

BRIDGES OF COUNTY LAOIS: AN INDUSTRIAL HERITAGE REVIEW PART 1



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*An Action of the
Laois Heritage Plan 2007 – 2011*



for
Laois County Council
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Cover (clockwise from top left): Vicarstown Bridge (LAIAR-014-008), Footbridge, Portlaoise Station (LAIAR-013-028), Stradbally Bridge (LAIAR-019-021), Castletown Bridge (LAIAR-016-015).

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Site gazetteer

Indexes to gazetteer, ordered by:

- Name - type - townland - town - LAIAR no
- Townland - town - type - name - LAIAR no
- Irish grid - type - name - LAIAR no
- Type - townland - town - name - LAIAR no
- Laois County Council bridge number - LAIAR no

PREFACE

This report was commissioned by Laois County Council as an action of the Laois Heritage Plan 2007 – 2011. The Heritage Plan was devised by the Laois Heritage Forum which is made up of representatives of various heritage groups throughout the county. The Forum's objective is to promote an awareness, understanding and appreciation of the county's built, natural and cultural heritage through the implementation of specific actions to conserve the county's unique character. This particular project was undertaken on 2007 and jointly funded by the Heritage Council and Laois County Council.

Part 1 outlines the methodology behind the creation of a gazetteer of over 470 bridges of every type throughout Co Laois. It also discusses the various types of bridge encountered, who built them and highlights those of special heritage significance for possible inclusion in the Co Laois Record of Protected Structures. Practical measures are also set out for the conservation of bridges of heritage interest.

Part 2 presents the gazetteer of bridges. It comprises two volumes, dealing with north and south Co Laois respectively. A brief history of each bridge is given, together with a description (with photographs), condition, current use and heritage evaluation.

This report does not purport to be an exhaustive review of all bridges in the county or the last word on those bridges included in the Gazetteer. Rather, it should be regarded as a basis for further historical research and fieldwork to expand our knowledge of the bridges recorded to date and also to add as-yet unrecorded bridges to the database.

I am extremely grateful to the following for their invaluable assistance with this project: Michael O'Hora (Senior Engineer, Roads Section, Laois County Council) and his staff, Aidan Farrell and James Mulligan (National Roads Design Office, Naas), and Michael Bracken (Information & Communication Technology Department, Laois County Council). My thanks also to Gerry Maher, Patricia Lynch and Mary Fitzpatrick (Laois County Library), and Paul Ferguson (Trinity College Map Library, Dublin).

Last, but by no means least, I should like to thank Catherine Casey (Heritage Office, Laois County Council) for steering this project to a successful conclusion.

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SUMMARY

1. Methodology

- 1.1 This report was commissioned by Laois County Council at the behest of the Laois Heritage Forum as part of its Heritage Plan 2007-11. The objective of the project was to identify and record a wide range of bridges throughout the county and highlight those of special heritage merit which warranted statutory protection. All the data were also to be recorded on a Microsoft Access database and digitally mapped using *MapInfo*.
- 1.2 For the purposes of this study, a bridge is defined as a structure built to carry a line of communication (e.g. road or railway) over an impediment along its way (e.g. canal, river or railway).
- 1.3 A range of documentary sources was used to identify bridge sites, notably Ordnance Survey maps, National Inventory of Architectural Heritage, Co Laois Record of Protected Structures and Laois County Council bridge records.
- 1.4 As a result of this paper survey, 477 bridges were identified at 428 locations (the former figure include bridge replacements).
- 1.5 During 2007, the author visited all the bridges highlighted in the paper survey phase of the project. Using standardised forms, descriptions were made and photographs taken of all extant bridges.

2. Bridge types and structural forms

- 2.1 The design of bridges reflects what is being carried and crossed, the engineering technology of the period, and resources available to their builders.
- 2.2 The vast majority of the surveyed bridges carry roads over rivers, railways and canals. Railway bridges, foot bridges and aqueducts were also examined.
- 2.3 The majority of bridges are of masonry arch construction and were erected during the 1700s and 1800s. The remainder are generally of metal and/or reinforced concrete beam construction and date from the 1900s. Several pipe culverts were also identified.

3. Bridge builders

- 3.1 A number of bridges across rivers were mapped during the Down Survey of 1655 but most of their sites can no longer be identified. The earliest attested bridge in the county is at Ballykilcavan and was built in 1713.
- 3.2 From the early 1600s until the 1890s, the Laois County Grand Jury was charged with the building and maintenance of most of Laois' road bridges. In 1898, responsibility was transferred to Laois County Council. Much of the latter's work entailed replacement of earlier bridges, generally in metal or reinforced-concrete.
- 3.2 Canal bridges were built along the Athy and Mountmellick branches of the Grand Canal in the 1780s and 1820s respectively.
- 3.3 The Board of Works were also involved in bridge construction, notably on drainage schemes on the Nore and Barrow rivers in the 1840s and 1930s respectively,
- 3.4 The Great Southern & Western Railway Company also built a substantial number of railway bridges, notably on the Dublin-Cork line in the 1840s, and Portarlington-

Athlone and Ballybrophy-Limerick lines in the 1850s. The Waterford & Kilkenny Railway Co also erected bridges on the Portlaoise- Waterford line in the 1860s and the Portlaoise – Mountmellick line in the 1880s. The Board of Works also built a line between Athy and Wolfhill Collieries in the 1910s.

- 3.5 Laois County Council, the successor of the County Grand Jury, is now responsible for the construction and upkeep of the county's road bridges. It also acts on behalf of the National Roads Authority in respect of bridges on National roads and motorways.
- 3.6 Bord na Móna also erected several bridges in the 1960s in connection with peat extraction activities in the vicinity of Portlaoise.
- 3.7 Iarnród Éireann have upgraded a significant number of bridges along the Dublin-Cork line and also erected new ones in place of level crossings.

4. Bridge names

- 4.1 Most bridges are named after their location (generally the townland) or local features. A significant proportion of bridges are also named after people and a smaller number relate to their size, function and age. Those names which cannot be categorised merit further investigation.
- 4.2 In some instances, the name of a bridge changes. Most occurrences took place in the late 1800s and early 1900s, but whether this was because they were rebuilt or for some other reason must also await future research.

5. Bridges of heritage significance

- 5.1 The criteria devised by the National Inventory of Architectural Heritage were used to evaluate the heritage significance of all the bridges identified in this survey. These relate to their architectural, archaeological, historical and technical merit. Group value, setting and rarity were also taken into account.
- 5.2 Each bridge was rated according to its local, regional, national and international importance.
- 5.3 One hundred and six bridges were evaluated as being of local significance, 53 of regional interest, and four of national importance.
- 5.4 Thirty-one bridges of regional/national significance are not in the current Laois Record of Protected Structures and are recommended for inclusion therein.

6. Issues

- 6.1 Bridge upgrading through road widening, deck strengthening and replacement all have the potential to diminish a bridge's heritage merit. It is recommended that heritage value be taken into consideration when devising such work and that every effort made to retain the character of significant bridges.
- 6.2 Unsympathetic repairs and maintenance can also pose a threat to significant bridges. Vegetation overgrowth should be kept under control and appropriate materials used for repairs. The various organisations responsible for the upkeep of bridges should be made aware of the need for a co-ordinated policy to ensure that significant bridges are dealt with in an appropriate manner.

- 6.3 Attachments to bridges (e.g. water pipes and cables) can detract from their visual character and it is recommended that, where possible, all new pipes and cables be buried in the carriageway.
- 6.4 The maintenance of disused bridges can be financially problematic. Every effort should be made to find new uses for defunct bridges of heritage merit.
- 6.5 Aside from their infrastructural role, bridges can also provide valuable ecological habitats for wildlife. Particular account should be taken of bats and birds when carrying out maintenance and repairs, and provision made for nesting.

7. Conclusions

- 7.1 Having identified surveyed and inventoried most of the bridges in Co Laois which are likely to be of special heritage significance, more research is required on their history using primary documents such as Grand Jury Presentment Books.
- 7.2 Only a tiny fraction of the county's stock of bridges is considered here as being sufficiently special to warrant inclusion in the Record of Protected Structures. However, this form of statutory protection will not guarantee such bridges' long-term survival unless conservation measures are also put in place to retain their special characteristics.
- 7.3 Such measures include the appropriate maintenance and repair regimes, sympathetic upgrading and possible by-passing of significant bridges instead of their demolition.
- 7.4 The implementation of an effective conservation strategy is dependent on the preparation of a comprehensive inventory of the county's bridges in which those of special merit are highlighted.

1. METHODOLOGY

1.1 Project brief

For the purposes of this report, a bridge is defined as a structure built to carry a footpath, road, railway or canal over an impediment along its way, for example a canal, river or railway.¹

The objective of this project was to create a comprehensive inventory of bridges of heritage significance throughout Co Laois. Each bridge was to be historically researched, described, photographed and assessed in terms of its heritage significance. Those of special interest were to be highlighted for possible inclusion in the Co Laois Record of Protected Structures (RPS). General conservation measures were also to be proposed for the safeguarding of significant bridges.

1.2 Paper survey

The Co Laois Industrial Archaeology Record (LAIAR) formed the basis for the identification and selection of the bridges relevant to this project. This database was compiled by the author in 2004 at the behest of Laois County Council. Based on the Microsoft Access 2000 computer program, it contains records of some 1100 sites of industrial heritage interest throughout the county. The vast majority of these sites were identified using the 37 Ordnance Survey six-inch (1:10,560) maps which cover the county and which were surveyed in the 1830s, 1880s and 1900s (fig 1.1).

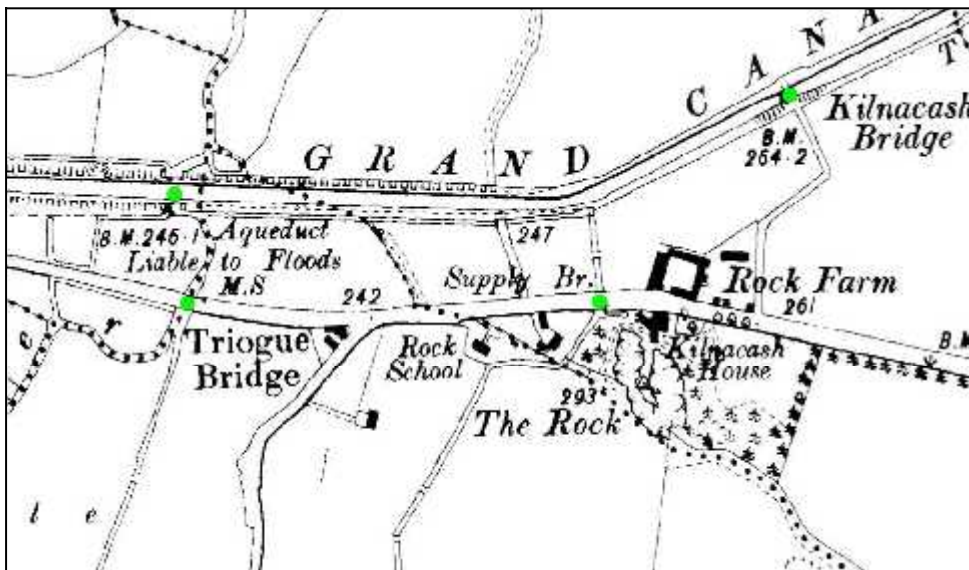


Fig 1.1 Extract from 1907 OS six-inch map sheet 8 showing named bridges. Note also unnamed aqueduct over canal.

Of the many hundreds of bridges in the county, the vast majority are relatively small single-span bridges and culverts over streams and drains.² Based on fieldwork elsewhere, most of these structures are unlikely to be of special heritage merit. In order to reduce the number of bridges to a manageable size, therefore, it was necessary to devise a sampling strategy in order to exclude them from the bridge database in favour

¹ Although arches over gates etc have the same structural form as those on bridges, they are excluded from this survey as they do not carry lines of communication.

² A culvert is a bridge with a span of less than two metres (6ft 7in). Prior to metrication, they were defined as bridges with spans less than 6ft (1.83m).

of those of possible heritage interest. Accordingly, the following sampling strategy was devised:

- Road bridges
All *named* bridges carrying roads over canals, footpaths, railways and rivers. Also *unnamed* ones over railways, canals and principal rivers, and those in demesnes.
- Foot bridges
Pedestrian bridges over rivers, canals and railway. Those in demesnes and those highlighted as 'F.B.' on the OS maps are also included.
- Canal bridges
All bridges (whether named or not) carrying canals over roads and watercourses. Because such bridges carry water, they are also known as aqueducts. Culverts were obvious on the maps, were also included.
- Railway bridges
All bridges (whether named or not) carrying railways over roads, significant watercourses, canals and industrial railways. However, the numerous culverts through railway embankments were excluded.

Using these criteria, 428 bridge locations were identified for further investigation. The bridge's presence or absence on each edition of the relevant six-inch map sheet was noted together with its name (where given), function, townland location, and six-inch and *Discovery* map sheet numbers.

For the purposes of this report, bridges have been classified according to what they carry. Thus, 'road', 'railway' and 'canal' bridges are deemed to carry roads, railways and canals respectively.³ Each type can be further sub-divided according to what they cross, e.g. a river (including streams, drains and mill races), railway or canal. Thus, a 'bridge (road/rail)' is a road-over-railway bridge, whereas a 'bridge (rail/road)' is a railway-over-road bridge.

Whilst the OS six-inch maps provide a systematic and comprehensive overview of the county from the 1830s to 1910s, later bridges could obviously not be identified using this source. To pick them up, the 1:50,000 *Discovery Series* maps published by the Ordnance Survey of Ireland in the 1990s proved invaluable, particularly for Bord na Móna bridges.⁴

In addition to the OS maps, publications and photographs gave invaluable insights into specific bridges. Laois County Library headquarters in Portlaoise was systematically trawled for references to bridges in local history publications. Specialist regional and national works were also consulted such as the An Foras Forbartha survey by M. Craig and W. Garner entitled *Second Report on Areas and Sites of Historical Interest in County Laois* (1976), P. O'Keefe and T. Symington's *Irish Stone Bridges: History and Heritage* (1991), and John Duffy's *Barrow Bridges* (2007) were also consulted. All relevant reference material was cross-referenced to the bridge database and also photocopied for filing in LAIAR under its Site Number.

³ This typology is based on function and is not to be confused with the bridges' builders. For example, railway companies built bridges to carry roads over railways and also railways over rivers. In the present context, the former are termed 'road' bridges and the latter are 'railway' bridges. Similarly, bridges built by canal companies to carry roads over canals are termed 'road' rather than 'canal' bridges.

⁴ Whilst it was obvious from these maps where a peat extraction railway crossed a road or river, fieldwork was sometimes necessary to ascertain whether the former was a bridge or level crossing.

Other databases sometimes also provided supplementary information, notably the National Inventory of Architectural Heritage for Co Laois (published in 2002), Co Laois Record of Protected Structures, Record of Monuments & Places, Sites & Monuments Record, and bridge records held by the Roads Section of Laois County Council, National Roads Authority and Inland Waterways Association of Ireland.

As the Laois County Council bridge database contains a substantial number of examples which are either small single-span 19th century masonry arch or 20th century concrete beam bridges of no heritage interest, only those already selected using the other sources were cross-referenced to it. With regard to the many modern road bridges on the national primary routes which are the responsibility of the National Roads Authority, only a handful were selected for inclusion in this report, because they either stood on the sites of older bridges or were of special interest in their own right.

1.3 Field survey

Fieldwork was carried out by the author between April and November 2007. Up to three sites were surveyed per hour, with an average of 3km of road travel between each one. A substantial number of bridges were found to have been rebuilt. A small number of bridges not previously identified were also surveyed where found to be of architectural and/or historical interest.

Various attributes were recorded for each bridge on a standardised form, including type, survival, condition, and present use. Detailed descriptions were also made of each bridge's component parts – abutments, piers, spans, and parapets (fig 1.2). Materials (stone, brick and metal), decorative embellishments, and the presence of plaques and date stones were also noted. Alterations (e.g. deck or parapet replacements), additions (e.g. underpinning and widening) and the presence of pipes (water/sewage) were also recorded. Both faces of each bridge and the arch soffits were also inspected to determine whether they had been widened or otherwise altered (e.g. deck replacement). A completed example of a bridge survey form is presented in Appendix 1.

In order to quantify the size of each bridge, their clear spans were measured at right angles to the abutments/ piers, and also the spacing between the road faces of their parapets. A hand-held Leica *Disto Lite* greatly facilitated this task and enabled measurements to a precision of 1mm.

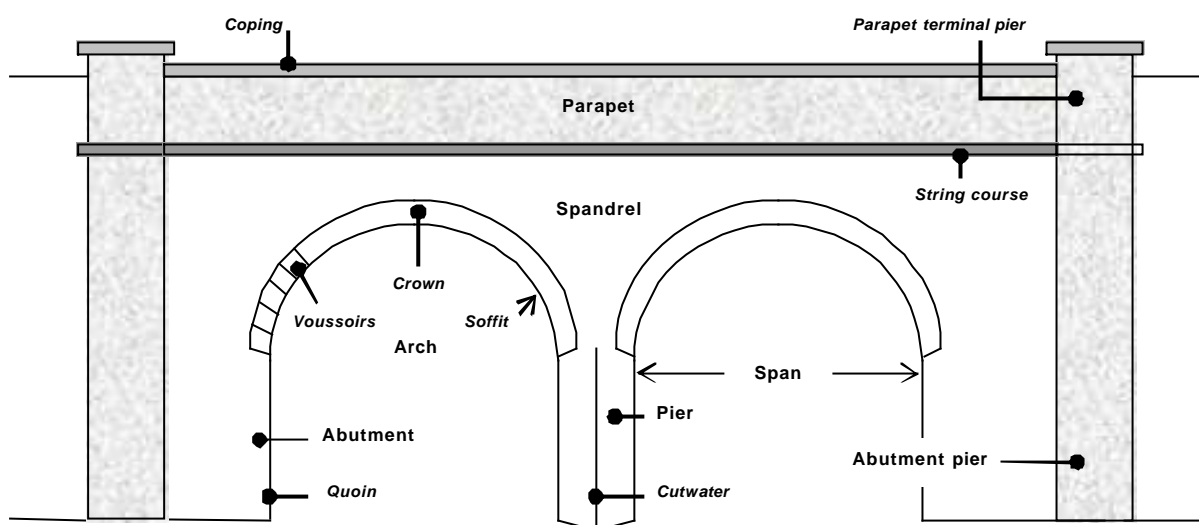


Fig 1.2 Principal elements of a typical masonry arch bridge carrying a road or railway over a river.

In most cases each span was measured directly by wading into the river (rarely more than knee deep!). Where this proved impossible, the spans were determined by dropping a plumb bob from the deck to the quoin of each abutment or pier, marking the top of the parapet and then measuring the distance between the marks. Where parapet spacings were indeterminate due to collapse or heavy vegetation overgrowth, the overall depth of the abutments (i.e. outside to outside of parapet) was measured instead.

At least one photograph was taken using a Canon EOS 500 camera and 20-35mm lens. Fuji Colour 400ASA colour film was used to produce 15cm x 10cm gloss prints. The negatives were also scanned, digitised, edited using Adobe *Photoshop Elements* and then saved as jpeg files. Each image is numbered according to the photograph sequence for that particular bridge site; e.g. 035-022_02 is image 2 for site 035-022.

1.4 Bridge numbering

Using the above methodology, a total of 428 sites were identified where bridges currently stand or once stood (fig 1.3). To facilitate their referencing and analysis, each site was assigned a unique identification number based on three elements: (1) the county and (2) OS six-inch map sheet in which it is located, and (3) sequential number within its map sheet, e.g. LAIAR-004-026 is site 26 on Co Laois six-inch map sheet 4.

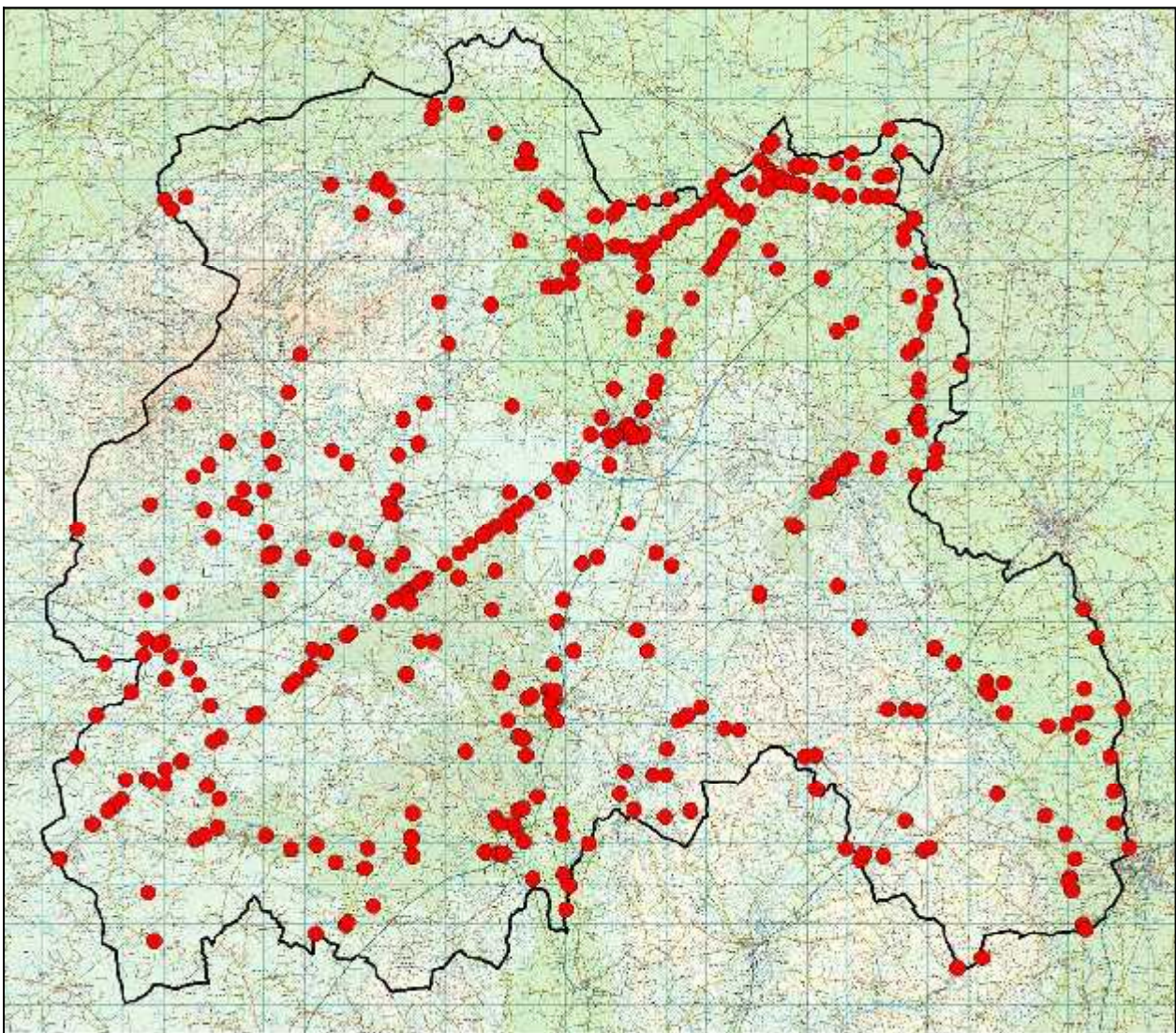


Fig 1.3 Distribution map of bridges identified in this project.

As noted above, some bridges were found to have been rebuilt, either close by or on the same footprint. For the purposes of this project, the original bridge and its replacement (whether one or more) is deemed to be *components* of that site and sub-numbered accordingly; e.g. LAIAR-016-013.3 is a replacement of bridge 016-013.2, and the latter a replacement of bridge 016.-013.1 at site 016-013.

In a few instances, a bridge has been sub-divided into several components in order to distinguish elements of different date and/or structural form. It is thus possible to distinguish rebuilt sections (e.g. where a river was redirected and a new arch built), and different types of construction (e.g. a masonry bridge over a road which continues as a metal girder span over a river) within the overall structure.

Fuller details of the numbering system are given in Appendix 2. In all, 477 separate bridge components were distinguishable at the 428 sites.

1.5 Computer database

All the amassed data were transferred to an *Access 2000* computer database. Each Site Record contains various fields of data relating to the site in general and its component elements:

- Site number.
- Name.
- Location: county, townland, town, planning authority, OS Discovery and six-inch map sheet numbers.
- Summary.
- History.
- Details of each component (see below).
- Heritage value: interest categories, evaluation, rating, existing statutory protection, recommended statutory protection actions.
- Site links: same as, associated with, other databases.
- References.
- Photographs.

For each site component, the following data are recorded:

- Component number.
- Type, function, industrial category and context.
- National Grid.
- Survey date and surveyor.
- Component remains, condition, current use.
- Description.

A separate technical database also details each bridge's builder, structural form and materials, size (span and width), special features, and any alterations or replacements. This information is also incorporated in the historical and descriptive fields of the main database, but has been included as a separate database to facilitate statistical analysis.

Using *Access's* multiple sort and filter tools, the databases can be interrogated using one or more selection criteria, thus greatly facilitating the data's analysis. Moreover, using the 'report' mode, the hard-copy Site Gazetteer which forms Part 2 of this report

was generated. This is ordered by Site Number and contains all the fields itemised above for the main database, including embedded photographs.

Each bridge component was also digitally marked on to its respective 1906-08 OS six-inch map using *MapInfo* (fig 1.4). This program also facilitated the determination of its National Grid co-ordinates to the nearest meter (i.e. to a precision of 12 figures). Selected data are also included in the *MapInfo* database - number, name, type, industrial context, heritage significance, and current level of statutory protection.

Apart from being a convenient mapping tool, *MapInfo* also greatly facilitates the bridges' spatial analysis. Using the program's query facility, sites matching specific criteria (e.g. all road-over-canal bridges) can be selected and their spatial distribution superimposed over six-inch and Discovery-series maps or aerial photographs.

The DVD which accompanies this report contains both the *Access* and *MapInfo* databases, a PDF version of the report and Site Gazetteer, and images of all photographed bridges. However, as not everyone will have access to a computer, the Site Gazetteer has also been indexed by bridge name, function and location so that the researcher can quickly find sites of particular interest.



Fig 1.4 Example of digitised bridge locations on OS six-inch map sheet 8 superimposed on *Discovery* map.

2. BRIDGE TYPES AND STRUCTURAL FORMS

The structural form of a bridge is largely determined by three factors: (1) the load and volume of traffic carried, (2) the nature and size of the impediment being crossed, and (3) the materials, technology and finance available at that time to its builder.

2.1 Bridge types

Various bridge types are encompassed in those identified in this survey (table 2.1).

		Over				Total
		Road	Railway	Footpath	Canal	
Under	River	291	10	26	22 ⁵	349
	Railway	68	1	5	-	74
	Canal	22	2	1	-	25
	Road	0	22	1	-	23
	Industrial railway	3	1	-	-	4
	Footpath	2	-	-	-	2
	Total	386	36	33	22	477

Table 2.1 Sampled bridge types in Co Laois.

Road bridges make up the vast majority of the identified bridges (81%). Three-quarters of them carry roads over rivers, and most of the rest are over railways and canals (fig 2.1). This is undoubtedly an under-representation of the actual number of road-over-river bridges on the ground, as only named ones were recorded.

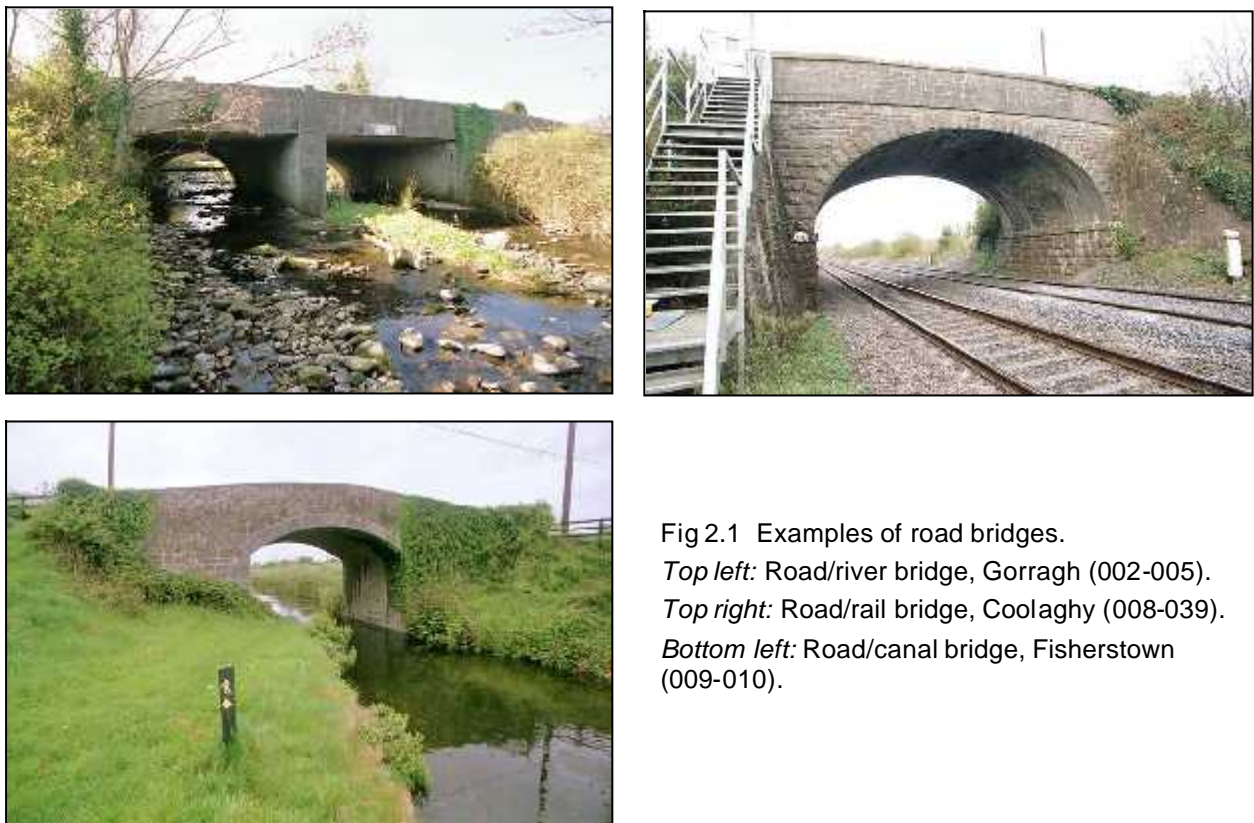


Fig 2.1 Examples of road bridges.
Top left: Road/river bridge, Gorragh (002-005).
Top right: Road/rail bridge, Coolaghy (008-039).
Bottom left: Road/canal bridge, Fisherstown (009-010).

⁵ For the purposes of this table, 'canal' bridges include those carrying a water supply over a river.

The next most frequent type is the railway bridge which comprises 8% of the total. Some two-thirds of them cross roads and the rest are mostly over rivers (fig 2.2).



Fig 2.2 Examples of railway bridges.
Top left: Rail/road bridge, Portlaoise (013-027).
Top right: Rail/river bridge, Portlaoise (013-029).
Bottom left: Rail/canal bridge, Cooltedery (005-006). The canal has been infilled hereabouts to create a road around Portarlinton.

Footbridges make up 7% of the total sample; most are over watercourses. Canal bridges (aqueducts) make up a further 5% of the total; all are over watercourses.

The above tabulation also highlights rare bridge types (at least in the context of Co Laois). In three instances, roads are carried over industrial railways and in two instances roads pass over footpaths and railways over canals. There is only a single example of a railway over an industrial railway, and of footpaths over canals and roads.

2.2 Structural forms

The two forms of bridge span encountered in Co Laois are arches and beams. With arches, the loading imposed by the traffic upon the deck is transferred around the arch ring to the abutments. The downwards and outwards forces thus created are resisted by the mass of the abutments and the earth/rock into which they are set (fig 2.3a). A variant of the arch is the pipe culvert, basically a completely circular arch. With beam bridges, the load is counteracted by the beam's ability to resist bending, i.e. its stiffness (fig 2.3b).

Of the 408 bridges whose span form is known, 270 (66%) are arches, 131 (32%) are beams, and 7 (2%) are pipes.

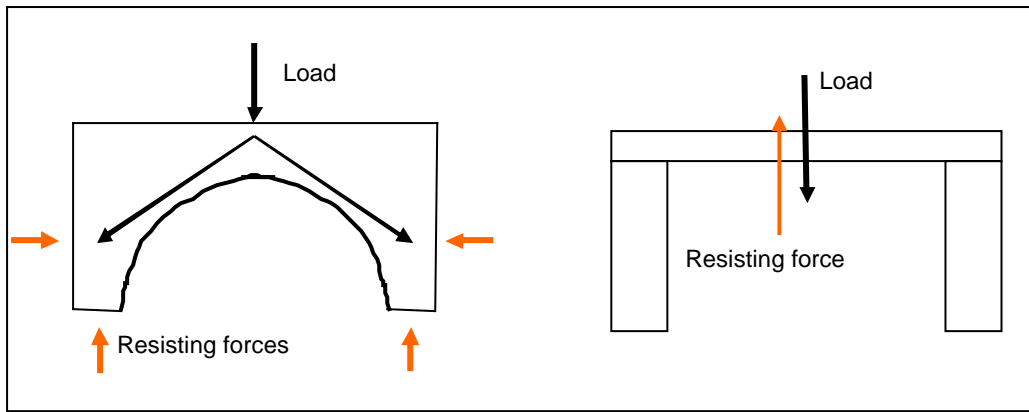


Fig 2.3a (left)
Arch bridge.
Fig 2.3b (right)
Beam bridge.

2.3 Arch bridges

Of the 269 bridges identified as having arched spans, their materials of construction are known in all but four instances. The overwhelming majority of these (254) have stone arches, eight are of brick, and three are concrete.

Masonry arches

The stone arch is the most frequently encountered bridge form in Co Laois. Its structural stability has been recognised since Roman times and, until the advent of the use of metal and concrete spans in the last two centuries, was the standard mode of construction along with simple timber and masonry slab spans. Stone is generally available everywhere and was usually quarried locally. Once built, such bridges require minimal maintenance and have shown themselves to be well capable of carrying a significantly greater weight and volume of traffic than ever envisaged by their builders.

Masonry arch bridges exhibit considerable variations in scale. As the following table shows, 60% of the recorded stone arched bridges have only one span, and only 20 (8%) have more than three spans (table 2.2).

1	2	3	4	5	6	7	8
152	32	50	5	8	1	4	2

Table 2.2 Frequency of masonry bridges by number of arches (sample = 254).

Not unexpectedly, the bridges with the largest number of arches are to be found across the bigger rivers, notably the Barrow, Clough, Erkina, Goul, Nore, Owenbeg and Stradbally. However, it is only on the widest rivers – the Barrow and Nore - that bridges with six or more arches are encountered (table 2.3).

Arches	Nore	Barrow	Other
4	1	1	3
5	3	2	3
6	1	-	-
7	2	2	-
8	1	1	-

Table 2.3 Frequency of masonry bridges with four or more arches, by river.

Two bridges have eight arches apiece - Barrow Bridge, Portarlington (005-001) and Knapton Bridge, on the Barrow and Nore respective (fig 2.4).



Fig 2.4 The eight-arched Knapton Bridge in Abbeyleix Demesne (029-004).

Of the 239 masonry arch bridges whose spans could be determined, over 60% were less than 5m wide and all but three were under 10m (table 2.4). Most (57) were in the 3-4m size range (10-13ft); this was also the commonest span of masonry arch bridges in Co Offaly. However, given that many small bridges and culverts were too insignificant to have been named, the actual ratio of sub-5m bridges compared with those of longer span is undoubtedly considerably greater than these figures suggest.

<2m	2 - <5m	5 - <10m	10 - < 15m	15 - <20m
34	118	84	3	0

Table 2.4 Frequency of maximum spans in masonry arch bridges (sample = 239).

A bridge over the Nore in Abbeyleix Estate boasts the longest single span at 13.25m (43ft 6in; fig 2.5). It is followed by the central arch of Maganey Bridge (026-020) on the Barrow at 11.80m (38ft 9in), and Nore Bridge (016-018) on the river of the same name at 10.7m (35ft 0in).



Fig 2.5 This accommodation bridge over the Nore in Abbeyleix Demesne has the longest masonry arch span in the county (029-005).

In terms of the total length of all its spans (i.e. excluding pier widths), Maganey Bridge is the longest stone bridge in the county, its seven arches totalling 53.3m (185ft) in length (fig 2.6). Dunrally Bridge (014-010) is the second longest, its seven arches totalling 44.1m (145ft). The third longest is Tankardstown (026-006), the five arches of which total 41.5m (136ft). Not unexpectedly, all three bridges are on the Barrow.



Fig 2.6 Maganey boasts the longest stone arch bridge in Laois. Five of its seven arches span the river; the remaining two are dry (026-020).

Brick arches

Brick was also used to construct arch soffits. Unlike stone, it does not require any dressing and is easy to handle and lay, particularly in the case of highly skewed arches. One might therefore expect to find a significant number of arches to be made of this material, especially the later 19th century railway-related bridges. At this time, skew arches were not uncommon and good-quality machine-made brick was readily available and could be transported to site by train.

Somewhat surprisingly, only eight brick-arched bridges were identified in the county. One comprises the vestiges of an 18th century accommodation bridge over the Erkina in the Castledurrow Demesne (029-023), and another is a mid 19th century pedestrian underpass in the Ballykilcavan Demesne (014-018). The remaining six are all road bridges erected over the Dublin-Cork railway in the 1840s by the Great Southern & Western Railway Company. Two have orthogonal and four have skew arches (fig 2.7a). Contrary to the expectation that brick arches would be commonplace in railway bridges, these six bridges are, in fact, the exception. The 38 other bridges built by the railway companies all use dressed stone blocks for their soffits, including five skew ones (fig 2.7b). A similar under-representation of arched brick soffits was also found in Co Offaly.



Fig 2.7a (left): GSWR road-over-rail bridge with skewly laid brick soffit at Kilbride (004-015). Fig 2.7b (right): A similar bridge at Corraun, but with a skew stone soffit (022-017).

Concrete arches

Only three concrete arch bridges are recorded in Co Laois.⁶ In all cases, the concrete arches replaced earlier masonry ones (fig 2.8).

Concrete arches are also found in four instances where widening of existing stone bridges has taken place in the later 1900s. A particularly good example is New Bridge, over the Nore on the main Dublin-Cork road near Durrus. Here the bridge was doubled in width in the 1950s by using concrete arches of identical span and profile as the original stone ones (fig 2.9a). Pre-cast concrete segments were used at Spa Bridge, Portarlinton in 1999-2000 (fig 2.9b).



Fig 2.8 Crettyard Bridge over the Dinin is the best example in the county of a wholly-concrete arch bridge (31-029).



Fig 2.9a *Top left*: Downstream view of New Bridge (029-029) showing extension. *Top right*: Juxtaposition of stone and concrete arches on New Bridge. Fig 2.9b *Bottom left*: Downstream view of Spa Bridge (005-002). *Bottom right*: Concrete arch segments in Spa Bridge.

⁶ This figure excludes those instances where concrete arches were constructed alongside existing stone arches in order to widen the roads.

Concrete arches are the exception rather than the norm, this material being more frequently utilised in the form of reinforced-concrete beams and slabs because of their longer spans, faster construction and cheaper cost.

2.4 Beam bridges

Of the 130 sampled beam bridges, their construction materials are known in all but three instances. Four basic materials were utilised in the structures supporting the decks. The commonest material is concrete (72 examples), followed by metal (39), timber (15) and stone (4).⁷ They will be discussed here in their chronological order of appearance, starting with timber and stone, then metal and concrete.

Timber beams

Timber is the most basic type of bridge material, being locally abundant and cheap to fabricate. In such bridges, long timber baulks were laid between the abutments and a deck laid over. One such timber bridge is recorded over the Barrow at Portarlinton on a map of 1678 (site 005-001).

Nine of the 12 recorded timber bridges in Co Laois carried footpaths or accommodation roads, where a heavy volume of traffic was not anticipated. Two of the exceptions are on public roads - Tinnahinch Bridge (003-014) which was replaced with a stone structure in the mid 1800s, and Dysart Bridge (030-001), the deck of which was replaced with metal beams and a concrete slab in the mid 1900s.

The third exception is the triple-span railway bridge over the Barrow at Portarlinton (017-030). The original deck was of timber, presumably for cheapness and speed of construction, and it is captioned 'Wooden Bridge' on the 1889 and 1907 OS maps. The deck was eventually replaced with metal beams set on the original abutments and piers.

All but two of the known timber bridges are long gone and our awareness of them generally stems from the fact that they are cited as wooden bridges on the OS maps. Vestiges of a wooden footbridge survive on the Nore in Abbeyleix Demesne (029-003). A more recent example which is still in use is on the headwaters of the Barrow at Cappaneary. Here, two ESB poles have been deployed as rudimentary beams upon which a slatted timber deck has been nailed, thus enabling pedestrians to avoid fording the river just downstream (fig 2.10).



Fig 2.10 Modern timber footbridge at Cappaneary (003-044).

⁷ The figures total 133 rather than 130 because three timber decked bridges had their decks replaced with metal beams and are classified under the latter category.

Masonry beams

Although strong in compression, stone has a tendency to break when a bending force is applied. Masonry beams are therefore generally confined to culverts where drains and small streams required bridging (fig 2.11).



Four flat stone culverts are recorded in Co Laois. Two carry the Mountmellick Canal, and two carry public roads over small watercourses. Interestingly the two road bridges are named and one of the canal bridges is captioned as an aqueduct on the OS map. All are between 0.6m and 1.2m wide (2-4ft). There are undoubtedly many more unnamed and unrecorded examples

Fig 2.11 Derrygoony Bridge, a 60cm wide stone slab culvert at Garranmaconly (021-015).

Metal beams

Although cast iron began to be used in bridges from the late 1700s onwards, it was brittle when subjected to a bending force and stone arches continued to be the norm. However, the increasing availability of wrought-iron and steel from the late 1800s onwards saw metal beams becoming a viable alternative to masonry arches and timber beams. They were also commonly used in deck replacements (particularly of timber) and sometimes where widening was necessary. In all, 39 examples of this structural type are recorded in here, but there are doubtless many more to be found on the ground.

Metal beams take various forms, the most basic and commonest of which is the I-beam (23 examples). Its original method of fabrication was to rivet the top and bottom flanges to the web using L-section metal pieces. In later years, the flanges and web were extruded at the steel mill as a single piece known as a rolled steel joist (RSJ). Such beams generally range from 30cm to 50cm in web depth by 15-20cm in flange width (i.e. 12-20in x 6-8in cross section). The RSJ is the commonest variant encountered in Laois, but several examples of riveted I- beams are also known (figs 2.12a and 2.12b).



Fig 2.12a *Left*: Multiple RSJs support the concrete deck of Borness Bridge, a road/river bridge at Forest Lower (004-003). Fig 2.12b *Right*: Riveted I beams under deck of road/rail bridge at Shanboe (022-008).

Where it is necessary to span a wide crossing or carry particularly heavy loads, more substantial beams are required. There are three main types – the plate, lattice and truss girder (fig 2.13). They are typically 90-200cm by 30-46cm in section (36-78in x 12-18in).

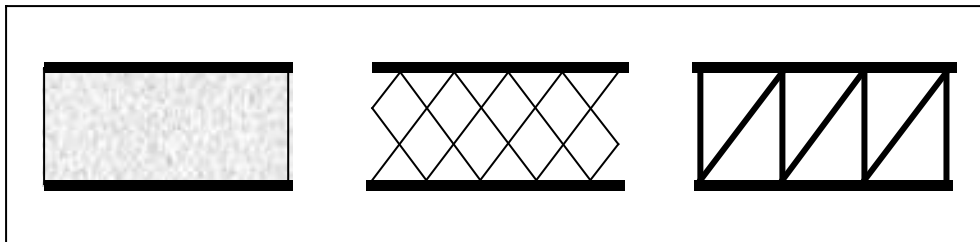


Fig 2.13 Schematic representation of plate (*left*), lattice (*middle*) and truss (*right*) girders.

The *plate* girder is similar to the fabricated I-beam, with the top and bottom flanges being riveted to the web. Six such examples are noted in Laois, carrying roads and and over roads, railways and canals (figs 2.14a and 2.14b). A previous incarnation of Clarahill Bridge is known to have been made by the Hibernian Ironworks of Mountmellick (003-012) and was possibly of the plate girder variety.

In the *lattice* girder, the top and bottom flanges are joined with diagonally-set metal bars which form a diamond pattern. Four lattice girder bridges are recorded; all are for pedestrian use at Portarlington, Portlaoise and Ballybrophy railway stations on the Dublin-Cork railway (fig 2.15).

Only one *truss* bridge was noted in the sample, a relatively modern footbridge over the Fushoge River on the Barrow Navigation (fig 2.16).



Fig 2.14a *Left*: The two principal girders of this rail/river bridge of 1885 on the Mountmellick Branch of the Great Southern & Western railway are of riveted steel plate (008-005). The track was carried on top of the smaller riveted I beams set between the girders' bottom flanges. Fig 2.14b *Right*: The main girders of Lacca Bridge over the Delour River are also of riveted metal plates (011-009). The bridge was fabricated c.1900 by an English firm and is the only one of its kind in the county.



Fig 2.15 Lattice girder footbridge at Portarlington Station (005-028). It was probably fabricated around 1900 and takes its name from the diagonal latticework between each girder's top and bottom flanges.

Another variant of the metal beam structural form is the trough. This is similar to a corrugated metal plate in terms of how it resists bending forces. It comprises a number of side-by-side troughed metal plates set longitudinally between the abutments. In the six cases where troughing has been noted in Laois, it invariably occurs where railways are carried over roads (fig 2.17). These examples are probably replacements of original timber beam spans and were presumably of this type as they could be pre-fabricated and quickly placed and ballasted with minimal interruption of services.



Fig 2.17 Riveted longitudinal metal troughing at a rail/road bridge at Clonanny (005-037).

There is also considerable variation in the construction of the decks of these metal beam bridges. In the most rudimentary form, timber planks are laid transversely over the tops of the beams (fig 2.18a). In many instances, the deck is carried on I-beams set between the principal beams (fig 2.14a). Transverse metal troughing and jack arches are also employed (figs 2.18b and c). Concrete slab decks (probably reinforced in many cases) over the principal beams are also very common (figs 2.12a and 2.12b).



Fig 2.18a *Above left*: Timber planks over metal bridges on accommodation bridge at Brockley Park (014-029).

Fig 2.18b *Above right*: Transverse metal troughing between riveted steel girders on a railway bridge over the N80 at Portlaoise (013-027).

Fig 2.18c *Left*: Longitudinal concrete jack arches with corrugated metal formwork still in place at Pound Bridge, Mountmellick (008-009).

Of the 32 metal beam bridges whose spans could be determined, just over a half were in the 5-10m range (table 2.5). This compares with 2-5m for the majority of masonry arch spans. The longest reach, with a clear span of just under 20m, is a footbridge built by Laois County Council over the Portlaoise bypass in the late 1900s (fig 2.19). The next longest span is Lacca Bridge at 15.4m (fig 2.14b).

<2m	2 - <5m	5 - <10m	10 - < 15m	15 - <20m
0	8	17	4	3

Table 2.5 Frequency of maximum spans in metal beam bridges (sample = 32).



Fig 2.19 Footbridge over bypass, Portlaoise (013-068).

Concrete beams

After masonry arches, the reinforced-concrete beam is the commonest structural bridge form in Co Laois. Metal rods are the usual type of reinforcement: it counteracts the bending moments imposed by a load, whilst the concrete resists compressive forces and also stops the metal from corroding.⁸

Seventy-two examples are recorded in Co Laois, all of which are of 20th century date. As with the metal beam bridges, there are doubtless many more on the ground. The vast majority (62) are road bridges over rivers and railways, but they are also deployed in foot and railway bridges. Over one-third of them (26) are replacements of earlier stone, metal and timber spans.

Thirty-three of the recorded concrete beam bridges comprise reinforced-concrete slabs cast in situ over the abutments and/or piers (fig 2.20a). A further eight concrete slab bridges also have reinforced-concrete beams cast in situ underneath the deck (fig 2.20b).



Fig 2.20a (left): Simple twin-span reinforced-concrete slab road bridge over Barrow at Cappaneary (003-043). Fig 2.20b (right): Strand Bridge is a reinforced-concrete beam and slab replacement of a previous bridge over a tributary of the Fushoge River at Ballickmoyler (032-006).

⁸ In a few instances, the use of metal beams has been found, their bottom flanges being visible on the underside of the slab deck.

The remaining 31 concrete bridges all utilise *pre-cast* reinforced-concrete beams. As with metal beams, their use greatly shortens on-site construction time, doing away with shuttering and waiting for the concrete to cure. They have been increasingly used in the second half of the 20th century in preference to ones cast in place.

In the case of concrete road/rail bridges, pre-cast beams are the norm and they are generally beams of conventional I or inverted T profile (fig 2.21a). However, in six instances pre-cast beams of inverted U section have been used for the recent upgrading of the Portlaoise-Ballybrophy section of the Dublin-Cork railway. In these cases, the original masonry arches were taken down to their springing lines and the abutments raised with a concrete pillow block to take the new pre-cast units (fig 2.21b).



Fig 2.21a (*left*): Standard pre-cast beams on new road bridge over Cork line at Cuddagh (022-020). This bridge replaced the original level-crossing.

Fig 2.21b (*right*): Pre-cast U-beam replacement deck to accommodation road bridge over Cork line at Coolballyogan (017-026).

It is now standard practice to pre-tension the reinforcing rods in the beams before the concrete is poured around them. Sometimes, the beams are post-tensioned once the concrete has set. In either case, the beam is capable of carrying heavier loads over longer spans than is the case with untensioned ones. A particularly impressive example of a cast-in-situ post-tensioned beam bridge is the Bill Duggan Bridge which carries Carlow's Northern Relief Road over the Barrow. At 33.9m (111ft), its middle span is the longest in the county (fig 2.22).



Fig 2.22 The Bill Duggan Bridge, opened in 1999 on the northern outskirts of Carlow town (032-032).

The structural advantages of beams under slab decks is illustrated in table 2.6. In those 63 instances where the spans were measured, most slab decks spanned less than 5m long, whereas most of those with supporting beams are 5-10m long and two exceed 20m. The maximum span of most of these concrete bridges is in the 5-10m range, similar to metal beam spans. However, some are appreciably longer than metal ones, and two have maximum spans of more than 20m.

Span	<2m	2 - <5m	5 - <10m	10 - <15m	15 - <20m	20m +	Total
Slab	1	20	10	-	-	-	31
Beam + slab	-	7	16	5	2	2	32
Total	1	27	26	5	2	2	63

Fig 2.6 Frequency of maximum spans in concrete slab and beam-and-slab bridges (sample = 63)

Concrete spans are also now routinely used to widen existing bridges in order to cope with the ever increasing volume of traffic (fig 2.23).



Fig 2.23 Upstream (left) and downstream (right) views of Convent Bridge, Mountmellick. The latter is a concrete slab widening of the original masonry bridge (0081-016).

2.5 Pipe culverts

Two examples of stone pipes were discovered on the Athy Branch of the Grand Canal. Both date to c.1790 and conveyed tributaries of the Barrow under the bed of the canal. In both cases, the pipes were fabricated using dressed stone blocks curved to their inside faces (fig 2.24).

Fig 2.24 Stone pipe culvert 1.2m (4ft) dia under Athy Canal at Kullinure (009-017).



The ready availability of concrete pipes of varying sizes during the 20th century has led to their frequent utilization where existing culverts have had to be replaced or built anew. Because of the relatively small size of this type of structure, they are only rarely named and are therefore under-represented in this analysis, only four being recorded. However, this is no loss given that their heritage significance is negligible.

There is also one recorded instance of the use of a metal pipe, carrying a tributary of the Triogue River under the Mountmellick Canal (008-088). However, it may not be an original feature as its spandrels are of concrete.

3. BRIDGE BUILDERS

Although the form of a bridge was determined largely by its function, materials and period of construction, its style was heavily influenced by its builder. Various bodies were all involved in creating today's bridge infrastructure - local and central government, private individuals and commercial enterprises. This chapter highlights the work of these various organisations in broadly chronological order.

3.1 Early bridges

Until the early 1600s, town corporations and the Crown were responsible for public bridge construction in Ireland. Fords and ferries were the norm as it was only on heavily trafficked routes across the wider rivers that bridges were erected.

In 1615, responsibility for the construction and upkeep of roads was transferred from the British to Irish parliament. This work was undertaken through parish vestries, their parishioners being legally obliged to give six days of free labour in this regard. These responsibilities remained with the parishes until county grand juries took over in 1765. Since 1634, these juries were also charged with the construction, repair and maintenance of bridges, fords and causeways in their respective counties.

A problem with dating bridges built before 1800 is that they are usually of the same basic construction – undressed random rubble, semicircular or segmental arches and lack of embellishment. Unless there is a datestone (an extremely rare occurrence), they are virtually impossible to date precisely.

Eighteen bridges are marked on William Petty's Down Survey of 1655 and have been noted by the Archaeological Survey in its Sites & Monuments Record (table 3.1):

SMR no	Townland(s)
LA011-017----	Drimmo; Mountain Farm
LA011-018----	Inchanisky
LA011-019----	Inchanisky
LA011-020----	Inchanisky; Moher East
LA011-027----	Rossadown
LA015-032----	Clonoonagh; Rossbaun
LA016-037----	Mondrehid; The Derries
LA022-032----	Ballyreilly; Kilpurcel
LA026-025----	Ballybeg; Cullenagh
LA026-031----	Cullenagh
LA027-032----	Ballynakill; Clonmore
LA028-072----	Baunoge; Knockfin
LA028-110----	Kilnaseer; Oldglass
LA028-115----	Grantstown; Shanvaghey
LA029-029----	Ballygarvan Glebe; Rathmakelly Glebe (LAIAR-029-010)
LA029-033----	Dunmore; Kilbeg; Moyne (LAIAR-029-011)
LA034-020----	Oldtown (LAIAR-034-004)
LA035-068----	Durrow Townparks; Grenan

Table 3.1 Down Survey bridges in Sites & Monuments Record

Only if it has been possible to locate them with a reasonable degree of certainty have they been included in the bridge database. Additional bridges are also marked on other 16th and 17th century maps (table 3.2).

SMR no	Map/ Date	Townland(s)
LA005-031002-	1678 map of Portarlinton	Cooltedery (LAIAR -005-001)
LA023-058----	1657 map of Co Laois	Cappanacloghy; Shanahoe
LA026-030----	17 th C map	Clonybecan; Gurteen
LA029-074----	1563 map of Laois and Offaly	Granafallow; Watercastle (LAIAR-029-012)

Table 3.2 Bridges on other pre-1700 maps of Co Laois.

In addition, the remnants of oak bridge timbers have been recovered at two locations on the River Nore during dredging operations by the Board of Works in the 1840s (SMR LA016-024001- and LA021-035----).

Of the standing bridges in the county, Monk's Bridge (also known as Knapton Bridge) over the Nore in Abbeyleix Demesne is said to have a 13th century arch built into the much later present bridge (fig 3.1). This would make it the earliest surviving bridge fabric in the county. However, there is no irrefutable evidence that this arch is not part of a later rebuild (see site inventory for details).

Watercastle Bridge (029-012) is another rebuilt bridge with several possible 16th century arches incorporated into its western approach.

Fig 3.1 An upstream view of the left-bank arch of Monk's Bridge which is said to be of 13th century date (029-004).



Two bridges have been ascribed to the 17th century by the Archaeological Survey on account of their strategic position in relation to nearby castles – at Coolnamony Lower (002-006) and Castletown (fig 3.2).



Fig 3.2 Upstream view of Castletown Bridge (016-015) showing the first phase of the present bridge. It was subsequently widened on its downstream side.

However, the earliest bridge in the county which can be dated with certainty is Ballykilcavan Bridge, the parapet of which has a stone bearing the date 1713 (fig 3.3). It is discussed in more detail below.



Fig 3.3 Ballykilcavan Bridge on the Stradbally River (014-038).

3.2 Grand Jury bridges

The County Grand Juries were made up of landowners appointed by the County Sheriff (himself an appointee of the Crown). They operated under the Presentment System whereby a person wishing to undertake road and bridge works could apply to the jury for their costs. If the scheme was approved, the presenter was reimbursed when the work was finished. The juries raised the necessary finance by imposing a tax on the residents of the barony wherein the structure was located. In the case of major projects, money was also raised at county level. Where a bridge spanned a county boundary, its costs were split between the juries of both counties.

This presentment system proved highly effective and resulted in Ireland having an extremely well developed network of roads, even by the early 1700s (fig 3.4). The system remained in force until the reorganisation of local government in 1898.

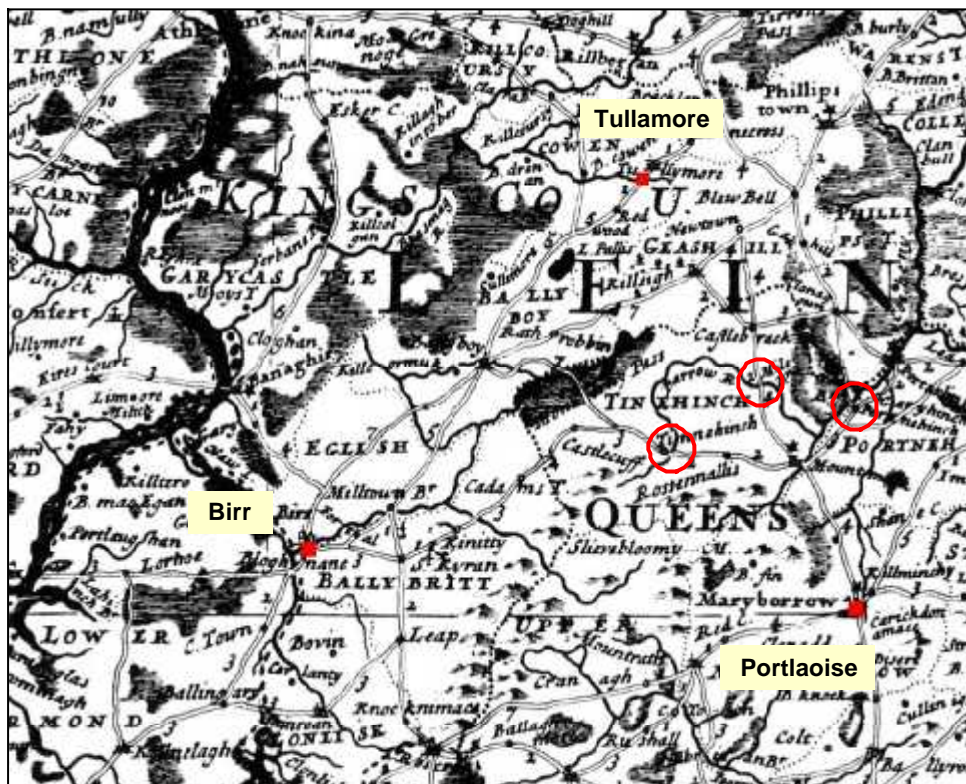


Fig 3.4 Extract from Herman Moll's 1714 map of Ireland showing south Offaly and north Laois with their well networked road system.

Bridges over the River Barrow are circled. *From left:* Tinnahinch (003-014), Two-Mile (003-010) and Portlaoise (004-004).

Unfortunately, the county's presentment books for the period 1783-1897 were destroyed in the 1922 fire at the Four Courts, Dublin, although isolated years are apparently held in Laois Library Headquarters and would repay further investigation.⁹

The vast majority of the bridges identified here are shown on the first and second edition OS maps (1830s and '80s). Whilst most cannot be dated precisely, a few carry plaques with details of their construction (fig 3.5). Some without plaques can be approximately dated due to their presence or absence on pre-Ordnance Survey maps.



Fig 3.5 Pole's Bridge, Stradbally, with plaque commemorating its builder Pole Cosby (019-011).

Table 3.3 lists those bridges whose date is fairly certain and which are presumed to have been built under the presentment system:

Date	Name/ Site number	River/ Arches	Details
1713	Ballykilcavan Bridge 014-038	Stradbally 5	Partly decipherable plaque reads: "Hunt Walsh Esq. Arthur Collk Gent Over[seer?] 1713".
1734	Pole's Bridge 019-011	Timogue 3	Plaque reads: "This bridge was built by Pole Cosby Esq exc[e]pt £20 given by the Crown 1734".
1760	New Bridge 023-004	Nore 4	Plaque reads: "1760. This bridge erected at the county expense Edward Bourden Springmount Esq Director, Michael Deely Mason".
c.1780	Spa Bridge 005-002	Barrow 5	No plaque, but absence from a 1776 map and presence on one of 1783 indicates a c.1780 date.
1788	Durrow Old Bridge 029-025	Erkina 5	1788 datestone.
1791	New Bridge 029-029	Nore 5	Dated to 1791. ¹⁰
c.1795	Portnahinch Bridge 004-004	Barrow 3	Dated to c.1795. ¹¹
1808	Watercastle Bridge 029-012	Nore 1	Plaque reads: "Watercastle Bridge. Sir Robt Staples Bt, Overseer Robert Lawrence Esq., Thos Baxby Esq Architect, Anno 1808".
1818	Blackford Bridge 019-007	Blackford 1	On border with Co Kildare. A plaque is inscribed Blackford, Queen's, Kildare and 1818.

Table 3.3 18th and early 19th century bridges with attested dates.

⁹ P. O'Keefe and J. Symington (1991), *Irish Stone Bridges*, p.42.

¹⁰ E. O'Brien (1992), *A Historical and Social Diary of Durrow, Co Laois, 1708-1992*, p.31.

¹¹ J. Duffy (2007), *Barrow Bridges*, pp 92-93.

These bridges exhibit a number of features which differentiate them from later ones: undressed random rubble stonework, absence of embellishment, and in the case of multi-arched bridges, piers which are wide relative to their spans. Ballykilcavan Bridge exhibits all these features and two additional ones often encountered on pre 19th century bridges – pedestrian refuges in the parapets (formed by a continuation of the angled cutwaters), and a relatively narrow carriageway (fig 3.6).



Fig 3.6 Ballykilcavan Bridge (014-038) with its pedestrian refuges (*above*) and narrow deck, less than 4m wide (*left*).

There are only two recorded bridges with mid 19th century datestones (table 3.4). Fortunately many more can also be assigned to this period on the basis that they are first depicted on the 1880s OS maps but are not on the 1830s edition, either because the road had not yet been built or there was a ford.

1837	Irishtown Bridge 008-012	1-arch over Owenass	Plaque on bridge before the present replacement noted that it was erected by Samuel Pim in 1837; Contractor was John Dunne. This plaque is now lost.
1843	Gale's Bridge 026-011	1-arch over Douglas	A plaque reads: "Gales Bridge AD 1843, Henry Owens Esq C[ounty] Surveyor, P. Cooney Contractor".

Table 3.4 Bridges with attested mid 19th century dates.

Such bridges generally exhibit a higher quality of construction and embellishment (figs 3.7a and 3.7b). This increasingly sophisticated understanding of bridges is also reflected in the design of other bridges erected from the mid 1800s onwards.

The appointment of County Surveyors by the Grand Juries from the mid 1830s onwards doubtless raised standards of design and workmanship. Alexander Harrison was the first appointee in Co Laois, in 1834, and was followed by Edward Forrest in 1839.¹² Henry Owens, cited on Gale's Bridge in 1843, appears to have been a successor.

¹² John Duffy, *Barrow Bridges*, p.44.



Fig 3.7a *Top*: Rathcoffey Bridge (003-011) on the Barrow, is a mid 1800s replacement of an earlier bridge (possibly the one on Moll's 1714 map (fig 3.1). It is virtually identical to Tinnahinch Bridge (003-014) just upstream. Fig 3.7b *Bottom*: Bay Bridge (004-001) also on the Barrow, has abutments of rock-faced blocks set in courses, as well as a string course and rusticated quoins and voussoirs.

3.3 Canal bridges

Co Laois boasts two canals, both of which are branches of the Grand Canal. The main section of this canal initially ran from Dublin to Lowtown, Co Kildare and opened in 1784. It was then decided to connect with the River Barrow before completing the link to the Shannon as was originally intended.

Work commenced on the Barrow line in 1783 and reached Monasterevin two years later. However, because of the shallowness of the river, it was decided to continue the canal on to Athy. Part of the branch to Athy runs within Co Laois and it opened in 1791. At Athy it connected with the River Barrow which had been made navigable the previous year all the way to the sea at New Ross.

Excavation restarted on the main line in 1789, and the River Shannon was reached in 1804, whence Limerick was easily accessible.

In 1827, the Grand Canal Company began constructing a branch from Monasterevin, on the Barrow Line, to Mountmellick. Although completed in 1829, its protracted watering delayed its opening until 1831.

The Barrow Line is still operated by Waterways Ireland and is mainly used by recreational traffic. The Mountmellick Canal was abandoned in 1960 and is now derelict and infilled in parts. A substantial number of road bridges and aqueducts are to be found on both canals (fig 3.8).

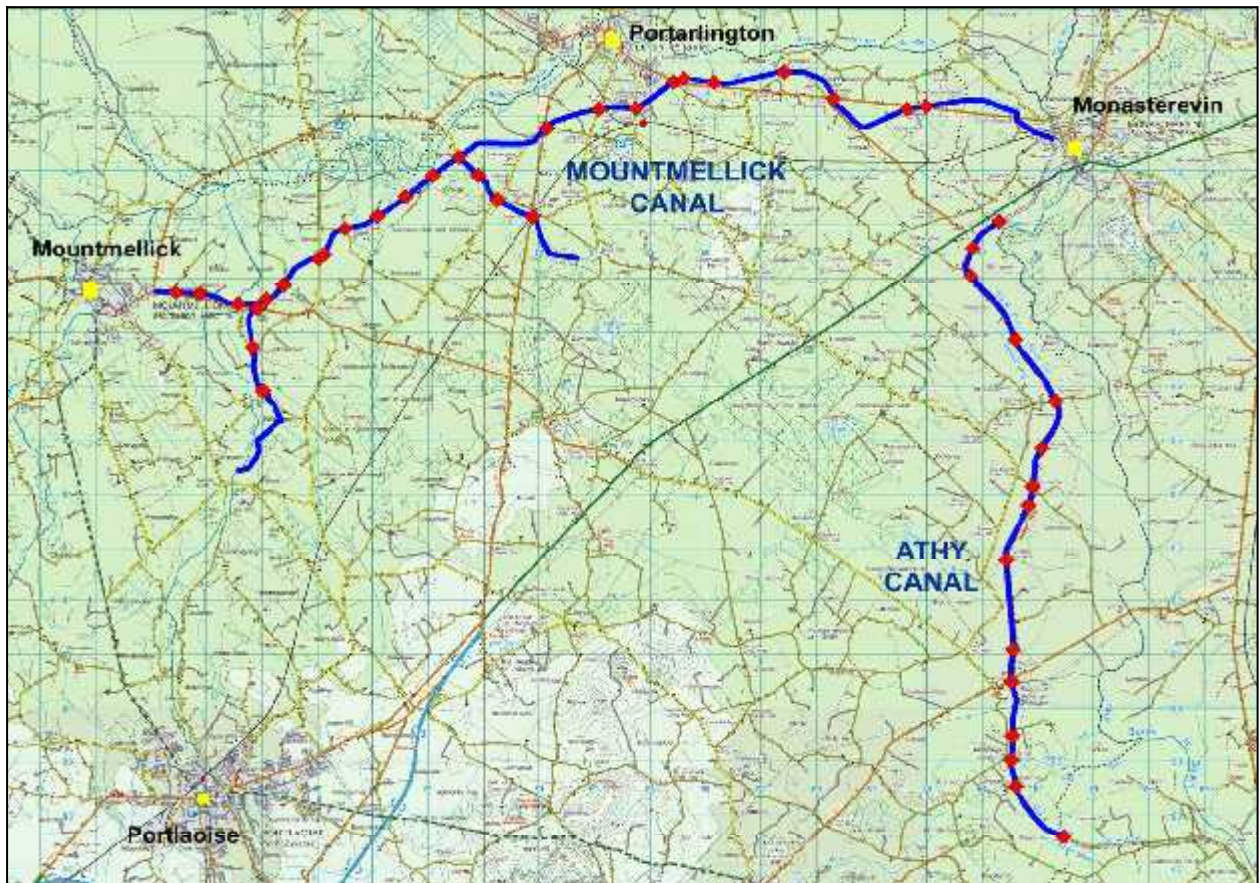


Fig 3.8 Canal bridges built by the Grand Canal Company in Co Laois.

Athy Canal

This branch of the Grand Canal was constructed by the Grand Canal Company between 1785 and 1791. Fifteen bridges, all built by the Company, are to be found along its course within Co Laois; five are road bridges and 10 are aqueducts over watercourses.

Road bridges

Four of the five road bridges are original single-arch masonry bridges; the fifth is a beam bridge, originally with a timber span but replaced with a metal beam deck. The stone bridges are all of identical design, with roughly-dressed masonry block abutments, segmental arches with dressed voussoirs, towpath through the arch, random rubble spandrels and parapets, out-curving wing walls and ramped approaches to humped carriageways (fig 3.9).

All the spans are within 15cm (6in) of their presumed theoretical design span of 6.55m (21ft 6in). The arch spans both the watered channel (4.57m/15ft wide) and towpath

along its west bank (1.98m/6½ ft wide).¹³ Three of the bridges carry public roads and are 6.40m (21ft) wide between their parapets. The fourth is an accommodation bridge and its small volume of traffic is reflected in a width of only 3.16m (10ft 4in).



Fig 3.9 Vicarstown Bridge (014-008). Note the towpath through the arch on the left bank.

Aqueducts

Eight of the 10 aqueducts noted on the OS maps could be identified in the field and all but two of them were culverts. i.e. with spans of less than 2m. Most of these culverts were simple stone arches, but two were stone pipes (fig 2.21).

Two of the aqueducts are of particular note: the two-arch Grattan Aqueduct over the Glasha River (fig 3.10a) and the three-arched Camac Aqueduct over the Stradbally River (fig 3.10b). The former carries a plaque with its name, engineer (Richard Evans), and date of construction (1790). The plaque on the latter simply records its name.



Fig 3.10a *Left*: Grattan Aqueduct (014-005). Fig 3.10b *Right*: Camac Aqueduct (014-024).

¹³ The bridges along the main line of the Grand Canal in Co Offaly would be of similar size but for the fact that they span two towpaths – one along each side of the actual channel.

Mountmellick Canal

As noted above, this branch of the Barrow Line opened in 1831. It was constructed by Messrs Henry, Mullins and McMahon (who had cut most of the Grand Canal) under the supervision of the Grand Canal Company's engineer, Hamilton Killaly.

A total of 28 bridges were erected by the Company along the Co Laois section of the canal; 23 are on the main canal and five on feeder channels. Of the former category, 12 are road bridges, one is a footbridge (now gone) and 10 are aqueducts.

Road bridges

Five of the road bridges have been demolished, generally to make way for new sections of road across the infilled canal. The seven surviving examples are of very similar design to those on the Athy Branch (fig 3.11).



Fig 3.11 Blackhall Bridge, Portarlington (004-010) was restored by a local community group in 2000. The actual canal bed is infilled hereabouts.

The masonry bridges are remarkably consistent in terms of their size. As table 3.5 shows, their overall spans are all within 5cm (2in) of 6.71m (22ft). Unsurprisingly, those bridges on public roads are almost twice as wide as those carrying accommodation tracks to fields and dwellings, with parapet spacings of 6.2-6.5m (c.20-21ft) compared with 3.3-3.5m (c.11-12ft).

Bridge	Type of road carried	Total span (m)	Channel width (m)	Towpath width (m)	Parapet spacing (m)
005-017	Public	6.69	4.95	1.74	6.37
005-016	Public	6.68	4.98	1.70	6.42
004-010	Public	6.69	4.98	1.71	6.16
008-030	Accommodation				3.32
008-029	Public	6.70	4.96	1.74	6.50
008-027	Accommodation	6.75	4.74	2.01	
008-022	Accommodation	6.74			3.46

Table 3.5 Dimensions of road bridges over Mountmellick Canal.

One of the demolished bridges – beside Odlum's Mill on the Station Road, Portarlington, is named as a 'swing' bridge on the OS maps. This suggests that it was a metal or wooden girder bridge, pivoted at one end so that it could be manually turned through 90 degrees about its vertical axis to allow barges to pass through.

Aqueducts

Of the 10 aqueducts which carried the canal over natural water-courses or artificial drains, seven survive and continue to serve their original function even though the canal is long defunct. All but one are culverts spanning 0.9-1.2m (3-4ft) and are of various types of construction – stone slabs, metal pipes and stone arches. The only aqueduct of any significance is the Mountmellick Aqueduct, a triple-arch bridge which carries the canal over the Triogue River near Mountmellick (fig 3.12).



Fig 3.12 Mountmellick Aqueduct (008-023).

3.4 Private bridges

Forty-four bridges erected by private individuals have been identified in the county. Their attribution is due to the fact that they are generally located in demesnes and not accessible to the general public. Most carry accommodation (rather than public) footpaths and roads over rivers and streams. Nineteen of these bridges have now disappeared, leaving 25 intact.

Particularly fine examples of masonry bridges are to be found in Abbeyleix Demesne – the eight-arched Knapton Bridge and single-span unnamed bridge over the River Nore (figs 2.4 and 2.5). Datestones are carried on two small bridges in Brockley Park, north-east of Stradbally – Bob’s Bridge (1791; 014-014) and Farmyard Bridge (1775 and 1862; 014-015).

Undoubtedly the most significant of all the privately-built bridges is that at Dunrally, over the Barrow between Monasterevin and Athy (fig 3.13). This seven-arch masonry bridge, arguably the finest in the county (albeit shared with Co Kildare) was built in 1820 by James Grattan, the local MP and owner of the adjoining Dunrally Estate. Unlike most other privately-built bridges, it was for the use of the public. To offset its cost, there was apparently a toll house at its Laois end (now gone).



Fig 3.13 Dunrally Bridge. The plaque (*above*) records its erection by James Grattan in 1820 (014-010).

Mention has already been made of Pole's Bridge of 1734 at Stradbally (fig 3.5), also built for public use but largely privately financed by Pole Cosby of Stradbally Hall.

Also of note is the pedestrian underpass on the Stradbally-Athy road at Ballykilcavan. Of mid 19th century date, it links Ballykilcavan House with its walled garden on the opposite side of the road (fig 3.14).



Fig 3.14 Pedestrian underpass at Ballykilcavan (014-018).

3.5 Board of Works bridges

The Commissioners for Public Works in Ireland were established in 1831. More commonly known as the Board of Works, part of its remit was roads and bridges. Some bridges on the trunk roads were built directly by the Board and others by the County Grand Juries at its instigation.

Whilst the Board's bridges are now difficult to distinguish in the field from Grand Jury ones, its attested involvement in drainage schemes on the Nore and Barrow enables one to pinpoint several examples of its work. The Board was also involved in the construction of the Athy-Wolfhill railway line during the first world war (see section 3.6).

Nore Drainage Scheme

In the 1840s, the Board erected several bridges on the River Nore in the vicinity of Borris-in-Ossory as part of a drainage scheme to alleviate flooding, increase agricultural production and create employment. This entailed dredging sand bars, removing rocky shoals, straightening sections and replacing bridges which impeded the river's flow. This work was financed by Government loans which were then repaid through taxes imposed on the populace by the Laois Grand Jury.

Two, possibly three, bridges are associated with these drainage works. At Derryduff, the Board erected a twin-span stone and timber bridge across the river in place of stepping stones (016-013). Upstream, at Shangownagh, they replaced another bridge with the present single masonry-arched Nore Bridge (fig 3.15a). This bridge exhibits a number of features already noted in connection with the mid 19th century Grand Jury bridges: wide segmental arches (here spanning 10.66m), rusticated and margined voussoirs, and decorative string courses (at both arch spring level and along the base of the parapets).

The next bridge upstream at Clononeen is similar and was probably also built by the board (fig 3.15b). However, the bridge on the main Borris-Roscrea road (021-008) seems to have been unaffected by the works (021-008).



Fig 3.15a *Left* Nore Bridge, Shangownagh (016-018). Fig 3.15b *Right*: Bridge at Clononeen (021-007).

Unfortunately, the timber on the Commissioners' bridge at Derryduff proved expensive to maintain. It was replaced in 1869 by the Borris-in-Ossory Drainage Board with a single metal span over the original stone abutments. The new superstructure, by Thomas Grendon of the Drogheda Iron Works, comprised three wrought-iron plate girders and cast-iron parapet railings. However, only the railings now survive, incorporated into a concrete beam replacement span of 1992 by the Borris Drainage Board and Laois County Council (fig 3.16).



Fig 3.16 Railings on Derryduff Bridge.

Barrow Drainage Scheme

The Barrow Drainage Act was passed in 1927 in an effort to alleviate flooding on the River Barrow.¹⁴ It empowered the Board of Works to dredge the river and its tributaries upstream of Athy and also to repair, underpin or replace existing bridges on the affected watercourses. Work started in 1926 and was completed in 1934. In all 130 miles of rivers and 110 miles of drains were deepened at a cost of £547,518 and resulted in the improvement of 43,520 acres. Responsibility for the maintenance of the Barrow Drainage District, as it was designated, was handed over to the Barrow Drainage Board, made up of representatives of Laois, Offaly and Kildare County Councils.

Ninety-five bridges on public roads, railways and canals and 170 accommodation bridges were affected, the majority of which were in Co Offaly. This mostly entailed underpinning, but some bridges were rebuilt. Unfortunately, none of the latter carry date plaques and without researching the Board's archival records, it has been possible to identify with reasonable certainty only six bridges on the Laois section of the Barrow constructed as part of this scheme and possibly three on its tributaries (table 3.6).

Site no.	River	Spans	Span material
003-001	Barrow	1	Concrete slab
003-010	Barrow	3	Concrete slab
003-027	Barrow	2	Metal beam and concrete slab
003-043	Barrow	2	Concrete slab
004-003	Barrow	2	Metal beam and concrete slab
005-020	Barrow	3	Metal beam and concrete slab
<i>Possibly associated</i>			
009-006	Glasha	1	Concrete slab
016-034	Delour	2	Concrete slab
016-037	Delour tributary	2	Concrete slab

Table 3.6 Bridges probably associated with Barrow Drainage Scheme.

Their basic utilitarian design, comprising simple reinforced-concrete slab or metal beam and concrete slab decks (figs 3.17a and 3.17b), is in complete contrast to the elegant arched structures to be found on the Nore. There are doubtless others to be found on the Barrow's tributaries, the Owenass, Triogue, Ballybrittas and Stradbally rivers.

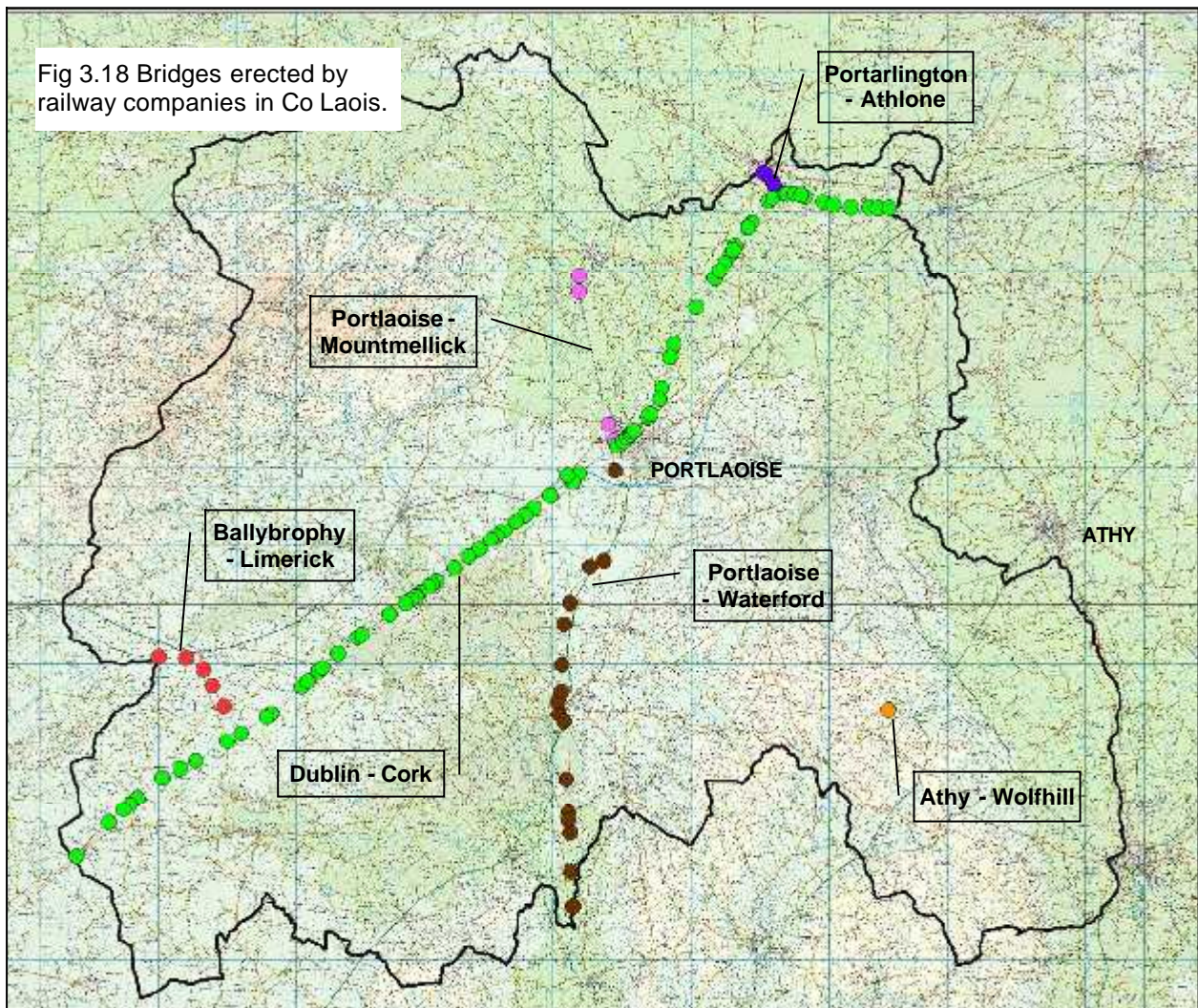
¹⁴ T.L. Hogan (1939), 'River Barrow Drainage', in *Proc Inst Civil Engineers Ireland*, vol.65, pp 137-168.



Fig 3.17a *Left*: Twin-span accommodation bridge at Cappanearry (003-043). Each of its slab spans measures c.4.56m (15ft). Fig 3.17b *Right*: Borneess Bridge, a twin-span public road bridge at Forest Lower (004-003). Because each span is 6.09m (20ft) and carries a heavier load than the accommodation bridge, the slab deck has metal beams underneath it.

3.6 Railway company bridges

In the mid-1800s, Co Laois experienced a flurry of railway construction, being linked with Dublin and Cork in the 1840s, to Athlone and Limerick in the 1850s, and to Waterford in the 1860s. These lines are still in operation and, along with other defunct ones, they encompass 106 bridges built by their respective companies (fig 3.18).



Dublin – Cork line (1847-48)

The first railway in the county was the Great Southern & Western Railway Company's line from Dublin. Services to Portlaoise began in June 1847, to Ballybrophy in September 1847, and to Thurles (Co Tipperary) in March 1848. The line finally reached Cork in 1849. In 1925, the GSWR became part of the Great Southern Railway and eventually Córas Iompair Éireann (CIE). The line is now operated by Iarnród Éireann (Irish Rail).

Seventy-three bridges built by the railway companies were identified on this line – 47 road/rail, 15 rail/road, 6 rail/water, and 5 foot/rail. Of these, 69 survive.

Thirty of the 69 survivors (43%) have had their spans replaced, either with metal troughing or, in the more recent past, with pre-cast reinforced-concrete beams of I- and inverted U-profile (figs 2.18b and 2.21b). Where surviving, arch bridges have been constructed to a very high standard, with rock-faced abutments, rusticated quoins, semi-elliptical arches with rusticated vee-jointed voussoirs, and string courses at arch spring and parapet levels; the voussoirs are generally stepped (figs 3.19a and 3.19b).

The span of all the road bridges over the railway is very close to 9.17m (30ft); as will be seen below, this is slightly wider than the gauges of similar bridges over the single-track lines. In a few instances, brick has been used in the soffits in place of stone (fig 2.7a).



Fig 3.19a *Top*: Road/rail bridge at Ballymorris (005-024) with stepped voussoirs. Fig 3.19b *Bottom*: This nearby bridge at Tirhagar is similar but has radial voussoirs (005-030).

There are two notable rail/river bridges on this line, a substantial semicircular arched masonry bridge over a tributary of the Nore (fig 3.20a), and a triple-span beam bridge with replacement rolled steel joist spans over the Nore itself (fig 3.20b).



Fig 3.20a (left) Rail bridge over a tributary of the Nore at Clonadacasey (017-016). It spans 6.03m (20ft). Fig 3.20b (right): Rail bridge over Nore at Ballycleary; (017-030). The deck was originally of timber; each span exceeds 9m (30ft).

There were originally lattice girder footbridges at Portarlinton, Portlaoise (two bridges) and Ballybrophy, but only the first two survive. They are of a standard design and are of particular interest in that they bear their manufacturer's name - Edward Manisty of the Dundalk Foundry (fig 3.21).

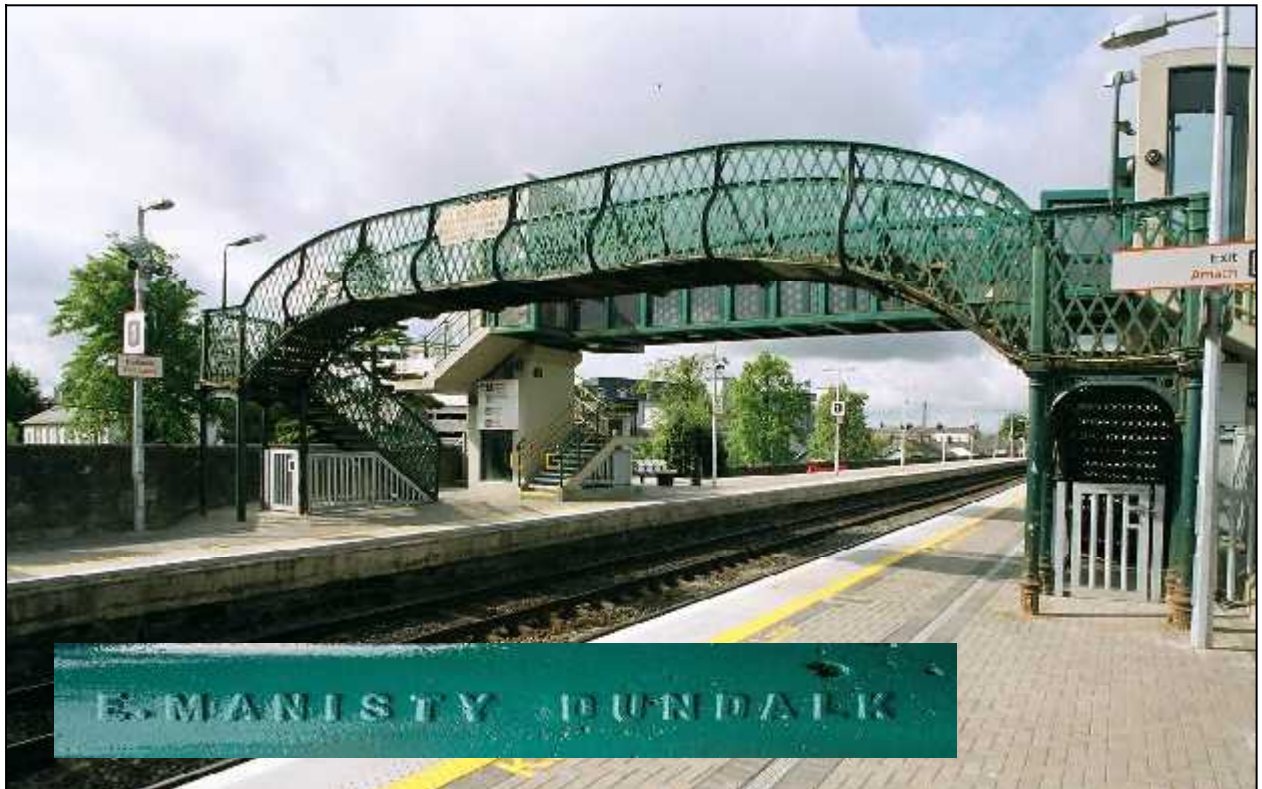


Fig 3.21 Footbridge at Portlaoise Station (013-028). It is now disused, having been superseded by a more modern steel footbridge with electric lifts at both ends (in background).

Portarlinton - Athlone line (1854)

The first section of this line, from Portarlinton to Tullamore, was opened by the GSWR in October 1854, but it was to be another four years before it arrived in Athlone where it connected with the Midland Great Western's Dublin-Galway line. It is still in operation.



Fig 3.22 This skew triple-span concrete beam bridge carried the railway over the Barrow (004-022).

Only a short stretch of the line lies within Laois, between Portarlinton Station and the River Barrow. It encompasses five bridges of every variety – road/rail (1), rail/road (2), rail/river (1) and rail/canal (1).¹⁵

All their spans are of beam construction, but the original decks have been replaced with steel or concrete beams (fig 3.22). However, the original masonry abutments survive, complete with rusticated and margined quoins.

In the case of the four bridges which carry the railway over obstacles, the abutments are twice as wide as the actual decks (fig 3.23). This reflects the fact that the line was constructed so that the track could eventually be doubled, although this never happened. The fact that a double track was allowed for also perhaps explains why the span of the road/rail bridge is 9.15m (30ft), the same as is found on the double-track Dublin-Cork railway.



Fig 3.23 This bridge at Cooltedery shows the single-track deck on its double-width abutments (005-005).

Ballybrophy – Limerick line (1857)

The Ballybrophy to Roscrea section of this line was opened by the GSWR in October 1857. The link with Limerick was finally made in 1864. This single-track line is still operational, a short section of which is within Co Laois.

Five bridges lie on this section of line, four of which are road-over-rail with spans of 8.56m (28ft). Two of the latter have replacement beam decks, but two original arches survive. The stonework is again to a very high standard, with rock-faced abutments embellished with rusticated quoins, a string course around the tops of the quoins, segmental arch with rusticated, margined and vee-jointed voussoirs, and a string course along the base of the parapets (fig 3.24).

¹⁵ The canal under one of the bridges has been infilled as part of the Portarlinton Relief Road (fig 2.2).



Fig 3.24 Road/rail bridge at Grange Beg (022-009). Note the high quality stonework even though it is on a very minor road.

The fifth bridge carries the railway over the River Nore. Its original deck has also been replaced, this time with substantial plate-girder beams and troughed transoms (fig 3.25).



Fig 3.25 Railway bridge over the Nore at Curraghmore (021-005). Its skew deck spans 15.3m (50ft).

Portlaoise – Waterford line (1865-67)

The Kilkenny-Waterford section of this line was opened by the Waterford & Kilkenny Railway Company in 1854. However, it was to be another 11 years before a link with Co Laois was made with the opening of the Kilkenny-Abbeyleix section by the Kilkenny Junction Railway in March 1865. The final link to Portlaoise was opened by the same company in May 1867. The line was absorbed into the GSWR network in 1896.

The Portlaoise - Kilkenny section was closed by CIE on 31 December 1962. Its continuation to Waterford is still in everyday operation by Iarnród Éireann.

There are 16 recorded bridges along the Laois section of this line. The vast majority (12) carry roads over the railway, two carry the railway over roads, and two carry it over a river.

The road/rail bridges are all virtually identical, irrespective of whether they lie north or south of Abbeyleix (fig 3.26). All have rock-faced abutments, rusticated quoins, voussoirs and parapet copings, and semi-elliptical arch profiles spanning c.8.54m (28ft). It appears, therefore, that the 11-year gap in their construction dates is not reflected in their design.



Fig 3.26 Road/rail bridge at Togher, on the Portlaoise-Abbeyleix section of the line (013-021).

Portlaoise – Mountmellick line (1885)

In 1866, the Waterford & Kilkenny and Kilkenny Junction railway companies formed the Central Ireland Railway (CIR) with the intention of extending the Waterford – Kilkenny – Portlaoise line up to Mullingar. In the event, the CIR got no further than Mountmellick, the line opening in March 1885. The line was absorbed by the GSWR in 1896.

Although the line closed to regular traffic in January 1947, sugar beet specials continued to run until its final closure by CIE on 31 December 1962.

There are five recorded bridges along this line, of which only two survive – a plate girder bridge over the Owenass River (fig 2.14a), and a road/rail bridge (fig 3.27), both on the outskirts of Mountmellick. The latter is very similar in size (8.51m/28ft), form (semi-elliptical arch) and detailing (rustication) to those on the Portlaoise – Waterford line.



Fig 3.27 Road/rail bridge at Derrycloney (008-007). Since the line closed, the road has become a footpath and a road now runs along the former railway track.

Athy – Wolfhill line (1918)

This line was built by the Board of Works on behalf of the Government as part of its efforts to maximise the use of indigenous coal resources during the first world war, in this case from the Gracefield and Modubeagh collieries at Wolfhill. Work started in 1917 on laying a line between the coalfield and the mainline railway at Athy. It opened in

September 1918, just seven weeks before the war ended, and was worked by the Great Southern Railway.

After the war, demand for coal fell and when ownership of the line was transferred to the Great Southern in 1929, Wolfhill-Ballylinan section was promptly closed. The remainder of the line remained in use until 1963 for transporting cement to the Asbestos Cement Factory at Athy.

The course of the line is now difficult to follow on the ground, particularly as it post-dates the early 1900s OS map. Nevertheless, two bridges were identified on the Laois section of the track, both carrying the now-defunct line over roads. Both have reinforced-concrete beam and slab decks and are, along with the bridge carrying the line over the Barrow at Athy, the earliest such bridges in Ireland (fig 3.28).



Fig 3.28 Concrete bridges at Kilfeacle on the Wolfhill Line. *Top*: Bridge over public road, with skew span and concrete abutments (025-023). *Bottom*: Orthogonal span over accommodation road (025-028). Unlike the previous bridge, its abutments and wing walls are of rubble masonry.

3.7 Laois County Council bridges

Locally-elected county councils succeeded the Grand Juries in 1898 and took over responsibility for the road and bridge infrastructure in their respective counties. With the growing use of motorised vehicles from the early 1900s onwards, the emphasis has been not only on maintaining the existing stock of bridges, but also upgrading or replacing them where demanded by the ever increasing volume of traffic, and also constructing new bridges where necessary.

Some 43 bridges have been identified which were probably built by Laois County Council. The vast majority of them have reinforced-concrete slab decks with and without beams, both cast in situ and pre-cast (fig 3.29).



Fig 3.29 Concrete slab road bridge over Triogue River at the east end of Portlaoise (013-069).

The few exceptions to this mode of construction include Lacca Bridge over the Delour River (011-009; fig 2.14b). Dating to c.1900, it comprises longitudinal plate metal girders with transverse concrete jack arches between them (fig 3.30a). It was fabricated by B.J. Raybould of Workington and replaced a previous bridge, probably of timber. Birchgrove Bridge over the River Tonet is of similar composition, each of its two spans comprising metal I beams with longitudinal jack arches (fig 3.30b). A more recent metal beam bridge is the 1990s footbridge on the Portlaoise Relief Road (013-068; fig 2.19).



Fig 3.30a (left): Underside of Lacca Bridge showing transverse jack arches (011-009). Fig 3.30b (right): Underside of Birchgrove Bridge showing longitudinal jack arches (015-001).

In some instances, the decks of existing bridges have been replaced. Examples include Derryduff Bridge, the 1869 metal spans of which were replaced in 1992 with a concrete deck (fig 3.31a), and Clonerry Bridge, a joint venture c.2000 with Offaly County Council which entailed replacing the metal and timber deck with concrete beams (fig 3.31b).



Fig 3.31a (left): Derryduff bridge on Nore was a joint venture between Laois County Council and the Borris-in-Ossory Drainage Board (016-013). Fig 3.31b (right): Clonterry Bridge on the Barrow (004-028).

In many instances, the original bridges on main roads have been widened with concrete beam spans. At Gorragh Bridge, over the Gorragh River, the existing twin-arched masonry bridge was widened with two reinforced-concrete slabs (fig 3.32). However, at Spa Bridge, Portlaoise (005-002), the architectural merit of the original bridge was such that matching concrete arches and stone facings were used on the extension which was opened by Laois in 2000 (figs 2.9b).



Fig 3.32 Left: Upstream view of Gorragh Bridge showing original stone bridge. Right: Downstream view showing 20th century widening in concrete.

Examples of bridge replacements include Irishtown Bridge, Mountmellick (008-012). Here Samuel Pim's 1837 masonry arched bridge over the Owenass was replaced by Laois County Council in 1980 with a reinforced-concrete beam and slab bridge.

A more recent replacement, of necessity rather than choice, is Ballyclare Bridge over the River Barrow at the northern extremity of the county (fig 3.33). The 18th century bridge was washed away by a flood in 1990 and was replaced by present reinforced-concrete bridge in 1991.



Fig 3.33 Ballyclare Bridge, a reinforced-concrete bridge comprising inverted T beams and slab deck (003-002). The plaque records its opening in February 1991 by Laois County Council.

In some cases, bridges which can no longer cope with the traffic are bypassed rather than rebuilt. This was the case at Durrow where the 1788 bridge was bypassed by a new one a short distance downstream in 1958 (fig 3.34).



Fig 3.34 Pre-cast reinforced-concrete beam and slab triple-span bridge over Erkina on the main N8 at Durrow (029-046).

National Roads Authority

The National Roads Authority (NRA) was established by the Government under the Roads Act of 1993 and began operations in January 1994. It is responsible for roads and bridges along the national primary and secondary routes ('N'-prefixed roads) and motorways ('M' roads). In practice, the maintenance of this infrastructure is funded by the NRA but contracted out to local authorities. The councils also continue to have full responsibility for local ('L') and regional ('R') roads within their jurisdiction.

In Co Laois, the NRA is now primarily engaged in the extension of the M7 from Portlaoise to Limerick and the M8 from Portlaoise towards Cork. Because the primary focus of this project is heritage rather than civil engineering, none of the motorway bridges is included in this survey.

Bill Duggan Bridge on the Northern Relief Road, Carlow is one of Laois County Council's most recent bridges on a completely new road (032-032; fig 2.22). It was funded by the NRA as a joint venture with Carlow County Council. Opened in 1999, it is named after Bill Duggan, a Carlow solicitor who made a significant contribution to rowing in Ireland.

3.8 Bord na Móna bridges

Unlike Co Offaly, there are relatively few bogs in Co Laois and consequently any peat extraction by Bord na Móna has been at a comparatively small scale. Only four bridges were identified, all associated with the Coolnamona group of bogs lying to the south and south-west of Portlaoise (fig 3.35).



Fig 3.35 Bord na Mona bridges in Co Laois.

Three of these bridges carry public roads, and the fourth the main Dublin-Cork railway over narrow-gauge peat railways connecting the bogs with the Coolnamona horticultural peat processing factory situated west of the main Portlaoise-Abbeyleix road.¹⁶

The three road bridges are of conventional reinforced-concrete slab construction, one of which has a plaque commemorating its erection in 1964 (fig 3.36a). The bridge at the west end of the Portlaoise Bypass was extended by the National Roads Authority in the early 2000s with pre-cast concrete units of elliptical section (fig 3.36b). Pre-cast box sections were also used to carry the mainline rail over the industrial railway (fig 3.36c).

¹⁶ The Coolnamona plant apparently closed in September 2008, after this fieldwork was completed. However, the bogs and railway network seemingly remain in use, the output being transported by road to a bagging plant at Kilberry, Co Kildare.



Fig 3.36a Road/rail bridge at Clonkeen, with Bord na Mona plaque and date on parapet (012-034).



Fig 3.36b Road/rail bridge at Clonkeen showing early 2000s extension with pre-cast units (012-035).



Fig 3.36c Rail/rail bridge at Clonkeen showing pre-cast concrete units (012-021).

3.9 Iarnród Éireann bridges

Over the past decade, Iarnród Éireann has been undertaking a programme of bridge upgrading and also replacing level crossings with bridges. A significant number of 19th century road/rail bridges have had their arches or beam spans replaced with pre-cast reinforced-concrete I-, inverted-T and inverted-U profile (fig 2.21b).

Level crossings are obviously much cheaper to construct than bridges and are particularly cost effective on accommodation tracks where the traffic volumes are very low. However, because of the increasing speed and frequency of inter-city trains in recent years, the high risk of collisions at level crossings is now such that they are being superseded by bridges.

Two such bridges were identified here: a skew accommodation bridge with inverted T beam span at Cuddagh (fig 2.21b), and a pre-cast box unit assembly carrying a public road under the line which was previously crossed on a ramped level crossing (fig 3.37).

Fig 3.37 Underbridge at Rathnaleugh on the Dublin-Cork railway line (027-007).



4. BRIDGE NAMES

Although the primary objective of this project has been to highlight bridges of heritage significance, a brief aside on bridge names is pertinent in order to highlight their potential as a resource for local historians.

A total of 252 bridge names were recorded at 238 of the 428 analysed sites (some bridges have more than one name); they are itemised in Appendix 3. The relatively high number of named to unnamed bridges reflects the fact that most of the county's bridges are road bridges and the sampling bias for named ones. The majority of bridges have no official names although some are doubtless given unofficial names by their neighbouring users.

4.1 Name categories

Approximately half of all the named bridges take their designations from local place names. In the vast majority of cases this is the townland within which the bridge is situated, e.g. Bauteogue Bridge in the townland of the same name. However, some are named after adjacent townlands, e.g. Knapton Bridge, which is actually in Abbeyleix Demesne, and local place names, e.g. Irishtown Bridge at Mountmellick.

Some bridges are named after local features, e.g. Creamery Bridge, Farmyard Bridge, Mill Bridge and Pound Bridge. Others are named after the rivers and streams which they cross, e.g. Barrow Bridge, Needleford Bridge and Nore Bridge.

People make up the second most frequent category of bridge names (32 are thus named). These tend to be specific individuals, e.g. Bob's Bridge and Grattan Aqueduct, but sometimes non-specific individuals or groups are commemorated, e.g. Lady's Bridge and Nuns' Bridge.

Self-explanatory descriptions relating to a bridge's size, type or condition are also used to name them, e.g. Big Bridge, Broken Bridge, Dry Bridge, Mountmellick Aqueduct and Swing Bridge. Their materials of construction are sometimes also noted, e.g. Iron Bridge, Stone Bridge and Wooden Bridge. Wooden Bridge is, in fact, the commonest name, being used in eight instances. Not surprisingly, most bridges of this material appear on the 1830s OS maps rather than later editions.

A bridge's age is sometimes used as a naming device, e.g. Old Bridge and New Bridge. All but one of the four 'new' bridges are named on the 1830s maps. However, this does not mean that they were necessarily erected in the decade or so prior to the Ordnance survey. A name can persist long after it ceases to have a meaningful association with a bridge. For example, a bridge over the River Barrow at Clonduff (003-001) is still cited as Wooden Bridge on the Discovery Series map even though it was replaced with a concrete bridge around 1930.

Administrative names in the form of County Bridge and Three Counties Bridge were encountered in three instances. Not surprisingly, all were on the Laois border with its county neighbours - Offaly, Kilkenny and Tipperary.

Several names relate to a bridge's location relative to a town, e.g. Two Mile bridges are encountered both north and south of Mountmellick (003-010 and 008-050) and appear to refer to the distance in Irish Miles, of the bridges from that town.¹⁷ Supply Bridge (008-026) is on a feeder channel to the Mountmellick Canal, whilst Bloody Bridge (007-001) is said to commemorate a battle fought nearby during the Cromwellian wars.

¹⁷ An Irish mile is 1.27 Statute (English) miles, or 2.05km.

Twenty-seven names cannot be categorised and may repay further research. These include names such as Paddle Bridge, Spa Bridge and Tallyho Bridge.

4.2 Name changes

There are a number of instances where a bridge's name changes from one edition of the OS map to the next. Some of these changes are slight variations in spelling (e.g. Shane/ Sheean Bridge, 014-031) but some are completely different (table 4.1).

LAIAR site no	1830s OS map	1880s OS map	1900s OS map
004-003	Barranagh's Br.		Borness Bridge
004-010	Moore's Br.		Blackhall Br.
005-021	Scorraus Br.		Scaravagh Br.
005-022	Bella Bridge	Unnamed	Baylough Br.
011-003	Killinure Br.	Unnamed	Dooley's Br.
011-009	Bennett's Br.		Lacca Bridge
016-004	Marymount Br.		Rosснаaclonagh Bridge
031-030	Mill Br.		Ormonde Br.
034-008	Culla Br.		Maynebog Bridge

Table 4.1 Changes of bridge name on OS maps.

The above table shows that most of these name changes took place between the 1880s and 1900s Ordnance surveys. However, the styles of the bridges as they stand today suggest that they pre-date the late 1800s/ early 1900s. They thus appear to mostly signify a simple change of name rather than a rebuilding and renaming. Only in the case of Lacca Bridge (011-009) is there tangible evidence of a rebuild around 1900. Why a bridge is renamed would be an interesting topic for future research.

5. BRIDGES OF HERITAGE SIGNIFICANCE

Using criteria devised by the National Inventory of Architectural Heritage (NIAH), the heritage significance of each surveyed bridge was assessed on the basis of its recorded documentary and field data. Those of special significance were thus highlighted for possible inclusion in the Record of Protected Structures in order to safeguard them against unauthorised future alteration or demolition.

5.1 Evaluation criteria

The criteria used by the NIAH to assess the heritage significance of structures and buildings are: Architectural, Historical, Archaeological, Artistic, Cultural, Scientific, Technical and Social.¹⁸ For bridges, the four most pertinent criteria are Architectural, Archaeological, Historical, and Technical. Three additional criteria that may enhance their heritage merit are Group Value, Setting and Uniqueness/Rarity.¹⁹

Architectural interest can arise from such factors as mass, scale and composition (e.g. regularity of the arches or becoming wider and higher towards centre), the use and dressing of materials (e.g. masonry of contrasting colours, coursing and surface finish), and the presence of decorative elements (e.g. rusticated voussoirs and string courses, fig 5.1). Where alterations or additions have been made, they should be evaluated in terms of whether they enhance or detract from the bridge's original character.

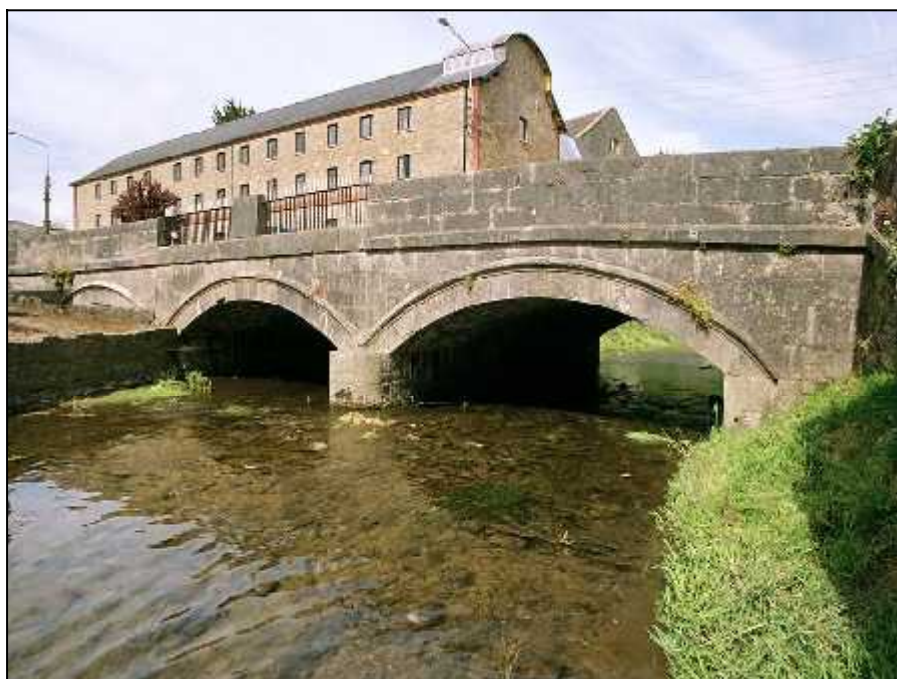


Fig 5.1 Stradbally Bridge (019-021), over the river of the same name is of architectural interest on account of its finely dressed stonework, very shallow segmental arches and curved stringcourse around the voussoirs. The parapet pier, between the railings, bears a coat of arms.

Archaeological interest arises if a bridge was built before 1700, or is of later date but incorporates earlier material (fig 5.2).

¹⁸ National Inventory of Architectural Heritage (2004), *Architectural Heritage Protection: Guidelines for Planning Authorities*, p.24.

¹⁹ Under NIAH guidelines, Group Value and Setting fall within the Architectural category, and Uniqueness/Rarity under Historical. For clarity of evaluation, they have been itemised separately here.



Fig 5.2 This arched masonry bridge (*left*) over the Glenlahan River may be contemporary with the medieval castle shown on the 1839 OS six-inch map (*above*), to which it gives access.

Historical interest derives from what a bridge tells us about the past. It may reflect the style and construction materials of its period (e.g. contrast the plainness of 18th century bridges with more elaborate 19th century ones), or illustrate a phase in the development of that bridge form (e.g. the early use of concrete). Its interest may be bolstered by the presence of alterations (e.g. a widening which reflects the growth of traffic on that road), an association with a particular builder (e.g. Grand Jury and canal/railway companies) or by the presence of a plaque bearing the name and/or date of its builder (fig 5.3). Bridges associated with the Nore and Barrow drainage schemes may also be of note.



Fig 5.3 This plaque on the modern Derryduff Bridge (016-003) recalled the date of the previous plate girder bridge built by Thomas Grendon in 1868.

Technical merit may stem from a bridge being a good example of the engineering practice of its day, from the presence of a particular structural feature (e.g. skew arch with skew masonry soffit blockwork), and from the use of specific materials in its construction (e.g. wrought-iron, brick, composite beam-and-concrete decks). Various examples have already been cited, e.g. the lattice girder footbridges at Portarlinton and Portlaoise Stations (fig 3.21), and the skew stone arched road bridges along the Dublin-Cork railway (fig 2.7).

Group Value: a bridge's interest may be enhanced by proximity to other structures and buildings to such an extent that the group's heritage interest is greater than that of its component parts (fig 5.4).

Fig 5.4 Timogue Bridge, on the river of the same name, is one of several industrial sites in this area, including a grain mill, lime kiln and creamery.



Setting: a bridge can make a positive contribution to its surroundings, whether a rural riverscape or an urban streetscape (fig 5.5).

Fig 5.5 Monicknew Bridge, a mid-19th century road bridge (011-002). Its relatively large arch height-to-span ratio accentuates the gorge-like surrounds through which this tributary of the Delour flows.

Uniqueness and Rarity are relevant in those cases where few examples of the once typical now survive and also where very few examples were built in the first place. An ornamental bridge in Heywood Demesne falls into this category because of its corbelled span and is the only such example in the county (fig 5.6). Lacca Bridge is another example, its plate girder span being one of the few of this type in the county dating from c.1900 and the only one still in use (figs 2.14b and 3.27).

Fig 5.6 Corbelled span in Heywood Demesne (030-014).



In practice, those bridges of special heritage significance will generally exhibit a combination of such attributes.

5.2 Rating

NIAH levels of heritage significance range from Record Only (i.e. not significant), through Local, Regional and National to International. Where only a few criteria are met, a **Local** rating is usually most appropriate. Following NIAH practice, locally-rated bridges are not recommended here for protection, although Laois County Council can, of course, include them in the RPS. Whether or not they are protected, the Planning Authority should take note of locally-rated sites if subject to planning applications as they have features that set them apart from the ordinary.

Where several criteria are met or a structure has a very special feature, a **Regional** rating is probably appropriate. If it is of special interest in a wider context, it may rate either a **National** or **International** designation.

The sheer number of railway and canal bridges raises the issue of which ones to protect. As shown in chapter 3, many bridges built by the railway companies are identical. Only bridges which are particularly special have therefore been rated here as of regional significance, the remainder being given a local rating. The significance of those in the regional category is enhanced because of their group value in a station context and/or because they are strong landscape features.

Most original road-over-canal bridges are also very similar. However, unlike railway bridges, they are rare at a national level and also earlier. They have therefore been assigned a regional rating. Only where their character has been diminished, e.g. due to the removal of their parapets, have they been downgraded to local significance.

5.3 Current statutory protection

Sites of special heritage significance may be accorded statutory protection against unauthorised development under Section 12 of the National Monuments (Amendment) Act 1994 and under the Planning & Development Act 2000.

Record of Monuments and Places

The Record of Monuments & Places (RMP) is enshrined in the National Monuments Act and is particularly relevant to buried remains and disused upstanding monuments of pre-1700AD date which merit preservation in their existing state. The RMP is maintained by the Department of Environment, Heritage and Local Government and currently contains ten bridge-related sites in Co Laois (table 5.1).

Site no	Name	Rating	Statutory protection
002-006	(Glenlahan Castle Bridge)	Local	RMP LA002-01802-
005-001	Barrow Bridge	Local	RMP LA005-031002-
005-002	Spa Bridge	Local	RMP LA005-031008-
005-052	New Channel Bridge	Record only	RMP LA005-031009-
016-015	Castletown Bridge	Regional	RMP LA016-017004-
029-004	Knapton Bridge (Monk's Bridge)	National	RMP LA029-073---
029-010	Old Bridge	Record only	RMP LA029-029---
029-012	Watercastle Bridge	Regional	RMP LA029-074---
030-021	(Moat Ford)	Record only	RMP LA030-02103-
034-004	Aghmacart Bridge	Record only	RMP LA034-020---

Table 5.1 Bridges in Record of Monuments & Places.

These sites are included in the RMP because of the possible presence of pre-18th century bridge fabric, are shown on pre-1700 maps or are close to archaeological sites. In terms of visible remains, however, only Castletown, Knapton and Watercastle Bridges are rated here as of regional/national significance.

Record of Protected Structures

The Record of Protected Structures (RPS) comes within the remit of the Planning & Development Act 2000. In contrast to the RMP, it is generally applied on a county-by-county basis to post-1700AD sites with above-ground features of heritage significance. The Co Laois RPS is maintained by the County Council and forms part of its County Development Plan. Thirty-two bridges are currently listed (table 5.2).

Site no	Name	Rating	Statutory protection
004-010	Blackhall Bridge	Regional	RPS LA 542
005-017	Wheelahan's Bridge	Regional	RPS LA 547
005-028	Portarlinton Station footbridge	Regional	RPS LA 143A
008-007	(Derrycloney Railway Bridge)	Regional	RPS LA 702
008-016	Big Bridge; Convent Bridge	Regional	RPS LA 701
008-023	Mountmellick Aqueduct	Regional	RPS LA 531
009-010	Fisherstown Bridge	Regional	RPS LA 562
011-002	Monicknew Bridge	Regional	RPS LA 577
013-028	Portlaoise Station footbridge	Regional	RPS LA 471
014-005	Grattan Aqueduct	Regional	RPS LA 593
014-008	Vicarstown Bridge	Regional	RPS LA 594
014-010	Dunrally Bridge	National	RPS LA 592
014-024	Camac Aqueduct	National	RPS LA 603
014-038	Ballykilcavan Bridge	Regional	RPS LA 599
016-015	Castletown Bridge	Regional	RPS LA 715
017-033	Kilbricken Bridge	Regional	RPS LA 615
019-007	Blackford Bridge	Regional	RPS LA 629 (plaque only)
019-011	Pole's Bridge	Regional	RPS LA 741
019-021	Stradbally Bridge	Regional	RPS LA 747
021-012	Quakers' Bridge	Record only	RPS LA 633
021-016	Moneymore Bridge	Record only	RPS LA 634
023-004	New Bridge	Regional	RPS LA 652
023-012	Poorman's Bridge	Regional	RPS LA 645
025-023	(Wolfhill Railway Bridge)	Regional	RPS LA 669
026-020	Maganey Bridge	National	RPS LA 486
026-021	Kilmorony Bridge	Record only	RPS LA 485
029-004	Knapton Bridge (Monk's Bridge)	National	RPS LA 090H
029-019	(Newtown Bridge)	Local	RPS LA 499
029-025	Durrow Old Bridge	Regional	RPS LA 772
030-014	(Heywood Demesne)	Local	RPS LA 511
030-020	Stanhope Bridge	Local	RPS LA 301 & 301A
035-002	Tallyho Bridge	Regional	RPS LA 526

Table 5.2 Bridges in Co Laois Record of Protected Structures.

As can be seen from this table, 22 of these protected sites have been rated here as of regional interest and four are of national significance. Of the remainder, three are rated as being of local interest and three as record only.

5.4 Recommendations for statutory protection

Local significance

A total of 106 sites are rated as being of local heritage significance. Three of them are in the current RPS, as are three which are rated as record only (table 5.3). The status of these sites should, perhaps, be reassessed given that there is now a much larger sample of comparative material. Indeed, in the case of Kilmorony Bridge (026-021), there is no reason to retain it in the RPS as it has been demolished.

Site no	Name	Rating	Statutory protection
021-012	Quakers' Bridge	Record only	RPS LA 633
021-016	Moneymore Bridge	Record only	RPS LA 634
026-021	Kilmorony Bridge	Record only	RPS LA 485
029-019	(Newtown Bridge)	Local	RPS LA 499
030-014	(Heywood Demesne)	Local	RPS LA 511
030-020	Stanhope Bridge	Local	RPS LA 301 & 301A

Table 5.3 Protected bridges of Record only and Local significance.

Regional significance

A total of 53 bridges have been evaluated here as regionally significant (Appendix 4.1). Of these, 22 are currently in the RPS and one in the RMP. This last site (029-012) and remaining 30 unprotected sites are recommended for inclusion in the RPS (table 5.4).

Site no	Name	
LAIAR-003-011	Rathcoffey Bridge	Triple-arch masonry road bridge over Barrow.
LAIAR-003-014	Tinnahinch Bridge	Triple-arch masonry road bridge over Barrow.
LAIAR-004-001	Bay Bridge	Twin-span masonry arch road bridge over Barrow.
LAIAR-004-004	Portnahinch Bridge	Triple-arch masonry road bridge over Barrow.
LAIAR-004-006	Kilnahown Bridge	Four-arch masonry road bridge over Barrow.
LAIAR-005-016	Bergin's Bridge	Arched masonry road bridge over Mountmellick Canal.
LAIAR-005-022	Baylough Bridge	Triple-arch masonry road bridge over Barrow.
LAIAR-005-031		Masonry arch road bridge over Dublin-Cork railway line
LAIAR-008-005		Skew metal girder railway bridge over Owenass River.
LAIAR-008-022	Debicot Bridge	Arched masonry road bridge over Mountmellick Canal.
LAIAR-008-027	Kilnacash Bridge	Arched masonry road bridge over Mountmellick Canal.
LAIAR-008-029	Dangan's Bridge	Arched masonry road bridge over Mountmellick Canal.
LAIAR-008-030	Skeagh Bridge	Arched masonry road bridge over Mountmellick Canal.
LAIAR-009-012	Courtwood Bridge	Arched masonry road bridge over Athy Canal.

LAIAR-011-003	Dooley's Bridge	Masonry arch road bridge over Delour River.
LAIAR-011-009	Lacca Bridge	Metal girder road bridge over Delour River.
LAIAR-011-011	Roundwood Bridge	Triple-arch masonry road bridge over Mountrath River.
LAIAR-014-025	Ballymanus Bridge	Arched masonry road bridge over Athy Canal.
LAIAR-016-005	Annagh Bridge	Twin-span masonry arch road bridge over Delour River.
LAIAR-016-007	Derrynaseera Bridge	Triple-span masonry road bridge over Delour River.
LAIAR-016-013	Derryduff Bridge	Concrete road bridge over Nore.
LAIAR-016-018	Nore Bridge	Arched masonry road bridge over Nore.
LAIAR-017-004	Rushin Bridge	Triple-arch road bridge over Mountrath River.
LAIAR-023-031		Masonry arch road bridge over Portlaoise-W'ford railway.
LAIAR-023-033	Stone Arch	Masonry arch road bridge over Portlaoise-W'ford railway.
LAIAR-025-028		Concrete railway bridge on Wolfhill line.
LAIAR-026-006	Tankardstown Bridge	Five-arch masonry bridge over Barrow.
LAIAR-026-011	Gale's Bridge	Skew masonry arch bridge over River Douglas.
LAIAR-028-013	Coneyburrow Bridge	Five-arch masonry road bridge over Erkina River.
LAIAR-029-012	Watercastle Bridge	Five-arch masonry road bridge over Nore.
LAIAR-029-029	New Bridge	Five-arch masonry road bridge over Nore.

Table 5.4 Unprotected bridges of regional heritage significance.

National significance

Four sites have been rated as being of national significance (Appendix 4.2); all are already included in the RPS and one is also in the RMP (table 5.5).

Site no	Name	Statutory protection	
014-010	Dunrally Bridge	RPS LA 592	Seven-arch road bridge of 1820 over Barrow.
014-024	Camac Aqueduct	RPS LA 603	Triple-arch aqueduct on Athy Canal over Stradbally River.
026-020	Maganey Bridge	RPS LA 486	Late 18 th C seven-arch bridge over Barrow.
029-004	Knapton Bridge (Monk's Bridge)	RMP LA029-073---; RPS LA 090H	Early 19 th century eight-arch bridge over the River Nore.

Table 5.5 Bridge of National heritage significance.

International significance

None of the bridges in Co Laois is of international significance.

6. ISSUES

The upgrading, maintenance and repair of a bridge may potentially alter its character, not necessarily for the better. Its abandonment as a usable structure may also have a bearing on its long-term survival. Ecology as it relates to wildlife conservation is also another pertinent issue, all of which are considered in this chapter.

6.1 Bridge upgrading

The growing volume, weight and speed of traffic since the mid 1900s have necessitated the widening, strengthening and replacement of many bridges.

Bridge widening

Widening entails the extension of the entire bridge and/or the addition of cantilevered footpaths on one or both sides so that the original deck can be dedicated exclusively to vehicular traffic. Twenty-seven of the surveyed bridges have been widened, of which 24 are road bridges. Widening is not restricted to bridges along the national routes where the traffic is greatest, but pertains equally to those on regional and local roads.

Nineteenth and early 20th century widening usually took the form of replications of the existing arches both in number and profile (fig 6.1a). Although a few bridges were widened with concrete arches during the 20th century (notably Spa Bridge, Portlaoise, 005-002), concrete slab or beam-and-slab decks are now the norm on both arch and beam bridges (fig 6.1b).



Fig 6.1a *Left*: The earlier narrow section of the original Attanagh Bridge is clearly visible through the arch of its widened section (035-009). Fig 6.1b *Right*: The slab concrete widened section of New Bridge is clearly evident against the masonry arches of the original bridge (021-008).

Cantilevered footpaths were encountered in only one instance, at Barrow Bridge, Portarlinton. Here the bridge was not only widened with masonry arches in the 1800s, but cantilevered footpaths were added along both sides in the 1900s (fig 6.2).



Fig 6.2 Cantilevered concrete footpath, Barrow Bridge (005-001).

A consequence of such widening is that all or part of the elevations being abutted will be obscured by the addition. In the case with multi-phase bridges, if this side differs from the visible one on the opposite side, then vital clues as to its historical development will be lost, particularly if the soffits has also been gunited (see below). The result is invariably a diminution of heritage significance.

Deck strengthening

It is a tribute to the masons who built stone arch bridges that so many of them continue to fulfil their original purpose despite the amount of traffic carried being greater than originally envisaged.

In some instances, however, it has been necessary to replace the decks and 47 examples have been noted in this analysis. Most replacements are railway-related and take the form of replacement decks to road bridges over the track, or to the decks of lines where they cross roads and rivers. As noted earlier, pre-cast concrete beams have been used extensively in later years on road/rail bridges (fig 2.21). Rail/river bridges generally employ metal and/or concrete beams and slabs in their replacement decks (fig 3.28b).

An expedient strengthening method for stone bridges is the guniting of their arches, i.e. spraying their undersides with concrete (fig 6.3). This is particularly useful in securing loose stones and tying cracks together. However, an unfortunate consequence of guniting is that any soffit breaks indicative of earlier widening are completely hidden as a result, as has happened at Barrow Bridge, Portarlinton (fig 6.2).



Fig 6.3 Gunited arch soffit on bridge carrying the main Dublin-Cork railway over a tributary of the Nore at Clonadacasey (017-0168).

Bridge replacements

It is not uncommon for one bridge to be replaced by another at the same site, whether because it was in a poor state and cheaper to replace than repair, was damaged beyond repair by a flood, or could no longer cope with the volume of traffic.

There are 43 instances where one bridge has been replaced by another and a further three cases where there have been further replacements (table 6.1).

Site no/ Name	Original bridge	Replacement 1	Replacement 2
003-012 Clarahill Bridge	Masonry arch road bridge over Glenlahan River.	Metal beam bridge.	Concrete slab bridge.
016-013 Derryduff Bridge	Timber beam road bridge over Nore.	Plate metal girder bridge.	Concrete beam and slab bridge.
016-021 Unnamed	Footbridge over tributary of Nore.	Road bridge (construction unknown).	Two concrete pipe culverts.

Table 6.1 Sites with several replacement bridges.

Fourteen bridges have been bypassed rather than demolished and rebuilt. Six of them are road bridges over the Mountmellick Canal. Such bridges are particularly susceptible to supersedure due to their humped narrow decks and dogleg approaches. This number constitutes half of all the road bridges on the Co Laois section of this canal. Their bypassing has been achieved by filling in the adjoining canal bed and realigning the road across the infilled section. In several instances, notably Blackhall Bridge on the outskirts of Portarlington, the bypassed bridges have been preserved even though superfluous to requirements (fig 3.8).

Fortunately, none of the three public road bridges over the Athy Canal have suffered the same fate and all continue in use. Admittedly two are on local roads, but Vicarstown Bridge survives even though it carries a regional category road where traffic levels are considerably higher.

Most of the other bypassed bridges lie on national primary and secondary routes (017-010, 023-033, 025-002 and 029-025), but those on regional and local roads are not necessarily immune (003-012 and 014-023). The defunct bridges are sometimes retained as accommodation bridges, and in two instances as heritage features (fig 6.4). The lattice girder footbridge at Portarlington Station has also been retained as a heritage feature, even though superseded by a new bridge beside it (005-028; fig 3.18).



Fig 6.4a *Left:* On the N8 at Durrow, the 1788 bridge at right (029-025) was bypassed by the new road bridge at left in 1958 (029-046). The original bridge has been retained as a heritage feature and is now restricted to pedestrian use. Fig 6.4b *Right:* On the south approach to Abbeyleix, also on the N8, Stone Bridge formerly carried the road over the Portlaoise-Waterford Railway. With the closure of the line, the road was realigned across its track, thus bypassing the bridge entirely (023-033).

Recommendations

- Due regard should be given to a bridge's heritage merit when planning upgrading works, especially if of high significance. Loss of character should be weighted against development gain and alternative options considered to mitigate any negative impacts. Such measures include traffic regulation, the construction of separate footbridges for pedestrians, or completely bypassing the original bridge.
- To mitigate against any potential of loss of character when a bridge is upgraded, a record of the existing structure should be made before work starts. This record should include a photographic survey (with scale poles where possible) and measured drawings (elevations of both faces, plan, longitudinal and transverse cross sections). Special features such as decoration, plaques and soffit breaks should also be recorded.

- Where plaques are present, every effort should be made to incorporate them into the new work as a historical record of the new bridge's antecedents.
- Any substantial additions or rebuilds should be accompanied by a commemorative plaque. At the very least, the date of the bridge's reopening and organisation responsible for the work should be recorded. This will add historical value to the bridge when reassessed by future generations.

6.2 Repairs and maintenance

Bridges are subjected to both man-made and natural damage. The parapets of road bridges are particularly prone to impact by passing vehicles and were found to be partly demolished in several instances (fig 6.5a). Traffic vibration can also cause cracking of the faces of masonry bridges, separation between their arch rings and soffits, and the loss of stones from the arch (6.5b). In the case of monolithic spans such as concrete slab bridges, separation of the deck and abutments can also occur (6.5c).



Fig 6.5a *Above left*: Collapsed parapet end on road bridge in Longford townland (016-038).

Fig 6.5b *Above right*: Collapsed stonework at base of arch voussoir and approach wall on downstream side of Ross Bridge over River Blackwater (012-009).

Fig 6.5c *Left*: Separation of concrete deck from abutment at Rossmore Bridge over Glasha River (009-006).

Turning to natural threats, bridges over watercourses are susceptible to scouring, causing the undermining and eventual collapse of their abutments and piers (fig 6.6a). Bridges are frequently also partially covered with vegetation. Ivy is the norm but has minimal impact if kept in check. However, if allowed to grow rampant it may eventually cover the bridge entirely, thus precluding any meaningful architectural or structural assessment, as was the case here with four bridges (006-005, 025-002, 026-003 and 026-015). Ivy roots, and also those of shrubs and trees where allowed to take hold, will ultimately have an extremely detrimental effect on stonework, forcing it apart and allowing rainwater to penetrate, thereby causing further damage (fig 6.6b).



Fig 6.6a *Far left*: Undermining and partial collapse of upstream cutwater at Rushin Bridge over the Mountrath River (017-004).

Fig 6.6b *Left*: Dislodgement of stonework by roots on the Camac Aqueduct over the Stradbally River (014-024).

The use of guniting has already been discussed in section 6.1. Concrete is also frequently used in the form of pre-cast blocks to repair damaged and missing masonry parapets. Moreover, cement-rich mortar is now often used to repoint stonework. Such materials are virtually guaranteed to degrade a bridge's appearance and diminish its heritage value (fig 6.7).



Fig 6.7 *Left*: The concrete block parapet to this road/rail bridge is in contrast to the high quality stonework of the original bridge (022-015). *Right*: Although this rebuilt parapet's stonework has been carefully laid, the weather-struck cement-rich pointing detracts from its appearance (003-028).

In order to maintain the character of bridges, particularly masonry ones of heritage significance, any introduced stonework should be matched as close as possible to the original in terms of size, shape, colour, surface finish and coursing.²⁰

There is a growing recognition amongst bridge engineers that lime- rather than cement mortar is more appropriate for pointing and bedding most masonry structures. Not only is it more in keeping with the original structure, but it also allows the stonework to

²⁰ For further information on the treatment of stonework, see *Conservation Guidelines: Stone Walling*, issued by Department of Environment. Available at www.environ.ie/en/Publications/Heritage/Architectural_Heritage/FileDownload.2231.en.pdf.

breathe and move without hairline cracks developing between the stones and cement, all of which encourage rain penetration.²¹

Hydraulic lime sets through reacting with water and for this reason can be used under water. Non-hydraulic limes, on the other hand, react with carbon dioxide in the air and have a much longer setting time. An understanding of each type of lime is essential if they are to be effectively utilised.²²

When repointing, the joints should be well raked out and dampened before applying the new mortar. This should match the existing mortar through the deft use of appropriate sand and aggregate. A bespoke pointing tool should be used to ensure that the surrounding stone or brickwork is not smeared with mortar. The joints should be finished flush with the face of the stone/brickwork rather than ribboned, weather struck or indented. Finally, having been allowed to partially set, the mortar in the joints should be brushed up to expose the aggregate and any lime staining removed.

In cases where roots have taken hold, the plant should be cut back and its roots treated with an approved herbicide by a suitably trained practitioner. Once decayed, the ensuing voids should be made good and any displaced stones reset. Appropriate training should be given to those charged with carrying out such work.

In the case of works to bridges which are in the Record of Protected Structures, any proposals which have the potential to alter a bridge's character should be discussed with the Architectural Heritage Advisory Unit of the Department of the Environment, Heritage and Local Government.

Recommendations

- | |
|--|
| <ul style="list-style-type: none">▪ A database should be created for the entire bridge stock in Co Laois. This should include the name of the authority responsible for the upkeep of each bridge. |
| <ul style="list-style-type: none">▪ A programme of regular bridge inspection should be instigated to check for structural damage and also to ensure that vegetation overgrowth does not progress to the stage of shrub and tree growth. Where the latter has already occurred, appropriate measures should be taken by suitably trained personnel to remove the offending roots and stabilise the walls. |
| <ul style="list-style-type: none">▪ Given that that various organisations are now responsible for bridges – Bord na Móna, Iarnród Éireann, National Roads Authority, Laois County Council, Office of Public Works, and Waterways Ireland - a co-ordinated strategy should be adopted by all parties in respect of the repair and maintenance of those bridges which are of heritage significance. |
| <ul style="list-style-type: none">▪ Advice should be sought from the Department of Environment, Heritage and Local Government for any works which may alter the character of bridges which are Protected Structures. |
| <ul style="list-style-type: none">▪ Materials used for repairs should match the original fabric. Lime- rather than cement mortars should be used for pointing and applied by trained personnel. |

²¹ L. Duffy (2004), 'Development of Eirspan: Ireland's bridge management system', in *Proc Inst Civil Engineers*, vol.157, pp 139-146. Also at www.nra.ie/Publications/DownloadableDocumentation/RoadDesignConstruction/file.10487.en.pdf.

²² For a discussion of the various types of lime, see J. Ashurst (1997), 'The technology and use of hydraulic lime' in *The Building Conservation Directory*. Viewable at www.buildingconservation.com/articles/lime/hylime.html.

6.3 Attachments to bridges

A sizeable number of road bridges encountered in this survey have had water pipes affixed to their faces. These are usually carried on brackets attached to the spandrels and parapets, or supported on the tops of the piers. Whilst this arrangement is obviously cheaper than burying the pipe under the carriageway, it can detract greatly from a bridge's aesthetic appeal when seen side-on, particularly in the case of those of heritage significance (fig 6.8).



cheaper than burying the pipe under the carriageway, it can detract greatly from a bridge's aesthetic appeal when seen side-on, particularly in the case of those of heritage significance (fig 6.8).

Fig 6.8 These water pipes detract from the appearance of Convent Bridge, Mountmellick (008-016).

Recommendations

- No new pipes or cables should be affixed to the faces of bridges of heritage significance.
- Where the opportunity arises and it is feasible to do so, existing pipes and cables should be rerouted under the deck, especially in the case of bridges of heritage merit. If there is insufficient depth between the road and arch but sufficient width between the parapets, the pipe should be buried in a raised curb.

6.4 The reuse of defunct bridges

The overwhelming majority of the bridges recorded in this survey are still in everyday use. Only 17 of those which are complete or substantially complete are now disused.

In some instances, superseded bridges have reverted to private ownership and are now used as field accommodation bridges (fig 6.9) and footpaths (fig 6.4a).



Fig 6.9 This bridge formerly carried the N7 over a tributary of the Nore east of Mountmellick. It is now bypassed by a new line of road and now serves to access fields.

However reutilization, even for pedestrian use, may prove problematic. A case in point is the railway bridge over the Owenbeg River on the Portlaoise-Waterford line. Here, the embankments at both ends have been removed, making access to the deck extremely difficult and maintenance impossible (fig 6.10).



Fig 6.10 The deck of this bridge at Grenan, on the Kilkenny border, is now inaccessible and almost completely overgrown with ivy (035-010).

Ten of the defunct bridges are rated here as being of regional significance, although only five are currently in the Co Laois Record of Protected Structures. As the table below shows, only two – the lattice girder footbridge at Portlaoise Station (005-028), and Blackhall Bridge on the Mountmellick Canal (004-010) - are still maintained in good repair.

Site no	Name/ type	In RPS?	State
004-010	Blackhall Bridge: road over Mountmellick Canal	Yes	Good
005-028	Footbridge over railway at Portarlinton Station.	Yes	Good
008-005	Railway bridge over Owenass River on Mountmellick line.	Yes	Fair
008-022	Debicot Bridge: road over Mountmellick Canal.	No	Fair
008-023	Mountmellick Canal: aqueduct over Triogue River.	Yes	Fair
008-027	Kilnacash Bridge: road over Mountmellick Canal.	No	Fair
008-030	Skeagh Bridge: road over Mountmellick Canal.	No	Fair
023-033	Stone Arch: road over former Waterford railway	No	Fair
025-023	Rail/road bridge on former Wolfhill railway	Yes	Fair
025-028	Rail/road bridge on former Wolfhill railway	No	Fair

Table 6.2 Condition of disused bridges. *Key to State:* Good = generally in good repair and maintained. Fair = in reasonable repair but not maintained.

A bridge's inclusion in the RPS does not necessarily guarantee that it will be kept in good repair by its owner. Generally these bridges have reverted to private ownership (more so by default than by design), so resources for conservation are even more limited than with public bodies. One of the maintained defunct bridges is owned by Iarnród Éireann and the other is looked after by a local amenity group. Without a viable reuse, there is no practical incentive for individuals to maintain their bridges. Moreover, the local authority conservation grants available to owners of Protected Structures invariably fall far short of what it actually costs for repair and maintenance work. Consequently, although all the unmaintained bridges are currently in a reasonable state of repair, they will inevitably become derelict if not preserved or reused.

Regrettably it must be accepted that, because of a lack of resources and viable reuses, most of these neglected bridges will eventually deteriorate to such an extent that they

will be past preserving. Detailed photography and measured drawings would appear to be the only practical conservation actions which are now feasible.

Recommendations

- Every effort should be made to find new uses for defunct bridges of heritage value.
- Private individuals should be encouraged to maintain bridges of heritage merit and given practical support in the form of advice on conservation and applicable grants.
- Consideration should be given to preparing detailed measured drawings of defunct bridges of heritage significance, especially those which are no longer maintained.

6.5 The ecology of bridges

Simultaneously with this bridge survey, Alex Copland of Birdwatch Ireland and Brian Keeley were undertaking bird and bat surveys respectively of selected bridges on the Laois-Offaly border.

Copland's investigation at 81 bridges showed that over one-third were used as nesting sites by birds, particularly Dippers and Grey Wagtails.²³ Crevices and projections in masonry bridges, girder flanges in beam bridges, and ivy were all exploited as nesting and roosting sites (fig 6.11). The vegetation also provided shelter and food.

He regarded guniting of the soffits of masonry arch bridges as being ecologically unsound as it blocked up cracks which had potential as nesting sites. He also recommended that any maintenance work be done outside the bird breeding season.



Fig 6.11 The falsework sockets under this concrete slab accommodation bridge at Paddock, near Mountrath, made ideal bird nesting sites (011-032).

Keeley assessed 102 bridges in the same area for the presence of bats.²⁴ Fifteen had evidence for use as roosts or resting places, particularly by Daubenton's bats. Interestingly, all the bridges used by bats were of stone. Seemingly only such bridges

²³ A. Copland (2007), *Avifauna of Bridges in Co Laois*. Unpublished report for Laois County Council, viewable at www.laois.ie.

²⁴ B. Keeley (2007), *Bats and Bridges: an Evaluation of Selected Bridges in Laois and Offaly*. Unpublished report for Laois County Council, downloadable from www.laois.ie.

have the potential to provide them with suitable sites on account of the cavities created by the loss of stones and mortar.

He also stressed the importance of surveying a bridge for the presence of bats prior to maintenance work and doing such work outside the breeding season (usually June and July). Bat boxes were also recommended to increase the stock of sites suitable for bats. He also noted that the floodlighting of bridges for display purposes reduces their attractiveness to bats as roosting sites.

Recommendations

- The botanical and wildlife impacts of any proposed works should be assessed before commencing repair and maintenance work. Where appropriate, the relevant specialists should be consulted.
- All works should be timed to cause minimal disturbance to nesting birds and roosting or hibernating bats.

Birds

- Where possible and depending on the bridge's situation and condition, crevices and ledges should be retained during maintenance works as potential nesting sites.
- Where appropriate, nest boxes and artificial platforms should be affixed to bridges where there are no suitable holes or ledges.
- Vegetation, especially ivy, should be retained on bridges provided it does not compromise the bridge's structural integrity or otherwise interfere with its safe functioning.

Bats

- Bridges should be surveyed for bats before any maintenance work is carried out, even if a previous survey showed none to be present.
- Crevices used as nursery sites by bats should be retained and no works should be carried out at such sites during the breeding season.
- Artificial bat roost units should be fitted to masonry arch bridges that have been gunited in the past, as well as to bridges due for pressure grouting in the future. Artificial roosts should also be fitted to all new concrete bridges in order to assist the future conservation of bats.
- If possible, broad-leaved trees should be maintained and/or planted in the vicinity of bridges in order to enhance feeding areas for bats.
- Training seminars and information leaflets should be made available to those responsible for the upkeep of bridges in order to inform them of the legal protection afforded bats and to inform their bridge maintenance work.

7. CONCLUSIONS

This project has created the opportunity to gain an industrial archaeological perspective on the bridges of Co Laois. Along with mills and lime kilns, they are the commonest type of industrial structure to be found in Ireland. A sample of 477 bridges throughout the county was identified for the purposes of this report. Although the majority of them are road bridges of 18th and 19th century date, there are also a significant number of railway and canal bridges.

Systematic recording and computerisation of the physical attributes of the sampled bridges made it possible to compare them and to highlight their similarities and differences. It was thus possible to categorise them according to function, period of construction, design, and builders and also assess how the county's stock of bridges has developed over the past 250 years.

As the emphasis of this project was on fieldwork rather than documentary research, the historical overview presented in this report is but a skeletal framework which needs fleshing out with additional research. A perusal of the surviving Grand Jury presentment books and Board of Works records would all repay investigation. Moreover, the roles of the Turnpike Trusts and Post Office in road and bridge construction during the 18th and 19th centuries also require examination.

Fifty-seven bridges were highlighted as being of special heritage significance on account of their architectural and historical attributes. Of these, 26 are currently protected through their inclusion in the Laois Record of Protected Structures. The remaining 31 are recommended for consideration when the County Development Plan next comes up for renewal.

The fact that most bridges of heritage merit are still in everyday use is advantageous in that they will be maintained in a structurally sound condition. However, their continued usage also poses a threat in that they are susceptible to unsympathetic repairs, upgrading or even demolition where superseded in order to cope with the ever-increasing amount of traffic.

The number of bridges of heritage interest represents a mere 12% of the bridges surveyed in this project. However, given that there are probably well over 2000 bridges in the county, the number of special ones is an even smaller fraction of the actual total.

Bridges of heritage significance are, by definition, a finite resource. Unfortunately, past experience has shown that statutory protection does not necessarily guarantee their preservation. Pro-active conservation measures must therefore also be enacted by those charged with their upkeep to ensure the long-term survival of those characteristics which make them special. A passive approach can only encourage piecemeal alteration and gradual diminution of character to such an extent that bridges of heritage merit become an endangered species.

Measures have been set out for the conservation of bridges of heritage worth. Their adoption requires recognition of the fact that bridges are not only utilitarian structures but also physical reminders of the county's evolving transport network.

When a comprehensive database of the county's stock of bridges is eventually completed, due regard should also be given to their heritage, amenity and ecological values so that they may become material considerations when a comprehensive programme of bridge maintenance and repair is formulated and implemented.

APPENDIX 1: EXAMPLE OF BRIDGE RECORD SHEET

LAIAR- 003-011

Bridge survey form
 Survey date: 10/14/2007

Type	Arch <input checked="" type="checkbox"/>	Beam	Suspension	Pipe	Other
Survival	Complete <input checked="" type="checkbox"/>	Subst remains		Some remains	Traces

Original function

Public road	Acorn road	Foot	Rail	Ind	Canal	over	Public road	Acorn road	Foot	Rail	Ind	Canal	River	Discard
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Present function

Public road	Acorn road	Foot	Rail	Ind	Canal	over	Public road	Acorn road	Foot	Rail	Ind	Canal	River	Discard
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Crossing Approaches

Orthogonal	Skew
Duplex	Removed

Builder

Canal company	Board Pub Wk	Railway company	Private	County Council	Nat Road Authority	Office Public Wk	In road	Board na
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Condition

Excellent	Good	Fair	Poor	N/A
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Vegetation/ traffic damage etc:

Interest categories

Architecture	Archaeology	Historical	Technical	Group	Setting	Uniqueness
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Heritage merit

Record only	Local	Regional	National
None	RMP	RPS	<input checked="" type="checkbox"/>

Birds/Bats

Photographs

Roll	Frame
1	21
2	20
3	19

Comments

LAIAR- 003-011

Arched bridge survey form

Number: Total 3 | Normal use 3 | Flood arches | Mill arches

Height	Regular <input checked="" type="checkbox"/>	Irregular	Rising to centre	Semicircular	Segmental <input checked="" type="checkbox"/>
Span	Regular	Irregular	Water to centre	Some-elliptical	Other

Soffit

Rubble masonry (orthog)	Stone blocks (skew)	Brick (skew)	Concrete
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Soffit breaks

Falsework projects	Gurled
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Deck plan

Straight	Curved
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Deck elevation

Flat	Angled	Curve	Humped
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Abutments

Y/N	Material	Coursing	Facing	Embellishment
<input checked="" type="checkbox"/>	Limestone	To courses	Dressed	

Piers

Y/N	Material	Coursing	Facing	Embellishment
<input checked="" type="checkbox"/>	As above	To courses	Dressed	

Curvellers - upstream

Y/N	Material	Coursing	Facing	Embellishment
<input checked="" type="checkbox"/>	As above	To courses	Dressed	

Curvellers - downstream

Y/N	Material	Coursing	Facing	Embellishment
<input checked="" type="checkbox"/>	As above	To courses	Dressed	

Drainages to abutment

Y/N	Material	Coursing	Facing	Embellishment
<input checked="" type="checkbox"/>	As above	To courses	Dressed	

String course - arch

Y/N	Material	Coursing	Facing	Embellishment
<input checked="" type="checkbox"/>	As above	To courses	Dressed	

Arch ring

Y/N	Material	Coursing	Facing	Embellishment
<input checked="" type="checkbox"/>	As above	To courses	Dressed	

Scarcels

Y/N	Material	Coursing	Facing	Embellishment
<input checked="" type="checkbox"/>	As above	To courses	Dressed	

Parapet

Y/N	Material	Coursing	Facing	Embellishment
<input checked="" type="checkbox"/>	As above	To courses	Dressed	

Parapet coping

Y/N	Material	Coursing	Facing	Embellishment
<input checked="" type="checkbox"/>	As above	To courses	Dressed	

String course - parapet

Y/N	Material	Coursing	Facing	Embellishment
<input checked="" type="checkbox"/>	As above	To courses	Dressed	

Parapet terminal piers

Y/N	Material	Coursing	Facing	Embellishment
<input checked="" type="checkbox"/>	As above	To courses	Dressed	

Wing walls

Y/N	Material	Coursing	Facing	Embellishment
<input checked="" type="checkbox"/>	As above	To courses	Dressed	

Wing wall coping

Y/N	Material	Coursing	Facing	Embellishment
<input checked="" type="checkbox"/>	As above	To courses	Dressed	

Wing wall terminal piers

Y/N	Material	Coursing	Facing	Embellishment
<input checked="" type="checkbox"/>	As above	To courses	Dressed	

Materials: B brick, R rubble, SQR (squared rubble), A (ashlar), C (concrete)
 Coursing: R (random), C (course), BCC (brought to course)
 Facing: B (brick), R (rubble), RD (roughly dressed), D (dressed), FD (finely dressed), A (ashlar), R (rubble)
 Embellishment: MES (margined edges to each stone), MEC (margined edge to compound), W (waist), VOS (voisser stepping)

Other contemporary features
 (e.g. pedestrian refuge, lamp, plaque, datestone, facing to back, facing to head, downstream weir)

New features
 (e.g. parapet, centralised sides, widening, repairs, cutwater, forstak, facing to banks, bypassing)

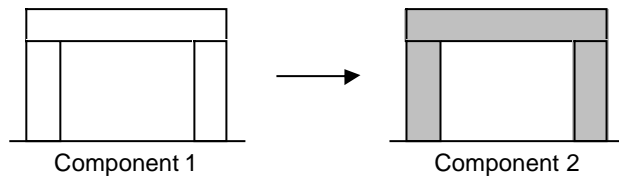
Dimensions (m)

Span(s)	6.11m
Between parapets	6.10m
Abutment depth	8.15m

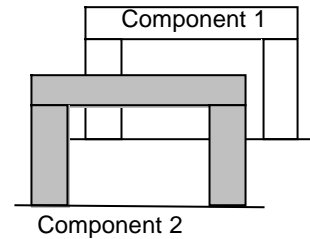
APPENDIX 2: BRIDGE COMPONENT NUMBERING

In some instances it was advantageous to differentiate the structural elements within a bridge site. Each component was distinguished as follows:

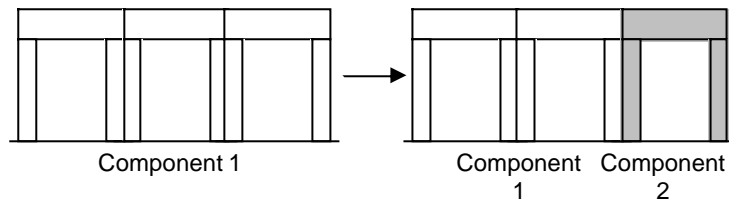
1. The bridge has been replaced in its entirety.



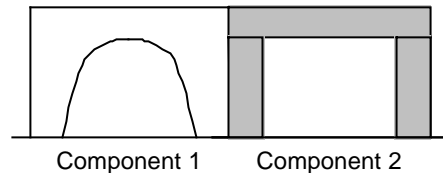
2. The bridge has been bypassed by one built alongside it.



3. One wishes to differentiate a section within a bridge which has been completely rebuilt or newly added, e.g. where a river has been redirected and an additional arch erected over its new course.

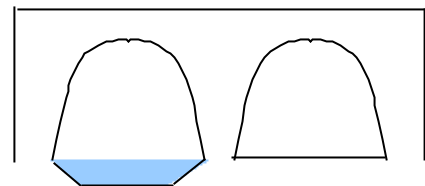


4. One wishes to differentiate a different structural form within the same bridge, e.g. a masonry road bridge which continues as a metal girder span over a river.

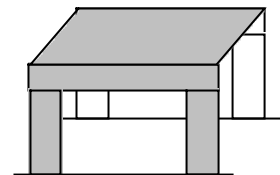


In general, the following bridge forms have the *same* component number:

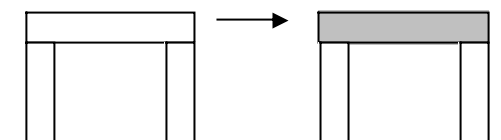
1. It serves more than one function but is of the same basic structural form over each crossing, e.g. a single arch railway over a stream *and* footpath, or a twin-arched road bridge over a river *and* footpath.



2. It has been widened.



3. The deck has been replaced and has been rebuilt on the existing abutments.



APPENDIX 3: BRIDGE NAMES

Bridge names, where known, are arranged alphabetically by category and by name.

Name category	Bridge name	LAIAR site no	Townland(s)
Admin	County Bridge	006-005	Ballynahown; Co Offaly
Admin	County Bridge	027-001	Clonmore; Garryduff; Co Tipperary
Admin	Three Counties Bridge	036-003	Ardough/Huntspark; Co Kilkenny
Age	New Bridge	018-013	Pass
Age	New Bridge	021-008	Moneymore; Townparks
Age	New Bridge	023-004	Cloncough; Killeany
Age	New Bridge	029-029	Castlewood; Course; Rath
Age	Old Bridge	029-010	Ballygarvan Glebe; Rathmakelly Glebe
Descriptive	Big Bridge	008-016	Ballycullenbeg; Townparks
Descriptive	Broken Bridge	012-007	Ballycormick; Cavansheath
Descriptive	Draw Bridge	005-009	Cooltedery
Descriptive	Dry Bridge	029-028	Castlewood
Descriptive	Mountmellick Aqueduct	008-023	Debicot
Descriptive	Skew Bridge	022-016	Carrowreagh; Corraun
Descriptive	Swing Bridge	005-009	Cooltedery
Local features	Birchgrove Bridge	015-001	Glenconra; Keeloge North
Local features	Creamery Bridge	028-028	Ballyhegaddon Glebe; Dunacleggan; Gortnalee
Local features	Deerpark Bridge	004-014	Ballymorris
Local features	Farmyard Bridge	014-015	Brockley Park
Local features	Lock Bridge	005-011	Bracklone
Local features	Mill Bridge	016-010	Coolrain; Glebe
Local features	Mill Bridge	031-030	Clonbrock; Crettyard
Local features	Mountrath Station	017-029	Clonard/Cappaloughlin
Local features	New Channel Bridge	005-052	Cooltedery
Local features	Portarlinton Station	005-028	Cooltedery
Local features	Portlaoise Station	013-028	Maryborough
Local features	Pound Bridge	008-009	Townparks
Local features	Steam Mill Bridge	008-012	Ballycullenbeg; Townparks
Local features	Tinnakill Lock	004-007	Coolnavarnoge and Coolaghy
Materials	Iron Bridge	019-013	Stradbally
Materials	Stone Arch	023-033	Knocknamoe; Tullyroe
Materials	Stone Bridge	029-023	Castledurrow Demesne
Materials	Wooden Bridge	003-001	Clonduff; Reary Beg
Materials	Wooden Bridge	003-024	Clonduff; Reary Beg
Materials	Wooden Bridge	003-027	Forest Upper; Graigue
Materials	Wooden Bridge	009-024	Killaglish
Materials	Wooden Bridge	017-030	Ballycleary; Clonard/Cappaloughlin
Materials	Wooden Bridge	019-003	Oldmill; Stradbally
Materials	Wooden Bridge	028-021	Kilnaseer
Materials	Wooden Bridge	029-005	Abbeyleix Demesne
Materials	Dysart Wooden Bridge	030-001	Aghnacross; Moat
Other	Bloody Bridge	007-001	Garroon/Summergrove; Mullaghanard/Derreen

Name category	Bridge name	LAIAR site no	Townland(s)
Other	Two Mile Bridge	008-050	Knocknagroagh; Kyletalesha
Other	Twomile Bridge	003-010	Cappabeg; Forest Upper
Other	Supply Bridge	008-026	Kilnacash
People	Arthur's Bridge	003-009	Cappabeg; Cappaneary
People	Bartle's Bridge	023-037	Cromoge; Foxburrow; Mountfead
People	Bennett's Bridge	011-009	Lacka
People	Bergin's Bridge	005-016	Loughmansland Glebe
People	Bill Duggan Bridge	032-032	Graigue; Co Carlow
People	Bob's Bridge	014-014	Brockley Park
People	Burke's Bridge	017-028	Clonard/Cappaloughlin
People	Convent Bridge	008-016	Ballycullenbeg; Townparks
People	Cottoner's Bridge	004-002	Forest Lower; Co Offaly
People	Dillon's Bridge	017-027	Boston/Coolballyogan
People	Doogan's Bridge	026-016	Coolanagh; Tirernan
People	Dooley's Bridge	011-003	Inchanisky
People	Finn's Bridge	012-009	Iry; Ross;Springfield
People	Gale's Bridge	026-011	Ballyfinnan
People	Grattan Aqueduct	014-005	Courtwood; Rosnamullane
People	Grooman's Bridge	017-001	Mountrath
People	James's Bridge	014-029	Brockley Park
People	Lady's Bridge	007-010	Deerpark
People	Lady's Bridge	029-003	Abbeyleix Demesne
People	Monk's Bridge	029-004	Abbeyleix Demesne
People	Moore's Bridge	004-010	Ballymorris
People	Nuns' Bridge	008-072	Ballycullenbeg; Townparks
People	Pluck's Bridge	016-001	Marymount; Rossnadough
People	Pole's Bridge; (Pools Br)	019-011	Oldmill; Stradbally
People	Poorman's Bridge	023-012	Boley Lower; Poormansbridge
People	Quakers Bridge	021-012	Ballintaggart; Co Tipperary
People	Sally's Bridge	031-038	Clonbrock; Drumagh
People	Stanhope Bridge	030-020	Ballinakill
People	Thomas' Bridge	014-032	Brockley Park
People	Wandesford Bridge	025-017	Ballylehane Lower
People	Wheelahan's Bridge	005-017	Clonanny
People	Young's Bridge	015-005	Ballyduff; Rossdorragha
Places	Aghmacart Bridge	034-004	Oldtown
Places	Anatrim Bridge	016-009	Anatrim; Glebe
Places	Annagh Bridge	016-005	Annagh; Derrynaseera; Glebe
Places	Attanagh Bridge	035-009	Glebe; Co Kilkenny
Places	Ballycleary Bridge	017-031	Ballycleary
Places	Ballydine Bridge	023-018	Blackhills; Tonduff; Tullyroe
Places	Ballykilcavan Bridge	014-038	Ballykilcavan; Garrans; Mill-land
Places	Ballykillen Bridge	037-008	Ballykillen; Clonmore; Oldderrig
Places	Ballymanus Bridge	014-025	Ballymanus
Places	Ballymorris Bridge	005-008	Ballymorris; Cooltedery
Places	Ballyshaneduff Bridge	009-015	Ballybrittas; Ballyshaneduff/The Derries
Places	Bauteogue Bridge	019-027	Bauteogue; Timogue
Places	Bay Bridge	004-001	Forest Lower; Townparks

Name category	Bridge name	LAIAR site no	Townland(s)
Places	Blackford Bridge	019-007	Blackford; Co Kildare
Places	Blackhall Bridge	004-010	Ballymorris
Places	Boghlone Bridge	013-019	Boghlone; Clonroosk Little; Pallas Big
Places	Boleybeg Bridge	024-008	Boleybeg
Places	Boleybeg Bridge North	024-009	Boleybeg
Places	Briscula Bridge	012-012	Briscula; Cavansheath
Places	Brockry Bridge	027-002	Brockry; Ballymullen; Kilmilan; Rathnaleugh
Places	Cappakeel Bridge	009-005	Cappakeel; Rossmore
Places	Cappanarrow Bridge	011-007	Cappanarrow; Derrycarrow
Places	Cardtown Bridge	011-008	Cummer; Johnsborough; Killeen
Places	Carn Bridge	008-043	Carn/Curraghane
Places	Carrick Bridge	028-015	Kilnaseer
Places	Castletown Bridge	016-015	Gash; Knockanina; Oldborris
Places	Castletown Bridge	026-009	Castletown
Places	Cathole Bridge	007-005	Ballyfin; Ballyhuppahane
Places	Clarahill Bridge	003-012	Clarahill; Rathcoffey
Places	Clogrenan Bridge	037-023	Clogrenan
Places	Clonagh Bridge	032-002	Clonagh; Killeen
Places	Cloncourse Bridge	017-010	Clonadacasey; Cloncourse
Places	Clonmeen Bridge	033-003	Clonmeen South
Places	Clonterry Bridge	004-028	Clonterry; Co Offaly
Places	Commons Bridge	004-017	Cooltedery
Places	Coolanowle Bridge	026-010	Castletown; Coolanowle
Places	Coolkerry Bridge	028-014	Coolkerry; Graigueanossy
Places	Coolowley Bridge	027-008	Coolowley (Mason); Coolowley (Plott)
Places	Courtwood Bridge	009-012	Courtwood
Places	Crettyard Bridge	031-029	Crettyard; Co Kilkenny
Places	Culla Bridge	034-008	Ballynevin; Maynebog
Places	Curraclone Bridge	014-019	Inch; Monaferrick
Places	Curragh Bridge	029-018	Ballyboodin
Places	Curragh Bridge	032-011	Curragh
Places	Danganroe Bridge	016-006	Crannagh; Danganroe
Places	Dangan's Bridge	008-029	Dangans
Places	Debicot Bridge	008-022	Strahard
Places	Derrybrock Bridge	014-023	Ballymanus; Derrybrock
Places	Derrycarrow Bridge	011-005	Aghduff; Derrycarrow
Places	Derrydavy Bridge	008-045	Ballintaggart; Derrydavy
Places	Derryduff Bridge	016-013	Derryduff
Places	Derrynaseera Bridge	016-007	Derryduff; Derrynaseera
Places	Donore Little Bridge	023-003	Castletrench; Donore; Killeany
Places	Dooary Bridge	024-006	Dooary
Places	Doon Bridge	017-036	Doon
Places	Doonane Bridge	031-028	Clonbrock; Co Kilkenny
Places	Dunrally Bridge	014-010	Vicarstown (Dodd); Co Kildare
Places	Durrow Old Bridge	029-025	Castledurrow Demesne; Course; Durrow Townparks
Places	Dysart Wooden Bridge	030-001	Aghnacross; Moat; {Graigue}
Places	Eyne Bridge	008-049	Eyne; Kyletalesha
Places	Fisherstown Bridge	009-010	Fisherstown
Places	Forest Bridge	017-032	Forest; Forgeland
Places	Garrafin Bridge	016-003	Garrafin; Tinnakill

Name category	Bridge name	LAIAR site no	Townland(s)
Places	Garrintaggart Bridge	024-011	Garrintaggart
Places	Gortnaclea Bridge	023-006	Gortnaclea; Killeany
Places	Graiguenasmuttan Bridge	024-010	Boleybeg; Graiguenasmuttan
Places	Grange Bridge	032-004	Anneville; Grange
Places	Irishtown Bridge	008-012	Ballycullenbeg; Townparks
Places	Ironmills Bridge	030-007	Ironmills/Kilrush; Kilcronan
Places	Kilbricken Bridge; (Kilbrackan Bridge)	017-033	Coole; Clonard/Cappaloughlin; Kilbrickan
Places	Kilbride Bridge	004-015	Kilbride
Places	Kilfeacle Bridge	025-015	Kilfeacle
Places	Killabban Bridge	026-015	Killabban
Places	Killinure Bridge	011-003	Inchanisky
Places	Kilmorony Bridge	026-021	Kilmorony; Co Kildare
Places	Kilnacash Bridge	008-027	Kilnacash
Places	Kilnahown Bridge	004-006	Coolnavarnoge and Coolaghy; Co Offaly
Places	Kilrush Bridge	030-009	Ironmills/Kilrush
Places	Kilvahan Bridge	018-016	Cullenagh; Kilvahan
Places	Knapton Bridge	029-004	Abbeyleix Demesne
Places	Kyle Bridge	013-004	Ballytegan; Gorteen; Kyleconhobert
Places	Kyle Bridge	015-007	Kyle
Places	Lacca Bridge	011-009	Lacka
Places	Lea Bridge	005-014	Lea
Places	Little Ballydine Bridge	023-020	Tonduff; Tullyroe
Places	Maganey Bridge	026-020	Grange; Co Kildare
Places	Marymount Bridge	016-004	Rosснаclonagh Inside
Places	Maynebog Bridge	034-008	Ballynevin; Maynebog
Places	Mayo Bridge	031-040	Mayo; Monavea
Places	Milltown Bridge	025-002	Boley; Inch; Milltown
Places	Mondrehid Bridge	015-006	Keeloge South; Mondrehid
Places	Moneenalassa Bridge	021-014	Curraghmore; Newtown/Skirk; Co Tipperary
Places	Moneymore Bridge	021-016	Clononeen; Moneymore
Places	Monicknew Bridge	011-002	Brockagh; Monicknew
Places	Moyadd Bridge	031-001	Moyadd
Places	Mucklone Bridge	003-004	Meelick; Mucklone
Places	Nealstown Bridge	015-002	Ballaghlyragh/Nealstown; Co Offaly
Places	Oldderrig Bridge	037-005	Oldderrig; Springhill
Places	Portnahinch Bridge	004-004	Portnahinch; Co Offaly
Places	Rathcoffey Bridge	003-011	Rathcoffey
Places	Rosconnell Bridge	030-017	Rosconnell Glebe; Co Kilkenny
Places	Ross Bridge	012-009	Iry; Ross; Springfield
Places	Rossmore Bridge	009-006	Bellegrove; Rossmore
Places	Rossmore Bridge	037-007	Ballyhide; Rossmore
Places	Rosснаclonagh Bridge	016-004	Rosснаclonagh Inside
Places	Roundwood Bridge	011-011	Killinure; Paddock
Places	Rushin Bridge	017-004	Mountrath; Mountrath
Places	Sallyford Bridge	009-007	Courtwood; Fisherstown; Kilbrackan; Rathronshin
Places	Shannon Bridge	017-008	Mountrath
Places	Shanragh Bridge	025-016	Ballylehane Lower; Shanragh
Places	Sheean Bridge; (Shane Bridge)	014-031	Bawn
Places	Shrule Bridge	032-012	Knockbeg; Shrule

Name category	Bridge name	LAIAR site no	Townland(s)
Places	Skeagh Bridge	008-030	Tinnakill
Places	Slatt Bridge	031-013	Slatt Upper; Co Kilkenny
Places	Sleaty Bridge	032-014	Knockbeg; Sleaty
Places	Spink Bridge	024-012	Garrintaggart; Knockbaun
Places	Springhill Bridge	037-006	Springhill
Places	Stradbally Bridge	019-021	Stradbally
Places	Strand Bridge	032-006	Ballickmoyler; Ballickmoyler Upper
Places	Swan Bridge	031-002	Moyadd; Slatt Lower
Places	Tankardstown Bridge	026-006	Tankardstown; Co Kildare
Places	Tarbert Bridge	017-034	Tarbert; Trumra
Places	Templequain Bridge	033-001	Graigueavallagh; Templequain; {Barrawinga}
Places	Timahoe Bridge	018-019	Timahoe
Places	Timogue Bridge	019-005	Timogue
Places	Tinnahinch Bridge	003-014	Drumnabehy; Tinnahinch
Places	Tullyroe Bridge	023-025	Tullyroe
Places	Vicarstown Bridge	014-008	Vicarstown (Cosby); Vicarstown (Dodd)
Places	Watercastle Bridge	029-012	Granafallow; Watercastle
Places	Woodbrook Bridge	004-009	Coolnavarnoge and Coolaghy
Rivers	Barrow Bridge	005-001	Cooltedery; Co Offaly
Rivers	Blackwater Bridge	007-009	Derrycloney; Omoresforest
Rivers	Cush Bridge	018-006	Ballycarnan; Clonaddadoran
Rivers	Delour Bridge	016-002	Longford; Tinnakill
Rivers	Fuer Bridge	026-008	Castletown; Skehanagh
Rivers	Fushoge Bridge	037-013	Clogrenan; Clogrenan
Rivers	Gloreen Bridge	023-022	Blackhills; Tullyroe; Poormansbridge
Rivers	Gorragh Bridge	002-005	Ballyfarrell; Bunastick
Rivers	Gully Bridge	022-019	Keelough Glebe; Lowran
Rivers	Gully Bridge	029-002	Clonoghil; Derrylahan
Rivers	Killeen Bridge	031-036	Garrendenny
Rivers	Needleford Bridge	012-013	Brockra; Ringstown
Rivers	Nore Bridge	016-018	Kildrinagh; Shangownagh; {Peafield}
Rivers	Owenass Bridge	007-004	Derrycloney
Rivers	Quinn Bridge	021-013	Clonagooden; Shanboe
Rivers	Triogue Bridge	008-024	Debicot; Kilmainham
Unknown	Ballyclare Bridge	003-002	Clonduff; Drummond; Moneyquid
Unknown	Barranagh's Bridge	004-003	Forest Lower; Strahard
Unknown	Baylough Bridge	005-022	Inchacooly; Co Kildare
Unknown	Bella Bridge	005-022	Inchacooly; Co Kildare
Unknown	Blue Bridge	019-009	Clopook; Guiteen
Unknown	Borness Bridge	004-003	Forest Lower; Strahard
Unknown	Boston Bridge	028-018	Kilnaseer; Oldglass
Unknown	Brook Bridge	023-011	Cappanacloghy; Poormansbridge
Unknown	Bunny's Bridge	024-005	Ballyroan; Cloncullane
Unknown	Camac Aqueduct	014-024	Ballymanus; Derrybrock
Unknown	Castlecoole Bridge	030-002	Kilnashane; Moat
Unknown	Clarneyball Bridge	028-010	Johnstown Glebe
Unknown	Cluddagh Bridge	034-009	Cannonswood; Gorteen
Unknown	Colooney Bridge	029-011	Dunmore; Kylebeg; Moyne

Name category	Bridge name	LAIAR site no	Townland(s)
Unknown	Coneyburrow Bridge	028-013	Coolkerry; Rathdowney
Unknown	Derrygoony Bridge	021-015	Garranmaconly; Co Tipperary
Unknown	Glenavurder Bridge	030-010	Ironmills/Kilrush
Unknown	Lahoole Bridge	002-007	Ballynahown; Garryhedder
Unknown	Ormonde Bridge	031-030	Clonbrock; Crettyard
Unknown	Paddle Bridge	023-023	Blackhills
Unknown	Pole Bridge	017-015	Clonadacasey
Unknown	Sallagh Bridge	023-015	Mounteagle; Raheenabrogue
Unknown	Scaravagh Bridge	005-021	Inchacooly; Co Offaly
Unknown	Scorraus Bridge	005-021	Inchacooly; Co Offaly
Unknown	Spa Bridge	017-047	Forest; Mountrath
Unknown	Spa Bridge	005-002	Cooltedery; Droughill
Unknown	Tallyho Bridge	035-002	Durrow Townparks; Grenan; Tinwear
Unknown	The Hollow Bridge	017-037	Clonadacasey
Unknown	Waterloo Bridge	023-035	Abbeyleix Demesne; Boley; Knapton; Tullyroe

APPENDIX 4.1:
BRIDGES OF REGIONAL
HERITAGE SIGNIFICANCE

Sites recommended for inclusion in the Laois Record of Protected Structures are highlighted in yellow under the 'Action' field.

Note that this field does not relate to actions regarding bridge repair and maintenance. Where damage has occurred, this is noted in the 'Description field' of the Bridge Inventory.

Site no LAIAR-003-011 **Name** Rathcoffey Bridge

County Laois {Queen's} **Townland** Rathcoffey

Component LAIAR-003-011 1 **Type** Bridge (road/river) **Grid** 234727 211068

Component LAIAR-003-011 2 **Type** Bridge (road/river) **Grid** 234727 211068



Summary 18th century road bridge over River Barrow. Replaced in mid 1800s by the present triple-arch masonry bridge.

Evaluation This is a substantial and well-constructed mid 19th century triple arch bridge over a significant river. It is very similar to Tinnahinch Bridge, just upstream (LAIAR-003-014). It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-003-014 **Name** Tinnahinch Bridge

County Laois {Queen's} **Townland** Drumnabehy; Tinnahinch

Component LAIAR-003-014 1 **Type** Bridge (road/river) **Grid** 235167 210486

Component LAIAR-003-014 2 **Type** Bridge (road/river) **Grid** 235167 210486



Summary 18th/early 19th century timber road bridge over River Barrow. Replaced by the present triple-arch masonry bridge in mid 19th century.

Evaluation This is a substantial and well-constructed mid 19th century triple arch bridge over a significant river. It is very similar to Rathcoffey Bridge, just downstream (LAIAR-003-011). It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-004-001 **Name** Bay Bridge

County Laois {Queen's} **Townland** Forest Lower; Townparks

Component LAIAR-004-001 1 **Type** Bridge (road/river) **Grid** 245459 209210



Summary Mid 19th century twin-span road bridge over River Barrow, on site of 18th century ford.

Evaluation This bridge is of architectural interest because of its high quality of construction and detailing of its stonework. It is a good example of a mid 19th century road bridge over a significant river. It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-004-004 **Name** Portnahinch Bridge

County Laois {Queen's}; Offaly {King's} **Townland** Portnahinch; Co Offaly

Component LAIAR-004-004 1 **Type** Bridge (road/river) **Grid** 249062 210046



Summary A triple-span masonry arch road bridge of 18th/early 19th century date over River Barrow.

Evaluation Architecturally, this bridge is of interest in terms of its scale, modest embellishments and style (string course, blind niches), all typical of an 18th or early 19th century Grand Jury construction. It also enhances the riverscape. It is of regional heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-004-006 **Name** Kilnahown Bridge

County Laois {Queen's} **Townland** Coolnavarnoge and Coolaghy; Co Offaly

Component LAIAR-004-006 1 **Type** Bridge (road/river) **Grid** 251350 210693



Summary A four-arch masonry road bridge of 18th/early 19th century date over River Barrow at boundary with Co Offaly. Also two flood arches on Co Laois side.

Evaluation Architecturally, this bridge is of interest in terms of its scale, unadorned style typical of an 18th/early 19th century Grand Jury construction. It also enhances the riverscape hereabouts. It is of regional heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-004-010 **Name** Blackhall Bridge; {Moore's Bridge}

County Laois {Queen's} **Townland** Ballymorris

Component LAIAR-004-010 1 **Type** Bridge (road/canal) **Grid** 253128 210795



Summary Masonry arch road bridge of c.1828 over Mountmellick Branch of Grand Canal. Now bypassed by main road.

Evaluation The architectural interest of this bridge is diminished somewhat by the introduced stone (necessitated by its partial demolition in 1970) and use of concrete blockwork in its refurbishment. Nevertheless it is still of historical interest and a well-known landmark hereabouts. It is of regional industrial heritage significance and its current inclusion in the Record of Protected Structures is justified (LA 542).

Rating Regional **Protection** RPS LA 542 **Action** None (already in RPS)

Site no LAIAR-005-016 **Name** Bergin's Bridge

County Laois {Queen's} **Townland** Loughmansland Glebe

Component LAIAR-005-016 1 **Type** Bridge (road/canal) **Grid** 258303 211345



Summary An arched masonry road bridge of c.1828 over the Mountmellick Branch of the Grand Canal.

Evaluation This unaltered bridge is of architectural and historical interest, being typical of the bridges along this branch of the Grand Canal. It also has group value in the context of the overall canal. It is of regional heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-005-017 **Name** Wheelahan's Bridge

County Laois {Queen's} **Townland** Clonanny

Component LAIAR-005-017 1 **Type** Bridge (road/canal) **Grid** 259637 211148



Summary An arched masonry road bridge of c.1828 over the Mountmellick Branch of the Grand Canal. Now bypassed by a new road and used for local site access only.

Evaluation This unaltered bridge is of typical design for this section of canal and is of architectural and historical interest. Its current status as a Protected Structure (LA 547) is merited because of its regional heritage significance.

Rating Regional **Protection** RPS LA 547 **Action** None (already in RPS)

Site no LAIAR-005-022 **Name** Baylough Bridge; {Bella Bridge}

County Laois {Queen's}; Kildare **Townland** Inchacooly; Co Kildare

Component LAIAR-005-022 1 **Type** Bridge (road/river) **Grid** 260614 212379

Summary A triple-arch masonry road bridge of 18th/early 19th century date over the River Barrow on the boundary with Co Kildare.

Evaluation This is a good example of an unadorned later 18th/early 19th century rubble masonry road bridge over a significant river. It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS



Site no LAIAR-005-028 **Name** Portarlinton Station

County Laois {Queen's} **Townland** Cooltedery

Component LAIAR-005-028 8 **Type** Bridge (foot/rail) **Grid** 254820 210880

Summary Station opened by Great Southern & Western Railway Co in 1847 on Dublin-Cork line. Also changeover point for Athlone/Galway line (opened 1854). The complex, which was designed by Sancton Wood, encompasses the station building, engine shed, metal footbridge, modern replacement footbridge, metal water tank and signal box; also a Victorian pillar box. The lattice metal footbridge dates from the 1880s and was manufactured by Edward Manisty (Dundalk). It is no longer in use.

Evaluation Primarily of architectural, historical and technical interest as a typical example of a Great Southern & Western station lattice girder footbridge. Enhances interest of station and also has group value with rest of complex. It is of regional industrial heritage significance and merits its present inclusion in Record of Protected Structures.

Rating Regional **Protection** RPSLA 143A **Action** None (already in RPS)



Site no LAIAR-005-031 **Name**

County Laois {Queen's} **Townland** Tirhogar

Component LAIAR-005-031 1 **Type** Bridge (road/rail) **Grid** 257206 210277

Summary Masonry arch road bridge over Dublin-Cork railway line, opened by Great Southern & Western Railway Co in 1847.

Evaluation This bridge is of architectural merit on account of the quality of its construction and detailing (notably the radial voussiors/spandrels). It has all the elements associated with a bridge, including buttresses, wing walls and terminal piers. It also has a historical association with the Great Southern & Western Railway. It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS



Site no LAIAR-008-005 **Name**

County Laois {Queen's} **Townland** Derrycloney

Component LAIAR-008-005 1 **Type** Bridge (rail/river) **Grid** 244304 206690

Summary A skew single-span metal girder railway bridge over Owenass River. On Mountmellick Branch of Great Southern & Western Railway, opened 1885. Now derelict.

Evaluation This bridge is of architectural interest as a rare example (in a Laois context) of a late 19th century girder span. It is also of historical interest as a reminder of the former line of the railway between Mountmellick and Portlaoise. It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS



Site no LAIAR-008-007 **Name**

County Laois {Queen's} **Townland** Derrycloney

Component LAIAR-008-007 1 **Type** Bridge (road/rail) **Grid** 244298 205889



Summary A masonry road bridge over the Mountmellick Branch of Great Southern & Western Railway, opened in 1885. The bridge is now used as a footpath and the railway line is now a road.

Evaluation Although a utilitarian structure, this bridge is remarkably well detailed. It is also a historical reminder of the former line of the railway between Mountmellick and Portlaoise and a prominent roadside feature on the southern approach to the town. It is of regional industrial heritage significance and merits its current inclusion in the Record of Protected Structures (LA 702).

Rating Regional **Protection** RPS LA 702 **Action** None (already in RPS)

Site no LAIAR-008-016 **Name** Convent Bridge; {Big Bridge}

County Laois {Queen's} **Townland** Ballycullenbeg; Townparks (Tinnahinch By)

Component LAIAR-008-016 1 **Type** Bridge (road/river) **Grid** 245507 207371



Summary An 18th/early 19th century triple-arch masonry road bridge over Owenass River. A triple-span reinforced-concrete section was added to its downstream end during the later 1900s.

Evaluation This is a well executed Grand Jury presentment bridge at the east end of Mountmellick. Its original character is clearly evident on its upstream face, but has been obscured on the other side by the concrete addition. The pipes across its up side diminish its original character. Despite these later alterations, sufficient of the original structure survives to make it of regional industrial heritage significance. It merits its current inclusion in the Record of Protected Structures (LA 701).

Rating Regional **Protection** RPS LA 701 **Action** None (already in RPS)

Site no LAIAR-008-022 **Name** Debicot Bridge

County Laois {Queen's} **Townland** Strahard

Component LAIAR-008-022 1 **Type** Bridge (road/canal) **Grid** 246876 207714



Summary A masonry arch accommodation bridge of c.1828 over the defunct Mountmellick Branch of Grand Canal. Now bypassed.

Evaluation Of architectural and historical merit. Of regional industrial heritage significance. Merits inclusion in Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-008-023 **Name** Mountmellick Aqueduct

County Laois {Queen's} **Townland** Debicot

Component LAIAR-008-023 1 **Type** Bridge (canal/river) **Grid** 247563 207520



Summary A triple-span masonry aqueduct of c.1828 carries the defunct Mountmellick Branch of Grand Canal over the Triogue River.

Evaluation Of architectural and historical merit. Also enhances riverscape hereabouts. Of regional industrial heritage significance. Current inclusion in Record of Protected Structures merited (LA 531).

Rating Regional **Protection** RPS LA 531 **Action** None (already in RPS)

Site no LAIAR-008-027 **Name** Kilnacash Bridge

County Laois {Queen's} **Townland** Kilnacash

Component LAIAR-008-027 1 **Type** Bridge (road/canal) **Grid** 248070 207602

Summary An arched masonry road bridge of c.1828 over the Mountmellick Branch of the Grand Canal. Now bypassed.

Evaluation Of architectural and historical merit. Regional industrial heritage significance. Merits inclusion in Record of Protected Structures.

Rating Regional **Protection** **Action** RPS



Site no LAIAR-008-029 **Name** Dangan's Bridge

County Laois {Queen's} **Townland** Dangans

Component LAIAR-008-029 1 **Type** Bridge (road/canal) **Grid** 249013 208376

Summary An arched masonry road bridge of c.1828 over the Mountmellick Branch of the Grand Canal.

Evaluation Of architectural and historical merit. Regional industrial heritage significance. Merits inclusion in Record of Protected Structures.

Rating Regional **Protection** **Action** RPS



Site no LAIAR-008-030 **Name** Skeagh Bridge

County Laois {Queen's} **Townland** Tinnakill (Portnahinch By)

Component LAIAR-008-030 1 **Type** Bridge (road/canal) **Grid** 249488 208932

Summary An arched masonry accommodation bridge of c.1828 over the Mountmellick Branch of the Grand Canal. Now bypassed.

Evaluation Despite being partly buried, sufficient is exposed to demonstrate this bridge's architectural merit. Its association with the Grand Canal Company is also of note. It is also a feature of the landscape hereabouts. Of regional industrial heritage significance. Merits inclusion in record of Protected Structures.

Rating Regional **Protection** **Action** RPS



Site no LAIAR-009-010 **Name** Fisherstown Bridge

County Laois {Queen's} **Townland** Fisherstown

Component LAIAR-009-010 1 **Type** Bridge (road/canal) **Grid** 262306 205706

Summary An arched masonry road bridge, built 1785-91, over the Athy Branch of the Grand Canal.

Evaluation This bridge is of architectural merit as a typical canal bridge, and also of historical interest due to its canal association. It is of regional industrial heritage significance and merits its current inclusion in the Record of Protected Structures (LA 562).

Rating Regional **Protection** RPS LA 562 **Action** None (already in RPS)



Site no LAIAR-009-012 **Name** Courtwood Bridge

County Laois {Queen's} **Townland** Courtwood

Component LAIAR-009-012 1 **Type** Bridge (road/canal) **Grid** 261898 204120



Summary An arched masonry road bridge, built 1785-91, over the Athy Branch of the Grand Canal.

Evaluation This bridge is of architectural merit as a typical canal bridge, and also of historical interest due to its canal link. It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-011-002 **Name** Monicknew Bridge

County Laois {Queen's} **Townland** Brockagh; Monicknew

Component LAIAR-011-002 1 **Type** Bridge (road/river) **Grid** 230796 202290



Summary A high masonry arch road bridge of c.1840 over a tributary of the Delour River.

Evaluation This bridge is a good example of a mid 19th century bridge in an impressive setting, adjacent to a recreational amenity area. It is of regional industrial heritage significance and merits its current inclusion in the Record of Protected Structures (LA 577).

Rating Regional **Protection** RPSLA 577 **Action** None (already in RPS)

Site no LAIAR-011-003 **Name** Dooley's Bridge; {Killinure Bridge}

County Laois {Queen's} **Townland** Inchanisky

Component LAIAR-011-003 1 **Type** Bridge (road/river) **Grid** 230179 200416



Summary A wide masonry arch road bridge of mid 18th century date over the Delour River.

Evaluation This is a substantial example of a mid 18th century road bridge, notable for its wide span (over 9m/ 30ft). It is of regional industrial heritage interest and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-011-009 **Name** Lacca Bridge; {Bennett's Bridge}

County Laois {Queen's} **Townland** Lacka

Component LAIAR-011-009 1 **Type** Bridge (road/river) **Grid** 229171 198055

Component LAIAR-011-009 2 **Type** Bridge (road/river) **Grid** 229170 198055



Summary A metal girder road bridge over the Delour River, erected by Messrs Raybould (Workington) in the late 1800s/early 1900s. It replaced an 18th/early 19th century multi-span bridge.

Evaluation This bridge is of architectural and technical interest on account of its construction (longitudinal and transverse metal beams and concrete jack arches), the only such example in the county. It also has an attested maker and can be attributed to the decades either side of 1900. It has a picturesque setting beside a picnic amenity area on the upstream right bank. It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-011-011 **Name** Roundwood Bridge

County Laois {Queen's} **Townland** Killinure (Upperwoods By); Paddock

Component LAIAR-011-011 1 **Type** Bridge (road/river) **Grid** 232361 197534



Summary A triple-arch masonry road bridge of 18th/early 19th century date over the Mountrath River.

Evaluation This bridge is of architectural interest on account of its stonework, notably the detailing on its voussoirs. It also adds interest to the riverscape hereabouts. Overall, it is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-013-028 **Name** Portlaoise Station

County Laois {Queen's} **Townland** Maryborough

Component LAIAR-013-028 4 **Type** Bridge (foot/rail) **Grid** 246898 198653

Component LAIAR-013-028 5 **Type** Bridge (foot/rail) **Grid** 246921 198673



Summary Railway station on Dublin-Cork railway line, opened by Great Southern & Western Railway Co in 1847. Site encompasses station and station master's house, waiting room, workshop and two late 19th/early 20th century lattice girder footbridges (one now gone). The station building also incorporates Victorian letter box. On north side of line are 19th century warehouse, 20th century parcel office and site of cattle pens. Also terminus of Kilkenny & Mountmellick Railway.

Evaluation The surviving footbridge is primarily of architectural, historical and technical interest as a typical example of a Great Southern & Western station lattice girder footbridge. Enhances interest of station and also has group value with rest of complex. It is of regional industrial heritage significance and merits its present inclusion in Record of Protected Structures (LA 471)

Rating Regional **Protection** RPS LA 471 **Action** None (already in RPS)

Site no LAIAR-014-005 **Name** Grattan Aqueduct

County Laois {Queen's} **Townland** Courtwood; Rosnamullane

Component LAIAR-014-005 1 **Type** Bridge (canal/river) **Grid** 261421 202756



Summary A twin-arched masonry aqueduct of 1790 carries the Athy Branch of the Grand Canal over the Glasha River.

Evaluation This bridge is of architectural interest on account of its quality of construction and scale. It is also of historical interest due to its association with the Grand Canal and attested date. It also enhances the landscape hereabouts. It is of regional industrial heritage significance and merits its current inclusion in the Record of

Rating Regional **Protection** RPS LA 593 **Action** None (already in RPS)

Site no LAIAR-014-008 **Name** Vicarstown Bridge

County Laois {Queen's} **Townland** Vicarstown (Cosby); Vicarstown (Dodd)

Component LAIAR-014-008 1 **Type** Bridge (road/canal) **Grid** 261510 200483



Summary An arched masonry road bridge, built 1785-91, over the Athy Branch of the Grand Canal.

Evaluation This bridge is of architectural merit as a typical canal bridge, and also of historical interest due to its canal association. It is of regional industrial heritage significance and merits its current inclusion in the Record of Protected Structures (LA 594).

Rating Regional **Protection** RPS LA 594 **Action** None (already in RPS)

Site no LAIAR-014-025 **Name** Ballymanus Bridge
County Laois {Queen's} **Townland** Ballymanus
Component LAIAR-014-025 1 **Type** Bridge (road/canal) **Grid** 261595 198542



Summary An arched masonry accommodation bridge, built 1785-91, over the Athy Branch of the Grand Canal.

Evaluation This bridge is of architectural merit and also of historical interest due to its association with the Grand Canal. It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-014-038 **Name** Ballykilcavan Bridge
County Laois {Queen's} **Townland** Ballykilcavan; Garrans; Mill-land
Component LAIAR-014-038 1 **Type** Bridge (road/river) **Grid** 259609 197176



Summary A five-arch road bridge of 1713 over the Stradbally River. Pedestrian refuges on upstream side and also three flood arches.

Evaluation This bridge displays a number of architectural traits typical of 18th century bridges - unembellished random rubble construction, a large number of small arches, relatively thick piers, narrow carriageway, and pedestrian refuges. It is also of historical interest having an attested date of 1713 and named builder. It is of regional industrial heritage interest and merits its current inclusion in the Record of Protected Structures (LA 599).

Rating Regional **Protection** RPS LA 599 **Action** None (already in RPS)

Site no LAIAR-016-005 **Name** Annagh Bridge
County Laois {Queen's} **Townland** Annagh; Derrynaseera; Glebe (Upperwoods By)
Component LAIAR-016-005 1 **Type** Bridge (road/river) **Grid** 229071 193499



Summary A twin-arch masonry road bridge of later 18th century date over the Delour River.

Evaluation This is a substantial, yet relatively narrow bridge, and possibly of later 18th century date. It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-016-007 **Name** Derrynaseera Bridge
County Laois {Queen's} **Townland** Derryduff; Derrynaseera
Component LAIAR-016-007 1 **Type** Bridge (road/river) **Grid** 229475 192458



Summary A triple-span early 19th century masonry road bridge over the Delour River.

Evaluation This bridge is primarily of architectural interest as an example of a plain early 19th century triple-span bridge. It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no	LAIAR-016-013	Name	Derryduff Bridge
County	Laois {Queen's}	Townland	Derryduff
Component	LAIAR-016-013 1	Type Bridge (road/river)	Grid 230919 192172
Component	LAIAR-016-013 2	Type Bridge (road/river)	Grid 230919 192172
Component	LAIAR-016-013 3	Type Bridge (road/river)	Grid 230920 192172



Summary The present concrete accommodation bridge dates from 1992 and incorporates the cast-iron railings from a previous metal bridge erected by the Commissioners of Public Works in 1868-69 as part of the Nore drainage scheme. This latter bridge replaced a timber bridge of 1848, also erected by the commissioners.

Evaluation This site is of interest due to the fact that there has been a succession of three bridges over the past 160 years - all of different materials (wood, iron and now concrete). The modern utilitarian bridge is of interest because of the incorporation of the previous metal bridge's railings, both of which carry their maker's name. There is also an historical link with the Nore Drainage scheme. The bridge also adds interest to the riverscape hereabouts. Overall, it is of regional industrial heritage significance and merits inclusion in the Record of Protected

Rating Regional **Protection** **Action** **RPS**

Site no	LAIAR-016-015	Name	Castletown Bridge
County	Laois {Queen's}	Townland	Gash; Knockanina; Oldborris
Component	LAIAR-016-015 1	Type Bridge (road/river)	Grid 234124 192109



Summary A six-arch masonry bridge of 17th or 18th century date over the River Nore at Castletown. Widened on downstream side in earlier 19th century.

Evaluation This is a good example of an 18th century bridge which appears to have been widened in the earlier 19th century. Its widening reflects the growing volume of traffic on what was then the main Dublin-Limerick road. The juxtaposition of Castletown Mill (016-014) and weir, just upstream, enhance its group value and setting. It is of regional industrial heritage significance and merits its current inclusion in the Record of Protected Structures (LA 715). It is also in the Record of Monuments & Places (LA029-074----) for archaeological reasons.

Rating Regional **Protection** RMP LA029-074----; RPS LA 715 **Action** None (already in RPS)

Site no	LAIAR-016-018	Name	Nore Bridge
County	Laois {Queen's}	Townland	Kildrinagh; Shangownagh; {Peafield}
Component	LAIAR-016-018 1	Type Bridge (road/river)	Grid 229328 190595
Component	LAIAR-016-018 2	Type Bridge (road/river)	Grid 229318 190573



Summary The site of an 18th century road bridge over River Nore. Superseded a short distance upstream c.1847 by the present masonry arch road bridge which was erected by the Commissioners of Public Works.

Evaluation The present bridge is a good example of a Board of Works construction and of historical interest in reflecting the Nore drainage scheme in the late 1840s. It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** **RPS**

Site no LAIAR-017-004 **Name** Rushin Bridge

County Laois {Queen's} **Townland** Mountrath (Maryborough West By); Mountrath (Upperwoods By)

Component LAIAR-017-004 1 **Type** Bridge (road/river) **Grid** 235195 194931

Summary A triple-arch road bridge of 18th/early 19th century date over the Mountrath River.

Evaluation This is a good example of a late 18th/ early 19th century road bridge and is of regional industrial heritage merit. It merits inclusion in the Record of Protected Structures

Rating Regional **Protection** **Action** RPS



Site no LAIAR-017-033 **Name** Kilbricken Bridge; {Kilbrackan Bridge}

County Laois {Queen's} **Townland** Coole (Upperwoods By); Clonard or Cappaloughlin; Kilbrickan

Component LAIAR-017-033 1 **Type** Bridge (road/river) **Grid** 236219 189951

Summary A seven-arch road bridge of later 18th century date over the River Nore.

Evaluation This is a good example of a later 18th century bridge and makes a significant contribution to the riverscape hereabouts. It is of regional industrial heritage significance and merits its current inclusion in the Record of Protected Structures (LA 615).

Rating Regional **Protection** RPS LA 615 **Action** None (already in RPS)



Site no LAIAR-019-007 **Name** Blackford Bridge

County Laois {Queen's}; Kildare **Townland** Blackford; Co Kildare

Component LAIAR-019-007 1 **Type** Bridge (road/river) **Grid** 261381 196308

Summary An arched masonry culvert of 1818 carries the Blackford Stream under a public road at the boundary with Co Kildare. A parapet incorporates a datestone marking the boundary with Co Kildare.

Evaluation This bridge is of regional industrial heritage significance on account of its boundary plaque which bears the date 1818. The plaque is cited in the Record of Protected Structures (LA 629).

Rating Regional **Protection** RPS LA 629 (plaque only) **Action** None (already in RPS)



Site no LAIAR-019-011 **Name** Pole's Bridge; {Pools Bridge}

County Laois {Queen's} **Townland** Oldmill; Stradbally

Component LAIAR-019-011 1 **Type** Bridge (road/river) **Grid** 257091 195723

Summary A triple-arch masonry bridge erected by Pole Cosby of Stradbally Hall to carry a public road over the Timogue

Evaluation This is a good example of an 18th century rubble stone bridge, notably the semicircular arches and relatively thick piers. It has historical interest on account of its attested builder and 1734 date. It also has group value with the small footbridge just downstream (LAIAR-019-026) and the adjoining Stradbally Hall demesne. It is of regional industrial heritage significance and merits its current inclusion in the Record of Protected Structures.

Rating Regional **Protection** RPS LA 741 **Action** None (already in RPS)



Site no LAIAR-019-021 **Name** **Stradbally Bridge**

County Laois {Queen's} **Townland** Stradbally

Component LAIAR-019-021 1 **Type** Bridge (road/river) **Grid** 257227 196311



Summary A triple-arch masonry arch road bridge of early 19th century date over the Stradbally River.

Evaluation This bridge has been executed to a high standard and contains several elements which are unusual in a Co Laois context, namely the curvilinear string course over the arches, railings, and coat of arms. The shallowness of the segmental arches also indicates a good understanding of arch design. The bridge forms an attractive grouping with the adjoining malting (LAIAR-014-012 and 019-001). It is of regional industrial heritage significance and merits its current inclusion in the Record of Protected Structures (LA 747).

Rating Regional **Protection** RPSLA 747 **Action** None (already in RPS)

Site no LAIAR-023-004 **Name** **New Bridge**

County Laois {Queen's} **Townland** Cloncough; Killeany

Component LAIAR-023-004 1 **Type** Bridge (road/river) **Grid** 237412 188005



Summary A four-arch masonry road bridge of 1760 over the River Nore.

Evaluation This is a good example of a later 18th century bridge. The plaque commemorating its date of construction and builder gives it added significance. It is of regional industrial heritage significance and merits its current inclusion in the Record of Protected Structures. (LA 652).

Rating Regional **Protection** RPSLA 652 **Action** None (already in RPS)

Site no LAIAR-023-012 **Name** **Poorman's Bridge**

County Laois {Queen's} **Townland** Boley Lower; Poormansbridge

Component LAIAR-023-012 1 **Type** Bridge (road/river) **Grid** 240730 185975



Summary A seven-arch masonry road bridge of later 18th century date over the River Nore. Widened on downstream side.

Evaluation This is a good example of a later 18th century bridge and it makes a positive contribution to the riverscape hereabouts. It is of regional industrial heritage significance and merits its current inclusion in the Record of Protected Structures (LA 645).

Rating Regional **Protection** RPSLA 645 **Action** None (already in RPS)

Site no LAIAR-023-031 **Name**

County Laois {Queen's} **Townland** Tullyroe

Component LAIAR-023-031 1 **Type** Bridge (road/rail) **Grid** 243301 184422



Summary A highly skewed masonry arch road bridge over the Portlaoise-Abbeyleix railway, opened by the Kilkenny Junction Railway Co in 1867.

Evaluation This is a particularly good example of a highly skewed masonry arch bridge, with skewly-laid soffit blocks. It also has an historical association with the railway and group value with the station to its south. It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** **RPS**

Site no LAIAR-023-033 **Name** Stone Arch
County Laois {Queen's} **Townland** Knocknamoe; Tullyroe
Component LAIAR-023-033 1 **Type** Bridge (road/rail) **Grid** 243537 184089



Summary A skewed masonry arch road bridge over the Abbeyleix-Kilkenny railway, opened by the Kilkenny Junction Railway Co in 1865. Now bypassed.

Evaluation This is a good example of its type and also has an historical association with the railway and group value with the station to its south. It also has a prominent roadside setting. It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-025-023 **Name**
County Laois {Queen's} **Townland** Kellystown; Kilfeacle
Component LAIAR-025-023 1 **Type** Bridge (rail/road) **Grid** 259997 184707



Summary A skew single-span reinforced-concrete railway bridge over a road. The line ran from Athy and served the Gracefield and Modubeagh collieries at Wolfhill. It opened in 1918 and was worked by the Great Southern & Western Railway Co. The line closed in 1929.

Evaluation Along with the two other bridges on this line (one of which is in Co Laois, the other in Kildare), this is the earliest surviving reinforced-concrete bridge in Ireland. It also has an historical association with the collieries at Wolfhill. It is of regional industrial heritage significance and merits its current inclusion in the Record of Protected Structures (LA 669).

Rating Regional **Protection** RPS LA 669 **Action** None (already in RPS)

Site no LAIAR-025-028 **Name**
County Laois {Queen's} **Townland** Kilfeacle
Component LAIAR-025-028 1 **Type** Bridge (rail/road) **Grid** 259964 184672



Summary A single-span reinforced-concrete railway bridge over an accommodation road. The line ran from Athy and served the Gracefield and Modubeagh collieries at Wolfhill. It opened in 1918 and was worked by the Great Southern & Western Railway Co. The line closed in 1929.

Evaluation Along with the two other bridges on this line (one of which is in Co Laois, the other in Co Kildare), this is the earliest surviving reinforced-concrete bridge in Ireland. The combination of masonry abutments and concrete span are of note. The bridge also has an historical association with the collieries at Wolfhill. It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-026-006 **Name** Tankardstown Bridge
County Laois {Queen's}; Kildare **Townland** Tankardstown; Co Kildare
Component LAIAR-026-006 1 **Type** Bridge (road/river) **Grid** 270352 188228



Summary A five-arch masonry bridge of late 18th century date over the River Barrow.

Evaluation This is a good example of a utilitarian 18th century road bridge. It also adds interest to the riverscape. It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-026-011 **Name** Gale's Bridge
County Laois {Queen's} **Townland** Ballyfinnan
Component LAIAR-026-011 1 **Type** Bridge (road/river) **Grid** 265746 185983



Summary A skew masonry arch bridge over the River Douglas. A plaque attests to its construction in 1843 and also carries the name of the County Surveyor (Henry Owens) and builder (P. Cooney).

Evaluation This bridge is of some architectural note on account of its skewly laid soffit blocks. However, it is primarily of historical interest due to its plaque with attested date and names of its constructor. It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-028-013 **Name** Coneyburrow Bridge
County Laois {Queen's} **Townland** Coolkerry; Rathdowney
Component LAIAR-028-013 1 **Type** Bridge (road/river) **Grid** 229073 178366



Summary A five-arch masonry road bridge of 18th/early 19th century date over the Erkina River.

Evaluation This substantial bridge is a good example of its type and of regional industrial heritage significance. It merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-029-012 **Name** Watercastle Bridge
County Laois {Queen's} **Townland** Granafallow; Watercastle
Component LAIAR-029-012 1 **Type** Bridge (road/river) **Grid** 242563 180302



Summary A five-arch masonry road bridge erected over the Nore in 1808 at the instigation of Sir Robert Staples of Dunmore. Part of the west approach may incorporate at least three arches from a 16th century causeway bridge (shown on a 1563 map).

Evaluation This bridge is a good example of its type. Its plaque with date and builder details enhances its historical interest. The west approach road contains three arches, parts of which may be of 16th century date or earlier. This bridge is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures. It is already in the Record of Monuments & Places (RMP LA029-074---).

Rating Regional **Protection** RMP LA029-074--- **Action** RPS

Site no LAIAR-029-025 **Name** Durrow Old Bridge
County Laois {Queen's} **Townland** Castledurrow Demesne; Course; Durrow Townparks
Component LAIAR-029-025 1 **Type** Bridge (road/river) **Grid** 240859 177477



Summary A five-arch masonry road bridge of 1788 over the Erkina River at the north end of Durrow. It is now used as a footbridge, the main road now bypassing it.

Evaluation This bridge is of interest because of its scale and plain construction, typical of the 18th century. It has particular historical interest because of its attested date (1788). It is a striking landscape feature on the northern entry to Durrow, particularly at night when floodlit. It also makes an interesting contrast with the triple-span concrete bridge immediately downstream. It is of regional industrial heritage significance and merits its current inclusion in the Record of Protected Structures (LA 772).

Rating Regional **Protection** RPS LA 772 **Action** None (already in RPS)

Site no LAIAR-029-029 **Name** New Bridge
County Laois {Queen's} **Townland** Castlewood; Course; Rath
Component LAIAR-029-029 1 **Type** Bridge (road/river) **Grid** 241531 178610



Summary A five-arch masonry road bridge of 1791 over the River Nore. Widened with five concrete arches on downstream side in mid 1900s.

Evaluation This is a good example of a later 18th century bridge on a major road. The mid 20th century widening has been sympathetically carried out and does not diminish the bridge's character unduly. It is of regional industrial heritage significance and merits inclusion in the Record of Protected Structures.

Rating Regional **Protection** **Action** RPS

Site no LAIAR-035-002 **Name** Tallyho Bridge
County Laois {Queen's} **Townland** Durrow Townparks; Grenan; Tinwear
Component LAIAR-035-002 1 **Type** Bridge (road/river) **Grid** 242327 176227



Summary A five-arch masonry road bridge of later 18th century date over the River Nore.

Evaluation This is a good example of a later 18th century bridge on a major river. The blind recesses on its downstream elevation are its only embellishment. It is of regional industrial heritage significance and merits its current inclusion in the Record of Protected Structures (LA 526).

Rating Regional **Protection** RPS LA 526 **Action** None (already in RPS)

**APPENDIX 4.2:
BRIDGES OF NATIONAL
HERITAGE SIGNIFICANCE**

Site no LAIAR-014-010 **Name** Dunrally Bridge

County Laois {Queen's}; Kildare **Townland** Vicarstown (Dodd); Co Kildare

Component LAIAR-014-010 1 **Type** Bridge (road/river) **Grid** 263648 201802



Summary A seven-arch masonry road bridge over the River Barrow. Built by James Grattan in 1820. Formerly had a toll house at the Laois end.

Evaluation This bridge is of architectural merit on account of its quality of construction, scale and detailing. It is also of historical interest due to its attested date and association with James Grattan. It also adds interest to the riverscape hereabouts. It is of national industrial heritage significance and merits its current inclusion in the Record of Protected Structures (LA 592).

Rating National **Protection** RPS LA 592 **Action** None (already in RPS)

Site no LAIAR-014-024 **Name** Camac Aqueduct

County Laois {Queen's} **Townland** Ballymanus; Derrybrock

Component LAIAR-014-024 1 **Type** Bridge (canal/river) **Grid** 261505 199028



Summary A triple-arched masonry aqueduct of c.1790 carries the Athy Branch of the Grand Canal over the Stradbally River.

Evaluation This aqueduct is of architectural interest on account of its quality of construction and scale. It is also of historical interest due to its association with the Grand Canal. It also enhances the landscape hereabouts. It is the most prominent aqueduct on the Co Laois section of the Athy Canal. It is of national industrial heritage significance and merits its current inclusion in the Record of Protected Structures (LA 603).

Rating National **Protection** RPS LA 603 **Action** None (already in RPS)

Site no LAIAR-026-020 **Name** Maganey Bridge

County Laois {Queen's}; Kildare **Townland** Grange (Ballyadams By); Co Kildare

Component LAIAR-026-020 1 **Type** Bridge (road/river) **Grid** 271694 184724



Summary A seven-arch masonry bridge of late 18th century date over the River Barrow.

Evaluation This is a good example of an 18th century road bridge, with a modicum of embellishment in the form of circular spandrel recesses. It is also one of the longest masonry bridges in Co Laois and adds interest to the riverscape. It is of national industrial heritage significance and merits its current inclusion in the Record of Protected Structures (LA 486).

Rating National **Protection** RPS LA 486 **Action** None (already in RPS)

Site no LAIAR-029-004 **Name** Knapton Bridge; {Monk's Bridge}

County Laois {Queen's} **Townland** Abbeyleix Demesne

Component LAIAR-029-004 1 **Type** Bridge (road/river) **Grid** 241892 183223



Summary An eight-arch masonry accommodation bridge, probably of early 19th century date, over the River Nore in Abbeyleix Demesne. May incorporate masonry from an earlier bridge.

Evaluation The plain uniformity of this bridge enhances rather than detracts from its architectural merit and its eight-arch scale enhances this. Its history is by no means certain but nevertheless of interest. The bridge also has group value within the Abbeyleix Demesne and is a notable riverscape feature. Overall, it is of national industrial heritage significance and merits its current inclusion in the Record of Protected Structures (LA 090H). It is also in the Record of Monuments & Places on account of the potentially early bridge fabric (RMP LA029-073---),

Rating National **Protection** RMP LA029-073---; RPS LA 090H **Action** None (already in RMP and RPS)

