

TENDER NO – MR 94 /2016

**PROJECT: UPGRADING OF 6.6KV TO 11KV ON
NEW ONO STREET FEEDER – KOMO PARK SUB**

SCHEME: SR 02 -16

Notes :

1. Bidders to provide 2 hardcopies of tender bid.
2. Safety Plan to be included in tender bid, and will be part of evaluation.
3. Cable Jointer Certificate to be included in tender bid.
4. Safety Report for 2013, 2014 to be submitted with tender.
5. All ducting work shall be carried out BEFORE trenching along grass verge etc.
6. Contractor shall provide photo ID of all employees who will be working on the project, clearly indicating their Employment/FNPF number and Job Description.

The installation of the cable shall be carried out under direct FEA supervision.

All work requiring FEA supervision shall be started and completed during normal working hours.

HSE REQUIREMENTS

The following documents are to be submitted with the Tender :

- 1). **Contractor HSE Specification** – it contains 10 clauses which contains the overall HSE requirements and the contractor needs to agree to this.
- 2). **Contractor HSE Plan** (Document HSE41C04)– The contractor shall fill in each part of the Plan.
- 3). The Contractor will list down all the plants and equipment to be used in the **Plant & Equipment Register** as well as chemicals in the **Chemical register**.
- 4). The **JSA & Risk Assessment** form will require the contractor to identify hazards which may not have been adequately addressed in FEA's existing procedures and outline proposed controls.

FIRST SCHEDULE

A. SPECIAL CONDITIONS OF CONTRACT

1. The works shall comprise the installation of ducts and cable (including footpaths, sealed roads and grass verge) as per attached Drawing # A1 09 N54 328

STAGE ONE (1)

(a)	Location 1	From Komo Park Zone Substation to Ono street kiosk substation
(b)	Dig cable Trench from Komo Park Zone Substation 11kV board side to Ono street sub as per construction drawing	125 metres approx. (1 weeks)
(c)	Trenches specs	1m depth X 300mm width
(c)	Laying of 1 X 240mm 3C AL XLPE cables	125 metres approx.

(a)	Location 2	From Ono street kiosk substation to FIT kiosk sub
(b)	Dig cable Trench from Ono street Sub to FIT sub as per construction drawing	583 metres approx. (2 weeks)
(c)	Trenches specs	1m depth X 300mm width
(c)	Laying of 1 X 240mm 3C AL XLPE cables	583 metres approx.
	Total Route Length	708m

NOTE: Old 6.6kV cable to joint through at FIT sub

Note:

1. Ducts (supplied by FEA) will need to be laid across the road crossing and Drive Way.
2. Route comprises sealed road, footpath and grass verge.
3. Sub-seal comprise soapstone and services.

2. The Contract sum (refer clauses 4 and 23) for the works shall be \$_____VIP.

- a) Payable in a single lump sum upon final completion of the works; or
- b) payable at the completion of each stage as follows :
 - 30% upon completion of phase 1,
 - 30% upon completion of phase 2,
 - 30% upon completion of phase 3,
 - 10% retention fund.

3. (Refer clauses 5, 18, 19, 21 and 22)

- (a) Latest date for commencement of the works :
- (b) Date of completion of Phase 1 :
- (c) Date of completion of Phase 2 :
- (d) Date of completion of Phase 3 :
- (e) Date of practical completion of the works. :
- (f) Date for final completion of the works :

4. For the purpose of supervising the contract on behalf of the Authority, references in the General Conditions to the Authority shall include the Unit Leader Distribution Central or his designated officer. The Project Manager, Project Engineer and Project Supervisor shall be the Construction Coordinator Central.
5. Insurance (refer clause 14)
 - (a) Contractor's risk \$500,000.
 - (b) Public Liability \$500,000.
 - (c) Worker's Compensation \$250,000.
6. Liquidated and ascertained damages (refer clause 20):
\$200 per day.
7. Defects Liability period (refer clause 21): 6 months
8. Retention Fund (refer clause 24)
 - (a) Limit of retention fund : 10% of contract sum
 - (b) Nature of retention fund : cash
 - (c) Release of retention fund : Subject to no pending defect, and as per FEA Finance Policy.

SECOND SCHEDULE – STAGE 1

B. Specification for Distribution UG HV Cable laying and installation from Komo Zone Sub to Ono Street kiosk sub **From Ono street to FIT sub as per drawing No: A1/09/N54/328**

1.0 General

This specification covers the installation of 1 X 240mm 3C XLPE underground Cable laying and installation from Komo Zone substation to Ono street sub, and from Ono street sub to FIT sub as per attached Drawing A1/09/N54/328 under conditions of Contract attached herein.

2.0 Scope of Work

Work involved in this contract is broadly classified into three phases:

Phase 1. Trenching and ducting

Phase 2. Laying of power cable

Phase 3. Backfilling of trench

2.1 Phase One – Trenching of cable route

The first phase comprises of the following works:

- Installation of ducts across roads and drive ways
- Ground excavation for the power cable.

Note – all ducting works is to be completed BEFORE excavation of grass verge. This is to ensure that trenches are kept open for a minimum duration.

2.2 Phase Two – Installation of power cable and conduit

The second phase will involve the installation of power cable. This involves manually pulling the cable along the trench using rollers (supplied by FEA), and through ducts.

All the work of phase two must be as per the specifications given in the drawing and it shall conform to all aspects of the standards outlined in the "Standard Overhead Line Design and Construction Manual" a guideline set by FEA.

This work shall be carried out under direct supervision of FEA personnel, and is to be done during normal working hours only. Set up of cable drums shall be done by FEA.

This phase shall be deemed complete once the cable has been tested healthy by FEA Technicians. In the event that the cable fails to pass the test, the Contractor shall be required to pay all costs associated with the location and repair of the damage/fault.

2.3 **Phase Three – Backfilling of trenches**

This phase of the contract involves the backfilling of trenches.

Various works for this phase will be:

- i) apply suitable layer of sand bedding (to be supervised by FEA).
- ii) Backfill sand on top of cable to height specified by FEA site supervisor.
- iii) Backfill remainder of trench with trench spoil.

All materials (cable and slab) are to be transported to work site by the contractor.

The contractor is responsible for ensuring that all unused excavated soil and is laid neatly on top of the trench to allow for soil subsidence. All left over materials is to be returned to the Kinoya Stores and credited accordingly.

Sand shall be supplied by FEA.

All the works of phase three must be as per the specifications, and it shall conform with all aspects of the standards outlined in the "Standard Overhead Line Design and Construction Manual", guideline set up by FEA.

FIRST SCHEDULE

C. SPECIAL CONDITIONS OF CONTRACT

2. The works shall comprise the installation of ducts and cable (including footpaths, sealed roads and grass verge) as per attached Drawing # A1 09 N54 328

STAGE TWO (2)

(a)	Location 1	From FIT Substation to Samabula kiosk substation
(b)	Dig cable Trench from FIT Substation to Samabula sub as per construction drawing	320 metres approx. (1 weeks)
(c)	Trenches specs	1m depth X 300mm width
(c)	Laying of 1 X 240mm 3C AL XLPE cables	320 metres approx.

(a)	Location 2	From Samabula kiosk substation to Toganivalu sub
(b)	Dig cable Trench from Samabula Sub to Toganivalu sub as per construction drawing	618 metres approx. (2.5 weeks)
(c)	Trenches specs	1m depth X 300mm width
(c)	Laying of 1 X 240mm 3C AL XLPE cables	618 metres approx.
	Total Route Length	938m

SECOND SCHEDULE – STAGE 2

D. Specification for Distribution UG HV Cable laying and installation from FIT kiosk sub to Samabula sub **From Samabula sub to Toganivalu sub as per drawing No: A1/09/N54/328**

1.0 General

This specification covers the installation of 1 X 240mm 3C XLPE underground Cable laying and installation from FIT sub to Samabula sub, and from Samabula sub to Toganivalu sub as per attached Drawing A1/09/N54/328 under conditions of Contract attached herein.

2.0 Scope of Work

Work involved in this contract is broadly classified into three phases:

Phase 1. Trenching and ducting

Phase 2. Laying of power cable

Phase 3. Backfilling of trench

2.1 Phase One – Trenching of cable route

The first phase comprises of the following works:

- Installation of ducts across roads and drive ways
- Ground excavation for the power cable.

Note – all ducting works is to be completed BEFORE excavation of grass verge. This is to ensure that trenches are kept open for a minimum duration.

2.2 Phase Two – Installation of power cable and conduit

The second phase will involve the installation of power cable. This involves manually pulling the cable along the trench using rollers (supplied by FEA), and through ducts.

All the work of phase two must be as per the specifications given in the drawing and it shall conform to all aspects of the standards outlined in the "Standard Overhead Line Design and Construction Manual" a guideline set by FEA.

This work shall be carried out under direct supervision of FEA personnel, and is to be done during normal working hours only. Set up of cable drums shall be done by FEA.

This phase shall be deemed complete once the cable has been tested healthy by FEA Technicians. In the event that the cable fails to pass the test, the Contractor shall be required to pay all costs associated with the location and repair of the damage/fault.

2.3 Phase Three – Backfilling of trenches

This phase of the contract involves the backfilling of trenches.

Various works for this phase will be:

- i) apply suitable layer of sand bedding (to be supervised by FEA).
- ii) Backfill sand on top of cable to height specified by FEA site supervisor.
- iii) Backfill remainder of trench with trench spoil.

All materials (cable and slab) are to be transported to work site by the contractor.

The contractor is responsible for ensuring that all unused excavated soil and is laid neatly on top of the trench to allow for soil subsidence. All left over materials is to be returned to the Kinoya Stores and credited accordingly.

Sand shall be supplied by FEA.

All the works of phase three must be as per the specifications, and it shall conform with all aspects of the standards outlined in the "Standard Overhead Line Design and Construction Manual", guideline set up by FEA.

FIRST SCHEDULE

E. SPECIAL CONDITIONS OF CONTRACT

3. The works shall comprise the installation of ducts and cable (including footpaths, sealed roads and grass verge) as per attached Drawing # A1 09 N54 328

STAGE THREE (3)

(a)	Location 1	From Toganivalu Substation to Suva maternity kiosk substation
(b)	Dig cable Trench from Toganivalu Substation to Suva maternity sub as per construction drawing	732 metres approx. (3 weeks)
(c)	Trenches specs	1m depth X 300mm width
(c)	Laying of 1 X 240mm 3C AL XLPE cables	732 metres approx.

(a)	Location 2	From Suva maternity kiosk substation to Walu street sub
(b)	Dig cable Trench from Suva maternity Sub to Walu street sub as per construction drawing	580metres approx. (2.5 weeks)
(c)	Trenches specs	1m depth X 300mm width
(c)	Laying of 1 X 240mm 3C AL XLPE cables	580 metres approx.
	Total Route Length	1.312km

SECOND SCHEDULE – STAGE 3

F. Specification for Distribution UG HV Cable laying and installation from Toganivalu kiosk sub to Suva maternity sub **From Suva maternity sub to Walu street sub as per drawing No: A1/09/N54/328**

1.0 General

This specification covers the installation of 1 X 240mm 3C XLPE underground Cable laying and installation from Toganivalu sub to Suva maternity sub, and from Suva maternity sub to Walu street sub as per attached Drawing A1/09/N54/328 under conditions of Contract attached herein.

2.0 Scope of Work

Work involved in this contract is broadly classified into three phases:

- Phase 1. Trenching and ducting**
- Phase 2. Laying of power cable**
- Phase 3. Backfilling of trench**

2.1 Phase One – Trenching of cable route

The first phase comprises of the following works:

- Installation of ducts across roads and drive ways
- Ground excavation for the power cable.

Note – all ducting works is to be completed BEFORE excavation of grass verge. This is to ensure that trenched are kept open for a minimum duration.

2.2 Phase Two – Installation of power cable and conduit

The second phase will involve the installation of power cable. This involves manually pulling the cable along the trench using rollers (supplied by FEA), and through ducts.

All the work of phase two must be as per the specifications given in the drawing and it shall conform to all aspects of the standards outlined in the "Standard

Overhead Line Design and Construction Manual" a guideline set by FEA.

This work shall be carried out under direct supervision of FEA personnel, and is to be done during normal working hours only. Set up of cable drums shall be done by FEA.

This phase shall be deemed complete once the cable has been tested healthy by FEA Technicians. In the event that the cable fails to pass the test, the Contractor shall be required to pay all costs associated with the location and repair of the damage/fault.

2.3 **Phase Three – Backfilling of trenches**

This phase of the contract involves the backfilling of trenches.

Various works for this phase will be:

- i) apply suitable layer of sand bedding (to be supervised by FEA).
- ii) Backfill sand on top of cable to height specified by FEA site supervisor.
- iii) Backfill remainder of trench with trench spoil.

All materials (cable and slab) are to be transported to work site by the contractor.

The contractor is responsible for ensuring that all unused excavated soil and is laid neatly on top of the trench to allow for soil subsidence. All left over materials is to be returned to the Kinoya Stores and credited accordingly.

Sand shall be supplied by FEA.

All the works of phase three must be as per the specifications, and it shall conform with all aspects of the standards outlined in the "Standard Overhead Line Design and Construction Manual", guideline set up by FEA.

C : CONTRACTOR REQUIREMENTS FOR **STAGE 1, 2 & 3**

1. **Tender Bid** – Contractor shall submit a firm lump sum bid.
2. **Site Visit** – Contractor shall participate in a site visit which is compulsory. Bids from tenderers who do not participate in the site visit shall be disqualified.
3. **Standards** – All construction work shall be in compliance with FEA Standard Overhead Line Design & Construction Manual and UG cable Design construction manual
4. **HSE Compliance** – The tender bid shall include all requirements from the FEA HSE Contractor Safety Management System. These will be evaluated by the FEA's HSE Unit. Tender bids with incomplete, unacceptable, or without the HSE requirements will not be considered for award.
5. **Safety Record** – Tender bid shall include a brief report on Safety performance over the last two years. The report shall include all incidents and accidents.
6. **Sub-contracting** – Subcontracting shall not be permitted, except where this is specifically presented in the tender bid, and only upon approval by FEA. Subcontractors shall be required to fulfil all requirements as if they were the contractor.
7. **Scope of works** - Work involved in this contract is broadly classified into three phases, and progress payments shall be processed accordingly.
 - i) Ducting, trenching
 - ii) Cable installation
 - iii) Backfilling
8. **Contact** - Contractor shall have a valid postal address, Office phone/fax/e-mail contact. The Principal shall be available by mobile phone at any time.
9. **Work Program** - Contractor shall submit a work programme before starting of project. This shall be part of the contract. Work shall commence within seven (7) days after receiving an official FEA Local Purchase Order.
10. **Training** – Contractor shall ensure his employees have attended FEA Safety Manual Training at least once in the past 6 months, and records of this shall be submitted with the tender bid. In the event that the training has not been carried out, the Contractor shall ensure these training are carried **PRIOR** to induction for new project.
11. **Ground condition** – Contractors are to note that sub-soil comprises soapstone and could contain other services like Telecom Fiji Ltd, Water & Sewerage, etc.
12. **Invoicing** – Contractor shall submit details of work completed to allow prompt approval of invoice.

13. **Safety Induction** - A Safety induction must be conducted before start of the underground cable construction work.
14. **Instruction to Commence Work** - Contractor shall NOT commence work on site unless an "Instruction to Commence Work" has been received from the Project Manager.
15. **Signboards** - One signboard (6'X 4') must be erected at the start of the works and one at the end of the works clearly stating :

<p style="text-align: center;">DANGER</p> <p>PROJECT: POWERLINE CONSTRUCTION – [Description of project]</p> <p>CONTRACTOR:</p> <p>POWER CABLE CONSTRUCTION WORK.</p> <p>Driver please reduces speed. Pedestrians please use other footpath/side of road</p> <p>THANKS</p>
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16. **Accident Reporting** – All accidents and incidents shall be reported immediately to FEA using approved forms available in the FEA Safety Plan Template, or equivalent.
17. **Project Updates** - Contractor shall meet with FEA Project Manager, Project Engineer and Project Supervisor on a weekly basis to discuss project progress and bottlenecks. These meetings shall be minuted for records, and circulated to the appropriate stakeholders.
18. **Tidiness** – The Contractor shall maintain the worksite in a neat and tidy condition.
19. **Transportation of material** – The Contractor shall transport all materials from Kinoya Stores to work site, EXCEPT concrete poles, which may be picked up from Humes Depot.
20. **Security** - Contractor shall be responsible for the safekeeping of all materials at work site, and will be required to pay for damage and/or loss.
21. **Damage to property** – The Contractor shall ensure that there is no damage to roadways, footpaths, drains, water-courses, properties and other services. The Contractor shall make good to the satisfaction to the owner any damage caused by the contractor.
22. **Portable signboards** - Portable signboards must be placed at 50m intervals.
23. **Traffic and Pedestrian Control** – The Contractor shall ensure that there is minimum disruption to the flow of traffic and pedestrian. FEA procedures on Traffic Control and Pedestrian Control shall be diligently exercised.

24. **Worksite protection** - Bollards/cone must be placed at 10m intervals.
25. **Barricades** - Open trench/pole-hole is to be baricaded on a full time basis by the Contractor.
26. **Jobsite Safety Assessment** - Contractor to carry out Jobsite Safety Assessment daily, and as and when required, and submit these to FEA on a weekly basis.
27. **Credit of surplus material** – The contractor shall transport and credit all unused materials to Kinoya Stores.
28. **Defects Rectification** – The contractor shall rectify all defects within seven (7) days as per contract.
29. **Project completion** – The contractor shall complete work on time as per contract.
30. **Project progress** – If the Contractor fails to proceed with the works with reasonable diligence or suspends the works or refuses to comply with the reasonable direction from FEA by reason pf which the works are materially affected and any such default continues for a period of seven (7) days after the issue of written notice, FEA may itself call any other person to complete the works at te Contractor's risk and expense.
31. **Safe Work Procedure Training** - Contractor must have completed Distribution Safe Work Procedure training.

D : FEA REQUIREMENT

- FEA Project Supervisor shall obtain Road/footpath opening permits.
- FEA Project Engineer shall obtain clearance from Municipal Council, Telecom Fiji Ltd, Water Supply Department, and Sewerage Department.
- FEA's HSE Unit shall vet Safety Plan submitted by Contractor and approve after queries clarified by Contractor.
- FEA Project Engineer shall ensure that any FEA underground mains on the jobsite is clearly located, marked and identified to the Contractor.
- FEA Project Engineer shall submit to the Project Manager all necessary approval documentation from Municipal Council, Telecom Fiji Ltd, Water Supply Department and Sewerage Department. Upon receipt of these approvals, and the approved Safety Plan, the Project Manager shall issue an "Instruction to Commence Work" to the Contractor.
- FEA Project Supervisor and Project Engineer shall carry out regular site inspections to ensure compliance with HSE requirements, and submit Safety Visit Reports of the visit.
- FEA Project Supervisor and Project Engineer shall issue Non-Conformance Report if required, and follow up for verification of implementation of Action Items arising out of the Non-Conformance Report.

E : PAYMENT SCHEDULE

Payment shall be made as per payment schedule :

Phase	Description	Percentage payment
1	Ducting and Trenching	30%
2	Installation of cable	30% upon positive cable test results
3	Backfill	30%
4	Retention	10% to be released after 6 months pending zero defects.

F. Standard HV Cable Trench

