SHEETS FOR ALL PRODUCTS AND MATERIALS ON SITE WHICH COMPLY WITH THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELING OF CHEMICALS. THIS INCLUDES:

1. MAINTAINING A HAZARD COMMUNICATION PROGRAM DETAILING THE PLANS IN PLACE FOR THE SAFE HANDLING OF CHEMICALS
2. MAINTAINING A WRITTEN CHEMICAL INVENTORY OF EVERY HAZARD CHEMICAL IN THE FACILITY TO WHICH EMPLOYEES ARE EXPOSED
3. MAINTAINING PROPER LABELS AND WARNING SIGNS ASSOCIATED WITH SAID CHEMICALS
4. TRAINING EMPLOYEES ON CHEMICAL HAZARDS AND NECESSARY PRECAUTIONS

G. NO CHEMICALS MAY BE STORED IN ANY CONTAINERS OTHER THAN THE ORIGINAL MANUFACTURER'S CONTAINERS.

1. INSTALL ALL ITEMS PER THE MANUFACTURER'S INSTRUCTIONS AND PROVIDE PROPER ELECTRICAL AND MAINTENANCE CLEARANCES.

1.1 COORDINATION

A. COORDINATE THE ROUTING OF ALL MECHANICAL SYSTEMS WITH THE OTHER TRADES TO AVOID CONFLICTS WITH DUCTS, PIPES, ETC. ITEMS REQUIRING PITCH MUST BE CONSIDERED FOR THEIR RIGHT-OF-WAY.

B. GENERAL CONTRACTOR (G.C.) SHALL PROVIDE AND INSTALL ALL PRIMARY STRUCTURAL SUPPORT, UNIFORM LEVEL, FOR ALL FLOOR, CEILING, OR ROOF MOUNTED EQUIPMENT OR COMPONENTS AS DESIGNED BY ARCHITECT OR STRUCTURAL ENGINEER AND APPROVED BY THE JURISDICTION OF AUTHORITY.

C. THIS CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES. ANY DISCREPANCIES SHALL BE RELAYED TO NDBS FOR COMMENT AND CORRECTIVE ACTION AS NEEDED.

D. ALL LINTELS, FRAMING, FURRING, PATCHING, AND PAINTING REQUIRED WILL BE PROVIDED BY THE G.C.

E. ALL GAS PIPING EXPOSED TO WEATHER SHALL BE PAINTED BY THE G.C.

F. THE G.C. SHALL PROVIDE ALL PADS AS REQUIRED FOR THE INSTALLATION OF THE HVAC EQUIPMENT. PADS SHALL BE PROVIDED IN ACCORDANCE WITH THE STRUCTURAL ENGINEER'S DESIGN FOR SITE CONDITIONS, WEIGHT, SEISMIC AND WIND CONSIDERATIONS. HEIGHT OF THE PAD SHALL (FOR GRAVITY DRAIN EQUIPMENT) SHALL BE FIELD ADJUSTED BY G.C. BASED ON APPROVED EQUIPMENT SUBMITTALS.

G. E.C. SHALL MOUNT AND WIRE/CONNECT ALL 460 VOLT AND 120 VOLT COMPONENTS (RELAYS, FAN WIRING, HIGH LIMITS, SOLENOIDS, CONTROLLERS, ETC...) AND OTHER ELECTRICAL COMPONENTS FURNISHED BY THIS CONTRACTOR. THIS CONTRACTOR IS RESPONSIBLE FOR ALL 24 VOLT THERMOSTAT WIRING.

H. EQUIPMENT IS NOT INTENDED FOR TEMPORARY CONDITIONING UNLESS COORDINATED WITH NDBS AHEAD OF TIME. SHOULD NDBS APPROVE OF TEMPORARY USE, RETURN AIR OPENINGS SHALL BE PROTECTED WITH FILTER MEDIA (MINIMUM MERV 8) WHILE EQUIPMENT IS OPERATED DURING CONSTRUCTION.

1.2 CONSTRUCTION

A. ALL EQUIPMENT, PIPING SUPPORTS, AND DUCTWORK SUPPORTS SUSPENDED FROM ROOF JOISTS SHALL BE SUSPENDED FROM THE TOP CHORD OF THE JOIST UNLESS PRIOR APPROVAL FROM G.C. OR STRUCTURAL ENGINEER.

B. PROVIDE DUCT, PIPING AND HANGER PENETRATIONS THROUGH NON-RATED ENCLOSURES WITH DRAFT STOPPING OR SMOKE BARRIER SEALANT SYSTEMS. INSTALL PENETRATION SEALANT SYSTEMS IN STRICT ACCORDANCE TO MANUFACTURER'S APPLICATION DETAILS AND INSTRUCTIONS. PROVIDE DRAFT STOPPING OR SMOKE BARRIER SEALANTS TO MEET APPROVAL OF AHJ.

C. PROVIDE SCHEDULE 40 STEEL SLEEVES AT ALL PIPING PENETRATIONS THROUGH CONCRETE FOOTINGS, FLOORS OR WALL CONSTRUCTION. SLEEVE SHALL PROVIDE MINIMUM 2" CLEARANCE BETWEEN SLEEVE AND PIPE. PROVIDE A LINK SEAL THROUGH ALL FOUNDATION WALL PENETRATIONS.

D. PROTECT ALL EQUIPMENT, PIPING AND DUCTWORK OPENINGS DURING CONSTRUCTION WITH PLASTIC OR OTHER NON-POROUS MATERIAL TO LIMIT CONTAMINATION FROM DUST AND OTHER CONSTRUCTION DEBRIS. MATERIAL AND EQUIPMENT SHALL BE ELEVATED OFF FLOOR AND PROTECTED WHEN STORED ON SITE.

1.4 ACTION SUBMITTALS

A. PRODUCT DATA:

1. FOR ALL EQUIPMENT FURNISHED BY THIS CONTRACTOR
   (1) SHOP DRAWINGS INCLUDING AT A MINIMUM: CAPACITIES, DIMENSIONS, WEIGHTS, ELECTRICAL REQUIREMENTS, FAN AND PUMP CURVES
2. METAL DUCTS
   (1) LINERS AND ADHESIVES
   (2) SEALANTS AND GASKETS
3. PIPING
   (1) PIPING SPECIALTIES
   (2) VALVES
   (3) PRESSURE REGULATORS
   (4) PIPING SPECIALTIES ITEMS\

1.5 INFORMATIONAL SUBMITTALS

A. BRAZING AND WELDING CERTIFICATES

B. FIELD QUALITY-CONTROL REPORTS

SECTION 2 - FIELD QUALITY CONTROL

2.0 GENERAL

A. REFER TO PIPE SCHEDULE FOR PIPE TESTING REQUIREMENTS.

B. EQUIPMENT THAT IS NOT INTENDED TO BE SUBJECT TO THE TEST PRESSURE SHALL BE ISOLATED FROM THE PIPING. IF A VALVE IS USED TO ISOLATE THE EQUIPMENT, ITS CLOSURE SHALL BE CAPABLE OF SEALING AGAINST THE TEST PRESSURE WITHOUT DAMAGE TO THE VALVE. FLANGED JOINTS AT WHICH BLINDS ARE INSERTED TO ISOLATE EQUIPMENT NEED NOT BE TESTED.

C. PIPE PRESSURE TEST REPORTS ARE REQUIRED AS PART OF THE PROJECT CLOSE OUT DOCUMENTS AND ARE TO INCLUDE WITNESS SIGNATURES. A WRITTEN FIELD PRESSURE TEST DECLARATION SHALL BE PREPARED DOCUMENTING THE FIELD TEST PROCEDURE AS REQUIRED BY APPLICABLE CODE AND PROVIDE TO NDBS AND THE BUILDING INSPECTOR PRIOR TO FINAL APPROVAL.

D. DURING PRESSURE TESTING, VERIFY THAT STRESS DUE TO PRESSURE AT BOTTOM OF VERTICAL RISERS DOES NOT EXCEED 90% OF SPECIFIED MINIMUM YIELD STRENGTH OR 1.7 TIMES "SE" VALUE AS LISTED IN ASME B31.9.

SECTION 3 – EQUIPMENT TESTING AND START-UP

3.0 GENERAL

A. PRIOR TO START-UP PROCEDURES, SUBMITTAL DOCUMENTATION SHALL BE VERIFIED FOR COMPLETENESS AND CORRECTNESS AS IT APPLIES TO ALL INSTALLED EQUIPMENT BASED ON THE CURRENT CONTRACT DOCUMENTS.

B. SUBMITTALS SHALL BE COMPARED TO ALL INSTALLED EQUIPMENT AND VERIFICATION MADE THAT EACH DOCUMENT MATCHES THE FINAL INSTALLATION. THE FOLLOWING ITEMS SHALL BE SPECIFICALLY VERIFIED:

1. TAGGING OF EQUIPMENT AND MODEL NUMBER IS CONSISTENT WITH DOCUMENTS, SUBMITTALS AND NAMEPLATE DATA.
2. PHYSICAL DIMENSIONS COINCIDE WITH INSTALLATION INCLUDING SERVICE CLEARANCES.
3. SHIPPED LOOSE ACCESSORIES ARE PROPERLY INSTALLED.

C. THIS CONTRACTOR SHALL FILL OUT ALL MANUFACTURER START-UP SHEETS AS A CLOSE OUT DOCUMENT

NOT FOR CONSTRUCTION

NATIONAL DESIGN / BUILD SERVICES
11840 Borman Dr.
St. Louis, MO
63146
P: 636.229.8400
F: 636.229.8416

DESIGNER / BUILDER
ARCO
DESIGN/BUILD INDUSTRIAL
44 SOUTH BROADWAY, SUITE 1003
WHITE PLAINS, NY 10601
P: 914.821.5535 F: 914.306.6010

ADBI | DESIGN SERVICES

PROJECT TITLE
LINCOLN EQUITIES - NY-312 - BLDG B
NY-312 & PUGSLEY RD, SOUTHEAST, NY 10509

ARCHITECT
ADBI / DESIGN SERVICES LLC
44 SOUTH BROADWAY, SUITE 1003
WHITE PLAINS, NY 10601

CIVIL ENGINEER
LANGAN ENGINEERING
300 KIMBALL DRIVE
PARSIPPANY, NJ 07054

STRUCTURAL ENGINEER
SMITH/ ROBERTS AND ASSOCIATES, INC.
6501 BLUFF RD.
INDIANAPOLIS, INDIANA 46217

MECHANICAL ENGINEER
NATIONAL DESIGN/ BUILD SERVICES
11840 BORMAN DRIVE
ST. LOUIS, MO 63146

ELECTRICAL ENGINEER
FBX ENGINEERING
5 CHRISTY DRIVE, SUITE 307
CHADDS FORD, PA 19317

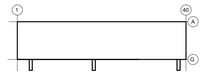
PLUMBING ENGINEER
MCCARTHY ENGINEERING ASSOCIATES, INC.
315 EAST SECOND STREET
BOYERTOWN, PA 19512

FIRE PROTECTION ENGINEER
S A COMUNALE CO. INC.
2900 NEWPARK DRIVE
BARBERTON, OH 44203

SEAL

THE PERSONAL SEAL AFFIXED TO THIS SHEET INDICATES THAT THE PROFESSIONAL ENGINEER WHOSE NAME APPEARS THEREON HAS PREPARED OR HAS DIRECTED THE PREPARATION OF THE MATERIAL ON THIS SHEET. THE PERSONAL SEAL DOES NOT APPEAR ON ANY DOCUMENTS OR INSTRUCTIONS, NOT EXHIBITING THIS SEAL, RELATING TO OR INTENDED TO BE USED FOR ANY PARTS OR PART OF THE PROJECT IN WHICH THIS SHEET REFERS, SHALL NOT BE CONSIDERED PREPARED BY OR THE RESPONSIBILITY OF THE UNDERSIGNED AND IS HEREBY DISCLAIMED IN ACCORDANCE WITH SECTION §7.411 2 R.S. MO.

KEY PLAN



N TRUE NORTH
N PROJECT NORTH

SUBMITTALS

NO.	DATE	DESCRIPTION
A	02/04/2022	QA/QC SET
B	03/29/2022	QA/QC SET
C	05/20/2022	QA/QC SET

PROJECT NO. JZ2006
DRAWN BY MT

SHEET TITLE
COVER SHEET

SHEET NO.
M000

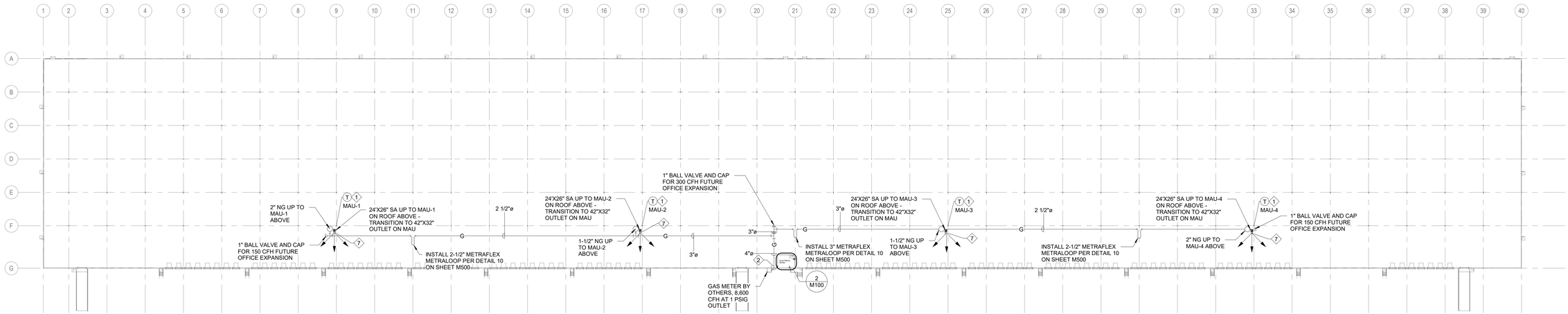
PRINTED ARCH E1 36" x 42" 3/10/2022 8:04:40 AM

GENERAL NOTES:

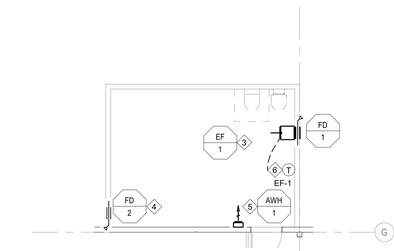
1. GAS PIPING TO BE HUNG FROM TOP CHORD OF BAR JOISTS. GAS PIPING SHALL BE INSTALLED ABOVE BOTTOM CHORD OF JOISTS, BETWEEN JOIST WEBBING, AND NOT WITHIN 1'-0" OF ANY SPRINKLER HEAD. GAS PIPING SHALL PENETRATE THE ROOF NEAR THE GAS CONNECTION AT EACH GAS-FIRED UNIT.

KEYED NOTES:

1. EC TO INSTALL MAU CONTROL PANEL 4'-0" AFF. ON COLUMN FACING DOCK WALL PER WIRING DIAGRAM DETAIL 7 ON SHEET M500 - EC TO PROVIDE CONTROL WIRING
2. MC TO INSTALL GAS PIPING DOWN WALL ON INSIDE OF BUILDING AND CONNECT TO METER PER DETAIL 5 ON SHEET M500
3. MC TO INSTALL INLINE FAN AND FIRE DAMPER PER DETAIL 8 ON SHEET M500 12'-0" AFF. TO BOTTOM OF FAN - DAMPER OPENING TO BE 14"X14"
4. MC TO INSTALL FIRE DAMPER PER DETAIL 9 ON SHEET M500 12'-0" AFF. TO BOTTOM OF 14"X14" OPENING
5. EC TO MOUNT AND WIRE AWH 2'-0" AFF TO BOTTOM OF HEATER
6. EC TO MOUNT COOLING ONLY THERMOSTAT 4'-0" AFF. AND WIRE TO EXHAUST FAN - MC TO PROVIDE THERMOSTAT - DAYTON 1UHH4
7. MC TO INSTALL 3-WAY DIFFUSER 35'-0" AFF TO BOTTOM OF DIFFUSER



1 OVERALL FLOOR PLAN
1" = 60'-0"



2 ENLARGED FLOOR PLAN - ELECTRICAL ROOM
1/8" = 1'-0"

NOT FOR CONSTRUCTION

DESIGNER / BUILDER
ARCO
DESIGN/BUILD INDUSTRIAL
44 SOUTH BROADWAY, SUITE 1003
WHITE PLAINS, NY 10601
P: 914.821.5535 F: 914.306.6010

ADBI | DESIGN SERVICES

PROJECT TITLE
LINCOLN EQUITIES - NY-312 - BLDG B
NY-312 & PUGSLEY RD, SOUTHEAST, NY 10509

ARCHITECT
ADBI / DESIGN SERVICES LLC
44 SOUTH BROADWAY, SUITE 1003
WHITE PLAINS, NY 10601

CIVIL ENGINEER
LANGAN ENGINEERING
300 KIMBALL DRIVE
PARSIPPANY, NJ 07054

STRUCTURAL ENGINEER
SMITH/ ROBERTS AND ASSOCIATES, INC.
6501 BLUFF RD.
INDIANAPOLIS, INDIANA 46217

MECHANICAL ENGINEER
NATIONAL DESIGN/ BUILD SERVICES
11840 BORMAN DRIVE
ST. LOUIS, MO 63146

ELECTRICAL ENGINEER
FBX ENGINEERING
5 CHRISTY DRIVE, SUITE 307
CHADDS FORD, PA 19317

PLUMBING ENGINEER
MCCARTHY ENGINEERING ASSOCIATES, INC.
315 EAST SECOND STREET
BOYERTOWN, PA 19512

FIRE PROTECTION ENGINEER
S A COMUNALE CO. INC.
2000 NEWPARK DRIVE
BARBERTON, OH 44203

SEAL

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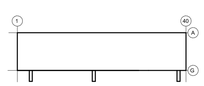
KEY PLAN



N TRUE NORTH
N PROJECT NORTH

SUBMITTALS

NO.	DATE	DESCRIPTION
A	02/04/2022	QA/QC SET
B	03/29/2022	QA/QC SET
C	05/20/2022	QA/QC SET

PROJECT NO. J22006
DRAWN BY MT

SHEET TITLE
OVERALL FLOOR PLAN

SHEET NO.
M100

NDBS NATIONAL DESIGN BUILD SERVICES
11840 Borman Dr.
St. Louis, MO
63146
P: 636.229.8400
F: 636.229.8416

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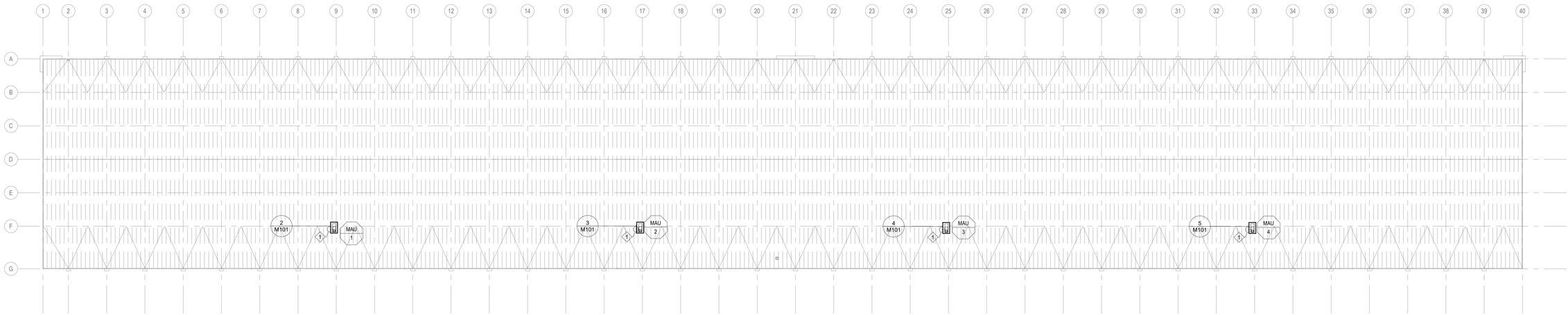
GENERAL NOTES:

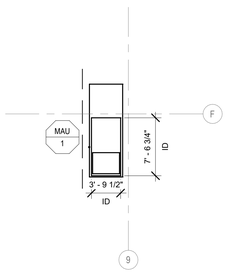
1. ALL SUPPLEMENTAL STEEL SUPPORTING MECHANICAL ROOF MOUNTED EQUIPMENT TO BE A MINIMUM OF 4" WIDE ANGLE.

KEYED NOTES:

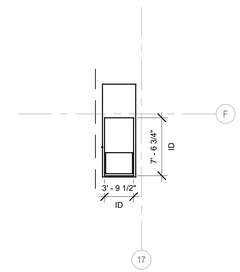
1. INSTALL GAS TRAIN TO MAU PER DETAIL 4 ON SHEET M500 - SIZE PER SHEET M100



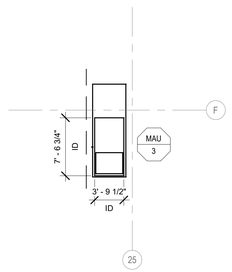
1 OVERALL ROOF PLAN
1" = 60'-0"



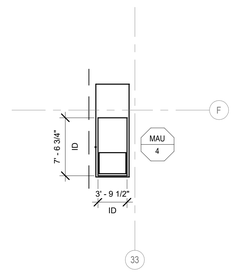
2 ENLARGED FRAMING PLAN - MAU-1
1/8" = 1'-0"



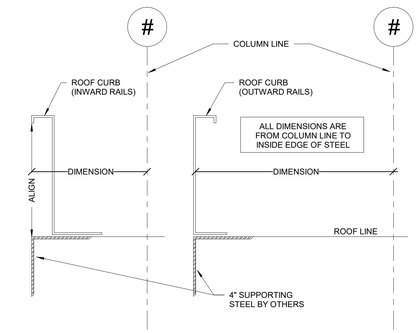
3 ENLARGED FRAMING PLAN - MAU-2
1/8" = 1'-0"



4 ENLARGED FRAMING PLAN - MAU-3
1/8" = 1'-0"



5 ENLARGED FRAMING PLAN - MAU-4
1/8" = 1'-0"



6 HVAC - ROOF CURB - DIMENSIONING DETAIL
NTS

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ADBI | DESIGN SERVICES

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KEY PLAN

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SUBMITTALS

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C	05/20/2022	QA/QC SET

PROJECT NO. J22006

DRAWN BY MT

SHEET TITLE

OVERALL ROOF PLAN

SHEET NO.

M101

NOT FOR CONSTRUCTION

NDBS NATIONAL DESIGN / BUILD SERVICES
11840 Borman Dr.
St. Louis, MO
63146
P: 636.229.8400
F: 636.229.8416

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GAS PIPING SPECIFICATION:

SECTION 1 - PIPING SYSTEMS

1.0 GENERAL

A. PROVIDE ISOLATION VALVES AT MAIN BRANCH CONNECTIONS, EQUIPMENT, AND AT BOTTOM OF RISERS WHERE THEY ORIGINATE FROM A CONTINUOUS MAIN AND RISE TO A FLOOR OR FLOORS ABOVE.

B. SIZE REDUCTIONS SHALL BE MADE BY ECCENTRIC REDUCERS WITH FLAT SIDE ON TOP WHERE SPECIFIED. NO BUSHINGS FOR PIPE REDUCTIONS PERMITTED.

C. PROVIDE DIELECTRIC UNION AT ALL CONNECTIONS OF DISSIMILAR METALS.

D. PROPERLY SEAL ALL PIPE PENETRATIONS THROUGH WALLS, ROOFS, FLOORS, OR CEILINGS.

E. ELBOWS ARE TO BE LONG RADIUS; FIELD FABRICATED FITTINGS ARE NOT ACCEPTABLE.

F. BRANCH CONNECTIONS TO MAIN MAY BE SADDLE-TYPE, FORGED STEEL WELDED FITTING.

G. ALL PIPING TAKE-OFFS FOR NATURAL GAS SHALL BE MADE FROM THE SIDE OR TOP OF PIPING. "BULLHEAD" TEE ARE PROHIBITED.

H. VISUALLY INSPECT ALL PIPING, VALVES AND JOINTS PRIOR TO INSULATING, ENCLOSING, BURYING, OR OTHERWISE CONCEALING.

1.1 PIPE HANGERS AND SUPPORTS

A. PIPE SHALL BE SUPPORTED BY SPLIT RING ADJUSTABLE TYPE, CLEVIS HANGER, TRAPEZE (MULTIPIPE RACK) OR OTHER APPROVED HANGERS, OR ROOF SUPPORTS.

B. BRACKETS OR CLAMPS MAY BE USED WHERE PIPE RUNS ALONG WALLS, COLUMNS OR CEILINGS, BUT MUST ALLOW FOR EXPANSION AND CONTRACTION.

C. RADIAL SUPPORTS SHALL BE RIGID TYPE. IF WALL BRACKETS OR LONGITUDINAL SUPPORTS ARE USED ON STRAIGHT LENGTHS OVER 20 FEET LONG, THEY SHALL BE OF THE FLEXIBLE TYPE TO PROVIDE FOR THERMAL EXPANSION AND CONTRACTION.

D. HANGERS AND SUPPORTS SHALL BE PLACED WITHIN 1 FOOT FROM EACH CHANGE IN DIRECTION AND WITHIN 3 FEET OF THE END OF EACH RUNOUT OR AS DEFINED BY PIPE STRESS ANALYSIS OR PIPE EXPANSION ANALYSIS AS PART OF A DELEGATED DESIGN.

E. PIPING AT ALL EQUIPMENT AND CONTROL VALVES SHALL BE SUPPORTED TO PREVENT STRAINS OR DISTORTIONS IN THE CONNECTED EQUIPMENT AND CONTROL VALVES.

F. MAXIMUM ALLOWABLE HANGER ROD LOADING AND SPACING FOR PIPING SYSTEMS ARE SHOWN BELOW. CHECK LOCAL CODES TO DETERMINE IF A DIFFERENT SPACING IS REQUIRED. CLOSER HANGER SPACING MAY BE REQUIRED DUE TO ADDITIONAL VALVES AND FITTINGS

1.2 NATURAL GAS SYSTEM

A. NATURAL GAS PIPING SHALL COMPLY WITH THE INTERNATIONAL FUEL GAS CODE AND NFPA-54 AND LOCAL CODE/AMENDMENTS.

B. VALVES, UNIONS AND CLOSE NIPPLES SHALL NOT BE INSTALLED IN ANY CONCEALED SPACE.

MAXIMUM ALLOWABLE HANGER ROD LOADING

ROD DIA. (IN)	3/8	1/2	5/8	3/4	7/8	1	1-1/8	1-1/4
MAX. LOAD	610	1130	1810	2710	3770	4960	6230	8000

MAXIMUM ALLOWABLE HANGER SPACING - NATURAL GAS PIPE

NOMINAL TUBING SIZE	ROD DIAMETER (IN)	MAXIMUM SPACING (FT)
1/2"	3/8"	6'-0"
3/4" - 1"	3/8"	8'-0"
1-1/4" - 2"	3/8"	10'-0"
2-1/2" - 3"	1/2"	10'-0"
4"	5/8"	10'-0"
6"	3/4"	10'-0"
8"-12"	7/8"	10'-0"

PIPE AND PIPE INSULATION SCHEDULE

SYSTEM ABBREV	SYSTEM	LOCATION	OPERATING TEMP [°F]	OPERATING PRESS. [PSIG]	PIPE				INSULATION			PRESSURE TEST PROCEDURE	NOTES
					SIZE	TYPE/SCHED	MATERIAL	JOINING METHOD	TYPE	JACKET	THICKNESS [IN]	TEST TYPE	
G	NATURAL GAS	ABOVE GRADE	50-70	1	1/2" THRU 2"	SCH. 40	CARBON STEEL	150# MALLEABLE IRON NPT	-	-	-	P.2	
		ABOVE GRADE	50-70	1	1/2" THRU 4"	SCH 10	CARBON STEEL	COLD PRESS MECHANICAL	-	-	-	P.2	1
		ABOVE GRADE	50-70	1	2-1/2" AND UP	SCH 40	CARBON STEEL	BUTT WELDED	-	-	-	P.2	

PIPE PRESSURE TEST:

P.1 HYDROSTATICALLY TEST PER ASME B31.1 & B31.3
P.2 PNEUMATICALLY TEST PER ASME B31.1 & B31.3. TEST PRESSURE TO BE 60 PSI MINIMUM
P.3 PNEUMATICALLY TEST WITH DRY NITROGEN PER ASME B31.5

NOTES:

1. FITTINGS EQUAL TO VIEGA MEGAPRESS/PROPRESS

GENERAL REMARKS APPLICABLE TO ALL PIPE SYSTEMS:

1. PROVIDE IDENTIFICATION LABELS ON ALL ABOVE FLOOR AND ABOVE GRADE PIPING.
2. WHERE REQUIRED, PAINTING OF PIPE SYSTEMS SHALL BE BY GC/OTHERS.
3. ALL PIPES, INSULATION, AND MATERIALS IN PLENUMS MUST MEET ASTM E84 FLAME/SMOKE RATING OF 25/50.

DUCTWORK AND DUCT INSULATION SCHEDULE

SYSTEM	DUCT						LINER		EXTERNAL DUCT INSULATION			NOTES
	FUNCTION	LOCATION	SHAPE	PRESS. CLASS [IN WG]	OPERATING PRESS. [IN WG]	MATERIAL	TYPE	R-VALUE	TYPE	FINISH	MINIMUM R-VALUE	
MAU-1,2,3,4	SA	WAREHOUSE	RECT	2"	1"	GALVANIZED G-90	-	-	-	-	-	

NOTES:

1. SNAP-LOCK WILL BE ALLOWED ON LOW PRESSURE DUCT LESS THAN 14"ø
2. DUCTWORK FLEXIBLE INSULATION JOINTS TO OVERLAP MINIMUM 2"
3. EXPOSED DUCTWORK TO BE GASKETED SPIRAL OR TDC, SUITABLE FOR PAINTING. PAINTING BY OTHERS
4. DUCTWORK AND EXHAUST SYSTEMS SERVING TYPE I OR TYPE II KITCHEN HOODS SHALL BE CONSTRUCTED PER NFPA REQUIREMENTS.

GENERAL REMARKS APPLICABLE TO ALL DUCT SYSTEMS:

1. ALL DUCTWORK SHALL BE HUNG WITH GALVANIZED STRAP, GRIPPLE OR TRAPEZED.
2. DUCT SIZES INDICATED ON DRAWINGS ARE SHEET METAL SIZE AND INCLUDE LINER SPECIFIED.
3. ALL DUCTWORK, INSULATION, AND MATERIALS IN PLENUMS MUST MEET ASTM E84 FLAME/SMOKE RATING OF 25/50.
4. ALL DUCTWORK SHALL BE SEALED TO CLASS A REQUIREMENTS.
5. DUCT GAUGE SHALL BE PER SMACNA STANDARD FOR PRESSURE CLASS INDICATED, UNLESS NOTED OTHERWISE, AND SHALL BE NO LESS THAN 26 GAUGE

EXHAUST FAN SCHEDULE

PLAN MARK	MANUFACTURER	MODEL	LOCATION	TYPE	OCCUPIED		UNOCCUPIED		ESP [IN WC]	TSP [IN WC]	HP	BHP	DRIVE TYPE	CONTROL / SWITCH BY	SONES	ELECTRICAL		WEIGHT [LBS]	NOTES
					AIRFLOW [CFM]	FAN RPM	AIRFLOW [CFM]	FAN RPM								VOLTS/PH	FLA		
EF-01			ELECTRICAL ROOM	INLINE	1,000	1255	-	-	0.1	0.1	1/4	0.09	DIRECT	T-STAT	7.6	115/1	5.8	100	1, 2, 3

GENERAL REMARKS
1. CURB LEVELING AND BLOCKING, BY GENERAL CONTRACTOR

NOTES:
1. FACTORY INSTALLED AND WIRED NON FUSED DISCONNECT
2. FIELD INSTALL FACTORY PROVIDED MOUNTING BRACKET WITH VIBRATION HANGERS
3. FURNISH WITH SPEED CONTROLLER. INSTALLED AND WIRED BY E.C.

DIRECT FIRED MAKE-UP AIR UNIT SCHEDULE

PLAN MARK	MANUFACTURER	MODEL	LOCATION	SUPPLY FAN					OUTDOOR AIRFLOW [CFM]	NATURAL GAS HEATING					ELECTRICAL			WEIGHT [LBS]	NOTES
				AIRFLOW [CFM]	ESP [IN WC]	HP	BHP	QTY		EDB [°F]	LDB [°F]	INPUT [MBH]	OUTPUT [MBH]	MIN PRESS. [IN WC]	VOLTS/PH	MCA	MOCP		
MAU-1			WAREHOUSE	13,575	0.05	7.5	7.1	1	13,575	0	125.5	2,000	1,840	14	460/3	14.6	25	1,600	1, 2, 3, 4, 5, 6, 7, 8
MAU-2			WAREHOUSE	13,575	0.05	7.5	7.1	1	13,575	0	125.5	2,000	1,840	14	460/3	14.6	25	1,600	1, 2, 3, 4, 5, 6, 7, 8
MAU-3			WAREHOUSE	13,575	0.05	7.5	7.1	1	13,575	0	125.5	2,000	1,840	14	460/3	14.6	25	1,600	1, 2, 3, 4, 5, 6, 7, 8
MAU-4			WAREHOUSE	13,575	0.05	7.5	7.1	1	13,575	0	125.5	2,000	1,840	14	460/3	14.6	25	1,600	1, 2, 3, 4, 5, 6, 7, 8

GENERAL REMARKS:
1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS AND DUCT MOUNTED COILS
2. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC
3. MAU SHALL NOT BE STARTED OR OPERATED WITHOUT THE REQUIRED FILTERS INSTALLED

NOTES:
1. FURNISHED WITH 24" TALL, FLAT, UNINSULATED ROOF CURB
2. FACTORY INSTALLED AND WIRED NON-FUSED DISCONNECT SWITCH
3. FACTORY INSTALLED AND WIRED GFCI SERVICE OUTLET
4. FURNISHED WITH MAU CONTROL PANEL - EC TO INSTALL AND WIRE
5. FURNISHED WITH 3-WAY DIFFUSER
6. VFD FACTORY MOUNTED AND WIRED
7. FACTORY INSTALLED INTAKE WEATHERHOOD WITH ALUMINUM MESH FILTERS
8. FREEZE PROTECTION

ARCHITECTURAL WALL HEATER SCHEDULE

PLAN MARK	MANUFACTURER	MODEL	LOCATION	FAN DATA		ELECTRIC HEAT COIL			ELECTRICAL		NOTES
				AIRFLOW [CFM]	POWER [W]	LAT [°F]	CAPACITY [MBH]	KW	VOLTS/PH	MCA	
AWH-01			ELECTRICAL ROOM	175	-	128.0	13.8	4	277/1	14.4	1,2

GENERAL REMARKS:
1. INLET TEMPERATURE = 55 °F, UNLESS NOTED
2. AWH MOUNTED, INSTALLED, AND WIRED BY EC

NOTES:
1. FACORY INSTALLED THERMOSTAT AND DISCONNECT
2. FURNISHED WITH SURFACE MOUNTING SLEEVE.

FIRE DAMPER SCHEDULE

PLAN MARK	MANUFACTURER	MODEL	LOCATION	SERVICE (SA/RA/EA)	APPLICATION (STATIC/DYNAMIC)	DAMPER SIZE			RATING [HRS]	STYLE	MOUNTING (HORIZ/VERT)	NOTES
						WIDTH [IN]	HEIGHT [IN]	OVERALL HEIGHT [IN]				
FD-01			ELECTRICAL ROOM	EA	DYNAMIC	14	14	14	1.5	A	VERT	1
FD-02			ELECTRICAL ROOM	EA	DYNAMIC	14	14	14	1.5	A	VERT	1

GENERAL REMARKS:
1. FUSIBLE LINK = 165°F
2. PROVIDE SLEEVE AND COORDINATE SIZE AND LENGTH WITH APPLICATION AND MOUNTING LOCATION
3. PROVIDE RETAINING CLIPS AND SEAL OPENING PER UL 555 AND LOCAL REQUIREMENTS
4. COORDINATE FINAL OPENING SIZE WHEN MULTIPLE DAMPERS ARE REQUIRED

STYLE:
A- BLADES IN AIRSTREAM
B- BLADES OUT OF AIRSTREAM
C- BLADES OUT OF AIRSTREAM
G- BLADES OUT OF WALL

NOTES:
1. FACTORY PROVIDED GRILL MOUNTING TABS

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DESIGNER / BUILDER

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ADBI | DESIGN SERVICES

PROJECT TITLE

LINCOLN EQUITIES - NY-312 - BLDG B

NY-312 & PUGSLEY RD, SOUTHEAST, NY 10509

ARCHITECT
ADBI / DESIGN SERVICES LLC
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KEY PLAN

N TRUE NORTH

N PROJECT NORTH

SUBMITTALS

NO.	DATE	DESCRIPTION
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B	03/29/2022	QA/QC SET
C	05/20/2022	QA/QC SET

PROJECT NO. J22006

DRAWN BY MT

SHEET TITLE

SCHEDULES

SHEET NO.

M400

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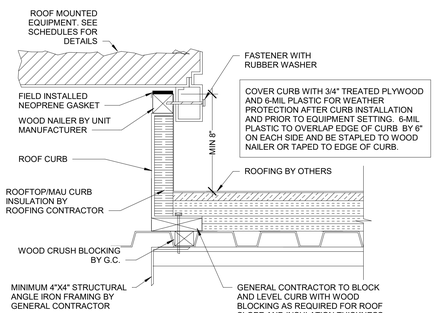
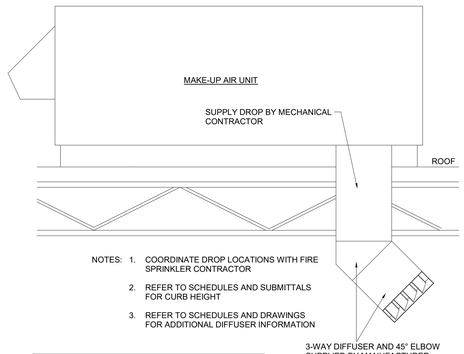


NOTE: 1. ROOF FLASHING AND COUNTERFLASHING NOT SHOWN FOR CLARITY AS THESE ELEMENTS WILL BE FURNISHED AND INSTALLED BY THE ROOFING CONTRACTOR

2. UNIT TO BE FASTENED TO ROOF CURB THROUGH BASE RAIL TO WOOD NAILER, MINIMUM QUANTITY (2) PER SIDE AT UNIT CORNERS, BY MECHANICAL CONTRACTOR

1 HVAC - EQUIPMENT - RTU / MAU CURB DETAIL
NTS



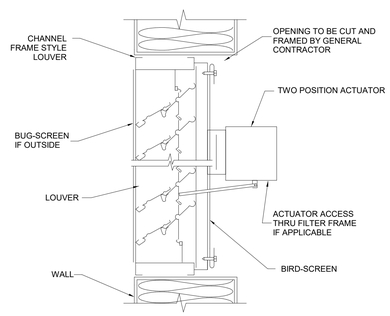
NOTES: 1. COORDINATE DROP LOCATIONS WITH FIRE SPRINKLER CONTRACTOR

2. REFER TO SCHEDULES AND SUBMITTALS FOR CURB HEIGHT

3. REFER TO SCHEDULES AND DRAWINGS FOR ADDITIONAL DIFFUSER INFORMATION

BOTTOM OF 3-WAY DIFFUSER HEIGHT PER AIRFLOW			
AIRFLOW (CFM)	MINIMUM	RECOMMENDED	MAXIMUM
4000	15'	20'	25'
6000	15'	20'	25'
8000	20'	20'-25'	30'
10000	20'	25'-30'	35'
13000 - 20000	25'	30'-35'	40'

2 HVAC - EQUIPMENT, MAKE-UP AIR UNIT, 100% OA
NTS

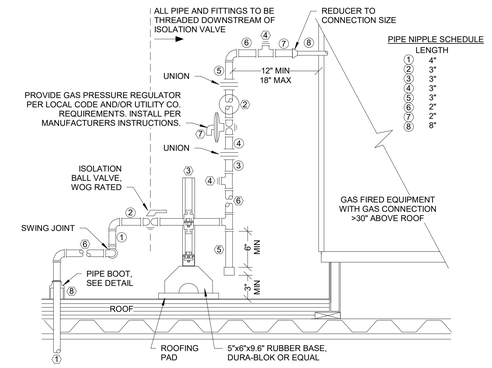


NOTES: 1. CAULK BETWEEN LOUVER AND WALL TO BE BY OTHERS

2. DAMPER TO FAIL CLOSED ON LOSS OF POWER

3. PROVIDE 2"X4" BOX TUBE MULLIONS IN BETWEEN LOUVERS FOR STRUCTURAL SUPPORT AS NECESSARY

3 HVAC - LOUVER DAMPER
NTS



NOTES: ① REFER TO DRAWINGS FOR GAS PIPE LINE SIZE

② MINIMUM 10x PIPE DIAMETERS LENGTH DOWNSTREAM OF REGULATOR

③ SINGLE CHANNEL BRACKET ON TOP OF ROOF BLOCK WITH STRUT PIPE CLAMP, B-LINE B-409-24 OR EQUAL

④ TEST TEE WITH REDUCER DOWN TO 1/4" FPT CONNECTION WITH CAP

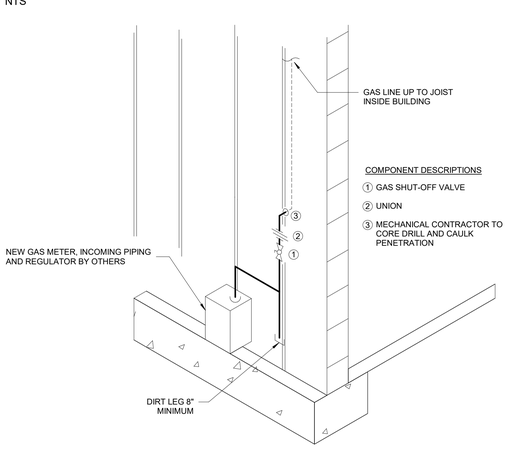
⑤ DIRT LEG WITH THREADED ENDCAP

⑥ ADJUST LENGTH AND PROVIDE ADDITIONAL ROOF SUPPORT AS NEEDED

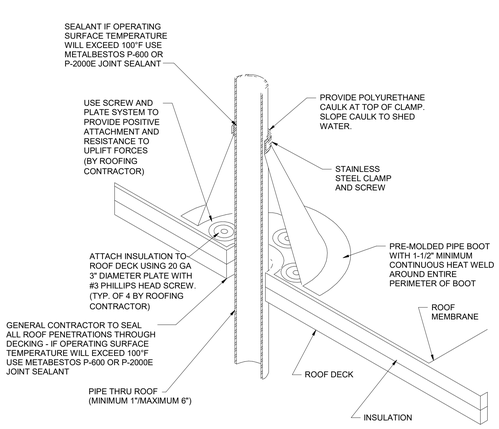
⑦ PROVIDE GAS RELIEF VENT WITH SCREEN, RICHARDS MFG GV-# OR EQUAL

⑧ ROOF PENETRATION TO BE LOCATED ON GAS CONNECTION SIDE OF THE UNIT, MAXIMUM DISTANCE OF 5' FROM ROOF PENETRATION TO GAS CONNECTION

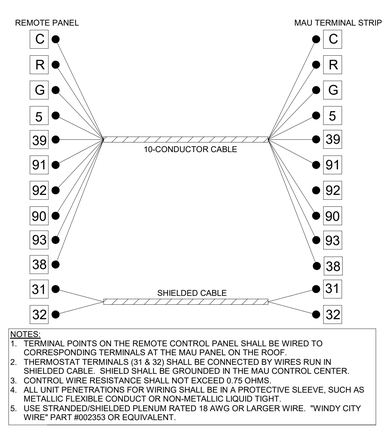
4 PIPING - GAS CONNECTION TO MAU, HIGH CONNECTION
NTS"



5 PIPING - GAS METER CONNECTION, ISO
NTS

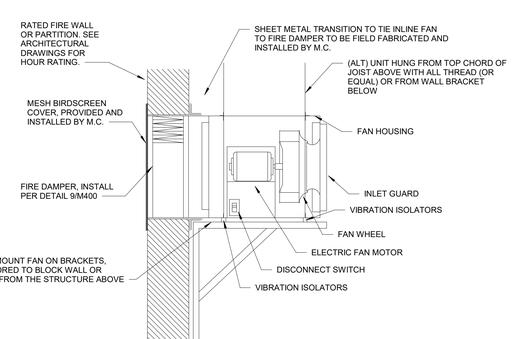


6 PIPING - PIPE THRU ROOF
NTS



NOTES:
1. TERMINAL POINTS ON THE REMOTE CONTROL PANEL SHALL BE WIRED TO CORRESPONDING TERMINALS AT THE MAU PANEL ON THE ROOF.
2. THERMOSTAT TERMINALS (31 & 32) SHALL BE CONNECTED BY WIRES RUN IN SHIELDED CABLE. SHIELD SHALL BE GROUNDED IN THE MAU CONTROL CENTER.
3. CONTROL WIRE RESISTANCE SHALL NOT EXCEED 0.75 OHMS.
4. ALL UNIT PENETRATIONS FOR WIRING SHALL BE IN A PROTECTIVE SLEEVE, SUCH AS METALLIC FLEXIBLE CONDUCT OR NON-METALLIC LIQUID TIGHT.
5. USE STRANDED/SHIELDED PLENUM RATED 18 AWG OR LARGER WIRE. "WINDY CITY WIRE" PART #002353 OR EQUIVALENT.

7 WIRING - GREENHECK REMOTE PANEL WIRING DIAGRAM - NDBS CONFIGURATION
NTS

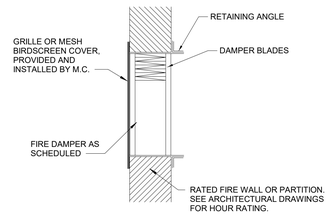


NOTE: 1. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ADDITIONAL REQUIREMENTS.

2. SEE ELECTRICAL DRAWINGS FOR POWER INTERFACE

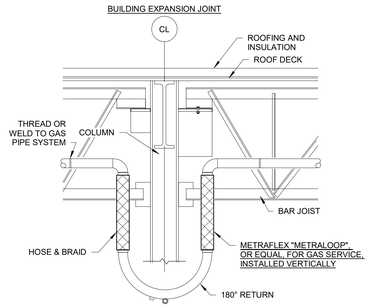
3. SEE WIRING DIAGRAM FOR THERMOSTAT INTERLOCK, BY E.C.

8 HVAC - EQUIPMENT, EXHAUST FAN, INLINE
NTS



NOTE: 1. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ADDITIONAL REQUIREMENTS. ALL SLEEVES AND ANGLES TO BE INSTALLED AS REQUIRED BY LOCAL CODES

9 HVAC - LIFE SAFETY, FIRE DAMPER, W/O DUCT CONNECTION
NTS



NOTES:

1. WHEN INSTALLED ACROSS A BUILDING EXPANSION JOINT, THE METRALOOP SHALL BE RATED FOR 4" MOVEMENT.

2. METRALOOP SHIPPING BAR MUST BE REMOVED AFTER INSTALLATION.

10 PIPING - GAS PIPING EXPANSION JOINT
NTS

NOT FOR CONSTRUCTION

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ARCO
DESIGN/BUILD INDUSTRIAL
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PLUMBING ENGINEER
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BOYERTOWN, PA 19512

FIRE PROTECTION ENGINEER
S A COMUNALE CO. INC.
2000 NEWPARK DRIVE
BARBERTON, OH 44203

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KEY PLAN

N TRUE NORTH

N PROJECT NORTH

SUBMITTALS

NO.	DATE	DESCRIPTION
A	02/04/2022	QA/QC SET
B	03/29/2022	QA/QC SET
C	05/20/2022	QA/QC SET

PROJECT NO. J22006

DRAWN BY MT

SHEET TITLE

DETAILS

SHEET NO.

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