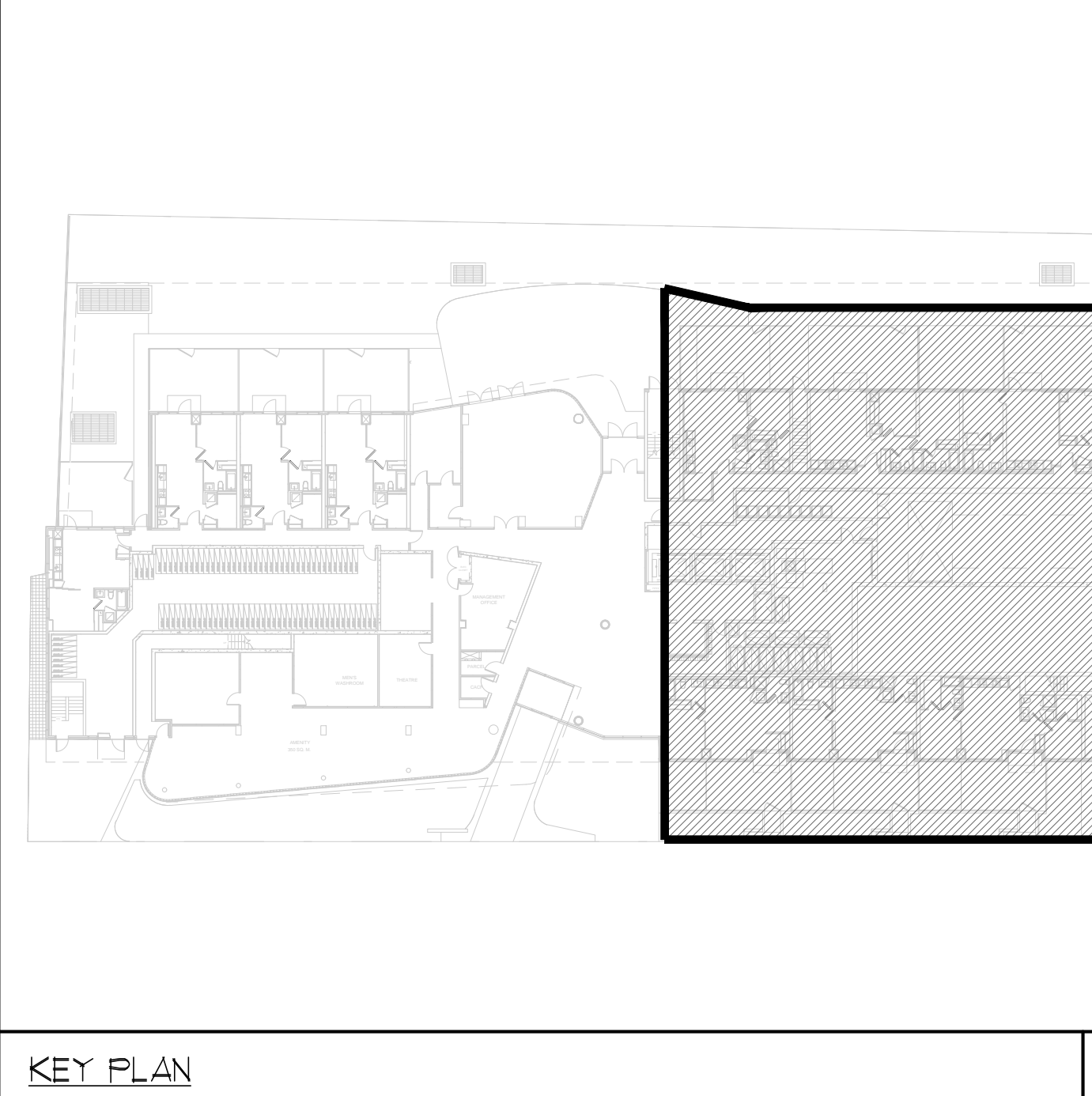
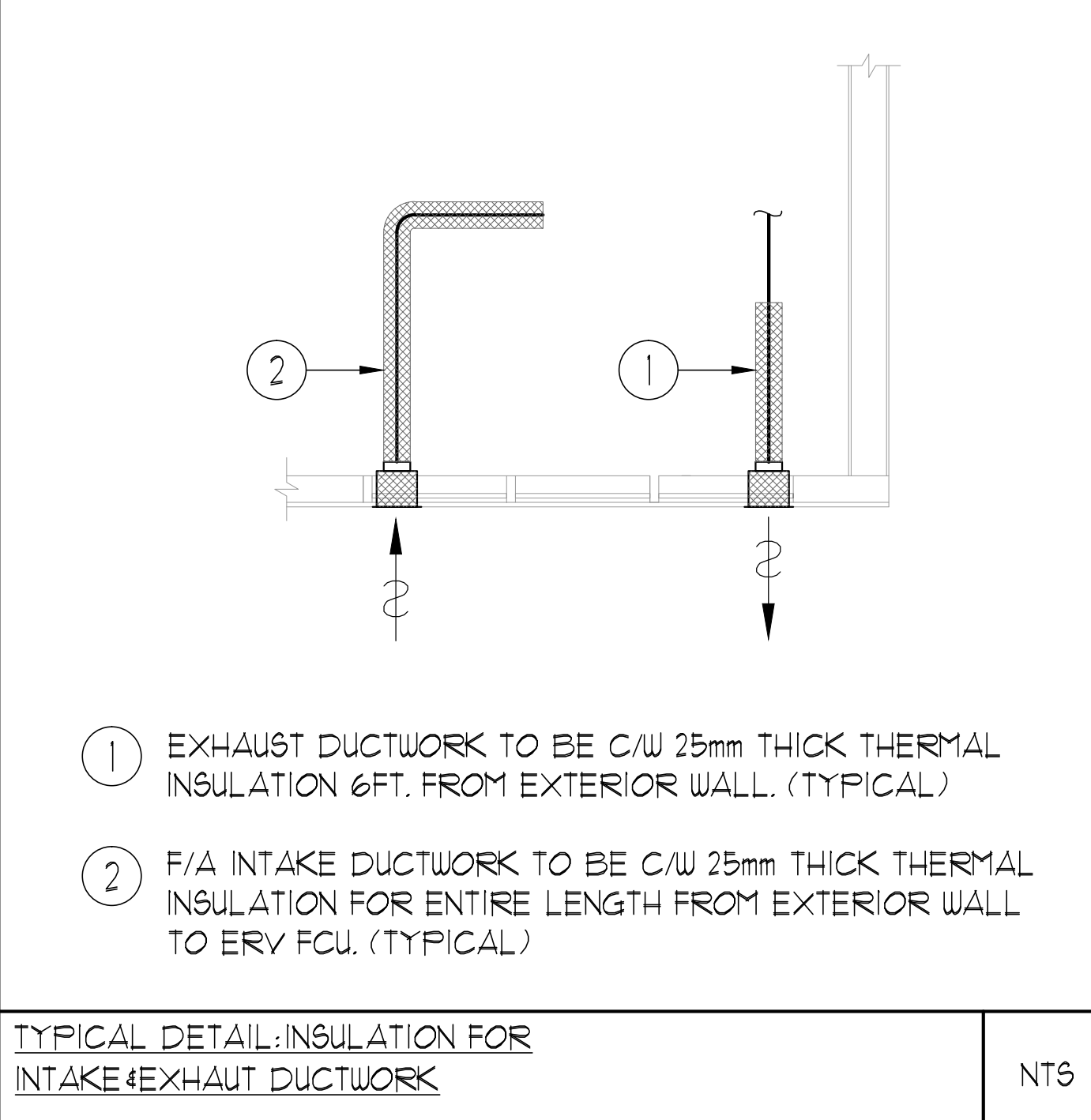
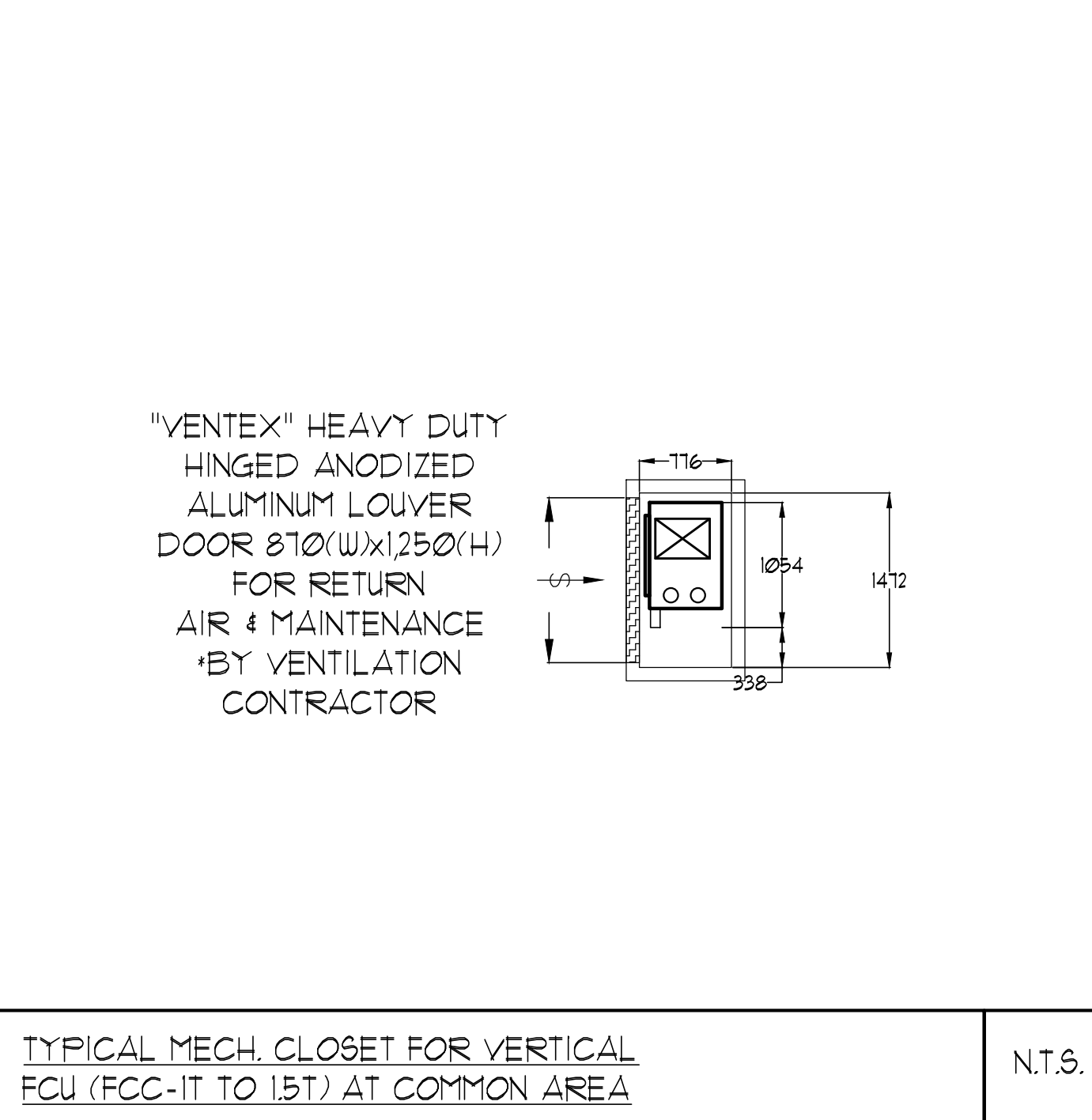
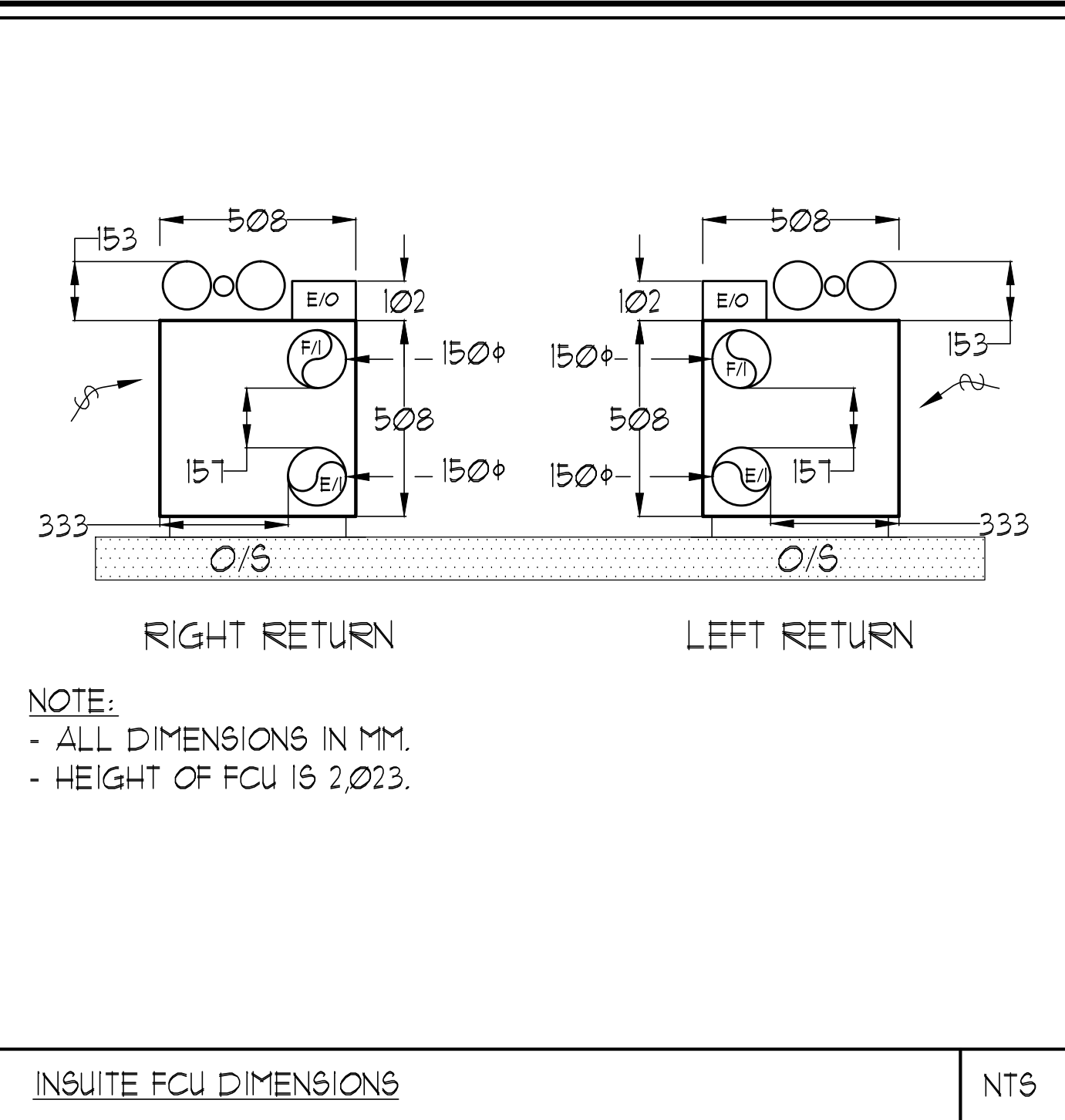
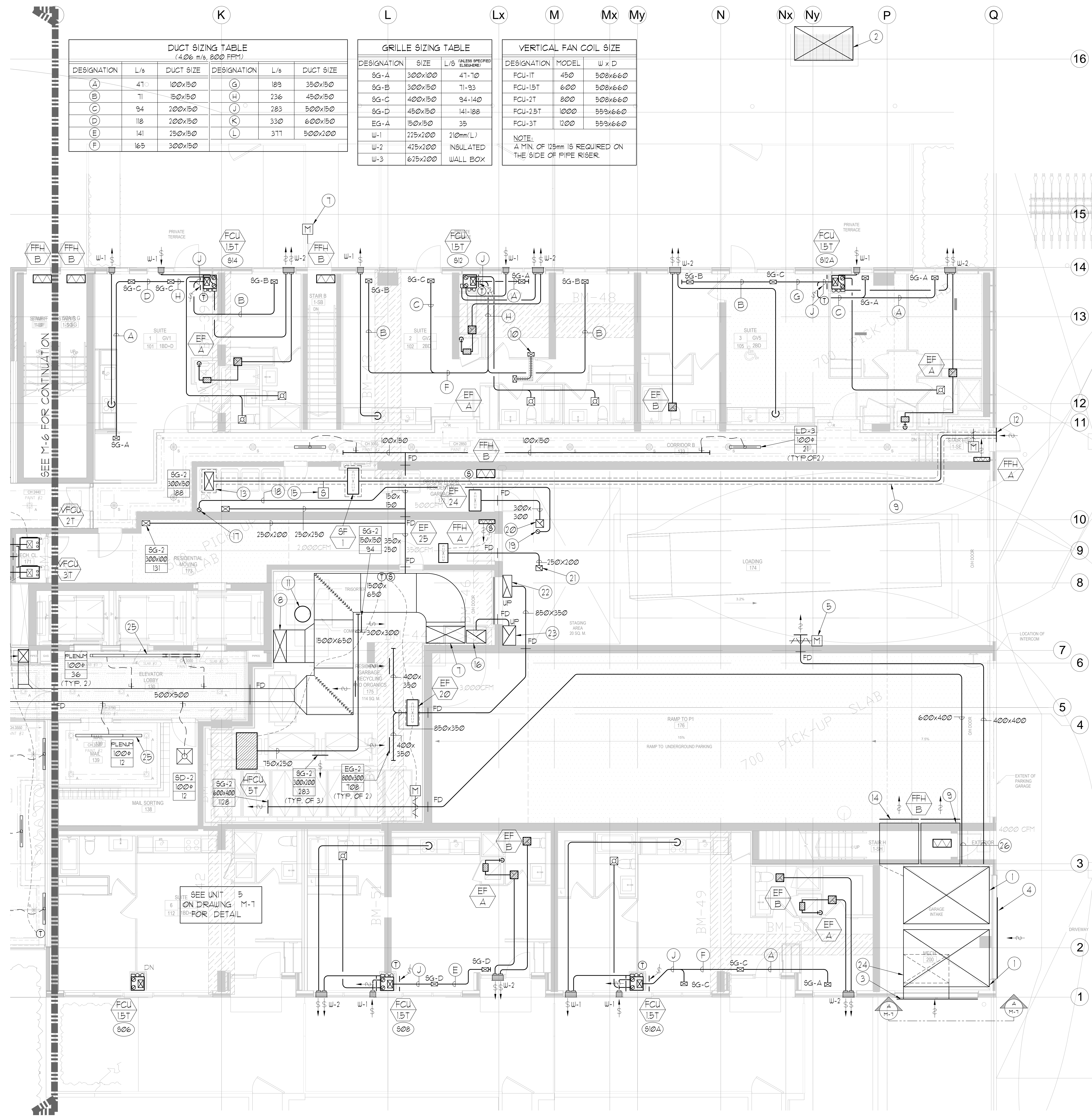


DUCT SIZING TABLE (4.06 m/s, 800 FPM)					
DESIGNATION	L/B	DUCT SIZE	DESIGNATION	L/B	DUCT SIZE
(A)	47	100x150	(G)	183	350x150
(B)	71	150x150	(H)	236	450x150
(C)	94	200x150	(J)	283	500x150
(D)	118	250x150	(K)	330	600x150
(E)	141	300x150	(L)	371	600x200
(F)	165	300x150			

GRILLE SIZING TABLE			
DESIGNATION	SIZE	L/B	UNLESS SPECIFIED ELSEWHERE
SG-A	300x100	47-10	
SG-B	300x150	71-93	
SG-C	400x150	94-140	
SG-D	450x150	141-188	
EG-A	150x150	35	
W-1	225x200	210mm(L)	
W-2	425x200	INSULATED	
W-3	625x200	WALL BOX	

VERTICAL FAN COIL SIZE		
DESIGNATION	MODEL	W x D
FCU-1T	450	500x660
FCU-1ST	600	500x660
FCU-2T	800	500x660
FCU-2ST	1000	550x660
FCU-3T	1200	550x660

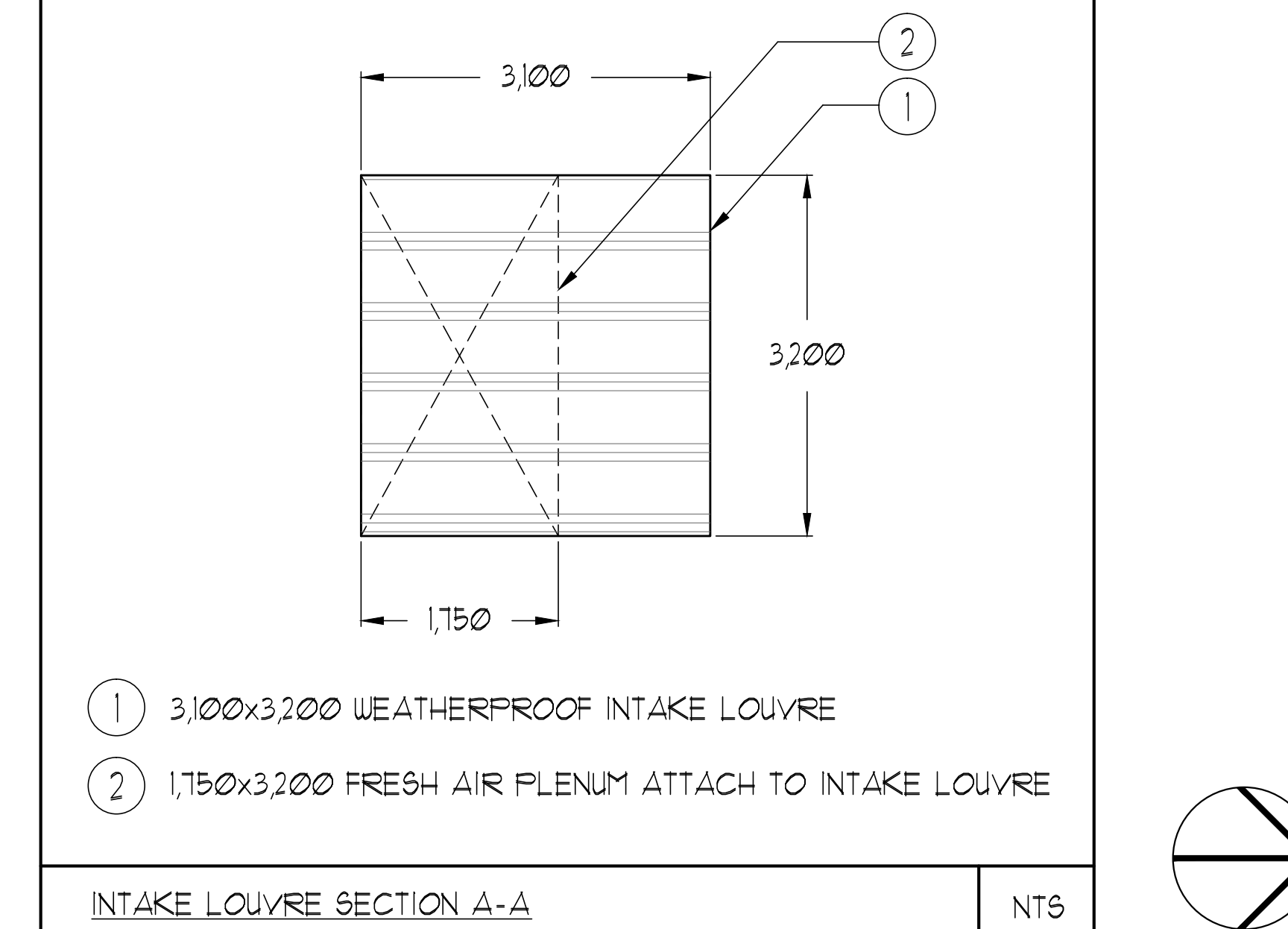
NOTE:  
A MIN. OF 125mm IS REQUIRED ON THE SIDE OF PIPE RISER.



- 23) 150x500 EXHAUST DUCT UP TO HIGH LEVEL.
- 24) 1,150x1,000x3,200(H) FRESH AIR PLENUM ATTACH TO THE INTAKE LOUVER AT G/F. WITH 1,150x1,000 FRESH AIR DUCT DOWN. FRESH AIR PLENUM AND AIR DUCT SHALL BE INSULATED WITH 25MM EXTERNAL INSULATION.
- 25) CONTINUOUS LINEAR SLOT DIFFUSER BY THIS CONTRACTOR
- 26) 600x400 FRESH AIR DUCT FOR GARBAGE ROOM INTAKE AND 400x400 FRESH AIR DUCT FOR LOADING AREA INTAKE. DUCTS WITHIN FIRE RATED SOFFIT, SOFFIT BY OTHERS.

- REFER TO DWG M-9 FOR ACOUSTIC NOTES
- GENERAL NOTES:
- CONTRACTOR SHALL CO-ORDINATE ARCHITECTURAL, STRUCTURAL, LIGHTING, HVAC, SPRINKLER DRAWINGS TO AVOID AREAS OF CONFLICT AND TO MAINTAIN CEILING HEIGHTS.
  - CONTRACTOR SHALL REPORT ALL DISCREPANCIES AND AREA OF CONFLICTS TO THE ENGINEER PRIOR TO WORK BEGINS.
  - PROVIDE EXPANSION CHAMBERS FOR ALL KITCHEN SINKS.
  - SEE INSTALLATION DETAILS DRAWING FOR WASHER DOM. H/C WATER SANITARY CONNECTION DETAILS.
  - SUPPLY AND INSTALL COMPLETE DOMESTIC HOT AND COLD WATER LINES, SANITARY AND VENT LINES TO EACH FIXTURE EQUIPMENT INCLUDING WATER CLOSETS, LAVATORIES, BATHS, SHOWERS, KITCHEN SINK, WASHING MACHINES, DISHWASHERS, AND FLOOR DRAINS. KITCHEN SINK, LAVATORIES, WATER CLOSETS AND WASHING MACHINE TO BE C/W LOCALIZED SHUT-OFF VALVES.
  - ALL VENT PIPE INSTALLATION TO COMPLY WITH PLUMBING CODES.
  - FOR D.H.C. W. RISER SIZES, REFER TO RISER DIAGRAM
  - FIRE DAMPERS ARE REQUIRED TO BE LISTED AND ARE TO HAVE FIRE PROTECTION RATING OF THE PENETRATED FIRE SEPARATION.
  - THE PIPING PENETRATING THE VARIOUS FIRE SEPARATION IS REQUIRED TO BE FIRESTOPPED WITH A LISTED FIRESTOPPING MATERIAL IN ACCORDANCE WITH OBC ARTICLE 3.1.9.1
  - THE FIRE HOSE CABINET THAT ARE RECESSED INTO THE EXIT STAIR SHAFTS ARE REQUIRED TO BE SEPARATED FROM THE EXIT STAIR BY A 2 HR FIRE SEPARATION.
  - NO FLEXIBLE DUCT SHALL BE USED FOR ANY IN-SUITE DUCTWORK.
  - PROVIDE 25MM EXTERNAL INSULATION TO ENTIRE FRESH AIR DUCT FROM EXTERIOR WALL TO ERV FAN COIL UNIT.
  - DRYER EXHAUST DUCT SHALL BE SMOOTH AND CORROSION-RESISTANT MATERIAL (FLEXIBLE CONNECTION IS NOT ACCEPTABLE).
- NOTES:
- CLEAR FLOOR TO UNDERSLAB = 4050mm  
 CLEAR PRODUCT = 3000mm  
 COMPLETE DROP CEILING +1000mm FOR DUCT/PIPES  
 ROOF DRAINS + TERRACE DRAINS FROM 2/F

- 3300x2250 (113 M<sup>2</sup>, 182 FT<sup>2</sup>) FRESH AIR INTAKE SHAFT FOR PARKING GARAGE AND 3300x2300 (116 M<sup>2</sup>, 811 FT<sup>2</sup>) INTAKE SHAFT FOR AHU-1.
- 2250x1300 (293 M<sup>2</sup>, 315 FT<sup>2</sup>) FRESH AIR INTAKE SHAFT FOR P-1 LEVEL C/W GRATE BY OTHERS.
- 3100x3200 WEATHERPROOF INTAKE LOUVER C/W BIRDSCREEN. (26,500 CFM)
- 3100x3200 WEATHERPROOF INTAKE LOUVER C/W BIRDSCREEN. (26,500 CFM)
- INTERLOCK W / EF-21.
- SMOKE DETECTOR BY DIV.16.
- 1500x650 F/A DUCT FROM BELOW C/W FIRE DAMPER AT SLAB.
- 1250x500 F/A DUCT UP TO NORTH SHAFT C/W FIRE DAMPER AT SLAB.
- 24" FIRE RATED ENCLOSURE. FIRE RATED ENCLOSURE BY OTHERS.
- 300x250 TRANSFER AIR DUCT C/W INTERNAL ACOUSTIC LINING AND TWO 300x250 TRANSFER AIR GRILLES.
- 600+ GARBAGE CHUTE UP.
- 1200x600 WEATHERPROOF INTAKE LOUVER C/W BIRDSCREEN. (10,000 CFM)
- 100x350 STAIR PRESSURIZATION DUCT DOWN C/W FIRE RATED ENCLOSURE. FIRE RATED ENCLOSURE BY OTHERS.
- (2) 150x500 FRESH AIR DUCT FOR PARKING P-1 INTAKE C/W WIRE MESH GRILLE. DUCTS WITHIN FIRE RATED SOFFIT, SOFFIT BY OTHERS.
- EACH PRESSURIZATION SUPPLY FAN TO BE C/W INDIVIDUAL SMOKE DETECTOR AND FIRE RATED ENCLOSURE. SMOKE DETECTOR TO BE INSTALLED AT DOWNSTREAM OF SUPPLY FAN. SMOKE DETECTOR BY DIV.16 AND FIRE RATED ENCLOSURE BY OTHERS.
- 150x500 EXHAUST DUCT FROM BELOW C/W FIRE DAMPER AT SLAB.
- 150+ EXHAUST DUCT FROM BELOW.
- 150+ DUCT.
- 150+ EXHAUST DUCT UP TO HIGH LEVEL.
- 300x300 EXHAUST DUCT UP TO HIGH LEVEL.
- 250x200 EXHAUST DUCT UP TO HIGH LEVEL.
- 850x350 EXHAUST DUCT UP TO HIGH LEVEL.



LEGEND MECHANICAL

SYMBOL	DESCRIPTION
[Symbol]	SUPPLY AIR DIFFUSER
[Symbol]	SUPPLY AIR TRIPPER
[Symbol]	LINEAR SUPPLY DIFFUSER
[Symbol]	FAN MOTOR
[Symbol]	RETURN AIR GRILLE
[Symbol]	EXHAUST AIR GRILLE
[Symbol]	SUPPLY DUCT UP
[Symbol]	SUPPLY DUCT DOWN
[Symbol]	RETURN DUCT UP
[Symbol]	RETURN DUCT DOWN
[Symbol]	EXHAUST DUCT UP
[Symbol]	EXHAUST DUCT DOWN
[Symbol]	FIRE DAMPER
[Symbol]	BALANCING DAMPER
[Symbol]	MOTORIZED DAMPER
[Symbol]	MOTORIZED FIRE DAMPER
[Symbol]	BACKDRIFT DAMPER
[Symbol]	OPPOSITE BLADE VOLUME CONTROL DAMPER
[Symbol]	COUPLING ADJUSTMENT
[Symbol]	TUNING VANES
[Symbol]	FLEXIBLE CONNECTION
[Symbol]	ACOUSTIC INSULATION
[Symbol]	TYPE OF EQUIPMENT
[Symbol]	EQUIPMENT IDENTIFICATION
[Symbol]	TYPE OF DAMPER OR GRILLE
[Symbol]	SIZE OR OFFERED RISE SIZE
[Symbol]	ANGLE (O/C OR L/S)
[Symbol]	SECTORS (3 PHASE / PHASE)
[Symbol]	PRIVATE EXTERIOR RATED
[Symbol]	FAN MOTOR / IN-SUITE ERV OVERRIDE BUTTON
[Symbol]	ED SENSOR
[Symbol]	GAS LINE
[Symbol]	GAS PETER
[Symbol]	GAS SOCK
[Symbol]	PRESSURE REDUCING VALVE
[Symbol]	BANITARY ABOVE GRADE
[Symbol]	BANITARY BELOW GRADE
[Symbol]	ATMOSPHERIC ABOVE GRADE
[Symbol]	ATMOSPHERIC BELOW GRADE
[Symbol]	DOPPELSTIC COLD WATER
[Symbol]	DOPPELSTIC HOT WATER
[Symbol]	BANITARY VENT
[Symbol]	WATER PETER
[Symbol]	FLOOR DRAIN
[Symbol]	FLOOR DRAIN
[Symbol]	ROOF DRAIN
[Symbol]	SLAB DRAIN
[Symbol]	AREA DRAIN
[Symbol]	BLAD B1-LEVEL AREA DRAIN
[Symbol]	BLAD B2-LEVEL AREA DRAIN
[Symbol]	BLAD B3-LEVEL AREA DRAIN
[Symbol]	BANITARY TRAMP
[Symbol]	ELBOW UP
[Symbol]	ELBOW DOWN
[Symbol]	WALL CLEANOUT
[Symbol]	FLOOR CLEANOUT
[Symbol]	HOSE BIB
[Symbol]	NON-FREEZE HOSE BIB
[Symbol]	SHOWER VALVE
[Symbol]	GATE VALVE
[Symbol]	BALL VALVE
[Symbol]	BUTTERFLY VALVE
[Symbol]	PRESSURE REDUCING VALVE
[Symbol]	GRATE VALVE
[Symbol]	CAP
[Symbol]	COMPRESSED AIR OUTLET
[Symbol]	BACK-UP PREVENTER
[Symbol]	CIRCUIT BALANCING VALVE
[Symbol]	FULL-TIME PIPES
[Symbol]	DENOTES NO. OF PIPES
[Symbol]	TEMPERATURE SENSOR
[Symbol]	THERMOPHORE
[Symbol]	1-WAY MODULATING VALVE
[Symbol]	3-WAY MODULATING VALVE
[Symbol]	17-1410T THERMOWELL
[Symbol]	C/W 1" BUSHING 4 1/2" PLUGS
[Symbol]	FLOOR ELEVATION ABOVE LEVEL
[Symbol]	FLOOR ELEVATION BELOW LEVEL
[Symbol]	HEADROOM FLOOR TO CEILING

REVISIONS

NO.	DATE	DESCRIPTION
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NOVA ENGINEERING

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DRAWN BY: G.S.  
 G.F. NORTH  
 HVAC DUCTWORK LAYOUT

PROJECT TITLE: SG ALEXANDRA PARK BLOCK II  
 38 CAMERON STREET TORONTO ONTARIO

DATE: FEB 13 2013  
 DESIGNED BY: G.S.  
 CHECKED BY: E.P.  
 SCALE: 1:50  
 DRAWING NUMBER: M-1 OF 43