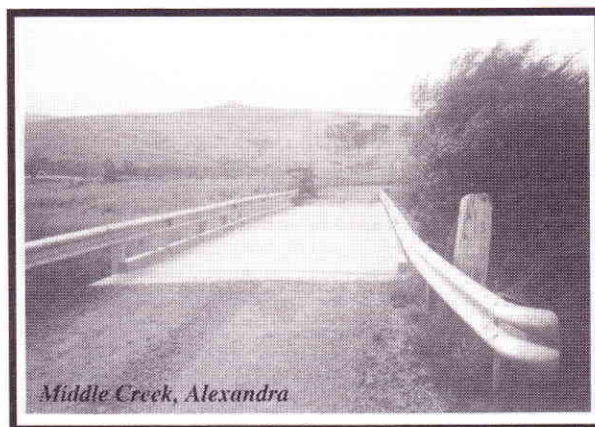


Quikdek

*Pre-cast Reinforced Concrete
Bridge Deck Slabs*

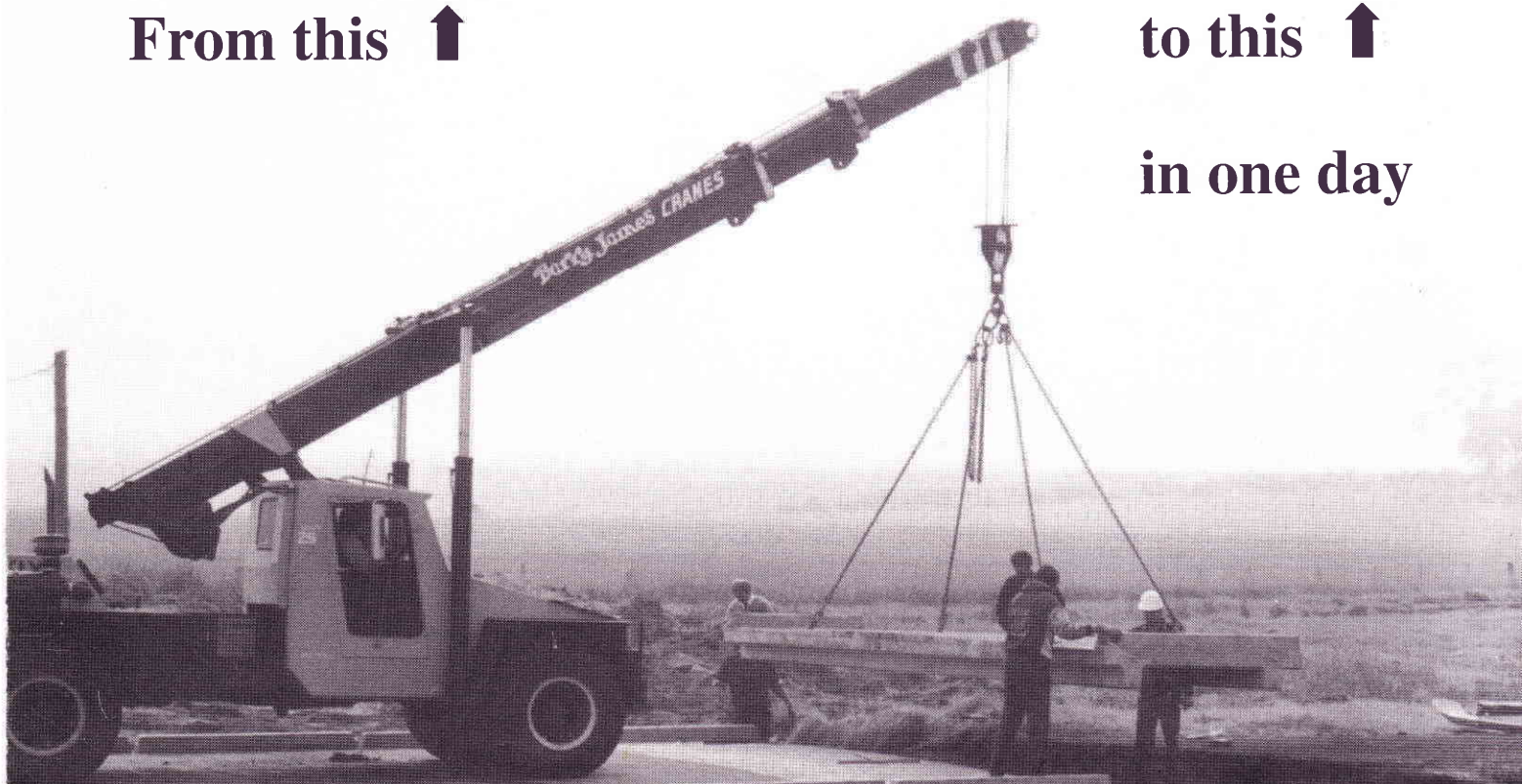
PATENT APPLIED FOR



Middle Creek, Alexandra

From this ↑

to this ↑
in one day



*Quikdek slab sets have been used
throughout Victoria & NSW, town and
country, for well over 50 bridges*

*A modular system of pre-cast slabs forming
a made to order bridge deck,
complete in every respect, ready for use.*

• Simple • Strong • Efficient • Economical • Durable • Re-usable



R. J. WALLACE Pty. Ltd. A.C.N. 005 592 576 Trading as

Waldren Bridges

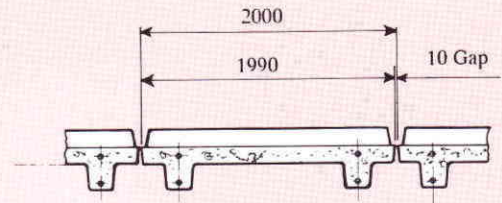
"Quikdek"

"Bridgette"

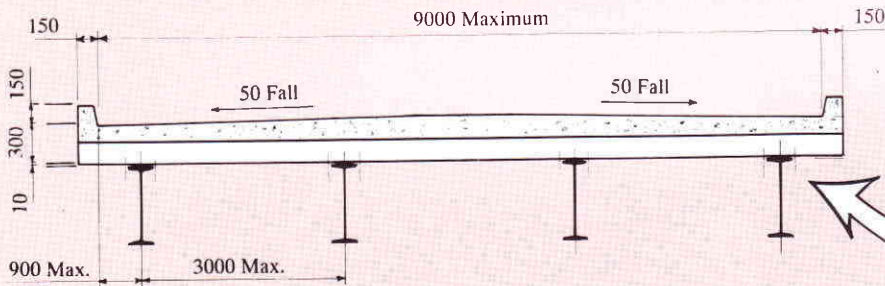
QUIKDEK DETAILS

Quikdek Slabs are made in sets, designed to suit new or existing girders, supplied ready to bolt in place.

Each set comprises a number of identical ordinary slabs plus special end slabs (where necessary to make exact overall length and/or incorporate skew angle). Excellent strength for weight is provided economically by the "Double-T" section, beneficial not only for service loads but also for transport and installation. The ends of the ribs are ideal for mounting of guardrail posts.

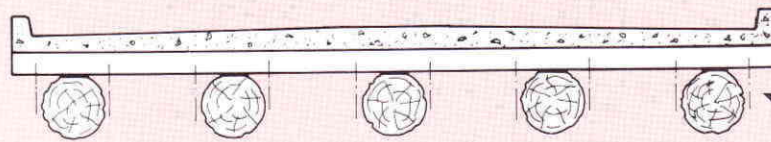


Longitudinal Section



Elastomeric (Rubber) Pads
Cast-in Galv. Ferrules

M16 Galv. Bolts, Cleats, Spring Washers

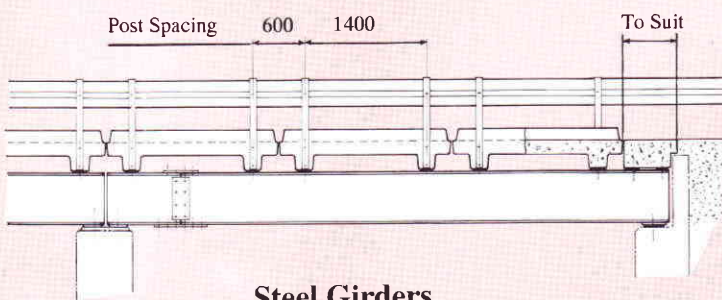
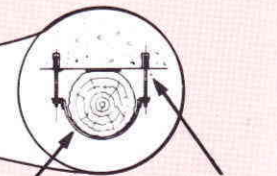


Quikdek slabs suit new or old timber girders

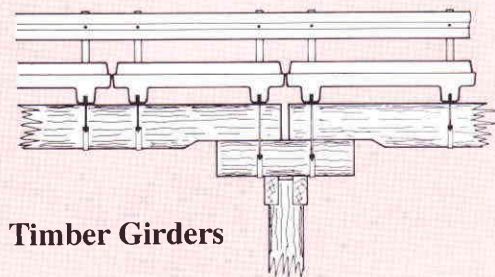
- * Excellent load distribution - even though the concrete is heavier than a timber deck, live load capacity is greatly increased because the transverse stiffness of Quikdek slabs distribute live loads evenly to ALL girders.
- * Well-ventilated underneath - girders stay dry.
- * Clamp on fixings - no weaknesses introduced, easy to replace girders at a later date.

Galvanised Band Clamps

Threaded Rod.



Steel Girders



Timber Girders

Data

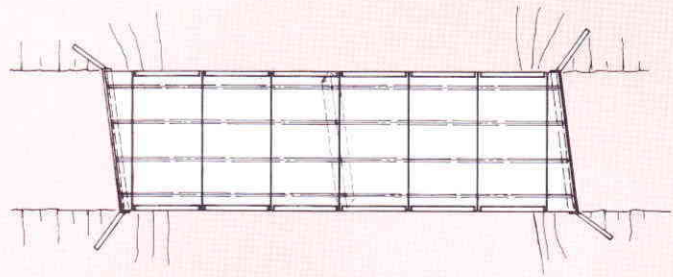
- * Modular Length = 2000mm
- * Complies with Austroads Bridge Design Code
- * T44 Load Capacity (A14 Axle + 30% impact)
- * Mass = 500kg/sq.m. approx. (A slab 6.5m overall width weighs 6.5 tonnes approx.)

Features

- * Neat, rough-texture trafficable surface (5mm wear allowance, asphalt is not necessary)
- * Smooth Ride - accurately made slabs are identical, free from steps and undulations.
- * Removable - can be unbolted for access - allows upgrading of sub-structure to be postponed to a later date.
- * Reusable - can be transferred to a new site - ideal for temporary bridges with a pair of girders on simple bedlogs.
- * Air pockets cannot form to cause unwanted buoyancy.

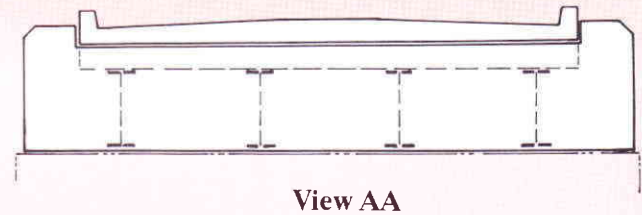
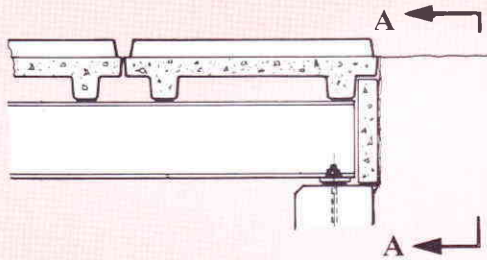
Typical Deck

Wedge-shaped End Slabs
to suit skewed or
out-of-square Abutments



FENDER WALLS

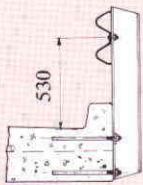
Reinforced concrete walls moulded to match slabs and girders, either resting against or bolted to ends of girders with rubber pads between.



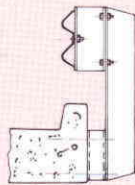
View AA

POSTS

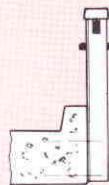
A wide range of guardrailing is available. Posts simply bolt to galvanised studs cast in the ends of the ribs.



Standard
W-Beam (Armco)



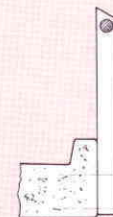
Post &
Spacers



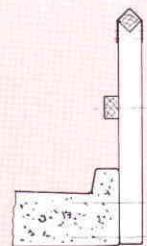
Wire
Rope



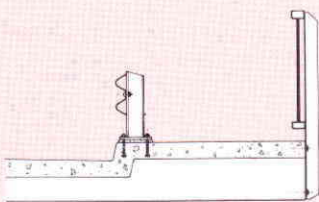
Galv.
Angle



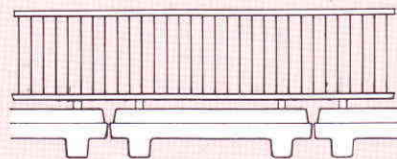
Guide
Post



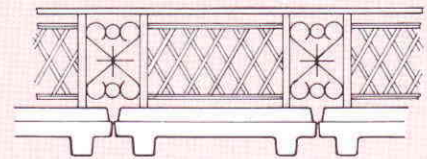
Timber
Rail



Pedestrian Railing



Plain



Decorative

TYPICAL CONSTRUCTION SEQUENCE



Old decking can be removed by hand, piece by piece, but the use of a crane to lift large sections is more efficient.



Quikdek slabs are taken direct from the truck and placed on the girders one at a time, proceeding across the bridge from one end.



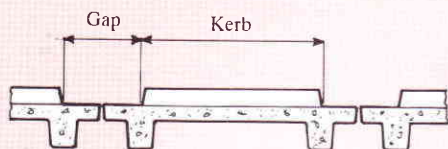
Special tools and equipment are supplied on loan with each set of slabs. The hand lever linkages on each side have a cam action making it easy to position the slabs accurately.



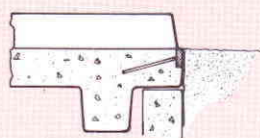
A suspended platform is used for bridge inspection on bridges, but for maintenance work reached by ladders.

OPTIONAL FEATURES

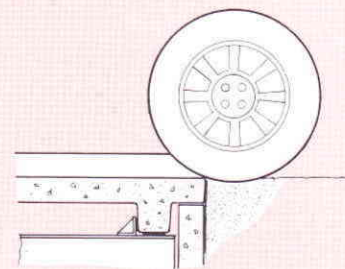
Typical examples are shown, other features can be included to cater for specific needs.



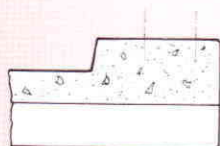
Wider Gaps for better drainage



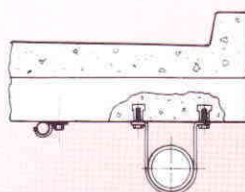
Galvanised Edge Protection Bar



Chocks to react wheel impact



Wider Kerb



Fixings for water pipes, phone, etc.



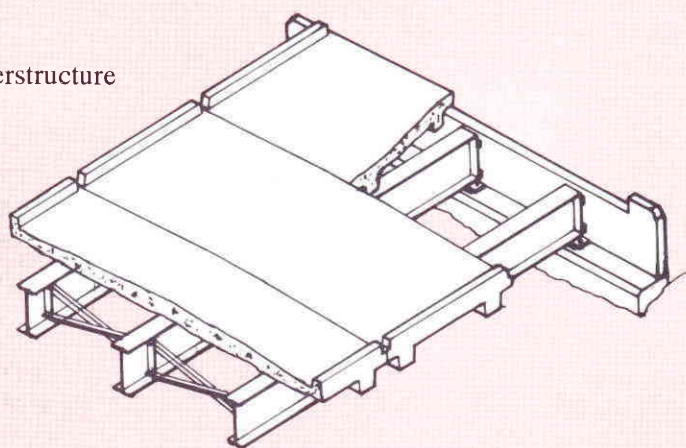
Raised Footpath

KITS

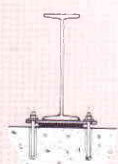
Designed to suit particular requirements, comprehensive superstructure kits can be delivered to site ready to bolt in place.

Ideal for both new bridges and rehabilitation of old bridges.

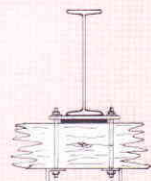
Typically, kits comprise Quikdek slabs & fender walls, steel girders & crossbracing, base plates & elastomeric bearing pads, posts & guardrail, including all bolts & fixings.



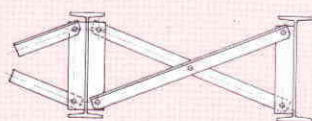
Typical Kit



Masonry Anchors



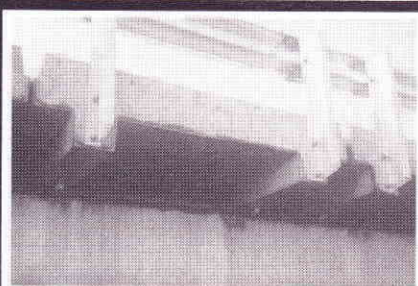
Timber Capwale Fixings



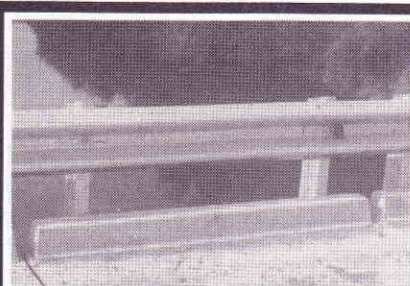
Bolted Crossbracing



Cherry picker or under-bridge support is useful for high bridges the bolts can be tightened while the bridge is still, a boat.



Galvanised bolts and cleats firmly clamp the slab to the girder preloading the elastomeric pads. The resilience of the compressed rubber ensures that the bolts will not work loose.



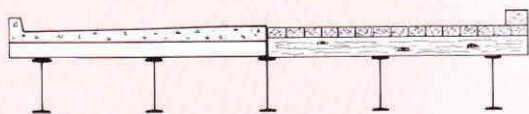
Posts and guardrail are readily attached by means of cast-in galvanised studs. Apertures formed between the kerb ends ensure good drainage.



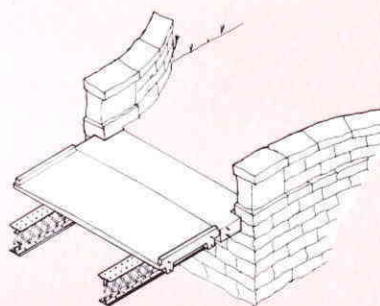
Exact deck length is provided by means of special end slabs which can be wedge-shaped (as in this example) to cater for skew angle and/or lack of squareness.

SPECIAL APPLICATIONS

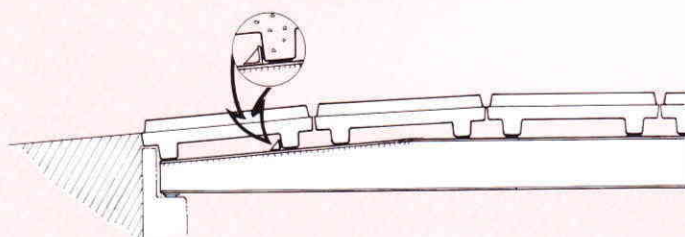
Quikdek slabs have proved to be adaptable and versatile as shown by these examples.



Two-Stage - allows bridge to remain open, while deck is replaced one slab at a time. (Note that the depth of Quikdek slabs is similar to most timber deck systems)

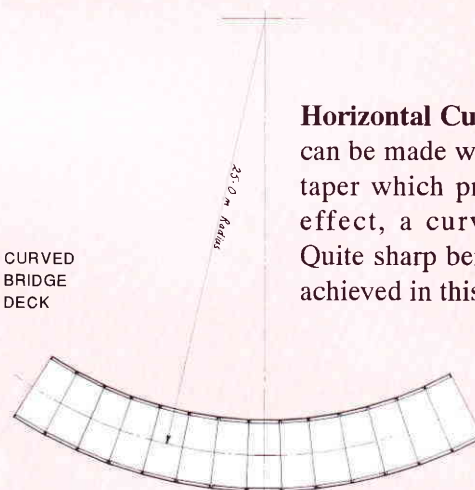


Historic Bridge - Careful detailing ensured that Quikdek slabs unobtrusively accommodated the bluestone abutments, rivetted girders, and traditional timber railing.



Tapered Girders - a simple method of providing a graded "humpback" profile so that the level of the abutments could be kept low.

CURVED
BRIDGE
DECK



Horizontal Curve - slabs can be made with a slight taper which provides, in effect, a curved deck. Quite sharp bends can be achieved in this way.

GENERAL INFORMATION

COSTS

On a cost per square metre basis, Quikdek slabs compare favourably with other types of bridge decking, and better than most when installation costs are included.

However, the maintenance-free long life of reinforced concrete comes in to its own when life-cycle costs are considered, making Quikdek slabs excellent value for money.

Less apparent but no less real, are savings in indirect costs. Because sets of Quikdek slabs are pre-engineered, supplied ready to bolt in place, time taken by clients' staff is far less in all areas - design, supervision on site, and administration in the office.

Perhaps the most significant potential for cost savings is that associated with sidetracks or detours.

The fact that most bridges can be re-decked in a day or two has enabled many municipalities to justify closing the road for a short period without having to construct and maintain a side-track. Inconvenience to road users has been minimised by performing the work during reduced hours

(late start/early finish) or at weekends, or scheduling closure to suit school buses, milk collections, grain harvest, etc.

CONVENIENCE

Completely finished in every respect, Quikdek slabs are ready to use and easy to install - no cutting, drilling, stressing, welding, concreting, grouting, or adhesives - just simple bolt fixings. Modular length of 2 metres means rapid progress is made, but the slabs are not too heavy to be transported and handled by ordinary semi-trailers and cranes.

INSTALLATION

All accessories - bolts, cleats, elastomeric pads etc., are provided with every set of Quikdek slabs together with special tools and lifting tackle on loan. These make it possible for installation to be carried out by crews having no prior experience - typically by client's own staff or a local sub-contractor. Nevertheless, if preferred, Waldren Bridges can arrange for installation construction to be undertaken by an experienced crew.

MANUFACTURE

Quikdek slabs are conservatively designed reinforced concrete, manufactured under factory conditions in steel moulds, using standardised procedures together with jigs to ensure quality and accuracy. High strength low slump concrete, moist cured, ensure maximum durability.

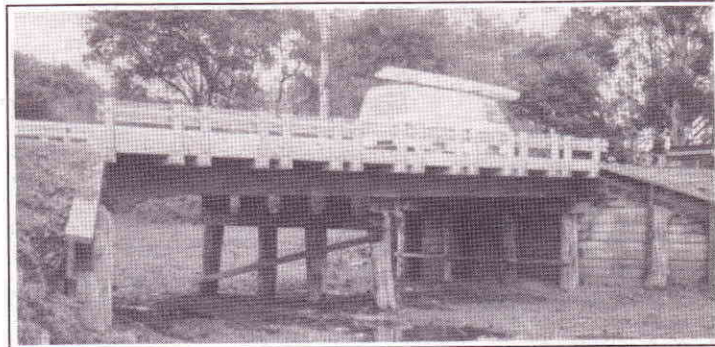
Quikdek slabs, along with other Waldren Bridges' products are manufactured at Campbellfield, Vic. Manufacture at other locations using Waldren Bridges' moulds & know-how can be arranged where appropriate.

TECHNICAL ASSISTANCE

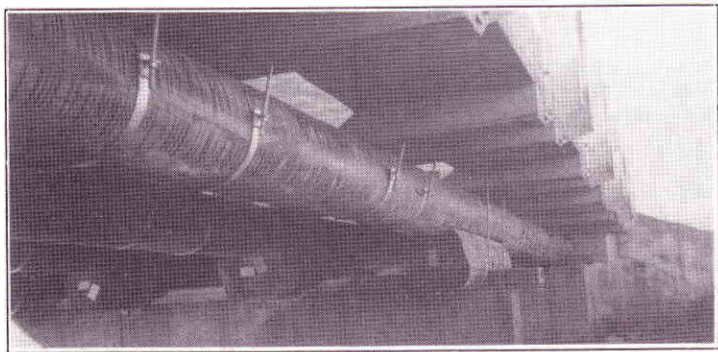
With experience gained from well over 50 bridges now decked with Quikdek slabs, Waldren Bridges is able to provide practical technical advice on installation. If required, engineering design, supervision, or project management services can be provided on a fee for service basis.



Dilapidated bridges such as this can be given a new lease of life when redecked with Quickdek slabs to distribute load across ALL girders is shown here by the crane which, with its load, weighs nearly 20 tonnes.



Very often timber bridges, such as this one near Melbourne, need deck and girder replacement but their substructures remain quite serviceable. Rehabilitation with new steel or timber girders gives them a new lease of life.



New, treated hardwood girders supporting Quickdek slabs replace the old timber deck of this bridge near Goulburn. Protected from weather above, well ventilated below, with galvanised clamps around rather than bolts through, long life of the timber is assured. Note the large overhang achievable with Quickdek slabs which enable deck width to be increased.



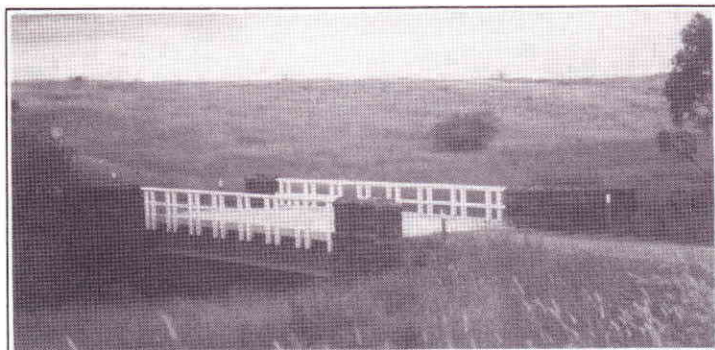
Superstructure "Kits" such as this, comprising steel girders, Quickdek slabs & matching fender walls, have saved time and cost of construction of new bridges such as this one on a forest access road near Myrtleford, and also for rehabilitation of old bridges.



This bridge near Alexandra is supported on the timber piles of its predecessor. Although badly deteriorated above the piles were like new below. Capping them with concrete to support prefabricated galvanised steel piers and renewing the deck with Quickdek slabs enabled the bridge to be completely rehabilitated in a short time at low cost.



167km west of Bourke, this bridge has six spans totalling 54 metres overall length, comprising driven steel piles, steel girders and Quickdek slabs. The entire bridge "kit" together with pile driver and other construction equipment was transported to site by road train. Construction was completed in just over 2 weeks of arrival on site.



Built in 1898 this bridge was redecked with Quickdek slabs made to fit the rivetted wrought iron girders and bluestone abutments. With traditional timber railing bolted to the outside faces of the slabs the original appearance of this historic bridge was preserved.



Quickdek slabs, steel piers & girders, and precast abutments enabled this bridge to be erected on pile cap footings in a matter of days. The abutments are in fact of reinforced earth design using "Tensar" geogrids embedded in the rear faces of the precast concrete walls.

Enquiries should be directed to:

Rob Wallace F.I.E. Aust.
Waldren Bridges

P.O. Box 112
Yackandandah, Vic., 3749

Copyright 1995 R.J. Wallace ©

Phone: (060) 27 1526
Facsimile: (060) 27 1770