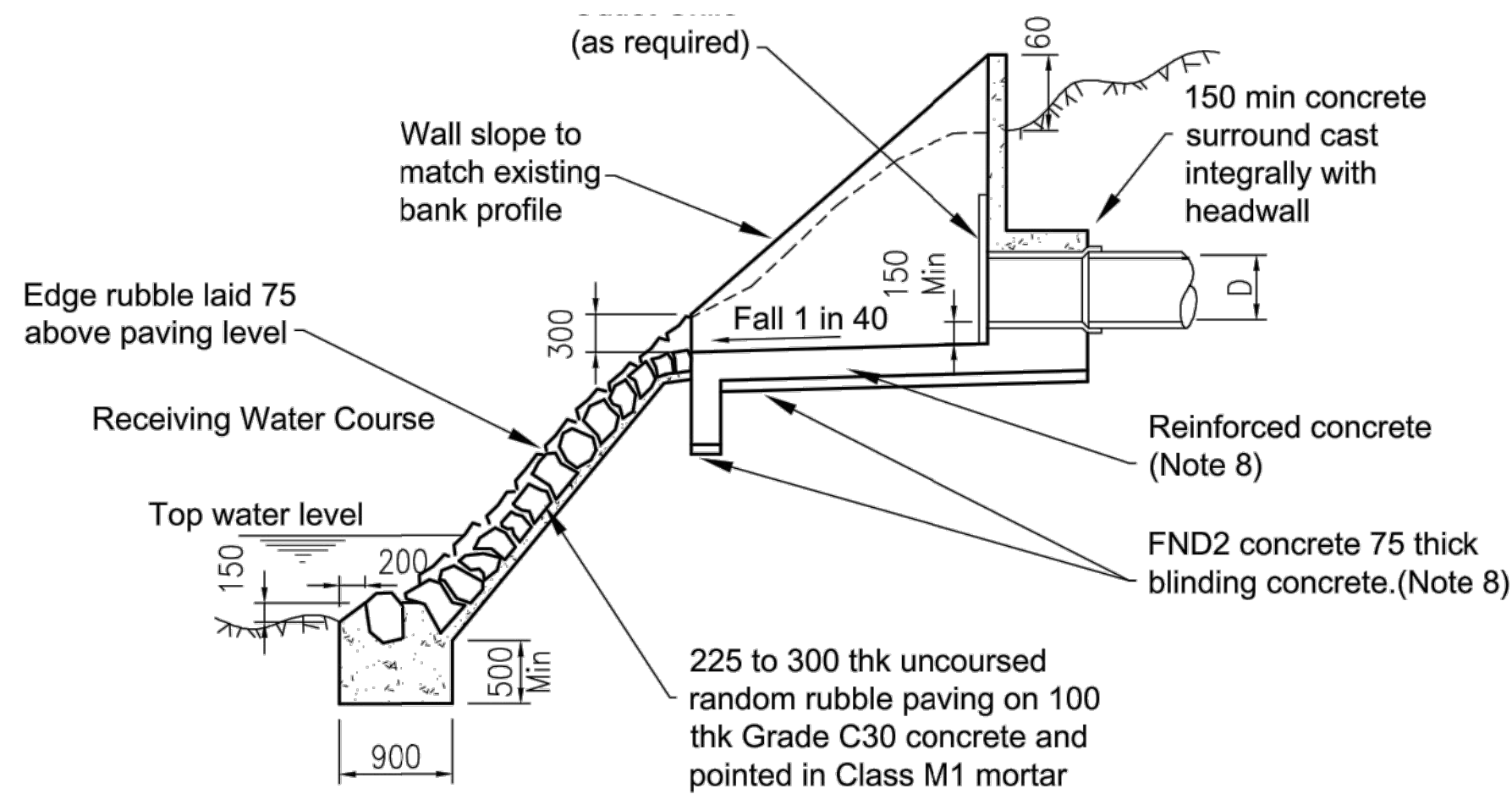
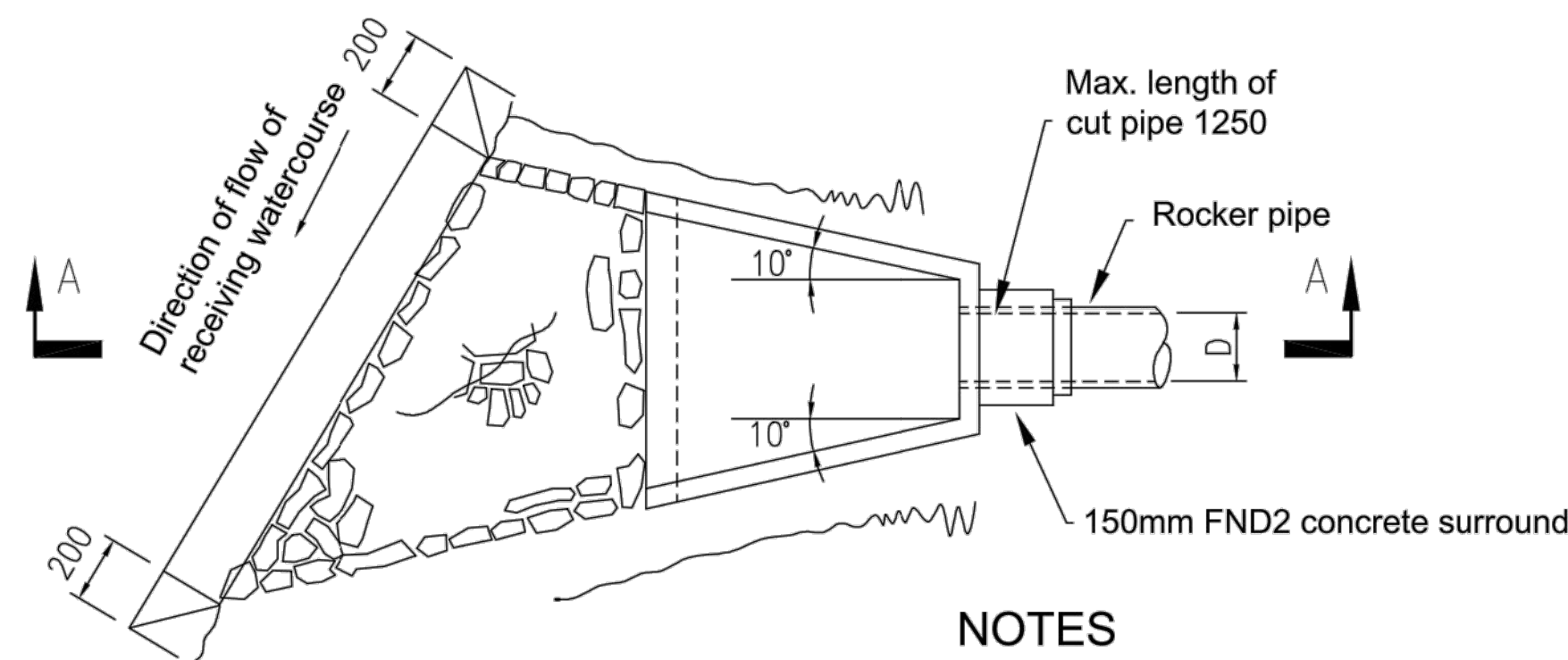
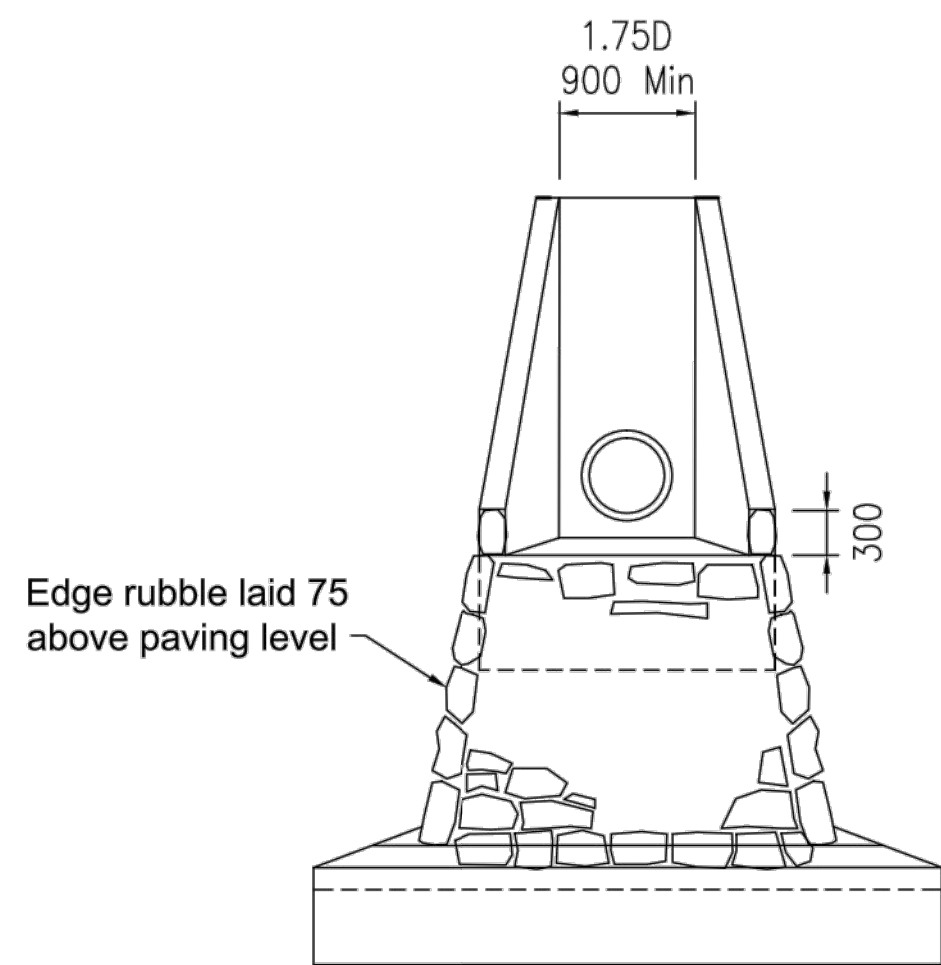




SECTION A-A



PLAN



ELEVATION

TYPICAL DETAIL D
TYPICAL OUTFALL DETAIL TYPE 1

NOTES

- All dimensions in millimetres
- Generally the angle between the direction of flow of the receiving watercourse and the outfall pipe should be 45°
- All reinforced concrete edges to be finished with a 25 x 25 fillet
- Min cover to reinforcement in the top face of the base slab to be 40
- The bed and opposite bank of the watercourse may, in certain circumstances need to be protected by 225 to 300 thick uncoursed rubble pitching laid on a 100 thick bed of FND2 concrete (Note 8) and pointed in Class M1 Mortar. The stone for pitching shall consist of large smooth faced stones roughly dressed square and shall be of a hard durable and inert material. Bunter sandstone, Keuper waterstones and Carboniferous shales and mudstones are not to be used
- An Outlet Grille as shown on Typical Detail G must be provided on all outfalls where the pipe size exceeds 450mm. Where pipe diameters are 375 to 450, 20 dia. stainless steel bars are to be provided across outlet at max. 120mm c/c leaving 100mm max. clear opening
- Where outlets have a flap valve, a special detailed grille must be provided on all outlets 375mm diameter and above
- Secure handrailing shall be supplied where a person may fall 2 metres or more or where a fall of less than 2 metres carries an increased risk of injury due to the landing surface
- FND2 to be used for soil conditions Sulphate class 1 only. Designated mix references FND3, FND4A & FND4B to be used in soil conditions with sulphate classes 3,4A and 4B respectively (refer to specification clause 4.3.1)

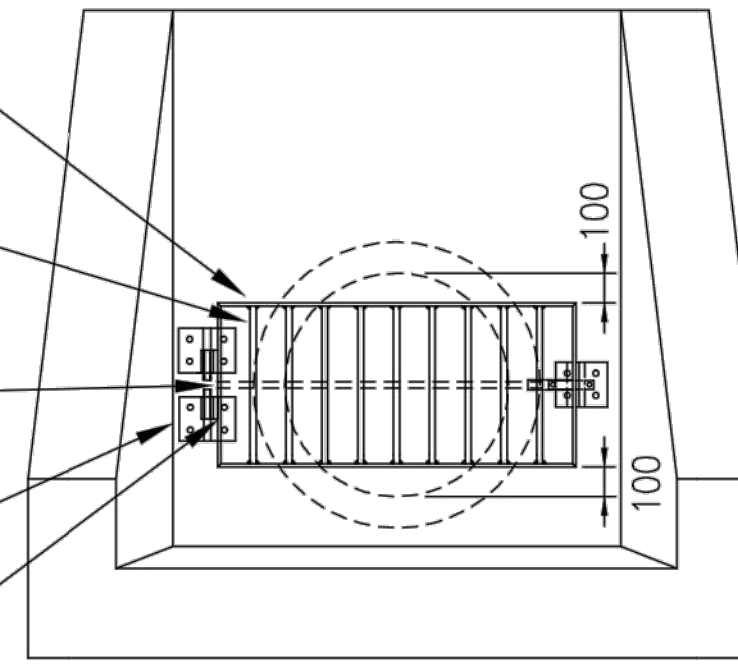
60 x 10 horizontal flat welded to bars

Gate construction from 60 x 10 M.S.flat with 20 dia bars at 120 centres (max.)

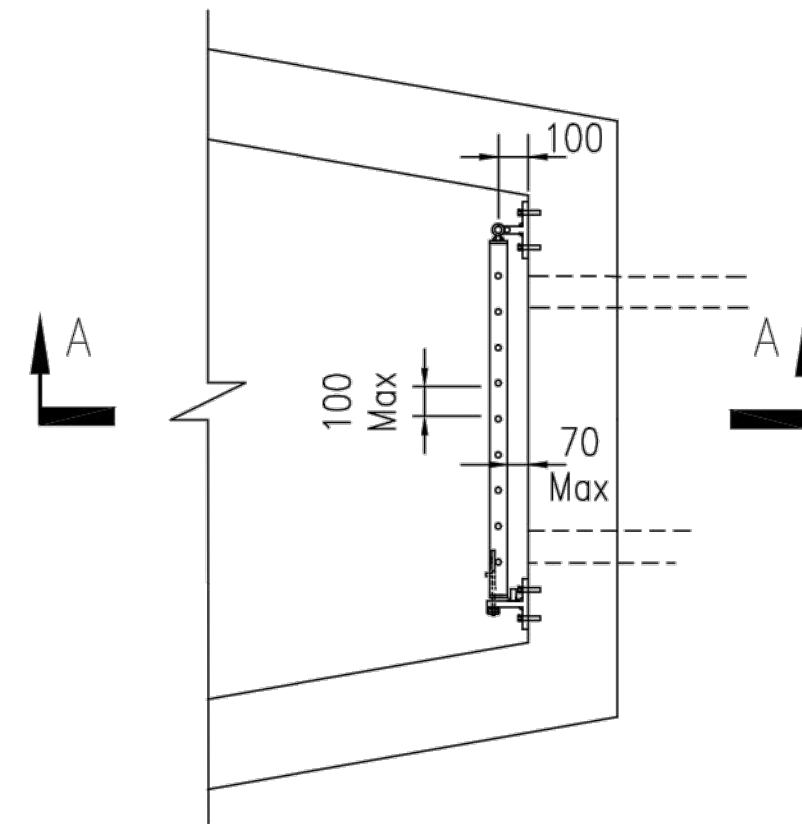
Optional 20 horizontal bar welded across each vertical bar for larger grilles

190 x 50 mild steel hinge plates 20 thick

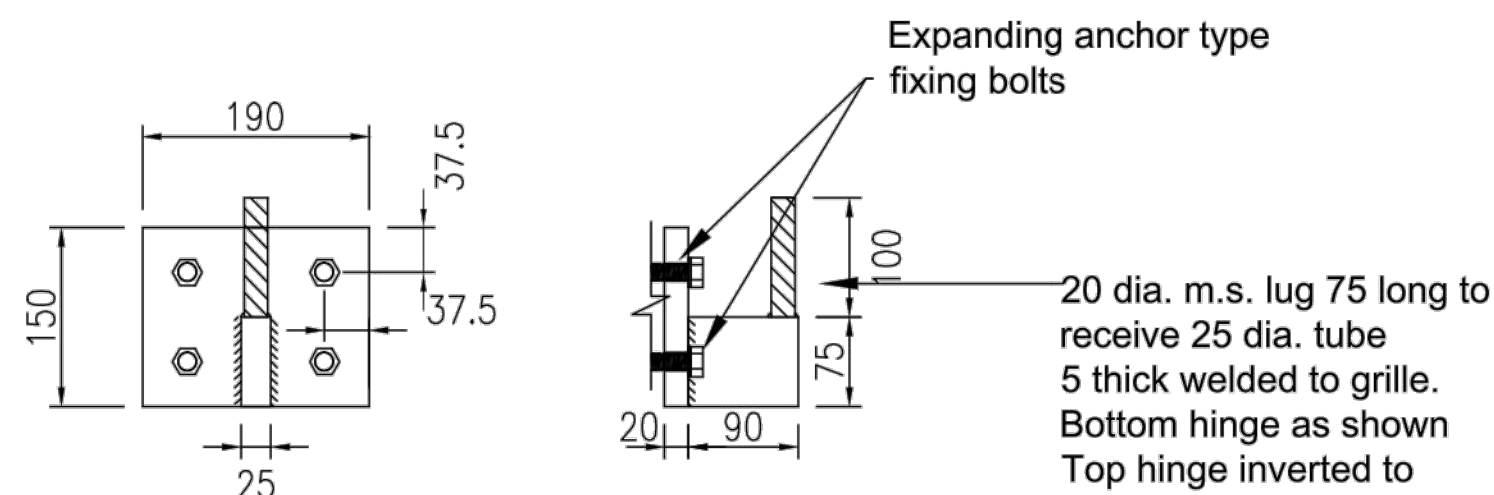
15 x 10 flat welded to 25 dia. tube



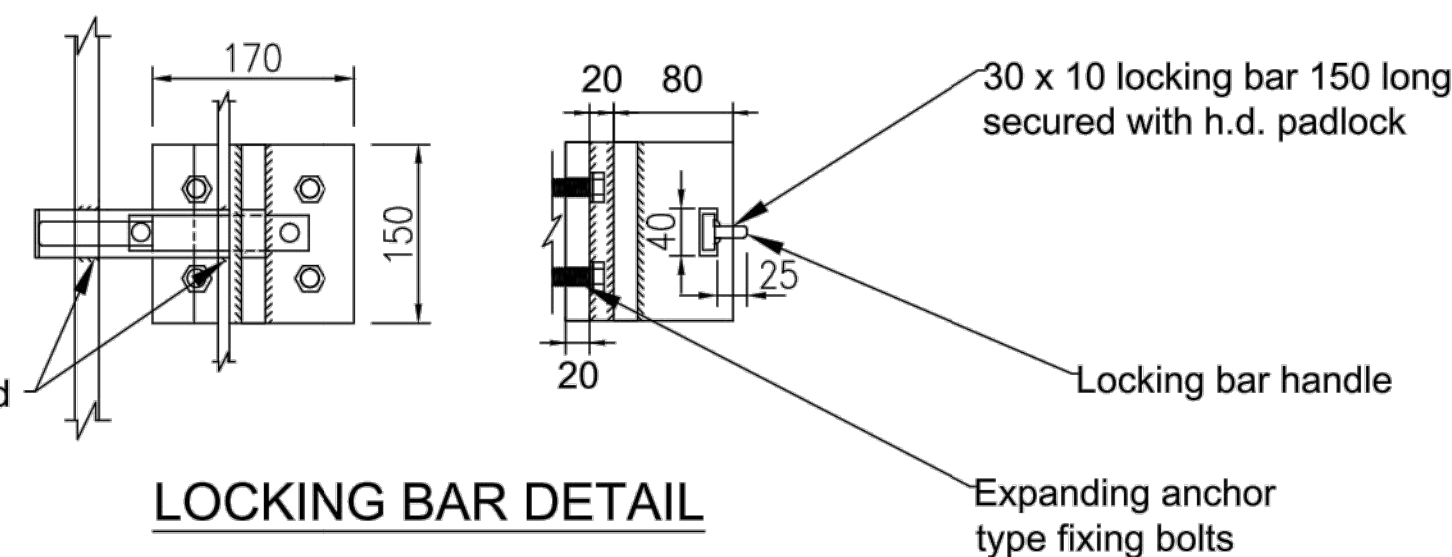
FRONT ELEVATION



PLAN



HINGE DETAIL



LOCKING BAR DETAIL

DETAIL G
TYPICAL OUTFALL DETAIL TYPE 1

Full strength mitre butt weld with weld ground flat

170 x 150 locking b. plate (see detail below)

NOTES

- All dimensions in millimetres
- All grilles and fittings are to be manufactured with mild steel 'hot dip' galvanised to BS 729 and treated with 2 coats of bituminous paint
- The sizes detailed on the grille indicate the preferred member size in normal locations. Consideration should be given to up-sizing members where the grille is in exposed locations or is of particularly large size

CIVIL / STRUCTURAL DESIGN RISK MANAGEMENT

Abnormal or unusual residual risks associated with the design outcomes shown on this drawing are:-

RSK LDE LTD has followed its Design Risk Management process for Hazard Elimination and Risk reduction in developing the designs shown on this drawing. Abnormal or unusual residual risks may be shown above where it is considered that such risk may not normally be expected by competent persons engaged on work of this nature or type.

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RSK

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Client
Kellen Homes

Project Title
**Don Street
Middleton**

Drawing Title
**Drainage Construction details
Sheet 9 of 10**

Drawn Date
JA JULY '21
Checked Date
MS JULY '21
Approved Date

Scale
NTS
Orig Size
A1
Dimensions

Project No.
882333
Drawing File

Drawing No.
40-15-09
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