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Southern African Bitumen Association (SABITA)

Environmental Legislation Guideline Document for Asphalt Manufacture and Road Construction

Executive Summary

The development of a guideline document on South African national environmental legislation relevant to roads/asphalt construction has been requested by SABITA in order to assist in mitigating the risks of regulatory compliance issues. Given the fact that legislation is amended over time, this document is deemed to require updates from time to time.

The relevant environmental legislation assessed in this report is highlighted below.

Legislation
Conservation of Agricultural Resources Act (No. 43 of 1983)
Constitution of the Republic of South Africa Act (No. 108 of 1996)
Explosives Act (Act No. 15 of 2003)
Environment Conservation Act (No. 73 of 1989) and noise control regulations
Mineral and Petroleum Resources Development Act (No. 28 of 2002)
National Environmental Management Act – NEMA (No. 107 of 1998) and provisions: <ul style="list-style-type: none"> • EIA Procedures - GN R 543 • Listed activities that require Basic Assessment - GN R 544 • Listed activities that require Scoping and EIA - GN R 545 • Listed activities and sensitive areas per province which require Basic Assessment - GN R 546
NEM: Air Quality Act (No. 39 of 2004) and emission limits regulations under GG 33064 of 31 March 2010 – GN 248
NEM: Biodiversity Act (No. 10 of 2004)
NEM: Integrated Coastal Management Act (Act 24 of 2008)
NEM: Protected Areas Act (No. 57 of 2003)
NEM: Waste Act (Act 59 of 2008)
National Forests Act (Act No. 84 of 1998)
National Heritage Resources Act (No. 29 of 1999)
National Land Transport Transition Act (Act 22 of 2000)
National Road Traffic Act (No.93 of 1996) and the National Road Traffic Regulations, 1999
National Water Act (No. 36 of 1998)
Occupational Health and Safety Act (Act No. 85 of 1993) and GNR: 1179 (25 August 1995)
The South African National Roads Agency Limited And National Roads Act (Act No. 7 of 1998)

In terms of the environmental regulations for asphalt manufacturing plants, existing plants require atmospheric emission licences (AEL), as well as possibly requiring water use licences (WUL) and they are held liable for environmental pollution. New plants need to consider a range of legislation in terms of their siting and requirements in terms of environmental impact assessments, and may require a waste permit in addition to an AEL and WUL.

The environmental regulations for asphalt transport incorporate the requirement for dangerous goods transport emergency cards and control measures preventing exposure.

Regarding the environmental regulations for road maintenance and construction, sites may be exempt from requiring mining rights for borrow pit development. However, contractors are held liable for environmental pollution, and activities need to consider a range of legislation in terms of siting based on triggers for EIAs.

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1 Introduction

The development of a guideline document on South African environmental legislation relevant to asphalt manufacture and road construction has been requested by SABITA in order to assist in mitigating the risks of regulatory compliance issues. Given the fact that legislation is amended over time, this document is deemed to require updates from time to time.

The objectives of this report are presented in the following sub-section.

1.1 Objectives

The objectives of this report are as follows:

- Outline the suite of national environmental legal frameworks (NEMA, etc), including highlighting other frameworks that may apply in certain cases
- Develop a guideline on environmental regulatory compliance as generally applicable to asphalt manufacture and road construction

The scope of work basically involves developing a guideline covering South African national environmental legislation relevant to asphalt manufacture and transport; road maintenance and construction (including borrow pit development). The methodology envisaged to carry out the two objectives is outlined in the sub-sections below.

2 Methodology

The methodology used to carry out the two objectives defined in Section 1.1 above is presented in the following sub-sections.

2.1 Outline of Relevant Legislative Framework

The relevant national legislative frameworks will be outlined and discussed in general terms, providing the background to the regulations and policies which apply under environmental law in South Africa. Provincial and municipal legislation has not been assessed in this report.

Once the relevant legislation has been highlighted, its applicability to the general asphalt manufacture and road construction industry will be outlined based on different activities as outlined in the following sub-chapter.

2.2 Guideline on Environmental Regulatory Compliance

Various asphalt manufacture and road construction activities would require cognizance of specific legislation and the main relevant aspects of the outlined legislative framework will be presented as applicable to these activities, including:

- Asphalt manufacture

- Asphalt transport (basic coverage as handled by SABITA Safety Manual 8)
- Road maintenance
- Road construction and borrow pit development

3 Relevant Legislative Framework

The suite of environmental legislation and regulations is presented in the following sub-chapters.

3.1 Conservation of Agricultural Resources Act

The Conservation of Agricultural Resources Act (Act No. 43 of 1983) provides the legislative framework for control of the use of natural agricultural resources in the Republic, and aims to promote conservation of the soil, water sources and vegetation as well as combating weeds and invasive plants. The relevant sections of the act which apply to agricultural land/resource management are extracted from the act as highlighted below:

"1 Definitions

erosion means the loss of soil through the action of water, wind, ice or other agents, including the subsidence of soil;

soil conservation work means any work which is constructed on land for-

- (a) the prevention of erosion or the conservation of land which is subject to erosion;
 - (b) the conservation or improvement of the vegetation or the surface of the soil;
 - (c) the drainage of superfluous surface or subterranean water;
 - (d) the conservation or reclamation of any water source; or
 - (e) the prevention of the silting of dams and the pollution of water,
- but not a work which is constructed on land in the course of prospecting or mining activities; ...

8. Schemes

- (1) The Minister may, with the concurrence of the Minister of Finance, by notice in the Gazette establish a scheme in terms of which assistance, out of moneys appropriated by Parliament for this purpose, may be granted to land users by means of-
 - (a) the payment of subsidies in respect of-
 - (iv) the restoration or reclamation of eroded, disturbed, denuded or damaged land;
 - (v) the planting and cultivation of particular crops which improve soil fertility or counteract the vulnerability of soil to erosion;
 - (vi) the combating of weeds or invader plants;
 - (vii) the performance or omission of anything else which the Minister may deem necessary or expedient in order to achieve the objects of this Act; and

- (b) *the supplying of weed killers in order to combat weeds or invader plants, and the rendering of services by the department, including the utilization of weed killers, in order to combat weeds or invader plants on the land of land users...*

18 Powers of investigation

- (1) *The executive officer, any other officer of the department, a member of a soil conservation committee or an authorized person may at any reasonable time enter upon any land in order-*
- (a) *to determine whether and to what extent erosion or other damage occurs on that land;*
 - (b) *to determine whether weeds or invader plants occur on that land; ...*
 - (d) *to determine whether and to what extent the natural vegetation is deteriorating or has been destroyed on that land; ...*
 - (f) *to ascertain whether a soil conservation work should be constructed on that land, and whether a direction should be served on the land user of that land;*
 - (g) *to demarcate an area on that land which is required to be demarcated for the purposes of this Act or a scheme, and for the purposes of such demarcation to make the necessary surveys and erect or effect beacons or marks;*
 - (h) *make such other surveys, take soil or plant samples and undertake such other investigations as he may deem necessary on that land in order to make an assessment of the condition of the soil, the water sources and the vegetation, and may for the purposes of such assessment take such photographs as he may deem necessary;*
 - (i) *to determine whether sand, soil, clay, gravel, stone or other material which is required for the performance of an act referred to in section 11, is present on that land;*
 - (j) *to determine whether the land user concerned-*
 - (i) *is complying with a control measure;*
 - (ii) *is complying with the requirements of a direction;*
 - (iii) *is complying with the provisions of a scheme; or*
 - (iv) *is otherwise utilising the natural agricultural resources in a manner which will ensure that the objects of this Act are achieved on or with regard to that land;*
 - (k) *to inspect the effect of an act referred to in section 11 which has been performed on that land; ...*
 - (m) *to carry out any other investigation connected with any matter referred to in this Act or a scheme, on or in respect of that land; and*
 - (n) *to proceed over that land for the purpose of reaching land on or in respect of which any other duty or function referred to in this subsection is to be performed."*

The Subdivision of Agricultural Land Act (Act No 70 of 1970) through the Natural Resource Management unit of the Department of Agriculture, Forestry and Fisheries undertakes the investigations for the subdivision of agricultural land and its use for non-agricultural purposes.

3.2 Constitution of the Republic of South Africa Act

The Constitution of the Republic of South Africa Act (Act No. 108 of 1996) incorporates the Bill of Rights, which covers various human rights as enshrined in this piece of legislation. It

stipulates the right to an environment that is not harmful to human health and the protection of the environment for present and future generations.

3.3 Environment Conservation Act

Most of the provisions of the Environment Conservation Act (ECA) (No. 73 of 1989) have been superseded by the National Environmental Management Act (NEMA), however the noise management stipulations of this act still have particular relevance. The specified day time residential threshold noise level is 55dBA.

Section 25 of the ECA makes provision for the development of noise control regulations and these have been published as a national framework Government Gazette 13717 (dated 10 January 1992) – GN No. R. 154 (Noise Control Regulations - NCR). The NCRs were revised under Government Gazette 15446 (14 January 1994) - GN. No R. 55. This amendment makes it the responsibility of all local authorities to apply the regulations.

Subsequently in terms of Schedule 5 of the Constitution of the Republic of South Africa Act (Act No. 108 of 1996), legislative responsibility of administering the noise control regulations was devolved to provincial and local authorities. Provincial NCR only exist in the Free State, Gauteng and Western Cape Provinces.

As an example of the provincial regulations an extract of key elements of the Western Cape NCRs is presented below (Province of Western Cape: Provincial Gazette 6412 of 25 January 2007 - Draft Regulations relating to Noise Control):

“1. Definitions

road means:

- (a) a national road, including a national road declared in terms of section 40 of the South African Roads Agency Limited and National Roads Act, 1998 (Act No 7 of 1998);
- (b) a road administered by a provincial authority;
- (c) a road reserve where the road reserve is wider than 30 m;
- (d) a road which caters for more than one lane of traffic in both directions;

SANS 10103 means the latest edition of Standards South Africa publication No. 10103 titled: **The measurement and rating of environmental noise with respect to land use, health, annoyance and to speech communication**, as amended from time to time or its corresponding replacement...

SANS 10181 means the latest edition of Standards South Africa publication No. 10181 titled: **The measurement of noise emitted by road vehicles when stationary**, as amended from time to time or its corresponding replacement;

SANS 10210 means the latest edition of Standards South Africa publication No. 10210 titled: **Calculating and predicting road traffic noise**, as amended from time to time or its corresponding replacement; as referred to in SANS 10328...

SANS 10328 means the latest edition of Standards South Africa publication No. 10328 titled: **Methods for environmental noise impact assessments**, as amended from time to time or its corresponding replacement...

3. General Prohibition.- No person shall

- (d) build a road or change an existing road, or alter the speed limit on a road, if this will cause an increase in noise in or near residential areas, or office, church, hospital or educational buildings, unless the need for noise control measures has been properly determined by the local authority in consultation with the road authority concerned to ensure that the land in the vicinity of such roads will not be designated as a controlled area;”

Similar regulations are presented for the Gauteng Province and Free State Province as outlined in Gauteng Provincial Notice 5479 of 1999 and Free State PN 242 (7 November 1997) respectively. An additional standard as outlined in these latter noise control regulations is as follows:

SABS ARP 020 means South African Bureau of Standards publication No. 020 titled: **Sound impact investigations for integrated environmental management**

3.4 Explosives Act

The Explosives Act (Act No. 15 of 2003) outlines the requirements with regard to the keeping, storage, possession or transportation of explosives as highlighted in Section 10 of the Act:

- ”10(1)** No person may keep, store or be in possession of any explosives on any premises other than an explosives manufacturing site or an explosives magazine, unless the explosives are kept, stored or possessed in accordance with -
- (a) the conditions of a permit issued by an inspector; and;
 - (b) any applicable regulation.
- (2) No person may transport any explosives unless the explosives are transported in accordance with -
- (a) the conditions of a permit issued by an inspector; and;
 - (b) any applicable regulation.”

Explosives storage and transportation permits are issued by the Minister of Police¹.

3.5 Mineral and Petroleum Resources Development Act

The Mineral and Petroleum Resources Development Act (MPRDA) (Act No. 28 of 2002) provides the framework legislation for equitable access and sustainable development of the country’s mineral and petroleum resources. Some key aspects of the act are extracted as below:

- “48 (1)** Subject to section 20 of the National Parks Act, 1976 (Act No. 57 of 1976), and subsection (2), no reconnaissance permission, prospecting right, mining right or mining permit may be issued in respect of—
- (a) land comprising a residential area;
 - (b) any public road, railway or cemetery;

¹ Department of Police has replaced the Department of Safety and Security

106 (1) *The Minister may by notice in the Gazette, exempt any organ of state from the provisions of sections 16², 20³, 22⁴ and 27⁵ in respect of any activity to remove any mineral for road construction, building of dams or other purpose which may be identified in such notice”*

Borrow pits for road construction may be exempt from requiring a MPRDA permit as stipulated in the above-mentioned Section 106, however their placement may trigger listed activities requiring environmental impact assessment (see Section 3.6 below).

In addition to the relevant legislative aspects highlighted above the MPRDA stipulates the following:

- The holder of a mining right/permit (eg: aggregate mining firm) remains liable for any site pollution or ecological degradation, as well as the management thereof, until a closure certificate has been issued for the respective site
- Financial provision must be made for the closure or sudden termination of work in terms of site rehabilitation and re-vegetation work

3.6 NEMA

The National Environmental Management Act (NEMA) (No. 107 of 1998) advocates that the principles of Integrated Environmental Management (IEM) should be adhered to in order to ensure sustainable development. Section 1(2) of the Act provides a set of core environmental principles applicable to all organs of state, including:

- Environmental management must equitably place people and their needs at the forefront of concern
- Development has to be socially, environmentally and economically sustainable;
- Negative environmental impacts must be anticipated and prevented, or else minimised and mitigated
- Equitable access to environmental resources, benefits and services, with provision of special measures to ensure access by persons disadvantaged by unfair discrimination
- Sensitive, stressed, highly dynamic or vulnerable ecosystems require specific management and planning procedures with regard to development

There are also a set of regulations promulgated in terms of the Act which specify when project specific environmental impact assessments are required, as well as outlining the minimum requirements for such assessments. This is covered under regulations R543 of 18 June 2010 (as applicable from 2 August 2010).

² Section 16: Application for prospecting right

³ Section 20: Permission to remove and dispose of minerals

⁴ Section 22: Application for mining right

⁵ Section 27: Application for, issuing and duration of mining permit

Table 1: Relevant listed activities requiring a basic environmental assessment

Act.	Activity Type	Relevance
13.	The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with combined capacity of 80 but not exceeding 500 cubic metres	Asphalt Manufacture
14.	The construction of structures in the coastal public property where the development footprint is bigger than 50 square metres, excluding (i) the construction of structures within existing ports or harbours that will not increase the development footprint or throughput capacity of the port or harbour; (ii) the construction of a port or harbour, in which case activity 24 of Notice 545 of 2010 applies (iii) the construction of temporary structures within the beach zone where such structures will be demolished or disassembled after a period not exceeding 6 weeks.	Road Construction
18.	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 or more than 5 cubic metres from: (i) a watercourse; (ii) the sea; (iii) the seashore; (iv) the littoral active zone, an estuary or a distance of 100 metres inland of the highwater mark of the sea or an estuary, whichever distance is the greater but excluding where such infilling, depositing, dredging, excavation, removal or moving; (a) is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or (b) occurs behind the development setback line.	Road Construction Road Maintenance
19.	Any activity which requires a prospecting right or renewal thereof in terms of section 16 and 18 respectively of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).	Asphalt Manufacture
22.	The construction of a road, outside urban areas, (i) with a reserve wider than 13,5 meters or, (ii) where no reserve exists where the road is wider than 8 metres, or (iii) 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 Notice 545 of 2010.	Road Construction

Act.	Activity Type	Relevance
23.	The transformation of undeveloped, vacant or derelict land to – (i) residential, retail, commercial, recreational, industrial or institutional use, inside an urban area, and where the total area to be transformed is 5 hectares or more, but less than 20 hectares, or (ii) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares; - except where such transformation takes place – (i) for linear activities; or (ii) for purposes of agriculture or afforestation, in which case Activity 16 of Notice No. R. 545 applies.	Asphalt Manufacture Road Construction Road Maintenance
24.	The transformation of land bigger than 1000 square metres in size, to residential, retail, commercial, industrial or institutional use, where, at the time of the coming into effect of this Schedule or thereafter such land was zoned open space, conservation or had an equivalent zoning.	Asphalt Manufacture Road Construction Road Maintenance
26.	Any process or activity identified in terms of section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).	Asphalt Manufacture Road Construction Road Maintenance
27.	The decommissioning of existing facilities or infrastructure, for –... (iv) activities, where the facility or the land on which it is located is contaminated ; (v) storage, or storage and handling, of dangerous goods of more than 80 cubic metres; but excluding any facilities or infrastructure that commenced under an environmental authorisation issued in terms of the Environmental Impact Assessment Regulations, 2006 made under section 24(5) of the Act and published in Government Notice No. R. 385 of 2006, or Notice No. 543 of 2010.	Asphalt Manufacture
28.	The expansion of or changes to existing facilities for any process or activity where such expansion or changes to will result in the need for a permit or license in terms of national or provincial legislation governing the release of emissions or pollution, excluding where the facility, process or activity is included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case that Act will apply.	Asphalt Manufacture
47.	The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre - (i) where the existing reserve is wider than 13,5 meters; or (ii) where no reserve exists, where the existing road is wider than 8 metres – excluding widening or lengthening occurring inside urban areas.	Road Construction

Table 2: Relevant listed activities requiring scoping and environmental impact assessment

Act.	Activity Type	Relevance
3.	The construction of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 cubic metres.	Asphalt Manufacture
5.	The construction of facilities or infrastructure for any process or activity which requires a permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent and which is not identified in Notice No. 544 of 2010 or included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case that Act will apply.	Asphalt Manufacture
7.	The construction of (i) airports, or (ii) runways or aircraft landing strips longer than 1,4 kilometres.	Road Construction
15.	Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more; except where such physical alteration takes place for: (i) linear development activities; or (ii) agriculture or afforestation where activity 16 in this Schedule will apply.	Asphalt Manufacture
18.	The route determination of roads and design of associated physical infrastructure, including roads that have not yet been built for which routes have been determined before 03 July 2006 and which have not been authorised by a competent authority in terms of the Environmental Impact Assessment Regulations, 2006 or 2009, made under section 24(5) of the Act and published in Government Notice No. R. 385 of 2006,— (i) it is a national road as defined in section 40 of the South African National Roads Agency Limited and National Roads Act, 1998 (Act No. 7 of 1998); (ii) it is a road administered by a provincial authority; (iii) the road reserve is wider than 30 metres; or (iv) the road will cater for more than one lane of traffic in both directions.	Road Construction
20.	Any activity which requires a mining right or renewal thereof as contemplated in sections 22 and 24 respectively of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)	Asphalt Manufacture
26.	Commencing of an activity, which requires an atmospheric emission license in terms of section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), except where such commencement requires basic assessment in terms of Notice of No. R544 of 2010.	Asphalt Manufacture

3.7 NEM: Air Quality Act

The National Environmental Management: Air Quality Act (No. 39 of 2004) forms the framework for the control of air pollution, and as such defines the air emission limits for specific activities and processes. Macadam preparation covering the production of mixtures of aggregate and tar/bitumen to produce road surfacing in permanent facilities and mobile plants require an Atmospheric Emission Licence (AEL). Metropolitan and district municipalities are charged with issuing Atmospheric Emission Licences. The defined emission limits (taken as daily averages) for macadam preparation plants are as follows (as defined in GG 33064 of 31 March 2010 – GN 248):

Table 3: Atmospheric emission limits for asphalt (macadam) manufacturing plants

Substance or Mixture of Substances		Plant Status	Emission Limit - mg/Nm ³ (273K and 101.3 kPa)
Common Name	Chemical symbol		
Particulate matter	N/A	New	50
		Existing	120
Sulphur dioxide	SO ₂	New	1 000
		Existing	1 000
Total VOC ⁶ from vapour recovery/destruction units (thermal treatment)	N/A	New	150
		Existing	150

The requirements in terms of compliance timeframes regarding these emission limits for asphalt manufacturing plants are as follows:

- New plants are required to comply with the new emission limits from start-up
- Existing plants must comply with the existing limits within 5 years of the publication of the limits (i.e. must comply by 31 March 2015)
- Existing plants must comply with the new limits within 10 years of the publication of the limits (i.e. must comply by 31 March 2020)

3.8 NEM: Biodiversity Act

The NEM: Biodiversity Act (No. 10 of 2004) guides the management and conservation of biodiversity, with particular focus on species and ecosystems that warrant national protection, and the sustainable use of indigenous biological resources.

“Ecosystems that are threatened or in need of protection

52. (1) (a) *The Minister may, by notice in the Gazette, publish a national list of ecosystems that are threatened and in need of protection.*

(b) An MEC for environmental affairs in a province may, by notice in the Gazette, publish a provincial list of ecosystems in the province that are threatened and in need of protection.

(2) The following categories of ecosystems may be listed in terms of subsection (1):

⁶ VOC: Volatile Organic Compounds

- (a) critically endangered ecosystems, being ecosystems that have undergone severe degradation of ecological structure, function or composition as a result of human intervention and are subject to an extremely high risk of irreversible transformation;*
- (b) endangered ecosystems, being ecosystems that have undergone degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems;*
- (c) vulnerable ecosystems, being ecosystems that have a high risk of undergoing significant degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems or endangered ecosystems; and*
- (d) protected ecosystems, being ecosystems that are of high conservation value or of high national or provincial importance, although they are listed in terms of paragraphs (a), (b) or (c)."*

A national list of ecosystems that are threatened and in need of protection has been published in fulfilment of the NEM: Biodiversity Act under the GG 34809 (9 December 2011) - GN. No R. 1002.

3.9 NEM: Integrated Coastal Management Act

The NEM: Integrated Coastal Management Act (Act 24 of 2008) promotes the conservation of the coastal environment, ensuring development (including transport infrastructure) and natural resource use within the coastal zone is socially and economically justifiable and ecologically sustainable. A representative from the National Department of Transport (DoT) is included in the body tasked to regulate the effect of development on the coastal environment. The key definitions and the relevant restrictions in terms of development are outlined in the extracts below:

- "7.** Coastal public property consists of—
- (a) coastal waters;*
 - (b) land submerged by coastal waters, including—*
 - (i) land flooded by coastal waters which subsequently becomes part of the bed of coastal waters; and*
 - (ii) the substrata beneath such land;*
 - (c) any island, whether natural or artificial, within coastal waters, but excluding—*
 - (i) any part of an island that was lawfully alienated before this Act commenced; or*
 - (ii) any part of an artificially created island (other than the seashore of that island) that is proclaimed by the Minister to be excluded from coastal public property;*
 - (d) the seashore, but excluding—*
 - (i) any portion of the seashore below the high-water mark which was lawfully alienated before the Sea-Shore Act, 1 935 (Act No. 21 of 1935) took effect or which was lawfully alienated in terms of that Act and which has not subsequently been re-incorporated into the seashore; and*
 - (ii) any portion of a coastal cliff that was lawfully alienated before this Act took effect and is not owned by the State;*
 - (e) the seashore of a privately owned island within coastal waters;*
 - (f) any admiralty reserve owned by the State;*
 - (g) any state-owned land declared under section 8 to be coastal public property; or*
 - (h) any natural resources on or in—*
 - (i) any coastal public property of a category mentioned in paragraph (a) to (g);*

(ii) the exclusive economic zone, or in or on the continental shelf as contemplated in sections 7 and 8 of the Maritime Zones Act, 1994 (Act No. 15 of 1994), respectively: or

(iii) any harbour, work or other installation on or in any coastal public property of a category mentioned in paragraphs (a) to (h) that is owned by an organ of state.

Extending coastal public property

8(1) The Minister may by notice in the Gazette, declare in the manner contemplated in subsection (2) any state-owned land as coastal public property in order—

(a) to improve public access to the seashore;

(b) to protect sensitive coastal ecosystems;

(c) to secure the natural functioning of dynamic coastal processes;

(d) to facilitate the achievement of any of the objects of this Act: or

(e) to protect people, property and economic activities from risks arising from dynamic coastal processes, including the risk of sea-level rise...

Award of leases and concessions on coastal public property

65(1) Subject to sections 67⁷ and 95⁸, no person may occupy any part of, or site on or construct or erect any building, road, barrier or structure on or in coastal public property except under and in accordance with a coastal lease awarded by the Minister in terms of this Chapter.”

3.10 NEM: Protected Areas Act

The NEM: Protected Areas Act (No. 57 of 2003) allows for protection, conservation and management of ecologically viable areas of biological diversity (natural landscapes and seascapes). The Act stipulates the following definitions and development restrictions:

“wilderness area means an area designated in terms of section 22⁹ or 26¹⁰ for the purpose of retaining an intrinsically wild appearance and character or capable of being restored to such and which is undeveloped and roadless, without permanent improvements or human habitation...

Commercial and community activities in nature reserve and world heritage site

50 (5) No development, construction or farming may be permitted in a nature reserve or world heritage site without the prior written approval of the management authority.”

The act has undergone some alterations as outlined in the National Environmental Management: Protected Areas Amendment Act (No. 15 of 2009), however the above extracts remain unchanged.

3.11 NEM: Waste Act

The NEM: Waste Act (Act 59 of 2008) provides regulations in terms of the responsible and safe transportation of waste materials, preventing spillage of waste onto transport infrastructure (roads, railways) and ultimate dispersion into the environment.

⁷ Section 67: Temporary occupation of land within coastal zone

⁸ Section 95: Existing leases on, or rights to, coastal public property

⁹ Section 22: Designation of national park as wilderness area

¹⁰ Section 26: Designation of nature reserve as wilderness area

A suite of waste management standards as developed in accordance with the NEM: Waste Act include the following:

- GN No. 34414 – Draft National Standards for Disposal of Waste to Landfill.
- GN No. 34415 – Draft National Standard for Assessment of Waste for Landfill Disposal.
- GN No. 34417 – Draft Waste Classification and Management Regulations.
- GN No. 34418 – Draft National Norms and Standards for the Storage of Waste.

The environmental authorisations required for new developments, expansions and de-commissioning are covered under the National Environmental Management Act (NEMA) and the associated EIA regulations. However, in terms of waste management activities specifically this function has been transferred to the NEM: Waste Act under the appendices covering Category A and Category B activities (as outlined in Table 4 and Table 5). Table 4 covers the Category A activities, which require a basic assessment as part of the facility licensing procedure. Table 5 covers the Category B activities, which require a full EIA as part of the facility licensing procedure.

Table 4: Waste management activities environmental regulations (Category A)

Waste Management Activity	Waste Type	Threshold levels	Requirements
Waste Storage/Transfer (eg: Transfer station)	General	More than 30 tons/day (20m ³ /day).	Waste management licence and basic assessment (simplified EIA)
Waste Storage/ Transfer	Hazardous	More than 3 tons/day.	
Waste Sorting and Shredding	General	More than 1 tons/day.	
Waste Recovery (eg: Material Recovery Facility)	General	More than 3 tons/day.	
	Hazardous	More than 0.1 tons/day.	
Biological/physical/physico-chemical Treatment (eg: Mechanical Biological Pre-Treatment - MBT)	General	More than 10 tons/day.	
Biological/physical/physico-chemical Treatment (eg: MBT)	Hazardous	All quantities.	
Treatment in Sludge Lagoons	Sludge	All quantities.	
Disposal of inert material for purposes of levelling and building	Inert	More than 25 tons.	
Disposal to land	General	Less than 100 m ² and/or more than 200 m ³ airspace.	
The expansion or decommissioning of facilities and associated structures and infrastructure for activities listed in this Schedule			

The waste management activities as presented in Table 4 above serve as generic Category A (requiring basic assessment) activities triggering specific requirements. It is important to note that all activities stipulate the incorporation of associated infrastructure for specific

waste management activity as being included in the authorisation procedure, however ancillary service infrastructure, e.g.: roads and water pipelines, etc. would require investigation in terms of their triggers as covered under the NEMA regulations R546 of 18 June 2010 (as applicable from 2 August 2010).

The requirements for Category B (full EIA) waste management activities are outlined in the table below.

Table 5: Waste management activities environmental regulations (Category B)

Waste Management Activity	Waste Type	Threshold levels	Requirements
Treatment other than biological, physical or physicochemical	General	More than 10 tons/day.	Waste management licence and full EIA
Treatment other than biological, physical or physicochemical	Hazardous	All quantities.	
Incineration	General/hazardous	All quantities.	
Disposal	Hazardous	All quantities/disposal areas.	
Disposal	General	More than 100 m ² and/or more than 200 m ³ airspace.	

It is evident from Table 5 above that treatment other than biological, physical, and physicochemical treatment of general waste above 10 tons/day as well as any quantity of hazardous waste requires a licence and associated full EIA. The incineration of any type of waste for any quantity also requires a licence and associated full EIA. Hazardous waste disposal facilities and general waste disposal facilities larger than 100 m² and/or incorporating more than 200 m³ airspace also require a licence and full EIA.

3.12 National Forests Act

The National Forests Act (Act No. 84 of 1998) provides the framework for the management of forestry resources in the country. The relevant section of the act which stipulates the requirement for licensing of road construction through state forests by the Department of Agriculture, Forestry and Fisheries (DAFF) is highlighted below:

“Activities which may be licensed in State forests

23 (1) *The Minister may in a State forest. license—...*

(h) the construction of any road, building or structure”

In terms of the government gazette 26731 (27 August 2004) - GN. No R. 1012, “no person may cut, disturb, damage or destroy any protected tree... except under a licence granted by the Minister to an applicant and subject to such period and conditions as may be stipulated.” The original protected tree species list of the above-mentioned gazette has been updated in GG 29062 (8 September 2006) - GN. No R. 897 and this list is outlined in the table below:

Table 6: Protected tree species list

Tree	National Tree No.
Acacia erioloba - Camel thorn (E) / Kameeldoring (A) / Mogohlo (NS) / Mogôthô (T)	168
Acacia haematoxylon - Gray camel thorn (E) / Vaalkameeldoring (A) / Mokholo (T)	169
Adansonia digitata - Baobab (E) / Kremetart (A) / Seboi (NS) / Mowana (T) / Shimuwu (TS) / Muvhuyu (V)	467
Azelia quanzensis - Pod mahogany (E) / Peulmahonie (A) / Mutokota (V) / Inkehli (Z)	207
Balanites subsp. maughamii - Torchwood (E) / Groendoring (A) / Ugobandlovu (Z)	251
Barringtonia racemosa - Powder-puff tree (E) / Poeierkwasboom (A) / Iboqo (Z)	524
Boscia albitrunca - Sheperd's tree (E) / Witgat (A) / Mohlôpi (NS) / Motlhôpi (T) / Muvhombwe (V) / Umgqomogqomo (X) / Umvithi (Z)	122
Brachystegia spiciformis - Msasa (E) / Msasa (A)	198.1
Breonadia salicina - Matumi (E) / Mingerhout (A) / Mohlomê (NS) / Mutu-lume (V) / Umfomfo (Z)	684
Bruguiera gymnorhiza - Black mangrove (E) / Swart-wortelboom (A) / Isikhangati (X) / Isihlobane (Z)	527
Cassipourea swaziensis - Swazi onionwood (E) / Swazi-uehout (A)	531.1
Catha edulis - Bushman's tea (E) / Boesmanstee (A) / Mohlatse (NS) / Igqwaka (X) / Umhlwazi (Z)	404
Ceriops tagal - Indian mangrove (E) / Indiese wortelboom (A) / Isinkaha (Z)	525
Cleistanthus schlechteri var. schlechteri - False tamboti (E) / Vals-tambotie (A) / Umzithi (Z)	320
Colubrina nicholsonii - Pondo weeping thorn (E) / Pondo-treurdoring (A)	453.8
Combretum imberbe - Leadwood (E) / Hardekool (A) / Mohweleretšhipi (NS) / Motswiri (T) / Impondondlovu (Z)	539
Curtisia dentata - Assegai (E) / Assegai (A) / Umgxina (X) / Umagunda (Z)	570
Elaeodendron transvaalensis - Bushveld saffron (E) / Bosveld-saffraan (A) / Monomane (T) / Ingwavuma (Z)	416
Erythrophysa transvaalensis - Bushveld red balloon (E) / Bosveld-rooiklapperbos (A) / Mofalatsane (T)	436.2
Euclea pseudobenus - Ebony guarri (E) / Ebbehout -ghwarrie (A)	598
Ficus trichopoda - Swamp fig (E) / Moerasvy (A) / Umvubu (Z)	54
Leucadendron argenteum - Silver tree (E) / Silwerboom (A)	77
Lumnitzera racemosa var. racemosa - Tonga mangrove (E) / Tonga-wortelboom (A) / Isikhaha-esibomvu (Z)	552
Lydenburgia abbottii - Pondo bushman's tea (E) / Pondo-boesmanstee (A)	
Lydenburgia cassinoides - Sekhukhuni bushman's tea (E) / Sekhukhuni-boesmanstee (A)	406
Mimusops caffra - Coastal red milkwood (E) / Kusrooimelkhout (A) / Umthunzi (X) / Umkhakhayi (Z)	583
Newtonia hildebrandtii var. hildebrandtii - Lebombo wattle (E) / Lebombo-wattel (A) / Umfomothi (Z)	191
Ocotea bullata - Stinkwood (E) / Stinkhout (A) / Umhlungulu (X) / Umnukane (Z)	118

Tree	National Tree No.
Ozoroa namaquensis - Gariep resin tree (E) / Gariep-harpuisboom (A)	373.2
Philenoptera violacea - Apple-leaf (E) / Appelblaar (A) / Mphata (NS) / Mohata (T) / Isihomohomo (Z)	238
Pittosporum viridiflorum - Cheesewood (E) / Kasuur (A) / Kgalagangwe (NS) / Umkhwenkwe (X) / Umfusamvu (Z)	139
Podocarpus elongatus - Breede River yellowwood (E) / Breederivier-geelhout (A)	15
Podocarpus falcatus - Outeniqua yellowwood (E) / Outniekwageelhout (A)/ Mogôbagôba (NS)/ Umkhoba (X)/ Umsonti (Z)	16
Podocarpus henkelii - Henkel's yellowwood (E) / Henkel-se-geelhout (A) / Umsonti (X) / Umsonti (Z)	17
Podocarpus latifolius - Real yellowwood (E) / Opregte-geelhout (A) / Mogôbagôba (NS)/ Umcheya (X) / Umkhoba (Z)	18
Protea comptonii - Saddleback sugarbush (E) / Barberton-suikerbos (A)	88
Protea curvata - Serpentine sugarbush (E) / Serpentynsuikerbos (A)	88.1
Prunus africana - Red stinkwood (E) / Rooi-stinkhout (A) / Umkhakhase (X) / Umdumezulu (Z)	147
Pterocarpus angolensis - Wild teak (E) / Kiaat (A) / Morôtô (NS) / Mokwa (T) / Mutondo (V) / Umvangazi (Z)	236
Rhizophora mucronata - Red mangrove (E) / Rooi-wortelboom (A) / Isikhangathi (X)/ Umhlume (Z)	526
Sclerocarya birrea subsp. caffra - Marula (E) / Maroela (A) / Morula (NS) / Morula (T) / Umganu (Z)	360
Securidaca longepedunculata - Violet tree (E) / Krinkhout (A) / Mmaba (T) / Mpesu (V)	303
Sideroxylon inerme subsp. inerme - White milkwood (E) / Wit-melkhout (A) / Ximafana (X) / Umakhwelafingqane (Z)	579
Tephrosia pondoensis - Pondo poison pea (E) / Pondo-gifertjie (A)	226.1
Warburgia salutaris - Pepper-bark tree (E) / Peperbasboom (A)/ Molaka (NS)/ Mulanga (V)/ Isibaha (Z)	488
Widdringtonia cedarbergensis - Clanwilliam cedar (E) / Clanwilliam-seder (A)	19
Widdringtonia schwarzii - Willowmore cedar (E) / Bavianskloof-seder (A)	21

3.13 National Heritage Resources Act

The National Heritage Resources Act (No. 29 of 1999) stipulates the requirement for heritage impact assessments to be carried out for developments which may have an impact on existing heritage resources, and makes provision for the development of heritage registers.

“Heritage resources management

38 (1) *Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-*

- (a) *the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development...*

- (c) any development or other activity which will change the character of a site-
 - (i) exceeding 5 000 m² in extent; or
 - (ii) involving three or more existing erven or subdivisions thereof; or
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
 - (d) the re-zoning of a site exceeding 10 000 m² in extent; or
 - (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,
- must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.
- (2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection (1)-
 - (a) if there is reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. Such report must be compiled at the cost of the person proposing the development, by a person or persons approved by the responsible heritage resources authority with relevant qualifications and experience and professional standing in heritage resources management; or
 - (b) notify the person concerned that this section does not apply.”

3.14 National Land Transport Transition Act

The National Land Transport Transition Act (No. 22 of 2000) emphasises the requirement for transport systems to shift from being geared towards private transport towards a more public transport orientated system. This legislation requires transport planning authorities and the main Municipalities to compile annual Integrated Transport Plans, which incorporate a Public Transport Plan and are closely linked to the Municipal Integrated Development Plan concerned.

“National land transport strategic frameworks

- 21 (2) *The national land transport strategic framework must serve to guide land transport planning countrywide and must not derogate from the constitutional planning functions of provinces and municipalities.*
- (3) *The national land transport strategic framework must—...*
 - (f) *set out a general strategy for national roads;*

Provincial land transport frameworks

- 22 (3) *The provincial land transport framework must—*
 - include a road plan for the province;*

Integrated transport plans

- 27(2) *The integrated transport plan must formulate the planning authority’s official vision, policy and objectives, consistent with national and provincial policies, due regard being had to any relevant integrated development planning or land development objectives, and must at least—...*

- (c) include all modes and infrastructure, including new or amended roads and commercial developments having an impact on the land transport system, and land transport aspects of airports and harbours;*
- (d) include the planning authority's detailed budget, including funding sources, with regard to land transport for the relevant financial year in the format prescribed by the MEC...*
- (g) set out a road and transport infrastructure provision, improvement and maintenance strategy"*

3.15 National Road Traffic Act

The National Road Traffic Act (No. 93 of 1996) provides the framework legislation for road traffic matters. The stipulations apply to transport activities and provide definitions regarding road infrastructure as demonstrated in the below extract:

"1 Definitions

'edge of the roadway' means the boundary between the roadway and the shoulder, which is indicated by an appropriate road traffic sign, or in the absence of such sign-
(a) in the case of a road with a bituminous or concrete surface, the edge of such surface;
(b) in the case of any other road, the edge of the improved part of the road intended for vehicular use"

3.16 National Water Act

The National Water Act (No. 36 of 1998) governs the interactions between water resources and proposed developments, and requires specific authorisations for altering the bed, banks, course or characteristics of a watercourse, as well as requiring floodlines to be included in development plans. The Act incorporates covers the regulations regarding waterworks servitudes as well as clause regarding the prevention of pollution and the responsibility of polluters of water bodies to remedy pollution effects caused as outlined below:

"Prevention and remedying effects of pollution

- 19** *(1) An owner of land, a person in control of land or a person who occupies or uses the land on which -*
(a) any activity or process is or was performed or undertaken; or
(b) any other situation exists, which causes, has caused or is likely to cause pollution of a water resource, must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.
- (2) The measures referred to in subsection (1) may include measures to -*
(a) cease, modify or control any act or process causing the pollution;
(b) comply with any prescribed waste standard or management practice;
(c) contain or prevent the movement of pollutants;
(d) eliminate any source of the pollution;
(e) remedy the effects of the pollution; and
(f) remedy the effects of any disturbance to the bed and banks of a watercourse.
- (3) A catchment management agency may direct any person who fails to take the measures required under subsection (1) to -*
(a) commence taking specific measures before a given date;
(b) diligently continue with those measures; and
(c) complete them before a given date.

- (4) Should a person fail to comply, or comply inadequately with a directive given under subsection (3), the catchment management agency may take the measures it considers necessary to remedy the situation.*
- (5) Subject to subsection (6), a catchment management agency may recover all costs incurred as a result of it acting under subsection (4) jointly and severally from the following persons:*
 - (a) Any person who is or was responsible for, or who directly or indirectly contributed to, the pollution or the potential pollution;*
 - (b) the owner of the land at the time when the pollution or the potential for pollution occurred, or that owner's successor-in-title;*
 - (c) the person in control of the land or any person who has a right to use the land at the time when -*
 - (i) the activity or the process is or was performed or undertaken; or*
 - (ii) the situation came about; or*
 - (d) any person who negligently failed to prevent -*
 - (i) the activity or the process being performed or undertaken; or*
 - (ii) the situation from coming about.*
- (6) The catchment management agency may in respect of the recovery of costs under subsection (5), claim from any other person who, in the opinion of the catchment management agency, benefitted from the measures undertaken under subsection (4), to the extent of such benefit.*
- (7) The costs claimed under subsection (5) must be reasonable and may include, without being limited to, labour, administrative and overhead costs.*
- (8) If more than one person is liable in terms of subsection (5), the catchment management agency must, at the request of any of those persons, and after giving the others an opportunity to be heard, apportion the liability, but such apportionment does not relieve any of them of their joint and several liability for the full amount of the costs."*

Government gazette 20119 (4 June 1999) - GN. No R. 704 outlines the regulations on the use of water for mining and related activities in order to facilitate the protection of such water resources and has relevance to road construction as follows:

"5 Restrictions on use of material

No person in control of a mine or activity may use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose"

Registration of water use is required in terms of section 26 (1)(c) and 34(2) of the Act. The following Section 21 activities of the Act were required to register their water use by 31 August 2009 as specified in Government Gazette 32209 (6 May 2009):

- Section 21(e) – engaging in a controlled activity defined as such in Section 37(1), with specific reference to irrigation of any land with waste or water containing waste generated through any industrial activity or by a water work.
- Section 21(f) – discharging waste or water containing waste into a water resource through a pipe, canal or other conduit.
- Section 21(g) – disposing of waste in a manner which may detrimentally impact on a water resource.

- Section 21(h) – disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process.
- Section 21(j) – removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people.

As stipulated in the “Revision of General Authorisations in terms of Section 39” of the Act published in GG 26187 (26 March 2004) - GN. No R. 399 “General Authorisations” replace the need for a water use licence in terms of the Act for the taking or storage of water from a water resource, provided the activity is within the limits and conditions set out in this authorisation.

Registration with the Department of Water Affairs is required for all water uses where water is not supplied by a service provider, local authority, water board, irrigation board, government water scheme or other bulk supplier and for which water is used for:

- Irrigation
- Mining purposes
- Industrial use
- Feedlots, or
- In terms of a General Authorisation

These registrations deal with the use of surface and ground water, however the following other water uses also require registration:

- Water storage for any purpose (including irrigation, domestic supply, industrial use, mining, gardening, landscaping) from surface runoff, groundwater or fountain flow in excess of 10 000 m³ or where the total water area at full supply level exceeds 1 hectare
- Discharges of waste or water containing waste in terms of section 21 of the Act

3.17 Occupational Health and Safety Act

The Occupational Health and Safety Act (No. 85 of 1993) governs the protection of workers from work hazards, and applies to all types of work.

”43 Regulations

(1) The Minister may make regulations-...

(b) which in the opinion of the Minister are necessary or expedient in the interest of the health and safety of persons at work or the health and safety of persons in connection with the use of plant or machinery, or the protection of persons other than persons at work against risks to health and safety arising from or connected with the activities of persons at work, including regulations as to-...

(vii) the production, processing, use, handling, storage or transport of, and the exposure of employees and other persons to, hazardous articles, substances or organisms or

potentially hazardous articles, substances or organisms, including specific limits, thresholds or indices of or for such exposure;
 (viii) the performance of work in hazardous or potentially hazardous conditions or circumstances...
 (xi) the registration of persons performing hazardous work or using or handling plant or machinery, the qualifications which such persons shall possess and the fees payable to the State in respect of such registration”

Government gazette 16596 (25 August 1995) - GN. No R. 1179 outlines the hazardous chemical substances regulations stipulating the following occupational exposure limits (OEL):

- Asphalt – petroleum fumes are stated to be a suspected human carcinogen (classified in the carcinogenic compounds list) and require special care to prevent/limit exposure to fumes
- Occupational exposure control limits are provided for some of the raw materials of asphalt and modified binders (see Table 7) and stipulations for rubber fume and rubber process dust (as highlighted in Annexure 6 of the government notice)
- Occupational exposure recommended limits are provided for asphalt and solvents exposure in laboratories (see Table 8)

Table 7: Occupational exposure control limits (OECL)

Substance	TWA ¹¹ OECL mg/m ³	Short Term OECL mg/m ³	1995 Notes
Rubber process dust	8	-	See 'Annexure 6'
Rubber fume	0.6	-	
Silica - crystalline (SiO ₂)	0.4	-	Respirable dust

Annexure 6

Rubber fume and rubber process dust

1. Rubber fume is fume evolved in the mixing, milling and blending of natural rubber or synthetic elastomers, or of natural rubber and synthetic polymers combined, with chemicals, and in the processes which convert the resultant blends into finished products or parts thereof, and including any inspection procedures where fume continues to be evolved.
2. The limit relates to cyclohexane soluble material determined by the method described in 'Rubber fume in air, measured as total particulates and cyclohexane soluble material'.
3. Rubber process dust is evolved during the manufacture of intermediates or articles from natural rubber and/or synthetic elastomers. This definition does not include dusts, which, for occupational purposes, can be dealt with individually. In each case the relevant OEL will apply. Otherwise, where a substance with an OEL is present in a mixed dust, the OEL for that substance will apply, in addition to the rubber process dust limit.
4. Methods for personal sampling and measurement of total inhalable dusts are available in 'General method for the gravimetric determination of respirable and total inhalable dust' and 'Rubber fume in air measures as total particulates and cyclohexane soluble material'.

¹¹ Time-Weighted Average

Table 8: Occupational exposure recommended limits (OERL)

Substance	TWA ¹² OERL ppm	TWA ¹² OERL mg/m ³	Short Term OERL ppm	Short Term OERL mg/m ³	1995 Notes
Asphalt - petroleum fumes	-	5	-	10	-
Toluene (C ₆ H ₅ CH ₃)	50	188	150	560	-

3.18 The South African National Roads Agency Ltd & National Roads Act

The South African National Roads Agency Limited and National Roads Act (No. 7 of 1998) makes provision for a South African national roads agency to manage and control the national roads system and take charge, amongst others, of the development, maintenance and rehabilitation of national roads within the framework of government policy. Section 41 of this Act as outlined below allows for the Minister of Transport to expropriate land for national roads and ancillary works as required by the South African National Roads Agency Limited (SANRAL) under specific guidelines:

- “41(1)** Subject to subsection (2) and to the obligation to pay compensation, for which the Agency will be responsible, the Minister, if satisfied on reasonable grounds that the Agency reasonably requires—
- (a) any land for a national road or for works or other purposes connected with a national road, including any access road, the acquisition, excavation, mining or treatment of gravel, stone, sand, clay, water or any other material or substance, the accommodation of road building staff and the storage or maintenance of any plant, vehicles, machines, equipment, tools, stores or material, may expropriate that land for the Agency;
 - (b) gravel, stone, sand, clay, water or any other material or substance on or in land for the construction of a road or for works or any of the purposes mentioned in paragraph (a), may take it for the Agency or authorise the Agency to take it;
 - (c) the right to use land temporarily for any of the purposes for which the Minister is competent to expropriate land under paragraph (a), may take that right for the Agency or authorise the Agency to take that right.
- (2) The Minister may not exercise a power in terms of subsection (1) unless satisfied on reasonable grounds that the Agency is unable to acquire the land or anything mentioned in paragraph (b) of that subsection, or the right to use the land temporarily, by agreement with the owner of the land or the holder of any relevant right in respect of the land, as the case may be.”

The relevance of the legislation outlined in this chapter to asphalt manufacture and transport as well as road construction and maintenance is outlined in the following chapter.

¹² Time-Weighted Average

4 Legislative Compliance Guideline

The current framework legislation required to be assessed and adhered to for asphalt manufacture through to its use for road construction and maintenance is presented in order to provide a high level guideline for project/operational environmental considerations.

Other important general framework legislation/policies which need to be considered for all existing and operational developments incorporate:

- National Energy Act (No. 34 of 2008) provides the framework for dealing with energy related matters and outlines the need for energy efficiency and demand side management and is further addressed in the “Energy Efficiency Strategy of the Republic of South Africa”
- The “National Climate Change Response White Paper” (October 2011) deals with shifting the South Africa towards a low-carbon intensive economy, and in this context, the National Treasury will continue to develop carbon tax policy as governed by the following key considerations as extracted from this policy:
 - “The tax rate should, over time, be equivalent to the marginal external damage costs of GHGs to affect appropriate incentives. However, in the absence of an international climate change agreement and therefore a global emissions pricing system, a partial, rather than full, internalisation of the externality will be considered as an interim measure
 - Technical and administrative feasibility – consideration will be given to whether the tax applies to carbon emissions or a proxy for such emissions (e.g. fuel inputs or outputs). Should a proxy tax base be used, the levy of the tax according to the carbon content of fossil fuels will be considered
 - Competitiveness – to address potential negative impacts on industry competitiveness, the introduction of carbon taxes at initial low rates with a commitment to phased-in increasing levels of taxation over a specific period will be considered; which would grant taxpayers an opportunity to adjust to the new tax
 - A phased implementation of the tax towards comprehensive coverage of all economic sectors is believed to be desirable and will be considered”

4.1 Environmental Regulations Pertaining to Asphalt Manufacture

Existing and planned asphalt manufacturing plants are required to follow a range of environmental regulations as summarised in the table below.

Table 9: Legislation applicable to asphalt manufacturing plants

Legislation	Applicability
Conservation of Agricultural Resources Act	Any erosion or mismanagement of land may be assessed by a Department of Agriculture, Forestry and Fisheries (DAFF) official
Environment Conservation Act	Noise control is facilitated by this act, but controlled by local municipality by-laws. The relevant noise emission limit should not be exceeded by the plant

Legislation	Applicability
Explosives Act	In the case of asphalt plants which also operate quarries the storage and handling of explosives on site requires a permit from the Minister of Police
Mineral and Petroleum Resources Development Act	Quarries would require a mining permit in accordance with this Act
National Environmental Management Act – NEMA and provisions R543-R546	New plants would trigger requirements for (i) basic assessment (BA) or (ii) scoping and environmental impact assessment (EIA) - see Table 1 and Table 2
NEM: Air Quality Act and emission limits regulations under GN 32434 (24 July 2009)	Atmospheric Emission Licenses are required by all asphalt manufacturing plants and would stipulate monitoring requirements in terms of emission limits
NEM: Biodiversity Act	New plants would be restricted from being placed on land containing threatened or protected ecosystems
NEM: Integrated Coastal Management Act	New plants would be restricted from being placed on land containing threatened or protected ecosystems
NEM: Protected Areas Act	New plants would be restricted from being placed in nature reserves or heritage sites
NEM: Waste Act	New plants with large waste storage areas may need a waste management license and associated BA/EIA (see Table 4 and Table 5)
National Forests Act	New plants located in state forests need approval and licensing by Minister of DAFF and protected tree species in Table 6 may not be cut/disturbed/damaged/destroyed
National Heritage Resources Act	New plants footprints in excess of 5 000 m ² may require a heritage impact assessment
National Water Act	Site is financially and otherwise responsible for preventing and remedying pollution of water resources near or on respective site and may require water use license
Occupational Health and Safety Act and GNR: 1179 (25 August 1995)	Employees and other persons on site must be protected from hazardous chemical substances exposure

From Table 9 the overall pertinent environmental legislation governing operating and proposed new plants is evident at a broad level.

4.2 Environmental Regulations Pertaining to Asphalt Transport

The transportation of asphalt requires compliance with the following tabulated legislation:

Table 10: Legislation applicable to asphalt transport

Legislation	Applicability
National Road Traffic Act and the National Road Traffic Regulations in Government Gazette 32258 (May 27 2009) - GN 1113	Transport Emergency Cards are required to be carried by the drivers of vehicles transporting dangerous goods and the standards are outlined in SANS 10231 (Operational Requirements) and SANS 10232-4, Transport of Dangerous Goods Emergency Information Systems, Part 4 - Transport Emergency Card
Occupational Health and Safety Act and GNR: 1179	Employees and other persons protected from hazardous chemical substances exposure during transportation

4.3 Environmental Regulations Pertaining to Road Maintenance

The maintenance of roads requires the consideration of the following broad environmental regulations:

Table 11: Legislation applicable to road maintenance

Legislation	Applicability
Conservation of Agricultural Resources Act	Any erosion or mismanagement of land may be assessed by a Department of Agriculture, Forestry and Fisheries (DAFF) official
Environment Conservation Act	Noise control is facilitated by this act, but controlled by local municipality by-laws. The relevant noise emission limit should not be exceeded by the operation
Explosives Act	In the case of blasting requirements, storage and handling of explosives on site requires a permit from the Minister of Police
Mineral and Petroleum Resources Development Act	Borrow pits for road construction may be exempted from requiring a MPRDA mining permit, however road maintenance contractors are typically required to provide financial guarantees for remediation of borrow pits after project completion or project termination
National Environmental Management Act – NEMA and provisions R543-R546	Borrow pits placed in sensitive areas could trigger requirements for (i) basic assessment (BA) or (ii) scoping and environmental impact assessment (EIA) - see Table 1 and Table 2
NEM: Biodiversity Act	Land encroachment would be restricted for threatened or protected ecosystems
NEM: Integrated Coastal Management Act	Land encroachment would be restricted for threatened or protected ecosystems
NEM: Protected Areas Act	Land encroachment would be restricted for nature reserves or heritage sites

Legislation	Applicability
NEM: Waste Act	Large waste storage areas may need a waste management license and associated BA/EIA (see Table 4 and Table 5)
National Forests Act	Encroachment into state forests need approval and licensing by Minister of DAFF and protected tree species in Table 6 may not be cut/disturbed/damaged/destroyed
National Heritage Resources Act	Footprints in excess of 5 000 m ² may require a heritage impact assessment
National Land Transport Transition Act	Alteration must take cognisance of national land transport strategic frameworks, provincial road plans and local integrated transport plans
National Water Act	Site is financially and otherwise responsible for preventing and remedying pollution of water resources near or on respective site. Waterworks in servitudes are also governed by this Act
Occupational Health and Safety Act and GNR: 1179	Employees and other persons on site must be protected from hazardous chemical substances exposure
The South African National Roads Agency Limited And National Roads Act	Section 41 of this Act as outlined below allows for the Minister of Transport to expropriate land for national roads and ancillary works (eg: borrow pits) as required by SANRAL

4.4 Environmental Regulations Pertaining to Road Construction

Road construction requires consideration of the following environmental regulations:

Table 12: Legislation applicable to road construction

Legislation	Applicability
Conservation of Agricultural Resources Act	Any erosion or mismanagement of land may be assessed by a Department of Agriculture, Forestry and Fisheries (DAFF) official
Environment Conservation Act	Noise control is facilitated by this act, but controlled by local municipality by-laws. The relevant noise emission limit should not be exceeded by the operation
Explosives Act	In the case of blasting requirements, storage and handling of explosives on site requires a permit from the Minister of Police

Legislation	Applicability
Mineral and Petroleum Resources Development Act	Borrow pits for road construction may be exempted from requiring a MPRDA mining permit, however although the MPRDA does not make this stipulation, road maintenance contractors are typically required to provide financial guarantees for remediation of borrow pits after project completion or project termination
National Environmental Management Act – NEMA and provisions R543-R546	Borrow pits placed in sensitive areas could trigger requirements for (i) basic assessment (BA) or (ii) scoping and environmental impact assessment (EIA) - see Table 1 and Table 2
NEM: Biodiversity Act	Land encroachment would be restricted for threatened or protected ecosystems
NEM: Integrated Coastal Management Act	Land encroachment would be restricted for threatened or protected ecosystems
NEM: Protected Areas Act	Land encroachment would be restricted for nature reserves or heritage sites
NEM: Waste Act	Large waste storage areas may need a waste management license and associated BA/EIA (see Table 4 and Table 5)
National Forests Act	Encroachment into state forests need approval and licensing by Minister of DAFF and protected tree species in Table 6 may not be cut/disturbed/damaged/destroyed
National Heritage Resources Act	Footprints in excess of 5 000 m ² may require a heritage impact assessment
National Land Transport Transition Act	Alteration must take cognisance of national land transport strategic frameworks, provincial road plans and local integrated transport plans
National Water Act	Site is financially and otherwise responsible for preventing and remedying pollution of water resources near or on respective site. Waterworks servitudes are also governed by this Act
Occupational Health and Safety Act and GNR: 1179	Employees and other persons on site must be protected from hazardous chemical substances exposure
The South African National Roads Agency Limited And National Roads Act	Section 41 of this Act as outlined below allows for the Minister of Transport to expropriate land for national roads and ancillary works (eg: borrow pits) as required by SANRAL

5 Conclusions

A guideline document on South African environmental legislation relevant to asphalt manufacture through to road construction has been developed for SABITA in order to assist in mitigating the risks of regulatory compliance issues. This document acts as a framework for considering current **national** environmental legislation, as may be amended over time.

The environmental legislative framework covers a number of acts and associated regulations and covers the overarching National Environmental Management Act and its associated acts as well as the requirements in terms of assessments, authorisations, and licences required to carry out certain activities.

In terms of the environmental regulations for asphalt manufacturing plants, existing plants require atmospheric emission licences (AEL), as well as possibly requiring water use licences (WUL) and they are held liable for environmental pollution. New plants need to consider a range of legislation in terms of their siting and requirements in terms of environmental impact assessments (EIAs) as outlined in Table 1 and Table 2, and may require a waste permit (see Table 4 and Table 5 for guidance) in addition to an AEL and WUL.

The environmental regulations for asphalt transport incorporate the requirement for dangerous goods transport emergency cards and control measures preventing exposure.

Regarding the environmental regulations for road maintenance and construction, sites may be exempt from requiring mining rights for borrow pit development. However, contractors are held liable for environmental pollution, and activities need to consider a range of legislation in terms of siting based on triggers for EIAs (outlined in Table 1 and Table 2).

6 References

- Conservation of Agricultural Resources Act (No. 43 of 1983)
- Explosives Act (No. 15 of 2003)
- Mineral and Petroleum Resources Development Act (No. 28 of 2002)
- National Environmental Management Act – NEMA (No. 107 of 1998) and regulations
- NEM: Air Quality Act (No. 39 of 2004) and regulations GG 32434 (24 July 2009)
- NEM: Biodiversity Act (No. 10 of 2004)
- NEM: Integrated Coastal Management Act (No. 24 of 2008)
- NEM: Protected Areas Act (No. 57 of 2003)
- NEM: Waste Act (No. 59 of 2008)
- National Forests Act (No. 84 of 1998)
- National Heritage Resources Act (No. 29 of 1999)
- National Land Transport Transition Act (No. 22 of 2000)
- National Road Traffic Act, 1996 (No.93 of 1996)
- National Water Act (No. 36 of 1998)
- Noise Control Regulations: Environmental Conservation Act, 1989 (No. 73 of 1989)
- Occupational Health and Safety Act (No. 85 of 1993) & GNR: 1179 (25 August 1995)
- South African National Roads Agency Limited & National Roads Act (No. 7 of 1998)