

PRISON

A THESIS

Submitted in partial fulfillment of the requirements for the award of
Bachelor of Architecture degree

By

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SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY) Accredited

With Grade “A” by NAAC

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This is to certify that the Thesis Report is the bonafide work of **MATHIVANAN P (39210046)** who carried out the Thesis entitled "**PRISON**" under our supervision from Dec 2024 to May 2024.


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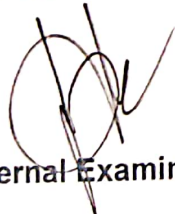

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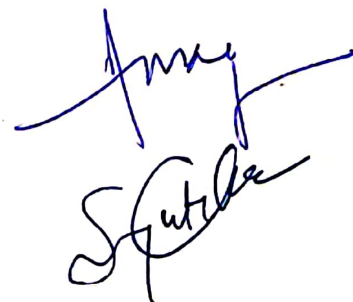


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DECLARATION

I, **MATHIVANAN P (39210046)** hereby declare that the Thesis Report entitled "PRISON" done by me under the guidance of **Ar. Selvendiran** (Internal Guide), **Ar. Sarath C.kanth** (Internal Review Member) and **Ar.Pramod Balakrishnan** (External Guide) Sathyabama Institute of Science and Technology is submitted in partial fulfilment of the requirements for the award of a Bachelor of Architecture Degree.

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Mathivanan P

THESIS SYNOPSIS

This thesis examines the multifaceted role of prisons in modern society, focusing on their purpose, conditions, impacts, and potential reforms. It aims to explore the historical and contemporary purposes of incarceration, assess the living conditions and treatment of inmates, and analyze the psychological and social effects of imprisonment. The study evaluates the effectiveness of prisons in achieving goals such as deterrence, punishment, and rehabilitation. It incorporates a multidisciplinary approach, utilizing both quantitative data (such as prison populations and recidivism rates) and qualitative insights (including interviews with former inmates, prison staff, and policymakers). The research anticipates finding that while prisons are crucial for public safety and punishment, they often fail in rehabilitation and humane treatment, with conditions varying widely based on geography and socio-economic factors. The discussion will contextualize these findings within the broader debate on prison efficacy, critiquing current practices and highlighting successful reforms from various regions. The thesis will conclude with recommendations for evidence-based reforms to improve prison systems, emphasizing the importance of integrating punishment with rehabilitation and humane treatment to achieve better outcomes for inmates and society.

TABLE OF CONTENTS

DECLARATION.....	iii
ACKNOWLEDGEMENT.....	iv
THESIS SYNOPSIS.....	v
TABLE OF CONTENT.....	vi
LIST OF FIGURES.....	viii
LIST OF TABLES.....	x
LIST OF PLATES.....	xi
1 INTRODUCTION	1
1.1 AIM:	1
1.2 HYPOTHESIS:.....	1
1.3 OBJECTIVE:.....	1
1.4 LIMITATIONS:.....	1
1.5 RESEARCH QUESTIONS:	1
1.6 METHODOLOGY:.....	2
1.7 INTRODUCTION	3
1.8 NEED FOR STUDY	3
2 LITERATURE REVIEW	4
2.1 PSYCHOLOGICAL IMPACT	4
2.2 FACILITY SIZE AND LAYOUT	4
2.3 SOUND	4
2.4 LIGHT AND LIGHTING.....	4
2.5 IMPACTS OF LIGHT	4
2.6 EFFECTS OF LIGHT ON BEHAVIOUR AND HEALTH	5
2.7 WINDOWS AND VIEWS.....	5
2.8 GREEN SPACES, GARDENING, BIOPHILIC DESIGN AND HORTICULTURAL THERAPY.....	5
2.9 IMPACT OF VIEWS OF AND CONTACT WITH NATURE	5
2.10 COLOUR	5
2.11 MENTAL HEALTH IN PRISON	6
2.12 STAFF HEALTH AND WELL-BEING IN PRISONS: LEADERSHIP AND TRAINING.....	6
2.13 DETAIL FUNCTIONAL COMPONENTS	6
2.13.1 MASTER CONTROL	6
2.13.2 INTAKE-RELEASE	7

2.13.3	GENERAL HOUSING.....	8
2.13.4	SPECIAL HOUSING.....	9
2.13.5	HEALTH CARE	11
2.13.6	VISITING AREAS.....	12
2.13.7	EXERCISE AREAS.....	13
2.13.8	PROGRAMS AND SERVICES	14
2.13.9	INMATE COMMISSARY.....	15
2.13.10	FOOD SERVICE.....	15
2.13.11	LAUNDRY AREA	17
2.13.12	STAFF AREAS	17
2.13.13	STORAGE AREAS.....	18
2.14	THE IMPACT OF DESIGN ON RECIDIVISM RATES (KRUEGER, 2018)	19
3	PRISON HISTORY & EVOLUTION	20
3.1	HISTORY	20
3.2	TYPE OF PRISON.....	23
4	PRISON IN INDIA.....	24
4.1	TYPES OF PRISON IN INDIA	24
4.2	NATION WIDE CURRENT PRISONS POPULATION (INDIA, 2013).....	26
4.3	NUMBER OF PRISONS AND PRISONERS.....	26
5	CASE STUDY.....	27
5.1	TIHAR JAIL.....	27
5.1.1	OVERVIEW	27
5.1.2	KEY ARCHITECTURAL ASPECTS OF TIHAR JAIL:.....	30
5.2	STORSTROM PRISON	33
5.2.1	OVERVIEW	33
5.2.2	KEY ARCHITECTURAL ASPECTS OF TIHAR JAIL.....	38
5.3	HALDEN PRISON	41
5.3.1	OVERVIEW	41
5.3.2	KEY ARCHITECTURAL ASPECTS OF HALDEN PRISON	46
6	COMPARATIVE STUDY OF PRISONS.....	48
6.1	COMPARISON	48
7	RECIDIVISM RATE OF PRISONS IN AND OUT OF INDIA.....	50
7.1	NORWAY.....	50
7.1.1	THE BENEFITS OF NORWAY’S PRISON SYSTEM	50

7.1.2	IMPACT ON NORWAY'S RECIDIVISM RATE	50
7.2	INDIA.....	51
7.2.1	FACTORS THAT CONTRIBUTE TO THE HIGH RECIDIVISM RATE IN INDIA	51
7.2.2	THE INDIAN GOVERNMENT HAS IMPLEMENTED SEVERAL MEASURES TO TACKLE THE ISSUE OF RECIDIVISM.....	52
7.3	COMPARISON OF RECIDIVISM RATES IN INDIA AND NORWAY.....	52
8	ROLE OF ARCHITECTURE ON PRISONERS.....	53
8.1	POSITIVE IMPACTS OF PRISON ARCHITECTURE.....	53
8.2	NEGATIVE IMPACTS OF PRISON ARCHITECTURE.....	53
8.3	PRISONER BEHAVIOUR IS INFLUENCED BY ARCHITECTURE.	54
9	CONCLUSION.....	55
9.1	PRISON ARCHITECTURE	55
9.2	REHABILITATION PROGRAMS.....	55
9.3	RECIDIVISM RATES AND ARCHITECTURAL SPACES.....	55
9.4	CONCLUSION	56
CHAPTER 10		57
10	LIVE CASE STUDY.....	57
CHAPTER 11		64
11	SITE STUDY & ANALYSIS	64
12	ARCHITECTURAL DESIGN.....	66
12.1	AREA STATEMENT.....	66
12.2	CONCEPT.....	67
12.3	SITE PLAN.....	68
12.4	STANDARD WING	69
12.5	OBSERVATION WING	70
12.6	HIGH SECURITY WING.....	71
12.7	GATEWAY BLOCK AND VISITORS BLOCK.....	72
12.8	REHAB BLOCK	73
12.9	WORKSHOP.....	74
13	REFERENCES	75

LIST OF FIGURES

Figure 1-General image of the cell	3
Figure 2-Public lobby	7
Figure 3-Intake and Release	8
Figure 4-General housing	9
Figure 5-Work Release Unit	10
Figure 6-ADA Complaint cell	10
Figure 7-Suicide/Mental Health/Detoxification Observation Cell	11
Figure 8-Health-Care Area	12
Figure 9-Visiting Areas.....	13
Figure 10-Exercise areas	13
Figure 11-Programs and service area	15
Figure 12-Commissary Components.....	15
Figure 13-Food Service Area	16
Figure 14-Laundry Area	17
Figure 15-Physical Conditioning and Locker/ Shower Areas	18
Figure 16-Central Storage Area)	18
Figure 17-Prison Corridor.....	20
Figure 18-Prison of San Michele	21
Figure 19-Pennsylvania system	21
Figure 20-Auburn System	22
Figure 21-Cardiff prison	22
Figure 22-Types of Prison.....	23
Figure 23-Nationwide Current Prisons Population	26
Figure 24-Number of prisons and prisoners	26
Figure 25-Delhi Map.....	27
Figure 26-Central jail.....	27
Figure 27-Satellite map of Tihar jail.....	28
Figure 28-Campus Placement cell	29
Figure 29-Open Ground	29
Figure 30-Meeting area.....	29
Figure 31-Plan and Section of Tihar jail	30
Figure 32-Typical cell.....	30
Figure 33-Dining Area in Tihar	31
Figure 34-Library in Tihar Prison.....	32
Figure 35-Outside of Storstorm Prison	33
Figure 36-Aerial view of Storstorm Prison	33
Figure 37-Landscape between Blocks	33
Figure 38-Typical cell of Storstorm Prison.....	34
Figure 39-Activity Building.....	34
Figure 40-Artworks and decoration on walls.....	35
Figure 41-Site plan of Storstrom Prison	35
Figure 42-Typical cell plan	36
Figure 43-Standard wing ground floor plan	36
Figure 44-Standard wing section.....	37
Figure 45-Standard wing first floor plan.....	37
Figure 46-Standard wing elevation.....	37

Figure 47-Maximum Security Wing Ground Floor.....	38
Figure 48-Standard wing view.....	39
Figure 49-Visitors room.....	40
Figure 50-Halden Prison	41
Figure 51-3d View of Halden Prison.....	41
Figure 52-Aerial View of Halden Prison.....	42
Figure 53-Visiting Area.....	42
Figure 54-Lobby.....	42
Figure 55-Site plan of Storstorm prison.....	43
Figure 56-Ground floor Plan of unit B and C	44
Figure 57-First floor plan of unit B and C.....	44
Figure 58-first floor Plan of activity centre	45
Figure 59-Ground floor Plan of activity centre	45
Figure 60-Typical cell of halden Prison	46
Figure 61-Compound wall of Halden Prison	46
Figure 62-Norway's Recidivism Rate	50

LIST OF TABLES

Table 1-No of prisons and capacity	25
Table 2-Comparative study of prisons.....	49
Table 3-Recidivism Rate of Convicts in 2022	51
Table 4-Recidivism rate of Undertrial	51

TABLE OF PLATES

Plate 1 Puzhal Case study	57
Plate 2 Puzhal Case Study	58
Plate 3 Puzhal Case Study	59
Plate 4 Puzhal Case Study.....	60
Plate 5 Puzhal Case Study	61
Plate 6 Coimbatore central Prison Case Study.....	62
Plate 7 Coimbatore central Prison Case Study.....	63
Plate 8 Site Analysis	64
Plate 9 Site Analysis	65
Plate 10 Area Statement	66
Plate 11 Concept.	67
Plate 12 Site Plan	68
Plate 13 Standard Wing	69
Plate 14 Observation Wing.....	70
Plate 15 High Security Wing.....	71
Plate 16 Gateway Block and Visitors Block	72
Plate 17 Rehab Block.....	73
Plate 18 Workshop.....	74

CHAPTER 1

1 INTRODUCTION

1.1 Aim:

The aim is to facilitate effective correctional programs and rehabilitation efforts that can help reduce recidivism rates and promote successful reintegration into society through architectural design.

1.2 Hypothesis:

The design and layout of correctional facilities can have a significant impact on the behavior, well-being, and rehabilitation outcomes of inmates.

1.3 Objective:

- To study the history and evolution of prisons
- To understand facilities that prioritize safety, security, and the well-being of both inmates and staff.
- To study an environment that prevents escapes, ensures the efficient operation of the facility, and promotes the physical and mental health of the individuals housed within the prison.
- To understand the impact on human behavior due to his surroundings and how a space changes the behavior of a prisoner

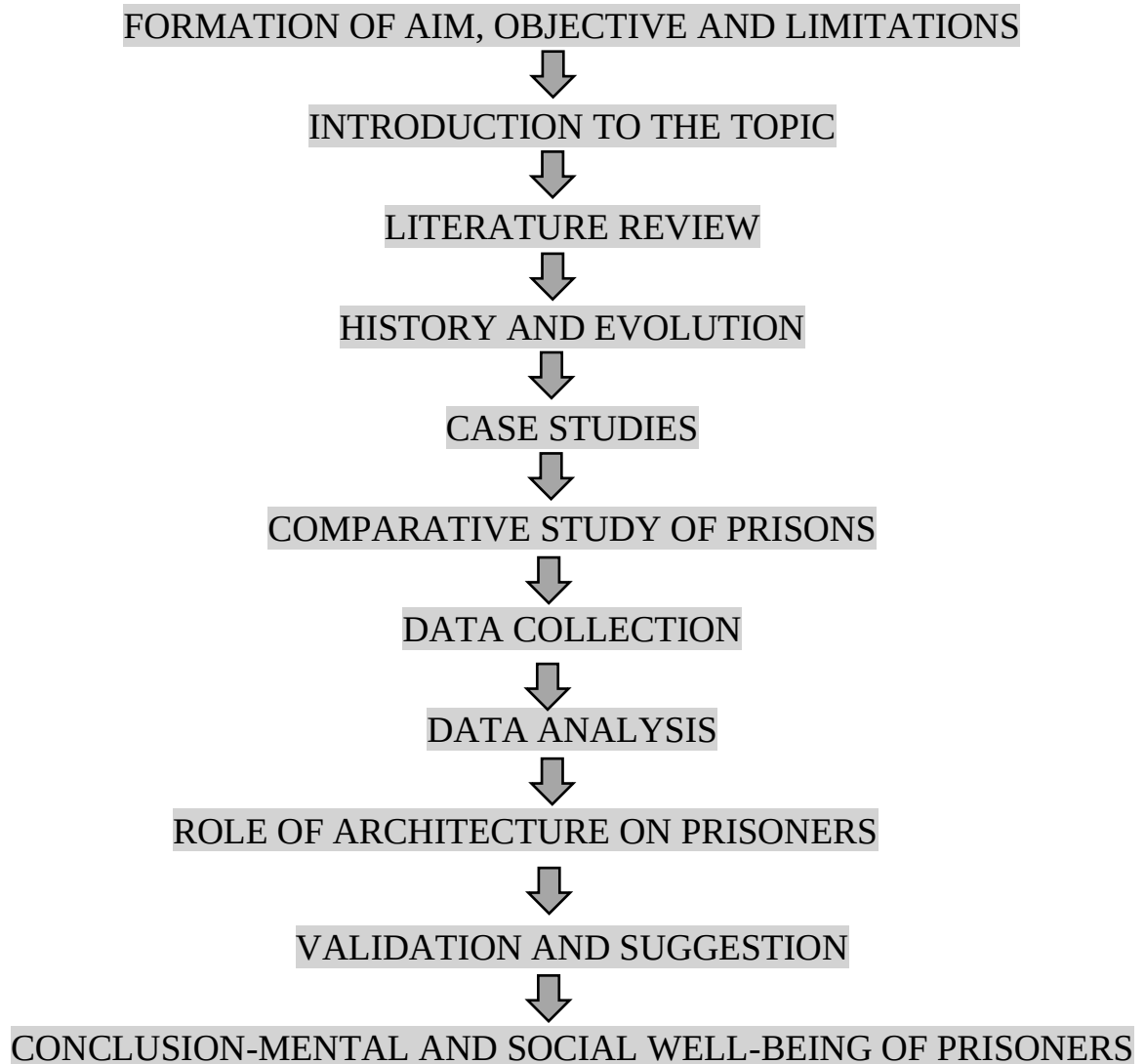
1.4 Limitations:

- Comparative study of prisons in India
- To understand the psychological impact of the surrounding in the prison complex
- To check various mindsets of inmates in different spaces inside the prison cell

1.5 Research questions:

1. How do different types of spaces within correctional facilities, such as educational spaces, vocational training areas, and recreational spaces contribute to prisoner rehabilitation?
2. How does the design and layout of the prison impact inmate behavior and well-being?
3. What are the effects of different architectural features, such as lighting, noise levels, and spatial configurations, on inmate experiences within correctional facilities?
4. How does the design of prison architecture impact staff-inmate interactions and the overall atmosphere within the facility?
5. How can the use of technology and innovative design principles enhance the effectiveness of prison architecture in promoting rehabilitation and reducing recidivism?
6. How do different architectural approaches, such as open-plan versus cell-based designs, impact inmate experiences and outcomes?

1.6 Methodology:



1.7 Introduction

Prisons, historically used for punishment, now focus on rehabilitation of inmates to improve behavior and facilitate successful reintegration into society. Traditionally, they were designed to house individuals who committed crimes, but the universally accepted goal is now to improve their well-being.

Correctional programs in prisons are crucial in achieving the goal of reducing criminality rates. These programs focus on inmates' human adjustment, education, and understanding of human problems, aiming to reduce criminal behavior not only within prisons but also in society as a whole.



Figure 1-General image of the cell

This research explores the impact of prison architecture on rehabilitation, aiming to transform prisons from punishment-focused spaces to reformation centers. The study aims to improve inmates' lives and promote positive change, highlighting the significant role of the physical environment in facilitating rehabilitation within prisons.

1.8 Need for study

Prisons, historically seen as punishment sites, are crucial for rehabilitation. However, the current state of prisons, largely resembling British structures, is insufficient for modern inmates, as they lack the necessary architecture and infrastructure to effectively support their recovery.

The physical environment in prisons significantly impacts inmates' psychological well-being, with the atmosphere affecting both positively and negatively. The changing inmate population has led to increased criminal activities like drug addiction, involvement in underworld gangs, and robbery due to societal unrest and limited employment opportunities.

Rehabilitation of inmates is crucial due to the current situation. Studying inmate psychology is vital for developing effective strategies for reformation. The focus should shift from punishment to reformation, encompassing moral and physical behavior. Implementing changes in prison architecture and programs can promote positive change and rehabilitation among inmates.

CHAPTER 2

2 LITERATURE REVIEW

2.1 Psychological impact

The World Health Organization (WHO) conducted a seminar on the effects of life in prison, highlighting the constant stress experienced by individuals, which can lead to exhaustion, burnout, and PTSD. Prisons often have a climate characterized by communication work from superiors, low sense of camaraderie among workers, and a lack of organizational identity. This can result in the accumulation of overtime. The seminar also acknowledged the challenges faced by prisoners, such as limited access to information and limited communication opportunities. The prison environment also undermines the self-esteem of inmates, as prisoners often live in a world where complete distrust is necessary. The uncertainty of the prison environment creates a sense of insecurity, as prisoners are subjected to the enforcement of rules. This loss of agency contributes to feelings of vulnerability and depression, leading to a lack of capacity or desire for communication. The uncertainty surrounding the duration of custody for individuals awaiting trial or serving sentences further exacerbates these emotions. (Organisation, 1990)

2.2 Facility size and layout

Ulrich's literature review highlights the importance of facility size and arrangement in prisons. In 2017, layouts promoting interaction between staff and inmates resulted in positive outcomes. Johansen et al. argue that smaller Norwegian prisons have favourable conditions for residents and staff, as measured by positive perceptions of prison life. (WENER, 2012)

2.3 Sound

In his book, Wener discusses the impact of noise on prison environments. He argues that large, open interior spaces with high ceilings and heavy use of hard materials create high volumes and large reverberation times, causing uncomfortable echoing. Additionally, constant mechanical sources of sound like heating, cooling, and ventilation can add background hums, further exacerbating the noise issue. (WENER, 2012)

2.4 Light and lighting

The literature reviews highlight the importance of light and lighting in prison environments, but only one article by Wener specifically discusses these themes. Studies have shown that exposure to natural light positively impacts physical and mental health, recovery, and well-being among hospital patients. However, there is increasing evidence that appropriate artificial lighting can have positive effects, comparable to those received from daylight. The long-term incarceration in prisons makes it crucial to consider artificial light both as a complement and a substitute for natural light. This highlights the need for more research on light and lighting in prison environments. (WENER, 2012)

2.5 Impacts of light

Office workers prefer natural light over electric light and may tolerate lower levels of light when it comes from windows. They tend to overestimate the percentage of light on their desk from the exterior source, and the further away from the window, the more the daylight effect is overestimated. Indoor lighting preferences reflect natural cycles, with a preference for changes in luminance following daylight changes. Designing lighting that mimics these effects can add to the quality of the setting and break the monotony in electrically-lit places, especially in enclosed institutional environments. (WENER, 2012)

2.6 Effects of light on behaviour and health

Correctional settings often lack daylight due to architecture and regimen, and due to the 24-hour nature of prisons, significant activity occurs in the evening and overnight. Therefore, it's crucial to consider electrical light as both a complement and substitute for natural light, and explore different types of lighting and their effects. (WENER, 2012)

2.7 Windows and views

Windows in prisons offer a visual escape and reduce boredom, especially in closed institutions. Views of nature can reduce stress and mental relief, and inmates with external views have lower blood pressure and use less healthcare facilities. (WENER, 2012)

2.8 Green spaces, gardening, biophilic design and horticultural therapy

Nature experiences improve cognitive performance, attention, and reduce anxiety, stress, and pain. They aid in pain management, health recovery, and heart rate reduction. Green spaces provide distraction and reduce mental fatigue, which can lead to anger, irritability, and aggressive behavior. (WENER, 2012)

2.9 Impact of views of and contact with nature

Nature is considered critical to human physical and mental health. Recent research on the impact of nature exposure and views on behavior, mood, and health is relatively recent. The biophilia stress model and attention restoration model explain the importance of nature and nature views. The biophilia hypothesis suggests that direct contact with nature reduces stress and offers an evolutionary advantage through rapid stress recovery. Studies have shown that patients with views of trees have faster recovery from surgery, lower blood pressure, and reduced anxiety. (WENER, 2012)

Ulrich's 1984 study on hospital views revealed that patients with tree views experienced faster recovery from surgery compared to those with brick wall views.

Studies show that nature views aid in faster stress recovery, with positive physiological effects on stress measured by heart rate. Windows in hospital settings can reduce depression, anxiety. Nature scenes, combined with nature sounds, can reduce pain in patients undergoing flexible bronchoscopy. Windows provide positive distractions from stress, reducing boredom and stress.

Nature views can lead to reduced frustration, increased satisfaction, and fewer self-reported ailments. Nature vacations provide more recovery and restoration than urban trips, and exposure improves performance on mentally challenging tasks (WENER, 2012)

2.10 Colour

Environmental design and behavior often focus on the effects of color, as people often have strong preferences and emotional associations with colors. Color plays a significant role in room lighting, and if effective in changing mood or behavior, it could be an inexpensive and easy fix for behavioral problems. However, there is

relatively little research and theory on the psychological and behavioral effects of color. Most research is empirical with little theoretical basis, and much of it is based on 1940s beliefs that blue-green colors are calming and red-orange-yellow colors are arousing. (WENER, 2012)

The relationship between color and human response is unclear or non-existent, with most studies finding no effect of red versus blue on task performance. Some studies show opposite results, with red leading to better performance in some and blue and green calming in others. (WENER, 2012)

2.11 Mental health in prison

Prisoners with mental health problems require good basic prison care, as their mental well-being can deteriorate without proper care. Studies show that prison mental health services are higher than in the community, requiring more intensive and integrated services. Prisoners often have other vulnerabilities, such as substance misuse, poor physical health, learning difficulties, and relationships. Mental health treatment should address all prisoners' needs, including social needs, and be psychosocial in nature. Understanding prisoners' views on mental health is crucial, and staff should have appropriate mental health awareness training. Maintaining links with families is crucial for mental well-being and successful return to society. Continuity of care is important, including continuation of treatment and handing over care to community-based providers. Mental health recovery is a useful approach for prison mental health care, focusing on social recovery and support for sufferers. (Organisation, 1990)

2.12 Staff health and well-being in prisons: leadership and training

A successful prison ensures safe custody and good order, maintaining respect and decency. Prison management plays a crucial role in ensuring staff and prisoners feel safe and have opportunities to maintain and improve their health. Prisons should aim to be healthy workplaces, applying safe systems of work, good health and safety practices, and employee support. Staff should recognize the importance of balancing custody and control with care and rehabilitation, and have basic training in laws, duties, rights, ethical duties, and emergency response. A core curriculum for health should be proposed for all prison staff. (Organisation, 1990)

2.13 Detail functional components

2.13.1 Master control

Master Control is a crucial function in jails, monitoring and controlling communication, life safety, and security systems. In small jails, it may serve as the only secure staff post and a nerve center of the operation. It may also monitor inmate housing units or public areas and handle public reception during shifts. The minimum acceptable staffing in jails is two people, with staff taking turns in Master Control. However, this is only necessary for small jails with adequate backup in emergencies and gender-related requirements. Medium-sized facilities need more staff. (Thigpen, 1998)

Space list

Some of the typical spaces that might be found with the Master Control component include:

- Master control/dispatch work space
- Restroom
- Computer/electronic equipment room

- General storage/equipment storage room
- Medicine storage cabinets or room
- Interlocked security vestibule

Component diagram

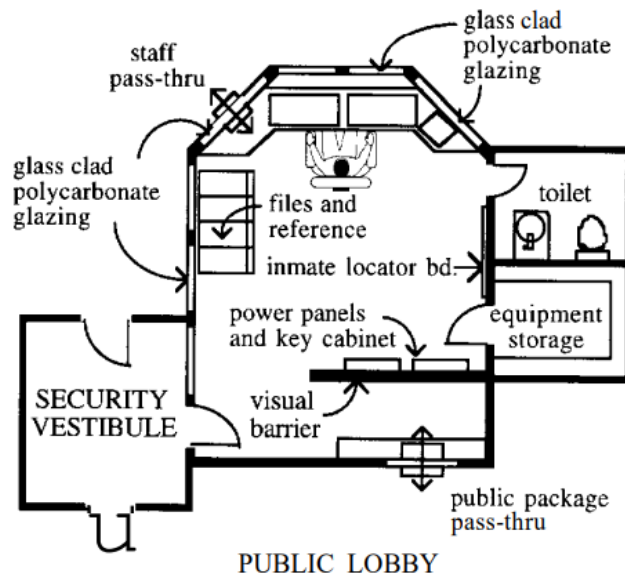


Figure 2 Public lobby

2.13.2 Intake-release

The intake-release area in a jail is responsible for receiving arrestees or inmates, administering intake activities such as verifying arresting authority, frisking, holding, screening, and providing first aid. It also handles admissions into housing units, ensuring proper hygiene, and releasing inmates from receiving areas or housing units. It also ensures secure exits and proper documentation. (Thigpen, 1998)

The intake-release area in a jail sets the tone for an arrestee's stay and influences their behavior. It is crucial for both new and long-term inmates, as it is used frequently and intensely. The planning and design of this area require special attention to ensure a safe, secure, calm, and orderly environment that preserves human dignity. In the past, jails provided less space for intake and release functions, often combining booking areas with cellblocks or public areas. Modern jails consolidate these functions into one distinct complex within the main security perimeter, ensuring a more secure and orderly environment. (Thigpen, 1998)

Space list

Many types of spaces are designated as intake-release space in this functional-architectural component, including:

Receiving

- Vehicle sally port
- Secure entry vestibule/frisk area
- Arresting officer report writing area
- Sobriety testing area
- Holding cells
- Waiting areas

- Booking/staff position
- Fingerprint/photograph area,
- Temporary property storage area
- Record storage area
- Staff toilet
- Arrestee toilet
- Telephone alcove
- Strip search area

Admitting

- Shower/clothing change
- Clothing issue/storage
- Clean linens/toiletries issue/storage
- Property storage
- Street clothes storage

Release (generally uses receiving and admitting spaces)

- Clothing issue/change and property issue area
- Temporary holding (mainly for transfers to court and other facilities)

Component drawing

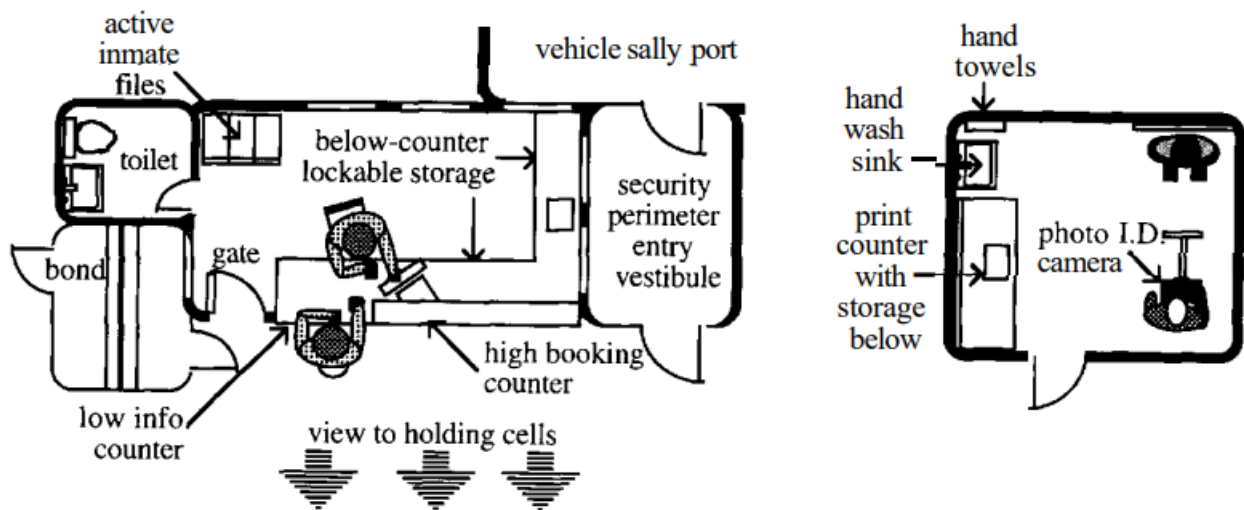


Figure 3-intake and Release

2.13.3 General housing

The general housing component of a jail is responsible for accommodating the typical inmate, including those who do not require special accommodations due to behavior, condition, or unique separation requirements. Special housing is provided for inmate classifications such as work release, periodic confinement, inmate worker, protective custody, juveniles, inmates requiring medical isolation, disciplinary detainees, and those with disabilities. The general housing population primarily consists of adult males charged with a felony, misdemeanor, municipal, or traffic offense. It serves as the focal point of jail design and represents a significant portion of the costs and square footage involved. (Thigpen, 1998)

Space list

- Cells or dormitories

- Dayrooms (one per housing unit)
- Security vestibules (as needed)
- Shower area (1 per 8–12 inmates, per code)
- Dayroom inmate toilet area
- Storage
- Janitor closet
- Staff control post (one per housing area recommended)
- Staff toilet (one per staff post)
- Multipurpose room
- Visiting area
- Indoor and/or outdoor exercise
- Sick call/medical exam room
- Video court appearance room
- Food reheating/distribution area
- Linen storage

Component Diagram

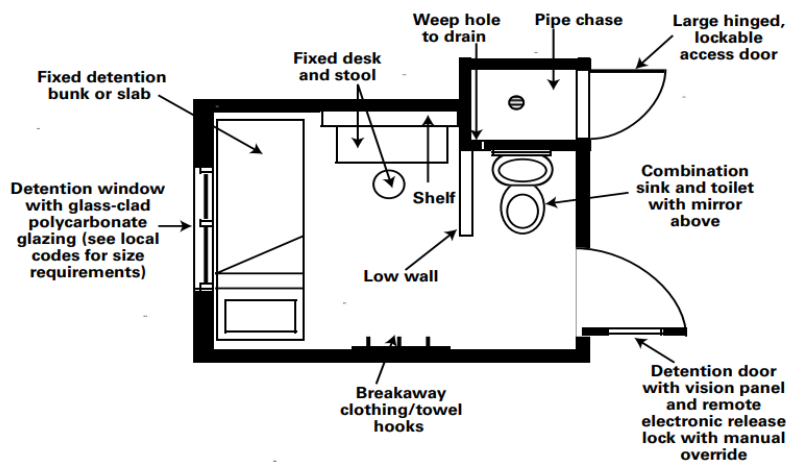


Figure 4-General housing

2.13.4 Special housing

Special housing areas in small and medium-sized jails are designed to accommodate inmates who require specific design characteristics or separate spaces from the general population. These groups include work release inmates, protective custody inmates, juvenile detainees, medically isolated inmates, disciplinary detainees, suicidal inmates, mentally disturbed inmates, and intoxicated inmates. These housing areas are designed to provide protection, separation, and supervision for inmates who require special accommodations due to their behavior, condition, or unique security risk. Local laws should be consulted to determine the definition of "juvenile" and criteria for assigning "adult" status. (Thigpen, 1998)

Space List

The types of inmates with special housing needs and the types of spaces that might be provided to meet those needs are as follows:

Work release/periodic-sentence inmates:

- Vestibule from jail security envelope.
- Sleeping rooms.
- Dayroom.
- Shower/toilet.
- Search areas (male/female).
- Street clothes storage/change area.
- Clean clothes storage/change area.
- Laundry.
- Secure entry.

Inmate workers:

- Sleeping rooms/dormitory.
- Dayroom.
- Shower/toilet.
- Cells (to accommodate inmates with and without disabilities).
- Dayroom.
- Shower/toilet.

Medical isolation inmates:

- Cells
- Dayroom
- Shower

Disciplinary detention inmates:

- Cells (to accommodate inmates with and without disabilities)
- Dayroom/vestibule
- Shower

Suicidal/mentally ill/intoxicated inmates:

- Cells (to accommodate inmates with and without disabilities)
- Dayroom/vestibule
- Shower

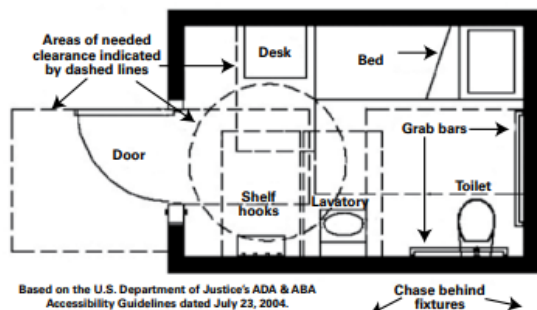
Staff post:**Storage:****Janitor closet:****Components**

Figure 6-ADA Complaint cell

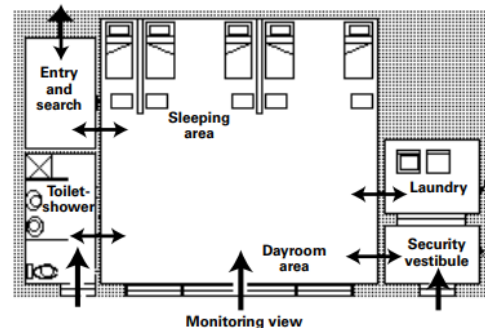


Figure 5-Work Release Unit

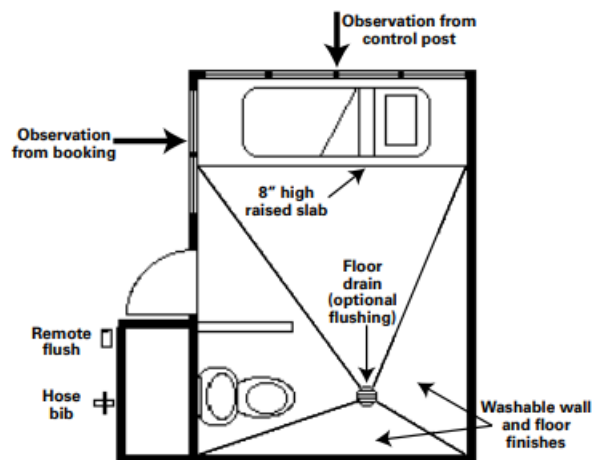


Figure 7-Suicide/Mental Health/Detoxification Observation Cell

2.13.5 Health care

Adequate healthcare services are crucial for the well-being of arrestees and inmates, serving as a basic human right and responsibility of jails. These services include medical screening, suicide screening, solicitation of health complaints, alcohol or drug detoxification, temporary care for mental illness, testing for infectious diseases, isolation, routine health appraisal, emergency treatment, administration of medicines, infirmary care, emergency dental care, special medical diets, health education, mental health counseling, and cleaning and disinfecting medical space. Historically, small and medium-sized jails have faced health care housing deficiencies, but now provide more sophisticated examination and treatment space. (Thigpen, 1998) (Organisation, 1990)

Space List

- Examination/treatment room(s).
- Secure medications storage and distribution.
- Secure records storage.
- Staff work area (offices).
- Storage closet.
- Emergency equipment storage.
- Inmate toilet.
- Inmate waiting area.
- Dental examination room.
- Janitor's closet.
- Housing.
- Staff lockers.
- Treatment room (for minor surgeries or emergency treatments separate from examinations).
- Sterile storage room.
- Soiled linens workroom.
- Reception/clerical.
- X-ray room.
- Dental operating room.
- Laboratory.
- Biohazard storage.
- Clean and dirty utility storage

Components

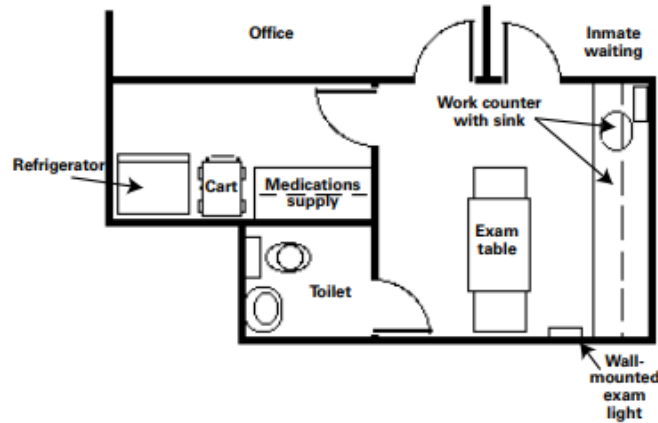


Figure 8-Health-Care Area

2.13.6 Visiting areas

Visiting is a crucial link between inmates and the community, allowing them to communicate with family members, friends, business associates, ministers, and attorneys. It is one of the jail's most effective tools in managing their behavior. In older jails, visiting often occurred at cellblocks, which were characterized by lack of privacy, physical conditions, and poor security features. Modern designs now allow visits with friends and family in private, non-contact spaces, with contact visiting limited to official visitors and low-security inmates. Visitor facilities include non-contact and contact visiting spaces, disabled facilities, reception desks, waiting areas, storage areas, privacy areas, and telephone visiting. Courts generally allow inmates to visit with family, friends, and the media within a reasonable jail schedule. (Thigpen, 1998)

Space List

- Reception desk/counter/space.
- Public waiting area.
- Locker storage.
- Secure entry vestibule.
- Public search area.
- Inmate search area.
- Noncontact visiting area:
 - One-visitor station.
 - Two-visitor station.
- Contact visiting area:
 - Space for one-on-one visits.
 - Space for visits that include a number of people
 - Public lobby/night lobby.
 - Public toilet areas.
 - Intake-release area.

Components

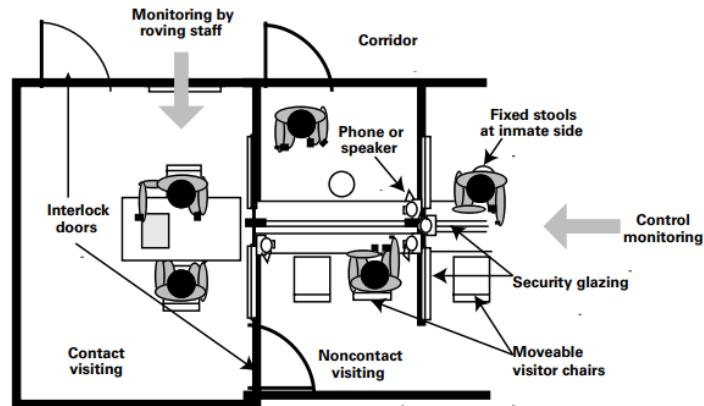


Figure 9-Visiting Areas

2.13.7 Exercise areas

Active indoor and outdoor exercise is crucial for inmate well-being and facility security. Outdoor exercise, such as basketball, volleyball, weightlifting, and calisthenics, is beneficial for emotional and physical well-being. In small and medium-sized jails, both indoor and outdoor exercise areas are now common. Indoor exercise requires special space and equipment, while outdoor exercise involves physical and vigorous activities. Both types of exercise reduce operational problems, such as inmate assaults, staff assaults, property damage, and lawsuits, and provide health and psychological benefits for inmates. (Thigpen, 1998)

Space List

Indoor exercise area:

- Equipment storage.
- Restroom/search area.
- Exercise/recreation office.

Outdoor exercise area:

- Equipment storage.
- Restroom/search area.
- Coat/hat storage.

Components

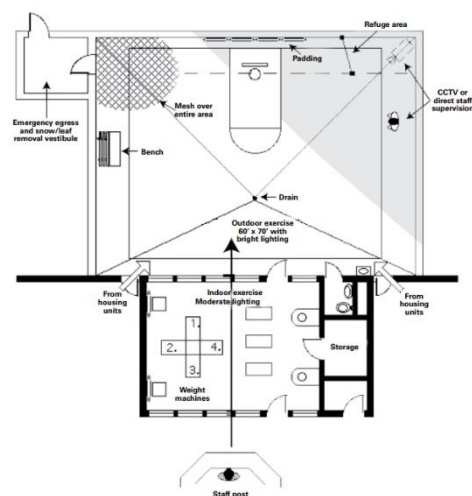


Figure 10-Exercise areas

2.13.8 Programs and services

Programs and services can enhance staff management capabilities and fulfill the facility's mission, such as restraint, reintegration, reform, or rehabilitation. Some programs and services are required by state standards and council decisions. In the past, smaller jails often had limited space for these activities, leading to conversions to program space. Today, it's crucial to consider program and service space during planning stages. Small and medium-sized jails should create multi-purpose areas that are large and flexible, balancing the provision of programs against the short stays of inmates and the availability of qualified service providers. (Thigpen, 1998)

Space List

Some of the typical spaces that might be found within the programs and services component as individual spaces or merged into multipurpose applications are:

Counseling:

- Individual.
- Group.

Religious:

- Personal counseling.
- Services/instruction.
- Storage.

Library:

- Recreational and legal:
- Stack area.
- Reader area.
- Work area.
- Computer workstation area.
- Study carrel area.
- Storage.

Education:

- Classroom.
- Storage.

Recreation:

- Recreation room.
- Storage.

Staff facilities:

- Offices.
- Toilet(s).
- Storage.
- Closet.
- Reception/secretary.

Components

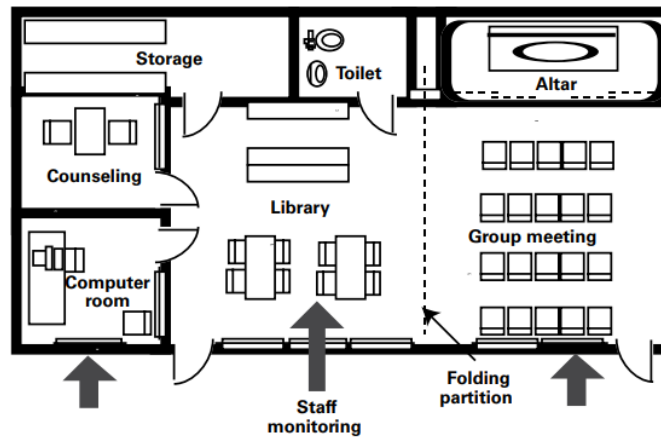


Figure 11-Programs and service area

2.13.9 Inmate commissary

Inmate commissaries allow inmates to purchase personal items not typically provided by the jail, such as basic hygiene items. This is viewed as a privilege, not a right, as long as basic sanitation and food service are adequate. The trend is to provide commissary services at the jail or use outside sources to prevent contraband introduction. The commissary privilege can be withdrawn for violations of rules. Administration of the commissary is often assigned to food services or inmate program staff, depending on the jail's personnel situation and management philosophy. (Thigpen, 1998)

Space List

Some of the typical spaces that might be found in the commissary component follow

- Storage area.
- Work area.
- Inmate waiting area (for centralized
- commissary only).
- Receipt and staging area (for contract
- deliveries).

Components

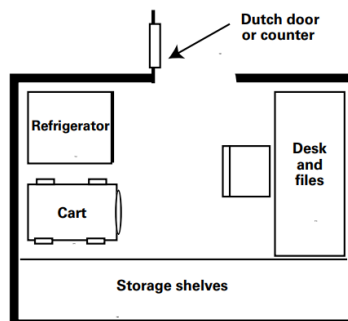


Figure 12-Commissary Components

2.13.10 Food service

Food service in jails significantly impacts daily routines, operating costs, and construction costs. It presents security concerns, disrupts other operations, and affects inmate attitudes and behavior. Inadequate meal planning and equipment maintenance can lead to inmate grievances and legal suits. The food service component

includes menu planning, receiving and storing food, beverage preparation, delivery, dining, cleaning, waste disposal, and record keeping. The current design focuses on providing quality facilities that minimize preparation time, enhance delivery without compromising food quality, and accommodate future capacity needs without expansion. ACA standards focus on policies, procedures, and documentation for inmate food service operations. State and local food service requirements should be carefully checked. (Thigpen, 1998)

Space List

- Receiving dock.
- Delivery vestibule/loading dock.
- Security vestibule.
- Food storage:
 - Dry.
 - Refrigerated.
 - Frozen.
- Food preparation.
- Tray assembly.
- Secure cutlery storage.
- Cook's work area/office.
- Cart storage and cleaning.
- Cleanup (pot washing, dishwashing).
- Tray/utensil storage.
- Central dining.
- Inmate worker/staff dining.
- Staff locker area.
- Staff toilet.
- Inmate worker toilet.
- Waste disposal.
- Temporary garbage retention.
- Recycling area.

Components

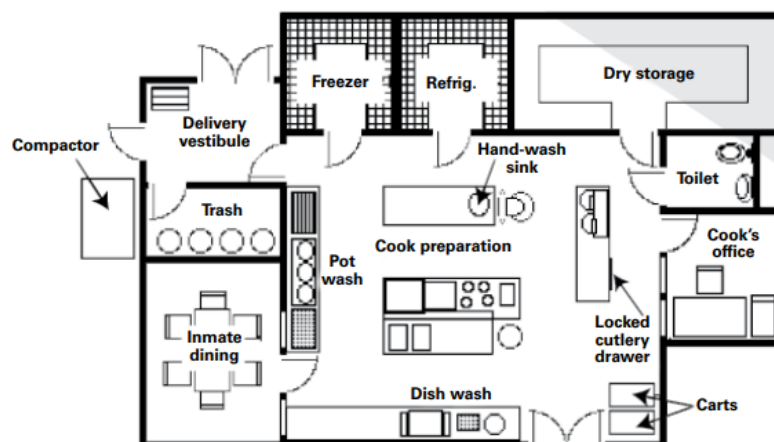


Figure 13-Food Service Area

2.13.11 Laundry area

Laundry facilities in jails should be adequate and equipped for laundering bedding, linen, towels, and clothing on a scheduled basis. Inmate workers are responsible for the process, which includes collection, sorting, washing, drying, folding, mending, storage, and distribution. Older facilities had modest laundry areas, but newer facilities are focusing on creating accessible, dedicated spaces for hygiene upgrades. Commercial equipment is preferred due to its larger capacity and longer life. (Thigpen, 1998)

Space List

Some of the typical spaces that might be found with the laundry component include:

- Main laundry room:
 - Cart staging area.
 - Sorting and weighing area.
 - Washing machines.
 - Dryers.
 - Folding tables.
- Detergent-bleach dispenser room.
- Linen and clothing storage room.
- Supply storage closet.
- Inmate worker toilet room.
- Laundry at work release.
- Laundry at female housing.

Components

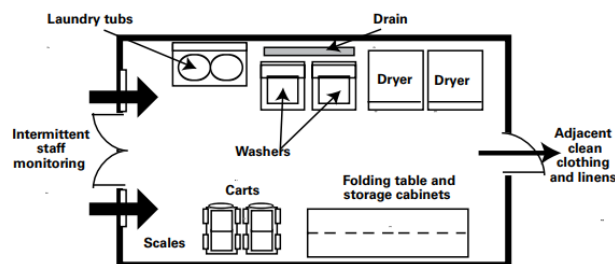


Figure 14-Laundry Area

2.13.12 Staff areas

Jail staff often work under stressful conditions, but many jails have neglected to address their needs. Companies failing to address staff needs send a message to employees that they don't count around them. By creating an architectural statement that recognizes and accommodates the needs of jail staff, local governments can contribute to positive employer-employee relations, staff morale, and productivity. Staff areas, such as lounges, training areas, locker/shower rooms, and toilets, are designated for private use. Consolidating these spaces is necessary in small jails, but it's important to avoid taxing any one area with too much staff or traffic. (Thigpen, 1998)

Space List

Some typical spaces that might be within the staff component include the following:

- Locker/shower area:
 - Male.

- Female.
 - Physical conditioning, including storage.
 - Defensive tactics training.
 - Break room (possibly including outdoor courtyard).
 - Training/multipurpose area, including storage.
 - Staff toilets within secure perimeter.
 - Parking.

Components

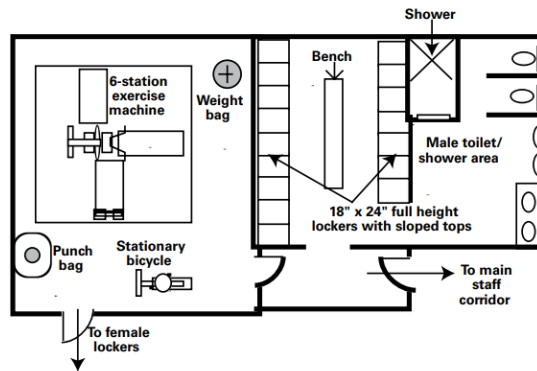


Figure 15-Physical Conditioning and Locker/ Shower Areas

2.13.13 Storage areas

Storage space is crucial for efficient operations in jails, often underestimated in planning and design. Miscellaneous storage needs are addressed in this chapter, focusing on typical needs for all components in a small or medium-sized jail. This functional-architectural component highlights the importance of storage in jail design. (Thigpen, 1998)

Space List

- Central storage/warehouse.
- Mattress storage/cleaning.
- Replacement parts.
- Maintenance equipment/supplies.
- Janitor closets.
- Outdoor equipment.

Components

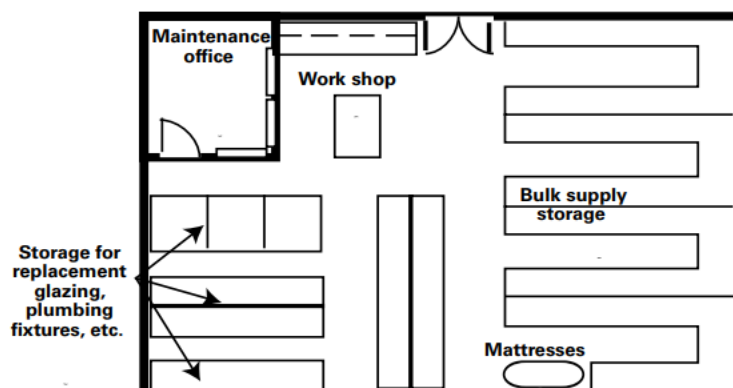


Figure 16-Central Storage Area)

2.14 THE IMPACT OF DESIGN ON RECIDIVISM RATES (Krueger, 2018)

Recent studies have demonstrated that architectural changes in correctional institutions can significantly impact the rehabilitation and reformation of inmates, underscoring the importance of considering design in prison reform. A Connecticut correctional institution has redesigned a unit for young women aged 18-25, addressing high rates of violence and rearrest. The unit features colorful walls, communal kitchens, recreation rooms, fewer prison bars, and comfortable living quarters resembling college residential rooms, aiming to reduce violence and rearrest rates.

The architectural intervention has significantly reduced violence in a 19-month unit compared to traditional facilities, with women in the experimental unit receiving fewer reprimands and less likely to be placed in solitary confinement, indicating a positive outcome.

Karin Beijersbergen's research in the Netherlands found that certain design elements, such as well-designed communal spaces, natural light access, and comfortable living conditions, can positively impact inmate mental health and recidivism rates in 32 correctional facilities.

Design in prison reform is crucial for promoting rehabilitation and reformation of inmates. Prioritizing mental health and well-being is essential for successful reintegration into society and reducing recidivism rates, as it directly impacts their chances of reintegrating into society.

CHAPTER-3

3 PRISON HISTORY & EVOLUTION

"A building in which people are legally held as a punishment for a crime they have committed or while awaiting trial." source: oxford

"An institution for the confinement of persons who have been remanded (held) in custody by a judicial authority or who have been deprived of their liberty following conviction for a crime." source: Britannica

Most societies that have adopted Criminal Law to regulate the penal system in an egalitarian manner, despite consolidating principles of re-education and social re-insertion of detainees, are now seeking alternative solutions to an unsolved issue that impacts all communities economically and socially (Britannica, 2023).



Figure 17-Prison Corridor

3.1 HISTORY

Prison's origins predate the Enlightenment and stem from the historical moment when reclusion was seen as a necessary tool for offender correction. It was no longer seen as a social rejection but as a mechanism to alter social behavior. Around the fifteenth century, the transformation of ideas surrounding punishment began to evolve. (History of Prisons, 2023)

By the late sixteenth century, religious institutions in Europe began recognizing the potential for healing through the establishment of Correctional Homes. There was no clear distinction between the 'trial' and 'punishment', leading to the absence of specialized architectural frameworks for reclusion of the convicted.

1st millennia BC-Mesopotamia and Egypt underground dungeons

600 BC-Ancient Rome cistern for water

1166-English king Henry II commissioned the construction of first prison

1215-King John signed Magna Carta

400s England establishes Houses of Correction.

(Timeline of prison evolution)

- Since the early civilized communities, wrongdoers have been punished or imprisoned based on the public's mood and temper, lasting approximately 6000 years.
- Many of the first jails are said to have been subterranean cisterns with top-access gratings.
- Castle keeps or dungeons were the primary detention sites in medieval Europe, with their numbers increasing during the 15th and 16th centuries.
- It is attributed to the Catholic Church the first modern-type penitentiary structure, the prison of San Michele in Rome, designed by architect Carlo Fontana in 1704.

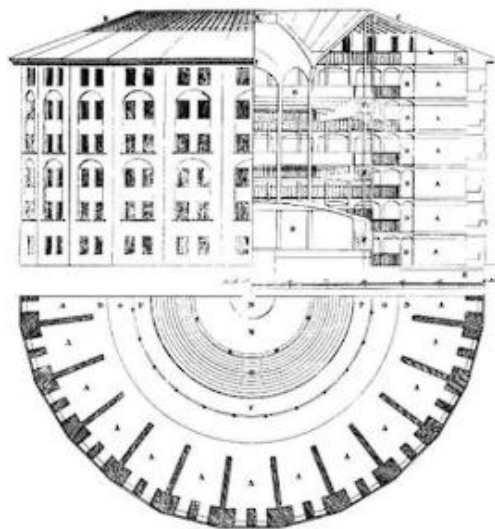


Figure 18-Prison of San Michele

- In the 17th century B.C., Greece's prisons consisted only of large rooms or underground cells where inmates were held while they awaited trial.
- Jeremy Bentham, an 18th-century English philosopher, invented the prison typology, which aimed to monitor the maximum number of prisoners with the minimum number of guards. The structure consisted of a circular array of cells with a watchtower, allowing guards to observe inmates. (History of Prisons, 2023)

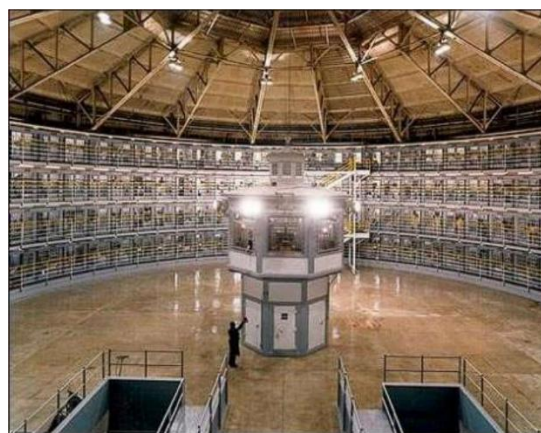


Figure 19-Pennsylvania system

- The 19th century penal method, known as the silent system, involved daytime work and nighttime solitary confinement with enforced silence. Originating in the 1820s at Auburn Prison in New York, it was an alternative to the Pennsylvania system and gradually replaced it in the United States.

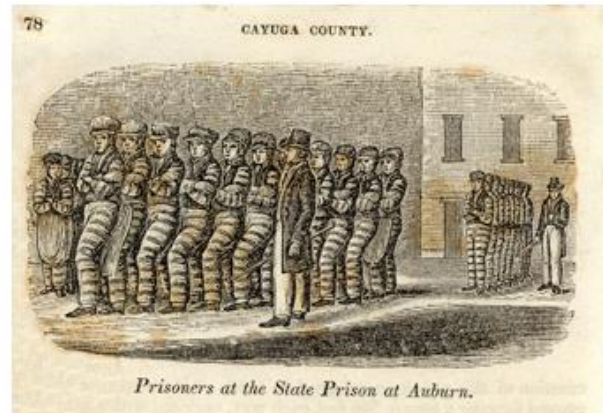


Figure 20-Auburn System

- In the 19th century, prisons saw a significant increase due to the decline of corporal punishment and the rise of gaol sentences. New purpose-built prisons were built in the mid and late 19th century, allowing for individual cells and two different regimes to reform prisoners. The first new prison in Wales was Beaumaris in 1830, followed by Cardiff in 1832 and Swansea in 1861. (History of Prisons, 2023)

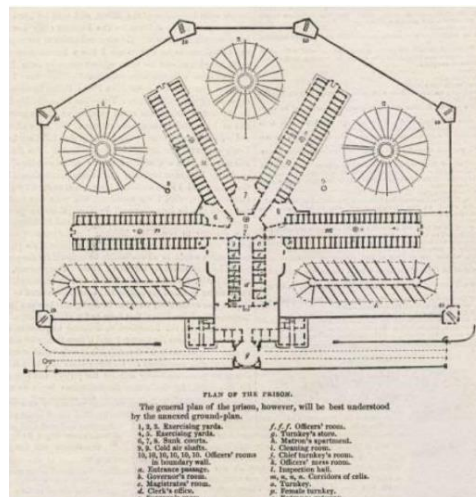


Figure 21-Cardiff prison

3.2 TYPE OF PRISON

In terms of sorts of jails, there have practically only been four throughout prison building history. The layouts are the:

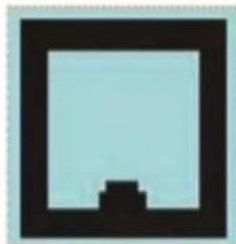
- Radial Design
- The Telephone-Pole Design
- The Courtyard Style
- The Campus Style
- Auburn/Sing style
- Skyscraper Prison



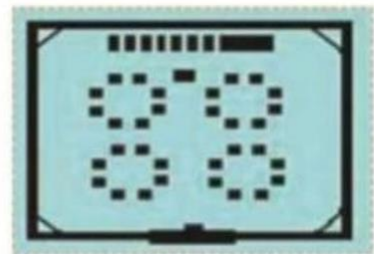
(Radial)



(Telephone-Pole)



(Courtyard Style)



(Campus Style)

Figure 22-Types of Prison

CHAPTER-4

4 PRISON IN INDIA

A prison is something that can be viewed as a form of accommodation that is intended for people who have committed an offence and are being tried for having committed that crime. One of those laws that are constantly unnoticed and overlooked is the goal and prisoners' laws in India. Reforming the criminals but common notion is means of punishment.

These are governed by Prison Act, 1894 where, state govt. is responsible for the management.

Central govt. assist for improvement of security, living conditions, medical facilities. infrastructure and internal development.

4.1 Types of prison in India

Prisons have been established under three different levels, as enlisted below-

- The Taluka Level
- The District Level
- The Central Level

Alternatively, these various prisons are referred to as Sub Jails, District Jails and Central Jails. From the Sub Jails to the Central Jails, the infrastructure and numerous prisoner services such as various medical, rehabilitation and security are seen to be better. Apart from these, there are various other types of jails such as the Women's Jails, Open Jails, Special Jails and Borstal Schools.

1. Central Jails- The criteria for being categorized as a central prison are distinct and vary from state to state. However, what has been seen as a trend in India is that individuals who commit offences that are entitled to punishment for a long period of time (that is, for a period of more than two years) are more often confined to central prisons, and these prisons have greater capacity and occupancy than other prisons. There are extra facilities for these prisons, such as rehabilitation.
2. District Jails- They serve as the primary prisons in the states and territories of the union where central prisons are not available. There are around 57 district prisons in Uttar Pradesh, about 39 district prison system in Madhya Pradesh, and about 31 district prison in Bihar.
3. Sub Jails- These jails are smaller in sized and are placed at a sub-divisional area of the states. There are states that have implemented a relatively higher number of these kinds of jails and have a very well-organized set-up of prisons even though it is of a lower level than the other jails. For example, Maharashtra has 100 sub jails, Andhra Pradesh has about 99 and Tamil Nadu has 96 sub jails.
4. Women's Jails- These are those prisons that look forward to housing exclusively female prisoners. These prisons may be existing at a sub-divisional, central and district level. India has a total of 20 Women's

Jails in India with capacity of 5200 women and has an occupancy rate of 60%. As Women's Jails have a very limited capacity, women prisoners in India are often housed in other prisons. Maharashtra has about 5 women's jails, whereas Kerala and Tamil Nadu have about 3 jails each.

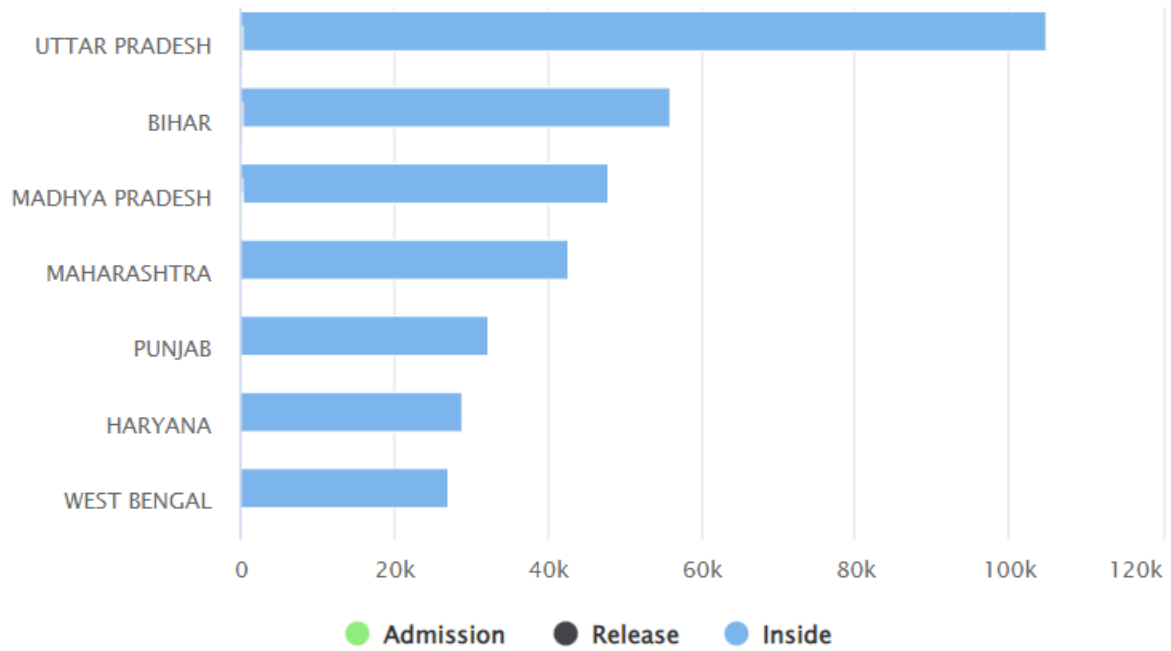
5. Borstal School- They are a type of a youth detention Centre and are used for incarcerating and housing minors and juveniles. Borstal schools make sure that juveniles and other young offenders are ensured sufficient care, welfare and rehabilitation. This is to ensure that they are kept in an environment that is volatile and safe. The juveniles in such schools are provided with reformatinal training, education and moral influence that conducive and prevent crime rates. Tamil Nadu is known as having the highest occupancy with about 678 inmates.

Type	Number	Available capacity
Central Jails	137	165,750
District Jails	394	147,003
Sub Jails	732	45,569
Women Jails	20	5,197
Borstal Schools	20	1,630
Open Jails	64	5,412
Special Jails	42	10,145
Other Jails	3	170
Total	1,412	380,876

<https://eprisons.nic.in/public/Home>

Table 1-No of prisons and capacity

4.2 Nation wide current prisons population (India, 2013)



(<https://ncrb.gov.in/en/prison-statistics-india>)

Figure 23-Nationwide Current Prisons Population

4.3 Number of prisons and prisoners

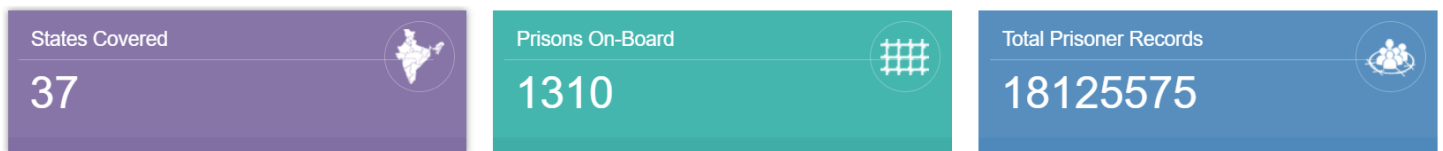


Figure 24-Number of prisons and prisoners

<https://eprisons.nic.in/public/Home>

CHAPTER 5

5 CASE STUDY

5.1 TIHAR JAIL

Location: Delhi, India

The largest jail complex in both South Asia and India is Tihar Jail. It can be found near Tihar Village, 3 km west of Janakpuri and New Delhi. Tihar was formerly a maximum-security facility managed by the Punjabi State. Control was given to Delhi in 1966.

The jail is designed to resemble a correctional facility whose primary goal is to transform its convicts into regular citizens by giving them valuable skills, education, and respect for the law.

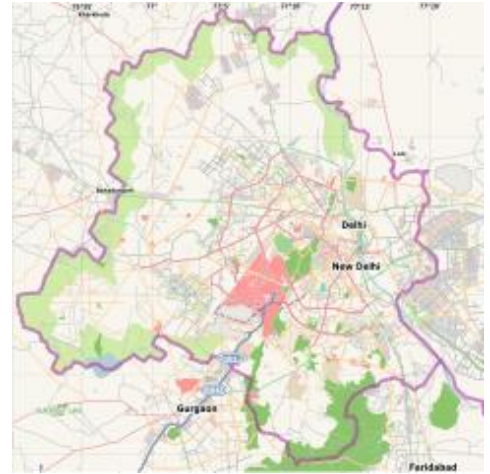


Figure 25-Delhi Map

You'll be astonished to learn that there is a prison industry behind the walls that goes by the name Tihar and is run entirely by prisoners. Over time, its operations have increased to encompass tailoring, handloom weaving, carpentry, chemicals, handmade paper, commercial art, and baking.



Figure 26-Central jail

5.1.1 Overview

5.1.1.1 Expansion

Tihar jail, established in 1958 in Delhi, has been expanding since then. Initially, it had a central jail with a sanctioned capacity of 1273 prisoners. In the mid-1980s, it was divided into Central Jails No. 1, 2, and 3, each with a collective capacity of 1760 prisoners. In 1980, another district jail was built, with a sanctioned capacity of 740 prisoners. In 1990, it was elevated to Central Jail No. 4. In 1996, a special prison was built for adolescent prisoners, with a capacity of 750 prisoners. In 2000, a women's jail was commissioned, with a capacity of 400. Between 2003 and 2005, three Central Jails and one District Jail were commissioned by the Delhi Prisons Authority. (Goel, 2014)

The Mandoli Jail Complex, a new jail operated by the Tihar Prisons Authority, is currently being built. It has the potential to house up to 3500 convicts. The main characteristics of this Mandoli Jail Complex are as follows:

- The complex will contain 6 Jails, one for convicts, one for first-time offenders, one for long-term under trials, one each for long-term under trials for juvenile, women, and High Security inmates.
- All wards have an air circulation system.
- The wards don't have any electrical fittings.
- Built-in CCTV and optical fiber cable networks.
- Sewage treatment plant, R.O. system, solar heating system, dual water supply system, rainwater harvesting, etc.
- Energy-efficient construction.
- Construction of a High Security jail and a First Offender prison to achieve complete segregation.

The Tihar jail has addressed over-crowding through continuous expansion, but the actual prison population is nearly twice the sanctioned capacity, highlighting the need for further improvements. (Goel, 2014)

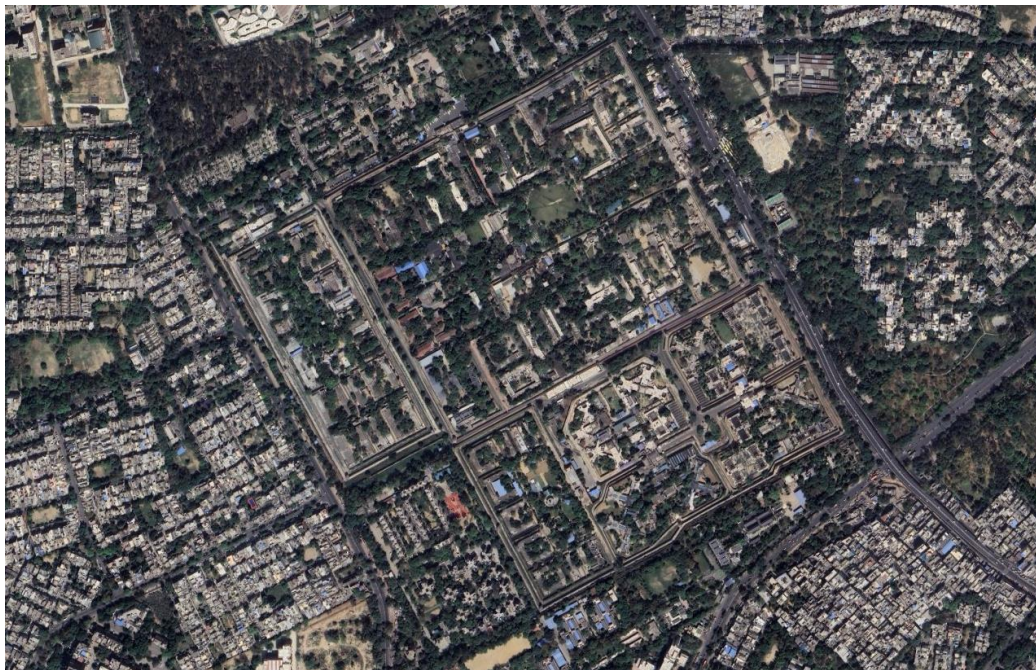


Figure 27-Satellite map of Tihar jail

5.1.1.2Special courts

Shri A.S Anand, Chief Justice of India, raised concerns about the rising number of under trial prisoners in India's jails. The Delhi High Court directed the Ld. Chief Metropolitan Magistrate of Delhi to organize special courts in the Central Jail of Tihar for petty offenders willing to confess. Since May 2000, 130 monthly courts have been held in Tihar Complex, handling 5127 cases, benefiting both under trials and prison authorities. (Goel, 2014)

5.1.1.3Semi open jail

The Tihar Jail in New Delhi has launched the Semi Open Jail, the first of its kind in India. This facility is designed for life sentenced prisoners with less than two years remaining and a good track record. Inmates can step out of their cells and earn a government-set wage within the 400-acre Tihar jail complex. They can also work in PWD, horticulture, and other contract-based jobs within the premises. They also run the Tihar Canteen and the Tihar haat, official outlets for selling products produced in Central Jail No. 2. This semi-open jail reduces overcrowding in Central Jails and allows inmates to readjust into society after a long stay in prison.

This is a significant step towards rehabilitation after release, potentially helping inmates and their families lead a normal life once released from prison. (Goel, 2014) (Delhi, 2022)

5.1.1.4 Educational facilities

Tihar Jail authorities offer extensive educational opportunities to inmates, ensuring they can continue their education outside the jail and lead a better life. The education system is designed to help illiterate individuals become literate if their stay is longer than a week. The government also provides education to illiterate prisoners, neo-literates, semi-literates, literates, and those seeking higher education. Study centers like Indira Gandhi National Open University (IGNOU) and National Institute of Open School (NIOS) provide education and certificates/degrees. Literate inmates are trained to help the prison administration impart education to other inmates. The government covers all costs for proper education, including fees, stationary, and any necessary equipment. Ensuring proper education is crucial for reformation, as it helps inmates become capable of working in the outside world upon release and lead a crime-free life. Education also makes prisoners aware of their rights and responsibilities, ensuring their welfare. As part of vocational training, products produced by inmates are marketed outside the jail, with Tihar Haats across Delhi specializing in these products. (Delhi, 2022) (Goel, 2014)

5.1.1.5 Campus Placements at Tihar

The Tihar Jail's rehabilitation program began in 2010 with a placement drive aimed at ensuring a bright future for prisoners. In 2014, a record 100% of Tihar inmates were placed in factories and companies based on their vocational skills and certificates earned during their stay. (Delhi, 2022)



Figure 28-Campus Placement cell

5.1.1.6 Recreational facilities

Tihar jail offers recreational facilities for inmates through programs like the Tihar Olympics and Ethnic Tihar. The Winter Olympics features sports like volleyball, cricket, and basketball, while the Ethnic Tihar is held during the spring season and includes music, dance, and painting competitions. Eminent personalities from sports and culture are invited to boost prisoners' morale. (Delhi, 2022)



Figure 30-Meeting area



Figure 29-Open Ground

5.1.1.7 Plan & section

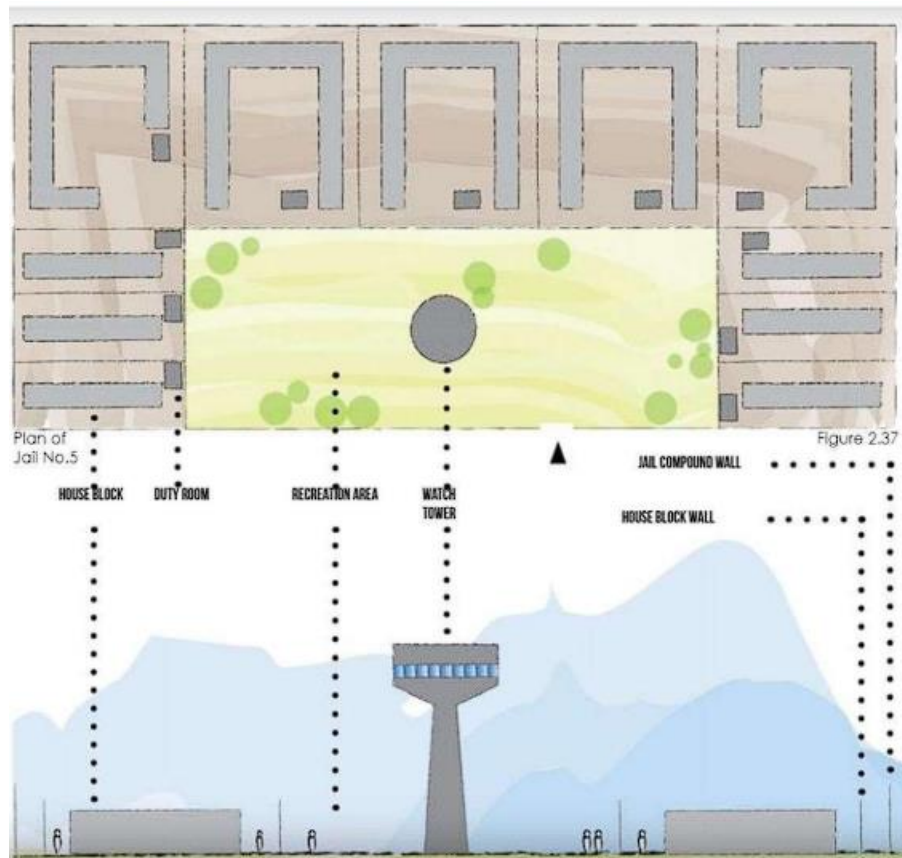


Figure 31-Plan and Section of Tihar jail

5.1.2 Key architectural aspects of Tihar Jail:

High walls and fences: To stop escapes, the jail is encircled by high walls and fences. Walls are enormous and cannot be harmed by the average human.

The security wall of Tihar Jail is a concrete and steel structure that is 13 feet tall and two feet thick. Guards monitor it around-the-clock, and it is topped with barbed and razor wire.

Cell size and design: To protect the security and comfort of the inmates, the cells at Tihar Jail are created to be a specific size and contain a specific set of characteristics, such as windows and ventilation. In Tihar Jail, a typical cell is a compact concrete space with a metal bed, a toilet, and a sink. The average cell size is 10x10 feet, and it has a barred window that is 3x3 feet in size. (Delhi, 2022)



Figure 32-Typical cell

Dining hall design: Inmates have enough room to dine and interact at the Tihar Jail's dining halls, which are made to be efficient and spotless.

The dining halls in Tihar Jail are approximately 100 feet long by 50 feet wide. (Delhi, 2022)



Figure 33-Dining Area in Tihar

Security cameras and motion sensors: The entire facility is equipped with surveillance cameras and motion detectors to keep an eye on convict behaviour.

Access to natural light and fresh air: The jail is set up so that convicts have access to daylight and clean air. This may help them feel better, feel less stressed, and operate more cognitively.

Exercise space: Inmates can engage in sports and leisure activities in the prison's many workout yards. There is a lot of room for sports and fitness.

The exercise yards in Tihar Jail are approximately 200 feet long by 100 feet wide.

Security: It is intended that Tihar Jail be a high-security facility. High walls and gates enclose the jail, and security cameras and motion detectors are installed all around the facility. A variety of security measures, including computerized locks and keyless access systems, are also in place at the jail to prevent escapes.

Safety: Both employees and inmates are intended to feel comfortable in Tihar Jail. There are several security measures in place in the jail, including smoke detectors, sprinkler systems, and fire alarms. In order to care for the detainees, the jail also contains a medical centre and a staff of medical specialists.

Rehabilitation: Tihar Jail was built with the intention of encouraging convicts' rehabilitation. To assist offenders in gaining the skills they need to obtain employment and reintegrate into society after release, the jail provides a number of educational and vocational training programs. In addition to these programs and services, the jail also offers counselling, religious services, and recreational pursuits to assist convicts.

Classroom: Inmates at Tihar Jail have access to classrooms where they may advance their education, get ready for re-entry into society, and acquire new skills. Typically, the classrooms are modest and unadorned, with rows of desks and chairs. At the front of the room, there is often a whiteboard or chalkboard and, on occasion, a computer or projector.

The classrooms in Tihar Jail are approximately 30 feet long by 20 feet wide. (Delhi, 2022)

Library: The library in Tihar Jail is a place where inmates can find solace and knowledge. It is a well-lit and spacious room with rows of bookshelves filled with a wide variety of books, including fiction, non-fiction, religious texts, and academic books. There are also several tables and chairs where inmates can sit and read.

The library in Tihar Jail is approximately 50 feet long by 30 feet wide. (Delhi, 2022)



Figure 34-Library in Tihar Prison

Hospital: The hospital within Tihar Jail has 120 beds and offers convicts medical care. There are several departments at the hospital, including those for medicine, surgery, TB, and psychiatry. The hospital provides a de-addiction facility as well.

A group of knowledgeable and experienced physicians and nurses work at the facility. Additionally, the hospital has a number of specialists that frequently visit the facility.

The hospital in Tihar Jail is approximately 100 feet long by 50 feet wide. (Delhi, 2022)

5.2 STORSTROM PRISON

5.2.1 Overview

Location: Denmark

Architect: CF Møller

Landscape architect: Marianne Levinsen Landskab

Engineer: Ramboll

Area: 32000 m²

Year: 2017



Figure 35-Outside of Storstorm Prison

The goal of the now-closed Storstrom Prison was to build the most humane high-security prison in the world, one that supports the inmates' mental and physical well-being through design, aids in their social rehabilitation, and provides a safe and comfortable working environment for the prison staff.



Figure 36-Aerial view of Storstorm Prison

The prison, designed to resemble a small provincial community, accommodates 250 inmates in four standard wings and one maximum-security wing. The ten buildings cover 35,000 m² and form a small urban community with streets, squares, and central buildings. The perimeter wall is a series of recesses to reduce institutionalization and provide a varied and less imposing atmosphere. Inmates can practice religion in the church or devotional rooms. (Lexicon, 2023)

5.2.1.1 Pleasant interior environment

The buildings' walls and floors are painted neutrally to create a relaxed atmosphere, particularly in communal areas where inmates can socialize and relax. The cells are designed to allow inmates to decorate them as they please. (Lexicon, 2023)



Figure 37-Landscape between Blocks

5.2.1.2 Innovative cell design with plenty of daylight

The prisons are divided into residential units with four to seven cells, each with a communal kitchen and living room. Inmates can cook independently or with others. Each cell has a flow of daylight, providing views of the countryside and sky. The windows are angled to prevent unwanted communication and strengthen the sense of privacy. The 12.8-m² cells, including toilet/shower units, are designed with curved walls, allowing prison staff to view most of the cell from the door. Each cell has a bed, desk, chair, wardrobe, refrigerator, television, and lighting. Furniture is designed specifically for the cells, minimizing the risk of self-harm and maximizing space use. The cells also offer views of the countryside outside. (Lexicon, 2023)



Figure 38-Typical cell of Storstorm Prison

5.2.1.3 Active socializing

Physical activity is crucial for inmates' mental and social well-being. The activity building has a large indoor sports hall with badminton, basketball, soccer, and handball courts, as well as two small gym halls in the maximum-security wing. Each cell department has its own fitness room, ensuring a healthy lifestyle for inmates. (Lexicon, 2023)

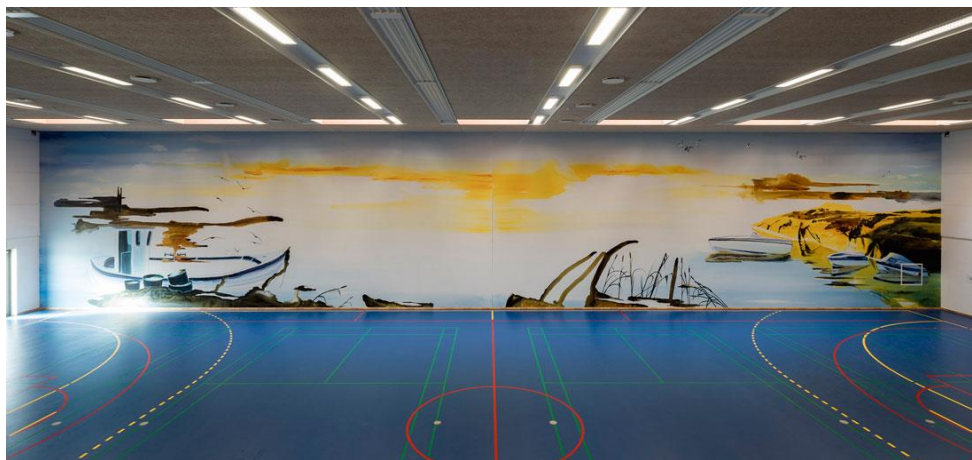


Figure 39-Activity Building

5.2.1.4 Artworks and decoration

The prison features art and building-integrated decoration, including a large mural by John Koerner and a bronze sculpture by Claus Carstensen. A circular pattern is used for varied embossment of concrete element walls by Aggebo & Henriksen Design, breaking the monotonous surface. The four colors - yellow, orange, green, and blue - contribute to the positive atmosphere and variation in the buildings, as well as in the cell departments, in collaboration with Aggebo & Henriksen Design. (Lexicon, 2023)



Figure 40-Artworks and decoration on walls

5.2.1.5 Security through architecture

The prison architecture offers vantage points for staff, allowing them to oversee a cell department floor and maintain a wide field of vision. These spaces also serve as meeting places for inmates and staff. To ensure staff safety, secure rooms and escape routes are provided in individual departments, allowing quick assembly and maintaining control in case of inmate unrest. (Lexicon, 2023)

5.2.1.6A prison within the prison

The secure wing houses inmates with restricted status, physically separated from staff and inmates, while other units have open desks. (Lexicon, 2023)

5.2.1.7 Flexible prison

The architectural design of a flexible prison allows for the division of departments into larger and smaller sections, enhancing security and providing a secure environment for the social rehabilitation of prisoners, thereby accommodating various inmate categories and emergencies.

5.2.1.8 Site plan (C. F. Møller Architects: Storstrøm Prison in Denmark, 2021)

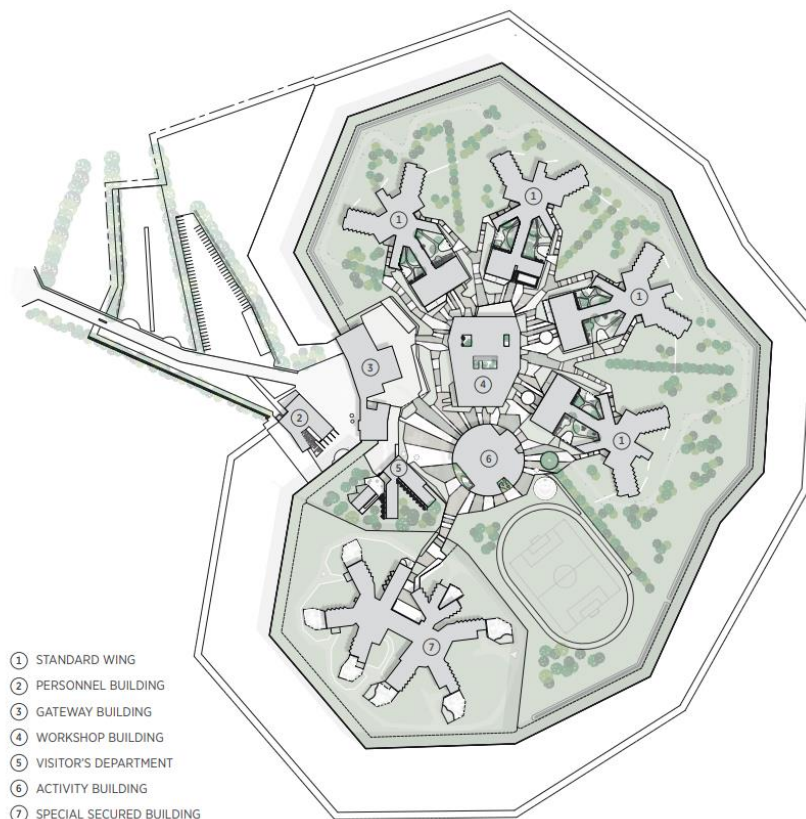


Figure 41-Site plan of Storstrom Prison

5.2.1.9 Unit cell plan (C. F. Møller Architects: Storstrøm Prison in Denmark, 2021)

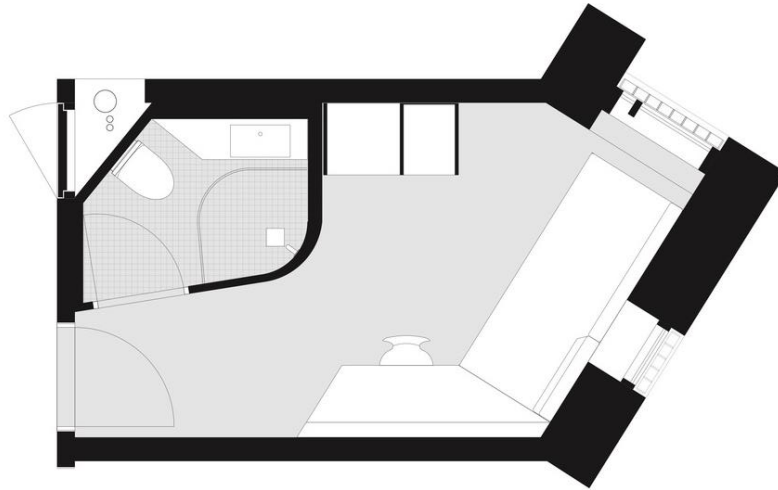


Figure 42-Typical cell plan

Standard wing (C. F. Møller Architects: Storstrøm Prison in Denmark, 2021)

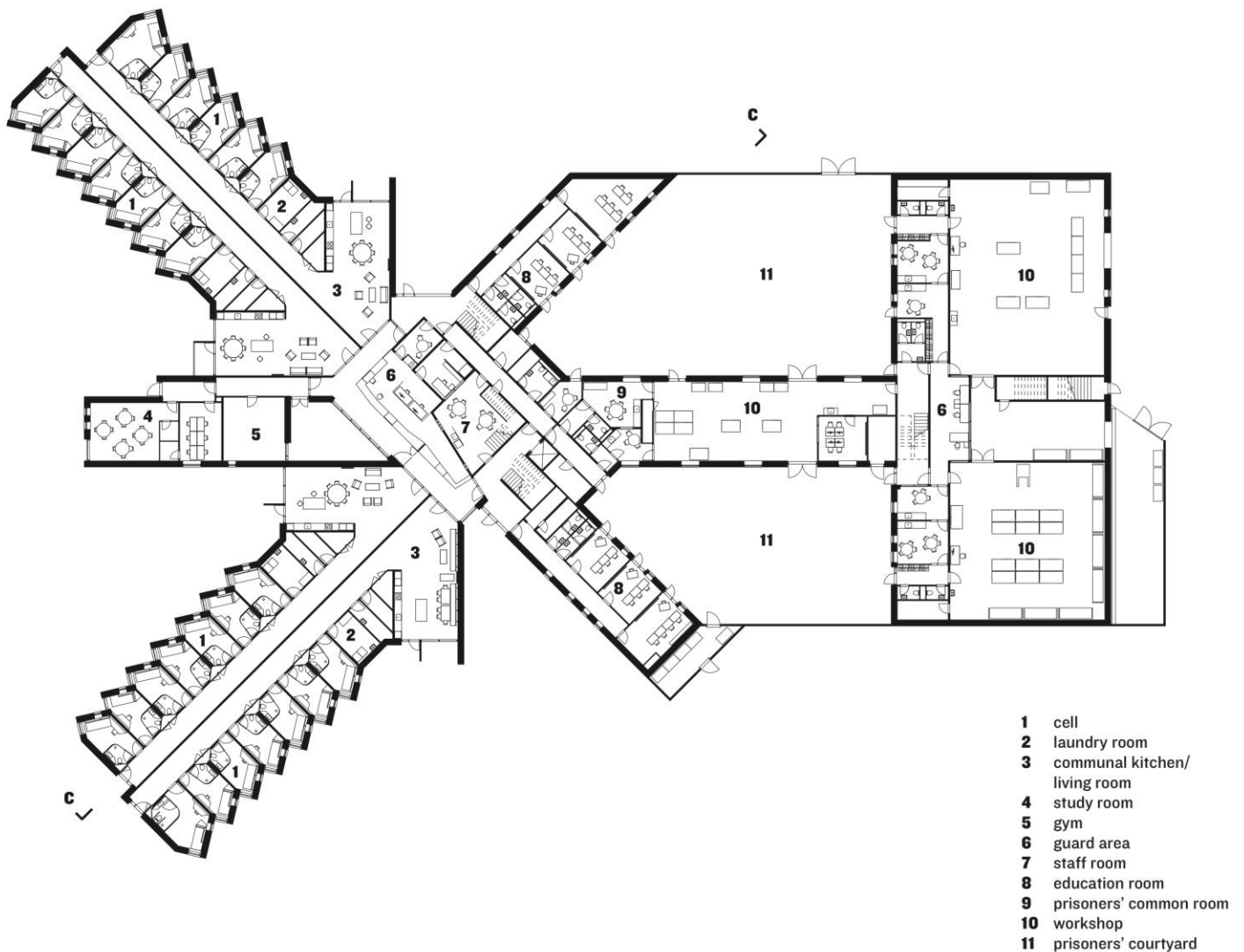


Figure 43-Standard wing ground floor plan

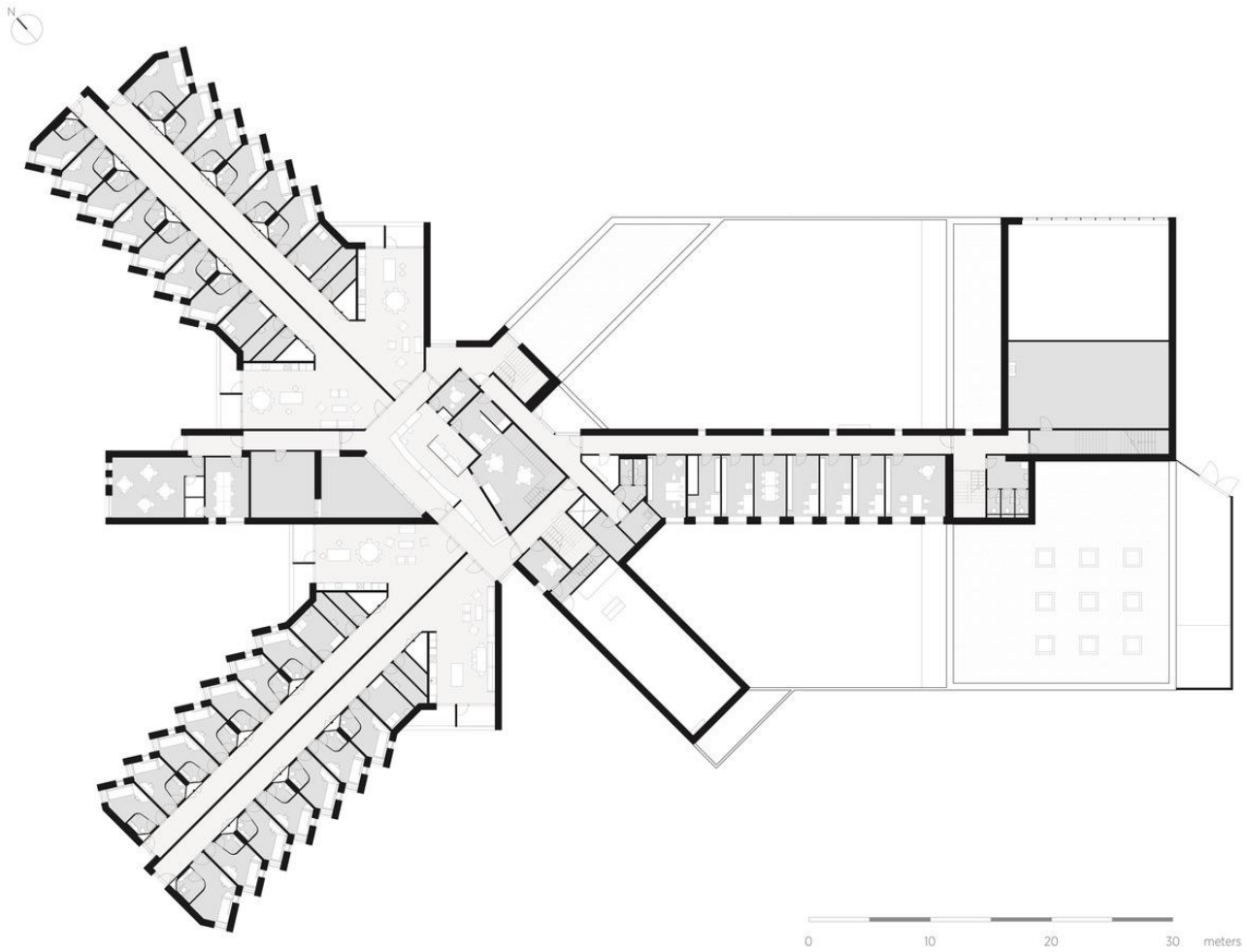


Figure 45-Standard wing first floor plan



Figure 44-Standard wing section



Figure 46-Standard wing elevation

5.2.1.10 Maximum security wing ground floor

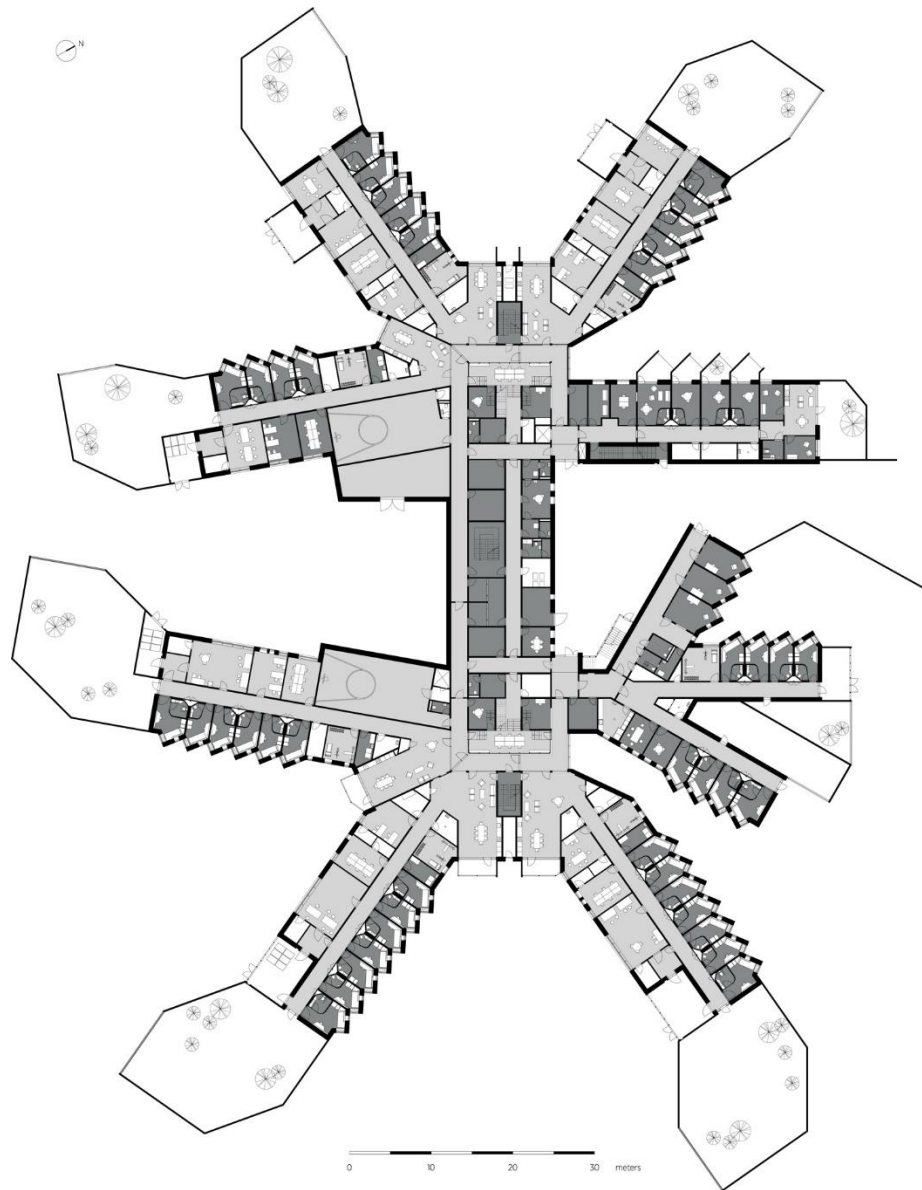


Figure 47-Maximum Security Wing Ground Floor

5.2.2 Key architectural aspects of Tihar Jail

Typical cell

In Storstrøm Prison, a typical cell is 12.8 square meters (138 square feet) in size, and it has a curving wall that allows employees to view into the majority of the chamber from outside. The cells include a bed, desk, chair, wardrobe, refrigerator, television, and illumination in addition to a private bathroom and shower.

Storstrøm Prison offers comfortable and humane cells with basic amenities, including a private bathroom and shower, a bed, desk, chair, wardrobe, refrigerator, television, and lighting. Inmates can also bring personal items like books, clothes, and toiletries. The cells have a curved wall, allowing staff to see into most of the room from the outside, providing security and creating a more open and airy space for inmates. These features make Storstrøm Prison a significant improvement over shared facilities in many prisons.

Master control

The master control room in Storstrøm Prison is a central hub for monitoring and controlling the prison's security systems, staffed 24/7 by security personnel responsible for CCTV cameras, alarm systems, and other security features.

The following are some of the main characteristics of Storstrom Prison's master control room:

- Modern security equipment: The master control room has access control, alarm, and CCTV systems, as well as other cutting-edge security equipment.
- Security officers are on duty around-the-clock in the master control center to supervise and manage the prison's security measures.
- The prison's master control room is situated in the center of the building, giving staff members easy access to respond to any security-related events.

Maximum security wing

Storstrøm Prison's maximum-security wing is a separate unit designed to house inmates with high security risks. It is divided into two sections: general population and high-risk. The general population section is for inmates who pose a high security risk but can be safely housed with others, while the high-risk section is for those who need solitary confinement. The cells in the maximum-security wing are smaller, less comfortable, and have fewer amenities like televisions and refrigerators. They also have more restrictions on movement and activities. The wing is staffed by experienced and highly trained security personnel who monitor inmates and ensure their safety and security.

- Separate building
- Dedicated security systems
- General population section and high-risk section
- Smaller and less comfortable cells
- Fewer amenities
- More restrictions on movement and activities

Standard wing

The standard wing in Storstrøm Prison houses inmates who pose no high security risk. It is located in the main prison building and divided into sections for different groups of inmates. The cells in the standard wing are larger, more comfortable, and have more amenities like televisions and refrigerators. They also have fewer restrictions on movement and activities.

- Larger and more comfortable cells
- Fewer restrictions on movement and activities
- Variety of facilities
- Experienced and highly trained security personnel



Figure 48-Standard wing view

Visitor room

The visitor place in Storstrøm Prison offers a comfortable space for inmates to meet with their families and friends. It is located in a separate building with dedicated security systems. The visitor place consists of several visiting rooms equipped with tables, chairs, telephones, and video conferencing equipment. Inmates can have up to two visitors at a time, with visits typically lasting one hour. Visitors must be pre-approved by the prison and undergo a security check before entering. The visitor place is staffed by experienced and friendly personnel who ensure the safety and security of inmates and visitors, as well as providing assistance as needed.

Here are some of the key features of the visitor place in Storstrøm Prison:

- Separate building
- Dedicated security systems
- Visiting rooms
- Pre-approved visitors
- Experienced and friendly staff



Figure 49-Visitors room

5.3 HALDEN PRISON

Location: Halden, Norway.

Status: Operational

Security class: Maximum

Capacity: 248–252

Area: 27 500 m²

Managed by Norwegian correctional service



Figure 50-Halden Prison

5.3.1 Overview

Halden Prison, located in Halden, Østfold, Norway, is the second-largest prison in the country, housing 248-252 inmates and covering 75 acres. As a maximum-security facility, it houses both dangerous and highly dangerous criminals, including rapists, murderers, and child molesters. Half of the population is rapists, while a third are drug offenders. Sex offenders and those requiring close psychiatric or medical supervision are housed in Unit A, a restrictive and separated area. A special unit (C8) is dedicated to addiction recovery. Most inmates live in Units B and C, which are freer and have mixed cell blocks. Halden Prison accepts both domestic and international criminals, with both Norwegian and English being used. However, fluency in Norwegian is required for living in C8, as group and individual counselling is conducted in Norwegian. (Ideas, 2018)



Figure 51-3d View of Halden Prison

The prison lacks traditional security measures like barbed wire, electric fences, towers, or snipers. Instead, it uses safety glass, a 6 m x 1,500 m concrete and steel wall, and tunnels for guards. Surveillance cameras are not present in various areas, including cells, hallways, common rooms, classrooms, and workshops. Violence is mostly reported in Unit A, but officers try to prevent it through mediation sessions. If mediation fails, repeated misbehaviour or rule violations can lead to cell confinement or prison transference. (Ideas, 2018)



Figure 52-Aerial View of Halden Prison

The project focuses on the concept of mutual dependency and contrast between "hard" and "soft" aspects of life. The prison authorities aim to prepare prisoners for life outside the walls, allowing them to transition between home, work, school, and leisure activities. The prison's organization aims to create an anti-authoritarian face, avoiding symmetries and axial orders. Security measures include static physical barriers and dynamic presence of prison staff, ensuring a balance between the two. (Ideas, 2018)

5.3.1.1 Design

The Norwegian prison, designed by Erik Møller Architects and HLM Arkitektur AS, aims to simulate a village for prisoners to feel part of society. The prison's interiors demarcate the differences between home, school, and workplace, with hallways tiled with Moroccan tiles or large-scale photographs. The exteriors are made of bricks, galvanized steel, and larch wood, inspired by natural life. The yard walls and toilet doors are decorated with graffiti by Norwegian artist Dolk. The design aims to avoid psychological pressures and conflicts, but the prison wall is seen as a symbol of punishment. (Architecturenorway, 2021)

5.3.1.2 Interiors

Materials adapt to light and weather conditions, creating a sense of time. Interior design highlights programme areas, using high-quality furniture and fittings, including solid maple built-in furniture for durability. (Architecturenorway, 2021)

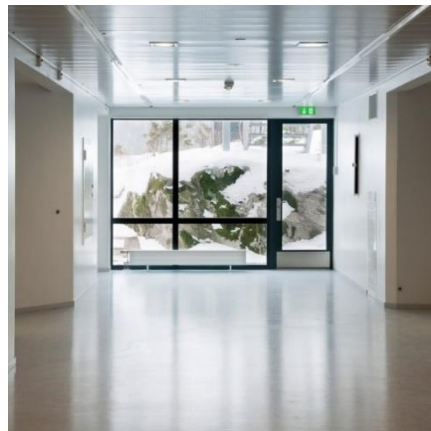


Figure 54-Lobby



Figure 53-Visiting Area

5.3.1.3 Landscape

The landscape design of the prison is based on natural features, retaining north-south ridges and utilizing existing topography. Existing trees are retained for outdoor spaces and vertical emphasis, while untouched vegetation is left for surveillance. An orchard, kitchen garden, and sports ground are planted for added convenience. (Architecturenorway, 2021)

5.3.1.4 SITE PLAN (Arkitektur, 2010)

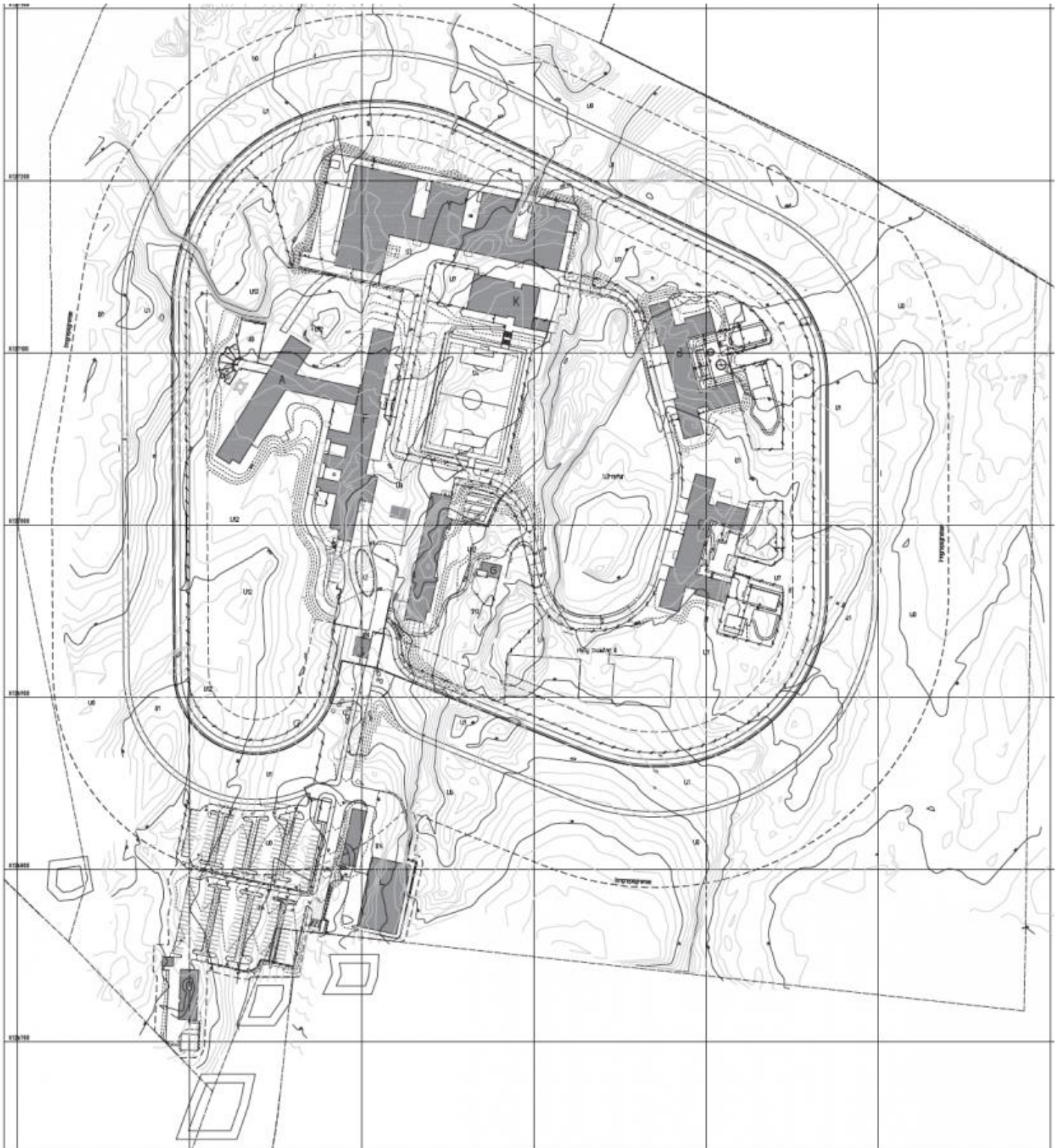


Figure 55-Site plan of Storstorm prison

(Arkitektur, 2010)

5.3.1.5 Unit B & C (Arkitektur, 2010)

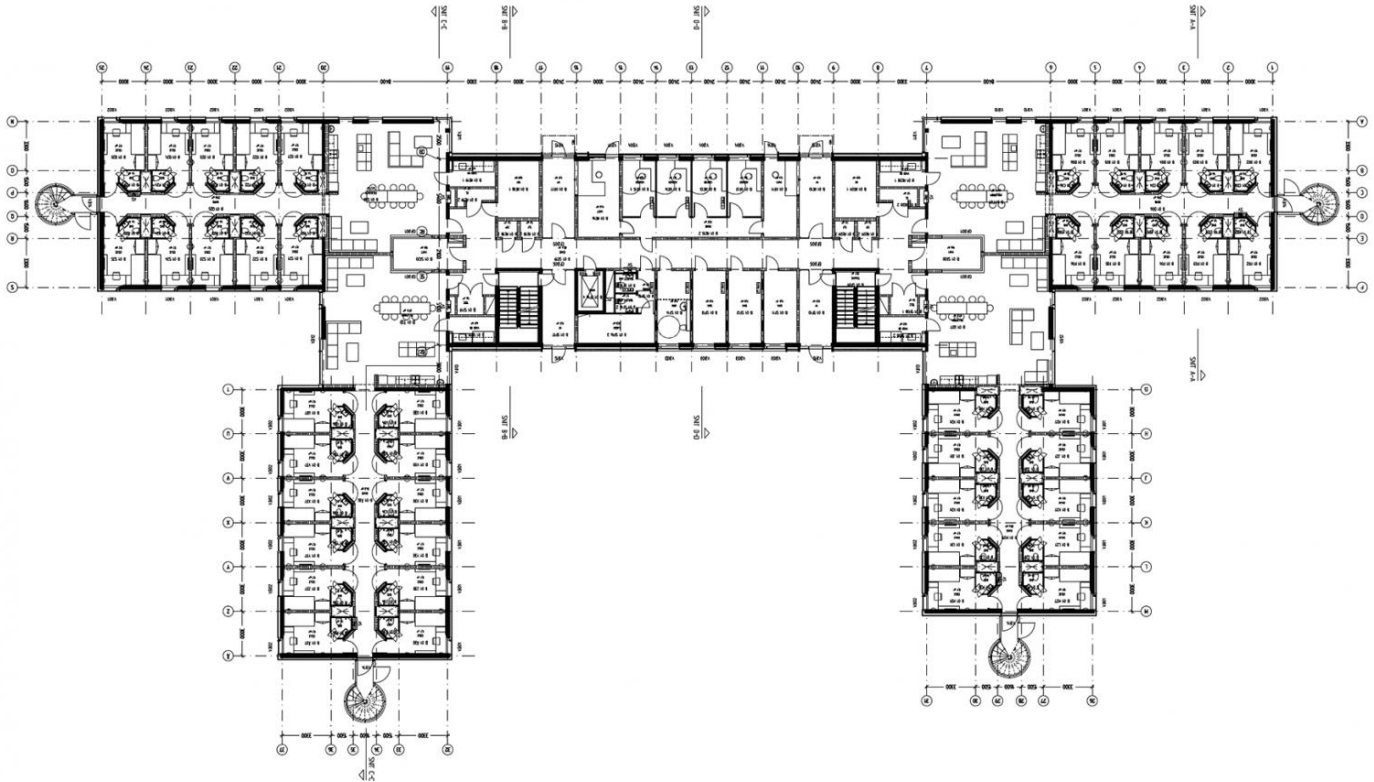


Figure 56-Ground floor Plan of unit B and C

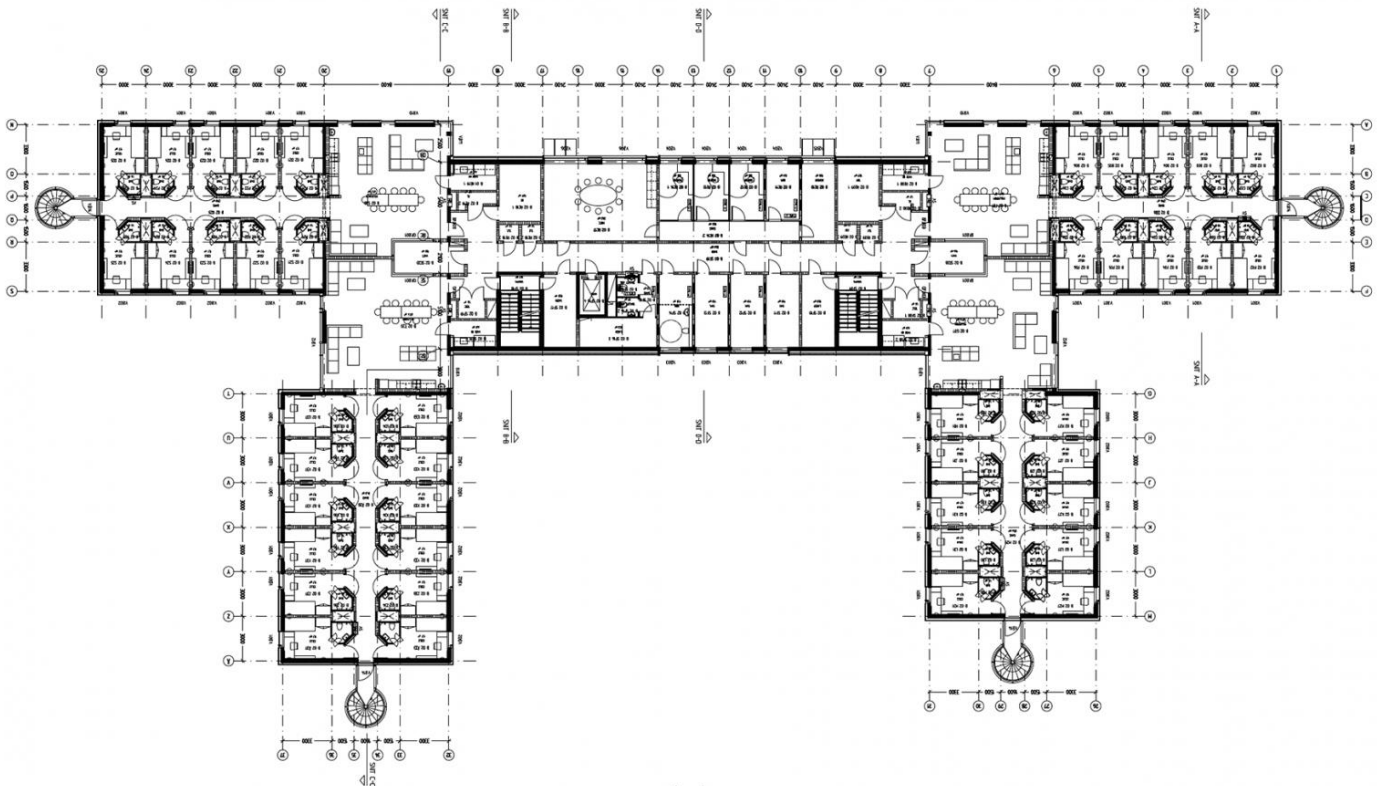


Figure 57-First floor plan of unit B and C

5.3.1.6 Activity centre (Arkitektur, 2010)

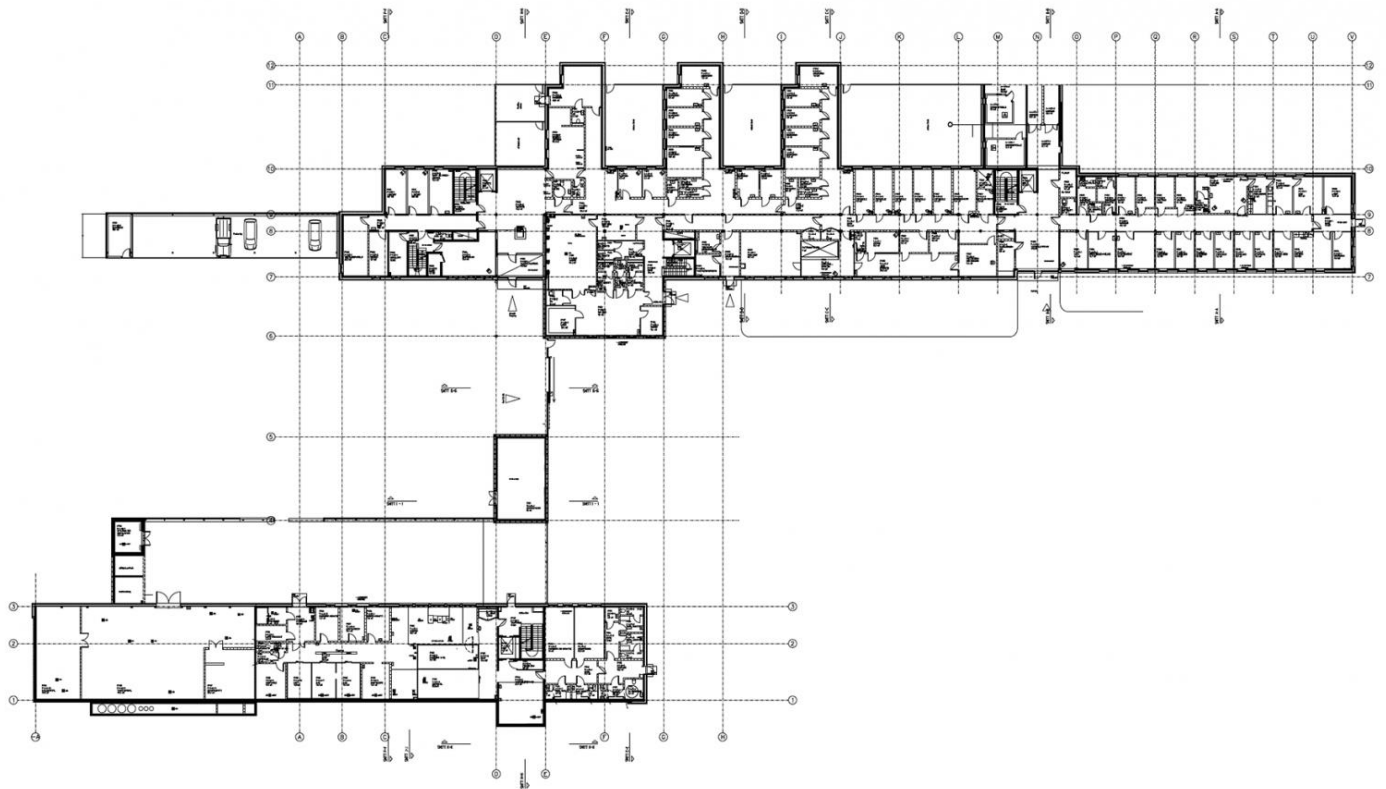


Figure 59-Ground floor Plan of activity centre

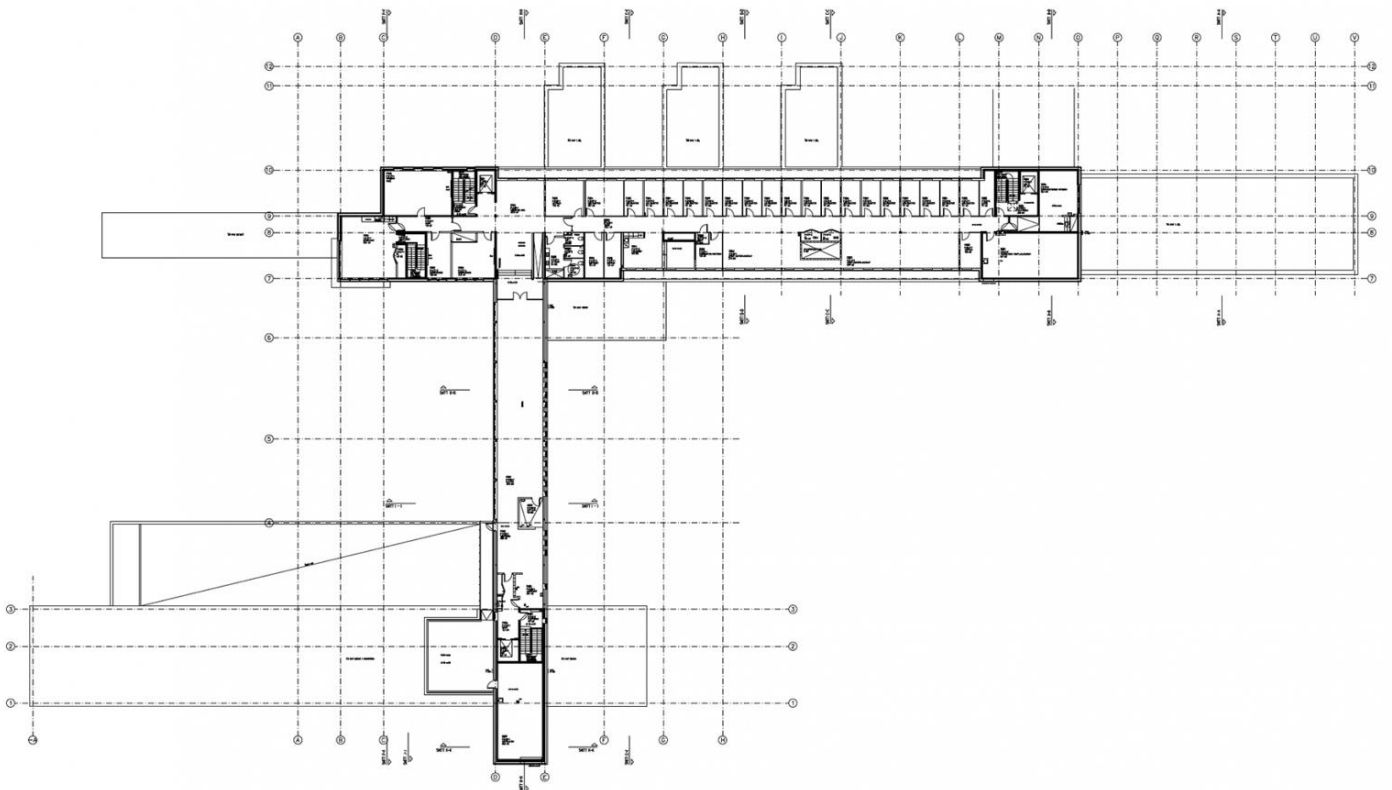


Figure 58-first floor Plan of activity centre

5.3.2 Key architectural aspects of Halden Prison

Typical cell (Architecturenorway, 2021)

Halden Prison's cells are 12 square meters, equipped with a private bathroom, bed, desk, chair, wardrobe, refrigerator, and television. Inmates can also keep personal items like books, clothes, and toiletries in their cells, which are also equipped with a television.



Figure 60-Typical cell of halden Prison

Here are some of the key features of a typical cell in Halden Prison:

- Private bathroom with shower and toilet
- Bed, desk, chair, wardrobe, refrigerator, and television
- Personal items:
- Safety features

Open design:

The prison's village-like layout and lack of high walls and fences create a more familiar and less intimidating environment for inmates.

Security Wall

Halden Prison's reinforced concrete walls, spanning 6 meters (20 feet), are topped with a barbed wire fence, designed to prevent inmates from escaping and deter crime in the surrounding area.



Figure 61-Compound wall of Halden Prison

Here are some of the key features of the walls of Halden Prison:

- Reinforced concrete construction
- meters (20 feet) high:
- Barbed wire fence:
- Aesthetically pleasing design:

Standard wing

The standard wing at Halden Prison houses inmates who pose no high security risk. It is separate from the maximum security wing and has its own security systems. Divided into sections for different groups, the standard wing offers larger, more comfortable cells with amenities like televisions and refrigerators. Inmates in the standard wing have fewer restrictions on movement and activities, making them more comfortable and less prone to crime.

Here are some of the key features of the standard wing at Halden Prison:

- Larger and more comfortable cells
- Fewer restrictions on movement and activities
- Variety of facilities
- Experienced and highly trained security personnel

Library

The library at Halden Prison is a well-stocked facility that offers inmates access to a variety of resources, including books, magazines, and newspapers. It is staffed by knowledgeable librarians who assist in finding necessary materials. Inmates can borrow up to 10 items at a time and use computers for internet access. The library plays a crucial role in inmate rehabilitation, providing educational resources, literacy development, and a place to escape the stress of prison life. It is open to all inmates, allowing them to borrow up to 10 items at a time.

Here are some of the key features of the library at Halden Prison:

- Large and well-stocked collection
- Experienced and knowledgeable staff
- Open to all inmates
- Computers with internet access

Workshop

Halden Prison's workshop area is a spacious and well-equipped facility that offers inmates the chance to learn new skills and develop their talents. It is divided into sections specializing in different skills like woodworking, metalworking, and automotive mechanics. The area is staffed by experienced instructors who provide guidance and support to inmates. The workshop plays a crucial role in inmate rehabilitation, helping them develop new skills for employment after release and boosting their self-esteem and confidence.

Here are some of the key features of the workshop area at Halden Prison:

- Large and well-equipped facility
- Variety of skills
- Experienced and knowledgeable staff
- Employment opportunities

Dining hall

Halden Prison's dining area is a modern facility that serves three meals daily to inmates, divided into different sections for a more intimate dining experience. Staffed by experienced and friendly personnel, the area offers a variety of nutritious and well-prepared meals, snacks, and drinks. The staff also assist in making special dietary requests if needed. The dining area plays a crucial role in inmate rehabilitation, providing a space for socialization and interaction, and fostering a sense of community among inmates. The varied menu includes a wide range of dishes, making it a welcoming and comfortable dining space.

Here are some of the key features of the dining area at Halden Prison:

- Large and modern facility
- Variety of food
- Nutritional and well-prepared food
- Special dietary requests
- Socialization and interaction

CHAPTER 6

6 Comparative study of prisons

6.1 Comparison

Sector	Western prison design concepts	Indian prison design concepts
Environment	Steel certificate, bare, concrete floors, razor wires, hidden security cameras, full automation	Less steel, large perimeter walls. Less automation
Masonry	Steel, reinforced cement concrete.	Comparatively less steel Application(bars) more brick masonry feel of shelter
Kitchens	Adjoining to the dining hall along with separate dining facilities for staff	Separate block kept aside only for the purpose of preparing the food for the various block
Dining hall	Provided for every large block, large halls with seaters and added security features, very provocative due to clustering of hostile inmates all together.	No dining hall for inmates separately food is delivered to every quadrant or block separately according to inmate capacity of block
Housing	Typical cells clustered around a central dayroom which doubles as the activity space for the block floors of cells arranged along long corridors create the inner prison realm	Single cells are a minimum owing to the general nature of Indian inmates. Meeting spaces and communal harmony is of vital importance to the Indian psyche.
Design style	Pentonville or titan blocks are predominant due to population requirements	Courtyard style design or campus like design with dormitories predominant but overcrowding leads to breakdown of system
Medical Services	Separate medical facilities provided inside for different types of patient requirements including drug abusers, HIV patients and so on.	No separate facility exists within the hospital block for various treatment types, no drug blocks, psychiatric therapy is almost non existent
Security	Fully automated electronic surveillance enabled inside the prison blocks per floor and per cell corridor	Human factor is given more importance except for a few recently upgraded prisons where security features have been enhanced greatly
Perimeter security	Razor wires, concertina fences, metal detectors, dogs, high mast lights, flood lights, etc.	Sensor activated perimeter walls topped with electric fences, high mast lights are enabled.
Dining hall security	Mass inmate population congregation areas hence advanced features implemented here such as tear gas facilities in case of hostilities between inmates.	No dining hall hence security requirements is minimum and block security is only through added patrolling by warders and prison staff.

Compounded enclosures	Enclosures or block division are through fencing walls and not necessarily brick since most dorm blocks are multi- storeyed.	Design is stretched horizontally hence fencing is not used; island system of segregation has given way to compounded individual blocks.
Recreational Facilities	Include gym, playground, basketball as well as baseball courts though mass activity usually leads to hostilities and physical violence	Meditation and prayer are not uncommon in most prisons, volleyball and badminton are available in certain blocks, mass activity is avoided for security reasons
General atmosphere	Complete lockdown or isolation with buildup of mass inmate capacities leading to brutalities- tiered housing sparks raging tempers, link to outside environment is minimum depending on security level	Atmosphere is isolating and desolate but rarely Openly hostile since housing arrangement design is spread apart and segregated bid is to do time quickly and quietly as possible.
Rehabilitation programmes	Along with punishment, one of the key objectives of prison policy is rehabilitation. Work, education, programmes, drug recovery, the gym, and training are some of the methods included. This includes things like discussion clubs, health care, social welfare services, poetry, music, drama, and radio programmes.	For inmates housed in prisons, there are numerous rehabilitation initiatives offered, including vocational training, agricultural and horticultural activities, educational classes, yoga, computer literacy, etc. The jail teacher teaches illiterate inmates functional literacy from elementary school.

Table 2-Comparative study of prisons

CHAPTER 7

7 Recidivism rate of prisons in and out of India

7.1 Norway

The lowest rate in the world for recidivism based on re-conviction within two years is 20% in Norway. This is due to the nation's emphasis on convict rehabilitation and reintegration rather than punishment. Early in the 1990s, the Norwegian Correctional Service undertook a number of reforms to change its emphasis from "revenge" to rehabilitation. Prison guards are educated to act as mentors and role models for convicts, while inmates get daily training and educational activities. With an emphasis on inmates' human rights, the Halden Prison in Norway is regarded as one of the most compassionate jails in the world.

In the 1990s, Norway experienced a high recidivism rate, with 70% of released prisoners reoffending within two years, nearly equivalent to the current US recidivism rate.

Norway's prison system, similar to the US, was based on punishment as a deterrent, with prisoners often sentenced to long, harsh conditions to convey a message to others.

Norwegian lawmakers recognized the ineffectiveness of the current system, citing high crime rates, recidivism, assaults, riots, and escapes as reasons for reform.

Norway's government implemented a significant overhaul of its prison system, leading to a lower recidivism rate and safer, more peaceful prisons, which has become a model for the rest of the world.

7.1.1 The Benefits of Norway's Prison System

Norway's focus on rehabilitation and restorative justice has significantly reduced crime rates and the country's economy. The country has one of the lowest recidivism rates globally, with only 20% of formerly incarcerated individuals committing another crime within two years of release. Even after five years, the recidivism rate remains at 25%. This approach also benefits the economy by reducing the number of people in prison, resulting in more capable adults available for employment. Many prisoners leave prison with additional skills, leading to a 40% increase in employment rates for those unemployed before prison.

7.1.2 Impact on Norway's Recidivism Rate

Norway's recidivism rate has significantly decreased since the 1990s, with the lowest rate in the world, based on re-conviction within two years. The country's rehabilitative approach and a focus on maintaining prisoners' humanity during their time in incarceration are key factors in this low rate. Prisoners in Norway have the right to vote, attend school, learn new skills, exercise, see their families, and participate in extracurricular activities. In many prisons, security officers participate in activities like fitness and yoga alongside the prisoners. This deliberate approach to treating prisoners as human beings aims to make re-entry into society easier, ensuring they leave prison with skills, confidence, and self-respect, enabling them to become contributing members of society.

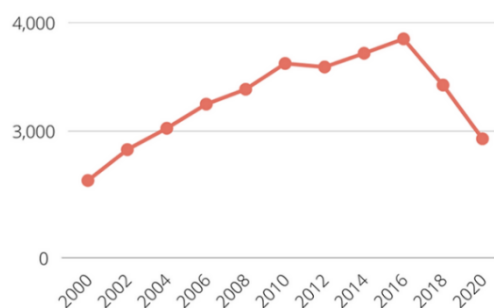


Figure 62-Norway's Recidivism Rate

Recidivism remains a significant issue in our culture due to the lack of visible punishment, leading to high crime rates among young adults and middle adulthood. Despite legal systems working to improve this situation, the likelihood of re-conviction is high due to challenges in transition and acceptance. Factors such as lack of education, unstable economic conditions, and prejudice must be addressed to improve social support and address workplace behaviour. A new plan should be established to integrate individuals into the legal system, educate them, and provide counselling. Constructive stimuli and legal processes should be provided to encourage aversion and behaviour change. Research can be repeated by focusing on family support and marital status, and the severity of discrimination can be quantified.

7.2 INDIA

The National Crime Records Bureau (NCRB) estimates that India's recidivism rate was 56.6% in 2020. This indicates that after 5 years of their release from jail, more than 50% of inmates in India are found guilty of a new crime.

Around 32% of the prison population admitted annually are repeaters or habitual offenders, kept separate from first-time offenders from the first day of admission. They are not allowed to interact with other prisoners. Tables A and B display recidivism rates (2022).

Table A. Convict

S.NO.	Admission Details	Male	Female	Total
1.	No. of convicts admitted during the year	3055	77	3132
2.	Out of which repeater convicts	505	0	505
	Percentage(%)	17.00	0.00	17.00

Table 3-Recidivism Rate of Convicts in 2022

Table B. Undertrial

S.NO.	Admission Details	Male	Female	Transgender	Total
1.	No. of under trials admitted during the year	58743	1693	31	60467
2.	Out of which repeater under trials	19301	376	00	19677
	Percentage (%)	33.00	22.00	00	33.00

Table 4-Recidivism rate of Undertrial in 2022

7.2.1 Factors that contribute to the high recidivism rate in India

The high recidivism rate in India is attributed to various factors, including

Lack of economic opportunities for ex-convicts:

Ex-convicts often struggle to find jobs and reintegrate into society post-release, potentially leading to a relapse into crime for financial gain.

Lack of social support:

Ex-convicts often face ostracization from their families and communities, leading to feelings of isolation and loneliness, which can increase their likelihood of reoffending.

Mental health problems:

Ex-convicts often suffer from mental health issues like PTSD and depression, which can hinder their ability to reintegrate into society and increase their likelihood of recidivism.

Substance abuse:

Ex-convicts often face substance abuse, which can negatively impact their judgment and decision-making abilities, increasing their likelihood of committing crimes.

7.2.2 The Indian government has implemented several measures to tackle the issue of recidivism.

Providing vocational training to ex-convicts:

The government offers vocational training to ex-convicts to assist them in finding employment after their release from prison.

Providing financial assistance to ex-convicts:

The government offers financial aid to ex-convicts to facilitate their reintegration into society.

Providing counselling and support to ex-convicts:

The government provides counselling and support to ex-convicts to help them cope with the challenges of reintegration into society.

India's high recidivism rate is due to factors like economic insecurity and lack of social support for ex-convicts, despite efforts to address these issues.

7.3 Comparison of recidivism rates in India and Norway

India has a significantly higher recidivism rate than Norway, with 57.2% of prisoners re-arrested within 5 years of release, according to the 2016 National Crime Records Bureau report.

Norway, on the other hand, has one of the lowest rates of recidivism in the whole world, at just 20%. This indicates that only 20% of Norwegian jail inmates who are freed are arrested again within three years after their release.

The Norwegian prison system's focus on rehabilitation compared to the Indian system's emphasis on punishment is a key factor in the difference in recidivism rates. Norwegian prisons offer educational and vocational training programs, as well as mental health and substance abuse treatment, enabling prisoners to develop necessary skills and resources to avoid reoffending.

The Norwegian government offers more support to ex-convicts than the Indian government, providing housing assistance, job training, and placement assistance, which helps them get back on their feet and avoid recidivism, contributing to the difference in recidivism rates.

Ex-convicts in India face discrimination, job struggles, and societal challenges, potentially leading to relapse into crime for financial gain.

The Indian government can learn from the Norwegian prison system's rehabilitation approach, which focuses on providing more support to ex-convicts, thereby reducing recidivism and fostering a safer society.

Chapter 8

8 Role of architecture on prisoners

Prison architecture can play a significant role in the lives of prisoners. It can affect their physical and mental health, their behavior, and their chances of rehabilitation.

8.1 Positive impacts of prison architecture

- **Improved mental and physical health:** Inmates can have access to outdoor space for exercise, fresh air, and natural light in well-designed jails. Their emotional and physical health may benefit from this.
- **Reduced violence:** Violence can be decreased by prisons that are built to encourage interaction and monitoring between inmates and staff.
- **Increased rehabilitation:** Prisons that give inmates access to educational and job training programs as well as mental health and drug addiction treatment programs can aid in the development of the abilities and resources required for successful reintegration into society and the reduction of recidivism.

8.2 Negative impacts of prison architecture

- **Poor mental and physical health:** Poorly built prisons can result in overpopulation, substandard sanitation, and a lack of access to natural light and fresh air. The prisoner population's mental and physical health may suffer as a result.
- **Increased violence:** Violence and hostility may rise in prisons that are built to keep inmates apart from one other and from personnel.
- **Reduced rehabilitation:** It may be more difficult for convicts to reintegrate into society and prevent recidivism in prisons that do not offer them access to educational and vocational training programs, as well as mental health and drug addiction treatment programs.

Overall, prison architecture can play a significant role in the lives of prisoners. It is important to design prisons that are focused on rehabilitation and that provide prisoners with the resources they need to succeed.

Here are some specific examples of how prison architecture can impact prisoners:

- **Access to natural light and fresh air:** According to studies, exposure to sunlight and clean air can elevate mood, lessen stress, and enhance cognitive performance. Prisoners, who frequently spend extended amounts of time indoors, should take particular note of this.
- **Cell size and design:** Prisoners may experience issues with their mental and physical health in overcrowded or poorly ventilated quarters. Prisoner behaviour may also be affected by cell design, with smaller and fewer private cells being linked to higher levels of aggressiveness.
- **Access to educational and vocational training programs:** Prisoners can gain the knowledge and abilities necessary to obtain employment and reintegrate into society following their release through educational and vocational programs. Recidivism rates are lower in prisons that offer these services.
- **Access to mental health and substance abuse treatment programs:** Substance addiction and mental health issues are prevalent among convicts. Prisons that offer access to programs for drug addiction and mental health issues can assist inmates in addressing these issues and lowering their likelihood of recidivism.

It is crucial to remember that there are other factors outside prison architecture that affect inmate recidivism. The effectiveness of rehabilitation programs and the availability of support services for ex-offenders are other aspects that are important. However, prison design may have a big impact on how convicts conduct their lives and how successful they are once they are released.

8.3 Prisoner behaviour is influenced by architecture.

Environmental designers and psychologists have long been interested in the difficult question of how environments affect how people behave. A increasing corpus of research indicates that our ideas, feelings, and behaviours may all be significantly influenced by our physical surroundings

This is particularly true in the setting of prisons, where the physical environment frequently serves to limit and control inmates' conduct. For instance, overcrowding and inadequate ventilation are common features of prison architecture, which can make inmates more stressed, anxious, and aggressive. Violence and tension may also rise in prisons that are built to keep inmates apart from one other and from personnel.

On the other hand, prisons that are built with a focus on rehabilitation and compassionate treatment can have a beneficial effect on inmate behaviour. It has been demonstrated that recidivism rates are lower in prisons where inmates have access to exercise areas, natural light and fresh air, as well as educational and vocational training programs.

Here are some specific examples of how the physical environment of a prison can impact the behaviour of prisoners:

1. **Spatial Organization:** By allowing or preventing movement, a prison's physical layout can affect inmates' behaviour. For instance, although limited environments may foster emotions of isolation and hostility, open rooms and communal areas may promote social contact and beneficial connections among convicts.
2. **Natural Light and Ventilation:** It has been demonstrated that having access to natural light and ventilation is beneficial for one's mental health and wellbeing. Designing prisons with these features can make inmates feel less stressed and foster a happier environment.
3. **Privacy and Personal Space:** Giving prisoners their own space and seclusion might help them feel more worthy and dignified. Creating living spaces or cells with some degree of seclusion helps ease tension and strife among prisoners.
4. **Access to Education and Rehabilitation Programs:** Recidivism rates can be lowered by creating environments within jails that make it easier to access programs for education, vocational training, and rehabilitation. Inmates are more likely to successfully reintegrate into society by being given opportunities for personal growth and skill development.

It is essential to remember that prisoner behaviour is influenced by a variety of factors in addition to the physical surroundings. The effectiveness of rehabilitation programs and the availability of support services for ex-offenders are other aspects that are important. However, a prisoner's life and prospects of success following release can be significantly shaped by their immediate surroundings.

The development of safe and compassionate prisons may benefit greatly from the work of prison architects. Architects may contribute to recidivism reduction and contribute to a safer society overall by designing prisons that give inmates access to natural light and fresh air, exercise areas, educational and vocational training programs, and mental health and substance abuse treatment programs.

Chapter 9

9 Conclusion

Prison architecture and rehabilitation programs can both play a significant role in reducing recidivism rates among prisoners.

9.1 Prison architecture

The design of the jail may have both beneficial and bad effects on inmate behaviour. In overcrowded, poorly ventilated, and without access to natural light and fresh air prisons, inmates may become more stressed, anxious, and aggressive. Violence and tension may also rise in prisons that are built to keep inmates apart from one other and from personnel.

Both good and negative effects of prison design on inmate behaviour are possible. Prisons that are overcrowded, have poor ventilation, and deny inmates access to natural light and fresh air can make inmates more stressed, anxious, and aggressive. Prisons that are built to keep inmates apart from one other and from personnel can also lead to more violence and unrest.

9.2 Rehabilitation programs

Reductions in recidivism rates can also be significantly influenced by rehabilitation programs. Effective rehabilitation programs equip prisoners with the knowledge and tools they need to successfully re-enter society and prevent recidivism. Programs for mental health and drug addiction treatment, education, and life skills development may all be included in these initiatives.

Programs for rehabilitation can be successful in lowering recidivism rates, according to research. For instance, a study by the National Institute of Justice indicated that participants in rehabilitation programs had a 43% lower risk of recidivism than non-participants.

9.3 Recidivism rates and architectural spaces

A increasing amount of research indicates that prison environments may have an effect on recidivism rates. Recidivism rates have been demonstrated to be lower in prisons that are created to be more compassionate and rehabilitative, with access to natural light and fresh air, exercise areas, educational and vocational training programs, and mental health and drug abuse treatment programs.

Inmates who were kept in cells with windows that allowed for natural light, for instance, were 25% less likely to recidivate than those who were housed in cells without windows, according to research by the University of Cincinnati. According to another research from the University of Texas at Austin, inmates who had access to programs for education and job training were 13% less likely to commit crimes again than those who did not.

According to this research, prison design can significantly impact recidivism rates. We may contribute to the development of a safer society for everybody by creating jails that are more rehabilitative and compassionate.

9.4 Conclusion

Recidivism rates among convicts can be significantly decreased by both prison design and rehabilitation initiatives. We can reduce crime and make society a safer place for everyone by creating prisons that are more compassionate and rehabilitative and by giving offenders access to successful rehabilitation programs. According to studies, prisons that place a greater focus on rehabilitation than punishment are frequently more successful in reducing recidivism. The design and architecture of a prison or jail may have a significant influence on the psychology and behaviour of inmates. By creating circumstances that are conducive to rehabilitation, such as providing offenders with access to education, mental health therapies, and vocational training, prisons may help inmates successfully reintegrate into society.

Other elements, such as giving ex-offenders access to work prospects and social assistance, can help lower recidivism rates in addition to prison design and rehabilitation initiatives. We may contribute to the development of a more just and equitable society by tackling these problems.

However, it is important to keep in mind that several elements, like the quality and accessibility of resources, the dedication of prison staff, and the specific requirements of inmates, might affect how effective rehabilitation programs and spaces are in lowering recidivism rates. The best methods for creating prison environments that support successful rehabilitation require further study and assessment.

In conclusion, even while there is evidence to show that prison design and rehabilitation initiatives might help lower recidivism rates among inmates, the topic is complicated and needs more research. Possibilities for improving outcomes for those who are jailed include designing prisons with an emphasis on rehabilitation rather than punishment.

10 Live Case Study

INTRODUCTION

The central prison at Puzhal was first constructed in 1987, with only blocks and 400 inmates. This obviously proved to be dysfunctional due to overcrowding and lack of facilities, and was claimed defunct in 1989. Prisoners were shifted back to Chennai Central Prison (in existence since 1887) and other district prisons.

REASONS FOR RENOVATION

- Renovation work began in early 2000 with the object of attaining a high-tech design similar to the central prison in Hyderabad, in order to facilitate reform and rehabilitation along with imprisonment.
- Chennai Central Prison is being shut down as it is turning obsolete due to its incapability to serve its purpose.
- It at present, has over 3000 inmates, its capacity being only 1500.
- Prisoners from Vellore Central Prison are going to be brought here to help them meet their families that are based in Chennai.

Also, there are only two prisons for women (Vellore and Trichi prisons). This will ease the burden on them.

SITE ZONING

- The whole complex is surrounded by a 6.5m high wall (concrete) equipped with electric wires
- Entrance/Exit - there are 3 Entrance/Exits
- The centre one, 12m wide, is meant for VIP and officials
- The left most one is exclusively meant for the female block (transport of female inmates, visitors, etc)
- The right most is for general use by officials, transport of inmates, visitors access, etc
- Access roads are 9m wide.
- Parking is allotted next to each of the blocks and around other areas where vigilance is required.

CIRCULATION

The campus has a radial pattern of circulation with the blocks arranged radially. Footpath for pedestrian and roads are provided. The bikes and car parking has been provided outside for the visitors and within the campus for the staff or officials within the prison.

VEGETATION

The Puzhal has a green campus and the greenery within the campus influences the climate within it and does not make it seem like a prison. Trees are grown at various places within the campus. Vegetation done by prison labourers within the site.

LOCATION

It's located 20km from Egmore and is situated in an industrial cum residential area. It stretches over a total area of 211.07 acres.

FEATURES

- It's built to accommodate 5000 inmates.
- It has three prison complexes within it. It shares its wall with the Puzhal Metro water Dept.

SITE ACCESS

The Puzhal Campus has a main entrances all three from the NH-s highway.

CLIMATE

Chennai has a tropical climate, specifically a tropical wet and dry climate. The city lies on the thermal equator and is also on the coast. The weather is hot and humid for most of the year.

- May to early June 38-42 °C (100-108 °F), January 18-20 °C (64-68 °F).
- The lowest temperature recorded is 15.8 °C (60.4 °F) and highest 45 °C (113 °F)
- The average annual rainfall is about 140 cm (55 in).

PRISON COMPLEXES.

- Each correctional facility has its own compound wall. 5.45m high with electric wiring.
- Prison Complex P1-facility for convicts 90 acres in area
- Prison Complex - P2 - facility for prisoners under remand-45 acres in area
- Prison Complex-P3-female inmates complex- 35 acres in area

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Plate 1 Puzhal Case study

FACILITIES

Quarantine Block

- Plan-courtyard planning.
- This has dorm type and cellular accommodation.
- Capacity-102 inmates.
- Prisoners who are brought in fresh area kept here for a minimum of 15 days.
- They are checked for health problems and their behaviour and frame of mind are studied.

Rehabilitation Block

There are 5 units of rehab for inmates addicted to alcohol, drugs etc. It also has a separate facility for counseling and psychotherapy.

Civil Debtors Block

This is where people who have been cheated off their money pay a certain amount to keep the cheat in prison

Cellular Blocks

- There are 24 cells in number, and are in the same layout as the terrorists block.
- These are meant for inmates who are mentally unstable or are incapable of getting along with fellow inmates.



Associative And Remand Blocks

- There are 3 such blocks, each accommodating 344 inmates.
- It is a G+1 structure accommodating 15 inmates, but with provision of only 1 bathroom. Total capacity of blocks I, II and III - 1032.

Transit Yard

- Prisoners who are brought to be taken to the court or for other purposes from other districts are kept here.

Administration Block

Each complex has its own administration block apart from the main administration area.

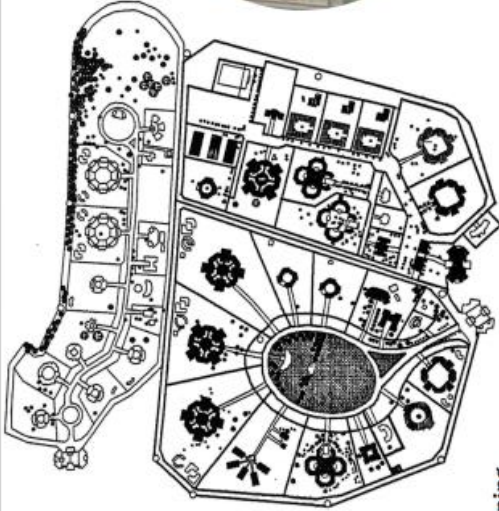
Services

- Water Supply - Enough water supply as it shares the compound wall with the metro water dept.
- Each complex has its own sump.
- Fire Fighting Fire hydrants at a height of over 4 storey are provided.
- There is one for each block. There is the provision of separate sumps for all hydrants.



Central Prison I - for convicts

- This facility accommodates a total of 1250 inmates
- The other facilities are organized around an oval shaped ground that acts as a central courtyard this is a multi-purpose area used for surveillance purpose as well as for conducting events of sports, recreation etc. It has a compound wall 5.45m high.



Vocational Training

- There are separate workshops and rooms for weaving, tailoring, handicrafts, carpentry, pottery etc.
- Inmates are paid in the form of daily wages.
- This facility is available only for inmates of P1 as this includes inmates serving from 3 years of imprisonment, to life sentence.

Ration and Clothing Store

- This is where the inmates get their toiletries and other basic requirements.
- Money can be deposited as well as collected here.

Security

- Maximum security - P2 - for prisoner under remand.
- Medium security - P1 - for convicts.

Meditation Hall

- This is a huge hall, about 140sqm in area.
- It accommodates a maximum of 60 inmates.
- The emergency door is 0.9m wide to facilitate escape of the tutor only, in case of a violent breakout. It has windows all around and is recessed away from other blocks to help inmates concentrate.



LIVE-CASE STUDY

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PRISON COMPLEXES.

Hospital Block

- This has 50 beds and serves the whole of PI.
- It has a minor operation theatre. X-ray room, store, and office/admin area.
- Prisoners are kept watch on and if they do not to show any signs of recovery, they are taken to the government hospital with notice/certificate from the doctor



Condemned Block

- This is where prisoners sentenced for life are kept. These are of cellular type and there are a total of 12 cells.
- This has its own individual toilets. Each cell is 3.6x2.4x3.9m.
- The inmates here are locked up all the time, except for when taken to the court or visited.



Watch Towers

- There are a total of 9 watch towers within the whole prison complex.
- Prison P2 shares the same amenities as Prison P1 for offenders under remand, aside from the construction of two more dormitory blocks and two terrorist blocks in total, each with a separate watchtower, kitchen, and hospital
- Prison P3, which houses female convicts, lacks a terrorism block but does have a school and a crèche. It has a crèche along with their school.



Visitors Room

- Security is tight around this area.
- The inmates and visitors are separated by a channel, where the guard supervises the visit.
- The channel is meshed from both sides for protection of officials.
- Each inmate is allowed 3 visitors, it is sound proofed.

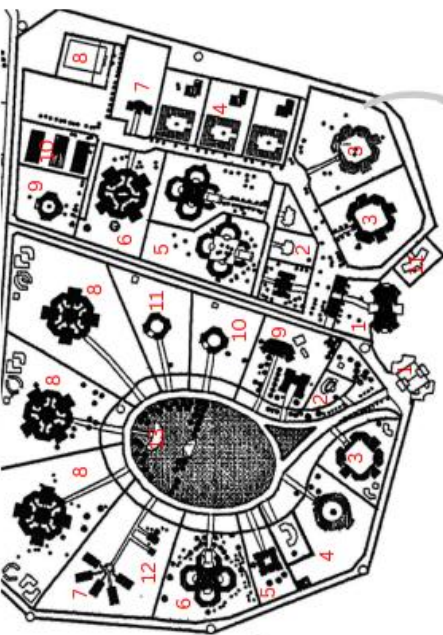


School

This block is provided with learning hall as well as alibrary.

Terrorists Block

- This block has 50 individual cells (part of PIJ).
- 2 in every 8 are provided with EW/C's, while others are all Indian style WC's. Each set has 3 common toilets that can be used only during the day.



Prison Blocks in Puzhal I Prison Blocks in Puzhal II

1. Office
2. Prison court
3. Permission
4. Hospital
5. School
6. High security Prison
7. Rehabilitation Block
8. Associative Block I, II, III
9. Quarantine Prison Block
10. A class Block
11. Prison court
12. Canteen
13. Meditation Hall



Inference

- The radial arrangement of blocks in a panopticon manner proves for better circulation as well as observes better surveillance within the campus.
- The green campus within the puzhal central prison has modified the climate and makes the prison seem more like a park than a prison.
- The security system is well setup with watch towers, surveillance cameras, sensors, fingerprint scanners etc. so that only one guard is needed to guard a 100 prisoners.
- Almost all of the blocks have got an open space in between with a small garden of its own which are maintained by the prisoners itself and activities such as gardening and horticulture etc are encouraged.
- The storm water drainage system is network of concreted drains connected with each other, so that the water flows from each block to the drain and then is flowed into the main drain which gets disposed or collected in the main outside the campus.
- The colour scheme followed within the prison are light colours such as offwhite, white etc. which provide a calm feeling to the prisoners.

LIVE-CASE STUDY

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SITE PLAN - PUZHAL PRISON



- Condemned Block**
- This is where prisoners sentenced for life are kept. These are of cellular type and there are a total of 12 cells.
 - This has its own individual toilets. Each cell is 3.6x2.4x3.9m.
 - The inmates here are locked up all the time, except for when taken to the court or visited.

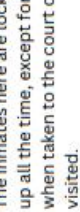


Hospital Block

- This has 50 beds and serves the whole of PI.
- It has a minor operation theatre, X-ray room, store, and office/admin area.
- Prisoners are kept watch on and if they do not show any signs of recovery, they are taken to the government hospital with notice/certificate from the doctor.



PUZHAL BLOCK2



Administration Block

Each complex has its own administration block apart from the main administration area.



PUZHAL BLOCK1

- Associative And Remand Blocks**
- There are 3 such blocks, each accommodating 344 inmates.
 - It is a G+1 structure accommodating 15 inmates, but with provision of only 1 bathroom. Total capacity of blocks I, II and III - 1032.



Prison Blocks in Puzhal I

- Office
- Prison court
- Permission
- Hospital
- School
- High security Prison
- Rehabilitation Block
- Associative Block I, II, III
- Quarantine Prison Block
- A class Block
- Factories
- Canteen
- Meditation Hall

Quarantine Block

- Plan-courtyard planning.
- This has dorm type and cellular accommodation.
- Capacity-102 inmates.
- Prisoners who are brought in fresh area kept here for a minimum of 15 days.
- They are checked for health problems and their behaviour and frame of mind are studied.

CASE STUDY

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Plate 4 Puzhal Case Study

PUZHAL CENTRAL PRISON

MACRO ZONING

Prison 1 - Has only Convict prisoners (1250)

- Men
- Short term
- > 3 Long term
- Life sentence
- Death sentence
- (46 acres)

Prison 2 - Has only Remand prisoners (1250)

- (Men)
- (32 acres)

Prison 3 - Has both Remand/ Convict prisoners

- Women
- 500
- 28 acres

The facilities include cells and dormitories with windows, lavatories with doors, meditation hall, library, amphitheatre, auditorium, jail court with video-conferencing facility, mechanised kitchens, high-security blocks with exclusive kitchen and hospital, gym, canteen, public music system, rehabilitation block and separate gallows for men and women prisoners

MACRO ZONING



STAFF CIRCULATION

- The guards are posted with an 8 hour shift 8-8-8
- The watch tower guards are posted for a 2 hours shift
- During the day the guards go around the site by taking the central path and visiting all the blocks
- During the night the guards take the peripheral path between the outer compound and the inner compound along the watch towers to avoid the risk of escape.
- The superintendent goes to check all the block once during the day
- The deputy jailor goes twice for rounds
- The head warden goes for rounds during the lock up
- The warden is in charge of his block and stays there the whole day

VISITOR CIRCULATION

- Convicts - By weekly once
- Remand - Weekly thrice
- All the visitor block should be placed along the perimeter wall. A waiting hall for visitors should be provided. At present the visiting block are very noisy. Modern techniques like intercom system can be incorporated

SITE PLAN

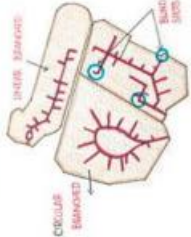


PRISON - SUPPORT FACILITY, HOUSING



- Prison support- Admin, Quarantine, Remission block. (Placed in the front)
- Prison facility - Hospital, Court, School, Auditorium, Kitchen (Spread out in the site)
- Prison housing - Inmate stay area (Grouped together)

CIRCULATION MAPPING



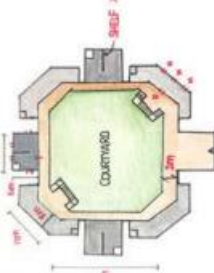
- Prison 1 - Circular branched (Ease of surveillance)
- Prison 2 - L - shaped (Blindspots - Not good for security)
- Prison 3 - Linear branched (One visual axis)

ACCOMMODATION TYPOLOGY



- Only half of the built space is used for housing purposes.
- There are two types of housing:
 - Single cell
 - Group housing
- A Class, Cellular, High Security
- Single cell
- Association block, Quarantine
- Group housing

QUARANTINE BLOCK



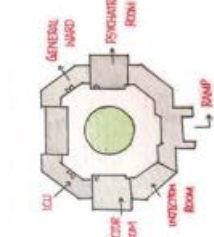
- Prison 1 and 2 - 1431 sqm
- Womens prison - 1396 sqm
- Inmates under observation for one week
- Identify skills, psychology, diseases, etc. and are separated accordingly
- No mingling with inmates of other blocks
- 2 storied
- Ground floor - 7 blocks ;
- First floor - 4 blocks (20-25 inmates in one block)

HIGH SECURITY BLOCK



- The high security block houses very dangerous criminals
- This block has separate livewire fencing on its compound wall
- In Remand Prison it houses the Foreign Criminals
- They have a separate Hospital and Kitchen for them

HOSPITAL BLOCK



- 15 inmates work here
- 10 work in the night
- There are 2 separate rooms behind the kitchen. One for the Boiler and one for cylinders
- A store block for ration is placed next to the kitchen.
- There is a fire sump in front of the kitchen block

ASSOCIATION BLOCK



- The bathroom block is placed inside the block 11 toilets with 2 toilets for physically handicapped and a shower area. The height of the toilet is small to maintain security. New installation of Steel Toilets (to avoid the storage of contrabands). Bath doors are one step high with 1.2 m high door.

CASE STUDY

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COIMBATORE CENTRAL PRISON

INTRODUCTION

Coimbatore Central Prison is a prison located near Gandhijouram bus stand in Coimbatore, Tamil Nadu, India. The prison was constructed during the Madras Presidency year 1872. It is located in an area comprising 167.76 acres (0.6789 km²). The prison is authorized to accommodate 2208 prisoners. The freedom fighter V.O. Chidambaram Pillai was confined in this prison during the freedom struggle from 9 July 1908 to 1 December 1910.



LOCATION

- Coimbatore, Tamil nadu.
- Located at coimbatore nearly 2.5 kms from Coimbatore Junction railwaystation and 9.8 kms from coimbatore airport.
- Coimbatore Central Prison is a panopticon arrangement of old buildings tucked in the expanse of 67.76 acres (0.6789 km²)



SITE ZONING

- Coimbatore Central Prison is a prison located in Coimbatore, India. The Prison was constructed during the year 1872 The prison complex occupies an area corresponding to 167.76 acres (0.6789 km²). It has a quarantine to segregate new entrants till medical examination is completed.
- The prison is totally green and is known as the "oxygen factory" of the city. The site is located within the city and at close proximity to the Coimbatore bus terminus. A recent proposal had been proposed about its relocation.
- Main Jail buildings -60 acres
- Quarters: 35 acres
- Exhibition Ground: & acres
- Open area: 17 acres
- Total: 120 acres



CIRCULATION

The prison campus has a radial pattern of circulation with the blocks arranged radially. Footpath for pedestrian. The bikes and car parking has been provided outside for the visitors and within the campus for the staff or officials within the prison.



VEGETATION

- The Coimbatore prison has a green campus and the greenery within the campus influences the climate within it and does not make it seem like a prison. Trees are grown at various places within the campus
- Vegetation done by prison labourers within the site.

REASONS FOR RENOVATION

- **Reduced overcrowding:** Coimbatore Central Prison is currently overcrowded, with more than double the number of inmates it was designed for. A new prison could help alleviate this pressure and improve conditions for both prisoners and staff.
- **Job creation:** Prisons can create jobs for construction workers, guards, and other staff. This can be especially beneficial in areas with high unemployment rates.
- **Improved security:** A new prison could be built with modern security features, making it more difficult for prisoners to escape or smuggle contraband. This could improve public safety in the surrounding community.



Central prison authorities in Coimbatore have prepared a detailed project report to shift the facility to Onnipalayam in Bililchi village panchayat near Karamadal at a cost of 400 crore.

Location	Gandhijouram
Security class	Central Prison
Capacity	2208
Opened	1872
State/province	Tamil Nadu
Country	India

CLIMATE

Coimbatore has a pleasant, salubrious climate the city has a tropical wet and dry climate. It has mild winters and moderate summers. Coimbatore is located at an elevation of about 411 meters. The mean maximum and minimum temperatures during summer and winter varies between 35 °C (95 °F) and 18 °C (64 °F). highest temperature ever recorded is 41 °C (106 °F) and lowest is 12 °C (54 °F).



HISTORY

Established in the year 1872 the coimbatore central prison complex is 138 years old, originally the coimbatore central Prison had a site area of 201 acres of land including builtup area. The land had to be given away for various projects such as the bus terminus, govt institutions, broadening of the road etc. the tamil classical botanical garden took away nearly 36 acres of the land. in memory of V.O Chidambaram there is an oil crushing stone in front of the prison. The prisoners are often encouraged to participate in activities such as farming, garden- ing, horticulture etc.



LIVE-CASE STUDY

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PRISON INITIATIVES

Formal classroom education

- Classroom education for prison inmates was launched for pursuing their education in the 8th, 10th and 12th grades.
- The prison supports the initiative with faculty, books and setting aside three hours of each day for classroom teaching. The intention of this initiative is to provide them with education as part of reformation and to enhance their employability when they leave the prison.
- The initiative was launched during the tenure of DIG of Prisons (Coimbatore Range) P. Govindarajan.



Weaving unit

- The Prison weaving unit used for rehabilitation of prisoners was upgraded. Four Air-jet loom machines were added to modernise the weaving unit at a cost of Rupees 1.50 crore.
- The prison has a weaving unit with 109 power looms where 200 convicted prisoners work in two shifts.



Prison Bazaar

- The Prison Bazaar is a prison program to help inmates sell fabrics and cloths stitched inside the prison to the general public. Also snacks and food items cooked by inmates are sold at reasonable costs.

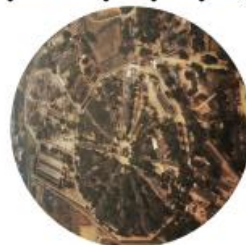
Music classes and exams

The prison authorities encourage those with talent and those who volunteer to learn music. Six prisoners were to appear for the Trinity Music College exams, some after nearly 13 years of training by NGOs.



Agriculture

Coimbatore Central Prison has a farming program that employs inmates to cultivate crops. The prison has a total area of 167.76 acres (0.6789 km²) and the open land is used for agricultural activities by the inmates. The inmates cultivate vegetables such as tomato, ladies finger, eggplant, spinach, and beetroot. The harvested vegetables are cooked for the 1,900 inmates of the Coimbatore Central Prison. The prison has more than 400 coconut trees across 30 acres.



Rehabilitation

- Coimbatore Central Prison has a rehabilitation program named PATTAM (Personality Attitude Transformation Therapeutic Assistance Management) for remand prisoners who are first-time offenders. The program aims to keep them away from crimes after their release.
- The program is targeted towards remand prisoners aged between 18 and 24 who serve judicial remand for their first-time offense.
- Experts will offer such inmates training in life skills, de-addiction sessions, counseling, and specific psychological intervention apart from teaching them yoga and meditation.
- Sports will also be a part of the rehabilitation program. People who are part of the program will continue to be in touch with the inmates after their release.
- The prison authorities will also seek the support of the District Legal Services Authority and the police to give assistance to the first-time offenders after their release



- Prison Premises**
- Convicted Prisoners Block
 - High Security Block - I, II
 - Associative Block I
 - School block
 - Industrial Workshop
 - Central watch tower
- Convicted Block:**
- Block I - VIII
 - Associative block
 - School block
 - Hospital Block
- High Security Block School Block**
- Convicted Prisoners Block
 - Remand Prisoners Block
 - Hospital Block
 - Factory Block
 - Rehabilitation Block Block

INFERENCE

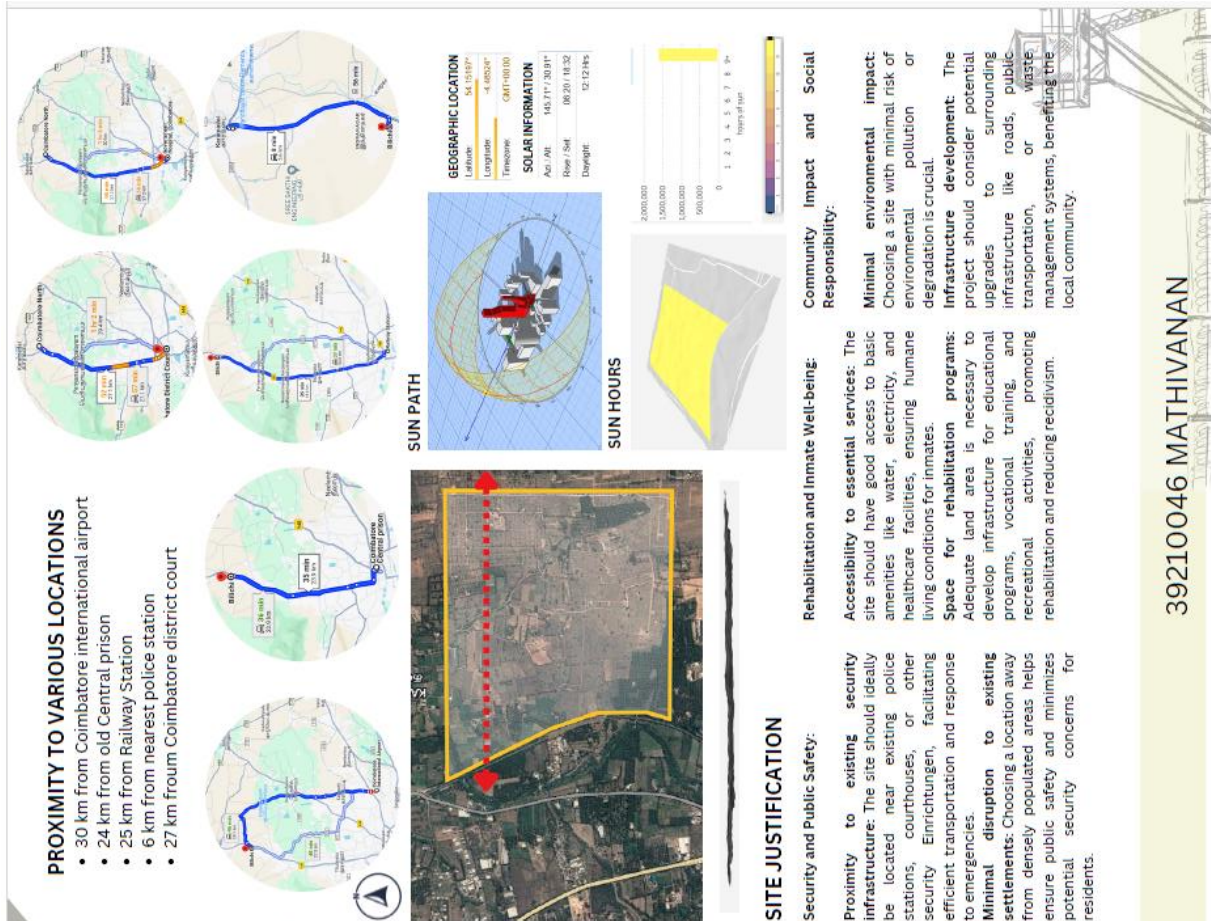
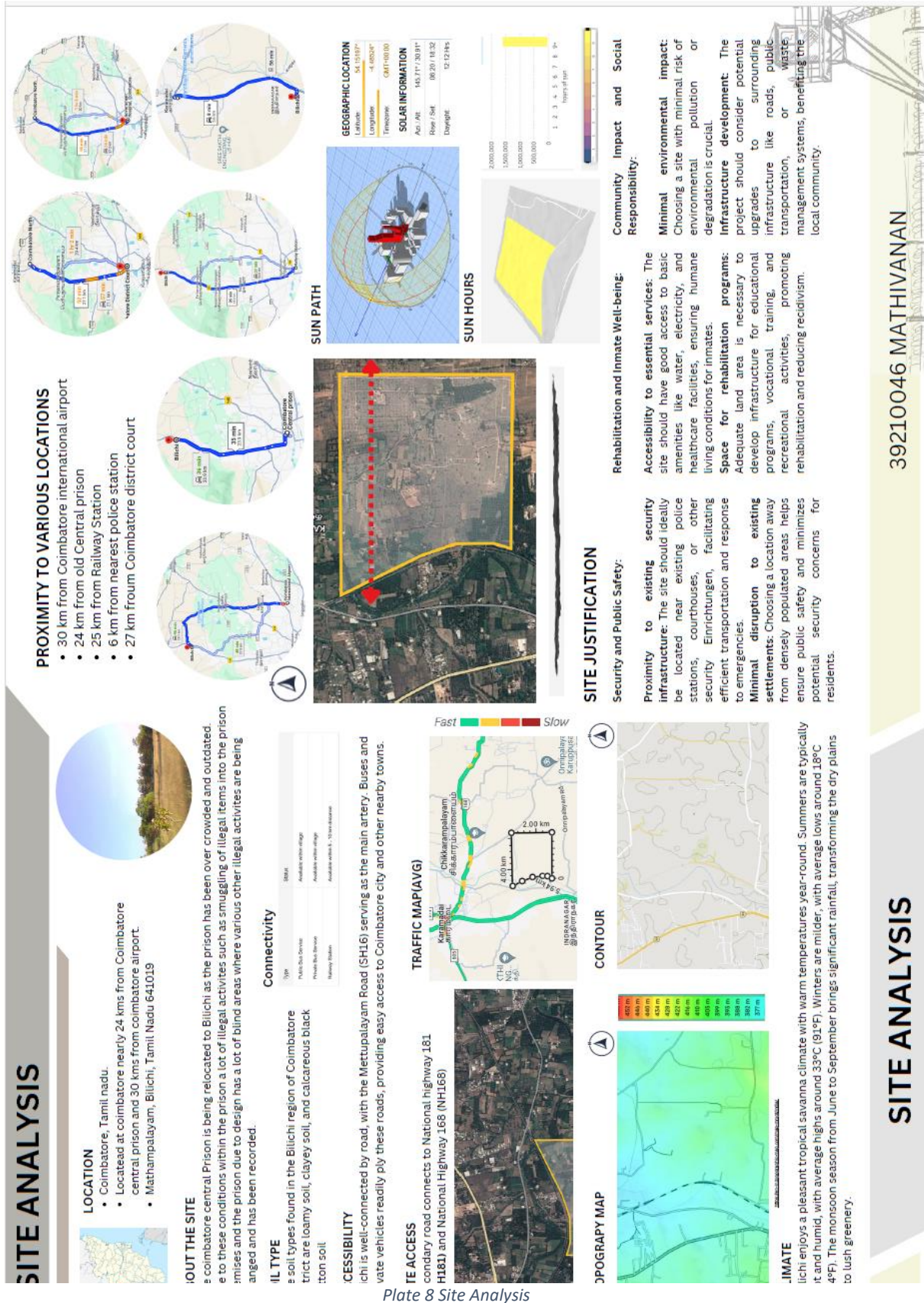
- The blocks are arranged radially in a panopticon manner. The conditions of the blocks are very poor and are in bad shape.
- The green campus within the coimbatore central prison has modified the climate and makes the prison seem more like a green HUB rather than a prison.
- The cells are old and rusty, with very little maintenance. Its quite unhygienic for prisoner to live.
- Security is minimum with very little cameras, and other facilities. There are many Blind area within the prison itself.
- The watch Tower at the middle is just for a show and is never used.
- The prison building is too old and hence provides a bad environment to reform.
- Water facility is poor and hence supplied by corporation lorries sometimes.
- There are a number of trees planted within the campus and is known as Chermmozhi poonga.

LIVE-CASE STUDY

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11 Site Study & Analysis



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Plate 8 Site Analysis

SITE ANALYSIS

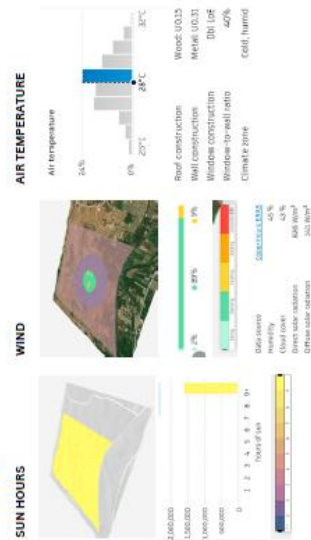
SITE ACCESS ROADS



ON SITE



CLIMATE



SITE NEIGHBOURHOOD



SWAT ANALYSIS

STRENGTHS

- Coimbatore is a major city in Tamil Nadu with good infrastructure and connectivity, making it easier for transporting supplies and personnel.
- If Bilichi is located on the outskirts, it can provide ample space for the prison complex while ensuring minimal disruption to the city center.
- Proximity to existing legal and administrative facilities in Coimbatore can facilitate smooth operation and communication.
- Bilichi might offer relatively inexpensive land compared to prime locations within the city, making it a cost-effective option for the project.
- The terrain and soil conditions could be suitable for construction, requiring minimal modifications.

WEAKNESSES

- A remote location like Bilichi could pose challenges for transportation and logistics, particularly for families and legal representatives visiting inmates.
- Bilichi might lack the necessary infrastructure to support a large prison complex, requiring significant investment in utilities, transportation networks, and waste management systems.
- While remoteness offers some security advantages, it could also make the prison more vulnerable to external threats like attacks or escapes. Additionally, securing a large perimeter in a remote area might require more resources and technology.
- Residents of Bilichi and surrounding areas might oppose the construction of a prison due to concerns about security, environmental impact, and potential changes to their way of life. Public opposition can lead to delays, legal challenges, and increased project costs.

OPPORTUNITIES

- Bilichi's remoteness presents an opportunity to design a prison focused on rehabilitation and reform.
- Implementing agricultural programs, nature-based activities, and therapeutic interventions.
- Local Employment: Construction and operation of the prison can create significant job opportunities for Bilichi residents in Construction, maintenance, service sectors, Security, administration, healthcare roles, Supply chains related to food, clothing, and other prison needs.
- Infrastructure Development: Building the prison can necessitate improvements in Bilichi's infrastructure, like Upgrading roads, transportation networks, Expanding utility services and waste management systems.

THREATS

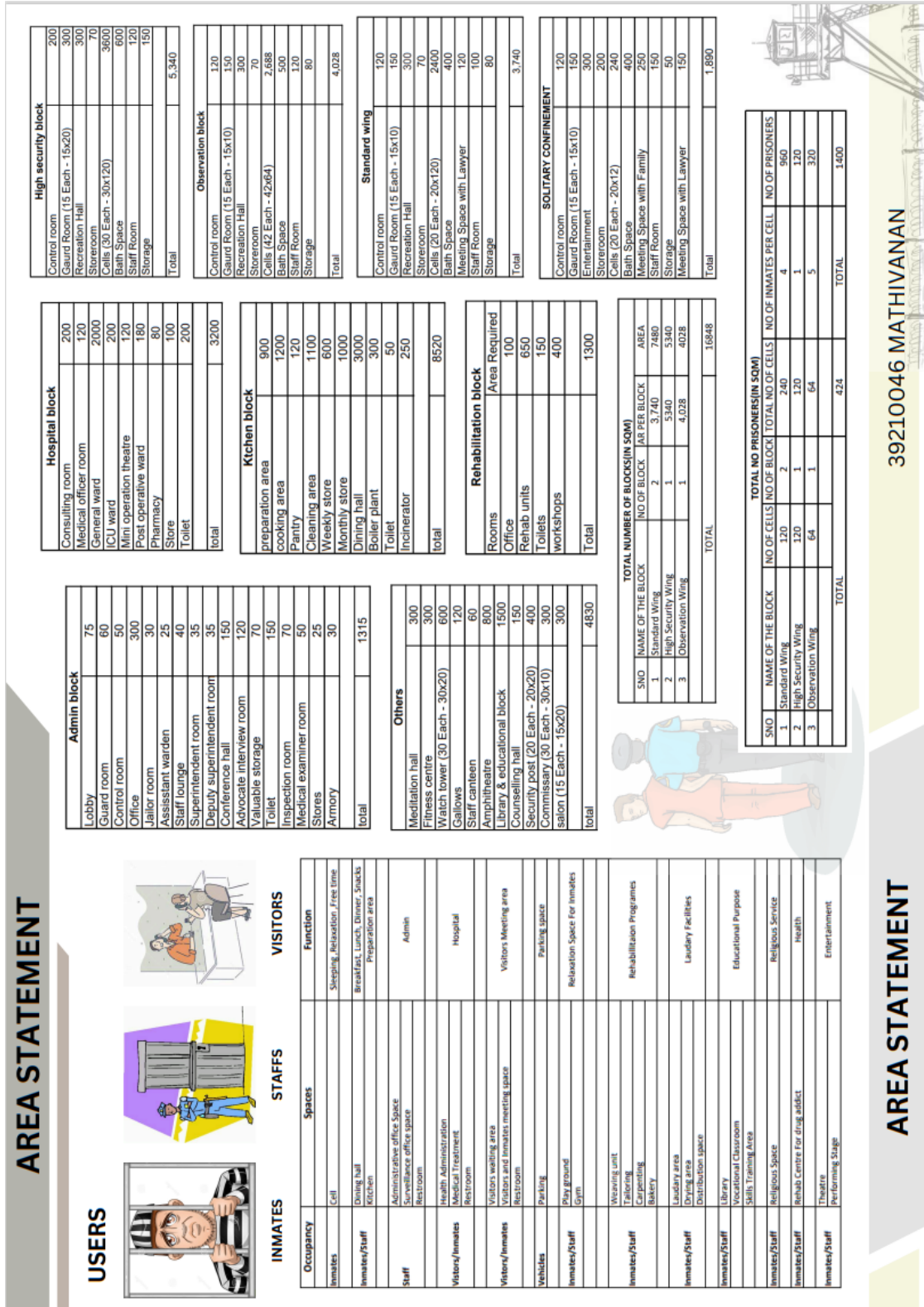
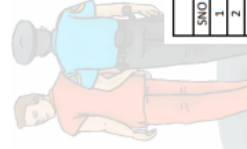
- While remoteness offers some security advantages, it can also make the prison more vulnerable to attacks or escapes. Securing a large perimeter in a remote area might require more resources and technology.
- Building a prison may create tensions within the local community, potentially leading to protests, sabotage attempts, or increased crime rates.
- Building the prison and associated infrastructure could displace existing residents or communities, disrupt local ecosystems, and lead to environmental degradation.
- Overburdened Local Resources: Increased demand for utilities, waste management, and healthcare services due to the prison might stress existing local infrastructure and resources.
- Bilichi's remoteness might increase transportation, logistics, and operational costs for the prison, creating long-term financial strain.

SITE ANALYSIS

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12 Architectural Design

12.1 Area Statement


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AREA STATEMENT

12.2 Concept

CONCEPT

PRISON

Prison, an institution for the confinement of persons who have been remanded (held) in custody by a judicial authority or who have been deprived of their liberty following conviction for a crime.

TYPE OF PRISON

There have essentially been four types of prisons in the history of prison construction. The layouts are the:

- Radial Design
- The Telephone-Pole Design
- The Courtyard Style
- The Campus Style
- Auburn/Sing style
- Skyscraper Prison



RADIAL DESIGN

The radial design is a circular design with a central guard tower. The cells are arranged around the central tower, allowing the guards to see all of the cells at once. This design is often used for high-security prisons, as it makes it difficult for prisoners to escape or riot.



THE TELEPHONE-POLE DESIGN

The telephone-pole design is a linear design with the cells arranged in rows on either side of a central corridor. This design is often used for medium-security prisons, as it is less expensive to build and operate than the radial design.



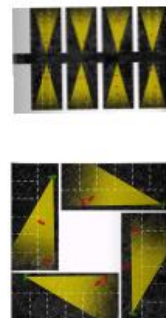
THE COURTYARD STYLE

The courtyard style is a rectangular design with the cells arranged around a central courtyard. This design is often used for minimum-security prisons, as it allows prisoners to have more access to fresh air and exercise.



THE CAMPUS STYLE

The campus style is a decentralized design with the cells and other facilities arranged in a cluster. This design is often used for large, multi-purpose prisons, as it allows for greater flexibility in programming and operations.



Radial Design

Courtyard Style

Telephone-Pole

A ARCHITECTURE CONCEPT TO BUILD PRISON IN 18TH CENTURY

PANOPTICON

The panopticon is a design of institutional building with an inbuilt system of control, originated by the English philosopher and social theorist Jeremy Bentham in the 18th century. The concept is to allow all prisoners of an institution to be observed by a single corrections officer, without the inmates knowing whether or not they are being watched.



CONCEPT

To treat the inmates with respect and dignity, and to prepare them for their reintegration into society

The key to the strategy lies in the philosophy that prisoners retain their humanity and dignity, despite losing their liberty.

Prison to be typically designed to be more humane and rehabilitative.

AIM

- To make the built environment accessible to all and respect the dignity of all people.
- To create spaces that are humane, secure, and conducive to rehabilitation.
- To balance the needs of the inmates, the staff, and the society, while also complying with the standards and regulations of the correctional system.

CAN BE ARCHIVED BY FOLLOWING CAMPUS STYLE DESIGN



PUNITIVE MODEL

REHABILITATION MODEL



- The facilities are split between the smaller building surrounded by natural landscape
- In this model prisoners can move around rather than being restricted to the same hallway day to day
- The campus model is intended to create a more open and natural environment for inmates and staff, and to facilitate different types of activities and programs.
- This can also reduce overcrowding and improve the quality of life for inmates

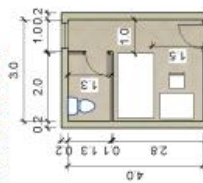
STATIC SECURITY

The custody of inmates through physical restrictions by such means as perimeter fences, electronic surveillance, locks, barriers, and approved weapons and restraint equipment.

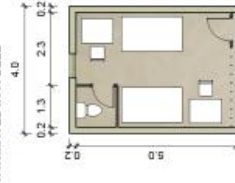
DYNAMIC SECURITY

Involves building relationships with offenders to enhance the safety and security of correctional institutions.

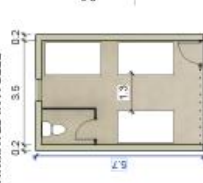
TWO INMATES IN A CELL



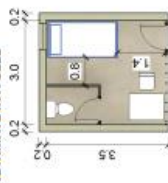
FOUR INMATES IN A CELL



SIX INMATES IN A CELL



ONE INMATE IN A CELL



SITE ANALYSIS

39210046 MATHIVANAN

12.3 Site plan

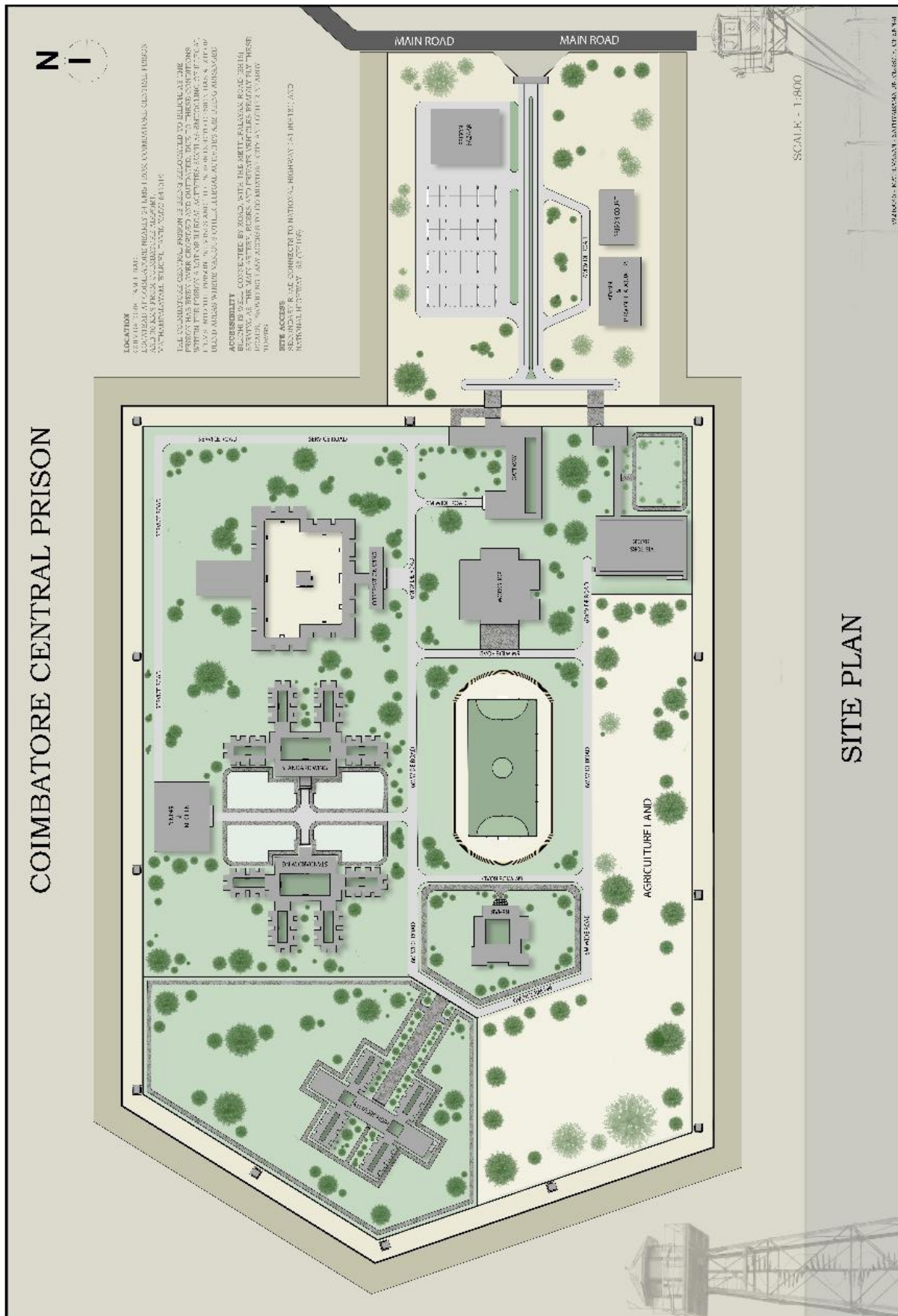


Plate 12 Site Plan

12.4 Standard Wing

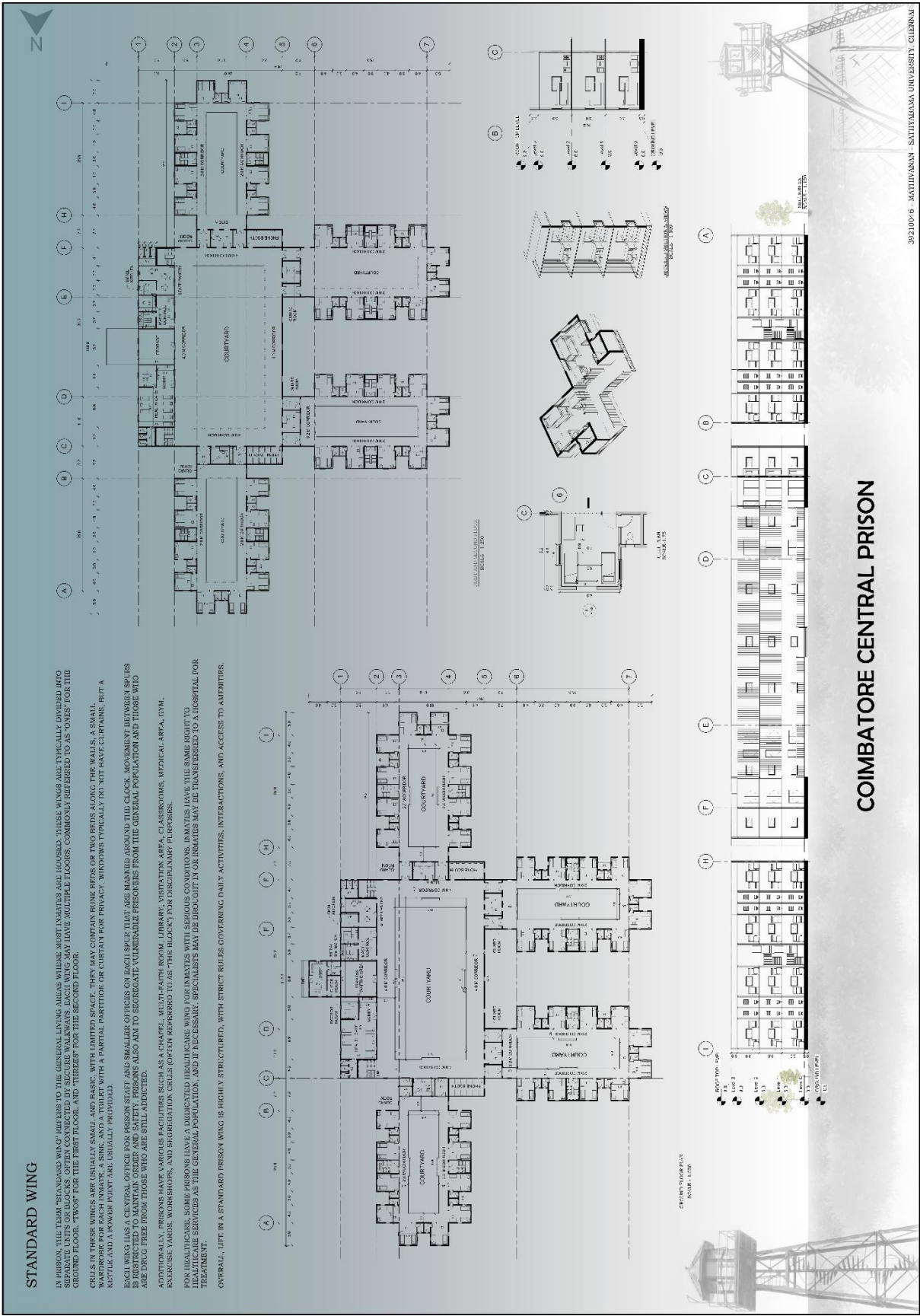


Plate 13 Standard Wing

12.5 Observation Wing

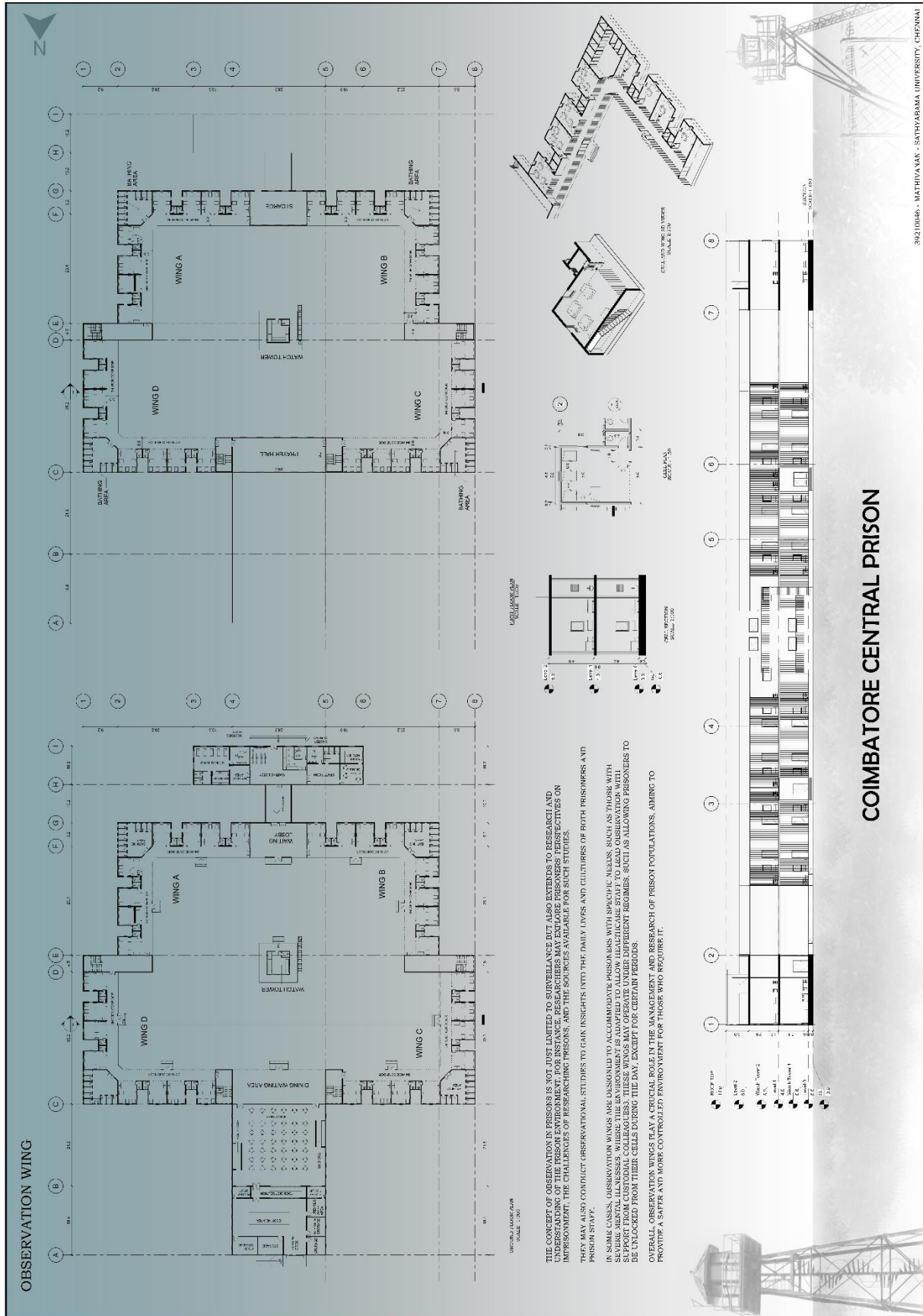


Plate 14 Observation Wing

12.6 High Security wing

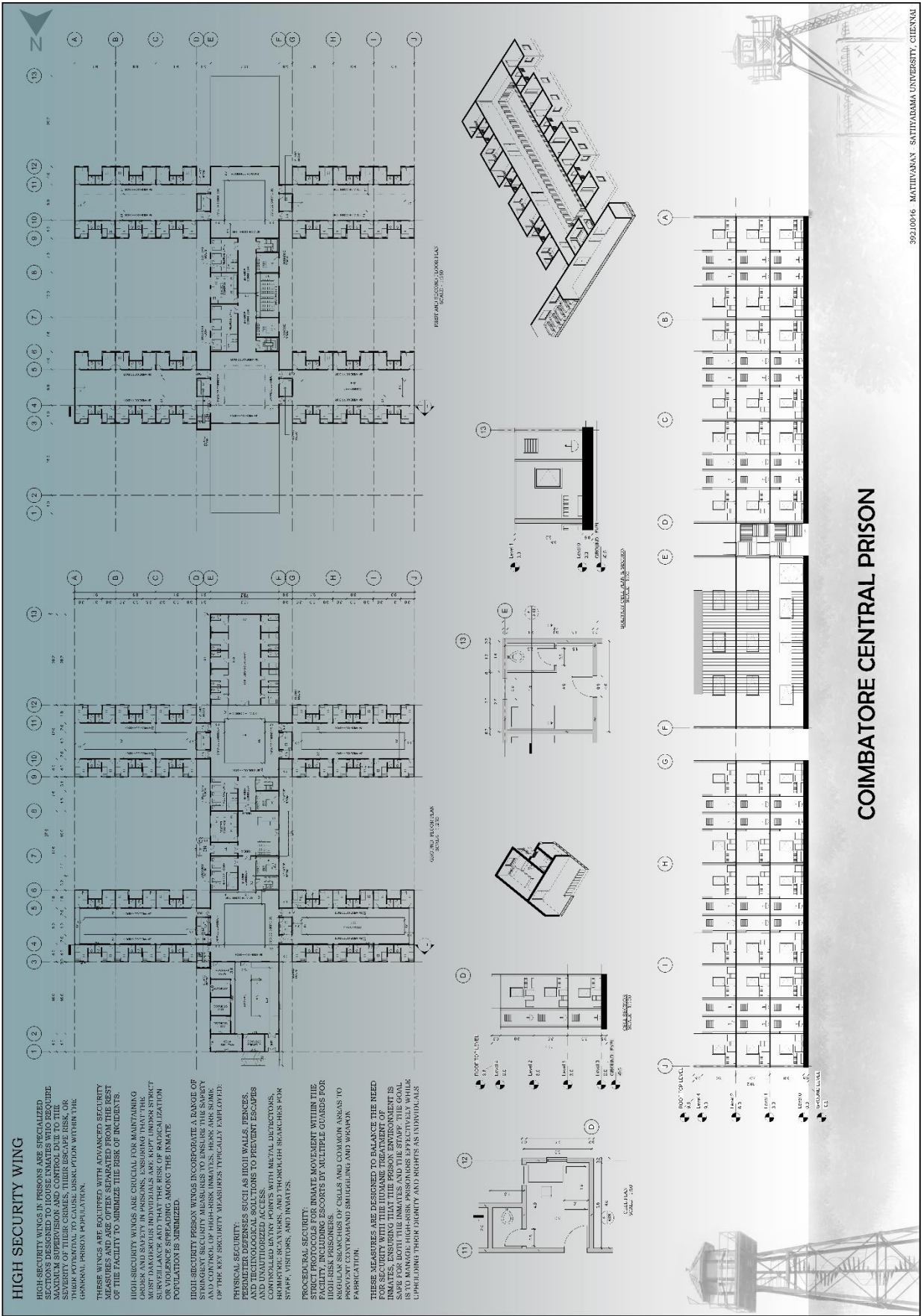


Plate 15 High Security Wing

12.7 Gateway Block And Visitors Block

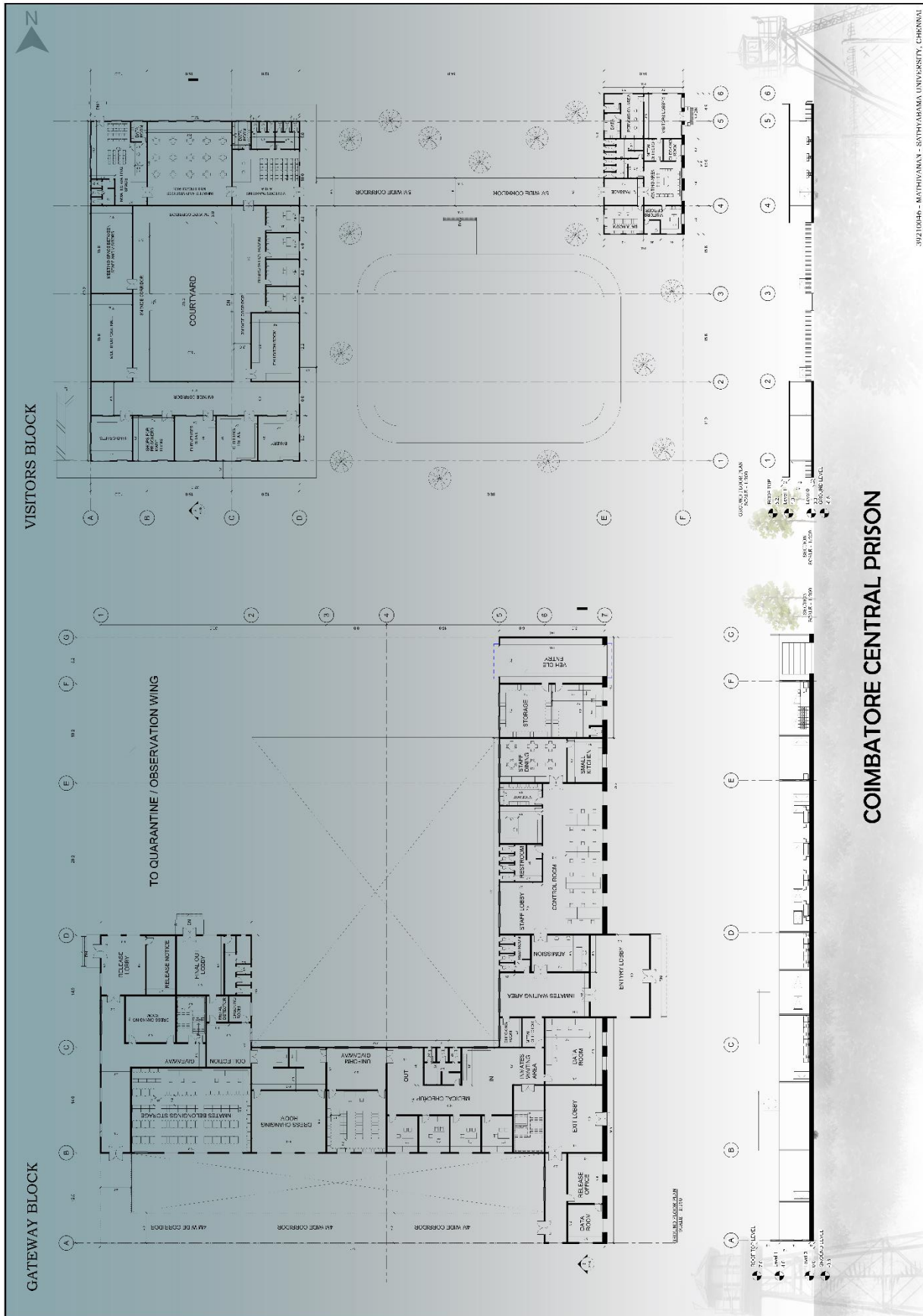


Plate 16 Gateway Block and Visitors Block

12.8 Rehab Block

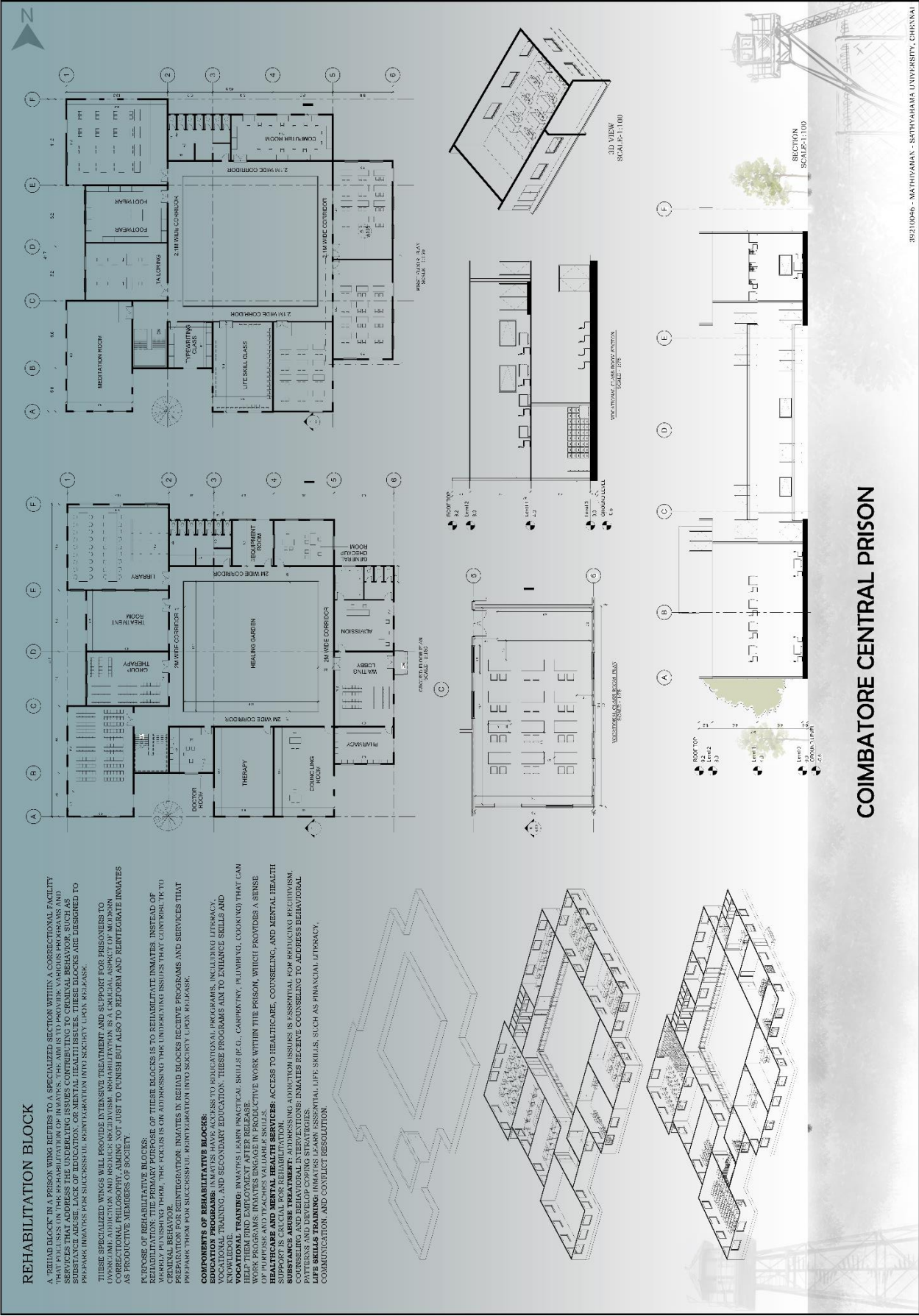


Plate 17 Rehab Block

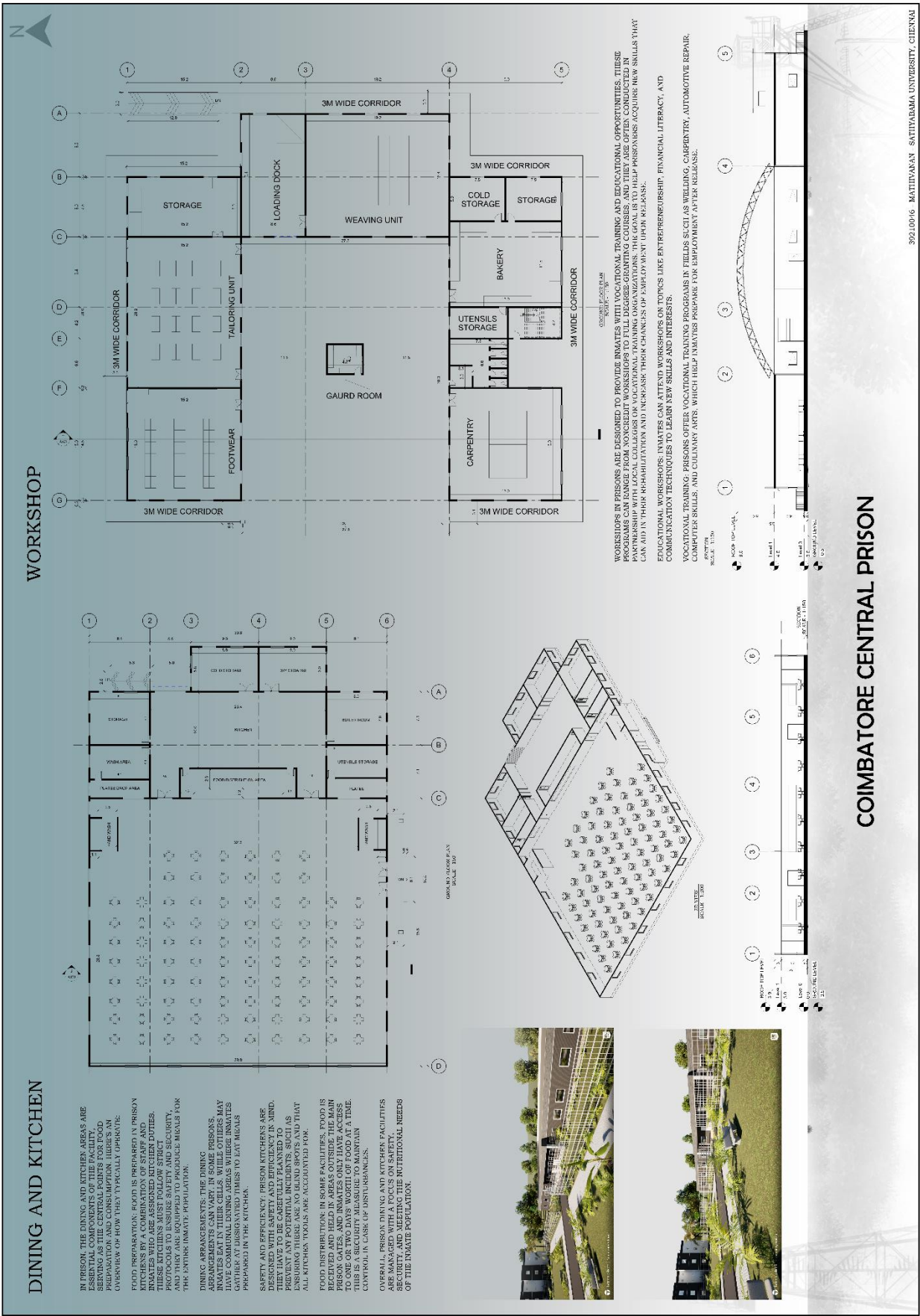


Plate 18 Workshop

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