

NEW APARTMENTS  
11-13 WEST ST, HINDMARSH, SA  
ELECTRICAL SERVICES

GENERAL NOTES

1. READ ELECTRICAL DRAWINGS IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS, DETAILS AND SPECIFICATION.
2. COMPLY WITH ALL RELEVANT CODES AND STATUTORY REQUIREMENTS IN PARTICULAR BCA, AS3000, AS3008 AND AS2293.
3. TAKE DIMENSIONS FOR LOCATION OF ITEMS FROM ARCHITECTS DRAWINGS AND FROM SITE MEASUREMENTS.
4. COORDINATE WITH OTHER TRADES TO AVOID CLASHES OF SERVICES.
5. PRIOR TO PRACTICAL COMPLETION PROVIDE THE FOLLOWING MINIMUM DOCUMENTS:
  - SIGNED ELECTRICAL CERTIFICATE(S) OF COMPLIANCE FOR ALL WORKS UNDERTAKEN.
  - TYPED AND LAMINATED LEGEND CARDS FOR ALL NEW DISTRIBUTION BOARDS.
  - TEST RESULTS FOR ALL NEW RCD'S/MCB'S AND EXIT AND EMERGENCY LUMINAIRES.
6. PROVIDE ADDITIONAL MCB'S AND RCD'S AS REQUIRED.
7. REPLACE EXISTING CEILING TILES AFFECTED BY THE RELOCATIONS/DELETIONS.
8. CONNECT A MAXIMUM OF 6 x TWIN SOCKET OUTLETS ON A POWER CIRCUIT. CONNECT A MAXIMUM OF 1700VA OF LIGHTING TO A LIGHTING CIRCUIT.
9. PROVIDE POWER SUPPLIES TO EQUIPMENT TERMINATING IN ISOLATORS OR OUTLETS AS APPROPRIATE. COORDINATE WITH THE RESPECTIVE TRADE CONTRACTOR. LOCATE TO SUIT FINAL EQUIPMENT LOCATION.
10. SURVEY FOR EXISTING UNDERGROUND SERVICES PRIOR TO THE COMMENCEMENT OF THE PROPOSED EXCAVATION.
11. COORDINATE LOCATIONS OF CABLE TRAY WITH EXISTING SERVICES ON SITE. PROVIDE ALL WALL PENETRATIONS AND SEAL UPON COMPLETION. PROVIDE ALL RISE/FALL TRANSITIONS FOR CABLE TRAY ROUTE.
12. ELECTRICAL TRADE TO FULLY COORDINATE EQUIPOTENTIAL BONDING OF CONCRETE SLAB AND BEAM REINFORCEMENTS WITHIN SHOWER AND BATHROOM AREAS (INCLUDING FLOORS AND WALL REINFORCEMENT) WITH CONCRETE TRADE IN ACCORDANCE WITH AS3000 SECTION 5.6.
13. INSTALL RECESSED LUMINAIRES IN A MANNER TO MINIMISE TEMPERATURE RISE AND PREVENT RISK OF FIRE IN ACCORDANCE WITH AS3000:2007 CLAUSE 4.5.2.3.
14. WHERE ALTERNATIVE LUMINAIRES, LAMPS, CONTROLGEAR AND THE LIKE HAVE BEEN PROPOSED BY THE CONTRACTOR, EVIDENCE SHALL BE PROVIDED TO ENSURE THEY ARE FULLY COMPLIANT WITH THE SPECIFICATION REQUIREMENTS. THE CONTRACTOR SHALL THEN ENGAGE THE SERVICES OF LUCID CONSULTING ENGINEERS ON AN HOURLY RATE BASIS TO UNDERTAKE ALL NECESSARY PHOTOMETRIC CALCULATIONS REQUIRED TO ENSURE THE PROPOSED ALTERNATIVES WILL PROVIDE SUFFICIENT LIGHT LEVELS WITHIN THE NOMINATED AREAS.
15. ALL ELECTRICAL EQUIPMENT EITHER PROVIDED OR INSTALLED AS PART OF THE WORKS SHALL COMPLY WITH AS3820 - ESSENTIAL SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT.

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5G  
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15A  
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1000  
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LEGEND OF SYMBOLS

LUMINAIRES

24W RECESSED LED DOWNLIGHT, 4000K COLOUR TEMPERATURE, IP44 RATING, 170mm IN DIAMETER WITH A WHITE TRIM FINISH.  
SELECTION: GERARD LIGHTING 'PIERLUX PLUS GEN2' SERIES.

45W LINEAR SURFACE/WALL MOUNTED LED BATTEN LUMINAIRE, 4000K COLOUR TEMPERATURE, IP65 RATED WITH A POLYCARBONATE BODY AND A GREY FINISH.  
SELECTION: GERARD LIGHTING 'BWP ECO LED WEATHERPROOF' SERIES.

150W SUSPENDED LED HIGH-BAY LUMINAIRE, COMPLETE WITH INTEGRAL CONTROL GEAR, 5000K COLOUR TEMPERATURE, 120° BEAM ANGLE, IP65/IK08 RATING WITH BLACK POWDER COATED TRIM.  
SELECTION: GERARD LIGHTING 'PIERLUX ECO HIGHBAY GEN4' SERIES.

CEILING RECESSED LED EMERGENCY LUMINAIRE, C0/C90 = D63/D63 CATEGORY SPACING, REMOTE LP PREMIUM BATTERY AND WHITE FINISH.  
SM - DENOTES SURFACE MOUNTED.  
SELECTION: CLEVERTRONICS 'LIFELIGHT PRO' SERIES.

CEILING MOUNTED LED EMERGENCY LUMINAIRE, C0/C90 = D50/D50 CATEGORY SPACING, INTEGRAL WEATHERPROOF BOX SOLUTION & IP66 RATING.  
SELECTION: CLEVERTRONICS 'LIFELIGHT PRO WEATHERPROOF' SERIES.

SURFACE MOUNTED LED EMERGENCY EXIT LIGHT, COMPLETE WITH RUNNING PERSON GRAPHICS, 24m VIEWING DISTANCE, IP66 RATED AND INTEGRAL LP PREMIUM BATTERY.  
SELECTION: CLEVERTRONICS 'WEATHERPROOF UNIVERSAL EXIT' SERIES.

CEILING RECESSED LED EMERGENCY EXIT LIGHT, COMPLETE WITH RUNNING PERSON GRAPHICS, 24m VIEWING DISTANCE, IP20 RATED AND INTEGRAL LP PREMIUM BATTERY.  
SELECTION: CLEVERTRONICS 'ULTRA BLADE PRO' SERIES.

SWITCHBOARDS

MAIN SWITCHBOARD

DISTRIBUTION BOARD

COMMUNICATIONS

RJ45 (CAT6) INFORMATION POINT OR MISCELLANEOUS COMMUNICATIONS OUTLET  
2 - DENOTES TWIN OUTLET

TV ANTENNA

NBN CUPBOARD. DIMENSIONS AS SPECIFIED

NBN P5 PIT

SECURITY SERVICES

ELECTRIC STRIKE

REED SWITCH

CARD READER

KEY PAD

KEY FOB R.F. RECEIVER

SECURITY CONTROL PANEL

AUDIO INTERCOM

m - DENOTES MASTER CALL STATION

ASSOCIATED SYMBOLS

MOUNTED 150 ABOVE BENCH HEIGHT

CLEANERS OUTLET

CEILING MOUNTED

CIRCULATION PUMP

MOUNTED WITHIN CEILING SPACE

HOT WATER UNIT

ROLLER DOOR

SUMP PUMP

MOUNTED UNDER BENCH

WALL MOUNTED

WEATHERPROOF

TO BE OPERATING FOR 24 HOURS

5 GANG SWITCH PLATE. (OR NO. OTHERWISE SHOWN)

15 AMP RATING MINIMUM, OR AS OTHERWISE SHOWN

MOUNT AT 1000 AFFL OR HEIGHT AS SHOWN

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ACCESSORIES

SINGLE SWITCHED SOCKET OUTLET.

TWIN 10 AMP SWITCHED SOCKET OUTLET.

ONE OR THREE PHASE W/P ISOLATORS. (RATED TO SUIT LOAD).

LIGHT SWITCH.

180° LIGHTING MOTION SENSOR.

360° LIGHTING MOTION SENSOR.

PE-CELL CONTROLLED CIRCUIT.

TIMECLOCK CONTROLLED CIRCUIT.

INDICATIVE ROUTE OF ELECTRICAL ACCESS CONDUIT AND CABLING.

INDICATIVE ROUTE OF COMMUNICATIONS ACCESS CONDUIT AND CABLING.

INDICATIVE ROUTE OF P50 COMMUNICATIONS CONDUIT.

SWITCHED CIRCUIT

CIRCUIT LINE

SINGLE PHASE, THREE PHASE

POWER CABLE TRAY

COMMUNICATIONS CABLE TRAY

SCHEMATICS

CIRCUIT BREAKER

ISOLATOR

MACB/RCD

CURRENT TRANSFORMER

KILOWATT HOUR RETAILER METER

(E) DENOTES EXISTING, (N) DENOTES NEW  
DIAMETER OF CONDUIT  
SERVICES TYPE  
E - DENOTES ELECTRICAL SERVICES  
C - DENOTES COMMUNICATION SERVICES  
No. OF CONDUITS PARALLEL

DRAWING INDEX

LCE13404-E00

GENERAL NOTES, LEGEND OF SYMBOLS, LOCALITY PLAN AND DRAWING INDEX

LCE13404-E01

GROUND FLOOR POWER, COMMUNICATIONS, LUMINAIRE AND FIRE DETECTOR ARRANGEMENT

LCE13404-E02

FIRST AND SECOND FLOOR POWER, LUMINAIRE AND FIRE DETECTOR ARRANGEMENT

LCE13404-E03

THIRD FLOOR AND ROOF POWER, LUMINAIRE, COMMUNICATIONS AND FIRE DETECTOR ARRANGEMENT

LCE13404-E04

SINGLE LINE DIAGRAM AND STANDARD DETAILS



LOCATION PLAN  
NOT TO SCALE

AREA OF WORKS SHOWN HATCHED

TENDER ISSUE

REV	DESCRIPTION	DATE	CHK'D	REV'D	DESCRIPTION	DATE	CHK'D
T2	TENDER ISSUE	15.07.19	GC				
T1	TENDER ISSUE	28.03.19	GC				

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MILNE ARCHITECTS

CLIENT

CAVATON MC PROJECTS

PROJECT

NEW APARTMENTS  
11-13 WEST ST, HINDMARSH, SA

DRAWING

GENERAL NOTES, LEGEND OF SYMBOLS  
LOCALITY PLAN AND DRAWING INDEX

ELECTRICAL SERVICES

SCALE:  
NTS

DATE:  
JULY 2019

DESIGNED  
GC

DRAWN  
YT

No. IN SET  
1 OF 5

DRAWING NUMBER  
LCE13404-E00

REVISION  
T2



CARD READER TO UNLOCK FIRE EXIT DOOR FROM OUTSIDE CAR PARK. FIRE DOOR TO BE UNLOCKABLE FROM INSIDE CAR PARK.

**NBN CUPBOARD (CTL & FDT)**  
1000mm WIDE CLEAR OPENING x 400mm DEEP x FULL HEIGHT C/W LOCKABLE DOOR

**NBN P5 PIT (EXISTING)**  
INDICATIVE LOCATION ONLY

INCOMING 2P50 NBN CONDUIT UNDER SLAB. COORDINATE DEPTH WITH SEWER RETICULATION DEPTH.

ELECTRICAL CONTRACTOR TO TERMINATE P50 CONDUIT AT BOUNDARY. CONDUIT TO BE LATER EXTENDED BY OTHERS.

ISOLATOR TO POWER ROLLER DOOR

CARD READER IN LIFT

KEYPAD TO CONTROL ROLLER DOOR TO CAR PARK

ISOLATOR TO POWER SUMP PUMP. LOCATION INDICATIVE ONLY. COORDINATE FINAL LOCATION OF ISOLATOR WITH CIVIL CONTRACTOR ON-SITE.

ELECTRIC STRIKE IN FOYER ENTRY DOOR TO BE CONTROLLED BY PE-CELL AND TIMER. DOORS TO BE UNLOCKED FROM 7AM - 6PM.

**MAIN SWITCHBOARD**  
EXISTING MSB IN 17 WEST STREET BUILDING. NOT TO SCALE. LOCATION INDICATIVE ONLY.

MINIMUM 1200mm CLEARANCE REQUIRED IN FRONT OF MAIN SWITCHBOARD.

**MAIN DISTRIBUTION BOARD AND METER PANEL**  
(NEW)  
1800mm WIDE x 450mm DEEP x 2100mm HIGH

300mm WIDE ELECTRICAL CABLE TRAY AT HIGH LEVEL FOR INCOMING CABLES FROM EXISTING MSB. ELECTRICAL CONTRACTOR TO ALLOW FOR FIRE RATING OF ALL PENETRATIONS.

ISOLATOR TO POWER CAR PARK EXHAUST FAN

ISOLATOR TO POWER BIN ROOM FAN

**GROUND FLOOR POWER, SECURITY AND COMMUNICATIONS ARRANGEMENT**

SCALE 1:100

HIGH-BAY LUMINAIRES TO BE CONTROLLED BY PE-CELL AND TIMER TO BE SWITCHED ON ONLY DURING DAYLIGHT HOURS

**GROUND FLOOR LUMINAIRE AND FIRE DETECTOR ARRANGEMENT**

SCALE 1:100

TENDER ISSUE

REV/N	DESCRIPTION	DATE	CHK'D	REV/N	DESCRIPTION	DATE	CHK'D
T2	TENDER ISSUE	15.07.19	GC				
T1	TENDER ISSUE	28.03.19	GC				

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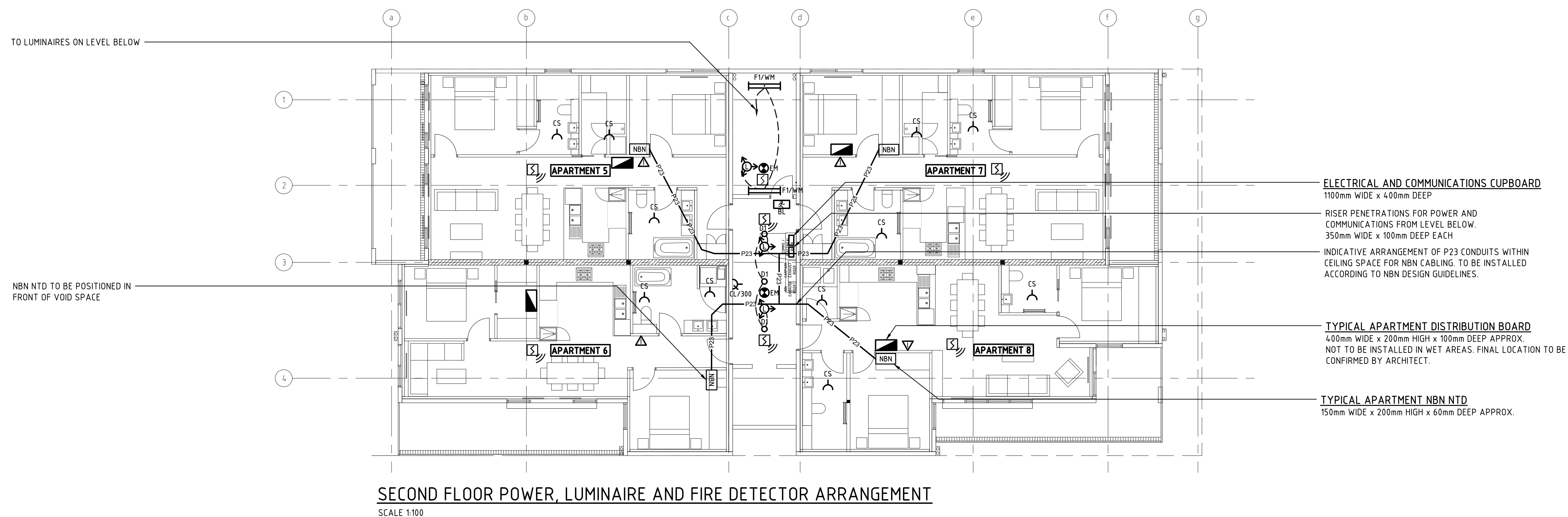
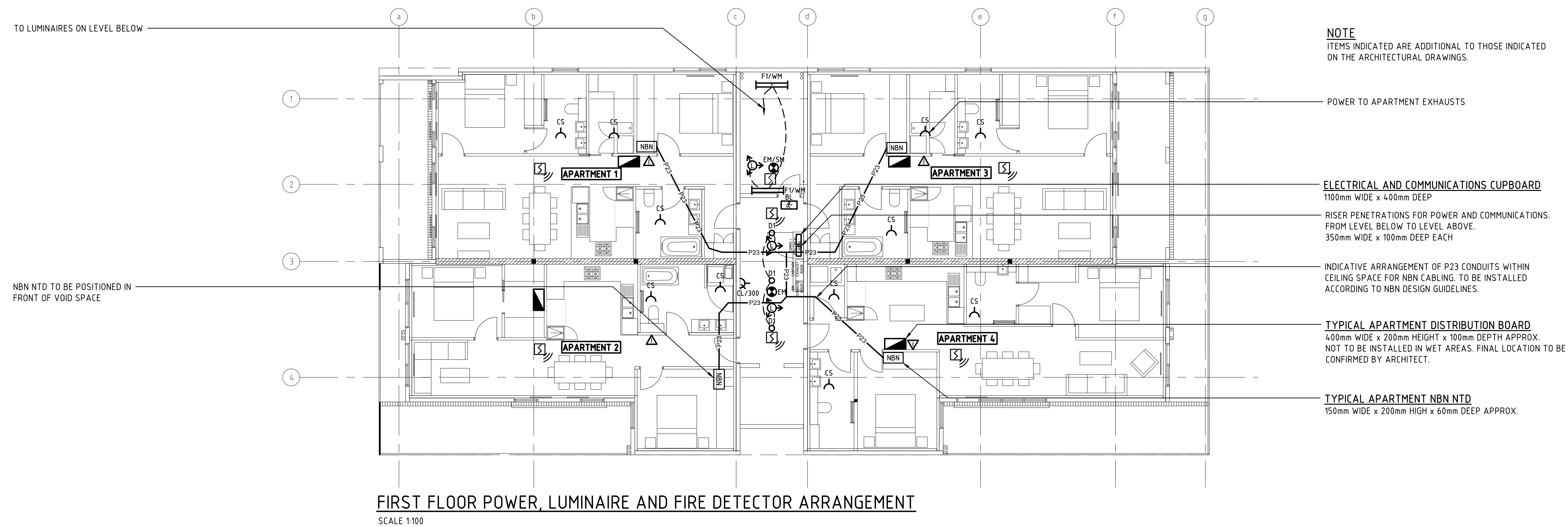
ARCHITECT  
**MILNE ARCHITECTS**

CLIENT  
CAVATON MC PROJECTS

PROJECT  
NEW APARTMENTS  
11-13 WEST ST, HINDMARSH, SA

DRAWING  
GROUND FLOOR POWER, COMMUNICATIONS,  
LUMINAIRE AND FIRE DETECTOR  
ARRANGEMENT

ELECTRICAL SERVICES			
SCALE: 1:100@A1	DATE: JULY 2019	No. IN SET	
DESIGNED GC	DRAWN YT	2 OF 5	
DRAWING NUMBER LCE13404-E01			REVISION T2



# TENDER ISSUE

[illegible]



TO LUMINAIRES ON LEVEL BELOW

LIFT POWER SUPPLY

NOTE  
ITEMS INDICATED ARE ADDITIONAL TO THOSE INDICATED  
ON THE ARCHITECTURAL DRAWINGS.

ELECTRICAL AND COMMUNICATIONS CUPBOARD  
1100mm WIDE x 400mm DEEP.

RISER PENETRATIONS FOR POWER AND  
COMMUNICATIONS FROM LEVEL BELOW.  
350mm WIDE x 100mm DEEP EACH.

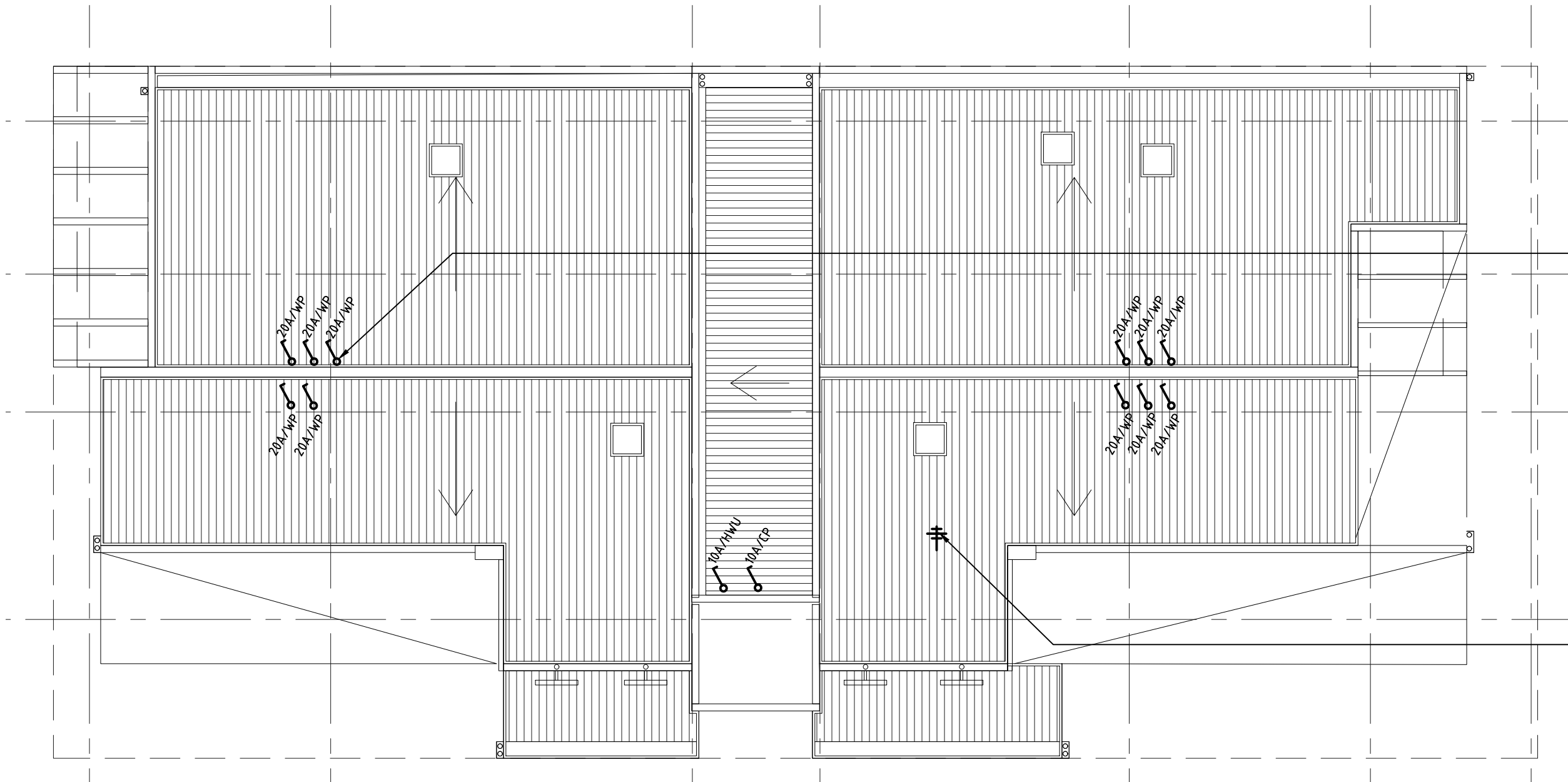
TYPICAL APARTMENT NBN NTD  
150mm WIDE x 200mm HIGH x 60mm DEEP APPROX.

TYPICAL APARTMENT DISTRIBUTION BOARD  
400mm WIDE x 200mm HIGH x 100mm DEEP APPROX.  
NOT TO BE INSTALLED IN WET AREAS. FINAL LOCATION TO BE  
CONFIRMED BY ARCHITECT.

INDICATIVE ARRANGEMENT OF P23 CONDUITS WITHIN  
CEILING SPACE FOR NBN CABLING. TO BE INSTALLED  
ACCORDING TO NBN DESIGN GUIDELINES.

THIRD FLOOR POWER, LUMINAIRE AND FIRE DETECTOR ARRANGEMENT

SCALE 1:100



FEED FROM RESPECTIVE APARTMENT LOAD CENTRE TO BE  
TERMINATED ONTO FREE STANDING ISOLATOR ADJACENT TO THE  
AIR CONDITIONING CONDENSER. FINAL TERMINATION TO A/C UNIT  
TO BE DONE BY MECHANICAL CONTRACTOR. COORDINATE FINAL  
LOCATION WITH MECHANICAL CONTRACTOR ON-SITE.

TV ANTENNA TO BE PLACED ON ROOFTOP. LOCATION INDICATIVE  
ONLY. COORDINATE FINAL LOCATION WITH ELECTRICAL  
CONTRACTOR ON SITE.

ROOF POWER AND COMMUNICATIONS ARRANGEMENT

SCALE 1:100

TENDER ISSUE

REV/N	DESCRIPTION	DATE	CHK'D	REV/N	DESCRIPTION	DATE	CHK'D
T2	TENDER ISSUE	15.07.19	GC				
T1	TENDER ISSUE	28.03.19	GC				

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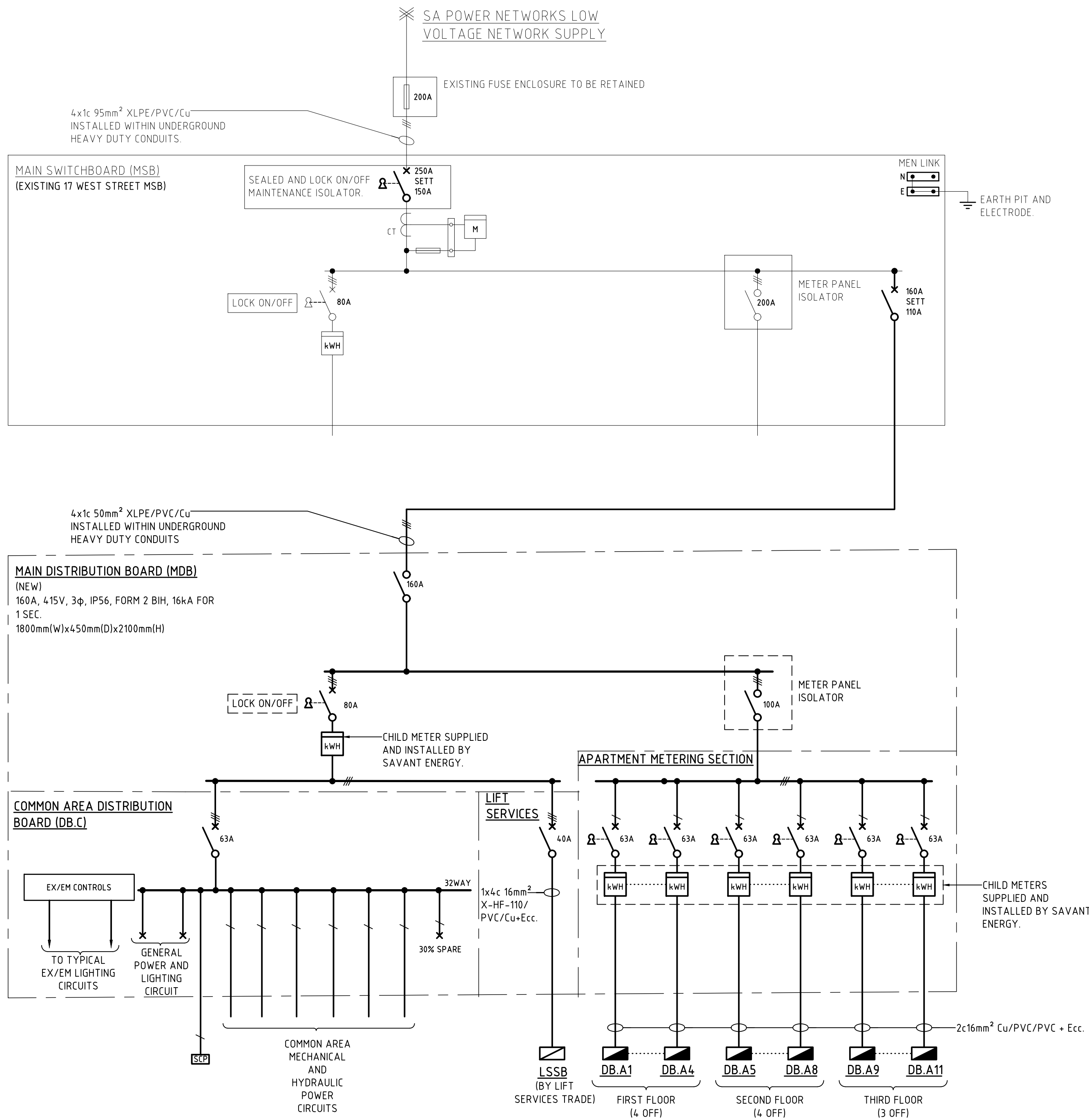
CLIENT  
**CAVATON MC PROJECTS**

PROJECT  
**NEW APARTMENTS  
11-13 WEST ST, HINDMARSH, SA**

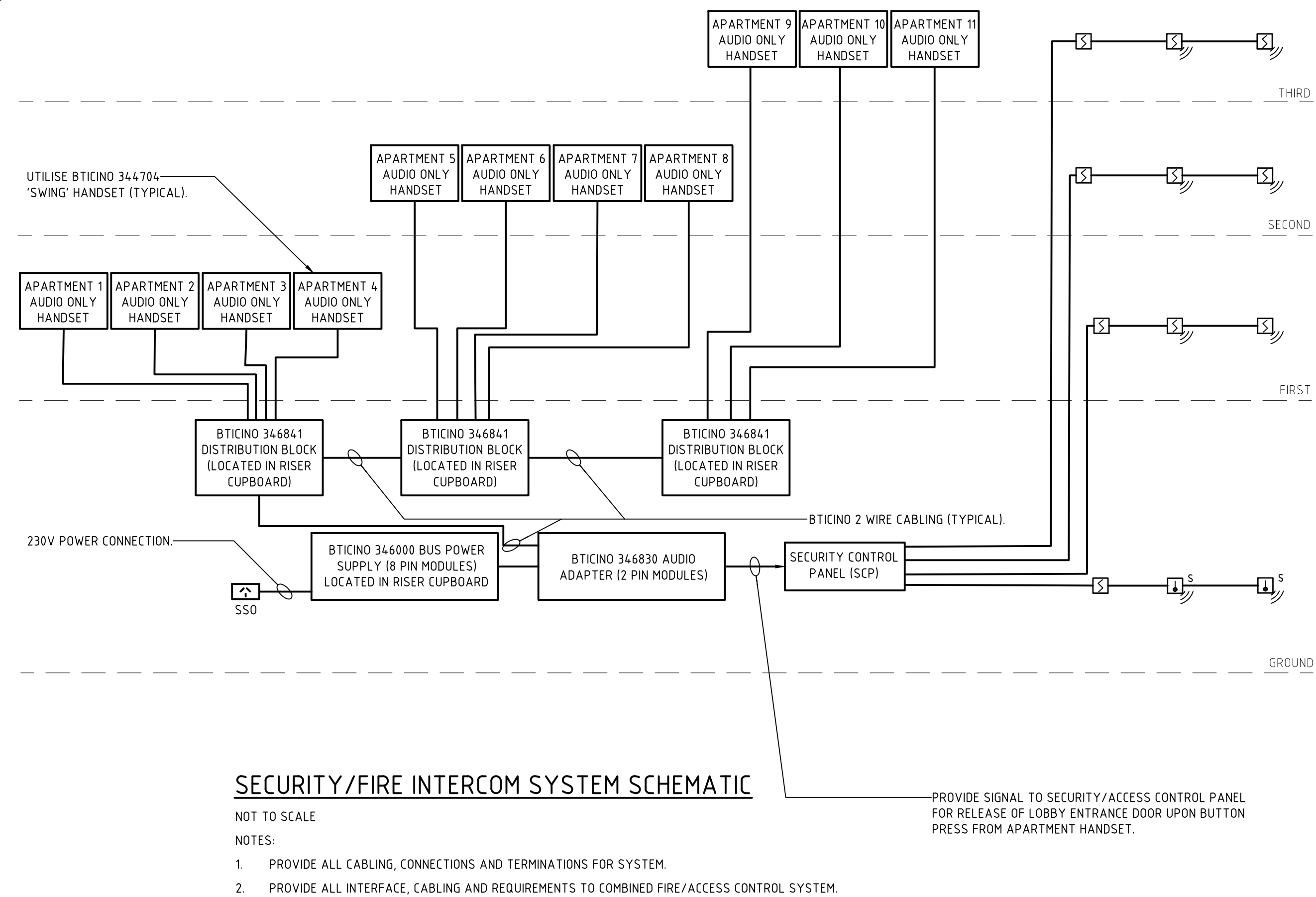
DRAWING  
**THIRD FLOOR AND ROOF POWER,  
LUMINAIRE, COMMUNICATIONS AND  
FIRE DETECTOR ARRANGEMENT**

ELECTRICAL SERVICES  
SCALE: 1:100@A1  
DATE: JULY 2019  
DESIGNED: GC  
DRAWN: YT  
No. IN SET: 4 OF 5  
DRAWING NUMBER: LCE13404-E03  
REVISION: T2





**SINGLE LINE DIAGRAM**  
NOT TO SCALE



**GROUND FLOOR NBN/COMMUNICATIONS  
CUPBOARD DETAIL**  
NOT TO SCALE

**ELECTRICAL/COMMUNICATIONS RISER  
DETAIL**  
NOT TO SCALE  
ALL ACTIVE NBNco EQUIPMENT, INTERCOM AND SECURITY EQUIPMENT TO BE  
LOCATED AT GROUND FLOOR COMMUNICATIONS CUPBOARD.

TENDER ISSUE

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T2	TENDER ISSUE	15.07.19	GC				
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CAVATON MC PROJECTS

PROJECT  
NEW APARTMENTS  
11-13 WEST ST, HINDMARSH, SA

DRAWING  
SINGLE LINE DIAGRAM AND STANDARD  
DETAILS

ELECTRICAL SERVICES			
SCALE: NTS	DATE JULY 2019	No. IN SET 5 OF 5	
DESIGNED GC	DRAWN YT	DRAWING NUMBER LCE13404-E04	REVISION T2



# NEW APARTMENTS






## 11-13 WEST ST, HINDMARSH, SA

### FIRE SERVICES

#### GENERAL NOTES

- THESE FIRE SERVICES DRAWINGS SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS, DETAILS AND OTHER ENGINEERING DRAWINGS AND SPECIFICATIONS AND WITH OTHER SUCH WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT.
- IF ANY DISCREPANCY OCCURS ON THE ENGINEERS DRAWINGS OR BETWEEN DRAWINGS AND SPECIFICATION, THE CONTRACTOR SHALL DURING TENDER ASSUME THE LARGER/GREATER QUANTITY. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER AND BE CLEARLY PRESENTED IN THE TENDER OFFER.
- UNLESS NOTED OTHERWISE ALL DIMENSIONS ARE IN MILLIMETRES. ALL PIPEWORK SIZES SHOWN ARE CLEAR INTERNAL DIMENSIONS ONLY.
- ALL ROUTES OF PIPEWORK ARE SHOWN INDICATIVE AND TO INDICATE THE PRINCIPLE DESIGN. FINAL ROUTES ARE TO BE CONFIRMED AS PART OF THE SHOP DRAWING PREPARATION PHASE AND COORDINATED ON SITE WITH ALL OTHER TRADES PRIOR TO INSTALLATION.
- DO NOT SCALE OFF DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED FROM THE ARCHITECT'S DRAWINGS AND BY ACTUAL SITE MEASUREMENTS PRIOR TO MANUFACTURING AND INSTALLING OF FIRE SERVICES.
- THE FIRE CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING OUT OF THEIR WORKS BY COORDINATING WITH ALL ASSOCIATED TRADES AND SERVICES.
- ALL PENETRATIONS THROUGH FIRE COMPARTMENT WALLS OR FLOORS SHALL BE SEALED WITH SUITABLE APPROVED MATERIALS IN AN APPROVED MANNER TO MAINTAIN THE INTEGRITY OF THE BARRIER, IN ACCORDANCE WITH BCA SPECIFICATION C3.15.
- ALL ROUTES OF EXISTING PIPEWORK SHOWN ARE INDICATIVE ONLY. UNDERGROUND SURVEY OR PIPE LOCATION MUST BE UNDERTAKEN BY THE FIRE SERVICES CONTRACTOR OR BUILDER PRIOR TO UNDERTAKING WORK ON SITE TO VERIFY LOCATIONS.
- 50mm INSULATION TO BE APPLIED TO UNDERSIDE OF LEVEL 1 SLAB. REFER TO ARCHITECTURAL DOCUMENTATION FOR DETAILS.
- PIPEWORK SHALL BE HARD AGAINST UNDERSIDE OF BEAMS. CONTRACTOR SHALL ENSURE MINIMUM CLEARANCE.
- ALL FIRE SERVICES PIPEWORK SUPPORTS SHALL HAVE A FRL NOT LESS THAN 60/-/-, WHILE MAINTAINING PIPE-SUPPORT TEMPERATURE OF NOT LESS THAN 500°C WHEN TESTED IN ACCORDANCE WITH AS1530.4.
- ALL FIRE SERVICES PIPEWORK IRRESPECTIVE OF SIZE SHALL BE SEISMICALLY BRACED IN ACCORDANCE WITH AS1170.4-2007. CONTRACTOR SHALL ALLOW TO ENGAGE AN INDEPENDENT STRUCTURAL ENGINEER TO PROVIDE CERTIFICATION OF SEISMIC BRACING METHODOLOGY AS REQUIRED.

#### LEGEND OF SYMBOLS

-  WINDOW WETTING SPRINKLER HEAD.
-  PORTABLE EXTINGUISHER - DRY CHEMICAL POWDER TYPE.
-  PORTABLE EXTINGUISHER - CARBON DIOXIDE.
-  PORTABLE FIRE EXTINGUISHER IN WEATHERPROOF BREAK GLASS CABINET.
-  FIRE HOSE REEL.

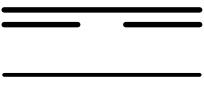

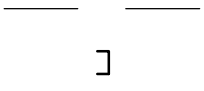












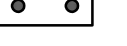


#### SPRINKLERS

#### FIRE EXTINGUISHERS


#### EQUIPMENT DESIGNATIONS

- FHR FIRE HOSE REEL PIPEWORK.
- FH FIRE HYDRANT PIPEWORK.
- FS FIRE SPRINKLER PIPEWORK.
- 25ø PIPEWORK DIAMETER.
- E EXISTING.

#### FIRE PIPE SYSTEMS

-  MAINS PIPEWORK. (TYPE AND SIZE AS NOTED, DASHED = UNDERGROUND).
-  SPRINKLER PIPEWORK. (TYPE AND SIZE AS NOTED).
-  EXISTING PIPEWORK. (TYPE AND SIZE AS NOTED, DASHED = UNDERGROUND).
-  BLANK END.
-  PENETRATION TO BE SEALED TO MAINTAIN FIRE/SMOKE INTEGRITY.
-  GATE VALVE.
-  NON RETURN VALVE.
-  PRESSURE GAUGE.
-  SPRINKLER TEST AND DRAIN VALVE.
-  FLANGE JOINT.
-  PIPE RISER FROM BEND.
-  PIPE DROPPER FROM BEND.
-  PIPE RISER FROM TEE.
-  PIPE DROPPER FROM TEE.
-  PUMP SET.
-  SINGLE FIRE HYDRANT OUTLET WITH OVAL SPINDLES.
-  FIRE BRIGADE BOOSTER.
-  FLOW SWITCH.

#### MISCELLANEOUS

-  FIRE WALL (FRL --/--/-- REFER ARCHITECTURAL DRAWINGS)

#### DRAWING INDEX

GENERAL NOTES, LOCATION PLAN, SCHEMATIC, DRAWING INDEX AND LEGEND OF SYMBOLS

LCE13404-F00

LCE13404-F01

SITE PLAN AND GROUND FLOOR FIRE SERVICES ARRANGEMENT

LCE13404-F02

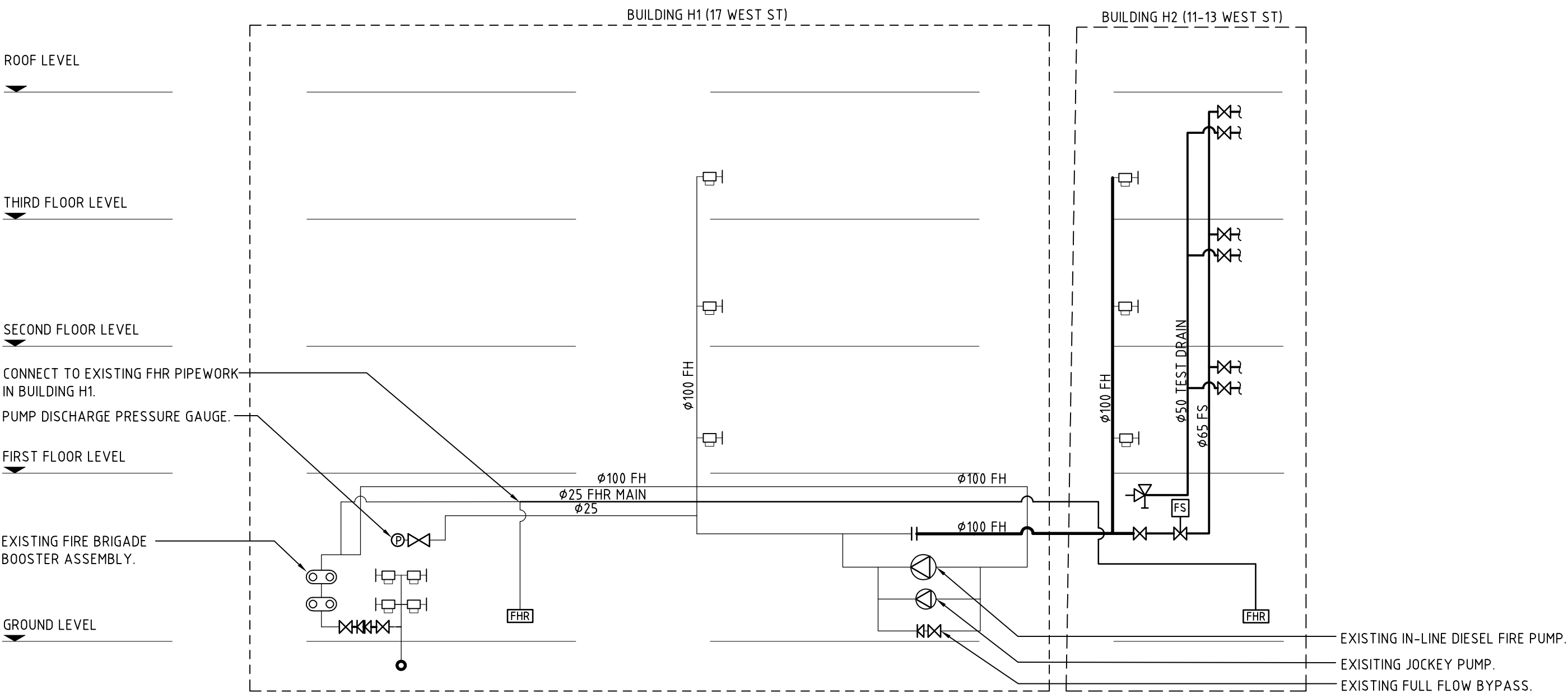
FIRST FLOOR AND SECOND FLOOR FIRE SERVICES ARRANGEMENT

LCE13404-F03

THIRD FLOOR FIRE SERVICES ARRANGEMENT

LCE13404-F04

DETAILS



**HYDRANT AND AUTOMATIC WINDOW DRENCHER SYSTEM SCHEMATIC**  
FOR INFORMATION ONLY TO DEMONSTRATE DESIGN CONCEPT NOT ALL VALVES AND COMPONENTS ARE SHOWN.  
NOT TO SCALE



**LOCATION PLAN**  
NOT TO SCALE  
AREA OF WORKS SHOWN HATCHED

## TENDER ISSUE

REV	DESCRIPTION	DATE	CHK'D	REV'D	DESCRIPTION	DATE	CHK'D
T2	TENDER ISSUE	11.07.19	JD				
T1	TENDER ISSUE	01.06.19	JD				

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ARCHITECT  
**MILNE ARCHITECTS**

CLIENT  
**CAVATON MC PROJECTS**

PROJECT  
**NEW APARTMENTS  
11-13 WEST ST, HINDMARSH, SA**

DRAWING  
**GENERAL NOTES, LOCATION PLAN,  
SCHEMATIC, DRAWING INDEX AND  
LEGEND OF SYMBOLS**

FIRE SERVICES			
SCALE: NTS	DESIGNED WL	DATE JULY 2019	No. IN SET 1 OF 5
DRAWING NUMBER <b>LCE13404-F00</b>	REVISION <b>T2</b>		







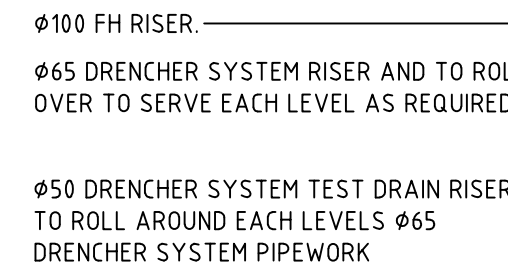




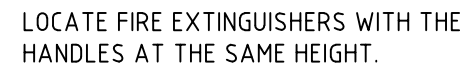


DRAWING  
THIRD FLOOR FIRE  
SERVICES ARRANGEMENT

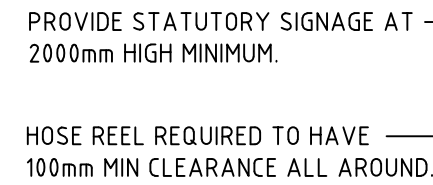
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SCALE 1:25



NOT TO SCALE  
FOR INFORMATION ONLY



NOT TO SCALE  
FOR INFORMATION ONLY



NOT TO SCALE  
FOR INFORMATION ONLY - REFER TO ARCHITECTURAL & STRUCTURAL  
DRAWINGS FOR FURTHER DETAIL.

# TENDER ISSUE

[illegible]

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ARCHITECT


MILNE ARCHITECTS

The logo for Milne Architects features a stylized, geometric letter 'M' on the left. The 'M' is constructed from several triangular and quadrilateral shapes in shades of dark grey and light grey. To the right of the 'M' is the text 'MILNE ARCHITECTS' in a bold, uppercase, sans-serif font. Above the 'M' is the word 'ARCHITECT' in a smaller, uppercase, sans-serif font.

CLIENT  
CAVATON MC PROJECTS

PROJECT  
NEW APARTMENTS  
11-13 WEST ST, HINDMARSH, SA

## DRAWING DETAILS

FIRE SERVICES			
SCALE: NTS		DATE JULY 2019	
	DESIGNED	DRAWN	No. IN SET
	WL	SHA	5 OF 5
DRAWING NUMBER LCE13404-F04			REVISION T2



NEW APARTMENTS

11-13 WEST ST, HINDMARSH, SA

HYDRAULIC SERVICES

GENERAL NOTES

1.

THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS, DETAILS AND OTHER CONSULTANTS DRAWINGS, SPECIFICATIONS AND WITH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT.
2.

DO NOT SCALE OFF DRAWINGS, ALL DIMENSIONS SHALL BE VERIFIED FROM ARCHITECTS DRAWINGS. PIPEWORK SIZES SHOWN ARE IN NOMINAL BORE DIAMETER UNLESS NOTED OTHERWISE.
3.

UNLESS NOTED OTHERWISE ALL DIMENSIONS ARE IN MILLIMETRES.
4.

THE SANITARY PLUMBING AND DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH AS/NZS 3500.
5.

PAINTING AND IDENTIFICATION OF PIPE RUNS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, AS/NZS 3500 AND AS/NZS 1345
6.

THE PLUMBING CONTRACTOR SHALL NOTIFY THE OTR PLUMBING AND DRAINAGE INSPECTION BRANCH PRIOR TO STARTING WORK ON SITE. WHERE CHANGES ARE REQUIRED TO THE PLUMBING DRAINAGE SYSTEM DESIGN TO SATISFY THE PLUMBING AND DRAINAGE INSPECTION BRANCH, THE CONTRACTOR MUST RECORD CHANGES & INCLUDE WITHIN THE "AS INSTALLED" DRAWINGS.
7.

THE WHOLE OF THE SANITARY PLUMBING AND WATER SUPPLY SHALL BE CARRIED OUT BY, OR UNDER THE DIRECT SUPERVISION OF A REGISTERED FULLY LICENSED CONTRACTOR PLUMBER AND LICENSED GAS FITTER. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE RELEVANT PROVISIONS OF AS/NZS3500, AS5601:2013, THE REGULATIONS AND DIRECTIONS OF THE 'SA WATER 'CORPORATION', 'OFFICE OF THE TECHNICAL REGULATOR (OTR) AND TO THE COMPLETE SATISFACTION OF THE SUPERINTENDENT.
8.

ALLOW FOR ALL COSTS ASSOCIATED WITH THE TESTING OF THE INSTALLATION AND INSPECTION BY LOCAL AUTHORITIES AS REQUIRED.
9.

FLOOR LEVELS, INVERT LEVELS, STRUCTURAL ELEMENTS AND THE LOCATION OF EXISTING SERVICES SHALL BE CHECKED ON SITE PRIOR TO SETTING OUT. NO ADDITIONAL CLAIMS WILL BE CONSIDERED IF FAILURE TO COMPLY WITH THIS REQUIREMENT RESULTS IN ADDITIONAL COSTS TO THE PLUMBING CONTRACTOR. TAKE INTO ACCOUNT ANY EXISTING CONDITIONS LIKELY TO AFFECT PERFORMANCE OF THE CONTRACT. TENDER PRICE WILL BE DEEMED ALL INCLUSIVE.
10.

ALLOW FOR NECESSARY OUT OF HOURS WORKS INCLUDING BUT NOT LIMITED TO CONNECTIONS TO AUTHORITY MAINS.
11.

SOIL, WASTE AND VENT PIPES SHALL BE ACOUSTIC WRAPPED UPVC OR ACOUSTIC RATED PIPE UNLESS OTHERWISE NOTED- TRADE WASTE PIPEWORK SHALL BE HDPE MATERIAL UNLESS OTHERWISE NOTED.
12.

THE FOLLOWING MATERIALS SHALL BE EMPLOYED IN THE DOMESTIC HOT AND COLD WATER PIPEWORK RETICULATION SYSTEM:
  - COPPER TYPE B - EXTERNAL ABOVE GROUND.
  - HDPE PN125 - EXTERNAL BELOW GROUND.
  - CROSS LINKED HIGH DENSITY POLYETHYLENE - INTERNAL HOT AND COLD WATER PIPEWORK
  - INTERNAL EXPOSED PIPEWORK TO BE CHROME PLATED.
13.

THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL SANITARYWARE AND TAPWARE AS SCHEDULED WITHIN THE ARCHITECTURAL SCHEDULES.
14.

THE PLUMBING TRADE SHALL BE RESPONSIBLE FOR SETTING OUT OF THEIR WORKS BY COORDINATING WITH ASSOCIATED TRADES AND SERVICES. ALL BUILDING PENETRATIONS SHALL BE BY THE CONTRACTOR.
15.

CONTRACTOR TO SUPPLY AND INSTALL FIRE STOP COLLAR AND APPROVED BY MANUFACTURER FOR SERVICES PASSING THROUGH FIRE RATED ELEMENTS AND FIRE COMPARTMENTS. FIRE RATED SEALS SHALL BE IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS, NCC AND THE REQUIREMENTS AND RECOMMENDATIONS OF THE BUILDING SURVEYOR.FIRE SEAL AROUND ALL PIPE PENETRATIONS THROUGH FIRE RATED CONSTRUCTION WALLS WITH CERTIFIED MATERIALS AS APPROVED BY MANUFACTURER.
16.

ALLOW TO COORDINATE WITH STRUCTURAL ELEMENTS AND OTHER SERVICES. ALLOW FOR ANY ADDITIONAL COSTS ASSOCIATED WITH THIS COORDINATION.
17.

ALLOW TO DETERMINE AN EXACT SUITABLE ROUTE ON SITE. FOR TENDER PURPOSES ALLOW FOR AN ADDITIONAL 10m LENGTH THAN SHOWN FOR DRINKABLE COLD WATER SUPPLY AND SANITARY DRAINAGE PIPEWORK.
18.

PIPEWORK ROUTES AND RETICULATION ALIGNMENTS ARE SHOWN FOR CLARITY ONLY. CONTRACTOR SHALL INSTALL ALL HOT WATER PIPEWORK TO FIXTURES IN MINIMUM LENGTHS TO AVOID DEADLEGS. (TYPICAL FOR ALL AREAS).
19.

SUBMIT SAMPLES OF ALL HYDRAULIC ITEMS WHICH HAVE A VISUAL IMPACT TO THE PROJECT FOR APPROVAL BY THE ARCHITECT AND ENGINEER PRIOR TO ORDERING AND INSTALLATION.
20.

REPLACE AND REPAIR IF ANY EXISTING MATERIAL OR PIPEWORK IS DAMAGED DURING WORKS. MATCH EXISTING AND MAKE GOOD.
21.

ALL PIPEWORK ROUTES SHOWN ON THE DRAWINGS SUBMITTED SHALL BE INSTALLED WITHIN CEILING AND WALL VOIDS, DUCTS, UNDER BENCHES OR IN JOINERY. WHERE PIPEWORK IS LIKELY TO BE EXPOSED, THESE CASES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO INSTALLATION OR COMMENCEMENT ON SITE.
22.

PLUMBING CONTRACTOR SHALL ENSURE ALL WATER SUPPLIES TO FIXTURES INSTALLED AS PART OF THESE WORKS DO NOT EXCEED 500kPa IN ACCORDANCE WITH AS3500.1. ALL FINAL CONNECTIONS TO EQUIPMENT SHALL BE AS PER MANUFACTURERS SPECIFICATIONS AND WATER MARKED.
23.

PRIOR TO WORKS, CONDUCT A STATIC PRESSURE TEST OF THE EXISTING COLD WATER INFRASTRUCTURE AND REPORT FINDINGS TO ENGINEER.
24.

RETICULATION PIPE SIZES INDICATED ON DRAWINGS ARE ON NOMINAL BORE - COPPER PIPE. THE USE OF ALTERNATIVE MATERIALS SHALL BE REFERRED TO DETAIL SHEET FOR INFORMATION.
25.

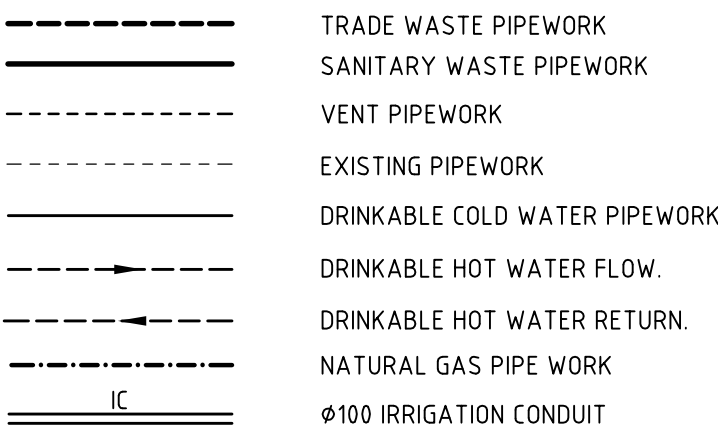
SUPPLY AND INSTALL ISOLATING VALVES AS REQUIRED. PROVIDE BALL VALVES, READILY ACCESSIBLE AND POSITIONED IN A SUITABLE LOCATION ADJACENT EQUIPMENT. VALVES LOCATED WITHIN DUCTS, CEILINGS OR WALL SPACES SHALL BE LOCATED BEHIND ACCESS PANELS. ALL VALVES SHALL HAVE SAME NOMINAL DIAMETER AS PIPE TO WHICH IT IS FITTED.
26.

PROVIDE ACOUSTIC LAGGING TO PIPEWORK RUNS WITHIN CEILING VOIDS AND ABOVE ANY HABITABLE SPACES.
27.

ALL PIPING SHALL BE SUPPORTED TO ENSURE THE SYSTEM IS FREE FROM VIBRATION AND WATER HAMMER. PIPEWORK IS NOT TO BE HUNG FROM ADJACENT PIPEWORK, POWER DRIVEN FIXINGS ARE NOT APPROVED.
28.

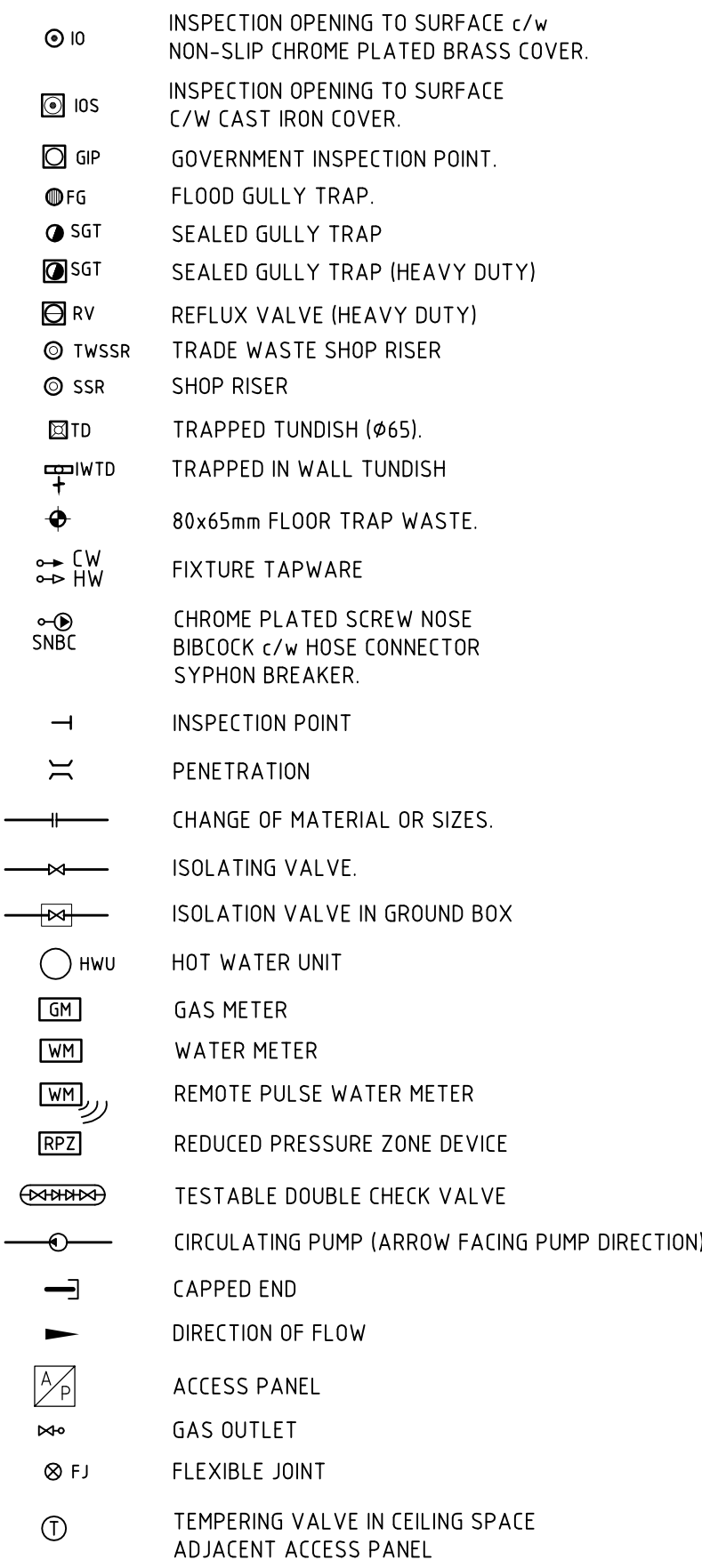
PROVIDE SEISMIC RESTRAINT TO SERVICES IN ACCORDANCE WITH AS1170.

PIPEWORK

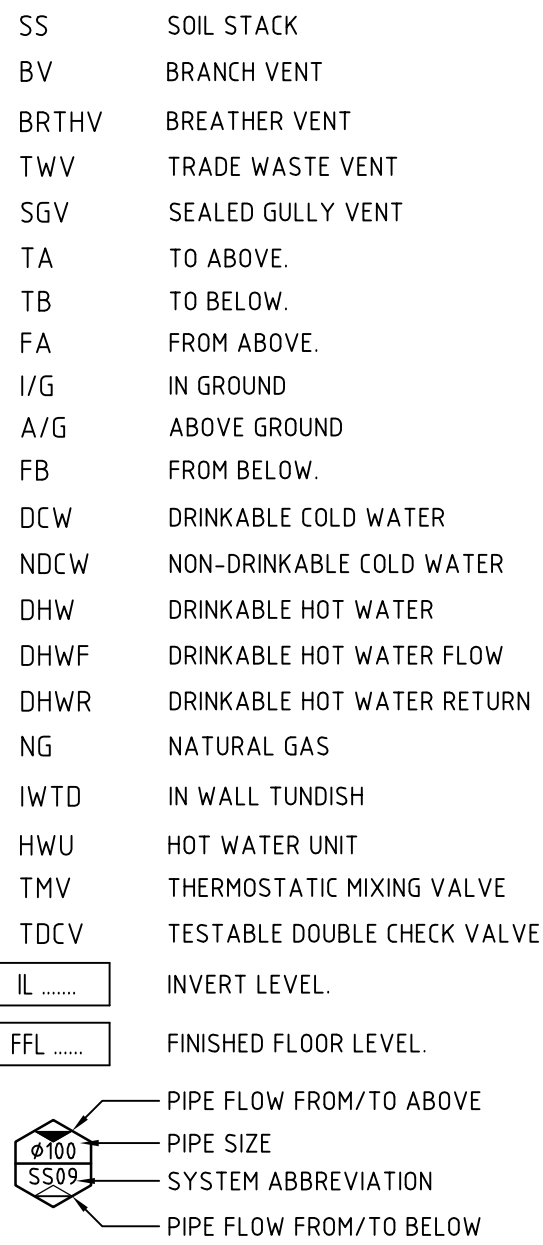


LEGEND OF SYMBOLS

SYMBOLS

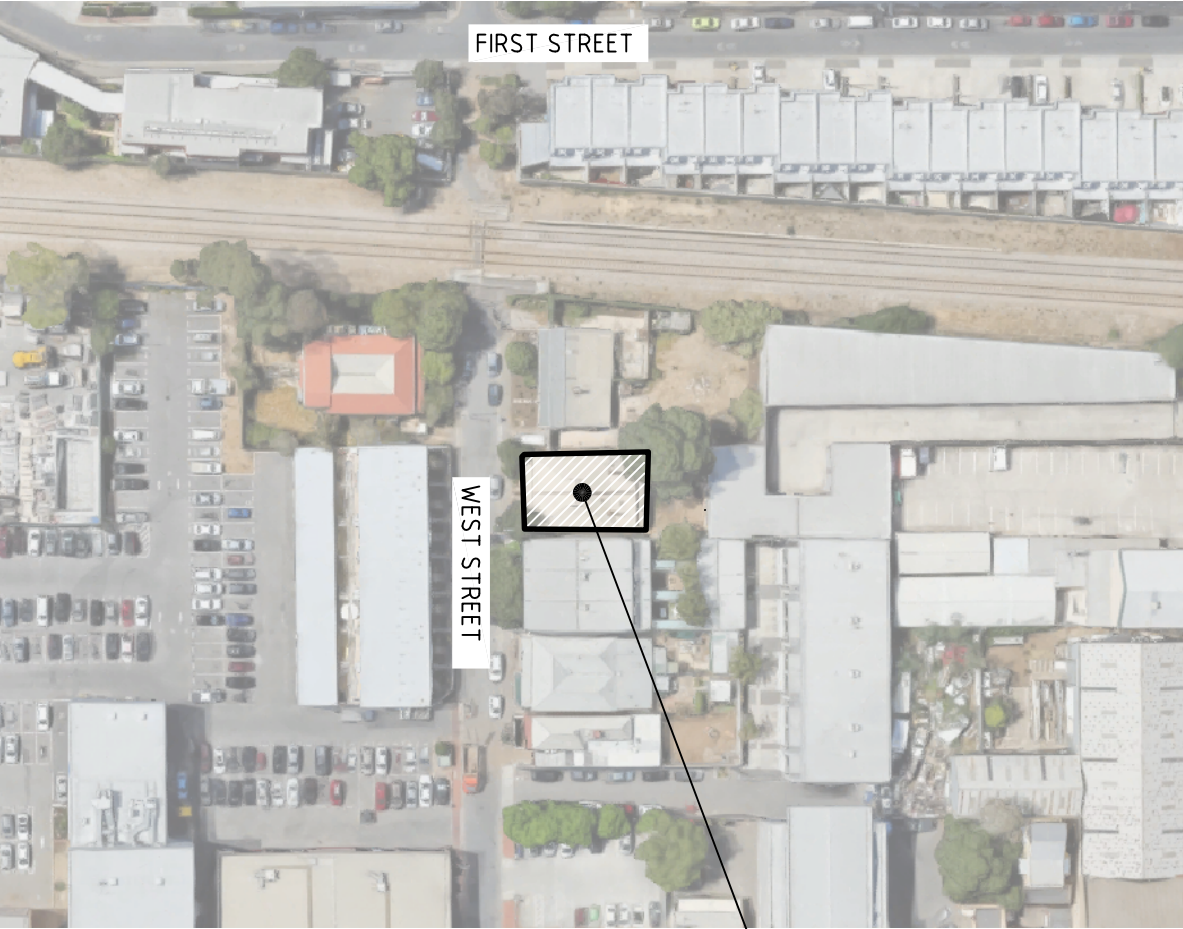


ABBREVIATIONS



DRAWING INDEX

LCE13404-H00	GENERAL NOTES, LOCALITY PLAN, DRAWING INDEX AND LEGEND OF SYMBOLS
LCE13404-H01	SITE PLAN, GROUND FLOOR WATER AND GAS RETICULATION AND SANITARY DRAINAGE ARRANGEMENTS
LCE13404-H02	FIRST AND SECOND FLOOR SANITARY DRAINAGE ARRANGEMENTS
LCE13404-H03	THIRD FLOOR AND ROOF LEVEL SANITARY DRAINAGE ARRANGEMENTS
LCE13404-H04	FIRST AND SECOND FLOOR WATER AND GAS RETICULATION ARRANGEMENTS
LCE13404-H05	THIRD FLOOR AND ROOF PLAN WATER AND GAS RETICULATION ARRANGEMENTS
LCE13404-H06	DETAILS



LOCATION PLAN  
NOT TO SCALE

AREA OF WORKS SHOWN HATCHED

TENDER ISSUE

REV	DESCRIPTION	DATE	CHK'D	REV'D	DESCRIPTION	DATE	CHK'D
T3	TENDER ISSUE	18.07.19	KR				
T2	TENDER ISSUE	15.07.19	KR				
T1	TENDER ISSUE	01.04.19	KR				

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MILNE ARCHITECTS

CLIENT

CAVATON MC PROJECTS

PROJECT

NEW APARTMENTS  
11-13 WEST ST, HINDMARSH, SA

DRAWING

GENERAL NOTES, LOCALITY PLAN,  
DRAWING INDEX AND LEGEND OF SYMBOLS

HYDRAULIC SERVICES

SCALE: NTS

DATE: JULY 2019

DESIGNED: EM

DRAWN: EM

No. IN SET: 1 OF 7

DRAWING NUMBER: LCE13404-H00

REVISION: T3



NOTE:

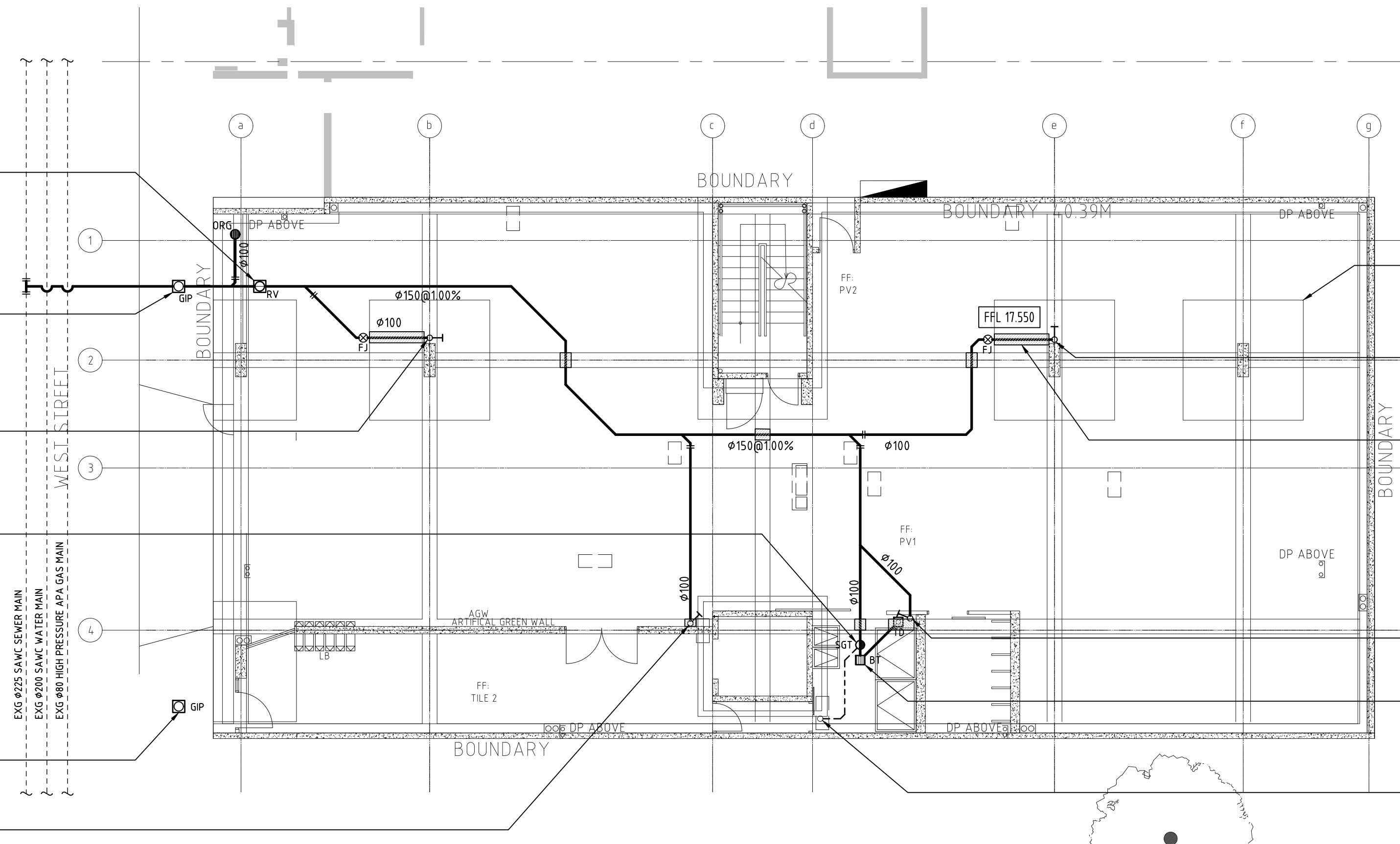
1. PROVIDE INSPECTION POINT AND ADJACENT ACCESS PANEL AT BASE OF ALL SANITARY DRAINAGE STACKS IN ACCESSIBLE LOCATION AT 300mm AFL.

PROVIDE  $\phi 150$  SERVICEABLE TYPE REFLUX VALVE WITH HEAVY DUTY CAST IRON COVER.

MAKE APPLICATION AND PAY FEES TO SA WATER CORPORATION TO UPGRADE EXISTING  $\phi 100$  SEWER CONNECTION TO  $\phi 150$ . ALLOW TO CONFIRM DEPTH ON SITE PRIOR TO COMMENCING WORKS.

PROVIDE  $\phi 100$  SEALED GULLY TRAP WITH CAST IRON COVER.

MAKE APPLICATION AND PAY FEES TO SA WATER CORPORATION TO MAKE EXISTING  $\phi 100$  SEWER CONNECTION REDUNDANT.



REFER TO STRUCTURAL DRAWINGS FOR PAD AND FOOTING DETAILS.

ALLOW TO CAST SANITARY DRAINAGE PIPEWORK INTO STRUCTURAL FOOTING. PROVIDE FLEXIBLE JOINT ASSEMBLY TO PIPEWORK WHERE EXITING FOOTING (TYPICAL).

STACK TO BE LOCATED OUTSIDE OF FOOTING WHERE POSSIBLE.

PROVIDE BUCKET TRAP TO BIN ROOM COMPLETE WITH STAINLESS STEEL HEAVY DUTY LID AND REMOVABLE STRAINER WITH 3mm HOLES. ALLOW TO COORDINATE LOCATION WITH ARCHITECTURAL DOCUMENTATION.

$\phi 50$  SEALED GULLY VENT TO ABOVE ROOF.

GROUND FLOOR SANITARY DRAINAGE ARRANGEMENT

SCALE 1:100

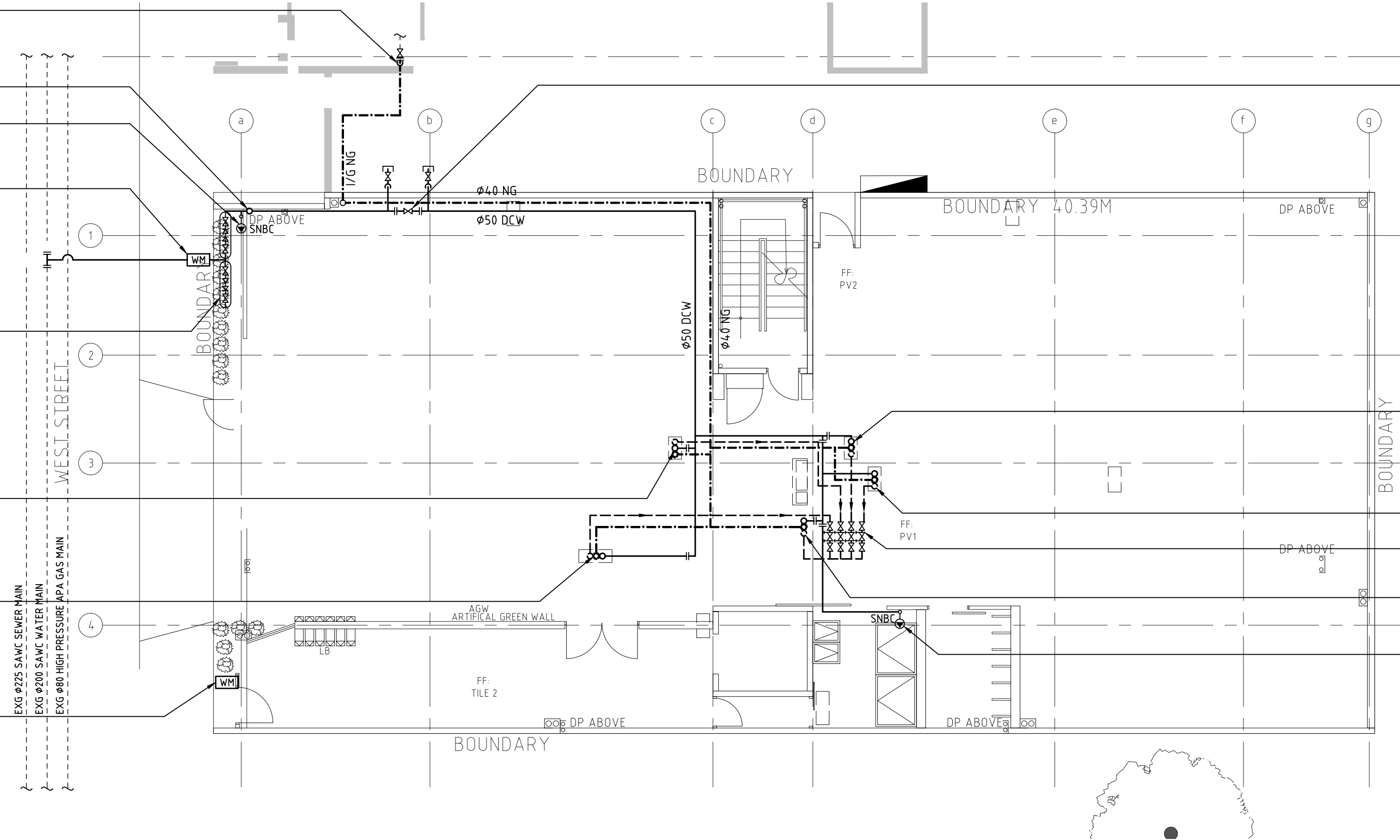
LOCATE AND EXTEND FROM EXISTING  $\phi 40$  NG PROVISIONS WITHIN ADJACENT PROPERTY. NEW NG PIPEWORK TO EXTEND INGROUND AND RISE AGAINST WALL WITHIN NEW PROPERTY.

DCW TO RISE AND CONTINUE AT HIGH LEVEL.

PROVIDE SNBC ON WALL AT 750mm ABOVE SURFACE LEVEL TO CHARGE ORG.

MAKE APPLICATION AND PAY FEES TO SA WATER CORPORATION TO UPGRADE EXG  $\phi 20$  METER TO NEW  $\phi 40$  WATER METER AND CONNECTION WITHIN INGROUND BOX. PROVIDE  $\phi 40$  TESTABLE DOUBLE CHECK VALVE TO INCOMING DCW SUPPLY WITHIN LANDSCAPED AREA WITHIN CAGE.

PROVIDE  $\phi 25$  TESTABLE DOUBLE CHECK VALVE FOR EXTENSION TO IRRIGATION IN LANDSCAPE WITHIN CAGE.



$\phi 50$  DCW TO PENETRATE WALL AND BE PROVIDED WITH ISOLATION VALVE EXTERNAL TO BUILDING TO ALLOW FOR CONNECTION TO FUTURE COLD WATER BOOSTER PUMP SERVING PROPOSED DEVELOPMENT AND ADJACENT 17 WEST ST DEVELOPMENT IN THE EVENT INSUFFICIENT FLOW AND PRESSURE FROM STREET MAIN IS EXPERIENCED.

BALANCING VALVES TO BE LOCATED AT HIGH LEVEL UNDER SLAB.

SNBC ON WALL AT 750mm AFL COMPLETE WITH VACUUM BREAKER.

GROUND FLOOR WATER AND GAS RETICULATION ARRANGEMENT

SCALE 1:100

TENDER ISSUE

REV	N	DESCRIPTION	DATE	CHK'D	REV	DESCRIPTION	DATE	CHK'D
T2		TENDER ISSUE	15.07.19	KR				
T1		TENDER ISSUE	01.04.19	KR				

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ARCHITECT  
**MILNE ARCHITECTS**

CLIENT  
CAVATON MC PROJECTS

PROJECT  
NEW APARTMENTS  
11-13 WEST ST, HINDMARSH, SA

DRAWING  
SITE PLAN, GROUND FLOOR WATER AND  
GAS RETICULATION AND SANITARY  
DRAINAGE ARRANGEMENTS

HYDRAULIC SERVICES

SCALE: 1:100@A1	DATE JULY 2019	No. IN SET 2 OF 7
DESIGNED EM	DRAWN EM	REVISION T2

DRAWING NUMBER  
LCE13404-H01



1. UPPER LEVELS ARE TO BE CONSTRUCTED WITH DELTACORE SLAB. ALLOW TO RETROFIT ALL FIRE COLLARS, WITH PENETRATIONS TO BE CORED SUBJECT TO STRUCTURAL APPROVAL.
2. PROVIDE INSPECTION POINT AND ADJACENT ACCESS PANEL AT BASE OF ALL SANITARY DRAINAGE STACKS IN ACCESSIBLE LOCATION AT 300mm AFL.
3. PROVIDE INSPECTION POINT TO ALL WC PANS. INSPECTION POINT TO BE ACCESSIBLE FROM CEILING SPACE OF LEVEL BELOW.
4. ALL CONNECTIONS TO BE OUTSIDE OF EXCLUSION ZONES IN ACCORDANCE WITH AS3500.2. ALLOW FOR MINIMUM 2500mm FROM BASE OF STACK ABOVE TO ANY CONNECTION AND MINIMUM 450mm FROM TOP OF STACK BELOW TO ANY CONNECTION WHERE ROLLING OVER.



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SCALE 1:100

# TENDER ISSUE

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CLIENT  
CAVATON MC PROJECTS

PROJECT  
NEW APARTMENTS  
11-13 WEST ST, HINDMARSH, SA

DRAWING

FIRST AND SECOND FLOOR  
SANITARY DRAINAGE ARRANGEMENTS

HYDRAULIC SERVICES

SCALE: 1:100@A1		DATE JULY 2019	
	DESIGNED EM	DRAWN EM	No. IN SET 3 OF 7
	DRAWING NUMBER LCE13404-H02		REVISION T2

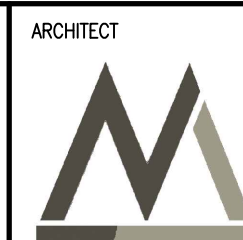
1. UPPER LEVELS ARE TO BE CONSTRUCTED WITH DELTACORE SLAB. ALLOW TO RETROFIT ALL FIRE COLLARS, WITH PENETRATIONS TO BE CORED SUBJECT TO STRUCTURAL APPROVAL.
2. PROVIDE INSPECTION POINT AND ADJACENT ACCESS PANEL AT BASE OF ALL SANITARY DRAINAGE STACKS IN ACCESSIBLE LOCATION AT 300mm AFL.
3. PROVIDE INSPECTION POINT TO ALL WC PANS. INSPECTION POINT TO BE ACCESSIBLE FROM CEILING SPACE OF LEVEL BELOW.
4. ALL CONNECTIONS TO BE OUTSIDE OF EXCLUSION ZONES IN ACCORDANCE WITH AS3500.2. ALLOW FOR MINIMUM 450mm FROM ANY CONNECTION TO TOP OF STACK.



SCALE 1:100



SCALE 1:100

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MILNE ARCHITECTS

CLIENT  
CAVATON MC PROJECTS

PROJECT  
NEW APARTMENTS  
11-13 WEST ST, HINDMARSH, SA

DRAWING

THIRD FLOOR AND ROOF LEVEL  
SANITARY DRAINAGE ARRANGEMENTS

HYDRAULIC SERVICES
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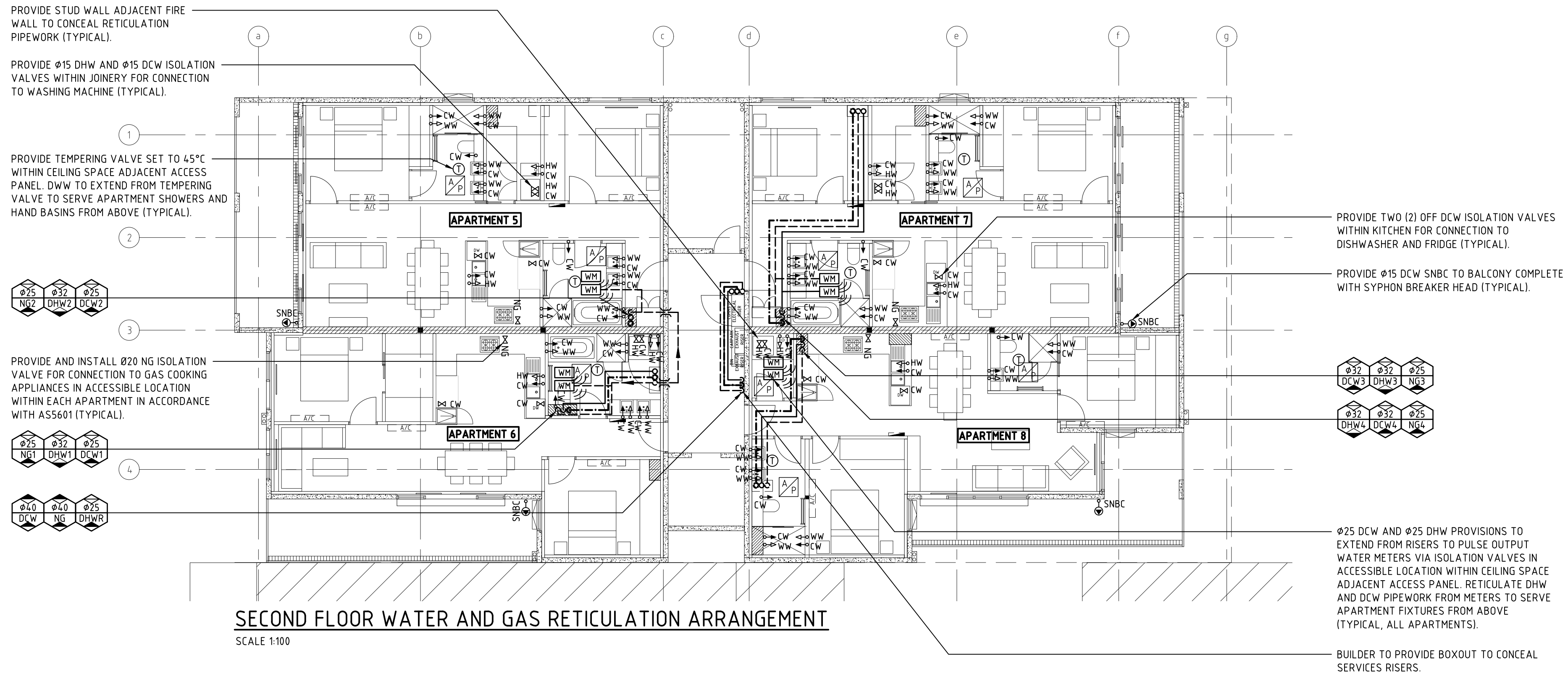
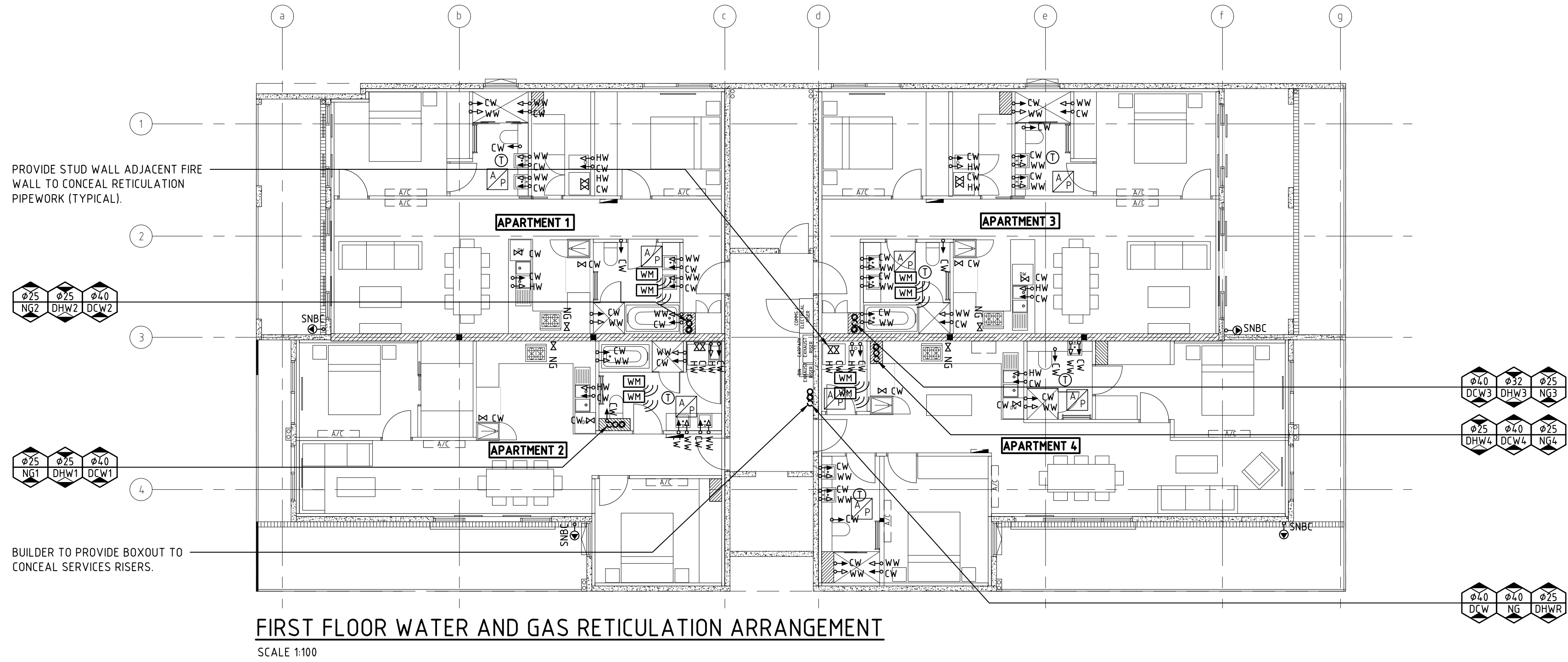
4 OF

DATE	DATE
DRAWING NUMBER	
LCF134.04-H03	

REVISION	T2
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# TENDER ISSUE





TENDER ISSUE

REV/N	DESCRIPTION	DATE	CHK'D	REV/N	DESCRIPTION	DATE	CHK'D
T2	TENDER ISSUE	15.07.19	KR				
T1	TENDER ISSUE	01.04.19	KR				

 Level 3/169 Pirie St Adelaide SA 5000 Phone: (08) 8407 9700 Email: adelaide@lucidconsulting.com.au	 MILNE ARCHITECTS	CLIENT CAVATON MC PROJECTS	PROJECT NEW APARTMENTS 11-13 WEST ST, HINDMARSH, SA	DRAWING FIRST AND SECOND FLOOR WATER AND GAS RETICULATION ARRANGEMENTS	HYDRAULIC SERVICES		
					SCALE: 1:100@A1	DATE: JULY 2019	No. IN SET
					DESIGNED: EM	DRAWN: EM	5 OF 7
					DRAWING NUMBER: LCE13404-H04		REVISION: T2

PROVIDE STUD WALL ADJACENT FIRE WALL TO CONCEAL RETICULATION PIPEWORK (TYPICAL).

PROVIDE TEMPERING VALVE SET TO 45°C WITHIN CEILING SPACE ADJACENT ACCESS PANEL. DWW TO EXTEND FROM TEMPERING VALVE TO SERVE APARTMENT SHOWERS AND HAND BASINS FROM ABOVE (TYPICAL).

PROVIDE Ø15 DHW AND Ø15 DCW ISOLATION VALVES WITHIN JOINERY FOR CONNECTION TO WASHING MACHINE (TYPICAL).

PROVIDE AND INSTALL Ø20 NG ISOLATION VALVE FOR CONNECTION TO GAS COOKING APPLIANCES IN ACCESSIBLE LOCATION WITHIN EACH APARTMENT IN ACCORDANCE WITH AS5601 (TYPICAL).

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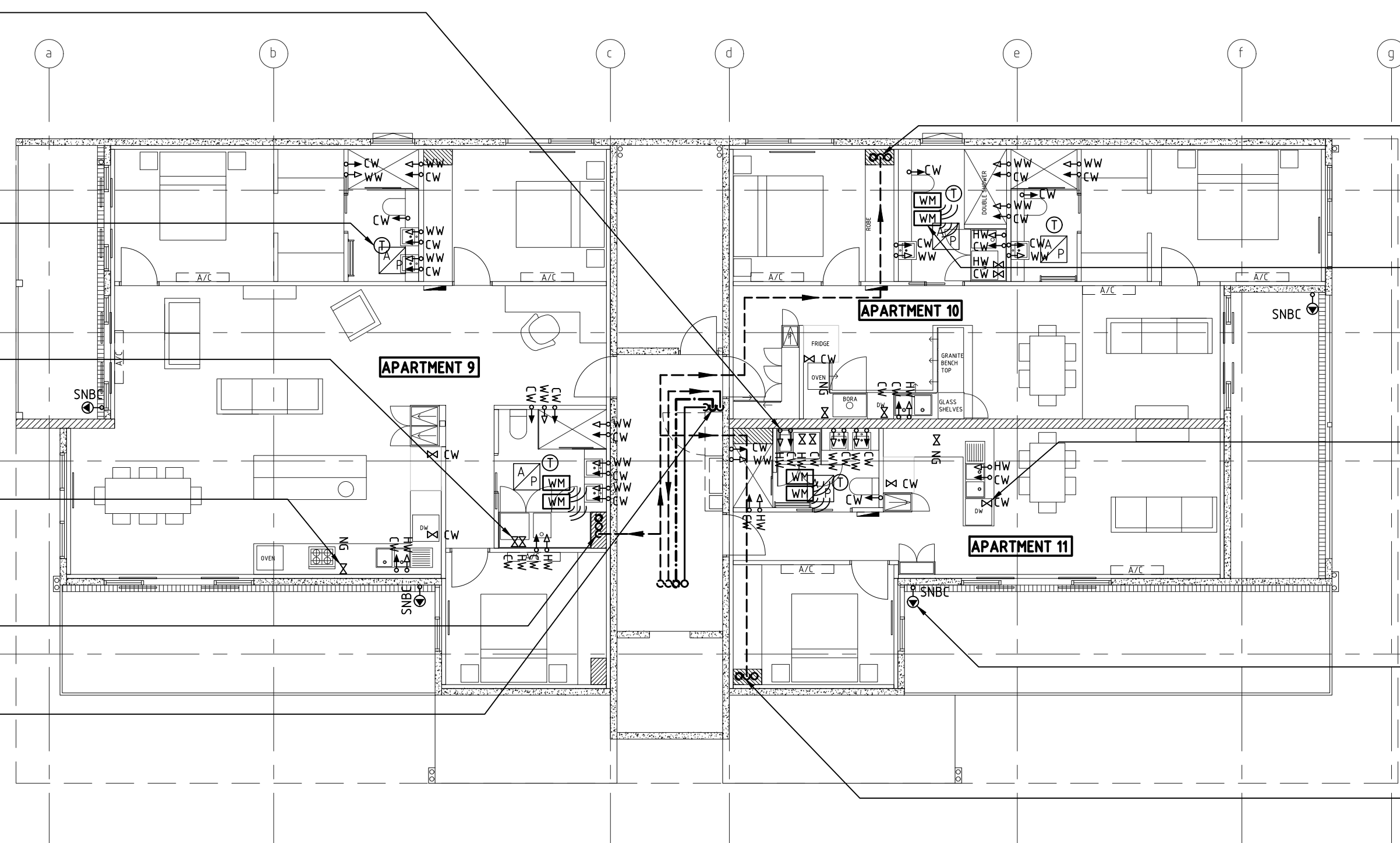
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DCW16

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DHW17

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DCW17

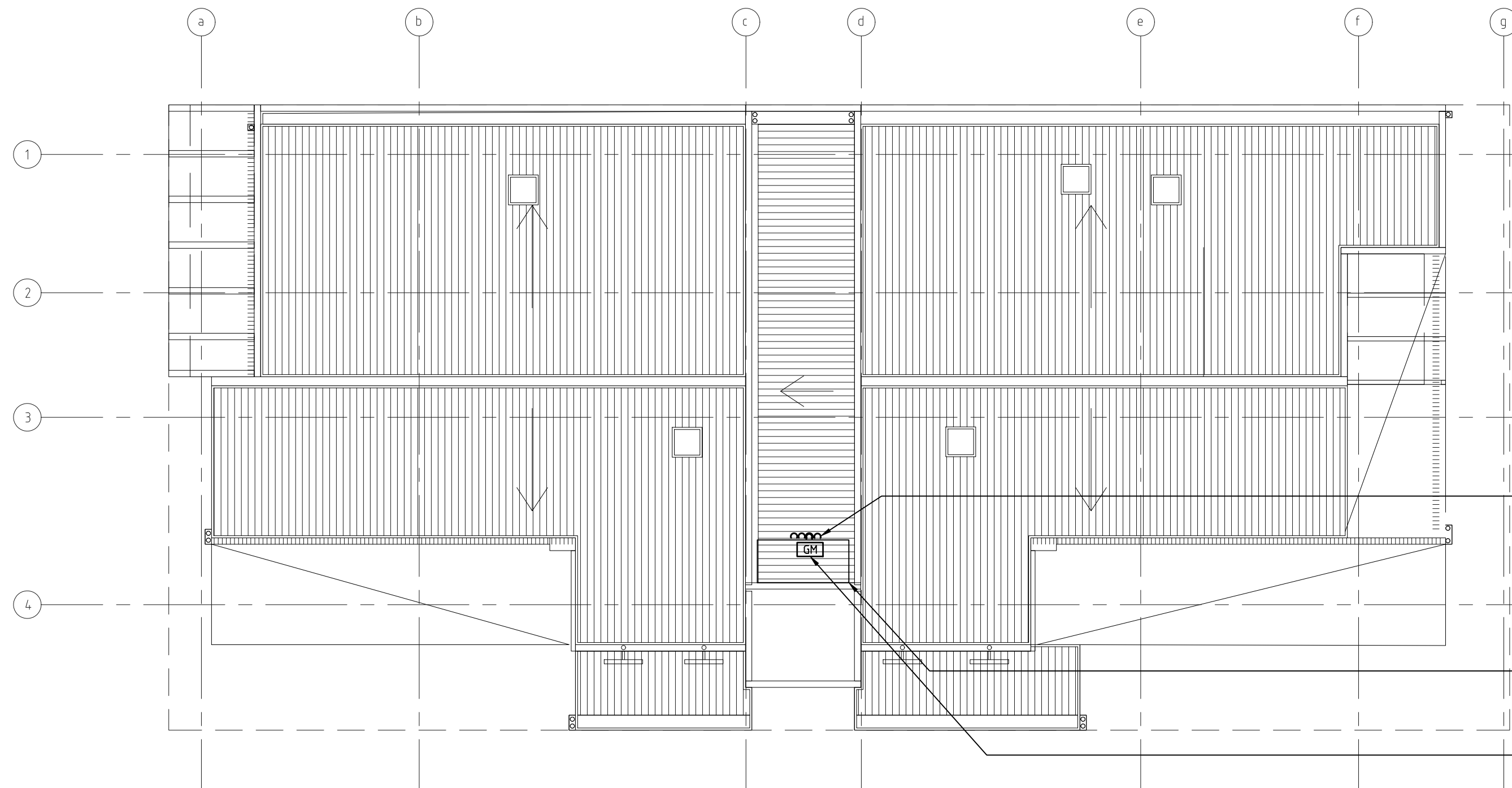
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DHW18

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DCW18



THIRD FLOOR WATER AND GAS RETICULATION ARRANGEMENT

SCALE 1:100



ROOF LEVEL WATER AND GAS RETICULATION ARRANGEMENT

SCALE 1:100

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DHW3

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## EXTERNAL SURFACE INSPECTION COVER DETAIL

### TYPICAL FLEXIBLE JOINT EXPANSION ASSEMBLY

## IN-GROUND SEWER PIPEWORK PENETRATING STRUCTURAL FOOTING DETAIL

# TENDER ISSUE



# NEW APARTMENTS

## 11-13 WEST ST, HINDMARSH, SA

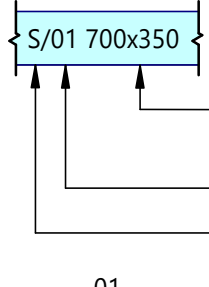
### MECHANICAL SERVICES

#### GENERAL NOTES

1.
- THE MECHANICAL SERVICES DRAWINGS SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS, DETAILS AND OTHER ENGINEERING DRAWINGS AND SPECIFICATION AND WITH OTHER SUCH WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT.
2.
- IF ANY DISCREPANCY OCCURS ON THE ENGINEERS DRAWINGS OR BETWEEN DRAWING AND SPECIFICATION, THE CONTRACTOR SHALL DURING TENDERING ASSUME THE LARGER/GREATER. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
3.
- SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER AND BE INCLUDED IN ANY TENDER.
4.
- UNLESS NOTED OTHERWISE ALL DIMENSIONS ARE IN MILLIMETRES. ALL DUCTWORK SIZES SHOWN ARE CLEAR INTERNAL DIMENSIONS ONLY.
5.
- ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE RELEVANT AUSTRALIAN STANDARDS, CODES AND THE CONTRACT SPECIFICATION.
6.
- ALL DUCTWORK SHALL CONFORM TO THE STANDARDS OF THE SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (S.M.A.C.N.A.) & AS4254.
7.
- ALL ROUTES, INCLUDING CONDENSATE AND REFRIGERATION PIPEWORK ARE SHOWN INDICATIVE AND ARE FOR PRICING PURPOSES ONLY. FINAL ROUTES ARE TO BE CONFIRMED AND COORDINATED ON SITE WITH ALL OTHER TRADES PRIOR TO INSTALLATION.
8.
- DO NOT SCALE OFF DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED FROM THE ARCHITECTS DRAWINGS AND BY ACTUAL SITE MEASUREMENTS PRIOR TO MANUFACTURING AND INSTALLING MECHANICAL SERVICES.
9.
- THE MECHANICAL TRADE SHALL BE RESPONSIBLE FOR SETTING OUT OF THEIR WORKS BY COORDINATING WITH ALL ASSOCIATED TRADES AND SERVICES.

#### LEGEND OF SYMBOLS

##### DUCTING



01


DUCT COMPLETE WITH DUCT TAG

AIRSIDE DIMENSION, VIEWED SURFACE SHOWN AS FIRST DIMENSION


DUCT CONSTRUCTION TYPE.

DUCT AIR STREAM TYPE.


UNLINED/UNINSULATED DUCTWORK




CIRCULAR SPIRAL WOUND DUCTWORK




DUCTWORK RISER




DUCTWORK DROPPER




NCC COMPLIANT INSULATED FLEXIBLE DUCTING



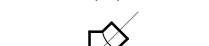
600x600x100mm PANEL FILTER




OPPOSED BLADE DAMPER (P & S)




FIRE DAMPER



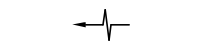
BRANCH TAKE OFF



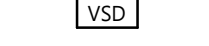
PROPRIETARY BRANCH TAKE OFF (90°) (COMPLETE WITH BUTTERFLY BALANCING DAMPER)




BACKDRAFT DAMPER




DIRECTION OF AIR FLOW




VARIABLE SPEED DRIVE



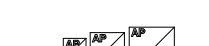
AIR CONDITIONING CONTROL PANEL MOUNTED 1500mm ABOVE FLOOR LEVEL. CONFIRM EXACT LOCATION WITH ARCHITECTS




TEMPERATURE SENSOR, (1500mm ABOVE FLOOR LEVEL. CONFIRM FINAL LOCATION ON SITE UNLESS NOTED OTHERWISE)



CARBON MONOXIDE SENSOR



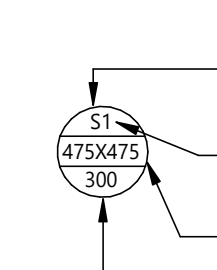
300x300/450x450/600x600 CEILING ACCESS PANEL



DOOR RELIEF GRILLE BY BUILDER  
0.05 - 600x150mm  
0.1 - 600x250mm  
0.15 - 600x400mm  
0.2 - 600x500mm  
0.25 - 600x1000mm  
U - 40mm UNDERCUT TO DOOR

FLEXIBLE DUCTWORK SCHEDULE (UNLESS OTHERWISE STATED)	
FLOW L/s	SIZE (mm)
55-95	Ø200
100-150	Ø250
155-210	Ø300
215-290	Ø350
295-375	Ø400
380-480	Ø450
485-550	Ø500

##### REGISTERS



S1

475x475

300

REGISTER TAG


REGISTER DUCT SYSTEMS  
(SEE BELOW FOR DESIGNATION)

REGISTER TYPE  
(SEE BELOW FOR DESIGNATION)

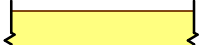
REGISTER DIMENSION  
(SEE BELOW FOR CLARIFICATION)

AIR FLOW RATE


##### DUCTING SYSTEMS




O - OUTSIDE AIR DUCTWORK



E - KITCHEN EXHAUST DUCTWORK




E - GENERAL EXHAUST DUCTWORK




E - TOILET EXHAUST DUCTWORK


##### REGISTER TYPES



GRILLE TYPE 3 - LINEAR BAR GRILLE (4 - DOUBLE DEFLECTION GRILLE, 6 - HALF CHEVRON GRILLE, 7 - WEATHERPROOF LOUVRE ETC)

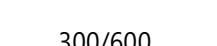


GRILLE TYPE 5 - EGGRATE TYPE GRILLE




WALL MOUNTED GRILLE

##### DIMENSIONS



300/600


NECK DIMENSION x FACE DIMENSION  
APPLIES TO GRILLE TYPE 1




600x600

FACE (WIDTH) DIMENSION x FACE (LENGTH) DIMENSION  
APPLIES TO GRILLE TYPE 2-7


##### PIPEWORK




REFRIGERANT PIPEWORK (INSULATED)




CONDENSATE DRAIN




PIPEWORK RISER




PIPEWORK DROPPER



TUNDISH



IN-WALL TUNDISH



GULLY TRAP

##### ABBREVIATIONS

ACC

ARG

BD

EAC

EAG

EAL

ECG

FCU

GEF

TEF

VCD

WPL

FA/TB

AIR COOLED CONDENSER

AIR RELIEF GRILLE

BUTTERFLY DAMPER

EXHAUST AIR COWL

EXHAUST AIR GRILLE

EXHAUST AIR LOUVRE

EGGRATE GRILLE

FAN COIL UNIT

GENERAL EXHAUST FAN

TOILET EXHAUST FAN

VOLUME CONTROL DAMPER

WEATHERPROOF LOUVRE

DENOTES FROM BELOW, TO ABOVE

#### DRAWING INDEX

LCE13404 - M00	GENERAL NOTES, DRAWING INDEX, LEGEND OF SYMBOLS AND LOCALITY PLAN
LCE13404 - M01	GROUND AND FIRST FLOOR MECHANICAL SERVICES ARRANGEMENTS
LCE13404 - M02	SECOND AND THIRD FLOOR MECHANICAL SERVICES ARRANGEMENTS
LCE13404 - M03	ROOF LEVEL MECHANICAL SERVICES ARRANGEMENT AND TYPICAL DETAILS



#### LOCATION PLAN

NOT TO SCALE

AREA OF WORKS SHOWN HATCHED.

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T1	TENDER ISSUE	28.03.19	HW	
REV N	DESCRIPTION	DATE	CHKD	

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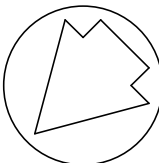
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PROJECT  
NEW APARTMENTS  
11-13 WEST ST, HINDMARSH, SA

#### MECHANICAL SERVICES

DRAWING  
GENERAL NOTES, DRAWING INDEX, LEGEND OF SYMBOLS AND LOCALITY PLAN

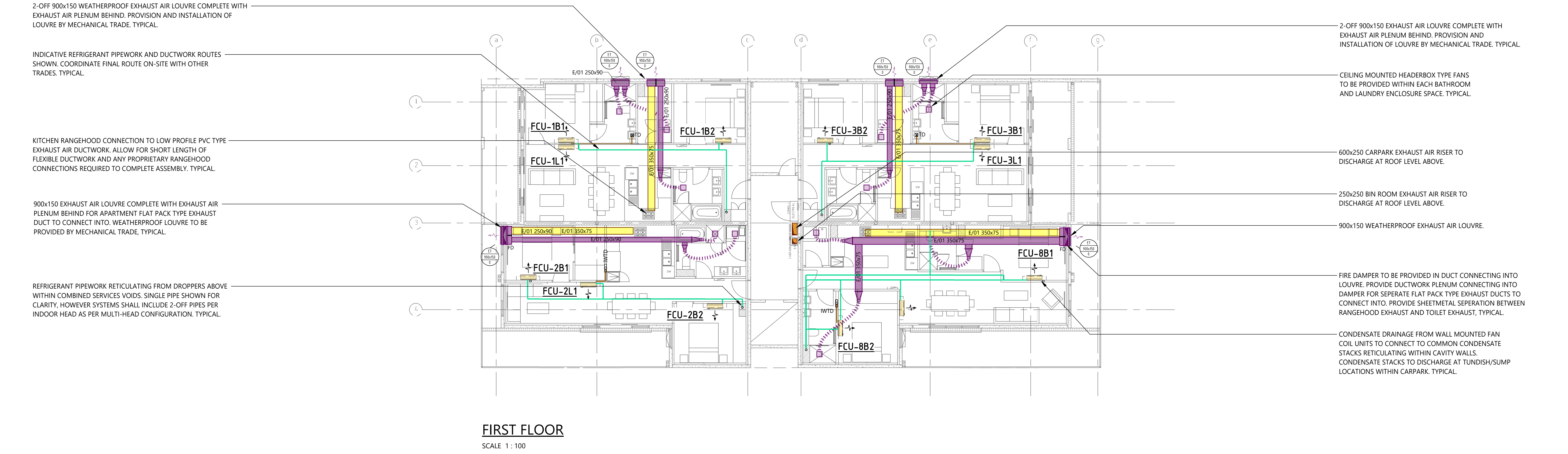
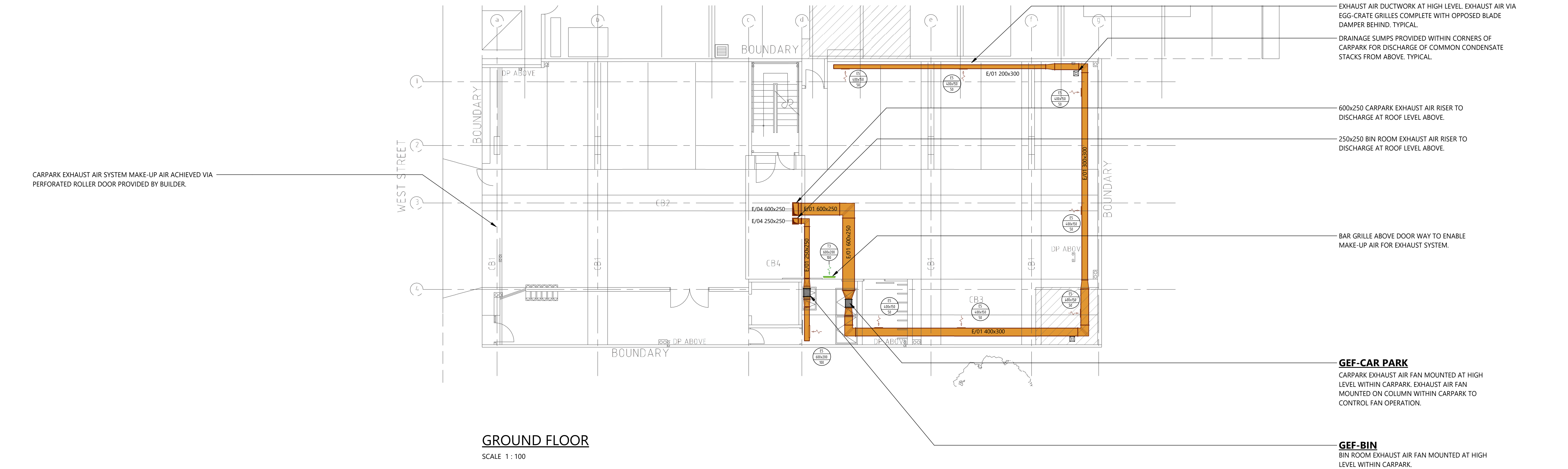


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	Review: HW		

Orig. Size	Drawing no.	Revision
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2-OFF 900x150 EXHAUST AIR LOUVRE COMPLETE WITH EXHAUST AIR PLENUM BEHIND.

MAKEUP AIR TO BATHROOM AND LAUNDRY SPACES VIA DOOR UNDERCUT. DOOR UNDERCUT BY BUILDER. TYPICAL.

KITCHEN RANGEHOOD CONNECTION TO LOW PROFILE PVC TYPE EXHAUST AIR DUCTWORK. ALLOW FOR SHORT LENGTH OF FLEXIBLE DUCTWORK AND ANY PROPRIETARY RANGEHOOD CONNECTIONS REQUIRED TO COMPLETE ASSEMBLY. TYPICAL.

CONDENSATE DRAINAGE PIPEWORK FROM ABOVE.

900x150 EXHAUST AIR LOUVRE COMPLETE WITH EXHAUST AIR PLENUM BEHIND FOR APARTMENT FLAT PACK TYPE EXHAUST DUCT TO CONNECT INTO.

REFRIGERANT PIPEWORK DROPPER FROM ABOVE AND TO BELOW. TYPICAL.

900x150 EXHAUST AIR LOUVRE COMPLETE WITH EXHAUST AIR PLENUM BEHIND.

600x250 CARPARK EXHAUST AIR RISER TO DISCHARGE AT ROOF LEVEL ABOVE.

250x250 BIN ROOM EXHAUST AIR RISER TO DISCHARGE AT ROOF LEVEL ABOVE.

900x150 WEATHERPROOF EXHAUST AIR LOUVRE.

FIRE DAMPER TO BE PROVIDED IN DUCT CONNECTING INTO LOUVRE. PROVIDE DUCTWORK PLENUM CONNECTING INTO DAMPER FOR SEPERATE FLAT PACK TYPE EXHAUST DUCTS TO CONNECT INTO. PROVIDE SHEETMETAL SEPERATION BETWEEN RANGEHOOD EXHAUST AND TOILET EXHAUST, TYPICAL.

CONDENSATE DRAINAGE FROM WALL MOUNTED FAN COIL UNITS TO CONNECT TO COMMON CONDENSATE STACKS RETICULATING WITHIN CAVITY WALLS. CONDENSATE STACKS TO DISCHARGE AT TUNDISH LOCATIONS WITHIN CARPARK (TYPICAL). WHERE FALL TO CONDENSATE IS UNACHIEVABLE, CONDENSATE TO BE TAKEN TO GRATE DRAIN ON BALCONY OR TO TUNDISH WITHIN APARTMENT AS SHOWN. TYPICAL.

## SECOND FLOOR

SCALE 1 : 100

INDICATIVE REFRIGERANT PIPEWORK AND DUCTWORK ROUTES SHOWN. COORDINATE FINAL ROUTE ON-SITE WITH OTHER TRADES. TYPICAL.

LEVEL 03 EXHAUST AIR DISCHARGES TO RETICULATE WITHIN ROOF SPACE TO DUCTWORK RISERS, WITH DISCHARGE VIA ROOF MOUNTED COWLS ABOVE. TYPICAL.

KITCHEN RANGEHOOD CONNECTION TO LOW PROFILE PVC TYPE EXHAUST AIR DUCTWORK. ALLOW FOR ANY PROPRIETARY RANGEHOOD CONNECTIONS AS REQUIRED TO COMPLETE ASSEMBLY.

REFRIGERANT PIPEWORK RETICULATING FROM DROPPERS ABOVE WITHIN COMBINED SERVICES VOIDS. SINGLE PIPE SHOWN FOR CLARITY, HOWEVER SYSTEMS SHALL INCLUDE 2-OFF PIPES PER INDOOR HEAD AS PER MULTI-HEAD CONFIGURATION. TYPICAL.

600x250 CARPARK EXHAUST AIR RISER TO DISCHARGE AT ROOF LEVEL ABOVE.

APARTMENT 10 TO BE PROVIDED WITH NON-DUCTED BENCH MOUNT RANGEHOOD. NO KITCHEN VENTILATION DUCTWORK REQUIRED. RANGEHOOD PROVIDED BY BUILDER.

250x250 BIN ROOM EXHAUST AIR RISER TO DISCHARGE AT ROOF LEVEL ABOVE.

KITCHEN RANGEHOOD CONNECTION TO LOW PROFILE PVC TYPE EXHAUST AIR DUCTWORK. ALLOW FOR ANY PROPRIETARY RANGEHOOD CONNECTIONS AS REQUIRED TO COMPLETE ASSEMBLY.

CONDENSATE DRAINAGE FROM WALL MOUNTED FAN COIL UNITS TO CONNECT TO COMMON CONDENSATE STACKS RETICULATING WITHIN CAVITY WALLS. CONDENSATE STACKS TO DISCHARGE AT TUNDISH LOCATIONS WITHIN CARPARK (TYPICAL). WHERE FALL TO CONDENSATE IS UNACHIEVABLE, CONDENSATE TO BE TAKEN TO GRATE DRAIN ON BALCONY OR TO TUNDISH WITHIN APARTMENT AS SHOWN. TYPICAL.

## THIRD FLOOR

SCALE 1 : 100

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T2	TENDER ISSUE	11.07.19	HW
T1	TENDER ISSUE	28.03.19	HW

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PROJECT  
NEW APARTMENTS  
11-13 WEST ST, HINDMARSH, SA

MECHANICAL SERVICES  
DRAWING  
SECOND AND THIRD FLOOR MECHANICAL SERVICES  
ARRANGEMENTS

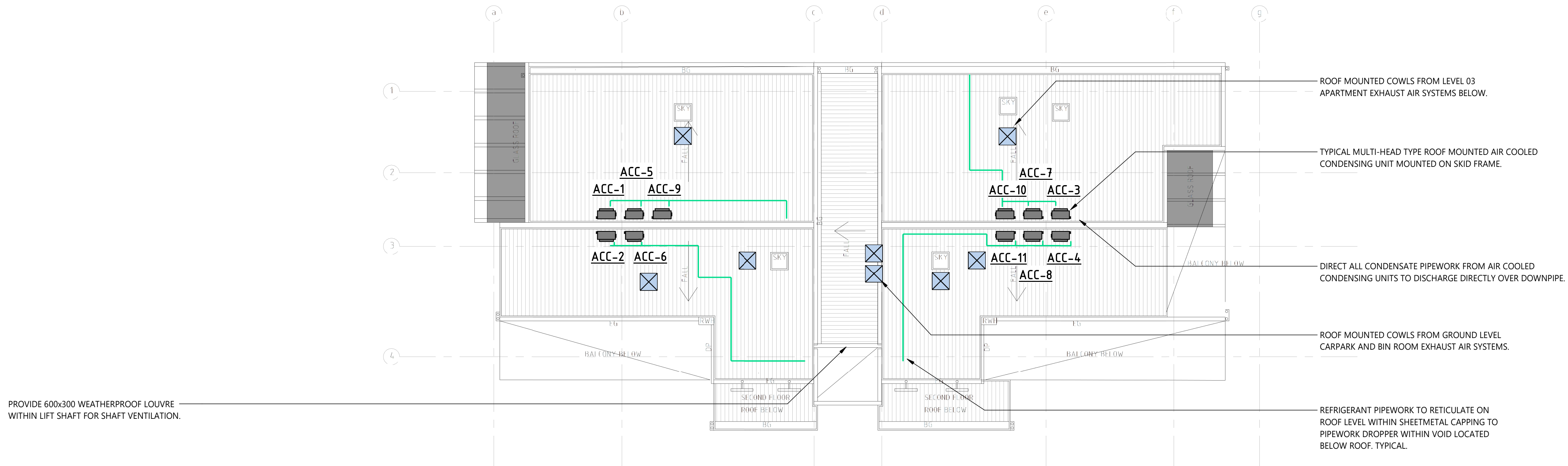


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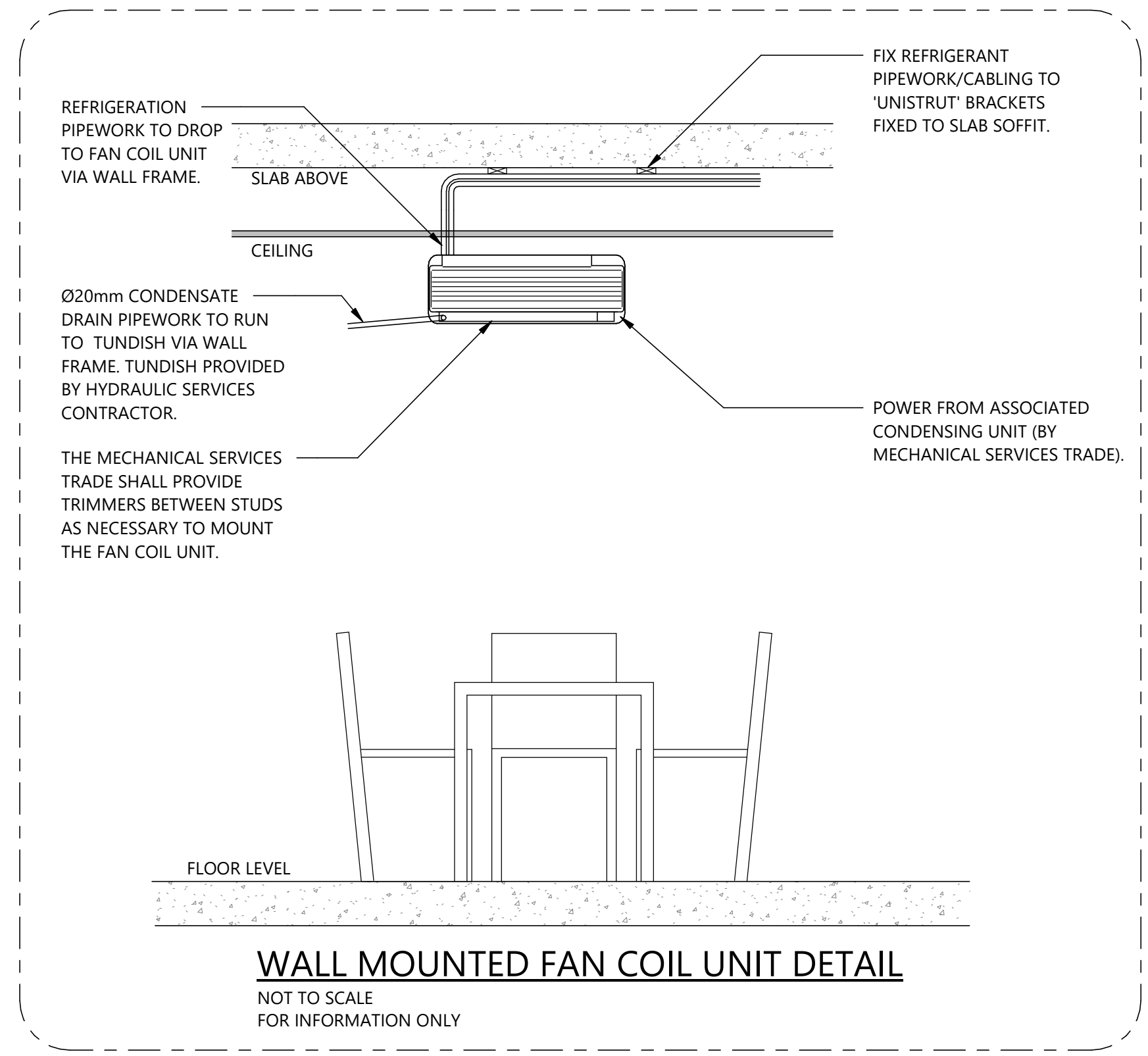
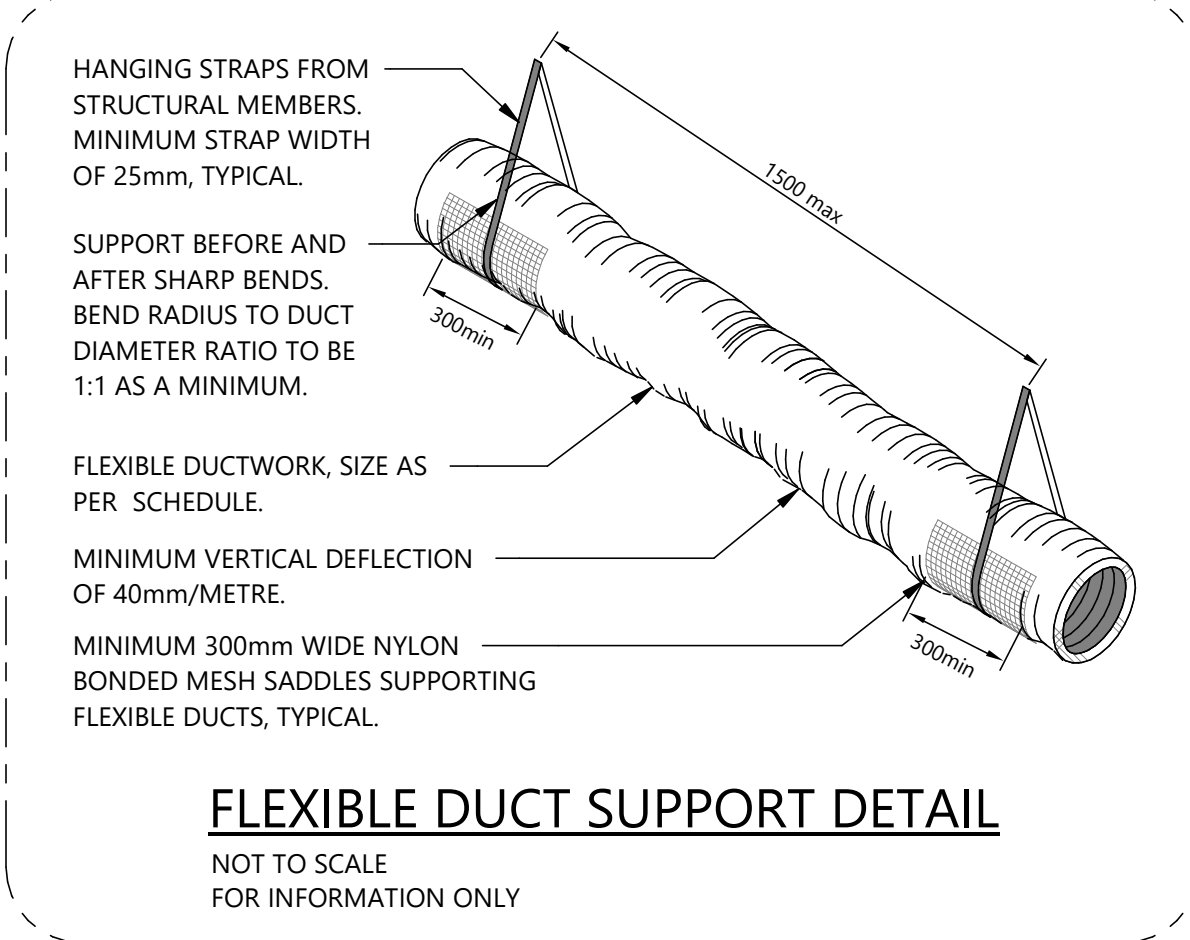
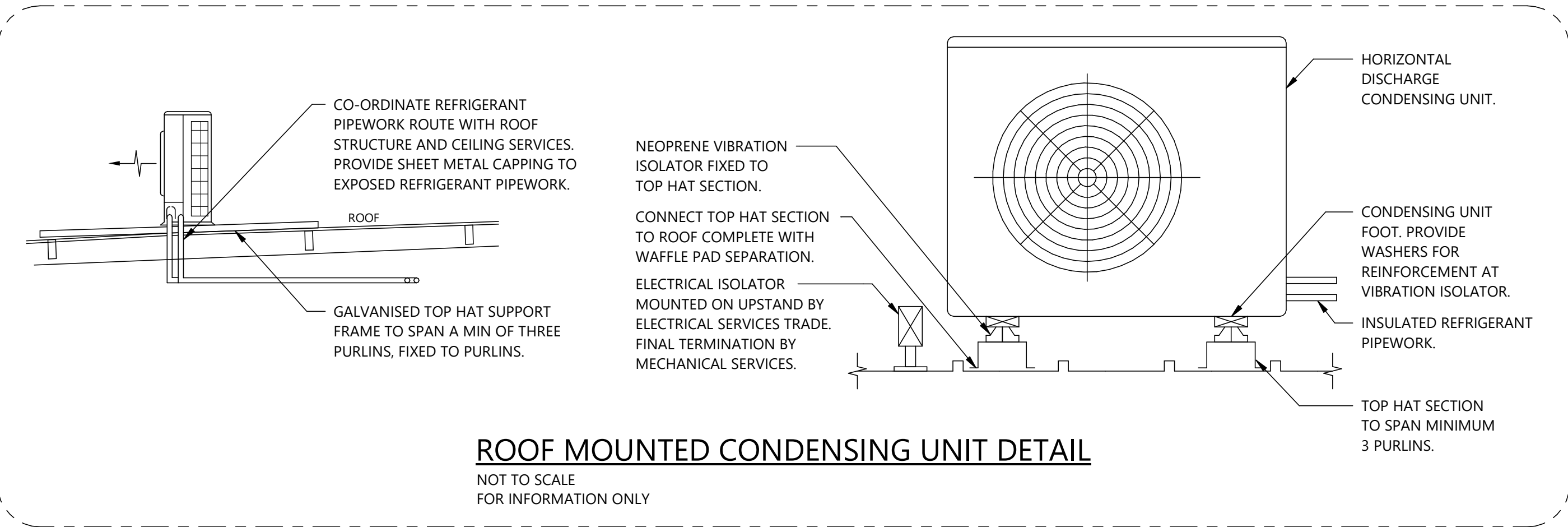
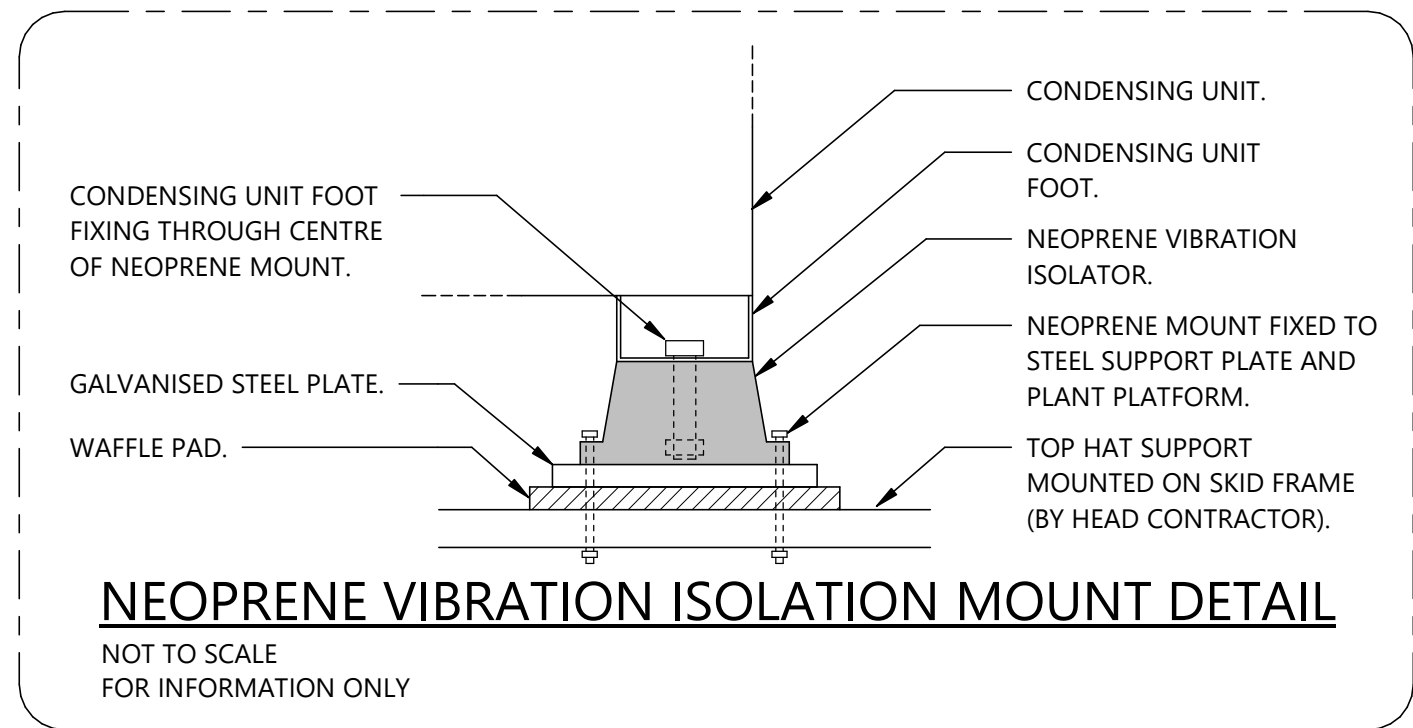
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Drawing no. LCE13404-M02  
No. in Set 3 of 4  
Date JULY 2019  
Revision T3





### ROOF LEVEL MECHANICAL SERVICES ARRANGEMENT

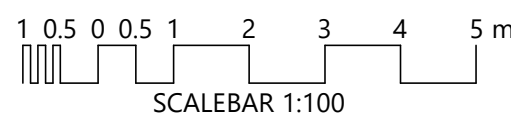
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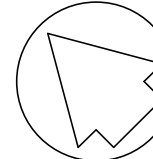


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PROJECT  
NEW APARTMENTS  
11-13 WEST ST, HINDMARSH, SA

MECHANICAL SERVICES  
DRAWING  
ROOF LEVEL MECHANICAL SERVICES ARRANGEMENT  
AND TYPICAL DETAILS



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