



**TECHNICAL UNIVERSITY OF MOMBASA**

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SCHOOL OF ENGINEERING AND TECHNOLOGY  
DEPARTMENT OF BUILDING & CIVIL ENGINEERING  
**UNIVERSITY EXAMINATION FOR:**

BACHELOR OF TECHNOLOGY IN CIVIL ENGINEERING

**TCV 4411: CONSTRUCTION MEASUREMENT I**  
SPECIAL/SUPPLEMENTARY EXAMINATION

**SERIES: JULY 2025**

**TIME: 2 HOURS**

**Instructions to Candidates**

You should have the following for this examination

- Answer Booklet, examination pass and student ID
- The standard method of measurement for building and related works (2008 edition)
- Dimension papers (20)
- Calculator

This paper consists of **five** questions.

Attempt question ONE (Compulsory) and any other TWO questions.

**Do not write on the question paper.**

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**QUESTION ONE (COMPULSORY) 30 Marks**

Take off all the substructure quantities for the proposed Masaku county offices as detailed in drawing no. M01/001/28

**Question TWO, (20marks)**

Take off all quantities for the basement as shown on drawing no. M01/002/28

**Question THREE, (20marks)**

Take off all quantities for the semi-solid cored flush door as shown on drawing no.M01/003/28

**Question FOUR, (20marks)**

Take off all quantities for the drainage works shown on drawing no.m01/004/28

**Question FIVE, (20marks)**

Outline the following functions of the quantity surveyor;

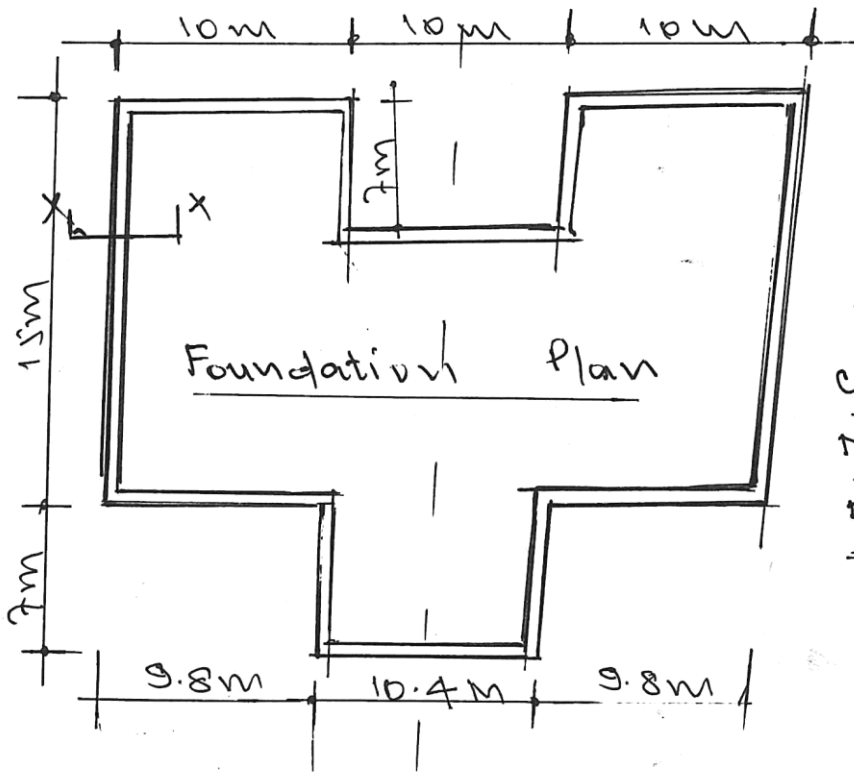
Providing preliminary cost advice to the client.

Preparation of Bills of Quantities,

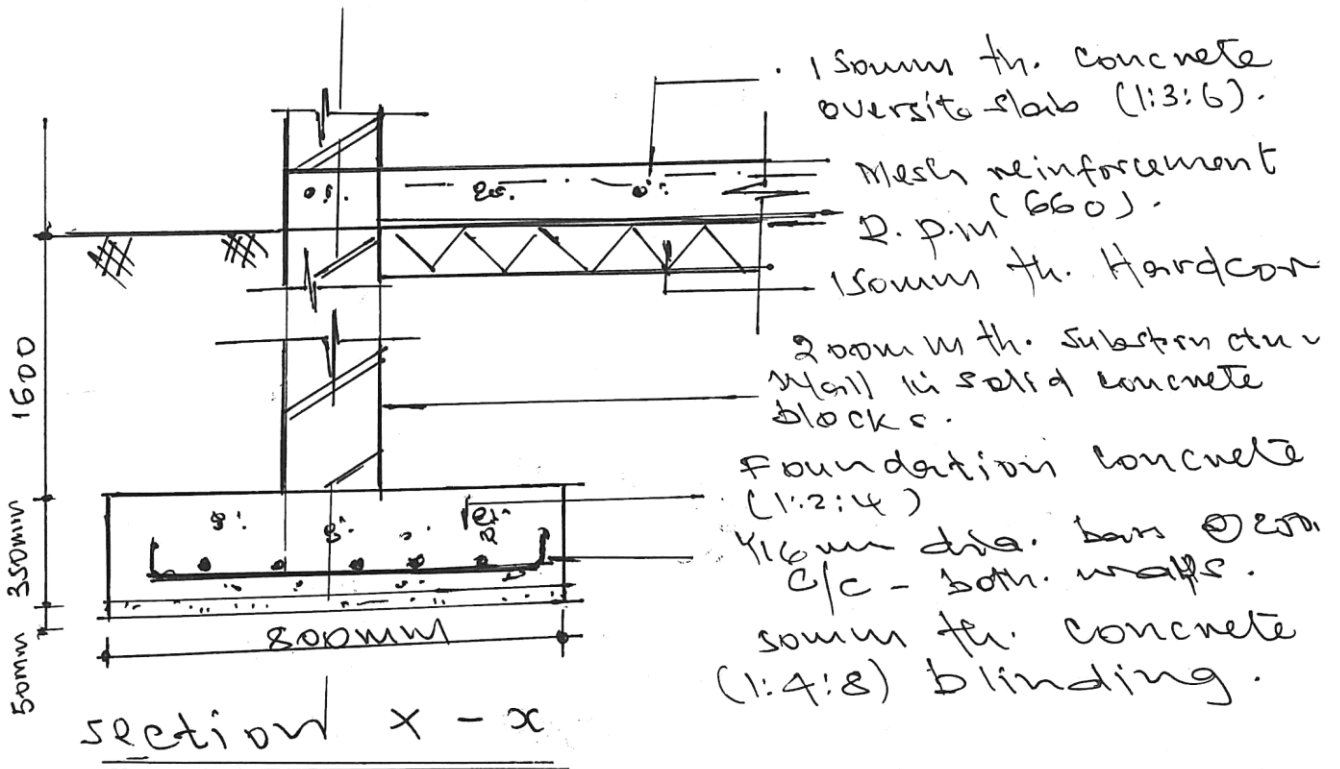
Preparation of interim certificates

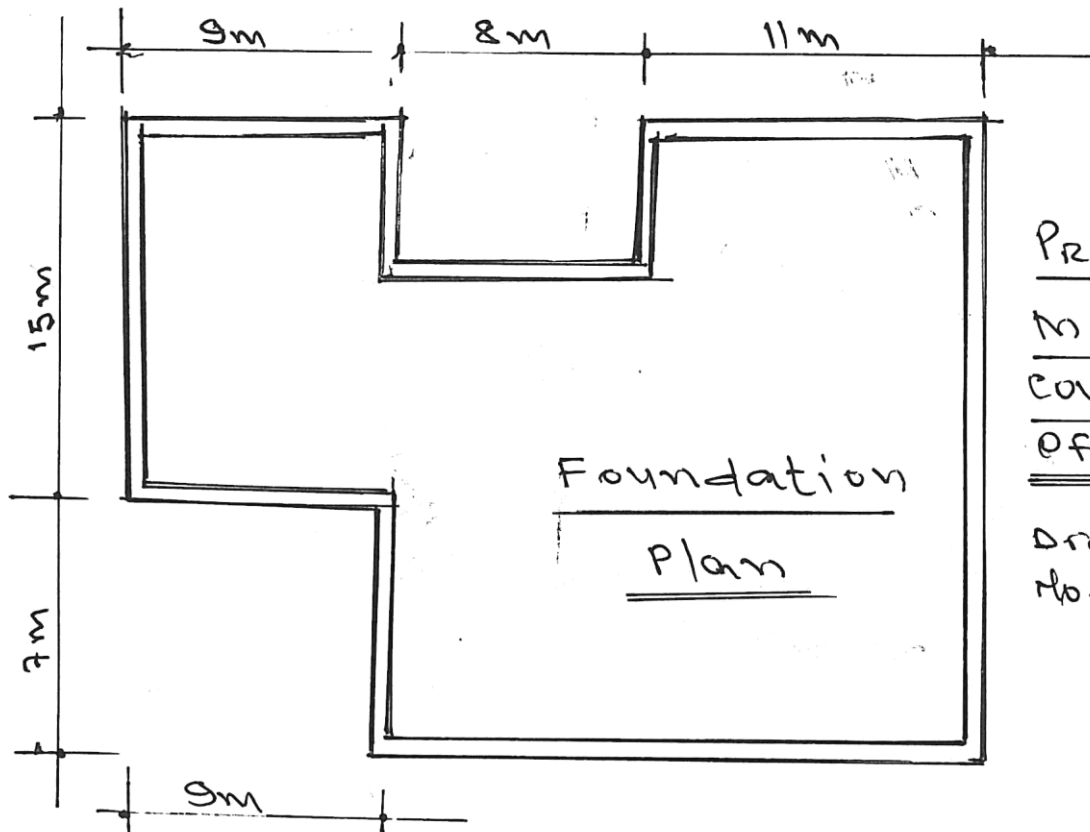
Arbitration. (12marks)

Define the term variation orders and state four methods of valuing the variations. (8marks)



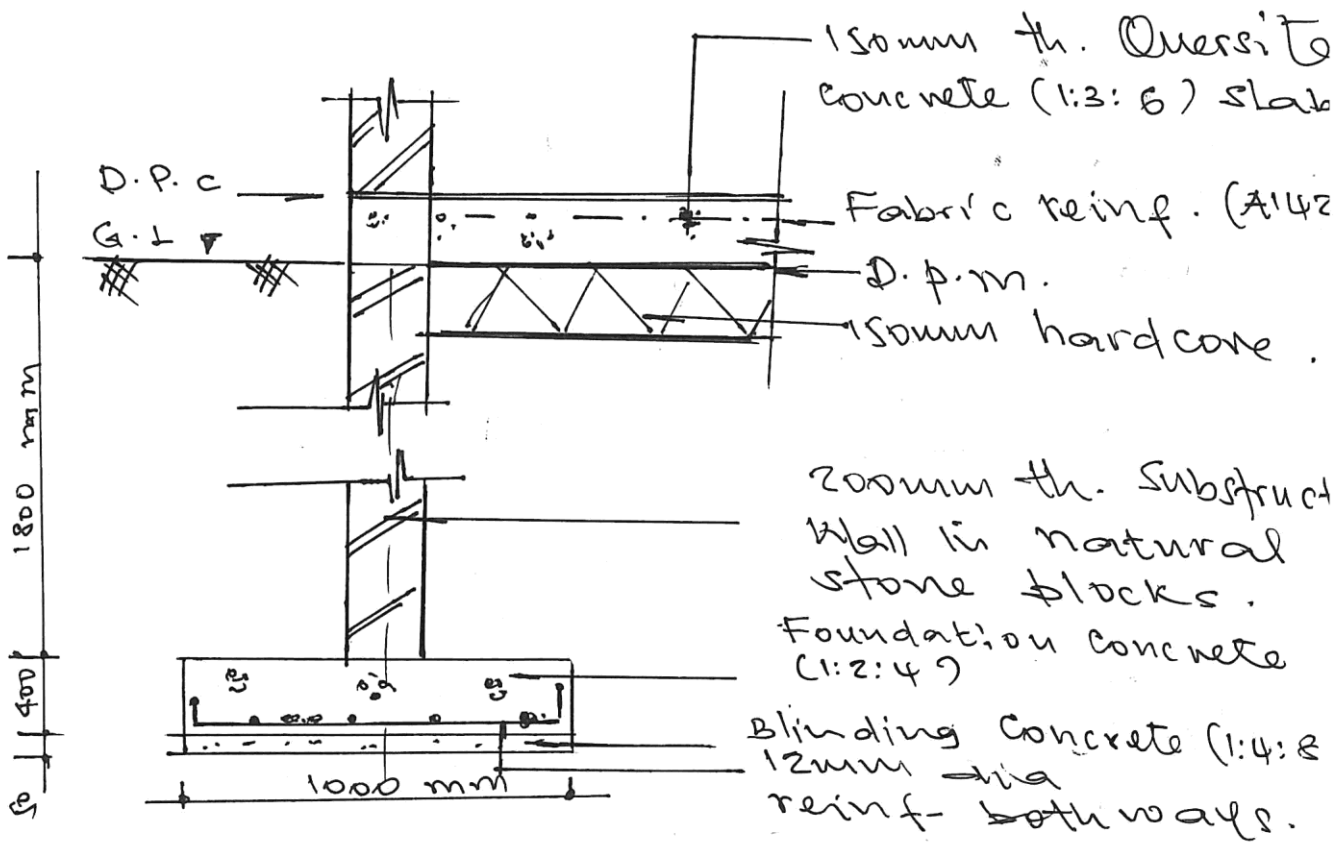
PROPOSED  
COUNTY OFFICE  
NYAMIRA COUNTY  
Dr. No. M/01/2/28



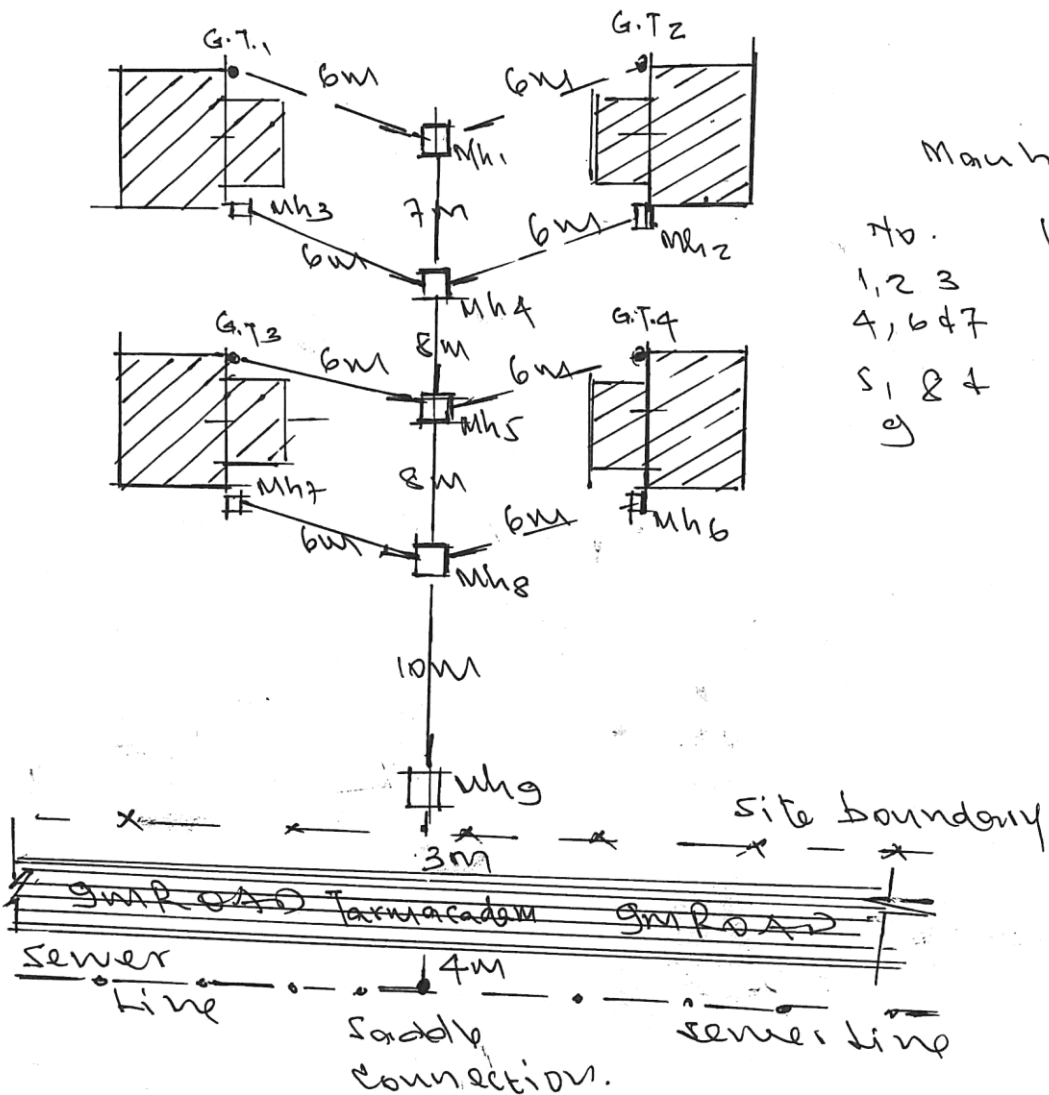


PROPOSED  
MASAKU  
COUNTY  
OFFICES

Drawing  
No. M/01/001/28



Section X - X



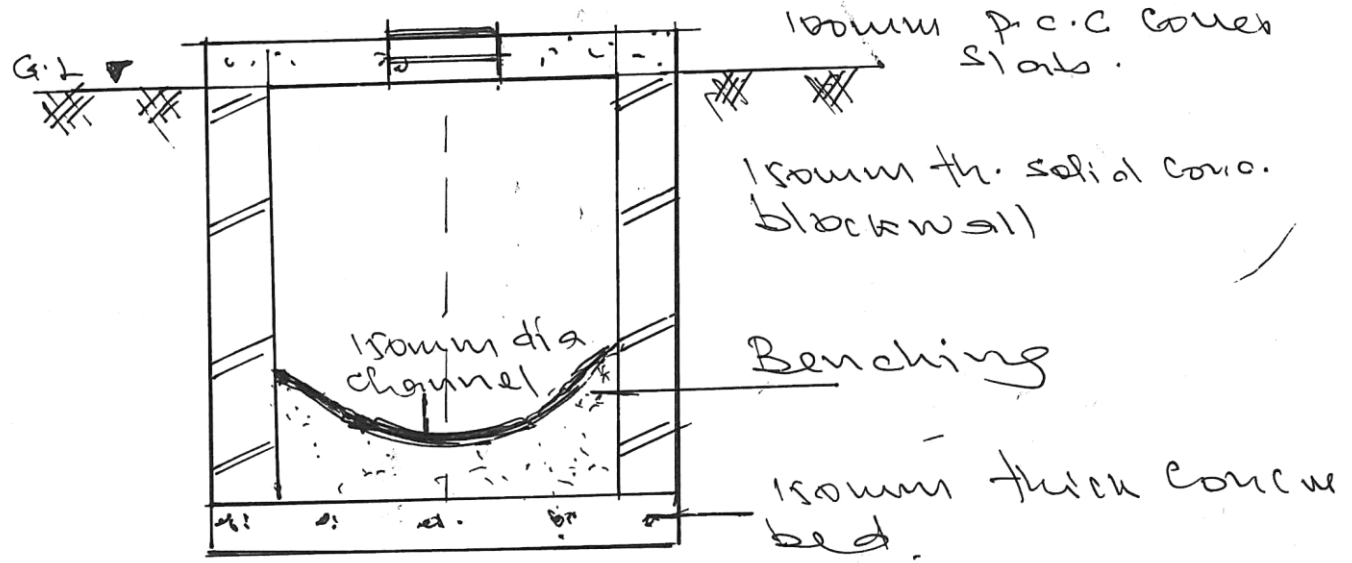
Manhole schedule

No.	Int. size:
1, 2, 3	600 x 500
4, 6 & 7	600 x 500
5, 8 & 9	750 x 600

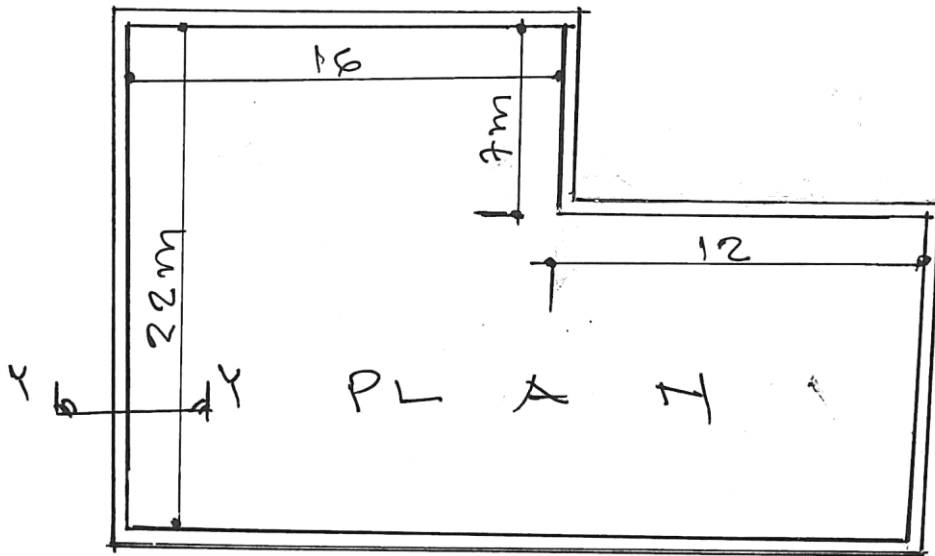
KITENGELA ESTATE DRAINAGE (PART)

Drawing No. MK/01

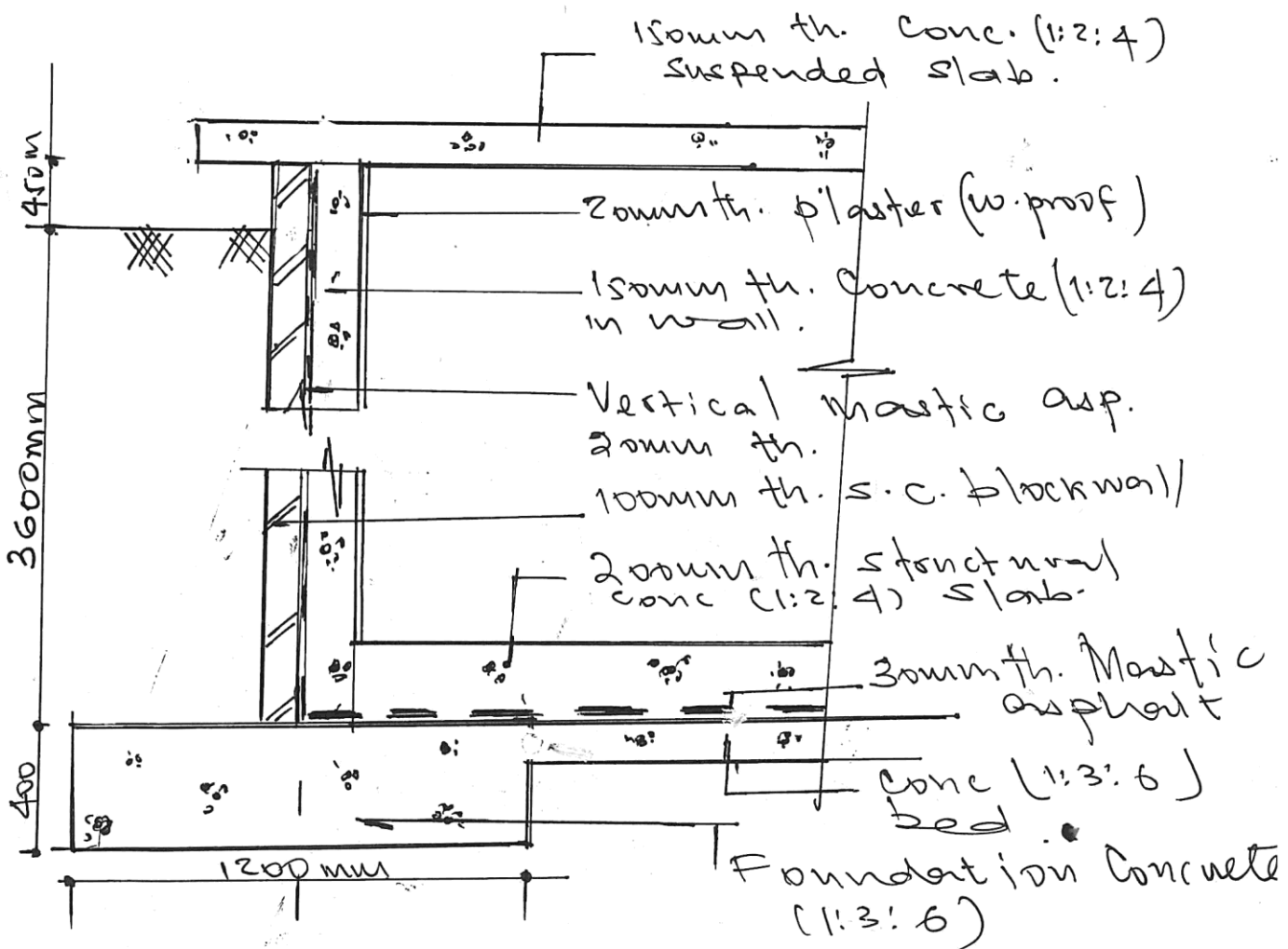
C. Manhole cover (H.D.)



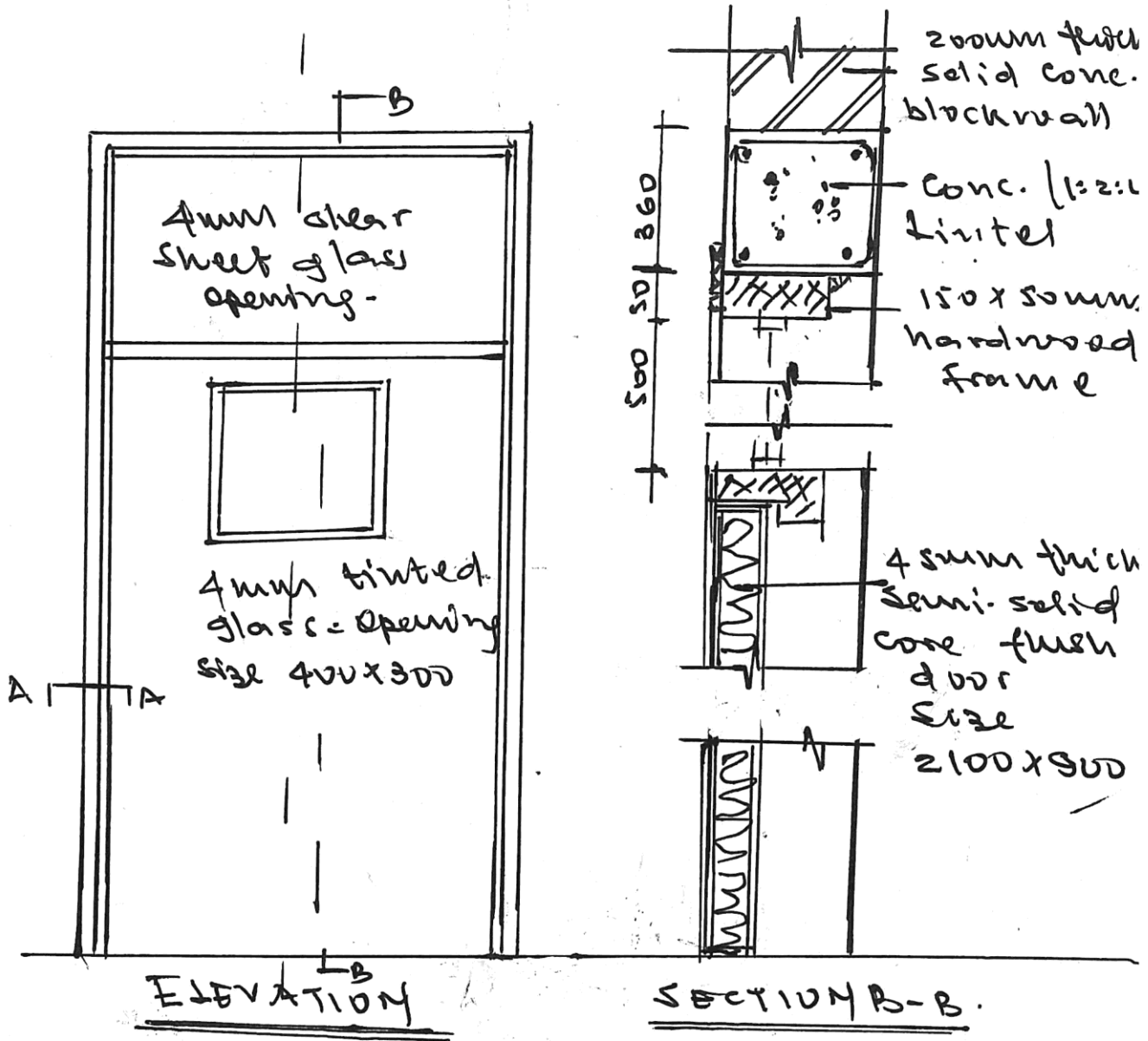
TYPICAL MANHOLE SECTION



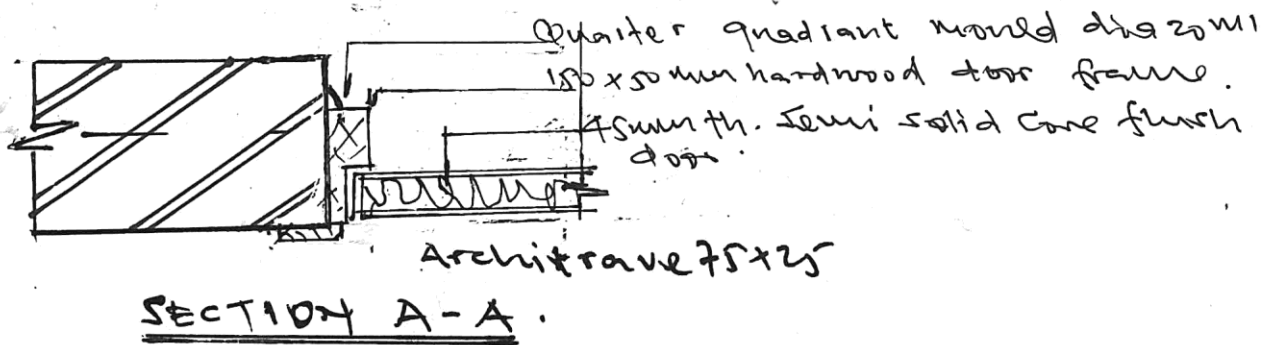
BASEMENT Dr. No. Mo/002/28

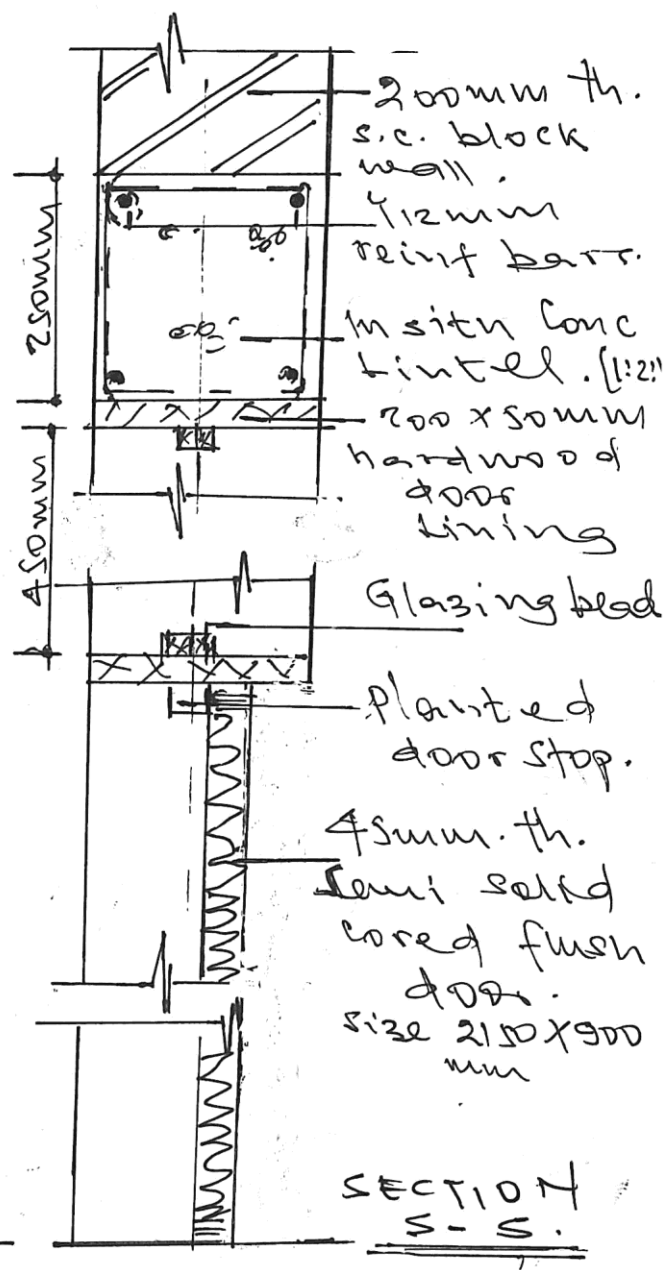
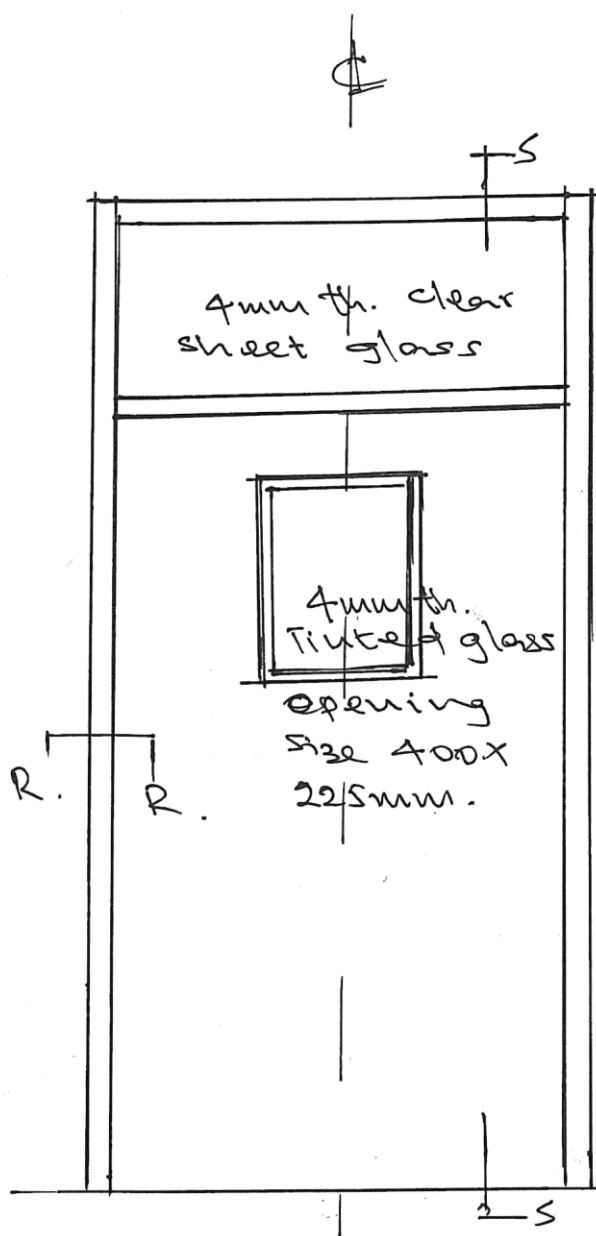


SECTION Y-Y.

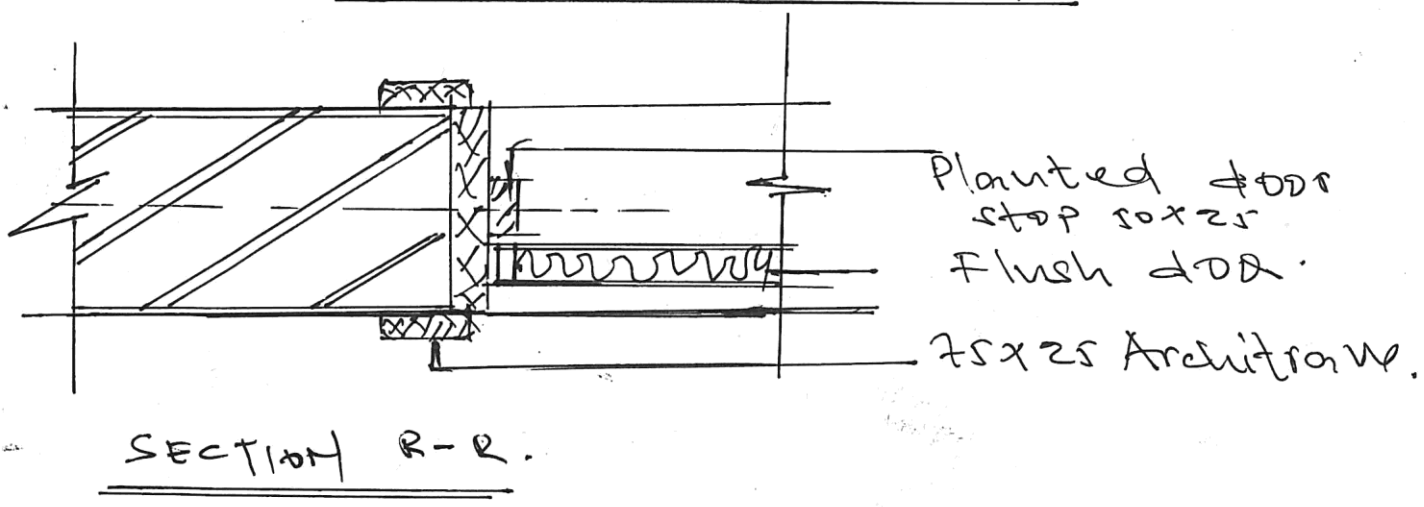


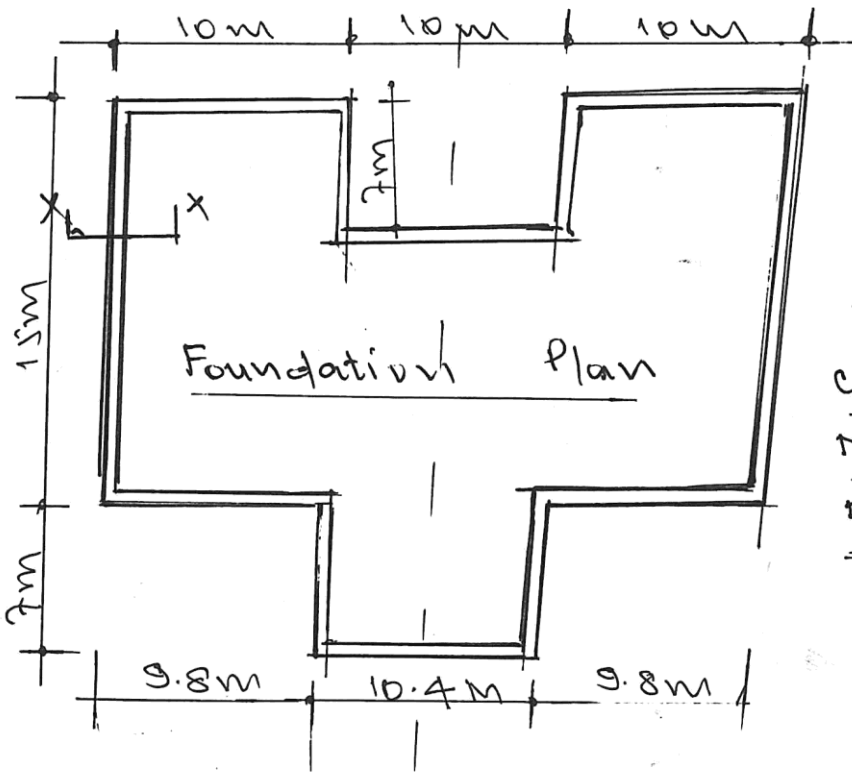
FLUSH DOOR - Drawing no. Ms01/02/28



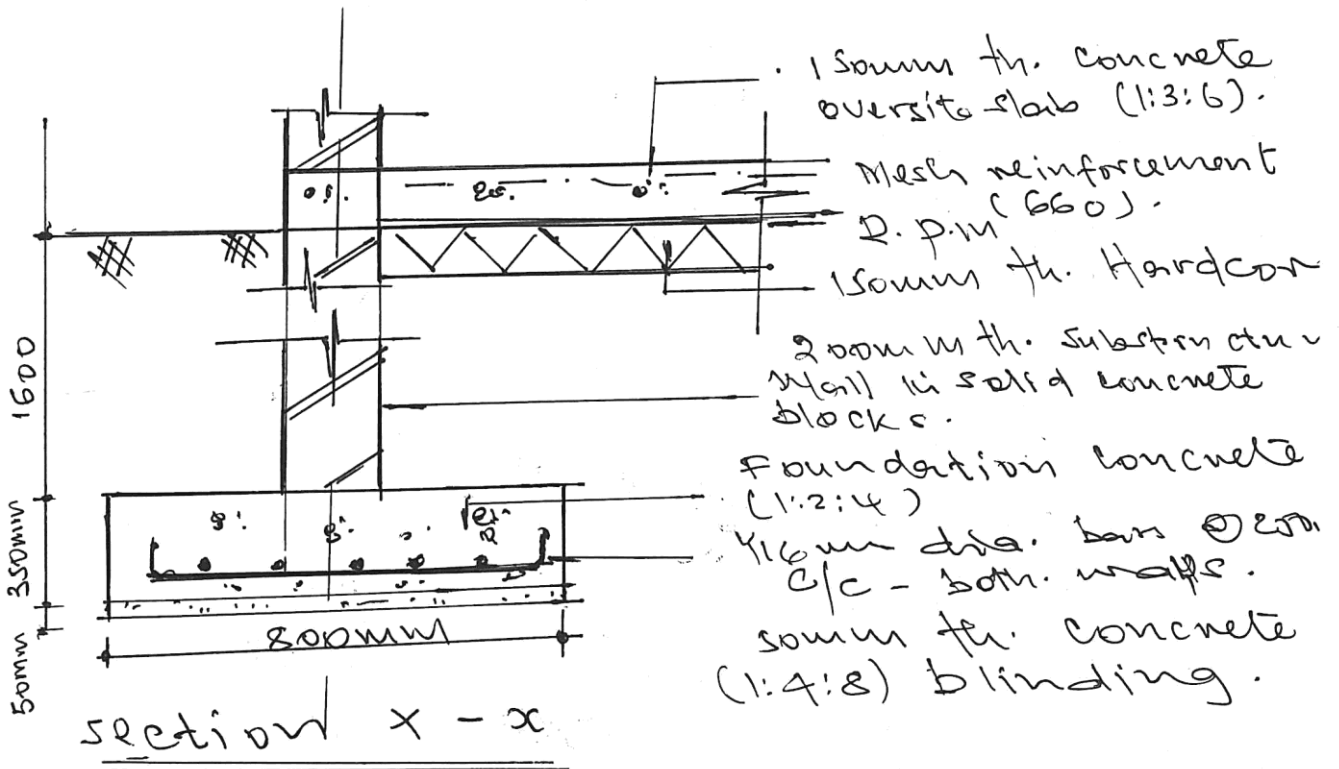


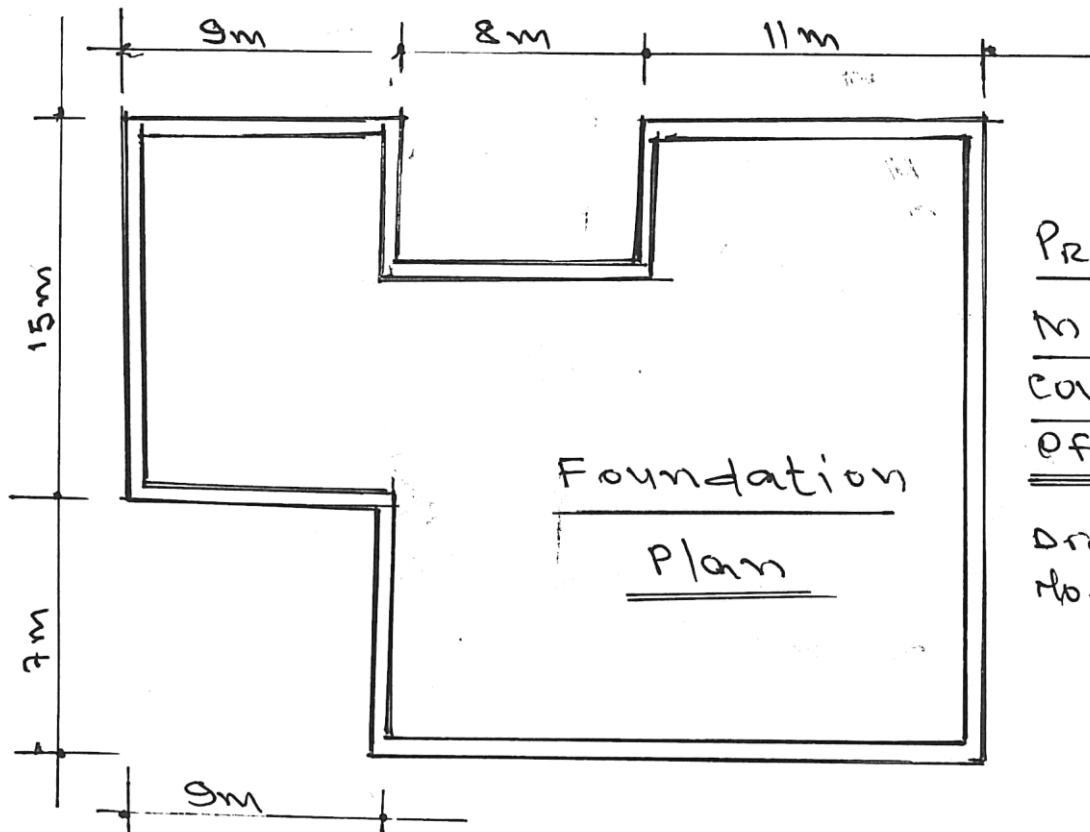
SEMI-SOLID CORED FLUSH DOOR  
Drawing Ref. No. Mo/002/28





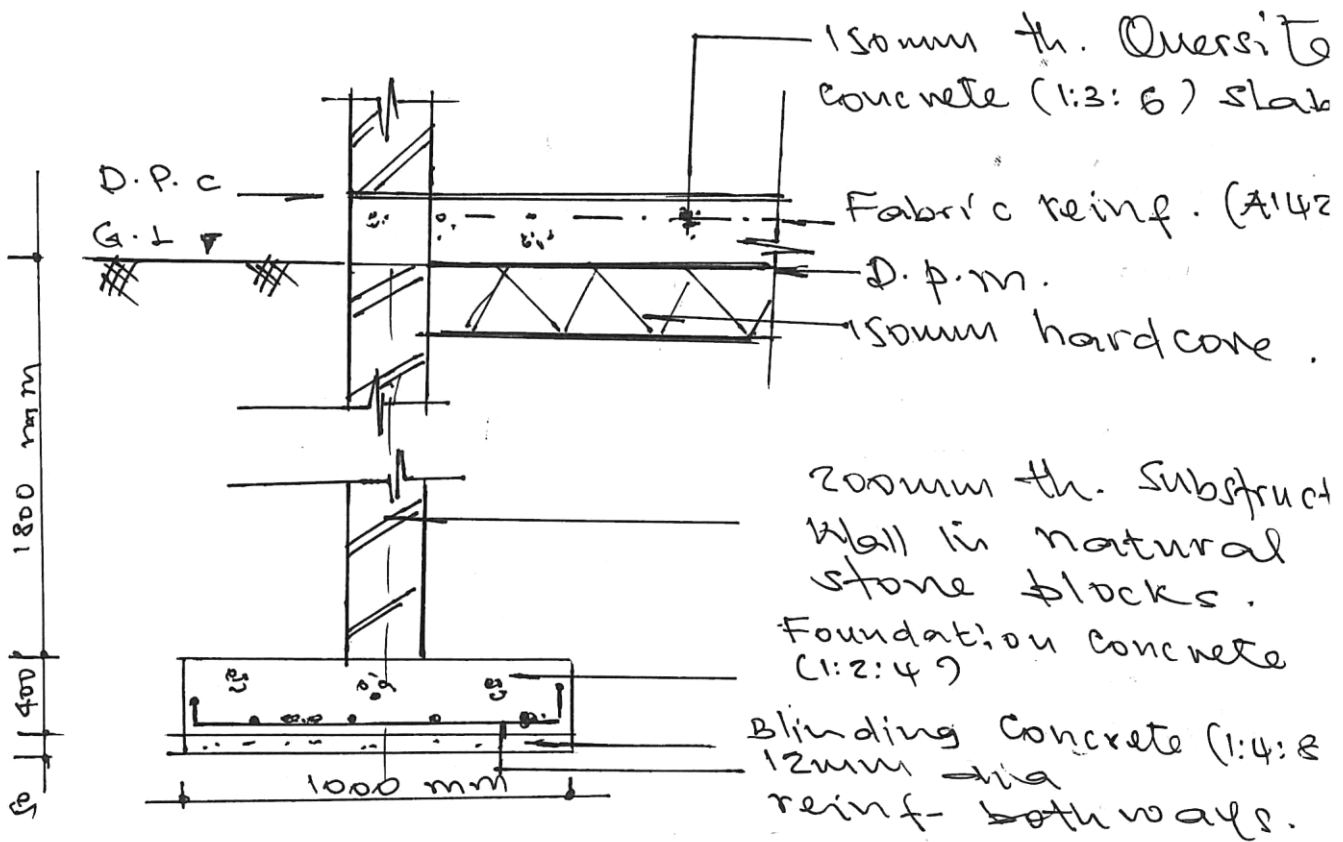
PROPOSED  
COUNTY OFFICE  
NYAMIRA COUNTY  
Dr. No. M/1/01/2/28/2



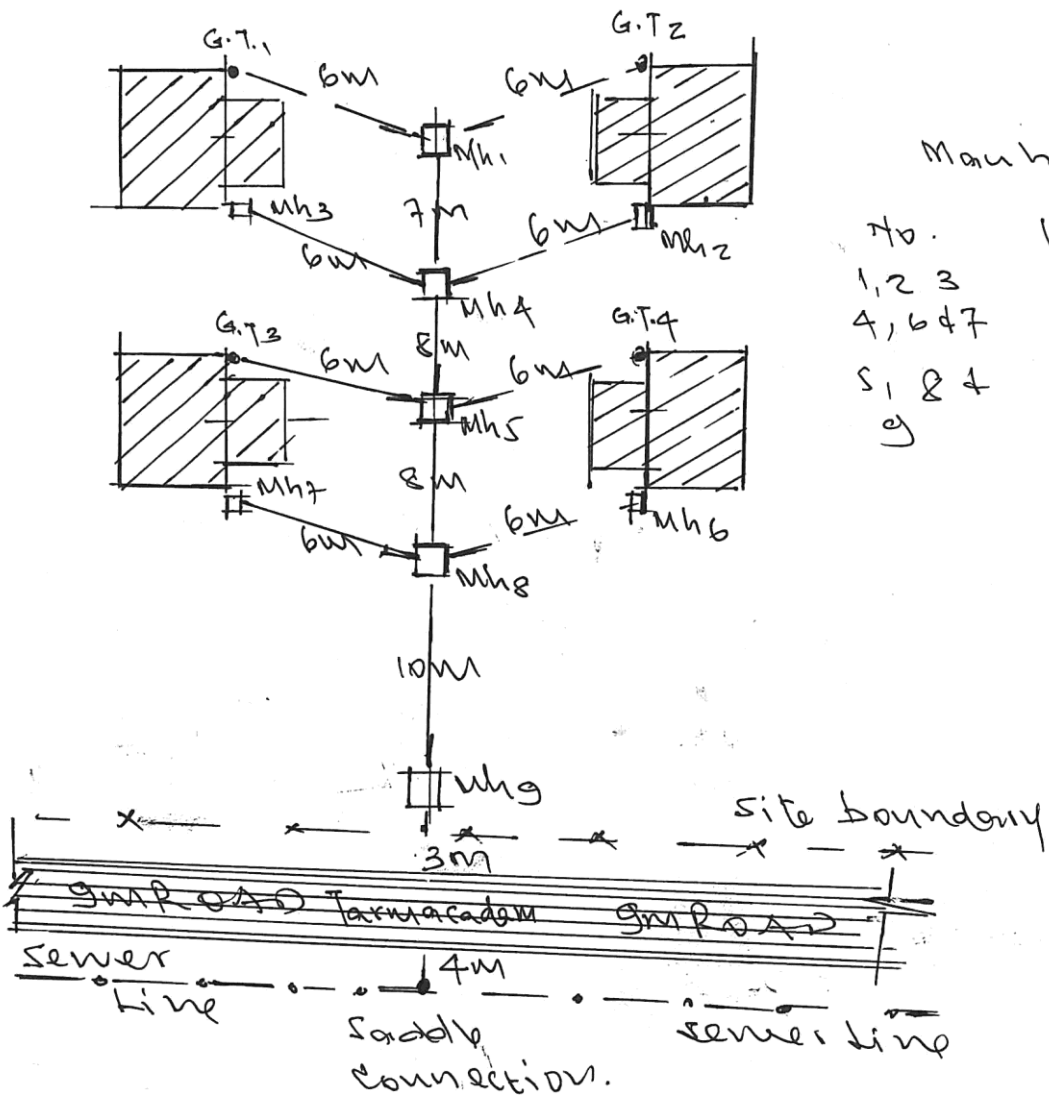


PROPOSED  
MASAKU  
COUNTY  
OFFICES

Drawing  
No. M/01/001/28



Section X - X



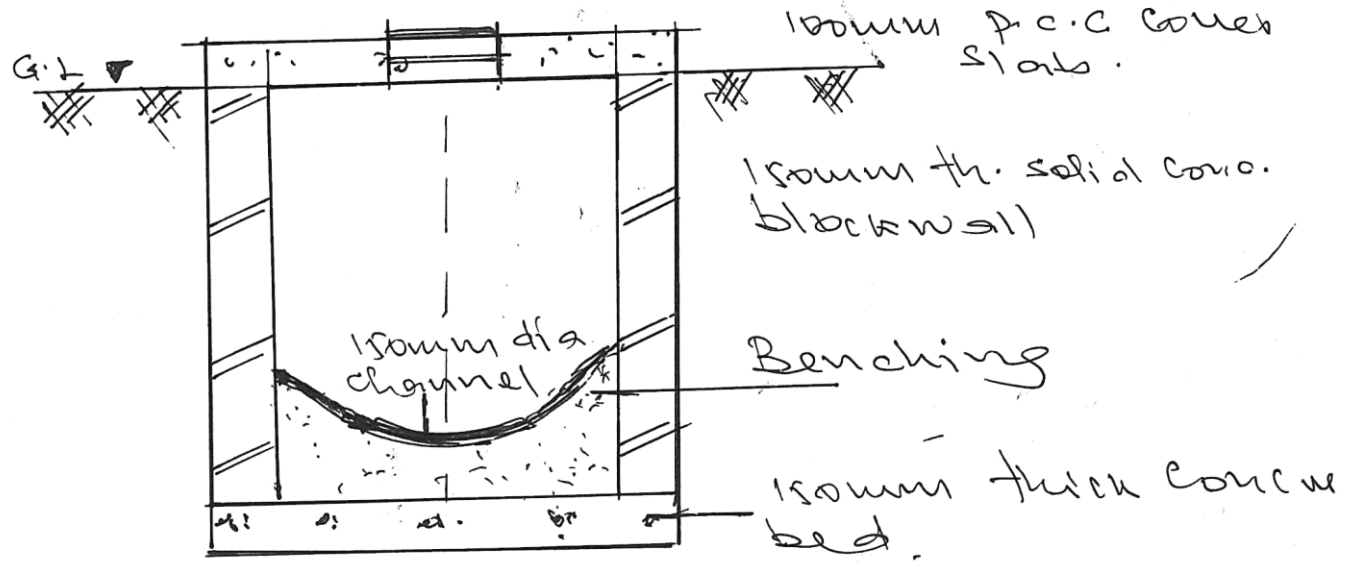
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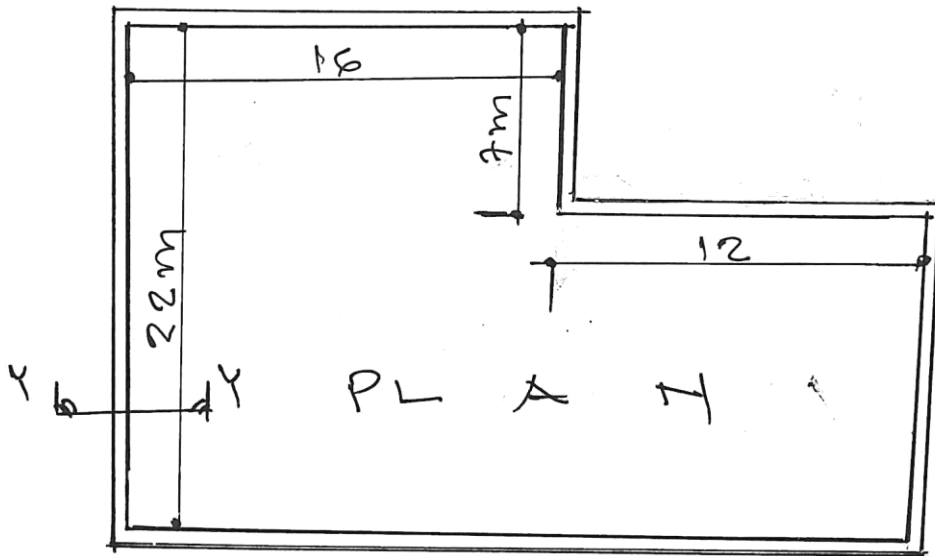
KITENGELA ESTATE DRAINAGE (PART)

Drawing No. MK/01

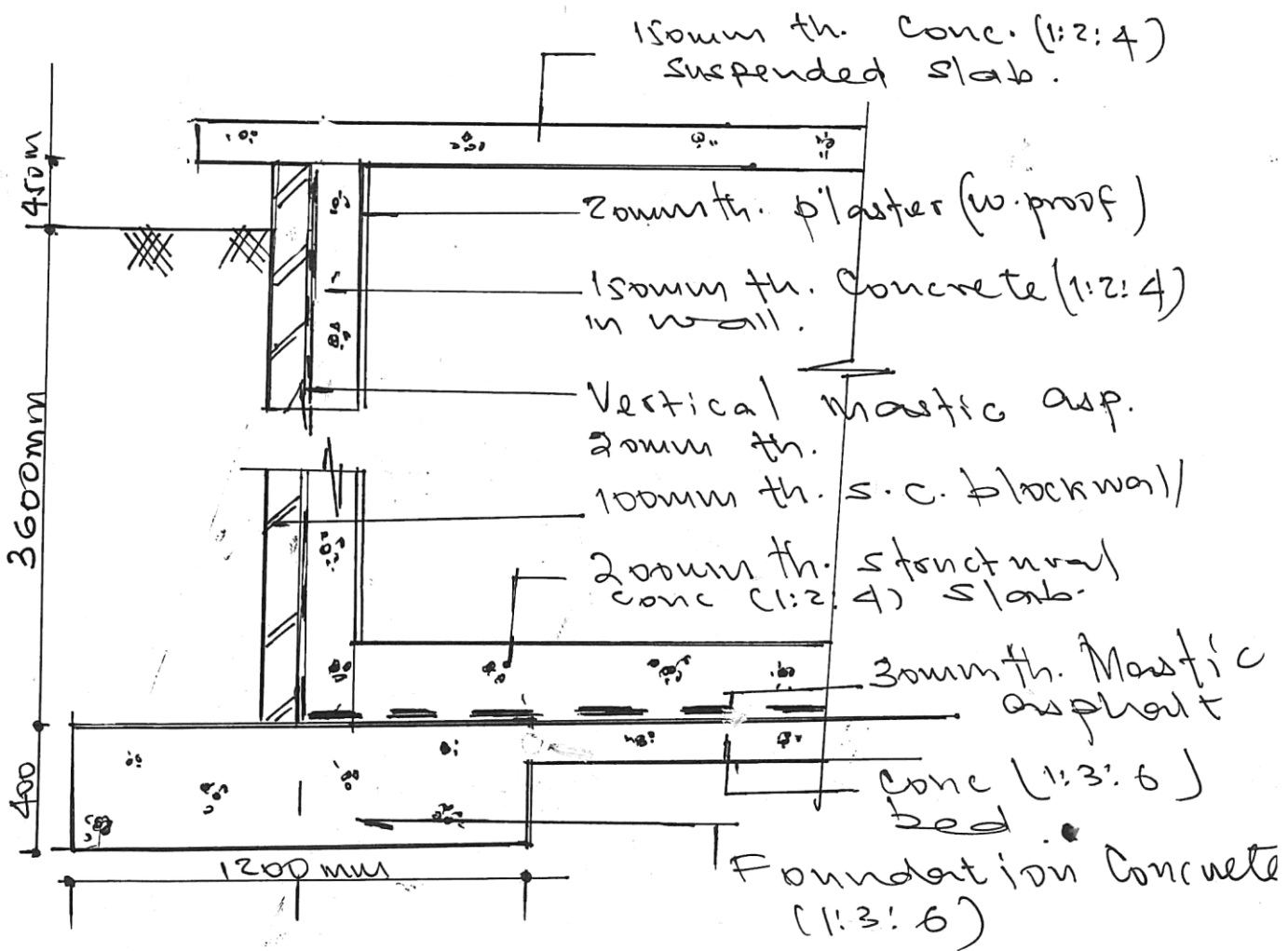
c. Manhole cover (H.D).



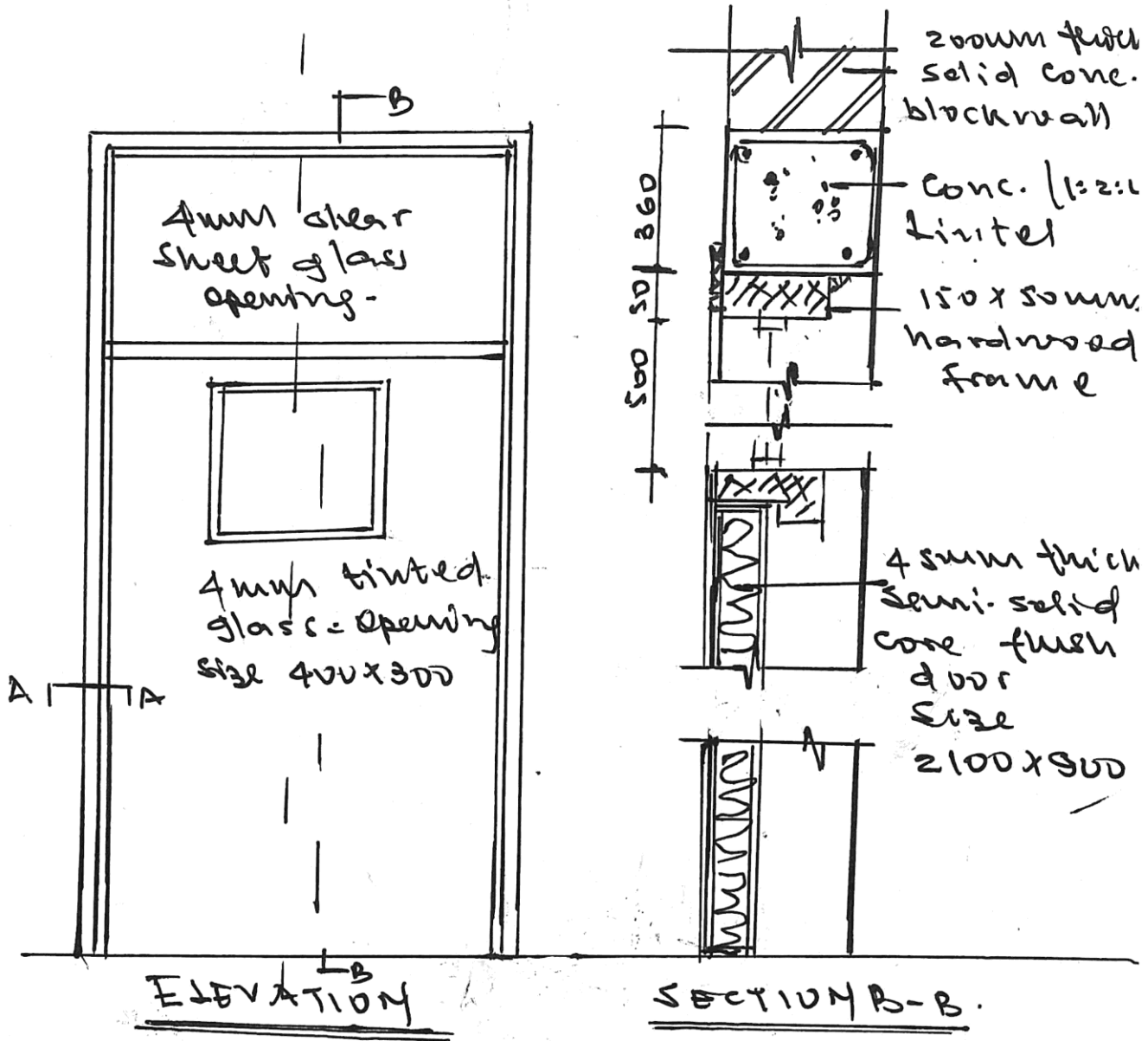
TYPICAL MANHOLE SECTION



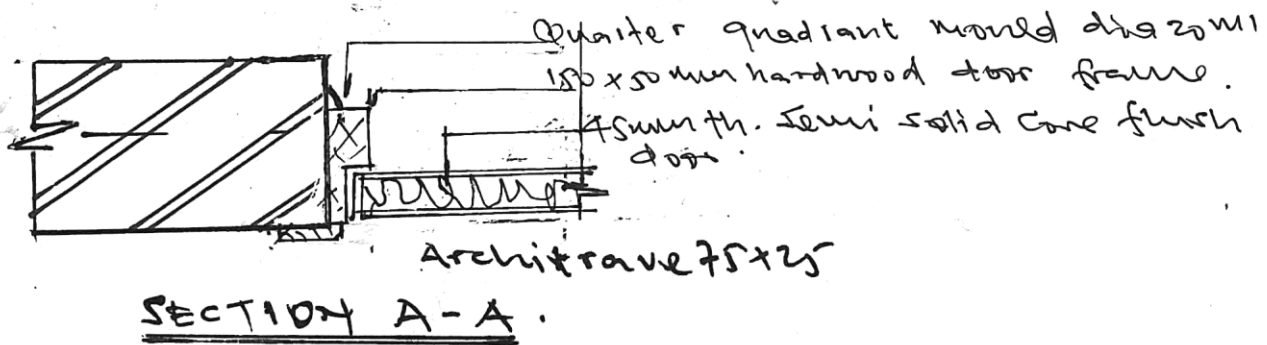
BASEMENT Dr. No. Mo/002/28

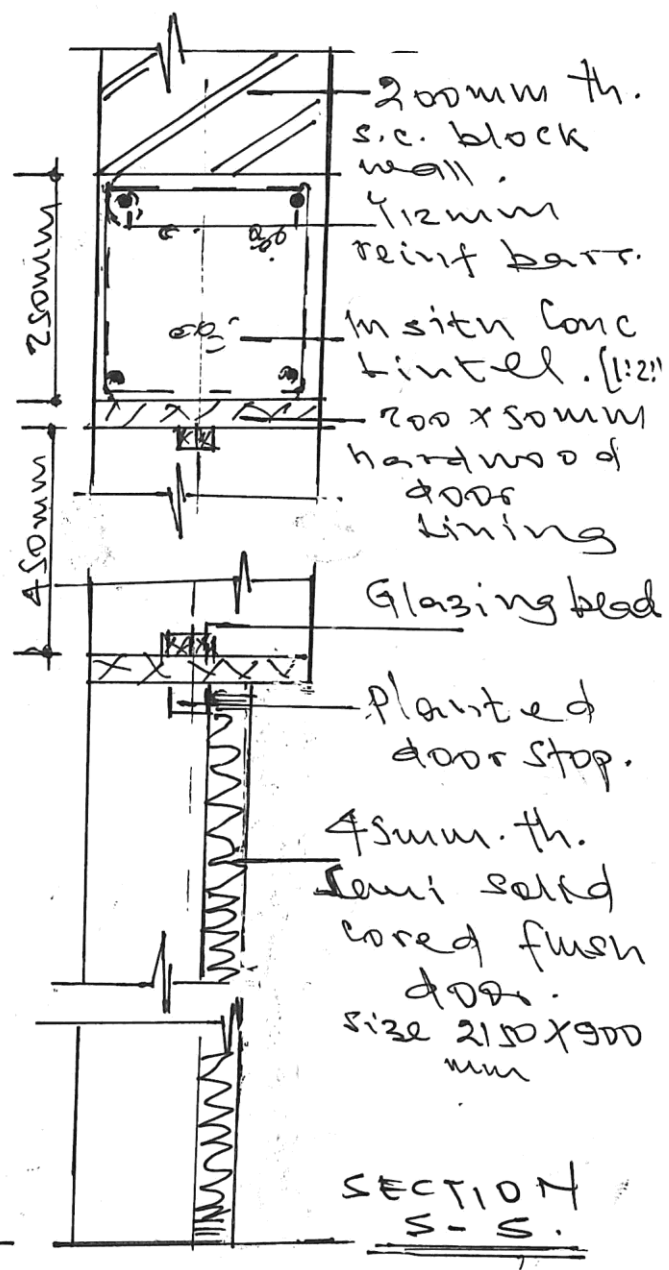
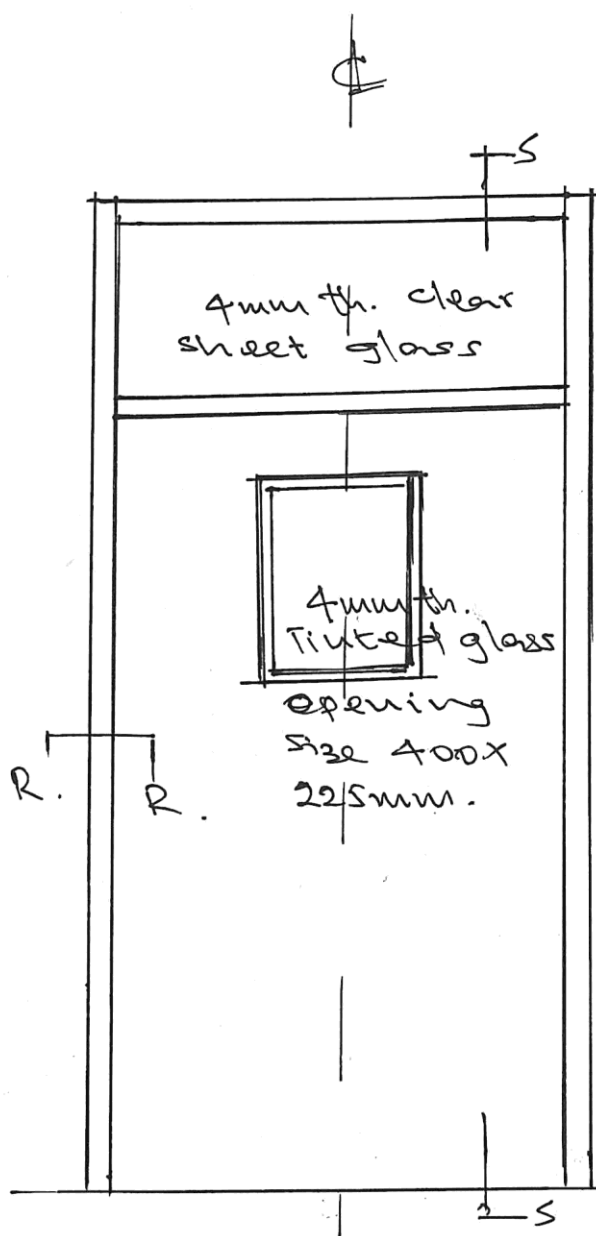


SECTION Y-Y.

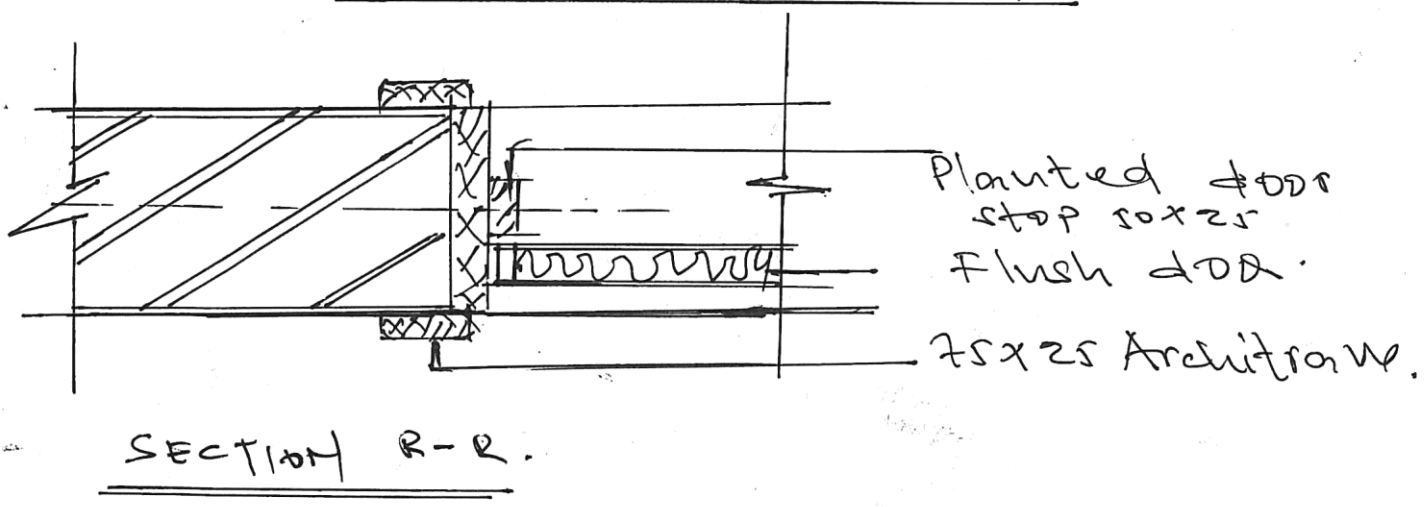


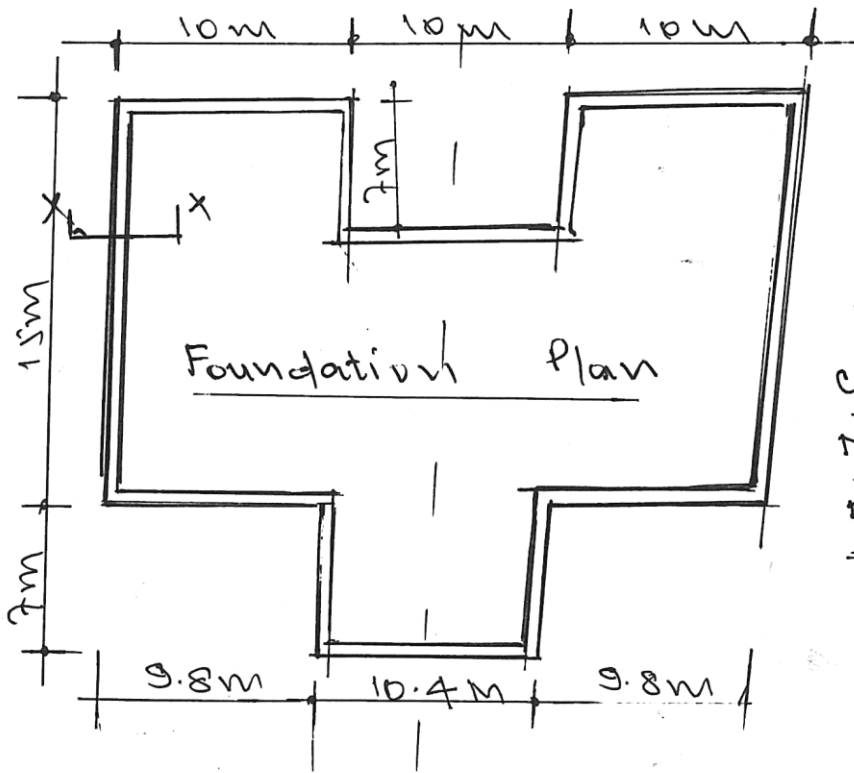
FLUSH DOOR - Drawing no. Ms01/02/28



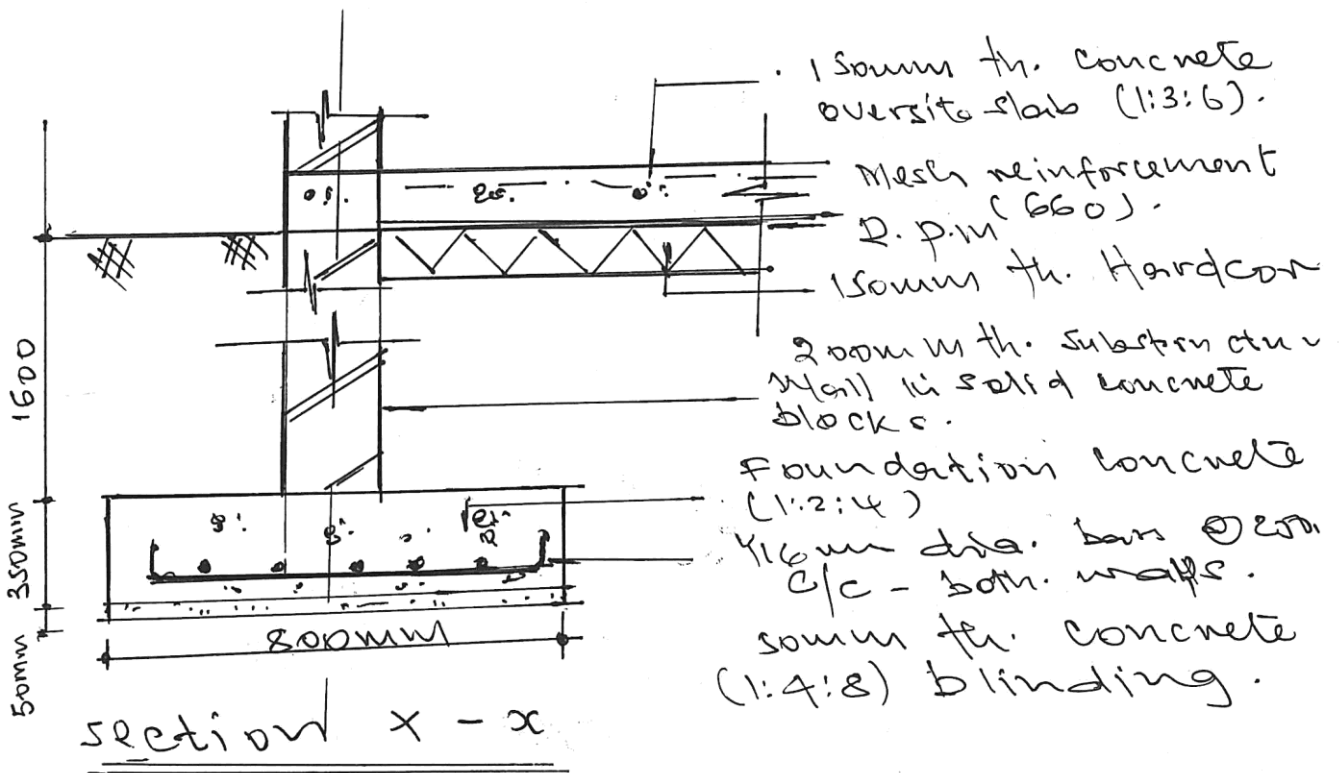


SEMI-SOLID CORED FLUSH DOOR  
Drawing Ref. No. Mo/002/28

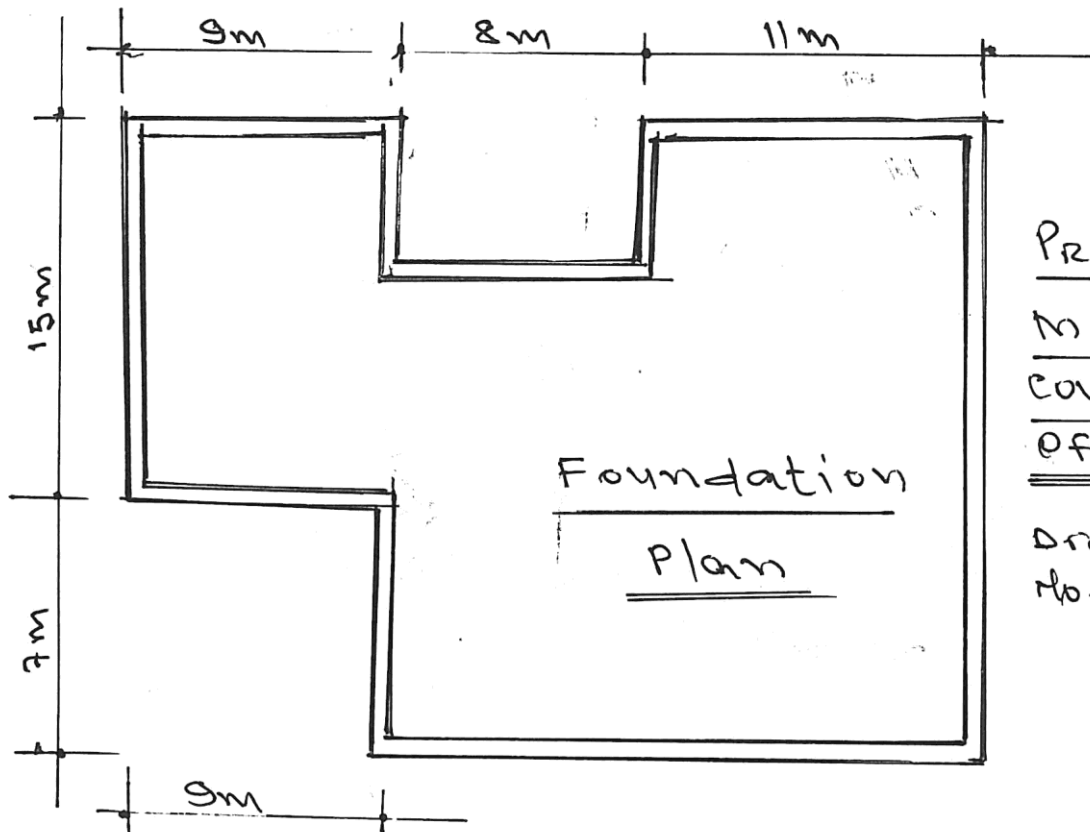




PROPOSED  
COUNTY OFFICE  
NYAMIRA COUNTY  
Dr. No. M1/01/2/28/2

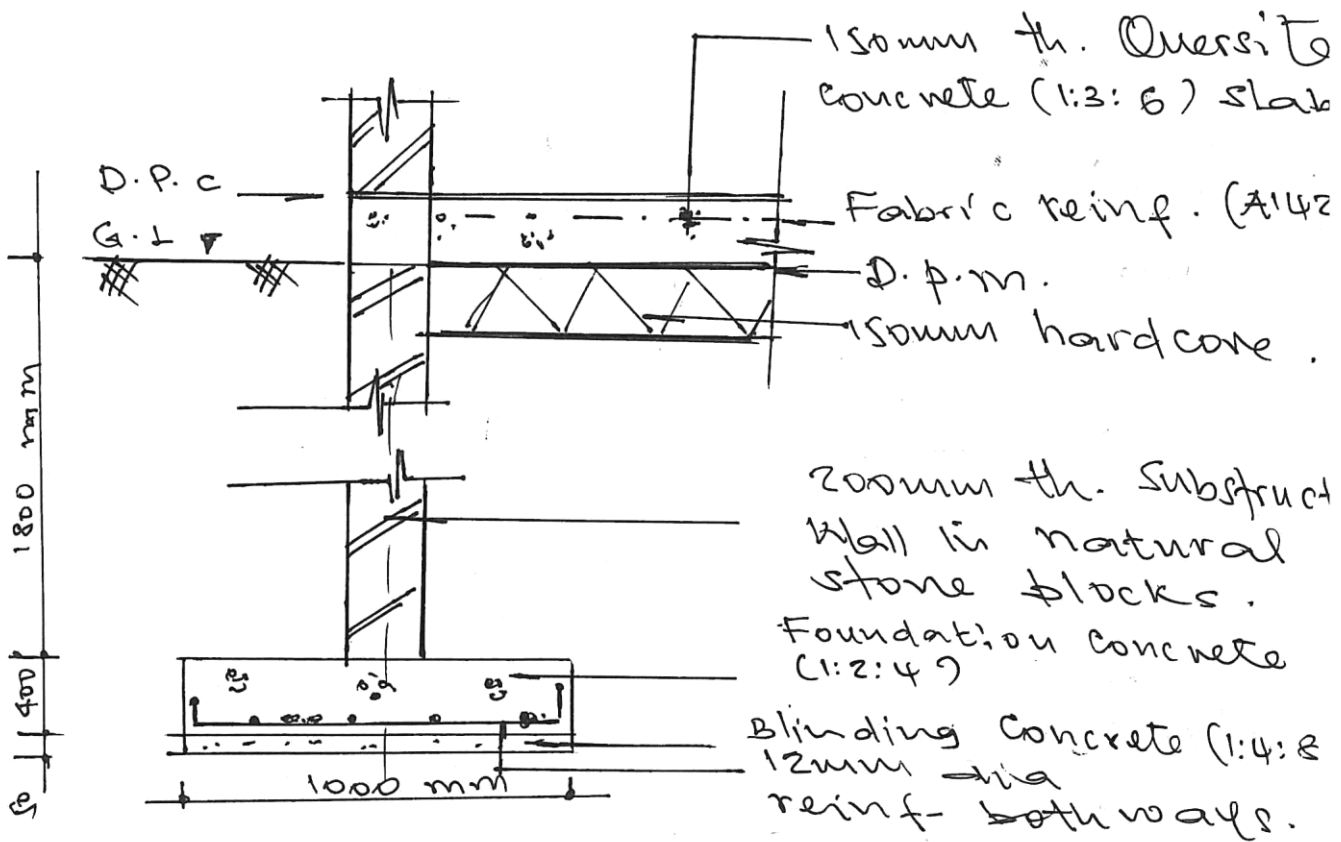


- 150mm th. concrete oversite slab (1:3:6).
- Mesh reinforcement R.P.M (660).
- 150mm th. Hardcore
- 200mm th. Substrate with nail in solid concrete blocks.
- Foundation concrete (1:2:4)
- 16mm dia. bars @ 200 c/c - both ways.
- 50mm th. concrete (1:4:8) blinding.

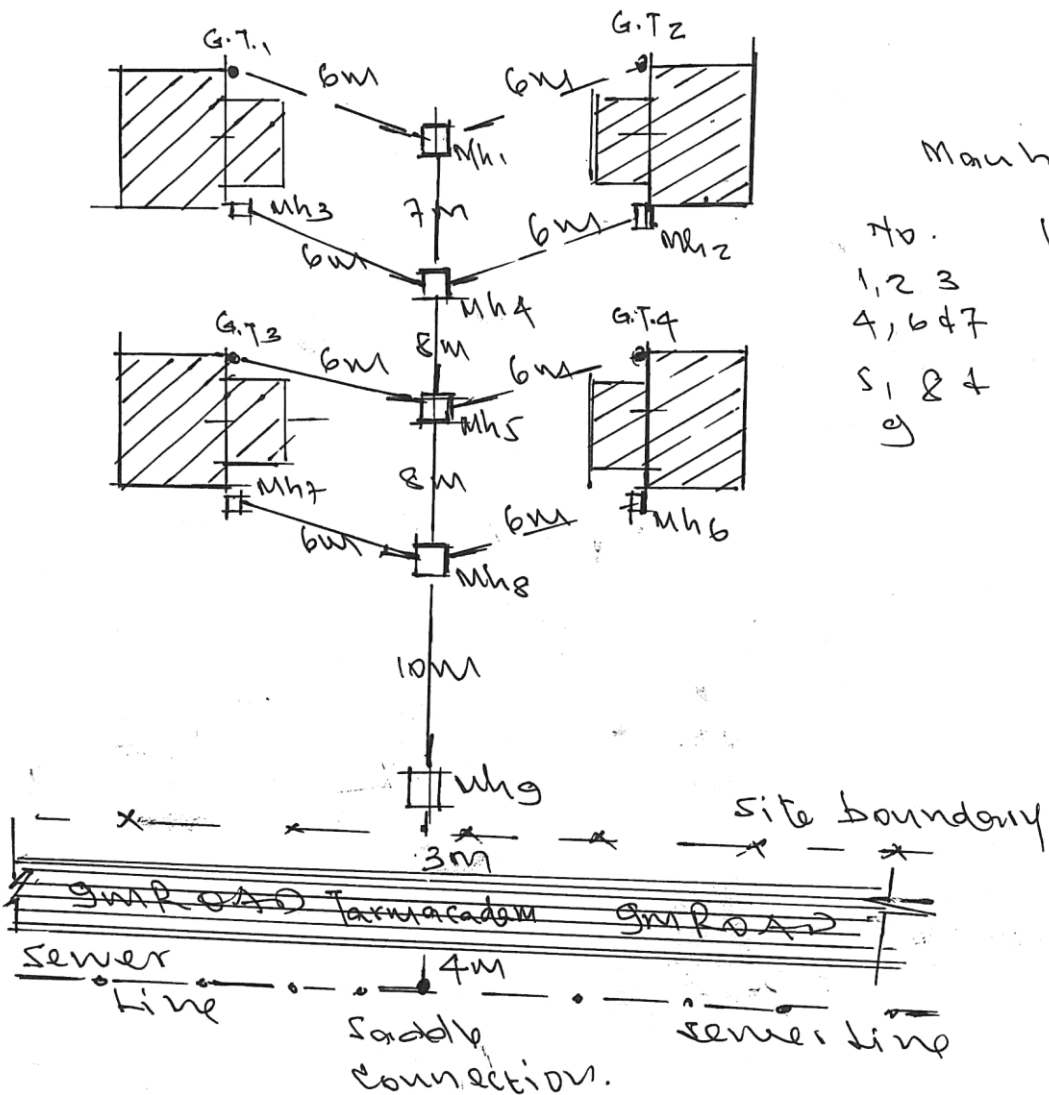


PROPOSED  
MASAKU  
COUNTY  
OFFICES

Drawing  
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Section X - X



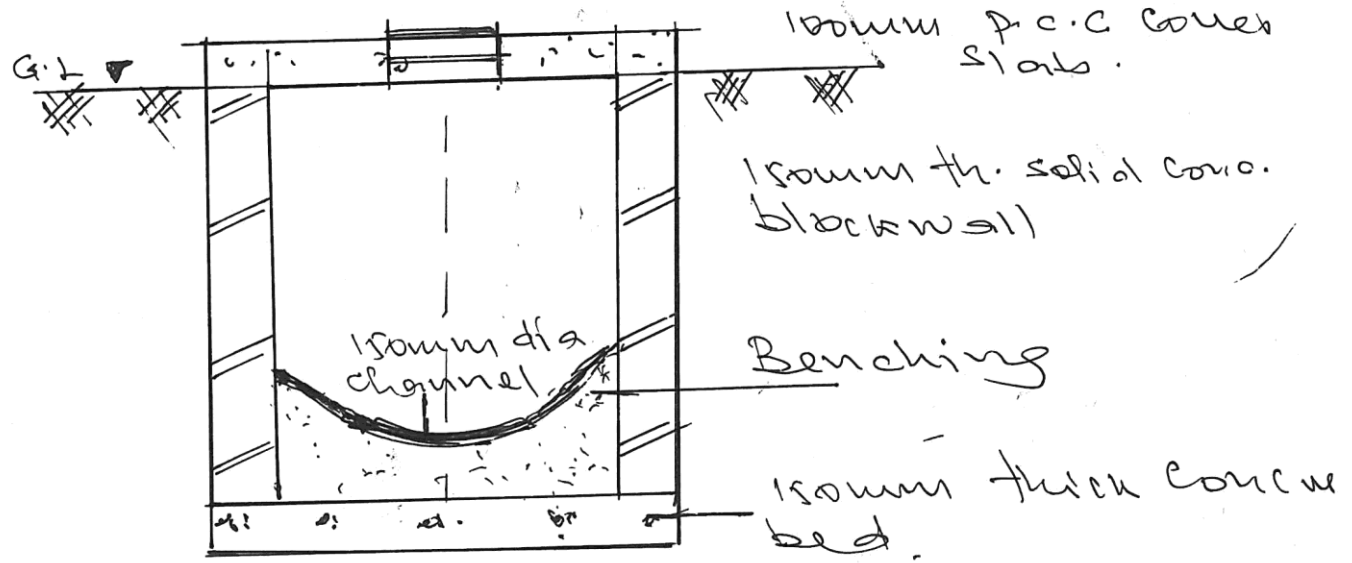
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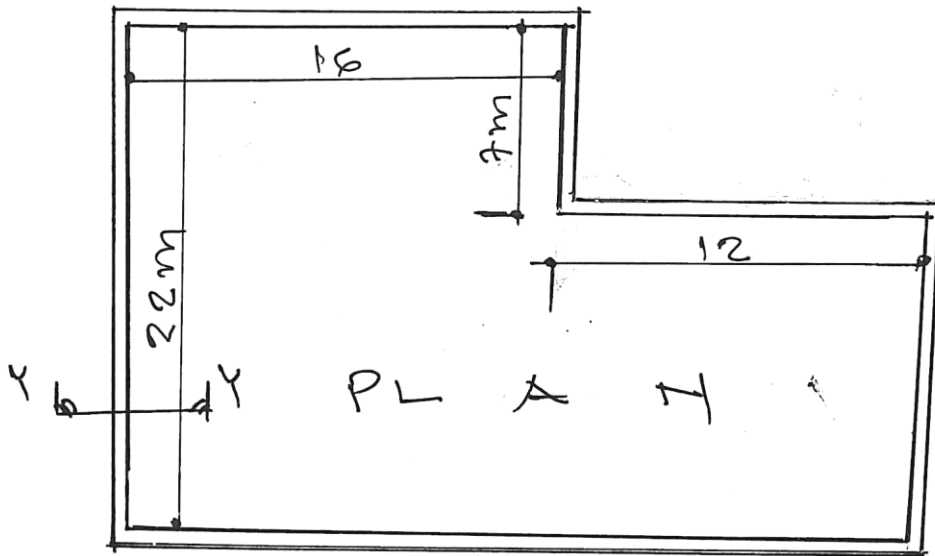
KITENGELA ESTATE DRAINAGE (PART)

Drawing No. MK/01

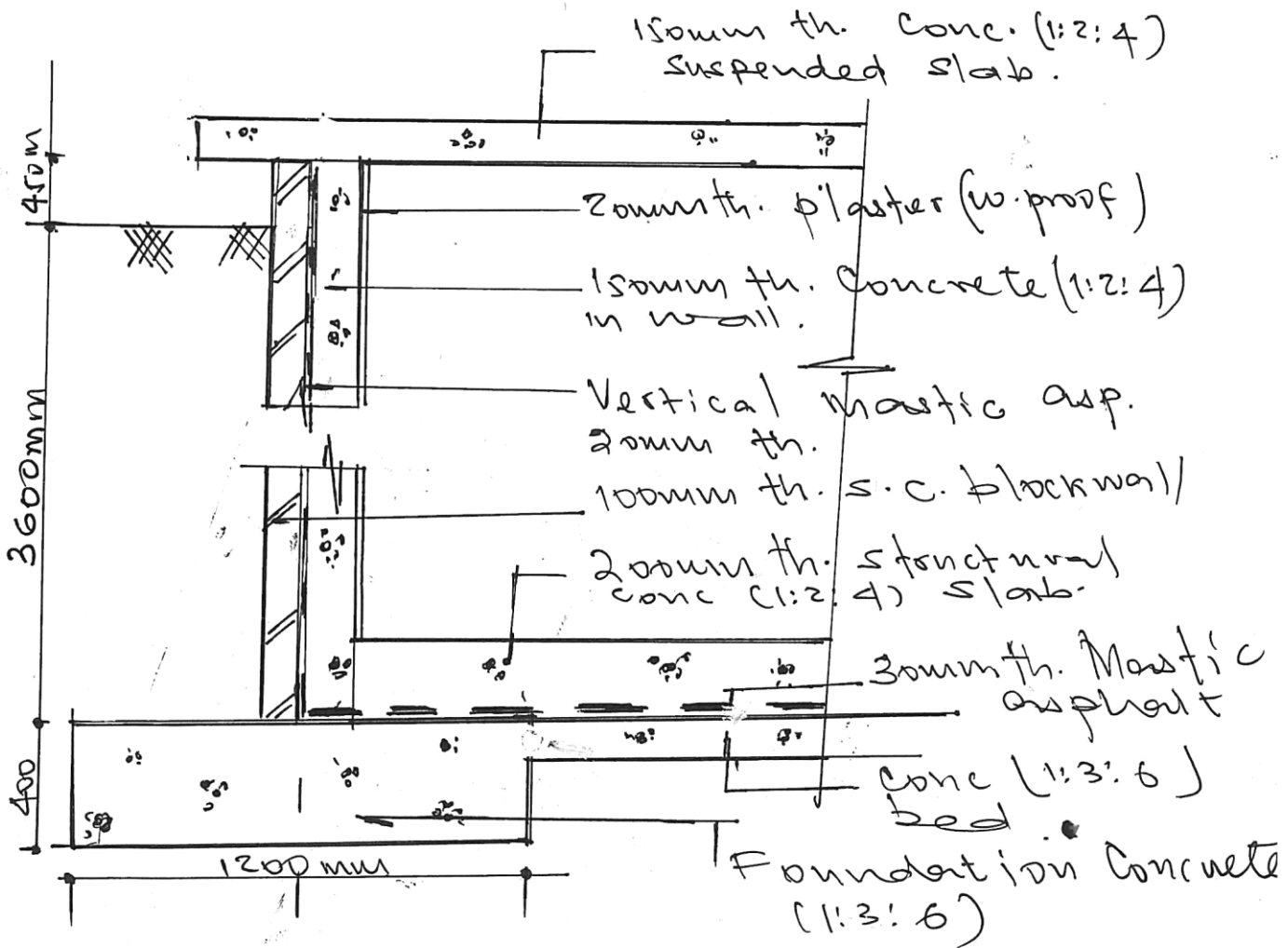
C. Manhole cover (H.D.)



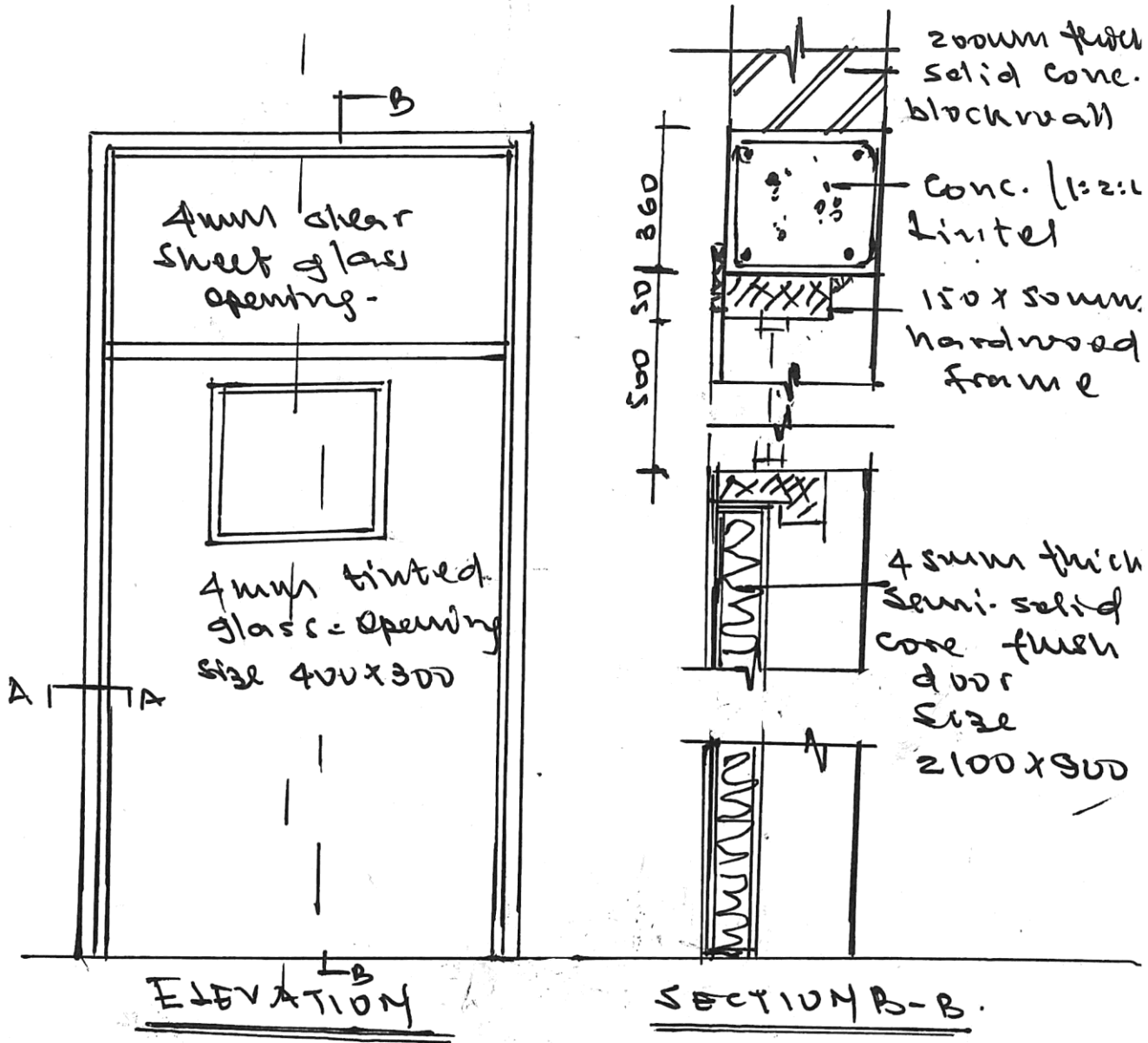
TYPICAL MANHOLE SECTION



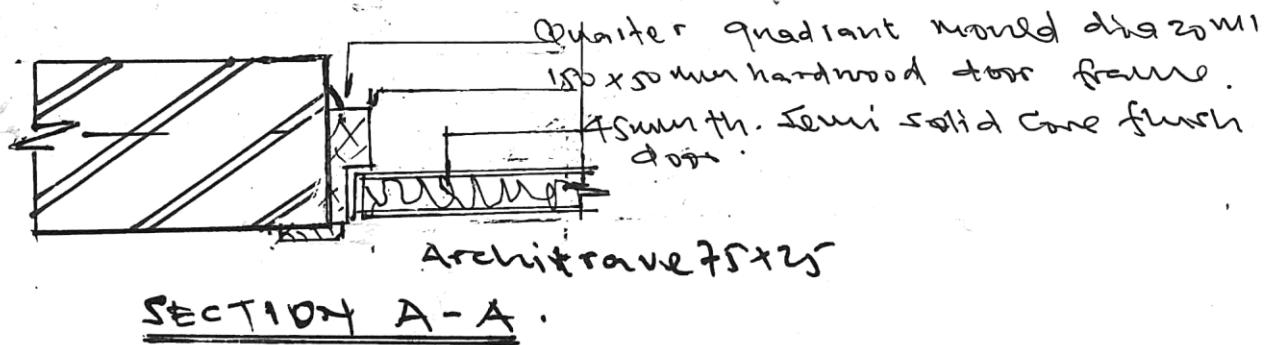
BASEMENT Dr. No. Mo/002/28

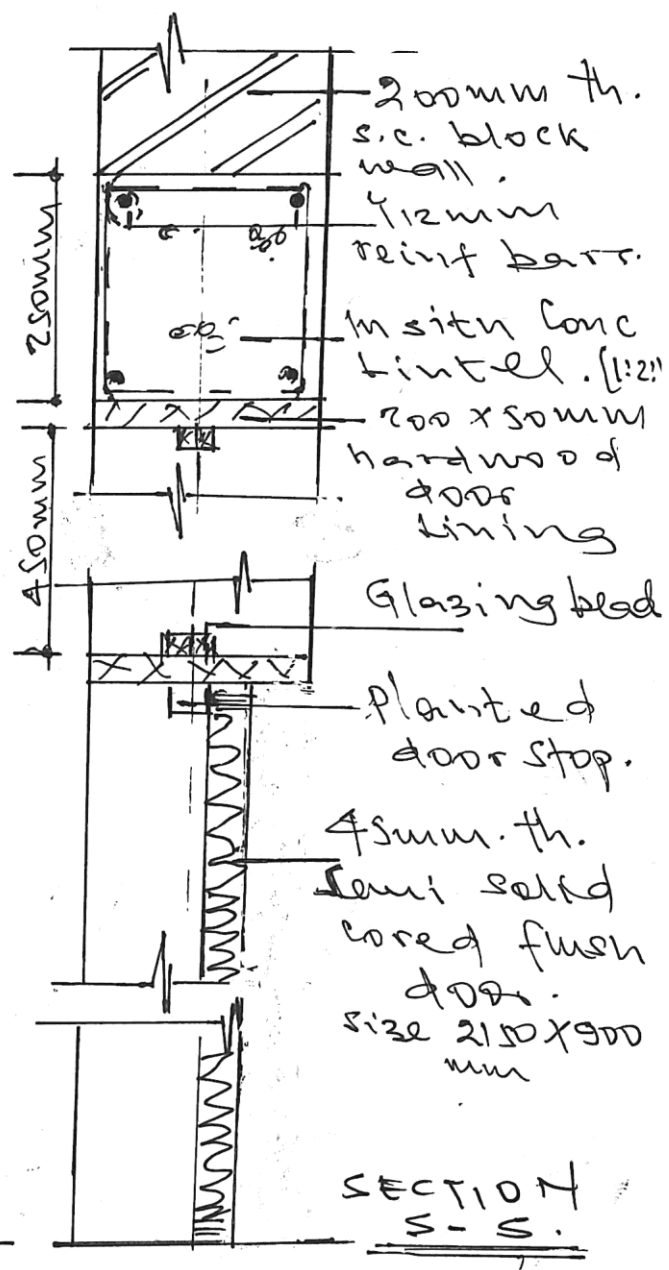
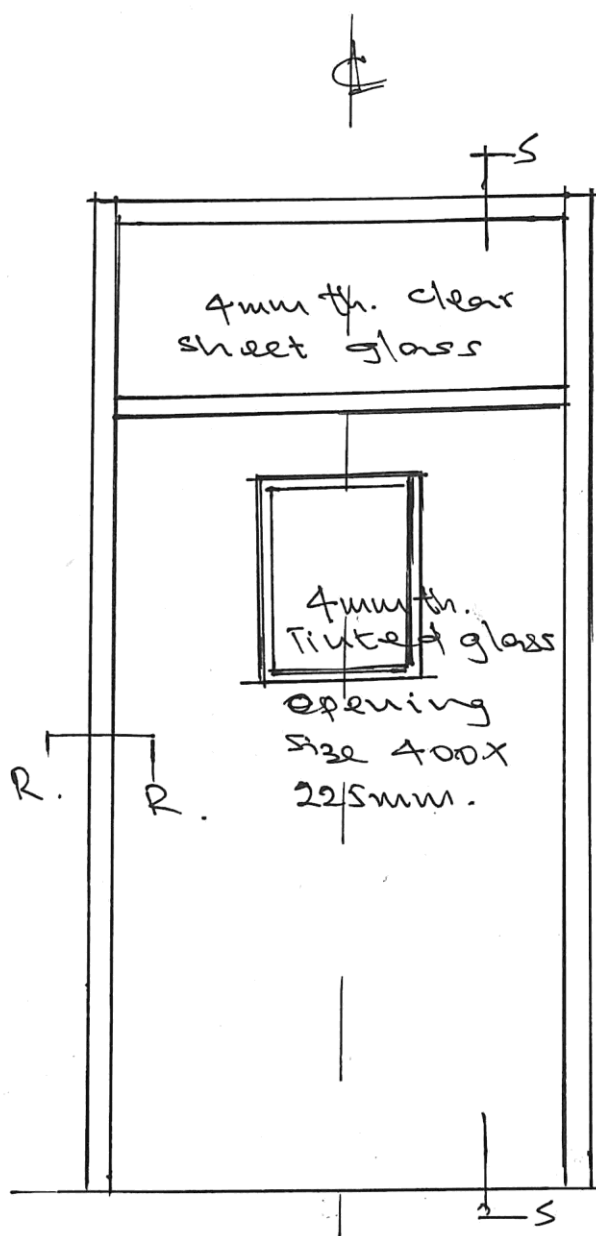


SECTION Y-Y.

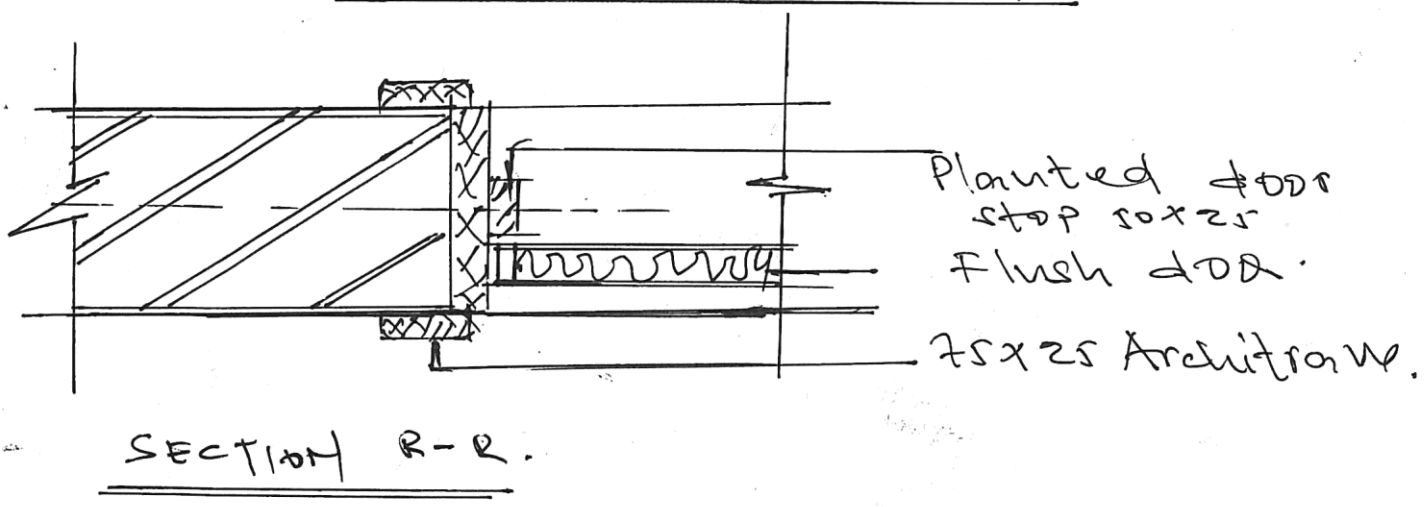


FLUSH DOOR - Drawing no. Ms01/02/28

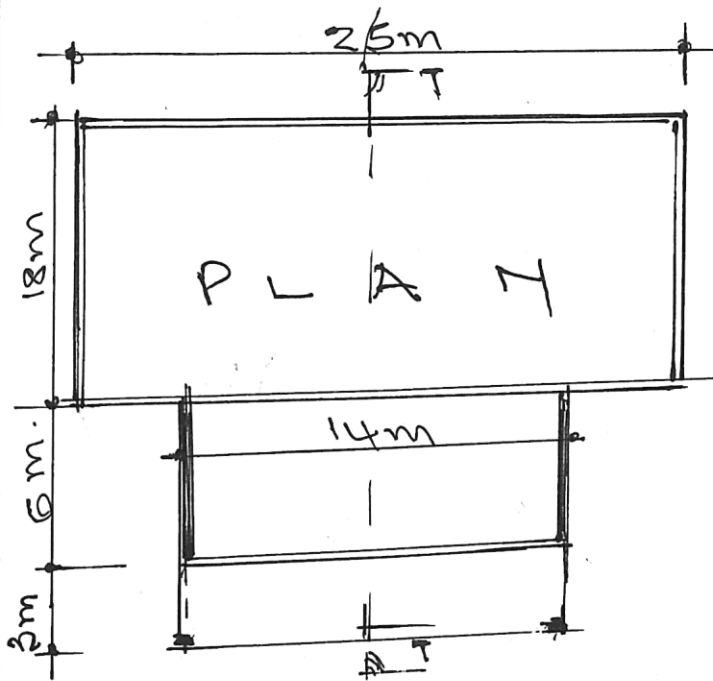




SEMI - SOLID CORED FLUSH DOOR  
Drawing Ref. No. Mo/002/28



SECTION R-R.



PROPOSED  
MARSHABIT COUNTY  
HOTEL -  
Drawing No. EST/02/03/2

