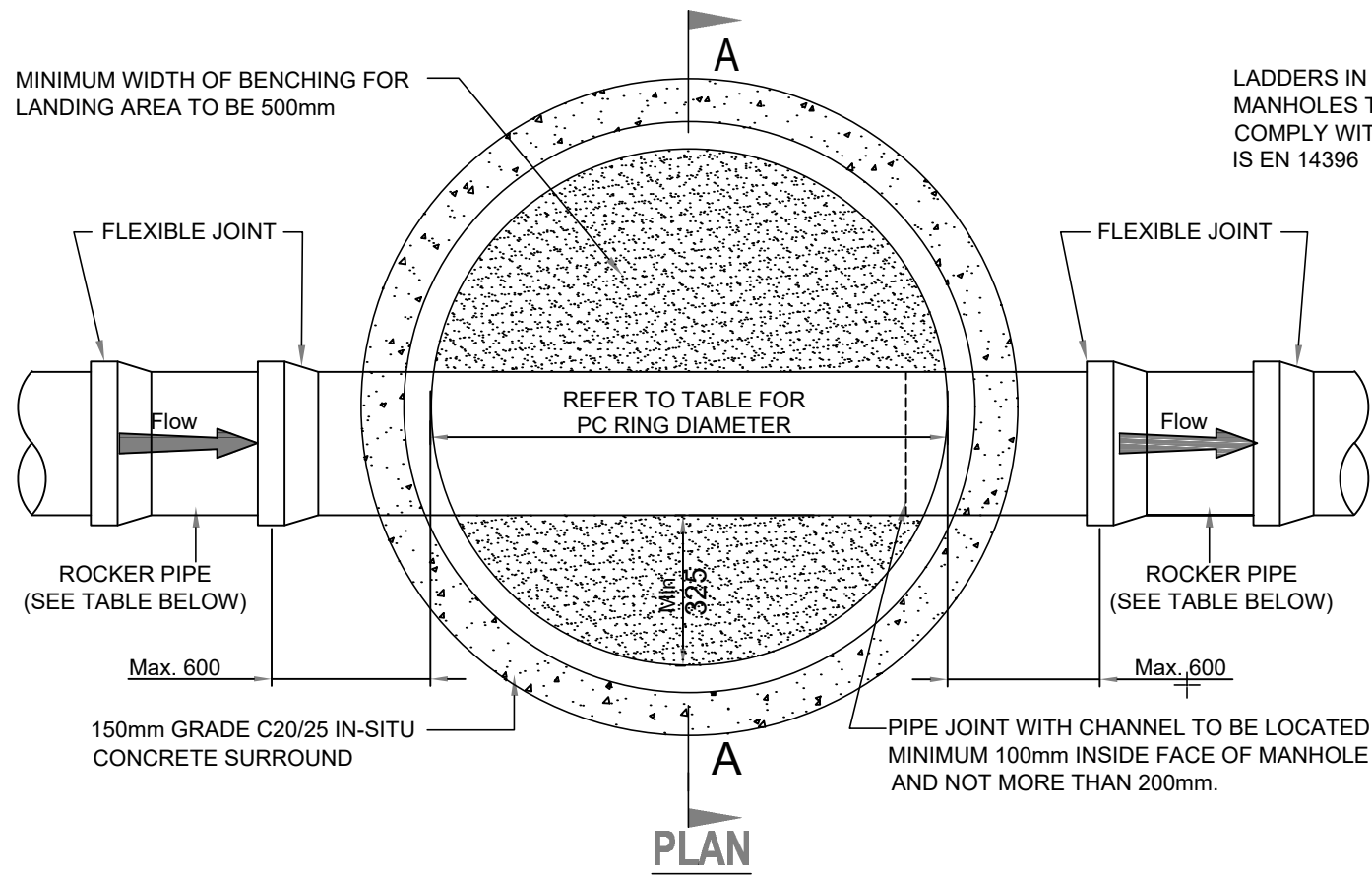
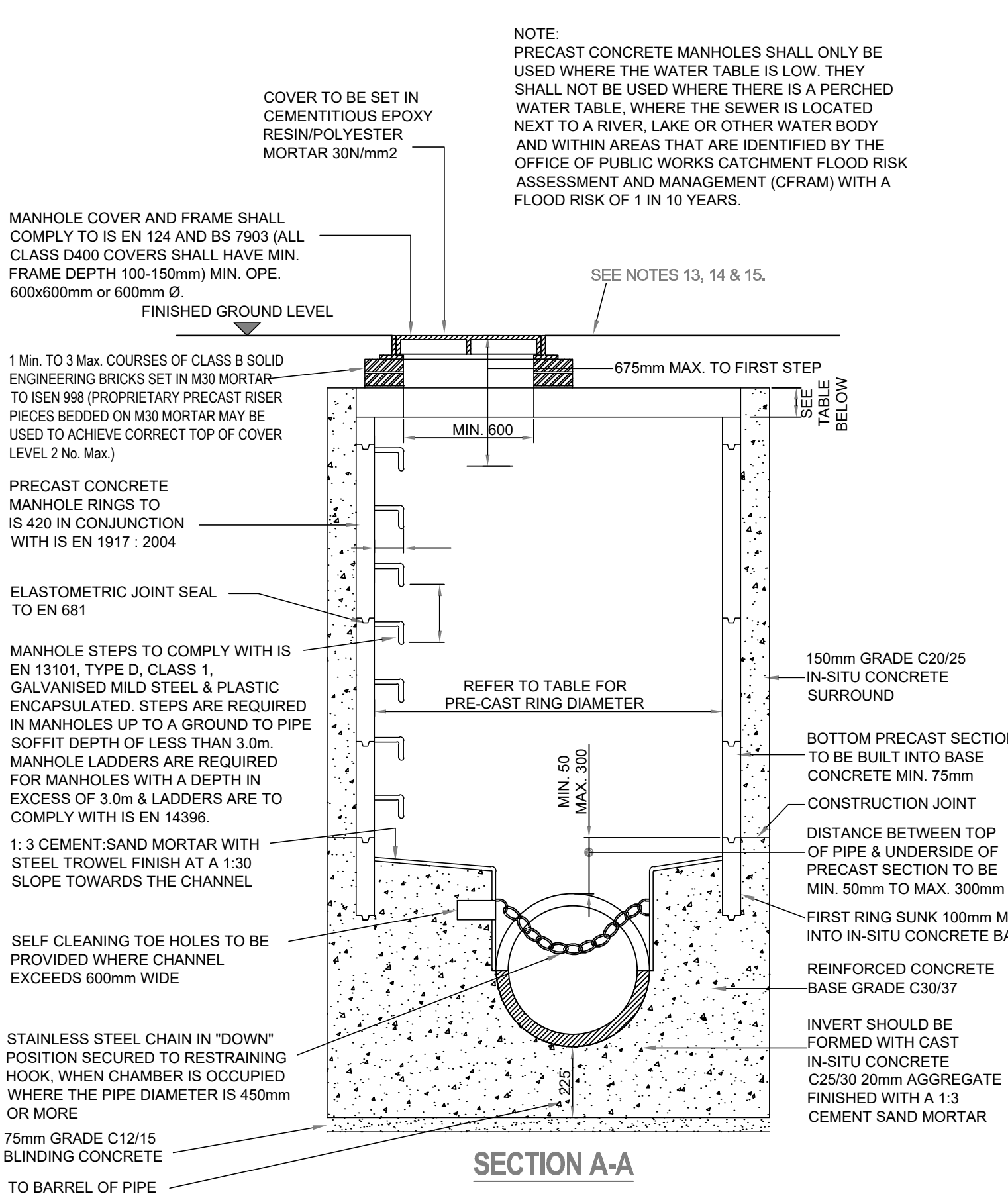
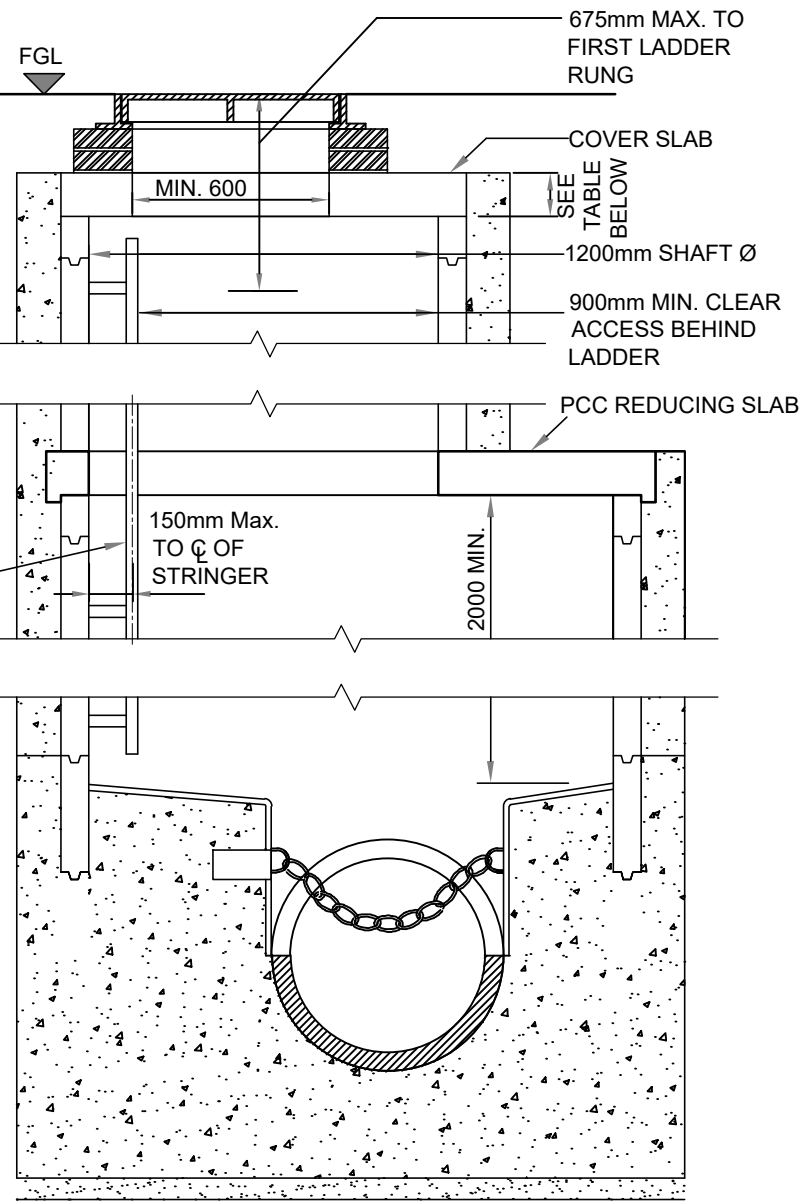


PRE-CAST CONCRETE MANHOLE
WITH CAST IN-SITU BASE



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

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 IS EN 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.



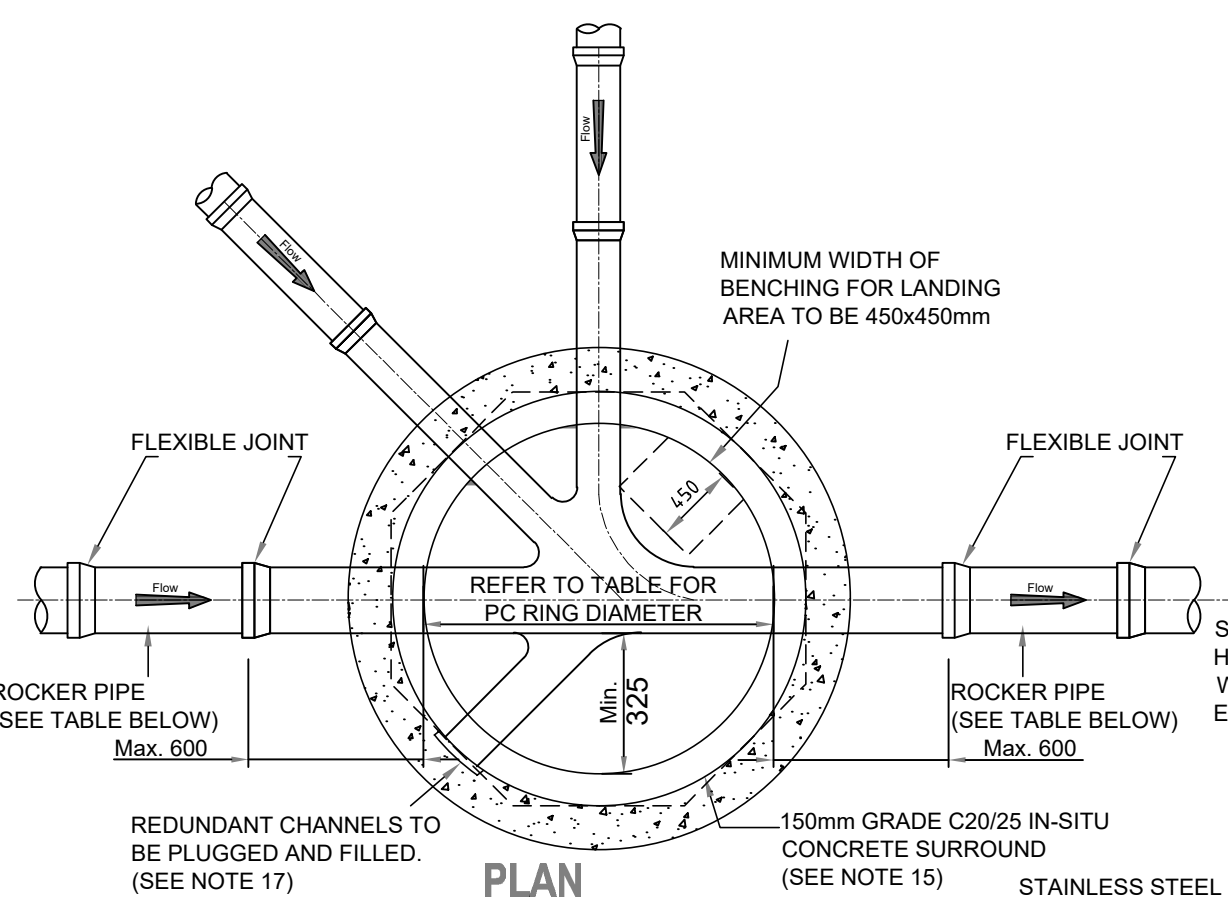
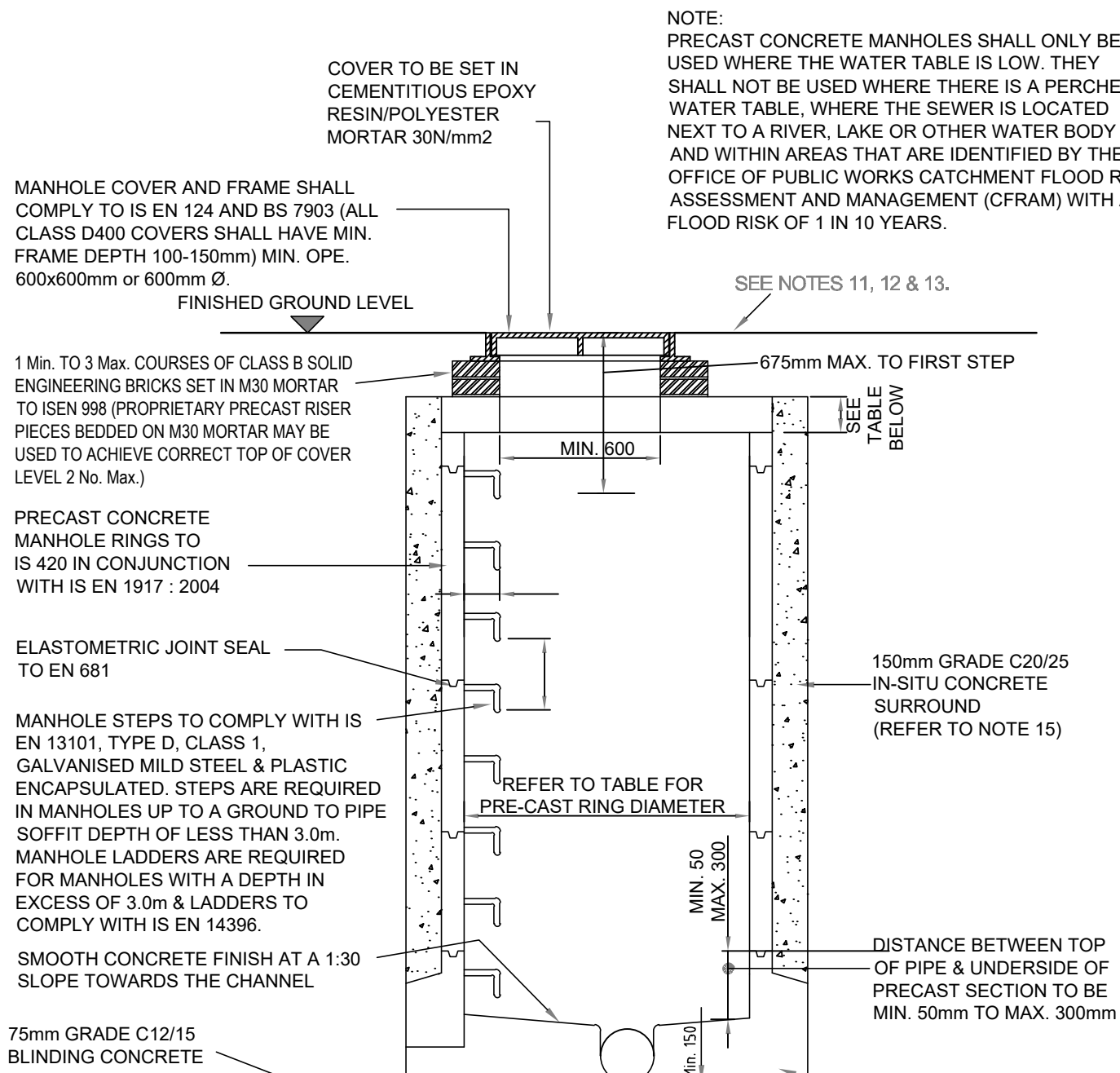
MANHOLE DETAIL > 3m & < 6m
GROUND TO SOFFIT DEPTH

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

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 REQUIRED DUE TO MULTIPLE PIPES WITHIN MANHOLE.

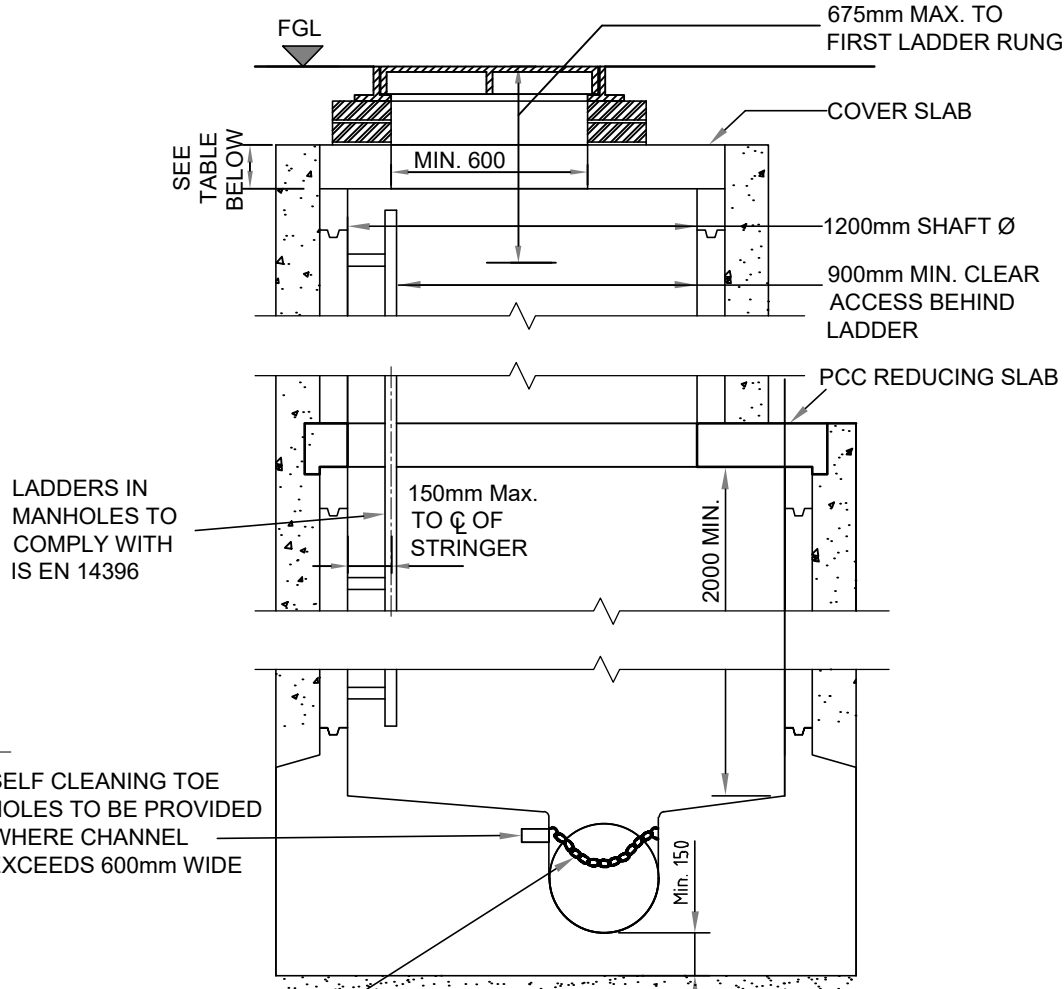
PRE-CAST CONCRETE MANHOLE
WITH PRECAST BASE



NOTE: IF FLEXIBLE PIPES ARE BEING USED, ROCKER PIPES ARE NOT REQUIRED.

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

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. PRE-CAST CONCRETE BASE INCORPORATING CHANNELS, BENCHING ETC. SUBJECT TO IRISH WATER REVIEW AND COMPLYING WITH IS EN 1917 & IS 420.
4. IN SITUATIONS WHERE P.C.C. MANHOLE BASES HAVE REDUNDANT CHANNELS, THESE SHALL BE PLUGGED AND FILLED BY SCABBLING, AND INFILLED WITH GRADE C20/25 CONCRETE TO MATCH EXISTING BASE AND BENCHED TO SUIT FLOW WITHIN THE MANHOLE BASE.
5. MANHOLES GREATER THAN 3m IN DEPTH WILL REQUIRE A DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO IRISH WATER REVIEW.
6. PRE-CAST CONCRETE ROOF SLABS TO BE USED SUBJECT TO IRISH WATER REVIEW AND COMPLIANCE WITH IS 420.
7. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY IRISH WATER.
8. 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.
9. 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.
10. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 : 2013.
11. ANY SPECIAL ROAD REINSTATEMENT AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS.
12. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
13. 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.
14. IF DEPTH FROM GROUND TO PIPE SOFFIT IS GREATER THAN 6m DEEP, A SITE SPECIFIC ENGINEERED SOLUTION FOR ACCESS SHALL BE PROVIDED.
15. 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.
16. 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)

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 REQUIRED DUE TO MULTIPLE PIPES WITHIN MANHOLE.

NOTES:
DO NOT SCALE FROM THIS DRAWING. USE FIGURED DIMENSIONS IN ALL CASES.
VERIFY DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO BDB CONSULTING LTD.
THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION AND ARCHITECTS DRAWINGS.
THIS DRAWING IS COPYRIGHTED AND MAY ONLY BE REPRODUCED WITH BDB CONSULTING LTD. PERMISSION.

- NOTES:
1. ALL REINFORCED CONCRETE ON THIS DRAWING SHALL BE U.N.O.: 35N20 COVER = 50mm MIN.
 2. SURFACE FINISHES FOR CONCRETE:
 - CLASS F1 FOR ALL CONCRETE 100mm OR MORE BELOW GROUND LEVEL.
 - CLASS F3 FOR ALL EXPOSED CONCRETE ABOVE 100mm BELOW GROUND LEVEL.
 3. ALL EXPOSED CORNERS ON CONCRETE SHALL BE CHAMFERED WITH 25mm x 25mm CHAMFERS.
 4. ALL STRUCTURAL CONCRETE (HEADWALLS, RC MANHOLES, PETROL INTERCEPTOR SLABS) TO RECEIVE MC DUR 1680 (OR SIMILAR APPROVED TAR MODIFIED EPOXY RESIN) TO ALL BURIED SURFACES, TO FINISH 100mm BELOW GROUND LEVEL.
 5. ALL SEWERS SHALL BE PRESSURE TESTED PRIOR TO BACKFILLING.
 6. TYPE 1 GRANULAR MATERIAL : BROKEN STONE OR GRAVEL TO PASS 10mm SIEVE AND BE RETAINED ON 5mm SIEVE.
 7. TYPE 2 GRANULAR MATERIAL :BROKEN STONE OR GRAVEL TO PASS 10mm – 25mm SIEVE, ACCORDING TO PIPE SIZE, (SEE TABLE) AND BE RETAINED ON 5mm SIEVE.
 8. TYPE 3 SELECTED FILL : UNIFORM READILY COMPACTED MATERIAL FREE FROM TREE ROOTS, VEGETABLE MATTER, BUILDING DEBRIS, AND FROZEN SOIL AND EXCLUDING CLAY LUMPS RETAINED ON A 75mm SIEVE AND STONES RETAINED ON A 37.5mm SIEVE.
 9. RIGID PIPES SHALL MEAN CAST OR SPUN IRON, CONCRETE, ASBESTOS CEMENT OR CLAY.

TYPE 2 GRANULAR MATERIAL :

PIPE SIZE	100% PASSING
UP TO 225mm	10mm SIEVE
225 TO 450mm	20mm SIEVE
ABOVE 450mm	25mm SIEVE

1. WHERE ROCKS OR OTHER HARD TRENCH BOTTOM IS ENCOUNTERED, THE FIGURE DENOTED BY * IS TO BE DOUBLED.
2. CLAUSE 601 S.R.W. BACKFILL : UNIFORM READILY COMPACTED MATERIAL FREE FROM TREE ROOTS, VEGETABLE MATTER, BUILDING DEBRIS, AND FROZEN SOIL AND EXCLUDING CLAY LUMPS RETAINED ON A 75mm SIEVE AND STONES RETAINED ON A 37.5mm SIEVE.
3. RIGID PIPES SHALL MEAN CAST OR SPUN IRON, CONCRETE OR CLAY.
4. GULLY GRATINGS AND FRAMES SHALL COMPLY WITH THE REQUIREMENTS OF I.S./E.N./124 1994. GULLIES SHALL BE CLASS D400.
5. GULLY WALLS SHALL BE CONSTRUCTED IN CLASS 30N/mm² PRECAST OR INSITU CONCRETE OR ALTERNATIVELY IN SOLID CONCRETE BLOCKS DESIGNATED S10, STRENGTH 10N/mm²
6. ALL PIPES TO BE BEDDED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS
7. SURFACE WATER SEWERS TO BE CLASS H CONCRETE TO IS EN1916 AND IS 6 2004.

REV.	DESCRIPTION	DATE



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Co. Limerick
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info@bdb.ie
www.bdb.ie

PROJECT
Limerick Student Residence

TITLE
Standard Drainage Detail 1 of 2

CLIENT
Ladys Lane PBSA

DRAWN BY MB	CHECKED BY CG	DATE 09/06/2026
SCALE (@A1) NTS	BDB PROJECT NUMBER 26-008	
DRAWING NUMBER 26008-BDB-XX-XX-DR-CE-0005	REV P.L.O.	