

# M&PS MANLY

## SHOPS 4 - 6, 8-28 THE CORSO, MANLY NSW

# ELECTRICAL SERVICES

DRAWING LIST	
E-00	COVER SHEET & DRAWING LIST
E-01	LEGEND
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LOCATION - SITE PLAN

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Rev:	Date:	Description:	Checked:
P1	11/07/2023	PRELIMINARY ISSUE	JTIGY
A	7/08/2023	CONSTRUCTION ISSUE	JTIGY
B	22/09/2023	REVISED CONSTRUCTION ISSUE	JTIGY

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Project:

**M&PS MANLY**  
SHOPS 4 - 6  
8-28 THE CORSO, MANLY NSW

ELECTRICAL SERVICES

Title:  
COVER SHEET & DRAWING LIST

Drawing No:  
E-00

Issue:  
B

Scale:  
NTS  
@A3

Date Set Up:  
06/2023

Project Manager:  
PM

CTL:  
EC

Project No:  
22.6118

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POWER LEGEND	
	SINGLE 230V 10A SWITCHED SOCKET OUTLET
	DOUBLE 230V 10A SWITCHED SOCKET OUTLET USB DENOTES OUTLETS WITH 2XUSB OUTLETS.
	SINGLE 230V 20A STARTER SOCKET OUTLET
	230V IP56 CAPTIVE SWITCHED SOCKET OUTLET
	230V PERMANENT CONNECTION WITH LOCAL ISOLATING SWITCH
FB	FLOOR BOX, 4xGPOS, 3x CAT6 DATA OUTLETS + HDMI/AV CABLING TO TABLE BOX
TB	TABLE BOX, 4xGPOS, 3x CAT6 DATA OUTLETS. , AV OUTLETS, (ALLOW HDMI TO TV ON WALL, TBC) INTERCONNECTING CABLES AND UMBILICALS FROM FLOORBOX TO TABLE BOX.
	DISTRIBUTION BOARD
	CONTROL PANEL / MECHANICAL SWITCHBOARD (BY OTHERS)
	SERVICES POLE FOR RETICULATION FROM - CEILING TO WORKSTATION (SUPPLIED BY FURNITURE TRADE)
WS1	ELECTRICAL ADJUSTABLE DESK WITH: 4x GPO, 3 x DATA IN CABLE TRAY BELOW DESK SOFT WIRING. (SUPPLIED BY FURNITURE TRADE)
	DISTRIBUTION BOARD LIGHTING / POWER CIRCUIT NUMBER CIRCUIT REFERENCE TAG
	POWER AND DATA CONDUITS
	3-CHANNEL SKIRTING DUCT

COMMUNICATIONS LEGEND	
	SINGLE RJ45 CATEGORY 6 UTP OUTLET
	DUAL RJ45 CATEGORY 6 UTP OUTLET
	MATV/FOXTEL OUTLET.
	42RU COMMUNICATIONS CABINET, 650mm W x 1100mm D x 2200MM H (TO BE CONFIRMED)
AV	WALL MOUNTED HDMI OUTLET. CABLES TO CONNECT TO WALL MOUNTED TV WITHIN ROOM.

LIGHTING LEGEND	
D1	15W RECESSED LED DOWNLIGHT, 4000K, WHITE, IP20, CRI 90+. TREND LIGHTING MIDILED XDM15 OR APPROVED SIMILAR.
D2	10W RECESSED LED DOWNLIGHT, 4000K, WHITE, IP 65. TREND LIGHTING MIDILED XDR10 OR APPROVED SIMILAR.
D3	7W RECESSED LED DOWNLIGHT, 4000K, WHITE, IP 20. TREND LIGHTING ECONOLED ER73 OR APPROVED SIMILAR.
T1	33W RECESSED LED TROFFER 600MM X 600MM, 4000K, WHITE, IP20. TREND LIGHTING TRILED PL0601 OR APPROVED EQUIVALENT.
T1A	T1 FITTING WITH PLASTERBOARD KIT.
LSP	LIGHT SWITCH AND AFTER HOURS PUSH BUTTON MASTER SWITCH
	RECESSED MOTION SENSOR, CLIPSAL INFRASCAN 753R OR APPROVED SIMILAR
E1	RECESSED EMERGENCY LIGHT TO MATCH EXISTING
	LIGHT SWITCH
	LIGHT SWITCHING
EX1	ILLUMINATED RUNNING MAN LED EXIT SIGN. EXIT, TO MATCH EXISTING MOUNTING TO SUIT SITE CONDITIONS.
EX1	EXIT SIGN DIRECTIONAL ARROW ILLUMINATED SIDE
DB**-L**	CIRCUIT DESIGNATION
	* = CIRCUIT NUMBER L = LIGHT CIRCUIT * = DISTRIBUTION BOARD NUMBER

ABBREVIATIONS	
24HR	= 24 HOUR LIGHT
AB	= ABOVE BENCH
C	= CLEANER
CBWU	= CHILLED / BOILING WATER UNIT
CM	= CEILING MOUNTED
CS	= CEILING SPACE
D	= EXISTING TO BE REMOVED
E	= EXISTING
DW	= DISH WASHER
F	= FRIDGE
MW	= MICROWAVE
UB	= UNDER BENCH
WAP	= WIRELESS ACCESS POINT
WP	= WEATHERPROOF

SECURITY AND CCTV LEGEND	
KP	KEYPAD FOR DOOR ACCESS
ML	MAGNETIC LOCK WITH REED SWITCH FOR AUTO DOOR
E	ELECTRIC STRIKE
R	REED SWITCH
RR	REED SWITCH FOR ROLLER SHUTTER
SEC	SECURITY PANEL (OFF-SITE MONITORED)
	REQUEST TO EXIT PUSH BUTTON LD DENOTES REMOTE LOCK DOWN BUTTON
	SECURITY PIR SENSOR
	SECURITY SCREAMER
SKP	SECURITY KEYPAD (ARM / DISARM)
HLS	HEARING LOOP SYSTEM AT RECEPTION DESK TO COMPLY WITH NCC D3.7
DA	DURESS ALARM PANEL (MONITORED - POLICE RESPONSE)
D	DURESS ALARM BUTTON WIRELESS (DOUBLE BUTTON TYPE) MOUNT ON UNDERSIDE OF DESK
VI	COLOUR VIDEO INTERCOM DOOR STATION
I	COLOUR VIDEO INTERCOM DOOR RELEASE
CCTV	CCTV HEADEND (LOCAL NETWORK VIDEO RECORDER, SWITCHES, ETC)
	CCTV CAMERA
	MONITOR FOR CCTV CAMERAS LIVE FEED
INCUMBENT/CLIENT DATA AND SECURITY CONTRACTOR TO SPECIFY ALL EQUIPMENT.	

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ELECTRICAL SERVICES

Title: LEGEND Drawing No: E-01 Issue: B

Scale: NTS Date Set Up: 06/2023 Project Manager: PM CTL: EC Project No: 22.6118

GENERAL NOTES

- 1. ELECTRICAL SERVICES DRAWINGS SHALL BE READ IN CONJUNCTION WITH LATEST ARCHITECTURAL AND OTHER CONSULTANTS DRAWINGS.
- 2. FOR ANY DISCREPANCY SHOWN ON THE ELECTRICAL SERVICES DRAWINGS THE CONTRACTOR SHALL ALLOW FOR GREATER. ALL DISCREPANCIES SHALL BE REFERRED TO SUPERINTENDENT BEFORE PROCEEDING WITH THE WORK.
- 3. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT AS/NZS 3000, THE NSW SERVICES AND INSTALLATION RULES AND THE NATIONAL CONSTRUCTION CODE. THE ELECTRICAL INSTALLATION SHALL ALSO COMPLY WITH AS 3008 AND AS 2293.
- 4. DISTRIBUTION BOARD CIRCUIT BREAKERS SHALL BE TESTED FOR SAFE OPERATIONAL ORDER PRIOR TO CONNECTION OF THE ELECTRICAL EQUIPMENT AND ACCESSORIES. ALL TEMPORARY CONNECTIONS FOR CONSTRUCTION USE OR SITE TESTS SHALL BE PROVIDED WITH RESIDUAL CURRENT DEVICES 30 mA TYPE.
- 5. ALL DIMENSIONS SHOWN SHALL BE VERIFIED ON SITE. ENGINEER'S DRAWINGS MUST NOT BE SCALED.
- 6. ANY EQUIPMENT SUBSTITUTION NOMINATED IN THE TENDER SUBMISSION MUST BE APPROVED BY THE ENGINEER. ADDITIONAL CHARGES MAY APPLY FOR THE ENGINEERING ASSESSMENT ASSOCIATED WITH THE PROPOSED ALTERNATIVES AND SUBSTITUTIONS.
- 7. THE EXTENT OF THE WORK IS SHOWN IN GENERAL TERMS ONLY. THE ELECTRICAL CONTRACTOR SHALL INCLUDE FOR ALL WORK OBVIOUSLY REQUIRED TO COMPLETE THE ELECTRICAL INSTALLATION IN ACCORDANCE WITH AS/NZS 3000 WIRING RULES AND AUTHORITIES HAVING JURISDICTION WHETHER INDICATED IN DETAIL OR NOT ON THE ELECTRICAL SERVICES DRAWINGS.
- 8. TENDERERS SHALL INSPECT THE SITE AND MAKE ANY FIELD SURVEY NECESSARY FOR PROPER PLANNING AND EXECUTION OF THE WORK. NO PRICE VARIATION OR EXTENSION OF TIME WILL BE ALLOWED ON THE GROUNDS OF LACK OF SITE KNOWLEDGE, UNFORSEEN DIFFICULTIES OR PROVISION OF INSUFFICIENT INFORMATION DURING THE TENDER PERIOD.
- 9. ALL REDUNDANT EQUIPMENT, CABLING AND PERIPHERALS ASSOCIATED WITH ELECTRICAL SERVICES TO BE REMOVED AND DISPOSED OF OFF-SITE.
- 10. THE LOCATIONS SHOWN ON THE DESIGN DRAWINGS FOR LIGHTS, POWER, FLOOR BOXES, TABLE BOXES AND COMMUNICATIONS OUTLETS ARE INDICATIVE ONLY. BEFORE FINAL INSTALLATION THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EQUIPMENT WITH THE PROJECT MANAGER AND ARCHITECT. THE RELOCATION OF EQUIPMENT AND OUTLETS, BEFORE INSTALLATION OF UP TO TWO METRES SHALL NOT GIVE RISE TO A VARIATION.
- 11. EMERGENCY LIGHTING AND EXIT SIGNS SHALL BE PROVIDED IN ACCORDANCE WITH AS2293 AND THE NATIONAL CONSTRUCTION CODE. SELF-CONTAINED UNITS WITH INBUILT INVERTER, NICD BATTERIES AND CHARGER SHALL BE EMPLOYED WITH BATTERY LIFE BETTER THAN FIVE YEARS.
- 12. SUBMAIN AND FINAL SUB-CIRCUIT CABLING FOR EQUIPMENT BY OTHER TRADES SHALL BE INSTALLED TO SUIT RATING OF RESPECTIVE EQUIPMENT. TERMINATION OF CABLING SHALL BE VIA OUTLETS OR ISOLATORS AS NOMINATED BY THE RESPECTIVE TRADE. POWER CABLING SHALL BE SUITABLY SEGREGATED FROM COMMUNICATIONS AND SECURITY CABLING.
- 13. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION PRIOR TO ANY ELECTRICAL SHUT DOWN TO THE BUILDING IS SCHEDULED. THE CONTRACTOR SHALL ALLOW FOR AFTER HOURS WORK TO BE CARRIED OUT WHEN REQUIRED.
- 14. CONTRACTOR SHALL PROVIDE FOR ALL PENETRATIONS, CHASING, CONDUITS AND CABLE SUPPORT SYSTEMS. ALL PENETRATIONS SHALL BE SUITABLY FIRE SEALED IN ACCORDANCE WITH BCA & ALL RELEVANT AUSTRALIAN STANDARDS. ALL PENETRATIONS TO BE APPROVED BY STRUCTURAL ENGINEER.
- 15. LIGHT AND GENERAL POWER OUTLET CIRCUITS SHALL BE PROTECTED BY 30 mA RCD CIRCUIT BREAKERS AT THE ELECTRICAL SWITCHBOARD WHERE INDICATED ON LAYOUT DRAWINGS. POWER CIRCUITS TO IT RACKS SHALL BE NON-RCD CIRCUITS.
- 16. ALLOW FOR MINOR RELOCATIONS OF LIGHT FITTINGS AND ELECTRICAL EQUIPMENT DUE TO UNFORSEEN OBSTRUCTION OF PLANT AND OTHER SERVICES EQUIPMENT THAT MAY NOT BE RELOCATED AS A COURSE OF THIS FIT-OUT.
- 17. THE FINAL LOCATION AND HEIGHT OF ALL OUTLETS AND DRAWING EQUIPMENT SHALL BE VERIFIED FROM THE ARCHITECTURAL JOINERY DRAWINGS PRIOR TO FINAL INSTALLATION. COLOUR AND FINISH OF POWER OUTLETS SHALL BE AS NOMINATED BY THE ARCHITECT.
- 18. LABEL ALL POWER OUTLETS AND ISOLATING SWITCHES WITH CIRCUIT BREAKER NUMBER AND DISTRIBUTION BOARD OF ORIGIN. LABEL ALL SOCKET OUTLETS WITH DISTRIBUTION BOARD NUMBER AND CIRCUIT BREAKER NUMBER.
- 19. ALL GENERAL SOCKET OUTLETS IN THE WET AREAS, AMENITIES, AND KITCHEN BENCHES SHALL HAVE RED NEON INDICATORS.
- 20. OBTAIN FINAL EQUIPMENT LOCATIONS AND RATINGS OF OTHER SERVICES EQUIPMENT AND PANELS PRIOR TO INSTALLATION OF THEIR POWER SUPPLIES.
- 21. ALL WIRING FOR LIGHTING AND POWER SHALL BE RUN IN CONDUITS, IN RISER LOCATIONS OR FALSE CEILINGS, FLOOR AND WALL CAVITIES OR CHASED IN WALLS. NO WIRING SHALL BE EXPOSED TO VIEW.
- 22. PROVIDE OPERATION AND MAINTENANCE MANUALS.
- 23. PROVIDE WORKSHOP DRAWINGS FOR APPROVAL.
- 24. PROVIDE AS INSTALLED DRAWINGS.
- 25. PROVIDE 52 WEEKS DEFECT LIABILITY PERIOD.

SCOPE OF WORKS

ELECTRICAL SERVICES:

THE EXTENT OF WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

- 1. ALL WORKS SHALL COMPLY WITH NATIONAL CONSTRUCTION CODE, AS/NZS 3000, AND ALL OTHER RELEVANT STANDARDS.
- 2. ELECTRICAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS AND CLIENT DESIGN BRIEF.
- 3. REUSE EXISTING TENANCY DISTRIBUTION BOARD. WORKS TO REMOVE THE SHOP 4 REDUNDANT DISTRIBUTION BOARD TO BE DONE BY LANDLORD. TO BE COORDINATED.
- 4. REMOVE ALL REDUNDANT EQUIPMENT, WIRING ETC.
- 5. CO-ORDINATE AND LIAISE WITH THE POWER SUPPLY AUTHORITIES AND PAY ALL RELEVANT FEES.
- 6. PROVIDE ALL GENERAL PURPOSE OUTLETS, SPECIFIC PURPOSE OUTLETS AND RESIDUAL CURRENT DEVICE.
- 7. PROVIDE ALL SUB MAINS, FINAL SUBCIRCUIT WIRING AND CIRCUIT BREAKERS.
- 8. PROVIDE ALL CABLE SUPPORT SYSTEMS.
- 9. PROVIDE FLOOR BOX & TABLE BOX TO BOARDROOM. CONFIRM WITH STRUCTURAL ENGINEER.
- 10. PROVIDE POWER SUPPLY TO MECHANICAL SERVICES.

EMERGENCY LIGHTING AND EXIT SIGNS:

THE EXTENT OF WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

- 1. ALL WORKS TO COMPLY WITH NATIONAL CONSTRUCTION CODE, AS/NZS 3000, AND ALL OTHER RELEVANT STANDARDS.
- 2. EMERGENCY ESCAPE LIGHTING AND EXIT SIGNS SHALL COMPLY WITH AS 2293 SERIES.
- 3. PROVIDE NEW EXIT SIGNS OF PICTOGRAM TYPE TO COMPLY WITH AS 2293. EXIT SIGNS SHALL BE MAINTAINED TYPE EQUIPPED WITH LINEAR LED LIGHT SOURCE.
- 4. COMMISSIONING OF EMERGENCY ESCAPE AND EXIT LIGHT SYSTEM SHALL BE CARRIED OUT. TEST RESULTS SHALL BE KEPT AS PER AS 2293.

COMMUNICATIONS SERVICES:

THE EXTENT OF WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

- 1. COORDINATE AND LIAISE WITH OTHER TRADES AND CARRIERS.
- 2. SUPPLY, INSTALL AND CERTIFY CATEGORY 6 UTP RJ45 MODULAR STRUCTURAL CABLING SYSTEM INCLUDING COMPLETE PATCH LEADS AND FLY LEADS.
- 3. ALL COMMUNICATIONS WORK PERFORMED MUST BE CARRIED OUT BY CABLING CONTRACTORS REGISTERED WITH AN ACMA ACCREDITED REGISTER.
- 4. NEW COMPLETE 42RU LOCKABLE COMMUNICATIONS CABINET, 800mmWx 1000mmD. INCLUDING 10WAY PDU, FRAME, SHELVES, VENTED DOOR, VENTED REMOVABLE SIDE PANELS, CASTORS. SEEKCLIENT APPROVAL BEFORE ORDERING.
- 5. PROVIDE CABLE SUPPORT SYSTEM.
- 6. PROVIDE OUTLETS FOR WIRELESS ACCESS POINTS AS SHOWN ON DRAWINGS. ALLOW AN EXTRA 5 m FOR FUTURE MODIFICATIONS.
- 7. PROVIDE SEGREGATION BETWEEN POWER AND COMMUNICATIONS SERVICES TO AS/ACIF S009.
- 8. PROVIDE LABELING TO ALL DATA CABLES. LABELS SHALL BE SELF-ADHESIVE WRAP-AROUND STYLE, WHITE WITH BLACK LETTERING. LABELS SHALL NOT BE HAND WRITTEN.
- 9. PROVIDE OPERATION AND MAINTENANCE MANUALS.
- 10. PROVIDE TESTING, COMMISSIONING AND CERTIFICATION OF CABLING WORKS TO CATEGORY 6 PERFORMANCE USING A FLUKE DTX TESTER AND SUPPLY TEST RESULTS TO THE ENGINEER IN NATIVE FORMAT.
- 11. PROVIDE 10 PAIR COPPER CABLES FROM BUILDING MAIN COMMS ROOM. CONFIRM AVAILABILITY OF FIBRE DIRECT INTO THE TENANCY.
- 12. ALLOW CABLE SUPPORT PATHWAY BETWEEN COMMUNICATIONS RISER AND COMMUNICATIONS RACK FOR FIBRE OPTIC CABLE CONNECTION.

SECURITY, CCTV, VIDEO INTERCOM AND DURESS ALARM SERVICES:

SECURITY, CCTV, VIDEO INTERCOM AND DURESS ALARM SERVICES SHOWN ON DRAWING FOR INFORMATION OF DESIGN INTENT AND COORDINATION PURPOSE ONLY.

LICENSED / CERTIFIED / APPROVED CONTRACTORS SHALL SUBMIT FULL SCOPE OF WORK FOR REVIEW AND APPROVAL PRIOR TO COMMENCE INSTALLATION WORK.

SECURITY MONITORING SYSTEM TO HAVE MINIMUM 30 DAYS RECORDING ON DVR AND BATTERY BACKUP TO COMPLY WITH STATUORY REQUIREMENTS.

DURESS SYSTEM TO HAVE WIRELESS BUTTONS AND SET UP TO DIAL POLICE WHEN ACTIVATED. SET UP DUAL SIM CARD ACCOUNTS AND CONNECTIVITY TO ENSURE OPERATIONAL.

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Project:

M&PS MANLY  
SHOPS 4 - 6  
8-28 THE CORSO, MANLY NSW

ELECTRICAL SERVICES

Title: GENERAL NOTES & SCOPE OF WORKS	Drawing No: E-02
	Issue: B
Scale: NTS @A3	Date Set Up: 06/2023 Project Manager: PM CTL: EC Project No: 22.6118




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1. ALL LIGHTING CIRCUITS FED FROM TENANCY DISTRIBUTION BOARD.
2. LIGHTING CONTROL:-
  - IN WAITING, LARGE MEETING ROOM AND WORKSTATION/RECEPTION AREAS SHALL BE CONTROLLED VIA TIME CLOCK TO TURN THE LIGHTS ON DURING BUSINESS HOUR (MONDAY TO FRIDAY, 7AM-7PM), AND CONTROLLED VIA MOTION SENSOR FOR AFTER HOUR OPERATION.
  - OTHER AREAS LIGHTING SHALL BE CONTROLLED VIA MOTION SENSOR ONLY.



North Point:

A circle with a horizontal line passing through its center. A vertical line passes through the center, and a diagonal line passes through the center from the top-left to the bottom-right. A small 'Z' is written to the left of the circle.

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Project:

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Issue: B

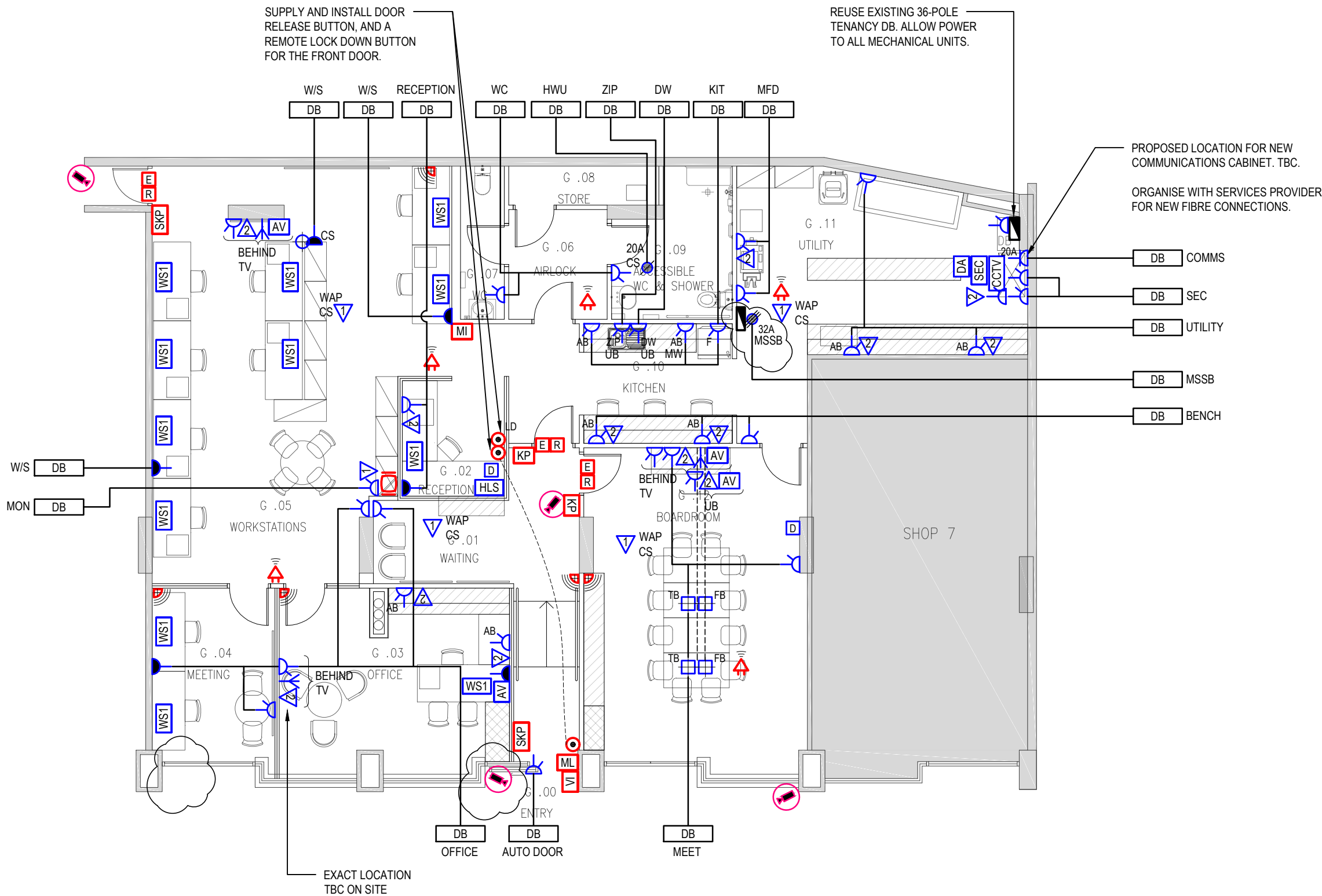
Scale:	Date Set Up:	Project Manager:	CTL:	Project No:
1 - 100	06//2023	PM	EC	22.6118
@A3				

NOTES

1. THE LOCATIONS OF SOCKET OUTLETS AND COMMUNICATIONS OUTLETS SHOWN ON THE ELECTRICAL DRAWINGS ARE INDICATIVE ONLY. REFER TO THE ARCHITECTURAL DRAWINGS FOR FINAL POSITIONS.
2. ALLOW POWER AND FIRE TRIP SIGNAL TO DOORS IN PATH OF EGRESS.
3. SUPPLY AUTHORITY METER IS REMOTE TO THE TENANCY, TO BE REUSED.
4. CCTV CAMERAS AND MONITORS LOCATIONS TO BE CONFIRMED ON SITE, COORDINATE WITH SECURITY CONTRACTOR.

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ARCHITECTURAL DRAWINGS	DRAWINGS No.	REVISION	ARCHITECTS ISSUE DATE	RECEIVED DATE	RECEIVED FOLDER
GA PLAN	A3.00	B	27.07.23	02.08.23	r-007
RCP	A5.00	E	27.07.23	02.08.23	r-007



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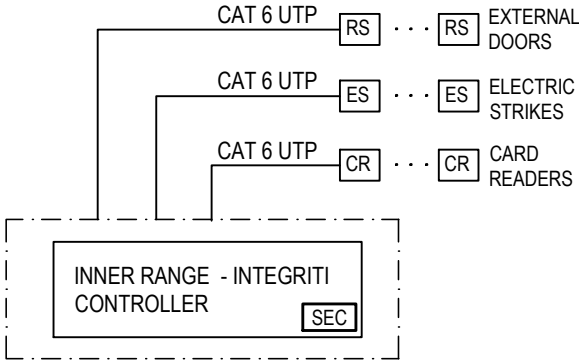
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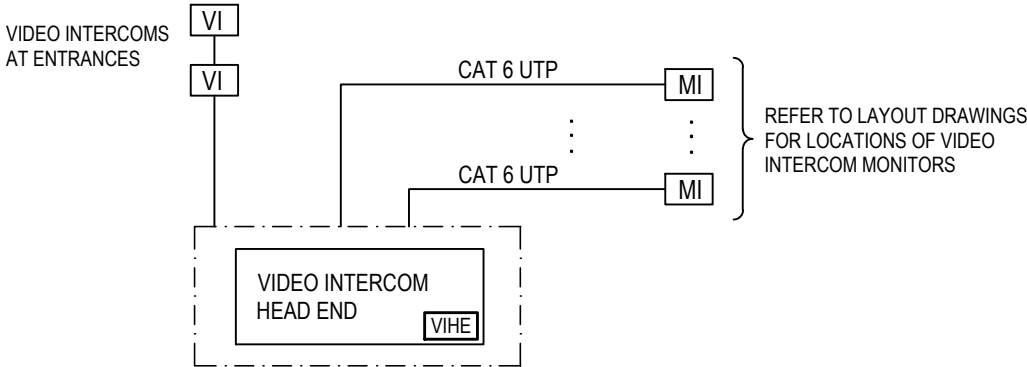
Title: POWER, DATA & SECURITY LAYOUT	Drawing No: E-04
Issue: B	Project No: 22.6118

Scale: 1 - 100 @A3  
Date Set Up: 06/2023  
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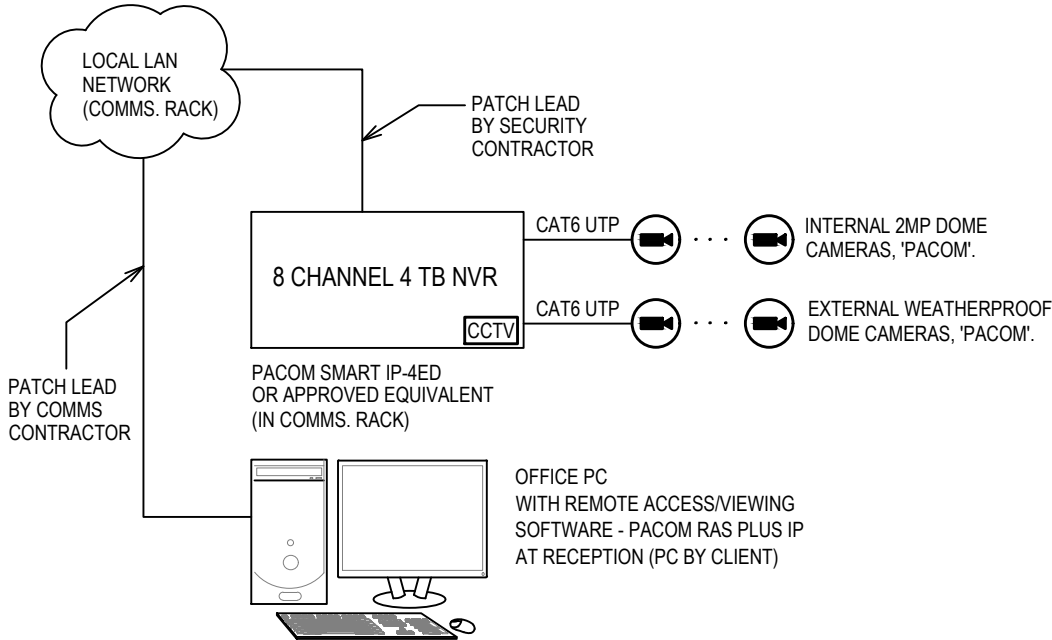
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**ACCESS CONTROL SYSTEM (FOR INFORMATION ONLY)**  
(CONTRACTOR TO SUBMIT QUOTATION AND SHOP DRAWINGS FOR REVIEW AND COMMENT)



**IP VIDEO INTERCOM SYSTEM (FOR INFORMATION ONLY)**  
(CONTRACTOR TO SUBMIT QUOTATION AND SHOP DRAWINGS FOR REVIEW AND COMMENT)



**CCTV SYSTEM (FOR INFORMATION ONLY)**  
(CONTRACTOR TO SUBMIT QUOTATION AND SHOP DRAWINGS FOR REVIEW AND COMMENT)

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**ELECTRICAL SERVICES**

Title: SCHEMATICS Drawing No: E-05 Issue: B

Scale: NTS @A3 Date Set Up: 06/2023 Project Manager: PM EC Project No: 22.6118

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# MECHANICAL SERVICES

DRAWING LIST	
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LOCATION - SITE PLAN

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SHOPS 4 - 6  
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MECHANICAL SERVICES

Title:  
COVER SHEET & DRAWING LIST

Drawing No:  
M-00

Issue:  
C

Scale:  
NTS  
@A3

Date Set Up:  
Jun-23











Project Manager:  
PM

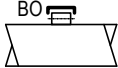

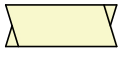
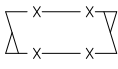


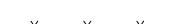



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LEGEND	
NOTES: ALL DUCTWORK SHALL COMPLY WITH AS4254 AND AS1668. ALL DUCT DIMENSIONS INDICATED ON THE DRAWINGS FOR SQUARE, RECTANGULAR AND ROUND DUCTS ARE REPRESENTED AS CLEAR INTERNAL AIRWAY SIZES U.N.O.	
SHEET METAL DUCTWORK LAGGED WITH:	
	INTERNAL INSULATION AS DESCRIBED WITHIN SPECIFICATION TYPICALLY WITH A MINIMUM THERMAL INSULATION RESISTANCE AS INDICATED ON INSULATION TABLES BELOW FOR RELEVANT CLIMATE ZONE AND SYSTEM CAPACITY.
	NEW FLEXIBLE DUCTWORK
	CIRCULAR, RIGID EXTERNALLY INSULATED DUCT TO MAKE-UP FLEXIBLE DUCT LENGTH OVER 3m. REFER TO FLEXIBLE DUCT SCHEDULE FOR DETAILS.
	NEW SWIRL SUPPLY AIR DIFFUSER SIMILAR TO "HOLYOAKE" MODEL "CFP", 600x600 FACE
	NEW RETURN / EXHAUST/ RELIEF AIR GRILLE
	ACCESS PANEL, BY BUILDING TRADE
	CEILING MOUNTED EXHAUST FAN
	THERMOSTAT
	THERMOSTAT + A/C CONTROLLER ON WALL
	DOOR GRILLE FACE AREA - 0.25M2

REFURBISHMENT WORK LEGEND	
	BLANK OFF EXISTING SPIGOT ON EXISTING DUCTWORK
	NEW DUCTWORK ( see specification for details of any insulation requirements )
	EXISTING DUCTWORK TO REMAIN
	EXISTING DUCTWORK TO BE REMOVED
	NEW FLEXIBLE DUCTWORK
	EXISTING FLEXIBLE DUCTWORK TO BE REMAIN
	EXISTING FLEXIBLE DUCTWORK TO BE REMOVED
	NEW DIFFUSER / SWIRL DIFFUSER OR R/A GRILLE
	EXISTING DIFFUSER / SWIRL DIFFUSER OR R/A GRILLE TO REMAIN
	EXISTING DIFFUSER / SWIRL DIFFUSER OR R/A GRILLE TO BE REMOVED

ABBREVIATIONS	
CU-****	CONDENSING UNIT
EAF-----	EXHAUST AIR FAN
TEF-****	TOILET EXHAUST FAN
OAF-----	OUTSIDE AIR FAN
FCU-****	FAN COIL UNIT
MSSB-----	MECHANICAL SERVICES SWITCHBOARD
A/H R/A S/A O/A E/A RAG TAG	AFTER HOURS RETURN AIR SUPPLY AIR OUTSIDE AIR EXHAUST AIR RETURN AIR GRILLE TRANSFER AIR GRILLE

NCC 2022 - DUCTWORK & FITTINGS MINIMUM INSULATION MATERIAL R-VALUE		
LOCATION OF DUCTWORK AND FITTINGS	DUCTWORK AND FITTINGS IN EACH CLIMATE ZONE	
	1, 2, 3, 4, 5, 6, & 7	8
WITHIN A CONDITIONED SPACE.	1.2	2.0
WHERE EXPOSED TO SUNLIGHT.	3.0	3.0
ALL OTHER LOCATIONS.	2.0	3.0
MANLY IS LOCATED IN CLIMATE ZONE 5.		

RECOMMENDED DUCTWORK MINIMUM INSULATION SCHEDULE											
MINIMUM MATERIAL R-VALUE	INTERNAL DUCTLINER				EXTERNAL DUCTWRAP						
	PRODUCT	THICKNESS	MATERIAL R-VALUE		PRODUCT	THICKNESS	MATERIAL R-VALUE		PRODUCT	THICKNESS	MATERIAL R-VALUE
R1.0	SUPERTEL	40mm	R1.2	OR	MULTITEL	38mm	R1.0	OR	FLEXITEL	38mm	R1.1
R1.2	SUPERTEL	40mm	R1.2	OR	MULTITEL	50mm	R1.3	OR	FLEXITEL	50mm	R1.4
R1.6	SUPERTEL	63mm	R1.8	OR	MULTITEL	75mm	R2.0	OR	FLEXITEL	75mm	R2.1
R2.0	SUPERTEL	67mm	R2.0	-	-	-	-	-	-	-	-
R2.0	SUPERTEL	75mm	R2.2	OR	MULTITEL	75mm	R2.0	OR	FLEXITEL	75mm	R2.1
R2.4	SUPERTEL	100mm	R3.0	OR	MULTITEL	2 x 50mm	R2.6	OR	FLEXITEL	2 x 50mm	R2.8
R3.0	SUPERTEL	100mm	R3.0	-	-	-	-	-	-	-	-
R3.4	SUPERTEL	2 x 63mm	R3.6	-	-	-	-	-	-	-	-

BASED ON PRODUCT SUPPLIED AND MANUFACTURED BY BRADFORD

FLEXIBLE DUCT SIZING SCHEDULE							
MAX. FLOW	l/s	DUCT DIA	mm	MAX. FLOW	l/s	DUCT DIA	mm
45		Ø150		290		Ø350	
90		Ø200		380		Ø400	
150		Ø250		490		Ø450	
210		Ø300		600		Ø500	
NOTES:							
1. ALL FLEXIBLE DUCTWORK SHALL BE OF "ISODEC" TYPE AS MANUFACTURED BY BRADFLO AIR, OR APPROVED EQUAL.							
2. FLEXIBLE DUCT TO BE SIZED BASED ON ABOVE SCHEDULE, UNLESS NOTED OTHERWISE.							
3. MAXIMUM AGGREGATE DEGREES OF ROTATION, IN COLLECTIVE NUMBER OF TURNS. IN ANY ONE CONNECTION (TOTAL LENGTH FROM EQUIPMENT, DUCT BRANCH, OUTLET DEVICE AND INCLUDING RIGID DUCT SECTIONS) TO BE NO MORE THAN 180° THE MAXIMUM CROSS SECTIONAL DEFLECTION (COMPRESSION OR EXTENSION) IN ANY ONE DIRECTION MUST NOT EXCEED 50mm							
4. FLEXIBLE DUCTWORK SHALL NOT EXCEED MORE THAN 6.0M IN LENGTH FROM A DUCT BRANCH OR OUTLET DEVICE TO AN OUTLET. SUPPLY AIR FLEXIBLE DUCTWORK SHALL ACHIEVE A MINIMUM "R" VALUE AS DEPICTED IN INSULATION TABLES ON THIS DOCUMENT.							
5. FLEXIBLE DUCT SHALL BE SUPPORTED BY HANGING SADDLES AND LOAD DISTRIBUTION SUPPORT SYSTEMS IN ACCORDANCE WITH AS4254.1 2012.							

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**M&PS MANLY**  
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MECHANICAL SERVICES

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LEGEND & SCHEDULES

Drawing No:  
M-01

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SCOPE OF WORKS	
GENERAL:	
THE WORK INCLUDES BUT IS NOT LIMITED TO THE SUPPLY, DELIVERY, INSTALLATION, TESTING, COMMISSIONING, SETTING TO WORK AND 12 MONTHS WARRANTY AND MAINTENANCE OF THE FOLLOWING	
1.	DECOMMISSION, DEMOLISH AND REMOVE EXISTING 2-OFF OUTSIDE AIR SYSTEMS SERVING RETAILS 5 & 6 AND ASSOCIATED DUCTWORK, FANS, ELECTRICAL AND CONTROLS - LEAVE NO TRACE. RETAIN INTAKE LOUVRES AND DUCT SECTIONS FOR NEW FITOUT CONNECTIONS AS INDICATED ON THE DRAWINGS.
2.	DECOMMISSION, DEMOLISH AND REMOVE EXISTING 2-OFF AC SYSTEMS (INCLUDING CONDENSING UNITS ON ROOF) SERVING RETAILS 5 & 6 AND ASSOCIATED DUCTWORK, PIPEWORK, ELECTRICAL AND CONTROLS - LEAVE NO TRACE.
3.	LOCATE AND PROTECT EXISTING RETAIL 4 DUCTED SPLIT FCU-G-04 TEMPERATURE SENSORS AND CONTROL EQUIPMENT PRIOR TO THE COMMENCEMENT OF DEMOLITION.
4.	PROVIDE TEMPORARY FILTER MEDIA TO FAN COIL UNITS RETURN AIR INTAKES TO MINIMISE INGRESS OF DUST AND DEBRIS TO THE BASE BUILDING SYSTEMS. ENSURE FILTRATION IS REMOVED AT COMPLETION OF WORKS.
5.	PROVIDE SHOP DRAWINGS AND TECHNICAL SUBMISSIONS OF THE PROPOSED SYSTEMS PRIOR TO COMMENCEMENT OF WORKS FOR ENGINEER'S ASSESSMENT.
6.	PROVIDE A NEW TOILET EXHAUST SYSTEM INCLUDING DUCTWORK, FAN WITH FLEXIBLE CONNECTIONS, NON-RETURN DAMPER AND ANYI-VIBRATION MOUNTS, RE-USE EXISTING OUTSIDE AIR DUCT SECTION AND LOUVRE FOR DISCHARGE AS INDICATED ON THE DRAWINGS.
7.	PROVIDE A NEW OUTSIDE AIR SYSTEM TO SERVE THE 4P MEETING ROOM & UTILITY AREA INCLUDING FILTER, DUCTWORK, OUTSIDE AIR FANS WITH FLEXIBLE CONNECTIONS, MOTORISED DAMPERS AND ANTI-VIBRATION MOUNTS AS INDICATED ON THE DRAWINGS.
8.	PROVIDE A NEW THERMOSTATICALLY CONTROLLED CEILING MOUNTED EXHAUST FAN TO SERVE THE COMMS RACK LOCATED AT THE UTILITY AREA. FAN TO OPERATE ONCE THE TEMPERATURE IN THE ROOM REACHES 26°C.
9.	SUPPLY AND INSTALL 2-OFF NEW TENANT AIR COOLED DUCTED SPLIT AC SYSTEMS INCLUDING ALL REFRIGERANT AND CONDENSATE DRAIN PIPEWORK, DUCTWORK, ELECTRICAL AND CONTROLS AS SHOWN ON THE DRAWINGS. OUTDOOR CONDENSING UNITS TO BE LOCATED ON ROOFTOP PLANT AREA (THE SPACE WHERE PREVIOUS CONDENSING UNITS ARE REMOVED). ALLOW ANTI-CORRISION COATING ON CONDENSING UNITS COILS AND FINS FOR SALT AIR ENVIRONMENT PROTECTION.
10.	ALL MEETING ROOM AC UNITS TO BE STARTED BY DAIKIN CONTROLLER PAD POWER ON/OFF BUTTON. ONCE STARTED, THE UNIT SHALL RUN FOR TWO HOURS (ADJUSTABLE) WITH GREEN RUNNING INDICATOR LIGHT. PRESS THE POWER ON/OFF BUTTON TO SWITCH OFF UNIT PRIOR TO TIME ELAPSE.
11.	PROVIDE NEW SWIRL DIFFUSERS WITH INTERNALLY LINED PLENUM BOXES AND EGG CRATE RETURN AIR GRILLES AS SHOWN ON THE DRAWINGS.
12.	PROVIDE NEW EGG CRATE TOILET EXHAUST AIR GRILLES AS SHOWN ON THE DRAWINGS.
13.	RELOCATE EXISTING (RETAIL 4) FAN COIL UNIT (FCU-G-04) AND WALL MOUNTED CONTROLLER PAD AS SHOWN ON THE DRAWINGS. DECOMMISSION AND RE-COMMISSION OF SYSTEM ARE REQUIRED FOR FAN COIL UNIT RELOCATION.
14.	PROVIDE NEW SUPPLY AIR SPIGOTS, FLEXIBLE DUCTS AND DAMPERS FOR NEW DIFFUSERS AS SHOWN ON THE DRAWINGS.
15.	PROVIDE A MECHANICAL SWITCH BOARD TO HOUSE THE POWER SUPPLY, CONTROLS EQUIPMENT FOR ALL TENANT MECHANICAL EQUIPMENT, TENANT AC UNITS AND CONTROL DEVICES. BOARD TO BE IP52 RATED.
16.	COORDINATE NEW MECHANICAL SERVICES WITH EXISTING SERVICES IN THE CEILING VOIDS AND WITH NEW SERVICES, FOR ALL TRADES DISCIPLINES.
17.	PROVIDE INSTRUCTION AND TRAINING OF PERSONNEL WHO WILL BE IN RESPONSIBLE TO OPERATE THE TENANTS EQUIPMENT.
18.	CARRY OUT AIR AND WATER BALANCING OF ALL EQUIPMENT IN AND IMPACTED BY THE TENANCY. ALL BALANCED FLOW RATES SHALL BE SHOWN ON A REPORT FOR ENGINEER'S REVIEW. ALLOW TO DEMONSTRATE THE COMMISSIONED EQUIPMENT TO THE ENGINEER.
19.	PROVIDE TWELVE MONTHS MAINTENANCE AND WARRANTY ON THE INSTALLATION.
20.	PROVIDE THREE COPIES OF O&M MANUALS. THE MANUALS SHALL INCLUDE: <div>20.1 AS BUILT DRAWINGS</div> <div>20.2 ALL AS BALANCED AIR QUANTITIES.</div>

BUILDER'S WORKS:	
THE FOLLOWING BUILDING WORKS SHALL BE PROVIDED:	
1.	PROVISION OF ALL PENETRATIONS AND HOLES TO LOCATIONS AND DIMENSIONS PROVIDED BY CONTRACTOR .
2.	PROVISION OF CEILING ACCESS PANELS FOR MECHANICAL INSTALLATION AND SERVICE ACCESS, EXACT LOCATION TO BE PROVIDED BY MECHANICAL TRADE.
3.	PROVIDE FIRE RATED SEAL FOR MECHANICAL SERVICES PENTRATIONS TO FIRE ESCAPE CORRIDOR ADJUCENT TO BACK OF THE TENANCY.
4.	INSTALLATION OF DOOR GRILLES. SUPPLY OF DOOR GRILLES BY MECHANICAL CONTRACTOR.
ELECTRICAL SERVICES WORK:	
THE FOLLOWING ELECTRICAL WORK SHALL BE PROVIDED:	
1.	PROVIDE A POWER SUPPLY TO NEW MECHANICAL SWITCH BOARD. SELECTED EQUIPMENT POWER REQUIREMENTS TO BE CONFIRMED BY MECHANICAL TRADE.
HYDRAULIC SERVICES WORK:	
THE FOLLOWING HYDRAULIC SERVICES WORKS SHALL BE PROVIDED:	
1.	PROVIDE TUNDISHES FOR MECHANICAL CONDENSATE DRAINS.

GENERAL NOTES	
1.	INFORMATION SHOWN IS FOR TENDER PURPOSES ONLY. THE CONTRACTOR SHALL CO-ORDINATE WITH ALL SERVICES ON SITE PRIOR TO MANUFACTURE AND SITE-INSTALLATION.
2.	ALL WORKS TO MEET CURRENT BCA/NCC REQUIREMENTS
3.	ALL WORKS TO MEET THE LESSORS FITOUT GUIDE REQUIREMENTS. TENDERERS TO OBTAIN A COPY WHEN TENDERING THE WORKS.
4.	VERIFY ALL DIMENSIONS ON SITE PRIOR TO MANUFACTURE.
5.	ALL DUCTWORK SHALL COMPLY WITH AS 1668 AND AS 4254.
6.	ALL DUCT DIMENSIONS INDICATED ON THE DRAWINGS REPRESENT CLEAR INTERNAL AIRWAY SIZES UNLESS NOTED OTHERWISE.
7.	ALL DUCT INSULATION INCLUDING FLEXIBLE DUCTWORK,SHALL BE NON COMBUSTIBLE WHEN TESTED IN ACCORDANCE WITH AS 1530 AND HAVE A MINIMUM THERMAL RESISTANCE (R) THAT CORRESPONDS TO THE RELEVANT PROJECT CLIMATE ZONE AND SYSTEM CAPACITY. REFER TO INSULATION TABLES NOTED ON THIS DOCUMENT. ALL LINING SHOULD ALSO BE FACED WITH PERFORATED SISALATION 450.
8.	REFER TO SCHEDULE FOR FLEXIBLE DUCT DIAMETERS. THE LENGTH OF FLEXIBLE DUCT SHALL NOT EXCEED 6.0m.
9.	ALL FLEXIBLE AIR CONDITIONING DUCTWORK SHALL BE MANUFACTURED BY "WESTAFLEX, BRADFLO" OR APPROVED EQUAL.
10.	PAINT ALL VISIBLE SURFACES BEHIND GRILLES MATT BLACK.
11.	SUSPEND ALL FLEXIBLE DUCTWORK INDEPENDENT OF THE FALSE CEILING. GUTTER GUARD OR KWIKFLEX SIMILAR TO BE USED TO SUPPORT FLEX AND HELP IT MAINTAIN ITS CROSS-SECTIONAL AREA.
12.	WHERE THE DIAMETER OF THE FLEXIBLE DUCT EXCEEDS THE DEPTH OF THE RIGID DUCT IT ORIGINATES FROM, AN OVAL SPIGOT HAVING THE SAME CIRCUMFERENCE AS THE FLEXIBLE DUCT, MAY BE USED.
13.	ALL SUPPLY AIR DIFFUSERS ARE TO BE INSTALLED COMPLETE WITH PLENUM BOXES INTERNALLY LINED WITH 38mm THICK ACOUSTIC INSULATION.
14.	ALL CONDENSATE DRAINS SHALL BE IN TYPE B COPPER, Ø25mm AND INSULATED IN FIRE PROOF ARMAFLEX INSULATION. THE TUNDISH SHALL BE PROVIDED BY THE HYDRAULIC TRADE.
15.	ALL REFRIGERANT PIPEWORK INSULATION SHALL BE A CLOSED-CELL, FLEXIBLE ELASTOMERIC FOAM. THE INSULATION SHALL BE COMPLIANT WITH THE REQUIREMENTS OF MATERIALS FOR THERMAL INSULATION OF BUILDINGS, ACCORDING TO AS/NZS 4859.1. INSULATION MUST HAVE THERMAL CONDUCTIVITY 0.035 W/(m²K) AT 23°C FOR THICKNESS 25MM. INSULATION SHALL HAVE A WATER-VAPOUR DIFFUSION RESISTANCE FACTOR u 5,000 ACCORDING TO EN 12086 OR EN 13469. ALL INSULATION LOCATED EXTERNALLY MUST BE PROTECTED AGAINST THE EFFECTS OF WEATHER AND SUNLIGHT, AS PER THE REQUIREMENTS OF THE NATIONAL CONSTRUCTION CODE, VOLUME 1, BUILDING CODE OF AUSTRALIA (BCA), SPECIFICATION J5.2C.INSULATION SHALL BE ARMAFLEX FRV, ARMAFLEX FRV PAIRCOIL, OR APPROVED EQUIVALENT. ALL JOINTING SHALL BE TAPED.
16.	ALL REFRIGERANT PIPEWORK LOCATED OUTSIDE IS TO BE PROTECTED FROM THE WEATHER AND PHYSICAL DAMAGE BY COLOUR BOND TRUNKING OR UV STABILISED ENCLOSURE.
17.	THE CONTRACTOR SHALL PROVIDE "AS INSTALLED" DRAWINGS INCLUDING CAD FILES IN DWG FORMAT. DRAWINGS AND COMMISSIONING DATA ARE TO BE INCLUDED IN OPERATION AND MAINTENANCE MANUALS.
18.	EXACT LOCATIONS OF IN CEILING EQUIPMENT TO BE SELECTED TO ENSURE LADDER ACCESS IS NOT BLOCKED BY FURNITURE OR WORKSTATIONS.
19.	THE TENDER PRICE SHALL BE SUBMITTED AS A FIXED LUMP SUM NOT SUBJECT TO ADJUSTMENT DUE TO VARIATIONS IN COSTS.
20.	TENDERS SUBMITTED SHALL INCLUDE FOR ALL WORK, INCIDENTAL OR OTHERWISE NECESSARY, SUCH THAT THE COMPLETED WORK IS TO THE ENTIRE SATISFACTION OF THE PROPRIETOR, ARCHITECT, ENGINEER AND PROJECT MANAGER.
21.	TENDER SHALL INCLUDE PRIME COSTS SUMS, CONTINGENCY SUMS, GOODS AND SERVICES TAX (WHERE APPLICABLE), CUSTOMS AND OTHER DUTIES, STAMP DUTY, PAYMENTS FOR ROYALTIES, PATENT RIGHTS AND ALL OTHER FEES APPLICABLE TO THE WORK.
22.	TENDERERS SHALL INSPECT THE SITE, EXAMINE CONSTRUCTION AND ARCHITECTURAL DRAWINGS, MAKE ANY FIELD SURVEY NECESSARY FOR PROPER PLANNING AND EXECUTION OF THE WORK. NO PRICE VARIATION OR EXTENSION OF TIME WILL BE ALLOWED ON THE GROUNDS OF LACK OF SITE KNOWLEDGE, UNFORESEEN DIFFICULTIES OR PROVISION OF INSUFFICIENT INFORMATION DURING THE TENDER PERIOD.

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Project:

M&PS MANLY  
SHOPS 4 - 6  
8-28 THE CORSO, MANLY NSW

MECHANICAL SERVICES

Title: GENERAL NOTES & SCOPE OF WORKS	Drawing No: M-02
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NEW AIR COOLED VRV HEAT PUMP DUCTED SPLIT AC UNIT SCHEDULE

ITEM	LOCATION	AREA SERVED	TOTAL COOLING (KW)	SENSIBLE COOLING (KW)	EXTERNAL STATIC (PA)	ENTERING AIR DB/WB OC	SUPPLY AIR FLOW (L/S)	OUTSIDE AIR (L/S)	HEATING CAPACITY (KW)	ELECTRICAL SUPPLY (V/HZ/A)	OPERATION	POWER SOURCE	FIRE SHUTDOWN	DRAIN PUMP	NOTE	DAIKIN MODEL
FCU-G-01	CEILING VOID	MEETING RM	4.3	3	125	24.9/17.4	200	40	1.6	230/50/1.1	2 HRS RUN-ON TIMER POWER BUTTON WITH MANUAL OFF ON CONTROLLER PAD	MSSB-G-01	N	N		FXMQ40PAVE
FCU-G-03	CEILING VOID	BOARD RM	9.7	6.8	150	24.8/18.7	500	120	3.8	230/50/2.3	2 HRS RUN-ON TIMER POWER BUTTON WITH MANUAL OFF ON CONTROLLER PAD	MSSB-G-01	N	N		FXMQ100PAVE
CU-R-01	ROOF PLANT AREA	UTILITY, MEETING & BOARD RMS	16	–	–	–	–	–	5.4	230/50/19.5	INTERLOCK WITH INDOOR FCUS	MSSB-G-01	N	N	ANTI-CORROSION COIL & FIN COATING FOR SALT AIR PROTECTION	RSUYQ6A2VMA (VRV-S HIGH SEASONAL EFFICEINCY)
FCU-G-05	CEILING VOID	UTILITY	5.5	4.4	125	24.0/17.8	375	40	1.4	230/50/1.4	TIMER SCHEDULE	MSSB-G-01	N	N		FXMQ63PAVE
FCU-G-02	CEILING VOID	OFFICE	6.3	5.5	125	23.6/15.3	300	30	2.1	230/50/1.4	4 HRS RUN-ON TIMER (ADJUSTABLE) POWER BUTTON WITH MANUAL OFF ON CONTROLLER PAD	MSSB-G-01	N	N		FXMQ63PAVE
CU-R-02	ROOF PLANT AREA	UTILITY, MEETING & BOARD RMS	16	–	–	–	–	–	5.4	230/50/19.5	INTERLOCK WITH INDOOR FCUS	MSSB-G-01	N	N	ANTI-CORROSION COIL & FIN COATING FOR SALT AIR PROTECTION	RSUYQ6A2VMA (VRV-S HIGH SEASONAL EFFICEINCY)

NEW FAN SCHEDULE

ITEM	LOCATION	AREA SERVED	AIR QTY (l/s)	STATIC PRESSURE (Pa)	MAX RPS	ELECTRICAL SUPPLY (V/Hz/A)	MOTOR STARTER	SPEED DRIVE	NOISE LEVEL @3M (dba)	POWER SOURCE	FANTECH MODEL	OPERATION
OAF-G-01	CEILING VOID	MEETING RM	40	125	33	240/50/0.2	DOL	1 PHASE SPEED CONTROLLER	33	MSSB-G-01	TD-500/150 SIL	INTERLOCK WITH FCU-G-01
OAF-G-02	CEILING VOID	OFFICE	30	125	33	240/50/0.2	DOL	1 PHASE SPEED CONTROLLER	33	MSSB-G-01	TD-500/150 SIL	INTERLOCK WITH FCU-G-02
OAF-G-03	CEILING VOID	BOARD RM	120	175	41	240/50/0.45	DOL	1 PHASE SPEED CONTROLLER	40	MSSB-G-01	TD-800/200 SIL	INTERLOCK WITH FCU-G-03
OAF-G-05	CEILING VOID	UTILITY	40	150	42	240/50/0.22	DOL	1 PHASE SPEED CONTROLLER	40	MSSB-G-01	TD-500/150 SIL	INTERLOCK WITH FCU-G-05
EAF-G-01	UTILITY CEILING	COMMS RACK	220	35	19	240/50/0.6	DOL	1 PHASE SPEED CONTROLLER	40	MSSB-G-01	RP-356	THERMOSTATICALLY CONTROL
TEF-G-01	CEILING VOID	TOLLETS	115	150	41	240/50/0.45	DOL	1 PHASE SPEED CONTROLLER	40	MSSB-G-01	TD-800/200 SIL	TIMER SCHEDULE

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Project:

**M&PS MANLY**

SHOPS 4 - 6

8-28 THE CORSO, MANLY NSW

MECHANICAL SERVICES

Title:  
EQUIPMENT SCHEDULES

Drawing No:  
**M-03**

Issue:

**C**

Scale: NTS @A3	Date Set Up: Jun-23	Project Manager: PM	CTL: EC	Project No: <b>22.6118</b>
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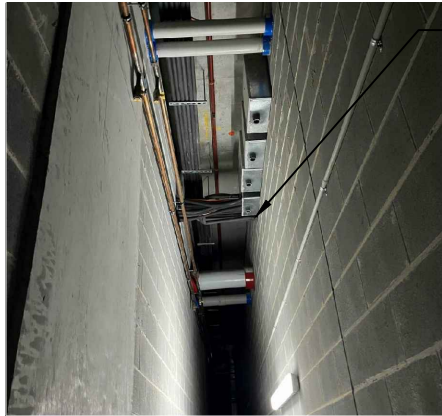
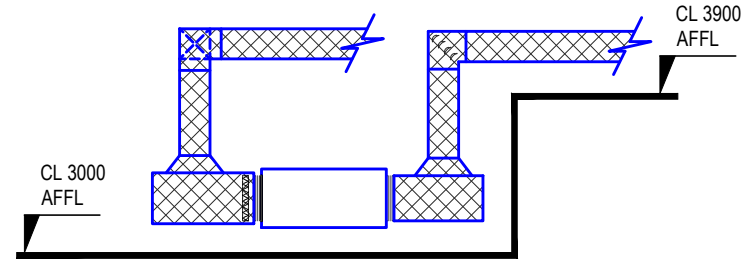


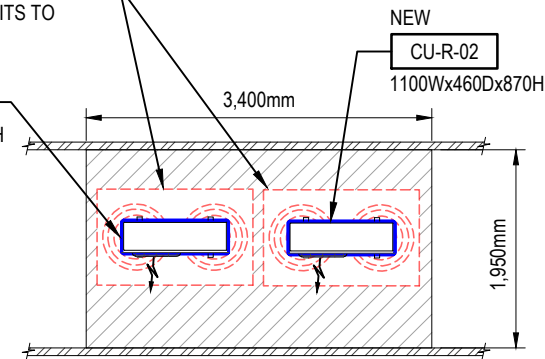
PHOTO 1

NEW REFRIGERANT PIPES  
VIA EXISTING KE DUCT TO  
ROOF AND FIRE RATE SEAL  
TO DUCT PENETRATION



SECTION A  
NTS

EXISTING RETAILS 5 & 6  
CONDENSING UNITS TO  
BE REMOVED  
NEW  
CU-R-01  
1100Wx460Dx870H



RETAILS 5 & 6 ROOF CONDENSING UNITS  
PLANT LAYOUT  
NTS

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P1	26/07/2023	PRELIMINARY ISSUE	PM/EC
A	7/08/2023	CONSTRUCTION ISSUE	PM/EC
B	22/09/2023	REVISED CONSTRUCTION ISSUE	PM/EC
C	9/10/2023	REVISED CONSTRUCTION ISSUE	RL/EC

## NOTES

- ALL MECHANICAL FANS AND FAN COIL UNITS SUSPENDED NOT MORE THAN 250MM ABOVE 3000MM CEILINGS FOR EASIER SERVICE ACCESS.

NEW OA MOTORISED DAMPER  
INTERLOCK WITH RELOCATED OAF-G-04

RELOCATED  
OAF-G-04  
PROVIDE SPEED CONTROLLER  
FOR AIR BALANCE

REFRIGERANT PIPES TO ROOF  
CONDENSING UNITS VIA  
EXISTING REDUNDANT KITCHEN  
EXHAUST RISER DUCT TO ROOF  
(REFER PHOTO 1)

PROVIDE FIRE RATED SEAL TO  
REFRIGERANT PIPES THROUGH  
WALL AND RISER PENETRATIONS

NEW  
OAF-G-01

NEW  
FCU-G-01

EXISTING OA DUCT FROM RETAIL 3  
FOR FCU-G-04 CONNECTION

NEW  
TEF-G-01

NEW  
OAF-G-02

NEW  
FCU-G-02

RELOCATED  
FCU-G-04  
RELOCATE UNIT & DROP  
THE UNIT TO 3250 AFFL

RAG 600x600 EAG 200x200

EAG 200x200

NEW  
OAF-G-05

NEW  
FCU-G-05

NEW  
MSSB-G-01

NEW  
EAF-G-01

EXISTING FCU AND OUTSIDE AIR  
DUCT SERVING RETAIL 7 TO BE  
RELOCATED BY THE LESSOR

NEW 200X150 OA DUCT WITH  
BUTTERFLY DAMPER SPIGOT  
TAKE-OFF FROM MAIN DUCT FOR  
SHOP 7 CONNECTION (MAX.100 L/S)

NEW  
OAF-G-03

NEW  
350X400 G4 PANEL FILTER

FCU-G-03

CEILING BULKHEAD LINE

RETAIN EXISTING LOUVRE AND  
A SECTION OF DUCT FOR NEW  
TOILET EXHAUST DISCHARGE  
ABOVE AWNING

TAKE-OFF ROUND SPIGOT ON TOP  
OF SUPPLY/RETURN AIR PLENUMS  
WITH AIR BALANCING DAMPER

RE-USE EXISTING OA INTAKE  
WEATHERPROOF LOUVRE AT  
MEZZANINE LEVEL ABOVE THE  
AWNING

ARCHITECTURAL DRAWINGS	DRAWINGS No.	REVISION	ARCHITECTS ISSUE DATE	RECEIVED DATE	RECEIVED FOLDER
GA PLAN	A3.00	B	27.07.23	02.08.23	r-007
RCP	A5.00	E	27.07.23	02.08.23	r-007

North Point:



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Project:

**M&PS MANLY**  
SHOPS 4 - 6  
8-28 THE CORSO, MANLY NSW

MECHANICAL SERVICES

Title:  
MECHANICAL LAYOUT

Drawing No:  
M-04

Issue: C

Scale: 1:100 @A3 Date Set Up: Jun-23 Project Manager: PM CTL: EC Project No: 22.6118





Rev:	Date:	Description:	Checked:
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# M&PS MANLY

## SHOPS 4 - 6, 8-28 THE CORSO, MANLY NSW

# HYDRAULIC SERVICES

DRAWING LIST	
H-00	COVER SHEET & DRAWING LIST
H-01	LEGEND & DETAILS
H-02	GENERAL NOTES
H-03	SPECIFICATION - SHEET 1 OF 3
H-04	SPECIFICATION - SHEET 2 OF 3
H-05	SPECIFICATION - SHEET 3 OF 3
H-06	WATER SERVICES LAYOUT
H-07	DRAINAGE SERVICES LAYOUT



LOCATION - SITE PLAN

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Project:

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SHOPS 4 - 6  
8-28 THE CORSO, MANLY NSW























HYDRAULIC SERVICES

Title: COVER SHEET & DRAWING LIST Drawing No: H-00 Issue: A

Scale: NTS Date Set Up: Feb-23 Project Manager: PM CTL: EC Project No: 22.6118



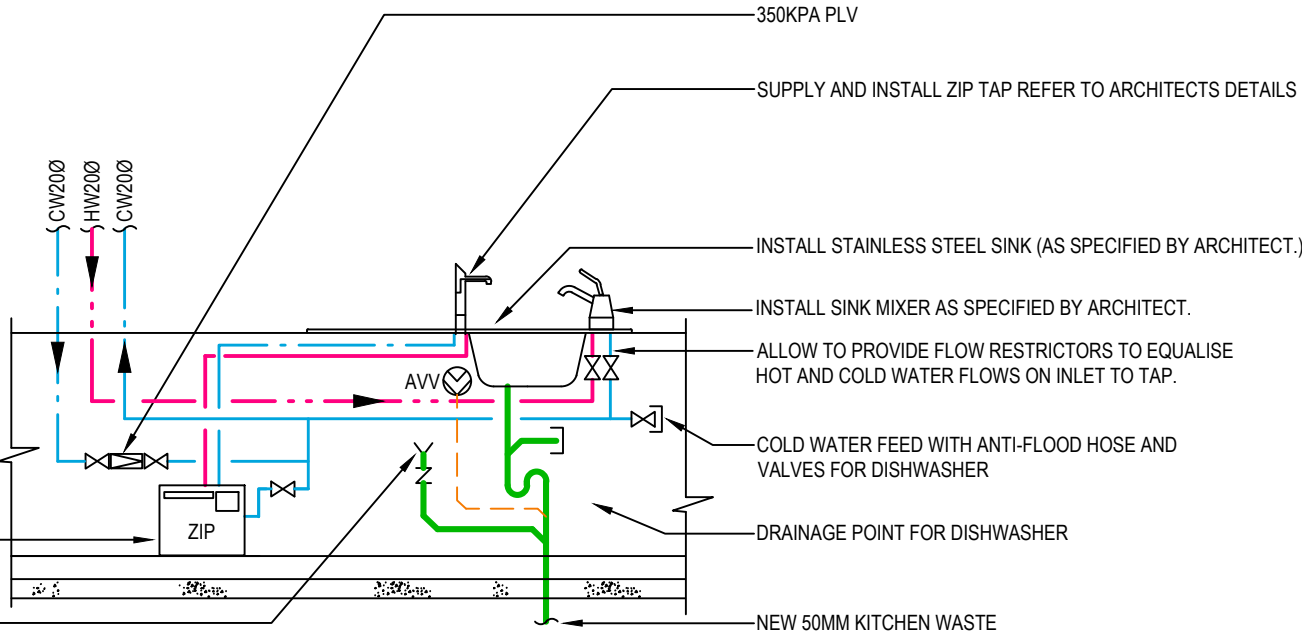
Rev:	Date:	Description:	Checked:
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LEGEND	
	DETAIL NUMBER REFERENCE DETAIL DRAWING NUMBER REFERENCE
	INDICATES SERVICE FLOWING UP INDICATES SERVICE TYPE INDICATES SERVICE SIZE INDICATES SERVICE FLOWING DOWN
	SERVICES PIPE DROPPER
	SERVICES PIPE RISER
	SERVICES PIPE CONTINUES
	CAPPED SERVICE
	SERVICES DIRECTION OF FLOW
	SANITARY DRAINAGE
	COLD WATER SERVICE
	HOT WATER FLOW SERVICE
	TEMPERED HOT WATER FLOW SERVICE
	DRAINAGE/SANITARY VENT
	FLOORWASTE
	CLEAR OUT
	STOP VALVE (ISOLATION VALVE)
	HOSE TAP
	THERMOSTATIC MIXING VALVE
	AIR ADMITTANCE VALVE
	TUNDISH
	PRESSURE REDUCTION VALVE
	TAP SET
	WATER METER

ABBREVIATIONS	
AAV	AIR ADMITTANCE VALVE
AB	ACCESSIBLE BASIN
AWC	ACCESSIBLE WATER CLOSET
B	BASIN
CO	CLEAR OUT
CW	COLD WATER
DW	DISHWASHER
e	EXISTING
FH	FIRE HYDRANT
FHR	FIRE HOSE REEL
FS	FIRE SERVICE
FW	FLOOR WASTE
HW	HOT WATER
HWU	HOT WATER UNIT
IO	INSPECTION OPENING
PLV	PRESSURE LIMITING VALVE
S	SEWER
SFW	SEALED FLOOR WASTE
SHR	SHOWER
SK	SINK
ST	STACK
TD	TUNDISH
TTD	TRAPPED TUNDISH
TPR	TEMPERATURE AND PRESSURE RELIEF VALVE
VP	VENT PIPE
WC	WATER CLOSET
TMV	THERMOSTATIC MIXING VALVE
WW	WARM WATER

ZIP HYDROTAP 4 IN 1 (MODEL: HT 1724 G4) BCHA 240 BOILING WATER CUPS, 175 CHILLED WATER GLASSES PER HOUR WITH INTEGRATED 500kPa PRESSURE LIMITING DEVICE AND DUAL CHECK VALVE. WELS = 6 STAR. DIMENSIONS = 333mm HIGH X 394mm WIDE X 464mm DEEP. INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. REFER TO MANUFACTURERS RECOMMENDATIONS FOR CUPBOARD INSTALLATION AND VENTILATION. HYDROTAP POWER RATING 2.1kW 230V 50Hz POWER SUPPLY + 2.1kW BOOST UNIT. 1 X 10 AMP DOUBLE GPO. WIRING BY OTHERS.

HDPE TUNDISH WITH HEPVO WATERLESS TRAP FOR MECHANICAL SERVICES.



D1 SINK DETAIL  
H06 & H07 NOT TO SCALE

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Project:

**M&PS MANLY**  
SHOPS 4 - 6  
8-28 THE CORSO, MANLY NSW

HYDRAULIC SERVICES

Title:  
LEGEND & DETAILS

Drawing No:  
H-01

Issue: A

Scale: NTS @A3 Date Set Up: Feb-23 Project Manager: PM CTL: EC Project No: 22.6118

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## GENERAL NOTES

- THE WORKS REQUESTED ARE GENERALLY DESCRIBED AS FOLLOWS:
- THE SCOPE OF WORKS FOR THE PROJECT COMPRISES THE FOLLOWING:  
SEWER/SANITARY DRAINAGE, DOMESTIC COLD WATER, DOMESTIC HOT WATER, SANITARY FIXTURES & APPLIANCES.
- THE ACCOMPANYING DRAWINGS INDICATE THE APPROXIMATE POSITIONS AND NUMBER OF SANITARY FIXTURES AND OTHER ITEMS REQUIRING CONNECTION TO THE HYDRAULIC SERVICE. ALLOW FOR ALL NECESSARY DIVERSIONS AND MINOR ADJUSTMENTS OF PIPEWORK AND EQUIPMENT AS MAY BE NECESSARY TO CARRY OUT THE WORK AS REQUIRED AND AS NECESSARY TO COMPLETE THE WORKS.REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF EQUIPMENT AND CO-ORDINATE WITH OTHER SERVICES WHERE APPLICABLE.
- A SET OF DRAWINGS SHALL BE KEPT ON SITE AND PROGRESSIVELY MARKED UP BY CONTRACTOR AS THE WORK PROCEEDS TO RECORD LOCATIONS, INVERTS AND DETAILS OF ALL INSTALLED SERVICES, EQUIPMENT AND VALVES.
- ALLOW FOR THE COST OF CARRYING OUT ALL TESTS SET OUT ON DRAWINGS OR IN THE SPECIFICATION OR AS REQUIRED BY THE RESPECTIVE AUTHORITIES.SUPPLY ALL PLUG, APPARATUS AND OTHER MATERIALS NECESSARY FOR THE TESTS.ENCLOSED WORKS SHALL NOT BE COVERED OR CONCEALED FROM VIEW UNTIL INSPECTED, TESTED AND WITNESSED BY CONTRACT ADMINISTRATOR AND APPROVED BY THE AUTHORITY CONCERNED.
- THE DRAWINGS INDICATE EXISTING SERVICES ON THE SITE THAT HAVE BEEN PREPARED FROM AVAILABLE RECORDS.
- UPON COMPLETION OF THE PROJECT, SUBMIT FOUR (4) COPIES OF MAINTENANCE MANUALS CONTAINING 'AS INSTALLED' DRAWINGS, ALSO SUBMIT IN ELECTRONIC DWG FORMAT.
- IF FOR ANY REASON DOUBT EXISTS ON WHETHER A PARTICULAR PORTION OF WORK IS REQUIRED THE HYDRAULIC CONTRACTOR SHALL INCLUDE THIS AS A SEPARATE QUOTATION IN THE TENDER.
- THE HYDRAULIC CONTRACTOR SHALL INCLUDE A FULL SCHEDULE OF RATES TO COVER THE WORKS AND ANY VARIATION WITH THE TENDER.
- DEFECTS LIABILITY SHALL BE 12 MONTHS.
- THE TENDER PRICE SHALL BE SUBMITTED AS A FIXED LUMP SUM NOT SUBJECT TO ADJUSTMENT DUE TO VARIATIONS IN COSTS.
- TENDERS SUBMITTED SHALL INCLUDE FOR ALL WORK, INCIDENTAL OR OTHERWISE NECESSARY, SUCH THAT THE COMPLETED WORK IS TO THE ENTIRE SATISFACTION OF THE PROPRIETOR, ARCHITECT, ENGINEER AND PROJECT MANAGER.
- TENDERERS SHALL INCLUDE PRIME COSTS SUMS, CONTINGENCY SUMS, GOODS AND SERVICES TAX (WHERE APPLICABLE), CUSTOMS AND OTHER DUTIES, STAMP DUTY, PAYMENTS FOR ROYALTIES, PATENT RIGHTS AND ALL OTHER FEES APPLICABLE TO THE WORK.
- TENDERERS SHALL INSPECT THE SITE, EXAMINE CONSTRUCTION AND ARCHITECTURAL DRAWINGS, MAKE ANY FIELD SURVEY NECESSARY FOR PROPER PLANNING AND EXECUTION OF THE WORK. NO PRICE VARIATION OR EXTENSION OF TIME WILL BE ALLOWED ON THE GROUNDS OF LACK OF SITE KNOWLEDGE, UNFORESEEN DIFFICULTIES OR PROVISION OF INSUFFICIENT INFORMATION DURING THE TENDER PERIOD.
- EACH TENDER SUBMITTED SHALL REMAIN VALID AND THE TENDERER BOUND BY IT FOR A PERIOD OF THIRTY (30) DAYS AFTER THE DATE OF SUBMISSION.
- ALL EXISTING SERVICES INDICATED ON THESE DRAWINGS ARE APPROXIMATE LOCATIONS ONLY. HYDRAULIC CONTRACTOR RESPONSIBLE TO CONFIRM LOCATION OF THIS EXISTING PIPE WORK AND COORDINATE EXISTING WITH NEW SERVICES BEFORE COMMENCEMENT OF WORK ON SITE.
- CONNECTION TO EXISTING SERVICE, CONTRACTOR SHALL CO-ORDINATE WITH BUILDING MANAGER INCLUDING ACCESS, SECURITY ANY DISRUPTION etc AS REQUIRED PRIOR TO COMMENCEMENT OF WORK.

## GENERAL CONDITIONS

- DRAWING - THE HYDRAULIC SERVICES DRAWINGS AND ARCHITECTURAL, CIVIL, STRUCTURAL AND OTHER SERVICES DRAWINGS ASSOCIATED WITH THE PROJECT.
- ALL MOBILE SCAFFOLDS, PLATFORM LADDERS AND EQUIPMENT TO CARRY OUT THE HYDRAULIC INSTALLATIONS ARE TO BE SUPPLIED BY THE HYDRAULIC CONTRACTOR.
- LOCAL AUTHORITY - THE RELEVANT AUTHORITY HAVING JURISDICTION OVER THE WORK IN THE AREA OF THE WORK.
- PROVIDE - MANUFACTURE, SUPPLY, INSTALL, TEST, SERVICE AND CERTIFY ALL MATERIALS AND COMPONENTS REQUIRED FOR THE INSTALLATION.
- ALL WORK TO BE INSTALLED FULLY IN ACCORDANCE WITH AS 3500, AS 2444, AS 2419, AS 5601, AS 2441, BCA SECTION J7.2 AND RELATED STANDARD AS APPROPRIATE.
- ALL SERVICES BOTH NEW AND EXISTING, SERVICE ROUTES, DEPTHS AND MATERIALS INDICATED ON DESIGN AND DOCUMENTATION ARE TAKEN FROM PRE-EXISTING DRAWINGS, AND CANNOT BE VERIFIED FOR CORRECTNESS. IT IS THEREFORE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND ASCERTAIN ALL SERVICES DETAILS PRIOR TO COMMENCEMENT OF THE WORKS.
- SUPERINTENDANT - THE CLIENT'S REPRESENTATIVE ON SITE.
- FIXTURE LOCATIONS:  
FOR ALL EXACT FIXTURE LOCATIONS, REFER TO ARCHITECTURAL DOCUMENTATION FOR SIZE, LOCATIONS OF ABOVE ITEMS. HYDRAULIC SERVICES DOCUMENTATION ONLY INDICATES GENERAL LOCATIONS OF ABOVE ITEMS.
- MAIN CONTRACTOR - THE BUILDER OVERSEEING THE ENTIRE WORKS.
- TENDERERS MUST VISIT THE SITE BEFORE SUBMITTING A TENDER TO FAMILIARISE THEMSELVES WITH ALL EXISTING CONDITIONS AND TAKE ALL NOTES AND MEASUREMENTS NECESSARY TO PROVIDE A DETAILED AND COMPREHENSIVE TENDER FOR THE WORK SPECIFIED HEREIN.
- CALIBRATION CERTIFICATE OF ALL TEST EQUIPMENT TO BE PROVIDED UPON REQUEST.

## DUTY OF CARE

VOS GROUP ARE NOT RESPONSIBLE FOR ANY EXISTING HYDRAULIC SERVICES NON-COMPLIANCES WITHIN THE SANITARY PLUMBING, STORMWATER, FIRE HYDRANT AND FIRE HOSE REEL SERVICES WHICH ARE EVIDENT WITHIN THIS TENANCY AND THE BUILDING WHERE AN INSPECTION MAY HAVE IDENTIFIED THEM.

THE BUILDING OWNER AND THEIR INSURERS, IRREVOCABLY DISCHARGE US FROM OUR DUTY OF CARE IN RELATION TO THESE NON-COMPLIANCES, WHICH ARE REQUIRED TO BE IDENTIFIED BY THE TESTING AND MAINTENANCE CONTRACTOR WITHIN AS1851 (2012).

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Project:

**M&PS MANLY**  
SHOPS 4 - 6  
8-28 THE CORSO, MANLY NSW

HYDRAULIC SERVICES

Title:  
GENERAL NOTES

Drawing No:  
H-02

Issue: A

Scale: NTS @A3	Date Set Up: Feb-23	Project Manager: PM	CTL: EC	Project No: 22.6118
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SPECIFICATION

1. GENERAL:  
ALL WORK SHALL BE CARRIED OUT BY AND UNDER THE SUPERVISION OF A LICENSED PLUMBER IN STRICT CONFORMITY WITH THE ARCHITECTURAL PLANS AND HYDRAULIC DRAWINGS AND SPECIFICATIONS AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING CODE OF AUSTRALIA, LOCAL AUTHORITIES, AS 3500 AND ANY APPLICABLE FIRE ENGINEERED REPORTS.
2. WORK IS TO BE CARRIED OUT TO THE SATISFACTION OF THE SUPERINTENDENT.
3. SCOPE OF WORKS:  
PROVIDE ALL MATERIALS AND LABOUR NECESSARY TO PROVIDE A COMPLETE, WORKING AND SERVICEABLE INSTALLATION BASED ON THE DRAWINGS AND SPECIFICATION.
4. GENERAL SCOPE:

- LOCATE AND CONNECT TO EXISTING SANITARY DRAINAGE SERVICE.

- LOCATE AND CONNECT TO EXISTING TENANCY COLD WATER PROVISION.

- EXTEND SANITARY DRAINAGE AND WATER SERVICES TO ALL FIXTURES AS NECESSARY.

- REMOVE EXISTING FIRE HOSE AND HYDRANT AND PROVIDE NEW FHR AND HYDRANT FACING CORRIDOR ENTRY.
- \* AMENITIES:

- INSTALLATION OF NEW SANITARY PLUMBING AND WATER SERVICES FOR AMENITIES.

- SUPPLY AND INSTALL NEW FIXTURES AND TAPWARE (MODEL AS SPECIFIED BY ARCHITECT)

- SUPPLY AND INSTALL A NEW ENWARE AQUABLEND 1500 IN STAINLESS STEEL CABINET THERMOSTATIC MIXING VALVE WITHIN A LOCKABLE STAINLESS STEEL BOX AT LOW LEVEL BELOW THE BASIN.
- \* KITCHENETTE:

- INSTALLATION OF NEW SANITARY PLUMBING & WATER SERVICES FOR NEW KITCHEN SINK AND DISHWASHER.

- SUPPLY & INSTALL A NEW KITCHEN SINK AND TAPWARE (AS NOMINATED BY THE ARCHITECT).

- SUPPLY AND INSTALL A NEW ZIP BOILING/CHILLED UNIT (MODEL: HT1703 G4), INCLUDING ALL NECESSARY PIPEWORK, STRAINER AND CHECK VALVE ON THE INLET.

- SUPPLY AND INSTALL A NEW ZIP BOILING/CHILLED TAP AS SPECIFIED BY THE ARCHITECT.

- SUPPLY AND INSTALL RHEEM ELECTRIC 50L HOT WATER UNIT OVER A COPPER PLATE SAFETRAY IN THE CEILING SPACE ABOVE THE ACC. TOILET (POWER: 3.6kW).
5. DIMENSIONS:  
THE DRAWINGS ARE INDICATIVE ONLY. ALL DIMENSIONS MUST BE CONFIRMED ON SITE BEFORE ANY SITEWORK OR OFF-SITE FABRICATION TAKES PLACE.
6. MATERIALS:  
ALL MATERIALS USED IN THE WORK SHALL BE NEW AND OF THE BEST QUALITY AND TYPE AVAILABLE TO CONFORM WITH THE RELEVANT AUSTRALIAN STANDARDS AND BEAR THE REQUIRED STANDARDS MARK AND WATERMARK.
7. FEES AND PERMITS:  
MAKE ALL APPLICATIONS TO THE WATER AUTHORITY AND LOCAL COUNCIL. PAY ALL FEES AND OBTAIN ALL NECESSARY PERMITS AND APPROVALS AS REQUIRED BY THE AUTHORITIES. LICENSED PLUMBER TO LODGE "APPLICATION FOR APPROVAL OF PLUMBING AND DRAWING WORK ON PRIVATE LAND"
8. SAFETY:  
ENSURE THAT ALL TOOLS AND EQUIPMENT ARE MAINTAINED IN A SOUND CONDITION AND ARE SAFE FOR USE AND OPERATED IN A SAFE MANNER. PLANT AND EQUIPMENT ARE TO BE LOCATED SO AS NOT TO IMPEDE THE PASSAGE OF VEHICLES OR PEDESTRIAN TRAFFIC. THE CONTRACTOR SHALL NOT AT ANY TIME. LEAVE THE WORKS IN AN UNSAFE CONDITION OR IN A CONDITION THAT MAY CAUSE DAMAGE TO OTHER EXISTING WORK.
9. COORDINATION:  
COORDINATE SERVICES WITH ALL OTHER TRADES AND WORKS ON THE SITE. REVIEW ALL AVAILABLE EXISTING SERVICES DOCUMENTATION.
10. WORKING OUT OF HOURS:  
PERFORM WORK OUT OF HOURS WHERE REQUIRED TO ENABLE MINIMUM DOWN TIME OF EXISTING SERVICES AND TO MAINTAIN UNINTERRUPTED SE OF THE EXISTING DEVELOPMENT.
11. SHOULD INTERRUPTION TO SERVICES OR TO USE OF THE EXISTING DEVELOPMENT BE NECESSARY, PROVIDE THE SUPERINTENDENT WITH 48 HOURS ADVANCE NOTICE PRIOR TO THE REQUIRED SHUTDOWN.
12. STAGING OF WORKS:  
STAGE THE WORKS IN ACCORDANCE WITH THE REQUIREMENTS OF THE SUPERINTENDENT AND THE MAIN CONTRACTOR.
13. CONCEALED WORK:  
ENCLOSED WORK SHALL NOT BE COVERED OR CONCEALED FROM VIEW UNTIL IT HAS BEEN TESTED AND INSPECTED BY THE RESPECTIVE UTHORITIES INSPECTORS AND HAS BEEN APPROVED FOR CONCEALMENT BY THE SUPERINTENDENT.
14. NO WATER SERVICE PIPEWORK SHALL BE CONCEALED IN CONCRETE SLABS. WHERE PIPEWORK PASSES BELOW CONCRETE SLABS ON GROUND, IT SHALL BE LOCATED IN CONDUIT AND SHALL BE OF MINIMUM LENGTH IN STRAIGHT RUNS.

SPECIFICATION

15. PIPEWORK AND FITTINGS:  
ALLOW FOR ALL NECESSARY CHANGES IN PIPE RUNS TO SUIT THE FINALISED LAYOUT OF FIXTURES AND THE LIKE. PIPEWORK SHALL BE HIDDEN FROM VIEW BY INSTALLATION IN WALLS, CEILINGS OR BURYING IN GROUND. WHERE PIPEWORK CANNOT BE HIDDEN FROM VIEW, OBTAIN THE APPROVAL OF THE SUPERINTENDENT PRIOR TO INSTALLATION. ALL INTERNAL EXPOSED PIPEWORK INCLUDING TAPS SHALL BE CHROME PLATED. PROVIDE CHROME PLATED COVER PLATES WHERE PIPES PASS THROUGH WALLS. MAKE ALLOWANCES FOR EXPANSION AND CONTRACTION IN PIPEWORK. COMPRESSION FITTINGS ARE NOT PERMITTED.
16. BRACKETING & SUPPORTS:  
ALL PIPEWORK SHALL BE FREE TO MOVE WITHOUT CAUSING STRESS. THE SYSTEM SHALL BE FREE FROM VIBRATION & WATER HAMMER. GENERALLY, PIPE FIXING SHALL BE IN ACCORDANCE WITH AS 3500. NO PIPEWORK SHALL BE SUPPORTED BY ADJACENT PIPEWORK.
17. PIPEWORK THROUGH FIRE RATED STRUCTURE:  
WHERE PIPEWORK PASSES THROUGH STRUCTURE WHICH IS TO BE FIRE RATED, PROVIDE APPROVED FIRE COLLARS. WHERE METAL PIPEWORK PASSES THROUGH STRUCTURE WHICH IS TO BE FIRE RATED, MINIMISE PENETRATION SIZE AND PACK AROUND PIPEWORK WITH APPROVED INTUMESCENT SEALANT.
18. PIPEWORK CHASED IN WALLS:  
WHERE PIPEWORK IS TO BE CHASED IN WALLS, CUT ALL CHASES WITH A MECHANICAL SAW. DO NOT CHASE STRUCTURAL MEMBERS UNLESS PRIOR APPROVAL IN WRITING IS OBTAINED FROM THE SUPERINTENDENT. PIPEWORK CHASED IN WALLS IS TO BE LAGGED WITH KEMLAG OR OTHER EQUIVALENT MATERIAL.
19. IDENTIFICATION OF PIPEWORK:  
EXPOSED PIPEWORK SHALL BE PAINTED AND LABELLED WITH PIPE MARKERS IN ACCORDANCE WITH AS 1345 & AS3500. PIPEWORK IN GROUND SHALL BE PROVIDED WITH MARKING TAPE IN THE TRENCH INDICATING THE SERVICE AND DIRECTION OF FLOW IN ACCORDANCE WITH AS 2648.
20. PENETRATIONS:

- CONTRACTOR SHALL PROVIDE FOR ALL PENETRATIONS. ALL PENETRATIONS SHALL BE SUITABLY SEALED IN ACCORDANCE WITH BCA AND ALL RELEVANT AUSTRALIAN STANDARDS.

- THE CONTRACTOR TO PROVIDE ALL STRUCTURAL PENETRATIONS, INCLUDING SCANS OF STRUCTURAL SLAB TO ALLOW STRUCTURAL APPROVAL.
21. TESTING:  
TEST ALL SYSTEMS AS REQUIRED BY THE LOCAL AUTHORITIES AND RELEVANT AUSTRALIAN STANDARDS.
22. RESTORATION OF DISTURBED AREAS:  
HYDRAULIC SERVICES CONTRACTOR IS RESPONSIBLE FOR MAKING GOOD OF DISTURBED GROUND AND WALL SURFACES, CEILINGS AFTER RETICULATION OF NEW PIPEWORK TO MATCH EXISTING.
23. AS BUILT DRAWING  
ON THE COMPLETION OF WORKS PREPARE FOUR (4) SETS OF CAD "AS BUILT" DRAWINGS AND MAINTENANCE MANUALS WITH ALL CONTROL VALVE POSITIONS AND ACCURATE SERVICE ROUTING INDICATED.
24. COMPLETION OF CONSTRUCTION:  
AT COMPLETION OF CONSTRUCTION FURNISH CERTIFICATES OF APPROVAL FROM ALL RELEVANT GOVERNING AUTHORITIES.
25. THE PLUMBING CONTRACTOR SHALL BE ENTIRELY RESPONSIBLE FOR THE ELIMINATION OF SYSTEM NOISE, VIBRATION AND WATER HAMMER.
26. SCHEDULE OF RATES:  
PROVIDE A FULL SCHEDULE OF RATES FOR ALL HYDRAULIC SERVICES ITEMS AS PART OF THE TENDER SUBMISSION.
27. ALLOW TO CO-ORDINATE AND CONFIRM ALL DIMENSIONS, EXISTING LEVELS, EXISTING SERVICES AND STRUCTURE ON SITE PRIOR TO TENDER. ALLOWING FOR ANY ADDITIONAL WORKS THAT MAY BE REQUIRED TO CO-ORDINATE WITH THESE SERVICES. ALL WORK IS TO BE CO-ORDINATED WITH PROJECT MANAGER & BUILDING MANAGER'S SCHEDULE / APPROVAL SYSTEM.
28. THE HYDRAULIC CONTRACTOR SHALL BE DEEMED TO HAVE INSPECTED THE SITE PRIOR TO TENDER AND BE SATISFIED THAT THE WORKS, AS DOCUMENTED, ARE COMPLETE AND ALL EXISTING SERVICES AND LEVELS SHOWN FOR CONNECTION ARE SUITABLE.
29. HYDRAULIC DRAWINGS ARE INDICATIVE FOR TENDER PURPOSES ONLY AND ARE SUBJECT TO DETAILED HYDRAULIC CALCULATIONS - 'WORKSHOP DRAWINGS' WHICH ARE TO BE SUBMITTED FOR APPROVAL.

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HYDRAULIC SERVICES

Title: SPECIFICATION SHEET 1 OF 3				Drawing No: H-03
				Issue: A
Scale: NTS @A3	Date Set Up: Feb-23	Project Manager: PM	CTL: EC	Project No: 22.6118

SPECIFICATION

HOT WATER SERVICES:

1.

STANDARDS:  
THE INSTALLATION IS TO BE IN ACCORDANCE WITH AS3500.4, AND LOCAL AUTHORITY REQUIREMENTS.
2.

PIPEWORK:  
PIPEWORK CHASED IN WALLS SHALL BE LAGGED WITH KEMLAG OR EQUIVALENT MATERIAL.
3.

EXPOSED PIPEWORK:  
TO BE ELECTRONICALLY BRIGHT CHROMIUM PLATED, INCLUDING ALL VALVES & FITTINGS.
4.

VALVES:  
CONTROL VALVES TO BE SCREWED BRONZE TO AS2638 2011 AND EQUAL TO JOHNS MANUFACTURE.  
- GENERAL ISOLATION: GATE VALVES.  
- EQUIPMENT ISOLATION: STOP VALVES.  
PROVIDE UNIONS EACH SIDE OF VALVE FOR FUTURE REPLACEMENT.
5.

PROVIDE APPROVED FIRE RATED ACOUSTIC INSULATION TO ALL WATER PLUMBING PIPEWORK AT NOISE SENSATIVE AREAS, MINIMAL WALL THICKNESS OF 25mm TO BE WRAPPED AND SEALED TO PROVIDE A CONTINUOUS VAPOUR BARRIER. ACOUSTIC MATERIAL USED FOR SOUNDLAG MUST COVER AN RW RATING - 4525 NOISE COVERAGE.

COLD WATER SERVICES:

1.

STANDARDS:  
THE INSTALLATION IS TO BE IN ACCORDANCE WITH AS3500.1, AND LOCAL AUTHORITY REQUIREMENTS.
2.

PIPEWORK:  
- PIPEWORK CHASED IN WALLS SHALL BE LAGGED WITH KEMLAG OR EQUIVALENT MATERIAL.
3.

EXPOSED PIPEWORK:  
TO BE ELECTRONICALLY BRIGHT CHROMIUM PLATED, INCLUDING ALL VALVES & FITTINGS.
4.

VALVES:  
CONTROL VALVES TO BE SCREWED BRONZE TO AS2638 2011 AND EQUAL TO JOHNS MANUFACTURE.  
- GENERAL ISOLATION: GATE VALVES.  
- EQUIPMENT ISOLATION: STOP VALVES.  
PROVIDE UNIONS EACH SIDE OF VALVE FOR FUTURE REPLACEMENT.
5.

PROVIDE APPROVED FIRE RATED ACOUSTIC INSULATION TO ALL WATER PLUMBING PIPEWORK AT NOISE SENSATIVE AREAS, MINIMAL WALL THICKNESS OF 25mm TO BE WRAPPED AND SEALED TO PROVIDE A CONTINUOUS VAPOUR BARRIER. ACOUSTIC MATERIAL USED FOR SOUNDLAG MUST COVER AN RW RATING - 4525 NOISE COVERAGE.

SANITARY PLUMBING:

1.

STANDARDS:  
THE INSTALLATION IS TO BE IN ACCORDANCE WITH AS3500.2, AND LOCAL AUTHORITY REQUIREMENTS.
2.

TRAPS & WASTE PIPES:  
ALL TRAPS, TUNDISHES AND EXPOSED WASTE PIPES AND FITTINGS ARE TO BE ELECTRONICALLY BRIGHT CHROMIUM PLATED COPPER.
3.

CONNECTION TO EXISTING DRAINAGE:  
CONFIRM LEVELS OF EXISTING DRAINAGE CONNECTIONS PRIOR TO COMMENCING WORK.
4.

ALLOW TO HYDROSTATICALLY TEST ANY LINE THAT IS TO BE REUSED TO THE AUTHORITIES SATISFACTION AND REPLACED AS REQUIRED.
5.

FLOOR WASTES:  
FLOOR WASTES SHALL INCORPORATE PUDDLE FLANGES. FW SHALL BE SOLID BRASS, CHROME PLATED WITH SCREWED 100Ø GRATE AND OUTLET.  
VINYL FW SHALL BE PROVIDED WITH A DRESS FLANGE TO ENABLE THE VINYL TO TURN DOWN INTO THE FLOOR WASTE OUTLET.
6.

CLEAROUTS:  
THE INSTALLATION IS TO BE IN ACCORDANCE WITH AS3500.2.2, AND LOCAL AUTHORITY REQUIREMENTS.  
CLEAROUTS SHALL BE BROUGHT TO SURFACE LEVEL AND FINISHED WITH A NICKEL BRONZE CAP.

FIXTURES AND TAPWARE:

1.

SUPPLY AND INSTALL ALL FIRST QUALITY SANITARY FIXTURES AND TAPWARE AS SCHEDULED BY THE ARCHITECT AND SHOWN ON THE DRAWINGS.

SPECIFICATION

MATERIALS:

1.

SHALL BE NOMINATED HEREUNDER AND COMPLY WITH THE STANDARDS AS SPECIFIED.
2.

SANITARY DRAINAGE & VENT PIPEWORK:  
- UPVC (DWV) PIPE & FITTINGS, MANUFACTURED TO AS1260  
- WITH SOLVENT WELDED JOINTS.
3.

HOT WATER PIPEWORK:  
COPPER TUBE & FITTINGS, TYPE B, MANUFACTURED TO AS-1432 WITH SILVER SOLDERED JOINTS & KEMLAG EXTRUDED POLYPROPYLENE INSTALLATION. ALL JOINTS AND BENDS EXPOSED DUE TO INSTALLATION MUST BE WRAPPED IN APPROVED INSULATION.
4.

FIRE HOSE REEL & COLD WATER PIPEWORK:  
COPPER TUBE & FITTINGS, TYPE B, MANUFACTURED TO AS-1432 WITH SILVER SOLDERED JOINTS.
5.

VALVES:  
CONTROL VALVES TO BE SCREWED BRONZE TO AS2638 AND EQUAL TO JOHNS MANUFACTURE.  
- GENERAL INSTALLATION: GATE VALVE  
- EQUIPMENT ISOLATION: STOP VALVE  
PROVIDE UNIONS EACH SIDE FOR FUTURE REPLACEMENT.
6.

PIPE RUNS (WATER & DRAINAGE) LOCATED IN NOISE SENSITIVE AREAS (ANY AREA OTHER THAN AMENITIES OR STORE ROOMS) SHALL BE INSULATED WITH AN APPROVED ACOUSTIC MATERIAL HAVING MINIMUM WALL THICKNESS OF 25mm & SHALL BE WRAPPED & SEALED SO AS TO PROVIDE A CONTINUOUS VAPOUR BARRIER.
7.

FINISHES:  
DRAINAGE, HOT AND COLD WATER PIPEWORK, INCLUDING FITTINGS, SUPPORTS AND THE LIKE IN FINAL FITOUT AS FOLLOWS: COPPER AND COPPER ALLOY PIPEWORK IN EXPOSED LOCATIONS. CHROME PLATED TO AS1192 SERVICE CONDITION 2, BRIGHT.
8.

ENSURE THE FIRE RATING INTEGRITY OF FLOORS AND WALLS ARE MAINTAINED BY PROVIDING THE REQUIRED FIRE RATED COLLARS FOR PLASTIC PIPEWORK AND FIRE RATED SEALANT FOR METAL PIPEWORK IN ACCORDANCE WITH AUSTRALIAN STANDARDS.
9.

FIRE HYDRANT PIPEWORK TO BE HEAVY GAUGE GALVANISED PIPEWORK COMPLYING WITH AS2419.1UNO

WORK BY ASSOCIATED TRADE UNDER CONTRACT TO THE BUILDER:

1.

ELECTRICAL:  
- SUPPLY AND INSTALL POWER FOR HOT WATER UNIT (3.6kW)  
- SUPPLY AND INSTALL POWER SUPPLY & CONNECTION OF DISHWASHER 230V 20 AMP GPO  
- SUPPLY AND INSTALL POWER SUPPLY AND CONNECTION OF ZIP UNIT 230V 10AMP GPO
2.

BUILDER:  
- PAINTING OF EXPOSED PIPEWORK.  
- CUTTING OF CEILING TILES.  
- REMOVAL OF CEILING TILES AND CEILING GRID FOR NECESSARY MODIFICATION OF PLUMBING SERVICES.  
- REMOVAL OF EXISTING WALLS FOR REMOVAL OF EXISTING PIPEWORK AND INSTALLATION OF NEW PIPEWORK.  
- REPLACEMENT OF WALL TILES.  
- REPLACEMENT OF CEILING GRID AND CEILING TILES.  
- SEALING OF ALL WET AREAS.  
- SEALING OF PIPEWORK PENETRATIONS OF SOUND INSULATION PARTITIONING IN CEILING.  
- TEMPORARY LIGHTING AND POWER.  
- RUNNING COST OF PLANT DURING CONSTRUCTION.  
- ELECTRICAL POWER FOR THE TESTING OF THE TOTAL PLUMBING INSTALLATION.  
- MAINTENANCE OF PLUMBING SERVICES PLANT DURING CONSTRUCTION.  
- REMOVAL AND RE- INSTATEMENT OF ACCESS PANELS.

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HYDRAULIC SERVICES

Title: SPECIFICATION SHEET 2 OF 3				Drawing No: H-04
				Issue: A
Scale: NTS @A3	Date Set Up: Feb-23	Project Manager: PM	CTL: EC	Project No: 22.6118



FIRE HOSE REEL

1. PROVIDE A NEW, FULLY COMPLIANT, FUNCTIONING FIRE HOSE REEL SYSTEM INCORPORATING THE INSTALLATION OF NEW FIRE HOSE REELS, ASSOCIATED PIPEWORK TO COMPLY WITH AS 2441 AND AS/NZS 3500.1.
2. FIRE HOSE REEL SYSTEM DESIGN GUIDELINES:  
THE WATER SUPPLY TO THE FIRE HOSE REEL ASSEMBLY SHALL BE SUFFICIENT TO ENABLE DELIVER 0.33 L/s AT 210 ±10kPa FOR THE TWO MOST HYDRAULICALLY DISADVANTAGED FIRE HOSE REELS OPERATING SIMULTANEOUSLY.
3. ALL FIRE HOSE REELS, PIPEWORK AND COMPONENTS SHALL BE NEW, LISTED ON THE WATERMARK AND CSIRO ACTIVFIRE SCHEMES AS APPLICABLE AND COMPLIANT WITH THE RELEVANT AUSTRALIAN STANDARDS.
4. FIRE HOSE REELS SHALL HAVE A HOSE LENGTH OF 36m, A NOMINAL HOSE DIAMETER OF 19mm AND COMPLY WITH THE REQUIREMENTS OF AS 1221:1991.
5. PIPEWORK AND FITTINGS SHALL COMPLY WITH AS/NZS 3500.1:2003.
6. ALL FIRE HOSE REEL PIPEWORK AND HANGERS/BRACKETS SHALL BE ALIGNED IN UNIFORM MANNER AND COMPLY WITH AS/NZS 3500.1:2003 SECTION 5.7. COORDINATE LOCATION OF PIPEWORK WITH ARCHITECTURE, MECHANICAL DUCTWORK, BUILDING STRUCTURE AND THE LIKE.
7. THE FIRE HOSE REEL ASSEMBLY SHALL BE SUITABLY MOUNTED AT A SPINDLE HEIGHT OF BETWEEN 1400mm AND 2400mm ABOVE FINISHED FLOOR LEVEL. THE STOP VALVE SHALL BE MOUNTED AT 1000 ±100mm ABOVE FINISHED FLOOR LEVEL (NOTE: THE RECOMMENDED MOUNTING HEIGHT OF THE CENTRE OF THE FIRE HOSE REEL IS 1500mm ABOVE FINISHED FLOOR LEVEL).
8. WHEN THE FIRE HOSE REEL IS SURFACE MOUNTED OR IN A RECESS, CABINET OR CAVITY, THERE SHALL BE A MINIMUM RADIAL CLEARANCE OF 100mm BETWEEN THE REEL RIM AND ANY OBSTRUCTION TO THE SIDES, ABOVE AND BELOW THAT DOES NOT FORM PART OF THE FIRE HOSE REEL ASSEMBLY.
11. NON-FIRE EQUIPMENT OR SERVICES SHALL NOT BE INSTALLED WITHIN THE CABINET.
11. UNLESS OTHERWISE NOTED, THE SIZE OF PIPEWORK SHALL BE SIZED VIA FULL HYDRAULIC CALCULATIONS UTILISING 'HYENA' SOFTWARE OR AN APPROVED EQUAL. ASSOCIATED ISOMETRIC DIAGRAMS WITH DESIGN NODES SHALL ALSO BE SUBMITTED ALONG WITH THE FULL CALCULATIONS.
12. THE FIRE HOSE REEL SYSTEM SHALL BE TESTED AND COMMISSIONED IN ACCORDANCE WITH AS 2441:2005 SECTION 12.

FIRE HYDRANT

1. PROVIDE A NEW, FULLY COMPLIANT, FUNCTIONING FIRE HYDRANT SYSTEM INCORPORATING THE INSTALLATION OF NEW FIRE HYDRANT LANDING VALVES, ASSOCIATED PIPEWORK AND PUMPSETS AS REQUIRED TO COMPLY WITH E1.3, AS 2419.1:2005 AND AS/NZS 3500.1.
2. FIRE HYDRANT DESIGN CRITERIA:  
THE WATER SUPPLY TO THE FIRE HYDRANT LANDING VALVES SHALL BE SUFFICIENT TO DELIVER 10 L/s AT 250kPa FOR THE TWO MOST HYDRAULICALLY DISADVANTAGED FIRE HYDRANTS OPERATING SIMULTANEOUSLY.
3. ALL FIRE HYDRANTS, PIPEWORK AND COMPONENTS SHALL BE NEW, LISTED ON THE WATERMARK AND CSIRO ACTIVFIRE SCHEMES AS APPLICABLE AND COMPLIANT WITH THE RELEVANT AUSTRALIAN STANDARDS.
4. FIRE HYDRANT LANDING VALVES SHALL BE CSIRO ACTIVFIRE SCHEME LISTED AND COMPLY WITH AS 2419.2:1994.
5. PIPEWORK AND FITTINGS SHALL BE CSIRO ACTIVFIRE SCHEME LISTED AND COMPLY WITH AS 2419.1:2005 SECTION 8.
6. ALL FIRE HYDRANT PIPEWORK PIPEWORK SHALL BE LOCATED IN ACCORDANCE WITH AS 2419.1:2005 SECTION 8.2 WITH PIPEWORK AND ASSOCIATED HANGERS/BRACKETS, SPACED IN ACCORDANCE WITH AS 2419.1:2005 SECTION 8.7, ALIGNED IN A UNIFORM MANNER. COORDINATE LOCATION OF PIPEWORK WITH ARCHITECTURE, MECHANICAL DUCTWORK, BUILDING STRUCTURE AND THE LIKE.
7. THE CENTRE-LINE OF THE FIRE HYDRANT OUTLET SHALL NOT BE LES THAN 750mm AND NOT MORE THAN 1200mm ABOVE THE FINISHED GROUND, FLOOR OR PLATFORM LEVEL.
8. THE FIRE HYDRANT OUTLET SHALL BE FACING AWAY FROM THE WALL IMMEDIATELY BEHIND, IF ANY; HORIZONTAL OR SLOPING NOT MORE THAN 35 BELOW THE HORIZONTAL; AND A CLEARANCE OF 1000mm SHALL BE PROVIDED DIRECTLY IN FRONT OF THE FIRE HYDRANT OUTLET FOR CONNECTION AND LAYING OF THE HOSE. 100mm CLEARANCE SHALL ALSO BE PROVIDED AROUND THE FULLY OPEN FIRE HYDRANT VALVE.
9. NON-FIRE EQUIPMENT OR SERVICES SHALL NOT BE INSTALLED WITHIN THE CABINET.
10. UNLESS OTHERWISE NOTED, THE SIZE OF PIPEWORK SHALL BE SIZED VIA FULL HYDRAULIC CALCULATIONS UTILISING 'HYENA' SOFTWARE OR AN APPROVED EQUAL. ASSOCIATED ISOMETRIC DIAGRAMS WITH DESIGN NODES SHALL ALSO BE SUBMITTED ALONG WITH THE FULL CALCULATIONS.
11. THE FIRE HYDRANT SYSTEM SHALL BE TESTED AND COMMISSIONED IN ACCORDANCE WITH AS 2419.1:2005 SECTION 10.

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HYDRAULIC SERVICES

Title:  
SPECIFICATION SHEET 3 OF 3

Drawing No:  
H-05

Issue: A

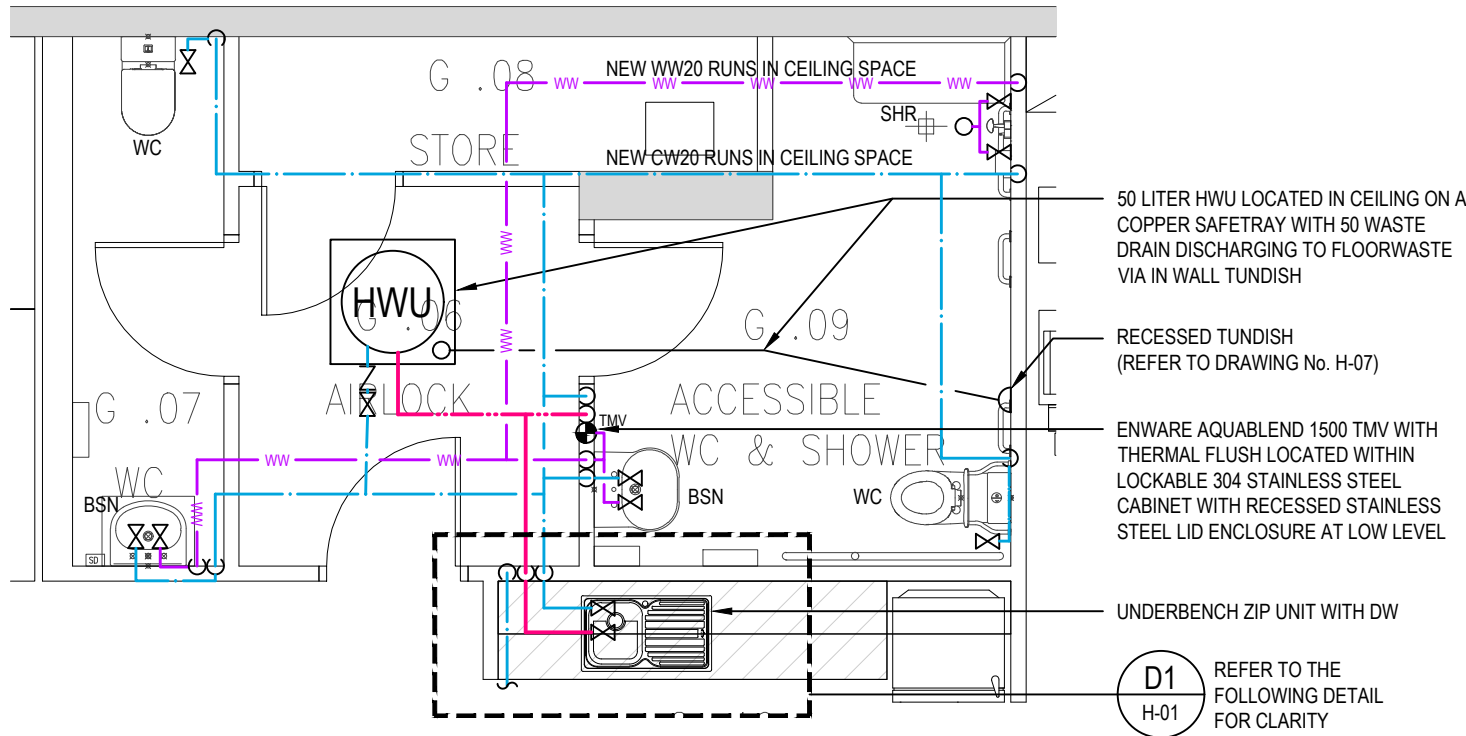
Scale: NTS @A3	Date Set Up: Feb-23	Project Manager: PM	CTL: EC	Project No: 22.6118
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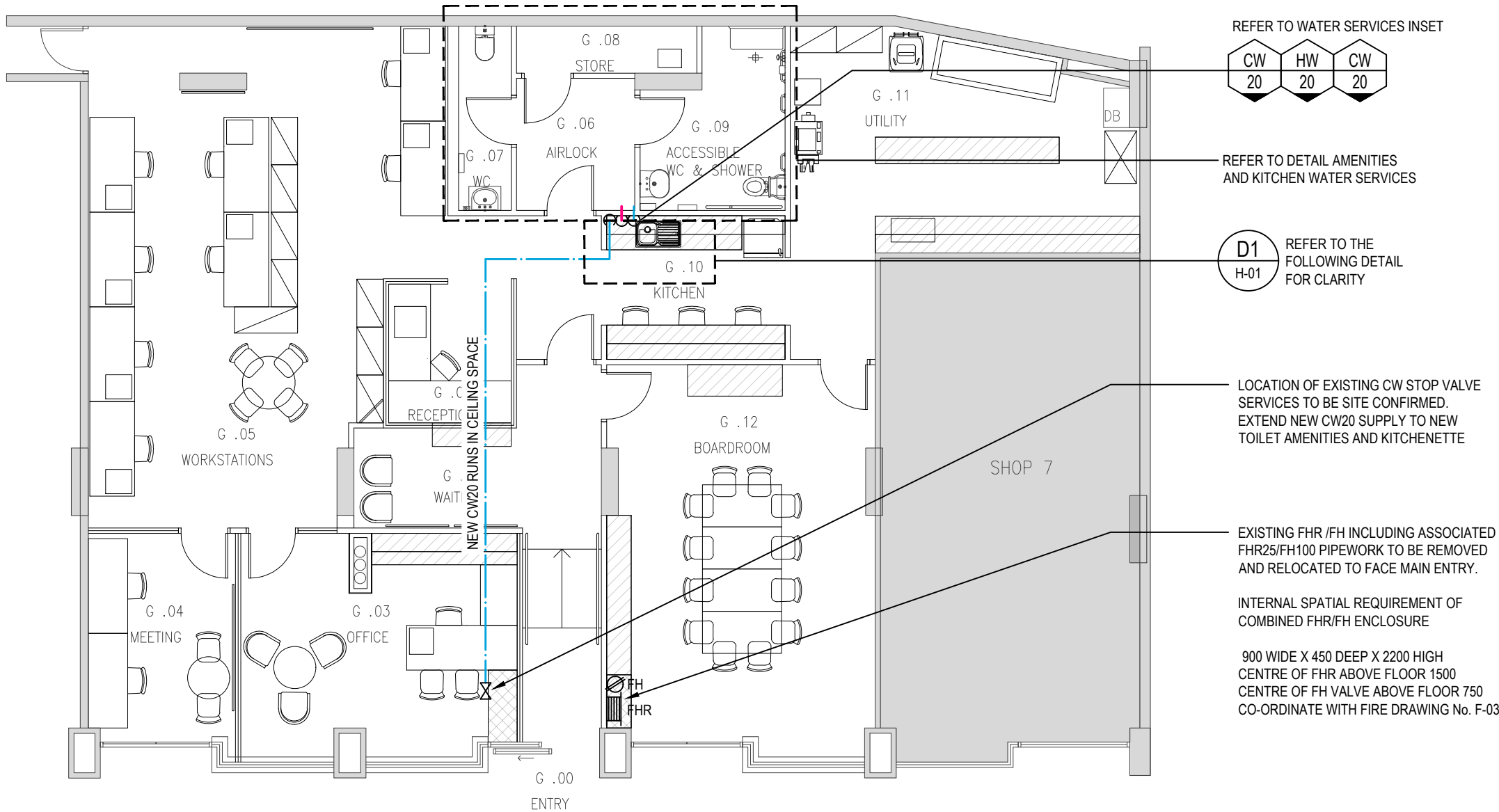
## NOTES

- ALL EXISTING PIPEWORK TO BE CHECKED WITH CCTV CAMERA FOR ANY CRACKS OR LEAKAGE AND FLUSHED TO ENSURE THERE IS NO BLOCKAGES.
- ALL REDUNDANT PIPEWORK TO BE REMOVED / CAPPED OFF CLEAR OF PROPOSED WORK.



## AMENITIES AND KITCHEN WATER SERVICES

SCALE 1:50



REFER TO WATER SERVICES INSET



REFER TO DETAIL AMENITIES AND KITCHEN WATER SERVICES

D1 H-01 REFER TO THE FOLLOWING DETAIL FOR CLARITY

LOCATION OF EXISTING CW STOP VALVE SERVICES TO BE SITE CONFIRMED. EXTEND NEW CW20 SUPPLY TO NEW TOILET AMENITIES AND KITCHENETTE

EXISTING FHR /FH INCLUDING ASSOCIATED FHR25/FH100 PIPEWORK TO BE REMOVED AND RELOCATED TO FACE MAIN ENTRY.

INTERNAL SPATIAL REQUIREMENT OF COMBINED FHR/FH ENCLOSURE

900 WIDE X 450 DEEP X 2200 HIGH  
CENTRE OF FHR ABOVE FLOOR 1500  
CENTRE OF FH VALVE ABOVE FLOOR 750  
CO-ORDINATE WITH FIRE DRAWING No. F-03

ARCHITECTURAL DRAWINGS	DRAWINGS No.	REVISION	ARCHITECTS ISSUE DATE	RECEIVED DATE	RECEIVED FOLDER
GA PLAN	A3.00	B	27.07.23	02.08.23	r-007
RCP	A5.00	E	27.07.23	02.08.23	r-007

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Project:

**M&PS MANLY**

SHOPS 4 - 6  
8-28 THE CORSO, MANLY NSW

HYDRAULIC SERVICES

Title:  
WATER SERVICES LAYOUT

Drawing No:  
H-06

Issue: A

Scale:	Date Set Up:	Project Manager:	CTL:	Project No:
1 - 100 @A3	Feb-23	PM	EC	22.6118

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P1	11/07/2023	PRELIMINARY ISSUE	KA/GY
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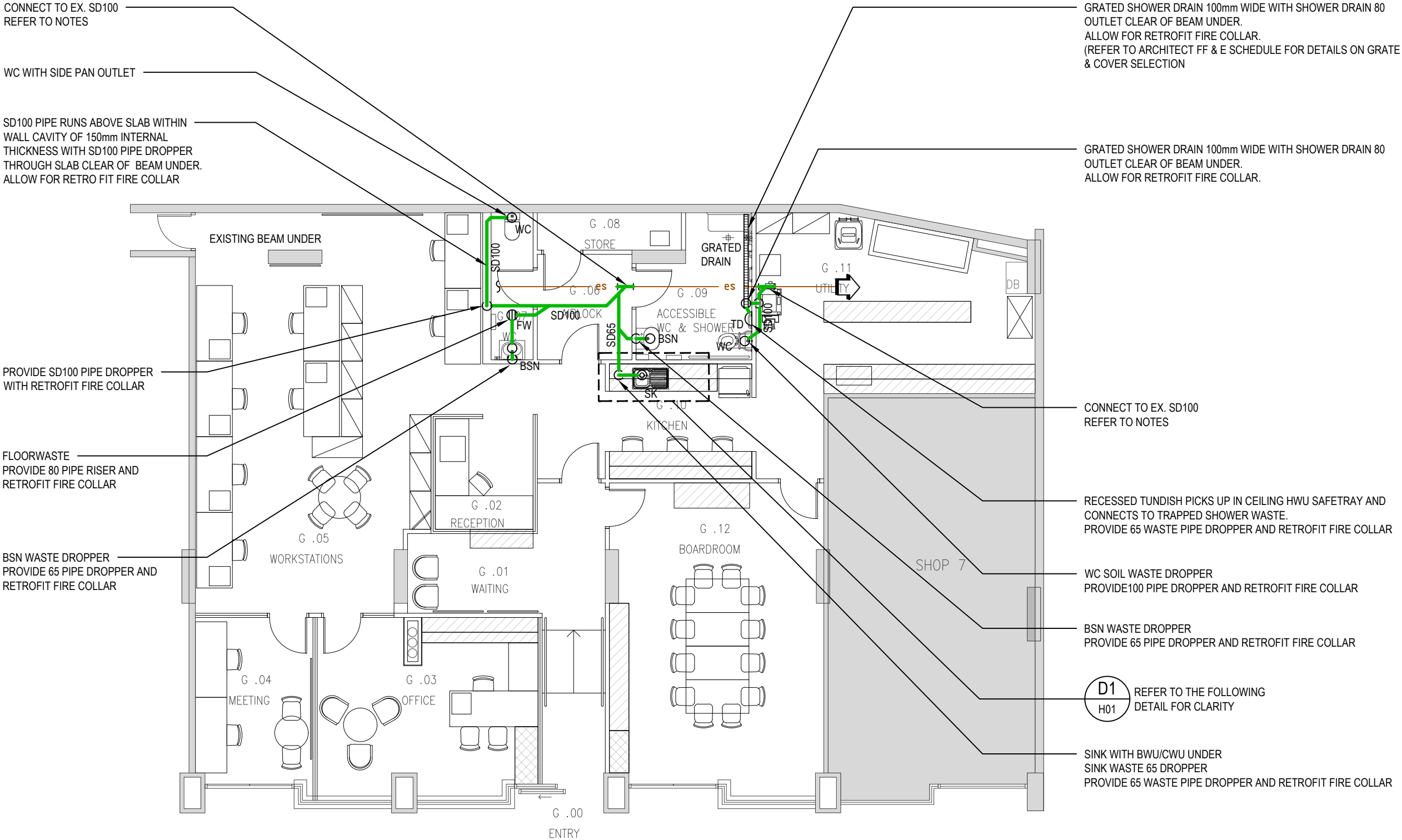
- NOTES
1.

ALL EXISTING PIPEWORK TO BE CHECKED WITH CCTV CAMERA FOR ANY CRACKS OR LEAKAGE AND FLUSHED TO ENSURE THERE IS NO BLOCKAGES.
2.

ALLOW TO LOCATE AND CONNECT NEW SD100 INTO EXISTING SANITARY DRAINAGE LINE. INSTALL NEW PIPEWORK AS HIGH S PRACTICAL TO UNDERSIDE OF EXISTING SLAB.
3.

ALL REDUNDANT PIPEWORK TO BE REMOVED / CAPPED OFF CLEAR OF PROPOSED WORK.
4.

FLOORWASTE. PROVIDE 80 PIPE RISER AND RETROFIT FIRE COLLAR



ARCHITECTURAL DRAWINGS	DRAWINGS No.	REVISION	ARCHITECTS ISSUE DATE	RECEIVED DATE	RECEIVED FOLDER
GA PLAN	A3.00	B	27.07.23	02.08.23	r-007
RCP	A5.00	E	27.07.23	02.08.23	r-007



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Project:

**M&PS MANLY**  
SHOPS 4 - 6  
8-28 THE CORSO, MANLY NSW

HYDRAULIC SERVICES

Title:  
DRAINAGE SERVICES LAYOUT

Drawing No:  
H-07

Issue: A

Scale: 1 - 100 @A3  
Date Set Up: Feb-23  
Project Manager: PM  
CTL: EC  
Project No: 22.6118

# M&PS MANLY

## SHOPS 4 - 6, 8-28 THE CORSO, MANLY NSW

# FIRE SERVICES

DRAWING LIST	
F-00	COVER SHEET AND DRAWING LIST
F-01	LEGEND & GENERAL NOTES
F-02	SCOPE OF WORKS
F-03	FIRE SERVICES LAYOUT



LOCATION - SITE PLAN

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**M&PS MANLY**  
SHOPS 4 - 6  
8-28 THE CORSO, MANLY NSW

FIRE SERVICES

Title:  
COVER SHEET & DRAWING LIST

Drawing No:  
F-00

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B

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NTS  
@A3








Date Set Up:  
Jun-23

Project Manager:  
PM

CTL:  
EC

Project No:  
22.6118



LEGEND	
	NEW SEMI-RECESSED FIRE SPRINKLER
	SMOKE DETECTOR
	CONCEALED SPACE SMOKE DETECTOR
	CEILING SPEAKER
 4.5kg	PORTABLE FIRE EXTINGUISHER (4.5kg DRY CHEMICAL AB(E) )
 FHR	FIRE HOSE REEL
 FH	FIRE HYDRANT

GENERAL NOTES	
1.	ALL NEW WORKS TO BE INSTALLED FULLY IN ACCORDANCE WITH AS 2118.1-2017, AS 1670.1-2018, AS 2444-2001, AND CURRENT AFSS.
2.	THE SCOPE OF WORKS COMPRISES FIRE SPRINKLER SYSTEM, FIRE DETECTION AND ALARM SYSTEM, BUILDING OCCUPANT WARNING SYSTEM, FIRE EXTINGUISHERS AND FIRE BLANKETS.
3.	TENDERERS SHALL INSPECT THE SITE, EXAMINE CONSTRUCTION AND ARCHITECTURAL DRAWINGS, MAKE ANY FIELD SURVEY NECESSARY TO PROVIDE A DETAILED AND COMPREHENSIVE TENDER. NO PRICE VARIATION OR EXTENSION OF TIME WILL BE ALLOWED ON THE GROUNDS OF LACK OF SITE KNOWLEDGE.
4.	TENDERERS TO PAY ALL COSTS ASSOCIATED WITH OBTAINING LOCAL AUTHORITY SUBMISSIONS AND APPROVALS.
5.	THIS DRAWING INDICATES THE APPROXIMATE POSITIONS AND NUMBER OF FIRE SERVICES DEVICES.. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF EQUIPMENT AND CO-ORDINATE WITH OTHER SERVICES WHERE APPLICABLE.
6.	A SET OF DRAWINGS SHALL BE KEPT ON SITE.
7.	UPON COMPLETION OF THE PROJECT, SUBMIT 4 (FOUR) COPIES AND ELECTRICAL FORMAT OF AS-INSTALLED DRAWINGS.
8.	COMPLETION OF CONSTRUCTION: AT COMPLETION OF CONSTRUCTION FURNISH CERTIFICATE OF APPROVAL FROM ALL RELEVANT GOVERNING AUTHORITIES. PROVIDE 12 MONTHS WARRANTY AND PREVENTATIVE MAINTENANCE.

DUTY OF CARE	
VOS GROUP ARE NOT RESPONSIBLE FOR ANY EXISTING FIRE SERVICES NON-COMPLIANCES WITHIN THE FIRE EXTINGUISHERS WHICH ARE EVIDENT WITHIN THIS TENANCY AND THE BUILDING WHERE AN INSPECTION MAY HAVE IDENTIFIED THEM.	
THE BUILDING OWNER AND THEIR INSURERS, IRREVOCABLY DISCHARGE US FROM OUR DUTY OF CARE IN RELATION TO THESE NON-COMPLIANCES, WHICH ARE REQUIRED TO BE IDENTIFIED BY THE TESTING AND MAINTENANCE CONTRACTOR WITHIN AS1851 (2012).	

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Project:

M&PS MANLY

SHOPS 4 - 6

8-28 THE CORSO, MANLY NSW

FIRE SERVICES

Title:  
LEGEND & GENERAL NOTES

Drawing No:  
F-01

Issue:  
B

Scale:  
NTS  
@A3

Date Set Up:  
Jun-23

Project Manager:  
PM

CTL:  
EC

Project No:  
22.6118

SCOPE OF WORKS

FIRE DETECTION AND ALARM SYSTEM:

1.

PROVIDE FULLY COMPLIANT , FUNCTIONING FIRE DETECTION AND ALARM SYSTEM MODIFICATIONS TO THE EXISTING INSTALLATION AS REQUIRED TO COMPLY WITH THE BCA, 2022 E2 S20C4, CURRENT AFSS WITH EXISTING FIRE DETECTION AND ALARM SYSTEM COMPLYING WITH AS1670.1-2004 AND AS1668.1-1998.
2.

ALL NEW DETECTORS TO COMPLY WITH AS 1603 AND CSIRO ACTIVFIRE SCHEME LISTED.
3.

ALL DETECTORS SHALL BE ALIGNED IN UNIFORM MANNER. COORDINATE LOCATIONS OF SPEAKERS WITH CEILING TILES AND FEATURES, LIGHT FIXTURES, MECHANICAL DUCTWORK/DIFFUSERS AND THE LIKE.
4.

SMOKE DETECTORS TO BE SPACED AS REQUIRED BY AS 1670.1-2018.

-

10m MAXIMUM BETWEEN DETECTORS.

-

5m FROM WALLS OR PARTITIONS

-

900mm MINIMUM FROM SUPPLY AIR OUTLETS.

-

300mm MINIMUM FROM WALLS OR PARTITIONS.

-

A CLEAR SPACE OF AT LEAST 300mm RADIUS, TO A DEPTH OF 600mm SHALL BE MAINTAINED FROM THE DETECTOR.

5.

FIRE SERVICES CONTRACTOR SHALL RUN CONTROL AND SIGNAL WIRING TO THE RELATIVE SERVICES INTERFACES. INCLUDING:

-

DIRECT TO LOCAL SECURITY FIELD PANEL(S).

-

DIRECT TO DEVICES SUCH AS SMOKE DOOR(S) OR THE LIKE.

-

DIRECT TO THE MECHANICAL SERVICES SWITCHBOARD.

FINAL TERMINATION TO THE ABOVE INTERFACES BY THE RELATIVE SERVICES TRADES PERSONS. ALLOWANCE SHALL BE MADE FOR REPROGRAMMING OF THE FIP, COMMISSIONING AND WITNESS TESTING OF ALL THE FIRE MODE OPERATIONS. FIRE RATED CABLING TO BE USED FOR ALL ESSENTIAL SERVICES.

6.

PROVIDE FIRE DETECTION DEVICES AS REQUIRED FOR COORDINATION WITH STRUCTURE, ARCHITECTURE AND OTHER BUILDING SERVICES AND TO MAINTAIN COMPLIANT SPACING. THE CONTRACTOR SHALL ALLOW TO RELOCATE TWO (2) FIRE DETECTION DEVICES SHOWN ON THE DRAWINGS AND ALLOW TO PROVIDE TWO (2) FIRE DETECTION DEVICES IN ADDTION TO THOSE SHOWN ON THE DRAWINGS TO ACCOMMODATE COORDINATION AND ADJUSTMENT.

7.

THE CONTRACTOR SHALL ALLOW FOR 2.5m WIRING AND ALL NECESSARY FITTINGS AND FIXINGS FOR EACH NEW AND RELOCATED FIRE DETECTION DEVICE.

8.

ENSURE CONCEALED SPACE FIRE DETECTION SPACING REMAINS COMPLIANT WITH THE REQUIREMENTS OF AS 1670.1-2018 CLAUSE 3.27.4.

9.

THE CONTRACTOR SHALL ALLOW TO ASSESS THE FIRE DETECTION AND ALARM SYSTEM BATTERY CAPACITY PRIOR TO COMMENCEMENT AND AT COMPLETION OF WORKS TO ENSURE THAT THE STANDBY POWER CAPACITY OF THE EXISTING BATTERY/ BATTERIES IS CAPABLE OF MAINTAINING THE SYSTEM IN NORMAL (QUIESCENT) CONDITION FOR THE TIME SPECIFIED IN AS1670.1 WHERE THE BATTERY CAPACITY IS FOUND TO BE INADEQUATE TO MAINTAIN THE SYSTEM IN NORMAL (QUIESCENT) CONDITION FOR THE REQUIRED STAND-BY TIME. THE CONTRACTOR SHALL ALLOW TO UPSIZE/ UPGRADE THE BATTERY AS NECESSARY TO ENSURE THE SYSTEM CAN OPERATE IN NORMAL (QUIESCENT) CONDITION FOR THE NECESSARY STANDBY TIME TO MEET THE REQUIREMENTS OF AS 1670.1.

10.

ALLOW TO ASSESS THE CURRENT SPARE CAPACITY OF THE FIP AND UPGRADE / PROVIDE EXTENSION CARDS AS NECESSARY.

11.

ENGAGE THE MAINTENANCE FIRE SERVICES CONTRACTOR TO REPROGRAM THE FIRE DETECTION AND ALARM SYSTEM TO SUIT THE MODIFICATIONS TO THE SMOKE DETECTION SYSTEM.

12.

PROVIDE THE COMMISSIONING DOCUMENTATION REQUIRED BY AS 1670.1-2018.

SCOPE OF WORKS

FIRE SPRINKLER SERVICES:

1.

PROVIDE A FULLY COMPLIANT , FUNCTIONING FIRE SPRINKLER SYSTEM INCORPORATING THE INSTALLATION OF NEW FIRE SPRINKLERS, PIPEWORK AND ANCILLARY ITEMS AS REQUIRED TO COMPLY WITH THE BCA 2022 E1D5, AS2118.1-2017 AND CURRENT AFSS FOR SPRINKLERS POSITION AND PERFORMANCE WITH EXISTING FIRE SPRINKLER SYSTEM COMPLYING WITH AS2118.1-1999.

2.

SPRINKLER SYSTEM DESIGN GUIDELINES:

HAZARD CLASS - ORDINARY HAZARD 3;

- FAST RESPONSE 68°C ACTIVATION FIRE SPRINKLER HEADS.

- FIRE SPRINKLERS WITHIN CONCEALED SPACES SHALL BE FAST RESPONSE 79°C ACTIVATION FIRE SPRINKLER HEAD.

3.

ALL PIPEWORK SHALL BE INSTALLED TO AS2118.1-2017.

4.

ALL COMPONENTS SHALL BE NEW, COMPLIANT WITH RELEVANT AUSTRALIAN STANDARDS AND LISTED ON THE CSIRO ACTIVFIRE SCHEME.

5.

ALL FIRE SPRINKLERS SHALL BE ALIGNED IN UNIFORM MANNER. COORDINATE LOCATIONS OF SPRINKLERS WITH CEILING TILES AND FEATURES, LIGHT FIXTURES, MECHANICAL DUCTWORK/DIFFUSERS AND THE LIKE.

6.

PROVIDE NEW FIRE SPRINKLERS AS REQUIRED FOR COORDINATION WITH STRUCTURE, ARCHITECTURE AND OTHER BUILDING SERVICES AND TO MAINTAIN COMPLIANT COVERAGE. THE CONTRACTOR SHALL ALLOW FOR FIVE (5) NEW BELOW CEILING, FIVE (5) NEW EXPOSED FIRE SPRINKLER HEADS, FIVE (5) CONCEALED SPACE FIRE SPRINKLER HEADS AND FIVE (5) RELOCATIONS OF EXISTING SPRINKLERS IN ADDITION TO THOSE SHOWN ON THE DRAWINGS TO ACCOMMODATE COORDINATION AND ADJUSTMENT.

7.

THE CONTRACTOR SHALL ALLOW FOR 2.5M FOR NEW RANGE PIPE AND ALL NECESSARY FITTINGS AND FIXINGS FOR EACH FIRE SPRINKLER HEAD.

8.

ENSURE 500MM CLEAR SPACE BELOW FIRE SPRINKLERS IN ALL AREAS. COORDINATE WITH JOINERY AND PARTITIONS

9.

ALL HANGERS AND PIPEWORK SHALL BE ALIGNED IN A UNIFORM MANNER.

10.

EXPOSED FIRE SPRINKLER HEADS SHALL BE COORDINATED WITH BEAMS, DUCTWORK AND OTHER SERVICES TO PROVIDE COMPLIANT COVERAGE.

11.

UNLESS OTHERWISE NOTED, PIPEWORK SIZE IS TO BE DESIGNED ACCORDING TO AS2118.1-2017 SECTION 14. FULL HYDRAULICALLY CALCULATED SYSTEMS SHALL BE DESIGNED UTILISING 'HYENA' SOFTWARE OR AN APPROVED EQUAL. ASSOCIATED ISOMETRIC DIAGRAMS SHALL ALSO BE SUBMITTED ALONG WITH THE FULL CALCULATIONS.

12.

ALLOW FOR DAILY DRAIN DOWN AND SYSTEM RECHARGING DURING THE INSTALLATION PROCESS.

13.

COORDINATE WITH AND NOTIFY FIRE & RESCUE NSW WHEN THE FIRE SPRINKLER OR HYDRANT SYSTEM IS OUT OF SERVICE.

SCOPE OF WORKS

FIRE EXTINGUISHERS AND FIRE BLANKETS:

1.

ALL WORKS TO COMPLY WITH BCA 2022 E1D14, AS2444-2001 AND CURRENT AFSS.

2.

FIRE EXTINGUISHERS TO BE INSTALLED COMPLETE WITH SIGNAGE AND MOUNTING BRACKETS.

3.

EACH EXTINGUISHER SHALL BE LOCATED IN A CONSPICUOUS AND READILY ACCESSIBLE POSITION.

4.

WHERE PRACTICABLE, EXTINGUISHERS SHALL BE LOCATED ALONG NORMAL PATH OF TRAVEL, AND NEAR EXITS.

5.

ALL FIRE EXTINGUISHERS SHALL HAVE THEIR LOCATIONS CLEARLY INDICATED BY PLACEMENT OF THE LOCATION SIGN ABOVE THE FIRE EXTINGUISHER AND BE MOUNTED AT THE APPROPRIATE HEIGHT IN ACCORDANCE TO AS2444-2001 CLAUSE 3.3,4,

6.

EVERY EXTINGUISHER SHALL BE PROVIDED WITH A SUPPORT FITTING FOR AT LEAST STATIC MOUNTING. ANY SUPPORT FITTING SHALL BE CAPABLE OF SUPPORTING NOTE LESS THAN 5 TIMES THE GROSS MASS OF THE EXTINGUISHER.

7.

EXTINGUISHER HAVING A GROSS MASS GREATER THAN 1.5kg SHALL BE PROVIDED WITH A CARRY HANDLE OR GRIP.

8.

THE EXTINGUISHER, OR EXTINGUISHER LOCATION SIGN, SHALL BE CLEARLY VISIBLE FROM DISTANCE UP TO 20m IN ALL DIRECTIONS OF APPROACH,

9.

ALLOW FOR THE WORKS TO BE CARRIED OUT TO SUIT THE BUILDERS CONSTRUCTION PROGRAMME INCLUDING AFTHER HOURS WORKS.

10.

FINAL LOCATIONS OF PORTABLE FIRE EXTINGUISHERS TO BE CO-ORDINATED WITH JOINERY ON

11.

FIRE SERVICES CONTRACTOR TO CO-ORDINATE SIGNAGE REQUIREMENTS. PROCUREMENT OF SIGNAGE AND FINAL LOCATION OF SIGNAGE WITH ARCHITECT PRIOR TO INSTALLATION.

BUILDING OCCUPANT WARNING SYSTEM (BOWS)

1.

PROVIDE A FULLY COMPLIANT , FUNCTIONING BUILDING OCCUPANT WARNING SYSTEM (BOWS) INCORPORATING THE INSTALLATION OF NEW SPEAKERS AS REQUIRED TO COMPLY WITH THE BCA, AS 1670.1: 2018, AS 3000:2007 AND AS / ACIF S009. THE EXISTING BUILDING OCCUPANT WARNING SYSTEM IS ACCORDANCE WITH AS1670.1-2004 CLAUSE 3.22

2.

ALL NEW SPEAKERS TO MEET ALL RELEVANT AUSTRALIAN STANDARDS AND CSIRO ACTIVFIRE SCHEME LISTED.

3.

ALL SPEAKERS SHALL BE ALIGNED IN UNIFORM MANNER. COORDINATE LOCATIONS OF SPEAKERS WITH CEILING TILES AND FEATURES, LIGHT FIXTURES, MECHANICAL DUCTWORK/DIFFUSERS AND THE LIKE.

4.

RELOCATE SPEAKERS AND PROVIDE NEW SPEAKERS AS REQUIRED FOR COORDINATION WITH STRUCTURE, ARCHITECTURE AND OTHER BUILDING SERVICES AND TO MAINTAIN COMPLIANT SPACING. THE CONTRACTOR SHALL ALLOW FOR TWO (2) NEW SPEAKERS IN ADDITION TO THOSE SHOWN ON THE DRAWINGS TO ACCOMMODATE COORDINATION AND ADJUSTMENT.

5.

THE CONTRACTOR SHALL ALLOW FOR 2.5m WIRING AND ALL NECESSARY FITTINGS AND FIXINGS FOR EACH NEW AND RELOCATED SPEAKER.

6.

ALLOW TO UPGRADE, INTERFACE WITH AND REPROGRAMME THE BUILDING FIP PANEL AS REQUIRED.

ADDITIONAL TENANCY SPEAKERS SHALL NOT COMPROMISE THE PERFORMANCE OF THE BOWS. CALCULATE THE CAPACITY AND PROVIDE AN ADDITIONAL AMPLIFIER WHERE REQUIRED. ANY ADDITIONAL AMPLIFIERS REQUIRED SHALL BE PROVIDED BY THE TENANT INCLUDING WORKS AT THE FDCIE (FIP) AND EWCIE (MECP).

7.

FIRE SERVICES CONTRACTOR TO ALLOW FOR COMMISSIONING AND TESTING OF COMPLETED INSTALLATION TO CONFIRM REQUIRED SOUND PRESSURE LEVELS OF 10dBA ABOVE AMBIENT LEVEL, AND BETWEEN 65dBA AND 105dBA ARE ACHIEVED IN OCCUPIED AREAS WITH AN STI OF GREATER THAN OR EQUAL TO 0.5.

8.

PROVIDE ALL COMMISSIONING AND TEST DOCUMENTATION AS REQUIRED BY AS 1670.1: 2018

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SHOPS 4 - 6

8-28 THE CORSO, MANLY NSW

FIRE SERVICES

Title:  
SCOPE OF WORKS

Drawing No:  
F-02

Issue: B

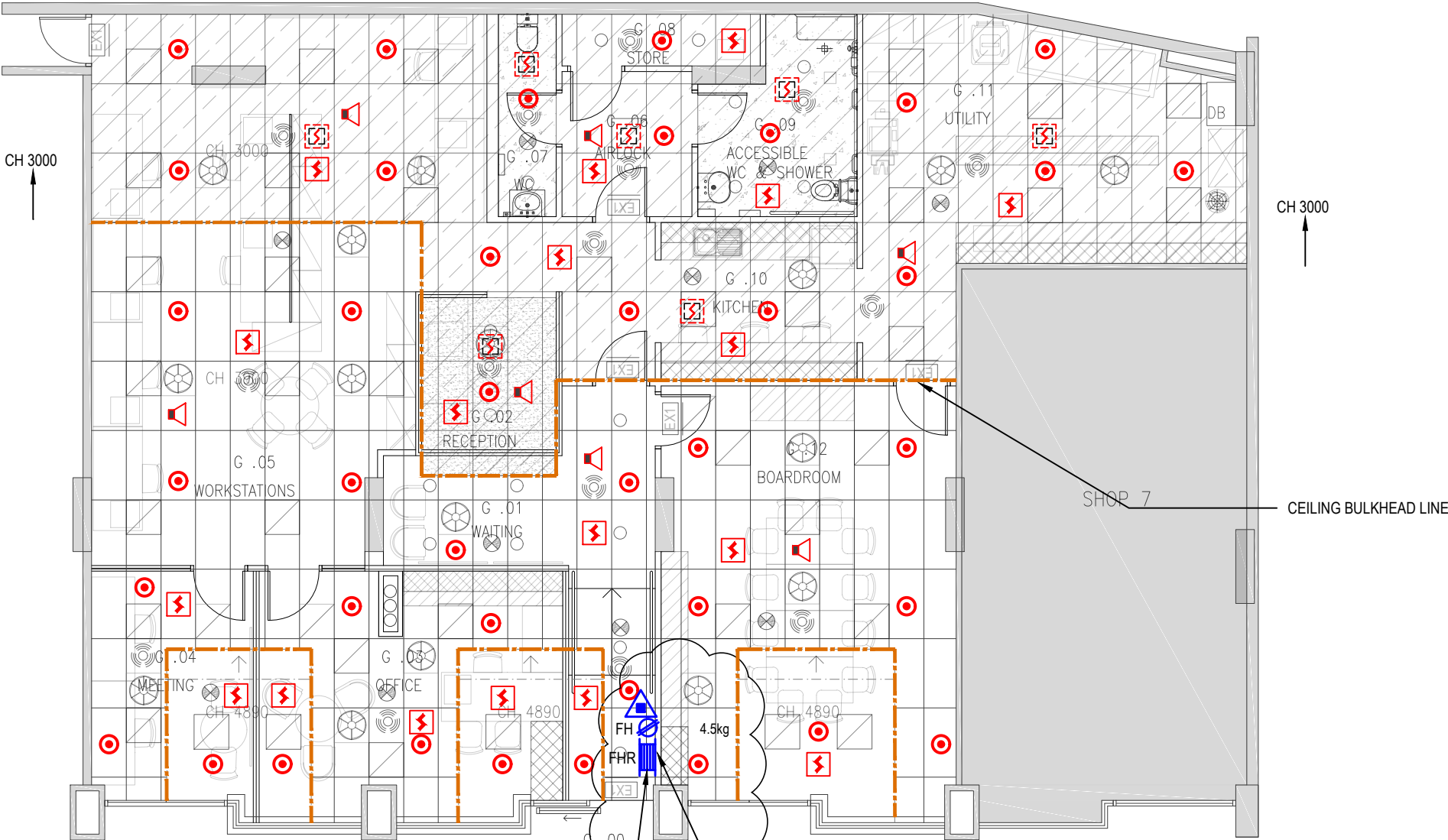
Scale: NTS @A3	Date Set Up: Jun-23	Project Manager: PM	CTL: EC	Project No: 22.6118
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- ALL NEW SPRINKLERS TO BE SEMI RECESSED AND TO BE FAST RESPONSE WITH 68°C.
- ALLOW FOR COORDINATION OF CONCEALED SPRINKLERS WITH FULL HEIGHT WALLS.
- ALLOW FOR PROVISION OF CONCEALED SMOKE DETECTORS AND CS SPRINKLERS WITHIN 1.5m FROM MECHANICAL FAN UNITS.



NEW FIRE EXTINGUISHER FH & FHR CABINET.

FIRE CABINET NEEDS TO ACCESSIBLE FROM THE CORRIDOR SIDE. FIRE EQUIPMENT NEEDS TO BE WITHIN 4m OF THE EXIT.

RELOCATED FIRE HOSE REEL AND FIRE HYDRANT. TO BE PROVIDED BY HYDRAULIC CONTRACTOR.



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North Point:



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FIRE SERVICES

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FIRE SERVICES LAYOUT

Drawing No:  
F-03

Issue: B

Scale: 1 - 100 @A3	Date Set Up: Jun-23	Project Manager: PM	CTL: EC	Project No: 22.6118
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