

# DESIGNS AND DRAWINGS.

**NOBAT AMER WATER PROJECT - MOCHA DISTRICT - TAIZZ  
GOVERNORATE**

**PROJECT TITLE:**

**RAINS OF RESILIENCE 2025**

**DEVELOPED BY:**



**FUNDED BY:**

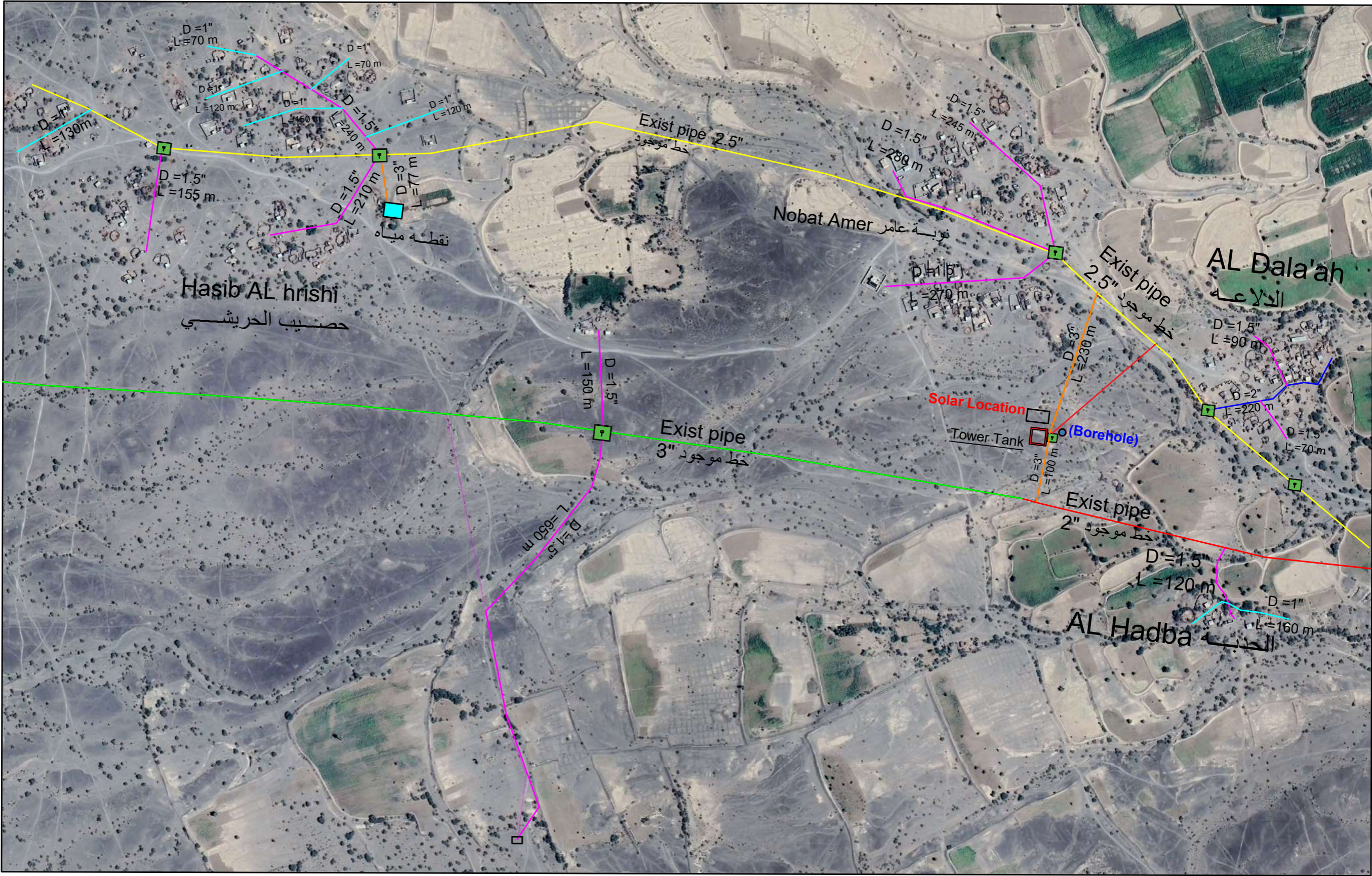





# REHABILITATION OF NOBAT AMER WATER SYSTEM:

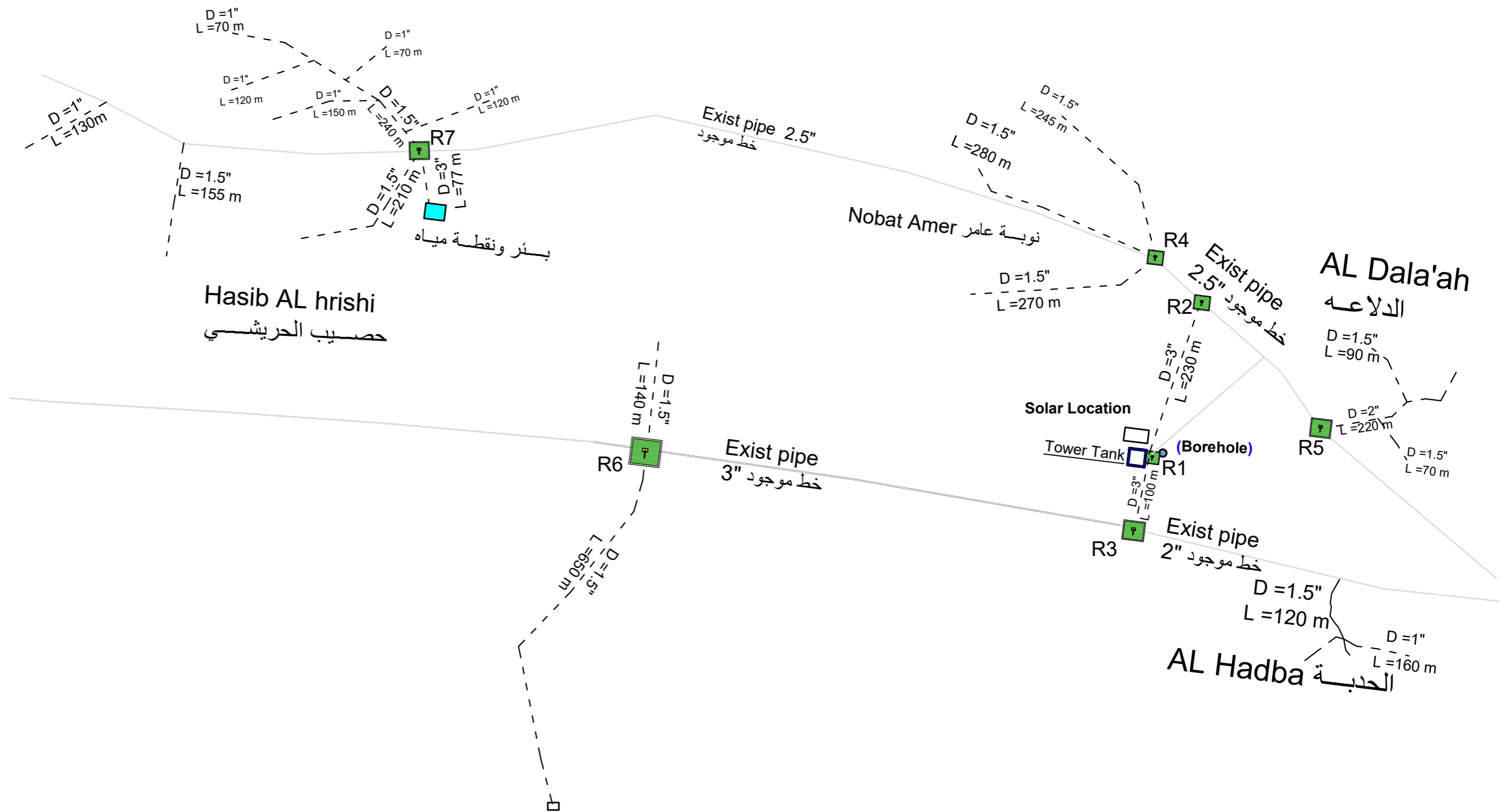
INSTALL NEW WATER NETWORKS, AND CONSTRUCT NEW OPERATION ROOM, AND CONSTRUCT NEW WUC ROOM

| DRAWING LIST: |   |
|---------------|---|
| NO            | DRAWING TITLE                               |
| A0            | TABLE OF CONTENTS                           |
| A1            | WATER NETWORK PLAN with Map                 |
| A2            | WATER NETWORK PLAN                          |
| A3            | EXCAVATION, BACKFILL, WATER NETWORK DETAILS |
| A4            | VALVE ROOM DETAILS                          |
| A5            | Managment room PLAN                         |
| A6            | Reinforcement Managment room PLAN           |
| A7            | CESSPIT DRAWING                             |
| A8            | PUMPING ROOM DETAILS                        |
| A9            | GENERAL NOTES                               |
|               |   |

|   |          |                       |
|---|----------|-----------------------|
| Existing Water Network lines (90 mm) 3 Inch dia.    | PE-90mm  | هش خط إسالة موجود 3   |
| Existing Water Network lines (75 mm) 2.5 Inch dia.  | PE-75mm  | هش خط إسالة موجود 2.5 |
| Existing Water Network lines (63mm) 2 Inch dia.     | PE-63mm  | هش خط إسالة موجود 2   |
| Proposed New Water Network lines (90mm) 3 Inch dia. | PE-90mm  | هش خط إسالة مقترح 3   |
| Proposed New Water Network lines (63mm) 2 Inch dia. | PE-63mm  | هش خط إسالة مقترح 2   |
| Proposed New Water Network lines (50) 1.5 Inch dia. | PE-50 mm | هش خط إسالة مقترح 1.5 |
| Proposed New Water Network lines (32mm) 1 Inch dia. | PE-32mm  | هش خط إسالة مقترح 1   |



|  |   |                          |                            |                           |             |  |             |   |                          |
|--|---|--------------------------|----------------------------|---------------------------|-------------|--|-------------|---|--------------------------|
| Prepared by:<br> | Funded by:<br> | Project Title:           | Drawing Title:             | Designed and reviewed by: | Status:     |  |             | North:<br> | Drawing No:<br><b>A1</b> |
|  |   | Nobat Amer Water Project | Internal Water Network Map | SPRY - WASH Sector        | Final Draft |  |             |   |                          |
|  |   | Project Location:        | Project Name:              | Approved by:              | Project No: |  | Paper Size: |   |                          |
|  |   | Taiz- Mocha              | RAINS OF RESILIENCE 25     | SPRY - WASH Sector        | Date        |  | Scale       | As Shown  |                          |



Details for Lines

|                        |                                  |
|------------------------|----------------------------------|
| خطوط الأنابيب الموجودة | Existing Pipeline                |
| خط إسالة مقترح         | Proposed New Water Network lines |

Prepared by:



Funded by:



Project Title:

Nobat Amer Water Project

Project Location:

Taiz- Mocha

Drawing Title:

Internal Water Network Map

Project Name:

RAINS OF RESILIENCE 25

Designed and reviewed by:

SPRY - WASH Sector

Approved by:

SPRY - WASH Sector

Status:

Final Draft

Project No:

Date

Paper Size: A3

Scale

As Shown

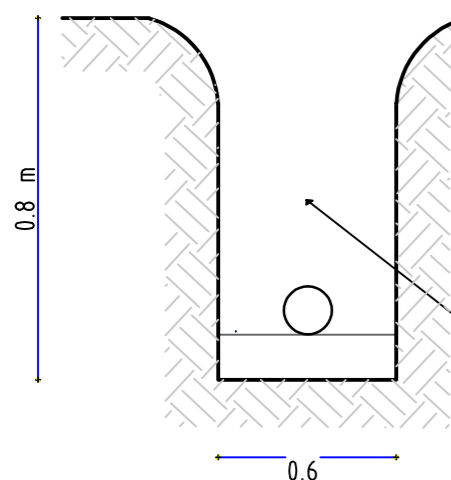
North:



Drawing No:

A2

## Step 01



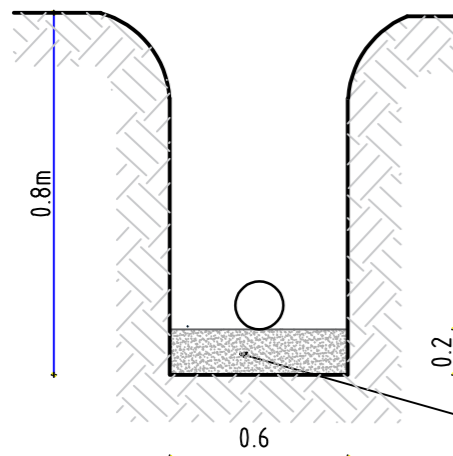
Drilling is carried out according to the specified dimensions ,with a depth of no less than 1.2m and a width suitable for installing pipes of no less than 50cm.

يتم الحفر بحسب الابعاد المحدد عمق لا يقل عن ١,٢ م والعرض المناسب لتثبيت المواسير لا يقل عن 60 سم.

### Excavation details

تفاصيل الحفر

## Step 02



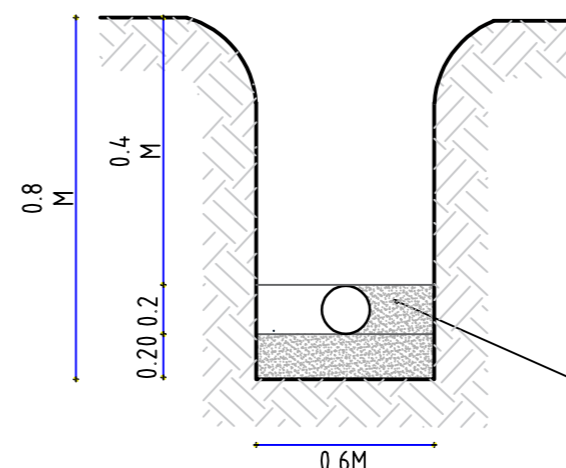
Sand or soft soil is placed under the pipe with a thickness of no less than 15 cm, up to the middle of the pipe, and compact it with your foot.

يتم وضع الرمل او التراب الناعم تحت الانبوب بسماكة لا تقل عن ١٥ سم حتي منتصف الانبوب والدك عليه بالقدم.

### Details for start Installation

تفاصيل بداية التركيب

## Step 03



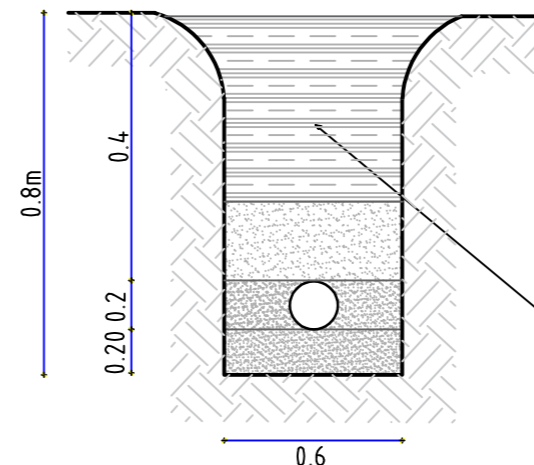
The pipes are placed after connecting them, testing the pumping into them, and checking that no water is leaking from them. Then backfilling with sand or soft soil is completed around and over the pipe with a thickness of no less than 20 cm.

يتم وضع الانابيب بعد توصيلها وتجربة الضخ فيها وفحص عدم تسريب مياه منها ومن ثم يتم اكمال الردم بالرمل او التربة الناعم حول و فوق الانبوب بسماكة لا تقل عن 20 سم.

### Details Backfilling Around the Pipe

تفاصيل الردم حول الانبوب

## Step 04



Backfilling with soft soil over the pipes 30 cm with tamping, and then the resulting excavation is backfilled in layers with tamping every 25 cm to prevent the backfill from collapsing in the future.

يتم الردم بتربة ناعمة فوق الانابيب ب 30 سم مع الدك وبعدها يتم الردم من ناتج الحفر علا طبقات مع الدك كل 25 سم لمنع هبوط الردم في مستقبل

### Details of completing the backfill with tamping

تفاصيل اكمال الردم مع الدك

## Details of excavation, backfilling, water network and pumping line installation

تفاصيل الحفر والردم وتركيب شبكة التوزيع وخط الضخ

Prepared by:



Funded by:



Project Title:

Nobat Amer Water Project

Project Location:

Taiz- Mocha

Drawing Title:

Excavation, Backfilling

Project Name:

RAINS OF RESILIENCE 25

Designed and reviewed by:

SPRY - WASH Sector

Approved by:

SPRY - WASH Sector

Status:

Final Draft

Project No:

Date

Paper Size: A3

Scale

As Shown

North:

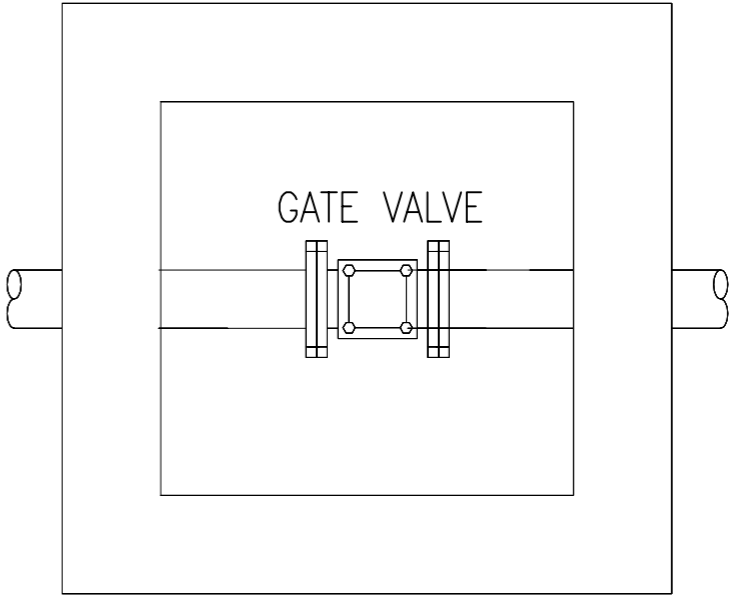


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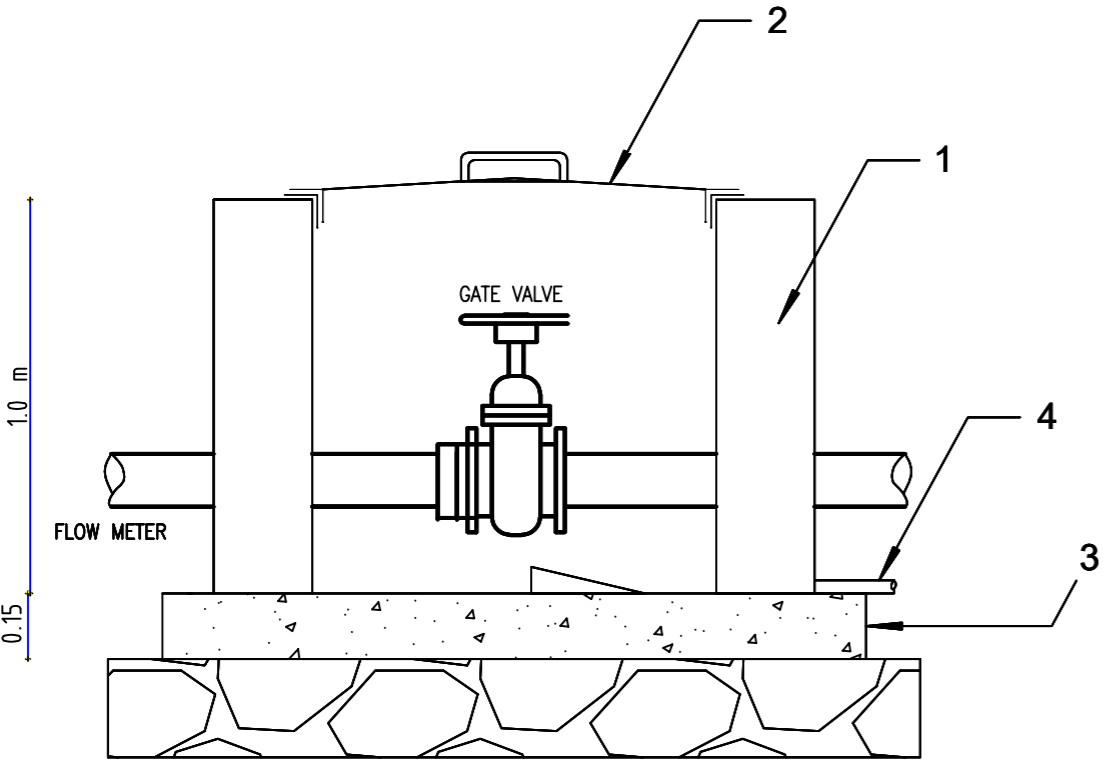
A3

**Notes :**

Length of the chamber will be adjusted according to the dimensions of the valves ,connections and fitting so the valve shall be positioned with enough space for removing and reinstallation during maintenance .



**Plan View** مسقط أفقي






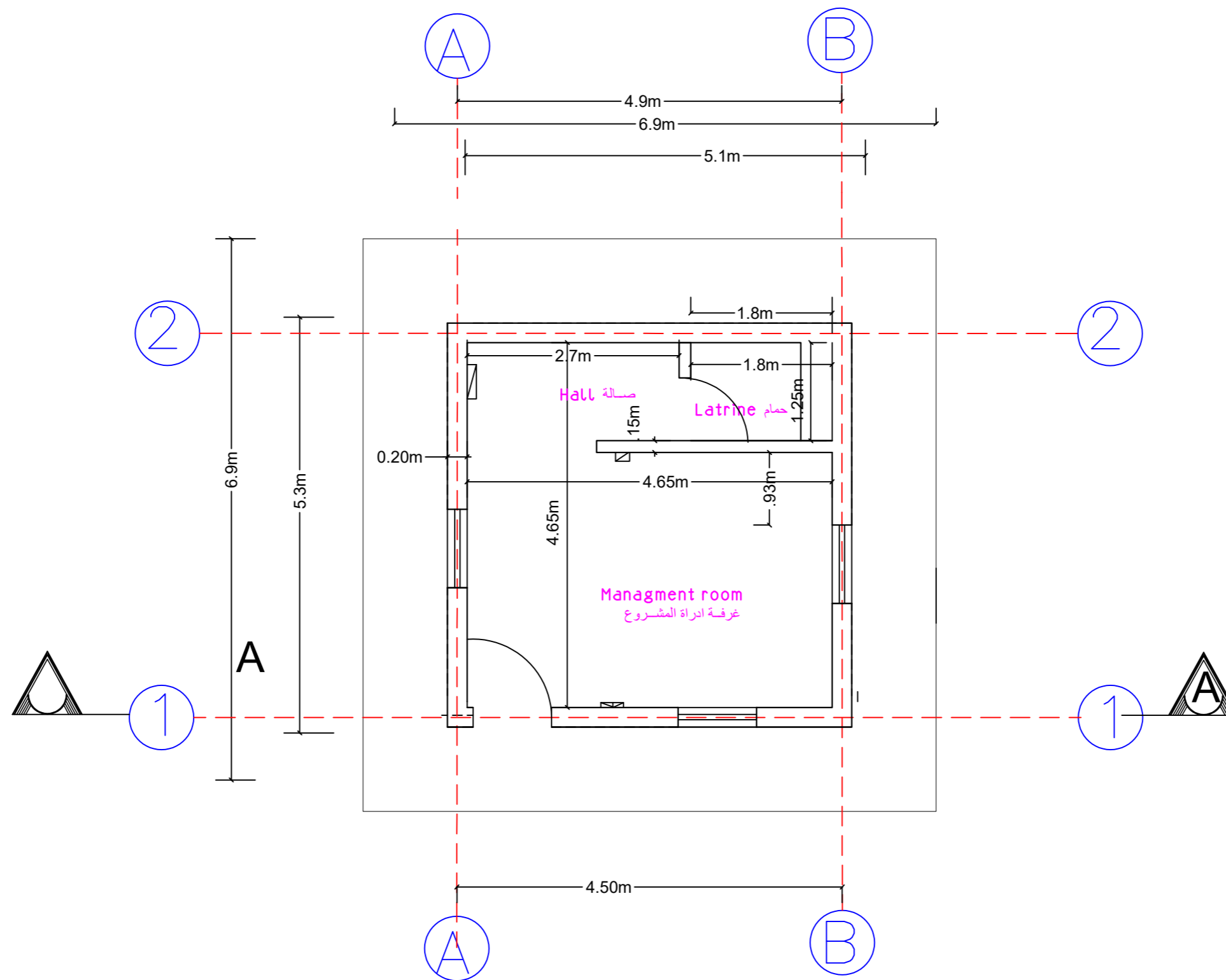
**Elevation View** مسقط عرضي

**Clarification :**

- 1- Buildings of solid cement blocks ,size (20 \* 20 \* 40)cm.
- 2 -Cover made of iron with all mounting accessories from Schellmann tires 1.5 inch, 2 mm thick .
- 3 -Ordinary concrete with a mixing ratio of (1:3:5 cement: sand: curry) with a thickness of 15 cm .
- 4 -Water drain pipe 1.5 inch .

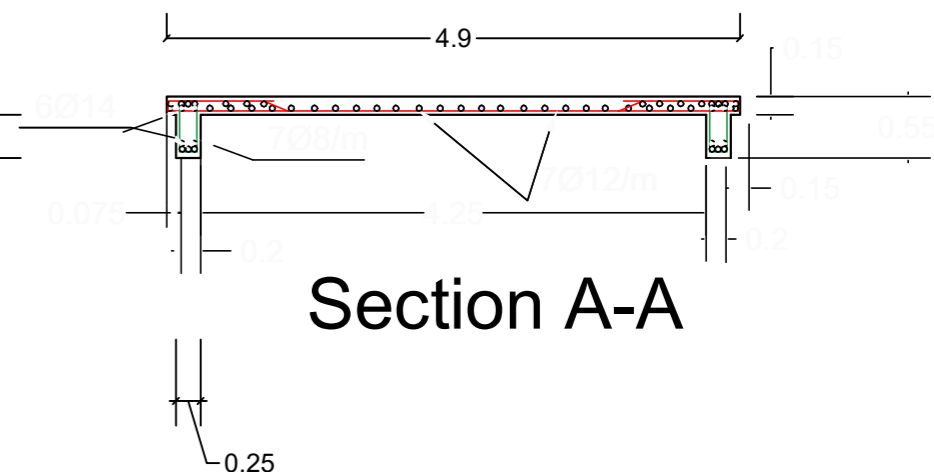
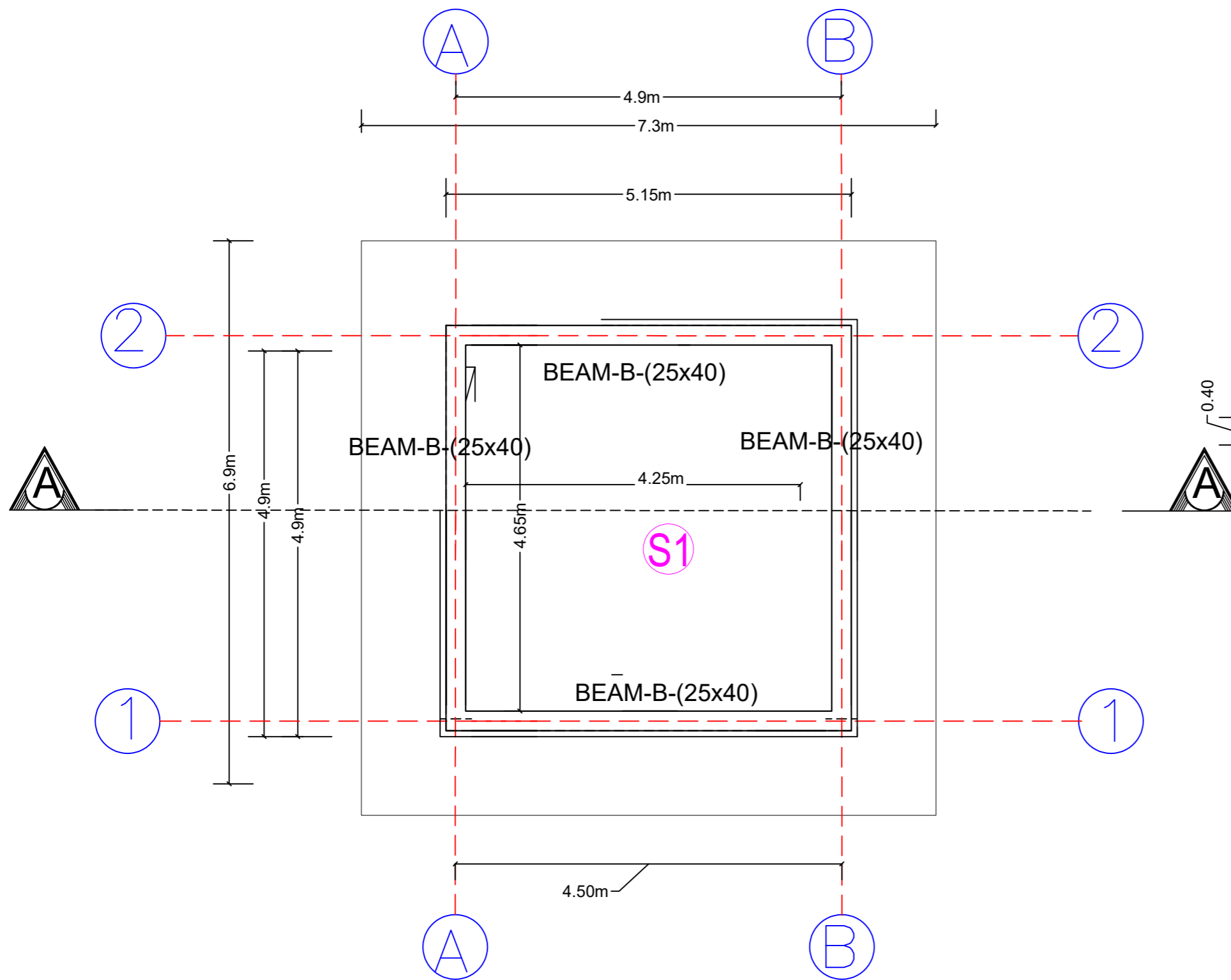
**Valve Room Details**

|  |   |                          |                               |                           |  |                    |             |          |  |
|--|---|--------------------------|-------------------------------|---------------------------|--|--------------------|-------------|----------|--|
| Prepared by:<br> | Funded by:<br> | Project Title:           | Drawing Title:                | Designed and reviewed by: |  | Status:            |             | North:   | <br><b>A4</b> |
|  |   | Nobat Amer Water Project | <b>Valve Room Details</b>     | SPRY - WASH Sector        |  | <b>Final Draft</b> |             |          |  |
|  |   | Project Location:        | Project Name:                 | Approved by:              |  | Project No:        | Paper Size: |          |  |
|  |   | Taiz- Mocha              | <b>RAINS OF RESILIENCE 25</b> | SPRY - WASH Sector        |  | Date               | Scale       | As Shown |  |



**مسقط افقي غرفة ادارة المشروع 1:100 Plan Managment room PLAN**

|  |  |  |                          |                           |             |                  |             |
|--|--|--|--------------------------|---------------------------|-------------|------------------|-------------|
| Prepared by:                               | Funded by:                                 | Project Title:                                 | Drawing Title:           | Designed and reviewed by: | Status:     | North:           | Drawing No: |
| Samaritan's Purse®<br>INTERNATIONAL RELIEF | Samaritan's Purse®<br>INTERNATIONAL RELIEF | REHABILITATIONS OF Nobat<br>Amer WATER PROJECT | Managment room PLAN      | SPRY - WASH Sector        | Final Draft | N<br>W<br>E<br>S | A5          |
|  |  | Project Location:                              | Project Name:            | Approved by:              | Project No: |                  |             |
|  |  | MOCHA DISTRACT - TAIZ GOV.                     | RAINS OF RESILIENCE 2025 | SPRY - WASH Sector        | Date        | 29/04/2025       |             |
|  |  |  |                          |                           | Paper Size: | A3               |             |
|  |  |  |                          |                           | Scale       | As Shown         |             |



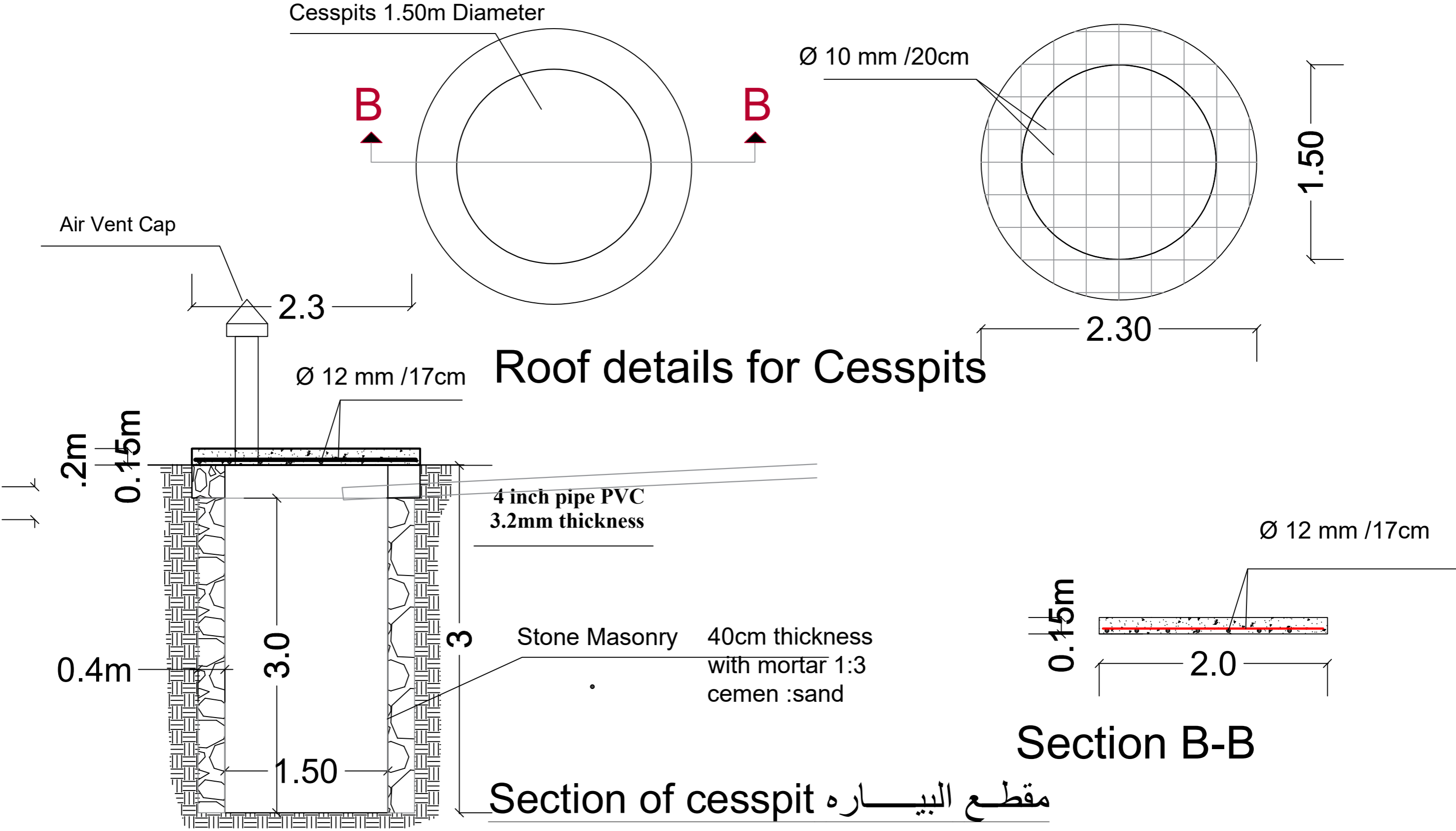
Slab reinforcement table

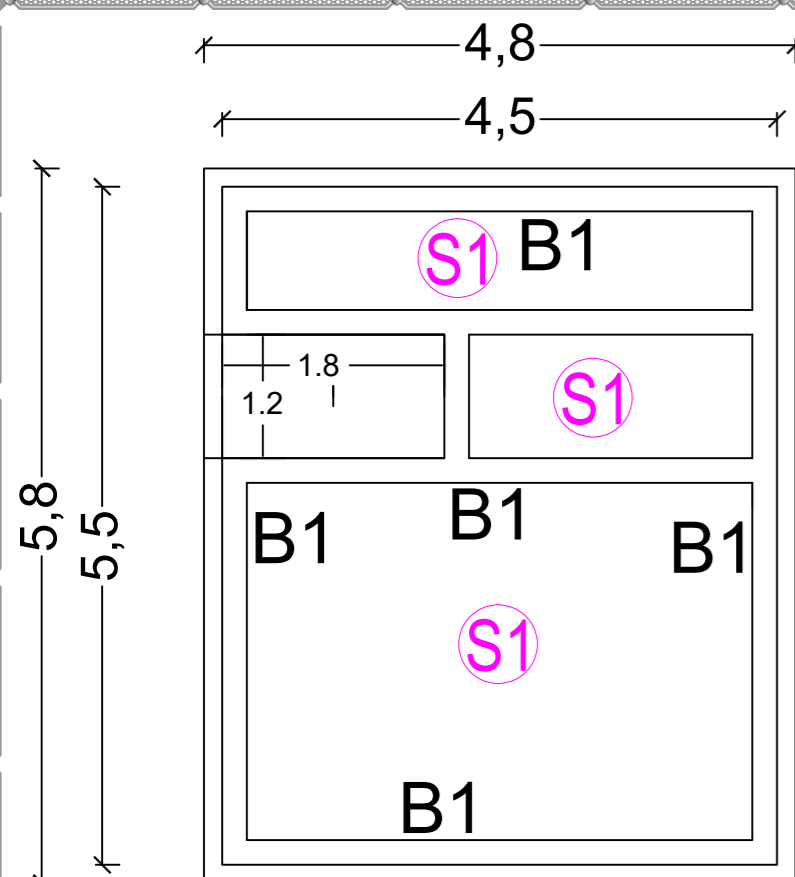
| الرمز | سمائة البلاطه سم<br>Thickness Slab cm | التسليح |          |
|-------|---------------------------------------|---------|----------|
|       |                                       | م / فرش | م / غطاء |
| S1    | 15                                    | 7φ12/m  | 7φ12/m   |

## Plan Slab reinforcement Managment room PLAN

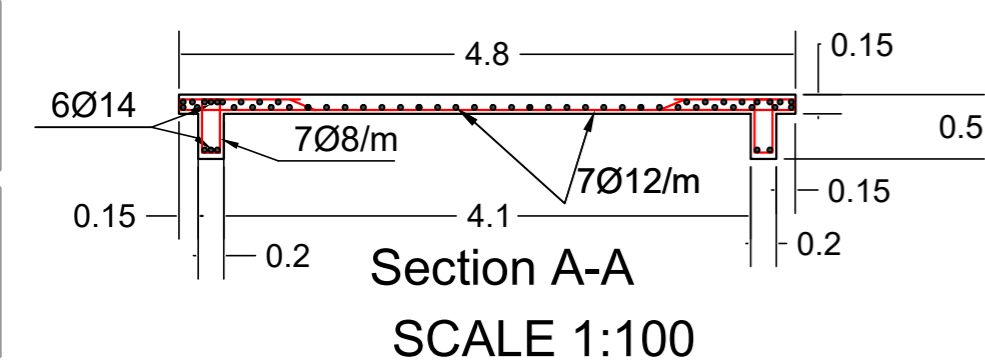
مسقط انشائي لسقف غرفة ادارة المشروع

# Drawing for Cesspit latrine managment room



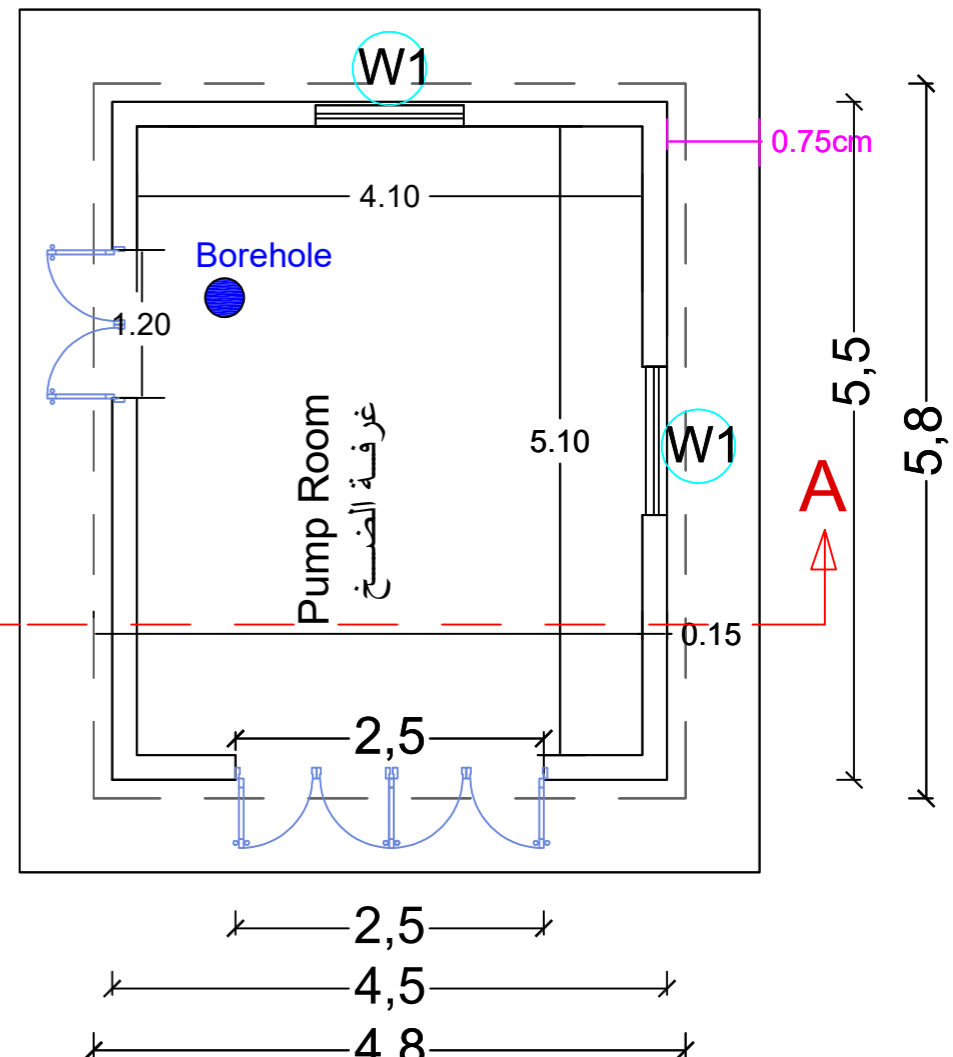
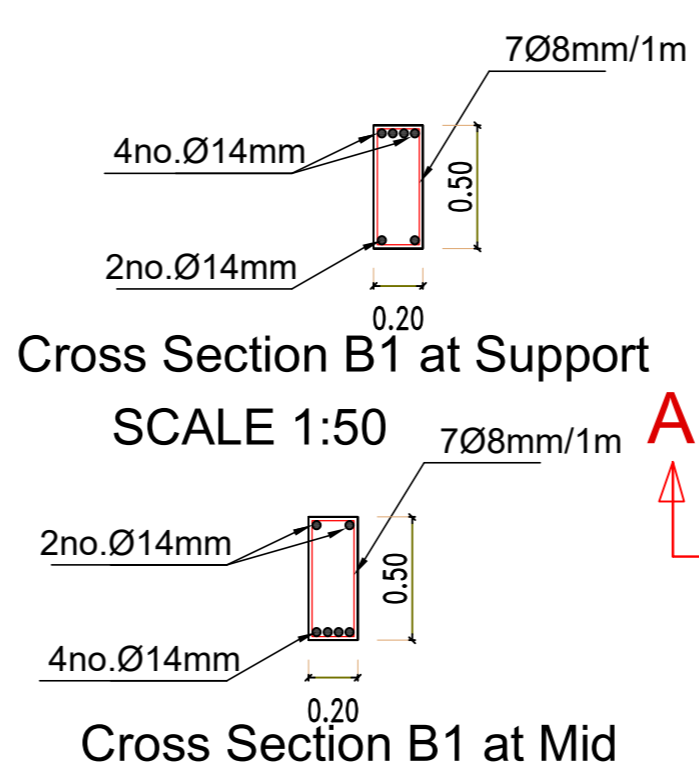


Plan Beam&Slab for Roof



Section A-A  
SCALE 1:100

| Slab reinforcement table for Roof |        |                                      |     |
|-----------------------------------|--------|--------------------------------------|-----|
| Reinforcement                     |        | سمكة البلاطة سم<br>Thickness Slab cm | NO. |
| Upper                             | Lower  |                                      |     |
| 7φ12/m                            | 7φ12/m | 15                                   | S1  |



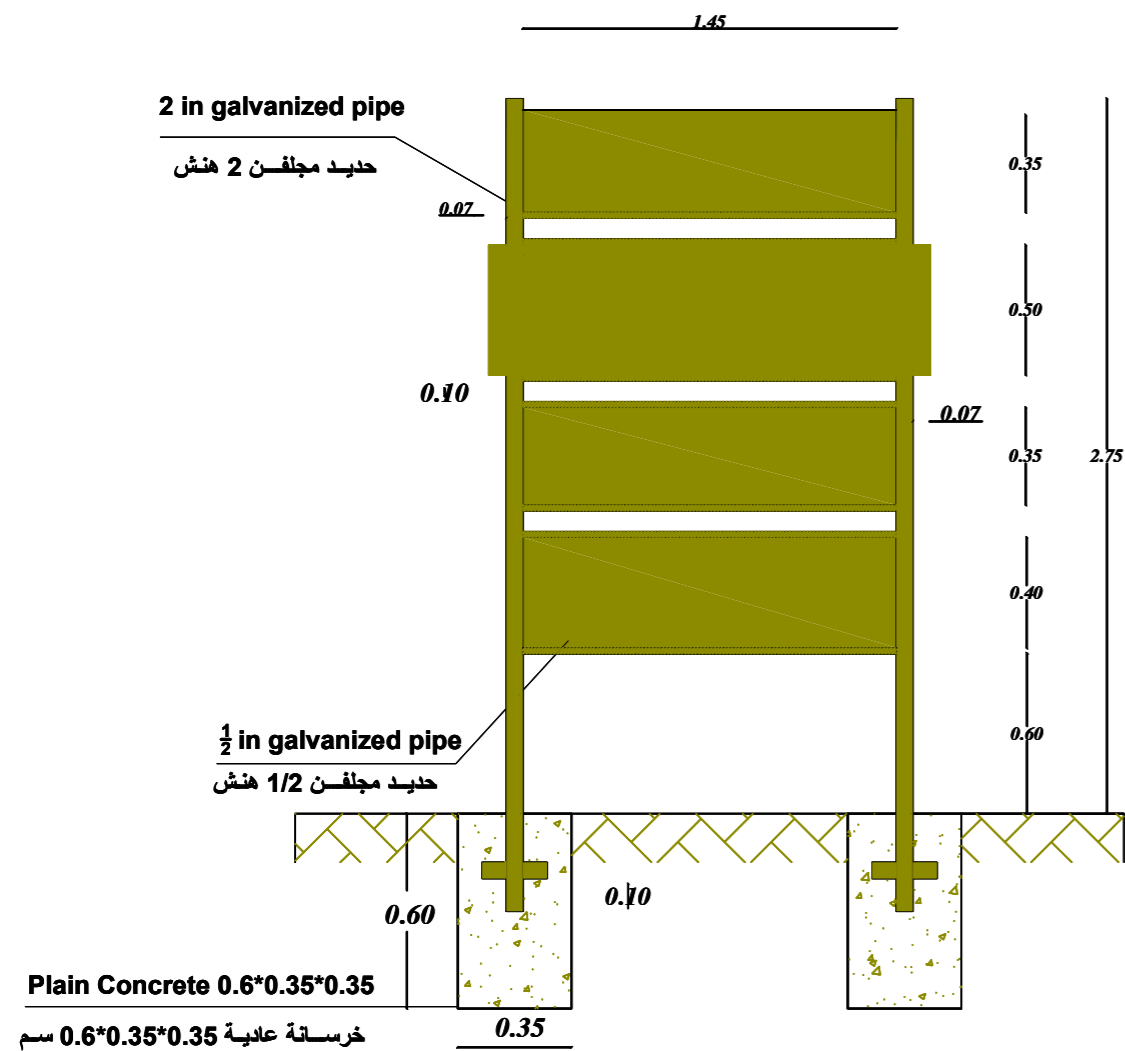
Plan SCALE 1:100

Beam reinforcement table for Roof

| links     |            | upper reinforcement |          | lower reinforcement |  | Section  |          | NO. |
|-----------|------------|---------------------|----------|---------------------|--|----------|----------|-----|
| in middle | in support | continous           | addation | continous           |  | Width cm | depth cm |     |
| 6 Ø 8 / m | 7 Ø 8 / m  | 2 Ø 14              | 2 Ø 14   | 2Ø 14               |  | 20 X 50  |          | B1  |

PUMPING ROOM DETAILS تفاصيل غرفة الضخ

|   |   |  |   |   |                           |                            |                   |
|---|---|--|---|---|---------------------------|----------------------------|-------------------|
| Prepared by:<br>Samaritan's Purse<br>INTERNATIONAL RELIEF | Funded by:<br>Samaritan's Purse<br>INTERNATIONAL RELIEF | Project Title:<br>REHABILITATIONS OF Nobat<br>Amer WATER PROJECT | Drawing Title:<br>PUMPING ROOM DETAILS    | Designed and reviewed by:<br>SPRY - WASH Sector | Status:<br>Final Draft    | North:<br>N<br>W<br>E<br>S | Drawing No:<br>A8 |
|   |   | Project Location:<br>MOCHA DISTRCT - TAIZ GOV.                   | Project Name:<br>RAINS OF RESILIENCE 2025 | Approved by:<br>SPRY - WASH Sector              | Project No:<br>29/04/2025 | Paper Size:<br>A3          |                   |
|   |   |  |   |   | Date                      | Scale                      | As Shown          |



Dimensions Details  
تفاصيل الأبعاد

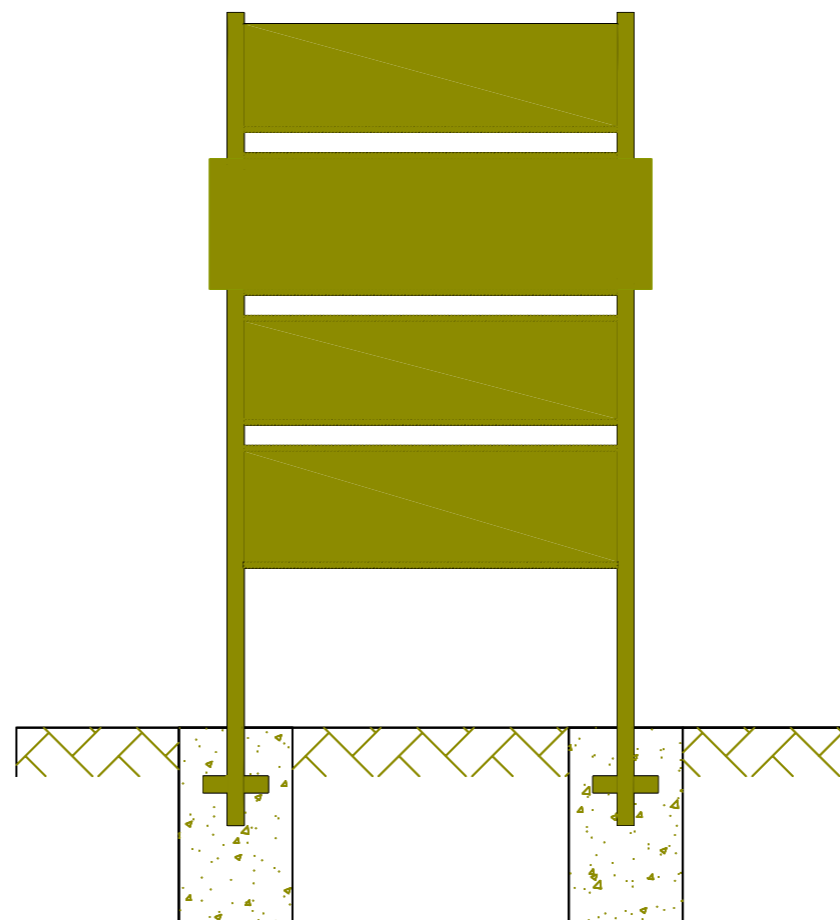
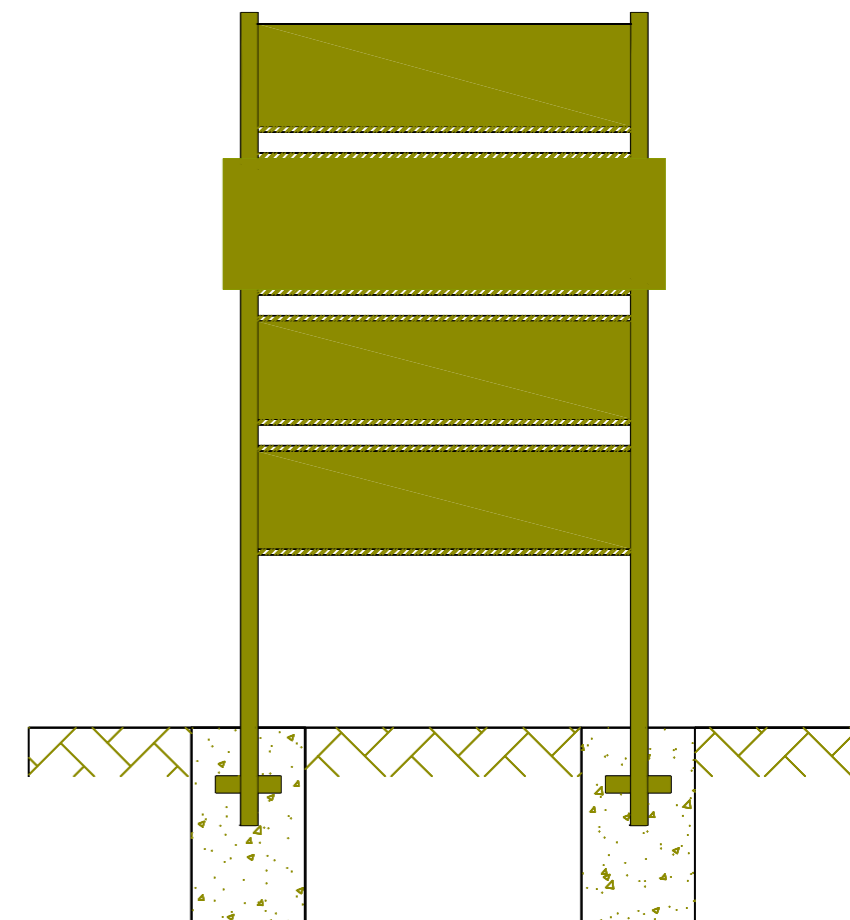


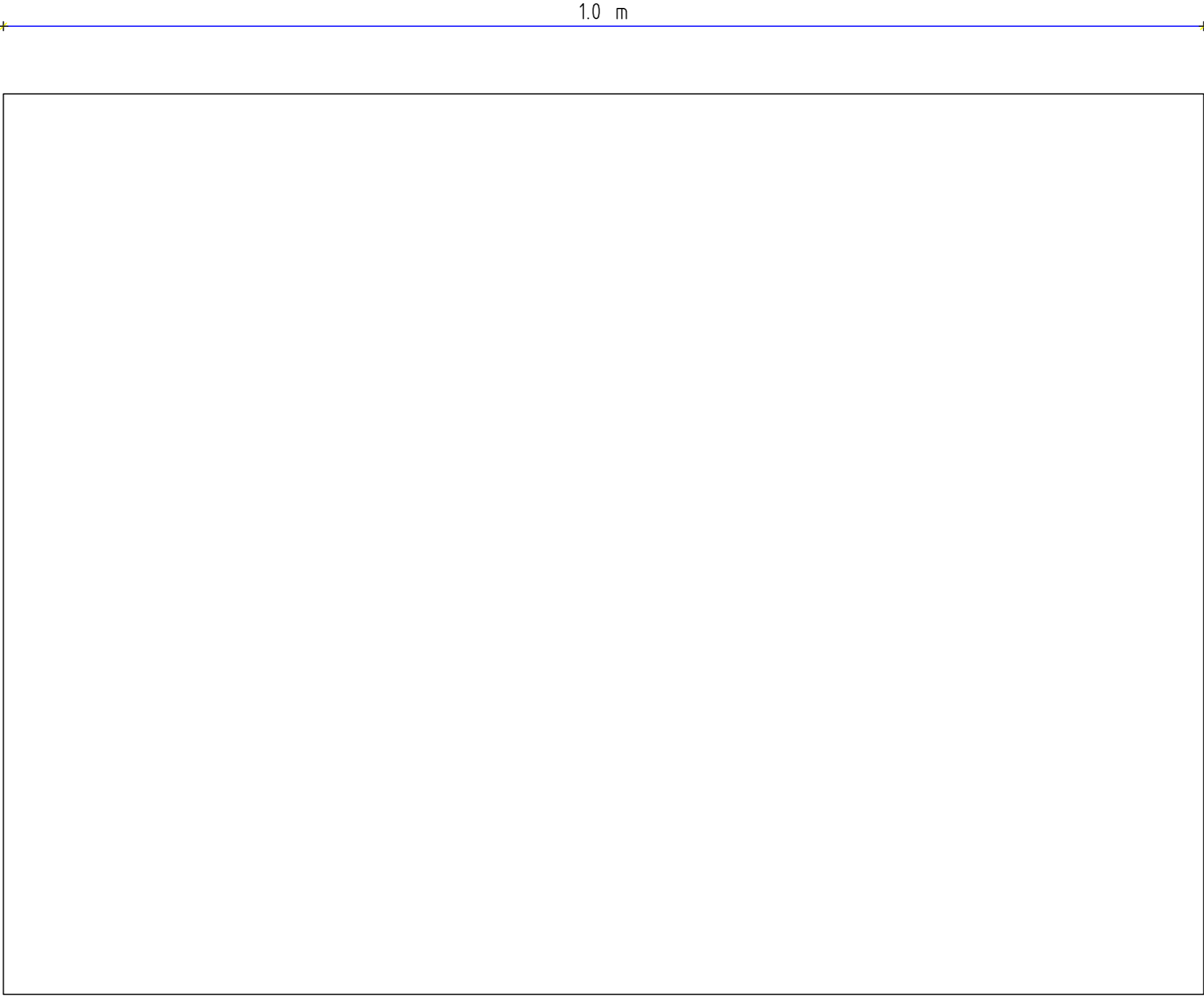
Plate Front side Elevation  
واجهة اللوحة الأمامية



Backside Elevation  
واجهة اللوحة الخلفية

ملاحظة : محتوى اللوحة المعدنية والرخامية سيتم تحديده لاحقاً اثناء العمل  
Note : The content of the metal and marble plate will be determined later during the work.




|              |            |   |                                   |                           |             |          |             |
|--------------|------------|---|-----------------------------------|---------------------------|-------------|----------|-------------|
| Prepared by: | Funded by: | Project Title:                              | Drawing Title:                    | Designed and reviewed by: | Status:     | North:   | Drawing No: |
|              |            | REHABILITATIONS OF Nobat Amer WATER PROJECT | METAL SIGN FOR PROJECT COMPLETION | SPRY - WASH Sector        | Final Draft |          | A9          |
|              |            | Project Location:                           | Project Name:                     | Approved by:              | Project No: |          |             |
|              |            | MOCHA DISTRACT - TAIZ GOV.                  | RAINS OF RESILIENCE 2025          | SPRY - WASH Sector        | Date        | Scale    |             |
|              |            |   |                                   |                           | 29/04/2025  | As Shown |             |



DETAILS MARBLE PAINTING

تفاصيل اللوحة الرخامية

ملاحظة : محتوى اللوحة المعدنية والرخامية سيتم تحديده لاحقا اثناء العمل  
**Note :** The content of the metal and marble plate will be determined later during the work.

|  |   |  |                          |                           |             |   |             |
|--|---|--|--------------------------|---------------------------|-------------|---|-------------|
| Prepared by:   | Funded by:  | Project Title:                                 | Drawing Title:           | Designed and reviewed by: | Status:     | North:  | Drawing No: |
|  |  | REHABILITATIONS OF Nobat<br>Amer WATER PROJECT | MARBLE PAINTING          | SPRY - WASH Sector        | Final Draft |  | A10         |
|  |   | Project Location:                              | Project Name:            | Approved by:              | Project No: | Paper Size:   |             |
|  |   | MOCHA DISTRACT - TAIZ GOV.                     | RAINS OF RESILIENCE 2025 | SPRY - WASH Sector        | Date        | Scale   |             |
|  |   |  |                          |                           | 29/04/2025  | As Shown  |             |

General Notes:

- 1- The concrete cover at the footings is 8 cm  
In the beams ,columns ,walls ,floor and roof of the tank 8cm.
- 2- All concrete work for the footings ,columns ,bridges ,and tank body must be carried out according to the resistance mentioned in the table of quantities and according to the specified mixing ratios ,and the amount of water should not exceed 180liters/cubic meter of concrete .The water must be non-salty ,pure ,and contain cement according to the line ratios specified in the table of quantities ,with tests conducted .Necessary for construction materials ,concrete cube samples ,and all that is necessary ,according to the engineer's instructions.
- 3- The strength of the steel used for all structural concrete elements is not less than 250 Newton/mm2.
- 4- The wood and concrete molds that the contractor will use for concrete works must be clean ,new ,and not out service or not good.
- 5- The concrete must be sprayed and immersed in pure water throughout the day and for a period of not less than 10days .The columns ,suspension bridges ,and the tank body from the outside must be bagged with special mesh bags for the spraying process ,and they must be saturated with water throughout the day and night at every hour.
- 6- Samples of all materials used must be approved by the engineer before they are supplied.
- 7- The engineer must be notified upon completion of the woodwork to receive it ,as well as the ironwork .Casting cannot be completed except in the presence of the engineer ,and he must be notified one day before the appointment.
- 8- All work must be carried out according to what is shown in the items in the tables of quantities and drawings.
- 09- The length of the main steel connection to the columns between the floors is not less than 80 cm.

ملاحظات عامة:

- 1- الغطاء الخرسانى في القواعد 8 سم وفي الجسور والاعمدة وجدران وارضية وسقف الخزان 8 سم.
- 2- يجب تنفيذ جميع اعمال الخرسانات للقواعد والاعمدة والجسور وجسم الخزان بحسب المقاومة المذكوره في جدول الكميات وبحسب نسب الخلط المحددة وكمية المياه لاتزيد عن 180 لتر/متر مكعب خرسانة ويجب ان تكون المياه غير مالحة ونقية وبمحتوي اسمنتى بحسب نسب الخط المحددة بجدول الكميات مع اجراء الاختبارات اللازمة لمواد الانشاء وعينات المكعبات الخرسانية وجميع مايلزم وبحسب تعليمات المهندس.
- 3- قوة الحديد المستخدم لجميع العناصر الخرسانية الانشائية لاتقل عن 250 نيوتن/ملم2.
- 4- يجب ان تكون الاخشاب وقوالب الخرسانة التي سيستخدمها المقاول للاعمال الخرسانة نظيفة اوجديدة وغير متهاله.
- 5- يجب الرش وغمر الخرسانة بالمياه النقية طوال اليوم و لمدة لاتقل عن 10ايام الاعمدة والجسور المعلقه وجسم الخزان من الخارج يجب عمل لها تكييس باكياس شلبيته حيش خاصة بعملية الرش ويتم تشبييعها بالمياه طول النهار والليل علا كل ساعة .
- 6- يجب اعتماد عينات لجميع المواد المستخدمة من قبل المهندس قبل توريدها.
- 7- يجب ابلاغ المهندس عند الانتهاء من اعمال التخشييبه لاستلامها وكذلك من اعمال ،الحديد ولا يتم الصب الا بحضور المهندس ويجيب ابلاغه قبل الموعد بيوم واحد.
- 8- يجب تنفيذ جميع الاعمال بحسب ماهو موضح في بنود جداول الكميات والرسومات.
- 9- طول الاشتراك الحديد الرئيسي للاعمدة بين الادوار لا تقل عن 80 سم.