
Pont Bodfel, Llannor



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Ymddiriedolaeth Archaeolegol Gwynedd
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Pont Bodfel,
Llannor
Archaeological Recording

February 2004

Prepared for Gwynedd Council

by

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This report comprises a measured and drawn record of the south face of Pont Bodfel, Llannor, Gwynedd (SH 3429 3659), undertaken in advance of structural alterations to the bridge proposed for the summer of 2003.

The survey was made during April 2003.



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Pont Bodfel

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References

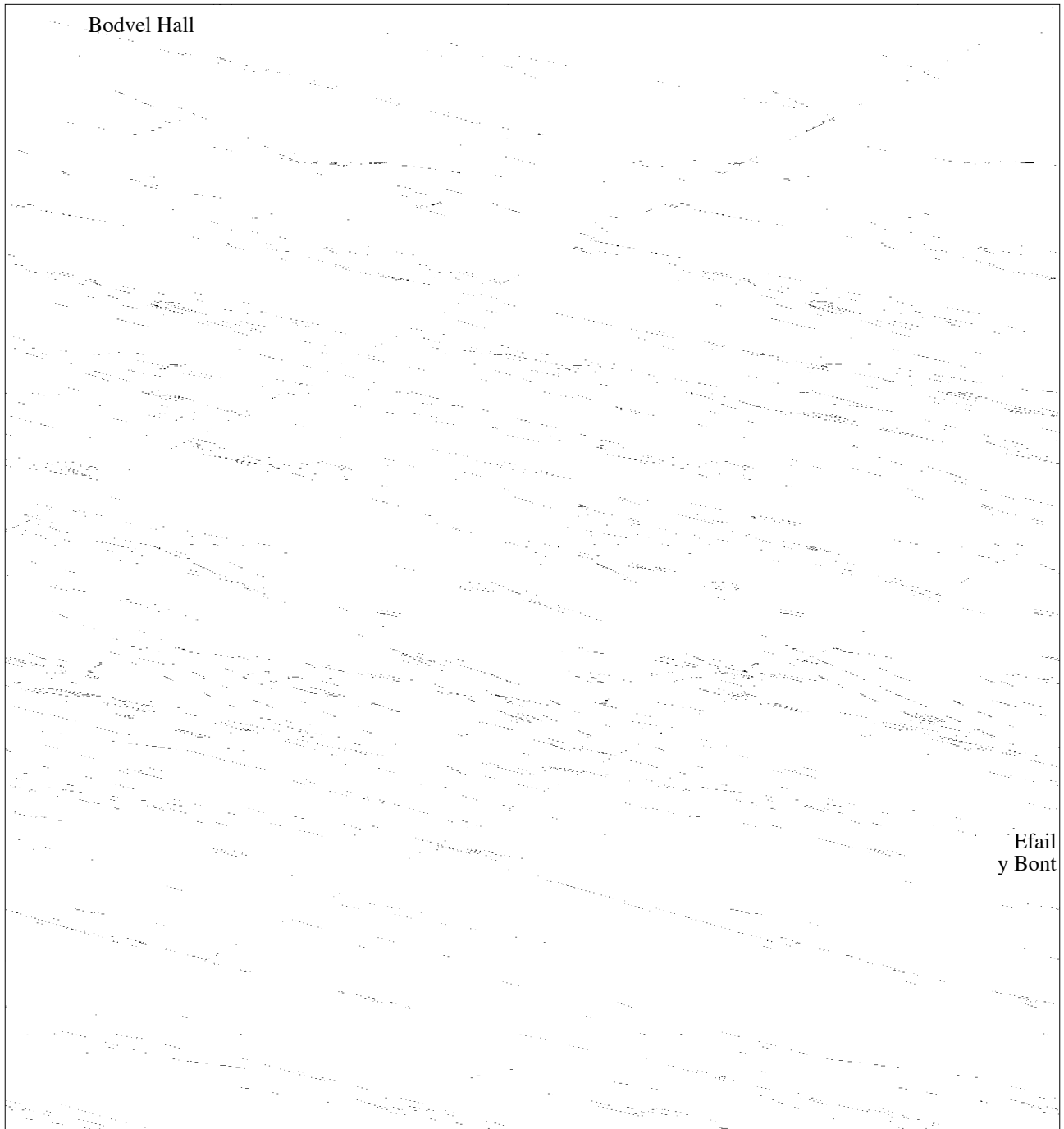
Royal Commission on Ancient and Historical Monuments in Wales (1964) *Caerns Inventory*, vol. 3 west, 81 (no.1670)

Cadw: Welsh Historic Monuments, *Buildings of Special Architectural or Historic Interest, Llannor, Gwynedd*, Record No. 4333

Gwynedd Archives, Caernarfon, *Bond No. 61* (being 1805 design for Pont Bodfel)

Pont Bodfel

Pont Bodfel carries the A497 main road between Nefyn and Pwllheli over the Afon Rhyd-Hir, 400m SE of Bodvel Hall. The Rhyd-Hir flows south through the parish of Llannor, reaching the sea on the southern coast of the Llyn peninsula at Pwllheli.



Ordnance Survey 1913 (rev. 1914) 1:2500 scale map showing local context of Bryn Bodfel

The Bridge

The bridge is a grade II listed structure, described in the statutory documentation as:

'a rubble stone built bridge set out on a broad curve over the wet valley bottom of the Afon Rhyd-hir, and comprises 3 segmental arches of shaped rubble voussoirs inset below flush spandrels and parapet. The cutwaters on both sides are angled back to the base of the parapet, which continues as a parapet with stone copings to the causeway at both ends. The main bridge spans approximately 5.85m rising 2.5m above the river, affording a carriageway of 4.75m wide plus parapets of 40cm.'

It should be noted that river height obviously varies with the season of year and that the plinth of the eastern pier

is 3.6m below the parapet and 3.08m below the level of the carriageway. At the time of the survey the river level was 3.12m below the carriageway.

The present bridge is a replacement for an earlier bridge. The rebuilding was carried out in 1805. The design for the bridge (the design drawing is signed Griffith Jones) specified that the arches were to be built with good stones, set in good lime mortar; that the retaining walls were to be two feet thick to a level with the road and that guard walls (parapets) should rise a further 3 feet above this. The guard walls were to be 18 inches thick and finished with good coping stones of about 6 inch thickness

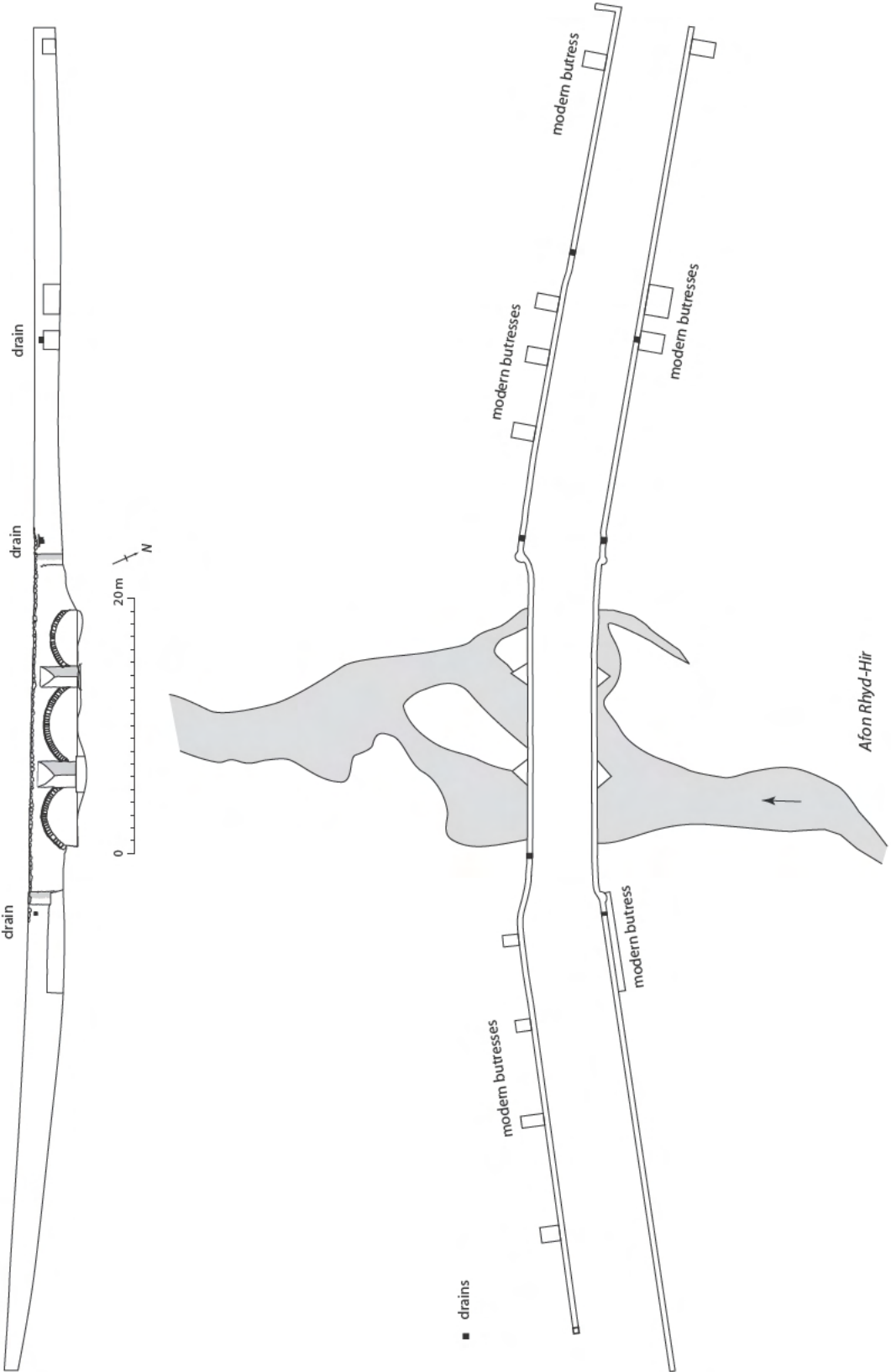
Fig. 2. Pont Bodfel, north side panoramic view



Fig. 3. Pont Bodfel, south side showing bridge, causeways, buttresses and modern repair



Pont Bodfel General plan and elevation of bridge and causeway



The total width of the bridge was designed to be 18 feet with a carriageway of 15 feet. Beyond the bridge, a causeway was to be constructed for 200 feet at the Pwllheli (SE) end and for 140 feet on the Bodvel Hall side. The road was to be gravelled at a thickness of 9 inches at the crown of the arch, grading down to 4 inches after a distance of 100 yards from each end of the bridge. Holes were to be made in the parapet for drainage of the carriageway.

The overall dimensions of the bridge as built conform reasonably closely to the design. Some small variations were noted as follows:

The span of the three arches, from east to west, were intended to measure 14 feet, 20 feet and 14 feet. As built, the dimensions are 15 feet, 19 feet and 14 feet. The two piers were designed at equal widths of 6 foot. As built, the eastern pier, excluding plinth, is 8 foot 6 inches and the western pier is 6 foot 2 inches.

The carriage way has evidently been built up over several years. It is now a tarmac surface with a consequent reduction in the relative height of the guard walls or parapet. The carriageway on the south side is consistently higher relative to the parapet wall than is the case on

the south side. On the bridge itself the south wall now rises little more than 15 inches to 18 inches above the level of road, a circumstance which may be compared with the intended height of 3 feet. On the north side the height is 17 inches to 20 inches. Off the bridge the parapets stand 20 inches to 24 inches above the carriageway.

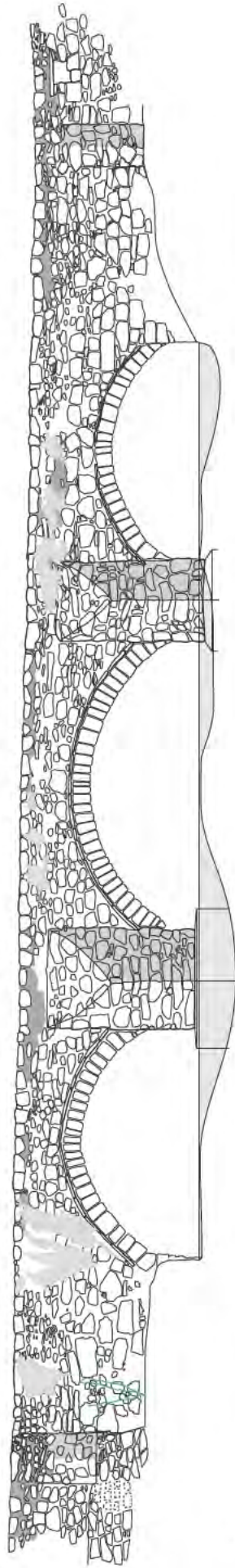
There have been several repairs to the bridge over 200 years of use. The most notable are the provision of supporting buttresses to the causeways on both the north and south faces and at each end of the bridge. The walls have been rendered and and repointed on a number of occasions and there have been heavy repairs and rebuilding of the masonry in places too. This is particularly evident at the junction of the causeway and bridge at its eastern end on both the north and south sides. Certain of the drain holes have been repaired and provided with new lintels.

The junction of the bridge and causeways, and the narrowing of the road at this point, was marked by a slight out-turn of the parapet walls, terminating in half-drum buttresses. This feature at the south-east corner is now lost. The upper parts of the two on the north side have seen repair.

Fig. 5. A497 carriageway looking east, showing road narrowing at bridge and skid marks on carriageway



Pont Bodfel Plan and elevation



- vegetation obscuring masonry
- recent repair and repointing



10 cm
0

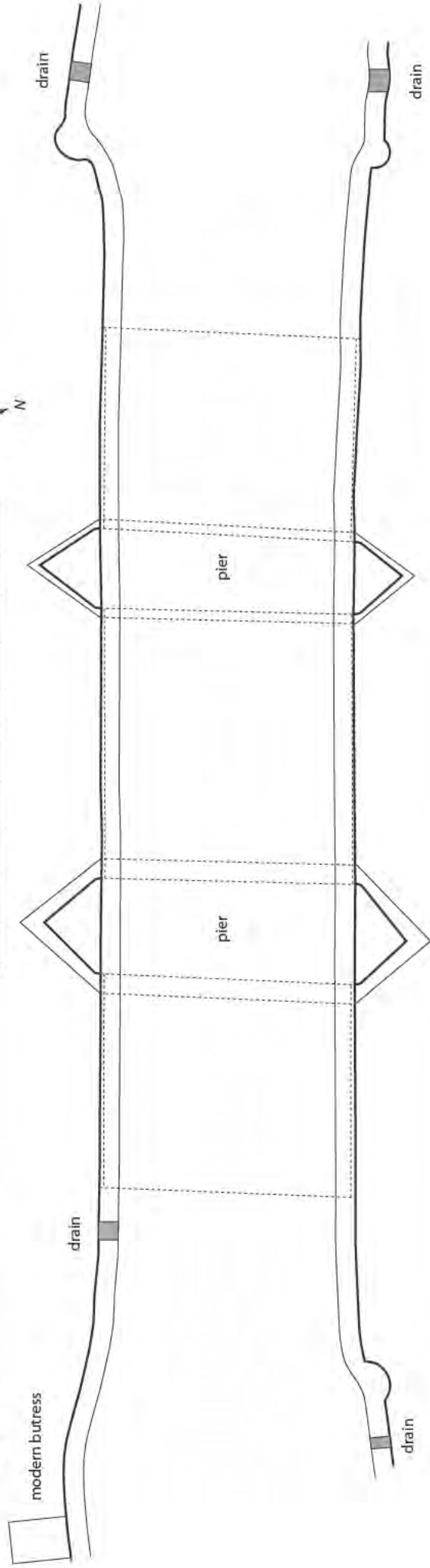


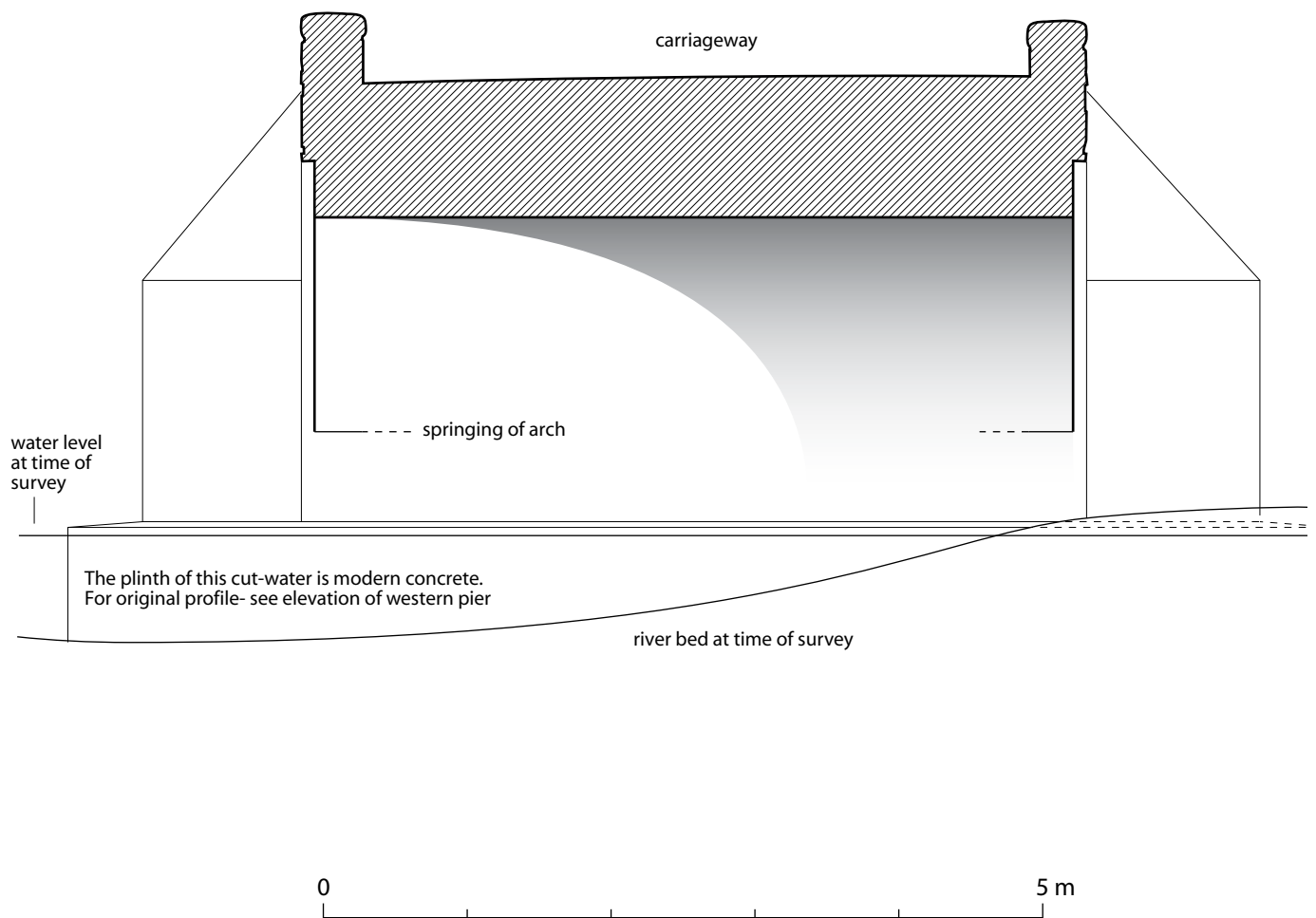
Fig. 7. Pont Bodfel, north side from east



Fig. 8. Pont Bodfel, north side from west

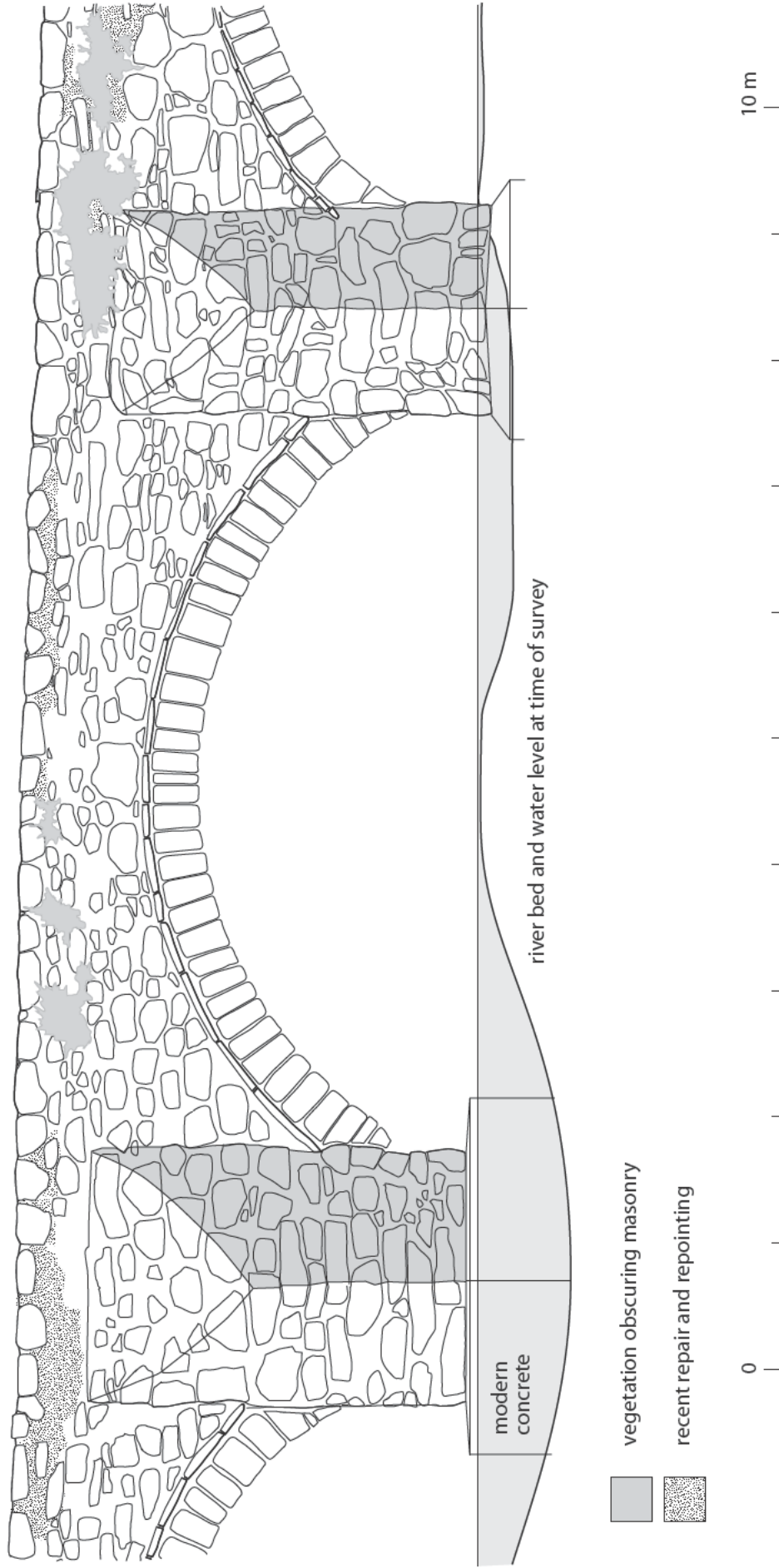


Pont Bodfel



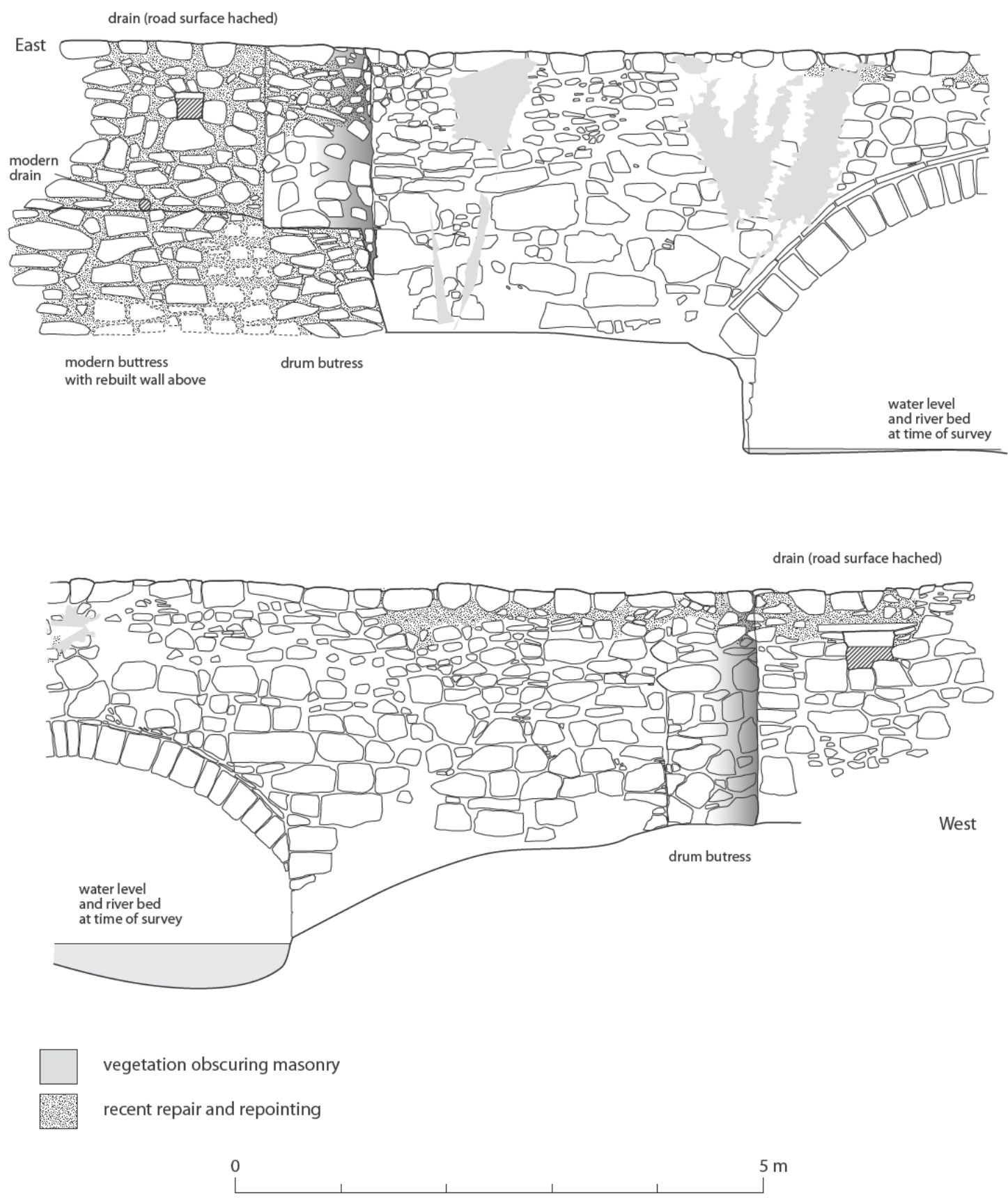
Cross-section across Pont Bodfel at the central arch with adjacent eastern buttresses projected

Pont Bodfel



Detail of central arch (north face) and adjacent piers

Pont Bodfel



Detail of east and west ends showing drum buttresses and drains