NOTES:

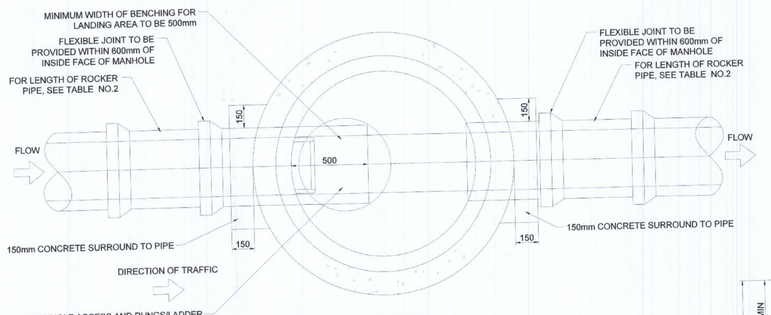
1. DO NOT SCALE FROM THIS DRAWING. USE STATED DIMENSIONS ONLY. IF IN DOUBT, CONSULT THE ENGINEER.
2. LEVELS REFER TO O.S. DATUM MALIN HEAD.
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION.
4. FOR ALL INLETS, OUTLETS AND BRANCHES MATCH CROWN LEVELS UNLESS INDICATED OTHERWISE ELSEWHERE.
5. BLINDING CONCRETE SHALL BE CLASS C12/15 TO E.N. 206-1. BLINDING SHALL BE A MINIMUM THICKNESS OF 100mm.
6. FOUNDATION CONCRETE SHALL BE CLASS C32/40 Dmax=20mm TO E.N. 206-1. FOUNDATIONS SHALL BE A MINIMUM THICKNESS OF 225mm.
7. PRECAST MANHOLE SIZES TO BE IN ACCORDANCE WITH TABLE 1.
8. PRECAST MANHOLE CHAMBER WALLS, COVER SLABS AND REDUCING SLABS TO BE CONSTRUCTED TO I.S. E.N. 1917 AND I.S. 420 2004
9. FOR BEDDING AND SEALING OF CHAMBER RINGS, THE TOP RING (TO PRE CAST COVER SLAB) AND BOTTOM RING TO BE BEDDED WITH CEMENT MORTAR. FOR INTERMEDIATE RINGS, JOINTS TO BE SEALED WITH TYPE 2 RUBBER GASKETS AND JOINTING RINGS TO BS 2494.
10. PRE CAST MANHOLES TO BE SURROUNDED WITH A MINIMUM OF 150mm THICK CONCRETE CLASS C32/40 Dmax=40mm TO E.N. 206-1
11. BENCHING AND PIPE CHANNEL PIPE SURROUND - CONCRETE CLASS C16/20 Dmax=20mm TO E.N. 206-1.
12. BENCHING FINISHED IN MINIMUM 25mm THICK 2:1 SAND:CEMENT MORTAR WITH A SMOOTH TROWEL FINISH, AT 1 IN 30 SLOPE TOWARDS CHANNEL.
13. 1 TO 2 COURSES OF SOLID ENGINEERING BRICKS CLASS B TO I.S.91:1983 SET IN 3:1 SAND: CEMENT MORTAR.
14. MANHOLE COVERS AND FRAMES TO BE CLASS D400 OR E600 TO I.S. E.N. 124. 150mm DEEP FRAME FOR ROADS AND 100mm DEEP FOR FOOTPATHS AND GREEN AREAS. NON-ROCK DESIGN, CLOSED KEYWAYS, MANUFACTURED FROM SPHEROIDAL GRAPHITE CAST IRON (DUCTILE CAST IRON), COVER AND FRAME COATED IN BITUMEN OR OTHER APPROVED MATERIAL, COVER TO HAVE A MINIMUM MASS OF 140kg/m², FRAME BEARING AREA SHALL BE 80,000mm² MINIMUM. FRAMES SHALL BE DESIGNED TO PREVENT COVERS FALLING INTO MANHOLE. FRAMES SHALL BE BEDDED ON APPROVED MORTAR TO MANUFACTURER'S INSTRUCTIONS.
15. MANHOLE COVERS, FRAMES, REGULATING COURSES AND SLAB OPES TO PROVIDE CLEAR OPENING OF 600mmX600mm (OR 600mm DIAMETER).
16. SAFETY CHAINS TO BE PROVIDED ON PIPES THAT EXCEED 450mm IN DIAMETER. MILD STEEL SAFETY CHAIN SHALL BE 10mm NOMINAL SIZE GRADE M(H) NON-CALIBRATED CHAIN, TYPE 1, COMPLYING WITH BS4942 PART 2 OR EQUIVALENT.
17. STANDARD RUNGS AT 300mm c/c VERTICALLY AND GALVANIZED TO THE LATEST VERSION OF BS 729 OR EQUIVALENT. NOTE: STEPS IRONS ARE NOT ACCEPTABLE.
18. LADDER STRINGERS SHOULD BE ADEQUATELY SUPPORTED FROM THE MANHOLE WALL AT INTERVALS OF NOT MORE THAN 2.0m STRINGERS SHOULD BE BOLTED TO CLEATS TO FACILITATE RENEWAL.
19. DISTANCE FROM THE TOP RUNG OF THE LADDER TO GROUND LEVEL MUST BE A MAXIMUM OF 675mm.
20. ALL LADDERS, RUNGS, SAFETY CHAINS ETC SHALL BE HOT DIP GALVANIZED TO BS729 OR EQUIVALENT.
21. MANHOLE OPENINGS TO BE SITUATED FURTHEST FROM THE NEAREST CARRIAGEWAY. MANHOLE STEPS / ACCESS TO BE POSITIONED TO ALLOW VIEWING OF ONCOMING TRAFFIC.
22. SHORT LENGTH PIPE AND PIPE JOINT EXTERNAL TO MANHOLE SHALL NOT EXCEED 600mm FROM THE INNER FACE OF MANHOLE WALL.
23. BLOCK WORK SHALL BE BEDDED AND JOINTED USING MORTAR TO I.S. 406. BEDS AND VERTICAL JOINTS SHALL BE COMPLETELY FILLED WITH MORTAR AS THE BLOCKS ARE LAID. JOINTS SHALL BE FLUSH POINTED AS THE WORK PROCEEDS.
24. RELIEVING ARCH FORMED BY 215x103x65 SOLID ENGINEERING BRICK CLASS A OR B AS PER DRAWING. RELIEVING ARCHES USED IN BRICK OR BLOCK WORK MANHOLES EXTEND OVER FULL THICKNESS OF WALL. A DOUBLE ARCH IS TO BE FORMED FOR PIPE DIAMETERS GREATER THAN 600mm.
25. ALL MANHOLES TO BE WATERTIGHT TO THE SATISFACTION OF THE ENGINEER.

TABLE NO. 1

DIA. OF LARGEST PIPE IN MH (mm)	MINIMUM INTERNAL DIAMETER OF MH (mm)		
	TYPE J	TYPE K	TYPE L
LESS THAN 600	1200	1200	1500
600	1200	1200	1500
675	1350	1350	1500
750	1350	1500	1500
900	1500	1500	1500
1050	2100	2100	2100
1200	2100	2100	2100

TABLE NO. 2

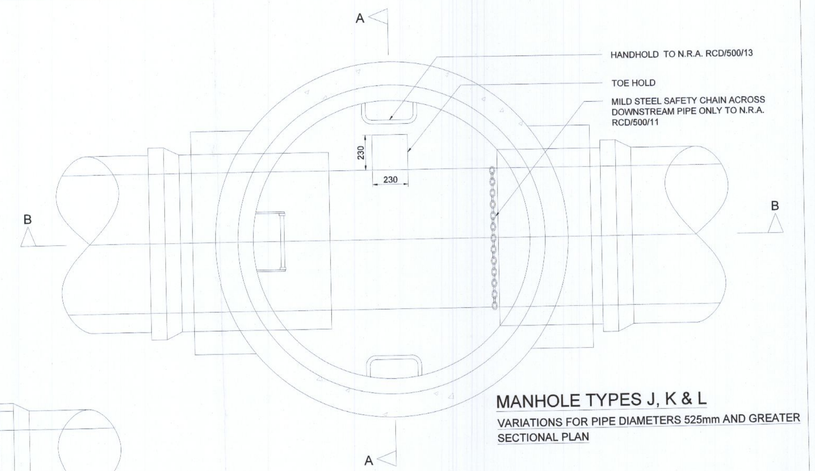
DIA. OF PIPE (mm)	LENGTH OF ROCKER PIPE (mm)
150-600	600
675-750	1000
>750	1250



MANHOLE TYPES J, K & L

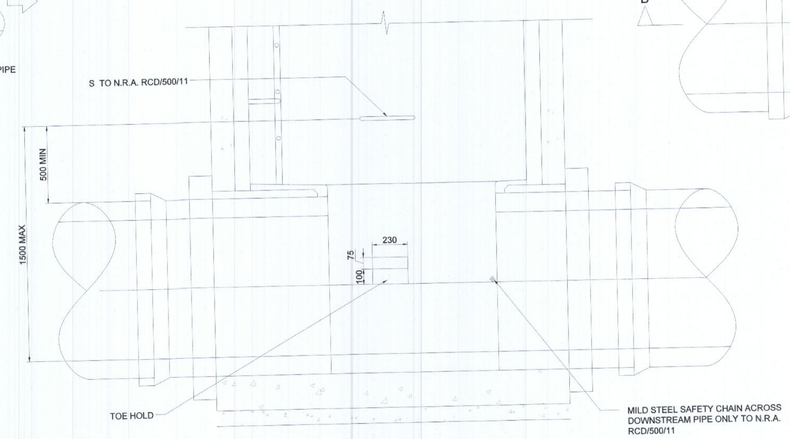
TYPICAL MANHOLE WITH STRAIGHT INVERT
SECTIONAL PLAN

PLANNING DRAWING.
NOT FOR CONSTRUCTION.
ALL LEVELS GIVEN ARE
RELATIVE TO ORDNANCE DATUM.
THIS DRAWING HAS BEEN ISSUED FOR INFORMATION PURPOSES ONLY AND MUST NOT BE USED FOR CONSTRUCTION UNDER ANY CIRCUMSTANCES



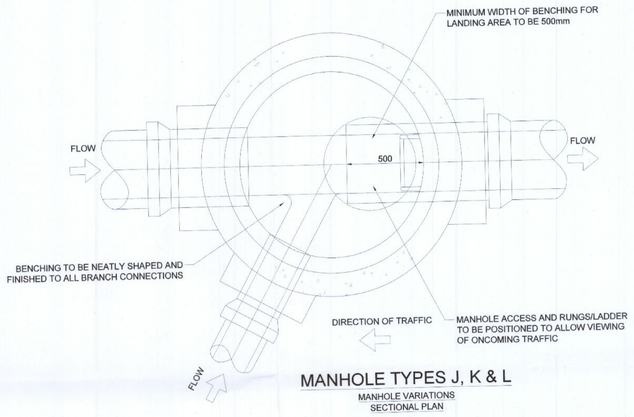
MANHOLE TYPES J, K & L

VARIATIONS FOR PIPE DIAMETERS 525mm AND GREATER
SECTIONAL PLAN



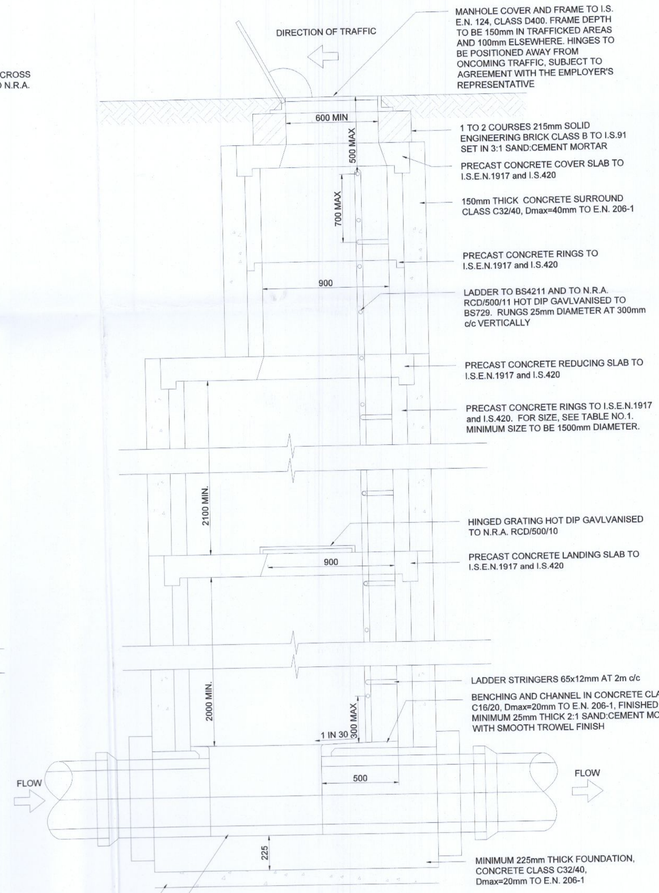
MANHOLE TYPES J, K & L

VARIATIONS FOR PIPE DIAMETERS 525mm AND GREATER
SECTION B-B



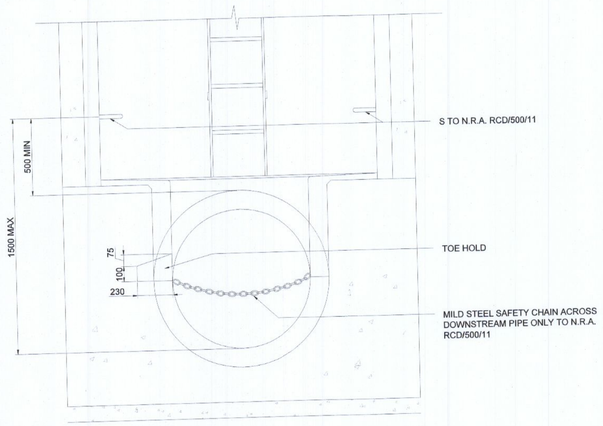
MANHOLE TYPES J, K & L

MANHOLE VARIATIONS
SECTIONAL PLAN



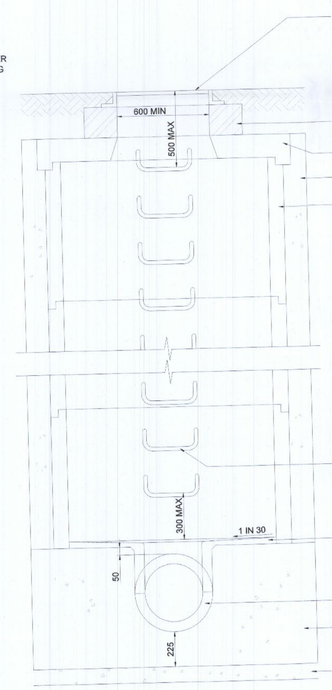
MANHOLE TYPE L

DEPTH OF COVER TO CROWN 6.0m MIN TO 12m MAX
CROSS SECTION



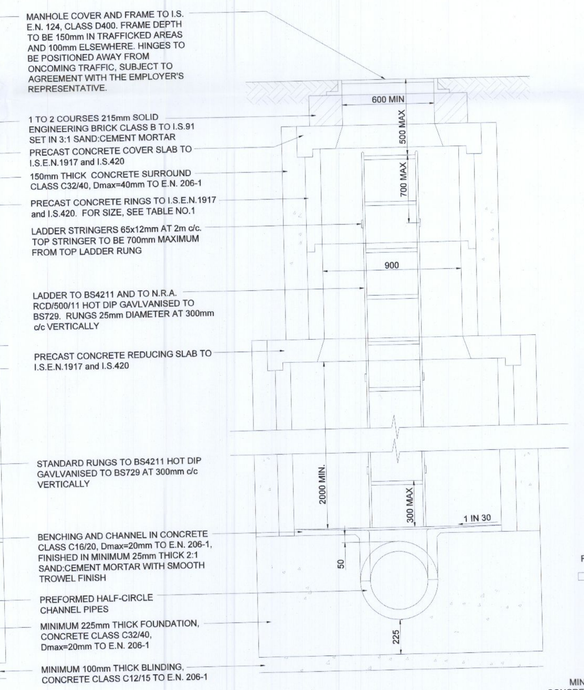
MANHOLE TYPES J, K & L

VARIATIONS FOR PIPE DIAMETERS 525mm AND GREATER
SECTION A-A



MANHOLE TYPE J

DEPTH OF COVER TO CROWN 1.0m MIN TO 3.0m MAX
CROSS SECTION



MANHOLE TYPE K

DEPTH OF COVER TO CROWN 3.0m MIN TO 6.0m MAX
CROSS SECTION

ORDNANCE SURVEY OF IRELAND LICENCE NO. CYAL50213875 © GOVERNMENT OF IRELAND

- FOR SETTING OUT REFER TO ARCHITECT'S DRAWINGS.
- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER ARCHITECTURAL AND ENGINEERING DRAWINGS AND ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.
- DO NOT SCALE THIS DRAWING. USE FIGURED DIMENSIONS ONLY.
- NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR STORED IN ANY RETRIEVAL SYSTEM OF ANY NATURE WITHOUT THE WRITTEN PERMISSION OF O'CONNOR SUTTON CRONIN AS COPYRIGHT HOLDER EXCEPT AS AGREED FOR USE ON THE PROJECT FOR WHICH THE DOCUMENT WAS ORIGINALLY ISSUED.

Rev No.	Date	Revision Note	Drn by	Chkd by
P01	06.09.22	SUITABLE FOR INFORMATION	RP	PR
P02	14.09.22	SUITABLE FOR PLANNING	COR	PR

Rev No.	Date	Revision Note	Drn by	Chkd by

ENVIRONMENT ISO 14001:2015 NSAI Certified
QUALITY ISO 9001:2015 NSAI Certified
HEALTH & SAFETY OHSAS 18001:2007 NSAI Certified
bsi. BSI Verified Design & Construction Management Delivery PAS 1192-2

Head Office,
9 Prussia Street,
Dublin 7.
D07 KT57

TEL +353 (0)1 8682000

e: contactus@ocsc.ie
w: www.ocsc.ie

OCSC
O'CONNOR | BUTTON | CRONIN
Multidisciplinary Consulting Engineers

Dublin | London | Belfast | Galway | Cork | Birmingham

Client: BARTRA PROPERTY COOKSTOWN LIMITED
Project: TRANSITIONAL CARE FACILITY
COOKSTOWN INDUSTRIAL ESTATE, DUBLIN 24
Title: DRAINAGE DETAILS
SHEET 3 OF 6

Code	Originator	Zone	Level	Type	Role	Number	Status	Revision
B981	OCSC	XX	XX	DR	C	0532	S4	P02

Date: 06.09.22 Scale:SHWN @ A1 Drn by:COR Chkd by:PR Aprvd by:AH