



KENYA EDUCATION NETWORK

(KENET)

University of Nairobi,

Jomo Kenyatta Memorial Library,

P.O Box 30244 – 00100, Nairobi

Request for Proposal

for

**INSTALLATION AND SUPPORT OF OVERHEAD FIBER SPURS AT
SELECTED KENET MEMBER INSTITUTIONS**

1. Background

The Kenya Education Network Trust (KENET) (<http://www.kenet.or.ke>) is a not-for-profit membership organization that is licensed by the Communications Commission of Kenya as an Alternative Network Facility Provider. KENET is the National Research and Education Network (NREN) of Kenya and provides broadband Internet services to the higher education and research community in partnership with other licensed telecommunications operators. It also conducts ICT in education research and pilots innovative learning technologies in collaboration with faculty and students in member institutions.

KENET intends to select an overhead fiber development contractor to install overhead fiber spurs to selected hostels in University of Nairobi Main campus, Kenyatta University and JKUAT. The selected contractor will provide support for the installed over head fiber for a period of 12 months on a renewable contract. KENET invites the prospective bidders to submit bids for the following LOTS:

- i. LOT 1: Overhead Fiber Installation for University of Nairobi Main Campus Hostels
- ii. LOT 2: Overhead Fiber Installation for Kenyatta University Hostels And JKUAT Sumitomo Hostel

KENET shall enter into a contract with the successful bidders for the implementation of the project. The award shall be on per LOT basis.

NB: Quote shall be in Kenya Shillings

2. Schedule of Events

The following is a tentative schedule that applies to this RFP. Changes will be communicated by e-mail to all invited bidders.

- Issuance of RFP March 6th, 2020
- Pre-bid meeting for UoN March 10th, 2020 -09.00 a.m local time
- Pre-bid meeting for KU and JKUAT March 12th, 2020 -09.00 a.m local time
- Mandatory Site Visit for UoN: **1st Visit** March 10th, 2020 10:00 a.m -16:00 p.m
2nd Visit March 11th, 2020 10:00 a.m -16:00 p.m local time
- Mandatory Site Visit for KU and JKUAT: **1st Visit** March 12th, 2020 10:00 a.m -16:00 p.m
2nd Visit March 13th, 2020 10:00 a.m -16:00 p.m local time
- Deadline for Technical Questions/Inquiries Due March 18th, 2020 17:00 p.m local time
- Response to Questions March 20th, 2020 17:00 p.m local time
- Proposal Submission Deadline March 27th, 2020 11:00 a.m local time
- Evaluation Completion April 9th, 2020
- Estimated Award Notification April 15th, 2020

3. Communication

Verbal communication shall not be effective unless formally confirmed in writing by a specified procurement official in charge of managing this RFP process. In no case shall verbal communication govern over written communication.

Inquiries, questions, and requests for clarification related to this RFP are to be directed in writing to:

The Procurement

E-mail: procurement@kenet.or.ke

4. Technical Requirements

4.1. Solution Requirement

KENET is requesting for the following:

Supply and installation of overhead fiber spurs to various University of Nairobi Main Campus Hostels, Kenyatta University and JKUAT to selected aggregation points within the specific Campuses. The Bidder will be required to supply the overhead fiber cable and related accessories.

LOT 1: OVERHEAD FIBER INSTALLATION FOR UNIVERSITY OF NAIROBI MAIN CAMPUS HOSTELS

4.2. Detailed Scope of Works

1. The Scope of Works is to provide and install 24 pair single mode fiber optic overhead cables to University of Nairobi Main campus hostels from aggregation points. The bidders shall supply all the required accessories for installing the overhead fiber optic cable and shall terminate all 24 pairs into patch panels, test and certify the fiber. See *Table 1* for the list of the fiber spurs and

2. *Appendix 5* for detailed description of work for University of Nairobi, and *Appendix 6* for proposed fiber drawings for University of Nairobi. All bids must comply with all sections of this RFP and the products and services to be considered.
3. Supply and installation of poles to be used later for installation of WiFi Access points. See *Appendix 6* for proposed fiber drawings for UoN that also includes location of poles for Access Points installation.

Table 1: Fiber spurs for University of Nairobi

Point A	Point B	Cable Type	Estimated Distance (M)
CCU	Hall 2	ADSS Fiber Cable	150
Hall 2	Hall 1	ADSS Fiber Cable	100
Hall 1	Kitchen 1	Cat 6 Outdoor UTP	100
CCU	SMU and Hall 15	ADSS Fiber Cable	150
SWA HQ	Hall 4	ADSS Fiber Cable	150
SWA HQ	Students Center	ADSS Fiber Cable	150
SWA HQ	Mamlaka B	ADSS Fiber Cable	450
Mamlaka B	Mamlaka A	ADSS Fiber Cable	150
Mamlaka B	Mamlaka A, Mamlaka B Mess	ADSS Fiber Cable	150
Mamlaka B	Houses	ADSS Fiber Cable	400
Students Center	Hall 9	ADSS Fiber Cable	150
Hall 4	Hall 5	ADSS Fiber Cable	150
Hall 4	Hall 6	ADSS Fiber Cable	150
Hall 6	Hall 7	Cat 6 Outdoor UTP	100
Hall 7	Hall 8	Cat 6 Outdoor UTP	100
Hall 3 (CMO)	Hall 11	ADSS Fiber Cable	120
Hall 3 (CMO)	Hall 10	ADSS Fiber Cable	120
ADD	Hall 12	ADSS Fiber Cable	150
ADD	Hall 13	ADSS Fiber Cable	200
Hall 12	Hall 20 (BOX)	ADSS Fiber Cable	200
Hall 12	Stella Awinja	ADSS Fiber Cable	400

LOT 2: OVERHEAD FIBER INSTALLATION FOR KENYATTA UNIVERSITY HOSTELS AND JKUAT SUMITOMO HOSTEL

4.3. Detailed Scope of Works

1. The Scope of Works is to provide and install 24 pair single mode fiber optic overhead cables to Kenyatta University hostels in Menengai, Aberdares, Mfumbiro, Usambara, Lukenya, Ruwenzori and Ngong and to KU students' points of convergence such as The Bishop Square, Science Complex, Fine Art and Graduation Square to existing fiber termination points closest to the halls of residences and students points of convergence. The bidder shall also provide fiber installation to Sumitomo hostel in JKUAT. The bidders shall supply all the required accessories for installing the overhead fiber optic cable and shall terminate all 24 pair into patch panels, test and certify the fiber. See *Table 2* for the list of the fiber spurs for KU and *Appendix 9* for proposed fiber drawings for Kenyatta University. All bids must comply with all sections of this RFP and the products and services to be considered
2. Supply and installation of poles to be used later for installation of WiFi Access points. See *Appendix 9* for proposed fiber drawings for KU that also includes location of poles for Access Points installation.
3. The Scope of Works is to provide and install 24 pair single mode fiber optic overhead cables to Sumitomo hostel in JKUAT. The bidders shall supply all the required accessories for installing the overhead fiber optic cable and shall terminate all 24 pair into patch panels, test and certify the fiber. See *Table 3* for the list of the fiber spurs for JKUAT and *Appendix 10* for proposed fiber drawings for JKUAT. All bids must comply with all sections of this RFP and the products and services to be considered
4. Supply and installation of poles to be used later for installation of WiFi Access points. See *Appendix 10* for proposed fiber drawing for JKUAT that also includes location of poles for Access Points installation.

Table 2: Fiber spurs for Kenyatta University

Point A	Point B	Cable Type	Estimated Distance (M)
New Menengai	Administration	ADSS Fiber Cable	140
Old Menengai 5	Old Aberdares	ADSS Fiber Cable	160
Old Menengai 3	Old Aberdares	ADSS Fiber Cable	90
Old Menengai 1& 2	Old Aberdares	ADSS Fiber Cable	50
Mfumbiro Hostels 1,2,3	Old Menengai 2b	ADSS Fiber Cable	170
Nyandarua Hostels 1,2,3,4	Old Aberdares	ADSS Fiber Cable	200

Bishop	Administration	ADSS Fiber Cable	80
Aberdares Hostels 1-4	Old Aberdares	ADSS Fiber Cable	115
Usambara	Business Center	ADSS Fiber Cable	326
Longonot 3,4	Business Center	ADSS Fiber Cable	87
Longonot 2b	Longonot 3,4	ADSS Fiber Cable	35
Longonot 1,2	CASB Workshop	ADSS Fiber Cable	95
Longonot 1b	Central Food Store	ADSS Fiber Cable	20
Lukenya 1,2	Central Food Store	ADSS Fiber Cable	80
Lukenya 2b	Central Food Store	ADSS Fiber Cable	80
Lukenya 3,4	Central Food Store	ADSS Fiber Cable	100
Ruwenzori 1-5	Central Food Store	ADSS Fiber Cable	255
Ngong and Old Ruwenzori	Ruwenzori 1-5	ADSS Fiber Cable	70
Ngong Hills Hostel	Ruwenzori 1-5	ADSS Fiber Cable	150
Kilimambogo	Lukenya3,4	ADSS Fiber Cable	70

Table 3: Fiber Spur at JKUAT

Point A	Point B	Cable Type	Estimated Distance (M)
JKUAT Sumitomo	Hall 4	ADSS Fiber Cable	300

5. Institutional Contacts

Table 4 below provides the contacts for the purposes of site survey.

Table 4: Contacts for Site Survey

	Institution	Name of contact	Telephone
1	University of Nairobi	Lazarus Masila	+254 721277999
2	Kenyatta University	Henry Kamau	+254721785706
3	JKUAT	Arthur Kinyanjui	+254720756079
4	KENET	Jeremiah Kioko	+254725554477
5	KENET	Judah Opuck	+254704569074
6	KENET	Cornelius Achiki	+254738289200

4.1. Technical Requirements of the Fiber and related items

The minimum technical specifications for the fiber network and related items shall be as shown in the *Table 5* below.

Table 5: Technical specifications for the fiber network and related items

Item no.	Description	Specification	Specification level
1	Optical Fiber cable	Mode	Single mode all-dielectric self-supporting cable (ADSS).
		Number of Cores	24-core, colour coded in accordance with EIA/TIA 598 or IEC 60304 or Bellcore GR-20 colour-coding scheme
		Cable span/length	Optimal to minimize splices between institutions
		Average outer diameter	Less than 10mm
		Splice loss per joint	Less than 0.05dB
2	24 port Optical Distribution Frame (ODF)	Optical fiber winding radius	≥40mm
		Fiber length left in tray	≥1.6m
		Working temperature	-40 ° C~+80°C
3		Termination	SC

Other Technical Requirements include

- i. **Overhead Fiber Poles type:** Preferred type is reinforced plastic poles. **Wooden option can be offered.**
- ii. **Overhead Fiber Poles height:** Minimum height of 8.5 M
- iii. **Overhead Fiber Poles burying depth:** The minimum depth of the hole for installing the overhead poles should be 1.2 M.
- iv. **Maximum Span length:**60M
- v. **Maximum Span lag:** The sag shall be monitored and kept at a maximum of 1% of the span length
- vi. **Entry of the Optical Fiber into the building:** A conduit pipe should be laid for leading-in the optical fiber cable inside the building.
- vii. **Splice Locations:** The splices should be kept on the pole with a supported reel to which cables will be winded and joint closure to be fixed properly in order to provide utmost safety.
- viii. **Optical Fiber Slack:** Provision for a minimum of 20M spare cable at least after every 150M.
- ix. **Alignment of Poles:** Maintain the alignment as straight as possible.
- x. Each pole should be checked for its strength. Provide stays if more strength is required.

Specifications for Reinforced Plastic Pole;

Stand alone Mounting Poles and Accessories	1.Fiber Glass Polymer/Reinforced Plastic Pole for ADSS Overhead fiber 2. Glass type: E-Glass 3. Resin: Epoxy 4. Pole Dimension: Nominal Height 8.5M Top Diameter:100mm Bottom Diameter:256mm 5. Cable Entry Hole: 3;at 3 M.5M and 7 M 6.Water Absorption:0.33% (Bidder to Submit SGS Test Reports) 7.Dielectric Strength: >16kV/mm (Bidder to Submit SGS Test Reports)
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5. Wayleave Approvals

The bidder will be responsible for seeking way leave approvals from the relevant Authorities (City council, KURA, etc.). KENET will provide the necessary documents required for approvals. Evaluations will be on total prices inclusive of wayleave charges.

Once the approvals have been granted, the bidder will provide the original approval document to KENET and retain the copy to be used during implementation.

6. Site Survey

Site surveys are **Mandatory** for all bidders before submission of proposals. Bidders should attach the signed survey forms to the proposals for all the fiber access spurs.

Site surveys will be carried out as per the Schedule of Events.

7. Testing and Acceptance Procedures for the Cable

- i. The supplier shall perform end to end continuity tests on link in coordination with institution contacts and the KENET Engineers.
- ii. If any of the test results do not meet the agreed upon Acceptance Standards, KENET shall request the supplier to take corrective actions and retest such portion of the fiber to meet the Acceptance Standards.

8. Service Level Agreement

The supplier will be responsible for Operation and Maintenance of the fiber cables. The supplier will enter into a Service Level Agreement with KENET upon commissioning of the link. The bidder shall bear the cost of materials and labour during the term of the SLA. Each bidder should provide a draft SLA which defines response times with maximum travel and repair time provided in *Appendix 3*.

The contractor will have full responsibility for 24 hour, 7 days per week, 365 days a year for responding to faults related to the cable upon notification of the fault occurrence by a KENET engineer. A trouble ticket will be raised by the contractor and issued to KENET for follow up.

Penalties will be applicable to extended downtimes beyond 24 hours. Extended downtime will attract penalties on monthly O&M charges that will be agreed upon between KENET and the contractor. KENET shall engage another contractor to resolve downtime on the cable for extended downtimes of over one week and the expenses shall be passed on to the contractor entering the SLA in addition to reimbursing 50% of the monthly O&M charges.

9. Implementation Schedule

Each bidder must provide a clear implementation schedule indicating the implementation period of the project.

10. Financial Proposal

Bidders should provide the financial proposals clearly breaking down the cost of implementing the overhead fiber installation as per the detailed description of work document in

Appendix 5 and *Appendix 6* and summarized as per *Table 6* below. The annual Operation & Maintenance charges over one (1) year period should be clearly indicated.

The currency of the bid will be Kenya Shillings.

Table 6: Sample table for financial proposal for each Lot

Item	Non- Recurrent Charges	Quarterly Recurrent Charges	1 Yr Recurrent Charges	Total
Materials Cost				
Installation cost				
Wayleave Charges				
Annual O&M charges (.... %)				
16% VAT				
Total				

11. Evaluation Criteria

The evaluation criteria shall be as follows:

- i. Preliminary evaluation based on the mandatory requirements as shown in *Appendix 1*
- ii. Technical evaluation as stipulated in the technical requirements in *Table 5*
- iii. Financial capacity and strength as shall be established from the audited copies of financial statements

Note that once you fail at one stage you will not proceed to the next stage. The flow of evaluation will be as enumerated above. Award shall be to the most responsive bidder and not necessarily the lowest bidder.

11.1. Preliminary Evaluation

All bidders shall comply with the preliminary requirements. Any bidder who will not comply at this stage will not proceed to the technical evaluation. The requirements are as attached in *Appendix 1*

11.2. Technical Evaluation

Bidders will be evaluated on technical performance based on the criteria defined in *Appendix 2*. Only bidders with a score of 80% and above at the technical evaluation stage will qualify for financial evaluation.

11.3. Financial Evaluation

The weight of financial evaluation will be based on pricing.

12. Payment Terms

Payment for non-recurrent charges shall be 30% upon supply and delivery of fiber and related accessories, 60% upon successful installation and commissioning and 10% three months after commissioning. The recurrent charges shall be paid on quarterly basis after successful delivery of support and any preventive maintenance due within the quarter. Payment will be supported by a maintenance report within each quarter.

13. Submission date

The final date of submission of the Proposals shall be ***Friday 27th March 2020 at 11.00 a.m local time*** at KENET offices at Jomo Kenyatta Memorial Library, University of Nairobi-Main Campus. Bidders shall submit two hard copies and a soft copy on CD. The proposals shall be opened on ***Friday 27th March 2020 at 11.30 a.m.*** Bidders are encouraged to send a representative during the proposal opening.

Appendices

Appendix 1: Preliminary Requirements

No	Required Item	Comply/ Not Comply	Comments
1	Certificate of Incorporation		
2	VAT certificate		
3	PIN certificate		
4	TAX compliance certificate		
5	Operating license from CA		
6	Bidders shall be required to submit latest audited accounts. The accounts shall not be older than two financial years from the current calendar year. The letter of comfort from the bank will be acceptable to support the audited accounts in evaluating the financial strength of the bidder		
7	Financial strength of the bidder- i. Turnover for the financial year shall be ≥ 3 times the bid price ii. Working capital for the latest financial year should be positive		
8	References of companies where similar projects have been implemented		
9	Signed Site survey form		
10	Completeness of the proposal (all access spurs included)		
11	Provided two hard copies, one original and a copy and a soft copy on CD		
12	Performance bond: 10% valid for 120 days		

Note: The bidder shall have an Installation “ALL RISK”, Third-Party Liability and Professional Indemnity Insurance to cover any damage that may occur during the installations

Appendix 2: Technical Score

	Technical Parameter	Maximum score (%)	Comment
1	Technical quality of the solution offered. All items meet the technical requirements and specifications	20	
2	Technical capacity of the project implementation and support teams and training	20	
3	Firms experience in at least three projects of similar nature in the last three years	20	
4	Detailed Implementation schedule and period (implementation period should be less than 2 months)	20	
5	Proposed Service Level Agreement (minimum response time is defined in the table in <i>Appendix 3</i>)	20	
Total		100	

Note: Only bidders with a score of 80% and above at the technical evaluation stage will qualify for financial evaluation.

Appendix 3: SLA Requirements

SECTION	Max Time to reach the site	Max Repair Time
Overhead Fiber spurs in UoN Main Campus	3 Hours	2 Hours
Overhead Fiber Spurs in Kenyatta University	3 Hours	2 Hours
Overhead Fiber Spurs in Jomo Kenyatta University of Agriculture and Technology	3 Hours	2 Hours

Appendix 4: Bidders site survey form (fill in duplicate)

Tender Name:

KENET Site Name:

Date of Survey

Name of Firm.....

Names of Bidders survey officers;

1. Name Tel no

Email Signature

2. Name Tel no

Email Signature

3. Name Tel no

Email Signature

In the presence of;

Name of KENET /Institution Contact

Tel no

Email Signature

Date:

Appendix 5: Detailed work description and price schedule for University of Nairobi

Segment	Item	Description	Quantity	Unit	Unit Price	Total Price(KES)
CCU<>Hall	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms, Guy grips, eye nuts, suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters			
				Sub Total		
Hall 2<>Hall 1	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms, Guy grips, eye nuts, suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		

	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Hall 1<>Kitchen 1	UTP Cable	CAT 6 UTP cable Outdoor		Meters		
	Outdoor trunking and accessories	Outdoor trunking and accessories		Meters		
	Indoor Trunking	Indoor Trunking and accessories at K1		Meters		
	Installation			Pieces		
				Sub Total		
CCU<>SMU Office<>Hall 15	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
Trunking	Trunking at SMU office		Meters			
				Sub Total		
SWA HQ<>Hall 4	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		

	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
SWA HQ<>Students Center	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtailes		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters			
				Sub Total		
SWA HQ<>Mamlaka B	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtailes		Pieces		
	Pole Installation	Pole Mounting		Lot		

	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Mamlaka B<>Mamlaka A	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Mamlaka B<>Mamlaka A,B Mess	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		

	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Mamlaka B<>Houses	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters			
				Sub Total		
Students Center<>Hall 9	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		

	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
	Trunking	Trunking at Students center		Meters		
				Sub Total		
Hall 4<>Hall 5	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Hall 4<>Hall 6	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		

	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Hall 6<>Hall 7	UTP Cable	CAT 6 UTP cable Outdoor		Meters		
	Outdoor trunking and accessories	Outdoor trunking and accessories		Meters		
	Installation			Pieces		
				Sub Total		
Hall 7<>Hall 8	UTP Cable	CAT 6 UTP cable Outdoor		Meters		
	Outdoor trunking and accessories	Outdoor trunking and accessories		Meters		
	Installation			Pieces		
				Sub Total		
Hall 3 (CMO) <>Hall 11	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		

Hall 3 (CMO) <>Hall 10	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters			
				Sub Total		
ADD<>Hall 12	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters			
				Sub Total		
ADD<>Hall 13	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		

	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Hall 12<>Hall 20 BOX	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters			
				Sub Total		
Hall 12<>Stella Awinja	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		

	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
				TOTAL		

Appendix 6: Detailed work description and price schedule for Kenyatta University

Segment	Item	Description	Quantity	Unit	Unit Price	Total Price(KES)
New Menengai<>Administration	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms, Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Old Menengai 5<> Old Aberdares	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		

	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Old Menengai 3<> Old Aberdares	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Old Menengai 1 & 2<> Old Aberdares	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		

Mfumbiro Hostels 1,2 3<>Old Menengai 2b	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters			
				Sub Total		
Nyandarua Hostels 1,2,3,4 <>Old Aberdares	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters			
				Sub Total		
Bishop <>Administration	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		

	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Aberdares 1-4<> Old Aberdares	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters			
				Sub Total		
Usambara<>Business Center	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		

	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Longonot 3,4<> Business Center	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Longonot 2b<>Longonot 3,4	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		

	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Longonot 1,2<>CASB Workshop	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Longonot 1b<> Central Food Store	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		

	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Longonot 1, 2<> Central Food Store	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters			
				Sub Total		
Longonot 2b<> Central Food Store	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters			
				Sub Total		

Lukenya 1,2<> Central Food Store	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Lukenya 2b<> Central Food Store	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Lukenya 3,4<> Central Food Store	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		

	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Ruwenzori 1-5<> Central Food Store	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters			
				Sub Total		
Ngong and Old Ruwenzori<> Ruwenzori 1-5	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		

	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Ngong Hills Hostels <>Ruwenzori 1-5	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters			
				Sub Total		
Ngong and Old Ruwenzori<> Ruwenzori 1-5	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		

	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
Kilimambogo<> Lukenya 3,4	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
				Sub Total		
TOTAL						

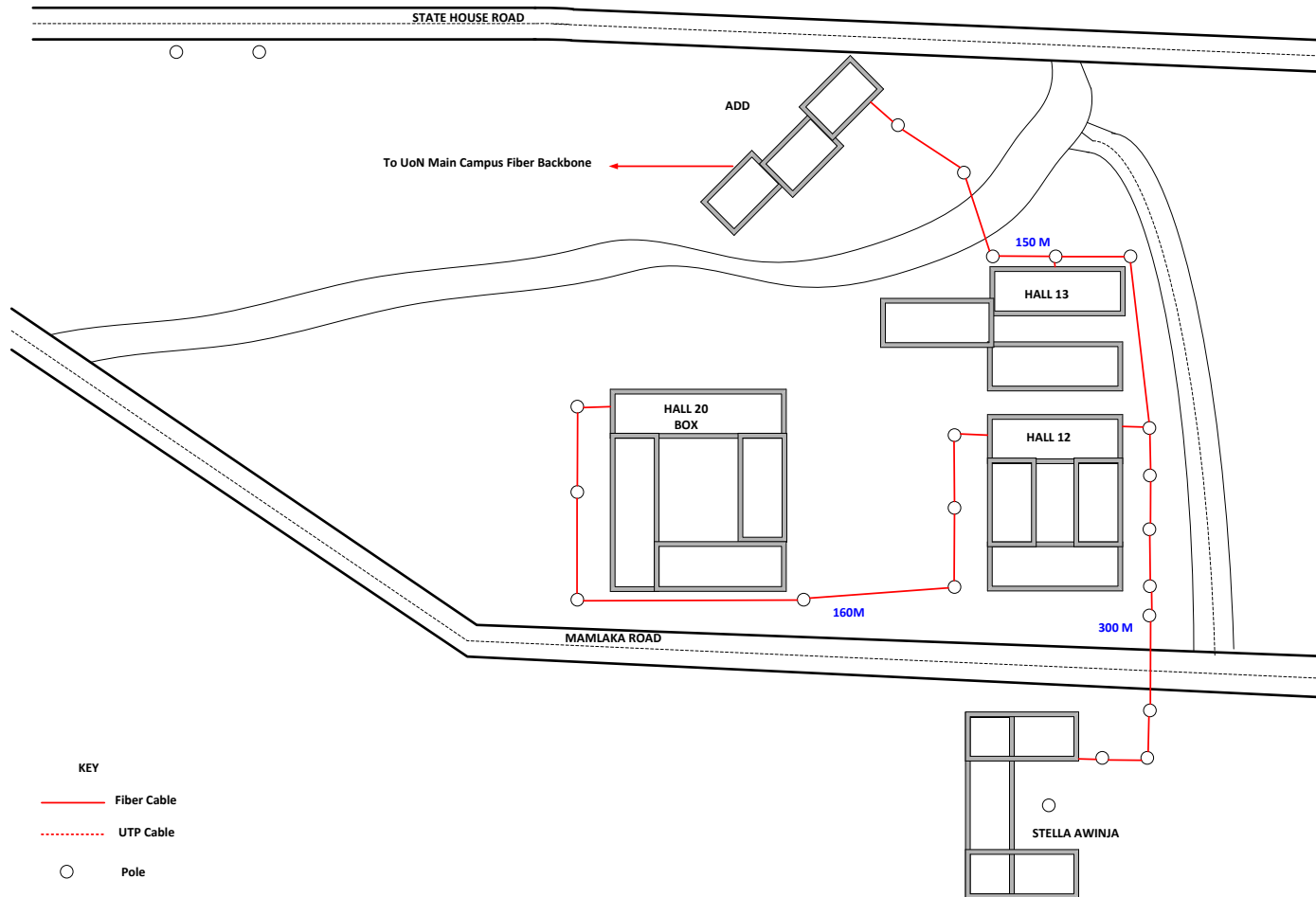
Appendix 7: Fiber Spur to Sumitomo Hostels

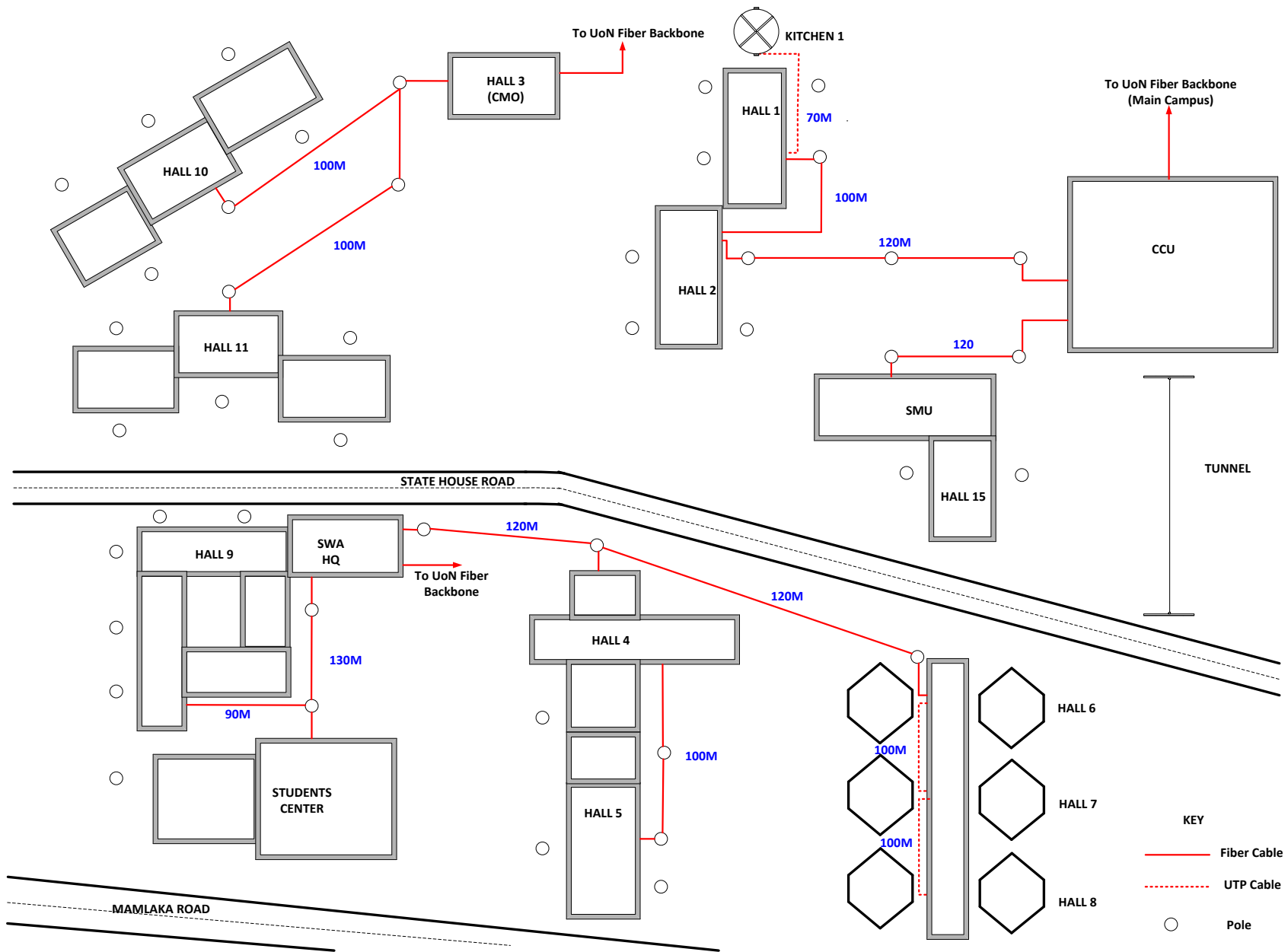
Segment	Item	Description	Quantity	Unit	Unit Price	Total Price(KES)
Hall 4<> Sumitomo Hostel	Fiber Optic Cable	Single mode 24-core armoured ADSS fiber optic cable		Meters		
	Poles	10M Pole		Pieces		
	ADSS Accessories	Extension arms,Guy grips,eye nuts,suspension clumps		Pieces		
	Optical Distribution Frame	ODF and Pigtails		Pieces		
	Pole Installation	Pole Mounting		Lot		
	Fiber installation	Fiber installation		Lot		
	Cable Pulling	ADSS Cable Pulling		Meters		
	Cable termination	24 core cable termination		Unit		
	Cable testing and Acceptance	24 core cable testing and acceptance		Unit		
	Building Entry	Building entry		Pieces		
	Civil works and Reinstatement	Removing and reinstatement of concrete and concrete slabs		Meters		
Total						

13.2. Overhead Fiber Spur Routes

The diagrams below show the maps indicating desired fiber routes and pole location for Overhead fiber and mounting of Access Points. All bidders shall submit the route maps for each segment of the access fiber spur indicating distances and splice positions.

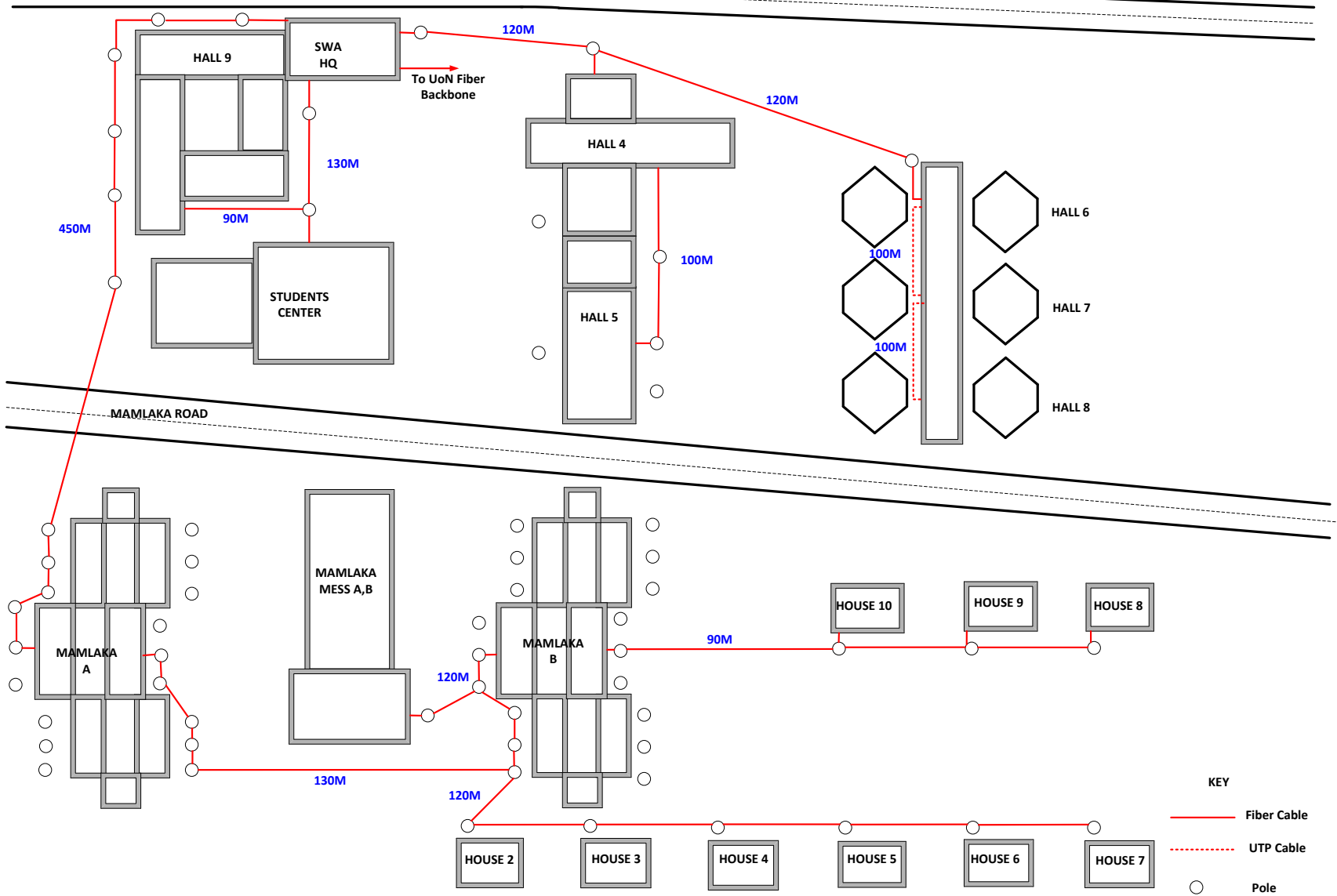
Appendix 8: Fiber spur drawings for University of Nairobi





MAMLAKA HOSTELS CONNECTION

STATE HOUSE ROAD



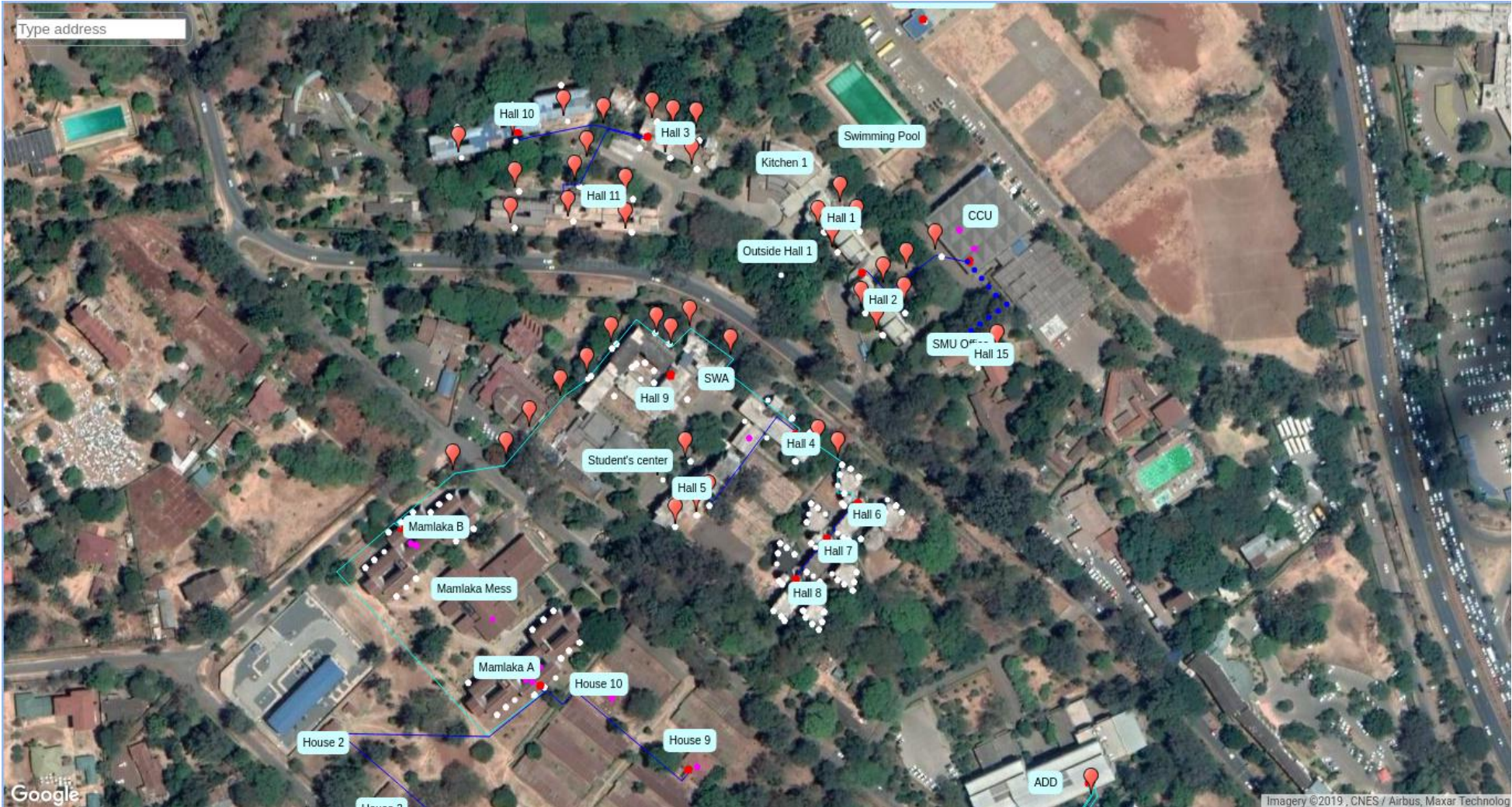
Women Hostels Overview



Mamlaka Overview



Lower and Upper State House Overview.



Upper Statehouse



Hall 12 and Box



ADD to Hall 13 and Hall 12



Hall 12 and Hall 13 Overview



Lower State House- 1



Lower State House- 2



Hall 13

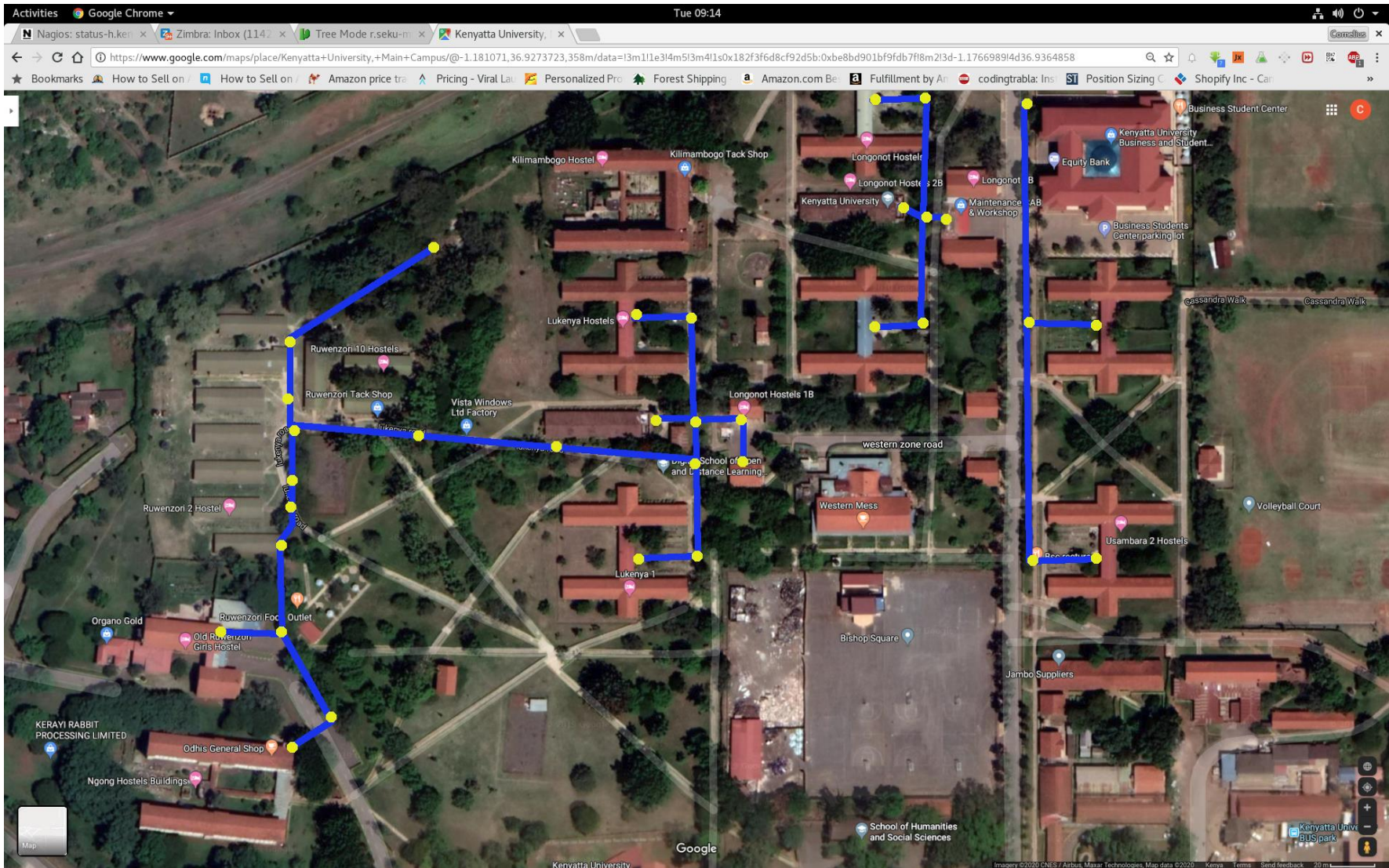


Stella Awinja



Appendix 9: Fiber spur drawings for Kenyatta University





Appendix 10: Fiber spur drawings for Jomo Kenyatta University of Agriculture and Technology

