Heidelberg Materials

Gedling Access Road, Nottinghamshire

Background

The Gedling Access Road is a significant infra-structure project designed to enhance connectivity and reduce traffic congestion in the Gedling area. This new 3.8km single carriageway road links B684 Mapperley Plains with the A612 Trent Valley Road / Nottingham Road, providing a vital new route for local and through traffic.

Project Details

- Length: 3.8 kilometres
- Type: Single carriageway
- Location: Connecting B684 Mapperley Plains to A612 Trent Valley Road / Nottingham Road
- Date: March 2022
- Value: £3.2m

Project Execution

This project combined daytime and night-time working hours to optimise progress and minimise disruption. 80% of the construction was conducted offline, reducing the impact on existing traffic. The remaining 20% was completed online, involving direct work on the current road network to link the new carriageway.

Challenges

This intricate project involved constructing two roundabouts, prioritising durability, and resistance to deformation, and seamlessly connecting the new construct to several existing local authority roads. Managing traffic flow during integration with existing roads was crucial to minimise disruption for road users, residents, and businesses. This required careful planning and consideration of several key factors:

- **Traffic Diversions and Signage:**
  Implementing clear and effective traffic diversion plans to guide drivers safely around construction zones.
- **Logistics**
  Due to the works tying into an existing road in a residential area, the timeliness of truck deliveries was imperative to ensure we didn't cause unnecessary traffic delays.
- **Coordination with the client:**
  Collaborating closely with Balfour Beatty and local traffic management authorities to synchronise construction schedules with peak traffic times, minimising disruption.

Benefits

All materials for this project were sourced internally from our own quarries and asphalt plants, ensuring close material quality control and reliable supply throughout.

The carriageway was constructed using high-quality materials to ensure durability, longevity, and safety. We used a total of 39,000 tonnes, with AC 32 base and AC 20 binder to Clause 929 in hardstone being used for the lower layers and our BBA/HAPAS approved Durafalt 10 50pen for the surface course layer. Durafalt was identified as the most suitable material for the 40mph road speed limit and areas of stress along the carriageway. It exhibits several key properties that were beneficial to this project.

- Excellent resistance to deformation, increasing life span, particularly in high stress areas like roundabouts, reducing carbon associated with resurfacing.
- Reduced noise from tyres, beneficial in residential areas.
- Excellent spray reduction, increasing road safety.
- Excellent skid resistance in areas where higher PSV stone was utilised at traffic lights/roundabout approaches.