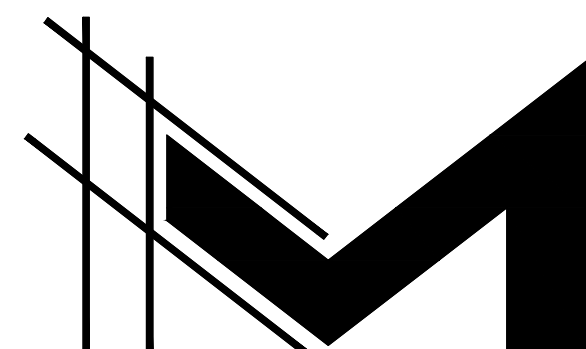




Enter Ethiopia - Productive Use Of Energy(PUE) Hub

Shedder Kebele, Awa bare Woreda,
Somali Region of Ethiopia

STRUCTURAL DESIGN



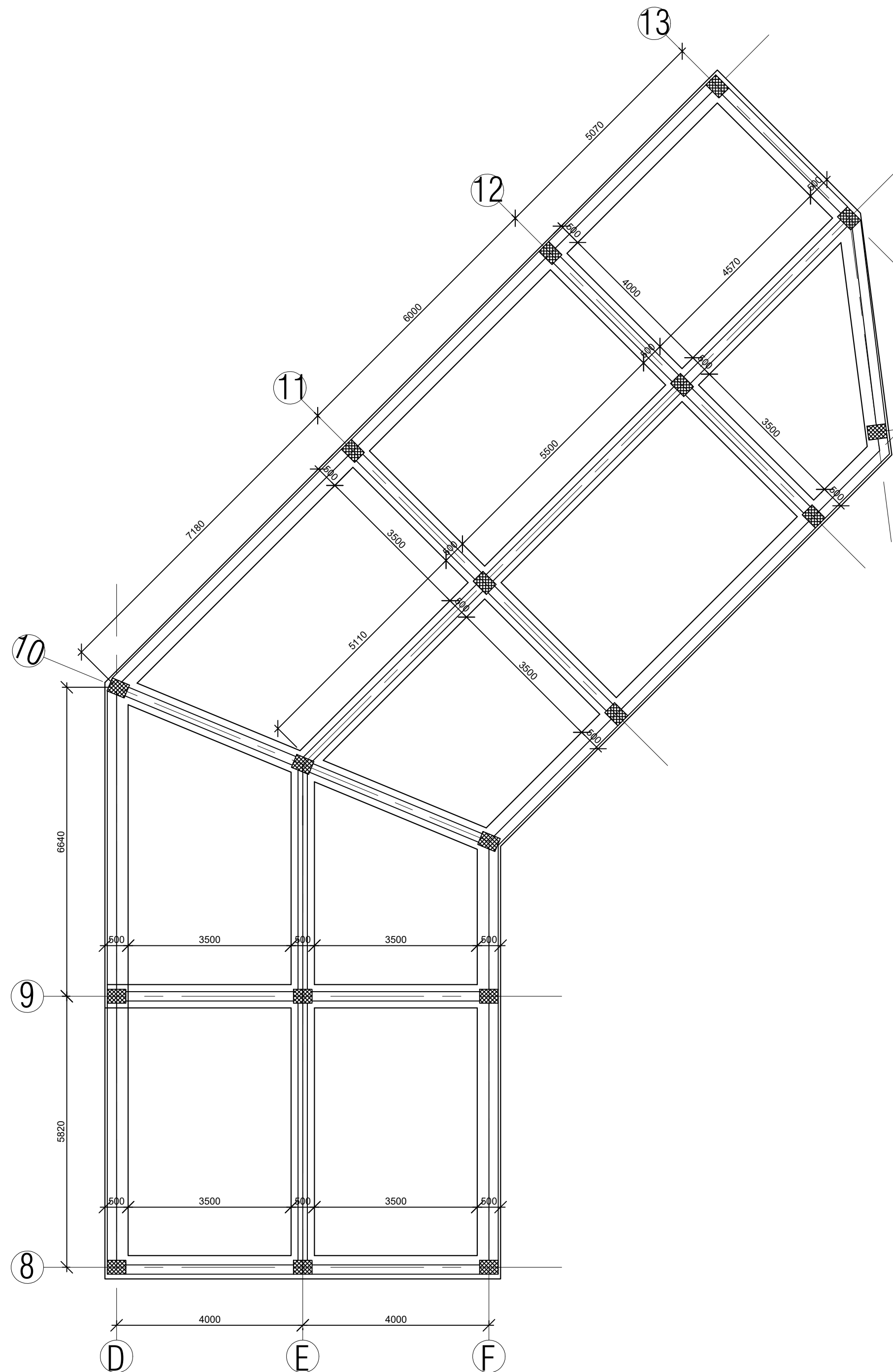
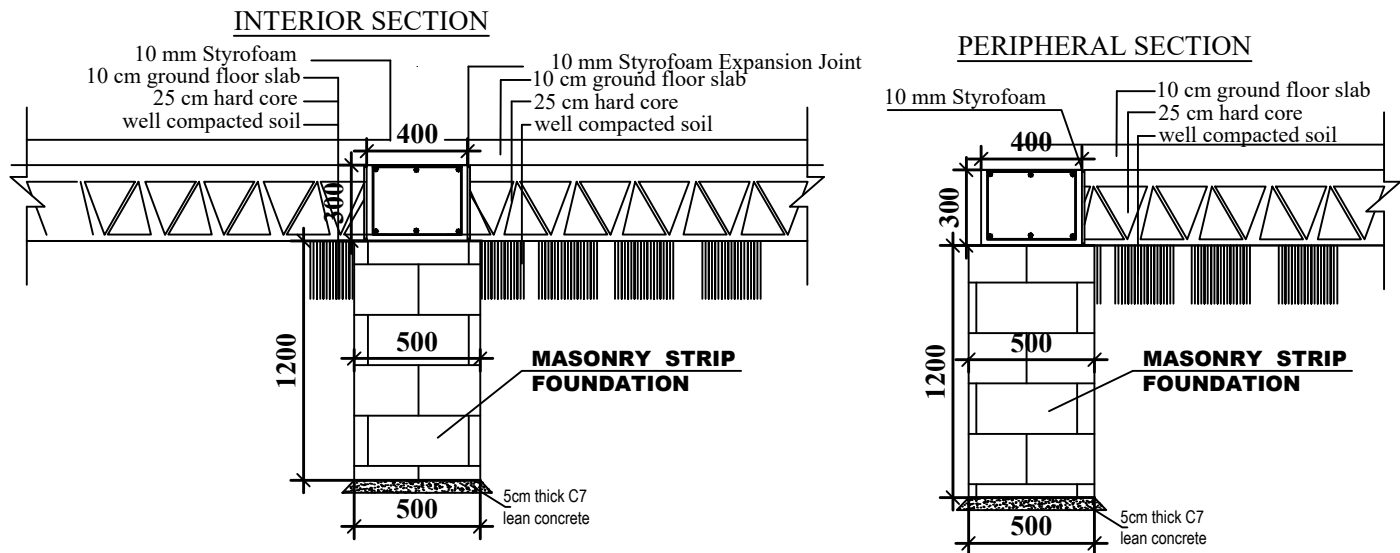
MAEZEN ARCHITECTS

Location:- Addis Ababa, Ethiopia

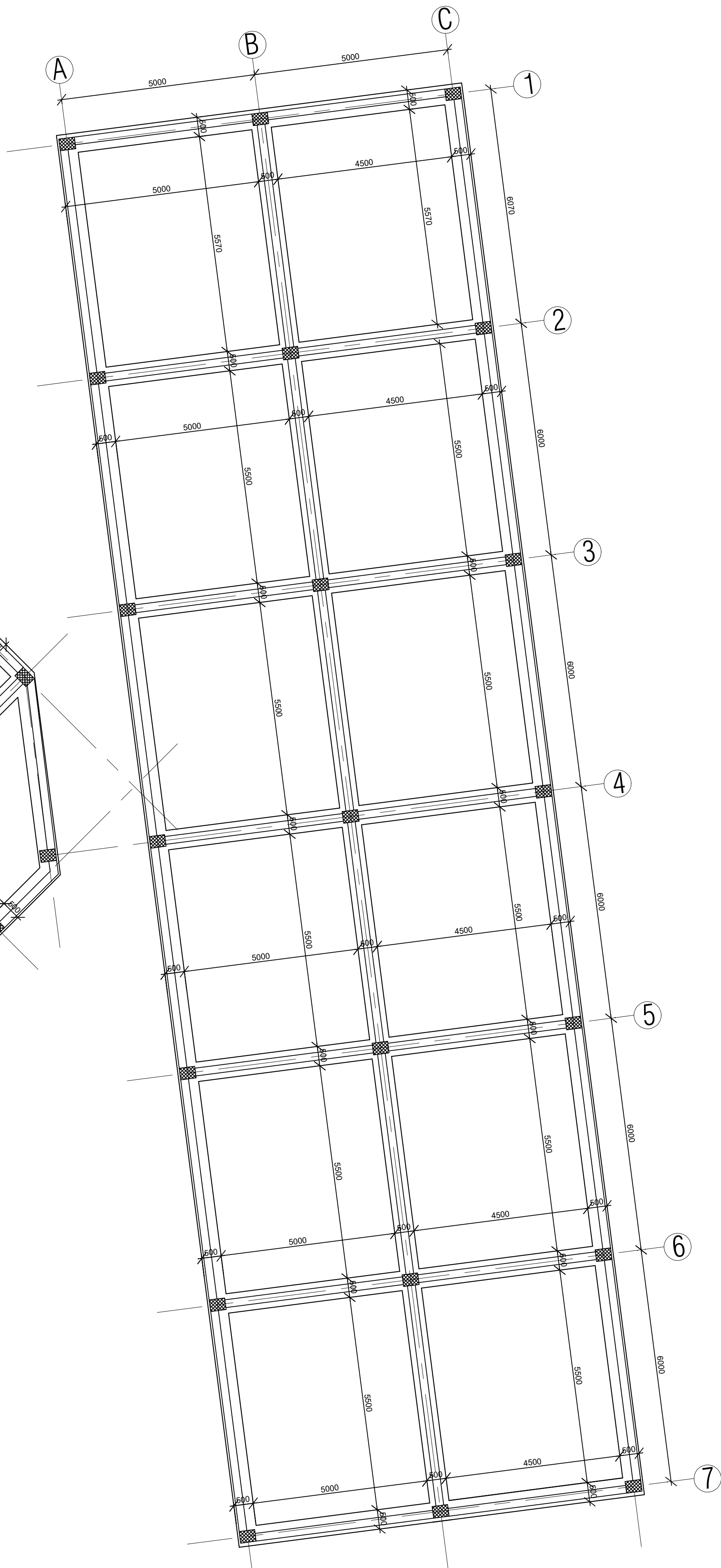
Tell:- +251913 093 832

Email:- birukhm@rocketmail.com

STRIP MASONRY FOUNDATION
DETAIL SCALE 1:30



**BLOCK A - MASONRY STRIP
FOUNDATION LAYOUT
SCALE 1:75**



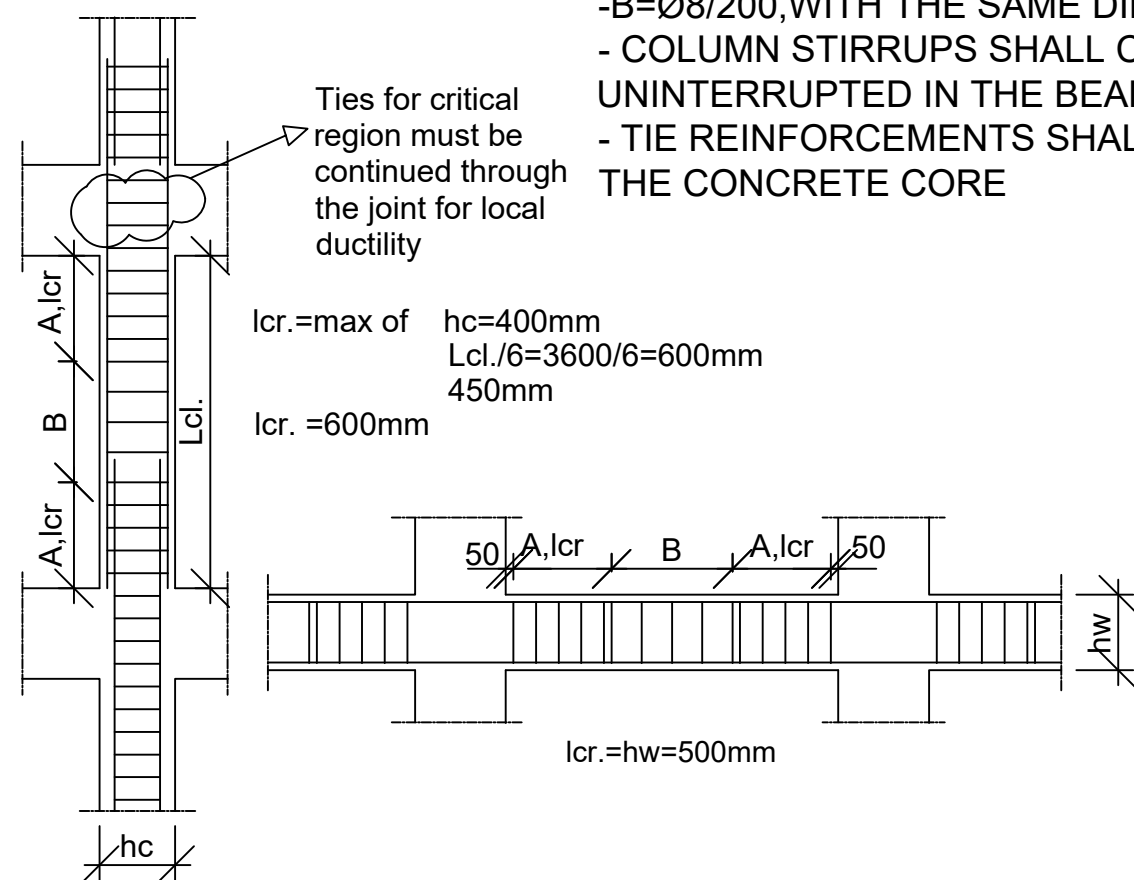
**BLOCK B - MASONRY STRIP
FOUNDATION LAYOUT
SCALE 1:75**

GENERAL NOTES

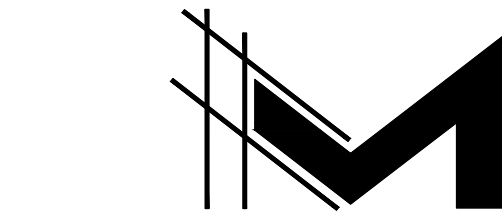
The following notes apply to all structural works.

- Material quality shall be
 - Concrete, min. 28days cube crushing strength = 25MPa
 - use-C-30 For column, pad & shear wall
 - use -c-25 for slab , beam, stair
 - use c-5 for lean concrete
 - Reinforcement steel, min. yield strength = 500MPa
- The following values of concrete cover for reinforcement must be provided:
 - Substructure, 50mm
 - Superstructure
 - Beams and columns, 25mm
 - Slabs, 20mm
- Use the slab ticknees =150mm for suspended slab (Unless specified).
- Centroids of central footings and columns must be aligned & actual foundation depth shall be decided on site. Footing level is subject to change upon actual verification during construction commencement.
- Beam shear stirrups shall be started 10cm from the face of column.
- All structural elements that come in direct contact with subgrade including masonry grade walls shall always rest on 5cm thick lean concrete(with min. 28days crushing strength of 7MPa).
- Structural drawings must always be read in conjunction with architectural drawings.
- All rebars shall be cut after on-site measurement of the respective elements.
- Ultimate bearing capacity is from soil investigation report.
- If site topography requires masonry grade wall of more than 1m height, the designer must be consulted.
- Dimensions and bar spacings are in millimeters while all levels are indicated in meters.
- Any discrepancies shall be reported immediately to the designer.
- Note carefully supporting and supported beams.
- The construction must be carried out under professional supervision.
- Provide a minimum of 50*Ø overlap where required, where Ø is the largest of the re-bars at the section.
- If site topography requires masonry grade wall of more than 1m height, the designer must be consulted.

Typical Stirrup
Spacing Detail
1:50



NOTE FOR COLUMNS AND BEAMS
-A=PROVIDED SHEAR REINFORCEMENT, AS
INDICATED ON THE BEAM OR COLUMN DETAIL
-B=Ø8/200, WITH THE SAME DIMENSIONS
- COLUMN STIRRUPS SHALL CONTINUE UNREDUCED/
UNINTERRUPTED IN THE BEAM COLUMN JOINTS
- TIE REINFORCEMENTS SHALL HOOK 135° IN TO
THE CONCRETE CORE



MAEZEN ARCHITECTS

Location:- Addis Ababa, Ethiopia
Tell:- +251913 093 832
Email:- birukhm@rocketmail.com

Project:
EE -Productive Use of Energy
(PUE)Hub- Design

New ☒ Modification ☐ As-built ☐
Schematic ☐ Preliminary ☐ Final ☐

OWNER
Mercy Corps

Location
Shedder Kebele, Awa bare Woreda,
Somali Region of Ethiopia

Design By
YITAGESU H/MICHAEL PE/18665

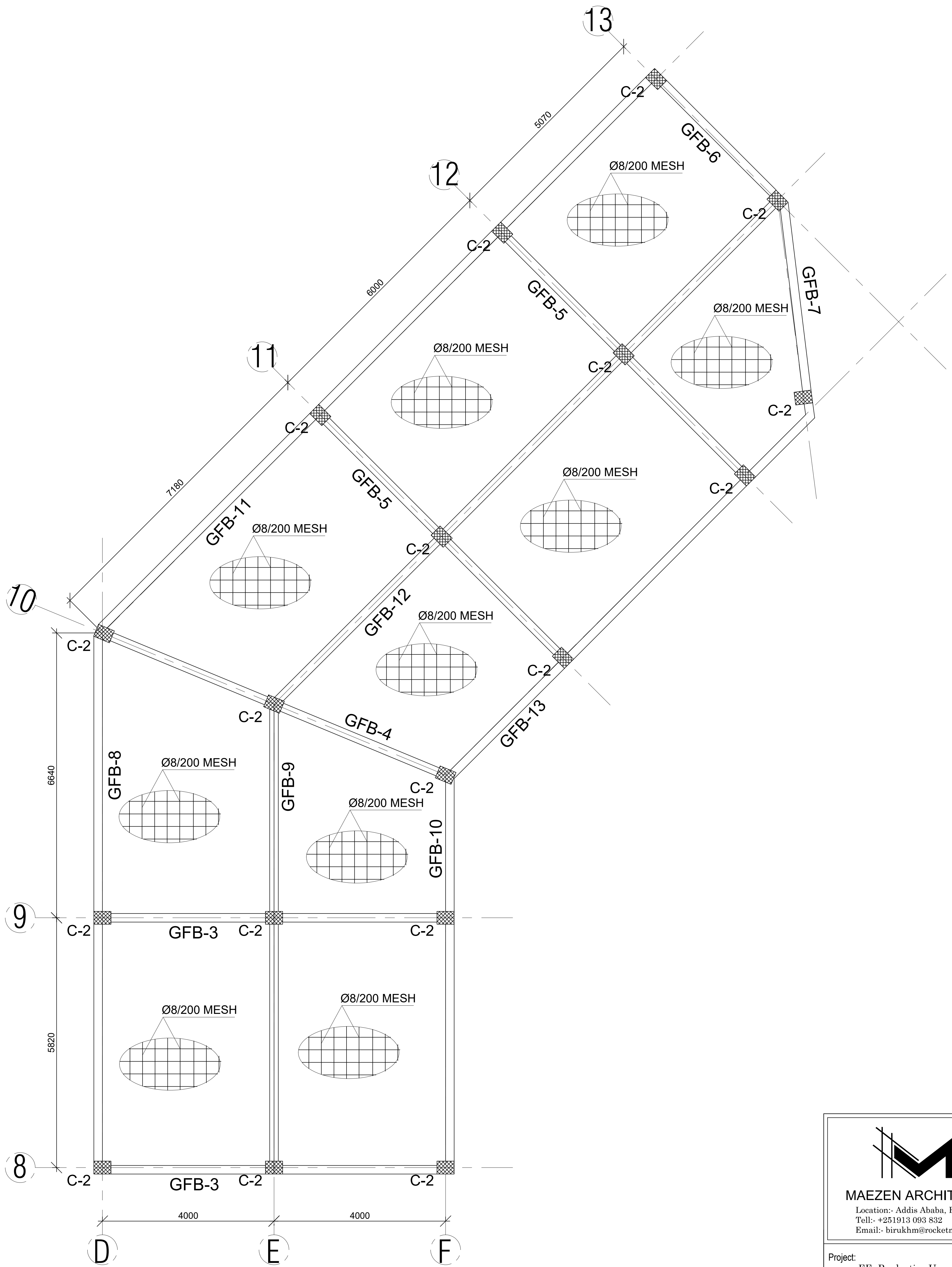
Drawn by :

Check By
Biruk H/Mariyam PPAR/1955

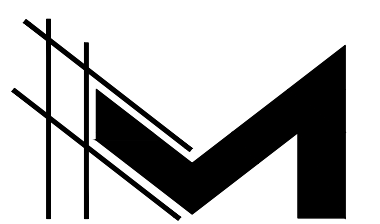
Drawing Title:
FOUNDATION DETAIL

Drawing No
ST-01/08

Date:- Feb, 2023



**GROUND FLOOR SLAB REINFORCEMENT AND
GRADE BEAM LAYOUT BLOCK (A)
(THICKNESS =100mm)
SCALE 1:50**



MAEZEN ARCHITECTS

Location:- Addis Ababa, Ethiopia
Tell:- +251913 093 832
Email:- birukhm@rocketmail.com

Project:
EE -Productive Use of Energy
(PUE)Hub- Design

New ☒ Modification ☐ As-built ☐
Schematic ☐ Preliminary ☐ Final ☐

OWNER
Mercy Corps

Location
Shedder Kebele, Awa bare Woreda,
Somali Region of Ethiopia

Design By
YITAGESU H/MICHAEL PE/18665

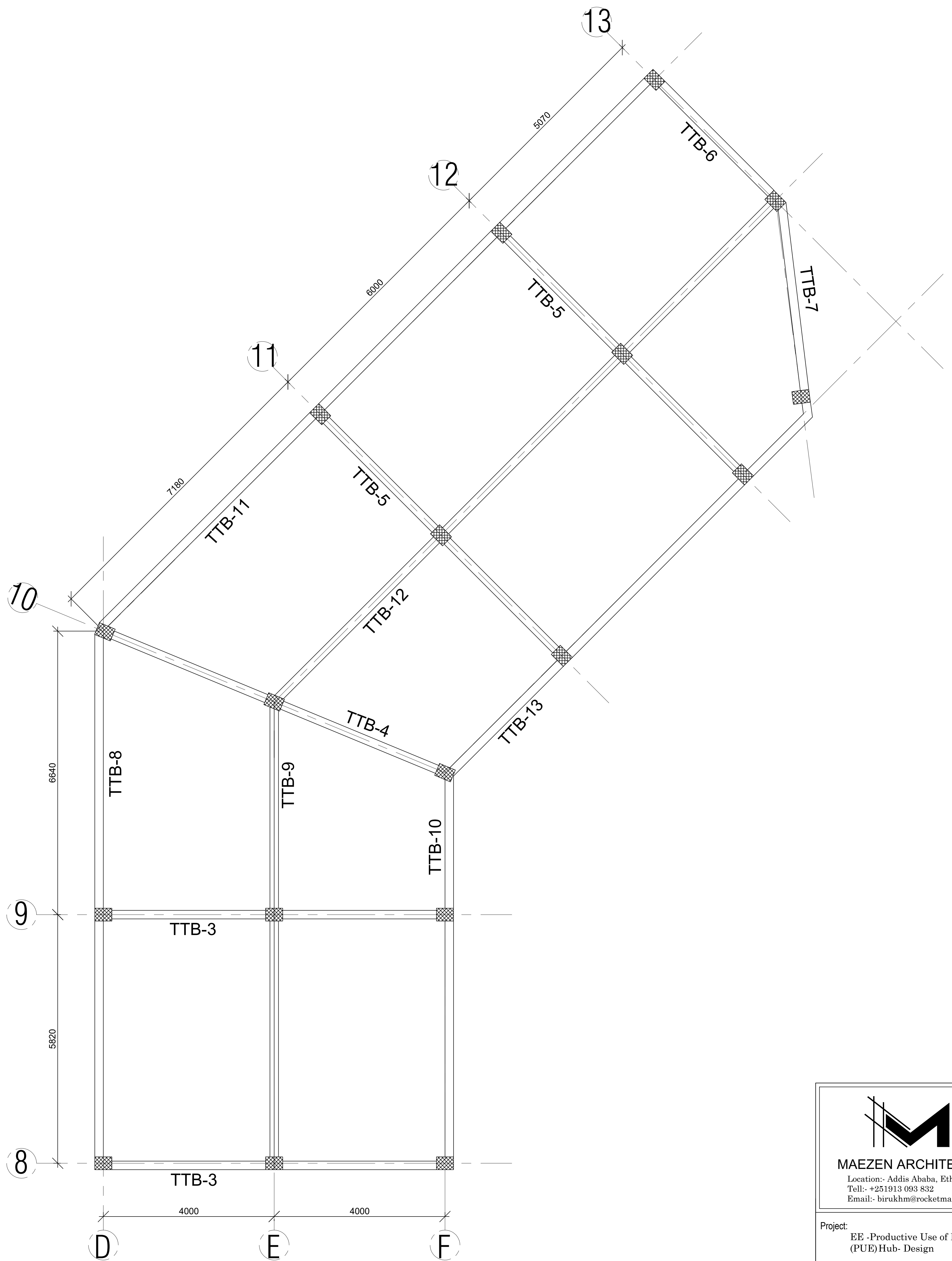
Drawn by :

Check By
Biruk H/Mariyam PPAR/1955

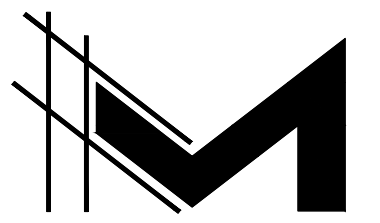
Drawing Title:
STRUCTURAL DETAIL

Drawing No
ST-02/08

Date:- Feb, 2023



**TOP-TIE BEAM LAYOUT
BLOCK (A)
SCALE 1:50**



MAEZEN ARCHITECTS
Location:- Addis Ababa, Ethiopia
Tell:- +251913 093 832
Email:- birukhm@rocketmail.com

Project:
EE -Productive Use of Energy
(PUE)Hub- Design

New ☒ Modification ☐ As-built ☐
Schematic ☐ Preliminary ☐ Final ☐

OWNER
Mercy Corps

Location
Shedder Kebele, Awa bare Woreda,
Somali Region of Ethiopia

Design By
YITAGESU H/MICHAEL PE/18665

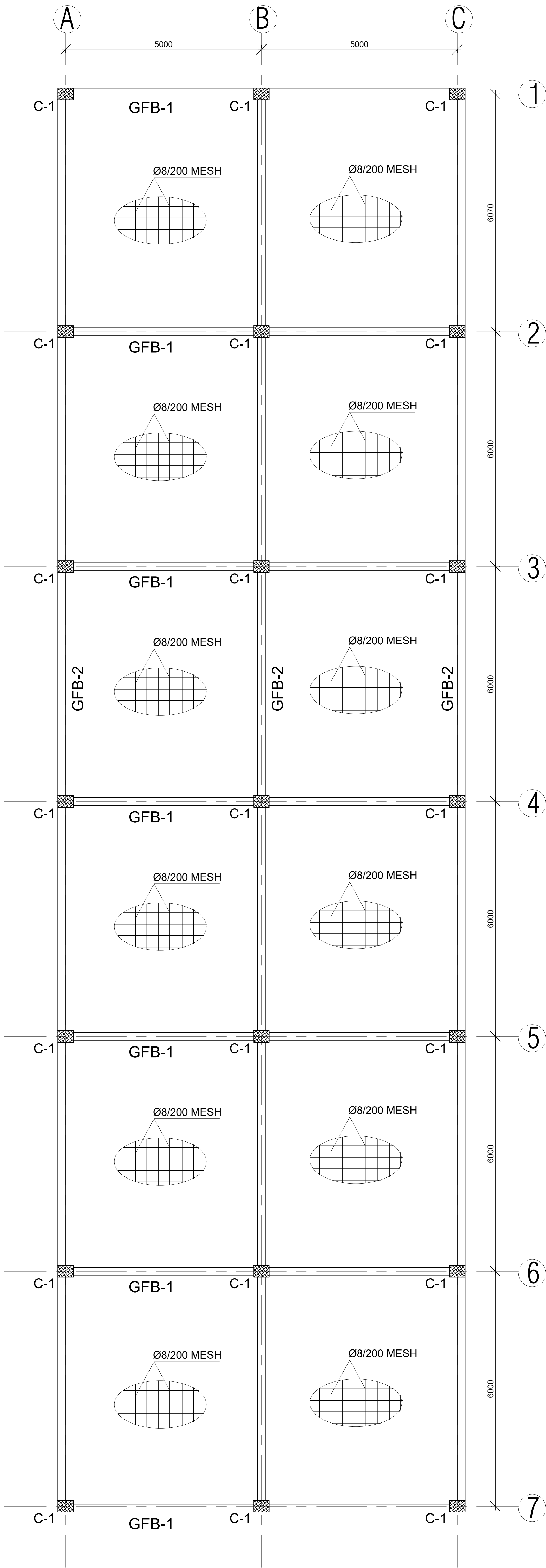
Drawn by :

Check By
Biruk H/Mariyam PPAR/1955

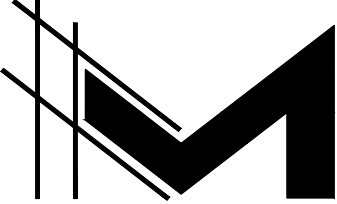
Drawing Title:
STRUCTURAL DETAIL

Drawing No
ST-03/08

Date:- Feb, 2023



**GROUND FLOOR SLAB REINFORCEMENT AND
GRADE BEAM LAYOUT BLOCK (B)
THICKNESS =100mm)**



MAEZEN ARCHITECTS
Location:- Addis Ababa, Ethiopia
Tell:- +251913 093 832
Email:- birukhm@rocketmail.com

Project:
EE -Productive Use of Energy
(PUE)Hub- Design

New ☒ Modification ☐ As-built ☐
Schematic ☐ Preliminary ☐ Final ☐

OWNER
Mercy Corps

Location
Shedder Kebele, Awa bare Woreda,
Somali Region of Ethiopia

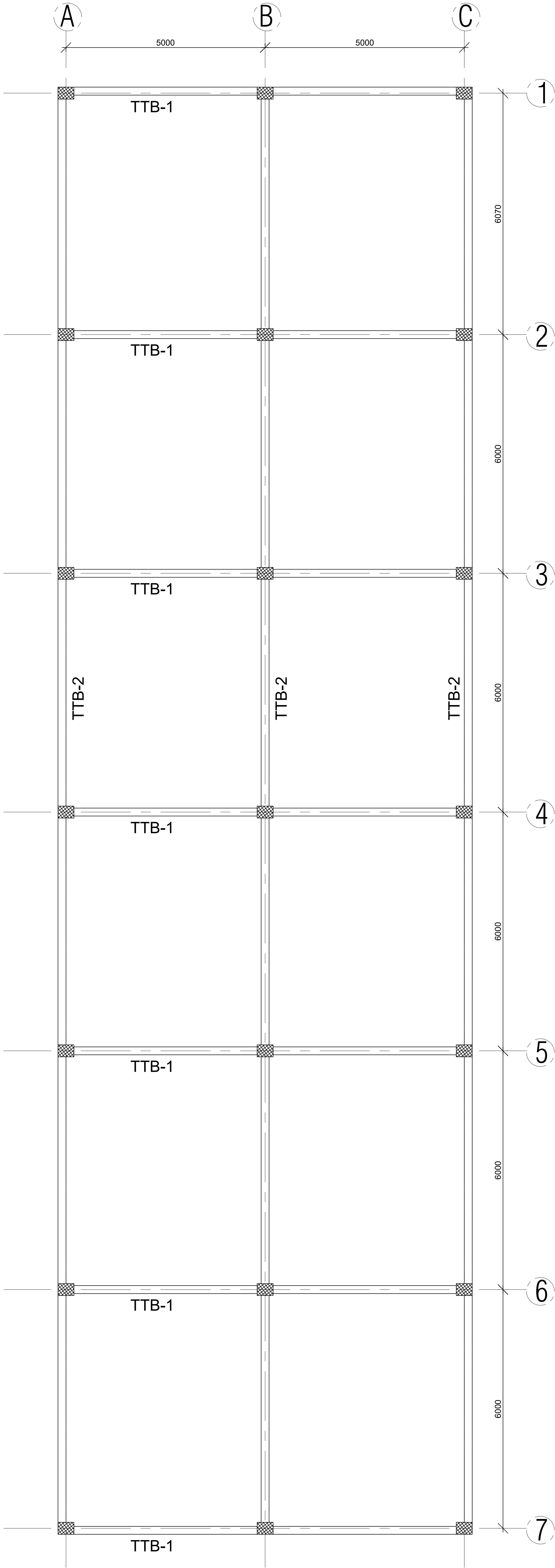
Design By
YITAGESU H/MICHAEL PE/18665

Drawn by :
Biruk H/Mariyam PPAR/1955

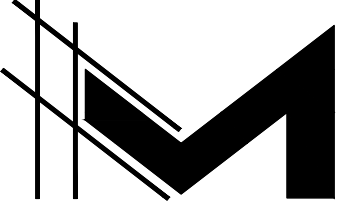
Drawing Title:
STRUCTURAL DETAIL

Drawing No
ST-04/08

Date:- Feb, 2023



TOP-TIE BEAM LAYOUT
BLOCK (B)
SCALE 1:50



MAEZEN ARCHITECTS
Location:- Addis Ababa, Ethiopia
Tell:- +251913 093 832
Email:- birukhm@rocketmail.com

Project:
EE -Productive Use of Energy
(PUE)Hub- Design

New ☒ Modification ☐ As-built ☐
Schematic ☐ Preliminary ☐ Final ☐

OWNER
Mercy Corps

Location
Shedder Kebele, Awa bare Woreda,
Somali Region of Ethiopia

Design By
YITAGESU H/MICHAEL PE/18665

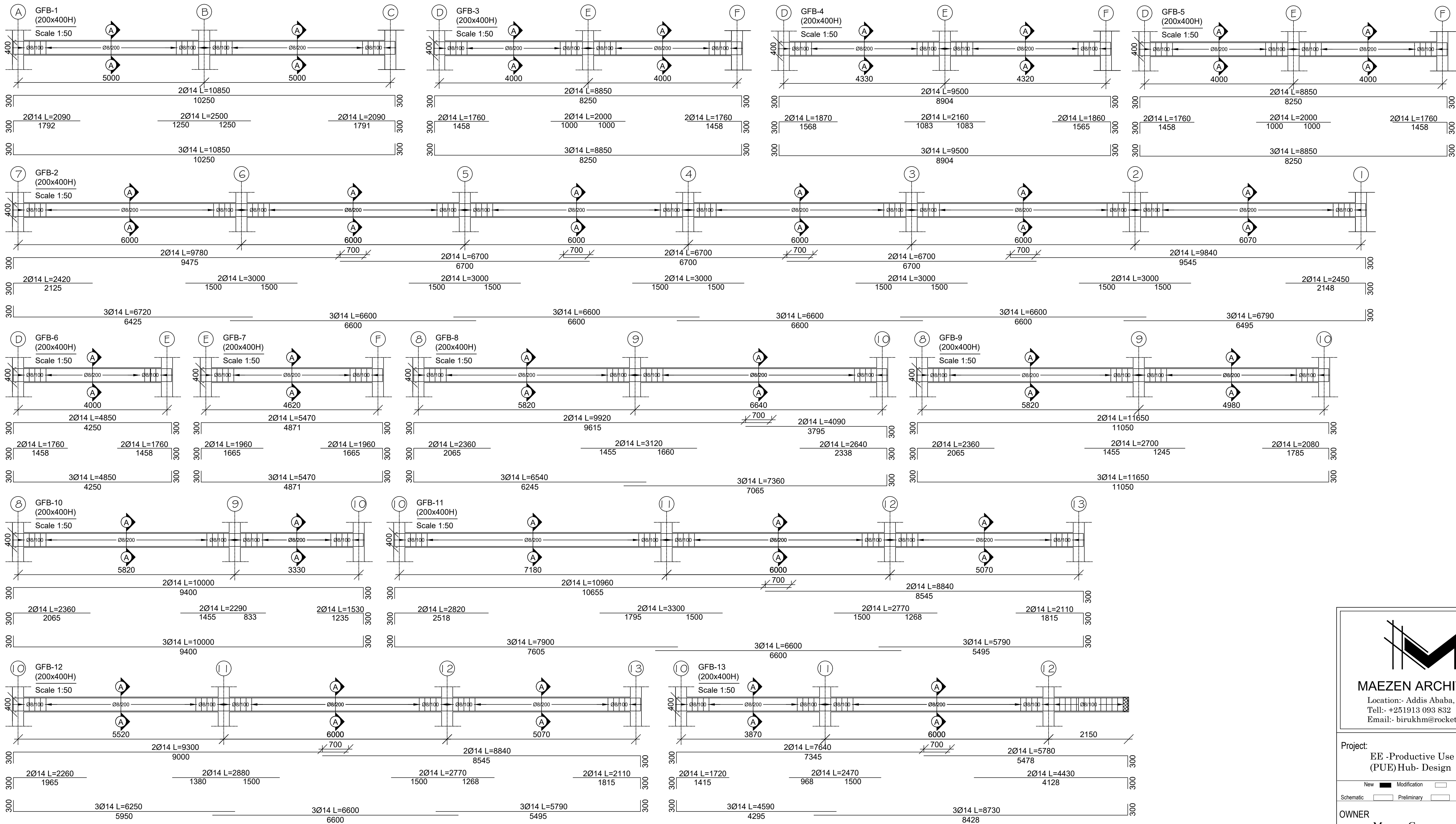
Drawn by :
Biruk H/Mariyam PPAR/1955

Check By
Biruk H/Mariyam PPAR/1955

Drawing Title:
STRUCTURAL DETAIL

Drawing No
ST-05/08

Date:- Feb, 2023



MAEZEN ARCHITECTS
Location:- Addis Ababa, Ethiopia
Tell:- +251913 093 832
Email:- birukhm@rocketmail.com

Project: EE -Productive Use of Energy (PUE)Hub- Design

New ☒ Modification ☐ As-built ☐
Schematic ☐ Preliminary ☐ Final ☐

OWNER
Mercy Corps

Location
Shedder Kebele, Awa bare Woreda, Somali Region of Ethiopia

Design By
YITAGESU H/MICHAEL PE/18665

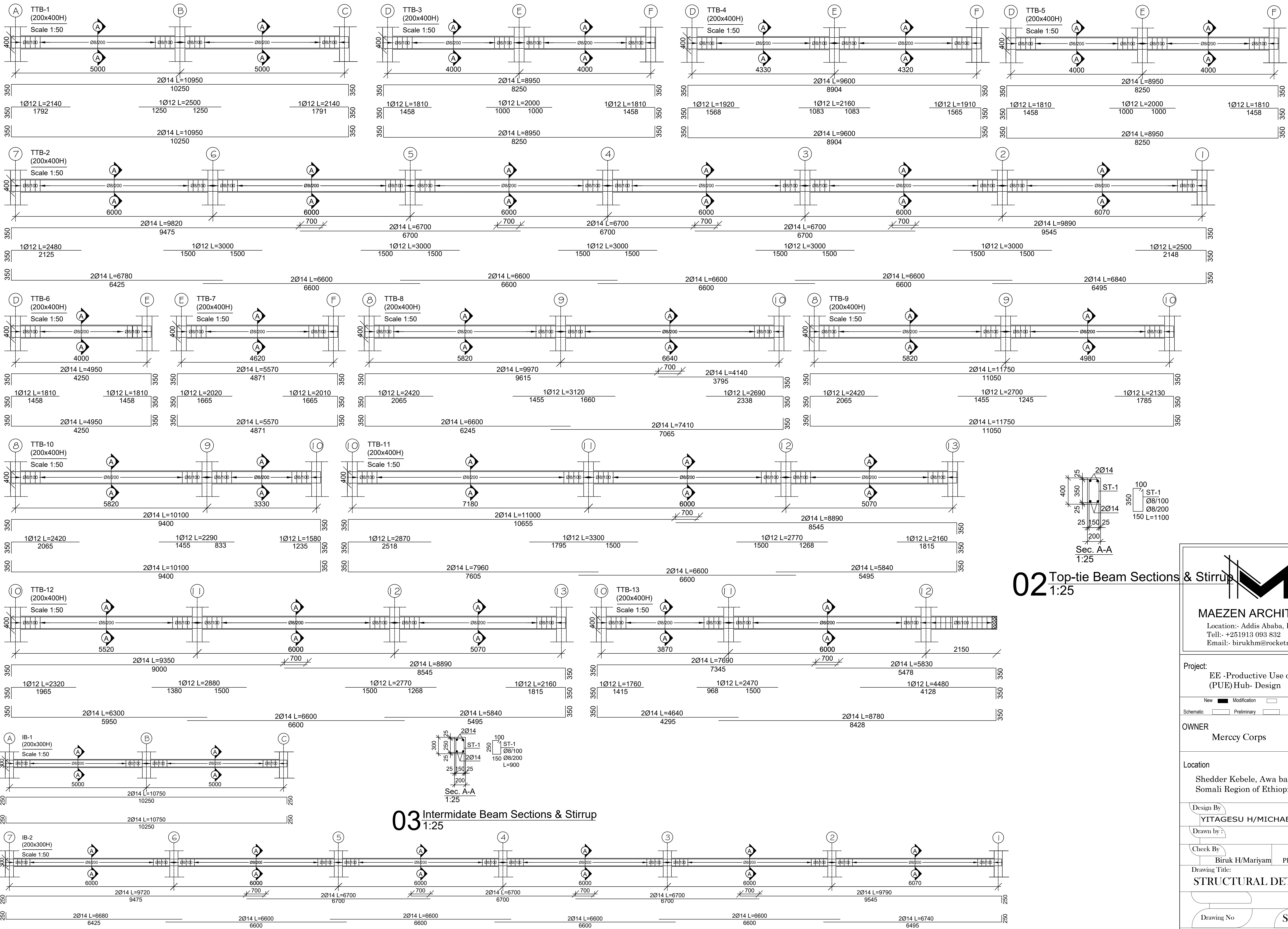
Drawn by :

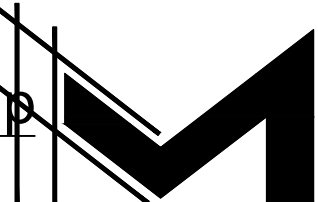
Check By
Biruk H/Mariyam PPAR/1955

Drawing Title:
STRUCTURAL DETAIL

Drawing No
ST-06/08

Date:- Feb, 2023





MAEZEN ARCHITECTS
Location:- Addis Ababa, Ethiopia
Tell:- +251913 093 832
Email:- birukhm@rocketmail.com

Project:
EE -Productive Use of Energy (PUE)Hub- Design

OWNER
Mercy Corps

Location
Shedder Kebele, Awa bare Woreda, Somali Region of Ethiopia

Design By
YITAGESU H/MICHAEL PE/18665

Drawn by :

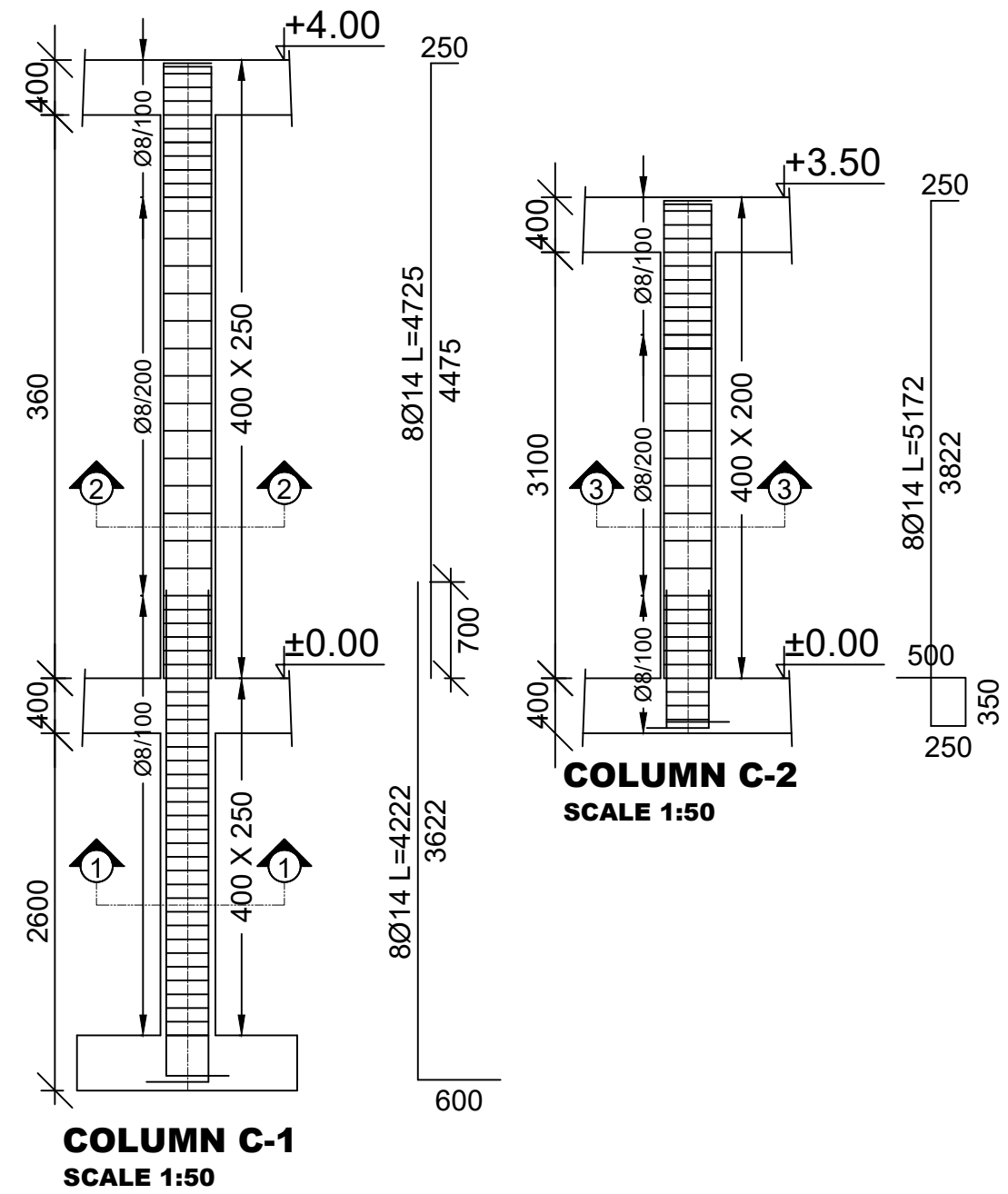
Check By
Biruk H/Mariyam PPAR/1955

Drawing Title:
STRUCTURAL DETAIL

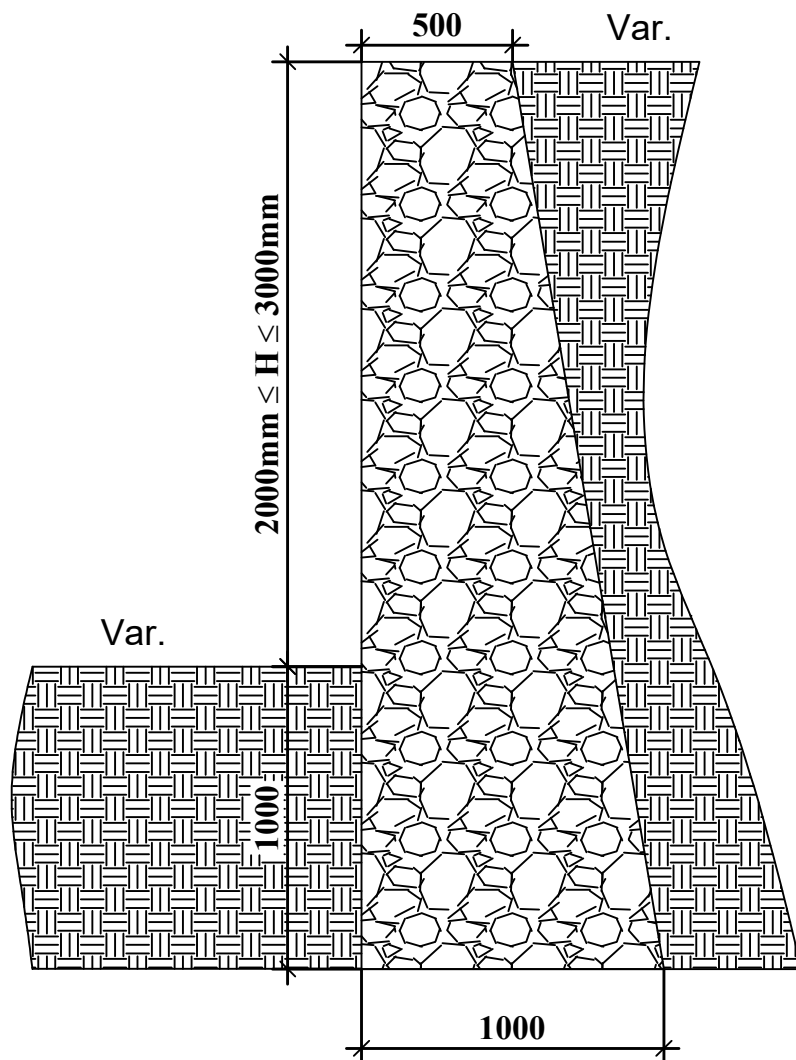
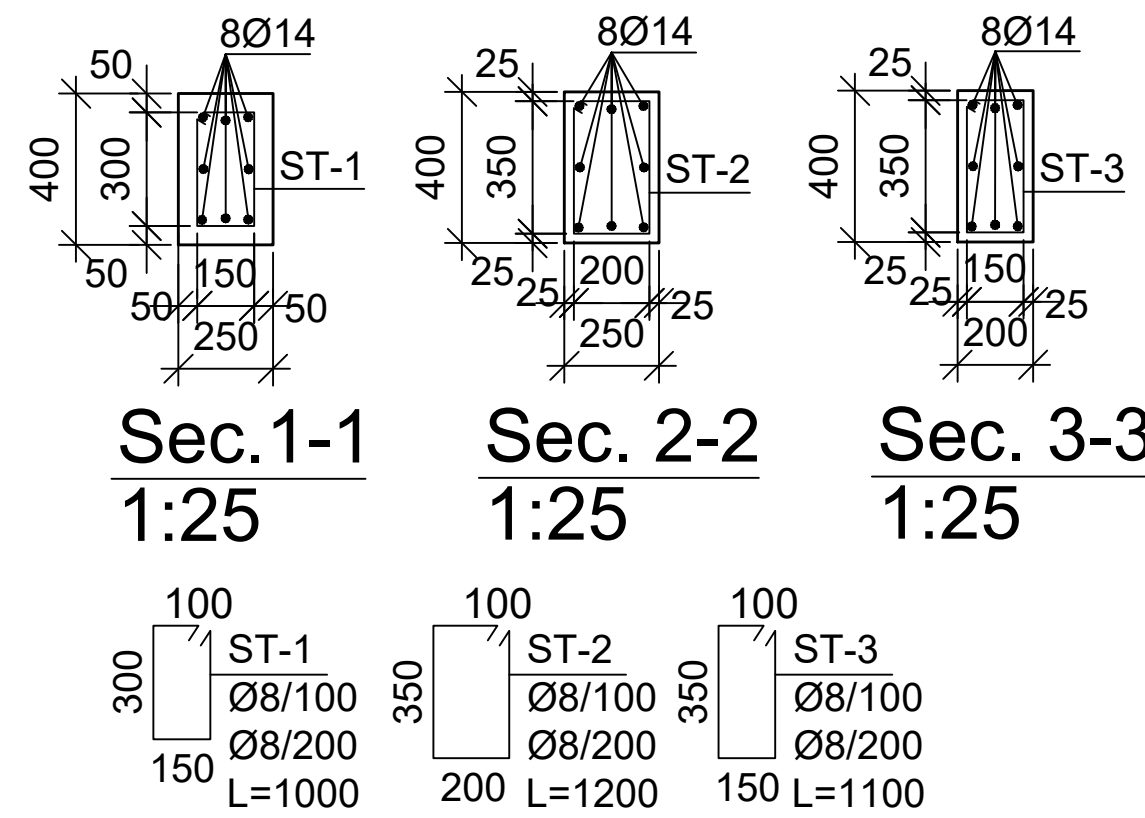
Drawing No
ST-07/08

Date:- Feb, 2023

COLUMN REINFORCEMENT
SCALE 1:50

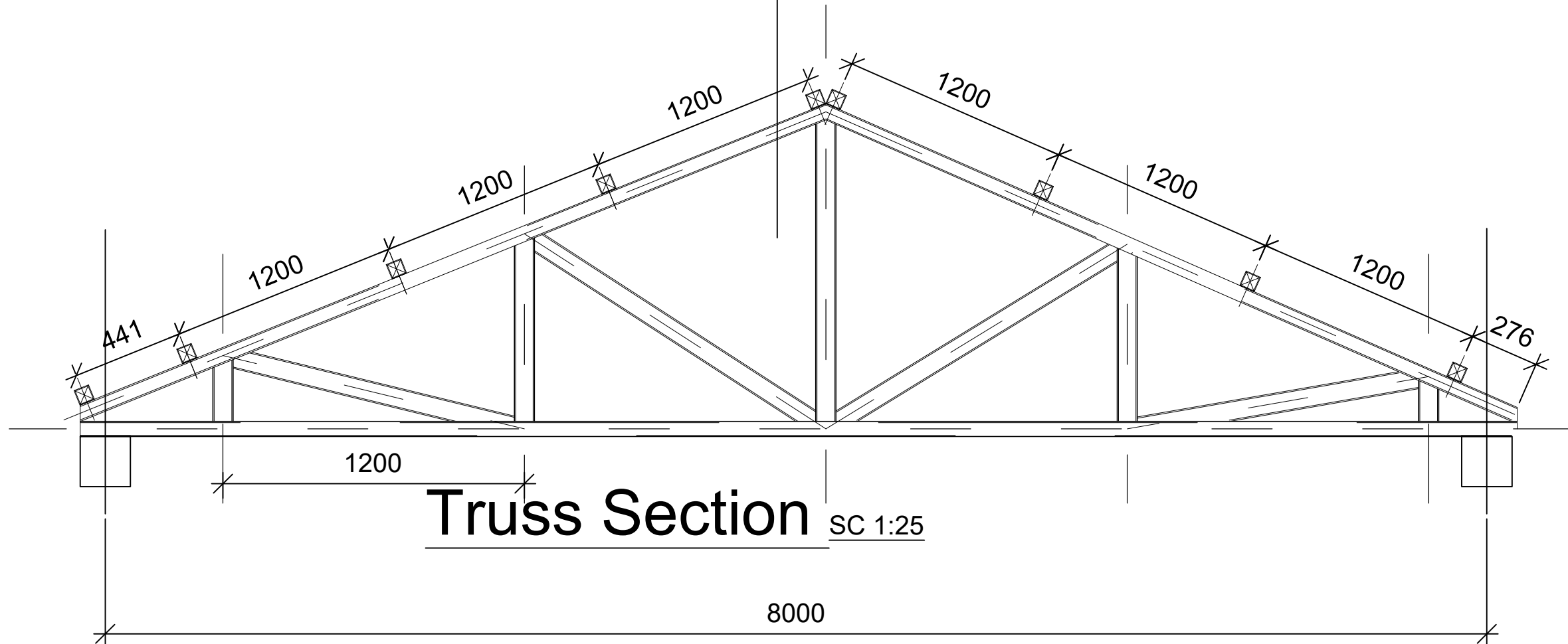


COLUMN SECTIONS
SCALE 1:25

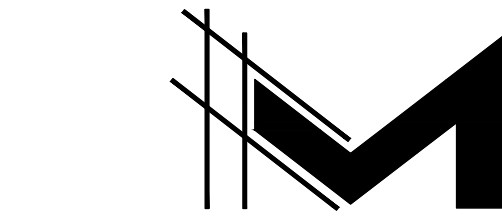


TYPICAL SECTION THROUGH
RETAINING WALL
SCALE 1:30

- G28 CIS roof cover
- 5 x 7 cm Zigba purlin
- Ø10 Eucalyptus Truss
- 5 x 5 cm Zigba butten
- 8 mm thick chipwood ceiling



Truss Section SC 1:25



MAEZEN ARCHITECTS

Location:- Addis Ababa, Ethiopia
Tell:- +251913 093 832
Email:- birukhm@rocketmail.com

Project:
EE -Productive Use of Energy
(PUE)Hub- Design

New ☒ Modification ☐ As-built ☐
Schematic ☐ Preliminary ☐ Final ☐

OWNER
Mercy Corps

Location
Shedder Kebele, Awa bare Woreda,
Somali Region of Ethiopia

Design By
YITAGESU H/MICHAEL PE/18665

Drawn by :

Check By
Biruk H/Mariyam PPAR/1955

Drawing Title:
STRUCTURAL DETAIL

Drawing No
ST-08/08

Date:- Feb, 2023