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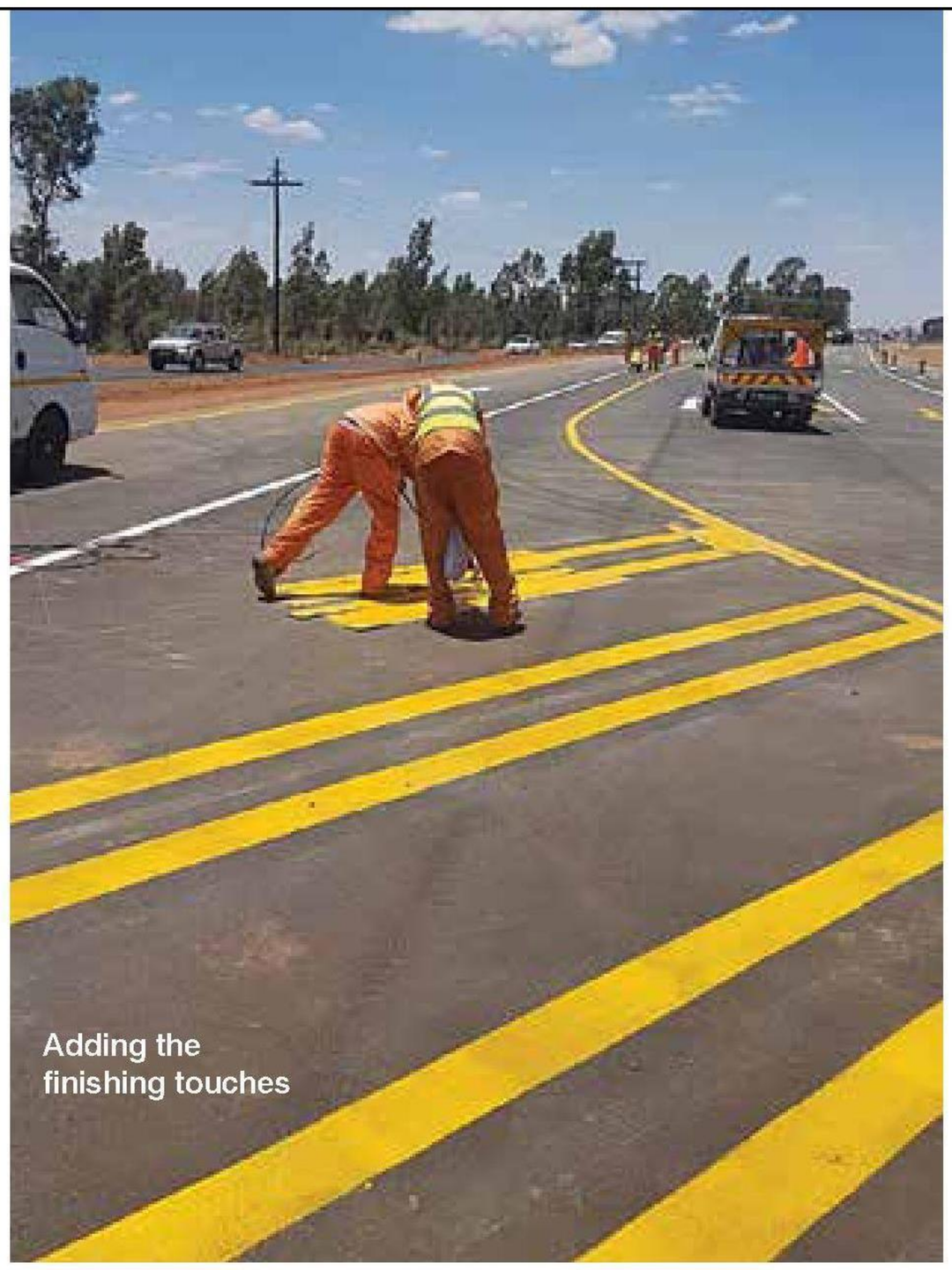
Page: 21



Adding the finishing touches

The scope of works included:

- base repair patches and surface patches
- edge break repairs
- rough surface areas to be treated with a texture slurry
- crack sealing
- edge beams at farm intersections
- R503 surfaced with a 45 mm thick continuously graded asphalt
- R505 surfaced with a 14 mm rubber single seal.

Valued at approximately R52 million, the projects were divided into three parts:

- **Part 1:** resurfacing of the R503 (21.80 km). The road is a single carriageway with 3.7 m lane widths and surfaced shoulders with varying widths between 2 m to 3 m.
- **Part 2:** resurfacing of the R505 (27 km). The road is a single carriageway with 3.2 m lane widths and shoulders with varying widths between 0.1 m and 0.3 m.
- **Part 3:** construction of an intersection to the weighbridge located on the R503 by widening the R503 to allow for turning lanes in both directions.

A key requirement during the course of the project was that traffic had to be accommodated at all times. For this reason, at the onset, the contractor requested that the base patching specifications be changed from an emulsion treated base (ETB) to a bitumen treated base (BTB), which was approved by Sanral. ETB requires a longer curing time than BTB, which can be opened to traffic within a few hours.

The availability of materials such as seal stone proved to be a major stumbling block during the initial construction period, as many reseal projects were under way in the North West at the time. Materials were therefore secured at a Stilfontein plant early in the project, in order to avoid costly delays during construction for both the contractor and motorists.

The intersection

The intersection was constructed on behalf of the North West Department of Public Works. During the design stage, the super elevation of the existing weighbridge was determined at 7%, which could have presented an over-turning risk for heavy-duty trucks. This was, therefore, adjusted to a 2% gradient, thereby facilitating the safer movement of top-heavy trucks moving slowly in and out of the weighbridge facility.

As this intersection is located on a curve, the sight distance also had to be confirmed prior to construction. The addition of acceleration and deceleration lanes significantly improves commuter safety.

Importance of planning

Ahead of the road rehabilitation programme, all affected areas were marked out in preparation for base patching by means of in situ recycling. This method of construction calls for full lane closure; to ensure this, stop-go facilities were utilised in 4 km sections to accommodate traffic.

However, to be able to complete the intersection in the shortest space of time, it needed to be constructed in one go. To achieve this, a temporary bypass was built to ensure minimal traffic disruption.

Aesthetics combined with functionality

The aesthetic appearance of a road contributes a lot to the overall safety of the user. For this project, the contractor ensured that the side vegetation was kept as far away from the road edge as possible, to increase sight distance and manoeuvrability. Road furniture, such as farm access edge beams and signage, was also maintained to ensure this remains a high-class route.

The reseal of the R503 and the R505 was timeously completed and the completion certificate was issued in December 2018, ahead of schedule. 3S