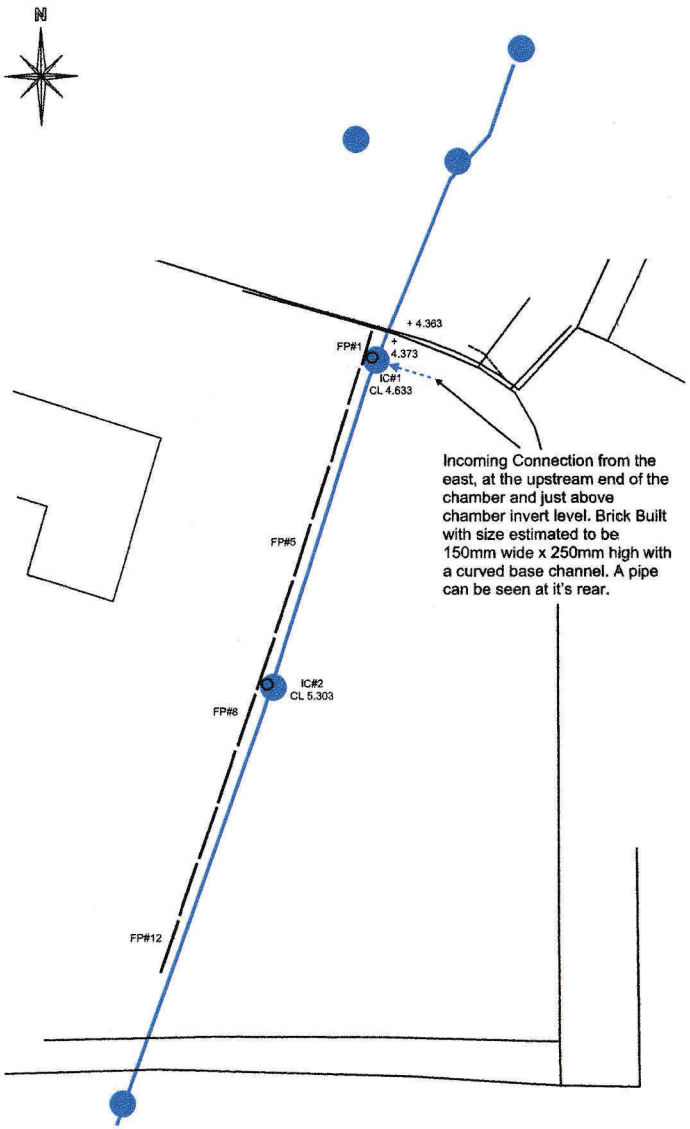
ARUN DISTRICT COUNCIL BN/78/23/DOC



Detailed Layout Scale 1:200

Scale 1:200

0 2 4 6 8 10

metres

Culvert and Fence Line – Investigation and Design Notes

The Site Location is GB 496391 103702 with Ordinance Survey reference SU 96391 03702.

The issue with the fence is that it forms an historic boundary between the application site and #33, the adjacent house, as recorded at the Land Registry.

The Existing Fence consists of 12 panels, each of which is of Close Boarded Construction fixed to Arris Rails, which are themselves set into sockets in the Concrete Fence Posts. These fence posts are concreted into the ground to an approximate depth of 400mm. At ground level, each of the fence panels rests on a single individual 150mm high Concrete Gravel Board, which is bolted onto galvanised brackets which in turn fit into holes in the base of the concrete posts. The construction of this fence is totally of a standard construction technique. The north-most fence panel, FP#1 is 1790mm wide, with the second panel southwards, FP#2, at 2000mm wide and the balance of the 12 panels, FP#3 to FP#12, are 2900mm wide. The last few metres of the boundary to its south-most point is of open ground covered with scrub and hedge-line and is existing. There are no plans to change this.

The distance between the edge of the gravel boards, within the Planning Site, and the centre-line of the culvert has been measured at 580mm for the Culvert Inspection Chamber (north) IC#1 and at 565mm for the Culvert Inspection Chamber (south) IC#2. It is thus assumed that all along the the culvert line the typical distance from its centre-line to the edge of the fence will be between 550mm and 600mm. This assumes that the culvert follows an approximately straight line. This distance is likely to be more problematic at the southern end of the culvert where it changes to a brick arch construction. The dimensions of this brick arch section of the culvert have not been ascertained since at the time of investigations the culvert was surcharged due to assumed silting up in the open ditch downstream of the site. Its dimension have been estimated to be 750mm to 900mm wide (as per the survey carried out by Arun DC) and to be 300mm to 350mm high (from these investigations).

In the event that constructional maintenance work needs to be carried out on the culvert within the Applicants Curtilage, involving any excavations, it has been agreed with the applicants that the fence will be dismantled either partially or fully. For any panels that needed removing, the process would be to cut each arris rail at one end, at the fence post, and move the whole panel out of the way. After the maintenance works have been completed, replacement would be the reverse using galvanised arris repair plates made for that purpose, to re-join the arris rails. It is also noted, that in an extreme event, that some or all of the concrete posts may need to be removed, to enable safe and satisfactory maintenance, then it has also been agreed with the applicants that this course of action will be necessary. As regards the last few southern-most metres of the culvert, there is no fence so any maintenance will just be of standard methods as for this type of landscape.

Whilst construction at the Planning Site is carried out a few upgrades and small maintenance actions will be carried out on the existing inspections chambers to bring them more into line with current standards. These are detailed on the Constructional Drawing. They are :-

a) Inspection Chamber (north) IC#1 – Replace the existing twin concrete cover slabs with a single manageable galvanised cover and frame, suitable to span the chamber width, fitted next to a permanent non-removable concrete slab spanning the rest of the open top of the chamber. Also repair the damaged upstream wall.

b) Inspection Chamber (south) IC#2 – Replace the existing heavy concrete in-filled cover and frame with a single manageable galvanised cover and frame, suitable to match the chamber's shaft width. Retrofit double width, plastic encapsulated, galvanised mild steel, Step Irons, in a vertical alignment, into the chamber wall below the cover slab, meeting the distance to first step of 675mm maximum, the distance to the base of the cover slab of 150mm minimum and with a step vertical spacing pitch of 300mm. The step irons specified are designed for retrofit construction methods into the mortar lines of the brick bonding, in the chamber wall, using a chemical anchoring mortar, though the spacing may have to be slightly adjusted to match the actual brick bonding construction which will be encountered. It was decided to retrofit the step irons into a side wall rather than into an end wall containing the brick arches since this would minimise the final step down distance to the chamber base.

Local ground levels may need to be marginally adjusted to ensure that the ground levels at both inspection chambers are at the surface brick levels to maintain that each cover level, when haunched and bedded, is 50mm above the ground level.

There are no plans to add a second 225mm pipe-line, in parallel with the existing 225mm culvert, between the entrance and Inspection Chamber IC#2.

Investigations have revealed an incoming connection at the east side, upstream end, of Inspection Chamber IC#1. Its source or line of the run is not known.

NOTE

This drawing had been produced for planning purposes only.

All levels and details need to be checked for Ordinary Watercourse Land Drainage Consent, Building Regulations approval and constructional purposes.

KEY

Culvert Information detailing General Inspection Chamber and Headwall Features from Arun DC Drainage Plans

Close Boarded Fence Panels on Arris Rails, between Concrete Fence Posts set concreted into the ground, with 150mm Concrete Gravel Boards at the Base. Typical Fence Panels are 2900mm Wide.

+ 5.250 Levels are to AOD unless otherwise stated

Levels at Inspection Chambers IC#1 and IC#2 are the existing concrete cover levels and not the proposed replacement cover levels

Mate GeoTechnic Services

Rev.	Description	Dm.	Date
01	Original	RC	26-04-23

Project: Proposed New Build :-

33 Hill Lane
Barnham
PO22 0BL

Client: Ms Sara Billingshurst

Drawing Title: Culvert & Fence Layout Details

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Scale: As Shown | Drawing Original: A2

Drawing Number: MGS – BN/56/20 – rev01