

**MANHOLE COVERS, WATERMAIN CHAMBER COVERS, SERVICE CHAMBER COVERS, GULLY FRAMES AND GRATINGS**

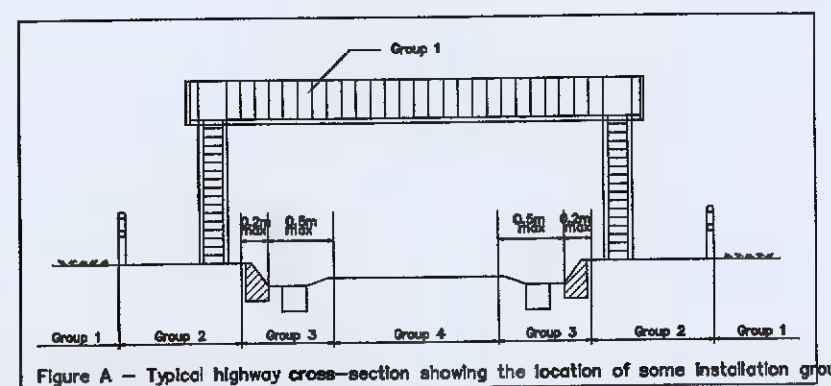
**GENERAL**  
All frames and covers shall be manufactured from ductile iron and shall comply with European Standard EN 124, have quality assurance to BS EN ISO 9001 and have Third Party Certificate to BS EN 124.

**Classification**  
Gully tops and manhole tops are divided into the following classes: A 15, B 125, C 250, D 400, E 600 and F 900.

The numeric in each class i.e. 250 represent the test load in kN which the cover shall withstand.

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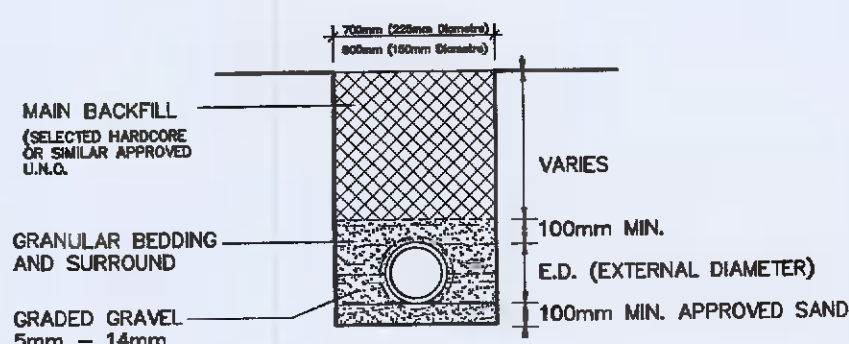
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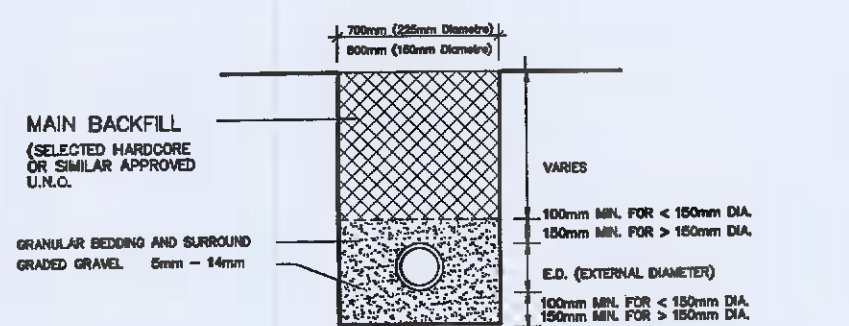
**PLACE OF INSTALLATION**

The appropriate class of manhole top or gully to be used depends upon the place of installation. The various places of installation have been divided into groups of installation. The various places of installation are listed below. Figure A shows the location of some of these groups in a highway environment. A guide as to which class of manhole top or gully top should be used is shown in parentheses for each group. The selection of the appropriate class is the responsibility of the designer. Where there is any doubt, the stronger class should be selected.

- Group 1 (min. Class A 15)  
Areas which can only be used by pedestrians and pedal cyclists.
- Group 2 (min. Class B 125)  
Footpaths, pedestrian areas and comparable areas only.
- Group 3 (min. Class C 250)  
For gully tops installed in the area of kerbside channels of roads (Figure 8a) which when free from kerb edge, extend a minimum of 0.5m into the carriageway and a maximum of 0.2m into the footway.
- Group 4 (min. Class D 400)  
Carriageway of roads (including pedestrian streets), hard shoulders (Figure 8a) and parking areas, for all types of road vehicles.
- Group 5 (min. Class E 600)  
Areas imposing high wheel loads, e.g. docks, aircraft pavements.
- Group 6 (min. Class F 900)  
Areas imposing particularly high wheel loads, e.g. aircraft pavement.

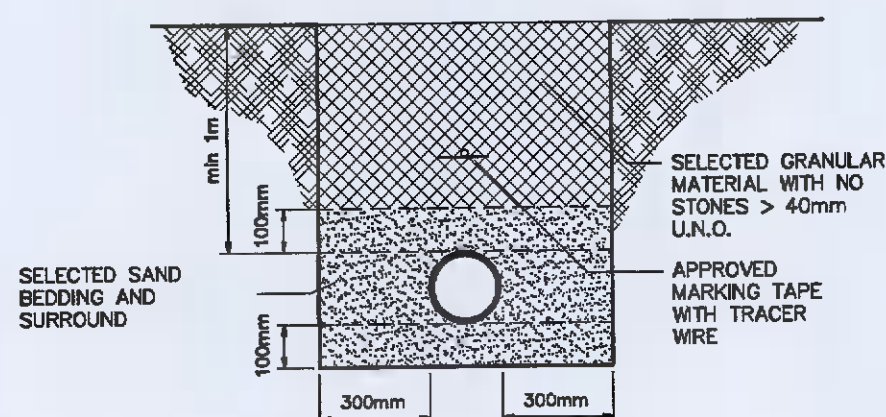


**GRANULAR BEDDING FOR CONCRETE PIPES**



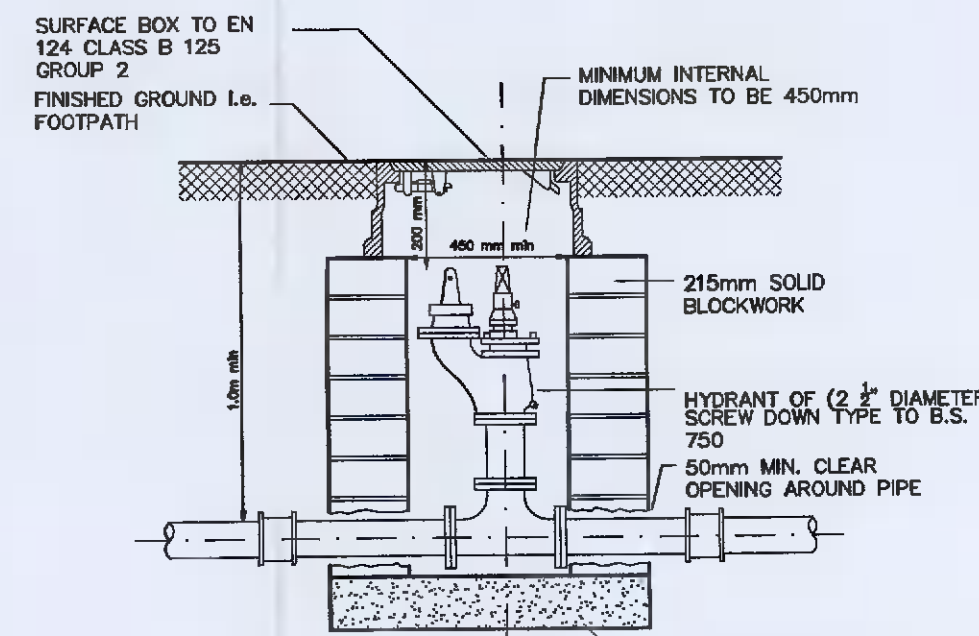
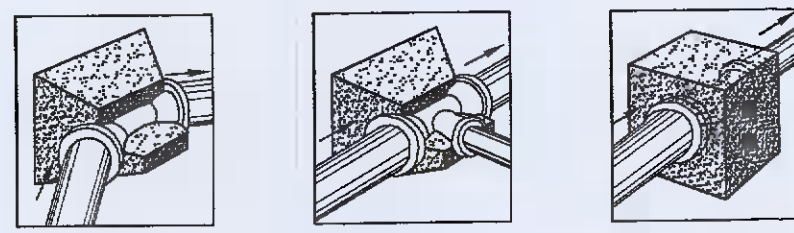
**GRANULAR BEDDING FOR P.V.C. FLEXIBLE PIPES**

**NOTES:**  
(A) IN TRENCHES IN ROADS, MAIN BACKFILL SHALL BE GRANULAR MATERIAL TO CLAUSE 804 M.C.T. SPECIFICATION AND SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 150mm LOOSE DEPTH.  
(B) WHERE COVER IS LESS THAN ALLOWABLE, I.E. 1.20M IN ROADS AND 0.5M ELSEWHERE, A 150MM (20N MK) CONCRETE SURROUND IS TO BE PLACED AROUND PIPE.  
THE CONCRETE SURROUND SHALL HAVE 25MM BREAKS EVERY 6.0M (P.V.C. ONLY) THE BREAKS ARE TO BE FILLED WITH A COMPRESSIBLE MATERIAL.



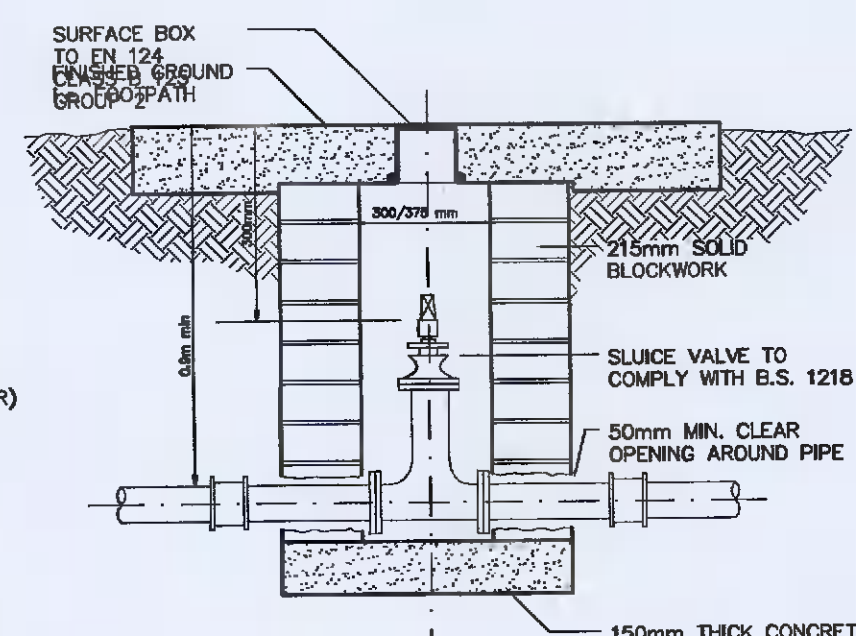
**WATERMAIN BEDDING DETAILS**

**PIPE ANCHORAGE**  
Concrete anchor blocks shall be provided on watermain at dead ends, tees, curvature bends greater than 22.5° and join sides of a sluice valve assembly. Anchor blocks shall encase the pipe to minimum thickness of 150mm all round and shall be a minimum of 800mm long.



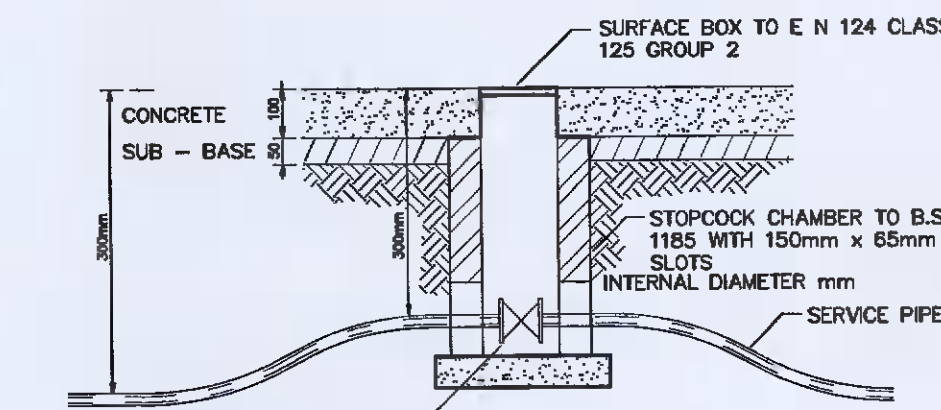
**FIRE HYDRANT**

**NOTE**  
The depth of the hydrant outlet shall not exceed 200mm below finished ground level.

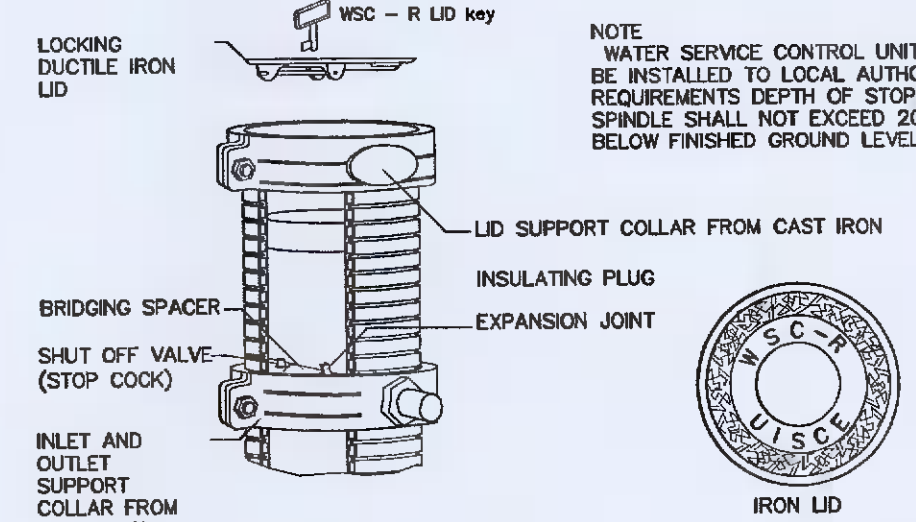


**SLUICE VALVE**

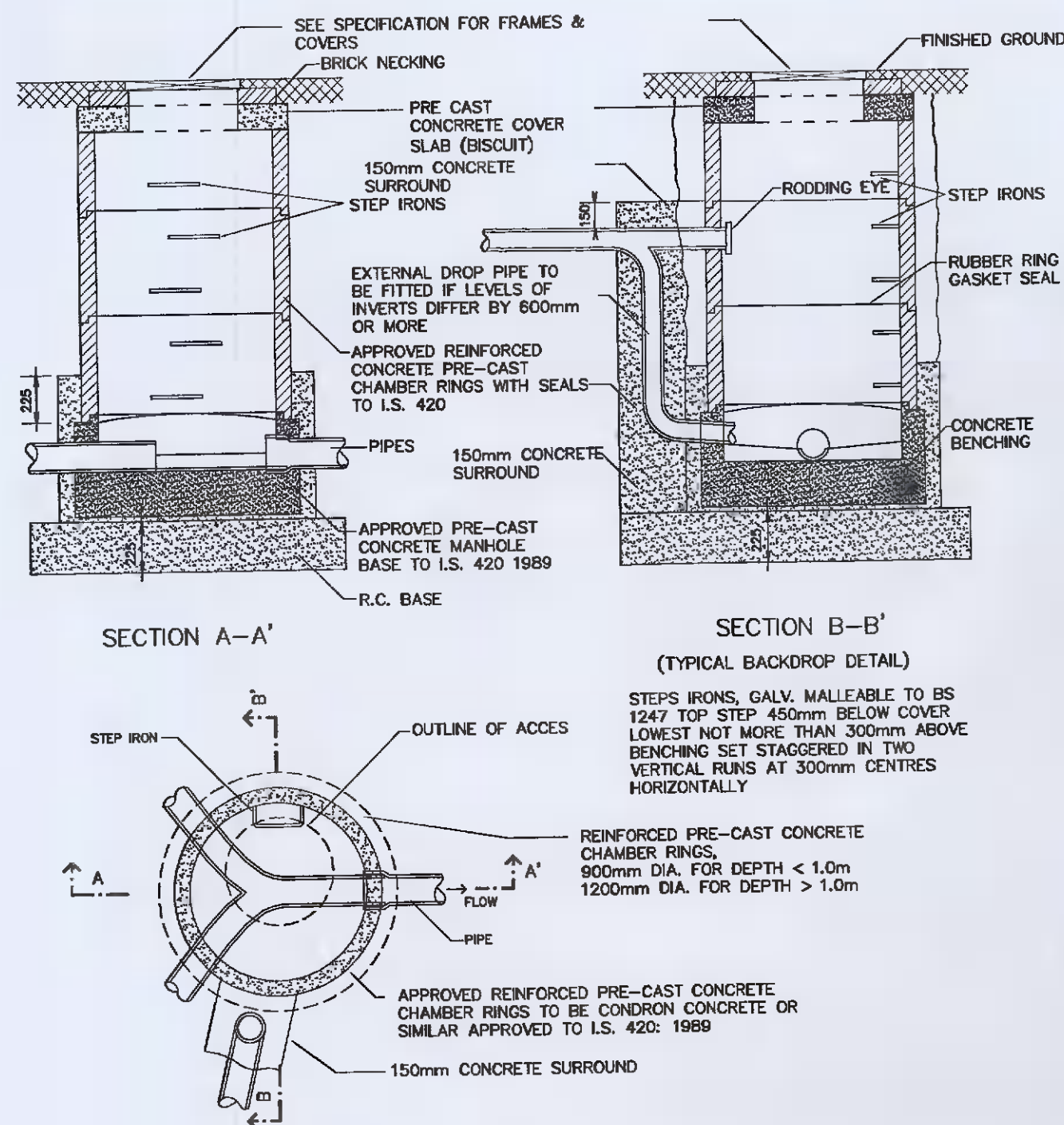
**NOTE**  
The depth of the sluice valve golyde shall not exceed 300mm below finished ground level.



**STOPCOCK CHAMBER**



**WATER SERVICES CONTROL UNIT - LOCAL AUTHORITY**



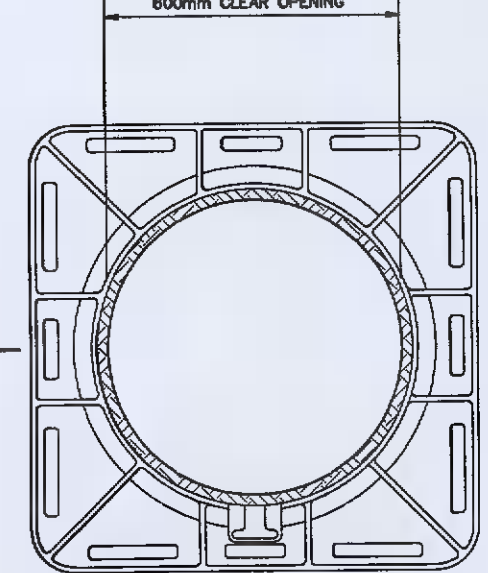
**MANHOLE COVERS and FRAMES**

Manhole covers and frames shall be as approved and unless otherwise shall comply with EN 124. The minimum opening dimensions shall be 600x600mm rectangular or if circular then 600mm diameter. The appropriate grade of cover and frame which shall be used is given in table 1.

TABLE 1 MANHOLE COVERS and FRAMES	
LOCATION	CLASS
CARRIAGEWAYS, FOOTPATHS, VERGES, VEHICULAR ACCESS	D 400 GROUP 4
TABLE 2 THE SLUICE VALVE and STOPCOCK BOXES	
LOCATION	CLASS
FOOTPATHS, PEDESTRIAN AREAS, CAR PARKS	B 125 GROUP 2

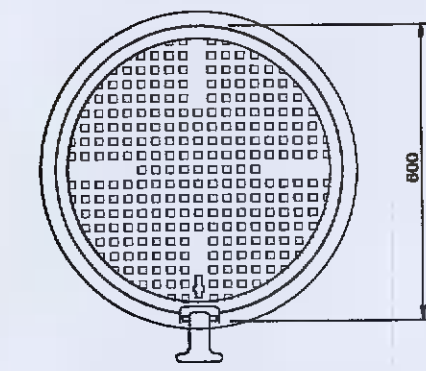
APPROVED LOCKABLE DUCTILE IRON COVER AND FRAME TO EN 124 CLASS D 400 GROUP 4

**INDICATOR PLATES and MARKER POSTS**  
Hydrants, air valves and sluice valves shall be located by indicator plates positioned to the approval of the local authority 200 x 175 mm High aluminium hydrant indicator plates of a yellow color point with raised black letters and edge. This shall comply with B.S. 3251. Air valve indicator plates shall comply with the specification for single hydrant indicator plates with fixed letters in B.S. 3251 except that they shall be coloured white and instead of the letter H it shall bear letters AV and SV respectively as approved. Where marker posts are used, they shall be concrete complying with I.S. 162.

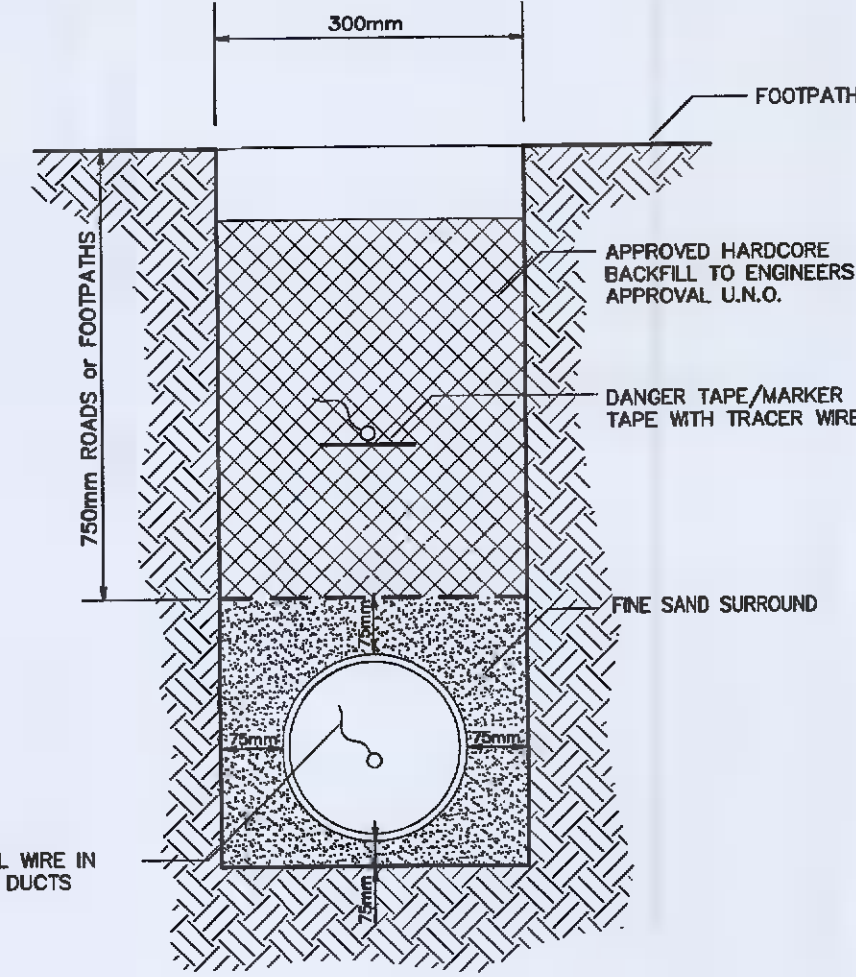


**MANHOLE FRAME PLAN**

**SECTION of MANHOLE FRAME and COVER A-A'**

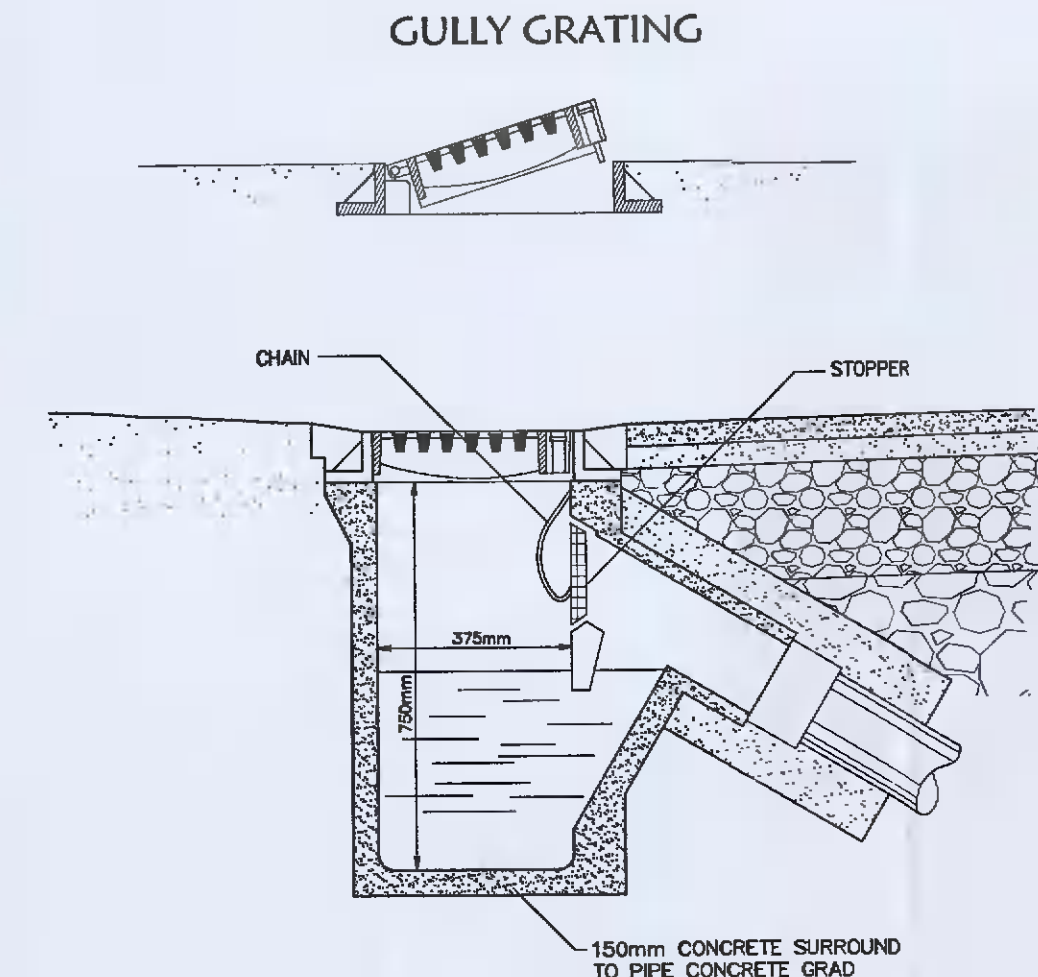


**MANHOLE COVER**

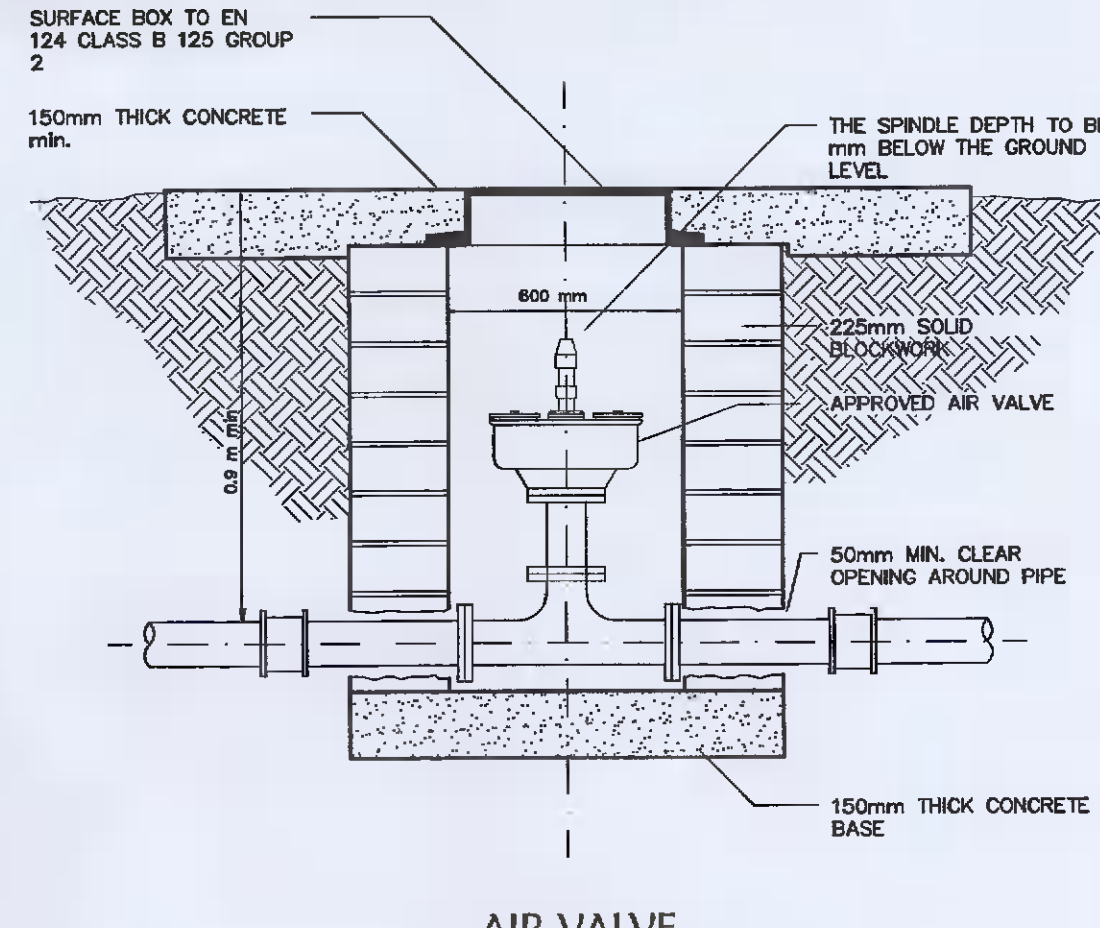


**100mm DIA. u.P.V.C. DUCT PIPE**

(FOR UNDERGROUND TELECOM, E.S.B. CABLES ETC)  
E.S.B. PUBLIC LIGHTNING ( 50mm DIA. u.P.V.C. DUCT)  
E.S.B. UNDERGROUND CABLE (125mm DIA. u.P.V.C. DUCT)  
TELICO (110mm DIA. u.P.V.C. DUCT)



**TRAPPED GULLY POT**



**AIR VALVE**

**Note:**  
ALL WORKS TO BE CARRIED OUT IN COMPLIANCE WITH THE BUILDING REGULATIONS 1997 AS AMENDED BY THE 2000 REGULATIONS, AND THE HEALTH, SAFETY, AND WELFARE AT WORK REGULATIONS 1995.

**Thor Design & Management**  
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Architectural  
 Planning  
 Surveying  
 Building  
 Civil  
 Structural

Drawn: H O'Rourke  
Approved: H O'Rourke

Project Title: Proposed Additional 6No. Dwellings @ St. Finian's Way, Newcastle, Co. Dublin  
Client: Pavement Homes Ltd  
Drawing Title: Proposed Sewer & Water Details  
Drawing No.: PHL-22S-07 Rev. P1  
Date: 7th Feb. 2022 Scale: NIS