

STRUCTURAL STEELWORK

- SW1. FABRICATION SHALL BE IN ACCORDANCE WITH AS 4100, AS/NZS 1554.1 AND SYDNEY WATER'S TECHNICAL SPECIFICATION PART 1 – CIVIL WORKS.
- SW2. STRUCTURAL STEELWORK SHALL BE ONESTEEL – 300 PLUS TO AS/NZS 3679.1 & GRADE 250 TO AS/NZS 3678 FOR PLATES.
- SW3. WELDING TO BE IN ACCORDANCE WITH AS/NZS 1554.1.
- SW4. WELDS SHALL BE 6mm CONTINUOUS FILLET WELD U.N.O.
- SW5. BUTT WELDS SHALL BE COMPLETELY PENETRATED BUTT WELDS.
- SW6. COMMERCIAL MILD STEEL BOLTS SHALL BE GRADE 4.6 TO AS 1111; BOLTING CATEGORY 4.6/S SNUG TIGHTENED.
- SW7. STEELWORK SHALL BE GALVANISED IN ACCORDANCE WITH AS/NZS 4680. DAMAGE TO GALVANIZING AFTER FABRICATION SHALL BE MADE GOOD IN ACCORDANCE WITH AS/NZS 4680.
- SW8. HINGE BOLTS AND MASONRY ANCHORS SHALL BE S.S. GRADE 316.
- SW9. WHEN FIXING STEELWORK TO EXISTING CONCRETE, USE S.S. CHEMICAL ANCHORS U.N.O.
- SW10. BOLT HOLES SHALL BE DRILLED BOLT DIAMETER + 2mm U.N.O.
- SW11. EXPOSED METALWORK IS TO BE PAINTED AFTER GALVANISING.

ROOF & CEILING

- R1. SHEETING SHALL BE CUSTOM ORB OR KLIPLOK. THE COLOUR SHALL BE DULUX POWDERCOAT “OCEAN MIST” UNLESS ADVISED OTHERWISE BY SYDNEY WATER.
- R2. THE ROOF CAVITY SHALL BE NATURALLY VENTILATED VIA EAVES VENTS AND A RIDGE VENT , SUCH AS STRATA FLOW STANDARD RIDGE VENT OR EQUIVALENT . THE RIDGE VENT SHALL HAVE A MINIMUM THROAT OPENING OF 5% OF THE FLOOR AREA OF THE BUILDING AND LOCATED CENTRALLY . THE EVES SHALL HAVE EVENLY DISTRIBUTED OPENINGS OF A MINIMUM 15% OF THE FLOOR AREA. ALL OPENINGS SHALL BE VANDAL, VERMIN AND SPARK PROOFED WITH STAINLESS STEEL MESH.
- R3. PROVIDE A MOISTURE BARRIER USING “THERMOFOIL™ HEAVY DUTY SARKING FOIL (753)” OR APPROVED EQUIVALENT AGAINST BOTH THE ROOF CLADDING AND THE CEILING.
- R4. THE CEILING SHALL BE LINED WITH A LAYER OF “GYPROCK EC08 COMPLETE” OR APPROVED EQUIVALENT.
- R5. THE EAVES SHALL BE LINED WITH “LYSAGHT MINIORB” SHEETING OR APPROVED EQUIVALENT & THE COLOUR SHALL BE “DULUX POWDERCOAT OCEAN MIST” UNLESS ADVISED OTHERWISE BY SYDNEY WATER.

LINTELS

- L1. LINTELS SHALL BE PROVIDED OVER ALL MASONRY OPENINGS & SHALL BE HOT DIPPED GALVANISED AFTER FABRICATION).

ACOUSTIC PERFORMANCE

- A1. THE TOTAL DESIGN AND INSTALLATION OF THE COMPLETE BUILDING SHALL HAVE AN ACOUSTIC PERFORMANCE IN ACCORDANCE WITH EPA NOISE REQUIREMENTS AT THE PROPERTY BOUNDARY.
- A2. THE AIR EXHAUST DUCTS AND OUTLETS SHALL BE DESIGNED TO ACHIEVE AN STC OF 50.

DOORS

- D1. THE DOORS SHALL BE INSTALLED IN A STEEL DOOR–JAM MADE FROM A MINIMUM 3.0mmTHICK STEEL SHEET.
- D2. DOOR JAMS TO COMPLETELY WRAP AROUND THE TWO LEAVES OF BRICKWORK AND BE BUILT INTO THE BRICKWORK INCLUDING TIES EVERY 6 ROWS MINIMUM THAT HOLD THE DOOR FRAME IN THE BRICKWORK.
- D3. PROVIDE A 6mm HIGH STEP/REBATE IN THE CONCRETE FLOOR FOR THE DOORS TO CLOSE AGAINST.
- D3. ALL ACCESS DOORS OPEN OUTWARDS AND SHALL LATCH IN THE OPEN POSITION , LATCHING WILL BE SUITABLE FOR HIGH WIND SITUATIONS.
- D4. PERSONNEL & MATERIALS ACCESS DOORS TO BE POSITIONED AT OPPOSITE ENDS OF THE SWITCHROOM.
- D5. SPECIFICATION:
- 52mm MINIMUM THICK METAL CLAD EXTRA HEAVY DUTY INTERNAL STEEL SHS FRAMED, HIGH MOISTURE RESISTANT, HEAT AND SOUND RESISTANT CORE, INTERNALLY REINFORCED WITH EXPANDED METAL SHEET.
 - THERMAL RESISTANCE OF R2.5 AND A SOUND TRANSMISSION FACTOR OF STC50.
 - DOOR LEAF CLAD BOTH SIDES WITH 1.0mm FLAT GALVANISED STEEL SKINS, INTERNALLY EDGE CLEAT, JOINED AT EDGES TO PROVIDE HIDDEN EDGE FIXING.
 - STEEL SKINS FOLDED AT TOP AND BOTTOM OF THE LEAF TO COMPLETELY ENCLOSE THE ENDS AND SILICON SEALED AND RIVETED TO PREVENT MOISTURE INGRESS.
 - EXTERNAL STEEL SKINS SHALL BE BONDED TO A HIGH MOISTURE RESISTANT (HMR) FIBREBOARD SOLID CORE INCORPORATING AN EXPANDED METAL REINFORCING SHEET, AND THE INTERNAL SPACE INCORPORATING A FULLY WELDED SQUARE HOLLOW SECTION (SHS) GALVANISED STEEL PERIMETER FRAME WITH CROSS MEMBER.
 - LOCK HARDWARE LATCH PLATE SHALL BE RECESSED INTO THE DOOR EDGE SO AS TO BE FLUSH (OR NEAR FLUSH) WITH THE EXTERNAL EDGE SURFACE OF THE DOOR LEAF.
 - LOCK SETS SHALL ACCEPT SYDNEY WATER'S BI LOCK LOCKING SYSTEM
 - FITTED WITH THE “BRITON B378E/SE AND A LEVER & CYLINDER ADAPTOR B1413/LE/NC/SE PANIC BAR (BREAST BARS)” OR APPROVED EQUIVALENT FOR EMERGENCY EGRESS ON THE INSIDE.
 - 4 HEAVY DUTY “MCCALLUM S801 HINGES” OR APPROVED EQUIVALENT AND HINGE BOLTS ON ALL DOORS.
 - A BUFFER TO PREVENT ALL DOORS FROM SLAMMING AGAINST THE BRICK WALLS.
 - A DOOR CLOSURE “STANLEY_D – 3350” OR APPROVED EQUIVALENT FOR ALL DOORS.
 - DOORS SHALL BE THE FINISHED COLOUR OF “DULUX POWDERCOAT OCEAN MIST” UNLESS ADVISED OTHERWISE BY SYDNEY WATER.
- DOOR REQUIREMENTS :

ITEM	DESCRIPTION
DOOR HEIGHT	2040 mm (PERSONNEL DOOR) 2340 mm (MATERIALS DOOR)
DOOR WIDTH	920 mm (PERSONNEL DOOR) 1650 mm MATERIALS DOOR)
DOOR THICKNESS	52 mm MINIMUM
SKIN THICKNESS	1.2 mm MINIMUM
SKIN MATERIAL	GALVANISED STEEL
FILL MATERIAL	TO HAVE THERMAL AND ACOUSTIC PROPERTIES THAT WILL ALLOW THE DOOR TO MEET THE STATED THERMAL AND ACOUSTIC REQUIREMENTS. THE MATERIAL SHALL NOT ROT, GROW MOULD OR DETERIORATE IF IT GETS WET
FINISH	PRIMED
LOCK	CYLINDRICAL TO SUIT SYDNEY WATER LOCKING SYSTEM
HINGES	MINIMUM 4 STAINLESS STEEL BUTT HINGES PER LEAF

- D6. PERSONNEL & MATERIALS ACCESS DOORS SHALL COMPLY WITH FIRE RESISTANCE LEVEL NOTE F3.
- D7. THE TOILET DOOR REQUIRES NO FIRE RATING.

ELECTRICAL

- E1. THE VSD STARTER CABINETS SHALL BE PROVIDED WITH EXTRA FORCED VENTILATION TO THE BOTTOM OF THE CABINETS , DRAWING AIR FROM FLOOR LEVEL AND DISCHARGING IT THROUGH THE TOP OF THE CABINET DIRECTLY INTO THE CEILING CAVITY VIA A PURPOSE DESIGNED AND CONSTRUCTED AIR DUCT. AIR FLOW SHALL BE SUFFICIENT TO KEEP THE CABINETS BELOW MAXIMUM OPERATING TEMPERATURE DURING THE HOTTEST OF DAYS. FANS SHALL BE FITTED WITH THERMAL CONTROLS.
- E2. STEEL ROOF AND FRAME TO BE DIRECTLY BONDED TO THE SITE EARTH GRID / STAKE. FOR EARTHING AND LIGHTENING PROTECTION ALSO REFER TO SITE SPECIFIC SPECIFICATIONS AND REQUIREMENTS.
- E3. PROVIDE A MINIMUM ILLUMINATION OF 600 LUX INSIDE THE BUILDING & 240 LUX OUTSIDE THE BUILDING. EXTERNAL LIGHTING TO BE VANDAL PROOF.
- E4. CONDUIT REQUIREMENTS.
ALL CABLES & CONDUITS TO COMPLY WITH AS 3000 & AUSTEL REQUIREMENTS.
INCOMING POWER CONDUITS TO BE LAID 500 APART WITH 500 COVER.
ALL OTHER CONDUITS TO HAVE 500 COVER. ALL CONDUITS TO HAVE LARGE RADIUS BENDS AND BELLMOUTHED ENDS.
ALL CONDUITS TO BE COVERED WITH 150 WIDE ORANGE MARKER TAPE BEARING THE WORDS “WARNING – ELECTRIC CABLE BURIED BELOW” LAID IN TRENCH APPROXIMATELY 150 BELOW GROUND LEVEL FOR THE ENTIRE LENGTH.
HEAVY DUTY uPVC (HD-uPVC) CONDUITS SHALL BE FOR UNDERGROUND USE ONLY.
LIGHT DUTY uPVC (LD-uPVC) CONDUITS SHALL
 - i NOT BE INSTALLED ON EXTERIOR SURFACES
 - ii BE SUPPORTED OVER THEIR ENTIRE LENGTH.
 - iii NOT BE EXPOSED TO MECHANICAL DAMAGE.
GALVANISED STEEL CONDUITS SHALL BE USED FOR CABLE INSTALLATION ABOVE GROUND & EXTERNAL TO A STRUCTURE & ALSO WHERE AN INCREASED LEVEL OF MECHANICAL PROTECTION IS REQUIRED.
ALL UNUSED CONDUITS INCLUDING SPARES TO BE CAPPED 1 METRE BEYOND SWITCHROOM PERIMETER FOR FUTURE USE.
ALL CONDUITS SHALL BE SEALED WITH AN APPROVED NON-SETTING COMPOUND TO EXCLUDE WATER & GASES FROM THE WET WELL.
- E5. ALL COMMUNICATION NETWORK PROVIDER PITS SHALL BE AS SPECIFIED IN THE IICATS INSTRUMENTATION & CONTROL STANDARDS MANUAL (REFER DRG. SSD/34).
- E6. ELECTRICAL PITS SHALL BE A MINIMUM OF 1200 SQUARE (CLEAR OPENING) AND TO BE PROVIDED WITH HEAVY DUTY GATIC COVERS. EACH PIT TO BE DRAINED TO THE NEAREST DRAINAGE SYSTEM. A BACKFLOW PREVENTION DEVICE SHALL BE INSTALLED WHERE WATER CAN ENTER THE PIT (VIA THE DRAIN) DUE TO A RISE IN THE WATER TABLE, SURROUNDING WATERS, FLOODING ETC.
- E7. SPACING BETWEEN POWER AND COMMUNICATION NETWORK CONDUITS IS TO BE KEPT TO A MAXIMUM. MINIMUM SPACING IS 300 (OR 450 TO HIGH VOLTAGE CABLES OR CONDUITS). NOTE THAT THE OPTIMUM SPACING IS 1500.

FIRE RESISTANCE LEVEL (FRL)

- F1. THE FIRE RESISTANCE LEVEL (FRL) OF THE BUILDING, COMPLIES WITH THE BUILDING CODE OF AUSTRALIA TYPE ‘C’ CONSTRUCTION FOR A CLASS 8 BUILDING AS FOLLOWS:

BUILDING ELEMENT	FRL (MINUTES)	
EXTERNAL WALLS (WHERE THE DISTANCE FROM ANY NEIGHBOURING BUILDING OR SITE BOUNDARY IS: LESS THAN 15m 1.5m TO LESS THAN 3m 3m OR MORE	90 / 90 / 90 60 / 60 / 60 -- / -- / --	STRUCTURAL ADEQUACY INTEGRITY INSULATION
ROOF	-- / -- / --	

- F2. IF AN EXTERNAL WALL IS WITHIN 3m OF ANY NEIGHBOURING BUILDING OR SITE BOUNDARY, LOUVRES MUST NOT BE LOCATED WITHIN THAT WALL & SHALL BE LOCATED IN OTHER WALLS.
- F3. IF A DOOR IS LOCATED WITHIN A WALL WHICH NEEDS TO ACHIEVE A FIRE RESISTANCE LEVEL (FRL), THE DOOR SHALL BE FIRE DOOR TESTED TO THE REQUIRED RATING.

THIS DRAWING TO BE READ IN CONJUNCTION WITH DRG. No. DTC-3005

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