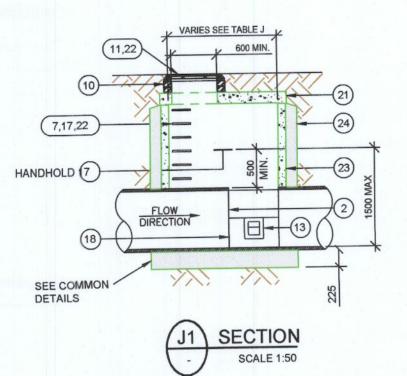


MANHOLE TYPE H INTERCEPTOR TRAP DETAILS FOR OUTFALL MANHOLES AT SITE BOUNDARY PRIOR TO

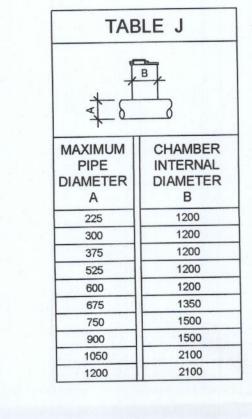
CONNECTING TO PUBLIC SYSTEM



MANHOLE TYPE J 1m ≤ DEPTH TO INVERT < 3m

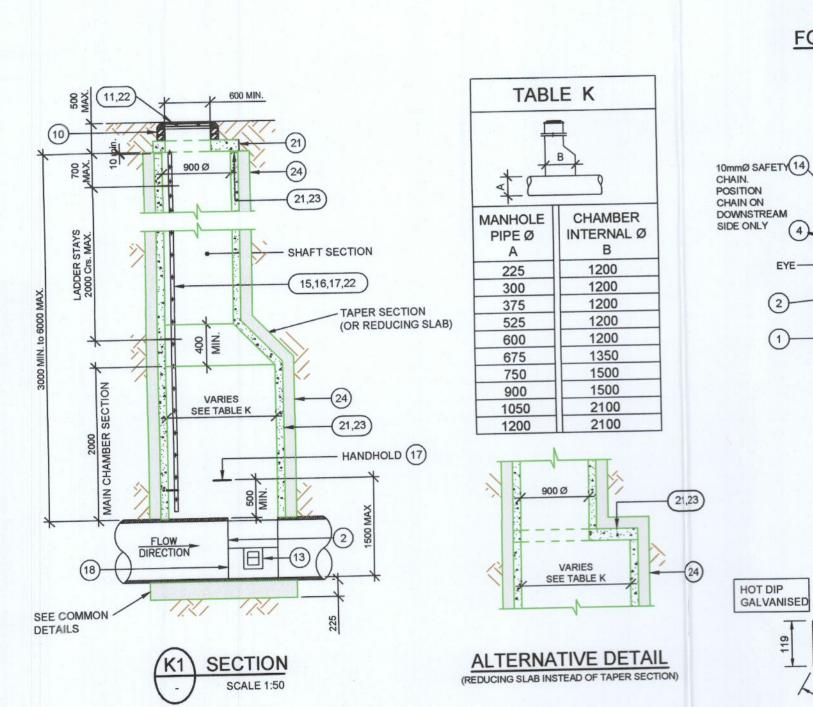
MANHOLE TYPE K

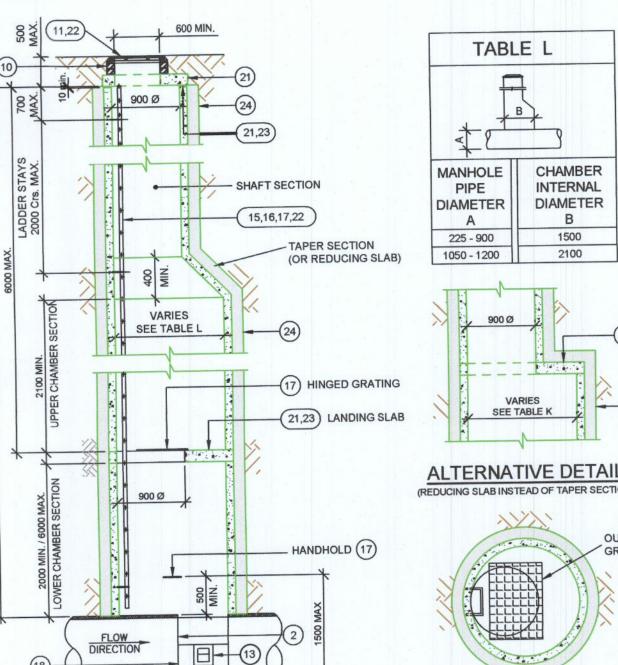
3m ≤ DEPTH TO INVERT < 6m



SEE COMMON

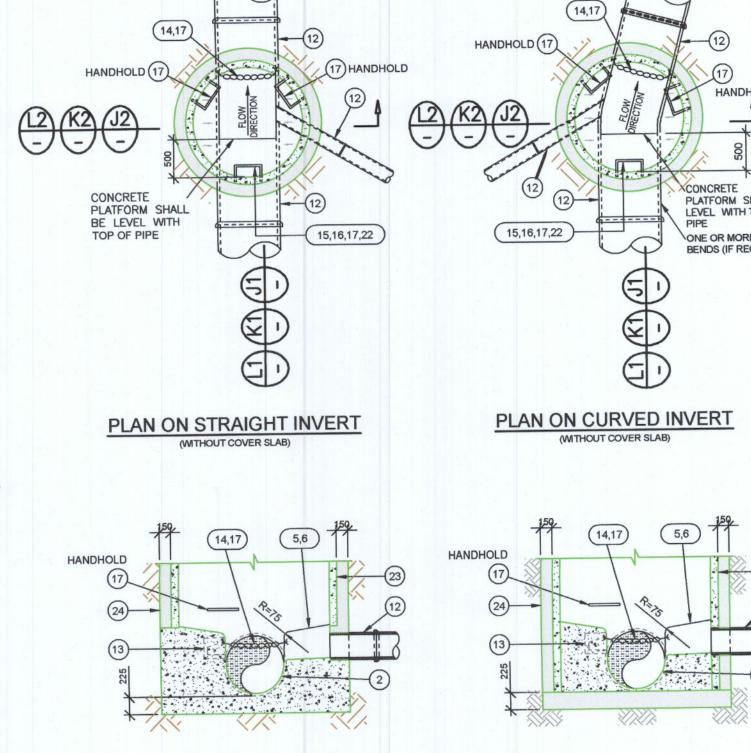
DETAILS





FORMING CHANNEL THROUGH MANHOLE

ELEVATION



THIS DRAWING IS TO BE READ IN CONJUNCTION WITH RELVANT ARCHITECTS AND ENGINEERS DRAWINGS.

NOTES

FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING. ALL DIMENSIONS TO BE CHECKED ON SITE. ENGINEER TO BE INFORMED IMMEDIATELY OF ANY DISCREPANCIES BEFORE ANY WORK PROCEEDS.

REFER TO DRAWING 20047-DOW-0000 FOR PROJECT SPECIFICATION.

NOTES

16) 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.

ALL LADDERS, RUNGS, H&RAILS, SAFETY CHAINS ETC. SHALL BE HOT DIP GALVANISED TO EN ISO 1461 OR EQUIVALENT.

18) PIPE SHOULD BE CUT FLUSH WITH THE INSIDE SURFACE OF THE MANHOLE WALL SO THAT THE CHANNEL EXTENDS THE FULL LENGTH OF THE MANHOLE (EXCEPT

19) POSITION OF 910 SQUARE OPE IN INTERMEDIATE ROOF SLAB.

FOR PRECAST MANHOLES).

BE SUPPLIED OVER PIPE CROWN.

ONCOMING TRAFFIC.

C20/25 CONCRETE.

a. ALL MANHOLES SHALL BE WATERTIGHT TO THE SATISFACTION OF THE ENGINEER. b. FORMWORK TO REINFORCED CONCRETE & MASS CONCRETE SHALL COMPLY WITH

FOR MANHOLES >3m DEPTH TO INVERT USE C 30/37 INSITU CONCRETE. REINFORCING

21) PRECAST MANHOLES, CHAMBER WALLS & COVER SLAB TO BE CONSTRUCTED TO I.S. EN

RINGS, JOINTS TO BE SEALED WITH APPROVED PRE-FORMED JOINTING STRIP. 24) PRECAST MANHOLES TO BE SURROUNDED WITH A MINIMUM OF 150mm THICK GRADE

25) FOR FOUL DRAINAGE TO BE TAKEN IN CHARGE BY IRISH WATER, MANHOLES ARE TO BE CONSTRUCTED STRICTLY IN ACCORDANCE WITH THE REQUIREMENTS OF IRISH WATER

, WHICH MAY DIFFER FROM THE DETAILS PROVIDED. REFER TO IRISH WATER CODE

OF PRACTICE FOR WASTEWATER INFRASTRUCTURE AND ASSOCIATED IRISH WATER

PRECAST MANHOLES NOT

PERMITTED WITHIN DCC

STANDARD DETAILS, ALONG WITH ANY PARTICULAR REQUIREMENTS.

AREA.

22) MANHOLE OPENINGS TO BE SITUATED FURTHEST FROM THE NEAREST

MESH REF., A393 TO BE FIXED AT MID POINT OF WALL, ADDITIONAL REINFORCEMENT TO

CARRIAGEWAY. MANHOLE STEPS-ACCESS TO BE POSITIONED TO ALLOW VIEWING OF

c. FINISH TO THE TOP OF SLABS SHALL COMPLY WITH TYPE 'A', IS EN 1992-1-1

d. PLAN DIMENSIONS OF MANHOLES ARE BASED ON BLOCK WORK HAVING A CO-ORDINATING SIZE OF 450 x 225 x 100. FOR PIPE DIAMETER >750mm USE MANHOLE 1. ALL FOUL MANHOLES MUST BE FACED IN SOLID ENGINEERING BRICK (MIN. CLASS 'A' OR WITH INTERNAL DIAMETER SIZE=PIPE SIZE +1m +300mm

e. MANHOLES ARE DESIGNED TO IS EN 752 & WALL THICKNESS TO I.S.325 BLOCK WORK DESIGN CODE TAKING GRANULAR FILL PRESSURE & H.B. SURCHARGE. MAXIMUM DEPTH OF BLOCK WORK MANHOLE IS 1.20m (THE USE OF BLOCK WORK IN f. REINFORCEMENT TO SLABS TO ENGINEERS DETAILS.

RELIEVING ARCH FORMED BY 215 x 103 x 65 SOLID ENGINEERING BRICK CLASS 'A' OR 'B'. RELIEVING ARCHES USED IN BRICK OR BLOCK WORK MANHOLES EXTEND OVER FULL THICKNESS OF WALL

BENCHING & PIPE CHANNEL PIPE SURROUND - C25/30 CONCRETE

BENCHING FINISHED IN 2:1 SAND-CEMENT MORTAR WITH A SMOOTH TROWEL FINISH, AT 1 IN 30 SLOPE TOWARDS CHANNEL

B.S. 729 OR EQUIVALENT. NOTE: STEP IRONS ARE NOT ACCEPTABLE.

600mm SQUARE OPE IN ROOF SLAB.

PRECAST R.C. ROOF SLAB SHALL BE 200mm THICK IN GRADE C 30/37 , WITH 40mm

1 TO 3 COURSES OF SOLID ENGINEERING BRICKS CL. 'B' TO I.S. EN 998 SET IN M30

SHORT LENGTH PIPE & PIPE JOINT EXTERNAL TO MANHOLE SHALL NOT EXCEED 600mm

A STAINLESS STEEL SAFETY CHAIN IS TO BE PROVIDED ON PIPES THAT EXCEED 450mm

WHEN DEPTH OF MANHOLES TO INVERT IS GREATER THAN 3.0m LADDERS SHALL BE USED, INSTEAD OF RUNGS TO B.S.4211 OR EQUIVALENT EXCEPT THAT STRINGERS SHOULD BE NOT LESS THAN 65 x 12mm IN SECTION & RUNGS 25mm IN DIAMETER. FIXED LADDERS SHOULD MEET THE DIMENSIONAL REQUIREMENTS OF B.S.4211 OR EQUIVALENT. DISTANCE FROM THE TOP RUNG OF THE LADDER TO GROUND LEVEL

225mm THICK C30/37 MASS CONCRETE FOUNDATIONS.

PREFORMED HALF CIRCLE CHANNEL PIPES. THE PIPELINE MAY, WHERE PRACTICABLE, BE LAID THROUGH THE MANHOLE & THE CROWN CUT OUT TO HALF DIAMETER, PROVIDED FLEXIBLE JOINTS ARE SITUATED ON EACH SIDE NO FURTHER THAN 600mm FROM THE INNER FACE OF MANHOLE WALL.

NOTE: WHERE PIPE DIAMETER CHANGES AT A MANHOLE PIPE CROWNS TO LINE UP

MANHOLE CONSTRUCTION:

a. FOR SURFACE WATER MANHOLES HIGH-DENSITY BLOCKS 20N STRENGTH TO I.S. EN 771 OR C30/37 INSITU CONCRETE TO I.S. EN 206.

BLOCK WORK SHALL BE BEDDED & JOINTED USING MORTAR TO I.S.406. BEDS & VERTICAL JOINTS SHALL BE COMPLETELY FILLED WITH MORTAR AS THE BLOCKS ARE

C. JOINTS SHALL BE FLUSH POINTED AS THE WORK PROCEEDS.

'B'), OR INSITU CONCRETE FOR 1m ABOVE BENCHING LEVEL. -BRICK TO BE BONDED TO BLOCK WORK USING ENGLISH GARDEN WALL BOND.

DEEPER MANHOLES WILL BE CONSIDERED BUT SUCH USE WILL REQUIRE DETAILED STRUCTURAL DESIGN AND WRITTEN APPROVAL FROM IRISH WATER).

A DOUBLE ARCH IS TO BE FORMED FOR PIPE DIAMETERS GREATER THAN 600mm.

STANDARD RUNGS AT 300 C/C VERTICALLY & GALVANISED TO THE LATEST VERSION OF BS 720 OF EQUIVALENT NOTE: STANDARD RUNGS AT 300 C/C VERTICALLY & GALVANISED TO THE LATEST VERSION OF CLASS COVER 100 PC OF

COVER TO STEEL. DESIGNED TO BS 8100 TO TAKE FULL TRAFFIC LOADING.

CLASS D400 OR E600 MANHOLE COVER & FRAME TO I.S./EN124. 150mm DEEP FRAME FOR ROADS & 100mm DEEP FOR FOOTPATHS & GREEN AREAS, NON-ROCK DESIGN, CLOSED KEYWAYS, MANUFACTURED FROM SPHERICAL GRAPHITE CAST IRON (DUCTILE CAST IRON), 600 x 600 (600Ø) CLEAR OPENING, COVER & FRAME COATED IN BITUMEN OR OTHER APPROVED MATERIAL, COVER TO HAVE A MINIMUM MASS OF 140kg/m2, FRAME BEARING AREA SHALL BE 80,000mm2 MIN., FRAMES SHALL BE DESIGNED TO PREVENT COVERS FALLING INTO MANHOLE. FRAMES SHALL BE BEDDED ON APPROVED MORTAR TO MANUFACTURERS INSTRUCTIONS.

FROM THE INNER FACE OF MANHOLE WALL.

TOE HOLES OF 230mm MINIMUM DEPTH & GALVANISED STEEL SAFETY RAILINGS TO BE PROVIDED IN BENCHING OF SEWERS GREATER THAN 525mmØ & DEPTH TO INVERT >3m FOR ACCESS TO INVERT.

IN DIAMETER, COMPLYING WITH ISO 1835 OR EQUIVALENT.

SHOULD NOT EXCEED 500mm.

P03 30.09.22 GENERAL REVISIONS
 P03
 30.09.22
 GENERAL REVISIONS

 P02
 20.01.21
 TITLEBLOCK REVISED

 P01
 07.12.20
 ISSUED FOR PLANNING

 Rev
 Date
 Amendments
 AG IC
AG IC
by chkd

PROJECT PROPOSED HOUSING DEVELOPMENT AT CLONBRONE, LUCAN, DUBLIN 20.

CLIENT

DRAWING TITLE

NACUL DEVELOPMENTS Ltd.

MANHOLE DETAILS SHEET 2 OF 2

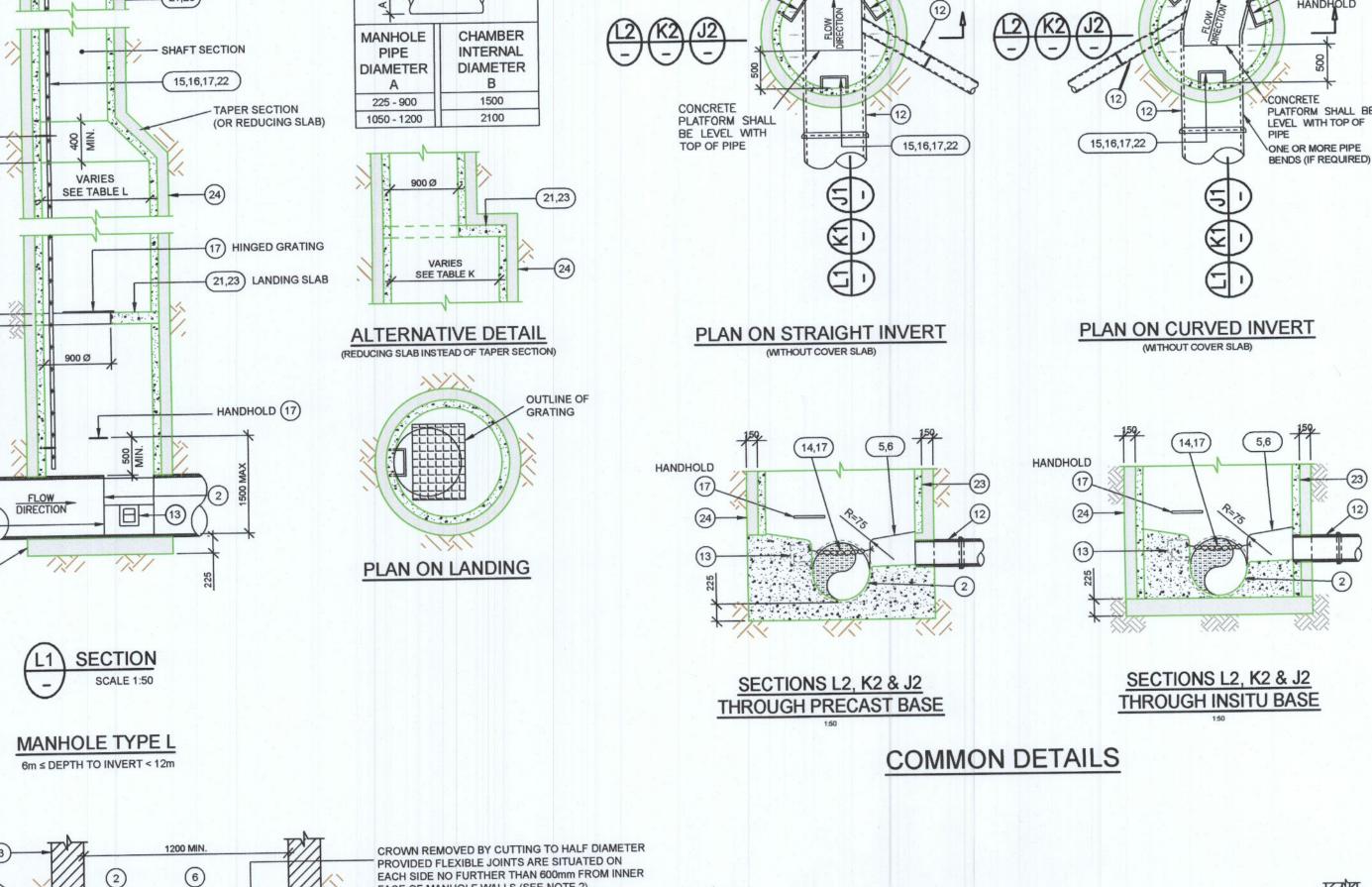
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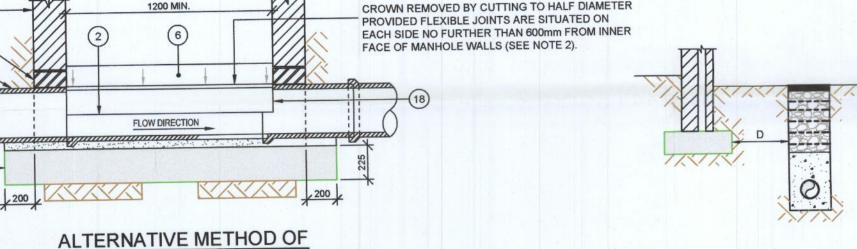
SO - SUITABLE FOR PLANNING

Suitability Status: Code - Description

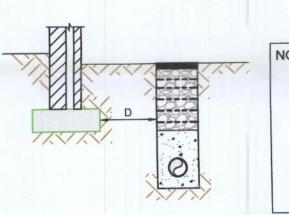
Cashel Business Centre, Cashel Road, Kimmage, Dublin 12 T 01 4901611

E admin@downesassociates.ie www.downesassociates.ie



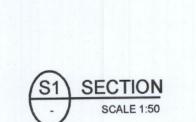


PLAN



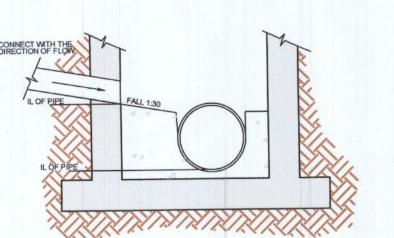
WHERE 'D' IS LESS THAN 1m

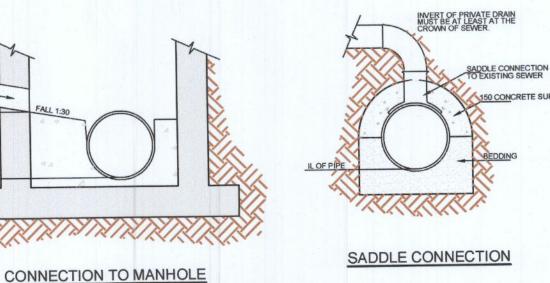
NOTE: TRENCHES FOR PIPES NEAR FOUNDATIONS TO BE EXCAVATED IN SHORT SECTIONS TO AVOID UNDERMINING OF FOUNDATIONS. EXCAVATION, PIPELAYING AND CONCRETE BACKFILL TO BE CARRIED OUT ON THE SAME DAY. CONTRACTOR TO SUBMIT METHOD STATEMENT FOR REVIEW BY THE ENGINEER PRIOR TO EXCAVATION BEING CARRIED OUT.

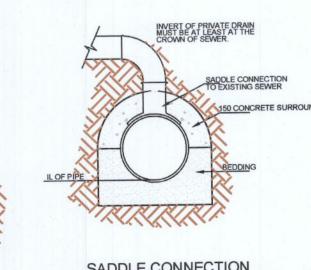


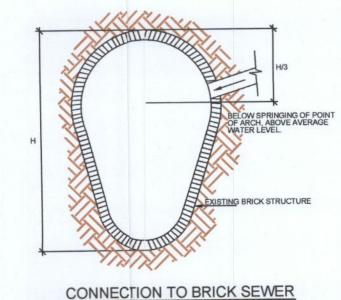
CONCRETE FILL TO LEVEL OF FOUNDATION BOTTOM)

CONCRETE PIPE LAID NEAR FOUNDATIONS





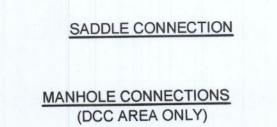


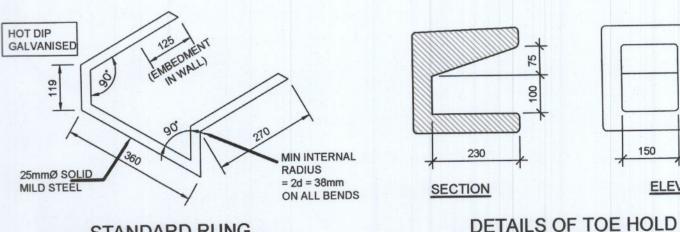


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WHERE 'D' IS 1m OR MORE

CONCRETE FILL TO WITHIN D -150mm OF LEVEL OF FOUNDATION BOTTOM





SOFFIT OF

SAFETY CHAIN, HOOK & EYE DETAIL

CHAIN, HOOK & EYE TO BE

STAINLESS STEEL. CHAIN TO BE 10mm, CLOSED LINKS.

25mmØ SOLID MILD STEEL ELEV. **DETAILS OF TOE HOLD** STANDARD RUNG

(IRON STEPS NOT PERMITTED) MISCELLANEOUS MANHOLE DETAILS