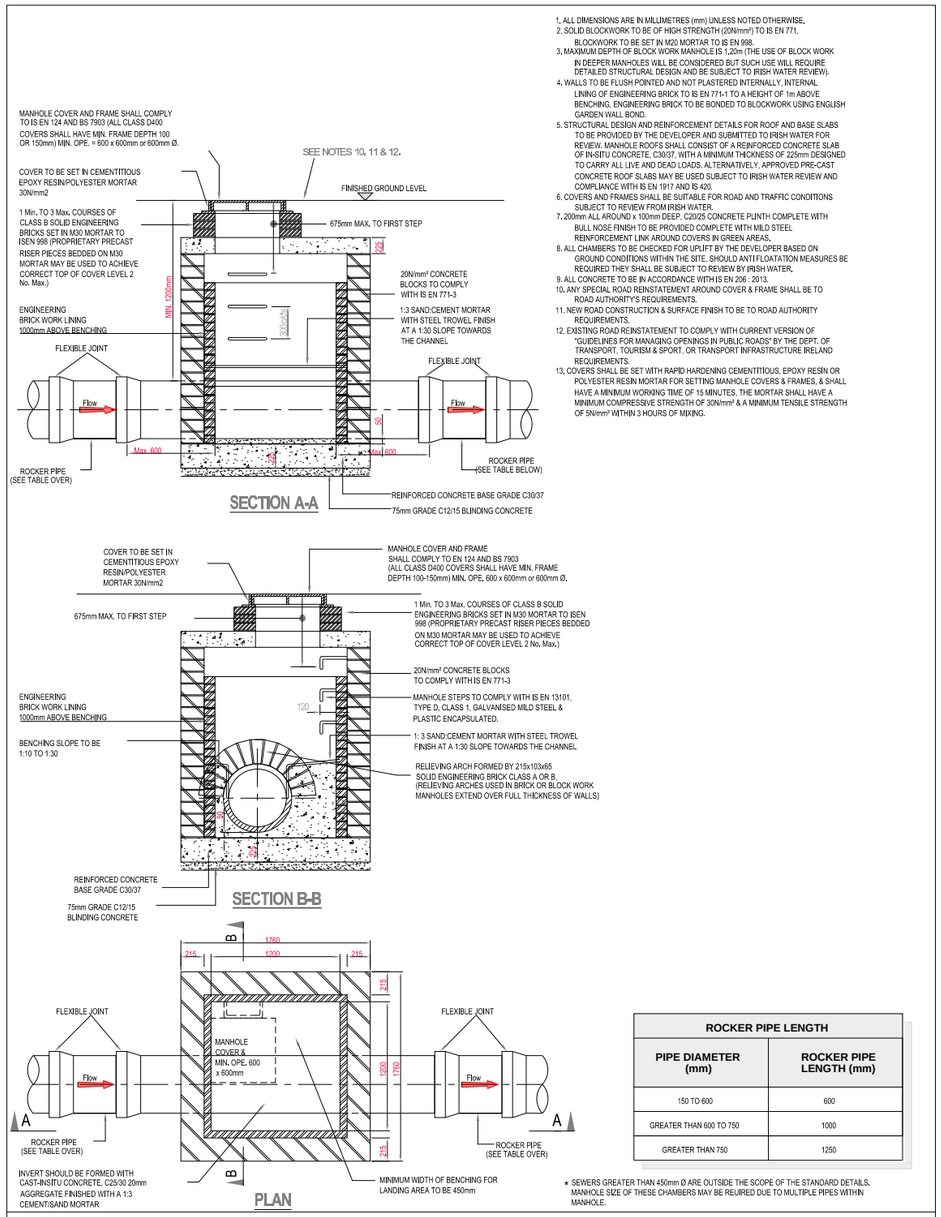


1, ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. SOLID BLOCKWORK TO BE OF HIGH STRENGTH (20N/mm²) TO IS EN 771. BLOCKWORK TO BE SET IN M20 MORTAR TO IS EN 998.
3, MAXIMUM DEPTH OF BLOCK WORK MANHOLE IS 1.20m (THE USE OF BLOCK WORK IN DEEPER MANHOLES WILL BE CONSIDERED BUT SUCH USE WILL REQUIRE DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO IRISH WATER REVIEW).
4. WALLS TO BE FLUSH POINTED AND NOT PLASTERED INTERNALLY. INTERNAL LINING OF ENGINEERING BRICK TO IS EN 771-1 TO A HEIGHT OF 1m ABOVE BENCHING. ENGINEERING BRICK TO BE BONDED TO BLOCKWORK USING ENGLISH GARDEN WALL BOND.
5. STRUCTURAL DESIGN AND REINFORCEMENT DETAILS FOR ROOF AND BASE SLABS TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW. MANHOLE ROOFS SHALL CONSIST OF A REINFORCED CONCRETE SLAB OF IN-SITU CONCRETE, C30/37, WITH A MINIMUM THICKNESS OF 225mm DESIGNED TO CARRY ALL LIVE AND DEAD LOADS. ALTERNATIVELY, APPROVED PRE-CAST CONCRETE ROOF SLABS MAY BE USED SUBJECT TO IRISH WATER REVIEW AND COMPLIANCE WITH IS EN 1917 AND IS 420.
6. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW FROM IRISH WATER.
7. 200mm ALL AROUND x 100mm DEEP. C20/25 CONCRETE PLINTH COMPLETE WITH BULL NOSE FINISH TO BE PROVIDED COMPLETE WITH MILD STEEL REINFORCEMENT LINK AROUND COVERS IN GREEN AREAS.
8. ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.
9. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 : 2013.
10. ANY SPECIAL ROAD REINSTATEMENT AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS.
11. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
12. EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF "GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS" BY THE DEPT. OF TRANSPORT, TOURISM & SPORT, OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.
13, COVERS SHALL BE SET WITH RAPID HARDENING CEMENTITIOUS, EPOXY RESIN OR POLYESTER RESIN MORTAR FOR SETTING MANHOLE COVERS & FRAMES, & SHALL HAVE A MINIMUM WORKING TIME OF 15 MINUTES. THE MORTAR SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 30N/mm² & A MINIMUM TENSILE STRENGTH OF 5N/mm² WITHIN 3 HOURS OF MIXING.

ROCKER PIPE LENGTH	
PIPE DIAMETER (mm)	ROCKER PIPE LENGTH (mm)
150 TO 600	600
GREATER THAN 600 TO 750	1000
GREATER THAN 750	1250

* SEWERS GREATER THAN 450mm Ø ARE OUTSIDE THE SCOPE OF THE STANDARD DETAILS. MANHOLE SIZE OF THESE CHAMBERS MAY BE REUIRED DUE TO MULTIPLE PIPES WITHIN MANHOLE.

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

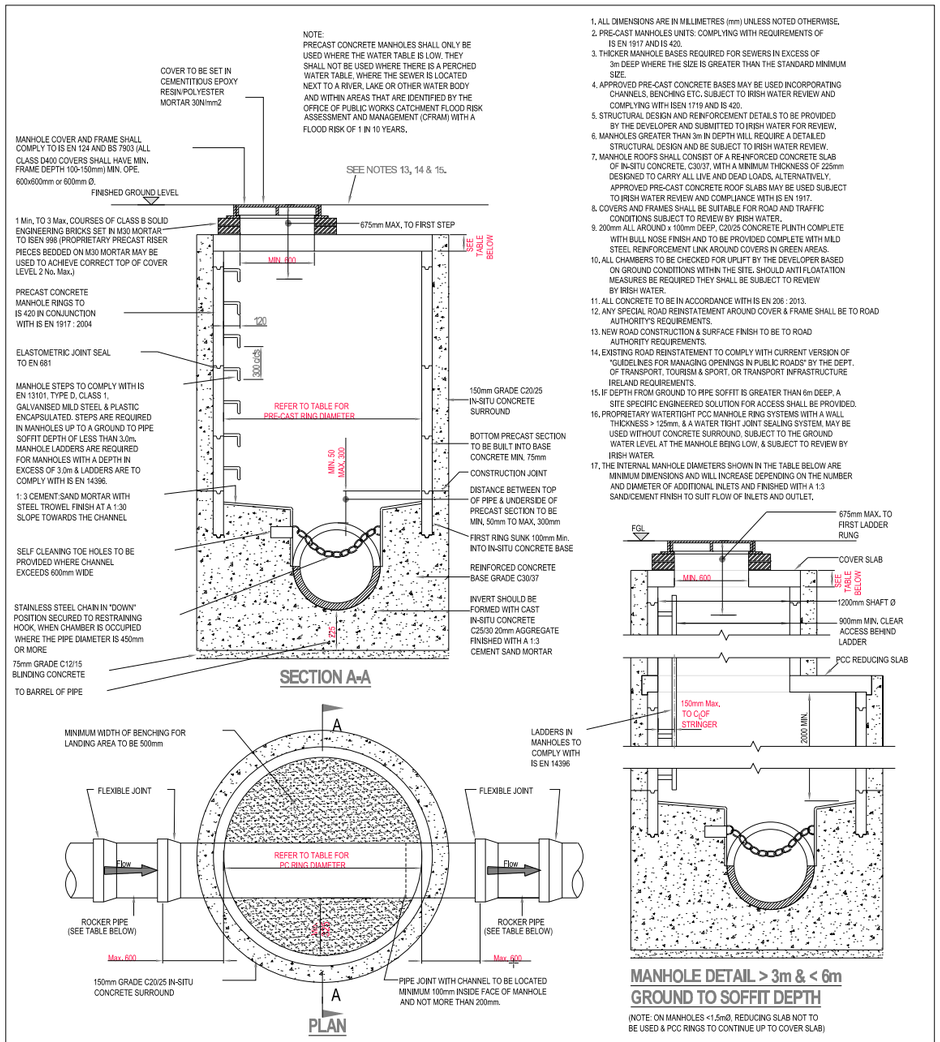
No.	Date	Drn	Chk	Description	App
3	07/20	RH	TOC	Bedding Mortar notes revised & notes updated	
2	11/17	JMC	TOC	Added rocker pipe table, added & updated notes	
1	08/16	JMC	TOC	Added steps & revised access ope & cover notes	
0	09/15	JMC	TOC	Initial Issue	SL

STANDARD DETAILS - WASTEWATER

SCALE: NOT TO SCALE | DATE: SEPT. 2015

TITLE: BLOCKWORK MANHOLE (< 450mm DIA.)

DRAWING No.: STD-WW-09 | REV: 3



1, ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. PRE-CAST MANHOLES UNITS: COMPLYING WITH REQUIREMENTS OF IS EN 1917 AND IS 420.
3. THICKER MANHOLE BASES REQUIRED FOR SEWERS IN EXCESS OF 3m DEEP WHERE THE SIZE IS GREATER THAN THE STANDARD MINIMUM SIZE.
4. APPROVED PRE-CAST CONCRETE BASES MAY BE USED INCORPORATING CHANNELS, BENCHING ETC; SUBJECT TO IRISH WATER REVIEW AND COMPLYING WITH ISEN 1719 AND IS 420.
5. STRUCTURAL DESIGN AND REINFORCEMENT DETAILS TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW,
6. MANHOLES GREATER THAN 3m IN DEPTH WILL REQUIRE A DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO IRISH WATER REVIEW.
7. MANHOLE ROOFS SHALL CONSIST OF A RE-INFORCED CONCRETE SLAB OF IN-SITU CONCRETE, C30/37, WITH A MINIMUM THICKNESS OF 225mm DESIGNED TO CARRY ALL LIVE AND DEAD LOADS, ALTERNATIVELY, APPROVED PRE-CAST CONCRETE ROOF SLABS MAY BE USED SUBJECT TO IRISH WATER REVIEW AND COMPLIANCE WITH IS EN 1917.
8. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY IRISH WATER,
9. 200mm ALL AROUND x 100mm DEEP. C20/25 CONCRETE PLINTH COMPLETE WITH BULL NOSE FINISH AND TO BE PROVIDED COMPLETE WITH MILD STEEL REINFORCEMENT LINK AROUND COVERS IN GREEN AREAS.
10. ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.
11. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 : 2013.
12. ANY SPECIAL ROAD REINSTATEMENT AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS.
13. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
14. EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF "GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS" BY THE DEPT. OF TRANSPORT, TOURISM & SPORT, OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.
15. IF DEPTH FROM GROUND TO PIPE SOFFIT IS GREATER THAN 6m DEEP, A SITE SPECIFIC ENGINEERED SOLUTION FOR ACCESS SHALL BE PROVIDED.
16. PROPRIETARY WATERTIGHT PCC MANHOLE RING SYSTEMS WITH A WALL THICKNESS > 125mm, & A WATER TIGHT JOINT SEALING SYSTEM, MAY BE USED WITHOUT CONCRETE SURROUND, SUBJECT TO THE GROUND WATER LEVEL AT THE MANHOLE BEING LOW, & SUBJECT TO REVIEW BY IRISH WATER.
17. THE INTERNAL MANHOLE DIAMETERS SHOWN IN THE TABLE BELOW ARE MINIMUM DIMENSIONS AND WILL INCREASE DEPENDING ON THE NUMBER AND DIAMETER OF ADDITIONAL INLETS AND FINISHED WITH A 1:3 SAND/CEMENT FINISH TO SUIT FLOW OF INLETS AND OUTLET.

MANHOLE DETAIL > 3m & < 6m GROUND TO SOFFIT DEPTH

(NOTE: ON MANHOLES <1.5mØ, REDUCING SLAB NOT TO BE USED & PCC RINGS TO CONTINUE UP TO COVER SLAB)

MINIMUM MANHOLE DIAMETERS			
DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIAMETER OF MANHOLE (mm)	MIN. PRECAST ROOF SLAB EFFECTIVE THICKNESS (mm)	MIN. IN-SITU ROOF SLAB THICKNESS (mm)
LESS THAN 375	1200	160	225
375 TO 450	1350	160	225
500 TO 750 *	1500	170	225

ROCKER PIPE LENGTH	
PIPE DIAMETER (mm)	ROCKER PIPE LENGTH (mm)
150 TO 600	600
GREATER THAN 600 TO 750 *	1000
GREATER THAN 750 *	1250

* SEWERS GREATER THAN 450mm Ø ARE OUTSIDE THE SCOPE OF THE STANDARD DETAILS. MANHOLE SIZE OF THESE CHAMBERS MAY BE REUIRED DUE TO MULTIPLE PIPES WITHIN MANHOLE.

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

No.	Date	Drn	Chk	Description	App
3	07/20	RH	TOC	Notes Updated	
2	11/17	JMC	TOC	Added rocker pipe table, deep manhole detail, added & updated notes	
1	08/16	JMC	TOC	Added steps & revised access ope & cover notes	
0	09/15	JMC	TOC	Initial Issue	SL

STANDARD DETAILS - WASTEWATER

SCALE: NOT TO SCALE | DATE: SEPT. 2015

TITLE: PRE-CAST CONCRETE MANHOLE WITH CAST IN-SITU BASE

DRAWING No.: STD-WW-10 | REV: 3

Notes:

Do not scale from drawing.
For Planning Purposes only. Not for Construction.
All dimensions are in metres.
Any discrepancies found consult with design office.

Rev	By	Date	Description

Drawing Status: PLANNING
NOT CERTIFIED FOR CONSTRUCTION

Project Title: RINGWOOD PHASE 2 DEVELOPMENT

Drawing Title: PROJECT CONSTRUCTION DETAILS SHEET 06

Client: CLOCKSTRIKE LTD.

M.H.L & Associates Ltd.
Consulting Engineers
Unit 1b, The Atrium, Blackpool, Cork
Tel: 021-4840214
Fax: 021-4840215
E-Mail:info@mhl.ie

Job No:	Designed:	Drawn:	Checked:
21079HD	DM	DM	BM

Scale: AS SHOWN | Date: Nov. 2025

Drawing No.: BLR-2-02-SW-ZZZ-DR-MHL-CE-03005 | Rev.: _03