

# Consulting Services for Environmental Flows Assessment and Water Quality Modelling within the Lesotho Lowlands Water Development Project Phase II (LLWDP II) Monthly Progress Report, March 2021

Ministry of Water, Lesotho



April 7<sup>th</sup>, 2021

Prepared by

**Multiconsult**

**Deltares**  
Enabling Delta Life



**Multi - Nodal**  
Development Consultants

This report has been prepared by Multiconsult and his partners on behalf of Multiconsult or its client. The client's rights to the report are regulated in the relevant assignment agreement. If the client provides access to the report to third parties in accordance with the assignment agreement, the third parties do not have other or more extensive rights than the rights derived from the client's rights. Any use of the report (or any part thereof) for other purposes, in other ways or by other persons or entities than those agreed or approved in writing by Multiconsult is prohibited, and Multiconsult accepts no liability for any such use. Parts of the report are protected by intellectual property rights and/or proprietary rights. Copying, distributing, amending, processing or other use of the report is not permitted without the prior written consent from Multiconsult or other holder of such rights.

## REPORT

PROJECT	<b>Consulting Services for Environmental Flow Assessment (EFA) and Water Quality Modelling within the Lesotho Lowlands Water Development Project Phase II (LLWDP II)</b>	DOCUMENT CODE	10223685-TVF-MPR-003
SUBJECT	Monthly Progress Report, March 2021	ACCESSIBILITY	Restricted
CLIENT	<b>Ministry of Water, Lesotho</b>	PROJECT MANAGER	Leif Birger Lillehammer
CONTACT	Nthame Monare	EDITED BY	Leif Birger Lillehammer
		PREPARED BY	Leif Birger Lillehammer, Filip Patocka
		RESPONSIBLE UNIT	Natural Resources, Multiconsult Norge AS

## SUMMARY

This is the third monthly progress report of the *Consulting Services for Environmental Flow Assessment (EFA) and Water Quality Modelling within the Lesotho Lowlands Water Development Project Phase II (LLWDP II)*. It covers period from week 9 to week 13 in 2021.

The Consultant planned for and performed reconnaissance trip, verified site selection and commenced Water Quality Monitoring in the last week of March 2021. Purchased water quality monitoring equipment was delivered and used on the field trip.

The Consultant received the 20% advance payment for each of the three contract currencies.

00	07.04.2021	Monthly Progress Report, March 2021	Leif Lillehammer, Filip Patocka	Leif Lillehammer	Gro Dyrnes
REV.	DATE	DESCRIPTION	EDITED BY	CHECKED BY	APPROVED BY

## TABLE OF CONTENTS

1	Overall status .....	5
2	Main challenges, critical areas and proposal for measures .....	5
3	Health, Safety and Environment .....	5
4	Quality.....	5
5	Risk.....	5
6	Project Activities.....	5
	6.1 Reconnaissance trip, commencement of Water Quality Monitoring .....	6
	6.2 Purchase of monitoring equipment .....	6
7	Interfacing .....	6
8	Organisation and manning .....	6
9	Contract.....	6
	9.1 Economy .....	6
	9.2 Delivery status .....	6
	9.3 Milestones .....	7
10	Disbursements and Invoicing .....	7

## Attachment

Attachment 1 Workplan

Attachment 2 Invoice log

## 1 Overall status

Status for the last 3 reporting periods:

	Week 1-5, 2021		Week 5-8, 2021		This Period	
	Status	Trend	Status	Trend	Status	Trend
Financial						
Time / progress						
Quality						

Colour codes:

- Green** Status – as planned and under control, high probability of goal achievement
- Yellow** Status – a few challenges, some corrective actions needed for goal achievement
- Red** Status – major challenges, needs corrective actions, low probability of goal achievement

## 2 Main challenges, critical areas and proposal for measures

The main challenge for time and progress of the project is the Covid-19 pandemic. The Consultant proposed a contingency plan to outline possible strategies for coping with Covid-19 restriction scenarios. The plan is part of the submitted Draft Inception Report.

## 3 Health, Safety and Environment

Internal procedures for Health, Safety and Environment of the project are in place.

## 4 Quality

Internal quality plan following ISO 9001:2015 has been set up to control quality on the project and will be continuously reviewed against the work being undertaken to assure satisfactory quality is achieved.

## 5 Risk

Internal risk procedures connected to project execution, travelling and site work had been reviewed and are in place. Further risk evaluation will be done prior to each site work period.

## 6 Project Activities

The Consultant organised purchase and delivery of equipment needed for the project, mainly the monitoring equipment at this stage. Further there was planning and organising for the first reconnaissance trip and commencement of the water quality monitoring.

## **6.1 Reconnaissance trip, commencement of Water Quality Monitoring**

The Consultant undertook a reconnaissance trip at the end of March 2021. The Consultant's team consisted of Nico Rossouw and Karl Reinecke of Southern Waters, accompanied by Vuyani Tshabalala - Monyake and Matankiso Phooko from Multi-Nodal Consultants.

Ms Ntaoleng Makunya and Mr. Billy Makakole, from DWA and LLWDP II, accompanied the Consultant's team.

The field trip took place between 27/3/2021 and 31/3/2021 which is the end of the reporting period of this monthly progress report, more details will be provided in the next period. The field trip was successful, the team managed to find good sites with relatively easy access and a good venue for workshops.

## **6.2 Purchase of monitoring equipment**

The Consultant received the purchased ISY ProDSS equipment and used it on the reconnaissance trip for the water quality monitoring.

## **7 Interfacing**

The Consultant is in contact with the Client's team through the project manager Leif Birger Lillehammer and his administrative assistant Filip Patocka.

For the reconnaissance trip the MoW issued an introductory letter for the Consultant's team in order to be able to cross the border between South Africa and Lesotho during the Covid-19 pandemic. Two of the Client's staff (see Section 6.1) accompanied the Consultant's team on the field trip.

## **8 Organisation and manning**

Full team of Multiconsult, Deltares, Southern Waters and Multi-Nodal relevant to the delivery of the ongoing tasks has been successfully mobilised.

The consultancy team members are outlined in the Preface section of the Draft Inception Report.

## **9 Contract**

As planned and agreed, except the slight change in delivery time of the Draft Inception Report.

### **9.1 Economy**

Payments and budget as planned.

See the Attachment 2 for the Invoice log for details.

### **9.2 Delivery status**

The Draft Inception Report was delivered to the Client on 5<sup>th</sup> of February 2021.

The list of deliverables is listed overleaf.

Deliverables	Delivery date - From the commencement of the assignment, after:
Kick-Off Meeting	18 <sup>th</sup> December 2020
Draft Inception Report	5 <sup>th</sup> February 2021
Final Inception and Scoping Report	5 months
Regular Progress Reports	Monthly (11 reports). The first on February 10 <sup>th</sup>
Baseline Monitoring Report	9 months
Monitoring and Modelling Report	9 months
Training Manual	9 months
Water Resources and Water Quality Assessment Report	11 months
Hydraulics Report	11 months
EFlows Assessment Report	11 months
DRIFT DSS and Hlotse Database	11 months
Customised Hlotse DRIFT Manual	11 months
EFMP	12 months
Completion Report	12 months

### 9.3 Milestones

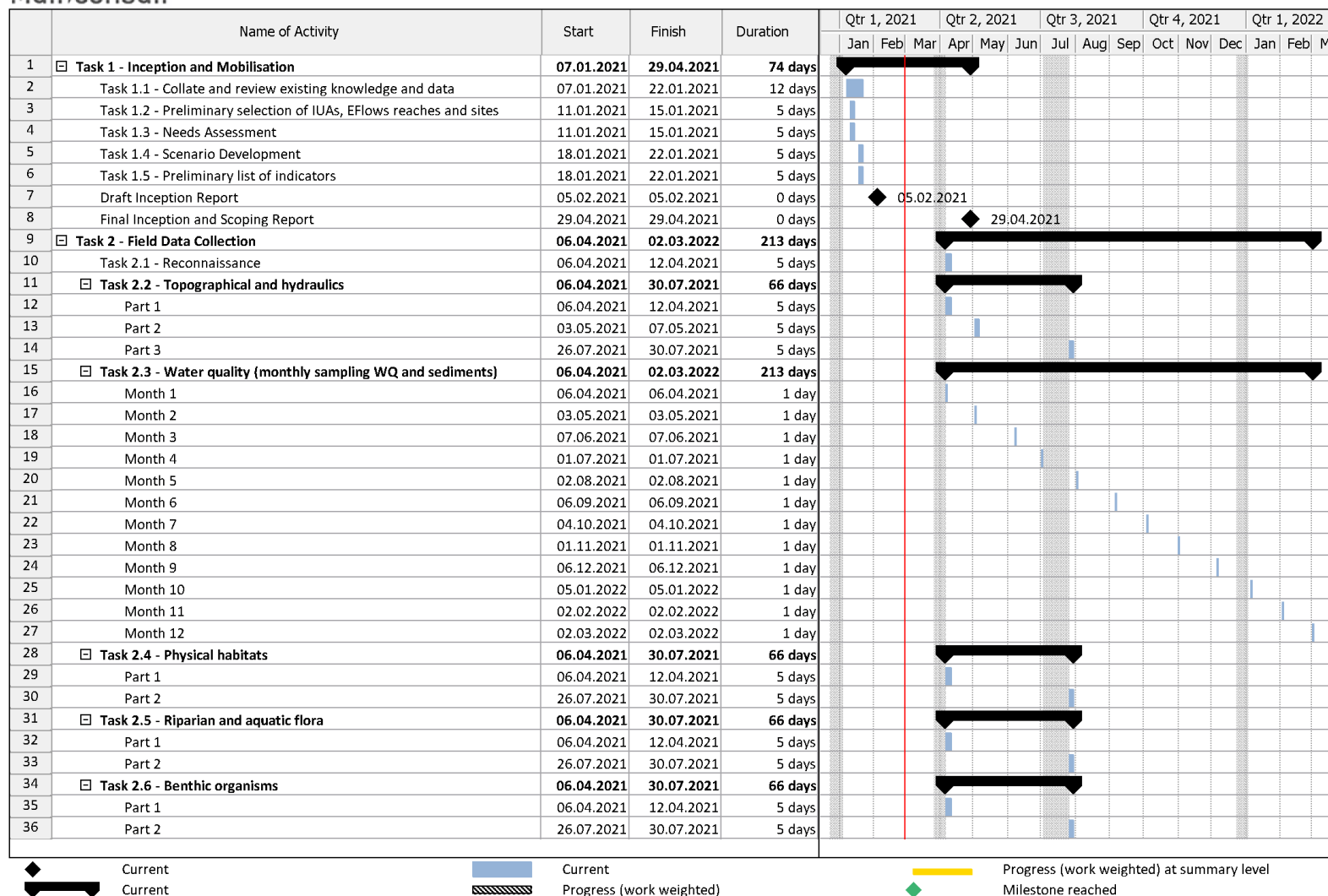
The first achieved milestone was delivery of the Draft Inception Report.

## 10 Disbursements and Invoicing

Within the reporting period, all three advance payment invoices have been paid by the Client.

## Attachment 1 – Workplan

Multiconsult





**Consulting Services for Environmental Flow Assessment (EFA)  
and Water Quality Modelling within the Lesotho Lowlands  
Water Development Project Phase II (LLWDP II)**

Monthly Progress Report

multiconsult.no

Attachment 1- Workplan

Multiconsult

	Name of Activity	Start	Finish	Duration	Qtr 1, 2021			Qtr 2, 2021			Qtr 3, 2021			Qtr 4, 2021			Qtr 1, 2022	
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
37	<div><div></div> Task 2.7 - Fish</div>	06.04.2021	30.07.2021	66 days														
38	Part 1	06.04.2021	12.04.2021	5 days														
39	Part 2	26.07.2021	30.07.2021	5 days														
40	Task 2.8 – Riparian Fauna – Mammals, Reptile, Amphibian and Birds...	06.04.2021	12.04.2021	5 days														
41	Task 2.9 - Socio-Economic Surveys	12.04.2021	16.04.2021	5 days														
42	<div><div></div> Task 3 - Climate and hydrological assessment</div>	22.02.2021	08.11.2021	162 days														
43	<div><div></div> Task 3.1 - Climate Change Assessment</div>	22.02.2021	08.10.2021	141 days														
44	Part 1	22.02.2021	19.03.2021	20 days														
45	Part 2	13.09.2021	08.10.2021	20 days														
46	<div><div></div> Task 3.2 - Hydrological time series assessment</div>	22.02.2021	08.11.2021	162 days														
47	Part 1	22.02.2021	16.04.2021	34 days														
48	Part 2	13.09.2021	08.11.2021	41 days														
49	<div><div></div> Task 3.3 - Water Resources Assessment</div>	22.02.2021	08.11.2021	162 days														
50	Part 1	22.02.2021	16.04.2021	34 days														
51	Part 2	13.09.2021	08.11.2021	41 days														
52	<div><div></div> Task 4 - Hydrodynamic and ecohydraulic analyses</div>	04.10.2021	29.10.2021	20 days														
53	Task 4.1 - Hydrodynamic model	04.10.2021	29.10.2021	20 days														
54	Task 4.2 - River hydraulics	04.10.2021	29.10.2021	20 days														
55	Task 4.3 - Eco-hydraulic study	04.10.2021	29.10.2021	20 days														
56	<div><div></div> Task 5 - Water quality assessment</div>	18.01.2021	29.10.2021	181 days														
57	Task 5.1 - Construct water quality model	06.09.2021	29.10.2021	40 days														
58	<div><div></div> Task 5.2 - Water quality assessment</div>	18.01.2021	29.10.2021	181 days														
59	Part 1	18.01.2021	26.02.2021	30 days														
60	Part 2	06.09.2021	29.10.2021	40 days														
61	<div><div></div> Task 6 - Environmental Flow assessment</div>	06.01.2021	26.11.2021	209 days														
62	<div><div></div> Task 6.1 - Preparation of input time-series</div>	26.04.2021	27.08.2021	72 days														
63	Part 1	26.04.2021	26.05.2021	20 days														
64	Part 2	02.08.2021	27.08.2021	20 days														
65	<div><div></div> Task 6.2 - Input indicators and linked indicators</div>	26.04.2021	20.08.2021	67 days														
66	Part 1	26.04.2021	30.04.2021	5 days														
67	Part 2	07.06.2021	11.06.2021	5 days														
68	Part 3	26.07.2021	20.08.2021	20 days														
69	Task 6.3 - Set-up of Hlotse DRIFT DSS	30.08.2021	24.09.2021	20 days														
70	Task 6.4 - Construct response curves	24.09.2021	07.10.2021	10 days														
71	Task 6.5 - Predicting ecosystem and social impacts of scenarios	07.10.2021	26.11.2021	37 days														
72	Task 6.6 - Preparation of the EFlows Assessment Report	06.01.2021	06.01.2021	1 day														



Current  
Current



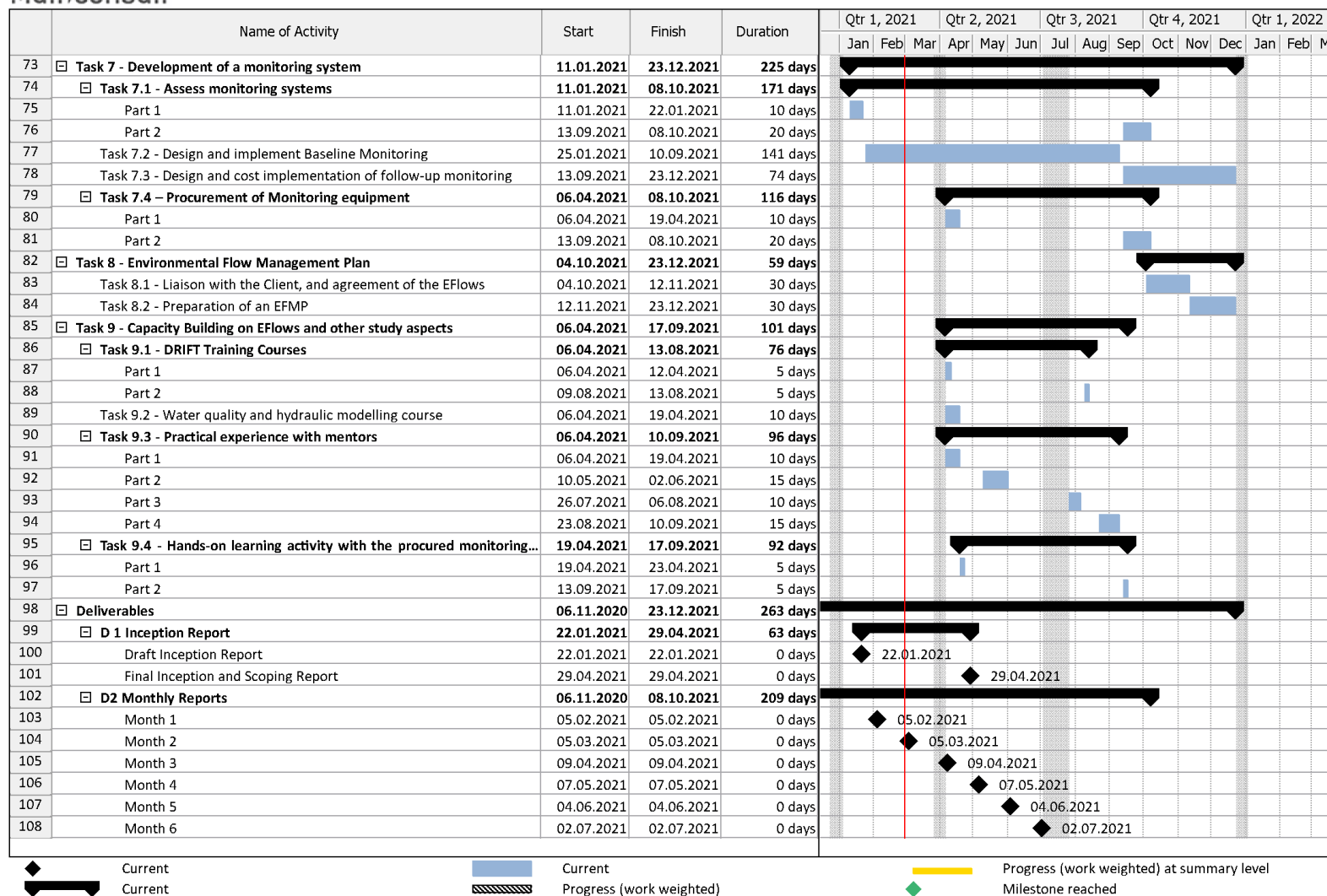
Current  
Progress (work weighted)



Progress (work weighted) at summary level  
Milestone reached

## Monthly Progress Report

Attachment 1- Workplan



Consulting Services for Environmental Flow Assessment (EFA)  
and Water Quality Modelling within the Lesotho Lowlands  
Water Development Project Phase II (LLWDP II)

multiconsult.no

Monthly Progress Report

Attachment 1- Workplan

Multiconsult

	Name of Activity	Start	Finish	Duration	Qtr 1, 2021			Qtr 2, 2021			Qtr 3, 2021			Qtr 4, 2021			Qtr 1, 2022		
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	M
109	Month 7	06.08.2021	06.08.2021	0 days									◆	06.08.2021					
110	Month 8	03.09.2021	03.09.2021	0 days									◆	03.09.2021					
111	Month 9	08.10.2021	08.10.2021	0 days										◆	08.10.2021				
112	Month 10	06.11.2020	06.11.2020	1 day															
113	Month 11	04.12.2020	04.12.2020	1 day															
114	☐ D3 Water Resources and Water Quality Report	19.11.2021	03.12.2021	10 days															
115	Draft	19.11.2021	19.11.2021	0 days													◆	19.11.2021	
116	Final	03.12.2021	03.12.2021	0 days													◆	03.12.2021	
117	☐ D4 Hydraulics Report	19.11.2021	03.12.2021	10 days															
118	Draft	19.11.2021	19.11.2021	0 days													◆	19.11.2021	
119	Final	03.12.2021	03.12.2021	0 days													◆	03.12.2021	
120	☐ D5 Baseline Monitoring Report	06.09.2021	24.09.2021	14 days															
121	Draft	06.09.2021	06.09.2021	0 days										◆	06.09.2021				
122	Final	24.09.2021	24.09.2021	0 days											◆	24.09.2021			
123	☐ D6 Monitoring and Modelling Report	06.09.2021	24.09.2021	14 days															
124	Draft	06.09.2021	06.09.2021	0 days											◆	06.09.2021			
125	Final	24.09.2021	24.09.2021	0 days												◆	24.09.2021		
126	D7 Training Manual	24.09.2021	24.09.2021	0 days													◆	24.09.2021	
127	☐ D8 Eflows Assessment Report	19.11.2021	03.12.2021	10 days															
128	Draft	19.11.2021	19.11.2021	0 days													◆	19.11.2021	
129	Final	03.12.2021	03.12.2021	0 days													◆	03.12.2021	
130	☐ D9 EFMP Report	06.12.2021	16.12.2021	8 days															
131	Draft	06.12.2021	06.12.2021	0 days													◆	06.12.2021	
132	Final	16.12.2021	16.12.2021	0 days													◆	16.12.2021	
133	D10 Completion Report	23.12.2021	23.12.2021	0 days														◆	23.12.2021
134	D11 DRIFT DSS and Hlotse Database	03.12.2021	03.12.2021	0 days													◆	03.12.2021	
135	D12 Customized Hlotse Drift Manual	03.12.2021	03.12.2021	0 days													◆	03.12.2021	
136	☐ D13 Monitoring Equipment	06.04.2021	17.09.2021	100 days															
137	Draft	06.04.2021	06.04.2021	0 days									◆	06.04.2021					
138	Final	17.09.2021	17.09.2021	0 days											◆	17.09.2021			



Current  
Current



Current  
Progress (work weighted)



Progress (work weighted) at summary level  
Milestone reached

## Attachment 2 – Invoice log

Consulting Services for Environmental Flows Assessment and Water Quality Modelling within the Lesotho Lowlands Water Development Project Phase II (LLWDP II)

### NOK Part

Client	Project No	Invoice No.	Description	Amount	Invoice Date	Due Date	Status	Paid	Received Amount	Outstanding Amount	Comments
Lesotho Lowlands Water Development Project II, Ministry of Water	10223685-01	10552144	Advance Payment	NOK 200,554.00	19.02.2021	05.03.2021	Paid	Yes	NOK 200,554.00	NOK 0.00	
							-				
			Sum Invoices	NOK 200,554.00					NOK 200,554.00	NOK 0.00	

Consulting Services for Environmental Flows Assessment and Water Quality Modelling within the Lesotho Lowlands Water Development Project Phase II (LLWDP II)

### EUR Part

Client	Project No	Invoice No.	Description	Amount	Invoice Date	Due Date	Status	Paid	Received Amount	Outstanding Amount	Comments
Lesotho Lowlands Water Development Project II, Ministry of Water	10223685-02	10552145	Advance Payment	EUR 20,313.00	19.02.2021	05.03.2021	Paid	Yes	EUR 20,313.00	EUR 0.00	
							-				
			Sum Invoices	EUR 20,313.00					EUR 20,313.00	EUR 0.00	

Consulting Services for Environmental Flows Assessment and Water Quality Modelling within the Lesotho Lowlands Water Development Project Phase II (LLWDP II)

### USD Part

Client	Project No	Invoice No.	Description	Amount	Invoice Date	Due Date	Status	Paid	Received Amount	Outstanding Amount	Comments
Lesotho Lowlands Water Development Project II, Ministry of Water	10223685-03	10552146	Advance Payment	USD 82,218.00	19.02.2021	05.03.2021	Active	Yes	USD 81,675.55	USD 542.45	Received as 69 102.37EUR. Exchanged to 81 675,55USD. Invoice was 82,218 USD.
							-				
			Sum Invoices	USD 82,218.00					USD 81,675.55	USD 542.45	