

**DESIGNING THE INTERIORS OF SELECTED ANGANWADIS
UNDER THE CSR PROJECT OF SUN PHARMACEUTICAL
INDUSTRIES LIMITED**

April - 2020

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**DESIGNING THE INTERIORS OF SELECTED ANGANWADIS
UNDER THE CSR PROJECT OF SUN PHARMACEUTICAL
INDUSTRIES LIMITED**

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By

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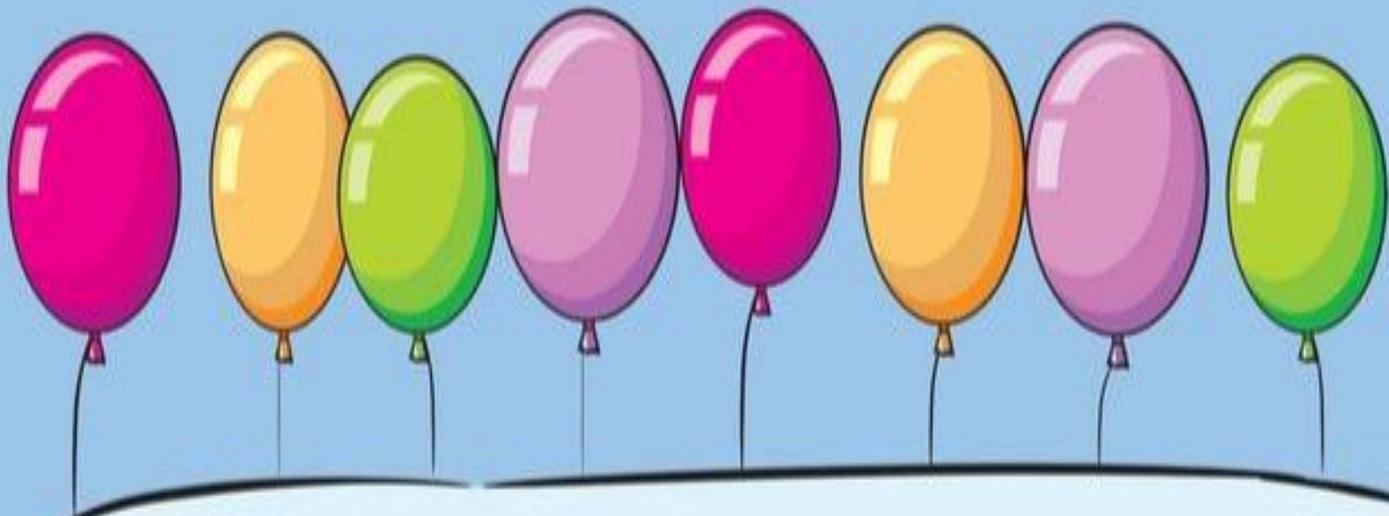
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INTRODUCTION



CHAPTER I

INTRODUCTION

Introduction

“There is always one moment in childhood when the door opens and lets the future in”.

(Graham Greene, 1940)

Children consider playing as a type of work. In their play, they build and rebuild their own world around them. Play is an ordinary process by which children grow and learn which they do best when they are enjoying themselves. The environment of the space where children play should be designed to help children’s usual character to discover the world around them. Although children desire to play close to their parents or caretakers, they do slowly begin to amuse themselves alone or with friends for short periods by going to play centers where other children are accompanied.

The design for spaces occupied by children must support active experimentation and risk-taking without being unsafe for them. The interior environment and equipment must be arranged to minimize hazards and errors. The interior environment influencing children’s behavior has a long impact on early childhood education.

The interior environment of the play centers affects its operational value and has an intense impact on the behavior and the development of children. The ideal environment is that which reflects the presence of the child; which attracts the children and is rich and challenging to children, but is not over-stimulating or flashy; rather is rich in subtle visual and tactile experience. It is significant to remember that the shapes, colors, inspiration, and encouragement are crucial parameters in a child’s development. Colors, patterns and textures are vital for a child’s visual, and tactile development. The best children’s spaces are colorful and welcoming, busy but organized, energetic yet soothing (Daga, 2006).

When space is regimented, with open pathways that lead to activities that offer enough to do, children manage on their own. They can move freely from one activity to another, giving the caretaker a chance to attend an individual child according to their needs. Space that is not regimented creates trouble. These consist of dead spaces that promote wandering and unruly behavior, and pathways that lead nowhere or hamper while play is already in process. When space is poorly planned, children are reliant on the caretaker for direction and the caretaker cannot assist each individual child due to time-bound, thus children have fewer opportunities to participate in free play. Also, space needs to be assorted and flexible, easy to maintain, safe, friendly for the child.

The early years of childhood are quite precious. Children are naturally creative at this age learn a great deal by experimenting with paint, materials, and role-playing. Weinstein (1987), articulate that “classrooms should be created in a manner that reflects the presence of the child. In other words, designing walls and bulletin boards should provide opportunities to children for personalizing with artwork, photographs, projects, stories, height, and weight charts, and birthday lists. Whatever is planned should be flexible and changeable, depending on the needs of the children and opportunities unseen during initial planning”.

Initial years of childhood and their development

Describing the initial years of childhood and their development Ruth (1961), states that “In the first few years of a child’s life the development of mind, body, and spirit are the most formative. Since birth, the children begin a marvelous path of development in many dimensions: cognitively, socially, emotionally, and physically. Sleep, emotional and physical nourishment and sensory stimulation is important for young children during this period. Therefore, the most vital need for these young children is warm nurturing and care by the adults they depend upon in secure surroundings with safe types of equipment and play items that meet their needs and support their individual development”.

Children are like flowers opening to the sunshine where parents and teachers should nurture them with love and affection and support them from damaging because children are precious especially in their early years (Bakshi, 1986). The world of small children in which they grow up, forms their ideas and develops their imagination and is usually confined within four walls of the nursery and the limits of their domain should accordingly be extended as far as possible (Brandt, 1955).

During childhood, every child requires a suitable interior environment that supports shaping years of education. Elders should find facilities that make provision for activities and provision for developing habits within a child along with adequate means for protecting the children. The process of smooth and integral change in the life of people is tied with the ways in which children are brought up. They are achieved only with advance planning, which allows the designer to think about children's designing style and design the spaces so that there's enough storage for materials, visual aids, and an activity area. Thus, there is a need for a place where the children can spend their initial years and show their own creative ideas (Dasgupta, 2012).

Development of Anganwadi under ICDS program

India's retort to the confront of providing pre-school education on one hand and breaking the brutal cycle of malnutrition, morbidity, reduced learning capacity, and mortality, on the other hand, ICDS is a Centrally-sponsored Scheme which was implemented by the State Governments/administrations and was launched on 2nd October 1975. The Government has taken actions and implemented a program for the development of children named "Integrated Child Development Service" (ICDS) which takes care of overall developmental needs of children who belong to the age group of 3-6 years, pregnant women, lactating mothers, in the age group of 15-45 years, through the Anganwadi Centers. The main objective of this program is to cater to the needs for the development of children in the age group of 3-6 years. ⁽¹⁾

The Anganwadi is literally a courtyard play center. It is the neighboring place from where Anganwadi worker (caretaker) provides correspondence of services to the beneficiaries at the community level to children below six years of age, pregnant women, nursing mothers, and adolescent girls. Also, the Anganwadi is a gathering place where a group of women's/mothers come mutually together, with other forefront workers, to encourage awareness and joint action for child development and women empowerment. ⁽¹⁾

The Anganwadi is generally operated in semi-structured or structured areas with inadequate infrastructures and resources which may hinder the learning activities of children. Therefore, it is essential to design and develop proper learning space with appropriate infrastructure for children.

While designing a space for children components like furniture, lighting, colors, furnishings, accessories, storage, space, ventilation of room should be considered as major factors for making Anganwadi a pleasant and place conducive to the teaching-learning process. An area needs a good selection of color, texture, pattern, furniture, furnishings which suit children and selection of all these aspects depend upon functionality, economy, beauty, and individuality which make interiors convenient, pleasant, and cheerful for work (Shukla, 1988). The Anganwadi premises should be such which is encouraging the teaching-learning process. An essential part of this process is consulting the community to know their needs. One should know the interests and favorites of children so it will be easy to design according to their interests and needs. So one can plan and design the Anganwadi which would make the design very special to them (Dasgupta, 2012).

However, generally it is observed that the Anganwadi developed under the Government ICDS scheme in the rural areas and semi-urban areas are semi-structured or structured with inadequate infrastructure due to limited funds. Therefore, many corporate sectors have come forward to join hands with the government to serve the community in many projects in Gujarat and across India under the public-private partnership scheme.

CSR activities under Sun Pharmaceutical Industries Limited

Sun Pharmaceutical Industries Limited is an Indian multinational pharmaceutical company established in 1983. The headquarter of Sun Pharmaceutical Industries Limited is in Mumbai, Maharashtra. The company manufactures and sells pharmaceutical formulations and active pharmaceutical ingredients mainly in India and the United States. Sun Pharmaceutical Industries Limited, under its Corporate Social Responsibility (CSR), carries out various projects which act as a beneficiary for the community. Various projects related to health, education, water, livelihood, environment, and disaster relief are undertaken as the key priorities in the area of Corporate Social Responsibility (CSR).⁽²⁾ As a part of CSR activity this year Sun Pharmaceutical Industries Limited had taken an initiative to develop Anganwadis for the villagers of the Panchmahal District. Therefore, the present study focused on designing the interiors of the spaces provided to develop Anganwadis in the two villages (Ujeti and Kashipura) of Panchmahal District under the CSR project of Sun Pharmaceutical Industries Limited.

Justification of the Study

Children require an age-appropriate interior environment that chains and motivates child intended and child-initiated measures. The environment must maintain and encourage the child's communication with space, materials, and people. The interior environment has rigorous contact with children's learning and behavior. The Anganwadi should motivate a child's optimal development by providing a safe, interesting, and suitable environment that allows children to involve in developmental activities. Primary years of childhood are of great importance in consideration with the physical, social and cultural environment therefore, designing high quality, developmentally suitable Anganwadi, has a great influence on behavior and attitude of a child.

Anganwadi is a place where children carry out various activities under the guidance of the Anganwadi worker. Children are encouraged to participate in various activities if the Anganwadi is well designed and has a pleasing interior.

To make the interiors pleasing the Anganwadi should have enough space which is well utilized has a sufficient amount of natural and artificial lighting, good ventilation, insulation from heat, clean outside area and attractive interiors. As observed generally the Anganwadi runs under Government ICDS scheme in semi-structured or structured areas with poor infrastructure due to limitation of funds.

During the review of literature, plentiful studies in India and outside India were found focusing on interiors of play centers and schools in India and abroad. Various studies were conducted on the psychological effect of the interior on children like Dasgupta (2012) carried out a study on, "Assessing and Redesigning the Interiors of Selected Anganwadis from Vadodara City", Dekhatwala (2006) carried a study on, "Designing Electric Lighting for selected schools of Vadodara City, Daga (2006) carried out a study on, "Designing an Integrated Interior- Environment for the selected Pre-school", Bhagchandani (2005) carried out a study on, "Modular Furniture for Kids Room", Singhal (2001) carried a study on, "A Study of Existing Interiors of Children's Room of Residential building of Vadodara City", in the Department of Family and Community Resource Management.

Many researchers were conducted outside India which focused on Effectiveness of kindergarten design, Architectural structure on the learning environment and growth and development of children in education (Ramli et.al, 2014, Cheryan et.al, 2014, Arian and Mirdad 2014, Astaresh et.al, 2015).

Similar, kind of studies were conducted in India focusing on Facilities like toilet, kitchen, storeroom, blackboard, dairies, chart, weighing scale and measuring scale and services at Anganwadi centers (Malik et.al, 2015), Knowledge and practices of Anganwadi worker and availability of Quality infrastructure like improper ventilation, inadequate lighting, space for sitting arrangement, logistic like a chair, table and boxes provided under ICDS program (Thakur et.al, 2015, Sembiah et.al, 2017).

However, a dearth was found in research projects carried out on Interior designing and development of Anganwadis under the public-private partnership concept in India. Therefore, it was thought that designing interiors of Anganwadi with the concept of public-private partnership under the banner of ICDS scheme introduced by the Government of India will not only contribute to the researches carried out on Anganwadis, playschools, kindergarten, primary schools, but will also strengthen the public-private partnership concept for the development of community and eventually the development of the nation.

The finding of the present study will give a platform to practical and 'real-life' approach to theoretical knowledge. Further, this kind of study will be useful to the students of Family and Community Resource Management especially under the course of Interior designing and also to the students of other institutions to develop and enhance the required skills and confidence in handling the 'real-life' project. It is expected that the design will be functionally effective and will foster natural creativity and play within the children of selected Anganwadis. The design concepts in the project will create an environment which will encourage children to function independently, that will improve their learning experiences.

The present study will provide essential design guidelines to the Interior Designers and Decorators in designing other Anganwadis and preschool premises with regard to creating designs that are aesthetically appealing and functionally satisfying. The study will also provide a guiding principle which will be beneficial to the Governments ICDS scheme in designing other Anganwadis.

Statement of the Problem:

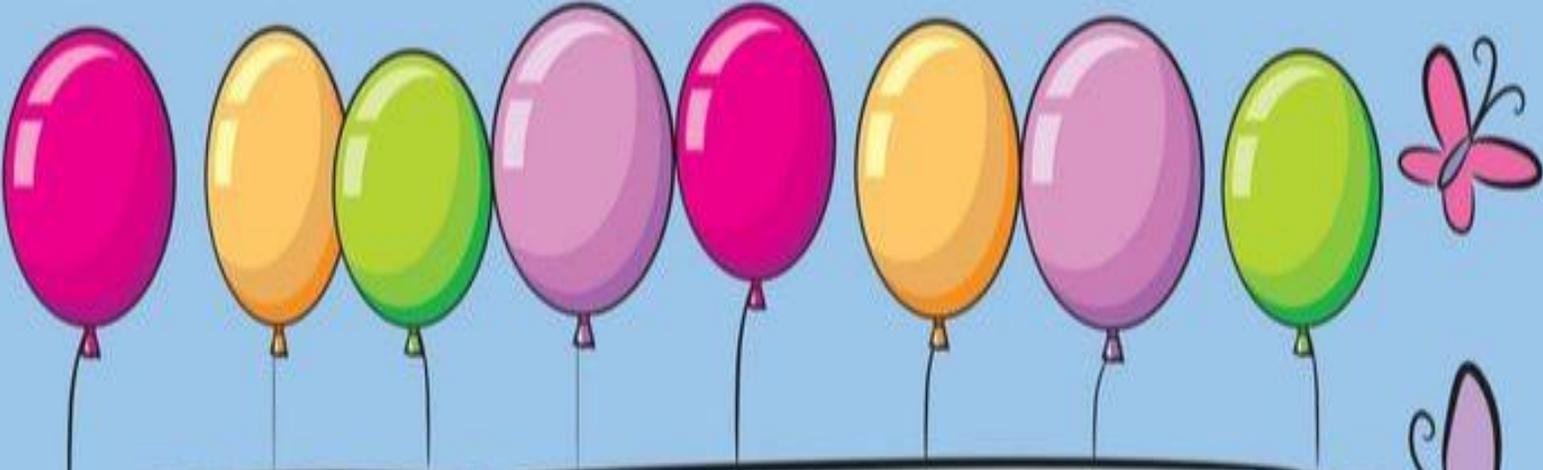
The present study aimed on designing the Interiors of the spaces provided for Anganwadis in the two villages (Ujeti and Kashipura) of the Panchmahal District of Gujarat under the CSR project of Sun Pharmaceutical Industries Limited.

Objectives of the Study:

1. To assess the spaces provided for Interior designing of Anganwadis in the two villages (Ujeti and Kashipura) of the Panchmahal District of Gujarat under the CSR project of Sun Pharmaceutical Industries Limited.
2. To identify requirements by clients viz. the General Manager, CSR activities of Sun Pharmaceutical Limited and the Anganwadi workers regarding interiors of Anganwadis.
3. To design the interiors of spaces provided for Anganwadis and present detailed working drawings.
4. To provide cost estimation of the selected design by the Sun Pharmaceutical Limited and implement the selected design.

Delimitation of the Study:

1. The present study was limited to the interior designing of two spaces provided for Anganwadis to be developed under the CSR project of Sun Pharmaceutical Industries Limited at two villages (Ujeti and Kashipura) of the Panchmahal District of Gujarat.



REVIEW OF LITERATURE



CHAPTER II

REVIEW OF LITERATURE

The review of literature is an important part of any research. It is a portrayal of work done on a similar topic by recognized scholars and researchers. It is a concise version of an exhaustive literature survey of technical writings and data from prior journals, articles, books, papers, and other researchers. It proves to be useful as the investigator comes to know about the areas which have been left unexplored and where the lacuna lies. It helps the investigator to get acquainted with the area of interest of study. The present chapter is divided into two sections:

2.1 Theoretical Orientation

2.1.1 Significance of the Physical Environment for the Growth and Development of Children

2.1.2 Integrated Child Development Scheme and Concept of Anganwadi

2.1.3 Role and Responsibilities of Anganwadi worker and Anganwadi Helper under the ICDS Scheme

2.1.4 Important Components of Interiors of Anganwadi

2.2 Empirical Studies

2.2.1 Empirical Studies Conducted Outside India

2.2.2 Empirical Studies Conducted in India

2.1 Theoretical Orientation

2.1.1 Significance of the Physical Environment for the Growth and Development of Children

For infants, the environment is the “primary medium for learning”. Further, it is also recommended that attachments to beloved places and objects are “central to the emotional life of the young child” (David and Weinstein, 1987). The first 10 years are the formative years for a child where it is important that he has a sense of belongingness and it is incredible how responsible, creative, and self-expressed our children can be in an environment (Parikh, 1999).

Children are active learners. Their best learning occurs when the emphasis is on hands-on interaction, play, and discovery rather than on trying to impart knowledge. Children have a natural curiosity that requires direct sensory experience rather than conceptual generalization. To be effective and engage children based upon their developmental abilities and ways of learning, the hands-on sensory experience needs to be immersive and open-ended rather than structured and scripted, as stated by (White, 2001).

The roots of current beliefs about relationships between individuals and early childhood environments lie in the work of Kritchevesky and Prescott (1969), whose classic analysis of child care settings in the 1960s led to the important observation of the influence of classroom design on the behavior of both children and teachers. Based on these observations, Kritchevesky and Prescott showed how teachers can alter the environment to achieve new goals or solve existing problems. Since the 1960s, researchers have identified links between the physical environment and the behavior of both children and teachers. The physical environment supports the operational quality of a center and profoundly affects the behavior and the development of children, as well as the efficient functioning and sense of well being in adult caregivers.

Stoecklin and White (2001), in their study, suggested that Children need age-appropriate physical environments that support and promote the child-directed

and child-initiated play. The environment must promote and positively support the child's interaction with space, materials, and people. Designing a high-quality, developmentally appropriate child care facility is a highly complex task that requires specialized and unique skills. The design and layout of the physical environment, which includes the building, interior finishes, outdoor spaces, selection of equipment, and room arrangement has a profound impact on children's learning and behavior and on teacher's abilities to efficiently do their job. Teachers and caregivers also need a highly functional, easy-to-use environment. When the environment supports both and is working for children and adults, it is easier for adults to focus on facilitating each child's play and learning. Further, they endorsed that the physical environment can either contribute to children's development and support staff and parent goals or create a permanent impediment to the operation of a high-quality program. A Similar kind of study was conducted by Caldwell (1997), in which he articulates that the physical environment becomes a valuable mentor if it is comfortable, pleasing, organized, clean, inviting, and engaging. These characteristics of learning environment are appropriate for spaces of all scale whether big or small, open or furnished public, or private. Floor space, wall space and ceiling space are all subject to these rules. Likewise, Graven (2004), too in his research also endorsed that Cognitive development in human infants is strongly dependent on the proximal environment or space immediately surrounding children including physical space, people, and their different activities.

2.1.2 Integrated Child Development Scheme and Concept of Anganwadi

Integrated Child Development Service (ICDS) is one of the leading and unique early childhood development programs of India, which was launched on 2nd October 1975 with the aim to address malnutrition, health, and also developmental needs of young children, pregnant and nursing mothers.

The ICDS is Centrally Sponsored Scheme, anchored by the Ministry of Women and Child Development, Government of India, under which the Anganwadi Services is a Centrally Sponsored Scheme wherein, Government of India

releases grants-in-aid to the States / UTs on the cost-sharing ratio between Centre and States/UTs. This scheme serves as one of the world's largest and most exclusive programs for early childhood and development. ICDS is considered to be the symbol of India's assurance to their children in which, under ICDS package, six services are provided which includes supplementary nutrition, immunization, health check-up, referral services, non-formal pre-school education and nutrition and health education (District Manual – Integrated Child Development Scheme, 2017).

Anganwadi under ICDS Scheme is a type of child care center situated in rural and sub-urban areas, all over India with the major objectives of children welfare and improving the nutritional status of children less than 6 years. The major five objectives of Anganwadis under ICDS program are:

- To improve the nutritional and health status of children in the age-group 0-6 years.
- To lay the foundation for proper psychological, physical, and social development of the child.
- To reduce the incidence of mortality, morbidity, malnutrition, and school dropout.
- To achieve effective co-ordination of policy and implementation amongst the various departments to promote child development.
- To enhance the capability of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education. ⁽³⁾

There are a total 14 lakhs Anganwadi Centers (AWCs) sanctioned across the country out of which 13.63 lakhs Anganwadi Centers (AWCs) are operational as on 1st June 2018, (Minister of State for Women and Child Development, 2018). ⁽⁴⁾

2.1.3 Role and Responsibilities of Anganwadi worker and Anganwadi Helper under the ICDS Scheme

An Anganwadi worker is a part-time honorary worker chosen by the people from the same locality, having educational qualification of middle school or Metric or

higher. Services at the Anganwadi centers (AWCs) are delivered by an Anganwadi worker and assisted by a helper who is also a local woman and is paid an honorarium. Anganwadi workers play a role of a bridge between the community and the ICDS. They play an active role in bringing the services to the doorstep of the beneficiaries.

An Anganwadi worker being the functional unit of the ICDS Scheme involves different groups of beneficiaries, the Anganwadi worker has to conduct various types of job responsibilities. Not only Anganwadi worker has to reach to a variety of beneficiary groups but also has to provide them with different services which include Nutrition, and Health Education, Non-Formal Pre-School Education (NEPSE), Supplementary Nutrition, Growth Monitoring and Promotion and Family Welfare Services. The Anganwadi worker also coordinates in arranging immunization camps, health checkup camps (Sandhyarani and Usha Rao, 2013).

Role and Responsibilities of Anganwadi Worker

The role and responsibilities of Anganwadi worker envisaged under the ICDS Scheme are as under:

1. To elicit community support and participation in running the program.
2. To weigh each child every month, record the weight graphically on the growth card, use referral cards for referring cases of mothers/children to the sub-centers and maintain child cards for children below 6 years and produce these cards before visiting medical and Para-medical personnel.
3. To carry out a quick survey of all the families, especially mothers and children in those families in their respective areas of work in a year.
4. To organize non-formal pre-school activities in the Anganwadi of children in the age group of 3-6 years and to help in designing and making toys and play types of equipment of indigenous origin for use in Anganwadi.
5. To organize supplementary nutrition feeding for children (0-6 years) and expectant and nursing mothers by planning the menu based on locally available food and local recipes.

6. To provide health and nutrition education and counseling on breastfeeding/ Infant and young feeding practices to mothers. Anganwadi workers, being close to the local community, can motivate married women to adopt family planning/birth control measures.
7. Anganwadi workers shall share the information relating to births that took place during the month with the Panchayat Secretary/Gram Sabha Sewak/ Auxiliary Nursing Midwifery (ANM) whoever has been notified as Registrar/Sub Registrar of Births and Deaths in her village.
8. To make home visits for educating parents to enable mothers to plan an effective role in the child's growth and development with special emphasis on newborn child.
9. To maintain files and records as prescribed.
10. To assist the Primary Health Centre (PHC) staff in the implementation of health components of the program viz. immunization, health check-up, antenatal and postnatal check, etc.
11. To assist Auxiliary Nursing Midwifery (ANM) in the administration of Iron and Folic Acid (IFA) and Vitamin A by keeping stock of the two medicines in the center without maintaining stock register as it would add to her administrative work which would affect her main functions under the Scheme.
12. To share information collected under ICDS Scheme with the Auxiliary Nursing Midwifery (ANM). However, Auxiliary Nursing Midwifery (ANM) will not solely rely upon the information obtained from the records of Anganwadi worker.
13. To bring to the notice of the Supervisors/Child Development Project Officer (CDPO) if any development in the village is required then their attention and intervention, particularly in regard to the work of the coordinating arrangements with different departments.
14. To maintain liaison with other institutions (Mahila Mandals) and involve lady school workers and girls of the primary/middle schools in the village which have relevance to her functions.

15. To guide Accredited Social Health Activists (ASHA) engaged under the National Rural Health Mission in the delivery of health care services and maintenance of records under the ICDS Scheme.
16. To assist in the implementation of Kishor Shakti Yojana (KSY) and motivate and educate the adolescent girls and their parents and community in general by organizing social awareness programs/campaigns etc.
17. Anganwadi worker would also assist in the implementation of Nutrition Programme for Adolescent Girls (NPAG) as per the guidelines of the Scheme and maintain such records as prescribed under the NPAG.
18. Anganwadi worker can function as a depot holder for Reproductive and Child Health kit (RCH)/contraceptives and disposable delivery kits. However, actual distribution of delivery kits or administration of drugs, other than Over the Counter (OTC) drugs would actually be carried out by the ANM or ASHA as decided by the Ministry of Health and Family Welfare.
19. To identify the disabilities among the children during her home visits and refer the case immediately to the nearest Primary Health Centre (PHC) or District Disability Rehabilitation Centre.
20. To support in organizing Pulse Polio Immunization (PPI) drives.
21. To inform the ANM in case of emergency cases like diarrhoea, cholera, etc. ⁽⁵⁾

Role and Responsibilities of Anganwadi Helper

1. To cook and serve the food to children and marchers.
2. To clean the Anganwadi premises daily and fetching water.
3. Cleanliness of small children.
4. To bring small children collecting from the village to the Anganwadi. ⁽⁵⁾

2.1.4 Important Components of Interiors of Anganwadi

The interior components of Anganwadi play a vital role in the development of children. These are the materials which can be used for Anganwadi Interiors.

FLOOR

Floors are horizontal flat surfaces meant for walking, running, jumping, and dancing. They are used for supporting furniture. The floors also take a certain amount of wheel traffic, for example, vacuum cleaners, trolleys, children's toys, etc. Floors also get the greatest wear and most dirt (Gandotra et.al, 2010).

The flooring for children needs material that can withstand rough play. The flooring should be easy to clean so that it can be sanitized periodically to ensure a healthy environment. The floor should be comfortable and preferably soft to help prevent injuries. The use of bright colors can help to stimulate creativity and inspire activity. ⁽⁷⁾

Material Used for Flooring

Rubber Floor Tiles: Rubber tiles are often used in pre-schools and on playgrounds, where children are their most active and need to be protected. Plush and yielding, rubber tiles come in a variety of thicknesses that determine how soft the floor will be. Interior spaces, such as in schools and nurseries, generally require only $\frac{3}{4}$ or $\frac{1}{2}$ inch thickness to create a safe and comfortable surface. For playgrounds and other highly active areas, the tiles may need to be 2 inches or even thicker. In addition to its softness, rubber is also great for commercial children's spaces because it is resistant to almost all staining agents. ⁽⁶⁾

Resilient Vinyl Sheets: Vinyl is a resilient flooring option that is resistant to virtually all staining agents. It is easy to clean, and it can be sanitized with any standard cleaning agent without fear of damaging its surface. Vinyl sheets can also be installed over a padded cork underlayment layer that will give a soft springy feel, making the room safe for kids. Some people hesitant to use vinyl in

a commercial children's location because it is known to off-gas small amounts of volatile organic compounds (VOCs) which are toxic elements that are released from the material after installation. However, there is evidence showing that VOCs from vinyl can irritate children who have respiratory sensitivity. ⁽⁶⁾

Natural Linoleum Flooring: Linoleum is a resilient flooring option that shares many of the qualities of vinyl. It is stain-resistant and easy to maintain, and it can be sealed with an acrylic sealer for additional stain protection. It can also be installed over padded underlayment to create a soft surface for kids to play. The primary difference between linoleum and vinyl is that linoleum is an all-natural product that does not off-gas any toxic compounds, and its manufacture is more environmentally friendly. ⁽⁶⁾

Carpet: Carpeting is a common choice for nursery schools, daycare centers, and anywhere you find small children on a regular basis. Soft, safe, and familiar, the plush surface of carpet lets kids hop down on the floor to assemble a puzzle, build a block palace, or line up toy soldiers for war and games. It also makes the surface cozy for nap time. The drawback to carpet is that it is susceptible to liquid damage in a variety of ways. Stains are always a potential problem, especially with lighter colors of carpet. There is a possibility of moisture penetrating down into the padding, where it can start to damage the subflooring below or promote the growth of mold or bacteria. Special water-resistant carpet can help to alleviate these problems to some extent, and steam-cleaning on a regular basis can help keep the carpet clean and free of contaminants. Carpets are also widely considered a flooring material that can trap dust and allergens, so it may not be the best surface for children with notable allergies. ⁽⁶⁾

Cork: Another relatively soft material, cork is an all natural-flooring choice that has a uniquely yielding feel that children find delightful. Slightly bouncy and squishy underfoot, cork can be fun to play on and will help protect kids from accidents, providing both traction and a moderate degree of cushion. Unfortunately, the soft surface of cork means that it can be damaged fairly easily, so it is best suited to areas that aren't subject to rough play, large toys, or heavy

foot traffic. Cork is an environmentally safe flooring material and entirely non-allergic. But it can also be damaged regularly sealed. Cork is one of the very best flooring materials for spaces where children play but has a very limited lifespan.⁽⁶⁾

WALLS

Walls are usually treated as backgrounds for living. The purpose of walls is to determine our movements and give privacy. Walls also govern the size, shape, and character of your room. They make rooms large or small, square or rectangular, high or low. Wall also serves another function; they provide background for your furniture and other decorative objects. They give background to your living and make the space livable (Gandotra et.al, 2010). Walls compose a stage setting for interior space. Bright, colorful, and cheerful wall paints would help in creating an exciting and positive environment for the kids. The principal decorative interest of a child is in coloring the walls with suitable patterns used to a limited degree (Singhal, 2001).

Materials Used for Walls

Plaster: Plasterwork is construction or ornamentation done with plaster, such as a layer of plaster on an interior or exterior wall structure, or plaster decorative moldings on ceilings or walls. This is also sometimes called pargeting. The process of creating plasterwork, called plastering or rendering, has been used in buildings construction for centuries. It may be given a variety of finish textures ranging from smooth to stuccoes.⁽⁷⁾

Wood: Wood is a traditional wall building material that provides a natural and fresh look to your exterior or interior. It is easily accessible and cost-effective. Wooden walls are light weighted and easy to install and relocate. Wooden walls lack strength and have a limited period, especially when used for exterior walls. They are susceptible to be rotten by rain and damaged by pests and chemicals.⁽⁸⁾

Wood is available in an immense variety of grains, colors, and styles. The patterns produced by shingles or by boards lay horizontally or vertically (Faulkner and Faulkner, 1988).

Applied Finishes on Walls

Paints: Paints are made from a broad range of natural and synthetic materials selected for their special attributes. Paints are the most widely used finish for walls and ceilings, for both decorative and protective purposes (Dasgupta, 2012).

Varnishes: Clear varnish without any color pigment is used as protective coatings on wooden walls or wood paneling. It is added as an essential ingredient for some paints and enamels. They emphasize the natural grain of the wood and thereby provide an attractive appearance (Gandotra et.al, 2010).

Wallpapers: Wallpapers are becoming popular in India. They are available in many colors, patterns, and degree of durability. The use of wallpaper as a finish has its advantages. They can be used in all rooms and can be tested for effectiveness. Wallpapers can make a room look small and crowded or it can make it look spacious and airy. The design and color chosen will help create the desired effect or either formality, informality, intimacy, activity, and so on. The architectural awkwardness or drawbacks can be effectively hidden behind the wallpaper. It covers up ugly patches, holes and unwanted decorations on the surface of walls (Gandotra et.al, 2010).

Wall Boards: A variety of materials are used for preparing wall boards. Some of the materials used are asbestos, wood fiber, sugarcane fiber, cement and other such material. They can be pasted on the walls or a wooden framework is constructed parallel to the existing wall over which the boards are fixed with nails and screws. The pattern of joints gives it an attractive appearance and decided character (Gandotra et.al, 2010).

CEILING

The third area which serves as a background for any space is a ceiling. The purpose of the ceiling is to protect us from the heat, rain, and other natural elements. It affects the illumination, acoustics, and heating or cooling of space. There is a variety of materials used to give different textures and lines to the ceiling (Gandotra et.al, 2010).

Materials Used for Ceiling

Plaster: The typical ceilings of modern spaces are plastered. It gives a uniform smooth texture. It can be painted white or in light colors and can be papered too textural patterns (Gandotra et.al, 2010).

Plaster of Paris: The Plaster of Paris is the majorly used material in the construction of a false ceiling. POP is obtained when gypsum is heated to a certain degree. It gives the aesthetical and functional help. They are attractive, almost no maintenance, and have a long life span. They are very excellent insulators. These types of false ceiling don't only hide the ugly members of the structure, ventilation ducts, and conduits but also give a smooth finish to the ceiling. A Variety of shapes and designs can be created from it. ⁽⁹⁾

Gypsum: Gypsum false ceiling is a hydrated sulfate of calcium. This type of false ceiling is lightweight, sound insulated, fire resistant, soft, and thermally insulated. Gypsum false ceiling comes in the shape of square boards that are hung with the help of iron framework. The finishing work on these boards includes paints, laminates, wallpaper, and texture. ⁽⁹⁾

Fiber: Fiber false ceiling is in high demand for construction of false ceiling due to low cost and easy installation. The material used to manufacture fiber ceiling panels is man-made of synthetic and natural minerals. As these are man-made they come in many shapes and sizes. ⁽⁹⁾

Wood: Wood is used as a false ceiling due to its natural textures and pattern. Nowadays these types of the false ceiling are used commonly as it gives

pleasant look to the eyes. Wooden false ceiling being costly is not used in commercial spaces but can be installed in residential buildings. They can be given various finishes or painted to get the right look. ⁽⁹⁾

Metal: As the metal is a hard and durable material, it is used extensively in the false ceiling. When the metal surface is polished it gives a shiny surface which is a treat for eyes. The metals used in this are galvanized iron and aluminum. The cost of this ceiling is low as they are easy to install and access. The hidden members of the structure are easily accessed as the panels are easily removable and reattached. The construction cost becomes less as the installation, fixing, and maintenance is low. ⁽⁹⁾

COLOR

Color is one of the basic elements of any interior designing project. An interior of any place can be made impressive, pleasant, or vice versa by the use of color. On one hand, where colors can play wonders in the interiors, on the other hand they can also spoil the overall effect. Color can create an illusion of brightness, darkness, or create a cooling effect and enhance or reduce proportions without, any extra financial cost. It can also affect individual performance, behavior, moods and overall personality (Gandotra et.al, 2010). The colors in lower intensities are more subtle and are enjoyed in large areas, whereas colors in higher intensities are to be used in smaller areas. Similarly, larger the area to be covered, the less intense the color should be and the smaller the area, the brighter the color may be as per the law of areas (Goldstein and Goldstein, 1960). Nature illustrates the application of the law of areas in presenting the light blue sky and water in very large areas, the dark green shadows of hills and trees also in large areas, the brighter green plants and grass in slightly smaller areas, and the bright colored flowers in the smallest area of all (Craig and Rusha, 1969).

Color plays an important role in our lives. It is a visual language understood throughout the world. When you try to communicate something through interior design, the best way to do it is through color. Interior design is highly dependent

on color schemes as it is the most important factor in interior design. Each tone of color has a significant effect on our moods, has a specific meaning and, interlinks with our mind frame. Colors have the power to change your mind and mood. Depending on the color the room can look over-stimulated or under-stimulated. ⁽¹⁰⁾

FURNITURE

Furniture refers to movable objects anticipated to support various human activities such as seating, eating, and sleeping. Furniture is also used to hold objects at a suitable height for work or to store things. Furniture can be a product of design and is well thought-out as a form of decorative art. Furniture adds charm to the space and improves space; it helps in increasing the comfort level and defines an area.

Furniture in any interior space adds a sense of completeness to the room. Choose furniture which is safer than designed. For this purpose, prefer hand-made furniture over other types. This would not have any loose screws sticking out that may cause potential damage to the kids. They save a lot of space but they also consist of drawers where children can keep their books and toys. Small cane stools are the best furniture for the little ones. They are comfortable and cane looks elegant, too. There should be minimum furniture in the space designed for child (Dasgupta, 2012).

Materials Used for Furniture

Wood: Wood has always been and still is the most commonly used material for making furniture. Wood has remarkable strength in relation to its size and shape. It is comparatively inexpensive in original cost and in labour cost involved in shaping and joining it and is also economical to maintain over a long period of time. The natural color and grains of wood have a beauty and individuality of its own. The characteristics and arrangement of fibers in any wood determine its ability to hold nails and screws and the ability to absorb paints, stains, and

lacquers. As wood is an organic material hence it burns, rots, decays, and is attacked by insects, therefore care must be taken (Gandotra et.al, 2010).

Metal: Metal as material for furniture is in use since time immemorial. Metal furniture does not look bulky and offers the possibility of being folded which is very essential for small spaces. Moreover, it is strong and durable. Aluminum is now extensively used due to its lightweight and non-rusting property. Metal furniture parts can be joined by welding, riveting, or bolting which are sturdier than joints of wooden furniture (Gandotra et.al, 2010). As nowadays in Anganwadis less space is available metal furniture acts as the best choice.

Plastic: The use of plastic furniture is of recent origin, but has gained high popularity due to its lightweight, low cost, and color variation offered. It is non-rusting; easy to move from place to place and is easy to maintain. Plastic furniture now is available in a wide range of variety and color. It can however be recycled (Gandotra et.al, 2010).

Cane: Cane has been used to make furniture since long. It is easily available in villages hence was extensively used there. It is light in weight, less costly than wood, and sturdy. Its natural color easily blends with any color scheme. It needs little maintenance such as regular dusting and cleaning as the possibility of dust and insect settling in the woven surface of the cane increase. It gives a rather bulky appearance (Gandotra et.al, 2010).

LIGHTING

Good lighting is essential for safety and to prevent accidents. Lighting also contributes to the attractiveness and character of the space. It makes space look large or small, cheerful or gloomy, intimate or formal. It can also be used to emphasize or draw attention to important things. There are two types of lighting, that is, general and local. General lighting could be direct or indirect. Direct lighting the light falls directly on the objects. While in indirect lighting the light is thrown against a surface (usually ceiling) from which it is reflected. Whereas, local lighting is essential to increase the efficiency of work. Local lighting helps to

create the right mood, emphasize important objects, and bring variety and rhythm in the room (Gandotra et.al, 2010).

Ideally, for children daycare spaces one should take advantage of as much natural light as possible. However, natural light is not always available in daycares. Therefore one must opt for artificial lighting, choose halogen lighting (white) over incandescent light sources that have a yellowish color. Avoid using colorful overhead lighting or light fixtures as your main source of lighting. Although they can be very appealing for the eyes since they come in several adorable shapes, they do not represent a good light source. ⁽¹¹⁾

VENTILATION

Ventilation is the process of “changing” or replacing air in any space to provide high indoor air quality. Ventilation in today’s space has become more important than it was for spaces that existed long ago. Spaces built a century ago had no insulated walls this had gaps, cracks, and holes, that allowed the flow of fresh air. Also, the building materials used were mostly natural products that did not result in significant production of volatile organic compounds (VOCs) and other chemicals that are so prevalent in today’s building material, furnishings and other stuff. In order to overcome these hazardous gases, and even let the walls and space breathe, ventilation is of utmost importance. ⁽¹²⁾

Good ventilation calls for expert precision. Factors that must be taken into account include the size of the room, the activities of the children in the room, and the number of children. It is important to exclude draughts. However, there must be adequate air circulation, so that stale air can be extracted and fresh air is supplied. With mechanical ventilation, the outside air is filtered before being blown into the building and is therefore even cleaner than the air coming in through the windows. The cleaner the air, the fewer the allergens, that can cause allergies and other health problems. Good ventilation keeps these culprits out and ensures a healthy indoor climate. So the smallest among us can play in the environment they deserve. ⁽¹³⁾

STORAGE SPACE

The importance of space as an element of structure has been recognized, however the organization of space is basic in interior decoration (Rutt, 1961). Neatness can be encouraged by providing good storage space, such as shelves for books and front cabinets for the collection of toys. Closet space should be spacious and within easy reach of the child (Hawkins and Abbe, 1948). Today there are many types of accessories and furniture available in the market that allows for versatility and flexibility in their use and help one to make most of the space available for storage and work (Sarkar, 2009).

An Anganwadi needs large storage space, as there are innumerable toys, food storage, stationery, and school supplies and also few colorful toys like soft toys. To accommodate the toys that are spilling over, storage boxes of interesting, and varied shapes and sizes should be made, and also accommodation should be made so that all the things are stored at a particular place (Dasgupta, 2012).

Currently available materials for Anganwadis

For the various interior components of the Anganwadis, there is a range of materials available in the market. Following are the materials available for the interiors of Anganwadi as per the market survey conducted by the investigator during the month of August and September 2019.

Floor: Vitrified tiles, rubber tiles, carpets and rugs, cork, wood, laminates, vinyl ceramic tiles and marble.

Walls: Wall paints, wall murals, wall textures, wallpapers, wall stencils and wall paneling.

Ceiling: Metal, fiber, wood, plaster, plaster of Paris (POP) and gypsum board sheets.

Furniture: Wood, plastic and metal.

Doors and Windows: Wood, steel, iron, aluminum and fiber.

2.2 Empirical Studies

2.2.1 Empirical Studies Conducted Outside India

Ramli et.al, (2014), conducted a study on, the effectiveness of Kindergarten design in Malaysia; with an aim to examine the effectiveness of kindergarten design in promoting early childhood development before embarking further in the education system in Malaysia and to investigate the problems that kindergartens today are facing while using this as a basic guideline to foster better kindergarten design in the future. The study was conducted using a case study approach and data collection drew attention to two topologies of kindergartens; single dwelling kindergarten and shop lot kindergarten. The study stated that it is essential for a kindergarten to offer all four environmental stimuli to further enhance the quality of early-age education through effective design and architectural approach. From the findings, it was found that the natural setting is an important element for a conducive learning environment that encourages children's growth and development in education. But due to constraints in the context of urban living in a modern society like limited land space, price hike of property and land ownership issues, kindergarten nowadays have no choice but to use existing buildings like residential and commercial typologies as learning centers. However, from the study conducted, a single dwelling type of kindergarten is much appropriate to be considered as education centers for preschool children because of safety, security, and privacy reasons.

Cheryan et.al, (2014), conducted a study on, Designing classrooms to minimize student achievement; stated that, improving student achievement is vital for our nation's competitiveness. Scientific research shows how the physical classroom environment influences student achievement. The findings of the study revealed that the building's structural facilities profoundly influence learning. Inadequate lighting, noise, low air quality, and deficient heating in the classroom are significantly related to worse student achievement.

Ariani and Mirdad (2014), conducted a study on, the effect of school design on student performance; with a purpose to explore the relationship between school design and student performance. The participants for the study were 40 students from two Iranian public and private schools. It was suggested that, school planners and school teachers should work more closely with each other in terms of a better environment and better education and that not only should school planners and architects should improve their understanding of learning and teaching issues but also the policymakers should benefit from the hindsight experience of school planners and teachers as consultants. The present study also suggests that the future of physical learning spaces will be promising if planners and architects work on educational issues, and also on acquiring skills, knowledge and qualifications in other related disciplines in order to better prepare them for paying attention to physical learning, and teaching environment.

Astareh et.al, (2015), conducted an analysis on, Kindergarten architectural ideas with a focus on play element; with a purpose to find some ideas to create indoor and outdoor spaces in a kindergarten, with a focus on play element to ensure the physical and mental health of children. This fundamental research was performed using documentation and library methods. It was stated that kindergarten is not merely an educational environment. It is also an environment for play, entertainment, and happiness. Learning takes place unconsciously during playing games, but when the child starts to enjoy the process, the unconscious learning turns into conscious learning gradually. Further, it was observed by the researchers that, most kindergartens in Iran are not standard and appropriately designed for children. They are mostly located in residential areas and apartment buildings that are painted to suit children. Recently, the Ministry of Education has focused on the educational progress of children in kindergartens and pre-elementary schools. They also suggested that this research can be generalized to other educational spaces such as elementary schools, training centers, and centers for the Intellectual Development of Children and Adolescents. More studies in larger research fields are

recommended for designing a kindergarten environment, with a focus on two elements of play and outdoor open areas, to improve children's learning.

2.2.2 Empirical Studies Conducted in India

As stated by Jayesh Patel, the founder of Manav Sadhna, "According to your thoughts, we can transform each Anganwadi into a clean and beautiful temple with basic amenities at a minimum cost. There are two benefits of this idea: the children get a nurturing environment and the children's family and community get indirect inspiration and guidance". ⁽¹⁵⁾

Dekhtawala (2006), conducted a study on; designing the lighting for various schools of Vadodara city; assessed existing lighting conditions in various areas of the selected schools against the illuminance recommendations given by the Bureau of Indian Standards. For the assessment visual performance and visual comfort of students were taken into consideration. The data of visual acuity revealed that there was a successive decrease in the accuracy factor and a successive increase in time taken on visual acuity tests by the students under best lit to worst lit illuminance conditions, and there was a successive decrease in the accuracy factor. Based on the data collected, a well planned electric layout was developed.

Dasgupta (2012), conducted a study; on an assessment of interiors of selected Anganwadis of Vadodara city; with an objective to assess the existing status of interior of selected Anganwadis from Vadodara city. For the study, 20 Anganwadis from various parts of Vadodara city were taken as samples for assessing the interiors. It was observed that the Anganwadis were the houses of Anganwadi worker/helper which were given for the purpose of the use of Anganwadi for which they got rent from the government. They had only one room. Almost all the Anganwadis were found to be having pucca room and very few were found to have semi-pucca rooms. The Anganwadis had blue, pink, cream and, ivory colors on the walls. There were some Anganwadi rooms in which paints and plaster were chipping off. The majority of the Anganwadis used

Kota stone as a flooring material. Most of the Anganwadis had R.C.C (Reinforced Concrete Cement) type of ceiling and some of them had plastered roof. The majority of the Anganwadis had a single door and was made of wood and had a medium finish and was in good condition. None of the Anganwadis had any window treatments and most of the Anganwadis had not placed the windows opposite to each other so on the basis of that the researcher judged that cross ventilation was not present. Tables and chairs were not present mostly in all the Anganwadis and the storage cupboards were made of steel and wood. Very few Anganwadis had clocks, chandeliers, and flowers as accessories and the condition of the charts and poster was poor. All the Anganwadis used general lighting. For the seating purpose durry and carpets were used to sit on the floor by the children. Further, the researcher suggested that a place where children play, recreate their own world around them should be well designed to help children's natural instinct to explore the world around them. For this one needs to understand the basic necessities of children which would help in their development and learning. Assessment of space such as flooring, placement of furniture, storage, color, and type of lighting can develop the sense of comfort required for children. Hence there is a need to improve the interiors of Anganwadi.

Malik et.al, (2015), conducted a study on, assessment of facilities and services at Anganwadi centers under the Integrated Child Development Service Scheme in Northeast District of Delhi; with an aim to assess the facilities and services being provided at the Anganwadi centers (AWCs) by the Anganwadi workers with regards to the norms laid down by Integrated Child Development Services (ICDS) scheme, with special emphasis on the children of 0-6 years of age. A cross-sectional study was conducted. For the study, 41 AWCs were included and the Anganwadi workers at these AWCs were interviewed. The results revealed a deficiency in the provision of services at the Anganwadi Centers (AWCs) along with inadequate knowledge among Anganwadi workers regarding revised nutrition norms. Further, it was suggested that Anganwadi workers need to be trained regularly and their knowledge should be updated from time to time

followed by timely quality assurance of services. There is also a need to address the problems faced by the workers while delivering their duties.

Thakur et.al, (2015), conducted a study on; to assess the knowledge and practices of Anganwadi workers and availability of infrastructure in ICDS Program, at District Mandi of Himachal Pradesh, with an objective to assess the knowledge and practices of Anganwadi workers and availability of infrastructure for AWC under ICDS. A cross-sectional study was conducted on 60 AWCs and 60 AWWs of selected ICDS blocks of District Mandi, Himachal Pradesh by a simple random sampling method. The study revealed that, majority of Anganwadi Centers (85%) had a single room for sitting, cooking, and storing food items, LPG for cooking food (98%), and Pucca house (98%). All Anganwadi Centers had doors, drinking water, and toilet facilities, while (93%) Anganwadi centers had adequate posters and charts. Further, it was suggested that the Anganwadi centers need to be strengthened in structure and supplies and also there is a genuine need to repair or replace the storing bins and other infrastructure from time to time.

Sembiah et.al, (2017), conducted an evaluation study on Quality of Infrastructure in a Rural Area of West Bengal; with an aim to evaluate various aspects of AWCs such as physical infrastructure, logistics, manpower and services provided at AWCs. A cross-sectional study was conducted in 23 ICDS centers. The results stated that Anganwadi centers had improper ventilation and inadequate lighting, due to which the working time of the Anganwadi centers was reduced. Space constraints regarding the sitting arrangement of children were present in Anganwadi centers, which lead to overcrowding which in turn leads to the unclean environment and facilitates the spread of illness and low attendance in children. Most of the Anganwadi centers had toilet facilities available. Logistics like chairs, tables, and boxes were adequate in more than 50% of Anganwadi centers. The study also stated that most of the Anganwadi centers were not in the pucca building and also did not have adequate cooking space and separate storage space. From the findings, it was stated that emphasis should be given to

strengthen the basic infrastructure of Anganwadi centers which would further help in delivering quality services to the beneficiaries. Also, immediate steps should be taken to improve the overall ambiance of all ICDS centers so that there will be optimal utilization of the services by the beneficiaries.

Samanta et.al, (2017), conducted a study on; status of early childhood education under integrated child development services scheme in Bankura municipality, West Bengal, with an objective to assess the ECE component of ICDS services through measurement of school readiness and find out their correlates. A cross-sectional evaluation study was carried out among Anganwadi centers. AWCs were selected by 30 cluster sampling, from each selected center Anganwadi worker, 7 randomly selected children of 5years of age and their caretakers were included in the study. It was observed that more than half of the Anganwadi centers had no display on the wall, and in rest of the centers' display was placed too high. Most of the centers did not have flexible sitting arrangements and only a few centers had space to do indoor activities freely. From the findings it was suggested that for the proper functioning of an Anganwadi center, it should be housed in a building with a kitchen, should have a baby-friendly toilet, drinking water facilities, and adequate space for children to play.

Joshi (2018), conducted a study on; the knowledge of Anganwadi workers and their problems in Rural ICDS block, with an aim to study the profile of Anganwadi workers and to assess knowledge of AWWs and problems faced by them while working. A cross-sectional study was conducted, where Anganwadi workers were selected by convenient sampling technique. It was observed that most of the Anganwadi centers were situated in own premises and only a few were situated in rented buildings. Most of the centers were built in pucca buildings. Very few Anganwadi centers had one room and most of the centers consisted of more than 2 rooms. Chairs, tables, tools, mats, medical kits, first aid boxes, charts, and posters were available in almost all the Anganwadi centers. All the Anganwadi centers had a mat to sit and almost all centers had adequate ventilation and electricity. All the Anganwadi centers had an open drainage systems and few of

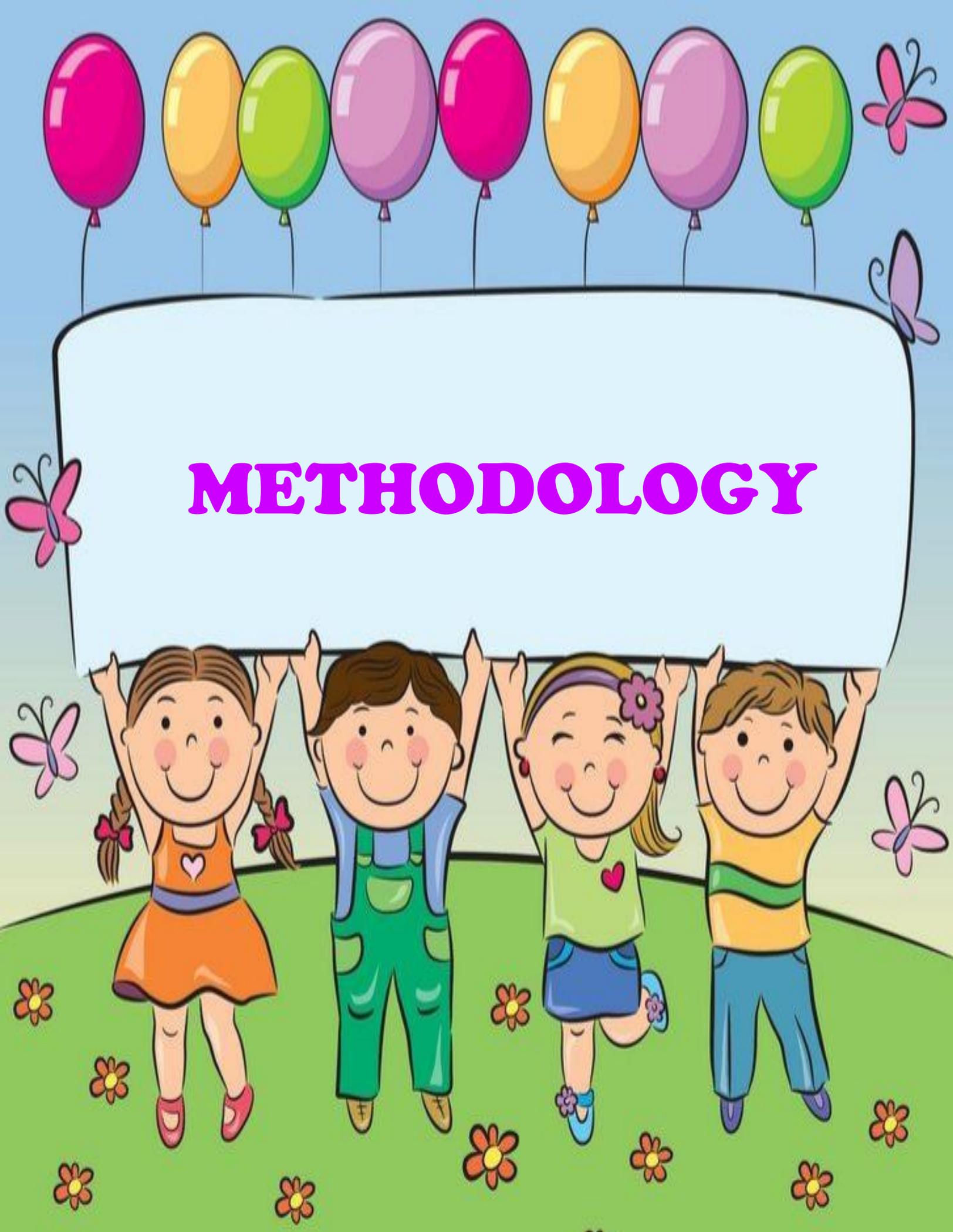
them had toilet facilities available. Mostly all the Anganwadi centers had a separate kitchen and used smoke chulha.

Conclusion

The existing review of literature clearly illustrated the fact that the interior environment of Anganwadis is extremely essential for the growth and development of young children. The quality of the physical environment of early childhood centers has a profound impact, particularly on the cognitive and development of social behaviors in children. Researchers also revealed that young children learn more through interaction with their physical, social and cultural environment; and it is essential to consider the various components of interior environment such as the floor, wall, ceiling, color, furniture, lighting, ventilation, storage space, and overall ambiance while designing any space for children.

The existing review of literature indicates an immense need to conduct researches that relate to designing various aspects of the interior environment of Anganwadis and their effect on the development of children, considering different components of the interior. However, the investigator came across various studies conducted on Anganwadi related to space, but dearth was found in research carried out on interiors of Anganwadi developed under the public-private partnership scheme under the banner of ICDS scheme introduced by the government of India.

Therefore the present investigation on designing the interiors of Anganwadi was considered.



METHODOLOGY

CHAPTER III

METHODOLOGY

The purpose of the research is to discover an answer to the question through the application of scientific procedures. The research methodology is the way in which research problems are solved systematically. It is a science of studying how research is conducted scientifically. Under it, the researcher is acquainted with the various steps adopted to study a research problem, along with the underlying logic behind them (Kothari, 2008). The present chapter deals with the methodological procedure adopted for the present investigation. In order to aid systematic presentation, it is divided into various sections which are distinctly described here:

3.1 Research Design

3.2 Operational Definitions

3.3 Locale of the Study

3.4 Unit of Inquiry

3.5 Selection and Construction of the Tool

3.6 Description of the Tool

3.7 Establishment of content validity of the Tool

3.8 Data collection, Design Development and Implementation

3.8.1 Phase I : Assessing the Spaces Provided for Designing the Interiors of Anganwadis

3.8.2 Phase II : Identification of Requirements of clients viz. the General Manager, CSR activities of Sun Pharmaceuticals Industries Ltd. and Anganwadi Workers Regarding Anganwadi Interiors

3.8.3 Phase III : Design Development

3.8.4 Phase IV: Cost Estimation and Implementation of Selected Design

3.1 Research Design

Research design is the plan, structure, and strategy of investigation conceived to obtain answers to research questions and to control variance (Kerlinger, 1973). For the present study Design Project method, was adopted as the research design.

A Design Project is a strategic organization of ideas, materials and processes for the purpose of achieving a goal. The Design Project is managed by the design project manager who is responsible for all aspects of planning, budgeting and execution of the project. The design project manager consults the clients regarding their available space, needs and style preferences. Then, the design project manager uses their in-depth knowledge of design principles, concepts, and best practices to create a project plan that includes detailed layouts, technical models and drawings, and estimates for cost and material. Once the plan is approved, the design project manager coordinates with other project leaders and other project team members to implement the plan. ⁽¹⁵⁾

3.2 Operational Definitions

- **Anganwadi:** For the present study, Anganwadi was a space provided to children for their teaching-learning activities at Ujeti and Kashipura village of Panchmahal District under the CSR Project of the Sun Pharmaceutical Industries Limited. The functioning of the Anganwadis will be in accordance with the Anganwadi Scheme of Integrated Child Development sponsored by the government where Anganwadi worker provides packages of services to the beneficiaries such as immunization, healthy food, clean water, learning environment for infants, toddlers and preschoolers.
- **Anganwadi Workers:** For the present study, the Anganwadi workers were the graduated women selected and appointed by the Sun Pharmaceutical Industries Limited for conducting teaching-learning activities for the children and providing a package of services to the beneficiaries directly at the respective Anganwadi of Ujeti and Kashipura village of Panchmahal District.

- **Corporate Social Responsibility:** Corporate Social Responsibility (CSR) is a self-regulating business form that helps a company to be socially accountable to itself, its stakeholders, and the public. By practicing corporate social responsibility, companies can be conscious of the kind of impact they are having on all aspects of society, including economic, social, and environmental. For the present study, the development and designing of Anganwadi for the children of Ujeti and Kashipura village were taken up as a part of CSR activity by the Sun Pharmaceutical Industries Limited.

3.3 Locale of the study

The study was conducted in the two villages (Ujeti and Kashipura) of the Panchmahal District of Gujarat, wherein two spaces were provided for designing the interiors of Anganwadis to be developed under the CSR project of Sun Pharmaceutical Industries Limited, which were as follows:

1. Anganwadi space in Ujeti Village
2. Anganwadi space in Kashipura Village

3.4 Units of Inquiry

The units of inquiry for the present study were the General Manager of CSR activity of Sun Pharmaceutical Industries Limited and the appointed Anganwadi workers for the teaching-learning activity of children at Ujeti and Kashipura village of the Panchmahal district of Gujarat.

3.5 Selection and construction of the tool

Keeping in mind the objectives of the study and based on the extensive literature survey, the following tools were developed to assist data collection for the present study.

1. Observation sheet
2. Interview Schedule

1. Observation sheet: Observation sheet was selected as a tool because it does not require the active co-operation of the respondent and helps to bring the actual information in front. Subjective bias is eliminated in this method (Kothari, 2012).

In order to assess the existing status of the space provided for developing and interior designing of Anganwadis, observation sheet was selected as a tool that was administered independently by the investigator.

2. Interview Schedule: An interview schedule was selected as a tool to get acquainted with the requirements of the clients viz: the General Manager of CSR activity of Sun Pharmaceutical Industry Limited and the appointed Anganwadi workers. The investigator personally interviewed the clients.

3.6 Description of the tool

The extensive literature survey helped the investigator to prepare the required tools to assist data collection for the present study.

3.6.1 Description of Observation sheet

To assess the existing status of space provided for interior designing of Anganwadis to be developed under the CSR project of Sun Pharmaceutical Industries Ltd., the observation sheet was divided into five sections which are described as follows:

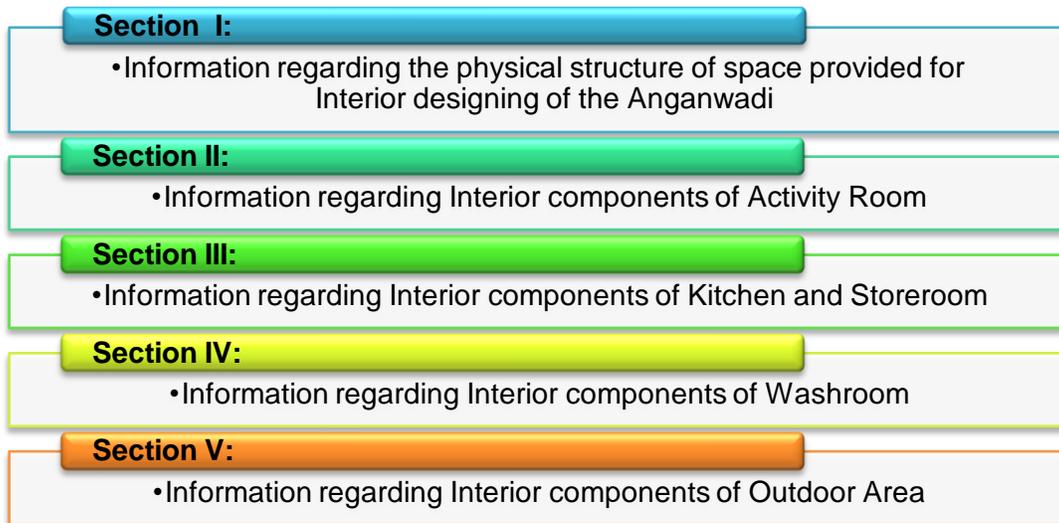


Figure 1: Description of Observation Sheet

- **Section I- Information regarding the physical structure of space provided for Interior designing of the Anganwadi:** This section comprises of information regarding the overall physical structure such as type of Anganwadi, structure of Anganwadi, number of rooms, size, and area of the rooms and overall area of the Anganwadi provided for interior designing under the CSR Project of Sun Pharmaceutical Industries Ltd.
- **Section II- Information regarding Interior components of Activity Room:** This section encompasses information regarding various components of interiors of activity room such as, size of the room, number, and size of windows and doors, material and condition of windows and door, provision of cross-ventilation facilities, type of flooring treatment, texture, type of finish and condition of the flooring. The material used for the construction of walls, type of wall treatment, hue, texture, and condition of the walls. The material used for the construction of ceiling, type, and condition of ceiling. Provision of natural and artificial lighting, the total number of artificial fixtures, type and location of lighting fixture, condition of lighting and the total number of fans.
- **Section III- Information regarding Interior Components of Kitchen and Store Room:** This section assesses information regarding various components of interiors of kitchen and storeroom such as size of the room,

location, number and size of windows and doors, material and condition of windows and door, provision of cross-ventilation facilities, type of flooring treatment, texture, type of finish and condition of the flooring. The material used for the construction of walls, type of wall treatment, hue, texture, and condition of the walls. The material used for the construction of ceiling, type and condition of ceiling. Provision of natural and artificial lighting, total number of artificial fixtures, type and location of lighting fixture, condition of lighting and total number of fans. Provision of platform for cooking, material of countertop, provision of storage facilities, kitchen sink and drinking water facilities.

- **Section IV- Information regarding Interior Components of Washroom:**
This section assesses information regarding various components of interiors of washroom such as the size of the room, provision of ventilation, material and condition of the door, provision of cross-ventilation facilities, type of flooring treatment, texture, type of finish and condition of the floor. Material used for construction of walls, type of wall treatment, hue, texture and condition of the walls. The material used for the construction of ceiling, type and condition of ceiling. Provision of natural and artificial lighting, total number of artificial fixtures, type and location of lighting fixture, condition of lighting. Provision of water closet, type and condition of water closet. Provision of tap, material and condition of tap.
- **Section V- Information regarding Interior Components of Outdoor Area:**
This section assesses information regarding various components of interiors of the outdoor area such as, size of the outdoor area, type of flooring treatment, texture, type of finish and condition of the floor, material used for construction of walls, type of wall treatment, hue, texture and condition of the walls. The material used for the construction of ceiling, type and condition of ceiling. Provision of natural and artificial lighting, total number of artificial fixtures, type and location of lighting fixture, condition of lighting. Provision of landscaping and planters and availability of space for placing playing equipments.

3.6.2 Description of Interview schedule

To know the requirements of the clients viz: the General Manager of CSR activity of Sun Pharmaceutical Industries Limited and the appointed Anganwadi workers at Ujeti and Kashipura village, the interview schedule was divided into two sections which are described as follows:

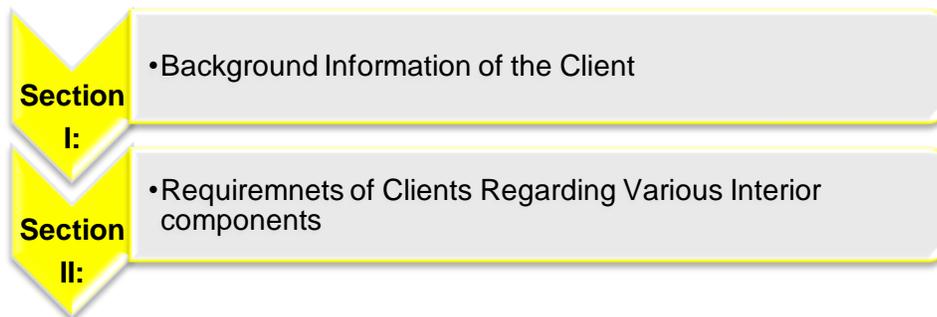


Figure 2: Description of Interview Schedule

- **Section I- Background Information of the Clients:** This section comprises information regarding the background of the clients such as name, age, address, contact number, education, designation, and number of years of experience.
- **Section II- Requirements of Clients Regarding Various Interior components:** This section comprises information regarding requirements of clients regarding various interior components of Anganwadi to be developed under the CSR project. The interior components in this section included the requirement for the type of flooring, finishes to be applied on the walls, type and finishes to be applied on the ceiling, type of lighting, type and material of furniture in the activity room, the requirement for lighting fixtures, the requirement for storage facilities and countertop for cooking in the kitchen area, the requirement for tap and water closet for washroom and requirement for landscaping and planters in outdoor space.

3.7 Establishment of content validity of the tool

To establish the content validity of the data collection tools viz: observation sheet and interview schedule were given to a panel of 12 judges comprising the

experts from the interior designing field and faculties of Department of Family and Community Resource Management, Faculty of Family and Community Sciences. The judges were requested to judge whether the listed items under each aspect were clear or ambiguous or relevant or irrelevant. The valuable suggestions given by the experts were adopted and the tools were modified and finalized for the data collection.

3.8 Data Collection, Design development and Implementation

The study was conducted in four phases described as follows:

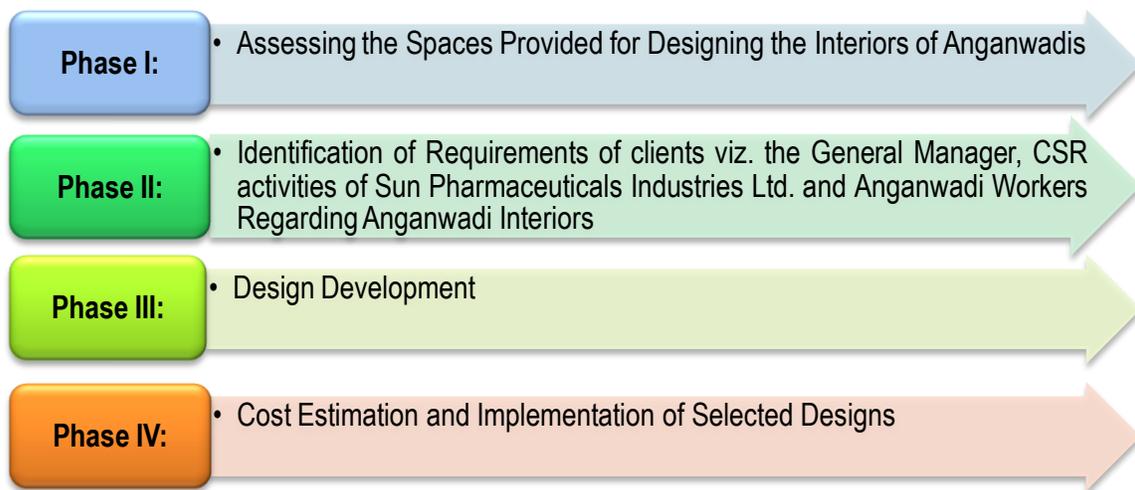


Figure 3: Phases of Data Collection, Design development and Implementation

3.8.1 Phase I: Assessing the Spaces Provided for Designing the Interiors of Anganwadis

In Phase I, to assess the physical structure of the spaces provided for Interior designing of Anganwadis at Ujeti and Kashipura villages of the Panchmahal district of Gujarat to be developed under the CSR project of Sun Pharmaceutical Industries Limited, the investigator personally visited both the spaces and recorded information regarding interior components of spaces to be used for interior designing.

In Section I, information regarding the overall physical structure such as type of Anganwadi, structure of Anganwadi, number of rooms, size and area of the rooms and overall area of the Anganwadi was observed and recorded in the observation sheet. Whereas, in Section II information regarding various components of interiors of activity room such as, size of the room, number and size of windows and doors, provision of cross ventilation facilities, the material used for constructing a floor, walls and ceiling, color and finishes applied on floor, wall and ceiling, material and applied finish of doors and windows and their condition and provision of natural and artificial lighting was observed and recorded. Similarly, Section III, dealt with information regarding various components of interiors of kitchen and storeroom such as the size of the room, location, number and size of windows and doors, material and condition of windows and door, provision of cross-ventilation facilities, type of flooring treatment, texture, type of finish and condition of the flooring. The material used for the construction of walls, type of wall treatment, hue, texture and condition of the walls. The material used for the construction of the ceiling, type and condition of ceiling, provision of natural and artificial lighting, total number of lighting fixtures, type and location of lighting fixture, condition of lighting and total number of fans, provision of platform for cooking, material of countertop, provision of storage facilities, kitchen sink and drinking water facilities.

While, Section IV, embraced the information regarding various components of interiors of washroom such as the size of the room, provision of ventilation, material and condition of door, provision of cross-ventilation facilities, type of flooring treatment, texture, type of finish and condition of floor. The material used for the construction of walls, type of wall treatment, hue, texture and condition of the walls. The material used for the construction of the ceiling, type and condition of ceiling, Provision of natural and artificial lighting, total number of artificial fixtures, type and location of lighting fixture, condition of lighting, provision of a water closet, type and condition of a water closet. Provision of tap, material and condition of tap and Section V, gazed information regarding various components of interiors of the outdoor area such as size of the outdoor area, type of flooring

treatment, texture, type of finish and condition of the floor, material used for construction of walls, type of wall treatment, hue, texture and condition of the walls. The material used for the construction of ceiling, type and condition of ceiling, provision of natural and artificial lighting, total number of artificial fixtures, type and location of lighting fixture, condition of lighting, provision of landscaping and planters and availability of space for placing playing equipment.

3.8.2 Phase II: Identification of Requirements of clients viz. the General Manager, CSR activities of Sun Pharmaceuticals Industries Ltd. and Anganwadi Workers Regarding Anganwadi Interiors

In Phase II, requirements of clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and Anganwadi workers appointed at Ujeti and Kashipura village were identified using an interview schedule administered by the investigator. Requirements regarding the type of flooring, finish to be applied on the walls and ceiling, type and material of furniture in the activity room, requirements for lighting fixtures, requirements for storage facilities and platform for cooking in the kitchen area, requirements for tap and water closet for the washroom, requirements for landscaping and planters in outdoor space was asked and the responses were recorded in the interview schedule.

3.8.3 Phase III: Design Development

In Phase III, on the basis of information recorded regarding the physical structure and existing status of interiors components of the space provided for interior designing of Anganwadis and based on requirements of the clients (the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi workers) three alternative designs of interiors for each Anganwadi (Ujeti and Kashipura) were provided for the selection purpose to the clients. The designs were developed keeping in mind the principles of design and various observations gathered from the studies came across during the review of

literature. In order to create various visual projections, AutoCAD 2015 was used for the present study. The schedule of drawings is mentioned as follows:

Table 1: Schedule of Existing Drawings

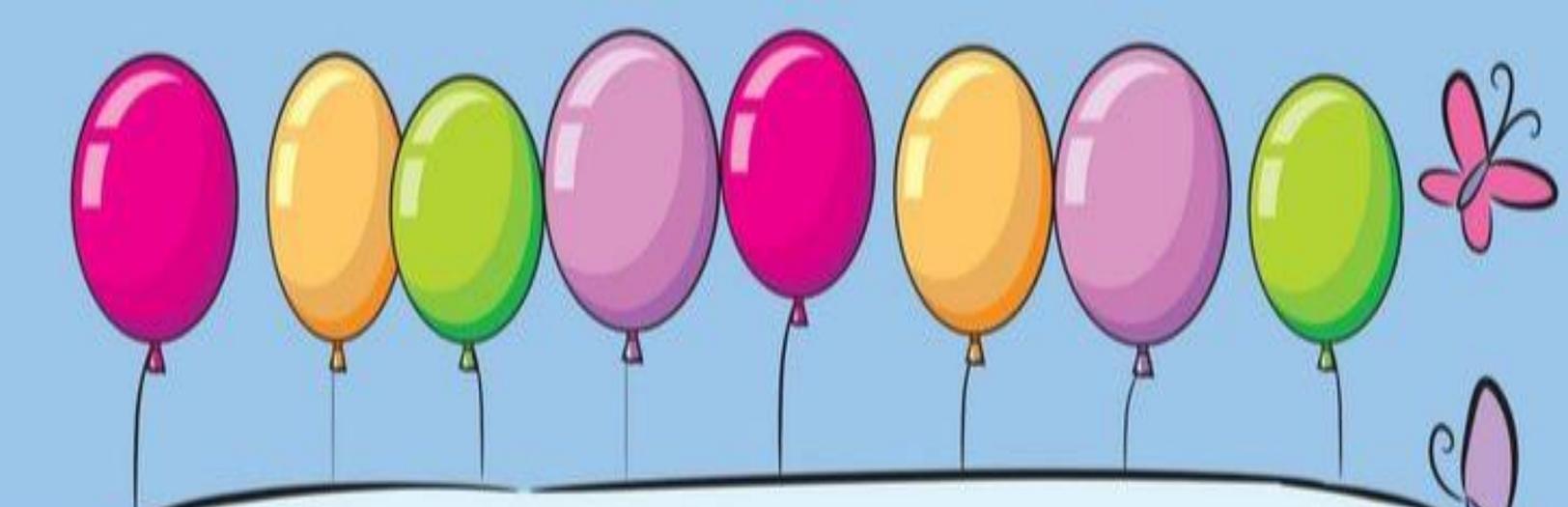
Sr.No	Drawing Title	No. of Drawings
1.	Existing Floor Plan	02
2.	Existing Floor Plan Working Drawing	02
3.	Existing Flooring Layout	02
	Total No. of Drawings	06

Table 2: Schedule of Proposed Drawings

Sr.No	Drawing Title	No. of Drawings
1.	Proposed Floor Plan	02
2.	Proposed Floor Plan Working Drawing	02
3.	Proposed Flooring Layout	06
4.	Proposed False Ceiling Design	06
5.	Proposed False Ceiling Working Drawing	06
6.	Proposed Electrical Layout	06
7.	Proposed Wall Elevations	30
8.	Proposed Branding Board Design	02
9.	Proposed Table Design	03
	Total No. of Drawings	63

3.8.4 PHASE IV: Cost Estimation and Implementation of Selected design

After the selection of the design for interiors by the clients (the General Manager, CSR activities of Sun Pharmaceutical Industries Limited and the Anganwadi workers), the computed cost estimation of the selected design for each Anganwadi (Ujeti and Kashipura) was provided and after the approval from the clients the selected designs were implemented. The implementation phase took almost two months starting from 10th August 2019 to 4th October 2019 for both the Anganwadis.



FINDINGS AND DISCUSSIONS



CHAPTER IV

FINDINGS AND DISCUSSIONS

Findings and discussions is the most important chapter in any research report as well as thesis. The present chapter describes interpretations and discussions of various developed designs for Anganwadis as design project. In order to report the findings in more logical and reasonable manner, each design project has been reported separately. The chapter has been divided into the following two design projects:

4.1 Design Project-I: Nandghar Ujeti

4.1.1 Phase I: Assessing the space provided for designing the Interiors of Anganwadis

4.1.2 Phase II: Identification of Requirements of clients viz. the General Manager, CSR activities of Sun Pharmaceuticals Industries Ltd. and Anganwadi workers Regarding Anganwadi Interiors

4.1.3 Phase III: Design Development

4.1.4 Phase IV: Cost Estimation and Implementation of Selected design

4.2 Design Project-II: Nandghar Kashipura

4.2.1 Phase I: Assessing the space provided for designing the Interiors of Anganwadis

4.2.2 Phase II: Identification of Requirements of clients viz. the General Manager, CSR activities of Sun Pharmaceuticals Industries Ltd. and Anganwadi workers Regarding Anganwadi Interiors

4.2.3 Phase III: Design Development

4.2.4 Phase IV: Cost Estimation and Implementation of Selected design

4.1 DESIGN PROJECT-I: NANDGHAR UJETI

Nandghar Ujeti was located in the Ujeti village of the Panchmahal District of Gujarat. The overall area of the space provided for Anganwadi was 596.73sq.ft. It comprised of an activity room, kitchen cum storeroom, washroom and an outdoor area.

4.1.1 PHASE I: ASSESSING THE SPACES PROVIDED FOR DESIGNING THE INTERIORS OF ANGANWADIS

This phase constitutes a detailed discussion about the spaces provided for the interior designing of Anganwadis developed under the CSR Project of Sun Pharmaceutical Ltd. at Ujeti village of the Panchmahal District of Gujarat.

In order to assess the spaces provided for Anganwadi various significant interior components like the dimension of the space provided for designing the Anganwadi, floor, walls, ceiling, windows, doors, ventilation, lighting, furniture, and storage facilities were assessed which are described as follows under this phase.

Existing Status:

The data gathered regarding the existing status of space provided for Anganwadi (Nandghar Ujeti) from the observation sheet administered by the investigator is described as below:

ACTIVITY ROOM

- **Dimension of the activity room:** The dimension of the Activity room was having the length of 13'-3 ½", the width of 16'-9" and height of 8'-6".
- **Floor:** The flooring of the activity room was cemented with a rough texture and matte finish. The condition of the flooring was dirty and had cracks.



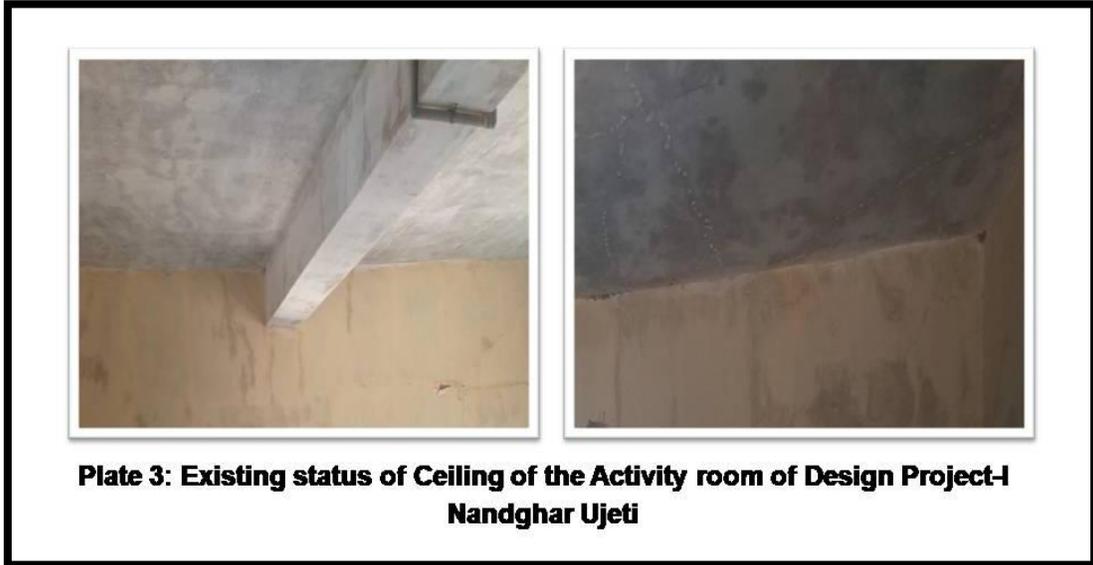
Plate 1: Existing status of Floor of the Activity room of Design Project-I Nandghar Ujeti

- **Walls:** The walls of the activity room were constructed with bricks and plastered having limewash finish of light hue (light yellowish) and distemper with dark hue (black) on the skirting area up to the height of 1'-0" from the floor applied on it. The texture of the walls was rough. Whereas, the condition of the walls was damp, had cracks and the plaster was chipping.



Plate 2: Existing status of Walls of the Activity room of Design Project-I Nandghar Ujeti

- **Ceiling:** The ceiling of the Activity room was plastered, plain with limewash finish. The ceiling had a beam with a length of 13'-3 ½" and the height of 9". There was open wiring on the ceiling and the condition of the ceiling was damp and had cracks.



- **Windows:** The Activity room had five windows. Wherein, the window in the east direction was having the width of 4'-10" and the height of 3'-10" and was at the height of 2'-1" from the floor and had three shutters. The window in the south direction was having the width of 2'-5" and the height of 3'-0" and was at the height of 2'-7" from the floor and had two shutters. There were two windows in the west direction, of which one window was having the width of 2'-5" and the height of 3'-0" and was at the height of 2'-7" from the floor, while the second window was having the width of 2'-4 ½" and the height of 3'-0" and was at the height of 2'-7" from the floor and had two shutters. The window in the north direction was having the width 2'-4 ½" and the height of 2'-10" and was at the height of 2'-7" from the floor and had two shutters. All the windows were made up of iron with grills, easy to open but the shutters were rusted. However, since the windows were placed in opposite directions facilitated good cross ventilation.



Plate 4: Existing status of Windows of the Activity room of Design Project-I Nandghar Ujeti

- **Door:** The Activity room had two doors. The main door was in the west direction with the width of 3'-2 ½" and the height of 6'-4", had two shutters and handles made up of iron which was rusted. The second door was in the south direction, having the width of 2'-11" and the height of 5'-7", opening towards the kitchen but did not have door shutters which tend to create disturbance in the teaching-learning activities done in the Activity room.



Plate 5: Existing status of Doors of the Activity room of Design Project-I Nandghar Ujeti

- **Lighting:** The Activity room had a sufficient amount of natural lighting but the artificial lighting was lacking. However, the provision of lighting fixtures for

bulb was there on the south direction wall at the height of 7'-3" from the floor and on the west direction wall at the height of 6'-8 ½" from the floor, but was not in working condition and was damaged. There was a provision of only one fan in the Activity room which was not sufficient for the entire room and the wiring of the fan was open which can create a short circuit as the ceiling of the activity room was in damp condition.



- **Furniture:** There was no provision of furniture and floor mats in the Activity room therefore, the children used to sit on the floor directly. However, the space was sufficient for seating and doing teaching-learning activities.

KITCHEN CUM STOREROOM

- **Dimension of Kitchen cum Storeroom:** The Anganwadi had combined a Kitchen and Storeroom. The dimension of the Kitchen area was having the length of 5'-4", the width of 13'-9 ½" and height of 5'-11". Whereas, the dimension of the store area was having the length of 5'-4", the width of 4'-8" and height of 5'-11". There was a partition wall having a length of 11" between the Kitchen and Storeroom. Therefore, the overall dimension of the Kitchen cum Storeroom was having the length of 5'-4", the width of 19'-4" and height of 5'-11".

- **Floor:** The flooring of the Kitchen cum Storeroom was cemented with a rough texture and was having a matte finish. The condition of the flooring was uneven, having cracks and was dirty.



Plate 7: Existing status of Floor of the Kitchen cum Storeroom of Design Project-I Nandghar Ujeti

- **Walls:** The walls of the Kitchen cum Storeroom were constructed with bricks and plastered having limewash finish of light hue (light yellowish) applied on it. The texture of the walls was rough and was in damp condition. However, there was a provision of a platform on the south direction wall with the length of 13'-9 ½", the width of 2'-0" and height of 2'-7". The countertop was broken and was in poor condition.



Plate 8: Existing status of Walls of the Kitchen cum Storeroom of Design Project-I Nandghar Ujeti

- **Ceiling:** The ceiling of the Kitchen cum Storeroom was plastered, plain with limewash finish of white color applied to it. The condition of the ceiling was damp and had cracks.



Plate 9: Existing status of Ceiling of the Kitchen cum Storeroom of Design Project-I Nandghar Ujeti

- **Windows:** The Kitchen cum Storeroom had a provision of two windows on the south direction wall. The window located in the kitchen area was at the height of 2'-9" from the floor having a width of 2'-10 ½ and height of 2'-10". The second window located in the store room was at the height of 2'-9" from the floor having width of 2'-10" and height of 2'-10". Both the windows were made up of iron with the provision of grills and were having two shutters with handles. The grills and the shutter of the window were rusted and in poor condition.



Plate 10: Existing status of Windows of the Kitchen cum Storeroom of Design Project-I Nandghar Ujeti

- **Door:** There was a provision of one door connected to the Activity room which had no shutters.
- **Lighting:** The Kitchen and the Storeroom had a sufficient amount of natural lighting but artificial lighting was lacking. However, there was a provision of lighting fixture for bulb at the height of 5'-5" from the floor on the north direction wall but was damaged and not in working condition.
- **Storage Facilities:** There was no provision of storage like drawers or cabinets under the platform in the Kitchen area as well as cupboards or racks in the storeroom area to store the utensils, raw materials, or any other storage item. However, there was a provision of two L-shaped Kota stone placed as shelves at the height of 2'-11" and 4'-5" respectively.

WASHROOM

- **Dimension of the washroom:** The dimension of the Washroom was having the length of 4'-11", the width of 3'-11" and height of 7'-11".
- **Floor:** The flooring of the Washroom was cemented with a rough texture and matte finish. The condition of the flooring was uneven and dirty.
- **Walls:** The walls of the Washroom were constructed with bricks and plastered with no applied finish on it. The texture of the walls was rough.



**Plate 11: Existing status of Walls of the Washroom of Design Project-I
Nandghar Ujeti**

- **Ceiling:**

The ceiling of the Washroom was plastered, plain and limewash was applied as a finish. The condition of the ceiling was dirty and chipping.



Plate 12: Existing status of Ceiling of the Washroom of Design Project-I Nandghar Ujeti

- **Ventilation:** There was a provision of ventilation on the south direction wall with the width of 2'-0" and the height of 2'-0" and was at the height of 5'-11" from the floor. The ventilation was made of iron and had iron grills on it but did not have a shutter to close the ventilation due to which could not resist dust and mosquitoes.



Plate 13: Existing status of Ventilation of the Washroom of Design Project-I Nandghar Ujeti

- **Door:** The door of the Washroom was located on the west direction wall with a width of 2'-9" and the height of 5'-7". The door was made up of iron with iron shutter and handles and was in rusted condition.



Plate 14: Existing status of Door of the Washroom of Design Project-I Nandghar Ujeti

- **Lighting:** The washroom had a sufficient amount of natural lighting but artificial lighting was lacking. There was no provision of lighting fixtures in the washroom.

OUTDOOR AREA

- **Dimension of outdoor area:** The dimension of the Outdoor area was having the length of 13'-3 1/2", the width of 5'-6" and height of 8'-6".
- **Floor:** The flooring of the Outdoor area was cemented with a rough texture and matte finish. The condition of the flooring was moderately clean.



Plate 15: Existing status of Floor of the Outdoor Area of Design Project-I Nandghar Ujeti

- **Walls:** The walls of the Outdoor area were constructed with bricks and plastered having limewash finish of light hue (light yellowish) applied on it. The texture of the walls was rough and was in a damp condition and had cracks. On the south and north direction walls, drawing indicating a balanced diet and the importance of washing hands was created. The wall on the north direction had the main supply electricity meter at the height of 6'-6 ½" from the floor.



Plate 16: Existing status of Walls of the Outdoor Area of Design Project-I Nandghar Ujeti

- **Ceiling:** The ceiling of the outdoor area was plastered, plain and limewash was applied as a finish. The condition of the ceiling was damp.



Plate 17: Existing status of Ceiling of the Outdoor Area of Design Project-I Nandghar Ujeti

- **Lighting:** There was a provision of lighting fixture for bulb which was located above the entrance door at the height of 6'-8" from the floor.
- **Exterior of the Anganwadi:** The exterior walls were constructed with bricks and plaster with no applied finish. The texture of the walls was rough and had cracks on it.



Plate 18: Existing status of Exterior Walls of Design Project-I Nandghar Ujeti

4.1.2 PHASE II: IDENTIFICATION OF REQUIREMENTS OF CLIENTS VIZ. THE GENERAL MANAGER, CSR ACTIVITIES OF SUN PHARMACEUTICALS INDUSTRIES LTD. AND ANGANWADI WORKERS REGARDING ANGANWADI INTERIORS

This phase comprises detailed information about the requirements regarding Anganwadi Interiors of the clients viz. the General Manager, CSR activities of Sun Pharmaceuticals Industries Ltd. and Anganwadi workers which were congregated with the help of the interview schedule by the researcher. The requirements of Anganwadi interiors as perceived from the clients are discussed as below:

ACTIVITY ROOM

- **Requirements for Floor:** For the flooring of the Activity room various preference like ceramic tiles, vitrified tiles, marble, rubber tiles, carpet and wooden flooring were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. selected vitrified tiles as flooring treatment, whereas Anganwadi worker opted for carpet as flooring treatment.
- **Requirements for Wall:** For the walls of the Activity room various preference like wall paint, wall texture, wallpapers, murals and wall tiles were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi workers selected murals, and preferred the murals to be educatory and to make the walls colorful and appealing which might encourage children to come regularly and create an environment where children feel safe and friendly. The Anganwadi worker preferred to have a placement of blackboard on the wall.
- **Requirements for Ceiling:** For the ceiling of the Activity room preferences like plain plastered ceiling and false ceiling with the provision of lighting and fans was given for the selection purpose amongst which the client viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected false ceiling with provision of lighting and fans and added to make the false ceiling simple yet attractive. The General Manager of Sun Pharmaceutical Industries Ltd. preferred not to hide the beam present inside the false ceiling.
- **Requirements for Doors and Windows:** For doors and windows of the Activity room the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker preferred application of oil paint that suits best with other interior components.
- **Requirements for Furniture:** For the furniture of Activity room the various preferences like tables, chairs, stools, storage cupboards and shelves were given for the selection purpose amongst which the clients viz. the General

Manager, CSR activities of Sun Pharmaceutical Industries limited preferred not to have any furniture item in the activity room as there was insufficient space in comparison with the number of children of the Anganwadi. Whereas the Anganwadi worker preferred to have a table with storage.

KITCHEN CUM STOREROOM

- **Requirements for Floor:** For the flooring of the Kitchen cum Storeroom various preferences like ceramic tiles, vitrified tiles, marble, rubber tiles, carpet and wooden flooring were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. selected vitrified tiles as flooring treatment, whereas Anganwadi workers opted for carpet as flooring treatment.
- **Requirements for Wall:** For the walls of the Kitchen cum Store room various preferences like wall paint, wall texture, wallpapers, murals and wall tiles were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected wall tiles for the kitchen area with the purpose that they will be easy to clean and maintain, whereas the client opted for wall paint for the storeroom area.
- **Requirements for Ceiling:** For the ceiling of the Kitchen cum Storeroom preferences like plain plastered ceiling and false ceiling with the provision of lighting and fans were given for the selection purpose amongst which the client viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected plain plastered ceiling with an application of paint that suits with other interior components.
- **Requirements for Storage Facilities:** For the storage facilities of Kitchen cum Storeroom various preferences like storage drawers and storage cabinets beneath the platform, storage cabinets for the Storeroom were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected to have storage cabinets beneath the platform.

- **Requirements for Kitchen Countertop and Sink:** For Kitchen countertop, various preferences like marble, granite, tiles, quartz, terrazzo and wood were given for selection purpose, amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. selected granite whereas the Anganwadi worker opted for marble as a kitchen countertop. The clients preferred to have a sink for the kitchen.
- **Requirements for Windows:** For windows of the Kitchen cum Storeroom the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker preferred application of oil paint that suits best with other interior components.
- **Requirements for Lighting:** For the lighting of the Kitchen cum Storeroom, the client viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker preferred replacement of the lighting fixtures for bulb.

WASHROOM

- **Requirements for Floor:** For the flooring of the Washroom preferences like ceramic tiles and marble were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected ceramic tiles as flooring treatment.
- **Requirements for Walls:** For the walls of the Washroom preferences like wall tiles and wall paint were given for selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. selected wall tiles whereas the Anganwadi worker opted for wall paint.
- **Requirements for Ceiling:** For the ceiling of the Washroom preferences like plain plastered ceiling and false ceiling with the provision of lights was given for the selection purpose amongst which the client viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi

worker selected plain plastered ceiling with paint that suits with other interior components.

- **Requirements for type of Water Closet and Tap:** For the Washroom various preferences for the type of water closet like Indian, wall- mounted and floor-mounted were given for the selection purpose amongst which the client viz: viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected Indian water closet. Whereas for the tap various preferences like plastic, stainless steel, iron and brass were given for the selection purpose amongst which the clients opted for stainless steel tap.
- **Requirements for Door:** For the door of the Washroom the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker preferred application of oil paint that suits best with other interior components.

OUTDOOR AREA

- **Requirements for Floor:** For the flooring of the Outdoor area various preferences like ceramic tiles, vitrified tiles and marble, were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected Vitrified Tiles.
- **Requirements for Walls:** For the walls of the Outdoor area various preferences like wall paint, wall texture, murals and wall tiles were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected murals, and the Authorities of Sun Pharmaceutical Industries Ltd., added that murals should be related to sanitation, cleanliness and importance of education.
- **Requirements for Ceiling:** For the ceiling of the Outdoor area the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd.

and the Anganwadi worker selected plain plastered ceiling with paint that suits with other interior components.

- **Requirements for other outdoor elements:** For the outdoor area, as there was sufficient space available, the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. preferred to construct a boundary wall on four sides of the Anganwadi with an entrance gate, and also opted for landscaping. The General Manager preferred to design a branding board including the name of the Anganwadi, name and logo of the sponsors and the year.

4.1.3 PHASE III: DESIGN DEVELOPMENT

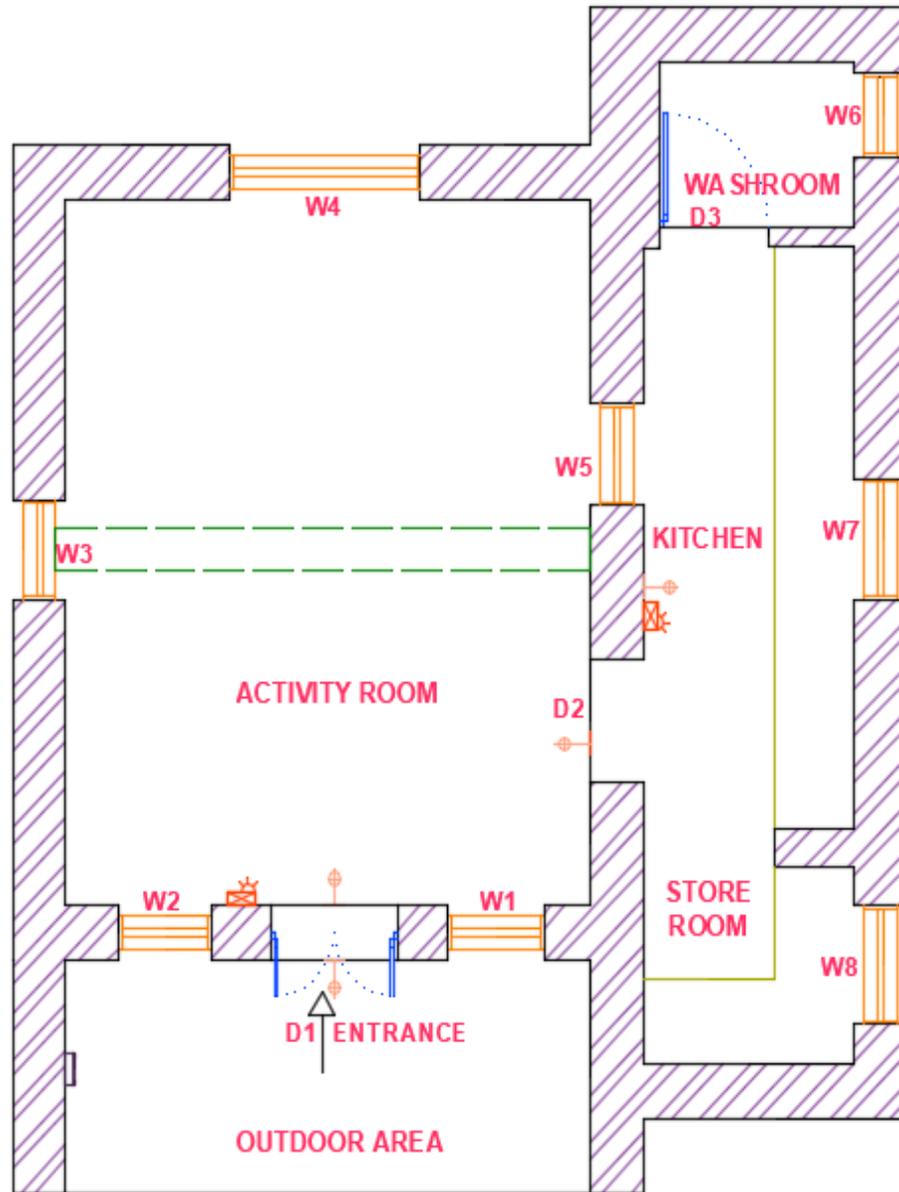
4.1.3 (A) Proposed Designs

According to the requirements of the clients and based on the principle of design and various observations gathered from the studies came across during the review of literature, working drawings of Design project-I (Nandghar Ujeti) Anganwadi to be developed under the CSR project of Sun Pharmaceutical Industries Limited were prepared. For Design project-I (Nandghar Ujeti) Anganwadi three different theme based alternatives of design were given for the selection purpose to the clients, which are discussed as follows:

- 1. Underwater theme**
- 2. Forest theme**
- 3. Cartoon theme**

For each theme, different designs and color schemes were provided for the Activity room, Kitchen cum Storeroom area, Washroom and Outdoor area.

Proposed Design: The overall area of the Anganwadi was 1806.34sq.ft. As per the requirement of the clients, the outer boundary wall was anticipated with a height of 6'-0", which included an entrance gate of width 9'-3 ½" and height 5'-0". From the entrance gate till the Anganwadi entrance a pathway was made of size 13'-3 ½"

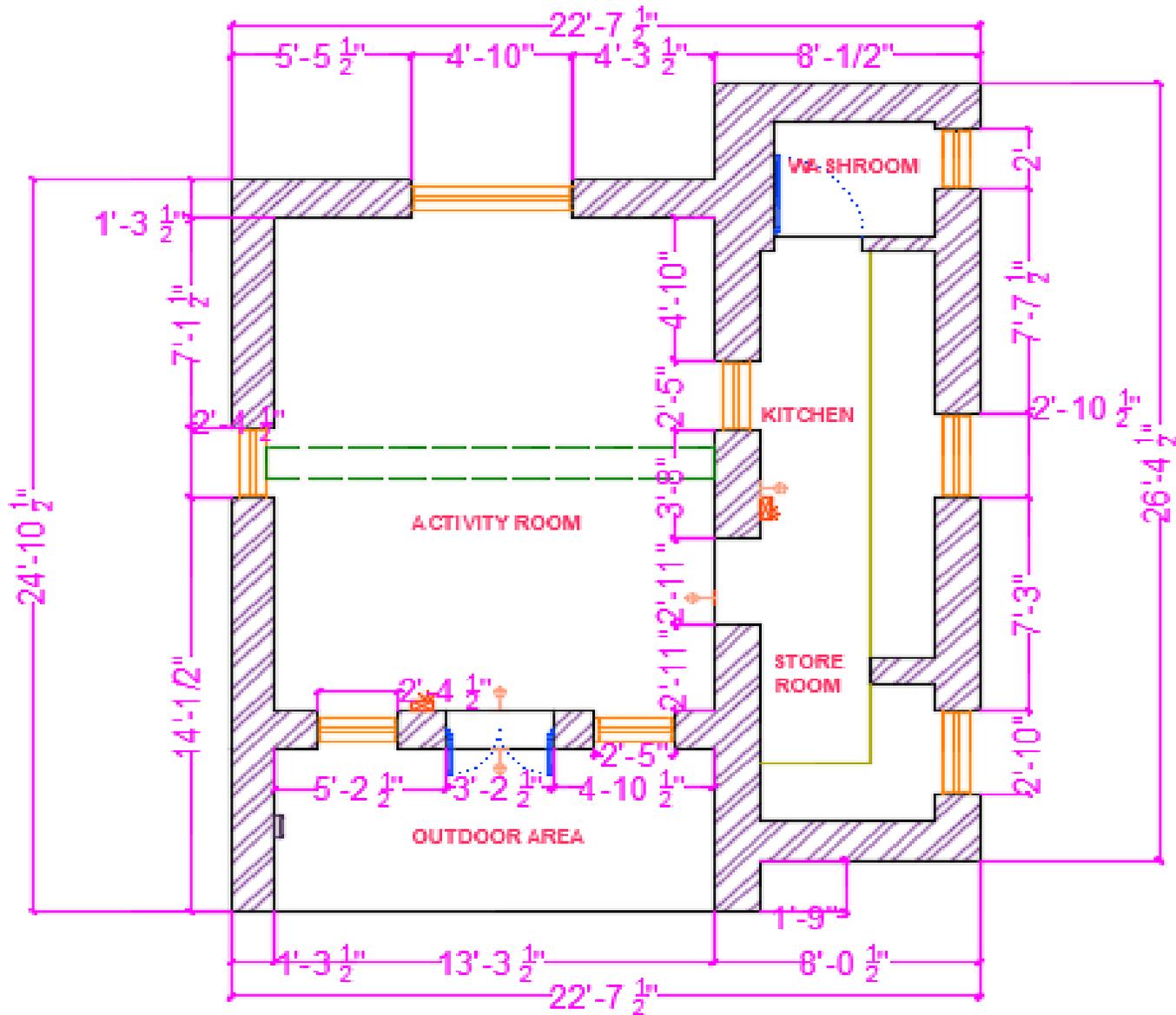


TITLE-

Figure 4: Existing Floor Plan of Design Project-I Nandghar Ujeti

DIRECTION-

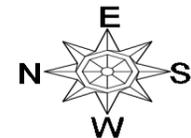


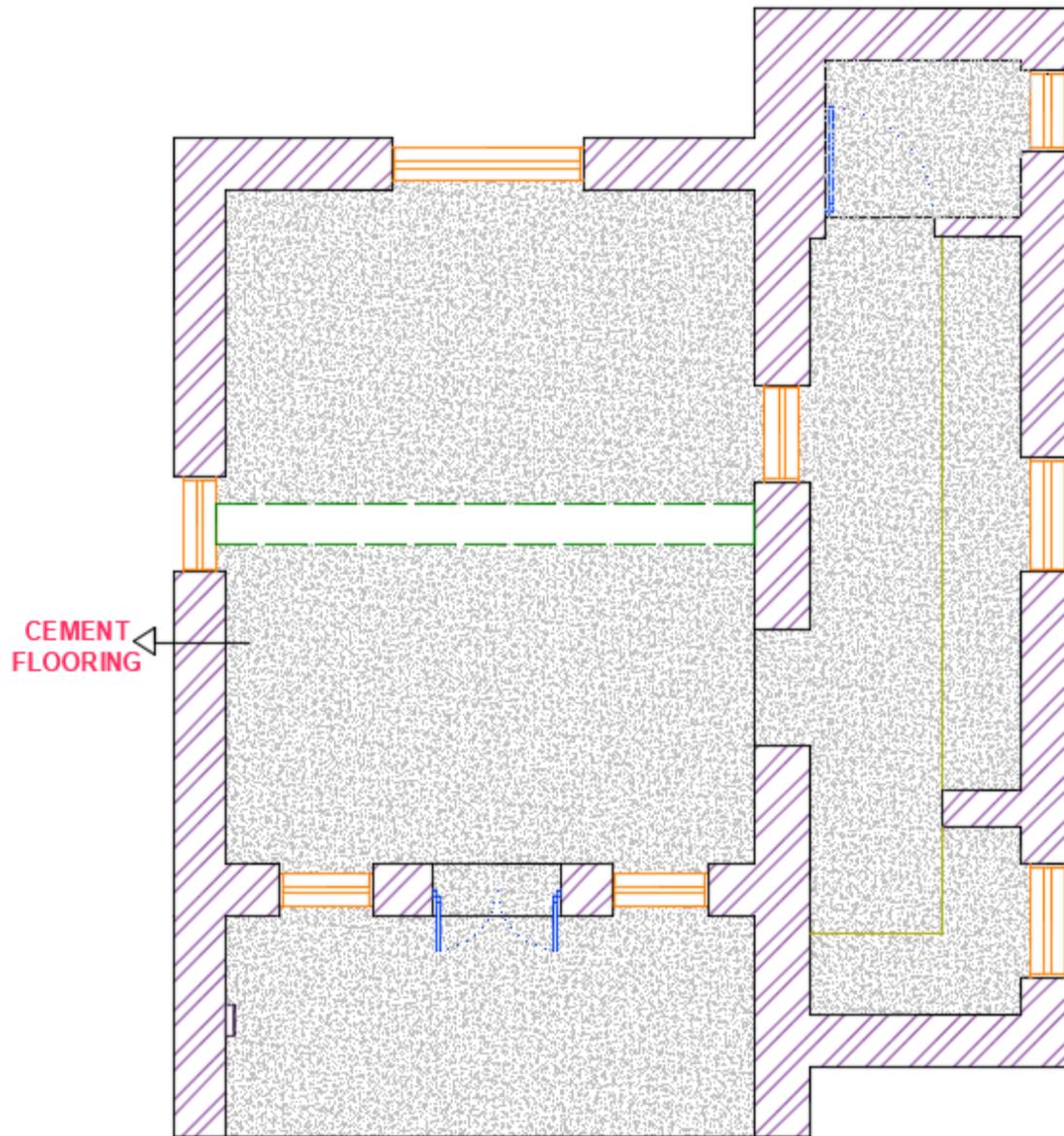


TITLE-

Figure 5: Existing Working Drawing of Design Project-I Nandghar Ujeti

DIRECTION-

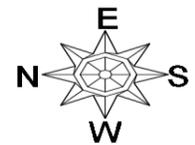


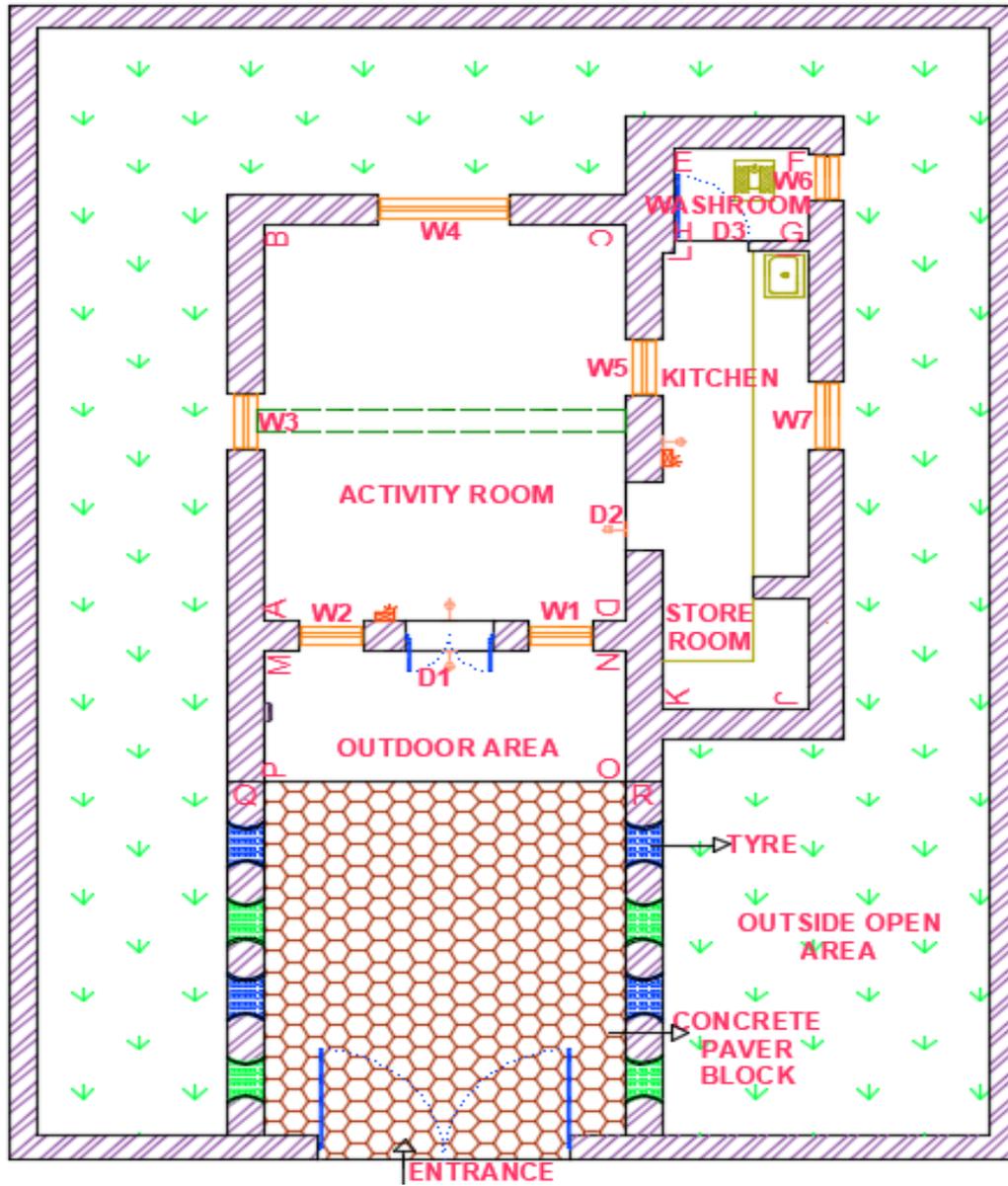


TITLE-

Figure 6: Existing Flooring Layout of Design Project-I Nandghar Ujeti

DIRECTION-

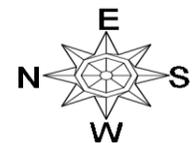


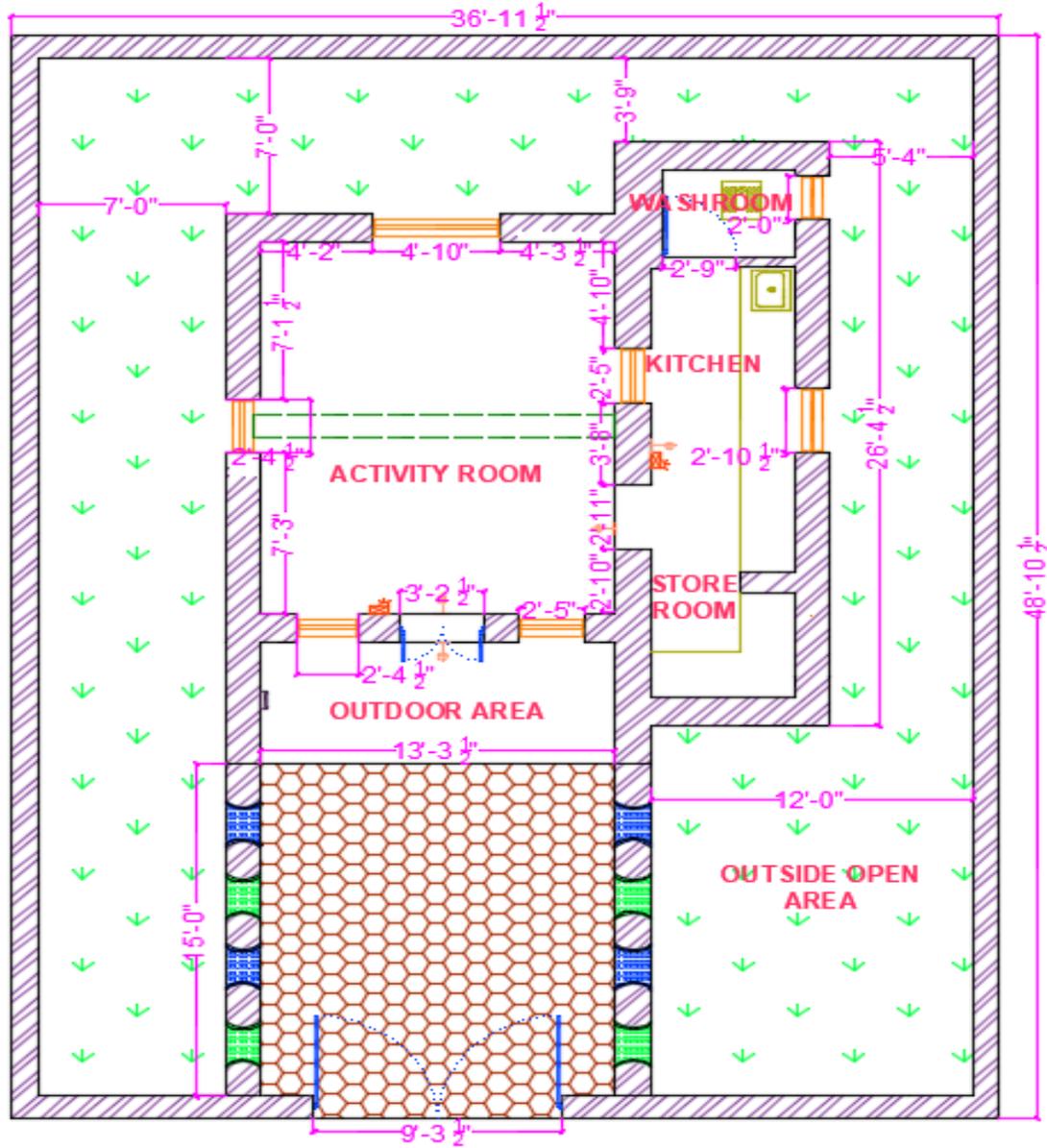


TITLE-

Figure 7: Proposed Floor Plan of Design Project-I Nandghar Ujeti

DIRECTION-

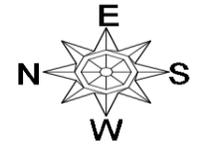




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Figure 8: Proposed Working Drawing of Design Project-I Nandghar Ujeti

DIRECTION-



X 15'-0" to enhance beauty. For the pathway, concrete paver blocks were placed. To make it more attractive on both sides of the pathway a parapet wall of height 6 inches was created on which half tyres were placed of blue and green color.

Theme 1: Underwater (Alternative-1)

Proposed Flooring

For alternative-1, rubber tiles of size 1'-0" X 1'-0" was given for the Activity room and Kitchen cum Storeroom. The rubber tiles were of light blue color. The process of laying the rubber tiles started from the corner of the room near window number 4 so that full tiles can be seen.

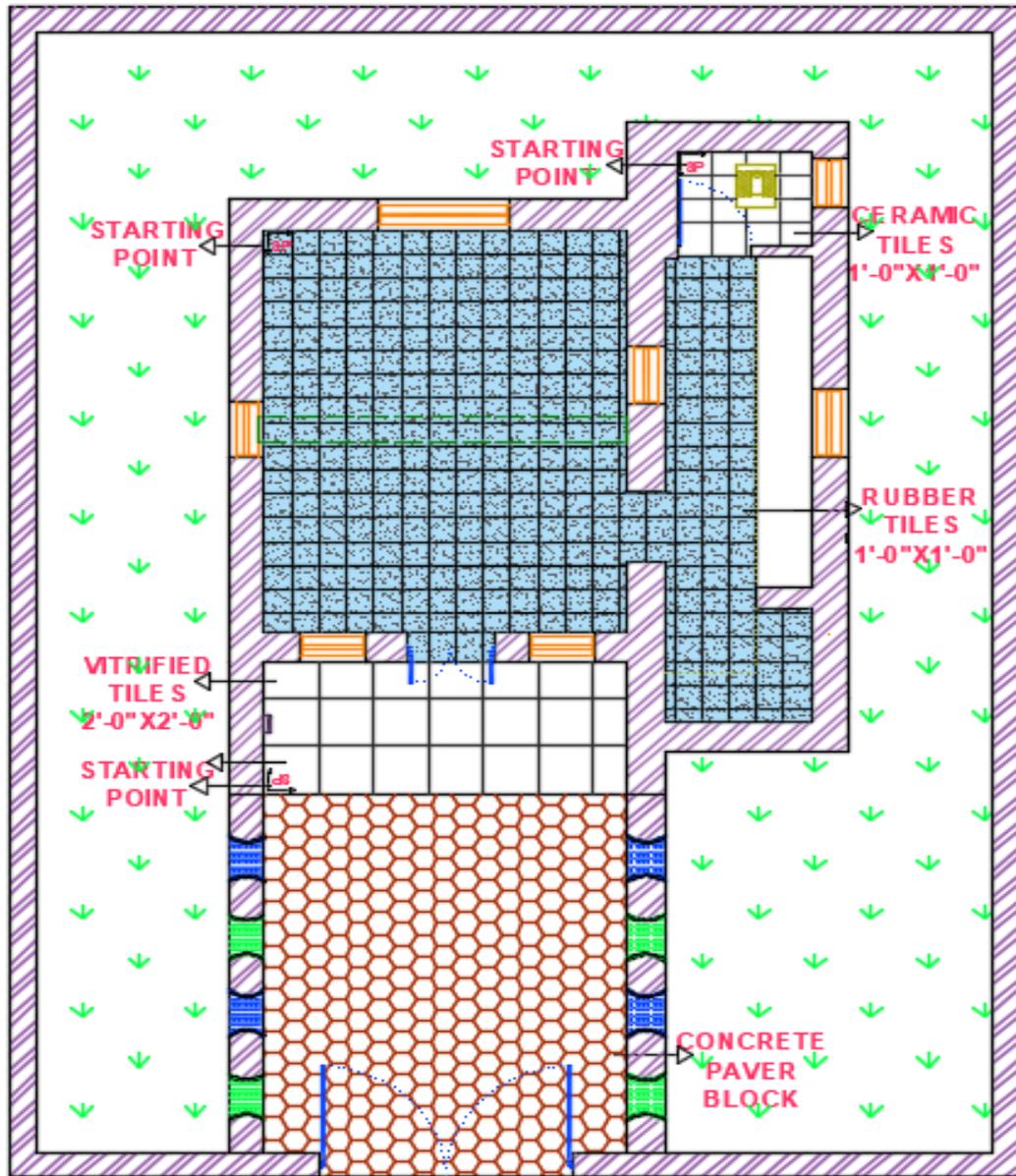
Whereas, for the Washroom, white ceramic tiles of size 1'-0" X 1'-0" was given. The process of laying the tiles in the Washroom started from the corner of the Washroom so that full tiles can be seen. An Indian style water closet was fixed which was of size 2'-0" X 3'-0". For the Outdoor area white vitrified tiles of size 2'-0" X 2'-0" were provided.

ACTIVITY ROOM

The dimension of the Activity room was having the length of 13'-3 ½", the width of 16'-9" and height of 8'-6" of which 3 inches was skirting. The slab height was 4 inches.

Proposed Wall Design

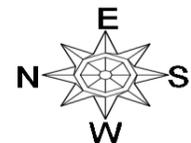
- **Wall AB:** The length of the wall was 16'-9". As the theme stated was underwater, the background was half-light blue which indicated water and half-light yellow which indicated sand. Different types of fishes with different colors, sizes and shapes were created as murals. Other underwater creatures like star-fish, jelly-fish, shell, grass were created. For creating the murals acrylic distemper paint was proposed. To make it educatory, the Gujarati alphabets (Barakhadi) were painted. A window was present with a width of 2'-

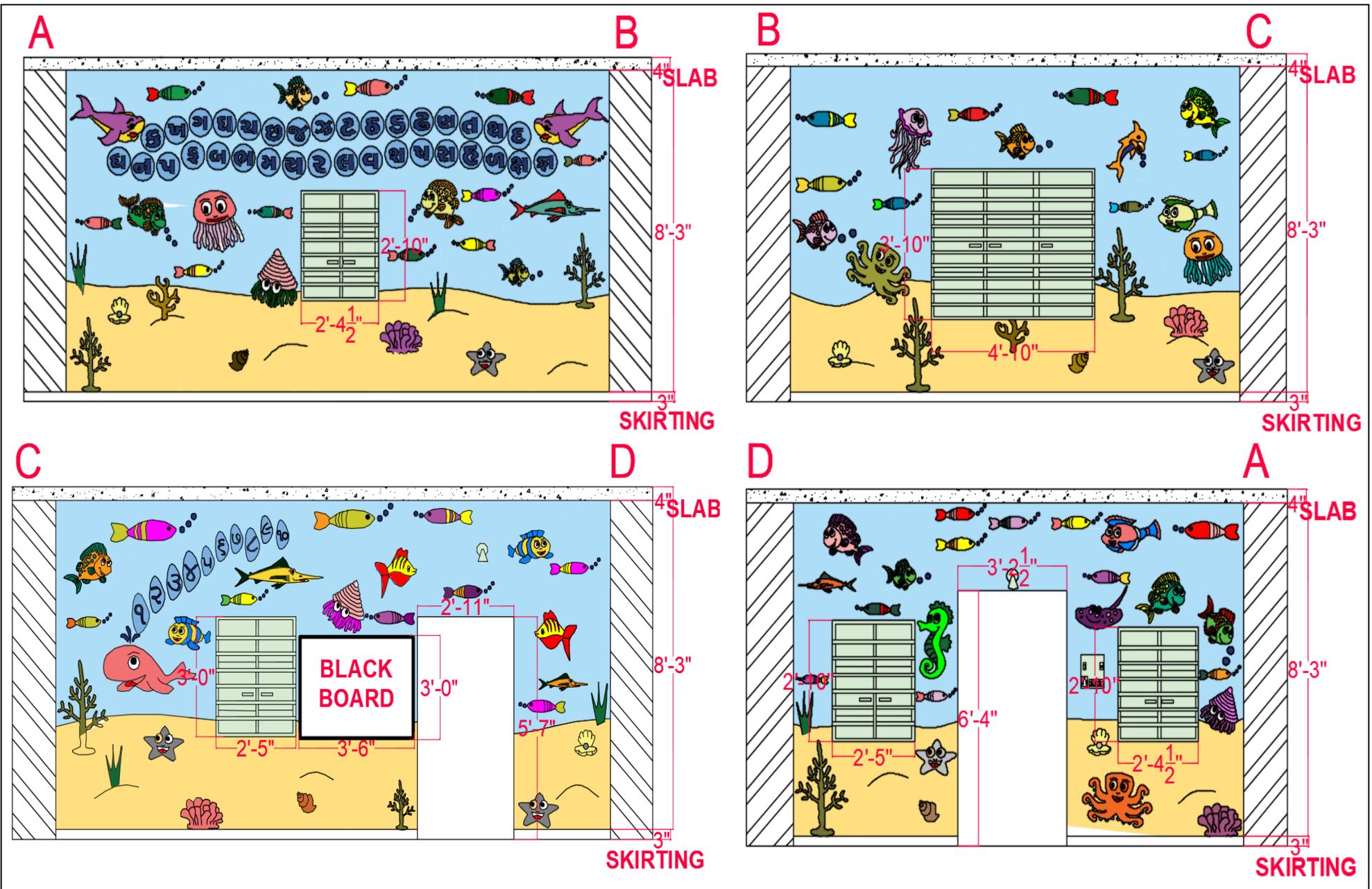


TITLE-

Figure 9: Proposed Flooring Layout of Design Project-I Nandghar Ujeti Alternative-1

DIRECTION-





TITLE-

Figure 10: Proposed Wall Elevations of the Activity Room of Design Project-I Nandghar Ujeti Alternative-1 (Underwater Theme)

DIRECTION-



4 ½” and height of 2’-10” at the height of 2’-7” from the floor. For the window light grey color oil paint was proposed.

- **Wall BC:** The length of the wall was 13’-3 ½”. The background was half-light blue which indicated water and half-light yellow which indicated sand. Different types of fishes with different colors, sizes and shapes were created as murals. Other underwater creatures like star-fish, octopus, shell, grass were created. For creating the murals acrylic distemper paint was proposed. A window was present with the width 4’-10” and the height 3’-10” at the height of 2’-1” from the floor. For the window light grey color oil paint was proposed.
- **Wall CD:** The length of the wall was 16’-9”. The background was half-light blue which indicated water and half-light yellow which indicated sand. Different types of fishes with different colors, sizes and shapes were created as murals. Other underwater creatures like star-fish, jelly-fish, shell, grass were created. For creating the murals acrylic distemper paint was proposed. To make it educatory, the Gujarati Numerical was painted. A window was present with a width of 2’-5” and a height of 3’-0” at the height of 2’-7” from the floor. For the window light grey color oil paint was anticipated. The provision of black board was given of size 3’-6” X 3’-0” at the height of 2’-6” from the floor. There was an opening towards the kitchen having the width of 2’-11” and the height of 5’-7”. Above the opening, a lighting fixture for bulb was provided at the height of 7’-3” from the floor.
- **Wall DA:** The length of the wall was 13’-3 ½”. The background was half-light blue which indicated water and half-light yellow which indicated sand. Different types of fishes with different colors, sizes and shapes were created as murals. Other underwater creatures like star-fish, octopus, shell, grass were created. For creating the murals acrylic distemper paint was proposed. Two windows having a width of 2’-5” and 2’-4 ½” and the height 2’-10” were present. The windows were at the height of 2’-7” from the floor. For the windows, light grey color oil paint was proposed. The main entrance door of size 3’-2 ½” and height 6’-4” was present. For the door light grey color oil paint was anticipated. Above the door, a lighting fixture for bulb was provided

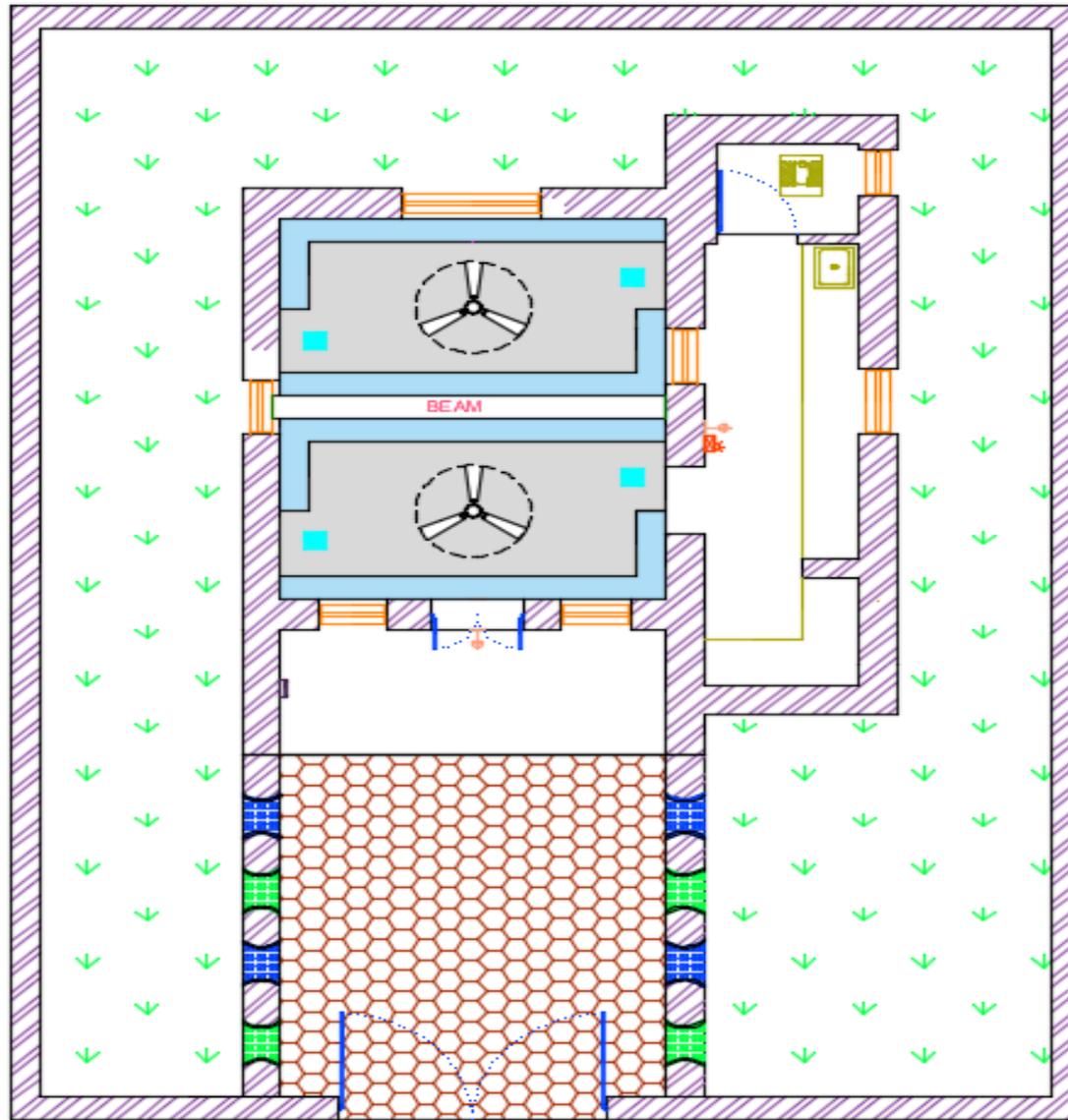
at the height of 6'-8" from the floor and next to the door the main switchboard was located at the height of 3'-11" from the floor.

Proposed False Ceiling Design and Electrical Layout

The ceiling of the Activity room had a beam of height 9 inches. According to clients requirement, the beam was to be kept as it is and should not be hidden inside the false ceiling design. Keeping it into consideration, two rectangular-shaped designs were proposed on both sides of the beam. The material used for the false ceiling was Gypsum board. The width of the false ceiling as proposed in the design was 1'-0" creating an L-shape structure. Considering the height of the activity room, the false ceiling drops down exactly 6 inches from the original ceiling in such a manner that the plenum space (hollow/open space) of 3 inches was left between the original ceiling and false ceiling. Plastic paint was proposed for painting the false ceiling to avoid reflective glare. For the false ceiling, the colors proposed were, the L-shape structure of the false ceiling was given light blue paint and the center portion was given grey paint.

Considering the size of the room and false ceiling design, lighting fixtures were positioned in the false ceiling, in such a manner that light was distributed all over the room. Total of 4 LED lights of 15 watts each were placed in the false ceiling for direct lighting. These fixtures were square in shape. The tint of light from these lights was white. Also considering the size of the room, two ceiling fans were proposed in the design, which was placed in the center on the false ceiling.

The distribution of the switches was done keeping in mind the proximity of the fixture and the switchboard to minimize the length of wires. The main switchboard was provided near the entrance door so that operating them becomes easy. The main switchboard included the connection of fans, lights placed in the false ceiling and lighting fixture for bulb.

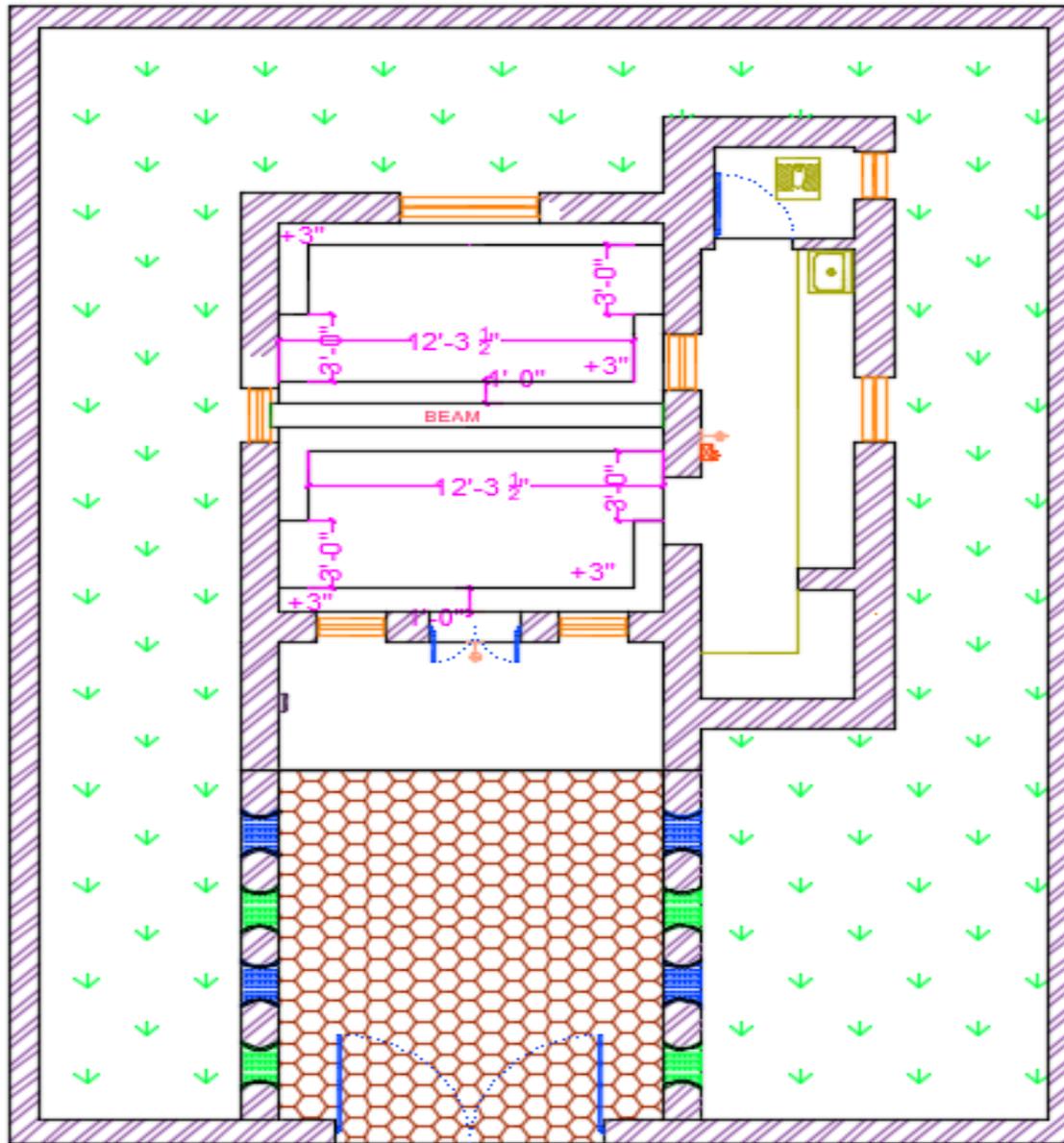


TITLE-

Figure 11: Proposed False Ceiling Design of Design Project-I Nandghar Ujeti Alternative-1

DIRECTION-



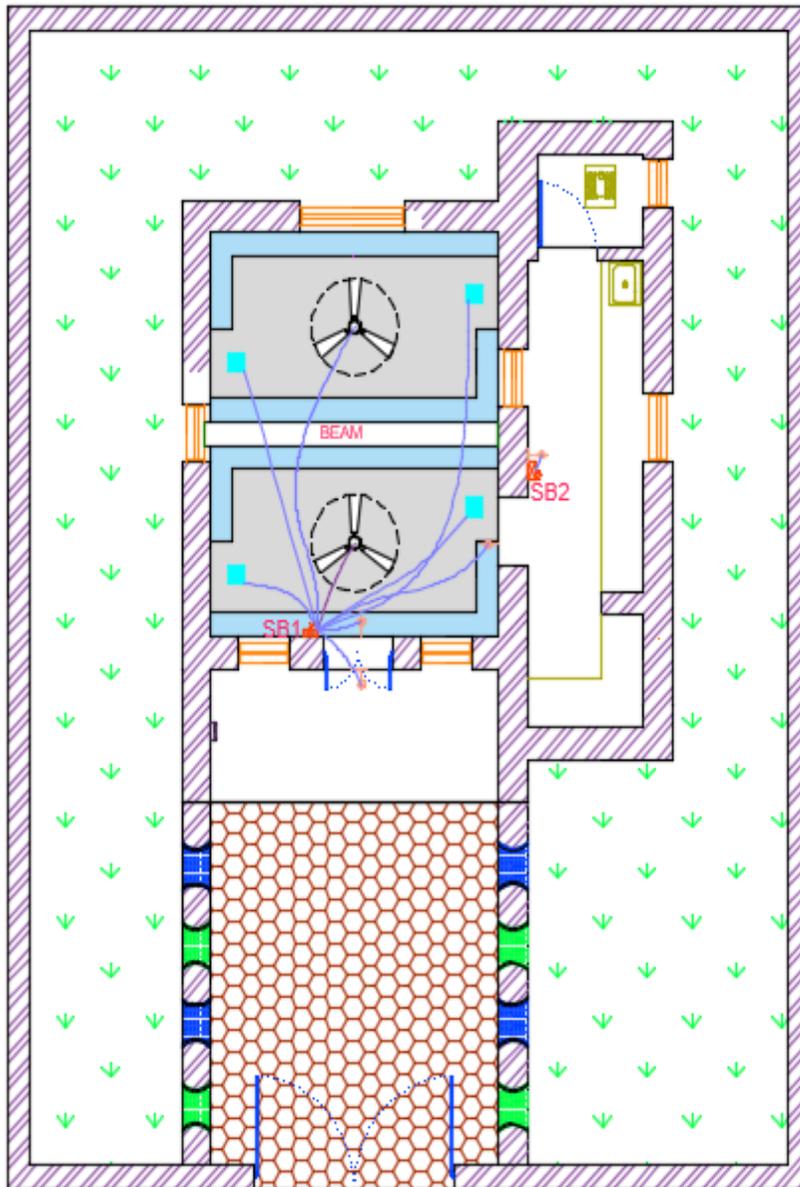


TITLE-

Figure 12: Proposed False Ceiling Working Drawing of Design Project-I Nandghar Ujeti Alternative-1

DIRECTION-





LEGEND

	Switchboard with plug point
	Switchboard without plug point
	Wall point
	Fan
	15 Watt Light

TITLE-

Figure 13: Proposed Electrical Layout of Design Project-I Nandghar Ujeti Alternative-1

DIRECTION-



KITCHEN CUM STORE ROOM

There was a combined Kitchen and Storeroom. The dimension of the Kitchen was having the length of 5'-4", the width of 13'-9 ½" and height of 5'-11". The dimension of the Storeroom was having the length of 5'-4", the width of 6'-8" and height of 5'-11" of which 3 inches was skirting. There was a partition wall between the Kitchen and Storeroom of length 11 inches. Therefore, the overall dimension of the Kitchen cum Storeroom was having the length of 5'-4", the width of 19'-4" and height of 5'-11". The slab height was 4 inches.

- **Wall IJ:** The overall length of the wall was 19'-4" of which 5'-7" included Storeroom area. Ceramic tiles of size 6" X 9" were alternatively placed i.e. one light blue another grey, till the length of 13'-9 ½" which included the Kitchen area. A black granite countertop with length 13'-9 ½" and width 2'-0" was placed at a height of 2'-6" from the floor. Beneath the countertop, five storage cabinets were given of which four cabinets were of double shutter whereas one was single shutter. The length of the single shutter cabinet was 2'-0" whereas, the length of the double shutter cabinets was 2'-6" and 3'-2 ½". For the cabinets, laminated plywood was used which was of light blue color and had dark grey framing. A provision of the sink was also given on the countertop. A window was present of width 2'-10 ½" and height 2'-10" at the height of 2'-9" from the floor. The windows were given light grey color oil paint. The rest of the area which was the Storeroom area, yellow color plastic distemper paint was proposed. In the Storeroom, two L-shaped shelves were present for which Kota stone were placed, which was 2'-0" wide and 4'-8" in length. They were placed at a height of 2'-11" and 4'-5" from the floor.
- **Wall JK:** The length of the wall was 5'-4". For the wall yellow color plastic distemper paint was proposed. Two L-shaped shelves were present for which Kota stone were placed which were 2'-0" wide and 5'-4" in length. They were placed at a height of 2'-11" and 4'-5" from the floor.
- **Wall KL:** The overall length of the wall was 19'-4" of which 6'-8" included the Storeroom area. For the Storeroom area, yellow color plastic distemper paint

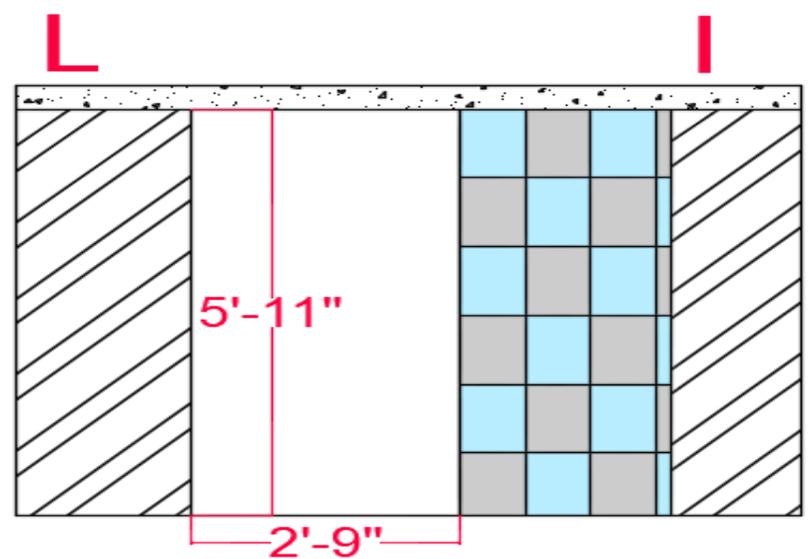
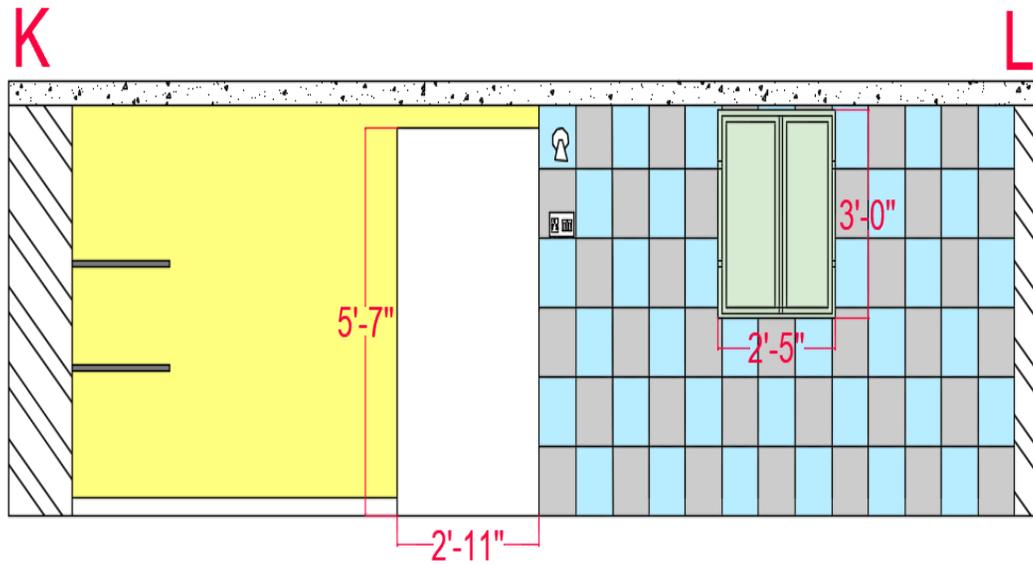
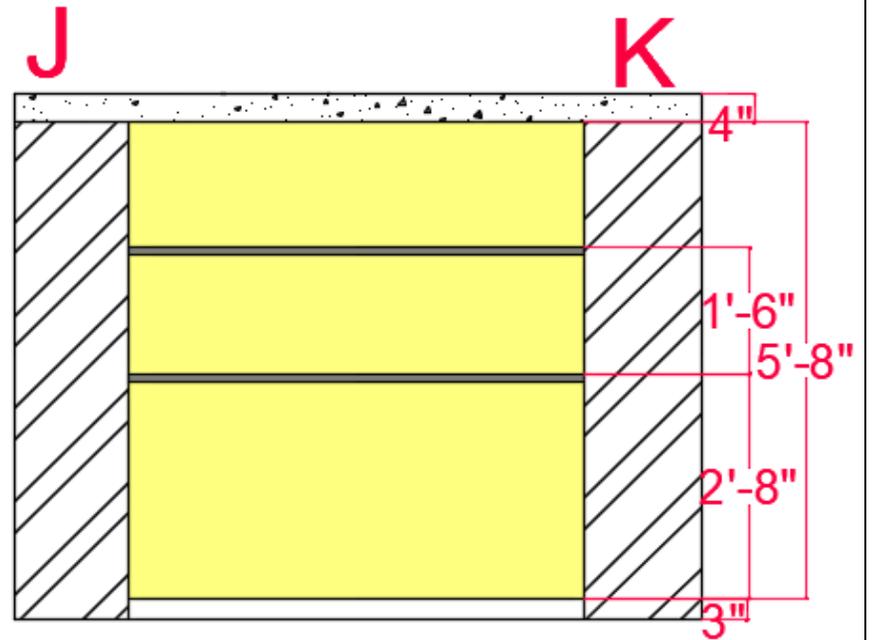
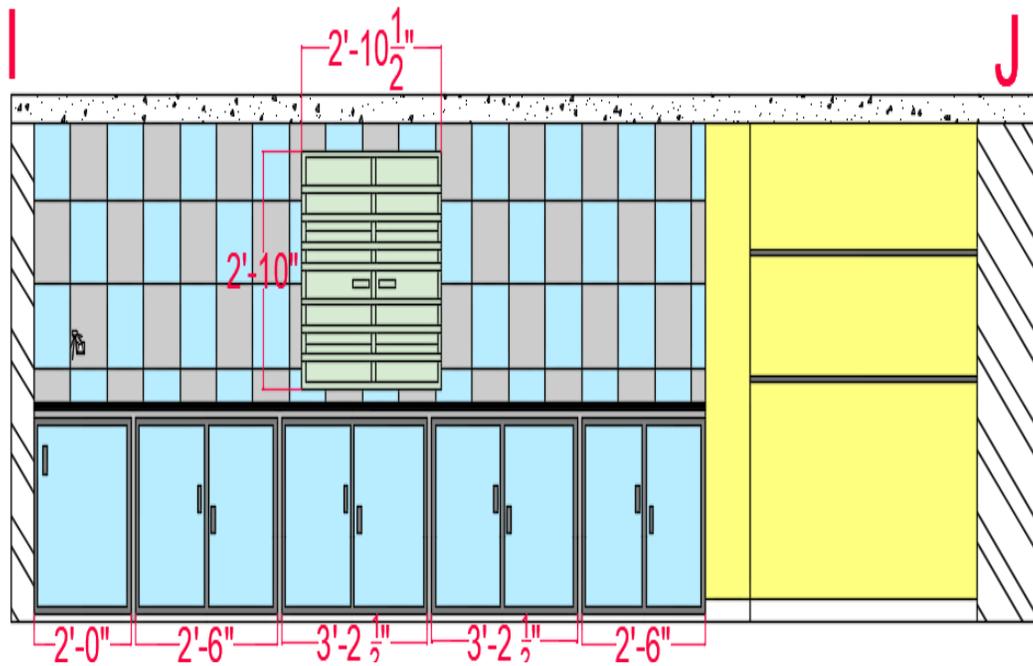
was proposed whereas the rest of the wall which was the kitchen wall, ceramic tiles of size 6" X 9" was given. The tiles were alternatively placed i.e. one light blue another grey. There was an entrance opening of the kitchen of width 2'-11" and height 5'-7". The backside of the window of the activity room was present of width 2'-5" and height 3'-0". A switchboard and a lighting fixture for bulb were provided. The switchboard was at the height of 4'-0" and the lighting fixture for bulb was at the height of 5'-5" from the floor.

- **Wall LI:** The length of the wall was 5'-4". It had an opening towards the washroom of width 2'-9" and height 5'-11". The rest of the wall had ceramic tiles of size 6" X 9" which were placed alternatively i.e. one light blue another grey.

WASHROOM

The dimension of the washroom was having the length of 4'-11", the width of 3'-11" and the height of 7'-11". The slab height was 4 inches.

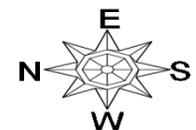
- **Wall HE:** The length of the wall was 3'-11". Considering the other interior components, for the wall light blue color plastic distemper paint was proposed. The open door of the washroom was shown, which had width 2'-9" and height 5'-7". For the door light grey color oil paint was proposed.
- **Wall EF:** The length of the wall was 4'-11". For the wall light blue color plastic distemper paint was proposed.
- **Wall FG:** The length of the wall was 3'-11". For the wall light blue color plastic distemper paint was proposed. Ventilation was present of width 2'-0" and height 2'-0" and was at the height of 5'-11" from the floor. A provision of stainless steel tap and a flush tap was given at the height of 1'-9" from the floor.
- **Wall GH:** The length of the wall was 4'-11". For the wall light blue color plastic distemper paint was proposed. As the door was shown open, the door opening was present, which was 2'-9" wide and 5'-7" in height.

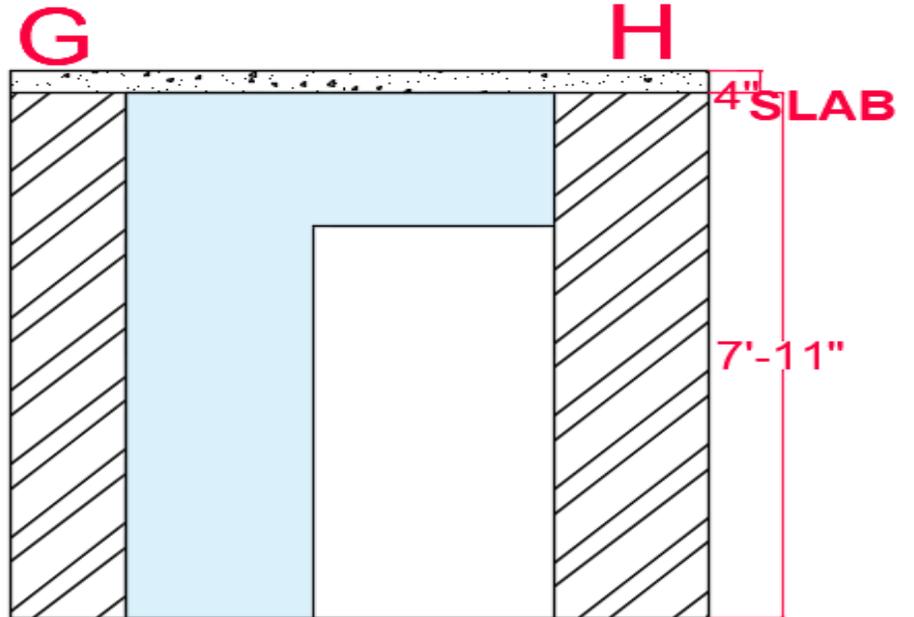
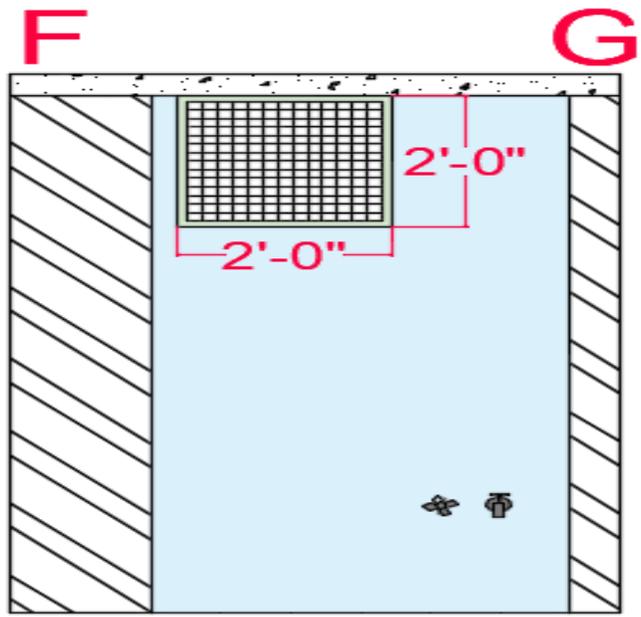
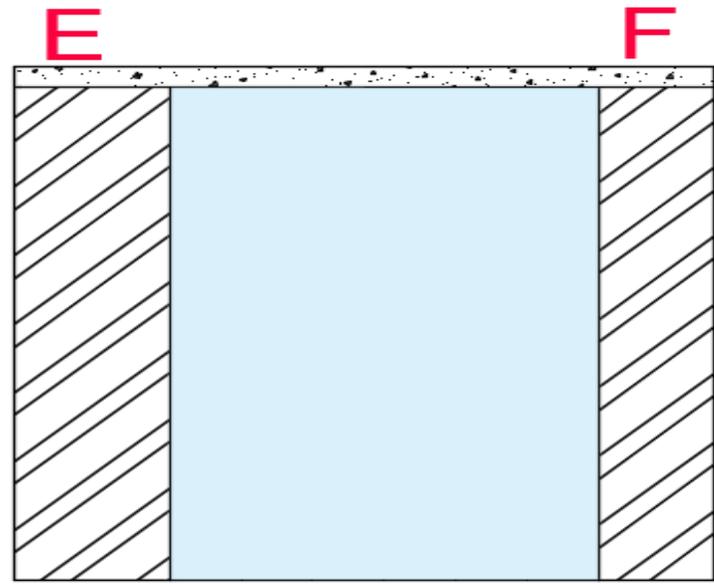
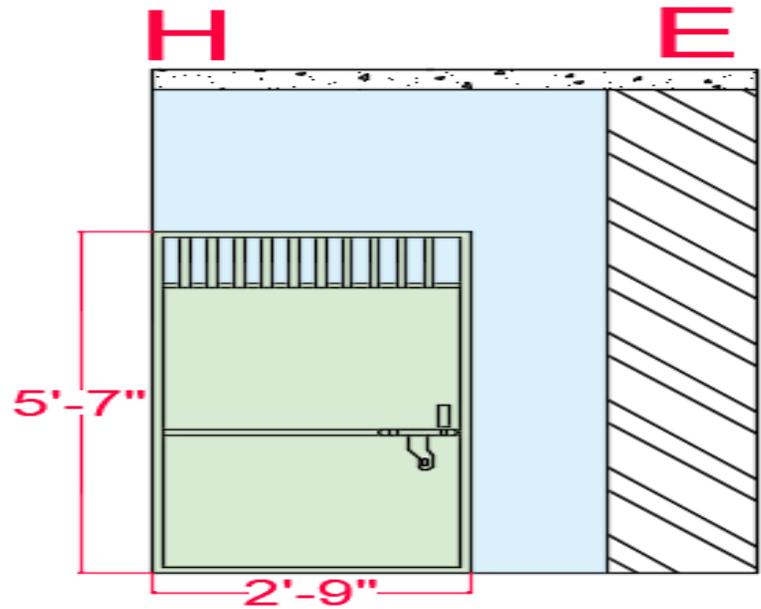


TITLE-

Figure 14: Proposed Wall Elevations of the Kitchen cum Storeroom of Design Project-I Nandghar Ujeti Alternative-1

DIRECTION-

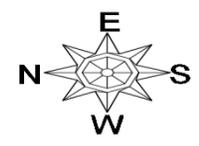




TITLE-

Figure 15: Proposed Wall Elevations of the Washroom of Design Project-I Nandghar Ujeti Alternative-1

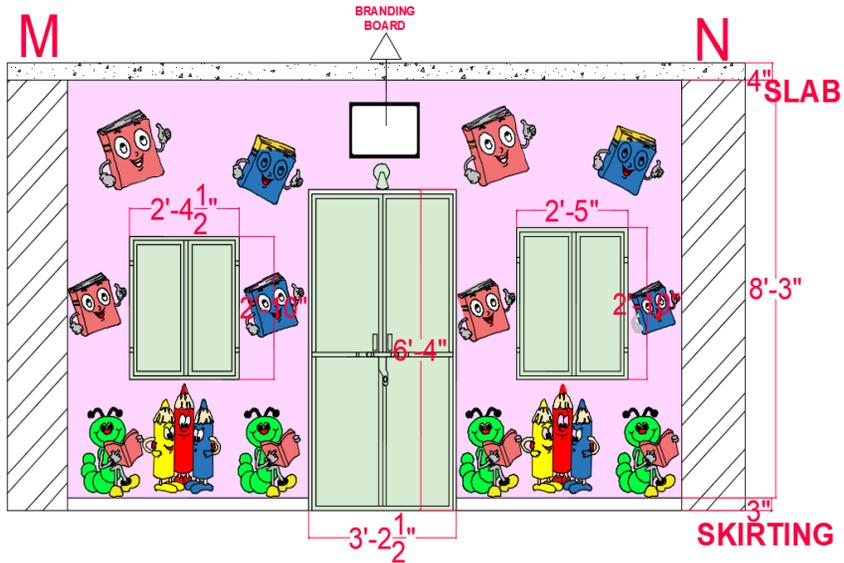
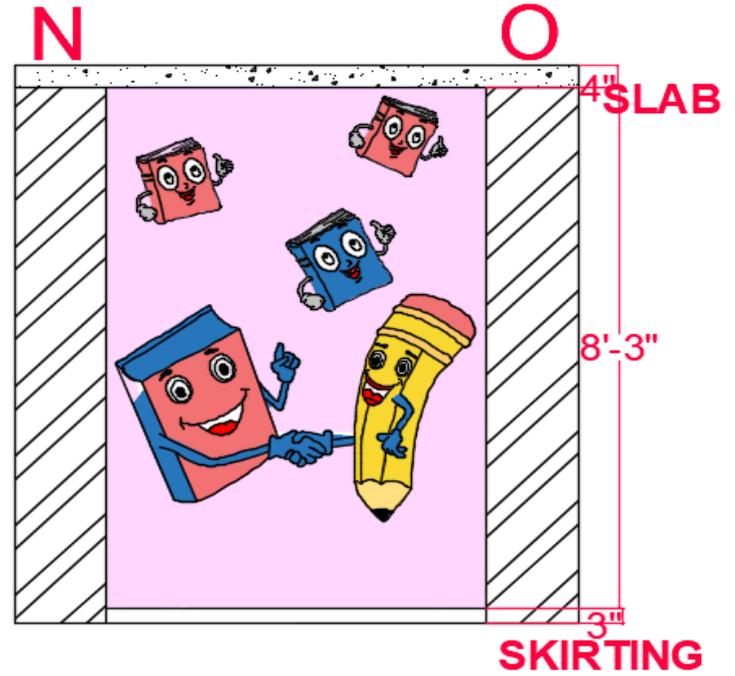
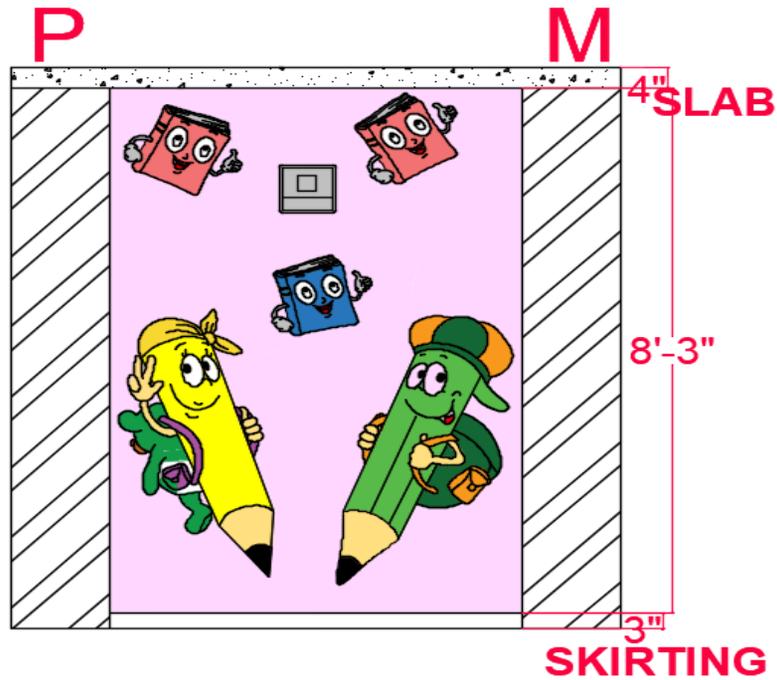
DIRECTION-



OUTDOOR AREA (MURALS OF BOOKS AND PENCILS)

The dimension of the Outdoor area was having the length of 13'-3 ½", the width of 5'-6" and height of 8'-6" of which 3 inches was the skirting. The slab height was 4 inches.

- **Wall PM:** The length of the wall was 5'-6". Murals of books and pencils were created and painted with different colors to make it colorful. For creating the murals acrylic distemper paint was proposed whereas, for the background light pink color plastic distemper paint was anticipated. The main electricity supply meter was provided at the height of 6'-6 ½" from the floor.
- **Wall NO:** The length of the wall was 5'-6". Murals of books and pencils were created and painted with different colors to make it colorful. For creating the murals acrylic distemper paint was proposed whereas, for the background light pink color plastic distemper paint was anticipated.
- **Wall MN:** The length of the wall was 13'-3 ½". Murals of books, different color pencils and a snail reading a book were created and painted with different colors to make it colorful. For creating the murals acrylic distemper paint was proposed whereas, for the background light pink color plastic distemper paint was anticipated. Two windows with width 2'-4 ½" and 2'-5" were present with a height of 2'-10". For the windows, light grey color oil paint was anticipated. The main entrance door of width 3'-2 ½" and height 6'-4" was present and was given light grey color oil paint. The door had two shutters. Above the door, a lighting fixture for bulb and placement of branding board was provided at the height of 6'-8" and 7'-0" respectively.
- **Wall QR:** The length of the wall was 15'-11 ½" which included two pillars of length 1'-3". For the name of the Anganwadi purple color plastic distemper paint was proposed with murals of two pencils on both sides. On the pillars, murals of books were created. Different colors were used to make it more colorful and attractive. For the murals, acrylic distemper paint was anticipated whereas, for the background light pink color plastic distemper paint was proposed.



TITLE-

Figure 16: Proposed Wall Elevations of the Outdoor Area of Design Project-I Nandghar Ujeti Alternative-1 (Murals of Books and Pencils)

DIRECTION-



Theme 2: Forest (Alternative-2)

Proposed Flooring

For alternative-2, white vitrified tiles of size 2'-0" X 2'-0" were given for the Activity room, Kitchen cum Storeroom and Outdoor area. The process of laying the vitrified tiles started from the corner of the room near window number 4.

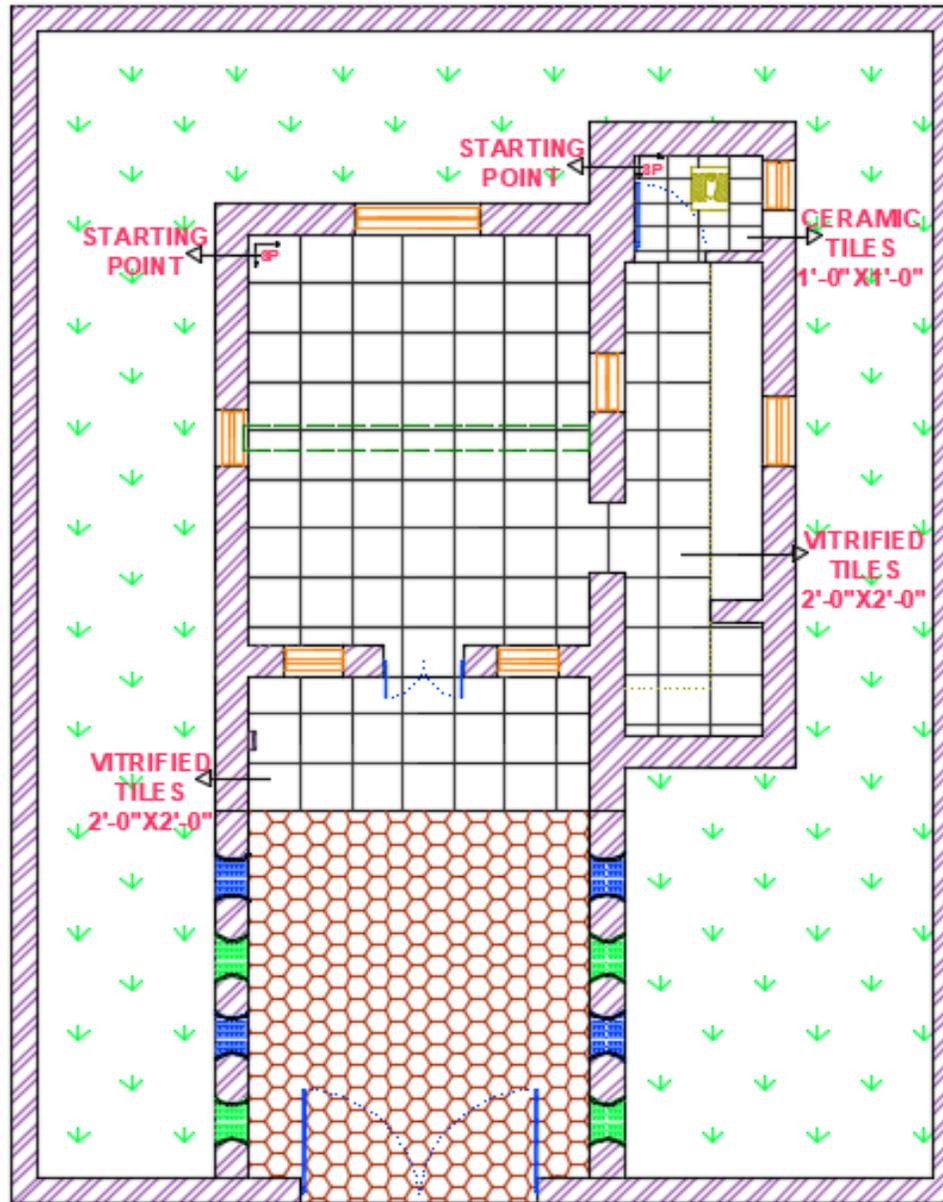
Whereas, for the Washroom, white ceramic tiles of size 1'-0" X 1'-0" was given. The process of laying the tiles in the Washroom started from the corner of the Washroom, so that full tiles can be seen. An Indian style water closet was fixed of size 2'-0" X 3'-0".

ACTIVITY ROOM

The dimension of the Activity room was having the length of 13'-3 ½", the width of 16'-9" and height of 8'-6" of which 3 inches was skirting. The slab height was 4 inches.

Proposed Wall Design

- **Wall AB:** The length of the wall was 16'-9". As the theme was the forest, the background was half sky blue which indicated sky and half green which indicated greenery. Murals of sun, birds, a tree with fruits, monkey hanging on the tree, hippopotamus in water, a frog sitting on the stone, a lioness with cubs, flowers, butterfly and mushroom were created. For creating murals acrylic distemper paint was proposed. To make it educatory, the Gujarati Numerical were painted on the bark of the tree. A window was present with the width of 2'-4 ½" and the height 2'-10" at the height of 2'-7" from the floor. For the window light yellow color oil paint was anticipated.
- **Wall BC:** The length of the wall was 13'-3 ½". The background was half sky blue which indicated sky and half green which indicated greenery. Murals of birds, tree, and bears eating fruits, giraffe eating leaves, mouse, ants, flowers, butterfly and mushroom were created. For creating murals acrylic distemper paint was proposed. To make it educatory, the Gujarati alphabets (Barakhadi) were painted on the leaves of the tree. A window was present with a width

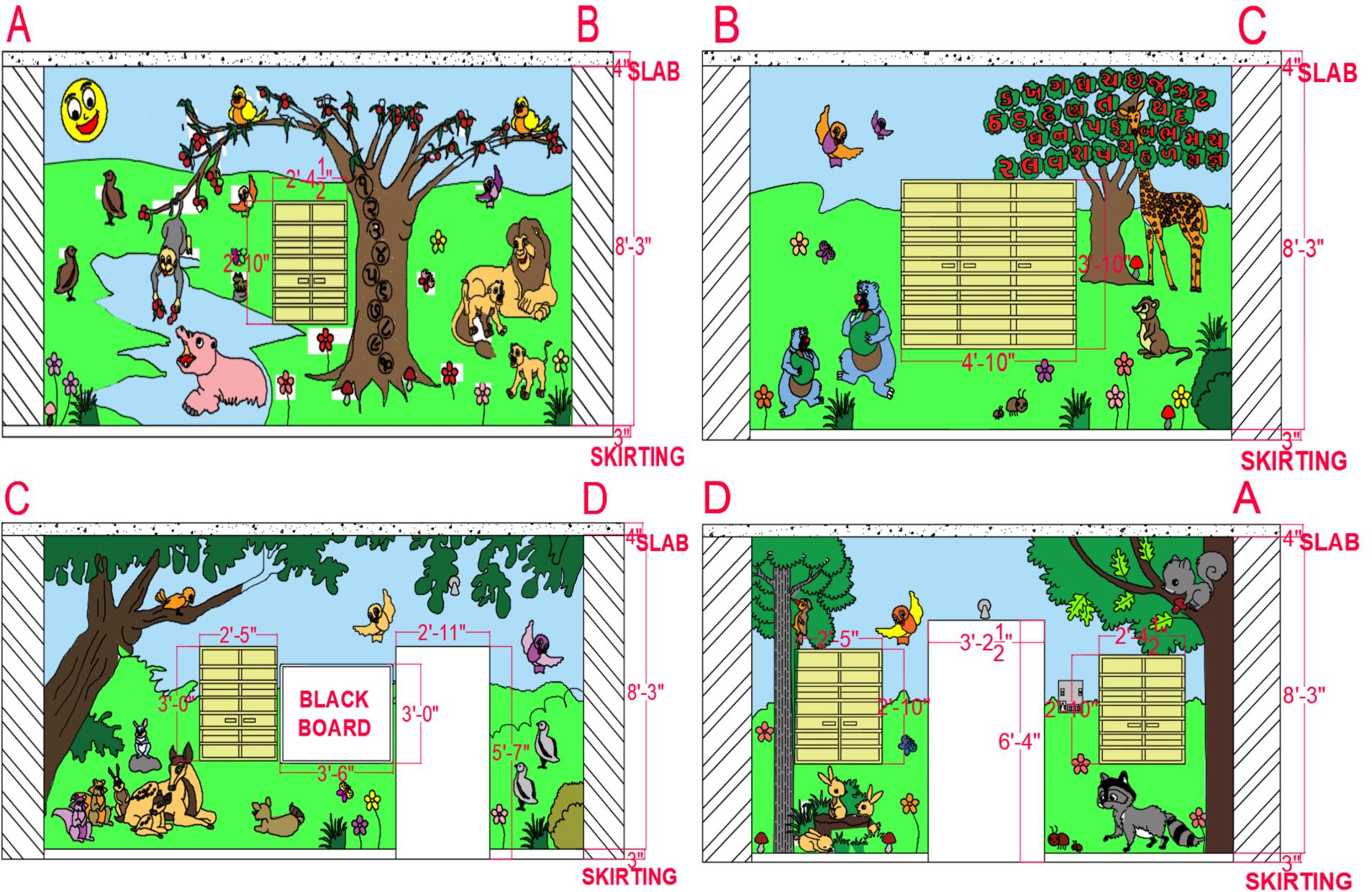


TITLE-

Figure 17: Proposed Flooring Layout of Design Project-I Nandghar Ujeti Alternative-2

DIRECTION-





TITLE-

Figure 18: Proposed Wall Elevations of the Activity Room of Design Project-I Nandghar Ujeti Alternative-2 (Forest Theme)

DIRECTION-



of 4'-10" and the height of 3'-10" at the height of 2'-1" from the floor. For the window light yellow color oil paint was proposed.

- **Wall CD:** The length of the wall was 16'-9". The background was half sky blue which indicated sky and half green which indicated greenery. Murals of birds, trees, deer, squirrels, flowers, and butterfly were created. For creating murals acrylic distemper paint was proposed. A window was present with the width 2'-5" and the height 3'-0" at the height of 2'-7" from the floor. For the window light yellow color oil paint was anticipated. The provision of black broad was given of size 3'-6" X 3'-0" at the height of 2'-6" from the floor. There was an opening towards the kitchen of width 2'-11" and height 5'-7". Above the opening, a lighting fixture for bulb was provided at the height of 7'-3" from the floor.
- **Wall DA:** The length of the wall was 13'-3 ½". The background was half sky blue which indicated sky and half green which indicated greenery. Murals of birds, trees, rabbits, fox, and squirrel on the tree, ants, flowers and butterfly were created. For creating murals acrylic distemper paint was proposed. Two windows of size 2'-5" and 2'-4 ½" with height 2'-10" were present. The windows were at the height of 2'-7" from the floor. For the window light yellow color oil paint was anticipated. The main entrance door of size 3'-2 ½" and height 6'-4" was present. For the door, light yellow oil paint was given. Above the door, a lighting fixture for bulb was provided at the height of 6'-8" from the floor and next to the door the main switchboard was located at the height of 3'-11" from the floor.

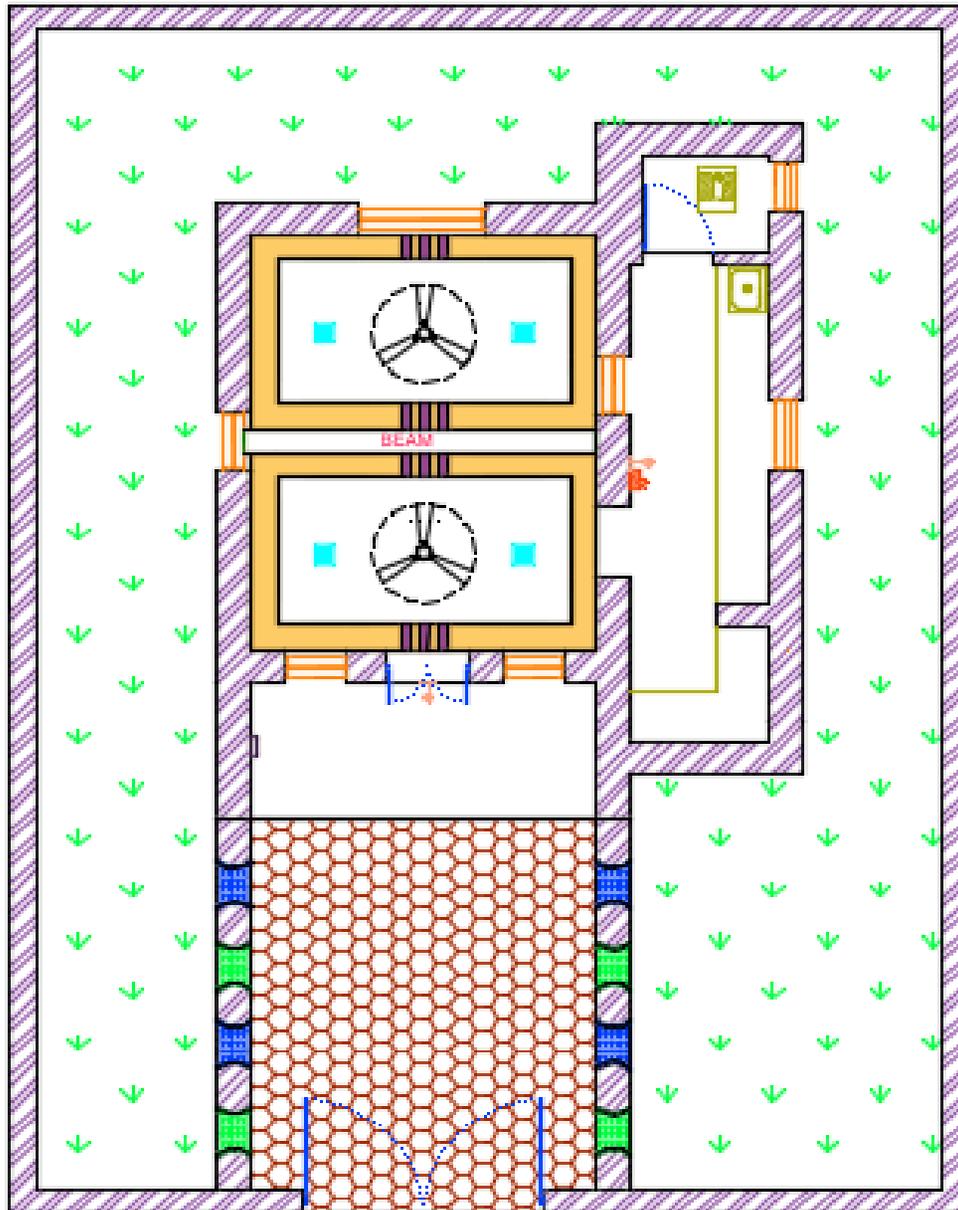
Proposed False Ceiling Design and Electrical Layout

The ceiling of the Activity room had a beam of height 9 inches. According to clients requirement, the beam was to be kept as it is and should not be hidden inside the false ceiling design. Keeping it into consideration, two rectangular-shaped designs were proposed on both sides of the beam. The material used for the false ceiling was Gypsum board. The width of the false ceiling as proposed in the design was 1'-0" for all four sides and both the rectangular shapes.

Considering the height of the activity room, the false ceiling drops down exactly 6 inches from the original ceiling in such a manner that the plenum space (hollow/open space) of 3 inches was left between the original ceiling and false ceiling. In the design proposed, the rectangular-shaped false ceiling also had three strips, on two sides of the rectangle, which highlights the entire false ceiling design. The strips drop down exactly 1 inch from the rectangular-shaped false ceiling. Plastic paint was proposed for painting the false ceiling to avoid reflective glare. For the false ceiling, the color proposed was, the center portion of the false ceiling was given white color, the rectangular shape was given light mustard color and the strips were given purple color.

Considering the size of the room and false ceiling design, lighting fixtures were positioned in the false ceiling in such a manner that light is distributed all over the room. Total of 4 LED lights of 15 watts each were placed in the false ceiling for direct lighting. These fixtures were square in shape. The tint of light from these lights was white. Also considering the size of the room, two ceiling fans were proposed in the design, which was placed in the center of both the rectangular shape false ceiling.

The distribution of the switches was done keeping in mind the proximity of the fixture and the switchboard to minimize the length of wires. The main switchboard was provided near the entrance door so that operating them becomes easy. The main switch board included the connection of fans, lights placed in false ceiling and lighting fixtures for bulb.

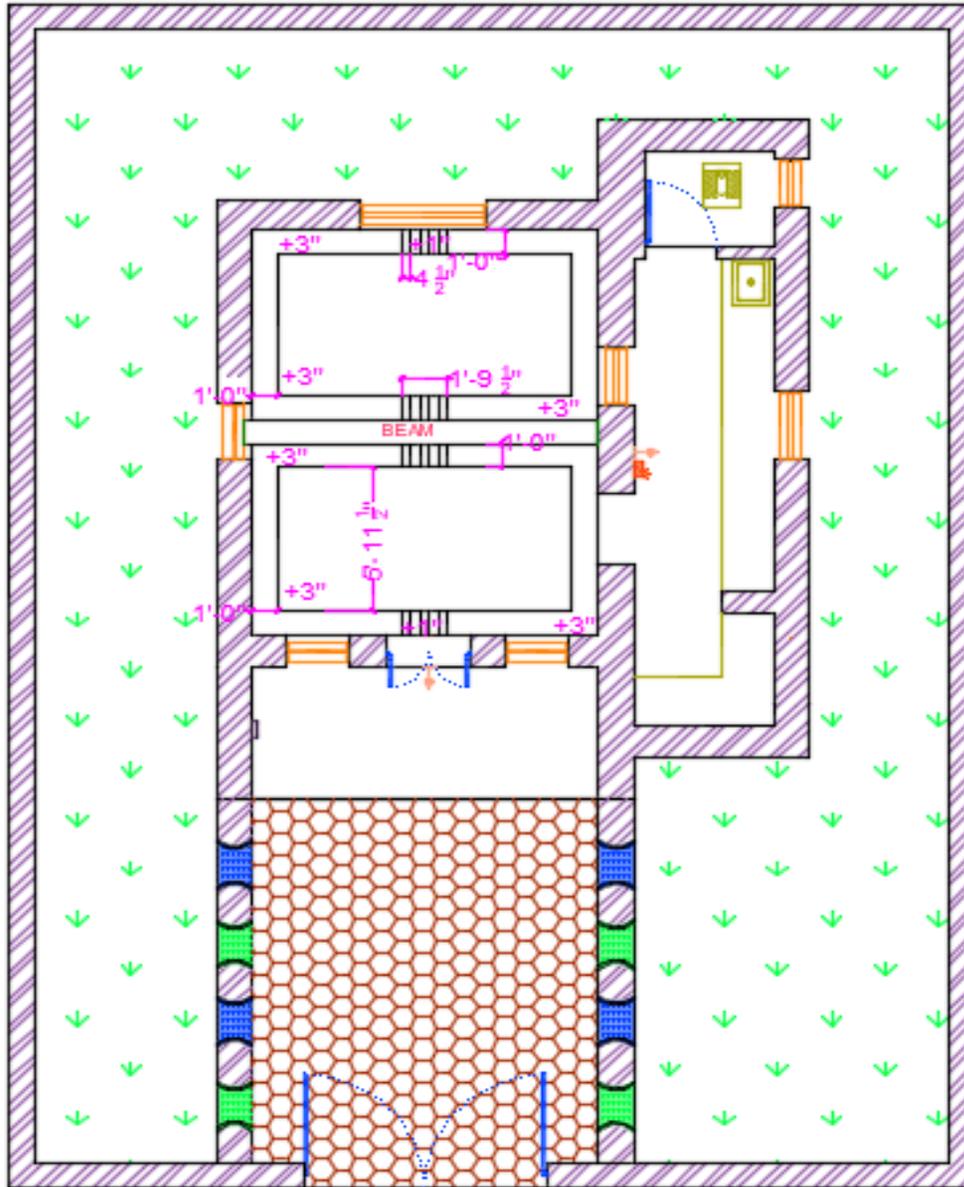


TITLE-

Figure 19: Proposed False Ceiling Design of Design Project-I Nandghar Ujeti Alternative-2

DIRECTION-



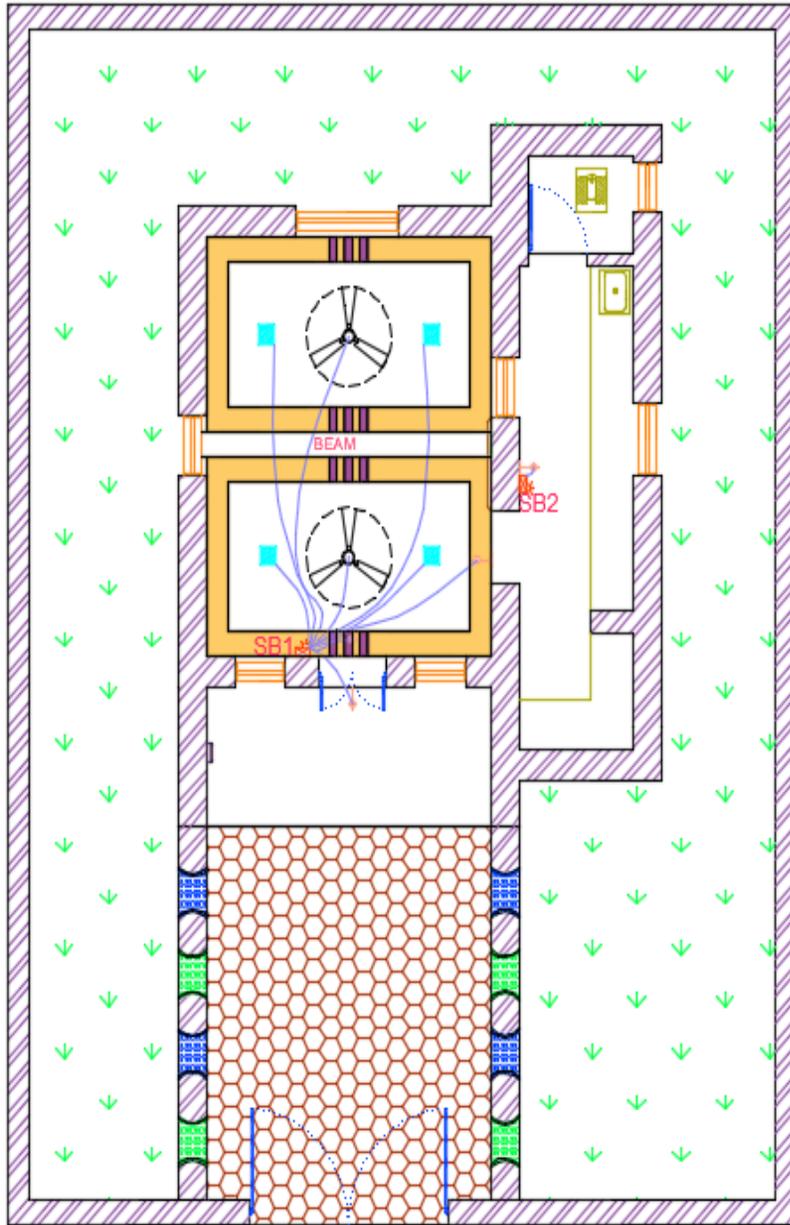


TITLE-

Figure 20: Proposed False Ceiling Working Drawing of Design Project-I
Nandghar Ujeti Alternative-2

DIRECTION-





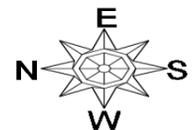
LEGEND

	Switchboard with plug point
	Switchboard without plug point
	Wall point
	Fan
	15 Watt Light

TITLE-

Figure 21: Proposed Electrical Layout of Design Project-I Nandghar Ujeti Alternative-2

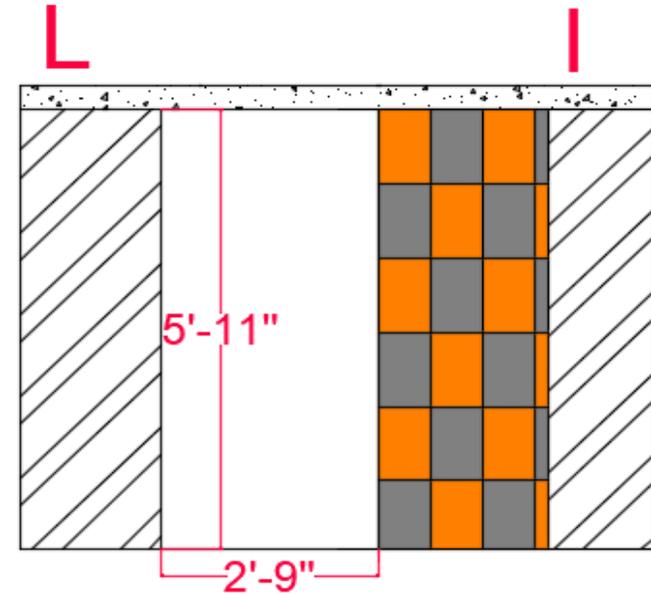
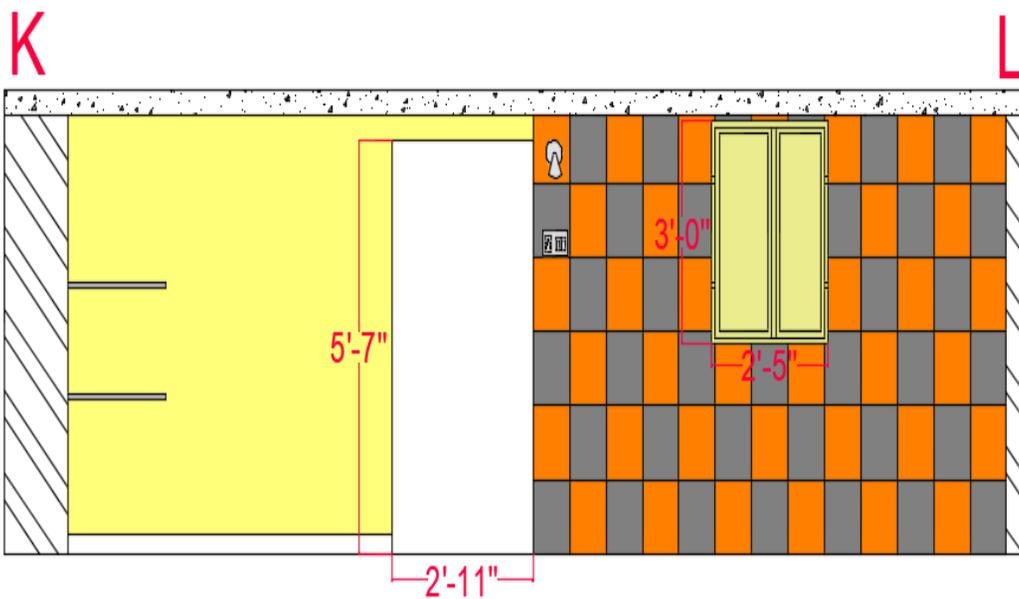
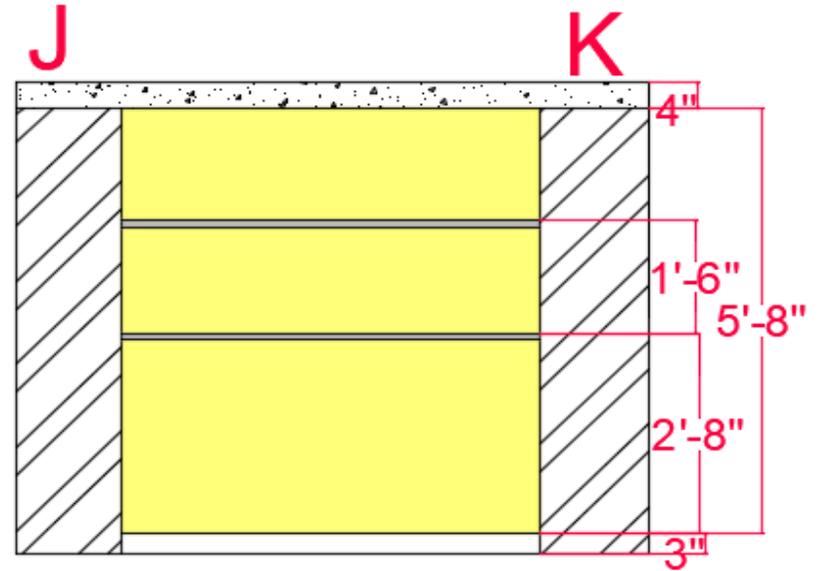
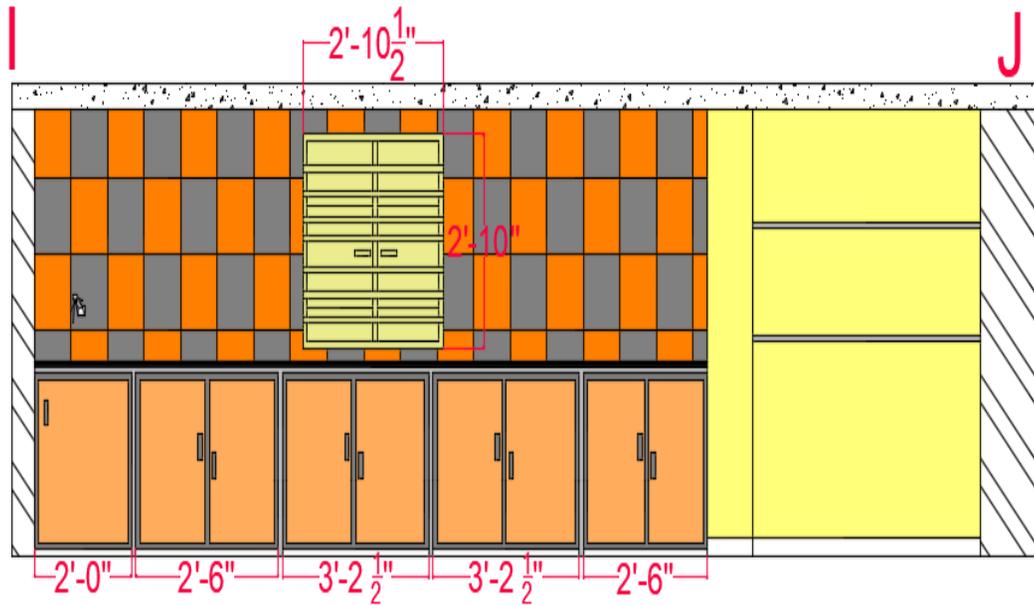
DIRECTION-



KITCHEN CUM STOREROOM

There was a combined Kitchen and Storeroom. The dimension of the Kitchen was having the length of 5'-4", the width of 13'-9 ½" and height of 5'-11". The dimension of the Storeroom was having the length of 5'-4", the width of 6'-8" and height of 5'-11" of which 3 inches was skirting. There was a partition wall between the Kitchen and Storeroom of length 11inches. Therefore, the overall dimension of the Kitchen and Storeroom was having the length of 5'-4", the width of 19'-4" and height of 5'-11". The slab height was 4 inches.

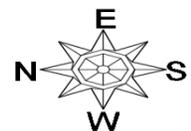
- **Wall IJ:** The overall length of the wall was 19'-4" of which 5'-7" included Storeroom area. Ceramic tiles of size 6" X 9" were alternatively placed i.e. one orange another dark grey, till the length of 13'-9 ½" which included the kitchen area. A black granite countertop with length 13'-9 ½" and width 2'-0" was placed at the height of 2'-6" from the floor. Beneath the countertop, five storage cabinets were given of which four cabinets were of double shutter whereas one was single shutter. The length of the single shutter cabinet was 2'-0" whereas, the length of the double shutter cabinets was 2'-6" and 3'-2 ½". For the cabinets, laminated plywood was used which was of light orange color and had dark grey framing. A provision of the sink was also given on the countertop. A window was present of width 2'-10 ½" and height 2'-10" at the height of 2'-9" from the floor. The window was given light yellow color oil paint. The rest of the area which was the Storeroom area yellow color plastic distemper paint was proposed. In the storeroom, two L-shaped shelves were present for which Kota stone was placed which was 2'-0" wide and 4'-8" in length. They were placed at a height of 2'-11" and 4'-5" from the floor.
- **Wall JK:** The length of the wall was 5'-4". The wall was given yellow color plastic distemper paint. Two L-shaped shelves were present for which Kota stone was placed which was 2'-0" wide and 5'-4" in length. They were placed at a height of 2'-11" and 4'-5" from the floor.



TITLE-

Figure 22: Proposed Wall Elevations of the Kitchen cum Storeroom of Design Project-I Nandghar Ujeti Alternative-2

DIRECTION-

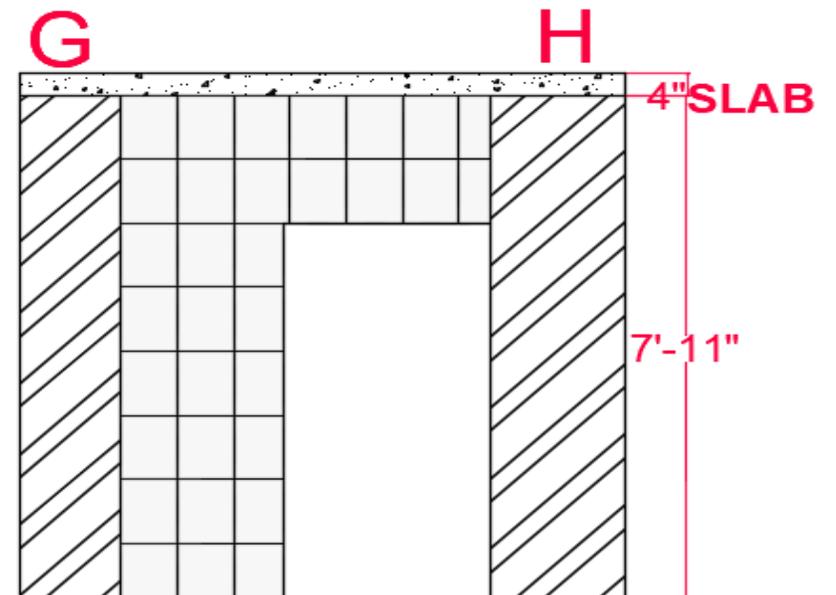
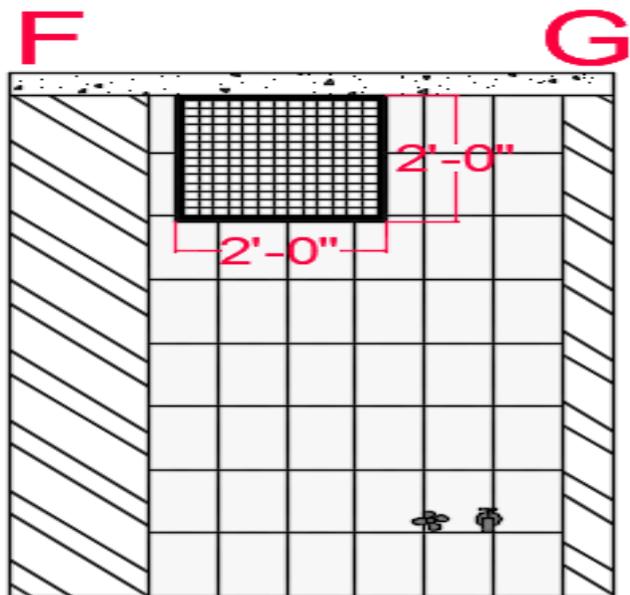
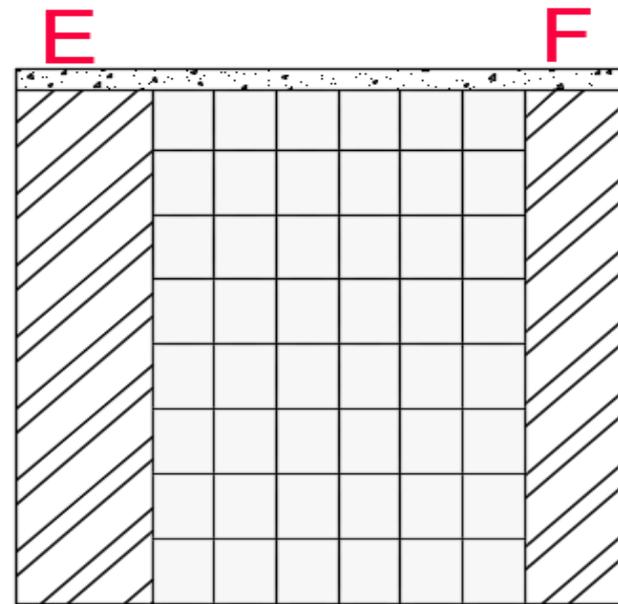
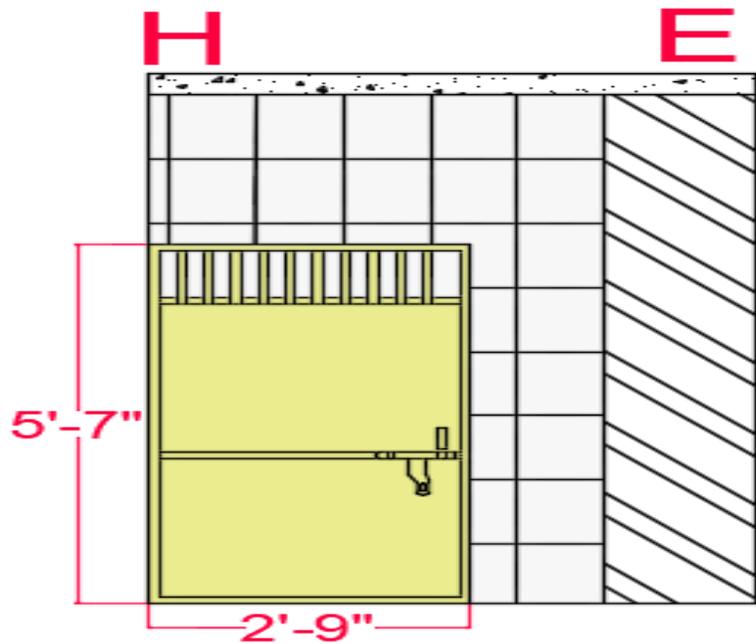


- **Wall KL:** The overall length of the wall was 19'-4" of which 6'-8" included the Storeroom area. For the Storeroom area yellow color plastic distemper paint was proposed whereas the rest of the wall which was the kitchen walls, ceramic tiles of size 6" X 9" was given. The tiles were alternatively placed i.e. one orange another dark grey. There was an entrance opening of the kitchen of width 2'-11" and 5'-7". The backside of the window of the activity room was present of width 2'-5" and height 3'-0". A switchboard and a lighting fixture for bulb were also provided. The switchboard was at the height of 4'-0" and the wall point was at the height of 5'-5" from the floor.
- **Wall LI:** The length of the wall was 5'-4". It had an opening towards the washroom of width 2'-9" and height 5'-11". The rest of the wall had ceramic tiles of size 6" X 9" which were placed alternatively i.e. one orange another dark grey.

WASHROOM

The dimension of the Washroom was having the length of 4'-11", the width of 3'-11" and height of 7'-11". The slab height was 4 inches.

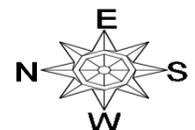
- **Wall HE:** The length of the wall was 3'-11". White ceramic tiles were provided on the wall. The open door of the washroom was shown, which had width 2'-9" and height 5'-7". For the door light yellow color oil paint was proposed.
- **Wall EF:** The length of the wall was 4'-11". White ceramic tiles were provided on the wall.
- **Wall FG:** The length of the wall was 3'-11". White ceramic tiles were provided on the wall. Ventilation was present of width 2'-0" and height 2'-0" and was at the height of 5'-11" from the floor. A provision of stainless steel tap and a flush tap was given at the height of 1'-9" from the floor.
- **Wall GH:** The length of the wall was 4'-11". White ceramic tiles were provided on the wall. As the door was shown open, the door opening was present, which was 2'-9" wide and 5'-7" in height.



TITLE-

Figure 23: Proposed Wall Elevations of the Washroom of Design Project-I
Nandghar Ujeti Alternative-2

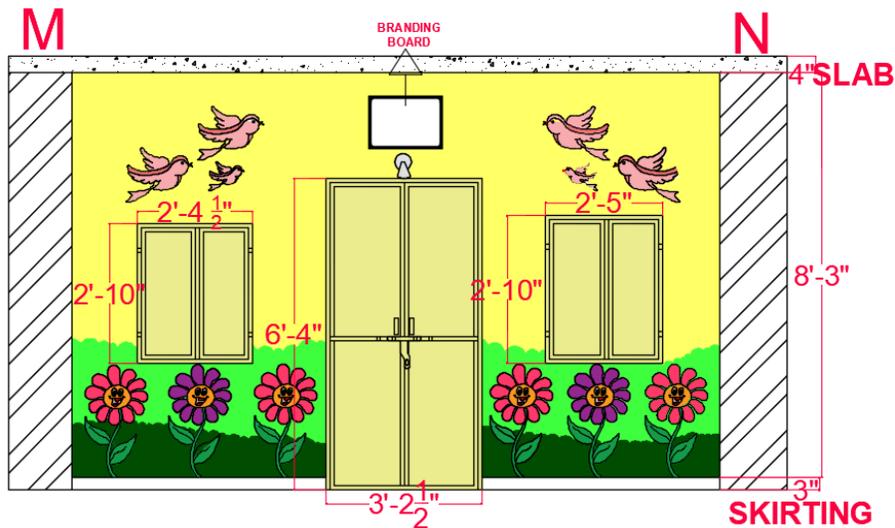
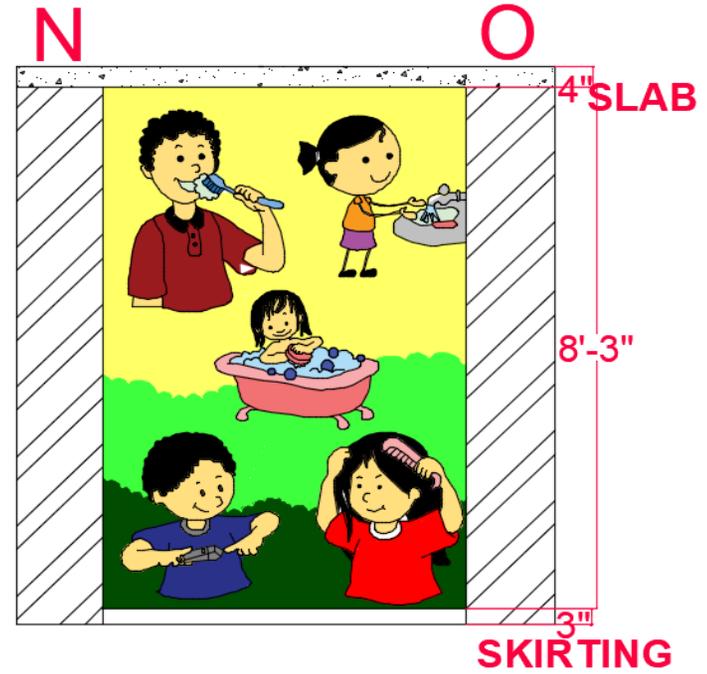
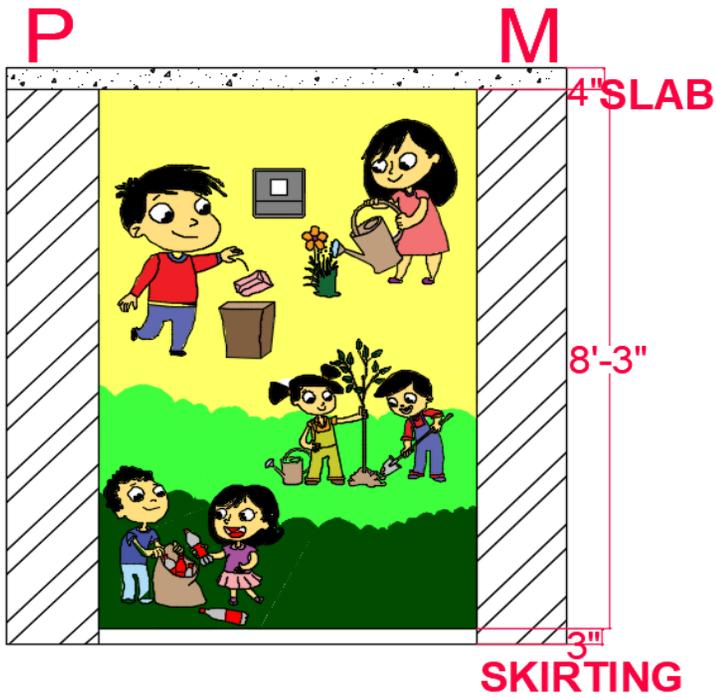
DIRECTION-



OUTDOOR AREA (MURALS OF GOOD HABITS AND CLEANLINESS)

The dimension of the Outdoor area was having the length of 13'-3 ½", the width of 5'-6" and height of 8'-6" of which 3 inches was the skirting. The slab height was 4 inches.

- **Wall PM:** The length of the wall was 5'-6". Murals of good habits including throwing waste products in a dustbin, watering the plants, growing more plants and collecting waste material were created and painted with different colors to make it colorful. For the background, three different colors were used: dark green, parrot green and yellow. For creating the murals acrylic distemper paint was proposed whereas, for the background plastic distemper paint was anticipated. The main electricity supply meter was provided at the height of 6'-6 ½" from the floor.
- **Wall NO:** The length of the wall was 5'-6". Murals of good habits including brushing teeth, washing hands, bathing, cutting nails and combing hair were created and painted with different colors to make it colorful. For the background, three different colors were used: dark green, parrot green and yellow.
- **Wall MN:** The length of the wall was 13'-3 ½". Murals of birds and flowers were created and painted with different colors to make it colorful. For the background, three different colors were used: dark green, parrot green and yellow. For creating the murals acrylic distemper paint was proposed whereas, for the background plastic distemper paint was anticipated. Two windows with width 2'-4 ½" and 2'-5" were present with height 2'-10". For the windows light yellow color oil paint was proposed. The main entrance door of width 3'-2 ½" and height 6'-4" was present and for it, light yellow color oil paint was anticipated. It had two shutters. Above the door, a lighting fixture for bulb and placement of branding board was provided at the height of 6'-8" and 7'-0" respectively.



TITLE-

Figure 24: Proposed Wall Elevations of the Outdoor Area of Design Project-I Nandghar Ujeti Alternative-2 (Murals of Good Habits and Cleanliness)

DIRECTION-



- **Wall QR:** The length of the wall was 15'-11 ½" which included two pillars of length 1'-3". For the name of the Anganwadi black color plastic distemper paint was proposed with murals of a girl and a boy. On the pillars, murals of butterflies were created. For the murals, acrylic distemper paint was anticipated whereas, for the background yellow color plastic distemper paint was proposed.

Theme 3: Cartoon (Alternative-3)

Proposed Flooring

For alternative-3, light yellow vinyl carpet with grey lines was given for the Activity room, Kitchen cum Storeroom.

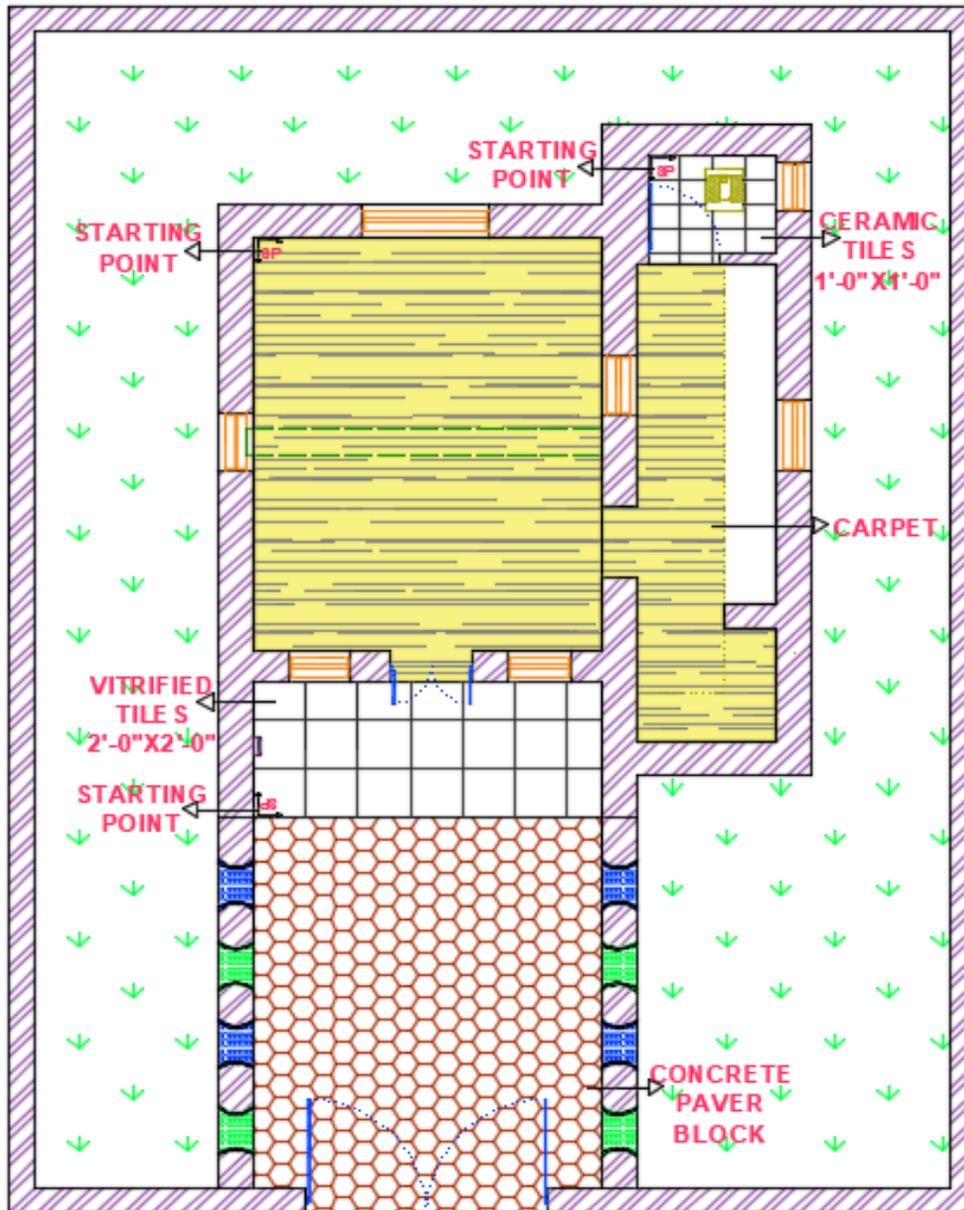
Whereas, for the Washroom, white ceramic tiles of size 1'-0" X 1'-0" was given. The process of laying the tiles in the Washroom started from the corner of the Washroom, so that full tiles can be seen. An Indian style water closet was fixed of size 2'-0" X 3'-0". For the Outdoor area white vitrified tiles of size 2'-0" X 2'-0" were provided.

ACTIVITY ROOM

The dimension of the Activity room was having the length of 13'-3 ½", the width of 16'-9" and height of 8'-6" of which 3 inches was skirting. The slab height was 4 inches.

Proposed Wall Design

- **Wall AB:** The length of the wall was 16'-9". As the theme was of the cartoon, the background was half blue which indicated sky and half green which indicated grass. Murals of birds, school, and different cartoon characters going to school, flowers and butterfly were created. For creating murals acrylic distemper paint was proposed. A window was present with width 2'-4 ½" and height 2'-10" at the height of 2'-7" from the floor. For the window, brown color oil paint was proposed.

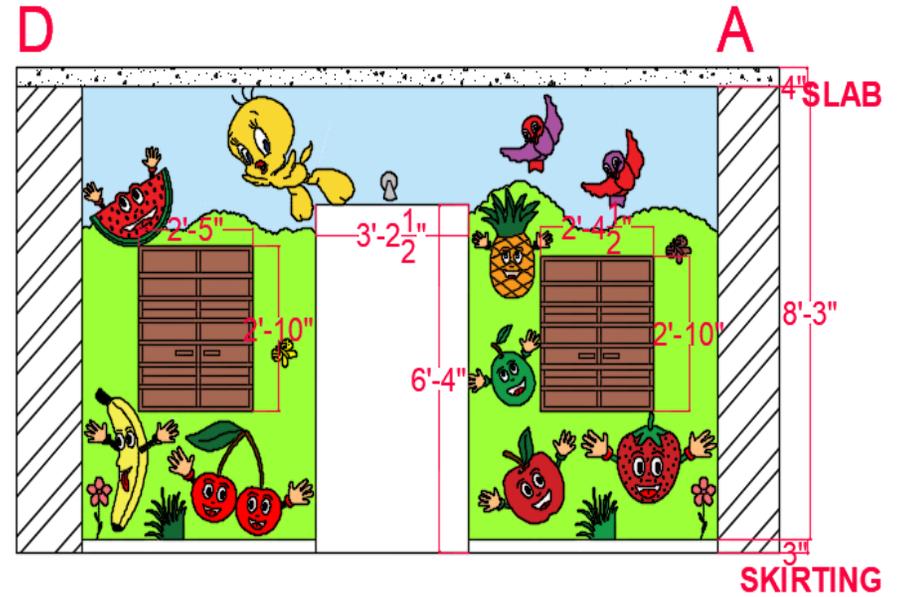
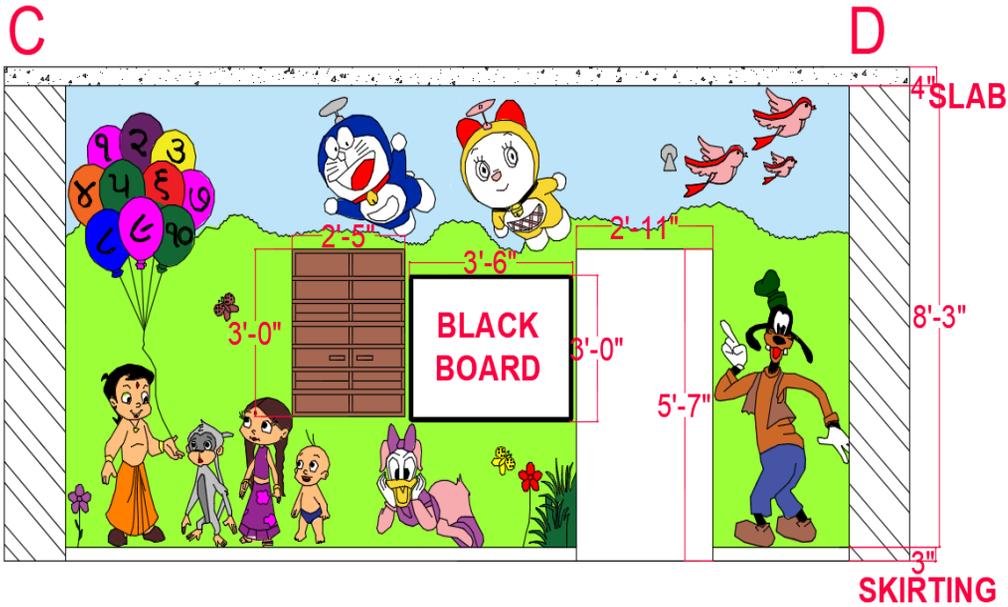
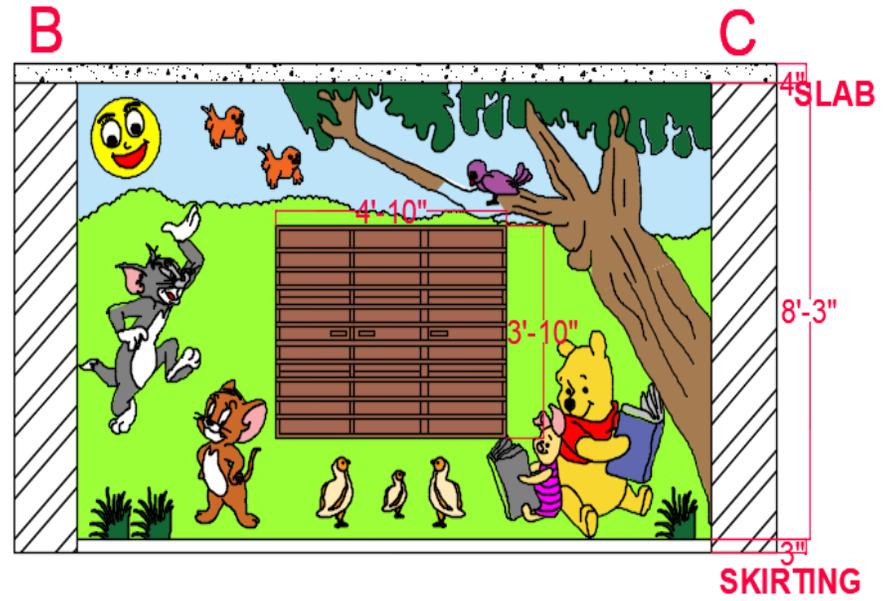
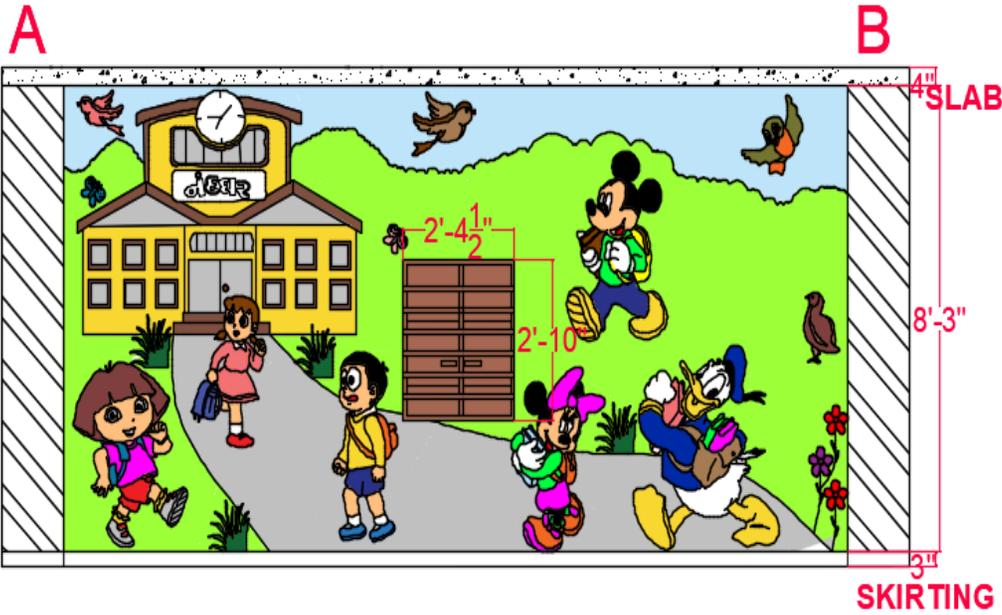


TITLE-

Figure 25: Proposed Flooring Layout of Design Project-I Nandghar Ujeti Alternative-3

DIRECTION-





TITLE-

Figure 26: Proposed Wall Elevations of the Activity Room of Design Project-I Nandghar Ujeti Alternative-3 (Cartoon Theme)

DIRECTION-



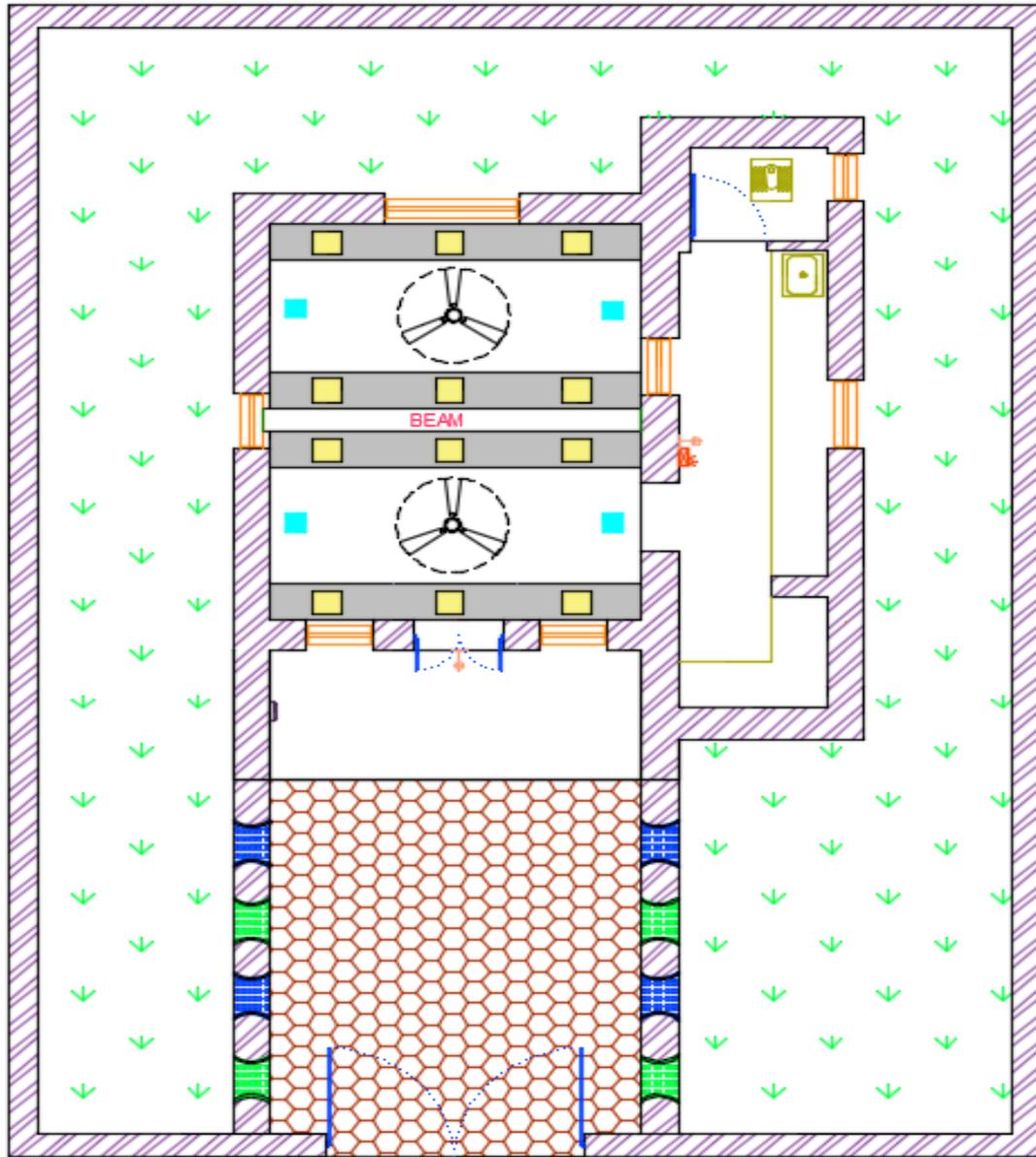
- **Wall BC:** The length of the wall was 13'-3 ½". The background was half blue which indicated sky and half green which indicated grass. Murals of sun, birds, tree, different cartoon characters playing and reading books were created. For creating murals acrylic distemper paint was proposed. A window was present with width 4'-10" and height 3'-10" at the height of 2'-1" from the floor. For the window, brown color oil paint was anticipated.
- **Wall CD:** The length of the wall was 16'-9". The background was half blue which indicated sky and half green which indicated grass. Murals of birds, different cartoon characters with balloons, flowers and butterfly were created. For creating murals acrylic distemper paint was proposed. To make it educatory, Gujarati Numerical was painted in the balloons. A window was present with width 2'-5" and height 3'-0" at the height of 2'-7" from the floor. For the window, brown color oil paint was anticipated. The provision of black broad was given of size 3'-6" X 3'-0" at the height of 2'-6" from the floor. There was an opening towards the kitchen of width 2'-11" and height 5'-7". Above the opening, a lighting fixture for bulb was provided at the height of 7'-3" from the floor.
- **Wall DA:** The length of the wall was 13'-3 ½". The background was half blue which indicated sky and half green which indicated grass. Murals of different fruits, flowers and butterfly were created. For creating murals acrylic distemper paint was proposed. Two windows of size 2'-5" and 2'-4 ½" with height 2'-10" were present. The windows were at a height of 2'-7" from the floor. For the windows, brown color oil paint was proposed. The main entrance door was of size 3'-2 ½" and height 6'-4" was present. For the door brown color oil paint was anticipated. Above the door, a lighting fixture for bulb was provided at the height of 6'-8" from the floor, and next to the door the main switchboard was located at a height of 3'-11" from the floor.

Proposed False Ceiling Design and Electrical Layout

The ceiling of the Activity room had a beam of height 9 inches. According to clients requirement, the beam was to be kept as it is and should not be hidden inside the false ceiling design. Keeping it into consideration, two rectangular-shaped designs were proposed on both sides of the beam. The material used for the false ceiling was Gypsum board. The width of the false ceiling as proposed in the design was 1'-6". Considering the height of the Activity room, the false ceiling drops down exactly 6 inches from the original ceiling in such a manner that the plenum space (hollow/open space) of 3 inches was left between the original ceiling and false ceiling. In the design proposed, two horizontal structures were created for both the sides of the beam which were 1'-6" wide. On the horizontal structures, three square shapes were created which falls down exactly 1inch from the horizontal structure, which highlights the entire false ceiling. Plastic paint was proposed for painting the false ceiling to avoid reflective glare. For the false ceiling, the colors proposed were, the horizontal structure of the false ceiling was given grey color and square shape was given yellow color.

Considering the size of the room and false ceiling design, lighting fixtures were positioned in the false ceiling in such a manner that light was distributed all over the room. Total of 4 LED lights of 15 watts each were placed in the false ceiling for direct lighting. These fixtures were square in shape. The tint of light from these lights was white. Also considering the size of the room, two ceiling fans were proposed in the design, which was placed in the center of the false ceiling.

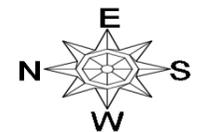
The distribution of the switches was done keeping in mind the proximity of the fixture and the switchboard to minimize the length of wires. The main switchboard was provided near the entrance door, so that operating them becomes easy. The main switchboard included the connection of fans, lights placed in false ceiling and wall points.

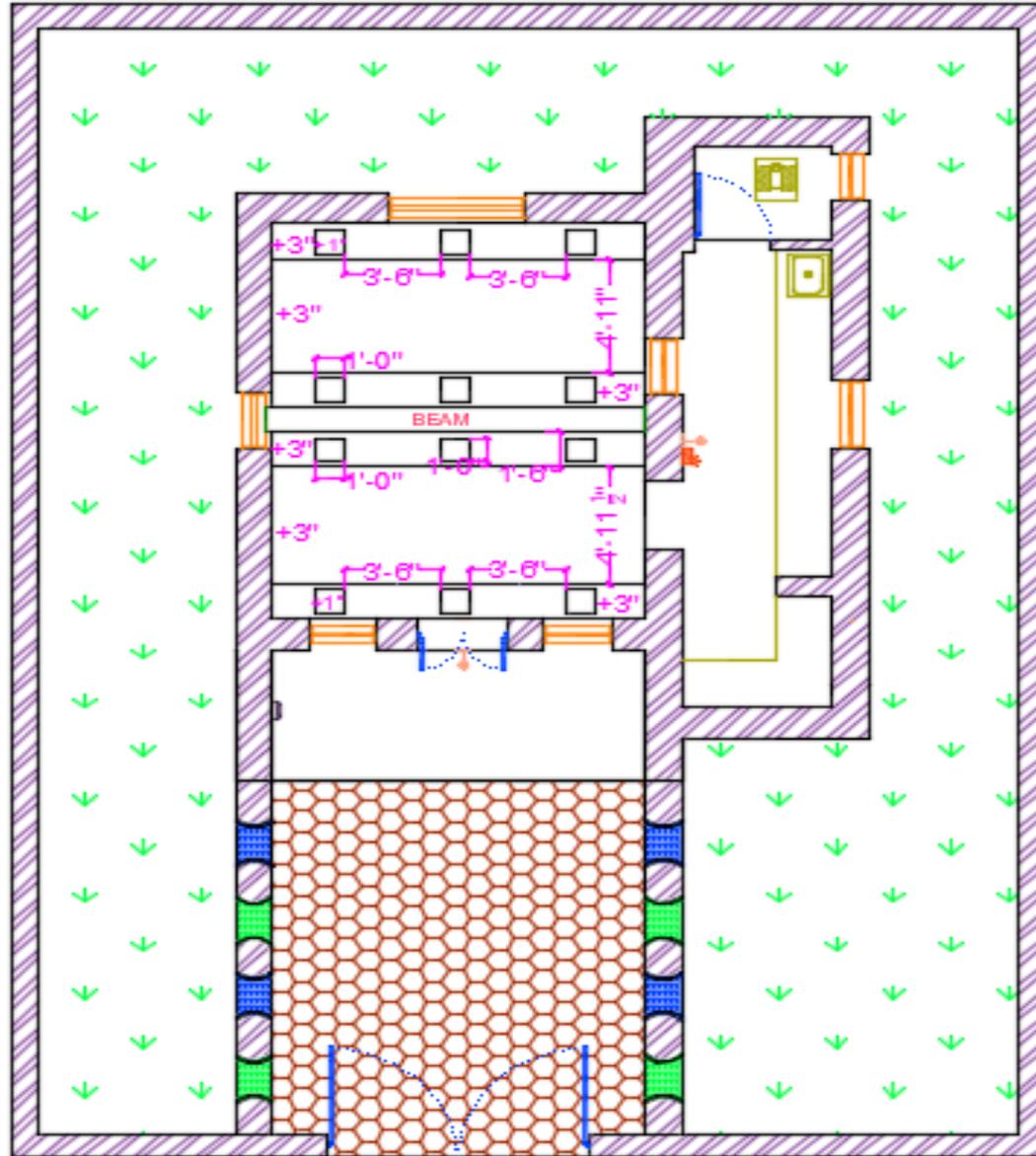


TITLE-

Figure 27: Proposed False Ceiling Design of Design Project-I Nandghar Ujeti Alternative-3

DIRECTION-

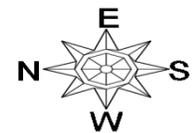


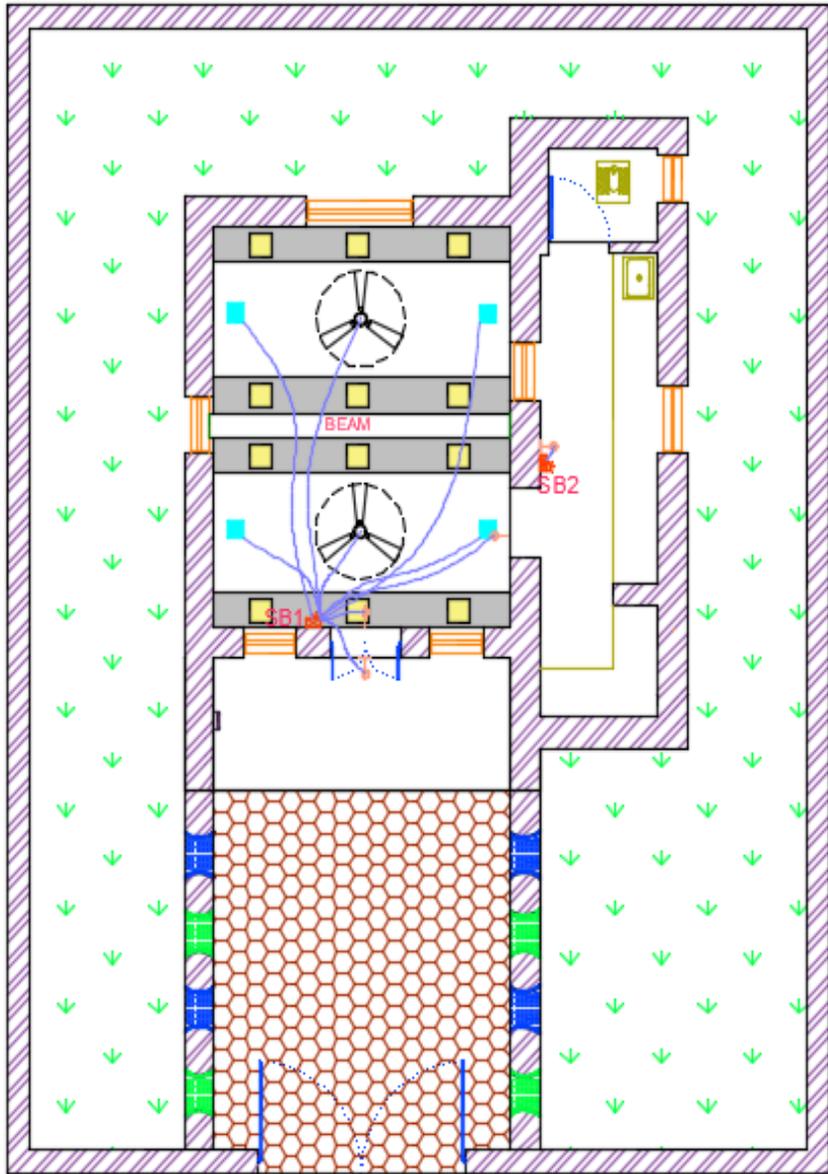


TITLE-

Figure 28: Proposed False Ceiling Working Drawing of Design Project-I
Nandghar Ujeti Alternative-3

DIRECTION-





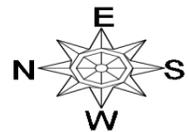
LEGEND

	Switchboard with plug point
	Switchboard without plug point
	Wall point
	Fan
	15 Watt Light

TITLE-

Figure 29: Proposed Electrical Layout of Design Project-I Nandghar Ujeti Alternative-3

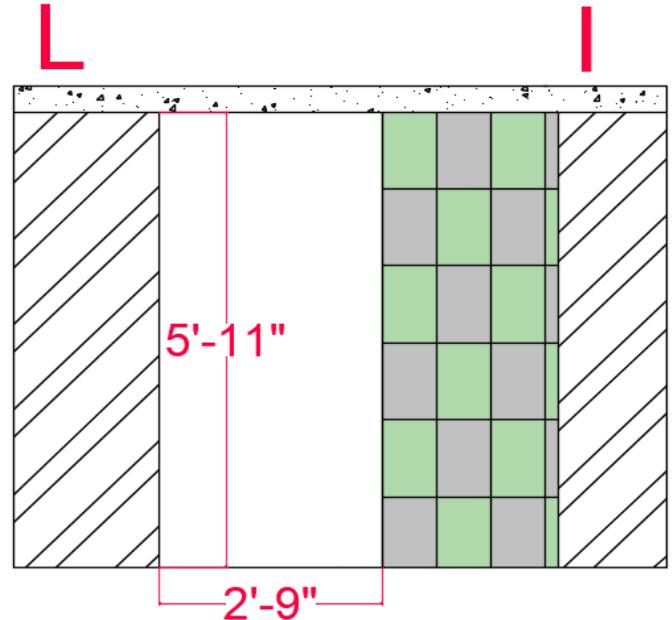
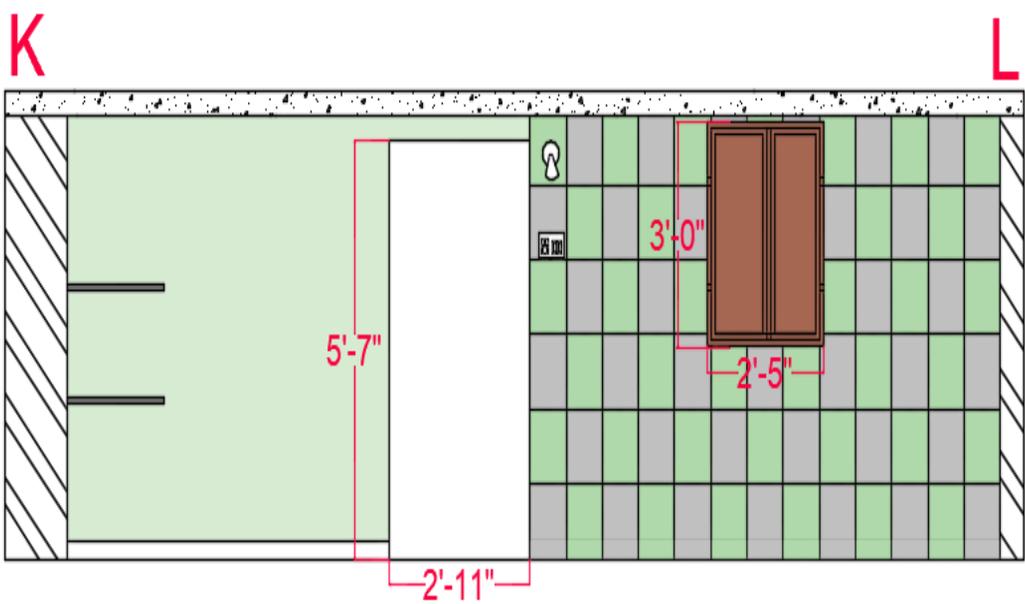
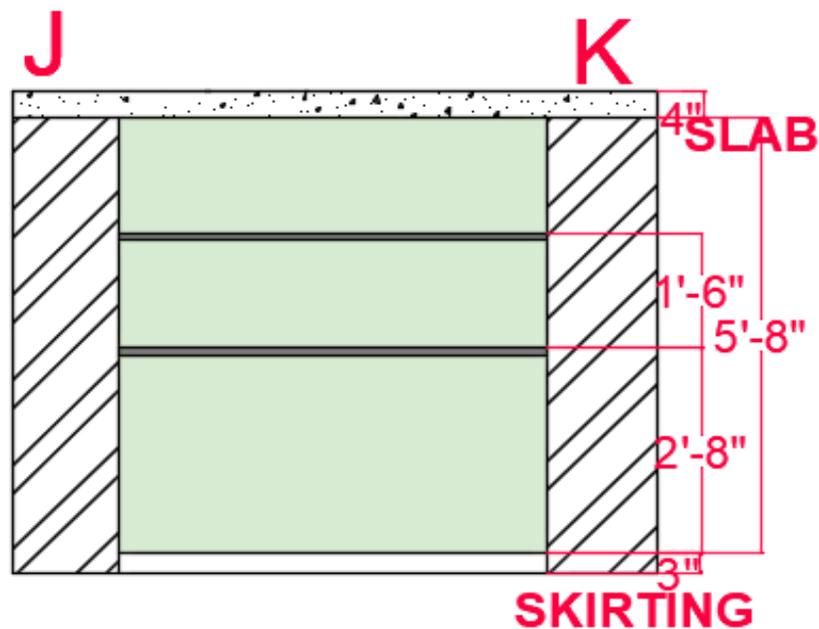
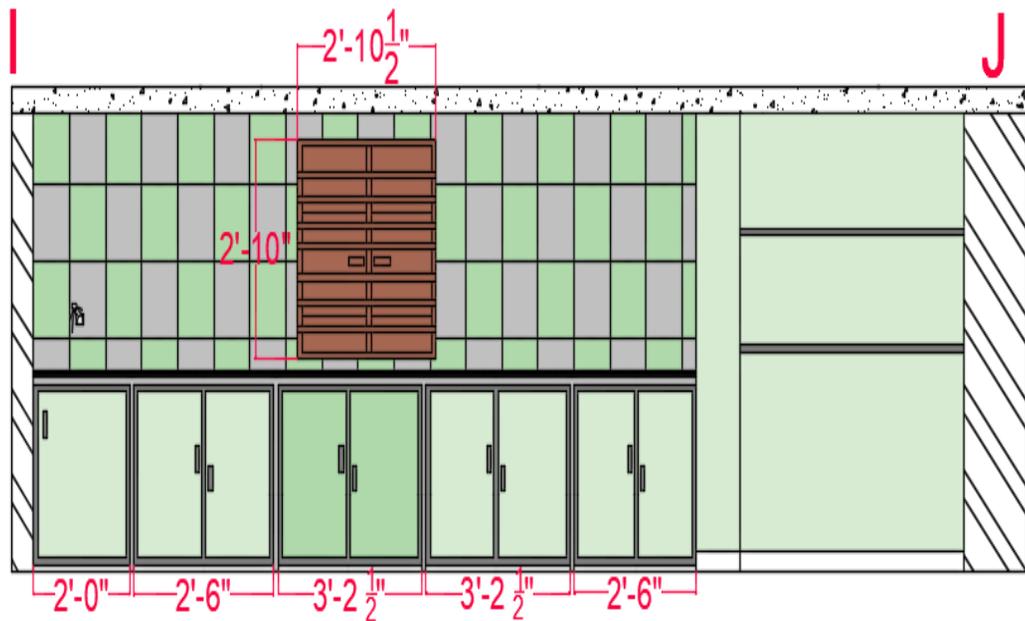
DIRECTION-



KITCHEN CUM STOREROOM

There was a combined Kitchen and Storeroom. The dimension of the Kitchen was having the length of 5'-4", the width of 13'-9 ½" and height of 5'-11". The dimension of the Storeroom was having the length of 5'-4", the width of 6'-8" and height of 5'-11" of which 3" was skirting. There was a partition wall between the kitchen and storeroom of length 11 inches. Therefore, the overall dimension of the kitchen cum storeroom was having the length of 5'-4", the width of 19'-4" and height of 5'-11". The slab height was 4 inches.

- **Wall IJ:** The overall length of the wall was 19'-4" of which 5'-7" included storeroom area. Ceramic tiles of size 6" X 9" were alternatively placed i.e. one light green another light grey, till length 13'-9 ½" which included the Kitchen area. A black granite countertop with length 13'-9 ½" and width 2'-0" was placed at the height of 2'-6" from the floor. Beneath the countertop, five storage cabinets were given of which four cabinets were of double shutter whereas, one was single shutter. The length of the single shutter cabinet was 2'-0" whereas, the length of the double shutter cabinets was 2'-6" and 3'-2 ½". For the cabinets, laminated plywood was used which was of light grey color of which for emphasis the center cabinet was kept light green and had dark grey framing. A provision of sink was also given on the countertop. A window was present of width 2'-10 ½" and height 2'-10" at the height of 2'-9" from the floor. For the window, brown color oil paint was anticipated. The rest of the area which was the Storeroom light grey color plastic distemper paint was given. In the Storeroom, two L-shaped shelves were present for which Kota stone was placed which was 2'-0" wide and 4'-8" in length. They were placed at the height of 2'-11" and 4'-5" from the floor.
- **Wall JK:** The length of the wall was 5'-4". For the wall light grey color, plastic distemper paint was proposed. Two L-shaped shelves were present for which Kota stone was placed, which was 2'-0" wide and 5'-4" in length. They were placed at a height of 2'-11" and 4'-5" from the floor.



TITLE-

Figure 30: Proposed Wall Elevations of the Kitchen cum Storeroom of Design Project-I Nandghar Ujeti Alternative-3

DIRECTION-

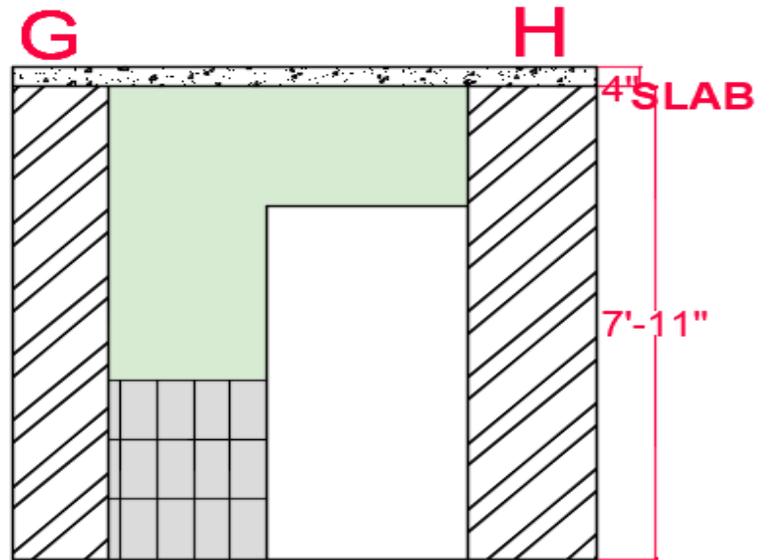
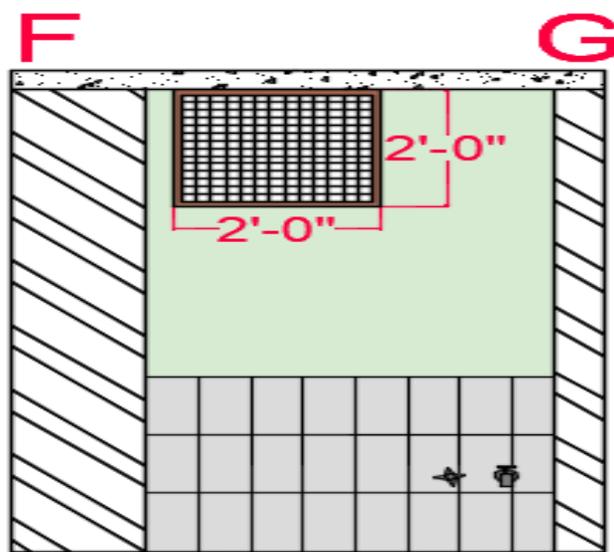
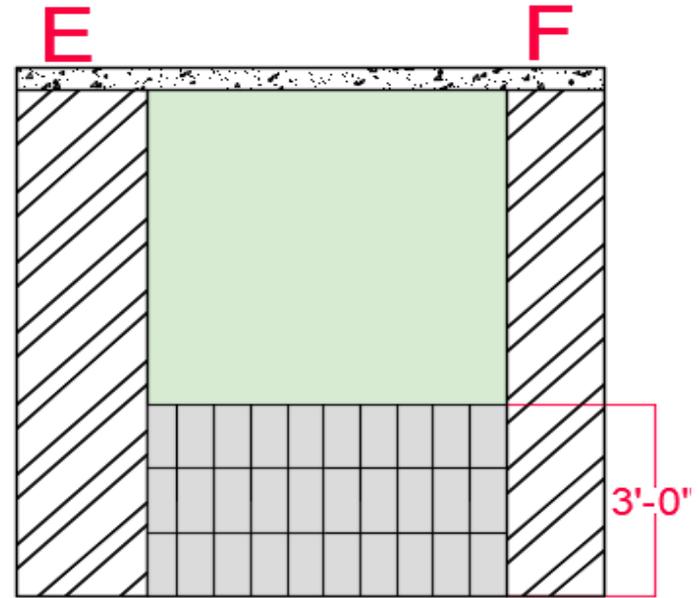
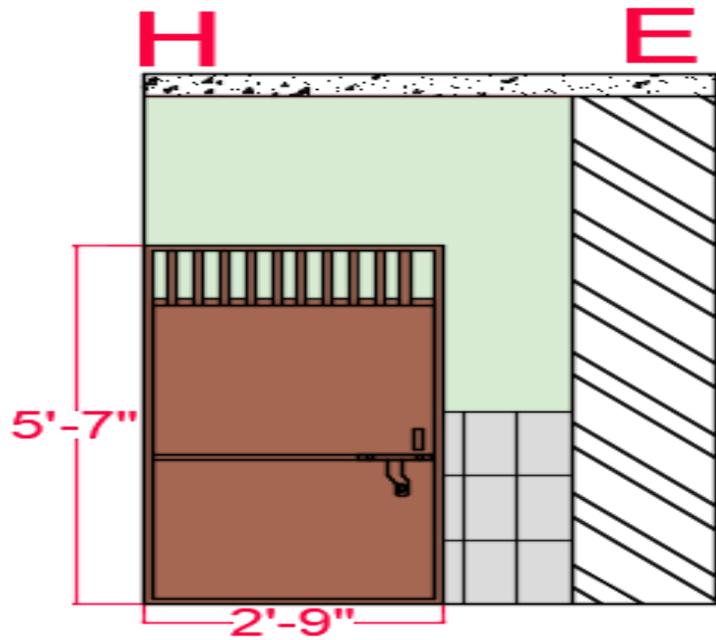


- **Wall KL:** The overall length of the wall was 19'-4" of which 6'-8" included the Storeroom area. For the Storeroom area light grey color plastic distemper paint was proposed whereas the rest of the wall which was the kitchen wall had ceramic tiles of size 6" X 9". The tiles were alternatively placed i.e. one light green another light grey. There was an entrance opening of the kitchen of width 2'-11" and height 5'-7". The backside of the window was present of width 2'-5" and height 3'-0". A switchboard and a lighting fixture for bulb were also provided. The switchboard was at the height of 4'-0" and the lighting fixture for bulb was at the height of 5'-5" from the floor.
- **Wall LI:** The length of the wall was 5'-4". It had an opening of the washroom of width 2'-9" and height 5'-11". The rest of the wall had ceramic tiles of size 6" X 9" which were placed alternatively i.e. one light green another light grey.

WASHROOM

The dimension of the Washroom was having the length of 4'-11", the width of 3'-11" and the height of 7'-11". The slab height was 4inches.

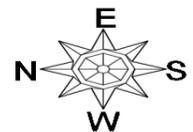
- **Wall HE:** The length of the wall was 3'-11". Grey ceramic tiles were provided on the wall up to the height of 3'-0" from the floor, whereas for the rest of the portion grey color plastic distemper paint was proposed. The open door of the washroom was shown, which had width 2'-9" and height 5'-7". For the door, brown color oil paint was anticipated.
- **Wall EF:** The length of the wall was 4'-11". Grey ceramic tiles were provided on the wall up to the height of 3'-0" from the floor, whereas for the rest of the portion grey color plastic distemper paint was proposed.
- **Wall FG:** The length of the wall was 3'-11". Grey ceramic tiles were provided on the wall up to the height of 3'-0" from the floor, whereas for the rest of the portion grey color plastic distemper paint was proposed. Ventilation was present of width 2'-0" and height 2'-0" and was at the height of 5'-11". A provision of stainless steel tap and a flush tap was given at the height of 1'-9" from the floor.



TITLE-

Figure 31: Proposed Wall Elevations of the Washroom of Design Project-I
Nandghar Ujeti Alternative-3

DIRECTION-

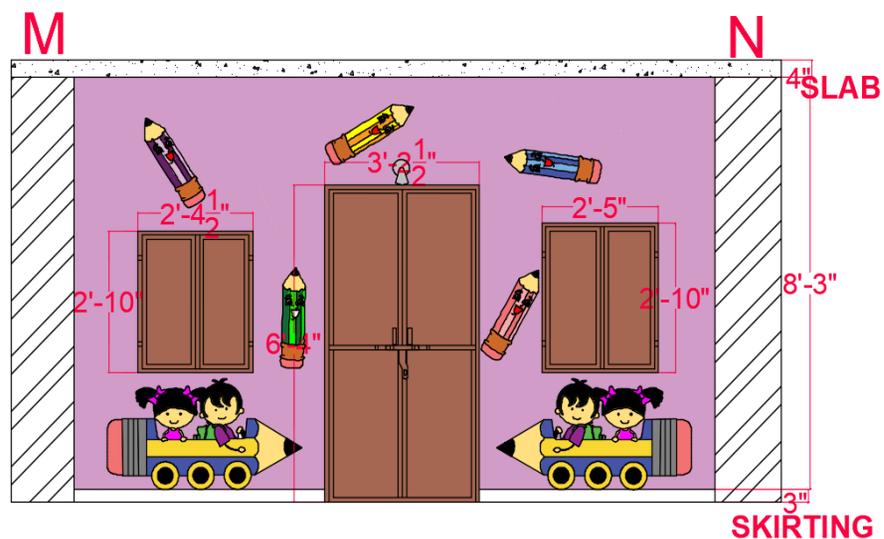
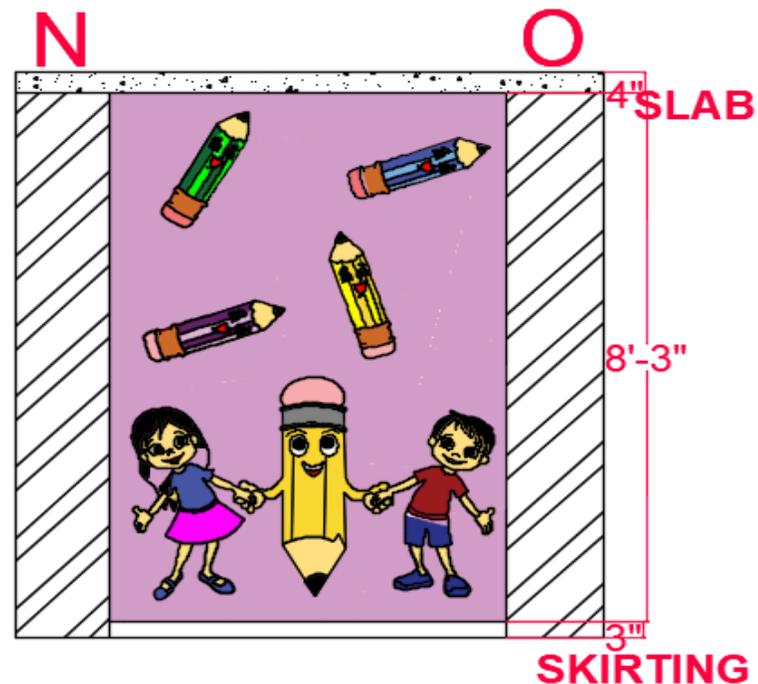
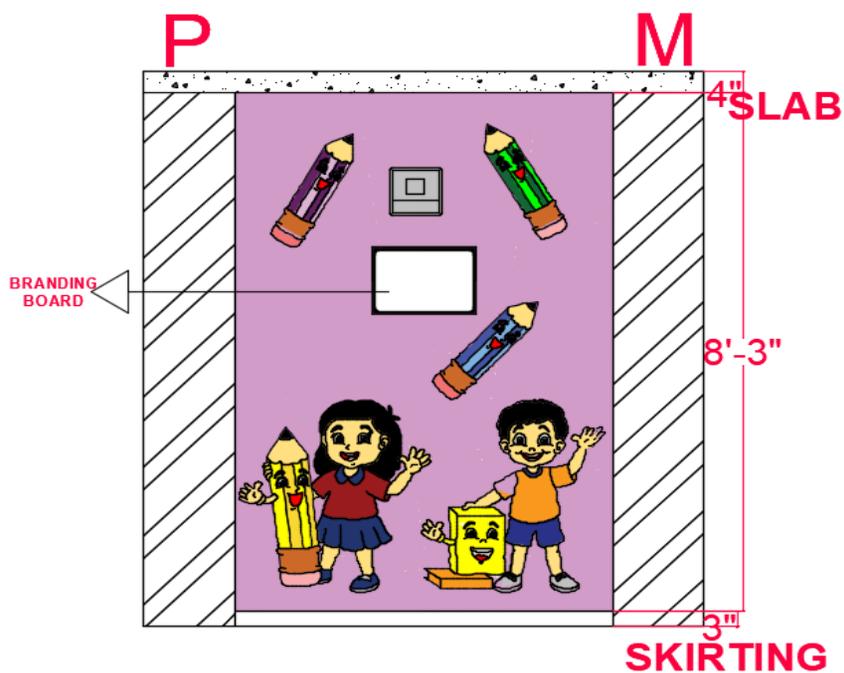


- **Wall GH:** The length of the wall was 4'-11". Grey ceramic tiles were provided on the wall up to the height of 3'-0" from the floor, whereas for the rest of the portion grey color plastic distemper paint was proposed. As the door was shown open, the door opening was present, which was 2'-9" wide and 5'-7" in height.

OUTDOOR AREA (MURALS OF PENCILS, GIRLS AND BOYS)

The dimension of the Outdoor area was having the length of 13'-3 ½", the width of 5'-6" and height of 8'-6" of which 3" was the skirting. The slab height was 4 inches.

- **Wall PM:** The length of the wall was 5'-6". Murals of different colored pencils, a girl with a pencil and a boy with a book were created. For creating murals acrylic distemper paint was proposed. For the background light purple color plastic distemper paint was anticipated. The placement of the branding board was provided at the height of 5'-0" from the floor. The main electricity supply meter was provided at the height of 6'-6 ½" from the floor.
- **Wall NO:** The length of the wall was 5'-6". Murals of different colored pencils and a boy and girl dancing with a pencil were created. For creating the murals acrylic distemper paint was proposed whereas, for the background light purple color plastic distemper paint was given.
- **Wall MN:** The length of the wall was 13'-3 ½". Murals of different colored pencils and a boy and a girl riding in a pencil were created. For creating murals acrylic distemper paint was proposed. For the background light purple color plastic distemper paint was anticipated. Two windows with width 2'-4 ½" and 2'-5" were present with the height of 2'-10". For the windows, brown color oil paint was given. The main entrance door of width 3'-2 ½" and height 6'-4" was present and brown color oil paint was given. It had two shutters. Above the door, a lighting fixture for bulb was provided at the height of 6'-8".
- **Wall QR:** The length of the wall was 15'-11 ½" which included two pillars of length 1'-3". For the name of the Anganwadi red color plastic distemper paint was proposed with murals of a girl and a boy on both sides.



TITLE-

Figure 32: Proposed Wall Elevations of the Outdoor Area of Design Project-I Nandghar Ujeti Alternative-3 (Murals of Pencils, Girls and Boys)

DIRECTION-

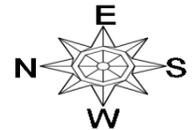




TITLE-

Figure 33: Proposed Branding Board Design of Design Project-I Nandghar Ujeti

DIRECTION-



Proposed Branding Board Design

The size of the branding board was 2'-3" X 2'-0" which included the name of the Anganwadi, name of the sponsors and year of its designing. The branding board was designed on a black marble stone, on which the information was engraved and painted golden.

LAW OF AREA

According to Goldstein and Goldstein (1960), the 'Law of Area' states that large areas of color should be quiet in effect, while small amounts may show strong contrasts; the larger the amount used, the quieter the color should be, and the smaller the amount, the more striking the contrast may be. Similarly, Craig and Rush (1969) stated, nature illustrates the application of the law of areas in presenting the light blue sky and water in very large areas, the dark green shadows of hills and trees also in large areas, the brighter green plants and grass in slightly smaller areas, and bright colored flowers in the smallest area of all.

Therefore, the designs proposed for Design Project-I (Nandghar Ujeti) were according to the Law of Area as in:

Alternative-1 that was the underwater theme, the large areas which included water and sand was covered with light-blue color and light-yellow color respectively. Whereas, the smaller areas with included murals of different kinds of fish and other underwater creatures was covered with striking colors, and for the outdoor area the larger area were covered with light pink color while the smaller area which included different murals of books and pencils were covered with strong contrasts.

Alternative-2 that was the forest theme, the large areas which included sky and greenery were covered with sky blue color and green color respectively. While, the smaller areas which included murals of different animals, birds, flowers and butterflies was covered with striking colors, and for the outdoor area the larger area was covered with three different colors including shades of green and

yellow color while, the smaller areas which included murals of good habits and cleanliness were covered with strong contrasts.

Alternative -3 that was the cartoon theme, the large areas which included sky and grass were covered with blue and green color respectively. Whereas, the smaller areas, which included murals of different cartoon characters, school, birds, flowers and fruits were covered with striking colors, and for the outdoor area the larger area was covered with light purple color while, the smaller areas which included murals of different colorful pencils, girls and boys were covered with strong contrasts.

4.1.3 (B) Selected and Implemented Designs (Alternative-2 Forest Theme)

ACTIVITY ROOM

- **Dimension of Activity Room:** 13'-3 ½" X 16'-9" X 8'-6" (LXBXH)
- **Activities Carried out in the Activity Room:** Various teaching-learning activities like drawing and craft activities, storytelling, learning poems and playing indoor games like solving puzzle, block games and alphabet and numerical games.

Interior Component	Floor
Existing Status	The floor was cemented with a rough texture and matte finish. The condition of the floor was dirty and had cracks.
Preferred and Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Vitrified Tiles • Carpet <p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 Rubber Tiles. • Alternative-2 Vitrified Tiles. • Alternative-3 Vinyl Carpet.
Selected and Implemented Treatment	Alternative-2 Vitrified Tiles (2'-0" X 2'-0") of white color.

Discussions: For the floor treatment of the Activity room, the clients preferred either vitrified tiles or carpet. However, three different alternatives were proposed which included rubber tiles, vitrified tiles and vinyl carpet as floor treatment. After the discussion with the clients vitrified tiles were implemented as the clients opined that the children in the Activity room are going to spent time for three hours only wherein, light activities like, drawing and craft activities, storytelling, learning poems and playing indoor games like solving puzzle, block games and alphabet and numerical games will be carried out. Therefore, vitrified tiles will be easy to clean and maintain and will also be appropriate according to their budget compared to rubber tiles and vinyl carpet flooring.

Interior Component	Walls
Existing Status	The walls were constructed from bricks and plastered having limewash finish of light hue (light yellowish) and distemper with dark hue (black) on the skirting area up to the height of 1'-0" from the floor. The texture of the walls was rough. The condition of the wall was damp, had cracks and the plaster was chipping.
Preferred and Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Murals which are educatory and create attractive and friendly environment. • Placement of blackboard. <p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 Murals of underwater creatures like different types of fish, octopus, shell, grass. • Alternative-2 Murals of forest including different animals, birds, butterflies, trees, flowers, plants. • Alternative-3 Murals of cartoon including different cartoon characters, school, birds, butterfly, flowers, plants.
Selected and Implemented Treatment	Alternative-2 Murals of forest including different animals, birds, butterflies, trees, flowers, plants. Blackboard of Size 3'-6" X 3'-0".

Discussions: For the wall treatment of the Activity room, the client preferred wall murals which are educatory and create attractive and friendly environment for children. Therefore, three different theme based alternatives were provided to the clients. After the discussion with the clients, murals of forest theme with Gujarati alphabets (Barakhadi) and numerical was implemented, considering that it will create attractive and friendly environment for children and it would be helpful for the Anganwadi worker to teach children Gujarati alphabets (Barakhadi) and numerical created on the walls. It will also encourage children to attend the Anganwadi regularly and may help them to develop their skills and learn different things from the murals created which they might see on regular basis. Whereas, according to the clients requirement, a blackboard was provided.

Interior Component	Ceiling
Existing Status	The ceiling was plastered and plain with limewash finish. It had a beam with the length of 13'-3 ½" and the height of 9". There was open wiring on the ceiling and the condition of the ceiling was damp and had cracks.
Preferred and Proposed Design	<p>Preferred:</p> <ul style="list-style-type: none"> • False ceiling with provision of lighting and fans. <p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 False Ceiling. • Alternative-2 False Ceiling. • Alternative-3 False Ceiling.
Selected and Implemented Design	Alternative-2 False Ceiling.

Discussions: For the treatment of ceiling of the Activity room, the client preferred false ceiling with provision of lighting and fans. Consequently, considering the height of the Activity room, three different false ceiling alternatives were proposed. After the discussion with the client, alternative-2 was implemented. According to the design of the false ceiling and considering the size of the activity room provision of LED lights and ceiling fans was given.

Interior Component	Windows
Existing Status	<p>There were five windows.</p> <ul style="list-style-type: none"> • 1 on the east direction wall: 4'-10" X 3'-10" (WXH). • 1 on the south direction wall: 2'-5" X 3'-0" (WXH). • 2 on the west direction wall: 2'-5" X 3'-0" (WXH). • 1 on the north direction wall: 2'-4 ½" X 2'-10" (WXH). <p>All the windows were made up of iron with grills and were rusted.</p>
Preferred and Proposed Material and Shade	<p>Preferred:</p> <ul style="list-style-type: none"> • Application of oil paint which suits with other interior components. <p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 Oil Paint: Light grey • Alternative-2 Oil Paint: Light yellow • Alternative-3 Oil Paint: Brown
Selected and Implemented Material and Shade	Alternative-2 Oil Paint: Light yellow.
<p>Discussions: Regarding the windows of the Activity room, the client preferred to have application of oil paint which suits with other interior components. Therefore, keeping in mind the murals of forest theme implemented on the walls of the Activity room three different alternatives of shades of oil paint were provided, from which light yellow shade of oil paint complimenting the theme was implemented on the windows.</p>	

Interior Component	Door
Existing Status	<p>One main door.</p> <ul style="list-style-type: none"> • On west direction wall: 3'-2 ½" X 6'-4" (WXH) <p>The door was made up of iron, had two shutters. The door was rusted.</p>
Preferred and Proposed Material and Shade	<p>Preferred:</p> <ul style="list-style-type: none"> • Application of oil paint which suits with other interior components.

	<p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 Oil Paint: Light grey. • Alternative-2 Oil Paint: Light yellow. • Alternative-3 Oil Paint: Brown.
Selected and Implemented Material and Shade	Alternative-2 Oil Paint: Light yellow.
<p>Discussions: Regarding the door of the Activity room, the client preferred to have application of oil paint which suits with other interior components. Therefore, keeping in mind the murals of forest theme implemented on the walls of the Activity room three different alternatives of shades of oil paint were provided, from which light yellow shade of oil paint complimenting the theme was implemented on the door.</p>	

Interior Component	Lighting
Existing Status	<p>Had sufficient amount of natural lighting but the artificial lighting was lacking. Two provisions for lighting fixture for bulb were present.</p> <ul style="list-style-type: none"> • 1 on the south direction wall at the height of 7'-3" from the floor. • 1 on the west direction wall at the height of 6'-8 1/2" from the floor.
Preferred and Proposed Lighting	<p>Preferred:</p> <ul style="list-style-type: none"> • Provision of lighting and fans for the false ceiling. • Replacement of lighting fixture for bulb and providing bulb. <p>Proposed:</p> <ul style="list-style-type: none"> • 4 LED lights of 15 watt and 2 ceiling fans for the false ceiling. • 2 lighting fixtures for bulb.
Implemented Lighting	4 LED lights of 15 watt and 2 ceiling fans for the false ceiling and 2 lighting fixtures for bulb.
<p>Discussions: In the Activity room there was sufficient amount of natural lighting but artificial lighting was lacking due to damaged lighting fixtures. Therefore considering this, lights were provided into the false ceiling for</p>	

aesthetic purpose and also lighting fixtures for bulb were replaced and two ceiling fans were provided.

Interior Component	Furniture
Existing Status	There was no provision of furniture and floor mats in the Activity room therefore, the children used to sit on the floor directly.
Preferred And Proposed	<p>Preferred:</p> <ul style="list-style-type: none"> • A table for the Anganwadi worker with storage. <p>Proposed:</p> <ul style="list-style-type: none"> • A table with storage was proposed with size 3'-6" X 1'-9" X 2'-6" (LXBXH).
Implemented	-
<p>Discussions: Regarding furniture of the Activity room the client preferred table with storage for the Anganwadi worker. As the numbers of children attending the Anganwadi were more as compared to space available to prevent the accidents and mishaps due to insufficient space furniture for children like chairs, tables and benches were avoided.</p>	

KITCHEN CUM STOREROOM

- **Dimension of Kitchen cum Store Room:** 5'-4" X 19'-4" X 5'-11" (LXBXH)
- **Activities carried out in Kitchen:** Preparation and serving of light snacks and drinking water facilities.
- **Activities carried out in Storeroom:** Storing of cooking utensils and other cooking ingredients.

Interior Component	Floor
Existing Status	The floor was cemented with rough texture The condition of the floor was uneven, having cracks and was dirty.
Preferred And Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Vitrified Tiles • Carpet

	<p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 Rubber Tiles. • Alternative-2 Vitrified Tiles. • Alternative-3 Vinyl Carpet.
Selected And Implemented Treatment	Alternative-2 Vitrified Tiles (2'-0" X 2'-0") of white color.
<p>Discussions: For the floor treatment of the Kitchen cum Storeroom, the client preferred either vitrified tiles or carpet. However, three different alternatives were proposed which included rubber tiles, vitrified tiles and vinyl carpet as floor treatment. After the discussion with the clients, vitrified tiles were implemented as the clients opined that in Kitchen cum Storeroom light activities like preparation and serving of light snacks and drinking water facilities and storing of cooking utensils and other cooking ingredients will be carried out. Therefore, vitrified tiles will be easy to clean and maintain and will also be appropriate according to their budget compared to rubber tiles and vinyl carpet flooring.</p>	

Interior Component	Walls
Existing Status	<p>The walls were constructed from bricks and plastered having limewash finish of light hue (light yellowish). The texture of the walls was rough and was in damp condition.</p> <p>There was a provision of platform on the south direction wall with 13'-9 1/2" X 2'-0" X 2'-7" (LXBXH). It was broken and was in poor condition.</p>
Preferred and Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Wall Tiles for kitchen area. • Wall paint for store room. • Black Granite for countertop and sink <p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 Kitchen area: Ceramic Tiles of light blue and grey color. Storeroom: Yellow paint. • Alternative-2 Kitchen area: Ceramic Tiles of orange and dark grey color. Storeroom: Light Yellow paint. • Alternative-3 Kitchen area: Ceramic Tiles of light green and light grey color. Storeroom: Grey paint.

	A black granite countertop and stainless steel sink was provided.
Selected and Implemented Treatment	Alternative-2 Kitchen area: Ceramic Tiles of orange and dark grey color. Storeroom: light yellow paint. Black granite countertop and stainless steel sink.
Discussions: For the wall treatment of the kitchen area, the client preferred wall tiles. However, three different color combinations of ceramic tiles were proposed as alternatives. After the discussion with the client orange and dark grey color ceramic tiles were implemented on the walls of the kitchen area, considering dark color tiles will require less cleaning and maintenance. Similarly, for the Storeroom area three different shades of wall paints were provided, of which light yellow shade was selected as it suited well with other interior components.	

Interior Component	Ceiling
Existing Status	The ceiling was plastered and plain with limewash finish. The condition of the ceiling was damp and had cracks.
Preferred and Proposed Treatment	Preferred: <ul style="list-style-type: none"> • Paint that suits with other interior components. Proposed: <ul style="list-style-type: none"> • Alternative-1 Yellow paint. • Alternative-2 Light yellow paint. • Alternative-3 Grey paint.
Selected and Implemented Treatment	Alternative-2 Light yellow paint.
Discussions: For the ceiling treatment of the Kitchen cum Storeroom, the client preferred to have paint that suits well with other interior components. However, three different shades were proposed of which, light yellow shade was implemented on the ceiling of the Kitchen cum Storeroom as it suited well with other interior components.	

Interior Component	Windows
Existing Status	Two windows on the south direction wall. <ul style="list-style-type: none"> • 1 window- 2'-10 ½" X 2'-10" (WXH). • 1 window- 2'-10" X 2'-10" (WXH). The windows were made up of iron and were rusted.

Preferred and Proposed Material and Shade	<p>Preferred:</p> <ul style="list-style-type: none"> • Application of oil paint which suits with other interior components. <p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 Oil Paint: Light grey. • Alternative-2 Oil Paint: Light yellow. • Alternative-3 Oil Paint: Brown.
Selected and Implemented Material and Shade	Alternative-2 Oil Paint: Light yellow.
<p>Discussions: Regarding the windows of the Kitchen cum Storeroom, the client preferred to have application of oil paint which suits with other interior components. However, three different shades of alternatives for oil paint were given. After the discussion with the client, light yellow oil paint was implemented on the windows, as it suited well with other interior components.</p>	

Interior Component	Lighting
Existing Status	Had sufficient amount of natural lighting but artificial lighting was lacking. One provision of lighting fixture for bulb was present on the north direction wall at the height of 5'-5" from the floor but was not in working condition and damaged.
Preferred and Proposed Lighting	<p>Preferred:</p> <ul style="list-style-type: none"> • Replacement of lighting fixture for bulb and providing bulb. <p>Proposed:</p> <ul style="list-style-type: none"> • 1 lighting fixture for bulb with bulb.
Implemented Lighting	1 lighting fixtures with bulb.
<p>Discussions: In the Kitchen cum Storeroom there was sufficient amount of natural lighting but artificial lighting was lacking. As the activities in the Kitchen cum Store room were carried during day time, no more lighting provision was required. Therefore, only a lighting fixture with bulb was replaced.</p>	

Interior Component	Storage Facilities
Existing Status	-
Preferred And Proposed storage facilities	<p>Preferred:</p> <ul style="list-style-type: none"> • To have storage cabinets beneath the platform. <p>Proposed: Beneath the platform five storage cabinets were</p>

	<p>provided of which four cabinets were of double shutter whereas, one was single shutter.</p> <ul style="list-style-type: none"> • Alternative 1- Laminated plywood of light blue color with dark grey framing. • Alternative 2- Laminated plywood of light orange color with dark grey framing. • Alternative 3- Laminated plywood of light green color with dark grey framing.
Implemented	-
<p>Discussions: For the Kitchen cum Storeroom, the client preferred to have storage cabinets beneath the platform. Therefore, considering the space available beneath the platform five storage cabinets was proposed. Three different alternatives were proposed of which laminated plywood of light orange color with dark grey framing was selected, complimenting the ceramic tiles of orange and grey color implemented on the Kitchen walls.</p>	

WASHROOM

- **Dimension of the Washroom:** 4'-11" X 3'-11" X 7'-11" (LXBXH)

Interior Component	Floor
Existing Status	The floor was cemented with rough texture. The condition of the floor was uneven and dirty.
Preferred And Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Ceramic Tiles. <p>Proposed:</p> <ul style="list-style-type: none"> • White ceramic tiles of 1'-0" X 1'-0" was provided.
Selected And Implemented Treatment	White ceramic tiles of 1'-0" X 1'-0".
<p>Discussions: Regarding the floor treatment of the Washroom, the client preferred ceramic tiles. Ceramic tiles were proposed and implemented as they are durable, water resistant and require low maintenance.</p>	

Interior Component	Walls
Existing Status	The walls were constructed with bricks and plastered with no applied finish on it. The texture of the walls was rough.
Preferred and Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Wall Tiles

	<ul style="list-style-type: none"> • Wall Paint. Proposed: <ul style="list-style-type: none"> • Alternative-1 Light blue paint. • Alternative-2 White ceramic tiles. • Alternative-3 Grey ceramic tiles were provided on the wall up to the height of 3'-0" from the floor, whereas the rest of the portion was painted light grey.
Selected and Implemented Treatment	Alternative-2 White ceramic tiles.
<p>Discussions: For the wall treatment of the Washroom, the client preferred either wall tiles or wall paint. However, three alternatives were provided. After the discussion with the client white ceramic tiles was implemented on the walls as they are easy to clean and are durable. Whereas wall paint requires frequent cleaning and sometimes some stains on the walls are difficult to clean.</p>	

Interior Component	Ceiling
Existing Status	The ceiling was plastered, plain and limewash was applied as finish. The condition of the ceiling was dirty and chipping.
Preferred and Proposed Treatment	Preferred: <ul style="list-style-type: none"> • Paint that suits with other interior components. Proposed: <ul style="list-style-type: none"> • White distemper paint.
Selected and Implemented Treatment	White distemper paint.
<p>Discussions: Regarding the ceiling treatment of the Washroom, the client preferred to have paint that suits well with other interior components. Therefore, white distemper paint was proposed and implemented considering the ceramic tiles of floor and wall paint implemented.</p>	

Interior Component	Ventilation
Existing Status	There was a provision of ventilation on south direction wall of size 2'-0" X 2'-0" (WXH). It was made of iron and grills, but did not have shutter.
Preferred and Proposed Material and Shade	Preferred: <ul style="list-style-type: none"> • Application of oil paint which suits with other interior components.

	Proposed: <ul style="list-style-type: none"> Alternative-1 Oil Paint: Light grey. Alternative-2 Oil Paint: Black. Alternative-3 Oil Paint: Brown.
Selected and Implemented Material and Shade	Alternative-2 Oil Paint: Black.
<p>Discussions: Regarding the ventilation of the washroom, the client preferred to have application of oil paint which suits with other interior components. Therefore, three different shades of oil paint were proposed of which black oil paint was implemented, as it suited well with other interior components.</p>	

Interior Component	Door
Existing Status	The door was located on the west direction wall of size 2'-9" X 5'-7" (WXH). The door was made up of iron was rusted.
Preferred and Proposed Material and Shade	Preferred: <ul style="list-style-type: none"> Application of oil paint which suits with other interior components. Proposed: <ul style="list-style-type: none"> Alternative-1 Oil Paint: Light grey. Alternative-2 Oil Paint: Light yellow. Alternative-3 Oil Paint: Brown.
Selected and Implemented Design	Alternative-2 Oil Paint: Light yellow.
<p>Discussions: Regarding the door of the Washroom, the client preferred to have application of oil paint which suits with other interior components. However, three different shades of oil paint were given of which light yellow oil paint was applied on the door, as it suited well with other interior components.</p>	

OUTDOOR AREA

- Dimension of the Outdoor Area:** 13'-3 1/2" X 5'-6" X 8'-6" (LXBXH)

Interior Component	Floor
Existing Status	The floor was cemented with rough texture The condition of the flooring was moderately clean.
Preferred And Proposed Treatment	Preferred: <ul style="list-style-type: none"> Vitrified Tiles

	<p>Proposed:</p> <ul style="list-style-type: none"> • White vitrified tiles of size 2'-0" X 2'-0" was provided.
Selected And Implemented Treatment	White vitrified tiles of size 2'-0" X 2'-0"
<p>Discussions: For the floor treatment of the Outdoor area, the client preferred vitrified tiles. Therefore, vitrified tiles was proposed and implemented. Vitrified tiles are easy to clean and were in the budget of the client and in the outdoor area no such activities were to be carried out which might create accidents.</p>	

Interior Component	Walls
Existing Status	The walls were constructed with bricks and plastered having limewash finish of light hue (light yellowish) applied on it. The texture of the walls was rough and was in damp condition and had cracks.
Preferred and Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Murals related to sanitation, cleanliness and importance of education. <p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 Murals of books and different colored pencils. • Alternative-2 Murals of Good habits. • Alternative-3 Murals of pencils, girls and boys.
Selected and Implemented Treatment	Alternative-2 Murals of Good habits.
<p>Discussions: Regarding the wall treatment of the Outdoor area, the client preferred wall murals which are related to sanitation, cleanliness and importance of education. However, accordingly three different alternatives of designs were proposed of which murals of good habits was implemented.</p>	

Interior Component	Ceiling
Existing Status	The ceiling was plastered, plain and limewash was applied as finish. The condition of the ceiling was damp.

Preferred and Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Paint that suits with other components. <p>Proposed:</p> <ul style="list-style-type: none"> • White distemper paint
Selected and Implemented Treatment	White distemper paint
<p>Discussions: For the ceiling treatment of the Outdoor area, the client preferred to have paint that suits well with other interior components. Therefore, white distemper paint was proposed and implemented.</p>	

Interior Component	Other Outdoor elements
Existing Status	-
Preferred and Proposed Elements	<p>Preferred:</p> <ul style="list-style-type: none"> • Construction of boundary wall • Entrance Gate • Designing of Branding Board <p>Proposed:</p> <ul style="list-style-type: none"> • Boundary wall with height 6'-0" was constructed and painted light grey and light orange. • Concrete paver blocks for pathway were provided. • Entrance gate of size 9'-3 1/2" X 5'-0" (WXH) was provided. • A branding board of size 2'-3" X 2'-0".
Selected and Implemented Elements	<ul style="list-style-type: none"> • Boundary wall with height 6'-0" and painted light grey and light orange. • Concrete paver blocks for pathway • Entrance gate of size 9'-3 1/2" X 5'-0" (WXH) • A branding board of size 2'-3" X 2'-0".
<p>Discussions: As there was sufficient space available around the Anganwadi, the client preferred construction of boundary wall around the Anganwadi, provision of entrance gate and designing of a branding board. Therefore boundary wall around the Anganwadi was proposed, to enhance the beauty of the outdoor area a pathway with concrete paver blocks, landscaping and an entrance gate was proposed and implemented. Also, branding board was proposed and implemented.</p>	

4.1.4 PHASE IV: COST ESTIMATION AND IMPLEMENTATION OF SELECTED DESIGN

Considering the requirements of clients, three different theme based alternatives of design were given, of which one alternative was selected by the clients. The implementation of design started on 10th August, 2019 and ended on 5th September, 2019. In this phase, the computed cost estimation of the selected design as well as its implementation is discussed.

Cost Estimation of Selected Design

In successful planning and implementation of any design project of commercial or residential type, cost estimation plays a vital role. Therefore, cost estimation was prepared considering the actual price and labour cost of the selected design of the Anganwadi. The cost estimation of designing the Anganwadis was done according to the rates prevailing in market as in August, 2019. The details of the cost estimation of individual interior components of selected design are given in the following tables.

Table 3: Total Cost Estimation of Design Project-I Nandghar Ujeti

Sr. No	Components	Total Cost in ₹
1.	Flooring Treatment	₹39,238.95
2.	Walls	₹ 1,21,972.3
3.	False Ceiling	₹ 21,050
4.	Lighting Fixture and Fan	₹10,142
5.	Oil Paint Application on Doors and Windows	₹ 2175
6.	Furniture	₹8600
7.	Kitchen Countertop	₹ 6500
8.	Plumbing Fixtures	₹8360
9.	Developing Outdoor Open Area	₹ 78,276
	Total Cost Estimation	₹2,96,314.25

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 4: Cost Estimation of Flooring Treatment of Design Project-I Nandghar Ujeti

Area / Room	Total Area	Material & Size	Color	Company	Cost per sq.ft	Labour Cost	Total Cost in ₹
Activity Room	222.64 sq.ft	Vitrified Tiles (2'-0"X2'-0") <i>(Ref.pg.133,plate 20)</i>	White	Johnson	₹ 60 per sq.ft	₹ 35 per sq.ft	₹ 21150.8
Kitchen & Storeroom	103.11 sq.ft	Vitrified Tiles (2'-0"X2'-0")	White	Johnson	₹ 60 per sq.ft	₹ 35 per sq.ft	₹ 9795.45
Washroom	19.26 sq.ft	Ceramic Tiles (2'-0"X2'-0") <i>(Ref.pg.134,plate 22)</i>	White	Johnson	₹ 35 per sq.ft	₹ 35 per sq.ft	₹ 1348.2
Outdoor Area	73.1 sq.ft	Vitrified Tiles (2'-0"X2'-0")	White	Johnson	₹ 60 per sq.ft	₹ 35 per sq.ft	₹ 6944.5
Total	₹39,238.95						

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 5: Cost Estimation of Walls Treatment of Design Project-I Nandghar Ujeti

Area/ Room	Total Area	Material	Color	Company	Cost & Quantity	Required Quantity	Labour Cost	Total Cost in ₹
Activity Room	510.02 sq.ft	Acrylic Wall Putty <i>(Ref.pg.137 ,plate 30)</i>	-	Asian Paints	₹ 595-10kgs	10kgs	-	₹ 86,620 (including material, tools and labour cost)
		Wall Primer <i>(Ref.pg.137 ,plate 30)</i>	-	Asian Paints	₹ 1050-4 liters	4 liters		
		Acrylic Distemper (For Murals) <i>(Ref. pg.139,plate 34)</i>	Various Colors	Asian Paints	-	-		
Kitchen	116.34 sq.ft	Ceramic tiles <i>(Ref.pg.140,plate38)</i>	Orange & Grey	Johnson	₹ 25 per sq.ft	-	₹ 40 per sq.ft	₹ 7562.1
Storeroom	99.64 sq.ft	Wall Primer	-	Asian Paints	₹ 750-1 liter	1 liter	-	₹ 2000 (including material and labour cost)
		Plastic Distemper Paint	Yellow	Asian Paints	₹ 450-1 liter	2 liters		
Washroom	139.86 sq.ft	Ceramic Tiles	White	Johnson	₹ 35 per sq.ft	-	₹35 per sq.ft	₹ 9790.2
Outdoor Area	200.07 sq.ft	Wall Putty	-	Asian Paints	₹ 70-1kg	3kgs	-	₹ 16,000 (including material, tools and labour charges)
		Wall Primer	-	Asian Paints	₹ 650-1 liter	1 liter		
		Acrylic Distemper (For Murals)	Various Colors	Asian Paints	-	-		
Total	₹ 1,21,972.3							

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 6: Cost Estimation of False Ceiling of Design Project-I Nandghar Ujeti

Material	Company	Quantity	Cost Per Piece	Total Cost in ₹
Gypsum sheets (6'-0" X 2'-0")	Armstrong <i>(Ref.pg.135,plate 24)</i>	15	₹ 300	₹ 4500
Galvanized Iron bottom Patti	<i>(Ref.pg.135,plate 24)</i>	20kgs	₹ 70 per kg	₹ 1400
Screw & Fasteners	-	Lump Sum	-	₹ 2000
Total material cost	₹ 7900			
Labour Cost	70 % of the material cost = ₹ 5530			
Total Cost (Material cost + Labour Cost) -A	7900+5530=₹ 13,430			
Material	Company	Quantity	Cost	Total Cost in ₹
Wall Primer	Asian Paints	2 liters	₹ 750 per liter	₹ 1500
Plastic Paint (White)	Asian Paints	4 liters	₹ 480 per liter	₹ 1920
Plastic Paint (Mustard)	Asian Paints	2 liters	₹ 480 per liter	₹ 960
Plastic Paint (Purple)	Asian Paints	500ml	-	₹ 240
Total Material Cost	₹4620			
Labour Cost	₹ 3000			
Total Cost (Material cost + Labour Cost) -B	₹ 4620+₹ 3000= ₹ 7620			
TOTAL COST (A+B)	₹ 13,430+₹ 7620= ₹ 21,050			

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 7: Cost Estimation of Lighting Fixtures and Fans of Design Project-I Nandghar Ujeti

Item	Company	Watts / Ampere	Quantity	Price per piece	Total Cost in ₹
LED square panel light	Philips <i>(Ref.pg.136 ,plate 26)</i>	15 Watts	4	₹ 860	₹ 3440
Bulb Holder	Philips	-	4	₹ 200	₹ 800
Incandescent Light Bulb	Philips	200 Watts	4	₹ 80	₹ 320
Fan	Orient	-	2	₹ 2370	₹ 4740
Total Material Cost	₹ 9300				
Labour Cost	10% of material cost= ₹ 930				
Total (Material Cost + Labour Cost)	₹ 9220+₹ 930= ₹ 10,150				

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 8: Cost Estimation of Application of Oil Paint on the Doors and Windows of Design Project-I Nandghar Ujeti

Item	Company	Quantity	Price	Labour Cost	Total Cost in ₹
Oil Paint	Asian Paints <i>(Ref. pg.137 ,plate 28)</i>	10 liters	₹ 675	₹ 1500	₹ 2175
Total	₹ 2175				

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 9: Cost Estimation of Furniture Items of Design Project-I Nandghar Ujeti

Item	Dimension LXBXH	Type of Plywood	Color	Size of Plywood Sheet	Quantity Required	Cost per Sheet	Labour Cost	Total Cost in ₹
Kitchen Storage Cabinet-1	2'-0" X 2'-0" X 2'-4"	Laminated Plywood	Light Orange	4'-0" X 8'-0"	2 sheets	₹ 1200 per sheet	₹3000	₹ 5400
Kitchen Storage Cabinet-2	2'-11" X 2'-0" X 2'-4"							
Kitchen Storage Cabinet-2	3'-6" X 1'-9" X 2'-6"							
Table	3'-6" X 1'-9" X 2'-6"	Laminated Plywood	-	4'-0" X 8'-0"	1 sheet	₹ 1200 per sheet	₹2000	₹ 3200
Total	₹8600							

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 10: Cost Estimation of Kitchen Countertop of Design Project-I Nandghar Ujeti

Item	Material	Color	Total Area	Cost	Labour Cost	Total Cost in ₹
Kitchen Countertop	Granite (Ref.pg.141 ,plate 40)	Black	27.5 sq.ft	₹ 200 per sq.ft	₹ 1000	₹ 6500
Total	₹ 6500					

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 11: Cost Estimation of Plumbing Fixtures of Design Project-I Nandghar Ujeti

Item	Company	Material	Quantity	Cost per piece	Total Cost in ₹
Water Closet	Hindware <i>(Ref.pg.134,plate 22)</i>	Ceramic	1	-	₹ 2580
Taps	Cera	Stainless Steel	2	₹ 665	₹ 1330
Flush Tap	Cera	Stainless Steel	1	-	₹ 550
Sink	Hindware <i>(Ref. pg.141,plate 40)</i>	Stainless Steel	1	-	₹ 1900
Material Cost	₹ 6360				
Labour Cost	₹ 2000				
Total (Material Cost + Labour Cost)	₹6360 + ₹2000 = ₹ 8360				

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 12: Cost Estimation of Developing the Outdoor Open Area of Design Project-I Nandghar Ujeti

Component	Total Area	Material	Color	Company	Cost per piece	Quantity Required	Labour Cost	Total Cost in ₹
Boundary Walls	1030 sq.ft	Red Clay Bricks <i>(Ref.pg.142 ,plate 43)</i>	-	-	₹5	5000	₹ 10 per sq.ft	₹ 50,300
		Cement <i>(Ref.pg.142 ,plate 43)</i>	-	Ambuja Cement	₹300 per bag (50kg)	50		
		Limewash	Light grey	Asian Paints	₹ 300 per liter	10 liters	-	₹ 7000 (including material & labour cost)
			Yellowish Orange	Asian Paints	₹ 300 per liter	4 liters		
Pathway	212 sq.ft	Concrete Paver Blocks <i>(Ref.pg.143,plate 45)</i>	-	-	₹ 33 per sq.ft	-	₹ 15 per sq.ft	₹ 10,176
Entrance Gate	-	Iron	Black	-	-	1	-	₹ 5000
Branding Board	-	Marble	-	-	-	1	-	₹ 5800
Total	₹ 78,276							

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Implementation of Selected Design (Alternative-2 Forest Theme)

For the selection purpose, three different theme based alternatives of design were given, of which the one selected design by the clients was implemented.

For Design Project-I, Nandghar Ujeti, alternative-2 i.e. the 'Forest Theme' was selected and implemented.



Plate 19: Selection of Design by the Client

Floor: For the floor Vitrified tiles was implemented in the Activity room, Kitchen cum Store room and Outdoor area whereas ceramic tiles was implemented in the Washroom and an Indian style water closet was placed.



Plate 20: White Vitrified Tiles



Plate 21: Vitrified tiles implemented in the Activity room, Kitchen cum Storeroom and Outdoor Area of Design Project-I Nandghar Ujeti



Plate 22: White Ceramic Tiles and Indian Style Water Closet



Plate 23: Ceramic Tiles and Water Closet Implemented in the Washroom of Design Project-I Nandghar Ujeti

Ceiling: For the ceiling, the selected design from the three alternatives was implemented along with the provision of 15 Watts LED lights and ceiling fans.



Plate 24: Galvanized Iron Patti and Gypsum Board Sheets



Plate 25: Installation of Galvanized Iron Patti, Wiring, Gypsum Board Sheets for False Ceiling of Design Project-I Nandghar Ujeti



Plate 26: Philips 15 Watt Square Panel Ceiling Light



**Plate 27: Implemented False Ceiling Design of Design Project-I
Nandghar Ujeti**

Doors and Windows: For the doors and windows selected shade of oil paint was implemented.



Plate 28: Asian Paints Oil Paint



Plate 29: Implemented Oil Paint on Doors and Windows of Design Project-I Nandghar Ujeti

Walls: According to the selected theme, murals of forest theme were created on the walls of the Activity room and murals of good habits were created on the Outdoor area walls.



Plate 30: Asian Paints Wall Putty and Wall Primer



Plate 31: Applied Wall Putty and Wall Primer on the walls of the Activity room and Outdoor Area of Design Project-I Nandghar Ujeti



Plate 32: Murals created using pencil on the walls of the Activity room and Outdoor Area of Design Project-I Nandghar Ujeti



Plate 33: Application of background color using Spray machine of Design Project-I Nandghar Ujeti



Plate 34: Asian Paints Acrylic Distemper Paint



Plate 35: Murals being Implemented on the walls of the Activity room and Outdoor Area of Design Project-I Nandghar Ujeti



Plate 36: Murals Implemented on the walls of the Activity room of Design Project-I Nandghar Ujeti



Kitchen: For the kitchen walls, ceramic tiles were implemented. For the countertop black granite was placed and a sink was placed on the countertop.

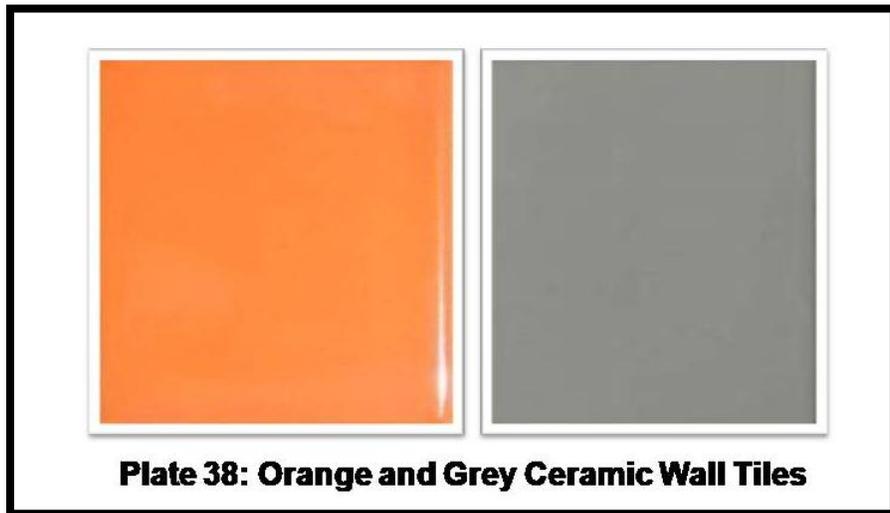




Plate 39: Ceramic Tiles Implemented on the walls of the Kitchen area of Design Project-I Nandghar Ujeti



Plate 40: Black Granite and Sink



Plate 41: Implemented black Granite countertop and Sink of Design Project-I Nandghar Ujeti



Development of Outdoor Area: A boundary wall with the height of 6'-0" was constructed around the Anganwadi, and a pathway of Concrete Paver blocks was created along with a parapet wall with tyres. And an entrance gate was provided.





Plate 44: Construction of Boundary Wall of Design Project-I Nandghar Ujeti



Plate 45: Concrete Paver Blocks



Plate 46: Pathway along with parapet wall with tyres of Design Project-I Nandghar Ujeti



Plate 47: Main Entrance Gate of Design Project-I Nandghar Ujeti



Plate 48: Branding Board of Design Project-I Nandghar Ujeti



Plate 49: Inauguration Ceremony of Design Project-I Nandghar Ujeti

4.2 DESIGN PROJECT-II: NANDGHAR KASHIPURA

Nandghar Kashipura was located in the Kashipura village of the Panchmahal District of Gujarat. The overall area of the space provided for Anganwadi was 540.44sq.ft. It comprised of an Activity room, Kitchen, Storeroom, Washroom and an Outdoor area.

4.2.1 PHASE I: ASSESSING THE SPACES PROVIDED FOR DESIGNING THE INTERIORS OF ANGANWADIS

This phase constitutes a detailed discussion about the spaces provided for the interior designing of Anganwadis developed under the CSR Project of Sun Pharmaceutical Ltd. at Kashipura village of the Panchmahal District of Gujarat.

In order to assess the spaces provided for Anganwadi various significant interior components like the dimension of the space provided for designing the Anganwadi, floor, walls, ceiling, windows, doors, ventilation, lighting, furniture and storage facilities were assessed which are described as follows under this phase.

EXISTING STATUS:

The data gathered regarding the existing status of space provided for Anganwadi (Nandghar Kashipura) from the observation sheet administered by the investigator is described as below:

ACTIVITY ROOM

- **Dimension of the Activity Room:** The dimension of the Activity room was having the length of 12'-0", the width of 16'-9" and height of 9'-6".
- **Floor:** The flooring of the Activity room was of Kota stone with a rough texture and matte finish. The condition of the flooring was uneven and dirty.

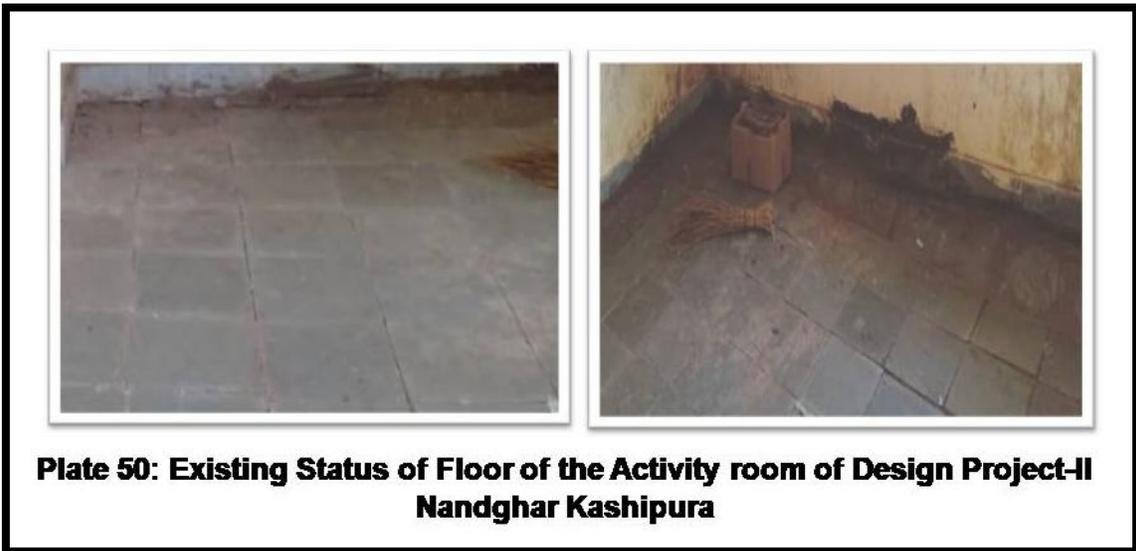


Plate 50: Existing Status of Floor of the Activity room of Design Project-II Nandghar Kashipura

- Walls:** The walls of the Activity room were constructed with bricks and plastered having limewash finish with light hue (light yellowish) applied on it. The texture of the walls was rough and the condition of the wall was damp. On the east direction wall, there were four shelves that had Kota stone and on the south direction, wall painting was made of Gujarati alphabet (Barakhadi), numerical, different shapes, animals, birds, fruits, vegetables and body parts. On the north direction wall, a partition wall was present, which was between the Activity room and Kitchen with the length of 4-6", the width of 1'-0" and the height of 6'-2" and had a shelf in it.

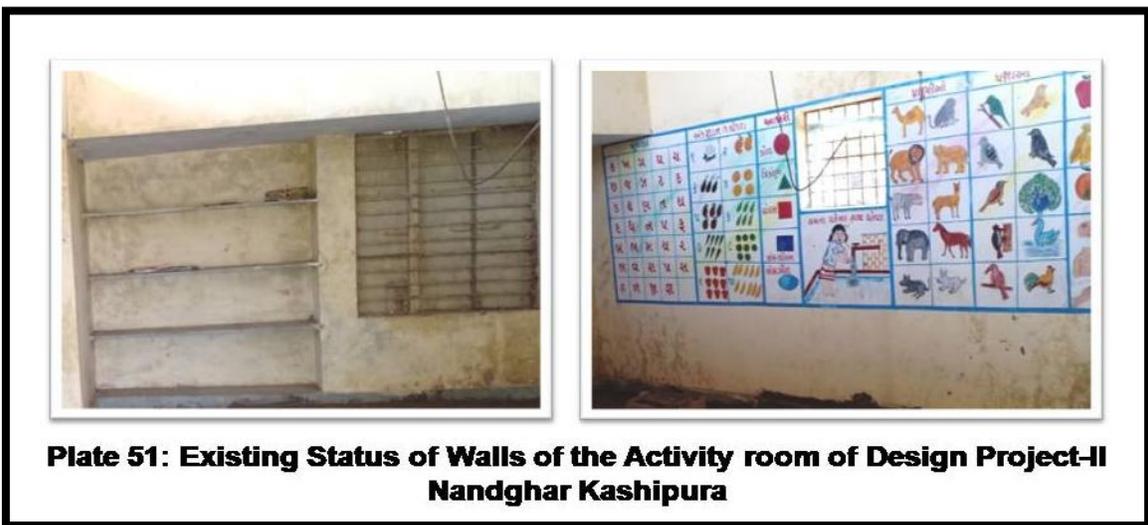


Plate 51: Existing Status of Walls of the Activity room of Design Project-II Nandghar Kashipura

- **Ceiling:** The ceiling of the Activity room was plastered, plain and limewash was applied as a finish. The condition of the ceiling was damp.



Plate 52: Existing Status of Ceiling of the Activity room of Design Project-II Nandghar Kashipura

- **Window:** The Activity room had seven windows. Wherein, the window in the east direction was having the width of 3'-11" and the height of 4'-2" and was at the height of 2'-0" from the floor and had three shutters. The window in the south direction was having the width of 1'-11" and the height of 2'-0" and was at the height of 4'-2" from the floor and no shutter. The window in the west direction was having the width of 3'-11" and the height of 5'-11" and was at the height of 3" from the floor and had three shutters. All the windows were made up of iron with grills, easy to open but the shutters were rusted. However, since the windows were placed in opposite directions facilitated good cross ventilation.



Plate 53: Existing Status of Windows of the Activity room of Design Project-II Nandghar Kashipura

- **Door:** The Activity room had one main door. The main door was on the west direction with the width of 3'-11" and the height of 6'-2", had oil paint finish of light hue (light yellowish) applied on it. The door had two shutters and handles made up of iron which was rusted and were in poor condition.



Plate 54: Existing Status of Door of the Activity room of Design Project-II Nandghar Kashipura

- **Lighting:** The Activity room had a sufficient amount of natural lighting but artificial lighting was lacking. However, the provision of lighting fixtures for bulb was there on the south direction wall at the height of 8'-10" from the floor, and the west direction wall at the height of 8'-0" from the floor, but was not in working condition and was damaged. There was a provision of one fan in the Activity room which was sufficient for the entire room but the wiring of the fan was open which can create a short circuit as the ceiling of the Activity room was in damp.



Plate 55: Existing Status of Lighting Fixture and Fan of the Activity room of Design Project-II Nandghar Kashipura

- **Furniture:** There was no provision of furniture and floor mats in the Activity room therefore, the children used to sit on the floor directly. However, the space was sufficient for seating and doing teaching-learning activities.

KITCHEN

- **Dimension of the Kitchen:** The dimension of the kitchen was having the length of 5'-9 ½", the width of 14'-4" and height of 6'-2".
- **Floor:** The flooring of the Kitchen was of Kota stone with a rough texture and matte finish. The condition of the flooring was uneven and dirty.

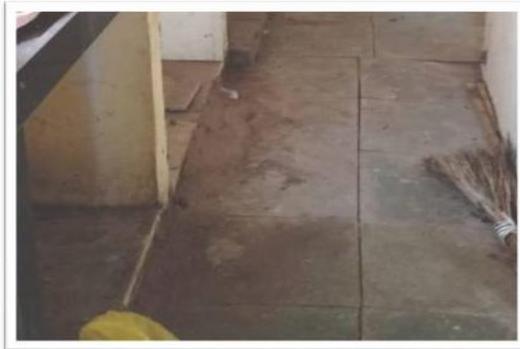


Plate 56: Existing Status of Floor of the Kitchen of Design Project-II Nandghar Kashipura

- **Walls:** The walls of the Kitchen were constructed with bricks and plastered having limewash finish with light hue (light yellowish) applied on it. The texture of the walls was rough and the condition of the walls was damp. However, there was a provision of the platform on the north direction wall with the length of 6'-10" and the width of 2'-2 ½" with the height of 2'-8 ½". Next to the platform two partitions were present having the length of 2'-4" and the width of 3'-6". White ceramic tiles were applied as wall finish in the two partitions. The tiles were chipping and were in poor condition. In one of the partition, a washbasin was placed, which was in poor condition.



Plate 57: Existing Status of Walls of the Kitchen of Design Project-II Nandghar Kashipura

- **Ceiling:** The ceiling of the Kitchen was plastered, plain with lime wash finish of white color applied to it. The condition of the ceiling was damp and had wiring pipes and open wires.



Plate 58: Existing Status of Ceiling of the Kitchen of Design Project-II Nandghar Kashipura

- **Window:** The Kitchen had three windows. Wherein, the window on the east and west direction were oppositely placed having the width of 1'-6" and the height of 3'-0" and was at the height of 3'-2" from the floor. Both the windows were made up of iron with grills and had one shutter with handle. The window in the north direction was having the width of 1'-11" and the height of 1'-11" and was at the height of 4'-3" from the floor. The window had no shutter but had iron grills.



- **Door:** The Kitchen had no separate door.
- **Lighting:** The Kitchen had a sufficient amount of natural lighting but artificial lighting was lacking. However, there was a provision of two lighting fixtures for bulb on the north direction wall at the height of 6'-0" from the floor, whereas one lighting fixture for bulb was placed in the ceiling. There was no provision of a fan in the kitchen. The wiring in the Kitchen was open.



- **Storage Facilities:** There was no provision of storage like drawers or cabinets under the platform in the Kitchen area.

STOREROOM

- **Dimension of the Storeroom:** The dimension of the Storeroom was having the length of 4'-10", the width of 6'-2" and height of 6'-2".
- **Floor:** The flooring of the Storeroom was of Kota stone with a rough texture and matte finish. The Kota stones were chipping out. The condition of the flooring was uneven and dirty.



Plate 61: Existing Status of Floor of the Storeroom of Design Project-II Nandghar Kashipura

- **Walls:** The walls of the Storeroom were constructed with bricks and plastered having limewash finish of light hue (light yellowish) applied on it. The texture of the walls was rough and the condition of the walls was damp.



Plate 62: Existing Status of Walls of the Storeroom of Design Project-II Nandghar Kashipura

- **Ceiling:** The ceiling of the Storeroom was plastered, plain with limewash finish of white color applied to it. The condition of the ceiling was good.



Plate 63: Existing Status of Ceiling of the Storeroom of Design Project-II Nandghar Kashipura

- **Window:** The Storeroom had one window. The window was on the west direction wall having the width of 2'-1" and the height of 2'-0" and was at the height of 4'-2" from the floor. The window only had iron grills and was rusted.



Plate 64: Existing Status of Window of the Storeroom of Design Project-II Nandghar Kashipura

- **Door:** The Storeroom had a separate door. The door was in the east direction with the width of 2'-4" and the height of 6'-2" having oil paint finish of light hue (light yellowish) applied on it. The door had one shutter and handle made up of iron which was rusted.



**Plate 65: Existing Status of Door of the Storeroom of Design Project-II
Nandghar Kashipura**

- **Lighting:** The Storeroom did not have a sufficient amount of natural lighting and also artificial lighting was lacking. There were no lighting fixtures present in the Storeroom.
- **Storage Facilities:** In the Storeroom there was no provision of storage cupboards or racks to store the raw materials or any other storage item.

WASHROOM

- **Dimension of the Washroom:** The dimension of the Washroom was having the length of 4'-10", the width of 3'-8" and the height of 6'-2".
- **Floor:** The flooring of the Washroom was of Kota stone with a rough texture and matte finish. The condition of the flooring was uneven and dirty.



**Plate 66: Existing Status of Floor of the Washroom of Design Project-II
Nandghar Kashipura**

- **Walls:** The walls of the Washroom were constructed with bricks and were plastered having limewash finish of light hue (light yellowish) applied on it. The white ceramic tiles were applied up to the height of 1'-6" from the floor on the walls. The texture of the walls was rough and in damp condition. The white ceramic tiles were broken and were in poor condition.



Plate 67: Existing Status of Walls of the Washroom of Design Project-II Nandghar Kashipura

- **Ceiling:** The ceiling of the Washroom was plastered, plain with lime wash finish of white color applied to it. The condition of the ceiling was damp.
- **Ventilation:** There was a provision of ventilation on the east direction wall with the width of 2'-1" and the height 2'-0" and was at the height of 4'-2" from the floor. The ventilation only had iron grills on it but did not have a shutter to close the ventilation due to which could not resist dust and mosquitoes.



Plate 68: Existing Status of Ventilation of the Washroom of Design Project-II Nandghar Kashipura

- **Door:** The door of the Washroom was on the west direction wall with the width of 2'-5" and the height of 6'-2" having oil paint finish of light hue (light yellowish) applied on it. The door had one shutter and handle made up of iron which was rusted.



Plate 69: Existing Status of Door of the Washroom of Design Project-II Nandghar Kashipura

- **Lighting:** The Washroom had a sufficient amount of natural lighting but artificial lighting was lacking. The provision of one lighting fixture for bulb was there at the height of 5'-2" from the floor which was damaged.

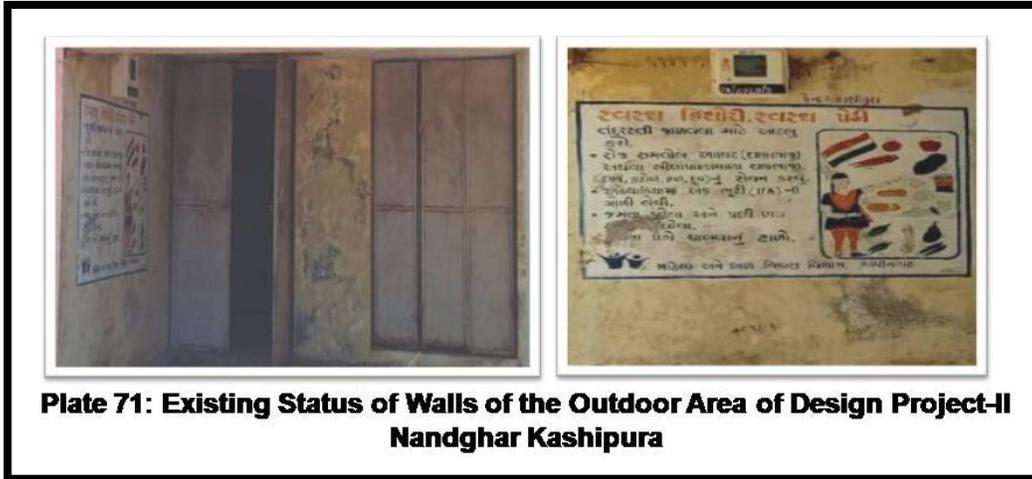
OUTDOOR AREA

- **Dimension of the Outdoor Area:** The dimension of the Outdoor area was having the length of 11'-7 ½", the width of 7'-0" and the height of 6'-9 ½".
- **Floor:** The flooring of the Outdoor area was of Kota stone with a rough texture and matte finish. The condition of the flooring was uneven and extremely dirty.



Plate 70: Existing Status of Floor of the Outdoor Area of Design Project-II Nandghar Kashipura

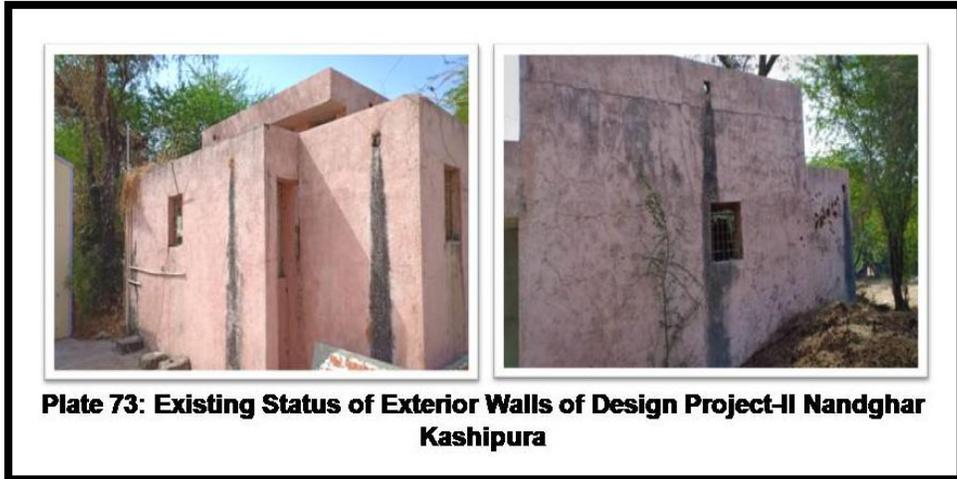
- **Walls:** The walls of the Outdoor area were constructed from bricks and plastered having limewash finish of light hue (light yellowish) applied on it. The texture of the walls was medium and the condition was damp and the plaster was chipping. The wall in the north direction had the main supply electricity meter at the height of 5'-0" from the floor and also had a painting of, ways by which one can remain healthy.



- **Ceiling:** The ceiling of the Outdoor area was plastered, plain having lime wash finish of white color applied to it. The condition of the ceiling was damp and the plaster was chipping.



- **Lighting:** In the Outdoor area there was a provision of one lighting fixture for bulb which was located on the east direction wall at the height of 6'-5" from the floor.
- **Exterior of the Anganwadi:** The exterior walls were constructed with bricks and plastered having lime wash finish of medium hue (pink) applied on it. The texture of the exterior walls was rough and had the cracks and was damp.



4.2.2 PHASE II: IDENTIFICATION OF REQUIREMENTS OF CLIENTS VIZ. THE GENERAL MANAGER, CSR ACTIVITIES OF SUN PHARMACEUTICALS INDUSTRIES LTD. AND ANGANWADI WORKERS REGARDING ANGANWADI INTERIORS

This phase comprises detailed information about the requirements regarding Anganwadi Interiors of the clients viz. the General Manager, CSR activities of Sun Pharmaceuticals Industries Ltd. and the Anganwadi workers which were congregated with the help of the interview schedule by the researcher. The requirements of Anganwadi interiors as perceived from the clients are discussed as below:

ACTIVITY ROOM:

- **Requirements for Floor:** For the flooring of the Activity room various preferences like ceramic tiles, vitrified tiles, marble, rubber tiles, carpet and wooden flooring were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. selected vitrified tiles as flooring treatment, whereas Anganwadi workers opted for carpet as flooring treatment.
- **Requirements for Wall:** For the walls of the Activity room various preferences like wall paint, wall texture, wallpapers, murals and wall tiles were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected murals and preferred the murals to be educatory and to make the walls colorful and appealing which might encourage children to come regularly and create an environment where children feel safe and friendly. The Anganwadi worker required to have a placement of blackboard on the wall. The General Manager preferred to dismantle the partition wall in the north direction wall and combine the Activity room and Kitchen.
- **Requirement for Ceiling:** For the ceiling of the Activity room preferences like plain plastered ceiling and false ceiling with a provision of lighting and fans were given for the selection purpose amongst which the client viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected false ceiling with provision of lighting and fans and added to make the false ceiling simple yet attractive.
- **Requirement for Doors and Windows:** For doors and windows of the Activity room the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker preferred application of oil paint which suits best with other interior components.
- **Requirement for Furniture:** For the furniture of Activity room the various preferences like tables, chairs, stools, storage cupboards and shelves were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd., preferred not

to have any furniture item in the Activity room as there was insufficient space in comparison with a number of children attending the Anganwadi but preferred a storage cupboard on the east direction wall where the shelves were already present. Whereas the Anganwadi worker opted to have a table with storage.

KITCHEN

- **Requirement for Floor:** For the flooring of the Kitchen various preferences like ceramic tiles, vitrified tiles, marble, rubber tiles, carpet and wooden flooring were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. selected vitrified tiles as flooring treatment, whereas Anganwadi workers opted for ceramic tiles as flooring treatment.
- **Requirement for Wall:** For the walls of the Kitchen various preferences like wall paint, wall texture, wallpapers, murals and wall tiles were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected wall tiles for the kitchen area with the purpose that they will be easy to clean and maintain. The client preferred to dismantle the partition wall which was on the north direction wall and remove the washbasin.
- **Requirement for Ceiling:** For the ceiling of the Kitchen preferences like plain plastered ceiling and false ceiling with a provision of lighting and fans were given for the selection purpose amongst which the client viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected plain plastered ceiling with paint that suits with other interior elements.
- **Requirement for Storage Facilities:** For the storage facilities of Kitchen various preferences like storage drawers and storage cabinets beneath the platform and other storage cabinets were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun

Pharmaceutical Industries Ltd. and the Anganwadi worker selected to have storage cabinets and drawers beneath the platform.

- **Requirement for Kitchen Countertop and Sink:** For Kitchen countertop, various preferences like marble, granite, tiles, quartz, terrazzo and wood were given for selection purpose, amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. selected granite whereas the Anganwadi worker opted for marble as a kitchen countertop. As there was no provision of plumbing in the kitchen area, the placement of the sink was not required by the clients and also provision of a new plumbing facility was constrained by the clients.
- **Requirement for Windows:** For windows of the Kitchen the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker preferred application of oil paint that suits best with other interior components.
- **Requirement for Lighting:** For the lighting of the Kitchen, the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker preferred the lighting fixtures of bulb to be changed.

STOREROOM

- **Requirement for Floor:** For the flooring of the Storeroom various preferences like ceramic tiles, vitrified tiles, marble, rubber tiles, carpet and wooden flooring were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. selected vitrified tiles as flooring treatment, whereas Anganwadi workers opted for ceramic tiles as flooring treatment.
- **Requirement for Walls:** For the walls of the Storeroom various preferences like wall paint, wall texture, wallpapers, murals and wall tiles were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker preferred wall paint.

- **Requirement for Ceiling:** For the ceiling of the Storeroom preferences like plain plastered ceiling and false ceiling with a provision of lighting and fans were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker opted for plain plastered ceiling with paint that suits with other interior elements.
- **Requirements for Storage Facilities:** For the storage facilities for Storeroom various preferences like and storage cabinets and racks were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker preferred not to have any storage facilities.
- **Requirements for Window:** For a window of the Storeroom the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker preferred application of oil paint that suits best with other interior components.
- **Requirements for Lighting:** For the lighting of the Storeroom, the client viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker preferred the lighting fixtures of bulb to be changed.

WASHROOM

- **Requirements for Floor:** For the flooring of the Washroom preferences like ceramic tiles and marble were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected ceramic tiles as flooring treatment.
- **Requirements for Walls:** For the walls of the Washroom preferences like wall tiles and wall paint were given for selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. selected wall tiles whereas the Anganwadi worker opted for wall paint.

- **Requirements for Ceiling:** For the ceiling of the Washroom preferences like plain plastered ceiling and false ceiling with a provision of lighting and fans was given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected plain plastered ceiling with paint that suits with other interior components.
- **Requirements for Type of Water Closet and Tap:** For the Washroom various preferences for the type of water closet like Indian, wall- mounted and floor-mounted were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker preferred Indian water closet. Whereas, for the tap various preferences like plastic, stainless steel, iron and brass were given for the selection purpose amongst which the clients opted for stainless steel tap.
- **Requirements for Door:** For the door of the Washroom the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker preferred application of oil paint that suits best with other interior components.

OUTDOOR AREA

- **Requirements for Floor:** For the flooring of the Outdoor area various preferences like ceramic tiles, vitrified tiles and marble, were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected Vitrified Tiles.
- **Requirements for Walls:** For the walls of the Outdoor area various preferences like wall paint, wall texture, murals and wall tiles were given for the selection purpose amongst which the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected murals, and the Authorities of Sun Pharmaceutical Industries

Ltd. opted murals related to sanitation, cleanliness and importance of education.

- **Requirements for Ceiling:** For the ceiling of the Outdoor area the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker selected plain plastered ceiling with paint that suits with other interior components.
- **Requirements for other Outdoor elements:** For the Outdoor area, as there was insufficient space available, the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. preferred not to have landscaping and playing equipment but preferred to design a branding board including the name of the Anganwadi, name and logo of the sponsors and the year of designing.

4.2.3 PHASE III: DESIGN DEVELOPMENT

4.2.3 (A) Proposed Designs

According to the requirements of the clients and based on the principle of design and various observations gathered from the studies came across during the review of literature, working drawings of Design Project-II (Nandghar Kashipura) Anganwadi to be developed under the CSR project of Sun Pharmaceutical Industries Limited were prepared. For Design Project-II (Nandghar Kashipura) Anganwadi three different theme based alternatives of design were given to the client for the selection purpose which is discussed as follows:

- 1. Underwater theme**
- 2. Forest theme**
- 3. Cartoon theme**

For each theme, different designs and color schemes were provided for the Activity room cum Kitchen, Storeroom, Washroom and Outdoor area.

PROPOSED DESIGN: The overall area of the Anganwadi was 540.44sq.ft. No changes were made in the floor plan, except the dismantling of the partition wall and the parapet walls next to the Kitchen platform and removal of the washbasin.

Theme 1: Underwater (Alternative-1)

Proposed Flooring

For alternative-1, light blue vinyl carpet with grey lines was given for the Activity room cum Kitchen and Storeroom.

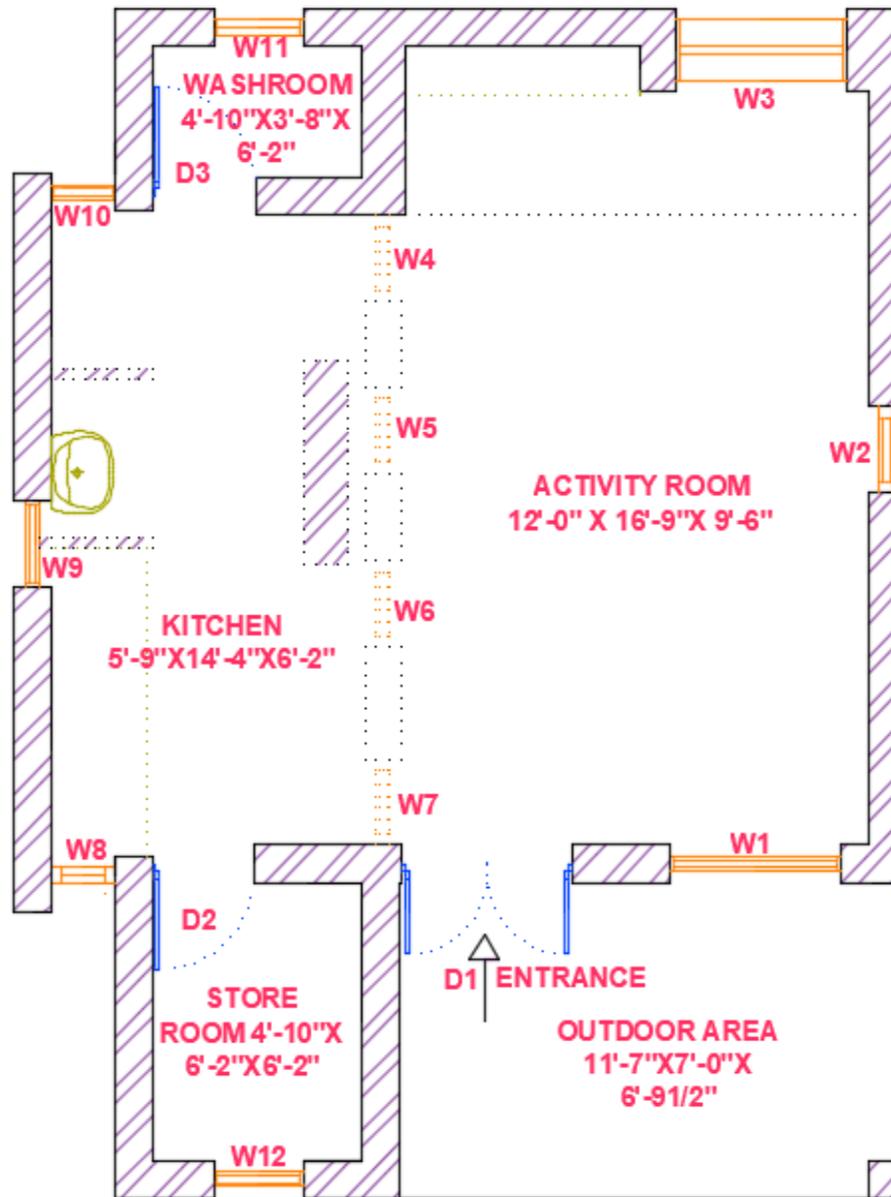
Whereas, for the Washroom, white ceramic tiles of size 1'-0" X 1'-0" was given. The process of laying the tiles in the Washroom started from the corner of the Washroom so that full tiles can be seen. An Indian style water closet was fixed of size 2'-0" X 3'-0". For the Outdoor area white vitrified tiles of size 2'-0" X 2'-0" were provided.

ACTIVITY ROOM CUM KITCHEN

According to the requirement of the client, the partition wall between the Activity room and Kitchen was dismantled. Therefore, the overall dimension of the Activity room cum Kitchen was having the length of 18'-9 ½" width of 16'-9" and height of 9'-6" for Activity room and 6'-2" height for the Kitchen. The Activity room had a skirting of 3 inches. The slab height was 4 inches.

Proposed Wall Design

- **Wall AB:** The length of the wall was 16'-5" and the height was 6'-2". As it was the Kitchen wall, tiles were placed on the wall. Ceramic tiles of size 6" X 9" were arranged alternatively i.e. one yellowish-green another grey. A black granite countertop with length 8'-0" and width 2'-2 ½" was placed at the height of 2'-8 ½" from the floor. Beneath the countertop, two storage cabinets and three drawers were given of which, the cabinets were of a double shutter. The length of the cabinets was 2'-7" whereas the length of the drawers was 2'-6". For the cabinets and drawers, grey and yellowish-green color laminated plywood was used and had light brown framing. A window was present with

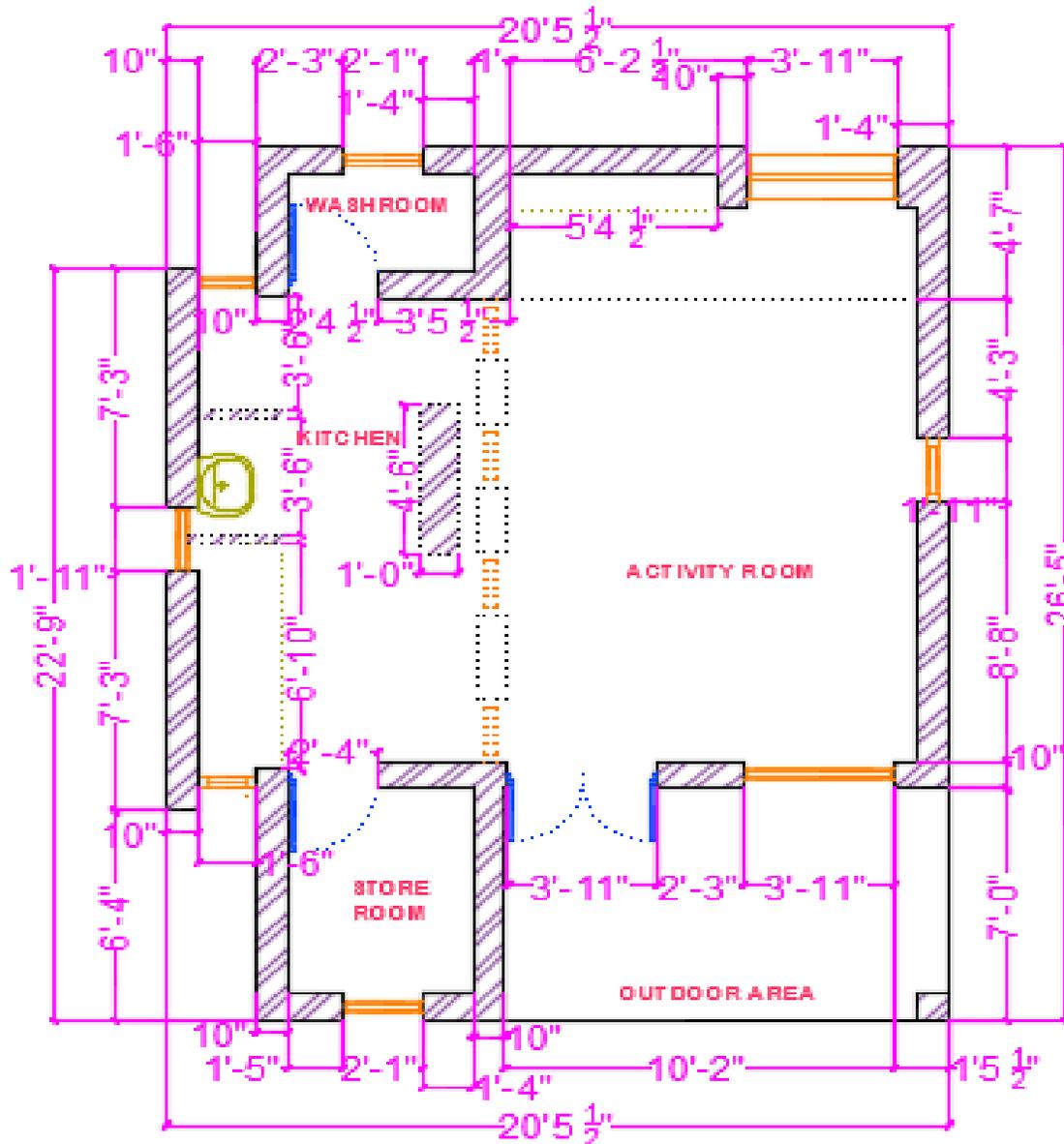


TITLE-

Figure 34: Existing Floor Plan of Design Project-II Nandghar Kashipura

DIRECTION-



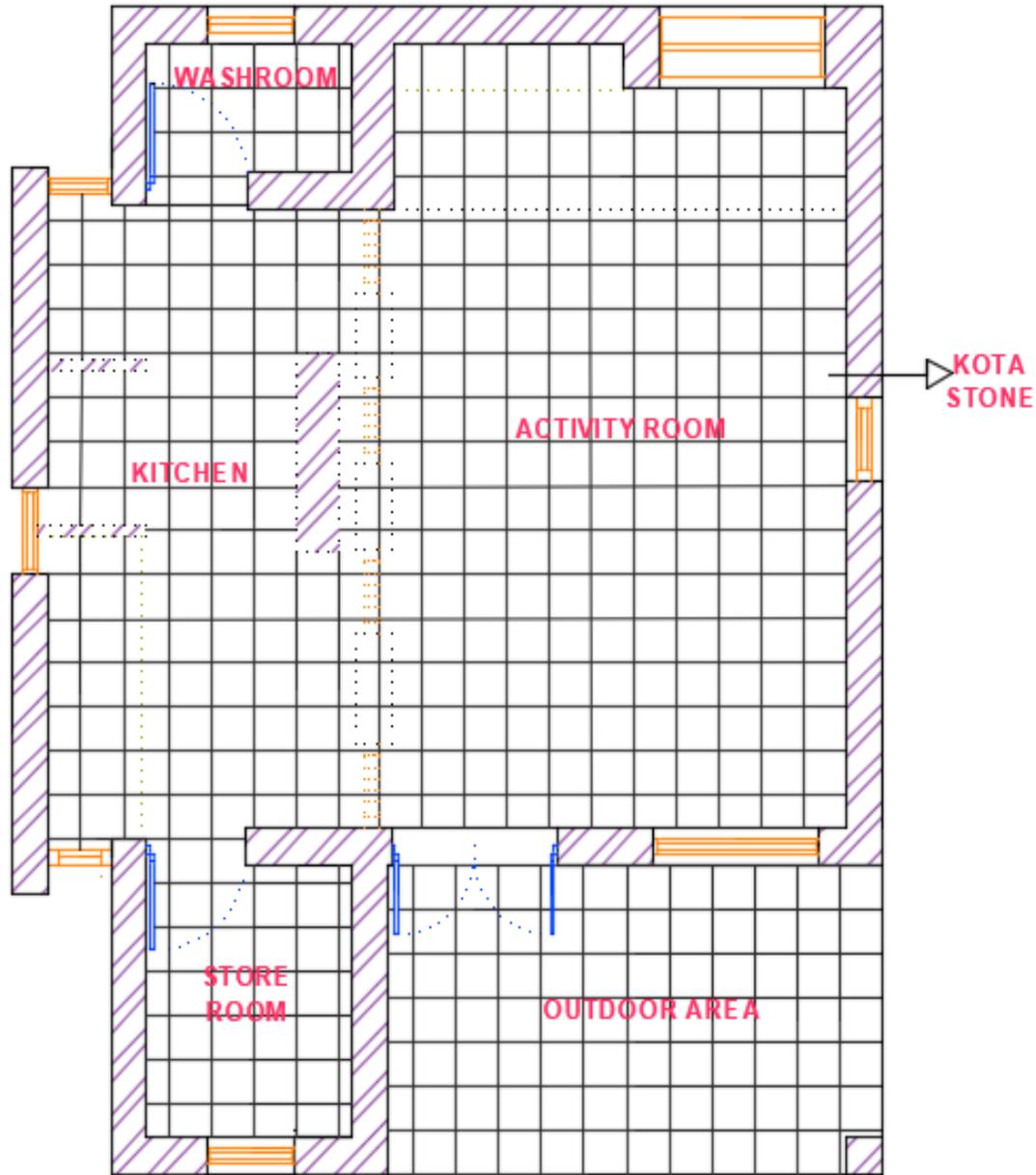


TITLE-

Figure 35: Existing Working Drawing of Design Project-II Nandghar Kashipura

DIRECTION-

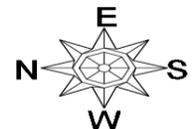


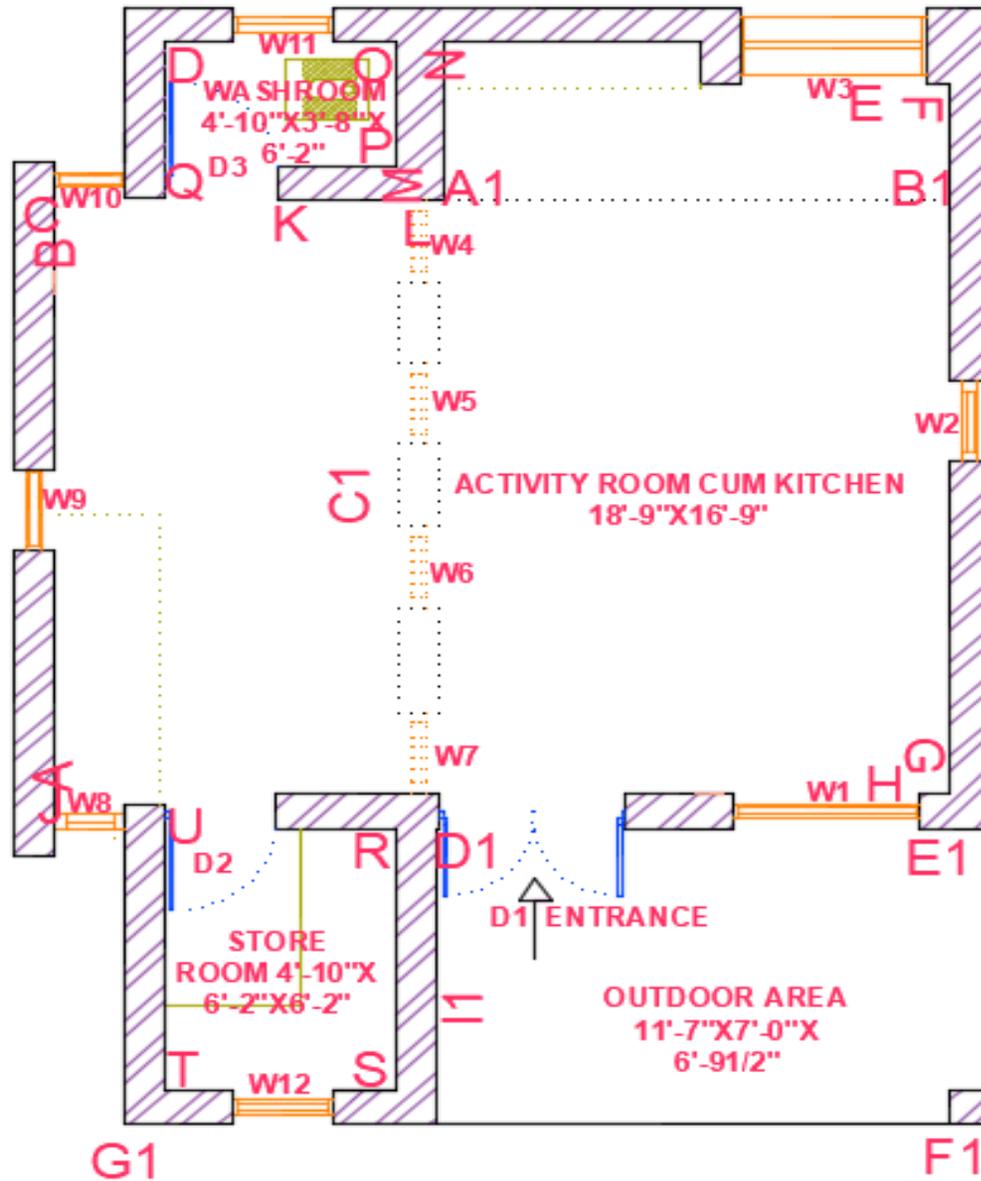


TITLE-

Figure 36: Existing Flooring Layout of Design Project-II Nandghar Kashipura

DIRECTION-



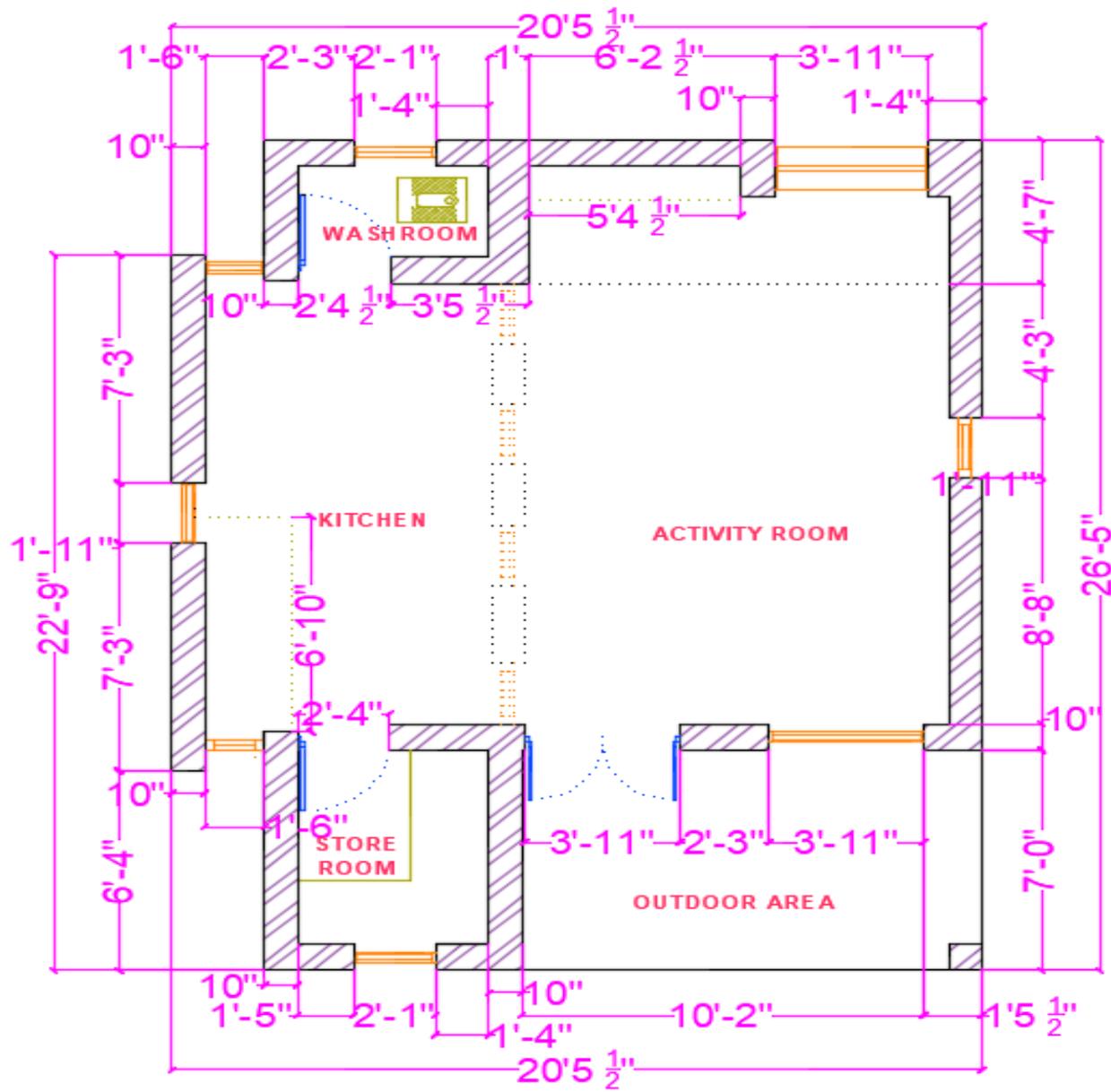


TITLE-

Figure 37: Proposed Floor Plan of Design Project-II Nandghar Kashipura

DIRECTION-

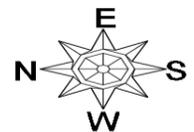


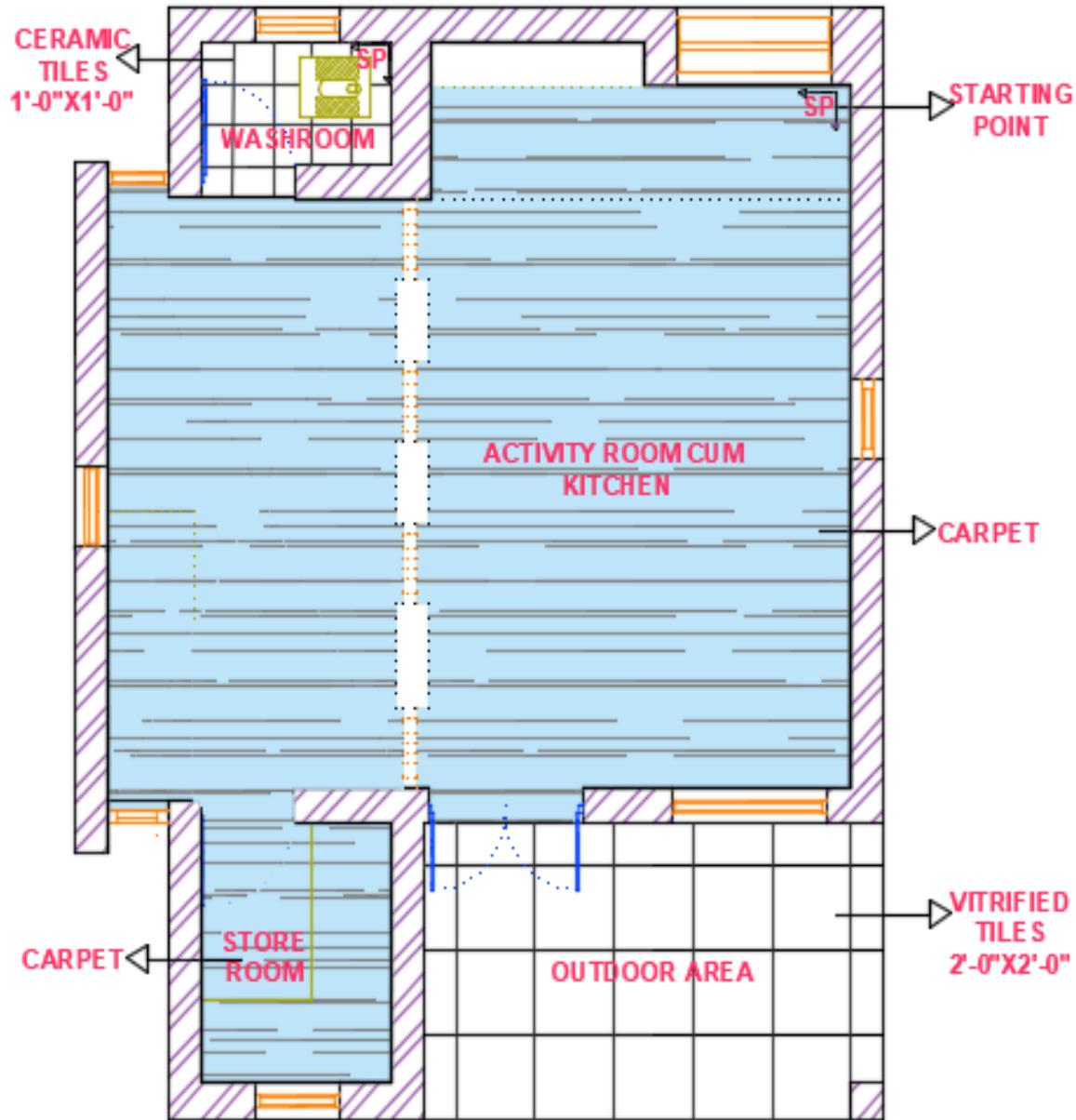


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Figure 38: Proposed Working Drawing of Design Project-II Nandghar Kashipura

DIRECTION-



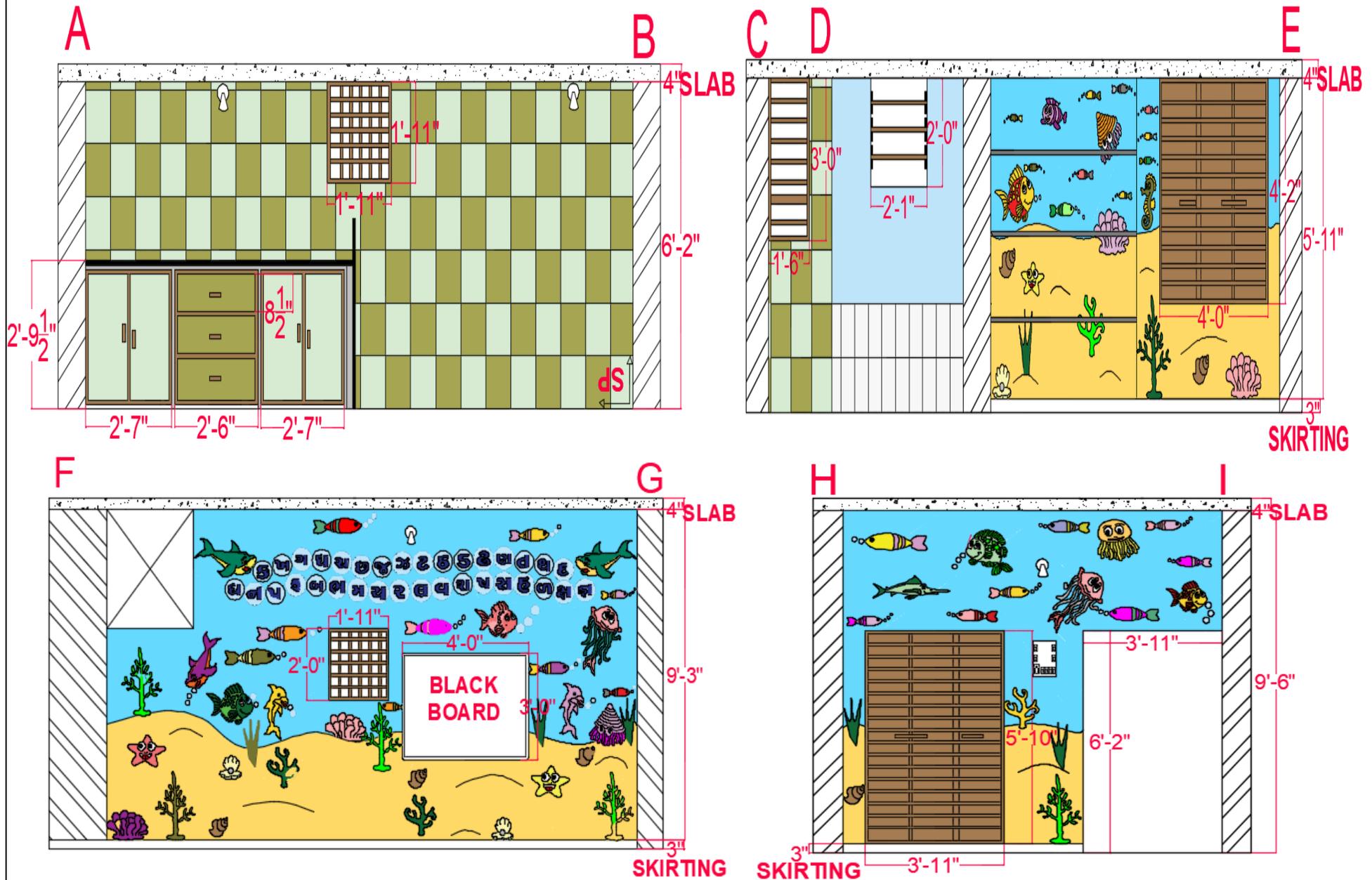


TITLE-

Figure 39: Proposed Flooring Layout of Design Project-II Nandghar Kashipura Alternative-1

DIRECTION-





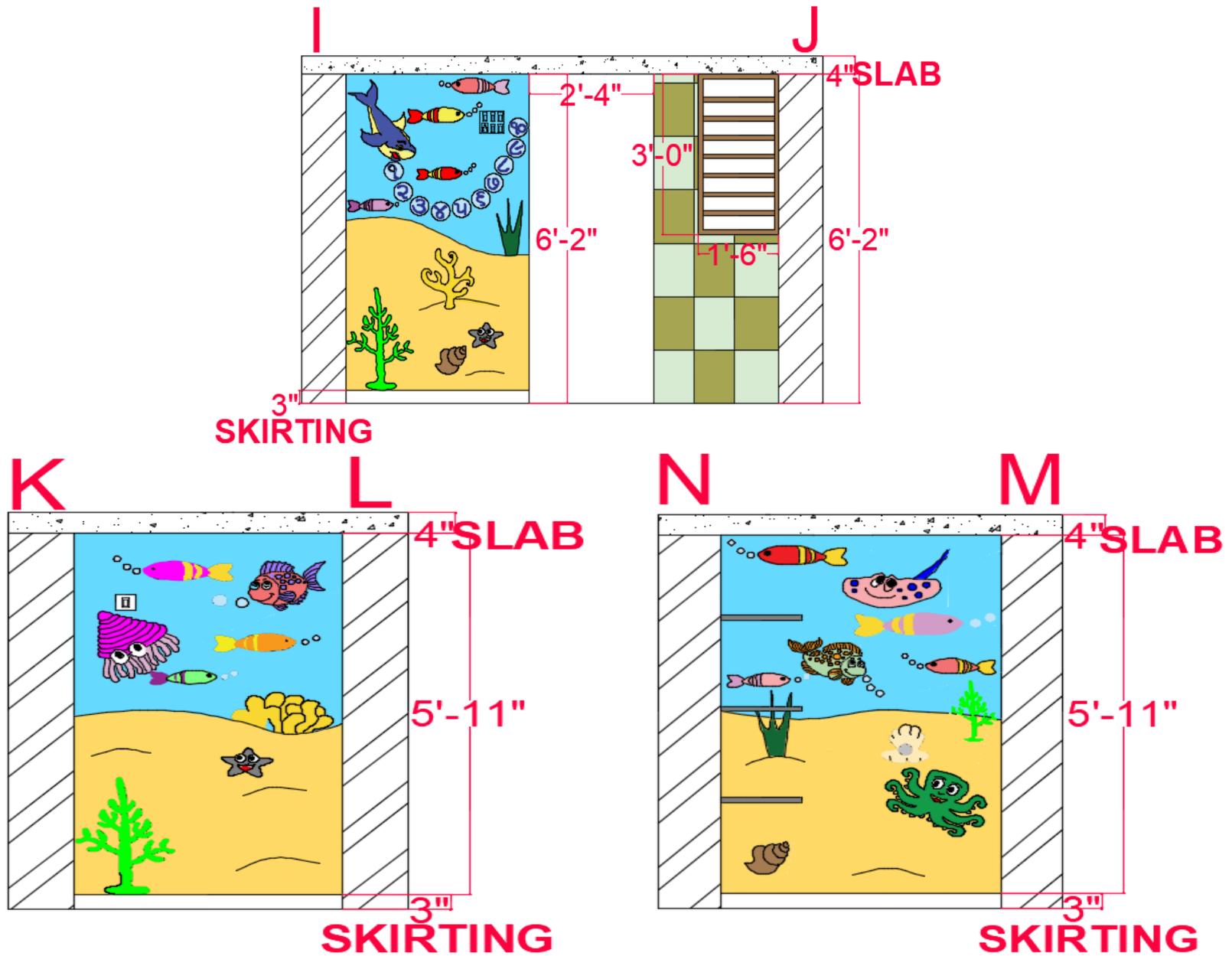
TITLE- Figure 40: Proposed Wall Elevations of Activity room cum Kitchen of Design Project-II Nandghar Kashipura Alterantive-1 (Underwater Theme)

DIRECTION-



the width of 1'-11 ½" and height of 1'-11 ½" at the height of 4'-3" from the floor. For the window, brown color oil paint was proposed. Two lighting fixtures for bulb were provided at the height of 6'-0" from the floor.

- **Wall CE:** The length of the wall was 18'-9 ½" and height was 5'-11". Out of which 2'-4" included the Kitchen wall for which ceramic tiles of size 6" X 9" were arranged alternatively i.e. one yellowish-green and another grey. A window was present with a width of 1'-6" and a height of 3'-0" at the height of 3'-2" from the floor. For the window, brown color oil paint was proposed. Considering the underwater theme, the background was half blue which indicated water and half light yellowish which indicated sand. Different types of fishes with different colors, sizes and shapes were created as murals. Other underwater creatures like star-fish, jelly-fish, shell, grass were created. For creating murals acrylic distemper paint was anticipated. Four shelves were present which had Kota stone. A window was present with a width of 4'-0" and the height of 4'-2" at the height of 2'-0" from the floor. For the window brown color oil paint was proposed.
- **Wall FG:** The length of the wall was 16'-9" and height was 9'-6". The background was half blue which indicated water and half light yellowish which indicated sand. Different types of fishes with different colors, sizes and shapes were created as murals. Other underwater creatures like star-fish, jelly-fish, shell, grass were created. For creating the murals acrylic distemper paint was proposed. To make it educatory Gujarati alphabets (Barakhadi) were created. A window was present with a width of 1'-11" and the height of 2'-0" at the height of 4'-2" from the floor. For the window, brown color oil paint was proposed. The provision of black board was given of size 4'-0" X 3'-0" at the height of 2'-6" from the floor. The provision of lighting fixture for bulb was given at the height of 8'-10" from the floor.
- **Wall HI:** The length of the wall was 10'-8 ½" and height was 9'-6". The background was half blue which indicated water and half light yellowish which indicated sand. Different types of fishes with different colors, sizes and shape were created as murals. Other underwater creatures like star-fish, jelly-fish,



TITLE-

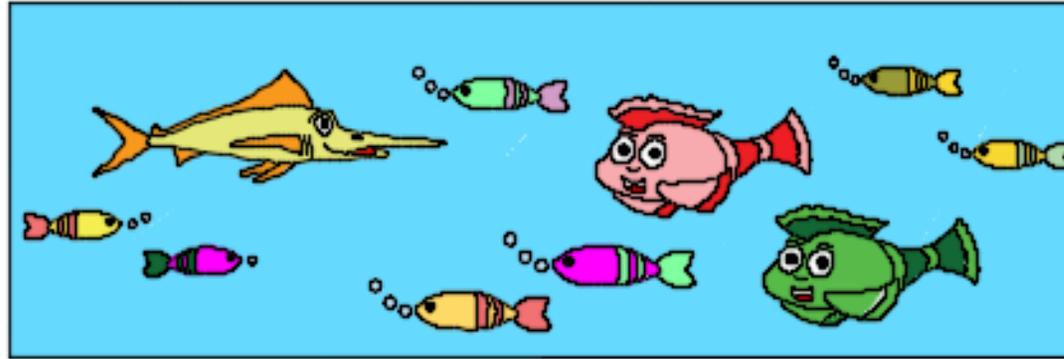
Figure 41: Proposed Wall Elevations of the Activity Room cum of Design Project-II Nandghar Kashipura Alternative-1 (Underwater Theme)

DIRECTION-

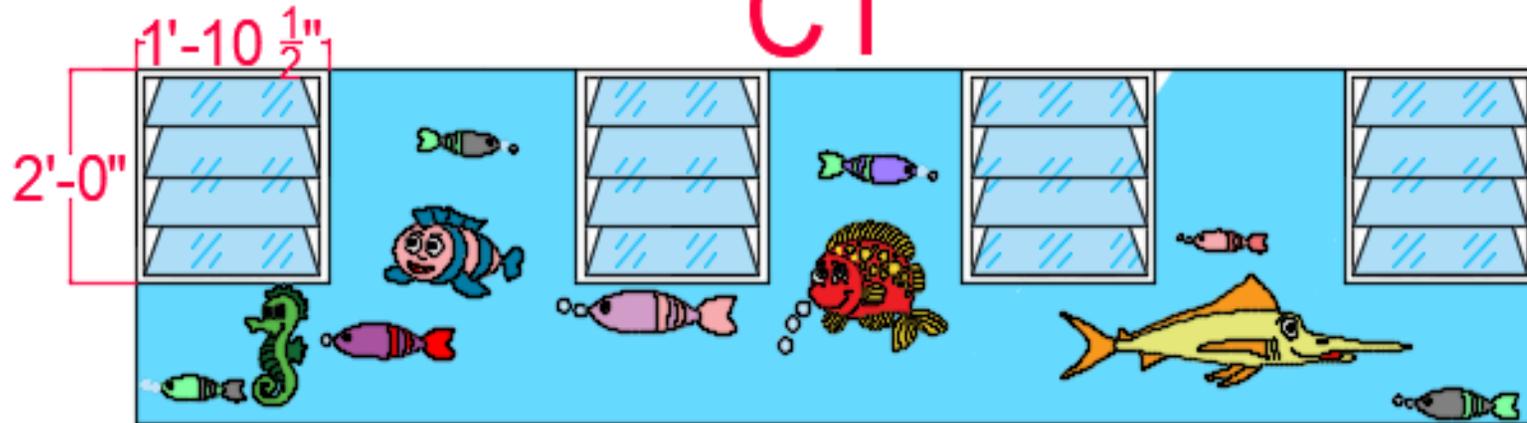


A1

B1



C1



TITLE-

Figure 42: Proposed Wall Elevations of the Activity room of Design Project-II
Nandghar Kashipura Alternative-1 (Underwater Theme)

DIRECTION-



shell, grass were created. For creating murals acrylic distemper paint was anticipated. A window was present with a width of 3'-11" and the height of 5'-11" at the height of 3" from the floor. For the window, brown color oil paint was proposed. The main entrance door of size 3'-11" and height 6'-2" was present. Next to the door, the main switchboard was located at the height of 4'-10 ½" from the floor. The provision of lighting fixture for bulb was given at the height of 8'-0" from the floor.

- **WALL IJ:** The length of the wall was 8'-1" and height was 6'-2". Out of which 3'-5" had the background of half blue which indicated water and half light yellowish which indicated sand. Different types of fishes with different colors, sizes and shapes were created as murals. Other underwater creatures like shells and grass were created. For creating murals acrylic distemper paint was anticipated. To make it educatory, the Gujarati Numerical were painted. A switchboard at the height of 5'-0" was present. An opening towards the Storeroom was present with the width of 2'-4" and the height 6'-2". The rest of the portion was the Kitchen wall for which ceramic tiles of size 6" X 9" were arranged alternatively i.e. one yellowish-green and another grey. A window was present with a width of 1'-6" and the height of 3'-0" at the height of 3" from the floor. For the window, brown color oil paint was proposed.
- **Wall KL:** The length of the wall was 3'-5" and height was 5'-11". The background was half blue which indicated water and half light yellowish which indicated sand. Different types of fishes with different colors, sizes and shapes were created as murals. Other underwater creatures like star-fish, jelly-fish, shell, grass were created. For creating murals acrylic distemper paint was anticipated. A switchboard was present at the height of 4'-11" from the floor.
- **Wall NM:** The length of the wall was 3'-9" and height was 5'-11". The background was half blue which indicated water and half light yellowish which indicated sand. Different types of fishes with different colors, sizes and shapes were created as murals. Other underwater creatures like octopus,

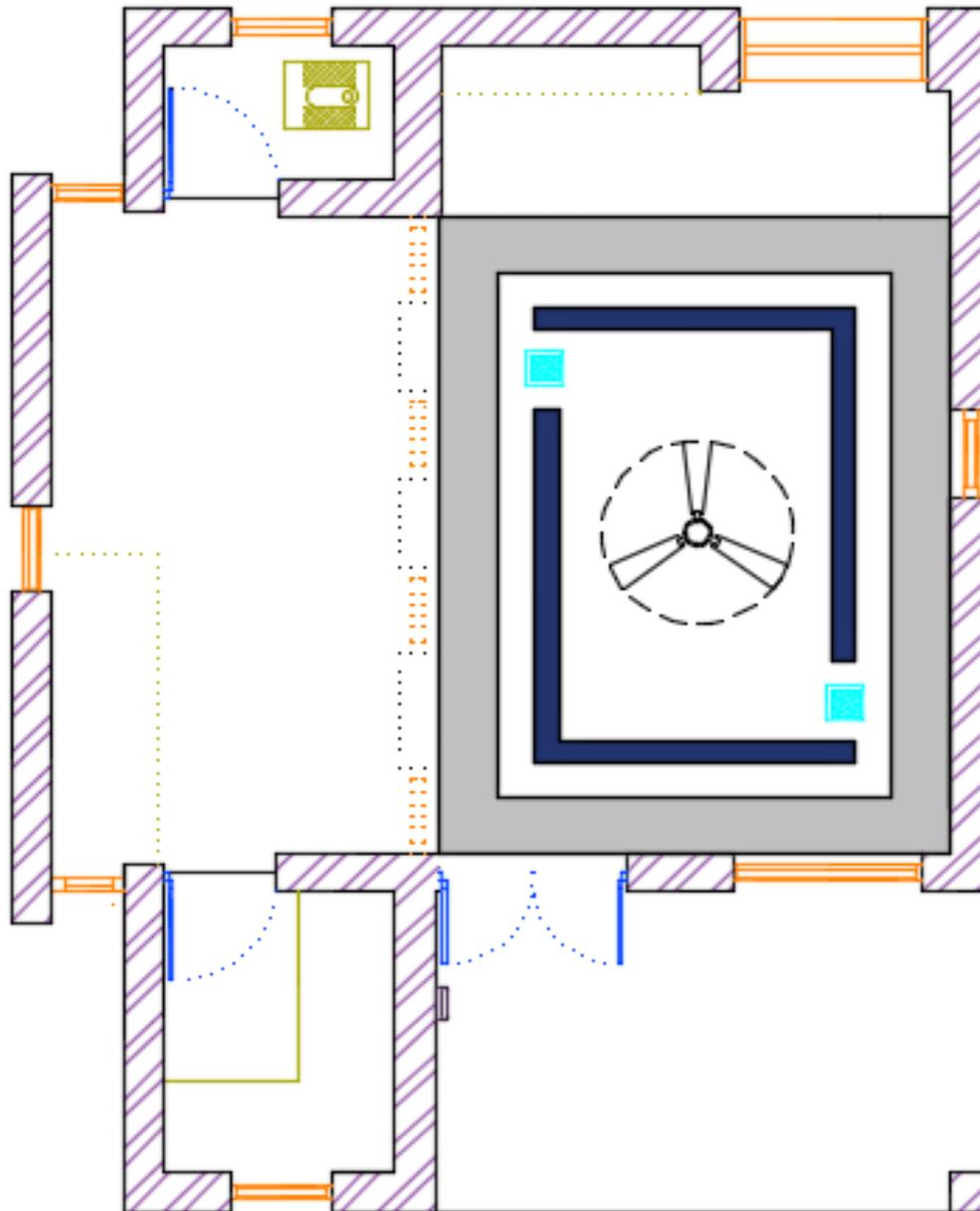
shell, and grass were created. For creating murals acrylic distemper paint was proposed.

- **Wall A1B1:** The length of the wall was 10'-8". As the wall was in the upper portion of the room for the background only blue color was given which indicated water. Different types of fishes with different colors, sizes and shapes were created as murals. For creating murals acrylic distemper paint was proposed.
- **Wall C1:** The length of the wall was 14'-0". As the wall was in the upper portion of the room for the background only blue color was given which indicated water. Different types of fishes with different colors, sizes and shapes were created as murals. For creating murals acrylic distemper paint was proposed. Four windows were present with a width of 1'-10 ½" and height 2'-0". For the window, brown color oil paint was anticipated.

Proposed False Ceiling Design and Electrical Layout

For the false ceiling, a rectangular shape design was proposed. The material used for the false ceiling was the Gypsum board. The width of the false ceiling as proposed in the design was 1'-3" for all four sides. Considering the height of the Activity room, the false ceiling drops down exactly 6 inches from the original ceiling in such a manner that the plenum space (hollow/open space) of 3 inches was left between the original ceiling and false ceiling. In the design proposed, from the center of the rectangular shape two L-shape structures were created on the opposite side, which highlights the entire false ceiling design. The L- shape drops down exactly 6 inches from the original ceiling. Plastic paint was proposed for painting the false ceiling to avoid reflective glare. For the false ceiling, the colors proposed were, the L- shape of the false ceiling was given dark blue color and rectangular shape was given grey color.

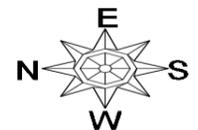
Considering the size of the room and false ceiling design, lighting fixtures were positioned in the false ceiling in such a manner that light was distributed all over the room. 2 LED lights of 15 watts each were placed in the false ceiling for direct lighting. These fixtures were square in shape. The tint of light from these lights

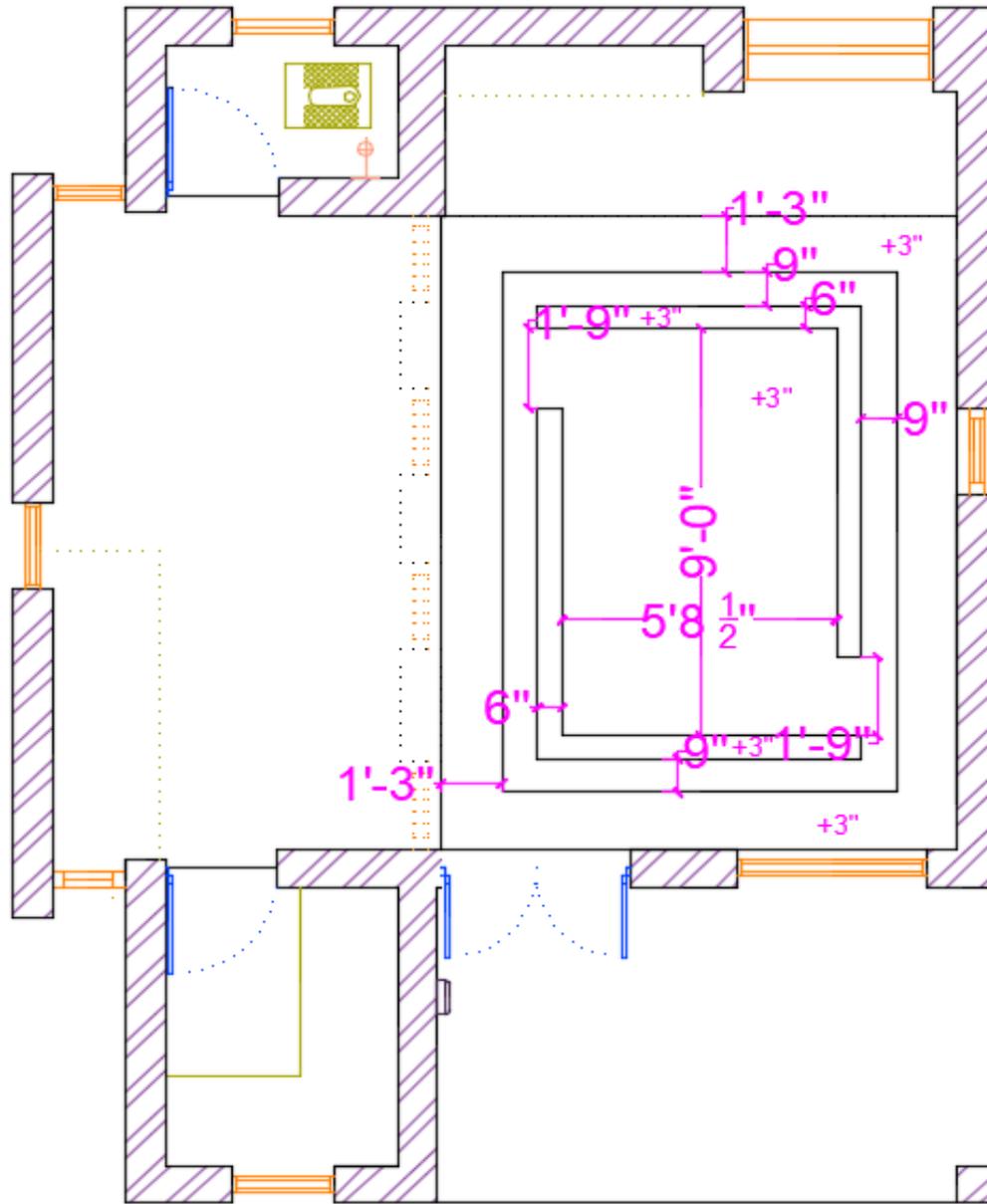


TITLE-

Figure 43: Proposed False Ceiling Design of Design Project-II Nandghar Kashipura Alternative-1

DIRECTION-

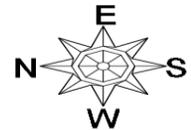


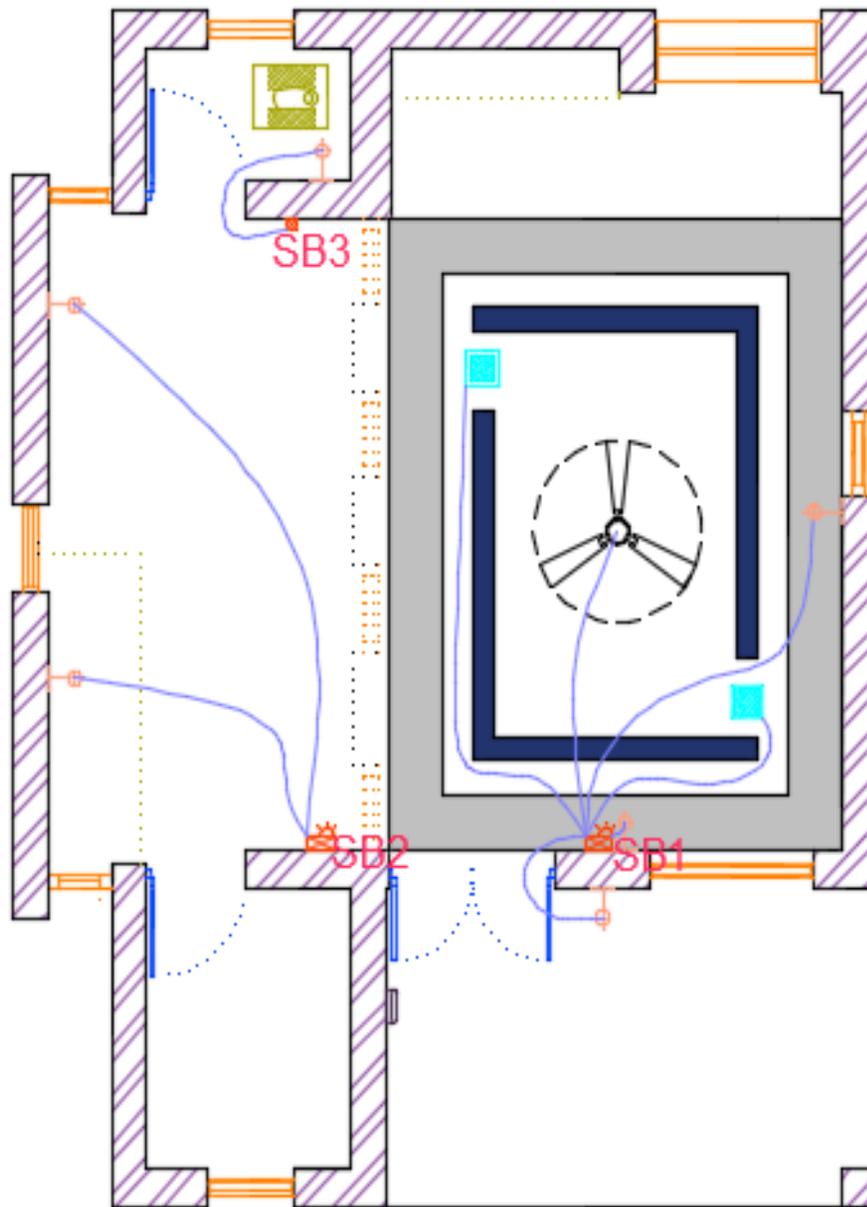


TITLE-

Figure 44: Proposed False Ceiling Working Drawing of Design Project-II
Nandghar Kashipura Alterantive-1

DIRECTION-





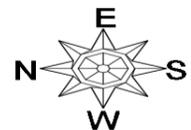
LEGEND

	Switchboard with plug point
	Switchboard without plug point
	Wall point
	Fan
	15 Watt Light

TITLE-

Figure 45: Proposed Electrical Layout of Design Project-II Nandghar Kashipura Alternative-1

DIRECTION-



was white. Also considering the size of the room, one ceiling fan was proposed in the design, which was placed in the center of the false ceiling.

The distribution of the switches was done keeping in mind the proximity of the fixture and the switchboard to minimize the length of wires. The main switchboard was provided near the entrance door, so that operating them becomes easy. The main switchboard included the connection of fan, lights placed in false ceiling and lighting fixtures for bulb.

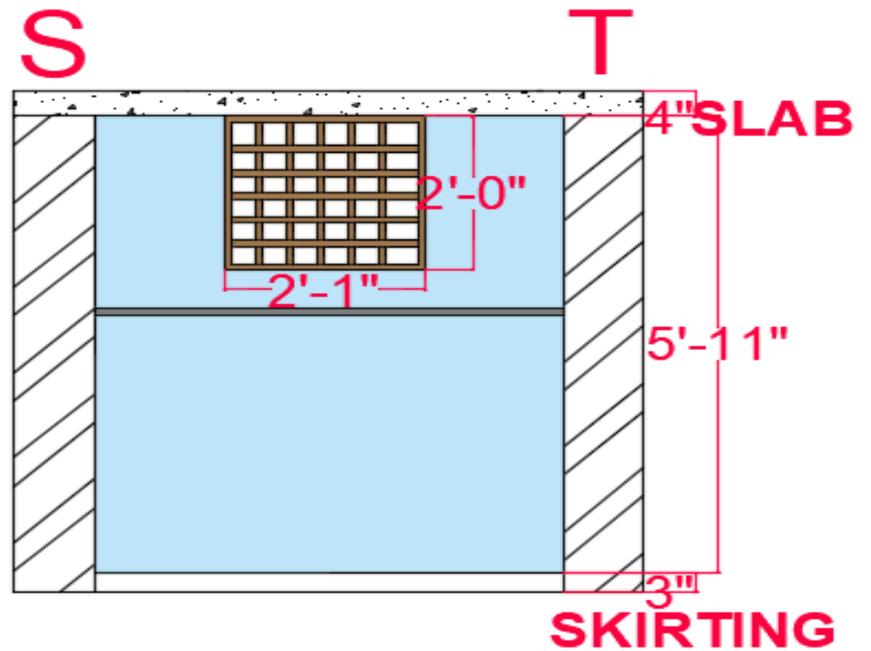
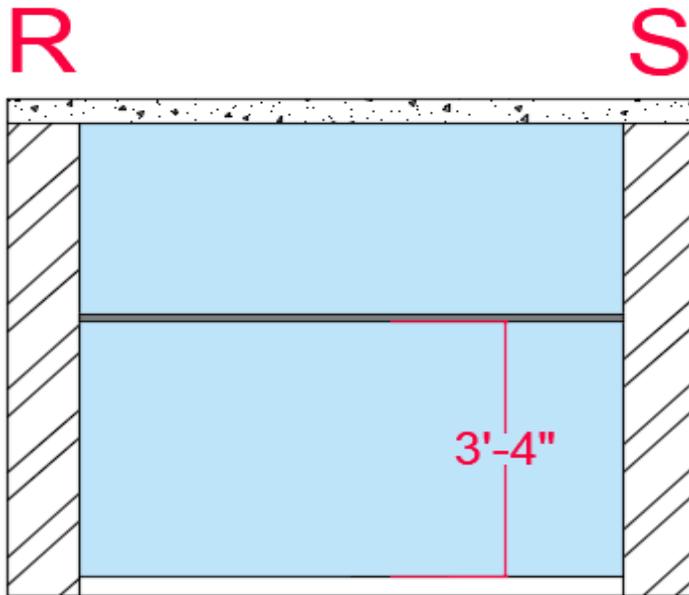
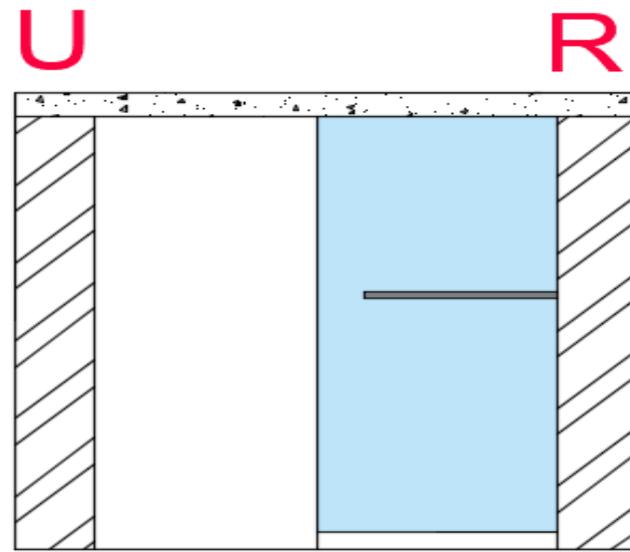
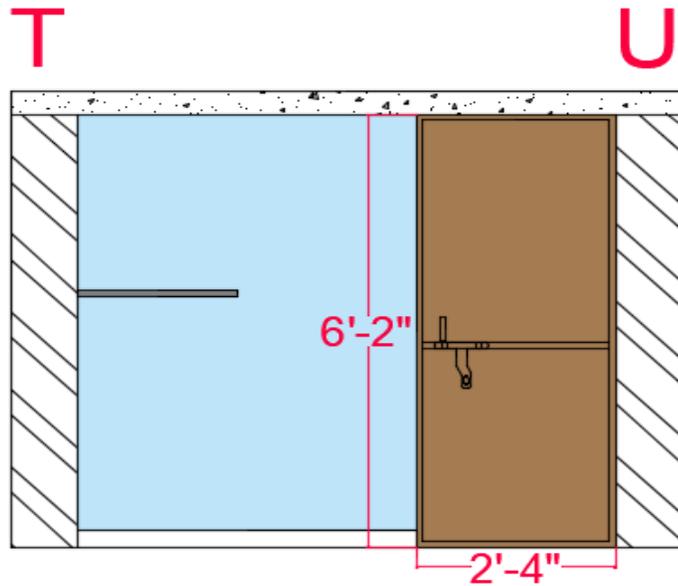
STOREROOM

The dimension of the Storeroom was having the length of 4'-10" width of 6'-2" and height of 6'-2". The slab height was 4 inches.

- **Wall TU:** The length of the wall was 6'-2". Considering the theme, for the wall sky blue color plastic distemper paint was proposed. A door with a width of 2'-4" and the height 6'-2" was present. For the door, brown color oil paint was anticipated.
- **Wall UR:** The length of the wall was 4'-10". For the wall sky blue color plastic distemper paint was proposed. A door opening with the width of 2'-4" and height of 6'-2" was present.
- **Wall RS:** The length of the wall was 6'-2". The wall was given sky blue color plastic distemper paint. An L-shape Kota stone was placed as a shelf for storage purpose with the length of 6'-2" at the height of 3'-4" from the floor.
- **Wall ST:** The length of the wall was 4'-10". For the wall sky blue color plastic distemper paint was proposed. An L-shape Kota stone was placed as a shelf for storage purpose with the length of 4'-10" at the height of 3'-4" from the floor. A window with the width of 2'-1" and the height of 2'-0" was present. For the window brown color oil paint was anticipated.

WASHROOM

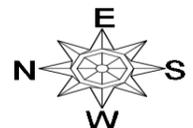
The dimension of the Washroom was having the length of 4'-10" width of 3'-8" and the height of 6'-2". The slab height was 4 inches.

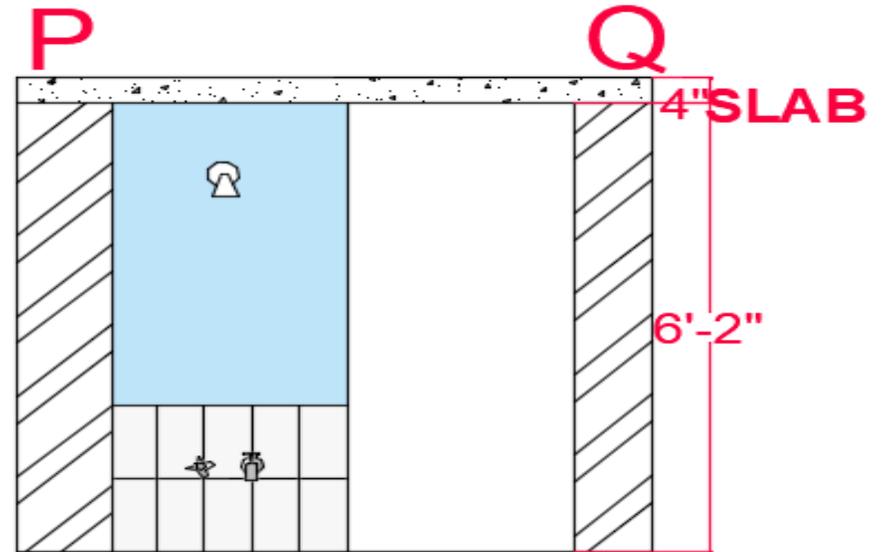
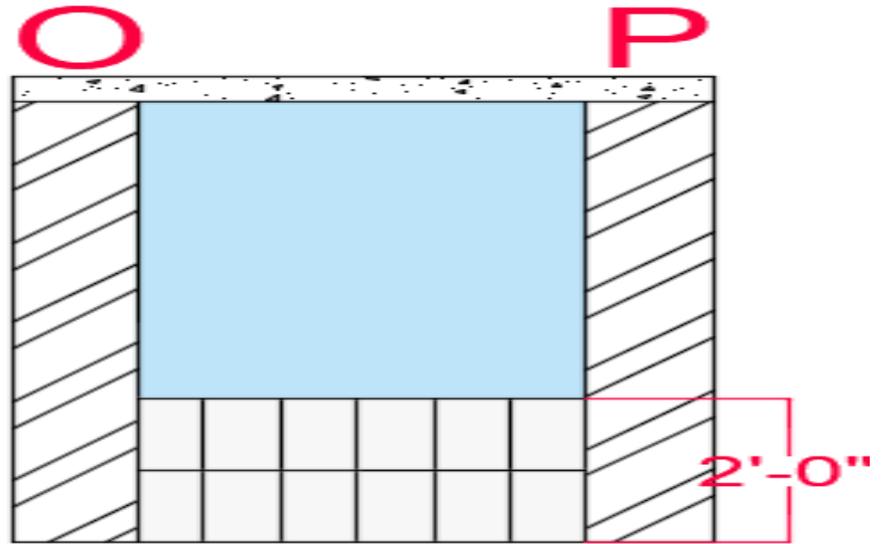
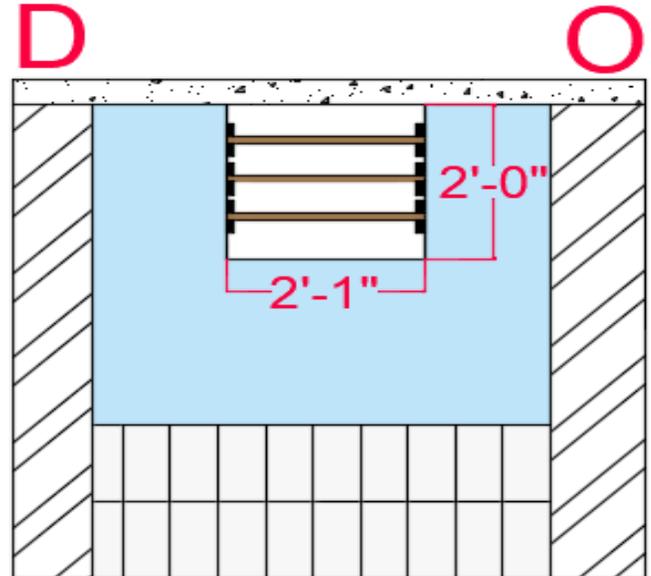
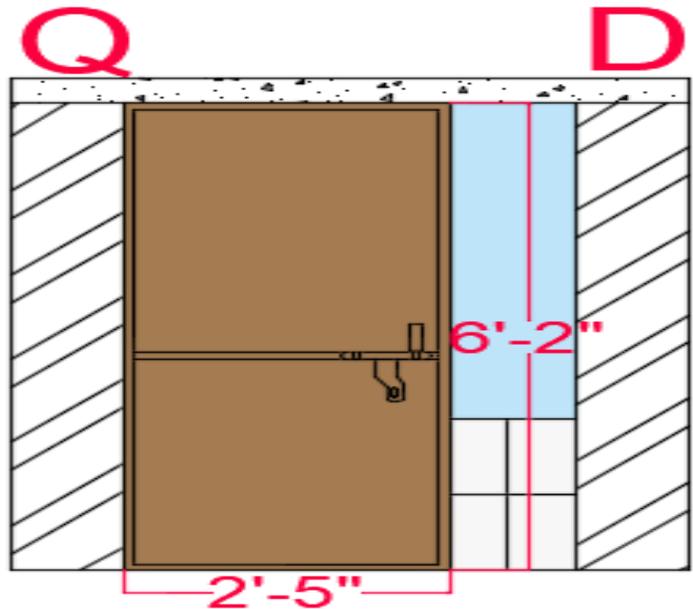


TITLE-

Figure 46: Proposed Wall Elevations of the Storeroom of Design Project-II
Nandghar Kashipura Alternative-1

DIRECTION-





TITLE-

Figure 47: Proposed Wall Elevations of the Washroom of Design Project-II
Nandghar Kashipura Alternative-1

DIRECTION-

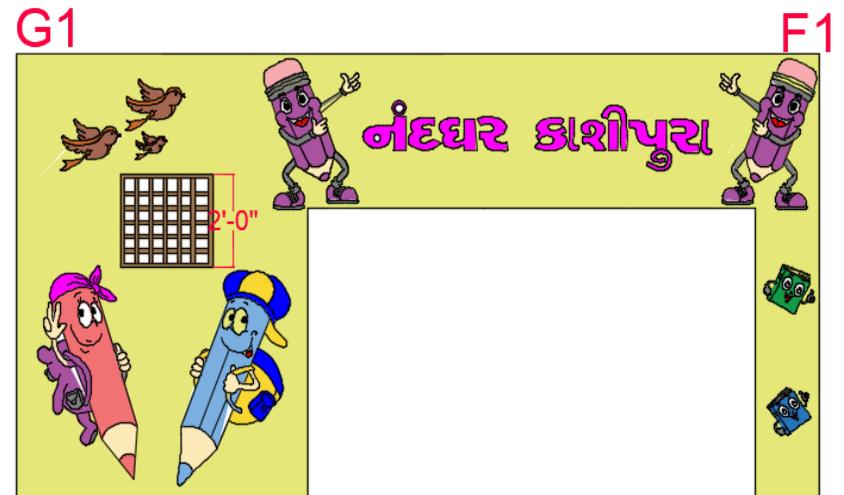
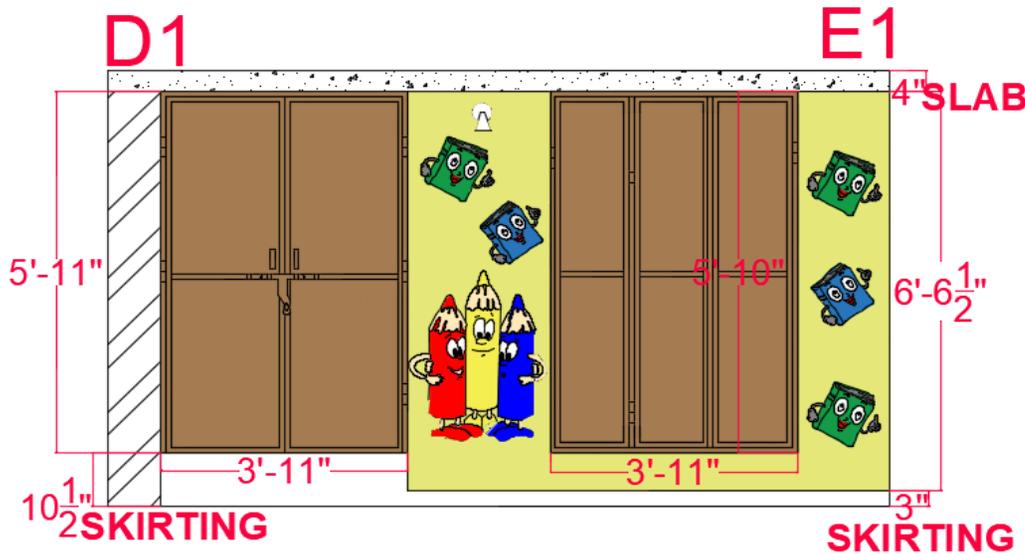
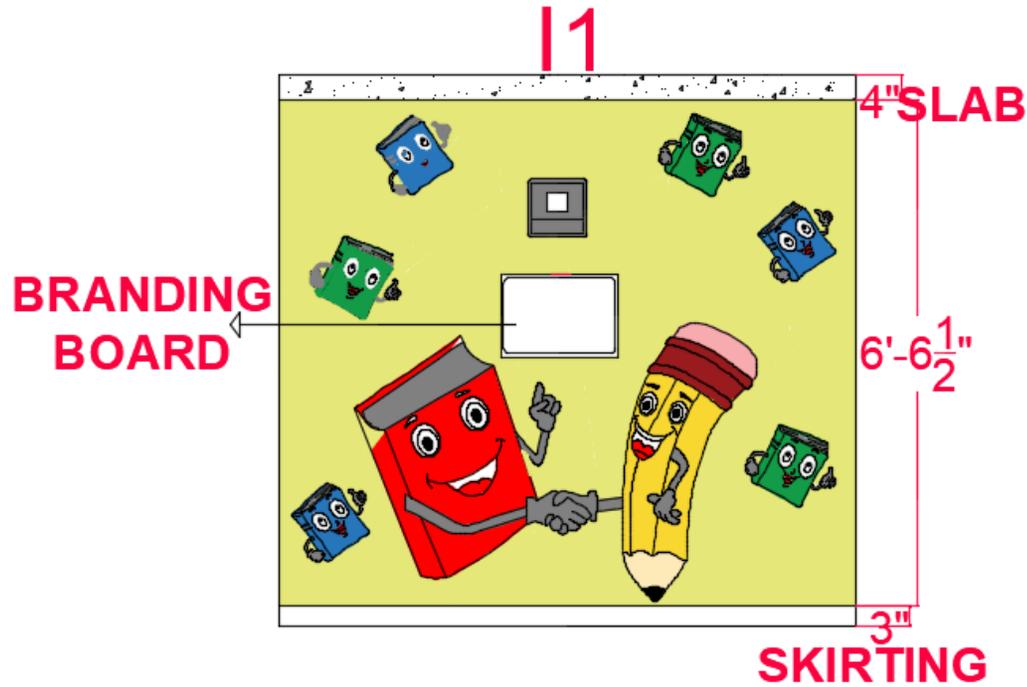


- **Wall QD:** The length of the wall was 3'-8". White ceramic tiles were provided on the wall up to the height of 2'-0" from the floor, whereas for the rest of the portion sky blue plastic distemper paint was proposed. The open door of the Washroom was shown which had a width of 2'-5" and a height of 6'-2".
- **Wall DO:** The length of the wall was 4'-10". White ceramic tiles were provided on the wall up to the height of 2'-0" from the floor, whereas for the rest of the portion sky blue plastic distemper paint was proposed. A window was present with a width of 2'-1" and the height of 2'-0". For the window, brown color oil paint was anticipated.
- **Wall OP:** The length of the wall was 3'-8". White ceramic tiles were provided on the wall up to the height of 2'-0" from the floor, whereas for the rest of the portion sky blue plastic distemper paint was proposed.
- **Wall PQ:** The length of the wall was 4'-10". White ceramic tiles were provided on the wall up to the height of 2'-0" from the floor, whereas for the rest of the portion sky blue plastic distemper paint was proposed. The provision of lighting fixture for bulb was given at the height of 5'-2" from the floor. A tap and a flush tap were provided at the height of 1'-6" from the floor.

OUTDOOR AREA (MURALS OF BOOKS AND PENCILS)

The dimension of the Outdoor area was having the length of 11'-7 ½" width of 7'-0" and the height of 6'-9 ½". The slab height was 4 inches.

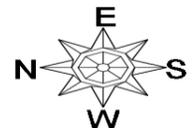
- **Wall D1E1:** The length of the wall was 11'-7 ½". Murals of different colored pencils and books were created for which acrylic distemper paint was proposed whereas, for the background yellowish-green color plastic distemper paint was anticipated. The main entrance door was present with a width of 3'-11" and the height of 5'-11". For the door, brown color oil paint was given. A lighting fixture for bulb was present at the height of 6'-5" from the floor.
- **Wall I1:** The length of the wall was 7'-0". Murals of books and a book and pencil shaking hands were created for which acrylic distemper paint was proposed whereas, for the background yellowish-green color plastic



TITLE-

Figure 48: Proposed Wall Elevations of the Outdoor Area of Design Project-II Nandghar Kashipur Alternative-1 (Murals of Books and Pencils)

DIRECTION-



distemper paint was anticipated. The main electricity supply meter was present at the height of 5'-0" from the floor. Placement of the branding board was given at a height of 3'-5" from the floor.

- **Wall G1F1:** The length of the wall was 18'-3" including a pillar of length 1'-5". For the name of the Anganwadi pink color plastic distemper paint was proposed. Whereas, murals of pencils on both sides were created. Murals of birds and two pencils with bags were also created. On the pillar murals of books were created. For the murals, acrylic distemper paint was proposed whereas, for the background yellowish-green color plastic distemper paint was anticipated.

Theme 2: Forest (Alternative-2)

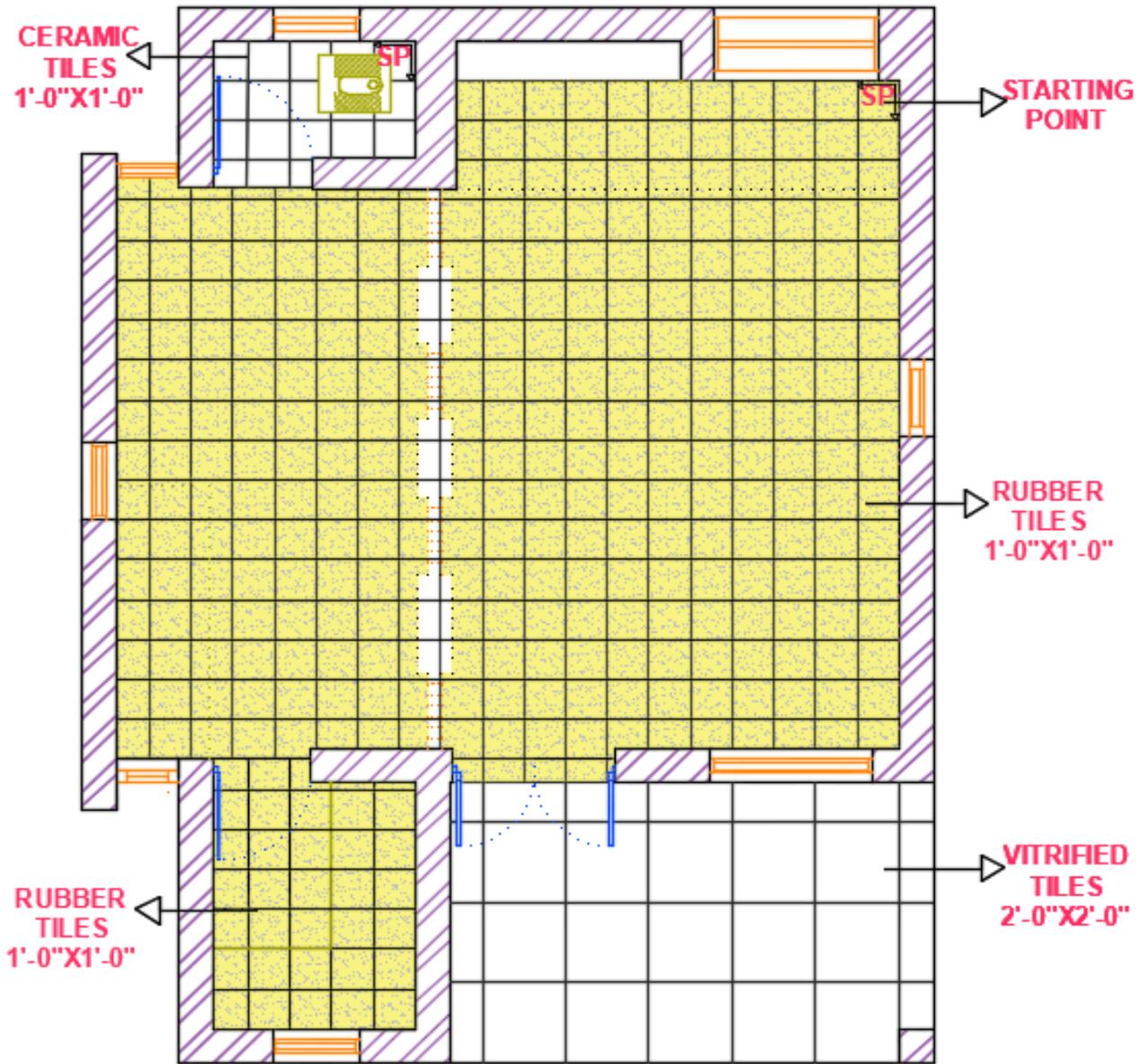
Proposed Flooring

For alternative-2, rubber tiles of size 1'-0" X 1'-0" was given for the Activity room cum Kitchen and storeroom. The rubber tiles were of yellowish shade. The process of laying the rubber tiles started from the corner of the room near window number 3 so that full tiles can be seen.

Whereas, in the Washroom, white ceramic tiles of size 1'-0" X 1'-0" was given. The process of laying the tiles in the Washroom, started from the corner of the Washroom, so that full tiles can be seen. An Indian style water closet was fixed of size 2'-0" X 3'-0". For the Outdoor area white vitrified tiles of size 2'-0" X 2'-0" were provided.

ACTIVITY ROOM CUM KITCHEN

According to the requirement of the client, the partition wall between the Activity room and kitchen was dismantled. Therefore, the overall dimension of the Activity room cum kitchen was having the length of 18'-9 ½" width of 16'-9" and the height of 9'-6" for Activity room and 6'-2" height for the kitchen. The Activity room had a skirting of 3 inches. The slab height was 4 inches.

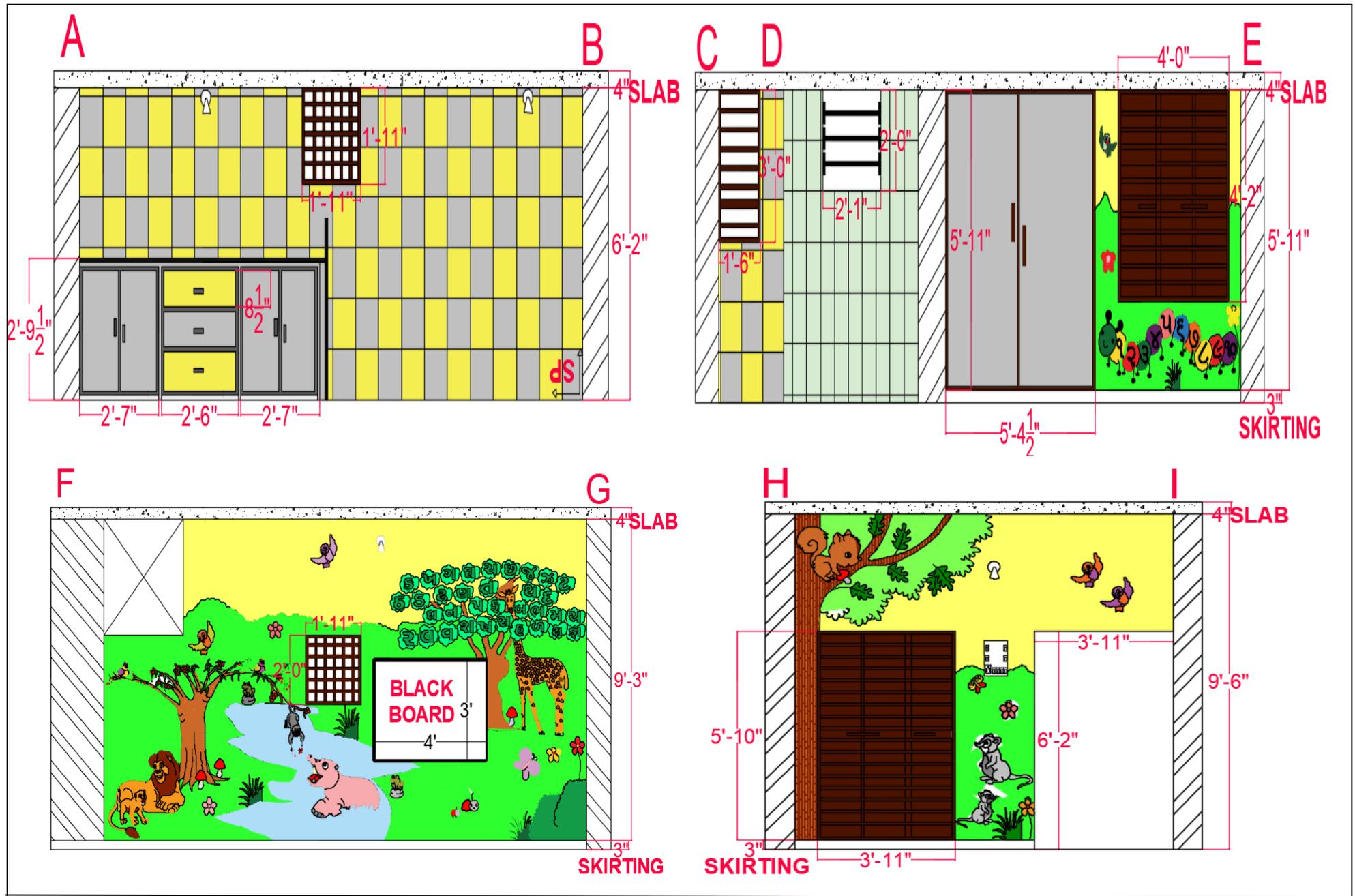


TITLE-

Figure 49: Proposed Flooring Layout of Design Project-II Nandghar Kashipura Alternative-2

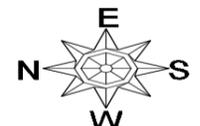
DIRECTION-





TITLE- Figure 50: Proposed Wall Elevations of the Activity room cum Kitchen of Design Project-II Nandghar Kashipura Alternative-2 (Forest Theme)

DIRECTION-

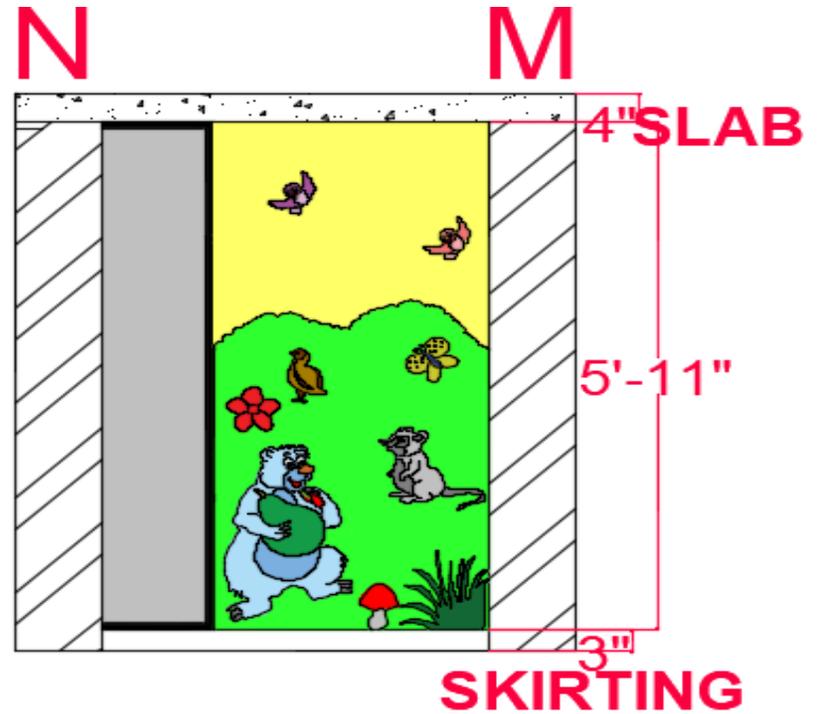
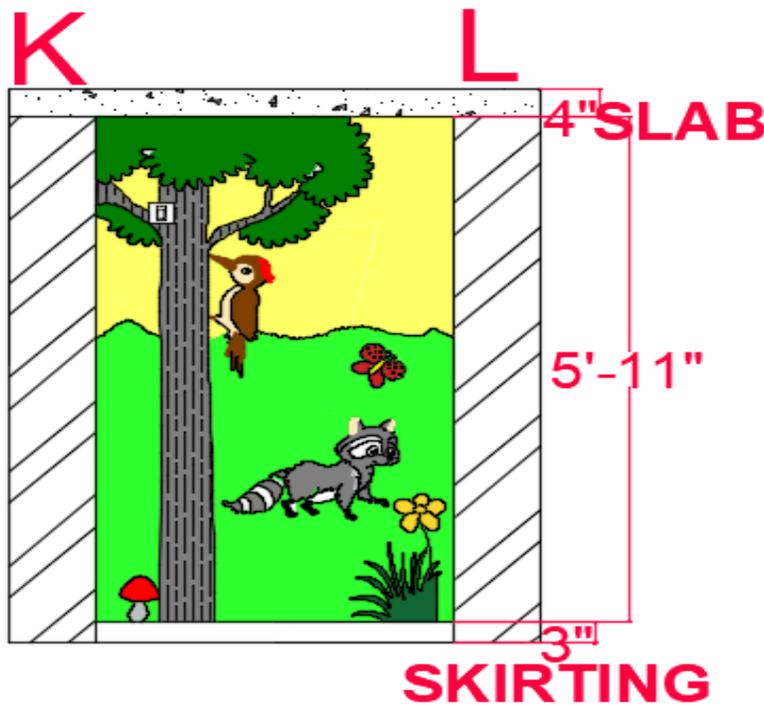
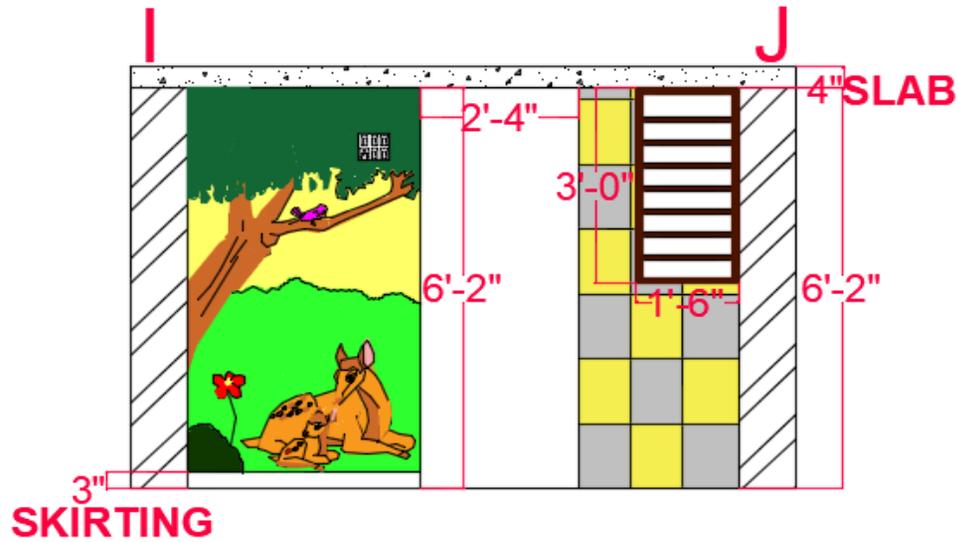


Proposed Wall Design

- **Wall AB:** The length of the wall was 16'-9" and the height was 6'-2". As it was the kitchen wall, tiles were placed on the wall. Ceramic tiles of size 6" X 9" were arranged alternatively i.e. one yellow and another grey. A black granite countertop with the length of 8'-0" and width of 2'-2 ½" was placed at the height of 2'-8 ½" from the floor. Beneath the countertop, two storage cabinets and three drawers were given of which the cabinets were of a double shutter. The length of the cabinets was 2'-7" whereas the length of the drawers was 2'-6". For the cabinets and drawers, grey and yellow color laminated plywood was used and had dark grey framing. A window was present with a width of 1'-11 ½" and the height of 1'-11 ½" at the height of 4'-3" from the floor. For the window, dark brown color oil paint was proposed. Two lighting fixtures for bulb were provided at the height of 6'-0" from the floor.
- **Wall CE:** The length of the wall was 18'-9 ½" and height was 5'-11". Out of which 2'-4" included the kitchen wall for which ceramic tiles of size 6" X 9" were arranged alternatively i.e. one yellow and another grey. A window was present with the width 1'-6" and the height of 3'-0" at the height of 3'-2" from the floor. For the window, dark brown color oil paint was proposed. Considering the forest theme, the background was half yellowish which indicated evening sky and half green which indicated greenery. Murals of birds, flowers and snail were created. For creating murals acrylic distemper paint was anticipated. To make it educatory the Gujarati Numerical were painted on the snail. Provision of storage cupboard was given with a width of 5'-4 ½" and height of 5'-11". Grey laminated plywood with dark brown framing was provided for the storage cupboard. A window was present with the width of 4'-0" and the height of 4'-2" at the height of 2'-0" from the floor. For the window, dark brown color oil paint was given.
- **Wall FG:** The length of the wall was 16'-9" and height was 9'-6". The background was half yellowish which indicated evening sky and half green which indicated greenery. Murals of trees, birds, a lioness with cub, monkey hanging on tree, hippopotamus, and frog sitting on a stone, giraffe eating

leaves, ants, flowers, mushrooms and butterflies were created. For creating murals acrylic distemper paint was anticipated. To make it educatory Gujarati alphabets (Barakhadi) were painted on the leaves of the tree. A window was present with the width of 1'-11" and the height of 1'-11" at the height of 4'-2" from the floor. For the window, dark brown color oil paint was proposed. The provision of black board was given of size 4'-0" X 3'-0" at the height of 2'-6" from the floor. The provision of lighting fixture for bulb was given at the height of 8'-10" from the floor.

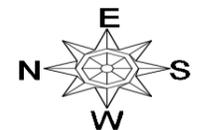
- **Wall HI:** The length of the wall was 10'-8 ½" and height was 9'-6". The background was half yellowish which indicated evening sky and half green which indicated greenery. Murals of trees, squirrels, birds, mice, flowers, mushroom and butterfly were created. For creating murals acrylic distemper paint was proposed. A window was present with a width of 3'-11" and the height of 5'-11" and was at the height of 3 inches from the floor. For the window, dark brown color oil paint was given. The main entrance door, with a width of 3'-11" and height 6'-2" was present. For the door, dark brown oil paint was anticipated. Next to the door, the main switchboard was located at the height of 4'-10 ½" from the floor. The provision of wall point was given at the height of 8'-0" from the floor.
- **WALL IJ:** The length of the wall was 8'-1" and height was 6'-2". Out of which 3'-5" had the background of half yellowish which indicated evening sky and half green which indicated greenery. Murals of trees, birds, deers and flowers were created. For creating murals acrylic distemper paint was anticipated. A switchboard at the height of 5'-0" was present. An opening towards the Storeroom was present of a width 2'-4" and a height 6'-2". The rest of the portion includes the Kitchen wall for which ceramic tiles were arranged alternatively i.e. one yellow and another grey. A window was present with the width of 1'-6" and height of 3'-0" at the height of 3" from the floor. For the window, dark brown color oil paint was proposed.



TITLE-

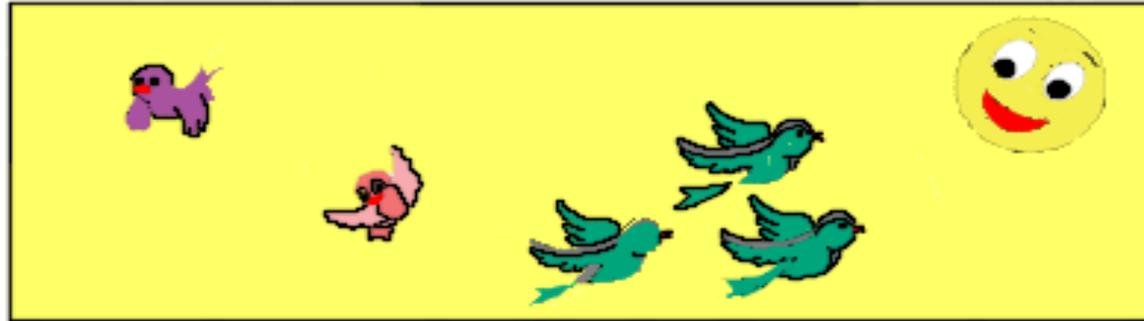
Figure 51: Proposed Wall Elevations of the Activity room cum Kitchen of Design Project-II Nandghar Kashipura Alternative-II (Forest Theme)

DIRECTION-

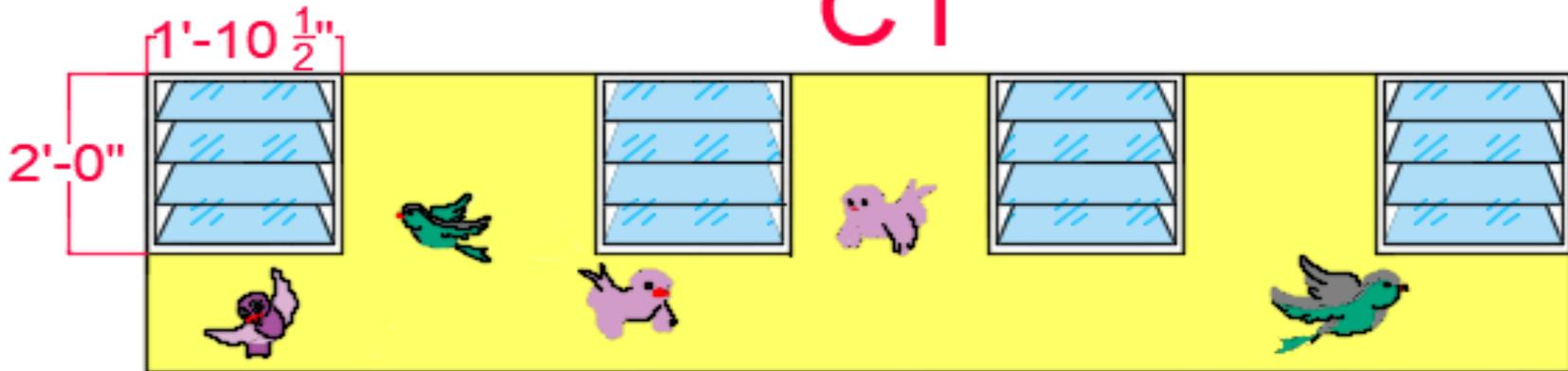


A1

B1



C1



TITLE-

Figure 52: Proposed Wall Elevations of the Activity room of Design Project-II Nandghar Kashipura Alternative-II (Forest Theme)

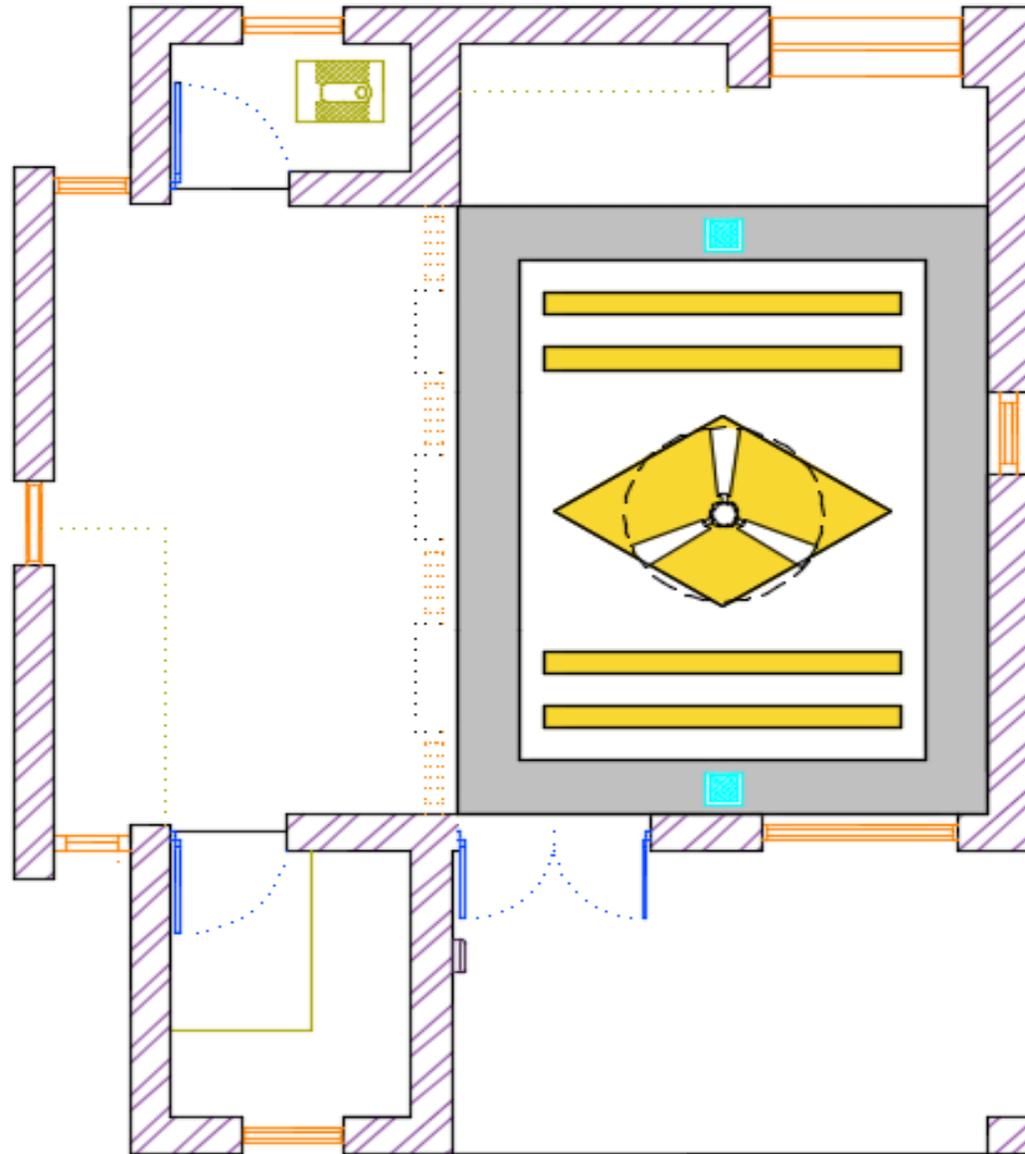
DIRECTION-



- **Wall KL:** The length of the wall was 3'-5" and height was 5'-11". The background was half yellowish which indicated evening sky and half green which indicated greenery. Murals of tree, birds, fox, flowers, mushroom and butterfly were created. For creating murals acrylic distemper paint was anticipated. A switchboard was placed at the height of 4'-11" from the floor.
- **Wall NM:** The length of the wall was 3'-9" and height was 5'-11". The background was half yellowish which indicated evening sky and half green which indicated greenery. Murals of birds, bear eating fruits, mice, flowers, mushroom and butterfly were created. For creating murals acrylic distemper paint was proposed.
- **Wall A1B1:** The length of the wall was 10'-8". As the wall was in the upper portion of the room for the background only yellowish color was given which indicated evening sky. Murals of sun and different types of birds were created for which acrylic distemper paint was proposed.
- **Wall C1:** The length of the wall was 14'-0". As the wall was in the upper portion of the room for the background only yellowish color was given which indicated evening sky. Murals of different types of birds were created for which acrylic distemper paint was proposed. Four windows were present with width 1'-10 ½" and height 2'-0". For the windows dark brown color oil paint was anticipated.

Proposed False Ceiling Design and Electrical Layout

For the false ceiling, a rectangular shape design was proposed. The material used for the false ceiling was the Gypsum board. The width of the false ceiling as proposed in the design was 1'-3" for all four sides. Considering the height of the Activity room, the false ceiling drops down exactly 6 inches from the original ceiling in such a manner that the plenum space (hollow/open space) of 3 inches was left between the original ceiling and false ceiling. In the design proposed, from the center of the rectangular shape a diamond shape structure and four line shape structures were created on both sides of the diamond shape structure, which highlights the entire false ceiling design. The diamond shape structure and the line shape structures drop down exactly 6 inches from the original ceiling.

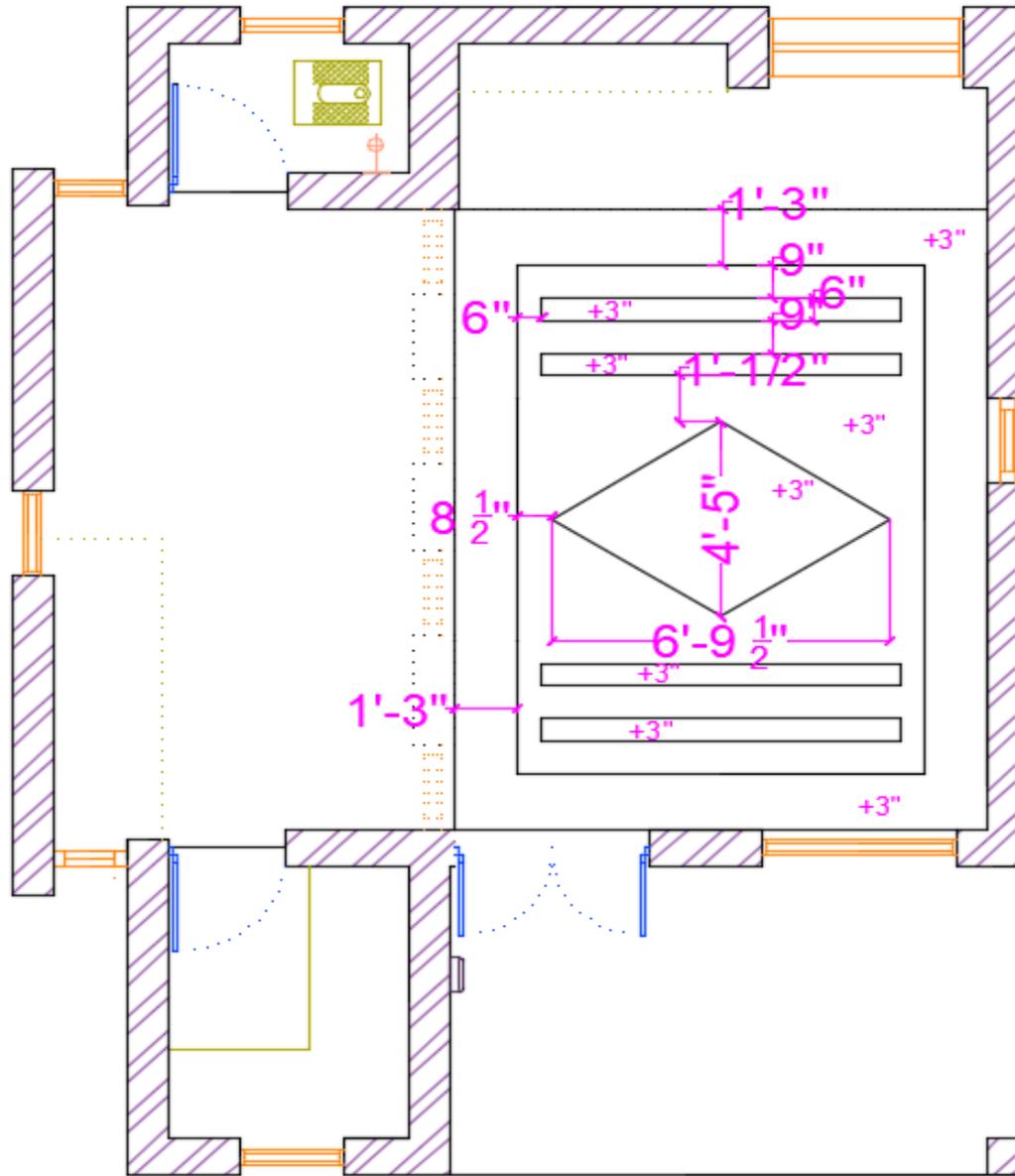


TITLE-

Figure 53: Proposed False Ceiling Design of Design Project-II Nandghar Kashipura Alternative-2

DIRECTION-



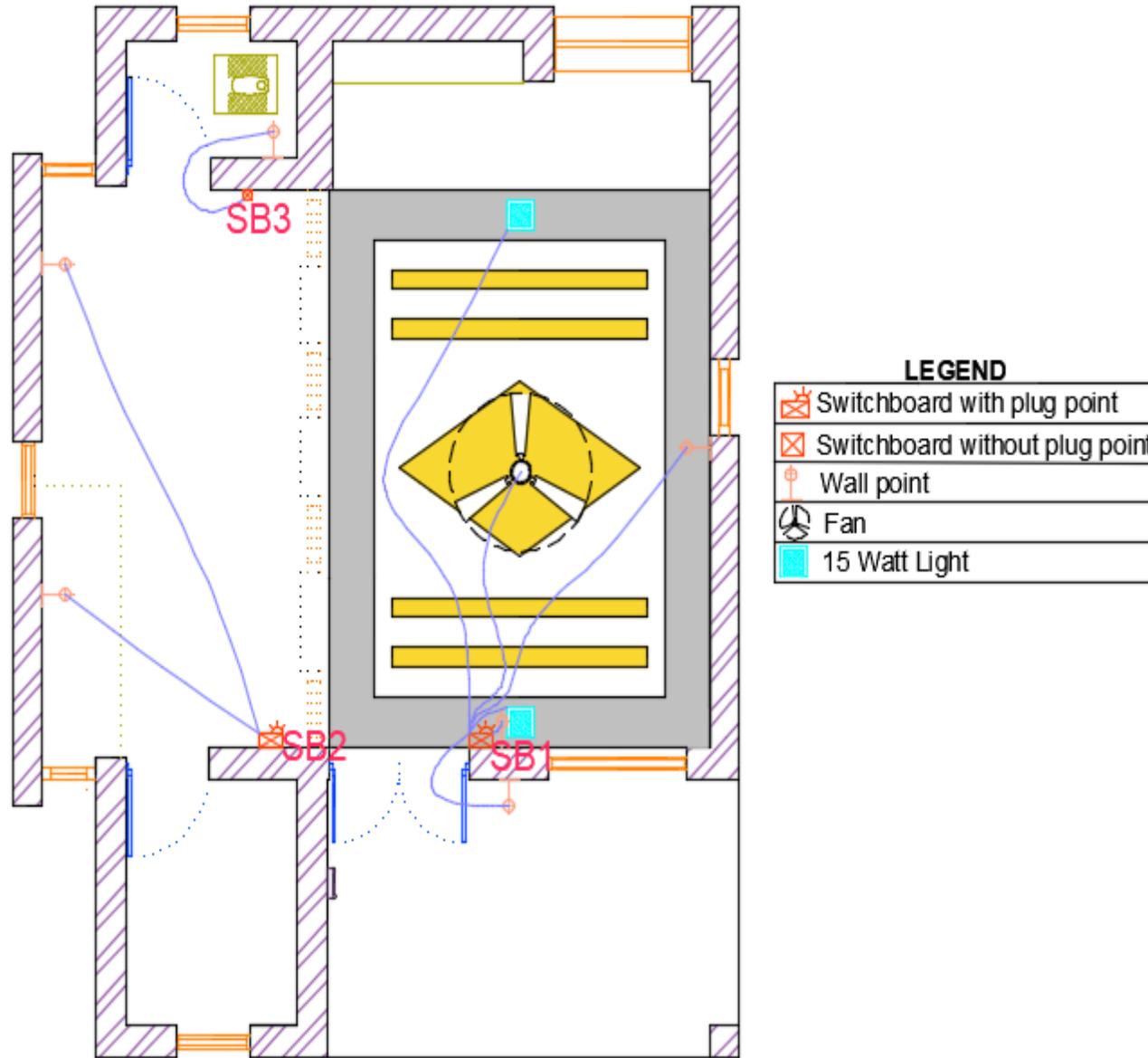


TITLE-

Figure 54: Proposed False Ceiling Working Drawing of Design Project-II
Nandghar Kashipura Alternative-2

DIRECTION-





TITLE-

Figure 55: Proposed Electrical Layout of Design Project-II Nandghar Kashipura Alternative-2

DIRECTION-



Plastic paint was proposed for painting the false ceiling to avoid reflective glare. For the false ceiling, the colors proposed were, the diamond shape and line shape structures were given mustard color and rectangular shape was given grey color.

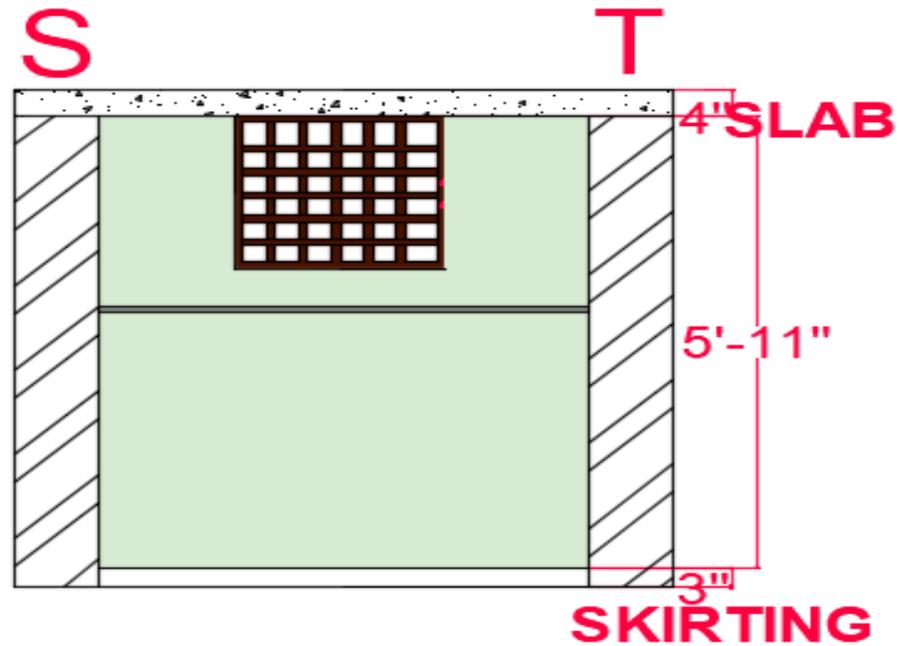
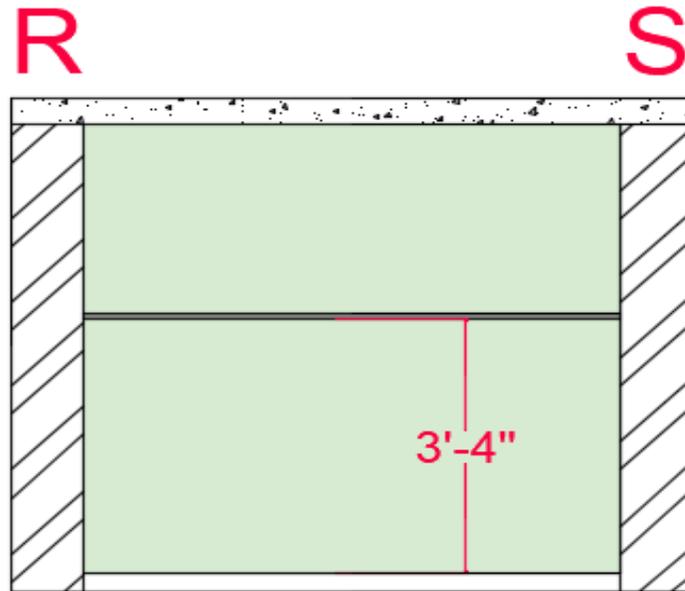
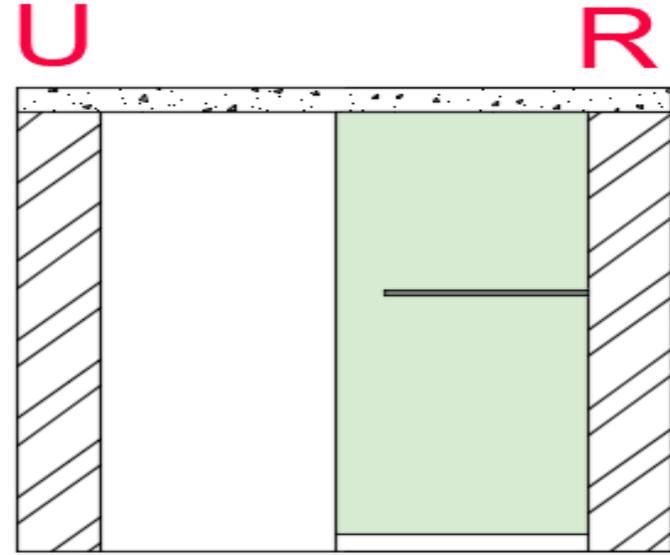
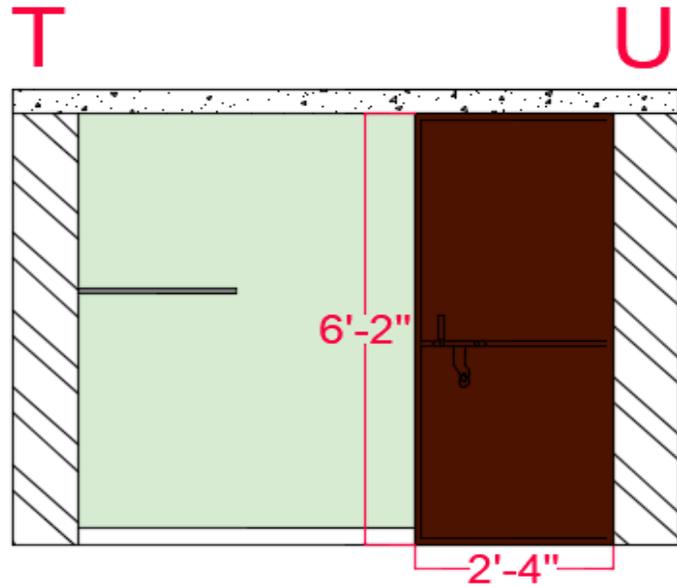
Considering the size of the room and false ceiling design, lighting fixtures were positioned in the false ceiling in such a manner that light is distributed all over the room. 2 LED lights of 15 watts each were placed in the false ceiling for direct lighting. These fixtures were square in shape. The tint of light from these lights was white. Also considering the size of the room, one ceiling fan was proposed in the design, which was placed in the center of the false ceiling.

The distribution of the switches was done keeping in mind the proximity of the fixture and the switchboard to minimize the length of wires. The main switchboard was provided near the entrance door so that operating them becomes easy. The main switchboard included the connection of fan, lights placed in false ceiling and lighting fixtures for bulb.

STOREROOM

The dimension of the Storeroom was having the length of 4'-10" width of 6'-2" and height of 6'-2".

- **Wall TU:** The length of the wall was 6'-2". For the wall light grey color plastic distemper paint was proposed. A door with width 2'-4" and height 6'-2" was present. The door was given dark brown color oil paint.
- **Wall UR:** The length of the wall was 4'-10". For the wall light grey color plastic distemper paint was proposed. A door opening of width 2'-4" and height 6'-2" was present.
- **Wall RS:** The length of the wall was 6'-2". The wall was given light grey color plastic distemper paint. An L-shape Kota stone was placed as a shelf for storage purpose with the length 6'-2" at the height of 3'-4" from the floor.
- **Wall ST:** The length of the wall was 4'-10". For the wall light grey color was anticipated. L-shape Kota stone was placed as shelf for storage purpose with

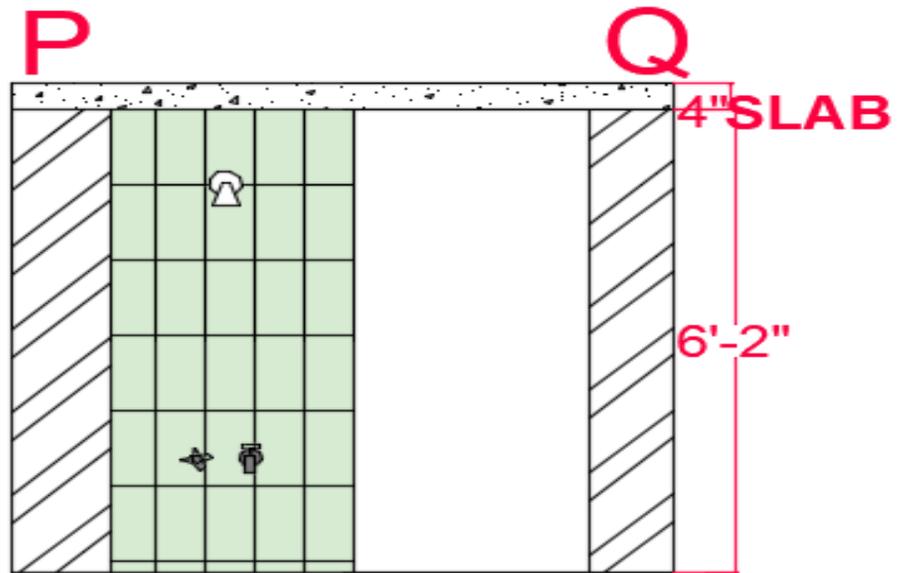
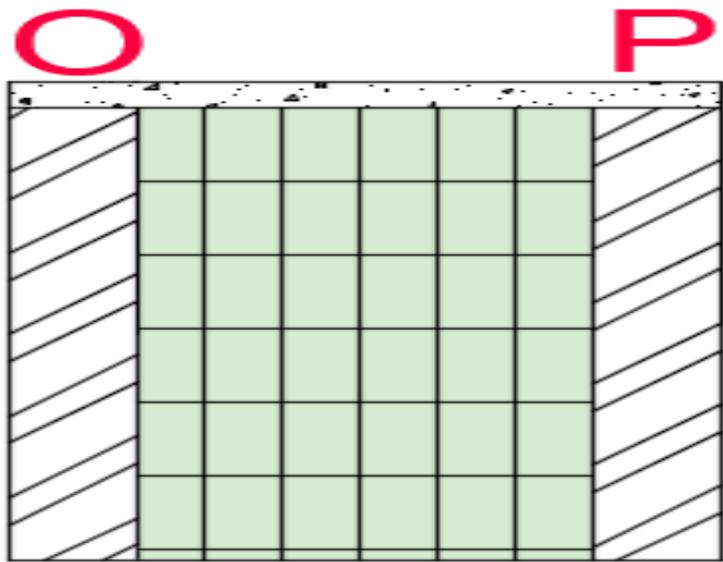
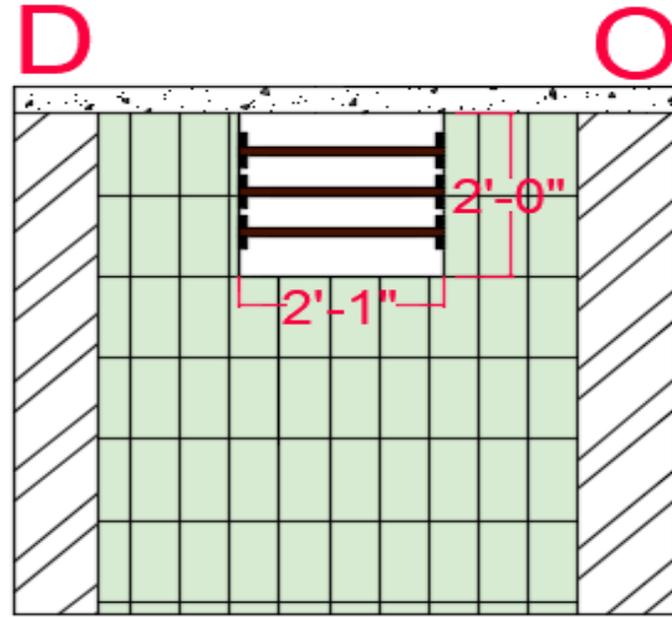
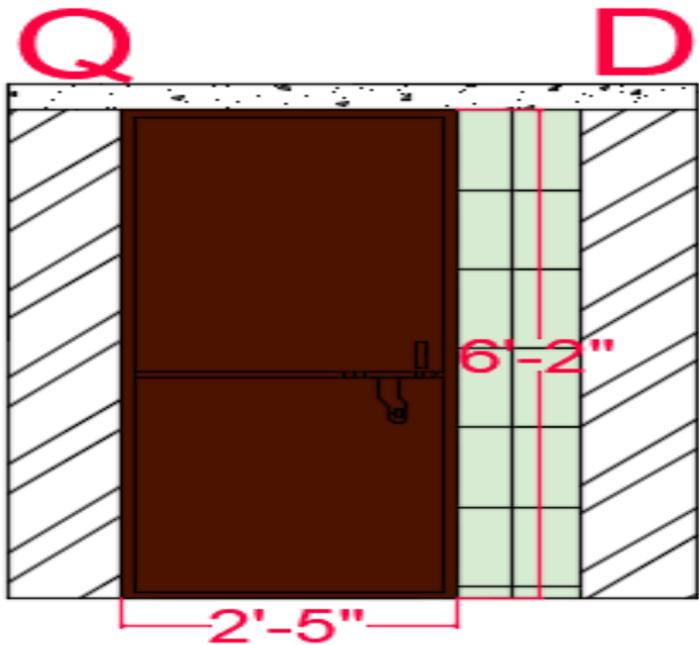


TITLE-

Figure 56: Proposed Wall Elevation of the Storeroom of Design Project-II
Nandghar Kashipura Alternative-2

DIRECTION-



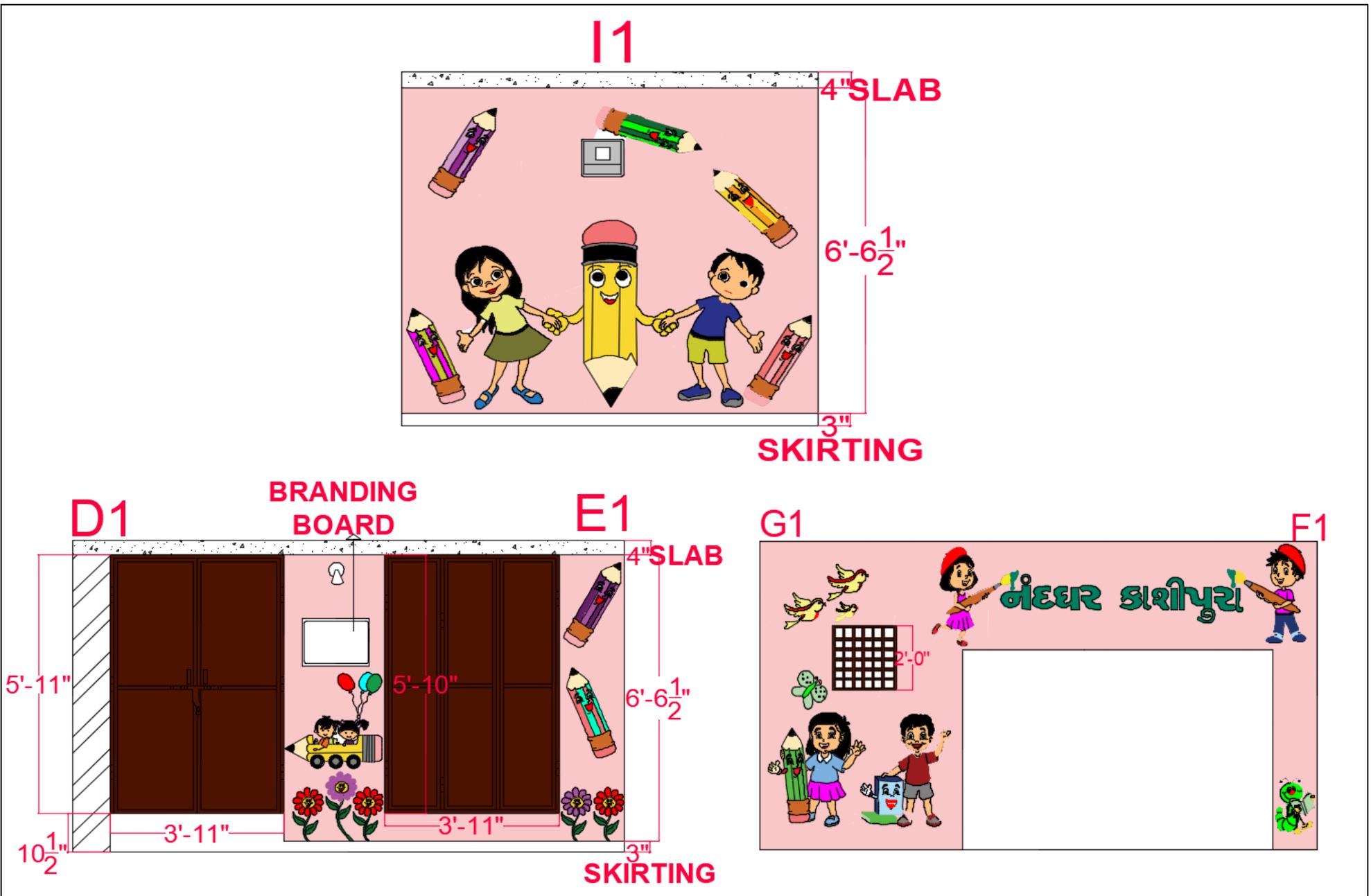


TITLE:

Figure 57: Proposed Wall Elevation of the Washroom of Design Project-II
Nandghar Kashipura Alternative-2

DIRECTION-





TITLE-

Figure 58: Proposed Wall Elevations of the Outdoor Area of Design Project-II Nandghar Kashipura Alternative-2 (Murals of Pencils, Girls and Boys)

DIRECTION-



length 4'-10" at the height of 3'-4" from the floor. A window with a width of 2'-1" and a height 2'-0" was present. For the window, dark brown color oil paint was proposed.

WASHROOM

The dimension of the Washroom was having the length of 4'-10" width of 3'-8" and height of 6'-2". The slab height was 4 inches.

- **Wall QD:** The length of the wall was 3'-8". For the wall, grey ceramic tiles were proposed. The open door of the washroom was shown which had a width of 2'-5" and height of 6'-2".
- **Wall DO:** The length of the wall was 4'-10". The wall was grey ceramic tiles were proposed. A window was present of width 2'-1" and height 2'-0". For the window, dark brown color oil paint was given.
- **Wall OP:** The length of the wall was 3'-8". For the wall grey ceramic tiles were given.
- **Wall PQ:** The length of the wall was 4'-10". For the wall, grey ceramic tiles were anticipated. The provision of lighting fixture for bulb was given at the height of 5'-2" from the floor. A tap and a flush tap were provided at the height of 1'-6" from the floor.

OUTDOOR AREA (MURALS OF PENCILS, GIRLS AND BOYS)

The dimension of the outdoor area was having the length of 11'-7 ½" width of 7'-0" and the height of 6'-9 ½". The slab height was 4 inches.

- **Wall D1E1:** The length of the wall was 11'-6 ½". Murals of different pencils, flowers and a boy and a girl riding in a pencil were created for which acrylic distemper paint was proposed whereas, for the background light pink color plastic distemper paint was anticipated. The main entrance door was present with a width of 3'-11" and the height of 5'-11". For the door, dark brown color oil paint was given. Placement of the branding board was given at the height

of 4'-3" from the floor. A lighting fixture for bulb was provided at the height of 6'-5" from the floor.

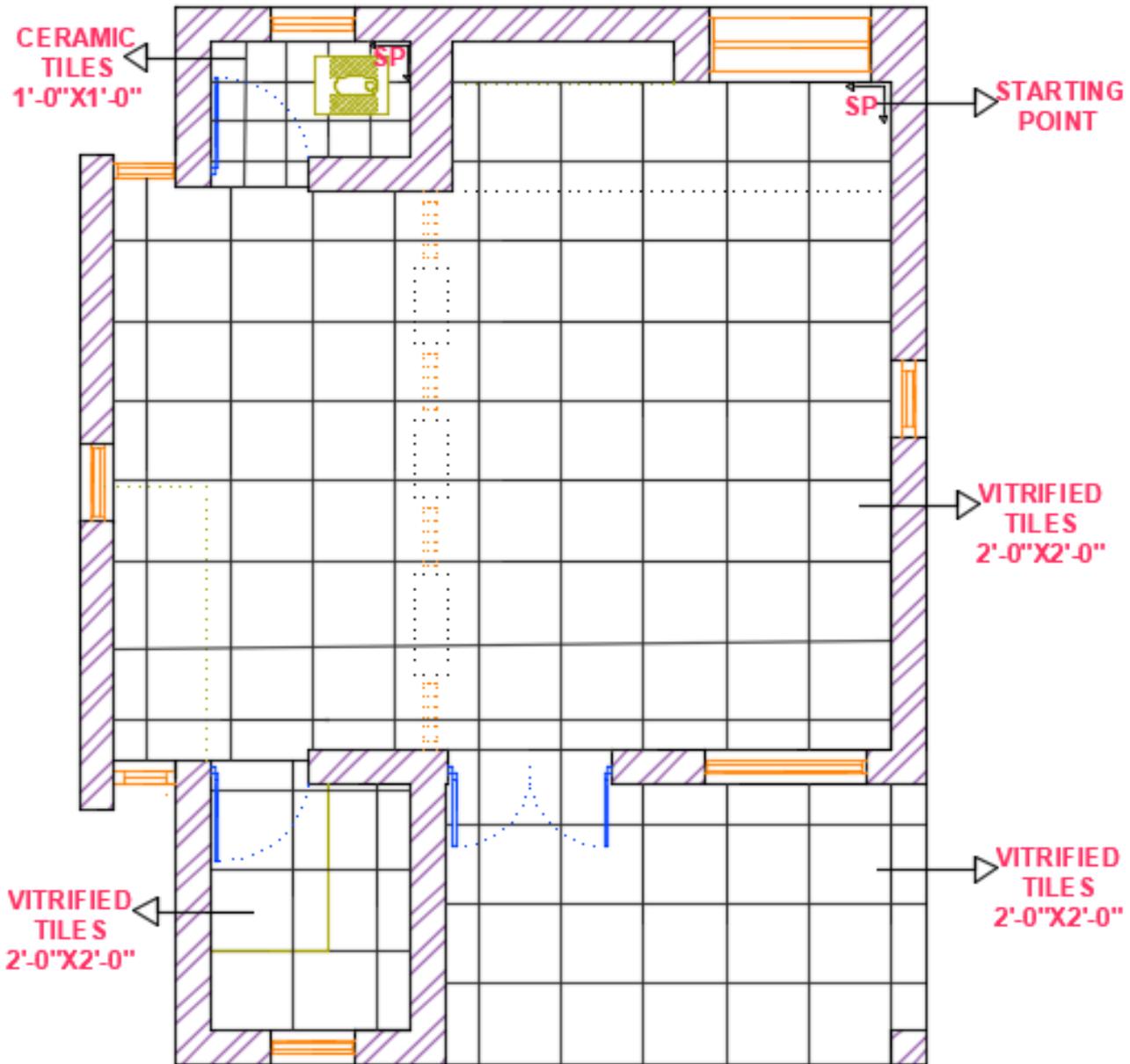
- **Wall I1:** The length of the wall was 7'-5". Murals of different pencils and a boy and a girl holding pencil's hand were created for which acrylic distemper paint was proposed whereas, for the background light pink color plastic distemper paint was anticipated. The main electricity supply meter was present at a height of 5'-0" from the floor.
- **Wall G1F1:** The length of the wall was 18'-3" including a pillar of length 1'-5". The name of the Anganwadi was painted in bluish-green color plastic distemper paint was proposed. Whereas, murals of a girl and a boy holding paintbrush on both sides. Murals of birds, butterfly a girl with a pencil and a boy with a book were also created. On the pillar mural of a snail reading a book was created. For the murals, acrylic distemper paint was proposed whereas, for the background light pink color plastic distemper paint was anticipated.

Theme 3: Cartoon (Alternative-3)

Proposed Flooring

For alternative-3, white vitrified tiles of size 2'-0" X 2'-0" were given for the Activity room cum Kitchen, Storeroom and Outdoor area. The process of laying the vitrified tiles started from the corner of the room near window number 3 so that full tiles can be seen.

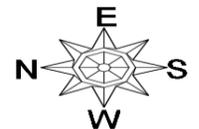
Whereas, for the Washroom, white ceramic tiles of size 1'-0" X 1'-0" was given. The process of laying the tiles in the Washroom started from the corner of the Washroom so that full tiles can be seen. An Indian style water closet was fixed of size 2'-0" X 3'-0".



TITLE-

Figure 59: Proposed Flooring Layout of Design Project-II Nandghar Kashipura Alternative-2

DIRECTION-

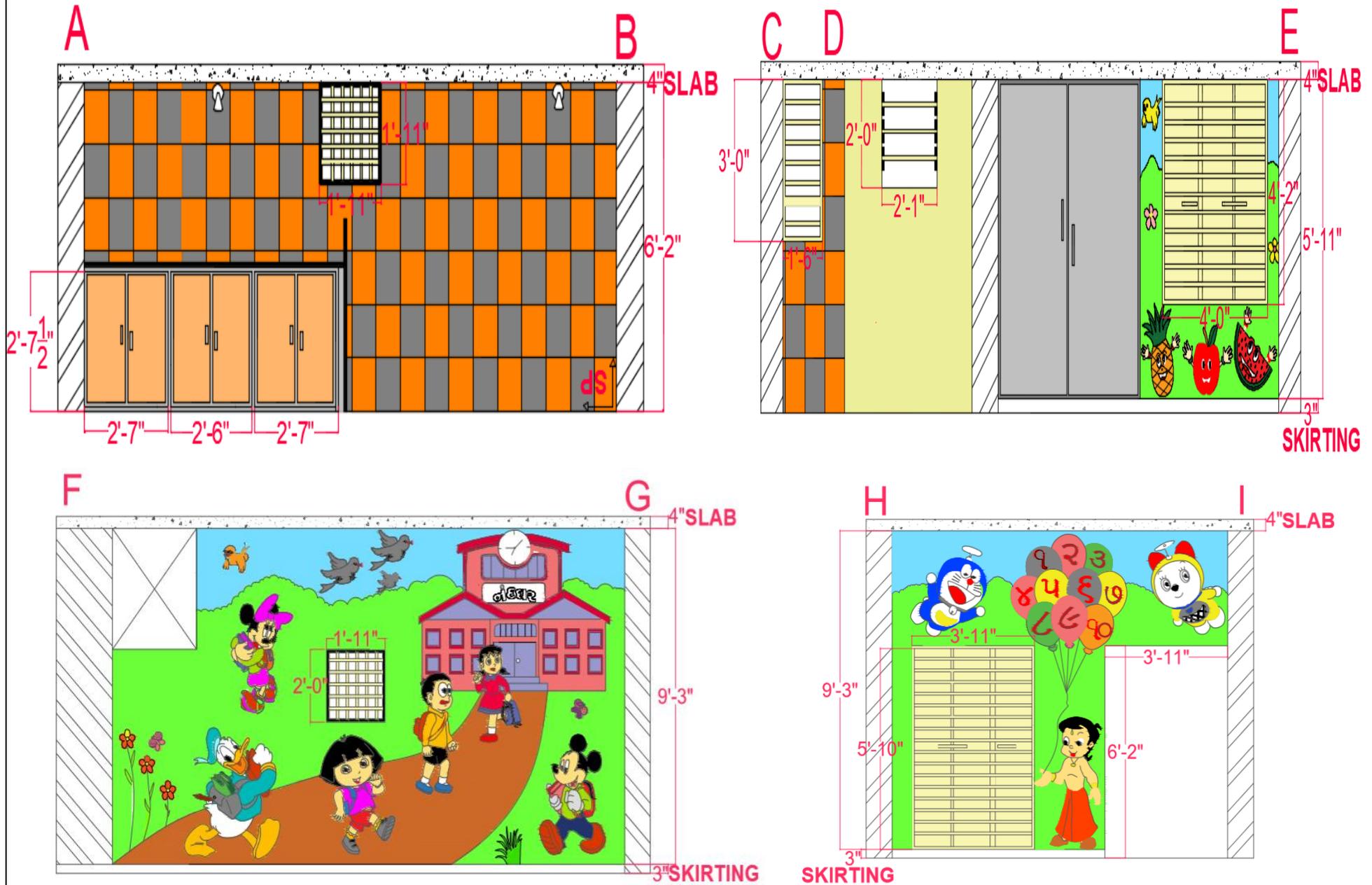


ACTIVITY ROOM CUM KITCHEN

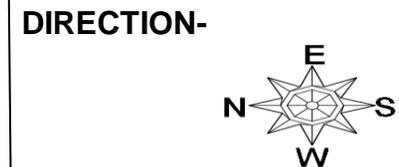
According to the requirement of the client, the partition wall between the Activity room and Kitchen was dismantled. Therefore the overall dimension of the Activity room cum Kitchen was having the length of 18'-9 ½" width of 16'-9" and height of 9'-6" for Activity room and 6'-2" height for the Kitchen. The Activity room had a skirting of 3 inches. The slab height was 4 inches.

Proposed Wall Design

- **Wall AB:** The length of the wall was 16'-5" and the height was 6'-2". As it was the Kitchen wall, tiles were placed on the wall. Ceramic tiles of size 6" X 9" were arranged alternatively i.e. one orange and another dark grey. A black granite countertop with length 8'-0" and width 2'-2 ½" was placed at the height of 2'-8 ½" from the floor. Beneath the countertop, three storage cabinets with double shutter were given. The length of the two cabinets was 2'-7" whereas, the length of one cabinet was 2'-6". For the cabinets, light grey and light yellow color laminated plywood was used and had grey framing. A window was present with the width of 1'-11 ½" and height of 1'-11 ½" at the height of 4'-3" from the floor. For the window cream color oil paint was proposed. Two lighting fixtures for bulb were provided at the height of 6'-0" from the floor.
- **Wall CE:** The length of the wall was 18'-9 ½" and height was 5'-11". Out of which 2'-4" included the Kitchen wall for which ceramic tiles of size 6" X 9" were arranged alternatively i.e. one orange and another dark grey. A window was present with the width of 1'-6" and height 3'-0" at the height of 3'-2" from the floor. For the window cream color oil paint was proposed. Considering the cartoon theme, the background was half blue which indicated sky and half green which indicated grass. Murals different fruits, birds and flower were created. For creating murals acrylic distemper paint was anticipated. Provision of storage cupboard was given with the width of 5'-4 ½" and the height of 5'-11". Light grey laminated plywood with grey framing was provided for the storage cupboard. A window was present with the width of 4'-0" and

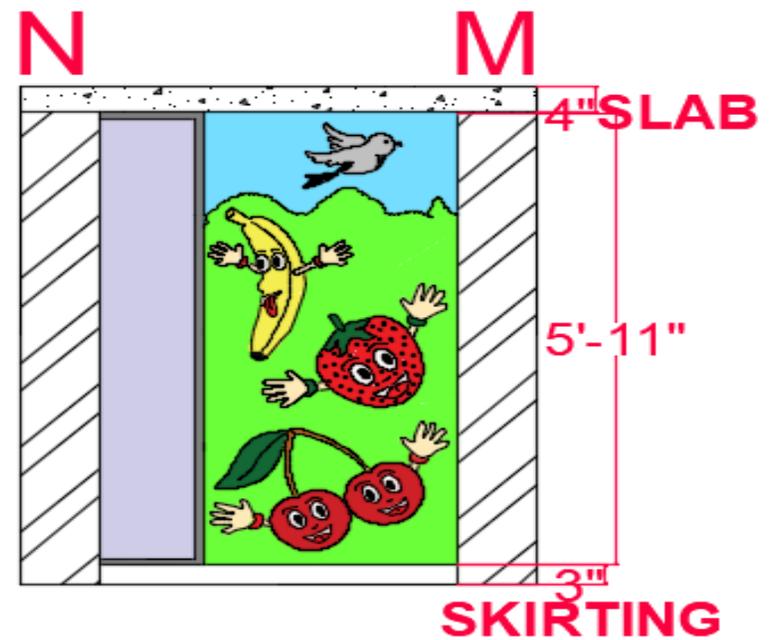
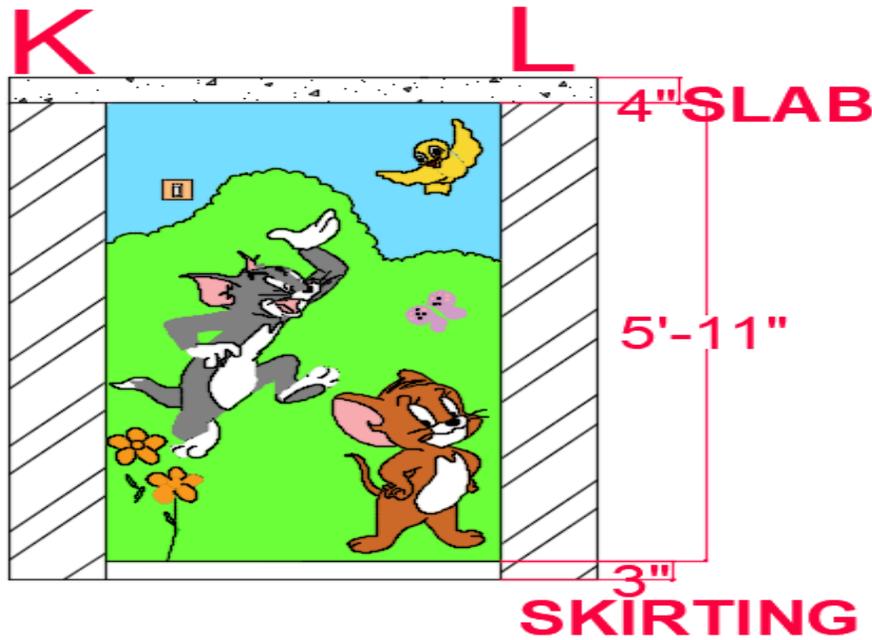
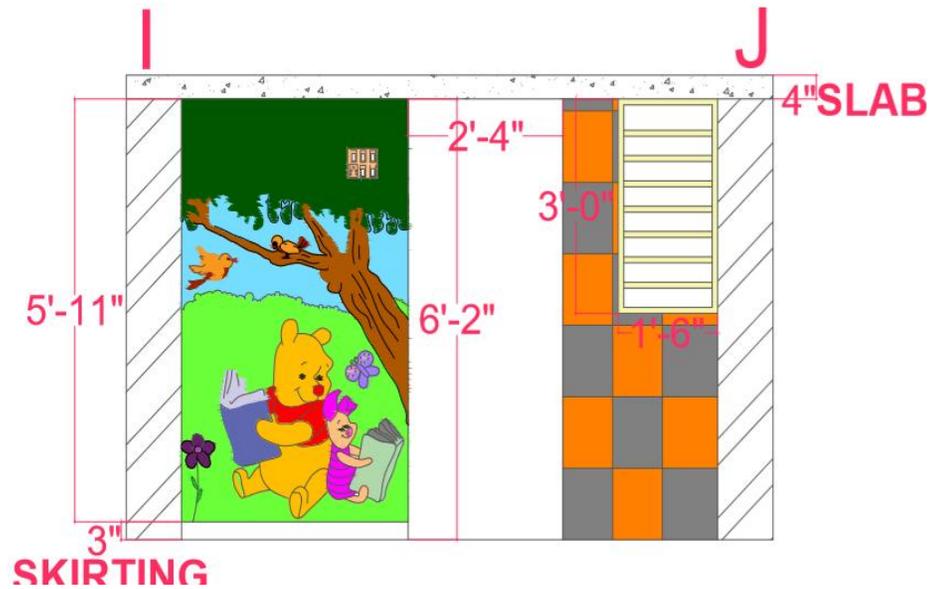


TITLE- Figure 60: Proposed Wall Elevations of the Activity room cum Kitchen of Design Project-II Nandghar Kashipura Alternative-3 (Cartoon Theme)



the height 4'-2" at the height of 2'-0" from the floor. For the window cream color oil paint was given.

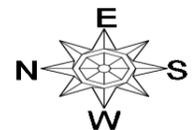
- **Wall FG:** The length of the wall was 16'-9" and height was 9'-6". The background was half blue which indicated sky and half green which indicated grass. Murals of school, different cartoon characters, birds, flowers and butterfly were created. For creating murals acrylic distemper paint were anticipated. A window was present with the width of 1'-11" and the height 2'-0" and was at the height of 4'-2" from the floor. For the window cream color oil paint was proposed. The provision of lighting fixture for bulb was given at the height of 8'-10" from the floor.
- **Wall HI:** The length of the wall was 10'-8 ½" and height was 9'-6". The background was half blue which indicated sky and half green which indicated grass. Murals of cartoon characters and balloons were created. For creating murals acrylic distemper paint was anticipated. To make it educatory Gujarati Numerical was painted on the balloons. A window was present with a width of 3'-11" and the height of 5'-11" at the height of 3 inches from the floor. The window was given cream color oil paint. The main entrance door with a width of 3'-11" and height 6'-2" was present. For the door cream oil paint was given. Next to the door, the main switchboard was located at the height of 4'-10 ½" from the floor. The provision of lighting fixture for bulb was given at the height of 8'-0" from the floor.
- **WALL IJ:** The length of the wall was 8'-1" and height was 6'-2". Out of which 3'-5" had half blue background which indicated sky and half green which indicated grass. Murals of cartoon characters reading books, tree, birds and flowers were created. For creating murals acrylic distemper paint was anticipated. A switchboard at the height of 5'-0" was provided. An opening towards the Storeroom was present of width 2'-4" and height 6'-2". The rest of the portion included the Kitchen wall for which ceramic tiles of size 6" X 9" were arranged alternatively i.e. one orange and one dark grey. A window was present with the width of 1'-6" and the height 3'-0" at the height of 3 inches from the floor. For the window cream color oil paint was given.



TITLE-

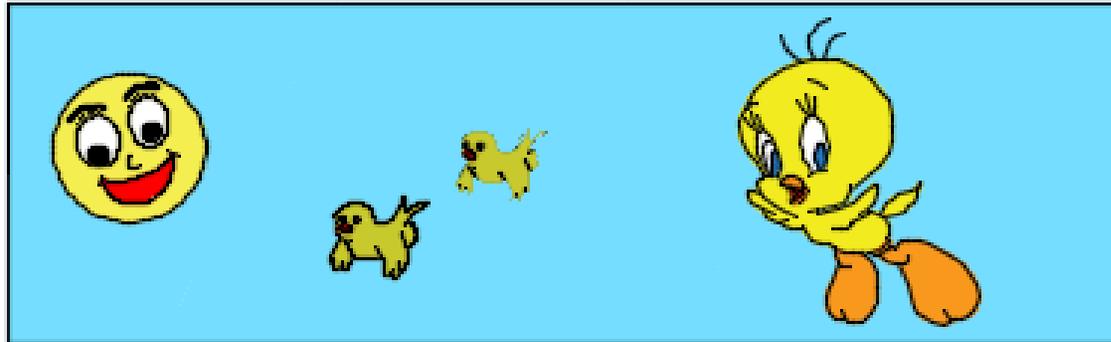
Figure 61: Proposed Wall Elevations of the Activity room cum Kitchen of Design Project-II Nandghar Kashipura Alternative-3 (Cartoon Theme)

DIRECTION-



A1

B1



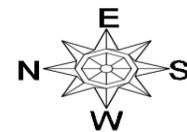
C1



TITLE-

Figure 62: Proposed Wall Elevations of the Activity room of the Design Project-II Nandghar Kashipura Alternative-3 (Cartoon Theme)

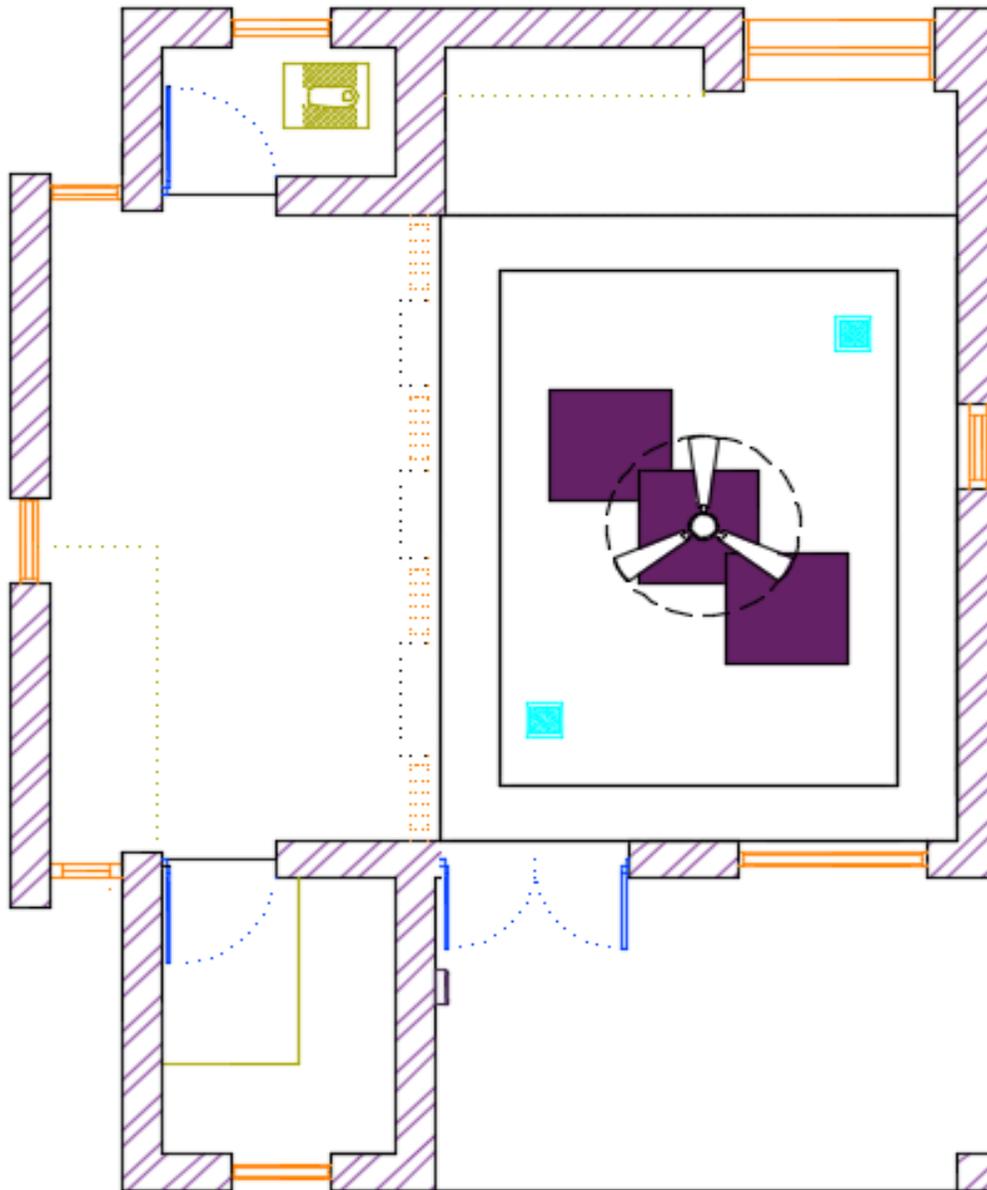
DIRECTION-



- **Wall KL:** The length of the wall was 3'-5" and height was 5'-11". The background was half blue which indicated sky and half green which indicated grass. Murals of cartoon characters, birds, flowers and butterfly were created. For creating murals acrylic distemper paint was proposed. A switchboard was provided at the height of 4'-11" from the floor.
- **Wall NM:** The length of the wall was 3'-9" and height was 5'-11". The background was half blue which indicated sky and half green which indicated grass. Murals of different fruits and birds were created. For creating murals acrylic distemper paint was anticipated.
- **Wall A1B1:** The length of the wall was 10'-8". As the wall was in the upper portion of the room for the background only blue color was given which indicated sky. Murals of sun, birds and cartoon characters were created. For creating murals acrylic distemper paint was proposed.
- **Wall C1:** The length of the wall was 14'-0". As the wall was in the upper portion of the room for the background only blue color was given which indicated sky. Murals of different types of birds were created for which acrylic distemper paint was proposed. Four windows were present with a width of 1'-10 ½" and the height of 2'-0". For the windows cream color oil paint was anticipated.

Proposed False Ceiling Design and Electrical Layout

For the false ceiling, a rectangular shape design was proposed. The material used for the false ceiling was the Gypsum board. The width of the false ceiling as proposed in the design is 1'-3" for all four sides. Considering the height of the Activity room, the false ceiling drops down exactly 6 inches from the original ceiling in such a manner that the plenum space (hollow/open space) of 3 inches was left between the original ceiling and false ceiling. In the design proposed, from the center of the rectangular shape three square shape structures overlapping one another were created, which highlights the entire false ceiling design. The square shape structures drop down exactly 6 inches from the original ceiling. Plastic paint was proposed for painting the false ceiling to avoid

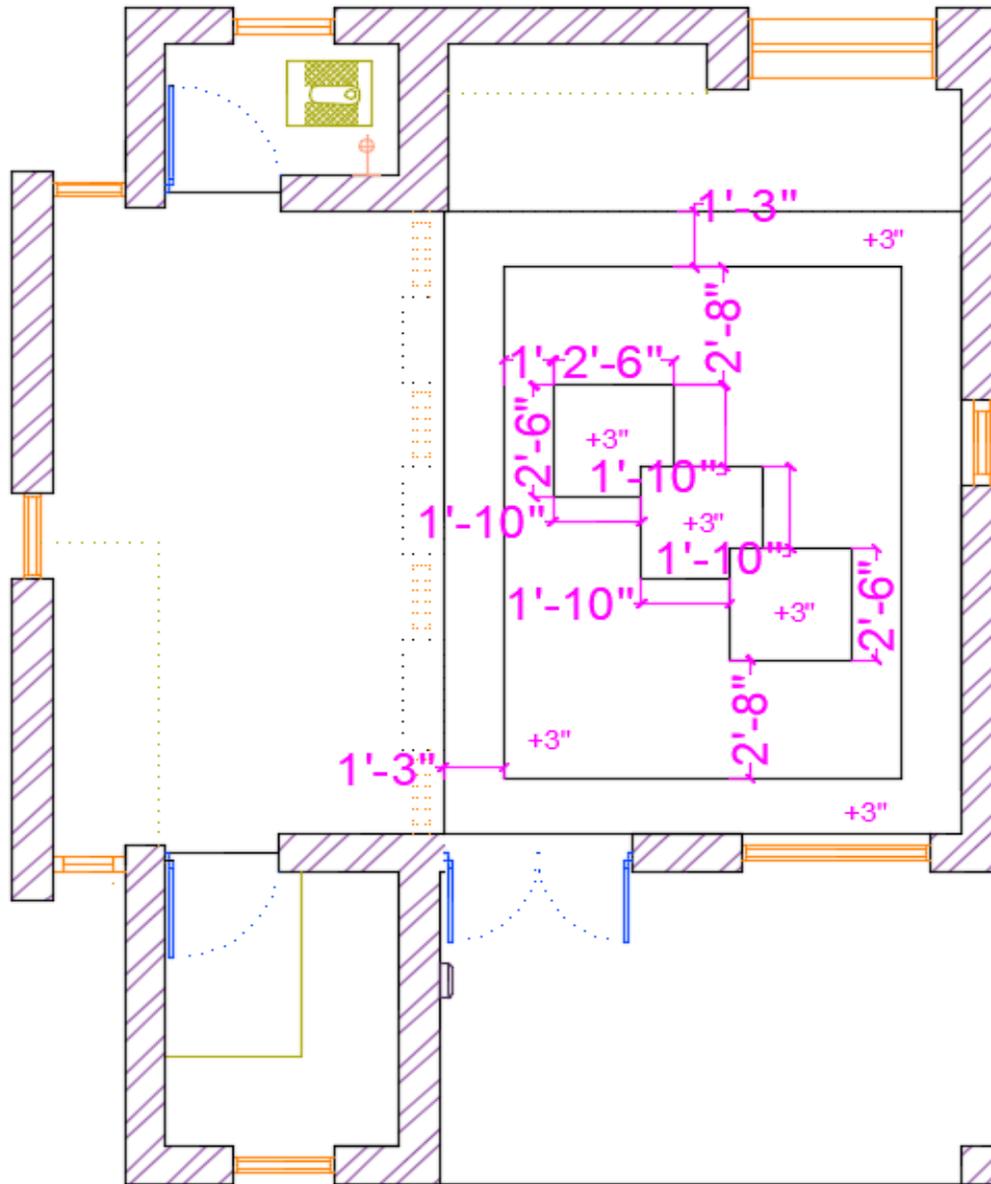


TITLE-

Figure 63: Proposed False Ceiling Design of Design Project-II Nandghar Kashipura Alternative-3

DIRECTION-



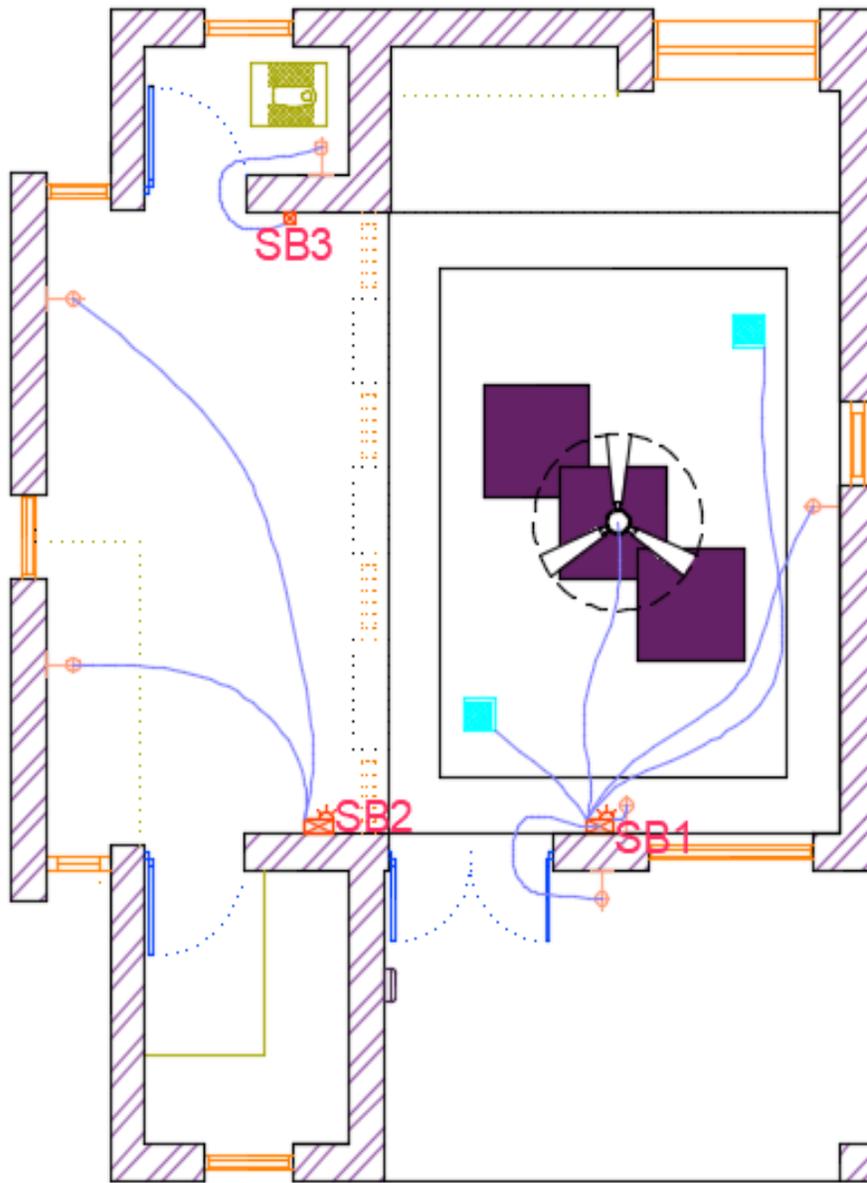


TITLE-

Figure 64: Proposed False Ceiling Working Drawing of Design Project-II
Nandghar Kashipura Alternative-3

DIRECTION-





LEGEND

	Switchboard with plug point
	Switchboard without plug point
	Wall point
	Fan
	15 Watt Light

TITLE-

Figure 65: Proposed Electrical Layout of Design Project-II Nandghar Kashipura Alternative-3

DIRECTION-



reflective glare. For the false ceiling, the colors proposed were, the square shape structures were given purple color and rectangular shape was given white color.

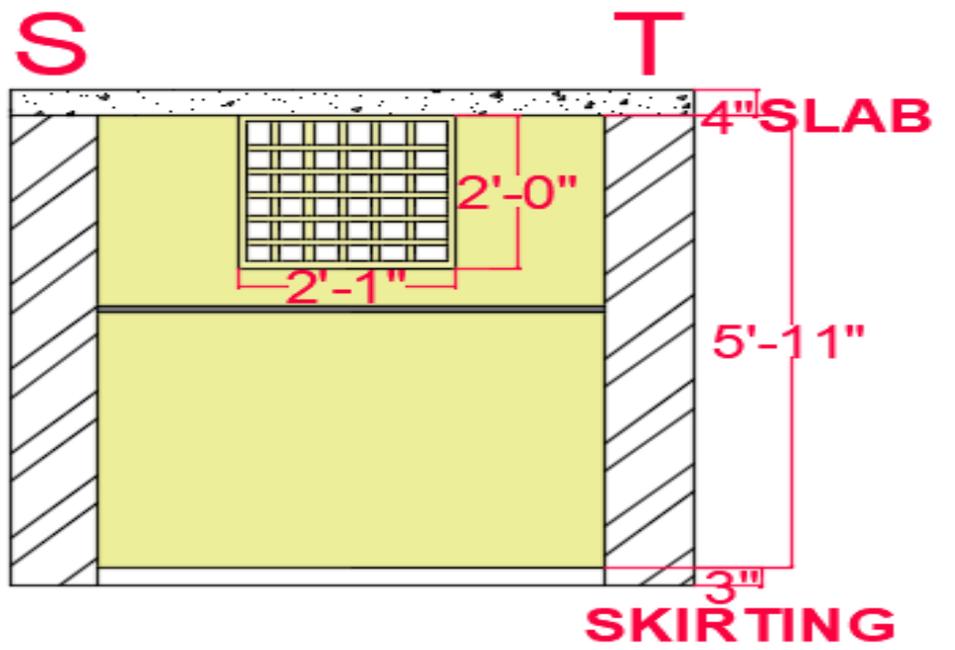
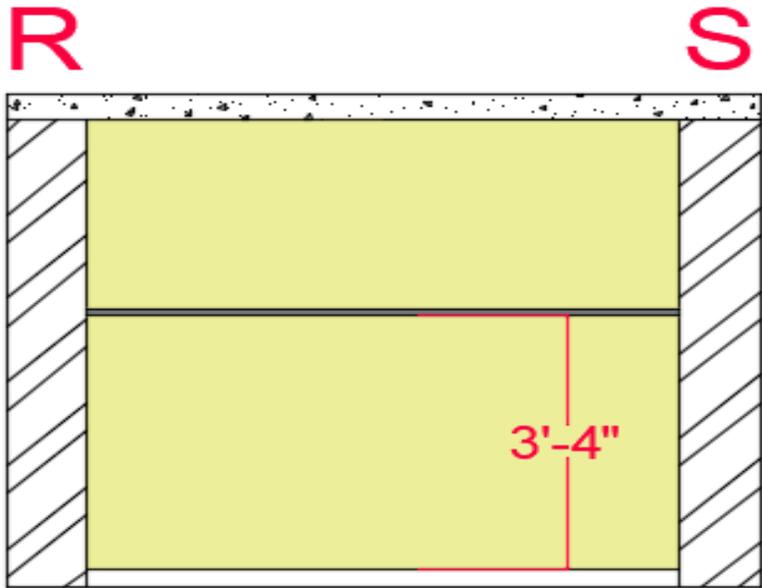
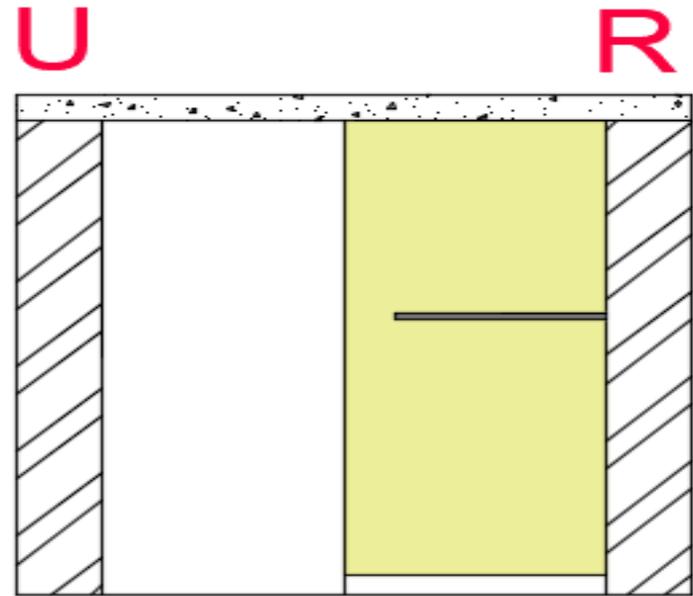
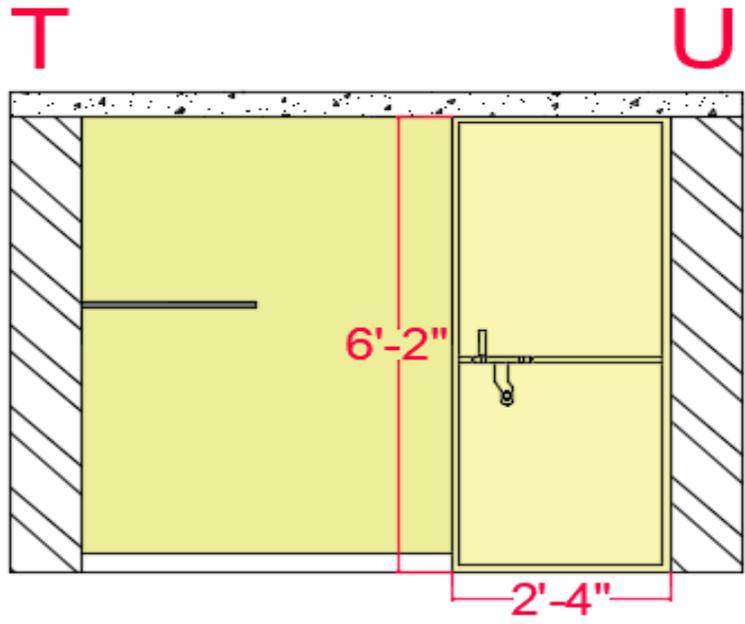
Considering the size of the room and false ceiling design, lighting fixtures were positioned in the false ceiling in such a manner that light was distributed all over the room. 2 LED lights of 15 watts each were placed in the false ceiling for direct lighting. These fixtures were square in shape. The tint of light from these lights was white. Also considering the size of the room, one ceiling fan was proposed in the design, which was placed in the center of the false ceiling.

The distribution of the switches was done keeping in mind the proximity of the fixture and the switchboard to minimize the length of wires. The main switchboard was provided near the entrance door so that operating them becomes easy. The main switchboard included the connection of fan, lights placed in false ceiling and lighting fixture for bulb.

STORE ROOM

The dimension of the Storeroom was having the length of 4'-10" width of 6'-2" and the height of 6'-2". The slab height was 4 inches.

- **Wall TU:** The length of the wall was 6'-2". For the wall cream color, plastic distemper paint was proposed. A door with a width of 2'-4" and the height 6'-2" was present. The door was given cream color oil paint.
- **Wall UR:** The length of the wall was 4'-10". For the wall cream color oil paint was anticipated. A door opening of width 2'-4" and height 6'-2" was present.
- **Wall RS:** The length of the wall was 6'-2". The wall was given dark cream color plastic distemper paint. An L-shape Kota stone was placed as a shelf for storage purpose with length 6'-2" at the height of 3'-4" from the floor.
- **Wall ST:** The length of the wall was 4'-10". For the wall cream color, plastic distemper paint was proposed. An L-shape Kota stone was placed as a shelf for storage purpose with length 4'-10" at the height of 3'-4" from the floor. A window with a width of 2'-1" and the height 2'-0" was present. For the window, cream color oil paint was given.



TITLE-

Figure 66: Proposed Wall Elevations of the Storeroom of Design Project-II
Nandghar Kashipura Alternative-3

DIRECTION-



WASHROOM

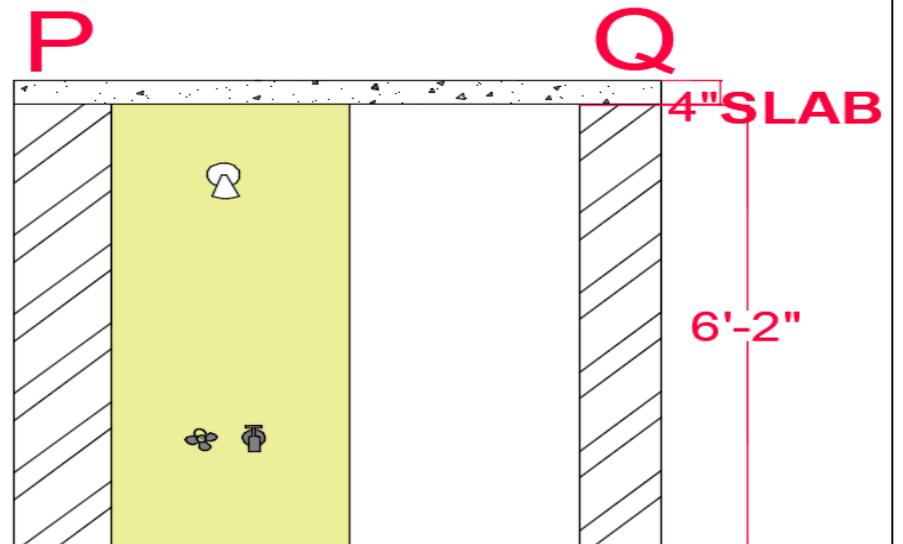
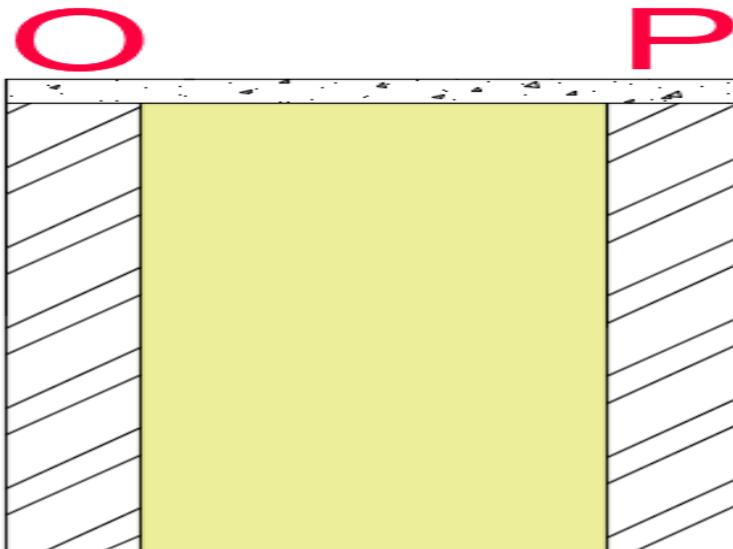
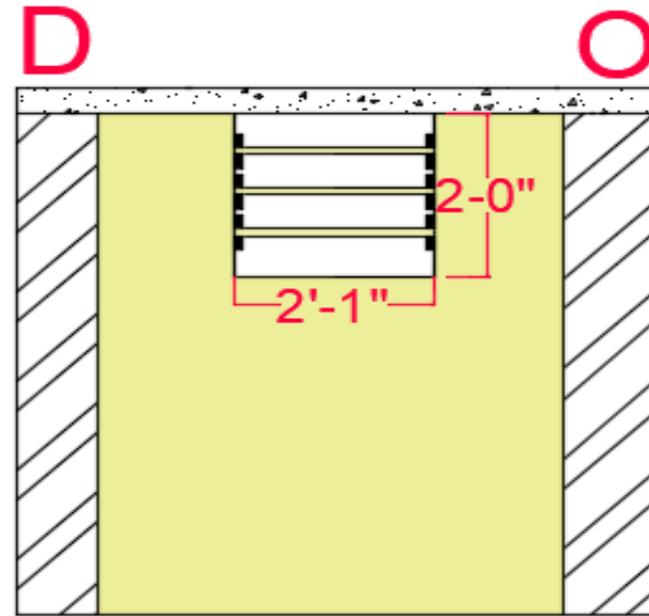
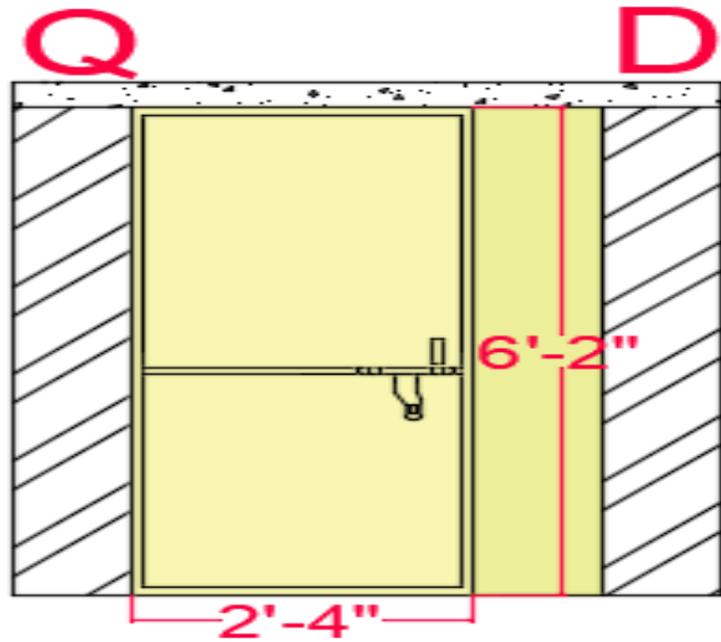
The dimension of the Washroom was having the length of 4'-10" width of 3'-8" and the height of 6'-2". The slab height was 4 inches.

- **Wall QD:** The length of the wall was 3'-8". For the wall cream color, plastic distemper paint was proposed. The open door of the washroom was shown which had width 2'-5" and height of 6'-2".
- **Wall DO:** The length of the wall was 4'-10". For the wall cream color, plastic distemper paint was proposed. A window was present of width 2'-1" and height 2'-0". For the window cream color oil paint was anticipated.
- **Wall OP:** The length of the wall was 3'-8". For the wall cream color, plastic distemper paint was proposed.
- **Wall PQ:** The length of the wall was 4'-10". For the wall cream color plastic distemper paint was proposed. The provision of lighting fixture for bulb was given at the height of 5'-2" from the floor. A tap and a flush tap were provided at the height of 1'-6" from the floor.

OUTDOOR AREA

The dimension of the Outdoor area was having the length of 11'-7 ½" width of 7'-0" and the height of 6'-9 ½". The slab height was 4 inches.

- **Wall D1E1:** The length of the wall was 11'-6 ½". Murals of good habits including brushing teeth, bathing, cutting nails, washing hands and combing hair were created for which acrylic distemper paint was proposed whereas, for the background dark pink color plastic distemper paint was anticipated. The main entrance door was present with a width of 3'-11" and the height of 5'-11". The door was of cream color oil paint. A lighting fixture for bulb was provided at the height of 6'-5" from the floor.
- **Wall I1:** The length of the wall was 7'-5". Murals of good habits including planting plants, throwing waste products in the dustbin, watering plants and collecting waste material were created for which acrylic distemper paint was anticipated whereas, for the background dark pink color plastic distemper

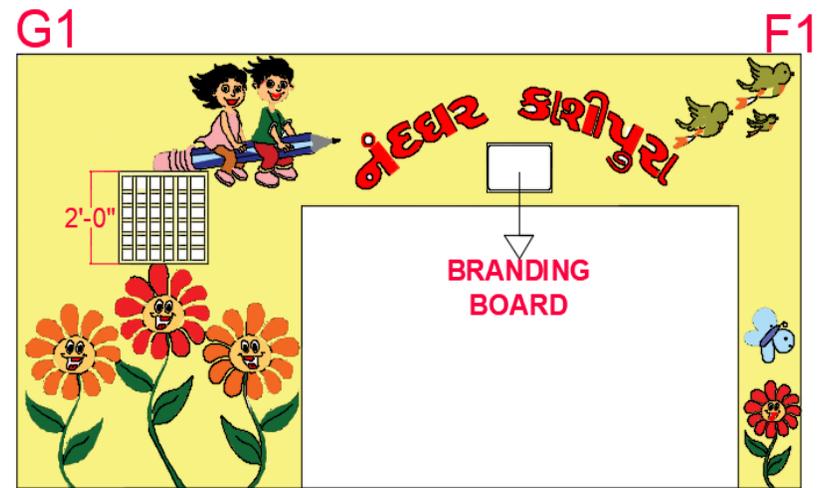
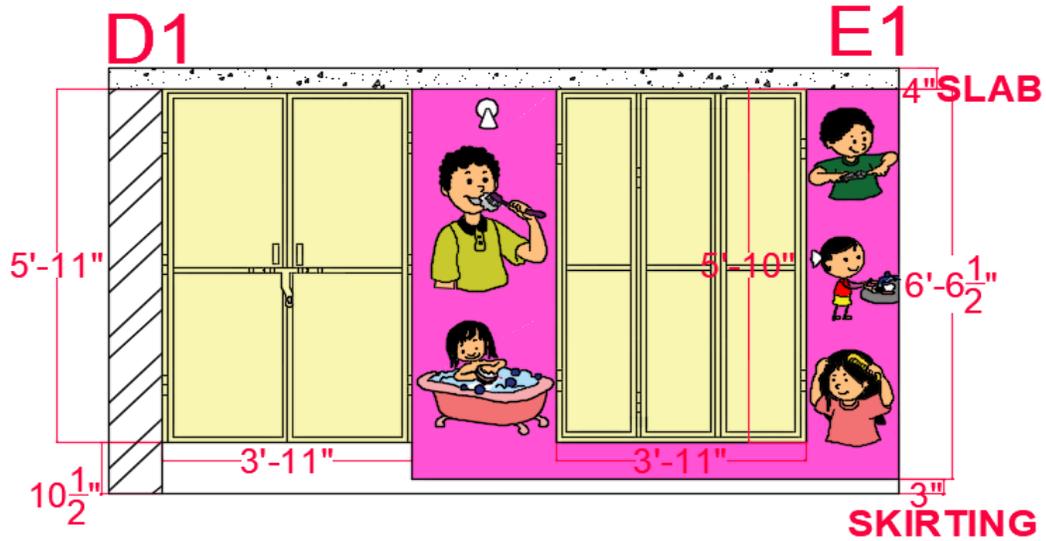
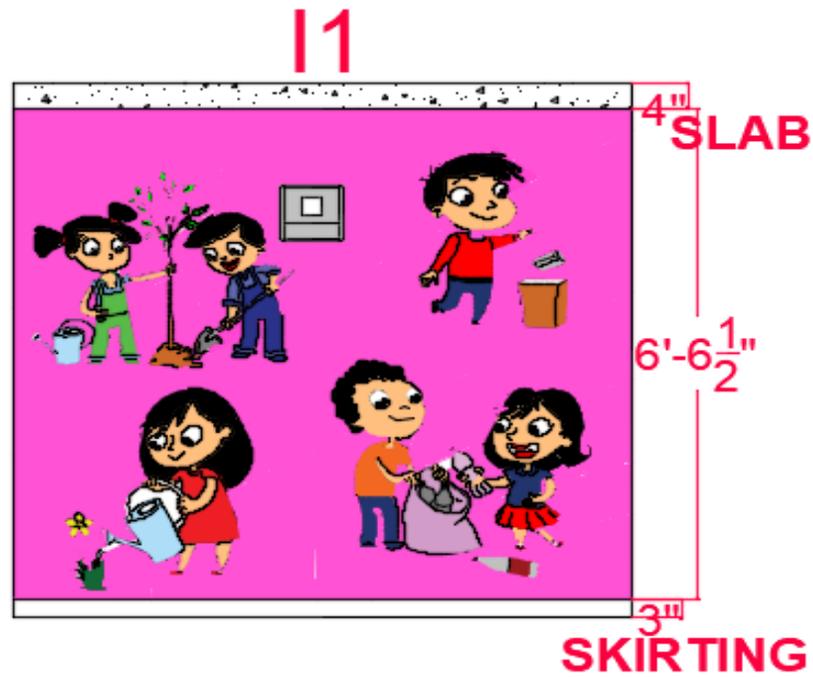


TITLE-

Figure 67: Proposed Wall Elevations of the Washroom of Design Project-II
Nandghar Kashipura Alternative-3

DIRECTION-





TITLE-

Figure 68: Proposed Wall Elevations of the Outdoor Area of Design Project-II Nandghar Kashipura Alternative-3 (Murals of Good Habits and Cleanliness)

DIRECTION-



paint was anticipated. The main electricity supply meter was present at a height of 5'-0" from the floor.

- **Wall G1F1:** The length of the wall was 18'-3" including a pillar of length 1'-5". For the name of the Anganwadi red color plastic distemper paint was proposed. Whereas, murals of a girl and a boy flying on pencil, and flowers were created. Murals of birds, butterfly and flower were also created. For the murals, acrylic distemper paint was proposed whereas, for the background light yellow color plastic distemper paint was anticipated. A placement of the branding board was provided.

Proposed Branding Board Design

The size of the branding board was 2'-3" X 2'-0" which included the name of the Anganwadi, name of the sponsors and year of its designing. The branding board was designed on a black marble stone, on which the information was engraved and painted golden.

Proposed Design of Table (Alternative-1)

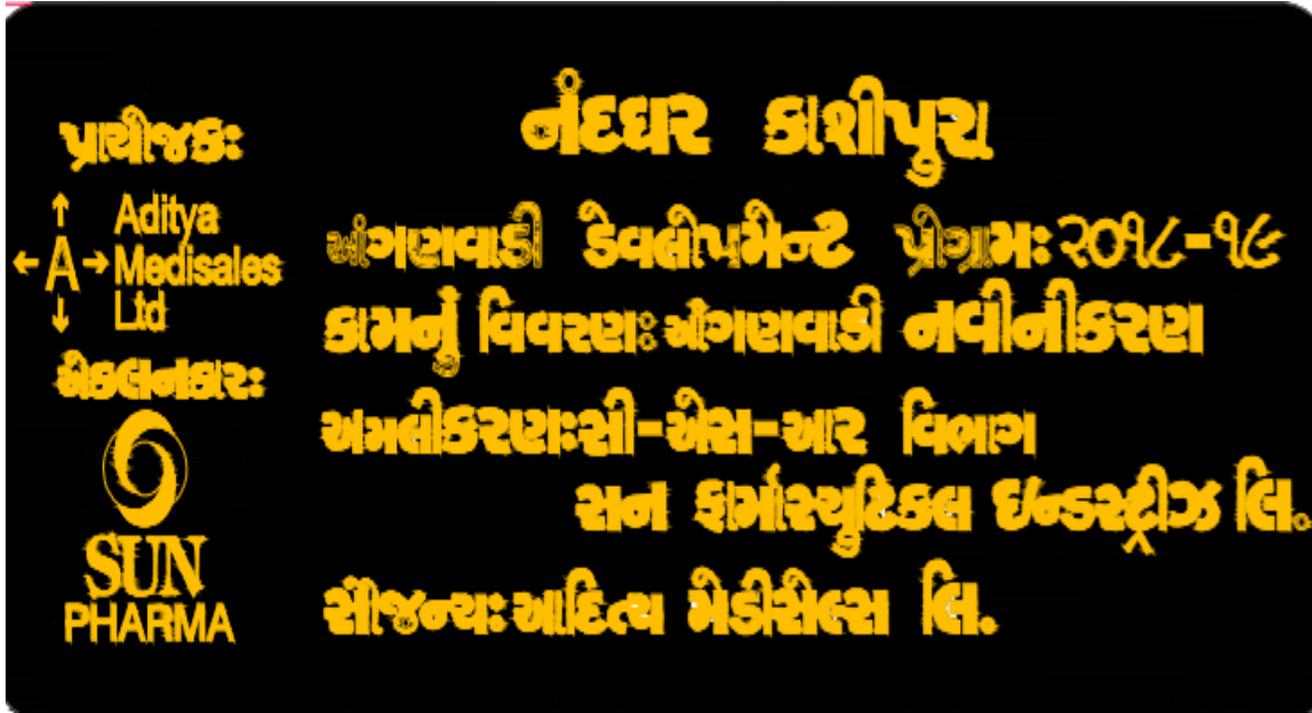
The dimension of the table was having the length of 3'-9" width of 1'-9" and the height 2'-6". The table had three drawers with handles, of which two drawers were of 7 inches in height whereas one drawer was 6 inches in height. The length of the drawers was 1'-3". Laminated Plywood was proposed as an applied finish.

Proposed Design of Table (Alternative-2)

The dimension of the table was having the length of 3'-9" width of 1'-9" and the height 2'-6". The table had three drawers with handles, of which one drawer was of 8 inches in height, one was of 6 inches in height whereas one was of 11 inches in height. The length of the drawers was 1'-3". Laminated Plywood was proposed as an applied finish.

Proposed Design of Table (Alternative-3)

The dimension of the table was having the length of 3'-9" width of 1'-9" and the height 2'-6". The table had one drawer and one storage cabinet with handles, of

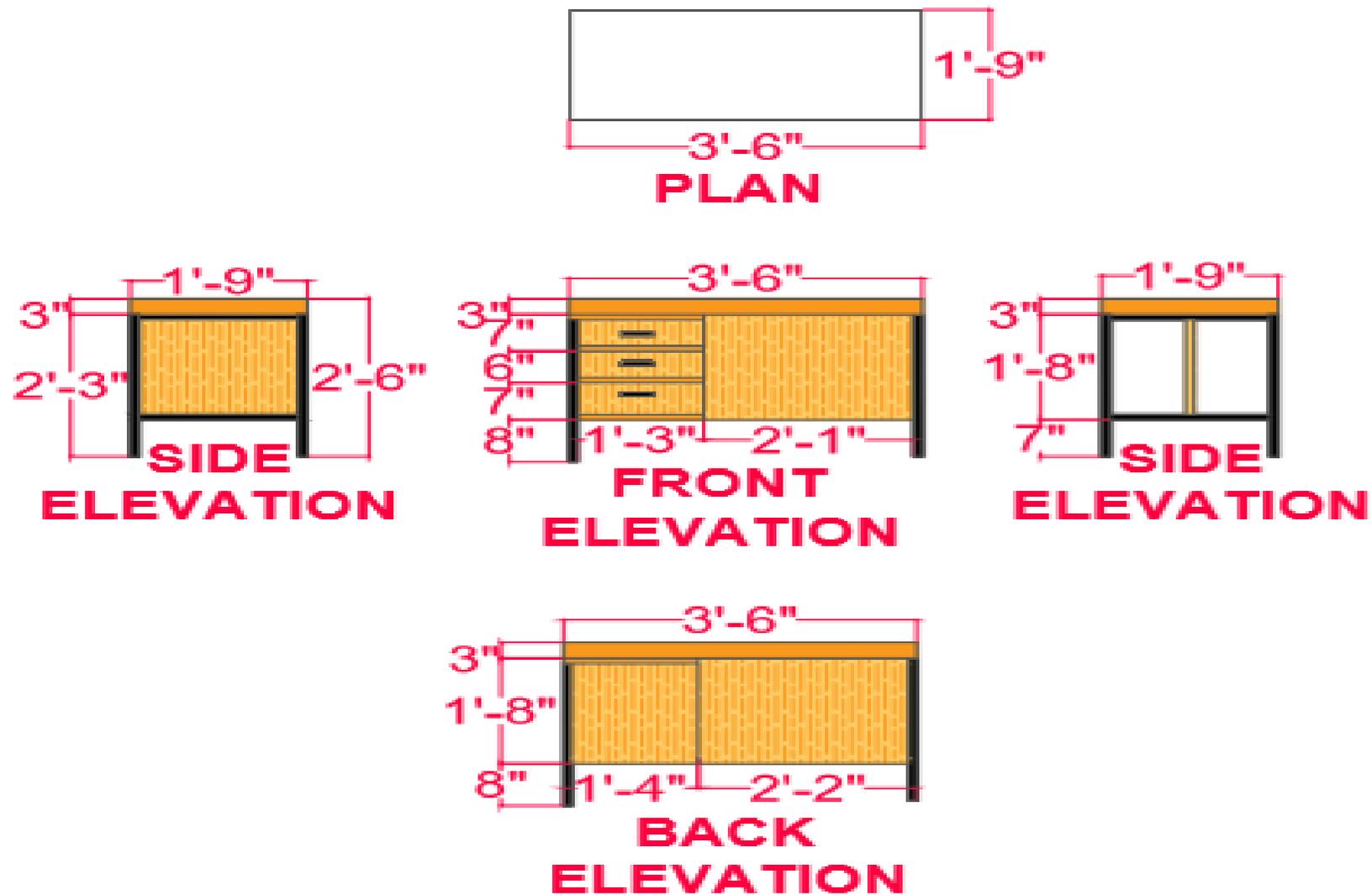


TITLE-

Figure 69: Proposed Branding Board Design of Design Project-II
Nandghar Kashipura

DIRECTION-



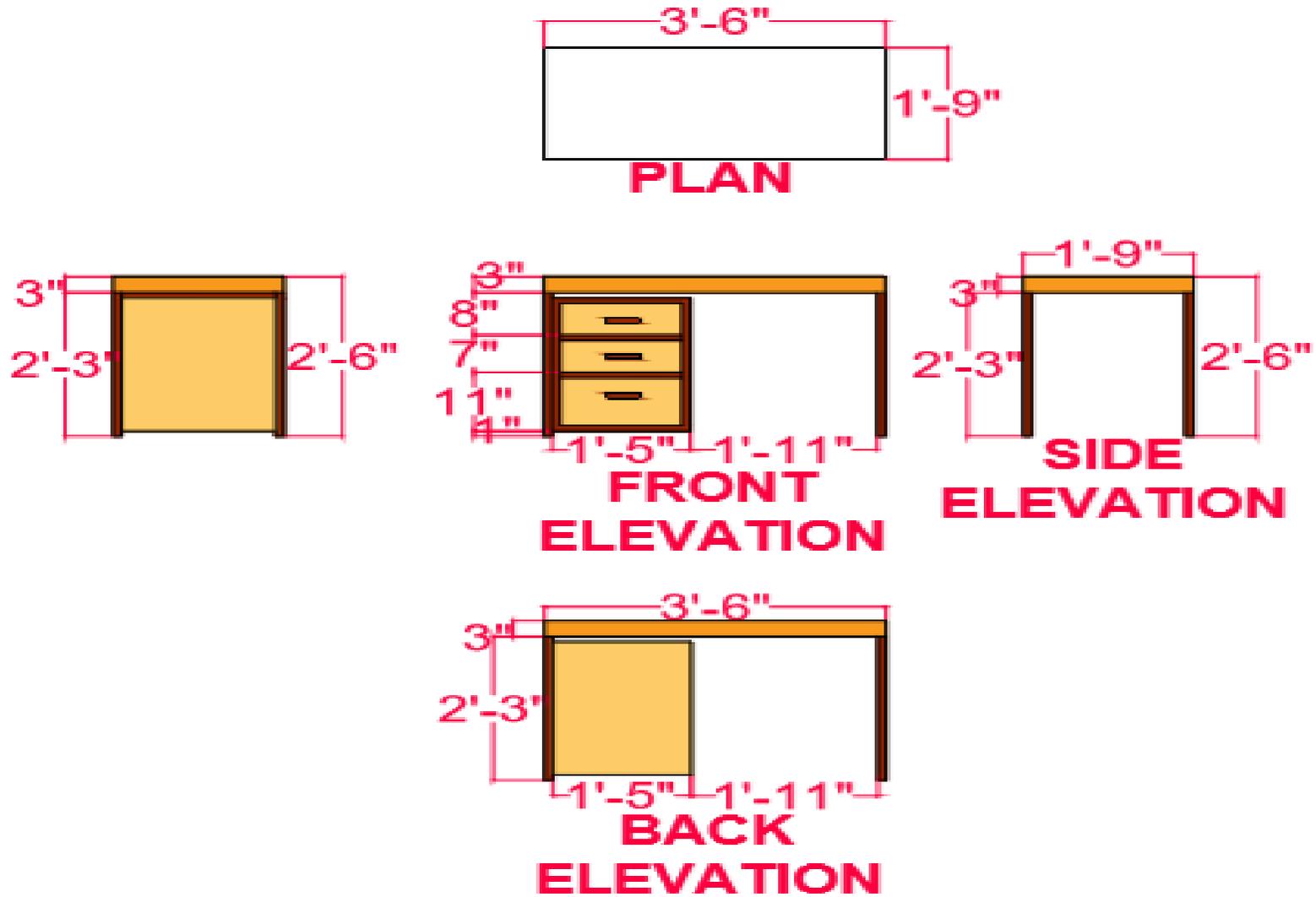


TITLE-

Figure 70: Proposed Table Design Alternative-1

DIRECTION-

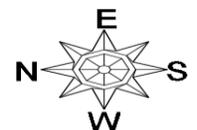


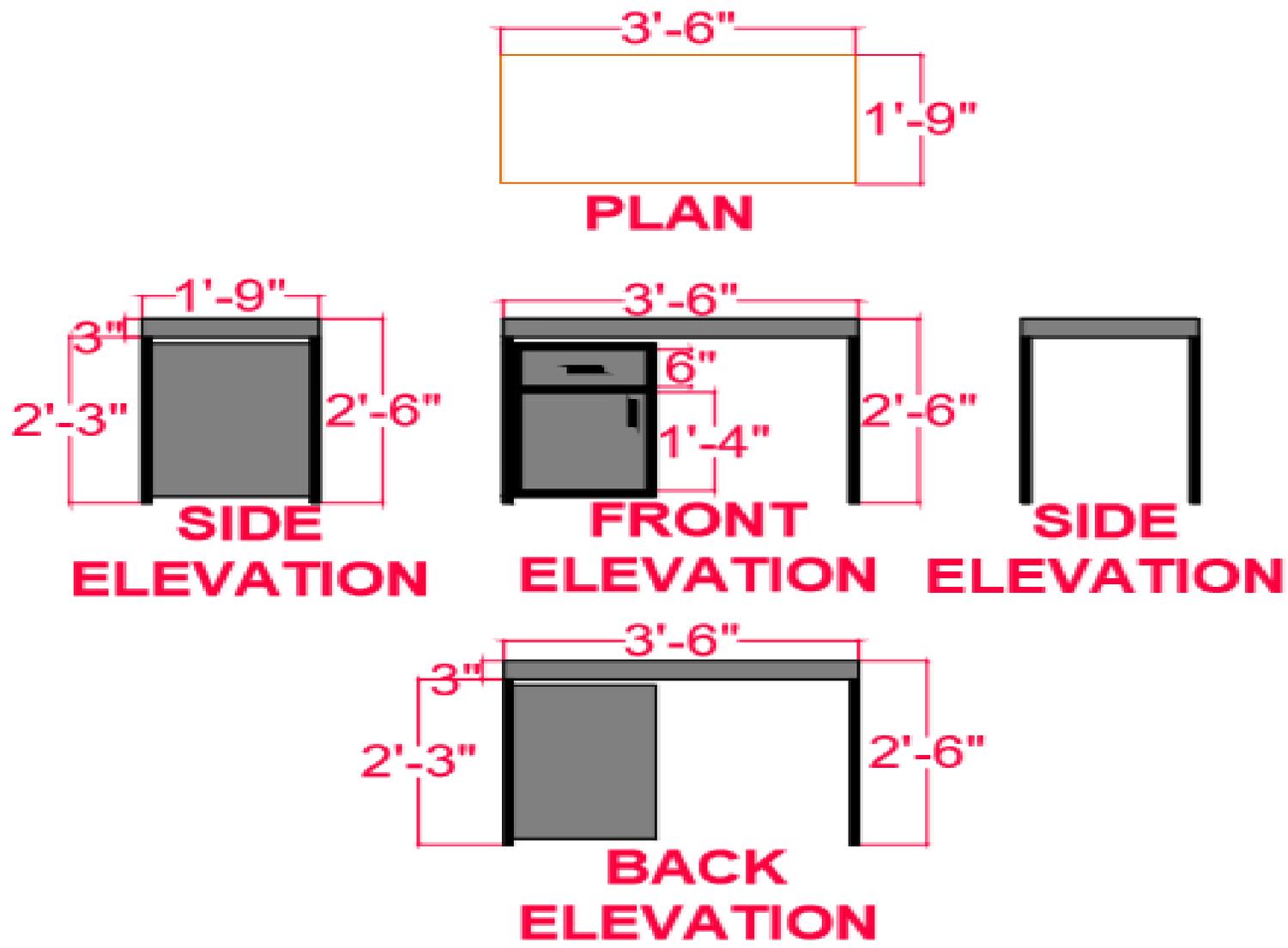


TITLE-

Figure 71: Proposed Table Design Alternative-2

DIRECTION-

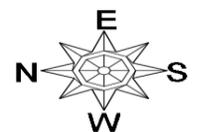




TITLE-

Figure 72: Proposed Table Design Alternative-3

DIRECTION-



which the drawer was of 6 inches in height and the storage cabinet was of 1'-4" in height. The length of the drawer and the storage cabinet was 1'-3". Laminated Plywood was proposed as an applied finish.

LAW OF AREA

According to Goldstein and Goldstein (1960), the 'Law of Area' states that large areas of color should be quiet in effect, while small amounts may show strong contrasts; the larger the amount used, the quieter the color should be, and the smaller the amount, the more striking the contrast may be. Similarly, Craig and Rush (1969) stated, nature illustrates the application of the law of areas in presenting the light blue sky and water in very large areas, the dark green shadows of hills and trees also in large areas, the brighter green plants and grass in slightly smaller areas, and bright colored flowers in the smallest area of all.

Therefore, the designs proposed for Design Project-II (Nandghar Kashipura) were according to the Law of Area as in:

Alternative-1 that was the underwater theme, the large areas which included water and sand was covered with light-blue color and light-yellow color respectively. Whereas, the smaller areas which included murals of different kinds of fish and other underwater creatures was covered with striking colors, and for the outdoor area the larger area was covered with yellowish-green color while the smaller area which included different murals of books and pencils was covered with strong contrasts.

Alternative-2 that was the forest theme, the large areas which included evening sky and greenery was covered with yellowish color and green color respectively. While, the smaller areas which included murals of different animals, birds, flowers and butterflies was covered with striking colors, and for the outdoor area the larger area was covered with light pink color while, the smaller areas which included murals of different pencils, girls and boys was covered with strong contrasts.

Alternative -3 that was the cartoon theme, the large areas which included sky and grass was covered with blue and green color respectively. Whereas, the smaller areas, which included murals of different cartoon characters, school, birds, flowers and fruits was covered with striking colors, and for the outdoor area the larger area was covered with pink and yellow color while the smaller areas which included murals of cleanliness and good habits was covered with strong contrasts.

4.2.3 (B) Selected and Implemented Designs (Alternative-3 Cartoon Theme)

ACTIVITY ROOM CUM KITCHEN

- **Dimension of Activity Room cum Kitchen:** 18'-9"X16'-9"X9'-6" (LXBXH)
- **Activities Carried out in Activity Room:** Various teaching-learning activities like drawing and craft activities, storytelling, learning poems and playing indoor games like solving puzzle, block games and alphabet and numerical games.
- **Activities carried out in Kitchen Area:** Preparation and serving of light snacks and drinking water facilities.

Interior Component	Floor
Existing Status	The floor had Kota stone. The condition of the floor was uneven and dirty.
Preferred And Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Vitrified Tiles • Carpet <p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 Vinyl Carpet. • Alternative-2 Rubber Tiles. • Alternative-3 Vitrified Tiles.
Selected And Implemented Treatment	Alternative-3 Vitrified Tiles (2'-0" X 2'-0") of white color.
Discussions: For the floor treatment of the Activity room cum kitchen, the clients preferred either vitrified tiles or carpet. However, three different alternatives were proposed which included vinyl carpet, rubber tiles and vitrified tiles as floor treatment. After the discussion with the clients vitrified tiles were implemented as the clients opined that the children in the Activity	

room are going to spent time for three hours only wherein, light activities like, drawing and craft activities, storytelling, learning poems and playing indoor games like solving puzzle, block games and alphabet and numerical games whereas, in the kitchen area preparation and serving of light snacks and drinking water facilities will be carried out. Therefore, vitrified tiles will be easy to clean and maintain and will also be appropriate according to their budget compared to rubber tiles and vinyl carpet flooring.

Interior Component	Walls
<p style="text-align: center;">Existing Status</p>	<p>The walls were constructed with bricks and plastered having limewash finish with light hue (light yellowish) applied on it. The texture was rough and the condition of the wall was damp. On the east direction wall, there were four shelves; on the south direction paintings were created. On the north direction wall, a partition wall was present, which was between the Activity room and Kitchen. Whereas, the wall of the Kitchen area had a provision of platform on the north direction wall with 13'-9 1/2"X2'-0"X2'-7" (LXBXH). It was broken and was in poor condition.</p>
<p style="text-align: center;">Preferred and Proposed Treatment</p>	<p>Preferred:</p> <ul style="list-style-type: none"> • For Activity room: Murals which are educatory and create attractive and friendly environment. • Placement of blackboard. • For kitchen area: To dismantle the partition wall next to the platform and remove the wash basin. • Wall Tiles for Kitchen area. • Black Granite for countertop. <p>Proposed: For Activity room:</p> <ul style="list-style-type: none"> • Alternative-1 Murals of underwater creatures like different types of fish, octopus, shell, and grass. • Alternative-2 Murals of forest including different animals, birds, butterflies, trees, flowers, plants.

	<ul style="list-style-type: none"> Alternative-3 Murals of cartoon including different cartoon characters, school, birds, butterfly, flowers, plants. <p>For Kitchen area:</p> <ul style="list-style-type: none"> Alternative-1 Ceramic Tiles of green and grey color. Alternative-2 Ceramic Tiles of yellow and grey color. Alternative-3 Ceramic Tiles of orange and dark grey color. <p>A black granite countertop was provided.</p>
<p style="text-align: center;">Selected and Implemented Treatment</p>	<p>For Activity room: Alternative-3 Murals of cartoon including different cartoon characters, school, birds, butterfly, flowers, and plants. Placement of blackboard of size 3’-6” X 3’-0”.</p> <p>For Kitchen area: Alternative-3 Ceramic Tiles of orange and dark grey color and placement of black granite countertop.</p>
<p>Discussions: For the wall treatment of the Activity room, the client preferred wall murals which are educatory and create attractive and friendly environment for children. Therefore, three different theme based alternatives were provided to the clients. After the discussion with the clients, murals of cartoon theme with Gujarati alphabets (Barakhadi) and numerical were implemented, considering that it will create attractive and friendly environment for children and it would be helpful for the Anganwadi workers to teach children Gujarati alphabets (Barakhadi) and numerical created on the walls. It will also encourage children to attend the Anganwadi regularly and may help them develop their skills and learn different things from the murals created which they might see on regular basis. Whereas, according to clients requirement a blackboard was provided. While, for the kitchen area, the client preferred wall tiles. However, three different color combinations of ceramic tiles were proposed as alternatives. After the discussion with the client orange and dark grey color ceramic tiles were implemented on the walls of the Kitchen area, considering dark color tiles will require less cleaning and maintenance.</p>	

Interior Component	Ceiling
Existing Status	The ceiling was plastered and plain with limewash finish. The condition was damp and had cracks.
Preferred and Proposed Design	<p>Preferred:</p> <ul style="list-style-type: none"> • For Activity room: False ceiling with provision of lighting and fan. • For Kitchen area: Paint that suits with other interior components. <p>Proposed:</p> <p>For Activity room:</p> <ul style="list-style-type: none"> • Alternative-1 False Ceiling. • Alternative-2 False Ceiling. • Alternative-3 False Ceiling. <p>For Kitchen area:</p> <ul style="list-style-type: none"> • Alternative-1 Yellow paint. • Alternative-2 Light yellow paint. • Alternative-3 Grey paint.
Selected and Implemented Design	<p>For Activity room: Alternative-3 False Ceiling</p> <p>For Kitchen area: Alternative-3 Grey paint.</p>
<p>Discussions: For the ceiling treatment of the Activity room, the client preferred false ceiling with provision of lighting and fan. Consequently, considering the height of the Activity room, three different false ceiling alternatives were proposed. After the discussion with the client, alternative-3 was implemented. According to the design of the false ceiling and considering the size of the Activity room provision of LED lights and ceiling fan was given. While, for the Kitchen area the client preferred to have paint that suits well with other interior components. However, three different shades were proposed of which, grey shade was implemented on the ceiling of the kitchen area as it suited well with other interior components.</p>	

Interior Component	Windows
Existing Status	<p>Activity room had three windows:</p> <ul style="list-style-type: none"> • 1 on the east direction wall: 3'-11" X 4'-2" (WXH). • 1 on the south direction wall: 1'-11" X 2'-0" (WXH).

	<ul style="list-style-type: none"> • 2 on the west direction wall: 3'-11" X 5'-11" (WXH). <p>The window on the east and west direction wall had three shutters, whereas, the window on the south direction wall only had grills.</p> <p>Kitchen area had three windows:</p> <ul style="list-style-type: none"> • 1 window in east direction- 1'-6" X 3'-0" (WXH). • 1 window in west direction- 1'-6" X 3'-0" (WXH). • 1 window in north direction- 1'-11" X 1'-11" (WXH). <p>The windows in the east and west direction had one shutter, whereas, the window in the north direction only had grills. All the windows were made up of iron but were rusted.</p>
Preferred and Proposed Shade	<p>Preferred:</p> <ul style="list-style-type: none"> • Application of oil paint which suits with other interior components. <p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 Oil Paint: Brown. • Alternative-2 Oil Paint: Dark Brown. • Alternative-3 Oil Paint: Cream.
Selected and Implemented Shade	Alternative-3 Oil Paint: Cream
<p>Discussions: Regarding the windows of the Activity room cum Kitchen, the client preferred to have application of oil paint which suits with other interior components. Therefore, keeping in mind the murals of cartoon theme implemented on the walls of the Activity room three different alternatives of shades of oil paint were provided, from which cream shade of oil paint complimenting the theme was implemented on the windows.</p>	

Interior Component	Door
Existing Status	<p>The Activity room had one main door on the west direction wall of size: 3'-11"X 6'-2" (WXH)</p> <p>The door was made up of iron, had two shutters and was rusted.</p>
Preferred and Proposed Material	<p>Preferred:</p> <ul style="list-style-type: none"> • Application of oil paint which suits with other interior components.

	Proposed: <ul style="list-style-type: none"> • Alternative-1 Oil Paint: Brown. • Alternative-2 Oil Paint: Dark Brown. • Alternative-3 Oil Paint: Cream.
Selected and Implemented Design	Alternative-3 Oil Paint: Cream.
<p>Discussions: Regarding the door of the Activity room, the client preferred to have application of oil paint which suits with other interior components. Therefore, keeping in mind the murals of cartoon theme implemented on the walls of the Activity room three different alternatives of shades of oil paint were provided, from which cream shade of oil paint complimenting the theme.</p>	

Interior Component	Lighting
Existing Status	<p>Had sufficient amount of natural lighting but the artificial lighting was lacking.</p> <p>In the Activity room two provisions for lighting fixture for bulb were present.</p> <ul style="list-style-type: none"> • 1 on the south direction wall at the height of 8'-10" from the floor. • 1 on the west direction wall at the height of 8'-0" from the floor. <p>In the Kitchen area Two provision of lighting fixture for bulb were present on the north direction wall at the height of 6'-0" from the floor. The fixtures were damaged.</p>
Preferred and Proposed Lighting	<p>Preferred:</p> <ul style="list-style-type: none"> • Provision of lighting and fan for the false ceiling. • Replacement of lighting fixture for bulb and providing bulb. <p>Proposed:</p> <ul style="list-style-type: none"> • 2 LED lights of 15 watt and 1 ceiling fan for the false ceiling of the Activity room. • 4 lighting fixtures for bulb for Activity room cum Kitchen.
Implemented Lighting	2 LED lights of 15 watt and 1 ceiling fan for the false ceiling of Activity room and 4 lighting fixtures for bulb for Activity room cum Kitchen.

Discussions: In the Activity room cum Kitchen there was sufficient amount of natural lighting but artificial lighting was lacking due to damaged lighting fixtures. Therefore, considering this lights were provided into the false ceiling for aesthetics purpose in the Activity room and also lighting fixtures for bulb were replaced in the Activity room cum Kitchen and a ceiling fan was provided in the Activity room.

Interior Component	Furniture and Storage Facilities
Existing Status	In the Activity there was no provision of furniture and floor mats in therefore, the children used to sit on the floor directly.
Preferred and Proposed Furniture and Storage Facilities	<p>Preferred:</p> <ul style="list-style-type: none"> • For Activity room a table for the Anganwadi worker with storage and provide a storage cabinet on east direction wall. • For Kitchen area storage cabinets beneath the platform. <p>Proposed: For Activity room:</p> <ul style="list-style-type: none"> • A table with storage was provided with size 3'-6" X 1'-9" X 2'-6" (LXBXH). • A storage cabinet was provided of size 5'-4 ½"X 1'-1 ½"X 5'-11". (LXBXH). <p>For Kitchen area: Beneath the platform storage cabinets and drawers were provide.</p> <ul style="list-style-type: none"> • Alternative 1- Laminated plywood of green and grey color with brown framing. • Alternative 2- Laminated plywood of light yellow and grey color with black framing. • Alternative 3- Laminated plywood of light orange color with grey framing.
Implemented Furniture and Storage Facilities	-
Discussions: Regarding furniture of the Activity room the client preferred table with storage for the Anganwadi worker and a storage cabinet. As the number of children attending the Anganwadi was more as compared to the	

space available to prevent the accidents and mishaps due to insufficient space, furniture for children like chairs, tables and benches were avoided. Whereas, for the Kitchen area, the client preferred to have storage cabinets and drawers beneath the platform. Therefore, considering the space available beneath the platform storage cabinets and drawers were proposed. Three different alternatives were proposed of which laminated plywood of light orange color with dark grey framing was selected, complimenting the ceramic tiles of orange and grey color implemented on the kitchen area walls.

STOREROOM

- **Dimension of the Storeroom:** 4'-10" X 6'-2" X 6'-2" (LXBXH)
- **Activities carried out in Storeroom:** Storing of cooking utensils and other cooking ingredients.

Interior Component	Floor
Existing Status	The floor had Kota stone. The condition of the floor was uneven and dirty.
Preferred And Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Vitrified Tiles • Carpet <p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 Vinyl Carpet. • Alternative-2 Rubber Tiles. • Alternative-3 Vitrified Tiles.
Selected And Implemented Treatment	Alternative-3 Vitrified Tiles (2'-0" X 2'-0") of white color.

Discussions: For the floor treatment of the Storeroom, the client preferred either vitrified tiles or carpet. However, three different alternatives were proposed which included rubber tiles, vitrified tiles and vinyl carpet as floor treatment. After the discussion with the clients vitrified tiles were implemented as the clients opined that light activities like storing of cooking utensils and other cooking ingredients will be carried out. Therefore, vitrified tiles will be easy to clean and maintain and will also be appropriate according to their budget compared to rubber tiles and vinyl carpet flooring.

Interior Component	Walls
Existing Status	The walls of the Storeroom were constructed with bricks and plastered having limewash finish of light hue (light yellowish) applied on it. The texture of the walls was rough and the condition of the walls was damp.
Preferred And Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Paint that suits with other interior components. <p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 Blue wall paint. • Alternative-2 Grey Wall Paint. • Alternative-3 Cream Wall Paint.
Selected And Implemented Treatment	Alternative-3 Cream Wall Paint.
<p>Discussions: Regarding the Storeroom the client preferred to have paint that suits with other interior components. Therefore, three different shades of wall paints were provided, of which cream shade was selected and implemented as it suited well with other interior components.</p>	

Interior Component	Ceiling
Existing Status	The ceiling of the Storeroom was plastered, plain with limewash finish of white color applied on it. The condition of the ceiling was good.
Preferred And Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Paint that suits with other interior components. <p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 Yellow paint. • Alternative-2 Light yellow paint. • Alternative-3 Grey paint.
Selected And Implemented Treatment	Alternative-3 Grey paint.
<p>Discussions: For the ceiling treatment of Storeroom, the client preferred to have paint that suits well with other interior components. However, three different shades were proposed of which, grey shade was implemented on the ceiling of the store room as it suited well with other interior components.</p>	

Interior Component	Window
Existing Status	<p>One window.</p> <ul style="list-style-type: none"> On the west direction wall- 2'-1"X2'-0" (WXH). <p>The window was made up of iron and had grills and was rusted.</p>
Preferred and Proposed Material and Shade	<p>Preferred:</p> <ul style="list-style-type: none"> Application of oil paint which suits with other interior components. <p>Proposed:</p> <ul style="list-style-type: none"> Alternative-1 Oil Paint: Brown. Alternative-2 Oil Paint: Dark Brown. Alternative-3 Oil Paint: Cream.
Selected and Implemented Material and Shade	Alternative-3 Oil Paint: Cream.
<p>Discussions: Regarding the window of the Storeroom, the client preferred to have application of oil paint which suits with other interior components. However, three different shades of alternatives for oil paint were given. After the discussion with the client, cream oil paint was implemented on the window, as it suited well with other interior components.</p>	

Interior Component	Door
Existing Status	<p>The door was on the east direction wall of size 2'-4" X 6'-2" (WXH) having oil paint finish of light hue (light yellowish) applied on it. The door had one shutter and handle made up of iron which was rusted.</p>
Preferred and Proposed Material and Shade	<p>Preferred:</p> <ul style="list-style-type: none"> Application of oil paint which suits with other interior components. <p>Proposed:</p> <ul style="list-style-type: none"> Alternative-1 Oil Paint: Brown. Alternative-2 Oil Paint: Dark Brown. Alternative-3 Oil Paint: Cream.
Selected And Implemented Material and Shade	Alternative-3 Oil Paint: Cream.
<p>Discussions: About the door of the Storeroom, the client preferred to have application of oil paint which suits with other interior components. However, three different shades of alternatives for oil paint were given. After the</p>	

discussion with the client, cream oil paint was implemented on the door, as it suited well with other interior components.

WASHROOM

- **Dimension of the Washroom:** 4'-10"X3'-8"X6'-2"(LXBXH)

Interior Component	Floor
Existing Status	The floor had Kota stone with rough texture. The condition of the floor was uneven and dirty.
Preferred And Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Ceramic Tiles <p>Proposed:</p> <ul style="list-style-type: none"> • White ceramic tiles of 1'-0" X 1'-0" was provided.
Selected And Implemented Treatment	White ceramic tiles of 1'-0" X 1'-0".
<p>Discussions: For the floor treatment of the Washroom, the client preferred ceramic tiles. Ceramic tiles were proposed and implemented as they are durable, water resistant and require low maintenance.</p>	

Interior Component	Walls
Existing Status	The walls of the Washroom were constructed with bricks and were plastered having limewash finish of light hue (light yellowish) applied on it. The white ceramic tiles were applied up to the height of 1'-6" from the floor on the walls. The texture of the walls was rough and in damp condition. The white ceramic tiles were broken and were in poor condition.
Preferred and Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Wall Tiles • Wall Paint <p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 White ceramic tiles were provided on the wall up to the height of 2'-0" from the floor, whereas the rest of the portion was painted light blue. • Alternative-2 Cream paint. • Alternative-3 Grey ceramic Tiles.

Selected and Implemented Treatment	Alternative-3 Grey ceramic Tiles.
Discussions: For the wall treatment of the Washroom, the client preferred either wall tiles or wall paint. However, three alternatives were provided. After the discussion with the client grey ceramic tiles was implemented on the walls as they are easy to clean and are durable. Whereas, wall paint requires frequent cleaning and sometimes some stains on the walls are difficult to clean.	

Interior Component	Ceiling
Existing Status	The ceiling was plastered, plain and limewash was applied as finish. The condition of the ceiling was dirty and chipping.
Preferred and Proposed Treatment	Preferred: <ul style="list-style-type: none"> • Paint that suits with other interior components. Proposed: <ul style="list-style-type: none"> • White distemper paint.
Selected and Implemented Treatment	White distemper paint
Discussions: Regarding the ceiling treatment of the Washroom, the client preferred to have paint that suits well with other interior components. Therefore, white distemper paint was proposed and implemented.	

Interior Component	Ventilation
Existing Status	There was a provision of ventilation on east direction wall of size 2'-1" X 2'-0" (WXH). It had iron grills, but did not have shutter.
Preferred and Proposed Material and Shade	Preferred: <ul style="list-style-type: none"> • Application of oil paint which suits with other interior components. Proposed: <ul style="list-style-type: none"> • Alternative-1 Oil Paint: Brown. • Alternative-2 Oil Paint: Dark Brown. • Alternative-3 Oil Paint: Cream.
Selected and Implemented Material and Shade	Alternative-3 Oil Paint: Cream.

Discussions: Regarding the ventilation of the Washroom, the client preferred to have application of oil paint which suits with other interior components. Therefore, three different shades of oil paint were proposed of which cream oil paint was implemented, as it suited well with other interior components.

Interior Component	Door
Existing Status	The door was located on the west direction wall of size 2'-5" X 6'-2" (WXH). The door was made up of iron was rusted.
Preferred and Proposed Material and Shade	<p>Preferred:</p> <ul style="list-style-type: none"> • Application of oil paint which suits with other interior components. <p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 Oil Paint: Brown. • Alternative-2 Oil Paint: Dark Brown. • Alternative-3 Oil Paint: Cream.
Selected and Implemented Material and Shade	Alternative-3 Oil Paint: Cream.

Discussion: Regarding the door of the Washroom, the client preferred to have application of oil paint which suits with other interior components. However, three different shades of oil paint were given of which cream oil paint was implemented.

OUTDOOR AREA

- **Dimension of the Outdoor Area:** 11'-7 ½" X 7'-0" X 6'-9 ½" (LXBXH)

Interior Component	Floor
Existing Status	The floor had Kota stone with rough texture. The condition of the floor was uneven and extremely dirty.
Preferred And Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Vitrified Tiles <p>Proposed:</p> <p>White vitrified tiles of size 2'-0" X 2'-0" was provided.</p>
Selected And Implemented Treatment	White vitrified tiles of size 2'-0" X 2'-0".

Discussions: For the floor treatment of the Outdoor area, the client preferred vitrified tiles. Therefore, vitrified tiles was proposed and implemented. Vitrified

tiles are easy to clean and were in the budget of the client and in the outdoor area no such activities were to be carried out which might create accidents.

Interior Component	Walls
Existing Status	The walls were constructed with bricks and plastered having limewash finish of light hue (light yellowish) applied on it. The texture of the walls was rough and was in damp condition and had cracks.
Preferred and Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Murals related to sanitation, cleanliness and importance of education. <p>Proposed:</p> <ul style="list-style-type: none"> • Alternative-1 Murals of books and different colored pencils. • Alternative-2 Murals of pencils, girls and boys. • Alternative-3 Murals of Good habits.
Selected and Implemented Treatment	Alternative-3 Murals of Good habits.
<p>Discussions: Regarding the wall treatment of the Outdoor area, the client preferred wall murals which are related to sanitation, cleanliness and importance of education. However, accordingly three different alternatives of designs were proposed of which murals of good habits was implemented.</p>	

Interior Component	Ceiling
Existing Status	The ceiling was plastered, plain and limewash was applied as finish. The condition of the ceiling was damp.
Preferred and Proposed Treatment	<p>Preferred:</p> <ul style="list-style-type: none"> • Paint that suits with other components. <p>Proposed:</p> <ul style="list-style-type: none"> • White distemper paint.
Selected and Implemented Treatment	White distemper paint.
<p>Discussions: For the ceiling treatment of the Outdoor area, the client preferred to have paint that suits well with other interior components. Therefore, white distemper paint was proposed and implemented.</p>	

4.2.4 PHASE IV: COST ESTIMATION AND IMPLEMENTATION OF SELECTED DESIGN

As per the requirement of clients, three different theme based alternatives of design were given, out of which one alternative was selected by the clients. The implementation of design was started on 7th September, 2019 and ended on 4th October, 2019. In this phase the computed cost estimation of the selected design as well as its implementation is discussed.

COST ESTIMATION OF SELECTED DESIGN

In successful planning and implementation of any design project of commercial or residential type, cost estimation plays a vital role. Therefore, cost estimation was prepared considering the actual price and labour cost of the selected design of the Anganwadi. The cost estimation of designing the Anganwadis was done according to the rates prevailing in market as in August, 2019. The details of the cost estimation of individual interior components of selected design are given in the following tables.

Table 13: Total Cost Estimation of Design Project-II Nandghar Kashipura

Sr.No.	Components	Total Cost in ₹
1.	Flooring Treatment	₹ 41,878.55
2.	Walls	₹ 1,20,003.1
3.	False Ceiling	₹ 12,378
4.	Lighting Fixture and Fan	₹ 6039
5.	Oil Paint Application on Doors and Windows	₹ 2175
6.	Furniture	₹ 5900
7.	Kitchen Countertop	₹ 3570
8.	Plumbing Fixtures	₹ 5295
	Total Cost Estimation	₹ 1,97,238.65

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 14: Cost Estimation of Flooring Treatment of Design Project-II Nandghar Kashipura

Area / Room	Total Area	Material & Size	Color	Company	Cost per sq.ft	Labour Cost	Total cost in ₹
Activity Room cum Kitchen	314.06 sq.ft	Vitrified Tiles (2'-0"X2'-0") <i>(Ref. pg.133 ,plate 20)</i>	White	Johnson	₹ 60 per sq.ft	₹ 35 per sq.ft	₹ 29,835.7
Storeroom	32.63 sq.ft	Vitrified Tiles (2'-0"X2'-0")	White	Johnson	₹ 60 per sq.ft	₹ 35 per sq.ft	₹ 3099.85
Washroom	17.72 sq.ft	Ceramic Tiles (2'-0"X2'-0") <i>(Ref. pg.134 ,plate 22)</i>	White	Johnson	₹ 35 per sq.ft	₹ 35 per sq.ft	₹ 1240.4
Outdoor Area	81.08 sq.ft	Vitrified Tiles (2'-0"X2'-0")	White	Johnson	₹ 60 per sq.ft	₹ 35 per sq.ft	₹ 7702.6
Total	₹ 41,878.55						

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 15: Cost Estimation of Walls Treatment of Design Project-II Nandghar Kashipura

Area/ Room	Total Area	Material	Color	Company	Cost & Quantity	Quantity Required	Labour cost	Total cost in ₹
Activity Room	570.42 sq.ft	Wall Putty <i>(Ref. pg.137 ,plate 30)</i>	-	Asian Paints	₹ 595-10 kgs	10kgs	-	₹ 90,500 (including material, tools & labour cost)
		Wall Primer <i>(Ref. pg.137 ,plate 30)</i>	-	Asian Paints	₹ 1059-4 liters	4 liters		
		Acrylic Distemper (For Murals) <i>(Ref. pg.139 ,plate 34)</i>	Various Colors	Asian Paints	-	-		
Kitchen	130.02 sq.ft	Ceramic tiles <i>(Ref. pg.140 ,plate 38)</i>	Orange & Grey	Johnson	₹ 25 per sq.ft	-	₹ 40 per sq.ft	₹ 8451.3
Storeroom	108.49 sq.ft	Wall Primer	-	Asian Paints	₹ 750-1 liter	2 liter	-	₹ 4000 (including material & labour cost)
		Plastic Distemper Paint	Cream	Asian Paints	₹ 450-1 liter	3 liters		
Washroom	100.74 sq.ft	Ceramic Tiles	Grey	Johnson	₹ 35 per sq.ft	-	₹ 35 per sq.ft	₹ 7051.8
Outdoor Area	123.5 sq.ft	Wall Putty	-	Asian Paints	₹ 70-1 kg	3kgs	-	₹ 10,000 (including material, tools & labour cost)
		Wall Primer	-	Asian Paints	₹ 650-1 liter	1 liter		
		Acrylic Distemper (For Murals)	Various Colors	Asian Paints	-	-		
Total	₹ 1,20,003.1							

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 16: Cost Estimation of False Ceiling of Design Project-II Nandghar Kashipura

Material	Company	Quantity	Price Per Piece	Total cost in ₹
Gypsum sheets (6-0" X 2'-0")	Armstrong <i>(Ref. pg.135 ,plate 24)</i>	8	₹ 300	₹ 2400
Galvanized Iron bottom Patti	<i>(Ref. pg.135 ,plate 24)</i>	12kgs	₹ 70 per kg	₹ 840
Screw & Fasteners	-	Lump sum	-	₹ 1200
Total material cost	₹ 4440			
Labour Cost	70 % of the material cost = ₹ 3108			
Total Cost (Material cost + Labour Cost) -A	₹ 4440 + ₹ 3108 = ₹ 7548			
Material	Company	Quantity	Cost	Total cost in ₹
Wall Primer	Asian Paints	1 liter	₹ 750 per liter	₹ 750
Plastic Paint (White)	Asian Paints	4 liters	₹ 480 per liter	₹ 1920
Plastic Paint (Purple)	Asian Paints	2 liters	₹ 480 per liter	₹ 960
Total Material Cost	₹ 3630			
Labour Cost	₹ 1200			
Total Cost (Material cost + Labour Cost) -B	₹ 3630 + ₹ 1200 = ₹ 4830			
TOTAL COST (A+B)	₹ 7548 + ₹4830 = ₹ 12,378			

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 17: Cost Estimation of Lighting Fixtures and Fan of Design Project-II Nandghar Kashipura

Item	Company	Watts / Ampere	Quantity	Price per piece	Total Cost in ₹
LED square panel light	Philips <i>(Ref. pg. 136 ,plate 26)</i>	15 Watts	2	₹ 860	₹ 1720
Wall Points	Philips	-	5	₹ 200	₹ 1000
Incandescent Light Bulb	Philips	200 Watts	5	₹ 80	₹ 400
Fan	Orient	-	1	₹ 2370	₹ 2370
Total Material Cost	₹ 5490				
Labour Cost	10% of material cost= ₹ 549				
Total (Material Cost + Labour Cost)	₹ 5490 + ₹ 549= ₹ 6039				

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 18: Cost Estimation of Application of Oil Paint on the Doors and Windows of Design Project-II Nandghar Kashipura

Item	Company	Quantity	Price	Labour Cost	Total cost in ₹
Oil Paint	Asian Paints <i>(Ref.pg. 137,plate 28)</i>	10 liters	₹ 675	₹ 1500	₹ 2175
Total	₹ 2175				

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 19: Cost Estimation of Furniture of Design Project-II Nandghar Kashipura

Item	Dimension LXBXH	Type of Plywood	Color	Size of Plywood Sheet	Quantity Required	Cost per Sheet	Labour Cost	Total Cost in ₹
Kitchen Storage Cabinets-3	2'-7" X 2'-0" X 2'-9 ½"	Laminated Plywood	Light Orange	4'-0" X 8'-0"	1 sheet	₹ 1200 per sheet	₹1500	₹ 2700
Table	3'-6" X 1'-9" X 2'-6"	Laminated Plywood	-	4'-0" X 8'-0"	1 sheet	₹ 1200 per sheet	₹2000	₹ 3200
Total	₹5900							

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 20: Cost Estimation of Kitchen Countertop of Design Project-II Nandghar Kashipura

Item	Material	Color	Total Area	Cost	Labour Cost	Total Cost in ₹
Kitchen Countertop	Granite <i>(Ref.pg.141,plate40)</i>	Black	15.35 sq.ft	₹ 200 per sq.ft	₹ 500	₹ 3570
Total	₹ 3570					

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Table 21: Cost Estimation of Plumbing Fixtures of Design Project-II Nandghar Kashipura

Item	Company	Material	Quantity	Cost per piece	Total Cost in ₹
Water Closet	Hindware <i>(Ref. pg.134 ,plate 22)</i>	Ceramic	1	-	₹ 2580
Taps	Cera	Stainless Steel	1	-	₹ 665
Flush Tap	Cera	Stainless Steel	1	-	₹ 550
Material Cost	₹ 3795				
Labour Cost	₹ 1500				
Total (Material Cost + Labour Cost)	₹ 3795 + ₹ 1500= ₹ 5295				

(The cost estimation is based on the rates prevailing in market as on August, 2019.)

Implementation of Selected Design (Alternative-3 Cartoon Theme)

For the selection purpose, three different theme based alternatives of design were given, of which the one selected design by the clients was implemented.

For Design Project-II, Nandghar Kashipura, alternative-3 i.e. the 'Cartoon Theme' was selected and implemented.

Floor: For the floor Vitrified tiles was implemented in the Activity room cum Kitchen, Storeroom and Outdoor area whereas ceramic tiles was implemented in the washroom and an Indian style water closet was placed.



Ceiling: For the ceiling, the selected design from the three alternatives was implemented along with the provision of 15 Watts LED lights and ceiling fan.

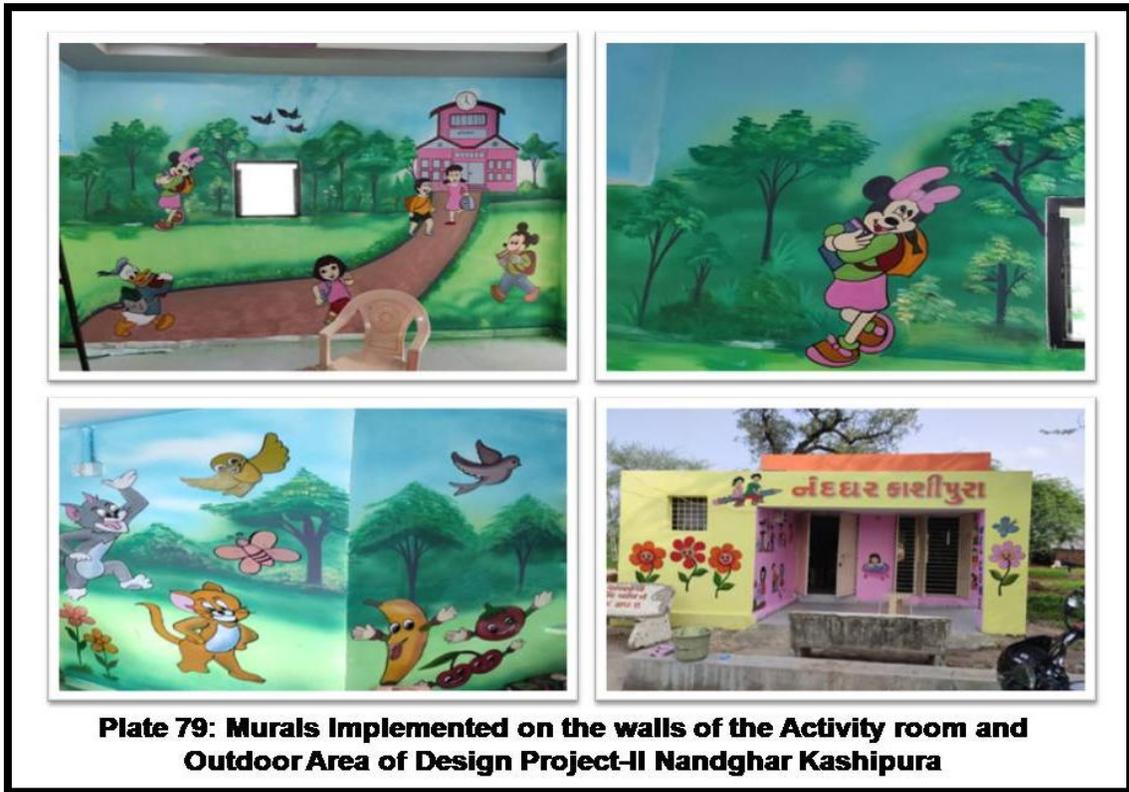




Doors and Windows: For the doors and windows selected shade of oil paint was implemented.



Walls: Murals of cartoon were created on the walls of Activity room and murals of good habits were created on outdoor area walls.



Kitchen: For the kitchen walls, ceramic tiles were implemented. For the countertop black granite was placed.



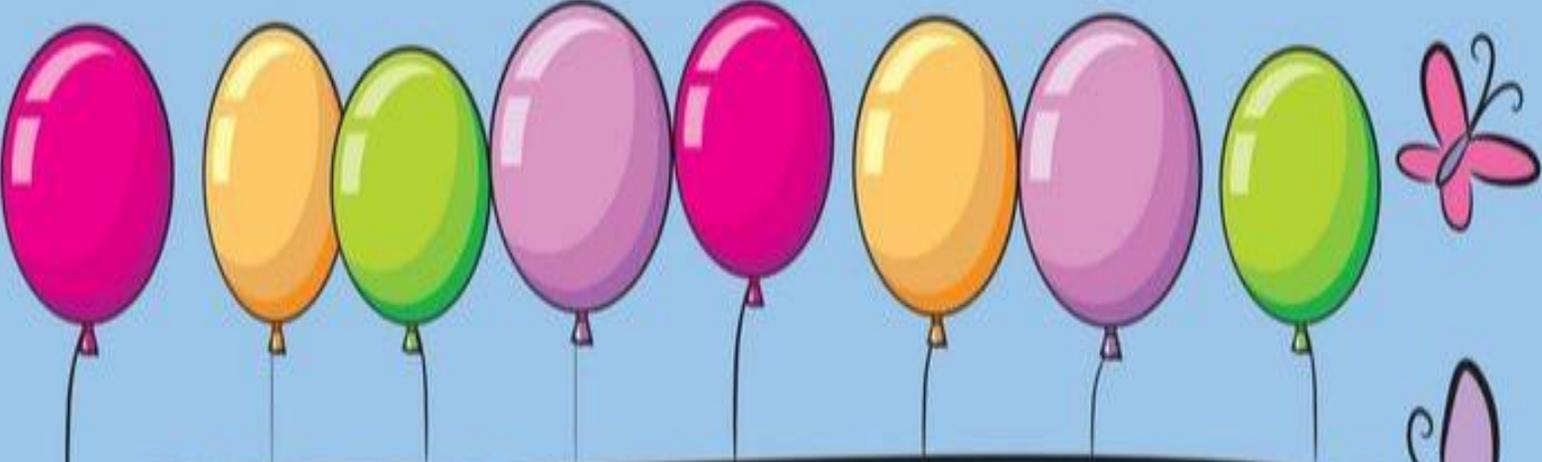
Plate 80: Ceramic Tiles and Black Granite Countertop Implemented for the Kitchen of Design Project-II Nandghar Kashipura



Plate 81: Exterior Walls being painted of Design Project-II Nandghar Kashipura



Plate 82: Exterior of the Anganwadi of Design Project-II Nandghar Kashipura



**SUMMARY
CONCLUSION AND
RECOMMENDATIONS**



CHAPTER V

SUMMARY CONCLUSION AND RECOMMENDATIONS

Summary:

Children consider playing as a type of work. In their play, they build and rebuild their world around them. Play is an ordinary process by which children grow and learn which they do best when they are enjoying themselves. The environment of the space where children play should be designed to help children's usual character to discover the world around them. Although children desire to play close to their parents or caretakers, they do slowly begin to amuse themselves alone or with friends for short periods by going to play centers where other children are accompanied.

The interior environment of the play centers affects its operational value and has an intense impact on the behavior and the development of children. The ideal environment is that which reflects the presence of the child; which attracts the children and is rich and challenging to children, but is not over-stimulating or flashy; rather is rich in subtle visual and tactile experience. It is significant to remember that the shapes, colors, inspiration and encouragement are crucial parameters in a child's development. Colors, patterns and textures are vital for a child's visual and tactile development. The best children's spaces are colorful and welcoming, busy but organized, energetic yet soothing (Daga, 2006).

During childhood, every child requires a suitable interior environment that supports shaping years of education. Elders should find facilities that make provision for activities and provision for developing habits within a child along with adequate means for protecting the children. The process of smooth and integral change in the life of people is tied with how children are brought up. They are achieved only with advance planning, which allows the designer to think about children's designing style and design the spaces so that there's enough storage for materials, visual aids and an activity area. Thus, there is a need for a

place where the children can spend their initial years and show their creative ideas (Dasgupta, 2012).

India's retort to the confront of providing pre-school education on one hand and breaking the brutal cycle of malnutrition, morbidity, reduced learning capacity and mortality, on the other hand, ICDS is a Centrally-sponsored Scheme which was implemented by the State Governments/Administrations and was launched on 2nd October 1975. The Government has taken actions and implemented a program for the development of children named "Integrated Child Development Service" (ICDS) which takes care of overall developmental needs of children who belong to the age group of 3-6 years, pregnant women, lactating mothers, in the age group of 15-45 years, through the Anganwadi Centers. The main objective of this program is to cater to the needs of the development of children in the age group of 3-6 years. ⁽¹⁾

While, designing a space for children the Anganwadi, components like furniture, lighting, colors, furnishings, accessories, storage, space, ventilation of room should be considered as major factors for making Anganwadi a pleasant and place conducive to the teaching-learning process. An area needs a good selection of color, texture, pattern, furniture, furnishings which suit children and selection of all these aspects depend upon functionality, economy, beauty, and individuality which make interiors convenient, pleasant, and cheerful for work (Shukla, 1988).

However, generally it is observed that the Anganwadi developed under the government ICDS scheme in the rural areas and semi-urban area are semi-structured or structured with inadequate infrastructure due to limited funds. Therefore, many corporate sectors have come forward to join hands with the Government to serve the community in many projects in Gujarat and across India under the public-private partnership scheme. As a part of CSR activity this year Sun Pharmaceutical Industries Limited had taken an initiative to develop Anganwadis for the villagers of the Panchmahal district of Gujarat. Therefore, the present study focused on designing the interiors of the spaces provided to

develop Anganwadis in the two villages (Ujeti and Kashipura) of the Panchmahal District of Gujarat under the CSR project of Sun Pharmaceutical Industries Limited.

During the review of literature, plentiful studies in India and outside India were found focusing on interiors of play centers and schools in India and outside India. However, a dearth was found in research projects carried out on interior designing and development of Anganwadis under the public-private partnership concept in India. Therefore, it was thought that designing interiors of Anganwadi with the concept of public-private partnership under the banner of ICDS scheme introduced by the Government of India will not only contribute to the researches carried out on Anganwadis, playschools, kindergarten, primary schools, but will also strengthen the public-private partnership concept for the development of community and eventually the development of the nation.

Objectives of the Study :

1. To assess the spaces provided for Interior designing of Anganwadis in the two villages (Ujeti and Kashipura) of the Panchmahal District of Gujarat under the CSR project of Sun Pharmaceutical Industries Limited.
2. To identify requirements of clients viz. the General Manager, CSR activities of Sun Pharmaceutical Limited and the Anganwadi workers regarding interiors of Anganwadis.
3. To design the interiors of space provided for Anganwadis and present detailed working drawings.
4. To provide cost estimation of the selected design by the Sun Pharmaceutical Limited and implement the selected design.

Delimitation of the Study:

1. The present study was limited to the interior designing of two spaces provided for Anganwadis to be developed under the CSR project of Sun Pharmaceutical Industries Limited at two villages (Ujeti and Kashipura) of the Panchmahal District of Gujarat.

Methodology:

For the present study, the design project method was adopted as a research design. Wherein, two spaces provided for Anganwadis at Ujeti and Kashipura village of the Panchmahal District of Gujarat were assessed for interior designing under the CSR project of Sun Pharmaceutical Industries Limited.

The observation sheet was essentially used as an instrument for assessing the space provided for the interior designing of Anganwadis. The assessment of space was done regarding interior components of space like physical structure, flooring, walls, ceiling, doors and windows, furniture and storage space, lighting and ventilation and the overall ambiance.

Similarly, an interview schedule was used to elicit responses from the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industry Limited and the Anganwadi workers regarding their requirements about designing the interiors of Anganwadis to be developed under the CSR project of Sun Pharmaceutical Industries Limited.

To establish the content validity of the data collection tools viz: observation sheet and interview schedule were given to the panel of 12 judges comprising the experts from the interior designing field and faculties of Department of Family and Community Resource Management, Faculty of Family and Community Sciences. The judges were requested to judge whether the listed items under each aspect were clear or ambiguous or relevant or irrelevant. The valuable suggestions given by the experts were adopted and the tools were modified and finalized for the data collection.

For data collection, the observation sheet was administered by the investigator independently for both the Anganwadis at Ujeti and Kashipura village of the Panchmahal District of Gujarat to obtain details about the existing status of components of interiors. Whereas, for getting acquainted with the requirements of the clients viz. the General Manager, CSR activities of Sun Pharmaceutical

Industry Limited and the Anganwadi workers regarding the interior design of Anganwadis an interview schedule was used by the investigator personally.

Data Collection, Design Development and Implementation

The study was conducted in four phases described as follows:

Phase I: Assessing the Spaces Provided for Designing the Interiors of Anganwadi

Phase II: Identification of Requirements of clients viz. the General Manager, CSR activities of Sun Pharmaceuticals Industries Ltd. and Anganwadi Workers Regarding Anganwadi Interiors

Phase III: Design development

Phase IV: Cost estimation and implementation of selected design

For creating the various visual projections AutoCAD 2015 software was used for the present study. The cost estimation of the selected design was prepared considering the material cost and labour cost according to the rates prevailing in the market as in August, 2019.

Major Findings of the Study

The study was conducted in two provided spaces of the Panchmahal District of Gujarat, namely; Ujeti and Kashipura, which were developed under the CSR project of Sun Pharmaceutical Industries Limited. In order to report the findings in more logical and reasonable manner, each design project has been reported separately.

DESIGN PROJECT-I: NANDGHAR UJETI

Nandghar Ujeti was located in the Ujeti village of the Panchmahal District of Gujarat. The overall area of the space provided for Anganwadi was 596.73sq.ft. It comprised of an activity room, kitchen cum storeroom, washroom and an outdoor area.

PHASE I: Assessing the Spaces Provided for Designing the Interiors of Anganwadi

This phase constitutes a detailed discussion about the spaces provided for the interior designing of Anganwadis developed under the CSR Project of Sun Pharmaceutical Ltd. at Ujeti village of the Panchmahal district of Gujarat.

In order to assess the spaces provided for Anganwadi various significant interior components like the dimension of the space provided, floor, walls, ceiling, windows, doors, ventilation, lighting, furniture and storage facilities were assessed which are described as follows under this phase.

The dimension of the Activity room was having the length of 13'-3 ½", the width of 16'-9" and height of 8'-6". The flooring of the Activity room was cemented with a rough texture and matte finish. The condition of the flooring was dirty and had cracks. The walls of the Activity room were constructed with bricks and plastered having limewash finish of light hue (light yellowish) and distemper with dark hue (black) on the skirting area up to the height of 1'-0" from the floor applied on it. The texture of the walls was rough. Whereas the condition of the walls was damp, had cracks and the plaster was chipping. The ceiling of the Activity room was plastered, plain with limewash finish. The ceiling had a beam with a length of 13'-3 ½" and the height of 9". There was open wiring on the ceiling and the condition of the ceiling was damp and had cracks.

The Anganwadi had combined Kitchen and Storeroom. The dimension of Kitchen cum Storeroom was having the length of 5'-4", the width of 19'-4" and height of 5'-11". The flooring of the Kitchen cum Storeroom was cemented with a rough texture and was having a matte finish. The condition of the flooring was uneven, having cracks and was dirty. The walls of the Kitchen cum Storeroom were constructed with bricks and plastered having limewash finish of light hue (light yellowish) applied on it. The texture of the walls was rough and was in damp condition. However, there was a provision of a platform on the south direction wall with length of 13'-9 ½", width of 2'-0" and height of 2'-7". The countertop was

broken and was in poor condition. The ceiling of the Kitchen cum Storeroom was plastered, plain with limewash finish of white color applied on it. The condition of the ceiling was damp and had cracks.

The dimension of the Washroom was having the length of 4'-11", the width of 3'-11" and height of 7'-11". The flooring of the Washroom was cemented with a rough texture and matte finish. The condition of the flooring was uneven and dirty. The walls of the Washroom were constructed with bricks and plastered with no applied finish on it. The texture of the walls was rough. The ceiling of the washroom was plastered, plain and limewash was applied as a finish. The condition of the ceiling was dirty and chipping.

The dimension of the Outdoor area was having the length of 13'-3 ½", the width of 5'-6" and height of 8'-6". The flooring of the Outdoor area was cemented with a rough texture and a matte finish. The condition of the flooring was moderately clean. The walls of the outdoor area were constructed with bricks and plastered having limewash finish of light hue (light yellowish) applied on it. The texture of the walls was rough and was in a damp condition and had cracks. The ceiling of the outdoor area was plastered, plain and limewash was applied as a finish. The condition of the ceiling was damp.

There were total of seven windows that had iron grills with shutters and handles. There was one entrance door and one door of the Washroom, which were made of iron. The doors and windows were rusted. The space had a sufficient amount of natural lighting but artificial lighting was lacking. There were no furniture items and storage space.

PHASE II: Identification of Requirements of clients viz. the General Manager, CSR activities of Sun Pharmaceuticals Industries Ltd. and Anganwadi Workers Regarding Anganwadi Interiors

This phase comprises detailed information about the requirements regarding Anganwadi Interiors of the clients viz. the General Manager, CSR activities of Sun Pharmaceuticals Industries Ltd. and Anganwadi workers which were congregated with the help of the interview schedule by the researcher. The

requirements of Anganwadi interiors as perceived from the clients are discussed as below:

Various preferences were given to the clients regarding floor, walls, ceiling, doors and windows, ventilation, lighting and storage facilities. Of which for the floor of the Activity room, Kitchen cum Storeroom the clients preferred either vitrified tiles or carpet. Whereas, for the washroom ceramic tiles were preferred and for the outdoor area, vitrified tiles were preferred. For the walls of the Activity room, the clients preferred murals that are educatory and colorful which creates a friendly environment for children. For the walls of the Kitchen area, wall tiles were preferred and for the Storeroom area wall paint was preferred. For the Washroom area, either wall paint or wall tiles were preferred. Whereas, for the walls of the outdoor area, murals related to sanitation, cleanliness and importance of education were preferred. For the ceiling of the Activity room, the client preferred the false ceiling with the provision of ceiling lights and fans. Whereas, for the ceiling of the Kitchen cum Storeroom, Washroom and Outdoor area paint was preferred which suits with other interior components. For the doors and windows the clients preferred application of oil paint. For the kitchen area, the client preferred a black granite countertop and a sink and for storage purpose cabinets beneath the platform. Whereas, for the Washroom, an Indian water closet was preferred. As there was sufficient outside space available, the clients preferred to construct a boundary wall on four sides of the Anganwadi with an entrance gate, and also opted for landscaping and designing of a branding board.

Phase III: Design Development

According to the requirements of the clients and based on principle of design and various observations gathered from the studies came across during the review of literature, working drawings of Design project-I (Nandghar Ujeti) Anganwadi developed under the CSR project of Sun Pharmaceutical Industries Limited were prepared. For Design project-I (Nandghar Ujeti) Anganwadi three

different theme based alternatives of design were given for the selection purpose to the clients which are discussed as follows:

1. Underwater theme

2. Forest theme

3. Cartoon theme

Proposed Design: The overall area of the Anganwadi was 1806.34 sq.ft. As per the requirement of the client, the outer boundary wall was proposed with a height of 6'-0", which included an entrance gate of width 9'-3 ½" and height 5'-0". From the entrance gate till the Anganwadi entrance a pathway was made of size 13'-3 ½" X 15'-0" to enhance the beauty. For the pathway, concrete paver blocks were placed. To make it more attractive on both sides of the pathway a parapet wall of height 6 inches was created on which half tyres were placed of blue and green color.

Theme 1: Underwater (Alternative-1)

For alternative-1, rubber tiles of size 1'-0" X 1'-0" was given in the Activity room and Kitchen cum Storeroom as flooring. The rubber tiles were of light blue color. Whereas, in the Washroom white ceramic tiles of size 1'-0" X 1'-0" was given as flooring with the provision of an Indian style water closet of size 2'-0" X 3'-0". For the Outdoor area white vitrified tiles of size 2'-0" X 2'-0" were provided. For the walls of the Activity room, as the theme was underwater, the background was half blue which indicated water and half light yellow which indicated sand. Different types of fishes with different colors, sizes and shapes and other underwater creatures were created as murals. For creating murals acrylic distemper paint was proposed. The L-shape design for the false ceiling was created. The colors proposed for the false ceiling were, the L- shape structure of the false ceiling was given light blue and the center portion was given grey. Total of 4 LED lights of 15 watts each were placed in the false ceiling for direct lighting. Considering the size of the room, two ceiling fans were proposed in the design.

For the walls of the Storeroom area yellow color plastic distemper paint was proposed whereas rest of the wall which was the Kitchen area wall, ceramic tiles were alternatively placed i.e. one light blue another grey. A black granite countertop and sink was provided. Beneath the countertop, five storage cabinets were given of which four cabinets were of double shutter whereas, one was single shutter. For the cabinets, laminated plywood of light blue color with dark grey framing was provided. The walls of the Washroom were given light blue color plastic distemper paint. A provision of a tap and a flush tap was given. All the doors and windows of the Anganwadi were given grey color oil paint. For the walls of the Outdoor area murals of books and pencils were created with different colors to make it colorful with background color pink. The name of the Anganwadi was painted in purple color with murals of two pencils on both sides.

Theme 2: Forest (Alternative-2)

For alternative-2, white vitrified tiles of size 2'-0" X 2'-0" were given in the Activity room, Kitchen cum Storeroom and Outdoor area as flooring. Whereas, in the Washroom white ceramic tiles of size 1'-0" X 1'-0" was given as flooring with the provision of an Indian style water closet of size 2'-0" X 3'-0". For the walls of the Activity room, as the theme was the forest, the background was half blue which indicated sky and half green which indicated greenery. Murals of different animals, flowers, birds, butterflies and mushrooms were created. For creating murals acrylic distemper paint was proposed. The rectangular false ceiling with strips was created. The colors proposed for the false ceiling were, the center portion of the false ceiling was given white color, the rectangular shape was given light mustard and the strips were given purple. Total of 4 LED lights of 15 watts each were placed in the false ceiling for direct lighting. Considering the size of the room, two ceiling fans are proposed in the design.

For the walls of the Storeroom area yellow color plastic distemper paint was given whereas, rest of the wall which was the Kitchen area wall, ceramic tiles were alternatively placed i.e. one orange another dark grey. A black granite countertop and sink was provided. Beneath the countertop, five storage cabinets

were given of which four cabinets were of double shutter whereas one was single shutter. For the cabinets, laminated plywood of light orange color with dark grey framing was provided. On the walls of the Washroom white ceramic tiles were provided. A provision of a tap and a flush tap was given. All the doors and windows of the Anganwadi were given light yellow color oil paint. For the walls of the Outdoor area murals of birds and flowers were created with background color dark green, parrot green and yellow. Also, murals signifying good habits were created. The name of the Anganwadi was painted in black color with murals of a girl and a boy.

Theme 3: Cartoon (Alternative-3)

For alternative-3, light yellow vinyl carpet with grey lines was given for the Activity room and Kitchen cum Storeroom as flooring. Whereas, in the Washroom white ceramic tiles of size 1'-0" X 1'-0" was given as flooring with the provision of an Indian style water closet of size 2'-0" X 3'-0". For the Outdoor area white vitrified tiles of size 2'-0" X 2'-0" were provided. For the walls of the Activity room, as the theme was cartoon, the background was half blue which indicated sky and half green which indicated grass. Different cartoon characters, different fruits, flowers, birds were created as murals. For the murals, acrylic distemper paint was proposed. For the false ceiling, two horizontal structures were created on both the sides of the beam, with square shape on the horizontal structure. The colors proposed for the false ceiling were, the horizontal structure was given grey color and the square shape was given yellow. Total of 4 LED lights of 15 watts each were placed in the false ceiling for direct lighting. Considering the size of the room, two ceiling fans were proposed in the design.

For the walls of the Storeroom area light grey color plastic distemper paint was given whereas, rest of the wall which was the Kitchen area wall ceramic tiles were alternatively placed i.e. one light greenish another light grey. A black granite countertop and sink was provided. Beneath the countertop, five storage cabinets were given of which four cabinets were of double shutter whereas one was single shutter. For the cabinets, laminated plywood of light grey and light green color

with dark grey framing was provided. For the walls of the Washroom grey ceramic tiles were provided to the height of 3'-0" from the floor, whereas the rest of the portion was painted grey plastic distemper paint. All the doors and windows of the Anganwadi were given brown color oil paint. For the walls of the Outdoor area murals of different colored pencils were created with background color light purple. The name of the Anganwadi was painted in red color with murals of a girl and a boy.

Proposed Design of the Branding Board

The size of the branding board was 2'-3" X 2'-0" which included name of the Anganwadi, the name of the sponsors and year of its designing. The branding board was designed on a black marble stone, on which the information was engraved and painted golden.

PHASE IV: Cost Estimation and Implementation of Selected design

This phase constituted information regarding the selected and implemented design along with the computed cost estimation. Considering the preferences of clients, three different theme based alternatives of design were given, out of which for Design project-I Nandghar Ujeti Theme 2: Forest (Alternative-2) was selected and implemented. The implementation of the design was started on 10th August, 2019 and ended on 5th September, 2019. The overall cost estimation was ₹ 2,96,314.25 according to the rates prevailing in the market as on August, 2019.

DESIGN PROJECT-II NANDGHAR KASHIPURA

Nandghar Kashipura was located in the Kashipura village of the Panchmahal District of Gujarat. The overall area of the space provided for Anganwadi was 540.44 sq.ft. It comprised of an Activity room cum Kitchen, Storeroom, Washroom and an Outdoor area.

PHASE I: Assessing the Spaces Provided for Designing the Interiors of Anganwadi

This phase constitutes a detailed discussion about the spaces provided for the interior designing of Anganwadis developed under the CSR Project of Sun Pharmaceutical Ltd. at Kashipura village of the Panchmahal District of Gujarat.

In order to assess the spaces provided for Anganwadi various significant interior components like the dimension of the space provided, floor, walls, ceiling, windows, doors, ventilation, lighting, furniture and storage facilities were assessed which are described as follows under this phase.

The dimension of the Activity room was having the length of 12'-0", width of 16'-9" and height of 9'-6". The flooring of the Activity room was of Kota stone with rough texture and matte finish. The condition of the flooring was uneven and dirty. The walls of the Activity room were constructed with bricks and plastered having limewash finish with light hue (light yellowish) applied on it. The texture of the walls was rough and the condition of the walls was damp. On the east direction wall, there were four shelves that had Kota stone and on the south direction, wall painting was made of Gujarati alphabets (Barakhadi), numerical, different shapes, animals, birds, fruits, vegetables and body parts. On the north direction wall, a partition wall was present, which was between the Activity room and Kitchen with the length of 4'-6", the width of 1'-0" and the height of 6'-2" and had a shelf in it. The ceiling of the Activity room was plastered, plain and lime wash was applied as a finish. The condition of the ceiling was damp.

The dimension of the Kitchen was having the length of 5'-9 ½", the width of 14'-4" and height of 6'-2". The flooring of the Kitchen was of Kota stone with a rough texture and matte finish. The condition of the flooring was uneven and dirty. The walls of the Kitchen were constructed with bricks and plastered having limewash finish with light hue (light yellowish) applied on it. The texture of the walls was rough and the condition of the walls was damp. However, there was a provision of a platform on the north direction wall with the length of 6'-10" and the width of 2'-2 ½" with the height of 2'-8 ½". The ceiling of the Kitchen was plastered, plain

with lime wash finish of white color applied on it. The condition of the ceiling was damp and had wiring pipes and open wires. The dimension of the Storeroom was having the length of 4'-10", the width of 6'-2" and height of 6'-2". The flooring of the Storeroom was of Kota stone with a rough texture and matte finish. The Kota stones were chipping out. The condition of the flooring was uneven and dirty. The walls of the Storeroom were constructed with bricks and plastered having limewash finish of light hue (light yellowish) applied on it. The texture of the walls was rough and the condition of the walls was damp. The ceiling of the Storeroom was plastered, plain with limewash finish of white color applied on it. The condition of the ceiling was good.

The dimension of the Washroom was having the length of 4'-10", the width of 3'-8" and the height of 6'-2". The flooring of the Washroom was of Kota stone with a rough texture and matte finish. The condition of the flooring was uneven and dirty. The walls of the Washroom were constructed with bricks and were plastered having limewash finish of light hue (light yellowish) applied on it. The white ceramic tiles were applied up to the height of 1'-6" from the floor on the walls. The texture of the walls was rough and in damp condition. The white ceramic tiles were broken and were in poor condition. The ceiling of the Washroom was plastered, plain with lime wash finish of white color applied on it. The condition of the ceiling was damp.

The dimension of the Outdoor area was having the length of 11'-7 ½", the width of 7'-0" and height of 6'-9 ½". The flooring of the Outdoor area was of Kota stone with rough texture and matt finish. The condition of the flooring was uneven and extremely dirty. The walls of the Outdoor area were constructed from bricks and plastered having limewash finish of light hue (light yellowish) applied on it. The texture of the walls was medium and the condition was damp and the plaster was chipping. The ceiling of the Outdoor area was plastered, plain having lime wash finish of white color applied on it. The condition of the ceiling was damp and the plaster was chipping.

There were total of seven windows, out of which four windows were with shutters and three windows were without shutters. All the windows were made up of iron. There was one entrance door, one door for the Washroom and one door for Storeroom which was made of iron. The doors and windows were rusted. The space had a sufficient amount of natural lighting but had an absence of artificial lighting. There were no furniture items and storage space.

PHASE II: Identification of Requirements of clients viz. the General Manager, CSR activities of Sun Pharmaceuticals Industries Ltd. and Anganwadi Worker Regarding Anganwadi Interiors

This phase comprises detailed information about the requirements regarding Anganwadi Interiors of the clients viz. the General Manager, CSR activities of Sun Pharmaceuticals Industries Ltd. and Anganwadi workers which were congregated with the help of the interview schedule by the researcher. The preferences of Anganwadi interiors as perceived from the clients are discussed as below:

Various preferences were given to the clients regarding floor, walls, ceiling, doors and windows, ventilation, lighting and storage facilities. Of which for the floor of the Activity room cum Kitchen and Storeroom the clients preferred either vitrified tiles or carpet. Whereas for the Washroom ceramic tiles were preferred and for the Outdoor area vitrified tiles were preferred. For the walls of the Activity room, the clients preferred murals that are educatory and colorful which creates a friendly environment for children and also preferred to dismantle the partition wall between the Activity room and Kitchen and also the parapet walls next to the platform. For the walls of the Kitchen area, wall tiles were preferred and for the Storeroom wall paint was preferred. For the Washroom, either wall paint or wall tiles were preferred. Whereas, for the walls of the Outdoor area murals related to sanitation, cleanliness and importance of education were preferred. For the ceiling of the Activity room, the clients preferred the false ceiling with the provision of ceiling lights and fan. Whereas, for the ceiling of the Kitchen area, Storeroom, Washroom and Outdoor area paint was preferred which suits with

other interior components. For the doors and windows, the client preferred an application of oil paint. For the Kitchen area, the client preferred a black granite countertop and for storage purpose cabinets and drawers beneath the platform. Whereas, for the Washroom an Indian water closet was preferred.

Phase III: Design Development

According to the requirements of the clients and based on the principle of design and various observations gathered from the studies came across during the review of literature, working drawings of Design Project-II (Nandghar Kashipura) Anganwadi developed under the CSR project of Sun Pharmaceutical Industries Limited were prepared. For Design Project-II (Nandghar Kashipura) Anganwadi three different theme based alternatives of designs were given to the clients for the selection purposes which are discussed as follows:

- 1. Underwater theme**
- 2. Forest theme**
- 3. Cartoon theme**

Proposed Design: The overall area of the Anganwadi was 540.44 sq.ft. No changes were made in the floor plan, except the dismantling of the partition wall and the parapet walls next to kitchen platform and removal of washbasin.

Theme 1: Underwater (Alternative-1)

For alternative-1, light bluish vinyl carpet with grey lines was given for the Activity room cum Kitchen and Storeroom as flooring. Whereas, for the Washroom white ceramic tiles of size 1'-0" X 1'-0" was given as flooring with the provision of an Indian style water closet size 2'-0" X 3'-0". For the Outdoor area white vitrified tiles of size 2'-0" X 2'-0" were provided. For the wall of the Kitchen area ceramic tiles were arranged alternatively i.e. one yellowish-green another grey. A black granite countertop was placed. Beneath the countertop, two storage cabinets and three drawers were given of which the cabinets were of double shutter. For the cabinets and drawers, grey and yellowish-green color laminated plywood was

given with light brown framing. For the other walls which were the walls of the Activity room, as the theme was underwater, the background was half blue which indicated water and half light yellow which indicated sand. Different types of fishes with different colors, sizes and shapes and other underwater creatures were created as murals. For creating murals acrylic distemper paint was proposed. For the false ceiling rectangular design with an L-shape structure was created. The colors proposed for the false ceiling were, the L- shape of the false ceiling was given dark blue color and rectangular shape was given grey color. Two LED lights of 15 watts each were placed in the false ceiling for direct lighting. Considering the size of the room, one ceiling fan was proposed in the design.

For the walls of the Storeroom light blue color plastic distemper paint was given. Whereas, for the walls of the Washroom, white ceramic tiles were provided up to the height of 2'-0" from the floor, while the rest of the portion was painted light blue plastic distemper paint. All the doors and windows of the Anganwadi were given brown color oil paint. For the walls of the Outdoor area murals of different colored pencils were created with background color yellowish green. The name of the Anganwadi was painted in pink color with murals of pencils on both sides.

Theme 2: Forest (Alternative-2)

For alternative-2, rubber tiles of size 1'-0" X 1'-0" was given for the Activity room cum Kitchen and Storeroom as flooring. The rubber tiles were of yellowish shade. Whereas, for the Washroom white ceramic tiles of size 1'-0" X 1'-0" was given as flooring with the provision of an Indian style water closet of size 2'-0" X 3'-0". For the Outdoor area white vitrified tiles of size 2'-0" X 2'-0" were provided. For the wall of the Kitchen area, ceramic tiles were arranged alternatively i.e. one yellow and another grey. A black granite countertop was placed. Beneath the countertop, two storage cabinets and three drawers were given of which the cabinets were of double shutter. For the cabinets and drawers, grey and yellow color laminated plywood was given with dark grey framing. For the other walls which were the walls of the Activity room, as the theme was forest, the

background was half yellow which indicated evening sky and half green which indicated greenery. Murals of different animals, birds, flowers, butterflies and mushroom were created. For creating murals acrylic distemper paint was proposed. For the false ceiling rectangular design with a line and diamond shape structure were created. The colors proposed for the false ceiling were, the diamond shape and line shape structures were given mustard color and rectangular shape was given grey color. Two LED lights of 15 watt each were placed in the false ceiling for direct lighting. Considering the size of the room, one ceiling fan was proposed in the design.

For the walls of the Storeroom light grey color plastic distemper paint was given. Whereas, for the walls of the Washroom, light grey ceramic tiles were provided. All the doors and windows of the Anganwadi were given dark brown color oil paint. For the walls of the Outdoor area murals of pencils, flowers, boy and girl were created with background color pink. The name of the Anganwadi was painted in bluish-green color with murals of a girl and a boy.

Theme 3: Cartoon (Alternative-3)

For alternative-3, white vitrified tiles of size 2'-0" X 2'-0" were given in the Activity room cum Kitchen, Storeroom and Outdoor area as flooring. Whereas, for the Washroom white ceramic tiles of size 1'-0" X 1'-0" was given as flooring with the provision of an Indian style water closet of size 2'-0" X 3'-0". For the walls of the Kitchen area ceramic tiles were arranged alternatively i.e. one orange and another dark grey. A black granite countertop was placed. Beneath the countertop, three storage cabinets with double shutter were given. For the cabinets, light orange color laminated plywood was given with light grey framing. For the other walls which were the Activity room walls, as the theme was cartoon, the background was half blue which indicated sky and half green which indicated grass. Murals of different cartoon characters, different fruits, birds, flowers and butterflies were created. For creating murals acrylic distemper paint was proposed. For the false ceiling rectangular design with square shape overlapping one another was created. The colors proposed for the false ceiling were, the

square shape structures were given purple color and rectangular shape was given white color. Two LED lights of 15 watts each were placed in the false ceiling for direct lighting. Considering the size of the room, one ceiling fan was proposed in the design.

For the walls of the Storeroom cream color plastic distemper paint was given. Whereas, for the walls of the Washroom, cream color plastic distemper paint was given. All the doors and windows of the Anganwadi were given cream color oil paint. For the outdoor area murals of good habits were created with background color dark pink. The name of the Anganwadi was painted in red color with murals of a girl and a boy.

Proposed Design of the Branding Board

The size of the branding board was 2'-3" X 2'-0" which included name of the Anganwadi, the name of the sponsors and year of its designing. The branding board was designed on a black marble stone, on which the information was engraved and painted golden.

PHASE IV: Cost Estimation and Implementation of Selected design

This phase constituted information regarding the selected and implemented design along with the computed cost estimation. Considering the preferences of clients, three different theme based alternatives of design were given, out of which for Design Project-II Nandghar Kashipura Theme 3: Cartoon (Alternative-3) was selected and implemented. The implementation of the design was started on 7th September, 2019 and ended on 4th October, 2019. The overall cost estimation was ₹ 1,97,238.65 according to the rates prevailing in the market as on August, 2019.

Conclusion:

The interior environment of an Anganwadi can have a profound impact on the behavior and development of children. The environment of the Anganwadi was designed in such a manner that would help children's natural character to

discover the world around them. While designing, the efforts were made that the environment reflects the presence of the child; which attracts the children and is rich and challenging to children, but is not over-stimulating or flashy; rather is rich in subtle visual and tactile experience. The environment was designed in such a manner which will allow the children to experiment with different colors and material and which will encourage flexibility and impulsiveness in children's play. For the present project, the design was developed for the Anganwadi children. Mixing of spaces such as a change in flooring, walls and ceiling, providing storage space, color and lighting can boost the sense of comfort for the children. For sensory stimulation, children require different kinds of spaces; bright as well as dim, small and cozy as well as large and open, noisy as well as quite. Considering all these features the investigator tried to achieve all these features while designing the Anganwadi.

Implication of the Study

The findings of the present study will have the following implications:

For the Field of Family and Community Resource Management

Management of the Family and Community Resources is the core subject of the field of Family Resource Management, which teaches managing of resources. Interior design is a vital part of the curriculum of the Family and Community Resource Management field, under which Residential and Commercial Space Designing subjects are taught. Therefore, the preferences acquired by the clients and the design developed keeping in mind the interior components of the available space in the present study will be helpful for the students of Interior Design specialization in planning various community spaces like Anganwadi, kindergarten, balwadis, play-centers and primary schools. Also, it would build a strong tendency in the students towards creating innovative concepts that are not only aesthetically attractive but also "development-oriented" for the children.

For Architects and Interior Designers

The quality of interiors of Anganwadi has intense collision particularly on cognitive growth and social behaviors of Anganwadi Children. It is expected that young children will gain more knowledge by communicating with the surroundings created by the investigator for them. The role of architects and interior designers is very vital in the overall accomplishment of any design project. The design developed under this study will provide vital design ideas and guidelines to the planners of other Anganwadis with regard to creating designs that are aesthetically attractive, theoretically strong, rationally and functionally satisfying. Further, the present investigation can be used as a reference material for designing similar kind of project.

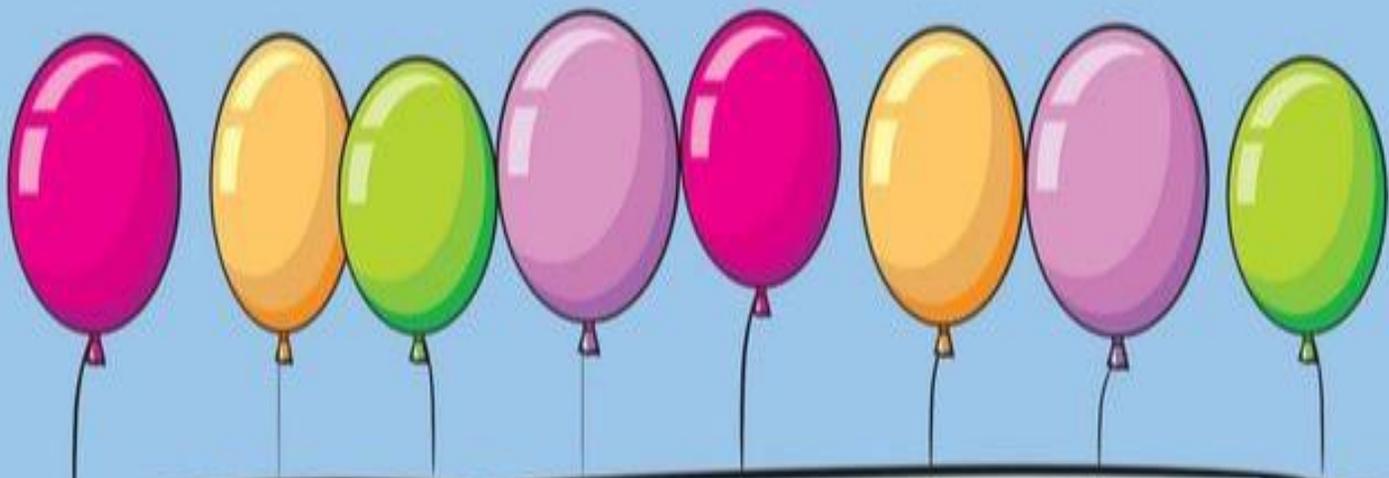
For Government

Generally, it is observed that the Anganwadi developed under the Government ICDS scheme in the rural areas and semi-urban areas which are semi-structured or structured with inadequate infrastructure due to limited funds. Therefore, the Anganwadis developed under the CSR Project of Sun Pharmaceutical Industries Ltd. will prove to be a unique idea of public-private partnership. A similar kind of project can be taken up by the Government in different villages in collaboration with other industries in various districts of Gujarat or at the national level. Further, the present investigation will give an overall idea about the necessities of designing the interiors of Anganwadis on basis of which the Interior designing component for cognitive growth and social behaviors of Anganwadi Children can be included in the present ongoing ICDS scheme of the Government.

Recommendation for Future Studies

1. A similar kind of study can be conducted in other districts of Gujarat as well as in different states in India.
2. A comparative study can be conducted between Government Anganwadi and private kindergarten/play center with regard to interior components, services and facilities provided.

3. A research on multipurpose and compact furniture and storage design development can be conducted keeping in mind the space available for the Anganwadi.
4. A research study can be conducted on assessing various interior components of Anganwadi and its impact on children's overall development.
5. Inventive and creative concepts can be developed into consideration of optimal utilization of space in different areas of the Anganwadi.



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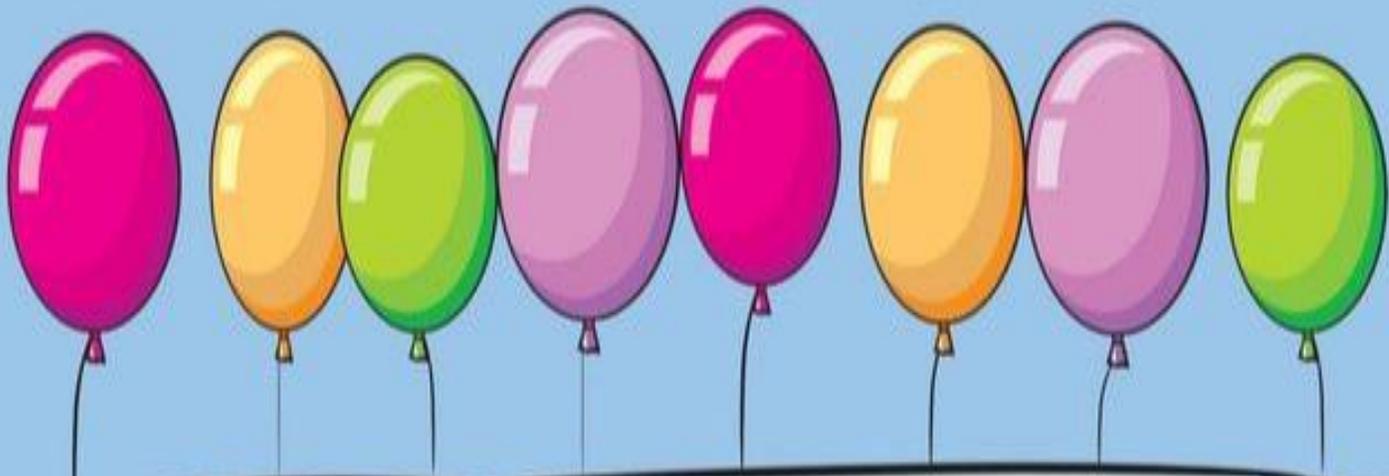
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APPENDIX



APPENDIX

Tools for data collection

(A)- Observation Sheet to Assess the Spaces Provided for Interior Designing

Case Study No: _____

Name of the Village: _____

Postal Address of the Anganwadi: _____

Contact No. of the Anganwadi worker: _____

BACKGROUND

SECTION I. INFORMATION REGARDING PHYSICAL STRUCTURE OF THE SPACE PROVIDED FOR INTERIOR DESIGNING OF THE ANGANWADI

Type of Anganwadi Government Private

Structure of Anganwadi: Kaccha Semi-Pucca Pucca

- No. of Rooms in the Anganwadi: _____
- Dimension of Activity Room: Length- _____ Width- _____ Height- _____
- Total Area of Activity Room: _____ sq.ft
- Dimension Of Kitchen: Length- _____ Width- _____ Height- _____
- Total Area of Kitchen: _____ sq.ft
- Dimension of Storeroom: Length- _____ Width- _____ Height- _____
- Total Area of Storeroom: _____ sq.ft
- Dimension of Washroom: Length- _____ Width- _____ Height- _____
- Total Area of Washroom: _____ sq.ft
- Dimension of Outdoor Area : Length- _____ Width- _____ Height- _____
- Total Area of Outdoor Area: _____ sq.ft
- Overall Area of the Anganwadi: _____ sq.ft

SECTION II. INFORMATION REGARDING INTERTIOR COMPONENTS OF ACTIVITY ROOM

1. Size of the Activity Room: Length-_____ Width-_____ Height-_____

2. Windows

Location Of Windows	No. Of Windows				Size Of Windows			
	1	2	3	4	1	2	3	4
East								
South								
West								
North								

• **Material of Windows:**

- Glass (Wooden Frame) Iron
 Aluminum Any Other _____

• **Condition of Windows:**

- Good Broken Rusted

3. Doors

Location Of Doors	No. Of Doors				Size Of Doors			
	1	2	3	4	1	2	3	4
East								
South								
West								
North								

• **Material of Doors:**

- Wood Iron
 Steel Aluminum

Any Other _____

• **Condition of Doors :**

- Good Broken Rusted

4. Provision of Cross-Ventilation facilities: Yes No

5. Floor

• **Type of flooring treatment:**

- Mud
- Kota Stone
- Marble
- Cement/ Concrete
- Ceramic Tiles
- Any Other _____

• **Texture of flooring:**

- Smooth
- Medium
- Rough

• **Type of finish:**

- Glossy
- Semi-Glossy
- Matt

• **Condition of flooring:**

- Even
- Cracks
- Uneven
- Any Other _____

6. Walls

• **Material for Construction:**

Wall Location	Mud	Brick Unfinished	Bricks/ Stone Plastered	Any Other
East				
South				
West				
North				

• **Type of Wall Treatment:**

Wall Location	Unfinished	Plastered	Whitewash	Distemper	Oil/ Enamel Paint	Tiles	Any Other
East							
South							
West							
North							

• **Hue:**

Wall Location	Dark	Medium	Light
East			
South			
West			
North			

• **Type of Artificial Lighting:**

- General Task
 Accent Indirect

• **Location of Lighting Fixtures:**

- Floor Wall Ceiling

• **Direction of Light:**

- Direct Indirect Diffused

• **Type of Lamp:**

- Incandescent Linear Fluorescent Compact Fluorescent

• **Condition of Lighting:**

- Good Medium Poor

• **Total No. Of Fans:** _____

SECTION III. INFORMATION REGARDING INTERIOR COMPONENTS OF KITCHEN AND STOREROOM

1. **Size of the Kitchen:** Length- _____ Width- _____ Height- _____

➤ **Size of the Storeroom:** Length- _____ Width- _____ Height- _____

2. Windows of the Kitchen

Location Of Windows	No. Of Windows				Size Of Windows			
	1	2	3	4	1	2	3	4
East								
South								
West								
North								

• **Material of Windows:**

- Glass (Wooden Frame) Iron
 Aluminum Any Other _____

• **Condition of Windows:**

- Good Broken Rusted

➤ **Windows of the Storeroom**

Location Of Windows	No. Of Windows				Size Of Windows			
	1	2	3	4	1	2	3	4
East								
South								
West								
North								

• **Material of Windows:**

- Glass (Wooden Frame)
 Aluminum

- Iron
 Any Other _____

• **Condition of Windows:**

- Good Broken Rusted

3. Door of the Kitchen area

Location Of Doors	No. Of Doors				Size Of Doors			
	1	2	3	4	1	2	3	4
East								
South								
West								
North								

• **Material of Doors:**

- Wood
 Steel
 Any Other _____

- Iron
 Aluminum

• **Condition of Doors:**

- Good Broken Rusted

➤ **Door of the Storeroom**

Location Of Doors	No. Of Doors				Size Of Doors			
	1	2	3	4	1	2	3	4
East								
South								
West								
North								

• **Material of Doors:**

- Wood Iron
 Steel Aluminum
Any Other _____

• **Condition of Doors:**

- Good Broken Rusted

4. Provision of Cross-Ventilation facilities in Kitchen area: Yes No

➤ **Provision of Cross-Ventilation Facilities in Storeroom:** Yes No

5. Floor of the Kitchen

• **Type of flooring treatment:**

- Mud Cement/ Concrete
 Kota Stone Ceramic Tiles
 Marble Any Other _____

• **Texture of flooring:**

- Smooth Medium Rough

• **Type of finish:**

- Glossy Semi- Glossy Matt

• **Condition of flooring:**

- Even Uneven
 Cracks Any Other _____

➤ **Floor of the Storeroom**

• **Type of flooring treatment:**

- Mud Cement/ Concrete
 Kota Stone Ceramic Tiles
 Marble Any Other _____

• **Texture of flooring:**

- Smooth Medium Rough

• **Type of finish:**

- Glossy Semi- Glossy Matt

• **Condition of flooring:**

- Even Uneven
 Cracks Any Other _____

6. Walls of the Kitchen

- **Material for Construction:**

Wall Location	Mud	Brick Unfinished	Bricks/ Stone Plastered	Any Other
East				
South				
West				
North				

- **Type of Wall Treatment:**

Wall Location	Unfinished	Plastered	Whitewash	Distemper	Oil/ Enamel Paint	Tiles	Any Other
East							
South							
West							
North							

- **Hue:**

Wall Location	Dark	Medium	Light
East			
South			
West			
North			

- **Texture:**

Wall Location	Rough	Medium	Smooth
East			
South			
West			
North			

- **Condition of the Wall:**

Wall Location	Damp	Chipping of Plaster	Chipping of Paint	Good
East				
South				
West				
North				

➤ **Walls of the Storeroom**

• **Material for Construction:**

Wall Location	Mud	Brick Unfinished	Bricks/ Stone Plastered	Any Other
East				
South				
West				
North				

• **Type of Wall Treatment:**

Wall Location	Unfinished	Plastered	Whitewash	Distemper	Oil/ Enamel Paint	Tiles	Any Other
East							
South							
West							
North							

• **Hue:**

Wall Location	Dark	Medium	Light
East			
South			
West			
North			

• **Texture:**

Wall Location	Rough	Medium	Smooth
East			
South			
West			
North			

• **Condition of the Wall:**

Wall Location	Damp	Chipping of Plaster	Chipping of Paint	Good
East				
South				
West				
North				

7. Ceiling of the Kitchen

- **Material for Construction:**

Wood

Plastered

Metal

Any Other _____

- **Type of Ceiling:**

Plain

False Ceiling

- **Condition of the Ceiling:**

Good

Broken

Cracks

Damp/ Leaking

➤ **Ceiling of the Storeroom**

- **Material for Construction:**

Wood

Plastered

Metal

Any Other _____

- **Type of Ceiling:**

Plain

False Ceiling

- **Condition of the Ceiling:**

Good

Broken

Cracks

Damp/ Leaking

8. Lighting and Fan of Kitchen

- **Provision of Natural Lighting:** Yes No

- **Provision of Artificial Lighting:** Yes No

- **Total No. of Artificial Lighting Fixtures:** _____

- **Type of Lighting Fixtures:**

Wall Mounted Fixtures

Recessed Lighting

Surface Mounted Fixtures

Ceiling Fixtures

- **Type of Artificial Lighting:**

General

Accent

Task

Indirect

- **Location of Lighting Fixtures:**

Floor

Wall

Ceiling

- **Direction of Light:**

- Direct Indirect Diffused

- **Type of Lamp:**

- Incandescent Linear Fluorescent Compact Fluorescent

- **Condition of Lighting:**

- Good Medium Poor

- **Total No. Of Fans:** _____

- **Lighting and Fan of Storeroom**

- **Provision of Natural Lighting:** Yes No

- **Provision of Artificial Lighting:** Yes No

- **Total No. of Artificial Lighting Fixtures:** _____

- **Type of Lighting Fixtures:**

- Wall Mounted Fixtures Surface Mounted Fixtures
- Recessed Lighting Ceiling Fixtures

- **Type of Artificial Lighting:**

- General Task
- Accent Indirect

- **Location of Lighting Fixtures:**

- Floor Wall Ceiling

- **Direction of Light:**

- Direct Indirect Diffused

- **Type of Lamp:**

- Incandescent Linear Fluorescent Compact Fluorescent

- **Condition of Lighting:**

- Good Medium Poor

- **Total No. Of Fans:** _____

- 9. **Provision of Platform in the Kitchen:** Yes No

- **Size of Platform:** Length-_____ Width-_____ Height-_____

• **Material of Countertop:**

- Kota Stone
- Granite

- Marble
- Any Other _____

10. **Provision of Storage Facility in the kitchen:** Yes No

➤ **Provision of Storage Facility in the kitchen:** Yes No

11. **Provision of Kitchen Sink:** Yes No

12. **Provision of Drinking water facility:** Yes No

SECTION IV. INFORMATION REGARDING INTERIOR COMPONENTS OF WASHROOM

1. **Size of the Washroom:** Length-_____ Width-_____ Height-_____

2. **Provision of Ventilation:** Yes No

3. **Door:**

• **Material of Door:**

- Wood
- Steel
- Any Other _____
- Iron
- Aluminum

• **Condition of Doors:**

- Good
- Broken
- Rusted

4. **Floor**

• **Type of flooring treatment:**

- Mud
- Kota Stone
- Marble
- Cement/ Concrete
- Ceramic Tiles
- Any Other _____

• **Texture of flooring:**

- Smooth
- Medium
- Rough

• **Type of finish:**

- Glossy
- Semi-Glossy
- Matt

• **Condition of flooring:**

- Even
- Cracks
- Uneven
- Any Other _____

5. Walls

- **Material for Construction:**

Wall Location	Mud	Brick Unfinished	Bricks/ Stone Plastered	Any Other
East				
South				
West				
North				

- **Type of Wall Treatment:**

Wall Location	Unfinished	Plastered	Whitewash	Distemper	Oil/ Enamel Paint	Tiles	Any Other
East							
South							
West							
North							

- **Hue:**

Wall Location	Dark	Medium	Light
East			
South			
West			
North			

- **Texture:**

Wall Location	Rough	Medium	Smooth
East			
South			
West			
North			

- **Condition of the Wall:**

Wall Location	Damp	Chipping of Plaster	Chipping of Paint	Good
East				
South				
West				
North				

6. Ceiling

- **Material for Construction:**

Wood

Plastered

Metal

Any Other _____

- **Type of Ceiling:**

Plain

False Ceiling

- **Condition of the Ceiling:**

Good

Broken

Cracks

Damp/Leaking

7. Lighting

- **Availability of Natural Lighting:** Yes No

- **Availability of Artificial Lighting:** Yes No

- **Total No. of Artificial Lighting Fixtures:** _____

- **Type of Lighting Fixtures:**

Wall Mounted Fixtures

Recessed Lighting

Surface Mounted Fixtures

Ceiling Fixtures

- **Type of Artificial Lighting:**

General

Accent

Task

Indirect

- **Location of Lighting Fixtures:**

Floor

Wall

Ceiling

- **Direction of Light:**

Direct

Indirect

Diffused

- **Type of Lamp:**

Incandescent

Linear Fluorescent

Compact Fluorescent

- **Condition of Lighting:**

Good

Medium

Poor

8. Provision of Water closet: Yes No

- **Type of Water closet:**

Indian

Western

- **Condition of water closet:**

Good

Broken

9. Provision of Tap: Yes No

- **Material of Tap:**

Plastic

Stainless Steel

Brass

Any Other _____

- **Condition of the tap:**

Good

Broken

Rusted

Leaking

SECTION V. INFORMATION REGARDING INTERIOR COMPONENTS OF OUTDOOR AREA

1. **Size of the outdoor area:** Length- _____ Width- _____ Height- _____

2. **Floor**

- **Type of flooring treatment:**

Mud

Cement/ Concrete

Kota Stone

Ceramic Tiles

Marble

Any Other _____

- **Texture of flooring:**

Smooth

Medium

Rough

- **Type of finish:**

Glossy

Semi-Glossy

Matt

- **Condition of flooring:**

Even

Uneven

Cracks

Any Other _____

3. Walls

- **Material for Construction:**

Wall Location	Mud	Brick Unfinished	Bricks/ Stone Plastered	Any Other
East				
South				
West				
North				

- **Type of Wall Treatment:**

Wall Location	Unfinished	Plastered	Whitewash	Distemper	Oil/ Enamel Paint	Tiles	Any Other
East							
South							
West							
North							

- **Hue:**

Wall Location	Dark	Medium	Light
East			
South			
West			
North			

- **Texture:**

Wall Location	Rough	Medium	Smooth
East			
South			
West			
North			

- **Condition of the Wall:**

Wall Location	Damp	Chipping of Plaster	Chipping of Paint	Good
East				
South				
West				
North				

4. Ceiling

- **Material for Construction:**

- Wood
- Plastered
- Metal
- Any Other _____

- **Type of Ceiling:**

- Plain
- False Ceiling

- **Condition of the Ceiling:**

- Good
- Broken
- Cracks
- Damp/Leaking

5. Lighting

- **Provision of Natural Lighting:** Yes No

- **Provision of Artificial Lighting:** Yes No

- **Total No. of Artificial Lighting Fixtures:** _____

- **Type of Lighting Fixtures:**

- Wall Mounted Fixture
- Recessed Lighting
- Surface Mounted Fixtures
- Ceiling Fixtures

- **Type of Artificial Lighting:**

- General
- Accent
- Task
- Indirect

- **Location of Lighting Fixtures:**

- Floor
- Wall
- Ceiling

- **Direction of Light:**

- Direct
- Indirect
- Diffused

- **Type of Lamp:**

- Incandescent
- Linear Fluorescent
- Compact Fluorescent

- **Condition of Lighting:**

- Good
- Medium
- Poor

6. Provision of Landscaping and planters:

 Yes No

7. Availability of Space for playing Equipments:

 Yes No

(B)- Interview Schedule to know the Requirements of Clients for Designing the Interiors of Anganwadis

Case Study No: _____

Name of the Village: _____

Name of the Anganwadi: _____

Postal Address of the Anganwadi: _____

SECTION I. BACKGROUND INFORMATION OF THE CLIENT

1. Name: _____

2. Age: _____

3. Address: _____

4. Contact No: _____

5. Education:

H.S.C

S.S.C

Graduate

Post-Graduate

Any Other: _____

6. Designation: _____

7. Years of Experience in the Anganwadi: _____

SECTION II. REQUIREMENTS OF CLIENTS REGARDING VARIOUS INTERIOR COMPONENTS

Please tell whether the following interior components are available in the Anganwadi? (Y/N). If no, please tell your preferences.

Sr. No	Interior Component	Available		Requirements
		Yes	No	
ACTIVITY ROOM				
I.	Floor:			
	Hard Covering:			
	Ceramic Tiles			
	Vitrified Tiles			
	Marble			
	Kota Stone			
	Wooden Flooring			
	Any Other			
	Soft Covering:			
	Rubber Tiles			
	Carpets			
	Any Other			
II.	Walls:			
	Applied Wall Finish:			
	Wall Paint			
	Wall Texture			
	Wallpaper			
	Murals			
	Wall Tiles			
	Any Other			
III.	Ceiling:			
	Plain			
	False Ceiling			
IV.	Doors and Windows:			
	Oil Paint Shades:			
	Brown			
	Black			
	Grey			
	Cream			
	Any Other			
V.	Furniture:			
	Chair			
	Table			
	Benches			

Sr.No	Interior Component	Available		Requirements
		Yes	No	
	Storage Units			
	Any Other			
VI.	Lighting:			
	Wall Mounted			
	Floor Mounted			
	Ceiling Lights			
	Recessed			
KITCHEN				
I.	Floor:			
	Hard Covering:			
	Ceramic Tiles			
	Vitrified Tiles			
	Marble			
	Kota Stone			
	Wooden Flooring			
	Any Other			
	Soft Covering:			
	Rubber Tiles			
	Carpets			
	Any Other			
II.	Walls:			
	Wall Paint			
	Wall Texture			
	Wallpaper			
	Murals			
	Wall Tiles			
	Any Other			
III.	Ceiling:			
	Plain			
	False Ceiling			
IV.	Storage Facilities:			
	Storage Cabinets			
	Storage Drawers			
	Any Other			
V.	Material of Kitchen Countertop:			
	Marble			
	Granite			
	Tiles			
	Quartz			
	Terrazzo			

Sr.No	Interior Component	Available		Requirements
		Yes	No	
	Wood			
	Any Other			
VI.	Doors and Windows:			
	Oil Paint Shades:			
	Brown			
	Black			
	Grey			
	Cream			
	Any Other			
VII.	Lighting:			
	Wall Mounted			
	Floor Mounted			
	Ceiling Lights			
	Recessed			
STOREROOM				
I.	Floor:			
	Hard Covering:			
	Ceramic Tiles			
	Vitrified Tiles			
	Marble			
	Kota Stone			
	Wooden Flooring			
	Any Other			
	Soft Covering:			
	Rubber Tiles			
	Carpets			
	Any Other			
II.	Walls:			
	Wall Paint			
	Wall Texture			
	Wallpaper			
	Murals			
	Wall Tiles			
	Any Other			
III.	Ceiling:			
	Plain			
	False Ceiling			
IV.	Doors and Windows:			
	Oil Paint Shades:			
	Brown			
	Black			

Sr.No	Interior Component	Available		Requirements
		Yes	No	
	Grey			
	Cream			
	Any Other			
V.	Storage Facilities:			
	Storage Cupboards			
	Storage Racks			
	Any Other			
VI.	Lighting:			
	Wall Mounted			
	Floor Mounted			
	Ceiling Lights			
	Recessed			
WASHROOM				
I.	Floor:			
	Ceramic Tiles			
	Vitrified Tiles			
	Marble			
	Any Other			
II.	Walls:			
	Wall Paint			
	Wall Texture			
	Wallpaper			
	Murals			
	Wall Tiles			
	Any Other			
III.	Ceiling:			
	Plain			
	False Ceiling			
IV.	Doors and Windows:			
	Oil Paint Shades:			
	Brown			
	Black			
	Grey			
	Cream			
	Any Other			
V.	Type of Water Closet:			
	Indian			
	Wall Mounted			
	Floor Mounted			

Sr.No	Interior Component	Available		Requirements
		Yes	No	
VI.	Lighting:			
	Wall Mounted			
	Floor Mounted			
	Ceiling Lights			
	Recessed			
OUTDOOR AREA				
I.	Floor:			
	Ceramic Tiles			
	Vitrified Tiles			
	Marble			
	Any Other			
II.	Walls:			
	Wall Paint			
	Wall Texture			
	Wallpaper			
	Murals			
	Wall Tiles			
	Any Other			
	Ceiling:			
	Plain			
	False Ceiling			
III.	Other Outdoor Elements			
	Pathway			
	Landscaping			
	Entrance Gate			

Sun Pharmaceutical Industries Ltd.
Tandalja, Vadodara - 390 012, INDIA
Tel : 91-265-6615500/6615600/6615700
Fax : 91-265-2354897
CIN : L24230GJ1993PLC019050



October 7, 2019

To,

Ms. Ashaka Shah
Sr. M.Sc (Interior Designing)
Department of Family and Community Resource Management
Faculty of Family and Community Sciences
The Maharaja Sayajiroa University of Baroda
Vadodara

Subject: Letter of Appreciation

Dear Ashaka Shah,

On behalf of Sun Pharmaceutical Industries Limited, it is my sincere pleasure to express an appreciation and gratitude towards your truly commendable contribution in designing the Model Anganwadis near Halol city under the CSR project of Sun Pharmaceutical Industries Limited. Your individual dedication, knowledge and exemplary efforts assisted immeasurably in the overall success of the project.

I trust that you will keep up the good work in the future as well and your talent and efforts will lead you and your department to great heights in the respective fields.

On behalf of the management I want to thank you for giving this project your best. All the very best for your bright future.

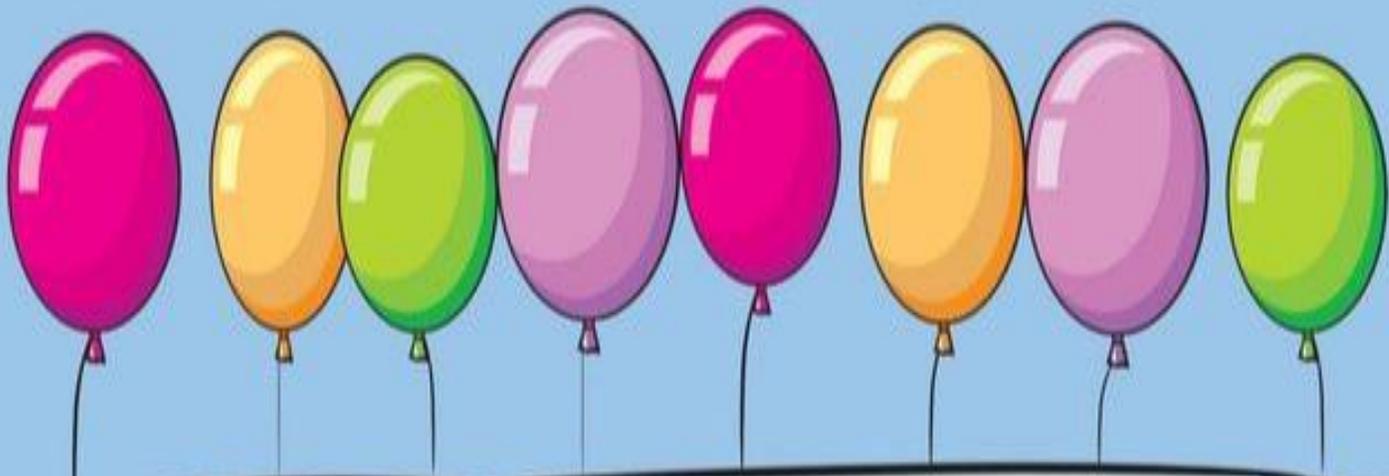
Sincerely,

A handwritten signature in black ink, appearing to read "Brajesh Choudhary", with a horizontal line underneath.

Brajesh Choudhary

(General Manager)

Corporate Social Responsibility



ABSTRACT



ABSTRACT

The interior environment of an Anganwadi affects its operational value and has an intense impact on the behavior and the development of children. The ideal environment is that which reflects the presence of the children; which attracts the children and is rich and challenging to children, but is not over-stimulating or flashy; rather is rich in subtle visual and tactile experience. It is important to remember that the shapes, colors, inspiration and encouragement are crucial parameters in a child's development. Colors, patterns and textures are vital for a child's visual and tactile development. The best children's spaces are colorful and welcoming, busy but organized, energetic yet soothing.

The Government has taken actions and implemented a program for the development of children namely "Integrated Child Development Service" (ICDS) which takes care of overall developmental needs of children who belong to the age group of 3-6 years, pregnant women, lactating mothers, in the age group of 15-45 years, through the Anganwadi Centers. The Anganwadi is generally operated in semi-structured or structured areas with inadequate infrastructures and resources which may hinder the learning activities of children.

Many Corporate sectors have joined hands with the Government to serve the community in many projects in Gujarat and across India under the public-private partnership scheme. Similarly, as a part of CSR activity, Sun Pharmaceutical Industries Limited had taken up an initiative to develop Anganwadis for the children of the Panchmahal district of Gujarat. In order to provide a proper learning environment to Anganwadi children, it is essential to design and develop proper learning space. Consequently, the present study focused on the assessment of the existing status of interior components and designing the interiors of the spaces provided for the development of Anganwadis in the two villages viz: Ujeti and Kashipura of the Panchmahal District of Gujarat.

For the present investigation design project method was adopted which was carried out in four phases which are described as follows:

Phase I: Assessing the Spaces Provided for Designing the Interiors of Anganwadis:

This phase encompassed the assessment of interior components of spaces provided for interior designing of Anganwadis to be developed under the CSR project of Sun Pharmaceutical Industries Ltd. at Ujeti and Kashipura village of the Panchmahal District of Gujarat. To gauge the information regarding the existing status of various interior components of the spaces provided for the Anganwadi, like physical structure and treatment and condition of floor, walls, ceilings, doors, windows, ventilations and storage space observation sheet was used as a data collection tool.

Phase II: Identification of Requirements of clients viz. the General Manager, CSR activities of Sun Pharmaceuticals Industries Ltd. and Anganwadi Workers Regarding Anganwadi Interiors:

During this phase requirements of the clients viz. the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi worker regarding various interior components were gathered. In order to know the requirements of clients regarding treatments to be done on interior components like floor, walls, ceilings, doors, windows, ventilations and storage space of Anganwadis interview schedule was used as a data collection tool.

Phase III: Design Development:

In this phase designs were developed according to the requirements of the clients viz: the General Manager, CSR activities of Sun Pharmaceutical Industries Ltd. and the Anganwadi workers. For design development for both the Anganwadis, three different theme based alternatives were provided through working drawings to the client for selection purpose which included, (1) Underwater Theme (2) Forest Theme (3) Cartoon Theme.

Phase IV: Cost Estimation and Implementation of selected design:

Finally, in this last Phase, cost estimation of the selected design by the clients for both the Anganwadis (Nandghar Ujeti and Nandghar Kashipura)

was provided amongst which for 'Nandghar Ujeti' Forest theme and for 'Nandghar Kashipura' Cartoon theme was selected and implemented.

The present investigation is a unique example of public-private partnership which can be adopted as a model for the ICDS scheme of Government. The designs developed under this investigation will be helpful to the students of interior designing, architects and interior designers and Government for designing other Anganwadis, kindergartens, balwadis, play-centers and primary schools.