



Pre Engineered Green Buildings



Rapid Building System



High Rise & Steel Structures



Infrastructure Industry



Solar PV Mounting Module Structures

Our Vision

To make significant contribution to our ecosystem by providing sustainable green buildings and steel structures for the infrastructure development globally.

Our Mission

To provide premium Quality and Smart solutions to buildings and structural steel for infrastructure industry at large by deploying innovative engineering and latest technologies.



COMPANY PROFILE



About Us

Volta Green Structures (VGS) is a part of the strong Prasaditya Group, one of the reputed industrial groups in India as well as in Africa with an annual turnover of USD 1.2 billion. Our group operations are spread across India and 16 African nations. Our business interests are in over 15 industry sectors from Cement to Software.

Core activity of VGS is to design, manufacture and install Pre-Engineered Buildings, Steel Buildings & Structural Steel. We established manufacturing facility with a capacity of 50,000 MT/Annum on Sadasivpet – Vikarabad State Highway, Ranga Reddy Dist., Telangana, India.

Core Strength of the Group

- Financially sound
- Visionary, innovative and strong leadership
- Competent and qualified team of professionals
- Group is well-diversified across 15 business sectors
- Strong network and presence in 16 African nations and South America
- Integrated approach provides excellent control over operations
- Technology partnership with reputed and competent international organizations

CONSTRUCTION VERTICALS

Pre Engineered Green Buildings

VGS doesn't provide ordinary Pre Engineered Buildings. We provide Pre Engineered Green Buildings. VGS has inherent capability to design, fabricate and install standard to any complex buildings.

Green is not only in our name but in our genes. We take pride to contribute towards protection of our environment. VGS buildings optimize energy efficiency, generate less waste and provide healthier spaces for occupants as compared to conventional steel buildings.



CONSTRUCTION VERTICALS



High Rise Buildings & Steel Structures

VGS in association with Technology partner TTJ Design & Engineering Pte. Ltd., Singapore provides structural steel design, fabrication and erection expertise for extensive and varied portfolio of projects such as high rise buildings, shopping malls/ retail centers, stadiums, airports, long span roof structures, industrial, and process plants, bridges, metro stations, and multilevel parking systems. We ensure that all fabrication and erection works are carried out strictly in accordance with approved health, safety and environmental requirements and quality is maintained at the highest level at all times.

CONSTRUCTION VERTICALS

Steel Structures for Infrastructure Industry

VGS in association with group company Design Tribe Pvt. Ltd. undertakes design, fabrication and installation of steel structures for various Industrial sectors like:

- Power Plants
- Cement Plants
- Water & Sewerage Treatment Plants
- Textiles/Chemical Plant
- Road & Rail Bridges
- Other major Infrastructure Projects



CONSTRUCTION VERTICALS



Solar PV Mounting Module Structures



VGS in association with its sister concern Kartikeya Industries Pvt. Ltd. has core capabilities to design, manufacture, supply and install 50 MW/month PV Solar Mounting Structures & Systems. The company has strong design team which works to optimize the designs and continuously works to improve their quality and efficiency. VGS's talent pool of design engineers, deliver smart designs & cost-effective solutions using the latest software's.

CONSTRUCTION VERTICALS

Rapid Building System (Light Gauge Steel Buildings)

VGS in association with Technology Partner FRAMECAD, New Zealand provides complete Design and Build Light Gauge System that is innovative, cost-effective and fast to construct. This system is suitable for commercial, residential and mass housing projects which requires quick construction. All this is backed by an in-depth knowledge and rapid response of a multi-lingual, global customer support team.



CONSTRUCTION VERTICALS



Rapid Building System



The VGS rapid building system delivers an innovative, technological alternative to the construction of a wide array of projects.

Our Integrated Structural System accelerates construction programs by up to 50%, minimising material and energy waste, whilst maximising quality and safety. We blend the best of manufacturing and construction technology, processes and people to deliver our clients a turn-key building solution.

Salient Features of the VGS Rapid Building System



**Streamlined
Design & Engineering**



**Architectural
Freedom**



Cost Savings



Sustainable



Faster Construction



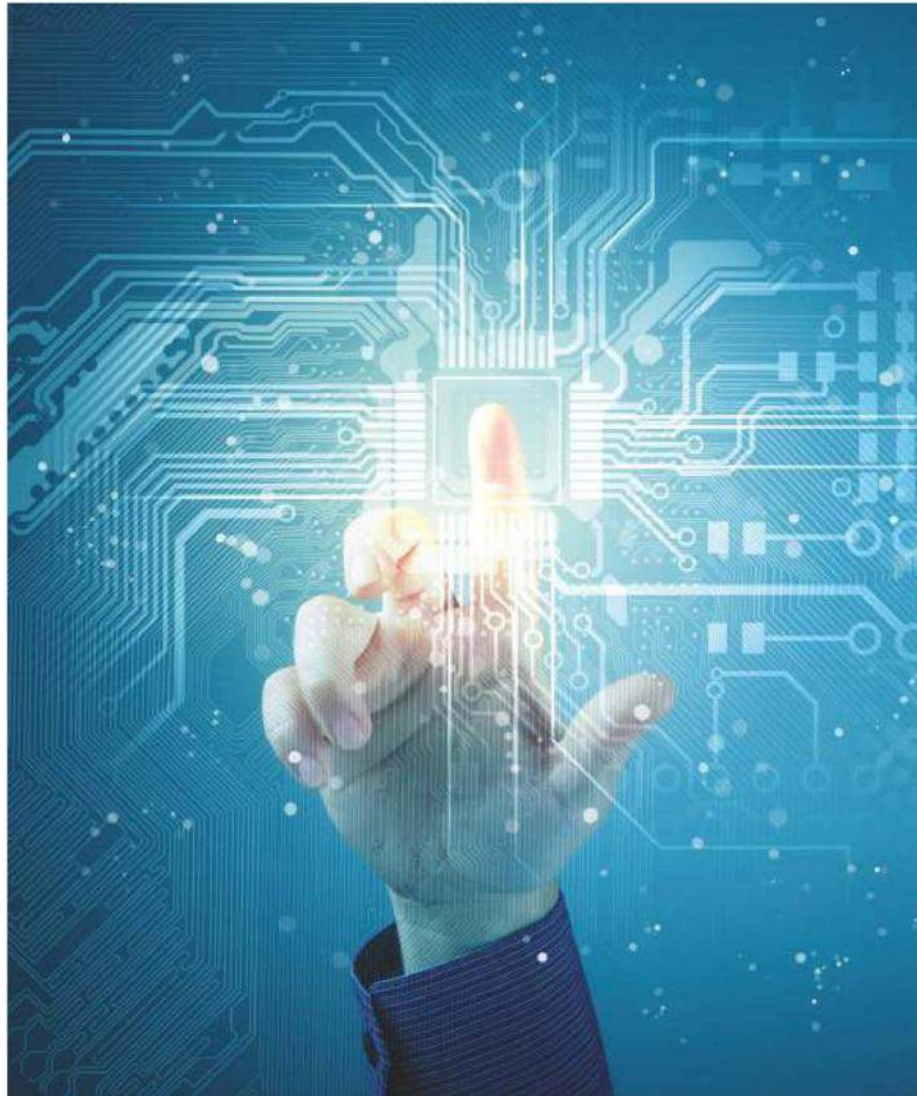
Safe

Voltagreen's Rapid Building System Applications

Using the Rapid Building System, VGS promises to deliver all sorts of building applications in the quickest time frame and with unmatched quality and finishing. Some of the applications that are currently being developed are bathroom pods, urban and rural public toilets, mass housing projects, multi-level family homes, luxury holiday homes, IT and commercial buildings and also Schools and Colleges.



OUR TECHNOLOGY PARTNERS



Our Technology Partners



TTJ Holdings is a long established Singapore-based company with factories in Singapore and Malaysia. Their principal business activities are in the design, supply, fabrication and erection of a wide spectrum of structural steelworks for use in the construction of buildings, factories, plants, infrastructure and operation of dormitories. We leverage on their expertise in design, fabrication and installation of highly sophisticated steel structures to serve customers in various industries.



Framecad is dedicated organization to provide complete design and build system that is innovative, cost-effective, suitable for residential and commercial construction, and fast to construct in developed and developing markets worldwide. Framecad stands behind the quality and reliability of the VGS Framecad system products and services. The Framecad System is a modern method of rapid, quality construction using light-gauge steel framing.

Completed Projects





Manufacturing Facility

VGS has set up 50000 MT/Year capacity State-of-the-art fabrication facility using latest technology and machines on Vikarabad road 60km from Hyderabad which covers an area of 13000 Sq. Mtr. On 13 Acres of land.

VGS is ISO 9001:2015 Certified and are in process of getting Green Building Certification from IGBC. All fabrication being carried out strictly in accordance with approved safety and environmental requirements and quality is maintained at the highest level all the time.



**PROPOSED
CONSTRUCTION
METHODOLOGY**

The Rapid Building System is the fastest and most efficient way to design and build strong, durable steel framed buildings anywhere in the world.

With the use of the VOLTA GREEN STRUCTURES system, we have developed a system which is an advanced, end-to-end design and build system enabling the rapid construction of quality buildings for different projects ranging from High end Villas to mass housing projects. We can also use the same construction system to build commercial project in record time.



PROPOSED CONSTRUCTION METHODOLOGY

Design Options

The versatile VOLTA GREEN STRUCTURES system provides extensive design choices, whether it's an existing design, working with VOLTA GREEN STRUCTURES expert team to develop a custom design or a selection from FRAMECAD's extensive design collection.



PROPOSED CONSTRUCTION METHODOLOGY

Manufacturing

VOLTA GREEN STRUCTURES technologically advanced manufacturing systems produce cost-effective, lightweight steel framing components quickly and efficiently, either at our own factory or at site even if required. These include framing systems, roofing, flooring, walls and trusses.



PROPOSED CONSTRUCTION METHODOLOGY

On-site Erection

VOLTA GREEN STRUCTURES simple construction methods, training and support enable buildings to be assembled quickly using common tools and local labour even in remote and challenging environments – making VOLTA GREEN STRUCTURE'S the perfect solution for difficult sites and terrains, where conventional construction techniques would end up being expensive and time consuming.



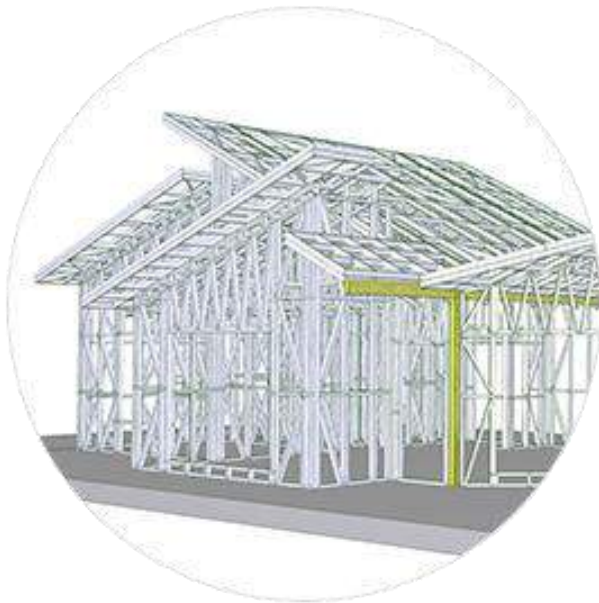
PROPOSED CONSTRUCTION METHODOLOGY

Features and Benefits

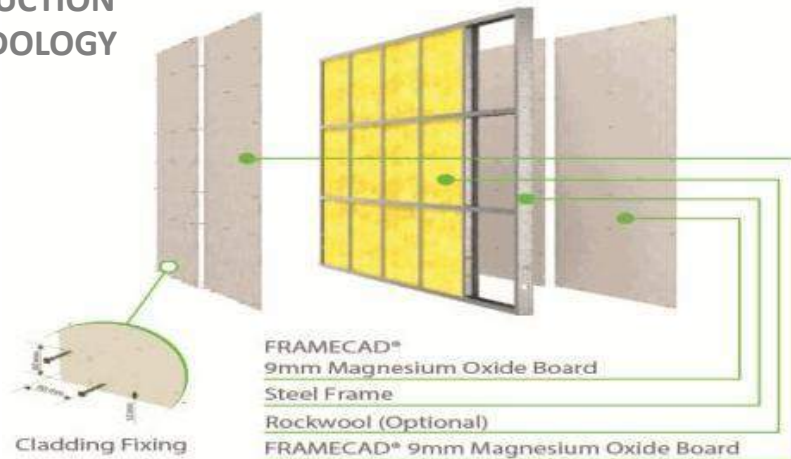
Fire and pest resistant, and tested to
withstand earthquakes

Strong and reliable construction method

Cost-effective due to speed and method
of construction



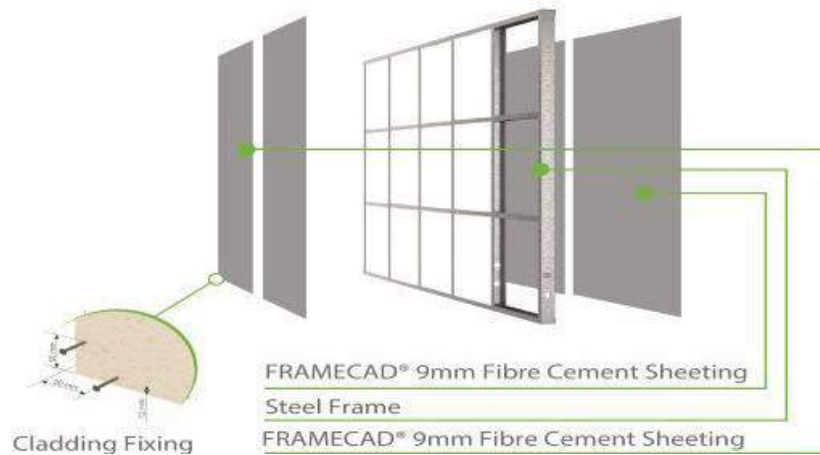
CONSTRUCTION METHODOLOGY



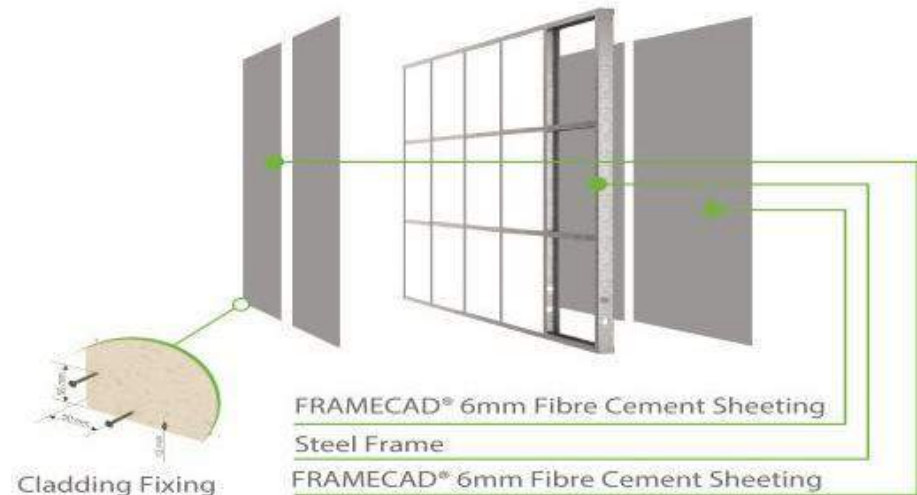
Fibre Cement and steel framing



Fibre Cement Sheeting and Steel framing

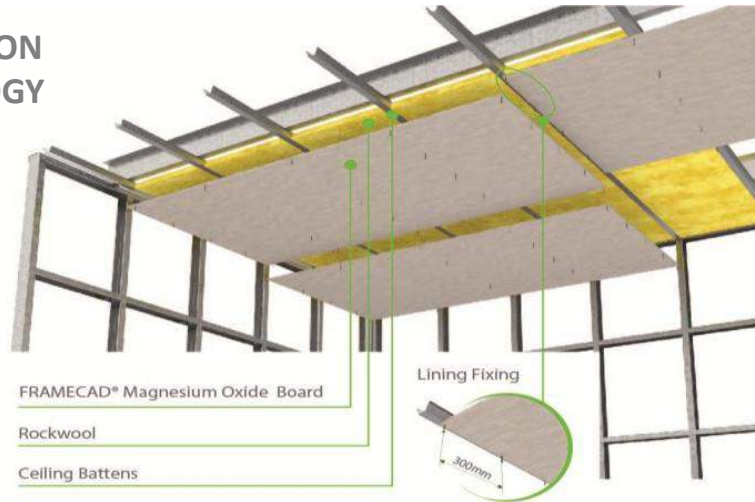


Fibre Cement sheeting and steel framing

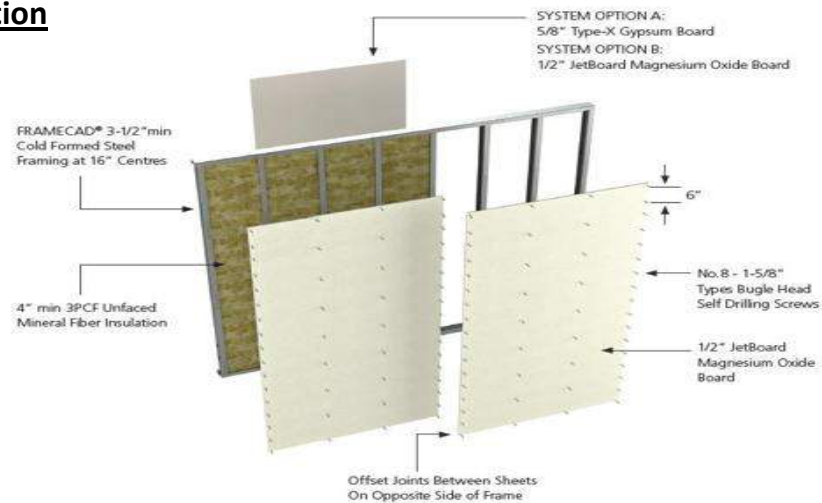


Fire Resistant Gypsum board, steel framing and Rockwool

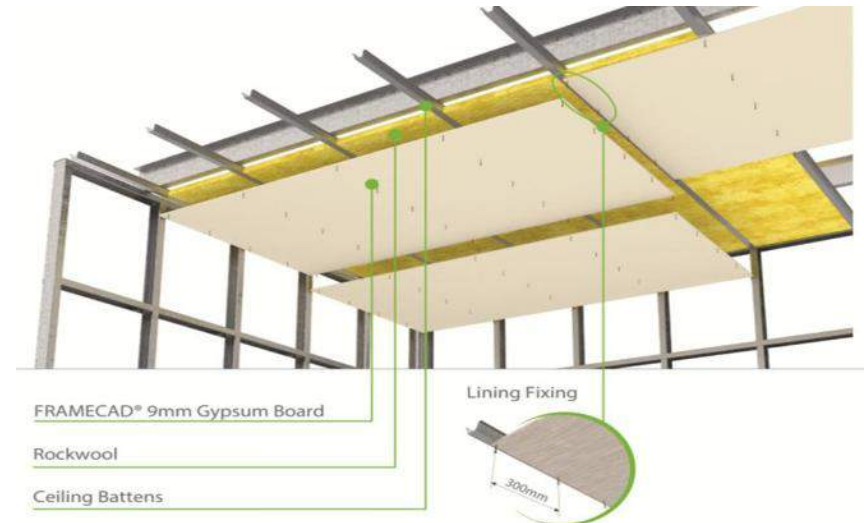
CONSTRUCTION METHODOLOGY



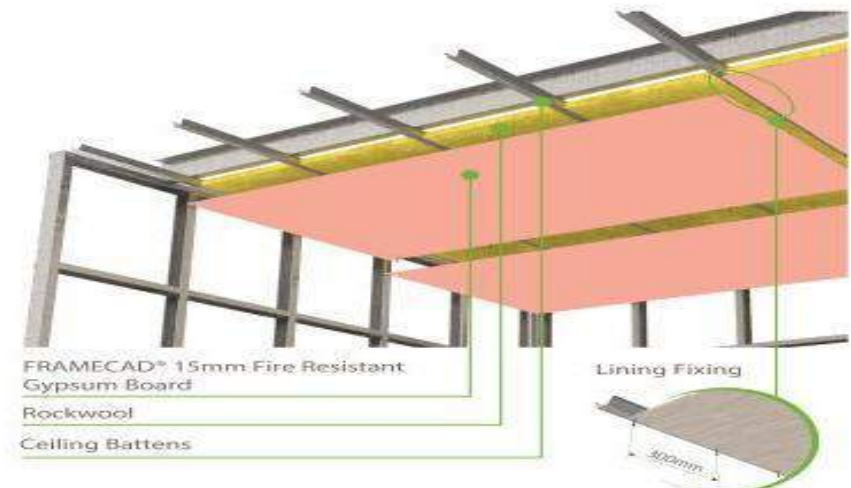
Magnesium Oxide Board over Ceiling battens, optional Glass wool for insulation



Load bearing wall system 60 min Fire Rating



Gypsum board, ceiling battens and rockwool



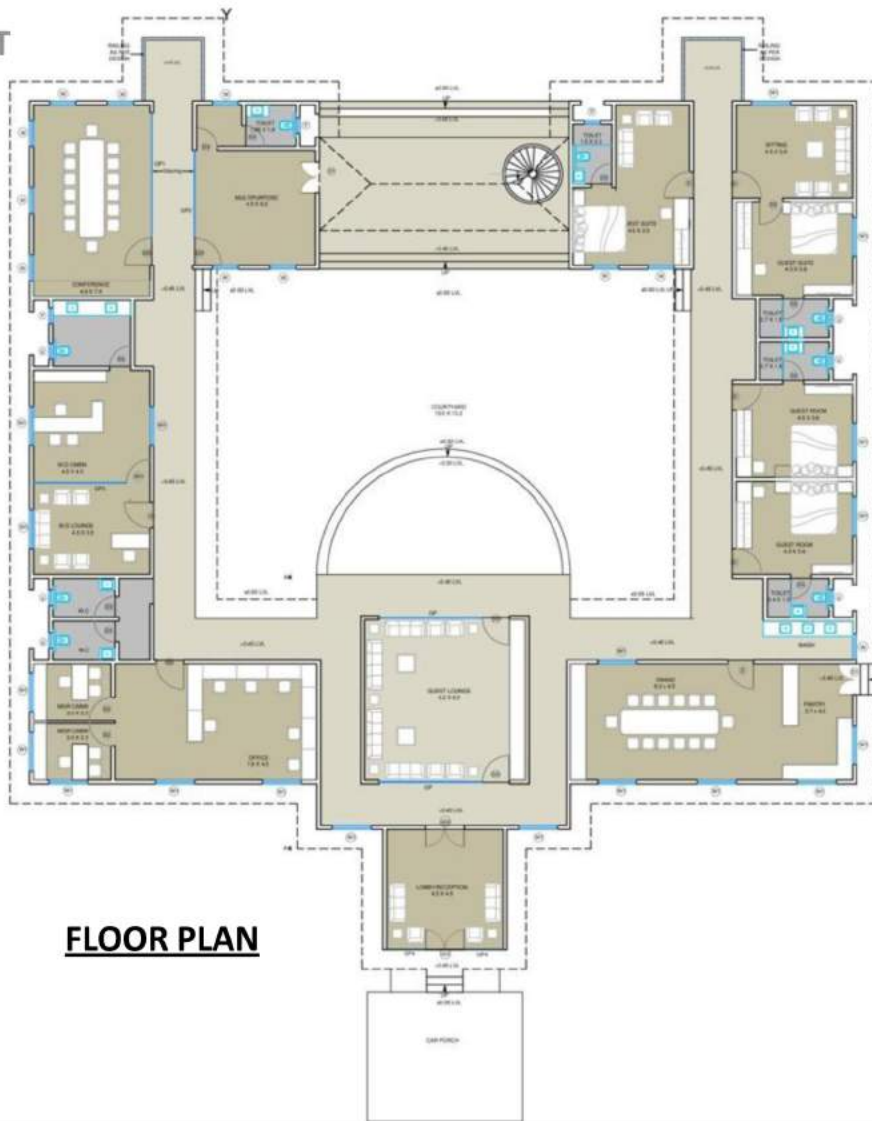
Fire Resistant Gypsum

CASE STUDIES

CASE STUDY -1

GREENKO GUEST HOUSE

Area - 9100sft



FLOOR PLAN

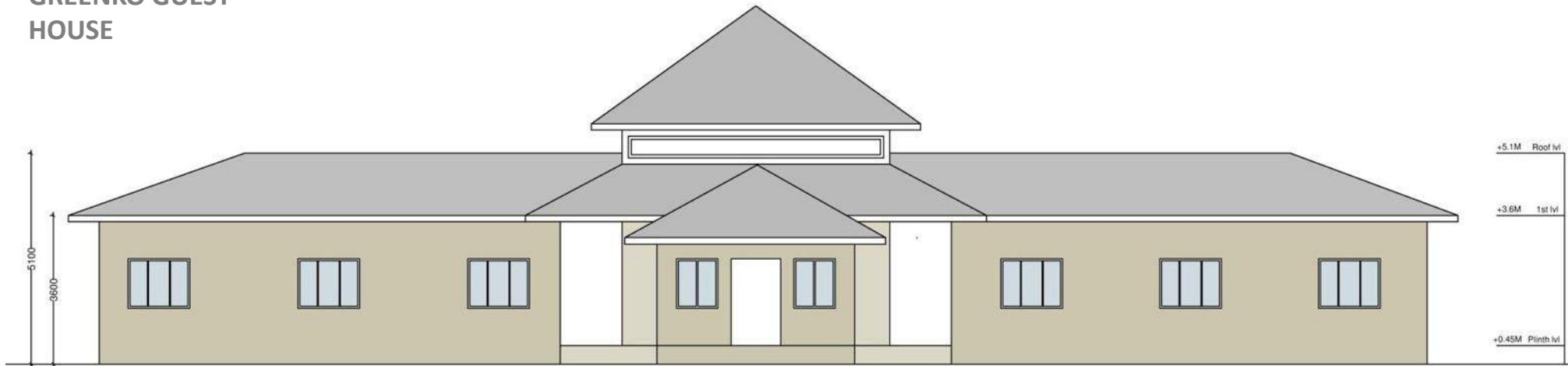


VIEWS

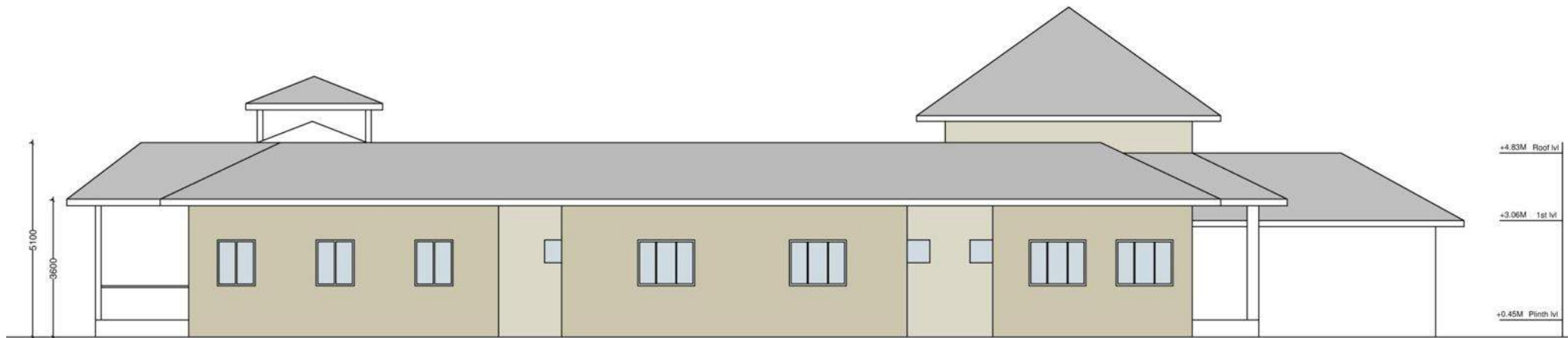


CASE STUDY -1

GREENKO GUEST HOUSE



FRONT ELEVATION



LEFT SIDE ELEVATION

CASE STUDY -2

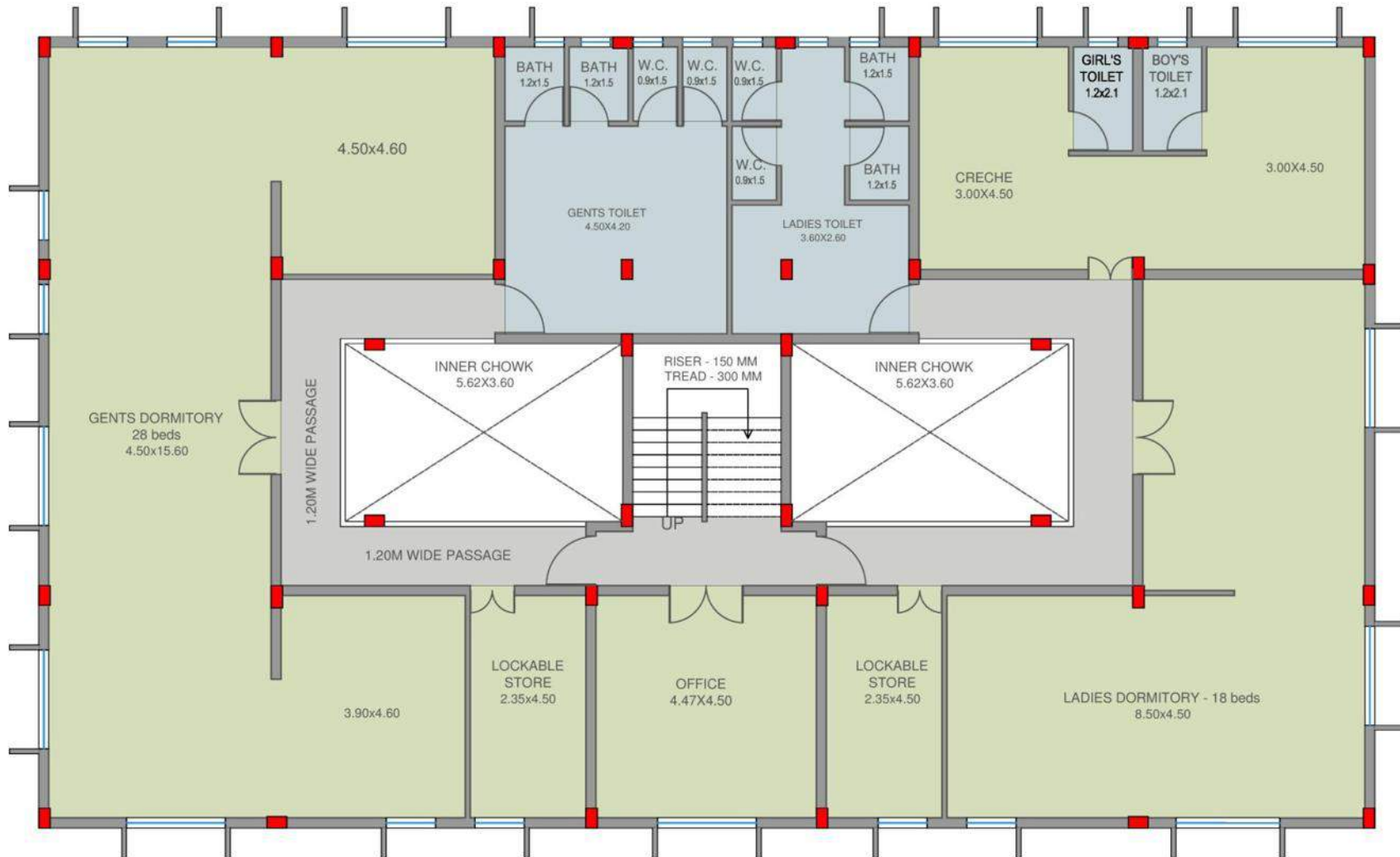
SHELTER PROJECT,
TANDON URBAN
G+2
Area- 865 sft



GROUND FLOOR PLAN

CASE STUDY -2

SHELTER PROJECT,
TANDON URBAN
G+2
Area- 8445 sft



FIRST FLOOR PLAN

CASE STUDY -2

SHELTER PROJECT, TANDON URBAN



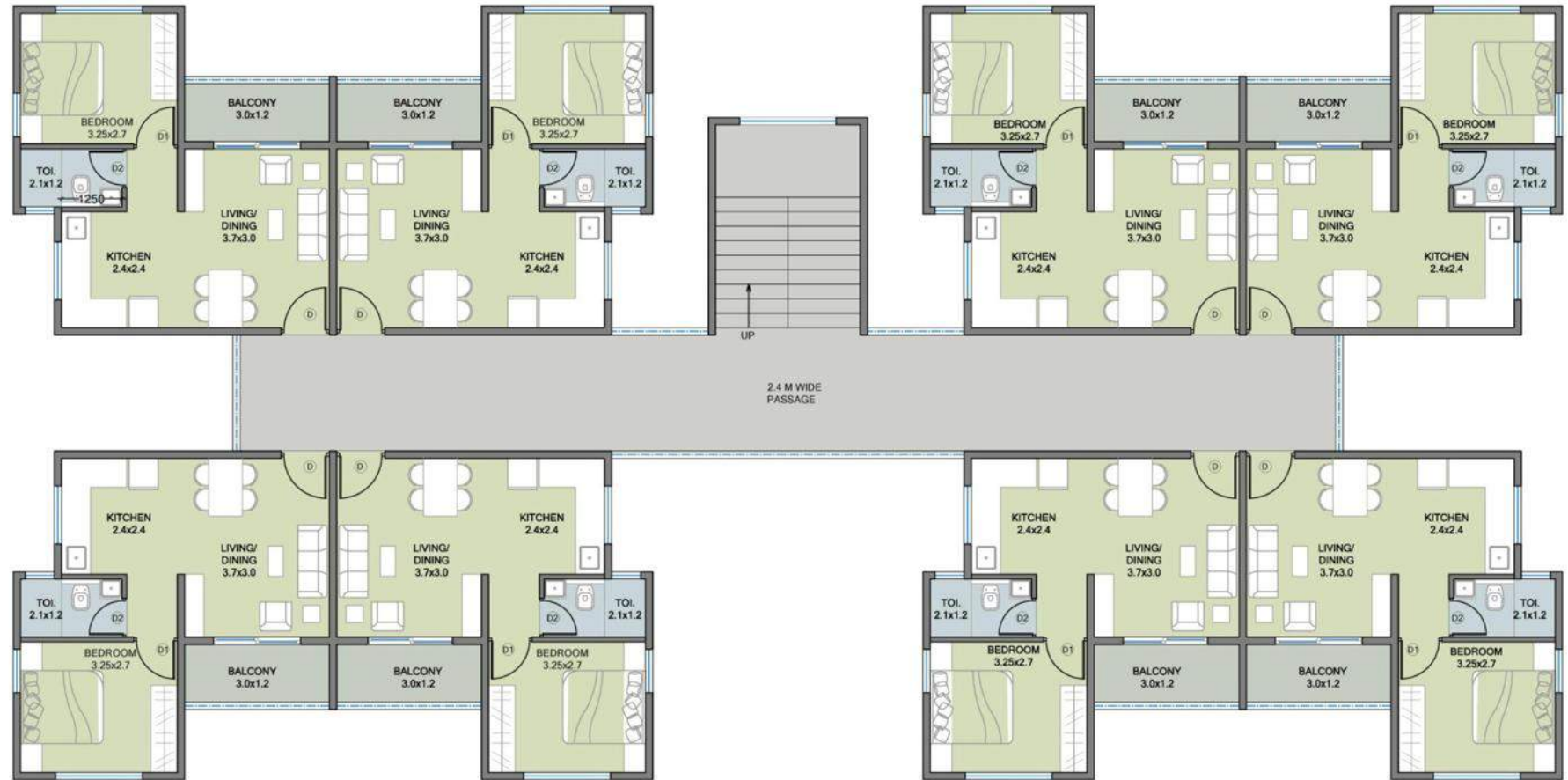
FRONT ELEVATION

CASE STUDY -3

NIT EWS Scheme

G+3

Area- 15925 sft



FLOOR PLAN

NIT EWS Scheme



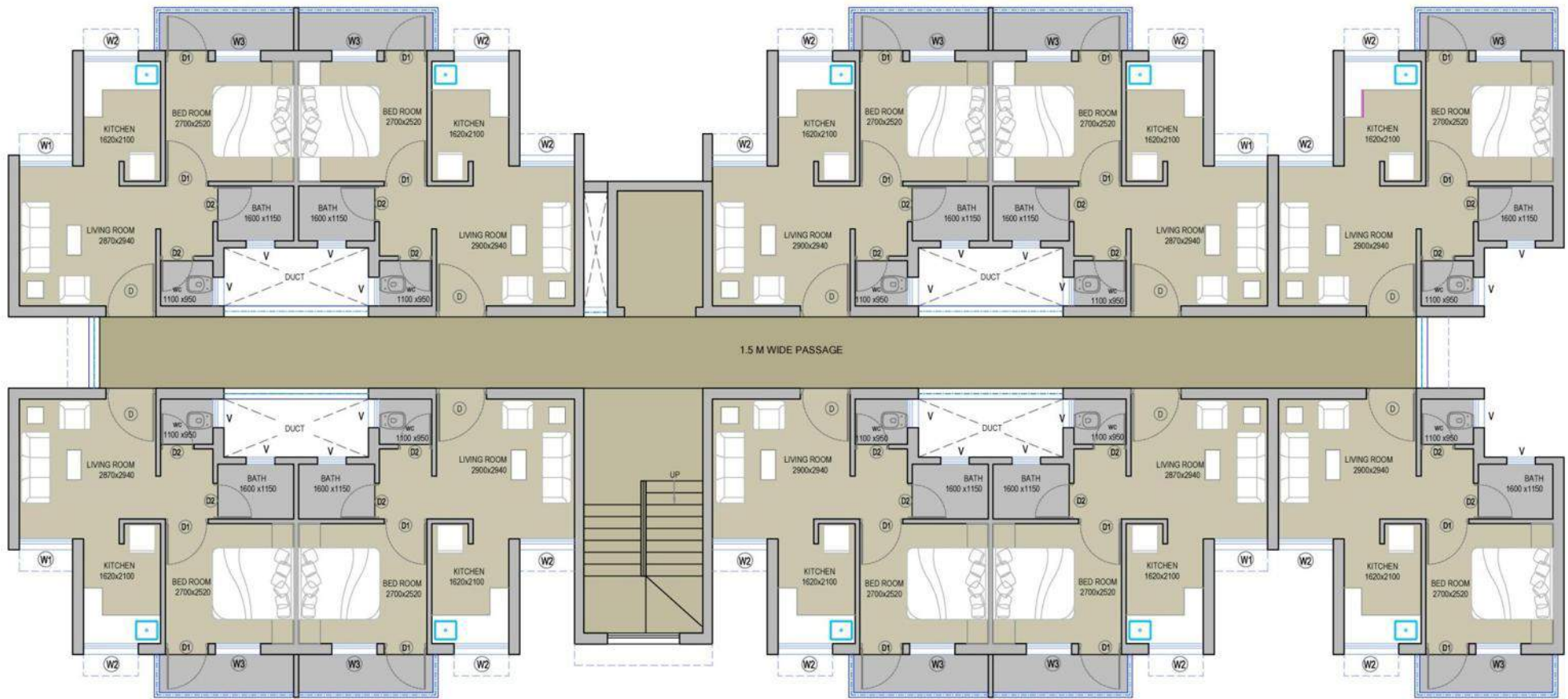
FRONT ELEVATION

CASE STUDY -4

SLUM REHABILITATION, THANE

G+8

Area- 35445 sft



FLOOR PLAN

SLUM REHABILITATION, THANE



FRONT ELEVATION

INTERNATIONAL CASE STUDY

Mariposa VII
DOUGLASS COLONY
Colorado, USA.

This was a multifamily project in Denver, CO, and it included 5 levels of steel on top of 2 levels of podium. Douglass Colony supplied the pre-panelized metal stud wall framing and offered a turn-key solution with diversified builders as the contracted drywaller.

All 422 load-bearing wall panels for levels three through seven of this 7-story (five levels on two levels of podium) project was fabricated at Douglass Colony's headquarters in Commerce City using FRAMECAD and shipped directly to the jobsite where the building was erected in a total of 40 working days, including all wall panels, flooring systems, and detailing with concrete poured and cured

The Result

Mariposa VII the building was erected in a total of 40 working days, including all wall panels, flooring systems, and detailing with concrete poured and cured.

A total of **131,700 lbs** of steel was used

33,860 lbs of 14-gauge

49,000 lbs of 16-gauge

48,840 lbs of 18-gauge



KEY MATERIAL

HR- STRUCTURAL STEEL ELEMENTS- (BEAM & COLUMN)

LGS- WALL FRAMES, ROOF, TRUSES, FLOOR JOIST

HOLLOW CORE SLAB/DECK SHEET- (SLAB & FLOOR)

GLASSWOOL/ROCKWOOL- INSULATION MATERIAL (WALL & ROOF)

FIBRE CEMENT BOARD – 12mm/8mm

FALSE CEILING MATERIAL- MAGNESIUM OXIDE BOARD ,GYPSUM SHEETS.



WALL FRAMES



HOLLOW CORE SLAB



FIBRE CEMENT BOARD

ADVANTAGES



100% ECO FRIENDLY

Up to 68% less energy is required to erect a modular building as compared to a traditionally built structure. The insulation used in the walls, roof and floor is made of ozone-friendly materials that have minimum impact on the environment.



FIRE RESISTANT

Light steel is non-combustible and will not contribute to the spread of a fire. Our buildings can be designed for 1.5 to 2 hours of fire rating compared to conventional 1 hour of fire rating.



LIGHT WEIGHT

Modular construction is about 30% of the weight of conventional masonry construction, leading to reduced foundation costs. Modular construction is ideally suited to roof-top extensions to avoid overloading the existing building.



INSECT DAMAGE RESISTANT

Steel is also impervious to termites. Since steel is not a food source for insects such as termites, structures built with LGSF technology provide greater resistance against termite damage than structures built with traditional materials, such as wood.

ADVANTAGES



QUALITY STRUCTURES

Our buildings are manufactured to very tight tolerances. They have a superior strength-to-weight ratio. LGSF structures can be engineered to withstand extreme loads such as 240km/h winds, zone IV seismic forces under the International Building Code and 3 feet of snow loading. Furthermore, our factory based manufacturing environment consistently delivers superior quality standards through rigorous control of the whole construction process.



LESS WASTE, GREATER RECYCLABILITY

Light steel reduces waste and subsequently lowers waste disposal and removal costs. Our structural components are fabricated to exact specifications, thereby reducing the amount of excess material. Any waste generated is recycled in the production centre. Steel is 100% recyclable, hence does not contribute to depletion of natural resources or degradation of environment.



ENHANCED THERMAL EFFICIENCY

Compared with conventional brickwork, our insulated walls conduct 90% less heat, ensuring that the interiors remain cool during the summer and warm during the winter. The steel frame design minimizes thermal bridges, making the buildings easier to heat or cool with significantly less use of energy.

ADVANTAGES



SAFER CONSTRUCTION

Modular construction sites have proved to be significantly safer than traditional sites because of the more controlled operations and less site labour.



USE ON INFILL SITES

Modules are useful in small urban infill sites, particularly where it is uneconomical to build because of problems of disturbance and site location.



ADAPTABILITY OR EXTENDIBILITY

Adding modules to, or removing modules from, modular buildings is typically a very rapid and straightforward process that involves the minimum of disruption to the operations of adjacent buildings.



EXPEDITIOUS CONSTRUCTION

Time taken for construction can be reduced by up to 50% using modular building techniques, which translates into earlier return on investment

INTEGRATED TOILET POD

HOW RAPID TOILET PODS WORK

- VGS manufactures complete bathroom pods
- Our process starts with consultation, design and prototyping, ensuring we deliver a high quality product that meets your standards before we begin production.



1

DESIGN & PLANNING

Buildability Consultation >
Risk & Value Management > 3D Modeling >
Prototyping

2

PROCUREMENT

Supply Chain > Inventory Management

3

MANUFACTURE

Manufacture > Project Sequencing >
Quality Assurance

4

DELIVERY TO SITE

Dispatch > Transported to Site >

5

COMPLETION & FOLLOW UP

Commissioning > Project Completion >
Customer Follow Up

Reference project – for open community parks

CONSTRUCTION METHODOLOGY

- **Architectural freedom**
 - **Higher Quality**
 - **Faster Delivery**
 - **Lower Costs**
 - **Sustainable and Safe**
- Reduced Material requirement
 - Reduced wastage
 - Less transport energy
 - Increased material recyclability



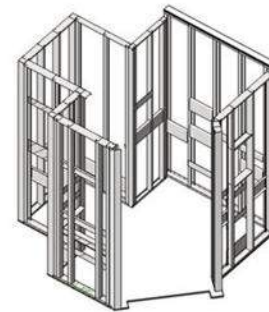
Proposed conceptual design and construction methodology

FRAMING



Welded structural gauge framing system gives our PODs strength and stability that is unmatched in conventional construction and unique to the modular industry. Wall and ceiling panels are completely welded to create a structure that is extremely resilient & durable, allowing our bathrooms to withstand the rigors of the job site.

Wall panels are fully fabricated with welded structural gauge blocking and strapping for installation of the interior fixtures and accessories. This reinforcement ensures that everything inside the bathroom unit is secure and built to last. This is especially critical when dealing with ADA accessories like grab bars and shower seats that will undergo significant stress during the lifespan of the bathroom unit



Plumbing

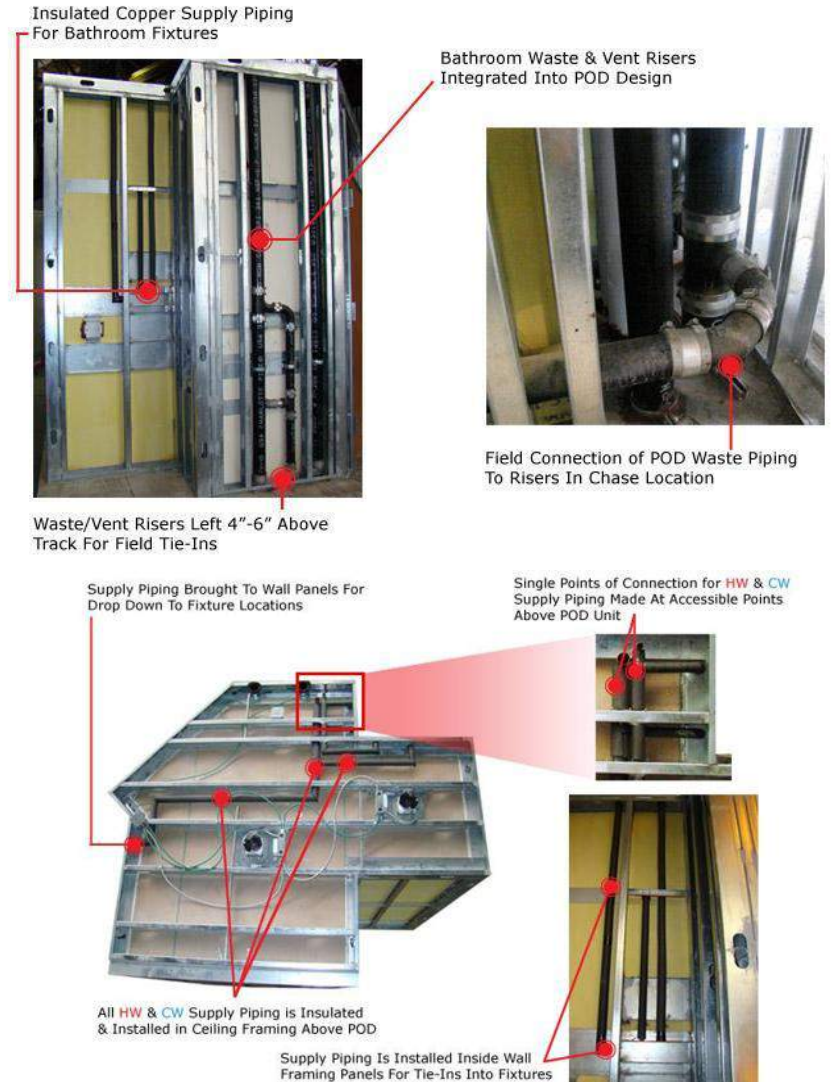
Bathrooms have the same plumbing as a conventionally built bathroom, just constructed in a different approach. In an effort to minimize the amount of work that needs to be done on site, bathrooms are typically designed so that just a single point of connection is required for the waste, vent, and supply piping tie-ins to the main building system. Plumbing details are coordinated between , the architect and mechanical contractor in order to ensure ease of installation. In the field the mechanical contractor makes final connections to the main building systems

Waste & Vent Piping

Just like conventional construction, bathroom fixtures will outlet into waste and vent piping stacks for tie-in to the main building system

Water Supply Connections

Bathrooms include all water supply lines for the sink, toilet, & shower fixtures. Single points of connection for the hot water & cold water supply lines are coordinated with the site plumber for POD installation. The supply branch lines are typically located above the POD ceiling or in the main building riser for single point connections



Electrical

Bathrooms include all of the lighting fixtures, switches, and receptacles found in any regular bathroom unit, each wired for simple plug & play connections. Once field connections are made, all lighting fixtures & receptacles will be immediately ready for tenant use. Besides receptacle boxes

HVAC

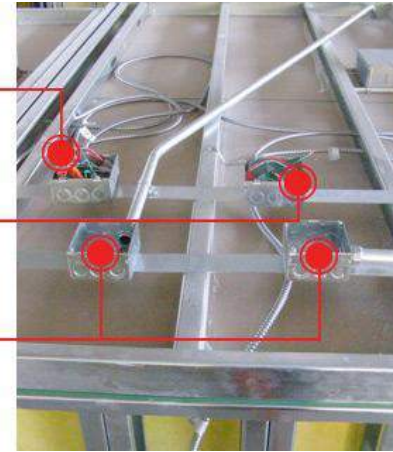
Bathrooms come furnished with either an exhaust fan or ceiling grille for ventilation depending on the project requirements. Exhaust fans are tied into the POD electrical configuration for use once installation is complete. Ceiling grilles are typically furnished to be tied into the HVAC branch lines with a piece of flex ductwork.

Only a single connection is required for the site HVAC contractor to tie the bathroom POD into the main building system.

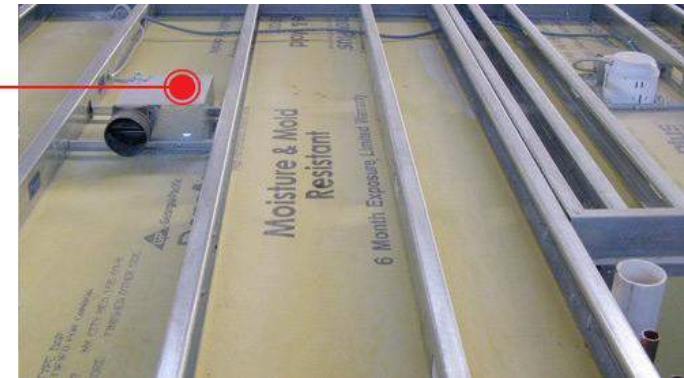
Pulled Wiring For POD Lighting Housed In An Accessible Junction Box For Tie-In

Pulled Wiring For GFCI Receptacle Housed In An Accessible Junction Box For Tie-In

Empty Junction Boxes & Conduit Furnished For Low Voltage Specialty Devices, Ready For Wire Pulls



Installed Exhaust Fan, Tied Into POD Switch, Ready For Connection





Corporate Social Responsibility

Environment is at our heart. As a socially responsible corporate we have committed ourselves to provide green and sustainable solutions to reduce carbon footprints from our eco system. We would like to work more on social causes like Girl Child Education & Food for underprivileged children. We are committed to share part of our profits to implement various programs to provide education to Girl Child & Food for underprivileged children.

GLOBAL PRESENCE





Volta Green Structures Pvt. Ltd.

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