

BOQ_ FOR RENOVATION OF FENCES AT 5# SCHOOLS IN DADAAB REFUGEE COMPLEX - (UNDUGU, UPENDO , HORNIMO , ILLEYS AND MIDNIMO)

Item	Description	Unit	Qty	Rate	Amount (Kshs)
	<p>The project involves renovating 50-meter sections of fencing at each of the five schools. The new fence design will feature a robust gauge 12 chain-link, standing at a uniform height of 2.3 meters above ground level, with an additional 300 mm buried and securely anchored below ground for added stability. The chain-link will be supported by angle-line posts spaced 2.7 meters apart.</p> <p>The fence will also include three levels of gauge 16 high-tensile straining wire for reinforcement, complemented by three runs of gauge 16 barbed wire at the cranked crest to enhance security.</p> <p>The rates provided should encompass all labor and materials required to deliver high-quality workmanship that ensures functionality, durability, and aesthetic appeal. Detailed quantities for the materials and work required are itemized in the accompanying Bill of Quantities (BOQ), covering all five schools included in the project.</p>				
BILL A - SPACE PREPARATION, AND FOUNDATION EXCAVATION					
1	<p>In preparation for the fence repairs, thoroughly clear the designated section to ensure a clean and safe workspace. All obstructing items should be removed, except for healthy green vegetation that is somewhat thorny. This vegetation will be spared as it forms an effective part of the fencing system, complementing the chain-link and angle-line materials.</p> <p>The clearance will involve dismantling and salvaging existing chain link fabric, straining wires, fence posts, and any other fencing components. These salvaged materials will be repurposed for item #10 in this Bill of Quantities (BOQ).</p>	M	250		-
2	Excavate pits measuring 400mm x 400mm x 700mm fencing post holes for all main fence posts and supporting props at the first post and every third post thereafter .Props to be installed to the main posts in both directions.Main posts to be spacd at 2.7m center to center	CM	98.9		-
3	Excavate a trench along the section of fence being renovated to anchor the chain link fence. The trench will measure 300mm wide and 450mm deep.	CM	33.75		-
TOTAL FOR BILL A - SPACE PREPARATION, AND FOUNDATION EXCAVATIONTO SUMMARY					-

Bill B- FFENCING POSTS & PROPS					
1	Supply and install 2.3-meter high angle-line posts made from 75mm x 75mm x 5mm angle line steel each with at least three 100mm long D8 lags. Install these posts in 700mm deep concrete foundation as above, ensuring the flat faces align with the fence line for a snug chain-link fit. Drill 7mm diameter drainage holes in each post at ground level, mid-height, and at the 2m above ground level	No.	98		-
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2	Supply and install additional support from angled steel props. These props, crafted from 75mm x 75mm x 5mm angle-line steel each with at least three 100mm long D6 lags, will be secured in 700mm deep concrete foundations. As with the main posts, aligning the flat faces of the props with the fence line is crucial to ensure a snug fit for the chain link fabric. To provide the points at which straining wire will be passed, drill 7mm diameter holes at three specific locations on each prop: ground level, mid-height of the fence to match the points that the holes in the main are located. Each prop will meet its corresponding main fence post at a height of 1.8 meters above the ground. For a secure connection, the top of each prop to be bent to create a 100mm section that runs parallel to the main post for a surface that will be being welded or bolted in place.	No.	31		-
3	To each fencing post and and prop in the pre-dug pits measuring 0.4 meters by 0.4 meters by 0.7 meters, create concrete footings using a 1:2:4 mix (cement:sand:gravel). Ensure the concrete is poured carefully around the base of the post to create a secure foundation.	CM	15.56		-
TOTAL FOR BILL B- FFENCING POSTS & PROPS					-

Bill C- CHAINLINK INSTALLATION , & TENSIONING THE FENCES				
1	Once the concrete foundations for all posts have cured (at least two days), Install 3mm diameter high-tensile steel straining wire at three levels - ground level/runs, mid-height, and the "neck" of each fence post. Thread these wires through the pre-drilled holes at the corresponding levels in each post. Use a crowbar to properly tension the wires, creating the support structure for the entire fence. Before proceeding with chain link installation, obtain engineer approval for the final tensioned wire layout before you proceed to the next stages	Lm	1,800.00	-
2	Before installing the chain link fabric, ensure the fence posts are properly prepared. Begin by meticulously cleaning all surfaces with a wire brush to remove any dirt or debris. Next, apply a single coat of either grey or red oxide primer for corrosion protection. Once the primer has dried completely, obtain engineer approval to confirm the quality of the surface preparation and primer application before proceeding with the chain link installation.	SM	127.78	-
3	Install a 2.1-meter high, 12-gauge high-tensile steel chain link fence. The fence will come in 18-meter sections, overlapped by 600mm and interwoven to the engineer's approval (price includes overlap). Secure the fabric tightly to all three tension wires, especially at the connection points with the fence posts. Achieve a uniform appearance by pulling the chain link fabric taut in all directions., and finally secure it with galvanized binding wire.	Lm	292.50	-
TOTAL FOR BILL C- CHAINLINK INSTALLATION , & TENSIONING THE FENCES				-

BILL D - SECURING THE FENCE IN THE GROUND AND REPAIRING OTHER WORN SECTIONS					
1	Install a continuous 12.5mm PPR pipe along the bottom of the trench excavated in step #3. Weave the bottom edge of the chain link fence into the pipe before backfilling and thoroughly compacting the trench	Lm	225.00		-
2	Use the salvaged materials in item #1 in this BOQ to improve/ repair or correct any other section of the school perimeter fence as shall be selected in collaboration between the head teacher and the supervising engineer . This applies to all the 12 schools	Item	1.00		-
TOTAL FOR BILL D - SECURING THE FENCE IN THE GROUND AND REPAIRING OTHER WORN SECTIONS					-

BILL E - DOUBLE LEAF GATE (NEW OR REHABILITATED) AND REPAIR OF GUARD BOOTH				
<p>Gate Repair Procedure</p> <p>1. Assessment and Preparation : Conduct a thorough inspection of the gate to identify rusted areas, misaligned components, and structural weaknesses. Clean the gate using a wire brush or grinder to remove rust, old paint, and debris, creating a clean surface ready for repairs.</p> <p>2. Frame Repairs and Realignment; Evaluate the alignment of the double shutters and adjust the frame to ensure smooth and proper operation. Strengthen any weak or damaged sections of the frame by welding steel plates or bars securely in place.</p> <p>3. Hinges and Locking Mechanism; Check the hinges and bushes for wear and tear, lubricating or replacing them as needed to restore stability and movement. Repair or replace any damaged components of the locking mechanism to ensure full functionality and security.</p> <p>4. Surface Protection and Finishing; Prime all metal parts with a red oxide primer to provide a strong base and prevent rust. Apply a galvanizing coat to the cleaned and repaired surfaces for long-term protection against corrosion. Repaint the gate with two final coats of weatherproof gloss paint in the color specified by the engineer. For branding, include the LWF brand blue color where necessary. This mostly on-site process to be done to restore the gate's functionality, enhance its appearance including all logos and branding as is before the project and to engineers approval</p>				
	Item	5.00		-
TOTAL FOR BILL E - DOUBLE LEAF GATE (NEW OR REHABILITATED) AND REPAIR OF GUARD BOOTH				-

COLLECTION PAGE					
1	TOTAL FOR BILL A - SPACE PREPARATION, AND FOUNDATION EXCAVATION TO SUMMARY				-
2	TOTAL FOR BILL B- FFENCING POSTS & PROPS				-
3	TOTAL FOR BILL C- CHAINLINK INSTALLATION , & TENSIONING THE FENCES				-
4	TOTAL FOR BILL D - SECURING THE FENCE IN THE GROUND AND REPAIRING OTHER WORN SECTIONS				-
5	TOTAL FOR BILL E - DOUBLE LEAF GATE (NEW OR REHABILITATED)				-
GRAND TOTAL FOR PROJECT - CARRIED TO FORM OF TENDER - (UNDUGU, UPENDO , HORNIMO , ILLEYS AND MIDNIMO)					-