Frequently Asked Questions - Building a road

**Q: How do you build a road?**

**A:** There are many ways to build a road. The way a road is built is determined by the road use and the types and volumes of vehicles.

**Q: How are the roads being built on the Tonkin Gap Project?**

**A:** On the Tonkin Gap Project, we are building roads for high volume traffic. These types of roads are known as Full Depth Asphalt (FDA) pavements, and they are built using multiple steps.

Firstly, a base layer is applied, followed by a prime and then layers of asphalt.

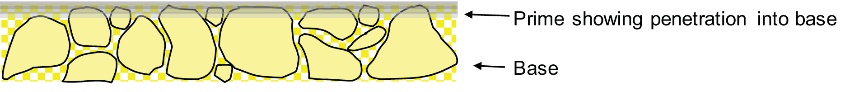
The road furniture (barriers, kerbing, drainage pits, street lighting) is then installed and finally the asphalt wearing course is applied providing a smooth, durable surface suitable for traffic.

**Q: What is the base layer?**

**A:** The base layer is the initial structural layer for the road. The project will use either crushed recycled concrete or crushed limestone which is compacted to create the road base.

**Q: Why do you apply a prime layer?**

**A:** We apply primer on top of the base layer, which is a mixture of bitumen and oil.

­This layer is the initial surfacing treatment, which creates a seal by bonding loose aggregate together and helps provide waterproof.

**Q: What is the strong smell?**

**A:** You may notice a strong diesel smell when the prime is initially sprayed, but this should only be noticeable for a few hours during the treatment of the pavement.

**Q: How many layers of asphalt are required?**

**A:** When building the FDA pavements, multiple layers of asphalt are laid to build up the pavement thickness.

On average the roads will consist of six layers, (four layers of asphalt and two layers of wearing course).

More than 185,000 tonnes of permanent asphalt will be used on the project.

**Q: What temperature is the asphalt laid?**

**A:** To ensure the road meets quality standards, the mix must be laid between 135 and 185 degrees Celsius.

If the asphalt is too cold, this can affect the characteristics and compaction of the asphalt. To maintain the correct temperature, the asphalt is transported by insulated temperature-controlled trucks.

Each layer of asphalt needs to cool to 63 degrees Celsius, before we can apply the next layer.

During the winter months asphalt works may be delayed as wet weather can impact the characteristics and quality of the asphalt.

**Q: Will I feel vibrations while asphalt is applied?**

**A:** Yes, compaction is required after each layer. During the compaction of the new roads along Tonkin Highway you may feel vibrations.

**Q: Why do we need to spray and seal?**

**A:** The spray seal creates a waterproofing layer, protecting the underlying asphalt and base layers from water.

**Q: What type of road furniture is installed?**

Road barriers, kerbing, drainage pits and street lighting are installed, allowing the surface of the road to be prepared for the wearing course.

**Q: What is the wearing course?**

**A:** This comprises the final dense-graded and open-graded layers of asphalt that have to be removed and replaced periodically (about every 10 years). The open-graded layer is the uppermost layer applied on high-speed sections of road. It is porous in nature to reduce tyre noise and allows water to penetrate reducing spray from tyres.

**Q: What is the wearing course made from?**

**A**: Some of the wearing course used on the project will incorporate a crumbed rubber binder mixer.

The binder is made by cutting up old car tyres which would otherwise become landfill. This sustainable practice makes the roads slightly quieter and provides an asphalt surface more resilient to high volume traffic and vehicle stresses.

# For more information on Tonkin Gap

If you have any concerns or questions or wish to subscribe to updates, please contact us.

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