



Project Fact Sheet

N11 MOTORWAY Co. WICKLOW



PRODUCT	ABM Design and Build, Matière CM4 10.8m span
Project	Road over bridge
Client	Wicklow County Council
Completion Date	Matière structure completed July 2004
Design Team	ARUP consulting engineers
Description	Design and construction of road over bridge.

FACTFILE	
Structure	Matière CM4 64m ² /64m ² sectional precast concrete arch
Span	10.8m (internal)
Height	7.1m (internal)
Length	75.0m (30 no. Units @ 2.5m wide)

REQUIREMENTS

- Road over bridge.
- Support 5-6m of earthwork for the road embankment.
- Preserve access to road for local residents.

SOLUTION

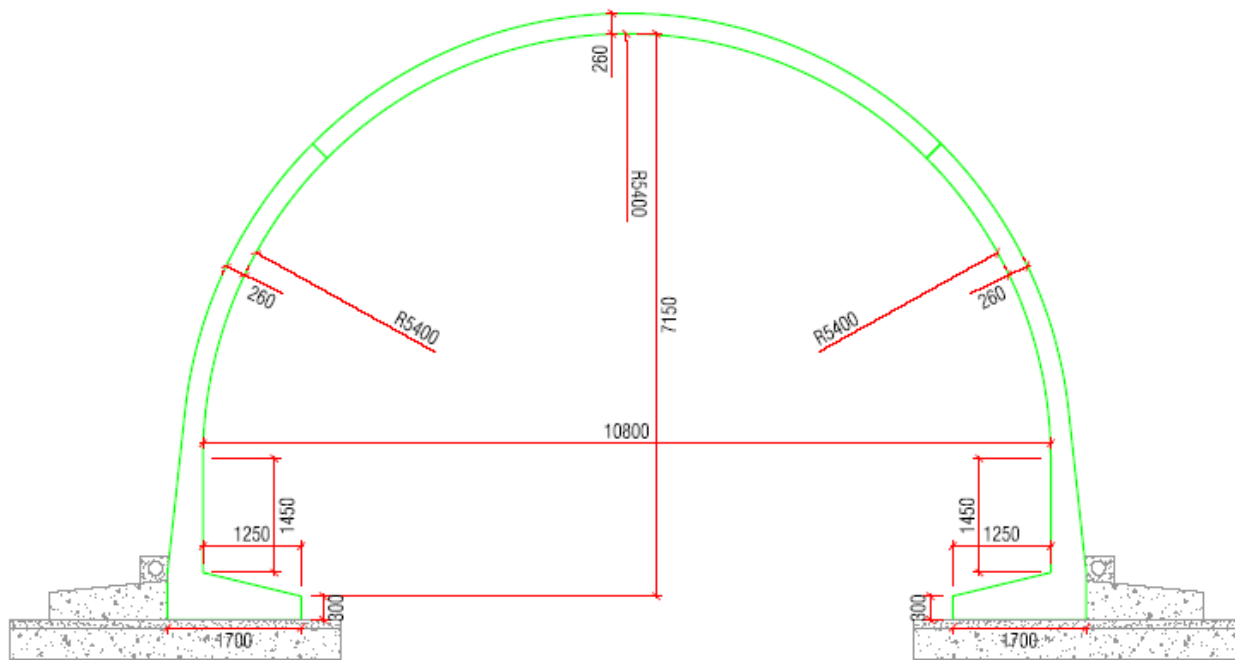
- ABM design allowed for local road to be live during construction to allow access for local residents
- Installation of arch took 3 days.
- Earth retaining walls used to achieve required road embankment gradient.
- ABM also designed and installed earth retaining walls at each end of the structure.



Matière®

The Matière system was originally developed in France for hydraulic structures in the 1980's, since then the system has been developed into a modular range of arch, box and portal frames for a wide range of transport and infrastructure applications. Indeed, some 10,000 structures already exist worldwide exploiting soil structure interaction to minimise section sizes and allow rapid, cost effective on-site installation with precast units.

ABM hold the licence for the Matière system in the UK and Ireland.





Project Fact Sheet

DETAILED SPECIFICATION

Upper Elements

Mould	Matière CM4 64m ²
Span (internal point to point)	7632mm
Height (internal soffit to joint)	1571mm
Roof thickness	260mm
Number of units	30
Volume of units	5.6m ³
Weight of units	14 tonnes
Additional information	

Lower Elements

Mould	Matière CM4 64m ²
Height (top of toe to ball/socket joint)	5550mm
Length of toe (from inside of wall)	1100mm
Wall thickness	260mm
Toe depth	325mm
Number of units	60
Volume of units	6.3m ³
Weight of units	15.92 tonnes
Additional information	
Heel construction	In-situ concrete

Additional Information

Concrete Grade	C50
Cement type	CEM1
Reinforcement cover	30mm
Couplers	N/A
Finish	As struck from steel formwork



Project Fact Sheet

N11 Motorway



Dublin Office:
Unit 2B Feltrim Business Park,
Drynam Road, Swords, Co. Dublin.
Tel: +353 (0)1 890 0919
Fax: +353 (0)1 890 0932
Email: bridgesystems@abmeurope.com

UK Office:
Ollerton Road, Tuxford,
Newark, Notts, NG22 0PQ
Tel: +44 (0) 1777 872233
Fax: +44 (0) 1777 872772
Email: bridgesystems@abmeurope.com