

# project update

Issue 8

**Aberdeen**  
roads limited

## Message from Aberdeen Roads Limited



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General Manager,  
Aberdeen Roads Limited

Thanks again for taking time to read our latest Project Update. We hope you find the articles interesting, explaining what we have achieved so far and intend to do in the coming months to advance and complete the AWPR/B-T project.

As previously indicated, much of the works have been taking place away from the main roads; but during recent months we have opened a number of new bridges, with currently 23 of the total 75 bridges now opened to traffic; an example being the new bridge on the A93 North Deeside Road at Milltimber Brae. During this time we have also reached the landmark of installing the 1000th bridge beam out of the total of 1183 beams on the project.

New access roads and side roads are also coming into use, including a new roundabout and realignment of the B977 at Goval junction and completion of works on the A944 Roundabout. The benefits of the project are already being seen in a number of areas. For example, the opening of the new slip road on the A90 at Stonehaven, which joins the B979 Netherley Road to the Southbound A90, has dramatically reduced the number of cars and HGVs travelling through Stonehaven.

We continue to visit schools and colleges, and are close to speaking to our 10,000th student, and we hope some will be interested in a career in the construction industry. As always, we thank you for your patience throughout the duration of these works.



## GOVAL WORKS TO BRING IMPROVEMENTS

**One of the key sections of the AWPR, at Goval near Dyce, is nearing completion following works which have included the construction of several new bridges and the realignment of two important commuter roads.**

The final works at this location include the permanent realignment of the A947 Aberdeen to Banff Road and connecting new sections of the B977 Echt-Balmedie Road to the existing road.

One of the main aims for these works has been to keep disruption for road users to a minimum during construction. A phased plan was agreed to enable as much of the works as possible to be carried out during quieter times and away from the existing roads.

A critical element has been the assistance and agreement from Aberdeenshire Council for a small number of full weekend road closures, which has allowed works to progress quickly and safely.

The initial phases saw the creation of a crossroads, which will be controlled by traffic lights, on the new alignment of the A947 and the B977, while traffic continued to use the existing routes. At the same time, a new roundabout was constructed at East Goval, which will link the B977 and the southbound on-off slip roads for the AWPR.

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**TRANSPORT  
SCOTLAND**  
CÒMHDHAIL ALBA

An agency of Buidheann le

 **The Scottish Government**  
Riaghaltas na h-Alba

continued overleaf...

# Aberdeen Western Peripheral Route/Balmedie to Tipperty

continued from the front page

A new permanent alignment for the B977 which connects to the new East Goval roundabout has also been constructed and is now open to traffic following a weekend road closure. Further connections are required on the B977 to the west of the A947 and this will require a temporary closure with a minor diversion to Hatton of Fintray.

The new permanent alignment for the A947 has been constructed while traffic continued to use the existing road. The new route includes the construction of three new bridges which will take the A947 over the Buchan and Formartine Way, the Goval Burn and the AWPR.

Surfacing works on this new alignment are being completed and a full weekend road closure will be undertaken to allow the

northern and southern ends of the new road to be connected to the existing A947, following which traffic will be switched over on to the new road.

Following those works, a final weekend full road closure will take place on this new section to allow finishing works to be undertaken. On the completion of the finishing works, the permanent realignment will be reopened.

A new roundabout will also be completed on the old section of the A947 at Goval Farm, which will provide access to the northbound on-off slips for the AWPR and to local properties.

The completion of these works will provide improvements on both the A947 and B977 for road users, while at the same time allowing safe and convenient access to and from the AWPR.

## PROGRESS OVERVIEW



Foveran Overbridge



Mainline looking north towards Kingshill



Demolition of A90 northbound at Stonehaven

### North Section

Traffic on the A90 is now running on the southbound carriageway of the new Balmedie-Tipperty (B-T) route between Tipperty and Foveran. This is the first time road users have been able to access a section of the new B-T mainline. This will allow the new northbound carriageway to be surfaced and connected to the existing road.

Traffic on the A90 at Balmedie is now travelling via the recently completed section of the Balmedie junction underpass. This is allowing the construction of the second half of the new underpass structure to progress, below the future northbound carriageway. Works are also progressing on the slip roads.

Bridge deck works have been completed on both the North and South Blackdog Junction Underbridges with works on the new slip roads also progressing.

Both the Orrock Road Overbridge and Foveran Road Overbridge are now open to traffic along with the new alignment for Tarty Road at Tipperty.

A new alignment for the B977 at Goval has been opened to traffic. Works are also progressing on the new alignment of the A947 at Goval, which will connect with the existing road.

### Centre Section

Road users are now able to use the new A93 North Deeside Road Overbridge, which has allowed the temporary diversion and the earthworks 'plug' underneath to be removed.

The Contlaw Road Overbridge has also opened to traffic. This has allowed the earthworks 'plug' to be removed and the mainline works progressed through this section.

Deck section works on the River Dee Crossing are progressing along with embankments on the main line from the River Dee to the Milltimber Brae Overbridge. Works on the Milltimber Brae Overbridge are progressing and it should shortly open to road users.

The A944 roundabout at the South Kingswells Junction is almost fully operational and is now connected to all the adjoining side roads.

Surfacing works have begun on the AWPR with several areas also having had road marking works carried out.

### South Section

Traffic on the A90 at Stonehaven has been switched to run over the recently completed southbound section of the new B979 Netherley Road Overbridge. This has allowed the demolition of the northbound section of the old structure and works to begin on its replacement.

Works have continued to progress at the new A956 Charleston Junction Overbridge on the A90 with concrete pouring on the decks completed and surfacing works progressing. Culvert and drainage works have also progressed in this area of the A90 as have surfacing works on the slip roads.

The C13K Lairhillock to Portlethen Road reopened early following the completion of the new bridge over the AWPR at Rothnick. Traffic has now been permanently diverted over the new structure, allowing the earthworks 'plug' at this location to be removed and the AWPR carriageway to be progressed underneath.

Works on the C25K Muchalls to Burnhead Road Overbridge have advanced sufficiently to allow the road to open to road users. Works are progressing towards completion of the C5K Lochton to Auchlunies to Nigg Road Overbridge.

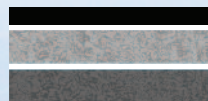
# The Story in Numbers

75  
BRIDGES



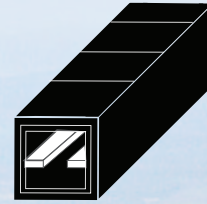
1,183  
BEAMS

190,000m<sup>3</sup>  
CRCP



230,000m<sup>3</sup>  
CBGM

80 CULVERTS



3,483m

550,000T of  
ROAD SURFACING



58km  
main  
road

40km  
new side  
roads

30km  
new  
access  
roads

18km  
new  
footways  
cycle paths

300km  
of DRAINAGE



12,000,000m<sup>3</sup>  
EARTHWORKS



5,300,000T  
of AGGREGATE PROCESSED



573,516m<sup>3</sup> of CONCRETE

# Focus on women in construction



(L-R) Sarah Herd, Yiota Karkani and Zara Rostance

According to the Office for National Statistics, women make up only 11% of the UK construction industry workforce. That total consists of 10% in office-based roles and 1% actually working out on site.

The 215 females working on the AWPR project make up 14% of the workforce

and 65% work on the site in roles such as plant operator, geologist, engineer, laboratory technician, environmental scientist, planner, security and general construction operative.

Zara Rostance, senior environmental scientist on the project, is responsible for managing and coordinating several disciplines, including archaeology, ecology, contaminated land, landscape and groundwater. She said: "I would recommend my job to those who like working with people and enjoy being challenged intellectually. You are outside in all weathers, but I get to see projects from start to finish, such as the construction of a railway or road project. Standing in the middle of a dual carriageway before cars start to use it is an impressive sight. Knowing that I played a part in its construction is hugely satisfying."

Yiota Karkani, who has two degrees, and had worked both in planning and programming of works and as an on-site design and structures engineer before joining the project team as a planner. She credits her on-site experience for developing her understanding of construction works, constraints and planning requirements, all of which have been critical to her role as a construction planner. Her advice to any young women looking to enter the construction industry is simple: "Make sure you get involved in every aspect of construction from the actual on-site construction activities to team management and planning of works. For an engineer to progress to higher positions they need to have all round knowledge."

Sarah Herd, trainee site engineer, admits there is no such thing as a 'typical' day out on the construction site. She revels in being busy, gaining experience as part of the road works, earthworks and latterly the structures teams in the south section of the project. Asked what her experience has been like as a woman in the construction industry, Sarah noted that some colleagues are occasionally surprised to see her working alongside them on site: "It's just that there are normally not that many women on site. When I see another woman I do a double-take. I think the guys are surprised by how heavily I get involved in the physical work but I want to learn and the only way you can do that is by getting stuck in."

What these women and all their project colleagues have in common is a passion to excel in their disciplines, be the best they can be and to encourage new talent into the industry.

Their guidance for any young woman considering entering the construction industry: "Don't try to hide. Be confident and get stuck in."

# Educational engagement

Education, training and continuous development forms an important and substantial element of the work carried out by the AWPR/B-T Community Liaison Team. During the period from December 2015 through to June 2017, the team have engaged with 9,637 pupils across 62 primary and secondary schools.



This engagement includes project update presentations; bridge-building workshops; project management workshops; site safety briefings; providing information on environmental, geological, structural and road works disciplines in accordance with the Curriculum for Excellence portfolio; career-ready and industry awareness sessions; pupil/student mentoring; site visits; work experience and GOALS motivational training for young people.

The last school visited by a team member in the 2016-2017 academic year was Arnage Primary School, near Ellon in Aberdeenshire. The 31 students and 4 staff from this small rural school heard from Andy Devine, the Community Liaison Officer in the North Section, covering topics on safety, conservation and the environment. Particular focus was made on the protection measures being employed for local wildlife and water courses and also the environmental mitigation techniques and conservation methods being used to limit and replace the loss of vegetation and habitat.

The pupils undertook an experiment using soil from the site, and added water to see how quickly the soil dissolved to simulate a weather event. Andy discussed how Sustainable Urban Drainage Systems (SUDS) work and the methods used to remove silt from water collected on site before it was discharged back into the local water courses. The experiment showed how silt can be bound together and the water can be cleaned. Rock samples from a processing area and an explanation of how concrete is made were also of great interest to the group.

Everyone enjoyed the aerial photographic overview of the project and the wildlife pictures were much appreciated by the younger pupils, as Andy advised of the importance of protecting species and how new badger setts and bat boxes had been sited around the area to provide homes for displaced animals.

Requests for further visits have already been received from schools but there are still opportunities for other schools should they be interested in receiving a visit from the AWPR/B-T team. Should any school wish to organise a first visit or even a revisit from the AWPR/BT team, then please contact [enquiries@aberdeenroads.com](mailto:enquiries@aberdeenroads.com)

## Roadside planting project is one of the biggest in Europe



**Integrating the AWPR/B-T project with the surrounding landscape involves extensive earthworks and planting works. In total over 1.4million plants will be used to assist integration, provide screening and create new wildlife habitats.**

In addition, 6.2 million square metres of land across the project site is being sown with grass and wildflower seed mixes. That is equivalent to sowing approximately 870 full sized football pitches and is currently one of the largest seeding projects being carried out in Europe.

The environmental impact assessment undertaken before construction works began considered the effects of the project across a range of topics, including landscape character, visual impact and ecology and biodiversity.

The number of new trees and plants being established is 50% more than the amount that were removed to make way for the works. The new planting helps to mitigate the impact of the new road on the environment by screening properties, integrating the road back into the landscape, reconnecting and providing wildlife habitats and helping absorb carbon emissions.

All the trees and plants being used are native to the area and are sourced from Scotland or other parts of the UK. There are approximately 670,000 bare root trees and plants, which can only be planted in the autumn, winter and spring. These are complemented by 700,000 cell grown plants, which are smaller and come with a small plug of earth, which helps extend the planting season to almost all year round.

The types of trees and shrubs being used include species such as pine, birch, beech, lime, hawthorn, larch, hazel, rowan, willow and prunus.

A number of different grass mixes are being used across the site to complement the terrain and offer greater diversity. A mix typically consists of 80% grass seed and 20% wildflower. The mixes include a general purpose mix for verges and a low growing mix for sowing under planted areas. There are also a number of species rich grassland mixes for different areas of the project such as rock cuttings, coastal areas and wetlands.

## Providing safe travel for wildlife



The wildlife bridge at Kirkhill

**Significant works are being undertaken to ensure wildlife can safely access areas on either side of the new road once it is open for traffic.**

These include the first special wildlife bridges to be built over a major road in Scotland. These provide safe crossing points, join up habitats and connect colonies. These green bridges were successfully pioneered in the Netherlands in 1988, where they are known as ecoducts. There are a small number on some major routes in England.

The AWPR will have two such bridges, at Kingcausie and Kirkhill, where there are large woodland areas on either side of the AWPR. They are specifically built for wildlife use with mammal proof fencing guiding animals towards the bridge entrances.

Small trees and scrub vegetation are also planted around the entrance areas to provide cover for wildlife as it approaches the bridge. The decking area is covered with topsoil in varying depths, with a winding pathway across to replicate the natural habitats of deer, badgers and red squirrels.

Wildlife measures have also been introduced on another bridge over the AWPR at Kirkhill, which will be used by vehicles to access forestry and remote properties. That bridge is 11.2m wide and one half of the carriageway is being landscaped for wildlife and equestrian use.

All the box culverts running under the new road have mammal ledges, which allow species such as otters, badgers and foxes unrestricted access without being at risk from road users.

Other works include installing a rope bridge for red squirrel colonies, while 17 dedicated mammal underpasses have also been constructed along the route. These underpasses will have similar guide fencing and planting as the wildlife overbridges.

Bat boxes have also been placed throughout the project to provide roosts while planting around these structures has been designed to help bats navigate their way through them. All these measures are designed to encourage biodiversity.

## A93 junction nears completion



**The creation of a new junction on the A93 North Deeside Road at Milltimber Brae brought a major challenge for the AWPR construction team.**

The road, which is used by the local community, commuters, businesses and tourists, not only bisects the AWPR route, but also carries the Scottish Water 1924 aqueduct, the main source

of supplying fresh water for Aberdeen from the Invercarnie water treatment works near Banchory.

In addition, another key route, the B979 Netherley Road, which is widely used by traffic travelling north or south of Aberdeen without going through the city, joins the A93 at the Milltimber Brae junction.

A temporary diversion for the A93 had to be created to allow construction of the new A93 North Deeside Road Overbridge to go over the AWPR. At the same time, the aqueduct, which has a 48-inch (122cm) diameter pipe, also had to be temporarily diverted for the works.

As part of the construction of the structure, a new section for the 1924 aqueduct was incorporated into the bridge decking. When the bridge works were completed, the new section was then reconnected to the existing aqueduct pipework.

When the new bridge was opened and traffic permanently running back over it, the temporary road and aqueduct diversions were both removed. That allowed the earthworks 'plug' across the AWPR route to be removed and the mainline road to be progressed through.

A new road was constructed from the A93 northwards to the new Milltimber Junction Overbridge, which gives direct access to and from the AWPR. This new road also gives access to Culter House Road and local properties.

Following the opening of the A93 North Deeside Road Overbridge, approximately 200,000m<sup>3</sup> of earth, enough to fill 67 Olympic-sized swimming pools, has been removed and taken further down Milltimber Brae to form the embankment for the mainline leading to the new River Dee Crossing.

Further works were carried out on the A93, west of the B979 junction, where a 110m stretch of the carriageway was reconstructed.

All these works have been planned to minimise disruption to drivers and the local community. It also involved close co-ordination and co-operation with utility stakeholders such as Scottish Water and BT.

Further surfacing works are to be undertaken on connections, to add a surface course and to replace the current temporary roundabout with permanent traffic lights.

## Works coming soon

In the North Section works will continue to progress construction of the second half of the Balmedie Junction underpass below the northbound carriageway of the A90 Trunk Road towards completion along with the adjacent slip roads. Surfacing works will also continue throughout the section.

In the Centre Section work will be undertaken on constructing the deck sections of the River Don Crossing with the Cantilever Forming Traveller being installed on each side of the bridge piers to allow the concrete to be poured.

Works to construct the deck of the River Dee Crossing will continue, linking both piers and the north and south abutments.

Works will continue to lay the Cement Bound Granular Material (CBGM) base layer and the Continuously Reinforced Concrete Pavement (CRCP) on the AWPR route along in the Milltimber area and complete surfacing works throughout the section.

In the South Section, works will progress on the new Cleanhill Junction, which links the Southern Leg from Charleston with the Fastlink from Stonehaven, and to complete the Blaikiewell Burn Underbridge, which is the third largest structure on the project.

The A956 Charleston Junction Overbridge will be completed and opened to traffic with the current bridge over the A90 at that location demolished and removed. Steel beams will be delivered and installed on the northbound carriageway of the A90 at Stonehaven to progress the B979 Netherley Road Overbridge towards completion.

## Contact Us

Should you wish to know more about the project please visit our project website at [www.transport.gov.scot/awpr-bt](http://www.transport.gov.scot/awpr-bt), where you can sign up for the Ezine, Route Ahead, as well as project-related alerts. Alternatively, call us on 0800 058 8350 or email [enquiries@aberdeenroads.com](mailto:enquiries@aberdeenroads.com).