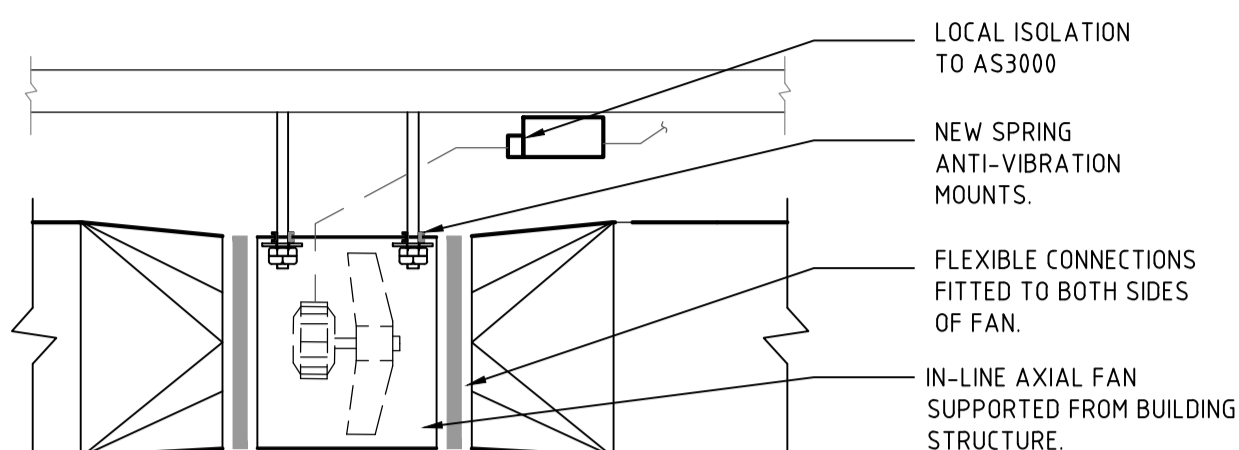
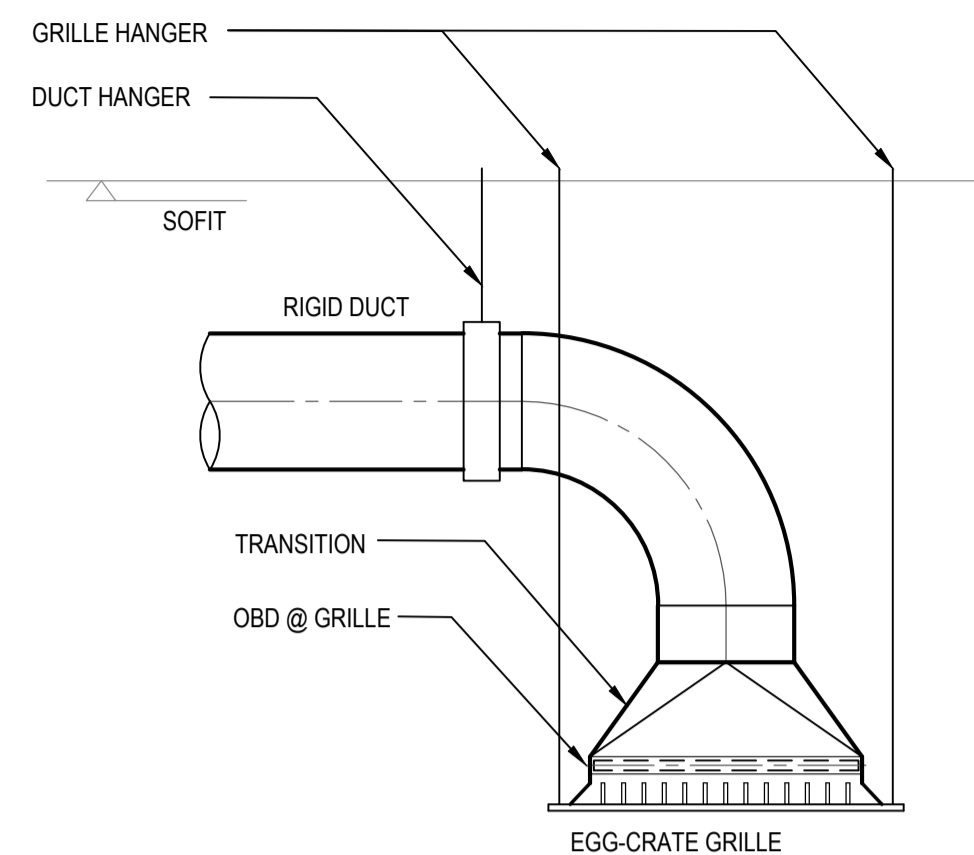


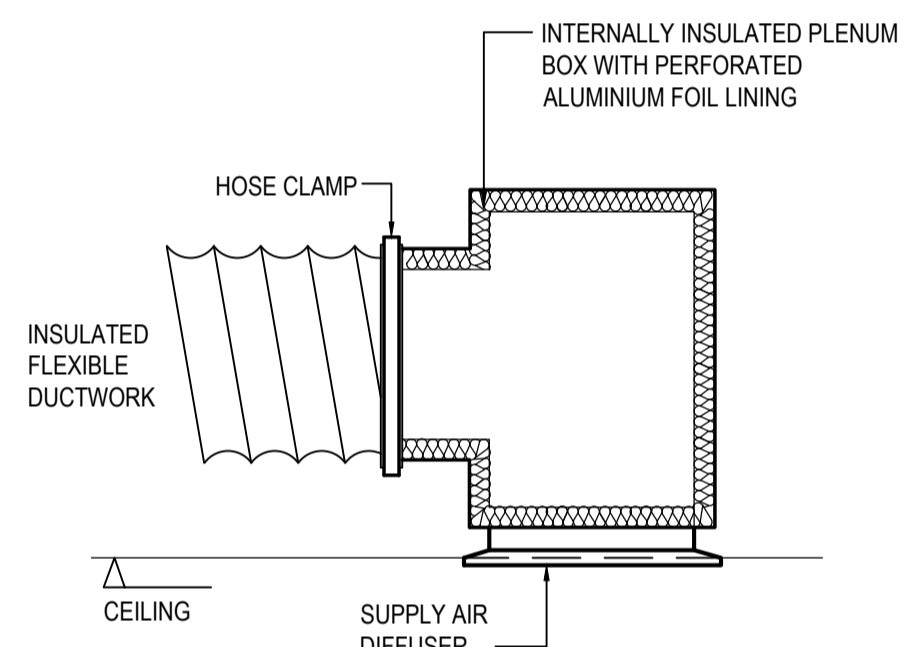
A/C OUTDOOR UNIT DETAIL
NTS



IN-LINE FAN INSTALLATION DETAIL
NTS



EGG-CRATE GRILLE DETAIL
NTS



DIFFUSER CONNECTION SUPPLY DIFFUSER (VCD AT DUCT)
NTS

GENERAL NOTES

- CARE HAS BEEN TAKEN TO PRODUCE ACCURATE DOCUMENTS, HOWEVER THE MECHANICAL CONTRACTOR SHALL SITE CHECK AND COORDINATE WITH STRUCTURAL BEAMS, COLUMNS AND OTHER SERVICES.
- SEAL ALL PENETRATIONS THROUGH FIRE RATED WALLS, SLAB ETC. WITH APPROPRIATE FIRE RATED MATERIALS TO MAINTAIN INTEGRITY OF FIRE RATING.
- PROVIDE TRAFFOLYTE LABELS ON TEMPERATURE SENSORS (VAV & FCU). AIR CONDITIONING CONTROLLERS, NEW/RELOCATED TEMPERATURE SENSORS SHALL BE INSTALLED AT 1550 AFFL.
- TOILET EXHAUST FANS TO BE INTERLOCKED WITH LIGHTS IN THE CHANGING ROOMS, AMBULANT SHOWER & ACCESSIBLE TOILET. NON COMMERCIAL EXHAUST FANS IN THE REFRESHMENTS AND CANTEN TO ALSO BE INTERLOCKED WITH THE LIGHTS IN THEIR RESPECTIVE ROOMS. TOILET EXHAUST AND GENERAL EXHAUST FANS TO TURN ON WHEN LIGHTS ARE SWITCHED ON AND TURN OFF 60 SECONDS AFTER LIGHTS HAVE BEEN SWITCHED OFF. INDIVIDUAL FANS SHOULD ONLY BE INTERLOCKED TO THE LIGHTS SERVING THE SAME AREA AS THE EXHAUST SYSTEM.
-
- ALL NEW AIR CONDITIONING SUPPLY & RETURN AIR DUCTWORK SHALL BE THERMALLY LAGGED WITH R1.2 INSULATION.
- ALL FANS TO BE LEAD VINYL WRAPPED.
- MECHANICAL CONTRACTOR TO ENSURE FINAL SUB CIRCUIT CABLING TO MAINTAIN MINIMUM VOLTAGE DROP (2.5%).
- SEAL ALL PENETRATIONS THROUGH ACOUSTIC Baffles, WALLS ETC WITH APPROPRIATE ACOUSTIC SEALING MATERIAL TO MAINTAIN ACOUSTIC INTEGRITY.
- ALLOW FOR A 10% WITNESS TEST AT HANDOVER. CONTRACTOR IS TO ENSURE ALL NECESSARY EQUIPMENT AND EXPERTISE ARE AVAILABLE. MECHANICAL WORKS ARE CONSIDERED INCOMPLETE UNTIL A SATISFACTORY WITNESS TEST IS COMPLETED.
- SEAL AIR TIGHT AND BLANK OFF ANY UNUSED SPIGOTS.
- MECHANICAL CONTRACTOR TO PROVIDE AIR BALANCE COMMISSIONING RESULTS TO CARDNO FOR REVIEW AND APPROVAL.
- CONFIRM CEILING VOID REQUIREMENTS ARE ADEQUATE PRIOR TO MANUFACTURE AND INSTALLATION. ALLOW FOR SERVICES ZONES FOR OTHER TRADES.
- ALL FLEXIBLE DUCTWORK SHALL BE INSULATED USING ISODEC 4 ZERO.
- ALL NEW FLEXIBLE DUCTWORK SHALL BE LIMITED TO A MAXIMUM LENGTH OF 6 METRES BETWEEN SPIGOT AND OUTLET. FOR LENGTHS EXCEEDING 6 METRES PROVIDE INSULATED CIRCULAR SHEET METAL DUCTWORK OF EQUIVALENT SIZE TO REDUCE FLEXIBLE DUCT LENGTH.
- REFER TO ELECTRICAL SERVICES DRAWING FOR POWER SUPPLY TO THE MECHANICAL EQUIPMENT. COORDINATE FIRE TRIP PROVISIONS WITH THE FIRE SERVICES CONTRACTOR TO ENSURE ALL A/C UNITS AND FANS SHUT DOWN IN FIRE MODE AND ARE AUTOMATICALLY REINSTATED UPON CLEARANCE OF FIRE TRIP.
- COORDINATE ALL GRILLE LOCATIONS WITH DUCTWORK, STRUCTURE AND OTHER SERVICES. ALLOW TO RELOCATE TO NEAREST SUITABLE LOCATION IF NECESSARY. TYPICAL FOR ALL GRILLES.
- ALL CIRCUIT BREAKERS TO FAN COIL UNITS SHALL BE TYPE D CIRCUIT BREAKERS.
- WHILE BEST PRACTICE HAS BEEN ADHERED TO CARDNO HAVE NOT BEEN ENGAGED AS ACOUSTIC ENGINEERS. CARDNO RECOMMEND THAT THE MECHANICAL DESIGN BE REVIEWED BY AN ACOUSTIC ENGINEER FOR COMPLIANCE WITH AS 2107.
- ALL SERVICES ARE TO BE SUSPENDED INDEPENDENT OF EACH OTHER FROM THE UNDERSIDE OF THE SLAB. MECHANICAL SERVICES ARE NOT TO PREVENT THE THE REMOVAL OF CEILING TILES, LIGHT FITTINGS, SMOKE DETECTORS ETC.
- MECHANICAL CONTRACTOR TO PROVIDE AS BUILT DRAWINGS & O&M MANUALS TO CARDNO FOR REVIEW. ALLOW FOR THREE COPIES IN PDF AND DWG FORMAT
- OUTSIDE AIR FANS ARE TO BE INTERLOCKED WITH SUPPLEMENTARY FAN COIL UNIT INSTALLED. THE OUTSIDE AIR FANS SHALL TURN ON UPON OPERATION OF ASSOCIATED FAN COIL UNIT AND TURN OFF WHEN THE UNIT IS NOT OPERATING. OUTSIDE AIR FAN SHALL BE INSTALLED WITH ELECTRONIC SPEED CONTROL.
- DELETED.
- DELETED.
- CONDENSATE WASTE FROM AC UNIT SHALL RUN TO NEAREST TUNDISH AS INDICATED ON THE DRAINAGE DRAWINGS DRAWING - M1001.
- MECHANICAL SERVICES CONTRACTOR TO PROVIDE INLINE CONDENSATE PUMP WHERE THERE IS INSUFFICIENT CEILING HEIGHT TO GRADE CONDENSATE LINE TO TUNDISH PROVIDED.
- NEW CONDENSING UNIT SHALL BE MOUNTED ON CONCRETE PLINTH C/W VIBRATION ISOLATION (MOUNTS). CONCRETE PLINTH BY BUILDER.

FAN SCHEDULE - FANTECH OR EQUAL AND APPROVED

Fan ref.	Type	Air Flow L/s	Estimated Static - Pa	Power Supply Volts/Amps	Noise Limit db(A)@3m	Comments
EF-1	INLINE	100	70	240 / 0.57	39	
EF-2	INLINE	100	90	240 / 1.29	40	
TEF-1	INLINE	300	103	240 / 1.35	51	
TEF-2	INLINE	250	165	240 / 1.35	51	
TEF-3	INLINE	140	70	240 / 0.66	47	
TEF-4	WALL MOUNTED	90	70	240 / 0.57	39	
OAF-1	INLINE	150	70	240 / 1.29	40	

- NOTES:
- MAXIMUM NOISE LEVELS NOT TO EXCEED THOSE LISTED IN AS2107. REFER TO ACOUSTIC CONSULTANTS SPECIFICATION FOR ADDITIONAL REQUIREMENTS, ACOUSTIC LAGGING, SILENCER & ATTENUATION PROVISIONS - PART OF THESE WORKS.
 - LOCAL ISOLATION TO AS3000.
 - ALL FANS TO BE PROVIDED WITH ELECTRONIC SPEED CONTROLLERS (DANFOSS OR ABB).
 - ALL FANS TO BE PROVIDED WITH BACK DRAFT DAMPERS (NON-RETURN DAMPERS).

FLEXIBLE DUCT SCHEDULE

Air Quantity (L/s)	Flex Diameter (mm)
0 - 50	150
51 - 80	200
81 - 120	250
121 - 180	300
181 - 250	350
251 - 350	400

DOOR GRILLE SCHEDULE

Air Quantity L/s	Grille Neck Size mm x mm
0 - 110	600x150
111 - 150	600x200
151 - 190	600x250
191 - 300	600x400
301 - 450	600x600

DIFFUSERS SCHEDULE

Air Quantity L/s	Grille Neck Size mm x mm
0 - 55	150x150
56 - 125	225x225
126 - 225	300x300
226 - 300	375x375
301 - 405	450x450
406 - 500	525x525

EGGCRATE GRILLE SCHEDULE

Air Quantity L/s	Grille Neck Size mm x mm
0 - 80	200x200
81 - 180	300x300
181 - 320	400x400
321 - 500	500x500
501 - 605	550x550
606 - 720	600x600

DUCTWORK INSULATION

LOCATION	Minimum Required R-Values & Nominal Thickness
DUCTWORK WITHIN CONDITIONED SPACE	R1.2 (45mm)
DUCTWORK EXPOSED TO SUN	R3.0 (135mm)
DUCTWORK IN ALL OTHER LOCATIONS	R2.0 (90mm)

For diffusers with blank-off, apply the following factors:
 1 way blanked: 1.33
 2 way blanked: 2.0
 3 way blanked: 4.0

AIR COOLED REVERSE CYCLE UNIT SCHEDULE - MITSUBISHI ELECTRIC APPROVED

Unit ref.	Level	Model	Area Served	Height (mm)	Width (mm)	Depth (mm)	Weight (kg)	Supply - L/s	Air On Coil DB Cooling (°C)	Air On Coil WB Cooling (°C)	Cooling Capacity kW		Air On Coil DB Heating (°C)	Heating (kW)	dB (A)	Outside Air - L/s	Rated Power (kW)	FCU TYPE	Comments	OUTDOOR UNIT							
											Total	Sensible								Unit Ref.	Model	Height (mm)	Width (mm)	Depth (mm)	Weight (kg)	Rated Power (kW)	dB (A)
AC-1	GROUND	PCA-RP14.0KA0	MULTI-PURPOSE	230	1600	680	39	533	35	22.5	13	8.5	28	16	4.5	150	4.43	CEILING SUSPENDED		CU-1	PUHZ-RP14.0YKA2	1338	1050	330	121	6.73	70

Rev.	Date	Description	Des.	Verif.	Appd.	Rev.	Date	Description	Des.	Verif.	Appd.
F	01.02.2017	REVISED AS CLOUDED	R.T.	R.W.	R.T.						
E	16.01.2017	A/C ADDED	R.T.	R.W.	R.T.						
D	08.09.2016	CONSTRUCTION ISSUE	M.Z.	R.T.	B.P.						
C	11.04.2016	CONSTRUCTION CERTIFICATE ISSUE	R.T.	B.P.	B.P.						
B	18.03.2016	CONSTRUCTION CERTIFICATE ISSUE	R.T.	B.P.	B.P.						
A	27.10.2015	TENDER ISSUE	R.T.	B.P.	B.P.						
01	08.09.2015	PRELIMINARY ISSUE	R.T.								

© Cardno Limited All Rights Reserved.
 This document is produced by Cardno Limited solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Limited does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

Cardno (NSW/ACT) Pty Ltd | ABN 95 001 145 035
 Level 9, The Forum, 203 Pacific Highway
 St Leonards, NSW 2055
 Tel: 02 9496 7700 Fax: 02 9439 5170
 Web: www.cardno.com.au

Drawn	M.Z.	Date	Sept '16
Checked	M.D.	Date	Sept '16
Designed	R.T.	Date	Sept '16
Verified	R.T.	Date	Sept '16
Approved	B.P.	Date	Sept '16

Client	BRIARS SPORTING CLUB
Project	COMMUNITY AND AMENITIES BUILDING ROTHWELL PARK, CONCORD
Title	MECHANICAL SERVICES DETAILS & EQUIPMENT SCHEDULES

Status	FOR CONSTRUCTION			
Scale	NTS	Size	A1	
Drawing Number	80816048-ME-0002		Revision	F