

# project update

December 2012



The new gantry above the M90 Masterton junction in Fife, looking south (see page 3).

## Project Directors' update

An overview of progress to date on the Forth Replacement Crossing.

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## M9 Junction 1a and Fife ITS

Latest reports from the works to improve direct road access to the new bridge for north and southbound traffic.

**Page 3**

## Technical focus

We take a look at the construction of the vital roads connecting the new bridge to the existing trunk road network.

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## A busy 2012

This year has certainly lived up to its billing as the “year of the foundations”. We have made good progress on the new bridge’s foundations with the installation of the steel caissons being carried out successfully and on schedule.

In November, work began on one of the key stages of the foundations, the Beamer Rock cofferdam, which will help form the concrete base for the Central Tower. Getting the foundations right is absolutely critical to the success of the whole project.

So far, most of the work on the bridge has been in a downward direction – down into the waters of the Forth and the seabed. Next year, we are looking forward to building upwards with the start of construction work on the bridge’s main towers and the piers supporting the approach viaducts.

As you can read elsewhere, interest in the project is increasing all the time. We are delighted about that. As we have always said, we want to involve as many local people, local groups, schools and colleges as possible. The opening of the permanent Contact & Education Centre on the south side of the river will provide a further opportunity to do so in the new year.

Elsewhere in this issue are updates on the installation of the Intelligent Transport System on the M90 in Fife – “going live” in early December – and the progress being made to upgrade Junction 1a of the M9 in West Lothian, both vital components of the overall Forth Replacement Crossing project. We also take a look at the vital road works necessary to connect the new bridge to the wider roads network.

Over 1100 people are now involved in this exciting project. On behalf of the whole team, we wish you and your families a Merry Christmas and a Happy New Year.



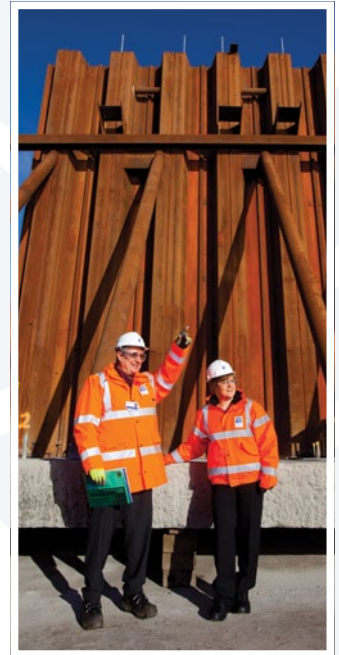
**David Climie**  
Transport Scotland  
Project Director



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FCBC  
Project Director

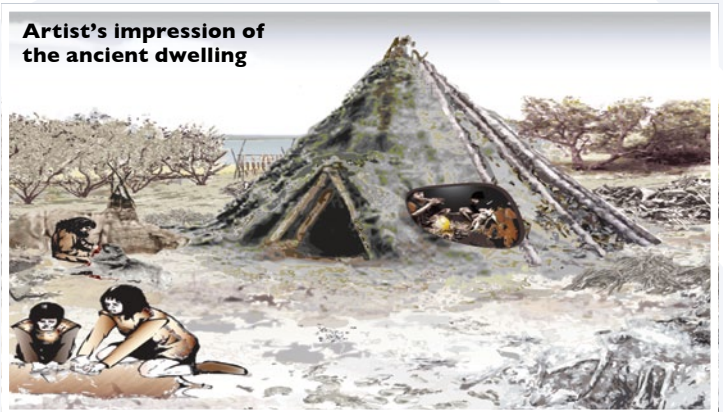
## Ministerial visit

Nicola Sturgeon MSP, Scotland’s Deputy First Minister and Cabinet Secretary for Infrastructure and Capital Investment, was on site in early November to meet a number of young people and trainees employed on the project. In all, there are now 1100 people working on the Forth Replacement Crossing, Scotland’s biggest civil engineering project for a generation. David Climie, Transport Scotland Project Director, also showed the Minister the cofferdam sections which are now being placed on the Beamer Rock as part of the construction of the new bridge’s Central Tower foundations.



## One of Scotland’s oldest homes

**Artist’s impression of the ancient dwelling**



The remains of one of Scotland’s oldest dwellings have been discovered in a field at Echline, South Queensferry, during routine archeological excavation works on site. Dating from the Mesolithic period around 10,000 years ago, the house measures 7 metres in length and would have featured wooden posts supporting a turf-clad roof. Several internal hearths have also been identified as well as 1,000 flint artefacts all of which are being preserved by Historic Scotland. The structure would have been home to some of Scotland’s earliest settlers after the last ice age.



## Name that bridge!

The search is on to find a name for Scotland’s newest iconic landmark – the Forth Replacement Crossing. On 27th November, Keith Brown MSP, Minister for Transport, launched a major public consultation exercise to identify a permanent name for the new bridge, Scotland’s biggest infrastructure project in a generation. Members of the public are being invited to play their part by submitting suggestions before the end of January 2013. An independent panel will then create a shortlist which will be open to a final public vote before the name is announced in the summer of 2013. Here’s how to get involved: either register your suggestions by going online at [www.namethebridge.co.uk](http://www.namethebridge.co.uk), or by telephoning 0845 259 1113 or by writing to Contact & Education Centre, adjacent Forth Road Bridge Administration Office, South Queensferry, West Lothian EH30 9SE.

# M90 works ready for opening

Construction works on the Fife Intelligent Transport System (ITS) contract between Junction 1 (Admiralty) and Junction 3 (Halbeath) of the M90, the A92 and A823(M) at Pitreavie are now complete.

Following completion of the road works in the summer, GRAHAM Construction installed the last of the 18 motorway gantries in November signalling the end of almost 350,000 man hours on this ground breaking project.

Completion of the Fife ITS project is significant in that it delivers one of the three major civil engineering contracts which make up the Forth Replacement Crossing Project. This means that subject to successful handover and compliance testing, the variable message signs, variable mandatory speed limits and new bus lane on the southbound M90 will 'go live' on schedule on 4th December 2012.

During the past 18 months, a huge range of civil engineering activities have been undertaken including: earthworks at 36 different locations, installation of 72 bored piles up to 32m in length, mass grouting of mineshafts and mine workings, upgrading of the southbound hard-shoulder to provide a new bus lane, motorway resurfacing, installation of an Intelligent Transport System, environmental works and associated landscaping.

The final gantry (pictured) was installed utilising a 500 tonne mobile crane during a

10 hour night-time closure of the M90. At 60m long and weighing over 100 tonnes, it is one of the largest gantries anywhere in the UK.

As this section of motorway carries over 65,000 vehicles per day, traffic management measures were strategically planned and implemented by the GRAHAM team over a number of months working closely with the various key parties in the FRC Traffic Management Working Group as well as haulage and craneage subcontractors and, most importantly, neighbouring communities. The completion of the gantry



installation works was achieved with the minimum of inconvenience to the travelling public and local residents alike. Everyone at GRAHAM is proud to have played a part in this project.

## Improving journeys

The Intelligent Transport System (ITS) will create a southbound bus lane within the hard shoulder and use variable mandatory speed limits during congested periods to deliver benefits to motorists and public transport users by smoothing traffic flow and making journey times more reliable. The new overhead gantry signs will also provide road users with relevant travel information.

This is the first "managed motorway" in Scotland. Similar systems have been successfully implemented in England, for example on sections of the M42 and M25.

Although the system does not require any special knowledge from drivers, Transport Scotland is undertaking a driver information campaign with leaflets and radio adverts. More information can be found at [www.FRCits.info](http://www.FRCits.info).

# Progress on schedule on M9 Junction 1a

Major changes can be seen across the M9 Junction 1a site. SRB Civil Engineering Ltd (SRB) has made good progress on the junction upgrade and, by the end of October 2012, all 17 overhead gantries had been erected and were in position undergoing final testing. The erection of the gantries took place during several overnight closures of the M9 and the M9 Spur. The gantries will eventually form part of the 22 km long Intelligent Transport System which will provide drivers heading to and from the new bridge with a range of vital, up-to-the-minute information on road conditions.

The new slip roads at Junction 1a are now nearing completion and when open will provide new direct connections between the Forth Road Bridge and the west via the M9 and M9 Spur. These will provide an alternative

high speed route for motorway traffic to access the existing bridge and may also help to reduce the amount of traffic on the local road network.

Carriageway resurfacing has also been a key feature of works over the last few weeks with the application of a new, durable, low noise carriageway surface along the M9 and M9 Spur. This thin surfacing, called TS2010, was recently developed by Transport Scotland and its use on the Forth Replacement Crossing works is the first major application in Scotland. It has already been used on the upgraded M90 north of the Forth Road Bridge.

Over the coming weeks, as major structural and surfacing works near completion, the focus will shift to major landscaping works. SRB will complete the M9 Junction 1a works with the planting



of around 110,000 trees and shrubs. These will be planted in various locations along the M9 and the M9 Spur to integrate the scheme into the existing local landscape character.

The works to upgrade Junction 1a project remain on schedule for completion in the Spring of next year.



**Community Forum meeting, November 2012**



**Business Studies students from Fife College**



**Pupils from Blackness Primary School learn all about the new bridge**



**Blackness Primary School pupils successfully complete their bridge building exercise**



**Local headteachers enjoy their fact-finding visit to the project**

## Local people get involved

It has been a busy time for the Community Liaison team recently. We have been out and about visiting local nurseries as well as a number of schools in Fife and Edinburgh. We have also played host to a site visit from two schools from the Borders. In September, we welcomed a distinguished group of 17 head teachers from the local area on both sides of the Forth, eager to learn more about how they could best raise their pupils' interest and involvement in this enormous civil engineering project unfolding right on their doorstep.

Similarly, a wide range of organisations such as Rotary and Probus clubs, local Councils, universities, colleges and professional bodies such as the Chartered Institution of Highways & Transportation, the Institution of Civil Engineers, the Chartered Institution of Builders have all requested – and received – presentations on the project courtesy of our site staff.

We are delighted that, since the start of construction work, we have managed to cater for all interested parties. However, if interest continues to increase at the current rate (and we're sure it will, particularly once the towers begin to rise above the waters of the Forth), we will surely have to work even harder to keep up with demand!

Recent coverage of work on the new bridge's foundations has led to some of our more seasoned citizens in the area calling into the Contact and Education Centre for more information. It was great to meet them. We particularly enjoyed hearing about their experiences building or simply observing the construction of the Forth Road Bridge when the Beatles were top of the charts! We will be following through in the new year with a special site visit for former Forth Road Bridge employees.

FCBC has launched a Schools Painting Competition. The theme is "The Forth Replacement Crossing in the Making". Many schools have already signed up. Prizes will be awarded to the best entries which will then be put on public display at various locations around the Forth Replacement Crossing site for people to see and enjoy.

## Contact the Community Liaison Team

If you would like to speak to the Community Liaison team – perhaps you have an idea for a new community initiative or would like us to come and give a presentation on the latest developments – please see the contact details on the back page.

[www.forthreplacementcrossing.info](http://www.forthreplacementcrossing.info)

# Linking the Bridge to the Roads Network

The Forth Replacement Crossing will improve and safeguard vital links in central Scotland's roads network, but only if it is directly connected to that network. **Ross Glendinning** is FCBC's Head of Network Connections, with overall responsibility for managing the design and construction of the roads, structures and utility diversions which will link existing trunk and local roads to the new Bridge. He describes the some of the challenges facing his team.

The Forth Replacement Crossing is Scotland's biggest civil engineering project in a generation, so it is understandable that the focus should be on the fantastic new bridge itself. However, it is all too easy to overlook the significant challenges in delivering the connecting roads immediately to the north and south of the bridge, without which the crossing would be a bridge to nowhere. To give some perspective, the connecting roads and associated works have a value of over £100 million, a huge project in itself!

So, what is involved in connecting the new bridge to the existing road network? In all, we are constructing 6.4 kilometres of new or improved dual carriageway as well as lengths of single carriageway to link with existing local roads. The new works will feature a total of 10 bridges, 2 major 'two level' roundabout junctions with several kilometres of new embankments, retaining walls and noise-reduction bunds, landscaping and major service diversions and protection measures.

Unlike the related works to the M90 in Fife and M9 Junction 1a (see page 3 for an update), the new connecting roads are being built largely "off-line". This significantly helps to minimise traffic disruption on the existing roads. Additionally, for the main routes we are required to maintain two open lanes of traffic in each direction at all times during the day. When the new roads are eventually connected to the existing ones, every effort will be made to minimise temporary disruption to road users.

Looking to the south side, 3.4 kilometres of new dual carriageway will be constructed running to the west and south of South Queensferry to link in with the existing



A90 and the M9 Spur. A new, two level junction (the Queensferry Junction), which will include a signalised roundabout, will be created to the west of Echline corner to give traffic access to and from the A904 and B924 Newton and South Queensferry roads. At this junction, the new motorway will be some 9 metres below existing ground level, thereby greatly reducing the potential effects of noise and visual intrusion. Up to 200,000 cubic metres of topsoil, clay and rock (mostly sandstone) will be excavated at this location and deposited for use elsewhere – principally in the creation of noise-reducing bunds to the south of the town. These bunds, together with various other earthworks, will be fully landscaped towards the end of the project (see article on page 6).

On the north side, 3 kilometres of new dual carriageway will be constructed. There are two particular challenges, both at Ferrytoll. Firstly, a new two level junction (the Ferrytoll Junction), which like Queensferry also includes a signalised roundabout, will be built approximately 100 metres north of the existing Ferrytoll roundabout. The construction of the new junction, motorway and connecting roads will be highly complex and will involve very careful planning, particularly in relation to temporary traffic management. On completion, all road users will see benefits

in the operation of this busy junction including much better access to the Ferrytoll Park & Ride.

The other major challenge, currently underway, is the construction of the massive Ferrytoll embankment which, at up to 25 metres in height, will be one of the highest road embankments in Scotland. This embankment will carry the new M90 from St Margaret's Hope through to Whinnyhill and will incorporate a new bridge to accommodate the realigned B981 (the main route into and out of North Queensferry) and the northbound public transport link from the existing Forth Road Bridge. The embankment is being built using a combination of re-cycled rock from adjacent excavations and spent oil shale imported from the Winchburgh "bing".

The efficient construction of the network connections and well-planned traffic management are critical to the success of the Forth Replacement Crossing project as a whole. FCBC's aim is to construct the new roads on time and with the minimum of disruption to local residents and the travelling public. To ensure the public are kept up to date with the key design, programme and construction phasing arrangements, we will be inviting the public to attend briefings at the end of January for the Queensferry Junction area and Autumn 2013 for the Ferrytoll Junction area.





# Environment Matters

Landscaping and ecological planting are key elements of the mitigation required to reduce any environmental impacts of major infrastructure works. On the Forth Replacement Crossing project, new planting will replace existing trees which have been cleared to allow the construction of the new bridge and the connecting roads, promote the integration of the new roads with the local landscape character and enhance local biodiversity. **Maggie Paterson** is working for the Employer's Delivery Team (EDT) as the Environment & Landscape Manager.

**Q How important is landscaping to this project?**

**A** We want the new Forth Crossing to be seen as a benchmark for environmental standards in large scale construction projects. The implementation of comprehensive and sensitive landscape and ecological mitigation planting is an integral part of the Forth Replacement Crossing specification set out by Transport Scotland. We have a bespoke contract with a nursery who prepare and supply all the plants. This improves quality control and means that plant procurement and delivery on to site is tailored to suit the overall project programme.

**Q What is the timetable for landscaping?**

**A** Landscape planting got underway in advance of the construction works and will continue until the completion of the project and the opening of the new bridge in 2016. On the M90 works in Fife, all the tree and shrub planting has already been completed. On the works to improve Junction 1a of the M9, landscape planting is now underway and is scheduled for completion in the Spring of next year. On the principal contract to build the actual bridge, new mixed woodland areas have already been created at Castlandhill near Rosyth and at Echline near South Queensferry.

**Q What is actually being planted?**

**A** The majority of the trees and shrubs we are planting are native species of local provenance and have been chosen to reflect the species to be found in the existing woodland and hedgerows adjacent to the site. In total, we will be planting around 400,000 trees, transplants and hedging plants for landscape and ecological mitigation throughout the FRC project.

**Q What species are we talking about?**

**A** A wide variety of trees and shrubs are being planted including the following species:

- |   |  |
|---|--|
| Oak ( <i>Quercus robur</i> )            | Scots pine ( <i>Pinus sylvestris</i> ) |
| Silver birch ( <i>Betula pendula</i> )  | Wild cherry ( <i>Prunus avium</i> )    |
| Alder ( <i>Alnus glutinosa</i> )        | Hazel ( <i>Corylus avellana</i> )      |
| Hawthorn ( <i>Crataegus monogyna</i> )  | Holly ( <i>Ilex aquifolium</i> )       |
| Blackthorn ( <i>Prunus spinosa</i> )    | Dog rose ( <i>Rosa canina</i> )        |
| Guelder rose ( <i>Viburnum opulus</i> ) | Goat willow ( <i>Salix caprea</i> )    |

**Q How is the current ash tree die-back disease affecting your plans?**

**A** Ash trees were originally part of the mix of trees we wanted to plant but, following the ban announced in October regarding the movement of ash trees within the UK to prevent the spread of the fungal disease *Chalara fraxinea*, we will be sourcing alternative species from the list above to make up the numbers.



## Contacting the FRC team

There are a number of ways you can contact us to ask questions, provide comments, make a complaint or find out more about the Forth Replacement Crossing project:

Call the dedicated 24 hour Project Hotline **0800 078 6910**

Email the team **enquiries@forthreplacementcrossing.info**

Log on to the project website at **www.forthreplacementcrossing.info**

Or drop into the **Contact & Education Centre** Adjacent Forth Road Bridge Administration Office, South Queensferry, West Lothian EH30 9SE

**Opening times**  
Mon-Fri: 0900-1730, Sat: 1000-1600

