

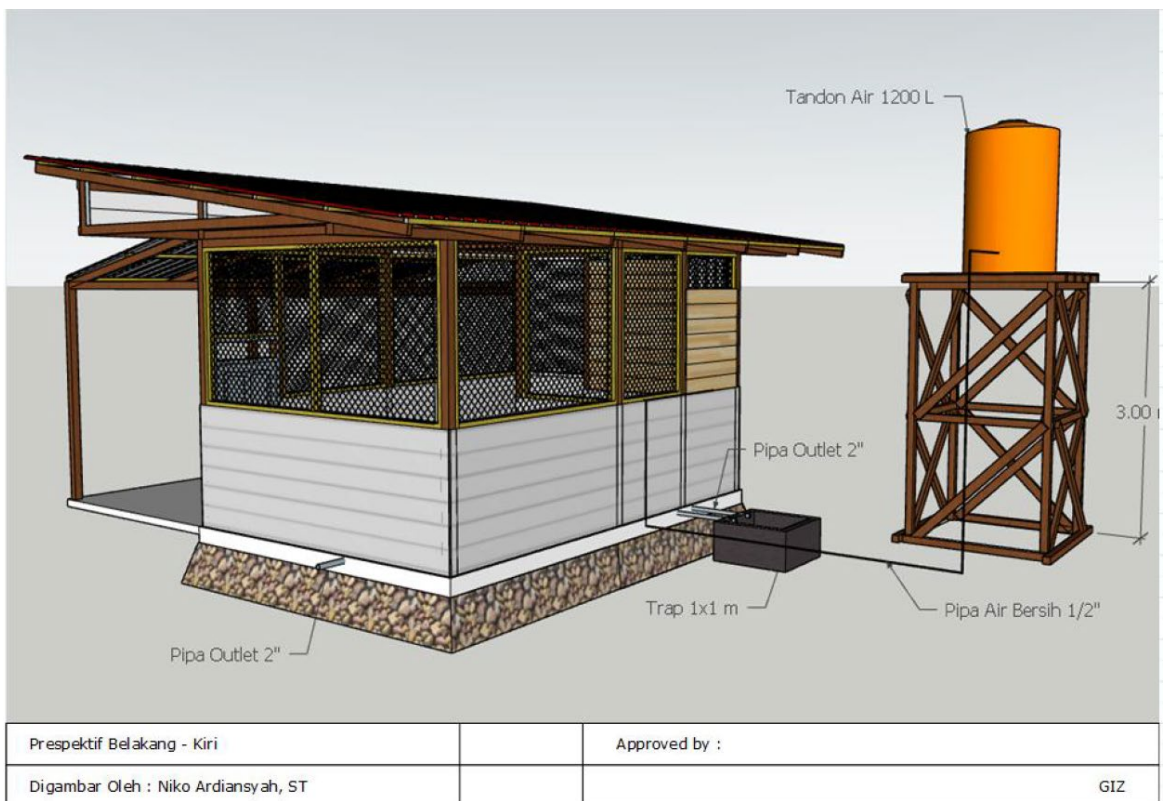
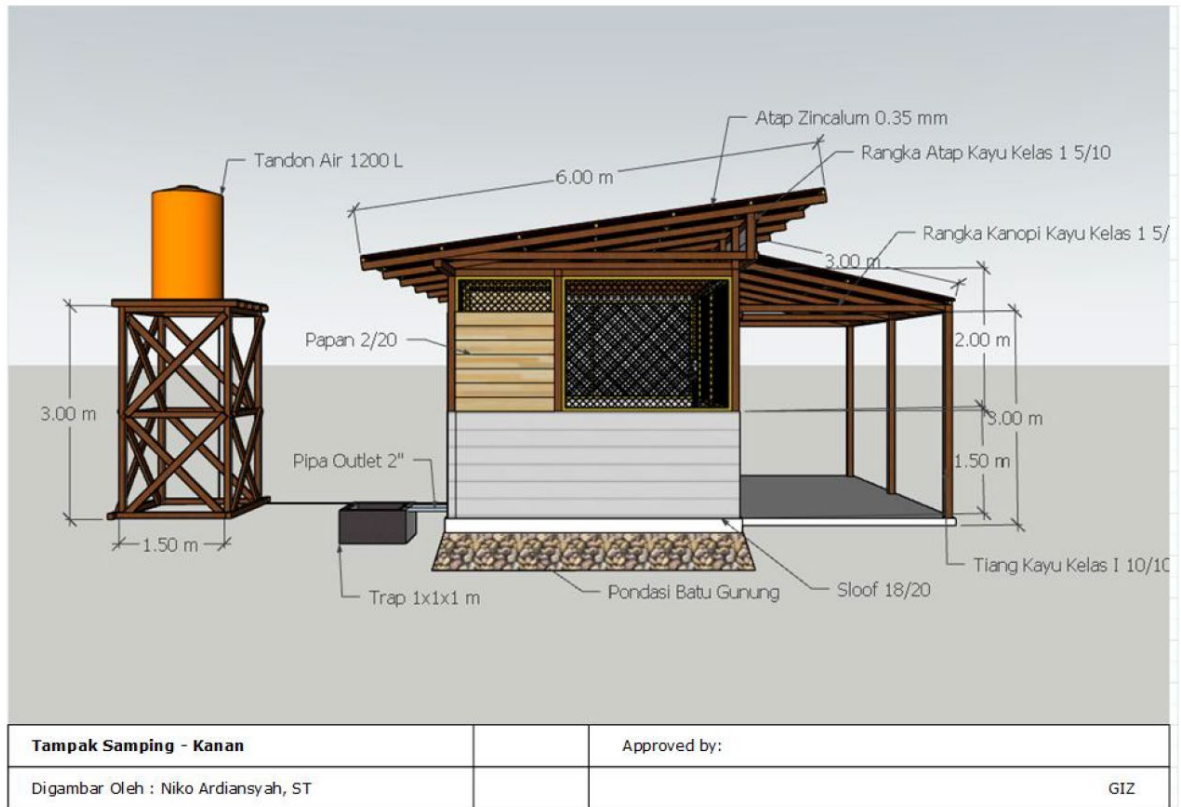
Drawing and technical specification

Date: 15.12.2025

I. Basic Design of Toxic and Hazardous Waste Warehouse

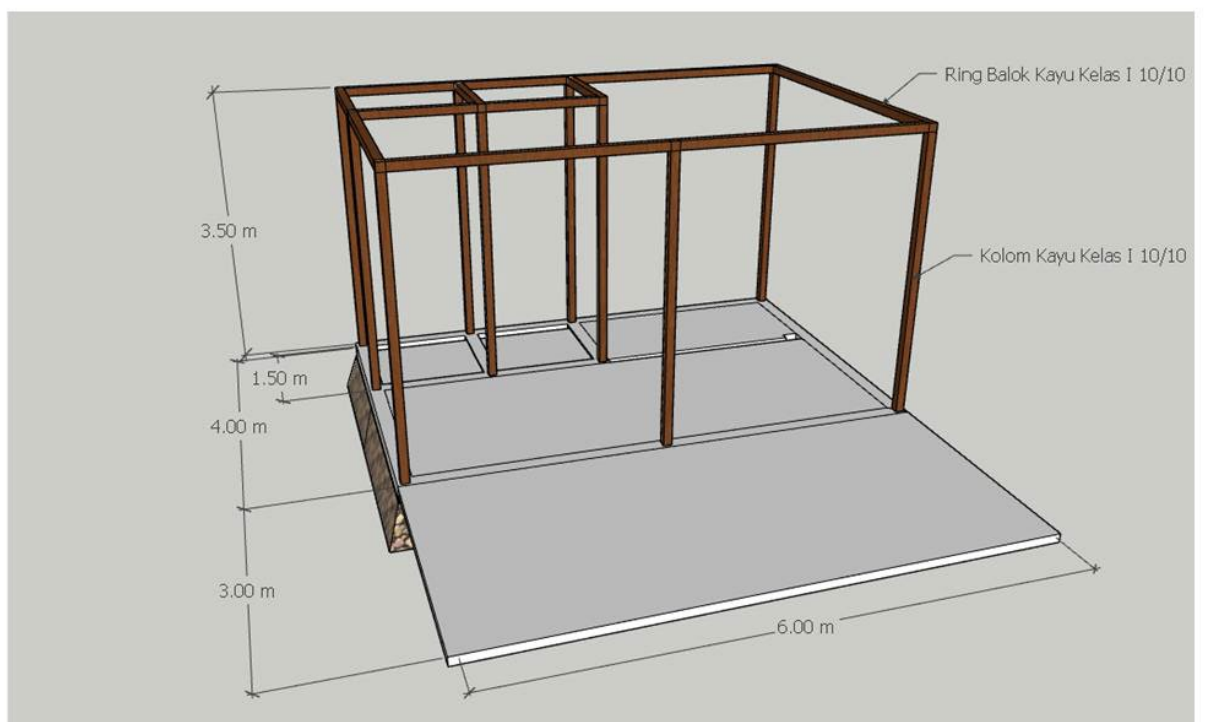


Tampak Depan		Approved by:
Digambar Oleh : Niko Ardiansyah, ST		GIZ

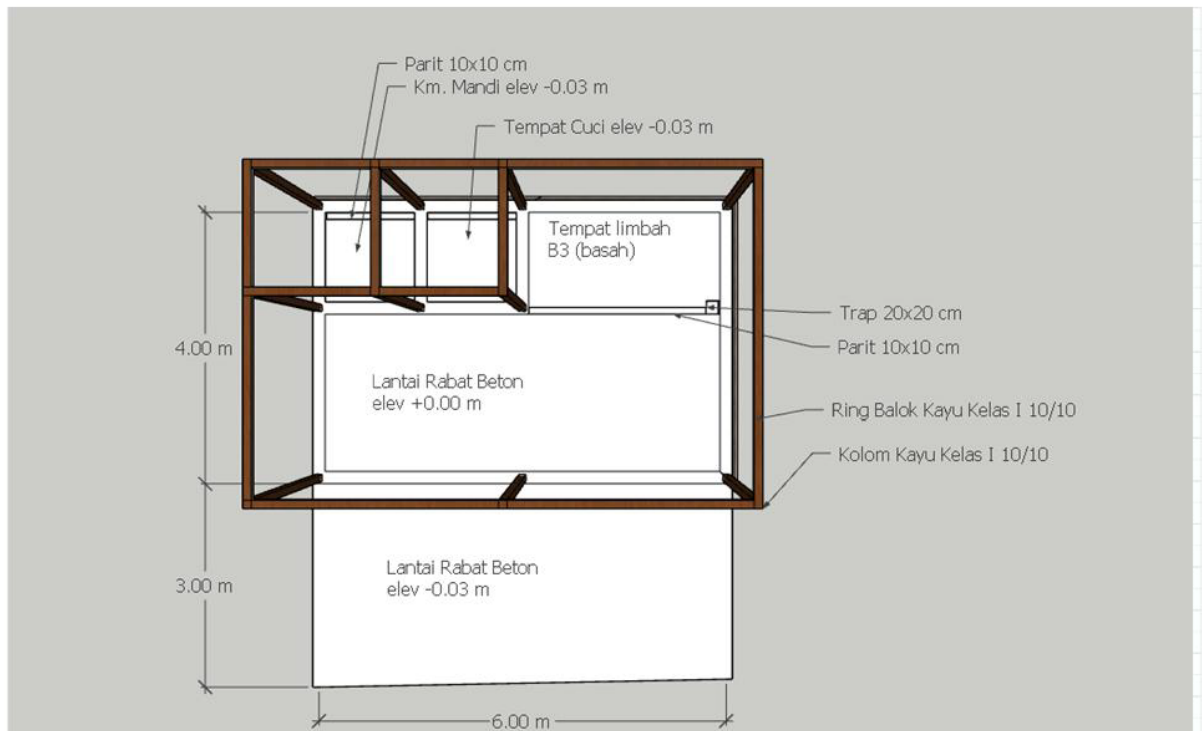




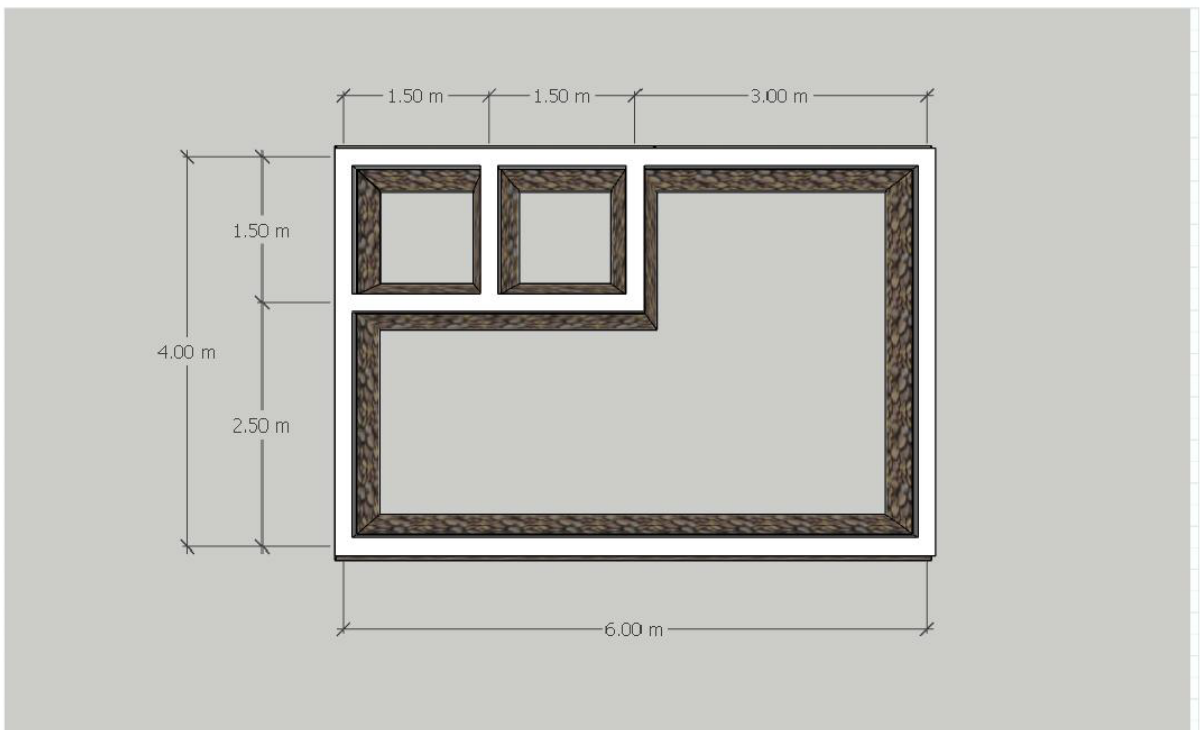
Prespektif Bangunan		Approved by :
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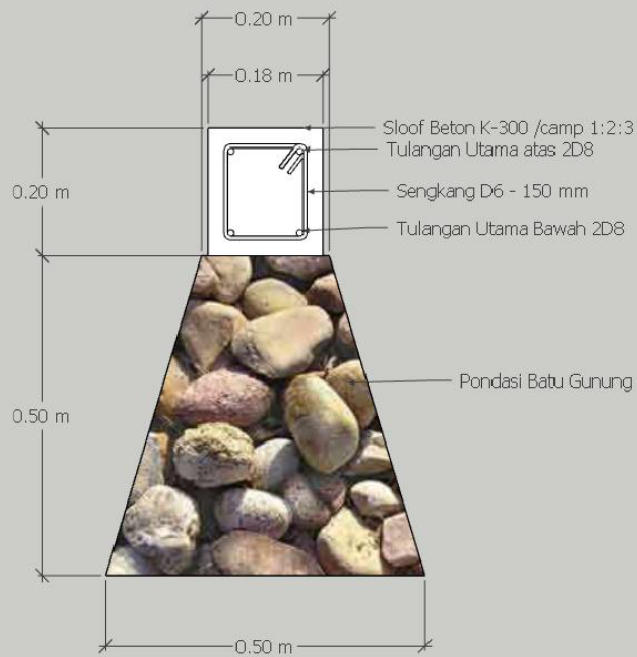
Denah Balok Kolom		Approved by
Digambar Oleh : Niko Ardiansyah, ST		GIZ



DENAH GUDANG LIMBAH B3		Approved by :
Digambar oleh : Niko Ardiansyah, ST		GIZ



DENAH PONDASI & SLOOF		Approved by :
Digambar Oleh : Niko Ardiansyah, ST		GIZ



DETAIL PONDASI BATU GULUNG & SLOOF		APROVED BY:
DIGAMBAR OLEH : Niko Ardiansyah, ST		GIZ

II. Land Stakes Design Guidance

1) Specification

- **Main Material:** PVC (pipe) Ø nominal 2,5" (≈ Ø outer 76 mm; depend on brands, material class minimal AW average), white coloured.
- **Stake Length:** 67 mm (±2 mm).
- **Contain:** Concrete fully inserted
- **Colouring:** Zone **Red Paint** length **150 mm** from **Upper** (vertically measure from bottom). Less body leave it plain

Main Dimension:

- Overall length (T): **670 mm**.
- Zone of red painted (Hc): **150 mm** from top.
- Planting Depth (Ht): **250 mm** (typical).
- Outer Diameter PVC (OD): **76 mm** (actual check).
- Pipe thickness (t_{pipe}): **2–4 mm** (AW average).

2) Material List (for 1 stake)

1. **Pipe PVC Ø2,5"** length 0,67 m – 1 stake.
2. **Cement** ~1,2–1,5 kg.
3. **Sand** 2–3 kg.
4. **Water** (w/c ~0,40–0,45).
5. **Red Paint** (alkid/acrylic weatherproof) ±30–50 ml/stake.
6. **Solvent/Thinner**.

3) Cut and Cast with Concrete Composition

- **Concrete Composition (Solid mortar, without gravel):** 1 cement: 3 sands (volume). w/c 0.40–0.45. Suitable for small Ø for easy compaction.
- **Procedure:**
 1. Cut the the material of PVC Pipe **Ø2,5"** 4-meter length into *6 parts with approximately 0,67-meter length each*.
 2. Temporarily seal one end of the pipe (with thick duct tape or a wooden plug or other material) to prevent the mixture from spilling out when standing upright.
 3. Stand the pipe vertically, fill it gradually with 15–20 cm of mixture.
 4. Fill to the top of the pipe; form a 2–3 mm on the upper edge by smoothing with a trowel.
 5. Cure for a minimum of 3×24 hours in a moist/covered environment before installation or painting.

4) Painting (Red Colour 150 mm ON TOP)

- Lightly sand the PVC surface (grit 240–320) to open the pores and improve adhesion.
- Clean dust/grease; apply special PVC primer/adhesion promoter; dry according to technical data.
- Apply masking tape 150 mm from the top edge; apply 2–3 coats of red exterior paint.
- Remove masking tape while paint is still semi-dry to ensure a clean edge.

5) Planting Method

1. Determine the coordinates of the stake (GPS/measure) and mark it.
2. Dig a hole Ø ~80–120 mm, depth according to the soil (typically 500 mm).

3. (Optional for soft soil) Pour a 50–80 mm concrete pad; allow to remain plastic.
4. Insert the stake; ensure it is vertical (plumb) using a spirit level; orient the red paint zone above 150 mm.
5. Backfill the soil while compacting it gradually. For wet areas, use a mixture of sand and gravel for locking.



III. Sign board Design Guidance

1) Specification

- **Panel (PxT): 1250 × 750 mm**
- **Round Frame:** wood 30×30 mm (3×3 cm)
- **Pole/Leg:** wood 40×60 mm (4×6 cm) × 2000 mm, planted 500 mm
- **Pole counts:** 2 pieces (left & right)
- **Material panel:** flaxy China/Korea, Banner Both or another outdoor banner with its framatur 280 – 340 grams.

2) Dimension

- **Finished panel size:** 1250 mm (width) × 750 mm (height).
- **3×3 cm perimeter frame:** placed behind the panel (frame attached to the back of the panel) so that the total thickness of the panel is ≈ 25–35 mm depending on the filling material.
- **Pole axis distance (recommended):** 1310 mm – 1320 mm (accommodates frame width and tolerance).
- **Clear distance between pole faces:** ~1270–1280 mm.
- **Pole planting:** plant 500 mm from the bottom of the 2000 mm pole → leaving 1500 mm above ground.
- **Panel position relative to ground level:** bottom of panel approximately 650–750 mm from ground level (adjust for visibility)

3) Joints and Connector Dimensions

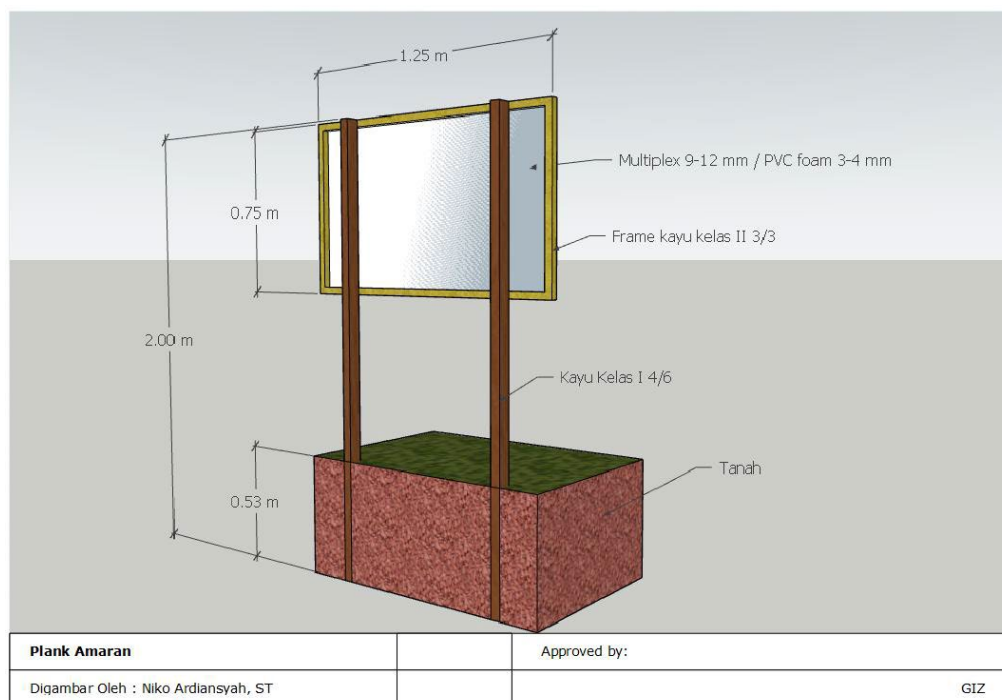
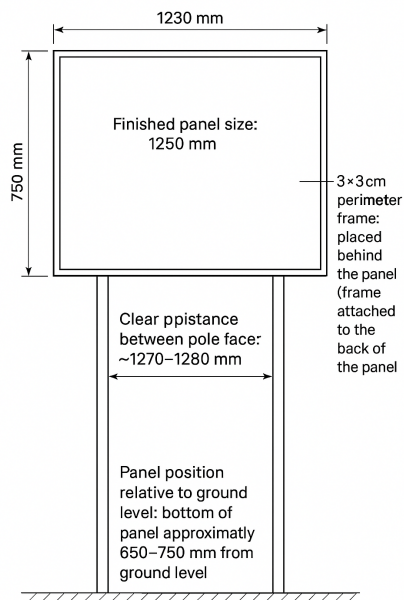
- Frame to panel: 4×40 mm screws/wooden nails every 150–200 mm along the perimeter frame; use waterproof glue (exterior PVA) and Staples for wood.

4) Finishing

- **Text & border:** use UV-resistant exterior paint or printing for the EDGE text and text content.
- **Images:** use exterior banner for durability.
- **Pole treatment:** anti-pest paint + wood primer + topcoat (dark/metallic color) or wood stain; for humid environments, use pressure-treated wood or hardwood.

5) BoQ (per 1 unit)

- 30×30 mm frame wood — total ±4.0 m length (cut)
- Wooden posts 40×60 mm × 2000 mm — 2 pieces
- Binding beams 20×40 mm × 1.2 m — 1 piece
- Bolts/nuts: M6×70, washers, nuts — 8–10 sets (stainless/galvanized)
- Rust resistance - Staples
- Wood nails / self-tapping + washers — 8–12 pcs

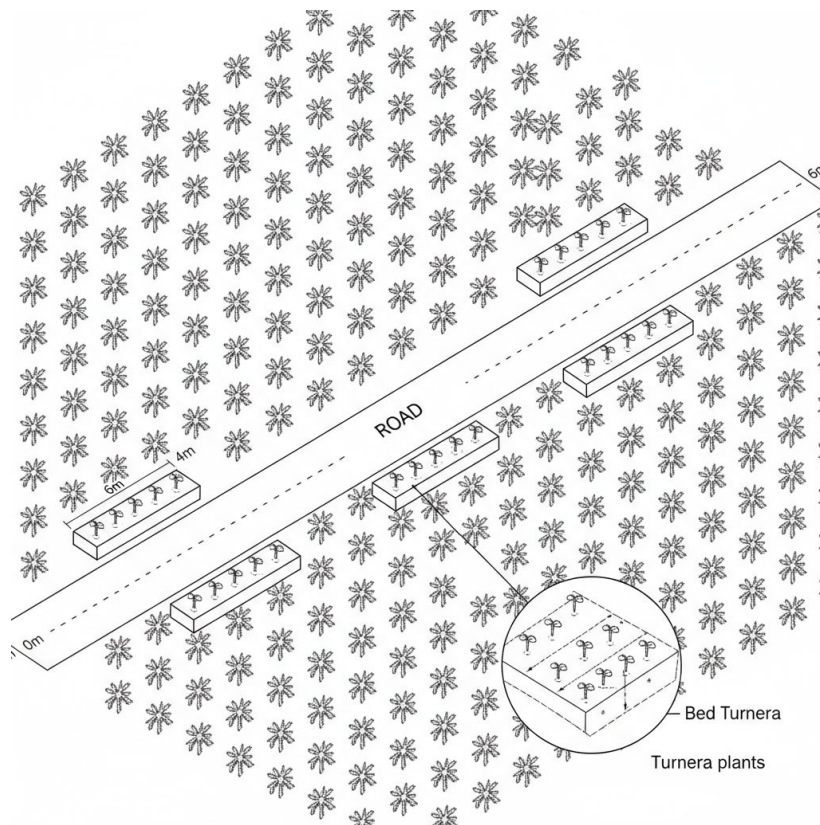


Notes: the sign board is just like the campaign board using wood and banners as main material

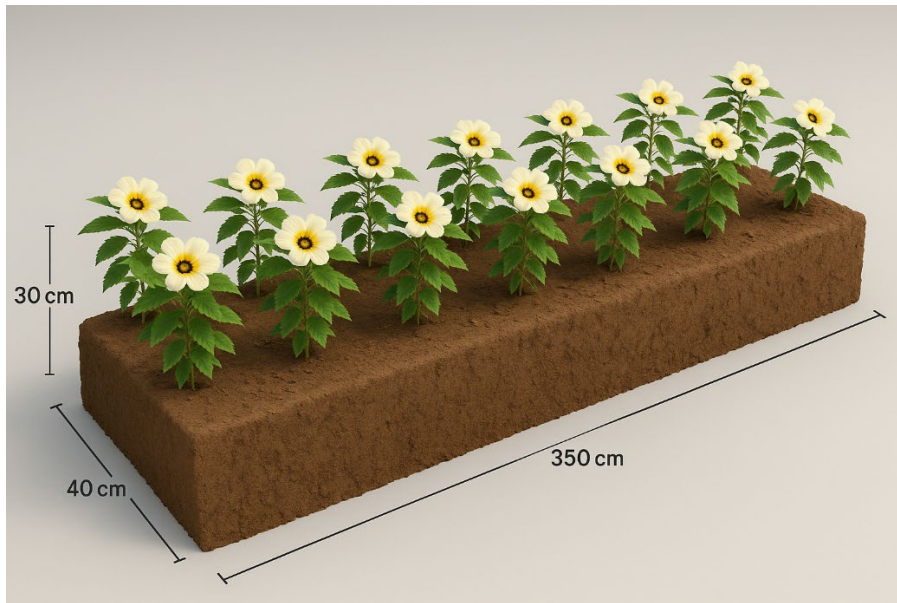
IV. Turnera's Plant Bed Design

Construction Work:

- Ensure the plants bed location. Each cooperative will be divide 15 blocks where each block has 15 unit of plants bed. These plants bed were widespread distribution. Contractor shall mark for these.
- Land clearing & measurement: clear weeds/debris; mark a grid with $L \times W \times H = 350 \times 40 \times 30$ cm. The target in each plant bed is 10 stems of live turnera.
- Layout lines: measure and mark each bed with string & small stakes. Allow a 0.15 m or more margin at the edges and the sides



- Subsoil aeration: aerate the bed area to a depth of 15–25 cm to improve drainage/roots. Remove large roots and stones.
- Soil transfer & shaping: shape mounds according to profile (vertical or trapezoidal slope 1:1). Top width is 40 cm with 350 length and height is 30 cm.



- The total of live planted turnera should 20.250 in 2.025 plants beds with each plant bed should 10 lived stems of turnera and separated in 9 cooperatives in Bengalon and Rantau Pulung. Use the part of top turnera plants as the stem to make the better plants seedlings.

V. Land ID



1. Design Preparation (Layouting)

Use 180x250 mm paper work (100gsm A4 paper with cuts on edges for border of plastic seal) – landscape orientation.

- From the base paper, take 30 mm margin in each side for reserve.

2) The standard element contains are:

- TITLE: INFORMASI KEBUN
- Subtitle: Geographical information

Coordinate lines for example:

→ 116°56'54.582" E | 1°3'18.765" N

- Location Name (Village / Block): Ponimin (adjusting cooperative data)
- Land Code or ID: MKT.103.04.104.228

3) Add thick border lines to make the contains easy to see

2. Printing Process

1) Use **100 gsm** paper (for durability reason).

2) Printed use:

- Printer inkjet (with pigment ink for moisture resistant), or
- Printer laser for water resistant result.

2. Ensure printed it on **high quality** for sharp text.

3. Laminating for Protection

Use the plastic lamination with perfect laminated for durability and rainwater resistant:

1. Cuts the edge of paper to make plastic seal wider margin
2. Take printed IDs on A4 cuts size (to be 180mmx250mm) then laminated it.
3. Make sure the lamination was fully tightly closed on whole side so the water can not go in. For recommendation use laminating device for a perfect result.
4. Make a hole on the plastic seal side to make installation easier.

