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# **EuroMbao Ltd.**

**2 bedroom house**

**Incl. Plot**

**with solar power**

**62,400.--€**

# *We are an eco friendly construction company that builds with CLT and renewable energies. (CLT Cross-Laminated-Timber)*



# Construction description for turnkey building Row House Stand: December 2020

All House proposals offered in turnkey condition exceed the requirements of from 01 February 2002 applicable Energy Conservation Ordinance 2002.

The noise protection measures in accordance with DIN 4109.  
Our offers are based on the assumption of a property on altitude of the access road with a slight slope.  
With respect to the construction, the building description is first, then the architect's plans

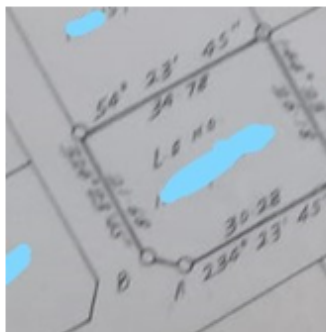
## 1. Plot

The plot you can choose between 4 plots.

Plot for this offer:

End house: 116.80 sqm

Middle house: 100.15 sqm



## 2. Planning and Construction Management

Planning will be done by an architect.

In the planning meetings, all the details are set. We then get to your individual needs and you will receive all documents based on your image settings.

All the services that we need for planning permission will be provided from our architect.

Following issuance of a building permit the work and execution plans at a scale of 1 to 50 as well as the static created. At the same time, we are preparing to begin construction.

For an optimal technical supply the technical systems are designed specifically for your home.

From the work plan meeting to moving into your new home, please contact our knowledgeable and experienced site manager available who supervise and coordinate the design, and the materials tested for their quality and monitor the contractor costs.

In addition, of course, we also create the necessary structural calculations and the thermal protection design.

Possibly, we create necessary or required noise protection design against reimbursement of costs incurred by us.

## 3. Equipment on site

For site preparation, the reference line is created and the excavation is calibrated (if necessary, approval by the licensing authority).

For on-site equipment, any machinery, scaffolding, vehicles, etc. required for the services listed in this specification list

In order to dispose of the garbage during the construction period, we will dispose of it for our work. For the work of the customer, he has to dispose it himself.

## 4. Earthwork

All earthworks are to be carried out by the company and are included in the price.

If the buyer has special requests, these must be reported in good time and paid for by the buyer.

# Construction and Terms of Reference

## Row Houses



### 5. Drainage

The underground pipes for the discharge of domestic sewage are installed in plastic pipes in accordance with the drainage plans and connected to the city's main pipe.

The required pipe excavation and all fittings are already included in the fixed price.

Other work are special requests and must be billed separately.

Waste water recycling is a special request and must be billed if the buyer want.

### 6. Foundation

The foundations are made with our ground screw foundation.

The dimensions are calculated and installed by us.

We assume a soil class 3-5.

Special requests are carried out on proof.

### 7. Walls, Ceilings

The outer walls, the floor slab, the ceiling and the roof are made of wood (glued laminated timber, CLT). All interior walls are also made of wood. (Glued laminated timber, CLT). Some walls constructed with bamboo.

The walls are horizontally sealed against rising damp. Version natural bitumen foil.

All wooden outer parts are given a special natural wood preservative oil that protects against pests, but above all against termites.

The height of the walls and the thickness of the walls and ceilings are determined according to the static requirements.

# Construction and Terms of Reference

## Row Houses



### 8.Floors

The floors are all wood or laminate floors.

The floor is laid floating on a thin impact sound mat.

For special requests: basic material price for the material is 900.-- ksh ./sqm.

Everything that goes beyond that must be ~~payed~~ ~~by~~ ~~the~~ ~~buyer~~.

### 9.Roof construction

The roof is built according to the required structural wood elements. Here, the roof overhang at the eaves about 40 cm and the gable (verge) is about 20 cm, and changes may result from the statics.

All wooden parts indoors and outdoors are performed in visual quality. The highlight of the visible roof surfaces with wood preservatives is executed.

### 10.Roofing

The roof is covered with high quality materials. The roof is covered like follow:

CODE	DESCRIPTION	UNITS	QTY
	Area 88 Sq.mt Pitch 12 Degrees		
	Estimated Quotation: Supply ONLY of		
SHING013	Cambridge Xpress Shingle (Autumn Brown) - 3.1m <sup>2</sup> per bundle	Bundles	30
BOARD003	OSB Boards 12mm	Pieces	32
SHING001	Armourbase Eco roll 1*50mts	Rolls	2
NAILS005	Local Ordinary Nails 2	Kilograms	6
NAILS001	17mm Galvanized Clout Nails to install amourbase Eco roll	Kilograms	11
NAILS003	25mm Galvanized Clout Nails	Kilograms	7
NAILS010	30mm Nails for hips and ridges	Kilograms	1
SHING017	Shingle Sticks Iko	Pieces	2
VENTL001	Standard Ventilators-Brown	Pieces	2
ACCES0092	Galvanised Drip Edge	Pieces	16
OTHER0127	Contractual cost for installation of REXE Shingles	SQ.MTS	88

## Construction and Terms of Reference

### Row Houses



#### **11. Top floor covering**

Is not required because the roof is in top.

#### **12. Plumbing works**

The pre-hung, half-round gutters and downspouts are executed in titanium zinc or plastik.  
Transition pipes or standpipes are to be created in the course of the rain drainage.

#### **13. Entrance door**

Plastic door with sturdy frame and sash. Frame and sash reinforced with galvanized steel reinforcements, including junctions. The seal is made of high quality APTK.

The front door is a 3-fold steel locking bolts (individually adjustable) supplied and installed, 3 fully adjustable door hinges (120 kg capacity per band) and with a profile cylinder with 3 keys and security function.

#### **14. Interior doors**

All interior doors in the houses are made as tubular rib doors in the decorative surfaces: beech decor or ash.

All interior doors are equipped with a wooden frame with a three-sided seal, two-part hinges made of nickel-plated steel and a tumbler lock with key. The door panels are made with a pipe clamping strip, which is provided with an elegant light metal handle after assembly.

## Construction and Terms of Reference

### Row Houses



#### **15. Windows**

All windows and window doors are high quality, weather-resistant white plastic window. They have concealed rotation or Turn hardware for one-handed operation, as well as all-round, replaceable rubber lip seals. The dry glazing consists of Thermo-glazing with a U-value of 1.3 (W / m<sup>2</sup>K), with an air gap of approximately 16 mm.

All windows, doors and the door will be firmly anchored, the lateral cavities between frame and masonry entire surface foamed with polyurethane foam. Installation is carried out according to RAL. Sprouts and / or color profiles are available at extra cost. All built-in living area windows correspond to the sound insulation class II (Special request).

Notwithstanding the ATV DIN 18355 the contracting parties agree that the connection joint between the outer components and the building is insulated with polyurethane foam. A professional flawless execution is guaranteed.

#### **16. Window sills**

All living room window will not get any interior window sills. The exterior window sills are designed as anodized aluminum sills (Special request).

In the area of all the patio doors, the floor to ceiling windows on the ground floor, and the front door, the covers are built into the material of the terrace covering the building owner in-house performance professionally and sealed against water ingress.

#### **17. Staircases**

Unnecessary

### 18. Electrical installation

Electrical installation is in accordance with the relevant VDE regulations and as specified by the responsible power supply company from house connection. In the house connection a surface-mounted meter cupboard with a meter board is installed. In the counter or in a distribution box under the FI - switches and circuit breakers sufficient for the required circuits installed.

All pipes are installed on the outer shroud under the insulation. The equipotential lines of the water - and heating pipes and the foundation earthing according to VDE regulations are to be included in the fixed price.

The switches and sockets are carried out in an appealing design to your sample (Jung default setting).

The individual rooms will have the following features:

See Appendix and space division

The exact location and the exact design of the electrical installation is planned individually for each house and discussed in detail by the exporting electrician in a planning meeting with the builders. Each room receives an LED light as shown in the Appendix. Changes are associated with additional costs.

The solar system is described particularized.

### 19. Heating installation and hot water supply

For hygienic DHW for kitchen, bathroom and toilet, a temperature-controlled stand memory or a memory layers for about 120 liters of hot water heating provides.

Water recycling system will be described separately and is integrated into the network (Special request).

On request, we can offer you a wall heating system for the living space.

### 20. Sanitary installation

The complete installation of hot and cold water lines are from water meter.

The pipes of the drainage pipes (sewer pipes) with the necessary fittings made of PVC. The ventilation ducts are also made of plastic pipes, but without isolation, be performed via the roof and connected to a ventilation tile.

The high quality connection fittings, instrumentation and control components consist of:

- backwash water filter to trap dirt particles
- Automatic pressure regulator for constant system pressure
- permanently sealing Schrägsitzabsperrventile for garden line, hot water tanks and domestic water supply
- safety devices in accordance with DIN / DVGW

The drinking water supply of the individual points by a multi-layer plastic composite pipe a German manufacturer. This system ensures a 100% protection against corrosion, calcification is free and metallic neutral. 40 bar test pressure and a tensile strength of 8000 N are further advantages of this composite tube. Alternatively, also possible in stainless steel.

The washing machine connection with the cold water tap is located in the house technic room.

A drinking water tank and a tank for purified water and rainwater (Special request) are stored outside.

### 21. Sanitary equipment

Basis for the furnishing of bathrooms, shower rooms and WC 's are the respective house designs and blueprints. The drawn in the plan sanitary objects are installed white in the standard.

In the house designs are no provisions is made, the two hanging toilets, wash hand basin, a wash basin, a bathtub. The installation of a shower tray can be performed on request of the client with.

Toilet facility:

Wall hung WC crystal porcelain, with concealed cistern and plastic seat.

Hand wash basin:

Crystal porcelain, 45 cm wide, with single lever mixer tap for hot and cold water, chrome plated, incl. eccentric fitting.

## Construction and Terms of Reference

### Row Houses



bathtub:

Body contoured bathtub made of enameled steel sheet in size 170/75 cm, with a chrome single lever mixer tap including eccentric fitting and a shower set with shower hose.

Shower tray:

Shower tray in enameled steel sheet in size 90/75 cm, with a chrome single lever mixer tap including eccentric fitting and a shower set with shower hose.

### 22.Plastering

In the residential floors no plaster is required as exposed wood quality.

### 23. Outdoor covering

It is applied a 2-layer outer casing. The first layer is an insulation of 4 cm. Top layer is bio plaster with color.

### 24.Screed work

Both the ground floor, as well as in the attic no screed is needed.

### 25.Tile work

Tiles are installed in bathrooms and toilets on the walls.

We have 20 sqm factored and calculated. Tiles price 1,200,- ksh.

## Construction and Terms of Reference

### Row Houses



### 26.Electrical room book

Room book:

For the LED lights we have calculated standard material.

Resulting from Selecting the lights are a minority - or more prizes will be charged

**Number of sockets and switches, refer to the following room book.**

**Gound floor:**

Phone: 1 empty tube for later junction

Antenna: 1 conduits for future connection point

Living/Dining room: 2 focal point, 3 piece switch, 4 piece socket, 2 piece double socket

Toilet: 1 focal point, 1 piece switch, 1 piece socket

Bath: 1 focal point, 1 piece switch, 4 piece socket

Tech. room: 1 focal point, 1 piece switch, 1 piece socket  
Solar-power-System, hot water tank

Terrace: 2 focal point, 1 piece switch, 2 piece socket

Entrance: 1 Focal point outside, 1 inside switch

Kitchen: 2 focal point, 2 piece switch, 3 piece socket, 2 double socket

### 27.House transfer

Your house will be swept clean. However, a final cleaning by the owner is not superfluous as a result.

In the house transfer a briefing on the facilities of recycling plant and solar system and a key collection takes place.

### 28. Special Considerations

The charges listed in this specification services and equipment may be replaced by other equivalent, if this is deemed necessary due to the knowledge and experience of construction technology and / or when the faster or more economical structure realization serves.

Construction and design changes caused by changes in the building regulations, DIN standards or of local conditions (eg topography of the building site, stipulations of the development plan, etc.) are caused, are reserved.

Due to the different geological situations Kenya is divided into seismic zones. For the creation of the houses the earthquake zone is imputed based on  $Q_s$ .

Hard incorporated into or to be livered facilities and items specified in this Specifications.

Devices and objects that may be drawn in the plans are only suggestions and not included in the scope of services.

All information in these plans and the designs and dimensions contained in the plan sketches are nominal dimensions with DIN tolerances. Changes can still change depending on the statics information.

Since the technically necessary installation work must be determined in discussion, different dimensions are possible.

The plan sketches contained in our catalog or made for you are subject to copyright. They may not be reprinted without our written consent, they may not be used as a template for the implementation of a construction project with another company. In the event of violation, we reserve the express right to demand compensation.

Special requests and internal activities must not disrupt the construction and the planned construction plan. Delays due to special requests or the client's own work are to the detriment of the client even without prior written or verbal notification. No guarantee is given for services performed by the customer and the construction schedule will be extended accordingly. Furthermore, the construction supervision does not extend to the activities of the client, but our site managers are of course

happy to help you with the execution of your own work.

Special requirements that are relevant for the approval or for entering the planning must have been communicated in good time by the client.

The work plans are presented to the client for review. By signing the plans, the client said he was sticking to the budget presented to him. Subsequent change requests can then under certain circumstances not be carried out without additional costs.

The trades that want to carry out the entire work of the client in whole or in part are identified when the working drawings are created. A subsequent removal of

All special provisions that deviate from the scope of the present specifications are only valid if they have been expressly agreed in writing.

The company remains subject to the necessary static changes that lead to an improvement in the economy or are justified by the regulations of the authorities on the building.

The connection between different components is subject to stress. This is not a construction defect. Smaller stress cracks are unavoidable, these do not represent a building ~~mangel~~.

Regardless of TO DIN 18355, the contracting parties agree that the connection joint between the external components and the structure is insulated with PU foam. A professional, flawless execution is guaranteed.

### 29. Other

**Design and implementation of the outdoor area is not included in the price and must be provided by the buyer**

Painters, tiles and floor coverings are limited and more is own work or special requests.

Water recycling plant are special requests.

The house is completely self-sufficient, special request.  
Own water, own energy and own water recycling

Of course, we offer you the services listed above on the basis of an individual calculation that takes into account the specifics of your country and your house, local regulations, etc.

A supplementary specification should be considered a priority in the design details.

All the work described above that have the note (special request) are not included in the price and must be paid for separately!

We have read the construction and specification and confirm this with our signature:

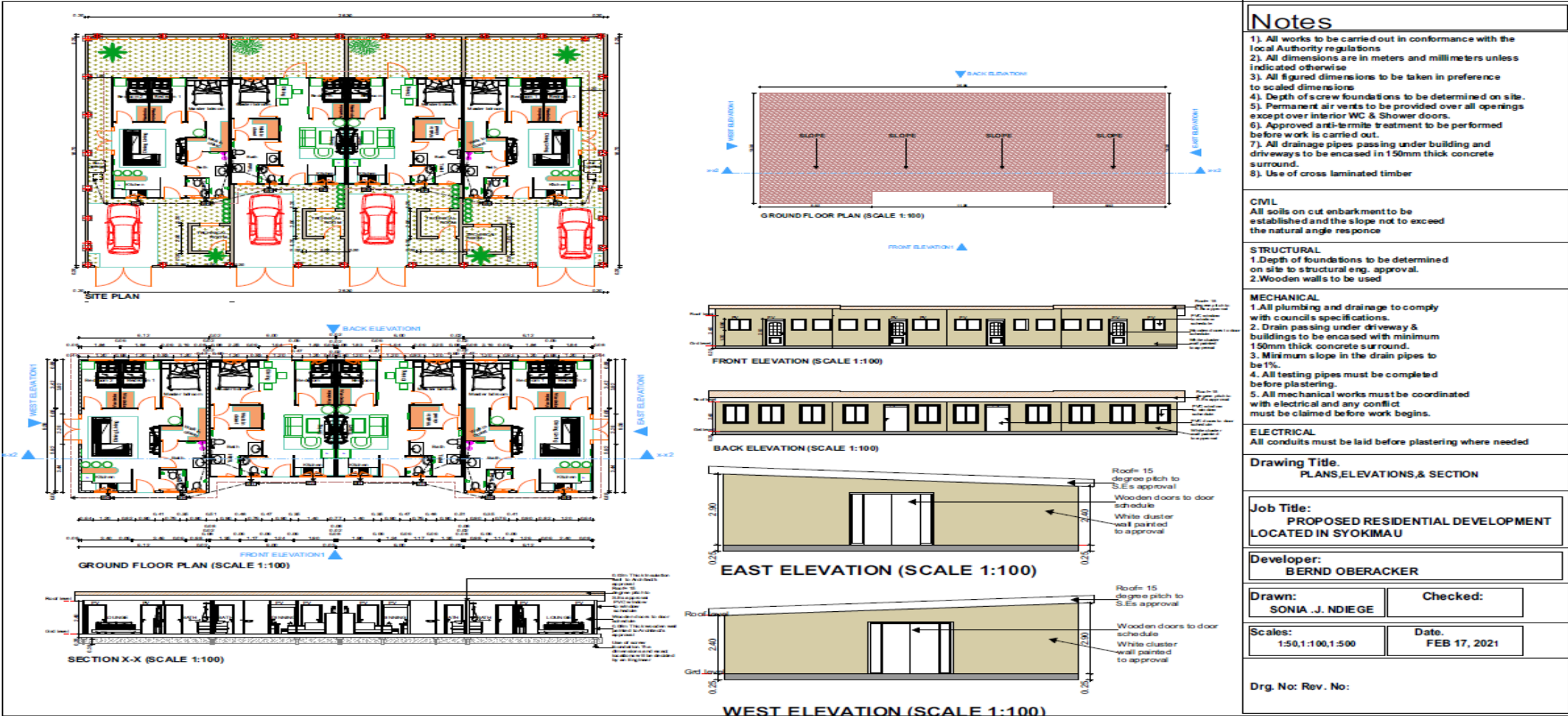


# Our Row House Project in Syokimau

## Row Houses

*Middle house 2 Bed room, End house 3 Bed room*

*Our offer: buying off plan we give 12 % discount*



### Notes

- 1). All works to be carried out in conformance with the local Authority regulations
- 2). All dimensions are in meters and millimeters unless indicated otherwise
- 3). All figured dimensions to be taken in preference to scaled dimensions
- 4). Depth of screw foundations to be determined on site.
- 5). Permanent air vents to be provided over all openings except over interior WC & Shower doors.
- 6). Approved anti-termite treatment to be performed before work is carried out.
- 7). All drainage pipes passing under building and driveways to be encased in 150mm thick concrete surround.
- 8). Use of cross laminated timber

### CIVIL

All soils on cut embankment to be established and the slope not to exceed the natural angle response

### STRUCTURAL

1. Depth of foundations to be determined on site to structural eng. approval.
2. Wooden walls to be used

### MECHANICAL

1. All plumbing and drainage to comply with council's specifications.
2. Drain passing under driveway & buildings to be encased with minimum 150mm thick concrete surround.
3. Minimum slope in the drain pipes to be 1%.
4. All testing pipes must be completed before plastering.
5. All mechanical works must be coordinated with electrical and any conflict must be claimed before work begins.

### ELECTRICAL

All conduits must be laid before plastering where needed

**Drawing Title.**  
PLANS, ELEVATIONS, & SECTION

**Job Title:**  
PROPOSED RESIDENTIAL DEVELOPMENT  
LOCATED IN SYOKIMAU

**Developer:**  
BERND OBERACKER

**Drawn:**  
SONIA .J. NDIEGE

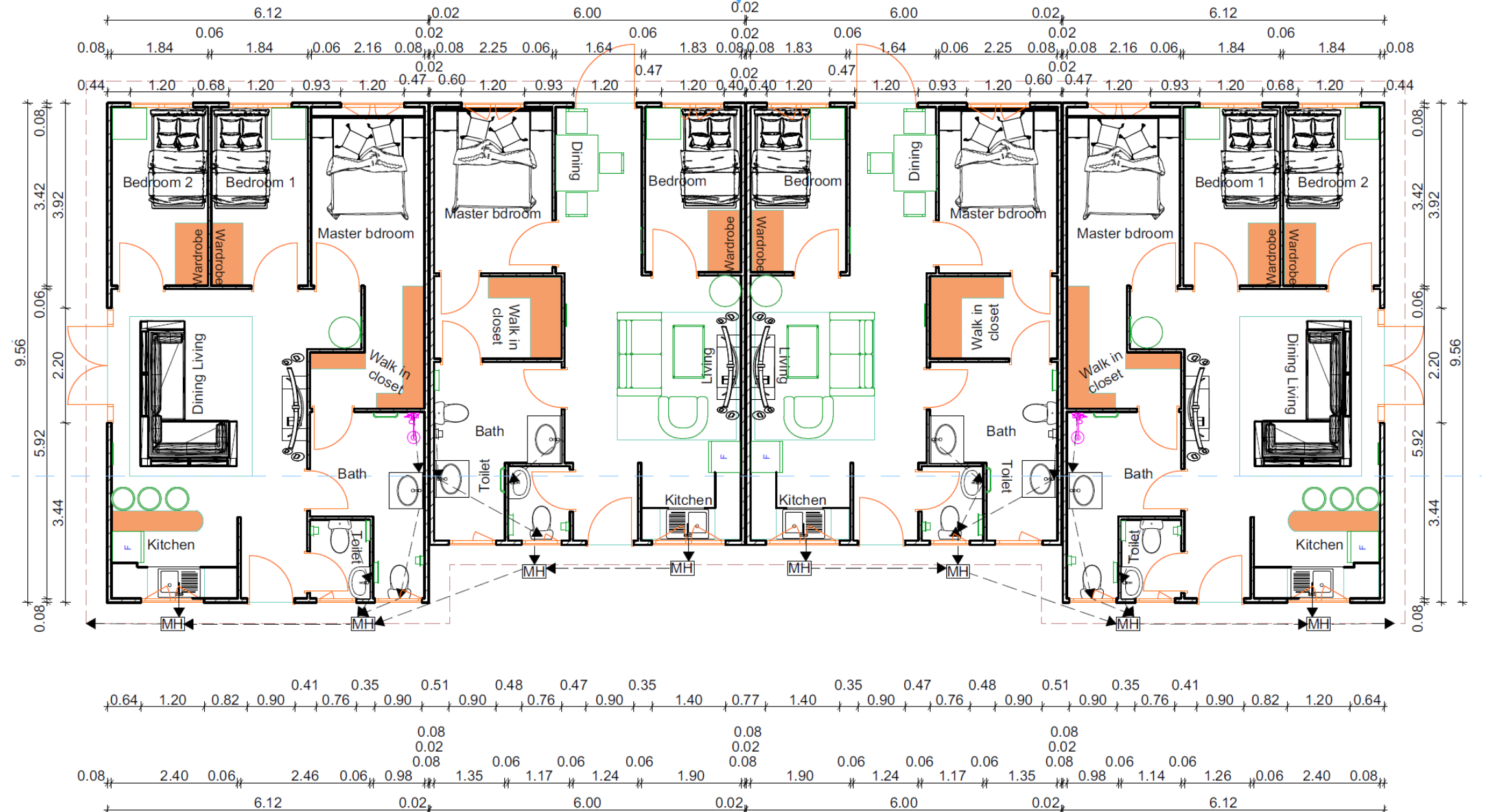
**Checked:**

**Scales:**  
1:50, 1:100, 1:500

**Date:**  
FEB 17, 2021

**Drg. No: Rev. No:**

BACK ELEVATION1

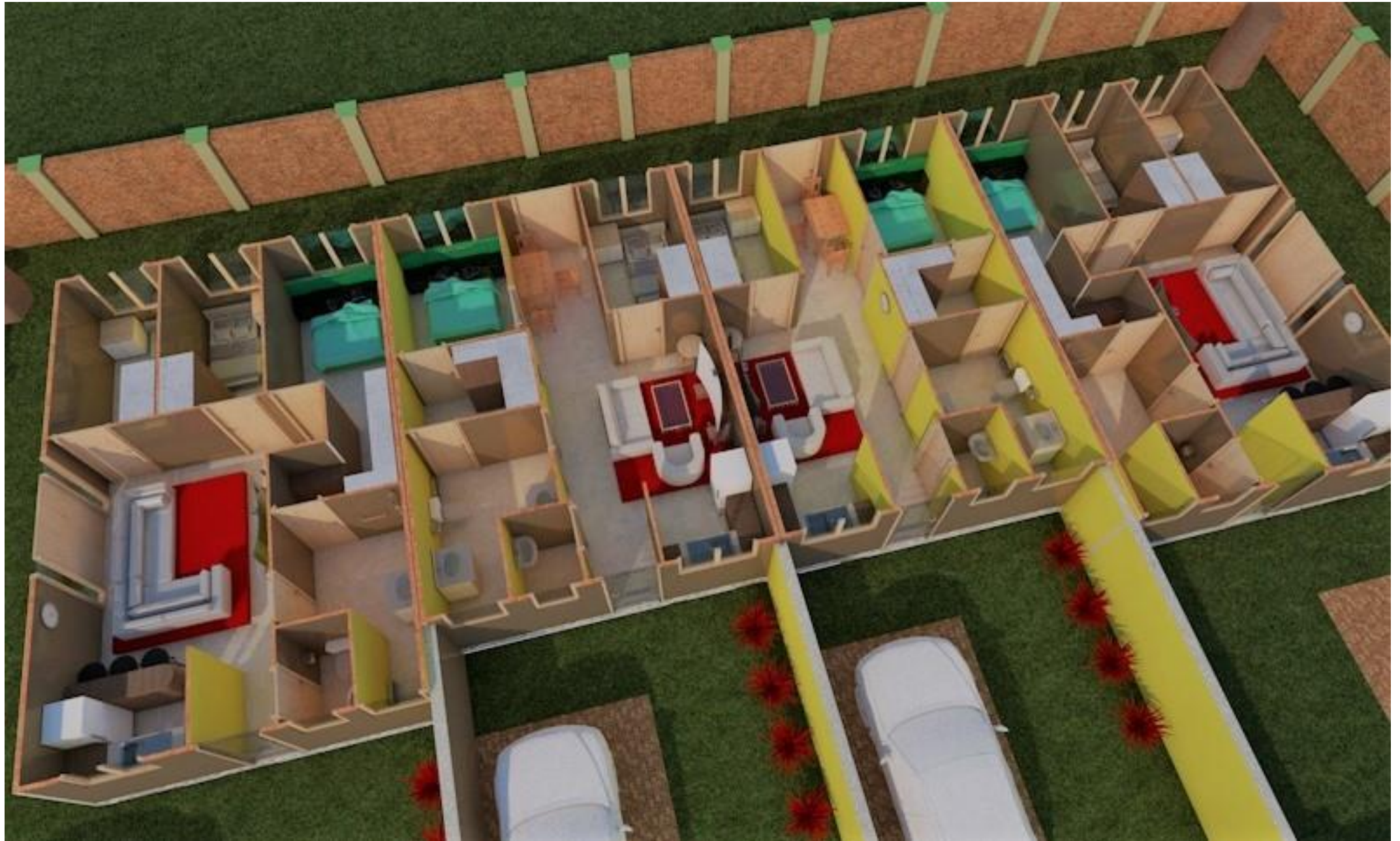


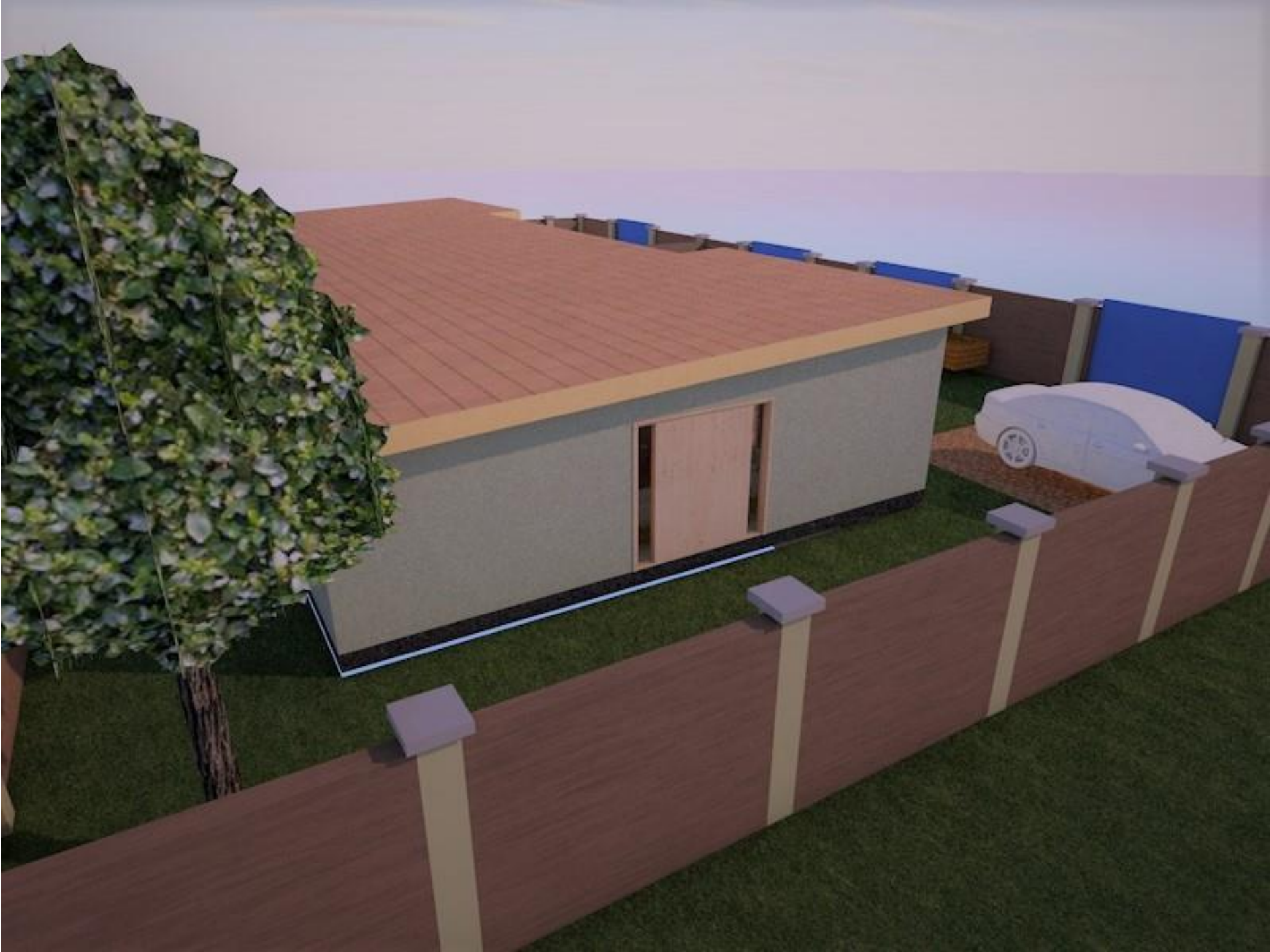
FRONT ELEVATION1

GROUND FLOOR PLAN (SCALE 1:100)











# Screw Foundation

GROUND SCREWS

## Our product range



E-series



F-series



G-series



K-series



M-series



U-series



V-series



X-series

The E-series ground screws can be optionally equipped with an excentre set depending on the application. The excentre set allows you to make precise adjustments and ensures a perfect, vertical positioning of the object that you want to install. The system is particularly suitable for the resonance and vibration dampening installation of poles and masts for example.

E 89x550-E60

E 140x1300-E76-100

E 89x800-E60

E 140x1600-E76-100

E 89x1000-E60





## 5 KW Off Grid Solar with battery

*Solar power plant completely installed with battery*

### Hybrid Off Grid Solar System



### Tai-1KW(DC24V/AC220V)

Part	Specification	Qty
Solar panel	330W/36V POLY	2
Low Frequency Hybrid Inverter	1KW/24V –MPPT 30A	1
Battery	12V 200Ah	2
Cable	PV Cable	20m
PV Connector	MC4 connector	2



# Our Row House Project in Syokimau

## *Pricing:*

<u>Row Middle House 50.713 sqm :</u>	61,400.-- €
<u>Land 100.15 sqm:</u>	9,500.—€
<b>Total Middle House</b>	<b>70,900.--€</b>
<u>Row End House 57.22 sqm :</u>	66,400.-- €
<u>Land 116.80 sqm :</u>	12,500.—€
<b>Total Middle House</b>	<b>78,900.--€</b>

***Our offer: buying off plan we give 12 % discount***