

**PROPOSED Eskom SUBSTATION and  
POWERLINE PROJECT, BLANCO, GEORGE  
TOWN PLANNING REPORT**



**NOVEMBER 2014**

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# **TOWN PLANNING REPORT**

## **in lieu of the**

**Proposed Blanco 400/132kV MTS substation and Droerivier Proteus  
Loop-in Loop-out powerline project, located in Blanco, George**

**Prepared for:**

**STRATEGIC ENVIRONMENTAL FOCUS**



**Prepared by:**



**Candice Maasdorp Pr.Pln. (A1224/2002)**

**39 Klein Bron Avenue  
Klein Bron Estate, Brackenfell  
Tel: +27 (0)21 981 4484  
Fax: +27 086 600 4484**

**NOVEMBER 2014**

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# CONTENTS

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## 1. INTRODUCTION

- 1.1. Background
- 1.2. Scope of this Report
- 1.3. Proposed Alternatives
- 1.4. Site Location and Study Area

## 2. LEGAL FRAMEWORK

- 2.1. National Environmental Management Act (107/1998)
- 2.2. National Heritage Resources Act (25/1999)
- 2.3. National Water Act (36/1998)

## 3. PLANNING POLICY FRAMEWORK

- 3.1. George Municipal Spatial Development Framework (SDF), 2012
- 3.2. Blanco Spatial Development Plan (SDP), May 2009

## 4. SITE CONTEXTUAL ANALYSIS

- 4.1. Location and Study Area
- 4.2. Zoning and Land Use
- 4.3. Access and Movement
- 4.4. Typography and Hydrology
- 4.5. Engineering Services

## 5. PROPOSED ALTERNATIVES

- 5.1. Alternative 1
- 5.2. alternative 2
- 5.3. alternative 3
- 5.4. Alternative 4
- 5.5. Alternative 5
- 5.6. Alternative 6

## 6. CONCLUSION

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## **PLANS**

<b>FIG. 1:</b>	<b>Regional Locality</b>
<b>FIG. 2:</b>	<b>Local Context</b>
<b>FIG. 3:</b>	<b>Study Area</b>
<b>FIG. 4:</b>	<b>Land Use</b>
<b>FIG. 5:</b>	<b>Typography</b>
<b>FIG. 6:</b>	<b>Hydrology</b>
<b>FIG. 7:</b>	<b>Access and Movement</b>
<b>FIG. 8:</b>	<b>Alternative 1</b>
<b>FIG. 9:</b>	<b>Alternative 2</b>
<b>FIG. 10:</b>	<b>Alternative 3</b>
<b>FIG. 11:</b>	<b>Alternative 4</b>
<b>FIG. 12:</b>	<b>Alternative 5</b>
<b>FIG. 13:</b>	<b>Alternative 6</b>

## **ANNEXURES**

<b>ANNEXURE 1:</b>	<b>Letter of Appointment</b>
<b>ANNEXURE 2:</b>	<b>S.G. Information</b>
<b>ANNEXURE 3:</b>	<b>Ownership Details, Title Deeds and Conveyancing Certificates</b>

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# 1. INTRODUCTION

## 1.1. BACKGROUND

Eskom Transmission Grid Planning initiated a study to investigate possible solutions to address transformation constraints at Proteus Main Transmission Station (MTS) as well as the sub-transmission constraints experienced on the network supplying the Blanco area. In response to this, Eskom proposes the establishment of a new 400/132kV Main Transmission Substation (MTS) with an expected development footprint of approximately 450x450 and loop in- loop out powerlines with a length in the region of 1.8 – 4km (dependent on the alternative chosen)<sup>1</sup>.

Strategic Environmental Focus (Pty) Ltd (SEF) has been appointed by Eskom Holdings SOC Limited to undertake the necessary environmental applications that will facilitate the construction of the proposed Blanco Main Transmission Substation (MTS) and the Droeerivier Proteus Loop in – Loop out line project.

Sustainable Planning Solutions cc has, in turn, been appointed by Strategic Environmental Focus (Pty) Ltd (SEF) to review all the land portions affected by the 6 alternatives developed by Eskom for the proposed substation and powerline in Blanco, George and compile a report detailing all town-planning related information, as part of the final Scoping Report to the Department of Environmental Affairs.

## 1.2. SCOPE OF TOWN PLANNING REPORT

The purpose of this report is to provide all the relevant town planning-related information that will assist S.E.F. and the client, Eskom Holdings, in making a decision of the preferred alternative.

In this regard, the scope of this report includes the following:

- To provide information relating to the land portions affected by the proposed alternatives;
- Highlight any challenges and constraints pertaining to any of the proposed alternatives, in favour of the construction and registration of the servitude for this proposed powerline and substation;
- Highlight any statutory process and approvals required in order to allow the proposed substation and powerline servitude;
- Review all spatial planning policies affecting the study area;
- Undertake a spatial contextual analysis of the surrounding area;

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<sup>1</sup> SEF, Final Scoping Report - Proposed Blanco substation and powerline project, August 2013.

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- Review all six alternatives developed by Eskom on the basis of the contextual analysis, legal and spatial planning policy framework.

### **1.3. PROPOSED ALTERNATIVES**

As per NEMA principles, an environmental assessment process should consider reasonable and feasible alternatives that will achieve the same end product in order for a recommendation to be presented as a preferred alternative.

Eskom has developed 6 alternatives for the proposed Blanco 400/132kV substation and powerline. Refer to the plan overleaf for an illustration of the 6 proposed alternatives for the alignment of the new powerline and location of the proposed new 400/132kV substation.

Refer to section 5 for detailed information pertaining to each alternative.

### **1.4. SITE LOCATION AND STUDY AREA**

The proposed substation and power line will be located in the rural/agricultural area north-west of Blanco: a quaint and unique residential suburb of George in the Southern Cape Area. Refer to Fig 1.

Blanco reflects unique elements of an independent sustainable urban settlement due to its rich historical, cultural, rural and environmental landscape but is, in fact, an integral part and extension of George.

Figures 2 and 3 indicate the local context and study area the six alternatives are to be found. See overleaf for these two maps.

## 2. LEGAL FRAMEWORK

Planning proposals, assessments and decisions are influenced by the legal and policy environment that apply to land. In the Western Cape, land development is affected by several pieces of legislation, which set out the process that has to be followed and the criteria that must be considered for decision-making. In this instance, the following three Acts should be complied with to facilitate the construction of the proposed powerline and substation.

### 2.1. NATIONAL ENVIRONMENTAL MANAGEMENT ACT (107/1998)

The National Environmental Management Act and EIA Regulations identify certain activities that may be detrimental to the environment. Depending on the size of the development and the associated activities, an application to the Western Cape: Department of Environmental Affairs and Development Planning (DEADP) may be required.

In terms of the EIA regulations (2010), if certain developments trigger activities listed in Government Notices 544, 545 and 546, some form of environmental assessment should be undertaken, albeit a basic assessment or scoping report or full EIA. Activities listed in Government Notices 544 and 546, only require a basic assessment to be completed. However, should activities listed in Government notice 545 be triggered then either a scoping and/full EIA process will be required. Based on the Final Scoping Report<sup>2</sup>, as prepared by SEF, the proposed powerline and substation project triggers the following activities in terms of the respective Government Notices:

- Government Notice 544: activities 18, 22, 23, 24, 26, 38, 40, 47;
- Government Notice 545: activity 8
- Government Notice 546: activities 4, 10, 12, 13, 14, 16, 19, 23, 24

Since the proposed development triggers a activity listed in Government notice 545, then the pre-requisite environmental process of a scoping and/full EIR process naturally supercedes a basic assessment process.

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<sup>2</sup> SEF, Final scoping Report – Proposed Blanco substation and powerline project, August 2013: pg 5

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## 2.2. NATIONAL HERITAGE RESOURCES ACT (25/1999)

This legislation *'aims to promote good management of the national estate and to enable and encourage communities to nurture and conserve their legacy'*.

Section 38 lists a host of development categories which if pursued, requires that the responsible heritage resources authority, Heritage Western Cape, be notified, such as if developments exceed 0.5ha in size, and where linear developments (including roads) exceed 300m in length.

Due to the size and scale of the proposed development Heritage Western Cape was notified of the project and a full Heritage Impact Assessment inclusive of an archaeological study, is currently underway.

## 2.3. NATIONAL WATER ACT (36/1998/)

The purpose of the National Water Act (36/1998) is *to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways which take into account amongst other factors-*

- a) meeting the basic human needs of present and future generations;*
  - b) promoting equitable access to water;*
  - c) redressing the results of past racial and gender discrimination;*
  - d) promoting the efficient, sustainable and beneficial use of water in the public interest;*
  - e) facilitating social and economic development;*
  - f) providing for growing demand for water use;*
  - g) protecting aquatic and associated ecosystems and their biological diversity;*
  - h) reducing and preventing pollution and degradation of water resources;*
  - i) meeting international obligations;*
  - j) promoting dam safety;*
  - k) managing floods and droughts;*
- and for achieving this purpose, to establish suitable institutions and to ensure that they have appropriate community, racial and gender representation<sup>3</sup>.*

In terms of the Final scoping Report<sup>4</sup>, it is section 19 of the National Water Act that is of relevance to this project.

Section 19 states the following: *An owner of land, a person in control of land or a person who occupies or uses the land on which-*

*"...is likely to cause pollution of a water resource must take all reasonable measures to prevent any such pollution from occurring, continuing or*

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<sup>3</sup> National Water Act (36/1998): pg 10

<sup>4</sup> SEF, Final Scoping Report *Proposed Blanco substation and powerline project*, August 2013: pg5

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*recurring<sup>5</sup> and must therefore comply with any prescribed waste standard or management practices".*

The Final Scoping report also highlights the possibility of Section 21 of the National Water Act (36/1998) being triggered. In view of the various wetlands, rivers, streams and tributaries and drainage lines occurring within the study area, it is considered a possibility that the proposed development triggers the following uses:

- a) impeding or diverting the flow of water in a watercourse; and*
- b) altering the bed, banks, course or characteristics of a watercourse.*

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<sup>5</sup> National Water Act (36/1998), pg. 16

### 3. PLANNING POLICY FRAMEWORK

This section identifies the relevant planning policies that assist in the assessment of land use applications and development feasibility studies, and makes the point that the proposed development is acceptable from a policy perspective.

It is important to note that policy is a tool intended to guide in the assessment of land development proposals. It is also important to recognise that policy changes over time in response to a changing environment.

#### 3.1. GEORGE MUNICIPAL SPATIAL DEVELOPMENT FRAMEWORK (Final Draft May 2013)

The George Municipal Spatial Development framework (SDF) has been prepared to be approved as a section 4(6) Structure Plan in terms of the Land Use Planning Ordinance (15/1985).

The George SDF includes the jurisdictional area for George, as well as the former Eden District Management Area.

The purpose of this SDF is to give spatial perspective to the local authority's goals, strategies and supporting policies in the medium and long term in its quest to achieve sustainable development.

What is relevant of this SDF in terms of the proposed Substation and powerline project, is that the **study area is located within the urban edge**.

Further to this, this SDF also highlights the need for the preservation of Blanco as a rural, historical and environmental village. The SDF identifies Blanco as an Urban Renewal Zone and makes recommendations as to how land use applications should be assessed whilst retaining and preserving that old village charm.

#### 3.2. BLANCO LOCAL STRUCTURE PLAN (draft May 2009)

The Spatial Development Plan (SDP) has been prepared to be endorsed as a section 4(10) structure plan in terms of the Land Use Planning Ordinance. This SDP is a more detailed plan for the town of Blanco.

The SDP designates the town of Blanco into precincts (refer to plan 4.1 in the SDP) and fails to designate the study area for the proposed powerline and substation into one. The SDP does however refer to a Precinct Q (not indicated clearly on the precinct plan) and refers to it as the *rural area* for which appropriate land uses should be determined. On the basis of the

proximity between the town of Blanco and the study area, this statement could be relevant. Note that despite this statement, it has no detrimental impact on the proposed substation and powerline.

### **3. SITE CONTEXTUAL ANALYSIS**

This section aims to illustrate the local context of the proposed development.

#### **4.1. EXISTING ZONING AND LAND USES**

##### **4.1.1. Zoning**

In terms of the draft George Integrated Zoning Scheme (CTIZS) the study area is zoned as Agricultural Zone 1<sup>6</sup>. In terms of the zoning scheme regulations, *Agriculture zone 1* is defined as follows:

*The objective of this zone is to promote and protect agriculture on large farms as an important economic, environmental and cultural resource. Limited provision is made for non-agricultural uses to provide rural communities in more remote areas with the opportunity to increase the economic potential of their properties, provided these uses do not present a significant negative impact on the primary agricultural resource<sup>7</sup>.*

##### **4.1.2. Land Use**

In terms of the current land use, the study area is predominantly vacant from urban development. The surrounding landscape is of an agricultural/farming nature. Farm portions predictably possess of a main house and possibly, a building associated with farming activities such as a barn/storage room. Refer to Figure 4.

#### **4.2. TOPOGRAPHY AND HYDROLOGY**

Figure 5: Topography (overleaf) illustrates the general slope and gradient of the site and the surrounding area. The plan indicates the site to rise gradually to the north.

Figure 6: Hydrology (overleaf) which illustrates the rivers, waterbodies, wetlands etc affecting the study area and those located in close proximity to the study area. These include the Koesterbos River, Zeelies River, Platbos River, Kruis River and Keurbos River.

<sup>6</sup> To be confirmed by George Municipality

<sup>7</sup>George Municipality, *Draft George Integrate zoning Scheme*, August 2012: pg138

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### **4.3. ACCESS AND MOVEMENT**

Refer to Figure 7 for the Access and Movement Plan overleaf.

This plan shows the main access roads to the study area, ie Great Brak River Road (DR 1599).

The Geelhoutboom Road (DR1631) and Witfontein Road (DR1628), which are both Provincial Divisional roads, link with the Great Brak River road (DR 1599) to provide the closest possible road access for the 6 sites.

## 5. PROPOSED ALTERNATIVES

### 5.1. ALTERNATIVE 1

Refer to the plan (Figure 8) overleaf.

<b>Property Description and ownership details (see overleaf for ownership details)</b>		
Farm Geelhoutboom no 217 – 27/46	Armstrong Flora Trust	T34186/2006
Farm Geelhoutboom no 217 -27/47	Jurgen Botha	T37552/1984
Farm Geelhoutboom no 217- 27/45	Jurgen Botha	T37552/1984
Farm Geelhoutboom no 217- 27/54	Van Greunen Boerdery cc	T3392/1998
Farm Geelhoutboom no 217- 27/14	Van Greunen Boerdery cc	T96933/1993
Farm Geelhoutboom no 217- 27/38	Van Greunen Boerdery cc	T1530/2001
<b>SG information</b>	BL-7DA(6133) BL-7DC (4130)	
<b>Extent of powerline</b>	1611m	
<b>Size of Substation</b>	450x450 boundary	
<b>Challenges constraints</b>	<b>and/or</b>	The site is fairly flat and there are no waterbodies affected by/ in close proximity to the proposed alignment of the powerline servitude and substation. A site investigation would confirm whether any of the local crop farming is affected by this development alternative.

## 5.2. ALTERNATIVE 2

Refer to the plan (Figure 9) overleaf.

<b>Property Description and ownership details (see overleaf for ownership details)</b>		
Farm Geelhoutboom no 217 – 27/46	Armstrong Flora Trust	T34186/2006
Farm Geelhoutboom no 217 -27/47	Jurgen Botha	T37552/1984
Farm Geelhoutboom no 217- 27/45	Jurgen Botha	T37552/1984
Farm Geelhoutboom no 217- 27/61	Avondgloed Trust	T38147/1993
Farm Geelhoutboom no 217- 27/37	Van Greunen Boerdery cc	T64321/1988
Farm Geelhoutboom no 217- 27/38	Van Greunen Boerdery cc	T1530/2001
Farm Geelhoutboom no 217- 27/54	Van Greunen Boerdery cc	T3392/1998
<b>SG information</b>	BL-7DA(6133) BL-7DC (4130)	
<b>Extent of powerline</b>	1990m	
<b>Size of Substation</b>	450x450 boundary	
<b>Challenges and/or constraints</b>	The site is fairly flat. Together with four farm buildings, a waterbody and a tributary of the Koesterbos River are located within the area reserved for the proposed powerline servitude. The approval of the EIA would be subjected to the approval and issuing of a water use licence, as well as the demolition of these buildings.	

### 5.3. ALTERNATIVE 3

Refer to the plan (Figure 10) overleaf.

<b>Property Description and ownership details (see overleaf for ownership details)</b>		
Farm Geelhoutboom no 217 -27/3	unknown	Diagram deed T4382/1900
Farm Geelhoutboom no 217 -27/47	Jurgen Botha	T37552/1984
Farm Geelhoutboom no 217- 27/7	Platinum Mile Inv 42 (Pty) Ltd	T55439/2010
Farm Geelhoutboom no 217- 27/4	Unknown	Diagram deed T4383/1900
Farm Geelhoutboom no 217- 27/48	Meyer Johan Abraham	T88778/2003
Farm Geelhoutboom no 217- 27/62	Van Greunen Boerdery cc	T8262/2011
Farm George RD 318- 27/6	Geelhoutboom Estate (Pty) Ltd	T61330/2008
Farm George RD 318- 27/5	Geelhoutboom Estate (Pty) Ltd	T61329/2008
<b>SG information</b>	BL-7DA(6133) BL-7DC (4130)	
<b>Extent of powerline</b>	870m	
<b>Size of Substation</b>	450x450 boundary	
<b>Challenges and/or constraints</b>	The site is fairly flat. A waterbody and a few farm outbuildings are located within the area reserved for the proposed powerline servitude. The approval of the EIA would be subjected to the approval and issuing of a water use licence, as well as the demolition of these buildings. The approval of the EIA would be subjected to the approval of a water use licence.	

#### 5.4. ALTERNATIVE 4

Refer to the plan (Figure 11) overleaf.

<b>Property Description and ownership details (see overleaf for ownership details)</b>		
Farm Geelhoutboom no. 217 – 27/61	Avondgloed Trust	T38147/1993
Farm Geelhoutboom no. 217 – 27/59	Joubert Christo Bosman	T45039/1988
Farm Geelhoutboom no. 217 – 27/53	Langenhoven Johannes Stephanus	T30327/1982
Farm Geelhoutboom no. 217 – 27/37	Van Greunen Boerdery cc	T64321/1988
Farm Klyne Fontein no 218 – 27/48	Wijama Trust	T58709/2003
<b>SG information</b>	BL-7DA(6133) BL-7DC (4130)	
<b>Extent of powerline</b>	2432m	
<b>Size of Substation</b>	450x450 boundary	
<b>Challenges and/or constraints</b>	There is one small waterbody (dam) located within the servitude area proposed for the powerline. Therefore an application to DWAF would be required. It would appear though that a significant portion of the proposed substation and powerline servitude could affect the existing agricultural farming (crop farming). The extent hereof would however need to be confirmed by an on-site investigation.	

## 5.5. ALTERNATIVE 5

Refer to the plan (Figure 12) overleaf.

<b>Property Description and ownership details (see overleaf for ownership details)</b>		
Farm Geelhoutboom no. 217 – 27/32	Hanlie Loubser Familie Trust	T94859/2003
Farm Geelhoutboom no. 217 – 27/3	Unknown	Diagram Deed T4382/1900
Farm George RD 342 – 27/0	No information available	
Farm George RD 318 – 27/7	Geelhoutboom Estate PTY Ltd.	T74671/2005
Farm George RD no 318 – 27/2	Geelhoutboom Estate PTY Ltd.	T74671/2005
<b>SG information</b>	BL-7DA(6133) BL-7DC (4130)	
<b>Extent of powerline</b>	2334m	
<b>Size of Substation</b>	450x450 boundary	
<b>Challenges and/or constraints</b>	The alignment of the proposed powerline and substation appears to affect forestry land. This alternative crosses the Kruis River and a tributary of the Platbos River. An application to DWAF would therefore also be required. This development alternative may require a visual impact assessment, in view of the parallel alignment along the slopes of the mountains.	

## 5.6. ALTERNATIVE 6

Refer to the plan (Figure 13) overleaf.

<b>Property Description and ownership details (see overleaf for ownership details)</b>		
Farm Geelhoutboom no. 217 – 27/54	Van Greunen Boerdery cc	T3392/1998
Farm Geelhoutboom no. 217 – 27/14	Van Greunen Boerdery cc	T96933/1993
Farm Geelhoutboom no. 217 – 27/7	Platinum Mile Inv 442 PTY LTD	T55439/2010
Farm Geelhoutboom no. 217 – 27/46	Armstrong Flora Trust	T341876/2006
Farm Geelhoutboom no. 217 – 27/47	Jurgen Botha	T37552/1984
Farm Geelhoutboom no. 217 – 27/3	Unknown	Diagram deed T4382/1900
Farm Geelhoutboom no. 217 – 27/62	Van Greunen Boerdery	T8262/2011
Farm George RD no 318 – 27/6	Geelhoutboom Estate PTY LTd.	T61330/2008
<b>SG information</b>	BL-7DA(6133) BL-7DC (4130)	
<b>Extent of powerline</b>	1434m	
<b>Size of Substation</b>	450x450 boundary	
<b>Challenges and/or constraints</b>	At the northern end of this powerline servitude a waterbody (dam) presents itself. Further to this, a site investigation would confirm whether any of the local crop farming is affected by this development alternative.	

## 6. CONCLUSION

The following facts are highlighted in respect of the 6 development alternatives assessed:

1. The size of the substation for each of the development alternatives are the same throughout i.e. 18000m<sup>2</sup> (450m x 450m);
2. The length of the proposed powerline servitudes vary, with the shortest powerline being alternative 3 ( $\pm 870$ m) and the longest powerline being alternative 4 ( $\pm 2432$ m). A potential expense/cost-saving on the construction budget could be considered;
3. Apart from alternative 5, the impact and extent on the local crop farming activities would need to be determined by virtue a site investigation, and possible further specialist investigation.
4. All the sites are affected by a waterbody of one or other nature. In this regard, an application to the Department of Water Affairs (DWAF) would be required, irrespective of the alternative chosen. This separate/additional statutory process will have a dilatory effect on the construction of the preferred alternative;
5. From a legal perspective, there are no title deed restrictions prohibiting the proposed substation and powerline servitude;
6. From a traffic and transport perspective, the TIA prepared by ITS Engineering Alternative 1 is preferred due to its close proximity to the existing road (DR1631) which facilitates with easy access during and after the construction and operation phases.
7. From a town planning perspective, Alternatives 1 is also preferred for the following reasons:
  - a. the site is close to an existing road, Geelhoutboom road (DR1631);
  - b. the length of the powerline servitude is acceptable (not the shortest but neither the longest);
  - c. no farm buildings will be affected by the proposed alignment of the powerline servitude or substation for this preferred alternative;
  - d. existing waterbodies are located outside of the area reserved for the proposed servitude and substation;

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This planning recommendation is made with due understanding that it could change as the outcome of the heritage and environmental processes are still underway and becomes known at a later stage.

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**CANDICE MAASDORP Pr. PIn (A1224/2002)**

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**ANNEXURE 1: LETTER OF APPOINTMENT**

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## **ANNEXURE 2: SG INFORMATION**

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**ANNEXURE 3:  
CERTIFICATES**

**OWNERSHIP DETAILS, TITLE DEEDS AND CONVEYANCING**

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