## Module 1

- Construct Horizontal Cylindrical Steel Tank (referred as module 1 in this TOR) using 4mm sheets steel material.
- The Cylinder is 3 m long with a 2 m diameter and divided in 3 compartments with respective width as follows:
- 1.10 m for the $1^{\text {st }}$ compartment
- 0.95 m for the $2^{\text {nd }}$ compartment
- 0.95 m for the $3^{\text {rd }}$ compartment
- All the 4 " openings in this module are at the same level: the distance between the bottom of any opening and the ground is 1.70 m (this will be the water level).
- When several 4" openings are present next to each other, the distance between the centres of the openings is 40 cm .
- The 4" openings should be made according to the exact external diameter of the 4 " pipes that will be used. The 4 " pipe pieces are 20 cm long and should be well fixed in the 4 " openings with a rubber gasket to well adhere and to avoid any micro-leakage, no tolerance in this regard.
- 2 superposed openings $(90 \times 90 \mathrm{~cm})$ are present to access the chambers of the module. Each opening is centered between 2 compartments with an elevated cover as shown in the drawing.
- The 2 lateral side covers must be bended to the long side to prevent any weaknesses in the welding as shown in the picture-example.
- Coating Materials:

1- Inside Tank Surface: All inside surface must be well prepared and cleaned from any steel debris and painted at first by an epoxy primer and after coated by special epoxy anti-acid and anti-scratching specialized for waste water.
2- Outside Tank Surface: all surface should be painted by a primer and bituminous waterproof paint to protect the lateral surface from the moisture and water infiltration.



ELEVATION VIEW



PLAN VIEW

Pipes and fittings should be assembled as per the drawing:


## ELEVATION VIEW




| Module 1 |  |  |  |  |  |  | $\begin{aligned} & \text { 믐 } \\ & \text { 등 } \\ & \text { © } \end{aligned}$ |  |  | $\begin{aligned} & \text { 는 } \\ & \text { 들 } \\ & \text { © } \end{aligned}$ |  |  | $\frac{\pi}{5}$ | $\stackrel{\perp}{\stackrel{1}{๒}}$ |
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| 4" UPVC-pipe OD 110 mm |  | 0.2 | 1.3 | 0.6 | 0.6 | 4.8 | 0.6 | 0.6 | 4.8 | 0.6 | 0.6 |  | M | 14.7 |
| 4" UPVC Connector | 1 |  |  |  |  |  |  |  |  |  |  | 3 | Pcs | 4 |
| 4" UPVC 90 degree Elbow |  |  | 1 |  |  |  |  |  |  |  |  |  | Pcs | 1 |
| 4" UPVC Tee |  |  |  | 3 |  | 3 | 3 |  | 3 | 3 |  |  | Pcs | 15 |

The assembled module should be delivered to the site inside the underground pit and fill with clear water to verify impermeability during back filling - conduct any needed steel reparations on-site before hand-over of the module.

## Module 2

- Construct Horizontal Cylindrical Steel Tank (referred as module 2 in this TOR) using 4mm sheets steel material.
- The Cylinder is 3 m long with a 2 m diameter and divided in 3 compartments with respective width as follows:
- 0.95 m for the $1^{\text {st }}$ compartment
- 0.95 m for the $2^{\text {nd }}$ compartment
- 1.10 m for the $3^{\text {rd }}$ compartment
- All the 4 " openings in this module are at the same level: the distance between the bottom of any opening and the ground is 1.70 m (this will be the water level).
- When several 4" openings are present next to each other, the distance between the centres of the openings is 40 cm .
- The 4" openings should be made according to the exact external diameter of the 4 " pipes that will be used. The 4 " pipe pieces are 20 cm long and should be well fixed in the 4 " openings with a rubber gasket to well adhere and to avoid any micro-leakage, no tolerance in this regard.
- 2 superposed openings $(90 \times 90 \mathrm{~cm})$ are present to access the chambers of the module. Each opening is centered between 2 compartments with an elevated cover as shown in the drawing.
- The 2 lateral side covers must be bended to the long side to prevent any weaknesses in the welding as shown in the picture-example.
- A perforated sheet with $1.1 \mathrm{~m} \times 1.6 \mathrm{~m}$ dimensions should be placed at the bottom of the third compartment to support the filter media as shown in the drawing.
- Coating Materials:

1- Inside Tank Surface: All inside surface must be well prepared and cleaned from any steel debris and painted at first by an epoxy primer and after coated by special epexy antiacid and anti-scratching specialized for waste water.
2- Outside Tank Surface: all surface should be painted by a primer and bituminous waterproof paint to




ELEVATION VIEW


Pipes and fittings should be assembled as per the drawing


ELEVATION VIEW


| Module 2 |  |  |  |  |  | $\begin{aligned} & \text { U } \\ & \text { E } \\ & \text { 흧 } \\ & \text { © } \end{aligned}$ |  |  | W 흐̈ © © | $\begin{aligned} & \text { u } \\ & \text { 들 } \\ & \text { 을 } \end{aligned}$ |  |  | $\stackrel{\square}{5}$ | § |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4" UPVC-pipe OD 110 mm |  | 0.6 | 4.8 | 0.6 | 0.6 | 4.8 | 0.6 | 0.6 | 4.8 | 0.2 | 0.2 |  | M | 17.8 |
| 4" UPVC Connector | 3 |  |  |  |  |  |  |  |  |  |  | 1 | Pcs | 4 |
| 4" UPVC 90 degree Elbow |  |  |  |  |  |  |  |  |  | 1 |  |  | Pcs | 1 |
| 4" UPVC Tee |  |  | 3 | 3 |  | 3 | 3 |  | 3 |  |  |  | Pcs | 15 |

The assembled module should be delivered to the site inside the underground pit and fill with clear water to verify impermeability during back filling - conduct any needed steel reparations on-site before hand-over of the module.

## Tipping Bucket

The Tipping Bucket is an external accessory to be constructed from 4 mm steel sheets and coated with special epoxy for wastewater.

It consists of two V shape compartments that can collect a volume of 8 Litres of water each before basculation around steel axis as shown in the drawing:


