



AIRPORTS COMPANY

SOUTH AFRICA

Parking Management System Electrical Installation

Scope of Work

Document Type	Scope of Work
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Document review and distribution

This document will be managed and controlled in terms of the ACSA IT Project Management Office document management procedure.

Glossary:

Acronym	Description
ACI	Airports Council International
ACSA	Airports Company South Africa
ORTIA	Oliver Reginald Tambo International Airport
IT	Information Technology
SOW	Scope of Work
	Variable Message System (VMS)
	Bay Management System (BMS)
	(MSP 1 and MSP 2),

TABLE OF CONTENTS

1.	INTRODUCTION.....	4
2.	PROJECT OBJECTIVES.....	5
3.	SCOPE OF SERVICES.....	5
4.	EXPECTATIONS OF THE SERVICE PROVIDER	5
5.	SCOPE OF QUANTITIES	6

1. Introduction

1.1. Purpose

The purpose of this document is to outline the technical and service requirements for the installation of new power supply connections for selected Variable Message System (VMS) and the installation of generator-backed essential double plug outlets for Bay Management System (BMS) sensors across multiple levels of the Terminal building (MSP 1 and MSP 2), Lower and Upper roadway and Aviation Park.

1.2. Background

ACSA is implementing an advanced Parking Management System at O.R. Tambo International Airport (ORTIA). This strategic upgrade replaces legacy parking equipment with new state-of-the-art, and has a requirement for Electrical installation. During the initial planning phase of the Parking Management System project at ORTIA, an assessment of the existing infrastructure revealed significant electrical deficiencies that would compromise the functionality and reliability of the new system. The current electrical infrastructure is not sufficient to cater for the newly installed lane stations, VMS and BMS. In several parking areas, there is no electrical service whatsoever to power the equipment, creating significant implementation gaps. In other locations, the existing electrical services are outdated and do not function properly, posing risks of intermittent power loss and system failures. These deficiencies would severely compromise the functionality of the advanced systems being installed and prevent reliable operation of critical revenue-generating equipment.

Upon a detailed technical evaluation, it became evident that a comprehensive electrical upgrade would be necessary to support the advanced components of the new Parking Management System, including the increased power demands. This electrical work was not originally included in the initial scope but has been identified as critical to ensure proper system operation and power the parking equipment

2. Project Objectives

The objectives are:

- To install new power supply connections for VMS units indicated in Figures 21, 22, 24, and 26.
- To provide essential (generator-backed) 2-gang plug outlets rated at 16A for the connection of BMS sensors at designated locations (refer to annexure).

3. Scope of Services

The appointed service provider shall be responsible for:

3.1. VMS Power Supply Installations

- Supplying and installing 15A circuit breakers for four (4) VMS units.
- Supplying and installing 2.5mm², 3-core copper cabling to each VMS unit.
- Routing, terminating, and testing the new power supply for VMS units at Figures 21, 22, 24, and 26.
- Ensuring all installations comply with SANS 10142 and applicable codes.

3.2. Essential Plug Outlet Installations for BMS Sensors

- Installing 206 essential-rated, 16A, 2-gang plug outlets in existing wall boxes.
- Connecting each outlet to the generator-backed power distribution boards using 2.5mm², 3-core cable.
- Areas and quantities include (as per Table 1):
 - MSP 1: 100 outlets
 - MSP 2: 106 outlets
 - Aviation Park: 12 outlets
 - Caro: 1 outlet
- Labelling, testing, and commissioning of all outlets

4. Expectations of the Service Provider.

REF	Description
4.1	It is expected that the Service Provider has a full-time site presence to coordinate and manage the activities on site for a period of 12 months. The works will take place during the day and night; thus, more than one resource of equal competency will be required. The resume of alternative resources is to be provided to the client for approval.
4.2	The service provider shall furnish a performance bond equal to 10% of the total contract value within 12 months of award. The bond shall remain valid until the project is completed and signed off.

4.3	All materials and workmanship shall comply with SANS 10142, OEM requirements, and local authority regulations.
4.4	Proper documentation and certification of electrical work upon completion.
4.5	Execute the scope of the requirement in the project in consultation with the ACSA IT Project Manager.
4.6	Have the ability to successfully manage the project, which will take place in an operational environment, with minimal complaints from stakeholders.
4.7	Have an overview/ understanding of the technical aspects of the scope and communicate accordingly to the client and project stakeholders. Have the competency of managing the integration of the engineering, IT, electrical, building and reporting aspects of the project.
4.8	Have the ability to instruct and interpret the contents of construction drawings
4.9	Have the ability to plan the execution of the project and provide an appropriate risk mitigation plan.
4.10	All installations must be according to the Certificate of Compliance (CoC) as per SANS 10142-1 for each power point.
4.11	Comply with the Health and Safety Act.
	Experience requirements
4.12	Has at least 8 years of Project management Experience. A list of projects undertaken over the recent 8 years is to be provided.
4.13	Has worked with multi-disciplinary projects in an operational environment (IT, Electrical, Construction) and is able to integrate and manage the different components of the project.
4.14	Certification and registration of electricians with the Department of Labour or relevant authority.
4.15	Capacity to issue CoC (Certificate of Compliance) upon project completion.

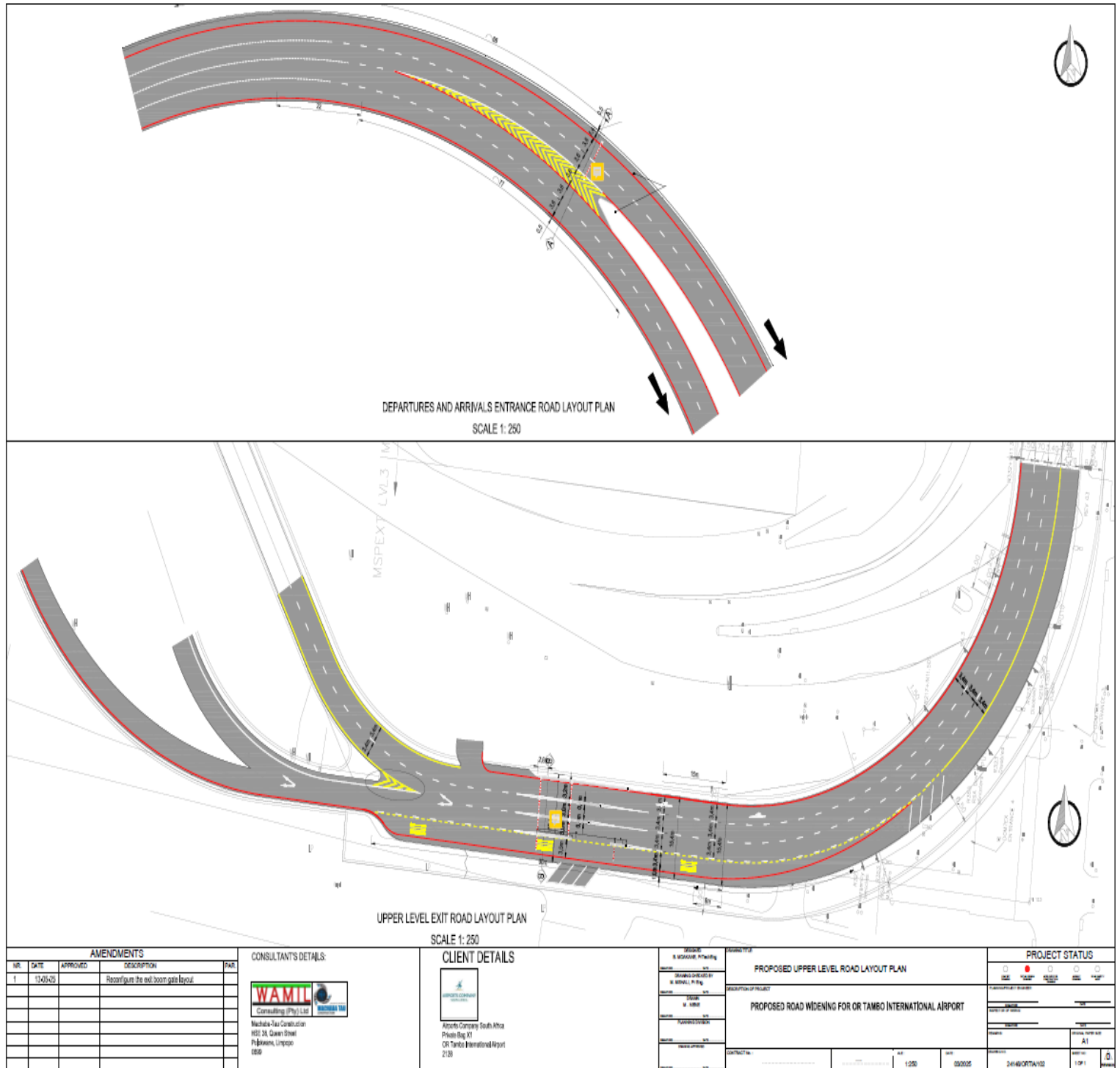


Figure 2 Upper-level exit road layout plan

ANNEXURE B:

Site information: VMS Totems

Figures 21, 22, 24 and 26 will require new power supply connections.

All other VMS units will make use of the existing power supply infrastructure. Each VMS unit requires the following electrical specifications:

- 1 x 15A circuit breaker
- 2.5mm², 3-core cable
- Input voltage: 220–240VAC

Reference	Requirement
Figure 3	Connect existing supply to new VMS Totems
Figure 4	Connect existing supply to new VMS Totems X3
Figure 5	Connect existing supply to new Totems X2
Figure 6	Connect existing supply to new Totems X4
Figure 7	Connect existing supply to new Totems X1
Figure 8	Connect existing supply to new Totems X3
Figure 9:	Connect existing supply to new Totems X2
Figure 10	Connect existing supply to new Totems X2
Figure 11	Connect existing supply to new Totems X2
Figure 12	Connect existing supply to new Totems X3
Figure 13	Connect existing supply to new Totems X2
Figure 14	Provide supply to new Totem X2
Figure 15	Connect existing supply to new Totems X1
Figure 16	Not required
Figure 17	Connect existing supply to new Totems X4
Figure 18	Connect existing supply to new Totems X4
Figure 19	Connect existing supply to new Totems X4
Figure 20	Connect existing supply to new Totems X4

Reference	Requirement
Figure 21	Provide supply to new Totem X1
Figure 22	Provide supply to new Totem X1
Figure 23	Connect existing supply to new Totems X3
Figure 24	Provide supply to new Totem X2
Figure 25	Connect existing supply to new Totems X5
Figure 26	Not required



Figure 3



Figure 4: MSP1- Level 2



Figure 5



Figure 6:



Figure 7:



Figure 8



Figure 9:



Figure 10



Figure 11



Figure 12



Figure 13

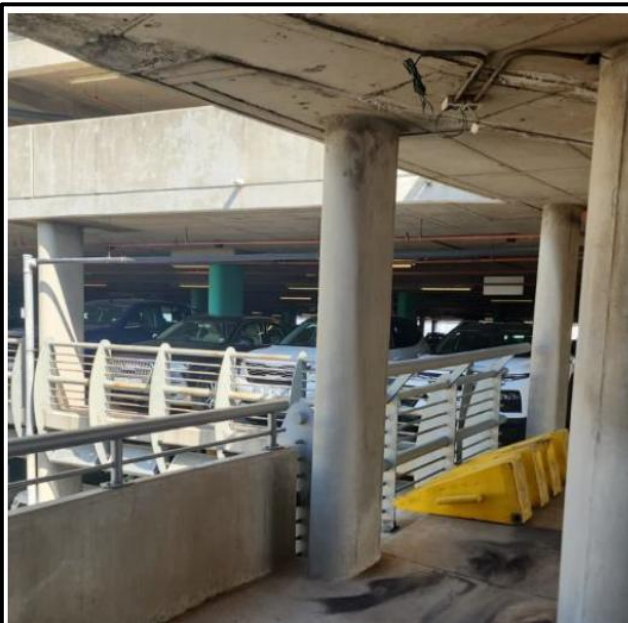


Figure 14:





Figure 15

P	AVAILABILITY	
Parkade 2 (South)	1234	↑
Parkade 2 (North)	1234	↗
STAFF PARKING ONLY		→



Figure 16

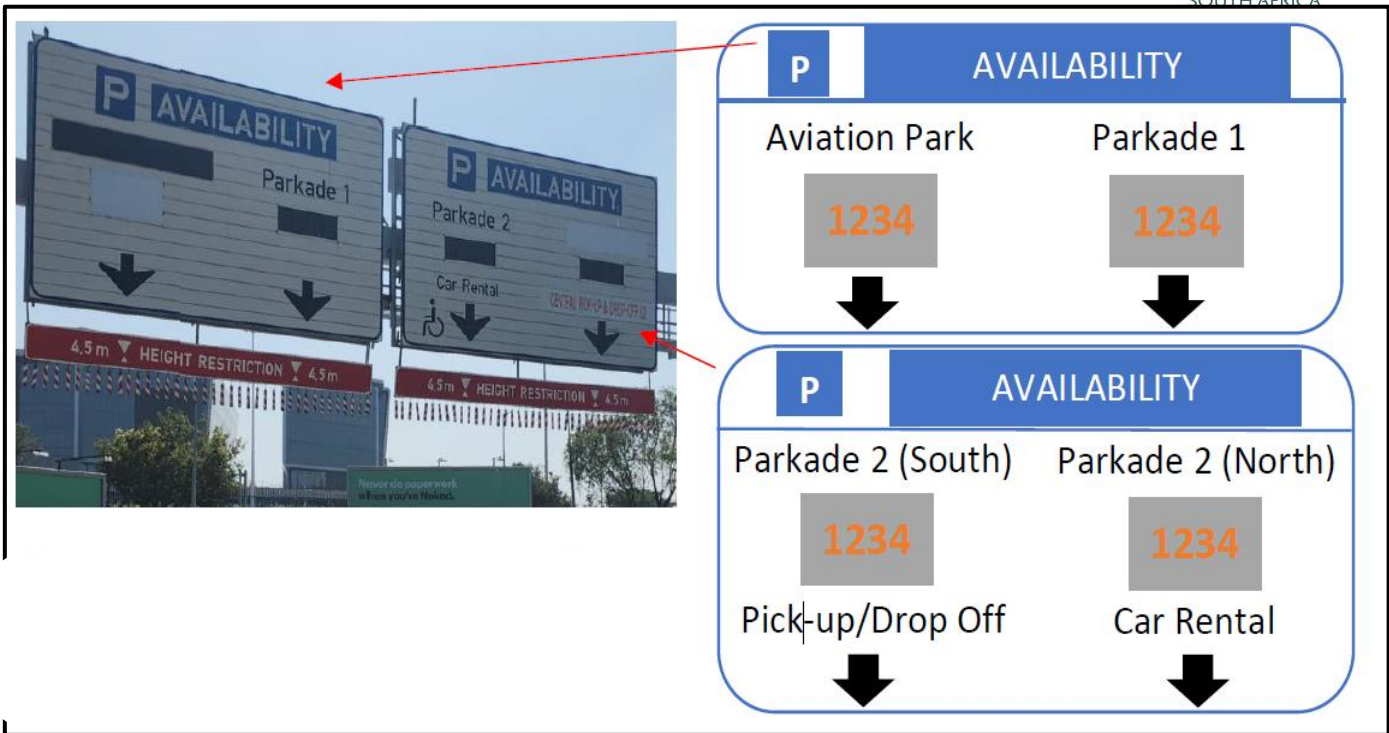


Figure 17:

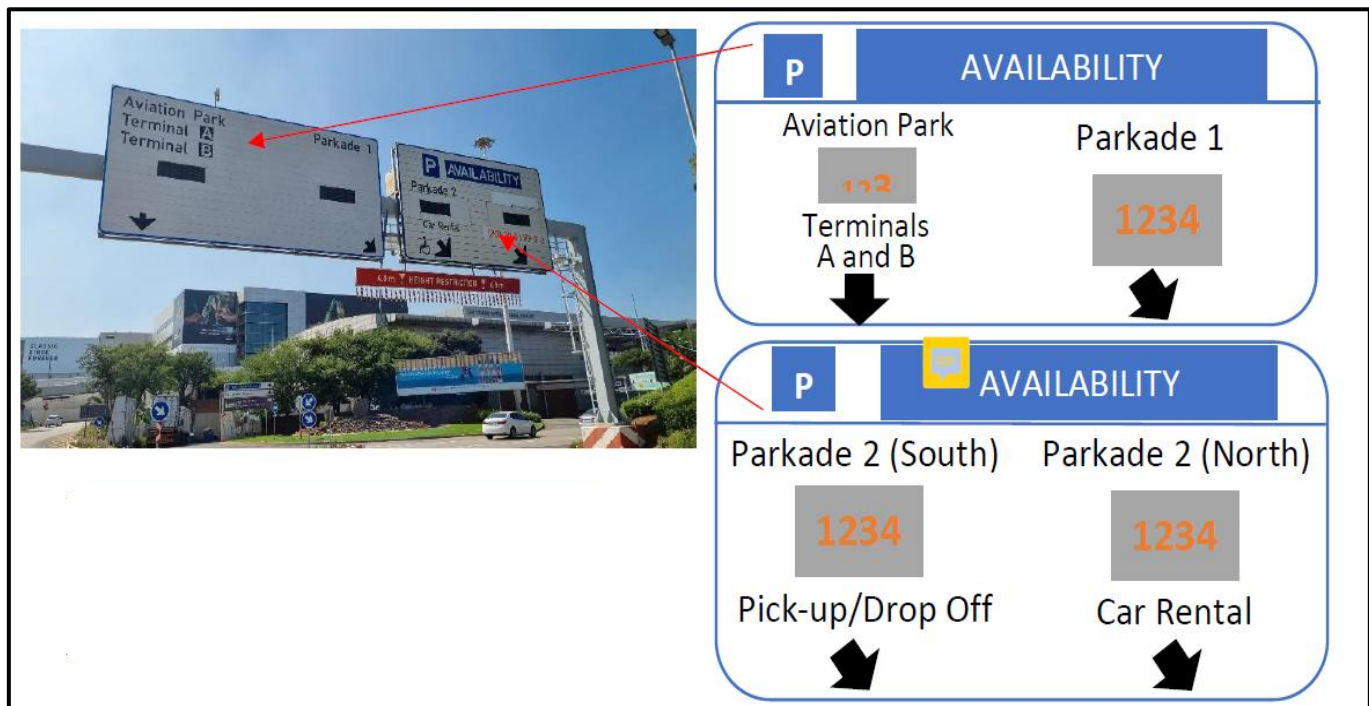


Figure 18:

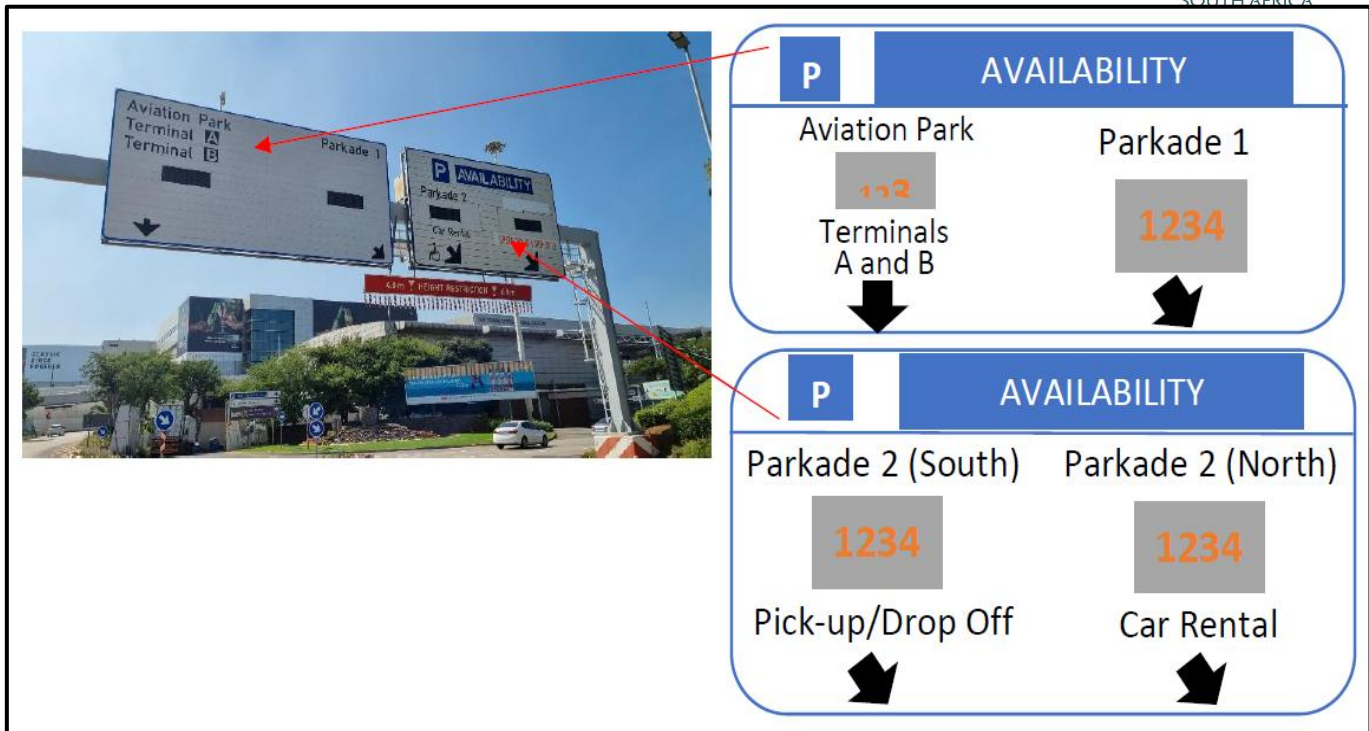


Figure 19:

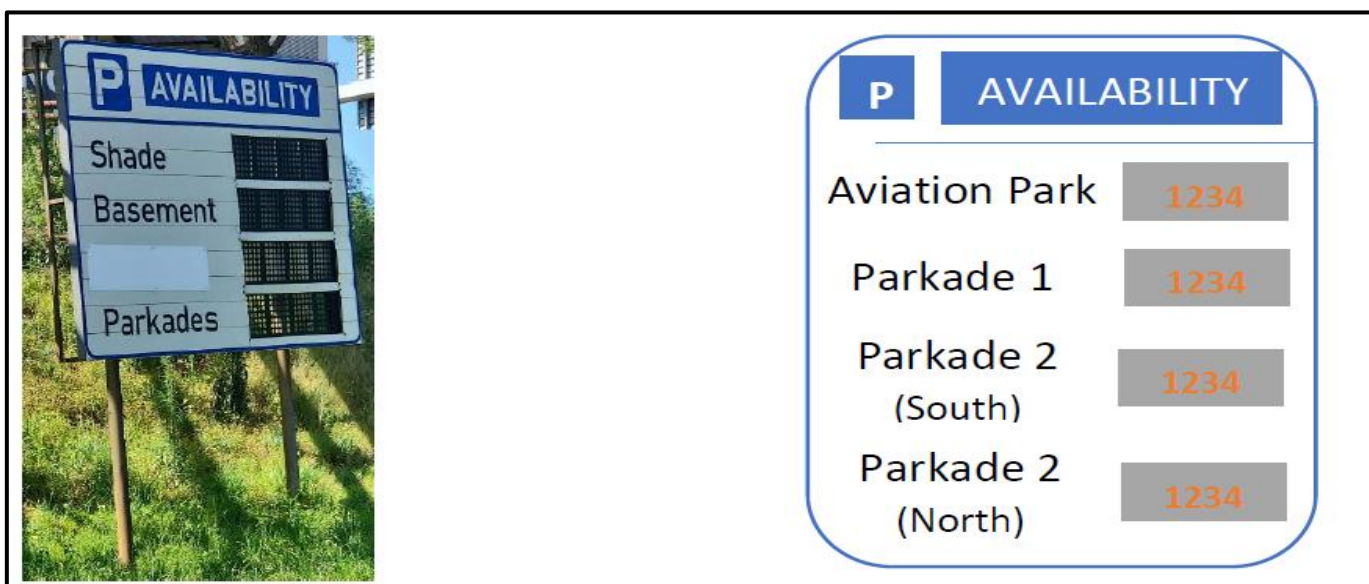


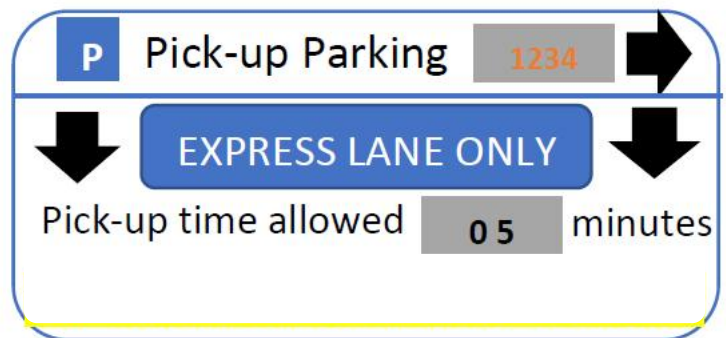
Figure 20:



Figure 21:



Figure 22:



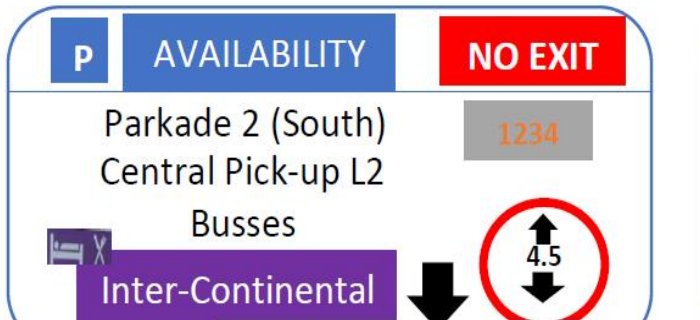
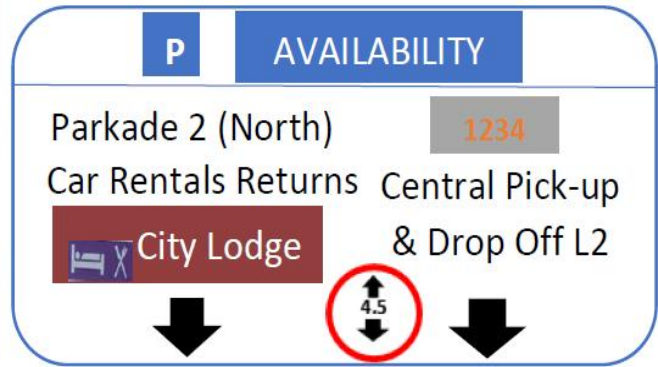


Figure 23:

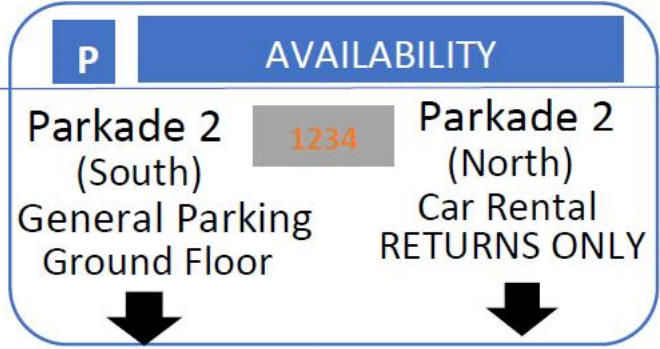
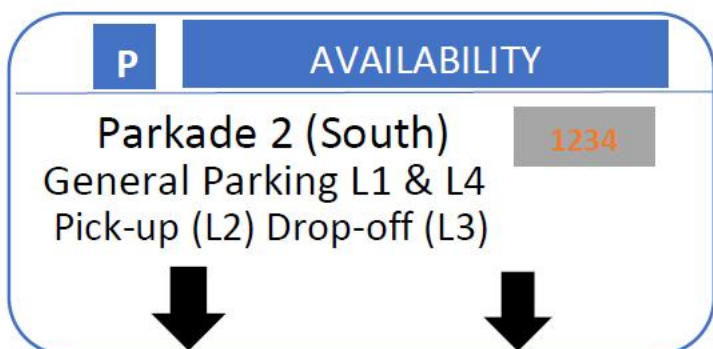


Figure 24:



Figure 25:

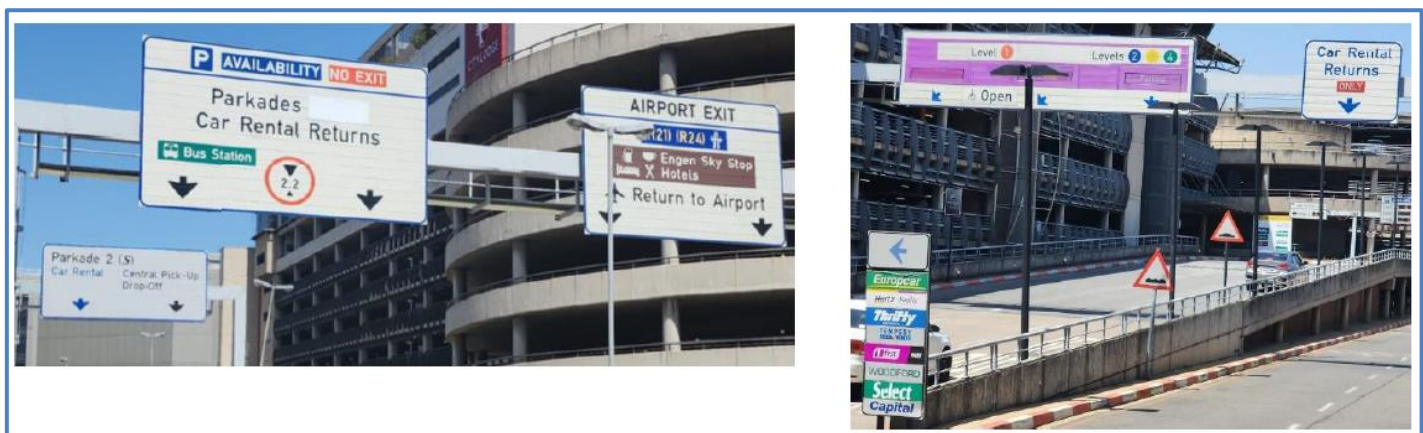


Figure 26

ANNEXURE C

Site information: VMS Totems

An essential double plug outlet (2-gang wall socket), rated at 16A, is to be installed for the connection of BMS sensors. The socket to be supplied by the contractor from the generator-backed essential power supply.

- The mounting box already exists on site and will be used to house the new essential socket outlet.
- The installation will ensure uninterrupted power to the BMS sensors in the event of a mains power failure.

Refer to Table 5 for the list of specific areas where the essential power connections will be made.



Figure 27: ORTIA MSP1 and 2 (Existing Housing to be used)



Figure 28: Aviation Park (Existing Housing to used)

Table 1: Requirements of double plug point required for BMS

Location	Infrastructure description	Quantity
MSP 1- Ground	16A, 2 gang (double plug point)	23
MSP 1- Level 1	16A, 2 gang (double plug point)	22
MSP 1- Level 2	16A, 2 gang (double plug point)	18
MSP1- Level 3	16A, 2 gang (double plug point)	17
MSP1- Level 4	16A, 2 gang (double plug point)	20
Total		100
MSP 2- Lower basement	16A, 2 gang (double plug point)	12
MSP 2- Upper basement	16A, 2 gang (double plug point)	11
MSP 2- Ground	16A, 2 gang (double plug point)	19
MSP 2- Level 1	16A, 2 gang (double plug point)	23
MSP 2- Level 2	16A, 2 gang (double plug point)	18
MSP 2- Level 3	16A, 2 gang (double plug point)	18
MSP 2- Level 5	16A, 2 gang (double plug point)	18
MSP 2- Level 5	16A, 2 gang (double plug point)	5
Total		106

N.B. All electrical installations are to comply with **SANS 10142** and applicable standards