Architectural Vision Plan

Garden Reach Institute for Rehabilitation and Research

Daycare Centre

Kolkata

04.12. 2025

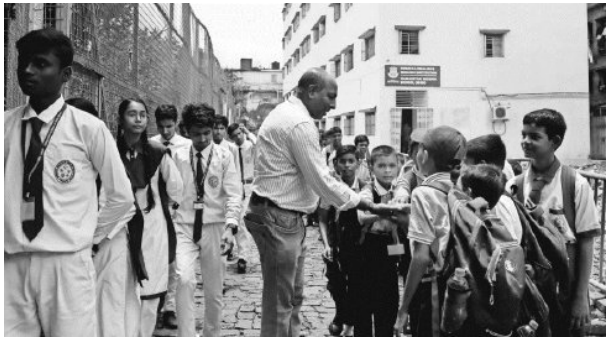
ABIN DESIGN STUDIO

Garden Reach Institute for Rehabilitation and Research (GRIRR)

A dedicated centre providing comprehensive rehabilitation for children with disabilities. Located in Garden Reach, a socio-economically marginalized neighbourhood in Kolkata, the institute serves a community with a particularly high population of children in need of specialised support.

With a deep commitment to empathy, patience and evidence-based therapeutic care, GRIRR works closely with children and their families to build confidence, foster self-reliance, and ultimately empower them toward meaningful education, livelihood opportunities, and long-term inclusion.





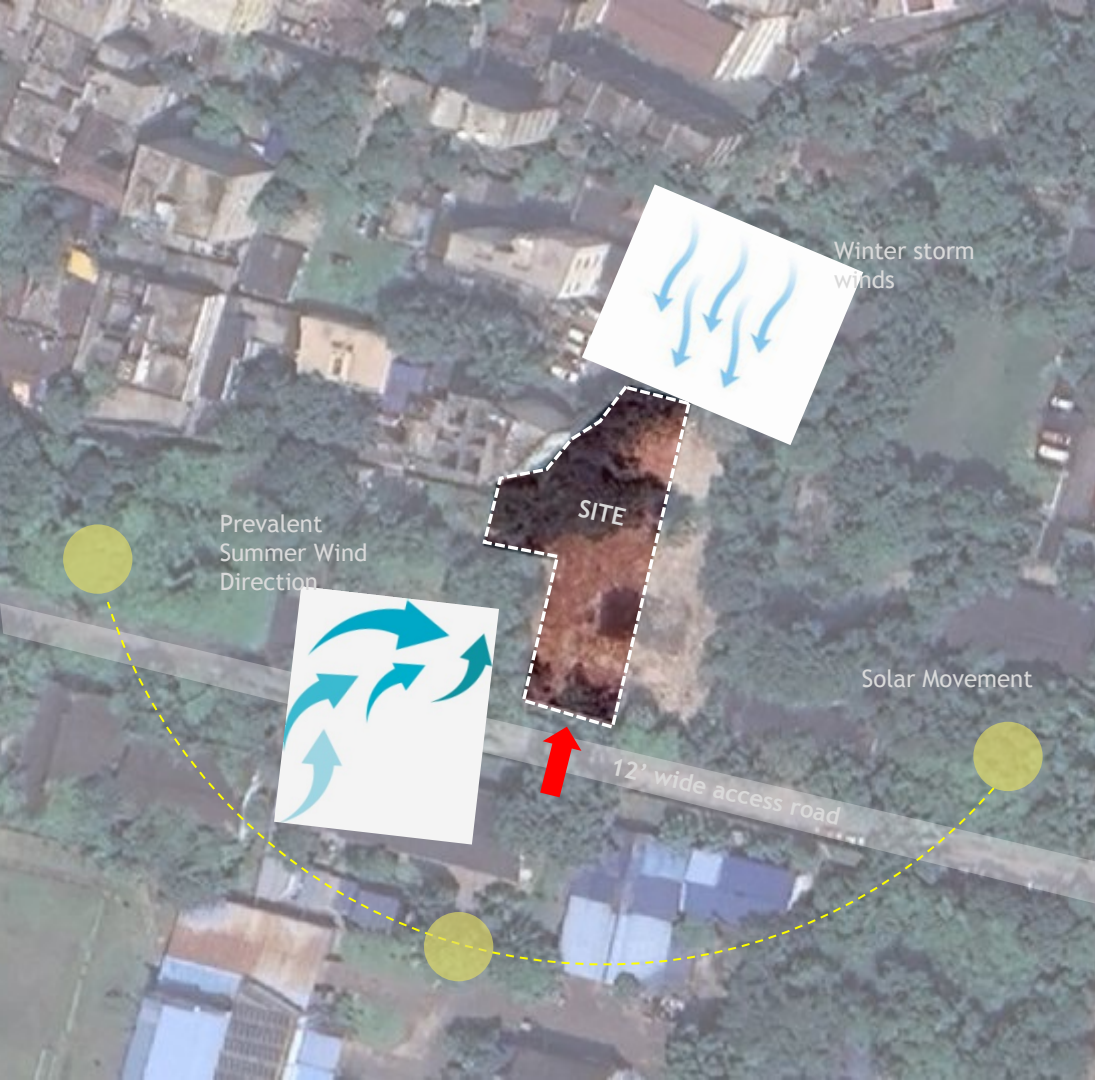
Vulnerable Demography

Garden Reach has a significant Muslim, working-class population, many of whom face economic constraints and limited access to specialised care. For families raising children with disabilities, challenges such as dense living conditions, low incomes, restricted mobility, and limited awareness of therapeutic services often compound their vulnerability.

STUDYING THE CONTEXT


Vidyasagar
Setu
Hooghly River
GRIRR Plot,
11023-D-III at Taratala Road
Near Ramnagar, Kolkata
Race
course
Netaji Subhash
Dock
Khidderpore
Dock


RAMNAGAR LANE
Ramnagar Ln
7.5M WIDE ACCESS ROAD
TARATALA ROAD
Kari Marx Sarani Rd
N



CLIMATIC STUDY

The project sits on a 1,000 sqm irregular-shaped plot leased from the Kolkata Port Trust, located in the dense urban fabric of Garden Reach, Kolkata. The site is embedded within a highly populated neighbourhood characterised by compact residential clusters, limited open spaces, and a mix of industrial and port-related activities.

With a narrow southern frontage and access from the south, the building should be conceived as a linear volume that fits the site geometry while optimising daylight and ventilation. The east-west alignment helps manage heat gain and glare, while the linear form creates a clear circulation spine and ensures classrooms and therapy spaces receive balanced light and airflow throughout the day.

SITE ACCESS

Access to the institute is defined by its dense urban context. Although a main arterial road is only 150 metres away, the final approach is through a narrow 12-foot secondary lane, which can slow movement and create congestion—important considerations for drop-offs and emergency access for children with disabilities. Yet this route is softened by natural greenery along the roads, offering a rare sense of calm. These contrasting conditions guide the design of a safe, dignified, and reassuring entrance sequence for children and caregivers.

SITE PHOTOS

The site photographs show a landscape in transition—an old Port Trust structure now demolished, leaving rubble, exposed foundations, and fragments of masonry that reflect the area's industrial past. Amid this raw terrain, mature boundary trees provide valuable greenery that can be retained. This neglected urban fragment is now poised to be transformed into a rehabilitation and day-care centre, turning an overlooked remnant into an inclusive, nurturing environment and reclaiming it as a place of care, dignity, and opportunity for children.




DESIGN FOR Access, EMPOWERING Futures

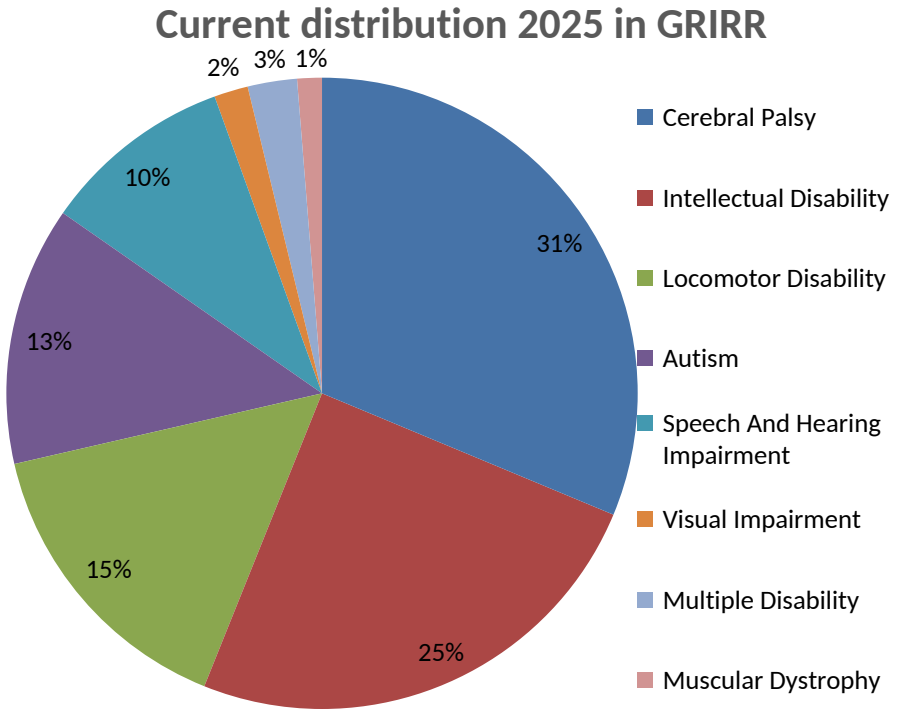
UNIVERSAL DESIGN CONCEPT

USER PROFILE OF GRIRR

The user profile shows that most children will have motor and neurological conditions (Cerebral Palsy, Intellectual Disability and Locomotor Disability), requiring highly accessible, movement-friendly spaces with strong physical support.

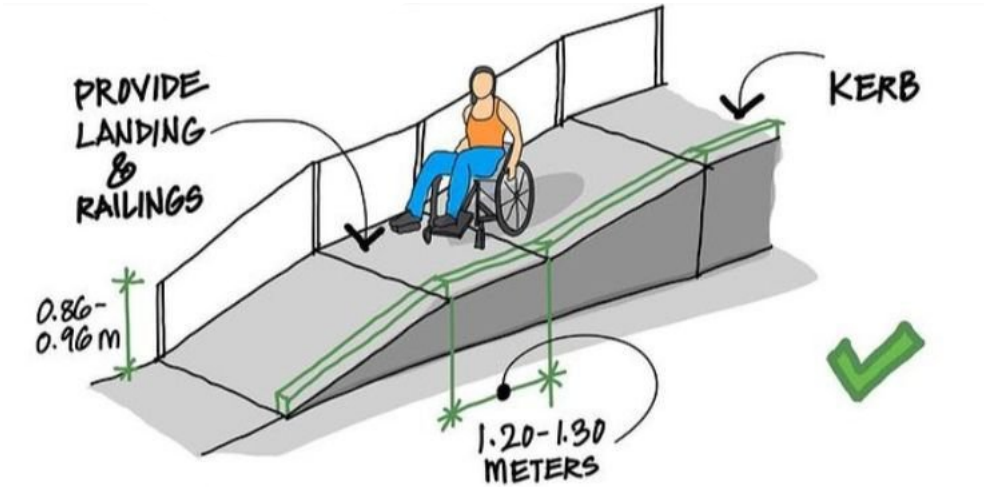
A significant presence of children with Autism calls for calm, structured and sensory-sensitive environments. Those with Speech, Hearing or Visual Impairments need multi-sensory accessibility, including clear acoustics, visual cues, tactile pathways and intuitive wayfinding. Smaller groups with Multiple Disabilities and Muscular Dystrophy require adaptable spaces for specialised equipment and varying levels of assistance.

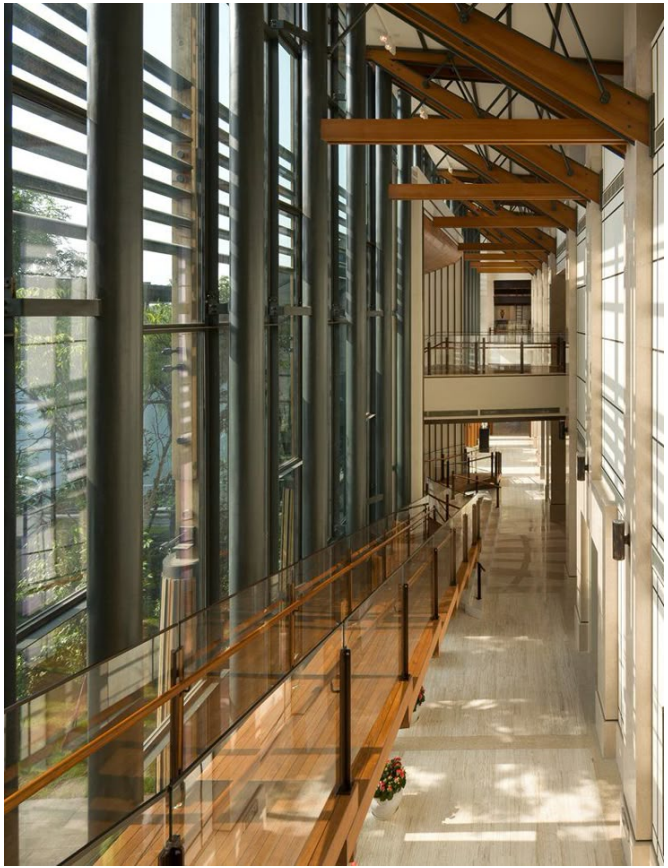
Overall, the design must be inclusive, safe and responsive, supporting mobility, sensory comfort, clarity and emotional well-being for every child.



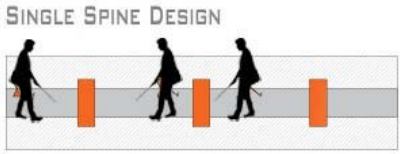
BARRIER FREE DESIGN: FOR MOTOR IMPAIRMENT

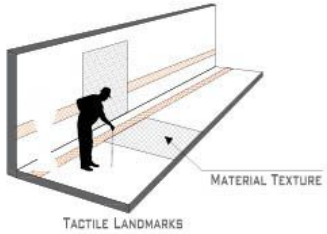
For children with **motor and locomotor challenges**, the building must offer seamless movement: barrier-free circulation, gentle and continuous ramps, accessible toilets, handrails, and wide, unobstructed corridors. Those with **Cerebral Palsy** and **Muscular Dystrophy** require stable surfaces, non-slip materials, controlled acoustics, and secure support systems integrated into classrooms and therapy areas.

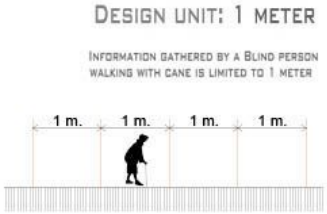


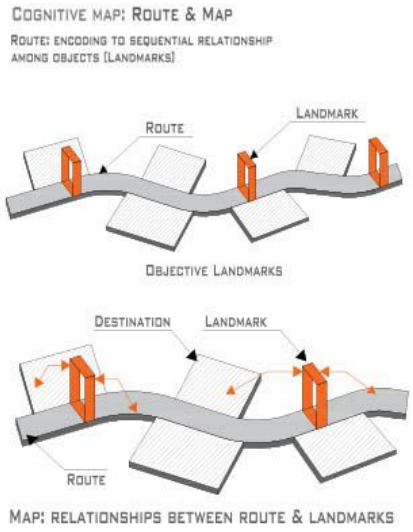


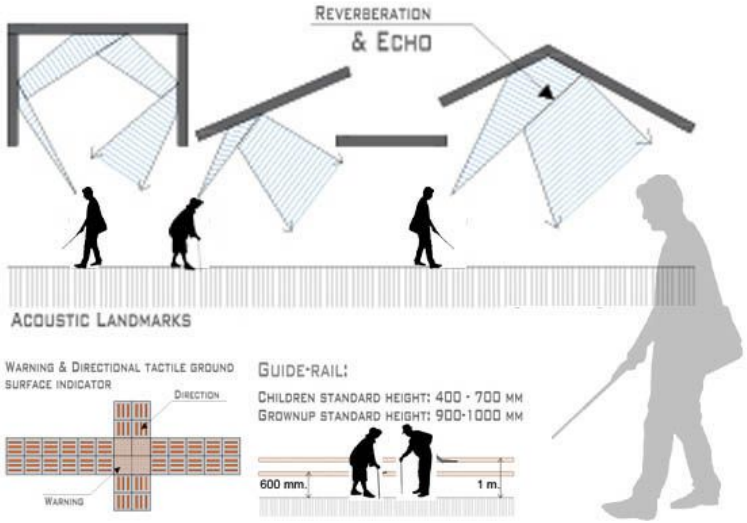
BARRIER FREE DESIGN: FOR VISUAL IMPAIRMENT





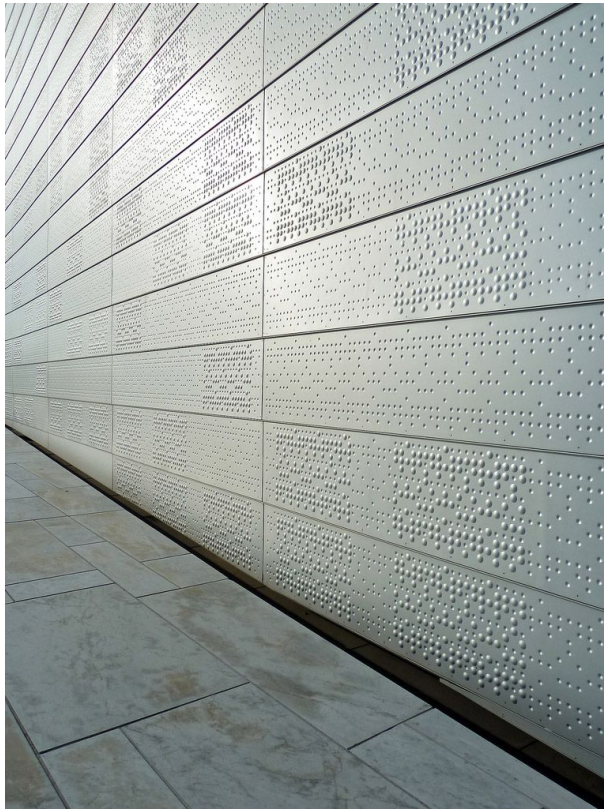






For children with **Speech, Hearing, or Visual Impairments**, the architecture must support multi-sensory navigation—using textured flooring, contrasting colours, low reverberation materials, and visual transparency. Classrooms and therapy spaces should facilitate communication accessibility through thoughtful acoustics, sightlines, and assistive technology readiness.

BARRIER FREE DESIGN: FOR VISUAL IMPAIRMENT



BARRIER FREE DESIGN: FOR AUTISM/ INTELLECTUAL IMPAIRMENT

Children with **Intellectual Disability** and **Autism** benefit from calm, predictable environments. Clear wayfinding, zoning of noisy and quiet areas, sensory-balanced interiors, and visual cues become essential. Spaces must avoid overstimulation while allowing for personalised sensory engagement through tactile materials, views to greenery, and controlled lighting.

UNIVERSAL ACCESS: INCLUSIVE FOR ALL CHILDREN

Given the presence of children with **multiple disabilities**, the design must interweave adaptability and flexibility, allowing spaces to transform for therapy, learning, recreation, or quiet retreat. Outdoor areas should offer safe, shaded, wheelchair-friendly zones, especially valuable in dense urban contexts.

Overall, the institute should be conceived as a nurturing micro-environment—**an inclusive landscape where movement, sensory comfort, and emotional well-being shape every design decision**. The architectural intent extends beyond accessibility to create a place of healing, empowerment, and joy for all who enter.

PRECEDENTS

INTERIOR PLANNING

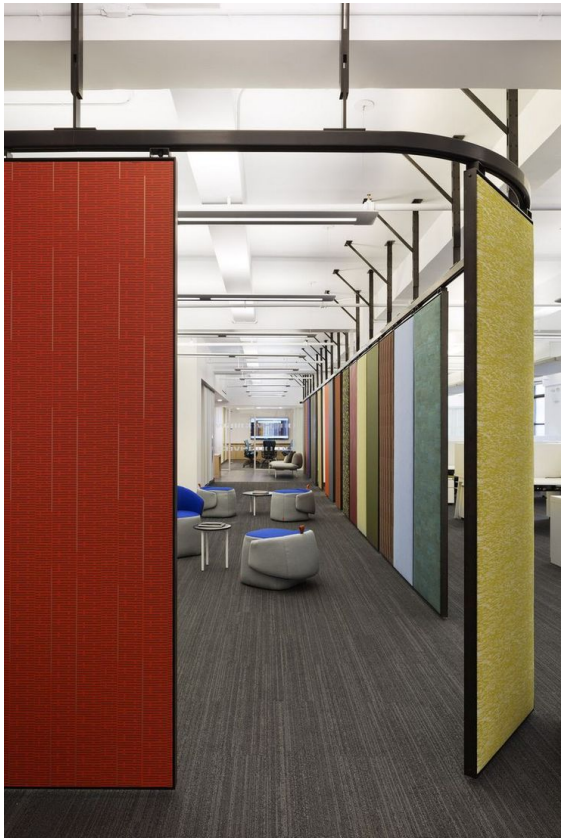
ORGANIC FLOW: RECEPTION AND WAITING AREAS

The circulation is planned as a clear, linear, and efficient network that supports easy navigation for all user groups, especially those with mobility or cognitive challenges. Reception and waiting areas are placed strategically along the primary corridor, designed as open, visible pockets that allow caregivers to supervise children easily while ensuring smooth transitions between activities.

The floor plan is organised into distinct zones based on user groups—motor-skill therapy, cognitive learning, sensory support, and combined rehabilitation needs—while still allowing spaces to merge for shared or group activities when required. This straightforward layout strengthens visibility, operational efficiency, and flexibility, ensuring that the institute functions seamlessly for children, caregivers, and staff.

PLAYFUL CIRCULATION

FLEXIBLE INTERIOR SPACES: ADAPTIVE CONFIGURATIONS



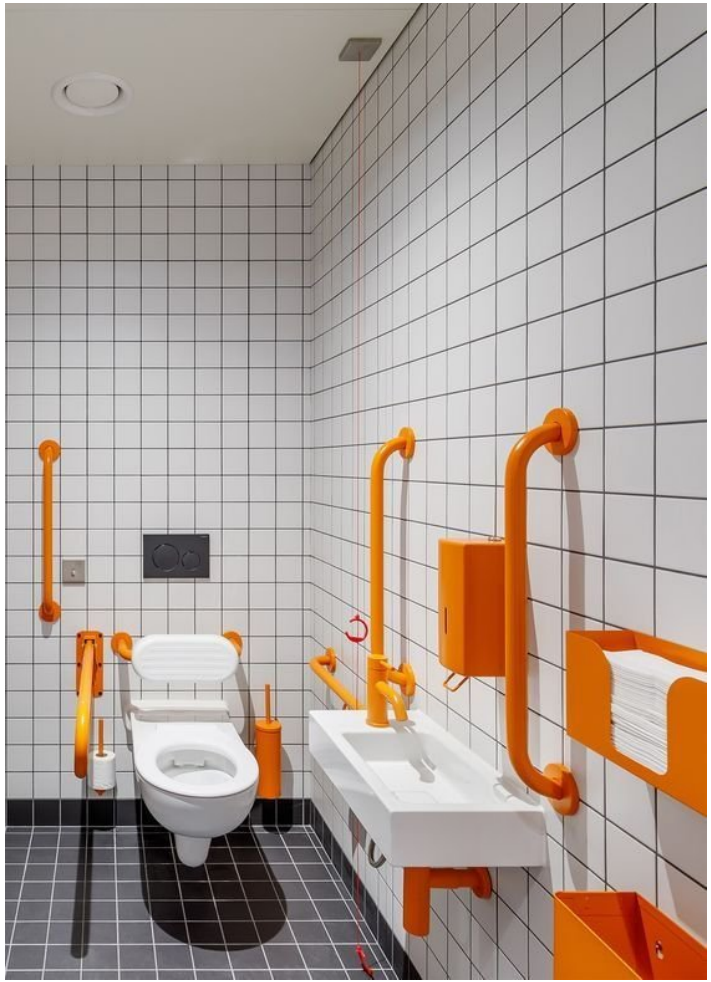
To accommodate the diverse and evolving needs of the institute, sliding partitions play a crucial role in creating a flexible and adaptive floor plan. Given the varying group sizes, therapy formats, and activity types required for children with different disabilities, these operable partitions allow classrooms and therapy spaces to expand, combine, or contract as needed. This adaptability ensures that a single floor plate can support multiple functions—ranging from small, focused sessions to larger group activities—without compromising accessibility or comfort.

Smooth, barrier-free tracks, acoustic-treated panels, and easy-to-operate mechanisms make the system user-friendly for teachers and caregivers while maintaining a calm environment for children. The use of sliding partitions also maximises the efficiency of the built area, enabling the institute to respond to changing daily requirements and long-term growth.

INTERACTIVE CIRCULATION AREAS

- Warm colors for Autistic Children and Visually impaired
- Interactive circulation spaces for ADHD children
- Soft edges for all children

UNIVERSAL TOILET



SENSORY PARK

FLOOR PLANS

CONCEPTUAL ZONING

SITE PLAN: ADAPTING TO CONSTRAINTS

AREA DETAIL:

Site area: 1000 sqm

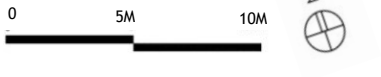
Allowed Ground coverage @50%: 500 sqm

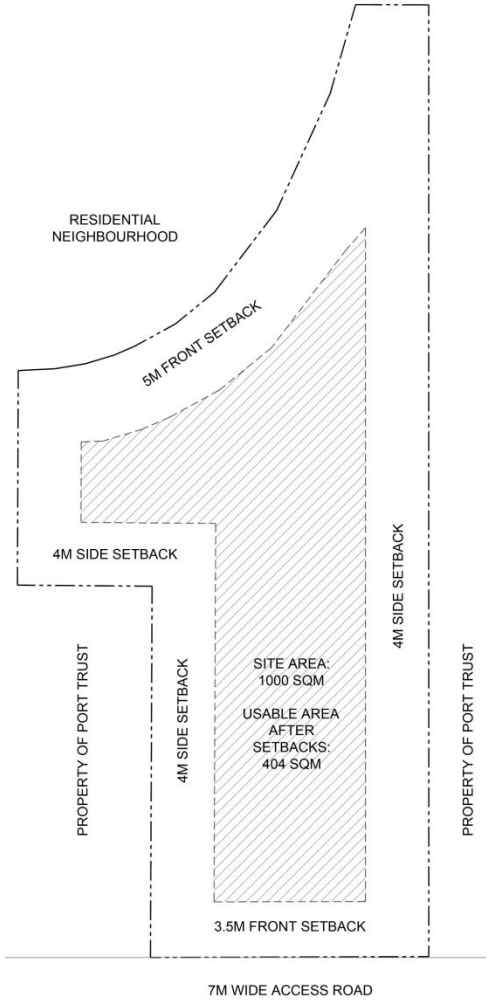
Usable area after setbacks : 404 sqm

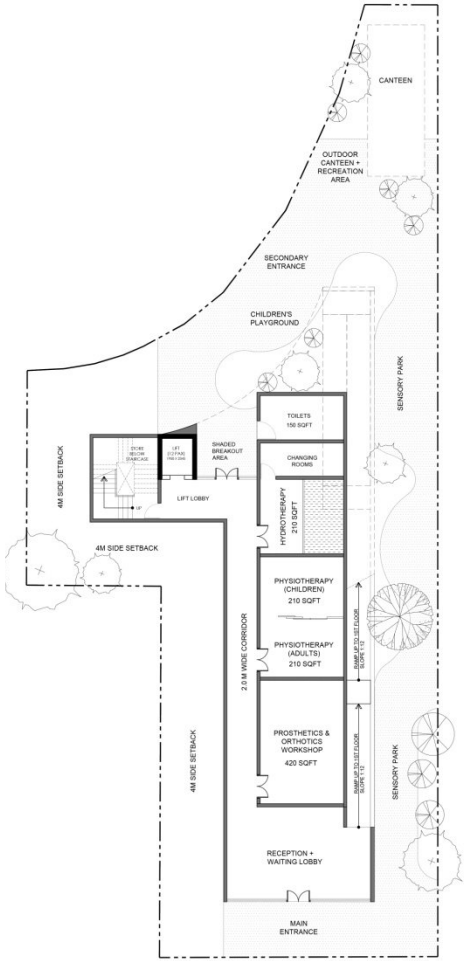
Permissible built up area @2 FAR: 2000 sqm

Possible builtup area after setbacks : 1600 sqm

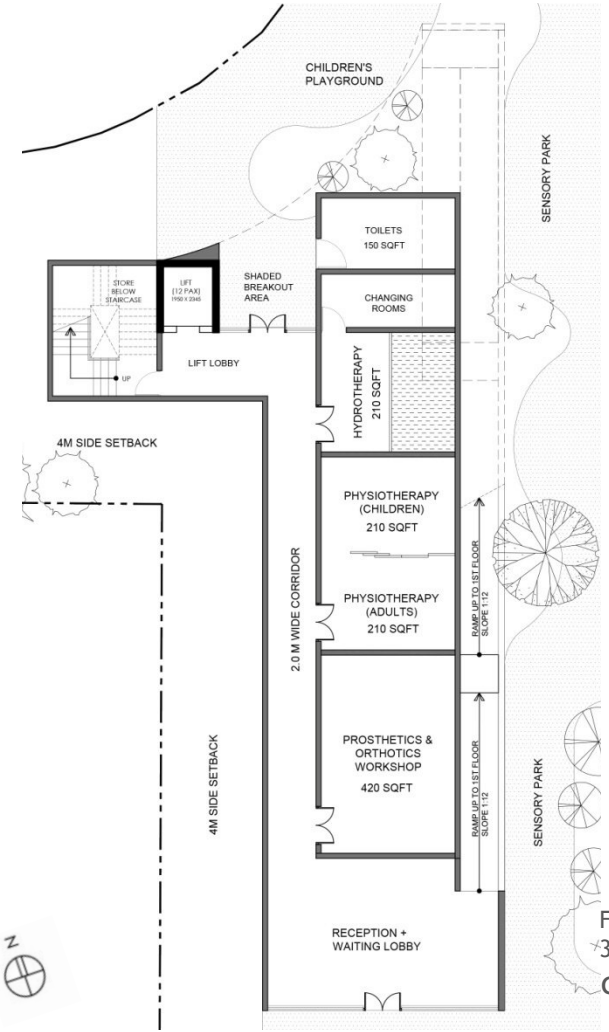
Builtup area achieved with design : 1600 sqm





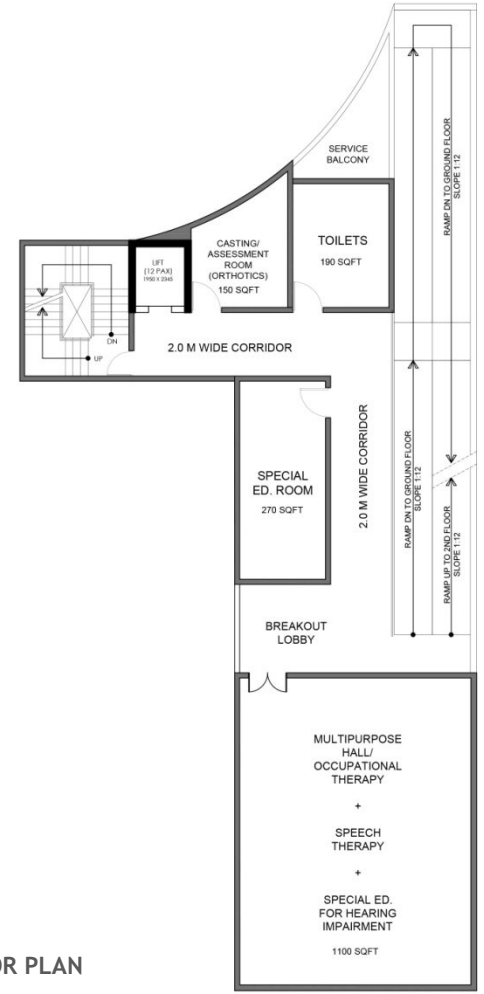


FLOOR PLANS



FLOOR AREA:
350 SQM

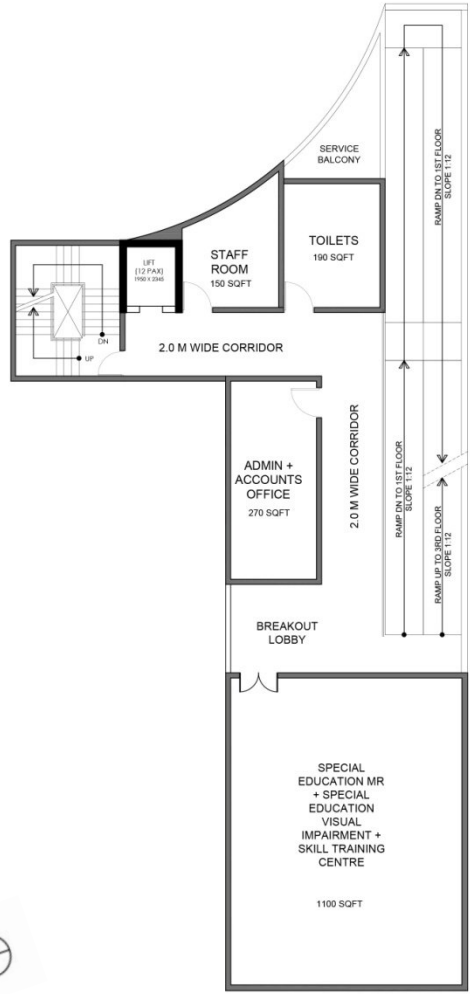
GROUND FLOOR PLAN

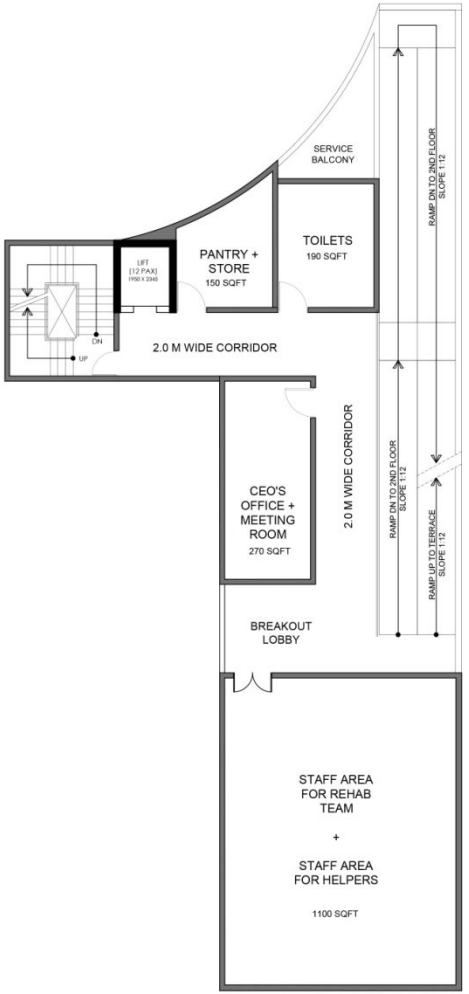


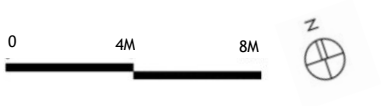
FLOOR AREA:
390 SQM

1ST FLOOR PLAN

FLOOR PLANS







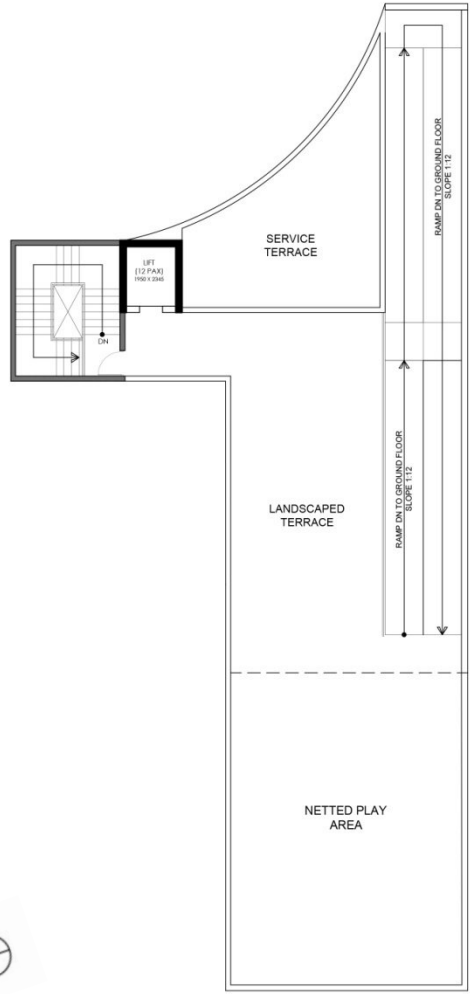
FLOOR AREA:
390 SQM

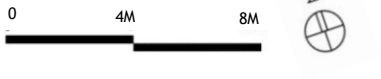
2ND FLOOR PLAN

FLOOR AREA:
390 SQM

3RD FLOOR PLAN

FLOOR PLANS





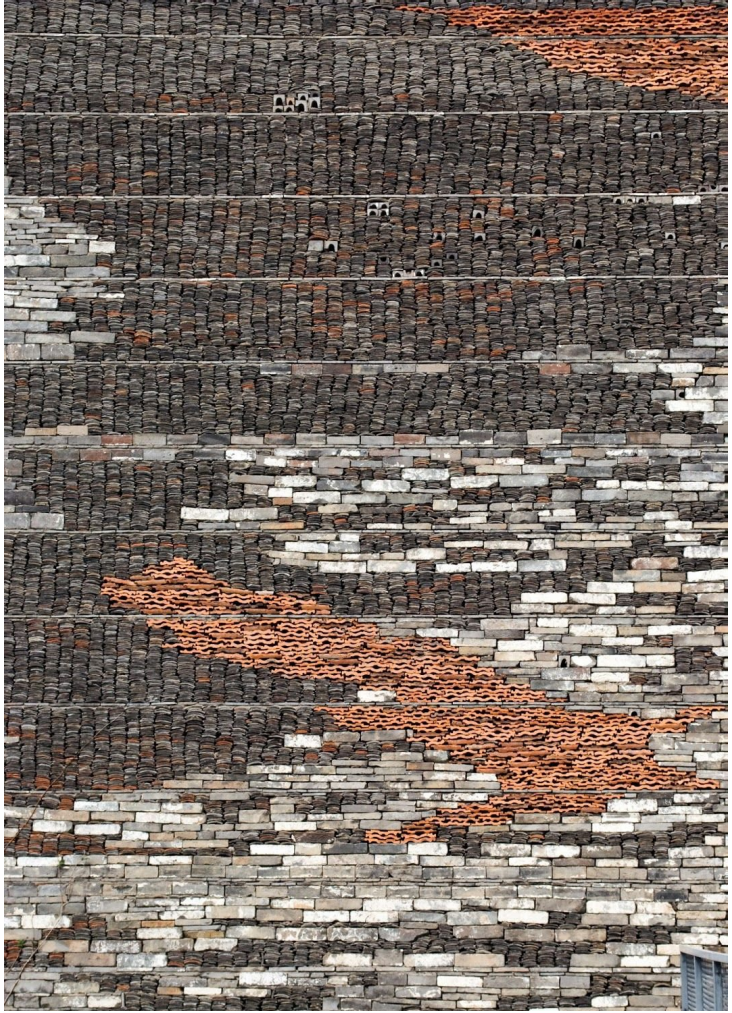
FLOOR AREA:
390 SQM

TERRACE PLAN

PRECEDENTS

EXTERNAL MATERIALITY

MATERIALITY
FACADES



Recycling from site rubble

MATERIALITY
FACADES

Recycling from
cultural context

VIEWS

BUDGETARY ESTIMATE

ESTIMATED COST

Total Construction Area (approx.) **17200 sq. ft.**
Interior Area (approx.) 12900 sq. ft.

Sl. No.	Head	Item	Rate per sq.ft (Rs.)	Cost (in crores)
1	**Structural**	Earth Excavation	**870.00**	**1.50**
		Back Filling		
		Foundation		
		R .C . C		
		Steel Work		
		Shuttering Work		
		Brick Flat Soling		
		Plain Cement Concrete		
		Shoring		
		Miscellaneous structural works		
2	**Architectural**	200 mm Brick Work	**400.00**	**0.69**
		125mm Brick Work		
		Brick Flat Soling		
		Cement Plaster		
		Door/ Windows		
		Façade latice work		
		M.S Railing		
		Exterior Wall Painting / Expose Brick		
		Construction Chemical		
		Epoxy Paint of M S Structural Work		
		Anti termite treatment		
		Water proofing treatment (Lyod, Sika, BASF, Pidilite)		
3	**Elevators**	With out Machine room (Kone / Otis) - 1 nos.		**0.15**
4	**Electrical & LV services**	Panels and DBs	**180.00**	**0.31**
		LT cabling/ Bus Duct & Isolators		
		Earthing and LA		
		Wiring for Lighting & Power Internal and External		
		Cable Trays/ Raceways/ Trunking		
		Fire Alarm		
		Public Address		
		CCTV		
		Data, WiFi, Telephone, TV wiring		
5	**PHE Services**	Sewerage system	**140.00**	**0.24**
		Septic Tank		
		Firefighting		
		Plumbing		
6	**Landscape + Site Development**	External Peripheral Drain	**75.00**	**0.13**
		Natural Grass Work		
		Pavement Tiles		
		Tree Plantation		
		Water Features		
		Outdoor furniture		
		Terrace landscaping		
		Sculpture		
7	**Interior**	Finishes	**720.00**	**0.93**
		Furnitures		
		Plumbing Fixtures		
		Lighting Fixtures		
		P.O.P		
		Carpentry		
		False Ceiling		

Grand Total Cost	**2385.00**	**3.9**

(Rupees Three Crores Ninety Lacs only)

THANK YOU