

# SUCCESSFUL ESIA COMPLIANCE – DETAILING E&S MEASURES FROM BID TO COMPLETION



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# SUCCESSFUL ESIA COMPLIANCE – DETAILING E&S REQUIREMENTS FROM BID TO COMPLETION

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Drawing on experience in Timor-Leste, Kyrgyz Republic, Vanuatu & Tonga



David Green – Independent Environmental Specialist

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Familiarizing Contractors and Consultants with the environmental legal and policy frameworks for the development partners has been used in several developing countries to drive environmental requirements. However in order that the Contractor can understand the environmental management requirements they must be simplified so they can see the need to manage the ESIA requirements throughout the project construction.

## Content of this session

**Reasons Environmental Capacity of Contractors is Limited**  
**Remedial Actions Taken to Increase Capability / Capacity**  
**Specifying All Expected Mitigation Measures in the Tender**  
**Including ESIA Requirements in the Tender and Bid**  
**Performance Security for ESIA Requirements**  
**Including ESIA Requirements in the Bill of Quantities**  
**Important Training Site Inspections, Monitoring & Reporting**  
**Simplifying Monitoring Formats - Use of Checklists**  
**Next Steps towards Inclusive Tender, Bid, Contract & BoQ**  
**WHAT DRIVES SUCCESS ? – TELL THEM WHAT TO DO !**

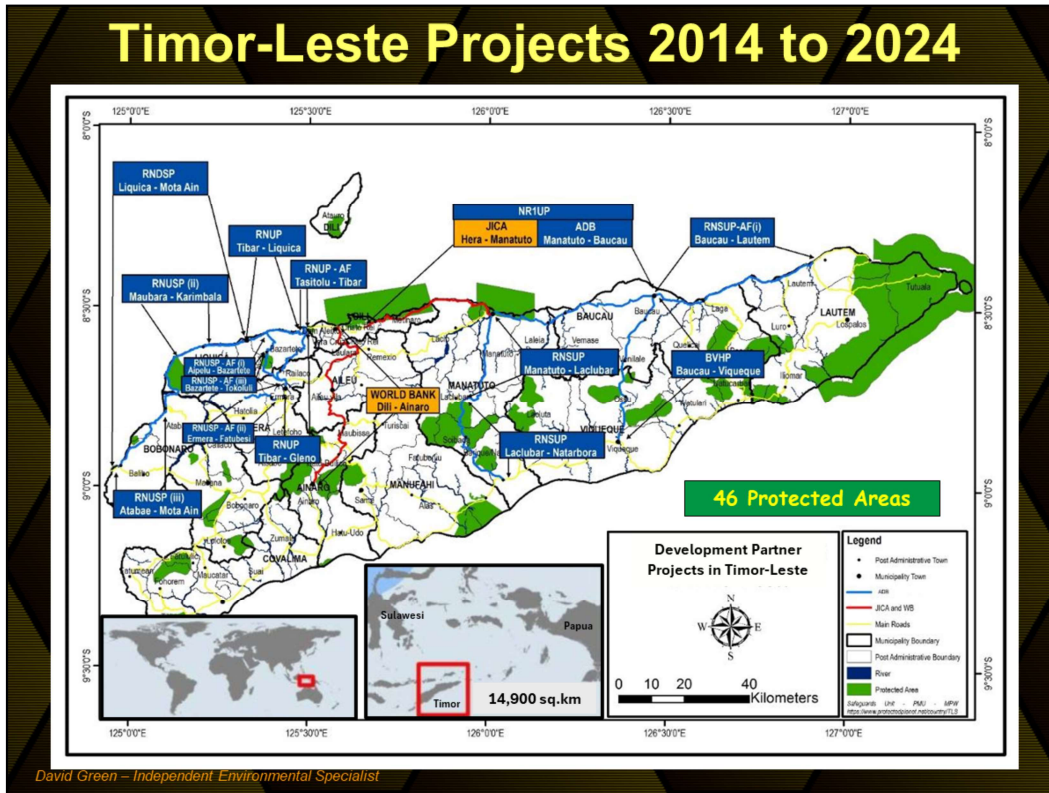
David Green – Independent Environmental Specialist

This session WILL draw on some of the **themes** and **principles** characterized by our colleagues but more specifically identifies some typical reasons that Contractors do not implement ESIA Requirements thoroughly and some actions that can be taken to make improvements.

Environmental principles and best practices are included in the legal requirements of Timor Leste. Experience over a number of years suggests that the policies of development partners can be woven into international Contracts with gradual success but it is important to recognize several limitations to implementation. It is a work in progress but as more Contracts are developed there has been a gradual increase in inclusion of the ESIA requirements and modest success has been achieved with accomplishment.

**WHAT DRIVES SUCCESS ? – TELL CONTRACTORS & CONSULTANTS WHAT TO DO !**

# Timor-Leste Projects 2014 to 2024



David Green – Independent Environmental Specialist

Timor-Leste is located between Indonesia, Papua New Guinea and Australia to the South. The land area is 14,900sq.km. There are 46 Protected Areas. More than 20 projects co-financed by development partners have been completed since 2014 with gradual improvements in the implementation of ESIA requirements by Contractors.

Instrumented monitoring was not possible in 2014 and there are no national environmental standards yet, therefore development partners standards are referred to and international best practice has been the target. Monitoring has had to focus on observational methods. There are no accredited commercially available laboratories that can perform instrumented monitoring. In the face of weak enforcement mechanisms we have focused on frequent, consistent monitoring and simplified reporting that is harmonized across numerous projects.

Since 2014 the Project Management Unit has conducted about 3500 site inspections, completed over 13,000 checklists and supervised presentation of about 700 monthly Environmental Monitoring Reports (mEMR). Semi Annual Environmental Monitoring Reports are presented to the development partners.



## Improvements 2013 to 2024



The road network has undergone significant improvement (Figure 2). However, frequent landslides and road closures caused by intense rainfall and geotechnical instability in mountainous areas continue to create significant challenges to both road improvements and road maintenance. By including ESIA requirements in the Contract and wherever possible in the BoQ significant progress has been made when combined with legal obligations and Loan covenants. Ensuring implementation of ESIA requirements has been a great challenge especially as several projects in different geographical areas were implemented simultaneously, and resources for monitoring and reporting were limited. Results over time have generally been encouraging.



Whereas Contractor is key to implementing the ESIA requirements, the Contractor capability to recognize and implement ESIA requirements is usually limited.

We also need to consider the capability of the Supervising Consultants. The Consultants must have experience and willingness to drive the Contractors to implement ESIA Requirements, identify where training is required and plan a way forward to complete the necessary monitoring and reporting as required by Government & development partner in the Contract. Proficiency with Contractor management is improving. We will describe when, why, where and how we have integrated the ESIA requirements in the Contracts. Some practical methods that we have found useful in improving the implementation of ESIA requirements and some recent experience with monitoring is described.

## **WHEN to begin with ESIA Requirements**

### **START AT THE EXPRESSION OF INTEREST.**

**Include reference to published EIA on EMPLOYER website / development partner e.g. WB or ADB website**

**Cross reference the ESIA Requirements in EOI.**

### **INCLUDE PREQUALIFICATION QUESTIONS IN EOI ?**

**ISO Registrations 14000 Environmental, 18000 OHSAS**

**Contractor / Consultant previous projects in country**

**Environmental Prosecutions in past 5 / 10 years**

### **PRE BID MEETING - ATTEND – INFORM DETAILS BoQ**

**Insist procurement authority includes ESIA Requirements are emphasized in Bid Documents. Strong repeated effort needed**

**Follow up by direct instructions at the Pre Bid Meeting**

David Green – Independent Environmental Specialist

Trying to ensure capacity of contractors to deliver is not an easy process. TASK. The process from Tender, EOI, Pre-Qualification, Pre-Bid Meeting, Bidding, Bid Evaluation, Negotiation and Contract. But Tender and Pre-Bid Meeting are the two key stages for recognizing and costing ESIA.

Start as early as possible with both Contractors and Consultants. Explain in the Expression of Interest (EOI) and at Pre-Bid meeting that allowances (costing) must be made for all activities and that contractor must produce a site specific CEMP (Pre-Construction stage) that must describe these in detail.

Although the ESIA requirements are generally included in the legal requirements (e.g. through environmental licensing) of most countries - the ESIA requirements are not necessarily easy for the contractor to identify clearly or understand in terms of what they must do in practice. Therefore it is important to expose the Contractor to the ESIA requirements at the earliest stages so they allocate necessary funds in bids.

The expression of interest can be the first step. The bid documents should be prepared in a way that the contractor / consultant has a clear picture of what is required and how often certain tasks are and actions needed. Only if the documents state clearly tasks that must be performed and how often; then the contractor can make allowances in their bids. THE CONTRACTOR / CONSULTANT MUST BE LED TOWARDS THE ESIA REQUIREMENTS IN THE CONTRACT. Starting at the EOI and Pre-Bid meeting and drawing attention to the ESIA requirements is the first step. Strong efforts will be needed to try ensure the procurement agency is open to including the ESIA Req. in the bid. If there is a published ESIA refer to it in the Bid Documents.



## Reasons Environmental Capacity of Contractors is Limited

What are the key reasons the Contractor is limited to implement of ESIA Requirements

What can be done in the Contract and Bill of Quantities to maximize rather than restrict or negate ESIA Requirements

**R1 CONTRACTOR WILL DO WHAT THE CONTRACTOR IS PAID TO DO**

**R2 NOT FAMILIAR WITH ENVIRONMENTAL PRINCIPLES**

**R3 NO EXPERIENCE OF ENVIRONMENTAL MANAGEMENT IN HOME COUNTRY – NO OR POOR ENFORCEMENT - NO BIG CONTRACTS**

**R4 NOT INVOLVED IN THE BIDDING PROCESS**

**R5 NO HARM IN NOT COMPLYING**

No penalty if they can avoid and save money

Hidden bonus if they do not spend money

**SEE NO BENEFIT TO THEM AS NO REWARD IF COMPLY**

**NO PENALTIES THEREFORE WHY COMPLY ?**

**DO NOT SEE THE NEED FOR ESIA REQUIREMENTS**

Contractor must be reeducated HOW to comply with ESIA Requirements

**Contractor will leverage non ESIA items in the BoQ to get winning price.**

David Green – Independent Environmental Specialist

There are several key REASONS.

REMEMBER THE CONTRACTOR **WILL DO WHAT THEY ARE PAID TO DO.**

Contractors may be limited by genuine lack of experience with environmental principles. Contractors may not see the need for ESIA requirements or may just not care.

The Construction team will almost surely **not** have been involved with the bidding process and even if ESIA Requirements are in the Bid Docs the implementing Contractor teams and Sub-contractors do not know these requirements exist.

Alternatively they do not see any problem with not complying as there is no reward if they comply and no penalty if they do not. This is very common where there is poor or lax enforcement or lack of regulations (e.g. developing countries).



# Actions to Remediate Poor Environmental Capacity (1)

R1 CONTRATOR WILL DO WHAT THE CONTRACTOR IS PAID TO DO

R2 NOT FAMILIAR WITH ENVIRONMENTAL PRINCIPLES. R3 NO EXPERIENCE

A. Include the Environmental Mitigation and Monitoring Plan (EMMP) in Tender in Employers Requirements / Particular Specification.

B. Set out EMMP by construction activity so Contractor can see what they must complete. Include mitigation measures, responsibilities, cost and monitoring

Environmental Mitigation and Monitoring Plan - EMMP							
Example sourcing of construction materials				How to Focus the Bidder on the EMMP to understand TASKS			
Impact Mitigation				Impact Monitoring			
Project activities	Environmental Impact	Mitigation measures to be included in EMMP	Mitigation Responsibility	Mitigation Cost (US\$)	Parameter to be monitored	Frequency and means of verification	Monitoring Responsibility
Activity	Impact	Mitigation Measures CEMP	Responsibility	Cost	Parameter	Verify	Monitoring
Sourcing of materials (river gravels, aggregates etc)  <b>Construction Material Sources</b>	Extraction of river gravels from the beds or active channels of rivers changes hydrology, altering channel & causing erosion. Extraction from quarries or borrow pits leaves unusable land, exposed water table, attracts rubbish dumping, reduces visual values.	<ul style="list-style-type: none"> <li>Contractor to prepare river training and materials extraction plan as part of CEMP.</li> <li>Excavation for river training purpose should be conducted within the parameters planned.</li> <li>All borrow soil should be sourced from materials excavated from the river training, subject to confirmation of suitability by laboratory testing.</li> <li>Stockpiles topped for later use and fence and re-contour borrow pits after use. Properly remove topsoil, overburden, and low quality materials and stockpile near the site to be covered and preserved for rehabilitation.</li> <li>In case additional material is sourced from river growth, excavations shall not be conducted within 10m of the river bank or within 200m upstream or downstream from a bridge.</li> <li>Gravel and alluvial material shall not be removed to a depth of greater than 2m and holes in river bed shall be re-contoured when extraction is complete.</li> <li>Avoided terraces or alluvial deposits which lie on the river</li> </ul>	M/W, Contractor, PMU	00	Materials only obtained from designated sites (locations and methods) as per extraction plan; Rehabilitation is conducted as per extraction plan	Monthly visual inspection; Review of extraction plan; Re-vegetation and rehabilitation	Contractor, PMU
21 MM in total							
Link the Activity to Impact the Mitigation Measures and Responsibilities and Cost							
Parameter(s) to be monitored, Verification Frequency and Monitoring Responsibilities							
Contractors can relate the <u>Activity</u> to the <u>Mitigation Measures</u> needed and identify <u>Monitoring</u> activity needed to support and Adjust Resources and Commitment							

C. Require a statement in the Bid that all EMMP costs have been included and Provide a commitment statement form in the Bid documents

ESCP (WB)

Therefore it is critically important to include all the necessary mitigation measures and actions in the Tender.

This may be achieved by adding the Environmental Mitigation and Monitoring Plan (matrix) to the Tender.

Environmental Mitigation and Monitoring Plan - EMMP							
Example sourcing of construction materials				How to Focus the Contractor on EMMP to understand TASKS			
Impact Mitigation				Impact Monitoring			
Project activities	Environmental Impact	Mitigation measures to be included in EMP	Mitigation Responsibility	Mitigation Cost (US\$)	Parameter to be monitored	Frequency and means of verification	Monitoring Responsibility
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**Link the Activity to Impact the Mitigation Measures and Responsibilities and Cost Parameter(s) to be monitored, Verification Frequency and Monitoring Responsibilities**

**Contractors can relate the Activity to the Mitigation Measures needed and identify Monitoring activity needed to support and Adjust Resources and Commitment**

By example EMMP for Spoil Disposal: The environmental mitigation measures are listed (Particular Specification) based on different activities and not by impacts. Therefore Contractors can relate their construction Activity to the Mitigation Measures needed and identify Monitoring needed to support and thus Adjust Resources and Commitment in the Bid. It is critical to explain this to the Contractor at the Pre-Bid meeting.

Link the Activity to Impact the Mitigation Measures and Responsibilities and Cost

Define Parameter(s) to be monitored, Verification Frequency and Monitoring Responsibilities

Contractors can then relate the Activity to the Mitigation Measures needed and identify the Monitoring activity needed to support and Adjust Resources and Commitment.

## Actions to Remediate Poor Environmental Capacity (2)

**R1 CONTRAIOR WILL DO WHAT THE CONTRACTOR IS PAID TO DO**

**R2 NOT FAMILIAR WITH ENVIRONMENTAL PRINCIPLES. R3 NO EXPERIENCE**

**D. Include an Environmental and Social Performance Security (draws attention to ESIA Requirements – to encourage compliance).**

**E. Require full time Environmental and Safety Officer on the Contractor staff – focal point for Supervision Consultants EHS Safety Consultant.**

**F. Require daily, weekly and monthly monitoring & reporting on EHS across all activities.**

**Environmental and Social  
Performance Security  
Included in the latest contract  
(c2023 – 2%)**

*David Green – Independent Environmental Specialist*

ENVIRONMENTAL AND SOCIAL (ES) PERFORMANCE SECURITY  
DEMAND GUARANTEE

Place and date of expiry  
DB, October 30, 2027

Beneficiary : Ministry of Public Works  
Address : Avenida Maritima De Puerto Madero, DB, Timor-Leste

Date : January 09, 2023  
ES Performance Guarantee No : 2023

Guarantor : PT. Bank Mandiri (Persero), Tbk., DB Branch,  
Rua 25 de Abril, Aldeia, Rai Nain, Culmeira, DB, Timor-Leste

We have been informed that (hereinafter called 'the Applicant') address: No.4  
Contract 1 with the Beneficiary for the Execution of Upgrading and  
Road Section (KM 11 + 900 to KM 20 + 207.80)  
(hereinafter called 'the Contract').

Furthermore, we undertake that, according to the conditions of the Contract, an Environmental and  
Social (ES) Performance Security is required.

At the request of the Applicant, we PT. Bank Mandiri (Persero), Tbk., DB Branch, Rua 25 de  
Abril, Aldeia, Rai Nain, Culmeira, DB, Timor-Leste as Guarantor, hereby irrevocably undertake to  
pay the Beneficiary any sum, or sums not exceeding in total an amount of USD 500,000.00 (say U.S.  
Dollars Five Hundred Thousand only), upon receipt by us of the Beneficiary's complying demand  
supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document  
accompanying or identifying the demand, stating that the Applicant is in breach of its Environmental and/or  
Social (ES) obligations under the Contract, without the Beneficiary needing to prove or to show grounds  
for your demand or the sum specified therein.

This guarantee shall expire, no later than the 30th day of October 2027, and any demand for payment  
must be received by us at this office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC  
Publication No. 724, except that the reporting statement under Article 15(A) is hereby excluded.

DB, January 09, 2023  
PT. Bank Mandiri (Persero) Tbk.,  
Tbk., DB Branch /B

USD 500,000.00

Add a dedicated Environmental and Social Performance Security in the Contract to draw the attention of the Contractor to the ESIA Requirements. Contractor may not see the need for ESIA Requirements therefore draw their attention using a dedicated Environmental and Social Performance Security.

Include an Environmental and Social Performance Security (as a deterrent) in the Contract.

Require full time Environmental and Safety Officer on the Contractor staff –point of contact for the Supervision Consultants Environmental and Safety Consultant.

Requirements for daily, weekly and monthly reporting on Environmental and Safety issues across all activities.



### **Actions to Remediate Poor Environmental Capacity (3)**

**R1 CONTRACTOR WILL DO WHAT THE CONTRACTOR IS PAID TO DO**

**R2 NOT FAMILIAR WITH ENVIRONMENTAL PRINCIPLES. R3 NO EXPERIENCE**

**G. Simplify Contractor reporting by joint inspections and checklists. Include all CHECKLISTS in monthly Environmental Monitoring Reports.**

**H. Ensure Employer has access to all sites and installations for inspections at any time.**

**I. Require full time supervision by National EHS Consultant staff – day to day work site supervision, toolbox talks, check-lists with Contractor**

**J. Require intermittent training and supervision by International EHS Consultant – 3 times per year – check quality of supervision and mitigation, prepare corrective actions, monitoring reports.**

**K. EHS training for Contractor, regular, checking environmental mitigation, progress with licenses, permits to work & community liaison**

David Green – Independent Environmental Specialist

The Contractor may be limited by genuine lack of experience with environmental principles', may not see the need for ESIA requirements or may just not care. It will be helpful to:

Simplify Contractor reporting by use of joint inspections and checklists.

Include all checklists in monthly Environmental Monitoring Reports

Ensure Employer has access to all installations for inspections at any time

Require full time supervision by National Environmental and Safety Consultant staff –day to day work site supervision, toolbox talks, check-lists with Contractor for environmental mitigation, progress with licenses, permits to work, liaison with community.

Require intermittent training and supervision by International Environmental and Safety Consultant – three times per year – training all environmental team and checking quality of supervision and mitigation, preparing corrective actions, monthly monitoring reports.

EHS training for Contractor, checking environmental mitigation, progress with licenses, permits to work, liaison with community.



## Actions to Remediate Poor Environmental Capacity (4)

### R4. CONSTRUCTION TEAM NOT INVOLVED IN THE BIDDING PROCESS:

The team making the Bid will almost certainly NOT be the team constructing the project.

Contractor construction team on site are blind to the ESIA requirements.

Construction contractors and sub-contractors on site do not know the ESIA requirements exist.

**MUST RAISE AWARENESS**

L. Contractor (including managers) must be trained in ESIA Requirements in Pre-Construction stages. Can be responsibility of the Supervising Consultant (guided by Employer). Harmonized training, Project by Project, will facilitate consistent interpretation of ESIA Requirements.

M. Contractor construction team must have a dedicated experienced environmental officer (EO) to conduct monitoring and be instructed in the Pre-Construction Phase. Include potential deductions / non-payment in Contract if EO key staff are not engaged or replaced quickly.

**TRAINING - TRAINING - TRAINING**

13

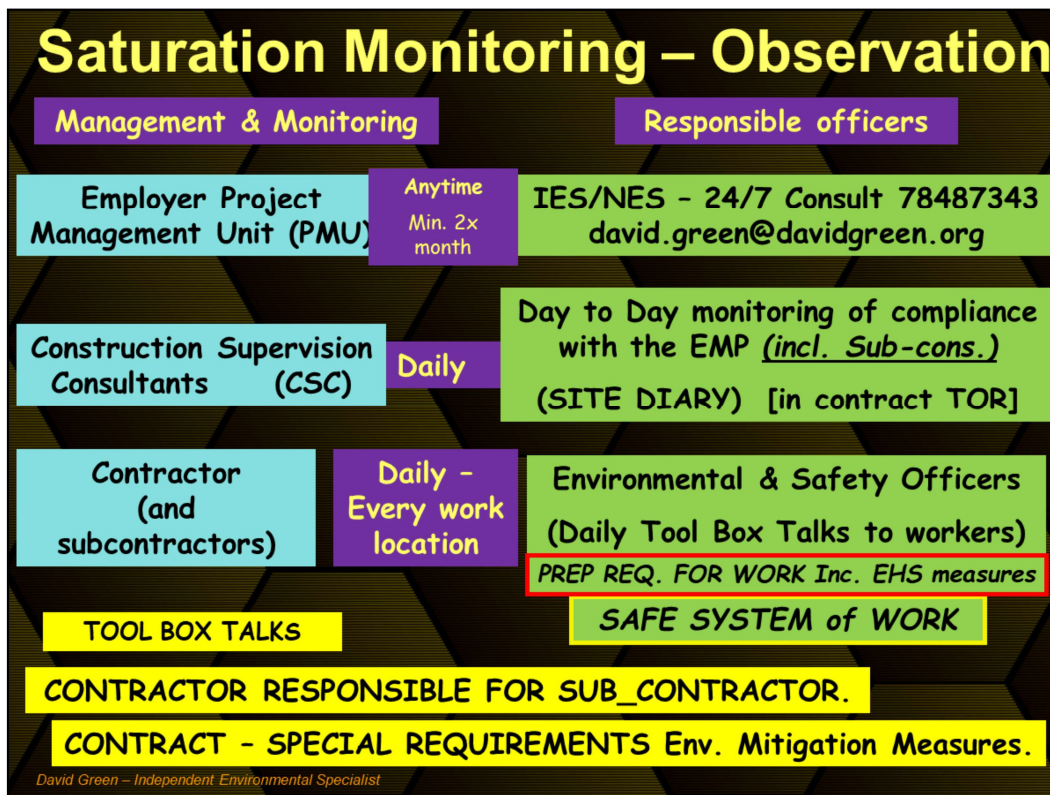
*David Green – Independent Environmental Specialist*

The Contractor may be blind to the environmental principles, may not see the need for ESIA requirements or may just not care.

The Construction team will almost surely not have been involved with the bidding process and even if ESI requirements are in the Bid Docs the implementing contractors and sub contractors do not know these requirements exist.

Contractor (including managers) must be trained in ESIA Require in Pre-Construction stages: Can be responsibility of the Supervising Consultant. Harmonized training, Project by Project, will facilitate consistent interpretation of ESIA Requirements.

Contractor construction team must have a dedicated experienced environmental officer (EO) to conduct monitoring and be instructed in the Pre-Construction Phase. Include potential deductions / non-payment in the Contract if key staff are not engaged or replaced quickly



**Repeated Training** and Reinforcement is necessary: what we have called Saturation Monitoring with training taking place several times every month at all levels

Monitoring of ESIA Requirements should be regular and frequent depending on construction activities.

Triggered by Request for Work (RFW) / Request for Inspection (RFI) that should include EHS – ESIA Requirements that apply.

Daily checks are made jointly by the Consultant and Contractor. The Employer make on the spot checks as warranted with programmed inspections twice per quarter.

## Checklists for Activities 2015 to 2024

NUMBER	TITLE	FREQUENCY OF COMPLETING
CL 01	GENERAL MONITORING PROGRESS & ACTION	Preferably after every site inspection. At least weekly
CL 02	CONSTRUCTION YARD/CONTRACTOR BASE CAMP / OFFICE	At least weekly
CL 03	SPOIL DISPOSAL – SETUP & CLOSE OUT (includes macadam)	At the time of Setup or Close out
CL 04	SPOIL DISPOSAL OPERATION (Monitoring - includes macadam)	At least weekly
CL 05	BORROW PIT/QUARRY – SETUP & CLOSE OUT	At the time of Setup or Close out
CL 06	BORROW PIT / QUARRY OPERATION	At least weekly
CL 07	MANUFACTURING AREAS (Crusher& Asphalt Mixing Plant AMP, Batching Plant, Casting Yard etc.)	When operating - At least weekly
CL 08	CONTRACTOR WORKER ACCOMODATION	At least weekly
CL 09	HEALTH AND SAFETY	At least weekly

To make site inspections and reporting easier we developed a series of Environmental Monitoring Checklists (since 2015 – available on the IAIA24 App,) that provide consistency across all projects, and they are used to feed into the monthly environmental monitoring reports. The general checklist is completed on each monitoring occasion to identify the location and type of impacts that are not being controlled sufficiently well. Other checklists are designed to provide guidelines for specific construction activities bringing together all the required mitigation measures for a particular activity identified in the EMMP - MATRIX.

# Example of Checklist (Spoil Disposal - see IAI24 App)

The checklists are completed on site during the joint inspections and are signed-off by the participating Consultant and Contractor officers.

This can assist in making timely and effective responses to implementation challenges. Checklists are presented monthly in the standalone monthly environmental monitoring reports (mEMR).

Checklists (Figure 7) are appended to the mEMR and instructions for the month are summarized in the mEMR to help improve implementation of ESIA requirements.

We have also prepared a glossary of Environmental terms in six languages to help overcome communication challenges.



## **Actions to Remediate Poor Environmental Capacity (5)**

### **R5. SEES NO HARM IN NOT COMPLYING WITH ESIA REQUIREMENTS:**

**If the Contractor is complacent then the Employer must leverage some kind of penalty. OR Include payments to encourage performance.**

**N. Include specific payment in the BOQ in the Pre-Construction Stage for environmental and socially related tasks:**

- **Contractors Environmental Management Plan,**
- **Health & Safety Plan**
- **Traffic Management Plan (endorsed by Supervision Consultant and Employer (updated as necessary for unforeseen impacts)**

**ALSO (2023)**

- **Gender Based Violence Prevention Plan & Awareness Training**
- **STI / HIV-Aids / COVID-19 Prevention Programme Implementation**
- **Tree Cutting and Replacement**
- **Bioengineering for Slope Control**

**Don't forget the Environmental and Social Performance Security**

17

*David Green – Independent Environmental Specialist*

Our Bills of Quantities have also been amended with SPECIFIC PAYMENTS for some of the ESIA Requirements in Tenders and Contracts.

- i. Contractors (site specific) Environmental Management Plan (CEMP)
- ii. Health & Safety Plan
- iii. Traffic Management Plan.
- iv. Gender Based Violence Prevention Plan & Awareness Training
- v. STI / HIV-Aids / COVID-19 Prevention Programme Implementation
- vi. Tree Cutting and Replacement
- vii. Bioengineering for Slope Control

# Pay for ESIA Requirements - Paid under BoQ 2023

(BoQ = Bill of Quantities)

Contractors Environmental Management Plan,  
Health & Safety Plan  
Traffic Management Plan

Gender Based Violence Prevention Plan & Awareness Training

STI / HIV-Aids / COVID-19 Prevention

Tree Cutting

Tree Replacement

Bioengineering for Slope Control

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PAY ITEM No.	DESCRIPTION	UNIT	QUANTITY	UNIT COST (US\$)	AMOUNT (US\$)
<b>SECTION 100 FACILITIES FOR THE ENGINEER</b>					
102.4(1a)	Preparation and Implementation of Contractors ESMP, Health and safety plan and Traffic Management Plan	LS	1	10,000.00	10,000.00
102.4(1b)	Preparation and Implementation of GBV Prevention Program including and children protection and sexual exploitation and abuse (SEA)	LS	1	20,000.00	20,000.00
102.5(1)	Preparation and Implementation of STI included HIV/AIDS and COVID-19 Prevention Program	LS	1	10,000.00	10,000.00
<b>SECTION 200 EARTHWORKS</b>					
201(1)	Clearing and Grubbing	Ha.	24.50	3,221.40	78,924.30
201(3)	Individual Removal of Trees, Small (150mm - 900mm dia.)	Each	415.00	130.62	54,207.30
201(4)	Individual Removal of Trees, Large (over 900mm dia.)	Each	30.00	522.48	15,674.40
201(5)	Individual replanting and maintenance (for 1 year) of 10 replacement fruit trees for each Large and Small tree that is cut. Replacement trees to be planted before trees are cut.	Each	5096.00	1.49	7,450.00
PAY ITEM No.	DESCRIPTION	UNIT	QUANTITY	UNIT COST (US\$)	TOTAL COST (US\$)
<b>800 BIO-ENGINEERING WORKS</b>					
801(1)	Nursery Establishment, Operation and Management	L.S.	1.00	216,944.00	216,944.00
801(2)	Cross Slip Production	SQ.M.	77,700.00	0.81	62,937.00
803(1)	Slope Trimming and Preparation	SQ.M.	77,700.00	0.29	22,533.00
805(3)	Planting of Cross Slip (Vetiver Grass)	SQ.M.	77,700.00	0.41	31,857.00
SPL 810	Coco-net Bio-Engineering on Prepared Slopes	SQ.M.	61,500.00	0.12	7,380.00
SPL 811	Planting of Live Stakes on Filled Slopes All plants to be watered and kept alive for 1 year (DNF). Dead plants to be immediately replaced.	SQ.M.	61,500.00	0.26	15,990.00
<b>800</b>	<b>TOTAL - SECTION 800: BIO-ENGINEERING</b>				<b>357,641.00</b>

Specific payments (Figure 5) are now made for environmental and socially related tasks:

Consideration is being given to how to include:

- First Aid training, Nurses Sick Bay, Accident Book
- Dust Control - water spraying quantified
- Waste Disposal
- Employment and Skills Training Report (including women)
- Community Engagement Management Plan.
- Monthly Environmental Monitoring Report / Site Diaries
- Communicable Disease Control Planning & Management
- Public Consultation meetings and Tara Bandu ceremonies
- Timely receipt of Mineral Permit, Environmental Permits (within 3 months)

# Way Forward – INSPECTIONS

Contractor Request for Work or Inspection (RFW / RFI)

IEC-NEC approval on Method Statement

IEC-NEC-EO/ESO check work execution against Method Statement onsite

Environmental Issues Register (checklists/site diary)

On the Spot Instruction / Site Instruction (SI) letter (close out issue & time line for completion)

Close out - Reporting / PMU intervention

Use the Checklists Daily - Weekly - Monthly

General

Contractor Yard Base Camp

Spoil Disposal

Quarry and Borrow Pits

Manufacturing Area

Health and Safety

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19

The way forward for us is to continue with saturation monitoring at the working level. As soon as the Contractor request for work to commence he must include the ESIA Requirements (EHS MM) in the request for Work (RFW) / Request for Inspection (RFI). Inspect and close out non-conformances.

## Starting Point for ESIA Req. in Tender – General (2014)

### Tender Requirements –

2014 (Timor-Leste - Limited protecting environment on & off site)

4.18	
Protection of the Environment	The Contractor shall take all necessary measures to:
<b>2014</b>	(a) protect the environment (both on and off the Site);
	(b) comply with the environmental impact statement for the Works (if any); and
	(c) limit damage and nuisance to people and property resulting from pollution, noise and other results of the Contractor's operations and/or activities.
<b>FIDIC Red Book 2017</b>	The Contractor shall ensure that emissions, surface discharges, effluent and any other pollutants from the Contractor's activities shall exceed neither the values indicated in the Specification, nor those prescribed by applicable Laws.
ISBN 978-2-88432-084-9	

**Additional in Special Provisions (2014 - 2016)**

**By Now > 300 MM in the EMMP (2024)**

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in the event of damage to the environment, property and/or nuisance to people, on or off Site as a result of the Contractor's operations, the Contractor shall agree with the Engineer the appropriate actions and time scale to remedy, as practicable, the damaged environment to its former condition. The Contractor shall implement such remedies at its cost to the satisfaction of the Engineer."

Initially the tender and bid documents only covered the Environmental Requirements in Timor-Leste's Specification and Special Provisions of Contract "to protect environment - general wording with some more detail added c2016.

FIDIC Red Book 2017 required compliance with ESIA and to limit environmental damage. Earlier this was another small step forward.



## Stepwise ESIA Req. in Tender – Initiatives (up to 2123)

### Tender and Bid Requirements – (now required - CEMP in Bid ADB / WB)

EMP in Bid supported by ADB / WB) but implementing department excluded for Bid Evaluation (2014 - 2024)

Bids include Statement that Environmental Management Plan requirements have been costed in the Tender Bid (not BOQ) (2016)

Environmental & Social Commitment Plan with bid (general statement 2017)

Environmental and Social Performance Declaration (WB ESF 2018 - a requirement).

Details & experience (C.V.) of Environmental & Safety Officer (key staff c2019)

All deemed to be included the Contractor's Bid (c2019) but ideally also

- a. Contractor bid covers Environment Health & Safety, Traffic planning (c2021)
- b. Contractor presents experience with ESIA / ESMP on projects (c2022)
- c. Any environmental sanctions or black listings of the Contractor (c2022)
- d. Performance Security (separate) to secure ESIA requirements (c2023)

#### NEXT STEPS

- e. Specific payments for Tasks – Mineral Permit, Env Permits, Environment Health & Safety, Traffic Plans, Inspections, (IN DEVELOPMENT) Key Performance Indicators
- f. Specific penalties for not employing key staff, not obtaining permits, (IN DEV'T)

21

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Later much more detail has been presented and more success with Env Req has been achieved. However we learned early on that to establish some level of progress has required sustained effort and much repeated training of Contractors and Consultants to implement, monitor and report accurately on the ESIA requirements.

The Employers Tender documents should have specific requirements for the Contractor to include in their Bid. As more detailed requirements have been presented in the Tender, we think more attention has been paid in the Bids and more success with implementing ESIA Requirements has been possible with much proactive attention to training and enforcement.

# SUCCESSFUL ESIA COMPLIANCE

DETAILING E&S REQUIREMENTS FROM  
BID TO COMPLETION

**If you have been ?  
Thank you for listening.**

From David Green and Andrew Taylor



Thank you from David W J Green and Andrew J Taylor

## Let's continue the conversation!

Post questions and comments in the IAIA24 app.



**#iaia24**

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# SUCCESSFUL ESIA COMPLIANCE

## DETAILING E&S REQUIREMENTS FROM BID TO COMPLETION

Supplementary Slides to Support Q & A (follows)





# Way Forward – Inform Environmental Requirements for Contractors

**Bid Stage**

**ESCP (WB)**

**Environmental Management Plan (EMP)**

**Required in ADB/WB/JICA policies POM & PAM**

*Tender and Pre-bid meeting draw bidders attention to full SEIS/EIS, EMP requirements, GoTL Legal Requirements, Donors' Safeguards Policies, and need for CEMP/ESIP updates & possible changes at the pre-Construction stage so can cost.*  
*Also include need for separate environmental licenses for ancillary facilities (Basecamp, Cement Batching plant, Asphalt Mixing Plant, Sand washing) and Mineral License with Environmental Clearance if contractor sets up own quarry.*

**Draft EMP matrix in Tender (summary)**

**LICENSE for SSEMP**

## Requirements for Consultants

**ESCP for Consultants also**

*RFPS and Pre-tender meeting must draw consultants attention to need to update SEIS/EIS, EMP requirements, GoTL Legal Requirements, Donors' Safeguards Policies, and need to assist and train Contractor's to accomplish CEMP/ESIP updates & possible changes at the pre-Construction stage. Arrange to mobilized IEC-NEC after Notice to Commence issued ASAP.*  
*Include separate Mineral License with Environmental Clearance if contractor sets up own quarry.*

*SPMU to be allowed to view potential consultants Key Staff CVs at bid stage*  
*Identify qualifications, experience & capacity; request upgrading of proposed staff at bid stage.*

*Before signing, consulting contract confirm consultants capability and capacity to efficiently assist Contractor with updates & possible changes at all stages as requested by ANLA or ADB/WB.*

# Glossary of Environmental Terms 2024

Glossary of Environmental Terms						
	English	Tetum	Indonesian (Bahasa)	Chinese	Tagalog (Filipino)	DEFINITION (World Bank)
<b>A</b>	<b>Abatement</b>	Hamenus/Hatun	Pengurangan	减排	Paghulaw	Reducing the degree or intensity of, or eliminating, pollution.
	<b>Accident site</b>	Fatin asidente	Lokasi	事故现场	Lugar	The location of an unexpected occurrence, failure, or loss, either at a plant or along a transportation route, resulting in a release of hazardous materials.
	<b>Air pollutant</b>	Poluisaun Anin	Polutan udara	空气污染物	Himpapawid karumihan	Any substance in air that could, in high enough concentration, harm human beings, other animals, vegetation, or material. Pollutants may include almost any natural or artificial composition of matter capable of being airborne in the form of solid particles, liquid droplets, gases, or combinations of these states. Generally, falling into two main groups: (a) those emitted directly from identifiable sources and (b) those produced in the air by interaction between two or more primary pollutants or by reaction with normal atmospheric constituents.
	<b>Air pollution</b>	Poluisaun ar	Polusi udara	空气污染	Polusyon sa hangin	The presence of contaminant or pollutant substances in the air that do not disperse properly and interfere with human health or welfare or produce other harmful environmental effects.
	<b>Ambient air</b>	Anin ambiente	Udara ambient	环境空气	Pumapaligid himpapawid	Any unconfined portion of the atmosphere: open air, surrounding air.
	<b>Attenuation</b>	Atenuasaun	Redaman	衰减	Pagpapalambing	The process by which a compound is reduced in concentration over time, through adsorption, degradation, dilution, or transformation.
<b>B</b>	<b>Biodegradable</b>	Biodiversidade	Biodegradable	可生物降解	Biodegradable	The ability to break down or decompose rapidly under natural conditions and processes.

FULL Glossary available from IAIA24 App David W J Green – Presentation 680