

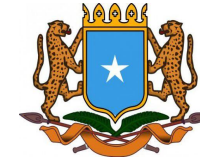


DETAILED DESIGN FOR PROPOSED ADMINISTRATION OFFICES IN NORTH GALKAIO DISTRICT, MUDUG REGION

PROJECT:

Detailed Design For Proposed
Administration Offices In North
Galkaio District,
Mudug Region

CLIENT:



THE FEDERAL REPUBLIC
OF SOMALIA



GOVERNMENT OF PUNTLAND STATE
- GALKAIYO NORTH DISTRICT

FINANCED BY:



IMPLEMENTED BY:

SFF SOMALIA
Special Financing Facility

CONSULTANT:



ECOTECH LIMITED

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Nairobi - Kenya

Tel: +254 712 388815

Fax: +254 20 250809

Email: Info@ecotech.co.ke

Web: www.ecotech.co.ke

Location: Ecotech House, Woodlands Road,
off Lenana Road, Nairobi - Kenya

DETAILED DESIGN FOR PROPOSED ADMINISTRATION OFFICES
IN NORTH GALKAIO DISTRICT, MUDUG REGION

CONTRACT N^o: [MOF/SFF/SERV/08](#)

SFF-LD GRANT N^o: [TF0A1715](#)

JULY 2017

DRAWING INDEX



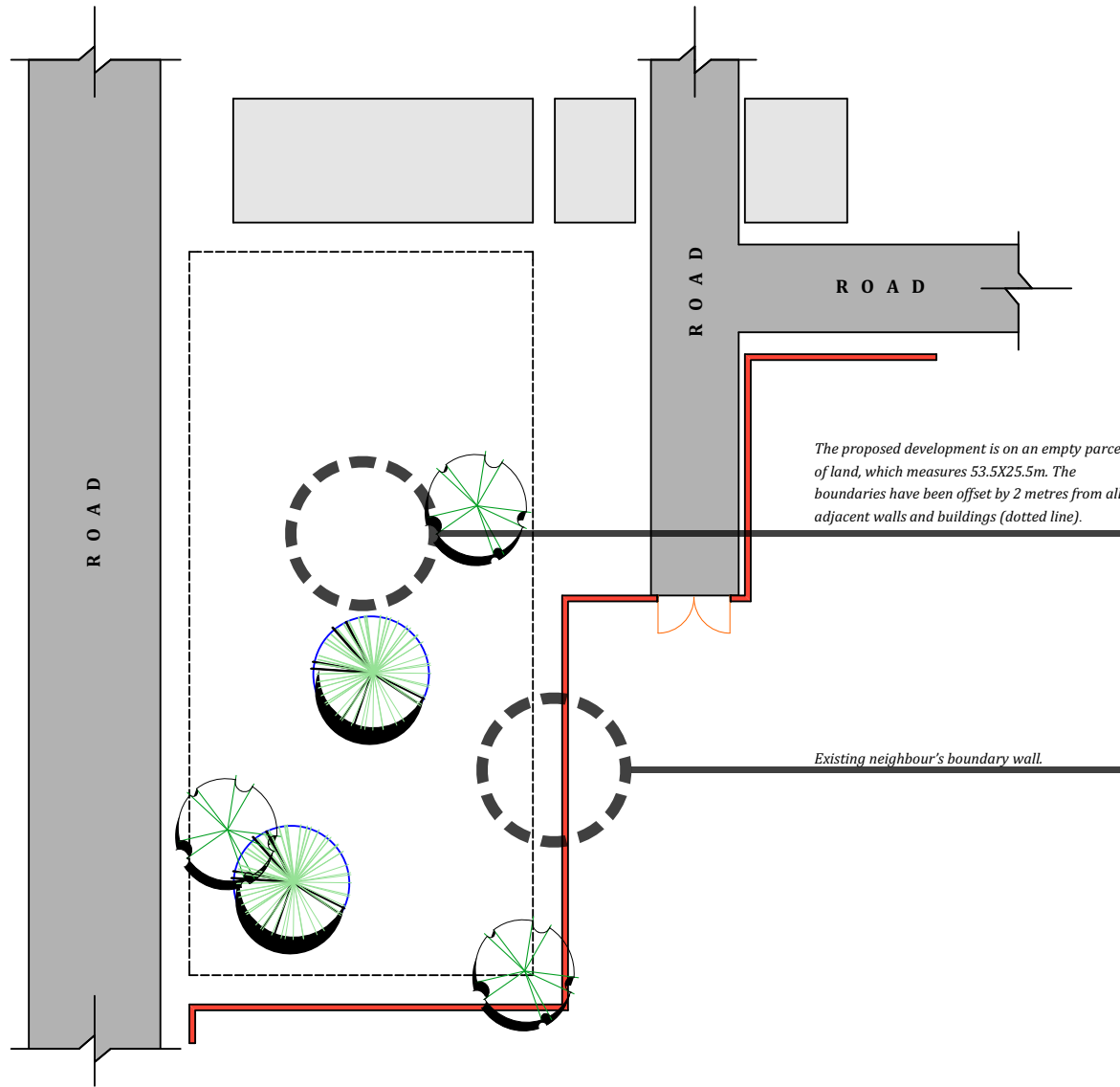
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SIGNED & STAMPED:

Almed Kinish

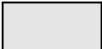
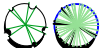
Presidential Palace

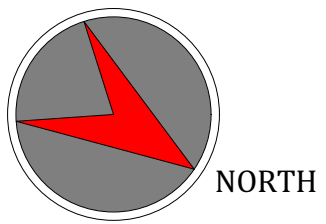


The proposed development is on an empty parcel of land, which measures 53.5X25.5m. The boundaries have been offset by 2 metres from all adjacent walls and buildings (dotted line).

Existing neighbour's boundary wall.

KEY:

-  Neighbour
-  Existing Tree



SITE PHOTOS



There is a neighbour's boundary wall (beyond) on two edges, fully on one edge, partially on the other.



A view of the neighbouring wall and road headed Northwest.



A view of the presidential palace (white wall beyond) and street oriented Northeast and Southwest.



A view of the adjacent structures.



The site will be fenced off and cleared of debris.



Some trees may be eliminated but there shall be landscaping (tree planting) in the new development.



A new boundary wall shall be built with an offset of 2m from the neighbour's wall.



View of existing neighbour's structure (Northeast).



View of road headed Northwest.



View of neighbour on Southwest.

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6. All reinforced concrete works to be done according to the Ecotech Structural Engineers detail drawings.

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REVISIONS.		

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Project Title:
DETAILED DESIGN FOR PROPOSED
ADMINISTRATION OFFICES BY
NORTH GALKALIA DISTRICT,
MUDUG REGION

Drawing Title:
SITE ANALYSIS

Sheet Content:
SITE ANALYSIS

Scale: **AS SHOWN**
Date: **JULY 2017**

PREPARED BY: **PETER MUTUGI**
REVIEWED & APPROVED BY:

ENG. AHMED KIRISHI Regional Director Ecotech Ltd. ENG. ALI HUSSEIN Managing Director Ecotech Ltd.

Drawing No: **81371-553-SITE ANALYSIS-01** Project No: **MO/SFF/SERV/08**

Sheet No: **01/19** A3



There are several mature trees on the site.



View of neighbouring structures on the Southwest, and secondary access road headed Northwest.



View towards the East of the site.



View towards the South of the site.



View towards the presidential palace.



View of adjacent business.



View towards the East of the site.



View towards the South of the site.



View of adjacent building.



View of adjacent buildings.



Consultations held with PIU and government officials.



Consultations held with PIU and government officials.

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CLIENT:



THE FEDERAL REPUBLIC OF SOMALIA
GOVERNMENT OF PUNTLAND
SOUTH GALKAYO NORTH DISTRICT

IMPLEMENTED BY:

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Project Title
DETAILED DESIGN FOR PROPOSED ADMINISTRATION OFFICES IN NORTH GALKAYO DISTRICT, MUDUG REGION

Drawing Title
SITE PHOTOS

Sheet Content:
SITE PHOTOS

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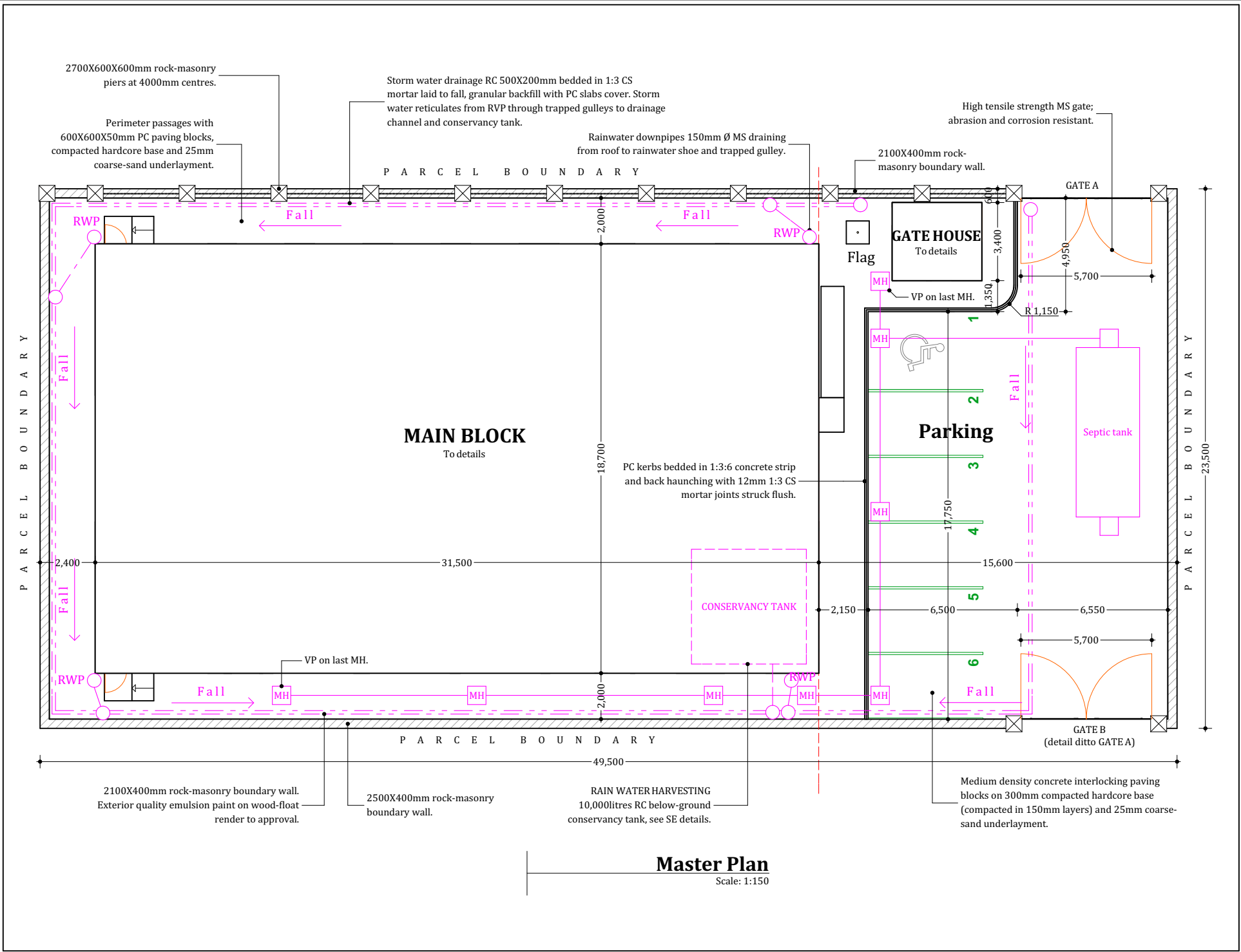
PREPARED BY: **PETER MUTUGI**

REVIEWED & APPROVED BY:

ENG. AHMED KIRISH Regional Director Ecotech Ltd. ENG. ALI HUSSEIN Managing Director Ecotech Ltd.

Drawing No: **81371-553-SITE PHOTOS-02** Project No: **MOF/SFF/SERV/08**

Sheet No: **02/19** A3



Master Plan

Scale: 1:150

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GOVERNMENT OF PENTLAND STATE, GALKAYO NORTH DISTRICT

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Project Title:
DETAILED DESIGN FOR PROPOSED ADMINISTRATION OFFICES BY NORTH GALKAYO DISTRICT, MUDUG REGION

Drawing Title:
MASTER PLAN

Sheet Content:
MASTER PLAN

Scale: **AS SHOWN**

Date: **JULY 2017**

PREPARED BY: **PETER MUTUGI**

REVIEWED & APPROVED BY:

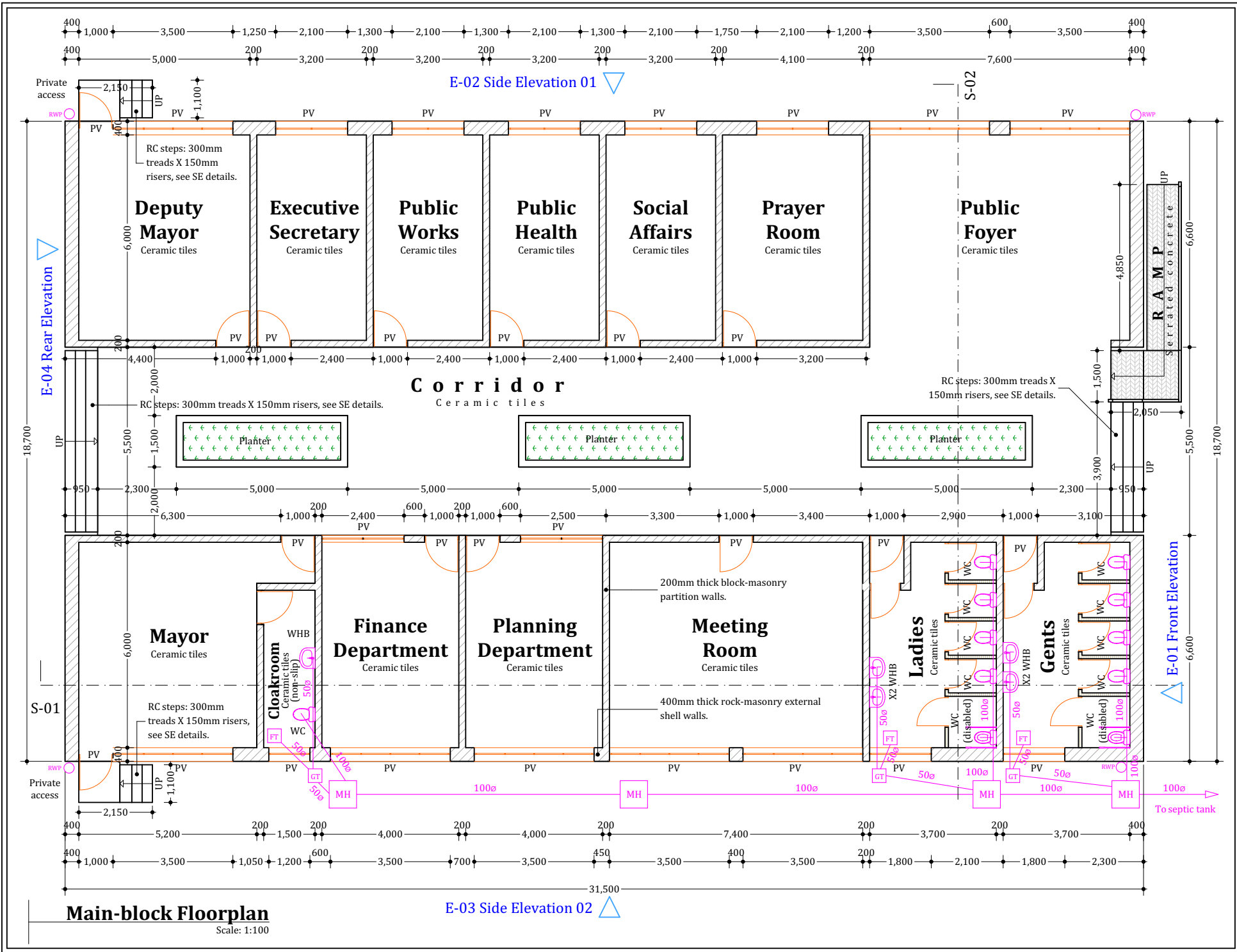
ENG. AHMED KIRISH (Regional Director Ecotech Ltd.)
ENG. ALI HUSSEIN (Managing Director Ecotech Ltd.)

Drawing No:
81371-553-MASTERPLAN-03

Project No:
MO/SFF/SERV/08

Sheet No:
03/19

A3



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Project Title:
DETAILED DESIGN FOR PROPOSED ADMINISTRATION OFFICES IN NORTH GALKAJIO DISTRICT, MUDUG REGION

Drawing Title:
FLOOR PLAN

Sheet Content:
FLOORPLAN LAYOUT

Scale: **AS SHOWN**

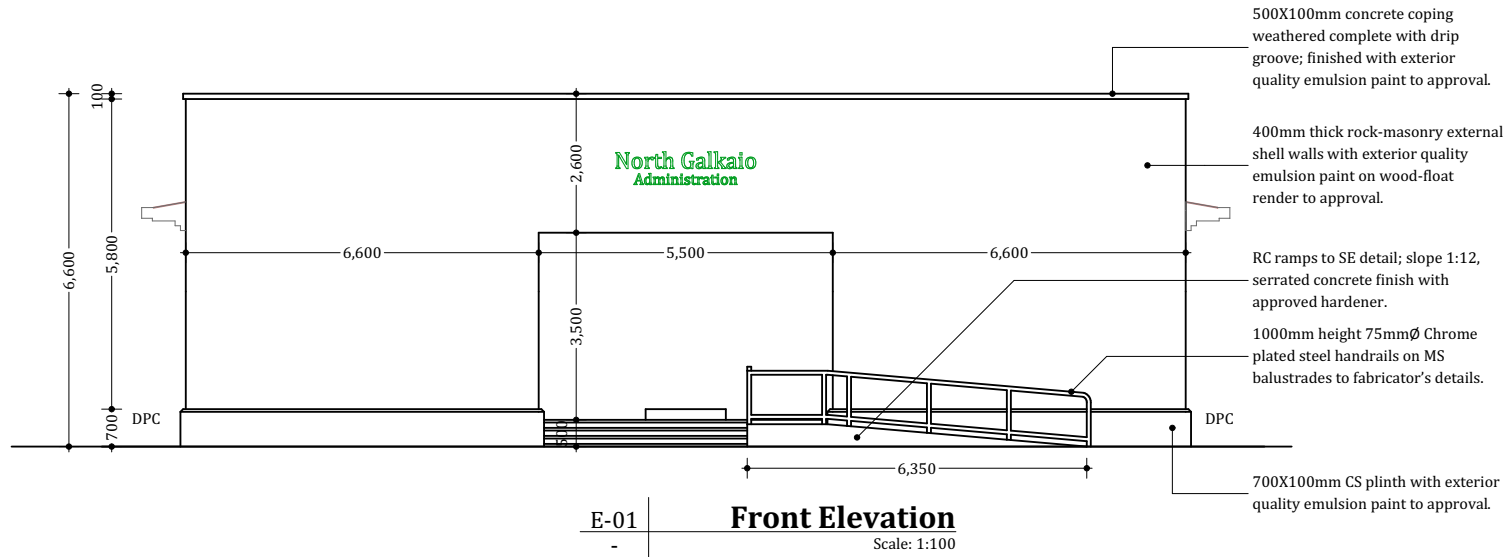
Date: **JULY 2017**

PREPARED BY: **PETER MUTUGI**

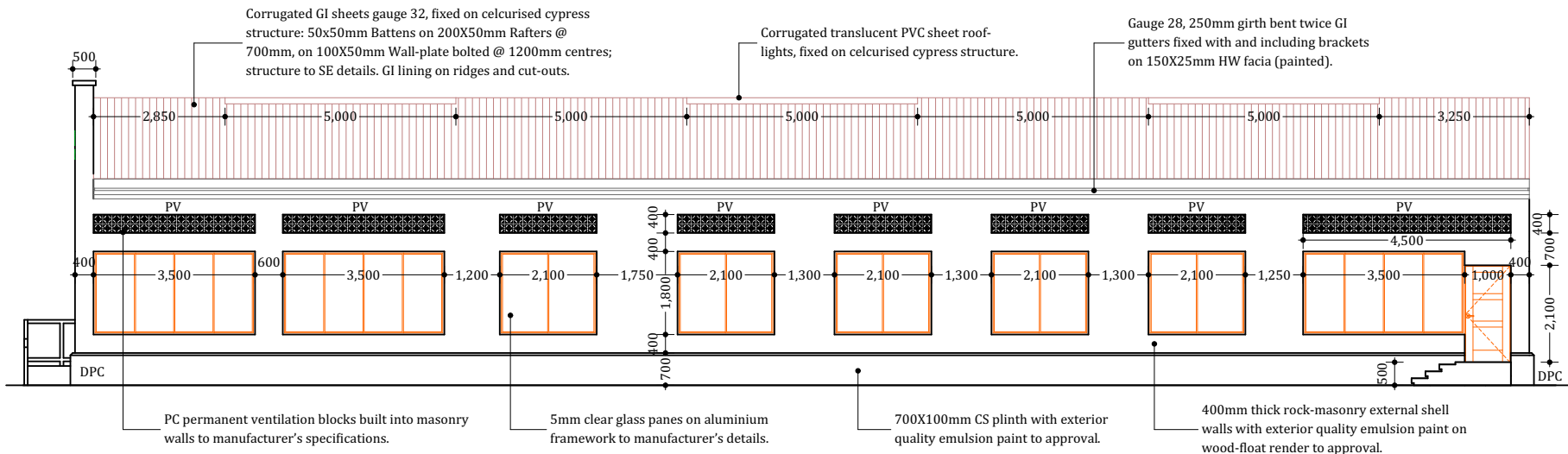
REVIEWED & APPROVED BY:
 ENG. AHMED KIRISH (Regional Director Ecotech Ltd.)
 ENG. ALI HUSSEIN (Managing Director Ecotech Ltd.)

Drawing No: **81371-553-FLOORPLAN-04**
 Project No: **MOFSFF/SERV/08**

Sheet No: **04/19**



E-01 | **Front Elevation**
Scale: 1:100



E-02 | **Side Elevation 01**
Scale: 1:100

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GOVERNMENT OF PUNLAND STATE GALGADUUD NORTH DISTRICT

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Location: Ecotech House, Woodlands Road, off Lenana Road, Nairobi - Kenya

Project Title:
ADMINISTRATION OFFICES IN NORTH GALGAIO DISTRICT, MUDUG REGION

Drawing Title:
ELEVATIONS 01

Sheet Content:
ELEVATIONS 01

Scale: **AS SHOWN**

Date: **JULY 2017**

PREPARED BY: **PETER MUTUGI**

REVIEWED & APPROVED BY:

ENG. AHMED KIRISHI
Regional Director Ecotech Ltd.

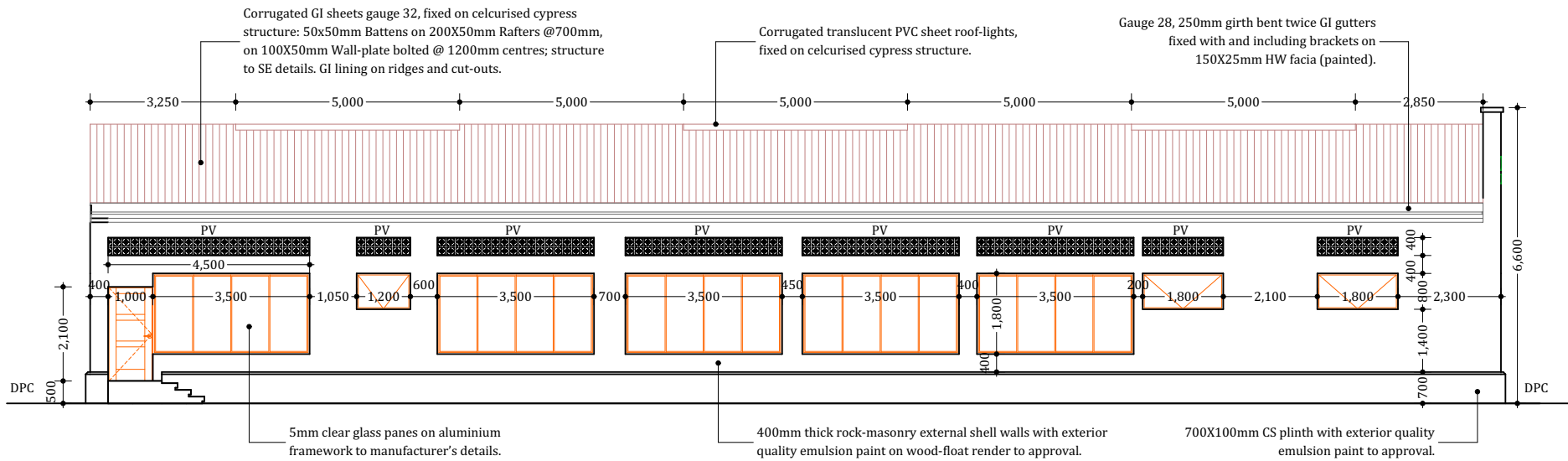
ENG. ALI HUSSEIN
Managing Director Ecotech Ltd.

Drawing No:
**81371-553-
ELEVATIONS 01-05**

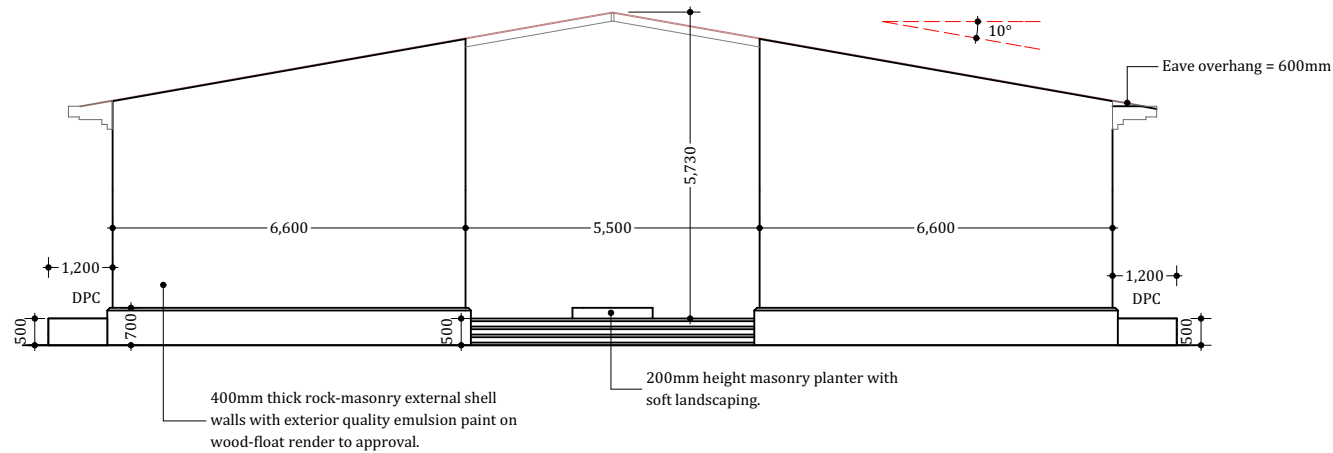
Project No:
MO/SFF/SERV/08

Sheet No:
05/19

A3



E-03 | **Side Elevation 02**
Scale: 1:100



E-04 | **Rear Elevation**
Scale: 1:100

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Project Title
**DETAILED DESIGN FOR PROPOSED
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Drawing Title:
ELEVATIONS 02

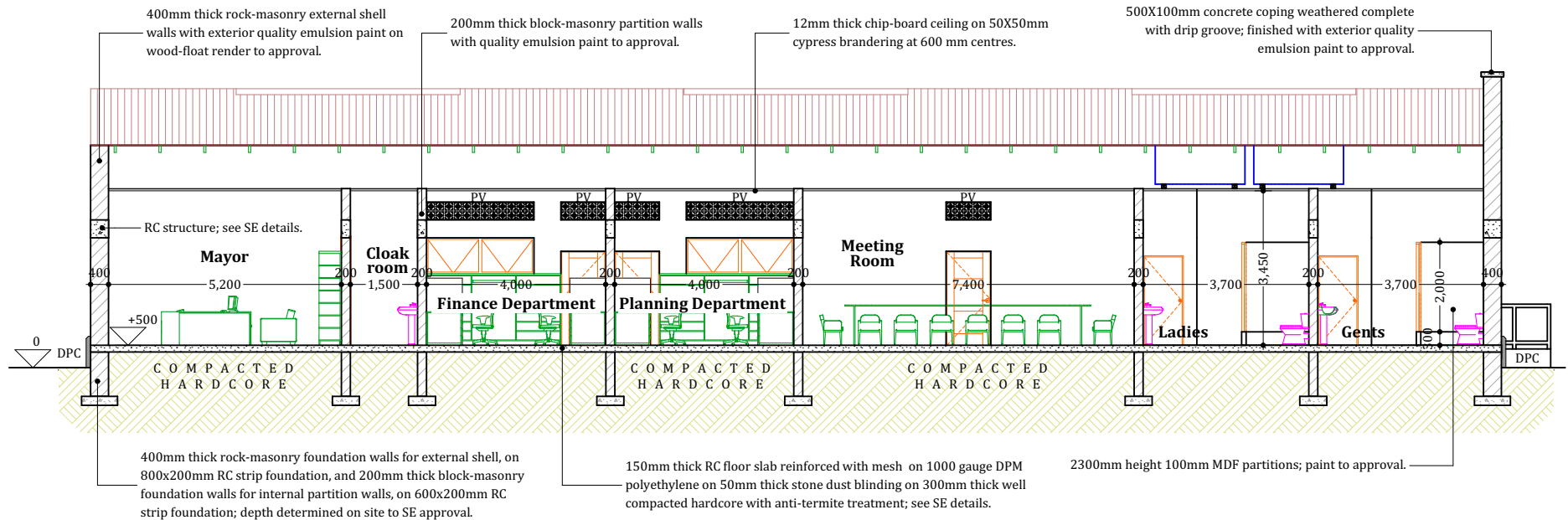
Sheet Content:
ELEVATIONS 02

Scale: **AS SHOWN**
Date: **JULY 2017**
PREPARED BY: **PETER MUTUGI**
REVIEWED & APPROVED BY:
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Regional Director Ecotech Ltd. Managing Director Ecotech Ltd.

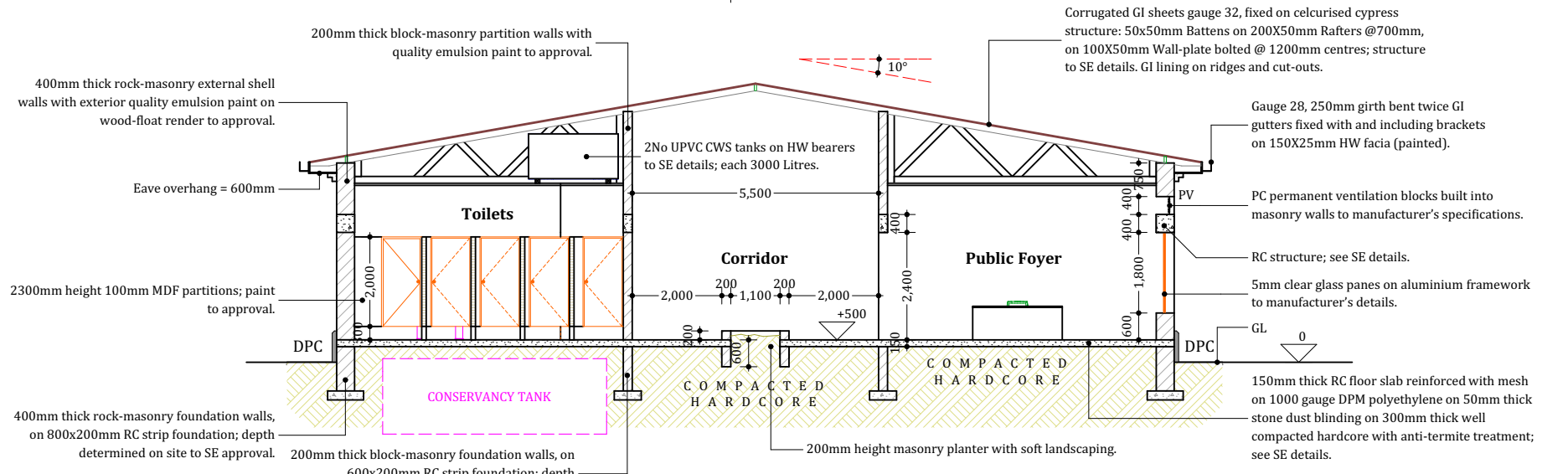
Drawing No:
**81371-553-
ELEVATIONS 02-06**

Project No:
MOF/SFF/SERV/08

Sheet No:
06/19



S-01 Longitudinal Section
Scale: 1:100



S-02 Lateral Section
Scale: 1:100

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Project Title
**DETAILED DESIGN FOR PROPOSED
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NORTH GALKAIO DISTRICT,
MUDUG REGION**

Drawing Title:
SECTIONS

Sheet Content:
SECTIONS

Scale: **AS SHOWN**
Date: **JULY 2017**

PREPARED BY: **PETER MUTUGI**
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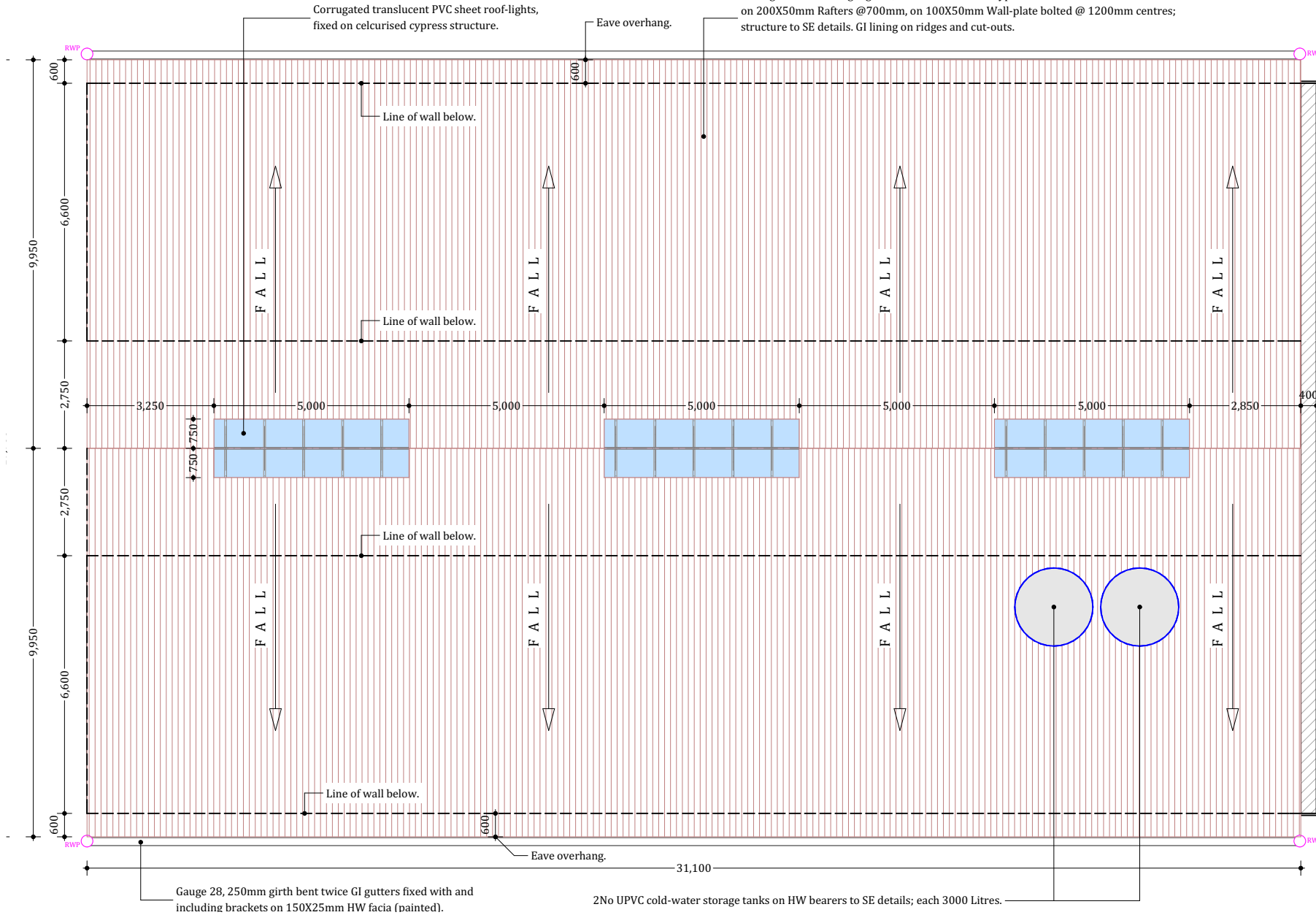
ENG. AHMED KIRISH
Regional Director Ecotech Ltd.
ENG. ALI HUSSEIN
Managing Director Ecotech Ltd.

Drawing No:
**81871-553-
SECTIONS-07**

Project No:
MOF/SFF/SERV/08

Sheet No:
07/19
A3

Corrugated GI sheets gauge 32, fixed on celcurised cypress structure: 50x50mm Battens on 200X50mm Rafters @700mm, on 100X50mm Wall-plate bolted @ 1200mm centres; structure to SE details. GI lining on ridges and cut-outs.



Gauge 28, 250mm girth bent twice GI gutters fixed with and including brackets on 150X25mm HW fascia (painted).

2 No UPVC cold-water storage tanks on HW bearers to SE details; each 3000 Litres.

Roof Plan
Scale: 1:100

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Project Title
**DETAILED DESIGN FOR PROPOSED
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MUDUG REGION**

Drawing Title
ROOF PLAN

Sheet Content
ROOF PLAN

Scale: **AS SHOWN**
Date: **JULY 2017**

PREPARED BY: **PETER MUTUGI**
REVIEWED & APPROVED BY:

ENG. AHMED KIRISHI Regional Director Ecotech Ltd. ENG. ALI HUSSEIN Managing Director Ecotech Ltd.

Drawing No: **81871-553-ROOFPLAN-08** Project No: **MOF/SFF/SERV/08**

Sheet No: **08/19** **A3**

NOTES ON STRUCTURAL DETAILS

- These notes shall be deemed to apply to all structural drawings.
- The structural drawings shall be read in conjunction with the architectural drawings and in event of any discrepancies, the Engineer and the Architect shall be notified before proceeding with the work.
- All dimensions shall be verified by the Contractor and drawings shall not be scaled off.
- Concrete shall have 20mm maximum size of aggregates and shall be adequately vibrated and cured. Concrete grade shall be Class 25 unless otherwise stated by the Engineer.
- Building concrete shall be 1:4:8 mix and shall be 50mm thick unless otherwise stated.
- Building blocks shall be adequately bonded and set in 3:1 sand/cement mortar.
- Steel reinforcement shall be cold worked bars to B.S. 4461 ref. Y and Round Mild Bars to B.S. 4448 ref. R.
- Unless otherwise stated, concrete covers shall be:
 - 50mm for foundations.
 - 40mm for columns
 - 20mm for slabs and staircases
 - 25mm for beams
- Contractor shall verify the dimensions given in the Bending Schedules before cutting and bending steel reinforcement.
- These notes do not supersede the Specifications and the Contractor shall consult the Engineer in event of any contradictions.
- Cube Tests shall be done for every concreting. Any concrete work that fails tests shall be demolished and redone at the cost of the Contractor.
- Safe bearing pressure of soil is 150KN/m²
- Structural timber shall be well-seasoned timber stress grade S3 cypress (B.S. 5268-2:2002) with min. moisture content of 12%.

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SOUTH GALKALLO DISTRICT

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Project Title
ADMINISTRATION OFFICES IN NORTH GALKALLO DISTRICT, MUDUG REGION

Drawing Title:
STRUCTURAL 01

Sheet Content:
STRUCTURAL DETAILS 01

Scale:
AS SHOWN

Date:
JULY 2017

PREPARED BY: **PETER MUTUGI**

REVIEWED & APPROVED BY:

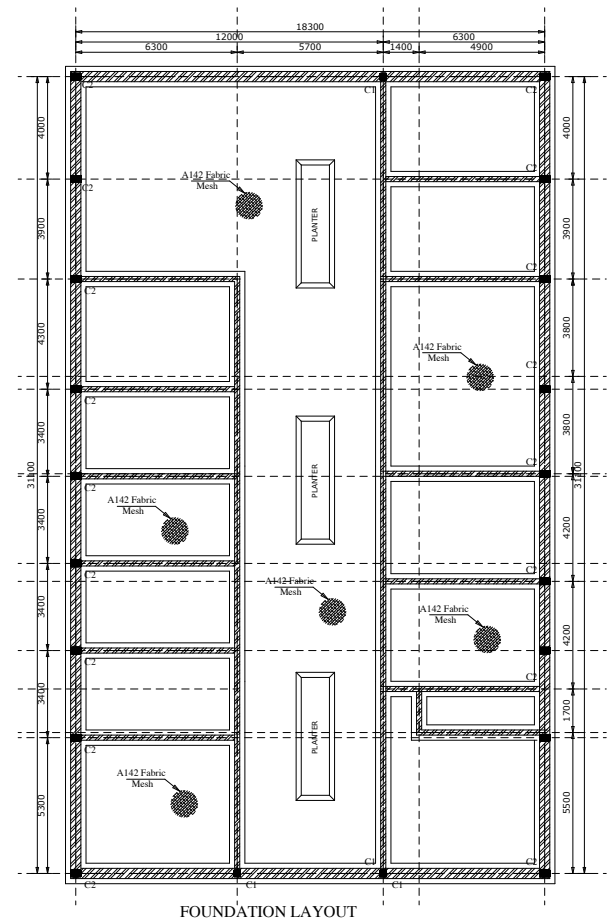
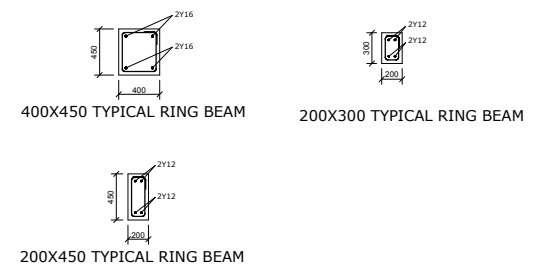
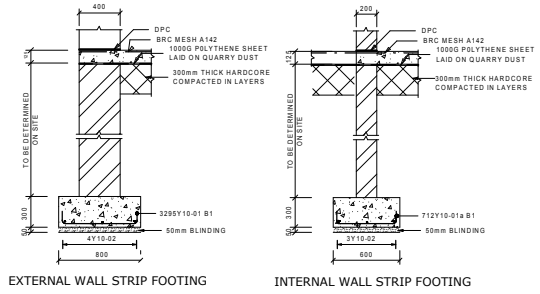
ENG. AHMED KIRISH ENG. ALI HUSSEIN
Regional Director Ecotech Ltd. Managing Director Ecotech Ltd.

Drawing No:
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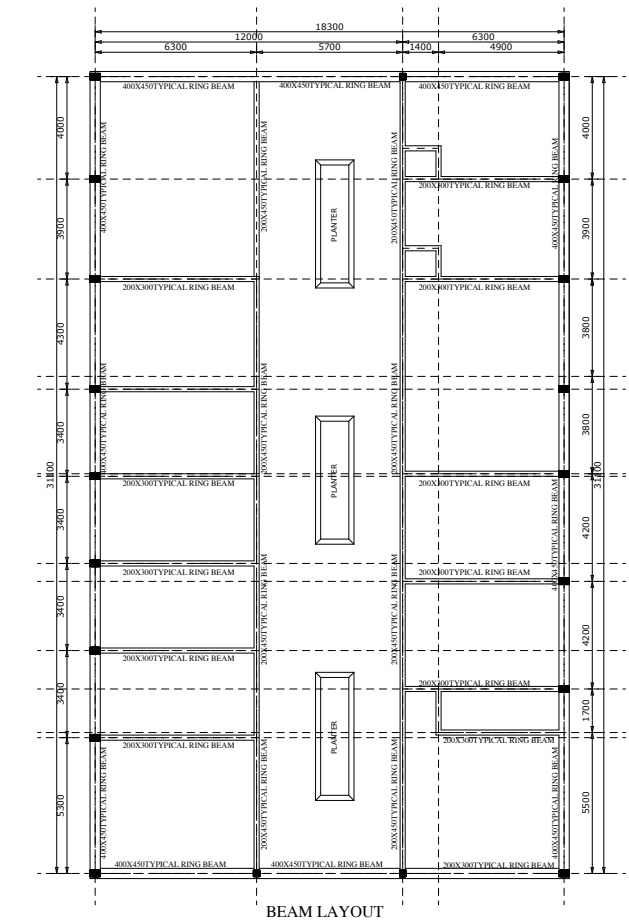
Project No:
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Sheet No:
09/19

A3

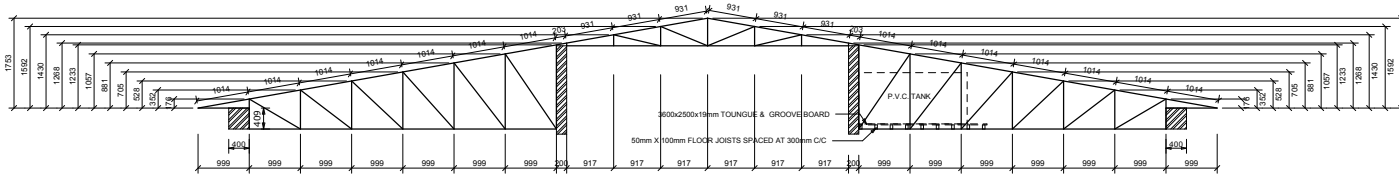


FOUNDATION LAYOUT

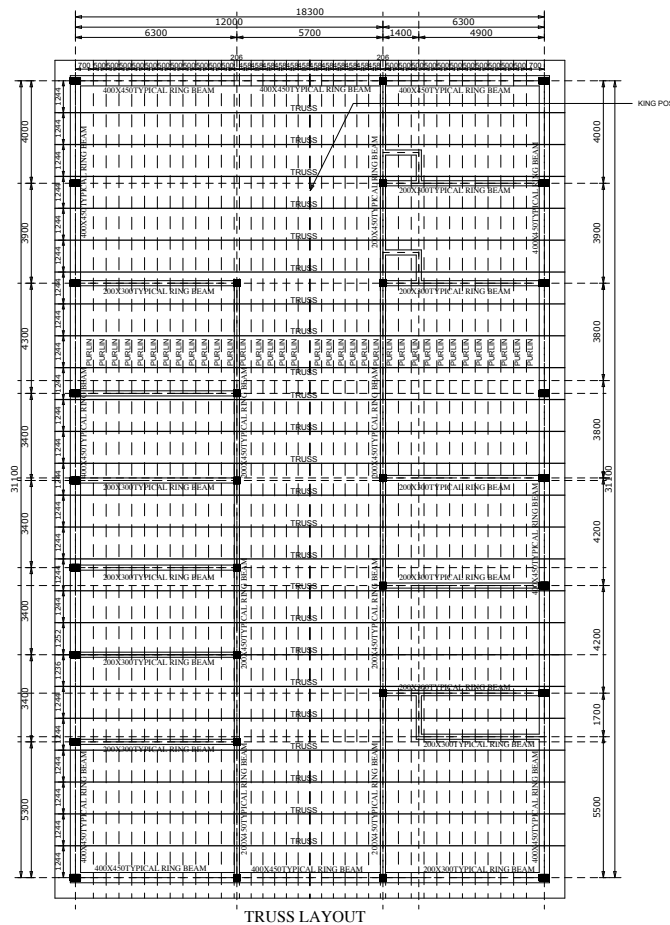
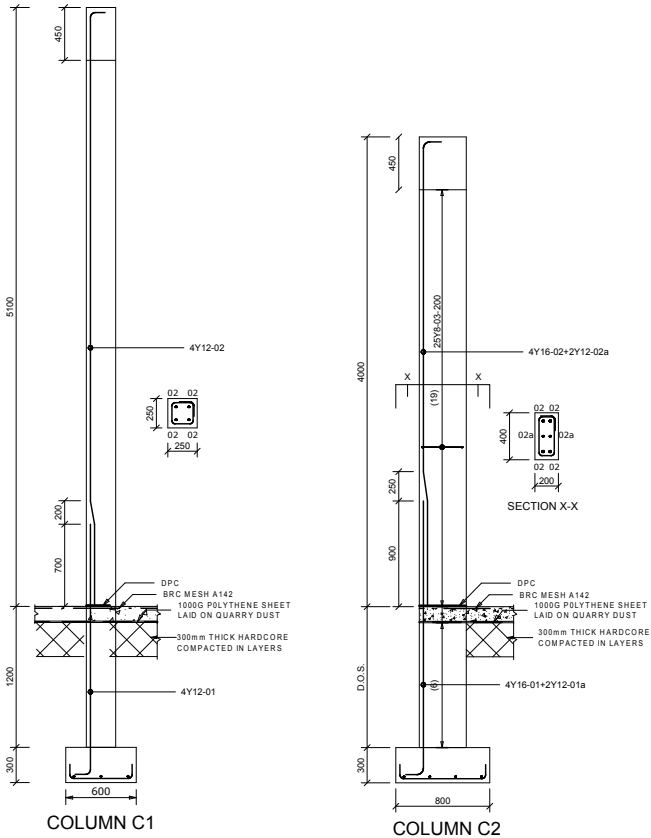


BEAM LAYOUT

MEMBER	No OF BARS PER MEMBER	BAR DIA.	LENGTH	TOTAL NUM. OF BARS	MARK	S	C	BENDING					
								A	B	C	D	EP	
COL C1	16	Y16	2450	64	01	37	2330	(150)					
			2450	32	01a	37	2330	(150)					
			4075	64	02	42	900	250	2810	01			
			4075	32	02a	42	900	250	2810	01			
COL C2	19	Y8	1025	400	03	01	330	130					
			2225	76	01	37	2130	(130)					
			5175	76	02	42	700	200	4160	47			
			3050	30	02	03	(3000)						
B WALL FOOTING GATE HOUSE SLAB	1	Y10	6475	13	02	55	1265	100	3300	100	1180		
			1600	10	03	20	(1600)				1200		
RAMP	1	Y10	1900	10	04	20	(1900)						
			2375	25	01	61	1030	100					
ENT STAIRS A	1	Y12	3375	4	02	01	100	1530					
			5150	6	03	20	(5150)						
ENT STAIRS B	1	Y10	5150	6	03	20	(5150)						
			1850	6	05	38	1760	100	(540)				
STRIP FOOTING	25	Y10	4000	100	02	20	(4000)						
			775	712	01a	35	580						
			625	3205	01	35	730						



TRUSS DETAILS
ALL MEMBERS ARE 50mmX100mm OR 2inchesX4inches



TRUSS LAYOUT

MEMBER	No OF MEMB	BARS PER DIA.	LENGTH	TOTAL LENGTH	MARK	S C	BENDING																																		
							A	B	C	D	EV																														
TOP SLAB	13	Y10	3000	13 08	20	(3000)																																			
	13	Y10	3000	13 10	20	(2994)																																			
	13	Y10	1650	13 12	38	775	150	(770)																																	
	14	Y10	8175	14 24	38	810	170	(8240)																																	
BOTTOM SLAB	14	Y10	9175	14 25	38	810	170	(8240)																																	
	14	Y10	3000	14 14	20	(3000)																																			
	12	Y10	4800	12 03	38	750	330	(750)																																	
	12	Y10	4950	12 01	20	750	300	(750)																																	
WALL 1	3	Y10	1025	3 48	20	(1017)																																			
	3	Y10	1025	3 50	20	(1017)																																			
	3	Y10	1025	3 51	20	(1025)																																			
	3	Y10	1250	3 59	38	970	150	(970)																																	
	3	Y10	1250	3 58	38	970	150	(970)																																	
	61	Y10	2000	61 15	20	(2000)																																			
	61	Y10	2000	61 19	20	(2000)																																			
	14	Y10	2450	28 16	20	(2440)																																			
	14	Y10	2175	28 20	20	(2160)																																			
	14	Y10	2450	28 17	20	(2440)																																			
	11	Y10	2350	22 28	20	(2344)																																			
	WALL 2	11	Y10	2350	22 28	20	(2344)																																		
11		Y10	1650	22 30	38	775	150	(775)																																	
11		Y10	1650	22 31	38	775	150	(770)																																	
14		Y10	1875	28 32	38	960	190	(920)																																	
14		Y10	1875	28 33	45	420	560	(920)			295																														
11		Y10	2950	22 38	20	(2920)																																			
11		Y10	2925	22 34	20	(2920)																																			
13		Y10	1875	28 22	45	420	560	(920)			295																														
13		Y10	1875	26 23	45	420	560	(920)			295																														
13		Y10	2300	26 39	38	2300																																			
ENT STAIRS SIDES		13	Y10	1650	24 38	38	775	150	(770)																																
		12	Y10	1650	24 37	38	770	150	(770)																																
	13	Y10	1650	20 40	38	770	150	(770)																																	
	67	Y10	1875	134 42	45	420	560	(920)			295																														
	67	Y10	1875	134 43	45	420	560	(920)			295																														
	6	Y12	1525	12 A	45	640	800	(100)			285																														
	6	Y12	1900	12 B	62	1360	800	(540)			240																														
	6	Y12	1625	12 C	133	540	1020	(100)			240																														
	6	Y12	1625	12 D	133	540	1020	(100)			240																														
	6	Y12	1775	12 E	133	540	1160	(100)			240																														
	6	Y12	1950	12 F	45	1020	600	(100)			240																														
								<table border="1"> <tr> <td>R</td> <td>8</td> <td>10</td> <td>12</td> <td>16</td> <td>20</td> <td>25</td> <td>32</td> <td>40</td> <td>TOT</td> </tr> <tr> <td>Y</td> <td>1609</td> <td>126</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1634</td> </tr> <tr> <td>TOT</td> <td>1609</td> <td>126</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1634</td> </tr> </table>					R	8	10	12	16	20	25	32	40	TOT	Y	1609	126							1634	TOT	1609	126						
R	8	10	12	16	20	25	32	40	TOT																																
Y	1609	126							1634																																
TOT	1609	126							1634																																

NOTES ON STRUCTURAL DETAILS

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- Building concrete shall be 1:4:8 mix and shall be 50mm thick unless otherwise stated.
- Building blocks shall be adequately bonded and set in 3:1 sand/cement mortar.
- Steel reinforcement shall be cold worked bars to B.S. 4461 ref. Y and Round Mild Bars to B.S. 4448 ref. R.
- Unless otherwise stated, concrete covers shall be:
 - 50mm for foundations.
 - 40mm for columns
 - 20mm for slabs and staircases
 - 25mm for beams
- Contractor shall verify the dimensions given in the Bending Schedules before cutting and bending steel reinforcement.
- These notes do not supersede the Specifications and the Contractor shall consult the Engineer in event of any contradictions.
- Cube Tests shall be done for every concreting. Any concrete work that fails tests shall be demolished and redone at the cost of the Contractor.
- Safe bearing pressure of soil is 150KN/m²
- Structural timber shall be well-seasoned timber stress grade S3 cypress (B.S. 5268-2:2002) with min. moisture content of 12%.

NOTES:

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- All construction work to comply with the international standards codes protection.
- The P.V. denotes permanent ventilation and must be provided above all doors and windows where indicated.
- All walls less than 200mm thick are to be reinforced with long iron sheet every alternate course.
- All reinforced concrete works to be done according to the Ecotech Structural Engineers detail drawings.

NO.	DATE	DESCRIPTION

REVISIONS.

FINANCED BY:

CLIENT:

THE FEDERAL REPUBLIC OF SOMALIA
GOVERNMENT OF PUNTLAND
SOUTH GALKAYO DISTRICT

IMPLEMENTED BY:

SFF SOMALIA
Special Financing Facility

CONSULTANT:

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Fax: +254 701 838222
Email: info@ecotech.co.ke
www.ecotech.co.ke
Web: Ecotech House, Woodlands Road,
off Lenana Road, Nairobi - Kenya

Project Title
**DETAILED DESIGN FOR PROPOSED
ADMINISTRATION OFFICES IN
NORTH GALKAYO DISTRICT,
MUDUG REGION**

Drawing Title:
STRUCTURAL 02

Sheet Content:
STRUCTURAL DETAILS 02

Scale: **AS SHOWN**

Date: **JULY 2017**

PREPARED BY: **PETER MUTUGI**

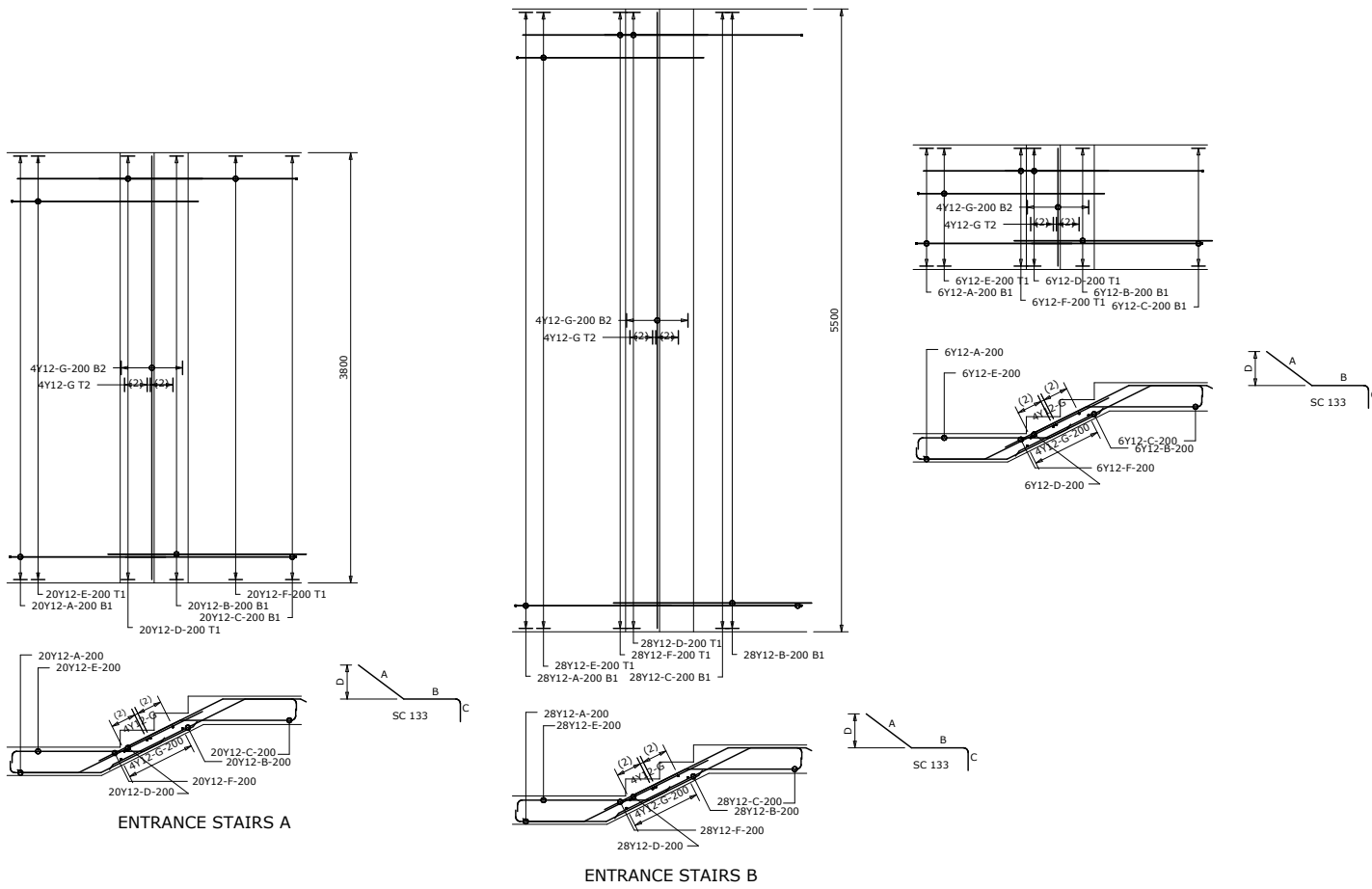
REVIEWED & APPROVED BY:

ENG. AHMED KIRISHI ENG. ALI HUSSEIN
Regional Director Ecotech Ltd. Managing Director Ecotech Ltd.

Drawing No: **51371-553-
STRUCTURAL 02-10**

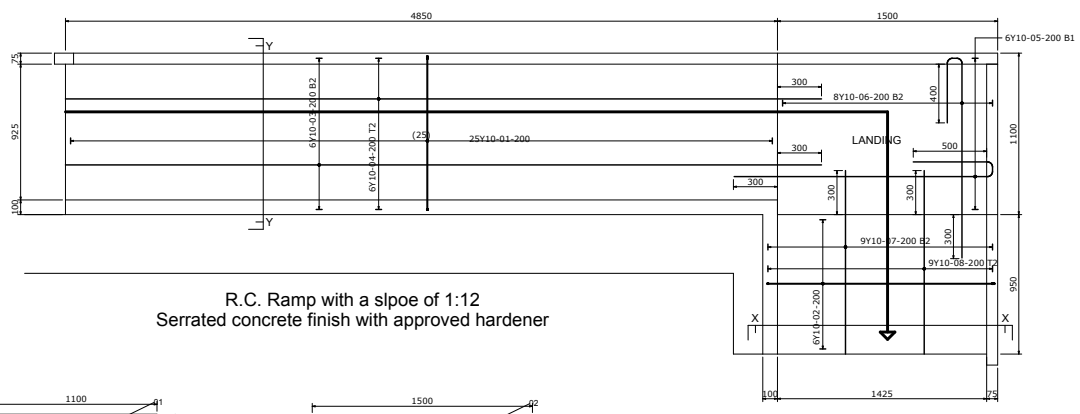
Project No: **MO/SFF/SERV/08**

Sheet No: **10/19**



ENTRANCE STAIRS A

ENTRANCE STAIRS B



R.C. Ramp with a slope of 1:12
Serrated concrete finish with approved hardener

SECTION Y-Y

SECTION X-X

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- All construction work to comply with the international standards codes protection.
- The PV denotes permanent ventilation and must be provided above all doors and windows where indicated.
- All walls less than 200mm thick are to be reinforced with hoop iron sheet every alternate course.
- All reinforced concrete works to be done according to the Ecotech Structural Engineers detail drawings.

NO.	DATE	DESCRIPTION

REVISIONS.

FINANCED BY:



CLIENT:



THE FEDERAL REPUBLIC OF SOMALIA
GOVERNMENT OF PUNLAND STATE GALKALLO NORTH DISTRICT

IMPLEMENTED BY:

SFF SOMALIA
Special Financing Facility

CONSULTANT:



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Fax: +254 701 838222
Email: info@ecotech.co.ke
www.ecotech.co.ke
Location: Ecotech House, Woodlands Road,
off Lenana Road, Nairobi - Kenya

Project Title
DETAILED DESIGN FOR PROPOSED ADMINISTRATION OFFICES IN NORTH GALKALLO DISTRICT, MUDUG REGION

Drawing Title:
STRUCTURAL 03

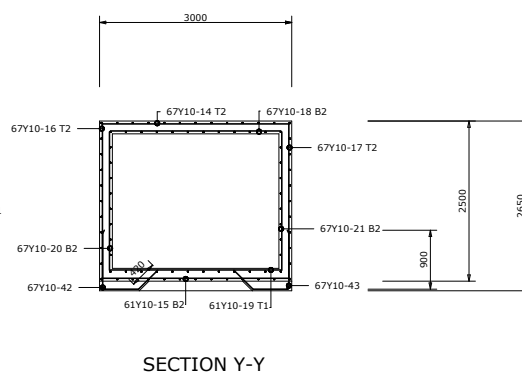
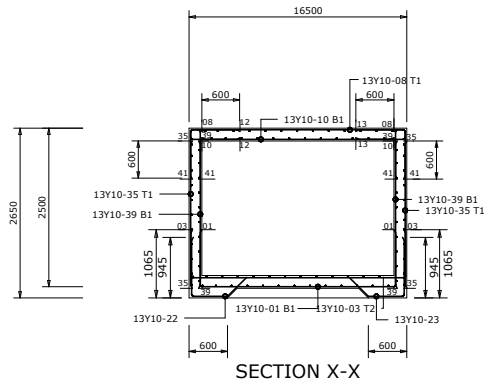
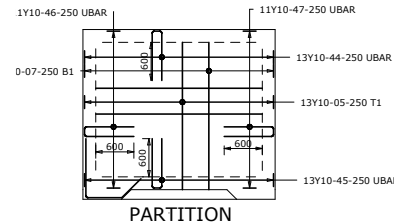
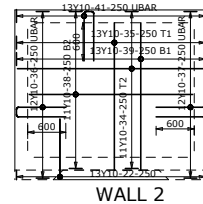
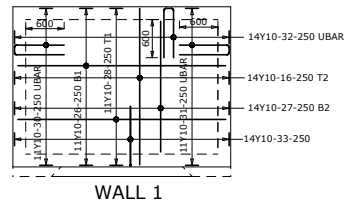
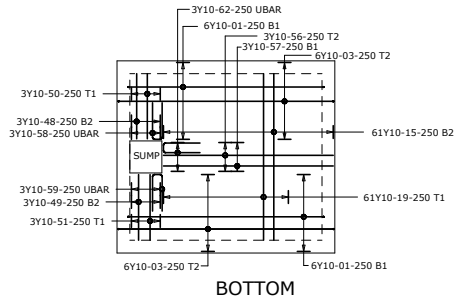
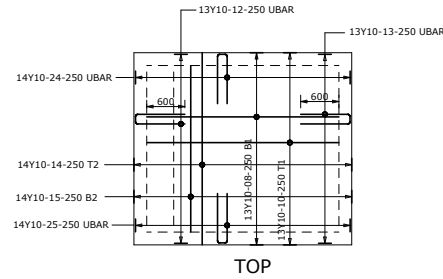
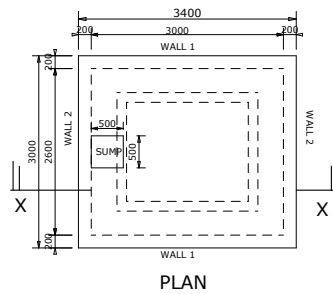
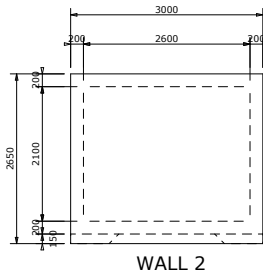
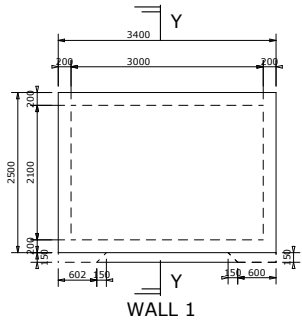
Sheet Content:
STRUCTURAL DETAILS 03

Scale: **AS SHOWN**
Date: **JULY 2017**
PREPARED BY: **PETER MUTUGI**
REVIEWED & APPROVED BY:
ENG. AHMED KIRISH Regional Director Ecotech Ltd. ENG. ALI HUSSEIN Managing Director Ecotech Ltd.

Drawing No: **51371-553-STRUCTURAL 03-11** Project No: **MOF/SFF/SERV/08**

Sheet No: **11/19** A3

CONSERVANCY TANK DETAILS



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- All reinforced concrete works to be done according to the Ecotech Structural Engineers detail drawings.

NO.	DATE	DESCRIPTION
REVISIONS.		

FINANCED BY:



CLIENT:



IMPLEMENTED BY:

SFF SOMALIA
Special Financing Facility

CONSULTANT:



ECOTECH LIMITED
P.O. Box 0527-00100,
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www.ecotech.co.ke
Web: www.ecotech.co.ke
Location: Ecotech House, Woodlands Road,
off Lenana Road, Nairobi - Kenya

Project Title
DETAILED DESIGN FOR PROPOSED
ADMINISTRATION OFFICES IN
NORTH GALKALDO DISTRICT,
MUDUG REGION

Drawing Title:
STRUCTURAL 04

Sheet Content:
STRUCTURAL DETAILS 04

Scale: **AS SHOWN**
Date: **JULY 2017**
PREPARED BY: **PETER MUTUGI**
REVIEWED & APPROVED BY:

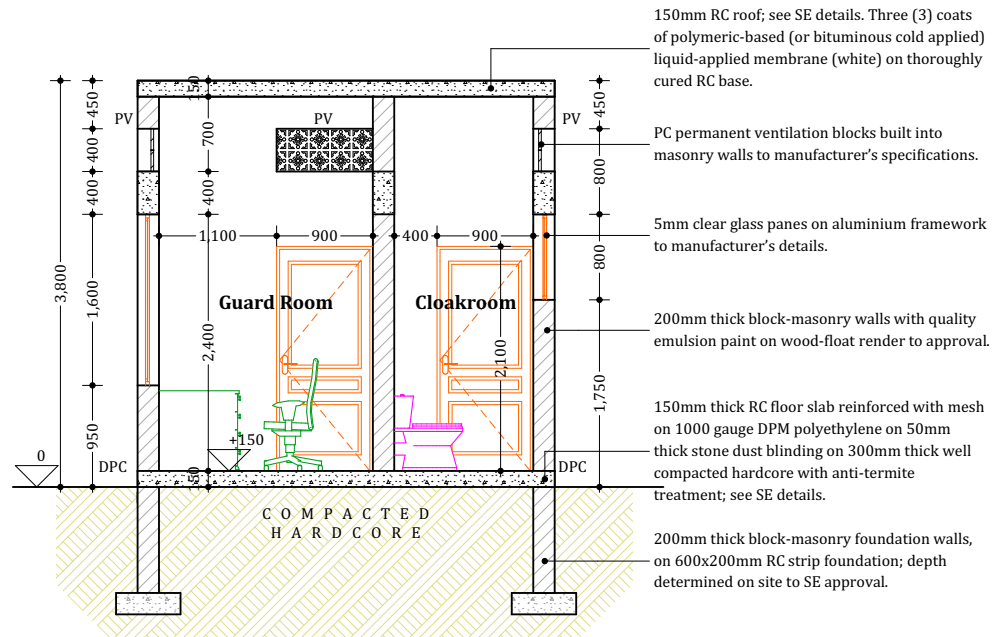
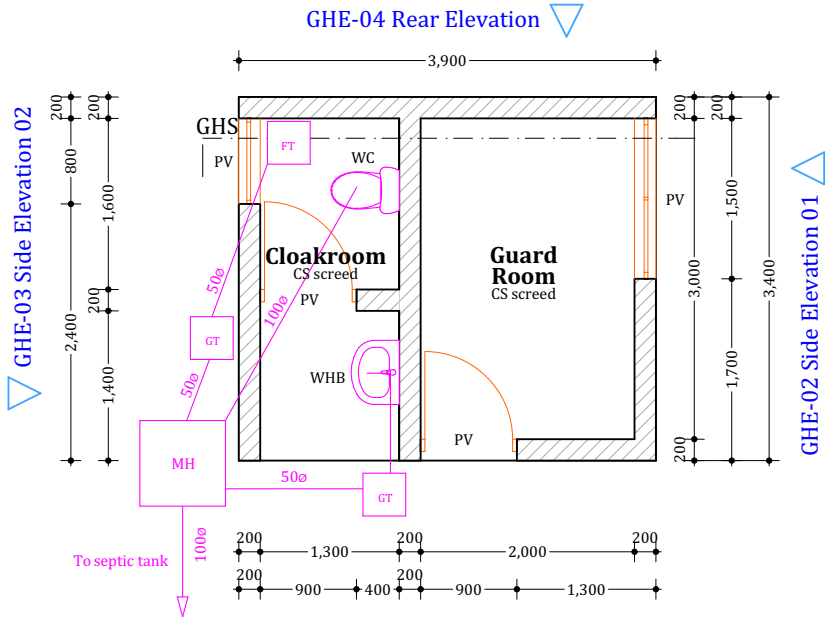
ENG. AHMED KIRISHI
Regional Director Ecotech Ltd.

ENG. ALI HUSSEIN
Managing Director Ecotech Ltd.

Drawing No:
**51371-553-
STRUCTURAL 04-12**

Project No:
MO/SFF/SERV/08

Sheet No:
12/19



150mm RC roof; see SE details. Three (3) coats of polymeric-based (or bituminous cold applied) liquid-applied membrane (white) on thoroughly cured RC base.

PC permanent ventilation blocks built into masonry walls to manufacturer's specifications.

5mm clear glass panes on aluminium framework to manufacturer's details.

200mm thick block-masonry walls with quality emulsion paint on wood-float render to approval.

150mm thick RC floor slab reinforced with mesh on 1000 gauge DPM polyethylene on 50mm thick stone dust blinding on 300mm thick well compacted hardcore with anti-termite treatment; see SE details.

200mm thick block-masonry foundation walls, on 600x200mm RC strip foundation; depth determined on site to SE approval.

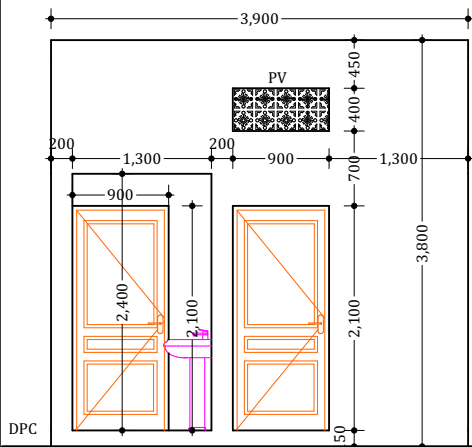
GHE-01 Front Elevation

Gate House Floorplan

Scale: 1:50

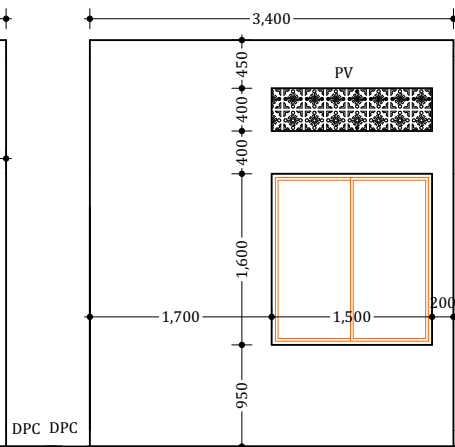
GHS Gate House Section

Scale: 1:50



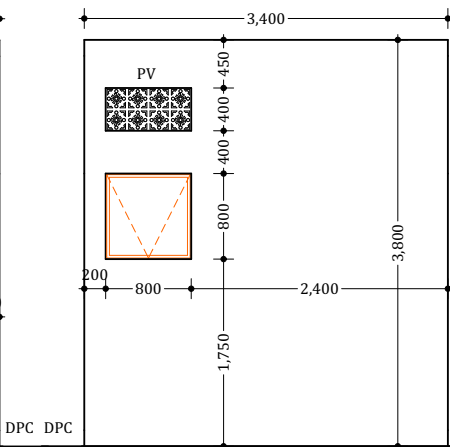
GHE-01 Front Elevation

Scale: 1:50



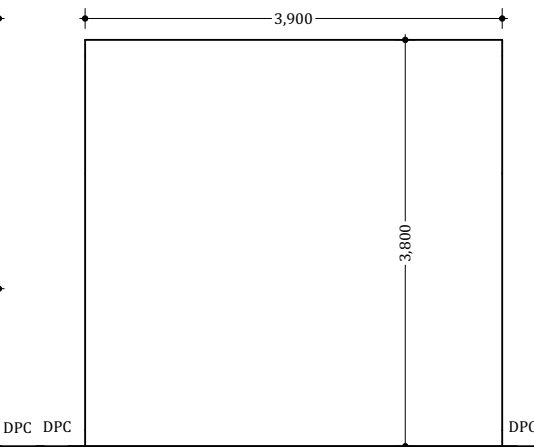
GHE-02 Side Elevation 01

Scale: 1:50



GHE-03 Side Elevation 02

Scale: 1:50



GHE-04 Rear Elevation

Scale: 1:50

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NO.	DATE	DESCRIPTION

REVISIONS.

FINANCED BY:



CLIENT:



THE FEDERAL REPUBLIC OF SOMALIA
GOVERNMENT OF PUNTLAND
STATE GALKALLO NORTH DISTRICT

IMPLEMENTED BY:

SFF SOMALIA
Special Financing Facility

CONSULTANT:



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Fax: +254 703 838222
Email: info@ecotech.co.ke
www.ecotech.co.ke
Location: Ecotech House, Woodlands Road,
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Project Title
DETAILED DESIGN FOR PROPOSED
ADMINISTRATION OFFICES IN
NORTH GALKALLO DISTRICT,
MUDUG REGION

Drawing Title:
GATE HOUSE

Sheet Content:
GATE HOUSE

Scale: AS SHOWN
Date: JULY 2017

PREPARED BY: PETER MUTUGI
REVIEWED & APPROVED BY:

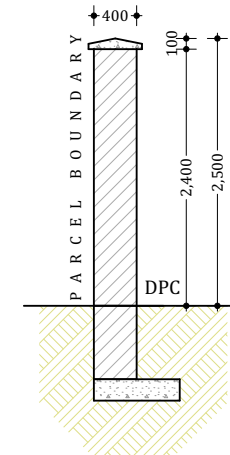
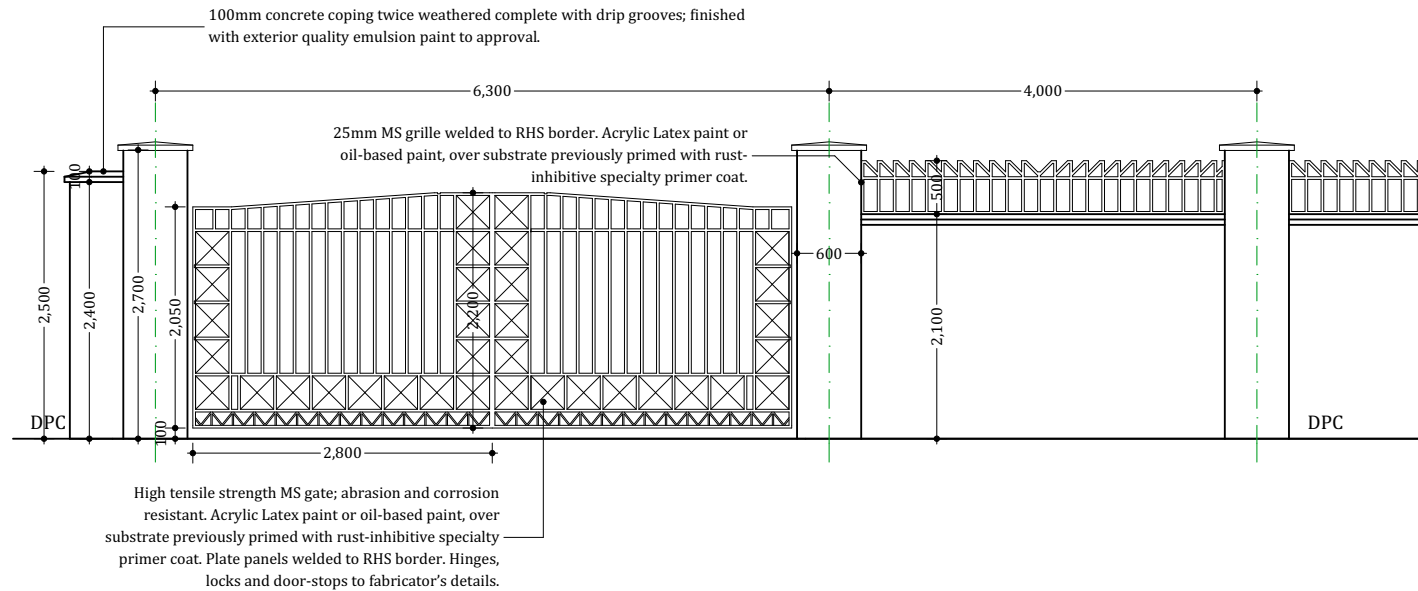
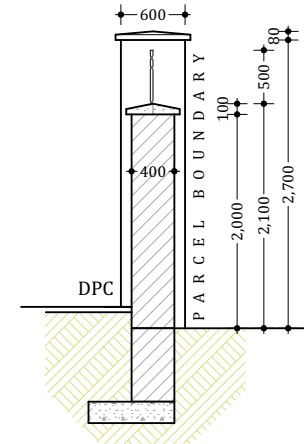
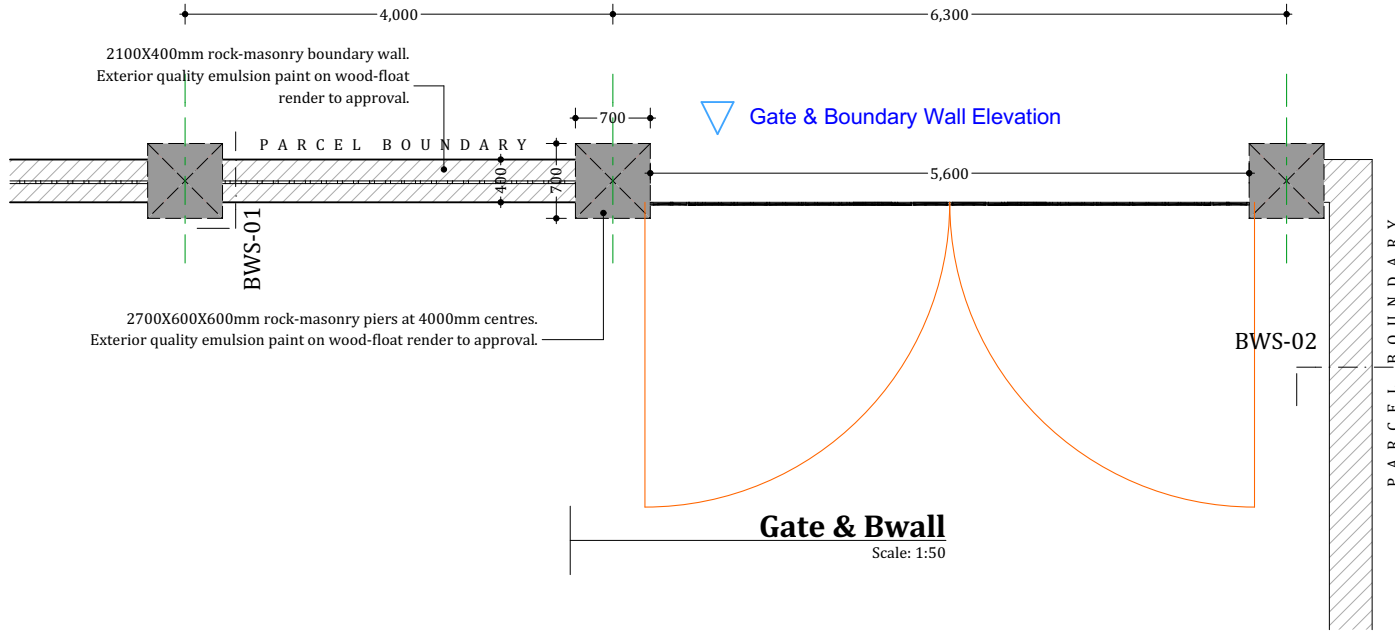
ENG. AHMED KIRISHI
Regional Director Ecotech Ltd.

ENG. ALI HUSSEIN
Managing Director Ecotech Ltd.

Drawing No:
81871-553-
GATEHOUSE-13

Project No:
MO/SFF/SERV/08

Sheet No:
13/19



GBWE | Gate & Boundary Wall Elevation
Scale: 1:50

BWS-02 | B-Wall Section 2
Scale: 1:50

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NO.	DATE	DESCRIPTION

REVISIONS.

FINANCED BY:



CLIENT:



THE FEDERAL REPUBLIC OF SOMALIA
GOVERNMENT OF PUNLAND
STATE GALKALLO NORTH DISTRICT

IMPLEMENTED BY:

SFF SOMALIA
Special Financing Facility

CONSULTANT:



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Project Title:
DETAILED DESIGN FOR PROPOSED
ADMINISTRATION OFFICES IN
NORTH GALKALLO DISTRICT,
MUDUG REGION

Drawing Title:
GATE & B-WALL

Sheet Content:
GATE AND BOUNDARY WALL

Scale: AS SHOWN
Date: JULY 2017
PREPARED BY: PETER MUTUGI
REVIEWED & APPROVED BY:
ENG. AHMED KIRISH (Regional Director Ecotech Ltd.)
ENG. ALI HUSSEIN (Managing Director Ecotech Ltd.)

Drawing No: 51371-553-GATE & B-WALL-14
Project No: M05/SFF/SERV/08
Sheet No: 14/19

NOTES:

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5. All walls less than 200mm thick are to be reinforced with hoop iron sheet every alternate course.
6. All reinforced concrete works to be done according to the Ecotech Structural Engineers detail drawings.

NO.	DATE	DESCRIPTION
REVISIONS.		

FINANCED BY:



CLIENT:



THE FEDERAL REPUBLIC OF SOMALIA
GOVERNMENT OF PUNLAND STATE - GALKADUUB NORTH DISTRICT

IMPLEMENTED BY:

SFF SOMALIA
Special Financing Facility

CONSULTANT:



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Fax: +254 703 838222
Email: info@ecotech.co.ke
www.ecotech.co.ke
Web: www.ecotech.co.ke
Location: Ecotech House, Woodlands Road, off Lenana Road, Nairobi - Kenya

Project Title: DETAILED DESIGN FOR PROPOSED ADMINISTRATION OFFICES IN NORTH GALKADUUB DISTRICT, MUDUG REGION

Drawing Title: **GH STRUCTURAL**

Sheet Content: **GATE HOUSE STRUCTURAL DETAILS**

Scale: **AS SHOWN**
Date: **JULY 2017**

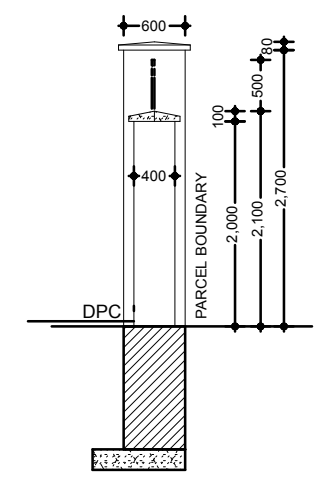
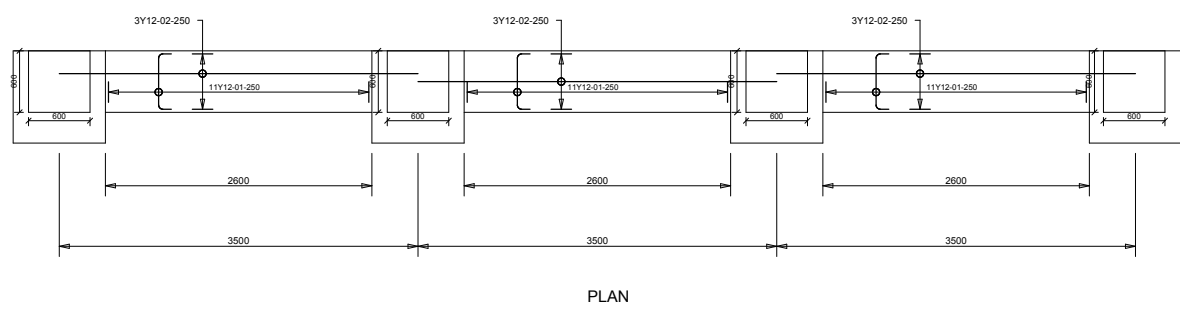
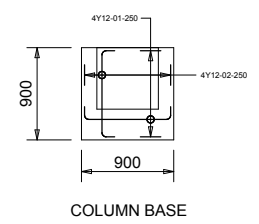
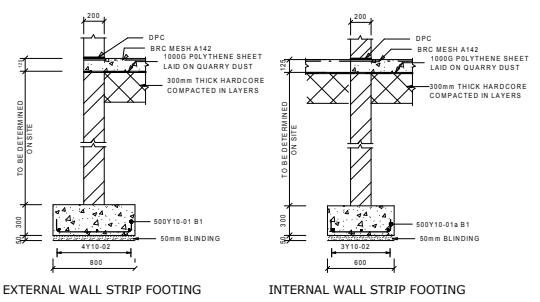
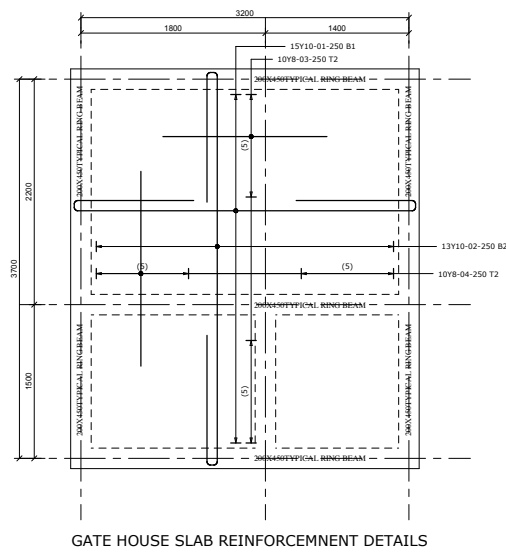
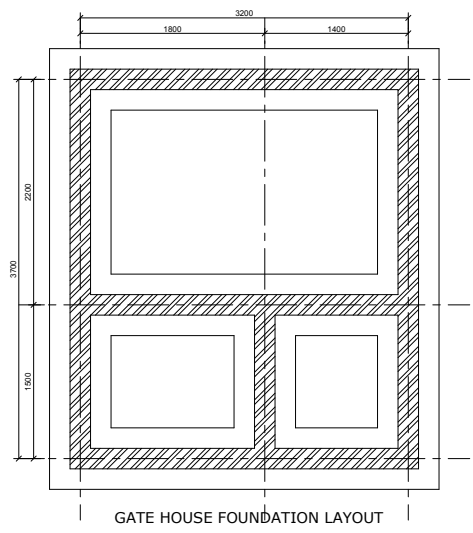
PREPARED BY: **PETER MUTUGI**
REVIEWED & APPROVED BY:

ENG. AHMED KIRISH Regional Director Ecotech Ltd. ENG. ALI HUSSEIN Managing Director Ecotech Ltd.

Drawing No: **51371-553-GH STRUCTURAL-15** Project No: **MOF/SFF/SERV/08**

NOTES ON STRUCTURAL DETAILS

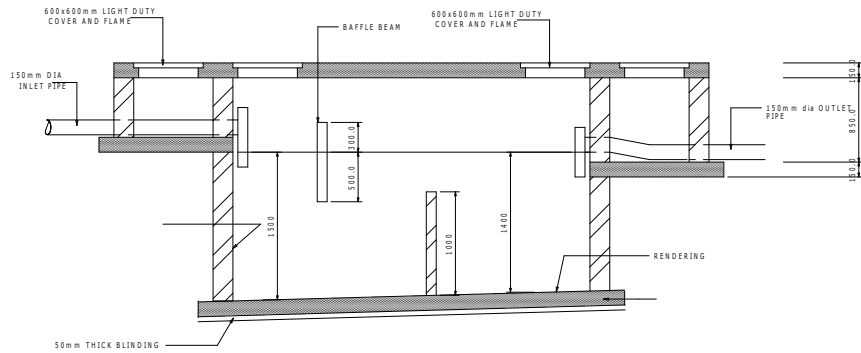
1. These notes shall be deemed to apply to all structural drawings.
2. The structural drawings shall be read in conjunction with the architectural drawings and in event of any discrepancies, the Engineer and the Architect shall be notified before proceeding with the work.
3. All dimensions shall be verified by the Contractor and drawings shall not be scaled off.
4. Concrete shall have 20mm maximum size of aggregates and shall be adequately vibrated and cured. Concrete grade shall be Class 25 unless otherwise stated by the Engineer.
5. Building concrete shall be 1:4:8 mix and shall be 50mm thick unless otherwise stated.
6. Building blocks shall be adequately bonded and set in 3:1 sand/cement mortar.
7. Steel reinforcement shall be cold worked bars to B.S. 4461 ref. Y and Round Mild Bars to B.S. 4448 ref. R.
8. Unless otherwise stated, concrete covers shall be:
 - 50mm for foundations.
 - 40mm for columns
 - 20mm for slabs and staircases
 - 25mm for beams
9. Contractor shall verify the dimensions given in the Bending Schedules before cutting and bending steel reinforcement.
10. These notes do not supersede the Specifications and the Contractor shall consult the Engineer in event of any contradictions.
11. Cube Tests shall be done for every concreting. Any concrete work that fails tests shall be demolished and redone at the cost of the Contractor.
12. Safe bearing pressure of soil is 150KN/m²
13. Structural timber shall be well-seasoned timber stress grade S3 cypress (B.S. 5268-2:2002) with min. moisture content of 12%.



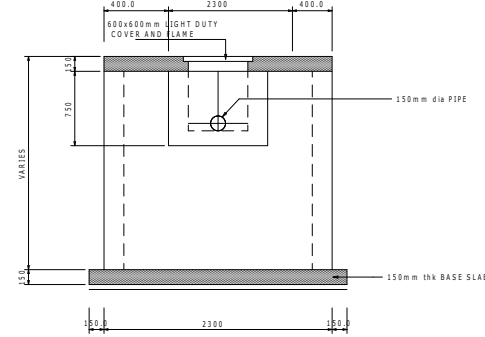
PLAN

BOUNDARY WALL ELEVATION

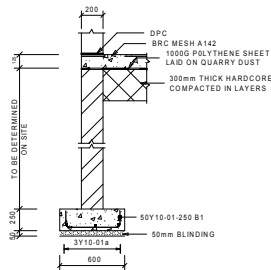
SEPTIC TANK DETAILS



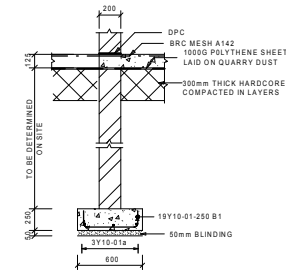
SECTION 2 - 2



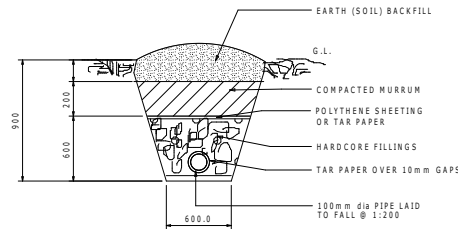
ELEVATION SECTION 1 - 1



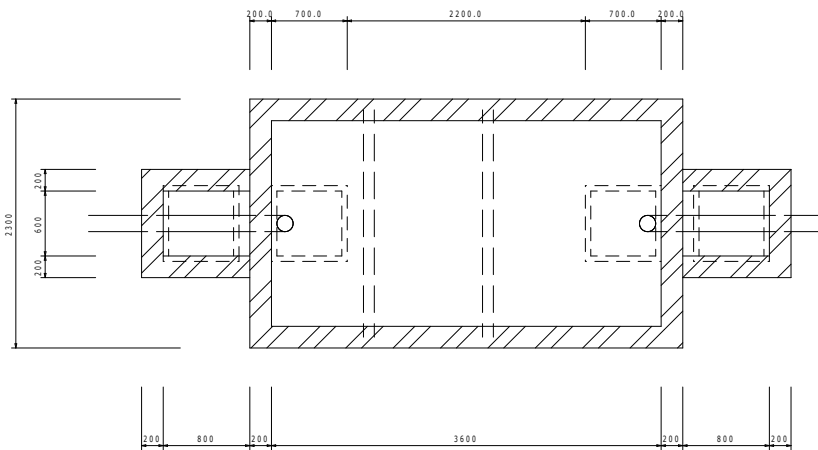
EXTERNAL WALL STRIP FOOTING



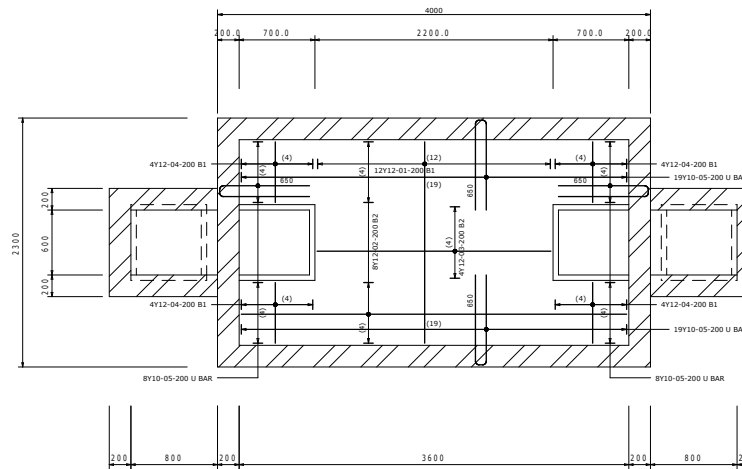
INTERNAL WALL STRIP FOOTING



FRENCH DRAIN



ROOF LAYOUT



TOP SLAB REINFORCEMENT

NOTES ON STRUCTURAL DETAILS

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- The PV denotes permanent ventilation and must be provided above all doors and windows where indicated.
- All walls less than 200mm thick are to be reinforced with hoop iron sheet every alternate course.
- All reinforced concrete works to be done according to the Ecotech Structural Engineers detail drawings.

NO.	DATE	DESCRIPTION
REVISIONS.		

FINANCED BY:



CLIENT:



THE FEDERAL REPUBLIC OF SOMALIA
GOVERNMENT OF PUNTLAND
SOUTH GALKALLO NORTH DISTRICT

IMPLEMENTED BY:

SFF SOMALIA
Special Financing Facility

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Fax: +254 701 838222
Email: info@ecotech.co.ke
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Location: Ecotech House, Woodlands Road,
off Lenana Road, Nairobi - Kenya

Project Title
DETAILED DESIGN FOR PROPOSED
ADMINISTRATION OFFICES IN
NORTH GALKALLO DISTRICT,
MUDUG REGION

Drawing Title
SEPTIC TANK

Sheet Content:
SEPTIC TANK DETAILS

Scale: **AS SHOWN**

Date: **JULY 2017**

PREPARED BY: **PETER MUTUGI**

REVIEWED & APPROVED BY:

ENG. AHMED KIRISH
Regional Director Ecotech Ltd.

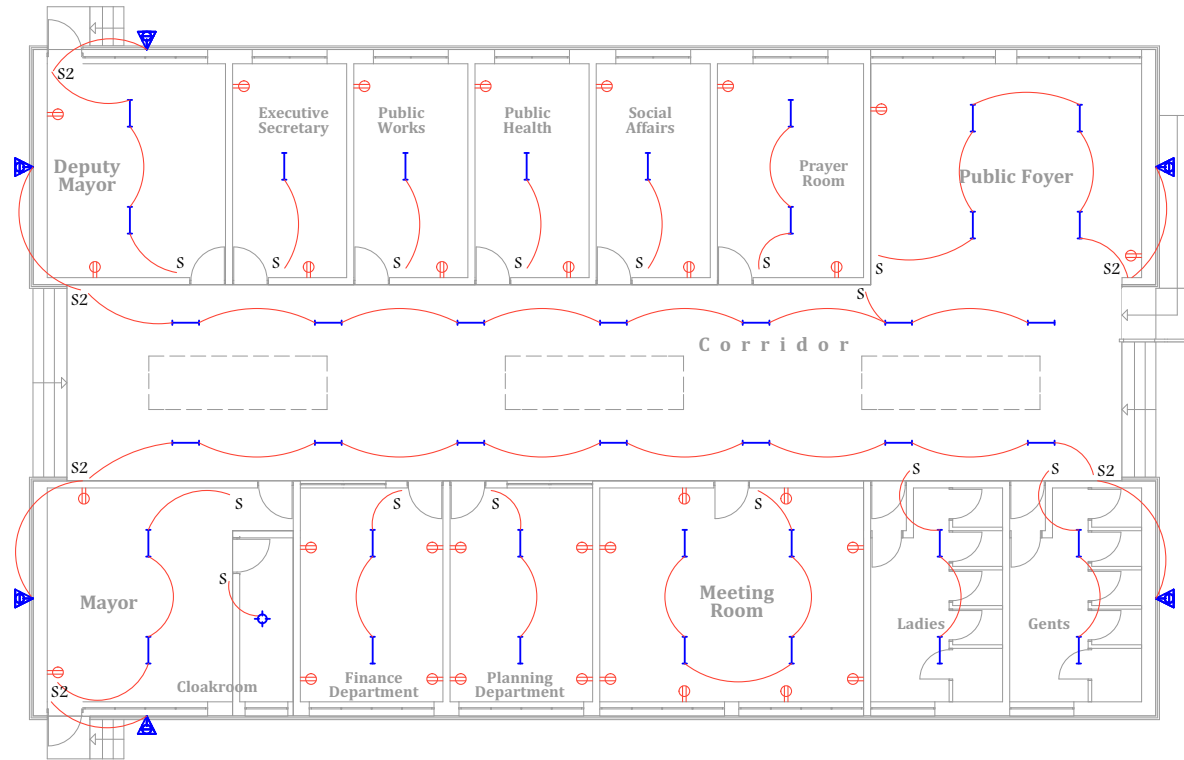
ENG. ALI HUSSEIN
Managing Director Ecotech Ltd.

Drawing No:
**81371-553-
SEPTIC TANK-16**

Project No:
MOF/SFF/SERV/08

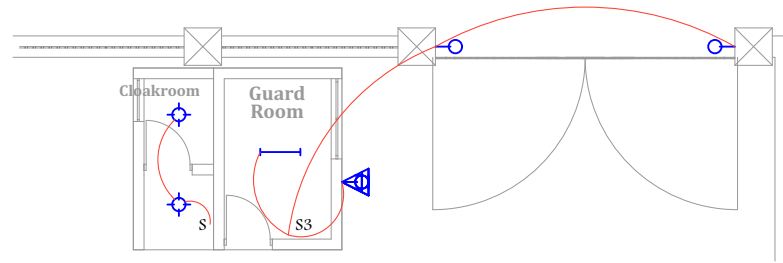
Sheet No:
16/19

SYMBOL	MEANING
	CEILING MOUNTED LIGHT FIXTURE.
	CEILING MOUNTED LIGHT FIXTURE (PENDANT)
	WALL MOUNTED LIGHT FIXTURE
	RECESSED SPOT LIGHT
	FLUORESCENT LIGHT FIXTURE
	FLUORESCENT LIGHT FIXTURE UNDER FALSE CEILING
	WIRING CONNECTION
	FLUORESCENT LIGHT FIXTURE WITH SHAVER SOCKET & LOCALISED SWITCH
	FLUORESCENT LIGHT FIXTURE WITH LOCALISED SWITCH
	SINGLE PLEX RECEPTACLE
	DUPLEX RECEPTACLE
	SPECIAL RECEPTACLE & OUTLET (WITH PILOT LIGHT)
	WATER PROOF RECEPTACLE (SINGLE)
	CONSUMER UNIT
	TELEPHONE/TV JACK
	ALARM KEYPAD
	DOORBELL PUSH BUTTON
	DOORBELL TRANSFORMER
S3	3 gang switch
S2	2 gang switch
S	Single pole switch
	Flood lamp



Main Block Electrical

Scale: 1:150



GH Electrical

Scale: 1:100

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- The PV denotes permanent ventilation and must be provided above all doors and windows where indicated.
- All walls less than 200mm thick are to be reinforced with hoop into sheet every alternate course.
- All reinforced concrete works to be done according to the Ecotech Structural Engineers detail drawings.

NO.	DATE	DESCRIPTION
REVISIONS.		

FINANCED BY:

CLIENT:

THE FEDERAL REPUBLIC OF SOMALIA
GOVERNMENT OF PUNLAND
STATE GALKALLO NORTH DISTRICT

IMPLEMENTED BY:

SFF SOMALIA
Special Financing Facility

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Location: Ecotech House, Woodlands Road,
off Lenana Road, Nairobi - Kenya

Project Title:
DETAILED DESIGN FOR PROPOSED
ADMINISTRATION OFFICES IN
NORTH GALKALLO DISTRICT,
MUDUG REGION

Drawing Title:
ELECTRICAL

Sheet Content:
ELECTRICAL LAYOUT

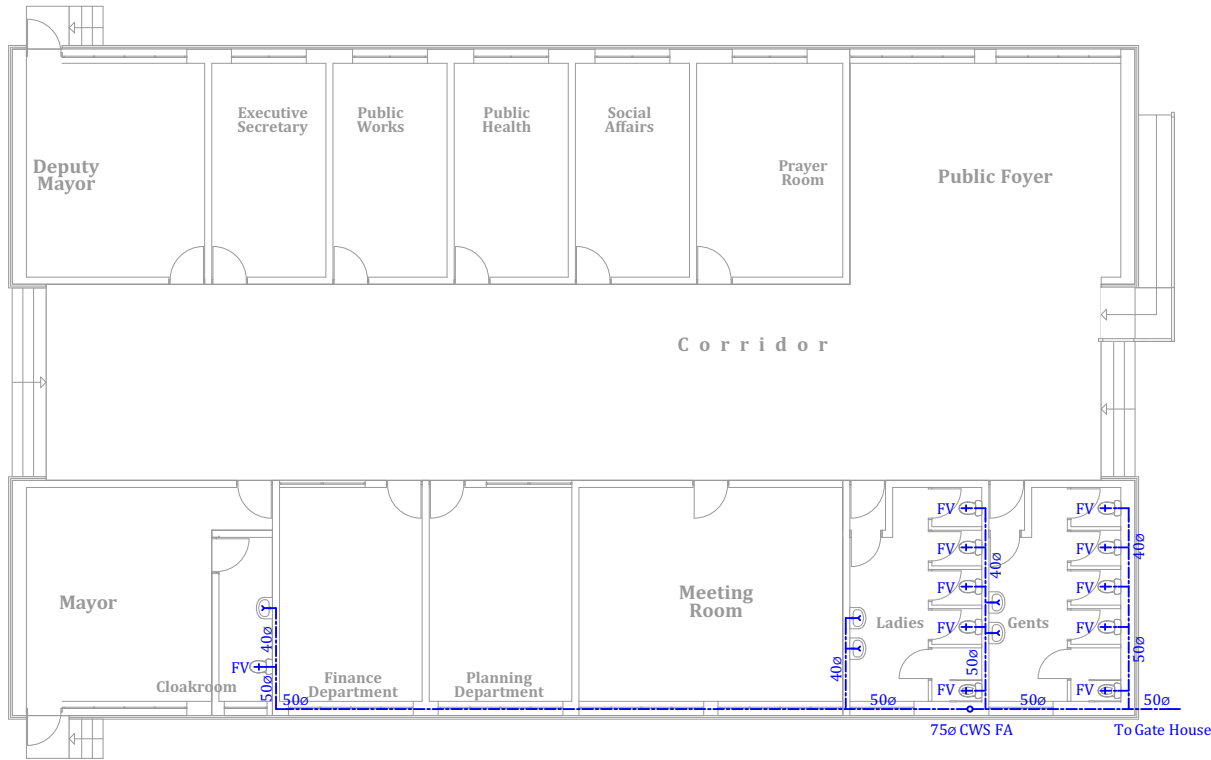
Scale: AS SHOWN
Date: JULY 2017
PREPARED BY: PETER MUTUGI
REVIEWED & APPROVED BY:
ENG. AHMED KIRISHI ENG. ALI HUSSEIN
Regional Director Ecotech Ltd. Managing Director Ecotech Ltd.

Drawing No: 81371-553-ELECTRICAL-17
Project No: MO/SFF/SERV/08

Sheet No: **17/19**
A3

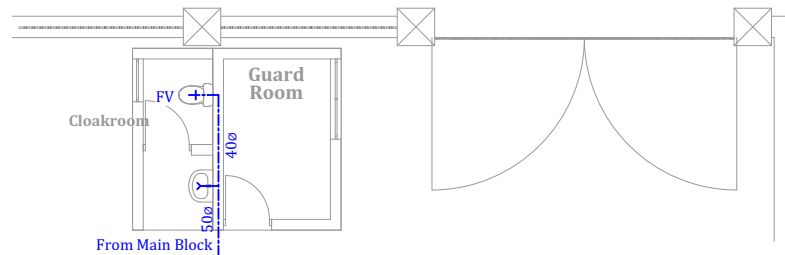
LEGEND

- TA TO ABOVE
- TB TO BELOW
- FA FROM ABOVE
- FB FROM BELOW
- RM RISING MAIN
- HL HIGH LEVEL
- RE RODDING EYE
- MH MAN HOLE
- GT GULLY TRAP
- SVP STACK VENT PIPE
- FT FLOOR TRAP
- FV FLOAT VALVE
- CWS COLD WATER SUPPLY



Main Block Plumbing

Scale: 1:150



GH Plumbing

Scale: 1:100

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REVISIONS.		

FINANCED BY:



CLIENT:



THE FEDERAL REPUBLIC OF SOMALIA
GOVERNMENT OF PUNLAND STATE GALKALLO NORTH DISTRICT

IMPLEMENTED BY:

SFF SOMALIA
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Fax: +254 701 838222
Email: info@ecotech.co.ke
Web: www.ecotech.co.ke
Location: Ecotech House, Woodlands Road,
off Lenana Road, Nairobi - Kenya

Project Title:
DETAILED DESIGN FOR PROPOSED ADMINISTRATION OFFICES IN NORTH GALKALLO DISTRICT, MUDUG REGION

Drawing Title:
PLUMBING

Sheet Content:
PLUMBING LAYOUT

Scale: **AS SHOWN**
Date: **JULY 2017**

PREPARED BY: **PETER MUTUGI**
REVIEWED & APPROVED BY:

ENG. AHMED KIRISHI Regional Director Ecotech Ltd. ENG. ALI HUSSEIN Managing Director Ecotech Ltd.

Drawing No: **81.871-553-PLUMBING-18** Project No: **MOF/SFF/SERV/08**

Sheet No: **18/19** A3



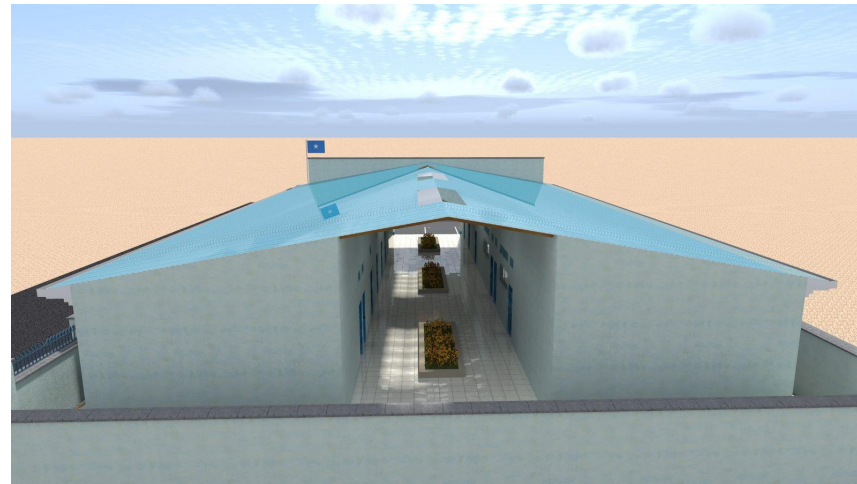
Front/Side view



Interior view



Side view



Rear view

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NO.	DATE	DESCRIPTION
REVISIONS.		

FINANCED BY:



CLIENT:



THE FEDERAL REPUBLIC OF SOMALIA
GOVERNMENT OF PUNLAND
STATE OF GALKAIO NORTH DISTRICT

IMPLEMENTED BY:

SFF SOMALIA
Special Financing Facility

CONSULTANT:



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Fax: +254 703 838222
Email: info@ecotech.co.ke
Web: www.ecotech.co.ke
Ecotech House, Woodlands Road,
off Lenana Road, Nairobi - Kenya

Project Title:
**DETAILED DESIGN FOR PROPOSED
ADMINISTRATION OFFICES IN
NORTH GALKAIO DISTRICT,
MUDUG REGION**

Drawing Title:
PERSPECTIVES

Sheet Content:
3D RENDERING VIEWS

Scale: **AS SHOWN**
Date: **JULY 2017**
PREPARED BY: **PETER MUTUGI**
REVIEWED & APPROVED BY:

ENG. AHMED KIRISHI Regional Director Ecotech Ltd. ENG. ALI HUSSEIN Managing Director Ecotech Ltd.

Drawing No: **81.871-553-
PERSPECTIVES-19** Project No: **MO/SFF/SERV/08**

Sheet No: **19/19** A3