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Ecological and Environmental Services

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Upgrading of District Road D168

Basic Assessment

EDTEA Ref: DC21/0031/2016

Background Information Document

INTRODUCTION

Brousse-James & Associates have been contracted by Emzansi Engineers (Pty) Ltd to undertake the Basic Assessment process for the upgrading of the D168 from km 15.9 to 23.4 on behalf of the KwaZulu-Natal Department of Transport.

PROJECT DESCRIPTION

District Road D168 is one of the roads in the process of being upgraded under the KwaZulu-Natal African Renaissance Roads Programme. The African Renaissance Roads Programme, which was officially launched in June 2001, concerns itself with the upgrading and blacktopping of major transport routes throughout the province of KwaZulu-Natal. The purpose of this programme is to improve the transport infrastructure and stimulate the economies of impoverished regions in the Province.

The upgrade of the first 10 km section (Phase 1) of District Road D168 commenced in 2006. Environmental Authorisation (EIA/6683) was given for the blacktopping of 13.4 km of that road, starting from the intersection of this road with the Highflats to St Faiths Road (P68-1) and heading in an easterly direction. Emzansi Engineering Consultants were appointed by the Department of Transport as the consulting engineers for this section of road.

Up until 2016, 11.4 km of Phase 1 was complete and the last 2 km is in the process of being completed. Now there are plans to blacktop the next 10 km, with the contract for the first 2.5 km being put out to tender in late 2016 and the remainder to be completed in sections. Given that the first 2.5 km was due to start as soon as possible, the route and the nature of the upgrade for the first 2.5 km was examined and it was shown that there are no activities that would trigger an environmental impact assessment process for that section, because it would simply be blacktopped, with no significant horizontal or vertical realignment and it is not within 32 m of a watercourse. Upgrading of the next 7.5 km, however, will include horizontal and vertical realignment, as well as work within 32 m of a watercourse and the activities required to undertake the upgrade therefore requires a Basic Assessment Report. This BAR therefore concerns itself with the latter 7.5 km, that is, with km 15.9 to km 23.4 and excludes km 13.4 to km 15.9.

The current width of District Road D168 is approximately 7 m. The upgrade will keep the width of the carriageway at 7 m, with two 3.5 m lanes. If the terrain allows and if the section of road up a hill is long enough, the road will be slightly wider to allow for passing lanes up hills. In places, particularly near the schools, 1 m wide concrete walkways will be constructed on each side of the road in an effort to keep people off the road and so reduce the risk of pedestrian fatalities. To assist with safety, some form of traffic calming will be necessary where there are high concentrations of pedestrians, such as near schools and clinics.

NEED AND DESIRABILITY

Upgrading of the District Road D168 will have a number of benefits for the residents of the area, primarily improved road quality and thus safer driving. For those living close to the road, the reduction in the dust levels will be significant.

In addition to benefits to residents, in spite of there being some negative environmental impacts in the short term, there are environmental benefits in the long term. Gravel roads require constant resurfacing and grading and this requires access to borrow pits at all times. Blacktopping of the road will reduce this requirement to keep the borrow pits open. The road upgrade will also result in improvement to current drainage from the road and repair/rehabilitation of erosion nick points arising from drainage from the current road.

In addition to the direct benefits that accrue from improved transport infrastructure, the bulk of the actual contracts for the construction of the roads are to be given to emerging contractors from previously disadvantaged communities. These contractors will work under the guidance of established contractors.

LEGAL REQUIREMENTS AND CONTRAVENTIONS

The blacktopping of the road will include some horizontal and vertical realignment, which means that some cutting and filling will take place to “soften” dramatic changes in direction and height of the road.

A Basic Assessment process must be undertaken in accordance with the 2014 EIA regulations promulgated through the provisions of the National Environmental Management Act 107 of 1998 (Act 107 of 1998). The relevant listed activities in this instance are the following. [EAP comments in square brackets]:

Listing Notice 1 – Notice R.983 of 2014 (Basic Assessment Required).

Activity 12: The development of-

- (iii) *bridges exceeding 100 square metres in size;*
- (xii) *infrastructure or structures with a physical footprint of 100 square metres or more:*

Where such development occurs-

- (a) *within a watercourse;*
- (b) *in front of a development setback; or*
- (c) *if no development setback exists, within 32 metres of a watercourse, measured from the edge of the watercourse.*

[This covers any work that will take place in and around wetlands – cutting, filling, culverts and the bridge.]

Activity 19:

The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from-

- (i) a watercourse;*
- (ii) the seashore; or*
- (iii) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater-*

but excluding where such infilling, depositing, dredging, excavation, removal or moving-

- (a) will occur behind a development setback;*
- (b) is for maintenance purposes undertaken in accordance with a maintenance management plan; or*
- (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies.*

[This is related to cutting and filling in and around wetlands and drainage lines during the road re-alignment.]

Activity 24:

The development of-

- (i) a road for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010; or*
- (ii) a road with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres;*

but excluding-

- (a) roads which are identified and included in activity 27 in Listing Notice 2 of 2014; or*
- (b) roads where the entire road falls within an urban area.*

[This will cover any new sections of road where it will be horizontally re-aligned.]

In addition to obtaining environmental authorisation from the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs, a Water Use Licence must be approved in terms of Section 21 of the National Water Act (Act No. 36 of 1998), as amended by the Department of Water and Sanitation.

POSSIBLE IMPACTS

Impacts that could result from the road upgrade include the following.

Direct Impacts

- Owing to the poor aquifer potential of lithologies along the route, the impact of general road construction activities will be low. However, localised threats in the form of construction vehicle maintenance, fuel storage and inadequate toilet facilities may exist. Accidental spillages on the steep slopes could contaminate large areas of porous soil and could enter adjacent stream channels. The potential for contamination from these non-point sources is higher for surface water than groundwater resources.

- The road is already hardened with gravel, so there will be little or no change in volume of runoff from the road. However, blacktopping may reduce the volume of sediment coming off the road. Improvement of the existing lateral drains and sub-road piped culverts to reduce the energy, volume and velocity of water ultimately entering drainage lines and wetland systems may be a positive spin-off from the upgrade.
- Impacts on vegetation communities will be minimal, given that the upgrade is on an existing road and that there will be minor horizontal and vertical re-alignment to soften sharp corners and extreme bumps or dips in the road.
- Accelerated soil erosion if drainage and runoff is not managed efficiently.
- Noise from construction vehicles.
- Increased dust during construction. Though in the long-term, dust will decrease.
- Impact related to the acquisition and transport of soft-borrow materials from borrow pits.
- Disruption to normal traffic flow.

Indirect impacts

- Accidental ignition of fires through accidents in handling of bitumen, careless disposal of cigarette “stompies”, from cooking fires or from burning of lime or cement bags. Although fire is an important component of grassland dynamics, unplanned and unseasonal fires can be detrimental to veld condition and can pose a danger to humans and their livestock.
- Littering could increase due to presence of increased numbers of people on-site.
- Defecation by construction staff in the veld, with risk of disease transmission.
- Possibility that construction staff set snares and/or collected *muthi* plants.

Because there are nodes of human settlement along parts of the route, the risk of these impacts is already ever-present and the presence of construction staff is unlikely to increase the risk significantly.

Mitigation measures

Measures to prevent or mitigate against these impacts include:

- Control over where and how vehicles are re-fueled and maintained to ensure that accidental spillage of fuel, oil and any other chemicals does not occur during construction.
- Improvement in control of water emanating from the hardened road system will include the use of Sustainable Drainage Systems (SUDS).
- No open fires should be allowed on site, unless due care has been exercised to prevent veld fires.
- Facilities should be provided to prevent littering along the route. Although there is some litter along the route, construction staff should be discouraged from littering. The upgrade should be used as an opportunity to educate residents about the benefits of a litter-free environment. Because of the large numbers of pedestrians walking on or adjacent to the road each day, a number of strategically placed permanent litter bins should be provided and serviced regularly.
- An adequate number of chemical toilets for the number of staff on site should be provided within a reasonable distance of each of the major construction activities. These toilets should be properly serviced by a reputable service provider, who must be held responsible for the proper disposal of the contents thereof.

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