

TABLE 1: SECTOR BY SECTOR - VISUAL IMPACTS, THEIR SIGNIFICANCE & ASSOCIATED MITIGATION RECOMMENDATIONS

SECTOR 1: SECTIONS 1 AND 2 - WESTLAKE INTERCHANGE TO VANGUARD / R300 INTERSECTION

ACTIVITIES		ENVIRONMENTAL ASPECTS	ANTICIPATED IMPACTS	SIGNIFICANCE OF ANTICIPATED IMPACTS				MITIGATION RECOMMENDATIONS	
				EXTENT	DURATION	INTENSITY (QUALITATIVE)	OVERALL SIGNIFICANCE		
Activity 1: Construction, operation and maintenance of a new road	1.1	Situating adjacent to Zeekoeivlei, Zandvlei and Capricorn (portion of Capricorn Park) Nature Reserves	<ul style="list-style-type: none"> Visual Impact of a freeway type road (in terms of traffic volume and speed) on conservation related uses e.g. bird watching etc. as well as quality of outdoor experience; 	M	H	H-	H	a	Landscaping of road reserves in accordance with Environmental Management Plan which includes landscape guidelines for the entire route and area specific landscape plans (at construction phase) to address rehabilitation of the road reserves and open spaces, with locally indigenous plants and appropriate tall tree species where screening required.
			<ul style="list-style-type: none"> Light Pollution from road streetlights, and vehicle headlights which will considerably reduce the quality of the outdoor experience at night. 	M	H	H-	H	b	Road should be aligned on the edge of areas which have a low visual absorption capacity, the proposed road through the Zandvlei surrounds should therefore be as far north as possible;
								c	Alignment of road at Zeekoeivlei should go on the Cape Flats Waste Water Treatment Works side of the dune rather than the Zeekoeivlei side, screening the road from the Vlei as far as possible;
								d	Minimise lighting, so as to prevent light pollution / intrusion.
	1.2	Situating through proposed False Bay Ecology Park - Bisecting Zeekoeivlei Wetlands and Cape Flats Waste Water Treatment ponds, which form 'one' wetland ecology	<ul style="list-style-type: none"> Visual Impact: This will be significant especially in conservation and overnight accommodation areas; 	M	H	H-	H	a	The most stringent noise attenuation measures must be followed;
			<ul style="list-style-type: none"> Light Pollution: Particularly if the road has streetlights, as well as from vehicle headlights which will considerably reduce the quality of the outdoor experience at night. 	M	H	H-	H	b	Minimise lighting, so as to prevent light pollution / intrusion.
								c	Where necessary long sections of the road should be elevated to minimise impacts on water flows, seed transport and faunal movement.
								d	Alignment at Zeekoeivlei should go on the Cape Flats Waste Water Treatment Works side of the dune rather than the Zeekoeivlei side, screening the road from the Vlei as far as possible;
								e	Landscaping of road reserves in accordance with Environmental Management Plan which includes landscape guidelines for the entire route and area specific landscape plans (at construction phase) to address rehabilitation of the road reserves and open spaces, with locally indigenous plants and appropriate tall tree species where screening required.
	1.3	View from Boyes Drive which is a scenic route	<ul style="list-style-type: none"> Visual impact of road cutting through current green corridor of freeway reserve. 	M	M	M	M	a	Take extra precautions to prevent visual blight and screen road as far as possible in accordance with Environmental Management Plan;
	1.4	Proposed road situated adjacent to residential areas: Steenberg (Frogmore Estate), Sheraton Park, Coniston Park, Sea Winds, Lavendar Hill and Strandfontein	<ul style="list-style-type: none"> Highest impact on residential houses directly adjacent to road corridor; 	L	H	H-	H	a	Mitigation of visual impact through landscaping in accordance with landscape guidelines and area specific road reserve landscape plans as set out in the Environmental Management Plan, screen houses from road by means of e.g.: <ul style="list-style-type: none"> Planted earth berms in selected areas; Planting of appropriate tall trees within road reserve and / or private plot; or Residential edge treatment e.g. perimeter walls (review regulation on maximum allowable height for residential property perimeter walls adjacent the road corridor in terms of increasing to allow for screening) etc.;
			<ul style="list-style-type: none"> Light pollution / intrusion from road lamp posts will have an effect on especially adjacent residences. 	L	H	H-	H		

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ACTIVITIES		ENVIRONMENTAL ASPECTS	ANTICIPATED IMPACTS	SIGNIFICANCE OF ANTICIPATED IMPACTS				MITIGATION RECOMMENDATIONS
				EXTENT	DURATION	INTENSITY (QUALITATIVE)	OVERALL SIGNIFICANCE	
								<p>b Mitigation of visual impact of light pollution / intrusion through:</p> <ul style="list-style-type: none"> • consideration at detail design stage • use of reflectors on side positioned street lights to direct light onto road; • planting of tall trees in gardens or in road reserve; • implementation of noise barriers on the freeway, which would provide a visual barrier. <p>c It may however be necessary to investigate special mitigatory measures at detail design stage for properties immediately adjacent freeway ramps.</p>
	1.5	North-south orientated dunes	<ul style="list-style-type: none"> • Visual impact of scars when cutting through them to align road; 	M	M	L	M	a Dunes should be landscaped (i.e. re-shaped and re-vegetated) to mitigate the visual impact of scars created when cutting through them to align proposed road. Landscaping should be done so as to emulate natural adjacent dunes / dunes found in the area (in terms of scale, slope gradient and vegetative cover);
	1.6	Low fynbos vegetation	<ul style="list-style-type: none"> • Offers little visual absorption especially for structures with grade separation. 	L	L	M	L	a Develop Environmental Management Plan (for entire route but with area specific considerations as landscape varies) to address rehabilitation of the road reserves with taller locally indigenous plants and appropriate tall tree species to increase visual absorption capacity.
	1.7	Visual character of area dominated by agricultural fields, vleis and coastal dunes	<ul style="list-style-type: none"> • Visual impact of road through agricultural lands, vleis and dune systems; 	L	L	M	L	<p>a Road should be aligned on the edge of areas which have a low visual absorption capacity as well as road structures placed rather in close proximity to existing built areas e.g agricultural lands;</p> <p>b Mitigate visual exposure of the area from the road with screening vegetation in accordance with the Environmental Management Plan (indigenous hedge planting and / or an avenue of taller appropriate non-indigenous trees). Note that in agricultural areas height of vegetation should be considered so as to prevent casting shade which inhibits vegetable growth.</p> <p>c Minimise lighting so as to prevent light pollution / intrusion.</p>
Activity 2: Construction, operation and maintenance of structures	2.1	Westlake Interchange – untolled, extension of existing structure	<ul style="list-style-type: none"> • Visual impact limited, due to existing structure with grade separation. 	L	L	L	L	a The Interchanges (especially those with grade separation) should be visually absorbed as far as possible through the planting of tall growing trees;
	2.2	Main / Steenberg Road Intersection – untolled and at grade	<ul style="list-style-type: none"> • Visual impact on residential area east of proposed intersection as primary traffic routes of Main Road and Steenberg Road were previously screened by built edge along Main Road. 	L	L	M	L	a In accordance with Environmental Management Plan plant screening trees to screen intersection from residential areas to the east.

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				EXTENT	DURATION	INTENSITY (QUALITATIVE)	OVERALL SIGNIFICANCE	
	2.3	Prince George Drive Interchange – tolled and with grade separation	<ul style="list-style-type: none"> • Highest impact on residential houses directly adjacent to road development; • Highest impact at elevated points e.g. structures with grade separation and with toll plazas as this implies a stationary traffic (i.e. increase in duration of exposure and reduction in privacy of adjacent properties); • Light pollution / intrusion from road lamp posts as well as headlights will have an effect on primarily adjacent residences and especially at elevated points; 	L	M	H	H	<p>Interchange with Toll Plazas and with grade separation at detail design stage needs to consider the following:</p> <p>a</p> <ul style="list-style-type: none"> • In accordance with Landscape guidelines and plans plant appropriate tall trees, so as to screen structures and thereby increase surrounding visual absorption capacity; <p>b</p> <ul style="list-style-type: none"> • Design and placement guidelines for structures and infrastructure i.e. signage, communication, lighting etc. to consider: <ul style="list-style-type: none"> • Use of appropriate materials; • Avoid positioning on ridgelines; • Massing, i.e. cluster activities where possible; • Appropriate setbacks from, adjacent uses, especially residential; • Modest scale, height and form of simple rectangular nature; • Structures to be as 'transparent' as possible to 'melt' / integrate into the landscape; • Signage and other infrastructure, e.g. communication leading up to and at plazas to be kept to a minimum; • Signage and other infrastructural elements be uniform as far as possible; and • Lighting to be kept to a minimum, to minimise light pollution and intrusion especially into private properties adjacent. <p>c</p> <ul style="list-style-type: none"> • Overlooking of private properties, especially in terms of: <ul style="list-style-type: none"> • The review of regulations on the maximum allowable height for residential property perimeter walls adjacent the road corridor in terms of increasing to allow for screening; and • The mitigation of light pollution / intrusion through the planting of tall trees in gardens and road reserves.
	2.4	Mainline toll plaza to the east of the Strandfontein residential area	<ul style="list-style-type: none"> • Regionally, visual impact greater if placed in unbuilt landscape as opposed to in close proximity of Strandfontein Residential area, however locally visual impact highest on adjacent residences. 	M	M	M to H	M	<p>Mainline Toll Plaza at detail design stage needs to consider the following:</p> <p>a</p> <ul style="list-style-type: none"> • Placement: <ul style="list-style-type: none"> • adjacent to / in close proximity of existing development versus placement in a natural (un-built) landscape; • Mainline toll plaza to consider positioning of existing tall tree breaks, avenues, etc. which provide visual absorption; <p>b</p> <ul style="list-style-type: none"> • In accordance with Landscape guidelines and plans plant appropriate tall trees, so as to screen structures and thereby increase surrounding visual absorption capacity; <ul style="list-style-type: none"> • Landscaping of medians / islands leading up to Mainline Toll Plaza; <p>c</p> <ul style="list-style-type: none"> • Design and placement guidelines for structures and infrastructure i.e. signage, communication, lighting etc. to consider: <ul style="list-style-type: none"> • Use of appropriate materials; • Massing, i.e. cluster activities where possible; • Appropriate setbacks from, adjacent uses, especially residential; • Modest scale, height and form of simple rectangular nature; • Structures to be as 'transparent' as possible to 'melt' into the landscape; • Signage and other infrastructure, e.g. communication leading up to and at plazas to be kept to a minimum;

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				EXTENT	DURATION	INTENSITY (QUALITATIVE)	OVERALL SIGNIFICANCE	
								<ul style="list-style-type: none"> • Signage and other infrastructural elements be uniform as far as possible; • ‘Armcor’ and other traffic safety barrier (e.g. metal drums, etc.) to be considered in terms of visual impact such as uniformity, maintenance condition, location, etc.; and • Lighting to be kept to a minimum, to minimise light pollution and intrusion especially into private properties adjacent.
	2.5	Vanguard Drive Interchange – untolled and with grade separation	<ul style="list-style-type: none"> • Visual impact due to grade separation as already an existing intensive intersection. 	L	M	M	M	<p>Interchange with Toll Plazas and with grade separation at detail design stage needs to consider the following:</p> <p>a</p> <ul style="list-style-type: none"> • In accordance with Landscape guidelines and plans plant appropriate tall trees, so as to screen structures and thereby increase surrounding visual absorption capacity; <p>b</p> <ul style="list-style-type: none"> • Design and placement guidelines for structures and infrastructure i.e. signage, communication, lighting etc. to consider: <ul style="list-style-type: none"> • Use of appropriate materials; • Avoid positioning on ridgelines; • Massing, i.e. cluster activities where possible; • Appropriate setbacks from, adjacent uses, especially residential; • Modest scale, height and form of simple rectangular nature; • Structures to be as ‘transparent’ as possible to ‘melt’ / integrate into the landscape; • Signage and other infrastructure, e.g. communication leading up to and at plazas to be kept to a minimum; • Signage and other infrastructural elements be uniform as far as possible; and • Lighting to be kept to a minimum, to minimise light pollution and intrusion especially into private properties adjacent. <p>c</p> <ul style="list-style-type: none"> • Overlooking of private properties, especially in terms of: <ul style="list-style-type: none"> • The review of regulations on the maximum allowable height for residential property perimeter walls adjacent the road corridor in terms of increasing to allow for screening; and • The mitigation of light pollution / intrusion through the planting of tall trees in gardens and road reserves.

SECTOR 2: SECTIONS 3, 4 AND 5 – R300 / EISLEBEN ROAD INTERSECTION TO STELLENBERG INTERCHANGE

ACTIVITIES		ENVIRONMENTAL ASPECTS	ANTICIPATED IMPACTS	SIGNIFICANCE OF ANTICIPATED IMPACTS				MITIGATION RECOMMENDATIONS
				EXTENT	DURATION	INTENSITY (QUALITATIVE)	OVERALL SIGNIFICANCE	
Activity 1: Construction, maintenance and operation of the proposed road		not applicable as toll structures to be constructed on existing R300	N/A	N/A	N/A	N/A	N/A	N/A
Activity 2: Construction, operation and maintenance of structures	2.1	Mitchell's Plain Interchange – tolled and lower level than R300	<ul style="list-style-type: none"> Visual impact of toll plaza limited due to lower level positioning 	L	L	L	L	<p>Interchange with Toll Plazas and with grade separation at detail design stage needs to consider the following:</p> <p>a</p> <ul style="list-style-type: none"> In accordance with Landscape guidelines and plans plant appropriate tall trees, so as to screen structures and thereby increase surrounding visual absorption capacity; <p>b</p> <ul style="list-style-type: none"> Design and placement guidelines for structures and infrastructure i.e. signage, communication, lighting etc. to consider: <ul style="list-style-type: none"> Use of appropriate materials; Avoid positioning on ridgelines; Massing, i.e. cluster activities where possible; Appropriate setbacks from, adjacent uses, especially residential; Modest scale, height and form of simple rectangular nature; Structures to be as 'transparent' as possible to 'melt' / integrate into the landscape; Signage and other infrastructure, e.g. communication leading up to and at plazas to be kept to a minimum; Signage and other infrastructural elements be uniform as far as possible; and Lighting to be kept to a minimum, to minimise light pollution and intrusion especially into private properties adjacent. <p>c</p> <ul style="list-style-type: none"> Overlooking of private properties, especially in terms of: <ul style="list-style-type: none"> The review of regulations on the maximum allowable height for residential property perimeter walls adjacent the road corridor in terms of increasing to allow for screening; and The mitigation of light pollution / intrusion through the planting of tall trees in gardens and road reserves.
	2.2	Swartklip Interchange - tolled and at grade	<ul style="list-style-type: none"> Visual impact of toll plaza limited due to existing structures with grade separation 	L	L	L	L	Similar to item 2.1a
	2.3	Hindle Interchange - tolled and at higher level than R300	<ul style="list-style-type: none"> Visual impact of toll plaza greater due to higher level positioning 	L	L	M	M	Similar to item 2.1a
	2.4	Stellenbosch Interchange – tolled and at lower level than R300	<ul style="list-style-type: none"> Visual impact of toll plaza limited due to lower level positioning 	L	L	L	L	Similar to item 2.1a
	2.5	Van Riebeeck Interchange – tolled and at lower level than R300	<ul style="list-style-type: none"> Visual impact of toll plaza limited due to lower level positioning 	L	L	L	L	Similar to item 2.1a

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ACTIVITIES		ENVIRONMENTAL ASPECTS	ANTICIPATED IMPACTS	SIGNIFICANCE OF ANTICIPATED IMPACTS				MITIGATION RECOMMENDATIONS
				EXTENT	DURATION	INTENSITY (QUALITATIVE)	OVERALL SIGNIFICANCE	
	2.6	Mainline toll plaza between Stellenbosch and van Riebeeck Interchanges	<ul style="list-style-type: none"> Visual impact decreased if placed in close proximity to existing tree breaks. Impact greater if placed just north of existing dune. Highest impact on residential houses directly adjacent to road development. 	M	M	M	M	<p><i>Mainline Toll Plaza at detail design stage needs to consider the following:</i></p> <ul style="list-style-type: none"> Placement: <ul style="list-style-type: none"> adjacent to / in close proximity of existing development versus placement in a natural (un-built) landscape; Mainline toll plaza to consider positioning of existing tall tree breaks, avenues, etc. which provide visual absorption; In accordance with Landscape guidelines and plans plant appropriate tall trees, so as to screen structures and thereby increase surrounding visual absorption capacity; <ul style="list-style-type: none"> Landscaping of medians / islands leading up to Mainline Toll Plaza; Design and placement guidelines for structures and infrastructure i.e. signage, communication, lighting etc. to consider: <ul style="list-style-type: none"> Use of appropriate materials; Massing, i.e. cluster activities where possible; Appropriate setbacks from, adjacent uses, especially residential; Modest scale, height and form of simple rectangular nature; Structures to be as 'transparent' as possible to 'melt' into the landscape; Signage and other infrastructure, e.g. communication leading up to and at plazas to be kept to a minimum; Signage and other infrastructural elements be uniform as far as possible; 'Armcor' and other traffic safety barrier (e.g. metal drums, etc.) to be considered in terms of visual impact such as uniformity, maintenance condition, location, etc.; and Lighting to be kept to a minimum, to minimise light pollution and intrusion especially into private properties adjacent.

SECTOR 3: SECTION 6 – STELLENBERG INTERCHANGE TO WELLINGTON ROAD

ACTIVITIES		ENVIRONMENTAL ASPECTS	ANTICIPATED IMPACTS	SIGNIFICANCE OF ANTICIPATED IMPACTS				MITIGATION RECOMMENDATIONS
				EXTENT	DURATION	INTENSITY (QUALITATIVE)	OVERALL SIGNIFICANCE	
Activity 1: Construction, maintenance and operation of new road	1.1	Proposed alignment lies within Kuils River and Mosselbank River valleys And therefore road corridor characterised by numerous wetlands and reedbeds	<ul style="list-style-type: none"> Road will impact on riverine and wetland ecology and visual character; Impact on continuity of Kuils River Open Space System. 	M	M	H	M	<p>a It has been recommended that the portion of section 6 between the lower end of Fairtrees Road and the N21 / R300 interchange be rehabilitated with renosterveld, and that the wetlands should be allowed to develop naturally without reed control;</p> <p>b The section of Kuils River Floodplain adjacent to the road needs to be rehabilitated with appropriate indigenous vegetation;</p> <p>c It is recommended that the Kuils River and its associated terrestrial ecosystems should be treated holistically, and managed and promoted as a green ribbon linking the Tygerberg Hills to False Bay;</p> <p>d The road should be kept as far from the Kuils River as possible with the gradients of the cut and fill slopes being as close to the existing natural gradients as possible.</p>
				H	M	H	H	
	1.3	Located largely within an urban residential environment of varying housing densities (i.e. large single freestanding to group housing), road runs through corridor between houses in various residential areas	<ul style="list-style-type: none"> Residents directly adjacent to corridor will be exposed to views of the road, greater density housing will provide greater visual absorption capacity than single freestanding on larger plot sizes, but would be impacted on to a greater extent due to closer proximity and finer grain i.e. greater number of residences impacted upon. Impact on visual character of peaceful suburbia; Light intrusion due to lighting of road. 	L	M	H	H	<p>a Mitigation of visual impact through landscaping in accordance with landscape guidelines and area specific road reserve landscape plans as set out in the Environmental Management Plan, screen houses from road by means of e.g.:</p> <ul style="list-style-type: none"> Planted earth berms in selected areas; Planting of appropriate tall trees within road reserve and / or private plot; or Residential edge treatment e.g. perimeter walls (review regulation on maximum allowable height for residential property perimeter walls adjacent the road corridor in terms of increasing to allow for screening) etc.; <p>b Mitigation of visual impact of light pollution / intrusion through:</p> <ul style="list-style-type: none"> consideration at detail design stage use of reflectors on side positioned street lights to direct light onto road; planting of tall trees in gardens or in road reserve; implementation of noise barriers on the freeway, which would provide a visual barrier. <p>c It may however be necessary to investigate special mitigatory measures at detail design stage for properties immediately adjacent freeway ramps.</p>
				L	H	H	H	
				L	M	M	M	
	1.4	Regularly cut vegetation in corridor.	<ul style="list-style-type: none"> Offers little visual absorption 	M	M	M	M	<p>a Road should be aligned on the edge of areas which have a low visual absorption capacity as well as road structures placed rather in close proximity to existing built areas e.g agricultural lands;</p> <p>b Mitigate visual exposure of the area from the road with screening vegetation in accordance with the Environmental Management Plan (indigenous hedge planting and / or an avenue of taller appropriate non-indigenous trees). Note that in agricultural areas height of vegetation should be considered so as to prevent casting shade which inhibits vegetable growth.</p> <p>c Minimise lighting so as to prevent light pollution / intrusion.</p>

SECTOR 3: SECTION 6 – STELLENBERG INTERCHANGE TO WELLINGTON ROAD

ACTIVITIES		ENVIRONMENTAL ASPECTS	ANTICIPATED IMPACTS	SIGNIFICANCE OF ANTICIPATED IMPACTS					MITIGATION RECOMMENDATIONS
				EXTENT	DURATION	INTENSITY (QUALITATIVE)	OVERALL SIGNIFICANCE		
Activity 2: Construction, maintenance and operation of structures	2.1	Extension of Stellenberg Interchange from which new road commences – untolled	<ul style="list-style-type: none"> Houses on eastern and western ridgelines are exposed to views onto and from interchange extension i.e. on level; Impact on N1 which is a scenic corridor. 	M	M	L	L	a	Windrows and clumps of tall trees, should be planted (existing extended clumps to the east) at the interchange to 'soften' structure and increase visual absorption into the landscape.
	2.2	De Villiers Interchange – tolled and with grade separation	<ul style="list-style-type: none"> As sited within a valley houses on eastern and western ridgelines exposed to interchange. Grade separation increases visual impact; Interchange also increases exposure of adjacent properties; Light intrusion due to lighting of interchange. 	M	M	H	M	a	Windrows and clumps of tall trees, should be planted (or existing extended) at the interchange to screen the road and visually absorb this grade separated interchange into the landscape; and Interchange with Toll Plazas and with grade separation at detail design stage needs to consider the following:
								b	<ul style="list-style-type: none"> In accordance with Landscape guidelines and plans plant appropriate tall trees, so as to screen structures and thereby increase surrounding visual absorption capacity;
								c	<ul style="list-style-type: none"> Design and placement guidelines for structures and infrastructure i.e. signage, communication, lighting etc. to consider: <ul style="list-style-type: none"> Use of appropriate materials; Avoid positioning on ridgelines; Massing, i.e. cluster activities where possible; Appropriate setbacks from, adjacent uses, especially residential; Modest scale, height and form of simple rectangular nature; Structures to be as 'transparent' as possible to 'melt' / integrate into the landscape; Signage and other infrastructure, e.g. communication leading up to and at plazas to be kept to a minimum; Signage and other infrastructural elements be uniform as far as possible; and Lighting to be kept to a minimum, to minimise light pollution and intrusion especially into private properties adjacent.
								d	<ul style="list-style-type: none"> Overlooking of private properties, especially in terms of: <ul style="list-style-type: none"> The review of regulations on the maximum allowable height for residential property perimeter walls adjacent the road corridor in terms of increasing to allow for screening; and The mitigation of light pollution / intrusion through the planting of tall trees in gardens and road reserves.

SECTOR 3: SECTION 6 – STELLENBERG INTERCHANGE TO WELLINGTON ROAD

ACTIVITIES		ENVIRONMENTAL ASPECTS	ANTICIPATED IMPACTS	SIGNIFICANCE OF ANTICIPATED IMPACTS				MITIGATION RECOMMENDATIONS
				EXTENT	DURATION	INTENSITY (QUALITATIVE)	OVERALL SIGNIFICANCE	
	2.3	Wellington Interchange - tolled with grade separation	<ul style="list-style-type: none"> Sited in area on the urban edge visual impact therefore increased by close proximity of rural landscape just beyond which due to its low vegetation offers little visual absorption. Impact also increased by grade separation on relatively a relatively flat topography; Interchange with grade separation also increases exposure of adjacent properties; Light intrusion due to lighting of interchange. 	M	M	H	H	<p>a Windrows and clumps of large trees, should be planted (or existing extended) at the intersections to screen the road and absorb it visually into the landscape; and</p> <p>Interchange with Toll Plazas and with grade separation at detail design stage needs to consider the following:</p> <p>b</p> <ul style="list-style-type: none"> In accordance with Landscape guidelines and plans plant appropriate tall trees, so as to screen structures and thereby increase surrounding visual absorption capacity; <p>c</p> <ul style="list-style-type: none"> Design and placement guidelines for structures and infrastructure i.e. signage, communication, lighting etc. to consider: <ul style="list-style-type: none"> Use of appropriate materials; Avoid positioning on ridgelines; Massing, i.e. cluster activities where possible; Appropriate setbacks from, adjacent uses, especially residential; Modest scale, height and form of simple rectangular nature; Structures to be as 'transparent' as possible to 'melt' / integrate into the landscape; Signage and other infrastructure, e.g. communication leading up to and at plazas to be kept to a minimum; Signage and other infrastructural elements be uniform as far as possible; and Lighting to be kept to a minimum, to minimise light pollution and intrusion especially into private properties adjacent. <p>d</p> <ul style="list-style-type: none"> Overlooking of private properties, especially in terms of: <ul style="list-style-type: none"> The review of regulations on the maximum allowable height for residential property perimeter walls adjacent the road corridor in terms of increasing to allow for screening; and The mitigation of light pollution / intrusion through the planting of tall trees in gardens and road reserves.

SECTOR 3: SECTIONS 7 AND 8 – WELLINGTON ROAD TO MELKBOSSTRAND

ACTIVITIES		ENVIRONMENTAL ASPECTS	ANTICIPATED IMPACTS	SIGNIFICANCE OF ANTICIPATED IMPACTS					MITIGATION RECOMMENDATIONS
				EXTENT	DURATION	INTENSITY (QUALITATIVE)	OVERALL SIGNIFICANCE		
Activity 1: Construction, maintenance and operation of a new road	1.1	New road sited through predominantly rural landscape with a strong 'sense of rural place' . A number of historical farmsteads in the vicinity of the road alignment. These homesteads have a strong 'sense of rural place' and represent scenic features.	<ul style="list-style-type: none"> High visual impact due to siting in rural landscape with low visual absorption capacity Impact on 'sense of place'; Impact on value of homesteads as scenic features. 	H	M	H	H	<p>a Screen road in accordance with Environmental Management Plan and landscape guidelines so as to minimise impact on rural 'sense of place'.</p> <p>b Consider value of homesteads as scenic features i.e. align road as far as possible from homesteads especially historically significant homesteads and buildings.</p>	
	1.2	Road passes through a landscape made up of various exposed landforms as spurs, steep slopes, ridges, convex slopes, dunes and hills such as the Tygerberg Hills, Kleinberg and Blouberg.	<ul style="list-style-type: none"> Visual impact greatest if aligned on exposed landforms. 	H	M	H	H	<p>a Re-align the road off exposed landforms or ensure cut and fill slopes emulate the existing adjacent slope gradients;</p> <p>b Dunes should be landscaped (i.e. re-shaped and re-vegetated) to mitigate the visual impact of scars created when cutting through them to align proposed road. Landscaping should be done so as to emulate natural adjacent dunes / dunes found in the area (in terms of scale, slope gradient and vegetative cover);</p>	
	1.3	Sandy coastal plain characterised by high sand dunes .	<ul style="list-style-type: none"> Visual impact of scars created in dunes when cutting through them to align road; 	M	M	M	M	<p>a Dunes should be landscaped (i.e. re-shaped and re-vegetated) to mitigate the visual impact of scars created when cutting through them to align proposed road. Landscaping should be done so as to emulate natural adjacent dunes / dunes found in the area (in terms of scale, slope gradient and vegetative cover);</p>	
	1.4	Route crosses some of the many drainage lines and wetlands of the Diep River which still contain conservation worthy vegetation as well as have scenic value	<ul style="list-style-type: none"> Visual impact on character of riverine / wetland areas 	H	M	H	H	<p>a Cross the streams at the narrowest points possible and bridge rather than fill;</p>	
	1.5	Road alignment undulates descending to the floor of the Diep River Valley, climbing gently out of the valley and then descending towards the coast.	<ul style="list-style-type: none"> Visual impact greatest on higher lying areas as opposed to within valleys 	H	M	M	M	<p>a Avoid ridgelines and higher lying areas</p>	
	1.6	Route sited along southern boundary of the Blaauwberg Conservation Area which includes Kleinberg, the Battle of Blaauwberg site as well as Bloubergsvlei along this edge.	<ul style="list-style-type: none"> Visual impact on character of conservation related uses 	H	M	H	H	<p>a Provide a 100m or more buffer between the edge of the road reserve and toe slopes of Kleinberg (southern boundary of core conservation area of BCA);</p> <p>b Provide a 100m or more buffer between the road and the Battle of Blaauwberg site and Bloubergsvlei;</p>	

SECTOR 3: SECTIONS 7 AND 8 – WELLINGTON ROAD TO MELKBOSSTRAND

ACTIVITIES		ENVIRONMENTAL ASPECTS	ANTICIPATED IMPACTS	SIGNIFICANCE OF ANTICIPATED IMPACTS				MITIGATION RECOMMENDATIONS
				EXTENT	DURATION	INTENSITY (QUALITATIVE)	OVERALL SIGNIFICANCE	
	1.8	Low natural vegetation and cultivated lands offer a low visual absorption capacity .	<ul style="list-style-type: none"> Visual impact of road development greatest on areas with low visual absorption capacity 	H	M	H	H	<p>a Road should be aligned on the edge of areas which have a low visual absorption capacity as well as road structures placed rather in close proximity to existing built areas e.g agricultural lands;</p> <p>b Mitigate visual exposure of the area from the road with screening vegetation in accordance with the Environmental Management Plan (indigenous hedge planting and / or an avenue of taller appropriate non-indigenous trees). Note that in agricultural areas height of vegetation should be considered so as to prevent casting shade which inhibits vegetable growth.</p> <p>c Minimise lighting so as to prevent light pollution / intrusion.</p>
	1.9	Route intersects with N7 scenic route .	<ul style="list-style-type: none"> Visual impact of intersection due to structure with grade separation 	M	M	M	M	<p>a Within the N7 scenic route visual corridor take extra precautions to prevent visual blight;</p>
Activity 2: Construction, maintenance and operation of structures	2.1	Vissershok Interchange – tolled and grade separation	<ul style="list-style-type: none"> Visual impact due to grade separation and toll plaza 	M	M	M	M	<p>a If possible, pass under the N7 rather than over;</p> <p>Interchange with Toll Plazas and with grade separation at detail design stage needs to consider the following:</p> <p>b</p> <ul style="list-style-type: none"> In accordance with Landscape guidelines and plans plant appropriate tall trees, so as to screen structures and thereby increase surrounding visual absorption capacity; <p>c</p> <ul style="list-style-type: none"> Design and placement guidelines for structures and infrastructure i.e. signage, communication, lighting etc. to consider: <ul style="list-style-type: none"> Use of appropriate materials; Avoid positioning on ridgelines; Massing, i.e. cluster activities where possible; Appropriate setbacks from, adjacent uses, especially residential; Modest scale, height and form of simple rectangular nature; Structures to be as 'transparent' as possible to 'melt' / integrate into the landscape; Signage and other infrastructure, e.g. communication leading up to and at plazas to be kept to a minimum; Signage and other infrastructural elements be uniform as far as possible; and Lighting to be kept to a minimum, to minimise light pollution and intrusion especially into private properties adjacent. <p>d</p> <ul style="list-style-type: none"> Overlooking of private properties, especially in terms of: <ul style="list-style-type: none"> The review of regulations on the maximum allowable height for residential property perimeter walls adjacent the road corridor in terms of increasing to allow for screening; and The mitigation of light pollution / intrusion through the planting of tall trees in gardens and road reserves.
	2.2	Mainline plaza just east of Vissershok Interchange	<ul style="list-style-type: none"> Visual impact due to siting of plaza within unbuilt area as well as on a crest. Stands of exotic trees to provide visual absorption. 	M	M	M	M	<p>a Situate the proposed mainline toll plaza on the 'military crest' (below the skyline) so that this is not exposed;</p> <p>b In accordance with Environmental Management Plan gradually replace exotic invasive vegetation with indigenous taller species which will provide visual screening.</p>

SECTOR 4: SECTION 9 - STELLENBERG INTERCHANGE

ACTIVITIES		ENVIRONMENTAL ASPECTS	ANTICIPATED IMPACTS	SIGNIFICANCE OF ANTICIPATED IMPACTS					MITIGATION RECOMMENDATIONS
				EXTENT	DURATION	INTENSITY (QUALITATIVE)	OVERALL SIGNIFICANCE		
Activity 1: Construction, maintenance and operation of new road - not applicable		N/A	N/A	N/A	N/A	N/A	N/A		N/A
Activity 2: Construction, maintenance and operation of structures	2.1	Extension of Stellenberg Interchange - structure with grade separation	<ul style="list-style-type: none"> Houses on eastern and western ridgelines are exposed to views onto and from interchange extension i.e. on level; Impact on N1 which is a scenic corridor. 	M	M	L	L	a	Windrows and clumps of tall trees, should be planted (existing extended clumps to the east) at the interchange to 'soften' structure and increase visual absorption into the landscape.
	2.2	Interchange site in Kuils River Valley	<ul style="list-style-type: none"> Road will impact on riverine and wetland ecology and visual character; 	M	M	H	M	a	It has been recommended that the portion of section 6 between the lower end of Fairtrees Road and the N21 / R300 interchange be rehabilitated with renosterveld, and that the wetlands should be allowed to develop naturally without reed control;
								b	The section of Kuils River Floodplain adjacent to the road needs to be rehabilitated with appropriate indigenous vegetation;
								c	It is recommended that the Kuils River and its associated terrestrial ecosystems should be treated holistically, and managed and promoted as a green ribbon linking the Tygerberg Hills to False Bay;
								d	The road should be kept as far from the Kuils River as possible with the gradients of the cut and fill slopes being as close to the existing natural gradients as possible.

SECTOR 5: SECTION 10 - R300 / VANGUARD ROAD INTERSECTION TO PRINCE GEORGE DRIVE (M5)

ACTIVITIES		ENVIRONMENTAL ASPECTS	ANTICIPATED IMPACTS	SIGNIFICANCE OF ANTICIPATED IMPACTS				MITIGATION RECOMMENDATIONS
				EXTENT	DURATION	INTENSITY (QUALITATIVE)	OVERALL SIGNIFICANCE	
Activity 1: Construction, maintenance and operation of new road	1.1	<i>Section 10 passes through two distinctive communities as well as development patterns i.e:</i>						
	a	Grassy Park – a predominantly high density residential environment ; and	<ul style="list-style-type: none"> • Highest impact on residential houses directly adjacent to road corridor, especially near Acacia; • Highest impact at elevated points at road and canal crossings, pedestrian crossings and where freeway ramps are located close to houses; • Light pollution / intrusion from road lamp posts will have an effect on especially adjacent residences and especially at elevated points. 	L	M	H	H	<p>a Mitigation of visual impact through landscaping in accordance with landscape guidelines and area specific road reserve landscape plans as set out in the Environmental Management Plan, screen houses from road by means of e.g.:</p> <ul style="list-style-type: none"> • Planting of fynbos shrubs on embankments, to reduce direct visual impact of the road where noise barriers are not present to fulfill this function. • Planting of appropriate tall trees within road reserve and / or private plot; or • Residential edge treatment e.g. perimeter walls (review regulation on maximum allowable height for residential property perimeter walls adjacent the road corridor in terms of increasing to allow for screening) etc.; <p>b Mitigation of visual impact of light pollution / intrusion through:</p> <ul style="list-style-type: none"> • consideration at detail design stage • use of reflectors on side positioned street lights to direct light onto road; • planting of tall trees in gardens or in road reserve; • implementation of noise barriers on the freeway, which would provide a visual barrier. <p>c It may however be necessary to investigate special mitigatory measures at detail design stage for properties immediately adjacent freeway ramps.</p>
	b	Philippi Horticultural Area – a lower density landscape of agricultural holdings .	<ul style="list-style-type: none"> • Exposure of farms from road; • Security raised as a concern which will have a visual impact in terms of treatment e.g. high walls etc. 	L	M	H	H	<p>a In accordance with the Environmental Management Plan mitigate visual exposure of the area from the road with screening vegetation (indigenous hedge planting / an avenue of larger non-indigenous trees).</p> <p>b Recommended that dense row of trees or bushes be planted along the length of the road to screen farms from road. This row of bushes should preferably utilise indigenous vegetation (from the nearby vegetation fragments) to enhance the ecological corridor function linking the Princessvlei area and vegetation fragments in the PHA . Vegetation should be limited in height to prevent casting shade onto adjacent properties (shade inhibits vegetable growth). Planting should be done in consultation with adjacent farmers;</p> <p>c To address the concern of security most favoured option, i.e. aesthetically and ecologically, would be the use of a ditch / wetland with a hedge on the other side as is commonly used in the United Kingdom;</p>

SECTOR 5: SECTION 10 – R300 / VANGUARD ROAD INTERSECTION TO PRINCE GEORGE DRIVE (M5)

ACTIVITIES		ENVIRONMENTAL ASPECTS	ANTICIPATED IMPACTS	SIGNIFICANCE OF ANTICIPATED IMPACTS					MITIGATION RECOMMENDATIONS
				EXTENT	DURATION	INTENSITY (QUALITATIVE)	OVERALL SIGNIFICANCE		
	1.2	Road reserve (and open spaces surrounding interchanges) forms an open space system with potential of linking various open space areas and conservation worthy areas e.g. Princessvlei, Varkensvlei, conservation worthy dune at Vanguard / R300 interection, Vanguard Drive Wetlands etc.	<ul style="list-style-type: none"> Visual impact of road due to siting in an area with a low visual absorption capacity e.g. agricultural area as well as through areas which are conservation worthy featuring indigenous vegetation. 	L	M	H	H	<p>a Landscaping of road reserves in accordance with Environmental Management Plan which includes landscape guidelines for the entire route and area specific landscape plans (at construction phase) to address rehabilitation of the road reserves and open spaces, with locally indigenous plants and appropriate tall tree species where screening required.</p> <p>b Road should be aligned on the edge of areas which have a low visual absorption capacity.</p>	
Activity 2: Construction, maintenance and operation of structures	2.1	Vanguard Drive Interchange – tolled with grade separation	<ul style="list-style-type: none"> Highest impact on residential houses directly adjacent to intersection; Highest impact due to grade separation; Light pollution / intrusion from road lamp posts will have an effect on especially adjacent residences and especially at elevated points. 	M	M	M	M	<p>Interchange with Toll Plazas and with grade separation at detail design stage needs to consider the following:</p> <p>a</p> <ul style="list-style-type: none"> In accordance with Landscape guidelines and plans plant appropriate tall trees, so as to screen structures and thereby increase surrounding visual absorption capacity; <p>b</p> <ul style="list-style-type: none"> Design and placement guidelines for structures and infrastructure i.e. signage, communication, lighting etc. to consider: <ul style="list-style-type: none"> Use of appropriate materials; Avoid positioning on ridgelines; Massing, i.e. cluster activities where possible; Appropriate setbacks from, adjacent uses, especially residential; Modest scale, height and form of simple rectangular nature; Structures to be as 'transparent' as possible to 'melt' / integrate into the landscape; Signage and other infrastructure, e.g. communication leading up to and at plazas to be kept to a minimum; Signage and other infrastructural elements be uniform as far as possible; and Lighting to be kept to a minimum, to minimise light pollution and intrusion especially into private properties adjacent. <p>c</p> <ul style="list-style-type: none"> Overlooking of private properties, especially in terms of: <ul style="list-style-type: none"> The review of regulations on the maximum allowable height for residential property perimeter walls adjacent the road corridor in terms of increasing to allow for screening; and 	

SECTOR 5: SECTION 10 - R300 / VANGUARD ROAD INTERSECTION TO PRINCE GEORGE DRIVE (M5)

ACTIVITIES		ENVIRONMENTAL ASPECTS	ANTICIPATED IMPACTS	SIGNIFICANCE OF ANTICIPATED IMPACTS				MITIGATION RECOMMENDATIONS
				EXTENT	DURATION	INTENSITY (QUALITATIVE)	OVERALL SIGNIFICANCE	
	2.2	Strandfontein Interchange – tolled with grade separation	<ul style="list-style-type: none"> Visual impact due to grade separation; Siting in close proximity to north-south dune system will have a visual impact; Light pollution / intrusion from road lamp posts will have an effect on especially adjacent residences and especially at elevated points. 	M	M	M	M	<p>Interchange with Toll Plazas and with grade separation at detail design stage needs to consider the following:</p> <p>a</p> <ul style="list-style-type: none"> In accordance with Landscape guidelines and plans plant appropriate tall trees, so as to screen structures and thereby increase surrounding visual absorption capacity; <p>b</p> <ul style="list-style-type: none"> Design and placement guidelines for structures and infrastructure i.e. signage, communication, lighting etc. to consider: <ul style="list-style-type: none"> Use of appropriate materials; Avoid positioning on ridgelines; Massing, i.e. cluster activities where possible; Appropriate setbacks from, adjacent uses, especially residential; Modest scale, height and form of simple rectangular nature; Structures to be as 'transparent' as possible to 'melt' / integrate into the landscape; Signage and other infrastructure, e.g. communication leading up to and at plazas to be kept to a minimum; Signage and other infrastructural elements be uniform as far as possible; and Lighting to be kept to a minimum, to minimise light pollution and intrusion especially into private properties adjacent. <p>c</p> <ul style="list-style-type: none"> Overlooking of private properties, especially in terms of: <ul style="list-style-type: none"> The review of regulations on the maximum allowable height for residential property perimeter walls adjacent the road corridor in terms of increasing to allow for screening; and
	2.3	Mainline toll plaza between Vanguard Interchange and Strandfontein Interchange	<ul style="list-style-type: none"> Visual impact due to siting within an area of low visual absorption capacity i.e. with agricultural lands 	M	M	H	H	<p>Mainline Toll Plaza at detail design stage needs to consider the following:</p> <p>a</p> <ul style="list-style-type: none"> Placement: <ul style="list-style-type: none"> adjacent to / in close proximity of existing development versus placement in a natural (un-built) landscape; Mainline toll plaza to consider positioning of existing tall tree breaks, avenues, etc. which provide visual absorption; <p>b</p> <ul style="list-style-type: none"> In accordance with Landscape guidelines and plans plant appropriate tall trees, so as to screen structures and thereby increase surrounding visual absorption capacity; <ul style="list-style-type: none"> Landscaping of medians / islands leading up to Mainline Toll Plaza; <p>c</p> <ul style="list-style-type: none"> Design and placement guidelines for structures and infrastructure i.e. signage, communication, lighting etc. to consider: <ul style="list-style-type: none"> Use of appropriate materials; Massing, i.e. cluster activities where possible; Appropriate setbacks from, adjacent uses, especially residential; Modest scale, height and form of simple rectangular nature; Structures to be as 'transparent' as possible to 'melt' into the landscape; Signage and other infrastructure, e.g. communication leading up to and at plazas to be kept to a minimum; Signage and other infrastructural elements be uniform as far as possible;

SECTOR 5: SECTION 10 - R300 / VANGUARD ROAD INTERSECTION TO PRINCE GEORGE DRIVE (M5)

ACTIVITIES		ENVIRONMENTAL ASPECTS	ANTICIPATED IMPACTS	SIGNIFICANCE OF ANTICIPATED IMPACTS					MITIGATION RECOMMENDATIONS
				EXTENT	DURATION	INTENSITY (QUALITATIVE)	OVERALL SIGNIFICANCE		
									<ul style="list-style-type: none"> 'Armcor' and other traffic safety barrier (e.g. metal drums, etc.) to be considered in terms of visual impact such as uniformity, maintenance condition, location, etc.; and Lighting to be kept to a minimum, to minimise light pollution and intrusion especially into private properties adjacent.
	2.4	De Wet Road bridge across freeway	<ul style="list-style-type: none"> Exposure and reduction in privacy of adjacent properties; Light intrusion from lighting. 	L	M	H	H	a	At detailed design stage mitigatory screening (e.g. planting, boundary walls etc.) should be considered to prevent overlooking of properties adjacent to the De Wet Road bridge.
	2.5	Pedestrian overhead crossings e.g. Lotus River Bridge.	<ul style="list-style-type: none"> View of road from residential houses; and Intrusion into privacy of residential houses from road. 	L	M	H	H	a	At detailed design stage mitigatory screening (e.g. planting, boundary walls etc.) should be considered especially to prevent overlooking of properties adjacent to overhead structures.
	2.6	Weltevreden Road bridge across freeway	<ul style="list-style-type: none"> Exposure of Trudy Thomas Children's Centre; 'World od Birds' – although impact moderate due to siting 400m from bridge. 	L	M	H	H	a	The design of bridges and screening in the Philippi area should seek to minimise shadow onto horticultural properties;
								b	In the design of the Weltevreden road bridge, the needs of the Trudy Thomas Children's Centre should be considered. This may include some sort of privacy screening.