**Appendix 1: Background Information Document**

## 1. INTRODUCTION TO THE PROJECT

MTN (Pty) Ltd proposes installing a submarine telecommunications cable, referred to as the Africa Coast to Europe (ACE) cable system, to link South Africa, the West Coast of Africa and Europe with key international telecommunication hubs in Europe (Figure 1). MTN SA aims to secure local landing permits to land the ACE Cable System as the designated Landing Partner of the Cable System in South Africa and has the required licenses to operate international telecommunication infrastructure in the country.

### 1.1 Purpose of the Proposed ACE Cable System

Submarine telecommunication cables are important for international telecommunication networks; they transport almost 100% of transoceanic internet traffic throughout the world (www.iscpc.org). It is widely recognised that access to affordable international bandwidth is key to economic development in every country. Today, Africa relies primarily on satellites to provide its international communications. Communication via submarine telecommunication 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 telecommunication cables will remove one of the current key perceived inhibitors to development in Africa and support economic growth and opportunities on the continent. Following installation of the proposed ACE cable system, MTN will be the first so called mobile operator to operate international fibre-optic bandwidth with full landing in South Africa 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.

**[Note**: The proposed ACE cable system will have the broadband capacity to transmit over 10 Terabits per second, which is approximately double the current capacity of the existing telecommunications systems within South Africa**]**.

## 2. PURPOSE OF THIS DOCUMENT

### 2.1 Background Information for Public Review

This document, a Background Information Document (BID), is intended to provide information about the Environmental Impact Assessment (EIA) being undertaken for the proposed development of the ACE cable system landing in South Africa and provides:

- ❑ Purpose of the Proposed ACE Cable System.
- ❑ Applicable environmental legislation.
- ❑ South Africa 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.


**Figure 1 Proposed routing of the ACE cable system (not drawn to scale)**

### 2.2 Applicable Environmental Legislation

In terms of the Environmental Impact Assessment (EIA) Regulations as promulgated under the National Environmental Management Act (No. 107 of 2014) (NEMA), the proposed installation of the ACE cable system and associated infrastructure constitutes a number of listed activities, the over-arching activity being:

- Listing Notice GNR 386 of 2006 - 1(m): "*The construction of facilities or infrastructure, including associated structures or infrastructure, for marine telecommunications*".

### 2.3 Independent Assessment

In accordance with EIA Regulations, MTN has commissioned ACER (Africa) Environmental Consultants as the Independent Environmental Assessment Practitioner (EAP) to undertake the EIA for the ACE project.

## 3. PROJECT ACTIVITIES

The main cable trunk would be located approximately 150 to 500 km from the shore line in International Waters. Branches would run from the main trunk to the shore line 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.

### 3.1 Project Phases

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

### *3.1.1 Pre-installation*

Detailed survey of the sea bottom and geology will be undertaken and the information collected will be used to develop the cable route. A survey will be conducted at the landing sites to determine the final alignment of the cable at the shore crossing and placement of the Beach Man Hole (BMH) and system earth.

### *3.1.2 Installation*

A Cable Laying Ship (Figure 2) will place the cable on the seabed along the predetermined route. In deep water (greater than 1,500 m water depth) the cable will be installed on the seabed. In shallow water (less than 1,500 m water depth) the cable will be buried where possible up to 2 m below the seabed to protect it from possible damage by fishing and shipping activities. 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 put in conduit or articulated pipes to protect it from external damage that may be caused by abrasion or other physical contact. The system earth will be located close to the BMH.

**Figure 2 Typical Cable Laying Ship**

### *3.1.3 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.

### *3.1.4 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 would be reused for an alternative purpose or a newer submarine cable system.

### 3.2 Submarine Cable Terminology

- **BU – Branching Unit** is a piece of equipment used in subsea systems that allows the cable to be split in order 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 would be situated at the shore line above the high water mark. This would be mostly buried with an access port at the ground surface.
- **SE – System Earth** is required to provide an earthen ground for the cable. It would consist of either a number of rods or a metal plate installed in the subsurface and connected to the cable system at the BMH, and would be entirely subsurface and not visible.
- **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.

### 3.3 Cable Composition and Properties

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

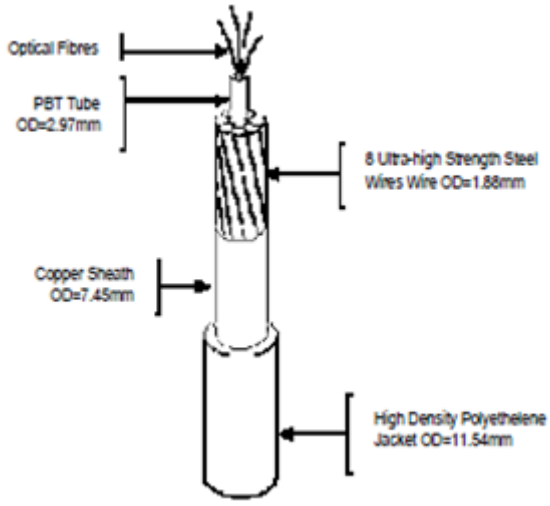


**Figure 3 Schematic diagram of a typical lightweight fibre optic telecommunications cable for deep water**

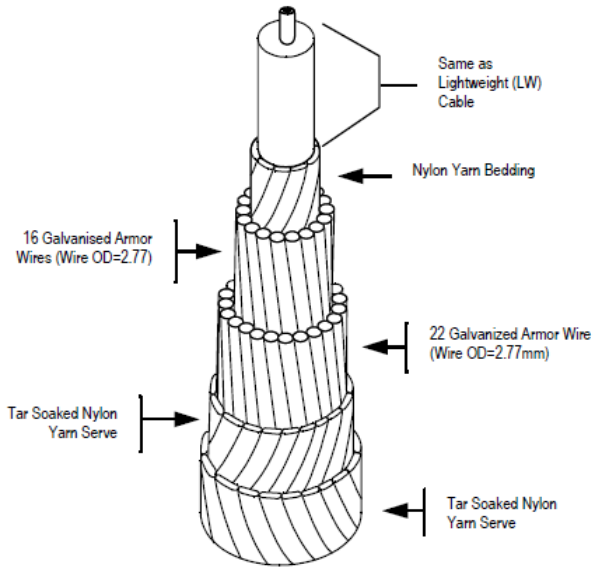


**Figure 4 Schematic diagram of a double armour fibre optic telecommunications cable**

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. SOUTH AFRICA LANDING SITE ALTERNATIVES

### 4.1 Alignment of the ACE Cable System Offshore

The proposed ACE Cable System follows the alignment of existing submarine cables entering South Africa's territorial waters (Figure 5). The proposed alignment of the ACE Cable system closely follows that of the SAT-2 cable (currently out of service) and the SAT3/WASC which both land at Melkbosstrand on the West Coast of South Africa.

The selected alignment has been chosen taking into consideration the existing cable alignments and their buffers in an attempt to mitigate the effects on the trawling industry and other seabed users.

The general area proposed for the landing of the ACE cable system in South Africa is along the West Coast of South Africa. Two alternative landing locations have been investigated, viz. Yzerfontein and Van Riebeeckstrand (Duynefontein). These sites, as discussed in more detail later in this BID, were selected following consideration of not only environmental issues, but also those associated with marine engineering (e.g. security of the route against external risks) and commercial aspects (e.g. proximity to national networks and their international access points).

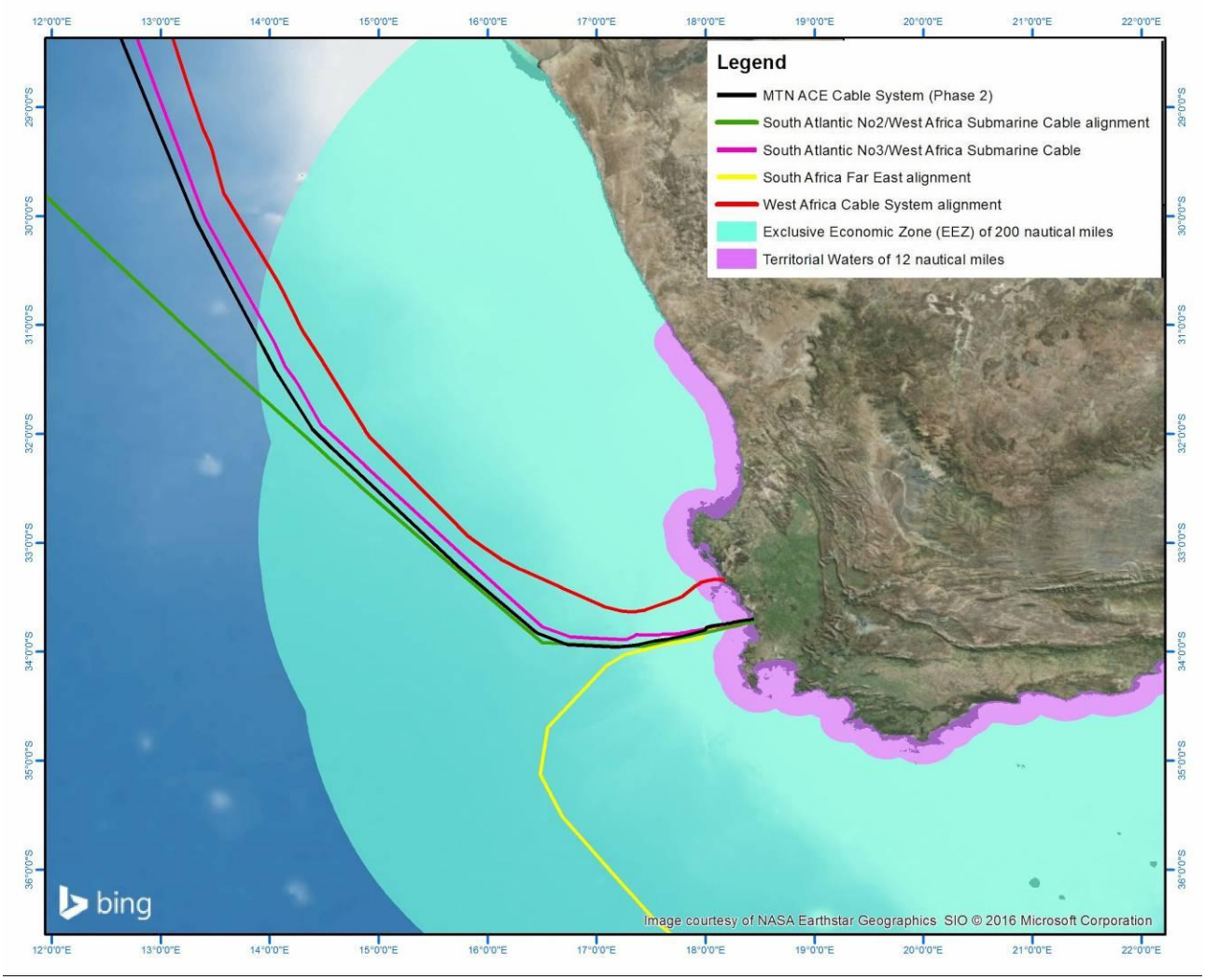


**Figure 5 Proposed alignment of the ACE Cable System in relation to existing marine telecommunications cables which enter South African waters.**

***Yzerfontein***

The cable would land at Yzerfontein beach, which is backed by brush-covered sand dunes and protected wooded coastal range. There is already the West Africa Cable System (WACS) landing on the proposed landing site on the beach at Yzerfontein. The proposed landing point and manhole location would largely be within this already disturbed servitude (i.e. to avoid removal of protected vegetation). Following an initial screening exercise, the Yzerfontein alternative was rejected for to the following reasons:

- ❑ The small beach stretch at Yzerfontein is the only place the ACE cable system could land which is directly adjacent to the WACS. No other feasible landing sites exist at the Yzerfontein area.
- ❑ The ACE cable system would have to follow the same land route as WACS. ACE and WACS are both high capacity networks with no other network in the country able to share the load of these networks should they fail.
- ❑ The common land route is considered to be a fatal flaw. Should both these cable systems be damaged it would be catastrophic for South Africa.
- ❑ The distance from Yzerfontein to the Cable Landing Station (CLS) site in Duynefontein is over 50 km.

**Van Riebeeckstrand (Duynefontein)**

The cable would land at the main Van Riebeeckstrand beach located to the north of Melkbosstrand, which is approximately 42 km north of Cape Town. It is proposed that the ACE cable system be located within or very close to the existing SAT2 and SAT3/WASC/SAFE3 (SAFE) cable alignment, which was installed in 2000. As such, while the ACE cable system would approach the landing point from the west, near the shoreline it would alter direction to run approximately parallel to the existing cables and, thus, land on a section of beach to the north of the existing cables.

The potential positive and negative aspects identified during the initial screening studies and associated activities, as undertaken by MTN, have identified Duynefontein as the currently preferred landing location for the ACE cable system. As such, the EIA being undertaken by ACER will focus on the Van Riebeeckstrand (Duynefontein) landing location where two possible landing sites have been identified. As per the NEMA EIA Regulations, these alternative landing locations will be assessed in the EIA.

## 4.1 Preferred Cable Landing Location (Van Riebeeckstrand)

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 (Figure 3) will rest on the seabed in water depths greater than 1,500 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 (Figure 6). This burial is intended to provide protection to the cable from the hazards posed by ships' anchors, fishing lines and the like.

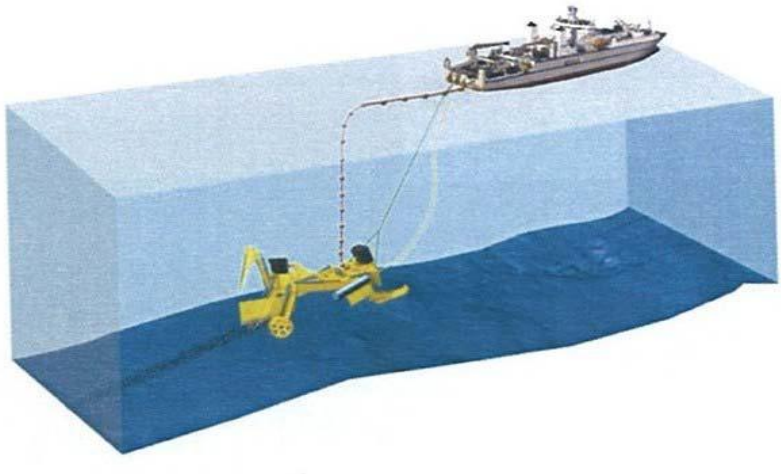

**Figure 6 Cable-laying ship feeding the cable to the plough on the seabed**

Once waters are too shallow to allow the ship access, the remainder of the cable is manually guided to shore with the use of buoys and divers. The cable is then pulled via a winch into the pre-constructed manhole 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).

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

From the surf zone, the cable will be buried along a route up to the beach (by manual labour or excavating machinery). From the beach, the route would follow the existing beach access tracks present at both landing alternatives to the Beach Man Hole located on the edge of the urban built up area. At the manhole, the ACE cable system will be connected to the Land Marine Cable which runs from the BMH to the MTN Cable Landing Station in Duynefontein.

## 6. POTENTIAL ISSUES ASSOCIATED WITH THE PROPOSED CABLE SYSTEM

Outlined below is a preliminary list of the potential environmental issues that have to date been identified for the currently preferred cable landing location in Van Riebeeckstrand:

- *Affect on marine seabed environments.* Laying of the cable in deep marine waters, including the ploughing of the cable in shallower waters, could disturb and/or degrade sensitive marine environments off the Western Cape Coast.
- *Affect on marine biology and fisheries.* The cable has the potential to cause disruption to marine biology, and commercial and recreational fisheries (e.g. trawling and ski-boat fishing) during its installation and operation.
- *Affect on terrestrial ecology.* During construction, trenching of the cable may disturb or threaten the local fauna and flora within the dune cordon.
- *Cultural heritage.* The proposed activity may impact on cultural heritage resources within the proposed route.
- *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 construction and laying of the cable is estimated to take three months to complete 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 issues, additional issues may be identified during the course of Scoping.

## 7. THE EIA PROCESS

The current Environmental Impact Assessment Regulations, 2014 published in Government Notices R 982, 983, 984 and 985 of 4 December 2014 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) will apply to this project.

Based on the current regulations, the EAP must complete the Scoping and the Impact Assessment within 300 days of acceptance of the Application for Authorisation by the Department of Environmental Affairs (DEA) (Figure 8).

It is important to note that timeframes in the 2014 regulations are based on calendar days and the following conditions apply:

- 15 December to 5 January are excluded from the calculation.
- No Public Participation is to occur between 15 December and 5 January unless justified by exceptional circumstances.
- Organs of State are to comment within 30 days from the date on which requested to submit comments.
- The Competent Authority (DEA) must within 107 days issue a decision.
- Notification of the decision by the Competent Authority must be within five days of the date of the decision.

### 7.1 Public Participation

Public participation forms a significant 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. Throughout the EIA process, the project is transparent and allows I&APs to comment on the project or raise concerns which are included in the respective Scoping and Impact Assessment Reports, and are taken into consideration during the authority's assessment of the project. Key activities to be undertaken as part of public participation are:

- Identification of I&Aps, development of a comprehensive and detailed I&AP database.
- Notification of I&APs by means of advertisements in newspapers and placement of posters.
- Development of a Background Information Document (BID) (this document) for distribution to I&APs.
- Co-ordination and facilitation of focus group and one-on-one meetings (if required).
- Meetings (either one-on-one, key focus or public) and workshops with identified key stakeholders.
- Recording and collation of I&AP correspondence received (verbal and written).
- Responses to all I&APs who submit a verbal or written comment and/or issue regarding the project.
- Distribution of the Draft Scoping Report (including the Draft Plan of Study for the Impact Assessment) at public locations (e.g. libraries) and to key I&APs for review and comment.
- Public meeting to discuss the findings of the Draft Scoping Report.
- Inclusion of comments received on the Draft Scoping Report into the Final Scoping Report which will be submitted to the authorities for review and decision making.

Subsequent to completion of Scoping, the Impact Assessment, which includes specialist studies to assess the significant environmental issues identified, will be undertaken. These findings will be documented in a Draft Environmental Impact Report which will be distributed to I&APs for comment. Further communication with I&APs will occur during this stage of the project.

Following submission of the comments and inclusion thereof into the Final Environmental Impact Report, the latter document will be submitted to the Competent Authority for a decision on whether the project may be authorised to proceed.

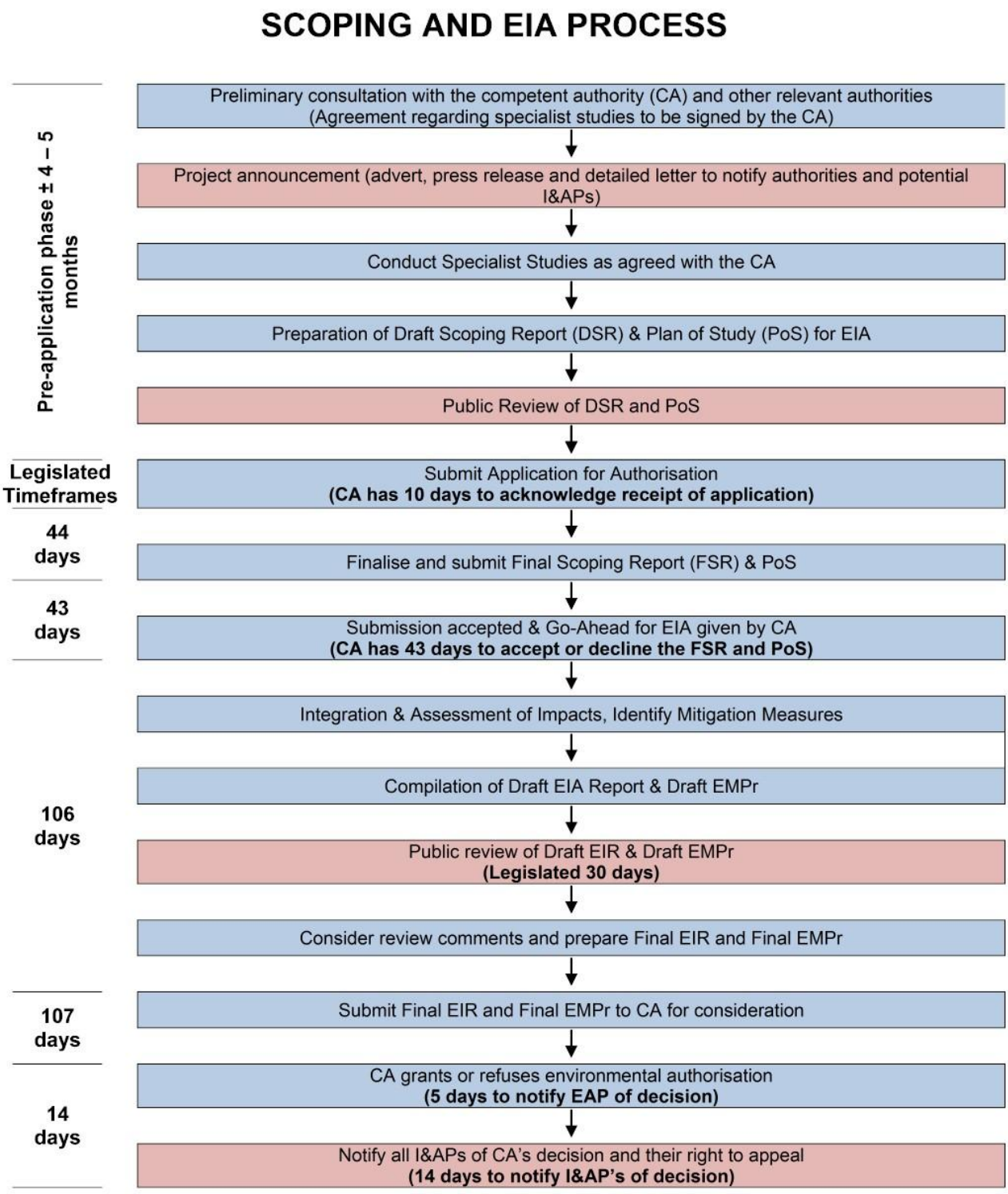


**Figure 8 Outline of the Environmental Impact Assessment process and legislated timeframes**

## 8. REGISTERING AS AN INTERESTED AND AFFECTED PARTY

Should you, the reader, wish to learn more about the proposed ACE Cable System project and or wish to register as an I&AP in the EIA being undertaken, kindly contact ACER as per the details provided within this announcement letter or complete and return the comment sheet attached.

We look forward to your involvement and input into the environmental authorisation process.

## Appendix 2: Locality Map