



# **PLARIDEL WATER DISTRICT OFFICE BUILDING**

CONCEPT DESIGN

2020

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## 1. PROJECT BACKGROUND

Plaridel Water District (PLAWD) is one of the beneficiaries of the Local Water Utilities Administration – Asian Development Bank – Water District Development Sector Project (LWUA-ADB-WDDSP) which aims to improve the water service delivery to its concessionaires. One package of the project is the construction of new office building and warehouse. This package is to be funded by ADB through loan. The lot allotted for the construction of the project is owned by PLAWD and serve as an equity to the project.

The existing PLAWD Office Building is located along A.C. Reyes St. Poblacion, Plaridel, Bulacan which is adjacent to the Municipal Building of Plaridel and the Santiago Apostol Church, also known as Plaridel Church or Quingua Church located along Gov. Padilla Street, Brgy. Poblacion, in Plaridel, Bulacan.

The lot of the existing PLAWD Office Building is owned by LGU-Plaridel Municipality. The existing office has a limited space and there is no room for expansion, and also limited parking area for customers and employees.

## 2. PROJECT DESCRIPTION

The proposed PLAWD office building is a 3-storey building including warehouse and parking areas. The office layout shall be strategically planned based on their functionality, serving continuous flow of private and public transactions (see **Appendix 1**: PLAWD Office Building Perspective/Drawings, and **Appendix 2**: PLAWD Office Building Floor Plans and Cross Sections).

PLAWD is requesting new office building mainly due to the following reasons:

1. The lot of the existing PLAWD office building is owned by LGU-Plaridel Municipality and requested PLAWD to vacate the area since PLAWD used the lot for more than 30 years already.
2. Office area is limited and has no room for expansion to accommodate additional staffs to comply with the LWUA standard ratio of staff/number of concessionaires.
3. Cost to purchase lot in city center for new building is very high that is why PLAWD Management opted to utilize its owned lot where the Bintog Pump Station is located with an area of 1,190 sqm.
4. Area is easy to locate and is readily-accessible as it is located along major thoroughfare.

### 3. PROJECT SITE LOCATION

The proposed office building is to be located in Barangay Bintog, Plaridel, Bulacan along Gen. Alejo Highway (see **Appendix 3**: Bintog Map, and **Appendix 4**: Bintog-Project Location Map). It is approximately 5 kilometers away from the municipality proper.

The proposed project site is to be located in the existing Bintog Pump Station with lot area of 1,190 sqm. The facilities within this lot are pump house, storage room, electrical room, generator set and comfort room which shall be integrated in the proposed office building. The proposed office building is along Gen. Alejo Highway which at present has two lanes with an easement of 3 meters both sides for future expansion by the government (DPWH).

### 4. SPECIFICATIONS AND PARAMETERS

The design and specifications shall conform to, but not be limited to the following standards set by the:

- (i) National Building Code of the Philippines (NBCP), latest edition
- (ii) National Structural Code of the Philippines (NSCP), latest edition
- (iii) Fire Code of the Philippines (PD 1185)
- (iv) Uniform Building Code
- (v) Accessibility Law (BP 344)
- (vi) Philippine Electrical Code (RA 184)
- (vii) Philippine Mechanical Code
- (viii) Revised National Plumbing Code of the Philippines (RA 1378)
- (ix) Code on Sanitation of the Philippines (PD 856)
- (x) Ecological Solid Waste Management Act (RA 9003)
- (xi) Applicable Local Regulations and Ordinances

With respect to the actual construction, applicable rules and regulations prescribed by the following agencies and/or embodied in the following shall be observed:

- (i) Department of Public Works and Highways
- (ii) Department of Health
- (iii) National Pollution Control Commission
- (iv) Department of Environment and Natural Resources
- (v) Bureau of Fire Protection
- (vi) Applicable Building Laws in the Municipality of Plaridel

#### 4.1 Life of Civil Works and Mechanical Equipment

Civil Works: 50 years

Mechanical Equipment: 15 years

#### 4.2 Site drainage

Site drainage should be designed for a 10-year rain return period. It shall infiltrate the rain water back into the ground while the excess shall be discharged to the storm drainage. Sewerage system shall be considered in the design.

Provisions for future plumbing and sanitary expansions and development shall be considered.

#### 4.3 Schedule of Doors and Windows

INDICATIVE SCHEDULE OF DOORS AND WINDOWS			
ITEM	QUANTITY	UNIT	SPECIFICATION
DOOR 1	4	set	0.90 X 2.10 Wooden Panel Door
DOOR 2	1	set	1.70 x 1.04 tubular frame 4 x 2 inches with plain GI Plain sheet Steel Door with steel jamb
DOOR 3	2	set	2.05 x 0.72 Solid Wooden Panel Door
DOOR 4	1	set	2.10 x 2.41 1/2 Double Swing brown Glass Door/ analok brown frame
DOOR 5	3	set	2.10 x 1.0 1/2 mm Sliding brown Glass Door / analok brown frame
DOOR 6	1	set	2.70 x 1.93 1/2 mm Doble Swing Glass Door / analok brown frame
DOOR 7	7	set	2.10 x 0.90 tubular frame 4 x 2 inches with plain GI Plain sheet Double Swing Steel Door with steel jamb
DOOR 8	1	set	2.10 x 1.55 tubular frame 4 x 2 inches with plain GI Plain sheet Double Swing Steel Door with steel jamb
DOOR 9	1	set	2.05 x 1.50 tubular frame 4 x 2 inches with plain GI Plain sheet Double Swing Steel Door with steel jamb
DOOR 10	1	set	2.10 x 1.95 3/4 mm Tempered double swing glass door
DOOR 11	4	set	2.10 x .80 PVC Door with jamb
DOOR 12	10	set	1.5 X 0.60 PVC Door with jamb
WINDOW 1	6	set	1.20 x 2.41 analok brown frame with 1/2 mm thick bronze fixed glass (2panel)
WINDOW2	8	set	1.20 x 1.20 analok brown frame with 1/2 mm thick bronze fixed sliding window (2 panel)

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WINDOW3	4	set	12.0 x 2.41 analok brown frame with 1/2 mm thick bronze fixed glass
WINDOW4	1	set	2.20 x 2.41 analok brown frame with 1/2 mm thick bronze fixed glass (2 panel)
WINDOW5	1	set	2.20 x 1.23 analok brown frame with 1/2 mm thick bronzefixed glass
WINDOW6	1	set	2.70 x 4.76 analok brown frame with 1/2 mm thick bronze fixed glass (4panel)
WINDOW7	14	set	1.20 x 2.41 analok brown frame with 1/2 mm thick bronze sliding window (4 panel)
WINDOW8	2	set	0.3 x 0.50 analok brown frame with 1/2 mm thick bronze awning type window
WINDOW9	2	set	0.3 x 0.84 analok brown frame with 1/2 mm thick bronze awning type window
WINDOW10	1	set	2.10 x 1.23 analok brown frame with 1/2 mm thick bronze fixed glass
WINDOW11	2	set	2.10 x 2.36 analok brown frame with 1/2 mm thick bronze fixed glass (2 panel)
WINDOW12	4	set	1.2 x 3.59 analok brown frame with 1/2 mm thick bronze sliding window (6 panel)
WINDOW13	2	set	2.70 x 0.76 analok brown frame with 1/2 mm thick bronze fixed glass
WINDOW14	1	set	0.3 x 1.23 analok brown frame with 1/2 mm thick bronze awning type window
WINDOW15	1	set	0.30 x 0.65 analok brown frame with 1/2 mm thick bronze awning type window
WINDOW16	1	set	1.20 x 1.23 analok brown frame with 1/2 mm thick bronze fixed glass
WINDOW17	2	set	2.25 x 1.55 analok brown frame with 3/4 mm thick bronze fixed glass
WINDOW18	1	set	2.70 x 7.12 analok brown frame with 1/2 mm thick bronze fixed glass (6 panel)
WINDOW19	1	set	2.60 x 2.41 analok brown frame with 1/2 mm thick bronze fixed glass (2 panel)
WINDOW20	1	set	2.60 x 0.56 analok brown frame with 1/2 mm thick bronze fixed glass
WINDOW21	1	set	1.70 x 6.92 analok brown frame with 1/2 mm thick bronze sliding window (6 panel)
WINDOW22	1	set	4.2 x 2.70 analok brown frame with 3/4 thick bronze fixed glass (3 panel)
WINDOW23	1	set	2.10 x 0.50 analok brown frame with 3/4 mm thick bronze fixed glass
WINDOW24	1	set	1.2 x 2.70 analok brown frame with 3/4 mm thick bronze fixed glass

## 5. PRELIMINARY SURVEY AND MAPPING

The Contractor shall establish construction control points in any preferred number and location to be used during construction. All construction alignment, vertical or horizontal, shall be referred to the established control points.

### a. Boundaries

The Contractor shall be responsible for verifying the property boundaries for the construction of perimeter fence based on the approved technical description of the lot to be provided by the Owner.

### b. Existing Terrain, Line and Grade

Drawings are based on spot survey relative to the existing road centerline. The Contractor shall, however, validate such data on the field during the Design Phase.

### c. Location and Orientation of Facilities

Property setback requirement shall be compliant to the requirement of the National Building Code of the Philippines and other governing codes.

## 6. PRELIMINARY INVESTIGATIONS

### a. Soil and Geotechnical

The Contractor shall, however, conduct further geotechnical investigations should he deemed necessary to validate previously obtained data and conclude his design computations and analyses.

### b. Hydrology

The climatic condition of Plaridel is generally temperate, with no pronounced rainy and dry season. The Contractor has the responsibility to gather and secure such hydrologic information to be used in his design. Considerations shall also be taken into account concerning the dramatic weather changes of past few years, which may be attributed to climate change.

### c. Hydraulic

The lowest elevation is located at the northern part of the project site as shown in the Site Grading Plan. Existing street drainage are located along Gen. Alejo G. Santos Highway. However, due to the limitations of the information of the drainage system, the Contractor shall conduct an actual site inspection and validation.

d. Seismic

Plaridel belongs to Zone 4 based from the Seismic Zone Map of the Philippines. The designer shall refer to the latest edition of the National Structural Code of the Philippines for complete parameters of seismic design.

e. Environmental Conditions

- Climate

The Municipality of Plaridel generally falls under Type I category of the Philippine Climate Corona Classification. Areas with this type of climate have distinct pronounce wet and dry seasons. The months of June to November are considered rainy season period with rainfalls ranging from 1,000 mm to more than 5,000 mm.

- Wind

Bulacan Weather Forecast website provides a local 3 hourly Bulacan weather forecast of rain, sun, wind, humidity and temperature.

The Long-range 10 day forecast also includes detail for Bulacan weather today. Live weather reports from Bulacan weather stations and weather warnings that include risk of thunder, high UV index and forecast gales.

- Site Preparation

During vegetation clearing, there are a total number of 7 trees affected and these are six (6) mango trees with a trunk diameter ranges from 25-60 cm and one (1) mahogany tree with a trunk diameter of 60 cm., see **Appendix 5: Bintog-Project Lot with Tree Details.**

Prior to any clearing operations, a tree inventory following the guidelines and requirements of the DENR will be conducted as part of the application for a tree cutting permit. The project effects shall be mitigated, directly or indirectly, through planting of the corresponding number of seedlings as prescribed by the tree cutting permit. In addition, the Project-affected trees qualified for earth-balling shall be properly transplanted to minimize the biomass removal and attenuate the GHG emissions.

- Soil Erosion and Sediment from Construction Sites

During rainy seasons, exposed soil at the construction site can easily be eroded and carried to the natural drainage system if preventive measures are not established.

In preventing erosion, surface runoff must be controlled using structural erosion prevention and sediment control practices which will divert the storm water flows away from the exposed areas, prevent sediments from moving offsite, and reduce



the erosive forces of runoff waters. These measures must be established by the contractor: (i) interceptor dikes, (ii) pipe slope drains, (iii) straw bale barriers, (iv) sediment traps, and (v) temporary sediment basins. Whenever possible, total exposed area shall be minimized.

Source: Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAG-ASA), Manual on Flood Control Planning by DPWH and Japan International Cooperation Agency.

## 7. UTILITY LOCATIONS

The project area has an existing utility network for potable water and power supply system along Gen. Alejo Highway. Site validation has to be undertaken by the Contractor to assess its effect to the new construction.

## 8. PROPOSED PLAWD BUILDING FACILITIES

The proposed PLAWD building facilities layout/design in each floor with corresponding floor area details is shown below while the structural layout/drawings, floor plans and cross sections details are shown in **Appendices 1 & 2**:

### a. Basement

Facility	Area (sqm.)
1. Warehouse Area	92 sqm.
2. Waiting Area	11 sqm.
3. Existing Well Area	32 sqm.
4. Car Parking Area	695 sqm.
5. Tricycle Parking Area	28 sqm.
6. Motorcycle Parking Area	21 sqm.
7. Pump House Area	21 sqm.
8. Locker Room	30 sqm.
9. Women's Room	7 sqm.
10. Supply Room	24 sqm.
11. Garbage room	14 sqm.

**b. Ground Floor**

<b>Facility</b>	<b>Area (sqm.)</b>
1. Customer Waiting Area	37 sqm.
2. Customer Service Area	14 sqm.
3. Tellers Area	19 sqm.
4. Workplace Area	150 sqm.
5. Seminar/Waiting Area	17 sqm.
6. Existing Well Area	40 sqm.
7. Pantry Area	18 sqm.
8. Comfort Room (Female/Male)	32 sqm.
9. Board Room	45 sqm.
10. Manager's Office	30 sqm.
11. Guest Waiting Area	34 sqm.
12. Guest Room/Sleeping Quarter	32 sqm.
13. Guard House	2.5 sqm.
14. Balcony	33 sqm.
15. Hallway	44 sqm.
16. Car Parking Area	98 sqm.
17. Tricycle Parking Area	15 sqm.
18. Motorcycle Parking Area	49 sqm.

**c. Second Floor**

<b>Facility</b>	<b>Area (sqm.)</b>
1. Workplace Area	410 sqm.
2. Conference Area	28 sqm.
3. Meeting Room	90 sqm.
4. Pantry Area	26 sqm.
5. Comfort Room (Female/Male)	33 sqm.

## 9. BUILDING DESIGN CONCEPTS CONSIDERATIONS

The Contractor shall take into account the following building design concepts considerations, such as:

- a. The building design shall integrate the "Green Architecture".
- b. The air conditioning system shall adopt energy saving and cost saving technology.
- c. Provision of adequate fire protection and fire suppression system.
- d. Adequacy of general lighting for office requirements/needs.
- e. Provision for low-flow plumbing fixtures in the building's plumbing and sanitary system.
- f. Proposed septic tank and its location;
- g. Storm drainage layout plan;
- h. Ramps for senior citizens, person with disabilities (PWD) and pregnant women;
- i. Common toilet for senior citizens, PWD and pregnant women.

## 10. APPROVED BUDGET FOR THE CONTRACT

The Approved Budget for the Contract is Fifty-two Million Four Hundred Ninety-Eight Thousand Eight Hundred Ninety-Four Pesos (PhP52,498,894.00) and shall be deemed to include the cost of all taxes, duties, fees, levies and other charges imposed under applicable law.

## 11. PROPOSED DESIGN AND CONSTRUCTION SCHEDULE

The project shall be carried out within the duration herein specified.

- a. Design Phase (preparation of Detailed Engineering including presentation and approvals), and Permit Acquisition – 60 calendar days
- b. Construction Phase (including post construction evaluation, testing & commissioning) – 240 calendar days

Total Project Duration – 300 calendar days

## 12. APPENDICES

Lot Maps, Structural Drawings/Layout, Office Building Perspective, Floor Plan and Cross Section Details

**Appendix 1: PLAWD Office Building Perspective/Drawings**











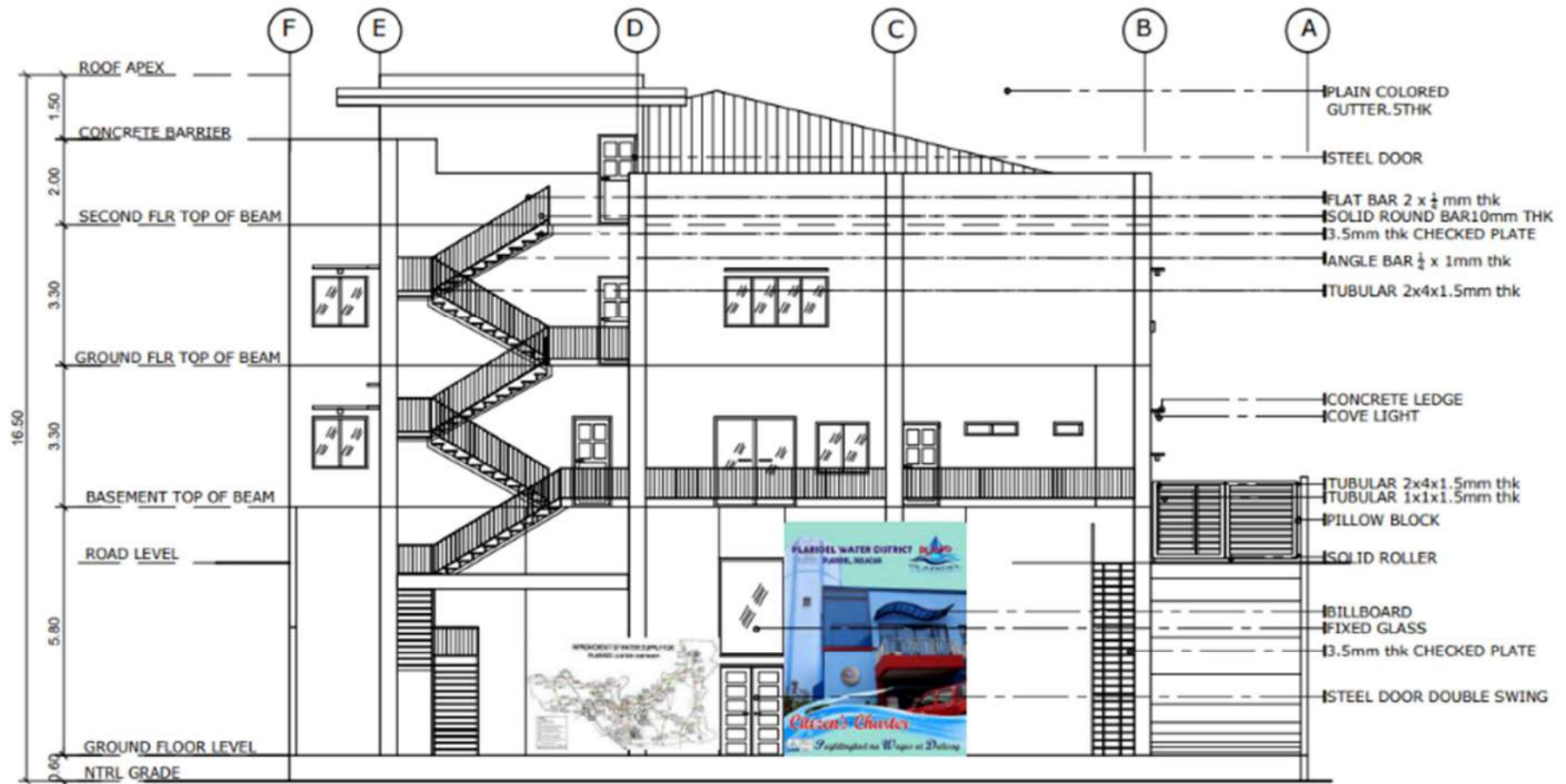


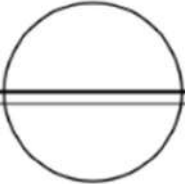




FRONT ELEVATION

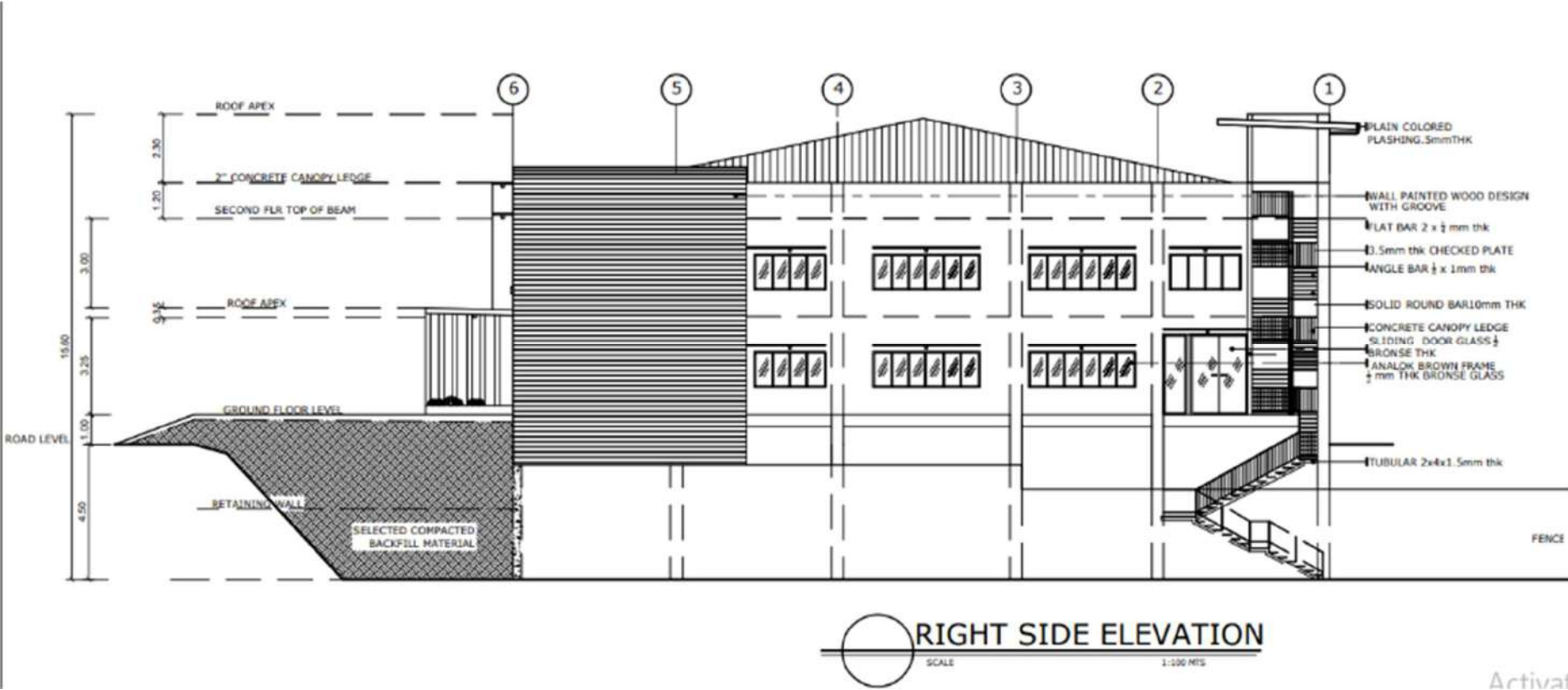
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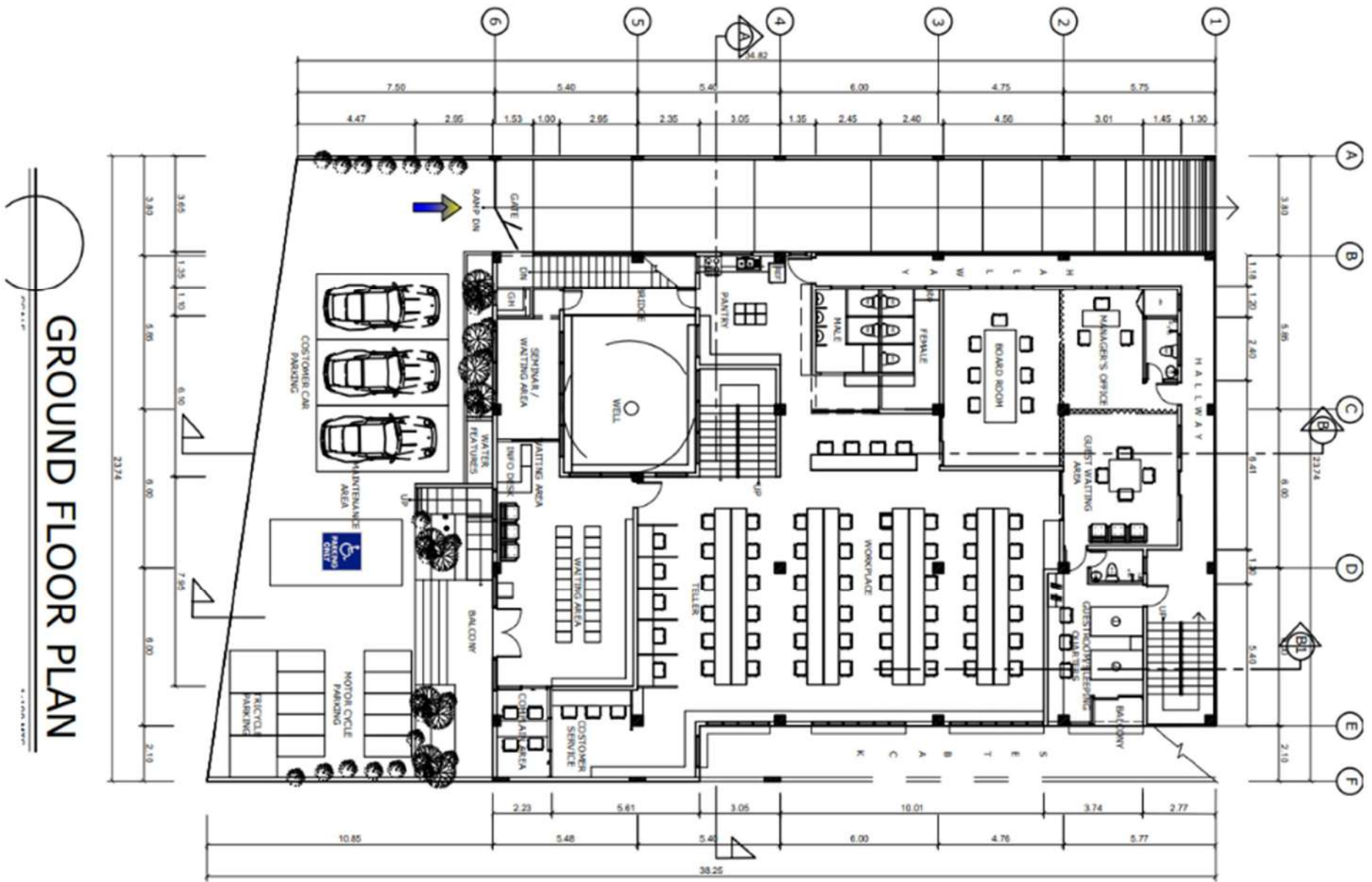


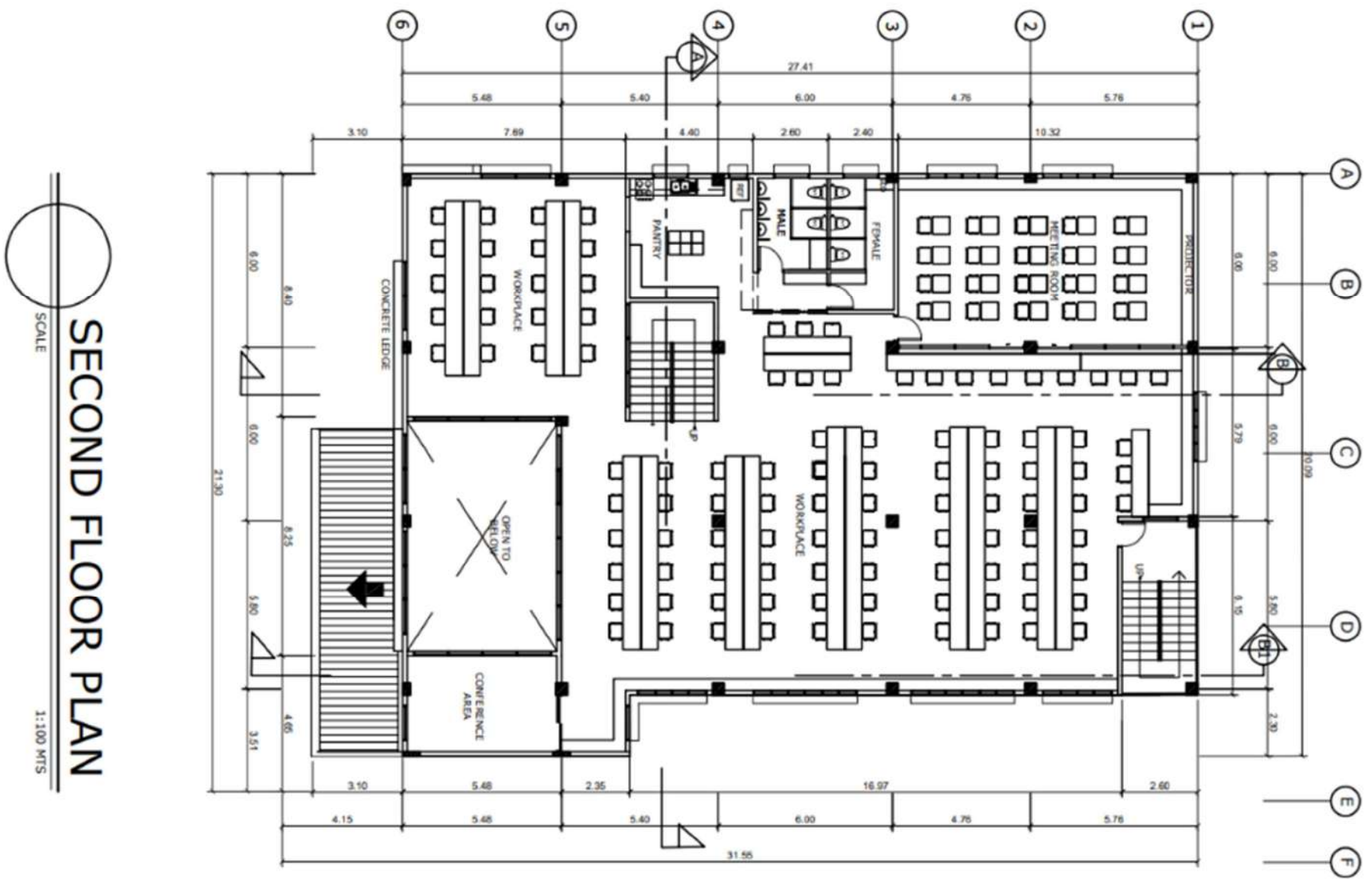

REAR ELEVATION  
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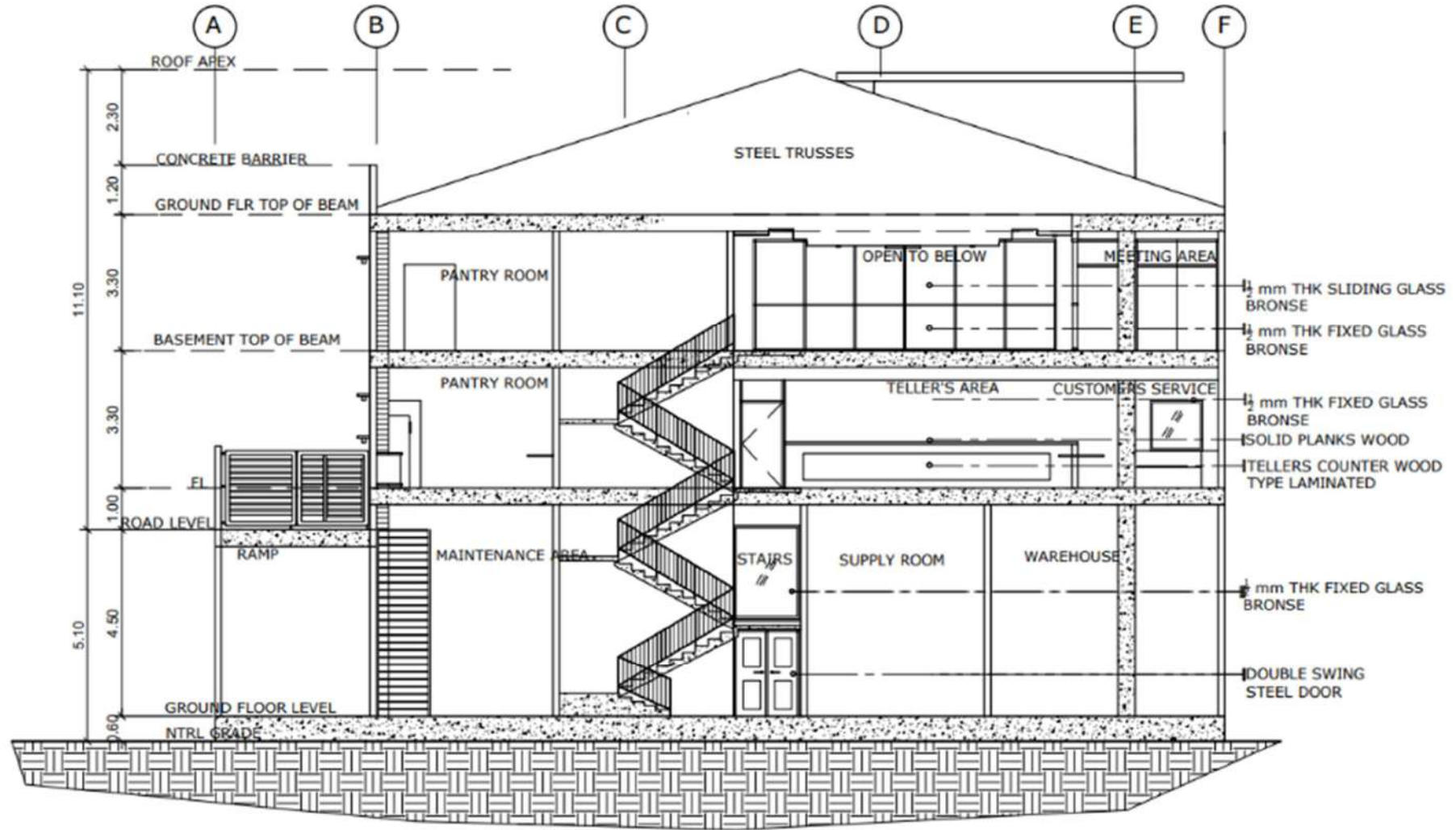


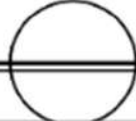
LEFT SIDE ELEVATION  
SCALE 1:100 MTS



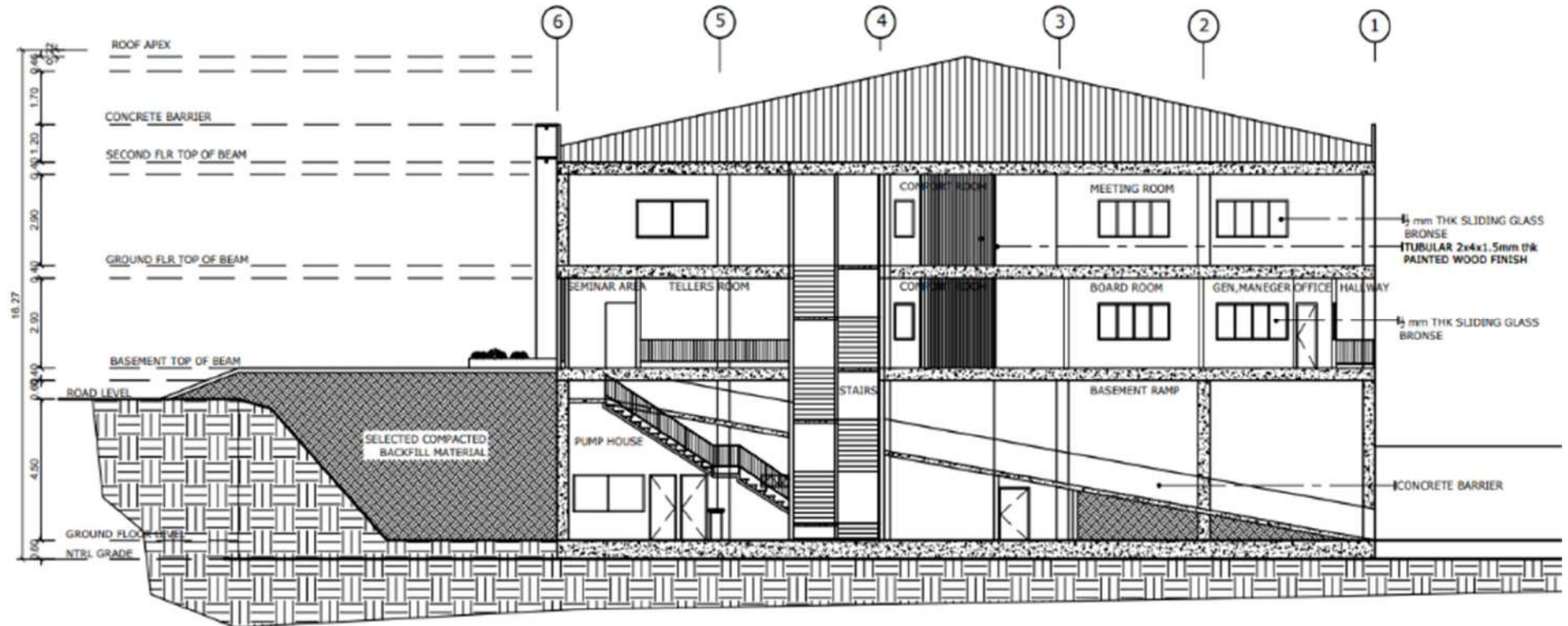




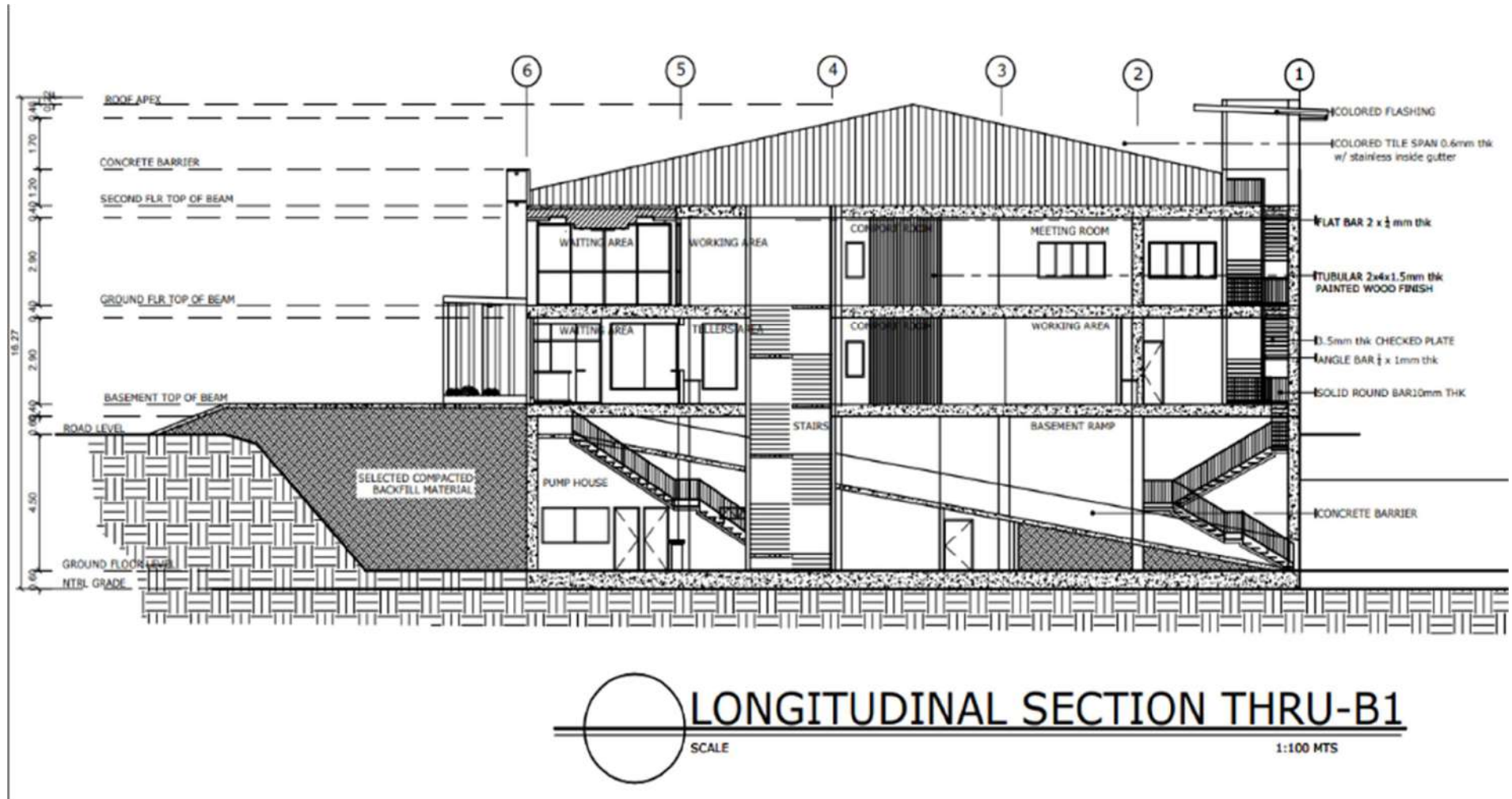


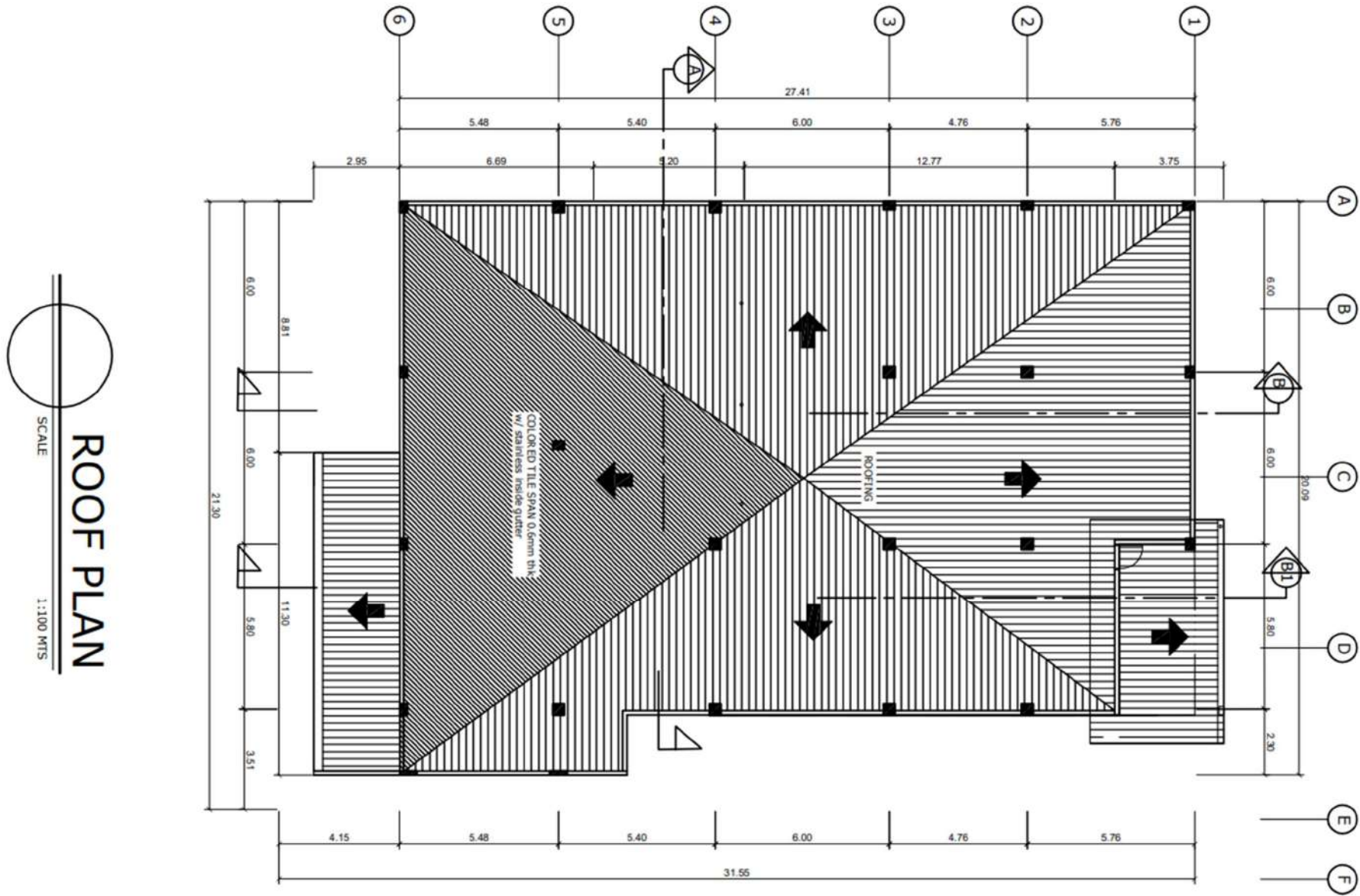
 **CROSS SECTION THRU-A**  
 SCALE 1:100 MTS 1:100 MTS

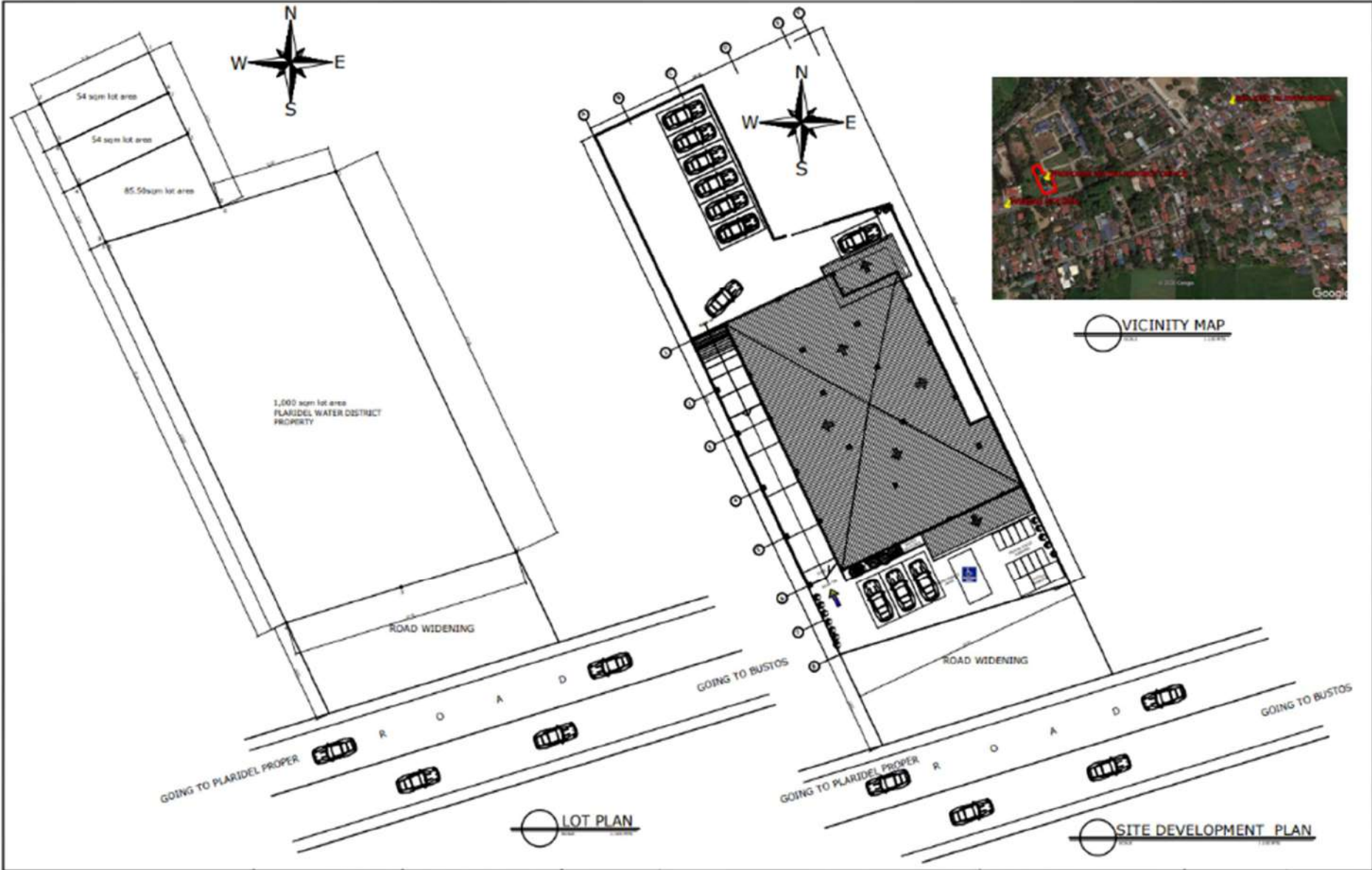




**LONGITUDINAL SECTION THRU-B**  
 SCALE 1:100 MTS







### Appendix 3: Bintog Map



### Appendix 4: Bintog-Project Location Map

#### BINTOG PUMP STATION (Proposed Location of PLAWD Office Building)

- LOT 3074A AREA = 1000 SQ. M
- LOT 1 = 86 SQ.M.
- LOT 2 = 54 SQ.M.
- LOT 3 = 50 SQ.M.



### Appendix 5: Bintog-Project Lot with Tree Details

