REPUBLIC OF ZAMBIA

OFFICE OF THE AUDITOR GENERAL




SPECIAL AUDIT REPORT ON

THE ROAD DEVELOPMENT AGENCY FOR THE FINANCIAL YEARS ENDED 31st DECEMBER 2017 TO 2022

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OFFICE OF THE AUDITOR GENERAL

VISION:

An independent and credible audit institution promoting transparency and accountability in the management of public resources for the well-being of the citizenry.

MISSION:

To provide timely quality audit services to promote transparency and accountability in the management of public resources.

CORE VALUES:

Integrity

Objectivity

Excellence

Teamwork

Confidentiality

Professionalism

PREFACE

It is my honour and privilege to submit the Special Audit Report on the Road Development Agency for The Financial Years ending 31st December 2017 to 2022 in accordance with the Provisions of Article 250 of the Constitution of Zambia (Amendment) Act No. 2 of 2016.

The main function of my Office is to audit the accounts of State Organs, State Institutions, Provincial Administration, Local Authorities, the Constituency Development Funds (CDF) and institutions financed from public funds. In this regard, the Report covers audit findings on the management of road construction by the Road Development Agency.

The audit was conducted in accordance with International Standards of Supreme Audit Institutions (ISSAIs) which are the standards relevant for the audit of Public Sector entities.

The Audit Findings mentioned in this Report are those which were not resolved during the audit process.

I wish to take this opportunity to thank the Road Development Agency (RDA), National Road Fund Agency (NRFA), consultants from the National Council for Construction (NCC) and the Ministry of Finance and National Planning for the support rendered to my office during the audit.

Dr Ron M. Mwambwa, FCMA, FZICA, CGMA, CFE

ACTING AUDITOR GENERAL

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Executive Summary

The audit of road and related infrastructure under the Road Development Agency (RDA) for the period from 1st January 2017 to 31st December 2022 was conducted in accordance with Article 250 of the Constitution of Zambia (Amendment) Act No. 2 of 2016, the Public Audit Act No. 8 of 1980 as amended by Act No. 13 of 1994, Public Finance Act No. 15 of 2004 and the Public Finance Management Act No. 1 of 2018.

During the audit process, there were various levels at which the Office interacted and communicated with the Chief Executive Officer (CEO) of RDA. The purpose of this interaction was to provide an opportunity for the Controlling Officer and CEO to clarify and take corrective action on the findings of the audits.

The following were observed:

i. Failure to Settle Contractors' and Consultants' Bills

As at 31st December 2022, the RDA was owing various contractors and consultants amounts totalling K9,888,072,680 in respect of road works. The amount reduced to K9,645,456,345 by 30th September 2023 and interest charges amounting to K1,382,693,996, had accrued on the outstanding amounts.

ii. Discrepancies Between Budgeted Amounts and Contract Sums

During the period from 1st January 2017 to 31st December 2022, the RDA contracted twenty - four (24) construction companies to undertake twenty four (24) projects, with contract sums totalling K9,798,846,394. However, the engagements were in violation of the Public Procurement Regulations as they were not adequately supported by committed funds and exceeded budgeted amounts by K7,507, 918,029. This resulted the RDA being charged interest in amounts totalling K1,382,693,996 and idle time/ suspension costs in amounts totalling K68,128,204 due to delays in the settlement of Interim Payment Certificates (IPCs).

iii. Delayed Construction Works Due to Delayed Engagement of Supervising Consultants

During the period from 1st January 2017 to 31st December 2022, the RDA engaged various construction companies before securing the services of consultants. The delays in engaging

consultants ranged from three (3) to eight (8) months, resulting in notable setbacks in the achievement of the set project timelines. This delay stemmed from the absence of essential designs, drawings, and official authorisation from consultants. As a result, fourteen (14) road contracts which were originally valued at K4,525,680,832 were varied to K6,651,797,641 which resulted in the Government incurring additional costs of K2,126,116,809.

Further, fourteen (14) contracts for consultancy services which were originally valued at K117,510,010 were varied to K254,405,186 which resulted in the Government incurring additional costs of K136,895,176.

iv. Failure to Prepare Final Accounts After Contract Termination

The RDA terminated seven (7) contracts which were entered into with contractors between 1st January 2017 and 31st December 2022. Despite the termination of the contracts, as at 31st January 2024, the final accounts for the said terminated contracts remained outstanding as they had not been prepared. This delay in preparing the final accounts meant that the financial closure of these terminated contracts remained outstanding.

v. Failure to Manage Assets

Title deeds for parcels of land on which 228 properties for RDA sit were not secured. Consequently, the properties were not insured.

vi. Irregularities in the Management of PAVE Zambia 2000

In September 2013, the RDA embarked on a project for the period 2015 to 2019 to pave approximately 2,000 km of urban and township roads and associated public areas using segmented paving bricks and kerbstone technology countrywide. The provinces were supported by the establishment of Brick Paving Machine Plants.

However, there were instances where pavers were either unaccounted for or unutilised, the cement had caked and the paving machines were not handed over to the Ministry of Youths, Sports and Child Development after the project had been abandoned.

vii. Poor Workmanship – Non adherence to Project Specification

Samples of base course thickness did not meet the minimum specifications on selected roads. There were crumbled cores which were as a result of inadequate cement, poor selection of materials and inadequate compaction. The surfacing on some sections of the roads were found to be peeling off. Drainage on selected roads in Lusaka were characterized by incomplete and abandoned works. Some road signs did not meet the required specification of retro-reflectivity. Surface irregularities were also observed on most roads with seals.

However, despite the contractors not meeting specifications, all payments were made as per specifications in the contract resulting in overpayments, wasteful expenditure and lack of value for money. For example, a road base specified at 150 mm and contractor constructs at 100 mm but claims and is paid for 150 mm.

1 Introduction

The RDA was created in 2002 following the enactment of the Public Roads Act No. 12 of 2002. According to the Act, the functions of RDA are to plan, manage and coordinate the road network in the country. Further, the National Road Fund Agency (NRFA) which is responsible for mobilising resources for funding the road sector and administering the Road Fund was created through the enactment of the National Road Fund Act No. 13 of 2002.

2 Governance

Section 6 of the Public Roads Act No. 12 of 2002 provides for the composition of the RDA board to consist of part time members appointed by the Minister as follows:

i. A representative of the National Council for Construction;

ii. A representative of the Zambia National Farmers Union;

iii. A representative of the National Science and Technology Council;

iv. A representative of the Engineering Institute of Zambia;

v. A representative of the Chartered Institute of Transport;

vi. A representative of -

- the ministry responsible for works and supply;
- the ministry responsible for communication and transport;
- the ministry responsible for local government and housing;
- the ministry responsible for finance;
- the ministry responsible for tourism;
- the ministry responsible for agriculture; and
- the Attorney General.

vii. The Director of the Road Transport and Safety Agency (ex-officio);

viii. The Director of the National Road Fund Agency (ex-officio); and

ix. One other person.

3 Management

The Director, who is the Chief Executive Officer of the Agency, is responsible for the administration of the Agency and is assisted by Directors responsible for Corporate Services, Construction and Maintenance, Planning and Design; and Heads of Departments. The management team is appointed on three (3) year renewable contracts while the rest of staff is appointed on a permanent and pensionable basis.

4 Sources of Funds

According to the Act, the funds of the Agency shall consist of such moneys as may -

- be appropriated to the Agency by Parliament for the purpose of the Agency;
- be allocated to the Agency from the Road Fund;
- be paid to the Agency by way of grants or donations; and
- vest in or accrue to the Agency.

The Agency may -

- accept moneys by way of grants or donations from any source in Zambia and subject to the approval of the Minister, from any source outside Zambia;
- subject to the approval by the Minister, raise by way of loans or otherwise, such moneys as it may require for the discharge of its functions; and
- in accordance with the regulations under the Act, charge fees for the services provided by the Agency.

The audit of road and related infrastructure under the Road Development Agency (RDA) for the period from 1st January 2017 to 31st December 2022 was conducted in accordance with Article 250 of the Constitution of Zambia (Amendment) Act No. 2 of 2016, the Public Audit Act No. 8 of 1980 as amended by Act No. 13 of 1994, Public Finance Act No. 15 of 2004 and the Public Finance Management Act No. 1 of 2018.

5 Audit Objectives

The objectives of the audit were to-

i. ascertain whether procurement, award and administration of the contracts were carried out in accordance with the Public Procurement Act No. 12 of 2008; and

ii. ascertain whether the quality of the roads and other related infrastructure constructed conformed to the design and contract specifications.

6 Audit Scope

This report covers construction projects under the Road Development Agency (RDA) procured during the period from 1st January 2017 to 31st December 2022. In conducting the audit, various documents maintained at RDA, the National Road Fund Agency (NRFA) and the then Ministry of Works and Supply such as the accounting records, tender documents, contracts, certificates of completed works, progress reports, were reviewed and physical inspections of the projects were conducted.

7 Audit Methodology

The audit was conducted in accordance with International Standards for Supreme Audit Institutions (ISSAIs). These standards require to plan an audit, conduct risk assessment, design and conduct audit procedures and report on the audit findings.

In the course of preparing the Report, the Chief Executive Officer (CEO) for RDA was sent an Interim Management Letter. A verification was done upon providing explanations and documents supporting the explanations to the issues raised in the management letter after which a status report was issued to the CEO indicating the resolved and unresolved issues.

A Draft Audit Report Paragraph (DARP) was then issued to the CEO for comments and confirmation of the correctness of the facts presented. Where the comments varied with the facts presented, and were proved to be valid, the DARP was amended accordingly.

The Auditor General in line with provisions of the Public Audit Act procured the services of engineers from the National Council for Construction (NCC) as part of the audit team. In order to ascertain whether the roads and related works were done according to specifications, the following tests were carried out on selected roads (See table 1 below):

Table 1: Tests Conducted on Roads

	Test	Purpose of Test	Standard/ Specifications	Limits
a.	Dynamic Cone Penetration Test (DCP)	The test is used to determine the load bearing capacity of the pavement layers. The CBR values for the base, subbase, and subgrade of road pavements are determined through laboratory testing according to the SATTCC specifications.	The test reference standard is ASTM D6951. The CBR values for the base, subbase, and subgrade of road pavements are determined through laboratory testing according to the SATTCC specifications.	
b.	California Bearing Ratio (CBR)	The California Bearing Ratio (CBR) is used to determine the strength of pavement layers which include subgrade, subbase and base course. The CBR-value is a requirement in design for pavement materials.	CBR - BS 1377: Part 4: 1996, TMH 1 SATCC clauses 3402	According to Clause 3402 of SATCC below are the specified limits for pavement layers: *Subgrade (SATTC Clause 3402)* Minimum soaked CBR at specified density: Upper selected layer . .. . 15 % Lower selected layer . . . . 10 % Maximum plasticity index….. 3 x grading modulus
				Subbase (SATTC Clause 3402) Subbase material shall, unless otherwise authorized, conform with the following requirements when finally placed: Grading modulus (SATTC Clause 3402) The minimum grading modulus shall be 1.5. Plasticity Index (SATTC Clause 3402)

				The maximum plasticity index of the natural material shall be 10% California Bearing Ratio (SATTC Clause 3402) The minimum soaked CBR of the natural material shall be 30% at the specified in-situ density (not less than 95% Modified AASHTO).
				Base Course Grading modulus The minimum grading modulus shall be 2.0 if unstabilised or 1.7 if the material is to be chemically stabilized. Plasticity index (SATTC Clause 3402) The maximum plasticity index of the natural material shall be 6% and that for material to be stabilized shall not exceed 6% after treatment with the selected stabilizing agent. California Bearing Ratio (SATTC Clause 3402) The minimum soaked CBR of the natural material shall be 80% at 98% Mod AASHTO density.
				Compaction requirements (SATTC Clause 3402) Subgrade Lower selected layer . . . . 90% or 93%, as required. Sand: 100% Upper selected layer . . . . 93% or 95%, as required Sand: 100% Subbase 95% or 97%, as required for material not chemically stabilized. 95% or 97%, as required for material chemically stabilized Base 98% or 100%, as required for material not chemically stabilized. 97% or 98% as required for material chemically stabilized.
c.	Ten Percent Fine Aggregate Crushing Test (10% FACT)	The Ten percent Fine Aggregate Crushing Test (10%FACT) is the amount of force required to produce ten percent fines. It is	BS 812: Part 111: 1990, TMH 1 Method B2,	According to SATTC section 3600 the 10% FACT of crushed-stone base shall not be less than 110 kN for crushed stone base

		used to determine if the aggregates used in road construction are strong enough to resist crushing under traffic wheel loads. If the aggregates are weak, the integrity of the pavement structure may be adversely affected.		
d.	Rutting	Rutting is the deformation of the road surface through the action of traffic and is limited to the wheel paths. The test is used to determine the amount of deformation of the road under traffic action after commissioning.	According to part B2.3.1 of TMH 9 - 1992 the degree of distress on pavement is determined using standard visual assessment procedure.	The degree is indicated by a number where; Degree 1 indicates the first evidence of a particular type of distress "slight" or < 5 mm (no attention is required); Degree 3 indicates a warning "requires attention" or ≈ 10-15 mm (maintenance/rehabilitation is required in the near future); and Degree 5 indicates the worst degree "severe, dangerous" or >30 mm (immediate maintenance/rehabilitation is required).
e.	Rebound Hammer (Schmidt Hammer) Test for Concrete	The test is used to determine the strength of hardened concrete. The results are compared to the design strength.	The tolerances of the specified strength are determined according to SATTC clause 7205 and the standard test method used to conduct the test is ASTM C 805:2007.	The limits of strength derived from ASTM C 805:2007 are interpreted and the tolerances in SATTC clause 7205/4 are applied.
f.	Road Geometry (Carriageway Measurements)	Clause 1107 of SATTC defines carriageway as the surface normally traversed by vehicles and which consists of one or a number of contiguous traffic lanes, including auxiliary lanes and shoulders. The Road Geometry tests is used to measure the carriageway width of the road which is then compared with the specified design.	*Clause 1107 of SATTC* The carriageway widths vary depending on a number of factors such as class, type and traffic volume.	Specifications vary depending on design of the road class. According to clause 3400 of SATTC the average width of the layer shall not be less than the specified width, and nowhere should the outer edge deviate by more than the following from the edge lines shown on the drawings: Selected layer . . . . 80 mm Subbase . . . . 75 mm Base . . . . 50 mm
g.	Pavement Layers (Thicknesses)	A road pavement is comprised of different layer	The road thicknesses of a flexible pavement layers vary depending on the	According to SATTC Clause 3405 the tolerances of thicknesses are as tabulated below:

<table>
<tr>
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<td>thicknesses such as surface, base, subbase and subgrade layers. The pavement layer (thickness) test is used to determine whether the thickness of the constructed layer is in accordance with the specified thickness.</td>
<td>design. However, the specification is according to SATTC clause 3405 on Construction tolerances.</td>
<td>Tolerance for Road Thicknesses
<table>
<tr><td>Details</td><td>D_{90}</td><td>D_{max}</td><td>$D_{average}$</td></tr>
<tr><td>Selected layer</td><td>30 mm</td><td>40 mm</td><td>10 mm</td></tr>
<tr><td>Subbase</td><td>21 mm</td><td>27 mm</td><td>5 mm</td></tr>
<tr><td>Base</td><td>21 mm</td><td>27 mm</td><td>5 mm</td></tr>
<tr><td>Wearing course</td><td></td><td>30 mm</td><td></td></tr>
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<tr>
<td>h.</td>
<td>Binder Content</td>
<td>This is the extraction of binder from asphalt to determine the amount of binder (bitumen) in asphalt. The amount of binder in the asphalt can affect the performance of the road under a given traffic load and different environmental conditions.</td>
<td>According to clause 4202 of SATTC and Method B ASTM D 2172-88 (Determination of Binder Content and Aggregate Grading by Extraction) as the standard for binder content test.</td>
<td>Specifications are according to tolerances in SATTC clause 7502 and vary depending on design of the asphalt. The binder content of asphalt mixes shall not deviate from the specified binder content by more than the values given in SATTC Tables 7205/2 and 7205/3.</td>
</tr>
<tr>
<td>i.</td>
<td>Particle Size Distribution</td>
<td>A particle size distribution analysis is a necessary classification test for soils, especially coarse soils, in that it presents the relative percentages of different sizes of particles. From this it is possible to determine whether the soil consists of predominantly gravel sand, silt or clay sizes and, to a limited extent, which of these size ranges is likely to control the engineering properties of the soil/aggregate</td>
<td>According to SATTC specifications of base and Subbase given above Standard to BS 1377: Part 2: 1996. Particle size distribution of materials for road construction should conform to SATTC specifications as outlined below:
• Asphalt containing penetration-grade bitumen should comply with the requirements according to SATTC clause 4200.
• Gravel base material should, unless otherwise authorized, conform to requirements in SATTC clause 3402.
• The grading of the crushed aggregate</td>
<td>Limits Specifications vary according SATTC clauses 4200 for asphalt, clause 3602 for gravel base and clause 3602 for crushed stone base depending on materials and design.</td>
</tr>
</table>

			should conform to the grading limits according to SATTC 3602.	

8 Types of Roads

During the period under review, the RDA constructed various types of roads with road surfaces and road bases as shown in table 2 below.

Table 2: Types of Road Surface

Types of Road Surface	Details
Hot Mix Asphalt	Comprises of approximately 95% stone, sand, or gravel bound together by bitumen.
Seals	Bitumen is placed on the road and stones are spread to provide the wearing surface (Driving Surface).
Single Surface Dressing	One layer of bitumen is placed on the road and one layer of stones is spread to provide the wearing surface (Driving Surface).
Double Surface Dressing	One layer of bitumen is placed on the road and one layer of stones is spread to provide the wearing surface (Driving Surface) and 2^{nd} layer of bitumen is placed on the road and 2^{nd} layer of stones is spread to provide the wearing surface (Driving Surface).
Gravel	Layers of selected gravel.
Types of Road Base	
Crushed Stone	Comprises unbound mixture of coarse and fine crushed stone.
Cement Stabilised	Comprises a cement bound mixture of specially selected gravel with cement as a binder control.
Neat	Comprises an unbound mixture of specially selected gravel without any bidding material.
Bitumen Stabilised	Comprises a bitumen bound mixture of specially selected gravel with bitumen as a binder material.

Audit Findings

9 Budget and Income

During the period under review, RDA budgeted to generate income and receive Government grants of K37,552,379,211 (Projects - K36,834,028,318 and Operations - K718,350,893) against which amounts totalling K27,933,010,289 (Projects - K27,302,464,368 and Operation - K630,545,921) were generated and received resulting in a negative variance of K9,619,368,922 (Projects - K9,531,563,950 and Operations – K87,804,972) See tables 3a and 3b below.

Table 3a: Budget and Income - Projects

Year	Budget K	Releases K	Varaince K
2017	7,993,495,100	5,779,312,572	(2,214,182,528)
2018	7,519,370,680	5,676,706,101	(1,842,664,579)
2019	5,330,149,390	5,676,058,836	345,909,446
2020	8,609,279,965	4,284,707,050	(4,324,572,915)
2021	4,501,454,124	3,650,116,378	(851,337,746)
2022	2,880,279,059	2,235,563,431	(644,715,629)
Total	**36,834,028,318**	**27,302,464,368**	**(9,531,563,950)**

Table 3b: Budget and Income - Operations

Year	Budget K	Releases K	Varaince K
2017	113,406,756	113,406,756	-
2018	116,000,003	116,000,003	-
2019	117,000,000	68,463,454	(48,536,546)
2020	117,935,000	78,666,558	(39,268,442)
2021	117,926,364	117,926,384	20
2022	136,082,770	136,082,766	(4)
	718,350,893	**630,545,921**	**(87,804,972)**

The underfunding resulted in RDA continuously reporting deficits in its financial performance during the period under review.

10 Discrepancies Between Budgeted Amounts and Contract Sum

Regulation 122 (1) of the Public Procurement Regulations of 2011 states, "A procuring entity shall, after a contract award decision by an approvals authority, commit the required funds before proceeding to award the contract."

In the Road Sector Annual Work Plans (RSAWP) approved for the years 2017, 2018, 2019, 2020, 2021 and 2022 by the Road Development Agency (RDA), a total provision of

K2,290,928,365 was allocated to fund twenty four (24) selected roads and bridges nationwide.

Over the aforementioned period, the RDA contracted twenty four (24) construction companies to undertake twenty four (24) projects, with contract sums totalling K9,798,846,394.

However, these engagements were in violation of the Public Procurement Regulations as they were not adequately supported by committed funds and exceeded budgeted amounts by K7,507,918,029. See Appendix 1.

As a result, as at 31st December 2022, the RDA owed various contractors and consultants amounts totalling K9,888,072,680 in respect of road works which reduced to K9,645,456,345 by 30th September 2023.

In response to the Management Letter, the RDA attributed these actions to operating under financial constraints, leading to insufficient allocations for projects outlined in the RSAWP. Consequently, some payments were sourced from alternative budget lines to ensure project advancement.

Emanating from the inadequate budgetary provisions, the RDA was charged interest in amounts totalling K1,382,693,996 and idle time/ suspension costs in amounts totalling K68,128,204 due to delays in the settlement of Interim Payment Certificates (IPCs). See tables 4a and 4b below.

Table 4a: Summary of Interest Claimed - 2017-2022

Item	Period	Description	Amount K
1	2017	Interest claimed	272,135,532
2	2018	Interest claimed	287,727,305
3	2019	Interest claimed	168,705,402
4	2020	Interest claimed	190,022,686
5	2021	Interest claimed	389,406,847
6	2022	Interest claimed	74,696,224
Total			**1,382,693,996**

Table 4b: Idle Time/Suspension Costs

Item	Period	Description	Amount K
1	2017	Idle Time/Suspension Costs	-
2	2018	Idle Time/Suspension Costs	6,498,957
3	2019	Idle Time/Suspension Costs	36,381,773
4	2020	Idle Time/Suspension Costs	25,247,475
5	2021	Idle Time/Suspension Costs	28,665,534
6	2022	Idle Time/Suspension Costs	-
Total			**68,128,204**

11 Delayed Construction Works Due to Delayed Engagement of Supervising Consultants

In the Report of the Public Accounts Committee on the Report of the Auditor General on the Road Projects under the Road Development Agency for the period from January 2012 to December 2015 for the First Session of the Twelfth National Assembly, the Public Accounts Committee (PAC) recommended that, "the consultant should be identified before the commencement of any works by the contractor as delayed engagement of consultants was in contravention of Section 7 (3) of the Public Finance Act of 2004 and had the potential to compromise the adherence to specifications by the contractor as promulgated in the contract. PAC noted that the Regional Manager had no requisite equipment for assessing the adherence to specifications."

In disregard of the recommendations put forth by the Public Accounts Committee, during the period under review, the Road Development Agency (RDA) proceeded to engage various construction companies before securing the services of consultants. The delays in engaging consultants ranged from three (3) to eight (8) months, resulting in notable setbacks in the achievement of the set project timelines. See Appendix 5.

This delay stemmed from the absence of essential designs, drawings, and official authorisation from a consultant.

The repercussions of these delays were substantial, leading to significant variations in the construction contracts. During the period under review, fourteen (14) construction contracts which were originally valued at K4,525,680,832 were varied to K6,651,797,641 which results in the Government incurring additional costs of K2,126,116,809. See Appendix 3.

Further, fourteen (14) contracts for consultancy services which were originally valued at K117,510,010 were varied to K254,405,186 which resulted in the Government incurring additional costs of K136,895,176. See Appendix 4.

12 Failure to Prepare Final Accounts After Contract Termination

In contract management, a final account refers to the conclusive financial statement or summary that outlines all financial transactions, costs, and expenses incurred throughout the duration of a contract. It typically includes a detailed breakdown of all expenditures, payments, variations, and any outstanding amounts owed or payable at the conclusion of the contract. The final account is prepared to reconcile all financial matters related to the contract and is often used for auditing, financial reporting, and settlement purposes. Therefore, it is expected that the final accounts should be prepared and settled timely as delays have potential financial implications for both parties due to changes in the time value of money and exposure of the works to the elements such as weather and public use.

During the period from 1st January 2017 to 31st December 2022, the RDA terminated seven (7) contracts which were entered into with contractors. Despite the termination of the contracts, as at 31st January 2024, the final accounts for the said terminated contracts remained outstanding as they had not been prepared. This delay in preparing the final accounts meant that the financial closure of these terminated contracts remained outstanding. See Appendix 2.

13 Lusaka Province - Main Road Works

13.1 Upgrading of Unpaved Roads to Bituminous Standard in Chongwe District - Failure to Recover Advance Payment

On 21st August 2019, RDA engaged Luvias Investment Limited to upgrade approximately 55 km of unpaved roads to bituminous standard in Chongwe District at an initial contract sum of K579,066,336 which was later revised to K909,086,569 VAT Inclusive. The initial completion period was twenty four (24) months from 27th April 2020 to 27th April 2022 which was later revised to 27th October 2022.

The scope of works included the following:

- Clearing and grubbing;
- Excavations, Grading and other Earthworks;
- Bituminous surfacing works;
- Reinforced concrete;
- Bridge/Culvert Construction; and
- Road Signage and Publicity Sign boards.

The roads earmarked for construction as identified by RDA are indicated in table 5 below.

Table 5: Roads Earmarked for Works in Chongwe

No.	Road Name	District	Kilometres (Km)
1	RD480-U17 (RD480-U17/Chainda road junction)	Chongwe	18.3
2	A1 - A2 (A1-A2/Chainda road junction approximately 10km from Kenneth Kaunda International Airport)	Chongwe	32.2
3	NCC (Junction at Km 10+700 of RD480-U17)	Chongwe	5
Total Distance			**55.5**

Further, Allione Consulting Engineers Limited in association with African Oak Consulting Limited was engaged to provide consultancy services on 5th March 2020 for a contract period of twenty four (24) months at a contract sum of K13,108,000 including all local taxes.

Clause GCC47.1 of the Contract document stated, "Advance Payment shall be as follows: maximum of l0% of contract sum, upon submission of an acceptable Bank Guarantee of equal amount; advance payment shall be recovered in two (2) equal instalments."

On 8th October 2021, an advance payment of K57,906,634 was paid on IPC No.1, to the contractor. However, IPCs No. 2 to 4 in amounts totalling K65,108,788 did not include Advance Payment recovery. A review of Advance Payment Guarantee revealed that the guarantee expired on 2nd September 2021 and had not been renewed as at 31st October 2022.

In this regard, amounts totalling K50,242,882 paid from the three (3) certified IPCs constitutes overpayment. As at 31st December 2023, no recovery was made against IPCs certified.

In addition, the final accounts had not been finalised as at 31st December 2023 despite the contract being terminated on 26th October 2022 when it lapsed.

14 Central Province - Main Road Works

14.1 Contract for Construction of a three (3) Lanes in by three (3) Lanes out Toll Plaza at Manyumbi between Kabwe and Kapiri Mposhi along T002 Road in Central Province

On 15th June 2018, RDA engaged Luvias Investments Limited for the construction of a Toll Plaza between Kabwe and Kapiri Mposhi at a contract sum of K24,627,092 and US$345,528.55 VAT inclusive with a completion period of six (6) months. The commencement date was 17th July 2018.

The scope of work included the following:

- Electrical installations;
- Tolling system;
- Cladding to canopy;
- Ceiling to canopy;
- Asphalt approach roads; and
- Earthworks including stabilised layers, reworking of previously completed subbase layers, base and surfacing works.

As at 31st December 2023, amounts totalling K20,894,396 and US$319,988 had been paid to the Contractor against the total certified amounts of K23,114,469 and US$296,716 leaving a balance of K2,220,072 and an overpayment of US$23,272 respectively. See table 6 below.

Table 6: Amount Certified and Paid

Certificate No.	Date Submitted	Amount Certified for Payment K	Amount Certified for Payment US$	Amount Paid K	Amount Paid US$	Outstanding Amount K	Outstanding Amount US$	Date Paid
IPC No.1 (Advance Payment)		3,694,064		3,184,538		(509,526)		08/01/2018
IPC No.2	17/12/2018	8,753,413		7,855,622		(897,791)		18/01/2019
IPC No.3	16/5/2019	6,540,775	254,517	3,902,109	205,727.46	(2,638,666)	- 48,789	17/06/2019
IPC No.4	20/11/2019	2,568,000	27,364	3,384,127	90,671.48	816,127	63,308	20/12/2019
IPC No.5	07/02/2020	1,558,216	14,836	2,568,000	23,589.50	1,009,784	8,754	08/02/2020
Total		**23,114,469**	**296,716**	**20,894,396**	**319,988.44**	**(2,220,072)**	**23,272**	

On 29th January 2019, RDA engaged Iliso Consulting (Z) Limited to provide supervision services at the Manyumbi Toll site at a contract sum of K1,847,245 for a duration of seven (7) months through Addendum No. 2 to the earlier services contract between RDA and Iliso Consulting (Z) Limited for the supervision of the construction of the toll plaza at Kafulufuta on the Copperbelt province.

As at 30th September 2022, a total amount of K5,263,069 was certified out of which K4,983,749 was paid leaving a balance of K279,320. See table 7 below.

Table 7: Amount Certified and Paid

Invoice No.	Date Submitted	Amount Certified for Payment K	Amount Paid K	Outstanding Amount K	Date Paid
1	10.01.18	342,881	342,881	-	7.02.18
2	13.02.18	328,400	328,400	-	13.03.18
3	16.02.18	335,400	335,400	-	16.03.18
4	5.04.18	310,540	310,540	-	3.05.18
5	18.05.18	207,264	207,264	-	15.06.18
6	18.05.18	270,716	270,716	-	15.06.18
7	19.06.18	207,264	207,264	-	17.07.18
8	10.08.18	207,264	207,264	-	7.09.18
9	29.10.18	344,158	344,158	-	26.11.18
10	29.10.18	375,052	375,052	-	27.11.18
11	30.10.18	342,469	342,469	-	28.11.18
12	31.10.18	342,469	342,469	-	26.02.19
13	29.01.19	342,469	342,469	-	21.02.19
14	24.01.19	342,469	342,469	-	20.03.19
15	20.02.19	342,469	342,469	-	6.06.19
16	9.05.19	342,469	342,469	-	
17	26.08.19	279,320	-	279,320	
Total		**5,263,069**	**4,983,749**	**279,320**	

The following were observed:

a. Irregular Award of Contract

Regulation 52 (3) of the Public Procurement Regulations 2011 provides that a procuring entity shall, where appropriate, include additional evaluation criteria in the solicitation document, which shall be taken into account in determining the evaluated price of each bid.

Two (2) bidders were responsive at financial evaluation stage as shown in the table 8 below.

Table 8: Irregular Award of Contract

No.	Name of Contractor	Bid Prices	
		K	US$
1	Luvias Investment Limited	24,627,091.57	345,528.55
2	Helmet Engineering and Construction Ltd	16,930,323.34	345,528.55

Regulation 85 (1) of the Public Procurement Regulations 2011 states, “A solicitation document shall state the evaluation criteria to be applied during the technical evaluation.”

A review of the tender evaluation report revealed that at financial evaluation stage, RDA introduced a new criterion which was not in the solicitation document by comparing bid prices as a percentage of the Engineers Estimate (acceptable range of + or – 25%) and against the average figure, consequently awarding the contract to Luvias Investment Limited whose bid price was higher than Helmet Engineering and Construction Ltd.

Further, RDA did not provide the engineer’s estimate which was used in the price reasonableness analysis.

b. Engagement of the Consultant Using Direct Bidding

Regulation 17 of the Public Procurement Regulations of 2011 provides that a procuring entity may use direct bidding where the estimated value of the goods, works or services does not exceed the threshold specified in the Second Schedule.

Further, the Second Schedule to the Public Procurement Regulations of 2011 provides for open national selection of consulting services of value above K300,000.

Contrary to the regulations, on 29th September 2019, the parties to the contract modified the contract for the supervision of the construction of the toll plaza at

Kafulufuta, by signing addendum No. 2 to direct bid Iliso Consulting (Z) Limited by extending the supervision services to Manyumbi toll site. The modification of the contract increased the contract sum by K1,847,245 (from K3,166,969 to K5,014,213) using direct bidding instead of open national selection as the increase of contract sum was more than K300,000.

15 Western Province – Main Roadworks

15.1 Rehabilitation of the 270 m Kafue Hook Bridge in Western Province - Failure to Provide Information for Audit

On 17th February 2015, the Road Development Agency engaged China Henan International Cooperation Group Co. Limited (CHICO) for the Rehabilitation of the 270m Kafue Hook Bridge along the Road M009 in Western Province at a contract sum of K147,539,015 VAT inclusive with a completion period of twenty four (24) months commencing on 3rd March 2015 and expected completion date of 4th March 2017.

The contract was revised twelve (12) times to the latest completion date of 24th December 2022 and the contract sum was revised by K19,924,904 from K147,539,014 to K167,463,918.

The scope of works included the following:

- Carry out design for the temporary bridge;
- Construct concrete piles, cap and tie beams;
- Construct 5 new piers;
- Crack sealing in the abutments;
- Ancillary works such as installing new kerbs, crash barriers, guard rails, walkway repairs etc;
- Rehabilitate 500 m approach road on either side of the bridge; and
- Clean up the chutes and overgrown vegetation.

On 23rd March 2016, RDA engaged Kiran & Musonda Associates Consulting Limited as supervising consultants at a contract sum of K9,873,798 with a completion period of twenty four (24) months starting 19th August 2015.

The contract was revised by K17,467,056 from K9,873,798 to K27,340,854 with the latest completion date of 24th December 2022.

On 29th October 2020, the Road Development Agency Procurement Committee considered an application by the Director Construction and Rehabilitation and granted authority to issue variation order no. 9 whose scope of works was to carry out Assessment of the Structural Integrity and Capacity of the Temporary bridge.

On 25th November 2020, authority was granted by the Ministry of Justice and on 8th December 2020 addendum No. 9 was issued.

In this regard, Messrs China Henan International Cooperation Group Limited the Contractor for the rehabilitation of the 270 m of the Kafue – Hook Bridge along Lusaka – Mongu Road (M009) in Western Province, engaged E.G Pettit & Partners Consulting Engineers to carry out assessment of the structural integrity and capacity of the temporary bridge at an additional cost of K649,854.

As at 31st December 2023, management had not provided procurement records contrary to Section 38 of the Public Procurement Act No. 12 of 2008 which requires that a procuring entity maintains records of all procurement proceedings for a period of seven (7) years. As a result, it was not possible to confirm whether the engagement of E.G Petit & Partners Consulting Engineers was competitive as procurement records such as the evaluation report were not submitted for audit.

16 Copperbelt Province - Main Road Works

16.1 Contract for Upgrading of the Ndola – Mufulira – Mokambo Road (M4/M5 - 79.8 km) in the Copperbelt Province

On 25th August 2016, RDA engaged Inyatsi Roads Zambia Limited in a Joint Venture with Marks Industries Limited for the upgrading of Ndola – Mufulira – Mokambo Road (M4/M5) in the Copperbelt Province at a contract sum of K701,794,401 with a completion period of twenty four (24) months commencing on 30th June 2017 and ending on 29th June 2019.

The contract was revised three (3) times to the final completion date of 28th September 2021 and the contract sum was increased by K43,564,025 from K701,794,401 to K745,358,425.

The scope of work included the following:

- Clearing and grubbing;
- Mass earthworks including cut-to-fill, borrow-to-fill and cut to spoil;
- Rehabilitation of 79.8 km of the M4/M5 road;
- Preliminary and general items;
- Construction of drainage structures,;
- Construction of unstabilised sub-bases;
- Construction of stabilised bases;
- Double asphalt surfacing of 40 mm and 50 mm thick layers; and
- Ancillary works (road marking, traffic signs, kilometre marker post, guard rails, erosion protection works, etc).

On 3rd May 2017, RDA engaged Brian Colquhoun Hugh O'Donnel and Partners (BCHOD & Partners) Consulting Engineers to supervise the rehabilitation works at a contract sum of K6,659,942 for a period of thirty eight (38) months.

The contract was revised once to the final completion date of 15th July 2022 and the contract sum was revised by K2,894,879 from K6,659,942 to K9,554,821.

The following were observed:

a. Failure to Avail Engineer's Estimate

Regulation 85 (1) of the Public Procurement Regulations 2011 states, "A solicitation document shall state the evaluation criteria to be applied during the technical evaluation."

Clause 38 of the instruction to bidders (ITB) provided that the employer shall award the contract to the bidder whose offer has been determined to be best – evaluated bid price ±25% of the engineer's estimate, within and is substantially responsive to the bidding document, provided further that the bidder is determined to be qualified to perform the contract satisfactorily.

A review of the tender evaluation report did not indicate that RDA subjected the bid sums to the engineer’s estimate as required in the ITB.

In their response, management stated that the engineer’s estimate was K620,597,475 which was within the ±25% of the awarded contract and that the document was available for audit verification. However, the engineer’s estimate was not availed.

b. Inconsistent Advance Recovery

Clause 51.3 of the contract provided for recovery of advance payments in subsequent IPC’s. However, advance payment recovery was not consistent as there were no recoveries on IPCs No. 2, 3, 8, 9, 10, 11,12,13,14 and 15. As a result, the advance payment was not fully recovered at the time of termination of the contract in that only K40,939,863 representing 58% of the K70,179,440 advance payment was recovered leaving a balance of K29,239,577 as at 31st December 2023.

c. Payments for Preliminaries Ahead of Measured Works

Preliminaries are costs for the entire project and not for specific activities and include items such as site establishment, security, safety, site records, cleaning, insurance, bonds, guarantees and warranties which are necessary for the contractor to complete the works, but will not actually become part of the works.

In the preliminaries, the contractor was paid for the following:

- Fixed obligations: 50% was paid.
- Time related obligations: all the planned twenty four (24) months in the BOQ were paid including on the forty six (46) months final extended period.
- Maintenance of existing road (Item 12.03 of the BOQ). The item had no measured quantity in the BOQ but contractor was paid for 11 months.
- Accommodation, offices and laboratories for the Project Manager: 100% paid.
- Vehicles, services and other facilities for the project manager’s use: 100% was paid including for the extended period (forty six (46) months).
- Maintenance of project manager’s facilities including fuel and lubricants: 100% was paid including the extended period above.

- Accommodation of traffic diversions: 100% was paid including for the extended period above.
- Earthworks for diversions, shaping, cutting and gravelling.
- Removal of top soil and trees.
- The amounts provided for the time related preliminaries were exhausted on IPC No. 21.

Table 9 below shows works done despite preliminaries being exhausted and additional payments made for extension of time.

Table 9: Summary of Certified Payments against BOQ Amounts

No.	Description	BOQ Amount in K	Certified Amount K	Percentage of Amount Certified
1	General Provisions	121, 196 ,518	172, 909, 340	143%
2	Drainage	37, 132, 475	3, 655, 098	10%
3	Earthworks and Pavement Layers or Gravel crushed stone	107, 619, 003	37, 332, 861	35%
4	Asphalt pavement and seals	265, 564, 410	1, 164, 635	0%
5	Ancillary road works	8, 800, 655	5, 238	0%
6	Bridge structure	7, 525, 719	0	0%
7	Testing and quality control	120, 000	0	0%
8	Day works	2, 036, 828	281, 062	14%
	Sub Total	**549, 995, 608**	**215, 348, 234**	**100%**
	Add 10% Contingency	54, 999, 561		
	Total	**604, 995,169**		
	Add VAT @ 16%	96, 799, 227		
	Contract Sum	**701, 794, 396**		

d. Physical Inspections

Further, most of the certified measured works in the BOQ were on earthworks. However, due to passage of time compounded by exposure to rains and public use for the past five years, the works done could not be evaluated. A review of records such as correspondence, monthly progress reports and physical inspection revealed that the following limited items were certified for measured works:

- Excavations and drains,
- Cut, borrow and backfilling,

- Precast culverts and insitu concrete and culverts,
- Mass earthworks, cut and borrow, compaction and roadbed preparation,
- Stabilisation, stone base and priming, and
- Day works.

See table 10 below.

Table 10: Physical Progress Report for February 2021 Obtained from the Client

No.	Activity	Length	Percentage
1	Mobilisation		97
2	Clear & grab	45.1	57
3	Detour	71.6	89.7
4	Drainage	0	0
5	Culverts	22.3	28
6	Roadbed	35.2	44.8
7	Subgrade	35.2	44.8
8	Subbase	7.6	9.5
9	Base	7.6	9.5
10	Priming work	7.6	9.5
11	Hot asphalt laying	0	0
12	Pothole	0	0
13	Signage	0	0
	Overall		**36.8**

16.2 Contract for Construction of a Toll Plaza at Garneton (Wilson Mofya Chakulya) between Kitwe and Chingola along T003 Road on the Copperbelt Province

On 12th June 2017, RDA engaged Copperfield Mining Services Limited to construct a toll plaza at Garneton between Kitwe and Chingola at a contract sum of K41,698,334 and US$867,649.80 with a completion period of four (4) months and two (2) weeks commencing on 26th June 2017 and ending on 22nd November 2017.

The contract was revised seven (7) times to a final completion date of 31st December 2019 and the contract sum was increased by K6,592,807 from K41,698,334 to K48,291,141.

As at 30th September 2022, amounts totalling K44,343,092 and US$1,174,145.44 had been certified out of which K51,559,991 and US$168,402.08 were paid to the contractor resulting in an overpayment of K7,216,899 and balance of US$1,005,743.36 respectively. See tables 11a and 11b below.

Table 11a: Payments Certified for Copperfield Mining Services Limited in Kwacha

No.	Date	Certified K	Paid K	Over Payment K	Date Paid
IPC 1	10/3/2017	4,753,512	9,507,024	4,753,512	10/13/2017
IPC 2	12/19/2017	3,389,511	3,361,359	(28,152)	10/13/2017
IPC 3	12/19/2017	6,991,491	6,027,147	(964,344)	10/25/2017
IPC 4	3/29/2018	5,592,132	8,391,095	2,798,963	12/21/2017
IPC 5	1/29/2018	6,737,712	6,087,148	(650,564)	12/21/2017
IPC 6	8/1/2018	4,855,313	4,671,313	(184,000)	1/16/2018
IPC 7	8/20/2018	-	-	-	
IPC 8	10/19/2018	3,599,415	3,599,415	0	4/25/2018
IPC 9	7/6/2019	2,447,153	2,298,687	(148,466)	6/8/2018
IPC 9	7/6/2019	-	-	-	8/6/2018
IPC 10	7/22/2020	5,976,853	7,616,803	1,639,950	8/31/2018
IPC 10	7/22/2020	-	-	-	10/23/2018
	Total	**44,343,092**	**51,559,991**	**7,216,899**	

Table 11b: Payments Certified for Copperfield Mining Services Limited in United States Dollars

No.	Date	Amount US$	Paid US$	Balance US$	Date Paid
IPC 7	8/20/2018	328,034.15	-	(328,034.15)	
IPC 9	7/6/2019	732,449.17	92,302	(640,147.09)	8/6/2018
IPC 10	7/22/2020	113,662.12	76100	(37,562.12)	10/23/2018
	Total	**1,174,145.44**	**168,402.08**	**(1,005,743.36)**	

On 18th July 2017, RDA engaged Bari Zambia Limited for the supervision of the construction works at a contract sum of K3,876,192 for a period of four (4) months and two (2) weeks commencing on 26th July 2017 and ending on 22nd November 2017.

The contract was revised two (2) times to a final completion date of 31st December 2018 and the contract sum was increased by K5,837,294 from K3,876,192 to K9,713,486.

As at 30th September 2022, amounts totalling K8,283,156 had been invoiced out of which K4,817,028 was paid to the consultant leaving a balance of K3,466,128.

The following were observed:

a. **Failure to Avail Clearance by Attorney General**

Section 54 (2) (e) of the Public Procurement Act No.12 of 2008 states, "No contract, purchase order, letter of bid acceptance or other communication in any form conveying acceptance of a bid or award of contract shall be issued prior to any other approvals required, including the approval of the contract by the Attorney-General."

On 25th April 2017, the RDA Procurement Committee granted authority to engage Copperfield Mining Services Ltd for the construction of a Toll Plaza at Garneton between Kitwe and Chingola at a tender sum of K46,331,483.

On 17th May 2017, the Attorney General gave clearance to RDA to award the contract subject to successful negotiations on the price.

The following were observed:

i. The signing of the contract for K41,698,334 and US$867,649.80 was questionable as it was contrary to the authority that was granted by the Procurement Committee and Attorney General resulting in an increase of the contract sum due to the introduction of the US$867,649.80.

ii. Further, the amount of US$867,649.80 that was part of the contract above was not included in the BOQ as a result, it could not be ascertained what the amount was meant to cater for in the contract.

b. Questionable Variation Orders

A review of Variation Order No. 7 revealed that although the contract sum was revised to K48,291,141, there was no authority from the Attorney General to revise the contract price as required by Section 54 (2) (e) of the Public Procurement Act No. 12 of 2008.

In addition, a review of the progress reports and contractors' payment statement for the period between December 2017 and June 2022 revealed that, at the time of audit in September 2022, amounts totalling K51,559,991 had been paid to the contractor against the total certified amount of K44,343,092. However, there was no evidence of variations made to support the amount of K7,216,899 above the certified amount.

Further, the variance of US$138,093.56 representing the upward movement of the contract sum from US$867,649.80 to certified amount of US$1,005,743.36 was not supported by approved variation orders/addenda.

16.3 Consultancy Contract on Rehabilitation of Section 169 km of the Chingola - Solwezi (T005) Road on the Copperbelt and North-Western Provinces – Lot 1, 2, and 3

On 3rd June 2015, the Roads Development Agency (RDA) engaged Rankin Engineering Consultants Limited on a time-based Consultancy Contract to provide consultancy services for the Design and Supervision of the rehabilitation of 169 km of Road T005 from Chingola to Solwezi at a contract sum of K18,377,291 VAT inclusive for a duration of twenty four (24) months. Works commenced on 17th June 2015 with an initial completion date of 17th August 2017.

The contract price was revised from K18,377,291 to K21,668,328 to cover the services for design and supervision of the construction of two (2) Toll Plazas at a cost of K3,291,038.

The scope of service contract was to provide both technical and financial, Design and Rehabilitation which included *Phase 1*, design and updating of contract documents and Bill of Quantities. The phase was to run for six (6) months concurrently with the construction supervision; and phase 2 was for construction supervision.

On 30th September 2016, Rankin Consulting Engineers Limited terminated the contract with RDA for lack of settlement of IPCs.

As at 31st December 2023, amounts totalling K21,874,808 (including interest charges) involving twenty six (26) invoices were certified by RDA against which amounts totalling K19,755,235 were paid leaving a balance of K2,119,573.

Between 17th October 2016 and 1st November 2016, RDA engaged eleven (11) individual consultants to continue providing supervision services for all the three (3) lots for the initial duration of six (6) months at a value of K1,782,000 and US$84,000 respectively in order to allow completion of the procurement process of another consultant.

Ten (10) addenda were issued and approved resulting in a revised contract sum of K4,393,000 and US$661,725 respectively with the completion date of 31st August 2021.

According to their Terms of Reference (ToRs), the main objectives of their appointments were: to carry out supervision of construction works to ensure quality, progress and cost control; verify that works had been completed in accordance with the contract and recommend the issuance of the taking over certificates, provision of quality assurance and quality control, performance of systems checks and reviews, enforcing high quality standards among others. As of 30th September 2022, amounts totalling K12,986,460 and US$180,762 were paid to individual consultants as summarised in Appendix 6.

However, the following were observed:

a. Failure to Pay Outstanding Invoices Resulting in Termination of Contract and Charging of Interest

Clause 19.1 .3 of the GCC states, "the Consultant may terminate the contract by not less than thirty (30) calendar days 'written notice to the Client, in case of the occurrence of any of the events specified (a) If a client fails to pay any money due to the Consultant pursuant to this Contract and not subject to dispute pursuant to clause GCC 49.1 within forty five (45) calendar days after receiving notice form the Consultant that such payment is overdue."

Further, Clause 46.1 of the GCC states, "if the client had delayed payment beyond fifteen (15) days after the due date stated in Clause GCC 45.1 (c), interest shall be paid to the Consultant on any amount due by, not paid on, such due date for each day of delay at the annual rate stated in the SCC."

A review of correspondence revealed that Rankin Consulting Engineers terminated the Consultancy contract with RDA on 30th September 2016, citing non-payment of eleven (11) fee notes amounting to K11,669,927 which included interest charges of K684,691 and demobilised from the project site.

Due to continued failure by RDA to pay the outstanding amounts, ten (10) additional IPCs in amounts totalling K2,522,058 were certified as interest charges after contract termination and had not been paid as at 31st December 2023.

b. Unjustifiable Increased Consultancy Fees

Section 132 of the Public Procurement Act of 2008 state, "(3) For any contract for services, payment shall be based on *(a)* agreed fee rates for a specified period of time, for either nominated personnel or a certain type or grade of personnel."

On 5th October 2016, the RDA Procurement Committee granted authority to terminate the contract for Ranking Engineering Consultants Limited with costs and recommended the following:

- To shortlist BCHOD, Zulu Barrow and East Consult to tender for the continuation of the service contract;
- To retain and engage three (3) teams of experts to be paid through RDA payroll to continue with the supervision of the project for a maximum period of six (6) month, subject to availability of funds; and
- To set aside a total sum of K1,782,000 and US$84,000 for the Zambian and expatriate staff respectively for the initial duration of six (6) months only.

However, the individual consultancy contracts were extended ten (10) times after the expiry of each period resulting in increased contract price by K3,349,000 and US$577,725 from K1,782,000 and US$84,000 to K5,131,000 and US$661,725 respectively, representing 187% and 688% of the initial amount for each of the consultants.

16.4 Rehabilitation of the Section 60 – 100 (40 km) Chingola Solwezi (T005) Road in the Copperbelt and Northwestern Province

On 18th May 2015, the Road Development Agency engaged Buildcon Investments Limited, for the Rehabilitation of the Section 60 – 100 km (40 km) of Chingola Solwezi (T005) Road in the Copperbelt and Northwestern at a contract sum of (K305,014,166) Vat inclusive with a completion period of eighteen (18) months commencing on 3rd March 2015 and expected completion date of 4th March 2017.

The contract was revised eleven (11) times to the latest completion date of 24th December 2022 and the contract sum was revised by K64,642,079 from K305,014,166 to K365,477,890.

The scope of works included the following:

- Clearing and grubbing;
- Excavations, grading and other earth works including earth embankment layers and selected sub-grade;

- Construction of cement stabilized sub-base and base layers;
- Bituminous surfacing works i.e. double surface dressing;
- Reinforced concrete works;
- Bridge/culvert construction and related drainage structures;
- Construction of barriers and pedestrian structures; and
- Speed/warning road signage and publicity sign boards and ancillary road works.

Further, Rankin Consulting Limited were engaged on 23rd March 2016 with a completion period of twenty four (24) months starting 19th August 2015 to provide Supervision services at a contract sum of K9,873,798 excluding indirect local taxes.

The contract was revised twelve (12) times to the latest completion date of 24th December 2022 and the contract sum was revised by K17,467,056 from K9,873,056 to K27,340,854.

The following were observed:

a. Rutting

The degree of rutting is indicated in table 12 as follows:

Table 12: Degree of Rutting

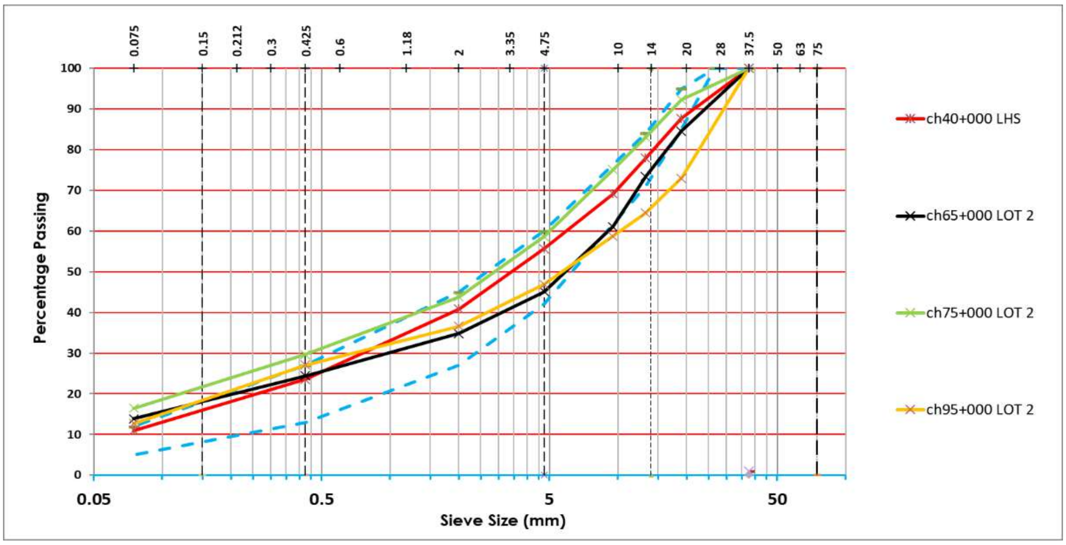
No.	**Chainage**	**Rutting RHS (mm)**		**Rutting LHS (mm)**		**Comments**
		Outer	Inner	Outer	Inner	
1	68 + 300	0	0	0	0	
2	74 + 400	3	3	0	2	
3	80 + 200	2	3	0	2	
4	84 + 900	1	0	0	0	Patches Repaired
5	91 + 300	2	0	0	2	
6	98 + 200	2	0	0	2	
7	103 + 300	12	0	4	10	Rutting For 25 m
8	109 + 100	3	0	0	7	

b. Test Result

The results in table 12 above indicate that at Chainage 103+300 for about 25 m the level of deformation relative to the year of completion was not compliant. The incidence was isolated and required immediate maintenance.

c. Particle Size Distribution – Crushed Stone Base

The Particle Size Distribution test was used to measure the particle size distribution for the layers. The results of tests were as shown below:



Size Distribution for Crushed stone base

* Note that the blue dotted lines indicate the acceptable range.

Table 13: Particle Size Distribution for Crushed stone base

Location (Chainage)				**CH 40+000 LHS**	**CH 65+000 LHS**	**CH 75+000 RHS**	**CH 95+000 RHS**
Particle Size Distribution	**Sieve size (mm)**	**Specification**		**Passing Percentage (%)**			
		Upper	Lower				
	50			100.0	100.0	100.0	100.0
	37.5	100	100	100.0	100.0	100.0	100.0
	19	100	100	87.7	84.6	92.3	73.0
	13.2	85	95	77.9	73.4	83.1	64.4
	9.5	71	84	69.2	61.1	75.1	58.8
	4.75	42	60	55.7	45.1	58.6	46.9
	2	27	45	40.9	34.8	43.8	36.6
	0.425	13	27	23.6	24.4	29.6	27.1
	0.075	5	12	11.0	13.8	16.4	12.7
Comment				IN	IN	IN	OUT

- **Test Result**

The table 13 shows that the material were compliant with the specification except at chainage 95+000 RHS, indicating a 75% compliance.

d. Implication of the Results of the Tests

The test results implied that the affected chainages would be vulnerable to premature failure. Rehabilitation works may be required sooner than expected which will add to the cost of works already done.

16.5 Rehabilitation of Section 100 - 168 (68 km) of the Chingola - Solwezi (T005) Road on the Copperbelt and North-Western Province – Lot 3

On 22nd May 2015, RDA engaged China Geo Engineering Corporation Southern Africa Limited to rehabilitate section 100 – 168 (68 km) of Chingola - Solwezi (T005) Road in the Copperbelt and North Western Provinces at contract sum of K816,441,562 VAT Inclusive with a completion period of twenty four (24) months commencing 19th June 2015 and the initial completion date of 18th June 2017.

The contract was revised nine (9) times to the latest completion date of 31st December 2021 and the contract sum was revised by K229,934,924 from K586,506,638 to K816,441,562.

The scope of works included; construction of pavement layers, construction of a 6.8m wide carriageway and 2.0 m shoulders on either side, a carriage consisting of 5.0mm asphalt concrete including 0.5 m of shoulder, construction of lay bays, bridge repair and construction, erection of road signs, provision of guardrails, and other Ancillary works (road markings, marker posts etc.)

As at 30th September 2022, amounts totalling K90,388,935 had been paid to the Contractor against the total certified amount of K174,119,891 leaving a balance of K83,730,956.

The following were observed:

a. Irregularities in the Procurement Process – Contractor

Clause 23(2) of the Public Procurement Act No. 12 of 2008 states, "the Contractor shall permit the Client to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Client, if so required by the Client."

The following were observed:

- RDA failed to avail for audit the initial tender evaluation report for both the technical and financial evaluation conducted citing information loss through fire. In this regard, recommendations made for the best evaluated bidder in the first tender evaluation could not be ascertained, resulting in a limitation in scope.

- A review of the tender re-evaluation report issued in January 2015 revealed that Messrs China Geo Engineering Corporation Southern Africa (CGCSA) was among the 18 firms shortlisted by RDA and invited to submit bids for Lot 3. An analysis of the report revealed that CGCSA was disqualified at the preliminary stage and as such was not one of the nine (9) bidders who proceeded to technical and financial evaluation stages.

- However, recommendations of the best evaluated bidder could not be ascertained as these details were missing from the evaluation report availed for audit.

- A review of the contract for Lot 3 revealed that the contract was awarded to CGCSA who was not evaluated at both technical and evaluation stages. In this regard, the award was questionable and irregular.

- A review of correspondence dated 5th November 2020 revealed that RDA's internal auditor reported concerns on the asphalt mix design and works on the road Km148 + 800 and Km143+945 in a joint testing and inspection between RDA and CGCSA. A site visit conducted in March and August 2022 respectively revealed that works under this section had to be remedied.

b. Questionable - 20% Subcontracting

Part 3.1.6 *Guidelines for Selecting Sub-Contractors of the RDA 20 Percent Mandatory Sub-Contracting* states, "(b). Each subcontractor will be required to express interest in not more than three (3) works categories. (c). Shortlisting of subcontractors will be in accordance with the works categories defined in clause 3.1.5. The shortlisting will be the subject of an evaluation process in accordance with the criteria defined in the Expression of Interest document."

Further, *Part 3.1.6 (IV.) k. of the Road Development Agency 20 Percent Mandatory Sub-Contracting Guidelines* states, "The main contractor will be responsible for the supervision and management of the sub-contractor on site. The main contractor will certify all works done by the sub-contractor. Certification of the sub-contractor's works by the main contractor will not imply acceptance of the works by the agency or engineer or project manager or consultant on site. The works shall only be accepted by the Engineer or Project Manager as the case may be."

On 13th May 2016, RDA instructed China Geo Engineering Corporation Southern African Limited to subcontract 15% of works to Swift Cargo. The subcontract was signed on 26th May 2016 at a contract sum of K87,975,996 VAT inclusive for a 10 km stretch section from Km100 to Km110.2 of Lot 3.

The scope of works included the following:

- Clearing and grabbing;
- Construction of the road embankment layers, base construction;
- Bituminous surface layers;
- Road markings and traffic signs;
- Provision of guard rails; and
- Other ancillary works and installation of drainages.

The following were observed:

- Contrary to the provision of Part 3.1.6 on guidelines for selecting Sub-Contractors, RDA did not provide documentary evidence to confirm that Swift Cargo was shortlisted for sub - contracting and whether the firm was subjected to an evaluation process before the award of contract.

- Contrary to the provisions of Part 3.1.6 (IV.) (k) on the administration of the sub-contracts, it was observed that clause (3) of the sub-contract agreement for Swift Cargo stated, "the main contractor was not going to take any responsibility of the sub-contractor's execution of the sub contract works in any respect and for avoidance of doubt, the sub-contractor was to be fully responsible to RDA for subcontracted works, and to the full extent permitted by law be fully responsible for any claims, losses, costs or damages among other issues."

A review of a letter dated 21st October 2020, revealed that RDA wrote to the sub–contractor expressing displeasure on the sub-contractor's failure to carry out remedial measures on failed works in the stated chainages; leaving works unattended to on site; leaving the project site without the consent of the employer and without a valid works programme, and neglecting to maintain project securities as guided in the contract among others.

Further, a review of a report issued in April 2020 by a joint field investigation team comprising RDA team and representatives from both the main contractor and the Sub-contractor on reported pavement failures revealed the following:

- Section Km100+000 to km110+000, the portion awarded to Swift Cargo Services was in poor condition with many pothole patches. The sections had crocodile cracks, signs of pumping and patched potholes indicating premature failures.
- There was evidence of stockpiles of surfacing removed from the road during repairs.
- There were no roadside drains on some sections of the road. For example, at Chainage km109+000 there was no provision to drain the water from the road prism to the section with concrete line drains.

According to the letter dated 6th September 2019, Swift Cargo wrote to RDA stating that the main Contractor, CGCSA, was to carry out any repair work which was to be undertaken and that the cost for these works were be recovered from retention fees for Swift Cargo.

Although site visits conducted in March and August 2022 revealed that the works had to be redone by the main contractor, the section had not been issued with either the substantial completion certificate or site handover certificate. In this regard, the remedied works were not certified.

c. Failure to Execute Approved Works in Variations

Addenda No. 1 to 9, revised the contract sum from K586,506,638 to K816,441,562 and the duration period from two (2) to seven (7) years. While works in the original contract and addenda Nos.1,3,4,5,7,8 and 9 in amounts totalling K795,787,892 representing 97.47% were fully executed, works on addenda No. 2, and 6 valued at K125,926,551 representing 14.42% of the revised contract sum as shown in table 8 below had not been executed as at 31st October 2022. See table 14 below.

Table 14: Revision of Scope, Contract Sum and Duration

Addendum No.	Details	Value of Works to be Done K
2	(i) Increase the scope of works by incorporating construction of the Toll Plaza (3 lanes in, 3 lanes out) at a site to be identified about 15 km from Solwezi town along Chingola Solwezi road.	37,868,246.45
6	(i) Annul Addendum No. 4 and issue variation order No.6 to include construction of 13.2 km of Urban roads to Bituminous standard (double surface dressing finish) in Solwezi town itemised as: a) Mushitala - Smelter Road junction (5.8 km); b) Zambia - Kimasala (2.4 km); c) Floriana - Kansanshi Lodge (1.8 km); and d)The parking places in the Central business District of Solwezi town. (ii) Utilise a sum of K75,077,463 VAT Inclusive from the available savings and contingent funds towards the expanded scope of works stated above.	75,077,463.03
Total		**112,945,709.48**

The certification of works valued at K795,787,892 out of the total contract sum of K816,441,562 leaving a balance of K20,653,670 instead of K112,945,709 implied that there was excess expenditure of K92,292,040 on the works done.

d. Tests Conducted

Tests were conducted on the road in July 2022 and the following were observed:

i. Fine Aggregate Crushing Test Results

Table 15: 10% Fine Aggregate Crushing Test Results

Chainage	Specification (KN)	10% FACT Value (KN)	Comments
CH 117+000 RHS	≥110	140	Pass
CH 127+000 LHS	≥110	103	Fail
CH 137+000 RHS	≥110	133	Pass
CH 140+000 LHS	≥110	225	Pass

Chainage	Specification (KN)	10% FACT Value (KN)	Comments
CH 147+000 LHS	≥110	105	Fail

- **Test Result**

The test results from selected chainages indicated in table 15 above show that the specified 10% Fine Aggregate Crushing Test Value were all above the minimum except chainages 127+000 and 147+000, indicating 60% compliance.

ii. DCPs

The table below shows the results for surface, base and subbase thickness that were measured on site compared to the specifications.

Table 16: Results for Surface, Base and Subbase Thickness

No.	Chainage	Test Date	Position	Specified CBR (%)	Tested CBR (%)	Comments
TP1	100+600 LHS	20/03/22	Subbase	30.0	104	Pass
TP2	107+000 RHS	20/03/22	Subbase	30.0	101	Pass
TP3	117+000 RHS	20/03/22	Subbase	30.0	135	Pass
TP4	127+000 LHS	20/03/22	Subbase	30.0	29.5	Fail
TP5	137+000 RHS	20/03/22	Subbase	30.0	41	Pass
TP6	140+000 LHS	20/03/22	Subbase	30.0	104	Pass
TP7	147+000 LHS	20/03/22	Subbase	30.0	54	Pass

- **Test Result**

Table 16 above shows compliance in selected chainages except chainages 127+000, indicating 86% compliance.

iii. Particle Size Distribution – Crushed Stone Base

The Particle Size Distribution test was used to measure the particle size distribution for the layers. The results of tests are as shown below:

Table 17: Particle Size Distribution for Crushed Stone Base

Location (Chainage)				**CH 100+600 LHS**	**CH 107+000**	**CH 127+000 LHS**	**CH 137+000 RHS**	**CH 147+000 LHS**	**CH 157+000 RHS**	**CH 117+000 LHS**
	Sieve size (mm)	**Specification**		**Passing Percentage (%)**						
		Upper	Lower							
	50			100.0	100.0	100.0	100.0	100.0	100.0	100.0
Particle Size Distribution	37.5	100	100	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	19	100	100	77.2	73.4	83.6	88.4	77.4	96.3	91.6
	13.2	85	95	61.8	60.9	73.8	82.4	69.9	86.1	83.9
	9.5	71	84	48.8	45.5	66.3	75.2	63.8	76.1	73.3
	4.75	42	60	38.7	30.2	54.2	61.8	50.3	58.0	56.9
	2	27	45	31.6	22.3	42.2	52.8	37.2	44.6	43.0
	0.425	13	27	23.3	15.4	20.9	23.0	20.2	31.4	28.8
	0.075	5	12	12.2	8.9	8.6	10.1	8.2	15.7	13.2
Comment				**OUT**	**OUT**	**IN**	**IN**	**IN**	**IN**	**IN**

- **Test Result**

  Table 17 above shows that the materials in some chainages were outside specification, indicating a 71% compliance.

iv. Rutting

Table 18: Degree of Rutting

No.	**Chainage**	**Rutting RHS (mm)**		**Rutting LHS (mm)**		**Comments**
		Outer	Inner	Outer	Inner	
1	57 + 600	3	0	3	7	Cracked section
2	60 + 500	4	0	0	3	Repaired section
3	64 + 400	15	20	7	12	Cracks and patches

- **Test Result**

  Table 18 was for Lot 3 pertained to a section of 10 km from chainage 57 + 600 to 67 + 600 from Solwezi. The selected chainages showed signs of failure, the asphalt Surfacing was heavily cracked.

v. Implication of the Results of the Tests

The test results implied that the affected chainages would be vulnerable to premature failure. Rehabilitation works may be required sooner than expected which will add to the cost of works already done.

17 Eastern Province - Main Road Works

17.1 Contract for Upgrading to Bituminous Standard of the 118 km Petauke to Chilongozi Road via Sandwe Gate Lot 1 in Eastern Province

On 3rd September 2019, RDA engaged China Civil Engineering Construction Corporation (CCECC) for the upgrading to bituminous standard of the 118 km Petauke to Chilongozi Road via Sandwe Gate Lot 1 at a contract sum of K899,877,484 with a completion period of twenty four (24) months commencing on 27th February 2020 and ending on 11th May 2022.

The contract was revised three (3) times to the final completion date of 11th November 2021 and the contract sum was reduced by K610,103,500 from K899,877,484 to K289,773,984 as the scope of works were downscaled from bituminous to gravel standard.

The scope of works included the following:

- Bush clearing and grubbing; Excavations, grading and other earth works including earth embankment layers and selected sub-grade;
- Construction of cement stabilized sub-base and base layers; Reinforced concrete works;
- Bridge/culvert construction and related drainage structures;
- Construction of barriers and pedestrian structures; and
- Speed/warning road signage and publicity sign boards and ancillary road works.

As at 30th September 2022, amounts totalling K139,536,675 had been certified out of which K52,788,613 was paid to the contractor leaving a balance of K86,748,062. See table 19 below.

Table 19: Payments Certified for China Civil Engineering Construction Corporation

IPC No.	Date Submitted	Amount Certified K	Amount Paid K	Date Paid	Outstanding K
IPC No.1	11.10.19	67,490,811	52,788,613	07.12.19	14,702,199
IPC No.2	01.10.20	18,611,474	-		18,611,474
IPC No.3	22.01.21	24,290,157	-		24,290,157
IPC No.4	26.11.21	29,144,232	-		29,144,232
Total		**139,536,675**	**52,788,613**		**86,748,062**

On 12th May 2020, RDA engaged Zulu Burrow Consulting Limited for the detailed design and construction supervision of the Petauke to Chilongozi road via Sandwe Gate (Lot 1) including the link from Msoro to Mambwe Road (Lot 2) at a contract sum of K19,938,308 for a period of fifty two (52) months commencing on 28th May 2020.

As at 30th September 2022, amounts totalling K5,386,883 had been certified out of which K2,565,494 was paid to the consultant leaving a balance of K2,821,389. See table 20 below.

Table 20: Fee Notes and Payments to Zulu Burrow Consulting Limited

Fee Notes	Date Sub	Amount Certified K	Amount Paid K	Date Paid	Outstanding K
001	10.07.20	404,863	404,863	31/03/2021	
002	31.07.20	149,345	149,345	31/03/2021	
003	14.08.20	181,169	18,831	12/01/2021	
004	28.09.20	506,955	181,169	12/01/2021	
005	02.11.20	367,051	506,955	08/04/2021	
006	07.12.20	354,365	231,941	08/04/2021	
007	25.01.21	354,365	753,981	08/04/2021	
008	09.02.21	216,163	159,205	08/04/2021	
009	15.02.21	236,300	159,205	08/04/2021	
010	29.03.21	312,630			
011	21.04.21	313,438			
012	21.05.21	312,630			
013	21.06.21	312,630			
014	02.09.21	426,648			
015	30.08.21	311,419			
016	31.08.21	312,630			
017	08.11.21	312,630			
018	0.7.12.21	428,301			
Total		**5,813,531**	**2,565,494**		**3,248,037**

The following were observed:

a. Failure to Avail Procurement Documents

Section 73 (1) (a) of the Public Finance Management Act No.1 of 2018 states, "The Auditor-General and an office holder, agent or specialist consultant authorised by the Auditor-General, shall in the performance of duties under the Constitution, or any other law have access to all the books, records, returns, reports, other documents and financial management systems, in electronic or any other form, relating to the accounts of public bodies as the Auditor-General considers necessary."

Contrary to the Act, as at 23rd August 2023, procurement documents such as tender evaluation report, procurement committee paper and authority, and Attorney General's approval relating to the engagement of the supervising consultant were not availed for audit. In this regard, it could not be ascertained whether or not the procurement regulations were complied with.

b. Failure to Complete Project Works

A review of progress reports dated 7th January 2022 indicated that the progress of the project was at 25.3%. A physical inspection carried out in July 2022 revealed that the road had deteriorated and the contractor was not on site. See pictures below.

Part of Undone Portion

Old Culverts Not Replaced

Part of Damaged Road Section *Abandoned Contractor Site Camp*

Management in their response dated 11th January 2023 indicated that the contractor terminated the contract in August 2022 due to erratic funding on the project.

17.2 Contract for Upgrading to Bituminous Standard of the Sandwe Gate to Msoro to Mambwe 125 km Lot 2:

On 9th September 2019, RDA engaged China Railway Seventh Group Corporation Limited for the Upgrading to Bituminous Standard of the 125 km from Sandwe Gate to Msoro to Mambwe Road Lot 2 at a contract sum of K686,329,975 with a completion period of twenty four (24) months commencing on 23rd September 2019 and ending on 18th May 2022.

The contract was revised five (5) times to a final completion date of 18th May 2022 and the contract sum was reduced by K347,054,768 from K686,329,975 to K339,275,207 as the scope of works were downscaled from bituminous to gravel standard.

The scope of works included the following:

- Bush clearing and grubbing;
- Excavations, grading and other earth works including earth embankment layers and selected sub-grade;
- Construction of cement stabilized sub-base and base layers;
- Reinforced concrete works;
- Bridge/culvert construction and related drainage structures;

- Construction of barriers and pedestrian structures; and
- Speed/warning road signage and publicity sign boards and ancillary road works.

As at 30th September 2022, amounts totalling K144,380,325 had been certified out of which K88,543,694 was paid to the contractor leaving a balance of K55,836,631. See table 21 below.

Table 21: Payments Certified for China Railway Seventh Group (CRSG)

IPC No.	Date Submitted	Amount Certified K	Amount Paid K	Date Paid	Outstanding K
IPC 1	23.09.2019	51,474,748			
(Adance)			11,600,000	23.10.2019	
			17,400,000	03.12.2019	
			5,800,000	21.01.2020	
			15,000,000	06.02.2020	
			1,674,748	16.04.2020	
IPC 2		21,736,395	12,931,034	14.08.2020	
IPC 3		1O,100,174.44	6,896,552	16.11.2020	
IPC 4	04.09.2020	10,842,386	9,346,003	18.12.2020	
IPC 5	08.10.2020	10,984,010	7,895,357	18.12.2020	
IPC 6	11.11.2020	8,814,919			
IPC 7	10.12.2020	6,701,011			
IPC 8	18.12.2020	3,166,487			
IPC 9	30.01.2021	11,152,591			
IPC 10	24.04.2021	9,288,458			
IPC 11	23.05.2021	10,219,319			
IPC 12					
IPC 13	12.11.21	3,594,473			
IPC 14					
	Total	**144,380,325**	**88,543,694**		**55,836,631**

The following were observed:

a. Failure to Complete Project Works

A review of progress reports dated 7th January 2022 indicated that the progress of the project was at 47.8%. A physical inspection carried out in July 2022 revealed that works had stalled and the contractor and the consultant were not on site due to non-payment of certified IPCs and invoices by RDA. See pictures below.

Part of Damaged Road right side

17.3 Contract for the Rehabilitation of 114.78 km of the Great East Road (T4) between Nyimba and Sinda (Nacala Road Corridor Project - Phase II)

On 10th January 2011, the Government of the Republic of Zambia and African Development Fund signed a credit facility of US$96,681,533 (Unit of Account, UA69,369,000) to implement the Nacala Road Corridor Project-Phase II. The credit facility was for a period of forty (40) years, including ten (10) years grace period.

The facility provided for the borrower to repay the credit amount at the rate of one percent (1%) per annum from the eleventh (11th) to the twentieth (20th) year inclusive and at the rate of three percent (3%) per annum thereafter.

On 10th April 2013, RDA engaged Conduril-Engenharia S.A of Portugal for the rehabilitation of 114 km of the Great East Road between Nyimba and Sinda in the Eastern Province at a contract sum of K361,187,528 with a completion period of twenty four (24) months commencing on 7th June 2013 and ending on 7th June 2015.

The contract was revised nineteen (19) times to the latest completion date of 3rd July 2020 and the contract sum increased by K740,480,912 from K361,187,528 to K1,101,668,440.

The scope of works included the following:

- Clearing and grubbing; Sub-soil drainage; Pre-fabricated culverts;
- Portal and rectangular culverts; Earthwork cut/fill; Sub-base;
- Base-course; 40 cm thick asphalt concrete;
- Bridge re-construction (2); and
- Bridge rehabilitation (1).

Among the revisions to the contract was addendum No. 5 signed on 17th November 2017 for extra works of 24 km costing K69,252,050. The extra works covered the following:

- Minga Mission Hospital access road – 4.5 km;
- T4 to Petauke District Council – 6.5 km;
- Kalindawalo road 6.5 km; and
- Sinda District roads 6.5 km.

As at 30th September 2022, amounts totalling K1,358,644,861 had been certified out of which K1,058,421,703 was paid to the contractor leaving a balance of K300,223,158. See table 22 below.

Table 22: IPCs vs Payments

No.	IPC No.	Amount K	Amount Paid K	Balance K
1	IPC 1 to IPC 35	612,792,538	612,792,538	-
2	IPC A1 to IPC A13	110,103,971	110,103,971	-
3	IPC 1AR to IPC 30AR	246,951,025	246,951,025	-
4	IPC A14 to A40	88,574,169	88,574,169	-
5	IPC 31AR to IPC 36AR	21,854,215		21,854,215
6	IPC A41 to IPC A48	84,229,766		84,229,766
7	Income Tax (2019/2020)	110,824,901		110,824,901
8	IPC Interests	16,820,000		16,820,000
9	Kwacha Depreciation	44,803,121		44,803,121
10	Loss in profit	13,385,011		13,385,011
11	Demobilization/Repat	7,516,832		7,516,832
12	Guarantees	789,311		789,311
	Total	**1,358,644,861**	**1,058,421,703**	**300,223,158**

On 18th June 2013, RDA engaged SMEC International Pty Ltd for the construction supervision of the Nacala Road Corridor Project - Phase II at a contract sum of US$1,996,003 with a completion period of thirty six (36) months commencing on 18th June 2013 and ending on 17th June 2016.

The contract was revised six (6) times to the latest completion date of 30th November 2019 and the contract sum increased to US$5,109,377.

As at 30th September 2022, amounts totalling US$3,556,455.82 had been invoiced out of which US$2,472,162.08 was paid to the consultant leaving a balance of US$1,084,293.74.

The following were observed:

a. Variance between Contract Sum and Certified Amounts

The last addendum between RDA and Conduril-Engenharia S.A of Portugal revised the contract sum to K1,101,668,440. As at 30th September 2022, the total certified IPCs amounted to K1,358,644,861 leaving a variance of K256,976,421 which was not supported by Variation Orders or Addenda.

During a physical verification of the project in July 2022, the following were observed:

i. Minga Road

It was observed that some sections of the road were partially done in that some section of the road did not have asphalt layer.

The completed sections had started developing crocodile cracks and bleeding among others (KM 03 +500)[1]. Further, auxiliary works on the road such as markings and signage were not done. See pictures below.

Minga Road Project Pictures

ii. Nyimba-Sinda Road

It was observed that crocodile cracks on the shoulders had developed and could be seen at KM 20 + 500, KM 23, KM 32 +500 and KM 105 + 000. Further, there were waves at KM 32 + 500, KM 104 + 500 and KM 105 + 000. See pictures below:

Nyimba-Sinda Road Pictures

[1] At distance 3.5 km off Great East road

Technical examination of the road revealed the following:

Dynamic Cone Penetrometer (DCP), 10% FACT, particle size distribution, layer thicknesses (asphalt layer, base and sub-base) tests were conducted at same trial pits of sampled chainages. Further, rutting, binder content and particle size distribution tests were conducted at separate chainages.

b. Tests Conducted from the Same Trial Pit

i. 10% Fine Aggregate Crushing Test (FACT)

The 10% FACT tests were conducted on the aggregates collected from the trial pits and the results were as tabulated in table 23 below.

Table 23: 10% FACT

No.	Test Date	Chainage	Specification KN	10 % Fact Value KN	Comments
1	20/7/23	CH44+800 LHS	≥110	150	Pass
2	20/7/23	CH47+400 LHS	≥110	150	Pass
3	20/7/23	CH50+100 RHS	≥110	160	Pass
4	20/7/23	CH74+400 LHS	≥110	75	Fail
5	20/7/23	CH117+000 LHS	≥110	95	Fail

ii. Test Result

The test results from selected chainages indicated in table 23 above show that the specified 10% Fine Aggregate Crushing Test Value at three (3) chainages were above the minimum and therefore, were compliant to the specifications. However, the results from two (2) chainages were below the minimum specification and therefore non-compliant.

iii. Implication of Test Result

The integrity of the pavement at the two (2) chainages 74+400 and 117+000 were compromised as the aggregates used for base course were not strong enough. This implies that the affected chainages will be vulnerable to premature failure such as settlements, potholes, and undulations.

iv. Dynamic Cone Penetrometer (DCP)

Layer thicknesses were measured physically and CBR results were derived from the DCP test as shown in table 24 below.

Table 24: Layer Thicknesses

No.	Test Date	Chainage	Position	Specified Thickness (mm)	Measured Thickness (mm)	Comments
TP1	19/07/22	44+800 (Shoulder)	Surface	50	41	Fail
			Base	150	150	Pass
			Subbase	200	172	Fail
TP2	19/07/22	47+400 (Shoulder)	Surface	50	41	Fail
			Base	150	152	Pass
			Subbase	200	160	Fail
TP3	19/07/22	50+100 (Shoulder)	Surface	50	51	Pass
			Base	150	150	Pass
			Subbase	200	190	Pass
TP4	19/07/22	74+400 (Shoulder)	Surface	50	55	Pass
			Base	150	215	Pass
			Subbase	200	190	Pass
TP5	19/07/22	91+000 (Shoulder)	Surface	50	45	Fail
			Base	150	153	Pass
			Subbase	200	190	Pass

v. Test Result and Implication - Surface Thickness (Asphalt)

Results as shown in table 24 above indicate that from the five (5) sampled chainages, three (3) were not compliant. This implies that the thicknesses were below specification and therefore compromise the structural integrity of the road and can lead to premature failure. Further, the contractor was paid for more quantities than what was constructed. This can be attributed to inadequate supervision.

vi. Test Result and Implication-Base Thickness

For base thicknesses, all five (5) sampled chainages were compliant to specifications. This implies that the works were done according to project specifications.

vii. Test Result and Implication-Subbase Thickness

Results from the table above indicate that from the five (5) sampled chainages, two (2) were not compliant. This can be attributed to inadequate supervision. Further, the contractor was paid for more quantities than what was constructed.

This implies that the thicknesses were below specification with a maximum tolerance of 27 mm being applied. As such, the structural integrity of the layer was compromised and this may lead to premature failure. This implies that the affected chainages will be vulnerable to premature failure such as settlements, potholes, and undulations.

c. CBR

The DCP – CBR correlation was used to determine the layer strength at five (5) sampled chainages as shown in table 25 below.

Table 25: DCP – CBR Correlation

No.	Test Date	Chainage	Position	Specified CBR (%)	Tested CBR (%)	Comments
TP1	19/07/22	44+800 (Shoulder)	Subbase	30.0	82.5	Pass
TP2	19/07/22	47+400 (Shoulder)	Subbase	30.0	134	Pass
TP3	19/07/22	50+100 (Shoulder)	Subbase	30.0	124	Pass
TP4	19/07/22	74+400 (Shoulder)	Subbase	30.0	136	Pass
TP5	19/07/22	91+000 (Shoulder)	Subbase	30.0	121	Pass

i. **Test Result**

The test results from sampled chainages indicated in the table above show that the works were compliant with SATTC 3402.

ii. **Implication of Test Result**

The works were done according to project specifications.

d. Particle Size Distribution – Crushed Stone Base

The chainages for the particle size distribution tests were the same for the DCP tests referred to in table 25 above. The particle size distribution was conducted on the aggregates collected from the trial pits and the results are shown in table 26 below.

Table 26: Particle Size Distribution

Description		Specification SATCC PART (Table 3602/2)		Chainages				
Item	**Sieve Size (mm)**	**Up**	**Low**	**44+880**	**47+400**	**50+100**	**74+400**	**117+000**
Particle Size Distribution	50.0			100.0	100.0	100.0	100.0	100.0
	37.5	100	100	100.0	100.0	100.0	88.5	100.0
	26.5	84	94	58.3	62.7	57.5	48.6	59.1
	19	71	84	44.6	47.8	49.0	34.9	49.2
	13.2	59	75	37.2	39.6	42.2	27.2	40.1
	4.75	36	53	28.8	30.3	32.9	21.6	30.4
	2.00	23	40	22.1	22.5	26.6	16.8	23.6
	0.425	11	24	11.2	11.2	13.9	7.9	12.2
	0.075	4	12	3.9	4.3	4.4	1.9	3.7
Comment				**OUT**	**OUT**	**OUT**	**OUT**	**OUT**

i. **Test Result**

The results of the particle size distribution tests at all the sampled chainages were not within the specified limits implying that wrong particle size of aggregates was used. The weaknesses observed may be attributed to poor quality control.

ii. **Implication of Test Result**

The affected chainages were vulnerable to premature failure such as settlements and undulations. This implies that the affected chainages will be vulnerable to premature failure such as settlements, potholes, cracks and undulations. This therefore implies that the rehabilitation works may be required sooner than expected which will add to the cost of works already done.

e. Rutting

Rutting tests were conducted on the road surface at selected chainages and the results are as shown in table 27 below.

Table 27: T4-Main Road

No.	Date	Chainage	Rutting RHS (mm)		Rutting LHS (mm)		Comments
			Outer	Inner	Outer	Inner	
1	19/07/22	00+100	8	3	15	4	Maintenance may be required in the near future on the LHS outer lane
2	19/07/22	11+100	10	2	8	2	Maintenance may be required in the near future on the RHS outer lane
3	19/07/22	20+500	8	2	12	4	Maintenance may be required in the near future on the LHS outer lane
4	19/07/22	32+150	8	3	6	2	Under distress but within tolerable levels on outer lanes
5	19/07/22	43+000	8	2	8	3	Under distress but within tolerable levels on outer lanes
6	19/07/22	54+000	10	5	12	4	Maintenance may be required in the near future on the outer lanes
7	19/07/22	66+100	3	4	8	3	Under distress but within tolerable levels on the RHS lane
8	19/07/22	74+400	15	16	13	10	Maintenance is Required
9	19/07/22	84+100	4	2	4	2	Within acceptable range
10	19/07/22	94+100	8	4	5	3	Maintenance may be required soon on the LHS outer lane
11	19/07/22	105+00	3	5	2	2	Within acceptable range

i. **Test Result**

Out of the eleven (11) sampled chainages, two (2) indicated higher levels of distress that should not occur at this stage of post project completion.

ii. **Implication of Test Result**

The affected chainages were vulnerable to premature failure such as settlements and undulations. This implies that the affected chainages will be vulnerable to premature failure such as settlements, potholes, cracks and undulations. This therefore implies that the rehabilitation works may be required sooner than expected which will add to the cost of works already done.

f. **Visual Inspections - Physical Test on Great East Road – Lot 2 (Nyimba to Sinda Road)**

A physical test was conducted on chainage 102+000 of Nyimba to Sinda Road.

i. **Test Result**

Rutting, undulation, heaving/settlement, cracks heaving and surface cracks especially on the shoulders were observed.

ii. **Implication of Test Result**

The affected chainages were vulnerable to premature failure such as settlements, undulations, potholes and cracks. This therefore implies that the rehabilitation works may be required sooner than expected which will add to the cost of works already done.

g. **Extra Works – Minga Turnoff to Minga Hospital**

i. **Test Result**

There were some incomplete surface works between the junction and the hospital. Further, there were signs of failure especially on the shoulders such as rutting, undulation/settlement and surface cracks.

ii. Implication of Test Result

This implies that the affected abutment will be vulnerable to premature failure. Rehabilitation works may be required sooner than expected which will add to the cost of works already done.

h. Extra Works – T4 to Petauke Boma - Observation

There were outstanding works such as road markings and signage.

17.4 Contract for Upgrading of Isoka – Muyombe – Chama - Lundazi Road to Bituminous Standard in Eastern Province of Zambia Lot 5

On 28th December 2015, RDA engaged Sable Transport Limited to upgrade Isoka - Muyombe - Chama-Lundazi Road to bituminous standard in Eastern Province under Lot 5: Lundazi (D 103/D109 junction to Km 40 on D103) and 16 km of Lusuntha Border Road (D109) – (56 km) at a contract sum of K417,108,471 with a completion period of eighteen (18) months. The commencement date was 26th January 2016.

The contract was revised six (6) times to the latest completion date of 26th September 2021 and from the total contract sum of K417,108,471 to a rescoped sum of K132,762,025.

The scope of works included among others; culvert construction, minor bridge construction, earthworks, construction of diversions, pavement layer works, surfacing, provision of road furniture, construction of drains, installation of streetlights, construction of walkways, clearing, grubbing and ancillary works.

As of 30th September 2022, amounts totalling K89,891,422 had been paid to the Contractor against the total certified amount of K174,119,891 leaving a balance of K84,228,469. See Appendix 7.

Further, Kiran & Musonda Associates Limited were engaged to provide consultancy services for the design and construction supervision on 16th March 2016 for a contract period of thirty three (33) months at a contract price of K22,114,108 exclusive of taxes.

As at 30th September 2022, RDA had not paid Kiran & Musonda Associates Limited consultancy fees on twenty five (25) submitted fee claims valued at K15,591,192. See table 28 below.

Table 28: Amounts Certified and Paid

Invoice No.	Date Certified	Amount K	Amount Paid K	Outstanding K
1	19.04.16	722,183		722,183
2	13.06.16	1,361,150		1,361,150
3	30.06.16	839,989		839,989
4	30.07.16	765,720		765,720
5	30.08.16	1,654,088		1,654,088
6	30.09.16	782,261		782,261
7	30.10.16	2,412,313		2,412,313
8	30.11.16	558,733		558,733
9	31.01.17	514,793		514,793
10	28.02.17	509,097		509,097
11	31.03.17	475,615		475,615
12	30.04.17	453,724		453,724
13	31.05.17	359,577		359,577
14	30.06.17	359,577		359,577
15	31.07.17	356,233		356,233
16	31.08.17	353,627		353,627
17	30.09.17	353,627		353,627
18	31.10.17	353,627		353,627
19	30.11.17	353,627		353,627
20	31.12.17	353,627		353,627
21	31.01.18	353,627		353,627
22	28.02.18	353,627		353,627
23	28.02.18	353,627		353,627
24	31.03.18	345,269		345,269
25	30.04.18	291,852		291,852
Total		**15,591,192**	-	**15,591,192**

The following were observed:

a. Wasteful Expenditure on Preliminaries and Generals

Preliminaries are costs for the entire project and not for specific activities and include items such as site establishment, security, safety, site records, cleaning, insurance, bonds, guarantees and warranties which are necessary for the contractor to complete the works, but will not actually become part of the works.

On 28th December 2015, RDA engaged Sable Transport Limited to upgrade Isoka - Muyombe - Chama - Lundazi Road Lot 5 to bituminous standard at a contract sum of K417,108,471 with a completion period of eighteen (18) months.

However, the following addenda were issued to extend the contract duration as follows:

- Addendum No. 2 extended the contract by nine (9) months to 26th December 2018 at cost of K10,988,460 to cater for preliminaries and generals. The total contract sum remained the same as this variation was to be met through contingency funds which were reduced by K10,988,460 from K46,901,252 to K35,912,792 all figures being VAT inclusive.

- Addendum No. 3 extended the contract by six (6) months on 26th June 2019 at a cost of K3,878,280 to cater for preliminaries and generals. The total contract sum remained the same as this variation was to be met through contingency funds which were reduced by K3,878,279 from K35,912,792 to K32,034,513 all figures being VAT inclusive.
- Addendum No. 3 extended the contract by twelve (12) months on 26th June 2020 at a cost of K7,756,560 to cater for preliminaries and generals. The total contract sum remained the same as this variation was to be met through contingency funds which were reduced by K7,756,561 from K32,034,513 to K24,277,952 all figures being VAT inclusive.

As a result of the extensions, the total provision for Preliminaries and General provisions increased by K22,623,300 from K72,050,500 to K94,673,800.

b. Failure to Recover Advance Payment from Interim Payment Certificates

Clause 48.3 of the contract provided for recovery of advance payments in subsequent IPC's. However, advance payment recovery was not consistent as there were no recoveries on IPCs No. 2, 3, 4, 5, 6, 7, 8, 9 and 10. As a result, advance payment amounting to K41,710,847 was not recovered as at 31st December 2023.

c. Overpayment to Subcontractors

Part 3.1.6 (iv) (j) of the *RDA 20% Mandatory Sub-contracting guidelines* required that works done by a subcontractor be paid directly to the sub-contractor's bank account by NFRA.

During the period under review, the NRFA paid amounts totalling K12,514,499 to three (3) contractors who were engaged by Sable Transport to undertake drainage works costing K16,600,000 during the period from 25th January 2016 to 26th October 2020.

However, NRFA overpaid the subcontractors by K3,188,746 as only works valued at K9,325,753 were certified. See table 29 below.

Table 29: Overpayments to Contractors

No.	Subcontractors Name	Nature of Works	Subcontract Amount K	Amount Certified to Date K	Amount Paid K	Overpayment K
1	Pittscon Zambia	Earthworks and Drainage	5,600,000	3,612,398	4,201,425	589,027
2	Abigail General Dealers and Services	Drainage	6,500,000	2,868,906	5,092,580	2,223,675
3	Syzygus Limited	Drainage	4,500,000	2,844,449	3,220,494	376,045
	Total		**16,600,000**	**9,325,753**	**12,514,499**	**3,188,746**

The overpayment had not been recovered as at 30th April 2023.

17.5 Construction of the Mwami/Mchinji One Stop Border Post (Works Package 2), Zambia One Stop Border Post Facilities

On 2nd June 2014, the Government of the Republic of Zambia and the African Development Fund signed a credit facility of US$6,968,750 (UA5,000,000) to support the implementation of the Multinational – Nacala Road Corridor Development Project Phase IV. The credit facility was for a period of forty (40) years, including ten (10) years grace period.

The borrower agreed to repay the credit amount at the rate of one percent (1%) per annum from the eleventh (11th) to the twentieth (20th) year inclusive and at the rate of three percent (3%) per annum thereafter.

On 21st November 2018, RDA engaged China State Construction Engineering Corporation Limited for the Construction of the Mwami/Mchinji One Stop Border Post (OSBP), Works Package 2, at a contract sum of US$8,531,152.78 with a completion period of 540 days commencing on 5th December 2018 and ending on 29th May 2020.

The scope of work included the following:

- Clearing and grubbing;
- Opening and reinstatement of borrow and quarry areas and the provision of associated haul roads; upon completion of the works, rehabilitation of the borrow

pits and quarries opened and used during the contract, irrespective of the degree of usage;

- Cut to spoil, and borrow to fill and roadbed preparation;
- Removal of unstable material;
- Constructing the pavement layers of the designed road and parking areas;
- Construction of drainage elements such as kerbs, kerb and channel combinations. Down chutes, concrete and open earth drains, pipe and portal precast concrete culverts (incl. floor slabs and in- and outlet works), berms and dykes etc;
- Erosion protection such as stone-pitching, gabions etc;
- Construct access road to the contractors designated area;
- Construct 3 x 2 story blocks (A, B, and C) linked by one steel framed over-sailing roof, and construct 5 x single story blocks (all buildings will be reinforced concrete frame in-filled with reinforced concrete blockwork and containing modular powder coated windows);
- Construct two one way/one lane main roads linking the two countries with access roads segregating bus, car and commercial traffic;
- Construct truck parking for up to 70 trucks with circulating roads as well as staff car park;
- Construct free standing cafeteria (lettable shell) and covered courtyard areas;
- Re-locate existing x-ray scanner by moving scanner to a temporary approved and protected location, dismantling the existing steel framed portal frame and re-erecting it in its new location with new metal sheet cladding;
- Construct steel framed access walkways at first floor level linking all blocks under cover of the main roof;
- Construct concrete platform and insert rails, complete with holding down bolts and communications conduits ready for the relocation of the existing x-ray machine and existing building in Stage 2;

- Landscaping certain areas, using indigenous local materials, and general finishing of the entire site, including the road reserve of the newly constructed great east road;
- Establish artworks executed by local artists;
- Erect security fence around the whole OSBP and boundary fence around the available site;
- Erect roads sign and postings, OSBP information and wayfinding signs;
- Construct 2 lay-bys for hazardous and oversize trucks;
- Construct remote drivers' toilets;
- Erect water tank and tower, electrical substation;
- Provide disability ramps at major changes of level;
- Provide 2 x bus unloading bays; and
- Provide 8 car spaces for car only lane.

As at 31st August 2023, amounts totalling US$9,955,012.37 had been certified out of which a total of US$8,501,909.71 was paid to the contractor leaving a balance of US$1,453,102.66. See table 30 below.

Table 30: Amounts Certified and Paid

Certificate No.	Date Submitted	Amount Certified for Payment US$	Amount Paid US$	Outstanding Amount Paid US$	Date Paid
13885-IPC-01	12/19/2018	1,706,230.56	1,706,230.56	-	2/13/2019
14054-IPC-02	7/15/2019	535,561.52	535,561.52	-	10/11/2019
14089-IPC-03	9/19/2019	473,275.39	473,275.39	-	11/8/2019
14149-IPC-04	6/11/2019	356,466.46	356,466.46	-	12/20/2019
14171-IPC-05	2/12/2019	358,505.84	358,505.84	-	1/27/2020
14260-IPC-06	3/24/2020	174,097.27	174,097.27	-	5/6/2020
14318-IPC-07	6/2/2020	816,619.89	816,619.89	-	8/13/2020
IPC-8a	8/7/2020	110,837.15		110,837.15	
14377-IPC-08	8/18/2020	899,723.88			
14427-IPC-09	10/6/2020	503,801.07			
14563-IPC-10	2/26/2021	615,910.05			
14564-IPC-11	2/26/2021	821,602.07	2,840,615.06	422	1/1/2022
14670-IPC-12	8/20/2021	416,242.94	416,242.94	-	10/22/2022
IPC-12a	9/8/2021	707,787.35		707,787.35	
14763-IPC-13	12/27/2021	404,975.04	420,693.36	-15,718.32	3/15/2022
14980-IPC-14	6/1/2023	1,053,375.89	403,601.42	649,774.47	8/18/2023
Total		**9,955,012.37**	**8,501,909.71**	**1,453,102.66**	

On 25th August 2017, RDA engaged SMEC International (PTY) Limited for the update of feasibility study, architectural and engineering design, preparation of bidding documents, development of a legal framework and construction supervision at a contract price of US$1,702,470 for a period of forty (40) months commencing on 24th September 2017 and ending on 23rd January 2021. See table 31 below.

Table 31: Break Down of Contract Prices

Phase	Details	Amount US$
1	Design review	512,775
2	Construction Supervision	1,189,695
	Total	**1,702,470**

The terms of the financing agreement for the consultancy contract were to be shared equally between RDA and Malawi Road Agency. In this regard, RDA was required to pay a total of US$851,235.

As at 31st August 2022, a total amount of US$954,185 had been certified out of which US$549,064 was paid leaving a balance of US$405,121.

The following were observed:

a. Contract Sum Exceeding Loan Provision

Categories of expenditure financed out of the resources of the Loan and the allocation of the resources to each category financed therein were as shown in table 32 below.

Table 32: Conditional Payment

Category of Expenditure	Amount US$
Works	4,460,000
Services	1,811,875
Goods	696,875
Total	**6,968,750**

Although only US$4,460,000 of the total loan amounting to US$6,968,750 was allocated to civil works, the contract sum of US$8,531,152.78 covering civil works in the contract between RDA and China State was US$4,071,152.78 higher than the allocated amount and as a result in a letter dated 12th September 2018 RDA requested AfDB for supplementary financing to cover the difference to be made available from the proceeds of the Nacala II Project Loan, to be cancelled.

However, Nacala II Project Loan was not cancelled and therefore, proceeds could not be made available for the Construction of the Mwami/Mchinji One Stop Boarder Post (OSBP).

As a result, out of the certified civil works in amounts totalling US$9,955,012 a total amount of US$8,501,910 was paid leaving a balance of US$1,453,102 covered under IPCs No. 6 to 12 which delayed for a period of between 112 to 425 days and consequently the contractor charged penalties in amounts totalling US$818,625.

b. Questionable Delay in Payment of the Consultant

In the credit facility, a total amount of US$1,811,875 was allocated for services which covered consultancy. In this regard, the allocated amount of US$1,811,875 was sufficient to cover the contract sum of US$1,702,470 in the contract with the consultant.

A review of consultants’ fee notes revealed that out of the total invoiced amount of US$954,185 a total of US$549,064 was paid leaving a balance of US$405,121 which remained outstanding for a period between one (1) to thirty-one (31) days as at 8th June 2022. This resulted in the consultant charging interest in amounts totalling US$11,894.28.

It was questionable why the consultant was not paid all the claims as funds were available from the credit facility.

c. Failure to Install Equipment

Section 2.2 (p) general description of the scope of works of the contract provided for re-locating the existing X-ray scanner by moving the scanner to a temporary approved and protected location, by dismantling the existing steel framed portal frame and re-erecting it in its new location with new metal sheet cladding.

However, a physical inspection of the project carried out in July 2022 revealed that the X-ray scanner had not been dismantled and re-erected in its new location eight (8) months after issuance of a completion certificate. As at 31st December 2023, the X-ray scanner had still not been installed.

18 Luapula Province - Main Road Works

18.1 Contract for Upgrading to Bituminous Standard of the Road Between Nchelenge and Chiengi with 10 km Urban Roads in Nchelenge District – Certification above Downscaled Contract Value

On 28th June 2017, RDA engaged Sinohydro Zambia Limited to upgrade the road between Nchelenge and Chiengi (D76/D77) 95 km with 10 km Urban Roads in Nchelenge at a contract sum of K474,574,398 for a completion period of thirty (30) months commencing on 18th July 2017 and ending on 20th December 2019.

On 13th July 2019, the scope of works was downscaled from bituminous to gravel standard and reduced the contract sum from K474,574,398 to K229,415,987. The contract period was revised four (4) times to the final completion date of 2nd February 2022. Despite the works being downscaled to K229,415,987, works valued at K279,838,143 had been certified as at 31st December 2023. Further, amounts totalling K123,356,828 were paid to the contractor leaving a balance of K156,481,315.

18.2 Contract for Upgrading to Bituminous Standard of the Chiengi to Kaputa Road and Luchinda with 10 km Urban Roads in Kaputa District – Questionable Inclusion on Payment Terms Clause

On 1st July 2014, RDA engaged Copperfield Mining Services Limited in a Joint Venture with China Henan International Cooperation Group Company Limited for the upgrading of the Chiengi to Kaputa and Luchinda roads with 10km Urban Roads in Kaputa District at a contract sum of K500,040,614 with a completion period of thirty (30) months commencing on 30th October 2015.

On 17th June 2020, scope of works were downscaled from bituminous standard to gravel, thereby reduced the contract sum from K500,040,614 to K211,745,981. The contract was revised seven (7) times to the final completion date of 1st May 2022.

As at 31st December 2023, works valued at K257,304,606 had been certified out of which K144,683,654 and US$530,540 were paid to the contractor.

Included in K257,304,606 is K110,673,170 for price adjustments due to increase in the cost of input materials and K21,474,890 for price adjustment on standing time.

Clause ITB14.4 in the bidding document issued for this project stated that prices will be quoted in Zambian Kwacha. A review of the bidding document submitted by the Joint venture indicated the bidding contract sum of K500,040,614. Included in the document was the Clause stating that payments of IPCs were to be in the proportion of 95% US$ and 5% Zambian Kwacha to 100% Zambian Kwacha at a conversion rate of US$1 to K5.4656.

Further, Table C of the signed contract document included the proportion of the contract sum categorising the percentages of payment indicating that the contract sum was to be paid as follows:

- K25,002,031 representing 5% was to be paid in Zambia Kwacha; and
- K475,038,583 equivalent to US$86,914,260,655 representing 95%.

During the period under review, RDA certified ten (10) IPCs with amounts split in proportion of 5% Kwacha and 95% US Dollar.

However, the basis for quoting the contract price in Zambian Kwacha and quote the payment terms in both US Dollar and Zambian Kwacha was questionable as there was no documentation prior to contract signing explaining why these contract terms were contrary to ITB14.4 in the bidding document which is the solicitation document.

Further, it was also questionable as to why RDA did not take into account the provisions of the RDA Policy document on procurement of local contracts at the bidding or Pre-contract negotiation meeting stages by restricting the contract to be paid in local currency.

The following were the consequences:

i. A meeting was held on 29th August 2016 between RDA and the contractor to revise the Contract proportion from 95% US Dollar and 5% Zambian Kwacha to 100% Zambian Kwacha. During this meeting, it was agreed that no payment would be made until the proposed revision was done.

ii. A letter was issued by the Project Manger on 30th August 2016, indicating that all IPCs were not being processed until the proportion issue in the Joint venture arrangement was resolved. As such the contractor could not claim for works done or apply interest on delayed payments. This resulted in a compensation event which resulted in the contractor claiming for standing time on equipment of K25,247,475 broken down into US$4,388,375 and K1,262,374 under addendum No.5.

iii. Correspondence between 2nd November 2015 and December 2021 between RDA and the Contractor trying to negotiate that the contract payments be paid 100% Zambia Kwacha, failed to be resolved and led to increased contract duration through extension of time to allow time for negotiation and down scoping of contractual works to allow the available funds execute the works.

In this regard, the charges amounting to US$4,388.374.79 and K1,262,379 (K25,247,475) for standing time due to failure by RDA and the contractor to agree on the conversion of the contract from payment proportions from 5% Kwacha to 95% US Doller to 100% Kwacha was wasteful.

18.3 Construction of the Three Span Lwela Bridge and Approach Roads Luapula Province

On 27th December 2017, RDA engaged Tomorrow Investment Limited for the construction of the Three – Span Bridge on Lwela River and approach roads in Luapula Province at a contract sum of K28,703,257 which was revised upwards by K18,487,372 to K47,190,629. The contract completion period was twelve (12) months commencing 16th September 2020 with an initial completion date of 15th September 2021 which was revised to 15th March 2022.

The scope of work included the following:

- Construction of three (3) span concrete bridge;
- Construction of approaches to bridge, to paved standard with double surface dressing;
- Embankment protection; River training;
- Drainage works; and
- Ancillary works.

In addition, on 15th September 2015, SMEC International Pty were engaged on a time-based contract for a period of thirty (30) months to provide consultancy services which included the preparation of a detailed design and construction supervision of the project at a contract sum of K10,128,906 which was revised upwards by K5,867,015 to K15,995,921. The commencement date was 15th April 2018 which was revised four (4) times to the final completion date of 31st January 2022.

The following were observed:

a. Non-Payments of IPCs - Increased Contract Sum and Suspension of Works

GCC Section 14.7 state that, “the Employer shall pay the contractor the certified amount in each Interim Payment Certificate within 56 days after the Engineer receives the payment of certificate. Further, GCC Section 14.8 says, If the Contractor does not receive payment in accordance with Subclause 14.7, the contractor shall be entitled to receive financing charges compounded monthly on the amount unpaid during the period of delay.”

A physical inspection conducted in August 2022 and inquiry made to Mansa Regional Office revealed that the contractor undertook the following works among others: full mobilisation, completion of construction of the office block and laboratory sub-structure blocks, setting out of works of the bridge piers and abutment in readiness for excavation and approach road centreline. However, these works stalled as the Contractor abandoned the camp citing non-payment of outstanding IPCs.

Further, according to the letter dated 10th July 2020, the Contractor implemented contractual provisions to adjust the pricing of essential materials in response to price fluctuations over time since the contract’s initial signing. This adjustment resulted in the issuance of Addendum No.1 on 9th November 2020 which effectively increased the contract price from K27,078,545 to K47,190,629.

b. Delayed Provision of Supervision Services Resulting in Delayed Works Contract Price

Section 3.4 of the *Road Maintenance Directorate Procedure* states, “It shall be standard practice for the Agency to appoint a private Consultant as the Supervision Engineer before the Contractor.”

Further, in the Report of the Public Accounts Committee on the Report of the Auditor General on the Road Projects under the Road Development Agency for the period January 2012 to December 2015 for the First Session of the Twelfth National Assembly, the Public Accounts Committee (PAC) recommended that, "the consultant should be identified before the commencement of any works by the contractor as delayed engagement of consultants was in contravention of Section 7 (3) of the Public Finance Act of 2004 and had the potential to compromise the adherence to specifications by the Contractor as promulgated in the Contract. PAC noted that the Regional Manager had no requisite equipment for assessing the adherence to specifications."

According to the provisions in the contract, SMEC International Pty was to provide consultancy services on Lwela Bridge River for a period of thirty (30) months of which six (6) months were for design review, twelve (12) months were for supervision during contract execution while the remaining twelve (12) months were for supervision during the defect liability period.

However, a review of correspondence dated 12th April 2018 revealed that the service contract was suspended after completing the design phase. Instead, RDA appointed the RDA Regional Manager for Luapula Province on 23rd October 2020, citing clause 3.4 of the General Conditions of the Contract which stated that "If the employer intended to replace the engineer, the employer shall not in less than 21 days before the intended replacement, give notice to the contractor of the name, address and relevant experience of the intended replacement Engineer" to supervise the execution of works and administering the contract.

Consequently, during the period from 12th April 2018, after design completion to 23rd October 2020, when the Regional Engineer was appointed, four (4) addenda were issued leading to an extension of the contract duration from thirty (30) to eighty (80) months. Concurrently, the contract price increased from K10,128,906 to K15,995,921.

18.4 Periodic Maintenance of Pedicle Road – Failure to Avail Final Account

On 29th October 2012, the Road Development Agency engaged Messrs. Copperfield Mining Services Limited for the periodic maintenance of Pedicle Road connecting the Copperbelt and Luapula Provinces of Zambia at a contract sum of K278,824,387 VAT inclusive revised to K374,689,652, with a completion period of twenty – four (24) months commencing 12th November 2012 with an initial completion date of 30th June 2016. The contract was terminated on 30th June 2020.

Management responded that the contract was terminated due to poor performance and a total of K37.7 million had been recovered from the contractor's final project account to cater for all the defective works.

However, the final account on the terminated contract and the outstanding works had not been provided for audit as at 31st August 2023.

19 Muchinga Province - Main Road Works

19.1 Contract for the Rehabilitation of the Chinsali – Nakonde Road Project Lot 1 of Muchinga Province - Delayed Payment of IPCs Resulting in Charging of Interest

On 20th September 2018, RDA engaged China State Construction Engineering Corporation Limited for rehabilitation of the Chinsali to Isoka Road (km 0 – 103 km) of Muchinga Province at a contract sum of K785,773,382 VAT inclusive with a completion period of forty (40) months commencing 15th April 2019 and an initial completion date of 13th August 2022 revised to 24th February 2023.

A review of the progress report dated September 2022 revealed that the project was 81.6% complete.

As at 30th August 2022, amounts totalling K210,981,965 had been paid to the contractor against the total certified amount of K220,968,571 leaving a balance of K9,986,606.

Clause 14.8 (1) of the contract states, "if the contractor does not receive payment in accordance with GCC Clause 14.7 (payment), the Contractor shall be entitled to receive, financing charges compounded monthly on the amount unpaid during the period of delay. This period shall be deemed to commence on the date on which any Interim Payment Certificate is issued."

A review of the correspondence between RDA and the Client revealed that GRZ failed to pay its proportion of the certified IPCs No. 1 to 9 for periods exceeding 56 days resulting in the contractor charging interest. Further, a review of Progress Report No. 42 dated September 2022 revealed that the interest claim by the contractor as of August 2022 was US$251,688.14 and K14,792,582.

In a letter dated 11th March 2021, RDA informed the contractor that all interest on delayed payments will be paid by GRZ through a single certificate which will be issued following settlement of all outstanding civil works by the African Development Bank (AfDB).

Although the AfDB settled all outstanding IPCs on behalf of the government, the decision by RDA to pay interest through a single certificate which would be issued following settlement of all outstanding civil works by the AfDB was questionable in that the interest being compounded continued to grow even when the principal was fully settled. In this regard interest grew from US$165,576.55 and K7,048,762 at the time the full principal was paid to US$251,688.14 and K14,792,582 as of August 2022.

19.2 Contract for the Rehabilitation of the Chinsali – Nakonde Road Project Lot 2 of Muchinga Province - Delayed Payment of IPCs Resulting in Charging of Interest

On 10th July 2015, the Government of the Republic of Zambia, African Development Bank (AfDB) and Africa Growing Together Fund (AGTF) agreed to a credit facility of US$243.01 million for the construction of the Chinsali -Nakonde Road Lots 1 and 2 broken down as follows:

- US$193 million (AfDB) and
- US$50 million (AGTF).

The credit facility was 95.3% of the total contract sum for the project. While GRZ provided US$12.76 million which was 4.7% of the estimated project cost

On 20th September 2018, RDA engaged China Railway Seventh Group Company Limited for the purpose of rehabilitating the Chinsali to Isoka Road (103 – 210 km) of Muchinga Province at a contract sum of K713,865,769 VAT inclusive with a completion period of forty (40) months commencing on 23rd April 2019. The completion date was later revised to a final completion date of 20th August 2022.

The scope of works included the following:

- Site clearing and Earthworks; Extension of existing and construction of new drainage structures, bridge repairs, associated erosion and scour protection;
- New pavement layers (asphalt concrete base and surfacing with crushed stone base, and cement stabilised, mainly in situ, reprocessed and natural gravel subbase layer); and
- Provision and installation/application of road signs and road markings, etc

A review of the progress report dated September 2022 revealed that the project was 80.93% complete.

As at 30th September 2022, amounts totalling K24,887,132 and US$46,990,129.46 had been paid to the contractor against the total certified amount of K28,676,875 and US$50,037,897.59 leaving a balance of K3,789,742 and US$3,047,768.13 as shown in the tables 33 and 34 below.

Table 33: Kwacha Amounts Certified and Paid

Certificate No.	Date Submitted	Amount Certified for Payment K	Amount Paid K	Outstanding Amount K	Date Paid
IPC No.1	11.10.2018	5,602,232.30	5,602,232.30	-	27.10.2021
IPC No.2	05.08.2019	944,516.10	944,516.10	-	27.10.2021
IPC No. 3	07.10.2019	1,407,058.05	1,407,058.05	-	27.10.2021
IPC No. 4	30.12.2019	1,199,855.06	1,199,855.06	-	07.05.2021
IPC No. 5	01.06.2020	2,559,984.47	2,114,780.94	445,203.53	02.09.2020
IPC No. 6	24.08.2020	1,237,503.33	1,112,548.48	124,954.85	15.12.2020
IPC No. 7	16.10.2020	1,885,562.49	1,437,032.67	448,529.82	22.10.2020
IPC No. 8	30.11.2020	1,643,105.19	1,555,418.99	87,686.20	22.10.2021
IPC No. 9	01.05.2021	981,750.25	981,750.25	-	21.07.2021
IPC No. 10	01.07.2021	1,416,791.90	1,416,791.90	-	16.09.2021
IPC No. 11	01.09.2021	1,546,942.56	1,546,942.56	-	30.11.2021
IPC No. 12	01.12.2021	1,699,958.46	1,699,958.46	-	14.03.2022
IPC No.13	21.04.2022	1,504,415.09	1,504,415.09	-	22.06.2022
IPC No.14	08.06.2022	1,276,902.55	1,276,902.55	-	22.08.2022
IPC No.15	12.07.2022	1,312,125.41	-	1,312,125.41	
IPC No.16	04.08.2022	1,086,928.77	1,086,928.77	-	
IPC No. 17	14.09.2022	1,371,242.65	-	1,371,242.65	
Total		**28,676,874.63**	**24,887,132.17**	**3,789,742.46**	

Table 34: Dollar Amounts Certified and Paid

IPC No.	Date Submitted	Date Certified	Payment Due Date	Certified Amounts US$	Amount Paid US$	Outstanding Amounts US$	Date Paid
1	11.10.2018	11.10.2018	01.11.2018	11,314,272.58	11,314,272.58	-	28.01.2020
2	05.08.2019	18.08.2019	30.08.2019	1,907,545.44	1,907,545.44	-	21.12.2018
3	07.10.2019	24.10.2019	02.12.2019	2,476,803.98	2,476,803.98	-	16.10.2019
4	30.12.2019	25.01.2020	24.02.2020	2,236,196.20	2,236,196.20	-	20.12.2019
5	01.06.2020	25.06.2020	27.07.2020	4,638,074.75	4,245,982.81	392,091.94	07.05.2020
6	24.08.2020	24.08.2020	19.10.2020	2,128,160.79	2,246,896.72	- 118,735.93	02.09.2020
7	16.10.2020	16.10.2020	11.12.2020	2,870,678.70	2,902,225.26	- 31,546.56	15.12.2020
8	30.11.2020	07.12.2020	25.01.2021	2,382,481.48	1,997,998.93	384,482.55	23.12.2020
9	01.05.2021	08.05.2021	26.06.2021	2,409,345.07	2,409,345.07	-	21.07.2021
10	01.07.2021	10.07.2021	26.08.2021	1,929,180.41	1,929,180.41	-	16.09.2021
11	01.09.2021	18.09.2021	27.10.2021	2,203,232.72	2,203,232.72	-	08.12.2021
12	01.12.2021	03.12.2021	26.01.2022	2,511,922.75	2,511,922.75	-	03.03.2022
13	05.04.2022	21.04.2022	31.05.2022	2,271,064.33	2,271,064.33	-	21.06.2022
14	08.01.2022	15.06.2022	03.08.2022	2,119,790.50	2,119,790.50	-	18.08.2022
15	12.07.2022	25.07.2022	06.09.2022	2,267,300.56	2,267,300.56	-	06.10.2022
16	04.08.2022	12.08.2022	29.09.2022	1,950,371.16	1,950,371.16	-	30.09.2022
17	14.09.2022	24.09.2022	09.11.2022	2,421,476.13		2,421,476.13	
	Total			**50,037,897.55**	**46,990,129.42**	**3,047,768.13**	

Further, on 23rd January 2017, Civil and Planning Group (CPG) was engaged to provide consultancy services for the Design Review and Construction supervision of the project at a contract price of US$5,128,523 with a completion period of sixty one (61) months. As of September 2022, a total amount of US$2,911,857.34 was paid to the consultant as shown in table 35 below.

Table 35: Amounts Certified and Paid

Invoice No.	Date Submitted	Amount US$	Due Date	Date Received
1	6.06.2017	82,792.60	5.08.2017	14.11.17
2	27.12.2017	124,188.90	25.02.2018	05.04.18
3	6.04.2018	82,792.60	05.06.2018	13.07.2018
4	25.07.2018	124,188.90	23.09.2018	19.10.2018
5	01.12.2019	738,914.95	30.01.2020	10.04.2020
6	17.12.2020	1,068,766.12	15.02.2021	18.03.2021
7	30.07.2021	690,213.27	28.09.2021	22.10.2021
Total		**2,911,857.34**		

Clause 14.8 of the contract states, "(4) if the contractor does not receive payment in accordance with GC Clause 14.7, the Contractor shall be entitled to receive, financing charges compounded monthly on the amount unpaid during the period of delay. This period shall be deemed to commence on the date on which any Interim Payment Certificate is issued.

(5) Unless otherwise stated in the Particular Conditions, these financing charges shall be calculated at the annual rate of three percentage points above the discount rate of the central bank in the country of the currency of payment, or if not available, the interbank offered rate, and shall be paid in such currency.

(6) The contractor shall be entitled to this payment without formal notice or certification, and without prejudice to any other right or remedy."

A review of the contract between RDA and the Contractor revealed that GRZ had failed to pay its portion of the certified IPC Nos. 1 to 8 for periods exceeding 56 days resulting in the contractor charging interest.

Further, a review of Progress Report No. 42 dated September 2022 revealed that the interest claim by the contractor as of August 2022 was US$257,574.04 and K2,472,128.

In a letter dated 11th March 2021, RDA informed the contractor that all interest on delayed payments will be paid by GRZ through a single certificate which will be issued following settlement of all outstanding civil works by the Bank.

Although the African Development Bank settled all outstanding IPCs on behalf of the Government, the decision by RDA to pay interest through a single certificate which would be issued upon the settlement of all outstanding civil works by the Bank raised concerns. The interest, which continued to compound, grew from US$207,499.11 and K1,180,210.90 at the time the full principal was paid on 21st October 2021 to US$257,574.04 and K2,472,128 as of August 2022.

19.3 Contract for the Construction of the Matumbo and Kampemba Bridges across Luangwa and Kampemba Rivers in Chama District of Muchinga Province - Failure to Recover Advance Payments from Interim Payment Certificates

On 16th February 2015, RDA engaged China Railway Seventh Group (Z) Limited for the construction of Matumbo and Kampemba Bridges across Luangwa and Kampemba Rivers in Chama District of Muchinga Province at a contract sum of K103,881,127 VAT inclusive with a completion period of fourteen (14) months commencing on 1st March 2015 and ending on 30th April 2016.

The contract completion period was revised four (4) times to the final completion date of 28th February 2022 and the contract sum was revised by K17,286,508 from K103,881,127 to K121,167,635.

As at 31st December 2021 amounts totalling K45,025,362 had been certified out of which amounts totalling K21,791,084 were paid to the contractor leaving a balance of K23,234,278.

On 24th May 2013, RDA engaged Kiran and Musonda Associate Limited for the detailed engineering design, tender document preparations and supervision for the construction of Luangwa and Kampemba bridges at a contract sum of K8,576,352 with a completion period of 20 months commencing in July 2013 and ending on 7th February 2015.

On 25th January 2017, RDA re-engaged Kiran and Musonda Associate Limited for the construction supervision of the Luangwa and Kampemba bridges at contract sum of K14,030,654 with a completion period of twenty eight (28) months commencing in January 2017 and ending on 24th March 2019. The consultancy contract was revised three (3) times to the final completion date of 24th March 2023 and the contract sum was revised to K25,534,222 from K14,030,654. As at 30th September 2022, amounts totalling K22,109,385 had been certified out of which K12,056,390 was paid to the consultant leaving a balance of K10,052,995.

Clause 6.4 (a) of the special conditions of the contract dated 23rd May 2013 stated that the advance payment would be set off by the client in equal instalments against the statements for the first twelve (12) months of the services until the advance payment had been fully set off.

A review of payments and advance recoveries to the consultant revealed that as at 4th February 2014, an amount of K1,286,453 representing 15% of the contract sum was paid as advance payment.

Kiran and Musonda Associates Limited issued five (5) IPCs and was paid amounts totalling K2,762,719 for the period from 25th February 2014 to 25th August 2014. However, only an amount of K428,818 was recovered on IPC No. 5 leaving a balance of K857,635 unrecovered as at 31st December 2023.

Further, the contract elapsed and RDA signed a new contract with the consultant in 2017 with a different scope without recovering the advance payment amounting to K857,635.

In addition, according to Clause 51 of the contractor's contract, the client may make advance payment to the contractor in accordance with Regulation 140(3) of the Public Procurement Regulations, 2011 amounts stated in the contract, against provision by the Contractor of an Unconditional Bank Guarantee in form and acceptable to the client in amount equal to the advance payment . The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively reduced by the amounts repaid by the contractor.

As at 31st December 2021, a total of K7,791,085 had been paid as advance payment, out of which K1,727,124 had been recovered leaving a balance of K6,063,961. The advance guarantee validity expired on 31st December 2018 and had not been renewed as at 31st December 2023.

19.4 Failure to Recover Advance Payment - Contract for Upgrading to Bituminous Standard of the Isoka – Muyombe – Chama – Lundazi Road Lot 2 in Muchinga Province

On 29th September 2014, RDA engaged China Civil Engineering Construction Corporation to upgrade 93 km of the Isoka – Muyombe – Chama-Lundazi Road to bituminous standard with double surface dressing at a contract sum of K396,624,924 with a completion period of twenty four (24) months commencing on 19th January 2015 and ending on 19th January 2017.

The contract was revised four (4) times to the final completion date of 17th January 2022 and the contract sum was reduced by K133,716,867 to a final contract sum of K262,908,057 as the scope of works were downscaled from bituminous to gravel standard.

The scope of works included the following:

- Drainage works;
- Construction of earthworks and pavement layers; and
- Ancillary road works.

As at 31st December 2023, works valued at K90,377,141 had been certified out of which K43,083,093 was paid to the contractor leaving a balance of K47,294,048. See table 36 below.

Table 36: Amounts Paid to Contractor

IPC No.	Date Certified	Payment Date	Amount Certified K	Amount Paid K	Outstanding K
Lot 2					
Advance Payment		24.12.14	29,746,869	20,000,000	9,746,869
1	23.06.15	19.11.15	14,524,063	14,524,063	-
1A	12.09.15	9.10.15	543,452	4,559,030	(4,015,578)
Lot 1					
01A	15.09.15	6.4.20	7,965,896	4,000,000	3,965,896
02A	13.10.15		2,025,712	-	2,025,712
03A	4.12.15		2,068,942	-	2,068,942
04A	4.3.16		4,441,801	-	4,441,801
05A	4.4.18		29,060,405	-	29,060,405
Total			**90,377,141**	**43,083,093**	**47,294,048**

On 29th September 2014, RDA engaged Bari Zambia Limited in association with Voyants Solutions Pvt Limited for the road design and construction supervision at a contract sum of K19,293,368 for a period of thirty (30) months. The contract was revised two (2) times to the latest completion date of 17th January 2022 and the contract sum was revised to K33,293,368 to a rescoped sum of K36,121,097.

As at 30th September 2022 amounts totalling K3,824,032 had been paid to the consultant against the total invoiced amount of K28,215,569 leaving a balance of K24,391,537. See Appendix 8.

Clause 48.1 of the contract provided for recovery of advance payments in subsequent IPC's. However, out of the four (4) IPCs issued, advance payment recovery was not consistent as there were no recoveries on IPC Nos. 2, 3 and 4. As a result, none of the advance payment amounting to K20,000,000 had been recovered as at 30th April 2023.

In their response dated 29th March 2023, management stated that the contract had lapsed and full recovery would be made in the final account. However, as at 31st December 2023, twenty (23) months after the lapse of the contract, the final accounts had not been prepared.

19.5 Construction of the Mbesuma Bridge Across the Chambeshi River in Muchinga Province - Failure to Recover Advance Payment

On 2nd May 2017, Road Development Agency engaged China Railway Seventh Group (Zambia) Ltd for the construction of Mbesuma Bridge across the Chambeshi River in Muchinga Province at a contract sum of K84,185,817 VAT inclusive and a duration of eighteen (18) months commencing 16th May 2017 with an initial completion date of 16th November 2018.

The contract completion period was revised three (3) times to the final revised completion date of 14th November 2020.

As at 21st September 2020, amounts totalling K9,551,305 had been paid to the Contractor against the total certified amount of K27,746,138 leaving a balance of K18,194,833. See table 37 below.

Table 37: Total Amount Certified and Payment to the Contractor

Certificate No.	Date Submitted	Amount Certified for Payment K	Amount Paid K	Outstanding Amount K	Date Paid
IPC No.1 (Advance Payment)	24.07.2017	6,313,936.27	6,313,936.27	-	22.07.2017
IPC No.2	24.07.2017	7,632,557.52	2,448,086.08	5,184,471.44	10.08.2018
IPC No.3	18.07.2018	996,489.01		996,489.01	
IPC No.4	15.04.2019	7,080,855.75		7,080,855.75	
IPC No.5	28.08.2019	5,722,299.26	789,282.66	4,933,016.60	21.09.2020
Total		**27,746,137.81**	**9,551,305.01**	**18,194,832.80**	

Further, RDA engaged Rankin Engineering Consultants at contract sum of K3,169,352 on 26th August 2011 VAT inclusive for a duration of Seventeen (17) months. The consultancy contract was revised seven (7) times to the final revised completion date of 22nd December 2022 and the contract sum was revised to K31,364,157.

Clause 48.3 of the conditions of the contract states, "the advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the works on a payment basis."

Clause 48.1 of the conditions of the contract provides that the Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively reduced by the amounts repaid by the Contractor.

Although China Railway Seventh Group (Zambia) Limited issued five (5) Interim Payment Certificates (IPC's) for the period 10th July 2017 to 28th August 2019 no recoveries of the advance payment were made. Further the advance guarantee obtained by the contractor for K6,313,936 expired on 30th November 2019 and as of January 2022, the guarantee had not been renewed.

In this regard, at the time the contract expiry on 14th November 2021 none of the advance payment had been recovered and was still unrecovered as at 30th April 2023.

20 Northern Province-Main Road Works

20.1 The Upgrading of Samora Machel Airport Road (4 km) in Northern Province - Unjustifiable Direct Bidding

On 10th October 2018 Road Development Agency engaged China Camc Engineering Co. Ltd to upgrade Samora Machel Airport Road (4 km) in Northern Province at a contract sum of K32,074,863 VAT inclusive and a duration of three (3) months commencing 22nd October 2018 with an initial completion date of 21st January 2019.

The contract completion period was revised six (6) times to the final revised completion date of 21st October 2021.

As of 30th September 2022, amounts totalling K637,850 had been paid to the contractor against the total certified amount of K10,144,918 leaving a balance of K9,507,068. RDA Regional Office were the consultants. See table 38 below.

Table 38: Schedule of Payments

Certificate No.	Date Submitted	Amount Certified for Payment K	Amount Paid K	Outstanding Amount K	Date Paid
IPC No.1 (Advance Payment)	23.10.2018	2,405,915	637,850	1,768,064	30.11.2018
IPC No.2	19.11.2018	2,218,500	-	2,218,500	
IPC No.3	13.03.2019	5,520,503		5,520,503	
Total		**10,144,918**	**637,850**	**9,507,068**	

Section 32 (2) of the Public Procurement Act No. 12 of 2008 states, "Direct bidding may be used where: (b) due to an emergency, there is urgent need for the goods, works or services making it impractical to use other methods of procurement because of the time involved in using those methods."

Further Section 39(1) of the Public Procurement Regulations of 2011 defines an emergency procurement as a situation which include circumstances which are urgent, unforeseeable and not caused by the dilatory conduct of the procuring entity where:

- the country is threatened by or confronted with a disaster, catastrophe or war;

- life, or the quality of life or environment may be seriously compromised;
- the conditions or quality of goods, equipment, buildings or publicly owned capital goods may seriously deteriorate unless action is urgently and necessarily taken to maintain them in their actual value or usefulness; or
- an investment project is seriously delayed for want of minor items.

A review of the committee paper No.12 reference MTG 2018/12 dated 16th March 2018 revealed that RDA direct bid China CAMC Engineering Co. Ltd citing the following as justification:

- The contractor was already in the project area; and
- The project was an emergency owing to its poor condition of the road.

However, the justification did not meet the criteria for direct bidding. Further, four (4) years after commencement of the project which was supposed to be an emergency owing to its poor condition, only 30% of works were done as the rest of the project remained incomplete as at 31st December 2023. See picture below.

Part of the access road to Samora Machel Airport

Further, RDA did not obtain a “No Objection” from Zambia Public Procurement Authority (ZPPA) prior to the use of direct bidding contrary to Circular No.1 of 2013 Part B Section 5 which states that the use of "Direct Bidding" will require a "No Objection" from ZPPA.

21 North-Western Province - Main Road Works

21.1 Uncompetitive Procurement – Contract for the Upgrading of the 109 km of the Solwezi to Kipushi (D271) Road in North-Western Province

On 30th August 2019, RDA engaged China Sate Construction Engineering Corporation Limited for the upgrading to bituminous standard 109 km of the Solwezi to Kipushi (D271) road at a contract sum of K1,324,795,608 with a completion date of 31st March 2023.

On 1st July 2020, the contract was revised to the final completion date of 1st April 2022 due to downscaling of the scope of works from bituminous to gravel standard thereby reducing the contract sum by K912,360,032 from K1,324,795,608 to K412,435,576

The scope of works included the following:

- Mass earthworks up to selected gravel;
- Drainage works (drainage, culverts, erosion protection);
- Structures (construction of the three (3) bridges on Kifumbwa, Mushindamo and Kafue rivers respectively; and
- Selected diversions.

As at 31st December 2023, amounts totalling K222,189,070 had been certified out of which K79,313,387 was paid to the contractor leaving a balance of K142,875,683. See table 39 below.

Table 39: Certified Interim Payments

Certificate No.	Date Submitted	Amount Certified for Payment K	Amount Paid K	Outstanding Amount K	Date Paid
1. Advance Payment	10/31/2019	27,172,413	27,172,413	-	Paid
2. Advance Payment	7/6/2020	26,159,772	26,159,772	-	Paid
3	9/21/2020	29,084,010	15,097,999	13,986,011	2020
4	12/10/2020	21,316,060	2,278,704	19,037,356	-
5	7/20/2020	31,356,996	7,721,296	23,635,700	-
6	8/9/2021	7,271,105	-	7,271,105	-
7	12/10/2021	4,159,839	883,203	3,276,636	-
8	8/15/2023	7,834,128	-	7,834,128	
9	8/11/2023	39,958,079	-	39,958,079	
10	11/20/2023	27,876,668	-	27,876,668	
Total		**222,189,070**	**79,313,387**	**142,875,683**	

On 26th May 2020, RDA engaged Eastconsult Consulting Engineering for design review and Supervision of the works at a contract sum of K27,571,840. The contract was for a duration of fifty four (54) months with a defect liability period of twelve (12) months.

As at 31st December 2023, the consultant had been paid amounts totalling K1,297,780. A review of the evaluation and award process revealed that RDA single sourced the services of Eastconsult Consulting Engineering without obtaining authority from ZPPA contrary to Regulations 12 (1) (c) and 37 (4) (b) of the Public Procurement Regulations of 2011.

22 Southern Province - Main Road Works

22.1 Kalomo - Dundumwezi - Climate Resilient Roads in the Kafue River Basin

On 18th December 2013, the Government of the Republic of Zambia and the African Development Bank signed a credit facility of US$17,500,000 for a period of five (5) years six (6) months for improvement of strategic roads in the Kafue River sub-basin.

The conditions of the loan agreement stipulated that the borrower would pay the principal amount of the loan within thirty (30) years, after a ten (10) year grace period commencing from the date of signing the agreement at a rate of 2% per annum from the eleventh (11th) to the twentieth (20th) year inclusive and at the rate of four (4%) per annum thereafter. The loan agreement further stated that a service charge at the rate of one tenth of one percent (0.01%) per annum would be paid on the principal amount of the loan disbursed and outstanding from time to time.

On 10th April 2017, RDA engaged China State Construction Engineering Corporation Ltd for the construction and improvement works of strategic roads in the Kafue River Basin to climate resilient standards at a contract sum of US$18,786,644.04 with a completion period of five (5) years commencing on 23rd August 2017 and ending on 22nd August 2022.

The contract period was divided into an initial two (2) years for construction, one (1) year defect liability period and the last two (2) years for maintenance and rehabilitation works.

The roads to be constructed under the project covered a total distance of 237.5 km as follows:

- Kalomo to Dundumwezi (73.7 km);
- Dundumwezi to Ngoma (95.6 km);
- Ngoma to Itezhi-tezhi (19.7 km); and
- Itezhi-tezhi to Namwala Pontoon (48.5 km).

The scope of works included-

- Construction of 108 km of road embankment (1.5m high) through the flood plain;
- Construction of three (3) bridges;
- Construction of thirteen eight (38) box culverts;
- Construction of 332 x 900 mm diameter pipe culverts; and
- Construction of fifteen (15) multiple drifts.

As at 30th September 2022, amounts totalling US$18,554,129.97 were certified out of which amounts totalling US$17,108,625.58 had been paid to the contractor leaving a balance of US$1,445,504.39. See table 40 below.

Table 40: Amounts Certified and Paid

Certificate No.	Date Submitted	Amount Certified for Payment K	Amount Paid K	Outstanding Amount K	Date Paid K
IPC No1 (Advance Payment)	07.06.17	3,757,328.81	3,757,328.81	-	05.07.17
IPC No.2	26.07.17	205,500.00	205,500.00	-	23.07.17
IPC No 3	01.12.17	403,156.76	403,156.76	-	29.12.17
IPC No. 4	02.12.17	452,969.38	452,969.38	-	30.12.17
IPC No.5	29.12.17	483,733.74	483,733.74	-	26.01.18
IPC No. 6	12.02.18	196,843.91	196,843.91	-	12.03.18
IPC No.7	11.04.18	504,614.79	504,614.79	-	09.05.18
IPC No.8	11.05.18	794,568.63	794,568.63	-	08.06.18
IPC No.9	08.06.18	949,458.76	949,458.76	-	06.07.18
IPC No.10	12.07.18	690,133.45	690,133.45	-	09.08.18
IPC No.11	20.08.18	706,095.56	706,095.56	-	15.10.18
IPC No.12	17.09.18	661,671.02	661,671.02	-	12.11.18
IPC No.13	23.10.18	634,807.14	634,807.14	-	20.11.18
IPC No.14	14.01.19	1,183,696.99	1,183,696.99	-	10.01.19
IPC No.15	09.04.19	574,809.17	574,809.17	-	01.10.19
IPC No.16	04.07.19	339,090.97	339,090.97	-	24.10.19
IPC No.17	29.07.19	617,142.56	617,142.56	-	31.12.19
IPC No.18	12.11.19	768,615.46	768,615.46	-	31.01.19
IPC No.19	14.01.20	128,061.81	128,061.81	-	02.06.20
IPC No.20	13.04.20	249,439.94	249,439.94	-	10.08.20
IPC No.21	16.06.20	311,636.00	311,636.00	-	30.09.20
IPC No.22	31.07.20	311,759.50	311,759.50	-	02.11.20
IPC No.23	17.08.20	443,973.00	443,973.00	-	23.12.20
IPC No.24	29.09.20	324,981.30	324,981.30	-	23.12.20
IPC No.25	06.11.20	313,319.50	313,319.50	-	02.11.20
IPC No.26	11.12.20	147,335.50	147,335.50	-	01.03.21
IPC No.27	19.02.21	292,740.50	292,740.50	-	28.04.21
IPC No.28	29.04.21	510,932.93	510,932.93	-	28.04.21
IPC No.29	14.05.21	150,208.50	150,208.50	-	12.06.21
IPC No.30	21.06.21	152,620.00		152,620.00	
IPC No.31	14.07.21	153,965.50		153,965.50	
IPC No.32	19.08.21	153,244.00		153,244.00	
1PC No.33	13.09.21	146,471.00		146,471.00	
14724-IPC-34	11/11/2021	155,194.00		155,194.00	
14739-IPC-35	11/30/2021	297,097.39		297,097.39	
14870-IPC-37	9/13/2022	105,131.00		105,131.00	
14871-IPC-38	9/13/2022	94,113.50		94,113.50	
14872-IPC-39	9/13/2022	95,374.50		95,374.50	
14873-IPC-40	9/13/2022	92,293.50		92,293.50	
Total		**18,554,129.97**	**17,108,625.58**	**1,445,504.39**	

On 10th April 2017, RDA engaged Roughton International Ltd in association with BCHOD Consulting Engineers for the design review and supervision works at contract sums of US$1,496,613 and K8,657,199 for a period of sixty three (63) months.

As at 30th September 2022, amounts totalling US$1,107,409.89 and K5,986,626 were certified out of which amounts totalling US$1,096,542.09 and K4,890,03070 were paid to the consultant leaving balances totalling US$10,876.80 and K1,096,596.

The following were observed:

a. Contract Amount in Excess of Loan Amount

Regulation 122 (1) of the Public Procurement Regulations of 2011 provides, "A procuring entity shall, after a contract award decision by an approvals authority, commit the required funds before proceeding to award the contract."

Contrary to the Regulation, RDA signed the construction and supervision contracts at combined contract sums of US$20,283,257 and K8,657,199. The contracts engaged were more than the loan amount of US$17,500,000 by US$2,783,257 and K8,657,199.

A review of the RDA Road Sector Annual Work Plans and other correspondences made available for audit revealed that there were no funds allocated and committed towards the shortfall.

b. Project Status

A physical inspection carried out in July 2022 revealed the following:

i. The contractor was not on site and had written to RDA requesting that they undertake inspections of the works in preparation for handover of the site 5 months before the projects expected completion date of 22nd August 2022;

ii. A review of the status report issued by the consultant to RDA dated January 2022 revealed that the road had been washed away, during the 2021/2022 rain season, at five (5) points as shown below;

- Km 36 at the Nanzhila river crossing;
- Km 38 at the Dendro Park part of the Nanzhila plains;
- Km 54;
- Km 60 at the Chalengwa stream crossing; and
- Km 86 at the Dongo river.

iii. Further review of the report issued by the consultant in January 2022 indicated that Link 1, Link 3 and Link 4 were predicted to adequately withstand the floods, Link 2 in its current state might not sustain the floods for the following reason:

"Inadequate road elevation (or height) because of limited earthworks quantities in the original Bills of Quantities because the road level needed to be raised by 500 mm

(half a metre) in sections and up to 1000 mm (1m) in others. The consultant further stated that a total of thirty two (32) additional drainage structures in form of culverts would be required in Link 2 alone in order for this portion of the road to be able to withstand rain water."

A physical inspection carried out in July 2022 revealed the consultants recommendations for link 2 had not been implemented. The reinstated parts of the road are shown below.

Reinstated road crossing on link 2

Left view of reinstated road at Km86

Km 38+000 on Link 2, after Re-instatement

Km 86 + 000 0n Link 2, after Re-instatement

The picture above shows that a box culvert was installed instead of a bridge implying that the works were not done according to project specifications.

23 Construction of Toll Plazas between Choma and Monze (Daniel Munkombwe), between Kapiri Mposhi and Ndola (Kafulafuta) and between Ndola and Kitwe (Michael Chilufya Sata)

On 10th July 2017, the RDA engaged AVIC-International Zambia Limited for the construction of toll plazas between Choma and Monze (Daniel Munkombwe), between Kapiri Mposhi and Ndola (Kafulafuta) and between Ndola and Kitwe (Michael Chilufya Sata) at a contract sum of US$12,051,027.20 with a completion period of seven (7) months, commencing on 27th September 2017 and ending on 27th April 2018.

The scope of works included among others the following:

- Earthworks; Asphalt pavement; Concrete works;
- Walkways, kerbs; Road signage; Temporal diversions and maintenance;
- Civil building works; Steel structural works; Tolling system comprising tollbooth;
- Canopy; Tolling machines; Software; Air conditioning; and
- Power supply and lighting.

As of 31st December 2021, amounts totalling US$12,247,145.76 (K149,248,830) had been certified out of which US$8,337,875.28 (K104,041,271) was paid to the contractor leaving a balance of US$3,909,270.48 (K56,090,140). See table 41 below.

Table 41: Amounts Certified and Paid

Certificate No.	Date Submitted	Amount Certified for Payment US$	Amount Certified for Payment K	Amount Paid US$	Amount Paid K	Outstanding Amount US$	Outstanding Amount K
IPC No.1 (Advance Payment)	17/07/2017	903,827.04	8,044,060.66	822,058.88	7,316,324.04		
IPC No.1 (Advance Payment)				131,529.42	1,170,611.86	- 49,761.26	- 442,875.21
IPC No.2	08/01/2018	274,296.00	2,742,960.00	236,462.13	3,097,653.90	37,833.87	495,623.70
IPC No.3	27/02/2018	895,681.08	8,777,674.58	605,374.58	7,930,407.00	141,360.46	1,851,822.03
IPC No.3 - NAPSA				148,946.04	1,951,193.17		
IPC No.4	27/04/2018	841,204.99	8,412,049.90	417,065.98	5,463,564.34	- 223,364.17	- 2,926,070.63
IPC No.4 - NAPSA				360,610.99	3,570,048.80		
IPC No.4 - NAPSA				286,892.19	2,840,232.72		
IPC No.5	31/07/2018	1,745,848.37	17,283,898.86	459,992.82	6,025,905.94	176,311.80	2,309,684.58
IPC No.5				760,955.51	9,968,517.12		
IPC No.5 - NAPSA				30,246.67	396,467.20		
IPC No.5				318,341.57	4,310,344.86		
IPC No.6	10/09/2018	1,664,025.89	17,139,466.67			1,664,025.89	17,139,466.67
IPC No.7 - NAPSA	05/09/2019	4,068,846.00	53,301,882.60	751,879.70	10,000,000.00	309,447.50	4,115,651.75
IPC No.7 - NAPSA				1,503,759.40	20,000,000.00		
IPC No.7 - NAPSA				1,503,759.40	20,000,000.00		
IPC No.8	27/07/2020	1,853,416.39	33,546,836.66	-	-	1,853,416.39	33,546,836.66
Total		**12,247,145.76**	**149,248,829.93**	**8,337,875.28**	**104,041,270.95**	**3,909,270.48**	**56,090,139.54**

On 13th October 2017, RDA engaged Kaplum & Associates Limited for the supervision of the construction works of the Daniel Mukombwe toll plaza at a contract sum of K1,933,720 with a completion period of sixteen and half (16.5) months commencing on 27th October 2017 and ending on 10th March 2019.

The contract was revised twice to a final completion date of 25th March 2020 and the contract sum increased by K2,434,260 from K1,933,720 to K4,367,980 representing a 126% increase.

On 30th October 2017, RDA engaged ILISO Consulting Zambia Limited for the supervision works of the construction of the toll plaza at Kafulafuta at a contract sum of K1,926,557 with a completion period of seven (7) months commencing on 27th September 2017 and ending on 27th April 2018.

The contract was revised twice to a final completion date of 25th November 2019 and the contract sum increased by K3,925,252 from K1,926,557 to K5,851,809 representing a 204% increase.

On 18th July 2017, RDA engaged Bari Zambia Limited for the supervision of the construction works of the Michael Chilufya Sata toll plaza at a contract sum of K3,876,192 with a completion period of five (5) months commencing on 1st August 2017 and ending on 31st December 2017. The contract sum also included supervision works for the construction of the Wilson Mofya Chakulya toll plaza between Kitwe and Chingola.

The contract was revised five (5) times to a final completion date of 10th December 2020 and the contract sum increased by K8,468,057 from K3,876,192 to K12,344,249 representing a 218% increase.

As at 31st December 2021, amounts totalling K15,744,266 had been certified for the Michael Chilufya Sata, Wilson Mofya Chakulya and Daniel Munkombwe toll plazas out of which amounts totalling K14,508,110 were paid to the consultants leaving a balance of K1,236,156.

In addition, amounts totalling K5,263,406 were certified for the Kafulafuta toll plaza out of which K6,101,944 was paid to the consultant resulting in an overpayment of K838,538. See table 42 below.

Table 42: Amounts Certified and Paid

Toll Plaza	Amount Certified for Payment K	Amount Paid K	Outstanding Amount K	Overpaid Amount K
Daniel Munkombwe Toll Plaza	3,400,429	2,828,002	572,427	
Kafulafuta Toll Plaza	5,263,406	6,101,944		-838,538
Michael Chilufya Sata/ Wilson Mofya Chakulya Toll Plazas	12,343,837	11,680,108	663,729	
Total	**12,343,837.07**	**11,680,107.60**	**1,236,156.13**	**- 838,537.52**

The following were observed:

a. Questionable Engagement of Contractor

Section 32 (2) (b) of the Public Procurement Act No. 12 of 2008 states, "Direct bidding may be used where – due to an emergency, there is urgent need for the goods, works or services making it impractical to use other methods of procurements because of the time involved in using those methods."

Contrary to the above provisions, on 4th November 2016, the Acting Director and Chief Executive Officer of the RDA wrote to the Director General of ZPPA requesting for a 'No Objection' to direct bid AVIC-International (Z) Limited to complete the remaining works at Choma, Kafulafuta and Mwanawasa toll sites as the toll sites had to be functional in the shortest possible time. The letter stated that it was found prudent to identify a prime contractor with both financial and technical capabilities to deliver the sites ready for tolling to avoid any further delay in the completion of the construction of the toll plazas without necessarily having to wait for advance payment.

In addition, the Agency submitted that, due to the financial constraints being faced by the Treasury, there was pressure from various stakeholders to have the toll plazas constructed and made operational to increase the revenue base for the Treasury.

The decision to direct bid AVIC-International (Z) Limited was questionable due to the following:

i. There was no timeline availed to demonstrate the urgency of the request to direct bid AVIC-International (Z) Limited;

ii. Although the Agency in their request for a "No Objection" to direct bid AVIC-International (Z) Limited stated that it was found prudent to identify a prime contractor with both financial and technical capabilities to deliver the sites ready for tolling to avoid any further delay in the completion of the construction of the toll plazas without necessarily having to wait for advance payment, the contractor was paid advance payment totalling

US$903,827.04 on the 13th September 2017 and 20th September 2017 prior to commencement of works paid on 27th September 2017.

b. Overpayment to Consultant - ILISO Consulting Zambia Limited

A review of the payment records revealed that a total of K5,263,406 was certified for consultancy services provided. However, amounts totalling K6,101,944 were paid to the consultant resulting in an overpayment of K838,538. As at 31st December 2023, the overpayment had not been recovered.

24 Construction of Acrow Bridges

24.1 Supply of Acrow 700XS Panel Bridges

On 6th September 2013, the Government of the Republic of Zambia acting through the Ministry of Transport, Works, Supply and Communications, and Roads Development Agency jointly referred to as (Purchasers) engaged Acrow Corporation of America (Supplier) for the design, fabrication and delivery of 144 prefabricated modular Acrow 700XS Steel Panel Bridges and other ancillary Acrow Bridging Equipment, as well as Technical Training and Advisory Services at a contract price of US$56,776,849.

Additionally, Acrow Corporation of America offer also included the arrangement of US$17,000,000 financing through its partners in the international capital markets, funding sufficient to cover civil works to be managed locally and exclusively by the Purchasers and the local partners bringing the Total Project Value to US$73,776,849.

On 3rd November 2016, the Government of Zambia acting by and through the Minister of Finance signed a credit agreement with Export-Import-Bank of America and Citibank amounting to US$72,632,138 for financing the agreement between Government and Acrow Corporation to be repaid in sixteen (16) semi-annual installments, due and payable on each January 25 and July 25, beginning on January 25, 2018, until the Credit is repaid in full as shown in table 43 below.

Table 43: Loan Breakdown

No.	Details	Amount US$
1	US Contract Finance Portion Amount	49,497,185
3	Exposure Fee Amount	5,665,387
2	Funding of local civil works	17,469,566
	Total	**72,632,138**

The Project was to be implemented in seven (7) provinces namely; Muchinga, Luapula, Northern, North Western, Lusaka, Central and Eastern Provinces.

The following were observed:

a. Failure to Access the US$17,469,566 Loan Facility

The Credit Agreement provided for US$17,469,566 which was meant for civil works for the Acrow Bridge Project and in order to access these funds, RDA was supposed to first pay contractors and/or consultants for works and services and then claim for reimbursement before the disbursement deadline of April 2019.

In this regard, RDA signed contracts in amounts totalling K686,900,296 with seventeen (17) contractors (K627,581,823) and two (2) consultancy firms (K59,318,474) for the construction and supervision of Acrow Bridges Project. Out of this amount, IPCs in amounts totalling K55,936,241 and invoices in amounts totalling K45,199,953 were certified out of which K21,874,642 and K22,883,516 was paid by the government leaving a balances of K34,061,599 and K22,316,437 respectively. See table 44 below.

Table 44: Status of Projects

No.	Province	Lot	No of Bridges	Contractor	Contract Date	Contract Sum K	IPCs Certified K	Payments K	Balance K	Project Status
1	Central	1	5	MNS Global Limited	1.06.20	57,126,750.39	5,712,675.03	5,712,675.03	0	The contractor commenced works on 31st August 2020. The contract had expired with 5% physical progress and project closure had commenced.
2	Eastern	1	10	Sunshare Construction Ltd	14.01.20	59,113,293.53	9,443,536.89	1,235,773.28	8,207,763.61	The contractor had so far completed the Lunkhwankwa Bridge out of the ten (10) bridges Project closure had since been initiated.
3	Luapula	1	7	Shachitari Contractors Limited	25.06.20	67,845,346.36	6,784,534.64	3,275,797.88	3,508,736.76	The contract had expired with physical progress of 8% (excavation for foundations and delivering of materials).
4	Luapula	2	2	JAMCHO Trading Limited	22.07.21	25,073,060.52	2,507,306.05	862,068	1,645,238.05	The contractor had mobilised and commenced works on one of

										the two bridge site. Physical progress is at 2% while the contractor had not mobilised on the other side because RDA had not provided the correct coordinates and hence the site could not be located. Process to close the project has been initiated.
5	Luapula	3	5	Nakangea Construction Limited	4.02.21	84,178,400.16	8,417,840	0	8,417,840	The contract had expired with 0% physical progress.
6	Lusaka	2	2	Gideon Moyo Enterprises Limited	7.02.21	10,683,764.32	1,068,376.43	0	1,068,376.43	Physical progress was at 4% comprising site clearing and excavations for sub-structures on one of the two bridges.
7	Muchinga	1	5	Buildcon Construction	11.06.20	69,524,182.69	5,993,464.02	5,993,464.02	0	Physical progress was at 8% comprising establishment of camp, set out and clearing & grubbing of 1 out of the 5 bridge sites.

										Process to close the project had been initiated.
8	Muchinga	3	4	Vibrant Construction & General Supply	1.03.21	77,441,684.61	7,744,168.46	0	7,744,168.46	No works had been done as the contractor never mobilised.
9	Muchinga	5	2	Gilgal G.C Logistics	10.03.21	12,750,000	1,275,000	1,099,138	175,862.07	The contract had expired with 0% physical progress.
10	Northern	4	2	FEDPA Limited	22.12.20	10,100,000.45	2,994,715.72	242,647.25		Physical progress was at 4% comprising clearing and grubbing and excavations on one of the two bridges.
11	Northern	5	1	Lwenshi Limited	21.08.20	5,417,010.80	541,545	541,545	0	The contractor never mobilised and no works had been done.
12	Northern	7	2	Jeetech Alu Limited	22.06.20	21,413,837.23	2,911,534	2,911,534	0	Physical progress stands at 33% comprising construction of sub-structures.
13	Northern	9	3	Paumwaka Agencies	31.05.21	17,630,685.20	0	0	0	Physical progress was at 74% (Sub-structures and approaches to the 2 bridges have been completed).

14	Northern	1	8	Claycrete Zambia Ltd.		73,862,276.45	0	0	0	
15	North Western	13B	1	Lwenshi	9.07.20	5,415,451	541,545.10	0	541,545.10	The contract had expired with 0% physical progress.
16	North Western	12A	2	Muco Trading Ltd	21.12.20	10,158,922	0	0	0	The contract had expired with 0% physical progress.
17	North Western	14	2	FEDPA Limited	13.01.21	19,847,157.16	0	0	0	The contract had expired with 0% physical progress.
				Total		627,581,822.87	55,936,241.34	21,874,642.39	34,061,598.95	

On 9th April 2019, Ministry of Finance submitted a Request for Reimbursement No.1 to Export-Import Bank of the United States for the amount of K15,000,426 or US Dollar equivalent.

However, at the time of audit in September 2022, RDA had not accessed any funds from either Exim Bank or Citi Bank through this facility for a period of over three (3) years.

In addition, a review of the approved 2018, 2019, 2020 and 2021 Road Sector Annual Work Plans, revealed that a total provision of K32,000,000 was made for construction (K30,000,000) and supervision (K2,000,000) of the Acrow Bridges Project.

In this regard, the RDA entered into contracts with contractors and consultants in amounts totalling K686,900,296 which was far more than the treasury allocation.

b. Questionable Use of Limited Bidding

According to section 14 of the Public Procurement Regulation of 2011, provides that a procuring entity may use limited bidding for goods, works or non-consulting services, where:

- the goods, works or services are only available from a limited number of suppliers;
- there is urgent need for the goods, works or services, and engaging in open bidding would be impractical;
- the requirement is of a specialised nature or relates to public safety or public security which makes open bidding inappropriate; or
- open bidding has failed to secure an award of contract.

Further, the Second Schedule (Regulation 8) of the Public Procurement Regulations of 2011 provides for open international bidding for civil works with a value above K50,000,000.

At a meeting held on 15th August 2019, the RDA Procurement Committee granted authority to use limited bidding to procure works for the construction of sub structures and assembly of thirty-five (35) prefabricated Steel Acrow Panel Bridges in various provinces.

The contractors were recommended for shortlisting based on their experience on previous similar works in Zambia and adequate capacity to perform works of this nature. Further, the Procurement Committee proposed limited bidding procurement method as the works were urgently required.

Subsequently, RDA engaged six (6) contractors for construction works of 700 XS Panel Bridges at a total contract sum of K429,978,641 using limited bidding instead of open international bidding as each individual contract sum was more than K50,000,000.

However, RDA justification for engaging the contractors using the Limited Procurement Method was not supported with any evidence such as due diligence reports on the contractors. Further, the justification of urgency in line with section 14(b) of the Public Procurement Regulation of 2011 is not sufficient as most works are still outstanding as at 30 September 2022. See table 45 below.

Table 45: Contracts Awarded Using Limited Bidding

No.	Date Engaged	Name of Contractor	Contract Amount K	Procurement Method
1		Claycrete Zambia Ltd	73,862,276.45	Limited
2	01-Jun-20	MNS Global Limited	57,126,750.39	Limited
3	01-Mar-21	Vibrant Construction & General Supply	77,441,684.61	Limited
4	11-Jun-20	Buildcon Construction	69,524,182.69	Limited
5	04-Feb-21	Nakangea Construction Limited	84,178,400.16	Limited
6	25-Jun-20	Shachitari Contractors Limited	67,845,346.36	Limited
		Total	**429,978,640.66**	

c. Undistributed Acrow Bridges

A review of stores records and physical inspection of the Mumbwa Road Workshop where the bridges were kept revealed that the last set of bridges were delivered on 18th June 2019.

According to the various installation contracts between RDA and contractors, the 144 bridges were supposed to be installed in the various crossing sites in the seven provinces within nine to twelve months between 14th August 2020 and 31st December 2021.

A review of the progress reports revealed that at the time of audit in September 2022, Road Development Agency had only distributed four (4) bridges i.e. Eastern (1), Central (1) and Northern (2) to the installation sites and completed one (1) bridge at Lunkhwankwa in Eastern Province thereby delaying the installation of the bridges. As at 31st May 2023, the remaining 140 bridges had not been distributed. See Pictures below.

Undistributed Acrow Bridges at Mumbwa Road Workshop

25 Force Account Projects

The Road Development Agency is mandated by the Public Roads Act No. 12 of 2002 to maintain, rehabilitate and construct roads and bridges. The Agency undertakes rehabilitation and construction of road infrastructure by using Force Account. Force Account is a mechanism by which a procuring entity undertakes some construction works using its own equipment and hired personnel.

In this regard, during the period under review Regional Offices requested for funds in amounts totalling K373,185,977 from RDA Headquarters to cater for 213 road works against which only K229,260,505 was released resulting in an underfunding of K143,925,472. See table 46 below.

Table 46: Underfunding

No.	Station	No.of Projects	Amount Requested K	Amount Funded K	Underfunding K
1	Lusaka Regional Office	54	19,831,227	16,358,556	3,472,671
2	Central Regional Office	33	4,689,463	3,859,861	829,602
3	Copperbelt Regional Office	30	43,341,112	27,523,563	15,817,549
4	Eastern Regional Office	36	65,720,435	65,720,435	-
5	Luapula Regional Office	22	82,622,670	37,824,795	44,797,874
6	Northern Regional Office	6	19,144,920	15,689,421	3,455,499
7	Muchinga Regional Office	11	40,425,845	24,104,090	16,321,755
8	North Western Regional Office	11	19,596,370	16,596,370	3,000,000
9	Western Regional Office	3	60,740,000	12,603,425	48,136,575
10	Southern Regional Office	7	17,073,936	8,979,989	8093946.75
	Total	**213**	**373,185,977**	**229,260,505**	**143,925,472**

The following were observed.

a. Delayed Completion of Projects

A review of records for the selected projects revealed that nineteen (19) projects were delayed by periods ranging from one (1) year to five years after the expected completion period. See table 47 below.

Table 47: Delayed Completion of Projects

No.	Province/ Town	Project details	Project period	Amount Requested K	Amount Funded K	Underfunding K
1	Copperbelt/ Mufulira	Paving of Kamuchanga Hospital	01.01.19 to 31.03.19	1,955,051	1,602,736	352,315
2	Copperbelt/ Kalulushi	Kalulushi - Sabina Toll Plaza	01.01.18 to 30.09.18	10,958,884.	10,311,900.	646,984
3	Southern/ Sianakanga	Emergency Culvert Installation Works at Sianakanga Drainage Structures	15.11.18 - 08.08.19	1,445,542	797,057	648,485
4	Southern/ Mamba	Collapsed Road Section of Batoka - Maamba Road - D775	07.02.17 – 08.11.18	6,897,396	5,838,223	1,059,173
5	Southern/ Kalomo	Repair Works of Washed Away Approached of Nalubumba Bridge on Kalomo-Mapatizya Road (D347)	20.10.18 - 17.10.18	2,415,909	780,000	1,635,909
6	Southern /Livingstone	Emergency Works on Livingstone - Sesheke Road	7.12.17 – 7.01.18	1,029,999	293,655	736,344
7	Southern /Livingstone	Questionable Preparation of BOQ-Emergency Works-Livingstone Seskeke Road	7.12.17 – 7.01.18	1,029,999	293,563	736,436
8	Luapula / Chifunabuli	Chifunabuli Roads Project Bush Clearing and Stumping, Road Formation, Installation of Culverts, Construction of Embankments and Grading of Seven (7) Roads in	9.12.20 - 30.09.21	6,926,793	2,635,862	4,290,931

		Chifunabuli District				
9	Luapula/ Milenge	Spot Improvement and Grading of Kasanka - Milenge Road. Bush Clearing, Grading and Road Formation, Spot Gravelling, Compaction, Construction of Drains and Culvert Construction on Kasanka-Milenge Road	20.04.17 – 17.09.17	5,002,392	4,857,091	145,301
10	Luapula / Mansa	Grading and Gravelling of Mansa –Matanda Road Grading, Spot Gravelling and Construction of Drains and Culvert Construction of Mansa-Matanda Road	20.06.17 - 16.09.17	2,057,576	1,293,750	763,826
11	Central/ Ngabwe	Kabwe-Ngabwe/Masemu Roads	02/01/2021 to 03/05/2021	4,853,263	760,900	4,092,363
12	Central/ Mkushi	Mkushi Bailey Bridge	11/12/2019 to 09/04/2020	4,324,213	2,300,000	2,024,213
13	Central/ Serenje-Chitambo	Serenje - Chitambo Gravel Roads	27/01/2020 to 26/04/2020	5,352,232	1,300,000	4,052,232
14	Northern	Lukashya Bridge	3 months starting 28th September to 28th December	1,644,934	1,644,934	0
15	Northern	Kalense Tollgate	4 months starting 1st October, 2020 to 1st February 2021	4,991,874	4,414,067	577,807
16	Northern	Chewe road/bridge	4 months starting 10th	2,870,000	1,000,000	1,870,000

			July 2017 to 30th September 2017			
17	Northern	Mbala Isoko road	6 months 14th March 2019 ending 30th September 2019	4,914,067	4,414,067	500,000
18	Northern	Momboshi bridge	3 months 1st October 2020 31st December 2020	2,307,692	1,800,000	507,692
19	Northern	Lunzua bridge	2 months 11th February 2019 to 30th April 2019	2,416,353	2,416,353	0
	TOTAL			**73,394,169**	**48,754,158**	**25,890,432**

Although in the submission dated 28th March 2024, management stated that out of the nineteen (19) projects twelve (12) were completed leaving a balance of seven (7) projects. However, documentation such as completion and handover certificates were not availed.

In addition, during the period under review, Choma RDA office received six (6) toll booths from National Road Fund Agency (NRFA) costing K403,708 which were supposed to be installed at Kebby Musokotwane Toll Plaza.

However, a physical inspection carried out in July 2022 revealed that four (4) toll booths were installed leaving two (2) costing K134,138 on site. Further it was observed that windows and frames for the uninstalled toll booths were damaged resulting in wasteful expenditure on the booths. See pictures below.

Toll Booth at Zimba Livingstone Toll Plaza (Kebby Musokwatane)

b. Unfair and Uncompetitive Procurement - Cover Bidding (Emergency Maintenance Works on Luangwa Bridge in Mfuwe)

During the 2018/2019 rain season, extensive damage was observed on scour protection on pier 1 on the Luangwa bridge in Mfuwe. A survey was conducted by engineers and the following was established:

- Scour protection at pier 2 and 5 had also been damaged extensively;
- The finger type expansion joint located above pier 2 had been compromised; and
- The concrete on both the left and the right curtain rails had spalled.

On 21st October 2020 the National Roads Fund Agency released a total amount of K1,995,728 to RDA Eastern Region under Force Accounting for construction of the coffer dam.

The scope of works included the following:

- Excavation and haulage of gravel;
- Cofferdam formation; and
- Spot improvement of the road leading from the borrow pit to Luangwa Bridge.

As at 31st December 2021, amounts totalling K1,995,594 had been spent and the project had been completed.

According to the Certified Fraud Examiners Manual, cover bidding occurs when a competitor submits bids that are intended to be unsuccessful so that another conspirator can win the contract.

On 9th November 2020, the Regional Office issued tender inquiries for hire of 6 x 20 tonnes tipper trucks for ten (10) days to three (3) companies including Lichma Hardware & General Dealers of Chipata and Boysen General Dealers Ltd of Chipata.

On the same date the Regional Manager sought for authority to hire the 6 x 20 tonnes tipper trucks for ten (10) days from Boysen General Dealers being the lowest evaluated bidder at a cost of K240,000.

In addition, Boysen General Dealers commenced works on 9th November 2020, while authority by Roads Development Agency Procurement Committee was granted on 13th November 2020. In this regard, the authority to hire was questionable.

An inquiry from Patents and Companies Registration Agency (PACRA) revealed that two of the three companies (Lichma Hardware & General Dealers and Boysen General Dealers) had common shareholding indicating cover bidding.

c. Unaccounted for Force Account Funds – Northern Province

A scrutiny of financial records such as bank statements, cashbooks and progress reports revealed that amounts totalling K2,570,000 were received for Chewe Bridge during the period under review. An analysis of payment vouchers and cashbooks revealed that amounts totalling K2,073,801 were spent leaving a balance of K496,199 unaccounted for.

As at 31st December 2023, the funds were not in the bank nor was there cash found at hand.

d. Wasteful Expenditure - Force Accounting Funds

A review of records maintained at the RDA Regional Office and an inquiry with Zambia National Service- Land Development Branch revealed that RDA hired equipment from private companies which hired the same equipment from Zambia National Service and were charged higher rates than the rates the Agency would have paid by hiring the equipment from ZNS – Land Development Branch**.** See table 48 below.

Table 48: Hire Charges Rates Comparisons

Type of Equipment	Other Suppliers Rate/Hour	Zambia National Service Rate/Hour	Variance
Bull Doser	887.50	501.50	386.00
Excavator	937.50	382.50	555.00
Tipper	500.00	187.00	313.00

Consequently, the Agency paid amounts totalling K354,650 on hire of equipment instead of K158,848 resulting in excess expenditure of K195,802.

26 Pave Zambia 2000

The Government of the Republic of Zambia, through the Road Development Agency (RDA), embarked on a project to pave approximately 2,000 km of urban and township roads and associated public areas using segmented paving bricks and kerbstone technology countrywide.

The project was to ran for over a period of five (5) years (2015-2019) and was officially launched in September 2013. In this regard, the provinces were supported by the establishment of Brick Paving Machine Plants and the following were observed:

a. Eastern Province

A total distance of 150 km was planned for paving in Eastern Province. In this regard, 498,625 pavers were produced during the period 2015 to 2016 for paving of roads and other public places.

The following were observed:

i. Failure to Provide Information on the Usage of Pavers

Out of the 498,625 pavers produced, 80,980 pavers leaving a balance of 417,675 were recorded to have been utilised. However, management failed to provide information such as goods issue vouchers (GIVs) as to where these pavers were used.

ii. Failure to Utilise Pavers

A review of records and physical inspections conducted in January 2022, revealed that the 417,675 unused pavers were stored at RDA Chisitu workshop depot since 2016. As of June 2023, the pavers were still unutilised. See picture below.

Stockpile of Unutilised Pavers - Chisitu Depot

iii. Caked Cement

During the period between 2015 to 2016, the RDA - Eastern Region received a total of 615 x 50 kg bags of cement costing K18,450 from Lusaka for production of pavers. A physical verification carried out in January 2022 revealed that the 615 x 50 kg bags were still in stock and had gone to waste in that the cement had caked and was unusable rendering the expenditure wasteful. See picture below.

Stockpile of Caked Cement

b. Failure to Handover Paving Machine-Southern Province

An amount totalling K1,192,474 was received for Pave Zambia 2000 project and the whole amount had been spent by January 2016, on production of 417,681 pavers when operations were suspended.

Following the stoppage of production of pavers in January 2016, there was change of Policy and the Road Development Agency received a directive to handover the paving machine to the Ministry of Youths, Sports and Child Development. However, as of June 2023, the machine had not been handed over to the Ministry.

c. Western Province

The production of the pavers for the region commenced on 30th January 2015 with a total funding received amounts totalling K1,184,768 under Pave Zambia 2000. The main component in the production of pavers was cement. In this regard a quantity of 5,534 x 50 kg bags of cements was received and used between November 2014 to January 2016 for production of pavers.

A total of 215,231 pavers were produced in Kaoma RDA workshop depot during the period from 2015 to 2016 for paving of roads and other public places in the region. A total of 140,985 pavers were used to pave RDA regional office (25,481pavers) and other public places within the region (115,504 pavers) leaving a balance of 74,246 pavers.

The following were however, observed:

i. Failure to Utilise Pavers

A review of records and physical inspections conducted in June 2023, revealed that there were 64,881 pavers stored at Mongu RDA Regional office (8,400 pavers) and Kaoma workshop depot (56,481 pavers). Further, there were no plan availed on how the pavers will be used. See the picture below**.**

Unutilized Pavers – Mongu RDA Regional Office

ii. Unaccounted for Cement

During the period under review, Western RDA Regional Office hired a truck with a registration No. ALM 5227 to collect 600 by 50kgs bags of cement from Lafarge Cement in Chilanga.

A review of documents revealed the following:

- On 23rd April 2015 a truck was loaded with 600 by 50 kg bags of cement however, only 594 by 50 kg bags of cement were delivered leaving the balance of six (6) bags unaccounted for.
- On 1st May 2015 a truck was loaded with 600 by 50 kg bags of cement however, only 500 by 50kg bags of cement were delivered leaving the balance of 100 bags unaccounted for.

As at 31st June 2023, no actions had been taken.

d. Failure to Handover Paving Machine - Central Province

An amount totalling K1,373,500 was received for Pave Zambia 2000 project. As of January 2016, when operations were suspended, an amount of K1,373,311 had been spent on the project.

Following the stoppage of production of pavers in January 2016, there was change of Policy and the Road Development Agency received a directive to handover the Paving Machine to the Ministry of Youths, Sports and Child Development. As of June 2023, the Machine had not been handed over to the Ministry.

e. Luapula Province

i. Failure to Utilise Kerbstones

A total distance of 100 km had been planned for paving in Luapula Province under the Pave Zambia 2000 project. In this regard, amounts totalling K1,709,271 were released by NRFA and RDA HQ to the Regional Office to produce 229,225 pavers and 1,522 kerb stones.

A review of records and physical inspections conducted in May 2023, revealed that 1,218 unused kerbstones were stored at RDA Mansa workshop depot since 2016. See pictures below.

Untilised Kerbstones

ii. Failure to Collect Paving Machine

Following the stoppage of production of pavers in January 2016, there was change of Policy and the Road Development Agency received a directive to handover the paving equipment to the Ministry of Youths, Sports and Child Development. As of May 2023, the Machine had not been handed over to the Ministry. See pictures below.

Pave Making Machine *Pavers Laying Machines*

f. Failure to Account for Borrowed Cement

During the periods under review, the regional office had an estimated budget provision of K7,634,435. As of 31st December 2020, amounts totalling K7,388,188 had been spent leaving a balance of K251,247 and the project was completed and commissioned on 23rd November 2021.

The Choma Regional Office borrowed 7,050 bags of cement (Mphamvu 32.5N) costing K532,284 between 19th April 2017 and 11th December 2019 from the Pave Zambia 2000 Project for works on the Zimba-Livingstone Toll Plaza.

However, as at 31st December 2023, there were no records to show how the cement borrowed was accounted for on the project**.** See table 49 below.

Table 49: Failure to Account for Cements

No.	Year	Number of Bags	Amount K
1	2017	1,200	75,037
2	2018	5,250	405,047
3	2019	600	52,200
Total		**7,050**	**532,284**

27 Contract for the Supply of Cement - Undelivered Cement

On 27th March 2014, RDA entered into a twelve (12) months contract with Zambezi Portland Cement Limited to supply 8000 tons of cement per month in 50kg bags for the rehabilitation and construction of roads under the Pave Zambia Project.

Among the conditions in Clause 12 of the contract were the following:

- Payments would be made in advance, before supply of the cement; and
- The supplier was to make the cement available within 72 hours of receiving an order.

On 23rd August 2015, RDA made a paid K4,960,000 for the supply of the cement.

However, as at 31st December 2023, Zambezi Portland Cement Limited had not supplied the cement eight (8) years after the payment and the amount had not been refunded.

28 Accounting Irregularities

a. Irregular Payment of Allowances to Board Members

In a letter dated 19th August 2005, the Minister of Communication and Transport approved a night allowance of 80% of the sitting allowance to board members. It further stated, if for any reason a board member was to travel on Agency business, only the night allowance will be paid. No sitting allowance will be paid.

Between January 2018 and February 2018, a total of K491,012 was drawn as imprest for the Board Chairperson's tour of roads in Eastern, Muchinga, Northern, Luapula, Southern and Western Provinces.

A review of the payment schedule revealed that out of the K491,012, amounts totalling K145,000 were paid to the Board Chairperson and a board member in respect of sitting and night allowances. The payment included sitting allowances of K72,500 which was contrary to the Minister's directives.

In addition, the total night allowances of K72,500 were paid at 100% instead of 80% (K58,000) of the sitting allowance resulting in an overpayment of K14,500. In this regard the total overpayment was K87,000.

b. Irregular Payment of Meal Allowances

Section 81 of the Financial Regulation No. 3 of 2006 provides that Controlling Officers shall ensure that attendance registers of employees engaged in overtime are maintained.

A review of the payment vouchers for the Financial Years 2017 to 2021 revealed that a total of K1,776,410 involving twenty six (26) transactions was paid in form of meal allowances without supporting documents such as attendance/time register and prior authority.

c. Questionable Appropriation of Revenue from Billboards - Central and Southern Regional Offices

Section 7.1 of RDA Finance Manual stipulates that amounts received on a particular day must be deposited into the Head Office RDAs revenue bank account the following day.

Contrary to the Regulation, Provincial Regional Offices spent a total of K1,211,914 revenue collection such as rental properties fees, infringement fees, sale of tender documents, billboard fees among others were spent on administration at source.

d. Failure to Collect Billboard Infringement Fees and Space Rentals

Sections 5, 22, 33, 35 and 56 of Public Roads Act No. 12 of 2002 requires RDA to collect funds for the road infringement's such as erection of Billboards on Trunk, Main and District roads outside a radius of 3 km from the Civic Centre.

Contrary to the Act and directive, Road Development Agency collected a total amount of K1,194,000 as billboard fees and space rentals instead of projected amount of K12,103,758 during the period under review resulting in a shortfall of K10,909,758. The projection was based on the actual number of billboards erected in the provinces as shown in table 50 below.

Table 50: Failure to Collect Billboard Infringement Fees

No	Station	Expected Revenue (K)	Actual (K)	Variance (K)
1	North Western Regional Office	2,918,400	231,600	2,686,800
2	Western Regional Office	266,400	103,200	163,200
3	Luapula Regional Office	45,600	16,800	28,800
4	Central Regional Office	2,870,408	842,400	2,028,008
5	Copperbelt Regional Office	486,000	-	486,000
	G.Rutherford - Copperbelt Regi	5,516,950	-	5,516,950
	Total	**12,103,758**	**1,194,000**	**10,909,758**

e. Failure to Collect Rentals

During the period under review, a total amount of K1,431,195 was expected to be collected in various Regional Offices in the country 187 rented properties.

However, amounts totalling K520,680 were collected resulting in an under collection of K910,515. See table 51 below.

Table 51: Uncollected Rentals

No.	Station	No. of Properties	Expected Rentals K	Rentals Collected K	Uncollected Rentals K
1	North Western Regional Office	66	99,600.00	78,280	21,320
2	Western Regional Office	30	236,300	91,100	145,200
3	Luapula Regional Office	68	405,600	146,500	259,100
4	Muchinga Regional Office	2	5,100	-	5,100
	Copperbelt Regional Office	14	558,900	143,500	415,400
5	Southern Regional Office	7	125,695	61,300	64,395
	Total	**187**	**1,431,195**	**520,680**	**910,515**

f. Unaccounted for Funds - 2017/2020 – Northern Province

A comparison between the funding schedules from RDA Headquarters and financial records such as cash books and receipts maintained at the regional office revealed that amounts totalling K39,559,646 were disbursed while amounts totalling K35,687,849 were received leaving a balance of K3,871,797 unaccounted for. See table 52 below.

Table 52: Unaccounted for Funds

Year	Total Funds Disbursed K	Total Funds Received K	Variance K
2017	12,353,908	11,092,756	1,261,152
2020	27,205,738	24,595,093	2,610,645
Total	**39,559,646**	**35,687,849**	**3,871,797**

g. Unacquitted Payments

Financial Regulation No. 45 (3) stipulates that any document which is acquitted, certified, and approved by a responsible officer should form part of cash sale receipts.

Contrary to the regulation, forty seven (47) payments in respect of allowances in amounts totalling K126,312 made at Lusaka Regional Office were not acquitted by the beneficiaries.

h. **Maintenance of Trunks Roads - Failure to pay Routine Maintenance Contractors**

Between 2017 and 2020, twenty seven (27) contractors were engaged by RDA for the maintenance of Mongu – Lusaka Road (M9), Mongu – Tapo, Tapo – Kalabo road, Mongu – Senanga road (M10) and Senanga – Sesheke road at a total contract sum of K153,278,647 under Force Accounting.

A review of records revealed that as of May 2023 the Agency certified works in amount totalling K50,740,916 out of which amounts totalling K21,222,961 were paid leaving a balance of K29,517,955. The balance had been outstanding from as back as February 2019.

i. **Unaccounted for Stores**

Public Stores Regulation No. 16 requires that every stores officer or any other officer having in his charge any public stores or other articles of public property should keep and maintain record of the receipt and issue of such public stores.

Contrary to the regulation, there were no receipt and disposal details in respect of stores items costing K3,923,378 comprising general stores K3,061,411 and fuel K861,967. See table 53 below.

Table 53: Unaccounted for Stores

No.	Station	General Stores K	Fuel K	Total K
1	North Western Regional Office	170,362	-	170,362
2	Western Regional Office	79,784	-	79,784
4	Muchinga Regional Office	1,568,035	608,153	2,176,188
5	Central Regional Office	685,949	253,814	939,763
6	Lusaka Regional Office	557,281		557,281
	Total	**3,061,411**	**861,967**	**3,923,378**

29 Administrative Matters

a. **Failure to Avail Contracts for Sale of Scrap Metals**

On 29th July 2019, the Road Development Agency Board approved the sale of all scrap metal found in all RDA premises. An evaluation exercise was conducted in March 2020 and the recommended bidders were selected for subsequent award as per Evaluation Report.

However, at the time of audit in September 2022, contracts between RDA and the bidders and evidence of collection of K245,700 from three (3) bidders were not availed for audit. See table 54 below.

Table 54: Status of Scrap Metal Disposal

Lot No.	Location	Bidder No.	Bidder's Name	Bidder's Price K	Status
4	Luapula	73	Zambian Ventures Ltd	32,000	Uncollected
5	Lusaka	58	A&B Replacement Parts Ltd	35,700	Uncollected
6	Muchinga	59	A&B Replacement Parts Ltd	3,000	Uncollected
7	Norhern	64	Zambian Ventures Ltd	41,000	Uncollected
8	North Western	66	Zambian Ventures Ltd	131,000	Uncollected
1	North Western	96	Brickworld Zambia Ltd	2,000	Uncollected
1	North Western	97	Brickworld Zambia Ltd	1,000	Uncollected
			Total	**245,700**	

b. Failure to Secure Title Deeds

Section 41(4) of the Public Finance Management Act No. 1 of 2018, requires Controlling Officers to ensure that all public properties under their charge are secured with title deeds.

Contrary to the Act, title deeds for Parcels of land on which the 228 properties sit were not secured. Consequently, the properties were not insured. See table 55 below.

Table 55: Failure to Secure Title Deeds

No.	Station	No. of Properties
1	Western Regional Office	19
2	Luapula Regional Office	68
3	Muchinga Regional Office	23
4	Copperbelt Regional Office	11
5	Southern Regional Office	106
6	Farm No. F/283a/G-Mumbwa Rd	1
	Total	**228**

c. Failure to Maintain Properties

A physical inspection of properties conducted in May 2023 in selected provinces revealed that the properties were in a dilapidated state as shown in the table 56 below.

Table 56: Failure to Secure Title Deeds

No.	District	Description	Status
1	Mansa	Regional Stores Office	Door Of The Stores Office Block Was Damaged And The Windows Were Broken. ***Picture 1***
2	Nchelenge and Mansa	Housing Units	Houses Were Dilapidated In That Roofs And Windows Were Broken, The Paint Was Worn Out, Walls And Floors Were Cracked. ***Picture 2***
3	Lusaka	Regional Office	Cracks On Walls, Broken Windows, Paint Peeling Off And Missing Mortice Locks On The Doors. ***Picture 3***

Broken Windows

Nchelenge RDA Housing Units

Further, the thirteen (13) fire extinguishers at RDA Lusaka Regional Office that were due for service in July 2021 had not been serviced as at 30th September 2022 thereby exposing them to failure to operate.

30 Staff Related Matters – Failure to Follow Resolution on Motor Vehicles

Minutes of the 1st Management Meeting of Permanent Secretaries on 31st May 2019 in the opening remarks stated that Cabinet had expressed concern on the slow pace that the cost saving measures were being observed.

It was resolved that the purchase of top of the range vehicles such as GX and VX, particularly V8 models be banned.

Contrary to the resolution, RDA procured two (2) Toyota Land Cruiser GX and V8. See table 57 below.

Table 57: Procured Motor Vehicles

No.	Date of Purchase	Vehicle Make.	Vehichle Reg No .	Purchase Price K
1	00/00/2020	Toyota Landcruiser	BAR 2544 ZM	4,206,908
2	00/00/2020	Toyota Landcruiser GX	BAL 3570	Not availed
	Total			**4,206,908**

31 Conclusion

This report has highlighted various areas of weaknesses in the procurement of road contracts by the Road Development Agency. The major weaknesses were failure to settle contractors and consultants' bills, discrepancies between budgeted amounts and contract sums, delayed construction works due to delayed engagement of supervising consultants, failure to prepare final accounts after contract termination, failure to manage assets, irregularities in the management of PAVE Zambia 2000 and poor workmanship through non adherence to project specification.

It is important that the weaknesses highlighted in this report are addressed in order to ensure efficiency, effectiveness and economic procurement and management of road contracts. This will not only save Government the much needed resources but also ensure a good road network across the country. A good road network is essential for economic development.

32 Recommendations

To address the weaknesses identified in the report, I recommend the following:

a. The Agency needs to prioritise and budget for projects in line with the approved budgets set by the Ministry of Finance and National Planning. All projects taken on should have a budget line and funds committed before proceeding to award the contract. This will help reduce on the high interest charges.

   The Ministry should re-evaluate future commitments and ensure that contract commitments do not strain the Government Treasury thereby increasing the level of domestic debt in relation to the road sector.

b. To ensure that quality works are undertaken and value for money is obtained in road construction, consultants should be identified before the commencement of any works by the contractor as delayed engagement of consultants has the potential to compromise the adherence to specifications by the contractor as promulgated in the contract.

c. There is need for the Agency to adhere to the finance and procurement regulations in the implementation of projects to achieve value for money and accountability for government assets.

d. Need for proper handover of projects that are prematurely terminated, final accounts to be done and assets recorded and surrendered to the Agency so that appropriate action is taken.

e. There is need for the Agency to improve on its quality assurance systems so that infrastructure meets the specifications as set out in the contracts and this should be done before payments are made.

f. Title deeds should be obtained for all properties falling under the Agency.

Appendices

Appendix 1: Mismatch between Budget and Contract Sums 2017 - 2022

No	Details	Contract Sums	Consultant	Contract Sums	Contract Sums	Contract Sums (Paid)		Status of Contract
		Budget	Budget	Contract	Consultant	Contract	Consultant	
		K	K	K	K	K	K	
1	Upgrading to Bituminous Standard of Approximately 55km of Unpaved Roads in Chongwe District-Lusaka Province	22,000,000	2,500,000	909,086,569	13,108,000	94,508,697	3,060,000	
2	• Rehabilitation of the 270 M Kafue Hook Bridge along the Road M009 in Western Province	95,108,470	10,000,000	167,463,918	27,340,854	143,942,422	24,387,247	
3	• Upgrading of Ndola – Mufulira – Mokambo Roads (M4/M5) in the Copperbelt Province	96,000,000	15,831,980	745,358,425	9,554,821	312,260,900	2,538,842	Terminated
4	Construction/Upgrading of a Dual Carriageway between Kitwe and Chingola in the Copper- belt Province	296,752,000	28,500,000	1,342,695,623	11,637,491	826,492,945	9,886,700	Completed
5	• Upgrading to Bituminous Standard of the 118km Petauke to Chilongozi Road via Sandwe Gate Lot 1 in Eastern Province	40,000,000	–	289,773,984	-	52,788,613	2,565,494	Terminated
6	• Upgrading to Bituminous Standard of the Petauke to Chilongozi road in Eastern Province (Sandwe Gate to Msoro to Mambwe,125 km) Lot 2:	10,000,000	7,750,000	339,275,207	19,938,308	88,543,694	2,565,494	Terminated

No	Details	Contract Sums	Consultant	Contract Sums	Contract Sums	Contract Sums (Paid)		Status of Contract
		Budget	Budget	Contract	Consultant	Contract	Consultant	
		K	K	K	K	K	K	
7	• Construction of the 4-span 120m Long Composite Bridge Across Mvuvye River in Nyimba District of Eastern Province of Zambia	4,500,000	2,500,000	74,520,324	5,845,133	4,000,000	602,990	In a letter dated 29th April 2022, the contractor informed RDA that they would permanently discontinue all the works following a request by RDA to Anhui Shuian Construction Ltd to discontinue all work activities on the project in the absence of a budgetary provision in 2022 Road Sector Annual Work Plan and because RDA would not certify any expenditure on the project
8	• Upgrading Of Isoka – Muyombe – Chama - Lundazi Road To Bituminous Standard In Eastern Province Of Zambia Lot 5	6,000,000	2,000,000	132,762,024	22,114,107	89,891,422	-	
9	• Upgrading of The Road Between Nchelenge and Chiengi D76/D77 95km with 10 Km Urban Roads in Nchelenge Luapula Province - RDA/Ce/024/014	118,000,000	8,100,000			229,415,987	123,356,828	
10	• Construction of the Chinsali – Nakonde Road Rehabilitation Project	557,000,000	40,000,000	785,773,382		210,981,965		

No	Details	Contract Sums	Consultant	Contract Sums	Contract Sums	Contract Sums (Paid)		Status of Contract
		Budget	Budget	Contract	Consultant	Contract	Consultant	
		K	K	K	K	K	K	
11	• Upgrading and Realignment of R231 from Great North Road at Matumbo to Luangwa Bridge (115KM) Road in Muchinga Province	13,000,000	4,000,000	466,731,196	24,106,221	309,396,999	7,656,298	
12	• Construction of the Matumbo and Kampemba Bridges across Luangwa and Kampemba Rivers in Chama District of Muchinga Province	100,000,000	15,500,000	121,167,634	25,534,222	14,000,099	12,056,389	
13	• Upgrading To Bituminous Standard Of The Isoka – Muyombe – Chama – Lundazi Road: Lot 2: D790 (Km 90 +000) – M14 (Chire River) – (93 Km) In Muchinga Province	14,520,000	4,102,000	262,908,056	36,121,097	43,083,093	3,824,032	
14	• Upgrading To Bituminous Standard Of The Isoka – Muyombe – Chama – Lundazi Road: Lot 3: M14 (Chire River) - Chama (D103 Junction) (90 Km) In Muchinga Province	17,520,000	3,702,000	165,732,485	19,293,368	32,454,424	3,824,032	
15	• Construction of the Mbesuma Bridge Across the Chambeshi River in Muchinga Province	65,000,000	5,000,335	84,185,816	31,364,157	9,551,305	4,851,599	

No	Details	Contract Sums	Consultant	Contract Sums	Contract Sums	Contract Sums (Paid)		Status of Contract
		Budget	Budget	Contract	Consultant	Contract	Consultant	
		K	K	K	K	K	K	
16	• Upgrading to Bituminous Standard of 100 km of the Safwa to Mulilansolo to Chinsali Road Lot 2	122,000,000	8,600,000	352,350,160	27,059,849	152,850,864	5,989,873	
17	• The Upgrading of Samora Machel Airport Road (4KM) in Northern Province	-	–	32,074,863	-	637,850	-	
18	Consultancy Contracts on Rehabiliation of Section 169Km of the Chingola- Solwezi(T005) Road on the Copperbelt and North- Western Provinces - Lot 1,2,3	46,001,000	0	0	21,668,327	-	32,741,695	
19	• Rehabilitation of Section 100-168(68km) of the Chingola - Solwezi (T005) Road on the Copperbelt and North-western Province - Lot 3	190,140,000	-	816,441,562		786,466,087	-	
20	• Upgrading to Bituminous Standard of Approximately 55km of Unpaved Roads in Chongwe District - Lusaka Province	22,000,000	2,500,000	909,086,569	13,108,000	94,508,697	3,060,000	

No	Details	Contract Sums	Consultant	Contract Sums	Contract Sums	Contract Sums (Paid)		Status of Contract
		Budget	Budget	Contract	Consultant	Contract	Consultant	
		K	K	K	K	K	K	
21	· Upgrading of the Road between Nchelenge and Chiengi D76/ 95km with 10Km Urban Roads in Nchelenge Luapula Province - RDA/Ce/024/014	118,000,000	8,100,000	474,574,398	15,855,664	123,356,828	2,933,717	
22	· Upgrading of the 109km of the Solwezi to Kipushi (D271) Road in North-Western Province	15,000,000	2,400,000	412,435,576	27,571,840	67,639,654	1,297,780	
23	· Upgrading of Chiengi to Kaputa 78.1km Road (U2) and Luchinda 27.6 Km D77 with 10 Km Urban Roads in Kaputa District in Luapula Province	125,000,580	-	500,040,613	-	144,683,654		
24	o Construction of the Three- Span Lwela Bridge and Approach Roads Luapula Province	15,500,000	10,800,000	47,190,629	15,995,921	2,474,418	2,249,613	
		2,109,042,050	**181,886,315**	**9,431,629,014**	**367,217,380**	**3,833,930,617**	**249,448,623**	

Exceeded Budget Amounts		**7,507,918,029**
Consultants		**18**
Contractors		**24**

Appendix 2: Failure to Prepare Final Accounts

No.	Details	Contractor	Contract Period	Contract Sums		Amount Paid	Amount Paid	Remarks
				K	US$	K	US$	
1	· Upgrading of Ndola – Mufulira – Mokambo Roads (M4/M5) in the Copperbelt Province		25/08/2016 - 29/06/2019	745,358,425		312,260,900		
	Failure to Prepare Final Account at Termination of Contract							
2	• Construction of a Toll Plaza at Garneton Between Kitwe and Chingola Along T003 Road on the Copperbelt Province	Copperfield Mining Services Limited	26/06/2017-22/11/2017	48,291,140.57	867,649.80	51,559,990.73	168,402.08	The final account which should ascertain the final financial position of the project was not drawn by RDA as of October 2022.
3	• Engineering Design, Rehabilitation, Upgrading and Construction of Approximately 152km Of Selected Township Roads in Kitwe, Chingola And Mufulira on Copperbelt Province-Lot 1				232,225,621.00	173,926,219.38	-	
4	• Upgrading to Bituminous Standard of the Petauke to Chilongozi road in Eastern Province (Sandwe Gate to Msoro to Mambwe,125 km) Lot 2:	China Railway Seventh Group Corporation Limited	19/05/2020–18/05/2022	339,275,207.20		88,543,693.69		The final account which should ascertain the final financial position of the project was not drawn by RDA as of October 2022.

No.	Details	Contractor	Contract Period	Contract Sums		Amount Paid	Amount Paid	Remarks
				K	US$	K	US$	
5	• Construction of the 4-span 120m Long Composite Bridge Across Mvuvye River in Nyimba District of Eastern Province of Zambia	Anhui Shuian Construction Ltd	10/06/2019-20/08/2021	74,520,324.20		4,000,000.00	-	
	Contract Management - Failure to Prepare Final Account at Termination of Contract							The final account which should ascertain the final financial position of the project was not drawn by RDA as of October 2022.
6	• Engineering Design, Rehabilitation, Upgrading and Construction of Approximately 152km Of Selected Township Roads in Kitwe, Chingola And Mufulira on Copperbelt Province-Lot 1	AVIC International Project Engineering Company	22/03/2017-07/07/2020		232,225,621.00		173,926,219.38	
	Failure to Prepare Final Account at Cancellation of Contract							The Project was closed following a directive from the Ministry of Finance to close loan financed Projects. However, the directive to close the Project was not availed for audit and the final account which should ascertain the final financial position of the project was not drawn by RDA as of October 2022 six (6) months after the directive to close the project was issued
7	• Upgrading To Bituminous Standard of The Isoka – Muyombe – Chama – Lundazi Road: Lot 3: M14 (Chire River) - Chama (D103 Junction) (90 Km) In Muchinga Province		9/05/2014 - 9/05/2016		165,732,850			

Appendix 3: Variation of Contractors' Contracts

No.	Province	Contract	Name of Contractor	Date	No. of Variations	Original Contract Sum K	Varied Contract Sum K	Additional Costs K
1	Lusaka	Upgrading of Unpaved Roads to Bituminous Standard in Chongwe District	Luvias Investment Limited	8/21/2019		579,066,336	909,086,569	330,020,233
2	Central	Construction of Toll Plazas between Kabwe and Kapiri Mposhi	Nzovu Transport	10/31/2013		27,966,453	47,853,138	19,886,685
3	Western	Rehabilitation of the 270 m Kafue Hook Bridge along the Road M009	China Henan International Cooperation Group Co. Limited	2/17/2015	12	147,539,014	167,463,918	19,924,904
4	Copperbelt	Upgrading of the Ndola-Mufulira-Mokambo Road (M4/M5-79.8 km)	Inyatsi Roads Zambia Limited in a joint venture with Marks Industries Limited	8/25/2015	3	701,794,401	745,358,425	43,564,024
5	Copperbelt	Construction of a Toll Plaza at Garneton (Wilson Mofya Chakulya) between Kitwe and Chingola along T003 Road	Copperfield Mining Services Limited	6/12/2017	7	41,698,334	48,291,141	6,592,807
6	Copperbelt	Rehabilitation of Section 100-168 (68 km) of the Chingola-Solwezi (T005) Road Lot 3	China Geo Engineering Corporation Southern Africa Limited	5/22/2015	9	586,506,638	816,441,562	229,934,924
7	Eastern	Rehabilitation of 114.78 km of the Great East Road (T4) between Nyimba and Sinda (Nacala Road Corridor Project - Phase II)	Conduril-Engenharia S.A of Portugal	4/10/2013	19	361,187,528	1,101,668,440	740,480,912

No.	Province	Contract	Name of Contractor	Date	No. of Variations	Original Contract Sum K	Varied Contract Sum K	Additional Costs K
8	Muchinga	Construction of the Matumba and Kampemba Bridges across Luangwa and Kampemba Rivers	China Railway Seventh Group (Z) Limited	2/16/2015	4	103,881,127	121,167,635	17,286,508
9	Northern	Upgrading to Bituminous Standard of 100 km of the Safwa to Mulilansolo to Chinsali Road Lot 2	Sinohydro Zambia Limited	5/9/2013	7	295,906,766	352,350,161	56,443,395
10	Copperbelt and North Western	Rehabilitation of Section 0-60 km of Chingola Solwezi (T005) Road	China Geo Engineering Corporation Southern Africa Limited	5/22/2015		481,085,787	738,316,919	257,231,132
11	Copperbelt and North Western	Rehabilitation of Section 60 - 100 km (40 km) of Chingola Solwezi (T005) Road	Buildcon Investment Limited	5/18/2015	11	305,014,166	365,477,890	60,463,724
12	Copperbelt and North Western	Rehabilitation of Section 100 - 168 km (68 km) of Chingola Solwezi (T005) Road	China Geo Engineering Corporation Southern Africa Limited	5/22/2015	9	586,506,638	816,441,562	229,934,924
13	Luapula	Construction of the Three Span Bridge and Approach Roads	Tommorrow Investments Limited	12/27/2017	2	28,703,257	47,190,629	18,487,372
14	Luapula	Periodic Maintenance of Pedicle Road	Copperfield Mining Services Limited	10/29/2012		278,824,387	374,689,652	95,865,265
	Total					**4,525,680,832**	**6,651,797,641**	**2,126,116,809**

Appendix 4: Variation of Consultants' Contracts

No.	Province	Contract	Name of Consultant	Date	No. of Variations	Original Contract Sum K	Varied Contract Sum K	Additional Costs K
1	Western	Rehabilitation of the 270 m Kafue Hook Bridge along the Road M009	Kiran and Musonda Associates Consulting Limited	3/23/2016		9,873,798	27,340,854	17,467,056
2	Copperbelt	Upgrading of the Ndola-Mufulira-Mokambo Road (M4/M5-79.8 km)	Brian Colquhoun Hugh O'Donnel (BCHOD) and Partners Consulting Limited	5/3/2017	1	6,659,942	9,554,821	2,894,879
3	Copperbelt	Construction of a Toll Plaza at Garneton (Wilson Mofya Chakulya) between Kitwe and Chingola along T003 Road	Bari Zambia Limited	7/18/2017	2	3,876,192	9,713,486	5,837,294
4	North Western and Copperbelt	Rehabilitation of Section 169 km of the Chingola-Solwezi (T005) Road	Rankin Engineering Consultants Limited	6/3/2015		18,377,291	21,668,328	3,291,037
5	Eastern	Rehabilitation of 114.78 km of the Great East Road (T4) between Nyimba and Sinda (Nacala Road Corridor Project - Phase II)	SMEC International Pty Limited	6/18/2013	6	32,800	147,559	**114,759**
6	Muchinga	Construction of the Matumba and Kampemba Bridges across Luangwa and Kampemba Rivers	Kiran and Musonda Associates Consulting Limited	1/15/2017	3	14,030,654	25,534,222	11,503,568
7	Muchinga	Upgrading to Bituminous Standard of the Isoka - Muyombe - Chama -Lundazi Road Lot 2	Bari Zambia Limited in association with Voyants Solutions Pvt Limited	9/29/2014	2	19,293,368	36,121,097	16,827,729
8	Muchinga	Construction of the Mbesuma Bride across the Chambeshi River	Rankin Engineering Consultants Limited	8/26/2011	7	3,169,352	31,364,157	28,194,805

No.	Province	Contract	Name of Consultant	Date	No. of Variations	Original Contract Sum K	Varied Contract Sum K	Additional Costs K
9	Northern	Upgrading to Bituminous Standard of 100 km of the Safwa to Mulilansolo to Chinsali Road	Bari Zambia Limited	9/25/2015	3	14,458,182	27,059,849	12,601,667
10	Copperbelt and North Western	Rehabilitation of Section 60 - 100 (40 km) of Chingola Solwezi (T005) Road	Rankin Engineering Consultants Limited	3/23/2016	12	9,873,056	27,340,854	17,467,798
11	Luapula	Construction of the Three Span Bridge and Approach Roads	SMEC International Pty Limited	9/15/2015	4	10,128,906	15,995,921	5,867,015
12	Southern	Supervision of the Construction Works of the Daniel Munkombwe Toll Plaza	Kaplum and Associates Limited	10/13/2017	2	1,933,720	4,367,980	2,434,260
13	Copperbelt	Supervision of the Construction Works of the Kafulafuta Toll Plaza	ILISO Consulting Zambia Limited	10/30/2017	2	1,926,557	5,851,809	3,925,252
14	Copperbelt	Supervision of the Construction Works of the Michael Chilufya Sata and Will Mofya Chakulya Toll Plazas	Bari Zambia Limited	7/18/2017	5	3,876,192	12,344,249	8,468,057
						117,510,010	254,405,186	136,895,176

Appendix 5: Delayed Commencement of Construction Works

No.	Province	Contract Details	Consultant	Scope	Consultant Contract Sum K	Date Contractor Engaged	Commencement Date of Contruction Works	Date Consultant Engaged	Period of Delay (Months)
1	Lusaka	Upgrading of Unpaved Roads to Bituminous Standard in Chongwe District	Allione Consulting Engineers Limited in association with African Oak Consulting Limited	Consultancy	13,108,000	8/21/2019	4/27/2020	3/5/2020	7
2	Eastern	Upgrading of Isoka-Muyombe-Chama-Lundazi Roads to Bituminous Standard Lot 5	Kiran and Musonda Associates Limited	Consultancy Services for the Design and Construction Supervision	22,114,108	12/28/2015	1/26/2016	3/16/2016	3
3	North Western	Upgrading of the 109 km of the Solwezi to Kipushi (D271) Road	Eastconsult Consulting Engineering	Design Review and Supervision of Works	27,571,840	8/31/2019	4/1/2020	5/26/2020	8

Appendix 6: Payments to Consultants

Date	Project Description	Amount K	Amount US$
02/05/2017	Chingola/Solwezi Rd Consultancy-Inv#01	301,580	
02/05/2017	Chingola/Solwezi Rd Consultancy-Inv#01	238,026	
02/05/2017	Chingola/Solwezi Rd Consultancy-Inv#01	99,011	
02/05/2017	Chingola/Solwezi Rd Consultancy-Inv#01	100,811	
02/05/2017	WHT-Chingola/Solwezi Rd Consultancy-Inv#1	128,477	
09/06/2017	Ketha & others-Consultancy-Chingola/Solwezi	278,829	
09/06/2017	Chabuda & Others-Consultancy-Chingola/Solwezi	238,000	
28/06/2017	Ketha & Others-Consultancy-Chingola/Solwezi	139,168	
28/06/2017	Chabuda & Others-Consultancy-Chingola/Solwezi	117,470	
15/07/2017	ZRA-WHT -Pedicle Consultancy	136,494	
25/07/2017	Ketha & Others-Consultancy Chingola/Solwezi	132,883	
25/07/2017	Chabuda & Others-Consultancy Chingola/Solwezi	119,000	
28/09/2017	Ketha V Krishna & Others-Chingola/Solwezi#06,07&08		44,625
28/09/2017	ZRA- Krishna & Others-Chingola/Solwezi#06,07&08		7,875
03/10/2017	Chabuda & Others-Chingola/Solwezi#06,07&08	311,100	
03/10/2017	ZRA-Chabuda & Others-Chingola/Solwezi#06,07&08	54,900	
06/11/2017	Ketha V Krishna & Others-Chingola/Solwezi Inv09	150,809	
06/11/2017	ZRA-WHT-Chingola/Solwezi Inv#09		2,625
06/11/2017	Chabuda & Others-Chingola/Solwezi Inv09	103,700	
06/11/2017	ZRA-WHT Chingola/Solwezi Inv09-Chabuda & Others	18,300	
04/12/2017	Ketha V Krishna & Others-Chingola/Solwezi #10		14,875
04/12/2017	ZRA-WHT-Chingola/Solwezi Consultancy#10		2,625
04/12/2017	Joseph Chabuda & Others-Chingola/Solwezi #10	103,700	
04/12/2017	ZRA-WHT-Chingola/Solwezi Consultancy#10	18,300	
19/01/2018	Ketha & Others-Chingola/Solwezi-Inv#11		14,875
19/01/2018	ZRA-WHT-Ketha & Others-Chingola/Solwezi-Inv#11		2,625
19/01/2018	Chabuda & Others-Chingola/Solwezi Inv#11	103,700	
19/01/2018	ZRA-WHT-Chingola/Solwezi Inv#11	18,300	
14/02/2018	Ketha & Others-Chingola/Solwezi Inv#12		14,875
14/02/2018	ZRA-WHT-Ketha & Others-Consultancy Inv#12		2,625
14/02/2018	Chabuda & Others-Consultancy Inv#12	103,700	
14/02/2018	ZRA-WHT-Chabuda & Others-Consultancy Inv#12	18,300	
28/03/2018	Ketha & Others-Chingola/Solwezi Inv#13		14,875
28/03/2018	ZRA-WHT-Ketha & Others-Chingola/Solwezi Inv#13		2,625

28/03/2018	Chabuda & Others-Chingola/Solwezi Inv#13	103,700	
28/03/2018	ZRA-WHT-Chabuda & Others-Chingola/Solwezi Inv#13	18,300	
15/05/2018	KETHA & OTHERS -CHINGOLA -SOLWEZO -INV.#14		7,225
15/05/2018	KETHA & OTHERS -CHINGOLA -SOLWEZO -INV.#14		3,825
15/05/2018	KETHA & OTHERS -CHINGOLA -SOLWEZO -INV.#14		3,825
15/05/2018	KETHA & OTHERS -CHINGOLA -SOLWEZI -INV.#15		14,875
15/05/2018	ZRA- WHT KEITH&OTHERS -CONSULTANCY INV#14		2,625
15/05/2018	ZRA- WHT KEITH&OTHERS -CONSULTANCY INV#15		2,625
17/05/2018	CHABUDA & OTHERS - CONSULTANCY INV.#14&15		20,637
10/08/2018	K KRISHNA & OTHERS- CHINGOLA SOLWEZI INV 16&17	299,285	
10/08/2018	K. Krishna & Others - Chingola-Solwezi inv 16&17	207,400	
23/08/2018	ZRA - WHT Chingola - Solwezi Road	36,600	
23/08/2018	ZRA - WHT Chingola-Solwezi Road	52,815	
28/09/2018	CHINGOLA SOLWEZI - INV NO. 18 & 19	380,800	
28/09/2018	CHINGOLA SOLWEZI - INV NO.18 & 19	207,400	
28/09/2018	WHT ON CONSULTANCY - CHINGOLA SOLWEZI 18 & 19	103,800	
29/11/2018	K KRISHNA&OTHERS-CHINGOLA INV 21,22&23	535,500	
29/11/2018	K KRISHNA&OTHERS-CHINGOLA INV 21,22&23	311,100	
29/11/2018	ZRA-K KRISHNA&OTHERS- INV # 21,22&23	149,400	
15/05/2019	ZRA -WHT CHINGOLA-SOLWEZI	53,738	
15/05/2019	KETHA V.KRISTNA &OTHERS -CONSULT.SERV.INV.24	103,700	
15/05/2019	KETHA V.KRISTNA &OTHERS -CONSULT.SERV.INV.24	200,813	
11/09/2019	KETHA V KRISHNA -CHINGOLA SOLWEZI INV # (20,25-33)	1,549,250	
11/09/2019	KETHA V KRISHNA -CHINGOLA SOLWEZI INV # (20,25-33)	3,182,075	
11/09/2019	WHT KETHA VENKATA-CHINGOLA-SOLWEZI INV#(20,25-33)	237,870	
24/02/2020	KETHA V KRISHNA &OTHERS-PAYMT FOR IPCS#34,35,37&38	395,467	
24/02/2020	KETHA V KRISHNA &OTHERS-PAYMT FOR IPCS#34,35,37&38	112,200	
24/02/2020	KETHA V KRISHNA-PAYMT FOR WHT- IPCS#34,35,37&38	89,588	

01/09/2020	KETHA V KRISHNA & OTHERS-PYMT FOR IPCS #38-44	1,366,103	
01/09/2020	KETHA V KRISHNA & OTHERS-PYMT FOR IPCS #38-44	255,000	
Total		**12,986,460**	**180,762**

Appendix 7: Amounts Certified and Paid

IPC No.	Date Certified	Amount Certified K	Reference	Amount Paid K	Outstanding K
Advance Payment	1/25/2016	41,710,847	Bt-65-02-IPC-01	10,000,000	
2	3/3/2016	14,355,000	BT-137-2-IPC-Advance	7,464,824	
3	5/5/2016	5,255,300	348/6- Advance	2,000,000	
4	6/16/2016	3,230,526	bt-353-5-IPC-5	500,000	
5	8/31/2016	13,604,709	BT-416-6-IPC-05	115,850	
6	11/22/2017	12,155,355	BT-416-5-IPC-5	500,000	
7	3/7/2018	12,387,701	BT-422-5-IPC-5	665,857	
7	3/7/2018	10,420,250	BT-416-6-IPC-5	959,020	
8	7/3/2020	23,152,450	BT-416-5-IPC-Adv	3,000,000	
9	10/26/2020	18,845,807	BT-416-5-IPC-Advance	5,000,000	
10	2/25/2021	19,001,945	BT-438/1-IPC-5	150,000	
			BT-438-1-IPC-5	1,000,000	
			Bt-18-02-IPC-05	824,895	
			BT-42-8-IPC-2	2,000,000	
			bt-100-6-IPC-1	2,000,000	
			Bt-113-2-IPC-1	3,250,000	
			bt-117-9-IPC-5	863,876	
			Bt-233-1-IPC-1	2,000,000	
			BT-210/01-IPC-06	500,000	
			BT-bank-135- IPC-05	76,595	
			BT-361-06- IPC-05	226,259	
			Bt-444-02- IPC-05	748,300	
			Bt-bank-135- IPC-02	3,000,000	
			Bt-377-06- IPC-01	10,000,000	
			Bt-210-IPC-06	500,000	
			Bt-412-Ipc-06	2,264,473	
			BT-427-5194-IPC-2	200,000	
			Bt-427-Ipc-02	200,000	
			Bt-427-Ipc-02	200,000	
			Bt-427-Ipc-02	200,000	
			Bt-427-Ipc-02	500,000	
			Bt-427-Ipc-07	1,000,000	
			Bt-427-Ipc-02	1,200,000	
			Bt-427-Ipc-02	1,800,000	
			Bt-427-Ipc-07	2,000,000	
			Bt-457-IPC-02	1,000,000	
			BT-456-5532-INV-2	2,000,000	
			Bt-627-IPC-07	200,000	
			Bt-663-IPC-07	614,235	
			Bt-902-IPC-07	431,034	
			BT-984-16-IPC-07	1,034,483	
			BT- 1452-IPC-01	500,000	
			BT- 1782-4681-IPC-02	2,500,000	
			BT- 1896-4817-IPC-02	1,000,000	
			BT- 1911-4897-IPC-07	258,427	
			Banks134-IPC08	2,249,769	
			BT- 2351/317-IPC-07	450,000	
			BT- 2351/303-IPC-08	500,000	
			PV 2360/404-IPC-8	-380,000	
			BT- 2360/404-IPC-8	380,000	
			BT- 2360/404-IPC-08	380,000	
			BT- 2363/434-IPC-08	977,480	
			BT- 2434/7356-IPC08	662,251	
			BT- 2738/8619-IPC-08	3,879,310	
			BT-2969/10103-IPC-10	4,344,483	
Total		**174,119,891**		**89,891,422**	**84,228,469**

Appendix 8: Amount Certified and Paid

Invoice No.	Date Certified	Amount K	Amount Paid K	Outstanding K
1	21.01.15	1,263,266	1,263,266	-
2	6.2.15	440,786	440,786	-
3	5.3.15	246,884	246,884	-
4	7.4.15	258,957	258,957	-
5	5.5.15	259,979	259,979	-
6	4.6.15	214,920	214,920	-
7	8.7.15	214,920	214,920	-
8	7.8.15	214,920	214,920	-
9	7.9.15	238,017	238,017	-
10	2.10.15	235,691		235,691
11	4.11.15	235,691	235,691	-
12	4.12.15	235,691	235,691	-
13	7.1.16	297,448		297,448
14	2.2.16	297,448		297,448
15	2.3.16	220,053		220,053
16	5.4.16	191,598		191,598
17	10.5.16	197,113		197,113
18	7.6.16	191,598		191,598
19	28.6.16	1,374,890		1,374,890
20	7.7.16	191,598		191,598
21	5.8.16	191,598		191,598
22	29.8.16	824,934		824,934
23	7.9.16	191,598		191,598
24	7.10.16	191,598		191,598
25	7.11.16	191,598		191,598
26	7.12.16	191,598		191,598
27	5.1.17	191,598		191,598
28	3.2.17	191,598		191,598
29	7.3.17	159,480		159,480
30	6.4.17	160,765		160,765
31	8.5.17	191,598		191,598
32	6.6.17	195,840		195,840
33	7.7.16	191,598		191,598
34	4.8.17	191,598		191,598
35	6.9.17	191,598		191,598
36	5.10.17	201,718		201,718
37	7.11.17	208,840		208,840
38	8.12.17	229,923		229,923
39	8.1.18	229,923		229,923
40	7.2.18	229,923		229,923
41	7.3.18	229,923		229,923
42	6.4.18	236,711		236,711
43	7.5.18	235,438		235,438
44	6.6.18	235,438		235,438
45	9.7.18	239,074		239,074
46	7.8.18	239,074		239,074
47	5.9.18	239,074		239,074
48	5.10.18	239,074		239,074
49	8.11.18	239,074		239,074
50	5.12.18	239,074		239,074
51	8.1.19	239,074		239,074
52	6.2.19	239,074		239,074
53	6.3.19	169,323		169,323
54	8.4.19	173,565		173,565
55	8.5.19	98,376		98,376
56	11.7.19	196,752		196,752
57	2.8.19	98,376		98,376
58	4.9.19	98,376		98,376
59	1.10.19	98,376		98,376
60	1.11.19	98,376		98,376
61	6.12.19	98,376		98,376
62	2.1.20	98,376		98,376
63	3.2.20	10,213,164		10,213,164
64	5.2.20	98,376		98,376
65	2.3.20	98,376		98,376
66	2.4.20	98,376		98,376
67	2.5.20	98,376		98,376
68	3.6.20	98,376		98,376
69	1.7.20	156,025		156,025
70	4.8.20	156,025		156,025
71	2.9.20	156,025		156,025
72	1.10.20	112,039		112,039
73	2.11.20	112,039		112,039
74	1.12.20	112,039		112,039
75	4.1.21	112,039		112,039
76	2.3.21	224,079		224,079
77	9.9.21	721,443		721,443
Total		**28,215,569**	**3,824,032**	**24,391,537**