



Final Report
Learning and Resource Centre
at Rabarivaas, Lilapur Village, Ahmedabad



Existing Centre

LEARNING AND RESOURCE CENTRE

The Learning and Resource Centre (LRC) is an ongoing activity carried out by an NGO near the settlement of Bharwadvaas at Lilapur Village. The settlement is approximately 40 years old, established on Gochar (grazing) land. It consists of approximately 18 families and there are almost 30 to 40 children. There is no school in the vicinity, due to which they have to walk long distance to reach the school. Often children end up not going to school. A shed was built five years back to accommodate learning activities to accommodate the learning activities. This required upgradation. MHT decided support the rebuilding and providing some basic facilities. The functional requirements were defined in consultation with community and the organisers of the centre through intense discussions. However, considering the legal status of land, it was important to keep the nature of the building as temporary that can be easily dismantled and also rebuild elsewhere if necessary.

INITIAL REQUIREMENTS EXPRESSED BY COMMUNITY

The teachers and other field staff expressed the need for the learning resource centre as follows. They are presented for discussion.

- Upgrading the building – the roof, walls and making it weather proof.
- Extension of the store room till the tree and adding cooking facility for preparing meals for children.
- Small space for any volunteers to occasionally stay overnight.
- Provision of a drinking water space.
- Construction of boundary wall/fence around the school to stop the animals from entering.
- Upgrading the entrance gate.
- Provision of a street light inside the school compound.
- Upgrading the name plates for the plants as current ones made of plywood are eaten away by termites.
- Make educational wall paintings and interactive installations on floor/ walls for children
- Provision of storage spaces inside the classroom for notebooks etc.
- Provision of a light in the toilet
- Storage for footwear and seating outside the classroom.

Additionally, the community expressed desire to install solar street lights in their settlement.

FUNCTIONAL AND SPATIAL PROGRAMME

- An open Multifunctional room to accommodate learning activities, with blackboard.
- Should regularly accommodate 25 students and can be expanded to accommodate 45 to 50 people during community gatherings.
- Library cupboard, storage for toys, games and other objects children use or make.
- Enclosed storage room that can be used for activities like sewing class or computer class.
- Wash area near entrance. Toilet should be separate for boys and girls.
- Chokha-chokhi corner – with mirror
- Ample semi-open and open spaces. Use of existing geographical features
- Ecofriendly construction using natural light and ventilation.

DISCUSSION WITH COMMUNITY

- The structure may be lightweight, low-height and must allow natural light and ventilation.
- The building should be temporary to avoid unnecessary attention from the authorities. It should be easy to dismantle and reuse elsewhere if required.
- Maintaining existing location of building. Retaining vegetable garden.
- Upgrading and extending the plinth to carry out various activities in closed, semi-open and open areas.
- Provision of sanitation facility/ upgrading the existing facility. Provision of light in the toilet.

COMMUNITY CONTRIBUTION TO THE BUILDING

- Plastering with earth and painting if necessary
- Compound wall/ fence
- If possible, help to the mason for construction of the building



SITE AND CONTEXT

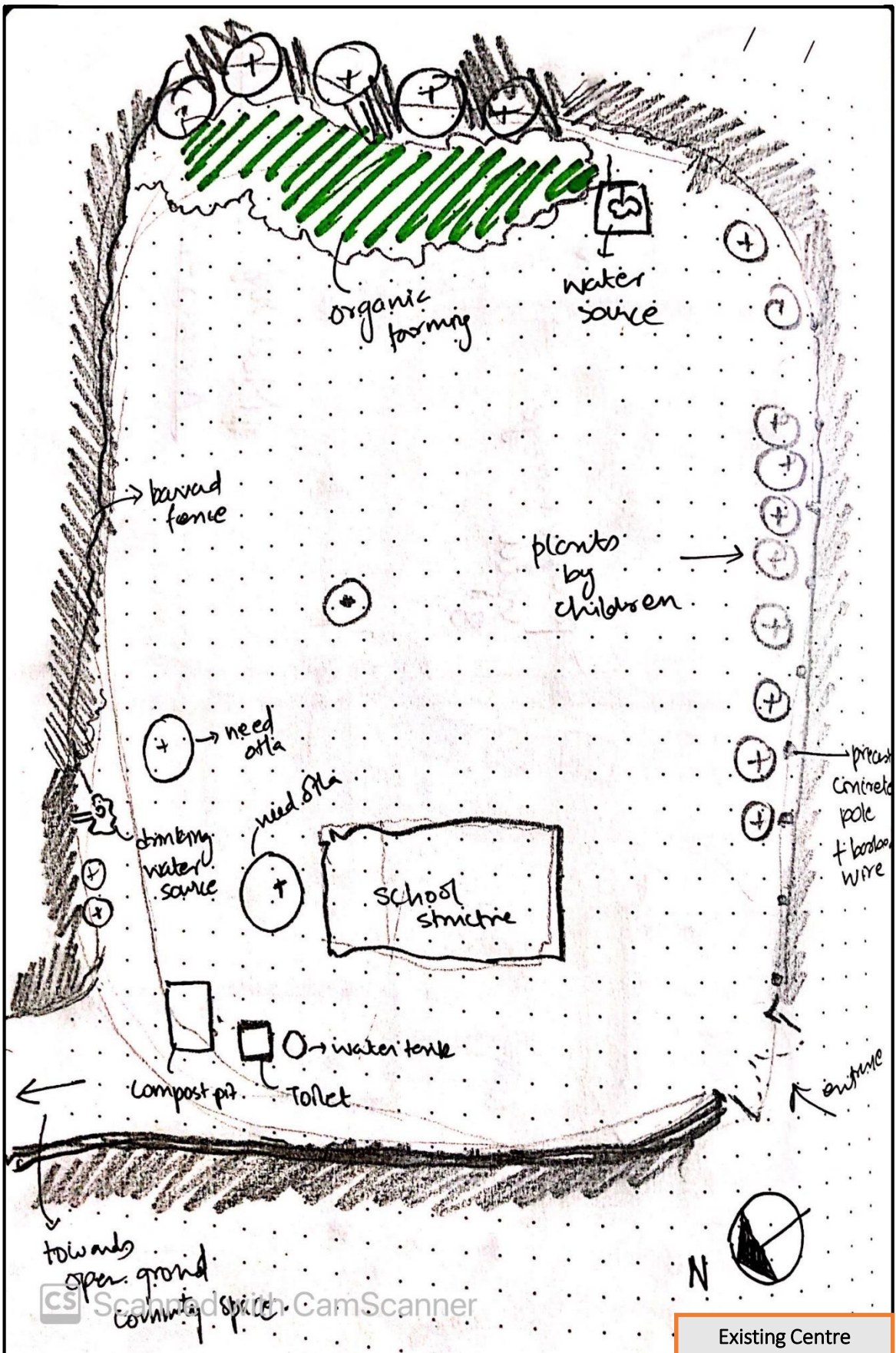
Bharwadvaas is little away from the village centre and a small road connect it to the village. For most part the road is motorable and last hundred meters there is small walkway that leads to the settlement. Lilapur is around 7 km from Vaishnodevi crossroad on SG highway in Ahmedabad district.

THE COMMUNITY (BHARWADS)

The Lilapur village mainly consists of Thakor community while the settlement, which was established on Gauchar (grazing) land of the village by migrants from Saurashtra region around 35 to 40 years back consists of 18 households with population of 115. The site is located on the Gauchar land of the Lilapur village. The main occupation of the community is goats and buffalo rearing. Some women work as domestic help in nearby GIDC area, The Bharwad community is known for their traditional sewing skills and some women from the community continue with this skill.

SITE

The site is a flat rectangular land with entrance from west side. The existing structure is located at the north west face with its entrance towards east. There are water points at east and north side while the east side has an organic vegetable garden maintained by the children. In the centre there is large open space. The site has some newly planted trees on grid points while there are few trees on the periphery.



Existing Centre



THE SITE OF INTERVENTION

ACTIVITIES THROUGH THE DAY

The learning centre is located near the settlement and is easily accessible to the community. Around 30-35 children use the facility regularly. From morning 9am to 11am, regular classroom activities are carried out while in the evening the children use the space for self-study. At times open space and the building is used for community gatherings and also some cultural events.

INFRASTRUCTURE

The site is well integrated with the settlement, and is approximately 2 km from Lilapur village. A small road from village leads to the edge of the settlement. The internal roads are Kutchha roads. Since the settlement is away from village, commuting at night is difficult without any street light. There is no electricity or drainage connection in the settlement. Some households have solar powered lights. A water supply line from Lilapur village serves the public water post within the site from where some additional connections are taken for drinking water near the building. A toilet for girls was built by community efforts. An additional toilet for boys will be required. There is primary school and medical facilities in the village.



Classroom / Multifunctional space



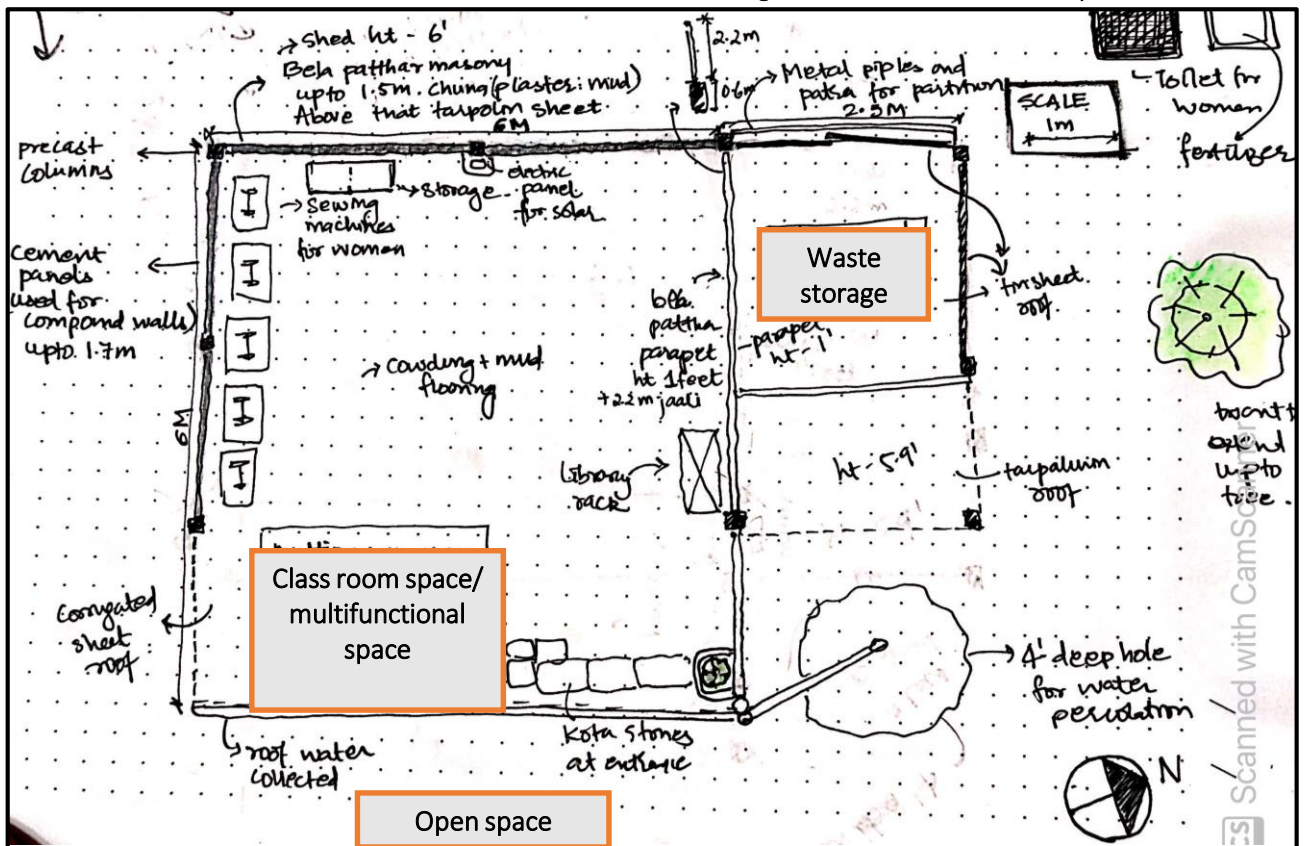
Storage



Open space in the centre

EXISTING FACILITY

The structure consists of two spaces, a multipurpose room accommodating teaching activities with an area of approx. 26.5 sqm. and a storage space demarcated by low-height wall. Quality of construction is very poor. The low-height walls are made with bela stone on south and precast RC slabs on west. The east side is enclosed with corrugated sheet while the north side is open. The roof is made of corrugated sheets and tarpaulin. The open space in front is used for gatherings. The roof and walls leak during monsoon, and there is no plinth.



Scanned with CamScanner



CONSTRUCTION QUALITY AND MATERIALS

The structure is poorly built. Bella stone and corrugated sheet are used for walls. Precast concrete columns support the corrugated sheet as roof. Tarpaulin sheet is used in some part to protect from rain and dust. Flooring is mud and cow dung plaster. The roof needs insulation as it gets heated up in the summer. Rainwater enters inside as there is a gap between wall and the roof. Existing roof structure is not structurally stable, the purlins and columns are precariously placed.





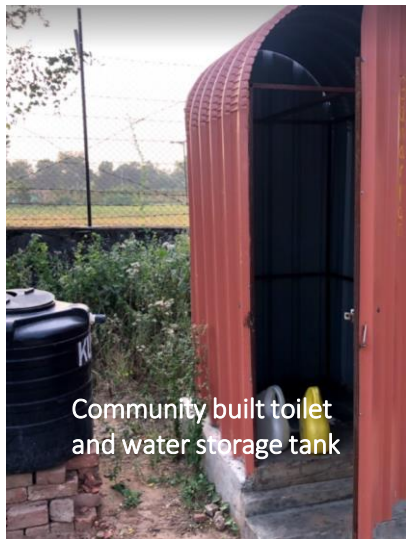
Compost produced from goat excreta



Open bookshelf library



Waste collection bin – Waste is taken as school fee



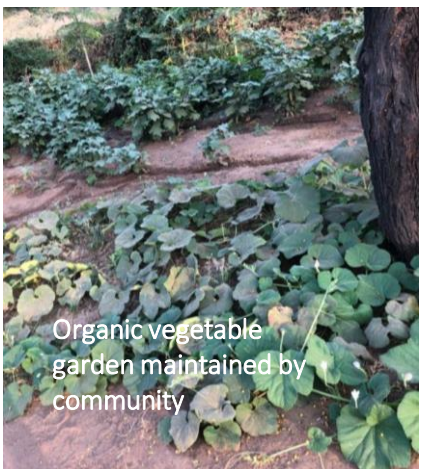
Community built toilet and water storage tank



Plants are grown by children and their names are assigned to the plant



Kokha-chokhi corner where kids get ready when they come to the centre – developing good hygiene habits



Organic vegetable garden maintained by community



Roof rain water harvesting system

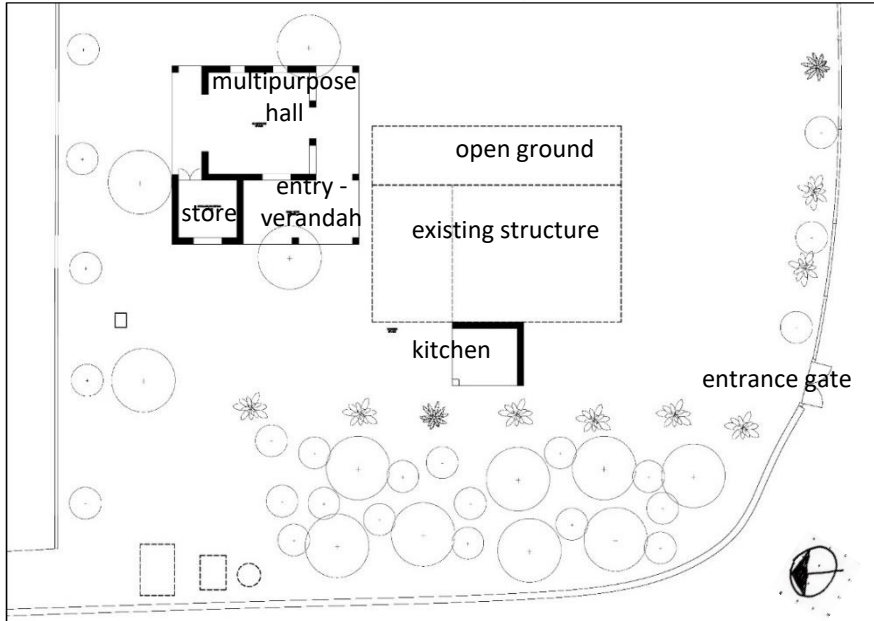


Women of the community learn sewing through classes organized here

DESIGN PROCESS

INITIAL DESIGN PROPOSALS

The concept design was proposed considering the community requirements and budget constraints. A multifunctional room was envisaged accommodating teaching space, activity room as well as meeting room for larger community when indoor space was necessary. It was thought to be spilling over to a semi open verandah space. The store was also to accommodate secondary activities running parallel to regular classrooms when required. The entrance area was detailed such that the shoe-storage and outside seating are provided. The *chokha-chokhi* area (cleanliness area) was provided near the wash area. All the main trees were to be retained while the new trees could be shifted as they were not yet set in soil.

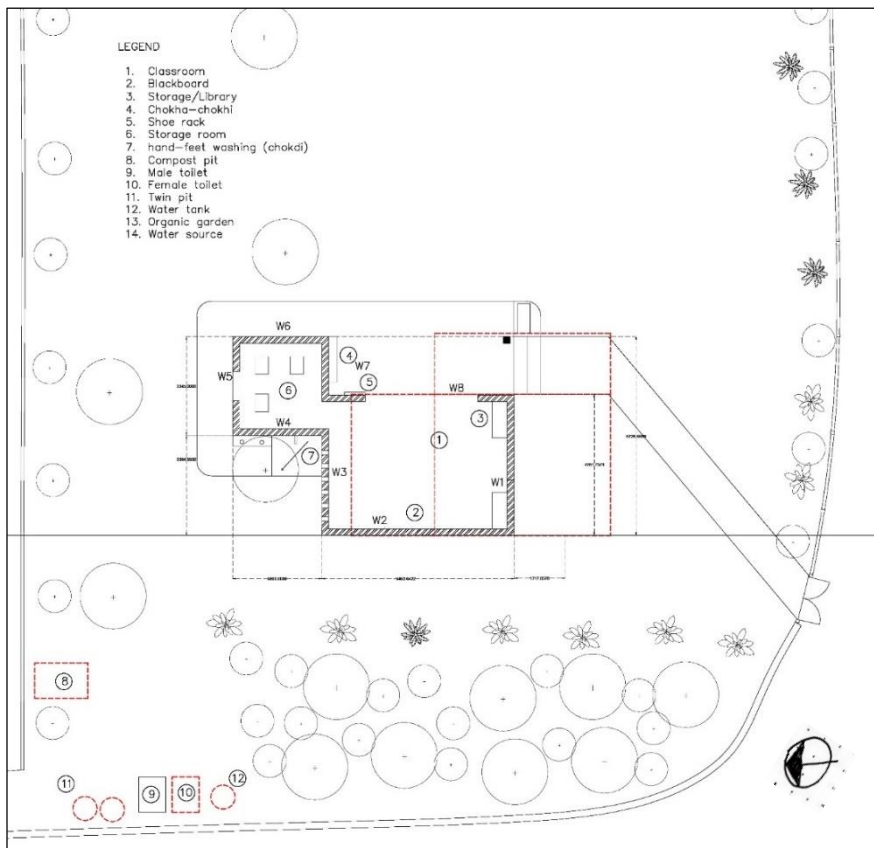


OPTION 1

The new building was proposed on the north of the site leaving large open space towards the entrance. The existing stone wall was extended to create kitchen and other services.

The north was kept more open while the south was shaded to avoid sun and yet allowing wind from southwest during summer.

The main concern of the NGO running the centre was regarding changed footprint of the building. This option was not pursued further.

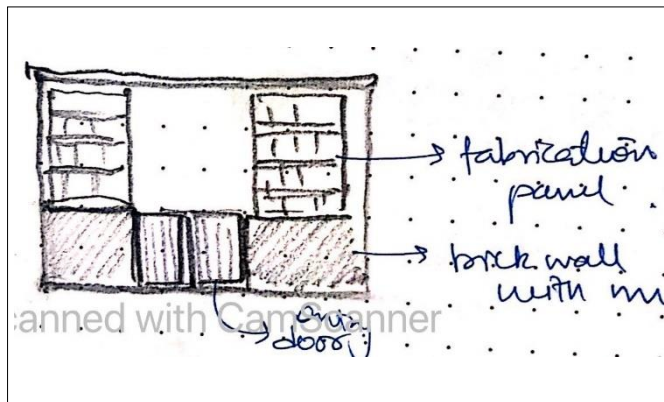
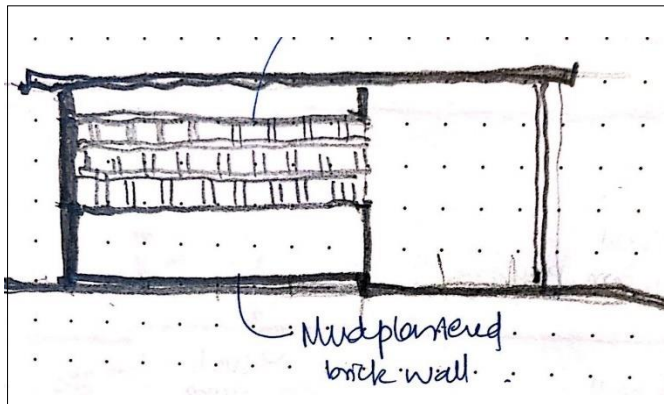
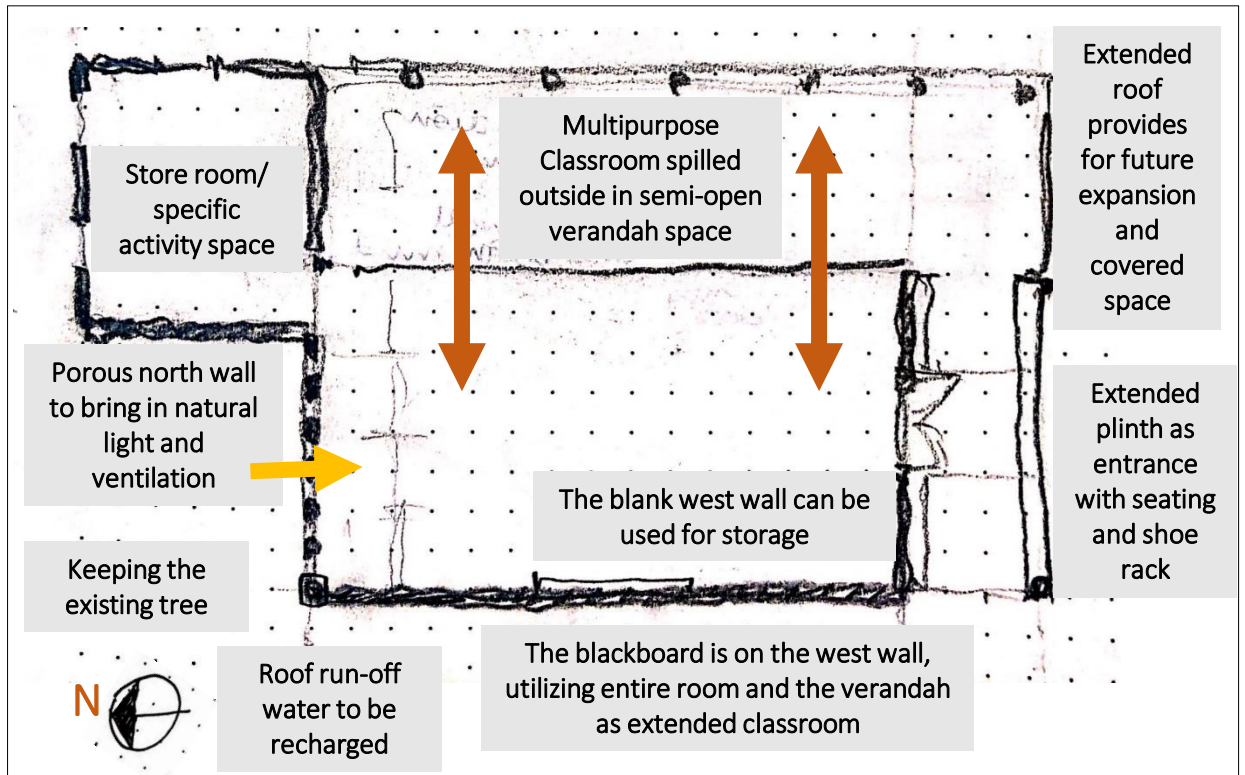


OPTION 2

An alternative design, keeping similar footprint as the existing one was proposed. The building faces towards the east, extending the classroom into a large verandah and then opening up into open ground. The small store doubles up as secondary activity room.

The south is covered with extended roof, providing protection from harsh summer sun, while north wall is porous, letting in the light on the blackboard.

This proposal was further developed into the final design.

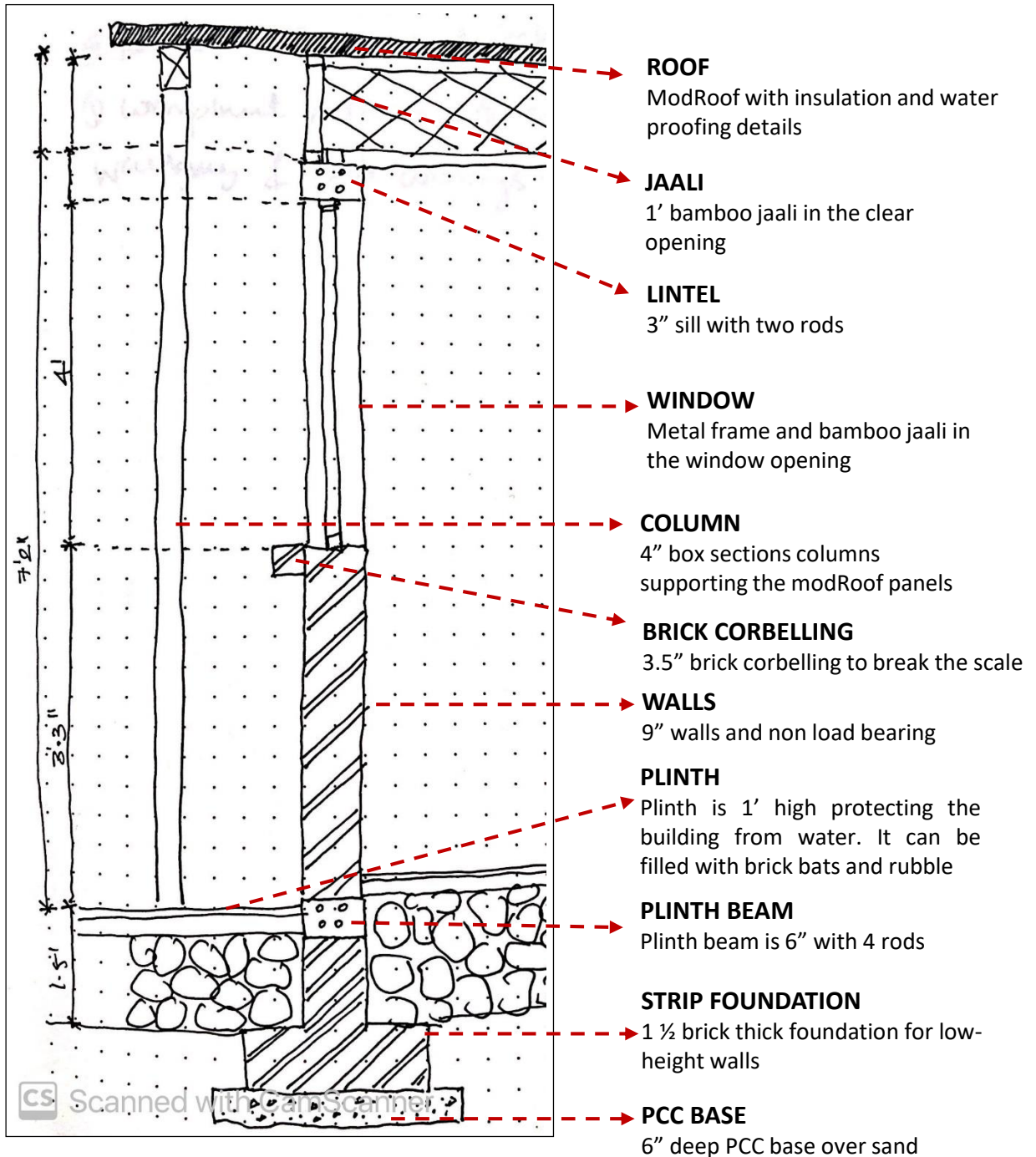


DESIGN DEVELOPMENT

The brick paved path connects the main gate of the site to the entrance of the building from south direction. The entrance area consists of bench and shoe-rack on the plinth. *Chokha-chokhi* space (cleanliness space) is also accommodated on the plinth. The inside of the south wall has some storage for books etc. The north wall is porous to bring in natural light and ventilation. West wall with the black board is a blank wall which blocks the harsh sun. A store room which also doubles up as activity room is on the N-E corner providing enclosure to the extended plinth. The multipurpose room has large opening looking out towards east through which the space spills out onto the extended plinth to accommodate more number of people when required.

Structural columns are independent of the walls and support the eco-friendly and light-weight ModRoof. It is quick and easy to install and also provides better thermal insulation. The walls are made of burnt bricks using lean mortar making the construction further cost effective. IPS flooring with different colours make the floor interesting. The women from community plastered the walls with mud.

WALL SECTION

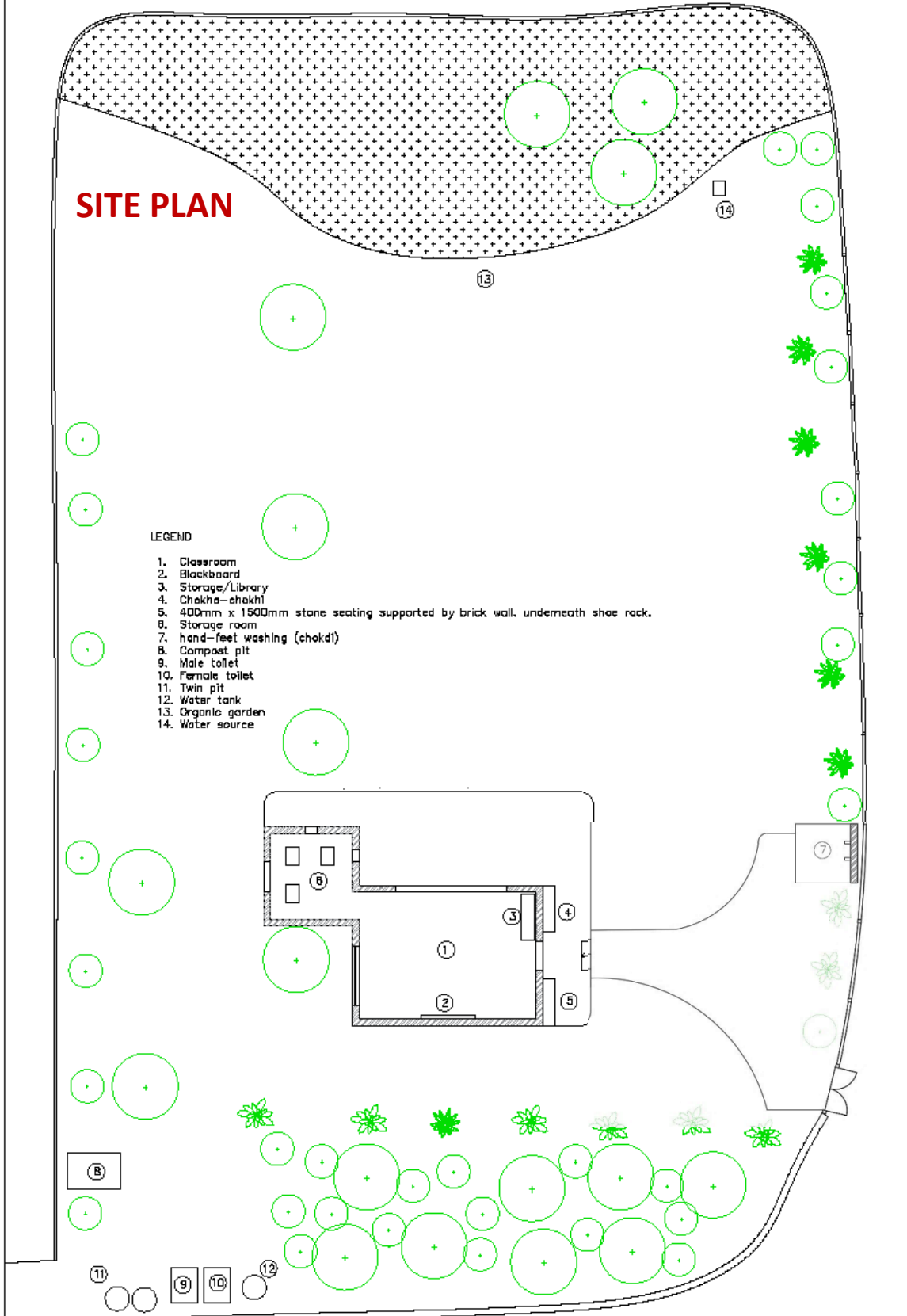


THE DESIGN

SITE PLAN

LEGEND

1. Classroom
2. Blackboard
3. Storage/Library
4. Chakha-chakhi
5. 400mm x 1500mm stone seating supported by brick wall, underneath shoe rack.
6. Storage room
7. hand-feet washing (chokdi)
8. Compost pit
9. Male toilet
10. Female toilet
11. Twin pit
12. Water tank
13. Organic garden
14. Water source



SCHOOL FOR BHARWADVAS

10.12.2020
DRAWN BY: NISHITA
PEOPLE IN CENTRE

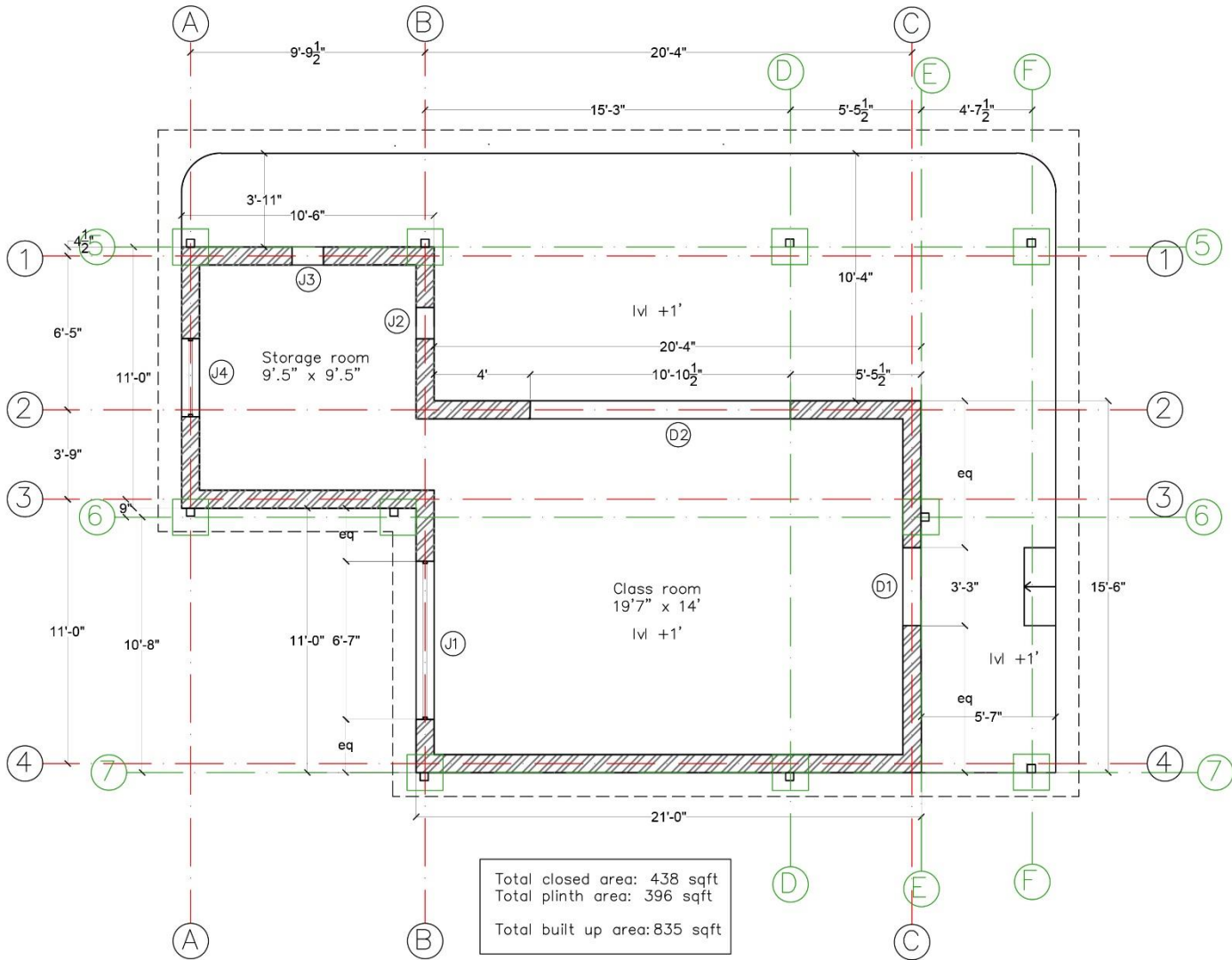
Prepared for:
MHT (Mahila Housing Trust)

FUNCTIONS PLAN

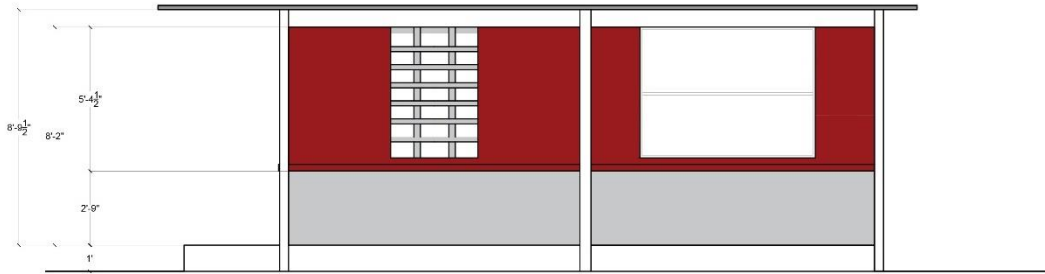
0 1 2 5M



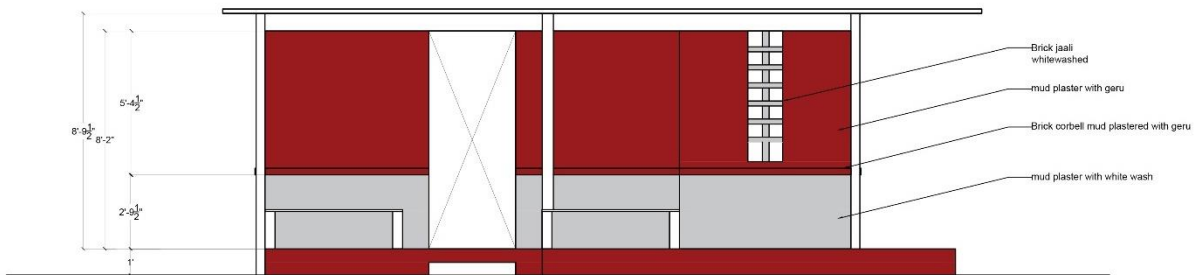
GROUND PLAN



ELEVATIONS

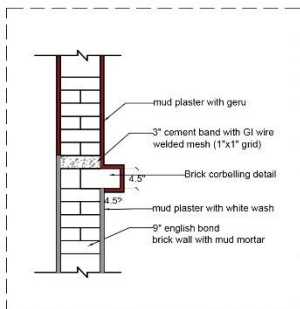


NORTH ELEVATION

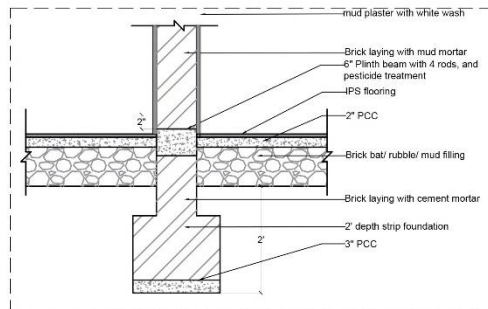


SOUTH ELEVATION

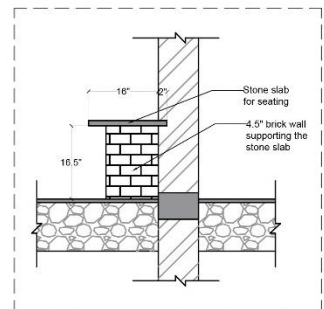
CONSTRUCTION AND DETAILS



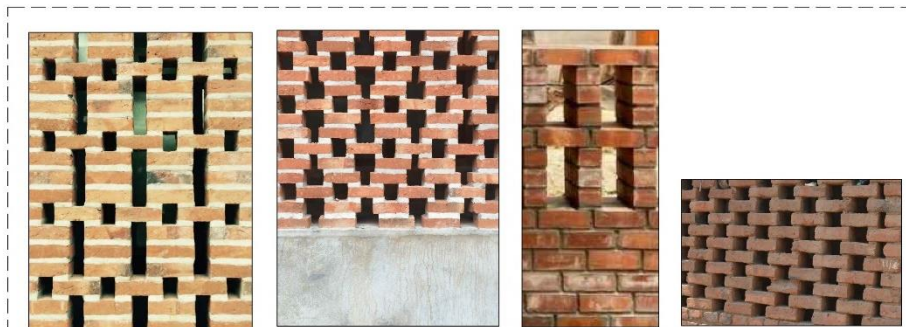
DETAIL 1



DETAIL 2



DETAIL 4



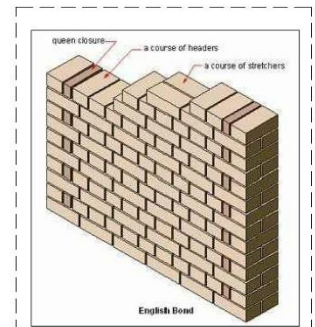
Option 1

Option 2

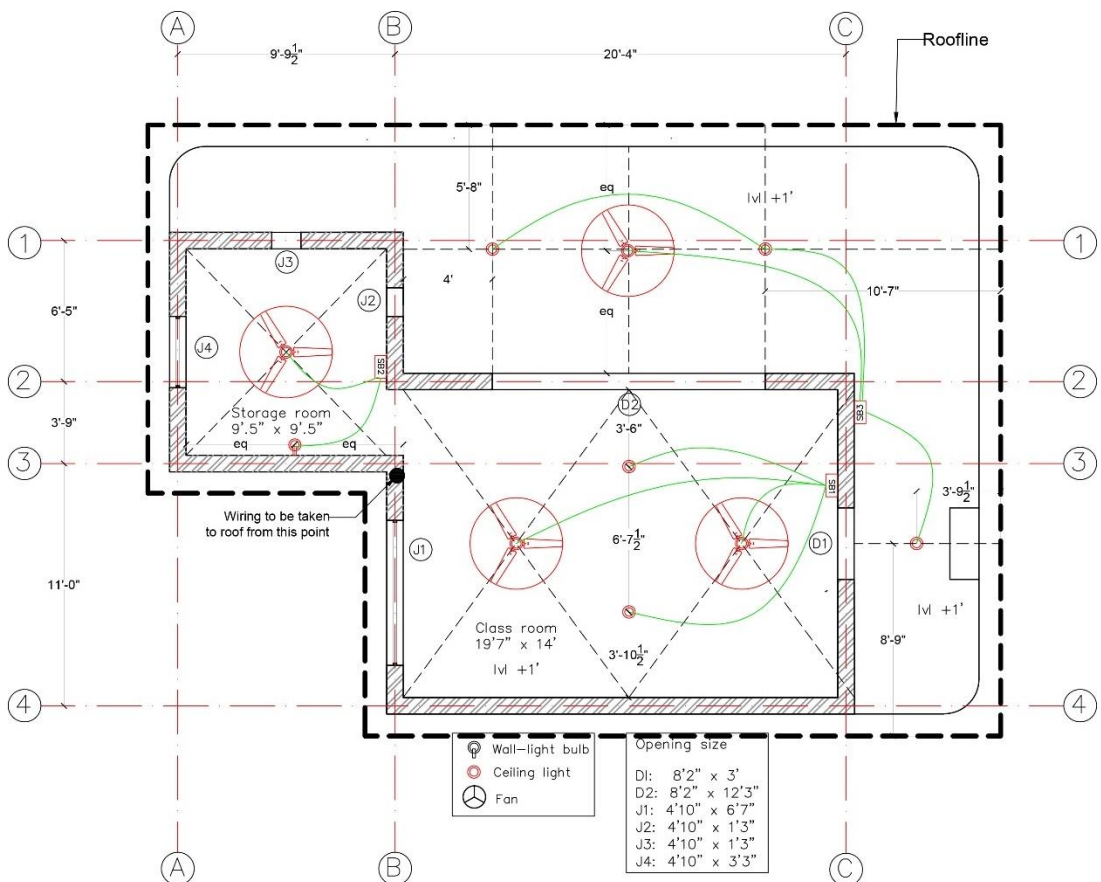
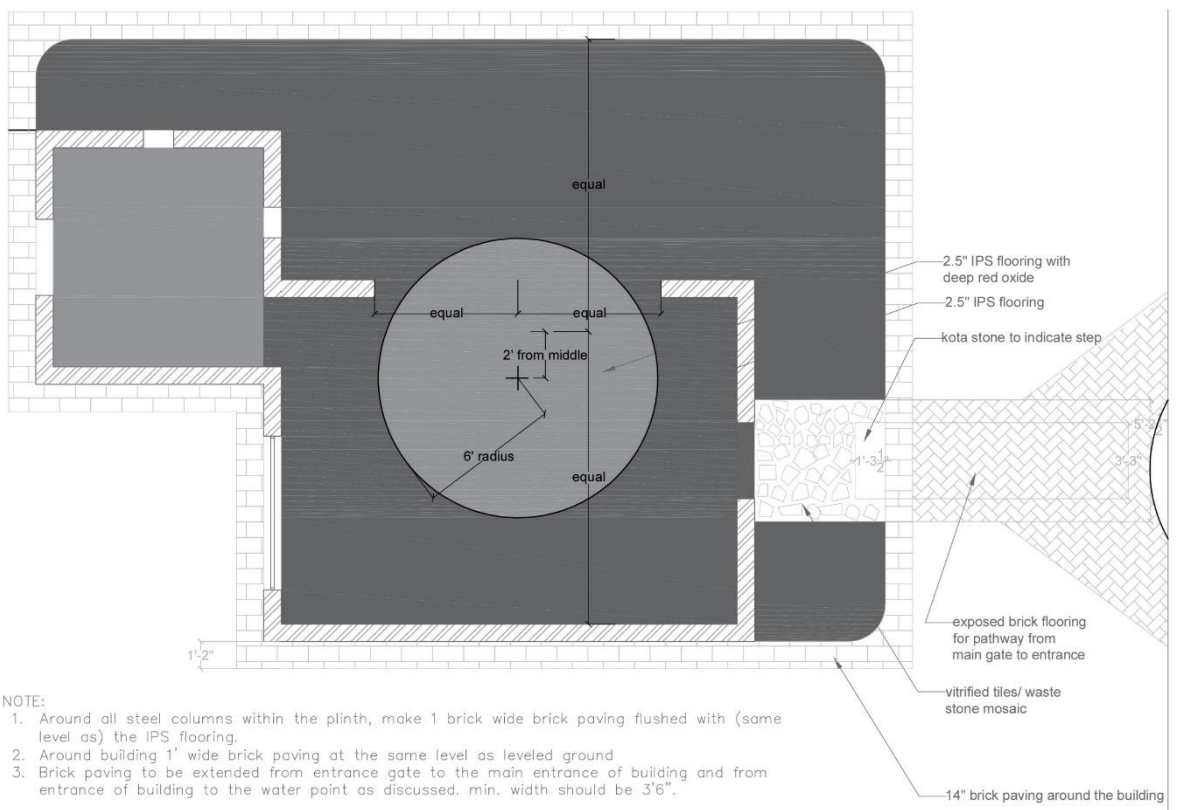
Option 3

Option 4

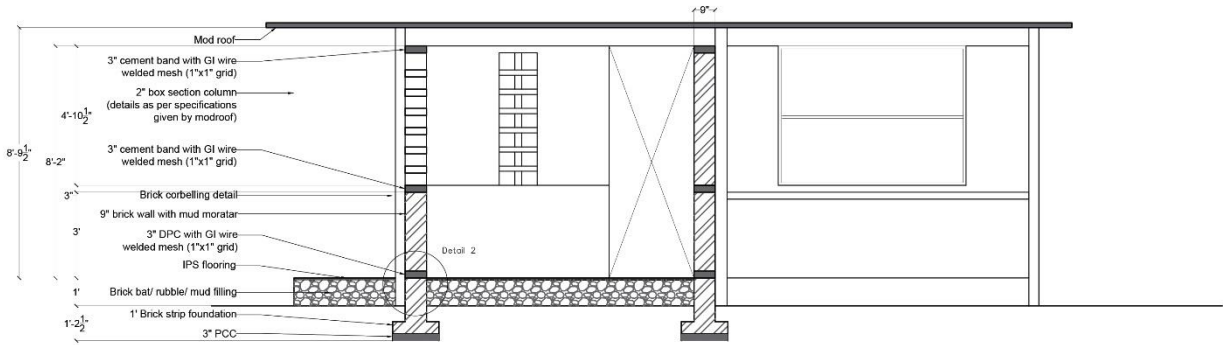
DETAIL 3



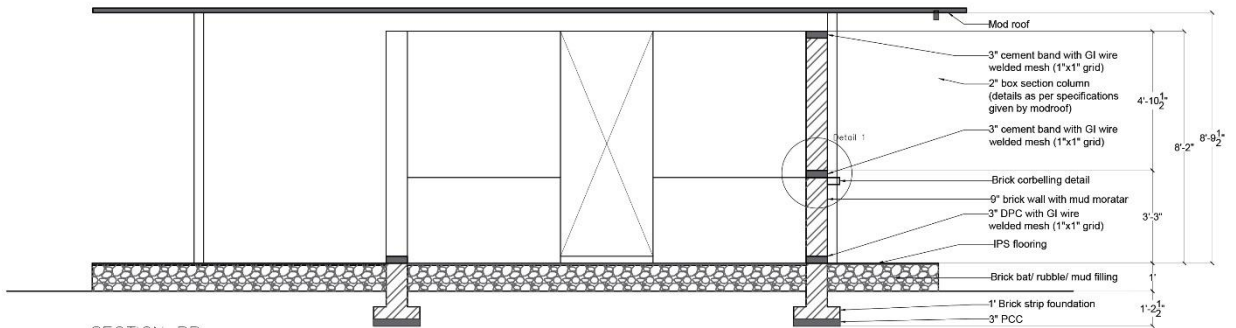
English bond for brickwork



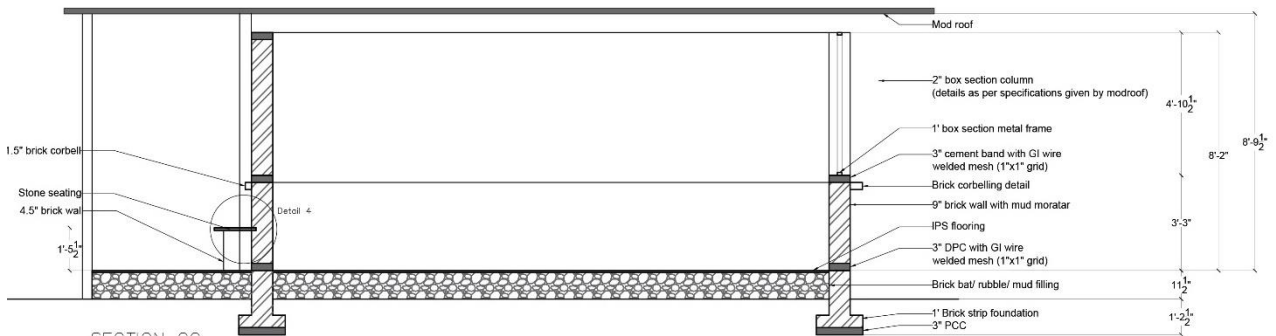
SECTIONS



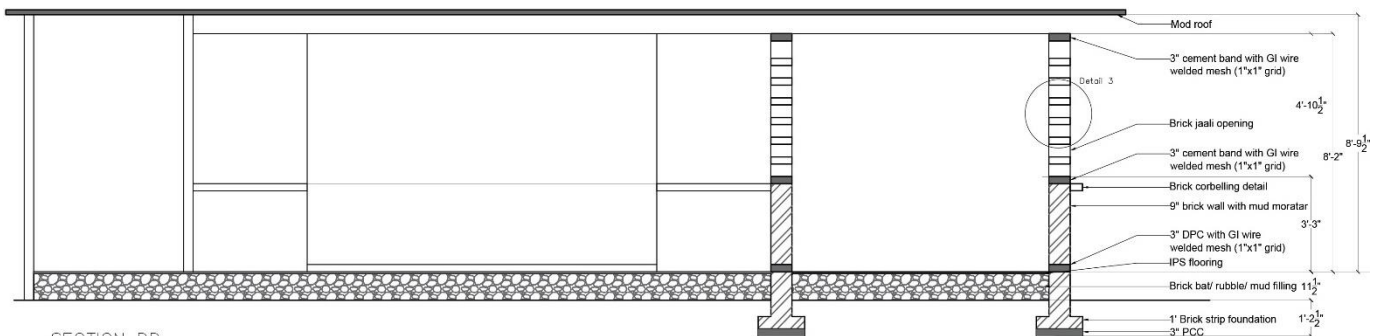
SECTION AA



SECTION BB



SECTION CC



SECTION DD

CONSTRUCTION PROCESS

CONSTRUCTION PROCESS AND COMMUNITY INVOLVEMENT

Consultations were held regularly with community representatives and local NGO partners for design, material selection and construction management related decisions. This ensured community involvement in decisions regarding placement, orientations and use of materials. However, the community played critical role in construction process. They helped identify the contractor from the village and finalised the scope of work. A construction committee was formed that would monitor the progress and quality of the construction. Bhupatbhai, Laljibhai and Vijaybhai were part of the committee identified by the community. A whatsapp group including contractor, architect, project coordinator team and the construction committee was made for regular construction updates.

Each field visit by architect team was used as an opportunity to orient and educate the contractor as well as committee members regarding critical aspects of construction through practical means at relevant stages. Further messages were shared on the common online group regarding the quality, work-progress and cost.



Discussing the Design with - Construction Committee



Explaining the Design to Contractor



Discussing Roof with Mod Roof Team and Contractor



Women Carrying out Mud Plaster



Construction Commences with Puja



Foundation Work



Wall Masonry Construction



Roof Support Structure

LEARNING RESOURCE CENTRE



East and South Façade



Large window towards North



Classroom Expands into Otla (plinth)



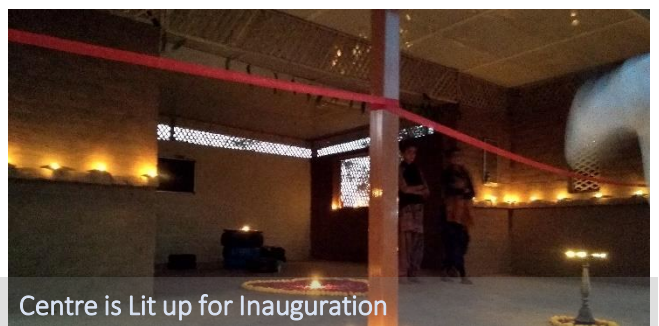
Entrance is Covered with Projected Roof



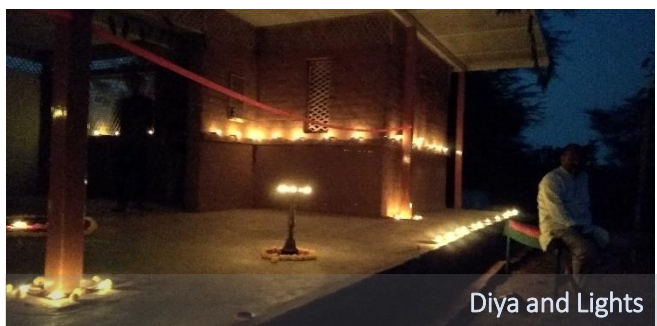
Community Gathered for Inauguration



Inauguration Programme



Centre is Lit up for Inauguration



Diya and Lights