NOTE:
Soil bearing capacity is to be determined by contractor on site for the foundation of tower.
80x80x8mm EA diagonal bracing
100x100x8mm EA
8mm Gusset Plate welded to stanchion
80x80x8mm EA diagonal bracing

DETAIL-B

80x80x8mm EA diagonal bracing
8mm Gusset Plate welded to stanchion
100x100x8mm EA
80x80x8mm EA diagonal bracing

DETAIL-C

80x80x8mm EA diagonal bracing
100x100x8mm EA

DETAIL-A

16mm thick base plate
Reinforced concrete (1:2:4)
22mm dia. rod with threaded end
All bolts connected to gusset plates to be 16mm dia, grade 8.8

1. CONCRETE GRADE = 25
2. STEEL GRADE = 43
3. SOIL BEARING CAPACITY (ASSUMED) = 150KN/m²
4. WIND LOADING CONDITIONS = 140m/s²
5. ELECTRODE: A 3.10/4.00mm 5mm thick fillet weld on body panels
   10mm thick butt welding on base.

PAINTING
a. Internal section of tank with 1 coat of epoxy primer followed by 2 coats asphaltic paint.
b. External surface of tank including the access ladder and ventilation beams with with red oxide base followed by 2 coats of HR aluminum paint (5200)
Lockable Temporary Steel Cap

125mm dia. API Steel/UPVC Casing

Cement grout in borehole annulus 6m from ground level

Backfill with cutting from drill hole

125/75mm dia. mild steel/UPVC Adapter

Gravel pack with 2-4mm dia. gravel inserted to a minimum of 3m above the screen

1.5m length of 125mm dia. plain casing as sump
Soil bearing capacity is to be determined by contractor on site for the foundation of tower.
80x80x8mm EA diagonal bracing
100x100x8mm EA
8mm Gusset Plate welded to stanchion
80x80x8mm EA diagonal bracing

DETAIL-B

80x80x8mm EA diagonal bracing
8mm Gusset Plate welded to stanchion
100x100x8mm EA

DETAIL-C

80x80x8mm EA diagonal bracing
100x100x8mm EA

16mm thick base plate
Reinforced concrete (1:2:4)
22mm dia. rod with threaded end

DETAIL-A
HDB Details

STANCHION BASE DETAILS
4 No THUS

4 No 22mm Ø HDB
1200mm

22mm Ø BOLTS

2 No 150X150X23
With Stiffner
20mm thick
base plate

50mm conc. blinding

Y16@250mm/c

25mm GROUT

SECTION 3-3

THICK BASE PLATE

500X500X20mm

Y16@250mm/c

5mm GROUT

22mm Ø BOLTS

20mm thick
base plate

4 No 22mm Ø HDB
1200mm

Y16@250mm/c

25mm conc. blinding

STANCHION BASE DETAILS
4 No THUS

2 No 150X150X23
With Stiffner

22mm Ø HDB
300mm bolted to 12mm plate

Y10mm rod welded to bolt

NGL

30-Y16

6-Y10@300mm/c links

Y16@250mm/c

5mm conc. blinding

STANCION BASE DETAILS
4 No THUS

2 No 150X150X23
With Stiffner

22mm Ø BOLTS

20mm thick
base plate

5mm GROUT

4 No 22mm Ø HDB
1200mm

30mm Ø HDB
300mm bolted to 12mm plate

Y10mm rod welded to bolt

NGL

30-Y16

6-Y10@300mm/c links

Y16@250mm/c

5mm conc. blinding

HDB Details

STANCION BASE DETAILS
4 No THUS

4 No 22mm Ø HDB
1200mm

22mm Ø BOLTS

2 No 150X150X23
With Stiffner

20mm thick
base plate

50mm conc. blinding

Y16@250mm/c

25mm GROUT

SECTION 3-3

THICK BASE PLATE

500X500X20mm

Y16@250mm/c

5mm GROUT

22mm Ø BOLTS

20mm thick
base plate

4 No 22mm Ø HDB
1200mm

4 No 30mm Ø HDB
300mm bolted to 12mm plate

Y10mm rod welded to bolt

NGL

30-Y16

6-Y10@300mm/c links

Y16@250mm/c

5mm conc. blinding
All bolts connected to gusset plates to be 16mm dia, grade 8.8

**NOTES**

1. CONCRETE GRADE = C25
2. STEEL GRADE = 43
3. SOIL BEARING CAPACITY (ASSUMED) = 150KN/m²
4. WIND LOADING CONDITIONS = 40m/s²
5. ELECTRODE: A fox 3.10/4.0Gmm
   5mm thick fillet weld on body panels
   10mm thick butt welding on base.

**PAINTING**

a. Internal section of tank with 1 coat of epoxy primer followed by 2 coats asphaltite paint.

b. External surface of tank including the access ladder and ventilation beams with red oxide base followed by 2 coats of HR aluminum paint (5200)

**MANHOLE**

- Dimensions:
  - 600mm x 600mm
  - 100mm

**DRAWING NO.**

- Water Tank Details

**SCALE**

- 1:100

**DRAWING TITLE**

- Elevated Storage Tank (25 Cu.m)

**DATE**

- May 2021

**CHECKED**

- Damola

**MARKED FOR PRINTING**

- 2/2/2021

**SHEET SIZE**

- A1

**DESIGNED**

- Engr Soji

**REF. NO.**

- USAID/MERCY CORPS

**CONSULTANT**

- KONSADEM ASSOCIATES LTD

**ENGINEERING DESIGN OF WASH FACILITIES ACROSS BORNO, ADAMAWA AND YOBE (BAY) STATES**

**ENGINEER**

- USAID/BAY/BU-00

**CONSULTANT**

- 2ML CONSULTING NIGERIA LTD

**ADVANCED WATER TANK DETAIL**

- Water Tank Details

**DRAWN**

- Damola

**STAMP**

- 2ML Consulting Nigeria Ltd

**ENGR Soji**

**USAID/MERCY CORPS**

**DATE**

- May 2021

**MARKED FOR PRINTING**

- 2/2/2021

**SHEET SIZE**

- A1

**DESIGNED**

- Engr Soji

**REF. NO.**

- USAID/MERCY CORPS
Lockable Temporary Steel Cap

125mm dia. API Steel/UPVC Casing

Cement grout in borehole annulus 6m from ground level

Backfill with cutting from drill hole

125/75mm dia. mild steel/UPVC Adapter

Gravel pack with 2-4mm dia. gravel inserted to a minimum of 3m above the screen

1.5m length of 125mm dia. plain casing as sump

Borehole depth as specified
ENGINEERING DESIGN OF WASH FACILITIES ACROSS BORNO, ADAMAWA, AND YOBE (BAY) STATES

ELEVATED STORAGE TANK (25 Cu.m)

ZA DUMNE PRIMARY SCHOOL

TANK FOOTING PLAN

ADAMAWA
Soil bearing capacity is to be determined by contractor on site for the foundation of tower.

**NOTE:**
Soil bearing capacity is to be determined by contractor on site for the foundation of tower.
80x80x8mm EA diagonal bracing
100x100x8mm EA
8mm Gusset Plate welded to stanchion
80x80x8mm EA diagonal bracing

80x80x8mm EA diagonal bracing
8mm Gusset Plate welded to stanchion
100x100x8mm EA
80x80x8mm EA diagonal bracing

80x80x8mm EA diagonal bracing
100x100x8mm EA
8mm Gusset Plate welded to stanchion
80x80x8mm EA diagonal bracing

16mm thick base plate
Reinforced concrete (1:2:4)
22mm dia. rod with threaded end

DETAIL-A

DETAIL-B

DETAIL-C
**HDB Details**

- **22mm Ø BOLTS**
- **20mm thick base plate**
- **5mm GROUT**
- **4No 22mm Ø HDB 1200mm**
- **50mm conc. blinding**

**SECTION 3-3**

- **500X500X20mm THICK BASE PLATE**

**STANCHION BASE DETAILS**

- **4No THUS**
- **30-Y16**
- **6-Y10@300mm/c links**
- **Y16@250mm/c**

**Detail 'A'**

- **2No 150X150X23 With Stiffner**
- **22mm Ø BOLTS**
- **20mm thick base plate**

**FOOTING DETAILS**

- **ELEVATED STORAGE TANK 25 Cu.m**
- **ZA DUMNE PRIMARY SCHOOL**
- **BB/BD/04**
All bolts connected to gusset plates to be 16mm dia, grade 8.8

NOTES

MANHOLE

DETAILS AT 'B'

DETAILS AT 'B'

1. CONCRETE GRADE = Z5
2. STEEL GRADE = 43
3. SOIL BEARING CAPACITY (ASSUMED) = 150KN/m²
4. WIND LOADING CONDITIONS = 40m/s²
5. ELECTRODE: A fox 3.10/4.00mm

PAINTING:

a. Internal section of tank with 1 coat of epoxy primer followed by 2 coats asphaltine paint.
b. External surface of tank including the access ladder and ventilation beams with red oxide base followed by 2 coats of HR aluminum paint (5200)
Lockable Temporary Steel Cap

125mm dia. API Steel/UPVC Casing

Cement grout in borehole annulus 6m from ground level

Backfill with cutting from drill hole

125/75mm dia. mild steel/UPVC Adapter

Gravel pack with 2-4mm dia. gravel inserted to a minimum of 3m above the screen

125mm dia. stainless steel/UPVC screen

1.5m length of 125mm dia. plain casing as sump

Borehole depth as specified

Made by:

Date:

Mark:

Revision

Checked:

Traced:

Drawn:

Date:

CLIENT:

Ref. No:

Designed:

PROJECT

ENGINEERING DESIGN OF WASH FACILITIES ACROSS BORNO, ADAMAWA AND YOBE (BAY) STATES

Service Contract No:

YOL SC 14

STATE

SMALL TOWN

DRAWING TITLE

DRAWING NO.

SCALE

STAMP

MAY 2021

Engr Soji

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USAID/MERCY CORPS

USAID/BAY/BU-00

ADAMAWA

DUMNE

ZA DUMNE PRIMARY SCHOOL

BOREHOLE DETAILS

Ref. No: 88/BI07

USAID/BAY/BU-00