A1

FLOWMETER INSTALLATION

INSTRUCTIONS FOR USE OF DEEMED TO COMPLY (DTC) DRAWINGS FOR FLOWMETER INSTALLATION

1. ALL DRAWINGS MUST BE READ IN CONJUNCTION WITH THE LATEST EDITION OF:
   - A. – BMIS0209 – SYDNEY WATER TECHNICAL SPECIFICATION – MECHANICAL
     – CPDMS0023 – SYDNEY WATER TECHNICAL SPECIFICATION – CIVIL
     – CPDMS0022 – SYDNEY WATER TECHNICAL SPECIFICATION – ELECTRICAL
   - B. SYDNEY WATER LIST OF ACCEPTABLE PRODUCT SPECIFICATIONS
   - C. SITE SPECIFIC NEEDS SPECIFICATION FOR FLOWMETER INSTALLATION
   - D. FM ELECTRICAL, CONTROL & INSTRUMENTATION DRAWINGS
   - E. HSS0005 – SYDNEY WATER INSTRUMENTATION AND CONTROL STANDARD – WATER FLOW MONITORING STANDARDS – FLOWMETERS TOG__TS05
   - F. HSS0008 – SYDNEY WATER INSTRUMENTATION AND CONTROL STANDARD
   - G. HSS0009 – SYDNEY WATER TECHNICAL SPECIFICATION – INSTRUMENTATION AND CONTROL – GENERAL
   - H. SDIMS0026 – SYDNEY WATER – CUSTOMER DELIVERY FACILITY SAFETY SIGNAGE SPECIFICATION
   - I. D0001440 – SYDNEY WATER – TECHNICAL SPECIFICATION – COMMISSIONING TRANSITIONING ASSETS INTO OPERATION
   - J. WSA03 – WATER SUPPLY CODE OF AUSTRALIA – SYDNEY WATER EDITION
2. THESE DTC DRAWINGS ARE LIMITED TO:
   - WATER AND WASTEWATER NETWORK INSTALLATIONS, MAY BE USED FOR TREATMENT FACILITIES, IF SUITABLE FOR THE APPLICATION.
   - BELOW GROUND INSTALLATIONS WITHIN ROAD VERGE
   - FULL BORE MAGNETIC AND ULTRASONIC FLOWMETERS
3. ALL DIMENSIONS TO BE VERIFIED ON SITE PRIOR TO CONSTRUCTION.
4. SETTING OUT DIMENSIONS NOT TO BE OBTAINED BY SCALING THE DRAWINGS.
5. THE SELECTION OF THE FLOWMETER INSTALLATION TYPE MUST BE AS PER THE SELECTION CRITERIA NOMINATED IN HSS0005 – I & C FLOW MONITORING STANDARDS (FLOWMETERS) TOG__TS05.
6. USE OF FLOWMETERS WITH TAPERED PIPE REDUCERS IS TO BE BASED ON THE SITE SPECIFIC FLOW REQUIREMENTS.
7. WHERE SPECIFIED, PROPRIETARY PRODUCTS MUST BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.
8. NOMINATION OF PROPRIETARY PRODUCTS DOES NOT INDICATE PREFERENCE. ALTERNATIVE PRODUCTS OF EQUIVALENT PERFORMANCE MAY BE USED SUBJECT TO APPROVAL BY SYDNEY WATER.
9. THE USE OF STANDARD DESIGNS MAY INTRODUCE UNINTENDED SAFETY RISKS FOR SITE SPECIFIC APPLICATION. THE USER MUST ADDRESS SAFETY RISKS THROUGH SITE SPECIFIC ASSESSMENT.
10. THE USER MUST BE RESPONSIBLE FOR DESIGN OF ANY TEMPORARY WORKS.
11. ALL FLOWMETERS MUST HAVE STRAIGHT PIPE LENGTHS AS PER HSS0009 – SYDNEY WATER TECHNICAL SPECIFICATION – INSTRUMENTATION AND CONTROL – GENERAL. FLOW DIRECTION INDICATED ON DTC DRAWINGS IS FOR UNIDIRECTION FLOW OR PRIMARY DIRECTION FOR BI-DIRECTIONAL FLOW.
12. THE USER MUST SPECIFY ISOLATION REQUIREMENTS AS PART OF THE PROJECT DESIGN. INSTALL ISOLATION VALVES FOR ALL MAGNETIC AND ULTRASONIC FLOWMETERS OUTSIDE THE STRAIGHT PIPE LENGTHS AS PER HSS0009.
13. THE USER MUST CONFIRM THE SUITABILITY OF THE ACQUIRED FLOWMETER FOR INSTALLATION WITH THE DTC DRAWING DESIGNS. ADJUSTMENTS TO FLOWMETER MATING PIPE SPOOL LENGTHS WILL BE REQUIRED FOR INSTALLATIONS USING FLOWMETERS WITH SHORTER FACE TO FACE LENGTHS THAN THOSE NOMINATED ON THE DRAWINGS.
14. SIGNAGE TO BE IN ACCORDANCE WITH AS1319 & SDIMS0026 – SYDNEY WATER – CUSTOMER DELIVERY FACILITY SAFETY SIGNAGE SPECIFICATION UNLESS NOMINATED OTHERWISE. EQUIPMENT LABELS TO BE IN ACCORDANCE WITH DTC-6121.
15. MECHANICAL LIFTING AIDS WHERE REQUIRED MUST BE SUCH THAT INDIVIDUAL MANUAL LIFTING LOAD LIMIT DOES NOT EXCEED 160 N.
16. CONNECTION DETAILS AND REQUIREMENTS FOR THE DESIGN OF THE CONNECTING PIPING ARE THE RESPONSIBILITY OF THE PIPING DESIGNER AND ARE TO BE GENERALLY IN ACCORDANCE WITH THE SCHEMATIC LAYOUT.
17. DTC DESIGN IS SUITABLE FOR MAIN PIPE MATERIALS AS FOLLOWS;
   - DICL PN35 TO AS/NZS 2280
   - HDPE PN16 PE100 TO AS 4130
   - UPVC SERIES 2 PN16 TO AS 1477
   - MPVC SERIES 2 PN16 TO AS 4765
   - OPVC SERIES 2 PN16 TO AS 4441
   - SCL (SWC PIPE CLASS B2)
18. FOR THE PURPOSE OF THESE DTC DRAWINGS, THE TERM FLOWMETER REFERS TO THE FLOW SENSOR/S THAT ARE INSTALLED WITHIN THE LINEAR ASSET.

FLOWMETER INSTALLATION DTC DRAWING LIST:

Sydney WATER

APPROVED

NORBERT SCHAEPER

ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
B	GENERAL REVISION	N.S.	30.11.24
A	ORIGINAL ISSUE	K.W.	18.03.15

DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION COVER SHEET & NOTES SHEET 1

DTC 6100

ISSUE	DATE
B	30/11/24

A1

GENERAL

G1. THE DTC DESIGN IS BASED ON THE FOLLOWING FLANGE FACE TO FACE DIMENSIONS. MAGNETIC FLOWMETER NOMINAL DIMENSIONS ARE BASED ON THE MAXIMUM OF ISO 20456, ABB FEF/ FEW SERIES, KROHNE OPTIFLUX 2300 AND SIEMENS 5100W AT THE TIME OF DESIGN. DJ NOMINAL DIMENSIONS ARE BASED ON THE MAXIMUM OF VIKING JOHNSON PN16 AND KLAMFLEX PN16.

DN	"L" NOMINAL MAGNETIC FLOWMETER F TO F LENGTH	"M" NOMINAL DISMANTLING JOINT F TO F LENGTH
100	250	187
150	300	187
200	350	187
250	450	195
300	500	195
350	550	295
375	600	295
400	600	295
450	700	300
500	770	300
600	920	300
750	990	300

G2. STRUCTURAL CRITERIA

i) STRUCTURAL WORK SHOWN ON THESE DRAWINGS HAS BEEN DESIGNED FOR THE FOLLOWING LOADING CONDITIONS:-

STRUCTURE	LOADS
FLOWMETER CHAMBERS	ROOF COVERS SOLID TOP DUCTILE IRON GATIC LIDS - CLASS D
	WALLS AND BASE EXTERNAL EARTH PRESSURE SOIL - ϕ' = 30°, BULK DENSITY (γ) = 20kN/m^3, Ko = 0.5 EXTERNAL SURCHARGE LOAD 20 kPa GROUNDWATER TABLE AT PROPOSED FINISHED SURFACE LEVEL (P.F.S.L)

ii) CONCRETE EXPOSURE CLASSIFICATION
- INTERNAL CONCRETE FACE - B1 TO AS5100 (100 YEAR DESIGN LIFE, DESIGN AS A LIQUID RETAINING STRUCTURE).
- EXTERNAL FACES - CAST ON OR AGAINST GROUND - C1 TO AS5100 (100 YEAR DESIGN LIFE, DESIGN AS A LIQUID RETAINING STRUCTURE).

G3. MAXIMUM DESIGN HEAD FOR FLOWMETER INSTALLATION = 120m HEAD OF WATER. MINIMUM PRESSURE RATING OF ALL COMPONENTS IS TO BE PN16.

G4. THIS DESIGN IS NOT SUITABLE FOR UNSTABLE GROUND, CONTAMINATED GROUND, SOFT SOILS OR MINE SUBSIDENCE AREAS.

G5. THE CHAMBERS HAVE NOT BEEN DESIGNED FOR THRUST FORCES. THE USER MUST CHECK FOR ANY UNRESTRAINED THRUST FORCES AND CONFIRM SITE SPECIFIC SUITABILITY OF THE DTC SOLUTION. THE USER IS RESPONSIBLE FOR THE ANCHORAGE DESIGN OF ANY TAPERS, STOP VALVES ETC. AS PART OF THE PIPELINE DESIGN.

METALWORK

S1 WELDS MUST BE 6mm CONTINUOUS FILLET WELD U.N.O.

S2. BUTT WELDS MUST BE COMPLETE PENETRATION BUTT WELDS.

S3. ALL STRUCTURAL STEELWORK SHALL BE BHP-300 PLUS TO AS/NZS 3679.1 U.N.O.

S4. STRUCTURAL BOLTS TO BE HIGH STRENGTH STRUCTURAL BOLTS GRADE 8.8 TO AS/NZS 1252, BOLTING CATEGORY 8.8/S SNUG TIGHTENED OR PROPERTY CLASS A4-70 FOR SS 316 BOLTS.

S5. BOLTS, NUTS AND WASHERS MUST BE SS GRADE 316. ANTI-SEIZE LUBRICANT TO BE APPLIED ON ALL SS BOLTS. PROVIDE ADEQUATE INSULATION WHERE DISSIMILAR METALS ARE JOINED. FOR DETAILS REFER TO SYDNEY WATER TECHNICAL SPECIFICATION - MECHANICAL.

S6. NON - STAINLESS STEELWORK MUST BE GALVANIZED IN ACCORDANCE WITH THE WSAA MANUAL FOR SELECTION & APPLICATION OF PROTECTIVE COATINGS WSA 201.

S7. DAMAGE TO GALVANIZING AFTER FABRICATION TO BE MADE GOOD IN ACCORDANCE WITH WSA 201.

S8. ALL UNPAINTED METALWORK, WITH THE EXCEPTION OF ALUMINIUM AND STAINLESS STEEL, MUST BE PAINTED "ENVIRONMENTAL GREEN G66" IN ACCORDANCE WITH WSA 201, SYSTEM PUR-A.

S9. ALL BOLTS TO BE TORQUED UP AS PER SUPPLIER'S RECOMMENDATION FOR VARYING BOLT SIZES.

S10. FLANGES MUST BE IN ACCORDANCE WITH DTC-1145.

CONCRETE

C1. STRUCTURAL CONCRETE ASSOCIATED WITH ALL STRUCTURES MUST HAVE A MIX DESIGN IN ACCORDANCE WITH SYDNEY WATER TECHNICAL SPECIFICATION - CIVIL. GRADE S40 CONCRETE FOR CAST IN SITU.

C2. FOOTPATH, LANDING AND INTERNAL CONCRETE INFILL TO BE N32 CONCRETE IN ACCORDANCE WITH SYDNEY WATER TECHNICAL SPECIFICATION - CIVIL .

C3. SIZES OF CONCRETE MEMBERS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.

C4. 25 CHAMFER FOR ALL EXPOSED CONCRETE EDGES AND 20 FILLET FOR ALL RE-ENTRANT CORNERS MUST BE PROVIDED UNO.

C5. SURFACE FINISHES MUST BE IN ACCORDANCE WITH AS3610
EXPOSED FORMED - CLASS 2. CONCEALED FORMED - CLASS 3 , UNFORMED - CLASS 4.
ACCESS ROAD WITH STEEP GRADE (>1:10) TO HAVE ANTI-SLIP SURFACE FINISH.

C6. THE DESIGN, CONSTRUCTION AND PERFORMANCE OF ALL FORMWORK AND FALSEWORK MUST BE CERTIFIED BY A COMPETENT STRUCTURAL ENGINEER.

EARTHWORKS AND BACKFILLING

EB1. ALL EARTHWORKS AND BACKFILLING MUST BE IN ACCORDANCE WITH SYDNEY WATER TECHNICAL SPECIFICATION - CIVIL.

EB2. THE DIFFERENCE IN THE HEIGHT OF THE BACKFILL AGAINST ALL WALLS MUST NOT BE MORE THAN 500mm AT ANY STAGE DURING CONSTRUCTION AND WHEN IN SERVICE.

FOUNDATIONS

F1. GROUND CONDITIONS CONSIDERED IN DESIGN MUST BE VERIFIED ON SITE DURING CONSTRUCTION IN ACCORDANCE WITH SYDNEY WATER TECHNICAL SPECIFICATION - CIVIL BY A COMPETENT GEOTECHNICAL ENGINEER.

F2. EXPECTED GROUND CONDITIONS AT EACH STRUCTURE MUST MEET THE MINIMUM REQUIREMENTS SPECIFIED BELOW:

TABLE F1: EXPECTED GROUND CONDITIONS

STRUCTURE	SOIL/ROCK LAYER AND CONSISTENCY	SOIL/ROCK LAYER AND CONSISTENCY	REQUIRED TESTING DEPTH	MINIMUM ALLOWABLE BEARING CAPACITY AND STRENGTH REDUCTION FACTOR (φg) USED IN DESIGN
FLOWMETER CHAMBERS	REACTIVE STIFF CLAY (Su > 50 kPa) / MEDIUM DENSE SAND OR BETTER	DCP = 3 BLOWS/ 100mm	MINIMUM 1m BELOW BASE SLAB	VERTICAL BEARING CAPACITY = 100kPa φg = 0.5

F3. ALL WEAKER MATERIAL NOT MEETING THE ABOVE MINIMUM REQUIREMENTS MUST BE EXCAVATED AND REPLACED WITH SELECT FILL MATERIAL COMPLYING WITH SYDNEY WATER TECHNICAL SPECIFICATION - CIVIL.

F4. ANY OVER EXCAVATED ROCK OR CAVITIES MUST BE BACKFILLED WITH GRADE N15 MASS CONCRETE.

REINFORCEMENT

R1. REINFORCEMENT BARS AND MESH MUST COMPLY WITH AS/NZS 4671.
REINFORCEMENT SYMBOLS:
N - DENOTES GRADE 500N DEFORMED BARS
R - DENOTES GRADE 250N ROUND BARS
SL - DENOTES GRADE 500L DEFORMED SQUARE FABRIC
RL - DENOTES GRADE 500L DEFORMED RECTANGULAR FABRIC

R2. CLEAR CONCRETE COVER TO REINFORCEMENT MUST BE AS FOLLOWS UNLESS OTHERWISE SHOWN:
- CAST INSITU CONCRETE ELEMENTS - STANDARD FORMWORK/COMPACTION TO AS 3735
  - 50mm LIQUID RETAINING SURFACES
  - 70mm EXTERNAL FACES NOT CAST ON OR AGAINST GROUND
- WHERE CAST ON OR AGAINST GROUND THE FOLLOWING COVER MUST BE ADDED;
  - 10mm IF THE CONCRETE IS PROTECTED BY A DAMP-PROOF MEMBRANE OR CAST AGAINST BLINDING CONCRETE.
  - 30mm IN ALL OTHER CIRCUMSTANCES

R3. LOAD BEARING WELDED JOINTS FOR THE TRANSMISSION OF LOADS BETWEEN REINFORCEMENT IS NOT PERMITTED. NON LOAD BEARING WELDED JOINTS (TACK WELDS) TO KEEP REINFORCEMENT IN POSITION DURING FABRICATION, TRANSPORT & CONCRETING, IS PERMITTED WHERE WELDING WILL NOT IMPACT DUCTILITY OF REINFORCEMENT.
WELDING MUST BE IN ACCORDANCE WITH AS 1554.3.
LAP LENGTHS MUST NOT BE REDUCED DUE TO WELDING.

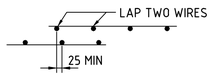
R4. PIPES OR CONDUITS MUST NOT BE PLACED WITHIN THE CONCRETE COVER TO REINFORCEMENT.

R5. REINFORCEMENT IS SHOWN DIAGRAMMATICALLY ON THE DRAWINGS AND THEREFORE DOES NOT DEPICT THE EXACT POSITION OF THE BARS.

R6. REINFORCEMENT ANCHORAGE, COGS AND LAP LENGTHS MUST BE AS FOLLOWS UNLESS NOTED OTHERWISE.

BAR SIZE (GRADE 500N)	N12	N16	N20
ANCHORAGE AND LAP LENGTH	400	600	800
COG LENGTH	200	250	300

R7. MESH LAP DETAIL :



R8. WHERE REINFORCEMENT IS LAPPED, THE LAPS MUST BE STAGGERED AND NO MORE THAN 50% OF THE REINFORCEMENT MUST BE LAPPED AT ANY ONE SECTION UNLESS OTHERWISE SPECIFIED. SPLICE LENGTHS GIVEN ABOVE MUST BE INCREASED BY 33% AT LOCATIONS OF MAXIMUM STRESS OR WHERE MORE THAN ONE HALF OF THE BARS ARE SPLICED AT ANY ONE LOCATION.

R9. ALL HOOKS AND COGS MUST BE IN ACCORDANCE WITH AS 5100.

R10. TT - DENOTES TOP LAYER LAID SECOND.
T - DENOTES TOP LAYER LAID FIRST.
BB - DENOTES BOTTOM LAYER LAID FIRST.
B - DENOTES BOTTOM LAYER LAID SECOND.
EF - DENOTES EACH FACE.
FF - DENOTES FAR FACE
NF - DENOTES NEAR FACE

R11. REINFORCEMENT MUST BE SUPPORTED ON PLASTIC CHAIRS AT NOT GREATER THAN 1 METRE CENTRES BOTH WAYS.

FORMWORK

FO1. THE DESIGN CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF FORMWORK AND FALSE WORK MUST BE THE RESPONSIBILITY OF THE USER. DESIGN AND CONSTRUCTION OF FORMWORK MUST BE IN ACCORDANCE WITH AS 3610. THE DESIGN MUST ACHIEVE THE REQUIREMENTS OF AS3735 FOR STANDARD FORMWORK AND COMPACTION. FORMWORK DESIGN MUST TAKE INTO CONSIDERATION INTENSE COMPACTION AND VIBRATIONS LOADS.

PIPING

P1. ALL STAINLESS STEEL PIPING TO BE DESIGNED, FABRICATED, INSTALLED AND TESTED IN ACCORDANCE WITH AS4041 CLASS 3. ALL BUTT AND BRANCH WELDS TO BE FULL PENETRATION. FITTINGS TO ASME B16.9. ALL STAINLESS STEEL PIPE WELDS MUST BE CHEMICALLY CLEANED AND FULLY PASSIVATED TO ASTM A380. ALL STAINLESS STEEL WELDING MUST BE CARRIED OUT TO AS4458 BY QUALIFIED WELDERS TO AS1796 USING APPROVED WELDING TECHNIQUES AND PROCEDURES IN ACCORDANCE WITH AS3992.

P2. ALL FLANGES, UNLESS SPECIFIED OTHERWISE, ARE CLASS PN16 IN ACCORDANCE WITH AS 4087 & WAT-1313 U.N.O. DRILLING MUST BE OFFSET FROM PIPE CENTRE LINES. FLANGE JOINT TO BE INSTALLED IN ACCORDANCE WITH DTC-1145. ALL GASKETS FOR SIZES DN100 TO DN600 INCLUDED TO BE 3mm THK ELASTOMERIC U.N.O. ALL GASKETS FOR SIZES GREATER THAN DN600 TO BE COMPRESSED FIBRE U.N.O. ALL GASKETS IN ACCORDANCE WITH AS4087 TABLE C1, WSA 109 x WSA P-312 & WSA PS-312.

P3. WHERE FLANGED PIPEWORK, VALVES, AND FITTINGS ARE TO BE INSTALLED, ALL BOLTS, NUTS AND WASHERS TO BE STAINLESS STEEL 316L IN ACCORDANCE WITH AS4087 TABLE 3.2 MATERIAL GRADE TO SUIT FLANGE SIZE AND GASKET IN ACCORDANCE WITH AS4087 TABLE C1. AN INSULATING SLEEVE AND INSULATING WASHERS BETWEEN FLANGE AND BOLT PROVIDED IN ACCORDANCE WITH WAT-1313 TO PREVENT CONTACT BETWEEN DISSIMILAR METALS WHERE REQUIRED. THE THREADED SECTION OF THE BOLTS COATED WITH ANTI-SEIZE LUBRICANT LOCTITE 7 OR APPROVED EQUIVALENT PRIOR TO INSTALLATION.

P4. ALL MATERIALS IN CONTACT WITH POTABLE WATER TO BE CERTIFIED TO AS4020.

MATERIAL - STAINLESS STEEL

SS1. FLATS, ANGLES, BARS, BOLTS AND NUTS MUST COMPLY TO ASTM A276M GRADE 316L.

SS2. PLATES INCLUDING WASHERS MUST COMPLY TO ASTM A240M/A480 GRADE 316L.

SS3. PIPES MUST COMPLY WITH ASTM A312 GRADE 316L AND ASME B36.19 SCHEDULE 40S.

SS4. INTEGRALLY REINFORCED FORGED BRANCH OUTLET FITTINGS MUST COMPLY WITH MSS SP-97 CLASS 3000 AND ASTM A182 F316.

Sydney WATER

APPROVED

NORBERT SCHAEPER
ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
B	GENERAL REVISION	N.S.	30.11.24
A	ORIGINAL ISSUE	K.W.	18.03.15

DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION COVER SHEET & NOTES SHEET 2

DTC
6101

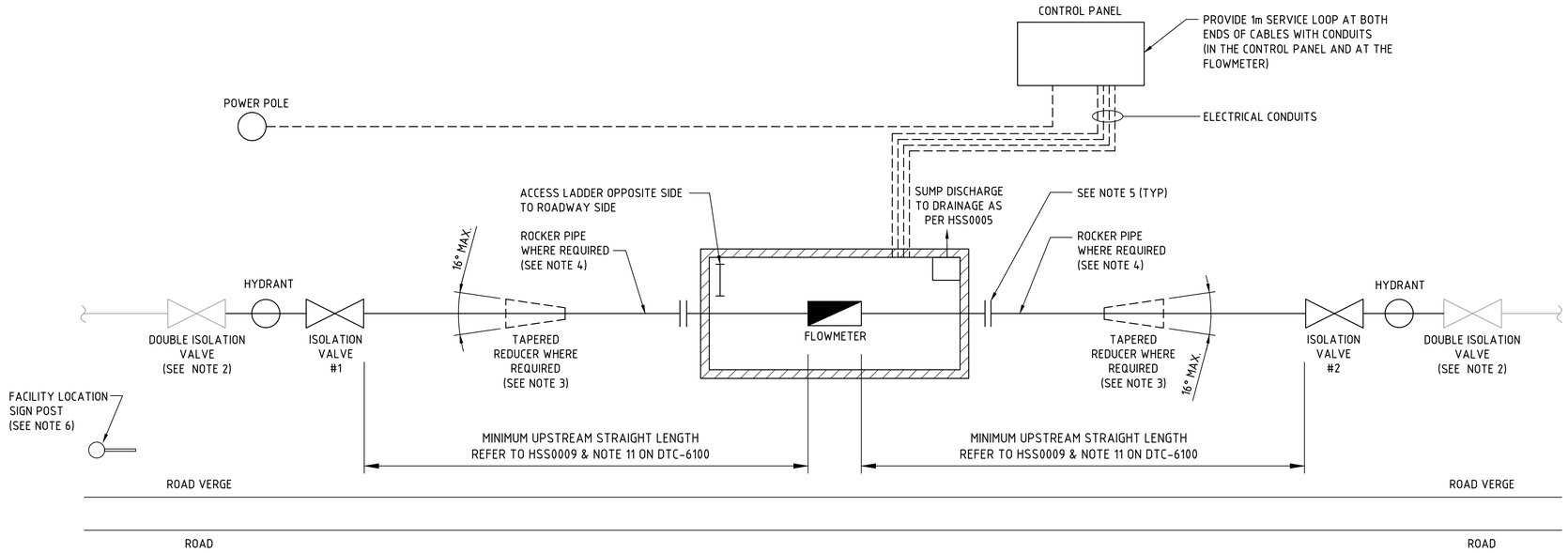
ISSUE	DATE
B	30/11/24

A1

THIS DRAWING MAY ONLY BE USED IN THE COURSE OF AND FOR THE PURPOSE OF CREATING SYDNEY WATER ASSETS. USE THIS DRAWING WITH CARE. THE USER IS RESPONSIBLE FOR THE CORRECT APPLICATION OF THIS DRAWING.

NOTES:

1. THE USER MUST INCLUDE GEOGRAPHIC COORDINATES OF THE FLOWMETER CHAMBER AND DATE OF SURVEY AS PART OF THE DESIGN DRAWINGS. FINAL COORDINATES AND RL OF THE FLOWMETER TO BE PROVIDED ON THE SITE PLAN AS PART OF PROJECT WAE. RL IS TO BE TOP OF FLOWMETER CHAMBER LEVEL.
2. THE USER MUST SPECIFY ISOLATION VALVES, THRUST FORCE RESTRAINTS, SCOUR VALVES, HYDRANTS (WHERE APPLICABLE) FOR DOUBLE ISOLATION AND DRAINING AS PART OF THE PROJECT DESIGN DRAWINGS.
3. IF TAPERS ARE REQUIRED WITHIN THE MINIMUM STRAIGHT PIPE LENGTHS, THEY MUST BE INSTALLED OUTSIDE THE FLOWMETER CHAMBER. THE TAPERS MUST BE DESIGNED TO PROVIDE A SMOOTH BORE TRANSITION TO THE CONNECTING PIPES. THE TAPERS MUST BE CONCENTRIC WITH A MAXIMUM INCLUDED ANGLE OF 16°. WHERE THE TAPERS ARE JOINED TO DI SOCKET FITTINGS, WELDED STAINLESS STEEL SPIGOT BANDS MAY BE REQUIRED ON THE TAPER ENDS FABRICATED FROM SCL PIPE TO MATCH THE SOCKET JOINT DIMENSIONS. DESIGNER MUST DETERMINE THE REQUIREMENTS OF THRUST RESTRAINT FOR THE TAPERS.
4. DESIGNER MUST ASSESS AND DETERMINE THE REQUIREMENTS OF ROCKER PIPES TO ALLOW FOR DIFFERENTIAL SETTLEMENT OF THE CHAMBER AND MAIN PIPE. THE ROCKER PIPE IS TO BE SP-SO OR SP-SP TO SUIT MAIN PIPE MATERIAL SPECIFICATION. LENGTH OF ROCKER PIPE TO BE 2 - 3 X PIPE DN. A FLANGE - SPIGOT OR FLANGE - SOCKET CONNECTOR WILL BE REQUIRED TO JOIN TO THE FLOWMETER CHAMBER PENETRATION PIPE SPOOL.
5. BURIED FLANGE CONNECTION OF THE MAIN PIPE TO THE FLOWMETER CHAMBER PENETRATION PIPE SPOOL IS TO BE IN ACCORDANCE WITH DTC-1145, COMPLETE WITH DISSIMILAR MATERIAL ISOLATION AS REQUIRED.
6. FACILITY LOCATION SIGN POST MUST BE IN ACCORDANCE WITH DTC-6116 FOR NETWORK INSTALLATIONS OUTSIDE SW FACILITY FENCED AREA. INSTALLATION WILL BE SUBJECT TO LOCATION AND SYDNEY WATER APPROVAL.



TYPICAL SCHEMATIC LAYOUT

NOT FOR CONSTRUCTION. ARRANGEMENT SHOWN IS INDICATIVE ONLY.

LOCATION OF INSTALLED ITEM			
DESCRIPTION	LATITUDE	LONGITUDE	RL m (AHD)
FLOWMETER	*	*	*
DATE OF SURVEY	*	*	*

FOR NOTES & REFERENCE DRAWINGS SEE DRAWING No. DTC-6100 & DTC-6101

Sydney WATER

APPROVED

NORBERT SCHAEPER

ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
B	GENERAL REVISION	N.S.	30.11.24
A	ORIGINAL ISSUE	K.W.	18.03.15

DEEMED TO COMPLY DRAWINGS

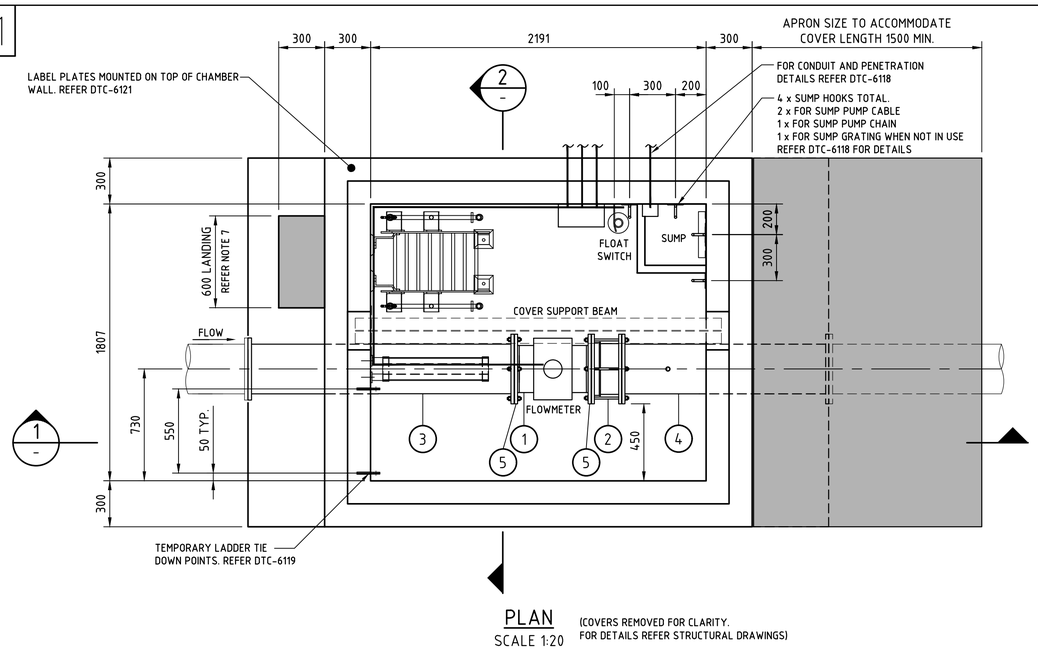
FLOWMETER INSTALLATION SCHEMATIC LAYOUT

DTC

6103

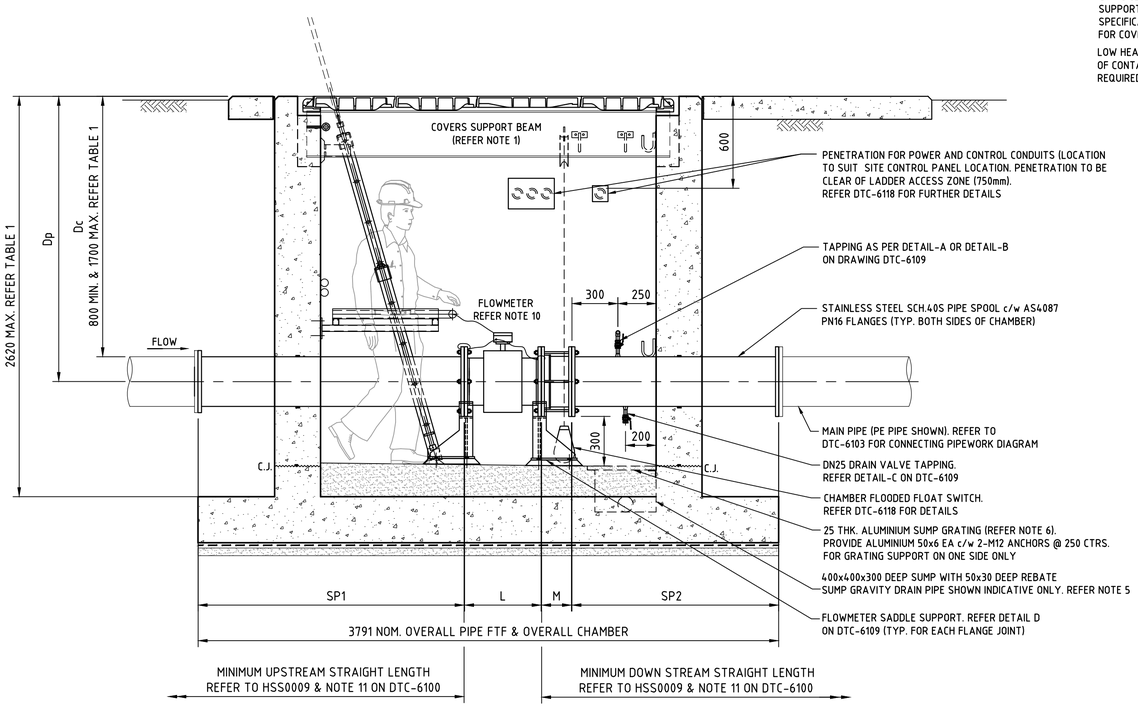
ISSUE	DATE
B	**30/11/24**

A1



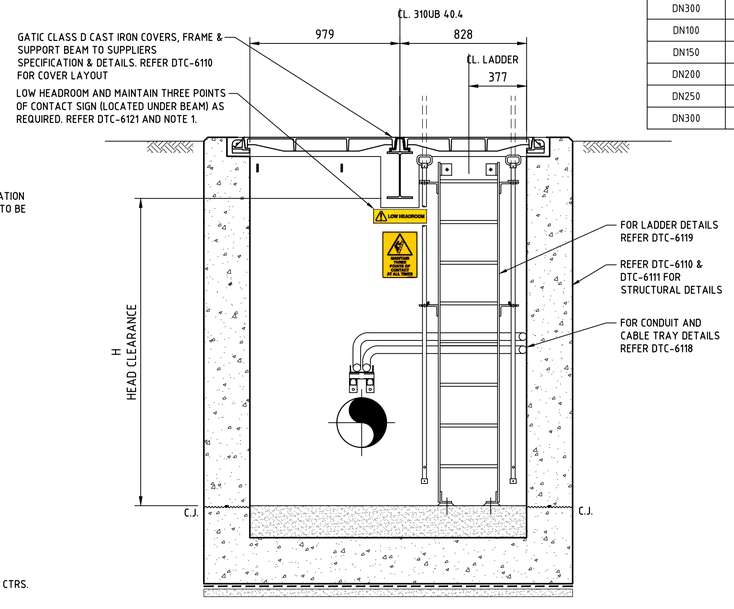
PLAN
SCALE 1:20

(COVERS REMOVED FOR CLARITY.
FOR DETAILS REFER STRUCTURAL DRAWINGS)



SECTION 1
SCALE 1:20

0 200 400 600 800 1000 1200 1400 1600 1800 2000mm
SCALE 1:20 AT ORIGINAL SIZE



SECTION 2
SCALE 1:20

THIS DRAWING MAY ONLY BE USED IN THE COURSE OF AND FOR THE PURPOSE OF CREATING SYDNEY WATER ASSETS. USE THIS DRAWING WITH CARE. THE USER IS RESPONSIBLE FOR THE CORRECT APPLICATION OF THIS DRAWING.

NOTES:

1. WHERE HEAD CLEARANCE OF 2000mm IS NOT AVAILABLE, PROVIDE LOW HEADROOM WARNING SIGN. SUPPORT BEAM MUST BE REMOVED TO MITIGATE HEAD CLEARANCE RISK.
2. TEMPORARY SUPPORT ON THE FLOWMETER BODY IS NOT PERMITTED. REFER DTC-6109 FOR FLOWMETER SADDLE SUPPORT DETAILS.
3. REFER TO DRAWING DTC-6100 AND DTC-6101 FOR GENERAL NOTES.
4. REFER TO DRAWING DTC-6103 FOR TYPICAL SITE LAYOUT.
5. REFER TO HSS0005 FOR SUMP DRAINAGE REQUIREMENTS. DESIGNER TO PROVIDE DISCHARGE OUTLET DETAILS IN THE DESIGN DRAWINGS. CHAMBERS TO BE PROVIDED WITH GRAVITY DRAIN FROM SUMP INVERT WITH DN100 (MIN.) PVC-U TO AS1260 WHERE SITE LAYOUT PERMITS. PERMANENT SUMP PUMPS (IF REQUIRED) ARE TO BE IN ACCORDANCE WITH DETAILS ON DTC-6411 COMPLETE WITH PIPE PENETRATIONS.
6. PROVIDE GRATING WHERE SUMP PUMP IS NOT INSTALLED. GRATING TO BE FITTED OVER SUMP DURING ACCESS, OTHERWISE SUMP TO REMAIN WITHOUT GRATING TO ALLOW FOR THE TEMPORARY SUMP PUMP TO BE LOWERED IN FROM OUTSIDE OF THE CHAMBER. PROVIDE A HOOK ON WALL FOR STORING GRATE INSIDE CHAMBER.
7. THE PERMANENT ACCESS LADDER IS TO BE PROVIDED WITH A LEVEL HARDSTAND LANDING 600x600mm IN ACCORDANCE WITH AS1657.
8. ALL CABLE CONDUITS WITHIN THE CHAMBER TO BE 50mm LIGHT DUTY PVC (RIGID)
9. CHAMBERS INSTALLED WITH LIGHT WEIGHT COVERS IN FENCED FACILITIES TO BE FITTED WITH PERMANENT ACCESS LADDER STANCHION TO DETAIL H DTC-6035 AND INCLINED RUNG LADDER TO DTC-6036 (IN LIEU OF RETRACTABLE HANDRAIL LADDER DETAILED IN DTC-6119).
10. STAINLESS STEEL GROUNDING RINGS & GASKETS ON EACH FLOWMETER FLANGES TO BE PROVIDED IN ACCORDANCE WITH HSS0005.
11. FOR PIPING FLANGE GASKET DETAILS REFER TO PIPING NOTE P2 ON DTC-6101.
12. PIPE ARRANGEMENT SHOWN ON DRAWING USES DN300 PIPE SIZE FOR LARGEST INSTALLATION. ADJUSTMENT OF SPOOL SIZES AS PER TABLE 2 REQUIRED.
13. EXTERNAL CORROSION PROTECTION TO BE PROVIDED FOR ALL BURIED PIPE FLANGES IN ACCORDANCE WITH DTC-1145.
14. SHOULD THE PIPE COVER BE LESS THAN THE RANGE IN TABLE 1, THE DESIGNER MAY CONSIDER ALTERNATIVES SUCH AS LOWERING THE UPSTREAM AND DOWNSTREAM PIPES IF THEY INTEND TO USE THIS DTC.

CHAMBER DEPTH AND PIPE COVER DETAILS - TABLE 1

PIPE SIZE	PIPE COVER RANGE (mm) "Dc" (REFER NOTE 14)	PIPE CHAMBER PENETRATION CENTRELINE DEPTH (mm) "Dp"	CHAMBER BASE SLAB DEPTH (mm) "D"	MEETS MINIMUM HEAD CLEARANCE (2000mm) "H"
DN100	800-1200	Dc + 57	Dc + 685	NO
DN150	800-1200	Dc + 84	Dc + 744	NO
DN200	800-1200	Dc + 110	Dc + 797	NO
DN250	800-1200	Dc + 137	Dc + 835	NO
DN300	800-1200	Dc + 162	Dc + 910	NO
DN100	1250-1700	Dc + 57	2620	YES
DN150	1250-1700	Dc + 84	2620	YES
DN200	1250-1700	Dc + 110	2620	YES
DN250	1250-1700	Dc + 137	2620	YES
DN300	1250-1700	Dc + 162	MAX. 2620	YES

PIPE SPOOL LENGTH - TABLE 2

FLOWMETER DN	"SP1" PIPE SPOOL LENGTH (mm) (SEE NOTE b)	"SP2" PIPE SPOOL LENGTH (mm)
100	1987	1300
150	1937	1300
200	1887	1300
250	1787	1300
300	1737	1300

NOTES:
- a. DIMENSIONS PROVIDED TO SUIT FLOWMETER AND DJ FACE TO FACE DIMENSIONS IN ACCORDANCE WITH TABLE NOTE G1 ON DTC-6101.
- b. PIPE SPOOL "SP1" LENGTH VARIES AND MUST BE ADJUSTED TO SUIT FINAL DJ AND FLOWMETER DIMENSIONS.
- c. SLIP-ON FLANGES TO BE TACK WELDED ON SITE TO SUIT SITE CONDITIONS. FULL WELDING AND PRESSURE TESTING TO BE CARRIED OUT IN THE FACTORY.

MK. No.	DESCRIPTION	No. OFF	MAT'L	SPECIFICATION
5	FLOWMETER GROUNDING RINGS, 1.5mm THK. TO SUIT AS4087 PN16 FLANGE, SUPPLIED WITH FLOWMETER	2	316 S.S.	ASTM A240-316
4	FL-FL PIPE, SCH. 40S, SLIP-ON FLANGES TO AS4087 PN16 c/w BRANCH TAPPINGS AS PER DETAILS. (REFER TABLE 2 FOR SP2 DIMENSION)	1	316 S.S.	ASTM A312-TP316, ASME B36.19
3	FL-FL PIPE, SCH. 40S, SLIP-ON FLANGES TO AS4087 PN16 (REFER TABLE 2 FOR SP1 DIMENSION)	1	316 S.S.	ASTM A312-TP316, ASME B36.19
2	DISMANTLING JOINT, PN16, THRUST TYPE, AS4087 PN16	1	DI	REFER NOTE G1 ON DTC-6101
1	FL-FL ELECTROMAGNETIC FLOWMETER, AS4087 PN16	1	-	REFER HS0005-SW I&C FLOWMETER STD. & NOTE G1 ON DTC-6101

MATERIALS LIST

Sydney WATER

APPROVED

NORBERT SCHAEPER

ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

DEEMED TO COMPLY DRAWINGS

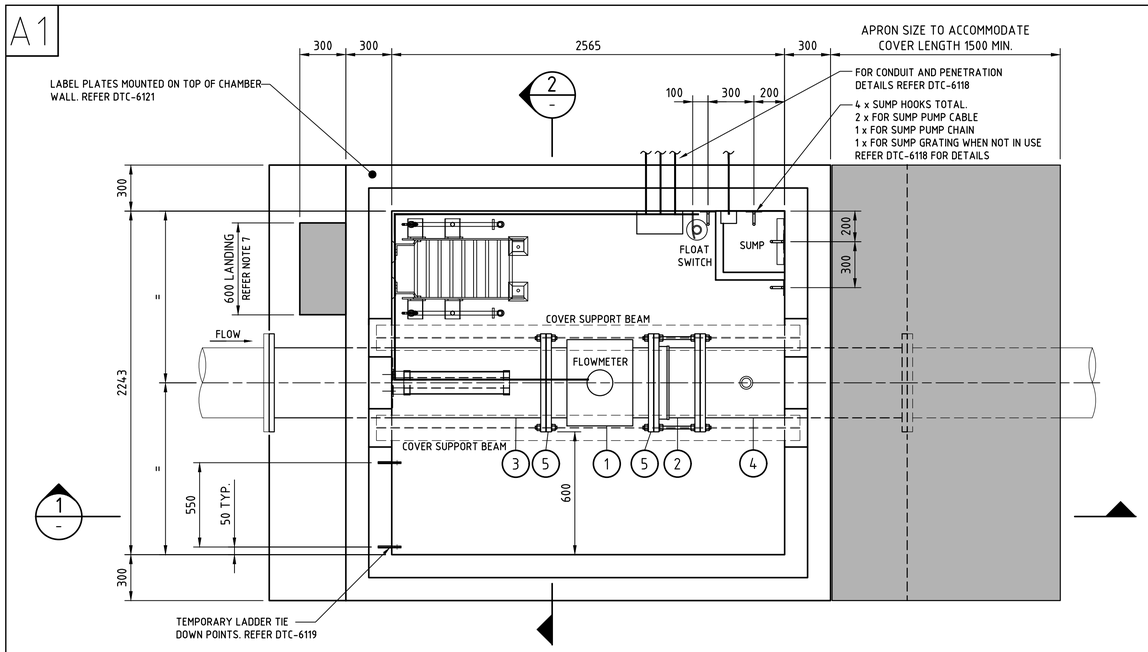
FLOWMETER INSTALLATION
DN100 TO DN300 MAGNETIC FLOWMETER CHAMBER
GENERAL ARRANGEMENT

DTC

6105

ISSUE	DATE
A	30/11/24

A1



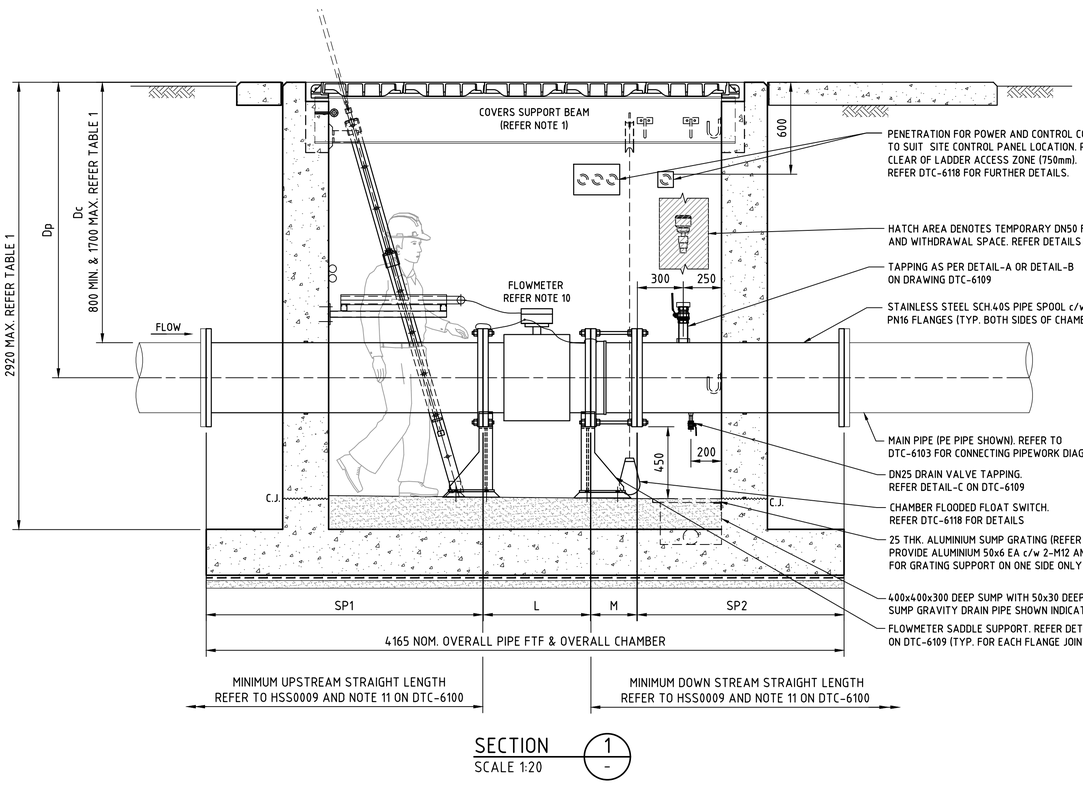
PLAN
SCALE 1:20 (COVERS REMOVED FOR CLARITY. FOR DETAILS REFER STRUCTURAL DRAWINGS)

NOTES:

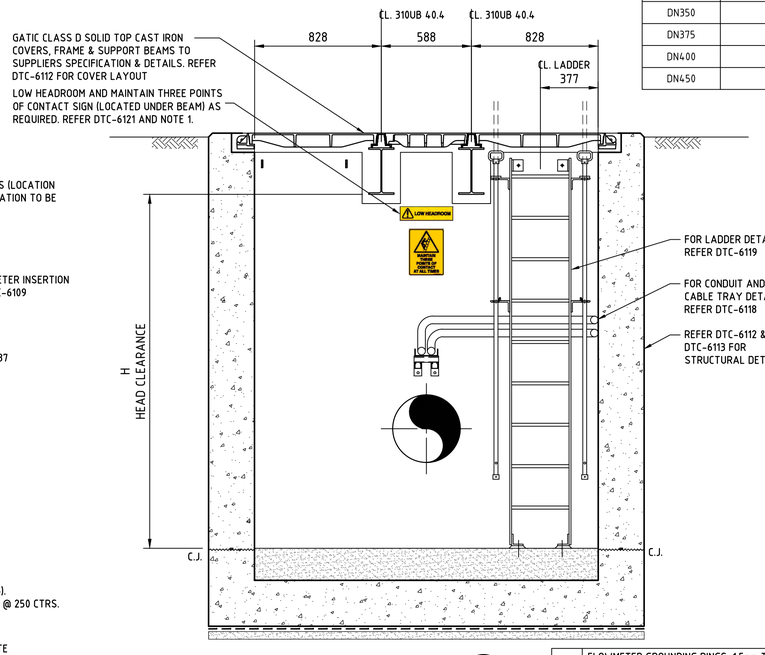
1. WHERE HEAD CLEARANCE OF 2000mm IS NOT AVAILABLE, PROVIDE LOW HEADROOM WARNING SIGN. SUPPORT BEAMS MUST BE REMOVED IN ORDER TO MITIGATE HEAD CLEARANCE RISK.
2. TEMPORARY SUPPORT ON THE FLOWMETER BODY IS NOT PERMITTED. REFER DTC-6109 FOR FLOWMETER SADDLE SUPPORT DETAILS.
3. REFER TO DRAWING DTC-6100 AND DTC-6101 FOR GENERAL NOTES.
4. REFER TO DRAWING DTC-6103 FOR TYPICAL SITE LAYOUT.
5. REFER TO HSS0005 FOR SUMP DRAINAGE REQUIREMENTS. DESIGNER TO PROVIDE DISCHARGE OUTLET DETAILS IN THE DESIGN DRAWINGS. CHAMBERS TO BE PROVIDED WITH GRAVITY DRAIN FROM SUMP INVERT WITH DN100 (MIN.) PVC-U TO AS1260 WHERE SITE LAYOUT PERMITS. PERMANENT SUMP PUMPS (IF REQUIRED) ARE TO BE IN ACCORDANCE WITH DETAILS ON DTC-6411 COMPLETE WITH PIPE PENETRATIONS.
6. PROVIDE GRATING WHERE SUMP PUMP IS NOT INSTALLED. GRATING TO BE FITTED OVER SUMP DURING ACCESS, OTHERWISE SUMP TO REMAIN WITHOUT GRATING TO ALLOW FOR THE TEMPORARY SUMP PUMP TO BE LOWERED IN FROM OUTSIDE OF THE CHAMBER. PROVIDE A HOOK ON WALL FOR STORING GRATE INSIDE CHAMBER.
7. THE PERMANENT ACCESS LADDER IS TO BE PROVIDED WITH A LEVEL HARDSTAND LANDING 600x600mm IN ACCORDANCE WITH AS1657.
8. ALL CABLE CONDUITS WITHIN THE CHAMBER TO BE 50mm LIGHT DUTY PVC (RIGID)
9. CHAMBERS INSTALLED WITH LIGHT WEIGHT COVERS IN FENCED FACILITIES TO BE FITTED WITH PERMANENT ACCESS LADDER STANCHION TO DETAIL H DTC-6035 AND INCLINED RUNG LADDER TO DTC-6036 (IN LIEU OF RETRACTABLE HANDRAIL LADDER DETAILED IN DTC-6119).
10. STAINLESS STEEL GROUNDING RINGS & GASKETS ON EACH FLOWMETER FLANGES TO BE PROVIDED IN ACCORDANCE WITH HSS0005.
11. FOR PIPING FLANGE GASKET DETAILS REFER TO PIPING NOTE P2 ON DTC-6101.
12. PIPE ARRANGEMENT SHOWN ON DRAWING USES DN450 PIPE SIZE FOR LARGEST INSTALLATION. ADJUSTMENT OF SPOOL SIZES AS PER TABLE 2 REQUIRED.
13. EXTERNAL CORROSION PROTECTION TO BE PROVIDED FOR ALL BURIED PIPE FLANGES IN ACCORDANCE WITH DTC-1145.
14. SHOULD THE PIPE COVER BE LESS THAN THE RANGE IN TABLE 1, THE DESIGNER MAY CONSIDER ALTERNATIVES SUCH AS LOWERING THE UPSTREAM AND DOWNSTREAM PIPES IF THEY INTEND TO USE THIS DTC.

CHAMBER DEPTH AND PIPE COVER DETAILS - TABLE 1

PIPE SIZE	PIPE COVER RANGE (mm) "Dc" (REFER NOTE 14)	PIPE CHAMBER PENETRATION CENTRELINE DEPTH (mm) "Dp"	CHAMBER BASE SLAB DEPTH (mm) "D"	MEETS MINIMUM HEAD CLEARANCE (2000mm) "H"
DN350	800-1200	Dc + 179	Dc + 1110	NO
DN375	800-1200	Dc + 203	Dc + 1163	NO
DN400	800-1200	Dc + 203	Dc + 1163	NO
DN450	800-1200	Dc + 229	Dc + 1220	NO
DN350	1250-1700	Dc + 179	2920	YES
DN375	1250-1700	Dc + 203	2920	YES
DN400	1250-1700	Dc + 203	2920	YES
DN450	1250-1700	Dc + 229	MAX. 2920	YES



SECTION 1 / - SCALE 1:20



SECTION 2 / - SCALE 1:20

0 200 400 600 800 1000 1200 1400 1600 1800 2000mm
SCALE 1:20 AT ORIGINAL SIZE

PIPE SPOOL LENGTH - TABLE 2

FLOWMETER DN	"SP1" PIPE SPOOL LENGTH (mm) (SEE NOTE b)	"SP2" PIPE SPOOL LENGTH (mm)
350	1956	1300
375	1906	1300
400	1906	1300
450	1806	1300

NOTES:
a. DIMENSIONS PROVIDED TO SUIT FLOWMETER AND DJ FACE TO FACE DIMENSIONS IN ACCORDANCE WITH TABLE NOTE G1 ON DTC-6101.
b. DN375 FLOWMETER IS TO USE DN400 SCH.40S PIPE WITH DN375 AS4087 FLANGES. DN375 DICL PIPE HAS A SIMILAR ID TO DN400 SCH.40S PIPE. DN375 FLOWMETERS ARE GENERALLY DN400 FLOWMETERS WITH FLANGES DRILLED TO SUIT DN375 AS4087.
c. PIPE SPOOL "SP1" LENGTH VARIES AND MUST BE ADJUSTED TO SUIT FINAL DJ AND FLOWMETER DIMENSIONS.
d. SLIP-ON FLANGES TO BE TACK WELDED ON SITE TO SUIT SITE CONDITIONS. FULL WELDING AND PRESSURE TESTING TO BE CARRIED OUT IN THE FACTORY.

MK. No.	DESCRIPTION	No. OFF	MAT'L	SPECIFICATION
5	FLOWMETER GROUNDING RINGS, 1.5mm THK. TO SUIT AS4087 PN16 FLANGE, SUPPLIED WITH FLOWMETER	2	316 S.S.	ASTM A240-316
4	FL-FL PIPE, SCH. 40S, SLIP-ON FLANGES TO AS4087 PN16 c/w BRANCH TAPPINGS AS PER DETAILS. (REFER TABLE 2 FOR SP2 DIMENSION)	1	316 S.S.	ASTM A312-TP316, ASME B36.19
3	FL-FL PIPE, SCH. 40S, SLIP-ON FLANGES TO AS4087 PN16 (REFER TABLE 2 FOR SP1 DIMENSION)	1	316 S.S.	ASTM A312-TP316, ASME B36.19
2	DISMANTLING JOINT, PN16, THRUST TYPE, AS4087 PN16	1	DI	REFER NOTE G1 ON DTC-6101
1	FL-FL ELECTROMAGNETIC FLOWMETER, AS4087 PN16	1	-	REFER HS0005-SW I&C FLOWMETER STD. & NOTE G1 ON DTC-6101

MATERIALS LIST

Sydney WATER

APPROVED
NORBERT SCHAEPER
ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

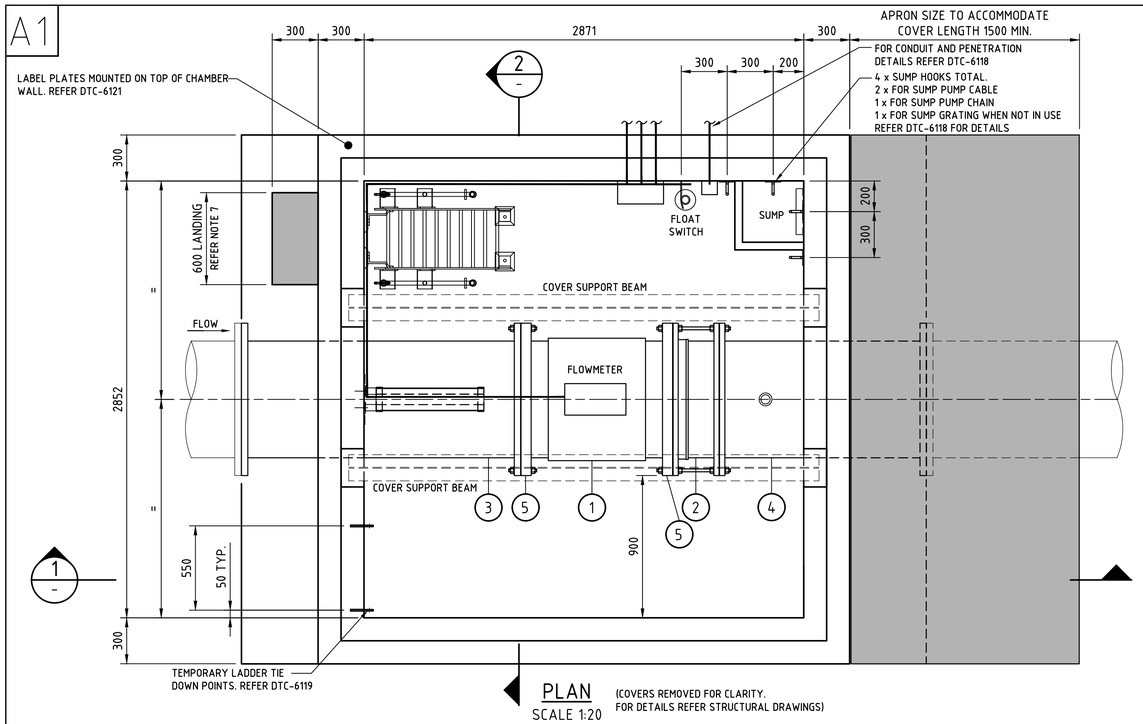
DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION
DN350 TO DN450 MAGNETIC FLOWMETER CHAMBER
GENERAL ARRANGEMENT

DTC
6106

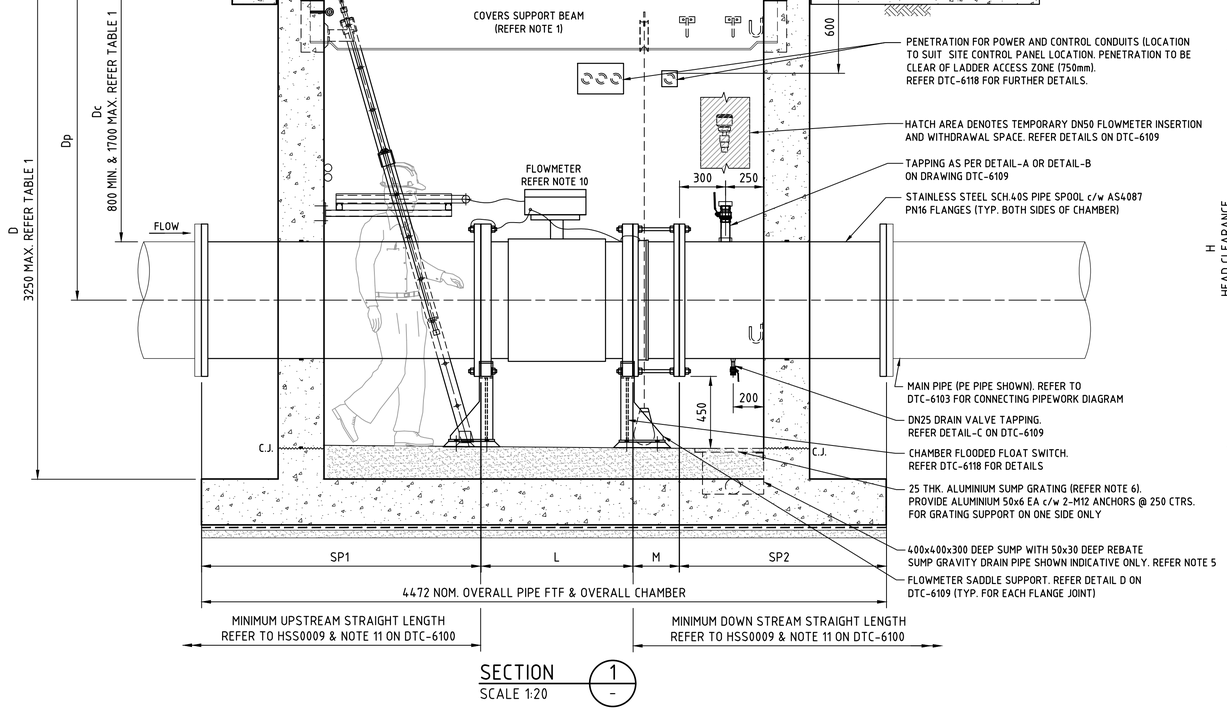
ISSUE	DATE
A	30/11/24

A1

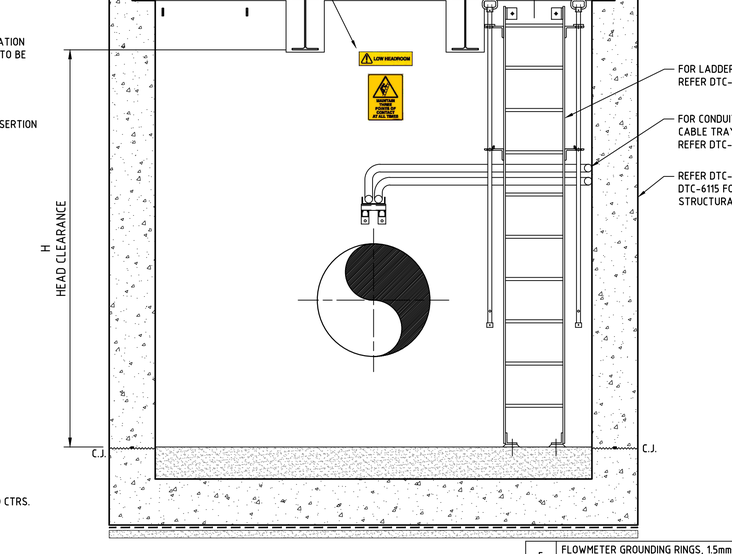


PLAN
SCALE 1:20

(COVERS REMOVED FOR CLARITY. FOR DETAILS REFER STRUCTURAL DRAWINGS)



SECTION 1
SCALE 1:20



SECTION 2
SCALE 1:20

0 200 400 600 800 1000 1200 1400 1600 1800 2000mm
SCALE 1:20 AT ORIGINAL SIZE

THIS DRAWING MAY ONLY BE USED IN THE COURSE OF AND FOR THE PURPOSE OF CREATING SYDNEY WATER ASSETS. USE THIS DRAWING WITH CARE. THE USER IS RESPONSIBLE FOR THE CORRECT APPLICATION OF THIS DRAWING.

NOTES:

1. WHERE HEAD CLEARANCE OF 2000mm IS NOT AVAILABLE, PROVIDE LOW HEADROOM WARNING SIGN. SUPPORT BEAMS MUST BE REMOVED TO MITIGATE HEAD CLEARANCE RISK.
2. TEMPORARY SUPPORT ON THE FLOWMETER BODY IS NOT PERMITTED. REFER DTC-6109 FOR FLOWMETER SADDLE SUPPORT DETAILS.
3. REFER TO DRAWING DTC-6100 AND DTC-6101 FOR GENERAL NOTES.
4. REFER TO DRAWING DTC-6103 FOR TYPICAL SITE LAYOUT.
5. REFER TO HSS0005 FOR SUMP DRAINAGE REQUIREMENTS. DESIGNER TO PROVIDE DISCHARGE OUTLET DETAILS IN THE DESIGN DRAWINGS. CHAMBERS TO BE PROVIDED WITH GRAVITY DRAIN FROM SUMP INVERT WITH DN100 (MIN.) PVC-U TO AS1260 WHERE SITE LAYOUT PERMITS. PERMANENT SUMP PUMPS (IF REQUIRED) ARE TO BE IN ACCORDANCE WITH DETAILS ON DTC-6411 COMPLETE WITH PIPE PENETRATIONS.
6. PROVIDE GRATING WHERE SUMP PUMP IS NOT INSTALLED. GRATING TO BE FITTED OVER SUMP DURING ACCESS, OTHERWISE SUMP TO REMAIN WITHOUT GRATING TO ALLOW FOR THE TEMPORARY SUMP PUMP TO BE LOWERED IN FROM OUTSIDE OF THE CHAMBER. PROVIDE A HOOK ON WALL FOR STORING GRATE INSIDE CHAMBER.
7. THE PERMANENT ACCESS LADDER IS TO BE PROVIDED WITH A LEVEL HARDSTAND LANDING 600x600mm IN ACCORDANCE WITH AS1657.
8. ALL CABLE CONDUITS WITHIN THE CHAMBER TO BE 50mm LIGHT DUTY PVC (RIGID)
9. CHAMBERS INSTALLED WITH LIGHT WEIGHT COVERS IN FENCED FACILITIES TO BE FITTED WITH PERMANENT ACCESS LADDER STANCHION TO DETAIL H DTC-6035 AND INCLINED RUNG LADDER TO DTC-6036 (IN LIEU OF RETRACTABLE HANDRAIL LADDER DETAILED IN DTC-6119).
10. STAINLESS STEEL GROUNDING RINGS & GASKETS ON EACH FLOWMETER FLANGES TO BE PROVIDED IN ACCORDANCE WITH HSS0005.
11. FOR PIPING FLANGE GASKET DETAILS REFER TO PIPING NOTE P2 ON DTC-6101.
12. PIPE ARRANGEMENT SHOWN ON DRAWING USES DN750 PIPE SIZE FOR LARGEST INSTALLATION. ADJUSTMENT OF SPOOL SIZES AS PER TABLE 2 REQUIRED.
13. EXTERNAL CORROSION PROTECTION TO BE PROVIDED FOR ALL BURIED PIPE FLANGES IN ACCORDANCE WITH DTC-1145.
14. SHOULD THE PIPE COVER BE LESS THAN THE RANGE IN TABLE 1, THE DESIGNER MAY CONSIDER ALTERNATIVES SUCH AS LOWERING THE UPSTREAM AND DOWNSTREAM PIPES IF THEY INTEND TO USE THIS DTC.

CHAMBER DEPTH AND PIPE COVER DETAILS - TABLE 1

PIPE SIZE	PIPE COVER RANGE (mm) "Dc" (REFER NOTE 14)	PIPE CHAMBER PENETRATION CENTRELINE DEPTH (mm) "Dp"	CHAMBER BASE SLAB DEPTH (mm) "D"	MEETS MINIMUM HEAD CLEARANCE (2000mm) "H"
DN500	800-1250	Dc + 254	2540	NO
DN600	800-1150	Dc + 305	2540	NO
DN750	800-1000	Dc + 381	2540	NO
DN500	1300-1700	Dc + 254	MAX. 3250	YES
DN600	1200-1700	Dc + 305	MAX. 3250	YES
DN750	1050-1700	Dc + 381	MAX. 3250	YES

PIPE SPOOL LENGTH - TABLE 2

FLOWMETER DN	"SP1" PIPE SPOOL LENGTH (mm) (SEE NOTE b)	"SP2" PIPE SPOOL LENGTH (mm)
500	2112	1300
600	2112	1300
750	1822	1300

NOTES:
a. DIMENSIONS PROVIDED TO SUIT FLOWMETER AND DJ FACE TO FACE DIMENSIONS IN ACCORDANCE WITH TABLE NOTE G1 ON DTC-6101.
b. PIPE SPOOL "SP1" LENGTH VARIES AND MUST BE ADJUSTED TO SUIT FINAL DJ AND FLOWMETER DIMENSIONS.
c. SLIP-ON FLANGES TO BE TACK WELDED ON SITE TO SUIT SITE CONDITIONS. FULL WELDING AND PRESSURE TESTING TO BE CARRIED OUT IN THE FACTORY.

MK. No.	DESCRIPTION	No. OFF	MAT'L	SPECIFICATION
5	FLOWMETER GROUNDING RINGS, 1.5mm THK. TO SUIT AS4087 PN16 FLANGE, SUPPLIED WITH FLOWMETER	2	316 S.S.	ASTM A240-316
4	FL-FL PIPE, SCH. 40S, SLIP-ON FLANGES TO AS4087 PN16 c/w BRANCH TAPPINGS AS PER DETAILS. (REFER TABLE 2 FOR SP2 DIMENSION)	1	316 S.S.	ASTM A312-TP316, ASME B36.19
3	FL-FL PIPE, SCH. 40S, SLIP-ON FLANGES TO AS4087 PN16 (REFER TABLE 2 FOR SP1 DIMENSION)	1	316 S.S.	ASTM A312-TP316, ASME B36.19
2	DISMANTLING JOINT, PN16, THRUST TYPE, AS4087 PN16	1	DI	REFER NOTE G1 ON DTC-6101
1	FL-FL ELECTROMAGNETIC FLOWMETER, AS4087 PN16	1	-	REFER HS0005-SW I&C FLOWMETER STD. & NOTE G1 ON DTC-6101

MATERIALS LIST

Sydney WATER

APPROVED
NORBERT SCHAEPER
ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

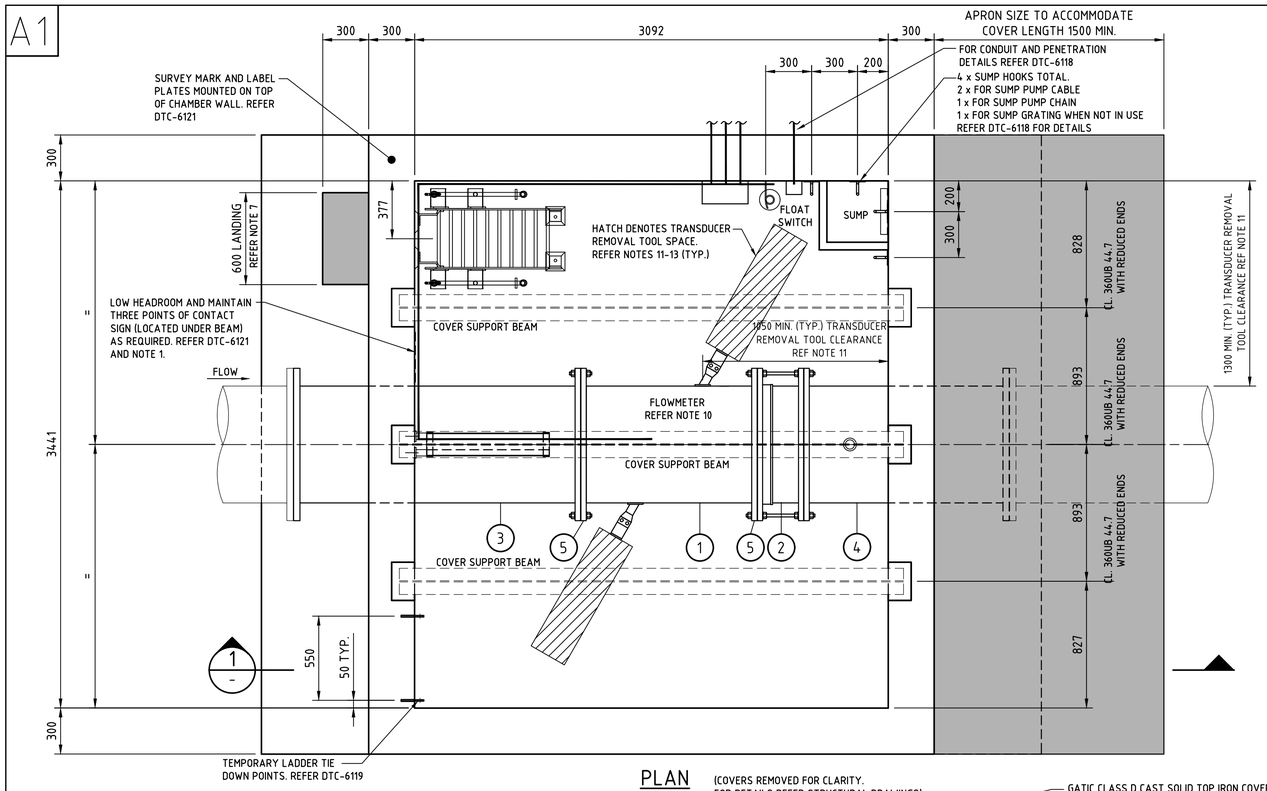
DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION
DN500 TO DN750 MAGNETIC FLOWMETER CHAMBER
GENERAL ARRANGEMENT

DTC
6107

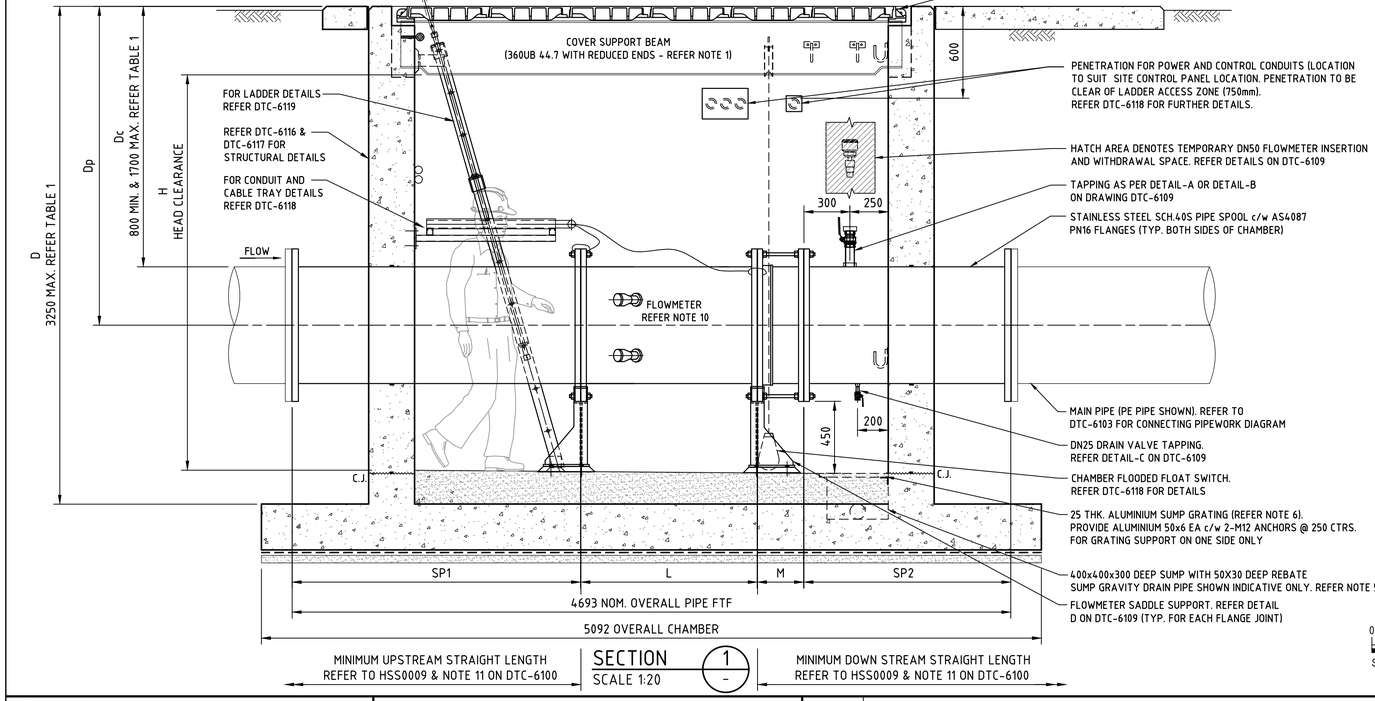
ISSUE	DATE
A	30/11/24

A1



PLAN
SCALE 1:20

(COVERS REMOVED FOR CLARITY. FOR DETAILS REFER STRUCTURAL DRAWINGS)



SECTION 1 / - SCALE 1:20

0 200 400 600 800 1000 1200 1400 1600 1800 2000mm
SCALE 1:20 AT ORIGINAL SIZE

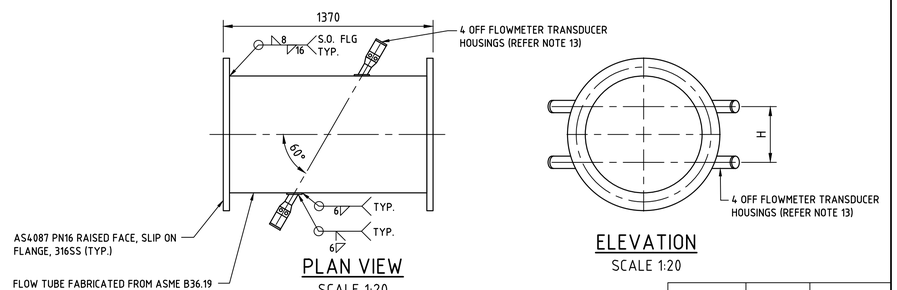
PIPE SPOOL LENGTH - TABLE 2

FLOWMETER DN	"SP1" PIPE SPOOL LENGTH (mm)	"SP2" PIPE SPOOL LENGTH (mm)
600	1759	1300
750	1859	1300

NOTES:
a. DIMENSIONS PROVIDED TO SUIT DJ FACE TO FACE DIMENSIONS IN ACCORDANCE WITH TABLE NOTE G1 ON DTC-6101.
b. SLIP-ON FLANGES TO BE TACK WELDED ON SITE TO SUIT SITE CONDITIONS. FULL WELDING AND PRESSURE TESTING TO BE CARRIED OUT IN THE FACTORY.

NOTES:

1. WHERE HEAD CLEARANCE OF 2000mm IS NOT AVAILABLE, PROVIDE LOW HEADROOM WARNING SIGN. SUPPORT BEAMS MUST BE REMOVED TO MITIGATE HEAD CLEARANCE RISK.
2. TEMPORARY SUPPORT ON THE FLOWMETER BODY IS NOT PERMITTED. REFER DTC-6109 FOR FLOWMETER SADDLE SUPPORT DETAILS.
3. REFER TO DRAWING DTC-6100 AND DTC-6101 FOR GENERAL NOTES.
4. REFER TO DRAWING DTC-6103 FOR TYPICAL SITE LAYOUT.
5. REFER TO HSS0005 FOR SUMP DRAINAGE REQUIREMENTS. DESIGNER TO PROVIDE DISCHARGE OUTLET DETAILS IN THE DESIGN DRAWINGS. CHAMBERS TO BE PROVIDED WITH GRAVITY DRAIN FROM SUMP INVERT WITH DN100 (MIN.) PVC-U TO AS1260 WHERE SITE LAYOUT PERMITS. PERMANENT SUMP PUMPS (IF REQUIRED) ARE TO BE IN ACCORDANCE WITH DETAILS ON DTC-6411 COMPLETE WITH PIPE PENETRATIONS.
6. PROVIDE GRATING WHERE SUMP PUMP IS NOT INSTALLED. GRATING TO BE FITTED OVER SUMP DURING ACCESS, OTHERWISE SUMP TO REMAIN WITHOUT GRATING TO ALLOW FOR THE TEMPORARY SUMP PUMP TO BE LOWERED IN FROM OUTSIDE OF THE CHAMBER. PROVIDE A HOOK ON WALL FOR STORING GRATE INSIDE CHAMBER.
7. THE PERMANENT ACCESS LADDER IS TO BE PROVIDED WITH A LEVEL HARDSTAND LANDING 600x600mm IN ACCORDANCE WITH AS1657.
8. ALL CABLE CONDUITS WITHIN THE CHAMBER TO BE 50mm LIGHT DUTY PVC (RIGID)
9. CHAMBERS INSTALLED WITH LIGHT WEIGHT COVERS IN FENCED FACILITIES TO BE FITTED WITH PERMANENT ACCESS LADDER STANCHION TO DETAIL H DTC-6035 AND INCLINED RUNG LADDER TO DTC-6036 (IN LIEU OF RETRACTABLE HANDRAIL LADDER DETAILED IN DTC-6119).
10. STAINLESS STEEL GROUNDING RINGS & GASKETS ON EACH FLOWMETER FLANGES TO BE PROVIDED IN ACCORDANCE WITH HSS0005.
11. HOT TAPPING TRANSDUCER REMOVAL TOOL CLEARANCE REQUIREMENT MEASURED FROM CONNECTION OF HOUSING CL. ON PIPE SHALL BE OD = 1300mm TO CHAMBER SIDE WALL & 1050mm TO CHAMBER END WALL AS SHOWN. HEIGHT OF CLEARANCE SPACE FROM PIPE CL = PIPE DIA +200mm
12. IF THE TRANSDUCERS ARE TO BE REMOVED, TEMPORARY LADDERS MUST NOT TO BE USED AS TRANSDUCER REMOVAL TOOL IMPEDES SAFE LADDER ACCESS. SAFE ENTRY USING TRIPOD TO BE USED INSTEAD.
13. FLOW TUBE COMPLETE WITH WELDED FLOWMETER TRANSDUCER HOUSINGS AND MOUNTING PLATES IS TO BE SUPPLIED BY THE FLOWMETER SUPPLIER. IT IS TO BE DESIGNED, FABRICATED AND TESTED TO AS4041. FLANGES TO BE RAISED FACE SLIP ON FLANGES TO AS4087 PN16 WELDED TO AS4041 FIG 3.24.4.8 (H) FOR TYPE 6 & 6A FLANGES. FLOW TUBE TO BE SUBJECT TO FACTORY HYDROSTATIC PRESSURE TEST. CERTIFICATE OF COMPLIANCE TO AS4041, COMPLETE WITH MANUFACTURERS DATA REPORT TO BE PROVIDED. FLOW METER TRANSDUCER HOUSING BRANCH WELDS TO BE COMPLIANT WITH AS4041 WITH FULL PENETRATION BRANCH WELDS AS SHOWN UNLESS OTHERWISE AGREED.
14. WHERE A TEMPORARY SUMP PUMP IS REQUIRED, SUMP GRATING TO BE FITTED OVER THE SUMP DURING MAINTENANCE. OTHERWISE SUMP TO REMAIN WITHOUT GRATING TO ALLOW FOR THE TEMPORARY SUMP PUMP TO BE LOWERED IN FROM OUTSIDE OF THE CHAMBER. PROVIDE A HOOK ON WALL FOR STORING GRATE INSIDE CHAMBER.
15. FOR PIPING FLANGE GASKET DETAILS REFER TO PIPING NOTE P2 ON DTC-6101.
16. PIPE ARRANGEMENT SHOWN ON DRAWING USES DN750 PIPE SIZE FOR LARGEST INSTALLATION. ADJUSTMENT OF SPOOL SIZES AS PER TABLE 2 REQUIRED.
17. EXTERNAL CORROSION PROTECTION TO BE PROVIDED FOR ALL BURIED PIPE FLANGES IN ACCORDANCE WITH DTC-1145.
18. SHOULD THE PIPE COVER BE LESS THAN THE RANGE IN TABLE 1, THE DESIGNER MAY CONSIDER ALTERNATIVES SUCH AS LOWERING THE UPSTREAM AND DOWNSTREAM PIPES IF THEY INTEND TO USE THIS DTC.



PLAN VIEW
SCALE 1:20

ELEVATION
SCALE 1:20

ITEM 1 - FLOW TUBE DETAIL

REFER NOTE 13

PIPE SIZE	H	MIN PIPE THK
DN600	294.8	8
DN750	365.5	8

CHAMBER DEPTH AND PIPE COVER DETAILS - TABLE 1

PIPE SIZE	PIPE COVER RANGE (mm) "Dc" (REFER NOTE 18)	PIPE CHAMBER PENETRATION CENTRELINE DEPTH (mm) "Dp"	CHAMBER BASE SLAB DEPTH (mm) "D"	MEETS MINIMUM HEAD CLEARANCE (2000mm) "H"
DN600	800-1150	Dc + 305	2540	NO
DN750	800-1000	Dc + 381	2540	NO
DN600	1200-1700	Dc + 305	MAX. 3250	YES
DN750	1050-1700	Dc + 381	MAX. 3250	YES

MK. No.	DESCRIPTION	No. OFF	MAT'L	SPECIFICATION
5	FLOWMETER GROUNDING RINGS, 1.5mm THK. TO SUIT AS4087 PN16 FLANGE, SUPPLIED WITH FLOWMETER	2	316 S.S.	ASTM A240-316
4	FL-FL PIPE, SCH. 40S, SLIP-ON FLANGES TO AS4087 PN16 c/w BRANCH TAPPINGS AS PER DETAILS. (REFER TABLE 2 FOR SP2 DIMENSION)	1	316 S.S.	ASTM A312-TP316, ASME B36.19
3	FL-FL PIPE, SCH. 40S, SLIP-ON FLANGES TO AS4087 PN16 (REFER TABLE 2 FOR SP1 DIMENSION)	1	316 S.S.	ASTM A312-TP316, ASME B36.19
2	DISMANTLING JOINT, PN16, THRUST TYPE, AS4087 PN16	1	DI	REFER NOTE G1 ON DTC-6101
1	FL-FL FLOW TUBE c/w 4 TRANSDUCER CONNECTIONS, AS4087 PN16	1	316 S.S.	REFER DETAILS ON THIS DRAWING

MATERIALS LIST

Sydney WATER

APPROVED

NORBERT SCHAEPER
ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION
DN600 TO DN750 ULTRASONIC FLOWMETER CHAMBER
GENERAL ARRANGEMENT

DTC
6108

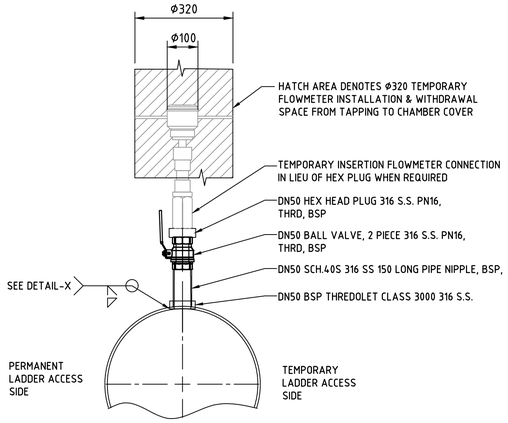
ISSUE	DATE
A	30/11/24

A1

THIS DRAWING MAY ONLY BE USED IN THE COURSE OF AND FOR THE PURPOSE OF CREATING SYDNEY WATER ASSETS. USE THIS DRAWING WITH CARE. THE USER IS RESPONSIBLE FOR THE CORRECT APPLICATION OF THIS DRAWING.

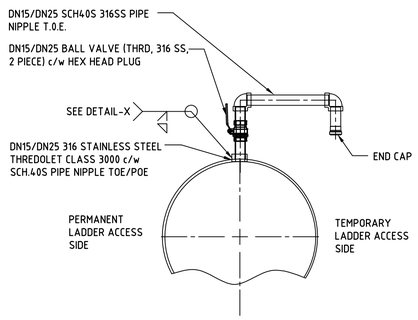
NOTES:

1. REFER TO DRG DTC-6100 & DTC-6101 FOR GENERAL NOTES.
2. FLOWMETER SADDLE SUPPORT ALLOWS FOR A MAXIMUM OF 700mm UNDERSIDE OF FLANGE TO CHAMBER FLOOR (REFER DIM 'A'). IF LAYOUT FALLS OUTSIDE OF THIS, A REINFORCED CONCRETE FOOTING UNDER THE BASE PLATE MUST BE PROVIDED TO SUIT INSTALLATION.



DN50 TEMPORARY INSERTION FLOWMETER (FOR WATER MAINS ≥DN300 ONLY)

DETAIL A
SCALE 1:10

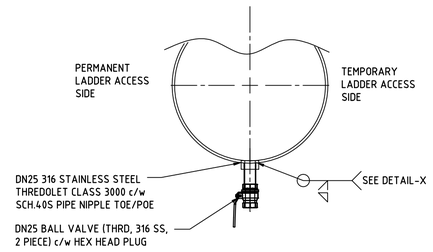


VENT

DETAIL B
SCALE 1:10

FOR WATER APPLICATIONS:
DN15 FOR PIPES ≤DN300
DETAIL-A FOR PIPE ≥DN300

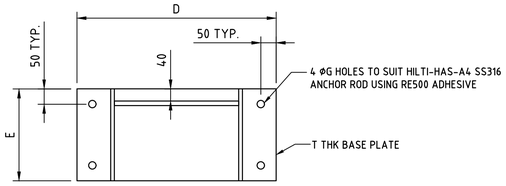
FOR WASTEWATER APPLICATIONS:
DN15 FOR PIPES ≤DN600
DN25 FOR PIPES >DN600



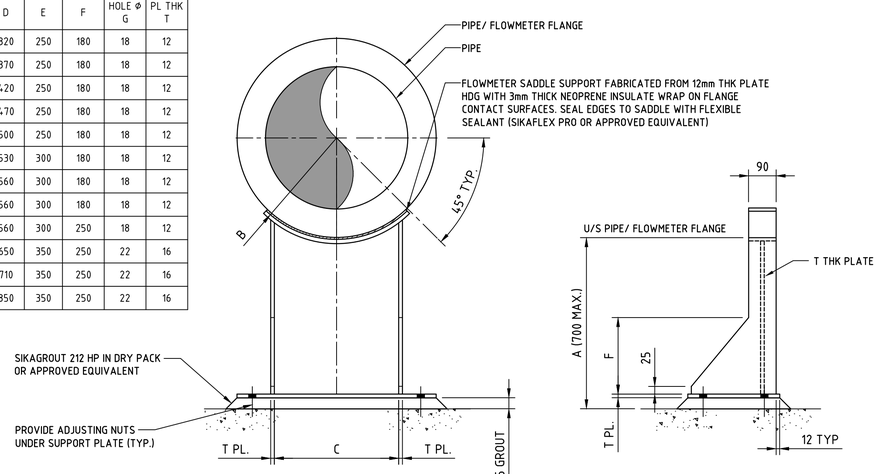
DRAIN

DETAIL C
SCALE 1:10

FLOWMETER SADDLE SUPPORT								
PIPE SIZE	REF. NOTE 2 A	RADIUS B	C	D	E	F	HOLE Ø G	PL THK T
DN100	VARIES	111	100	320	250	180	18	12
DN150	VARIES	143	150	370	250	180	18	12
DN200	VARIES	171	200	420	250	180	18	12
DN250	VARIES	206	250	470	250	180	18	12
DN300	VARIES	231	280	500	250	180	18	12
DN350	VARIES	266	310	530	300	180	18	12
DN375	VARIES	278	340	560	300	180	18	12
DN400	VARIES	293	340	560	300	180	18	12
DN450	VARIES	323	340	560	300	250	18	12
DN500	VARIES	356	400	650	350	250	22	16
DN600	VARIES	416	460	710	350	250	22	16
DN750	VARIES	501	600	850	350	250	22	16



PLAN

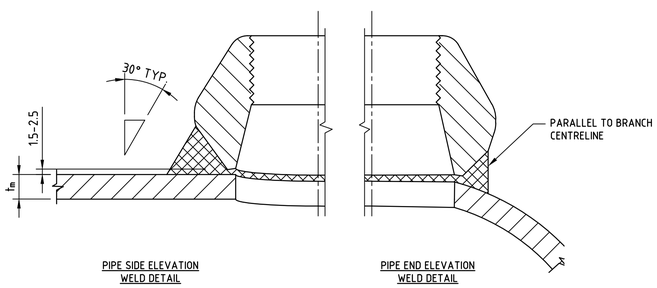


FRONT ELEVATION

SIDE ELEVATION

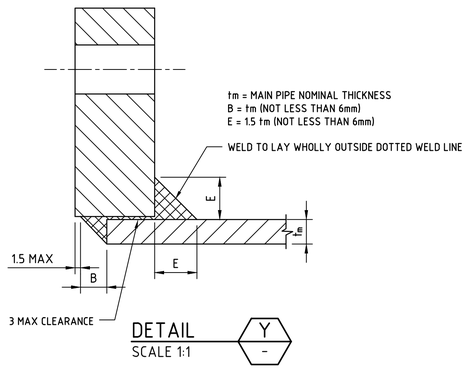
DETAIL D
SCALE 1:10

FLOWMETER SADDLE SUPPORT



DETAIL X
SCALE 1:1

THREDOLET FULL PENETRATION BRANCH WELD PREPARATION



DETAIL Y
SCALE 1:1

SLIP ON FLANGE WELD PREPARATION

0 100 200 300 400 500 600 700 800 900 1000mm
SCALE 1:10 AT ORIGINAL SIZE

Sydney WATER

APPROVED
NORBERT SCHAEPER
ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

DEEMED TO COMPLY DRAWINGS

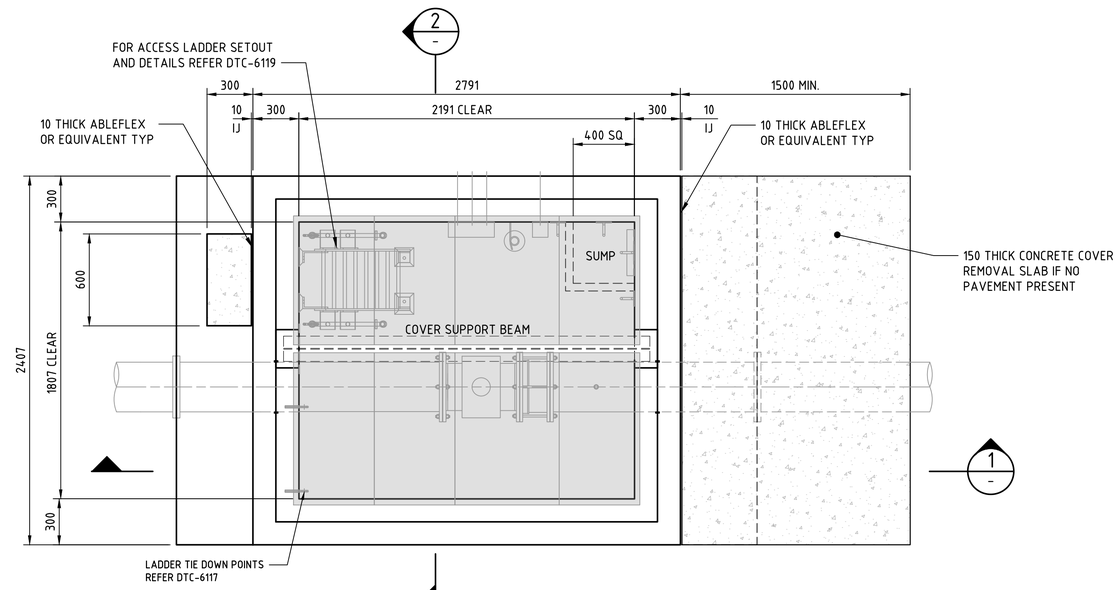
FLOWMETER INSTALLATION TYPICAL PIPEWORK DETAILS

DTC
6109

ISSUE	DATE
A	30/11/24

A1

THIS DRAWING MAY ONLY BE USED IN THE COURSE OF AND FOR THE PURPOSE OF CREATING SYDNEY WATER ASSETS. USE THIS DRAWING WITH CARE. THE USER IS RESPONSIBLE FOR THE CORRECT APPLICATION OF THIS DRAWING.



FLOWMETER CHAMBER PLAN

SCALE 1:20

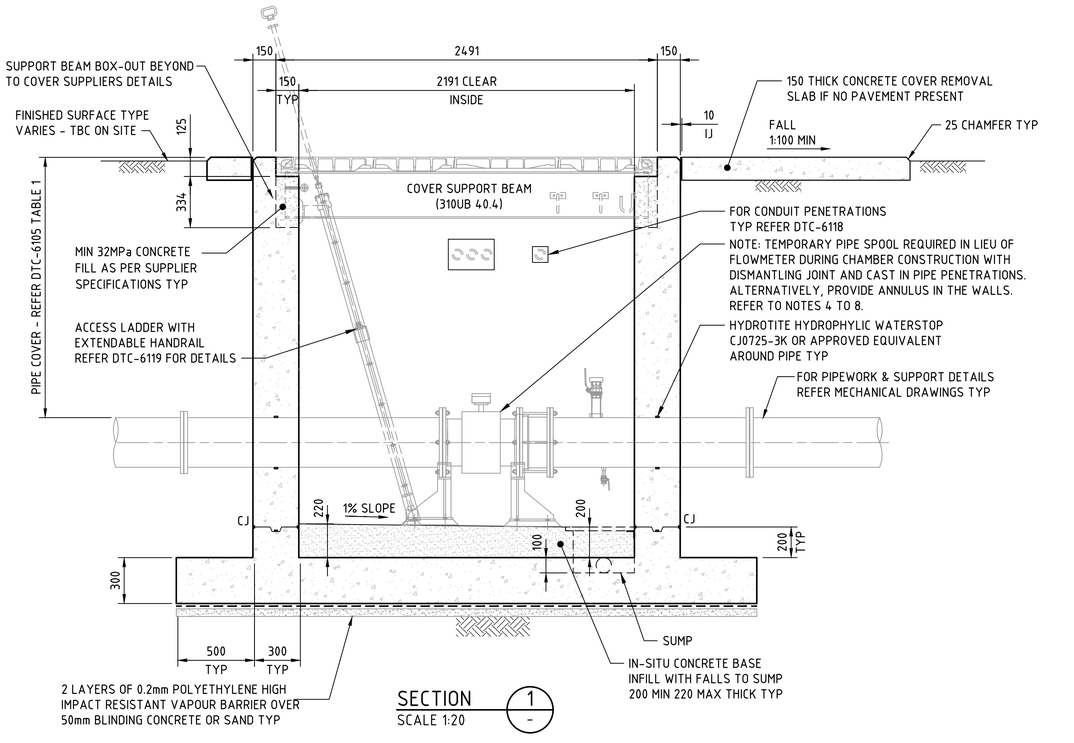
NOTE:
PIPEWORK, SUPPORTS, COVER FRAME & FLOAT SWITCH NOT SHOWN FOR CLARITY

NOTES

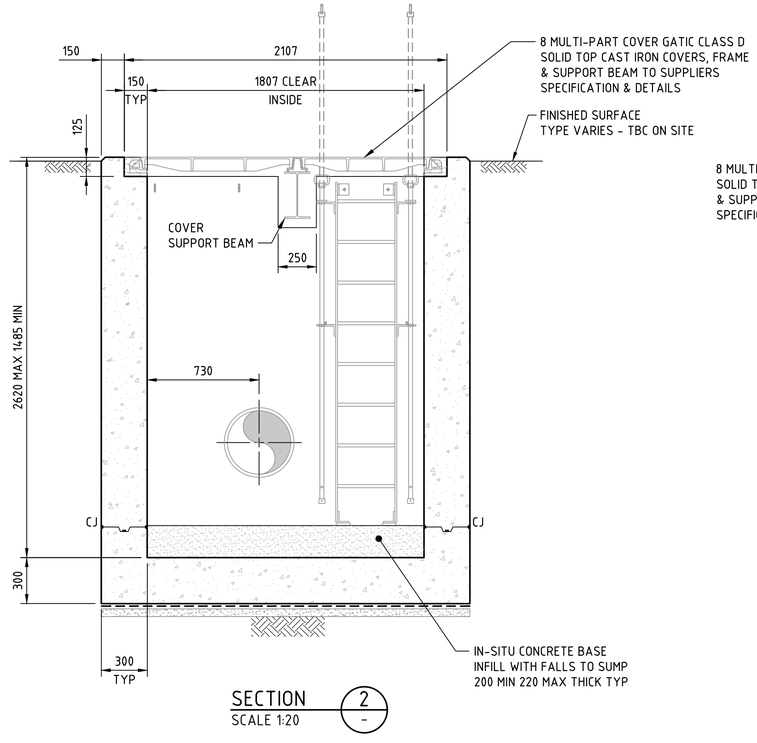
1. REFER TO DRAWING'S DTC-6100 & DTC-6101 FOR GENERAL NOTES.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DTC-6111 AND RELEVANT MECHANICAL DRAWINGS.
3. WHERE LIGHTWEIGHT COVERS ARE USED THE CONCRETE PROFILE AND SUPPORT BEAM BLOCKOUTS FOR COVERS IS TO BE UPDATED TO MATCH THE CAST-IN ANCHORS OF DRAWING DTC-6122.
4. FOR PIPE ≤ DN150, CORE HOLE ON SITE WITH A 75 MIN ANNULUS ROUND. FOR OTHER PIPE SIZES UP TO DN300, PROVIDE A BLOCKOUT ANNULUS 100 MIN AROUND, WITH THE PIPE PENETRATION TRIMMER REINFORCEMENT CAST INTO THE WALLS.
5. SCRABBLE PENETRATION SURFACE TO EXPOSE COARSE AGGREGATE TO 3 DEPTH WITH WIRE BRUSH.
6. INSTALL HYDROTITE HYDROPHYLIC WATERSTOP CJ0725-3K OR APPROVED EQUIVALENT ON THE CORED/ BLOCKOUT SURFACES.
7. COAT SURFACE WITH SIKADUR-32 EPOXY RESIN OR APPROVED EQUIVALENT.
8. FILL ANNULUS WITH SIKADUR-31/41 EPOXY MORTAR OR APPROVED EQUIVALENT WHILE RESIN IS STILL INTACT DURING PIPES INSTALL.

DESIGN DATA LOADS

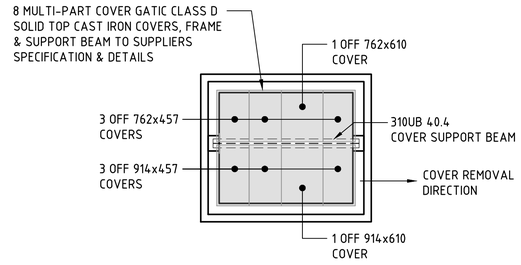
D1. LOADS:
- A. LIVE LOAD ON METAL ACCESS COVERS:
  - SUBJECT TO VEHICULAR TRAFFIC - CLASS D TO AS 3996.
- B. SURCHARGE AROUND STRUCTURES = 20kPa.
- C. GROUND WATER AT SURFACE.



SECTION 1 - SCALE 1:20



SECTION 2 - SCALE 1:20



COVER GENERAL ARRANGEMENT PLAN

SCALE 1:50

COVER SIZE (mm)	MASS (kg)
762 x 457	68
762 x 610	81
914 x 457	84
914 x 610	97

0 200 400 600 800 1000 1200 1400 1600 1800 2000mm
SCALE 1:20 AT ORIGINAL SIZE

0 500 1000 1500 2000 3000 4000 5000mm
SCALE 1:50 AT ORIGINAL SIZE

Sydney WATER

APPROVED
NORBERT SCHAEPER
ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION DN100-300 MAGNETIC FLOWMETER CHAMBER CONCRETE DETAILS

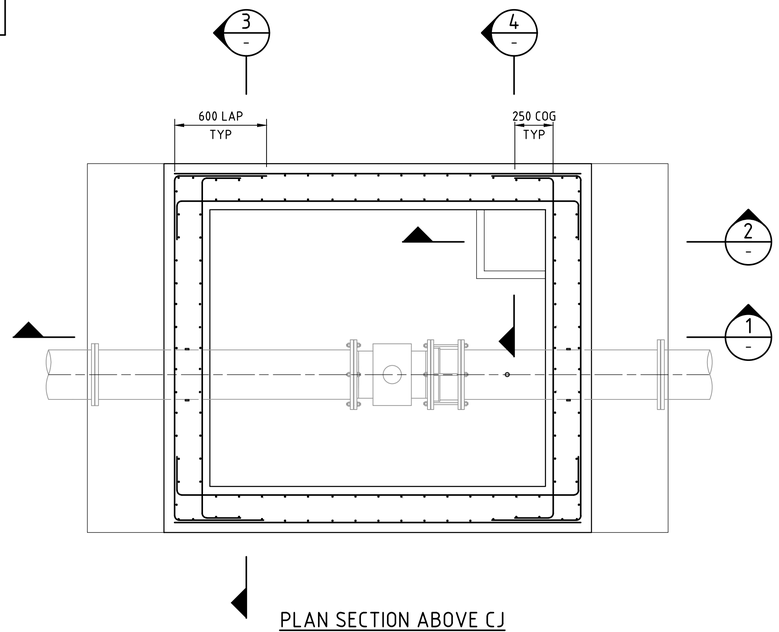
DTC 6110

ISSUE	DATE
A	30/11/24

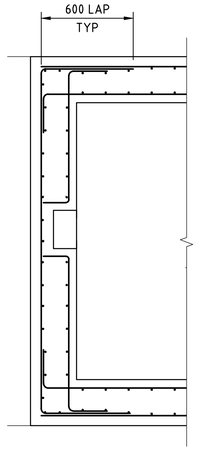
A1

NOTES

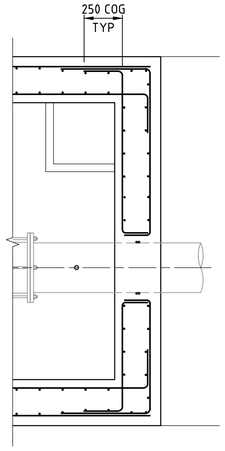
1. REFER TO DRAWING'S DTC-6100 AND DTC-6101 FOR GENERAL NOTES.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DTC-6110.
3. WHERE LIGHTWEIGHT COVERS ARE USED THE CONCRETE PROFILE AND SUPPORT BEAM BLOCKOUTS FOR COVERS IS TO BE UPDATED TO MATCH THE CAST-IN ANCHORS OF DRAWING DTC-6122.



PLAN SECTION ABOVE CJ
SCALE 1:20

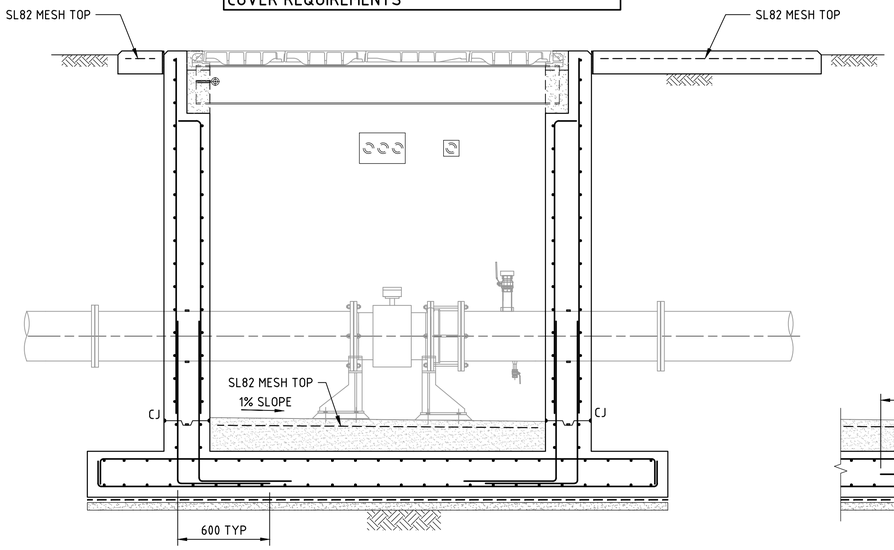


PLAN SECTION AT BEAM BOXOUT
SCALE 1:20



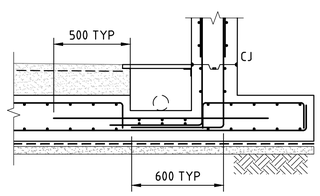
PLAN SECTION AT PIPE PENETRATION
SCALE 1:20

NOTE:
ALL REINFORCEMENT N16-150 UNO
REFER NOTE R2 ON DTC-6101 FOR REINFORCEMENT COVER REQUIREMENTS

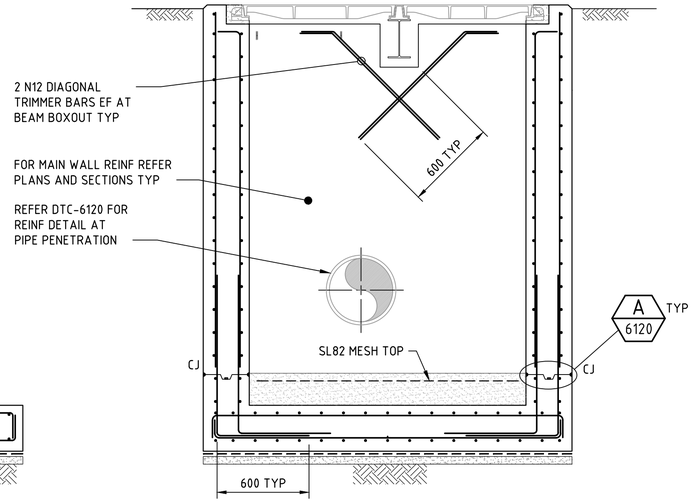


SECTION 1 - SCALE 1:20

ACCESS LADDER NOT SHOWN FOR CLARITY

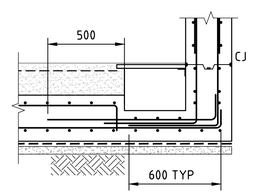


SECTION 2 - SCALE 1:20



SECTION 3 - SCALE 1:20

ACCESS LADDER NOT SHOWN FOR CLARITY



SECTION 4 - SCALE 1:20

0 100 200 300 400 500 600 700 800 900 1000mm
SCALE 1:10 AT ORIGINAL SIZE

0 200 400 600 800 1000 1200 1400 1600 1800 2000mm
SCALE 1:20 AT ORIGINAL SIZE

Sydney WATER

APPROVED
NORBERT SCHAEPER
ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

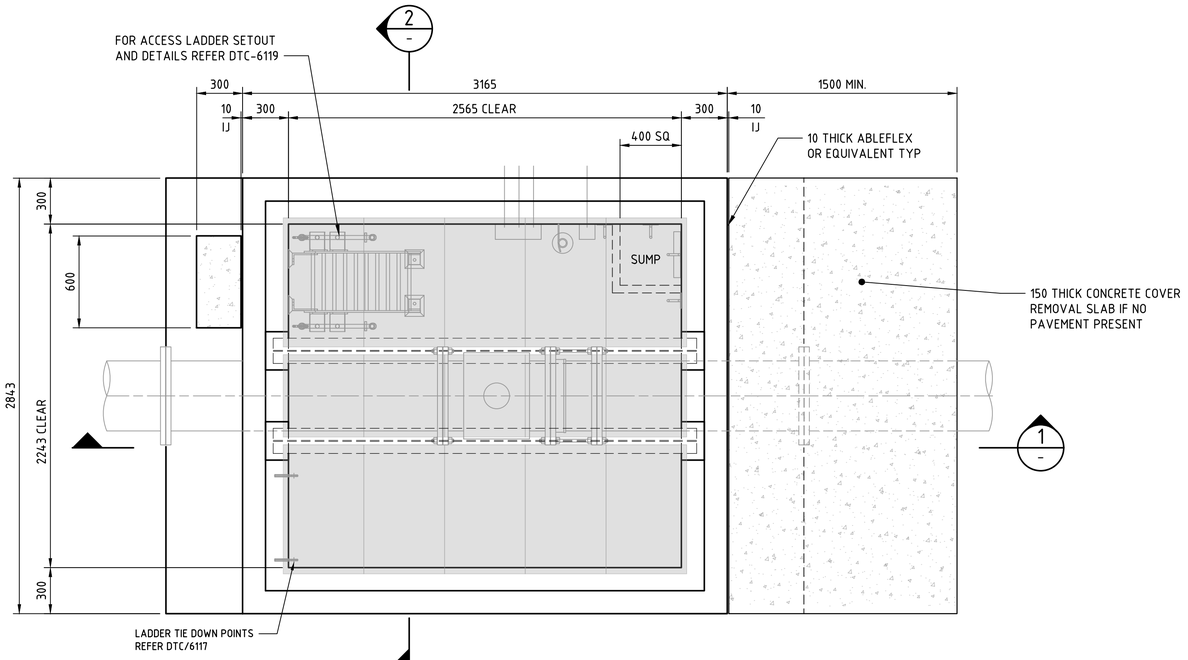
DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION
DN100-300 MAGNETIC FLOWMETER CHAMBER
REINFORCEMENT DETAILS

DTC
6111

ISSUE	DATE
A	30/11/24

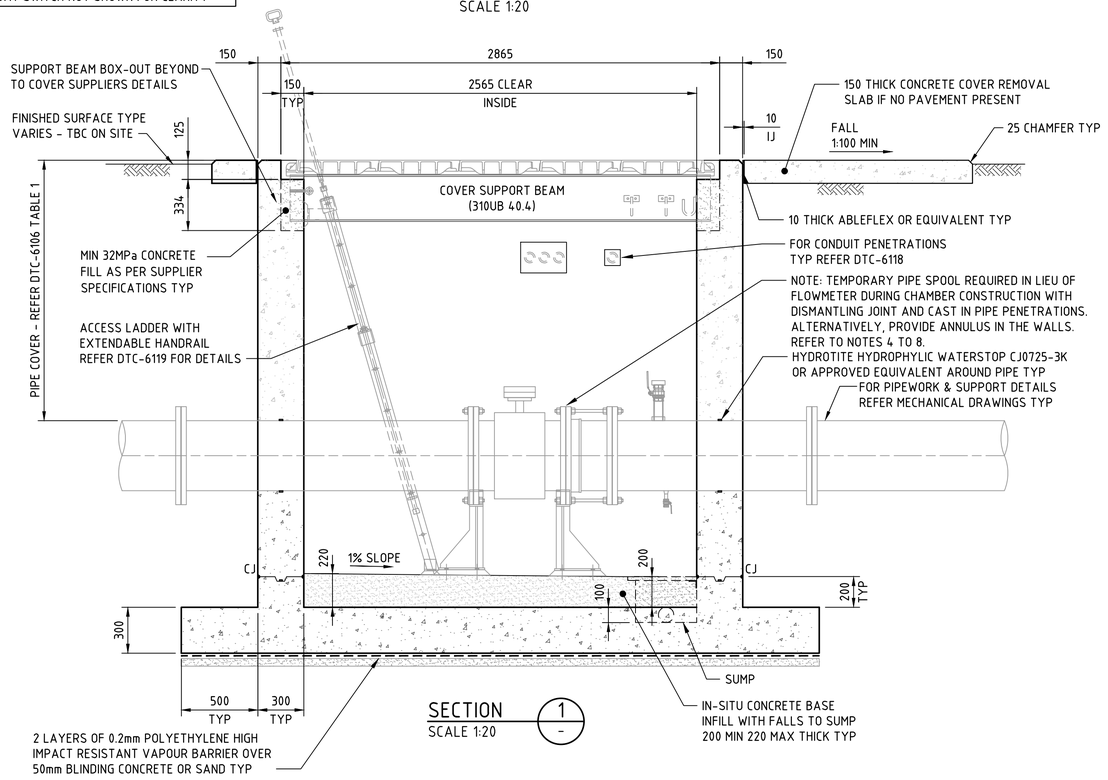
A1



NOTE:
PIPEWORK, SUPPORTS, COVER FRAME & FLOAT SWITCH NOT SHOWN FOR CLARITY

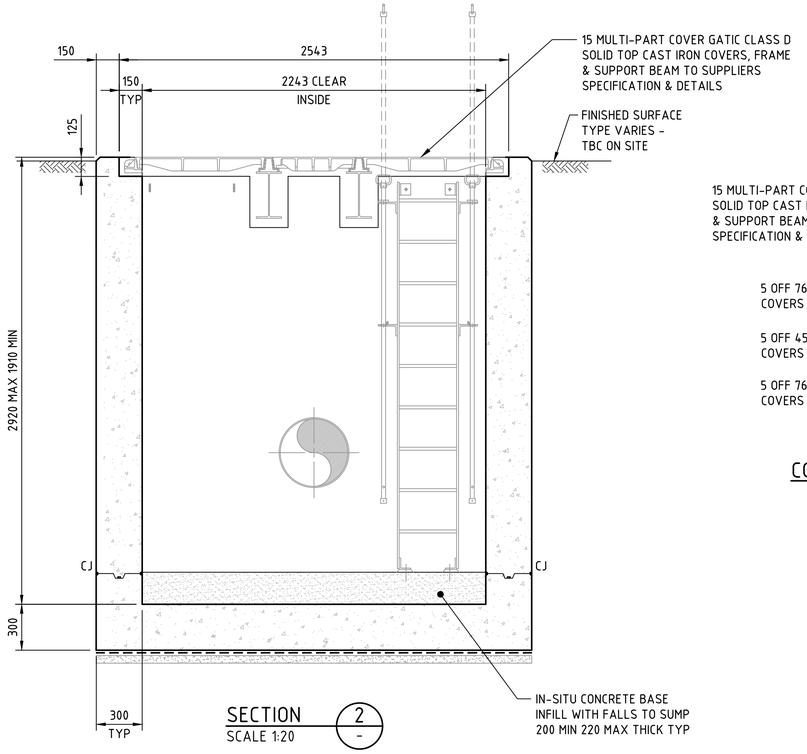
FLOWMETER CHAMBER PLAN

SCALE 1:20



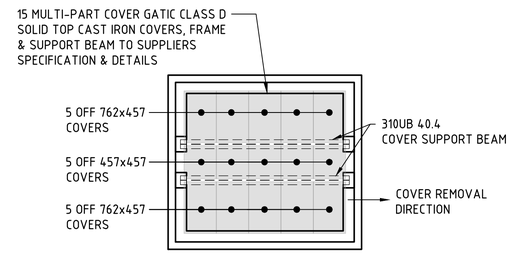
SECTION 1

SCALE 1:20



SECTION 2

SCALE 1:20



COVER GENERAL ARRANGEMENT PLAN

SCALE 1:50

COVER SIZE (mm)	MASS (kg)
457 x 457	42
762 x 457	68

0 200 400 600 800 1000 1200 1400 1600 1800 2000mm
SCALE 1:20 AT ORIGINAL SIZE

0 500 1000 1500 2000 3000 4000 5000mm
SCALE 1:50 AT ORIGINAL SIZE

NOTES

1. REFER TO DRAWING'S DTC-6100 & DTC-6101 FOR GENERAL NOTES.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DTC-6113 AND RELEVANT MECHANICAL DRAWINGS.
3. WHERE LIGHTWEIGHT COVERS ARE USED THE CONCRETE PROFILE AND SUPPORT BEAM BLOCKOUTS FOR COVERS IS TO BE UPDATED TO MATCH THE CAST-IN ANCHORS OF DRAWING DTC-6123.
4. PROVIDE A BLOCKOUT ANNULUS 130 MIN AROUND, WITH THE PIPE PENETRATION TRIMMER REINFORCEMENT CAST INTO THE WALLS.
5. SCRABBLE PENETRATION SURFACE TO EXPOSE COARSE AGGREGATE TO 3 DEPTH WITH WIRE BRUSH.
6. INSTALL HYDROTITE HYDROPHYLIC WATERSTOP CJ0725-3K OR APPROVED EQUIVALENT ON THE BLOCKOUT SURFACES.
7. COAT SURFACE WITH SIKADUR-32 EPOXY RESIN OR APPROVED EQUIVALENT.
8. FILL ANNULUS WITH SIKADUR-31/41 EPOXY MORTAR OR APPROVED EQUIVALENT WHILE RESIN IS STILL INTACT DURING PIPES INSTALL.

DESIGN DATA LOADS

D1. LOADS:
- A. LIVE LOAD ON METAL ACCESS COVERS:
  - SUBJECT TO VEHICULAR TRAFFIC - CLASS D TO AS 3996.
- B. SURCHARGE AROUND STRUCTURES = 20kPa.
- C. GROUND WATER AT SURFACE.

Sydney WATER

APPROVED

NORBERT SCHAEPER

ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION DN350-450 MAGNETIC FLOWMETER CHAMBER CONCRETE DETAILS

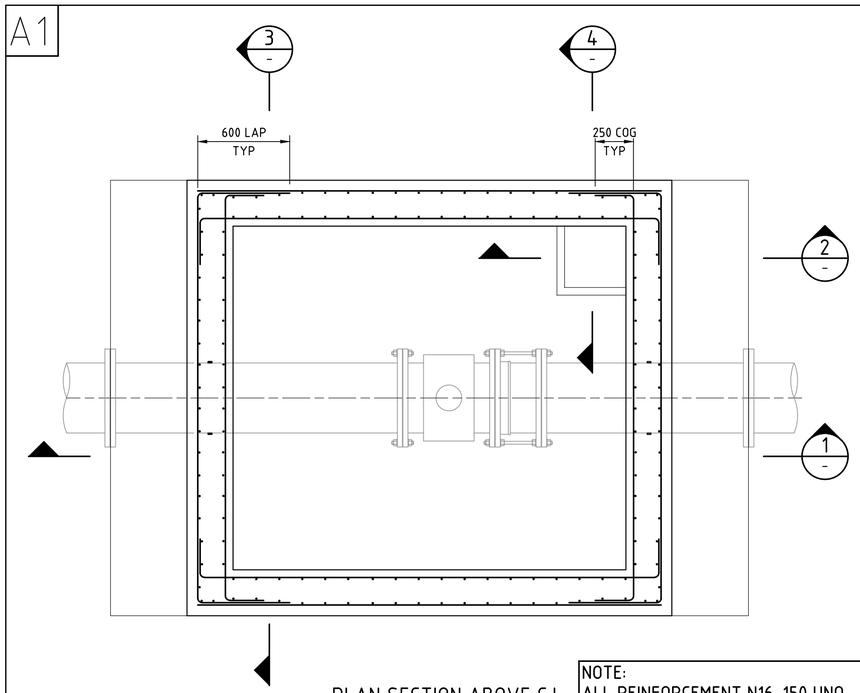
DTC 6112

ISSUE	DATE
A	30/11/24

A1

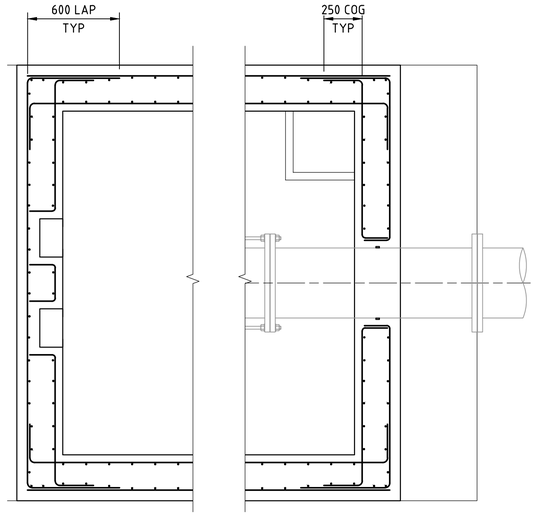
NOTES

1. REFER TO DRAWING'S DTC-6100 & DTC-6101 FOR GENERAL NOTES.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DTC-6112.
3. WHERE LIGHTWEIGHT COVERS ARE USED THE CONCRETE PROFILE AND SUPPORT BEAM BLOCKOUTS FOR COVERS IS TO BE UPDATED TO MATCH THE CAST-IN ANCHORS OF DRAWING DTC-6123.



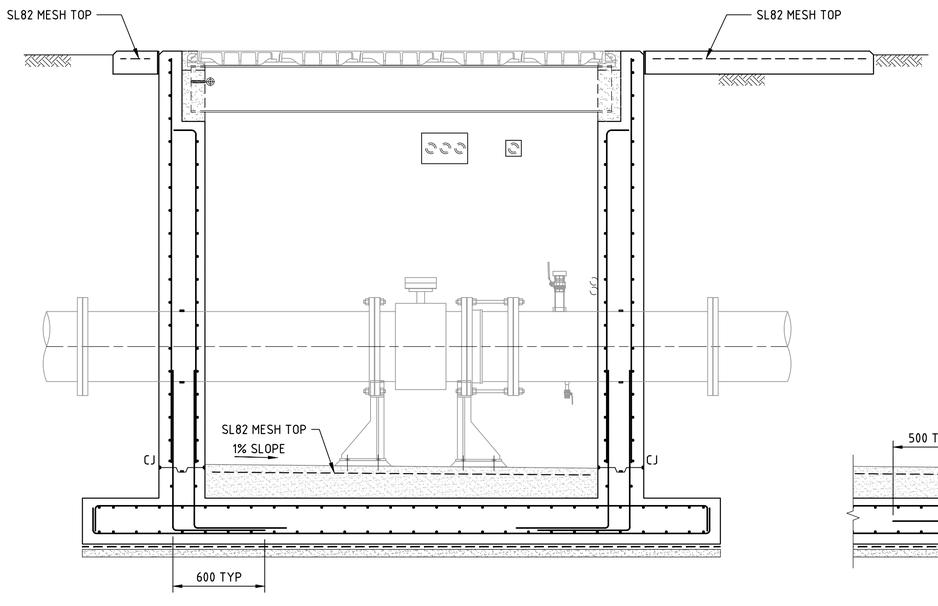
PLAN SECTION ABOVE CJ
SCALE 1:20

NOTE:
ALL REINFORCEMENT N16-150 UNO
REFER NOTE R2 ON DTC-6101 FOR REINFORCEMENT COVER REQUIREMENTS



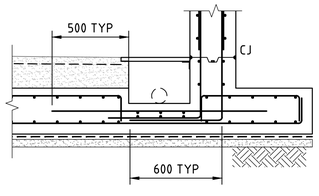
PLAN SECTION AT BEAM BOXOUT
SCALE 1:20

PLAN SECTION AT PIPE PENETRATION
SCALE 1:20

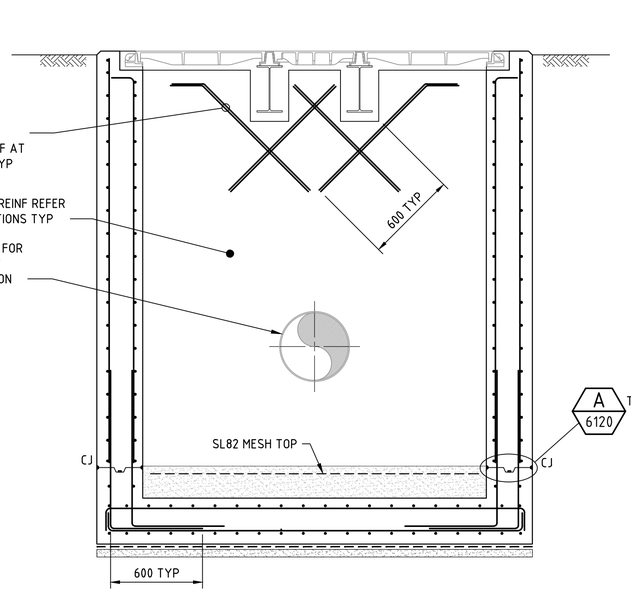


SECTION 1 / -
SCALE 1:20

ACCESS LADDER NOT SHOWN FOR CLARITY

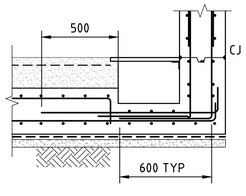


SECTION 2 / -
SCALE 1:20

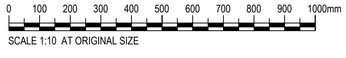


SECTION 3 / -
SCALE 1:20

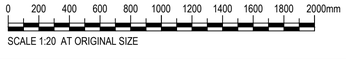
ACCESS LADDER NOT SHOWN FOR CLARITY



SECTION 4 / -
SCALE 1:20



SCALE 1:10 AT ORIGINAL SIZE



SCALE 1:20 AT ORIGINAL SIZE

Sydney WATER

APPROVED
NORBERT SCHAEPER
ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

DEEMED TO COMPLY DRAWINGS

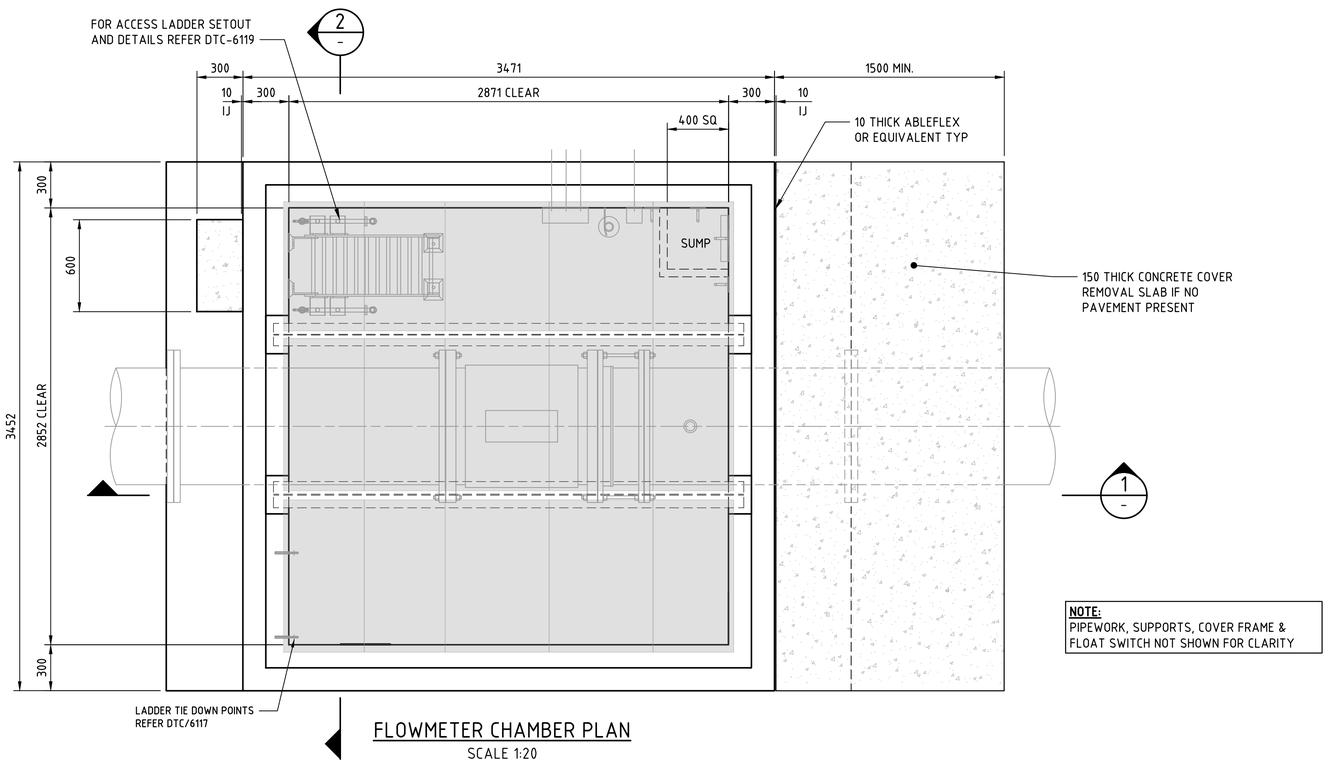
FLOWMETER INSTALLATION DN350-450 MAGNETIC FLOWMETER CHAMBER REINFORCEMENT DETAILS

DTC
6113

ISSUE	DATE
A	30/11/24

A1

THIS DRAWING MAY ONLY BE USED IN THE COURSE OF AND FOR THE PURPOSE OF CREATING SYDNEY WATER ASSETS. USE THIS DRAWING WITH CARE. THE USER IS RESPONSIBLE FOR THE CORRECT APPLICATION OF THIS DRAWING.



FLOWMETER CHAMBER PLAN

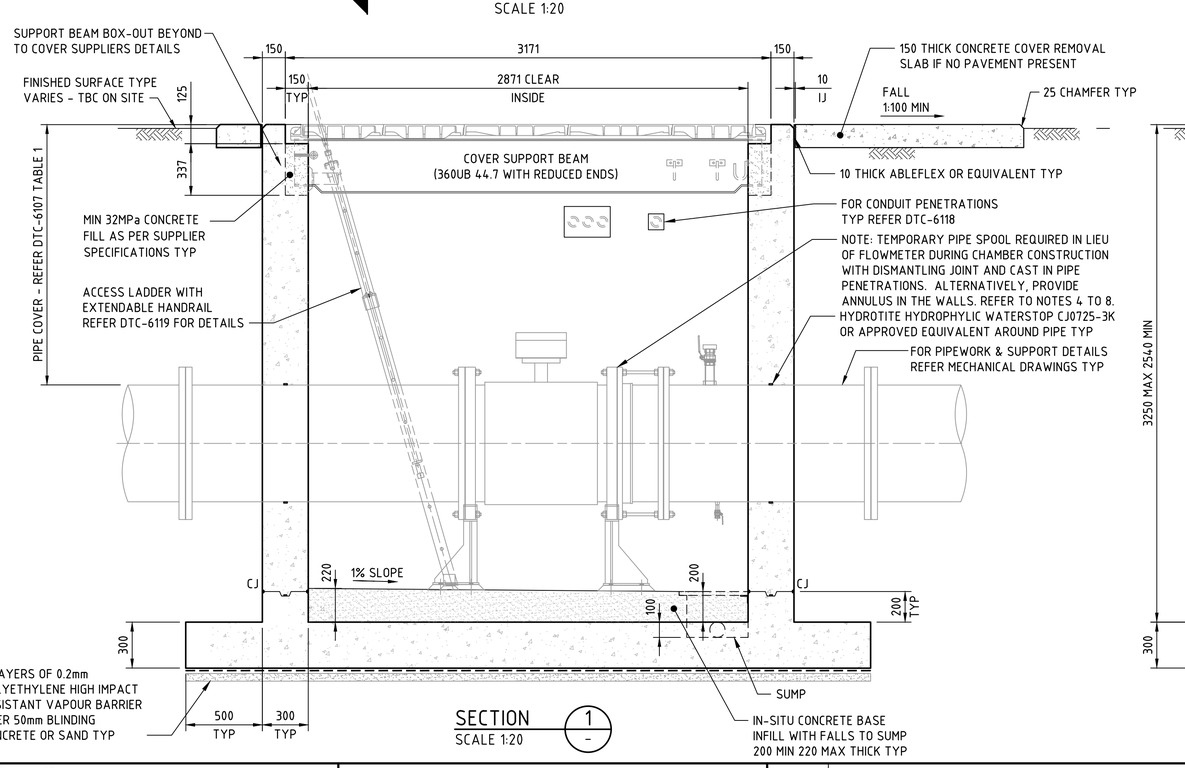
SCALE 1:20

NOTES

1. REFER TO DRAWING'S DTC-6100 & DTC-6101 FOR GENERAL NOTES.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DTC-6115 AND RELEVANT MECHANICAL DRAWINGS.
3. WHERE LIGHTWEIGHT COVERS ARE USED THE CONCRETE PROFILE AND SUPPORT BEAM BLOCKOUTS FOR COVERS IS TO BE UPDATED TO MATCH THE CAST-IN ANCHORS OF DRAWING DTC-6124.
4. PROVIDE A BLOCKOUT ANNULUS 130 MIN AROUND, WITH THE PIPE PENETRATION TRIMMER REINFORCEMENT CAST INTO THE WALLS.
5. SCRABBLE PENETRATION SURFACE TO EXPOSE COARSE AGGREGATE TO 3 DEPTH WITH WIRE BRUSH.
6. INSTALL HYDROTITE HYDROPHYLIC WATERSTOP CJ0725-3K OR APPROVED EQUIVALENT ON THE BLOCKOUT SURFACES.
7. COAT SURFACE WITH SIKADUR-32 EPOXY RESIN OR APPROVED EQUIVALENT.
8. FILL ANNULUS WITH SIKADUR-31/41 EPOXY MORTAR OR APPROVED EQUIVALENT WHILE RESIN IS STILL INTACT DURING PIPES INSTALL.

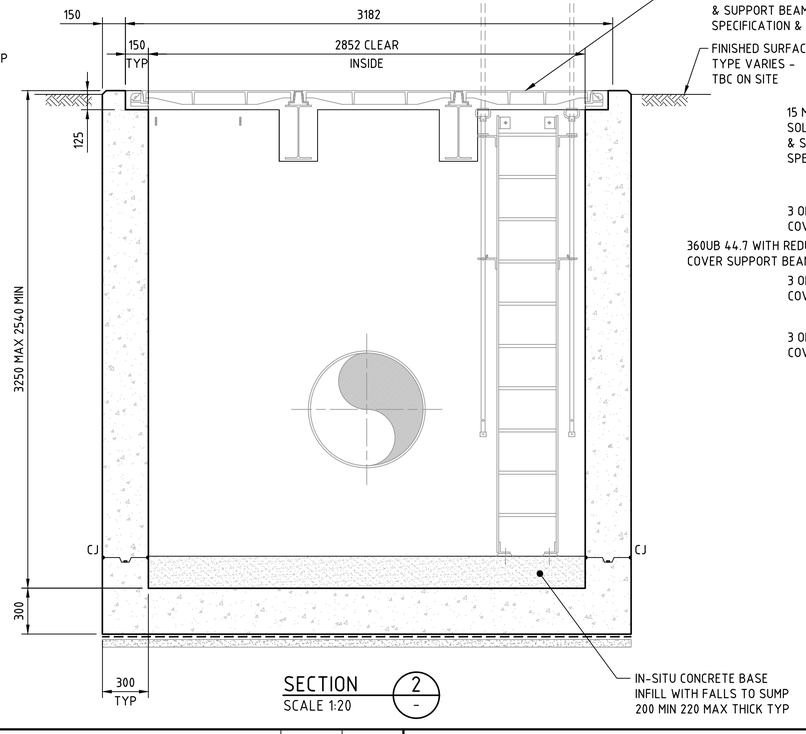
DESIGN DATA LOADS

D1. LOADS:
- A. LIVE LOAD ON METAL ACCESS COVERS:
  - SUBJECT TO VEHICULAR TRAFFIC - CLASS D TO AS 3996.
- B. SURCHARGE AROUND STRUCTURES = 20kPa.
- C. GROUND WATER AT SURFACE.



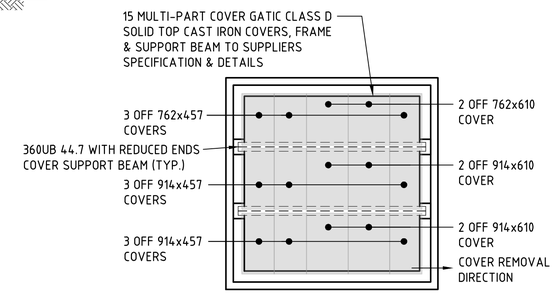
SECTION 1

SCALE 1:20



SECTION 2

SCALE 1:20



COVER GENERAL ARRANGEMENT PLAN

SCALE 1:50

COVER SIZE (mm)	MASS (kg)
762 x 457	68
762 x 610	81
914 x 457	84
914 x 610	97

0 200 400 600 800 1000 1200 1400 1600 1800 2000mm

SCALE 1:20 AT ORIGINAL SIZE

0 500 1000 1500 2000 3000 4000 5000mm

SCALE 1:50 AT ORIGINAL SIZE

Sydney WATER

APPROVED

NORBERT SCHAEPER

ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION DN500-750 MAGNETIC FLOWMETER CHAMBER CONCRETE DETAILS

DTC

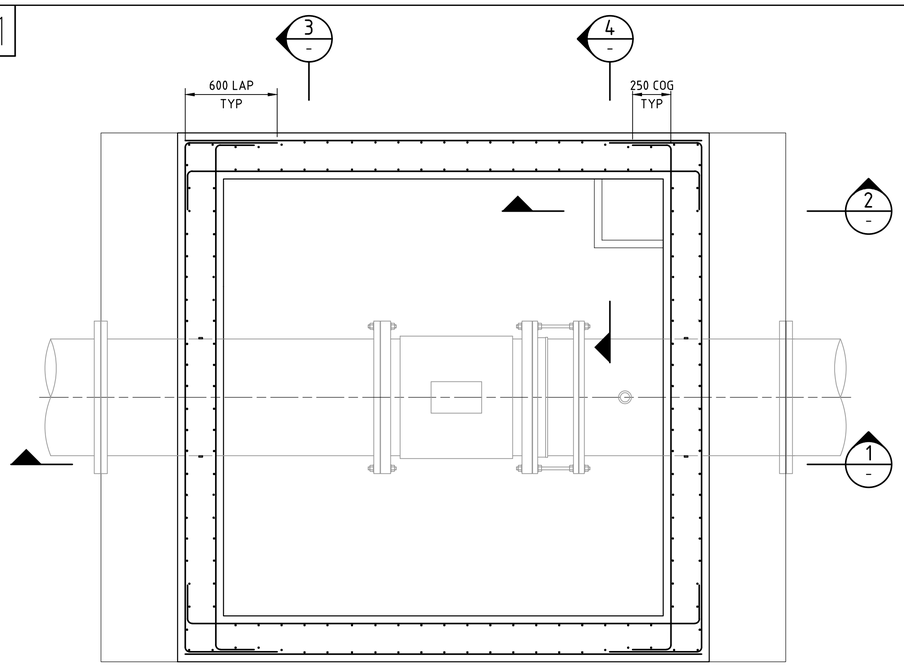
6114

ISSUE	DATE
A	30/11/24

A1

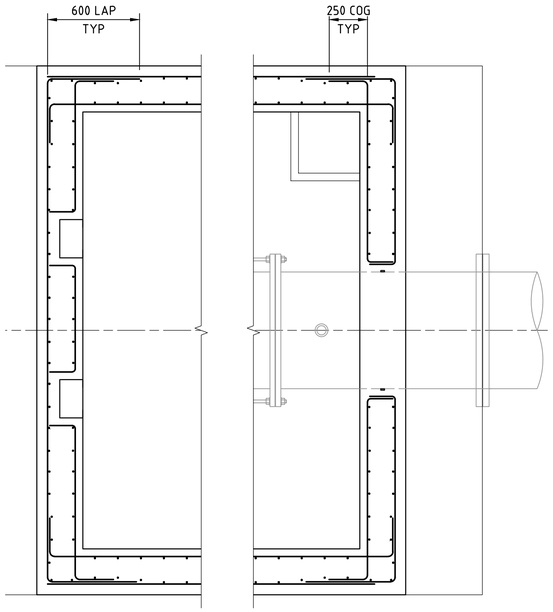
NOTES

1. REFER TO DRAWING'S DTC-6100 & DTC-6101 FOR GENERAL NOTES.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DTC-6114.
3. WHERE LIGHTWEIGHT COVERS ARE USED THE CONCRETE PROFILE AND SUPPORT BEAM BLOCKOUTS FOR COVERS IS TO BE UPDATED TO MATCH THE CAST-IN ANCHORS OF DRAWING DTC-6124.



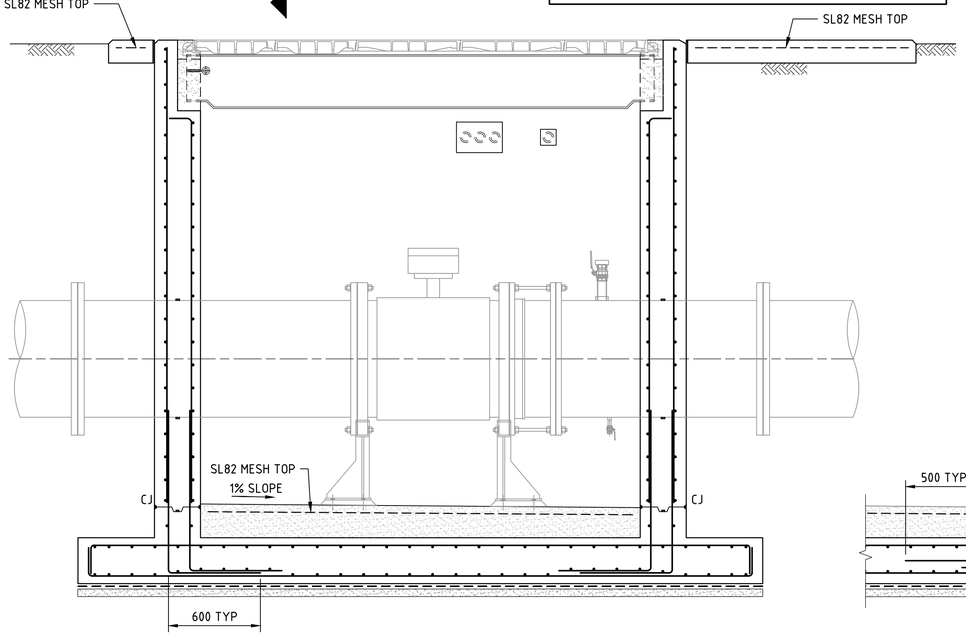
PLAN SECTION ABOVE CJ
SCALE 1:20

NOTE:
ALL REINFORCEMENT N16-150 UNO
REFER NOTE R2 ON DTC-6101 FOR REINFORCEMENT COVER REQUIREMENTS



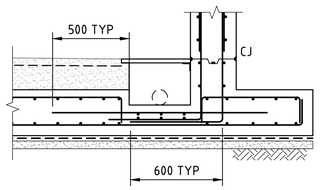
PLAN SECTION AT BEAM BOXOUT
SCALE 1:20

PLAN SECTION AT PIPE PENETRATION
SCALE 1:20

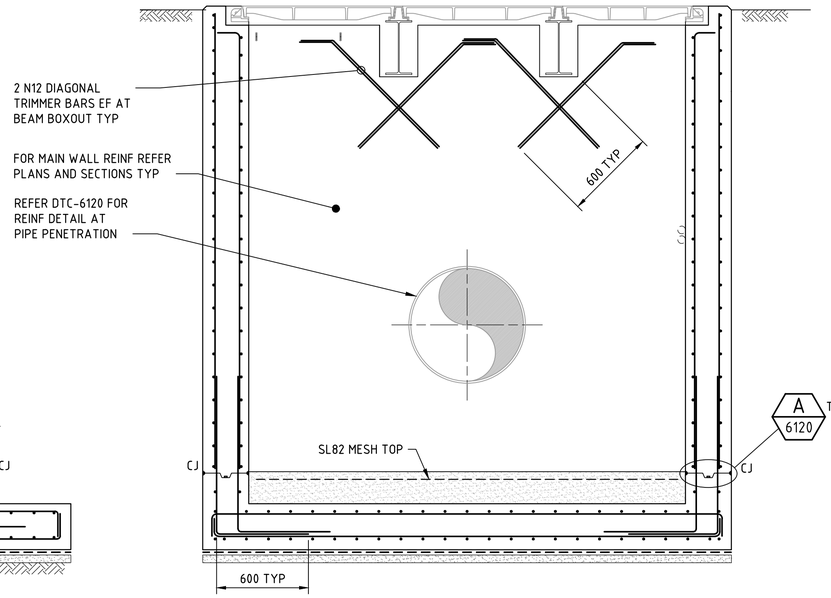


SECTION 1 - SCALE 1:20

ACCESS LADDER NOT SHOWN FOR CLARITY

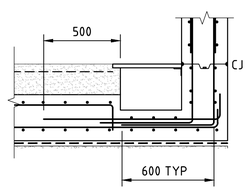


SECTION 2 - SCALE 1:20



SECTION 3 - SCALE 1:20

ACCESS LADDER NOT SHOWN FOR CLARITY



SECTION 4 - SCALE 1:20

0 100 200 300 400 500 600 700 800 900 1000mm
SCALE 1:10 AT ORIGINAL SIZE

0 200 400 600 800 1000 1200 1400 1600 1800 2000mm
SCALE 1:20 AT ORIGINAL SIZE

Sydney WATER

APPROVED
NORBERT SCHAEPER
ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

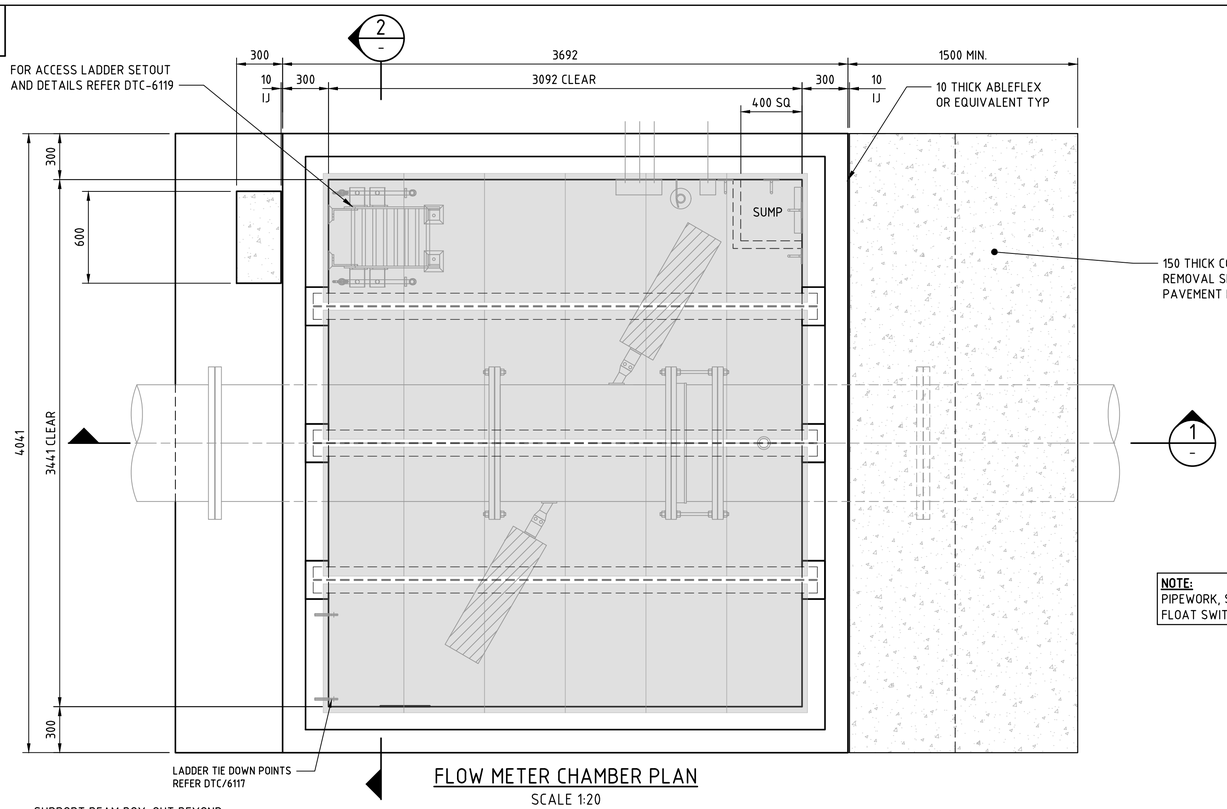
DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION
DN500-750 MAGNETIC FLOWMETER CHAMBER
REINFORCEMENT DETAILS

DTC
6115

ISSUE	DATE
A	30/11/24

A1



FLOW METER CHAMBER PLAN
SCALE 1:20

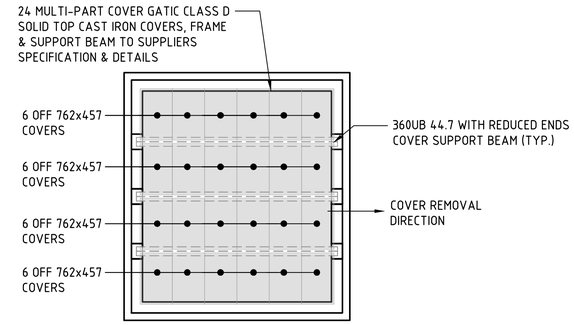
NOTE:
PIPEWORK, SUPPORTS, COVER FRAME & FLOAT SWITCH NOT SHOWN FOR CLARITY

DESIGN DATA LOADS

D1. LOADS:
- A. LIVE LOAD ON METAL ACCESS COVERS:
  - SUBJECT TO VEHICULAR TRAFFIC - CLASS D TO AS 3996.
- B. SURCHARGE AROUND STRUCTURES = 20kPa.
- C. GROUND WATER AT SURFACE.

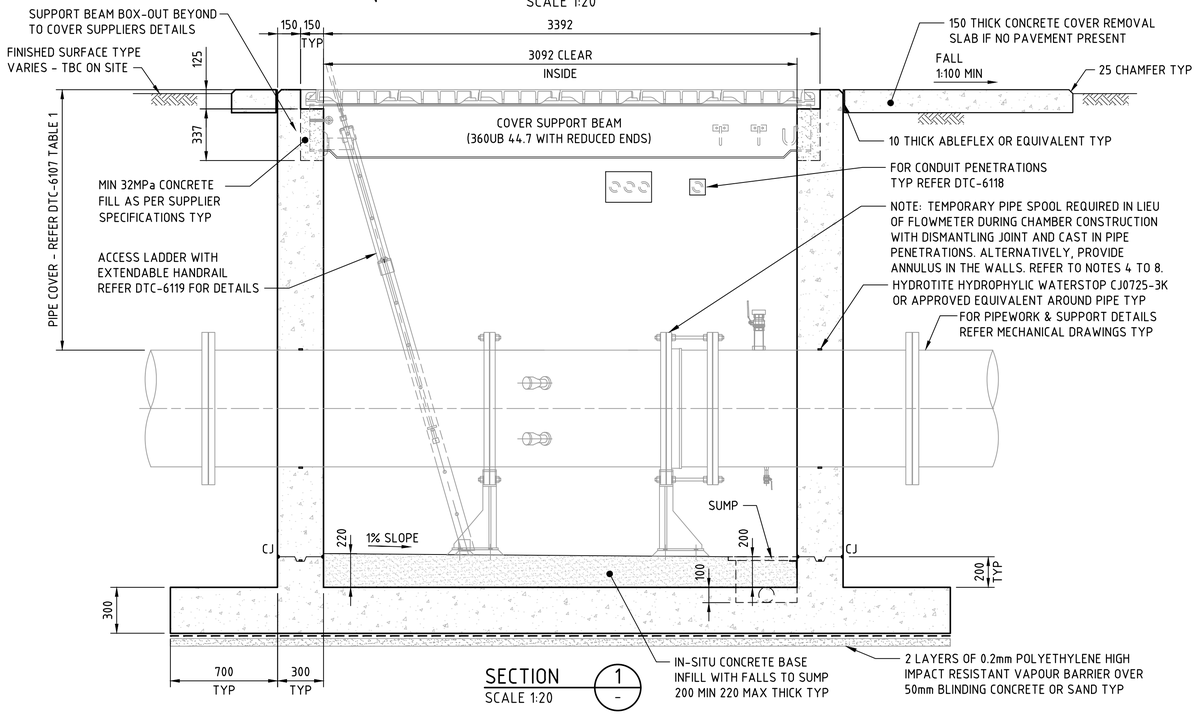
NOTES

1. REFER TO DRAWING'S DTC-6100 & DTC-6101 FOR GENERAL NOTES.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DTC-6117 AND RELEVANT MECHANICAL DRAWINGS.
3. WHERE LIGHTWEIGHT COVERS ARE USED THE CONCRETE PROFILE AND SUPPORT BEAM BLOCKOUTS FOR COVERS IS TO BE UPDATED TO MATCH THE CAST-IN ANCHORS OF DRAWING DTC-6125.
4. PROVIDE A BLOCKOUT ANNULUS 130 MIN AROUND, WITH THE PIPE PENETRATION TRIMMER REINFORCEMENT CAST INTO THE WALLS.
5. SCRABBLE PENETRATION SURFACE TO EXPOSE COARSE AGGREGATE TO 3 DEPTH WITH WIRE BRUSH.
6. INSTALL HYDROTITE HYDROPHYLIC WATERSTOP CJ0725-3K OR APPROVED EQUIVALENT ON THE BLOCKOUT SURFACES.
7. COAT SURFACE WITH SIKADUR-32 EPOXY RESIN OR APPROVED EQUIVALENT.
8. FILL ANNULUS WITH SIKADUR-31/41 EPOXY MORTAR OR APPROVED EQUIVALENT WHILE RESIN IS STILL INTACT DURING PIPES INSTALL.

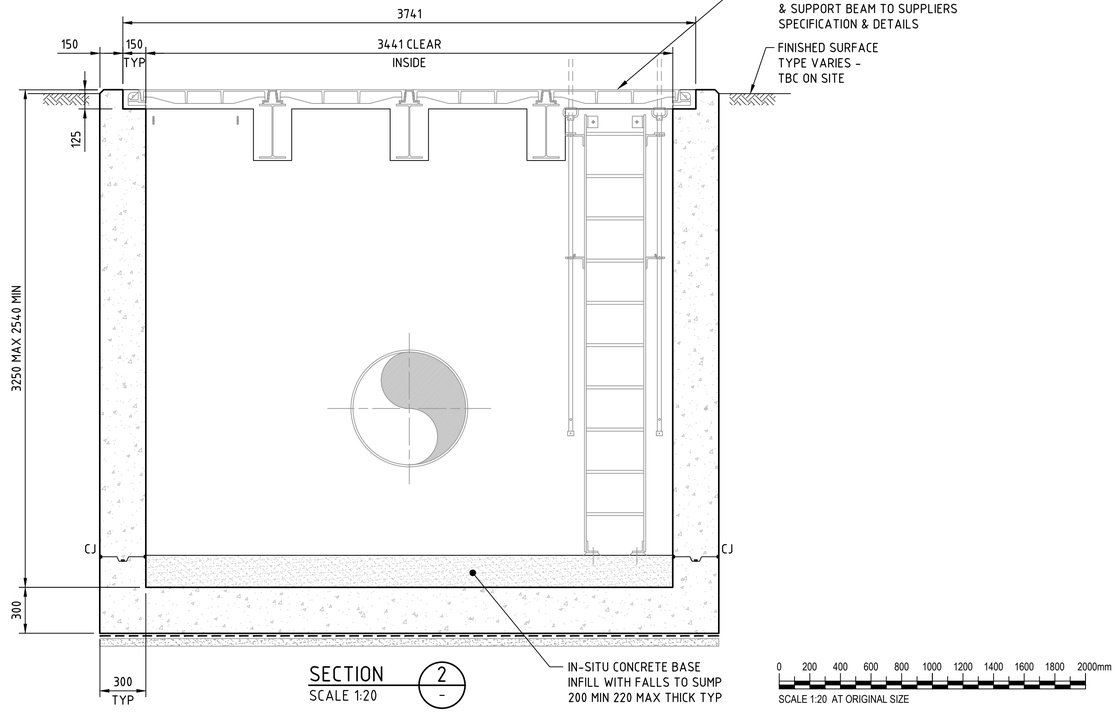


COVER GENERAL ARRANGEMENT PLAN
SCALE 1:50

COVER SIZE (mm)	MASS (kg)
762 x 457	68



SECTION 1 - SCALE 1:20



SECTION 2 - SCALE 1:20

0 200 400 600 800 1000 1200 1400 1600 1800 2000mm
SCALE 1:20 AT ORIGINAL SIZE

Sydney WATER

APPROVED

NORBERT SCHAEPER
ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION DN600-750 ULTRASONIC FLOWMETER CHAMBER CONCRETE DETAILS

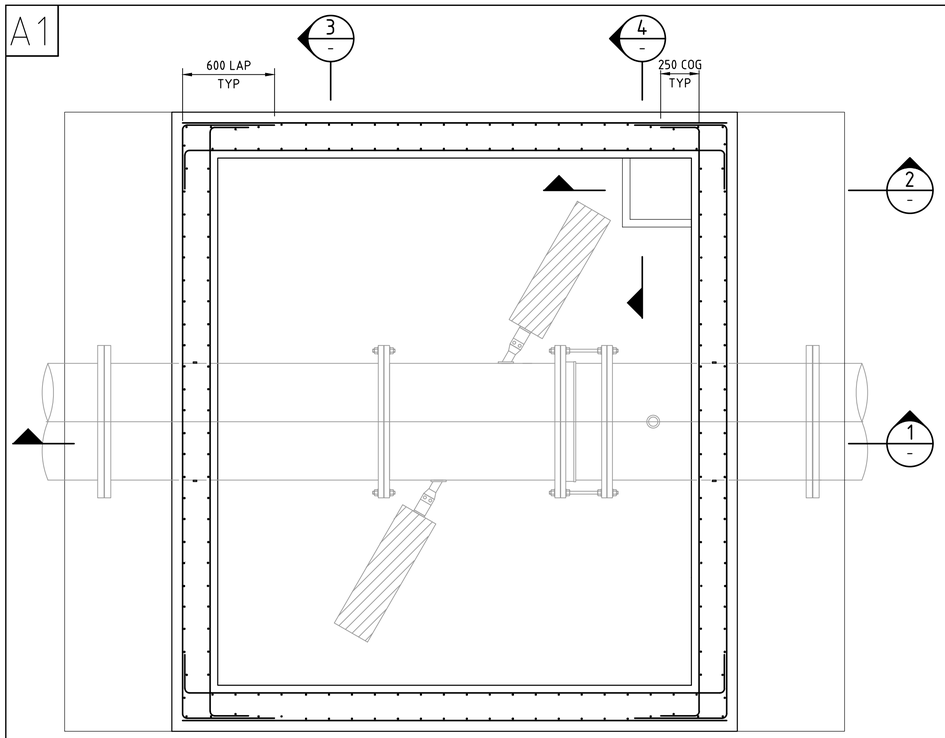
DTC
6116

ISSUE	DATE
A	30/11/24

A1

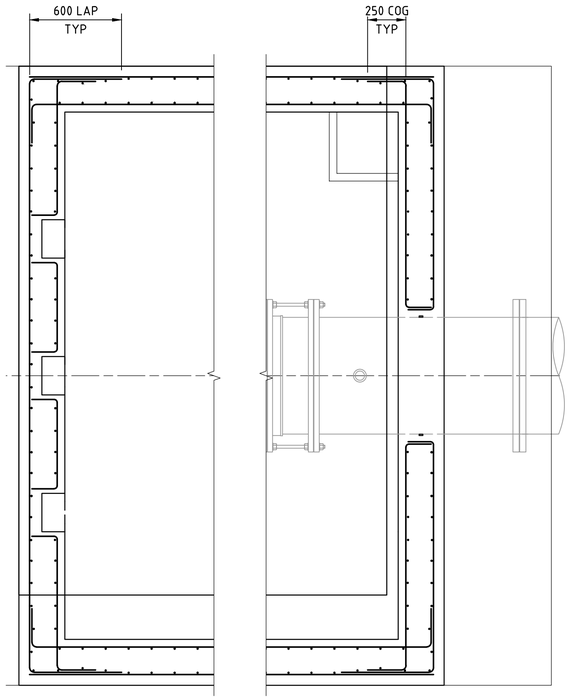
NOTES

1. REFER TO DRAWING'S DTC-6100 & DTC-6101 FOR GENERAL NOTES.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DTC-6116.
3. WHERE LIGHTWEIGHT COVERS ARE USED THE CONCRETE PROFILE AND SUPPORT BEAM BLOCKOUTS FOR COVERS IS TO BE UPDATED TO MATCH THE CAST-IN ANCHORS OF DRAWING DTC-6125.



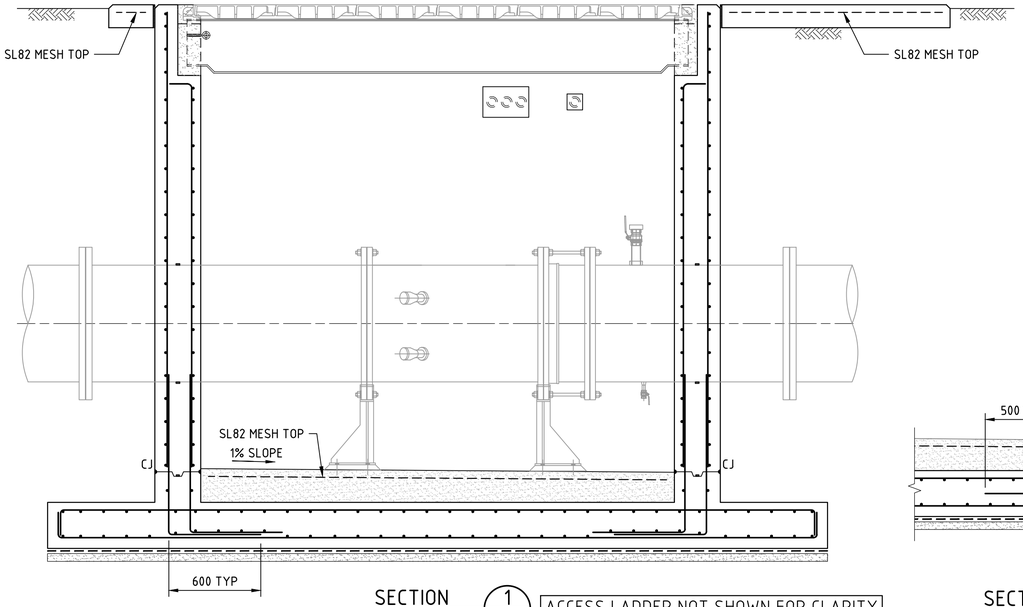
PLAN SECTION ABOVE CJ
SCALE 1:20

NOTE:
ALL REINFORCEMENT N16-150 UNO
REFER NOTE R2 ON DTC-6101 FOR REINFORCEMENT COVER REQUIREMENTS



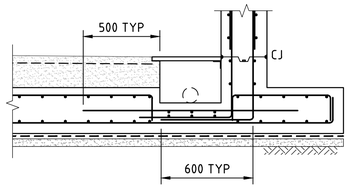
PLAN SECTION AT BEAM BOXOUT
SCALE 1:20

PLAN SECTION AT PIPE PENETRATION
SCALE 1:20

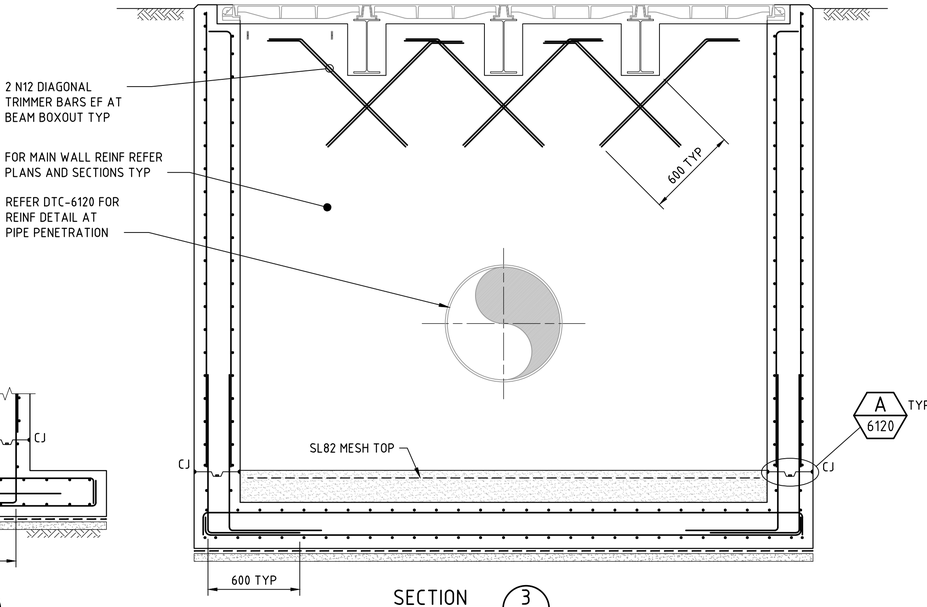


SECTION 1 - SCALE 1:20

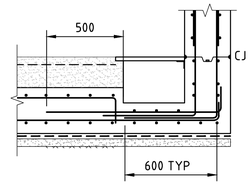
ACCESS LADDER NOT SHOWN FOR CLARITY



SECTION 2 - SCALE 1:20



SECTION 3 - SCALE 1:20



SECTION 4 - SCALE 1:20

0 100 200 300 400 500 600 700 800 900 1000mm
SCALE 1:10 AT ORIGINAL SIZE

0 200 400 600 800 1000 1200 1400 1600 1800 2000mm
SCALE 1:20 AT ORIGINAL SIZE

Sydney WATER

APPROVED
NORBERT SCHAEPER
ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION
DN600-750 ULTRASONIC FLOWMETER CHAMBER
REINFORCEMENT DETAILS

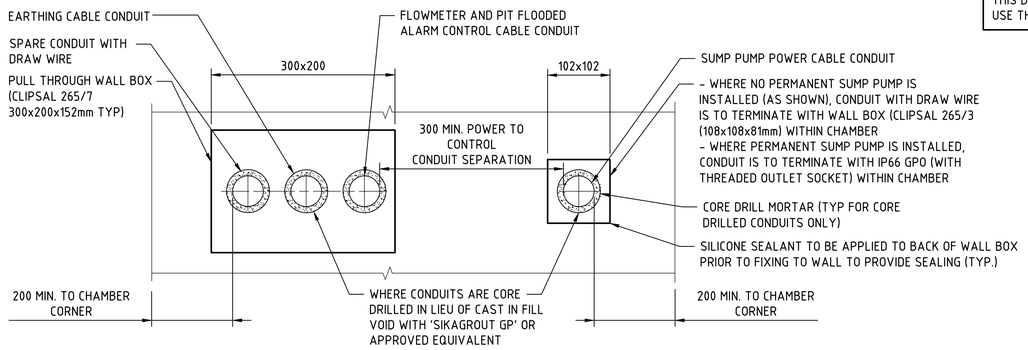
DTC
6117

ISSUE	DATE
A	30/11/24

A1

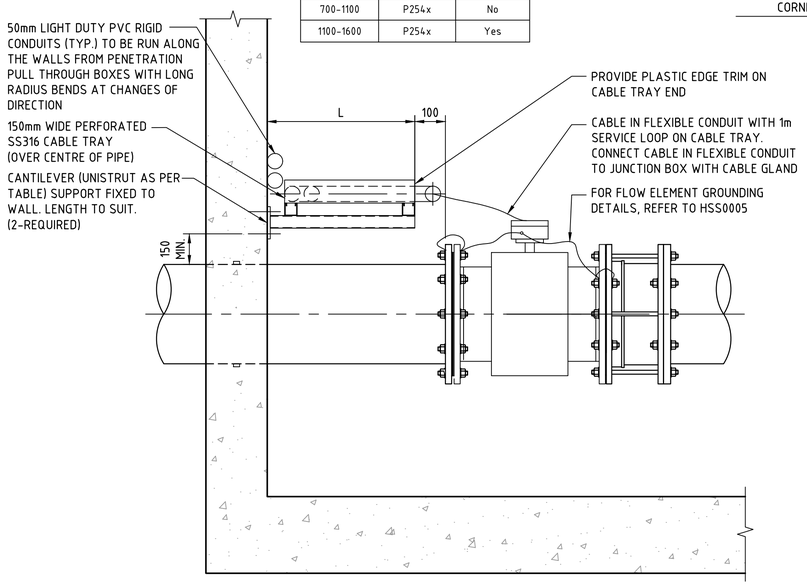
NOTES

1. REFER TO DRAWING DTC-6100 AND DTC-6101 FOR NOTES.
2. A LAYER OF SAND SHALL BE BONDED TO THE UPVC PIPE WITH SOLVENT CEMENT OVER THE FULL LENGTH OF PENETRATION AFTER CLEANING WITH PRIMING FLUID. SAND COATING SHALL NOT BE APPLIED AT LOCATION OF HYDROPHILIC SEAL.



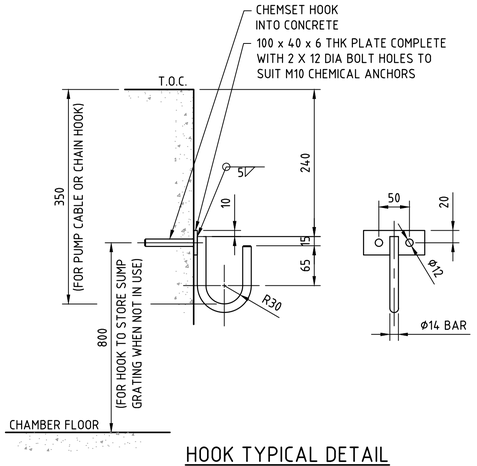
CONDUIT WALL PENETRATION - ELEVATION

CABLE TRAY SUPPORT		
CANTILEVER LENGTH L (mm)	UNISTRUT SELECTION	ANGLE BRACE REQUIRED
0-700	P2663	No
700-1100	P254x	No
1100-1600	P254x	Yes



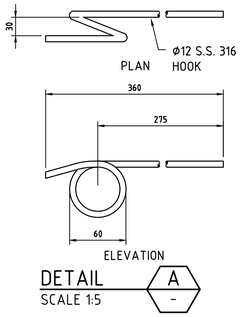
FLOWMETER CABLE CONNECTION DETAIL

SCALE 1:10

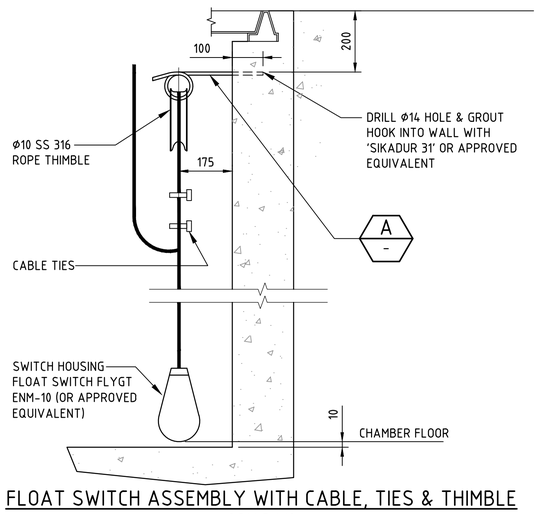


HOOK TYPICAL DETAIL
316 STAINLESS STEEL

SCALE 1:5

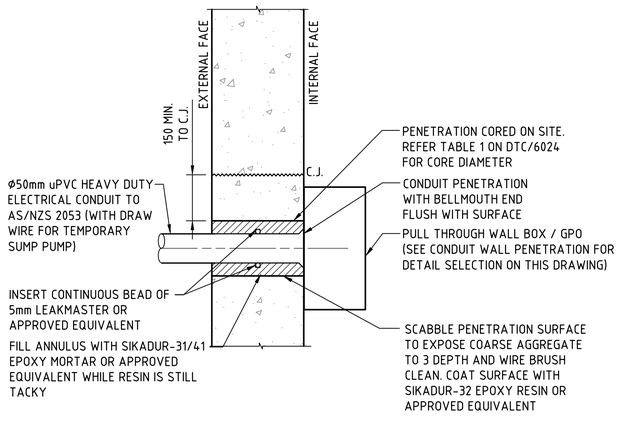


DETAIL A
SCALE 1:5



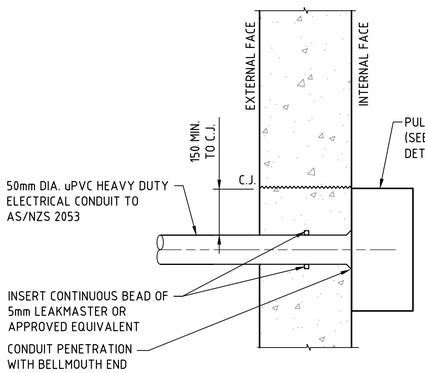
FLOAT SWITCH ASSEMBLY WITH CABLE, TIES & THIMBLE

SCALE 1:10



CORE DRILLED ELECTRICAL CONDUIT PENETRATION & SEALING DETAILS

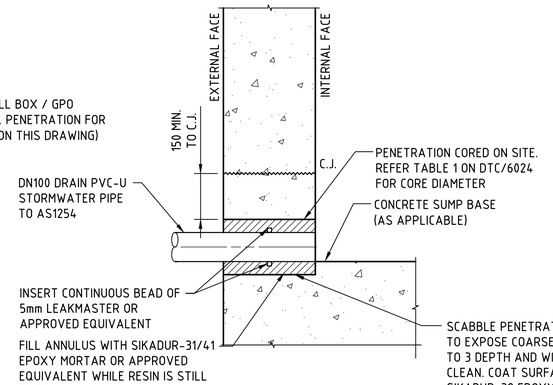
SCALE 1:10



SEALING OF BLOCKOUT FOR ELECTRICAL CONDUITS

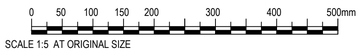
CAST-IN ELECTRICAL CONDUIT PENETRATION & SEALING DETAIL

SCALE 1:10

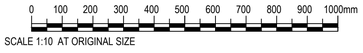


CAST IN PIPES FOR DN63-DN300 UPVC GRAVITY DRAINS PENETRATION DETAIL

SCALE 1:10



SCALE 1:5 AT ORIGINAL SIZE



SCALE 1:10 AT ORIGINAL SIZE

Sydney WATER

APPROVED

NORBERT SCHAEPER

ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION TYPICAL DETAILS SHEET 1

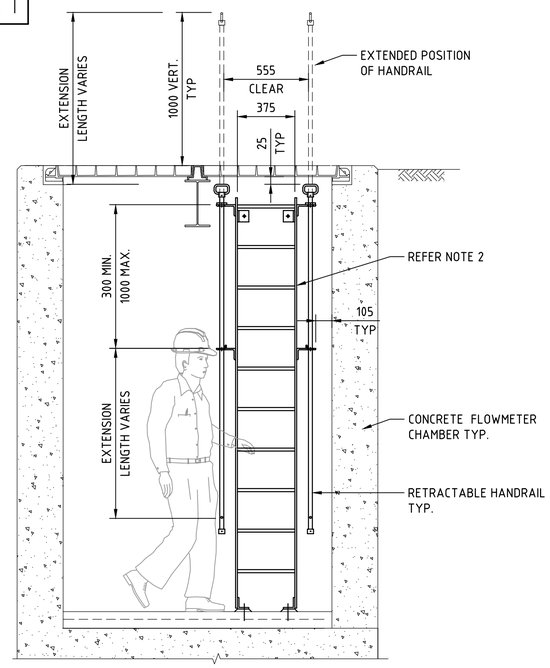
DTC 6118

ISSUE	DATE
A	30/11/24

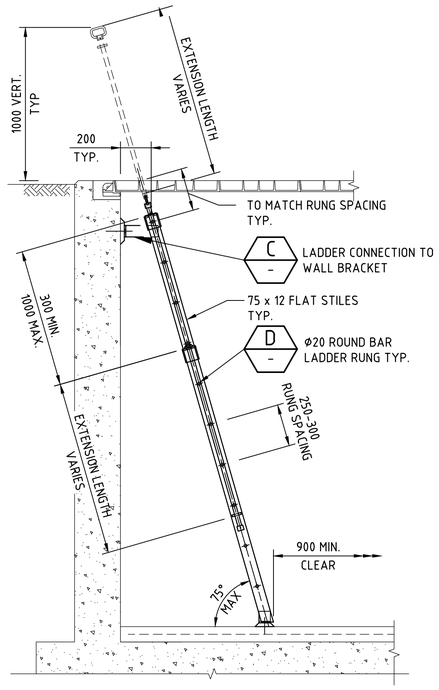
A1

NOTES

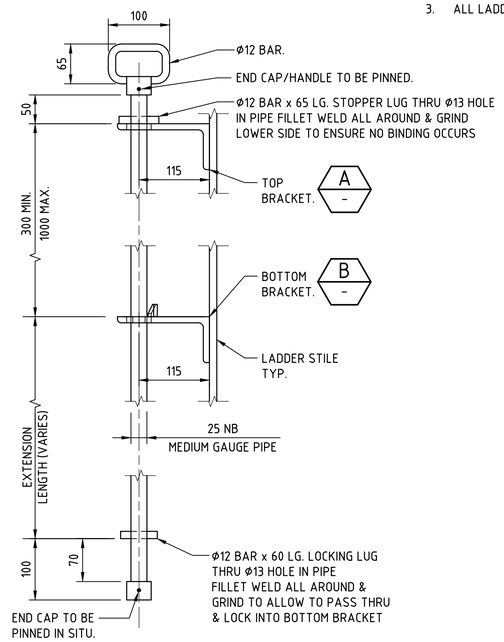
1. REFER TO DRAWING DTC-6100 AND 6101 FOR NOTES.
2. CHAMBERS INSTALLED WITH LIGHT WEIGHT COVERS IN FENCED FACILITIES TO BE FITTED WITH PERMANENT ACCESS LADDER STANCHION TO DETAIL-H DTC-6035 AND INCLINED RUNG LADDER TO DTC-6036 (IN LIEU OF RETRACTABLE HANDRAIL LADDER DETAILED IN THIS DRAWING)
3. ALL LADDER MATERIALS TO BE GALVANISED MILD STEEL U.N.O.



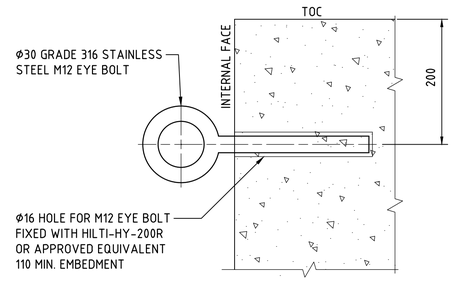
TYPICAL LADDER FRONT ELEVATION
SCALE 1:20



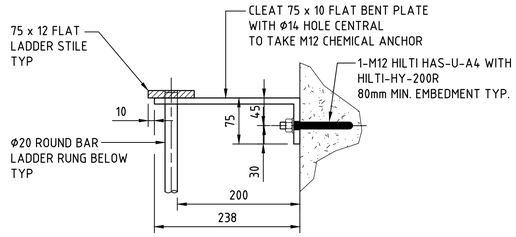
TYPICAL LADDER SECTION
SCALE 1:20



RETRACTABLE HANDRAIL DETAIL
SCALE 1:5

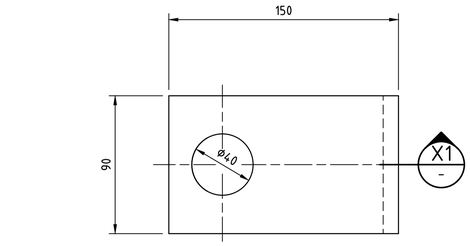


TEMPORARY LADDER TIE DOWN POINT ELEVATION
SCALE 1:2

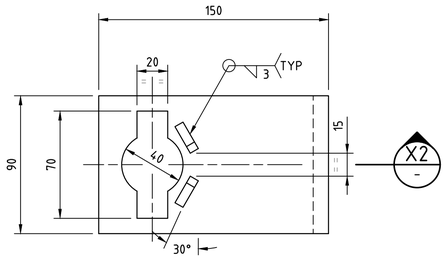


DETAIL C
SCALE 1:5

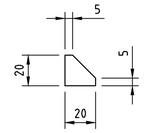
LADDER CONNECTION TO WALL BRACKET



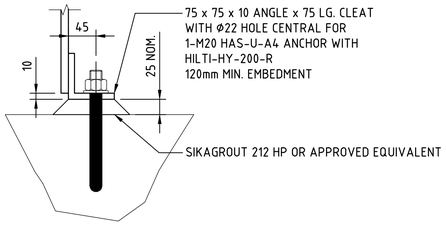
PLAN



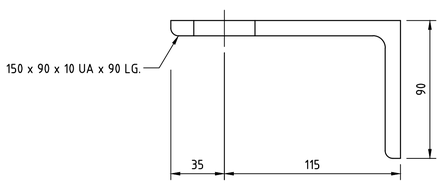
PLAN



STOP PLATE DETAIL
SCALE 1:2

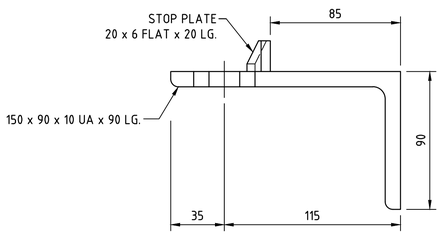


LADDER BASE DETAIL
SCALE 1:5



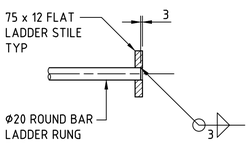
SECTION X1

DETAIL A
SCALE 1:2



SECTION X2

DETAIL B
SCALE 1:2



DETAIL D
SCALE 1:5

LADDER RUNG TO STILE

0 20 40 60 80 100 120 140 160 180 200mm
SCALE 1:2 AT ORIGINAL SIZE

0 50 100 150 200 300 400 500mm
SCALE 1:5 AT ORIGINAL SIZE

0 200 400 600 800 1000 1200 1400 1600 1800 2000mm
SCALE 1:20 AT ORIGINAL SIZE

Sydney WATER

APPROVED
NORBERT SCHAEPER
ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION TYPICAL DETAILS SHEET 2

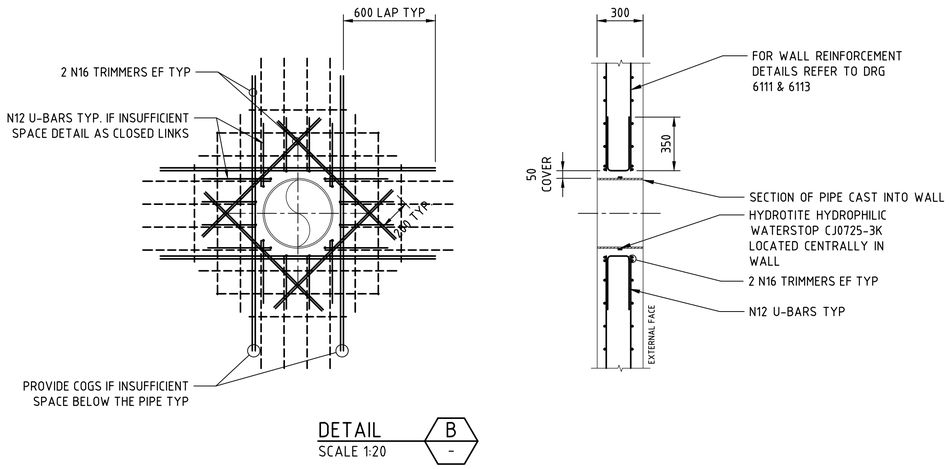
DTC
6119

ISSUE	DATE
A	30/11/24

A1

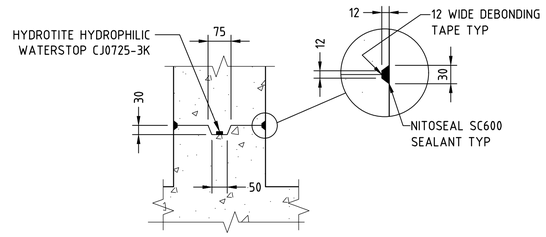
NOTES:

1. ALL DIMENSION SHOWN BASED ON A SECTION TAKEN AT THE CENTRE OF PIPEWORK PENETRATION.
2. DENSOPOL 60 TAPE WRAP SYSTEM OR APPROVED EQUIVALENT AROUND BURIED FLANGES AS PER DTC-1145.



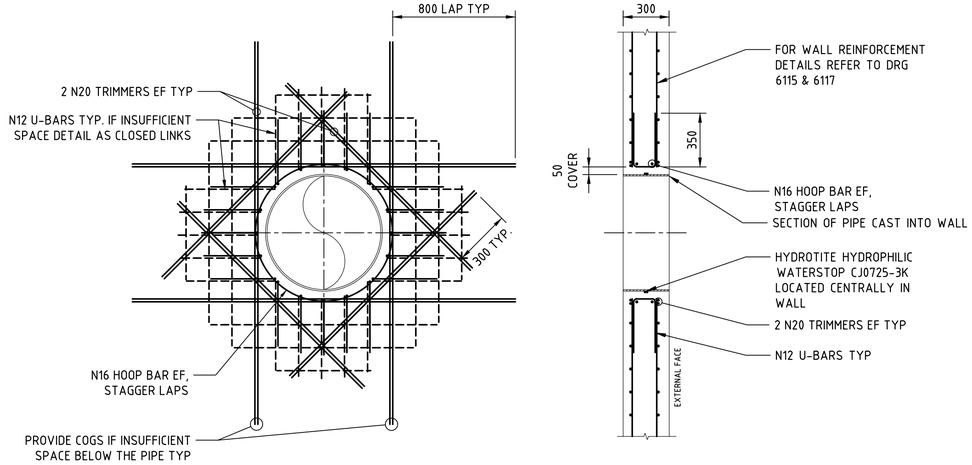
DETAIL B
SCALE 1:20

DN100 - DN450 PIPE PENETRATION TRIMMER BAR DETAIL



DETAIL A
SCALE 1:10

TYPICAL CJ DETAIL
(REFER TO DRG 6111, 6113, 6115 & 6117)



DETAIL C
SCALE 1:20

DN500 - DN750 PIPE PENETRATION TRIMMER BAR DETAIL

Sydney WATER

APPROVED

NORBERT SCHAEPER
ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION TYPICAL DETAILS SHEET 3

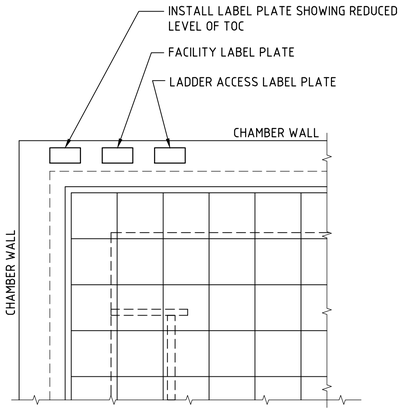
DTC
6120

ISSUE	DATE
A	30/11/24

A1

NOTES

1. REFER TO DRAWING DTC-6100 & DTC-6101 FOR GENERAL NOTES.
2. ASSET LABELS TO BE IN ACCORDANCE WITH D0001440 - SYDNEY WATER TECHNICAL SPECIFICATION - COMMISSIONING.

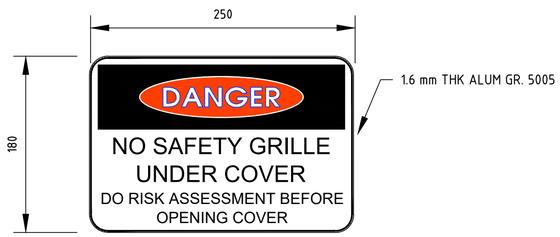


PLAN OF CHAMBER

TYPICAL LABEL PLATE LOCATIONS

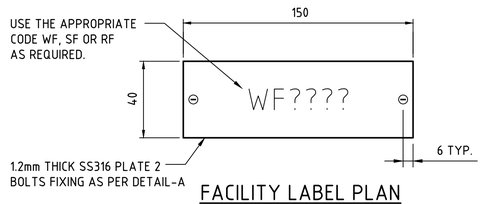
SCALE - 1:10

(LOCATED ADJACENT TO PERMANENT LADDER ACCESS CHAMBER COVER)

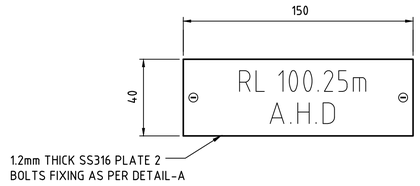


NO SAFETY GRILLE WARNING SIGN

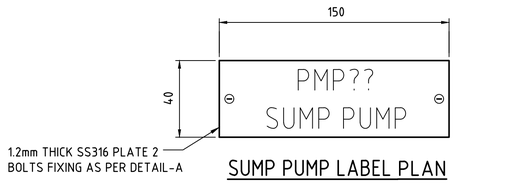
REFER FLOWMETER CHAMBER ARRANGEMENT DRAWINGS FOR SIGNAGE LOCATIONS. FOR LIGHT WEIGHT COVERS ONLY.



FACILITY LABEL PLAN

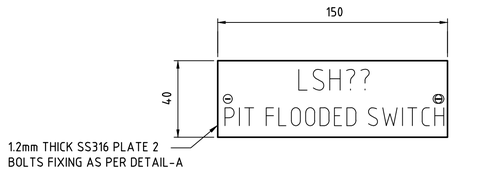


REDUCED LEVEL LABEL PLAN



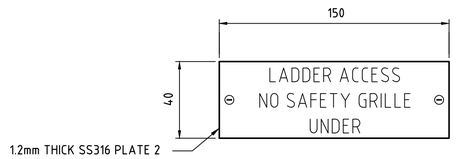
SUMP PUMP LABEL PLAN

ONLY REQUIRED WHERE PERMANENT SUMP PUMP IS INSTALLED - LABEL LOCATION ON TOP OF CHAMBER WALL ADJACENT TO SUMP PUMP

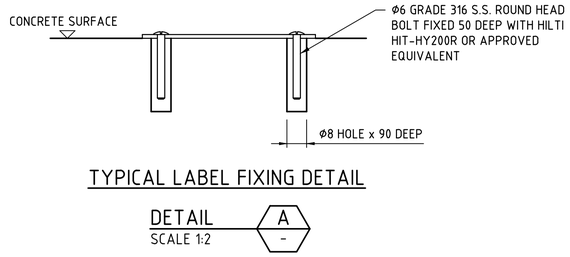


PIT FLOODED SWITCH LABEL PLAN

LABEL LOCATION ON TOP OF CHAMBER WALL ADJACENT TO LEVEL SWITCH

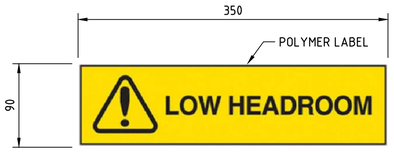


LADDER ACCESS LABEL PLAN



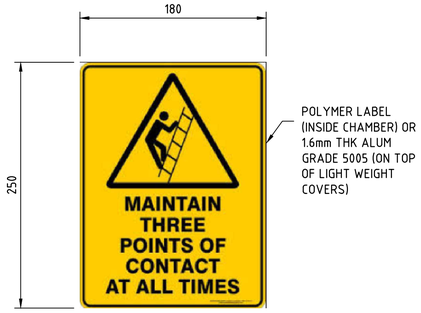
TYPICAL LABEL FIXING DETAIL

DETAIL A
SCALE 1:2



LOW HEADROOM SIGN

REFER FLOWMETER CHAMBER ARRANGEMENT DRAWINGS FOR SIGNAGE LOCATIONS. TO BE PROVIDED WHEN HEADROOM BELOW BEAM IS LESS THAN 2000mm



MAINTAIN THREE POINTS OF CONTACT SIGN

REFER FLOWMETER CHAMBER ARRANGEMENT DRAWINGS FOR SIGNAGE LOCATIONS

0 200 400 600 800 1000 1200 1400 1600 1800 2000mm

SCALE 1:20 AT ORIGINAL SIZE

Sydney WATER

APPROVED

NORBERT SCHAEPER

ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

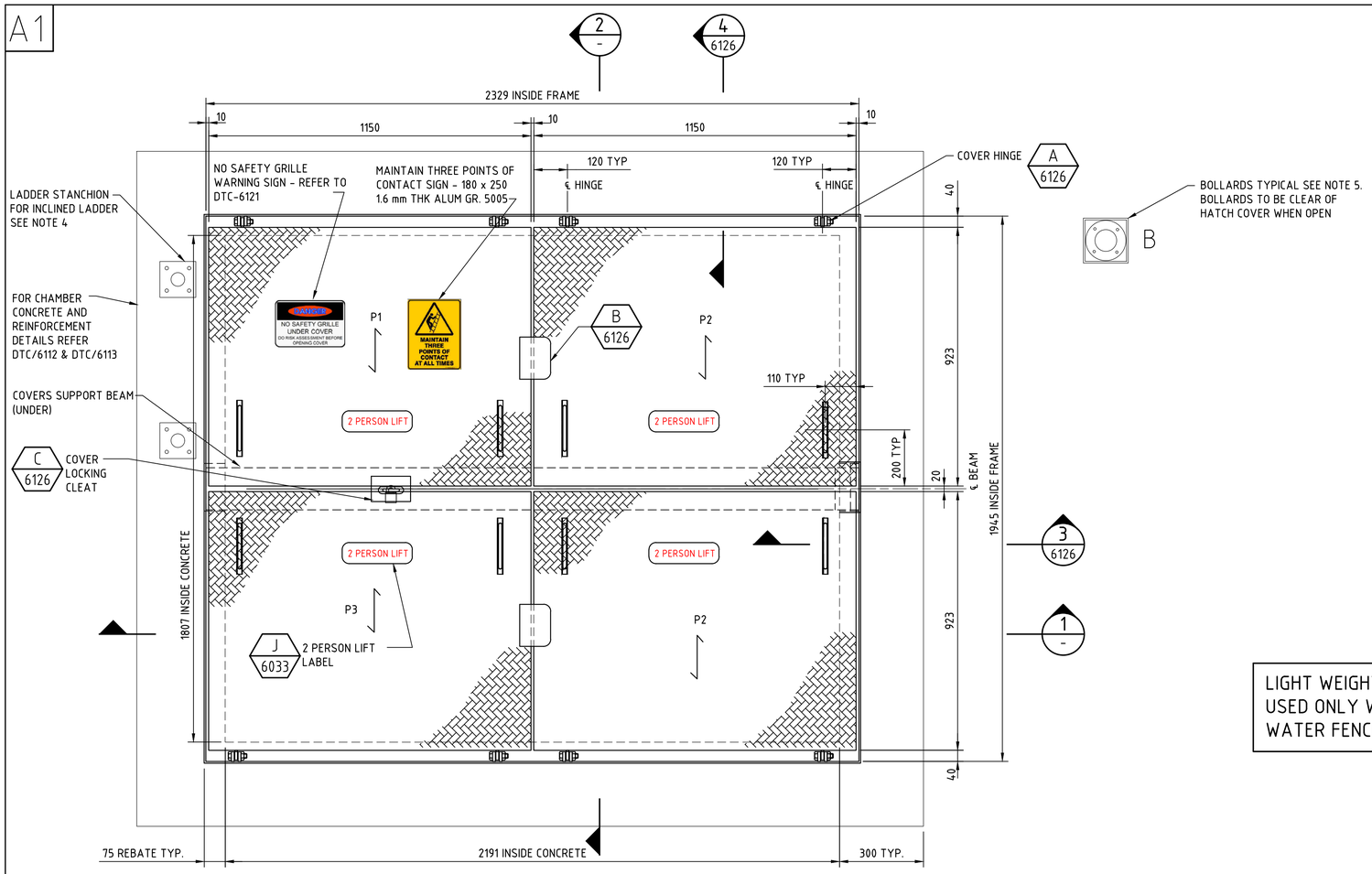
DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION TYPICAL DETAILS SHEET 4

DTC 6121

ISSUE	DATE
A	30/11/24

A1



PLAN (PIPES REMOVED FOR CLARITY. REFER DTC/6105 FOR GENERAL ARRANGEMENT)
SCALE 1:10

NOTES:

1. REFER TO DRAWING DTC-6100 & DTC-6101 FOR GENERAL NOTES.
2. ALL PANEL EDGES AND CUT-OUTS TO BE FITTED WITH EDGE BARS. ALL EDGE BARS SHALL BE 5mm THICK AND WELDED AT EVERY SECOND LOAD BAR.
3. DESIGN LIVE LOAD ON COVERS = 2.5kPa.
4. CHAMBERS INSTALLED WITH LIGHT WEIGHT COVERS IN FENCED FACILITIES TO BE FITTED WITH PERMANENT ACCESS LADDER STANCHION TO DETAIL H DTC-6035 AND INCLINED RUNG LADDER TO DTC-6036 (IN LIEU OF RETRACTABLE HANDRAIL LADDER DETAILED IN DTC-6117).
5. BOLLARDS TO BE PROVIDED IN ACCORDANCE WITH DETAILS ON DTC-6047. MAXIMUM BOLLARD SPACING OF 2m TO RESTRICT VEHICULAR ACCESS ONTO CHAMBER COVER AS REQUIRED BY SPECIFIC SITE LAYOUT. BOLLARD LOCATION TO BE CLEAR OF COVER OPENING AND ALLOW ACCESS.

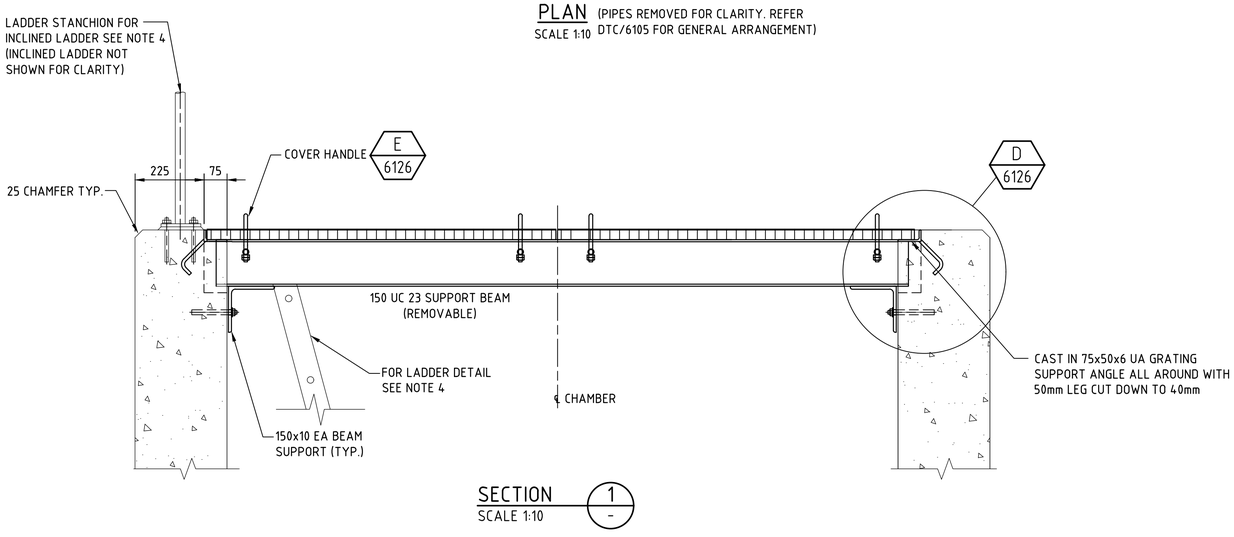
ALUMINIUM NOTES:

A1. ALUMINIUM EXTRUDED SECTIONS SHALL CONFORM TO AS1866-1997-6061-T6.
A2. ALUMINIUM FLAT SHEETS SHALL BE 5083-H321/116 UNO.
A3. WELDING AND FABRICATION OF ALUMINIUM COMPONENTS SHALL BE IN ACCORDANCE WITH AS 1664 AND AS 1665.
CATEGORY 'B' USING MIG/TIG PROCESS WITH 5356 ALLOY FILLER ROD. CARE SHALL BE EXERCISED IN THE FABRICATION OF WELDED ALUMINIUM ELEMENTS TO ENSURE ADEQUATE WELD STRENGTH.
A4. ALL BOLTS IN CONTACT WITH ALUMINIUM SHALL BE SS STEEL GRADE A4-70.
A5. ALL ALUMINIUM WELD SIZE SHALL BE EITHER MINIMUM 6MM CONTINUOUS FILLET WELD OR THE MINIMUM MEMBER THICKNESS UNO.
A6. ALL EXPOSED EDGES OF ALUMINIUM MEMBERS SHALL BE ROUNDED AT MINIMUM 3MM RADIUS.
A8. ALL WELD TESTS SHALL BE PERFORMED AS PER SWC TECHNICAL SPECIFICATION - CIVIL.
A7. U.N.O METALLIC ISOLATION TO BE PROVIDED WHERE APPLICABLE.

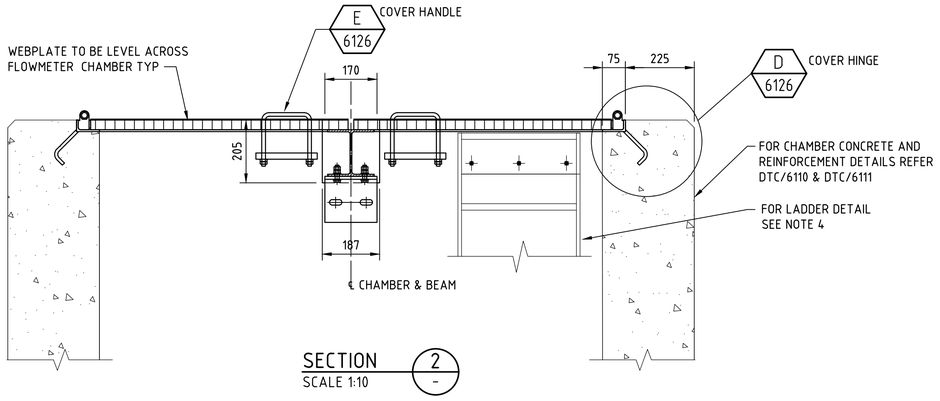
COVER PANEL SCHEDULE					
ITEM	NUMBER OFF	WEBPLATE TYPE	MASS (KG) PER PANEL	SIZE	REMARKS
P1	1	WP5-F325AP	26.4	923x1150	WITH RESTRAINING PLATES AND 6PL PADLOCK LOCKING CLEAT
P2	2	WP5-F325AP	26.4	923x1150	-
P3	1	WP5-F325AP	26.4	923x1150	WITH RESTRAINING PLATE AND DIAM 10 PADLOCK LOCKING ROD

NOTE: LIFTING MASS = HALF OF THE PANEL MASS

LIGHT WEIGHT COVERS TO BE USED ONLY WITHIN SYDNEY WATER FENCED FACILITY.



SECTION 1
SCALE 1:10



SECTION 2
SCALE 1:10

(STANCHION NOT SHOWN FOR CLARITY SEE NOTE 4)

Sydney WATER

APPROVED
NORBERT SCHAEPER
ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

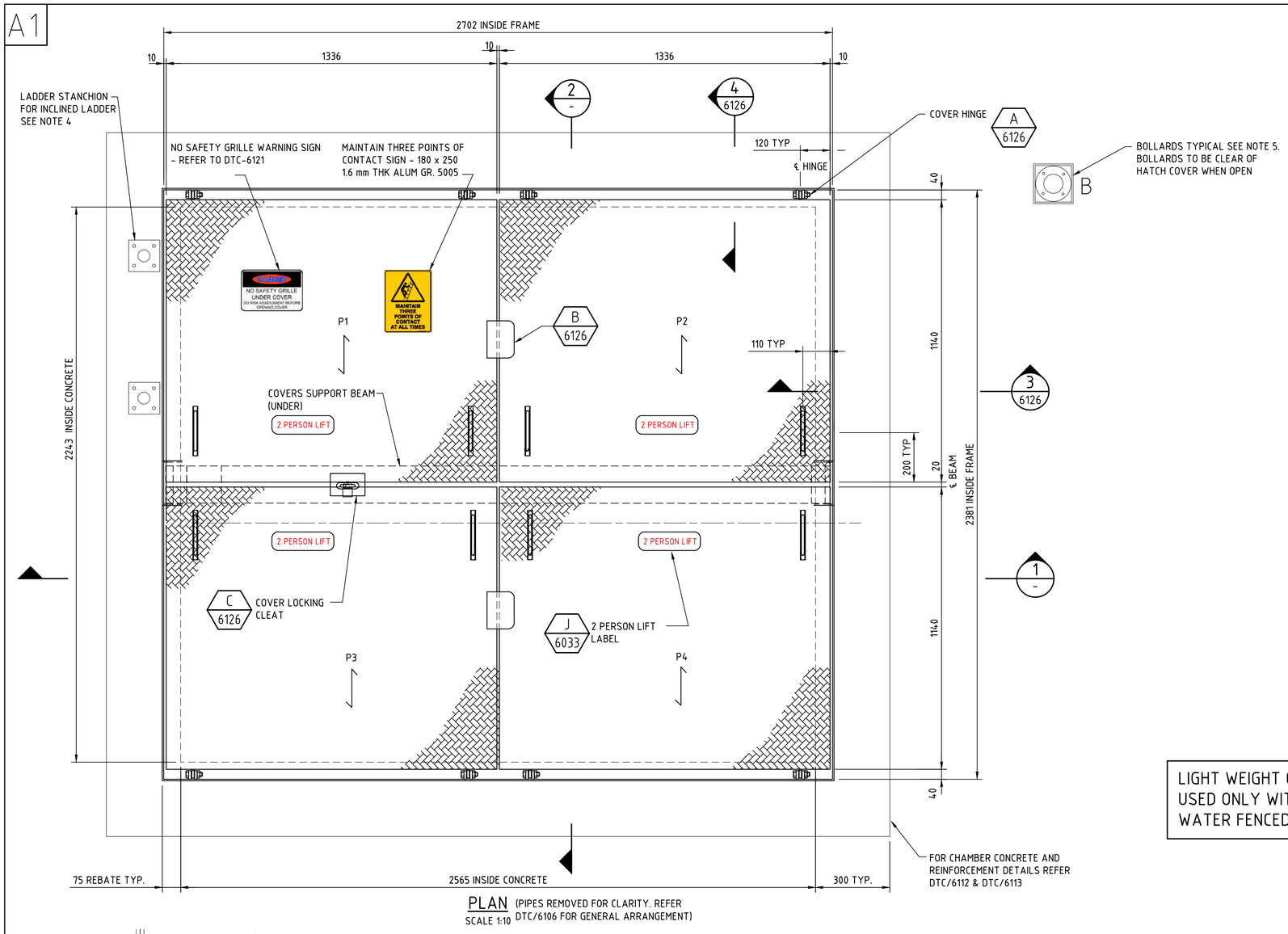
DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION DN100-DN300 MAGNETIC FLOWMETER CHAMBER LIGHT WEIGHT COVER DETAILS

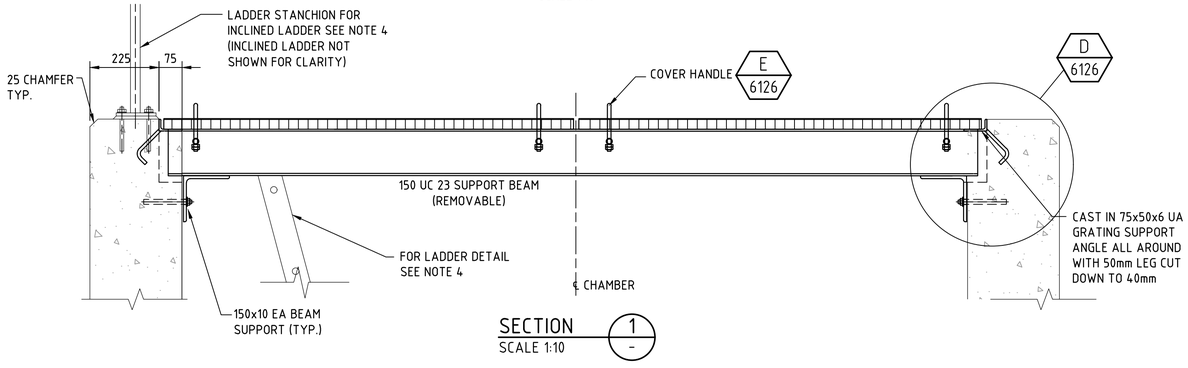
DTC 6122

ISSUE	DATE
A	30/11/24

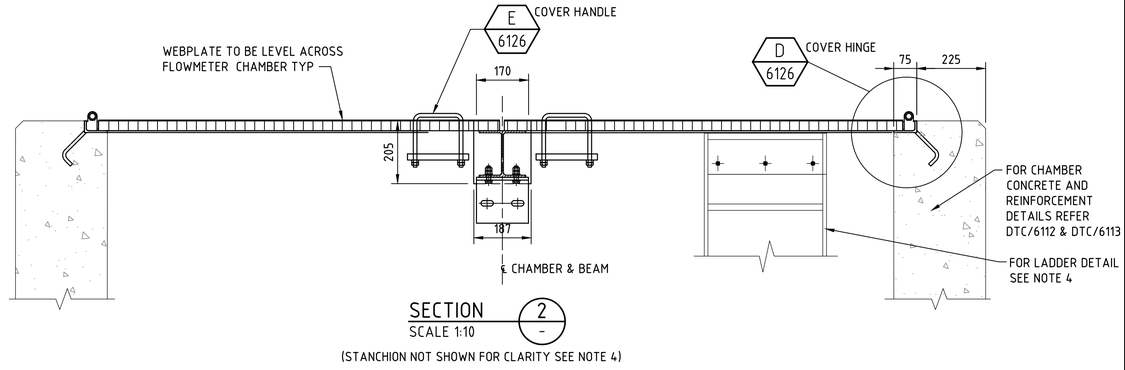
A1



PLAN SCALE 1:10 (PIPES REMOVED FOR CLARITY. REFER DTC/6106 FOR GENERAL ARRANGEMENT)



SECTION 1 SCALE 1:10



SECTION 2 SCALE 1:10

(STANCHION NOT SHOWN FOR CLARITY SEE NOTE 4)

NOTES:

1. REFER TO DRAWING DTC-6100 & DTC-6101 FOR GENERAL NOTES.
2. ALL PANEL EDGES AND CUT-OUTS TO BE FITTED WITH EDGE BARS. ALL EDGE BARS SHALL BE 5mm THICK AND WELDED AT EVERY SECOND LOAD BAR.
3. DESIGN LIVE LOAD ON COVERS = 2.5kPa.
4. CHAMBERS INSTALLED WITH LIGHT WEIGHT COVERS IN FENCED FACILITIES TO BE FITTED WITH PERMANENT ACCESS LADDER STANCHION TO DETAIL H DTC-6035 AND INCLINED RUNG LADDER TO DTC-6036 (IN LIEU OF RETRACTABLE HANDRAIL LADDER DETAILED IN DTC-6117).
5. BOLLARDS TO BE PROVIDED IN ACCORDANCE WITH DETAILS ON DTC-6047. MAXIMUM BOLLARD SPACING OF 2m TO RESTRICT VEHICULAR ACCESS ONTO CHAMBER COVER AS REQUIRED BY SPECIFIC SITE LAYOUT. BOLLARD LOCATION TO BE CLEAR OF COVER OPENING AND ALLOW ACCESS.

ALUMINIUM NOTES:

A1. ALUMINIUM EXTRUDED SECTIONS SHALL CONFORM TO AS1866-1997-6061-T6.
A2. ALUMINIUM FLAT SHEETS SHALL BE 5083-H321/116 UNO.
A3. WELDING AND FABRICATION OF ALUMINIUM COMPONENTS SHALL BE IN ACCORDANCE WITH AS 1664 AND AS 1665.
CATEGORY 'B' USING MIG/TIG PROCESS WITH 5356 ALLOY FILLER ROD. CARE SHALL BE EXERCISED IN THE FABRICATION OF WELDED ALUMINIUM ELEMENTS TO ENSURE ADEQUATE WELD STRENGTH.
A4. ALL BOLTS IN CONTACT WITH ALUMINIUM SHALL BE SS STEEL GRADE A4-70.
A5. ALL ALUMINIUM WELD SIZE SHALL BE EITHER MINIMUM 6MM CONTINUOUS FILLET WELD OR THE MINIMUM MEMBER THICKNESS UNO.
A6. ALL EXPOSED EDGES OF ALUMINIUM MEMBERS SHALL BE ROUNDED AT MINIMUM 3MM RADIUS.
A8. ALL WELD TESTS SHALL BE PERFORMED AS PER SWC TECHNICAL SPECIFICATION - CIVIL.
A7. U.N.O METALLIC ISOLATION TO BE PROVIDED WHERE APPLICABLE.

COVER PANEL SCHEDULE

ITEM	NUMBER OFF	WEBPLATE TYPE	MASS (KG) PER PANEL	SIZE	REMARKS
P1	1	WP5-F325AP	40.05	1140 X 1336	WITH RESTRAINING PLATES AND 6PL PADLOCK LOCKING CLEAT
P2	1	WP5-F325AP	40.05	1140 X 1336	
P3	1	WP5-F325AP	40.05	1140 X 1336	WITH RESTRAINING PLATE AND DIAM 10 PADLOCK LOCKING ROD
P4	1	WP5-F325AP	40.05	1140 X 1336	

NOTE: LIFTING MASS = HALF OF THE PANEL MASS

LIGHT WEIGHT COVERS TO BE USED ONLY WITHIN SYDNEY WATER FENCED FACILITY.

Sydney WATER

APPROVED

NORBERT SCHAEPER

ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

DEEMED TO COMPLY DRAWINGS

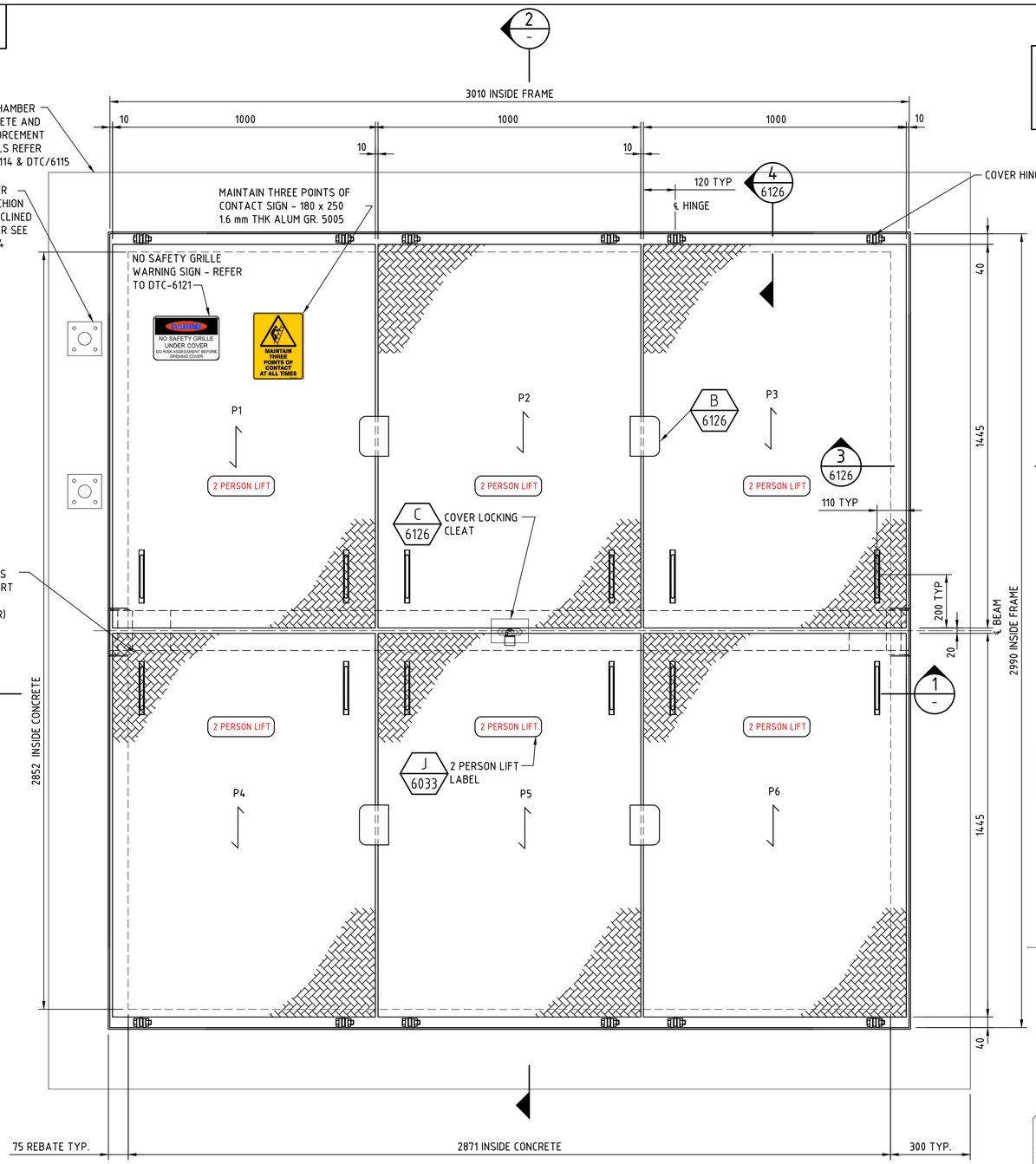
FLOWMETER INSTALLATION DN350-DN450 MAGNETIC FLOWMETER CHAMBER LIGHT WEIGHT COVER DETAILS

DTC 6123

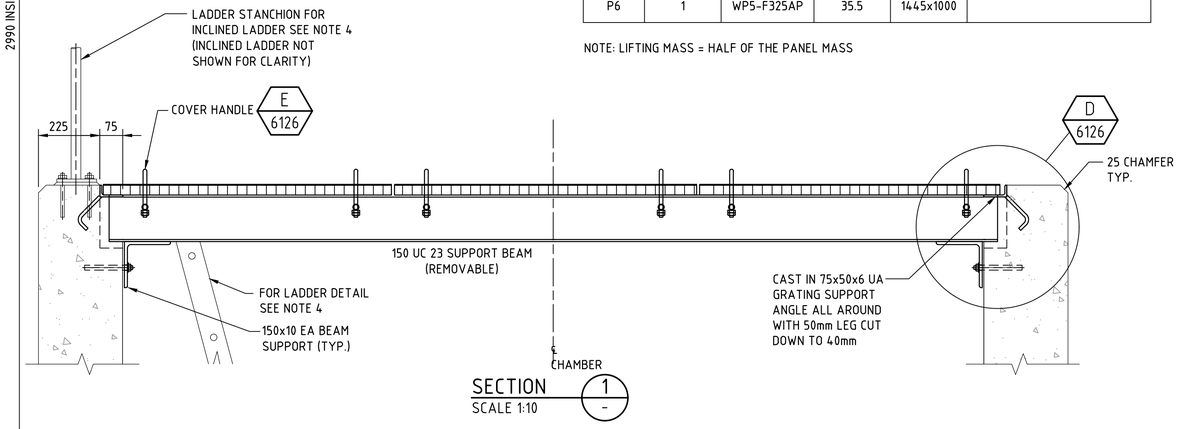
ISSUE	DATE
A	30/11/24

A1

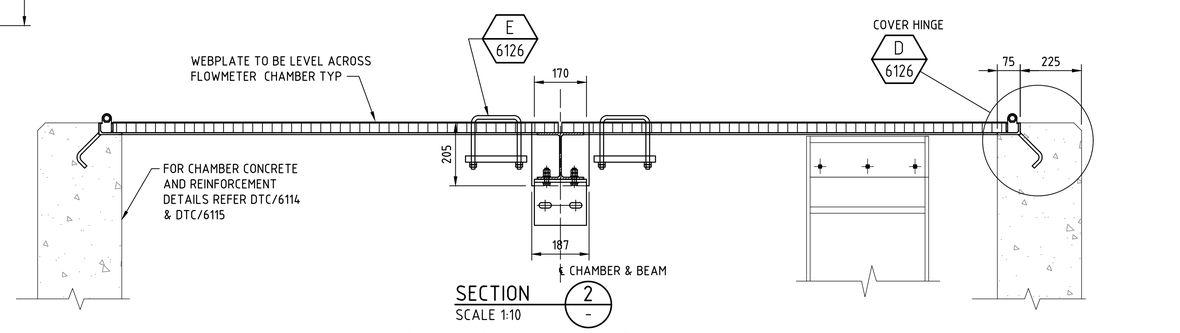
LIGHT WEIGHT COVERS TO BE USED ONLY WITHIN SYDNEY WATER FENCED FACILITY.



PLAN (PIPES REMOVED FOR CLARITY. REFER DTC/6107 FOR GENERAL ARRANGEMENT)
SCALE 1:10



SECTION 1 / - SCALE 1:10



SECTION 2 / - SCALE 1:10

(STANCHION NOT SHOWN FOR CLARITY SEE NOTE 4)

NOTES:

1. REFER TO DRAWING DTC-6100 & DTC-6101 FOR GENERAL NOTES.
2. ALL PANEL EDGES AND CUT-OUTS TO BE FITTED WITH EDGE BARS. ALL EDGE BARS SHALL BE 5mm THICK AND WELDED AT EVERY SECOND LOAD BAR.
3. DESIGN LIVE LOAD ON COVERS = 2.5kPa.
4. CHAMBERS INSTALLED WITH LIGHT WEIGHT COVERS IN FENCED FACILITIES TO BE FITTED WITH PERMANENT ACCESS LADDER STANCHION TO DETAIL H DTC-6035 AND INCLINED RUNG LADDER TO DTC-6036 (IN LIEU OF RETRACTABLE HANDRAIL LADDER DETAILED IN DTC-6117).
5. BOLLARDS TO BE PROVIDED IN ACCORDANCE WITH DETAILS ON DTC-6047. MAXIMUM BOLLARD SPACING OF 2m TO RESTRICT VEHICULAR ACCESS ONTO CHAMBER COVER AS REQUIRED BY SPECIFIC SITE LAYOUT. BOLLARD LOCATION TO BE CLEAR OF COVER OPENING AND ALLOW ACCESS.

ALUMINIUM NOTES:

A1. ALUMINIUM EXTRUDED SECTIONS SHALL CONFORM TO AS1866-1997-6061-T6.
A2. ALUMINIUM FLAT SHEETS SHALL BE 5083-H321/116 UNO.
A3. WELDING AND FABRICATION OF ALUMINIUM COMPONENTS SHALL BE IN ACCORDANCE WITH AS 1664 AND AS 1665. CATEGORY 'B' USING MIG/TIG PROCESS WITH 5356 ALLOY FILLER ROD. CARE SHALL BE EXERCISED IN THE FABRICATION OF WELDED ALUMINIUM ELEMENTS TO ENSURE ADEQUATE WELD STRENGTH.
A4. ALL BOLTS IN CONTACT WITH ALUMINIUM SHALL BE SS STEEL GRADE A4-70.
A5. ALL ALUMINIUM WELD SIZE SHALL BE EITHER MINIMUM 6MM CONTINUOUS FILLET WELD OR THE MINIMUM MEMBER THICKNESS UNO.
A6. ALL EXPOSED EDGES OF ALUMINIUM MEMBERS SHALL BE ROUNDED AT MINIMUM 3MM RADIUS.
A8. ALL WELD TESTS SHALL BE PERFORMED AS PER SWC TECHNICAL SPECIFICATION - CIVIL.
A7. U.N.O METALLIC ISOLATION TO BE PROVIDED WHERE APPLICABLE.

COVER PANEL SCHEDULE

ITEM	NUMBER OFF	WEBPLATE TYPE	MASS (KG) PER PANEL	SIZE	REMARKS
P1	1	WP5-F325AP	35.5	1445x1000	
P2	1	WP5-F325AP	35.5	1445x1000	WITH 2 RESTRAINING PLATE AND DIAM 10 PADLOCK LOCKING ROD
P3	1	WP5-F325AP	35.5	1445x1000	
P4	1	WP5-F325AP	35.5	1445x1000	
P5	1	WP5-F325AP	35.5	1445x1000	WITH 2 RESTRAINING PLATE AND DIAM 10 PADLOCK LOCKING ROD
P6	1	WP5-F325AP	35.5	1445x1000	

NOTE: LIFTING MASS = HALF OF THE PANEL MASS

Sydney WATER

APPROVED
NORBERT SCHAEPER
ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

DEEMED TO COMPLY DRAWINGS

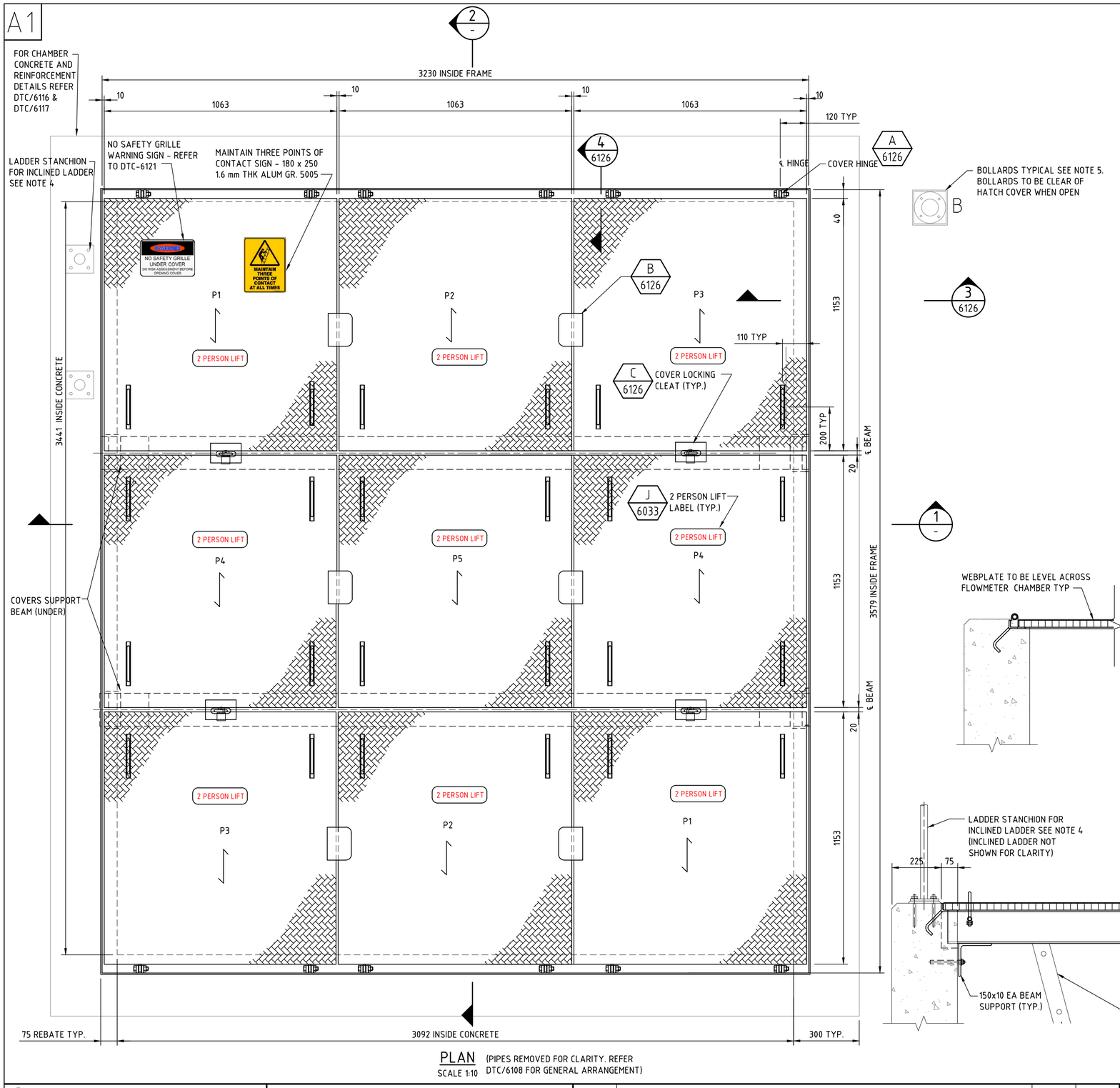
FLOWMETER INSTALLATION DN500-DN750 MAGNETIC FLOWMETER CHAMBER LIGHT WEIGHT COVER DETAILS

DTC
6124

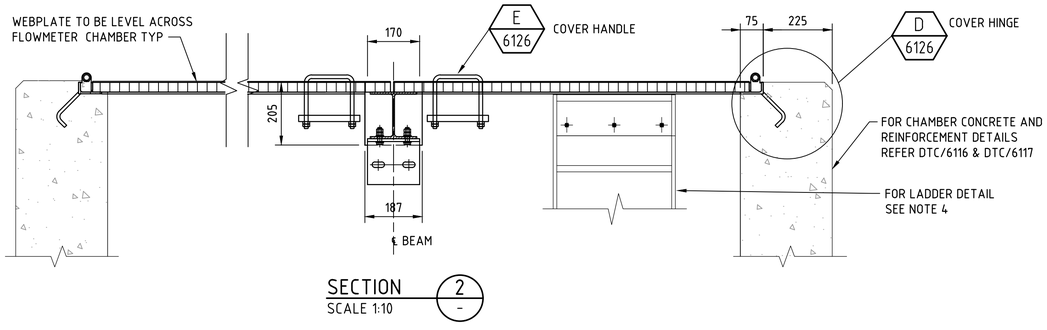
ISSUE	DATE
A	30/11/24

A1

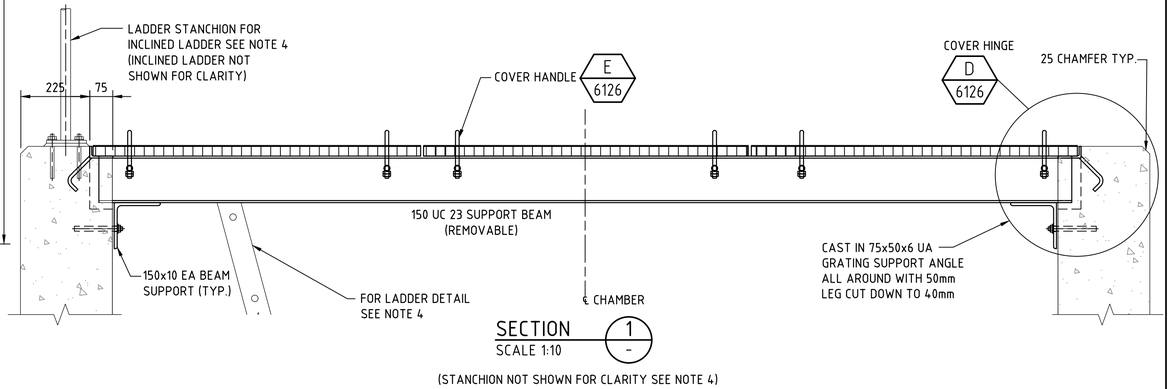
THIS DRAWING MAY ONLY BE USED IN THE COURSE OF AND FOR THE PURPOSE OF CREATING SYDNEY WATER ASSETS. USE THIS DRAWING WITH CARE. THE USER IS RESPONSIBLE FOR THE CORRECT APPLICATION OF THIS DRAWING.



PLAN
SCALE 1:10
(PIPES REMOVED FOR CLARITY. REFER DTC/6108 FOR GENERAL ARRANGEMENT)



SECTION 2
SCALE 1:10



SECTION 1
SCALE 1:10
(STANCHION NOT SHOWN FOR CLARITY SEE NOTE 4)

NOTES:

1. REFER TO DRAWING DTC-6100 & DTC-6101 FOR GENERAL NOTES.
2. ALL PANEL EDGES AND CUT-OUTS TO BE FITTED WITH EDGE BARS. ALL EDGE BARS SHALL BE 5mm THICK AND WELDED AT EVERY SECOND LOAD BAR.
3. DESIGN LIVE LOAD ON COVERS = 2.5kPa.
4. CHAMBERS INSTALLED WITH LIGHT WEIGHT COVERS IN FENCED FACILITIES TO BE FITTED WITH PERMANENT ACCESS LADDER STANCHION TO DETAIL H DTC-6035 AND INCLINED RUNG LADDER TO DTC-6036 (IN LIEU OF RETRACTABLE HANDRAIL LADDER DETAILED IN DTC-6117).
5. BOLLARDS TO BE PROVIDED IN ACCORDANCE WITH DETAILS ON DTC-6047. MAXIMUM BOLLARD SPACING OF 2m TO RESTRICT VEHICULAR ACCESS ONTO CHAMBER COVER AS REQUIRED BY SPECIFIC SITE LAYOUT. BOLLARD LOCATION TO BE CLEAR OF COVER OPENING AND ALLOW ACCESS.

ALUMINIUM NOTES:

A1. ALUMINIUM EXTRUDED SECTIONS SHALL CONFORM TO AS1866-1997-6061-T6.
A2. ALUMINIUM FLAT SHEETS SHALL BE 5083-H321/116 UNO.
A3. WELDING AND FABRICATION OF ALUMINIUM COMPONENTS SHALL BE IN ACCORDANCE WITH AS 1664 AND AS 1665. CATEGORY 'B' USING MIG/TIG PROCESS WITH 5356 ALLOY FILLER ROD. CARE SHALL BE EXERCISED IN THE FABRICATION OF WELDED ALUMINIUM ELEMENTS TO ENSURE ADEQUATE WELD STRENGTH.
A4. ALL BOLTS IN CONTACT WITH ALUMINIUM SHALL BE SS STEEL GRADE A4-70.
A5. ALL ALUMINIUM WELD SIZE SHALL BE EITHER MINIMUM 6MM CONTINUOUS FILLET WELD OR THE MINIMUM MEMBER THICKNESS UNO.
A6. ALL EXPOSED EDGES OF ALUMINIUM MEMBERS SHALL BE ROUNDED AT MINIMUM 3MM RADIUS.
A8. ALL WELD TESTS SHALL BE PERFORMED AS PER SWC TECHNICAL SPECIFICATION - CIVIL.
A7. U.N.O METALLIC ISOLATION TO BE PROVIDED WHERE APPLICABLE.

COVERS PANEL SCHEDULE

ITEM	NUMBER OFF	WEBPLATE TYPE	MASS (KG) PER PANEL	SIZE	REMARKS
P1	2	WP5-F325AP	30.5	1153x1063	WITH RESTRAINING PLATES AND 6PL PADLOCK LOCKING CLEAT
P2	2	WP5-F325AP	30.5	1153x1063	
P3	2	WP5-F325AP	30.5	1153x1063	WITH RESTRAINING PLATES AND 6PL PADLOCK LOCKING CLEAT
P4	2	WP5-F325AP	30.5	1153x1063	UNHINGED COVER WITH 2 DIAM 10 PADLOCK LOCKING ROD & 4 HANDLES
P5	1	WP5-F325AP	30.5	1153x1063	UNHINGED COVER WITH 4 HANDLES

NOTE: LIFTING MASS = HALF OF THE PANEL MASS

Sydney WATER

APPROVED
NORBERT SCHAEPER
ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION DN600-DN750 ULTRASONIC FLOWMETER CHAMBER LIGHT WEIGHT COVER DETAILS

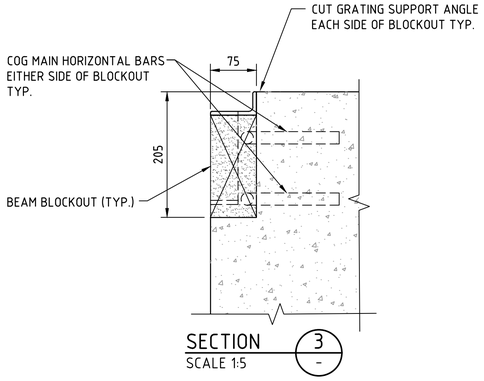
DTC
6125

ISSUE	DATE
A	30/11/24

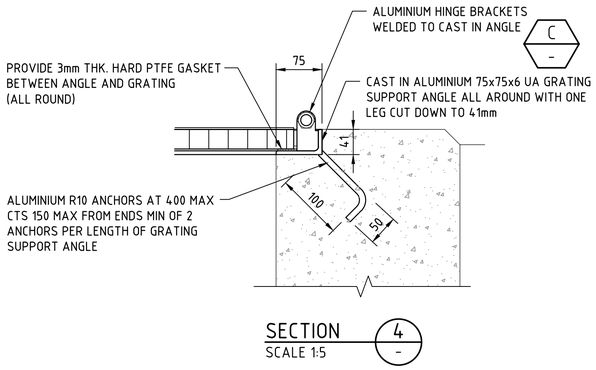
A1

NOTES:

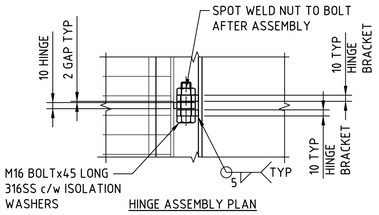
1. REFER TO DRAWING DTC-6100 AND DTC-6101 FOR GENERAL NOTES.
2. ALL SUPPORT STEEL METALWORK TO BE HOT DIP GALVANISED AFTER FABRICATION TO AS 4680, WSA 201.
3. 'ZRE' (AS PER WSA201) TO BE USED FOR REPAIR OF DAMAGED GALVANISED STEEL.
4. ALL WELDS TO BE 6mm CONTINUOUS FILLET WELD ALL ROUND UNLESS NOTED OTHERWISE AND CONFORM TO SWC TECHNICAL SPECIFICATION - CIVIL.



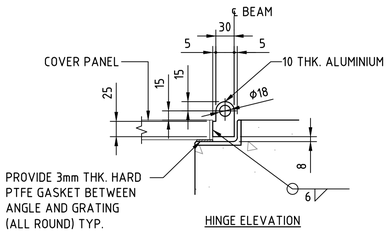
SECTION 3 / SCALE 1:5



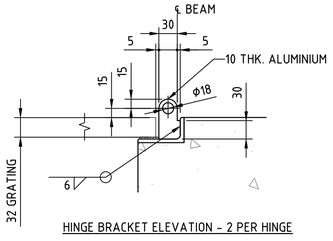
SECTION 4 / SCALE 1:5



HINGE ASSEMBLY PLAN



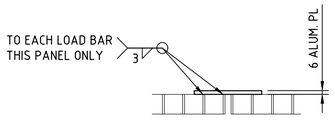
HINGE ELEVATION



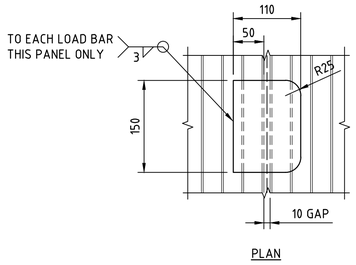
HINGE BRACKET ELEVATION - 2 PER HINGE

GRATING COVER HINGE

DETAIL A / SCALE 1:5



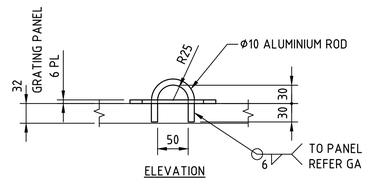
ELEVATION



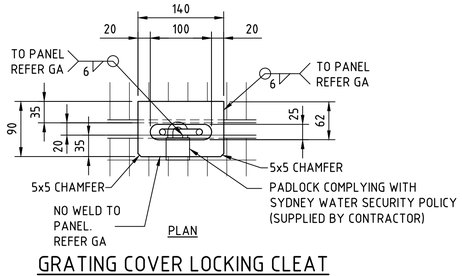
PLAN

RESTRAINING PLATE

DETAIL B / SCALE 1:5



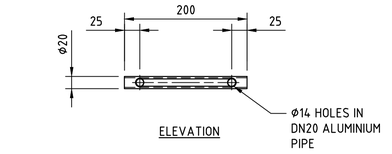
ELEVATION



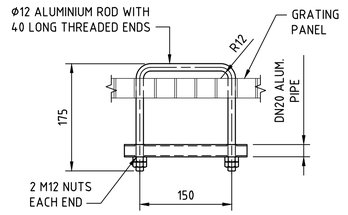
PLAN

GRATING COVER LOCKING CLEAT

DETAIL C / SCALE 1:5



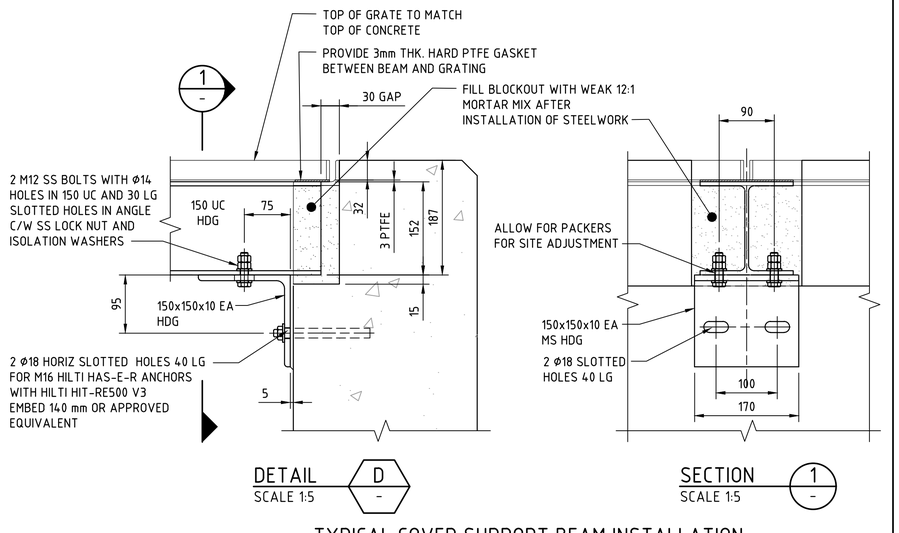
ELEVATION



PLAN

GRATING COVER HANDLE

DETAIL E / SCALE 1:5



DETAIL D / SCALE 1:5

SECTION 1 / SCALE 1:5

TYPICAL COVER SUPPORT BEAM INSTALLATION

Sydney WATER

APPROVED

NORBERT SCHAEPER

ENGINEERING MODERNISATION MANAGER

ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
A	ORIGINAL ISSUE	N.S.	30.11.24

DEEMED TO COMPLY DRAWINGS

FLOWMETER INSTALLATION TYPICAL DETAILS LIGHT WEIGHT COVERS

DTC 6126

ISSUE	DATE
A	30/11/24