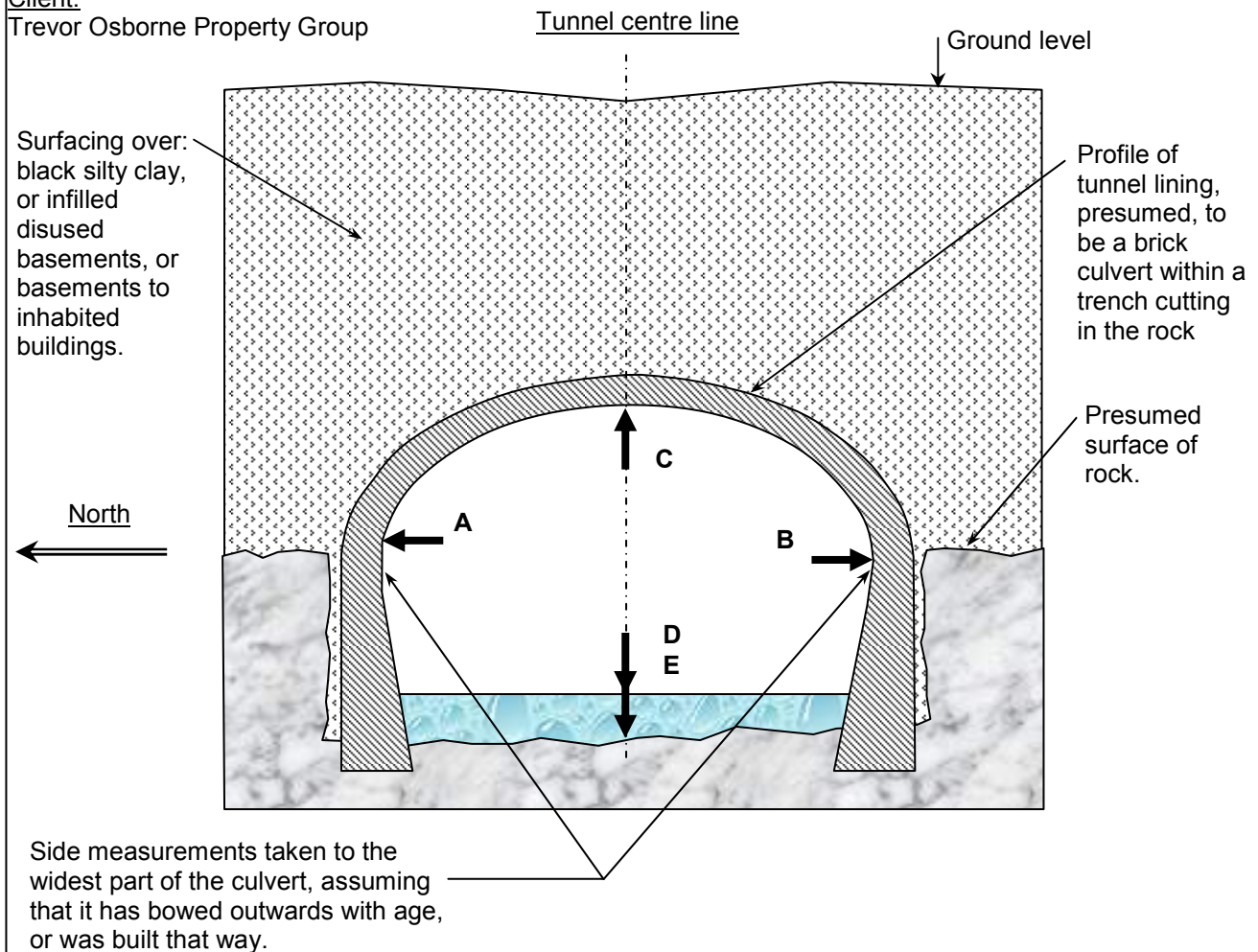


FABER MAUNSELL Marlborough House Saint Albans AL1 3UT	Project Buxton Crescent and Spa				Briefing Sheet 1/F
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Location:
The Crescent, Buxton, SK17 6BQ Derbyshire
Client:
Trevor Osborne Property Group



Survey information required:

Plan

The plan is to show “A” and “B” lines, for both the main culvert and each and every sough found. Where the soughs cannot be walked through safely to the far end, then an estimate of the far end of the sough (found by probing, or laser as appropriate) is to be shown on the drawing. The location of all incoming pipes and ducts are to be shown. The drawing to be annotated to show the measured diameters of the pipes, together with the surveyed invert level at the point of entry to the culvert.

The locations of all manhole accesses through the crown, and sides, to be shown.

A true longitudinal section

The true longitudinal section is to show “C”, “D” and “E”. To the left is to be shown the “D/E” pairing at the top and bottom step of the cascade at the culvert entrance in the park, and to the right is to be shown the “D/E” pairing at the river exit from the Spring Gardens Shopping Centre. The view is to be from the south, parallel to The Crescent face line used by Aedas on their drawings.

The locations of all the soughs found are to be shown on the section. The location of all incoming pipes and ducts are to be shown. The drawing is to be annotated to show the measured diameters of the pipes, together

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with the surveyed invert level at the point of entry to the culvert of all pipes and soughs. The locations of all manhole accesses through the crown, and sides, are to be shown.

Four cross sections

The four cross sections on the culvert line, as shown on plan on page 3, together with cross sections of each of the soughs at their entry points to the culvert.

Datum.

All levels are to be to the Ordnance Datum.

Tying in of the culvert survey to the main survey undertaken by Aedas

A copy of the Aedas ground level survey will be emailed to the culvert surveyor by FaberMaunsell. Three check point on the Aedas survey are to be surveyed by the culvert surveyor, in both plan and level, to demonstrate that the two surveys do coordinate.

At each sough position

Annotate drawing to show inclination and observed status: blocked / ochrous / running.

Measure and record the water temperature and electrical conductivity at points of discharge.

Estimate of the discharge rate, using bucket and stop watch.

At six sough positions collect 2 samples of 1 litre each on the same day, label clearly and leave at the Town Hall Reception, if Hydro geologists / Engineer / Architect not present. The sampling locations to be agreed with the Hydro Geotechnical Engineer following completion of the measured survey.

Leakage points into the culvert away from the soughs.

Record on the drawing leakage points where there is discernable flow. Simply glistening water not to be recorded. Where there is leakage into the culvert similar to that of a sough, record leakage point on the drawings, annotate them as "leakage points" and record discharge rate using bucket and stop watch.

Record presence of mineral deposits at seepage points and approximate dimensions in terms of plan and height from surface of culvert wall

Measurement of the water level "D" above.

The presence of standing waves in the tunnel is recognised. These levels are to be best estimates of the water level thereabouts.

Measurement of the invert level "E" above.

It is not known whether the invert is a smooth brick lining, or a rough, as-cut rock lining. These levels are to be the best estimates of the invert thereabouts.

Note on the drawing the invert construction (rock, brick or silt). Note on the drawing when the invert construction changes.

Invert level

To be the "best estimate" of the invert level, assuming that the invert is a rivened surface.

Safety

A copy of the Designer's Hazard Assessments sheet is attached. No entry is to be made into the culvert, until the Surveyors Method Statement has been accepted.

Culvert Ownership

The culvert is under the ownership of High Peak Borough Council, who are aware of this survey. The local Engineer is Ian Nicholls. The Environment Agency will be informed of this survey before the works commence.

Culvert Lighting

The culvert has no lighting in it. The Surveyor is to provide appropriate lighting, from a generating source provided by him.

Flash Flooding

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The Surveyor is to note, when preparing his Method Statement and Risk Analyses, that flash flooding does occur on the River Wye.

Planning Supervisor

The Planning Supervisor for the project is: Peter Robbins, Northcroft, 3 Clarendon Place, Leamington Spa, Warwickshire, CV32 5QL. Tel: 01926 429444. email probbins@northcroft.co.uk.

Advance Information

The Surveyor is to provide a plot, in plan, of the southern culvert line , B, as early as possible as Autocad emails to the five addresses listed below.

Prints and CD disks

Autocad release 2002 CDs of the survey to be emailed to:

- 1) Michael West, FaberMaunsell, Marlborough House, Upper Marlborough Road, Saint Albans, Hertfordshire, AL1 3UT (tel: 020 8784 5784) (mike.west@fabermaunsell.com)
- 2) Philip Smart, FaberMaunsell, Beaufort House, 94/96 Newhall Street, Birmingham,B3 1PB. (philip.smart@fabermaunsell.com)
- 3) Erica Gardner, Edmund Kirby Architects, 8 King Street, Manchester, M2 6AQ. (ericagardner@edmundkirby-m.co.uk)
- 4) Clive Carpenter, Geoffrey Walton, Mining Geologists and Geotechnical Engineers, Upton House, Market Street, Charlbury, Oxford. OX7 3PJ. (gwp@gwalton.co.uk)
- 5) Martin Tunncliffe, Building Services Partnership, ERI House, 19 Hereward Rise, Halesowen, B62 8AN. (martin.tunncliffe@bspltd.co.uk)

Additional Information

- (a) The original section of the culvert is the western section, and was constructed around 1790. Its structural integrity is not known.
- (b) The original culvert has been extended to the east at least on two occasions.
- (c) Structural repairs have been undertaken to the culvert in recent times.s

Additional Information required, following wade through the culvert on Wednesday 8 December

- (i) Identify the soughs and pipes which drain chalybeate springs (Bright orange tongues) **"F"**
- (ii) Record the location of the two weirs which are just upstream of the road crossing.
- (iii) At the two weirs, record the water depth and water levels immediately before and after each weir.
- (iv) At each sough entrance, record both the bottom and the top levels of the markedly sloping invert stone slabs.
- (v) Below the Spring Gardens Shopping Centre, record the downstand concrete beams in the ceiling, which provide an obstruction to the river flow.
- (vi) It is recognised that, with the depth of water found in the culvert away from the entrances, that a laser scanner cannot be use in the tunnel. With the reversion to conventional surveying methods, ensure that a typical cross section is drawn for each length of tunnel construction type.
- (vii) Survey the second tunnel under the shopping centre car park and access roads, just downstream of the culvert, for later incorporation in the FM Flood Risk analysis.
- (viii) Record the two pipes which traverse the culvert, and which provide an obstruction to the river flow.
- (ix) Where the stone ashlar facing has been broken by either modern opening up to force through a pipe entry, record the thickness of the sandstone block so exposed. Record if there is one , or two thicknesses of ashlar blocks forming the structure of the culvert.

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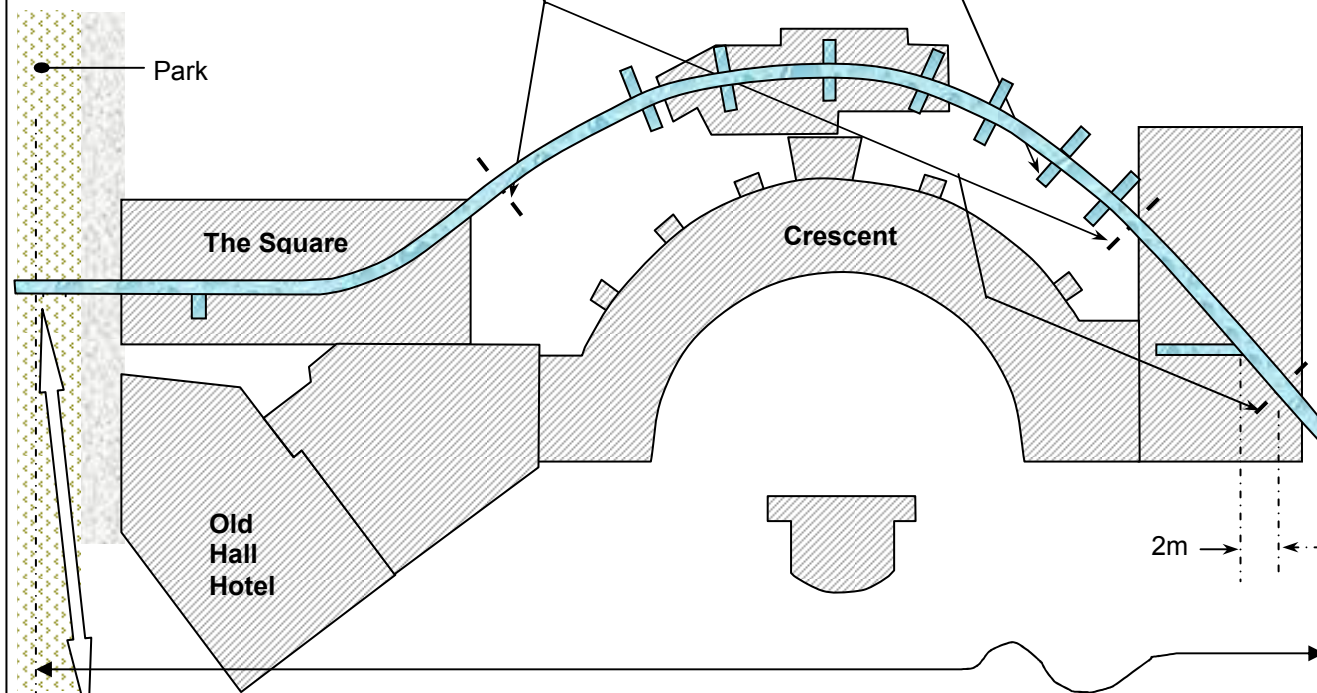
- (x) It is recognised that the shear depth of water encountered precludes surveying mineral deposits on the invert of the culvert ,at the various seepage points.

A	mjw	10 Sept 04	Alan Cobb comments as email 10 Sept incorporated.
B	mjw	17 Sept 04	Alan Cobb survey comments as email 14 Sept incorporated.
F	mjw	10 Dec 04	Philip Smart's comments (17 Sept) added.
C	mjw	28 Sept 04	Philip Smart's comments (28 Sept) added
D	mjw	11 Nov 04	Levels on the two cistern covers in front of the Crescent / Thermal Baths added. Zenith details added.
E	mjw	12 Nov 04	Rick Brassington's comments of 12 Nov added.
	mjw	10 Dec 04	Additions following wade through the culvert on Wednesday added. Requirement to survey car park tunnel downstream, for the Flood Risk

Plan view of River Wye in culvert

Location of the four culvert cross sections required. Additionally, cross sections are required at each of the soughs at their entry points to the culvert.

Location of soughs not known for certain. Locations shown have been taken from the Archaeological Assessment of the Crescent, prepared by the University of Manchester. Drawings in the Town Hall indicate that there are about 30 soughs along its length.

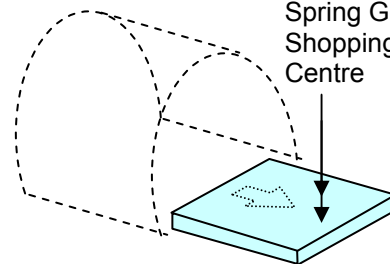
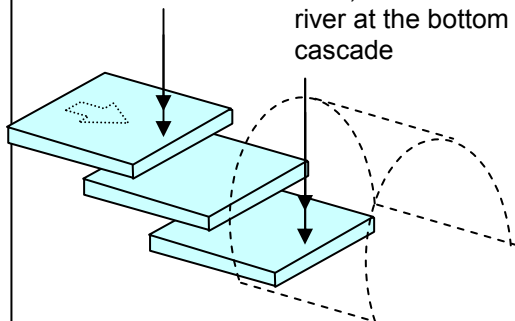


Water level and rock level in the middle of the river, at the top of the cascade

Water level and rock level, in the middle of the river at the bottom of the cascade

Length of culvert and soughs to be surveyed, from the cascade steps in the park to the culvert exit at the east side of the Spring Gardens Shopping Centre.

Water level and rock level in the middle of the river, at the river exit to Spring Gardens Shopping Centre



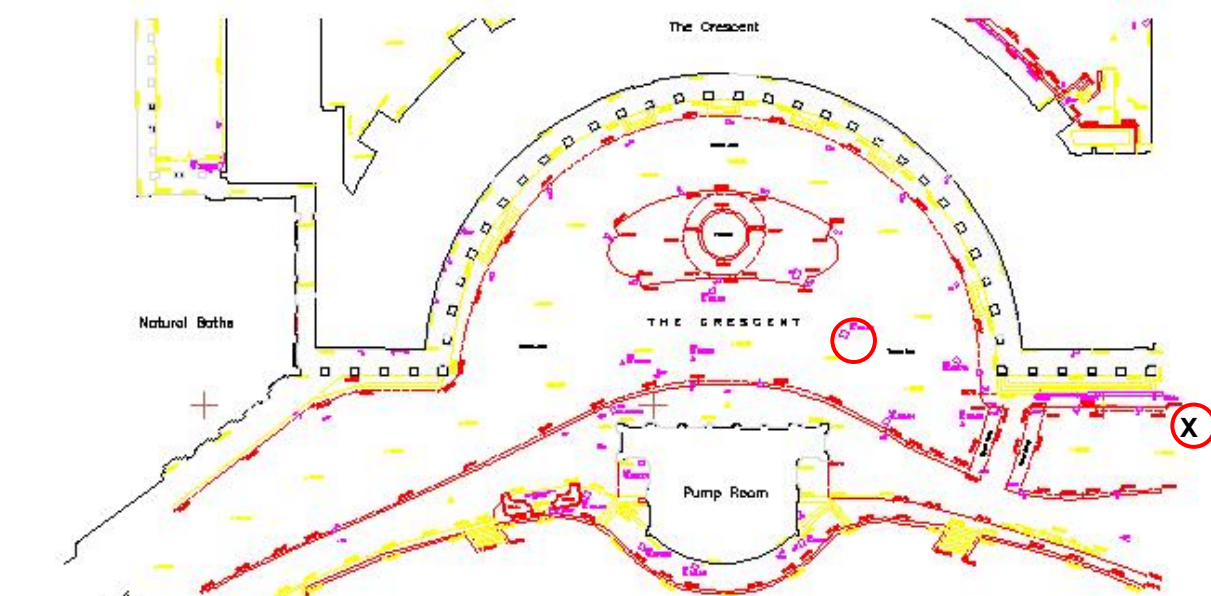
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Additional requirement from High Peak Borough Council's Hydrogeologist

Levels on the two access covers for the brick cisterns below.

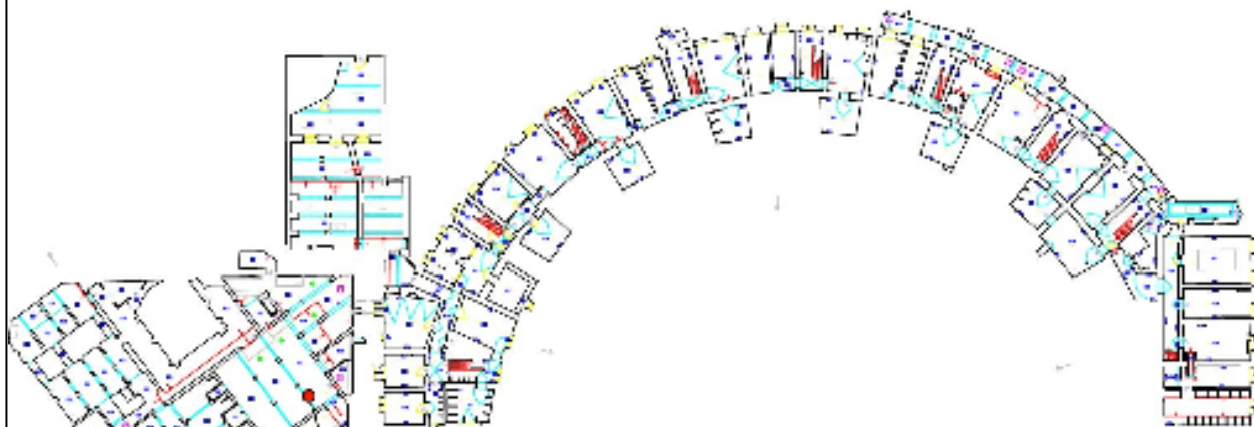
E

Levels to be on top of covers. First cover is in Crescent at eastern end of flower beds near fountain. Second cover is in gutter outside café at western end of shops.



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Additional information agreed with Buxton Mineral Water Company's Hydrogeologist
Survey of Buxton Mineral Water Company's source room and four reduced levels.



Location in plan, and reduced level
of the ground at this location,
where a borehole was put down a
couple of years ago.

Add to the existing Aedas survey (provided at the outset of the
surveying contract) the location of the room containing the Buxton
Spring (below the east end of the Old Hall Hotel). Provide
reduced levels on the tiled floor surface at the four corners of the
glass housing over the source.

