



ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR THE PROPOSED UPGRADING OF THE N2 NATIONAL ROAD FROM KRAAIBOSCH, GEORGE TO DIE VLEIE, WILDERNESS

FINAL BASIC ASSESSMENT REPORT SEPTEMBER 2017

BACKGROUND

The South African National Roads Agency Limited (SANRAL) proposes to upgrade a 15-kilometre section of the N2 National Road between Kraaibosch, George and Die Vleie, Wilderness (Please see the attached Locality Map). The objective is to improve road safety and mobility. As the N2 is a formal freeway, SANRAL's objective is to close direct access onto and off the freeway. The route passes through the Kaaimans Pass and through coastal urban and conservation areas. There is little opportunity for realignment of the route due to the physical constraints, and the intention is therefore to upgrade it along its current alignment.

This is the fourth public consultation process and is being undertaken as part of the regulated environmental Basic Assessment process. As a result of consultation with the public, Organs of State and SANRAL, the proposed road upgrade has been altered in places to reduce environmental impacts and engineering challenges.

Forming part of the environmental Basic Assessment process, freshwater, aquatic, fauna, flora, heritage, visual and noise specialist assessments have been undertaken. These studies have informed the proposed upgrade.

PROJECT PROPOSAL

The proposed upgrades along the 15-kilometre stretch of the N2 National Road between Kraaibosch, George (km 28.6) and Die Vleie, Wilderness have been divided up into five sections and these are highlighted below, together with proposed upgrades in each section. Please see attached Locality Map.

1. *Kraaibosch to Victoria Bay Road (km 26.8 to km 30.3 of N2 section 7)*

Between the interchange with the R102 and the Kraaibosch (also known as Rademachers) roundabout, the road will be resurfaced without changes to its alignment or width. The Victoria Heights access road will be closed, and access provided by a new frontage road on the south side of the N2. The frontage road will run parallel to the highway between the Kraaibosch roundabout and the Victoria Bay Road. A new roundabout will be constructed at the Victoria Bay Road intersection.

2. *Victoria Bay Road to Truck Stop Lane (km 30.3 to km 31.5)*

East of the new roundabout at Victoria Bay Road, a raised median island will be constructed, extending to approximately 200 metres east of the roundabout. At the truck stop lane on the downhill towards the Kaaimans Pass, the road will be widened to accommodate an additional eastbound lane, upgrading the road from a 3-lane to a 4-lane road while retaining a compulsory stop lane for heavy vehicles entering the pass. The westbound lanes will remain as is.

2.1 Far Hills Frontage road

A new frontage road is proposed north of the N2, east of the proposed Victoria Bay roundabout which will extend and provide access the Far Hills hotel and adjacent properties. This frontage road will abut the N2 to minimise the impact on wetlands. Existing access roads will be closed, including a private access on the south side of the road to Denneberghof.

2.2 Truck Stop Lane

Widening of the Truck stop acceleration and deceleration lanes is proposed.

2.1 Denneberghof Access Road

The existing access to the farm Denneberghof is off the N2 at km 31.4. This access will be closed and replaced with an access off the existing MR 350 to Victoria Bay. This access will consist of the upgrade of the exiting access road to the nursery and church which lies adjacent to Denneberghof.

3. **Kaaimans Pass (km 31.5 to km 36.2)**

3.1 Widening and upgrading of Kaaimansgat Parking Area

The Kaaimans Pass will remain largely unchanged. At the Kaaimansgat intersection, the road will be widened by approximately 3.4 metres in the direction of the Kaaimans River to accommodate an additional westbound lane. Lanes for vehicles turning right into the Kaaimansgat parking area will remain. The parking area will be formalized and a retaining wall constructed in order to support the road widening without encroaching upon the channel of the river. The erosional gully at a tributary of the Kaaimans River, west of the Kaaimans bridge, will be repaired with gabion baskets. An existing informal footpath along the edge of the N2, providing access to the beach, will be formalised at the base of the new retaining wall to prevent pedestrians from walking along the highway. The existing footpath will be replaced with a boardwalk. Existing culverts will be extended because of the proposed retaining walls.

3.2 Erosion Protection Interventions

A seasonal watercourse flows beneath the Kaaimans Pass between the Kaaimans River and Swart River bridges. After flowing through a culvert under the road, the stream drops steeply before joining the Kaaimans River. Between the culvert and the river, severe erosion has occurred, forming a deep gully, now threatening the stability of the slope. The proposed work includes the infilling of the gully and the installation of gabion baskets and other erosion protection structures to stabilise the channel.

3.3 Widening along Residential Cul-De-Sac

Existing accesses at Dolphin Point will remain unchanged due to space constraints and the important tourism value of Dolphin Point. The N2 in the vicinity of the residential cul-de-sac known as George Street on the north side of the highway, west of Station Road, will be widened to allow construction of a raised median, with a new protected right-turn lane for access to the cul-de-sac. Widening by approximately 3.4 metres toward the sea, with a retaining wall, is proposed. The median will extend east towards Wilderness. Station Road will become a left-only intersection with no access from or to the eastbound lanes.

4. **George Street / Wilderness Village to Zundorf Lane (km 36.2 to km 37.0)**

This portion of 4-lane divided road with a kerbed median island and no outer shoulders will remain unchanged. A new roundabout is proposed at George Street which is the main intersection providing access to and from Wilderness Village. The construction of the roundabout and extension of the median will convert Sands Road to a left-only access. Traffic travelling east from Sands Road will turn left onto the N2 and travel around the George Street roundabout. The existing Touw River Bridge will remain as-is, with minor structural repairs anticipated. A rock revetment will be installed below the level of the sand on the east sea side of the bridge to protect it from erosion by the sea and river. A new roundabout will be constructed at the intersection with Zundorf Lane and Southside Street.

5. **Zundorf Lane to Die Vleie (km 37.0 to km 43.)**

5.1 Access road at Roland Krynauw Street / Die Duin (km 37.60)

A frontage access road is proposed at Roland Krynauw Street which will be connected to the newly proposed Die Duin/Pirates Creek roundabout (km 39.5).

5.2 Roundabout at Die Duin / Pirates Creek (km 39.5)

A new roundabout is proposed at Die Duin with an access road at Pirates Creek. The roundabout was initially located at Roland Krynauw Street but was subsequently removed and relocated to Pirates Creek due to reasons outlined in the Final BAR.

5.3 Roundabout at Dumbleton Crescent / Buxton Close (km 38.74)

A new roundabout is proposed at Dumbleton Crescent and Buxton Close. No realignments or frontage roads are required at this location.

5.4 Roundabout at Hoekwil Road / Provincial Main Road 352 (km 39.6)

A new roundabout is proposed at the intersection leading to Hoekwil. The existing intersection will be realigned slightly to the east to accommodate the roundabout. The existing roundabout at Serpentine Road / The Waves will remain as is.

5.5 Grants Place Underpass (km 41.80)

The N2 in the vicinity of North Street and Grants Place is significantly higher than its surroundings. An underpass is proposed to be constructed beneath the N2, connecting North Street and 8th Avenue.

Access would be via the existing North Street and Grants Place intersections, that will be changed to left-in left-out intersections with acceleration and deceleration lanes.

5.6 Roundabout at Die Vleie (km 43.32)

A new roundabout is proposed at the intersection of Die Vleie (provincial Divisional Road 1614), with a new extension of Gousblom Crescent linking the roundabout with the Kleinkrantz residential area. The existing access to Kleinkrantz at Provincial Divisional Road 1612 is proposed to be closed - all access to Kleinkrantz will be via the roundabout and Gousblom Crescent.

6. Pedestrian and cycling infrastructure

At present, formal pedestrian crossings exist only at George Street and at km 36.46 (west of Station Road) in the form of underpasses. Because it is not desirable to have pedestrian traffic along national routes, and because it is believed that there is relatively little pedestrian traffic crossing the N2 in this section, formal protected pedestrian crossings are not proposed. At roundabouts, traffic will be travelling relatively slowly and the raised median will provide a refuge for pedestrians between streams of traffic. Pedestrian sidewalks are present between Wilderness Village and the Touw River. From the Touw River bridge to Kleinkrantz, an existing continuous pedestrian walkway will be retained and/or reconstructed along the southern side of the route.

The portion of the N2 between Kraaibosch and Die Vleie is used mainly by recreational cyclists. From the Touw River bridge to Die Vleie, the upgraded cross section of the N2 will include continuous shoulders of 2,5m wide, which will accommodate cyclists.

7. Bus infrastructure

The George Municipality is in the process of introducing scheduled bus services along the N2 from George to Wilderness. The required bus stops and embayments will be provided as part of this project.

ALTERNATIVES

The N2 is an important national road that connects various towns and communities. Almost all proposed construction activities will be on an existing road. The road is within a constrained coastal and urban environment, and it requires an upgrade due to safety risks and access. An alternative site or route for the road was not considered to be a viable option, therefore, location alternatives not applicable.

However, design proposals have been identified and changes took place with the design due to comprehensive consultation with the I&APs, Organs of State, project team and specialists.

Proposed Far Hills access road (km 30.3 to km 31.2)

Alternative 1 – Far Hills frontage near the N2

A frontage access road was proposed for access to the Far Hills hotel and adjacent properties. This road would extend slightly north from the proposed Victoria Bay roundabout and further east, running parallel to the N2, as far as km 31.25. The initial alignment (version 1) would have negatively affected the natural wetland area located directly north of the N2, eastwards from the proposed Victoria Bay roundabout.

Alternative 2 – Far Hills frontage road further north of the N2

In this case, the frontage road extends further north from the proposed roundabout and crosses over a portion of the wetland area north of the N2. This alternative extends much further north to avoid affecting the wetlands.

After further investigation, it was discovered that Alternative 2 would not be feasible from an engineering perspective and would also be problematic for the Far Hills Hotel and adjacent farm owners. This involves the shifting of the Far Hills frontage road further south to abut the N2 and avoid negatively affecting the wetland area. This is considered the preferred alternative.

LEGISLATIVE REQUIREMENTS

The proposed upgrades trigger several listed activities under the National Environmental Management Act: Environmental Impact Assessment Regulations, 2014, as amended. These listed activities require a basic environmental impact assessment process to be undertaken. These activities are further expanded upon in the draft Basic Assessment Report.

The triggered listed activities include:

- Listed Activities as described in GNR No. 327 of 2017: **Activity 15, 17, 18, 19, 19, 24, 54 and 56.**
- Listed Activities as described in GNR No. 324 of 2017: **Activity 4, 10, 12, 14, 18 and 23.**

These activities relate to the clearing of indigenous vegetation, the development of structures within the coastal zone, the impact on watercourses and wetlands, development and widening of roads, and the storage of fuel during the construction phase.

In addition, an application for a Water Use Authorisation will be submitted to the Department of Water and Sanitation for upgrades on the N2 where watercourses may potentially be affected. Other legislation applicable to the project includes the National Water Act (36 of 1998), the National Environmental Management: Integrated Coastal Management Act (24 of 2008), the National Environmental Management: Biodiversity Act (34 of 2004), the National Environmental Management: Protected Areas Act (57 of 2003), the National Forests Act (94 of 1998), the Sea-shore Act (21 of 1935), the Environment Conservation Act (73 of 1989) and the National Heritage Resources Act (25 of 1999).

PUBLIC PARTICIPATION

During the pre-application phase of this project public information sessions were held in June and November 2016. A Background Information Document was distributed to interested and affected parties via post, hand delivery and email. Layouts and designs of the proposed road upgrade and widening were made available for comment. Various stakeholders, organs of state, and interested and affected parties submitted comments on the proposals made public. The comments received were used, where applicable, to refine and change the project.

Subsequent to the previous public participation iterations in 2016, a draft BAR was thereafter compiled and made available for comment in June 2017. After the comments were received and addressed on the draft BAR, a final BAR was compiled. This information sheet is a summary of the draft of the final BAR.

A copy of the final BAR has been placed on The Environmental Partnership's website at www.enviropart.co.za and at the George Public Library. A media notice has also been placed in the George Herald.

IDENTIFIED POTENTIAL IMPACTS

The potential impacts identified to date, include the following:

Design and Construction Phase Impacts:

- Loss of artificial wetland habitat
- Wetland degradation
- Loss and disturbance of natural hillslope seep and associated wetland

- Disturbance or sedimentation of downstream habitats
- Degradation / loss of sensitive downstream watercourses
- Watercourse stabilisation and prevention of catastrophic loss
- Disturbance to sensitive aquatic systems
- Loss/degradation of longitudinal connectivity and estuarine shoreline habitat
- Disturbance to sensitive estuarine systems
- Sediment and litter into the channel and downstream areas
- Bank disturbance at Touw River
- On estuary buffer quality, risks to shoreline integrity and polluted, concentrated stormwater inflows
- Slope disturbance
- Visual impact on the physical landscape, particularly near Kaaiman's Gat
- Visual impact of construction activities and vegetation clearing
- Pollution of water drainage systems
- Traffic congestion
- Employment Opportunities
- Improved road safety and mobility

Operational Phase Impacts:

- Sedimentation of downstream aquatic systems
- Loss of buffer
- Erosion and water quality impacts associated with stormwater inflows into the Touw River estuary
- Visual impact of erosion prevention measures on existing landscape
- Visual impact of travel speeds on aesthetic experience
- Visual impact on increased scale of infrastructure
- Visual impact of lighting and visual clutter
- Noise impact from road surface
- Impact on amphibians
- Impact on reptiles
- Impact on mammals
- Impact on birds
- Loss of sensitive forest, thicket and fynbos vegetation

Overleaf is a summary of the assessment included in the final BAR.

Impact	Alternative 1				Alternative 2
	Without mitigation		With mitigation		No-go alternative
DESIGN AND CONSTRUCTION PHASE IMPACTS					
Loss of artificial wetland habitat	Low (-)		Low (-) / negligible		Low (-)
Wetland degradation	Medium to High (-)		Low (-)		Very low (-)
Loss and disturbance of natural hillslope seep and associated wetland	High (-)	Medium (-)	Medium – High (-)	Medium (-)	Low (-)
Disturbance or sedimentation of downstream habitats	Low (-)		Low (-)		Low (-)
Degradation / loss of sensitive downstream watercourses	Medium (-)		Low (-)		High (-)
Watercourse stabilisation and prevention of catastrophic loss	Medium (+)		Not applicable		High (-)
Disturbance to sensitive aquatic systems	Medium - Low (-)		Low (-)		Low (-)
Loss/degradation of longitudinal connectivity and estuarine shoreline habitat	High (-)		Medium – Low (-)		Low (-)
Disturbance to sensitive estuarine systems	Medium - Low (-)		Low (-)		Very low (-)
Sediment and litter into the channel and downstream areas	Low (-)		Very Low (-)		Very low (-)
Bank disturbance at Touw River	Low (-)		Low (-)		Very low (-)
Estuary buffer quality, risks to shoreline integrity and polluted, concentrated stormwater inflows	High (-)		Medium (-)		Low (-)
Slope disturbance	Medium (-)		Low (-)		Very low (-)
Encroachment of Anchorage Lane frontage road onto estuary shoreline and loss of estuary buffer	High (-)		Avoidance required		Low (-)
Passage of stormwater directly into important wetlands	Medium (-)		Low (-)		Very low (-)
Visual impact on the physical landscape, particularly near kaaiman's gat	Medium – High (-)		Medium (-)		Very low (-)
Visual impact of construction activities and vegetation clearing	Medium – High (-)		Medium (-)		Very low (-)
Pollution of water drainage systems	Medium (-)		Low (-)		Low (-)
Traffic congestion	Medium (-)		Medium – Low (-)		8. Not applicable
Employment Opportunities	Medium - High (+)		Not applicable		Medium (-)
Improved road safety and mobility	Medium - High (+)		Not Applicable		Medium – Low (-)

Impact			
	Alternative 1		Alternative 2
	Without mitigation	With mitigation	No-go alternative
OPERATIONAL PHASE IMPACTS			
Sedimentation of downstream aquatic systems	Medium – Low (-)	Low (-)	Eventually High (-)
Loss of buffer zone	Medium (-)	Low (-)	Very low (-)
Erosion and water quality impacts associated with stormwater inflows into the Touw River estuary	Medium (-)	Low (-)	Medium – High (-)
Visual impact of erosion prevention measures on existing landscape	Low (-)	Not applicable	Low (-)
Visual impact of travel speeds on aesthetic experience	Low (-)	Low (-)	Very low (-)
Visual impact on increased scale of infrastructure	Low (-)	Low (-)	Very low (-)
Visual impact of lighting and visual clutter	Medium (-)	Medium – Low (-)	Very low (-)
Noise impact from road surface	Medium – High (-)	Low (-)	Medium – High (-)
Impact on amphibians	Medium (-)	Low (-)	Very low (-)
Impact on reptiles	Medium (-)	Low (-)	Very low (-)
Impact on mammals	Medium (-)	Low (-)	Very low (-)
Impact on birds	Low (-)	Low (-)	Very low (-)
Loss of sensitive forest, thicket and fynbos vegetation	Medium (-)	Low (-)	Low (-)

The impacts listed above have been evaluated and assessed in the final Basic Assessment Report. Based on the assessment of the impacts upgrading and widening of the road is recommended provided that the recommended mitigation measures are incorporated.

WAY FORWARD

The final Basic Assessment Report is available for a 30 day commenting period commencing on 22 September 2017. During this period, Interested and Affected Parties are invited to provide comments on the report and submit these directly to The Environmental Partnership. Comments on this report may be submitted on or before **23 October 2017** to the contact details below.

You are invited to attend a public information session on the project proposal on 28 September 2017. You may arrive at any time that suits you between **3:30 pm to 7:00 pm** at the **Wilderness Hotel**, 6 George Road, Wilderness. Members of the project team will be available to answer questions.

The Environmental Partnership
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LOCALITY MAP



<p>PROPOSED UPGRADING OF N2 BETWEEN KRAAIBOSCH, GEORGE (KM 28.6) AND DIE VLEIE, KNYSNA (KM 43.6), EDEN DISTRICT, WESTERN CAPE (N2/7)</p>	<p>LOCALITY MAP</p>	<p>SCALE AT A3 1: 30 000 WGS 84</p>	<p>CLIENT THE SOUTH AFRICAN NATIONAL ROADS AGENCY</p>	<p>PRINCIPAL CONSULTANT SMEC <i>Social People. Social Experience.</i></p>	<p>PRINT DATE / STATUS SEPTEMBER 2017</p>	<p>REFERENCE DRAWINGS 1. 2015 Aerial Imagery 2. Western Cape Roads 3. C1582 SMEC Engineering Drawings</p>	<p>THE ENVIRONMENTAL PARTNERSHIP ENVIRONMENTAL CONSULTANTS</p>
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Legend

- N2 National Road
- Proposed N2 Upgrades**
- N2 Layout