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ENGINEERING SERVICES FOR RURAL ROADS REHABILITATION CONTRACT NO: EDH-I-00-08-00023

MONTHLY PROGRESS REPORT – APRIL 2015

13 May 2015

ENGINEERING SERVICES FOR RURAL ROAD REHABILITATION (ES3R) CONTRACT NO. EDH-I-00-08-00023

MONTHLY PROGRESS REPORT

APRIL 2015

Prepared for: USAID/Liberia

Prepared by: Francisco E Perez
Jim Clarke

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The views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government. This report was prepared for the U.S. Agency for International Development. It was prepared by CDM International, Engineering Services Rural Roads Rehabilitation (ES3R)

Acronyms

A & E	Architect and Engineer
BOQ	Bills of Quantity
COP	Chief of Party
COR	Contracting Officer Representative
EMMP	Environmental Mitigation and Monitoring Plan
ES	Environmental Specialist
ESMMP	Environmental & Social Mitigation & Monitoring Plan
ES3R	Engineering Services for Rural Roads Rehabilitation
ETL	Engineering Team Leader
FED	Food and Enterprise Development
FTF	Feed the Future
FTL	Field Team Leader
F2M	Farm to Market
F2MRR	Farm to Market Road Rehabilitation
GIS	Geographic Information System
GOL	Government of Liberia
LESSP	Liberia Energy Sector Support Project
LMWP	Liberia Municipal Water Project
MOF	Ministry of Finance
MPEA	Ministry of Planning and Economic Affairs
MPW	Ministry of Public Works
OCA	Organizational Capacity Assessment
PIRS	Performance Indicator Results Sheet
RE	Resident Engineer
SI	Site Inspector
USAID	United States Agency for International Development

ENGINEERING SERVICES FOR RURAL ROADS REHABILITATION (ES3R)

MONTHLY PROGRESS REPORT APRIL 2015

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1. SUMMARY PROJECT DESCRIPTION

1.1 Introduction

The U. S. Agency for International Development's (USAID) 'Engineering Services for Rural Roads Rehabilitation (ES3R)' was awarded to Camp Dresser McKee International (CDM) under the following USAID contract number: EDH-I-00-08-00023 and task order AID-669-TO-13-00002 which records the period of performance as 8 October 2013 to 20 October 2015.

Liberia's Farm to Market Rural Roads (F2MRR) activity is allied to the objectives of the Feed the Future (FTF) initiative, which is a U.S. government initiative, which aims to address the root causes of global hunger by sustainably increasing agricultural productivity. F2MRR will provide infrastructure investment in the rehabilitation of rural farm-to-market roads to support the following:

- USAID /Liberia FTF program Food and Enterprise Development (FED),
- Capacity development for routine maintenance systems within the Government of Liberia (GOL),
- Capacity development of Ministry of Public Works (MPW) rural roads engineers and local A & E firms,
- Development of alternative low volume road pavement pilot projects, standards and design specifications.

1.2 Objectives

Within F2MRR, ES3R will be an implementing mechanism which will undertake the following objectives:

Objective 1:

Provide construction oversight for three (3) local contracts for the rehabilitation of a total of 83.5 kilometers farm-to-market roads in Bong, Lofa, and Nimba counties from 2013 to 2015.

Objective 2:

Produce engineering designs and construction documents for the 450 kilometers farm-to-market roads in Bong, Lofa, Nimba, and Grand Bassa counties to be rehabilitated in 2015 to 2018.

Objective 3:

Training and pre-qualification of five (5) local architect-engineer firms capable of providing oversight for road rehabilitation activities by 2015.

This monthly progress report presented in respect of the project covers the progress of the works for the period from 1 April 2015 to 30 April 2015. In addition, the report details the status and approach to project challenges and presents an outline schedule for the forthcoming month.

2. APRIL 2015 OVERVIEW

Preamble

During this reporting period, ES3R’s team was engaged in field surveys, interventions and other geotechnical and hydrology data collection in preparation to road and culvert design. Construction oversight activities in the three Counties continued to be carried out by the team, along with capacity building activities in the planning of on-the job training to the A&E engineers.

2.1 April 2015 Highlights Summary

The table included hereafter provides a summary of the Project highlights:

Date	Description	Comment
Mar 27, 2015	Submittal of Contract Modification 4	To USAID/Liberia
April 6, 2015	Submittal Weekly Project Updates	To USAID/Liberia
April 12, 2015	Submittal of Quarterly Report, Q2, Y2	To USAID/Liberia
April 13, 2015	Submittal Weekly Project Updates	To USAID/Liberia
April 13, 2015	Handover to Westwood Corporation, Contractor at Bong county of links as extension of their original SOW	Westwood Co.
April 14, 2015	Site inspection and progress meeting with Westwood Co., USAID COR, MPW local RE and ES3R team in Bong County	WW Co., USAID, local MPW and ES3R
April 14, 2015	Internal meeting in Nimba to discuss the progress for the remaining design of 36 box culverts for all the extension in 388km	ES3R
April 20, 2015	Submittal Weekly Project Updates	To USAID/Liberia
April 20, 2015	Meeting the MPW Minister Moore on Capacity Building to Five A&E Firms information and, the supply to ES3R of	MPW

	MPW Feeder Road Engineers	
April 23, 2015	Meeting with MPW, Minister W. Gyudi Moore on PQM2 and planning for future MPW Road Maintenance	MPW
April 23, 2015	Meeting on project progress, inputs for PQM2 and Client Audit	USAID COR
April 27, 2015	Submittal of weekly updates	To USAID Liberia
April 27, 2015	PQM2 Workshop at Mamba Hotel, Monrovia	To USAID, MPW and ES3R
April 27, 2015	Meeting on project progress and inputs for PQM2 and Client Audit	USAID CO
April 27, 2015	MOU sent to the Five A&E firms for continuation of Component 3 with the scheduled on-the job-training	Five A&E firms

2.2 Details of Highlights

2.2.1 Project Deliverables and Documentation

Monthly Progress Report

The last monthly report submitted was for the month of February 2015.

The main contains of the report are:

- Highlights Summary
- Details of Highlights
- Progress Meetings with USAID
- Field Visits to Counties Sites
- Project Deliverables and Documentation
- Design of Bridgeworks
- Revised Work Plan
- Objective 1 – Construction Oversight
- Objective 2 – Design and Contract Documents

- Objective 3 – Training and Capacity Building
- Performance Management Plan – PIRS

Letters / E mails from USAID/Liberia

The following communications addressed to ES3R COP from USAID by emails were received during the reporting period:

- Information on tentative dates of April 7 to 13 for monthly progress meetings and handover of new road links to Westwood Corporation and 21st Century contractors within the extended scope of work to their initial contracts at Bong and Nimba counties.
- Approval on 6 April for the Environmental Specialist travel request to the project for work with ES3R local environmental compliance specialist, to undertake field inspections of ongoing road rehabilitation activities ; to ensure that road works are in compliance with ES3R ESMMPs; provide in-field training to the local environmental compliance officer in USAID-ES3R environmental requirements (as required by the approved Programmatic Environmental Compliance for the rehabilitation of roads in Liberia); brief USAID appropriate staff including, Mission environmental officer and Contracting Officer representative on findings and recommendation of environmental issues observed during the visit.
- Request on 6 April to review invoice for payment to 21st Century Engineering & Construction Company for works executed as on 31 March 2015.
- Information on 10 April of the fully executed modification # 2 for contract # AID-669-C-14-00002 to 21st Century Engineering Co. for extended scope of work in Nimba County.
- Information on 10 April for fully executed modification to Westwood Corporation under contract # AID-669-14-C-00003 for extended scope of work in Bong County.

3. PROJECT OBJECTIVES PROGRESS

3.1 Team Structure

- The field based teams have adopted the revised structure illustrated in the Y2 Work-plan i.e.
 - **Team 1** covers road and pipe culvert design in the Counties of Lofa and Nimba but also oversees construction oversight in Lofa
 - Field Team Leader: Geoffrey Kibisi, responsible for coordinating and managing field surveys, construction oversight and national staff mentoring
 - Resident/Design Engineer, Roosevelt Ballah: responsible for several survey components in the field survey activities
 - Inspector Engineer, position vacant
 - Surveyor, provided by GeoSurv: responsible for topographic survey in support of surveys #1 and 2
 - **Team 2:** covers road and pipe culvert design in the Counties of Grand Bassa and Bong but also oversees Construction Oversight in Bong County
 - Field Team Leader, Frederick Were- Higenyi: Responsibilities as for Lofa/Nimba Team
 - Resident/Design Engineer, Richard Freeman
 - Assistant Engineer (Secondment Staff from MPW), position vacant pending approval of Modification 4.

- Topographic Survey Team, GeoSurv: responsible for topographic survey in support of surveys 1 & 2
- **Team 3** Box Culvert Design, Nimba, Grand Bassa, Lofa and Bong but also oversees Construction Oversight in Nimba County.
 - Field Team Leader: Jackson Kirungi: responsible for coordination of topographic survey, hydraulic and structural assessments, location of structure, materials investigation and construction method
 - Resident/Design Engineer, James Appleton: Responsible for topographic survey and supervision of materials investigation.
 - Assistant Engineer: (Secondment Staff from MPW), Position vacant pending approval of Modification 4
- **Team 4** Bridge design Team, for Nimba, Grand Bassa, Lofa, and Bong bridges.
 - Team mobilization awaiting approval of modification 4

It should be noted that as of 30th April 2015 only team #1 is fully resourced. Positions in Teams #2 & 3 are vacant pending approval of the Modification. The outputs of these teams are therefore compromised because of this.

Team 4, Bridge Design has yet to be mobilized. It should be further noted that mobilization and deployment of the team to the field is likely to be two weeks after the Modification approval.

Many key activities of the Bridge Team require low level flows in watercourses to be bridged. This late mobilization is now of major concern.

3.2 Objective 1 – Construction Oversight

General:

Two Contractors received Contract Modifications during the reporting period, Westwood Inc. and 21st Century. Both have initiated preliminary activities on the expanded scope of works.

ES3R has requested additional resources from USAID in its proposed contract modification 4. Elements of additional resources requested are in support of its extended scope in construction oversight. The modification has yet to be issued by USAID. In the absence of the additional resources oversight of contractor activities on the increased scope has been limited to road handover ceremonies.

Work activities during the reporting period focused on work activities within the Contractor's original scope.

3.2.1. Nimba County 21st Century

Original Scope

Construction activities during the reporting period were limited to:

- Forming, fixing and casting foundations and the first lift on the northeastern abutment on Lee bridge. The bridge is now estimated to be 15% complete.
- Installation of one culvert.

No further works on earthworks and gravelling were undertaken due to mechanical breakdowns of equipment.

The contractor is left with approximately 1,500m³ of fill and 5 km of gravel wearing course to lay.

Mechanical breakdowns have been a recurrent feature of 21st Century's delays.

Quality of permanent and temporary works are further hampered by limited resource allocation to Contractor's senior site staff.

New Scope

The Contractor has mobilized clearing equipment to both the Gogoin – Zuoplay road link (6 km) and Gaopa – Garwompa rink link (11 km).

It is understood that 21st Century has sub contracted the earthworks on the former road link but ES3R has yet to be informed of this arrangement.

3.2.2 Bong County Westwood Inc.

Senior Field team arrived in Liberia on 16th April. He has yet to visit Bong County.

Construction Oversight has been managed by Site Inspector and with weekly visit from the Resident Engineer.

Westwood has sent USAID a request to change Project Manager, Civil Engineer, Quality Control Officer and Environmental Compliance/Safety officer. Westwood awaits a response from USAID's CO on the suitability of the proposed changes.

This is the third change in key personnel since project commencement.

Site records indicate that there have been long spells where key positions have been absent.

The consequences of these almost continuous changes are Construction Oversight and the mentoring required to be delivered by ES3R has been significantly greater than anticipated. The opportunity cost of this additional workload is a reduction in productivity in Component 2 of the Project.

During the reporting period the Contractor has focused on the Pallah – Lele road link (29.9 km).

Progress on the double cell box culvert at 11 + 970 has now reached the forming of the deck.

End structures 5 culverts along the section have also been completed although two were noted to be geometrically incorrect. The Contractor has been asked to rectify these discrepancies.

The contractor considers this road link now to be 60%.

Clearing and forming road cross section has been undertaken along 9 km.

The summary table below indicates the Contractor is now behind its work plan. The contract period for the original scope finishes 22nd May.

Given the work load required to complete and the resources available on site the Contractor cannot complete the works within the allotted time.

3.2.3 Lofa

SSF formally requested a substantial completion certificate on 18th April 2015 claiming 95% completion (Clause F.6. indicated substantial completion may be requested when 90% of the works are complete and the road fully opened to traffic)

Physical works during the reporting period has been restricted to minor activities and works associated with a provisional punch list provided by FTL.

A formal substantial completion site visit is scheduled for early May.

SSF has yet to be awarded a contract amendment for 15km road link, Johns Town to Bulor, to administrative difficulties with vendor Registration.

Details of Contractors' Progress

ES3R Status of Works Contracts			
Description	Bong, Westwood Corp	Lofa, SSF	Nimba, 21st Century
Contract Award	22 Jan 2014	27 Jan 2014	22 Jan 2014
Modification	7 April 2015		7 April 2015
Contract Period, days initial scope completion	16 months 8 months	16 months 8 months	16 months 8 months
Maintenance and defects liability			
Additional scope – to complete Maintenance and defects liability	12 months 8 months		15 months 8 months
Extension of time due to EVD		3 months	
Time Elapsed (end April 2015), % Additional scope	94%	75%	94%
Completion date for construction: initial scope	22 May 2015	27 August 2015	22 May 2015
Completion date for construction additional works	6 April 2016		6 April 2016
Overall Assessed Completion, % (15 approx.) Additional scope	81%	<90 (to be determined pending substantial completion survey)	84
Total Contract Value, USD	1,895,141.86	592,384	843,228.25
Additional scope	<u>1,861,722</u>		<u>2,183,507</u>

Total	3,756,864		3,026,286
Value of works certified as of April 2015, USD	1,138,663	534,849	556,530.49
Additional scope	0		0

3.3 Objective 2 – Design of Prioritized Road Links

General:

Section 3.1 indicates the proposed team structure for delivery of outputs on this component.

Key positions within the structure remain vacant pending the modification for the Y2 work plan.

The outputs for the design team are listed below

Field Survey Details:

Field surveys are composed of the following components:

1. Community sensitization – District Commissioners, Paramount Chiefs and traditional leaders of communities along road link.
2. Chaining of road link.
3. Current land use within road corridor– providing type/density of clearance required and presence of cash crops within road corridor.
4. Culvert location, sizing, identification of inlet and outlet structures and length/nature of outlet channel (includes topographic survey).
5. Carriageway defect identification and selection of remedial interventions.
6. Selection of Geometric cross section – a function of traffic characteristics and topography either side of the road corridor.
7. Topographic survey along road link centerline and selection of appropriate longitudinal storm drainage interventions.

8. Road Inventory location and description of existing road assets, villages, schools etc.
9. Environmental and social aspects.

Team 1. Road works Lofa and Nimba:

Roads Surveyed during reporting period:

- Foya Town – Sangai Town – Kelima Pombor (9.7 km)
- Foya Town – Sandia (13.9 km)
- Koibacity – Koilahun – Bolahun (9.4 km)
- Checkpoint – Bassamulahun – Ngorkohun (6.7 km)

Total during reporting period = 40km

Total to date = 40 km + 11 km (John's Town – Bulor – Tusu Road)
= 51 km.

Team 2, Road Works Bong and Nimba

Team 2 is supported by a surveying agency, Geo-Surv for field survey components requiring topographic support.

Roads Surveyed during reporting period:

- Waka Town – Compound 2 (20.4 km)
- Compound 2 – Zahn (19 km)
- Yonbehn – Grand Kola (24 km)
- Compound 1 – Little Bassa (part) 11 km

Total during reporting period = 74 km

Total to date: 74 +17km = 81km

Quality control checks on data provided by GeoSurv indicate some road links need to be revisited.

Also, survey for potential wearing course quality borrow pits was not undertaken due to ES3R human resource constraints.

Team 3, Box Culverts, Lofa, Nimba, Bong and Grand Bassa

Box Culvert surveys include collection of data for hydrology of river and hydraulic design of box culvert apertures.

Box Culverts surveyed during reporting period: 9 locations (Boyee Junction to Goekorpa and Kpein – Zao junction)

Total to date = 13.

Team 4, Bridge Design

This team has yet to mobilize pending the Y2 work plan modification agreement. The Bridge Engineer and team leader is currently in USA. Mobilization to Liberia and deployment to the field is expected to be in the order of 14 days following confirmation of the Modification.

3.4 Objective 3 – Training and Mentoring

General

Mentoring of ES3R field based staff and Contractor's senior site engineers continue.

MPW Feeder Road Engineers

Interviews with 6 MPW Feeder Road engineers were carried out; 4 Feeder Road Engineers were selected in collaboration with Assistant Minister of Feeder Roads.

It is expected that the MPW engineers will join ES3R in early May.

A & E Firm Trainees

Negotiations with 5 selected A & E firms were finalized. All five firms have now signed a Memorandum of Understanding and are now engaged. A start date for field deployment will follow the formulation of 'Training Agreements' for each individual A & E firm trainee.

4. PROJECT CHALLENGES

The following items have been encountered recently which are continuing and pose challenges to the ES3R team and Project:

Challenge / Issue	Mitigation / Resolution
Additional resources for field surveys	Modification 4 requested engineering assistants to support the field survey works of Teams, 1, 2 & 3.
Bridge engineering team requirement.	Proposal for structural engineering support is required. A realistic estimate of waterways which require bridge structures is required. This position is to be included in modification 4 request.
Additional 75 kilometers for construction oversight as communicated in meeting with USAID CO.	ES3R to obtain USAID support to strengthen the present 3 field teams with an additional team and vehicle. Requested in modification 4 submitted 27 March
Need for time extension due to the EVD crisis	Submit Work Plan Year 2 with anticipated completion date and associated costs for this extension.

5. OUTLINE SCHEDULE

5.1 Outline Schedule for May 2015

Preamble

Formal approval to resume normal field based activities was given on 12 February with the Year 2 Work Plan submitted in draft form to USAID on 27 February. The following outputs predicted below are based on this work plan.

The strategy of work plan Year 2 remains the continuance of the construction oversight for the ongoing 84 km. It is still feasible for the works on all three contracts to reach a level of Substantial Completion before the on set of heavy rains anticipated at the end of July. Oversight of the additional 74 km will continue through the end of February 2016 unless otherwise modified by other USAID projects, namely FRAMP.

Despite the lengthening delay in the mobilization of additional resources embedded in the request for Y2 work plan modification and on the assumption that the modification is agreed early May. ES3R remain confident that the completion of road and culvert field survey work by end of July is remains viable. What is critical however is mobilization of the Bridge Design Team.

Objective 1 – Construction Oversight

It is anticipated that the Nimba and Bong based Contractors will fully mobilize during May and that clearing works will be initiated early May. Workshops conducted ES3R field staff on as ‘as needed’ basis for both Contractor’s field staff with regard to the revised design presentation formats, refined method of measurements for activities for the permanent works and revised standard drawings.

Both Contractors are obliged to submit Inception reports to USAID by 7th May.

Objective 2 – Design and Contract Documents

Team 1, Lofa and Nimba: anticipate finishing field surveys in Lofa (105 km) by end of the month.

Team 2, Bong and Grand Bassa: anticipate completion of the field surveys in Grand Bassa (137.5 km) by the end of the month.

Team 3, Box Culverts Bong Grand Bassa and Nimba: anticipate completing 8 field surveys and 2 detailed designs by the end of the month.

Team 4, Bridge Team: The team deploys to field sites within two weeks of agreement on the modified contract. Field work is programmed to last 70 working days (5 days per bridge site). If the modification is agreed by 15th May, the bridge Engineering Team can be deployed to the field by end of the month. However, this leaves insufficient time to complete field survey works before anticipated commencement of heavy rains and rising water levels in the perennial water courses where bridge field surveys are required.

Objective 3 – Training and Mentoring

TRG has re-engaged with the 5 selected A & E firms identified for capacity Development and Requested that resumes for all potential trainees be sent to ES3R Project Office for review. Upon review, trainees were selected after their attendance to the workshop on construction oversight and design skills. Trainees that attended to the said workshop observes, participated, and will be mentored on

construction supervision, road, culverts and bridge design, and environmental mitigation measures.

Workshops and training with key A&E personnel took place with TRG and ES3R staff in second and third week of March.

Workshop 1 was intended for AE trainees (field engineers) and will focus on:

- Project orientation and skills definitions;
- Mentoring, skill transfer and work planning activities;
- Communication skills and team building.

Workshop 2 was addressed to Managers/Directors and focus on:

- Leading and management;
- Making decisions and building teams;
- Giving feedback and resolving conflict;
- Developing self, others and your organization.

It is expected to mobilize the five engineers as soon as the contract modification 4 is approved keeping in view that resources to provide the required logistics and mentoring are included in such a modification.