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18 September 2019

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Dear «Title» «Surname»

PROPOSED MARINE TELECOMMUNICATIONS SYSTEM (EQUIANO CABLE SYSTEM) TO BE LANDED AT MELKBOSSTRAND ON THE WEST COAST OF SOUTH AFRICA

BACKGROUND INFORMATION AND INVITATION TO PARTICIPATE IN AN ENVIRONMENTAL AUTHORISATION PROCESS (ENVIRONMENTAL IMPACT ASSESSMENT)

Project Background

Submarine telecommunications cables are important for international telecommunications networks, transporting almost 100% of transoceanic internet traffic throughout the world (www.iscpc.org). This is significant because it is widely recognised that access to affordable international bandwidth is key to economic development in every country.

The purpose of this project is to install a fibre optic submarine cable to provide international high-speed connectivity and reliability. Businesses and consumers will benefit from enhanced capacity and reliability for services such as telecommuting, HD TV broadcasting, internet services, video conferencing, advanced multimedia and mobile video applications. Internet traffic is growing exponentially as the appetite for new applications, like cloud computing and on-demand video, increases. Furthermore, the demand for new connectivity reflects an end-user and business environment in which high capacity data transmission is essential for sustainable growth and development.

Communication via submarine telecommunications cables generally allows for lower cost, better performance and greater capacity (throughput) than that available via satellite. Improvement in Africa's information technology infrastructure via telecommunications cables will help strengthen development in Africa and support economic growth and opportunities on the continent.

Telkom SA SOC Limited, acting through its Openserve division (hereafter referred to as "Openserve"), intends to install a submarine telecommunications cable, called the Equiano Cable System, to link South Africa with key international telecommunications hubs in West Africa (Nigeria) and Europe (Portugal). As the designated Landing Partner of the Equiano Cable System in South Africa, Openserve has the required licenses to operate this system in South Africa and aims to secure local permits to land the Equiano Cable System at Melkbosstrand, Western Cape.

Alcatel Submarine Networks (ASN) has been appointed as the supplier and installer of the Equiano Cable System connecting Africa and Europe. The system is to be installed in phases. The first phase ("Baseline System") will entail the installation of cable landings at:

- South Africa: Melkbosstrand.
- Portugal: Lisbon (Sesimbra).
- Nigeria: Lagos.

Through the Equiano Cable System, Openserve will facilitate more affordable and effective transport of voice, data, internet and television services in South Africa. Furthermore, the cable will support the objectives set out by the New Partnership for Africa's Development (NEPAD) and provide a means of fulfilling the South African Government's requirements in terms of digital television broadcasting in the country. The Equiano Cable System will have an initial design capacity of up to 200 Terabits per second.

Environmental Legislation

The current Environmental Impact Assessment Regulations, 2014 (as amended 2017) published under Section 24(5) read with Sections 24, 24D and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (as amended) apply to this project.

Based on these regulations, the Environmental Assessment Practitioner (EAP) must complete Scoping and an Impact Assessment within 300 days of acceptance of the Application for Authorisation by the competent authority, viz. the national Department of Environment, Forestry and Fisheries (DEFF). DEFF is the competent authority for the issuing of environmental authorisation because the Equiano Cable System traverses' international boundaries. It is also envisaged that a Water Use Licence may be required from the Department of Human Settlements, Water and Sanitation in terms of Chapter 4 of the National Water Act, 1998 (Act No 36 of 1998), particularly Section 40(4).

On behalf of Openserve and ASN, ACER will fulfil the role and responsibilities of EAP, undertaking the Environmental Impact Assessment (EIA), the associated public participation process, and submitting the required application and supporting documentation to DEFF for consideration and decision-making.

The purpose of this letter is to invite you, as a potentially Interested & Affected Party to participate in the EIA. A Background Information Document (Appendix 1) and Comment Sheet (Separate Attachment) have been compiled and are provided herewith to facilitate your participation (these documents are also available at www.acerafrica.co.za under the "Current Projects" link (Equiano Cable System)). Please note that the closing date for initial comments[1] during public announcement is 22 October 2019.

Please contact the Public Participation Office to obtain further information:

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Your participation is valued and will be appreciated.

[1] Please note that consistent with GNR 326, 42(a), 44 (1) and 19(1)(a) (7 April 2017) all comments received will be captured in a Comments and Responses Report which will be made available to the competent authority and which will be placed in the public domain as part of the public review process of the EIA reports.

Yours sincerely,

ACER (Africa) Environmental Consultants
Mr. G Churchill
Environmental Assessment Practitioner

APPENDIX 1
BACKGROUND INFORMATION DOCUMENT

1. INTRODUCTION

Telkom SA SOC Limited, acting through its Openserve division (hereafter referred to as "Openserve"), proposes to install a submarine telecommunications cable, called the Equiano Cable System, to link South Africa and the West Coast of Africa with key international telecommunications hubs in Europe (Figure 1). Openserve is the designated Landing Partner of the Equiano Cable System in South Africa and has the required licenses to operate international telecommunications infrastructure in the country. To this end, Openserve aims to secure local permits to land the Equiano Cable System in the country at Melkbosstrand, Western Cape.

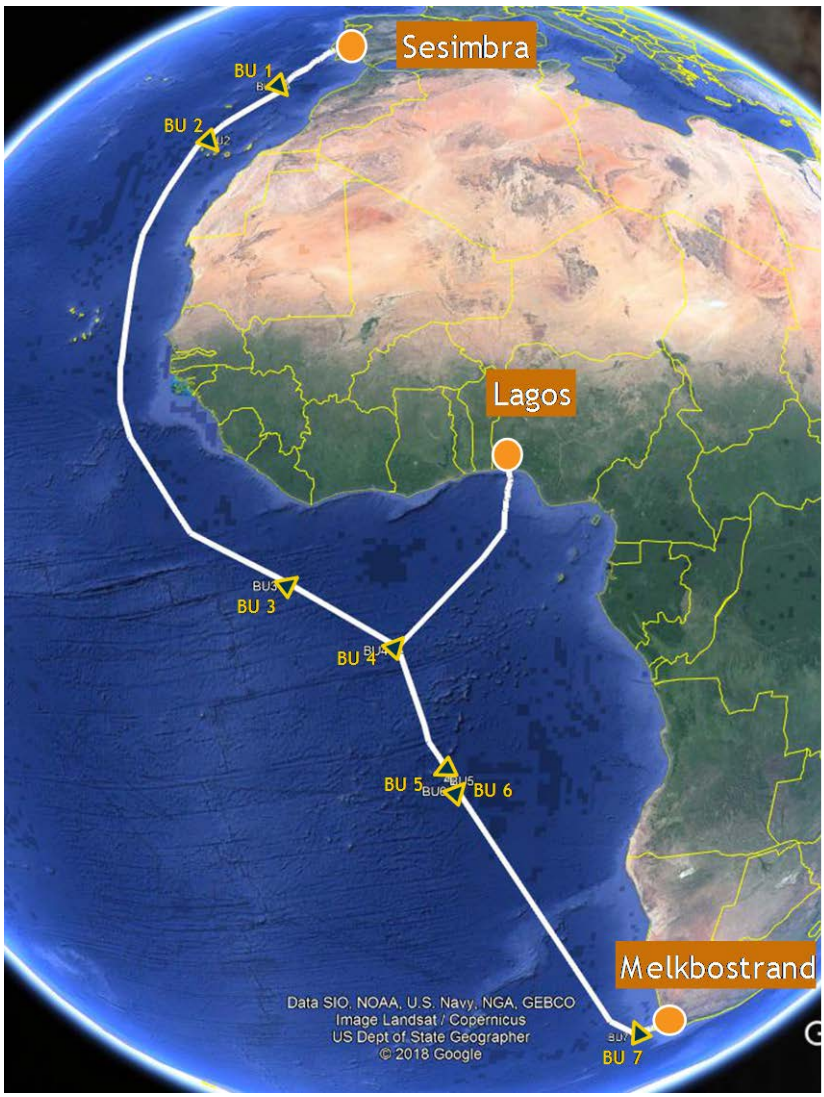

Figure 1 Proposed routing of the Equiano Cable System (not to scale)

1.1 Purpose of the Equiano Cable System

Submarine telecommunications cables are important for international telecommunications networks, transporting almost 100% of transoceanic internet traffic throughout the world (www.iscpc.org). This is significant because it is widely recognised that access to affordable international bandwidth is key to economic development in every country.

Currently, Africa relies primarily on satellites to provide its international communications. Communication via submarine telecommunications cables generally allows for lower cost, better performance and greater capacity (throughput) than that available via satellite. Improvement in Africa's information technology infrastructure via telecommunications cables is expected to remove one of the current key inhibitors to development in Africa and support economic growth and opportunities on the continent.

Alcatel Submarine Networks (ASN) has been appointed as the supplier and installer of the Equiano Cable System connecting Africa and Europe. The system is to be installed in phases. The first phase ("Baseline System") will entail the installation of cable landings at:

- South Africa: Melkbosstrand.
- Portugal: Lisbon (Sesimbra).
- Nigeria: Lagos.

With the landing of the Equiano Cable System, businesses and consumers will benefit from enhanced capacity and reliability for services such as telecommuting, HD TV broadcasting, internet services, video conferencing, advanced multimedia and mobile video applications. [The Equiano Cable System will have broadband design capacity to transmit up to 200 Terabits per second].

Broadband traffic is growing exponentially due to new applications like cloud computing and on-demand video. Furthermore, the demand for new connectivity reflects an end-user and business environment in which ultra-broadband access is essential for sustainable growth and development. In an African and local context, the cable will support the objectives set out by the New Partnership for Africa's Development (NEPAD) and provide a means of fulfilling the South African Government's requirements in terms of digital television broadcasting.

2. PURPOSE OF THIS DOCUMENT

2.1 Background Information for Public Review

This document, a Background Information Document (BID), provides information about the proposed Equiano Cable System and the Environmental Impact Assessment (EIA) required for environmental authorization to land the cable in South Africa. The BID covers:

- The purpose of the proposed Equiano Cable System.
- Applicable environmental legislation.
- Project activities.
- Route alignment and landing site alternatives.
- Potential issues associated with the proposed cable system.
- The Environmental Impact Assessment process.
- Information on how to register as an Interested and/or Affected Party.

2.2 Applicable Environmental Legislation

In terms of the current Environmental Impact Assessment Regulations (effective April 2017) as promulgated under the National Environmental Management Act (No. 107 of 2014) (NEMA), the installation of the proposed Equiano Cable System and associated infrastructure trigger several listed activities in GN R. 325 and 327, as detailed in Table 1.

Table 1 Listed Activities triggered by the proposed Equiano Cable System

Activity	Reason
Activity 15 Listing Notice 1 (No. R. 327 of 2017) The development of structures in the coastal public property where the development footprint is bigger than 50 square metres, excluding - (i) […]; (ii) […]; (iii) […]; or (iv) […].	The project will entail the landing of a marine telecommunications cable at Melkbosstrand Beach. This will require the digging of a trench along the beach (coastal public property) into the intertidal zone and the installation of the telecommunications cable.
Activity 17 Listing Notice 1 (No. R. 327 of 2017) Development- a. in the sea; b. […]; c. within the littoral active zone; d. in front of a development setback; or e. if no development setback exists, within a distance of 100 metres inland of the high- water mark of the sea or an estuary, whichever is the greater; in respect of- i. […]; ii. […]; iii. […]; iv. […]; or v. infrastructure with a development footprint of 50 square metres or more - but excluding- (aa) […]; (bb) […]; (cc) […]; or (dd) […].	The project will entail the landing of a marine telecommunications cable at Melkbosstrand Beach. This will require the digging of a trench along the beach into the intertidal zone and the installation of the telecommunications cable.

Table 1 Continued

Activity	Reason
Activity 18 Listing Notice 1 (No. R. 327 of 2017) The planting of vegetation or placing of any material on dunes or exposed sand surfaces of more than 10 square metres, within the littoral active zone, for the purpose of preventing the free movement of sand, erosion or accretion, excluding where - i. the planting of vegetation or placement of material relates to restoration and maintenance of indigenous coastal vegetation undertaken in accordance with a maintenance management plan; or ii. […].	The project will entail the rehabilitation of the shoreline on Melkbosstrand beach where construction activities associated with the laying of the underground telecommunications cable will disturb vegetation on the shoreline.
Activity 19A Listing Notice 1 (No. R. 327 of 2017) The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from - (i) the seashore; (ii) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater; or (iii) the sea; — but excluding where such infilling, depositing, dredging, excavation, removal or moving - (a) […]; (b) […]; (c) […]; (d) […]; or (e) […].	The project will entail the excavation and deposition of more than 5 m^3 of material within 100 m of the high-water mark of the sea when trenching for, and backfilling of, the marine telecommunications cable takes place.

Table 1 Continued

Activity	Reason
Activity 14 Listing Notice 2 (No. R. 325 of 2017) The development and related operation of- (i) […]; (ii) an anchored platform; or (iii) any other structure or infrastructure – on, below or along the seabed; excluding - (a) […]; or (b) […].	The Equiano Cable System will be placed on the seabed. In shallow waters (less than 1,500 m in depth) the cable will be buried under the seabed to provide extra protection.
Activity 26 Listing Notice 2 (No. R. 325 of 2017) Development-- i. in the sea; ii. […]; iii. within the littoral active zone; iv. […]; or v. if no development setback exists, within a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater; in respect of – a) […]; b) […]; c) inter- and sub-tidal structures for entrapment of sand; d) […]; e) […]; f) […]; g) […]; or h) underwater channels; but excluding the development of structures within existing ports or harbours that will not increase the development footprint of the port or harbour.	Although unlikely to be triggered, this listed activity has been included as the trench for the marine cable may result in the entrapment of sand within the inter- and sub-tidal zones. In addition, the trench in which to bury the cable may be construed as an underwater channel.

2.3 Environmental Assessment Practitioner

In accordance with EIA regulations, ACER (Africa) Environmental Consultants has been commissioned as the Environmental Assessment Practitioner (EAP) to undertake the EIA for the Equiano Cable System.

3. PROJECT ACTIVITIES

3.1 Submarine Cable Terminology

- **BU – Branching Unit** is a piece of equipment used in subsea systems that allows the cable to be split to serve more than one destination.
- **BMH – Beach Manhole** is a concrete utility vault where the marine portion of the cable is connected to the terrestrial portion. This is situated at the shoreline above the high-water mark. This is mostly buried with an access port at the ground surface.
- **CLS – Cable Landing Station** is a building that functions as a control centre for the cable system and where the submarine system connects to the domestic telecoms network.

3.2 Description

The main cable trunk will be located approximately 200 to 500 km from the shoreline in international waters. Branch cables will run from the main trunk to the shoreline through territorial waters to the landing site in each country. South Africa will be the southern-most point of the cable (end station). The final route of the marine portion of the cable will be identified based on a combination of engineering, environmental and economic factors; however, the general alignment of the Equiano Cable System will follow the SAT-2 cable alignment which was decommissioned in 2013.

It is important to note that the Equiano Cable System will not require the construction of a Beach Manhole (BMH) or Cable Landing Station (CLS) as the current SAT-2 BMH and CLS operated by Openserve will be used. Therefore, the only activities to be undertaken during the installation and operation of the Equiano Cable System are the following:

- Laying of the cable in the offshore environment including cable burial to a water depth of 1,500 m.
- In shallower waters where hard substrates are encountered and cable burial is not possible, the cable will be anchored to the seabed to prevent cable movement. Given that the Equiano cable will follow the alignment of the now decommissioned SAT-2 cable, existing anchor sites will be used (where possible).
- Excavations within the intertidal zone to bury the cable before being anchored into the existing SAT-2 BMH on Melkbosstrand Beach.
- Installation of the onshore cable section between the BMH and the CLS site in Melkbosstrand. Existing sleeves will be used to run the cable from the beach to the CLS, i.e. no construction will be required for the onshore cable alignment.

3.3 Project Phases

The project phases are Pre-installation, Installation, Operation and Decommissioning.

3.3.1 Pre-installation

A detailed survey of the sea bottom and geology will be undertaken to inform the cable route along the SAT-2 alignment. Also, a survey will be conducted at the landing site to determine the final alignment of the cable at the shore crossing to access the existing SAT-2 BMH at Melkbosstrand.

Route Clearance (RC) and Pre-Lay Grapnel Run (PLGR) operations will be conducted prior to the laying and burial operations 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 or the cable and burial equipment damaged.

A PLGR is required for all areas with planned burial to 1,000 – 1,500 m water depth prior to cable installation. This process will remove all debris on the seabed surface (for example, old fishing nets, ropes/wires and anchor chains) that may obstruct the ploughing process. The PLGR vessel will operate as close to shore as possible and out to sea to the extent of the plough burial depth. Divers will remove debris near shore or avoid debris by doing minor adjustments to the cable alignment in the near shore environment.

RC will be performed at specific locations, in areas with planned burial where old Out-of-Service cables are known to cross the Equiano cable route. Both the RC and PLGR operations will be performed prior to the main cable lay operation and will be carried out along the proposed cable route where burial is required. The PLGR operation will be to industry standards employing towed grapnels; the type of grapnel being determined by the nature of the seabed. Any debris recovered during these operations will be discharged ashore on completion of the operations and disposed at a waste facility licensed to receive the waste.

3.3.2 Installation

The Equiano Cable System, comprising a marine fibre optic cable, will be installed using a purpose-built cable ship (Figure 2) 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. The burial technique used depends on the seabed conditions and other site-specific factors. At the shore crossing, a narrow trench to the BMH will be dug to bury the cable. Where necessary, the cable will be placed in a conduit or articulated pipes to protect it from external damage that may be caused by abrasion or other physical contact.

Figure 2 Typical Cable Laying Ship

3.3.3 Operation

Once installed and operational, the cable will not require routine maintenance. If the cable is damaged or needs repair, the damaged portion of the cable can be retrieved and repaired or replaced.

3.3.4 Decommissioning

At the end of the cable lifetime (approximately 25 years) it is likely that the cable will remain in place, or in some places it may be removed. The terrestrial components, such as the BMH and cable station will be reused for a new submarine cable (such as in this case where the SAT-2 BMH and CLS are being reused) or an alternate purpose.

3.4 Cable Composition and Properties

At each landing country associated with the Equiano Cable System, the proposed fibre optic cable will transit coastal waters and be brought on shore using industry-standard installation methods. Submarine cables, such as the one proposed for the Equiano Cable System, have an inner core structure that supports the optic fibres used to transport the communication signals via light (Figures 3 and 4). This cable core will be encased with steel-wire armour protection in areas where the risks of physical damage are highest (for example, from anchors and/or trawler nets). The cable will not contain any insulating oil or other hazardous substances. The cable, including armouring, resembles a garden hose with an approximate diameter of 35 mm (unarmoured, the cable diameter is approximately 25 mm).

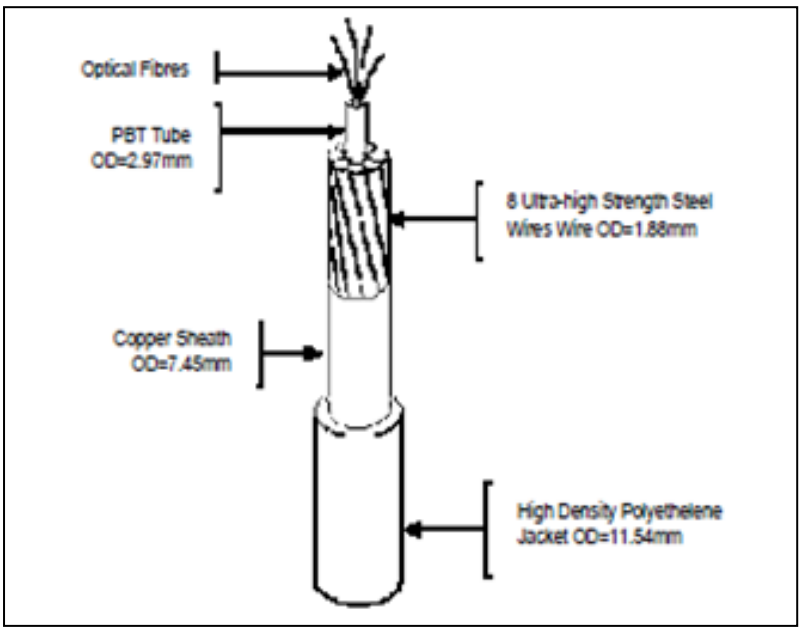

Figure 3 Schematic diagram of a typical lightweight fibre-optic telecommunications cable for deep water

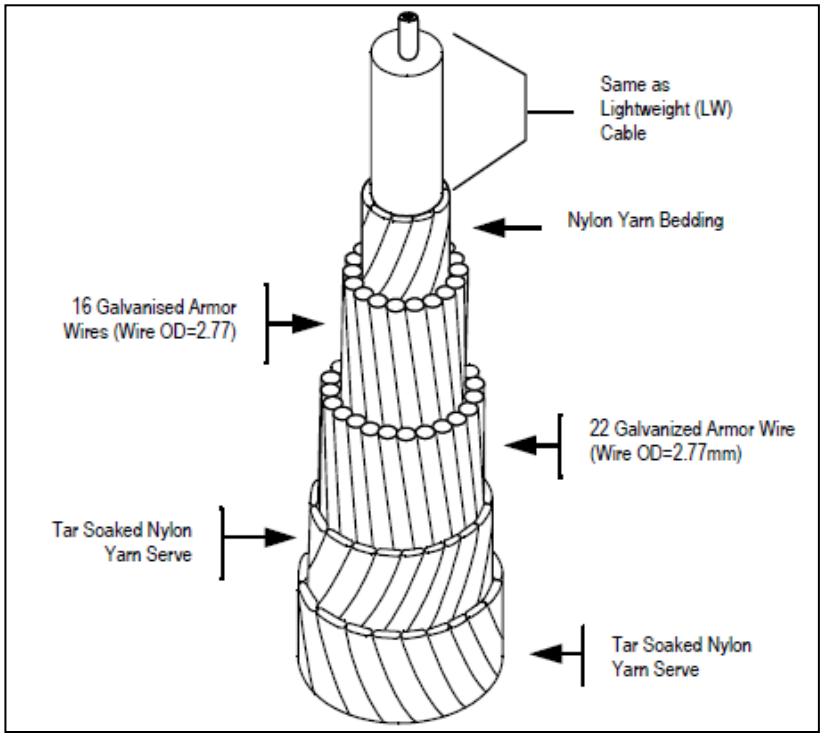

Figure 4 Schematic diagram of a double armour fibre optic telecommunications cable

Since the light signal loses strength en-route along the fibres, undersea repeaters (amplifiers) are installed along the cable to boost the signal. These repeaters are located many kilometers offshore.

4. ROUTE ALIGNMENT AND LANDING SITE ALTERNATIVES

4.1 Alignment of the Equiano Cable System Offshore

The cable route, approximately 11,500 km, runs along the West Coast of Africa in deep water (generally parallel to the coastline) and approaches South African coastal waters from the north (i.e. from Namibian waters). The proposed Equiano Cable System follows the alignment of the now out of service SAT-2 submarine cable when entering South Africa's territorial waters (Figure 5). The alignment of the Equiano Cable System closely follows that of SAT3/WASC which also lands at Melkbosstrand.

As the cable route changes direction to approach the coastline of Melkbosstrand, the cable will be buried beneath the sandy seabed of the 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 - 1.5 metres. This burial is intended to provide protection to the cable from the hazards posed by ships' anchors, fishing activities and the like (Figure 6).

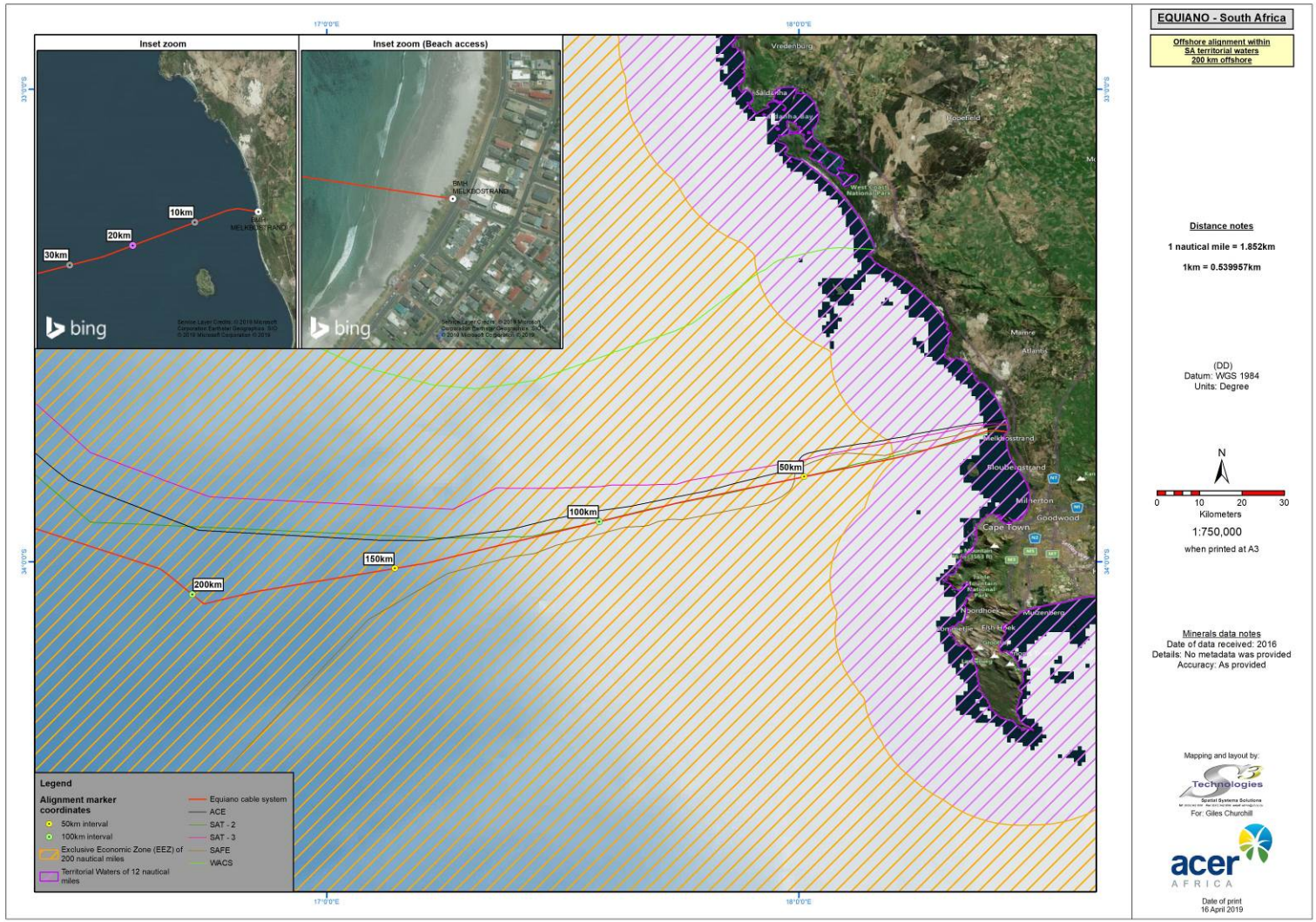

Figure 5 Alignment of the Equiano Cable System in relation to existing marine telecommunications cables which enter South African waters

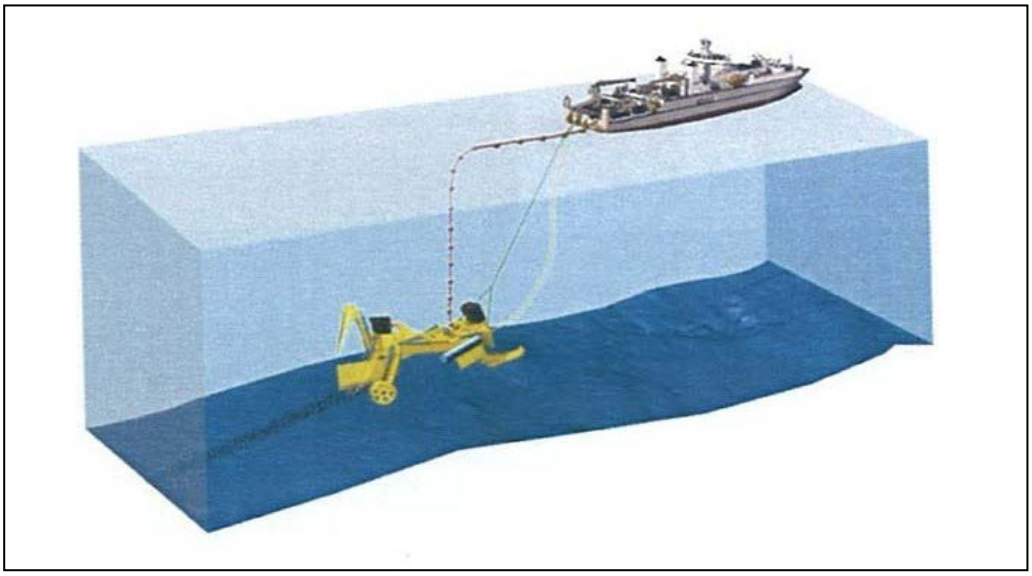

Figure 6 Cable-laying ship feeding the cable to the plough on the seabed

Once waters are too shallow for vessel access, the remainder of the cable is manually guided to shore with the use of buoys, small boats and divers (Figure 7). The cable will then be pulled via a winch into the existing SAT-2 BMH at Melkbosstrand and secured. The divers then re-enter the shallow waters with a handheld water jetting machine, which facilitates burial of the cable within the surf zone.

Figure 7 Cable being guided to shore by divers and small boats

The alignment has been selected taking into consideration the existing cables and their buffers to mitigate the effects on the trawling industry and other seabed users (offshore exploration and mineral concession holders).

From the surf zone, the cable will be buried along a route up to the beach (by manual labour or excavating machinery) (Figure 8). From the beach, the Equiano Cable System will be buried and anchored to the existing SAT-2 BMH located on the edge of the urban area (Figure 9). At the manhole, the Equiano Cable System will be connected to the Land Marine Cable, which runs from the BMH to the existing CLS in Melkbosstrand through existing sleeves installed when the SAT-2 Cable System was landed.

Figure 8 Example of excavations to take place on Melkbosstrand Beach to bury the submarine cable

Figure 9 Example of an existing Beach Manhole near the Melkbosstrand Beach

No landing or site alternatives for the BMH or CLS are being considered for this project as the proposed Equiano Cable System will feed into the existing SAT-2 BMH located at Melkbosstrand Beach and the current CLS operated by Openserve in the town of Melkbosstrand (Figure 10).

Figure 10 Onshore alignment from the Beach Manhole to the Cable Landing Station

6. POTENTIAL ISSUES ASSOCIATED WITH THE PROPOSED EQUIANO CABLE SYSTEM

Outlined below is a preliminary list of the potential environmental issues that thus far have been identified for the preferred cable landing location in Melkbosstrand:

- ❑ *Effect on marine seabed environments.* Laying of the cable in deep marine waters, including the ploughing and burial of the cable in shallower waters, could disturb and/or degrade sensitive marine environments off the Western Cape Coast.
- ❑ *Effect on marine biology and fisheries.* The cable has the potential to cause disruption to marine biology, and commercial and recreational fisheries (for example, trawling and ski-boat fishing) during its installation and operation.
- ❑ *Effect on intertidal and beach ecology.* During construction, trenching of the cable may disturb or threaten the local fauna and flora within the beach and dune environment.
- ❑ *Cultural heritage.* The proposed activity may impact on offshore cultural heritage resources along the proposed cable alignment.
- ❑ *Disturbance to the beach and dunes.* The beach and dunes will be disturbed during construction/installation activities.

- *Disturbance to residents and beach visitors during construction.* The installation of the cable in the nearshore environment is estimated to take two weeks to complete (landing and anchoring of the submarine cable) which will affect residents and visitors to the beach at the landing site.

As required in terms of NEMA, the cumulative impacts of the project will also be considered. Further to the above, additional issues may be identified during Scoping.

7. THE EIA PROCESS

The current Environmental Impact Assessment Regulations, 2014 (as amended), published in Government Notices R 324, 325, 326 and 327 of April 2017 under Section 24(5) read with Sections 24, 24D and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (as amended) apply to this project. Scoping and an Impact Assessment are required, which must be completed within 300 days of acceptance of the Application for Authorisation by DEFF (Figure 11).

7.1 Technical Activities

In support of the Environmental Impact Assessment, it is anticipated that the following specialist input will be required:

- Heritage Assessment.
- Vegetation Assessment including a Wetland Delineation and Functional Assessment.
- Coastal Dune Dynamics Assessment.
- Ecological Assessment.
- Fisheries Assessment.

Findings will be used in the assessment of impacts and the identification of mitigation and management measures.

7.2 Public Participation

Public participation is an important component of the EIA process and aims to identify and proactively involve all parties that may have an interest in the project or be affected by it. This ensures that throughout the EIA process, the assessment is transparent, and it enables Interested and Affected Parties (I&APs) to comment on the project or raise concerns. This information is included in the Scoping and Impact Assessment Reports and is taken into consideration during the competent authority's review and assessment of the project.

8. REGISTRATION AS AN INTERESTED AND AFFECTED PARTY

Should you wish to learn more about the proposed Equiano Cable System and wish to register as an I&AP, please contact ACER as per the details provided below or complete and return the comment sheet provided herewith.

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Please note that consistent with GNR 326, 42(a), 44 (1) and 19(1)(a) (7 April 2017) all comments received will be captured in a Comments and Responses Report which will be made available to the competent authority and which will be placed in the public domain as part of the public review process of the EIA reports.

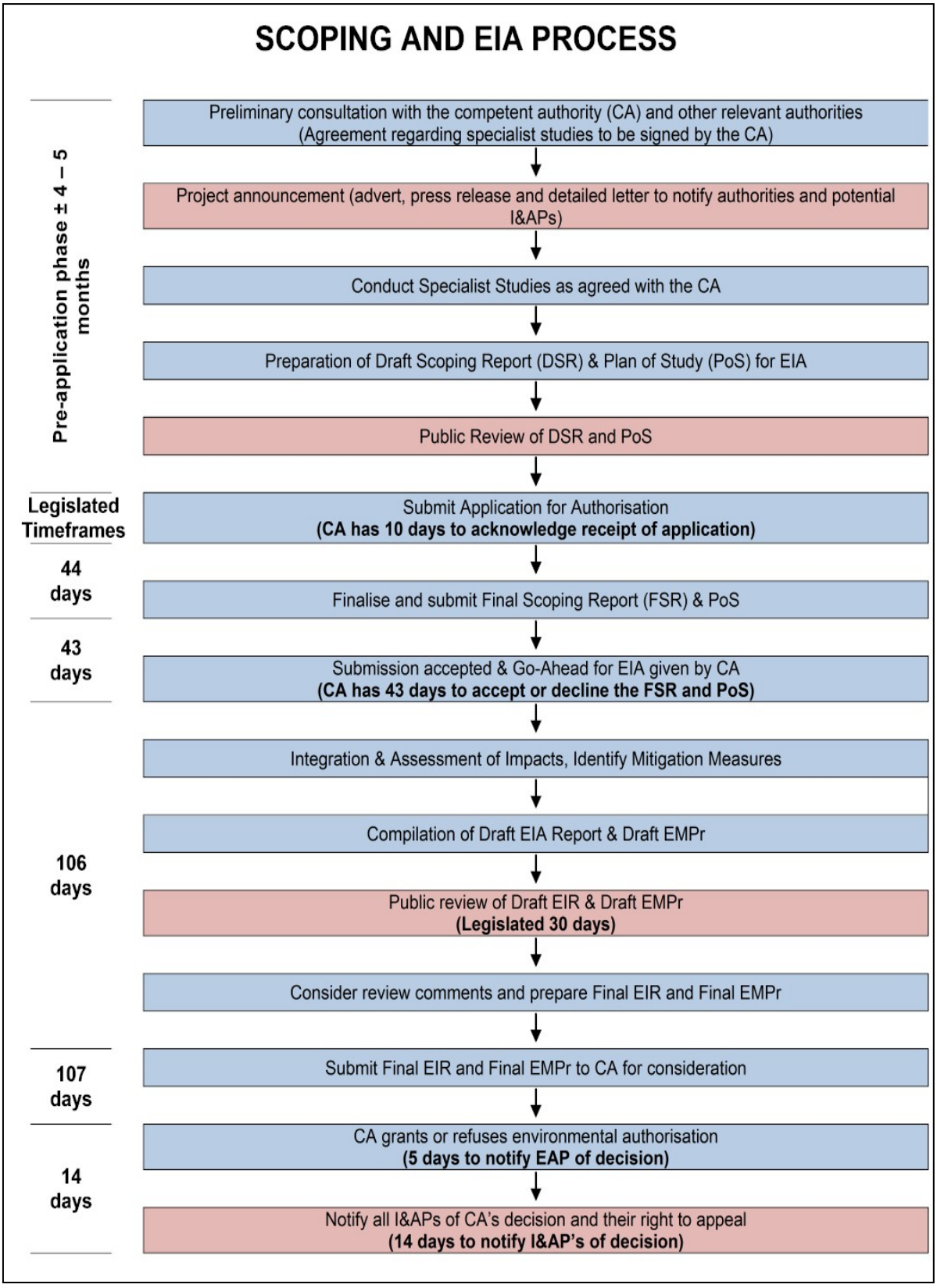

Figure 11 Outline of the Environmental Impact Assessment process and legislated timeframes