SEWERAGE WORKS STANDARDS
CONTROL BUILDING FOR SEWAGE PUMPS UP TO 80kW
TILT-UP PANEL CONSTRUCTION

TWEED SHIRE COUNCIL

INDEX

APPROVALS
ON BEHALF OF COUNCIL

DESIGN ENGINEER — DATE: 04.06.15

DESIGN MANAGER — DATE: 15.06.15

S.D. 272-01
JUNE 2015

GENERAL

1 READ THESE DRAWINGS IN CONJUNCTION WITH SURVEY, OTHER ENGINEERING DRAWINGS, SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED. THE CONSTRUCTION NOTES SHALL APPLY UNLESS OTHERWISE VARIED BY THE DRAWINGS OR SPECIFICATIONS.
2 NOMINATION OF PROPRIETARY ITEMS DOES NOT INDICATE EXCLUSIVE PREFERENCE BUT INDICATES THE REQUIRED PROPERTIES OF THE ITEM. SIMILAR ALTERNATIVES HAVING THE REQUIRED PROPERTIES MAY BE OFFERED FOR APPROVAL.
3 REFER ANY DISCREPANCY TO THE SUPERINTENDENT BEFORE PROCEEDING WITH THE WORK.
4 DO NOT OBTAIN DIMENSIONS BY SCALING FROM THE DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETRES AND ALL LEVELS IN METRES.
5 VERIFY SETTING OUT DIMENSIONS SHOWN ON THE DRAWINGS BEFORE CONSTRUCTION AND FABRICATION IS COMMENCED.
6 MAINTAIN STRUCTURE IN STABLE CONDITION DURING CONSTRUCTION. NO PART SHALL BE OVERSTRESSED. PROVIDE TEMPORARY BRACING AS REQUIRED.
7 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE SAA CODES AND THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITY.
8 DATUM FOR LEVELS IS AHD.
9 THE STRUCTURAL WORK SHOWN ON THE DRAWINGS HAS BEEN DESIGNED FOR THE FOLLOWING LOADS :

(a) WIND LOADS TO A.S. 1170.2-2011:
BASIC WIND SPEED (m/s) = 57 m/s (ULT)
REGION = B
TERRAIN CATEGORY = 2
IMPORTANCE LEVEL 2
M TOPOGRAPHY = 1.25

(b) LIVE LOADS : ROOF = 0.25kPa

FOUNDATIONS

1 FOOTINGS HAVE BEEN DESIGNED FOR A SAFE WORKING PRESSURE OF 100 kPa. FOUNDATION MATERIAL SHALL BE APPROVED FOR THIS PRESSURE BY THE SUPERINTENDENT / BUILDING AUTHORITY BEFORE REINFORCEMENT AND / OR CONCRETE ARE PLACED. GEOTECHNICAL ENGINEER TO VERIFY THAT THE SOIL IS AS PER THE SOILS REPORT.
2 FOUNDATION LEVELS SHOWN ARE CONTRACT LEVELS - THE FINAL LEVELS SHALL BE AS DIRECTED BY THE SUPERINTENDENT.
3 FOUNDATION MATERIAL BENEATH SLABS ON GROUND SHALL BE COMPACTED TO 98% STANDARD COMPACTION IN ACCORDANCE WITH AS 1289.

COLOUR SCHEME

1 REFER TO SPECIFICATIONS FOR COLOUR SCHEME INFORMATION.

ACCESS OPENINGS

1 ACCESS COVERS SHALL BE 'HAVESTOCK' LITE LIFT GAS TIGHT COVERS.

2 ALL ACCESS COVERS SHALL BE CAST INTEGRAL WITH CONCRETE SLABS (NOT GROUTED INTO PRE FORMED RECESSES) AND FINISHED FLUSH WITH CONCRETE SURFACES.

WATER SUPPLY

1 A METERED WATER SUPPLY COMPLETE WITH RPZ IS TO BE PROVIDED (REFER SPECIFICATIONBS).

2 IF NECESSARY, PROVIDE A 50Ø CONDUIT TO ALLOW INSTALLATION OF THE WATER SERVICE BELOW ACCESS ROADS.

EXISTING SERVICES

1 THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF EXISTING SERVICES PRIOR TO COMMENCING WITH THE WORKS.

2 THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF ANY EXISTING SERVICES DAMAGED DURING CONSTRUCTION WITH NEW SERVICES OF EQUIVALENT TYPE AND SPECIFICATIONS.

PRE-CAST CONCRETE PANELS

1. REFER TO CIVIL DRAWINGS FOR PANEL DIMENSIONS.
2. TOLERANCES FOR PANEL DIMENSIONS FOR WIDTH +0mm, -20mm. THICKNESS +10mm, -0mm, AND IN ACCORDANCE WITH AS 3600 AND AS 3850-2003 'TILT-UP CONCRETE CONSTRUCTION', UNLESS VARIED BY SPECIFICATION.
3. ALL GAPS BETWEEN ADJOINING WALL PANELS AND SLABS SHALL BE FILLED WITH AN APPROVED GROUT AND SEALANT.
4. REINFORCEMENT SHOWN ON STRUCTURAL DRAWINGS IS DESIGNED FOR LOADS SPECIFIED IN THE GENERAL NOTES ABOVE. ADDITIONAL REINFORCEMENT REQUIRED FOR LIFTING TO BE DESIGNED, DETAILED, INSTALLED AND CERTIFIED BY CONTRACTOR.
5. DESIGN PRE-CAST CONCRETE WALL PANELS. CONNECTIONS, FIXING DETAILS AND JOINTS ETC. TO PROVIDE SATISFACTORY PERFORMANCE FOR STABILITY, DURABILITY, SERVICEABILITY AND STRENGTH REQUIREMENTS DURING MANUFACTURE, TRANSPORT AND ERECTION OPERATIONS (INCLUDING ALLOWANCE FOR SUCTION) AND THE LONG TERM CONDITION FOR A DESIGN LIFE OF 50 YEARS. NOTE: WIND PRESSURE ON THE PANLES SHAL BE DETERMINED IN ACCORDANCE WITH AS 1170.2.
6. PREPARE WORKSHOP DRAWINGS AND DESIGN CALCULATIONS AND SUBMIT THREE COPIES OF EACH TO THE SUPERINTENDENT (SUPERVISING OFFICER) FOR A REVIEW OF GENERAL COMPLIANCE WITH THE DESIGN CONCEPT. DO NOT COMMENCE FABRICATION UNTIL THE SHOP DRAWINGS HAVE BEEN REVIEWED. ONCE THE DESIGN CONCEPT HAS BEEN APPROVED, THE CONTRACTOR SHALL HAVE THE BUILDING DESIGN AND THE WORK METHOD FOR TRANSPORTATION AND INSTALLATION OF THE PRE-CAST CONCRETE PANELS CERTIFIED BY A CONTRACTOR ENGAGED STRUCTURAL ENGINEER.
7. ENSURE THAT PANELS REMAIN UNCRACKED DURING HANDLING & ERECTION OPERATIONS.
8. CAST PANELS WITH THE OUTER FACE DOWN AND TILT FROM THE HORIZONTAL USING LIFTING POINTS ON THE TOP EDGE & INTERNAL FACE OF THE PANEL. USE THIS LIFTING ARRANGEMENT WHENEVER THE PANEL IS TILTED FROM THE HORIZONTAL POSITION. SUBMIT FOR APPROVAL THE LOCTAION AND DETAILS OF PROPOSED OR ALTERNATIVE FIXINGS AND REINFORCEMENT. LOCATE LIFTING POINTS TO SUIT THE CENTRE OF GRAVITY OF THE PANEL. THE LIFTING POINT LOCATIONS AND ADDITIONAL REINFORCEMENT MUST BE CERTIFIED AS PART OF THE DESIGN CERTIFICATION IN PARAGRAPH 6.
9. THE PANELS AND CONNECTIONS HAVE NOT BEEN DESIGNED TO WITHSTAND VEHICLE IMPACT.
10. HOT DIP GALVANIZE STEELWORK, INCLUDING FERRULES, INSERTS, DOWEL BARS, ANGLE CLEATS, BOLTS, NUTS, WASHERS, PACKERS ETC., UNLESS NOTED OTHERWISE.
11. FINISH SURFACE OF PANELS IN ACCORDANCE WITH THE SPECIFICATION.
12. PROVIDE 20mm x 45° CHAMFERS OR FILLETS AT EDGES AND CORNERS OF PANELS.
13. USE STRONGBACKS FOR PANELS WITH CUTOUTS AND AS DEEMED REQUIRED. LOCATE STRONGBACKS TO SUIT LIFTING POINTS. WHERE AREA OF CUTOUT IS LESS THAN ONE SQUARE METRE STRONGBACKS ARE NOT REQUIRED.
14. ALLOW FOR WORKPLACE HEALTH AND SAFETY OR OTHER REQUIREMENTS GOVERNING HANDLING, LIFTING, ROTATION OR TRANSPORT OF PANELS.
15. WHERE PRE-CAST PANELS ARE TO BE SUPPORTIVE MEMBERS, DO NOT ERECT PANELS UNTIL 28 DAYS AFTER CASTING OF THE CONCRETE.
16. USE 20mm THICK PVC OR FIBROUS CEMENT SHEET LEVELLING PADS x 150mm LONG (MINIMUM) AND PLACE 300mm FROM ENDS OF THE PANELS. USE TWO LEVELLING PADS FOR EACH PANEL. DO NOT USE STEEL LEVELLING PADS.
17. USE PACKERS OF SUITABLE THICKNESS SUCH THAT NOT MORE THAN THREE PACKERS ARE REQUIRED.

CONCRETE

1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2 QUALITY OF CONCRETE ELEMENTS SHALL BE AS FOLLOWS :

STRUCTURAL ELEMENT	EXPOSURE CLASS.	COVER TO REINF. (mm)	∗ F'c MPa	MAX AGG. SIZE (mm)	SLUMP mm	TESTING
GROUND SLAB ON PLASTIC	B1	40	32	20	80±10	PROJECT
FOOTINGS ON PLASTIC	B1	40	32	20	80±10	PROJECT
PRECAST WALLS	B1	45	32	20	80±10	PROJECT
PITS	B1	50	40	20	80±10	PROJECT

∗ REFER TO NOTE No.16

3 ADDITIVES SHALL NOT BE USED WITHOUT THE SUPERINTENDENT'S PRIOR APPROVAL.
4 CONCRETE IS TO BE COMPACTED USING VIBRATORS.
5 SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
6 BEAM SIZES ARE DESIGNATED DEPTH (INCLUDING SLAB, IF ANY) x WIDTH.
7 PROVIDE ALL EXPOSED EDGES AND CORNERS WITH 20 CHAMFERS OR FILLETS.
8 FORM ALL CONSTRUCTION JOINTS AND USE ONLY WHERE SHOWN OR APPROVED BY THE SUPERINTENDENT.
9 NO HOLES, CHASES OR EMBEDMENT OF PIPES, OTHER THAN THOSE SHOWN ON THE STRUCTURAL ENGINEER'S DRAWINGS SHALL BE MADE WITHOUT THE APPROVAL OF THE SUPERINTENDENT.
10 CURING OF CONCRETE SHALL BE COMMENCED AS SOON AS POSSIBLE AFTER PLACING OR STRIPPING. REFER 'CURING' IN AS 3600 & THE SPECIFICATION. ACCEPTABLE CURING METHODS ARE AS FOLLOWS:-
- WATER IMMERSION
- WATER SPRAY BENEATH APPROVED PLASTIC SHEETING
- APPROVED WAX EMULSION CURING COMPOUND
- APPROVED CHLORINATED RUBBER CURING COMPOUND

11 FORMWORK AND ITS REMOVAL TO BE IN ACCORDANCE WITH AS 3610.
12 LAP 200mm AND SEAL 0.2mm POLYTHENE MEMBRANE BELOW SLABS TO ENSURE A COMPLETE VAPOUR BARRIER.
13 CONSTRUCTION TOLERANCES TO BE IN ACCORDANCE WITH AS 3610.
14 FORMED SURFACE FINISHES TO BE IN ACCORDANCE WITH AS 3610.
15 FINISHED FORMED SLAB SURFACES :
CLASS 2 TOLERANCE - TRUE PLANES WITHIN 3 IN 3000
SURFACE FINISH - BROOM FINISH.
16 CONCRETE MIX DESIGN SHALL ADDRESS GROUNDWATER CORROSIVENESS AND ALKALI- SILICA REACTION (ASR). FLY ASH OR SILICA FUME ADMIXTURES SHALL BE IN ADDITION TO THE 360Kg/m³ CEMENT CONTENT (IF REQUIRED OR DIRECTED BY SUPERINTENDENT (SUPERVISING OFFICER).

REINFORCEMENT

1 SYMBOLS ON DRAWINGS FOR GRADE AND TYPE OF REINFORCEMENT ARE AS FOLLOWS :

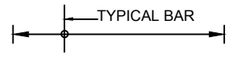
R - DENOTES STRUCTURAL GRADE 230 PLAIN ROUND BAR TO AS/NZS 4671
N - DENOTES NORMAL DUCTILITY BAR TO AS/NZS 4671
L - DENOTES LOW DUCTILITY BAR TO AS/NZS 4671
SL - DENOTES HARD DRAWN WIRE REINFORCING FABRIC TO AS/NZS 4671

2 DESIGNATION OF REINFORCEMENT BARS IS AS IN EXAMPLE :

3 THE FOLLOWING ABBREVIATIONS APPLY TO THE LOCATION OF REINFORCEMENT :

EW EACH WAY	FF FAR FACE	CP CENTRALLY PLACED
EF EACH FACE	B BOTTOM	B/U BOTTOM UNDER (LAID FIRST)
NF NEAR FACE	T TOP	T/O TOP OVER (LAID LAST)

4 COGS AND HOOKS TO BE STANDARD IN ACCORDANCE WITH AS 3600.
5 EXTENT OF BARS SHOWN THUS :



6 REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND IS NOT NECESSARILY IN TRUE PROJECTION.
7 MAINTAIN NOMINAL CLEAR CONCRETE COVER TO REINFORCEMENT (INCLUDING FITMENTS) BY APPROVED CHAIRS, SPACERS, OR TIES AS REQUIRED TO PROVIDE ADEQUATE SUPPORT. FOR SLABS, SUPPORTS SHALL BE SPACED AT 600 MAXIMUM CROSS CENTRES FOR FABRIC AND BARS.
8 SPLICE REINFORCEMENT ONLY AT LOCATIONS SHOWN ON DRAWINGS, OR AS APPROVED BY SUPERINTENDENT. LAP LENGTH BARS SHALL BE AS BELOW:

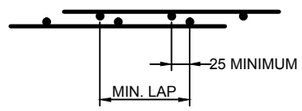
(a) HORIZONTAL BARS WITH 300 OR MORE CONCRETE CAST BELOW.

BAR	LAP
N12	375
N16	500
N20	750
N24	1100
N28	1375

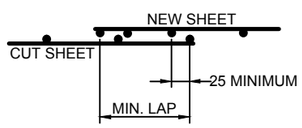
(b) ALL OTHER BARS

BAR	LAP
N12	300
N16	400
N20	600
N24	850
N28	1100

9 FABRIC SPLICES SHALL BE MADE BY EITHER OF THE TWO FOLLOWING METHODS :
(a) LAPPING OF FABRIC - 2 x CUT SHEETS



(b) LAPPING OF FABRIC - 1 x CUT SHEET & 1 x NEW SHEET



10 WELDING OF REINFORCEMENT IS ONLY PERMITTED WHERE SHOWN ON THE DRAWINGS OR OTHERWISE APPROVED BY THE SUPERINTENDENT.
11 DOWELS SHALL BE SAWN TO LENGTH. IN SKEWED JOINTS DOWELS SHALL BE ALIGNED WITH THE LONGITUDINAL JOINTS. DOWEL ALIGNMENT TO BE MAINTAINED BY USE OF A SUPPORT ASSEMBLY SUITABLE TO ENSURE A HORIZONTAL AND VERTICAL ALIGNMENT TOLERANCE OF 5 IN 400.

ISSUE	AMENDMENT DETAILS	INITIALS	DATE
C	NOTES & FORMAT AMENDED & PLAN FORM UPDATED	G.P.C.	06.2015
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PROJECT: SEWERAGE WORKS STANDARDS
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PLAN TITLE: CONTROL BUILDING - TILT-UP PANEL CONSTRUCTION NOTES (SHEET 1 OF 2 SHEETS)
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0 10 20 30 40 50 100 150 200 250 mm

STRUCTURAL STEEL

1 ALL WORKMANSHIP AND MATERIALS SHALL BE GRADE 300 STEEL IN ACCORDANCE WITH AS 4100 AND AS 1554 EXCEPT WHERE VARIED BY THE SPECIFICATION.
2 ALL STEEL SHALL BE IN ACCORDANCE WITH AS 3678, AS 3679 OR AS 1163 FOR GRADE 350 TUBING.
3 COLD FORMED STRUCTURES IN ACCORDANCE WITH AS 1538. HOT DIP GALVANIZED Z350 G450 YIELD STRESS MINIMUM.
4 MINIMUM PLATE THICKNESS TO BE 10mm UNO. PROVIDE ALL CLEATS AND DRILL HOLES FOR FIXINGS, WHETHER OR NOT DETAILED ON THE DRAWINGS, TO THE APPROVAL OF THE COUNCIL ENGINEER.
5 ALL WELDS TO BE IN ACCORDANCE WITH AS 1554 :
ALL WELDS TO BE CATEGORY SP U.N.O.
ALL BUTT WELDS TO BE FULL PENETRATION U.N.O.
ALL FILLET WELDS TO BE 6 CONTINUOUS
ELECTRODES TO BE CLASSIFICATION E41XX
EXTENT OF WELDS INSPECTION :
VISUAL 100% NON-DESTRUCTIVE 0%
6 REFER TO AISC 'STANDARDISED STRUCTURAL CONNECTIONS' FOR DESIGNATION AND DETAILS OF CONNECTIONS.

BOLT TYPE AND TIGHTENING PROCEDURE ARE DESIGNATED :
NUMBER, SIZE - STRENGTH GRADE / TIGHTENING PROCEDURE
STRENGTH GRADE 4.6 TO BE COMMERCIAL BOLTS TO AS 1111
STRENGTH GRADE 8.8 TO BE HIGH STRENGTH STRUCTURAL BOLTS, NUTS AND WASHERS TO AS 1252.

TIGHTENING PROCEDURES :
S - 'SNUG TIGHT'
TB - BEARING MODE JOINT, BOLTS FULLY TENSIONED IN ACCORDANCE WITH AS 1511
TF - FRICTION MODE JOINT, BOLTS FULLY TENSIONED IN ACCORDANCE WITH AS 1511
E.G. 4M24 - 8.8 / TB = 4 x 24 DIAMETER METRIC HIGH STRENGTH STRUCTURAL BOLTS FULLY TENSIONED IN A BEARING MODE.
7 ALL BOLTS TO BE M20 - 4.6 / S. U.N.O.
ALL BOLTS, NUTS AND WASHERS TO BE HOT DIP GALVANIZED TO AS1214. UNLESS OTHERWISE SPECIFIED.
8 CONTACT SURFACES FOR BOLTED CONNECTIONS USING 8.8 / TF PROCEDURE NOT TO BE PAINTED AND TO BE PREPARED AS SPECIFIED.
9 THE CONTRACTOR SHALL PREPARE WORKSHOP DRAWINGS AND SUBMIT THREE COPIES OF EACH FOR SUPERINTENDENT'S REVIEW OF GENERAL COMPLIANCE WITH THE DESIGN CONCEPT. FABRICATION SHALL NOT COMMENCE UNTIL THE SHOP DRAWINGS HAVE BEEN REVIEWED.
10 SURFACE TREATMENT OF STEELWORK: HOT DIPPED GALVANIZED TO AS1650.
11 HOLES SHALL NOT BE MADE THROUGH THE BOTTOM FLANGE OF ROLLED STEEL PURLINS FOR THE SUPPORT OF HOOK BOLTS OR CEILING SUSPENSION SYSTEMS. ALL NECESSARY HOLES SHALL BE MADE THROUGH THE CENTRAL THIRD OF THE WEB.

ELECTRICAL

1 THE CLEAR DISTANCE BETWEEN ADJACENT CONDUITS SHALL BE AT LEAST 80mm. THE CLEAR DISTANCE BETWEEN THE CONDUITS AND THE CABINET SHALL BE AT LEAST 100mm. THE CLEAR DISTANCE BETWEEN THE CONDUITS AND CONCRETE FOUNDATIONS SHALL BE AT LEAST 200mm.
2 ONLY LONG RADIUS CONDUIT BENDS SHALL BE USED.
3 THE SWITCHGEAR CABINET AND ELECTRICAL EQUIPMENT SHALL BE IN ACCORDANCE WITH STANDARD DRAWINGS.
4 THE EARTH STAKE BOX SHALL BE CAST INTO A 300 SQUARE CONCRETE SLAB POSITIONED AGAINST THE PUMP SLAB OR CONTROL BUILDING SLAB U.N.O.
5 THE TOP OF THE CONCRETE PLINTH FOR THE ELECTRICAL CABINET TO BE AT LEAST 500mm ABOVE THE 1 IN 100 YEAR FLOOD LEVEL.
6 CONDUITS NEAR THE LID OPENING TO BE HELD IN PLACE USING STAINLESS STEEL HOLDING STRAP.

DRAINAGE

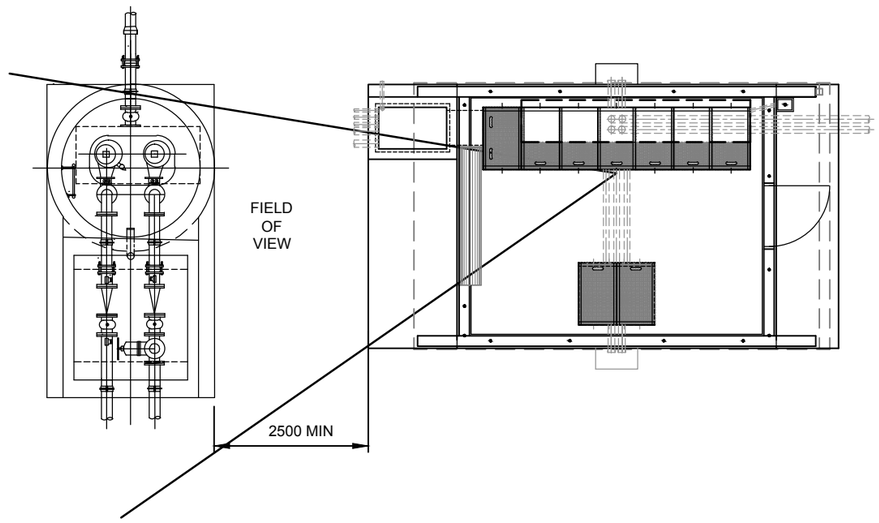
1 THE TOP SURFACE OF THE FLOOR SLAB SHALL BE AT A HEIGHT OF AT LEAST 300mm ABOVE THE 1 IN 100 YEAR FLOOD LEVEL AND 150mm ABOVE FINAL GROUND LEVEL.
2 SITE DRAINAGE IS TO BE MAINTAINED AT ALL TIMES, BOTH DURING AND AFTER CONSTRUCTION. AT NO TIME DURING CONSTRUCTION, OR SUBSEQUENTLY, SHOULD THE WATER BE ALLOWED TO POND ON OR NEAR THE FOOTINGS.
3 TO ENSURE ADEQUATE DRAINAGE FOR THE FOUNDATIONS, ON SLOPING SITES, DRAINS SHOULD BE PROVIDED AT THE BOTTOM OF EMBANKMENTS CLEAR OF THE FOUNDATION. IF THE SURFACE FLOW IS LIKELY TO BE LARGE, DRAINS SHOULD ALSO BE PROVIDED AT THE TOP OF ANY CUTTING TO AVOID SCOURING OF THE FACE.
4 SURFACE RUNOFF SHOULD BE COLLECTED AND DRAINED AWAY FROM THE BUILDING. DOWNPIPES FROM ROOFS SHOULD NOT BE ALLOWED TO DISCHARGE ON THE GROUND SURFACE NEAR THE BUILDING, EVEN FOR SHORT PERIODS. DURING CONSTRUCTION THE GROUND SURFACE ALL AROUND THE BUILDING SHOULD BE SLOPED AWAY FROM THE BUILDING AT A MINIMUM SLOPE OF 1 IN 20, FOR A MINIMUM DISTANCE OF 900mm, AND TO THE POINT WHERE PONDING WILL NOT OCCUR NEAR THE BUILDING.
5 SERVICES RUNNING PARALLEL TO THE FOOTINGS SHOULD NOT BE LOCATED CLOSER THAN 1.0m TO THE FOOTINGS.
6 ENSURE THAT TREES, EXISTING OR FUTURE, ARE NOT LOCATED CLOSER THAN 0.8m x THE MATURE HEIGHT OF THE TREE TO THE BUILDING, OR AS OTHERWISE DIRECTED.

SITE WORKS / EARTHWORKS

1 ALL SOILS CONTAINING ORGAINIC MATTER (EG. ROOTS, GRASS, ETC.) MUST BE STRIPPED FROM THE BUILDING SITE PRIOR TO SLAB CONSTRUCTION AND MUST NOT BE USED AS FILL MATERIAL.
2 CUT SLOPES MUST BE LIMITED TO 1½: 1 (HORIZONTAL : VERTICAL). THE SLOPE SHOULD THEN BE GRASSED OR PAVED TO PREVENT SCOUR AND EROSION DAMAGE.
3 THE FILL PLATFORM SHOULD EXTEND AT LEAST 1.0m BEYOND THE BUILDING. REFER TO DESIGN ENGINEER FOR POSSIBLE PIERING OF ADJACENT PERIMETER FOOTINGS.
4 FILL BATTERS AT 2 : 1 (HORIZONTAL : VERTICAL) SLOPE, OR LESS, MUST BE FORMED TO THE NATURAL GROUND, AND ANTI-SCOUR AND EROSION MEASURES TAKEN. A SLOPE STEEPER THAN 2 : 1 WILL REQUIRE RETAINING.
5 ALL OVERSIZED MATERIAL, WHICH MAY IMPEDE COMPACTION, MUST BE REMOVED FROM THE BUILDING PLATFORM.
6 FILL IS TO BE UNIFORMLY COMPACTED IN UP TO 200mm HORIZONTAL LAYERS AND MUST ACHIEVE A MINIMUM STANDARD OF COMPACTION OF GREATER THAN 95% STANDARD COMPACTION TO AS 1289 FOR COHESIVE SOILS, OR A DENSITY INDEX GREATER THAN 65% FOR COHESIONLESS SOILS. LAYER THICKNESSES GREATER THAN 200mm WILL ONLY BE ALLOWED IF PERMITTED BY THE SUPERINTENDENT. BENCHING OF THE NATURAL GROUND WILL BE REQUIRED ON SLOPING GROUND PRIOR TO COMMENCEMENT OF FILL OPERATIONS.
7 CLAYS OF HIGH PLASTICITY OR HIGH IN-SITU MOISTURE CONTENT ARE NOT TO BE USED AS FILL.
8 AN IMPORTED GRANULAR FILL WITH A PLASTICITY INDEX PREFERABLY LESS THAN 15%, WITH NO EXCESSIVE OVERSIZED MATERIAL MAY BE USED.
9 FIELD DENSITY TESTS, OR EQUIVALENT, SHOULD BE CARRIED OUT TO VERIFY THAT THE STANDARD OF COMPACTION IS ACHIEVED.

GENERAL ARRANGEMENT

1 REFER TO DIAGRAM BELOW FOR AN INDICATION OF THE 'IDEAL' LOCATION OF THE CONTROL BUILDING IN RELATION TO THE PUMP WELL. THIS ARRANGEMENT ALLOWS THE OPERATOR TO STAND AT THE CONTROL CABINET AND SEE BOTH THE WELL LID AND THE VALVE PIT LID WITH THE ROLLER DOOR OPEN (VIEW OF WELL TO TAKE PRECEDENCE) . THE SELECTED ARRANGMENT WILL BE SUBJECT TO SITE CONSTRAINTS AND COUNCIL APPROVAL.



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0 10 20 30 40 50 100 150 200 250 mm

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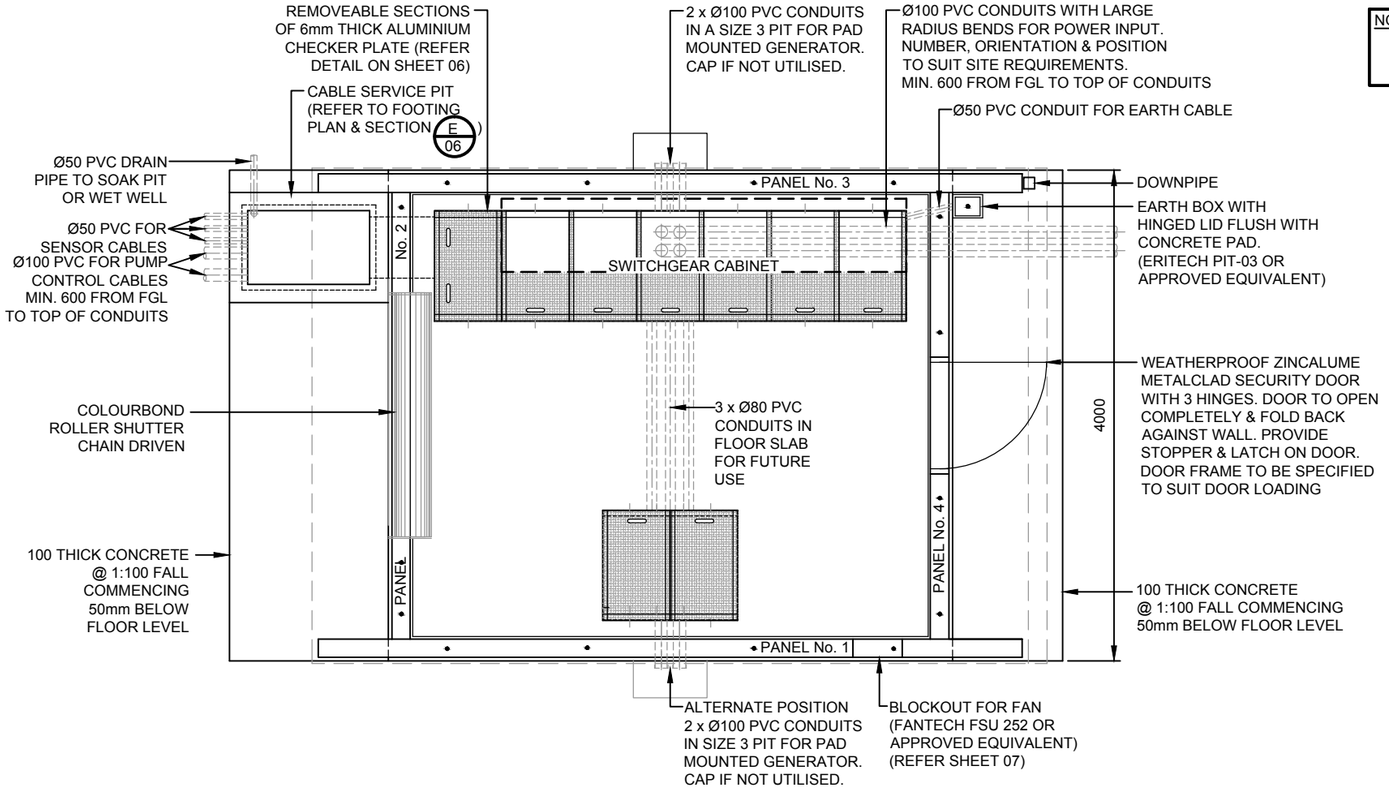
PROJECT: SEWERAGE WORKS STANDARDS

DRAWING NUMBER: **S.D. 272-03**

PLAN TITLE: CONTROL BUILDING - TILT-UP PANEL CONSTRUCTION NOTES (SHEET 2 OF 2 SHEETS)

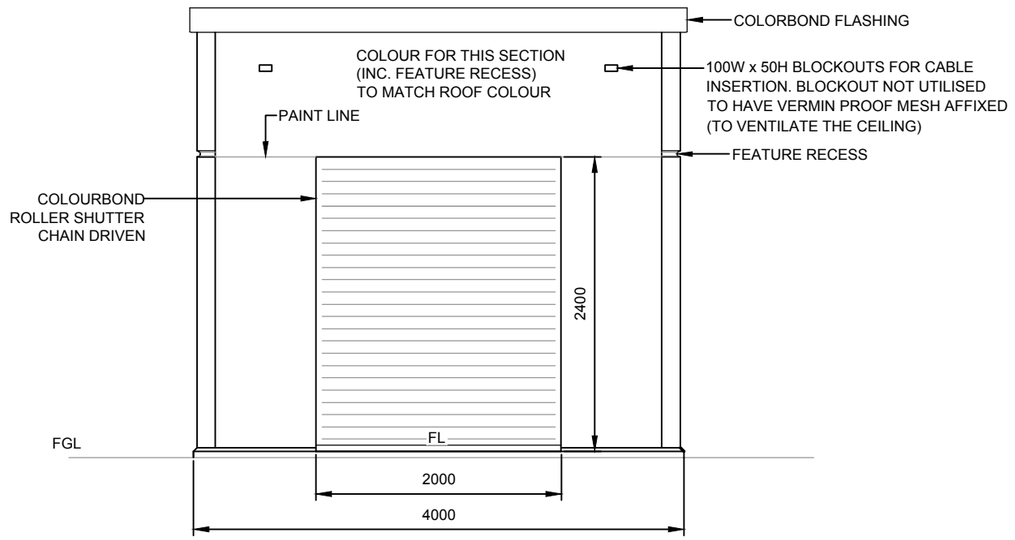
JUNE 2015

ACAD FILE No: G:_AUTOCAD DRAWINGS\TSC STANDARD DRAWINGS\200 SEWERAGE STANDARDS\S.D.272 (June-15 Rev C).dwg

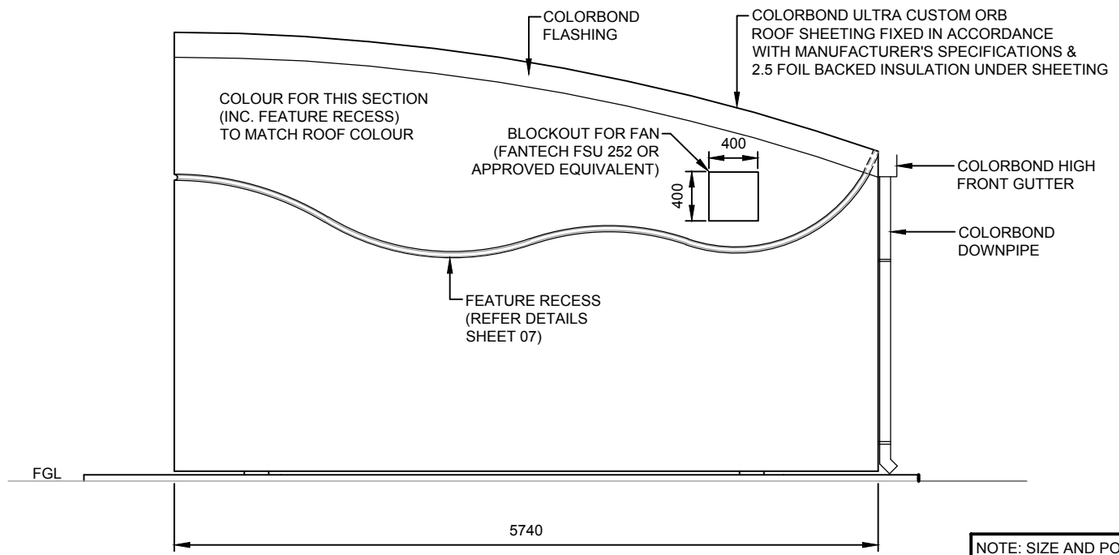


PLAN
SCALE 1: 50 (A3)

NOTE: IF POWER IS TO BE CONNECTED TO A POWER POLE A PILLAR BOX NEEDS TO BE INSTALLED AT THE BASE OF THE POWER POLE

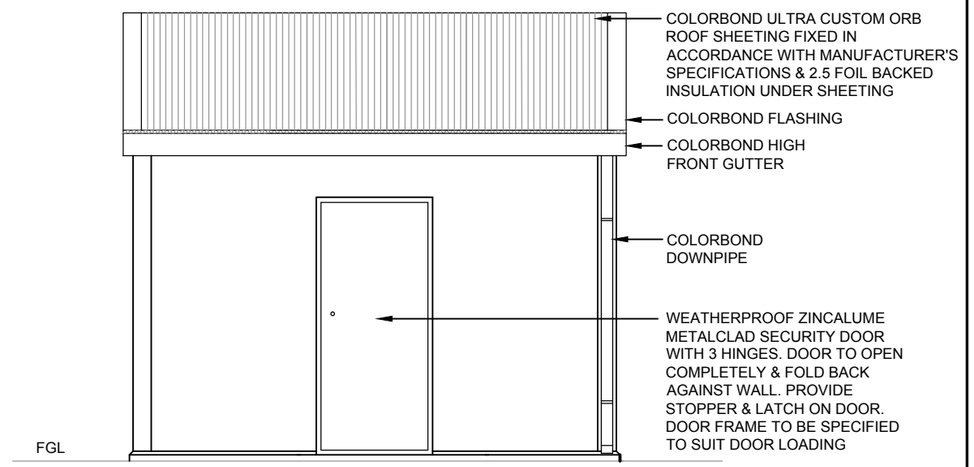


FRONT ELEVATION
SCALE 1:50 (A3)



SIDE ELEVATION
SCALE 1:50 (A3)

NOTE: SIZE AND POSITIONING OF THE OPENING FOR THE SECURITY DOOR TO BE ADJUSTED TO SUIT COMMERCIALLY AVAILABLE AND COUNCIL APPROVED UNITS.



REAR ELEVATION
SCALE 1:50 (A3)

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A	ORIGINAL ISSUE	G.P.C.	02.2010

0 10 20 30 40 50 100 150 200 250 mm

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DESIGN ENGINEER		DATE 04.06.15
DESIGN MANAGER		DATE 15.06.15
DRAWN	ENGINEERING & OPERATIONS DESIGN UNIT	
SCALE	AS SHOWN	

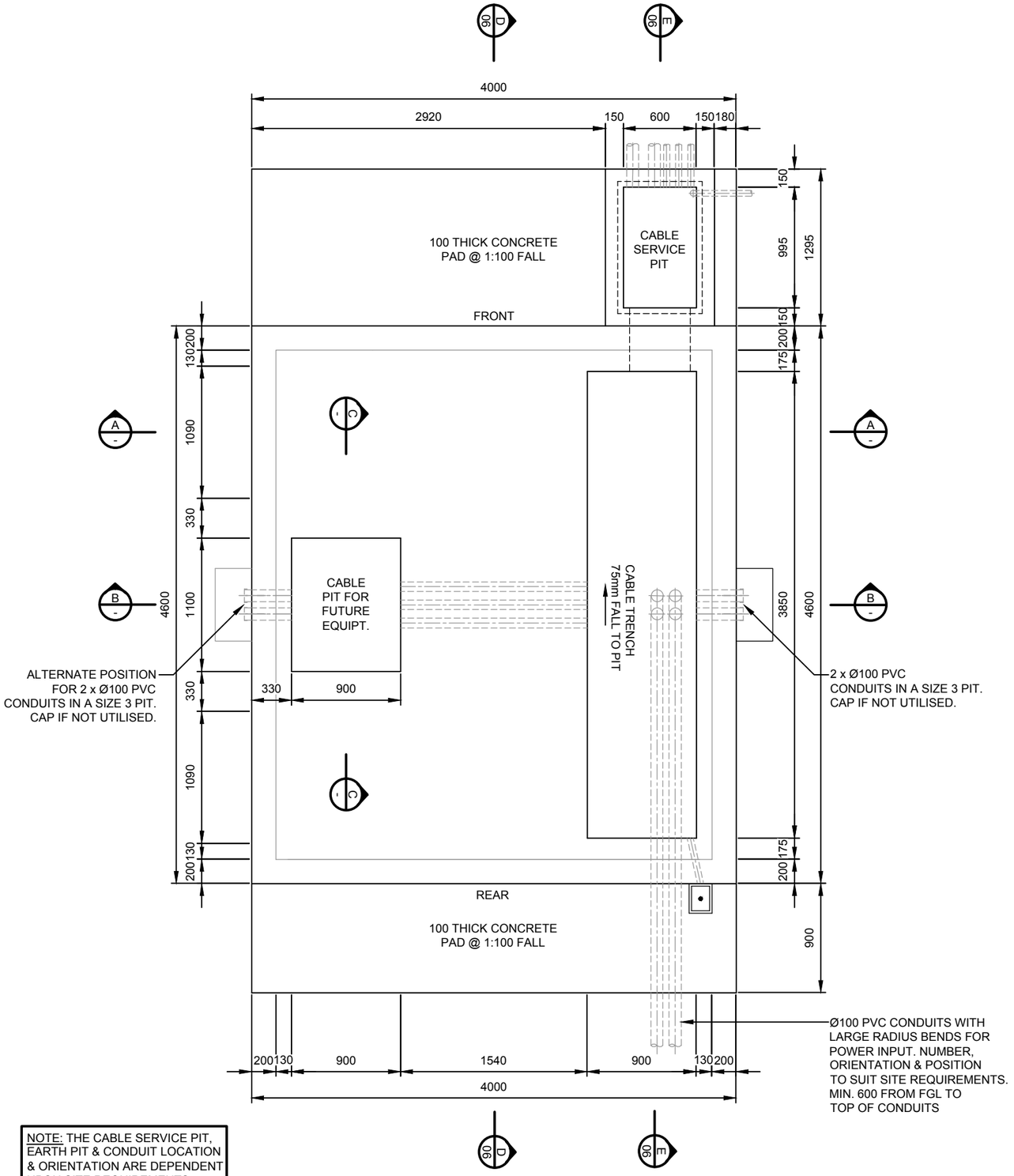
PROJECT: SEWERAGE WORKS STANDARDS

DRAWING NUMBER: **S.D. 272-04**

PLAN TITLE: CONTROL BUILDING - TILT-UP PANEL CONSTRUCTION PLAN AND ELEVATIONS

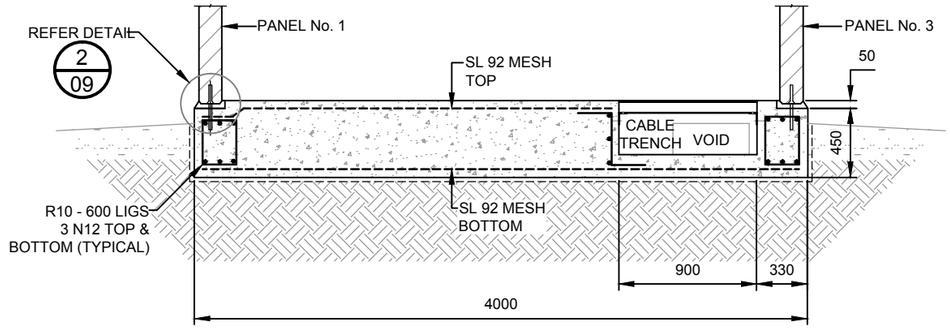
JUNE 2015

ACAD FILE No: G:_AUTOCAD DRAWINGS\TSC STANDARD DRAWINGS\200 SEWERAGE STANDARDS\S.D.272 (June-15 Rev C).dwg



NOTE: THE CABLE SERVICE PIT, EARTH PIT & CONDUIT LOCATION & ORIENTATION ARE DEPENDENT UPON SITE REQUIREMENTS.

FOOTING PLAN
SCALE 1:40 (A3)



SECTION A
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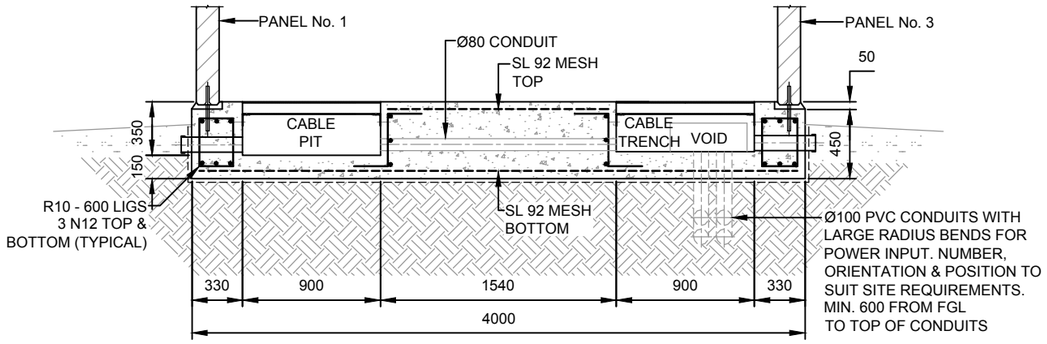
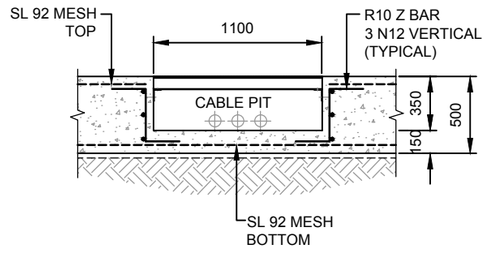


SECTION B
SCALE 1:40 (A3)



SECTION C
SCALE 1:40 (A3)

ISSUE	AMENDMENT DETAILS	INITIALS	DATE
C	NOTES & FORMAT AMENDED & PLAN FORM UPDATED	G.P.C.	06.2015
B	GENERATOR & POWER CONDUITS AMENDED & CABLE PIT UPGRADED	G.P.C.	08.2010
A	ORIGINAL ISSUE	G.P.C.	02.2010

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DESIGN ENGINEER	DATE 04.06.15	
DESIGN MANAGER	DATE 15.06.15	
DRAWN	ENGINEERING & OPERATIONS DESIGN UNIT	
SCALE	AS SHOWN	

PROJECT: SEWERAGE WORKS STANDARDS

DRAWING NUMBER: **S.D. 272-05**

PLAN TITLE: CONTROL BUILDING - TILT-UP PANEL CONSTRUCTION FOOTING DETAILS (SHEET 1 OF 2 SHEETS)

JUNE 2015

ACAD FILE No: G:_AUTOCAD DRAWINGS\TSC STANDARD DRAWINGS\200 SEWERAGE STANDARDS\S.D.272 (June-15 Rev C).dwg

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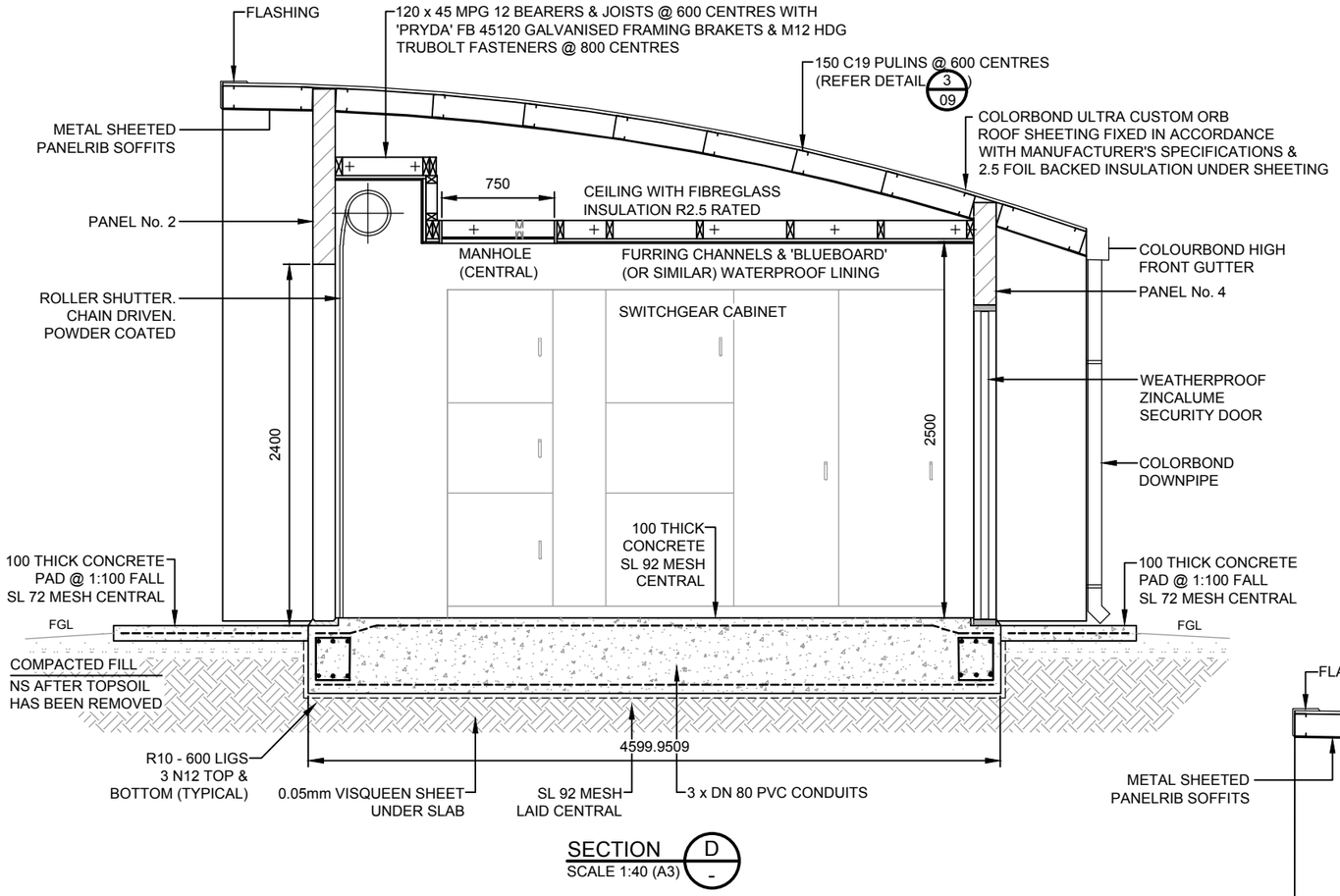
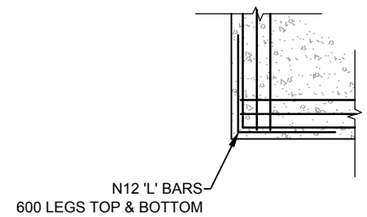


SECTION D
SCALE 1:40 (A3)

NOTE: THE SIZE OF THE CABLE SERVICE PIT, GLAND PLATE & CABLE TRENCH TO BE EVALUATED FOR SUITABLILITY IF USING PUMPS LARGER THAN 80kW OR IF MORE THAN TWO PUMPS ARE USED. IF UNSUITABLE THEN RE-DESIGN OF THESE FEATURES WILL BE REQUIRED.

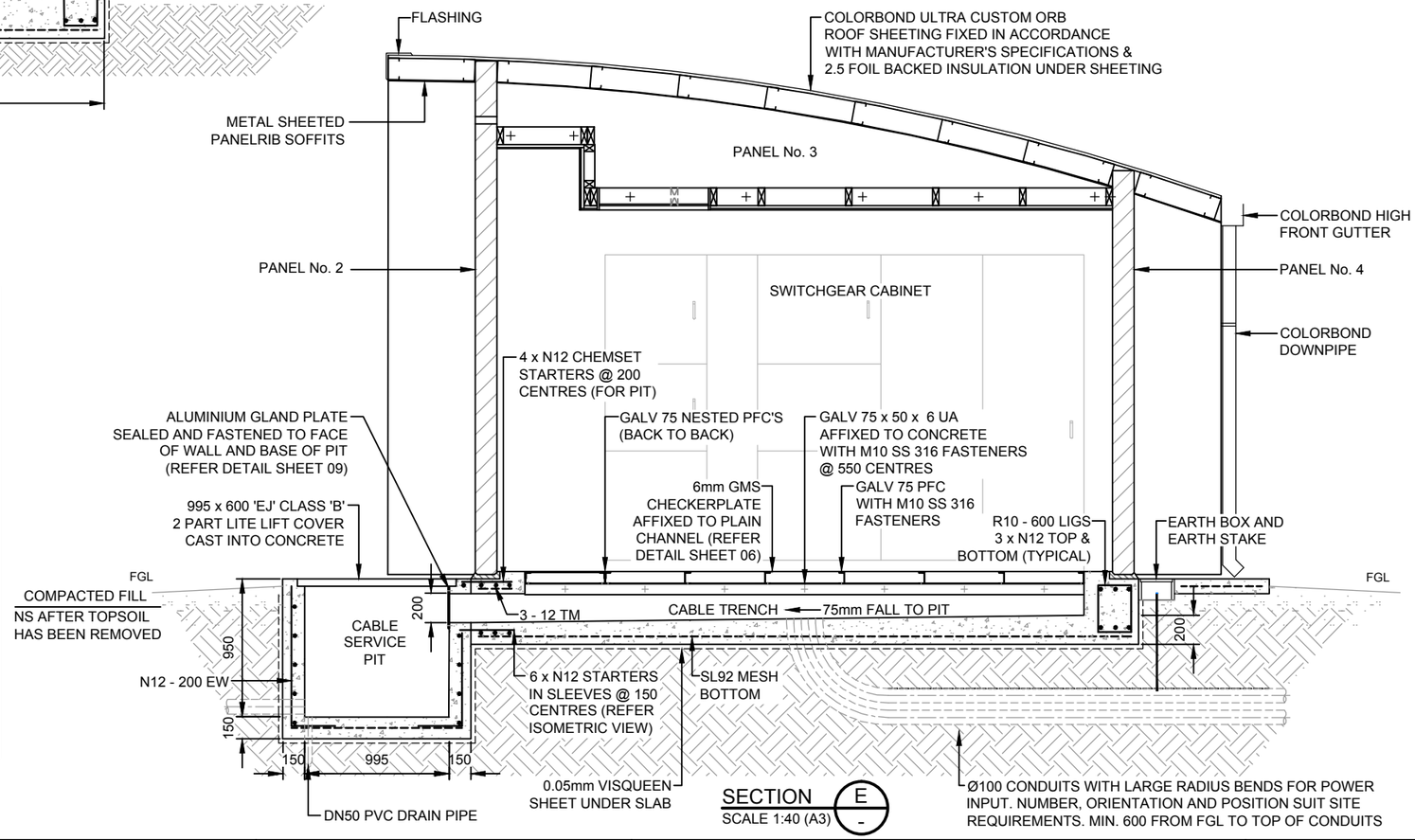


REINFORCING DETAIL STRIP FOOTING CORNER

SCALE 1:40 (A3)

ISOMETRIC VIEW - CABLE SERVICE PIT STARTER BAR LAYOUT

SCALE 20 (A3)



SECTION E
SCALE 1:40 (A3)

C	NOTES & FORMAT AMENDED & PLAN FORM UPDATED	G.P.C.	06.2015
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A	ORIGINAL ISSUE	G.P.C.	02.2010
ISSUE	AMENDMENT DETAILS	INITIALS	DATE

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DESIGN ENGINEER		DATE 04.06.15
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SCALE	AS SHOWN	

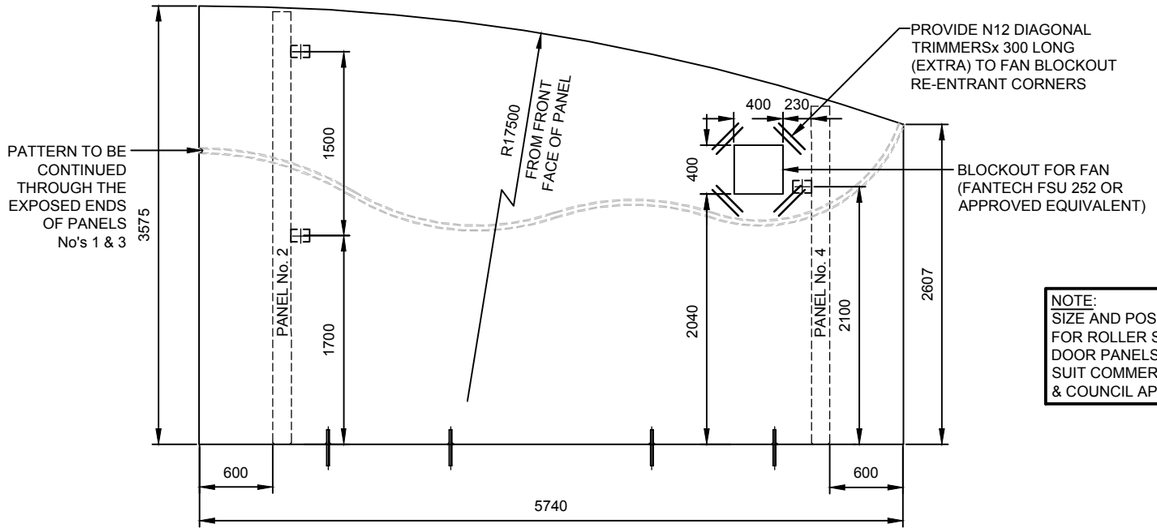
PROJECT: SEWERAGE WORKS STANDARDS

DRAWING NUMBER: **S.D. 272-06**

PLAN TITLE: CONTROL BUILDING - TILT-UP PANEL CONSTRUCTION FOOTING DETAILS (SHEET 2 OF 2 SHEETS)

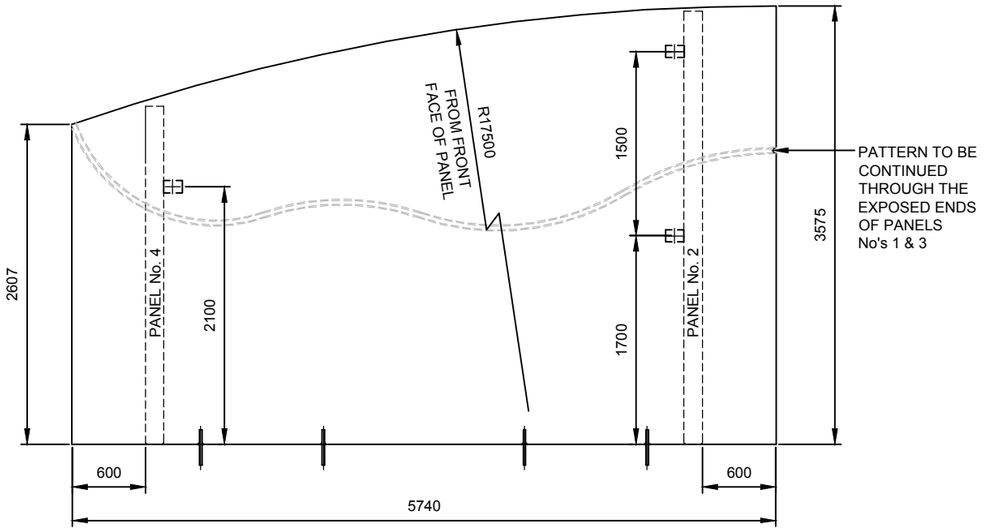
JUNE 2015

ACAD FILE No: G:_AUTOCAD DRAWINGS\TSC STANDARD DRAWINGS\200 SEWERAGE STANDARDS\S.D.272 (June-15 Rev C).dwg



PANEL No. 1
SCALE 1:50 (A3)

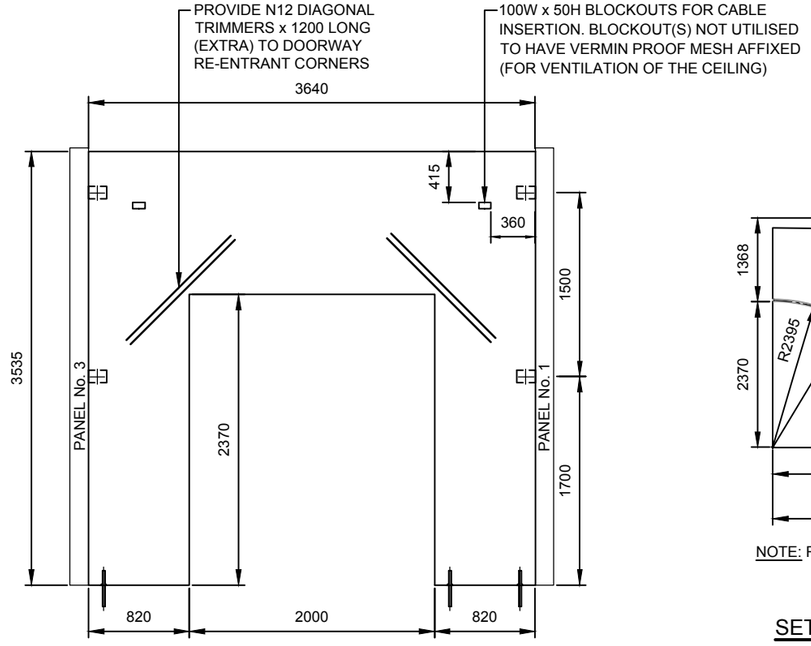
NOTE:
SIZE AND POSITIONING OF OPENINGS FOR ROLLER SHUTTER & SECURITY DOOR PANELS TO BE ADJUSTED TO SUIT COMMERCIALLY AVAILABLE & COUNCIL APPROVED UNITS.



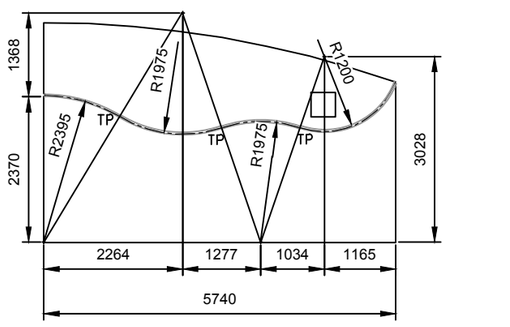
PANEL No. 3
SCALE 1:50 (A3)

PRE-CAST WALL PANELS

1. PANEL REINFORCEMENT TO BE SL 82 MESH CENTRALLY PLACED.
2. PROVIDE N16 PERIMETER TRIMMER BARS (TIED TO MESH) AT ALL PANEL EDGES AND AROUND OPENINGS, COG AND LAP AT CORNERS (TYP.).
3. PROVIDE ADDITIONAL REINFORCEMENT WHERE SHOWN IN ELEVATIONS AND STRUCTURAL DETAILS.
4. PRE-CAST PANEL CONTRACTOR TO DESIGN PANELS FOR LIFTING AND HANDLING REQUIREMENTS AND PROVIDE ANY ADDITIONAL REINFORCEMENT REQUIRED.
5. PROVIDE ALL PENETRATIONS AND DUCTS IN PANELS AS REQUIRED FOR BUILDING SERVICES. REFER TO BUILDING SERVICES DRAWINGS FOR REQUIREMENTS AND LOCATIONS.

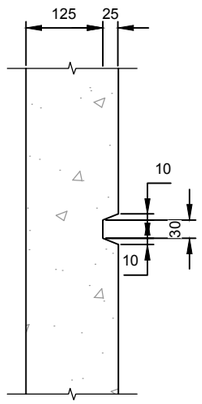


PANEL No. 2
SCALE 1:50 (A3)

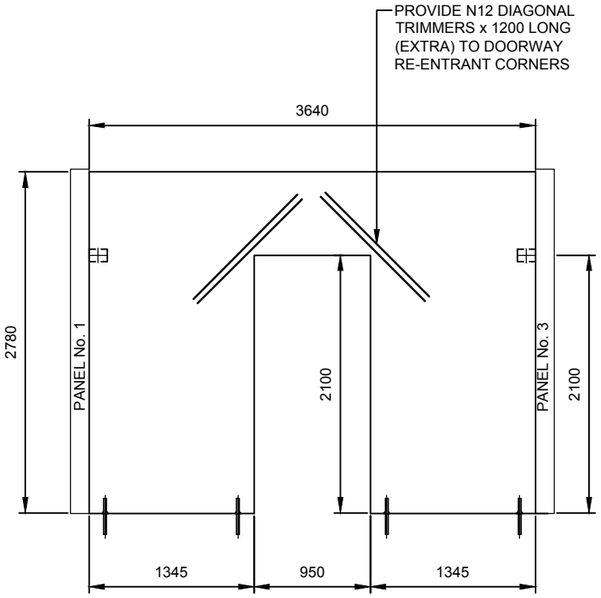


NOTE: RADII & DIMENSIONS SHOWN TO CENTRELINE OF RECESS

SET OUT FOR FEATURE RECESS
SCALE 1: 100 (A3)



FEATURE RECESS DETAIL
SCALE 1:12.5 (A3)



PANEL No. 4
SCALE 1:50 (A3)

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C	NOTES & FORMAT AMENDED & PLAN FORM UPDATED	G.P.C.	06.2015
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DESIGN MANAGER		DATE 15.06.15
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SCALE	AS SHOWN	

PROJECT: SEWERAGE WORKS STANDARDS

DRAWING NUMBER: **S.D. 272-07**

PLAN TITLE: CONTROL BUILDING - TILT-UP PANEL CONSTRUCTION PANEL LAYOUTS

JUNE 2015

ACAD FILE No: G:_AUTOCAD DRAWINGS\TSC STANDARD DRAWINGS\200 SEWERAGE STANDARDS\S.D.272 (June-15 Rev C).dwg

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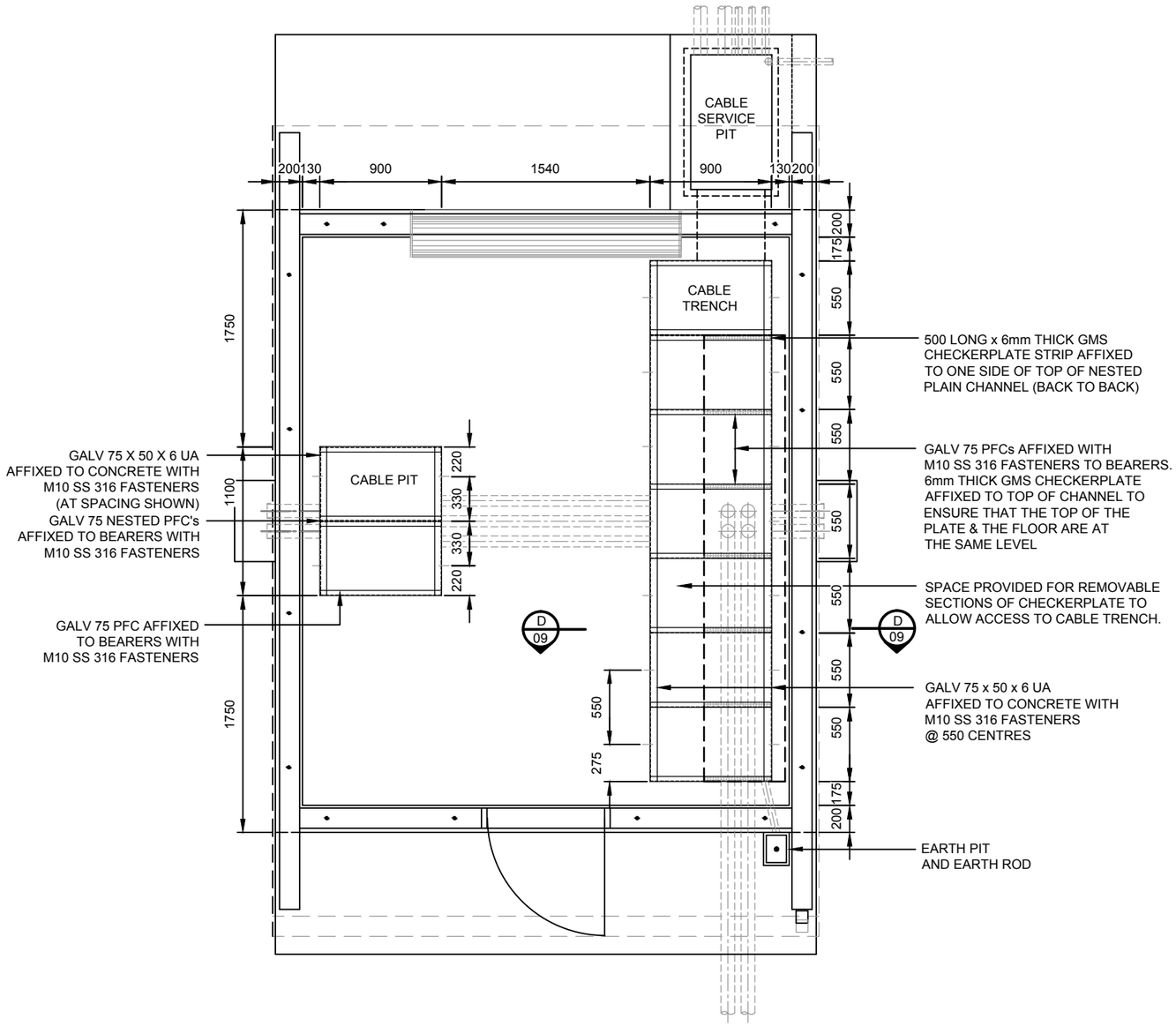
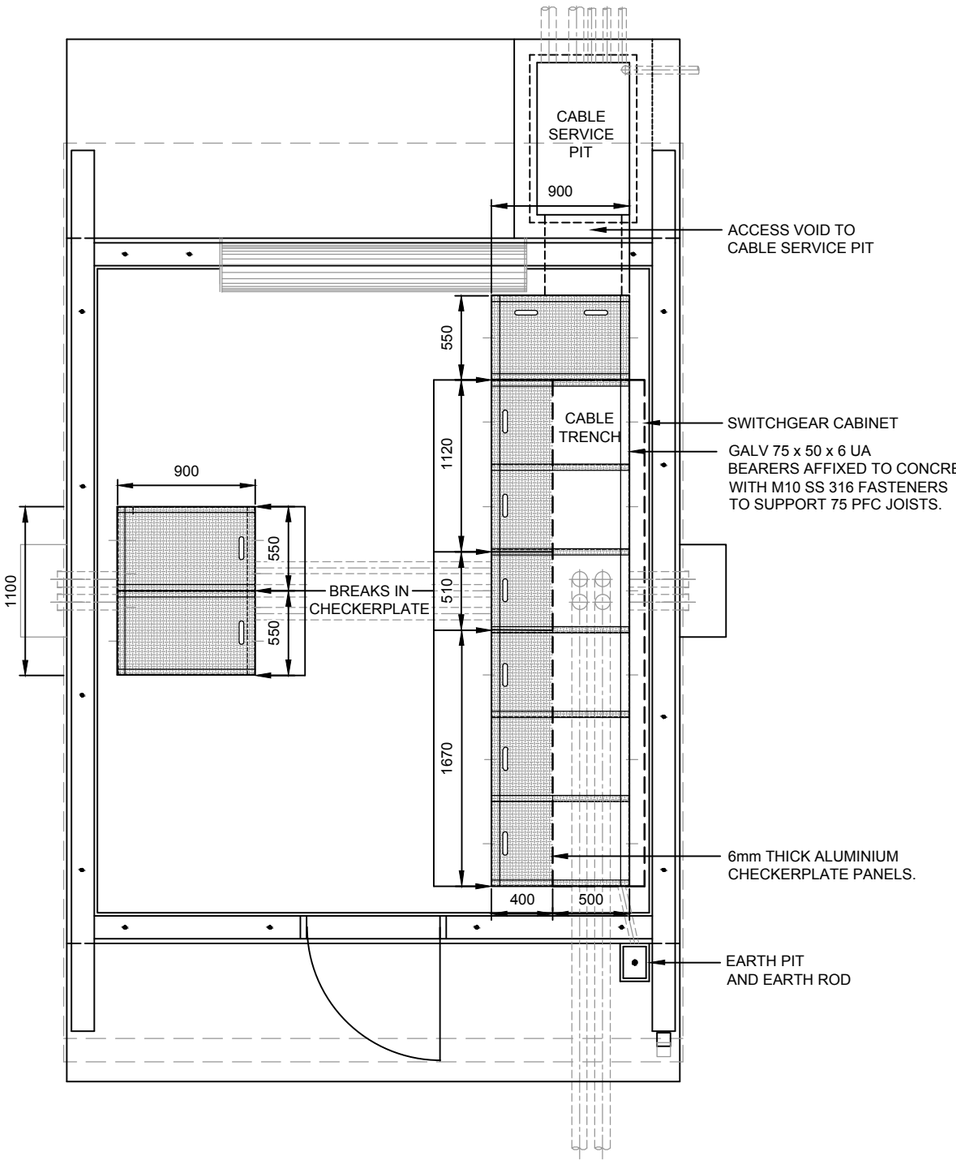


PLAN
CHECKERPLATE SUPPORT DETAIL
SCALE 1:40 (A3)



PLAN
CHECKERPLATE PANELS DETAIL
SCALE 1:40 (A3)

ISSUE	AMENDMENT DETAILS	INITIALS	DATE
C	NOTES & FORMAT AMENDED & PLAN FORM UPDATED	G.P.C.	06.2015
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DESIGN ENGINEER		DATE 04.06.15
DESIGN MANAGER		DATE 15.06.15
DRAWN	ENGINEERING & OPERATIONS DESIGN UNIT	
SCALE	AS SHOWN	

PROJECT: SEWERAGE WORKS STANDARDS

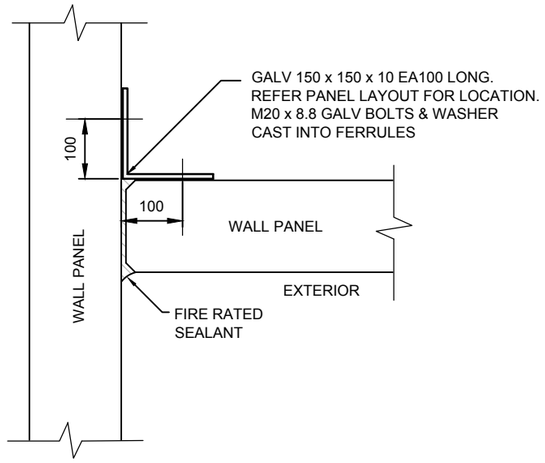
DRAWING NUMBER: **S.D. 272-08**

PLAN TITLE: CONTROL BUILDING - TILT-UP PANEL CONSTRUCTION CHECKERPLATE DETAILS

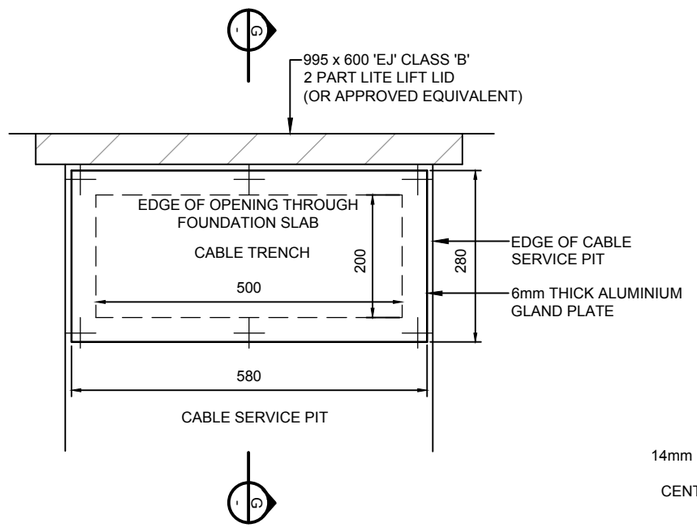
JUNE 2015

ACAD FILE No: G:_AUTOCAD DRAWINGS\TSC STANDARD DRAWINGS\200 SEWERAGE STANDARDS\S.D.272 (June-15 Rev C).dwg

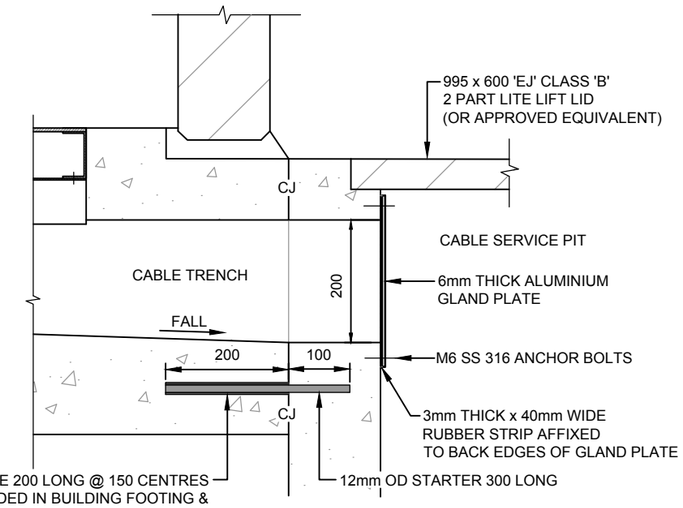
NOTE: THE SIZE OF THE CABLE SERVICE PIT, GLAND PLATE & CABLE TRENCH TO BE EVALUATED FOR SUITABLILITY IF USING PUMPS LARGER THAN 80kW OR IF MORE THAN TWO PUMPS ARE USED. IF UNSUITABLE THEN RE-DESIGN OF THESE FEATURES WILL BE REQUIRED.



PLAN
WALL CONNECTOR DETAIL
SCALE 1:10 (A3)

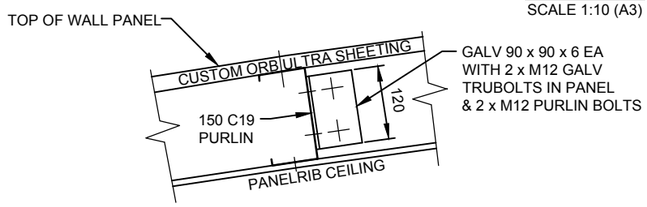


ELEVATION
SCALE 1:10 (A3)

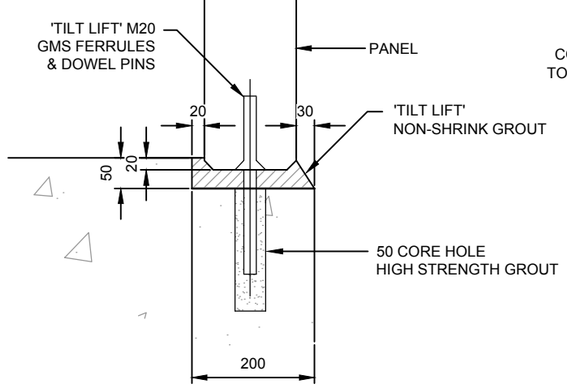


SECTION G
SCALE 1:10 (A3)

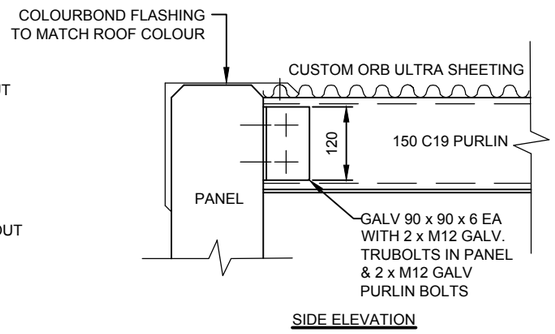
CABLE GLAND PLATE DETAIL



FRONT ELEVATION



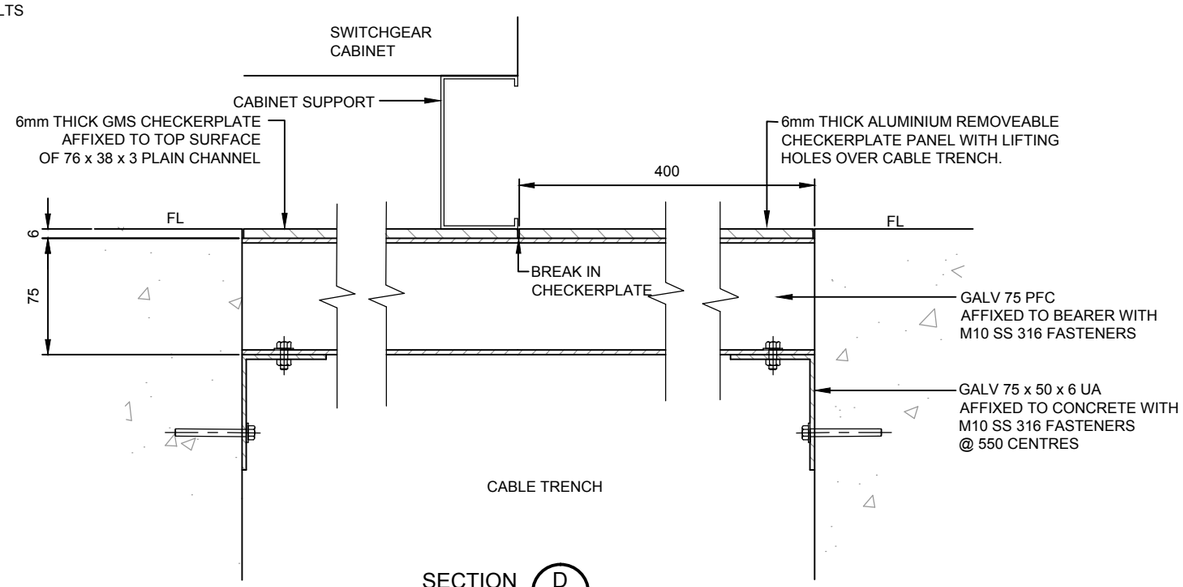
DETAIL 2/05
SCALE 1:10 (A3)



SIDE ELEVATION

DETAIL 3/06
SCALE 1:10 (A3)

PURLIN CONNECTION DETAILS



SECTION D/08
SCALE 1:2 (A3)

CHECKERPLATE SUPPORT DETAILS

NOTE: REFER SHEET 08 FOR FURTHER DETAILS OF CHECKEPLATE SUPPORTS AND PANELS

ISSUE	AMENDMENT DETAILS	INITIALS	DATE
C	NOTES & FORMAT AMENDED & PLAN FORM UPDATED	G.P.C.	06.2015
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DESIGN MANAGER		DATE 15.06.15
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SCALE	AS SHOWN	

PROJECT: SEWERAGE WORKS STANDARDS

DRAWING NUMBER: **S.D. 272-09**

PLAN TITLE: CONTROL BUILDING - TILT-UP PANEL CONSTRUCTION DETAILS

JUNE 2015

ACAD FILE No: G:_AUTOCAD DRAWINGS\TSC STANDARD DRAWINGS\200 SEWERAGE STANDARDS\S.D.272 (June-15 Rev C).dwg

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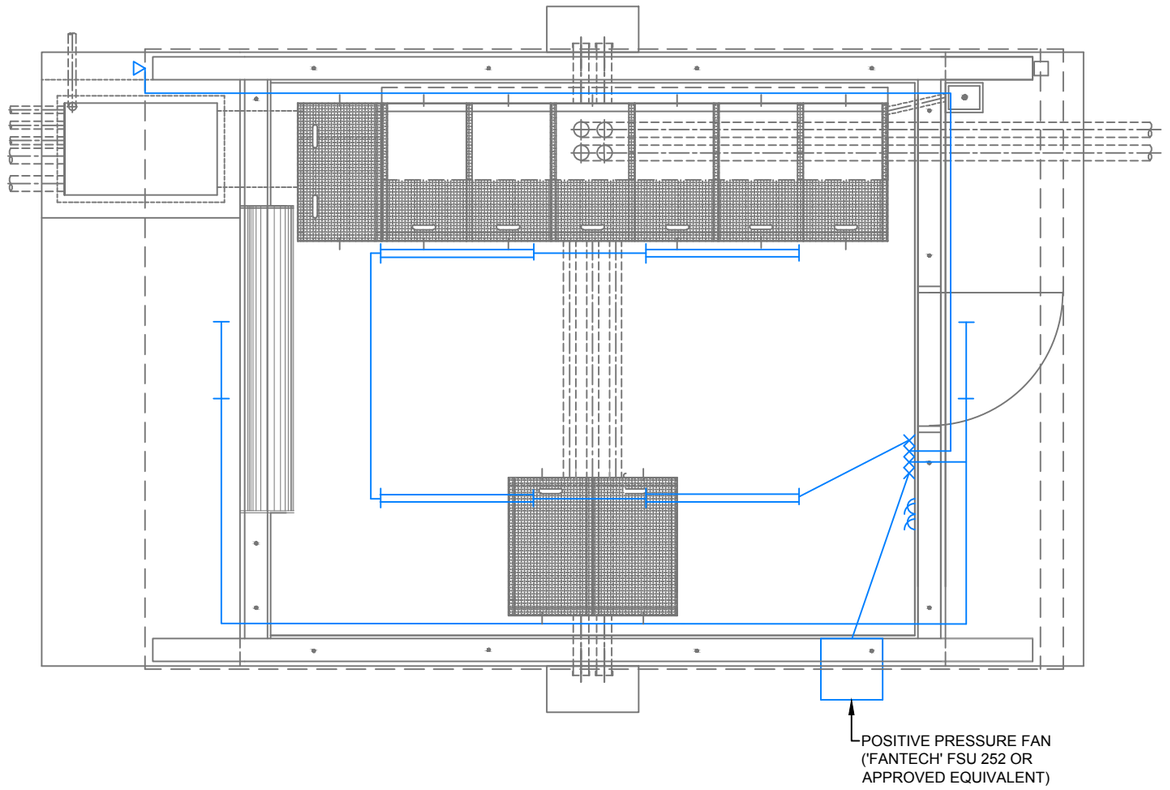

POWER AND LIGHTING LAYOUT

SCALE 1:40 (A3)

- DOUBLE GPO
- LIGHT SWITCH
- 18W VANDALITE
- 2 x 36W DIFFUSED FLORESCENT
- 150W FLOOD LIGHT

ISSUE	AMENDMENT DETAILS	INITIALS	DATE
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SCALE	AS SHOWN	

PROJECT: SEWERAGE WORKS STANDARDS

DRAWING NUMBER: **S.D. 272-10**

PLAN TITLE: CONTROL BUILDING - TILT-UP PANEL CONSTRUCTION ELECTRICAL LAYOUT

JUNE 2015

ACAD FILE No: G:_AUTOCAD DRAWINGS\TSC STANDARD DRAWINGS\200 SEWERAGE STANDARDS\S.D.272 (June-15 Rev C).dwg