



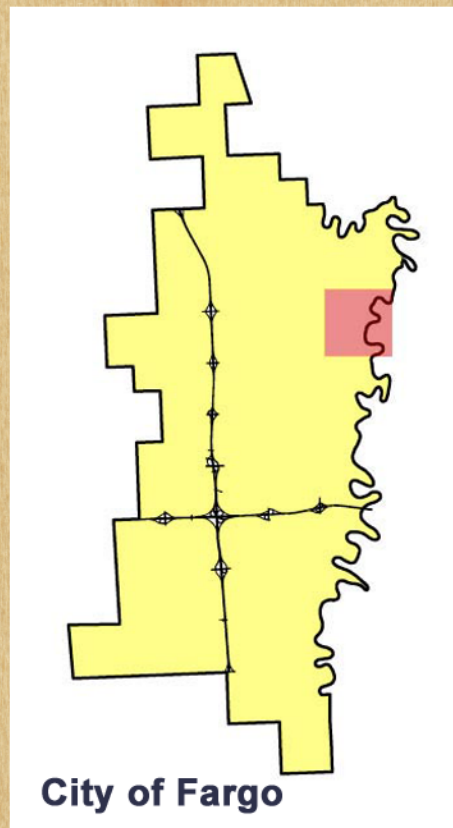
Introduction

A new trend steering the healthcare industry is becoming more and more popular. The trend is a push towards moving specialized healthcare fields outside of main campus hospitals and into smaller scale environments in order to promote and sustain a proven healthier and quicker recovery for patients with special needs.

The "Center for Children with Special Needs" utilizes this idea by creating a children's healthcare facility placed within a residential neighborhood and constructed in such a way that it gives the child control over their environment, making sure to sustain the idea of 'child as client'. To successfully attain this goal, quality of experience will be achieved through craft, context, beauty and sincerity, leaving behind the previous healthcare mindset of cold, sterile environments for a more desired approach which utilizes the elements of comfort and familiarity.



expressive potential



The site is located at the Northeast corner of 17 1/2 Avenue North and Elm Street in Fargo, North Dakota. The site has enormous potential as it is located adjacent to a residential neighborhood, Elephant Park, and the Red River. The nature of these surrounding features support the child familiarity ideology as well as offer numerous possibilities for design potential.

A key feature to the site is the adjoining park to the North, which if utilized correctly can offer an important link between recovery and nature, which has been proven to be beneficial in child health and speed of recovery.

*“Child as client. While developing a design for healthcare environments, it is important to stay in contact with the people we are designing for; children and families.
(source unknown)*

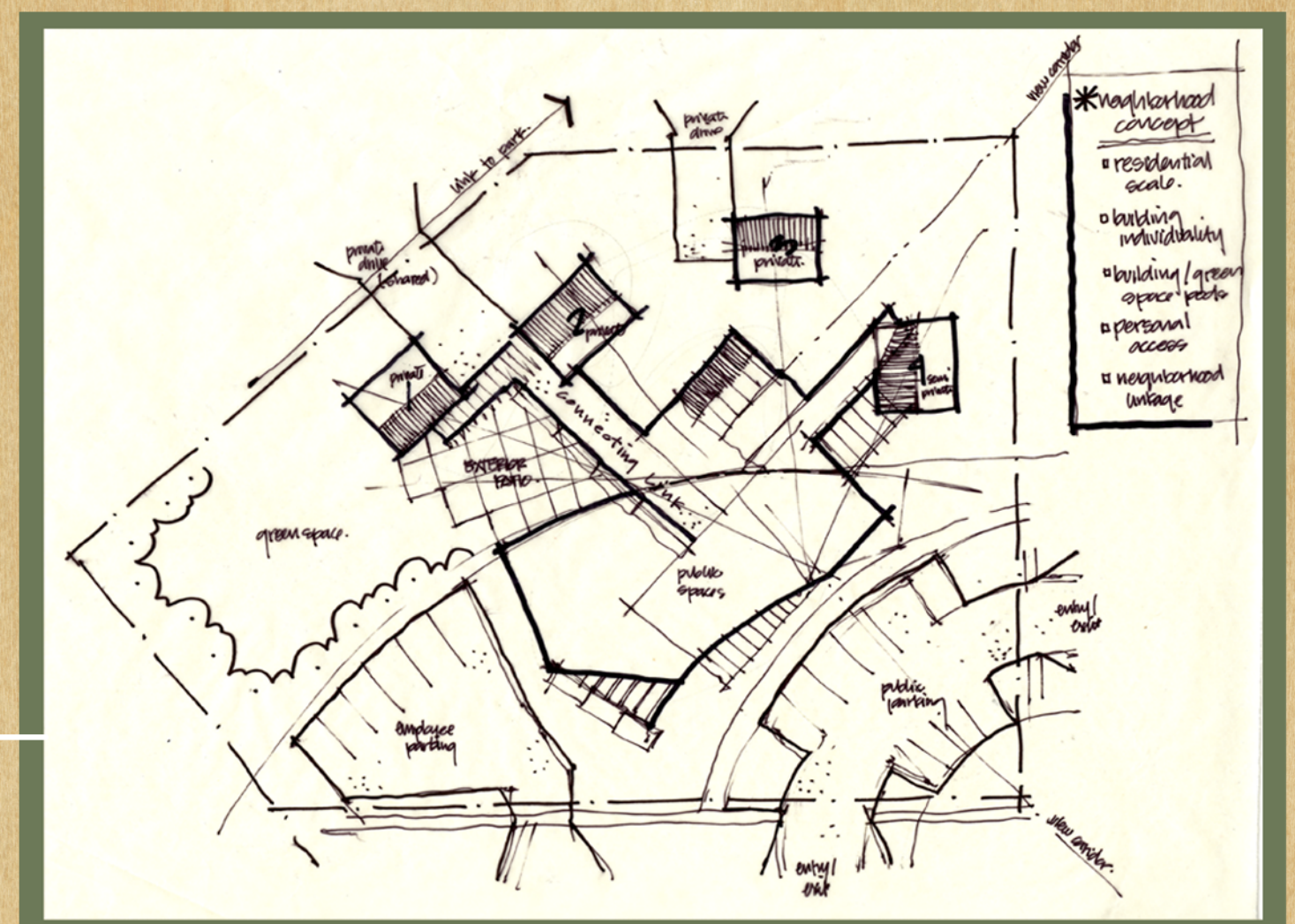


There are a total of nine houses that will need to be acquired in order to support the layout and function of the facility. One of the nine will support the link between Elephant Park and the children's healthcare facility.

Expanding the body of knowledge cultivated throughout the programming phase, it was necessary to follow the initial design directives in order to create conceptual relationships between the acquired information and the site issues. This process helped derive a design solution which was taken and further development to expose its maximum potential. Three conceptual forms were created which helped humanize the site as well as offered three different points of departure. They were:

- 1 Perception & Scale
- 2 Humanizing Characteristics
- 3 Neighborhood Context

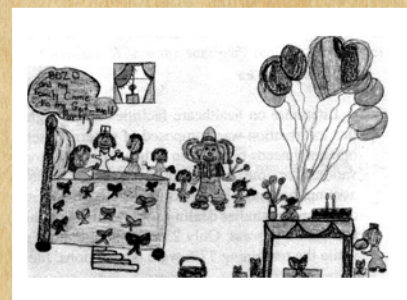
Ultimately, the “Neighborhood Concept” was chosen because it had a scale and overall design sense about it which was worth investigating to uncover its full potential. Design development helped expose its conceptual potential and brought a series of plans and elevations, which in turn were continuously redeveloped in order to establish its expressive potential.



footprint for wellness

The footprint of the Children's Center is situated on the southeast corner of the site and its organic form responds to the freeform shape of the surrounding block, as well as to the view sheds and site lines intrinsic to the site. By placing the building here it allows the public side of the building to face the major traffic corridor along Elm Street. It is then bisected by a masonry Dividing Wall separating public space from the more private space of the 'Family Pods'.

The Neighborhood Concept provided a framework for the radial layout of the footprint and also the spacial arrangement within. Utilizing the residential scale, building individuality, green space and neighborhood linkage helped in creating the overall aesthetic to the building form.

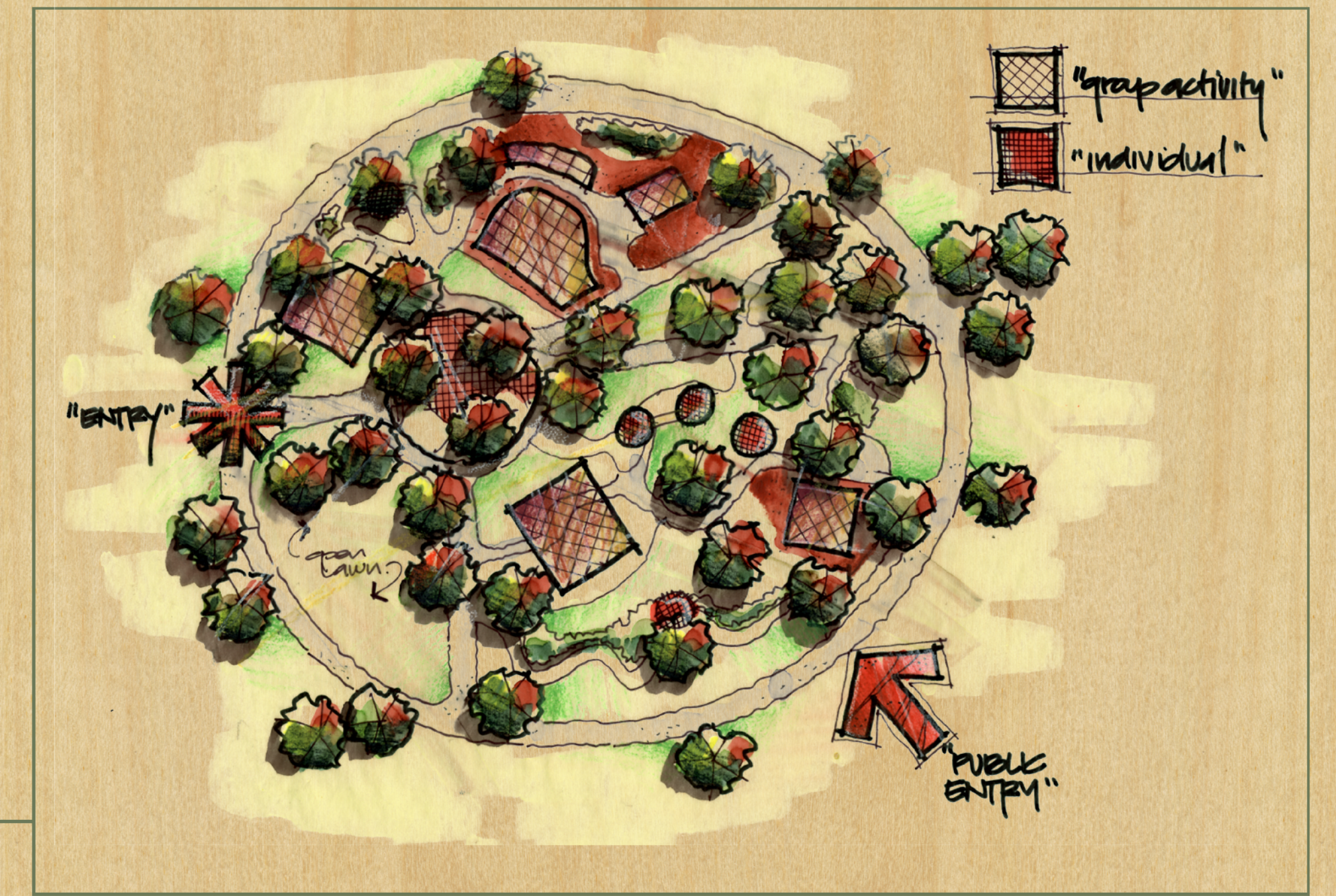


boundless children's park

A barrier-free play area uses accessible playground equipment and many variations of paths to combine fun and interest into one area. The City of Fargo does not yet contain an accessible park, therefore developing the Northwest corner of the Children's Center property into an accessible park responds to this design idea.

Providing children with disabilities the chance to enjoy an aspect of life not readily available is important to the enhancement of their young lives. Incorporating various play nodes as well as providing pathways and links for wayfinding increases the parks desirability.

Because of the park's location, a visual link already connects the accessible park with Elephant Park situated to the North. To further compliment the accessible park, more property will need to be obtained to create a successful link between the two parks. This ideology brings both disabled children and non-disabled children together to play in harmony, creating a heightened experience for one and all to enjoy.



healthful space conditioning

ISSUES:

- + infection control
- + humidity
- + sound control
- + thermal
- + future flex in services

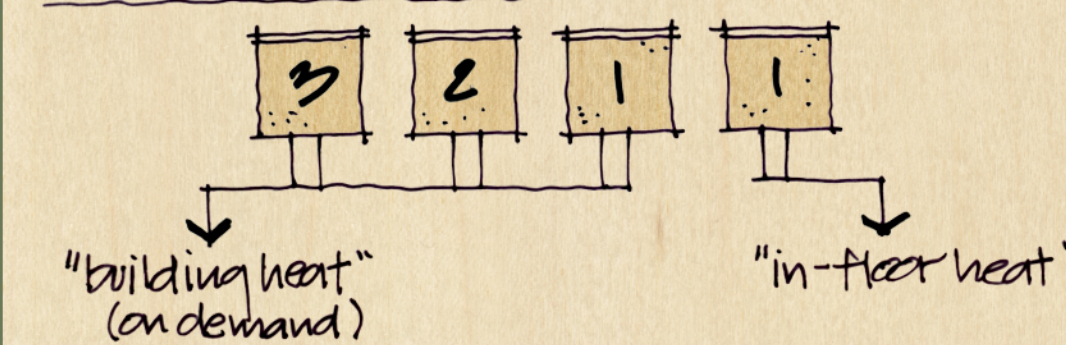
NEEDS:

- + humidity control
- + filtration
- + individual environ. control

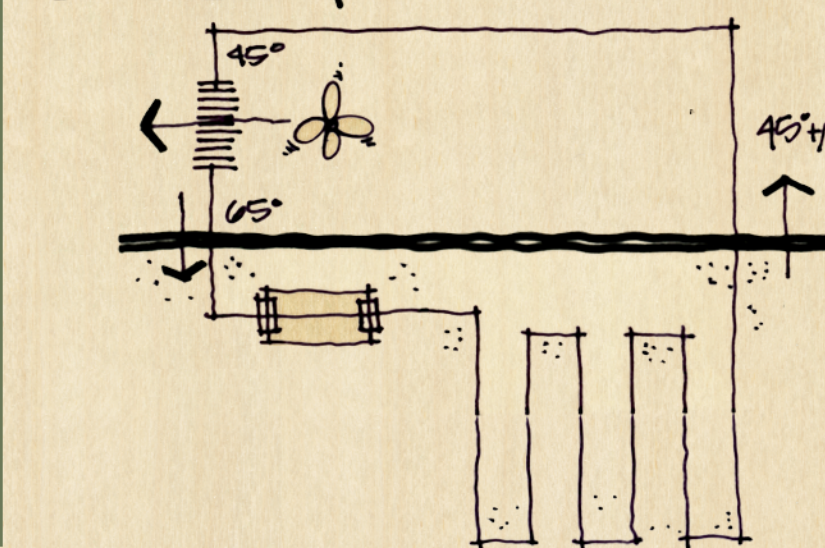
SYSTEMS:

- + modular boilers
- + holding tank/heat storage
- + fin tube
- + fan coil units
- + geothermal

modular boilers:



cooling



Healthcare codes require fairly exacting control over space conditioning and air quality. Specific humidity and air filtration systems are required to ensure proper atmospheric control in certain areas where wellness is achieved.

The Children's Center provides a space conditioning system that promotes a healthy environment. Modular boiler systems provide on demand heat for all rooms and run in series to supply additional heat when outdoor temperatures drop. Combined with in-floor heat which creates a comforting thermal mass, a quality spatial heating system can be obtained.

Cooling is provided by a Geothermal system. By utilizing ground temperatures and a controlled source, air cooling can also be attained in a healthy manner. Both cool and hot air circulation are systematically filtered to ensure the cleanest air quality possible.



play pavilion



The “Play Pavilion” provides a therapy and play space for both sick and well children by creating two like spaces linked together by an interior corridor or an exterior “Wellness Courtyard.” These spaces utilize the warming elements of timber and masonry juxtaposed against the soft quality of glass, which provide both daylighting and views to the outside.

Incorporating soft, yet exciting colors provide a fun, familiar and comfortable atmosphere for the children. The beauty of the heavy timber jointery, and the organic volume of the space allow for a quality spatial experience.

“The essential experience derived from its forms, spaces, colours, textures, and scents is one of healing. The environment helps to strengthen the will, believed to be essential to the process of self-healing and rebalancing the individual.”

Erik Asmussen



family pods



The “Family Pods” provide a private acclimation space for the child and his/her parents. Accessible by staff, each pod is linked with the main building yet also has individual access for family and friends.

The theology behind providing individual spaces to a family is to create a familiar atmosphere for the child while both child and parent learn to adapt with their new disabilities. The link provides staff support as well as any necessary internal functions.

The desire for parents to participate and learn proper care for their child is an important factor for both child and parent. The aesthetic of the pods create a familiar and comforting environment for all and because of its setting within a residential neighborhood, it heightens the sense home.

Understanding the children’s intrinsic desire to cognitively control their sense of place is crucial in the overall success of the design.



art avenue

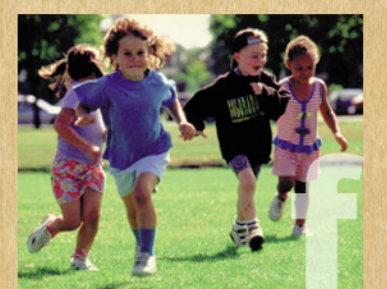


“Art Avenue” is a circulation link which provides an exciting environment for the child. Following the subtly curving path of the dividing wall, it is brightly exposed to the sky through a series of overhead skylights.

Filled with child fantasy familiar elements, it turns what could be an ordinary corridor into a veritable fun house for the child. A key element to “Art Avenue” are the interactive art centers, which let each child design a work of art to be left behind for the next child to see and then re-create for the next lucky onlooker.

Once again, fun yet comforting colors are obtained which provide a delightful experience. Textures also come into play as natural daylight bounces off the masonry wall giving subtle change to the adjacent plaster walls.

*“Children who are well-surrounded by families and by caring medical staff have quicker response time in healing.
(source unknown)*



process

The developmental process in design begins with basic line sketches. These graphic representations distill important design information into its purity. The evolution can begin with simple forms until manipulated several times over in order to resolve a solution into a completed design thought.

Schematic design can be thought of as “graphical serendipity” - meaning a series of graphical events taking place in order for discovery and maturation of the design evolution.



The schematic phase is important to a project because it is where design begins.

“healthy wall”

Many technical issues dealing with infection control have extreme importance in the design of a healthy children’s facility. Others issues dealing with humidity, sound control, thermal envelope, sustainability and future flex also have an important role in the design of healthcare environments.

The ‘Center for Children with Special Needs’ accounted for these technical issues by developing a “Healthy Wall” system. Heavy timber being the main structural system is clad in a special structural insulated panel system that provides the wall with the technical aspects, yet keeps the innate aesthetic value of the timber. The exterior wall is designed in such a way that it is allowed to breath, and the interior finishes create a comforting environment that alleviates mold, allergens and bacteria from becoming present.

