

CLCC OBSERVATIONS AND PROPOSED SOLUTIONS

FOR IMPROVING LIVNG CONDITIONS



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1. INTRODCUTION.

During our current project tenure at CLCC, we have made several observations that have drawn our attention, particularly concerning the living conditions, specifically the sleeping shelters for the children. These observations have highlighted significant negative impacts on the well-being of the children. In response, we have developed a solution to address this pressing issue, which requires the generous support and contribution of the Dr. Nicklaus Foundation.

The observed living conditions are primarily a consequence of substandard building materials, which the children themselves have used to construct their shelters due to a lack of alternative sleeping arrangements. The materials, consisting of old, rusting, and dilapidated iron sheets, are inadequate for providing adequate shelter. Consequently, the makeshift structures are vulnerable to various adverse conditions, including:

- 1.1. Rain & Water:** The poor quality of the shelters exposes the children to water leakage during rainfall, both from storm-water runoff and through holes in the sheets.
- 1.2. Cold & Heat:** The thin iron sheets conduct heat and cold, exacerbating discomfort during extreme weather conditions. In Namibia (Windhoek), temperatures can plummet to lows of **-11°C / 12.2°F**, posing significant health risks to the children. Conversely, during the scorching summer months, temperatures can soar to highs **46°C / 115°F**, rendering the shelters unbearable.
- 1.3. Wind & Dust:** The flimsy structures are susceptible to dust accumulation, particularly during windy weather conditions, further compromising living conditions.
- 1.4. Safety & Security:** The inadequate shelters pose significant safety risks to the children, leaving them vulnerable to various dangers and security threats.
- 1.5. Electrical Hazards:** In the absence of proper infrastructure, children resort to unsafe electrical installations, posing additional risks to their safety and well-being.

1. INTRODCUTION... cont (Materials used)

1.6. Pictures/visual context of aforementioned conditions (MATERIALS USED FOR SHELTER: old, rusting, and dilapidated iron sheets, and cloths)

- LESS APEALING
- SHAKY STRUCTURES
- CORROSION HOLES
- RUSTY & DUSTY



PICTURE
A



PICTURE
B

1. INTRODCUTION... cont (Safety and security)

1.7. Pictures/visual context of aforementioned conditions (SAFETY AND INSECURITY)

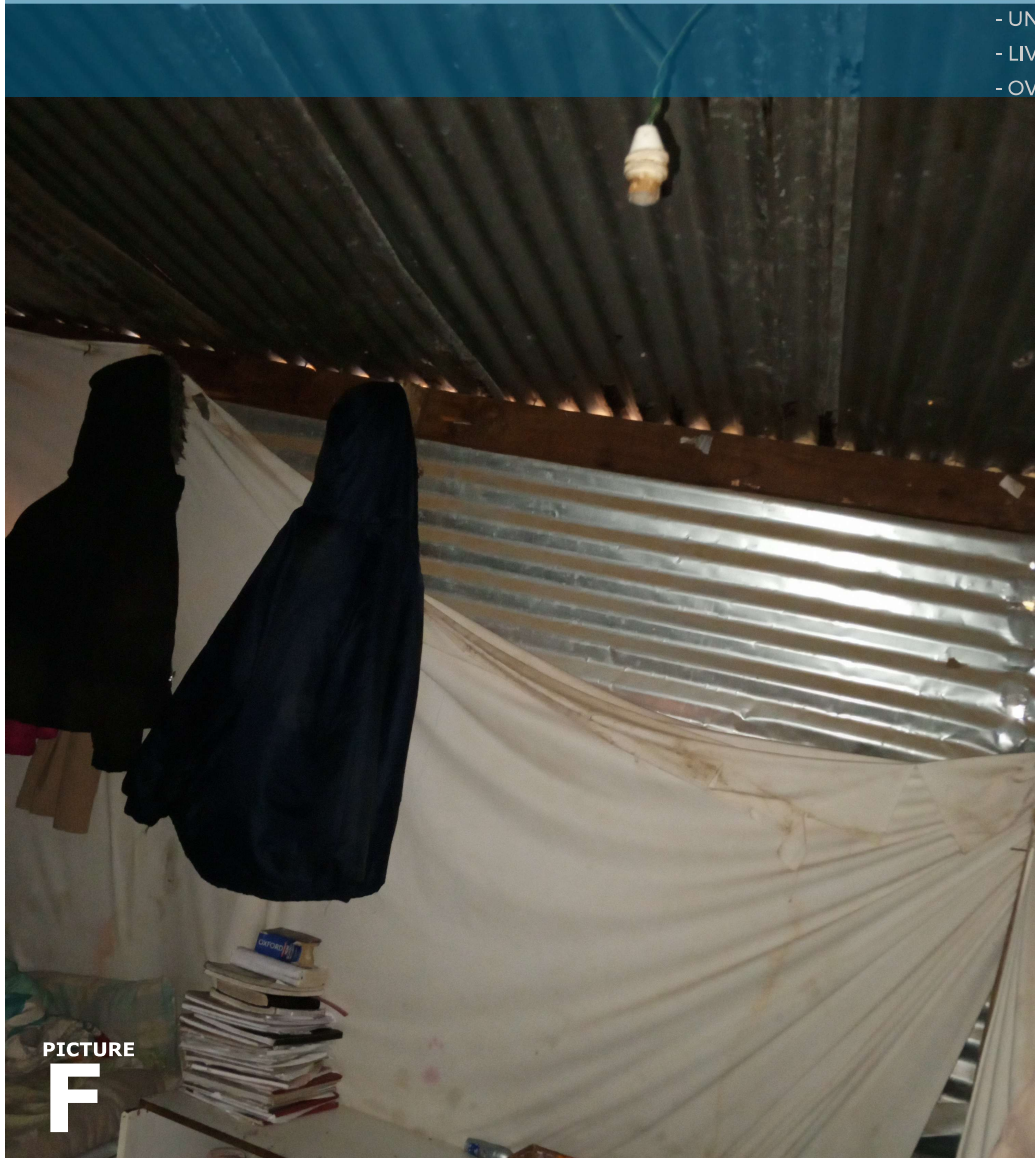
- NO SAFE LOCKING DOORS
- LITTLE EXISTING WINDOWS NOT SECURLEY INSTALED INTO THE THIN SHEETS



1. INTRODCUTION... cont (Electrical hazards)

1.8. Pictures/visual context of aforementioned conditions (UNSAFE CONNECTIONS that pose a risk of electrical hazards)

- UNSAFE CONNECTIONS
- LIVE WIRES EXPOSED
- OVERLOADING



PICTURE
F



PICTURE
G

1. INTRODCUTION... cont (More exposure)

1.9. Pictures/visual context of aforementioned conditions (HOLES THAT AID EXPOSURE)

- HOLES THAT EXPOSE INDIVIDUALS TO RAIN AND OTHER PRECIPITATIONS.



PICTURE
H

Alpha Eagles Construction



PICTURE
I

Alpha Eagles Construction



PICTURE
J

Alpha Eagles Construction

1. INTRODCUTION... cont (Sleeping conditions)

1.10. Pictures/visual context of aforementioned conditions (SLEEPING CONDITIONS)

- TIGHT SLEEPING PLACES
- DUSTY FLOORS (NO FINISH)
- SOME SLEEP ON THE FLOORS.



2. PROPOSED SOLUTION

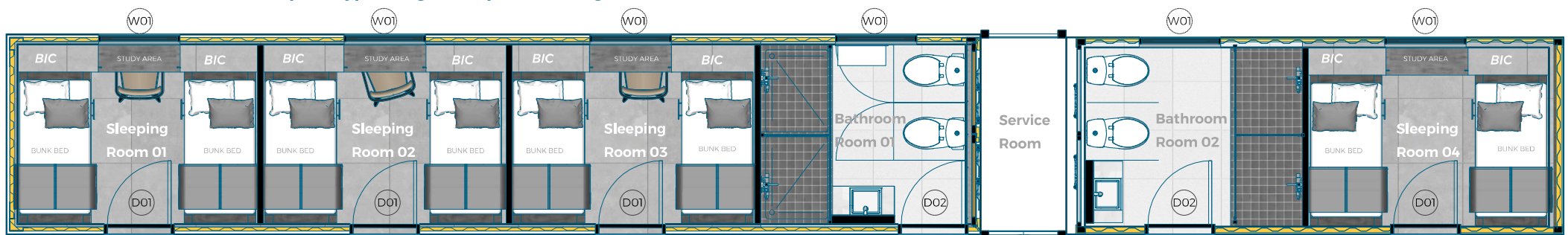
Recognizing the urgent need for improvement, our team has diligently worked to develop an affordable and sustainable solution. Despite the challenges posed by the terrain, characterized by a rocky steep slope, we have devised a cost-effective alternative over traditional brick-and-mortar structures. According to the guardian of the orphanage, the orphanage houses a total of sixty-nine (69) children (21 boys and 47 girls), our solution is designed to cater to this entire population.

Our innovative solution involves the container prototype design (insulated containers) and a top terraced frames (supported by steel columns). This approach not only addresses affordability concerns but also ensures the efficient utilization of the orphanage's land use/resources for agricultural purposes and the improvement of the living conditions/standards of those in the orphanage.

Each container prototype features: **A.** four (4) sleeping rooms, **B.** equipped with built-in cupboards, **C.** improved sanitation facilities (including toilets and showers), **D.** adequate natural ventilation, **E.** electrical fixtures, **F.** study tables, **G.** secure locking mechanisms, **H.** exterior and interior cladding for temperature regulation, **I.** tiled floors, and **J.** painted ceilings, **K.** strong steel frame-work for structure. Furthermore, each room is furnished with **L.** two (2) double bunk beds with storage, maximizing space utilization and accommodating up to four (4) children per room.

This design enables each prototype to safely accommodate a maximum of sixteen (16) individuals. Four and a half (4.5) Container prototypes are need to accommodate the entire population of the orphanage.

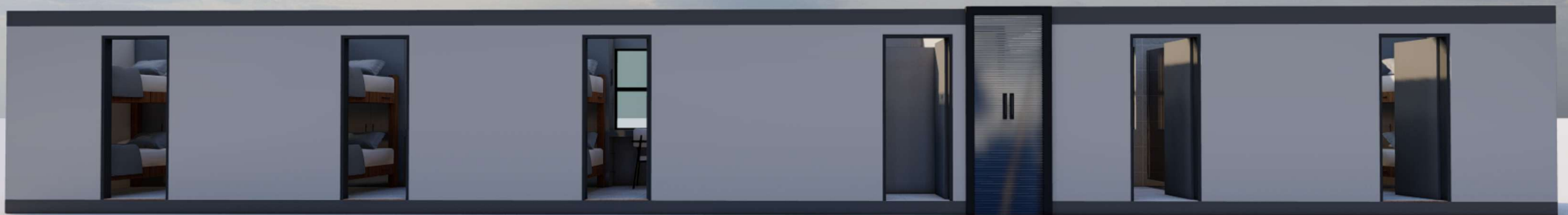
2.1 Below is 1 container prototype design floor plan drawing.



2. PROPOSED SOLUTION... cont (*Prototype design elevations*)

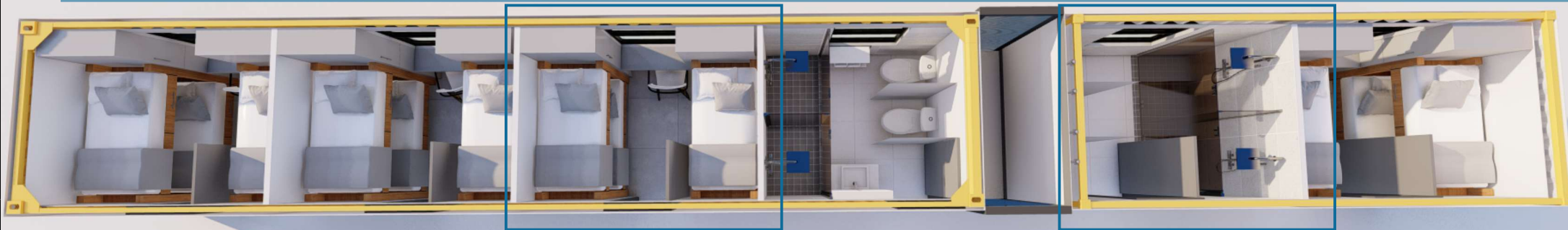


2.2 Drawings and Renders of the prototype design elevations (no roof)



2. PROPOSED SOLUTION... cont (*Prototype design interiors*)

2.3 Drawings and Renders of the prototype design **SLEEPING ROOMS AND BATHROOMS**



2. PROPOSED SOLUTION... cont

2.3 Drawings and Renders of the prototype design **SLEEPING ROOMS AND BATHROOMS**



2. PROPOSED SOLUTION... cont



2.4 Renders of the prototype design interiors : **SLEEPING ROOMS** (BUNKER BEDS WITH STORAGES)

2. PROPOSED SOLUTION... cont

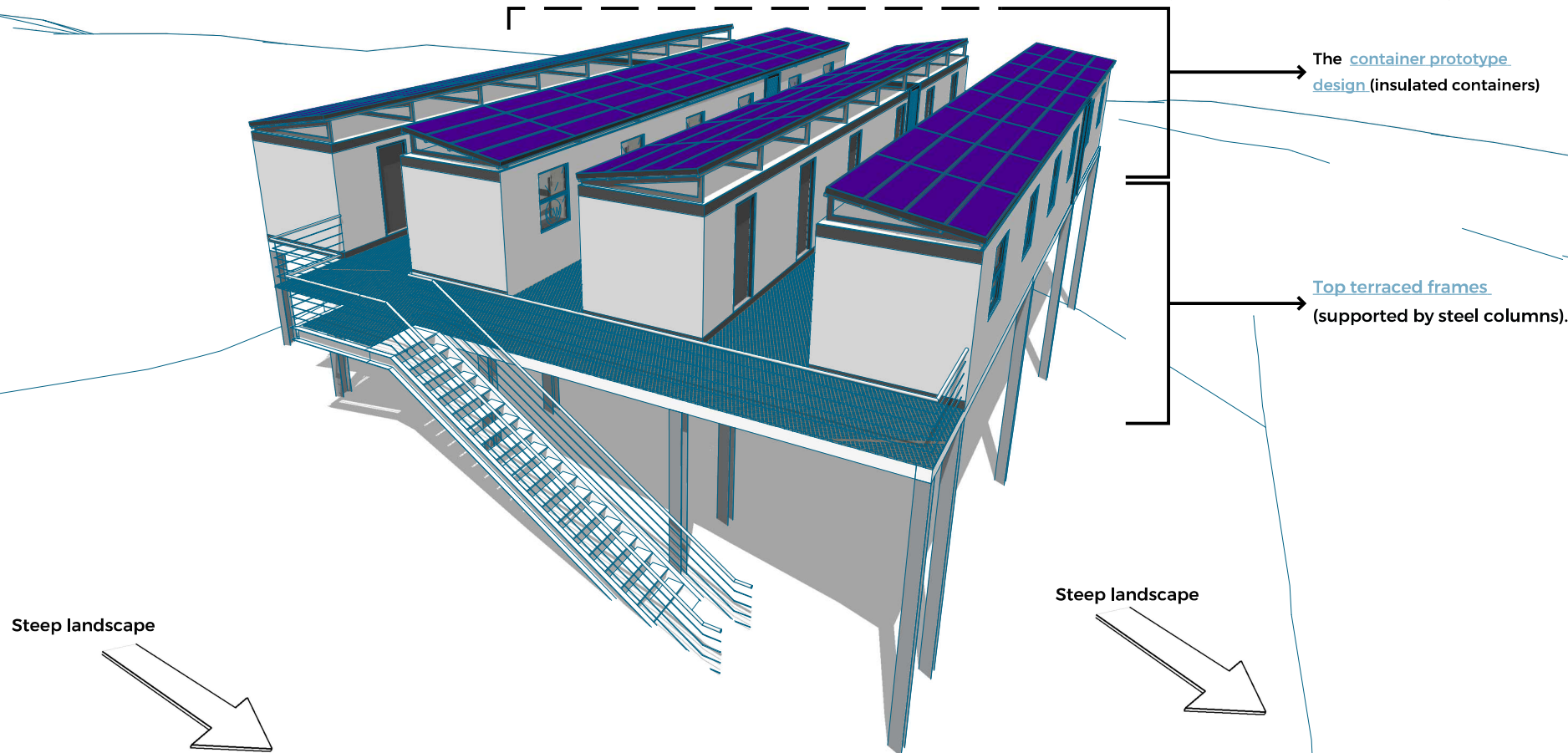
2.5 Renders of the prototype design interiors : **SLEEPING ROOMS (BUNKER BEDS WITH STORAGES)+BICs**



2. PROPOSED SOLUTION... cont (Top terrace)

Top terraced frames, supported by steel columns. Is optimal for our needs as it enables us to construct affordably on the steep, rocky landscape of the orphanage over traditional brick-and-mortar structures

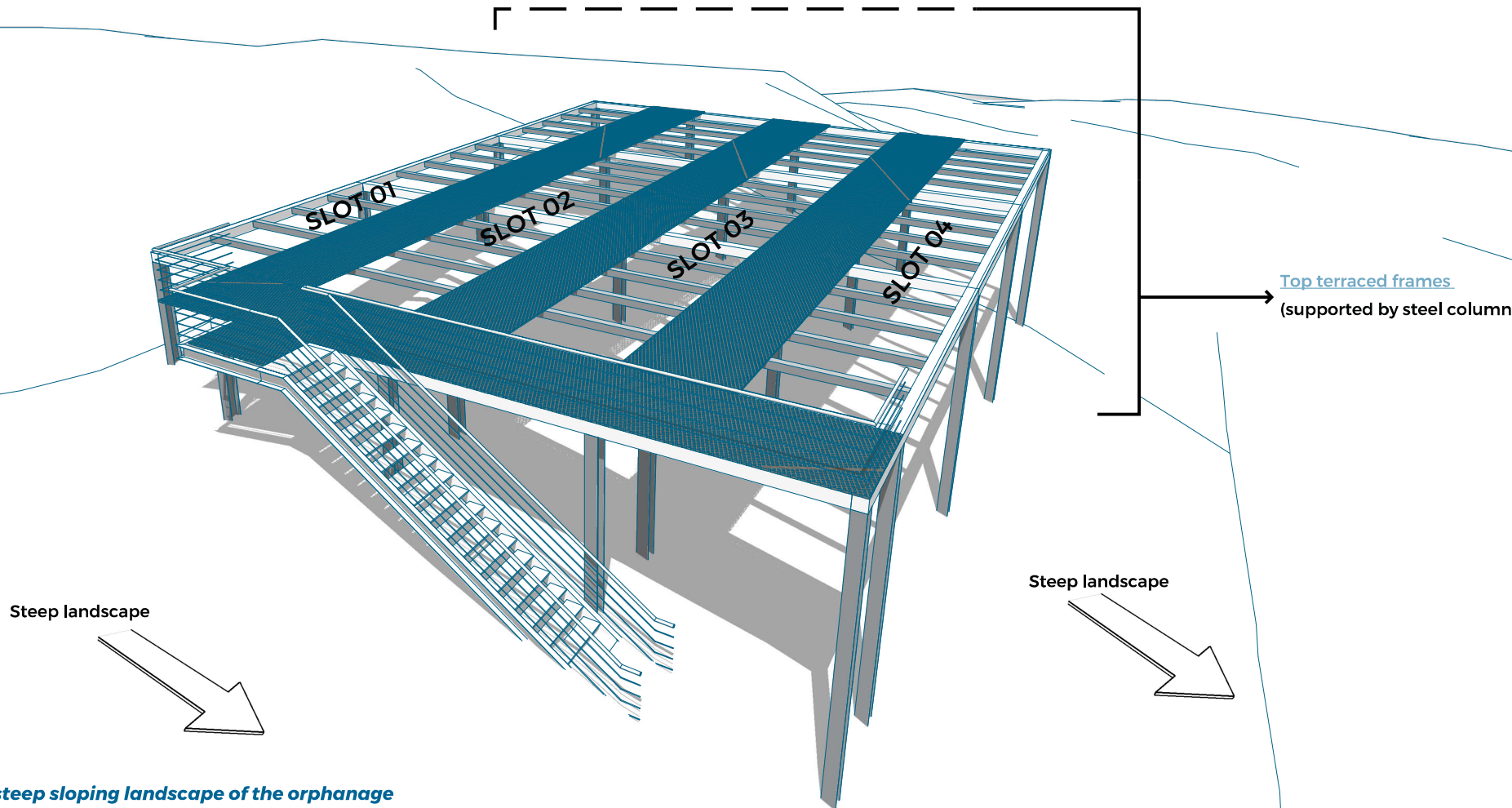
The terrace will provide usable land for agriculture, crucial for supplying food to the orphanage. Additionally, it will offer protection from the intense sunlight, creating a favorable environment for plant growth. Moreover, the leveled terrace can accommodate prototype containers effectively.



2.6 Four (4) Container prototypes on top of the terrace in the steep sloping landscape of the orphanage

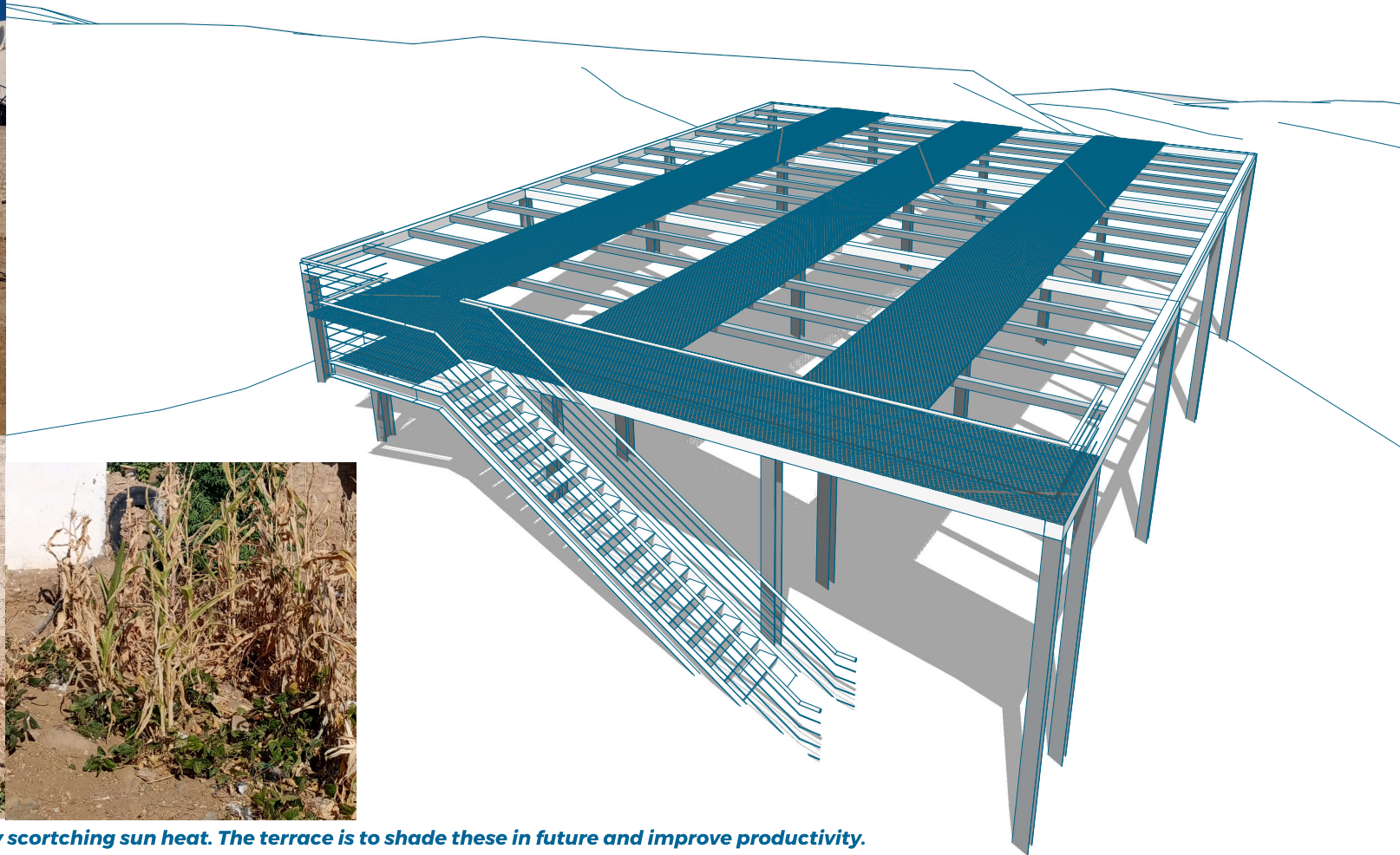
2. PROPOSED SOLUTION... cont (Top terrace)

Top terraced frames, supported by steel columns. It has steel gratings walk ways on steel rafters ensuring maximum strength and durability, it also has safety steel railings and one access way of stair case.



2.7 The terrace in the steep sloping landscape of the orphanage

2. PROPOSED SOLUTION... cont (Top terrace)



2.8 Current kid's gardens/plant affected by scorching sun heat. The terrace is to shade these in future and improve productivity.

3. ADITIONAL FEATURES (Optional)

Our solution is effective; however, with these additional features, it will provide exceptional benefits:

1. Solar powered Gysers :

This will reduce electricity costs and is preferable for its sustainability. These will keep individuals in the orphanage warm during cold weather.

2. Washing sinks (Wash-through):

Currently, there are no proper laundry areas in the orphanage, leading to water spills and inefficient water conservation. Therefore, installing washing sinks in a designated laundry area will significantly conserve water and improve hygiene.

3. SOLUTION COST

The solution started with the designing of our idea into this container prototype and terrace then, progressed to creating architectural and engineering drawings and designs, with the associated fees totaling N\$ 65,000.00, covered by A-E.

However, to fully accomplish this solution, we must address additional expenses such as material costs, labor costs, logistics, and contingencies. This is where we seek the generous financial support and contribution of the Dr. Nicklaus Foundation.

3.1 Below is a table of the sum of these costs to raise the solution fully:

SOLUTION		TOTALISED COSTS			
		HOST	QTY	UNIT PRICE	TOTAL PRICE
1.	1 Prototype Structure	16 INDIVIDUALS	5	N\$ 780,797.28	N\$ 3,903,986.40
2.	Terraced frames, supported by steel columns.	5 PROTOTYPES	1	N\$ 968,896.50	N\$ 968,896.50
TOTAL					N\$ 4,872,882.90

Nevertheless, to accommodate the needs of the 69 children, we require the construction of five (5) prototype structures. This means that the total cost of one (1) prototype structure will be multiplied by five (5), resulting in a net amount of N\$ 3,903,986.40 PLUS The terrace of N\$ 968,896.50

It's important to note that the foundation is not obligated to cover the costs of all five (5) structures. Rather, it has the flexibility to contribute to any number of structures, from one (1) to five (5), based on the resources available.

For a more detailed Bill of Quantities (BoQ), quotations, drawings, and any necessary documents required to proceed with this solution, please request them from us (A-E), and we will be more than happy to provide them. Collaboratively, we can achieve this goal of enhancing living standards of this beautiful kids.

We eagerly await your response.

PROPOSAL END



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better living standards for everybody



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