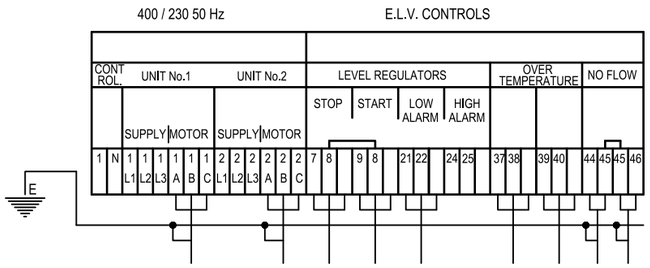
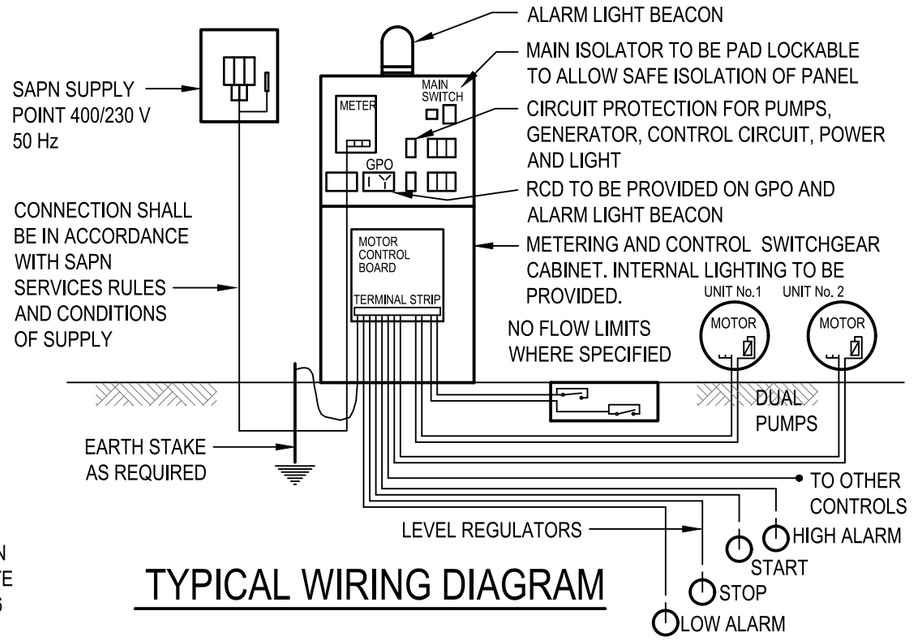
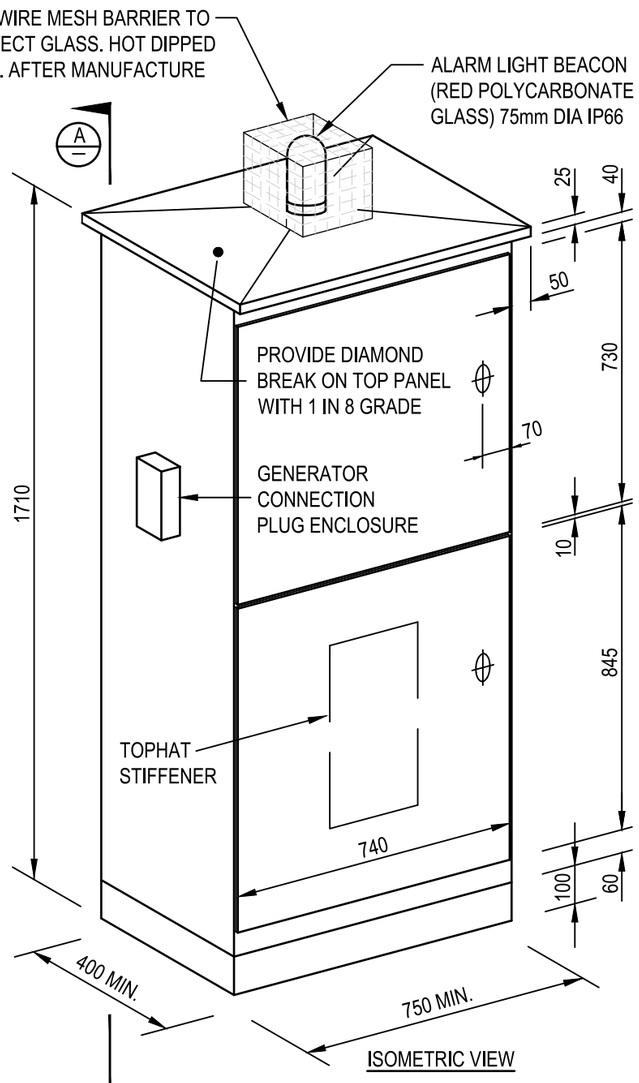


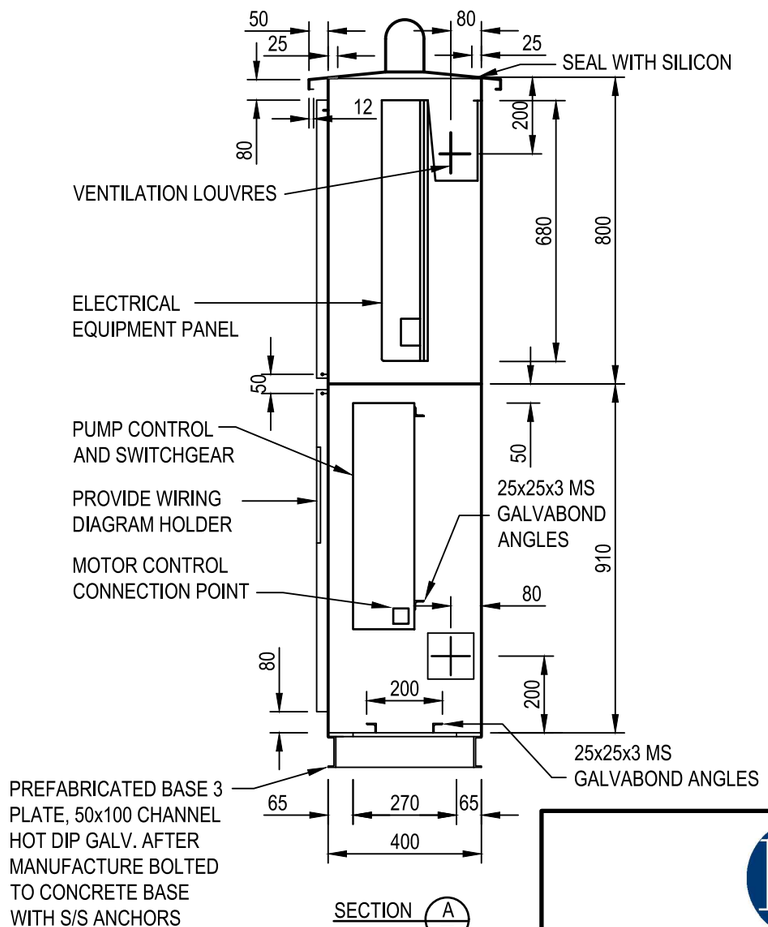
NOTE: REDUCED VOLTAGE STARTING MAY BE REQUIRED BY SUPPLY AUTHORITY REGULATIONS. WHERE "STAR DELTA" STARTING CAN BE USED 6 MOTOR LEADS FOR EACH UNIT WILL BE PROVIDED. INDIVIDUAL THERMAL OVERLOAD PROTECTION DEVICE TO TO BE PROVIDED FOR EACH PUMP.

TYPICAL TERMINAL STRIP DETAIL



TYPICAL WIRING DIAGRAM





FREE STANDING METER AND CONTROL SWITCHGEAR CABINET

NOTES

1. THIS DRAWING IS INDICATIVE ONLY OF THE DESIRED FUNCTIONALITY AND CONFIGURATION.
2. THE SWITCHBOARD SHALL BE DESIGNED AND CONSTRUCTED TO AS/NZS 61439.1. ALL WIRING SHALL BE TO AS/NZS 3000.
3. ALL EQUIPMENT SHALL BE RATED FOR AMBIENT TEMPERATURES THAT WILL OCCUR AT THE POINT OF INSTALLATION. IN GENERAL EQUIPMENT SELECTED SHALL BE SUITABLE FOR CONTINUOUS OPERATION WITH AN AMBIENT TEMPERATURE RANGE OF -5°C ~ 50°C.
4. THE SWITCHBOARD SHALL BE WEATHERPROOF IP56.
5. POWER CABLES SHALL BE IN ACCORDANCE WITH AS/NZS 5000.1. CONTROL CABLES SHALL BE IN ACCORDANCE WITH AS/NZS 5000.1.
6. SHORT TIME WITHSTAND CURRENT RATING SHALL BE MARKED WITH OPERATIONAL VOLTAGE, RATED CURRENT IN NAMEPLATE OF SWITCHBOARD.
7. SWITCHBOARDS AND CONTROL PANELS WHICH HAVE RATED CURRENT LESS THAN OR EQUAL TO 250 A PER PHASE SHALL BE, AS A MINIMUM, FORM 1 ASSEMBLIES IN ACCORDANCE WITH AS/NZS 3439.1
8. CUBICLES AND COMPARTMENTS HOUSING SWITCHGEAR AND CONTROL GEAR FOR THE PLANT EQUIPMENT SHALL BE GROUPED INTO FUNCTIONAL GROUPS OR ARRANGED IN THE SAME ORDER AS THE PROCESS SEQUENCE OF THE PLANT EQUIPMENT, AS FAR AS PRACTICAL.
9. SWITCHBOARDS SHALL BE READILY EXTENDABLE AT EITHER END. PROVISION SHALL BE MADE FOR THE READY ADDITION OF MINIMUM 20% SPARE POWER CIRCUITS, OR AS SPECIFIED IN THE PROJECT SPECIFICATION, WHICHEVER RESULTS IN THE GREATER SPARE SPACE REQUIREMENT.
10. THE CABLE SELECTION SHALL SATISFY ALL INSTALLATION CONDITIONS INCLUDING CURRENT CARRYING CAPACITY, VOLTAGE DROP AND SHORT-CIRCUIT TEMPERATURE LIMIT AS PER AS 3008.1:2017.
11. AUTOMATIC DISCONNECTION OF SUPPLY TO PROVIDE FAULT PROTECTION, INCLUDING DETERMINATION OF MAXIMUM EARTH FAULT-LOOP IMPEDANCE AND MAXIMUM LENGTH OF A CIRCUIT THAT WILL ALLOW A PROTECTIVE DEVICE TO OPERATE WITHIN THE SPECIFIED DISCONNECTION TIME AS PER AS3000.2018.
12. THE ELECTRICAL INSTALLATION SHALL BE DESIGNED TO PROVIDE A RELIABLE SUPPLY BY DIVIDING THE ELECTRICAL INSTALLATION INTO APPROPRIATE CIRCUITS AND SELECTING PROTECTIVE DEVICES WITH APPROPRIATE DISCRIMINATION(SELECTIVITY) SO THAT IN THE EVENT OF A FAULT OCCURRING, THE LOSS OF SUPPLY RESULTING FROM OPERATION OF A PROTECTIVE DEVICE IS MINIMISED.
13. PROTECTION SHALL BE PROVIDED AGAINST DANGERS THAT MAY ARISE FROM CONTACT WITH PARTS OF THE ELECTRICAL INSTALLATION THAT ARE LIVE IN NORMAL SERVICE. WITH THE DOORS OPEN, ALL ACCESSIBLE INTERNAL LIVE PARTS SHALL BE PROTECTED AGAINST ACCIDENTAL CONTACT TO NOT LESS THAN IP2X.
14. EACH CONNECTING POINT SHOULD BE PROTECTED BY ITS OWN RCD HAVING A RATED RESIDUAL OPERATING CURRENT NOT EXCEEDING 30 mA.
15. CABINET TO BE MANUFACTURED FROM 1.6mm GALV. SHEET STEEL FULLY FOLDED AND WELDED AND PAINTED WITH THE FOLLOWING AFTER ABRASIVE CLEANING:
    PRIMER: 2 x COATS 2-PACK ZINC EPOXY; SEAL COAT: 2-PACK MICACEOUS IRON OXIDE; TOP COAT: HIGH GLOSS POLYURETHANE. ALL COATING TO BE PERFORMED TO RELEVANT APAS (AUSTRALIAN PAINT APPROVAL SCHEME) SPECIFICATION.
16. ALTERNATIVE SHEET METAL SHALL BE GRADE 5005 H34 ALUMINIUM 3mm THICK AND SHALL BE POWDERCOATED.
17. SUFFICIENT ACCESS AND EXIT FACILITIES SHALL BE ACHIEVED BY THE PROVISION OF 1m MINIMUM DISTANCE FROM ALL FACES OF A CLOSED SWITCHBOARD THAT NEED TO BE ACCESSIBLE. UNIMPEDED SPACE OF AT LEAST 0.6m AROUND SWITCHBOARD WITH SWITCHGEAR DOORS IN ANY POSITION.
18. DOORS HINGED SHALL BE MEDIUM CHROMED BRASS BLOCK LIFT OFF TYPE. BOTH DOORS TO HAVE LOCKABLE "TEE" HANDLE. DOOR HANDLES, LOCKS AND HINGES SHALL BE VANDAL PROOF.
19. RETURN CABINET EDGES TO PROVIDE RAIN GUTTER.
20. PROVIDE NEOPRENE CHANNEL STRIP CEMENTED TO CABINET RETURN EDGE.
21. PROVIDE 4 SETS OF 4 LOUVRES WITH FILTER AND INSECT SCREEN. (TWO SETS EACH SIDE)
22. WIRING FOR POWER SUPPLY, MOTOR OPERATION, CONTROL CABLES, TELSTRA AND EARTH LINKAGE SHALL ENTER AND EXIT THE CONTROL CABINET VIA CONDUITS CAST INTO THE CONCRETE BASE, AS DIRECTED.
23. TRAFFOLYTE IDENTIFICATION LABELS SHALL BE RIVETED.
24. ALL CABLE ENTRIES IN CABINET BASE PLATE TO BE SEALED GAS TIGHT USING DOUBLE GLANDING.
25. REMOTE CONTROL AND ALARM MONITORING SHALL BE PROVIDED.
26. EMERGENCY POWER BACKUP FACILITY IS TO BE PROVIDED COMPRISING OF GENERATOR CONNECTION PLUG, MAINS CHANGEOVER SWITCH AND PROTECTION DEVICE AS PER AS/NZS 3010.2017.
27. SWITCHBOARD DESIGN IS TO INCLUDE PROVISION OF SUITABLE SPACE AND PROTECTION FOR TELEMETRY COMMUNICATION EQUIPMENT.

Local Government Association of South Australia

LOCAL GOVERNMENT ASSOCIATION
SEPTIC TANK EFFLUENT DRAINAGE SCHEME - STANDARD DRAWINGS
PUMP STATION SWITCHBOARD LAYOUT ©

Scales	Date	Validity	Drawing Number	Rev.
AS SHOWN	SEP. 2019	SEP. 2024	SD - 12	⌀
Drawn C.J.H.	Design T.B.	Approved N.S.		