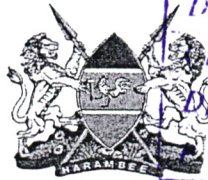


*Paper laid
by the Minister for
Roads in respect*

*P. O. 1268
23/11*

REPUBLIC OF KENYA



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MINISTRY OF ROADS
ROADS DEPARTMENT



CONSTRUCTION OF A3/C81 ROAD - GARISSA - MODOGASHI - WAJIR
- PHASE 1 - GARISSA - MODIKA - NUNO ROAD PROJECT

CONTRACT No. RD 0472

AUDIT REPORT

July 2009

CHIEF ENGINEER (ROADS)
MINISTRY OF ROADS
P.O. Box 30260-00100
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PERMANENT SECRETARY
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EXECUTIVE SUMMARY

INTRODUCTION

During a tour of development projects in Garissa by the Prime Minister, the public raised concerns on the construction of Garissa-Modika-Nuno Road Project.

CONCERNS

The concerns raised by the public were as follows:-

- Only 10 km out of the expected 20 km had been completed
- Value for money was not realised due to overvaluation of works executed.
- Poor quality of work already executed.

Consequently an Audit Team was appointed by the Permanent Secretary, Ministry of Roads to investigate the concerns mentioned above.

FINDINGS

- A total of 12.25 km had been constructed to bitumen standard comprising 9.635 km of main Road from Garissa to Modika, access road to Provincial Commissioners office measuring 1.65 km, access to Garissa TTC, measuring 0.975 km and extension of the main A3 Road measuring 0.375 km.
- The works were tendered using preliminary design which had a large margin of error as regards estimates of quantities, thus significant cost overruns resulted.
- The correct procedure of approval was followed and based on test results, the works were undertaken in accordance with the specification hence not substandard.
- Variation of Prices contributed significantly to the cost overruns in the project.

CONCLUSION AND RECOMMENDATIONS

- The actual length of the road completed to bitumen surfacing was 12.25 km and not 10 km. In addition, other works along the project road towards Nuno had been carried out.
- Considering the payments made upto April 2009 (i.e, Kshs. 722,890,221.92) , this translates to a cost of Kshs. 59.01 million per km of road constructed which is comparable to the cost of recently awarded projects of similar nature hence the Government got value for money.
- Based on the pavement record chart and test results availed, the road was constructed in accordance with the contract's specifications and therefore the works were not substandard.
- Preliminary design should never be used in procurement of works to avoid similar circumstances in which quantities are grossly underestimated resulting into non-completion of projects.

1.0 INTRODUCTION

1.1 General

Following a visit to Garissa District by the Prime Minister in April 2009, some concerns were raised by the public regarding the construction of Garissa-Modika-Nuno Road Project. The main concern was that the road was not completed to their expectations as enumerated in 1.2 below. The concerns were mainly rooted on the fact that this is the only tarmac road in the whole of North Eastern Province and the people expected to get 20 km of tarmac, nothing less. The Prime Minister directed that investigations be carried out in order to verify the issues raised and take the necessary corrective measures where necessary. This report is therefore a response to the instructions from the Prime Minister. The Permanent Secretary, Ministry of Roads, appointed a team of officers from different Departments of the Ministry to carry out the exercise and present its findings to him for action.

1.2 Concerns

There were concerns raised by the public as follows.-

- i) Although the contract was for bituminization of the road from Garissa to Nuno, a distance of 20 km, there were indications that the project had been completed while only 10 km had actually been completed from Garissa to Modika.
- ii) The works were grossly over-valued, and therefore the government did not get value for money.
- iii) The quality of work was inferior and may not be according to the specifications

1.3 Audit Team

The Ministry of Roads constituted an audit team to carry out investigations on the issues raised by the public. The team comprised of the following:-

| | | |
|---------------------|-----------------------------|-------------|
| Eng. S.M. Kathindai | Materials Department | Team Leader |
| Eng. M. Kivoto | Roads Dept. (Construction)) | Member |
| Eng. A.O. Achoki | Quality Assurance Dept. | Member |
| Eng. C.O. Obuon | Roads Dept. (Design) | Member |
| Mr. A.O. Sagini | Accounts Department | Member |
| Mr. P.O. Ngoge | Internal Audit Department | Member |
| Mr. P.M. Nganga | Procurement Department | Member |

Eng. A.O. Achoki of Quality Assurance Department was engaged elsewhere and did not participate in the exercise

A copy of the letter of appointment of the Audit Team is attached in **Appendix 1**.

1.4 Terms of Reference

The Team Leader prepared the Terms of Reference (TOR) to guide the Audit Team on the scope of their work. The TOR was approved by the Secretary

(Administration) as per the attached memo dated 29th May 2009. The work to be undertaken included the following:-

- Looking at available design reports and their adequacy.
- Checking the contract documents to establish whether the funds provided in the contract had been exhausted and if so, look at the scope of works done *vis' a vis'* the contract provisions.
- Consult with the Resident Engineer on reasons that may have caused the project not to be completed upto Nuno.
- Evaluate the value of work done to date by assessing the scope and extent of works done, payments made and any changes in scope that may have arisen while executing the works.
- Assess the quality of work by checking any available test results of materials, works tested, combined with visual inspection.
- Make recommendations on the issues raised and enumerated in the letter of appointment of the Audit Team.
- Any other details as may be observed on site.

2.0 PROJECT DETAILS

2.1 Location and Extent of Works

The road project is located in Garissa District of North Eastern Province and comprises the following classified roads:

- a) Garissa – Modika road (A3). This is approximately 9.6 Km. It starts at Garissa town to Modika centre and extends to Liboi into Somali border.
- b) Modika – Nuno centre road (C81). The road is approximately 10.4 Km. It starts at A3/C81 Junction at Modika centre along C81 Road and ends at Nuno centre.

The project location map is attached as **Appendix 2**.

2.2 Scope of Works

The road project was to be constructed to bitumen standard. The major works to be executed comprise mainly of but are not limited to the following:

- i) Limited Site clearance and Top soil removal.
- ii) Earthworks
- iv) Construction of pipe culverts, box culverts and other drainage works.
- v) Preparations of sub grade to receive the pavement layers as per the standard specification.
- vi) Provision of cement improved gravel for road sub base of the specified thickness.
- vii) Provision of cement stabilised gravel road base of specified thickness.
- vii) Provision of double seal surface dressing using 14/20 mm and 6/10mm precoated class 4 chippings for both the carriageway and shoulders.
- viii) The shoulders shall be constructed with the same material and thicknesses for the sub-base, base and surfacing.
- ix) Protection works using stone pitching and Gabions as necessary.
- x) Relocation of services as necessary.
- xi) Installation of Kerbstones where instructed.
- xii) Provision of road furniture, including road marking and traffic signs.
- xiii) Landscaping including top soiling and grassing.
- xiv) Maintenance of passage of traffic through and around the works.
- xv) Maintenance of works during construction and during the defect liability period which shall be 24 months.

2.3 Contract Background

The contract for the construction of Garissa - Modika Road (A3) and Modika – Nuno Road (C81) was agreed between the Government of Kenya, represented by the Permanent Secretary, Ministry of Roads and Public Works (the

2.4 Contract Details

- Project Title - Construction of Garissa Modogashi –Wajir (A3/C81)Road.
Phase I – Garissa –Modika-Nuno (20km)
- Contract Title - RD 0472.
- Scope of Works - Construction to bitumen Standard.
- Employer - The Government of Kenya (GOK),
Represented by Permanent Secretary, MOR.
- Financier - GOK , using Development Vote (D13)
- Contractor - Aegis Construction Co. Ltd
- Engineer - Chief Engineer (Roads)
- Tender Sum - Kshs 748,214,113.58.
- Time completion - 18 months.
- % performance security - 10% of Tender Sum.
- Liquidated Damages - Kshs. 100,000 per day.
- Defect Liability period - 24 (Twenty Four) months.
- Advanced payment - 10% of Contract price.
- Rate of Advance Recovery - 10% IPC.
- Time for Payment after Engineer’s Certificate - 90 days

- % of Retention - 10% of Interim Certificate (IPC)
- Limit of Retention Money - 5% of Contract Price
- Date of Contract Award - 14/12/2006.
- Date of Signature of Contract Agreement. - 23rd Jan, 2007.
- Date of Order to Commence - 6th March, 2007.
- Commencement date - 4th April, 2007
- Original Completion date - 4th October, 2008
- Extension of Time Awarded - 234 days
- Revised Completion Date - 26th May 2009
- Contract Sum - 748,214,113.58
- Amount Certified to Date (Upto IPC No. 23) - 722,323,891.65

4.0 OFFICE SESSION

The Audit Team perused through the following documents, availed by the Resident Engineer, to unearth the details of the project implementation:-

- i) Contract Document
- ii) RE's Organisation and qualifications of Staff
- iii) Laboratory set-up
- iv) Plants on site
- v) Site Diary
- vi) Site Instructions file
- vii) Measurement Sheets
- viii) Approval Sheets
- ix) Pavement Record Charts
- x) Monthly progress Reports
- xi) Minutes of Site Meetings
- xii) Copies of Grants of Extension of Time
- xiii) Cross Section Details of Works

5.0 FINDINGS

5.1 Contract Document

The extent of contract included 1.8 km of town roads to be repaired and rehabilitated. It was observed that, the actual town roads were not specified. However, the works undertaken including access road to Provincial Commissioners office measuring 1.65 km and access to Garissa TTC, measuring 0.975 km and extension of A3 Road measuring 0.375 km, totalled 3 km. This length by far exceeded that provided for in the Contract. However, the Audit team was convinced that the correct procedure was used since approval to carry out works on Access to Garissa TTC was granted by the Employer vide the attached Internal Memo Ref. No. R.7219/RD 0472 dated 30th July 2007 (**Appendix 4**) in addition to the access to PC's Office.

In addition to the above, it was noted that, whilst the section 102.2 of the special specification stated that there will be repair and rehabilitation of the town roads, the relevant items for ripping off/scarifying the existing pavement was not provided in the bills of quantities.

However, it was clarified to the Audit team that, where scarification was done, the item for hard material was used for payment. The team noted that, it would have been proper for a new item to be introduced to cater for the missing item in the Contract. The Audit team further noted that the quantity of the material to be scarified was not too high to have any significant financial implication to the contract costs.

5.2 Site Meetings and Management Meetings

5.2.1 Monthly Site Meetings

The Audit Team found that regular monthly site meetings were held.

5.2.2 Management Meetings

The Audit Team noted that at least 3 (three) management meetings were held and the following were of interest to the Audit Team:-

In the minutes of management meeting held on 29th April 2009 (**Appendix 5**), it was noted as follows:-

- i) The Resident Engineer had informed the meeting that only 1.8 km of town roads were to be repaired and that the works were not itemised in the Bills of quantities. The Chairman had ruled that the normal process was to seek for Employer's approval of the missing items. The Chairman further called on the evaluation committee of the project's appraisal to expedite the process.(Minute 2.4)

- ii) The Contractor had stated that the amount of fill had tremendously exceeded the billed quantity. The fill was 345,000 m³ for 9.6 km against 250,000 m³ provided in the bills of quantities. (Minute 2.5) and was causing delays. The Contractor further stated in minute 3.1 that another 300,000 m³ of fill will be required to complete the project.

In the minutes of management meeting held on 28th August 2008 (**Appendix 6**), the following was noted:-

- i) Access to PC's Office: It was agreed that the existing ground be processed to form subbase followed by the rest of the pavement layers as per minute 2.1.
- ii) It was agreed that the works for access road to PC's office and the section along A3 from Tana River Bridge be undertaken and that Modika-Nuno Road (C81) may be terminated when the contract sum is consumed as per minute 3.1. The meeting also agreed that earthworks of Modika-Nuno Section should be suspended until the appraisal is completed.

5.3 Site Diary

The Audit Team checked and confirmed that the Resident Engineer kept a site diary.

5.4 Site Instructions

The site instructions file was availed by the Resident Engineer and contained the details of instructions issued to the Contractor.

5.5 Programme of Works

The Audit Team confirmed that the Contractor submitted a fully resourced programme of works and the corresponding cash flow estimates on 20th March 2007. However, it could not be determined whether approval of the programme of works was granted.

5.6 Pavement Approval

The Audit Team confirmed that the correct procedure for approval of works was adequate and as follows:-

- i) The Contractor submits requisition for the works to be carried out on a specific day and time.
- ii) The Resident Engineer receives the requisition, make arrangements to supervise and carry out tests on completed sections.
- iii) It was also found that the Resident Engineer had delegated the approvals to the Inspector of Works in his absence.

5.7 Adequacy of Proposed Design

The works were tendered using preliminary design which is normally within $\pm 20\%$ margin of error. This was because, the Consultant was originally to design the whole stretch of the road from Garissa to Modogashe but fast

tracking was done to tender the first 20 km from Garissa to Modika and then to Nuno (see attached memo Ref. No. R.11345/RD 0472 dated 7th February 2008 in **Appendix 7**).

i) *Pavement*

The original design had proposed the use of cement only for subbase improvement. However from trials it was considered necessary to use lime due to high Plasticity indices for the gravel. It was noted that the use of lime for subbase improvement did not have any serious cost implication into the project.

ii) *Structures*

Some of the structures proposed in the design for the project were inadequate, thus the Resident Engineer revised them as follows:-

| Chainage | Original Size | Revised Size |
|----------|------------------|-----------------|
| 3+500 | 1 x 1200 mm pipe | 2 x 900 mm pipe |
| 3+550 | 2 x 2.5 m box | 4 x 2 m |
| 7+700 | 2 x 1200 mm pipe | 4 x 900 mm pipe |
| 8+415 | 1 x 1200 mm pipe | 4 x 900 mm pipe |

The revised sizes were communicated to the Contractor vide the Resident Engineer's letter Ref. No. GMN/0472/SI/80 dated 6th March 2008 (copy in **Appendix 8**). The Audit Team noted that this revision would have the effect of increasing the project costs due to increased lengths of the drainage structures.

iii) *Drainage Channel*

The Resident Engineer had instructed the Contractor to construct a drainage channel on one side of the road from Km 0+000 backwards to the river to control storm water. This was not provided for in the Contract document but was necessary. This comprised excavation of a trapezoidal trench over a stretch of 3.5 km to drain storm water. This involved massive excavation for the trapezoidal channel which on average measured 1.5 m bottom width, 6.0 m top width and 1.5 m in depth.

5.8 Pavement Record Chart

The Resident Engineer kept a pavement record chart which indicated that the road was constructed in accordance with the specifications in the Contract and therefore the works were not substandard (see attached Pavement Record Chart in **Appendix 9**). Sections which did not meet were rejected and redone/repeated as per the Resident Engineer's letter Ref. No. GMN/0472/SI/99 dated 7th May 2008 (copy attached in **Appendix 10**)

5.9 Progress Reports

The progress reports were upto date and in accordance with the approved format. The latest progress report availed was for the month of April 2009.

5.10 Extension of Time

The Employer had approved an Extension of Time (EoT) for completion of works of 234 days. This was communicated to the Contractor vide the Engineer's letter Ref. No. R.13248/RD 0472 dated 21st January 2009 (copy attached in **Appendix 11**). This extension of time revised the completion date from 4th October 2008 to 26th May 2009. The reasons for the Extension of Time were as given below:-

| <u>Claim Description</u> | <u>EoT awarded</u> |
|--------------------------------------|--------------------|
| i) Increased quantities | 206 days awarded |
| ii) Late instruction for box culvert | 7 days |
| iii) Design of intersection | 7 days |
| iv) <u>Post election crisis</u> | <u>14 days</u> |
| Total | 234 days |

5.11 Measurements and Payment

The Audit Team checked the measurements and observed that they were in the correct format for preparation of Interim Payment Certificates (IPC).

5.12 Appraisal and Variation Order

The Resident Engineer carried out an appraisal of the project following revelations by the Contractor that there will be cost overruns. This appraisal was forwarded to the Engineer vide the Resident Engineer's letter Ref. No. GMN/0472/CE/62 dated 19th March 2008 (copy attached in **Appendix 12**).

The Engineer forwarded the appraisal to the Employer vide memo Ref. No. R.10555/RD0472 dated 2nd December 2008 recommending the following alternatives:-

- i) Winding up the project and tendering the remainder of the works from Modika to Nuno.
- ii) Request the Public Procurement Oversight Authority to authorise the direct procurement of the remainder of the works since the amount required exceeded 15% of the original contract sum allowed for in the Public Procurement and Disposal Act, 2005.

The Employer proposed that the remainder of the works be procured by direct procurement as per the comments on the aforementioned memo Ref. No. R.10555/RD0472 dated 2nd December 2008 (copy attached in **Appendix 12**).

The ministerial Tender Committee was requested to adjudicate the procurement of Variation Order vide memo Ref. No. R.747/RD.0472 dated 25th February 2009 (copy attached in **Appendix 12**). The MTC deferred the application seeking clarification, vide letter Ref. No. MR/A 164.17 VOL. XI/ (232) dated 23rd March 2009 (copy attached), as follows:-

6.0 CONCLUSION AND RECOMMENDATION

6.1 Conclusion



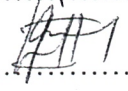
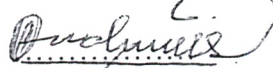

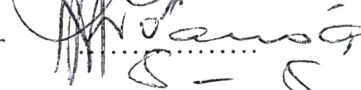
From the Audit Findings, it can be concluded as follows:-

- A total of 12.25 km of road was completed to bitumen layer comprising of 9.635 km along Garissa – Modika Road (A3), access road to Provincial Commissioners office measuring 1.65 km, access to Garissa TTC, measuring 0.975 km and extension of A3 Road measuring 0.375 km.. Further, Earthworks had been completed and covered with subbase material for 2 km and also topsoil stripping upto 6 km on the Modika-Nuno Road (C81).
- There were inadequacies in the design thus the estimates could not accurately reflect the actual quantities during implementation.
- The extension of time of 234 days granted for completion resulted into additional supervision costs under the preliminary and general bill of quantities.
- The site supervision team had envisaged overruns in quantities and forwarded appraisal report to the Employer for approval.
- Tests on completed sections were carried out to ensure compliance with the specifications of the Contract and approvals granted accordingly.
- Although certificates were approved regularly, only summary of measurements were availed while detailed measurement sheets were not provided for sections of work completed. However, detailed measurements were availed on further consultations indicating measurements of works chainage by chainage.
- There were significant cost overruns in the project for site clearance, earthworks and culvert and drainage works which were exceeded by 384.69%, 58.65% and 161.45% respectively. Another major contributor to the cost overruns was Variation of Prices (VOPs) which was exceeded by 149.14%.
- It was noted that a substantial completion inspection was held on 7th April 2009 in which it was agreed that the road be taken as substantially complete and recommendations made that the Employer takes over the road (copy of the minutes of Substantial Completion Inspection are attached as **Appendix 15**).

6.2 Recommendations

- The actual length of the road completed was 12.25 km. In addition, other pavement works had been carried out. The payments made upto April 2009 amounted to Kshs. 722,890,221.92 as per Interim Payment Certificate No. 23. Ignoring all other pavement works and considering the completed 12.25 km only, this translated to a cost of Kshs. 59.01 million per km of road constructed which is comparable to cost of recently awarded projects of similar nature hence the Government got value for money.
- The completed sections of the road have been constructed to the standards specified in the contract thus the quality of works executed was satisfactory. Meanwhile, the sections which have not been completed should be protected.
- The Contract was paid through Interim Payment Certificates (IPC) based on measured quantities while the works were progressing. Since the funds are almost exhausted, the Resident Engineer and the Contractor should urgently carry out final measurements which accurately depict the final value of the works already executed.
- The works should be executed within the Contract Sum after which the Employer should expeditiously process the appraisal of the project to allow the works to proceed within the provisions allowed for under the Public Procurement and Disposal Act 2005.
- It is true that the quantities for earthworks were grossly underprovided in the bills of quantities. Omission of items in other bill items was also noted. This may have been due to utilisation of preliminary design in the preparation of tender documents.
- The Variation of Prices (VOPs) also contributed significantly to the Cost overruns in the project. The same trend has been observed in other contracts and it is recommended that other methods of providing for VOPs be sought in order to avoid these cost overruns.
- It is our opinion that preliminary design should never be used in procurement of works to avoid similar circumstances in which quantities are grossly underestimated resulting into non-completion of projects.

The members of the Audit Team hereby append their signatures:-

| <u>Name</u> | <u>Designation</u> | <u>Signature</u> |
|------------------------|---------------------|---------------------------------------------------------------------------------------|
| 1. Eng. S.M. Kathindai | SSE (Materials) |  |
| 2. Eng. M. Kivoto | SSE (Construction) |  |
| 3. Eng. C.O. Obuon | SE (Design) |  |
| 4. Mr. A.O. Sagini | Accountant |  |
| 5. Mr. P.O. Ngoge | Internal Auditor |  |
| 6. Mr. P.M. Nganga | Procurement Officer |  |

APPENDICES

Appendix 1: Letter of Appointment of the Audit Team



MINISTRY OF ROADS

INTERNAL MEMO

From: Secretary Administration

To: Mr. Peter Ngige ✓
Internal Audit Department

Abel Ondimu Sagini
Accounts Department

Peter M. Nyaga
Procurement Department

Eng. A. O. Achoki
Quality Assurance

Eng. C. O. Obuon
Design (Roads)

Eng. Mutii Kivoto
Construction (Roads)

Ref: A97.05/P VOL. 11/39

Date: 25th May, 2009

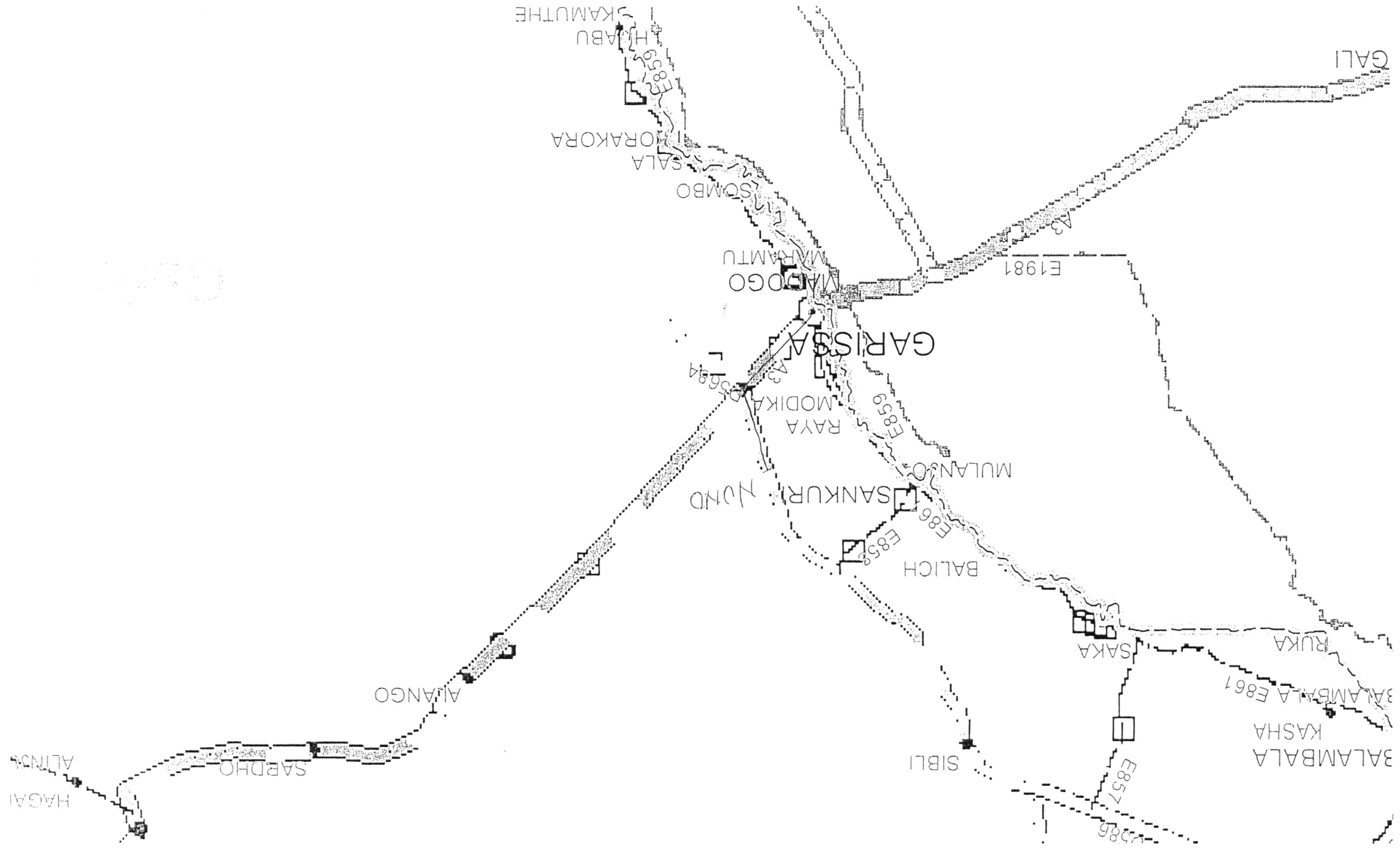
SUBJECT

AUDIT FOR GARISSA – NUNO ROAD PROJECT

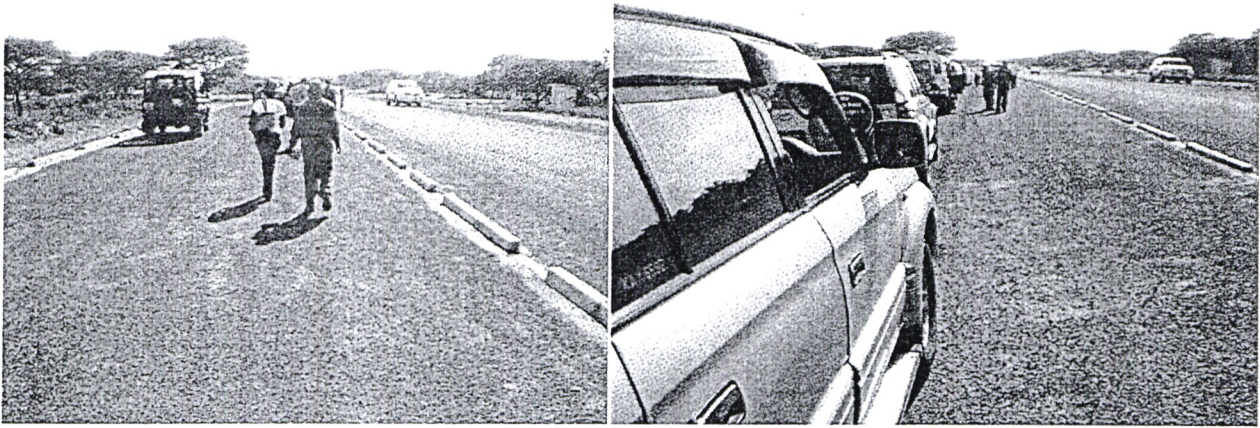
This is to inform you that you have been appointed to be a member of the Audit Team for the above project. The team is expected to investigate the following allegations raised by Wananchi during the Prime Minister's recent visit to Garissa and inspection tour of the project;

- That although the contract was for tarmacking of the road from Garissa to Nuno, a distance of 20 km, the project has stalled at Modika, a distance of 10 km from Garissa.
- - The works are grossly over-valued, and therefore the government did not get value for money.
- That the quality of work is inferior and may not be according to the specifications.

Appendix 2: Project Location Map



Appendix 3: Site Visit Photographs



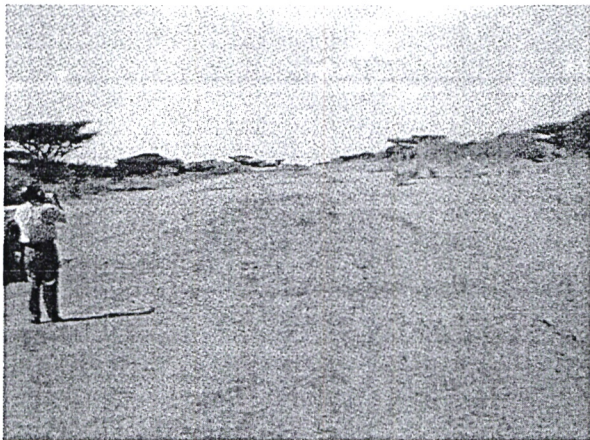
Widening of Road at Modika Junction of A3/C81 Road



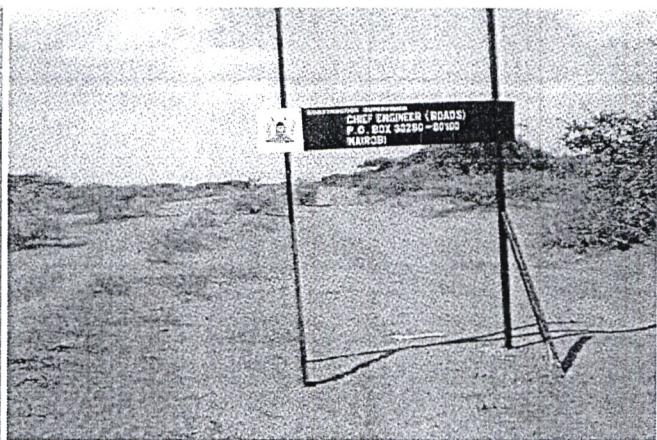
The Inspection Team at Km 2+000 from Modika



The Audit Team at Nuno (End of Project Road)



The Audit Team at Nuno (End of Project Road)



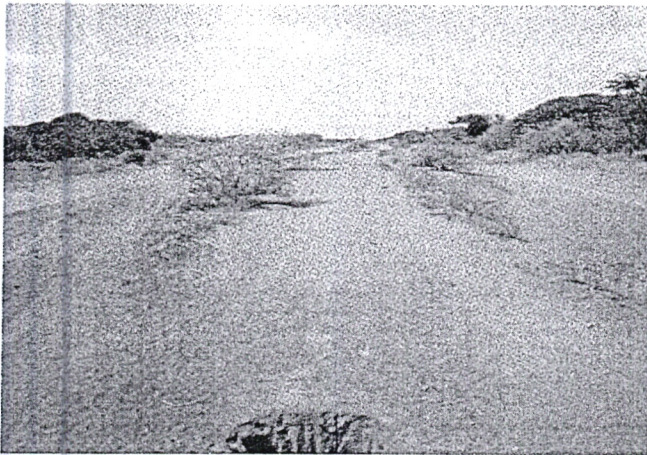
Vandalised Publicity Sign at Nuno



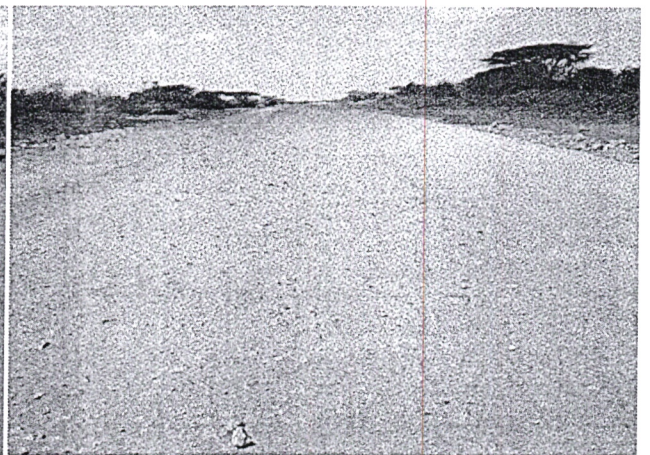
The Audit Team at Nuno (End of Project Road)



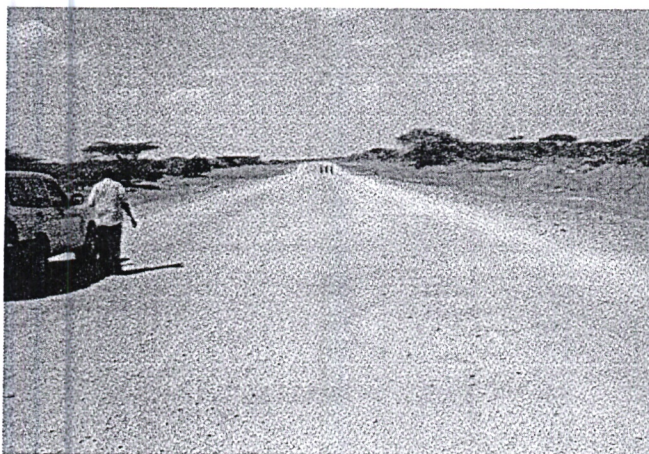
The RE appraising the Audit Team at Nuno



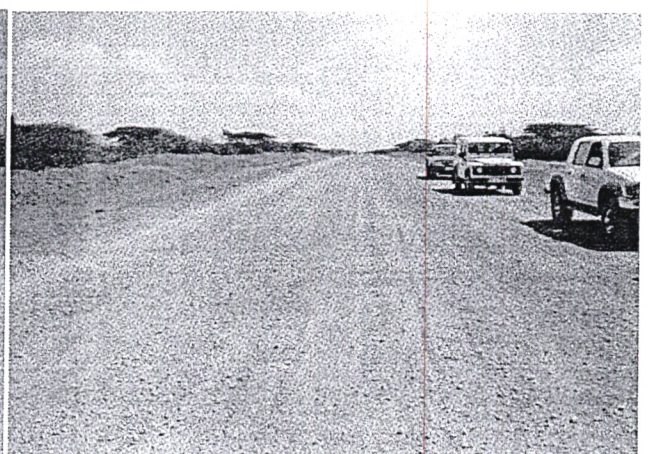
End of Project Road at Nuno



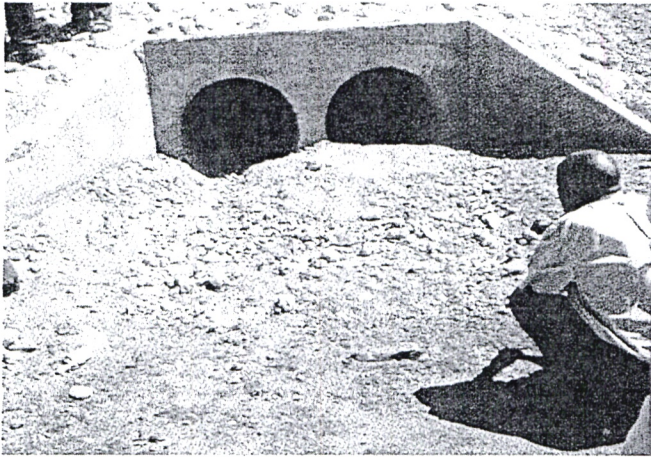
Dumped Subbase Gravel Between Km 0 – 2 from Modika



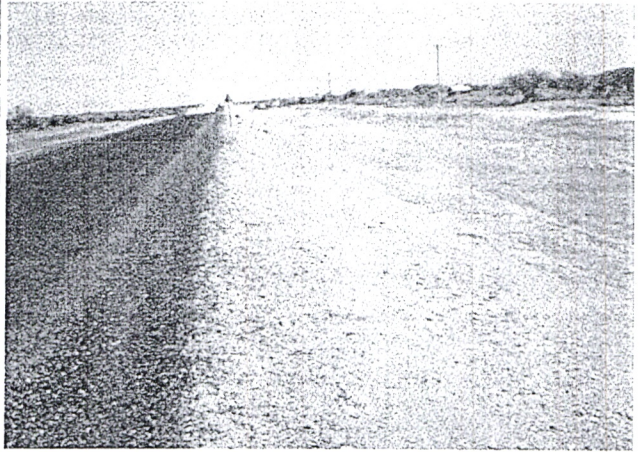
Dumped Subbase Gravel Between Km 0 – 2 from Modika



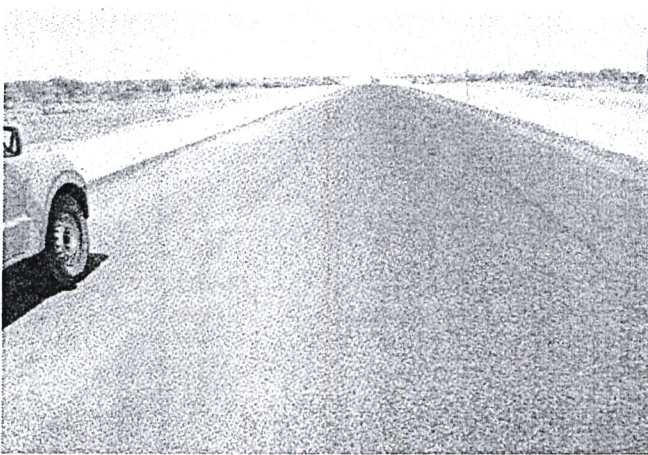
Dumped Subbase Gravel Between Km 0 – 2 from Modika



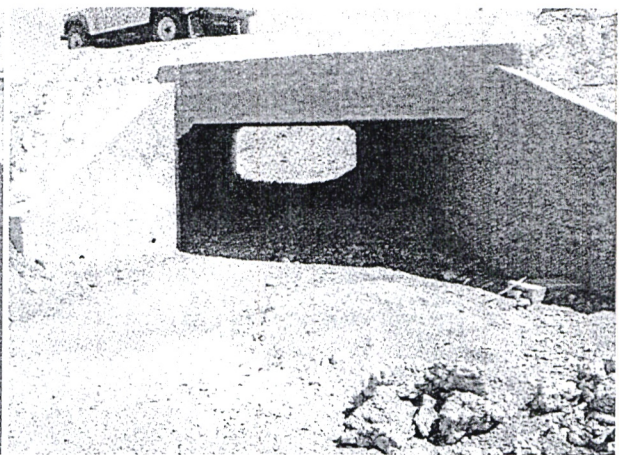
Twin 900 mm diameter Culvert



Finished section of Road along Garissa-Modika Road



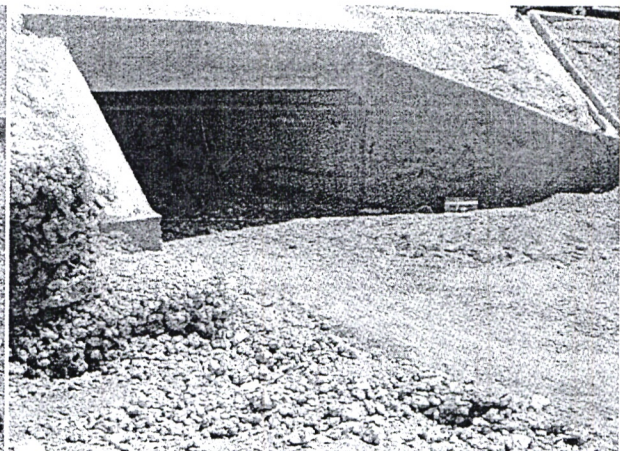
Finished section of Road along Garissa-Modika Road



4m X 2 m Box Culvert along Garissa-Modika Road



Inlet to 4m X 2 m Box Culvert



Inlet to 4m X 2 m Box Culvert



Inlet to 4m X 2 m Box Culvert



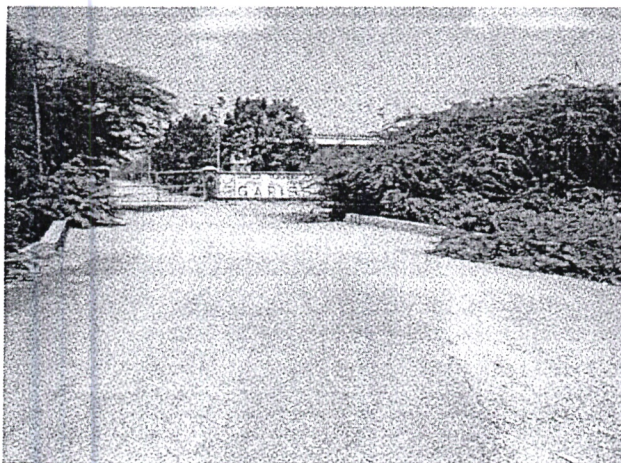
Discussion at Inlet to 4m X 2 m Box Culvert



Outlet to 4m X 2 m Box Culvert



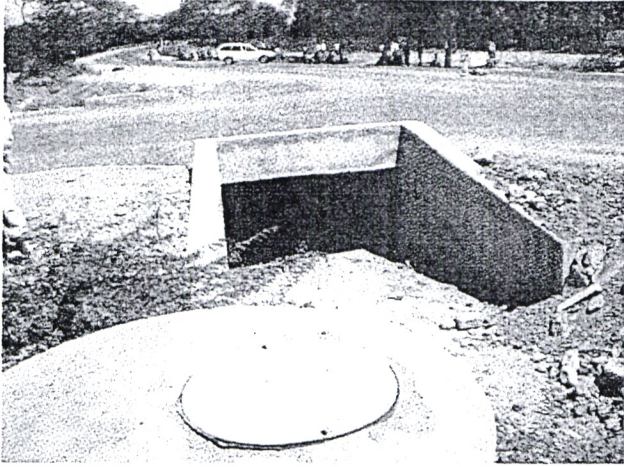
Outlet to 4m X 2 m Box Culvert



Access Road to Garissa Teachers Training College



Access Road to Garissa Teachers Training College



Box Culvert at Junction to P C's Offices



Courtesy Call to PRE's Offices

Appendix 4: Employer's Approval of Works on Access to Garissa TTC in addition to the access to PC's Office



MINISTRY OF ROADS AND PUBLIC WORKS
CONSTRUCTION OF GARISSA-MODIKA-NUNO ROAD (A3/C81)
CONTRACT No RD 0472

Resident Engineer
P.O.BOX 41
GARISSA.

Telephone: 0721-494717
When replying please quote
Ref:No.GMN/0472/SI/57
and date 28th Nov, 2007

Site Agent,
Aegis Construction Ltd,
P O Box 10188/00100,
NAIROBI.

RE: GARISSA -MODIKA- NUNO ROAD CONTRACT No. 0472
Garissa Teachers Training College Access Road

Attached is the Employers approval of the Garissa Teachers Training College Access Road you have inquired about. (Ref R.7244/RD 0472of 6th August, 2007).

Note that works are of a similar nature as the main works and are Subject to measurements.

A copy of the specific works involved is attached for your necessary action.



Eng.J.O.Otiato
RESIDENT ENGINEER.



MINISTRY OF ROADS

Telephone: Nairobi 2723101

Telegraphic Address "MINWORKS"

Telex: 22174

Fax: 720044

If calling or telephoning ask for

When replying please quote

Ref No.: R 3894/RD. 0472

M/S Aegis Construction Co. Ltd.
P.O Box 10188
NAIROBI.

Dear Sir,

CONSTRUCTION OF GARISSA – MODIKA - NUNO (A3/C81) ROADS PROJECT

CONTRACT NO. RD 0472

MINUTES OF MANAGEMENT MEETING HELD IN ON 29TH APRIL. 2008.

Further to the above mentioned meeting, please find enclosed a copy of the minutes for your information and further necessary action.

Yours faithfully,

Eng. Mwangi Maingi,

CHIEF ENGINEER (ROADS).

Encl.

Cc

Resident Engineer
Garissa – Modika - Nuno
(A3/C81) Roads Project,
P. O. Box 41,
GARISSA.

-For information and further necessary action

File in
Minutes file
J-C
21/5/08

ROADS DEPARTMENT
TRANSCOM HOUSE
P.O.BOX 30260 GPO
NAIROBI.

13th May, 2008

MINUTES OF MANAGEMENT MEETING FOR CONSTRUCTION OF GARISSA - MODIKA
 UNO (A3/C81) ROADS PROJECT HELD IN THE RM 639 BOARDROOM, TRANSCOM
 HOUSE ON 29TH APRIL 2008.

ATTENDANCE

| | | |
|-------------------|----------------------------------------------|------------|
| Eng. S.M. Ngare | -SPSE (C), MOR | - Chairing |
| Eng. J. O. Ogango | - CSE (C-E), MOR | |
| Eng. P.G. Githere | - Project Engineer, MOR | |
| Eng. J.O. Otiato | - Resident Engineer, MOR | |
| Avtar Singh Ubhi | - Managing Director, Aegis Construction Ltd | |
| N. Metal | - Technical Director, Aegis Construction Ltd | |
| Eng. S. Tonui | - Site Agent, Aegis Construction Ltd | |

AGENDA

Communication from the Chair
 Resident Engineer's Report
 Contractor's Report
 Deliberations.
 CLOSURE

| Minute | Description | Action |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| | <p><u>COMMUNICATION FROM THE CHAIR</u></p> <p>The Chairman called the meeting to order at 10.25am and while welcoming the participants, noted that there was nothing wrong but wanted to know the status of the project and whether there are any outstanding issues. He then called for self introduction after which he pointed out that the performance target for this project in this financial year at 9km of black top was far from being achieved and hence the need for the meeting. He then called on the Resident Engineer to present his report</p> | |
| 2 | <p><u>RESIDENT ENGINEER'S REPORT</u></p> <p>The R.E presented his status report. He noted that the cause of lack of progress is frequent breakdowns, poor management and lack of fuel. He also noted that to improve on progress, working hours can be changed.</p> | |
| | <p>The Chairman thanked the RE for his presentation and enquired whether there are any pending instructions. In response, the R.E. noted that the following issues are yet to be resolved:</p> <ol style="list-style-type: none"> 1. Approval of PC sums is still pending. 2. Kenya Power has refused to comply with request to relocate some electricity posts. 3. The Appraisal report has not been finalised. 4. Clarification on the works between the Bridge and start of the project is still pending. 5. Environmental Audit | |

| Minute | Description | Action |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 2.3 | <p>The Chairman responded to the issues raised by the R.E. as follows:</p> <ol style="list-style-type: none"> 1. PC sums have been approved. 2. The issue of Kenya Power will be addressed from our head office through a letter to the Managing Director. 3. A Committee to evaluate the Appraisal report has been set up. 4. Clarification on the works between the Bridge and start of the project will be given after the appraisal is complete. | |
| 2.4 | <p>The Chairman also wanted to know the status of the works to the PC's office. The R.E. reported that the Contract document had only mentioned about works within the Town totalling to about 1.8km but had not itemised the specific activities. After deliberation, the Chairman noted that the normal process is that if an item is not in the contract document, the contractor is supposed to come up with a rate which should be approved by the Employer. He called for the Committee evaluating the appraisal report to expedite action in order to resolve this issue.</p> | Evaluation Committee |
| 2.5 | <p>In response to the R.E.'s report, the Contractor noted that the report was not factual as the quantity for cut and fill to date was 345,000m³ and not 250,000m³. At this juncture, the Chairman requested for clarification as to the cause of huge quantities of cut and fill in an area with relatively flat terrain. The R.E. explained that according to design the road is in a flood area and was placed in a valley. The Chairman noted this was an issue that the consultant should have foreseen and directed that they should be summoned to explain. He however noted that the levels seemed very high and enquired whether the R.E. was satisfied. The R.E. replied that he has been adjusting where necessary. The Contractor also noted that lack of fuel or materials and breakdowns cannot be the cause of delay as these were not persistent. The Chairman advised that a record of daily activities and events should be kept in order to monitor the effects of such things.</p> | Engineer |
| Min 3 | CONTRACTOR'S REPORT | |
| 3.1 | <p>The chairman then called on the contractor to present his report. The contractor presented his report and noted that the main cause of delay was excessive earthworks because the contract document had cut and fill of about 250,000 m³ while to date he had already done about 345,000m³ over the 9.6km he had worked on and he estimated that an additional 300,000m³ may be required for the remaining 10.4km.</p> | |
| 3.2 | <p>The Contractor also noted that delay in approval of use of lime was also to blame. He said that he had been stopped from proceeding with the subbase works. However, the R.E. clarified that the contractor had not been stopped from proceeding with the works. He clarified that the Contractor had been given instruction for a trial section using lime in September 2007 and in October 2007, the Contractor was given another instruction to proceed with stabilization of subbase as per the contract document (using cement). The Contractor however did not proceed as per the instruction but instead applied to the Employer to be allowed to use lime in lieu of cement. After consideration, the Contractor was given approval to use lime in February 2008. The R.E. therefore noted that the Contractor was not at any time stopped from proceeding with the works as per the Contract Agreement.</p> | Contractor |

| Minute | Description | Action |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| | The contractor promised to have 6km of finished road up to first seal by end of June 2008. | |
| Min 4 | <u>DISCUSSIONS</u> | |
| 4.1 | While opening the floor for discussions, the chairman noted that the contractor's progress is in a critical path and therefore the appraisal should be finalised as a matter of urgency. He also noted that the appraisal should look into the design in order to address the drainage issue which is a serious problem. | Evaluation Committee |
| 4.2 | The chairman also wanted to know the outcome of use of lime and noted that the works had not been stopped as insinuated by the contractor. The R.E. informed the meeting that subbase stabilization with lime was proceeding well and that trial section for base with 2% cement and 2% lime had been carried out. The Project Materials Engineer informed the meeting the field result for 2% cement and 2% lime was giving a CBR of 140% but the Contractor disputed this and gave his figure as 210%. After deliberations it was agreed that further tests should be carried out but in the meantime, the works to proceed with 3% cement and 2% lime which gave a CBR of 190% according to the Project Materials Engineer. | RE/ Contractor |
| 5 | <p>CSE(C-E) raised the following issues:</p> <ul style="list-style-type: none"> • The status as far as the environmental issues are concerned • The status of the Garissa Training College Access. He noted that works for this section had been approved very early in the project. • The alignment in relation to the existing road. He noted that the alignment can be shifted and the existing road used as a cut off drain. • The Contractor is not working consistently as per Clause 105 of Special Specifications with 6km of subbase, 1.5km base and 1.1km prime done. He noted that all works should be done such that a continuous output of the final product is achieved without leaving long sections between subsequent layers.. <p>In response, the R.E. stated that the issue of E.I.A had been resolved with the NEMA officials whereby it was agreed that they will be involved in the implementation of the project.</p> <p>The Chairman noted that the NEMA licence had been obtained and requested that a copy be forwarded to the contractor and RE.</p> <p>For the Garissa Training College section, the RE noted that the instructions had been given and the works are proceeding without any hindrance.</p> <p>For alignment in relation to the existing road, the R.E. noted that when he took over, the earthworks for A3 section had commenced and it was too late to realign the road. For C81 section, he noted that the flood line is perpendicular to the road and therefore this case does not arise.</p> <p>For the issue of Clause 105, the Contractor concurred and promised to improve.</p> | Contractor |
| | The R.E. noted that the biggest problem with C81 section is that the alignment soil is deep rooted sand. The Site Agent suggested that the Committee Evaluating the Appraisal report should visit Garissa – Bura Road as it is a similar case for them to make an informed decision. | Evaluation Committee |

Appendix 6: Minutes of Management Meeting Held on 28th August 2008



MINISTRY OF ROADS

Telephone Nairobi 2723101

Telegraphic Address "MINWORKS"

Telex 22174

Fax 720044

If calling or telephoning ask for

.....
When replying please quote

ROADS DEPARTMENT
TRANSCOM HOUSE
P.O.BOX 30260 GPO
NAIROBI.

Ref No.: R 8525/RD. 0472

6th August, 2008

M/S Aegis Construction Co. Ltd.

P.O Box 10188

NAIROBI.

Dear Sir,

CONSTRUCTION OF GARISSA – MODIKA - NUNO (A3/C81) ROADS PROJECT

CONTRACT NO. RD O472

MINUTES OF MEETING HELD ON 28TH AUGUST 2008.

Further to the above mentioned meeting, please find enclosed a copy of the minutes for your information and further necessary action.

Yours faithfully,

Eng. Mwangi Maingi,

CHIEF ENGINEER (ROADS).

Encl.

Cc

Resident Engineer
Garissa – Modika - Nuno
(A3/C81) Roads Project,
P. O. Box 41,
GARISSA.

-For information and further necessary action

| Minute | Description | Action |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Min 4 | <u>TIME FOR COMPLETION.</u> | |
| 4.1 | The Chief Engineer enquired from the contractor how much time he would need to complete the project given the revised scope to which the contractor noted that approximately six months extension of time would be adequate. The contractor however noted that he had already applied for extension of time based on the original contract. It was agreed that the extension of time should be looked at vis a vis the agreed scope. | Engineer |
| 5.0 | <u>AOB</u> | |
| 5.1 | The Chief Engineer directed Resident Engineer to call a meeting between county council, Municipal Engineer, DC and other stake holders so that they can discuss and agree on any issues that might be impacting negatively on the project in the locality. | Contractor |
| 5.4 | There being no other business the meeting was closed at 8 55pm. | |

SIGNED:

SECRETARY.....

DATE.....

[Handwritten Signature]

26/05/05

CALCULATION OF TOTAL QUANTITIES TO DATE
 ROAD No. TOTAL TO DATE PAID TO DATE

Appendix 7: Memo Indicating the Tender was Based on Preliminary Design

URGENT

SPSEC
EE 12/4/08

③ USE...
12/4/08

MINISTRY OF ROADS AND PUBLIC WORKS

INTERNAL MEMO

| | |
|--------------------------------------|---------------------------------------|
| From: Chief Engineer (Roads) | To: Permanent Secretary |
| My Ref: R. 11345/RD 0472 | <i>Approved</i> <i>PS 12.02.08</i> |
| Date: 7 th February, 2008 | |

SUBJECT:

CONSTRUCTION OF GARISSA – MODIKA – NUNO ROAD (A3/C81)
CONTRACT NO. RD. 0472

REQUEST FOR AUTHORITY TO USE LIME FOR SUBBASE IMPROVEMENT

Works on the above road project commenced in April, 2007. The contract period is 18 months and the Defects Liability period is 24 months.

The consultant engaged to carry out preliminary and detailed engineering design had been contracted for the road from Garissa to Modogashe (162km). However after preliminary design it was decided to carry out implementation of the project in stages starting with this project road section (20km). The process of procuring the construction works was therefore fast tracked. As a result, preliminary design was used to procure the works. The descriptions of the works were therefore not established with absolute certainty.

In the preliminary design, the consultant had proposed use of cement for stabilization of subbase layer and use of lime and cement for improvement and stabilization of base layer respectively (See attached a copy of extract from the Special Specifications and the Bill of Quantities).

After commencement of the works, the Resident Engineer's staff took samples of subbase material to our Materials Department Laboratory for testing using both lime and cement (copy of the results attached). The results indicated that both lime and cement at a rate of 2% were able to achieve a CBR of at least 60% but with cement, the required PI could not be achieved even at a rate of 4%.

The contractor also submitted samples of subbase material for testing using lime to an independent laboratory. The results were forwarded to this office and copied to Chief

12 FEB 2008

RD

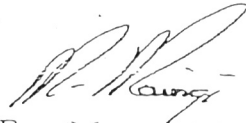
②
SPSEC
12/2

Engineer (Materials) vide the contractors letter Ref 44.006/39/ASU/37 dated 20th December, 2007 (copy attached).

In response to the letter the Chief Engineer (Materials) recommended use of lime as opposed to cement for improvement of the subbase material citing among others the high plasticity of the material and a high percentage of fines (copy of the letter attached).

Considering the aforementioned and due to the fact that there is abundant supply of lime in the market as opposed to OPC cement, the use of lime for improvement of subbase material is considered to be the most appropriate solution. Test results show that use of lime at a rate of 2% is sufficient to improve CBR and PI to the specified values. This will be cheaper and cost effective since lime at a rate of 1% is still required to improve on PI when cement is used at a rate of 4%.

The purpose of this memo is therefore to request for your approval in accordance with Clause 51.1 of Conditions of Contract to use lime for improvement of subbase material.



Eng. Mwangi Maingi

CHIEF ENGINEER (ROADS)

Encl.

Appendix 8: The revised sizes were communicated to the Contractor vide the Resident Engineer's letter Revising the Sizes of Structures

74



MINISTRY OF ROADS AND PUBLIC WORKS
CONSTRUCTION OF GARISSA-MODIKA-NUNO ROAD (A3/C81)
CONTRACT No RD 0472

Resident Engineer
P.O.BOX 41 ,
GARISSA.

Telephone: 0721494717
When replying please quote
Ref.No.GMN/0472/SI/80
and date 6TH March, 2008

Site Agent
Aegis Construction Ltd
P O Box 10188/00100,
NAIROBI.

RE: GARISSA –MODIKA- NUNO ROAD CONTRACT No. 0472
SITE INSTRUCTION No 33

Please note the changes made in the site instruction No 14 for the construction of box and pipe culvert.

| Initial Size | Present Size | Initial chainage | Present chainage | Initial Invert level | Present Invert level | Remarks |
|-------------------------|--------------------|------------------|------------------|----------------------|----------------------|--------------------------------------|
| 1X1200 (Pipe Culvert) | 900X2 Pipe Culvert | 3+475 | 3+500 | 222.720m | 182.5 | Present changes to Instruction No.20 |
| 2X2.5M Box culvert | 4X2m Box Culvert | 3+550 | 3+550 | 183.687m | 182.86 | Present changes to instruction No.20 |
| 2X2.5nn Box culvert | 2X2.5m Box culvert | 7+400 | 7+400 | 220.503m | 217.830 | Right Angle |
| 2X1200mm (Pipe culvert) | 900X4 Pipe culvert | 7+700 | 7+700 | 219.986m | 218.068 | Right Angle |
| 1X1200mm (Pipe culvert) | 900X4 pipe culvert | 8+415 | 8+415 | 222.720m | 222.876 | Old structure to be removed |

Eng.J.O.Otiato
RESIDENT ENGINEER.

Appendix 9: Pavement Record Chart

CONSTRUCTION OF AJIC81 ROAD - GARISSA - MODOGASHI, WAJIR - PHASE I - GARISSA - MODOGASHI - MARIKA - NALNO (20 km)
 CONTRACT No. RD 0472
 PAVEMENT RECORD CHART

| TEST RESULT | 0 - 100 | | | | 0 - 200 | | | | 0 - 300 | | | | 0 - 400 | | | | 0 - 500 | | | | 0 - 600 | | | | 0 - 700 | | | | 0 - 800 | | | | 0 - 900 | | | | TEST R1 | | | | |
|-------------|---------|-----|-----|-----|---------|-----|-----|-----|---------|-----|-----|-----|---------|-----|-----|-----|---------|-----|-----|-----|---------|-----|-----|-----|---------|-----|-----|-----|---------|-----|-----|-----|---------|-----|-----|-----|---------|-----|-----|-----|-----|
| | 150 | 175 | 200 | 225 | 150 | 175 | 200 | 225 | 150 | 175 | 200 | 225 | 150 | 175 | 200 | 225 | 150 | 175 | 200 | 225 | 150 | 175 | 200 | 225 | 150 | 175 | 200 | 225 | 150 | 175 | 200 | 225 | 150 | 175 | 200 | 225 | 150 | 175 | 200 | 225 | |
| 536 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | | |
| 537 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | |
| 538 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| 539 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |

150

175

200

225

150

175

200

225

150

175

200

225

150

175

200

225

150

175

| | | |
|----------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10m FILL LAYER | NATURAL GRAVEL | <p>Date of Layer: (YR, 2005) & 2006</p> <p>Layer Thickness (Min, 150mm)</p> <p>(BR of Impacted Gravel - Min 60%</p> <p>Percentage of Stabilizer</p> <p>Content: Kg/m³</p> <p>Limit: Kg/m³</p> <p>Plasticity Index (PI) - 12%</p> <p>Maximum Dry Density (MDD) (Kg/m³)</p> <p>Minimum Dry Density (MDD) (Kg/m³)</p> <p>Optimum Moisture Content (OMC) (%)</p> <p>Relative Compaction (Min 95% of MDD)</p> <p>Relative Moisture Content: 95 - 100% of OMC</p> |
| 9m FILL LAYER | NATURAL GRAVEL | <p>Date of Layer: (YR, 2005) & 2006</p> <p>Layer Thickness (Min, 150 mm)</p> <p>(BR of Impacted Gravel - Min 60%</p> <p>Percentage of Stabilizer</p> <p>Content: Kg/m³</p> <p>Limit: Kg/m³</p> <p>Plasticity Index (PI) - 12%</p> <p>Maximum Dry Density (MDD) (Kg/m³)</p> <p>Minimum Dry Density (MDD) (Kg/m³)</p> <p>Optimum Moisture Content (OMC) (%)</p> <p>Relative Compaction (Min 95% of MDD)</p> <p>Relative Moisture Content: 95 - 100% of OMC</p> |
| 9m FILL LAYER | NATURAL GRAVEL | <p>Date of Layer: (YR, 2005) & 2006</p> <p>Layer Thickness (Min, 150 mm)</p> <p>(BR of Impacted Gravel - Min 60%</p> <p>Percentage of Stabilizer</p> <p>Content: Kg/m³</p> <p>Limit: Kg/m³</p> <p>Plasticity Index (PI) - 12%</p> <p>Maximum Dry Density (MDD) (Kg/m³)</p> <p>Minimum Dry Density (MDD) (Kg/m³)</p> <p>Optimum Moisture Content (OMC) (%)</p> <p>Relative Compaction (Min 95% of MDD)</p> <p>Relative Moisture Content: 95 - 100% of OMC</p> |
| 9m FILL LAYER | NATURAL GRAVEL | <p>Date of Layer: (YR, 2005) & 2006</p> <p>Layer Thickness (Min, 150 mm)</p> <p>(BR of Impacted Gravel - Min 60%</p> <p>Percentage of Stabilizer</p> <p>Content: Kg/m³</p> <p>Limit: Kg/m³</p> <p>Plasticity Index (PI) - 12%</p> <p>Maximum Dry Density (MDD) (Kg/m³)</p> <p>Minimum Dry Density (MDD) (Kg/m³)</p> <p>Optimum Moisture Content (OMC) (%)</p> <p>Relative Compaction (Min 95% of MDD)</p> <p>Relative Moisture Content: 95 - 100% of OMC</p> |
| 9m FILL LAYER | NATURAL GRAVEL | <p>Date of Layer: (YR, 2005) & 2006</p> <p>Layer Thickness (Min, 150 mm)</p> <p>(BR of Impacted Gravel - Min 60%</p> <p>Percentage of Stabilizer</p> <p>Content: Kg/m³</p> <p>Limit: Kg/m³</p> <p>Plasticity Index (PI) - 12%</p> <p>Maximum Dry Density (MDD) (Kg/m³)</p> <p>Minimum Dry Density (MDD) (Kg/m³)</p> <p>Optimum Moisture Content (OMC) (%)</p> <p>Relative Compaction (Min 95% of MDD)</p> <p>Relative Moisture Content: 95 - 100% of OMC</p> |
| 9m FILL LAYER | NATURAL GRAVEL | <p>Date of Layer: (YR, 2005) & 2006</p> <p>Layer Thickness (Min, 150 mm)</p> <p>(BR of Impacted Gravel - Min 60%</p> <p>Percentage of Stabilizer</p> <p>Content: Kg/m³</p> <p>Limit: Kg/m³</p> <p>Plasticity Index (PI) - 12%</p> <p>Maximum Dry Density (MDD) (Kg/m³)</p> <p>Minimum Dry Density (MDD) (Kg/m³)</p> <p>Optimum Moisture Content (OMC) (%)</p> <p>Relative Compaction (Min 95% of MDD)</p> <p>Relative Moisture Content: 95 - 100% of OMC</p> |
| 9m FILL LAYER | NATURAL GRAVEL | <p>Date of Layer: (YR, 2005) & 2006</p> <p>Layer Thickness (Min, 150 mm)</p> <p>(BR of Impacted Gravel - Min 60%</p> <p>Percentage of Stabilizer</p> <p>Content: Kg/m³</p> <p>Limit: Kg/m³</p> <p>Plasticity Index (PI) - 12%</p> <p>Maximum Dry Density (MDD) (Kg/m³)</p> <p>Minimum Dry Density (MDD) (Kg/m³)</p> <p>Optimum Moisture Content (OMC) (%)</p> <p>Relative Compaction (Min 95% of MDD)</p> <p>Relative Moisture Content: 95 - 100% of OMC</p> |
| 9m FILL LAYER | NATURAL GRAVEL | <p>Date of Layer: (YR, 2005) & 2006</p> <p>Layer Thickness (Min, 150 mm)</p> <p>(BR of Impacted Gravel - Min 60%</p> <p>Percentage of Stabilizer</p> <p>Content: Kg/m³</p> <p>Limit: Kg/m³</p> <p>Plasticity Index (PI) - 12%</p> <p>Maximum Dry Density (MDD) (Kg/m³)</p> <p>Minimum Dry Density (MDD) (Kg/m³)</p> <p>Optimum Moisture Content (OMC) (%)</p> <p>Relative Compaction (Min 95% of MDD)</p> <p>Relative Moisture Content: 95 - 100% of OMC</p> |

CONSTRUCTION OF AJICBI ROAD - GARISSA - MODOGASHI - WAJIR - PHASE I - GARISSA - MODIKA - NUNO (20 km)

CONTRACT No. BQ. 0472

PAVEMENT RECORD CHART

| TEST | 7 - 100 | 7 - 100 | 7 - 200 | 7 - 200 | 7 - 300 | 7 - 300 | 7 - 400 | 7 - 400 | 7 - 500 | 7 - 600 | 7 - 600 | 7 - 800 | 7 - 800 | 7 - 1000 |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| SURFACE PREPARATION | 1.3.1 | 1.3.2 | 1.3.3 | 1.3.4 | 1.3.5 | 1.3.6 | 1.3.7 | 1.3.8 | 1.3.9 | 1.3.10 | 1.3.11 | 1.3.12 | 1.3.13 | 1.3.14 |
| | 1.4.1 | 1.4.2 | 1.4.3 | 1.4.4 | 1.4.5 | 1.4.6 | 1.4.7 | 1.4.8 | 1.4.9 | 1.4.10 | 1.4.11 | 1.4.12 | 1.4.13 | 1.4.14 |
| | 1.5.1 | 1.5.2 | 1.5.3 | 1.5.4 | 1.5.5 | 1.5.6 | 1.5.7 | 1.5.8 | 1.5.9 | 1.5.10 | 1.5.11 | 1.5.12 | 1.5.13 | 1.5.14 |
| | 1.6.1 | 1.6.2 | 1.6.3 | 1.6.4 | 1.6.5 | 1.6.6 | 1.6.7 | 1.6.8 | 1.6.9 | 1.6.10 | 1.6.11 | 1.6.12 | 1.6.13 | 1.6.14 |
| | 1.7.1 | 1.7.2 | 1.7.3 | 1.7.4 | 1.7.5 | 1.7.6 | 1.7.7 | 1.7.8 | 1.7.9 | 1.7.10 | 1.7.11 | 1.7.12 | 1.7.13 | 1.7.14 |
| BASE | 2.1.1 | 2.1.2 | 2.1.3 | 2.1.4 | 2.1.5 | 2.1.6 | 2.1.7 | 2.1.8 | 2.1.9 | 2.1.10 | 2.1.11 | 2.1.12 | 2.1.13 | 2.1.14 |
| | 2.2.1 | 2.2.2 | 2.2.3 | 2.2.4 | 2.2.5 | 2.2.6 | 2.2.7 | 2.2.8 | 2.2.9 | 2.2.10 | 2.2.11 | 2.2.12 | 2.2.13 | 2.2.14 |
| | 2.3.1 | 2.3.2 | 2.3.3 | 2.3.4 | 2.3.5 | 2.3.6 | 2.3.7 | 2.3.8 | 2.3.9 | 2.3.10 | 2.3.11 | 2.3.12 | 2.3.13 | 2.3.14 |
| | 2.4.1 | 2.4.2 | 2.4.3 | 2.4.4 | 2.4.5 | 2.4.6 | 2.4.7 | 2.4.8 | 2.4.9 | 2.4.10 | 2.4.11 | 2.4.12 | 2.4.13 | 2.4.14 |
| | 2.5.1 | 2.5.2 | 2.5.3 | 2.5.4 | 2.5.5 | 2.5.6 | 2.5.7 | 2.5.8 | 2.5.9 | 2.5.10 | 2.5.11 | 2.5.12 | 2.5.13 | 2.5.14 |
| SUB BASE | 3.1.1 | 3.1.2 | 3.1.3 | 3.1.4 | 3.1.5 | 3.1.6 | 3.1.7 | 3.1.8 | 3.1.9 | 3.1.10 | 3.1.11 | 3.1.12 | 3.1.13 | 3.1.14 |
| | 3.2.1 | 3.2.2 | 3.2.3 | 3.2.4 | 3.2.5 | 3.2.6 | 3.2.7 | 3.2.8 | 3.2.9 | 3.2.10 | 3.2.11 | 3.2.12 | 3.2.13 | 3.2.14 |
| | 3.3.1 | 3.3.2 | 3.3.3 | 3.3.4 | 3.3.5 | 3.3.6 | 3.3.7 | 3.3.8 | 3.3.9 | 3.3.10 | 3.3.11 | 3.3.12 | 3.3.13 | 3.3.14 |
| | 3.4.1 | 3.4.2 | 3.4.3 | 3.4.4 | 3.4.5 | 3.4.6 | 3.4.7 | 3.4.8 | 3.4.9 | 3.4.10 | 3.4.11 | 3.4.12 | 3.4.13 | 3.4.14 |
| | 3.5.1 | 3.5.2 | 3.5.3 | 3.5.4 | 3.5.5 | 3.5.6 | 3.5.7 | 3.5.8 | 3.5.9 | 3.5.10 | 3.5.11 | 3.5.12 | 3.5.13 | 3.5.14 |
| COMPACTION | 4.1.1 | 4.1.2 | 4.1.3 | 4.1.4 | 4.1.5 | 4.1.6 | 4.1.7 | 4.1.8 | 4.1.9 | 4.1.10 | 4.1.11 | 4.1.12 | 4.1.13 | 4.1.14 |
| | 4.2.1 | 4.2.2 | 4.2.3 | 4.2.4 | 4.2.5 | 4.2.6 | 4.2.7 | 4.2.8 | 4.2.9 | 4.2.10 | 4.2.11 | 4.2.12 | 4.2.13 | 4.2.14 |
| | 4.3.1 | 4.3.2 | 4.3.3 | 4.3.4 | 4.3.5 | 4.3.6 | 4.3.7 | 4.3.8 | 4.3.9 | 4.3.10 | 4.3.11 | 4.3.12 | 4.3.13 | 4.3.14 |
| | 4.4.1 | 4.4.2 | 4.4.3 | 4.4.4 | 4.4.5 | 4.4.6 | 4.4.7 | 4.4.8 | 4.4.9 | 4.4.10 | 4.4.11 | 4.4.12 | 4.4.13 | 4.4.14 |
| | 4.5.1 | 4.5.2 | 4.5.3 | 4.5.4 | 4.5.5 | 4.5.6 | 4.5.7 | 4.5.8 | 4.5.9 | 4.5.10 | 4.5.11 | 4.5.12 | 4.5.13 | 4.5.14 |
| FINAL FILL LAYER | 5.1.1 | 5.1.2 | 5.1.3 | 5.1.4 | 5.1.5 | 5.1.6 | 5.1.7 | 5.1.8 | 5.1.9 | 5.1.10 | 5.1.11 | 5.1.12 | 5.1.13 | 5.1.14 |
| | 5.2.1 | 5.2.2 | 5.2.3 | 5.2.4 | 5.2.5 | 5.2.6 | 5.2.7 | 5.2.8 | 5.2.9 | 5.2.10 | 5.2.11 | 5.2.12 | 5.2.13 | 5.2.14 |
| | 5.3.1 | 5.3.2 | 5.3.3 | 5.3.4 | 5.3.5 | 5.3.6 | 5.3.7 | 5.3.8 | 5.3.9 | 5.3.10 | 5.3.11 | 5.3.12 | 5.3.13 | 5.3.14 |
| | 5.4.1 | 5.4.2 | 5.4.3 | 5.4.4 | 5.4.5 | 5.4.6 | 5.4.7 | 5.4.8 | 5.4.9 | 5.4.10 | 5.4.11 | 5.4.12 | 5.4.13 | 5.4.14 |
| | 5.5.1 | 5.5.2 | 5.5.3 | 5.5.4 | 5.5.5 | 5.5.6 | 5.5.7 | 5.5.8 | 5.5.9 | 5.5.10 | 5.5.11 | 5.5.12 | 5.5.13 | 5.5.14 |

| Layer | Material | Thickness (mm) | SR of Impacted Layer - Min 80% | SR of Impacted Layer - Max 80% | Percentage of Subgrade | Unit | kg/m ³ | Remarks |
|----------------|----------------|----------------|--------------------------------|--------------------------------|------------------------|------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13m FILL LAYER | NATURAL GRAVEL | 1300 | 95% | 100% | 100% | 1.75 | 1500 | Maximum Dry Density (MDD) (kg/m ³) Minimum Moisture Content (M.C.) (%) Relative Compaction (Min 95% of MDD) Moisture Retention (Min 95% of MDD) Date of Layer (FR 2007) 1. 2008 |
| 12m FILL LAYER | NATURAL GRAVEL | 1200 | 95% | 100% | 100% | 1.75 | 1500 | SR of Impacted Gravel - Min 80% SR of Impacted Gravel - Max 80% Percentage of Subgrade Unit: kg/m ³ Remarks: (Min 150 mm) Date of Layer (FR 2007) 1. 2008 |
| 11m FILL LAYER | NATURAL GRAVEL | 1100 | 95% | 100% | 100% | 1.75 | 1500 | SR of Impacted Gravel - Min 80% SR of Impacted Gravel - Max 80% Percentage of Subgrade Unit: kg/m ³ Remarks: (Min 150 mm) Date of Layer (FR 2007) 1. 2008 |
| 10m FILL LAYER | NATURAL GRAVEL | 1000 | 95% | 100% | 100% | 1.75 | 1500 | SR of Impacted Gravel - Min 80% SR of Impacted Gravel - Max 80% Percentage of Subgrade Unit: kg/m ³ Remarks: (Min 150 mm) Date of Layer (FR 2007) 1. 2008 |
| 9m FILL LAYER | NATURAL GRAVEL | 900 | 95% | 100% | 100% | 1.75 | 1500 | SR of Impacted Gravel - Min 80% SR of Impacted Gravel - Max 80% Percentage of Subgrade Unit: kg/m ³ Remarks: (Min 150 mm) Date of Layer (FR 2007) 1. 2008 |
| 8m FILL LAYER | NATURAL GRAVEL | 800 | 95% | 100% | 100% | 1.75 | 1500 | SR of Impacted Gravel - Min 80% SR of Impacted Gravel - Max 80% Percentage of Subgrade Unit: kg/m ³ Remarks: (Min 150 mm) Date of Layer (FR 2007) 1. 2008 |
| 7m FILL LAYER | NATURAL GRAVEL | 700 | 95% | 100% | 100% | 1.75 | 1500 | SR of Impacted Gravel - Min 80% SR of Impacted Gravel - Max 80% Percentage of Subgrade Unit: kg/m ³ Remarks: (Min 150 mm) Date of Layer (FR 2007) 1. 2008 |

| 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 120 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 |
| 1893 | 1893 | 1893 | 1893 | 1893 | 1893 | 1893 | 1893 | 1893 | 1893 | 1893 | 1893 | 1893 | 1893 | 1893 | 1893 | 1893 | 1893 | 1893 | 1893 | 1893 |
| 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 |
| 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 |

PROGRESS REPORT No. 23

SEPTEMBER 2008

SHEET No. 2

Table with multiple columns and rows, containing numerical data points. The structure appears to be a grid for data entry or analysis, with some numerical values visible in certain cells.

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|
| 1003 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | |
| 1004 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 |
| 1005 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 |

CONSTRUCTION OF A/3/CB1 ROAD - GARISSA - MODOGASHI - WAJIR - PHASE I - GARISSA - MODIKA - H20x3 (20 km)
 CONTRACT No. RD. 0472
 PAVEMENT RECORD CHART

| LAYER | TEST DESCRIPTION | 8 - 1000 | | | | | | | | | | 8 - 1200 | | | | | | | | | | 8 - 1400 | | | | | | | | | | 8 - 1600 | | | | | | | | | | 8 - 1700 | | | | | | | | | | 8 - 1800 | | | | | | | | | |
|-----------------|----------------------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|------|----------|------|------|------|------|------|------|------|------|------|----------|------|------|------|------|------|------|------|------|------|----------|------|------|------|------|------|------|------|------|------|----------|------|------|------|------|------|------|------|------|------|----------|------|------|------|------|------|------|------|------|------|
| | | 1702 | 1703 | 1704 | 1705 | 1706 | 1707 | 1708 | 1709 | 1710 | 1711 | 1802 | 1803 | 1804 | 1805 | 1806 | 1807 | 1808 | 1809 | 1810 | 1811 | 1902 | 1903 | 1904 | 1905 | 1906 | 1907 | 1908 | 1909 | 1910 | 1911 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2102 | 2103 | 2104 | 2105 | 2106 | 2107 | 2108 | 2109 | 2110 | 2111 | 2202 | 2203 | 2204 | 2205 | 2206 | 2207 | 2208 | 2209 | 2210 | 2211 |
| BASE | Unit of Sample (100 mm) | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | |
| | Speed Rate (100 mm) (km/h) | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | |
| SUB BASE | Unit of Sample (100 mm) | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | |
| | Speed Rate (100 mm) (km/h) | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | |
| 15th FILL LAYER | Unit of Sample (100 mm) | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | |
| | Speed Rate (100 mm) (km/h) | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | |
| 10th FILL LAYER | Unit of Sample (100 mm) | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | |
| | Speed Rate (100 mm) (km/h) | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | |
| 5th FILL LAYER | Unit of Sample (100 mm) | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 17.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 18.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 | |
| | Speed Rate (100 mm) (km/h) | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 117.0 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 122 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 127 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 132 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 137 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | 142 | |

TEST RESULTS

1702 1703 1704 1705 1706 1707 1708 1709 1710 1711 1802 1803 1804 1805 1806 1807 1808 1809 1810 1811 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211

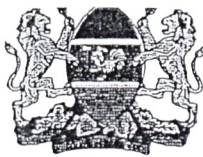
Main data table with columns for material type, test name, and test results (e.g., 1802, 1877, 1975, etc.).

PAVEMENT RECORD CHART

EMPLOYER: MINISTRY OF ROADS
CONTRACTOR: AEGIS CONST. LTD. P.O. BOX 10108-00 100, NAIROBI

CHIEF ENGINEER (ROADS), MORROW
P.O. BOX 30200 NAIROBI
PROJECT: T. GARISSA - MODIKA (A1) ROAD
CONTRACT No. RD 0/72

**Appendix 10: Resident Engineer's letter Rejecting Section Not Done in Accordance
with the Specifications**



102

MINISTRY OF ROADS AND PUBLIC WORKS
CONSTRUCTION OF GARISSA-MODIKA - NUNO ROAD (A3/C81)
CONTRACT NO.RD 0472

Resident Engineer
P.O.BOX 41
GARISSA.

Telephone: 0721-494717
When replying please quote

7 May 2008

Ref: No.GMN/0472/SI/99

The Site Agent,
P.O. Box 10188- 00100
NAIROBI

RE: GARISSA- MODIKA- NUNO ROAD A3/C81 PROJECT CONTRACT NO 0472
FACTORS LEADING TO SUB-STANDARD WORKS IN APRIL 2008

The above subject refers.

This is to bring to your attention that we have observed an upsurge of activities that may lead to sub-standard works in the month of April 2008 and the same should not be repeated in the month of May 2008. These includes:-

| DATE | ACTIVITY | CONSEQUENCE |
|----------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| 11/4/08 | Priming of Base followed by immediate heavy down pour (rains) | Runoff washing out primer leading to repeat work |
| 13/4/08 | Removal of formwork at Box culvert chainage 3+550 before the required 21 days | Lowering the structural soundness of the culvert |
| 13/4/08 | Re-shaping of sub-base material stabilized on 8/4/08 in total disregard of clause 1407 from km 4+850 – 5+150 | Questionable quality of the final product |
| 14/4/08 | Priming of Base while Bitumen distributor thermometer is not working (defective) km 0+950 – 1+350 | Resulting work quality cannot be guaranteed. |
| 18/4/08 | Stabilization of Base km 1+975 to km 2+125 in total disregard of clause 1407 of the standard specification | Failure to achieve specified parameters such as CBR and Relative compaction |
| 19/4/08 | Priming of base while distributor thermometer is not working km 1+775 to 2+100 | Temperature for priming not detectable |
| 23/04/08 | Base stabilization km 2+125 to km 2+225 while ignoring site instruction No. 86 on clause 1407 | Possible failure to achieve required standards leading to sub-standard works. |
| 24/4/08 | Base stabilization km 2+325 to km 2+450 while ignoring site instruction No. 86 and clause 1407 of the standard specifications. | - Failure to achieve required standard. - Sub-standard work |
| 25/4/08 | Base stabilization km 2+450 to km 2+600 while | - Failure to achieve |

| | | |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| | ignoring site instruction No. 86 regarding clause 1407 of the standard specifications. | required standard. - Sub-standard work |
| 27/4/08 | Stabilization of Base at km 2+600 to km2+750 while ignoring site instruction No. 86 on clause 1407 of standard specification. | Sub-standard works |
| | Backfilling of Box culvert at km 3+475 to km 3+600 while ignoring site instruction No. GMN/0472/SI/93 | - Failure to achieve required compaction - Future settlement |
| | Surface Dressing at km 0+975 – km 1+175 not completed due to breakdown of machine. | Repeat work |
| | Base stabilization at km 2+600 – 2+750 while disregarding clause 1407 and site instruction No. 86 on the same | Sub-standard work |
| 28/4/08 | Stabilization of base at km 2+750 to km 2+900 in total disregard of clause 1407 of standard specifications and the subsequent site Instruction No. 86 on the same | Sub-standard work |
| 29/4/08 | Backfilling at box culvert km 3+550 while ignoring site Instruction No. GMN/0472/SI/93 | Sub-standard work |
| | Priming of base while thermometer not working at km 2+125 – 2+225 | Impossible quality control |
| 30/4/08 | Trimming and compaction of sub-base layer done on 29/4/08 in total disregard of clause 1407 of the standard specifications. | Destroying the quality of sub-base which may have been achieved. |
| | Priming of base at km 2+450 to 2+900 while ignoring contents of letter ref. GMN/0472/SI/93 of 18 th April 2008 | Sub-standard works |

Your attention is drawn to the following:-

- (i) Any work which fails to meet the required standard have to be redone. When the material test show that work has failed, then such work should not be included in the payment certificate.
- (ii) The Materials Engineer reported failure of the Base done with 2% cement and 2% lime to achieve required CBR and you were instructed to revert to 3% cement and 2% lime in our meeting in the Chief Engineer Roads boardroom on 29th April 2008.
- (iii) The upsurge in factors which may lead to sub-standard works in April 2008 as enumerated above calls for you to review those deployed as Foremen in those sections of the works as their competence is in question.
- (iv) Failure to execute genuine Site Instruction is not acceptable and may lead to contractual action being taken against you in line with the conditions of this contract.

In view of the above, you are instructed to take necessary remedial measures to ensure these problems are rectified and they should not recur in future.



Eng. J.O. Otiato
RESIDENT ENGINEER

Appendix 11: Extension of Time Approval



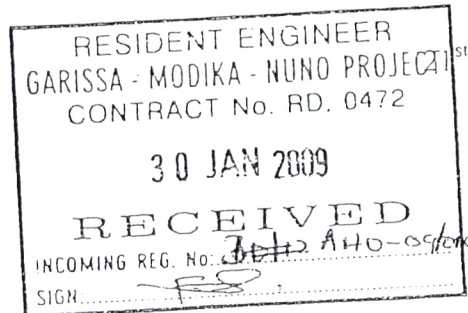
MINISTRY OF ROADS

Telephone: 254-020-2723101
Fax: 254-020-2725098
e-mail:cer@roadsnet.go.ke

ROADS DEPARTMENT
TRANSCOM HOUSE
P.O.BOX 30260-00100
NAIROBI.

Ref No: R 13248/RD 0472

The Managing Director,
Aegis Construction Limited
P.O Box 10188 - 00100
NAIROBI



31st January, 2009

Dear Sir,

CONSTRUCTION OF GARISSA -- MODIKA – NUNO (A3/C81) ROAD PROJECT

CONTRACT NO RD 0472

GRANT OF EXTENSION OF TIME WITH NO ADDITIONAL PAYMENT

Reference is made to your application vide letter Ref 44.066/66/1/ASU/rs dated 17th July 2008 concerning the above subject matter.

Your above application has been evaluated and after due consultation with the Employer pursuant to Clause 44.1 of the Conditions of Contract you are hereby granted 234 days extension of time for completion of the works with no additional payment broken down as follows:

| Item No. | Claims Description | Extension of Time Determination | | Additional Payment (KShs.) | |
|----------|----------------------------------|---------------------------------|---------------------|----------------------------|----------|
| | | Your Request (Days) | Awarded Time (Days) | Your Request | Awarded |
| 1 | Increased Quantities | 254 | 206 | 76,438,817.00 | 0 |
| 2 | Sub-base Stabilization | 195 | 0 | 5,374,613.00 | 0 |
| 3 | late instruction for box culvert | 90 | 7 | 0 | 0 |
| 4 | Design of intersection | 15 | 7 | 0 | 0 |
| 5 | Post Election Violence | 14 | 14 | 0 | 0 |
| 6 | Possession of site | 0 | 0 | 0 | 0 |
| | Other Costs | | | 6,634,784.00 | 0 |
| | TOTAL | 373 | 234 | 88,448,214.00 | 0 |

Appendix 12: Letters Related to Project Appraisal

File of
Copy



MINISTRY OF ROADS AND PUBLIC WORKS
CONSTRUCTION OF GARISSA-MODIKA-NUNO ROAD (A3/C81)
CONTRACT No RD 0472

Resident Engineer
P.O.BOX 41,
GARISSA.

Telephone: 0721494717
When replying please quote
Ref:No.GMN/0472/CE/62
and date 19th March, 2008

Chief Engineer (Roads)
Ministry of Roads & Public Works
P O Box 30260,
NAIROBI.
Att. Eng. Githere

RE: GARISSA –MODIKA- NUNO ROAD CONTRACT No. 0472
QUANTITY OVERRUNS

We received a notification from the contractor regarding the above mentioned subject, letter ref 44.006/13/st/hw/42 of 6th December 2007. (Copy of which is attached)

We therefore carried out an appraisal as at Feb 2008 which we hereby forward for your necessary action.

In this appraisal we can confirm that there are some quantity overruns on certain Bill items.

The details are as per the summary of the appraisal report.

A handwritten signature in black ink, appearing to read 'J.O. Otiato'.

Eng. J.O. Otiato

RESIDENT ENGINEER.



MINISTRY OF ROADS AND PUBLIC WORKS

GARISSA – MODIKA – NUNO ROAD (A3/C81)

CONTRACT No 0472

APPRAISAL REPORT

FEBRUARY 2008

Noted
J.D.
Director



AEGIS CONSTRUCTION LIMITED
CIVIL ENGINEERING CONTRACTORS

006/13/st/hw/42

P.O. Box 10188-00100, G.P.O, Nairobi
Telephone Nos: 020-2055636/2055638

6th December 2007

The Resident Engineer
Garissa - Modika-Nuno Road Project
Contract No. 0472.

Dear Sir

RE: GARISSA-MODIKA-NUNO ROAD PROJECT. CONTRACT No. 0472.
REVISED WORK PROGRAMME: CLAUSE 14.

In reply to your letter ref: GMN/0472/1/13 of 28th August 2007 asking us to submit a Revised Work Programme, we indicated in reply via our letter ref: 44.006/13/st/hw/21 of 3rd September 2007 that a number of issues as indicated remained to be resolved before we could issue such programme.

Although some of these issues have been attended to and others remain unresolved, we have also noticed that work on various items will escalate considerably over and above the billed rates. Examples are on bill Nos. 4, 5, 7 and 8.

| Item No. | Description | Billed Q-ty. | Q-ty Achieved To date. | Q-ty Anticipated At completion. |
|----------|--------------------------------|-----------------------|------------------------|---------------------------------|
| 4.01 | Site clearance. | 24 Ha | 88 Ha | 95 Ha |
| 4.02 | Topsoil stripping. | 25,000 m ³ | 119,000m ³ | 124,000m ³ |
| 5.01 | Fill in soft material. | 250,000m ³ | 240,000m ³ | 500,000m ³ |
| 5.05 | Cut to spoil in soft material. | 20,000m ³ | 24,500m ³ | 60,000m ³ |
| 7.08 | River Training. | 1,000m ³ | 3,000m ³ | 15,000m ³ |
| 8.09 | Mitre drains, side drains etc. | 3,000m ³ | 8,290m ³ | 20,000m ³ |

In view of the above, we would very much appreciate if you would issue an appraisal of the work quantities to enable us make a fair assessment on production and plant/equipment requirement.

We may require extension of the Time for Completion of the Works due to the variance in the quantities outlined above.

Thank you
Yours faithfully

SITE AGENT
FOR: AEGIS CONSTRUCTION LTD

Received on 8th Dec. 2007

CONSTRUCTION OF GARISSA-MODIKA-NUNO (A. EMPLOYER: MINISTRY OF ROADS & PUBLIC WORKS)

CONTRACT NO: RD 0472

TENDER SUM: Kshs. 748,214,113.58

APPRAISAL AS AT FEB 2008

GRAND SUMMARY

| BILL NO | DESCRIPTION | TENDER AMOUNT (CORRECTED) | AMOUNT REVISED | VARIATION INCREASE (SAVINGS) | REMARKS |
|-----------------------------------------|---------------------------------------------------|---------------------------|-------------------------|------------------------------|---------|
| | | Kshs. | Kshs. | | |
| 1 | General | 81,448,675 | 91,123,675.00 | 9,675,000.00 | |
| 4 | Site Clearance | 3,990,000 | 14,708,000.00 | 10,718,000.00 | |
| 5 | Earth Works | 81,700,000 | 213,336,000.00 | 131,636,000.00 | |
| 7 | Excavation and Filling for Structures | 9,720,000 | 14,615,000.00 | 4,895,000.00 | |
| 8 | Culverts and Drainage works | 27,893,000 | 52,628,750.00 | 24,735,750.00 | |
| 9 | Passage of Traffic | 4,000,000 | 16,260,000.00 | 12,260,000.00 | |
| 12 | Natural material, subbase and base | 74,100,000 | 82,981,281.00 | 8,881,281.00 | |
| 14 | Cement and Lime treatment | 146,050,000 | 156,172,400.00 | 10,122,400.00 | |
| 15 | Bituminous Surface Treatment and Surface Dressing | 93,615,000 | 105,105,193.50 | 11,490,193.50 | |
| 17 | Concrete Works | 4,740,000 | 8,912,500.00 | 4,172,500.00 | |
| 20 | Road Furntiure | 19,767,750 | 22,805,750.00 | 3,038,000.00 | |
| 22 | Dayworks | 722,100 | 620,000.00 | -102,100.00 | |
| 25 | HIV/AIDS awareness | 1,200,000 | 1,200,000.00 | 0 | |
| SUB TOTAL 1 | | 548,946,525 | 780,468,549.50 | 231,726,224.50 | |
| ADD 10 % Of Sub-Total for contingencies | | 54,894,652.50 | 78,046,854.95 | 23,172,622.45 | |
| ADD 7.5 % of Sub - Total 1 for VOP | | 41,170,989.40 | 58,535,141.20 | 17,379,466.84 | |
| SUB - TOTAL 2 | | 645,012,166.90 | 917,050,545.70 | 272,278,313.80 | |
| ADD 16% Sub - Total 2 for VAT | | 103,201,946.70 | 146,728,073.30 | 43,564,530.21 | |
| TOTAL | | 748,214,113.60 | 1,063,778,619.00 | 315,842,844.00 | |

NOTE:

Anticipated Overall cost Overrun in the cc ntract is kshs.315842,844.00

CONSTRUCTION OF GARISSA-MODIKA-NUNO (A3/C EMPLOYER: MINISTRY OF ROADS & PUBLIC WORKS

CONTRACT NO: RD 0472

TENDER SUM: Kshs. 748,214,113.58

APPRAISAL AS AT FEB 2008

Summary No 1

| BILL NO | DESCRIPTION | TENDER AMOUNT | AMOUNT REVISED | VARIATION INCREASE | REMARKS |
|-----------------------------------------|---------------------------------------------------|----------------|----------------|--------------------|---------|
| | | (CORRECTED) | | (SAVINGS) | |
| | | Kshs. | Kshs. | | |
| 1 | General | 81,448,675 | 91,123,675.00 | 9,675,000.00 | |
| 4 | Site Clearance | 3,990,000 | 14,110,000.00 | 10,120,000.00 | |
| 5 | Earth Works | 81,700,000 | 207,400,000.00 | 125,700,000.00 | |
| 7 | Excavation and Filling for Structures | 9,720,000 | 14,615,000.00 | 4895000 | |
| 8 | Culverts and Drainage works | 27,893,000 | 45,923,000.00 | 18,030,000.00 | |
| 9 | Passage of Traffic | 4,000,000 | 14,700,000.00 | 10,700,000.00 | |
| 12 | Natural material, subbase and base | 74,100,000 | 74,100,000.00 | 0 | |
| 14 | Cement and Lime treatment | 146,050,000 | 145,550,000.00 | 0 | |
| 15 | Bituminous Surface Treatment and Surface Dressing | 93,615,000 | 93,615,000.00 | 0 | |
| 17 | Concrete Works | 4,740,000 | 8,415,000.00 | 3,675,000.00 | |
| 20 | Road Furntiure | 19,767,750 | 19,767,750.00 | 0 | |
| 22 | Dayworks | 722,100 | 620,000.00 | 102,100.00 | |
| 25 | HIV/AIDS awareness | 1,200,000 | 1,200,000.00 | 0 | |
| SUB TOTAL 1 | | 548,946,525 | 731,139,425.00 | 182,192,900.00 | |
| ADD 10 % Of Sub-Total for contingencies | | 58,894,652.50 | 73,113,942.50 | 18,219,290.00 | |
| ADD 7.5 % of Sub - Total 1 for VOP | | 41,170,989.30 | 54,835,456.88 | 13,664,467.50 | |
| SUB - TOTAL 2 | | 645,012,166.90 | 859,088,824.40 | 214,076,657.00 | |
| ADD 16% Sub - Total 2 for VAT | | 103,201,946.70 | 137,454,211.90 | 34,252,225.12 | |
| TOTAL | | 748,214,113.58 | 996,543,036.30 | 248,328,922.10 | |

NOTE:

Anticipated cost Overun in the Tendered works is Kshs. 248,328,922.10

ACCESS ROAD TO GARISSA TEACHERS TRAINING COLLEGE
 Summary No 2 (R.7244/RD 0472) of 6th August, 2007

| SUMMARY OF BILLS OF QUANTITIES | | ACCESS ROAD TO GARISSA TEACHERS TRAINING COLLEGE | |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-----------|
| Bill No. | DESCRIPTION | AMOUNT | |
| | | SHS. | CT |
| | | 560,000 | 00 |
| 4 | SITE CLEARANCE AND TOPSOIL STRIPPING | 3,031,000 | 00 |
| 5 | EARTHWORKS | 1,568,250 | 00 |
| 8 | CULVERTS AND DRAINAGE WORKS | 160,000 | 00 |
| 9 | PASSAGE OF TRAFFIC | 1,281,281 | 00 |
| 12 | NATURAL MATERIAL SUB BASE AND BASE | 1,274,000 | 00 |
| 14 | CEMENT AND LIME TREATMENT | 3,123,333 | 50 |
| 15 | BITUMINIOUS SURFACE TREATMENT AND SURFACE DRESSING | 497,500 | 00 |
| 17 | CONCRETE WORKS | 3,038,000 | 00 |
| 20 | ROAD FURNITURE | | |
| | Sub total 1 | 14,533,364 | 00 |
| | Add 10% of (2) for contingencies to be Expended in part or deleted entirely by the Engineer in accordance with sub -clause 52(4) and clause 58 of the conditions of the contract (3) | 1,761,619 | 90 |
| | Add 7.5% of (2) for price adjustment in accordance with clause 70.1 of the conditions of contract (4) | 1,321,215 | 00 |
| | SUB - TOTAL 2 | 17,616,199 | 40 |
| | ADD 16% Sub - Total 2 for VAT | 2,818,591 | 90 |
| | Grand Total | 20,434,791 | 31 |

REPAIR & SURFACING OF ACCESS Rd TO PC OFFICE (E861), PC's RESIDENCE

CONSTRUCTION OF GARISSA-MODIKA-NUNO (A3/C81) ROAD

CONTRACT NO: RD 0472

TENDER SUM: Kshs. 748,214,113.58

APPRAISAL AS AT FEB 2008 Summary No 3

Ref GMN/0472/4/58 of 28th January 2008

| BILL NO | DESCRIPTION | AMOUNT (Kshs) | REMARKS |
|-----------------------------------------|---------------------------------------------------|---------------|---------|
| | | Kshs. | |
| 4 | Site Clearance | 38,000.00 | |
| 5 | Earth Works | 2,905,000.00 | |
| 7 | Excavation and Filling for Structures | - | |
| 8 | Culverts and Drainage works | 5,137,500.00 | |
| 9 | Passage of Traffic | 1,400,000.00 | |
| 12 | Natural material, subbase and base | 7,600,000.00 | |
| 14 | Cement and Lime treatment | 9,348,400.00 | |
| 15 | Bituminous Surface Treatment and Surface Dressing | 8,366,860.00 | |
| 16 | Reinstatement of Pavement | - | |
| SUB TOTAL 1 | | 34,795,760.00 | |
| ADD 10 % Of Sub-Total for contingencies | | 3,479,576.00 | |
| ADD 7.5% of Sub - Total 1 for VOP | | 2,609,682.00 | |
| SUB - TOTAL 2 | | 40,885,018.00 | |
| ADD 16% Sub - Total 2 for VAT | | 6,541,602.90 | |
| TOTAL | | 47,426,620.90 | |

MINISTRY OF ROADS
RECEIVED
17 DEC 2008
SECRET REGISTRY
P.O. BOX 20010 NAIROBI

3503

sp etc
Pl request for procurement of the work
Direct remainder
22/12/08

MINISTRY OF ROADS
INTERNAL MEMO

From Chief Engineer (Roads)
My Ref: R. 10555/RD 0472
Date: 2nd December, 2008

To: Permanent Secretary
ROADS DEPARTMENT RECEIVED
23 DEC 2008
INWARD REG No. 66
M.O.R. & P.W. (HQ.S)
NAIROBI



SUBJECT:

CONSTRUCTION OF GARISSA – MODIKA – NUNO ROAD (A3/C81).
CONTRACT NO. RD. 0472

2
30/12

PROJECT BRIEF

Works on the above project commenced in April, 2007. The contract period is 18 months and the Defects Liability period is 24 months.

The Road project is located in Garissa District of North Eastern Province and comprises the following classified roads:

- a) Garissa – Modika Road (A3). This is approximately 9.6 Km. It starts at Garissa Town to Modika centre. The rest of the road leads to Liboi into Somalia border.
- b) Modika – Nuno Road (C81). The Road is approximately 10.4 Km. It starts at A3/C81 junction at Modika centre and ends at Nuno

During implementation of the project, it was noted that some bill items had been underestimated. I therefore appointed an evaluation committee to carry out detailed analysis of the quantity verifications.

In July this year, the honorable Minister visited the project and in response to the request from local residents, directed that the access to the PC's office road and a section of A3 from Tana River Bridge to Km 0 - 375 (a total of 3.5km) be done under this contract.

The committee therefore did a cost and quantity appraisal taking into account the two roads. The committee considered the following three scenarios:-

(a) Scenario 1

Complete the original road from Km 0 + -375 to Km 20+000 as procured including Access to Garissa Teachers Training College totaling Kshs1,031,384,767.91 which is 138% of the Contact sum.

(b) Scenario 2

Complete the original road from Km 0 + -375 to Km 20+000 as procured including Access to Garissa Teachers Training College, Access to PC's office road (a-total of 1.8km) and a section of A3 from River Tana Bridge

3 Eng Githere
Please seek contractors concurrence with the unadjusted rates and proceed as per above

to Km 0 + -375 (a total of 3.5km) totaling Kshs1,142,117,831.78 which is 153% of the Contact sum.

(c) Scenario 3

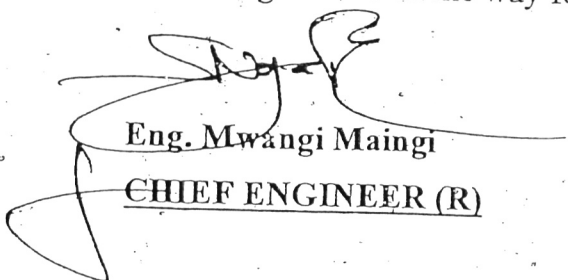
Complete the road to as far as the Contract sum can accommodate including Access to Garissa Teachers Training College, Access to PC's office road (a total of 1.8km) and a section of A3 from River Tana Bridge to Km 0 - 375 (a total of 3.5km) totaling Kshs 748,214,113.58 which is 100% of the Contact sum.

The Committee noted that Scenario 1 and Scenario 2 will require procurement of a Variation Order but Scenario 3 was within the Contract Sum and therefore concluded that Scenario 3 should be considered since Variation Order was not desirable.

The Contractor was notified of the same during a management meeting held on 11th September, 2008 but in a rejoinder he noted that these works were not in his scope and that working in town presented difficult challenges and therefore noted that he deserved to be given a chance to quote for new rates. A Bill of Quantities for the town roads was given to the contractor and subsequently the contractor submitted his new rates. In which he raised the rate of the work items by 23%. The preliminary cost estimate for carrying out all the works would therefore be Ksh. 1,244,588,156.73. However we have requested the contractor to clarify and justify his rates after which we will finalize the evaluation and do one of the following.

- (a) Wind up the project and tender for the remainder of the works from Modika to Nuno.
- (b) Request the Public Procurement Authority to authorize direct procurement of the remainder of the works since the amount required exceeds 15% of the original contract sum allowed for in the Public Procurement & Disposal Act 2005.

The purpose of this memo is therefore to update you on the status of the above project and seek guidance on the way forward.



Eng. Mwangi Maingi

CHIEF ENGINEER (R)



MINISTRY OF ROADS

Telephone: 254-020-2723101
Fax: 254-020-2725098
e-mail: cer@roadsnet.go.ke

ROADS DEPARTMENT
TRANSCOM HOUSE
P.O.BOX 30260-00100
NAIROBI.

Ref No: R 747/RD 0472

25th February, 2009

The Secretary
Ministerial Tender Committee
MOR
NAIROBI

**CONSTRUCTION OF GARISSA – MODIKA – NUNO ROAD (A3/C81)
CONTRACT NO. RD. 0472**

PROCUREMENT OF A VARIATION ORDER

Works on the above project commenced in April, 2007. The contract period is 18 months and the Defects Liability period is 24 months.

The Road project is located in Garissa District of North Eastern Province and comprises the following classified roads:

- a) Garissa – Modika Road (A3). This is approximately 9.6 Km. It starts at Garissa Town to Modika centre. The rest of the road leads to Liboi into Somalia border.
- b) Modika – Nuno Road (C81). The Road is approximately 10.4 Km. It starts at A3/C81 junction at Modika centre and ends at Nuno

During implementation of the project, it was noted that some bill items had been under estimated. We therefore appointed an evaluation committee to carry out detailed analysis of the quantity verifications submitted by the Resident Engineer.

In July last year, the Honorable Minister visited the project and in response to the request from local residents, directed that the access to the PC's office road and a section of A3 road from Tana River Bridge to Km 0 - 375 (a total of 3.5km) be done under this contract.

The committee therefore did a cost and quantity appraisal taking into account the two roads. The committee considered the following three scenarios:-

(a) Scenario 1

Complete the original road from Km 0 + -375 to Km 20+000 as procured including Access to Garissa Teachers Training College totaling Kshs1,031,384,767.91 which is 138% of the Contact sum.

(b) Scenario 2

Complete the original road from Km 0 + -375 to Km 20+000 as procured including Access to Garissa Teachers Training College, Access to PC's office road (a total of 1.8km) and a section of A3 from River Tana Bridge to Km 0 + -375 (a total of 3.5km) totaling Kshs1,142,117,831.78 which is 153% of the Contact sum.

(c) Scenario 3

Complete the road to as far as the Contract sum can accommodate including Access to Garissa Teachers Training College, Access to PC's office road (a total of 1.8km) and a section of A3 from River Tana Bridge to Km 0 - 375 (a total of 3.5km) totaling Kshs 748,214,113.58 which is 100% of the Contact sum.

The Committee noted that Scenario 1 and Scenario 2 will require procurement of a Variation Order but Scenario 3 was within the Contract Sum and therefore concluded that Scenario 3 should be considered since Variation Order was not desirable.

The Contractor was notified of the same during a management meeting held on 11th September, 2008 but in a rejoinder he noted that the works from River Tana Bridge to Km 0+000 - 0-375 were not in his scope and that working in town presented difficult challenges and therefore noted that he deserved to be given a chance to quote for new rates. A bill of quantities for the town roads was given to the contractor and subsequently the contractor submitted his new rates, in which he raised the rates of the work items by 23% for the township works. The preliminary cost estimate for carrying out all the works would therefore be **Ksh.1,244,588,156.73**. However the contractor was requested to clarify and justify his rates which he did. We however forwarded a proposed variation order/addendum for completion of works to the Contractor seeking his concurrence with unadjusted rates which he declined and noted that he was only ready to complete the works as tendered for (i.e. Scenario 1 of the evaluation committee). In view of the Contractors objection to execution of the township works at contract rates, the amount required for all scenarios exceeds 15% of the original contract sum allowed for in **the Public Procurement and Disposal Act 2005**.

The purpose of this letter is therefore to request the committee to grant authority for direct procurement of either:

- (a) A Variation Order for Scenario 1 using contract rates (Complete the original road from Km 0 + -375 to Km 20+000 as procured including Access to Garissa Teachers Training College totaling **Kshs1,031,384,767.91 which is 138% of the Contact sum.**)

OR

- (b) A Variation Order for Scenario 2 using the Contractors adjusted rates (Complete the original road from Km 0 + -375 to Km 20+000 as procured including Access to Garissa Teachers Training College, Access to PC's office road (a total of 1.8km) and a section of A3 from River Tana Bridge to Km 0 + -375 (a total of 3.5km) totaling **Kshs1,244,588,156.73 which is 166% of the Contact sum.**)

Copies of the following are attached:

1. The original contract document
2. Technical Evaluation Committee Report
3. Contractors quotation including additional works
4. Employers Approval for procurement.

Eng. P.M. Mwinzi
CHIEF ENGINEER (ROADS)

Encl.

pgg

CSE (C-E)

for PSE (C)

for SPSE (C)

28/07/08

28/07/08

28/07/08



MINISTRY OF ROADS

Telephone: 254-020-2723101
Fax: 254-020-2725098
e-mail: cer@roadsnet.go.ke

ROADS DEPARTMENT
TRANSCOM HOUSE
P.O.BOX 30260-00100
NAIROBI.

Ref No: R 3027/RD 0472

17th April, 2009

The Secretary
Ministerial Tender Committee
MOR
NAIROBI

CONSTRUCTION OF GARISSA – MODIKA – NUNO ROAD (A3/C81)
CONTRACT NO. RD. 0472

REQUEST TO ADJUDICATE PROCUREMENT OF A VARIATION ORDER

Reference is mad to your letter Ref. No: MR/A 164.17 VOL.XI/(232) dated 23rd March, 2009 on the above subject matter.

The department's responses to the observations raised in the letter are as follows:

1. In our letter to the Ministerial Tender Committee Ref R 747/RD 0472 dated 24th February, 2009 (attached for ease of reference), we had requested the committee to grant authority for direct procurement of either:
 - (a) A Variation Order for Scenario 1 using contract rates (Complete the original road from Km 0 + -375 to Km 20+000 as procured including Access to Garissa Teachers Training College totaling Kshs1,031,384,767.91 which is 138% of the Contact sum.). This will be a Variation Order of Kshs 283,170,654.33 and is 38% above the contract sum.

OR

- (b) A Variation Order for Scenario 2 using the Contractors adjusted rates (Complete the original road from Km 0 + -375 to Km 20+000 as procured including Access to Garissa Teachers Training College, Access to PC's office road (a total of 1.8km) and a section of A3 from River Tana Bridge to Km 0 + -375 (a total of 3.5km) totaling Kshs1,244,588,156.73 which is 166% of the Contact sum.). This will be a Variation Order of Kshs 496,374,043.15 and is 66% above the contract sum. The adjusted rates would only apply for the additional works from Tana River Bridge to Km 0+-375 (3.5km), which the local community had requested to be rehabilitated during our Honorable Minister's visit to the project in July 2008.
2. The Contractor undertaking the works is **Aegis Construction Limited** of P.O. Box 10188 Nairobi.
3. The status of the project roads is as follows:


- a) Garissa – Modika (A3) Road (9.6) Km. It starts at Garissa Town to Modika centre; Access to Garissa Teachers Training College (0.975 Km) and Access to PC's office road (1.65km). The roads are complete to **second seal surface dressing** including a section of 375m from Km 0+000 backwards.
- b) Modika – Nuno Road (C81). The Road is approximately 10.4 Km. It starts at A3/C81 junction at Modika centre and ends at Nuno. Site clearing and top soil stripping are complete. Earthworks have been carried out up to different stages up to Km 2+000. Subbase, base and double surface dressing have been done up to Km 0+200.

The works are complete to about **56%** of the actual length while it is approximately **85%** of the tendered works. This is due to quantity overruns and the extra works at Km 0+000 and access to Garissa Teachers Training College.

4. The rates that were proposed by the contractor had been forwarded with our referenced letter but were returned by the secretariat. They are therefore attached herewith.
5. The change in the original contract sum will depend on the approved option and is as indicated in No. 1 above.

Copies of the following are attached:

1. Copy of letter to the Ministerial Tender Committee Ref R 747/RD 0472 dated 24th February, 2009
2. The original contract document
3. Technical Evaluation Committee Report
4. Contractors quotation including additional works
5. Employers Approval for procurement.


Eng. P.M. Nwinzi
CHIEF ENGINEER (ROADS)
Encl.

Appendix 13: Detailed Bills of Quantities Showing Cost Overruns/Savings

| ITEM | DESCRIPTION | UNIT | QUANTITY | | RATE Kshs. | AMOUNT (Kshs.) | | Overruns/Savings (Kshs.) |
|------|-------------------------------------------------------------------------------------------------------------------------------------|------|----------|------------|---------------|-----------------|--------------|-----------------------------|
| | | | BILLED | IPC 23 | | ORIGINAL TENDER | IPC No. 23 | |
| 1.01 | (a) Construct and maintain Engineer's senior staff Houses with accessories as S.S. equivalent to: | | | | | | | |
| | (i) Type I | No. | 1 | 3,791,666 | 3,500,000.00 | 3,791,666 | 291,666.22 | |
| | (ii) Type II | " | 2 | 5,833,334 | 2,500,000.00 | 5,833,334 | 833,333.89 | |
| | (b) Provide and maintain accomodation for Engineer's Junior Staff: | | | | | | | |
| | (i) Type III | No. | 5 | 5,277,778 | 1,000,000.00 | 5,277,778 | 277,777.89 | |
| | (ii) Type IV | " | 5 | 3,430,556 | 650,000.00 | 3,430,556 | 180,555.78 | |
| 1.02 | Provide and maintain Engineer's Representative's office including furniture | LS | 1 | 4,083,332 | 3,500,000.00 | 4,083,332 | 583,332.22 | |
| 1.03 | Provide and maintain Engineer's site Laboratory | LS | 1 | 4,083,332 | 3,500,000.00 | 4,083,332 | 583,332.22 | |
| 1.04 | Allow for laboratory equipment as priced in Appendix 'A' for use by the Engineer's Representative for the duration of the contract. | SUM | | 10,263,675 | 10,263,675.00 | 10,263,675 | | |
| 1.05 | Allow for Prime Cost sum of Kshs 1,000,000 for materials testing as directed by the Engineer | PC | | | | | | |
| | | SUM | | 808,930 | 1,000,000.00 | 808,930 | (191,070.00) | |
| 1.06 | Include percentage of P.C. sum in item 1.05 for contractor's overhead and profit | % | 20% | 161,786 | 200,000 | 161,786 | (38,214.00) | |
| 1.07 | Allow a prime cost of Kshs. 3,000,000.00 for the R.E's miscellaneous account | PC | | | | | | |
| | | SUM | | 4,350,710 | 3,000,000.00 | 4,350,710 | 1,350,710.00 | |
| 1.08 | Include percentage of P.C. sum in item 1.07 for contractor's overhead and profit | | 30% | 1,305,215 | 900,000.00 | 1,305,215 | 405,215.00 | |
| | Total Carried forward | | | | 39,113,675.00 | 43,390,314.22 | 4,276,639.22 | |

Construction of A3/C81 Road-Garissa-Madogashi Wajir-Phase I-Garissa-Modika-Nuno(zukm)

| ITEM | DESCRIPTION | UNIT | QUANTITY | | RATE Kshs. | AMOUNT (Kshs.) | | Overruns/Savings (Kshs.) |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------|------------|---------------|-----------------|---------------|-----------------------------|
| | | | BILLED | IPC 23 | | ORIGINAL TENDER | IPC No. 23 | |
| | Total brought forward | | | | | 39,113,675.00 | 43,390,314.22 | 4,276,639.22 |
| 1.09 | Allow a prime cost sum of Kshs 1,300,000 for survey equipment and survey works | SUM | PC | 0 | 1,300,000.00 | 1,300,000.00 | | (1,300,000.00) |
| 1.10 | Include percentage of P.C sum in item 1.09 for contractor's overhead and profit | % | 20% | 260000.00 | | 260,000.00 | | (260,000.00) |
| 1.11 | Allow a Prime cost of Kshs 5,000,000 for removal reinstatement services and compensation | SUM | PC | 0 | 5,000,000.00 | 5,000,000.00 | | (5,000,000.00) |
| 1.12 | Include percentage of P.C sum in item 1.11 for contractor's overhead and profit | % | 20% | 1000000.00 | | 1,000,000.00 | | (1,000,000.00) |
| 1.13 | Provide and erect Publicity signs as directed by the Engineer | No. | 3 | 3 | 75,000.00 | 225,000.00 | 225,000.00 | - |
| 1.14 | Provide, fuel and maintain with driver, two new 4WD Double Cabin P/Up vehicle of minimum diesel engine capacity 2500cc for exclusive use by the Resident Engineer inclusive of the first 4000km per vehicle month | Veh Months | 36 | 50 | 225,000.00 | 8,100,000.00 | 11,250,000.00 | 3,150,000.00 |
| 1.15 | E.O. Item 1.14 for mileage over 4000km per vehicle month | Km | 30,000 | 30,523 | 25.00 | 750,000.00 | 763,075.00 | 13,075.00 |
| 1.16 | Allow a Prime Sum of Kshs 1,500,000 for training of the Engineer's staff on site | SUM | PC | 0 | 1,500,000.00 | 1,500,000.00 | | (1,500,000.00) |
| 1.17 | Contractor's overhead on item 1.17 | % | 20% | 300000.00 | | 300,000.00 | | (300,000.00) |
| | Total carried forward | | | | | 57,548,675.00 | 55,628,389.22 | (1,920,285.78) |

| ITEM | DESCRIPTION | UNIT | QUANTITY | | RATE Kshs. | AMOUNT (Kshs.) | | Overruns/Savings (Kshs.) |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------|-----------|---------------|-----------------|---------------|-----------------------------|
| | | | BILLED | IPC 23 | | ORIGINAL TENDER | IPC No. 23 | |
| | Total brought forward | | | | | 57,548,675.00 | 55,628,389.22 | (1,920,285.78) |
| 1.18 | Provide, fuel and maintain with driver, two new 4WD single Cabin P/Up vehicle of minimum diesel engine capacity 2500cc for exclusive use by the Resident Engineer inclusive of the first 4000km per vehicle month | Veh Months | 36 | 50 | 200,000.00 | 7,200,000.00 | 10,000,000.00 | 2,800,000.00 |
| 1.19 | E.O. Item 1.18 for mileage over 4000km per | Km | 30,000 | 16,765 | 25.00 | 750,000.00 | 419,125.00 | (330,875.00) |
| 1.20 | Provide, fuel and maintain with driver, one new saloon car of minimum engine capacity 1800cc for exclusive use by the Resident Engineer inclusive of the first 4000km per vehicle month | Veh Months | 36 | 26 | 175,000.00 | 6,300,000.00 | 4,550,000.00 | (1,750,000.00) |
| 1.21 | E.O. Item 1.20 for mileage over 4000km per vehicle month | Km | 30,000 | 21,831 | 20.00 | 600,000.00 | 436,620.00 | (163,380.00) |
| 1.22 | Purchase and provide one Photocopier as per clause 132.1 of the Special Specifications to the approval of the Engineer to revert to his office at the end of the Project | No. | 1 | 1 | 400,000.00 | 400,000 | 400,000.00 | - |
| 1.23 | Purchase and provide two Computers (PC) as per clause 132(b) of the Special Specifications to the approval of the Engineer to revert to his office at the end of the Project | No. | 2 | 2 | 350,000.00 | 700,000 | 700,000.00 | - |
| 1.24 | Purchase and provide one Laptop Computer as per Clause 132 c of the Special Specifications to the approval of the Engineer to revert to his office at the end of the Project | No. | 1 | 1 | 350,000.00 | 350,000 | 350,000.00 | - |
| 1.25 | Allow a prime cost sum of Kshs 2,000,000 for attendance to the Resident Engineer's staff | PC SUM | PC | 6,976,051 | 2,000,000.00 | 2,000,000 | 6,976,051.00 | 4,976,051.00 |
| | Total carried forward | | | | | 75,848,675 | 79,460,185 | 3,611,510.22 |

BILL OF QUANTITIES NO. 8 CULVERTS AND DRAINAGE WORKS

| ITEM | DESCRIPTION | UNIT | QUANTITY | | RATE Kshs. | AMOUNT (Kshs.) | | Overruns/Savings (Kshs.) |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|--------|---------------|-----------------|---------------|-----------------------------|
| | | | BILLED | IPC 23 | | ORIGINAL TENDER | IPC No. 23 | |
| | No separate payment shall be made for the haulage of surplus or unsuitable material and the cost of such haulage shall be included in the rates and/or prices | | | | | | | |
| 8.01 | Excavate in soft material for pipe culverts, headwalls wingwalls, aprons, toe walls and drop inlets and compact as specified or as directed by the Engineer | m3 | 4,500 | 1,977 | 400.00 | 1,800,000.00 | 790,760.00 | (1,009,240.00) |
| 8.02 | As item 8.01 but in hard material | m3 | 500 | 0 | 300.00 | 150,000.00 | - | (150,000.00) |
| 8.03 | Provide, lay and joint 1200mm I.D. Concrete pipes | m | 20 | 0 | 11,500.00 | 230,000.00 | - | (230,000.00) |
| 8.04 | Provide, lay and joint 900mm I.D. Concrete pipes | m | 550 | 544 | 6,000.00 | 3,300,000.00 | 3,264,000.00 | (36,000.00) |
| 8.05 | As item 8.03 but 600mm pipe culvert | m | 200 | 96 | 4,000.00 | 800,000.00 | 384,000.00 | (416,000.00) |
| 8.06 | Provide and place class 20(20) concrete to headwalls wingwalls, aprons, inlets and outlets to pipe culverts including formwork | m3 | 270 | 221 | 14,500.00 | 3,915,000.00 | 3,208,719.50 | (706,280.50) |
| 8.07 | Clean existing culverts to free flowing conditions | m | 200 | 80 | 150.00 | 30,000.00 | 12,000.00 | (18,000.00) |
| 8.08 | Provide concrete class 20/20 and construct scour checks specified or as directed by the Engineer | m3 | 120 | 0 | 14,500.00 | 1,740,000.00 | - | (1,740,000.00) |
| 8.09 | Excavate in soft material for side drains, mitre, drains, cut off drains and outfall drains | m3 | 3,000 | 37,438 | 1,500.00 | 4,500,000.00 | 56,157,000.00 | 51,657,000.00 |
| 8.10 | As item 8.09 but in hard material | m3 | 200 | 0 | 600.00 | 120,000.00 | - | (120,000.00) |
| 8.11 | Removal of broken or damaged pipe culverts | m | 500 | 284 | 50.00 | 25,000.00 | 14,200.00 | (10,800.00) |
| | Total carried forward | | | | | 16,610,000.00 | 63,830,679.50 | 47,220,679.50 |

Construction of A3/C81 Road-Garissa-Madogashi Wajir-Phase I-Garissa-Modika-Nuno(zukm)

BILL OF QUANTITIES NO. 9 PASSAGE OF TRAFFIC

| ITEM | DESCRIPTION | UNIT | QUANTITY | | RATE Kshs. | AMOUNT (Kshs.) | | Overruns/Savings (Kshs.) |
|------------------------------------|-------------------------------------------------------------------------------------------|------|----------|--------|---------------|-----------------|---------------|-----------------------------|
| | | | BILLED | IPC 23 | | ORIGINAL TENDER | IPC No. 23 | |
| 9.01 | Construct deviations roads, minimum width 6m. thickness of gravel 150mm minimum CBR 20 | Km | 5 | 17.6 | 600,000.00 | 3,000,000.00 | 10,560,000.00 | 7,560,000.00 |
| 9.02 | Maintain passage of traffic including provision and maintenance of signs and barriers | Km | 10 | 23 | 100,000.00 | 1,000,000.00 | 2,300,000.00 | 1,300,000.00 |
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| Total carried forward Summary page | | | | | | 4,000,000.00 | 12,860,000.00 | 8,860,000.00 |

Construction of A3/C81 Road-Garissa-Madogashi Wajir-Phase I-Garissa-Modika-Nuno(20km)

BILL OF QUANTITIES NO. 15 BITUMINOUS SURFACE TREATMENT AND SURFACE DRESSING

| ITEM | DESCRIPTION | UNIT | QUANTITY | | RATE Kshs. | AMOUNT (Kshs.) | | Overruns/Savings (Kshs.) |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|---------|---------------|----------------------|----------------------|-----------------------------|
| | | | BILLED | IPC 23 | | ORIGINAL TENDER | IPC No. 23 | |
| 15.01 | Prepare surface of carriageway, shoulder, busbays and junctions, provide and spray MC30 cut-back bitumen as prime coat at the rate of 1.0-1.5 l/m ² or as directed by the Engineer | Litres | 298,000 | 140,531 | 80.00 | 23,840,000.00 | 11,242,500.00 | (12,597,500.00) |
| 15.02 | Provide and spray 80/100 penetration grade bitumen as binder coat to carriageway, bays, accesses, shoulders and junctions for 1st seal at a rate of 0.8-1.2 l/m ² as directed by the Engineer | Litres | 270,000 | 86,625 | 70.00 | 18,900,000.00 | 6,063,750.00 | (12,836,250.00) |
| 15.03 | Provide, spread and roll 14/20mm pre-coated chippings as 1st seal at the rate of 75-95m ² /m ³ as directed by the Engineer | m ³ | 3,000 | 1,195 | 6,350.00 | 19,050,000.00 | 7,588,250.00 | (11,461,750.00) |
| 15.04 | Provide and spray 80/100 penetration grade bitumen as binder coat to carriageway, bays, accesses, shoulders and junctions for 2nd seal at a rate of 0.8-1.2 l/m ² as directed by the Engineer | Litres | 219,000 | 149,310 | 70.00 | 15,330,000.00 | 10,451,700.00 | (4,878,300.00) |
| 15.05 | Provide, spread and roll 6/10mm pre-coated chippings as 2nd seal at the rate of 110-130m ² /m ³ as directed by the Engineer | m ³ | 2,300 | 1,065 | 6,350.00 | 14,605,000.00 | 6,762,750.00 | (7,842,250.00) |
| 15.06 | Allow for kerosine used as cutter for 80/100 penetration grade bitumen | Litres | 27,000 | 56,213 | 70.00 | 1,890,000.00 | 3,934,910.00 | 2,044,910.00 |
| Total carried forward Summary page | | | | | | 93,615,000.00 | 46,043,860.00 | (47,571,140.00) |

BILL OF QUANTITIES NO. 17 CONCRETE WORKS

| ITEM | DESCRIPTION | UNIT | QUANTITY | | RATE Kshs. | AMOUNT (Kshs.) | | Overruns/Savings (Kshs.) |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------|----------|--------|---------------|-----------------|--------------|-----------------------------|
| | | | BILLED | IPC 23 | | ORIGINAL TENDER | IPC No. 23 | |
| | <u>CONCRETE</u> | | | | | | | |
| 17.01 | Provide and place class 15/20 concrete blinding as specified | m3 | 20 | 14 | 12,000.00 | 240,000.00 | 172,800.00 | (67,200.00) |
| 17.02 | Provide and place class 20/20 concrete for box culverts | m3 | 150 | 212 | 13,500.00 | 2,025,000.00 | 2,862,000.00 | 837,000.00 |
| 17.04 | Provide, cut, bend and fix steel reinforcement of diameter equal to or less than 16 as per the drawings or as instructed by the Engineer | Tonne | 20 | 33 | 105,000.00 | 2,100,000.00 | 3,465,000.00 | 1,365,000.00 |
| 17.06 | Formwork for formed surface finishes | m2 | 500 | 884 | 750.00 | 375,000.00 | 663,000.00 | 288,000.00 |
| Total carried forward Summary page | | | | | | 4,740,000.00 | 7,162,800.00 | 2,422,800.00 |

BILL OF QUANTITIES NO. 20 ROAD FURNITURE

| ITEM | DESCRIPTION | UNIT | QUANTITY | | RATE Kshs. | AMOUNT (Kshs.) | | Overruns/Savings (Kshs.) |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|--------|---------------|-----------------|------------|-----------------------------|
| | | | BILLED | IPC 23 | | ORIGINAL TENDER | IPC No 23 | |
| 20.01 | Provide and erect concrete posts for guardrails complete with spacers at 3810mm intervals or as directed by the Engineer | No. | 200 | - | 3,000.00 | 600,000.00 | - | (600,000.00) |
| 20.02 | Provide and erect flex-beam guardrails complete with connections as shown on the drawings or as directed by the Engineer | m | 650 | - | 4,200.00 | 2,730,000.00 | - | (2,730,000.00) |
| 20.03 | Provide and erect permanent road signs where instructed by the Resident Engineer and in accordance with the special specifications Clause 2004 as follows: | | | | | | | |
| | (a) Warning signs | No. | 33 | - | 17,000.00 | 561,000.00 | - | (561,000.00) |
| | (b) Priority prohibitory and mandatory signs | No. | 60 | - | 17,000.00 | 1,020,000.00 | - | (1,020,000.00) |
| | (c) Standard informatory signs | No. | 22 | 10 | 17,000.00 | 374,000.00 | 170,000.00 | (204,000.00) |
| | (d) Non Standard informatory signs area | | | | | | | |
| | (i) Less than 1.0m2 | No. | 10 | - | 32,000.00 | 320,000.00 | - | (320,000.00) |
| | (ii) 1.0m2 < A < 2.0m2 | No. | 10 | - | 40,000.00 | 400,000.00 | - | (400,000.00) |
| 20.04 | Provide and deliver in air tight corrosion resistant 20litres containers approved white paint (reflectorised) for road marking from an approved supplier, paint and mark the road as specified or as directed by the Engineer | m2 | 4,000 | - | 750.00 | 3,000,000.00 | - | (3,000,000.00) |
| 20.05 | As item 20.04 but approved yellow paint (reflectorised) | m2 | 2,000 | - | 750.00 | 1,500,000.00 | - | (1,500,000.00) |
| 20.06 | Road studs | | | | | | | |
| | (a) Unidirectional - Stimsonite or similar | No. | 200 | - | 1,750.00 | 350,000.00 | - | (350,000.00) |
| | (b) Bidirectional - Stimsonite or similar | No. | 1,000 | - | 2,000.00 | 2,000,000.00 | - | (2,000,000.00) |
| | Total carried forward | | | | | 12,855,000.00 | 170,000.00 | (12,685,000.00) |

| ITEM | DESCRIPTION | UNIT | QUANTITY | | RATE Kshs. | AMOUNT (Kshs.) | | Overruns/Savings (Kshs.) |
|------------------------------------|------------------------------------------------------------------------|------|----------|--------|---------------|-----------------|--------------|-----------------------------|
| | | | BILLED | IPC 23 | | ORIGINAL TENDER | IPC No. 23 | |
| | Total brought forward | | | | | 12,855,000.00 | 170,000.00 | 12,685,000.00 |
| 20.07 | Paint 0.4m wide white give way line | m2 | 15 | - | 850.00 | 12,750.00 | - | (12,750.00) |
| 20.08 | Provide, lay and joint kerbs including class 15/20 concrete haunching: | | | | | | | |
| | (a) Any Radius (raised and flush kerbs) | m | 2,000 | 1,160 | 1,500.00 | 3,000,000.00 | 1,740,000.00 | (1,260,000.00) |
| | (b) 125x100mm road channels of any radius | m | 2,600 | 4,160 | 1,500.00 | 3,900,000.00 | 6,240,000.00 | 2,340,000.00 |
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| Total carried forward Summary page | | | | | | 19,767,750.00 | 8,150,000.00 | (11,617,750.00) |

BILL OF QUANTITIES NO. 22 DAYWORKS

| ITEM | DESCRIPTION | UNIT | QUANTITY | | RATE Kshs. | AMOUNT (Kshs.) | | Overruns/Savings (Kshs.) |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|--------|---------------|-----------------|------------|-----------------------------|
| | | | BILLED | IPC 23 | | ORIGINAL TENDER | IPC No. 23 | |
| | Items of Major Plant Employed on the Works | | | | | | | |
| | <u>Dayworks</u> | | | | | | | |
| | <u>Note :</u> | | | | | | | |
| | Where items of major plant listed in the in the schedule of Dayworks are specified by type (e.g. Cat D7, Cat 120H), the power rating of such plant is that manufactured within two years prior to the date of Tender. | | | | | | | |
| | Any plant employed upon Dayworks, which have power rating lower than that stated above, shall be paid for at rates lower than those in the schedule of Dayworks. The reduction in the payable rates shall be proportional to the power rating below that specified above. | | | | | | | |
| | <u>PLANT</u> | | | | | | | |
| 22.01 | Cat D6 Bulldozer or equivalent with Dozer/Ripper attachments. | Hr | 150 | 0 | 200 00 | 30,000 00 | - | (30,000 00) |
| 22.02 | Cat 120H Motor Grader or Equivalent (complete with scarifier) | Hr | 150 | 0 | 750 00 | 112,500 00 | - | (112,500 00) |
| 22.03 | Vibrating Roller (10 Tonnes) | Hr | 150 | 0 | 750 00 | 112,500 00 | - | (112,500 00) |
| 22.04 | Hand propelled vibrating roller 850Kg | Hr | 100 | 0 | 100 00 | 10,000 00 | - | (10,000 00) |
| 22.05 | Cat 950G wheel loader or Equivalent | Hr | 100 | 0 | 750 00 | 75,000 00 | - | (75,000 00) |
| | Total carried forward | | | | | 340,000 00 | - | (340,000 00) |

| ITEM | DESCRIPTION | UNIT | QUANTITY | | RATE Kshs. | AMOUNT (Kshs.) | | Overruns/Savings (Kshs.) |
|-------|-------------------------------------------------------------------------------|-------|----------|--------|---------------|-----------------|-----------|-----------------------------|
| | | | BILLED | IPC 23 | | ORIGINAL TENDER | IPC No 23 | |
| | Total brought forward | | | | | 340,000.00 | - | (340,000.00) |
| 22.06 | 10 Tonne Tipper Lorry | Hr | 100 | 0 | 500.00 | 50,000.00 | - | (50,000.00) |
| 22.07 | 50mm delivery water pump and motor | Hr | 100 | 0 | 100.00 | 10,000.00 | - | (10,000.00) |
| 22.08 | Concrete Mixer 0.7M3/min | Hr | 100 | 0 | 100.00 | 10,000.00 | - | (10,000.00) |
| 22.09 | Concrete Vibrator (Poker Type) | Hr | 100 | 0 | 50.00 | 5,000.00 | - | (5,000.00) |
| 22.10 | Tractor and Trailer | Hr | 150 | 0 | 250.00 | 37,500.00 | - | (37,500.00) |
| 22.11 | Self propelled Water Tanker 4,500 Litrs minimum capacity with pick up pump | Hr | 150 | 0 | 300.00 | 45,000.00 | - | (45,000.00) |
| | LABOUR | | | | | | | |
| 22.12 | Unskilled Labour | Hr | 500 | 0 | 50.00 | 25,000.00 | - | (25,000.00) |
| 22.13 | Artisans | Hr | 500 | 0 | 75.00 | 37,500.00 | - | (37,500.00) |
| 22.14 | Office Attendance and chainmen | Hr | 200 | 0 | 75.00 | 15,000.00 | - | (15,000.00) |
| | MATERIALS | | | | | | | |
| | All items of materials must be priced to comply with the specifications | | | | | | | |
| 22.15 | Ordinary Portland Cement | Tonne | 3 | 0 | 15,000.00 | 45,000.00 | - | (45,000.00) |
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| | Total Carried forward | | | | | 620,000.00 | - | (620,000.00) |

BILL OF QUANTITIES NO. 25 HIV/AIDS AWARENESS

| ITEM | DESCRIPTION | UNIT | QUANTITY | | RATE Kshs. | AMOUNT (Kshs.) | | Overruns/Savings (Kshs.) |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------|----------|--------|---------------|-----------------|------------|-----------------------------|
| | | | BILLED | IPC 23 | | ORIGINAL TENDER | IPC No. 23 | |
| 25.01 | Allow a Prime Cost sum of Kshs 1,000,000 for HIV/AIDS awareness amongst the contractor's workers and as detailed in the specifications | PC SUM | | 0 | 1,000,000 | 1,000,000.00 | - | (1,000,000.00) |
| 25.02 | E.O. Item 25.01 for profit and overhead | % | 20% | 0.00 | 0 | 200,000.00 | - | (200,000.00) |
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| Total carried forward Summary page | | | | | | 1,200,000.00 | - | (1,200,000.00) |

SUMMARY OF BILLS OF QUANTITIES

| BILL NO | DESCRIPTION | TENDER AMOUNT (CORRECTED) | UPTO IPC No. 23 | Overrun/Savings |
|-----------------------|---------------------------------------------------|------------------------------|-----------------|-----------------|
| | | Kshs. | Kshs. | Kshs. |
| 1 | General | 81,448,675.00 | 81,605,387.27 | 156,712.27 |
| 4 | Site Clearance | 3,990,000.00 | 19,339,000.00 | 15,349,000.00 |
| 5 | Earth Works | 81,700,000.00 | 129,617,503.50 | 47,917,503.50 |
| 7 | Excavation and Filling for Structures | 9,720,000.00 | 12,081,850.00 | 2,361,850.00 |
| 8 | Culverts and Drainage works | 27,893,000.00 | 72,926,832.30 | 45,033,832.30 |
| 9 | Passage of Traffic | 4,000,000.00 | 12,860,000.00 | 8,860,000.00 |
| 12 | Natural material, subbase and base | 74,100,000.00 | 42,113,618.75 | (31,986,381.25) |
| 14 | Cement and Lime treatment | 146,050,000.00 | 54,515,067.50 | (91,534,932.50) |
| 15 | Bituminous Surface Treatment and Surface Dressing | 93,615,000.00 | 46,043,860.00 | (47,571,140.00) |
| 17 | Concrete Works | 4,740,000.00 | 7,162,800.00 | 2,422,800.00 |
| 20 | Road Furniture | 19,767,750.00 | 8,150,000.00 | (11,617,750.00) |
| 22 | Dayworks | 722,100.00 | - | (722,100.00) |
| 25 | HIV/AIDS awareness | 1,200,000.00 | - | (1,200,000.00) |
| TOTAL OF WORK DONE | | 548,946,525.00 | 486,415,919.32 | (62,530,605.68) |
| B. MATERIAL ON SITE | | | - | |
| C. VARIATION OF PRICE | | 54,894,652.50 | 136,765,306.47 | 81,870,653.97 |
| CONTINGENCIES (10%) | | 41,170,989.38 | | (41,170,989.38) |
| Sub-total 1 | | 645,012,166.88 | 623,181,225.80 | (21,830,941.08) |
| Add 16% VAT | | 103,201,946.70 | 99,708,996.13 | (3,492,950.57) |
| GRAND TOTAL | | 748,214,113.58 | 722,890,221.92 | (25,323,891.65) |

Appendix 14: Record of Payments

CONTRACT NAME: CONSTRUCTION OF GARISSA-MODIKA-NUNO (A3/C81) ROAD
 CONTRACT NO: RD 0472
 CONTRACTOR: AEGIS CONSTRUCTION LIMITED

CERTIFICATE NO. 23
 VALUATION AS AT 04.04.09

RECORD OF PAYMENTS TO CONTRACTOR

| Cert No. | Period | Date of Engineer's Signature | Amount of Certificate | Work Done | Materials on Site | Variation of Price | Value Added Tax | Retention Money | Repayment of Advance Payment | Total Certified Including Retention | Remarks |
|----------|-----------------|------------------------------|-----------------------|----------------|-------------------|--------------------|-----------------|-----------------|------------------------------|-------------------------------------|------------------|
| | | Kshs. | Kshs. | Kshs. | Kshs. | Kshs. | Kshs. | Kshs. | Kshs. | Kshs. | |
| 1 | Advance Payment | | 74,821,411.35 | | | | | | | | This Certificate |
| 2 | 04-04-07 | 05.05.07 | 74,821,411.35 | | | | 2,497,640.00 | 1,731,000.00 | 0.00 | 19,802,640.00 | Accumulative |
| 3 | 04-05-07 | | 92,893,051.35 | 16,410,000.00 | 900,000.00 | | 2,497,640.00 | 1,731,000.00 | | 94,624,051.35 | Accumulative |
| 4 | 04-06-07 | | 17,673,005.30 | 16,928,166.00 | | | 2,437,655.90 | 1,692,816.60 | | 19,365,821.90 | Accumulative |
| 5 | 04-06-07 | | 110,566,056.65 | 33,338,166.00 | 900,000.00 | | 4,930,295.90 | 3,423,381.60 | | 113,989,873.25 | Accumulative |
| 6 | 04-06-07 | | 23,702,388.23 | 17,003,437.00 | 5,700,000.00 | | 3,269,294.93 | 2,270,343.70 | | 25,972,731.93 | Accumulative |
| 7 | 04-07-07 | | 134,268,444.88 | 50,341,603.00 | 6,600,000.00 | | 8,199,590.83 | 5,694,160.30 | | 139,962,605.18 | Accumulative |
| 8 | 04-08-07 | | 153,781,786.92 | 66,259,172.00 | 2,850,000.00 | | 2,702,530.08 | 1,876,756.90 | | 21,390,098.94 | Accumulative |
| 9 | 04-09-07 | | 30,473,600.57 | 11,755,841.17 | 6,900,000.00 | | 10,902,120.91 | 7,570,917.20 | | 161,352,704.12 | Accumulative |
| 10 | 04-10-07 | | 184,255,387.49 | 78,015,013.17 | 16,350,000.00 | | 4,203,255.25 | 2,918,927.26 | | 194,745,231.95 | Accumulative |
| 11 | 04-11-07 | | 36,511,918.40 | 36,124,754.64 | 0.00 | | 5,036,126.68 | 4,291,248.82 | | 40,803,167.22 | Accumulative |
| 12 | 04-11-07 | | 220,767,305.89 | 114,139,767.81 | 16,350,000.00 | | 20,141,502.84 | 14,781,093.28 | | 235,548,399.17 | Accumulative |
| 13 | 04-12-07 | | 32,553,258.78 | 28,260,158.10 | 4,818,750.00 | | 4,490,104.66 | 3,826,715.00 | | 36,377,280.85 | Accumulative |
| 14 | 04-12-07 | | 253,370,564.67 | 142,399,925.91 | 21,198,750.00 | | 24,631,607.50 | 18,607,808.28 | | 37,035,944.13 | Accumulative |
| 15 | 04-12-08 | | 33,140,129.55 | 31,959,332.60 | 1,165,500.00 | | 5,833,313.26 | 4,571,052.35 | | 41,832,728.49 | Accumulative |
| 16 | 04-03-08 | | 286,460,694.22 | 174,359,258.51 | 22,364,250.00 | | 4,993,125.00 | 3,322,277.80 | | 44,552,261.50 | Accumulative |
| 17 | 04-04-08 | | 334,215,223.08 | 216,004,780.51 | 29,864,812.05 | | 4,307,655.32 | 3,119,425.11 | | 48,869,437.45 | Accumulative |
| 18 | 04-05-08 | | 362,944,056.59 | 234,436,845.30 | 36,914,812.05 | | 3,296,501.06 | 4,604,570.54 | | 53,527,862.56 | Accumulative |
| 19 | 04-06-08 | | 16,195,040.96 | 15,087,205.72 | -5,943,750.00 | | 39,142,182.10 | 32,857,176.20 | | 86,385,038.76 | Accumulative |
| 20 | 04-07-08 | | 379,139,097.55 | 249,524,051.02 | 30,971,062.05 | | 2,903,429.33 | 1,405,020.25 | | 17,600,061.21 | Accumulative |
| 21 | 04-07-08 | | 31,597,169.30 | 33,991,563.86 | -11,309,250.00 | | 45,779,306.99 | 34,262,196.45 | | 51,862,257.66 | Accumulative |
| 22 | 04-07-08 | | 410,736,266.85 | 283,515,614.88 | 19,661,812.05 | | 5,274,253.14 | 3,426,196.45 | | 65,494,015.88 | Accumulative |
| 23 | 04-08-08 | | 24,359,670.70 | 19,511,612.38 | 0.00 | | 51,053,560.13 | 34,262,196.45 | | 100,918,218.11 | Accumulative |
| 24 | 04-08-08 | | 435,095,937.55 | 303,027,227.26 | 19,661,812.05 | | 4,066,157.58 | 42,777,346.11 | | 143,695,564.26 | Accumulative |
| 25 | 04-09-08 | | 26,512,885.53 | 18,940,099.60 | 0.00 | | 55,119,717.71 | 34,262,196.45 | | 178,967,760.71 | Accumulative |
| 26 | 04-09-08 | | 461,608,823.08 | 321,967,326.86 | 19,661,812.05 | | 4,425,575.86 | 47,012,928.62 | | 226,080,689.33 | Accumulative |
| 27 | 04-10-08 | | 19,554,305.50 | 15,486,712.44 | -410,250.00 | | 3,264,037.87 | 3,400,040.80 | | 230,630,730.13 | Accumulative |
| 28 | 04-10-08 | | 481,163,128.58 | 337,454,039.30 | 19,251,562.05 | | 62,809,331.44 | 55,022,946.12 | | 285,653,676.25 | Accumulative |
| 29 | 04-11-08 | | 502,593,155.22 | 353,473,163.64 | 19,251,562.05 | | 3,577,136.42 | 3,726,185.27 | | 290,379,861.42 | Accumulative |
| 30 | 04-12-08 | | 534,331,174.47 | 384,582,733.64 | 9,884,062.05 | | 5,271,976.57 | 58,749,131.39 | | 349,128,992.81 | Accumulative |
| 31 | 04-02-09 | | 35,053,973.69 | 30,156,218.00 | -5,958,750.00 | | 5,921,767.25 | 64,240,137.58 | | 414,369,130.40 | Accumulative |
| 32 | 04-02-09 | | 569,985,148.16 | 414,738,951.64 | 3,925,312.05 | | 77,580,211.68 | 70,408,645.14 | | 484,777,776.00 | Accumulative |
| 33 | 04-03-09 | | 605,471,078.71 | 440,883,274.39 | 2,897,812.05 | | 5,649,377.23 | 74,821,441.30 | | 559,709,217.22 | Accumulative |
| 34 | 04-04-09 | | 41,257,938.60 | 26,935,872.50 | -2,897,812.05 | | 5,531,008.69 | 41,257,938.60 | | 601,967,155.82 | Accumulative |
| 35 | 04-04-09 | | 646,729,017.32 | 467,819,146.89 | 129,454,191.88 | | 95,100,084.13 | 74,821,441.30 | | 676,788,600.12 | Accumulative |
| 36 | 04-04-09 | | 29,393,238.94 | 18,700,601.29 | 0.00 | | 4,608,912.00 | 74,821,441.30 | | 751,190,042.42 | Accumulative |
| 37 | 04-04-09 | | 676,122,256.26 | 486,519,748.18 | 0.00 | | 99,708,996.13 | 74,821,441.30 | | 826,119,038.72 | Accumulative |

Appendix 15: Minutes of Substantial Completion Inspection

**GARISSA - MODIKA - NUNO ROAD A3/C81 PROJECT
MINUTES OF HANDING-OVER INSPECTION/SITE MEETING No. 12
HELD ON 7TH APRIL 2009**

PRESENT:-

1. Mrs. Hilda Kinya - Finance Dept. (M.O.R.)
Headquarters - Chairlady
2. Eng. Maiteka, A. N. - Resident Engineer- Secretary
3. Eng. P. G. Githere - Project Engineer (M.O.R.)
4. Eng. John P. M. Kinyua - SSE(B) (M.O.R) Headquarters
5. Eng. J. M. Nganga - Project Materials Engineer (M.O.R)
6. Eng. D. A. Odek - M.O.R. Headquarters
7. Eng. A. Achoki - Q.A.D. (M.O.R) Headquarters
8. Eng. Ali I. Hassan - DRE Garissa (M.O.R.)
9. Mr. S. Tonui - Site Agent (Aegis Construction Ltd)
10. Mr. Avtar Singh - M.D. (Aegis Construction Ltd)
11. Mr. C. D. Korir - M.O.R. Headquarters
12. Mr. M. O. Oula - M.O.R. Headquarters
13. Mr. Gitari Njeru - Procurement Dept. (M.O.R.)
Headquarters
14. Mr. Lawrence Gichori - M.O.R. Headquarters
15. Mr. S. O. Abuga - M.O.R. Headquarters
16. Mr. Wesley K. Rono - Economics Dept (M.O.R.)
Headquarters
17. Mr. E. M. Kathenya - Resident Materials Officer
(M.O.R.)
18. Mr. P. M. Malonza - Resident Surveyor (M.O.R.)
20. Mr. G. S. Wikanzo - Resident Inspector (M.O.R.)
21. Mr. B. M. Ole Kipury - D.O.I Garissa (Representing
D.C. Garissa)
22. Mr. A. A. Bashir - D/T.C. (Municipal Council
Garissa)
23. Cllr. Mohammed Y. Kuno - Mayor Municipal Council
Garissa)

ABSENT WITHOUT APOLOGY

1. Mr. Aden Billow - District Environment Officer


| MINUTE | DELIBERATION | ACTION |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 12.0 | AGENDA | |
| | <ol style="list-style-type: none"> 1. Confirmation of previous minutes of meeting no. 11 held on 27th February 2009. 2. Matters arising. 3. Work Progress Reports. | |

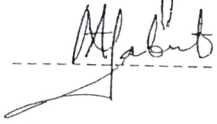
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|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| | <p>4. Snag list and Decision making.</p> <p>5. A.O.B.</p> <p>6. Date of next site meeting.</p> | |
| 12.1 | SITE INSPECTION | |
| 12.1.1 | <p>Participants assembled at the RE's office at 9:00am.</p> <p>Opening prayers were conducted by Eng. Ali I. Hassan.</p> <p>The RE welcomed all the participants.</p> <p>There was a brief introduction of the participants.</p> <p>The RE gave a brief introduction of the project.</p> <p>He proposed to start the inspection on A3 RD.</p> <p>Site inspection started with first stop at km -0+375 where the Resident Engineer said that:-</p> <ol style="list-style-type: none"> 1. There was a difference of 0.9M in levels between the old and the new road marrying point. The levels of the new road were then lowered as from km 0+400 in order for the two to marry at km-0+375. 2. The outfall drain from km -0+375 to Tana River is being worked on so there is need to divert all the water from LHS to RHS of the road to avoid flooding in Garissa Town. | Contractor |
| 12.1.2 | <p>Second stop was at Box culvert at km 3+550 on A3RD where the RE informed the participants that there is provision for guardrails of 700M but the area which requires guardrails is nearly the whole road.</p> <p>Eng Kinyua said that the RE should look for ways of getting enough guardrails for the road.</p> | RE |
| 12.1.3 | <p>The Third stop was at KM 6+000 reinstated borrow pit where it came out clearly that the contractor had reinstated nearly all the borrow pits.</p> <p>Still at the same place, the RE stated the following:-</p> <ol style="list-style-type: none"> 1. The embarkment is not designed for lateral loading. 2. The road design is 8 ton axle load. <p>The DRE Garissa then requested for a weighbridge to control overloading.</p> | DC/Mayor |
| 12.1.4 | <p>The Fourth stop was at Modika centre on A3/ C81 Rd junction where the RE said the following:-</p> <ol style="list-style-type: none"> 1. The road was to continue to Nuno but was stopped due to the request by the local community to have town roads done. 2. The DC should ensure that the people use the road in the correct way to avoid causing damages. | |


| | | |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 12.1.5 | The last stop was on PC road at km 1+650 and everybody was satisfied with the work done on that road. | |
| 12.2 | FORMAL MEETING | |
| 12.2.1 | The meeting started at 12:15pm in the Nomad Palace Hotel. The minutes of the previous site meeting were read. These were proposed by the Site Agent and seconded by the Project Surveyor as true records of the proceedings with some amendments. | |
| 12.3 | MATTERS ARISING | |
| 12.3.1 | <ol style="list-style-type: none"> 1. The RE pointed out that he was instructed to stop works on Modika- Nuno (C81) road and work on town roads (college and PC roads) but now all the works are through and no instruction has been issued yet. 2. The pedestrian walkways are not in place since it was not provided for in the design. 3. The drain from -0+375 to Tana River needs more funds for lining up. 4. The Project Engineer said that they have written to the employer about the issue of more parking/bus bays and animal crossings. 5. The RE said that he has received a letter from GAWASCO for payment of the water/sewage pipes that were destroyed during the construction of the road. | |
| 12.4 | WORK PROGRESS | |
| 12.4.1 | <p>Joint progress report was presented by the RE as per the attached copy.</p> <p>The participants went through the report and commended where necessary.</p> | |

| | | |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 12.5 | SNAG LIST | |
| 12.5.1 | <p>The outstanding works to be done within the defect liability period are:-</p> <ol style="list-style-type: none"> 1. Road kerbs on the access roads. 2. Road channels on the access roads. 3. Excavation of side drain (out-fall) on RHS on A3 road. 4. Cleaning of access/cross culverts on E861 road. 5. Road markings. 6. Guard rails at KM 3+550. 7. Informatory/Warning signs at KM 9+550 and -3+000 (Tana River bridge) respectively on A3 road. | Contractor |
| 12.6 | DECISION | |
| 12.6.1 12.6.2 | <p>The contractor requested the team to recommend the taking over the road.</p> <p>The request was accepted by Eng. Kinyua proposing and seconded by Eng. Nganga.</p> <p>There being no objections, the Works comprising of 10.15 km of Garissa – Modika (A3) Road, 1.65 km of P. C. Access (E861) Road and 0.975 km of Garissa T. T. College (Unclassified) Road were unanimously recommended for acceptance and handing over to the Employer.</p> | |
| 12.7 | A.O.B | |
| 12.7.1 | The RE was asked why he had not included issues on HIV/AIDS awareness. He responded that the authority to expend the Item had not been issued. | |
| 12.7.2 | The RE should ensure that all the documents for compensation of quarries/borrow pits to the municipal council are available for future reference. | RE/ Contractor |

| | | |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| 12.7.3 | The contractor has to complete road markings within the defect liability period. | Contractor |
| 12.7.4 | The management meeting minutes to go hand in hand with the completion letter. | Engineer |
| 12.7.5 | The date of the next meeting will be communicated after consultation with the Engineer | Project Engineer / Engineer |
| 12.7.5 | There being no other business the meeting ended with a word of prayer from Eng. Ali I. Hassan at 2:15pm and the participants left at their own pleasure. | |

Signed:  Date: 19/05/09
Site Agent

Signed:  Date: 19/05/09
Secretary/Resident Engineer

Signed:  Date: 22/05/09
Chairlady

Circulation:

1. All present
2. Permanent Secretary (MOR)
3. Roads Secretary
4. Chief Engineer (Roads)