

A9 Dualling

Luncarty to Pass of Birnam
Project newsletter

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Balfour Beatty

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Temporary mini roundabout on A9 to provide safe site access

As part of the next phase of traffic management, a temporary mini-roundabout to the south of Bankfoot South Junction opened to traffic on Tuesday 25th June 2019.

If you have any traffic management related questions, please contact our Community Liaison Team who will be happy to assist you. Contact details are on the back page of this newsletter.

The installation of the temporary roundabout will help manage the safe flow of traffic during construction of the new A9 dual carriageway and is expected to be in operation until Spring 2020.

It is anticipated the temporary mini roundabout will increase the average journey time through the works by around 15 minutes at peak times during the day. However, as we approach the height of summer, these times may be extended by traffic attending events in the area.

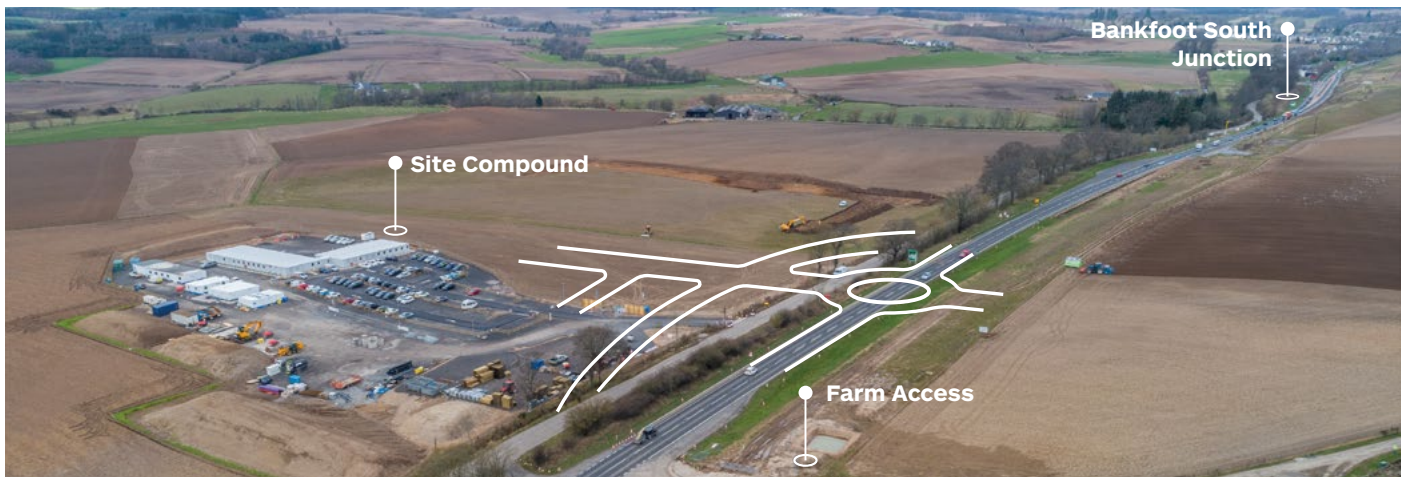
A9 road users are advised to approach the new road layout with care. The speed limit on approach to the new roundabout will be reduced to 30mph.

Gemma Montrose, Project Sponsor for the A9 Dualling: Luncarty to Pass of Birnam project, said: "We are working closely with our contractor and consultees to minimise disruption to traffic as far as possible during our works to dual the A9.

The installation of a temporary mini-roundabout was deemed the safest and most efficient way to manage the traffic during this phase of the works."

"Balfour Beatty, the contractor for the work, will monitor the flow of traffic on approach to the mini-roundabout with real-time journey information displayed on both approaches."

Significant consultation has taken place with representatives from Police Scotland, Perth and Kinross Council, BEAR and Transport Scotland and the temporary roundabout was identified as being both the least disruptive and safest option.



Aerial view showing planned temporary roundabout

Project team digs deep for Fairview School

Fairview School is the Perth and Kinross Council's Additional Support Needs school for children and young people with complex and enduring additional support needs. They cater for pupils with severe social communication difficulties including those on the autistic spectrum.

The A9 Dualling: Luncarty to Pass of Birnam project team, which included members from Balfour Beatty, Jacobs

and Transport Scotland, attended Fairview School to undertake landscaping works to improve the school's garden area, making it more accessible and attractive for students and their families.

Following an initial donation of 10 tonnes of wood chippings, recycled from Luncarty to Pass of Birnam construction site, the team set about transforming the garden, which included the following:

- Preparation of ground, weeding and laying of terram
- Laying edging
- Transporting and spreading wood chips
- Planting around 30 trees
- Weeding mono block paths
- Trimming more than 100m of hedge and bushes



Fairview School landscaping team

After hours of back-breaking work, the team completed a remarkable garden make-over within the school grounds. Impromptu environmental mitigation was required when the team discovered a bee's nest in the garden and erected an exclusion fence to protect both the school children and the nesting bees.

The staff and pupils were delighted with their new garden and thanked the project team for all their efforts.

How technology is shaping the future of design

BIM (Building Information Modelling) is an intelligent 3D model-based process that gives engineering and construction professionals the insight and tools to more efficiently plan, design, construct and manage buildings and infrastructure. Intelligent 3D models of new infrastructure, which include everything from the underground location of utility services to the type of street lighting installed – even the wattage of a bulb to be replaced – is all available at the touch of button using BIM.

This innovative method is being delivered by Balfour Beatty's design partner, Atkins, as a pilot model that will set the standard for future projects – including the remaining A9 projects scheduled for dualling between Perth and Inverness.

The use of BIM Level 2 means all design elements across the highway spectrum are fully designed in three dimensions. Historically, the road alignment was the only element designed in 3D, with all other aspects such as underground services and drainage designed in two dimensions.

The key benefit of using a 3D model is that all elements – alignment, fencing, safety barrier, pavement, earthworks,

To date, Atkins designers have spent more than 48,000 hours on the project.

kerbing, road signs, motorway communications, structures, environment, landscaping and public utilities are now visible in a common integrated virtual system where each discipline integrates with the others. This allows for early detection of potential clashes between design elements, before construction even begins. This makes the construction process more efficient and cost effective.

Another advantage of BIM is that there are no longer lots of copies of files stored across many different computers in many different offices. Instead, one central version, which is always the most up to date, is stored centrally online. This enables employees from all across the world at Atkins to access information and update drawings and documents from the same system.

The delivery of BIM Level 2 marks a significant step in digital engineering, which will see further advances in design tools and software. This will assist with a more efficient design process and knowledge sharing, and will ultimately deliver a more cost and time effective project outcome.

Traffic management update

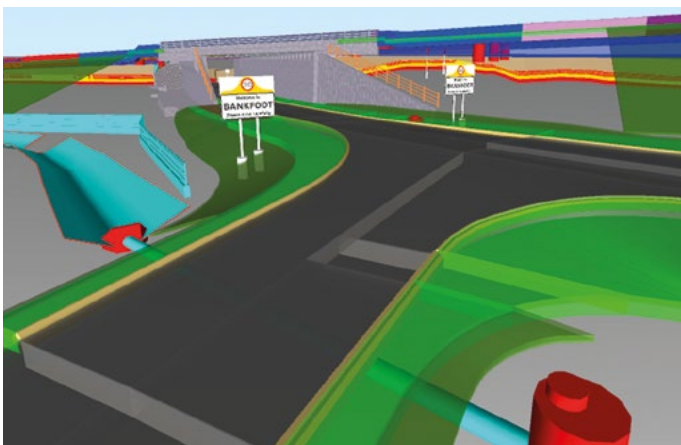
The works to install the narrow lanes, 40mph speed restrictions and barrier were successful and we would like to take the opportunity to thank you for your patience in February during the necessary associated road closures.

The average speed safety cameras which were installed during the closures are now live and Police Scotland is regularly monitoring compliance through the works, including the 40mph speed restriction, no right-turn off the A9 and no overtaking.

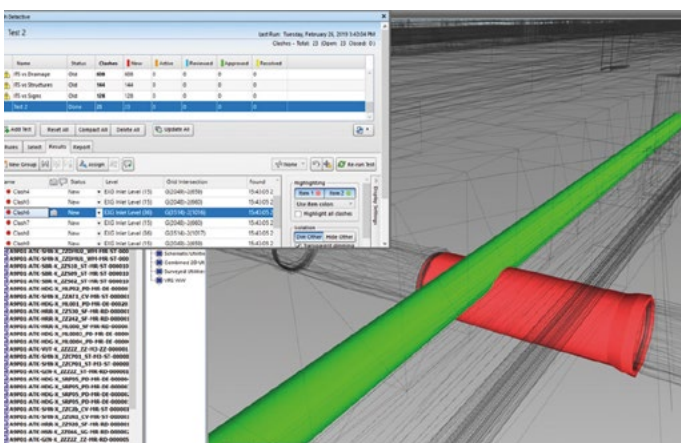
Traffic lights are now in place at Bankfoot North Junction. These are required to allow the safe construction of the underbridge extension whilst minimising the need to close the road completely. These temporary traffic lights will be in place until Autumn 2019. Further traffic management at this location will be required to lift the precast concrete beams into place at this structure and details will be communicated in the coming months.

As we move into the main construction phase, we would remind all road users to drive with care through the traffic management, adhere to the signage and speed restrictions. These measures are in place to ensure the safety of all road users and our workforce.

We would like to take the opportunity to thank our neighbours, users of the A9 and adjacent local roads for your patience to date during this establishment period.



Extract from the projects BIM model showing Hunters Lodge Underbridge heading into Bankfoot



An example of BIM software identifying a design clash



Construction underway to extend at Hunters Lodge Underbridge

Project Update

Over the last three months we have completed the establishment of our main site office to the south of Bankfoot village where the project team is based. Satellite compounds have also been installed at Pitlandie and Bankfoot North where construction works are underway at key structures. These compounds will help to support the workforce during construction and a third compound will be set up at Gelly in the coming months.

Other preparatory works have been ongoing along the A9 corridor itself, including:

- Temporary Bailey bridges at Shochie and Ordie Burns to help transport bulk earthworks materials across the watercourses
- Ecology surveys, including bat, otter and squirrel surveys
- Highway boundary fencing including acoustic barrier
- Site clearance and tree felling works
- Temporary plant crossing at Stanley and Murthly side roads
- Installation of A9 traffic management and 40mph limit to assist workforce safety
- Diverting public utilities such as BT, Scottish Water and SSE with 18 completed to date
- Drainage culvert installation throughout the project
- Continuing works on the Hunters Lodge underbridge

Our community liaison team has been busy hosting a number of events to ensure neighbouring residents and businesses are fully informed of construction plans. These sessions provided the opportunity to raise any queries as the project progresses.

Off-site, our design team at Atkins has been preparing drawings and specifications for the project and consulting with key project stakeholders to ensure all aspects are considered during design finalisation.

We are already starting to see significant changes and over the next quarter we will see works continue on structures and earthworks. Construction has commenced at the new Tullybelton/Stanley overbridge and the extension of Hunters Lodge underpass. In parallel, the roads team will commence stripping of topsoil and movement of bulk earthworks to create widened embankments and cuttings to accommodate the new dual carriageway, with 860,000 cubic metres of earth to be moved - enough to fill 344 Olympic swimming pools!



Drainage culvert installation Stanley Road

In recent weeks, the top soil in the field to the north of our main compound at Loak Farm has been stripped to accommodate a new batching plant which will supply concrete and blacktop materials for the project. This work is being undertaken by our sub-contractor Breedon, a key supplier to the project. The close proximity to the project minimises the movement of Heavy Goods Vehicles (HGV) on the A9 which in turn reduces the impact on traffic on the A9 corridor, particularly during the summer holiday season.

Using history to build the future

A 1940's war-time construction method is being effectively used on site to benefit the environment and reduce congestion.

In order to facilitate the movement of earthworks across watercourses in the southern area of the site, the project has utilised two temporary bridges across Shochie and Ordie Burn. The key benefit of constructing these 'Bailey bridges' was to eliminate the need to use road-going tipper lorries on the A9. This has improved haulage times and avoids sending additional traffic on to the A9, in turn, reducing risk and congestion on the road network.

Bailey bridges were first designed and used around 1940 during the Second World War as a robust, yet portable system to allow soldiers to quickly construct a modular, temporary bridge to cross gaps of varying sizes.

The sections used were small enough to be moved by trucks, yet strong enough when assembled to support tanks. They have since been used extensively on civil engineering projects to provide temporary access for vehicles and pedestrians.

The temporary Bailey bridges at the Shochie and Ordie were technically challenging to design and build. We have designed these to minimise impact on the watercourses, therefore a bridge solution that could be 'launched' was chosen. We designed at

a level so that any flooding would not impact the integrity of the bridge or its foundations.

The foundations were constructed from reinforced concrete and once these were cast, the permanent bearings were installed onto the concrete. In the case of the temporary Bailey bridge at Ordie, the foundation on the north side was constructed on a reinforced embankment.

The bridges were built on temporary roller bearings, initially on one bank of the burn behind the bridge foundation support. They were constructed with a 'launch nose' which enabled the rear end of the bridge to act as a counterweight when the bridge was pushed out over the watercourse.

The bridges were pushed using a 16-tonne wheeled excavator slowly over the bearings until the launch nose touched down onto the far side bearings. Once the bridges were checked for alignment the remaining push was completed until the bridges were in the final position. The bridges were then lowered to the final level using two, 23-tonne hydraulic jacks. Lastly, a safety net was installed underneath to catch any material that could fall from plant crossing the bridge to prevent watercourse contamination.

The two Bailey bridges will remain in place for around a year until the major earthworks are completed.



Bailey bridge with 'launching nose' attached at the Shochie Burn



The catch net prevents debris from landing in the burn below



Bailey bridge in its final position at the Ordie Burn

Academy9 conference

The success of the Scottish Government's innovative Academy9 programme was recently celebrated at a major two day conference in Aviemore.

"Academy9 – Building a legacy" was the first conference to bring together engineering, infrastructure and education professionals along with pupils from schools along the A9 to promote STEM (Science, Technology, Engineering and Maths) education and employment opportunities for future generations and learn from their shared experiences.

Academy9 has delivered learning to over 3,800 pupils and 120 teachers

in schools along the A9 corridor since its launch in 2015.

Duncan Gardner, Balfour Beatty's Community Liaison Officer attended the conference. He said:

"Balfour Beatty is looking forward to working with Academy 9 to give young people a real insight into a live construction project and to assist in the development of materials and content for future projects along the A9 corridor."

Around 150 people attended the conference each day taking part in workshops and hearing speakers from across industry and education sectors.

Cabinet Secretary for Transport, Infrastructure and Connectivity, Michael Matheson attended the conference and saw at first hand the work going on to enthuse Scotland's young people to become the country's next generation of engineers, designers and construction workers.

Mr Matheson said:

"The A9 Dualling programme is about much more than building a road and through Academy9 we are contributing to the development of a world-class workforce for the future.



Project provides opportunity for growth for Scottish Small and Medium-sized Enterprises (SMEs)

Scottish-based production company MB Productions LTD (MBP), is delighted to have secured the contract for time lapse photography for the Project. MBP has been working hard with its technical delivery partners to develop an environmentally friendly, high-quality, visual solution, designed to overcome geographic and terrain challenges along this section of the A9.

With no access to power or data along the route, MBP had to find a solution to power the camera units and transmit data across the 9.5km section. The decision was made to utilise solar, wind and adapted local area Wi-Fi technology. Installation of the units has taken place and the camera systems and power bases are now visible from the A9.

Working with local business is a key factor in the way we develop our supply chain. This focus ensures that the money spent by our customers helps to generate social value such as sustainable, local job opportunities. Matt Brown and Scott Thomson, Directors of MBP said: "We are

proud to be able to help tell the story of such an important infrastructure upgrade. This road will make life easier and much safer for road users and we are very excited to have the opportunity to capture the evolution of the construction works on film.

"With a robust team who have been working in film and TV for over 15 years, we continually strive to create great content. We are also pleased to say that this contract award has enabled MBP to employ an additional member to our team, which is a real positive economic impact story."



Power unit for progress cameras

Head to the project website to follow progress on site: <https://www.transport.gov.scot/projects/a9-dualling-perth-to-inverness/a9-luncarty-to-pass-of-birnam/>

In Profile

Ryan Buchanan

The project welcomed a new addition to the team for spring. Ryan Buchanan joined Balfour Beatty in March 2019, through the Scottish Government's FairStart Scotland scheme.

FairStart Scotland builds on the success of other transitional services such as Work Able Scotland and Work First Scotland. These programmes have been running over the past year and are on track to support over 4,800 people move towards and into employment. The scheme is delivered in Tayside by Remploy, whose regional account manager Neil Bell supported Ryan through his application and first 12 months in work. Neil said: "Due to the relationship between Balfour Beatty and Remploy we were able to work closely together and offer Ryan an opportunity to work on the dualling of the A9. This allowed Ryan to showcase to them his commitment and determination to make the most of the opportunity."

Tell us about yourself...

I am 23 years old and from Dundee. I am a keen football supporter and I have a season ticket for Dundee United. I also enjoy watching ice hockey.

How did you get involved with FairStart Scotland?

I saw an advert on Facebook looking for people with CSCS cards and I contacted Kenny Speed at Remploy who started the process. I had worked in a number of short-term labouring roles but struggled to get anything long-term due to the job situation in Dundee at the time. I worked a lot with the team at Remploy and completed a lot of training and development through its programme which led to me being put in touch with Balfour Beatty.

How have you found working on the projects so far?

I love it. The people are great and there's a huge amount of variety in the job and a genuine opportunity to train and develop. Since starting I have already taken part in a number of training opportunities including Making Safety Personal behavioural safety training. Archie, the General Foreman is a great mentor and very helpful if I have any questions.


Where do you see yourself in five years?


I would like to progress my career with Balfour Beatty and would hope to develop my skills and experience on site with the goal of becoming a General Foreman in time.




Ryan Buchanan, General Operative

On Ryan's achievements to date, Neil added: "We still keep in contact with Ryan. To say he is loving his time with Balfour Beatty would be an understatement! He has gone from strength to strength and his confidence has grown and grown and we are all very proud of Ryan's achievement so far and I have no doubt he is a young man destined for a very bright future."

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