



DELIBERASAUN N. 05/II/CAFI/2025

Conselho de Administração do Fundo das Infraestruturas – CAFI, bazeia ba artigo 10º (1) e (3) DL Nº. 25/2024, de 22 de maio, Primeira Alteração ao DL Nº.13/2016, 18 de Maio, realiza reuniaun extraordinária iha loron tersa-feira, 4 de fevereiro de 2025, e halo deliberasaun ba assunto tuir mai ne'e:

Asuntu: Pedidu Aprovasaun no autoriazsaun despezas nune'e mos konfirma finansiamentu ba iha FI 2025 ba projetu:

1. Construction of Maukola – Lomea Irrigation Scheme – Covalima Municipality, Kustu estimativa ADN, I.P. ho montante USD 16,997,399.40;
2. Construction Supervision of Maukola -Lomea Irrigation Scheme Covalima Municipality, Kustu estimativa ADN, I.P. ho montante USD 944,275.00;
3. Construction of Sahen Irrigation Scheme – Manatuto and Manufahi Municipalities, Kustu estimativa ADN, I.P. ho montante : USD 9,080,838.01;
4. Construction Supervision of Sahen Irrigation Scheme – Manatuto and Manufahi Municipalities, Kustu estimativa ADN, I.P. ho montante USD 765,100.00.

Proponente: Ministério da Agricultura, Pecuaria Pescas e Floresta — MAPPF

Notas/justifikasi saun:

- SGP simu karta husi Ministério da Agricultura, Pecuária, Pesca e Florestas – MAPPF ho no. Ref.; 38/DGACPI/I/2025, data 17 de Janeiro de 2025, ho asuntu: Pedidu Ajendamento Enkontru projetu Fundus Infraestruturas Ministério da Agricultura, Pecuária, Pesca e Florestas – MAPPF.
- MAPPF hetan alokasaun orsamentu geral do estado 2025 liu husi fundo de Infraestruturas (FI) atu halo konstrusaun ba aktividade hanesan :
 - a. A390402; Konstrusaun Eskema irrigasaun Maukola – Lomea Municipio Covalima (Construction of Maukola – Lomea Irrigation Scheme – Covalima Municipality);
 - b. A390413; Supervizaun ba konstrusaun Eskema Irrigasaun Maukola – Lomea Municipio Covalima (Construction Supervision of Maukola – Lomea Irrigation Scheme – Covalima Municipalities);
 - c. A390410; Konstrusaun Eskema irrigasaun Sahen – Municipio Manatuto no Manufahi (Construction of Sahen Irrigation Scheme);
 - d. A390414; Supervizaun ba Konstrusaun Eskema irrigasaun Sahen Municipio Manatuto no Manufahi (Construction Supervision of Sahen Irrigation Scheme – Manatuto and Manufahi Municipalities);



IX GOVERNO CONSTITUCIONAL
MINISTÉRIO DO PLANEAMENTO E INVESTIMENTO ESTRATÉGICO
FUNDO DAS INFRAESTRUTURAS



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- Projetu eskema irrigasaun ba fatin rua refere, hetan ona aprovasaun husi Agencia de Desenvolvimento Nacional-I.P (ADN_IP) ba desenho no BoQ, Nune'e mos orsamento ba supervisaun iha fulan Outubro 2024;

- Lista Proposta:

No.	Naran Projetu	Verifikasi saun ADN,I.P./No.reference	Alokasaun FI 2025
1	Construction of Maukola – Lomea Irrigation Scheme – Covalima Municipality	Resultadu verifikasi saun, ADN, I.P. ho karta no. ref.: 1475/ADN, I.P./X/2024, data 4 de outubro de 2024; Montante verifikadu \$ 16,997,399.40;	Kodigou atividade: A390402 Construção e supervisão da irrigação Maukola; FI 2025: \$100.000,00
2	Construction Supervision of Maukola -Lomea Irrigation Scheme Covalima Municipality	Resultadu verifikasi saun, ADN, I.P. ho karta no. ref.: 1474/ADN, I.P./X/2024, data 4 de outubro de 2024, Montante verifikadu \$ 944,275.00	Kodigou atividade: A390413 Supervizaun ba Konstrusaun Eskema Irrigasaun Maukola-Lomea FI 2025: \$100.000,00
3	Construction of Sahen Irrigation Scheme – Manatuto and Manufahi Municipalities,	Resultadu verifikasi saun, ADN, I.P. ho karta no. ref.: 1467/ADN, I.P./X/2024, data 3 de outubro de 2024, Montante verifikadu \$ 9,080,838.01	Kodigou atividade: A390410 Construção e supervisao da Irrigação de Sahen FI 2025: \$100.000,00
4	Construction Supervision of Sahen Irrigation Scheme – Manatuto and Manufahi Municipalities	Resultadu verifikasi saun, ADN, I.P. ho karta no. ref.: 1473/ADN, I.P./X/2024, data 4 de outubro de 2024, Montante verifikadu \$ 765,100.00;	Kodigou atividade: A390414 Construction Supervision of Sahen Irrigation Project FI 2025: \$100.000,00

- Refere ba lista proposta numeru 1 no 3 CAFI konfirma disponibilidade orsamentu iha FI tinan 2025, molok CdM autoriza despezas bazeia alinea 1 (a) Artigo 5º Dekreto Lei 23/2022, de 19 de Maio, Competência Para a Autorização de Despesa;
- Refere ba lista proposta numeru 2 no 4, aprovasaun CAFI ba despezas, bazeia alinea 1 (b) artigo 5.º ba DECRETO-LEI N.º 23/2022 de 19 de Maio, COMPETÊNCIA PARA A AUTORIZAÇÃO DE DESPESA;
- Desizaun kona ba abertura ka inisiaun prosesu aprovisionamentu bazeia, Artigo 24 & 25, Decreto Lei No.43/2024, de 20 de Dezembro, regra ezekusaun OGE 2025;
- Bazeia ba Artigo 21, DL No.13/2016, de 18 de maio, kona ba Regulamentu Fundo da Infraestrutura, determina katak aprovisionamento projetu FI nian sei lao tuir Regime Juriku Aprovisionamento em vigor. Modalidade aprovisionamento bazeia ba kustu projetu no sei lao tuir Decreto-Lei No.22/2022 de 11 de Maio;

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Pájina 2 hosi 7

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- Projetu nain sei assume responsabilidade ba koordenasaun entre entidade relevantes ba implementasaun projetu ne'e, e ba supervizaun, monitorizasaun e akompanhamentu ba projetu ne'e iha faze implementasaun, e sei garante kualidade servisu konstrusaun nian tuir espesifikasiasaun nebe aprova ona;
- Ministério da Agricultura, Pecuaria Pescas e Floresta — MAPPF atu submete proposta transferensia orsamementu ho disponibilidade orsamentu ba implementasaun e ezekusaun projetu iha lista aprovasaun.

Rekomendasaun:

- 1) CAFI atu aprova kustu total ba projetu nune'e mos konfirma finansiamentu despezas iha Fundo das Infraestruturas 2025, bazeia ba pedidu finansiamentu nebe hato'o husi Ministério da Agricultura, Pecuaria Pescas e Floresta — MAPPF ba projetu;
 - a. Construction of Maukola – Lomea Irrigation Scheme – Covalima Municipality, Kustu estimativa ADN, I.P. ho montante USD 16,997,399.40;
 - b. Construction Supervision of Maukola -Lomea Irrigation Scheme Covalima Municipality, Kustu estimativa ADN, I.P. ho montante USD 944,275.00;
 - c. Construction of Sahen Irrigation Scheme – Manatuto and Manufahi Municipalities, Kustu estimativa ADN, I.P. ho montante USD 9,080,838.01;
 - d. Construction Supervision of Sahen Irrigation Scheme – Manatuto and Manufahi Municipalities, Kustu estimativa ADN, I.P. ho montante USD 765,100.00.
- 2) Refere ba lista proposta aprovasaun no.1 no 3, hafoin CAFI aprova kustu total ba projetu no konfirma finansiamentu iha FI 2024, Ministério da Agricultura, Pecuaria Pescas e Floresta — MAPPF nudar projetu na'in sei hato'o pedidu aprovasaun ba Conselho de Ministros, nudar orgaun kompetenti atu Autoriza Despezas tuir Artigo 5º no 7º Dekretu Lei No. 23/2022, de 19 de Maio;
- 3) Refere ba lista proposta aprovasaun no.2 no 4, hafoin CAFI aprova kustu total ba projetu ne'e no konfirma finansiamentu iha FI 2024, CAFI nudar orgaun kompetenti atu Autoriza Despezas tuir Artigo 5º alinea 1(b) Dekretu Lei No. 23/2022, de 19 de Maio haktuir pedidu husi Ministério da Agricultura, Pecuaria Pescas e Floresta — MAPPF nudar projetu na'in;
- 4) Desizaun kona ba abertura ka inisiasaun prosesu aprovisionamentu bazeia, Artigo 24 & 25, Decreto Lei No.43/2024, de 20 de Dezembro, regra ezekusaun OGE 2025;
- 5) Bazeia ba Artigo 21, DL No.13/2016, de 18 de maio, kona ba Regulamentu Fundo da Infraestrutura, determina katak aprovisionamento ba projetu sira ho finansiamentu husi FI nian sei lao tuir Regime Juridiku Aprovizionamentu em vigor;
- 6) Modalidade aprovisionamento bazeia ba kustu projetu no sei lao tuir Decreto-Lei No.22/2022 de 11 de Maio;

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- 7) Projetu nain sei assume responsabilidade ba koordenasaun entre entidade relevantes ba implementasaun projetu ne'e, e ba supervizaun, monitorizasaun e akompanhamentu ba projetu ne'e iha faze implementasaun, e sei garante kualidade servisu konstrusaun nian tuir espesifikasi saun nebe aprova ona;
- 8) Ministério da Agricultura, Pecuaria Pescas e Floresta — MAPPF atu submete proposta transferensia orsamementu ho disponibilidade orsamentu ba implementasaun e ezekusaun projetu iha lista aprovasaun.

Desizaun:

1. CAFI aprova kustu total ba projetu bazeia ba pedidu finansiamentu nebe hato'o husi Ministério da Agricultura, Pecuaria Pescas e Floresta — MAPPF ba projetu;
2. Refere ba lista aprovasaun no.1 no 3, CAFI **konfirma** disponibilidade orsamentu iha FI tinan 2024, molok CdM autoriza despezas bazeia ba alinea 1 (a) Artigo 5º Dekreto Lei 23/2022, de 19 de Maio, Competência Para a Autorização de Despesa;
3. Refere ba lista aprovasaun no.2 no 4, CAFI konfirma no autoriza **despezas projetu** nudar orgaun kompetenti atu halo Autorização de Despesa tuir Artigo 5º alinea 1 (b) Dekretu Lei No. 23/2022, de 19 de Maio;
4. Desizaun kona ba abertura ka inisiasaun prosesu aprovisionamentu bazeia, Artigo 24 & 25, Decreto Lei No.43/2024, de 20 de Dezembro, regra ezekusaun OGE 2025;
5. Bazeia ba Artigo 21, DL No.13/2016, de 18 de maio, kona ba Regulamentu Fundo da Infraestrutura, determina katak aprovisionamento ba projetu sira ho finansiamentu husi FI nian sei lao tuir Regime Juridiku Aprovizacionamento em vigor;
6. Modalidade aprovisionamento bazeia ba kustu projetu no sei lao tuir Decreto-Lei No.22/2022 de 11 de Maio;
7. Projetu nain sei assume responsabilidade ba koordenasaun entre entidade relevantes ba implementasaun projetu ne'e, e ba supervizaun, monitorizasaun e akompanhamentu ba projetu ne'e iha faze implementasaun, e sei garante kualidade servisu konstrusaun nian tuir espesifikasi saun nebe aprova ona;
8. Ministério da Agricultura, Pecuaria Pescas e Floresta — MAPPF atu submete proposta transferensia orsamementu ho disponibilidade orsamentu ba implementasaun e ezekusaun projetu iha lista aprovasaun;
9. Lista aprovasaun:





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No.	Naran Projeto	Kustu Estimativa (ADN, I.P.)	Alokasaun FI 2025	Orgaun Kompetênti Autoriza despezas - DL No. 23/2022, 19 de Maio	
				Konfirma	Autoriza
1.	Construction of Maukola – Lomea Irrigation Scheme – Covalima Municipality	Resultadu verifikasi saun, ADN, I.P. ho karta no. ref.: 1475/ADN, I.P./X/2024, data 4 de outubro de 2024; Montante verifikasi \$ 16,997,399.40;	Kodigou atividade: A390402 Construção e supervisão da irrigação Maukola; FI 2025: \$100.000,00	CAFI	CdM
2	Construction Supervision of Maukola -Lomea Irrigation Scheme Covalima Municipality	Resultadu verifikasi saun, ADN, I.P. ho karta no. ref.: 1474/ADN, I.P./X/2024, data 4 de outubro de 2024, Montante verifikasi \$ 944,275.00	Kodigou atividade: A390413 Supervizaun ba Konstrusaun Eskema Irrigasaun Maukola-Lomea FI 2025: \$100.000,00	CAFI	CAFI
3	Construction of Sahen Irrigation Scheme – Manatuto and Manufahi Municipalities,	Resultadu verifikasi saun, ADN, I.P. ho karta no. ref.: 1467/ADN, I.P./X/2024, data 3 de outubro de 2024, Montante verifikasi \$ 9,080,838.01	Kodigou atividade: A390410 Construção e supervisao da Irrigação de Sahen FI 2025: \$100.000,00	CAFI	CdM
4	Construction Supervision of Sahen Irrigation Scheme – Manatuto and Manufahi Municipalities	Resultadu verifikasi saun, ADN, I.P. ho karta no. ref.: 1473/ADN, I.P./X/2024, data 4 de outubro de 2024, Montante verifikasi \$ 765,100.00;	Kodigou atividade: A390414 Construction Supervision of Sahen Irrigation Project FI 2025: \$100.000,00	CAFI	CAFI

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IX GOVERNO CONSTITUCIONAL
MINISTÉRIO DO PLANEAMENTO E INVESTIMENTO ESTRATÉGICO
FUNDO DAS INFRAESTRUTURAS



Conselho de
Administração

Aprovado husi CAFI iha loron 4 de fevereiru de 2025.

O Conselho de Administração do Fundo das Infraestruturas
O presidente,



Gastão Francisco de Sousa

Ministro do Planeamento e Investimento Estratégico

Santina José Rodrigues Ferreira Viegas Cardoso

Ministra das Finanças

(La partisipa iha reuniaun CAFI)



Miguel Marques Gonçalves Manetelu

Ministro dos Transportes e Comunicações



Samuel Marçal

Ministro das Obras Públicas

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MINISTÉRIO DO PLANEAMENTO E INVESTIMENTO ESTRATÉGICO
FUNDO DAS INFRAESTRUTURAS



**Conselho de
Administração**

Annexo:

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REPÚBLICA DEMOCRÁTICA DE TIMOR-LESTE
Ministério do Planeamento e Investimento Estratégico
Fundo das Infraestruturas

NOTA DE DESPAICHO

1. ORIGEM DO DOCUMENTO

N Ref; 38/ DGACPI //I 2025

Data do Documento : 17/ 01 /2025

Proveniência do Documento

DGACPI-MAPPF

2. DETALHES DO DOCUMENTO

Data Entrada do Documento: 17 / 01 /2025

Enviado ao:

1. Sr/ Mauricio Borges
2. Sr/a _____
3. Sr/a _____
4. Assessores Nacionais / Internacionais

Assunto:

Pedido Ajendamento Enkontru ba projetu Fundus Infraestruturas Ministério da Agricultura, Pecuaria, Pesca e Floresta (MAPPF)

3. INSTRUÇÃO DO DIRETOR DO SGP

Data do Despacho: 17/ 1 /2025

Para Sr/a

1. Sr/a Maria Ferreira
2. Sr/a Ana Luisa
3. Sr/a _____

Despacho:

Hare Asmara id mie

Assinatura :


Mauricio Borges



REPÚBLICA DEMOCRATICA DE TIMOR LESTE
MINISTERÍO DA AGRICULTURA, PECUÁRIA, PESCA E FLORESTAS
DIREÇÃO-GERAL DE AGRICULTURA, CAFÉ E PLANTAS INDUSTRIAS



Ref. No : 38...../ DGACPI /I/2025

Ex.mo : Sr. Mauricio Borges
Director Executivo do Secretariado dos Grandes Projeto (SGP)

Assunto : Pedido Ajendamento Enkontru ba Projetu Fundus Infraestruturas
Ministerio da Agricultura, Pecuária, Pesca e Florestas (MAPPF)

Ministerio da Agricultura, Pecuária, Pesca e Florestas, hetan alokasaun orsamento geral do estado 2025 liu husi Fundo de Infraestruturas (FI) atu halo konstrusaun ba aktividade hanesan :

- a. A390402 ; Konstrusaun Eskema irrigasaun Maukola – Lomea Municipio Covalima (*Construction of Maukola-Lomea Irrigation Scheme - Covalima Municipality*)
- b. A390413 ; Supervizaun ba konstrusaun Eskema irrigasaun Maukola – Lomea Municipio Covalima (*Construction Supervision of Maukola-Lomea Irrigation Scheme- Covalima Municipalities*)
- c. A390410 ; Konstrusaun Eskema irrigsaun Sahan – Municipio Manatuto no Manufahi (*Construction of Sahan Irrigation Scheme*)
- d. A390414 ; Supervizaun ba konstrusaun Eskema irrigasaun Sahan Municipio Manatuto no Manufahi (*Construction Supervision of Maukola-Lomea Irrigation Scheme- Manatuto and Manufahi Municipalities*)

Projetu eskema irrigasaun ba fatin rua refere, hetan ona aprovasaun husi Agencia de Desenvolvimento Nacional-I.P (ADN_IP) ba desenho no BoQ, nune mos orsamento ba supervizaun iha fulan Outubro 2024.

Ho ida nee, Ministerio da Agricultura, Pecuária, Pesca e Florestas husu ba Secretariado dos Grandes Projeto (SGP), atu bele tau ajenda enkontru ba Konsellu Administrasaun Fundu Infraestrutura (KAFI) nian, hodi nune bele hetan aprovasaun.

Dokumentus mak hanesan tuir mai:

- a. Sumario BoQ no General design ba Construsaun eskema irrigasaun Maukola-Lomea Municipio Covalima
- b. Sumario Orsamento Supervizaun no TOR ba Construsaun eskema irrigasaun Maukola-Lomea Municipio Covalima
- c. Sumario BoQ no General design ba Construsaun eskema irrigasaun Sahan Municipio Manatuto no Manufahi
- d. Sumario Orsamento Supervizaun no TOR ba Construsaun eskema irrigasaun Sahan Municipio Manatuto no Manufahi

Mak nee deit ba ita nia servico hamutuk hato'o obrigado.

Dili, 17 de Janeiro de 2025

Martinho Laurentino Soares

Diretor Geral

Cc :

- 1) Sua. Excia. Ministro da Agricultura, Pecuária Pesca e Florestas
- 2) Inspektur Geral – MAPPF;
- 3) Arkivo



AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

Dili, 04 /Outubro/2024

Hato'ba : Sr. Martinho Laurentino Soares
Diretor Geral - MAPPF

Hosi : Januario Maia Guterres 
Adjunto Diretor Executivo e Diretor Executivo Interino - ADN, I.P.

Ref : 1475 /ADN, I.P./X/2024

Asuntu : Resultado Verifikasiun – Projeto Konstrusaun Eskema Irrigasaun
Maukola – Lomea, Municipio Covalima 

Ho Respeito,

Bazeia ba karta pedidu verifikasiun ho no ref: 521/DGACPI/VI/2024 ho data 21 de Junho de 2024, ba asuntu ne'ebe mensiona iha leten, ekipa verifikasiun Unidade Avaliação dos Projetos –ADN, I.P. hala'o ona verifikasiun ba dokumentos refere. Ho nune bele hare resultado verifikasiun iha (aneksu).

Maka ne'e deit ba ita Boot ninian Atensaun no Kolaborasaun Diak ami Hato'ba Obrigado Wain.



AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

FORMULARIO DE DESPACHO

Data de Entrada Documentos : 21 /06 /2024

Husi :

MAP - DG-ACPI

No Ref :

521 /DGACPI /v. /2024

Projecto : Konstrusaun Eskema Irrigasaun
Maukola - Lomea Municipio Covalima

Quantidade Documentos : 4

Anexo : Bill of Quantities 1

Technical Specification 1

(DED) Drawings 1

USB 2

Assuntos : Submisaun Dokumentu pedidu
Verifikasiasaun

No.Tlf : -

Companhia : -

Despacho :

- Unidade de Gestão Administrativa
- Unidade de Avaliação de Projectos
- Unidade de Controlo e Validação de Qualidade
- Unidade de Estudos e Desenvolvimento de Competências

Rui Lourenço da Costa
Director Executivo ADN

- Adjunto
- Assessor/a
- Gabinete DE / Base de Dadus
- Other

Data : 21/06/2024

Rui Lourenço da Costa
Director Executivo ADN



REPÚBLICA DEMOCRATICA DE TIMOR LESTE
MINISTERÍO DA AGRICULTURA, PECUÁRIA, PESCA E FLORESTAS
DIREÇÃO-GERAL DE AGRICULTURA, CAFÉ E PLANTAS INDUSTRIAS



Ref. No : S21./ DGACPI /VI/2024

Ex.mo : Sr. Rui Lourenço da Costa
Director Executivo Agencia de Desenvolvimento Nacional-IP (ADN_IP)

Assunto : Submisaun dokumemtu Pedidu Verifikasi saun ba Konstrusaun Esken Irrigasaun Maukola_Lomea Municipio Covalima

Baseia ba assunto iha leten, Ministerio da Agricultura, Pecuária, Pescas e Florestas, submet dokumentus Konstrusaun ba Eskema Irrigasaun Maukola_Lomea Municipio Covalima, k Agencia de Desenvolvimento Nacional-IP (ADN_IP) atu halo verifikasi saun no aprovasau Orsamento ba Projetu eskema irrigasaun iha leten, mai husi Fundus Infraestrutura, ho n programa 797: *Agricultura, sub programa 79701: Irrigacao*

Dokumentos atu halo verifikasi saun no aprovasau mak hanesau;

- 1) Desenho no BoQ, Hardcopy
- 2) Specifikasi saun Tekniku, hardcopy
- 3) Softcopy iha USB
 - a. Desenho, BoQ no Specifikasi saun Tekniku

Mak nee deit ba ita nia servico hamutuk hato'o obrigado.

Dili, 21 de Junho de 2024

Martinho Laurentino Soares
Diretor Geral

Cc :

- 1) Sua. Excia. Ministro da Agricultura, Pecuária Pesca e Florestas
- 2) Inspektur Geral – MAPPF;
- 3) Arkivo



AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

CHECK LIST DOKUMENTOS BA VERIFIKASAUN

PROJECTO NAIN / KOMPANHIA : konstrusaun Estekma Irrigasaun Maukola -
lowea Corailima

No	DOKUMENTOS NIA NARAN	
1.	Karta Akompanhamento Husi Projecto Nain	✓
2.	Fundo Husi : (LM. <u>FI</u> .PDIM)	✓
	A. Kapital de Desenvolvimento	
	B. Bens de Servico	
	C. Transferencia Public	
	D. Other :	
3.	TOR ou Justifikasau kona ba projetu ne'be atu implementa.	
4.	Titik Koordinat husi Projecto neébe atu implementa	
5.	Desenhu tenke iha HVS Medida A3 no hetan Aprovasaun husi Projeto Nain no Ministerio (MOP)	✓
6.	Cost Estimasaun ho BOQ Tenke Hetan Aprovasaun Husi Projectu Nain ou Ministerio (MOP)	✓
7.	Unit Price Analisis	✓
8.	Backup Quantidade	✓
9.	Spesifikasi Teknik	✓
10.	Soft Copy (BOQ iha Excel) no (Desenho iha Auto Cad) /USB	✓
11.	Tenke Anexu Kopia Livro OJE 2024 Cover ho Pajina	



AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

SUMMARY

NAME OF PROJECT : MAUKOLA - LOMEA IRRIGATION SCHEME
 LOCATION OF PROJECT : Lomea River - Zumalai Covalima Municipality
 PROJECT OWNER : MINISTÉRIO DA AGRICULTURA, PECUÁRIA, PESCA, E FLORESTAS

SECTION NO.	DESCRIPTION	PROPOSED BY OWNER AMOUNT US \$	VERIFIED BY ADN, I.P. AMOUNT (USD)
I	Preparatory work	\$ 708.258,99	\$ 99.401,00
II	Construction of Access Road/ Inspection Road	\$ 613.038,72	\$ 905.350,38
III	Construction Weir (include abutment and Scouring way)	\$ 3.915.717,97	\$ 3.669.319,67
IV	Construction Intake - Sandtrap Basin - Regulating Structure	\$ 791.159,36	\$ 808.261,56
V	Right and Left Retaining Wall (U/S & D/S Weir, include levee)	\$ 1.162.307,82	\$ 1.149.548,82
VI	Left Main Canal & Hydraulic Structures		
VI.1	Left Main Canal, open channel (Intake - BLM 4 = 5.825 M)	\$ 1.749.147,21	\$ 1.309.772,62
VI.2	Culuan Left Canal, Secondary Canal Works (BLM 4 - BCNL 1= 3.550 M)	\$ 714.916,79	\$ 512.543,67
VI.3	Culuan Right Canal, Secondary Canal Works (BLM 4 - BCNL 4= 2.375 M)	\$ 595.719,27	\$ 432.889,04
VI.4	Adentuy Secondary Canal Works (L = 4,780 M)	\$ 389.485,42	\$ 544.018,01
VII	Right Main Canal & Hydraulic Structures		
VII.1	Right Main Canal Works, open channel (Intake - MK1 L=1.986 m)	\$ 653.191,55	\$ 536.008,92
VII.2	Maukola Secondary Canal Works (L = 5,215 M)	\$ 732.053,95	\$ 571.268,62
VII.3	Halik Secondary Canal Works (L = 8,317 M)	\$ 1.605.363,50	\$ 1.253.963,95
VII.4	Halik-I Secondary Canal Works (L = 1,168 M)	\$ 160.471,35	\$ 110.214,48
VII.5	Halik-II Secondary Canal Works (L = 2,829 M)	\$ 425.097,53	\$ 355.089,96
VII.6	Kolbolu Secondary Canal Works (L = 6,056 M)	\$ 1.236.393,17	\$ 1.082.797,33
VII.7	Adentuy Secondary Canal Works (L = 5,086 M)	\$ 977.702,71	\$ 762.000,75
VII.8	Adentuy-I Secondary Canal Works (L = 1,206 M)	\$ 58.635,73	\$ 145.301,22
VII.9	Drainage Canal Works (L = 11,571 M)	\$ 988.269,97	\$ 706.404,61
VIII	Construction of Building Facility	\$ 38.848,00	\$ -
A	PHYSICAL CONSTRUCTION	\$ 17.515.779,01	\$ 14.954.154,59
B	PROFIT 10% PHYSICAL CONTRUCITION COST (A X 10)	\$ 1.751.577,90	\$ 1.495.415,46
C	OVERHEAD		\$ 175.699,00
D	PROVISIONAL SUM FOR CONSTRUCTION OF BUILDING FACILITY		\$ 38.848,00
	Construction of Two Unit Guard House including fence and Installation of Electrical System (Type I: 4m x 3.30m)		
	Construction of Two Unit Water User Association (WUA) House including fence & Installation of Electrical System (Type II: 10 m x 6.0 m)		
E	TAX (2% X (A+B))	\$ 385.347,14	\$ 333.282,34
F	GRAND TOTAL	\$ 19.652.704,04	\$ 16.997.399,40

Verified by :

(Eng. Mário Gusmão Mendeita)
 Civil Engineer, ADN, I.P.

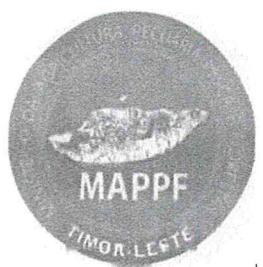
Checked By :

(Eng. Rogerio Marcal Pires)
 Chefe Departamento, ITIAS, UAP-ADN, I.P.

Certified By:
 (Arch. José Fernando Liu Soares)
 Coordenador UAP - ADN,I.P.
 02/10/2024



REPÚBLICA DEMOCRÁTICA DE TIMOR LESTE
MINISTERÍO DA AGRICULTURA, PECUÁRIA, PESCA E FLORESTAS



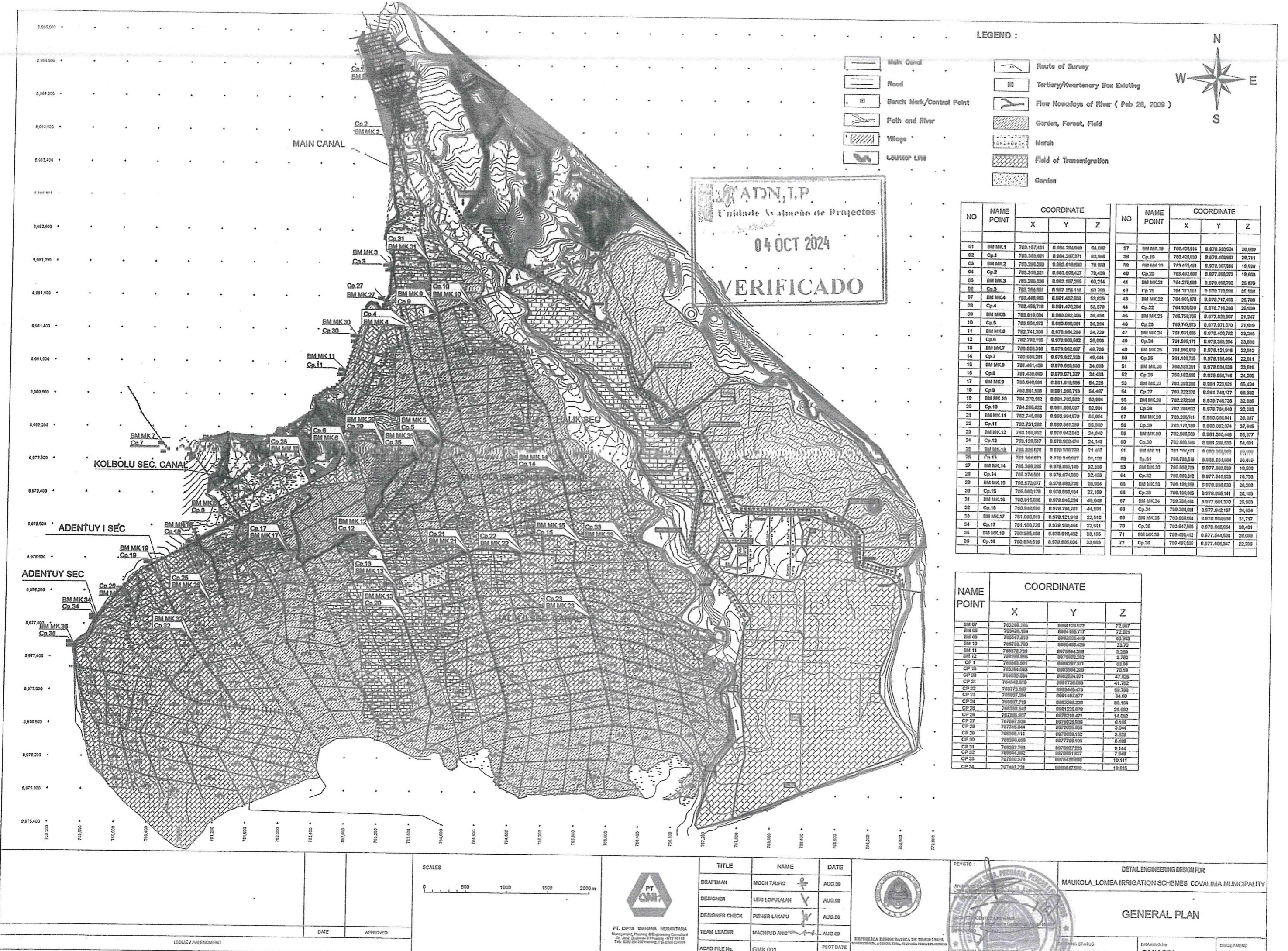
DETAILED ENGINEERING DESIGN

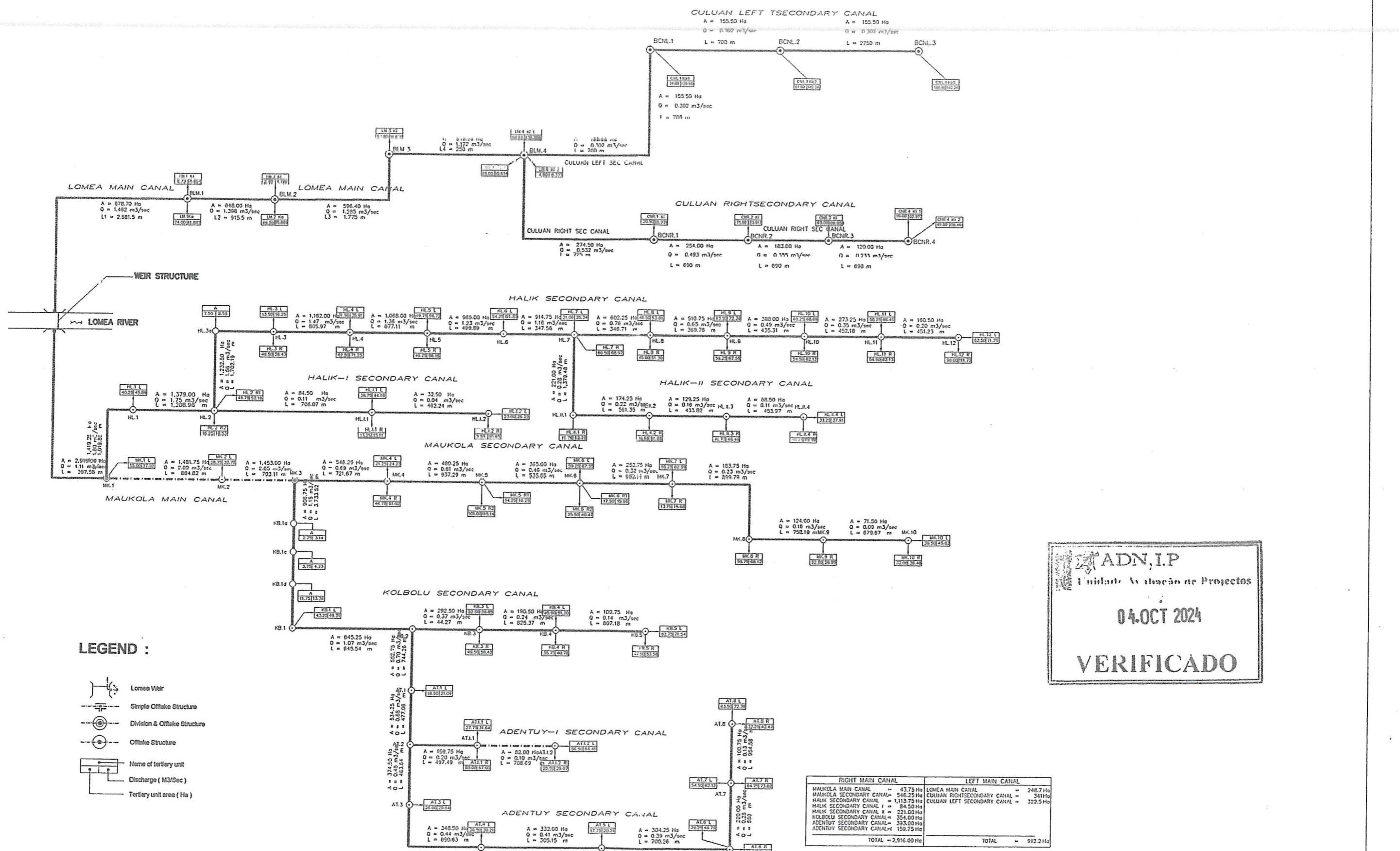
MAUKOLA LOMEA IRRIGATION SCHEME

3,597 Ha

ZUMALAI, COVALIMA MUNICIPALITY

DESIGN DRAWINGS
MAY 2024





DATE	APPROVED	 PT. CPTA WINNER NUSANTARA Management Planning & Engineering Company Tel. +62 361 8317000 / Email. pt.cpta@outlook.com	TITLE	NAME	DATE	 REPUBLICA DEMOCRATICA DE TIMOR-LESTE MINISTERO DA AGROPECUARIA, PESCA E FLORESTAS DIRETORIA DE PLANEJAMENTO E DESenvolvimento Rural
DRAFTMAN	MOCHTAURO		AUG.09			
DESIGNER	LENI LOUPULAN		AUG.09			
REVIEWER CHIEF	RITHRIE MAMAI		11/10/11			
TEAM LEADER	MACHFUD ANIS		AUG.09			
ACAD FILE No.			PLOT DATE			

ISSUE / AMENDMENT

DATE APPROVED

DETAIL ENGINEERING DESIGN FOR MAUKOLA-LOMEA IRRIGATION SCHEME, COVIMA MUNICIPALITY

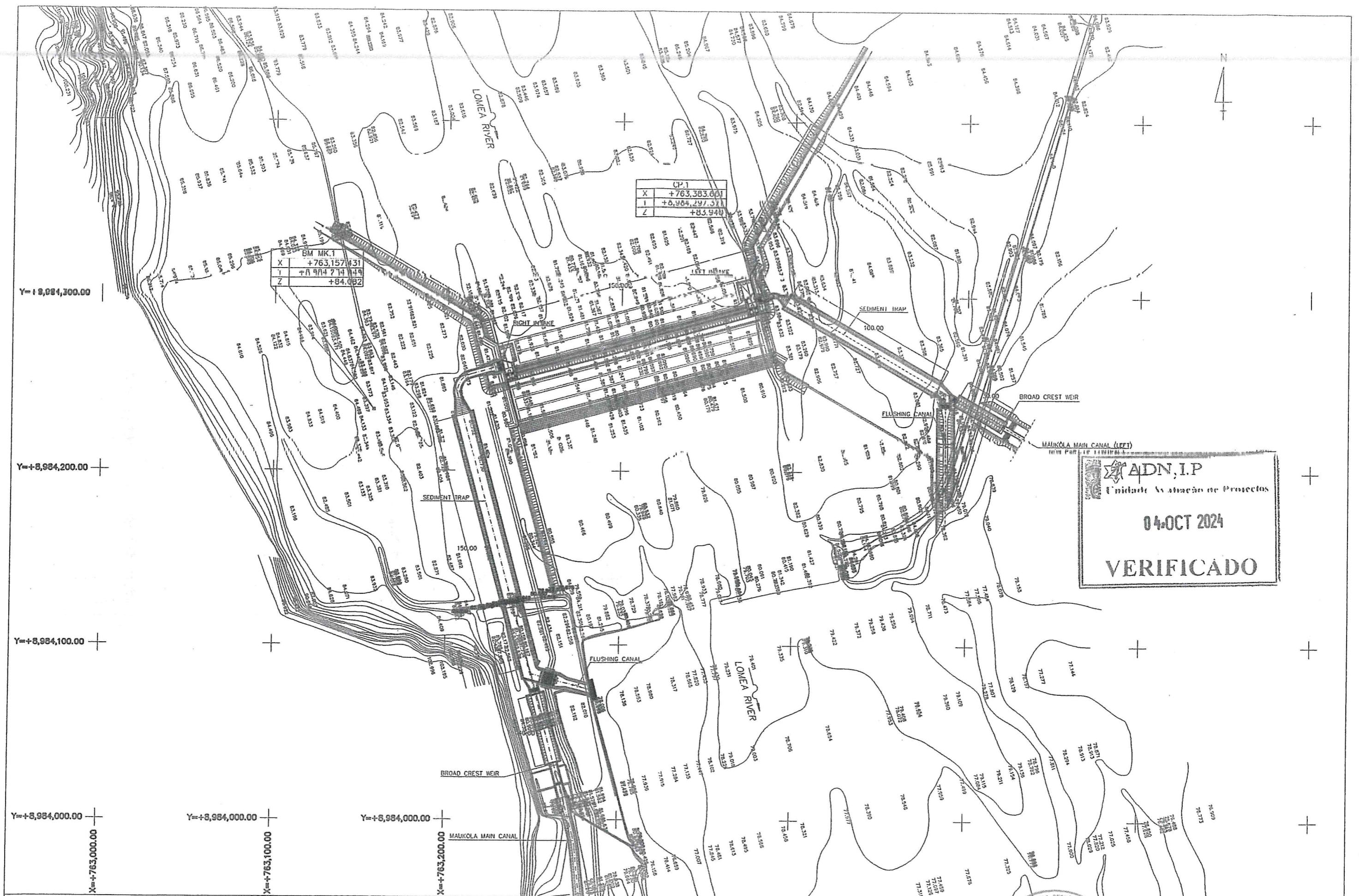
SCHEMATIC OF MAUKOLA-LOMEA IRRIGATION SCHEME

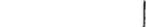
ISSUED FOR TENDER

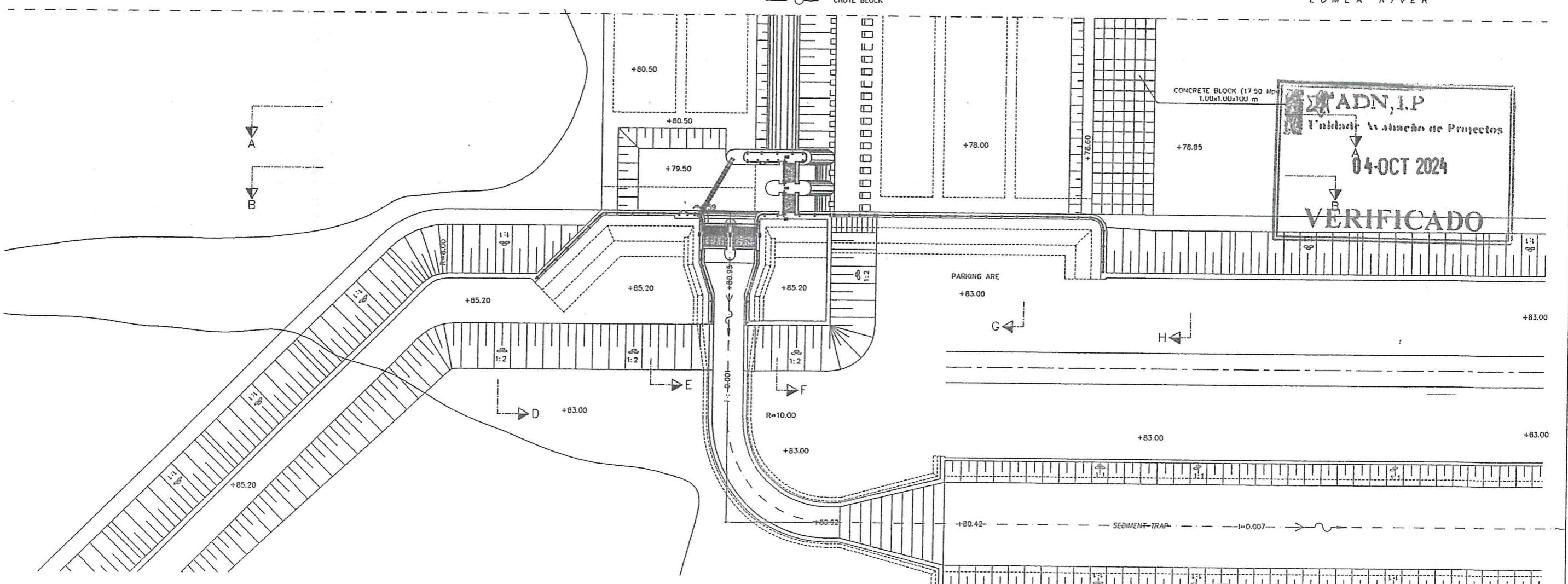
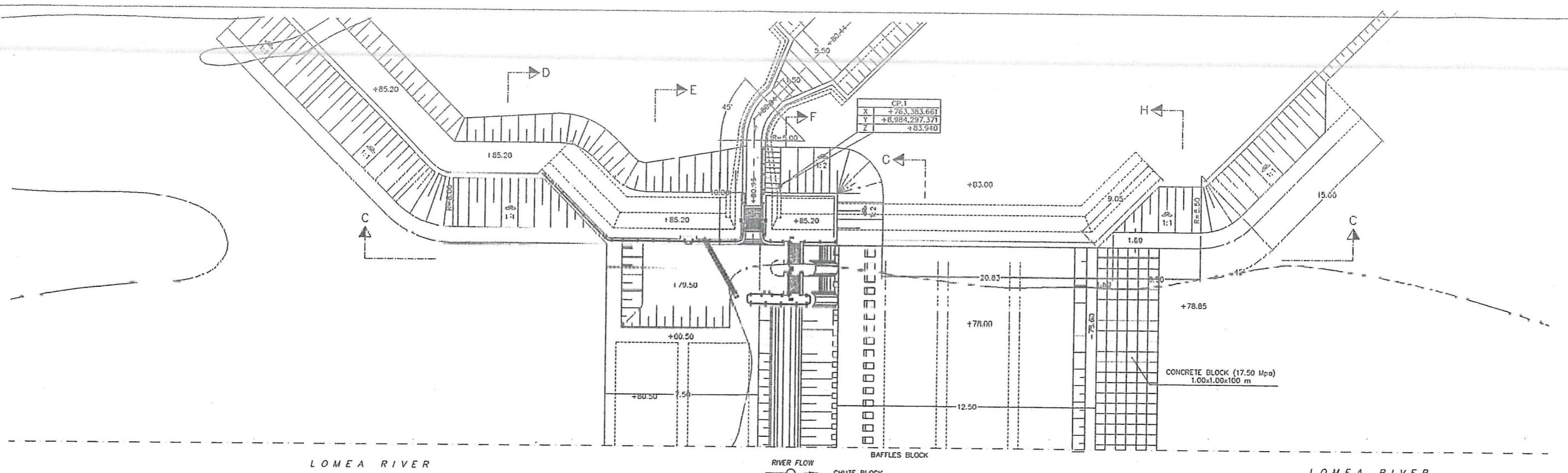
ISSUING STATUS

ISSUING DATE

ISSUING NUMBER



					SCALES 	 PT. CIPTA WAHANA NUSANTARA Jl. Raya Bantul Km. 1,5, RT. 001/RW. 001 Desa Jambu, Kecamatan Bantul Bantul, Yogyakarta, Indonesia Tel. (055) 8317600 Hunting, Fax (055) 8340059	TITLE	NAME	DATE	 REPUBLICA DEMOCRATICA DE TIMOR-LESTE MINISTERO DA AGRICULTURA, PECUARIA, PESCA E FLORISTICA APPROVADO 	DETAILED DESIGN ENGINEERING FOR		
DRAFTMAN	MOCH TAUFIQ	AUG.09	MAUKOLA_LOMEA IRRIGATION SCHEMES COVALIMA MUNICIPALITY										
DESIGNER	LEXI LOULULAN	AUG.09	WEIR AND APPURTENANCES										
DESIGNER CHECK	PITNER LAKAPU	AUG.09	GENERAL PLAN OF LOMEA WEIR										
TEAM LEADER	MACHFUD ANIS	AUG.09											
ACAD FILE NO.	WMK.001	FILE DATE 11.09.09	DRAWING STATUS ISSUED FOR TENDER	DRAWING NO WMK.001	ISSUE/AMENDMENT								





AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

Dili, 04 /Outubro/2024

Hato'ba : Sr. Martinho Laurentino Soares
Director Geral - MAPF

Hosi : Januario Maia Guterres
Adjunto Diretor Executivo e Diretor Executivo Interino - ADN, I.P.

Ref : 1474 /ADN, I.P./X/2024

Asuntu : Rezultado Verifikasiasaun – Terms of Reference (ToR) Construction
Supervision of Maukola – Lomea Irrigation Scheme, Covalima
Municipality

Ho Respeito,

Bazeia ba karta pedidu verifikasiasaun ho no ref: 522/DGACPI/VI/2024 ho data 21 de Junho de 2024, ba asuntu ne'ebe mensiona iha leten, ekipa verifikasiasaun Unidade Avaliação dos Projetos –ADN, I.P. hala'o ona verifikasiasaun ba dokumentos refere. Ho nune bele hare rezultado verifikasiasaun ToR iha (*aneksu*).

Maka ne'e deit ba ita Boot ninian Atensaun no Kolaborasaun Diak ami Hato'ba Obrigado
Wain.



Bedik-Hun, Fatuhada
Dili – Timor-Leste



AGÊNCIA DE DESENVOLVIMENTO NACIONAL,
INSTITUTO PÚBLICO (ADN, I.P.)

SUMMARY

CONSTRUCTION SUPERVISION OF MAUKOLA-LOMEA IRRIGATION SCHEME, COVALIMA MUNICIPALITY

NO.	DESCRIPTIONS	COST (US\$)
I	RENUMERATION INTERNATIONAL EXPERT	\$ 540,000.00
II	RENUMERATION NACIONAL EXPERTS	\$ 225,000.00
III	SUPPORTING PERSONEL	\$ 36,000.00
IV	REIMBURSABLES	\$ 86,625.00
V	REPORTING	\$ 7,650.00
VI	FASILITIES & TRAINING	\$ 49,000.00
GRAND TOTAL		\$ 944,275.00

Verified by :

Antonia de F. Morais Soares
Engineer, ADN, I.P.

Checked by :

Rogerio M. Pires
Chefe Dep-ITIAS, ADN, I.P.

Certified by :

Jose Fernando Liu Soares
Coordinator UAP, ADN, I.P.
02/2021



AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

FORMULARIO DE DESPACHO

Data de Entrada Documentos : 21 /06/2024

Husi :

ITAP

No Ref :

522 / DGRCPD / 01 / 2024

Data do Documentos : 21 /06/2024

Projecto : Supervizaun konstruscaun loq
Estema Irrigasaun Maukola - Lomea
Municipio Covilima

Quantidade Documentos :

2

Anexo: USB

1

TOR

1

Assuntos : submissaun Dokumentu

Pedido Verifikasišaun (TOR)

No.Tlf :

Companhia :

Despacho :

- Unidade de Gestão Administrativa
- Unidade de Avaliação de Projectos
- Unidade de Controlo e Validação de Qualidade
- Unidade de Estudos e Desenvolvimento de Competências

Sobreto UAP gte etude

- Adjunto
- Assessor/a
- Gabinete DE / Base de Dados
- Other

Data : 21/06/2024

Rui Lourenço da Costa
Director Executivo ADN



REPÚBLICA DEMOCRATICA DE TIMOR LESTE
MINISTERÍO DA AGRICULTURA, PECUÁRIA, PESCA E FLORESTAS
DIRECÃO-GERAL DE AGRICULTURA, CAFÉ E PLANTAS INDUSTRIALIS



Ref. No : S22/DGACPI/VI/2024

Ex.mo : Sr. Rui Lourenço da Costa
Director Executivo Agencia de Desenvolvimento Nacional-IP (ADN_IP)

Assunto : Submisaun dokumentu Pedidu Verifikasiun Supervizaun Konstrusaun ba Eskema Irrigasaun Maukola Lomea Municipio Covalima.

Baseia ba assunto iha leten, Ministerio da Agricultura, Pecuária, Pescas e Florestas, submete dokumentus Supervizaun Konstrusaun ba Eskema Irrigasaun Maukola_Lomea Municipio Covalima, ba Agencia de Desenvolvimento Nacional-IP (ADN_IP) atu halo verifikasiun no aprovisaun. Orsamento ba Projeto supervizaun eskema irrigasaun refere, mai husi Fundus Infraestrutura, ho nia programa 797: *Agricultura, sub programa 79701: Irrigacao*

Dokumentos atu halo verifikasiun no aprovisaun mak hanesan;

- 1) Terms of Reference ba Supervizaun no Orsamento ba Supervizaun, *Hardcopy*
- 2) Softcopy iha USB

Mak nee deit ba ita nia servico hamutuk hato'o obrigado.

Dili, 21 de Junho de 2024

Martinho Laurentino Soares
Diretor Geral

Cc :

- 1) Sua. Excia. Ministro da Agricultura, Pecuária Pesca e Florestas
- 2) Inspektur Geral – MAPPF;
- 3) Arkivo



REPÚBLICA DEMOCRATICA DE TIMOR LESTE

MINISTERIO DA AGRICULTURA, PECUÁRIA, PESCAS E FLORESTAS

DIREÇÃO-GERAL DE AGRICULTURA, CAFÉ E PLANTAS INDUSTRIALIS

DIREÇÃO NAÇOAL IRRIGAÇÃO E GESTÃO DE AGUA



TERMS OF REFERENCE (TOR)

CONSTRUCTION SUPERVISION OF MAUKOLA-LOMEA IRRIGATION SCHEME
COVALIMA MUNICIPALITY

Dili, Outubro 2024

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I. INTRODUCTION

1. Definition

1.1. Name of Activity

Name of activities is Construction Supervision of Maukola_Lomea Irrigation Scheme Covalima Municipality.

1.2. Owner

The Owner of this activity is the Ministry of Agriculture Livestock, Fisheries and Forestry (MALFF).

1.3. Management of Activities

The overall Management of Activities is led by a Project Manager who is the Director of Irrigation and Water Management of MALFF under the guidance from the Project Owner and Project Steering Committee (PSC) that will consist of the representative of the MALFF, the Agency of National Development (ADN), the Ministry of Public Works and the Ministry of Finance (MOF).

1.4. Procurement Commission

Procurement of Construction Supervision Consultant will be carried out by the National Procurement Commission (CNA). They will invite the proposals from consultants, arrange pre-proposal meeting, receive the proposals, evaluate the proposals, and propose the winner.

1.5. Construction Supervision Consultant

The Construction Supervision Consultant is the company of consulting services which has been determined as the winner of the tender, successfully negotiated and signed a Contract together with the Owner.

2. Background

- a. The Maukola_Lomea Irrigation Scheme have been nominated as high priority project by the Government of Timor-Leste for which a budget has been approved by the National Parliament of Timor-Leste. The construction development of Maukola_Lomea Irrigation Scheme is scheduled to be implemented from 2025 and will likely require 30 months for completion. The construction and super vision works

will be funded from the Government of Timor-Leste Budget under Infrastructure Funds.

- b. The Maukola_Lomea Irrigation Scheme is a major irrigation scheme that has a total area of 3,597 hectares which benefit two sucos; Suco Beco Suai Sub District and Tashilin Zumalai Subdistrict. There are a stone masonry weir built in Indonesian time at the location, but now it is broken since 2000. The remains of the existing head works is the intake structure. Maukola_Lomea irrigation scheme consisting of two sub Irrigation scheme, namely: Maukola and Kuluaon. The water flowed into the rice fields is from the Lomea river.
- c. A subsequent detailed engineering design, cost estimate and feasibility study for construction works of the irrigation scheme was completed in 2015.
- d. Essential components of the works have been identified and it will be the task of the Construction Supervision Consultant to assist the MALFF in the preparation of instructions to the Contractor on the issuance of work orders for completion of the scheme.
- e. This project is categorized as an important project requiring appropriate and high quality construction control during implementation. The required supervision services will assist the Contractor during implementation and include provision of formal and on-the-job training to MALFF Irrigation Staffs assigned to work with the Construction Supervision Consultant.
- f. For these purposes, the consulting services offered by eligible bidders will be considered against the criteria set out above in order to obtain high quality supervision services in accordance with professional rules, norms, and behavior.
- g. The Terms of Reference (TOR) for the construction supervision work should be used for reference for the consulting services in order to support the performance of construction supervision to conform to required standards.

3. Objectives

- a. This Terms of Reference (TOR) should be used for guidance for the project. This TOR sets out the output, principles, criteria, process and input.
- b. In the tasks, the Construction Supervision Consultant will implement the duties in a good manner coast deliver all outputs in accordance with the technical specifications and standards stated in this TOR.
- c. This TOR is to provide technical guidance and instruction to the bidders so that they can fulfill the technical specification in term of structural and functional aspects.

4. Scope of Services

The scope of services for the Construction Supervision Consultant is as follows:

- a. Review all technical designs, drawings and cost estimates prepared for the development of the scheme and make recommendations on any changes, additions and deductions that are deemed necessary to the Project Manager. The changes and additions and deduction so suggested will be discussed with the Project Steering Committee and if approved will be redesigned and drawn by the Construction Supervision Consultant and presented to the Contractor for implementation.
- b. All communications, reports and minutes of meetings shall be addressed to the Project Manager.
- c. The Project Manager shall have the sole discretion to approve or change the Team Leader based on technical qualification and experiment in a similar position.

5. Location

Location of Maukola_Lomea irrigation scheme is in Covalima district as a part of south/east region of Timor Leste as shown in figure 1 The weir is located on Loumea River.

Administratively, the Lomea Irrigation Scheme is planned Suai Vila sub district Beco village and Zumalai sub district, Tazhilin village, Covalima Municipality. The coordinate of Maukola-Lomea irrigation area is:

➤ X = 763269,265	Longitude = S9°10'55.88632"
➤ Y = 8984126,522	Latitude = E125°23'44.78511"

Plan location of Weir is on Culuan/ Lomea River in Tazhilin village, Covalima district, with coordinates as:

Point LM-R

- X = 763233.6489
- Y = 8984255.7223

Point LM-L

- X = 763378.3225
- Y = 8984295.3443

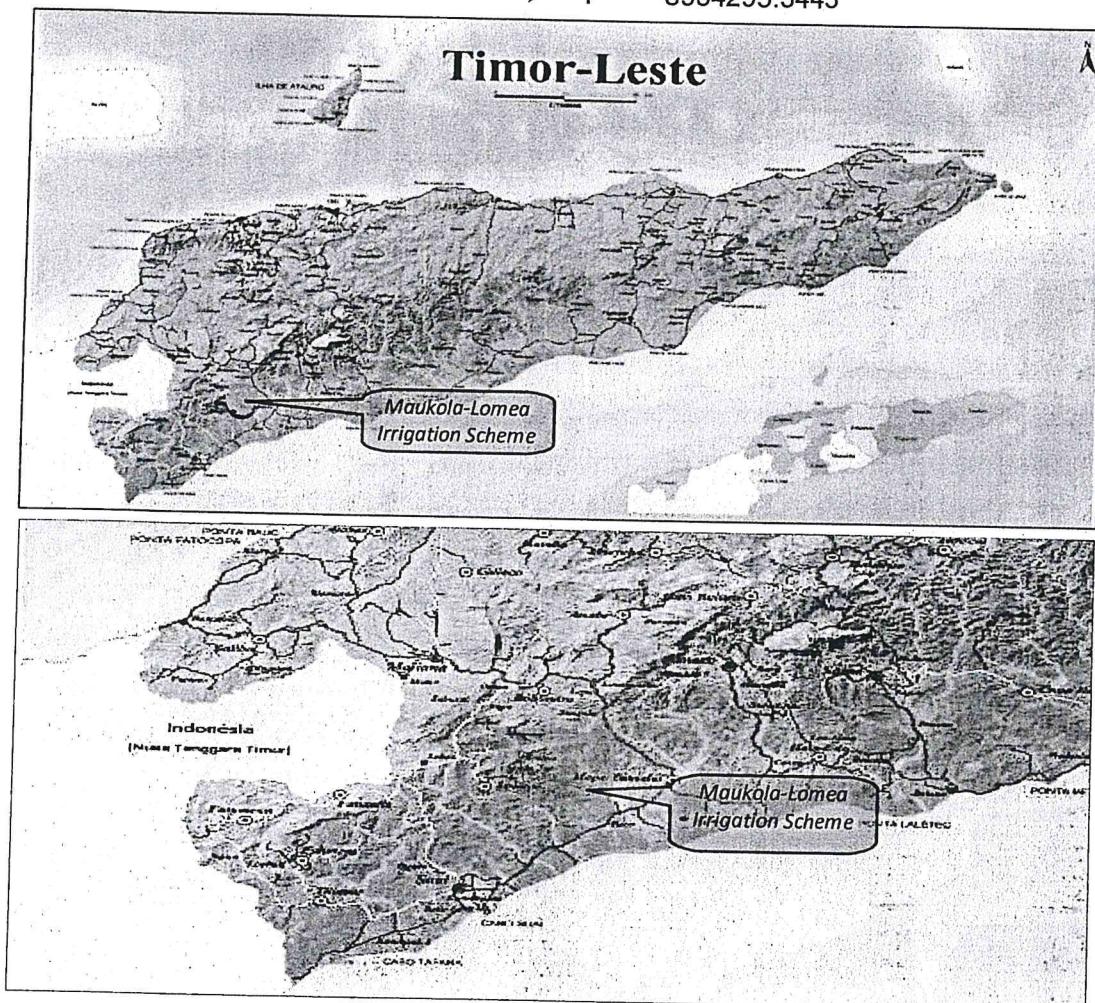


Figure 1 : Location Map of Maukola Lomea Irrigation Sheme

II. SCOPE OF WORKS

The Construction Supervision Consultant shall assist the Project Manager in site supervision during construction by carrying out the following:

1. Check and study the document for the implementation of construction of the essential components of the scheme development.
2. The essential components of Maukola Lomea Irrigation Scheme comprise:
3. Check the Technical Specification which are to regulate the Contractor toward proper progress and accomplishment of the construction work.
4. Check the shop drawings provided by the Contractor.
5. Supervise the utilization of labor, material, equipment and working method, as well as time and cost control of the construction works.
6. Supervise the implementation of the construction works in the aspects of quantity, quality control testing and physical progress and confirm that construction is being performed according to the drawings, as defined in the Technical Specifications and comply with time schedule.
7. Monitor the testing program and testing procedures of samples to the laboratory to ensure that these comply with the Technical Specifications.
8. Ensure that the environmental impact of the scheme is controlled through sound environmental management practices.
9. Inform to the Project Manager to take appropriate action in case land acquisition and resettlement action plan or land dispute issues may arise to enable the project continue without delay.
10. Collect data and information in the field to solve problems during the implementation of construction work.
11. Keep a field log-book to document all quality control related to the test results taken on the site.
12. Review the planned work schedule and monitor physical progress against the Contractor work program and when necessary take appropriate action to ensure that the contractor maintains an adequate rate of progress to complete the work on schedule.

13. Review and check the Contractor's interim progress for accurate payments.
14. Design and discuss with the Project Manager any additional and/or deduction works (addendums, amendments, variations construction) that would enhance the quality of the development.
15. Advice the Project Manager of the likelihood of possible construction delays in completion of the works, which might require revision to the duration of the construction and supervision periods and recommend on alternative timings of key personnel inputs.
16. Prepare recommendations to the Project Manager of any possible contract modifications between the Contractor and the Owner that in the Consultant's professional opinion would result in more successful achievement of the development objectives.
17. Hold weekly site meeting at a fixed and regular time with the Contractor and present the minutes of meeting, which is signed and agreed to by the participants, to the Project Manager on Monday of the following week. The Construction Supervision Consultant shall present a progress report once a month at a meeting organized by the Project Manager.
18. Provide a short term on-the-jobs a short term training courses for MALFF Irrigation staffs to improve their capacity to understand how to deal with contract supervision, Owner's responsibility, technical specification, Bench Marks surveys, accuracy of design drawings, drawing preparation, measurement and payment procedures, Contractor's work plan, quality control test, recordkeeping, acceptance procedure of completed work, defective works, and monitoring during the maintenance liability period.
19. Provide on-the-jobs training for MALFF Irrigation staffs assigned to the project in the use of a total station survey, equipment, to survey and install Bench Marks at the works' sites and how to use the equipment in topographic surveys and mapping.
20. Provide on-the-jobs training for the MALFF Irrigation staffs assigned to the project in the operation of the gates of the irrigation structures during the normal conditions, during the flood, during the dry season, etc.
21. Provide on-the-jobs learning in the maintenance of the irrigation structures covering weir, sediment traps, irrigation canal, drainage canals, division boxes, turnouts, gates, stilling basin, siphons, tunnels, flumes, drop structure chutes, etc.

22. Prepare monthly reports on supervision works based on the input of regular site meetings, daily reports, weekly reports, and monthly reports of the construction works provided by the Contractor.
23. Prepare a list of defective works prior to handing over; supervise the reparation within the maintenance liability period and the submission of the final report of supervision works.
24. Prepare a manual of standards for operation and maintenance works of the facilities.
25. Check the as-built drawings provided by the Contractor prior to the handing over of the completed works.
26. Assist the Project Manager during handing over and final acceptance of completed civil works related to the development and in commissioning of the irrigation scheme.
27. Witness and report on any commissioning of the civil works when the Contractor has declared that the work has been completed and prepare a written report on the Commissioning and stating the results of the tests measuring the status of the constructed facilities.
28. Prepare reports on physical progress, maintenance liability, handing over, commissioning and final acceptance of completed civil works related to the development.

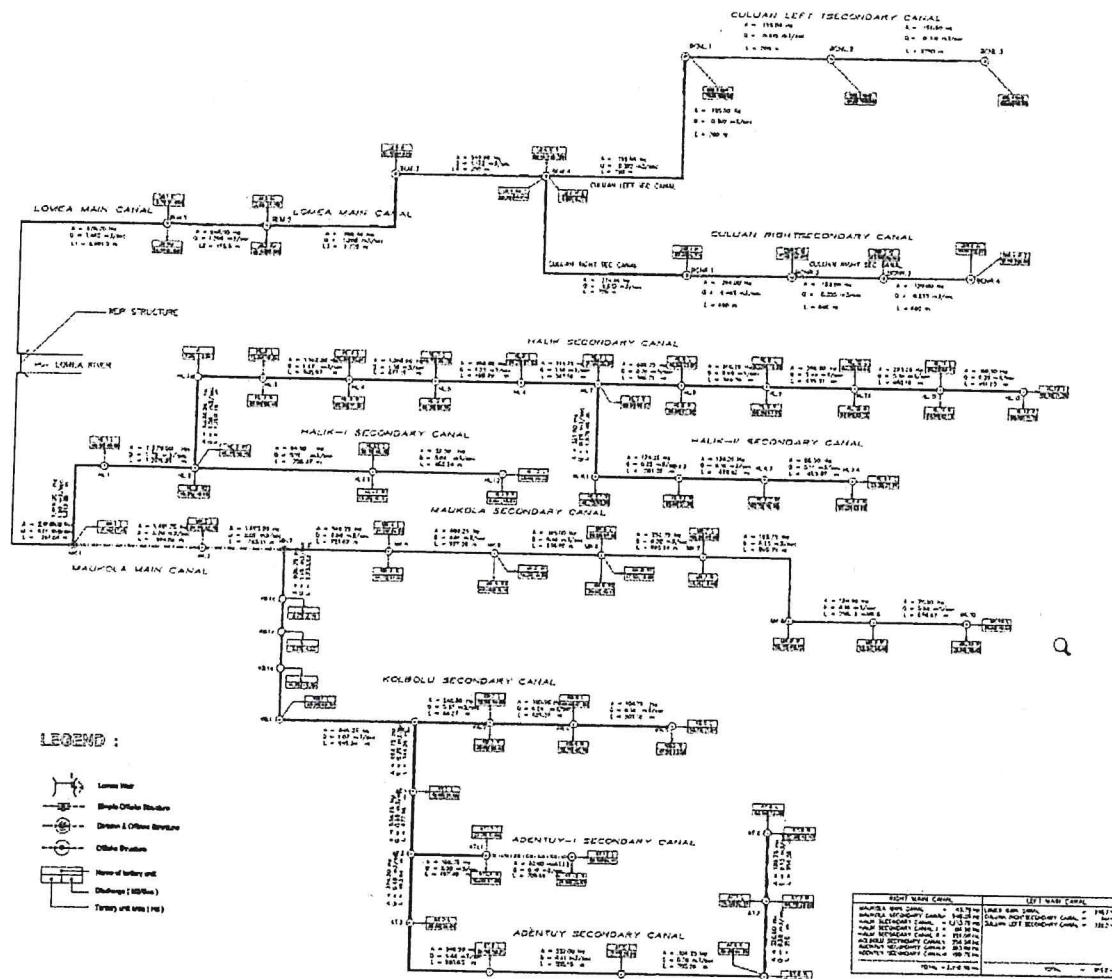
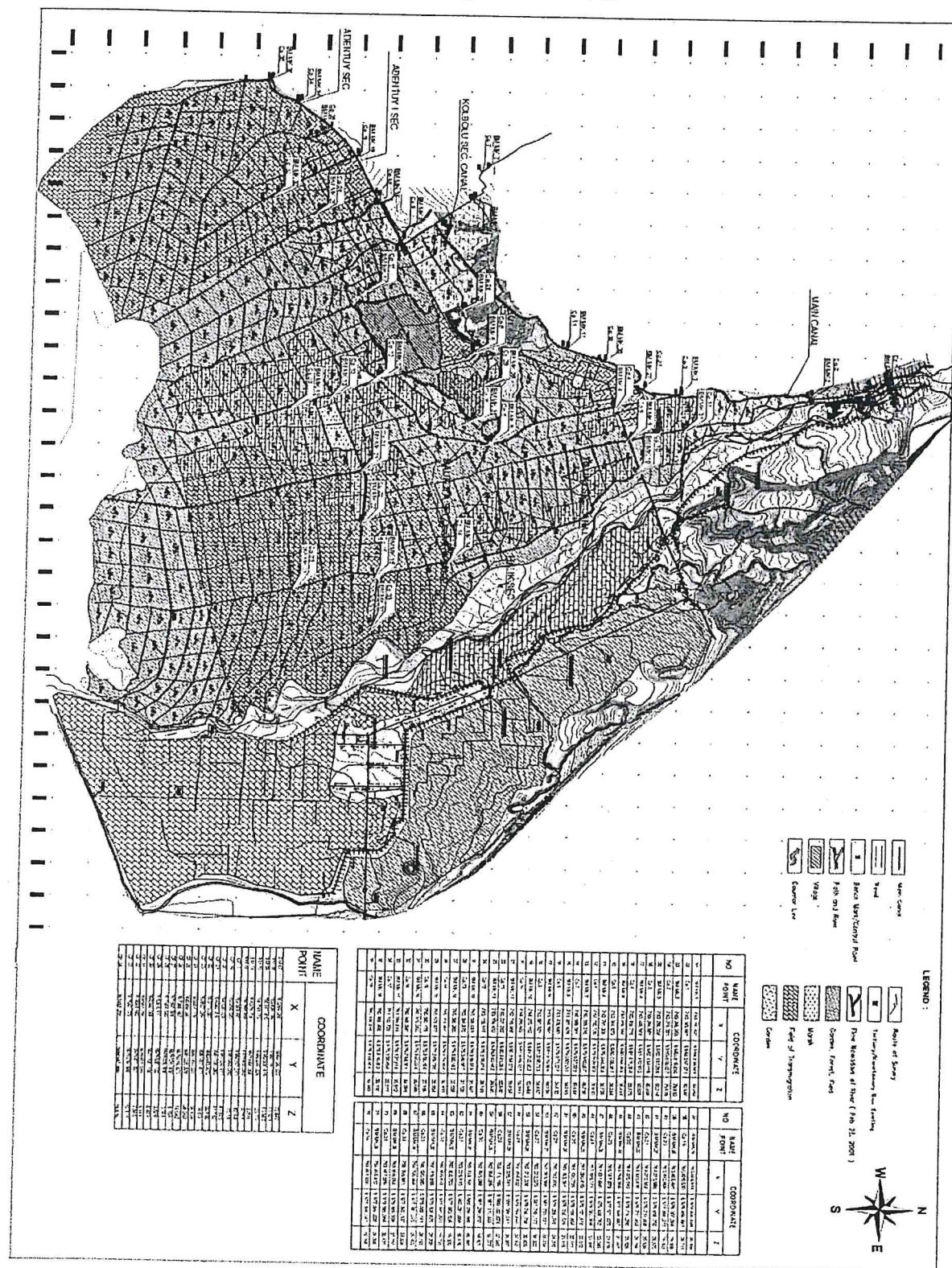


Figure 2: The schematic Drawing of Maukola-Lomea Irrigation Scheme

Figure 3: The area of Maukola-Lomea Irrigation Scheme



III. RESPONSIBILITY OF CONSTRUCTION SUPERVISION CONSULTANT

- The Construction Supervision Consultant is responsible professionally on the supervision services to conform to the regulations and in accordance with ethical code of professionalism.
- In general, the responsibility of the Construction Supervision Consultant covers the following:
 - a. Review of detailed engineering designs for the essential works as defined above, including recommendations on amendments and revisions
 - b. Identification of priorities for repair and improvements to water irrigation canals. The Construction Supervision Consultant will present recommendations to Owner on these works within that stated in the works Contract or, if found necessary, to a greater value to enable a variation in the works Contract to be agreed
 - c. The result of construction supervision works should fulfill supervision qualification standards
 - d. The result of construction supervision works should accommodate the limitations expressed by the Owner including through this TOR such as in the aspect of payment, work schedule and the quality of constructions to be constructed.
 - e. The result of construction supervision works should fulfill the regulations, standards and technical guidance of construction that are generally in effect in Timor-Leste.

IV. CONSTRUCTION SUPERVISION COST

1. The construction supervision consulting services will be provided at a fixed cost based on the selected bidder's offer price and financed in negotiation with the Owner.
2. Upon signing of Contract, there will not be any additional cost unless as subsequently Agreed between the Construction Supervision Consultant and the Owner through, and In corporate in, a written Contract Amendment.

III. OUTPUT OF CONSTRUCTION SUPERVISION CONSULTANT ACTIVITIES

The output resulted by the Construction Supervision Consultant of these activities is presented in a systematic format as follows :

1. Inception Report

The stage of construction supervision concept consists of as follows:

- a. The concept of technical construction supervision works including the number and qualification of the team members and its responsibilities, and methodology of implementation.
- b. Scope of services, report of the existing site data and information, and other purposes needed.

The Inception Report will be submitted within one month of mobilization of the Construction Supervision Consultant in 6 hard copies and 6 electronic copies on CDs and/or other agreed form of electronic copies.

Comments on the Inception Report will be prepared and discussed between the Construction Supervision Consultant and the Owner and an agreed technical construction supervision concept will be approved by the Owner during the first 6 weeks of the assignment enabling the Construction Supervision Consultant to continue his work with minimal delay.

2. Daily Record

The Daily Record contains all events in the field, instructions, guidance's from the Project Manager, Irrigation Engineers, Supervisor to the Site Engineers of Contractor.

3. Daily Report

The Daily Report contains information indicating the Supervisor discussed with the Contractor regarding as follows:

- a. Labors working in the site
- b. Materials supplied at the site, accepted and or rejected
- c. Equipment to be used for construction
- d. Physical progress of the construction works those are being implemented by the Contractor
- e. Time for implementing the construction work
- f. Reporting all kinds of the influence the construction activities, such as weather, storm, stream, flood, earth quake, landslide, etc.

4. Weekly Report

Weekly Report contains the resume of Daily Report

5. Monthly Report

- a) Monthly Report based on the input of regular Site Meetings, Daily Reports, Weekly Reports, and Monthly Reports of the construction works provided by the Contractor.
- c) These documents should be submitted in 6 exemplars of hard copy and 6 pieces of USBs other forms of electronic copies.

6. Time Schedule

- a) Time Schedule of the construction works in Bar Chart- "S" Curve and Network Planning
- b) Which are prepared by the Contractor.

7. Construction Progress Reports

Construction Progress Reports will be prepared on a monthly report by the Construction Supervision Consultant and will be necessary to support the payment of invoices submitted by the Contractor to the owner.

8. Shop Drawings

Shop Drawings are to be prepared by the Contractor and reviewed by the Construction Supervision Consultant.

9. Document of Design Changes

Document containing construction phase design changes, addition or deduction of works will be provided by the Construction Supervision Consultant to the Project Manager.

10. Document of Quality Control

Document containing all results of quality control, testing and measurements for payment to the Contractor taken at the sites during construction.

11. Document of Extra Claims

Document containing extra items or extra claimed by the Contractor that were approved by the Project Manager.

12. Minutes of Site Meeting

Minutes of Site Meetings and physical progress meetings as signed and agreed between Project Manager, the Construction Supervision Consultant and the Contractor.

13. Record of on the job Training

- a. Record of capacity development training to the MALFF Irrigation staff assigned to the project both on-the-job training and lecture type training to understand supervision contract, Owner's responsibility, technical specifications, Bench Marks surveys, accuracy of design drawings, drawing preparation, measurement and payment procedures, Contractor's work plan, quality control test, record keeping, acceptance procedure of completed work, defective works, and monitoring during the maintenance liability periods.
- b. Record of capacity development on-the-job training and lecture type training to the of MALFF Irrigation staff assigned to the project in the use of a total station survey, equipment, engineering and other surveys and install Bench Marks and the use of equipment in topographic surveys and mapping.

14. Photographs & Video

Photographs and Video showing the sequence of construction progress.

15. As-built Drawings

As-built drawings of the construction works.

16. Manuals

Manuals of equipment which are prepared by the Contractor.

17. Record of Commissioning

Record of equipment/structures commissioning

18. Construction Supervision Completion Report

The Construction Supervision Completion Report will include the following:

- a. Minutes of Meetings
- b. Minutes of Site Meetings
- c. Daily Report
- d. Document of Design Changes
- e. Document of Quality Control
- f. Document of Claims

- g. Record of Training
- h. Photographs and Videos
- i. As-built Drawings
- j. Manual
- k. Record of Commissioning

These documents should be submitted in 6 hard copies and on 2 USBs and/or other forms of electronic copies.

IV. PRINCIPLES

The Construction Supervision Consultant in the implementation of its tasks should take note of the principles as follows:

1. Within reasonable limits implementation of the works should cause minimal disturbance to farming and other activities in the locality of the works.
2. Works should be designed to minimize life-cycle costs of the works including investment, operation and maintenance.
3. The construction works should be completed in minimum time without compromising quality such the improved facilities are available for use as soon as possible.
4. The facilities constructed should increase the quality of environment.

V. CONSTRUCTION SUPERVISION CRITERIA

1. General Criteria

- a) Any construction supervision works should be accomplished properly until giving result as required and well accepted satisfactorily by the Project Manager.

2. Objective Criteria

- (a) The implementation of construction supervision works relating to the type, quality and
- (b) Quantity, cost and time schedule of works should be accomplished to meet the supervision standard.

3. Functional Criteria

The implementation of construction supervision works should be accomplished to fulfill the professionalism to increase the project performance.

4. Procedure Criteria

The administrative procedure of the works in the site should be accomplished in accordance with the regulation in effect.

5. Technical Criteria

The construction supervision works should use the standard and technical guide in effect.

VI. CONSTRUCTION SUPERVISION PROCESS

The Construction Supervision Consultant should prepare description of activities in detail of every part of supervision work in the site as follows:

1. Preparation

- a. Formulation of work program, allocation of personnel and the concept of technical construction supervision work.
- b. Check the Time Schedules, Bar-Charts, "S" Curves, Network Planning prepared by the Contractor and forwarded to the Project Manager for approval.

2. Implementation

- a. Implement supervision in general, coordination, site supervision and inspection continuously.
- b. Supervise the labors, quantity and quality of materials, equipment's, working method , quantity and quality of works, and accuracy of measurement in the site
- c. Supervise the physical progress and take action properly and fast in order to ensure the implementation time to meet the schedules.
- d. Give input of additional or deduction works that could give effect to the cost and time for approval by the Project manager.
- e. Give instructions to the Contractor with no deviation against the contract and make report of it to the Project Manager.

3. Consultation

- a. Hold regular meeting with the Project Manager to discuss any issues arise during construction. Then, make minutes of meeting
- b. Hold regular site meetings at least twice a month with the Project Manager and Contractor to discuss issues arise during construction. Then, make minutes of meeting and send to all parties related, and expected to be received within one week.
- c. Hold meetings out of regular schedules as required. Then, make minutes of meeting

4. Reports

- a. Prepare reports in administrative and technical aspect to the Project Manager regarding the quality, quantity and value of works constructed by the Contractor.
- b. Prepare reports regarding the materials, labors and equipment to be used.
- c. Prepare reports regarding the real work progress and compare with the schedules approved.
- d. Check the additional drawings prepared by the Contractor particularly as the result of additional or deduction works, and the shop drawings.

5. Documents

- a. Prepare documents on physical progress at each scheme for payments.
- b. Check and prepare documents on quantity and value of physical progress and additional or deduction works for payment.
- c. Prepare forms for daily, weekly and monthly reports, documents on work progress, handing over and acceptances of completed works.

VII. CONSTRUCTION SUPERVISION INPUT

1. Information

- a. To implement the tasks, the Construction Supervision Consultant should collect information required, beside the information provided by the Owner.
- b. The Construction Supervision Consultant should check the validity of information to be used in the implementation of his tasks either the information provided by the Owner or collected by himself.
- c. The faults of construction supervision work as the result of faults of information will be the responsibility of the Construction Supervision Consultant.
- d. The information required and should be obtained for supervision are as follows:
 - 1) Terms of Reference of Construction Supervision
 - 2) Minutes of Pre-bid Meeting and Assignment of Contractor
 - 3) Contract document of Contractor
 - 4) Work Schedule in Bar-Chart, "S" Curve and Network Planning prepared by the Contractor
 - 5) Technical Specifications
 - 6) Shop drawings
 - 7) Regulations, standard and manual including technical guidance for quality control testing.

2. Personnel

The Construction Supervision Consultant should provide key personnel to fulfill the requirements to implement this works, either considering based on the scope of work and the level of complexity of the works. The key personnel required for the construction supervision activities consists of as follows:

2.1. International Key Expert

a) Team Leader (Civil / Irrigation Engineer)

The Team Leader should possess a University Degree in civil/irrigation engineering with minimum 10 years working experience in supervision of irrigation and water resources related construction projects, contract management and, FIDIC Conditions of Contracts. Must be fluent in English. Previous work experience in Timor-Leste and knowledge of Tetun or Bahasa Indonesia or Portuguese, as well as experienced trainers will be an added advantage.

The tasks of the Team Leader are the followings:

- a) To plan, coordinate and control all activities and personnel involved in this work, so that the work could be finished in a good manner within the scheduled time and achieve the expected result.
- b) To prepare implementation guidance in the stage of data collection, processing, and final presentation of the whole works.
- c) To plan and implement all activities covering construction supervision and give input to the other experts related to this supervision works.
- d) Responsible for all Contract management between the Project Owner and the Contractor and ensuring that all procedure for that administration of the Contract is followed.
- e) Advise the Project Owner on legal issues regarding the contract extension /addendum/amendment, suspension, sanction, termination, force majeure, disputes and other contractual issues.

2.2. Irrigation Engineers

Irrigation Engineers should possess a University Degree in Irrigation Engineering with minimum 8 years working experience in construction supervision of irrigation and drainage project. Must be fluent in English. Previous work experience in Timor-Leste and knowledge of Tetun or Bahasa Indonesia or Portuguese, as well as experienced trainers will be an added advantage.

The tasks of Irrigation Engineers are the followings:

- a) Assist and advise the Team Leader on engineering issues as required,
- b) Supervise field surveys, including inventory and condition of weir, irrigation canal, drainage canal and all other irrigation structures.
- c) Inspect all activities on the site, ensuring safe practices and good workmanship.
- d) Maintain a detailed record of daily activities on the site including labor, material, equipment, weather conditions, work stoppages and the reasons therefore etc.
- e) Progress monitoring and quality control of works implementation.

2.3. Contract Engineer

Contract Engineer should possess a University Degree in civil engineering or similar with minimum 5 years working experience in contract management and FIDIC Condition of Contract. Must be fluent in English. Previous work experience in Timor-

Leste and knowledge of Tetun or Bahasa Indonesia or Portuguese, as well as experienced trainers will be an added advantage.

The tasks for Contract Specialist are the following:

- a) Verify all contractual issues arising from commencement to completion of the project.
- b) Review the claims by the Contract
- c) Monitoring the Contractor schedule on the legal aspect

3. National Expert

3.1. Site Supervisor

Site Supervision should possess a Diploma Degree in civil engineering with minimum three 3 years' experience in construction supervision projects, more preferably in irrigation and water resource related construction supervision project. Previous work experience in Timor-Leste and knowledge of Tetun or Bahasa Indonesia or English, as well as experienced trainer will be an added advantage.

The Site Supervision shall assist the Irrigation Engineer in the day-to-day supervision of the works.

3.2. Quality Assurance Engineer

Quality Assurance Engineer should process a Diploma Degree in civil engineering with minimum 3 years relevant experience. Previous work experience in Timor-Leste and knowledge of Tetun or Bahasa Indonesia or English, as well as experienced trainer will be an added advantage.

The Quality Assurance Engineer shall undertake routine and random quality assurance testing of material and constructed structures and responsible for maintaining records of all testing performed.

3.3. Supporting Personal

The Consultant Firm is responsible for ensuring adequate technical support and administrative staff which may include but not limited to Office Manager,Office boy and Driver.

4. Person Month of Consulting Service

It is estimated that 216 person-month of key personnel will be required, during construction supervision period was presented in Table 1:

NO.	DESCRIPTIONS	UNIT	Personnel	Duration	Person/Month
I RENUMERATION INTERNATIONAL EXPERT					
1	Team Leader-Civil/Irrigation Engineer	Month	1	30	30
2	Irrigation Engineer	Month	1	30	30
3	Contract Engineer	Month	1	6	6
	Sub-Total International Key Experts		3	66	66
II RENUMERATION NACIONAL EXPERTS					
1	Site Supervisor	Month	2	30	60
2	Quality Assurance Engineer	Month	1	30	30
	Sub-Total National Key Experts		3	60	60
III SUPPORTING PERSONEL ADMINISTRATION					
1	Office Manager	Month	1	30	30
2	Office Boy	Month	1	30	30
3	Driver	Month	1	30	30
	Sub-Total Supporting Personnel		3	90	90
TOTAL PERSON/MONTH					216

5. Facilities Provided by the Government of Timor-Leste

The Government will provide the following:

- a. Counterpart staff according to availability for assistance with surveys and progress monitoring.
- b. Assistance and advice on the processing of visas and work permits for Consultant staff as requested.

6. Facilities Provided by the Supervision Consultant

The Supervision Consultant will provide the following:

- a. All survey equipment as required
- b. Computing, drafting and mapping equipment and software
- c. Travel costs to and from Timor-Leste
- d. Communication Cost
- e. Training Courses for MAF Irrigation Staffs
- f. Site Office will provided through civil works contract.

- g. Other office furnishing and equipment for use on or near the location of the irrigation schemes.
- h. Transport Facilities
 - 1) One Unit of brand new 4WD double cabin and five units of brand new motor bike will be allocated to the Consultant for monitoring the project implementation for entire duration of the project construction period. One Car and five (*2 motor bikes provide to the DIO*) motor bikes will allocate to project manager for monitoring the project implementation. The driver, fuel cost, operation and maintenance and insurance to the vehicle will be the responsible of the Consultant. Consultant have to submit all facilities to the government after accomplish the project with in good condition.

The specification of vehicle and motorbike as shown below:

- a. Vehicle
One (1) unit of Toyota Hilux Manual, 3000cc, Double cabin, Fuel type is Diesel.
- b. Motorbike
Five (5) unit motor bike Honda Verza CBR 150 cc.

VIII. PAYMENT

The payment of this construction supervision activity will be scheduled as follows:

- a. The payment will be paid to the Construction Supervision Consultant upon discussion and approval by the Employer.
- b. The payment will be paid to the Construction Supervision Consultant in accordance with the progress of works, work phases and deliverables.

The progress of works with the timeframe of construction schedule and deliverables are breakdown as below:

1. Construction plan will be conducted in phases with duration of thirty (30) months.
2. The consultant must comply with the following deliverables requirements and submit the required report based on the required deliverables.

3. The Consultant must comply with terms and conditions stated in the contract as well as the implementation phases for the construction must be done carefully, and thoroughly to guarantee the quality of the outputs.

No	Progress of Works from the Construction Milestones	Percentange (%) of Payment
I	Preparatory work	1.0% of the Contract Price
II	Construction of Access Road/ Inspection Road 100% is complete	6.0% of the Contract Price
III	Construction Weir (include abutment and Scouring way) 100%	23.0% of the Contract Price
IV	Construction Intake - Sandtrap Basin - Regulating Structure 100%	5.0% of the Contract Price
V	Constructiong of Right and Left Retaining Wall (U/S & D/S Weir, include levee) 100% Complete	7.0% of the Contract Price
VI, V2,	Left Main Canal, open channel (Intake - BLM 4 = 5.825 M), Culuan Left Canal, Secondary Canal Works (BLM 4 - BCNL 1= 3.550 M)	12.0% of the Contract Price
VI.3	Culuan Right Canal, Secondary Canal Works (BLM 4 - BCNL 4= 2.375 M)	
VI.4	Adentuy Secondary Canal Works (L = 4,780 M)	9.0% of the Contract Price
VII	Right Main Canal & Hydraulic Structures	
VII.1	Right Main Canal Works, open channel (Intake - MK1 L =1.986 m)	
VII.2	Maukola Secondary Canal Works (L = 5,215 M)	12.0% of the Contract Price
VII.3	Halik Secondary Canal Works (L = 8,317 M)	
VII.4	Halik-I Secondary Canal Works (L = 1,168 M)	10.0% of the Contract Price
VII.5	Halik-II Secondary Canal Works (L = 2,829 M)	
VII.6	Kolbolu Secondary Canal Works (L = 6,056 M)	
VII.7	Adentuy Secondary Canal Works (L = 5,086 M)	
VII.8	Adentuy-I Secondary Canal Works (L = 1,206 M)	10.0% of the Contract Price
VII.9	Drainage Canal Works (L = 11,571 M)	
VIII	Construction of Building Facility	
IX	Defect Liability Period 5%	5.0% of the Contract Price

IX. WORK PROGRAM

- 1) The Construction Supervision Consultant should arrange work program minimum covers:
 - a. Work Schedule in detail on Bar Chart- 'S" Curve and Network Planning
 - b. Manning Schedule
 - c. Allocation of experts completely with their discipline and expertise. The experts proposed should attached Curriculum Vitae and a Letter of Availability to work.
 - d. Concept of technical construction supervision work.
- 2) The Work Schedule will be governed by the procurement schedule for irrigation development project construction. The Construction Supervision Consultant shall mobilize 5 days before the Contactor.
- 3) The work program should get approval from the Owner after presentation by the Construction Supervision Consultant and get input from the Owner.



AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

Dili, 3 /Outubro/2024

Hato' o ba : Sr. Martinho Laurentino Soares
Diretor Geral

Hosi : Januario Maia Guterres
Adjunto Diretor Executivo e Diretor Executivo Interino - ADN, I.P.

Ref : 1467 /ADN, I.P./X/2024

Asuntu : Rezultado Verifikasi saun – Project Construction of Sahen Irrigation Scheme, Manatuto and Manufahi Municipalities

Ho Respeito,

Bazeia ba karta pedidu verifikasi saun ho no ref: 552/DGACPI/VI/2024 ho data 25 de Junho de 2024, ba asuntu ne'ebe mensiona iha leten, ekipa verifikasi Unidade Avaliação dos Projetos –ADN, I.P. hala'o ona verifikasi saun ba dokumentos refere. Ho nune bele hare rezultado verifikasi saun iha (*aneksu*).

Maka ne'e deit ba ita Boot ninian Atensaun no Kolaborasaun Diak ami Hato' o Obrigado Wain.



Bedik-Hun, Fatuhada
Dili - Timor-Leste



AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

FORMULARIO DE DESPACHO

Data de Entrada Documentos : 25 - 06 - 2024 | Data do Documentos : 25 - 06 - 24

Husi : MAPPF - DGACPI

No. Ref : 552 / DGACPI / VI / 2024

Projecto : Construction of Sahlen
Irrigation Scheme .

Quantidade Documentos : 3.....

Anexo :

- * USB : 1
- * Boa : 1
- * Desenho : 1

Assuntos :

Submissaun Dokumentu Pedidu
Verifikasi

No.Tlf: 77613440

Companhia :

Despacho :

- Unidade de Gestão Administrativa
- Unidade de Avaliação de Projectos
- Unidade de Controlo e Validação de Qualidade
- Unidade de Estudos e Desenvolvimento de Competências

- Adjunto
- Assessor/a
- Gabinete DE / Base de Dadus
- Other

Data : 27/06/2024

Rui Lourenço-da Costa
Director Executivo ADN



REPÚBLICA DEMOCRATICA DE TIMOR LESTE
MINISTERÍO DA AGRICULTURA, PECUÁRIA, PESCA E FLORESTAS
DIREÇÃO-GERAL DE AGRICULTURA, CAFÉ E PLANTAS INDUSTRIAS



Ref. No : 552./DGACPI/VI/2024

Ex.mo : Sr. Rui Lourenço da Costa
Director Executivo Agencia de Desenvolvimento Nacional-IP (ADN_IP)

Assunto : Submisaun dokumentu Pedidu Verifikasi saun ba Konstrusaun Eskema Irrigasaun Sahen Municipio Manatuto no Manufahi

Baseia ba assunto iha leten, Ministerio da Agricultura, Pecuária, Pescas e Florestas, submete dokumentus Konstrusaun ba Eskema Irrigasaun Sahen Municipio Manatuto no Manufahi, ba Agencia de Desenvolvimento Nacional-IP (ADN_IP) atu halo verifikasi saun no aprovasaun. Orsamento ba Projeto eskema irrigasaun iha leten, mai husi Fundus Infraestrutura, ho nia programa 797: *Agricultura, sub programa 79701: Irrigacao*

Dokumentos atu halo verifikasi saun no aprovasaun mak hanesau:

- 1) Desenho no BoQ, *Hardcopy*
- 2) Softcopy iha USB
 - a. Desenho, BoQ no Specifikasaun Tekniku

Mak nee deit ba ita nia servico hamutuk hato'o obrigado.

Dili, 25 de Junho de 2024

Martinho Laurentino Soares
Diretor Geral

Cc :

- 1) Sua. Excia. Ministro da Agricultura, Pecuária Pesca e Florestas
- 2) Inspektur Geral – MAPPF;
- 3) Arkivo



AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

CHECK LIST DOKUMENTOS BA VERIFIKASAUN

PROJECTO NAIN / KOMPANHIA : Construction of Sahen Irrigation Scheme

No	DOKUMENTOS NIA NARAN	
1.	Karta Akompanhamento Husi Projecto Nain	✓
2.	Fundo Husi : (LM.(FI).PDIM)	✓
	A. Kapital de Desenvolvimento	
	B. Bens de Servico	
	C. Transferencia Public	
	D. Other :	
3.	TOR ou Justifikasau kona ba projetu ne'be atu implementa.	
4.	Titik Koordinat husi Projecto neébe atu implementa	
5.	Desenu tenke iha HVS Medida A3 no hetan Aprovasaun husi Projektu Nain no Ministerio (MOP)	✓
6.	Cost Estimasaun ho BOQ Tenke Hetan Aprovasaun Husi Projektu Nain ou Ministerio (MOP)	✓
7.	Unit Price Analisis	✓
8.	Backup Quantidade	✓
9.	Spesifikasi Teknik	
10.	Soft Copy (BOQ iha Excel) no (Desenho iha Auto Cad) /USB	✓
11.	Tenke Anexu Kopia Livro OJE 2024 Cover ho Pajina	



AGÊNCIA DE DESENVOLVIMENTO NACIONAL,
INSTITUTO PÚBLICO (ADN, I.P.)

Project Owner : MINISTERIO DA AGRICULTURA, PECUÁRIA, PESCAS E FLORESTAS

Project Title : Construction of Sahen Irrigation Scheme

Location : Sahen River Manatuto and Manufahi Municipalities

SUMMARY OF COST ESTIMATE

No.	WORKS DESCRIPTION	OWNER ESTIMATE		ADN VERIFIED	
		AMOUNT	AMOUNT	AMOUNT	AMOUNT
1	2	3	4		
I	Preparation	\$ 578,072.85	\$ 86,461.00		
II	Construction of Access Road / Inspection Road	\$ 329,967.00	\$ 368,540.37		
III	Construction Weir (include abutment and Scouring way, levee)	\$ 5,807,607.40	\$ 5,155,286.09		
IV	Construction Intake - Sandtrap Basin - Regulating Structure	\$ 715,634.64	\$ 718,538.30		
V	Right and Left Retaining Wall (U/S & D/S Weir)	\$ 174,948.89	\$ 171,313.26		
VI	Right Main Canal & Hydraulic Structures	\$ 538,608.20	\$ 441,413.89		
VII	Left Main Canal & Hydraulic Structures	\$ 928,299.44	\$ 817,008.71		
VIII	Construction of Building Facility	\$ 118,228.00			
IX	Hydromechanical Work	\$ 178,223.57	\$ 89,843.26		
A	TOTAL OF CONSTRUCTION COST	\$ 9,369,589.99	\$ 7,848,404.88		
B	CONTRACTOR FEE (A X 10%)		\$ 784,840.49		
C	OVERHEAD		\$ 151,309.00		
D	PROVISIONAL SUM FOR CONSTRUCTION OF BUILDING FACILITY		\$ 118,228.00		
1	Construction of 2 Unit Guard House including fence and Installation of Electrical System (Type I: 4m x 3.30m)				
2	Construction of Water User Association (WUA) House including fence & Installation of Electrical System (Type II: 10 m x 6.0 m)				
3	Construction of Ware House including Rice Mill, fence, and Installation of Electrical System (Type III: 12m x 40m)				
E	TAX (2% x (A+B+C+D))		\$ 178,055.65		
F	TOTAL (A+B+C+D+E)	\$ 9,369,589.99	\$ 9,080,838.01		

Verified by :

Joanito Doutel Pereira
Ass. ADN, I.P.

Checked By :

Rogerio M Pires
Chefe Departamento de ITIAS- ADN, I.P.

Certified By :

Jose Fernando Jiu Soares
Coordenador UAP- ADN, I.P.
02/10/24

Madelino Deonizio J. Magno
Engineer of ADN, I.P.



REPÚBLICA DEMOCRÁTICA DE TIMOR LESTE
MINISTÉRIO DA AGRICULTURA, PECUÁRIA, PESCA E FLORESTAS



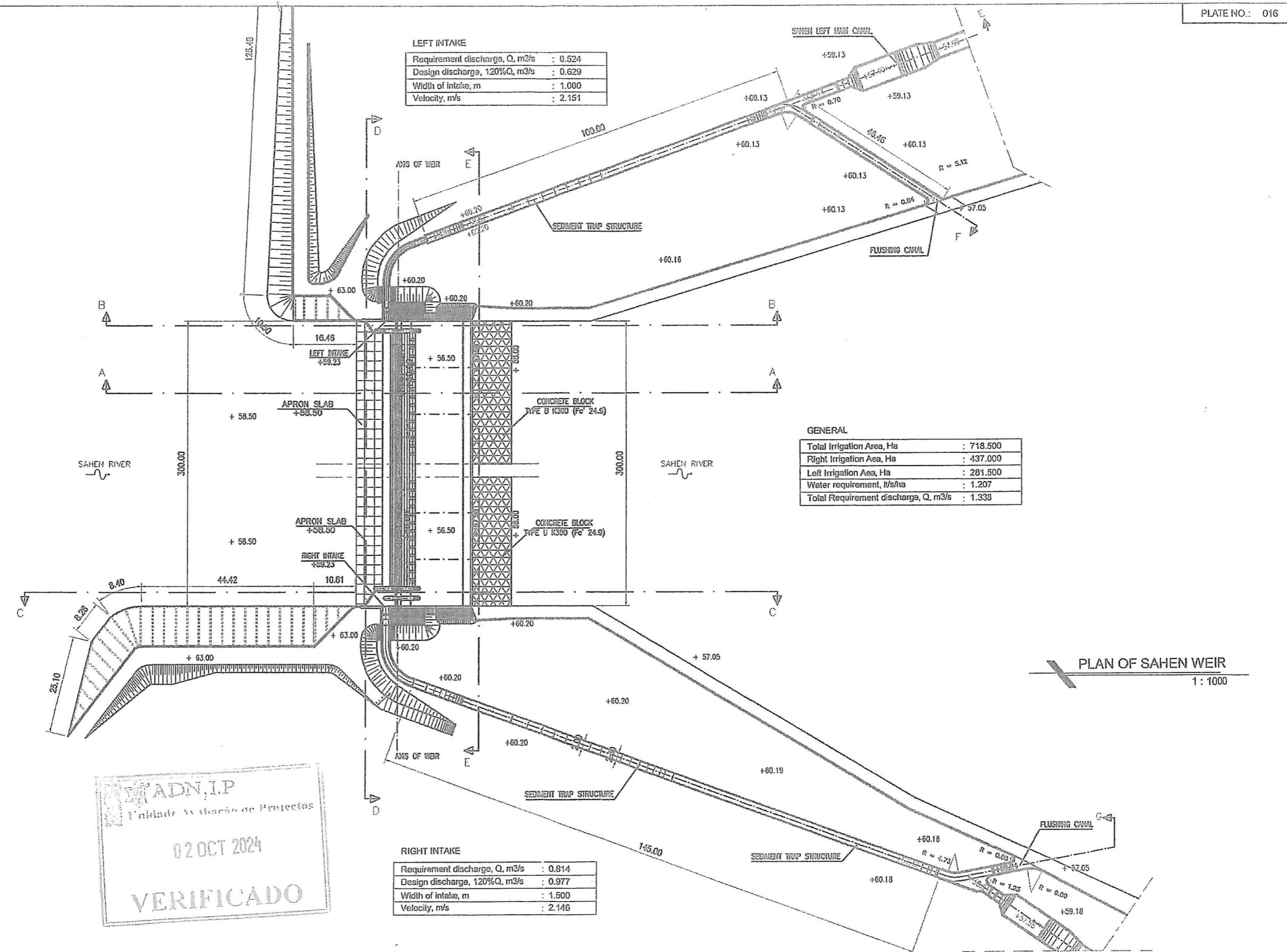
DETAILED ENGINEERING DESIGN

SAHEN IRRIGATION SCHEME

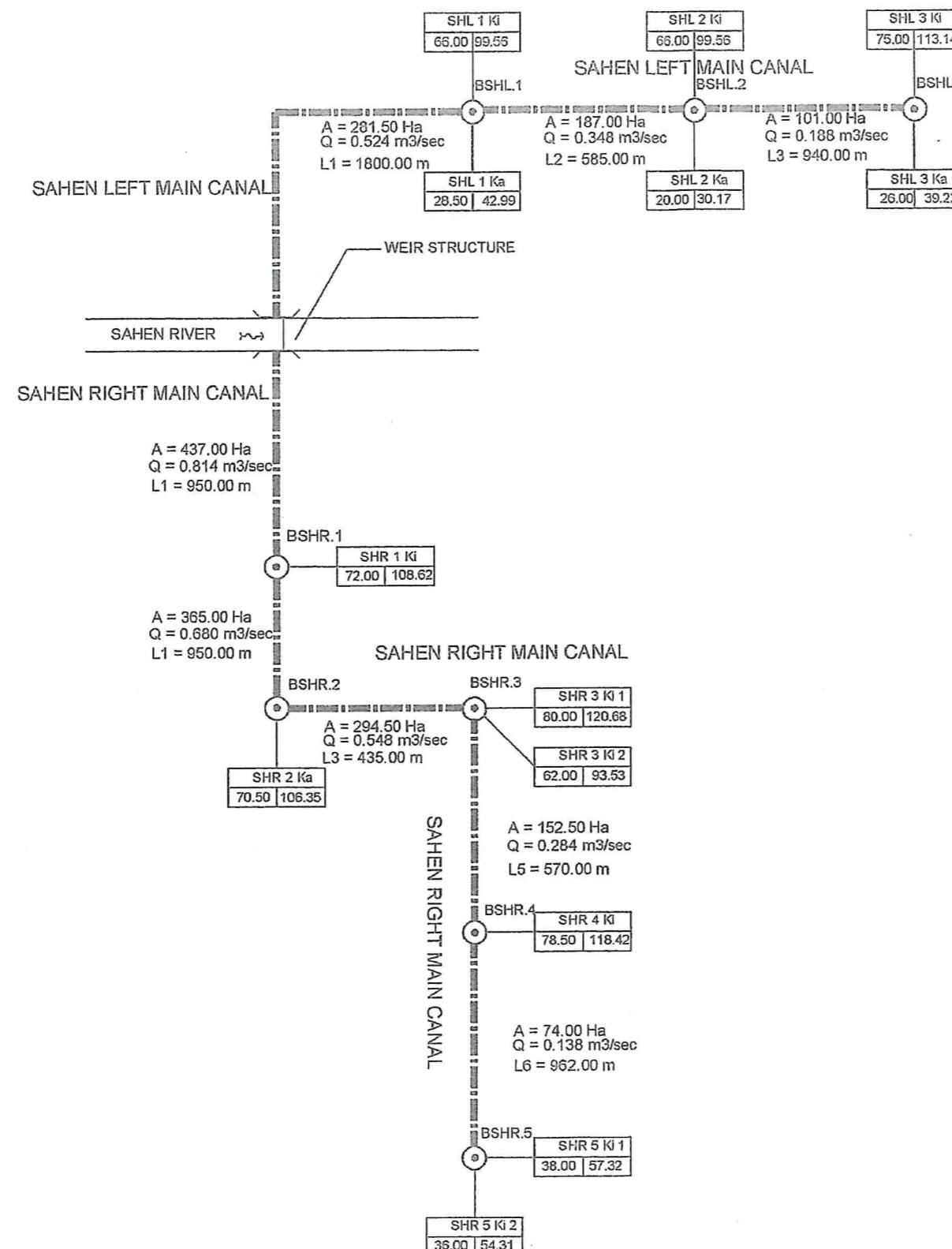
718.93 Ha

MANATUTO AND MANUFAHI MUNICIPALITY

DESIGN DRAWINGS
MAY 2024



SCALE:	DATE	APPROVED	DETAILED ENGINEERING DESIGN FOR 10 IRRIGATION SCHEMES AND PRELIMINARY STUDY FOR 15 RIVER			
			TITLE	NAME	SIGN	DATE
0 25.0 50.0 m	DRAFTMAN	IRFAN FEBRI		2015		
0 25.0 50.0 m	DESIGNER	TENDI RUSTENDI		2015		
0 25.0 50.0 m	DESIGNER CHECK	HARTIWAN HR		2015		
0 25.0 50.0 m	TEAM LEADER	HUANG CH-H		2015		
0 25.0 50.0 m	ACAD FILE No.					
WEIR AND APPURTENANCES				PLAN OF SAHEN WEIR		
				DRAWING STATUS	DRAWING No.	ISSUE/AMEND
				ISSUED FOR TENDER		



62 2017 2018

LEGEND :

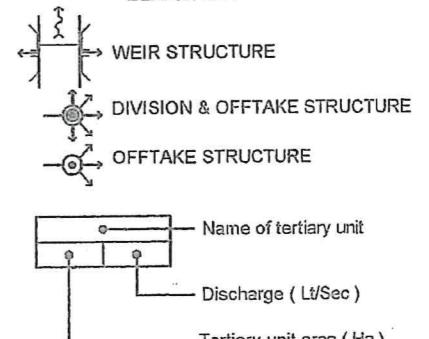
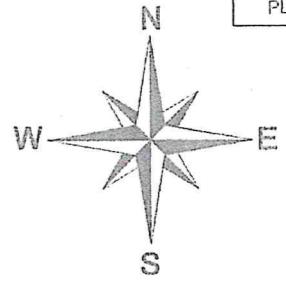
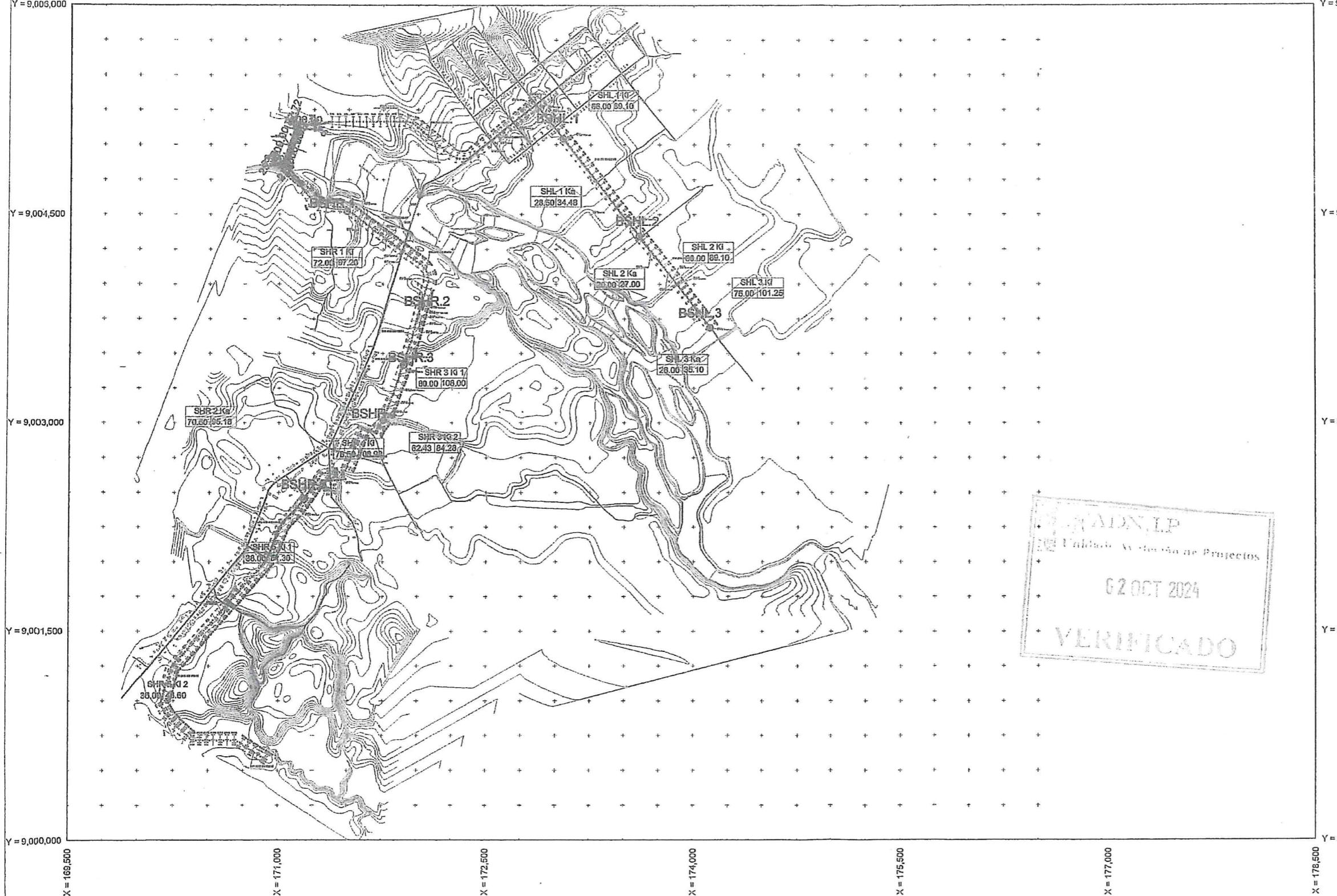


PLATE NO.: 001



LEGEND:

- ROAD
- BENCH MARK / CONTROL POINT
- PATH AND RIVER
- VILLAGE
- CONTROL LINE
- DESIGN CANAL
- OFFTAKE STRUCTURE
- TERTIARY / KWARTENARY BOX
- TERTIARY / KWARTENARY CANAL



NAME POINT	COORDINATE		
	X	Y	Z
BM 13	170877.679	9004799.079	62.948
BM 14	171981.595	9004306.46	51.684
CP 39	171377.332	9004386.699	57.66
CP 40	171389.408	9004060.416	54.175
CP 41	171260.465	9003576.4	47.898
CP 42	171679.739	9003542.729	47.011
CP 43	171366.049	9002819.298	40.709
CP 44	172053.405	9003397.431	43.233
CP 45	171755.061	9002700.953	37.728

DATE	APPROVED	DETAILED ENGINEERING DESIGN FOR 10 IRRIGATION SCHEMES AND PRELIMINARY STUDY FOR 15 RIVER			
		SAHEN IRRIGATION GENERAL PLAN OF SAHEN IRRIGATION			
ISSUE / AMENDMENT	DRAWING STATUS	ISSUED FOR TENDER	DRAWING No.	ISSUE/AMEND	
DATE	APPROVED				
GENERAL CONSULTANT & CONTRACTOR EVLUDING, BANDUNG, INDONESIA WATER SYSTEM MODULE : +62 72 7729725 / 77160029 Email : sahenirrigation@yahoo.com	TITLE	NAME	SIGN	DATE	APPROVED :
	DRAFTMAN	IRFAN FEBRI	F	2015	JUVENTIN C. COARES Chefe Departamento Técnico Irrigação - MAPPF
	DESIGNER	TENDI RUSTENDI	T	2015	APROVADO :
	DESIGNER CHECK	HARTIWAN HR	R	2015	JACINTO VICENTE FIUPE GAMA Diretor Nacional Irrigação e Gestão do Áqua - MAPPF
	TEAM LEADER	HUANG CH-H	A	2015	APROVADO :
	ACAD FILE No.				MARTIPIO LAURENTINO COARES Diretor Geral - MAPPF



AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

Dili, 24 /Outubro/2024

Hato' o ba : Sr. Martinho Laurentino Soares
Diretor Geral - MAPPF

Hosi : Januario Maia Guterres
Adjunto Diretor Executivo e Diretor Executivo Interino - ADN, I.P.

Ref : 1A73 /ADN, I.P./X/2024

Asuntu : Rezultado Verifikasioun – Terms of Reference (ToR) Construction
Supervision of Sahen Irrigation Scheme, Manatuto & Manufahi
Municipality

Ho Respeito,

Bazeia ba karta pedidu verifikasioun ho no ref: 551/DGACPI/VI/2024 ho data 25 de Junho de 2024, ba asuntu ne'ebe mensiona iha leten, ekipa verifikasioun Unidade Avaliação dos Projetos –ADN, I.P. hala'o ona verifikasioun ba dokumentos refere. Ho nune bele hare rezultado verifikasioun ToR iha (*aneksu*).

Maka ne'e deit ba ita Boot ninian Atensaun no Kolaborasaun Diak ami Hato' o Obrigado
Wain.



AGÊNCIA DE DESENVOLVIMENTO NACIONAL, I. P.

FORMULARIO DE DESPACHO

Data de Entrada Documentos : 26 - 06 - 2024

Data do Documentos : 25 - 06 - 24

Husi : MAPPF - DGACPI

No. Ref : 551 / DGACPI / VI / 2024

Projecto : Construction Supervision
of Sahen Irrigation Scheme
Tanaatuto & Manufati
Municipalities .

Quantidade Documentos : 2

Anexo :

* USB : 1

* TOR : 1

Assuntos :

Submissaun Dokumentu
Pedidu Verifikasiatur TOR

No.Tlf : -

Companhia : -

Despacho :

- Unidade de Gestão Administrativa
- Unidade de Avaliação de Projectos
- Unidade de Controlo e Validação de Qualidade
- Unidade de Estudos e Desenvolvimento de Competências

- Adjunto
- Assesor/a
- Gabinete DE / Base de Dadus
- Other

Data : 26/06/2024

Rui Lourenço da Costa
Director Executivo ADN



REPÚBLICA DEMOCRATICA DE TIMOR LESTE
MINISTERÍO DA AGRICULTURA, PECUÁRIA, PESCA E FLORESTAS
DIREÇÃO-GERAL DE AGRICULTURA, CAFÉ E PLANTAS INDUSTRIAS



Ref. No : SSI / DGACPI / VI/2024

Ex.mo : Sr. Rui Lourenço da Costa
Director Executivo Agencia de Desenvolvimento Nacional-IP (ADN_IP)

Assunto : Submisaun dokumentu Pedidu Verifikasiun ToR Supervizaun Konstrusaun b
Eskema Irrigasaun Sahen Municipio Manatuto no Manufahi

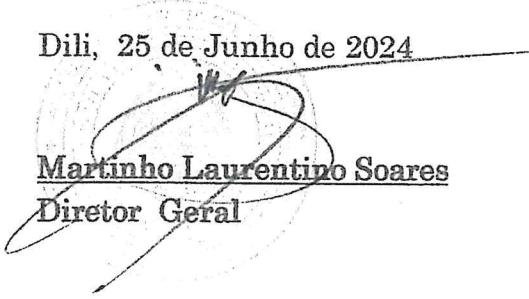
Baseia ba assunto iha leten, Ministerio da Agricultura, Pecuária, Pescas e Florestas, submet dokumentus ToR Supervizaun Konstrusaun ba Eskema Irrigasaun Sahen Municipio Manatut no Manufahi, ba Agencia de Desenvolvimento Nacional-IP (ADN_IP) atu halo verifikasiun n aprovasaun. Orsamento ba Projetu supervizaun eskema irrigasaun refere, mai husi Fundu Infraestrutura, ho nia programa 797: *Agricultura, sub programa 79701: Irrigacao*

Dokumentos atu halo verifikasiun no aprovasaun mak hanesan:

- 1) Terms of Reference ba Supervizaun no Orsamento ba Supervizaun, *Hardcopy*
- 2) Softcopy iha USB

Mak nee deit ba ita nia servico hamutuk hato'o obrigado.

Dili, 25 de Junho de 2024


Martinho Laurentino Soares

Diretor Geral

Cc :

- 1) Sua. Excia. Ministro da Agricultura, Pecuária Pesca e Florestas
- 2) Inspektur Geral – MAPPF;
- 3) Arkivo



AGÊNCIA DE DESENVOLVIMENTO NACIONAL,
INSTITUTO PÚBLICO (ADN, I.P.)

SUMMARY

CONSTRUCTION SUPERVISION OF SAHEN IRRIGATION SCHEME MANATUTO & MANUFAHE MUNICIPALITIES

NO.	DESCRIPTIONS	COST (US\$)
I	RENUMERATION INTERNATIONAL EXPERT	\$ 426,000
II	RENUMERATION NACIONAL EXPERTS	\$ 180,000
III	SUPPORTING PERSONEL	\$ 28,800
IV	REIMBURSABLES	\$ 82,650
V	REPORTING	\$ 6,450
VI	FASILITIES & TRAINING	\$ 41,200
	GARND TOTAL	\$ 765,100

Verified by :

Antonia de F. Morais Soares
Engineer, ADN, I.P.

Checked by :

Rogerio M. Pires
Chefe Dep-ITIAS, ADN, I.P.

Certified by

Jose Fernando Soares Liu
Coordinator UAP, ADN, I.P.
02/10/24



REPÚBLICA DEMOCRATICA DE TIMOR LESTE

MINISTERIO DA AGRICULTURA, PECUÁRIA, PESCAS E FLORESTAS

DIREÇÃO-GERAL DE AGRICULTURA, CAFÉ E PLANTAS INDUSTRIALIS

DIREÇÃO NACIOAL IRRIGAÇÃO E GESTÃO DE AGUA



TERMS OF REFERENCE (TOR)

CONSTRUCTION SUPERVISION OF SAHEN IRRIGATION SCHEME

MANATUTO & MANUFAHE MUNICIPALITIES

Dili, July 2024

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I. INTRODUCTION

1. Definition

1.1. Name of Activity

Name of activities is **Construction Supervision of Sahen Irrigation Scheme** Manatuto and Manufahi Municipalities.

1.2. Owner

The Owner of this activity is the Ministry of Agriculture Livestock, Fisheries and Forestry (MALFF).

1.3. Management of Activities

The overall Management of Activities is led by a Project Manager who is the Director of Irrigation and Water Management of MALFF under the guidance from the Project Owner and Project Steering Committee (PSC) that will consist of the representative of the MALFF, the Agency of National Development (ADN), the Ministry of Public Works and the Ministry of Finance (MOF).

1.4. Procurement Commission

Procurement of Construction Supervision Consultant will be carried out by the National Procurement Commission (CNA). They will invite the proposals from consultants, arrange pre-proposal meeting, receive the proposals, evaluate the proposals, and propose the winner.

1.5. Construction Supervision Consultant

The Construction Supervision Consultant is the company of consulting services which has been determined as the winner of the tender, successfully negotiated and signed a Contract together with the Owner.

2. Background

- a. The Sahen Irrigation Scheme have been nominated as high priority project by the Government of Timor-Leste for which a budget has been approved by the National Parliament of Timor-Leste. The construction development of Sahen Irrigation Scheme

is scheduled to be implemented from 2025 and will likely require 24 months for completion. The construction and supervision works will be funded from the Government of Timor-Leste Budget under Infrastructure Funds.

- b. The area to be irrigated is 718.93 hectares with estimated total beneficiaries of 811 Households. The irrigation facilities required for technical detailed design are the head works, the primary canals, the secondary canals, the tertiary canals, and the quarterly canals including agricultural facilities and relevant structures related to irrigation requirements.
- c. Sahen irrigation scheme will irrigate rice fields in Clacuc and Natarbora villages. If the weir built it will be made by double intake to irrigate clacuc on the right and clacuc on the left side. Existing condition for clacuc shows that there have been built the canal but does not function because it was covered with sediment.
- d. A subsequent detailed engineering design, cost estimate and feasibility study for construction works of the irrigation scheme was completed in 2015.
- e. Essential components of the works have been identified and it will be the task of the Construction Supervision Consultant to assist the MALFF in the preparation of instructions to the Contractor on the issuance of work orders for completion of the scheme.
- f. This project is categorized as an important project requiring appropriate and high quality construction control during implementation. The required supervision services will assist the Contractor during implementation and include provision of formal and on-the-job training to MALFF Irrigation Staffs assigned to work with the Construction Supervision Consultant.

- g. For these purposes, the consulting services offered by eligible bidders will be considered against the criteria set out above in order to obtain high quality supervision services in accordance with professional rules, norms, and behavior.
- h. The Terms of Reference (TOR) for the construction supervision work should be used for reference for the consulting services in order to support the performance of construction supervision to conform to required standards.

3. Objectives

- a. This Terms of Reference (TOR) should be used for guidance for the project. This TOR sets out the output, principles, criteria, process and input.
- b. In the tasks, the Construction Supervision Consultant will implement the duties in a good manner coast deliver all outputs in accordance with the technical specifications and standards stated in this TOR.
- c. This TOR is to provide technical guidance and instruction to the bidders so that they can fulfill the technical specification in term of structural and functional aspects.

4. Scope of Services

The scope of services for the Construction Supervision Consultant is as follows:

- a. Review all technical designs, drawings and cost estimates prepared for the development of the scheme and make recommendations on any changes, additions and deductions that are deemed necessary to the Project Manager. The changes and additions and deduction so suggested will be discussed with the Project Steering Committee and if approved will be redesigned and drawn by the Construction Supervision Consultant and presented to the Contractor for implementation.
- b. All communications, reports and minutes of meetings shall be addressed to the Project Manager.
- c. The Project Manager shall have the sole discretion to approve or change the Team Leader based on technical qualification and experiment in a similar position.

5. Location

Administratively, the Sahlen Irrigation Scheme is located in Clacuc village, Fatuberliu sub district, Manufahi district and it take water from Sahlen river. The coordinate of Sahlen irrigation area is:

- | | |
|-------------------|---|
| ➤ X = 170877,679 | Longitude = S $8^{\circ}59'27.58132''$ |
| ➤ Y = 9004799,079 | Latitude = E $126^{\circ}00'25.25676''$ |

Plan location of Weir is on Sahlen River in Manufahi district, with coordinates as:

Point SHN-R

- | |
|-------------------|
| ➤ X = 171054.681 |
| ➤ Y = 9004814.226 |

Point SHN-L

- | |
|-------------------|
| ➤ X = 171142.228 |
| ➤ Y = 9005101.166 |

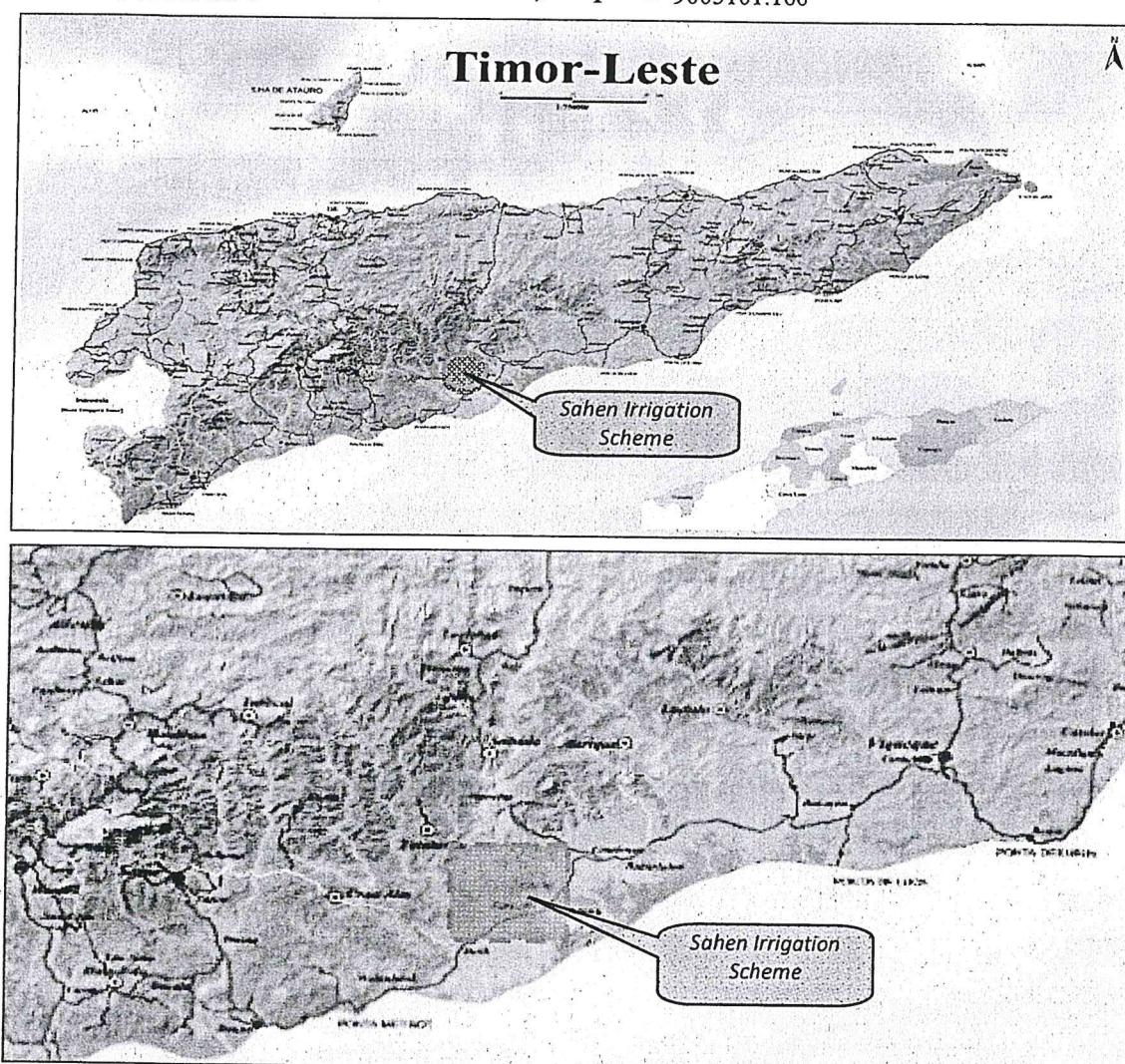


Figure 1: Location Map of Sahlen Irrigation Scheme

II. SCOPE OF WORKS

The Construction Supervision Consultant shall assist the Project Manager in site supervision during construction by carrying out the following:

1. Check and study the document for the implementation of construction of the essential components of the scheme development.
2. The essential components of Sahan Irrigation Scheme comprise:

I	Preparation
II	Construction of Access Road / Inspection Road
III	Construction Weir (include abutment and Scouring way, levee)
IV	Construction Intake - Sandtrap Basin - Regulating Structure
V	Right and Left Retaining Wall (U/S & D/S Weir)
VI	Right Main Canal & Hydraulic Structures
VII	Left Main Canal & Hydraulic Structures
VIII	Construction of Building Facility
IX	Hydromechanical Work

3. Check the Technical Specification which are to regulate the Contractor toward proper progress and accomplishment of the construction work.
4. Check the shop drawings provided by the Contractor.
5. Supervise the utilization of labor, material, equipment and working method, as well as time and cost control of the construction works.
6. Supervise the implementation of the construction works in the aspects of quantity, quality control testing and physical progress and confirm that construction is being performed according to the drawings, as defined in the Technical Specifications and comply with time schedule.
7. Monitor the testing program and testing procedures of samples to the laboratory to ensure that these comply with the Technical Specifications.
8. Ensure that the environmental impact of the scheme is controlled through sound environmental management practices.

9. Inform to the Project Manager to take appropriate action in case land acquisition and resettlement action plan or land dispute issues may arise to enable the project continue without delay.
10. Collect data and information in the field to solve problems during the implementation of construction work.
11. Keep a field log-book to document all quality control related to the test results taken on the site.
12. Review the planned work schedule and monitor physical progress against the Contractor work program and when necessary, take appropriate action to ensure that the contractor maintains an adequate rate of progress to complete the work on schedule.
13. Review and check the Contractor's interim progress for accurate payments.
14. Design and discuss with the Project Manager any additional and/or deduction works (addendums, amendments, variations construction) that would enhance the quality of the development.
15. Advice the Project Manager of the likelihood of possible construction delays in completion of the works, which might require revision to the duration of the construction and supervision periods and recommend on alternative timings of key personnel inputs.
16. Prepare recommendations to the Project Manager of any possible contract modifications between the Contractor and the Owner that in the Consultant's professional opinion would result in more successful achievement of the development objectives.
17. Hold weekly site meeting at a fixed and regular time with the Contractor and present the minutes of meeting, which is signed and agreed to by the participants, to the Project Manager on Monday of the following week. The Construction Supervision Consultant shall present a progress report once a month at a meeting organized by the Project Manager.
18. Provide a short term on-the-jobs a short term training courses for MALFF Irrigation staffs to improve their capacity to understand how to deal with contract supervision, Owner's responsibility, technical specification, Bench Marks surveys, accuracy of

design drawings, drawing preparation, measurement and payment procedures, Contractor's work plan, quality control test, recordkeeping, acceptance procedure of completed work, defective works, and monitoring during the maintenance liability period.

19. Provide on-the-jobs training for MALFF Irrigation staffs assigned to the project in the use of a total station survey, equipment, to survey and install Bench Marks at the works' sites and how to use the equipment in topographic surveys and mapping.
20. Provide on-the-jobs training for the MALFF Irrigation staffs assigned to the project in the operation of the gates of the irrigation structures during the normal conditions, during the flood, during the dry season, etc.
21. Provide on-the-jobs learning in the maintenance of the irrigation structures covering weir, sediment traps, irrigation canal, drainage canals, division boxes, turnouts, gates, stilling basin, siphons, tunnels, flumes, drop structure chutes, etc.
22. Prepare monthly reports on supervision works based on the input of regular site meetings, daily reports, weekly reports, and monthly reports of the construction works provided by the Contractor.
23. Prepare a list of defective works prior to handing over; supervise the reparation within the maintenance liability period and the submission of the final report of supervisory works.
24. Prepare a manual of standards for operation and maintenance works of the facilities.
25. Check the as-built drawings provided by the Contractor prior to the handing over of the completed works.
26. Assist the Project Manager during handing over and final acceptance of completed civil works related to the development and in commissioning of the irrigation scheme.
27. Witness and report on any commissioning of the civil works when the Contractor has declared that the work has been completed and prepare a written report on the Commissioning and stating the results of the tests measuring the status of the constructed facilities.
28. Prepare reports on physical progress, maintenance liability, handing over, commissioning and final acceptance of completed civil works related to the development.

Figure 2: The schematic Drawing of Sahen Irrigation Scheme

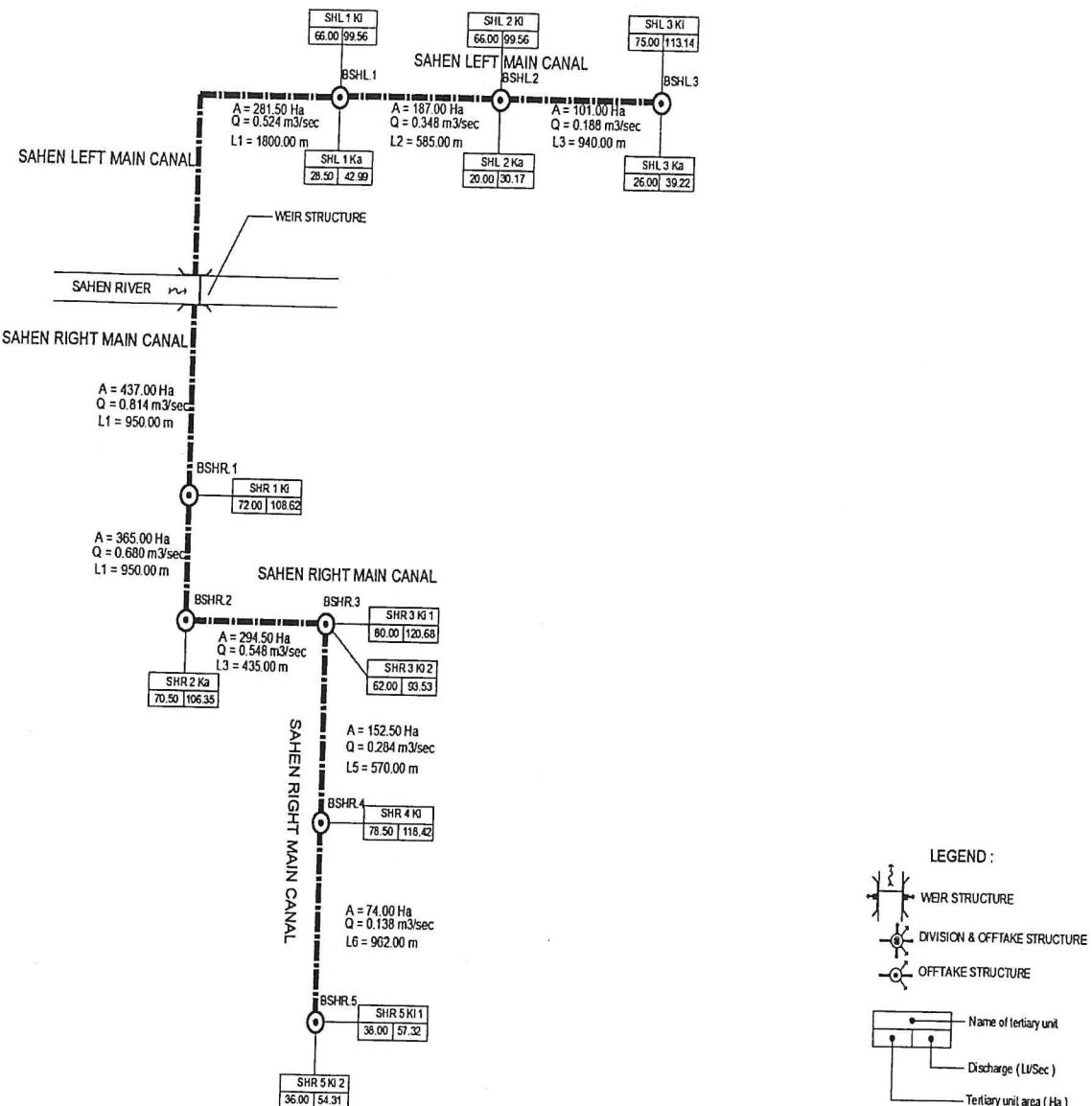
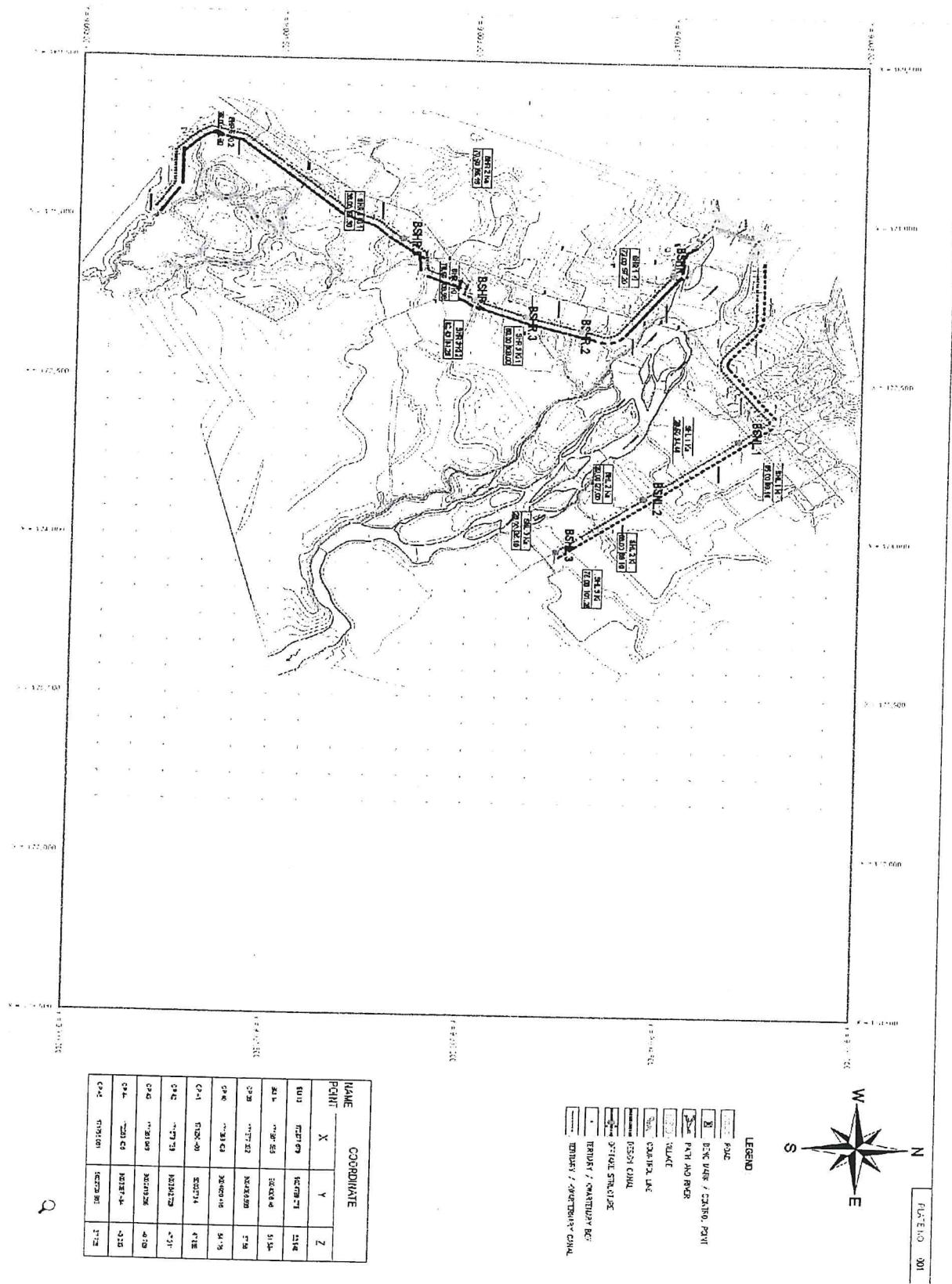


Figure 3: The area of Sahen Irrigation Scheme



III.RESPONSIBILITY OF CONSTRUCTION SUPERVISION CONSULTANT

- The Construction Supervision Consultant is responsible professionally on the supervision services to conform to the regulations and in accordance with ethical code of professionalism.
- In general, the responsibility of the Construction Supervision Consultant covers the following:
 - a. Review of detailed engineering designs for the essential works as defined above, including recommendations on amendments and revisions
 - b. Identification of priorities for repair and improvements to water irrigation canals. The Construction Supervision Consultant will present recommendations to Owner on these works within that stated in the works Contract or, if found necessary, to a greater value to enable a variation in the works Contract to be agreed
 - c. The result of construction supervision works should fulfill supervision qualification standards
 - d. The result of construction supervision works should accommodate the limitations expressed by the Owner including through this TOR such as in the aspect of payment, work schedule and the quality of constructions to be constructed
 - e. The result of construction supervision works should fulfill the regulations, standards and technical guidance of construction that are generally in effect in Timor-Leste.

IV.CONSTRUCTION SUPERVISION COST

1. The construction supervision consulting services will be provided at a fixed cost based on the selected bidder's offer price and financed in negotiation with the Owner.
2. Upon signing of Contract, there will not be any additional cost unless as subsequently agreed between the Construction Supervision Consultant and the Owner through, and incorporate in, a written Contract Amendment.

Contract

V.OUTPUT OF CONSTRUCTION SUPERVISION CONSULTANT ACTIVITIES

The output resulted by the Construction Supervision Consultant of these activities is presented in a systematic format as follows:

1. Inception Report

The stage of construction supervision concept consists of as follows:

- a. The concept of technical construction supervision works including the number and qualification of the team members and its responsibilities, and methodology of implementation.

- b. Scope of services, report of the existing site data and information, and other purposes needed.

The Inception Report will be submitted within one month of mobilization of the Construction Supervision Consultant in 6 hard copies and 6 electronic copies on CDs and/or other agreed form of electronic copies.

Comments on the Inception Report will be prepared and discussed between the Construction Supervision Consultant and the Owner and an agreed technical construction supervision concept will be approved by the Owner during the first 6 weeks of the assignment enabling the Construction Supervision Consultant to continue his work with minimal delay.

2. Daily Record

The Daily Record contains all events in the field, instructions, guidance's from the Project Manager, Irrigation Engineers, Supervisor to the Site Engineers of Contractor.

3. Daily Report

The Daily Report contains information indicating the Supervisor discussed with the Contractor regarding as follows:

- a. Labors working in the site
- b. Materials supplied at the site, accepted and or rejected
- c. Equipment to be used for construction
- d. Physical progress of the construction works those are being implemented by the Contractor
- e. Time for implementing the construction work
- f. Reporting all kinds of the influence the construction activities, such as weather, storm, stream, flood, earth quake, landslide, etc.

4. Weekly Report

Weekly Report contains the resume of Daily Report

5. Monthly Report

- a) Monthly Report based on the input of regular Site Meetings, Daily Reports, Weekly Reports, and Monthly Reports of the construction works provided by the Contractor.
- b) These documents should be submitted in 6 exemplars of hard copy and 6 pieces of USBs other forms of electronic copies.

6. Time Schedule

- a) Time Schedule of the construction works in Bar Chart- "S" Curve and Network Planning
- b) which are prepared by the Contractor.

7. Construction Progress Reports

Construction Progress Reports will be prepared on a monthly report by the Construction Supervision Consultant and will be necessary to support the payment of invoices submitted by the Contractor to the owner.

8. Shop Drawings

Shop Drawings are to be prepared by the Contractor and reviewed by the Construction Supervision Consultant.

9. Document of Design Changes

Document containing construction phase design changes, addition or deduction of works will be provided by the Construction Supervision Consultant to the Project Manager.

10. Document of Quality Control

Document containing all results of quality control, testing and measurements for payment to the Contractor taken at the sites during construction.

11. Document of Extra Claims

Document containing extra items or extra claimed by the Contractor that were approved by the Project Manager.

12. Minutes of Site Meeting

Minutes of Site Meetings and physical progress meetings as signed and agreed between Project Manager, the Construction Supervision Consultant and the Contractor.

13. Record of on the Job Training

- a. Record of capacity development training to the MALFF Irrigation staff assigned to the project both on-the-job training and lecture type training to understand supervision

contract, Owner's responsibility, technical specifications, Bench Marks surveys, accuracy of design drawings, drawing preparation, measurement and payment procedures, Contractor's work plan, quality control test, record keeping, acceptance procedure of completed work, defective works, and monitoring during the maintenance liability periods.

- b. Record of capacity development on-the-job training and lecture type training to the of MALFF Irrigation staff assigned to the project in the use of a total station survey, equipment, engineering and other surveys and install Bench Marks and the use of equipment in topographic surveys and mapping.

14. Photographs & Video

Photographs and Video showing the sequence of construction progress.

15. As-built Drawings

As-built drawings of the construction works.

16. Manuals

Manuals of equipment which are prepared by the Contractor.

17. Record of Commissioning

Record of equipment/structures commissioning

18. Construction Supervision Completion Report

The Construction Supervision Completion Report will include the following:

- a. Minutes of Meetings
- b. Minutes of Site Meetings
- c. Daily Report
- d. Document of Design Changes
- e. Document of Quality Control
- f. Document of Claims
- g. Record of Training
- h. Photographs and Videos
- i. As-built Drawings
- j. Manual
- k. Record of Commissioning

These documents should be submitted in 6 hard copies and on 2 USBs and/or other forms of electronic copies.

VI. PRINCIPLES

The Construction Supervision Consultant in the implementation of its tasks should take note of the principles as follows:

1. Within reasonable limits implementation of the works should cause minimal disturbance to farming and other activities in the locality of the works.
2. Works should be designed to minimize life-cycle costs of the works including investment, operation and maintenance.
3. The construction works should be completed in minimum time without compromising quality such the improved facilities are available for use as soon as possible.
4. The facilities constructed should increase the quality of environment.

VII. CONSTRUCTION SUPERVISION CRITERIA

1. General Criteria

- a) Any construction supervision works should be accomplished properly until giving result as required and well accepted satisfactorily by the Project Manager.

2. Objective Criteria

- (a) The implementation of construction supervision works relating to the type, quality and
- (b) Quantity, cost and time schedule of works should be accomplished to meet the supervision standard.

3. Functional Criteria

The implementation of construction supervision works should be accomplished to fulfill the professionalism to increase the project performance.

4. Procedure Criteria

The administrative procedure of the works in the site should be accomplished in accordance with the regulation in effect.

5. Technical Criteria

The construction supervision works should use the standard and technical guide in effect.

VIII. CONSTRUCTION SUPERVISION PROCESS

The Construction Supervision Consultant should prepare description of activities in detail of every part of supervision work in the site as follows:

1. Preparation

- a. Formulation of work program, allocation of personnel and the concept of technical construction supervision work.
- b. Check the Time Schedules, Bar-Charts, "S" Curves, Network Planning prepared by the Contractor and forwarded to the Project Manager for approval.

2. Implementation

- a. Implement supervision in general, coordination, site supervision and inspection continuously.
- b. Supervise the labors, quantity and quality of materials, equipment's, working method , quantity and quality of works, and accuracy of measurement in the site
- c. Supervise the physical progress and take action properly and fast in order to ensure the implementation time to meet the schedules.
- d. Give input of additional or deduction works that could give effect to the cost and time for approval by the Project manager.
- e. Give instructions to the Contractor with no deviation against the contract and make report of it to the Project Manager.

3. Consultation

- a. Hold regular meeting with the Project Manager to discuss any issues arise during construction. Then, make minutes of meeting
- b. Hold regular site meetings at least twice a month with the Project Manager and Contractor to discuss issues arise during construction. Then, make minutes of meeting and send to all parties related, and expected to be received within one week.
- c. Hold meetings out of regular schedules as required. Then, make minutes of meeting

4. Reports

- a. Prepare reports in administrative and technical aspect to the Project Manager regarding the quality, quantity and value of works constructed by the Contractor.
- b. Prepare reports regarding the materials, labors and equipment to be used.
- c. Prepare reports regarding the real work progress and compare with the schedules approved.
- d. Check the additional drawings prepared by the Contractor particularly as the result of additional or deduction works, and the shop drawings.

5. Documents

- a. Prepare documents on physical progress at each scheme for payments.
- b. Check and prepare documents on quantity and value of physical progress and additional or deduction works for payment.
- c. Prepare forms for daily, weekly and monthly reports, documents on work progress, handing over and acceptances of completed works.

IX.CONSTRUCTION SUPERVISION INPUT

1. Information

- a. To implement the tasks, the Construction Supervision Consultant should collect information required, beside the information provided by the Owner.
- b. The Construction Supervision Consultant should check the validity of information to be used in the implementation of his tasks either the information provided by the Owner or collected by himself.
- c. The faults of construction supervision work as the result of faults of information will be the responsibility of the Construction Supervision Consultant.
- d. The information required and should be obtained for supervision are as follows:
 - 1) Terms of Reference of Construction Supervision
 - 2) Minutes of Pre-bid Meeting and Assignment of Contractor
 - 3) Contract document of Contractor
 - 4) Work Schedule in Bar-Chart, "S" Curve and Network Planning prepared by the Contractor
 - 5) Technical Specifications
 - 6) Shop drawings
 - 7) Regulations, standard and manual including technical guidance for quality control testing.

2. Personnel

The Construction Supervision Consultant should provide key personnel to fulfill the requirements to implement this works, either considering based on the scope of work and the level of complexity of the works. The key personnel required for the construction supervision activities consists of as follows:

2.1. International Key Expert

a) Team Leader (Civil / Irrigation Engineer)

The Team Leader should possess a University Degree in civil/irrigation engineering with minimum 10 years working experience in supervision of irrigation and water resources related construction projects, contract management and, FIDIC Conditions of Contracts. Must be fluent in English. Previous work experience in Timor-Leste

and knowledge of Tetun or Bahasa Indonesia or Portuguese, as well as experienced trainers will be an added advantage.

The tasks of the Team Leader are the followings:

- a) To plan, coordinate and control all activities and personnel involved in this work, so that the work could be finished in a good manner within the scheduled time and achieve the expected result.
- b) To prepare implementation guidance in the stage of data collection, processing, and final presentation of the whole works.
- c) To plan and implement all activities covering construction supervision and give input to the other experts related to this supervision works.
- d) Responsible for all Contract management between the Project Owner and the Contractor and ensuring that all procedure for that administration of the Contract is followed.
- e) Advise the Project Owner on legal issues regarding the contract extension /addendum/amendment, suspension, sanction, termination, force majeure, disputes and other contractual issues.

2.2. Irrigation Engineers

Irrigation Engineers should possess a University Degree in Irrigation Engineering with minimum 8 years working experience in construction supervision of irrigation and drainage project. Must be fluent in English. Previous work experience in Timor-Leste and knowledge of Tetun or Bahasa Indonesia or Portuguese, as well as experienced trainers will be an added advantage.

The tasks of Irrigation Engineers are the followings:

- a) Assist and advise the Team Leader on engineering issues as required,
- b) Supervise field surveys, including inventory and condition of weir, irrigation canal, drainage canal and all other irrigation structures.
- c) Inspect all activities on the site, ensuring safe practices and good workmanship.
- d) Maintain a detailed record of daily activities on the site including labor, material, equipment, weather conditions, work stoppages and the reasons therefore etc.
- e) Progress monitoring and quality control of works implementation.

2.3. Contract Engineer

Contract Engineer should possess a University Degree in civil engineering or similar with minimum 5 years working experience in contract management and FIDIC Condition of Contract. Must be fluent in English. Previous work experience in Timor-Leste and knowledge of Tetun or Bahasa Indonesia or Portuguese, as well as experienced trainers will be an added advantage.

The tasks for Contract Specialist are the following:

- a) Verify all contractual issues arising from commencement to completion of the project.
- b) Review the claims by the Contract
- c) Monitoring the Contractor schedule on the legal aspect

3. National Expert

3.1. Site Supervisor

Site Supervision should possess a Diploma Degree in civil engineering with minimum three 3 years' experience in construction supervision projects, more preferably in irrigation and water resource related construction supervision project. Previous work experience in Timor-Leste and knowledge of Tetun or Bahasa Indonesia or English, as well as experienced trainer will be an added advantage.

The Site Supervision shall assist the Irrigation Engineer in the day-to-day supervision of the works.

3.2. Quality Assurance Engineer

Quality Assurance Engineer should process a Diploma Degree in civil engineering with minimum 3 years relevant experience. Previous work experience in Timor-Leste and knowledge of Tetun or Bahasa Indonesia or English, as well as experienced trainer will be an added advantage.

The Quality Assurance Engineer shall undertake routine and random quality assurance testing of material and constructed structures and responsible for maintaining records of all testing performed.

3.3. Supporting Personal

The Consultant Firm is responsible for ensuring adequate technical support and administrative staff which may include but not limited to Office Manager, Secretary, and Utility Man.

4. Person Month of Consulting Service

It is estimated that 268 person-month of key personnel will be required, during construction supervision period was presented in Table 1:

NO.	DESCRIPTIONS	UNIT	Personnel	Duration	Person/Month
I RENUMERATION INTERNATIONAL EXPERT					
1	Team Leader-Civil/Irrigation Engineer	Month	1	24	24
2	Irrigation Engineer	Month	1	24	24
3	Contract Engineer	Month	1	4	4
	Sub-Total International Key Experts		3	52	52
II RENUMERATION NACIONAL EXPERTS					
1	Site Supervisor	Month	2	24	48

2	Quality Assurance Engineer	Month	1	24	24
	Sub-Total National Key Experts		3	48	72
III	SUPPORTING PERSONEL				
1	Office Manager	Month	1	24	24
2	Office Boy	Month	1	24	24
3	Driver	Month	1	24	24
	Sub-Total Supporting Personnel		3	144	144
	TOTAL PERSON/MONTH				268

5. Facilities Provided by the Government of Timor-Leste

The Government will provide the following:

- a. Counterpart staff according to availability for assistance with surveys and progress monitoring.
- b. Assistance and advice on the processing of visas and work permits for consultant staff as requested.

6. Facilities Provided by the Supervision Consultant

The Supervision Consultant will provide the following:

- a. All survey equipment as required
- b. Computing, drafting and mapping equipment and software
- c. Travel costs to and from Timor-Leste
- d. Communication Cost
- e. Other office furnishing and equipment for use on or near the location of the irrigation schemes
- f. Training Courses for MAF Irrigation Staffs
- g. Site Office will provided through civil works contract.
- h. Transport Facilities
 - 1. One Unit of brand new 4WD double cabin and five units of brand new motor bike will be allocated to the Consultant for monitoring the project implementation for entire duration of the project construction period. One Car and five (*2 motor bikes provide to the DIO*) motor bikes will allocate to project manager for monitoring the project implementation. The driver, fuel cost, operation and maintenance and insurance to the vehicle will be the responsible of the Consultant. Consultant have to submit all facilities to the government after accomplish the project with in good condition.

The specification of vehicle and motorbike as shown below:

- Vehicle
One (1) unit of Toyota Hilux Manual, 3000cc, Double cabin, Fuel type is Diesel.
- Motorbike
Five (5) unit motor bike Honda Verza CBR 150 cc.

X. PAYMENT

The payment of this construction supervision activity will be scheduled as follows:

- a. The payment will be paid to the Construction Supervision Consultant upon discussion and approval by the Employer.
- b. The payment will be paid to the Construction Supervision Consultant in accordance with the progress of works, work phases and deliverables.

The progress of works with the timeframe of construction schedule and deliverables are breakdown as below:

- Construction plan will be conducted in phases with duration of Twenty Four (24) months.
- The consultant must comply with the following deliverables requirements and submit the required report based on the required deliverables.
- The Consultant must comply with terms and conditions stated in the contract as well as the implementation phases for the construction must be done carefully, and thoroughly to guarantee the quality of the outputs.

- 1) The Construction Supervision Consultant should arrange work program minimum covers:
 a. Work Schedule in detail on Bar Chart - "S" Curve and Network Planning
 b. Manning Schedule
 c. Allocation of experts completely with their discipline and expertise. The experts proposed should attach Curriculum Vitae and Letter of Availability to work.
 d. Concept of technical construction supervision work.
- 2) The Work Schedule will be governed by the procurement schedule for irrigation development project. The Construction Supervision Consultant shall mobilize 5 days before the Contractor.
- 3) The work program should get approval from the Owner after presentation by the Construction Supervision Consultant and get input from the Owner.

XI. WORK PROGRAM

No	Progress of Works from the Construction Milestones	Percentage (%) of Payment	Percentage (%) of Preparation Works	Contract Price	Construction Work (include abutment and scouring way) 100%	Contract Price	Construction Latake - Sand trap Basin - Regulating Structure	Contract Price	Construction of Right and Left Retaining Wall (U/S & D/S Weir)	Contract Price	Construction of Right Main Canal & Hydraulic Structures 100%	Contract Price	Construction of Left Main Canal & Hydraulic Structures 100%	Contract Price	Construction of Building Facility 100% complete	Contract Price	Manning Schedule	Allocation of experts completely with their discipline and expertise. The experts proposed should attach Curriculum Vitae and Letter of Availability to work.	Concept of technical construction supervision work.
IX	Defect Liability Period 5%	5.0% of the Contract Price																	
VIII	Construction of Building Facility 100% complete	1.5% of the Contract Price																	
VII	Construction of Left Main Canal & Hydraulic Structures 100% complete	1.0% of the Contract Price																	
VI	Construction of Right Main Canal & Hydraulic Structures 100% complete	7.0 % of the Contract Price																	
V	Construction of Right and Left Retaining Wall (U/S & D/S Weir)	16.0% of the Contract Price																	
IV	Construction Latake - Sand trap Basin - Regulating Structure	6.0% of the Contract Price																	
III	Construction Weir (include abutment and scouring way) 100% complete	55.0% of the Contract Price																	
II	Construction of Access Road/ Inspection Road 100% complete	4.0% of the Contract Price																	
I	Preparatory Works	4.5% of the Contract Price																	