MARINE TELECOMMUNICATIONS CABLE SYSTEM (ACE CABLE SYSTEM) TO BE LANDED AT VAN RIEBEECKSTRAND ON THE WEST COAST OF SOUTH AFRICA

Social Impact Assessment

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January 2017

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DECLARATION OF INDEPENDENCE

I, Duncan Keal, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed development project, application or appeal in respect of which I was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.

Signed…… Date…30 January 2017

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KEY QUALIFICATIONS AND RELEVANT PROJECT EXPERIENCE

2016 Sasol Mining (Pty) Ltd: Pande 4 Reconnaissance, Mozambique. Damage Compensation and Resettlement Reconnaissance (Project manager).

2015 Sasol Mining (Pty) Ltd: ROMPCO Loop Line 2 Project, Mozambique. Implementation of damage compensation (Project manager).

2015 Sasol Mining (Pty) Ltd: Area A Well Drilling, Mozambique. Implementation of damage compensation (Project manager).

2015 Sasol Mining (Pty) Ltd: PSA Development and LGP Project, Mozambique. Registration of affected people and entities prior to project commencement and implementation of damage compensation (Project manager).

2015: CSIR on behalf of Umgeni Water. Proposed construction, operation and decommissioning of a seawater reverse osmosis plant and associated infrastructure in Tongaat, KwaZulu-Natal. KwaZulu-Natal, South Africa (Social Specialist).

2015 Eskom: Proposed Isundu 765/400kV sub-station and turn-in transmission lines, Camperdown, KwaZulu-Natal (Social Specialist).

2015: AECOM on behalf of Transnet. Richards Bay Port Expansion, Richards Bay, KwaZulu-Natal, South Africa (Social Specialist)

2015: Billiton Aluminium SA (Pty) LTD. The proposed decommissioning of the Bayside Smelter, Richards Bay, KwaZulu-Natal, South Africa (Social Specialist)

2014: Eurasian Natural Resource Corporation. The Updating of the existing resettlement action plan and socio-economic impact for the proposed Estima Coal Mine. Chitima, Tete Province, Mozambique (Social Specialist)

2014: Mozal SA Social Baseline Study of Mozal's host and broader communities. Matola, Maputo Province, Mozambique (Social Specialist).

2014: Eskom: St. Faiths 400/132 kV sub-station, and associated power lines, Port Shepstone, KwaZulu-Natal (Social Specialist).

2013/14: Tronox KZN Sands (Pty) Ltd: Conceptual Social Impact Assessment of Kraal Hill Community for the Kraal Hill Biodiversity Offset (Social Specialist).

2013: HydroSA: Proposed hydropower station on the Farm Riemvasmaak on the Orange River in the Augrabies Falls National Park, Northern Cape (Social Specialist).

2013: Richards Bay Minerals (RBM): RBM Soil Analysis and Compensation for Economic Losses Complainants Incurred Between 2001 and 2013 (Project manager).

2013: Sasol Mining (Pty) Ltd: ROMPCO Loop Line Project, Mozambique. Implementation of damage compensation (Project manager).

2012/13: Sasol Mining (Pty) Ltd: MGEPP Project, Mozambique. Implementation of damage compensation (Project manager).

2012/13: Sasol Mining (Pty) Ltd: ROMPCO Loop Line Project, Mozambique. Registration of affected people and entities prior to project commencement (Project manager).

2012/13: Sasol Mining (Pty) Ltd: 2D Seismic Exploration Block A, Mozambique. Implementation of damage compensation (Project manager).

2012: Richards Bay Mining (RBM): Social Impact Assessment for the proposed Heavy Mineral Concentrate pipeline (Social Specialist).

2012: Sasol Mining (Pty) Ltd: Sofala Offshore 3D Seismic Exploration, Mozambique. Implementation of damage compensation (Project manager).

2011/12: Eskom: Social Impact Assessment for Eskom's proposed Lambda 400/765kV Sub-Station and associated transmission lines (Social Specialist).

2011: Umgungundlovu District Municipality: Strategic Environmental Assessment (Social Specialist).

2011: Umdoni Local Municipality: Strategic Environmental Assessment.

2011: Department of Co-operative Governance and Traditional Affairs: Alignment of provincial capital investment

2010: Department of Rural Development and Land Reform. A GIS technical investigation of the growth and expansion of low income housing settlements in KZN since 1994.

2009: R3G – Restoration Research Group: Assessment of mountain stream channel conditions.

2006/07: Amathole Economic Development Agency: Development of the Amathole regional economic development strategy.

EDUCATION:

2013: University of Johannesburg, Advanced certificate in Social Impact Assessment.

2007 - 2008: Rhodes University, MA (Geography).
Thesis Title: An investigation of changing socio-economic conditions, opportunities and development interventions in small Eastern Cape towns in South Africa.

2006: Rhodes University, BA Honours (Geography).

2003 – 2005: Rhodes University, BA (Geography and Political Science).

EMPLOYMENT HISTORY:

November 2011 – Present:
Agricultural, Community, Environmental and Rural Development Consultants (Pty) Ltd t/a ACER (Africa) Environmental Consultants: Environmental Consultant (Social Specialist).

November 2010 – November 2011:
Isikhungusethu Environmental and Development Consultants: Planning Technician.

July 2009 – July 2010:
Nagasaki Board of Education, Tsushima City, Japan: Assistant language teacher.

February/March 2009:
R3G – Restoration Research Group: Consultant.

February 2009 & December 2005 – January 2006:
UDIDI Environmental and Development Consultants: Planning Technician

January 2006 – November 2008:
Rhodes University: Tutor

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CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications and my experience.

Signature of staff member and authorised representative of the firm

11/05/2016
Date (Day / Month / Year)

Full name of staff member: Duncan Newton Keal

Full name of authorised representative: Rolf-Dieter Heinsohn

EXECUTIVE SUMMARY

INTRODUCTION

Background

It is widely recognised that access to affordable international bandwidth is key to economic development in every country. In this regard submarine telecommunication cables are important for international telecommunication networks; they transport almost 100% of transoceanic internet traffic throughout the world (www.iscpc.org). Currently Africa relies primarily on satellites to provide its international communications which is costly as well as relatively unreliable. Submarine telecommunication cables generally allow for lower cost, better performance, and greater capacity (throughput) than that available via satellite. Improvement in Africa's information technology infrastructure via telecommunication cables will remove one of the perceived stumbling blocks to development in Africa and support economic growth and opportunities on the continent.

MTN (Pty) Ltd. (MTN) proposes installing a submarine telecommunications cable, referred to as the Africa Coast to Europe (ACE) Cable System, to link the West Coast of Africa as well as South Africa with key international telecommunication hubs in Europe. Following installation of the proposed ACE cable system, MTN will be the first so called mobile operator to operate an international fibre-optic bandwidth with full landing in South Africa and along the West Coast of Africa. In doing so, the company will facilitate more affordable and effective transport of voice, data, internet and television services. Furthermore, the cable will support the objectives set out by NEPAD (New Partnership for Africa's Development), and provide a means of fulfilling the South African Government's requirements in terms of digital television broadcasting for the country.

In order to construct the South African portion of the ACE Cable System environmental authorisation from the Department of Environmental Affairs in terms of the 2014 Environmental Impact Assessment Regulations published under the National Environmental Management Act, 1998 (Act 107 of 1998) is required. As such, ACER (Africa) Environmental Consultants (ACER) has been appointed by MTN to take responsibility for the application for environmental authorisation for the construction of the ACE Cable System. Considering the nature of the proposed project as well as the receiving environment ACER considered it pertinent to identify and assess the potential social impacts (both positive and negative) that may result from the proposed project. As such, ACER has undertaken a Social Impact Assessment (SIA) in house in order to identify and quantify what social impacts may arise from the proposed project.

Purpose and scope of the specialist study

This study assesses the social sensitivities and social impacts likely to occur as a result of the proposed ACE cable system. This study was undertaken and the report compiled in line with the 2014 EIA Regulations.

Methodology

Both qualitative and quantitative research techniques and data were used. Secondary data in the form of aerial imagery, statistical publications from Statistics South Africa (StatsSA) and municipal documents including Integrated Development Plans (IDP) and Spatial Development Frameworks were used in order to develop an understanding of the socio-economic climate prevailing in the study area. During a site visit, semi-structured interviews were held with key stakeholders. Potential social change processes and associated impacts were identified by applying the social base line conditions and findings from the primary data to an indicative list of processes described by Van Schooten *et al*. (2003).

PROJECT DESCRIPTION

The section of the ACE Cable system which forms part of this assessment includes the section of cable from when it enters South Africa's Exclusive Economic Zone (EEZ) (200 nautical miles from the sea shore) through South Africa's territorial waters (12 nautical miles from the sea shore) and onto land until it reaches the MTN CLS at Duynefontein.

The ACE Cable System is comprised of the following project components from when it enters South Africa's EEZ, until it reaches the MTN CLS site in Duynefontein:

- Marine Fibre Optic Cable (marine environment to the Beach Man Hole).
- Beach Man Hole (BMH) located behind the coastal dune cordon near Van Riebeeckstrand.
- Terrestrial Fibre Optic Cable (BMH to the CLS site in Duynefontein).

DESCRIPTION OF THE RECEIVING ENVIRONMENT

The proposed project is located in Ward 23 of the City of Cape Town Metropolitan Municipality. Ward 23 covers an area of approximately 95.5 square kilometres and has a population of 33,448 people which equates to approximately 350 people per square kilometre. The ward includes the following areas: Big Bay, Blaaubergstrand, Blouberg, Melkbosstrand and Table View. These suburbs are situated along the coastline which is where the majority of the population reside. The Koeberg Nuclear Power Station is situated to the north of Melkbosstrand which, due to the required safety exclusion zones limits development, thus providing a challenge with population growth and housing in the area.

The proposed project site is located entirely within Ward 23 of the City of Cape Town. While the ward includes agricultural areas as well as the Blaauwberg Nature Reserve, the area where the proposed ACE cable will land can be described as a middle to upper income suburban area. The economy of the area is heavily reliant on the tourism industry with the majority of the working population commuting outside of the ward on a daily basis.

Households within the study area have higher levels of income, better access to education and unemployment levels in the ward are significantly lower than municipal, provincial and national averages. Households in the ward have better access piped water, sanitation and electricity with a higher proportion of households residing in formal dwellings. In general, Ward 23 on average exhibits far higher levels of development than the City of Cape Town, the Western Cape Province and the country as a whole and can be described as a middle to upper income area.

SOCIAL CHANGE PROCESSES

Various social change processes are likely to occur as a result of the proposed MTN ACE cable under review in this report. It should be noted that social change processes are not impacts themselves, but the occurrence of changes to existing social processes may result in social impacts. The following social change processes may occur as a result of the proposed project:

- Economic processes
- Socio-cultural processes.

SOCIAL IMPACTS

Social impacts can be positive or negative and occur within the context of human behaviour, which is often unpredictable, varies according to cultures, traditions, political and religious beliefs, and which are influenced by perceptions. All of the social impacts identified and discussed below apply to the project in its entirety and are inclusive of all infrastructure and possible alternatives unless otherwise

specifically stated. In considering the potential social impacts that may arise as a result of the proposed project, the following questions have been formulated and potential impacts identified:

- What potential impacts will the proposed project have on the quality of the living environment?
  - Increased noise
  - Increased dust
  - Visual impact
  - Disruption to traffic
  - Damage to properties
  - Increased criminal activities

- What potential impacts will the proposed project have on economic activities in the surrounding area?
  - Increased employment opportunities
  - Impact on tourism
  - Disruptions to the offshore fishing industry

- What are the broader social impacts of the proposed cable?
  - Improved telecommunications

- What are the implications of the 'no-go' alternative?
  South Africa will have lost an opportunity to increase the reliability and the capacity of its telecommunications network which is considered vital to economic growth and development.

- What are the likely impacts during decommissioning?
  The relevant legislation at the time of decommissioning and the prevailing socio-economic conditions in the area at the time when decommissioning takes place will need to be taken into consideration and determine whether a social impact assessment is required.

CONCLUSIONS AND RECOMMENDATIONS

MTN intends installing a submarine telecommunications cable to link the West Coast of Africa as well as South Africa with key international telecommunication hubs in Europe. It is widely recognised that access to affordable international bandwidth is key to economic development in every country and is currently one of the perceived stumbling blocks to development in Africa. It is proposed that the cable will land in South Africa on the west coast in the vicinity of the town of Van Riebeeckstrand. After consideration of the receiving environment as well as the nature of the proposed project, it can be concluded that from a social perspective **there are no fatal flaws** that should prevent the project from being authorised.

While negative social impacts may arise from the proposed project, generally nuisance impacts, most of these are temporary in nature and will only occur for a very limited period. In addition, none of these impacts following mitigation are considered to be above a low significance.

The exception is the potential impact that an additional permanent exclusion zone may have on the fishing industry. However after considering the findings from the specialist fisheries study undertaken as part of the EIA as well as consulting with stakeholders in the industry it has been determined that the proposed new cable is unlikely to have anything more than a medium impact on the fishing industry and with suitable mitigation (IE aligning the cable close to the existing cable) this impact may become negligible.

From a social perspective, it is important to note that the proposed project will have a positive impact on the overall telecommunications network in South Africa. This, as noted already, is considered as a necessary requirement in encouraging economic development and ensuring that the limitations to investments are reduced.

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TABLE OF CONTENTS

TABLE OF FIGURES

TABLE OF PLATES

ACRONYMS

ACE	Africa Coast to Europe
ACER	ACER (Africa) Environmental Consultants
BMH	Beach Man Hole
CLS	Cable Landing Station
DEA	Department of Environmental Affairs
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework's
IDP	Integrated Development Plans
MTN	MTN (Pty) Ltd.
NEMA	National Environmental Management Act
NEPAD	New Partnership for Africa's Development
Per Comm.	Personal Communication
SIA	Social Impact Assessment
SDF	Spatial Development Frameworks
StatsSA	Statistics South Africa

1 INTRODUCTION

1.1 Background

It is widely recognised that access to affordable international bandwidth is key to economic development in every country. In this regard submarine telecommunication cables are important for international telecommunication networks; they transport almost 100% of transoceanic internet traffic throughout the world (www.iscpc.org). Currently Africa relies primarily on satellites to provide its international communications which is costly as well as relatively unreliable. Submarine telecommunication cables generally allow for lower cost, better performance, and greater capacity (throughput) than that available via satellite. Improvement in Africa's information technology infrastructure via telecommunication cables will remove one of the perceived stumbling blocks to development in Africa and support economic growth and opportunities on the continent.

MTN (Pty) Ltd. (MTN) proposes installing a submarine telecommunications cable, referred to as the Africa Coast to Europe (ACE) Cable System, to link the West Coast of Africa as well as South Africa with key international telecommunication hubs in Europe. Following installation of the proposed ACE cable system, MTN will be the first so called mobile operator to operate an international fibre-optic bandwidth with full landing in South Africa and along the West Coast of Africa. In doing so, the company will facilitate more affordable and effective transport of voice, data, internet and television services. Furthermore, the cable will support the objectives set out by NEPAD (New Partnership for Africa's Development)[1], and provide a means of fulfilling the South African Government's requirements in terms of digital television broadcasting for the country.

In order to construct the South African portion of the ACE Cable System environmental authorisation from the Department of Environmental Affairs (DEA) in terms of the 2014 Environmental Impact Assessment (EIA) Regulations published under the National Environmental Management Act (NEMA), 1998 (Act 107 of 1998) is required. As such, ACER (Africa) Environmental Consultants (ACER) has been appointed by MTN to take responsibility for the application for environmental authorisation for the construction of the ACE Cable System. Considering the nature of the proposed project as well as the receiving environment, ACER considered it pertinent to identify and assess the potential social impacts (both positive and negative) that may result from the proposed project. As such, ACER has undertaken a Social Impact Assessment (SIA) in order to identify and quantify what social impacts may arise from the proposed project.

1.2 Purpose and scope of the specialist study

This study assesses the social sensitivities and social impacts likely to occur due to the proposed ACE cable system. This study was undertaken, and the report compiled in line with the 2014 EIA Regulations. The scope of work provided is detailed below:

- Describe the current social environment within the study area.
- Identify and discuss potential impacts (positive and negative, local and regional, including cumulative impacts) of the proposed project on the social environment during construction, operation and decommissioning.
- Identify gaps in knowledge, data or information which may hamper the impact identification and evaluation process.

[1] To eradicate poverty in Africa and to place African countries both individually and collectively on a path of sustainable growth and development to thus halt the marginalisation of Africa in the globalisation process.

- Quantify and describe, for each feasible alternative, identified potential social impacts (cumulative, direct and indirect).
- Evaluate the significance of the identified potential social impacts.
- Assess the impact in terms of compliance with approved City of Cape Town: Environmental Management Framework's (EMF) management priorities.
- Conduct a comparative assessment of the identified alternatives.
- Make recommendations regarding mitigation and management measures for unavoidable social impacts.
- Contribute in the preparation of a site specific environmental management program.
- Produce a specialist impact assessment report.

1.3 Methodology

In order to satisfy the terms of reference discussed above both qualitative and quantitative research techniques and data were used.

Secondary data in the form of aerial imagery, statistical publications from Statistics South Africa (StatsSA) and municipal documents including Integrated Development Plans (IDP) and Spatial Development Frameworks (SDF) were used in order to develop an understanding of the socio-economic climate prevailing in the study area. Through developing an understanding of the socio-economic environment in the study area, insight is gained into the potential social changes and resultant social impacts that may occur due to the proposed project. Findings from the secondary data were verified during a site visit undertaken in October 2016.

During the site visit, semi-structured interviews were held with key stakeholders including representatives from the South African Deep-Sea Trawling Industry Association, a representative from the Melkbosstrand Rate Payers Association and a representative from the Department of Community Safety in Melkbosstrand. Email communication also took place with the Ward Councillor. These discussions allowed for a better understanding of the social dynamics at play within the receiving environment and allowed for key concerns to be raised and discussed in greater detail. Details of the semi-structured interviews are provided in the reference list.

Potential social change processes and associated impacts were identified by applying the social base line conditions and findings from the primary data to an indicative list of processes described by Van Schooten et al. (2003). In addition, experiences from past projects of a similar nature and within a similar socio-economic environment assisted in identifying possible social change processes and associated social impacts. Social impacts identified were assessed using the agreed upon conventions which are detailed in Table 1.

2 DETAILS OF SPECIALIST

ACER was established in 1991 and operates throughout Southern Africa. This investigation was conducted by Mr Duncan Keal, who has six years' experience in environmental management and assessment in particular, the assessment of social and socio-economic processes and issues involved in large, often complex projects. The investigation was conducted under the guidance and directorship of Dr Dieter Heinsohn. Dr Heinsohn has developed an impeccable reputation in environmental management. Of particular note is his experience in social impact assessments, the design and running of public involvement programmes, resettlement planning and implementation, and the management of large and/or complex EIA processes.

3 PROJECT DESCRIPTION

This chapter describes the infrastructure and operational aspects of the ACE Cable System. The aim of this chapter is to allow for a better understanding of how the cable system will be installed and maintained in order to better understand the possible impacts the development may have on the receiving environment. During the scoping phase four possible landing site alternatives were considered of which two alternatives (Alternative Landing Site 1 and Alternative Landing Site 2) were carried through to the assessment phase. Two terrestrial route alternatives (Alternative A and Alternative B) were identified to get the ACE Cable System from the respective Beach Man Hole (BMH) sites at the landing site alternatives to the Cable Landing Station (CLS) in Duynefontein. The landing site alternatives and their associated terrestrial alignments discarded at scoping phase are not considered in this report.

3.1 General description

The section of the ACE Cable system which forms part of this assessment, includes the section of cable from when it enters South Africa's Exclusive Economic Zone (EEZ) (200 nautical miles from the sea shore) through South Africa's territorial waters (12 nautical miles from the sea shore) and onto land until it reaches the MTN CLS at Duynefontein. As such, the project description given below incorporates the materials comprising the ACE Cable System and the methods to be used to install the cable system in the marine and terrestrial environments.

The ACE Cable System is comprised of the following project components from when it enters South Africa's EEZ until it reaches the MTN CLS site in Duynefontein:

- Marine Fibre Optic Cable (marine environment to the BMH).
- BMH located behind the coastal dune cordon near Van Riebeeckstrand.
- Terrestrial Fibre Optic Cable (CLS site in Duynefontein)

3.2 Marine components and installation methods

3.2.1 Marine Fibre Optic Cable

The proposed cable route will run down the West Coast of Africa (generally parallel to the coastline) and approach South African coastal waters from the north (i.e. from Namibian waters). Offshore, the cable is laid by a purpose-built cable-laying ship. Consistent with industry practice, the unarmoured cable will rest on the seabed in water depths greater than 2,000 m, where the risk of inadvertent damage from human activities is negligible.

As the cable route changes direction to approach the coastline of Van Riebeeckstrand, the cable will be buried beneath the sandy seabed of these shallower marine waters. This is typically achieved with the use of a specially designed plough which is submerged onto the seabed by the cable laying ship. The cable is then fed from the ship to the plough which effectively buries the cable to a depth of approximately 1.5 metres. This burial is intended to provide protection to the cable from the hazards posed by ships' anchors, fishing lines and the like.

3.2.2 Marine Fibre Optic Cable Installation

Prior to the installation of the ACE Cable System taking place, the following offshore marine investigations will be performed by the contractor appointed by MTN to install the cable system:

Cable Route Survey – The proposed cable routes will be surveyed by the project team to identify whether or not the substrate and topography of the ocean floor is suitable for the installation of the ACE Cable System.

Cable Route Clearance Operations – Prior to the installation of the ACE Cable System route clearance operations will be conducted along those sections of the route where burial is to be performed to ensure that, as far as practically possible, the burial operation will not be hindered by out of service cables or discarded fishing gear.

Installation of the marine telecommunications cable – The ACE Cable System will be installed using a purpose-built cable ship fully equipped with all the necessary equipment, tools and facilities to safely handle and install, join, test, and power the submerged plant including simultaneous lay and plough burial. The vessel will have sufficient power and dynamic positioning capability to carry out the installation in the expected weather and current conditions. During cable laying an automatic log of all critical operational parameters will be kept, including navigational data, speed, tension, slack, cable counter and plough data.

Surface Laying Operations – Surface laying implies that the cable will be laid on the surface of the seabed. The objective is to install the cable as close as possible to the planned route with the correct amount of cable slack to enable the cable to conform to the contours of the seabed without loops or suspensions.

Plough Burial Operations – The cable will be buried to a target depth as defined in the burial plan, as determined by the cable route and burial assessment surveys. Burial depth will be controlled by adjusting the height of the plough's front skids. The depth of burial achieved will be continuously recorded by the plough and logged with the ship's data. In areas where plough burial is planned, the cable will be buried to a target depth of 1.5 m.

Shore End Operations – Shore end operations refer to the installation of the cable through the shallow water near shore, through the intertidal zone and up onto the beach. All shore end landings will be performed directly from the main cable installation vessel except where shallow water conditions require the use of a small shallow draft vessel or barge, usually mobilised specifically for the task.

3.3 Terrestrial components and installation methods

3.3.1 Beach Man Hole

Once the fibre optic cable has made landfall and been buried through the beach section of the route, the cable will be anchored at the BMH which will be constructed on the edge of the residential area at Van Riebeeckstrand. The proposed location of the BMH for the preferred landing alternative (Site 1) will be located on the edge of the informal access track used by the City of Cape Town for maintenance of storm water infrastructure.

The proposed location of the BMH is located directly adjacent to the existing service corridor through which the cable will be laid. The BMH will be constructed underground and will have the following dimensions: length (4.0 m); breadth (2.0 m) and depth (2.0 m).

The proposed location of the BMH at the alternative landing site (Site 2) is located directly adjacent to Die Bad Road. As with site 1, the BMH will be constructed underground and will have the same dimensions as those described above.

The BMH is expected to take two months to construct and once complete, the only visible sign of the structure will be the manhole covers and cement roof slab.

3.3.2 Cable trenching

From the BMH the land cable will be installed to the CLS located in Duynefontein. The final alignment of this cable is as yet unknown, but two route alternatives are being considered to get the cable from the BMH positions at the preferred landing point (Site 1) and alternative landing point (Site 2) to the CLS site.

The trench for the cable will be dug by both mechanical (TLB) and manual (spades) means, depending on the alignment selected and the presence of other service infrastructure within the area. The trench will be excavated to a depth of 1 m before the cable is installed which will be housed within HDPE or PVC ducts. The width of the excavated trench is expected to be approximately 500 mm in width. Figure 1 below illustrates the different project components.

3.4 Existing services and project implementation

During construction and installation of the ACE Cable System on land the following services will be utilised by the appointed service providers.

3.4.1 Water

Water for construction purposes will be sourced from the closest municipal supply point and tankered to site when required. Water use during construction is however very limited and confined to the concrete works required for the construction of the BMH.

3.4.2 Sewage

During construction and installation of the ACE Cable System on land, chemical toilets will be provided for construction workers. These chemical toilets will be routinely serviced by the appointed service providers and all waste will be disposed of at an approved waste treatment works within the area. Given the short construction period associated with this project the impacts associated with sewage is not expected to pose any significant impact on the environment.

3.4.3 Roads, private property access and road reserves

During the construction and installation of the terrestrial section of the ACE Cable System some roads may be impacted on locally due to trenching activities. Where major roads need to be crossed by the cable, directional drilling (commonly called horizontal directional drilling) will be employed to install the cable. This will allow the cable to be installed without disrupting traffic and road users. It is likely that directional drilling will be used to cross Otto du Plessis Road and Atlantic Avenue.

If the cable alignment is not installed within the road reserve some impacts on private property and driveways is anticipated.

3.4.4 Storm water

The proposed development should not have any impact on storm water once construction is completed. However, the appointed contractor must take cognisance of the fact that the City of Cape Town does have storm water structures within the project area and these structures must be avoided during construction.

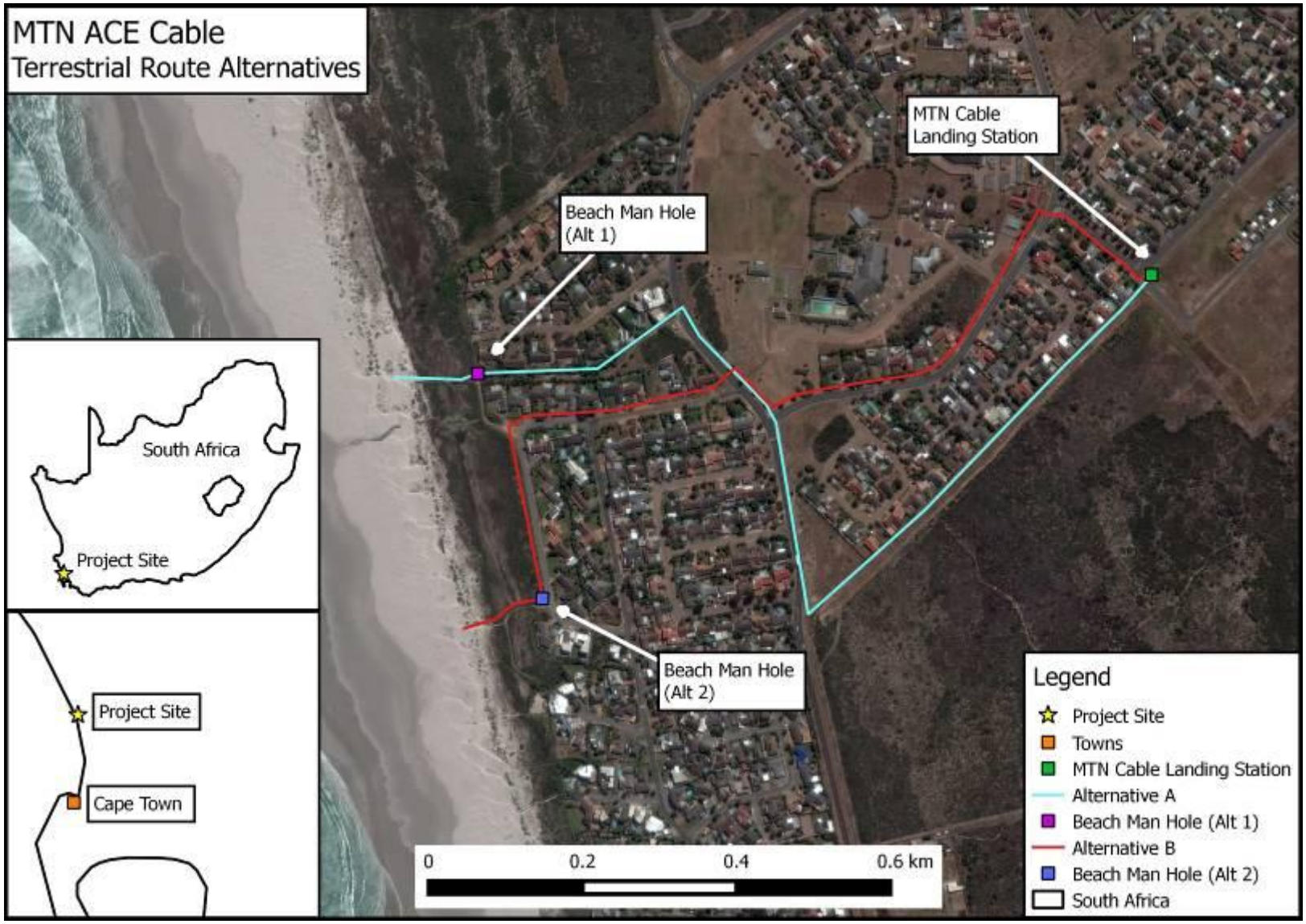

Figure 1 Project infrastructure – Terrestrial component

4 ASSUMPTIONS, LIMITATIONS AND GAPS IN KNOWLEDGE

4.1 Assumptions

- The information, including maps, provided by the client and the engineering teams is accurate.
- The information provided herein will be adequate for effective decision making in the environmental authorisation process.

5 DESCRIPTION OF THE RECEIVING ENVIRONMENT

The following section provides an overview of the socio-economic characteristics of the project area. Through developing a socio- economic profile of the receiving environment one is better able to identify, assess and place in context the potential social impacts that the proposed project may have.

The proposed project is located in Ward 23 of the City of Cape Town Metropolitan Municipality. Ward 23 covers an area of approximately 95.5 square kilometres and has a population of 33,448 people, which equates to approximately 350 people per square kilometre. The ward includes the following areas of Big Bay, Blaaubergstrand, Blouberg, Melkbosstrand and Table View. These suburbs are situated along the coastline which is where the majority of the population reside. The Koeberg Nuclear Power Station is situated to the north of Melkbosstrand which, due to the required safety exclusion zones, limits development thus providing a challenge with population growth and housing in the area.

The City of Cape Town has identified Environmental Impact Management zones which are intended to guide and inform planning decisions regarding activities that require environmental authorisation (City of Cape Town, 2012). From a social perspective, the following Environmental Impact Management zones are of relevance:

- Cultural Recreational Resources Zone
- Natural Economic Resources Zone
- Urban Uses and Utilities Zone

Considering the nature of the development and the identified zones the land uses or activities are not classified as undesirable and are not likely to have a significant impact. As such, from a social perspective, the proposed development does not compromise the EMF management priorities.

5.1 Population

The City of Cape Town grew at a rate of 2.57% per annum between 2001 and 2011. This rate is higher than the national population growth rate of 1.5%. During the same period, Ward 23 experienced an annual growth rate of 7%, significantly higher than both the municipal and national averages (City of Cape Town, 2013 and StatsSA, 2012). The growth rate has been attributed predominantly to migration with individuals moving to the City of Cape Town municipality in search of job opportunities and better living standards (City of Cape Town, 2016).

Ward 23 has a population of 33,448. The population within the ward is predominately white (76%). This is in contrast to the municipal averages where 42% of the population is classified as coloured and 39% black (City of Cape Town, 2013). In terms of age structure, the majority of the population (72.5%) fall between the ages of 15 and 65 years of age, which is higher than the municipal figure of 69.7% for the same age category (City of Cape Town, 2013). This figure shows the high proportion of the population within the working age category, suggesting

a lower level of dependence as there are fewer people below the age of 15 and also suggests a high level of migration to the area (aligning with the population growth figures), as this sector of the population are the most mobile.

5.2 Households

There are approximately 13,217 households in the ward with an average household size of 2.5 people, which is below the municipal average of 3.5 people (City of Cape Town, 2013 and StatsSA, 2012). Only 1% of households in the ward are reported to reside in informal dwellings compared to 20.5% in the City of Cape Town (City of Cape Town, 2013 and StatsSA, 2012). In terms of household income, 17% of households have a monthly income of R3,200 or less within Ward 23 which is significantly lower than the 47% of households in the City of Cape Town reporting a monthly income of R3,200 or less (City of Cape Town, 2013 and StatsSA, 2012). Figure 1 below clearly illustrates the higher level of income experienced by households within Ward 23 in comparison to the City of Cape Town as a whole. These figures, smaller household size, less households residing in informal dwellings and the higher level of income illustrate that Ward 23 has above average levels of development in relation to the rest of the municipality. A similar pattern exists when comparing development indicators in Ward 23 to provincial and national averages with the figures clearly showing a better standard of living in this area. Figure 2 clearly illustrates the higher levels of household income within Ward 23, in comparison to the municipality as a whole.

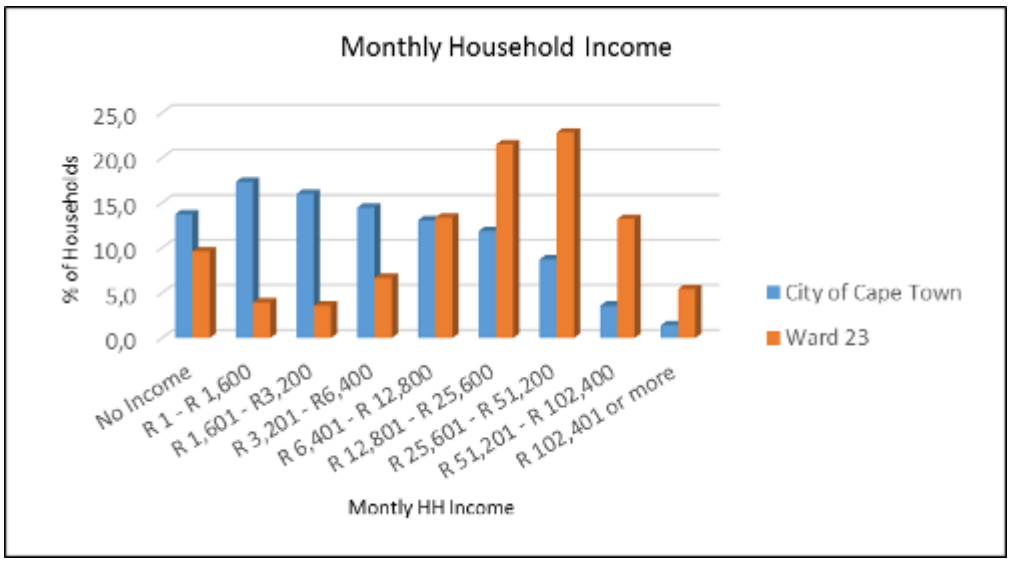

Figure 2 Monthly household income within the City of Cape Town and Ward 23

5.3 Education

Access to education is significantly better in Ward 23 than for the City of Cape Town as a whole. 82% of the population over the age of 20 in Ward 23 have completed Grade 12 or some form of tertiary education. In comparison, only 46% of the population over the age of 20 in the municipality have attained the same level of education and only 40% of the South African population over the age of 20 have attained this level of education.

Only 0.6% of the population over the age of 20 in Ward 23 report never having received any formal education in comparison to 2.6% in the municipality and 8.4% nationally (City of Cape Town, 2013 and StatsSA, 2012). These figures again suggest that the standard of living and level of development within Ward 23 are higher than that experienced by the municipality, the province, and the country as a whole. Figure 3 below illustrates the different levels of

education reported by the population over the age of 20 in Ward 23 and the City of Cape Town.

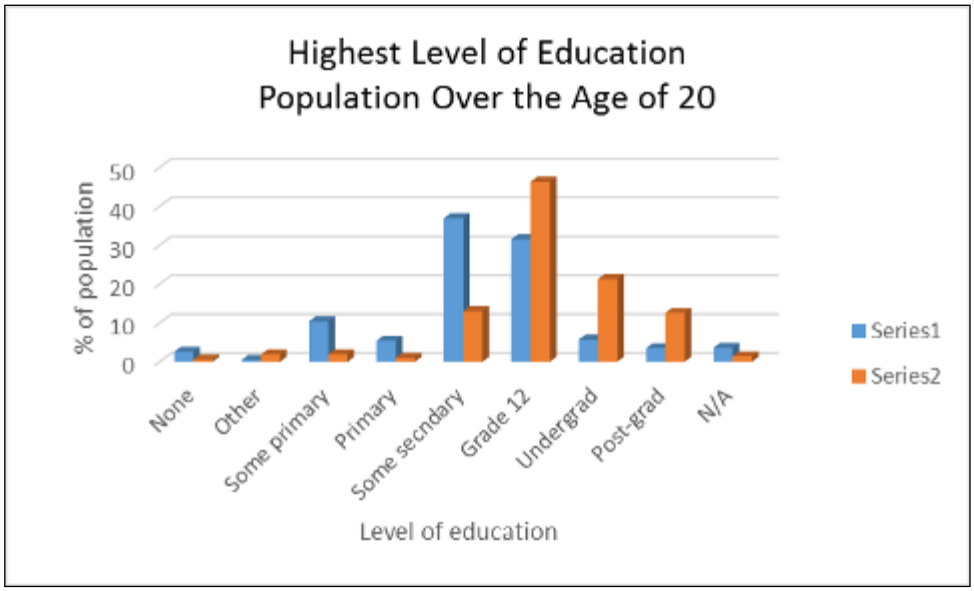

Figure 3 Level of education for the population over the age of 20

5.4 Employment

Unemployment levels are far lower in Ward 23 (5.5%) than within the municipality as a whole (23.1%) and the national average (29.8%) (City of Cape Town, 2013 and StatsSA, 2012). These figures align with the household income data discussed previously where it is evident that the population in Ward 23 have an above average level of income in comparison to the municipal averages. The majority of the working population in Ward 23 are employed in the formal sector (82.3%), with the area having less of a reliance on the informal sector than the City of Cape Town where 74% of the employed population are employed in the formal economy (City of Cape Town, 2013 and StatsSA, 2012).

5.5 Economic activity

The City of Cape Town has primarily a service driven economy with tertiary sector industries contributing almost 80% of the gross value added. Of particular importance are the finance and insurance industries which contributed over 30% to the municipal economic growth (City of Cape Town, 2016). The economy in Ward 23 by comparison is based largely around the tourism industry with local businesses such as, restaurants, accommodation establishments, etc. reliant on the tourism industry to survive (Grose, 2017, Per. Comm.). Importantly, it is likely that a large proportion of the employed population within Ward 23 commute outside of the ward on a daily basis as employment opportunities within the ward are limited.

Directly offshore of the study area are fishing grounds utilised by the offshore demersal trawl fleet and the demersal longline fisheries. The fisheries generally operate between depths of 300 meters to 1000 meters offshore (Wilkinson and Japp, 2016). The demersal trawl sector for hake, of which the majority takes place off the west coast, is the most valuable South African fishery (ACER S4 Phase 2, 2016). This sector is responsible for a significant number of jobs with an estimated 7050 people employed directly by the deep-sea trawling industry (http://www.sadstia.co.za/publication/sadstia-employment-factsheet).

5.6 Access to basic services

Household access to piped water, sanitation and electricity is on average better in Ward 23 than it is for the City of Cape Town, the province and South Africa as a whole. In ward 23, 98% of households have access to water piped water within their dwelling, which is marginally higher than the rate in the City of Cape Town (87.3%), and higher than the national rate (73.4%) (City of Cape Town, 2013 and StatsSA, 2012). The population in Ward 23 that has electricity for lighting is 99% which is again above the municipal average (94%) and the national average (84.7%) (City of Cape Town, 2013 and StatsSA, 2012). Access to formal sanitation in Ward 23 is high with 98.4% of households reported to have access to waterborne sanitation compared to 92% in the City of Cape Town and 63% nationally (City of Cape Town, 2013 and StatsSA, 2012). These figures are illustrated in Figures 4, 5 and 6 below.

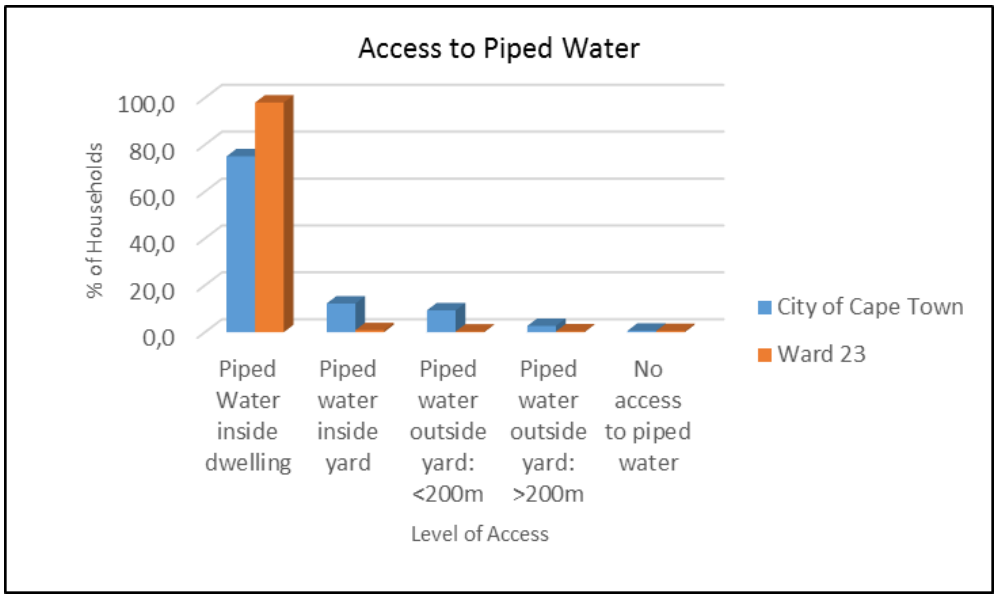

Figure 4 Level of access to water within Ward 23 and the City of Cape Town

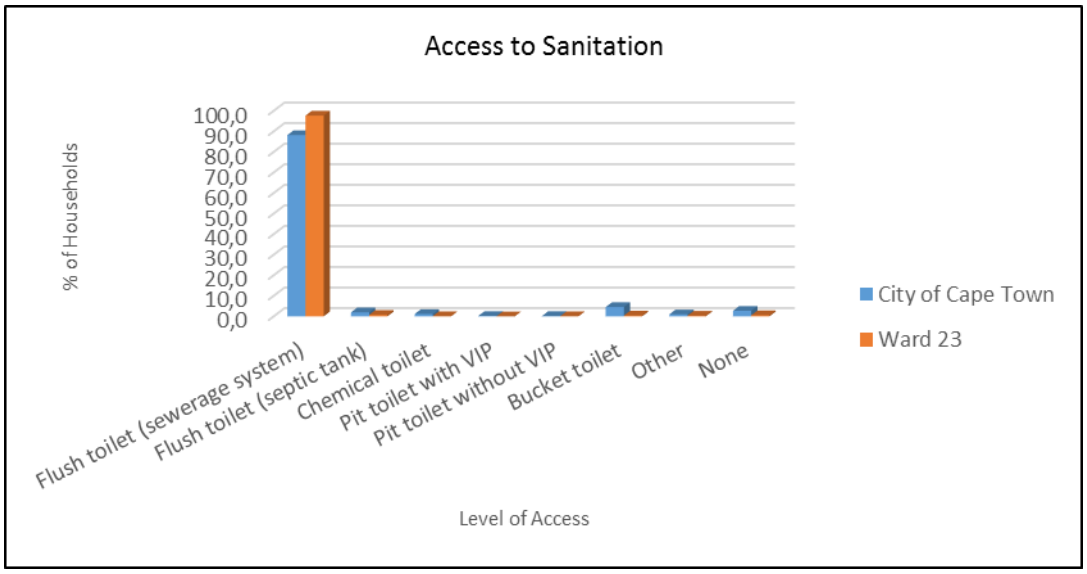

Figure 5 Level of access to sanitation within Ward 23 and the City of Cape Town

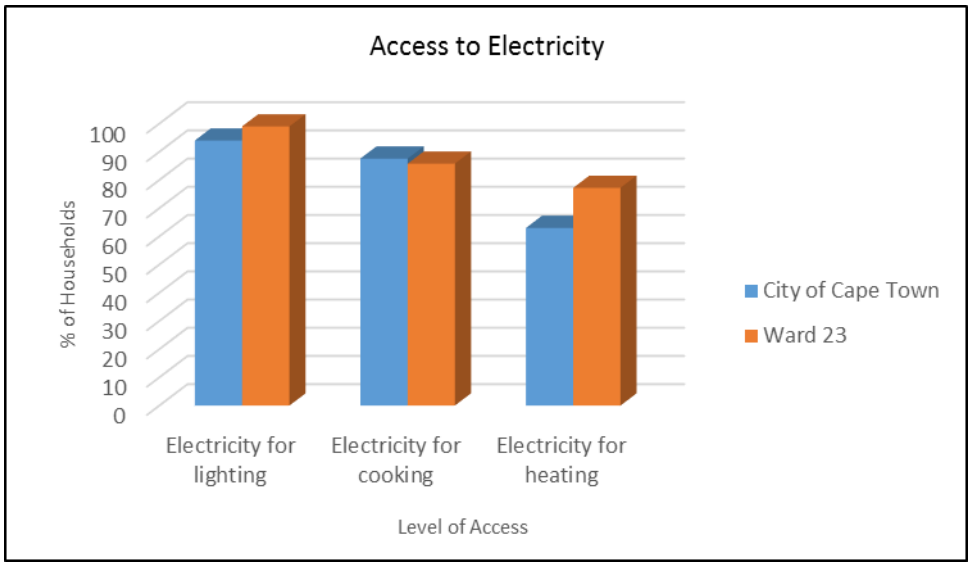

Figure 6 Level of access to electricity in Ward 23 and the City of Cape Town

5.7 Summary

The proposed project site is located entirely within Ward 23 of the City of Cape Town. While the ward includes agricultural areas as well as the Blaauwberg Nature Reserve, the area where the proposed ACE cable will land, can be described as a middle to upper income suburban area. The economy of the area is heavily reliant on the tourism industry with the majority of the working population commuting outside of the ward on a daily basis. Directly offshore from the proposed project site is one of the most important fishing grounds in South Africa for the demersal trawl sector and is responsible for directly employing approximately 7050 people.

Households within the study area have higher levels of income, better access to education, and unemployment levels in the Ward are significantly lower than municipal, provincial and national averages. Households in the ward have better access to sanitation and electricity with a higher proportion of households residing in formal dwellings. In general Ward 23 on average exhibits far higher levels of development than the City of Cape Town, the Western Cape Province, and the country as a whole, and can be described as a middle to upper income area. Importantly, the proposed development does not compromise the City of Cape Towns' existing EMF management priorities.

6 SOCIAL CHANGE PROCESSES

"Social change processes are set in motion by project activities or policies. Depending on the characteristics of the local social setting and mitigation processes that are put in place, social change processes can lead to social impacts" (Vanclay, 2003).

Various social change processes are likely to occur due to the proposed MTN ACE cable under review in this report. It should be noted that social change processes are not impacts themselves but the occurrence of changes to existing social processes may result in social impacts. The social impacts which are likely to occur due to the social change processes are detailed in Section 7. The following social change processes may occur as a result of the proposed project:

- Economic processes – economic processes are those processes that affect the economic activity in a given area. These include the way people make a living, employment rates as well as macro-economic factors which affect the society as a whole (Van Schooten, et al., 2003). In the case of the proposed project, the necessity of offshore exclusion zones around the cable may alter existing fishing practices which could lead to changes in the economic processes. An additional submarine telecommunications line in South Africa will also have various positive spinoffs for economic development which will also likely result in changes to existing economic processes.

- Socio-cultural processes – socio-cultural processes are those that affect the culture of a society, including all aspects of the way that people live together (Van Schooten, et al., 2003). Changes in the composition of the population as a result of construction workers and/or contractors may result in changes in the way that local communities function, albeit that this would be for a very limited period of time (it is estimated that the terrestrial component of the project will take 10 – 16 weeks to complete). An increase in socially deviant behaviour is a change which is often associated with construction projects and can have significant social impacts.

7 SOCIAL IMPACTS

The purpose of this section is to identify anticipated social impacts which may occur as a result of possible changes to existing social processes during the construction and operation of the project. Social impacts can be positive or negative and occur within the context of human behaviour, which is often unpredictable, varies according to cultures, traditions, political and religious beliefs, and which are influenced by perceptions.

All of the social impacts identified and discussed below apply to the project in its entirety and are inclusive of all infrastructure and possible alternatives unless otherwise specifically stated.

In considering the potential social impacts that may arise as a result of the proposed project, the following questions have been formulated.

- What potential impacts will the proposed project have on the quality of the living environment?
- What potential impacts will the proposed project have on the economic environment?
- What are the broader socio-economic impacts of the proposed cable?
- What are the implications of the 'no-go' alternative?
- What are the likely impacts during decommissioning?

Each of these questions will be addressed below for both the construction and operational phase of the proposed project:

7.1 What potential impacts will the proposed project have on the quality of the living environment?

During the construction phase of the project there will be temporary inconveniences (it is estimated that the entire terrestrial component of the project will take 10 – 16 weeks to complete) and nuisance impacts for residents residing close to where construction will take place. During the operation phase of the project, it is not anticipated that there will be any impacts on the quality of the living environment unless repairs are required to the cable. The

potential impacts that both of the alternatives may have on the quality of the living environment are considered below:

7.1.1 Increased noise

The terrestrial receiving environment (for both alternatives) is a middle to upper income suburban area in Van Riebeeckstrand. The area is characterised by relatively little noise and vehicle traffic. During the installation of the terrestrial portion of the proposed cable various construction vehicles will be on site as well as construction staff. The presence of construction machinery and construction staff will likely cause an increase in noise which may be seen as a nuisance factor for residents in the area as well as for people accessing the beach. This will only be temporary in nature (only occurring during the construction phase) and will be highly localised and thus the increase in noise is not considered a significant impact. No noise impact is anticipated during the operation phase of the project.

'Alternative A' is the preferred option as less excavations will be required (i.e. no excavation along the Die Bad Road is required).

7.1.2 Increased dust

During the excavation of trenches for the laying of the cable between the BMH and the CLS there is likely to be exposed soil for short periods. During periods of strong wind this may result in dust being blown into adjacent households which is likely to become a nuisance impact for affected parties. Once the construction process is complete the potential for this impact will cease. 'Alternative A' is the preferred option as it is routed through existing servitudes with fewer sections along residential roads or adjacent to property entrances. In addition, it will also require less excavation. Again however, the impact is not considered significant as it is temporary in nature and there is unlikely to be a large amount of dust as the amount of excavated soil is relatively limited.

7.1.3 Visual impact

During the construction phase, there will be construction vehicles, stock piles, trenches and other items associated with a construction site located within the suburban environment. This will be the case along the chosen cable route, the site of the BMH as well as on the beach where the cable will land. Possible sensitive receptors will include local residents, tourists visiting the area as well as people making use of the public roads and/or accessing the beach. The impact will be temporary and will be localised, thus it is not believed that the visual impact during the construction phase will be of any significance.

During the operational phase of the project, the only infrastructure that will be visible is the top of the BMH. Considering the size, location and design of the BMH (only visible sign of the BMH will be manhole covers and a cement slab) the visual impact is considered negligible. Again, the preferred alternative is 'Alternative A' as it is routed away from residential roads and entrances to houses.

7.1.4 Disruption to traffic

During the laying of the cable in the terrestrial environment two roads will need to be crossed. As yet, it has not been determined if the cable will be tunnelled beneath the road or whether a section of road will need to be excavated and then following the laying of the cable, repaired. In the event of excavation being required it is likely that there will be disruptions to traffic for a period of between 6 – 12 weeks, albeit that construction will be phased so one area will be affected for this entire period. The affected roads, regardless of which alternative is chosen, will be Otto du Plessis Drive and Atlantic Avenue. However, the affected roads, while

relatively busy within the context of the local area, are not significant commuter routes and disruptions will be for a limited period and very localised. As such, it is believed that possible disruptions to traffic will not be of any significance.

7.1.5 Damage to properties

In the event of Alternative B being the preferred option, during the construction phase it is possible that the digging of the cable trench may result in damage to residents' properties, in particular driveways. The areas where damages may occur include Dunker Street, Atlantic Avenue and Napoleon Avenue. Any damages caused to the driveways of private property would need to be repaired. As there is less risk of damages to property associated with Alternative A as it generally follows existing servitudes and where the route run adjacent to public roads it does not pass cross any driveways, this is the preferred route (Plate 1, 2, 3 and 2). No damages to property are anticipated during the operational phase.

Plate 1 Route to be followed by Alternative A from the BMH along an existing servitude

Plate 2 Route to be followed by Alternative A from Otto du Plessis Drive to the MTN CLS

Plate 3 Route to be followed by Alternative B from the BMH along Dunker Street

Plate 2 Route to be followed by Alternative B from Otto du Plessis Drive along Atlantic Avenue towards the MTN CLS

7.1.6 Increased criminal activity

During the construction phase of the proposed project there will be an increased number of people in the area. The presence of construction workers in an area makes it easier for criminal opportunists to move through areas less conspicuously, therefore increasing the probability of criminal activity. In the case of the proposed project criminal activity is likely to include potential house break-ins and/or petty theft. However, during discussions with Captain Van der Toorn from the Melkbosstrand police station it was noted that this was unlikely to be a significant concern (Per. Comm, 2016). Regardless however, steps should be taken to ensure that there are no incidents that can be considered a direct result of the proposed project. It is not anticipated that there will be an increase in crime during the operation phase of the project.

7.2 What potential impacts will the proposed project have on economic activities in the surrounding area?

7.2.1 Increased employment opportunities

During the construction phase of the proposed project there are likely to be limited employment opportunities created. While most of the work will need to be undertaken by skilled personnel and will thus be sourced from suitable contractors, it is likely that some activities (digging of trenches, traffic calming, etc.) could be undertaken by unskilled, local labour. While unemployment in the area is low potential job opportunities for people from surrounding areas need to be seen in a positive light. It does however need to be considered that any opportunities will be temporary in nature, unlikely to last longer than a month, and only a limited number of positions will be available. No employment opportunities will be created during the operation phase.

7.2.2 Impact on tourism

As noted in Section 5, tourism is a significant contributor to the local economy within the study area. During the construction phase of the project there will be various visual impacts, an increase in noise and an exclusion area on the beach will be required. These impacts are likely to be unattractive for tourists and will detract from their experience. However, all of these impacts will be temporary (construction activities between the beach and the BMH are expected to take 4 – 8 weeks and from the BMH to the CLS 6 – 12 weeks) and will be highly localised (i.e. only tourists staying in accommodation adjacent to where the proposed cable will be routed or accessing the portion of beach where the cable will be landed will be affected). In the case of the beach, it is understood that the area where the proposed landing sites are located (both Alternative A and Alternative B) is not heavily utilised. During discussions with the Resident Association Chairperson it was established that impacts on tourism are not a concern and that other projects of this nature have had no significant negative impacts on the tourism industry in town (La Grange, Per Comm, 2016). As such, the impact that the proposed project will have tourism is considered negligible. There will be no impact during the operation phase of the project.

7.2.3 Disruptions to the offshore fishing industry

The fishing industry plays an important role in the economy of the Western Cape, with the deep-sea trawling industry estimated to employ 7050 people directly (http://www.sadstia.co.za/publication/sadstia-employment-factsheet). United Nations Convention on the Law of the Sea stipulates that fishermen are to avoid conduct likely to break subsea cables while South African legislation enforces an exclusion zone of one nautical mile on either side of a cable route within which trawling and anchoring is prohibited

(Wilkinson and Japp, 2016). The presence of the proposed cable, during construction and operation, therefore has the potential to impact on both the demersal trawl and demersal longline sectors as they will either have to relocate to adjacent fishing grounds, or in the case of trawlers, lift their fishing gear as they traverse the exclusion zone (Wilkinson and Japp, 2016).

During discussions with representatives of the fishing industry it was established that of greatest concern is the cumulative impact of reduced fishing grounds. It was noted that as a result of Marine Protected Areas, the granting of exploration rights for phosphates and hydrocarbons and exclusion zones such as, those created by cables, the areas where fishing can take place are being reduced (Pope, J., and Augustyn, J., Per. Comm., 2016). As a result of this, there is the impact of reduced catches as well as increasing costs as alternative fishing grounds are sought further from port. The result of reduced catches and increased costs is the loss of jobs in the industry. It is estimated that for every 1000 tons of lost catch, the industry sheds 10 jobs (Pope, J., and Augustyn, J., Per. Comm., 2016). A Fisheries Specialist Study undertaken as part of the EIA has confirmed that the proposed cable is unlikely to have a significant impact on the fishing industry as the new exclusion zone will account for less than 0.3% of the current trawling area[2]. Based on the estimations above and catch figures from 2016 provided in the Fisheries Specialist Study, the loss of 0.3% of the fishing grounds will equate to four jobs in the industry being lost.

However, the proposed route lies close to the existing submarine cables which land at Melkbosstrand. This makes the area where the proposed cable will be routed largely unusable to the trawling industry already. Considering this and the findings from the Fisheries Specialist Study undertaken as part of this EIA, impacts on the fishing industry are not considered significant and it is not anticipated that there will be any major job losses in the industry as a direct result of the proposed cable route.

7.3 What are the broader socio-economic impacts of the proposed cable?

7.3.1 Improved telecommunication network

At present Africa relies primarily on satellites to provide its international communications. Satellite connections are generally costlier, less effective and have a lower capacity than communication via submarine telecommunication cables. With an increasingly global world, it has becoming increasingly accepted that access to affordable bandwidth is imperative to economic development and thus the proposed new cable removes a perceived obstacle to development. While South Africa has the most developed telecommunications network in Africa, the proposed cable will further strengthen the network and increase the potential for growth and development. Importantly it needs to be highlighted that while the proposed cable is landing in Van Riebeeckstrand, the socio-economic benefits will be felt by the entire country through the further strengthening of the existing network and improving the telecommunications infrastructure of the country making it a more attractive investment option.

7.4 What are the implications of the 'no-go' alternative?

In the event of the proposed project not going ahead, South Africa will have lost an opportunity to increase the reliability and the capacity of its telecommunications network. As noted already, a reliable and cost efficient telecommunication network is considered vital to economic growth and development. Thus, from a social perspective, while a no-go option is unlikely to have any significant impacts on the immediate receiving environment (Van Riebeeckstrand), a no-go alternative would be counterproductive to socio-economic development throughout South Africa as a whole.

[2] Trawlers and long liners operate at a depth range between 200m and 750m. The affected area is calculated to be 1 nautical mile within this depth range.

7.5 What are the likely impacts during decommissioning?

In the event of decommissioning taking place the potential social impacts are considered negligible. However, the relevant legislation at the time of decommissioning and the prevailing socio-economic conditions in the area at the time when decommissioning takes place will need to be taken into consideration and determine whether a SIA is required.

8 IMPACTS ASSESSMENT, MITIGATION AND MANAGEMENT MEASURES

8.1 Impact assessment of social impacts during construction

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Frequency** (Once off, Intermittent, Periodic, Continuous)	**Irreplaceable loss of resources** (Low, Medium, High)	**Reversibility of impacts** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)	**Confidence** (Low, Medium, High)
Increased noise	Unmitigated	Negative	Local	Short-term	Low	Intermittent	Low	High	Definite	Low	High
(Alternative A & B)	Mitigated	Negative	Site specific	Short-term	Low	Intermittent	Low	High	Highly probable	Low	High
Increased dust	Unmitigated	Negative	Local	Short-term	Low	Intermittent	Low	High	Probable	Low	High
(Alternative A & B)	Mitigated	Negative	Site specific	Short-term	Low	Intermittent	Low	High	Improbable	Low	High
Visual impact	Unmitigated	Negative	Local	Short-term	Low	Intermittent	Low	High	Highly probable	Low	High
(Alternative A & B)	Mitigated	Negative	Site specific	Short-term	Low	Intermittent	Low	High	Probable	Low	High
Disruption to traffic	Unmitigated	Negative	Local	Short-term	Low	Intermittent	Low	High	Improbable	Low	Medium
(Alternative A & B)	Mitigated	Negative	Site specific	Short-term	Low	Intermittent	Low	High	Improbable	Low	Medium
Damage to properties (Alternative A)	Unmitigated	Negative	Local	Short-term	Low	Intermittent	Low	High	Improbable	Low	Medium
	Mitigated	Negative	Site specific	Short-term	Low	Intermittent	Low	High	Improbable	Low	Medium
Damage to properties (Alternative B)	Unmitigated	Negative	Local	Short-term	Low	Intermittent	Low	High	Probable	Medium	Medium
	Mitigated	Negative	Site specific	Short-term	Low	Intermittent	Low	High	Probable	Low	Medium
Increased criminal activity	Unmitigated	Negative	Local	Short-term	Low	Intermittent	Low	High	Probable	Low	Medium
(Alternative A & B)	Mitigated	Negative	Site specific	Short-term	Low	Intermittent	Low	High	Improbable	Low	Medium

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Frequency** (Once off, Intermittent, Periodic, Continuous)	**Irreplaceable loss of resources** (Low, Medium, High)	**Reversibility of impacts** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)	**Confidence** (Low, Medium, High)
Increased employment opportunities (Alternative A & B)	Unmanaged	Positive	Local	Short-term	Low	Intermittent	Low	High	Improbable	Low	Medium
	Managed	Positive	Local	Short-term	Low	Intermittent	Low	High	Probable	Low	Medium
Impact on tourism (Alternative A & B)	Unmitigated	Negative	Local	Short-term	Low	Intermittent	Low	High	Probable	Low	Medium
	Mitigated	Negative	Site specific	Short-term	Low	Intermittent	Low	High	Improbable	Low	Medium
Disruptions to the offshore fishing industry (Alternative A & B)	Unmitigated	Negative	National	Permanent	Medium	Continuous	Low	High	Definite	Medium	Medium
	Mitigated	Negative	National	Permanent	Low	Continuous	Low	High	Definite	Medium	Medium

8.2 Mitigation and management of social impacts during construction

The following section identifies mitigation measures to reduce potential negative impacts and management measures to enhance possible positive impacts which may occur during the construction phase of the project. These measures are to be included in the EMPr.

8.2.1 Increased noise

- ❑ No construction activities should be undertaken outside of standard business hours (8am – 5pm).
- ❑ Residents adjacent to the areas where construction will be taking place should be informed a week prior to any construction activities taking place.

8.2.2 Increased dust

- ❑ Stock piles and/or exposed earth should be watered in order to reduce dust.

8.2.3 Visual impact

- ❑ Ensure that 'good housekeeping' is practised on the construction site.

8.2.4 Disruption to traffic

- ❑ Ensure that local residents are informed prior to any temporary road closures.
- ❑ Ensure that suitable signage is erected.

8.2.5 Damages to properties

- ❑ Engage with affected residents prior to any construction activities taking place.
- ❑ Prior to any construction activity that may cause damage to private property, ensure that there is a photographic record of all areas that may be damaged.
- ❑ Ensure that any damaged property is repaired immediately and returned to its previous condition.

8.2.6 Increased criminal activity

- ❑ Inform residents living in close proximity to the construction site, a week prior to construction commencing.
- ❑ Construction teams should be clearly identified by wearing uniforms and/or wearing identification cards that should be exhibited in a visible place on their body.
- ❑ Instant dismissal and prosecution of any staff caught in criminal activities of any kind.

8.2.7 Increased employment opportunities

- ❑ Encourage contractors to make use of local labour as far as possible.

8.2.8 Impact on tourism

- ❑ Inform accommodation establishments a week prior to construction commencing.
- ❑ Provide notice boards at beach access points detailing the construction period and map with details of construction locality.
- ❑ Clearly demarcate the construction site and any temporary exclusion zones on the beach.

8.2.9 Disruptions to the offshore fishing industry

- ❑ Engage with the fishing industry representative prior to the commencement of the construction process in order to ensure that they are aware of the exclusion zones.
- ❑ Align the new cable as close as possible to the existing cables in order to prevent the exclusion zone from expanding and limiting potential cumulative impacts.

8.3 Impact assessment of social impacts during operation

Description and Nature of Impact	**Mitigation**	**Nature** (Positive, Negative, Neutral)	**Spatial Extent** (Low, Medium, High)	**Duration** (Very low, Low, Medium, High)	**Intensity** (Low, Medium, High)	**Frequency** (Once off, Intermittent, Periodic, Continuous)	**Irreplaceable loss of resources** (Low, Medium, High)	**Reversibility of impacts** (Low, Medium, High)	**Probability** (Low, Medium, High)	**Significance** (Low, Medium, High)	**Confidence** (Low, Medium, High)
Disruptions to the offshore fishing industry	Unmitigated	Negative	National	Permanent	Medium	Continuous	Low	High	Definite	Medium	Medium
	Mitigated	Negative	National	Permanent	Low	Continuous	Low	High	Definite	Medium	Medium
Improved telecommunication network	Unmanaged	Positive	National	Long-term	Medium	Continuous	Low	High	Definite	Medium	Medium
	Managed	Positive	National	Long-term	Medium	Continuous	Low	High	Definite	Medium	Medium

8.4 Mitigation and management of social impacts during operation

8.4.1 Disruptions to the offshore fishing industry

- Ensure that the fishing industry is made aware prior to any maintenance activities taking place.
- Apply mitigation measures recommended by the fisheries specialist, namely; placing the new cable within the exclusion zone of the existing cables.

8.4.2 Improved telecommunication network

- Keep infrastructure well maintained.

9 CONCLUSIONS AND RECOMMENDATIONS

MTN intends installing a submarine telecommunications cable to link the West Coast of Africa as well as South Africa with key international telecommunication hubs in Europe. It is widely recognised that access to affordable international bandwidth is key to economic development in every country and is currently one of the perceived stumbling blocks to development in Africa. It is proposed that the cable will land in South Africa on the west coast in the vicinity of Van Riebeeckstrand. After consideration of the receiving environment as well as the nature of the proposed project it can be concluded that from a social perspective **there are no fatal flaws** that should prevent the project from being authorised.

While negative social impacts may arise from the proposed project, generally nuisance impacts, most of these are temporary in nature and will only occur for a very limited period. In addition, none of these impacts following mitigation are considered to be above a low significance.

The exception is the potential impact that an additional permanent exclusion zone may have on the fishing industry. However after considering the findings from the specialist fisheries study undertaken as part of the EIA as well as consulting with stakeholders in the industry it has been determined that the proposed new cable is unlikely to have anything more than a medium impact on the fishing industry and with suitable mitigation (IE aligning the cable close to the existing cable) this impact may become negligible.

From a social perspective, it is important to note that the proposed project will have a positive impact on the overall telecommunications network in South Africa. This, as noted already, is considered as a necessary requirement in encouraging economic development and ensuring that the limitations to investments are reduced.

REFERENCES

ACE S4 Phase 2 Submarine Cable Project, *Cable Route Study. Attachment E – Fisheries and Fishing Activities*

City of Cape Town 2016, *State of Cape Town 2016. Overview with infographics*

City of Cape Tow 2013. *City of Cape Town – 2011 Census – Ward 023*

City of Cape Town 2012. *Spatial Development Plan & Environmental Management Framework, Technical Report. Blaauwberg District Plan*

Statistics South Africa, 2012. *Census 2011 municipal report, Western Cape.*

Van Schooten, M., Vanclay, F., and Slootweg, R. in Becker, H. A., 2003*. Conceptualising social change processes and social impacts*, in Becker, H.A., and Vanclay, M., 2003*The International Handbook for Social Impact Assessment. Cheltenham: Edward Elgar Publishing Limited.*

Vanclay, F. 2003. *Conceptual and methodological advances in Social Impact Assessment*.

Wilkinson and Japp, 2016. *Proposed Marine Telecommunications Cable System (ACE Cable System), West Coast South Africa. Specialist Study on the Impact on the Fishing Industry*.

Internet Sites

International Cable Protection Committee. Accessed from www.iscpc.org

South African Deep Sea Trawling Industry Association. Accessed from (http://www.sadstia.co.za/publication/sadstia-employment-factsheet

Personal Communication

Augustyn, J., 2016. Secretary, South African Deep Sea Trawling Association.

Grose, N., 2017. Ward Councillor, Ward 23. Communication via Email.

La Grange, S., 2016. Chairperson: Regional and Local Planning, Melkbosstrand Ratepayers Association

Pope, J., 2016. General Manager, Blue Continent Products

Van der Toorn, R (Captain), 2016. Melkbosstrand Station Commander, Department of Community Safety, Western Cape.