

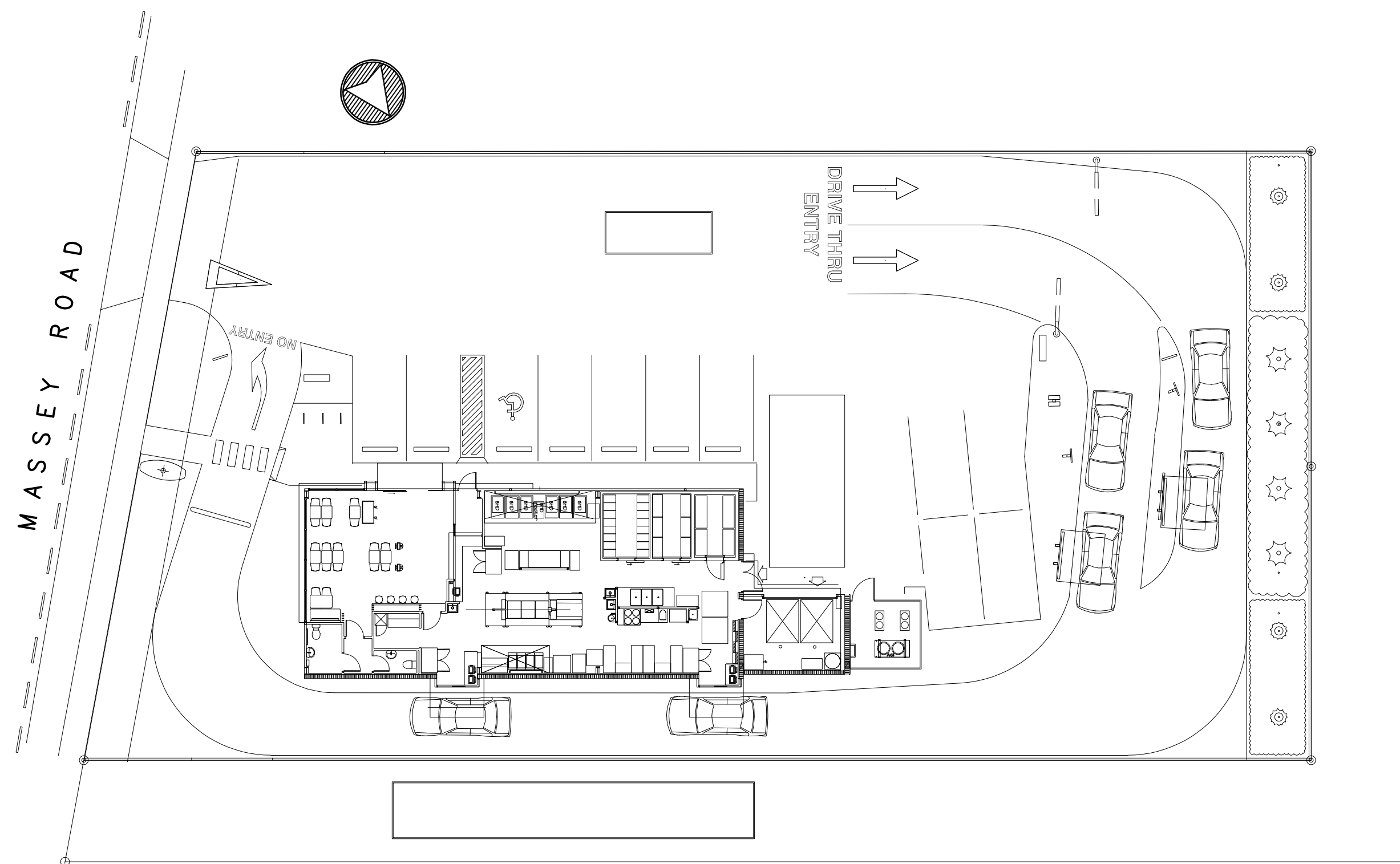
RESTAURANT BRANDS LTD

KFC METRO INFILL STORE

389 MASSEY RD, MANGERE EAST

MECHANICAL SERVICES

PROJECT No. 3712M
ISSUE - BUILDING CONSENT
AND TENDER
09 NOV 2023



Lawrence Jones
Partners SINCE 1960

CONSULTING ENGINEERS
AUCKLAND, NEW ZEALAND

DRAWING No: 3712M00A

NOTE:

ALL MECHANICAL EQUIPMENT SELECTIONS, CONTROLLERS, AND OPERATION HAVE BEEN SELECTED FOR ENERGY EFFICIENCY IN ACCORDANCE WITH NZBC H1/VM1 ENERGY EFFICIENCY. AND MEPS STANDARDS REQUIREMENTS AND SHALL BE INSTALLED AND OPERATE IN ACCORDANCE WITH NZBC H1/VM1 ENERGY EFFICIENCY.

AIR CONDITIONING UNIT/AIR HANDLING UNIT SCHEDULE

REF.	MAKE	MODEL	LOCATION	DUTY/SIZE kW/kWs	NOMINAL kWh	AIR FLOW L/s	OUTDOOR AIR L/s	SUMMER EAT	OAT	WINTER EAT	OAT	WIRING V/Ph	Amps	COMMENTS
AC1	TEMPERZONE	ISD251LYX OSA251RLTFV	KITCHEN	23.3 / 19.5	25.0	1500	450	24.8/20.3	27/22	13/11	4/2	400/3	39/24/24	c/w EU4 WASHABLE FILTERS. INTERGRAL CONTROLLER
AC2	TEMPERZONE	ISD171LYX OSA1711RLTFH	RESTAURANT	14.8 / 11.8	14.9	700	250	24.8/20.3	27/22	13/11	4/2	230/1	15/11/11	c/w EU4 WASHABLE FILTERS. INTERGRAL CONTROLLER

CONTRACTOR TO CONFIRM WITH THE ELECTRICAL CONTRACTOR THE VENTILATION AND AIR-CONDITIONING EQUIPMENT WIRING DETAILS, NUMBER OF PHASES AND TERMINATION LOCATIONS ETC. AIR-CONDITIONING UNIT DRAINS TO TERMINATE AT TUNDISHES PROVIDED BY THE DRAINAGE CONTRACTOR. CO-ORDINATE FINAL LOCATIONS. MINIMUM FALL 1:200 MINIMUM DIA 25 mm PROVIDE INTEGRAL CONDENSATE PUMPS SHOULD GRAVITY DRAINS ARE UNABLE TO BE ACCOMMODATED.

FAN SCHEDULE

REF.	MAKE	MODEL	DUTY/SIZE	LOCATION/SERVICE	WEIGHT(Kg)	MOTOR POWER	ELECTRICAL SUPPLY	COMMENTS
SF1	FANTECH	AP0564LP12/32	2800 L/s AT 220 Pa	CEILING SPACE	51.1	1.65 kW	415V 3PH 50Hz	
EF1	FANTECH	CDEC63V	2060 L/s AT 300 Pa	ROOF/MAIN HOOD	46	2.8 kW	415V 3PH 50Hz	
EF2	FANTECH	HUD506	900 L/s AT 200 Pa	ROOF/CHIP HOOD	51	0.55 kW	415V 3PH 50Hz	
EF3	FANTECH	CE284D	200 L/s AT 120 Pa	ROOF/UTILITY RM	8.7	0.10 kW	240V 1PH 50Hz	
TEF1	FANTECH	MV304E	100 L/s AT 100 Pa	ROOF/AMENITIES	6.5	0.12 kW	240V 1PH 50Hz	

ALL FANS TO BE PROVIDED WITH SPEED CONTROLLERS FOR COMMISSIONING PURPOSES, UNLESS OTHERWISE SPECIFIED.
ALL FANS TO BE INSTALLED WITH FLEXIBLE CONNECTIONS, ANTI-VIBRATION MOUNTS, SEISMIC RESTRAINTS, ETC.

DIFFUSER AND GRILLE SCHEDULE

REF.	MAKE	TYPE	MODEL	SIZE (mm)	COMMENTS
S1	HOLYOAKE	DOUBLE DEFLECTION	DDL-32/OBD	600 x 300	SET BLADES FOR 45 DEG DEFLECTION
S2	HOLYOAKE	4 WAY BLOW	CMP-41	300 x 300	c/w 600x600 LAY IN PLAQUE
S3	HOLYOAKE	3 WAY BLOW	CMP-34	450 x 450	
S4	HOLYOAKE	4 WAY BLOW	CMP-41	450 x 450	
S5	HOLYOAKE	2 WAY BLOW	CMP-21	300 x 300	OPPOSITE
S6	HOLYOAKE	2 WAY BLOW	CMP-51	300 x 300	CORNER
S7	HOLYOAKE	PERF PLATE	RLP-OBD	600 x 600	REMOVABLE CORE
E1	HOLYOAKE	EGG CRATE	EC-125-RC	200 x 200	
E2	HOLYOAKE	EGG CRATE	EC-125	350 x 300	
E3	HOLYOAKE	EGG CRATE	EC-125	300 x 300	
R1	HOLYOAKE	EGG CRATE	RLHL-FR	600 x 600	c/w EU4 MEDIA. PROVIDE SPARE SET OF FILTERS

ALL GRILLES AND DIFFUSERS SHALL BE FITTED WITH SIDE ENTRY BOOTS. SUPPLY DIFFUSERS SHALL BE PROVIDED WITH ACOUSTIC LINED BOXES.
ALL GRILLES AND DIFFUSER BOXES TO BE PAINTED BLACK WHERE NOT COVERED BY BLACK LININGS.
GRILLES FITTED INTO CEILING TILES SHALL HAVE THE BOOTS SEPARATELY SUPPORTED FROM THE ROOF.
NO DIRECT FIXINGS TO THE FLANGE OF PURLINS.
CONFIRM GRILLE AND DIFFUSER COLOURS WITH THE ARCHITECT.

LOUVRES

REF.	MAKE	TYPE	MODEL	SIZE (mm)	COMMENTS
L1	HOLYOAKE	DRAINABLE	OHL-F-D	1800 x 1000	c/w VERMIN NESH

FILTERS

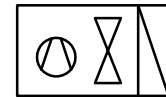
REF.	MAKE	TYPE	MODEL	SIZE (mm)	No. & DETAILS	COMMENTS
F1	FILTERS DIRECT	V-PLEAT	VPL 24x20x2	592 x 490	6 OFF IN 2 HIGH, SIDE WITHDRAWAL FRAME. EU4 MEDIA, WASHABLE.	c/w 6 SPARE PANELS.
F2	TEMPERZONE	EU4 MEDIA			SUPPLIED BY AIR-CONDITIONING UNIT SUPPLIER	WASHABLE
F3	HOLYOAKE	EU4 MEDIA		600 x 600	SUPPLIED BY GRILLE MANUFACTURER	c/w 4 SPARE PANELS.
F4	HOODMASTER	SLAT		VARIOUS	SUPPLIED BY HOOD MANUFACTURER	c/w SIDE DAMPER FOR BALANCING
F5	TEMPERZONE	EU4 MEDIA			SUPPLIED BY AIR-CONDITIONING UNIT SUPPLIER	WASHABLE

EXHAUST HOODS

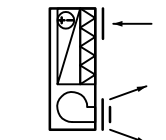
REF.	MAKE	TYPE	SERVING	SIZE (mm)	EXHAUST AIR L/s Pa	SUPPLY AIR L/s Pa	WEIGHT kg	COMMENTS
H1	HOODMASTER	CANOPY	PRESSURE FRYER	5150 x 1500 x 500	2055 130	1000 65	315	SLAT TYPE GREASE FITTERS + SLIDE DAMPERS ON EXHAUST
H2	HOODMASTER	CANOPY	DEEP FAT FRYER CHIP SCUTTLE	3150 x 1300 x 500	900 130	765 65	175	SLAT TYPE GREASE FITTERS + SLIDE DAMPERS ON EXHAUST

HOODS SHOWN AND DETAILED. PROVIDED BY MANUFACTURER FOR INSTALLATION BY THE MECHANICAL CONTRACTOR.

LEGEND



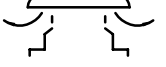
AIR-CONDITIONING
OUTDOOR UNIT



AIR-CONDITIONING
INDOOR UNIT



ATTENUATOR



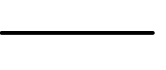
ROOF COWL



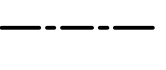
ROOF FAN



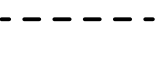
FAN



DUCTING



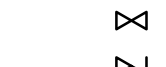
REFRIGERATION PIPEWORK



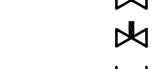
CONDENSATE PIPEWORK



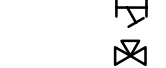
ANTI VACUUM VALVE



NORMALLY OPENED ISOLATING VALVE



CHECK VALVE / NON RETURN VALVE



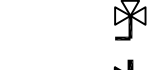
REGULATING VALVE



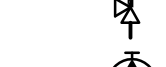
STRAINER / FILTER



MIXING VALVE



3 WAY CONTROL VALVE



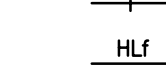
2 WAY CONTROL VALVE



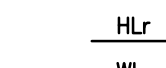
AUTO GAS CHANGE OVER VALVE



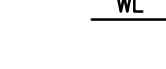
SAFETY VALVE



WATER PUMP



UNION CONNECTOR



CHANGE IN PIPE SIZE



HEATING LOW TEMPERATURE FLOW



HEATING LOW TEMPERATURE RETURN



COLD WATER

(30)

AIRFLOW RATE

(E1
40)

RETURN/EXHAUST GRILLE REFERENCE
AIR FLOW L/s

(S1
40)

SUPPLY DIFFUSER
AIR FLOW + PATTERN

DTLL
FA, TA
FB, TB

DOWN TO LOWER LEVEL
FROM ABOVE / TO ABOVE
FROM BELOW / TO BELOW

UC20

SPIGOT CONNECTION WITH BALANCING DAMPER

DOOR UNDERCUT-20mm
BY BUILDER-CONTRACTOR TO CO-ORDINATE.
DOOR GRILLE

DOOR GRILLE

PLAIN DUCTING

INTERNAL INSULATION DUCTING

EXTERNAL INSULATION DUCTING

EXTERNAL INSULATION DUCTING

FLEXIBLE DUCTING

DUCTING TO ABOVE

DUCTING TO BELOW

DUCTING TO BELOW

VANED BEND IN DUCT

VANED BEND IN DUCT

SPLITTER DAMPER

SPLITTER DAMPER

VANED BEND IN DUCT

VANED BEND IN DUCT

OPPOSED BLADE DAMPER

OPPOSED BLADE DAMPER

MOTORIZED BALANCING DAMPER

MOTORIZED BALANCING DAMPER

FIRE DAMPER WITH FRANGIBLE JOINTS
c/w ACCESS PANEL AND TEST LEVER

FIRE DAMPER WITH FRANGIBLE JOINTS
c/w ACCESS PANEL AND TEST LEVER

DIFFERENTIAL PRESSURE SENSOR/SWITCH

DIFFERENTIAL PRESSURE SENSOR/SWITCH

THERMOSTAT/CONTROLLER

THERMOSTAT/CONTROLLER

HUMIDITY SENSOR

HUMIDITY SENSOR

CO2 SENSOR

CO2 SENSOR

CO SENSOR

CO SENSOR

GRILLE

GRILLE

DIFFUSER

DIFFUSER

ELECTRICAL HEATER

ELECTRICAL HEATER

SECTION LABEL

SECTION LABEL

FOUND ON DRAWING

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- MECHANICAL VENTILATION DESIGNED TO COMPLY WITH NZBC G4/AS1.
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- AMENITIES EXHAUST VENTILATION TO NZBC G4/AS1 TABLE B SANITARY COMPARTMENT, MAXIMUM OF 10 L/s/m² OR 25 L/s PER SANITARY APPLIANCE.
- MECHANICAL VENTILATION SYSTEMS TO BE INSTALLED IN ACCORDANCE WITH AS/NZS 1668.1 AND SHALL GENERALLY SHUT DOWN UNDER FIRE ALARM MODE. CO-ORDINATE WITH FIRE ALARM CONTRACTOR FOR LOCATION OF VOLTAGE FREE CONTACTS. ALLOW TO TEST AND PROVE INTERFACE. CONTRACTOR TO PROVIDE PS3.
- KITCHEN EXHAUST DUCTING TO BE INSTALLED TO AS/NZS 1668.1 c/w CLEAN OUTS, ACCESS PANELS AS NECESSARY.
- CO-ORDINATE ANY BUILDERS WORKS REQUIRED FOR INSTALLATION OF FANS, DUCTING, ETC., ROOF UNDER FLASHINGS BY BUILDER, OVERFLASHINGS BY THIS CONTRACTOR.
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- ALL EXTERIOR PIPEWORK INSULATION SHALL BE METAL SHEATHED FOR UV AND VERMIN PROTECTION.

A | BUILDING CONSENT + TENDER | WR | 09.11.23
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**MORTLOCK
McELROY LTD**
Architects

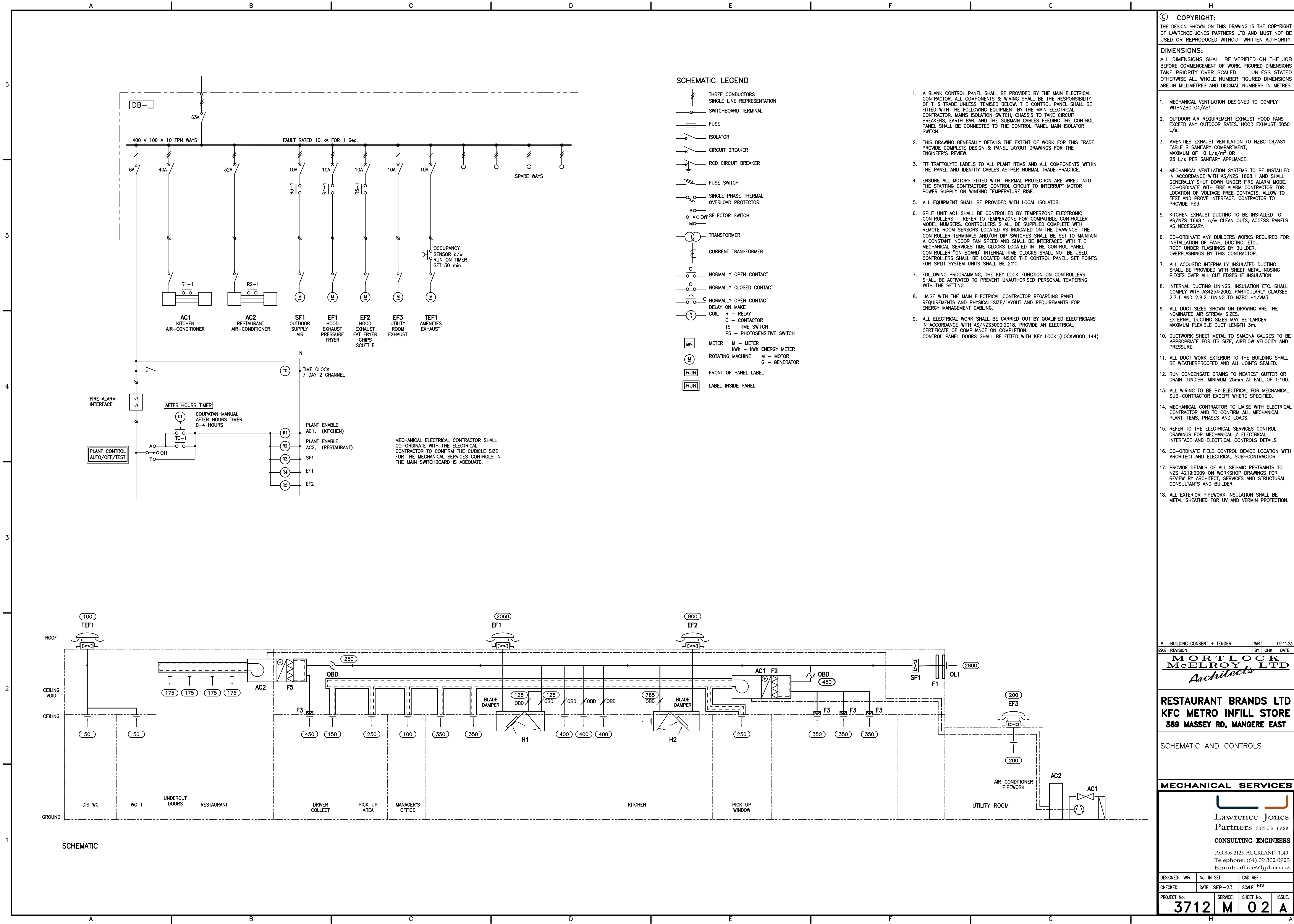
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LEGEND AND SCHEDULES

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1. A BLANK CONTROL PANEL SHALL BE PROVIDED BY THE MAIN ELECTRICAL CONTRACTOR. ALL COMPONENTS & WIRING SHALL BE THE RESPONSIBILITY OF THIS TRADE UNLESS IT IS SPECIFIED OTHERWISE. THE CONTROL PANEL SHALL BE FITTED WITH THE FOLLOWING EQUIPMENT BY THE MAIN ELECTRICAL CONTRACTOR: MAINS ISOLATION SWITCH, CHASSIS TO TAKE CIRCUIT BREAKERS, EARTH BAR AND THE SUBMAIN CABLES FEEDING THE CONTROL PANEL SHALL BE CONNECTED TO THE CONTROL PANEL MAIN ISOLATOR SWITCH.
2. THIS DRAWING GENERALLY DETAILS THE EXTENT OF WORK FOR THIS TRADE. PROVIDE COMPLETE DESIGN & PANEL LAYOUT DRAWINGS FOR THE ENGINEER'S REVIEW.
3. FIT TRAFFALYTE LABELS TO ALL PLANT ITEMS AND ALL COMPONENTS WITHIN THE PANEL AND IDENTIFY CABLES AS PER NORMAL TRADE PRACTICE.
4. ENSURE ALL MOTORS FITTED WITH THERMAL PROTECTION ARE WIRED INTO THE STARTING CONTRACTORS CONTROL CIRCUIT TO INTERRUPT MOTOR POWER SUPPLY ON WINDING TEMPERATURE RISE.
5. ALL EQUIPMENT SHALL BE PROVIDED WITH LOCAL ISOLATOR.
6. SPLIT UNIT AC1 SHALL BE CONTROLLED BY TEMPERZONE ELECTRONIC CONTROLLERS - REFER TO TEMPERZONE FOR COMPATIBLE CONTROLLER MODEL NUMBERS. CONTROLLERS SHALL BE SUPPLIED COMPLETE WITH REMOTE ROOM SENSORS LOCATED AS INDICATED ON THE DRAWINGS. THE CONTROLLER TERMINALS AND/OR DIP SWITCHES SHALL BE SET TO MAINTAIN A CONSTANT INDOOR FAN SPEED AND SHALL BE INTERFACED WITH THE MECHANICAL SERVICES TIME CLOCKS LOCATED IN THE CONTROL PANEL. CONTROLLER "ON BOARD" INTERNAL TIME CLOCKS SHALL NOT BE USED. CONTROLLERS SHALL BE LOCATED INSIDE THE CONTROL PANEL. SET POINTS FOR SPLIT SYSTEM UNITS SHALL BE 21°C.
7. FOLLOWING PROGRAMMING, THE KEY LOCK FUNCTION ON CONTROLLERS SHALL BE ACTIVATED TO PREVENT UNAUTHORISED PERSONAL TEMPERING WITH THE SETTING.
8. LIAISE WITH THE MAIN ELECTRICAL CONTRACTOR REGARDING PANEL REQUIREMENTS AND PHYSICAL SIZE/LAYOUT AND REQUIREMENTS FOR ENERGY MANAGEMENT CABLING.
9. ALL ELECTRICAL WORK SHALL BE CARRIED OUT BY QUALIFIED ELECTRICIANS IN ACCORDANCE WITH AS/NZS3000:2018. PROVIDE AN ELECTRICAL CERTIFICATE OF COMPLIANCE ON COMPLETION. CONTROL PANEL DOORS SHALL BE FITTED WITH KEY LOCK (LOCKWOOD 144)

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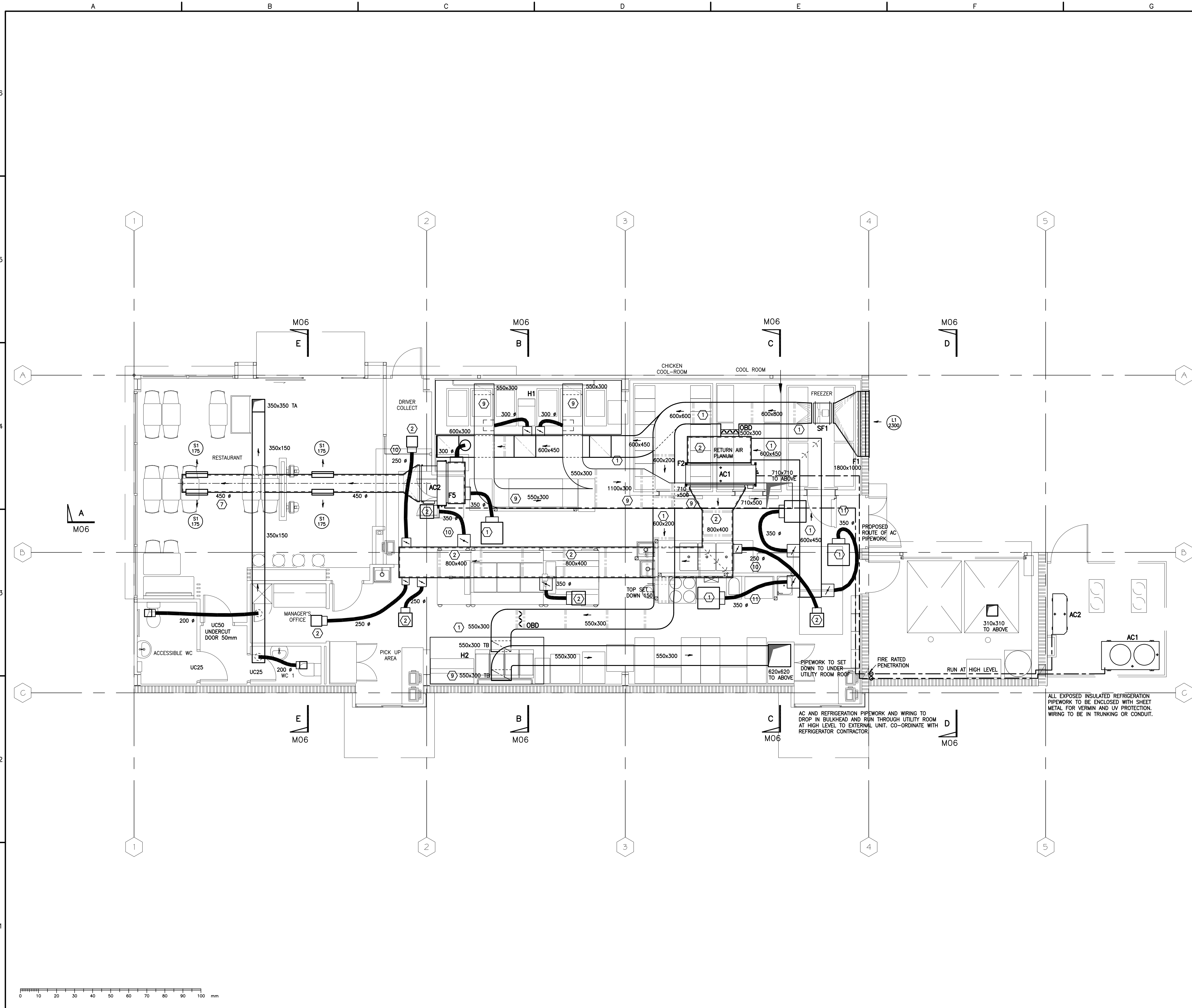
SCHEMATIC AND CONTROLS

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ISSUE:			A

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- PROVIDE DETAILS OF ALL SEISMIC RESTRAINTS TO NZS 4219:2009 ON WORKSHOP DRAWINGS FOR REVIEW BY ARCHITECT, SERVICES AND STRUCTURAL CONSULTANTS AND BUILDER.
- ALL EXTERIOR PIPEWORK INSULATION SHALL BE METAL SHEATHED FOR UV AND VERMIN PROTECTION.

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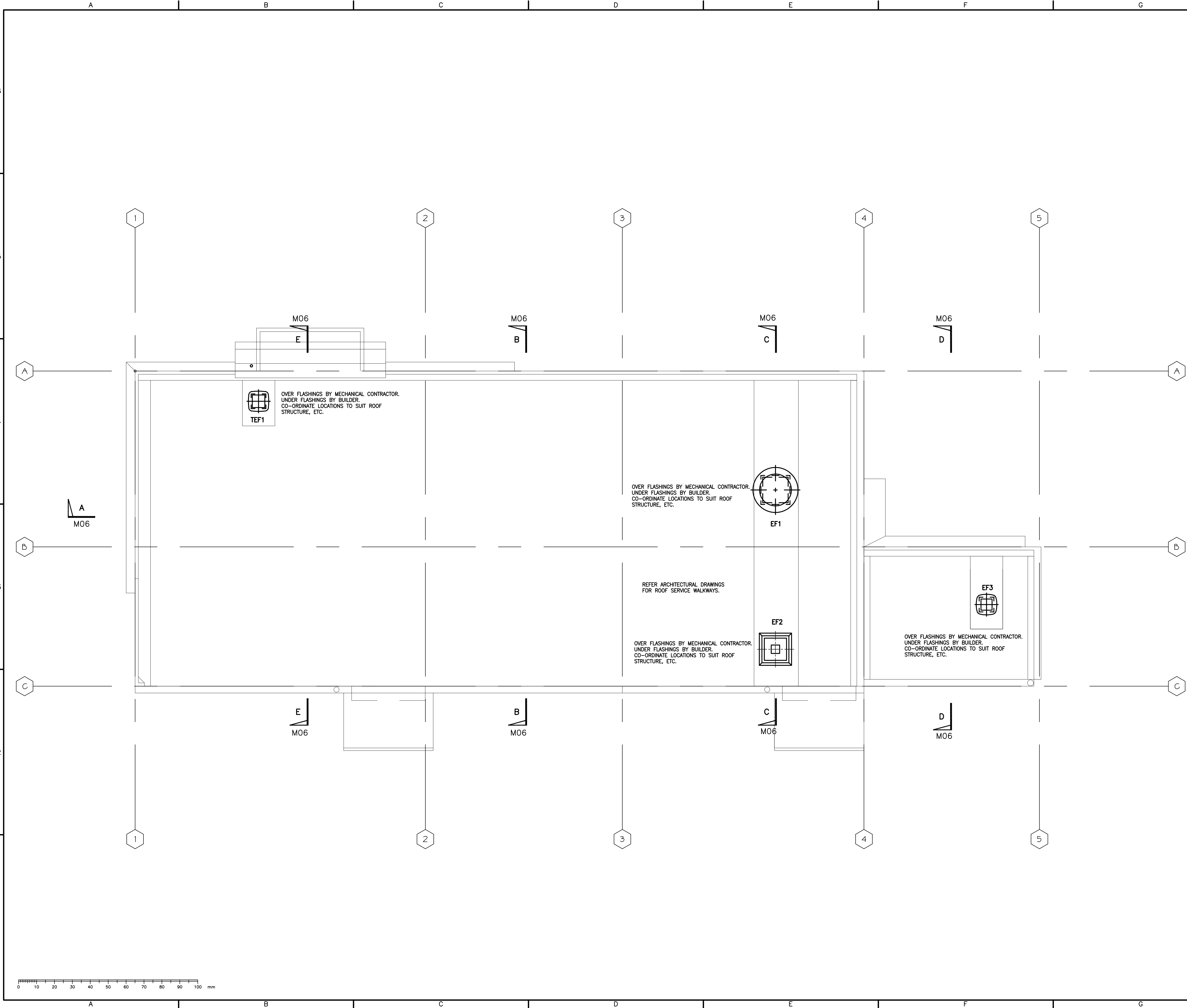
FLOOR PLAN
AIR-CONDITIONING AND VENTILATION

MECHANICAL SERVICES

Lawrence Jones
Partners SINCE 1960
CONSULTING ENGINEERS
P.O.Box 2125, AUCKLAND, 1140
Telephone: (64) 09 302 0923
Email: office@ljpl.co.nz

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PROJECT No.	SERVICE:	SHEET No.
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- MECHANICAL VENTILATION DESIGNED TO COMPLY WITH NZBC G4/AS1.
 - OUTDOOR AIR REQUIREMENT EXHAUST HOOD FANS EXCEED ANY OUTDOOR RATES. HOOD EXHAUST 3050 L/s.
 - AMENITIES EXHAUST VENTILATION TO NZBC G4/AS1 TABLE B SANITARY COMPARTMENT, MAXIMUM OF 10 L/s/m² OR 25 L/s PER SANITARY APPLIANCE.
 - MECHANICAL VENTILATION SYSTEMS TO BE INSTALLED IN ACCORDANCE WITH AS/NZS 1668.1 AND SHALL GENERALLY SHUT DOWN UNDER FIRE ALARM MODE. CO-ORDINATE WITH FIRE ALARM CONTRACTOR FOR LOCATION OF VOLTAGE FREE CONTACTS. ALLOW TO TEST AND PROVE INTERFACE. CONTRACTOR TO PROVIDE PS3.
 - KITCHEN EXHAUST DUCTING TO BE INSTALLED TO AS/NZS 1668.1 c/w CLEAN OUTS, ACCESS PANELS AS NECESSARY.
 - CO-ORDINATE ANY BUILDERS WORKS REQUIRED FOR INSTALLATION OF FANS, DUCTING, ETC.. ROOF UNDER FLASHINGS BY BUILDER, OVERFLASHINGS BY THIS CONTRACTOR.
 - ALL ACOUSTIC INTERNALLY INSULATED DUCTING SHALL BE PROVIDED WITH SHEET METAL NOSING PIECES OVER ALL CUT EDGES IF INSULATION.
 - INTERNAL DUCTING LININGS, INSULATION ETC. SHALL COMPLY WITH AS4254:2002 PARTICULARLY CLAUSES 2.7.1 AND 2.8.2. LINING TO NZBC H1/VM3.
 - ALL DUCT SIZES SHOWN ON DRAWING ARE THE NOMINATED AIR STREAM SIZES. EXTERNAL DUCTING SIZES MAY BE LARGER. MAXIMUM FLEXIBLE DUCT LENGTH 3m.
 - DUCTWORK SHEET METAL TO SMACNA GAUGES TO BE APPROPRIATE FOR ITS SIZE, AIRFLOW VELOCITY AND PRESSURE.
 - ALL DUCT WORK EXTERIOR TO THE BUILDING SHALL BE WEATHERPROOFED AND ALL JOINTS SEALED.
 - RUN CONDENSATE DRAINS TO NEAREST GUTTER OR DRAIN TUNISH. MINIMUM 25mm AT FALL OF 1:100.
 - ALL WIRING TO BE BY ELECTRICAL FOR MECHANICAL SUB-CONTRACTOR EXCEPT WHERE SPECIFIED.
 - MECHANICAL CONTRACTOR TO LIAISE WITH ELECTRICAL CONTRACTOR AND TO CONFIRM ALL MECHANICAL PLANT ITEMS, PHASES AND LOADS.
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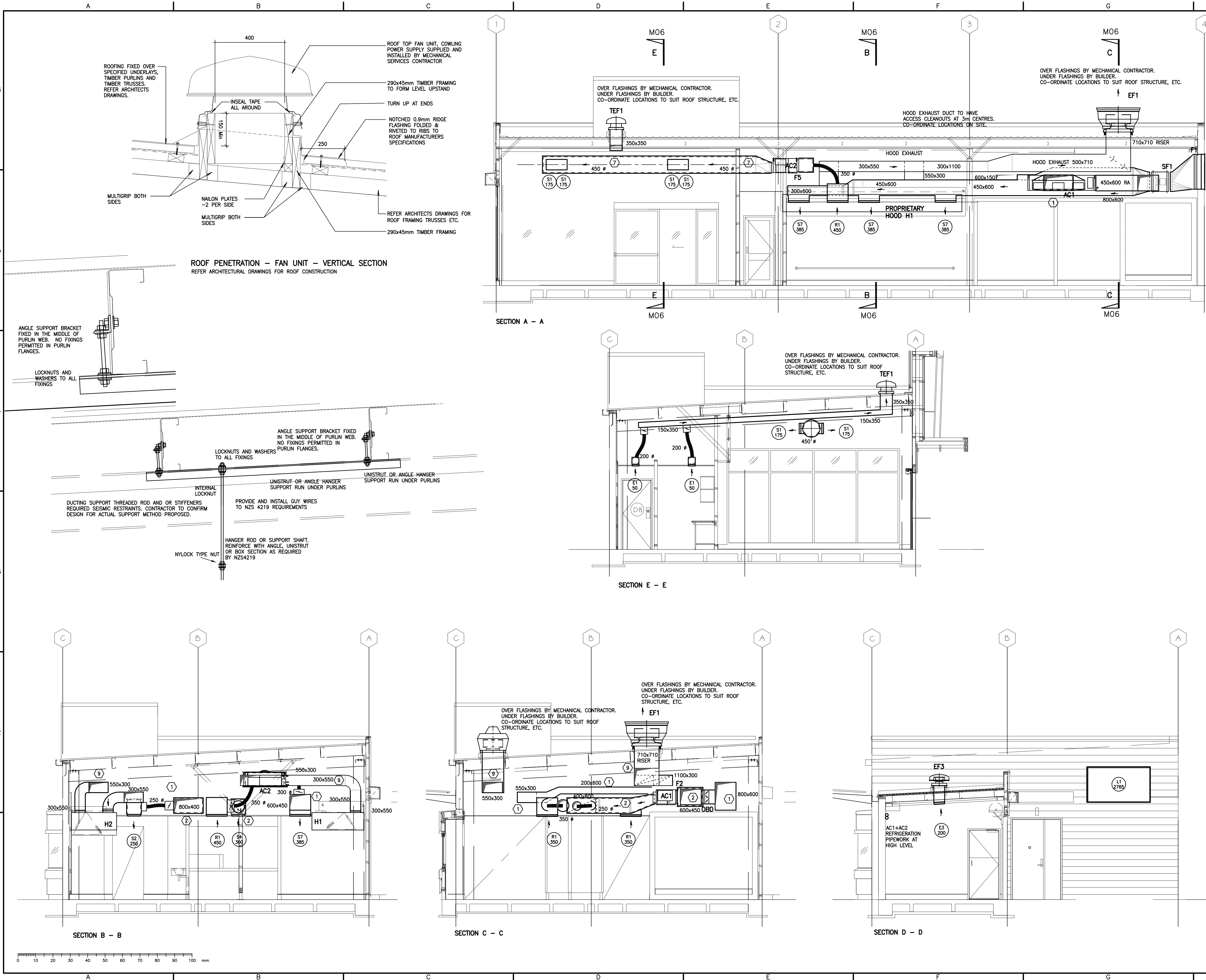
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6. CO-ORDINATE ANY BUILDERS WORKS REQUIRED FOR INSTALLATION OF FANS, DUCTING, ETC.. ROOF UNDER FLASHINGS BY BUILDER, OVERFLASHINGS BY THIS CONTRACTOR.
7. ALL ACOUSTIC INTERNALLY INSULATED DUCTING SHALL BE PROVIDED WITH SHEET METAL NOSING PIECES OVER ALL JOINT EDGES IF INSULATION.
8. INTERNAL DUCTING LININGS, INSULATION ETC. SHALL COMPLY WITH AS4242.0002 PARTICULARLY CLAUSES 2.7.1 AND 2.8.2. UNOING TO NZBC H1/MK5.
9. ALL DUCT SIZES SHOWN ON DRAWING ARE THE MINIMUM AIR FLOW CAPACITY. IF ELECTRICAL OR EXTERNAL DUCTING SIZES MAY BE LARGER, MAXIMUM FLEXIBLE DUCT LENGTH 3m.
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