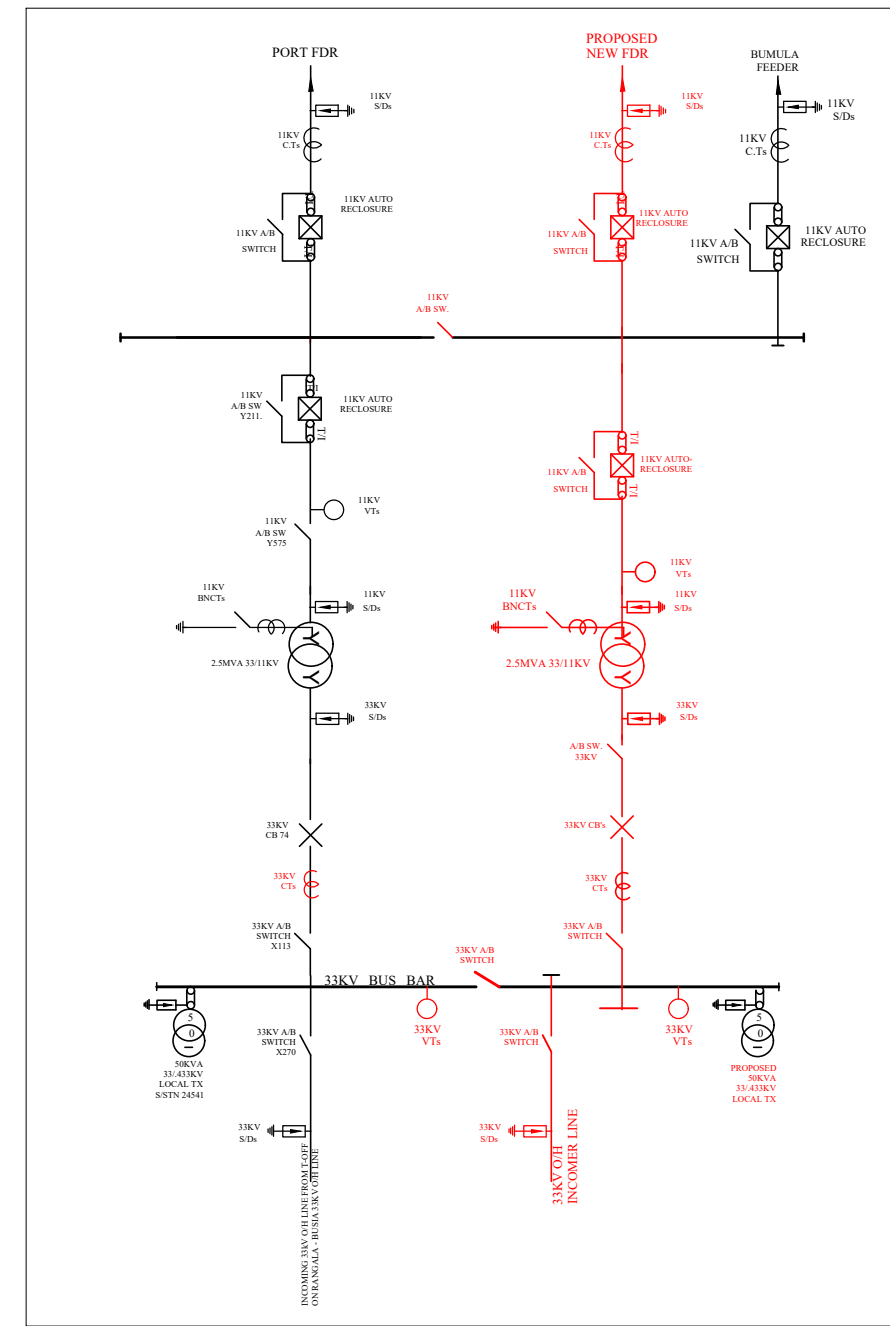
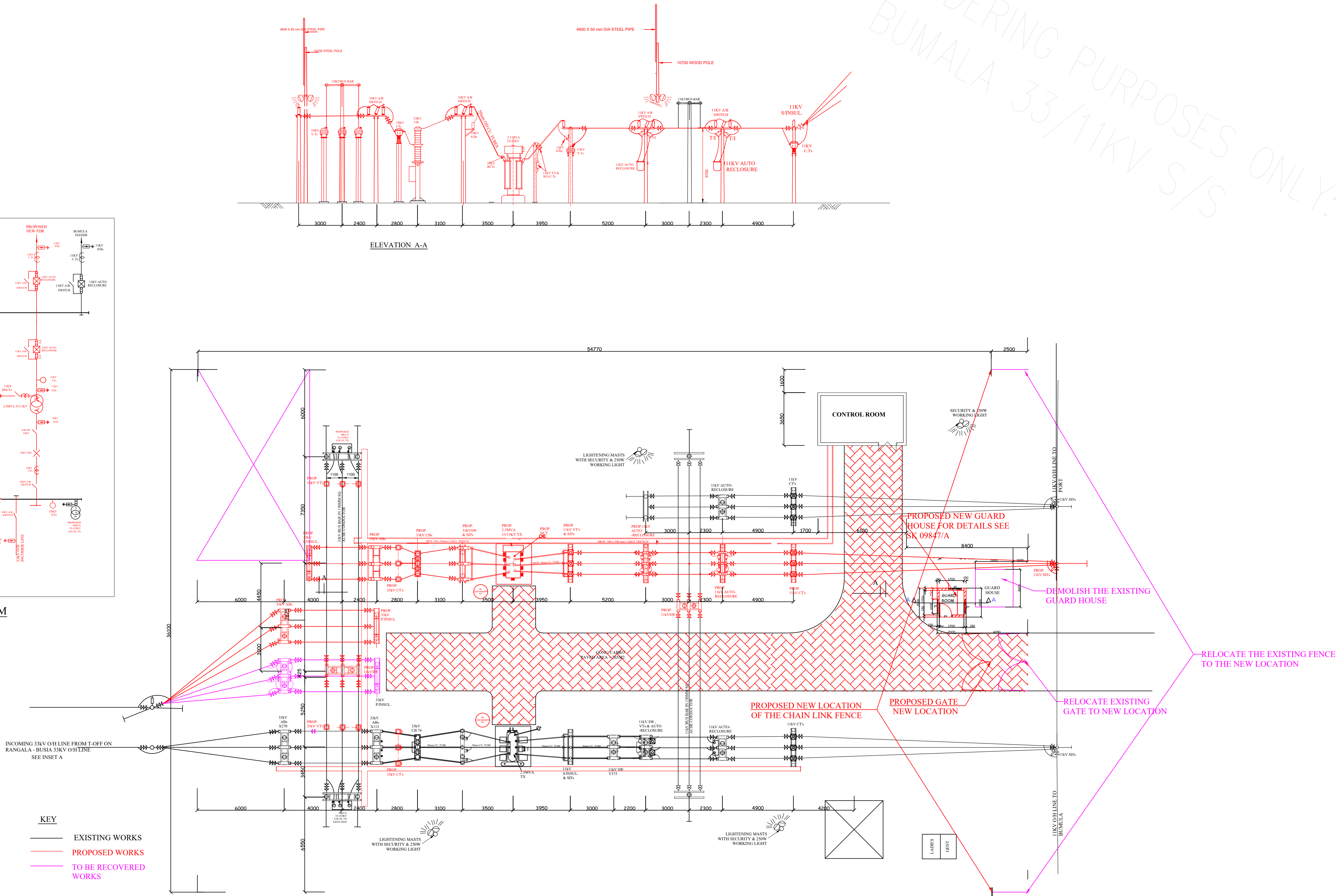




CONNECTION DIAGRAM



NOTES

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3. This drawing must be read in conjunction with relevant Architectural drawings.
4. Reinforced concrete for all structural elements to be grade C20/25 to BS EN 206-1:2002, except for the ground floor slab (grade C16/20), and roof slab (C25/30).
5. Cover to main reinforcement to be as follows:
(a) Foundation = 50mm
(b) Columns = 40mm
(c) Beams = 30mm
(d) Slabs = 25mm
6. "H" Denotes ribbed high yield bars to BS 4461 with a yield strength of 500N/mm2 to BS 4449-2005.
7. Reinforcement in walls and columns must be inspected by the Engineer before being enclosed in formwork.
8. All masonry walls must be reinforced with 25mm hoop iron after every two alternate courses. The hoop iron must be extended through the column sections.
9. To ensure enhanced bonding between the masonry and the R.C. columns, the masonry walling must be raised first before the columns are cast.
10. All mortar used to be of cement sand mix 1:3, with all the stone walling being laid in 200mm courses with 12mm mortar joints.
11. A minimum of 7.0N/mm2 average compressive strength of masonry in accordance with BS EN 771 and BS 5268 should be used for all wall sections.
12. Mass concrete to be grade 12/15 to BS EN 206-1:2002.
13. Double masonry walls to be built one at a time. Waterproofing plaster shall be applied to the inside of the first wall to Engineer's approval before the second is built.

REVISIONS

Date	Suffix	Descriptions	Issue

CLIENT



PROJECT

PROPOSED CIVIL WORKS & STEEL STRUCTURES FOR BUMALA 33/11KV SUB-STATION

TENDER DRAWINGS

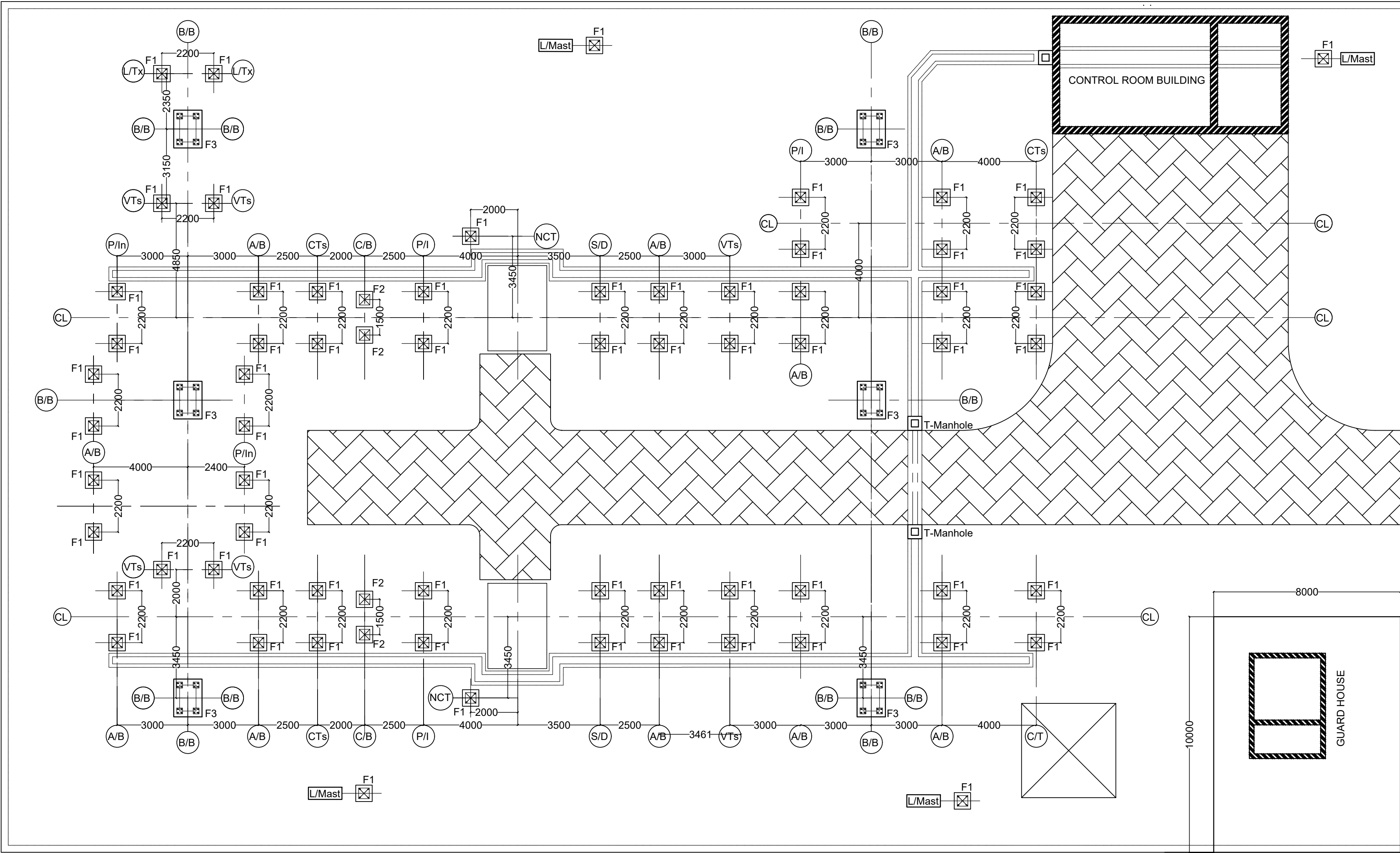
GENERAL ARRANGEMENT

ELECTRICAL

BML- SHEET 001/025 (a)

Drawn	D.WAITHERA	Scale(s)	AS INDICATED
Designed	D.WAITHERA	Date	MARCH, 2025
Checked	M.OKUMU	Date	MARCH, 2025
Approved	ENG. D.M.WAMBUGU	Date	MARCH, 2025
ISSUE DATE		MARCH, 2025	
JOB No.			

FOR TENDERING PURPOSES ONLY.
BUMALA 33/11KV S/S

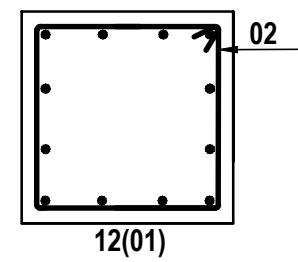


ITEM No.	DESCRIPTION.
A/B	AIR BREAK SWITCH
B/B	BUSBAR/GANTRY
CTs	CURRENT TRANSFORMER
C/B	CIRCUIT BREAKER
C/S	CABLE SUPPORT STRUCTURE
S/D	SURGE DIVERTER
VTs	VOLATEGE TRANSFORMER
P/In	POST INSULATOR
NCT	NEUTRAL CIRCUIT TRANSFORMER
LTx	LOCAL TX
L/Mast	LIGHTENING MAST
T-Manhole	TRANSITION MANHOLE

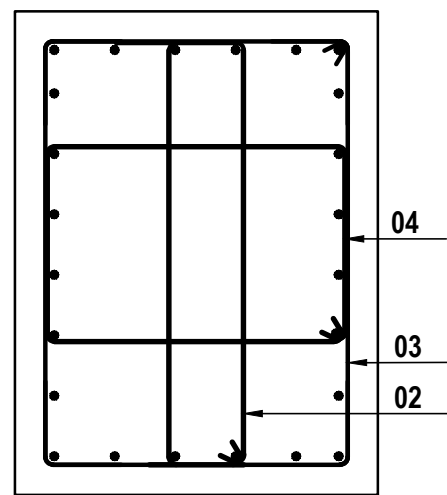
SCHEDULE OF COLUMNS & BASES				
FOUNDATION	COLUMN SIZE	N0.	BASE SIZE	N0.
F1	700x700 mm	60	1200x1200 mm	60
F2	900x900 mm	4	2000x1200 mm	2
F3	1600x1200 mm	6	2000x1600 mm	6

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Date	Suffix	Descriptions	Issue
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CONSTRUCTION DRAWINGS			
GENERAL ARRANGEMENT			
STRUCTURAL			
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Drawn	D.WAITHERA	Scale(s)	AS INDICATED
Designed	D.WAITHERA	Date	MARCH, 2025
Checked	M.OKUMU	Date	MARCH, 2025
Approved	ENG. D.M.WAMBUGU	Date	MARCH, 2025
ISSUE DATE		MARCH, 2025	
JOB No.			

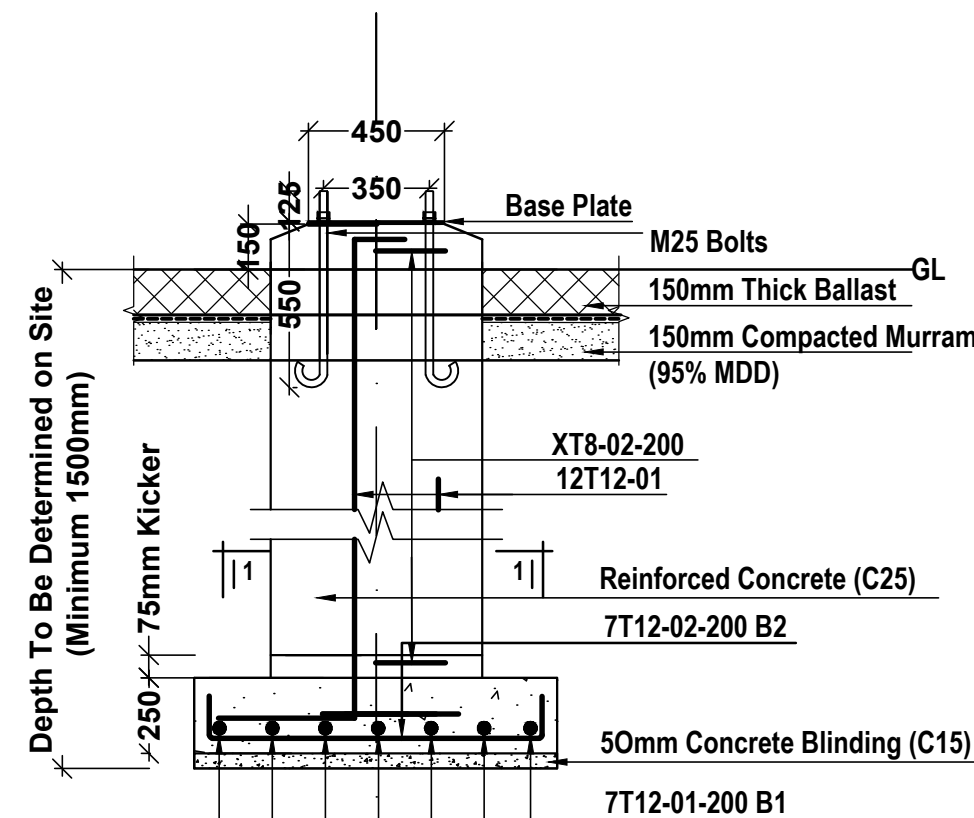
FOR TENDERING PURPOSES ONLY.
BUMALA 33/11KV S/S



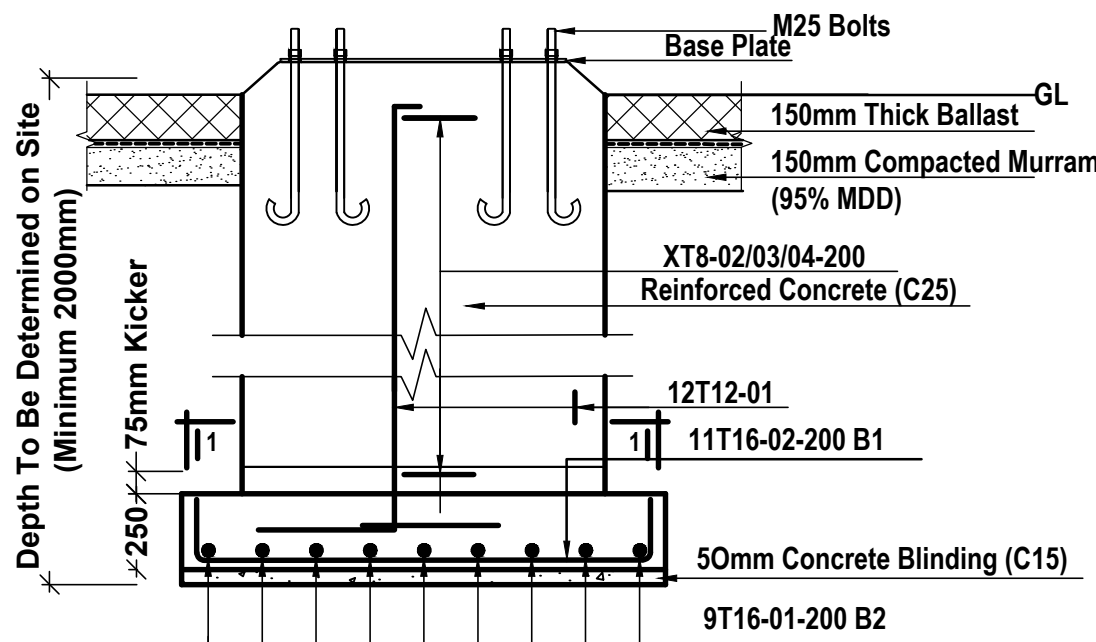
SECTION 1-1
SCALE 1:30



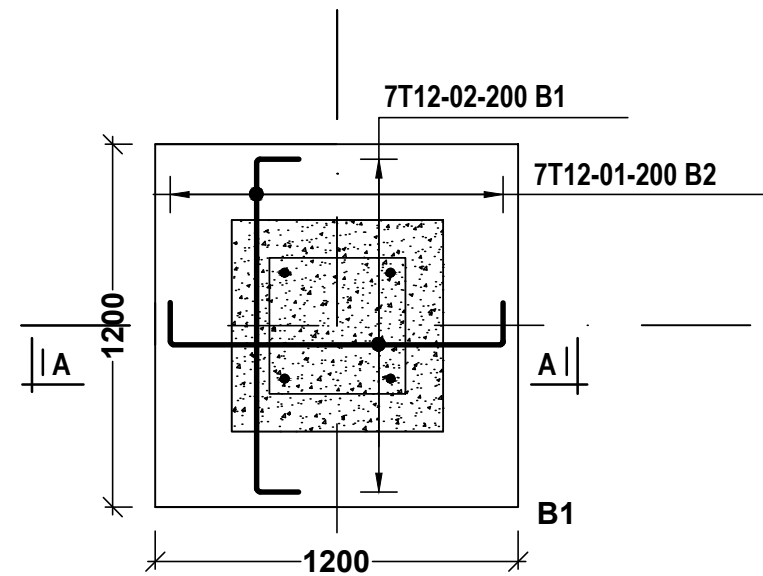
SECTION 1-1
SCALE 1:30



700X700 COLUMN C1 [60 NO. OFF]
SECTION A-A: BASE B1 ELEVATION DETAILS
SCALE 1:20

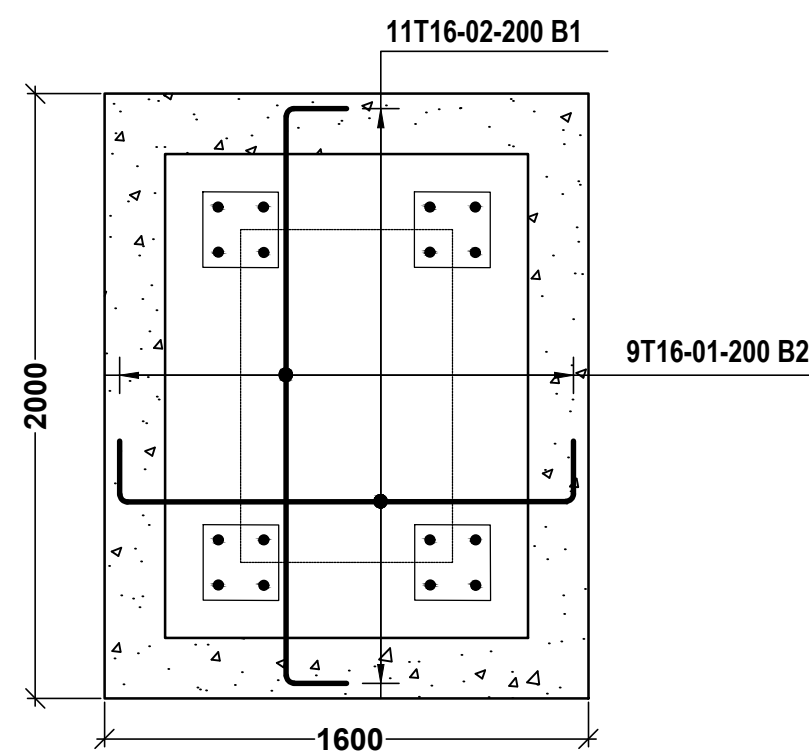


1600X1200 COLUMN C3 [6 NO. OFF]
SECTION C-C: BASE B3 ELEVATION DETAILS
SCALE 1:25



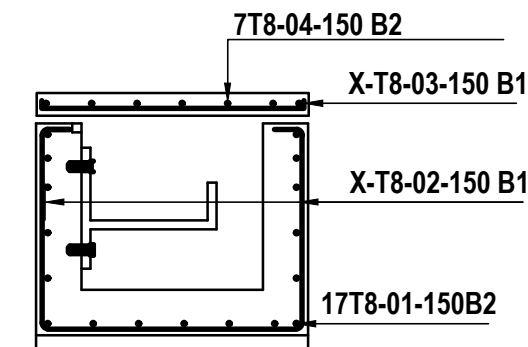
1200x1200x250 mm BASE B1
60 NO.OFF
SCALE 1:20

TYPICAL FOUNDATION DETAIL F1

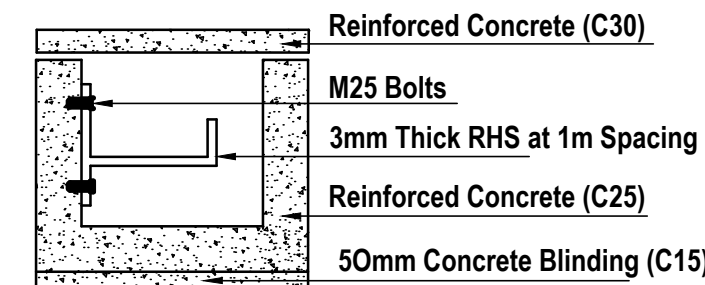


2000x1600x250 mm BASE B3
6NO.OFF
SCALE 1:25

TYPICAL FOUNDATION DETAIL F3



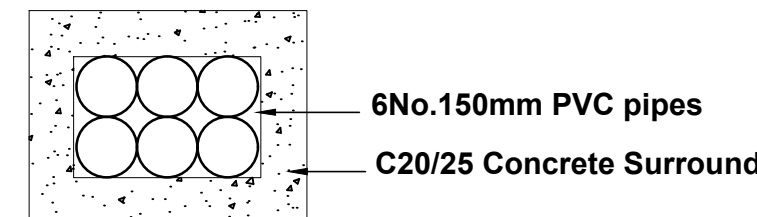
600-1200 mm CABLE TRENCH
ELEVATION DETAILS
SCALE 1:25



600-1200 mm CABLE TRENCH
SCALE 1:25

TYPICAL FOUNDATION DETAIL
CABLE TRENCH

ROAD CROSSING



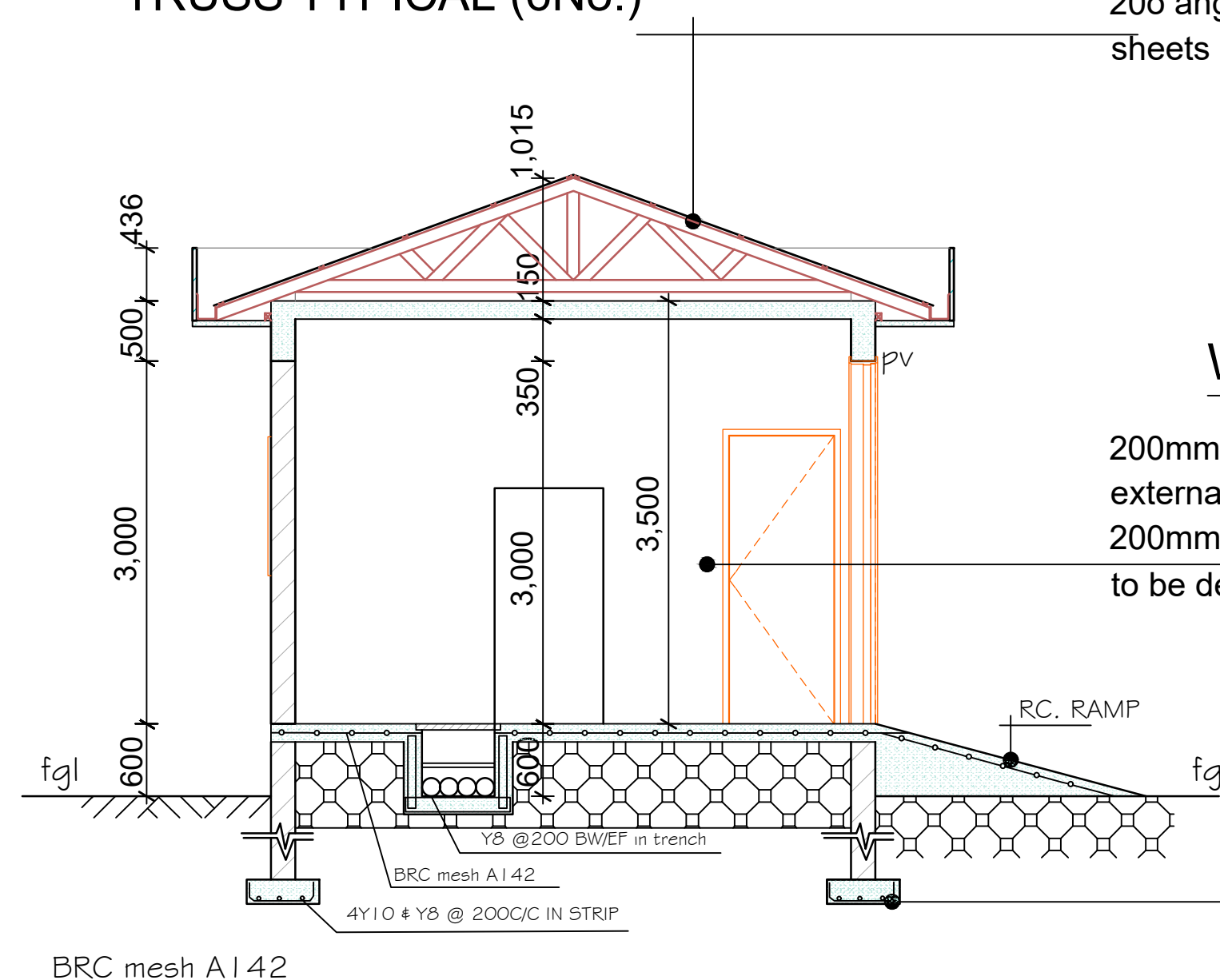
TYPICAL FOUNDATION DETAIL
ROAD CROSSING

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REVISIONS			
Date	Suffix	Descriptions	Issue
CLIENT			
 Kenya Power			
PROJECT			
PROPOSED CIVIL WORKS & STEEL STRUCTURES FOR BUMALA 33/11KV SUB-STATION			
CONSTRUCTION DRAWINGS			
GENERAL ARRANGEMENT			
STRUCTURAL : SECTIONS			
BML- SHEET 001/025 (c)			
Drawn	D.WAITHERA	Scale(s)	AS INDICATED
Designed	D.WAITHERA	Date	MARCH, 2025
Checked	M.OKUMU	Date	MARCH, 2025
Approved	ENG. D.M.WAMBUGU	Date	MARCH, 2025
ISSUE DATE		MARCH, 2025	
JOB No.			

20o angle, IT4 Pre-painted blue 26G roofing
sheets on ZED purlins on 50 x 50x6mm steel trusses

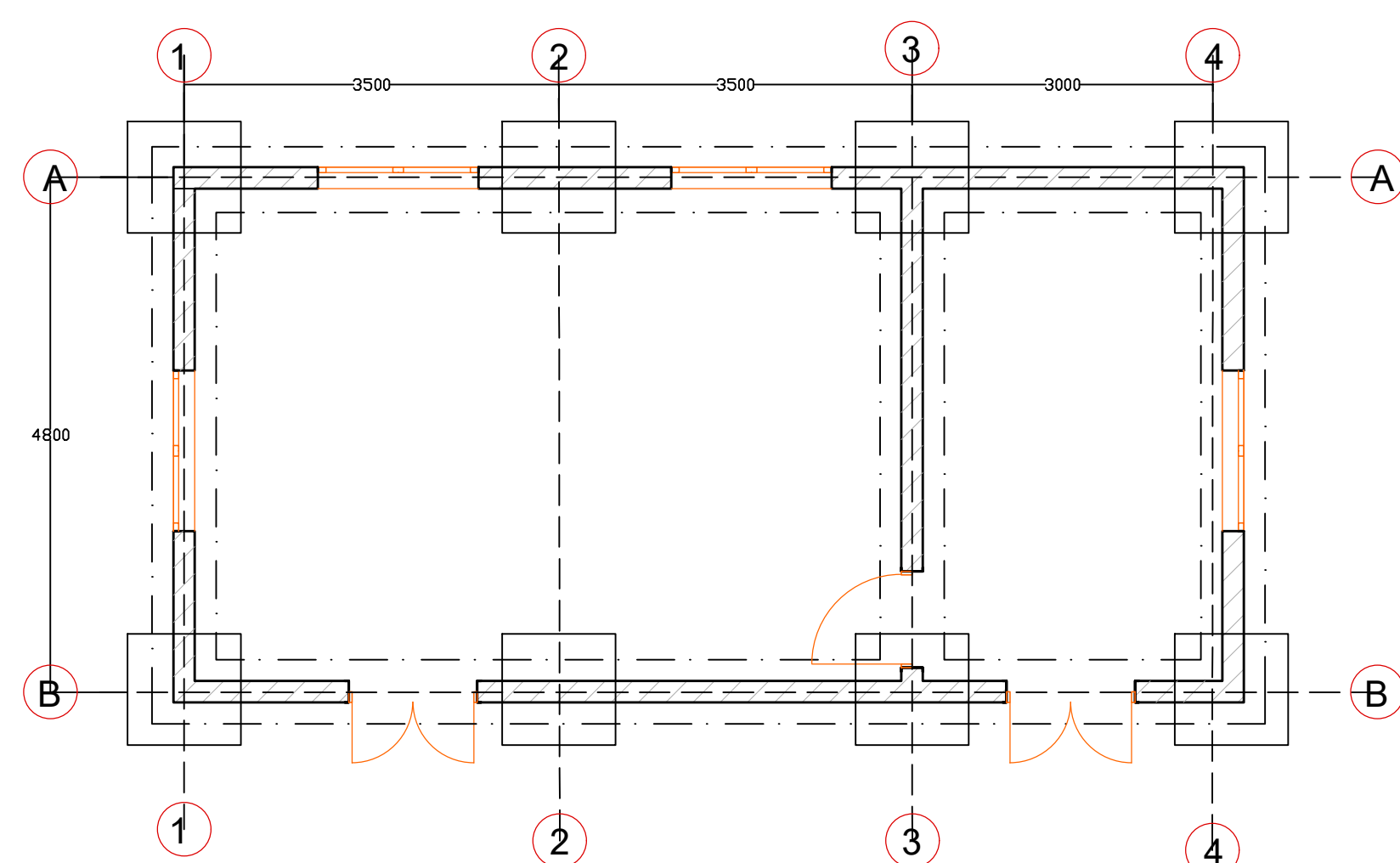
200mm thick masonry stone walling well dressed external, plastered and painted to approval on the internal. 200mm thick foundation stone walling and depth to be determined on site.

- i) 150mm thick reinforced conc. slab with reinforced ring beam to eng's details.
- ii) 250 mm thick base on 50mm blinding layer
- iii) 600 x 200mm mass conc. strip foundation to eng's details.

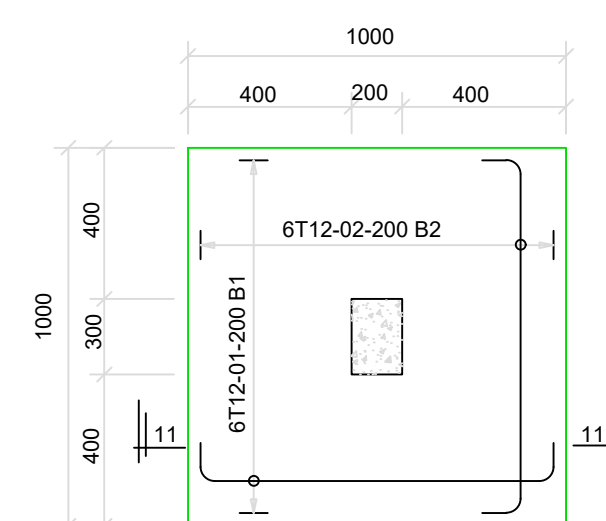


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ARCHITECTURAL																																															
BML- SHEET 002/025 (a)																																															
<table border="1"> <tr> <td>Drawn</td> <td>D.WAITHERA</td> <td>Scale(s)</td> <td>AS INDICATED</td> </tr> <tr> <td>Designed</td> <td>D.WAITHERA</td> <td>Date</td> <td>MARCH, 2025</td> </tr> <tr> <td>Checked</td> <td>M.OKUMU</td> <td>Date</td> <td>MARCH, 2025</td> </tr> <tr> <td>Approved</td> <td>ENG. D.M.WAMBUGU</td> <td>Date</td> <td>MARCH, 2025</td> </tr> <tr> <td colspan="2">ISSUE DATE</td> <td colspan="2">MARCH, 2025</td> </tr> <tr> <td colspan="2">JOB No.</td> <td colspan="2"> </td> </tr> </table>				Drawn	D.WAITHERA	Scale(s)	AS INDICATED	Designed	D.WAITHERA	Date	MARCH, 2025	Checked	M.OKUMU	Date	MARCH, 2025	Approved	ENG. D.M.WAMBUGU	Date	MARCH, 2025	ISSUE DATE		MARCH, 2025		JOB No.																							
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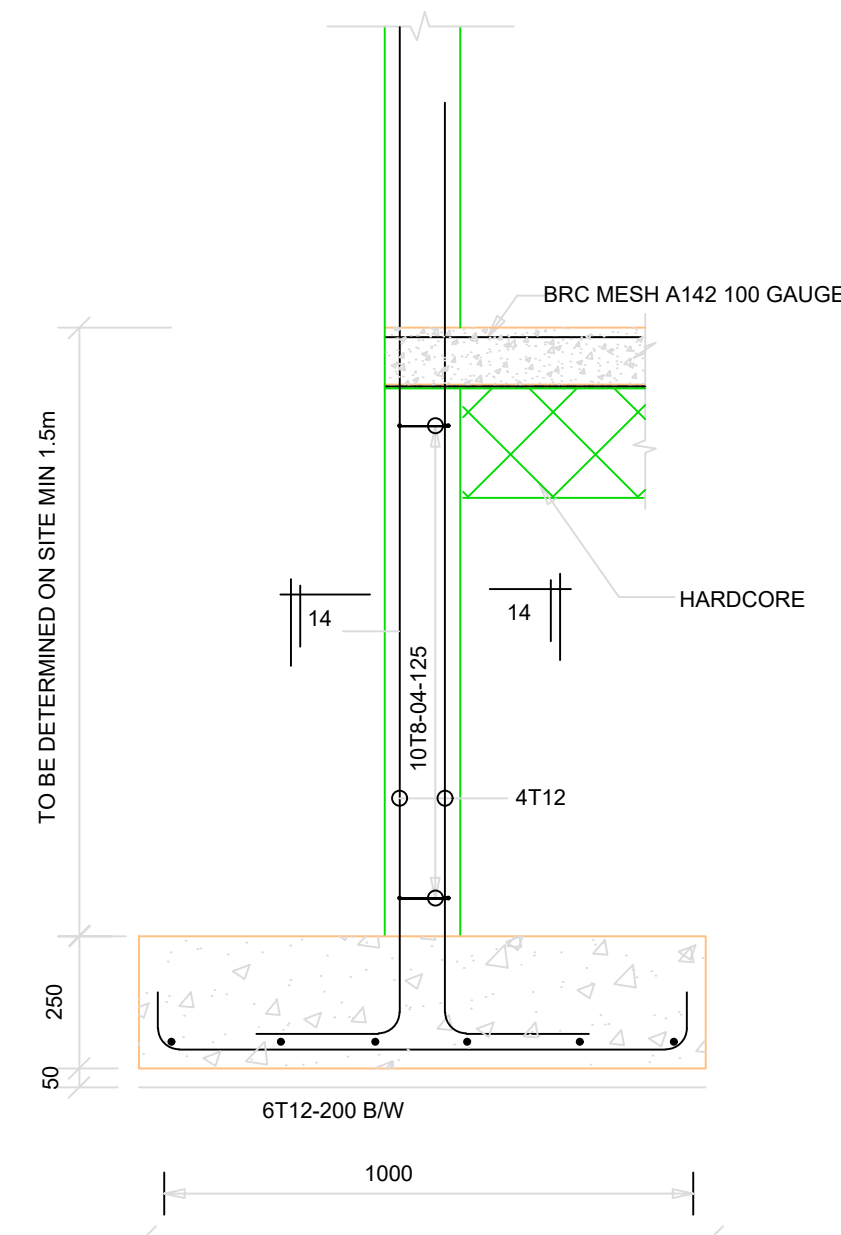
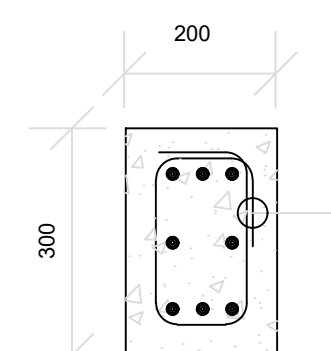
FOR TENDERING PURPOSES ONLY
BUMALA 33/11KV S/S



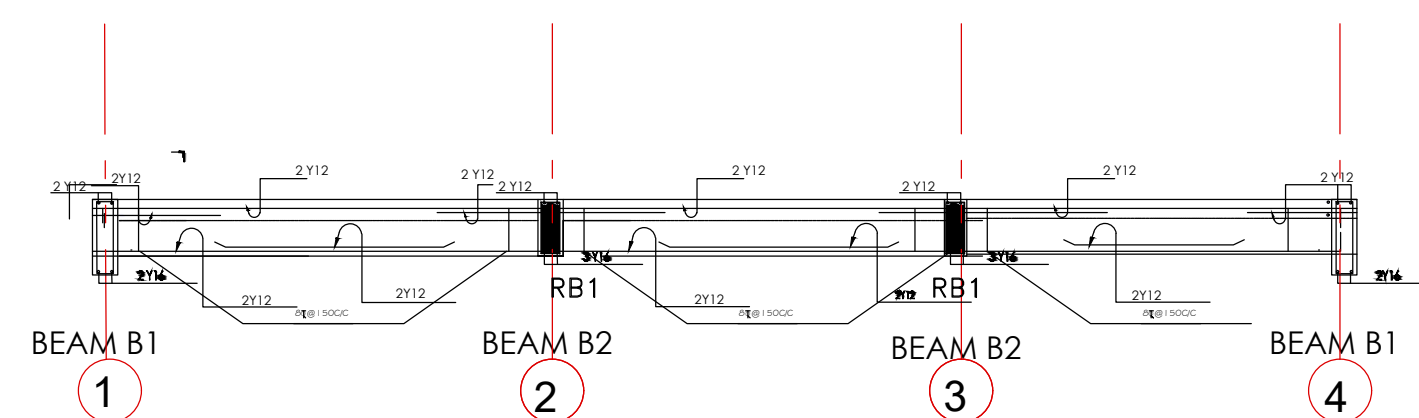
FOUNDATION LAYOUT



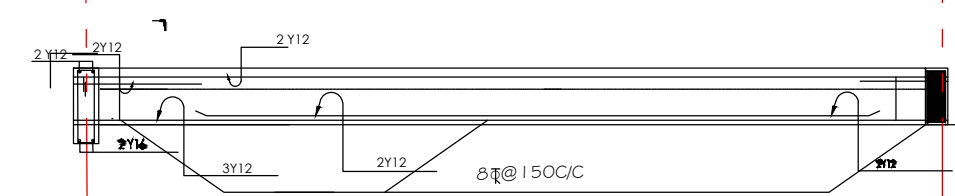
TYPICAL BASE



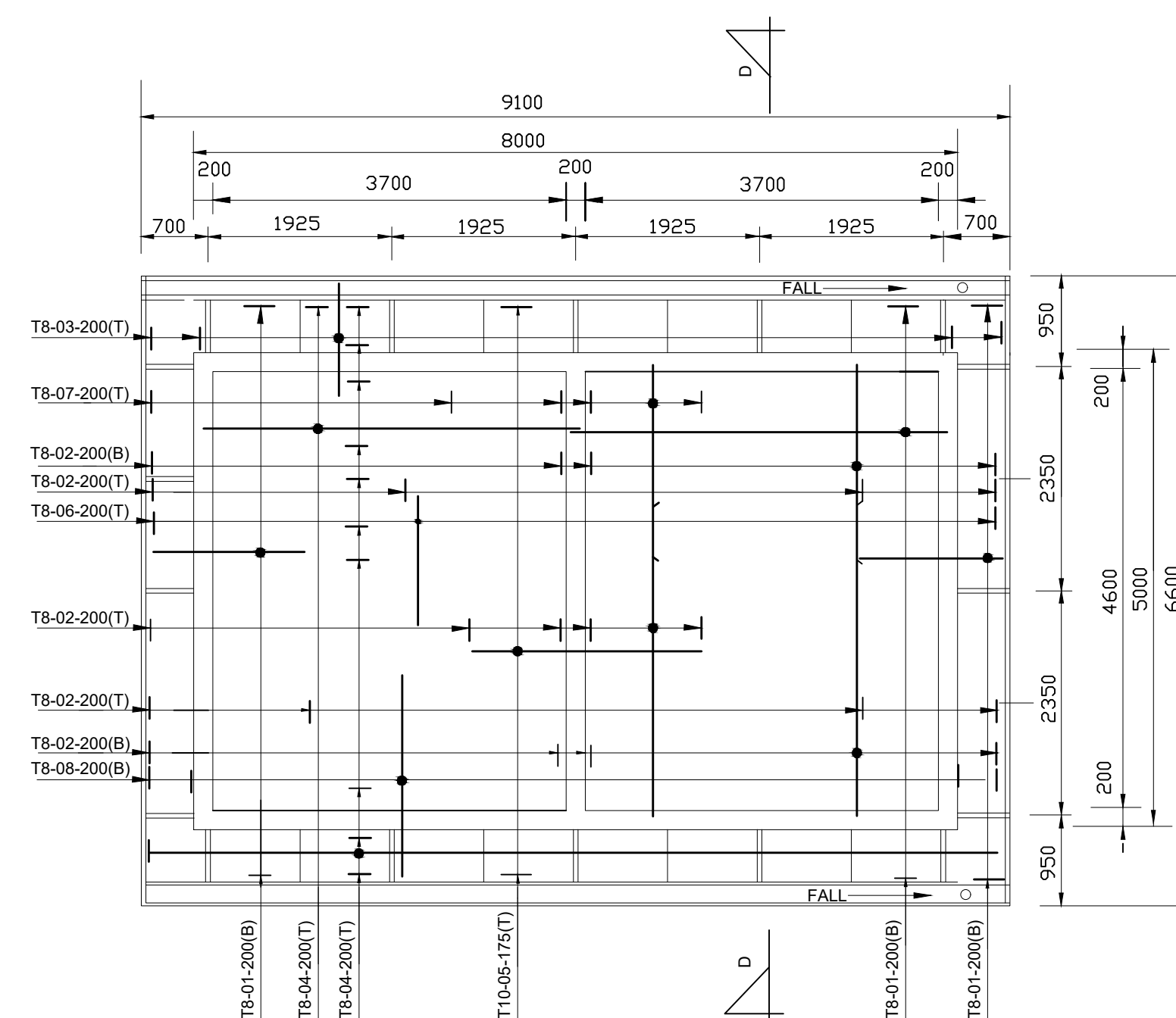
FOUNDATION AND COLUMN DETAILS



SEC THRU' GRID 1-1,2-2



SEC THRU' GRID 2-2,3-3



ROOF SLAB LAYOUT

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[illegible]

CLIENT



PROJECT

PROPOSED CIVIL WORKS & STEEL STRUCTURES FOR BUMALA 33/11KV SUB-STATION

TENDER DRAWINGS

CONTROL ROOM BUILDING

STRUCTURAL

BML- SHEET 002/025 (b)

Drawn	D.WAITHERA	Scale(s)	AS INDICATED
Designed	D.WAITHERA	Date	MARCH, 2025
Checked	M.OKUMU	Date	MARCH, 2025
Approved	ENG. D.M.WAMBUGU	Date	MARCH, 2025

ISSUE DATE	MARCH, 2025
JOB No.	

6 WAYS TP DB

[illegible]

- ## REVISIONS

CLIENT



TENDER DRAWINGS

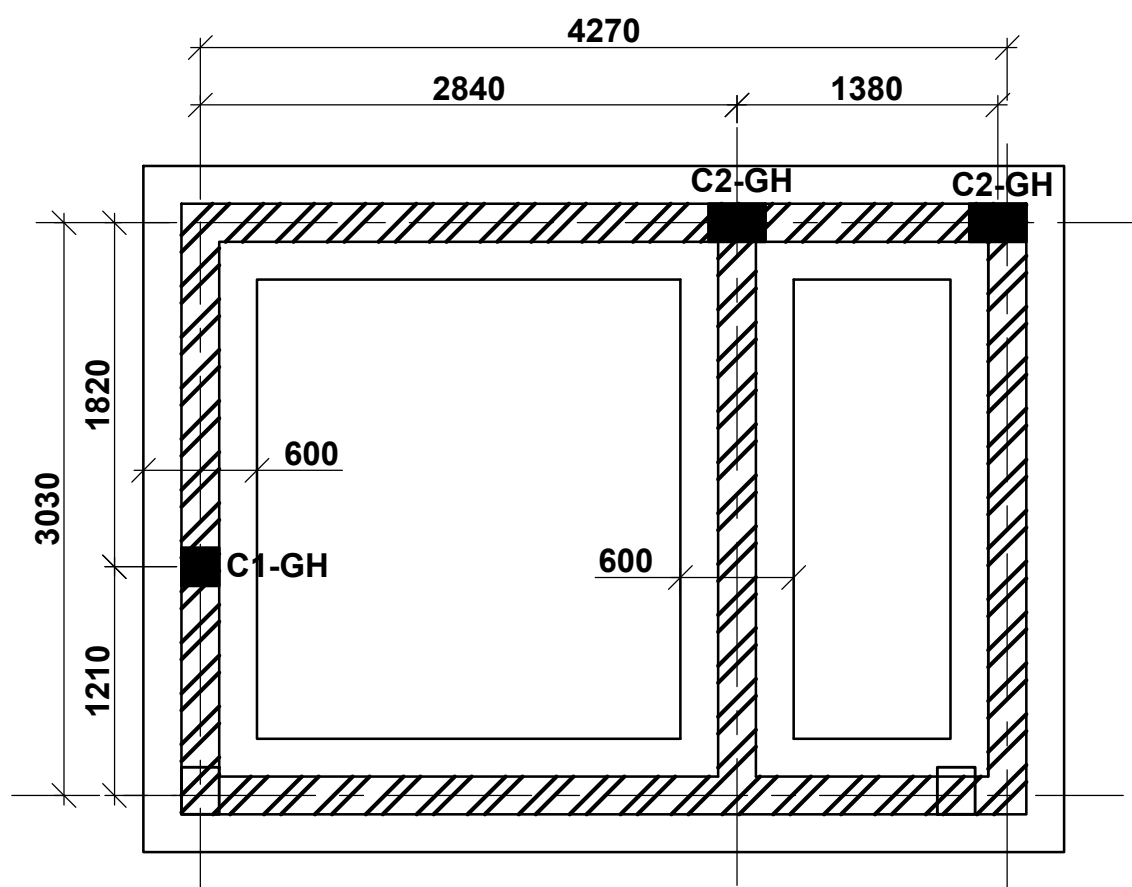
CONTROL ROOM BUILDING

ELECTRICAL

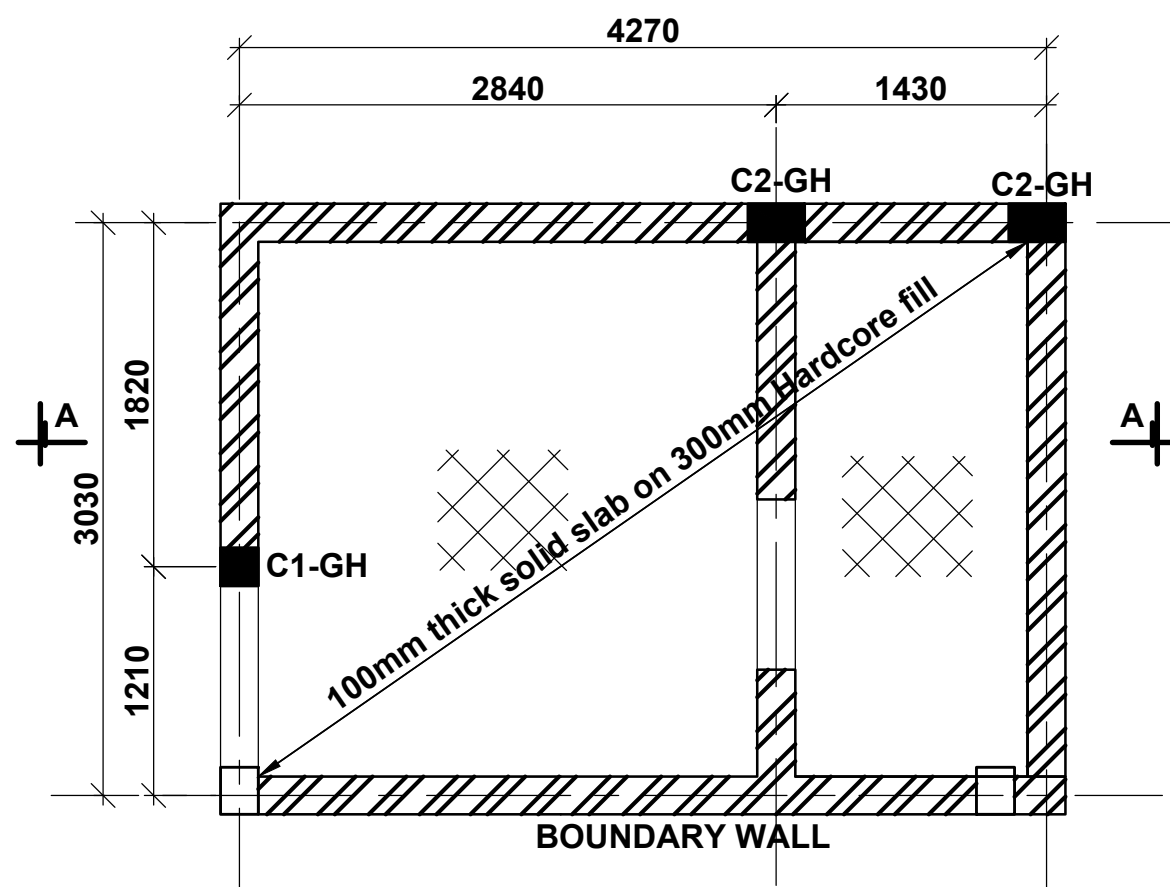
BML- SHEET 002/025 (c)

ISSUE DATE	MARCH, 2025
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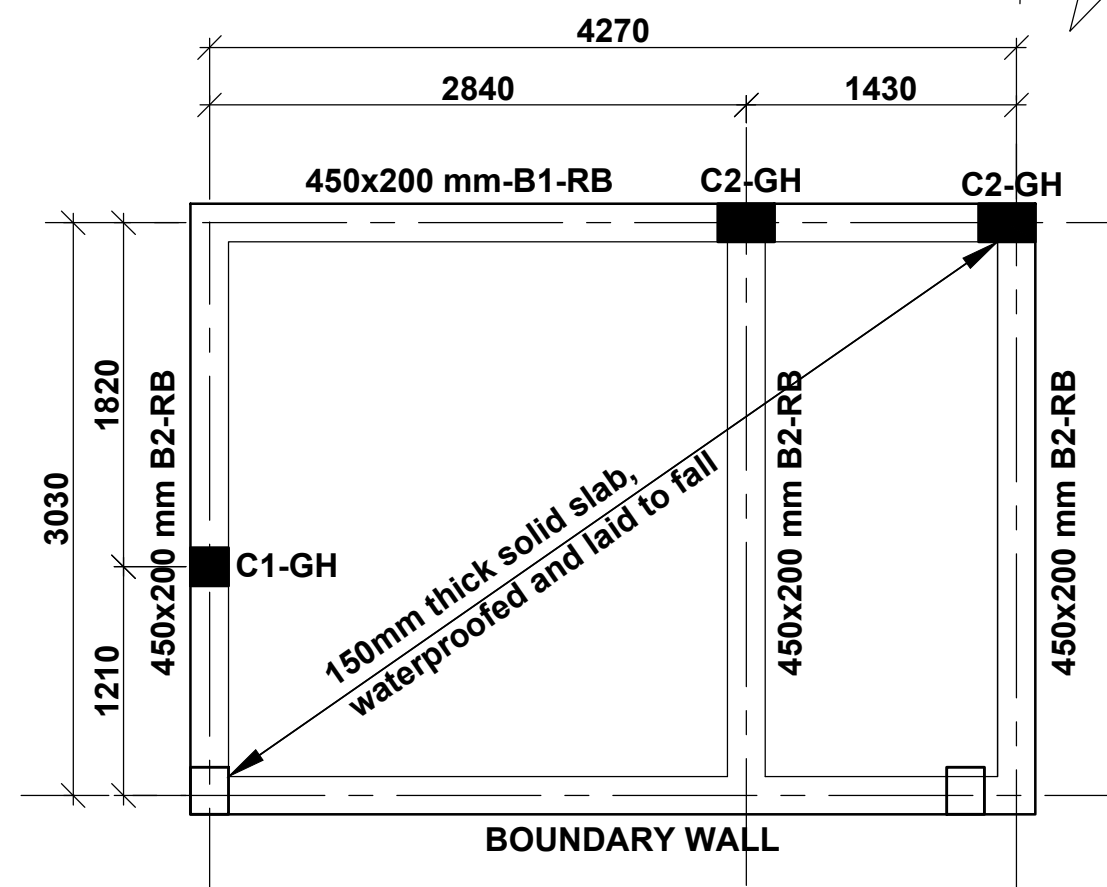
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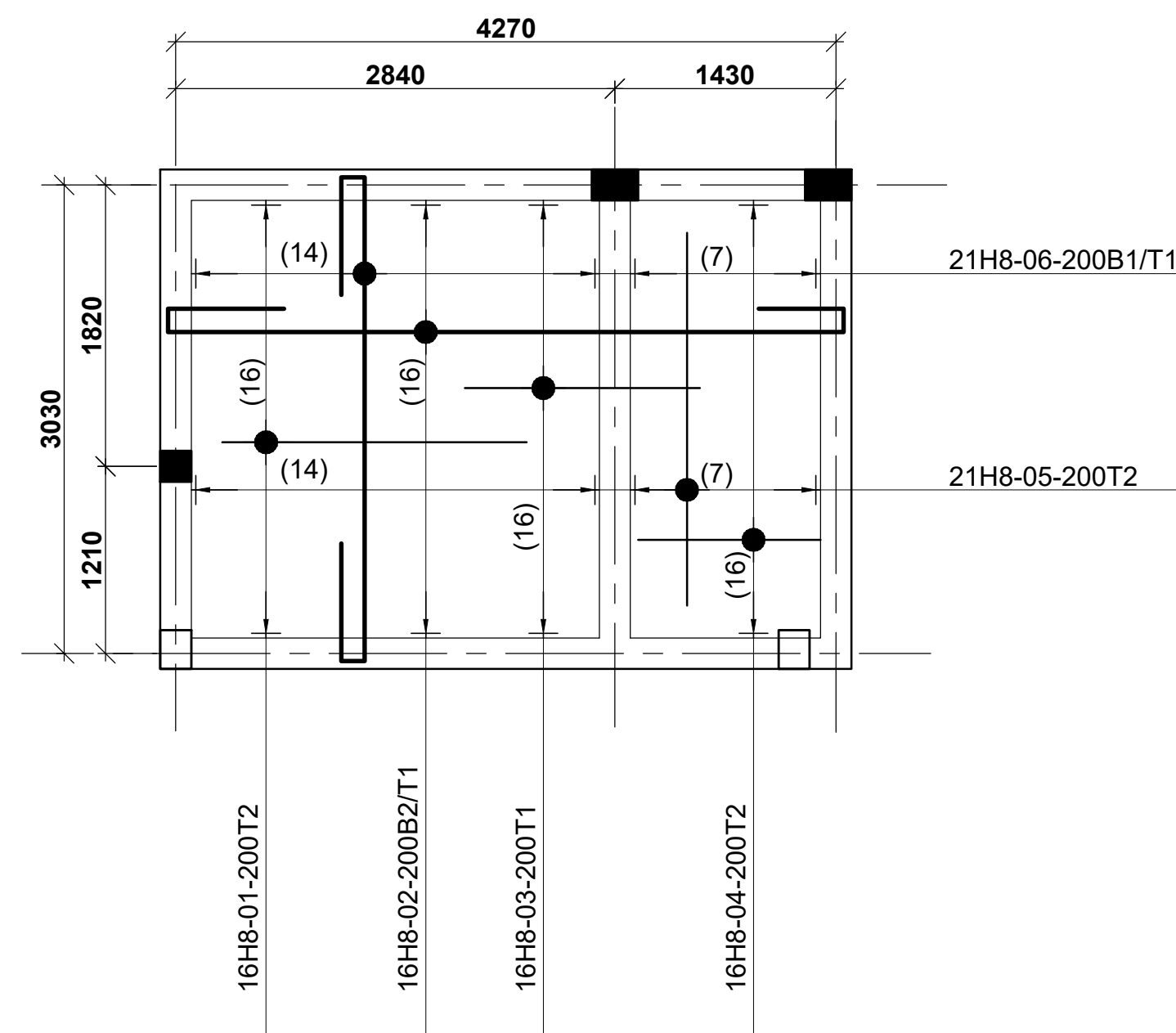
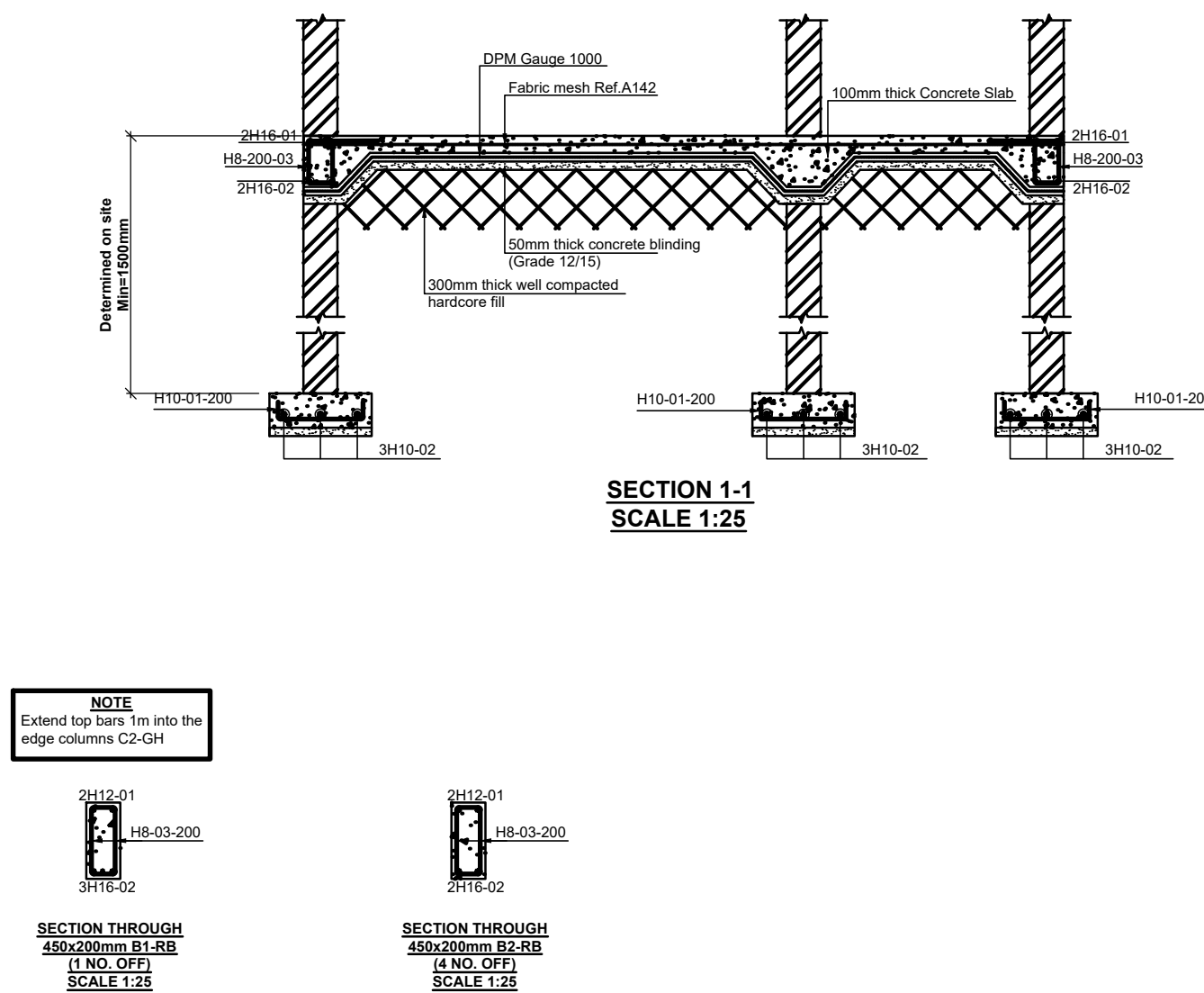
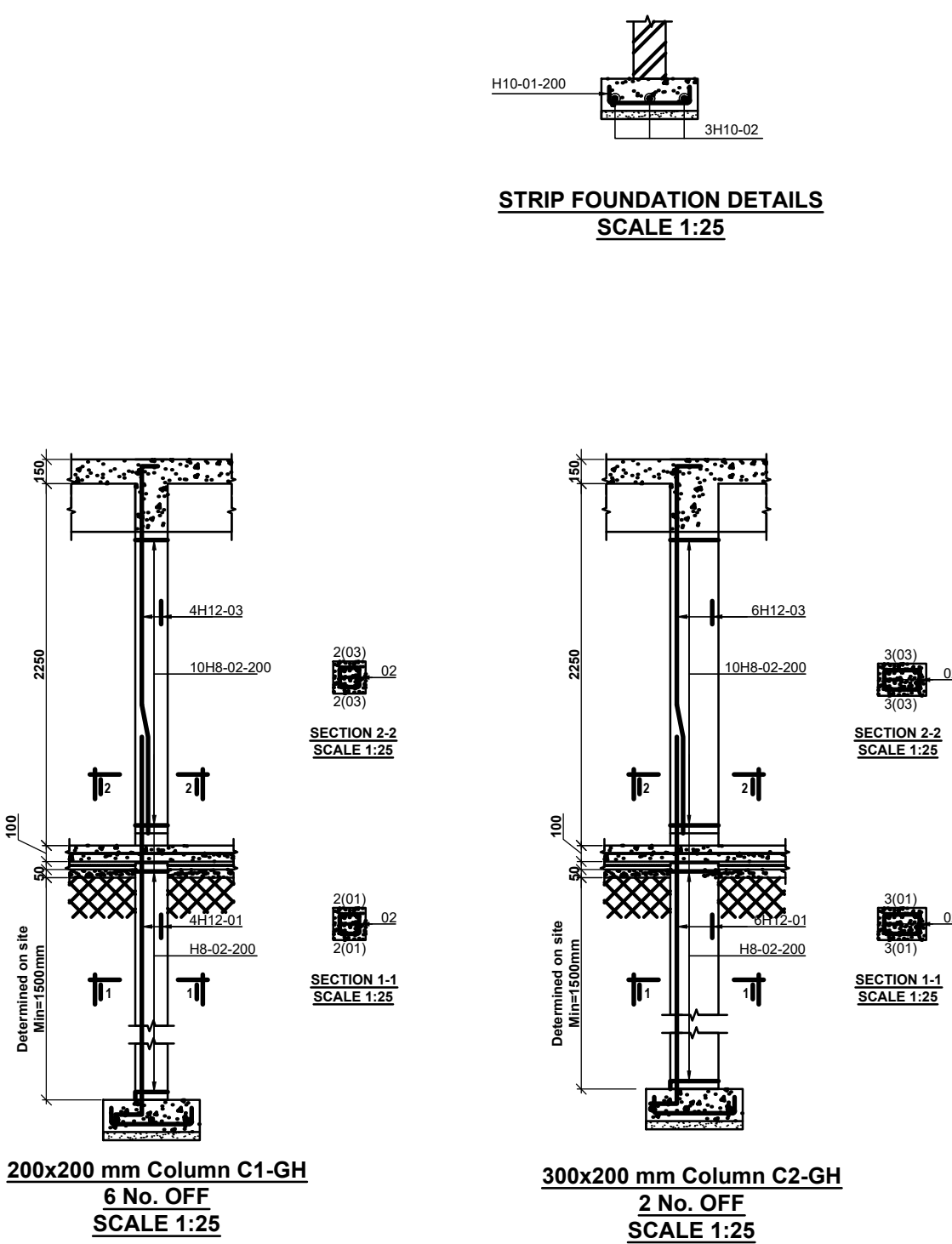
GATE HOUSE FOUNDATION LAYOUT PLAN
SCALE 1:50



GATE HOUSE GROUND FLOOR LAYOUT PLAN
SCALE 1:50



GATE HOUSE RING BEAMS LAYOUT PLAN
SCALE 1:50



GATE HOUSE ROOF SLAB RC DETAILS
SCALE 1:50

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REVISIONS

Date	Suffix	Descriptions	Issue

CLIENT



PROJECT

**PROPOSED CIVIL WORKS &
STEEL STRUCTURES FOR
BUMALA 33/11KV SUB-STATION**

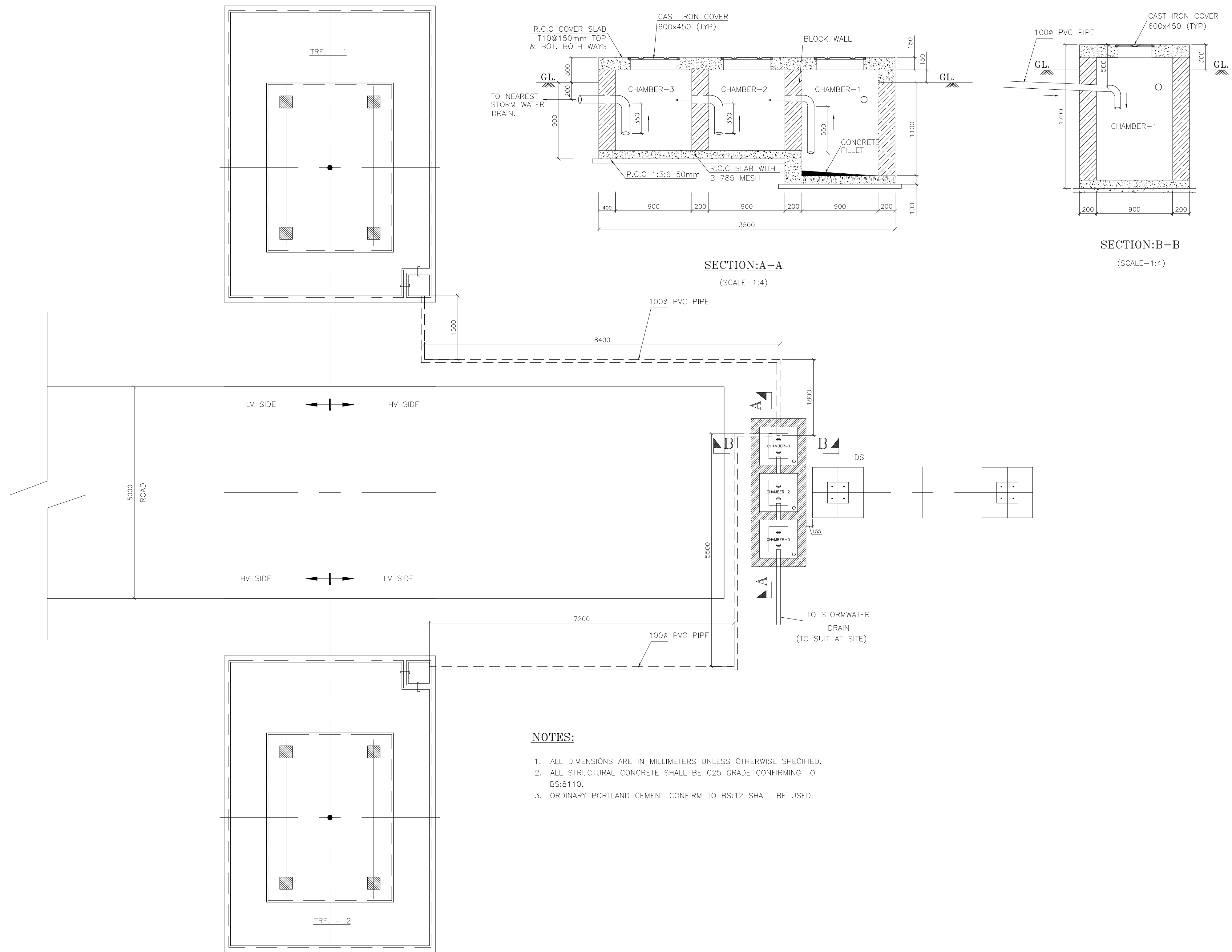
TENDER DRAWINGS

GUARD HOUSE

BML- SHEET 003

Drawn	D.WAITHERA	Scale(s)	AS INDICATED
Designed	D.WAITHERA	Date	MARCH, 2025
Checked	M.OKUMU	Date	MARCH, 2025
Approved	ENG. D.M.WAMBUGU	Date	MARCH, 2025

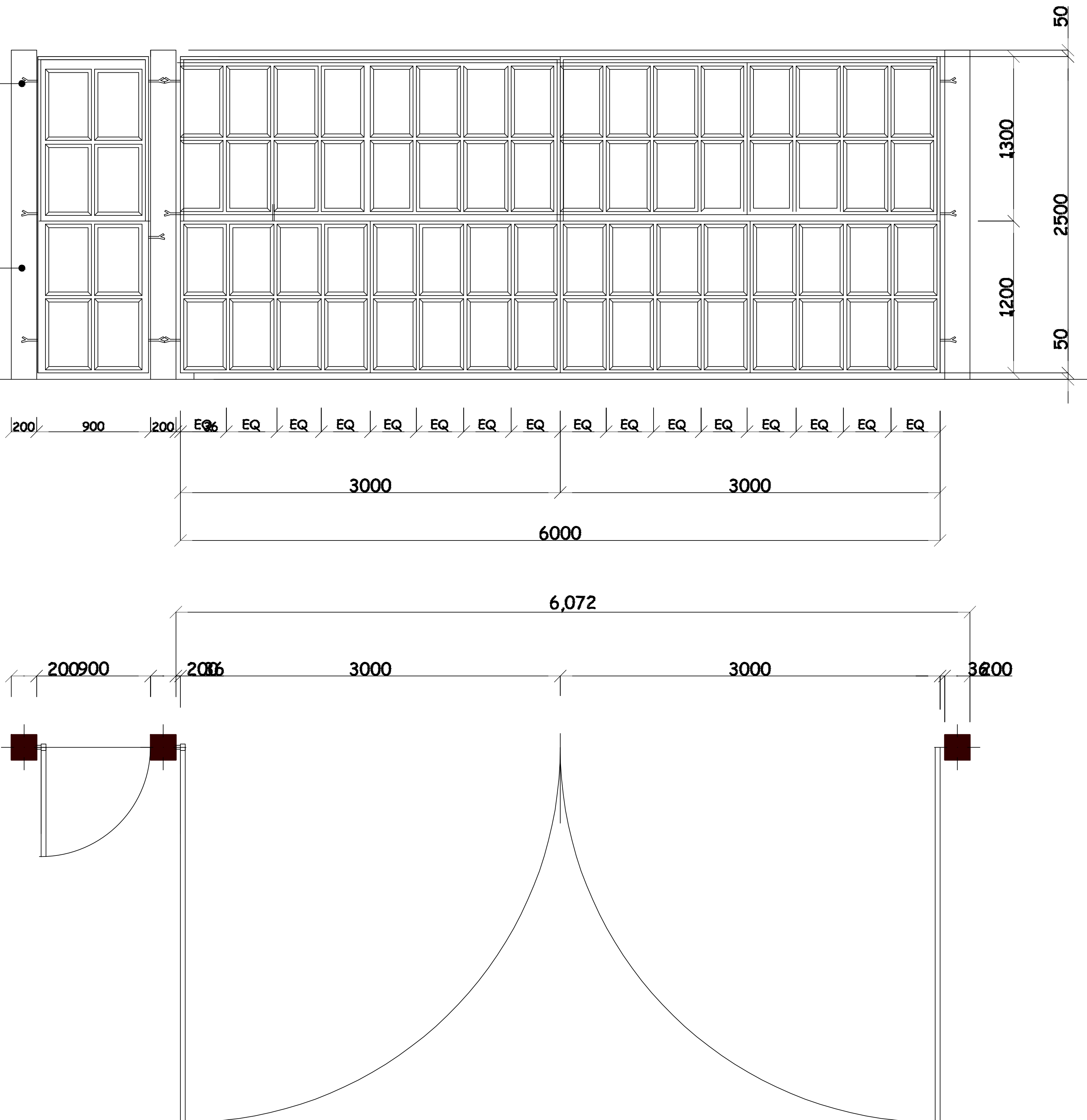
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12. Mass concrete to be grade 12/15 to BS EN 206-1:2002.			
13. Double masonry walls to be built one at a time. Waterproofing plaster shall be applied to the inside of the first wall to Engineer's approval before the second is built.			
REVISIONS			
Date	Suffix	Descriptions	Issue
CLIENT  Kenya Power			
PROJECT PROPOSED CIVIL WORKS & STEEL STRUCTURES FOR BUMALA 33/11KV SUB-STATION			
TENDER DRAWINGS			
TRANSFORMER			
OIL INTERCEPTOR			
BML- SHEET 004/025 (b)			
Drawn	D.WAITHERA	Scale(s)	AS INDICATED
Designed	D.WAITHERA	Date	MARCH, 2025
Checked	M.OKUMU	Date	MARCH, 2025
Approved	ENG. D.M.WAMBUGU	Date	MARCH, 2025
ISSUE DATE		MARCH, 2025	
JOB No.			

WALL PASS

200x200mm
Reinforced conc.
Column



FOR TENDERING PURPOSES ONLY
BUMALA 33/11KV S/S

NOTES

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- 3.This drawing must be read in conjunction with relevant Architectural drawings.
- 4.Reinforced concrete for all structural elements to be grade C20/25 to BS EN 206-1:2002, except for the ground floor slab (grade C16/20), and roof slab (C25/30).
5. Cover to main reinforcement to be as follows:
(a) Foundation = 50mm
(b) Columns = 40mm
(c) Beams = 30mm
(d) Slabs = 25mm
- 6."H" Denotes ribbed high yield bars to BS 4461 with a yield strength of 500N/mm2 to BS 4449-2005.
7. Reinforcement in walls and columns must be inspected by the Engineer before being enclosed in formwork.
8. All masonry walls must be reinforced with 25mm hoop iron after every two alternate courses. The hoop iron must be extended through the column sections.
9. To ensure enhanced bonding between the masonry and the R.C. columns, the masonry walling must be raised first before the columns are cast.
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13. Double masonry walls to be built one at a time. Waterproofing plaster shall be applied to the inside of the first wall to Engineer's approval before the second is built .

REVISIONS

Date	Suffix	Descriptions	Issue

CLIENT



PROJECT

PROPOSED CIVIL WORKS &
STEEL STRUCTURES FOR
BUMALA 33/11KV SUB-STATION

TENDER DRAWINGS

FENCE AND GATE

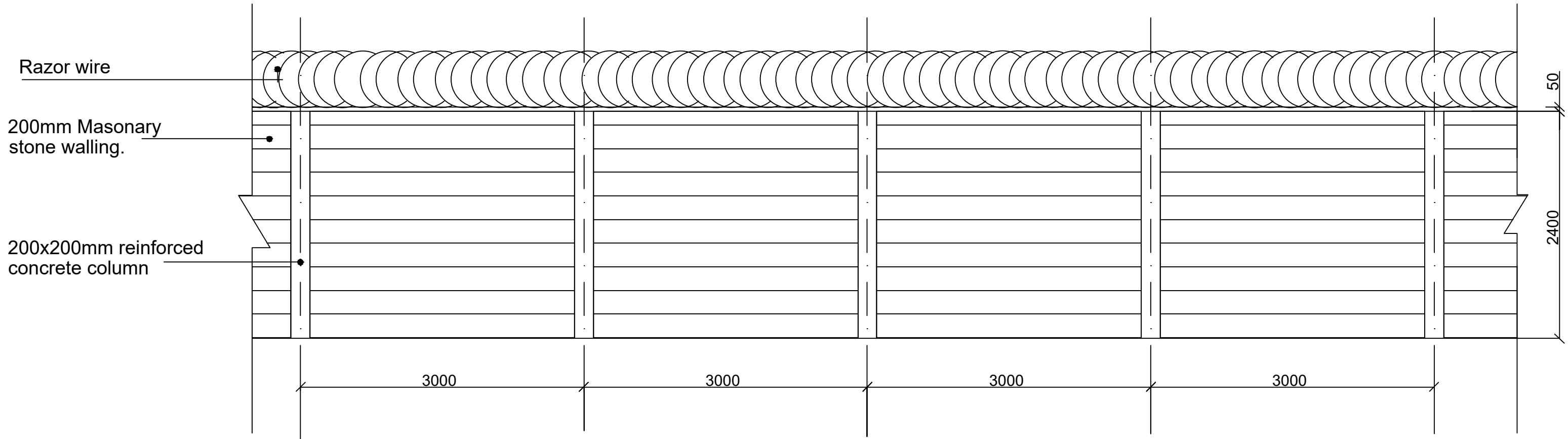
STEEL GATE

BML- SHEET 005/025 (a)

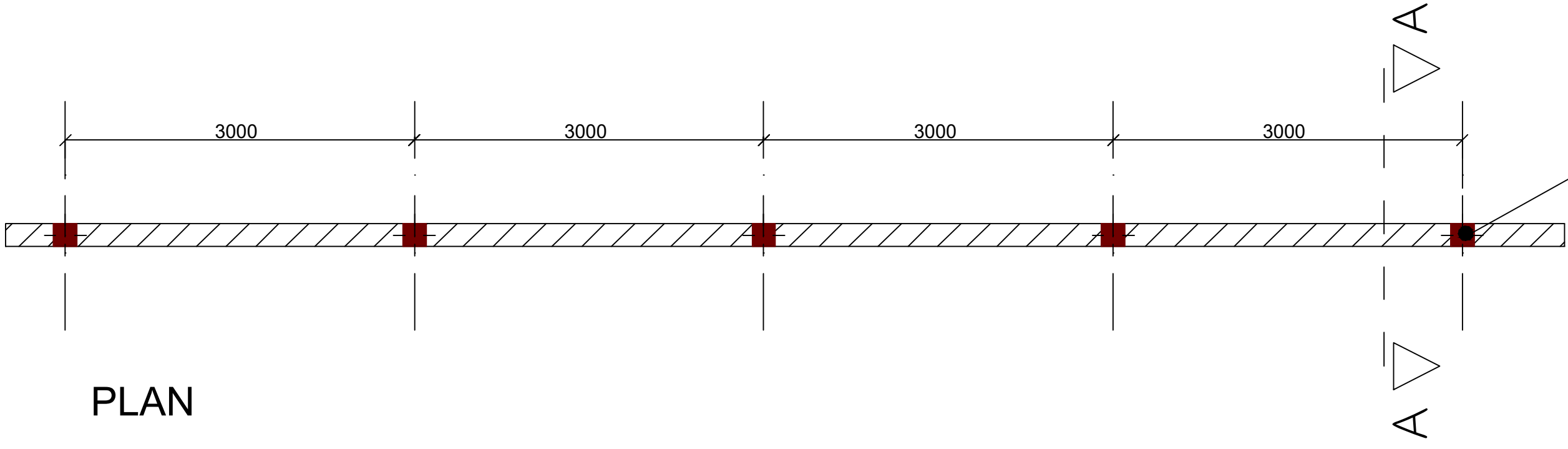
Drawn	D.WAITHERA	Scale(s)	AS INDICATED
Designed	D.WAITHERA	Date	MARCH, 2025
Checked	M.OKUMU	Date	MARCH, 2025
Approved	ENG. D.M.WAMBUGU	Date	MARCH, 2025

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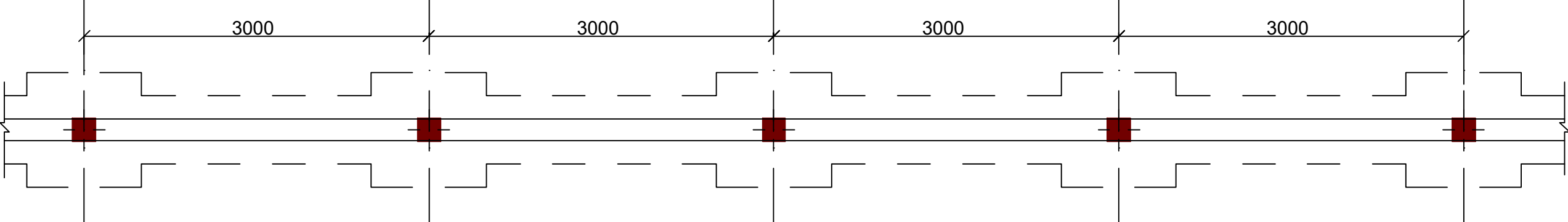
FOR TENDERING PURPOSES ONLY
BUMALA 33/11KV S/S



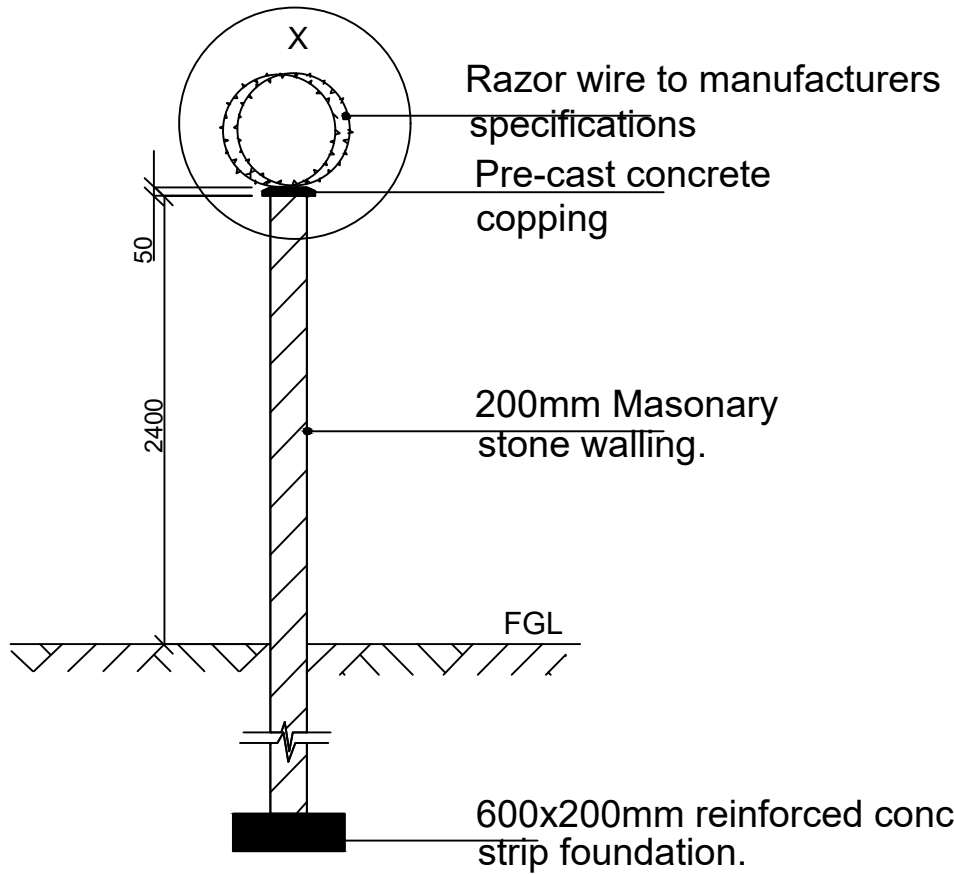
FRONT VIEW



PLAN



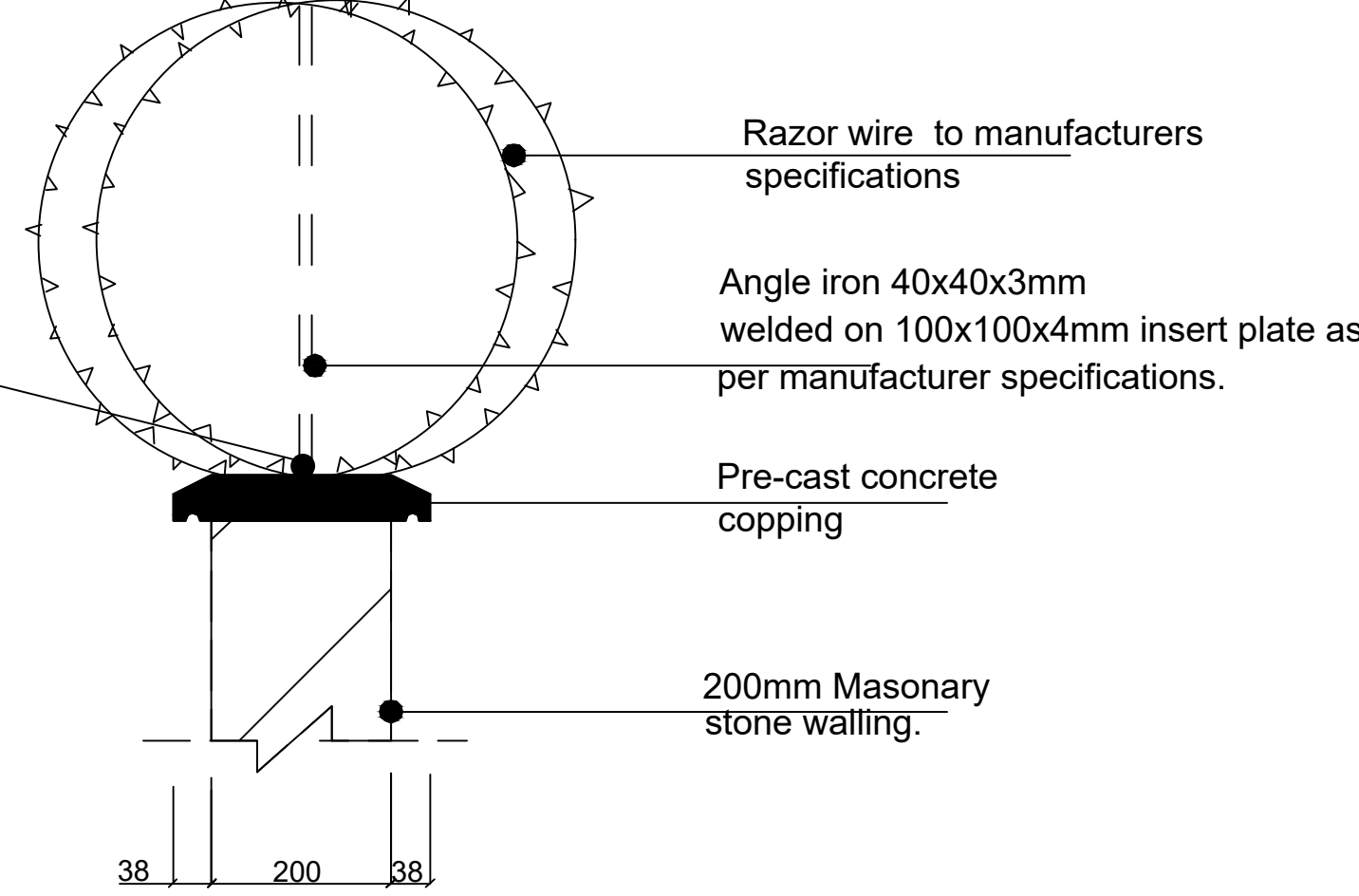
FOUNDATION PLAN



SECTION A -A

Insert plate 100x100x4mm on all columns.

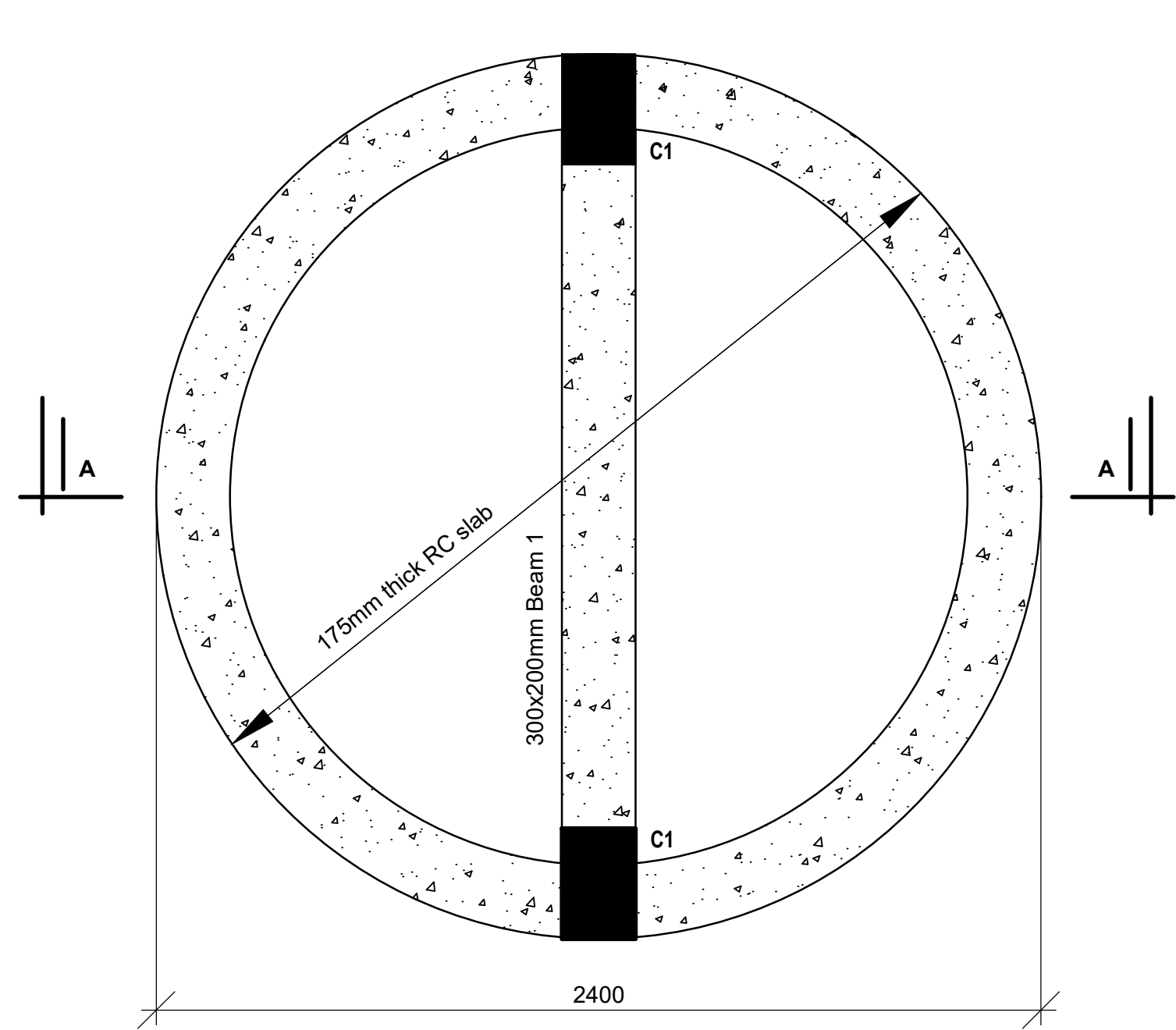
insert plate 100x100x4mm on all columns.



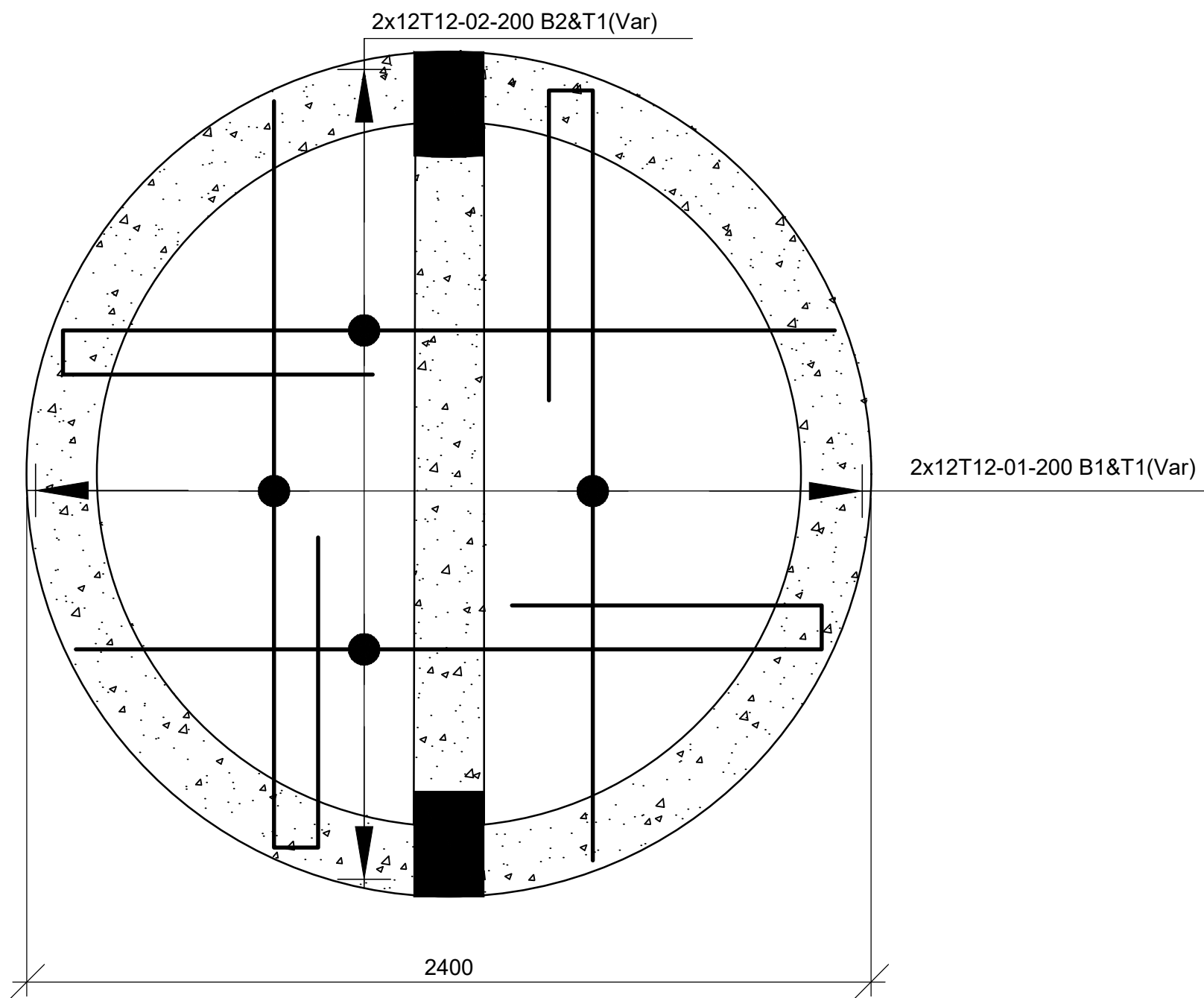
DETAIL X

NOTES			
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REVISIONS			
Date	Suffix	Descriptions	Issue
CLIENT  Kenya Power			
PROJECT PROPOSED CIVIL WORKS & STEEL STRUCTURES FOR BUMALA 33/11KV SUB-STATION			
TENDER DRAWINGS			
FENCE AND GATE			
FENCE			
BML- SHEET 005/025 (b)			
Drawn	D.WAITHERA	Scale(s)	AS INDICATED
Designed	D.WAITHERA	Date	MARCH, 2025
Checked	M.OKUMU	Date	MARCH, 2025
Approved	ENG. D.M.WAMBUGU	Date	MARCH, 2025
ISSUE DATE		MARCH, 2025	
JOB No.			

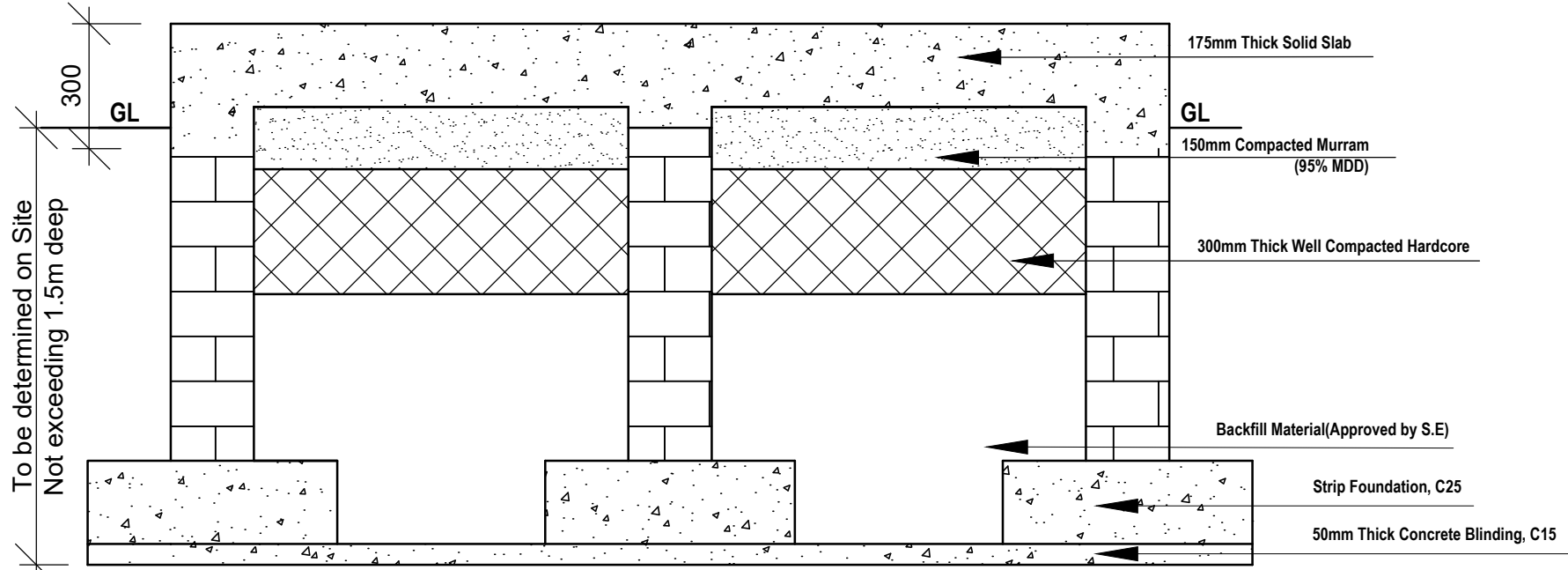
FOR TENDERING PURPOSES ONLY
BUMALA 33/11KV S/S



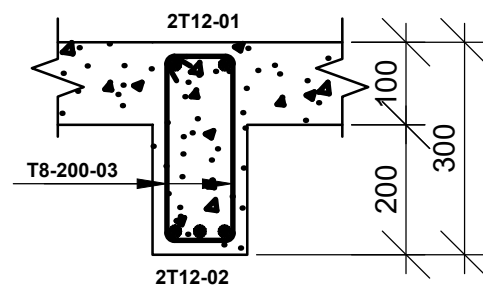
GROUND MOUNTED TANK PLINTH
COVER SLAB LAYOUT PLAN
SCALE 1:15



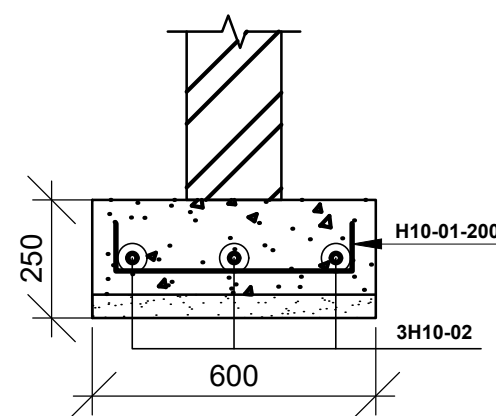
GROUND MOUNTED TANK PLINTH
COVER SLAB REINFORCEMENT DETAILS
SCALE 1:15



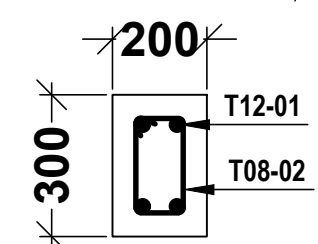
SECTION A-A LAYOUT PLAN
SCALE 1:15



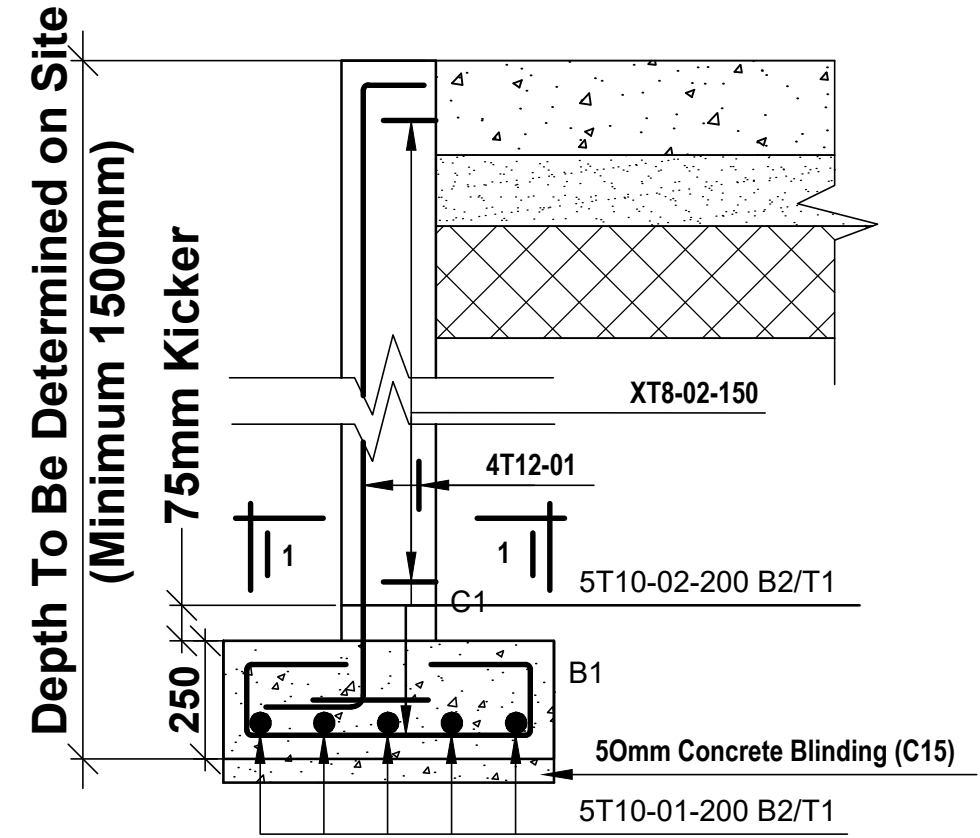
SECTION THROUGH
300x200mm BEAM 1
SCALE 1:15



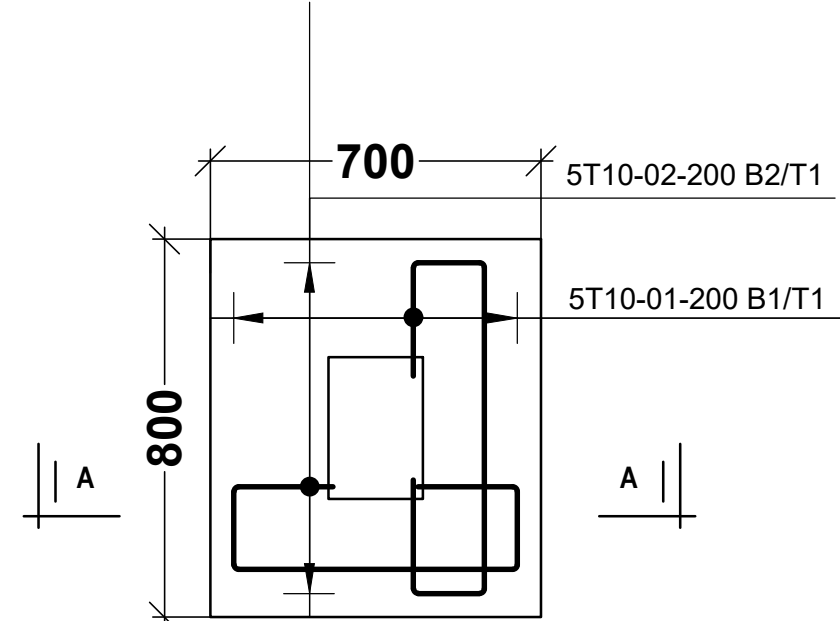
SECTION THROUGH
STRIP FOUNDATION
SCALE 1:15



SECTION 1-1
SCALE 1:15



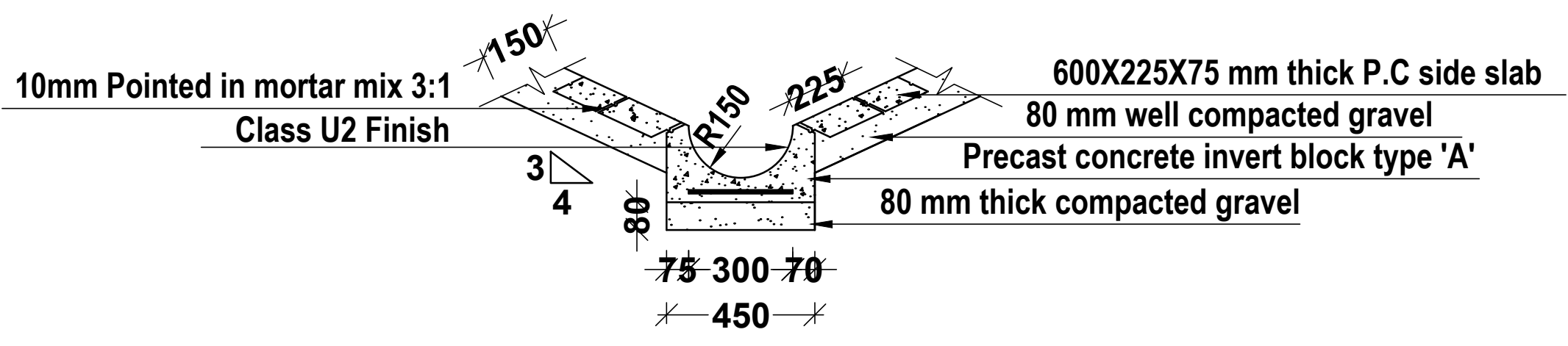
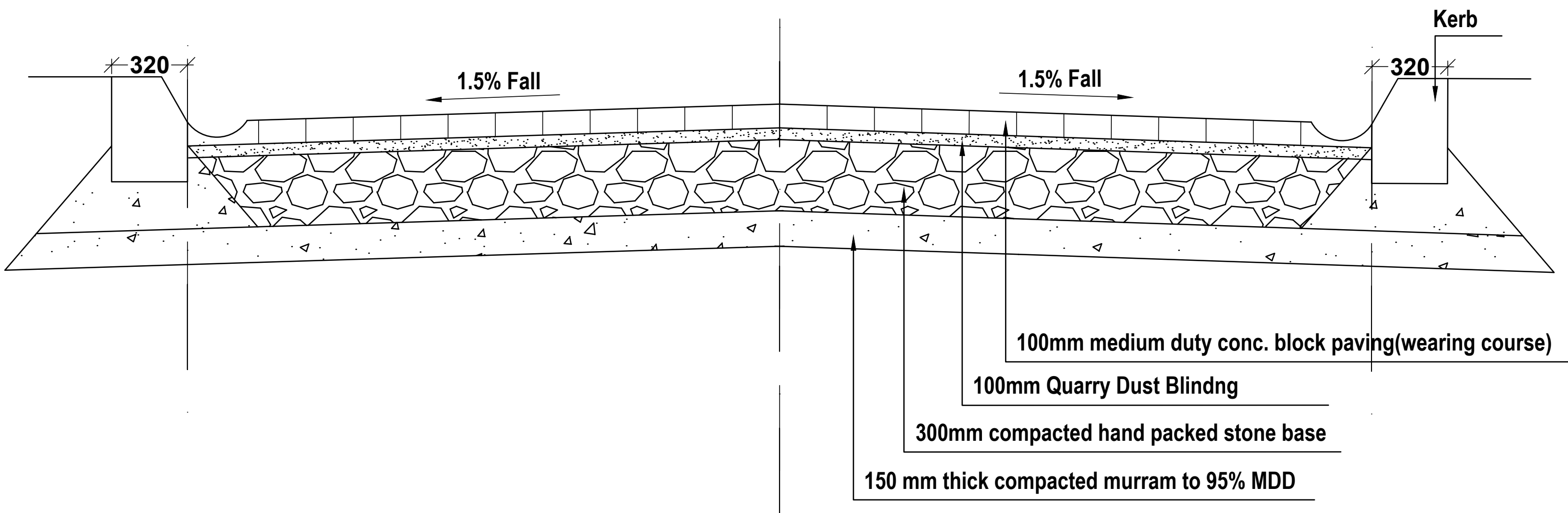
300x200 COLUMN C1
SECTION A-A BASE B1 ELEVATION DETAILS
SCALE 1:15



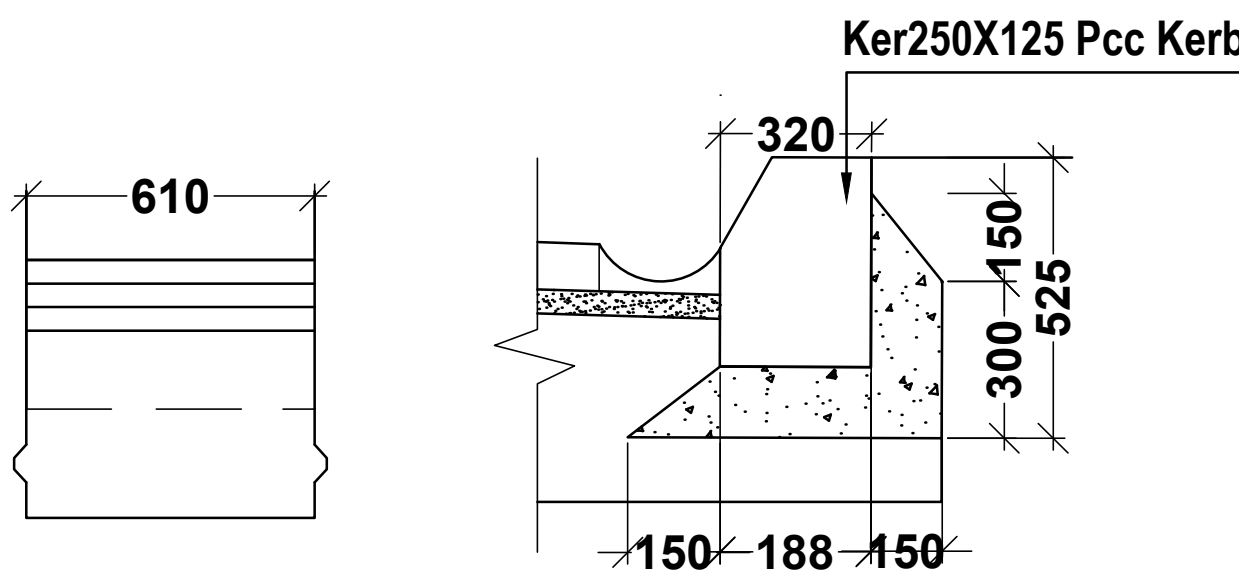
800x700x250 mm BASE B1
SCALE 1:15

TYPICAL FOUNDATION DETAIL
COLUMN C1

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REVISIONS			
Date	Suffix	Descriptions	Issue
CLIENT			
 Kenya Power			
PROJECT			
PROPOSED CIVIL WORKS & STEEL STRUCTURES FOR BUMALA 33/11KV SUB-STATION			
TENDER DRAWINGS			
GROUND TANK PLINTH			
BML- SHEET 006			
Drawn	D.WAITHERA	Scale(s)	AS INDICATED
Designed	D.WAITHERA	Date	MARCH, 2025
Checked	M.OKUMU	Date	MARCH, 2025
Approved	ENG. D.M.WAMBUGU	Date	MARCH, 2025
ISSUE DATE		MARCH, 2025	
JOB No.			



END ELEVATION



SIDE ELEVATION

FOR TENDERING PURPOSES ONLY
BUMALA 33/11KV S/S

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REVISIONS			
Date	Suffix	Descriptions	Issue
CLIENT  Kenya Power			
PROJECT PROPOSED CIVIL WORKS & STEEL STRUCTURES FOR BUMALA 33/11KV SUB-STATION			
TENDER DRAWINGS			
DRAINAGE AND ACCESS ROAD			
BML- SHEET 007			
Drawn	D.WAITHERA	Scale(s)	AS INDICATED
Designed	D.WAITHERA	Date	MARCH, 2025
Checked	M.OKUMU	Date	MARCH, 2025
Approved	ENG. D.M.WAMBUGU	Date	MARCH, 2025
ISSUE DATE		MARCH, 2025	
JOB No.			