Environmental and Social Impact Assessment (ESIA)
&
Environmental and Social Management Plan (ESMP)

For

Construction of New 200 Bedded District Hospital at Dibrugarh, Assam

Assam State Secondary Health Care Initiative for Service Delivery Transformation Project (ASSIST)

Assam Health Infrastructure Development & Management Society (AHIDMS),
Medical Education & Research Development,
Govt. of Assam

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LIST OF ABBREVIATIONS

AAAS- Atal Amrit Abhiyan Society

AHIDMS- Assam Health Infrastructure Development and Management Society

AHU- Air Handling Unit

AMSCL- Assam Medical Supply Corporation Limited

ANC- Antenatal Care

ANM- Auxiliary Nursing Midwifery

ASHA- Accredited social health activist

ASSIST- Assam State Secondary Healthcare Initiative for Service Delivery Transformation

AQM- Automated Quality Management

BEE- Bureau of Energy Efficiency

BMWM- Biomedical Waste Management

BIS- Bureau of Indian Standards

BPL- Below Poverty Line

BSC- Bio-safety Cabinet

CBWTF- Common Bio-medical Waste Treatment Facility

C&D- Construction and Demolition

CDC- Centers for Disease Control and Prevention

CHC- Community Health Centre

CMNND- Communicable, Maternal, Neonatal and Nutritional Diseases

CPCB- Central Pollution Control Board

CFL- Compact Fluorescent Lamp

CTF- Common Treatment Facility

DG- Diesel Generator

DH- District Hospital

DHS- District Health Society

DHFW- Departments of Health and Family Welfare

DoHFW- Department of Health & Family Welfare

DME- Durable medical equipment

DPR- Detailed Project Report

EAP- Employee Assistance Program

ECBC- Energy Conservation Building Code

ECG- Electrocardiogram

ECoP- Environmental Code of Practices

EHS- Environment Health and Safety

EMP- Environment Management Plan

ESIA- Environment and Social Impact Assessment

ESMP- Environment and Social Management Plan

ESMF- Environmental and Social Management Framework

ESS- Environmental and Social Standards

EPA- Environmental Protection Agency

ETP- Effluent Treatment Plan

FAAMCH- Fakhruddin Ali Ahmed Medical College and Hospital, Assam

FRU- First Referral Unit

FPIC- Free, Prior & Informed Consent

GBV- Gender Based Violence

GLS- General Lighting Service

GoA- Government of Assam

GOI- Government of India

GRM- Grievance Redressal Management

HAI- Health care-associated infections

HCF- Health Care Facility

HIV- Human Immunodeficiency Viruses

HRH- Human Resources for Health

HQ- Head Quarters

H&S- Health and Safety

IGBC- Indian Green Building Council

IHD- Ischemic Heart Disease

IRC- Indian Road Congress

IP- Indigenous Peoples

IPA- Internal Performance Agreement

IPC- Infection Prevention and Control

IPHS- Indian Public Health Standards

IPP- Indigenous Peoples Plan

IPPF- Indigenous Peoples Policy Framework

IS- Indian Standard

JCB- Joseph Cyril Bramford

LED- Light Emitting Diode

LMO- Liquid Medical Oxygen

MCH- Maternal and Child Health

MHA- Ministry of Home Affairs

MMR- Maternal Mortality Rate

MoEF& CC- Ministry of Environment, Forest & Climate Change

MoHFW- Ministry of Health and Family Welfare

MoU- Memorandum of understanding

NAAQS- National Ambient Air Quality Standards

NBC- National Building Codes

NBCC- National Buildings Construction Corporation Ltd

NBSU- Newborn Stabilization Unit

NCD- Non-Communicable Diseases

NDMA- National Disaster Management Authority

NFHS- National Family Health Survey

NGO- Non Government Organization

NH- National Highway

NHM- National Health Mission

NICU- Neonatal intensive care unit

NOC- No Objection Certificate

NQAS- National Quality Assurance Standards

OHS- Occupation and Health Safety

O &M- Operation and Maintenance

OPD- Out Patient Department

ORT- Oral Rehydration Therapy

OT- Operation Theatre

PDO- Project Development Objective

PCU- Passenger Car Unit

PHC- Primary Health Centre

PM- Particulate Matter

PMU- Project Management Unit

PPE- Personal Protective Equipment

PUC- Pollution under control certificate

PwD- Person with a Disability

PWD- Public Works Department

RCC- Reinforced Cement Concrete

RMC- Ready Mix Concrete

RNTCP- Revised National Tuberculosis Control Programme

RTO- Regional Transport Office

RWH- Rain Water Harvesting

SC- Sub Centre

SDH- Sub-District Hospital

SEA/SH- Sexual exploitation and abuse/Sexual harassment

SEMP- Site Specific EHS Plan

SEP- Stakeholder Engagement Plan

SH- State Highway

SMACNA- Sheet Metal and Air Conditioning Contractors' National Association

SMP- Social Management Plan

STD- Sexually Transmitted Diseases

STP- Sewage Treatment Plant

SNCU- Special Newborn Care Unit

SPCB- State Pollution Control Board

SPMU- State Project Management Unit

SOP- Standard Operating Procedures

SC-ST- Scheduled Caste Scheduled Tribe

SS- Social Security

ToR- Terms of Reference

TSSU- Theatre Sterile Supply Unit

UNESCO- United Nations Educational, Scientific and Cultural Organization

USG- Ultrasound or Sonogram or Ultrasonogram

UT- Union Territory

WHO- World Health Organization

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

1.0 Introduction

Government of Assam (GoA) is implementing World Bank assisted "Assam State Secondary Health Care Initiative for Service Delivery Transformation Project (ASSIST)" Project under Assam Health Infrastructure Development & Management Society (AHIDMS), Medical Education and Research Department, GoA with an objective to initiate improvement in the quality and delivery of health care system in the state and under this project, 100 to 200 Bedded District Hospitals (DHs) are going to be constructed in 10 Districts of the state.

One of the proposed sites is in the Dibrugarh town of the state where a new 200 Bedded District Hospital is proposed to be constructed near the premises of Dibrugarh State Dispensary & Urban Health Center. It has been envisioned that the proposed DH at Dibrugarh will come a long way in fulfilling the gap in providing secondary health care services to the people of the area.

2.0 Project Description

The proposed project involves construction of 200 bedded District Hospital at Dibrugarh close proximity to Dibrugarh State Dispensary & Urban Health Centre. The site is situated at 27°29'8.87"N, 94°54'43.65"E. The proposed DH covers an area of 13,500 square meters which will house all the necessary contemporary facilities as per IPHS, 2022 norms which will further be human centric and GRIHA compliant.

3.0 Environment and Social Impact Assessment (ESIA)

The baseline environment and social attributes of the proposed site and the vicinity has been assessed to identify possible impacts of construction of DH on the same.

The screening of environmental parameters showed that all the results are within norms and thereby it can be derived that impacts arising during the construction works of the proposed project is not likely to have any major impact on the environment. However, site issues may occur which includes disturbance to top soil and existing green cover of the site, soil erosion and contamination, flooding due to surface runoff and water contamination, air pollution due to dust and smoke, noise pollution due to vibrations and noise coming out of construction activity.

Likewise social issues may occur at site which includes risks related to community health and safety, public inconveniences due to construction activity, conflict between migrant workforce and local, risks of Gender based violence and SEA/SH at site and its vicinity and occupational health and safety of labors at site.

4.0 Environmental and Social Management Plan (ESMP)

The ESMP has been prepared considering the identified risks and impacts of construction of proposed DH at Dibrugarh along with the name of agency/department that is responsible for the mitigation action in a specified time period starting from the pre-construction period to construction and operation period.

As a part of mitigation measures, there is a need to obtain Consent/ Permit/ Clearance/ No Objection Certificate (NOC), etc. for establishment of new DH, RMC/ Batching Plant, Labor Camp, Storage for construction materials, tree felling, use of vehicles and equipment, connections of water supply, electricity etc. by the Contractor who is assigned with the task of construction DH at Dibrugarh.

The mitigation measures are planned against the identified environmental and social risks of the pre-construction and construction period of proposed project at Dibrugarh. Proposed mitigation measures aim to protect, prevent and minimize environmental issues of disturbance of land, water, soil and air arising out of construction activity at site and surrounding areas. Further, the mitigation measures addressing the social issues will minimize and prevent risks to community health and safety, occupational health and safety of labors, and inconveniences and disturbance to public. The measures will also address road safety, stakeholder engagement for awareness and involvement in the project and prevent or mitigate Risks of SEA/SH to community members, particularly women and children by contractors' workers during construction period, workplace sexual harassment at project site (consultants and contractors' staff & laborers)

5.0 Stakeholder Engagement

World Bank's ESS10 recognizes that effective engagement with the stakeholders can significantly improve the project outcomes and their sustainability through better community acceptance and ownership, enhance the environmental and social sustainability of the project, and hence make a significant contribution to successful project implementation.

In view of the above, Stakeholder engagement through talks, interviews, and public meetings with the stakeholders were conducted for assessing their views and opinions on the project at Dibrugarh. Suggestions of important stakeholders have been considered as inputs for preparation of the ESIA-ESMP. Site inspections that were required to confirm the information gathered have been carried out.

6.0 Alternatives

To implement the project at Dibrugarh, State Government of Assam has provided the land i.e. vacant land near the premise of Dibrugarh State Dispensary & Urban Health Center, so no alternate locations were explored for the project. The best building materials and technologies that are appropriate for the project site and surrounding environment will be used.

7.0 Conclusion and Recommendations

Based on the ESIA findings, it has been determined that there are no major negative effects of the planned project. However the proposed project shall have temporary negative impacts during the project construction period, which shall be reversed during the project operation. The report's objectives are in line with World Bank Safeguard Policies and Governmental (India and Assam) regulatory requirements.

It is recommended that the project implementing agency to Obtain all statutory clearances before start of activities and ensures that conditions/provisions are incorporated in the detailed design. ESIA-ESMP should be included in contract documents, Commitment from contractors to protect the environment and the people from any impact during project implementation.

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CHAPTER-1
INTRODUCTION AND BACKGROUND

1-INTRODUCTION AND BACKGROUND

1.1 Background

State of Assam interwoven by mountains, valleys and two major river systems (Brahmaputra and Barak) is in the eastern most part of India between 24°.07' N to 28°00' N Latitude and 89°.42' E to 96°.02'E Longitude. At present, Assam has 35 administrative districts. As per the Census 2011, the total population of Assam is 31,205,576 of which 15,939,443 are males while female are 15,266,133. Thus, the population of Assam forms 2.58 percent of the population of India in 2011.

Assam is one of the highest maternal mortality rate (MMR) states, with around 205 deaths per 100000 live births in 2017-19*(Office of the Registrar General, India)*. Low ANC Coverage in Cachar, Bongaigaon, South Salmara Mancachar, Kokrajhar, and Increased Prevalence of anemia in women aged 15-49 years. Neonatal mortality rate and Still Birth (per 1,000 live births) rates have significantly decreased with the life expectancy at birth also improved (66.9) though it is below the national average of 69.4 years. The proportion of communicable, maternal, neonatal, and nutritional diseases (CMNND) contribute to 34.06% of total disease burden. Further, the burden of non-communicable diseases (NCDs) is growing in Assam.

The Assam State Government is planning to construct 100 to 200 Bedded District Hospitals (DHs) in 10 Districts of the state under "Assam State Secondary Health Care Initiative for Service Delivery Transformation Project (ASSIST)" Project. One of the proposed sites is in the Dibrugarh town of the state where a new 200 Bedded District Hospital is proposed to be constructed near the premises of Dibrugarh State Dispensary & Urban Health Center.

1.2 Requirement of New District Hospital

The Area is one of the major districts of Assam however it is worth noting that there is a high shortage of public healthcare services. The Public health facilities are predominant health service providers. Presently public healthcare services are provided by Hospital PHC Baruah, Lahowal Block PHC, Telpani PHC, Rohmaria PHC and Panitola PHC are available at a distance of 15 km, but the facilities provided by those are not sufficient. Assam Medical College and Hospital (AMCH) in Dibrugarh, a government medical college and hospital is also present being the first medical college in Assam and Northeast India. However, AMCH faces a very high patient load from the district and adjoining areas along with patients also coming from neighboring state of Arunachal Pradesh. So, to ease of the patient burden a district hospital is needed with a capacity of at least 200 beds.

The proposed new District Hospital will be providing advanced health care services to the people of the locality as well as areas like Baruah, Lahowal, Telpani, Rohmaria, Panitola etc.

At present, Dibrugarh State Dispensary & Urban Health Center exists near to the proposed site which is catering the medical needs of the local people. Most of the patients who visit the Dibrugarh State Dispensary & Urban Health Center are related to Obstetric cases coming from the nearby areas. The Dibrugarh State Dispensary & Urban Health Center is providing health care services to a good number of patients. But the services are not adequate in terms of facilities, manpower, space, infrastructure and equipment. The new 200 Bedded District Hospital will be constructed with modern facilities and infrastructure.

1.3 Objective to undertake the Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) and its necessity

The Objective of the consulting assignment is to develop site specific architectural and engineering designs for construction of district hospital of Dibrugarh as per the IPHS standards and patient movement, interior design complying with human-centric design philosophy in the proposed hospital, develop specifications for the works and estimate the costs for development of the Hospital.

GoA is committed to carry out the project in accordance with World Bank's Environmental and Social Standards (ESSs) and Environmental and Social Commitment Plan (ESCP), is a part of the Legal Agreements. Under ESS 1 i.e. Environmental and Social Assessment, ASSIST commits adoption of the site-specific ESIA and ESMP for the respective subproject. Once adopted, ESIA and ESMP will be implemented throughout Project implementation period i.e. pre-construction, construction and operation phase.

1.4 Objectives of Environmental and Social Impact Assessment (ESIA)

- Assessment of legislative, institutional and policy frameworks and guidelines relevant to the project
- Environment and social baseline
- Anticipated environmental and social impacts & mitigation measures
- Institutional capacity building
- Monitoring program and project benefits
- Identify potential environmental and social risks arising out of the proposed schemes
- Recommend ways in which such risks could be mitigated or managed by the project, including recommendations to carry out projects specific environment and social management plans (ESMP)
- Provide inputs into the detailed design of the project
- To study the socio-economic status of the people living in the study area and impact of the project on socio-economic environment in the study area.
- To evaluate and recommend the community development measures proposed to be taken up by the project authorities if any.

1.5 Objectives of Environmental and Social Management Plan (ESMP)

- Identifying potential adverse and beneficial environmental and social impacts of the Project along with the extent of short- and long-term effects
- Developing a set of mitigation and enhancement measures for the adverse and beneficial impacts and define the roles of personnel in charge
- Specifying actions which would help in mitigation of the environmental impact of the project along with ensuring what safety measures should be followed during the occurrence of an emergency.

1.6 Methodology for ESIA-ESMP

An Environmental and Social Impact Assessment (ESIA) & Environmental and Social Management Plan (ESMP) is a decision-making tool to ensure that the project design and implementation are environmentally and socially sound and sustainable. During the implementation phase,

environmental and social management plans will provide guidance for executing the mitigation, enhancement and monitoring measures. The key steps/methods taken for preparing for this ESIA-ESMP are:

- Desk Review
- Scoping
- Baseline data collection and its analysis
- Collection of primary and secondary socio-economic data for the assessment of Socio-economic environment
- Screening and identification of Environmental and Social risk and impacts;
- Analysis of Alternatives
- Stakeholder engagement
- Assessment of impacts and identification of mitigation measures
- Reporting and disclosure

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CHAPTER-2
PROJECT DESCRIPTION

2-PROJECT DESCRIPTION

2.1 Location of District Hospital

The site for the proposed District Hospital is located in Dibrugarh, Assam. Presently, the proposed site is a vacant land. It is located at a close proximity to Dibrugarh State Dispensary & Urban Health Centre. The Plot Area is 13,500 Sqm (10.00 Bighas).

The site is surrounded by Dibrugarh State Dispensary & Urban Health Centre (120 m) in north direction, District Jail (105 m) in west direction, District Agricultural Officer Agricultural Marketing Section (78 m) in east direction and S.I.P.E Law College (110 m) in south direction.

The Geographical Location is 27°29'8.87"N, 94°54'43.65"E. The Google image of the project site is given in **Figure 2.1**

Table 2.1: Site Surroundings Related To Study Area within 15 Kms

S. No.	Particulars	Details
1.	Nearest National /State Highway/Road	NH 15: 1.640 km
2.	Nearest Railway Station	Dibrugarh Railway Station: 3.405 km
3.	Nearest Airport	Dibrugarh Airport: 10.960 km
4.	Nearest Town/ City/Village	Within Dibrugarh
5.	Nearest Water Body	Brahmaputra River: 0.350 km
6.	Nearest School	Graham Bazar Girls' High School: 0.305 km
7.	Nearest Hospital	Civic Hospital: 0.120 km
8.	Nearest Fire Station	Dibrugarh Fire Station: 0.425 km
9.	Site Topography	Flat topography
10.	Archaeologically Important Site	Raidongia Doul, Kalakhowa, Dibrugarh District: 25.434 km
11.	National Parks/ Wildlife Sanctuaries	None
12.	State Boundary	Arunachal Pradesh state boundary: 27.646 km
13.	Seismicity	Zone –V, as per BIS,2016

Figure 2.1: Google image of the project site

2.2 Existing Site Situation

The plot proposed for the DH, Dibrugarh is a vacant land. Land measuring 13,500 Sq.m or 10 (ten bighas), covered by Dag Nos. 12, 13, 14, 15, and 16, situated at Graham Bazar Ward under Dibrugarh Town Mouza has been handed over to the Joint Director of Health Services, Dibrugarh. However, an additional parcel of 6750 Sq.m or 5 (five) bighas of land has been allotted for the purpose of a parking space for the 200-bedded hospital, which will be handed over after relocation of the District Jail process of which is underway.

Figure 2.2: Existing site photographs of Project site

2.3 Existing Dibrugarh State Dispensary & Urban Health Centre

The site of proposed District Hospital is located at a close proximity to existing Dibrugarh State Dispensary & Urban Health Centre which is presently catering the medical needs of the local people. The proposed district hospital site was a vacant land; therefore, the visit and stakeholder consultation were conducted at existing Dibrugarh State Dispensary & Urban Health Centre and photos are given are given in **Figure 2.3.**

Dibrugarh State Dispensary & Urban Health Centre Departments assessed are-

1. Out- patient department
2. In-patient department
3. Gynecology department and Gynecology OPD
4. AYUSH Rooms
5. Adolescent Friendly Health Clinic
6. Pharmacy
7. NCD (Noncommunicable Disease) Clinic
8. Labor Room
9. Immunization Room
10. Meeting Hall
11. Prenatal room
12. Waiting room
13. Ambulance Parking Area
14. Sister Duty room
15. Operation Theatre
16. Sound clinic, ASHA
17. Staff and Duty room for doctors
18. Registration and waiting area
19. Wards
20. Biomedical waste disposal through sharp pits and deep burial
21. Waste water disposal including liquid waste through pipeline within the campus
22. Color-coded dustbins segregate different types of solid waste

Figure 2.3: Photographs of Existing Dibrugarh State Dispensary & Urban Health Centre

2.4 Proposed Project Details/Components

The components of proposed district Hospital are: Emergency Unit, Police Post, Triage Room with Yellow zone beds, Pediatrics beds, Isolation bed, Toilet, Nurse's station, Plaster and Plaster Cutting room, Emergency OT Lobby, Patient Holding Area, Emergency TSSU, OT Pharmacy, Sterile store, Dirty Utility, Emergency Operation theatre, OPD, Radiology, OPD consultation rooms, Laboratory, Administrative unit, Obstetrics Critical Care Unit, Mother's & newborn Ward, SNCU & NICU, Comprehensive Lactation Management Centre, Hospital Stores, District Early Intervention Centre, NRC ward complex, General ward, ANC ward complex, PNC ward complex, Burn unit, Dialysis Complex, Day care ward, HDU Ward, Blood bank, Training Hall, Services etc.The details of Facilities-proposed in 200 bedded District Hospital are given separately in **Annexure-II.**

The proposed site is a vacant land and therefore, no present mode of disposal.
Further, in operation phase, the Biomedical Waste generated at the proposed DH will be disposed of at Lekai in Dibrugarh by making an agreement for the same. A 20 KLD ETP is proposed to be provided as a part of construction of the DH for treatment of infectious effluent. The treated effluent will be further sent to the STP for treatment and final disposal.

2.5 Area Statement

The total built up area of proposed project is 29,245.00 Sq.m. which is greater than 20,000 m^2 and less than 1,50,000.00 m^2 therefore, the project comes under 8(a) category as per the EIA Notification 14th September, 2006 and its amendments. The detailed area statement is given in **Annexure III.**

2.6 Other Project requirements

2.6.1 Water Requirement: The total water requirement as per NBC-2016 of the proposed project is 162 KLD. Out of this 121 KLD is fresh water demand and 41 KLD is for flushing water demand. The available source of water at project location is bore well with chlorine treatment. Further, water for drinking purpose is made available through RO system at various locations within premises. The total sewage generated will be 122 KLD. The waste water will be treated in the STP of 150 KLD capacity and ETP of 20 KLD (for treatment of used water from Laboratory, O.T). Total treated water available for reuse will be 98 KLD, which will be used in Flushing, DG set cooling, Filter Backwash, Road wash and Horticulture. The detailed water requirement along with water balance is attached as **Annexure XIII.**

2.6.2 Power requirement: The power requirement for the proposed project is 2250 KVA. The three DG sets of 750 KVA capacity is proposed to install as 100% power backup. Power factor for Transformer considered is 0.95 and loading factor is 0.80. Minimum capacity of Transformer shall be 2 x 1250 KVA. However, for future load, additional transformer space as well as HT/LT Panel space shall be provided as per Engineer-in-charge.

2.7 Volume of Civil Works

At present no civil works has been done for proposed DH only geotechnical investigation has been done till date. Civil work will be done according to the DPR and sanction drawings.

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CHAPTER-3
LEGAL AND INSTITUTIONAL FRAMEWORK

3-LEGAL AND INSTITUTIONAL FRAMEWORK

3.1 Introduction

This Chapter outlines and provides a review of existing policies, legislations, and regulations. It identifies the requirements that guide the implementation of the ESIA. There are several Indian Acts and Regulations that are relevant to this project. Also, as this Project is being financed by the World Bank, its guidelines are paramount and are discussed. There must be harmony between both sets of frameworks, but should there be any discrepancies between these, the guidelines of the World Bank shall supersede those of the country.

3.2 Environmental and Social Standards of World Bank and Indian National and State Regulations

3.2.1 The World Bank's Environmental and Social Standards (ESS)

The World Bank's Environmental and Social Standards (ESSs) is cornerstone to its support to sustainable development. The Environmental and Social Standards set out the requirements for ASSIST project relating to the identification and assessment of environmental and social risks and impacts associated with project through Investment Project Financing. The objective of these policies is to prevent and mitigate undue harm to people and their environment in the development process. Any project that is likely to pose any form of adverse environmental impact will trigger the relevant ESSs. The ESSs relevant to this project are given in **Table 3.1** as follows:

Table 3.1 Environment & Social Standard relevant to the project

S.No.	Environment & Social Standard	Relevance
1.	ESS1: Assessment and Management of Environmental and Social Risks and Impacts	Yes
2.	ESS2: Labor and Working Conditions	Yes
3.	ESS3: Resource Efficiency and Pollution Prevention and Management	Yes
4.	ESS4: Community Health and Safety	Yes
5.	ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	No
6.	ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	No
7.	ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Yes
8.	ESS8: Cultural Heritage	Yes
9.	ESS9: Financial Intermediaries	No
10.	ESS10: Stakeholder Engagement and Information Disclosure	Yes

3.2.2 Environmental, Health, Safety and Social Regulations (Acts/Law) applicable to the Project are:

Indian National Regulations and State Specific Laws and Regulations:

- ✓ The Constitution of India (especially,Articles15,16 and 46)
- ✓ Biomedical Waste (Management and Handling) Rules 2016, as amended up to 2019
- ✓ E-Waste (Management and Handling) Rules 2011 as Amendment up to 2018
- ✓ Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules 2008
- ✓ Hazardous and Other Wastes (Management and Trans boundary Movement) Amendment Rules, 2016
- ✓ Plastic Waste Management Rules 2016
- ✓ The Epidemic Diseases Act 1897
- ✓ The Water (Prevention & Control of Pollution) Act 1974
- ✓ The Air (Prevention & Control of Pollution) Act 1981
- ✓ Environment Protection Act (and Rules), 1986 and 1996 Environment (Protection) Second Amendment Rules 2002
- ✓ The Water (Prevention and Control of Pollution) Cess Act, 1977 Rules framed under the water (Prevention & Control of Pollution) Act, 1974 (Assam) Rules 1977
- ✓ CPCB Guidelines for BMW Incinerators (2003)
- ✓ Draft Guidelines for Biomedical Waste Incinerator, 2017
- ✓ Revised guidelines for Common Biomedical Waste Treatment Facilities (2016)
- ✓ The Assam Air (Prevention and Control of Pollution) (Amendment) Rules2010
- ✓ Noise (Regulation and Control) Rules, 2000 amended in 2010
- ✓ National Disaster Management Act, 2005
- ✓ Solid waste management rules, 2016
- ✓ The Epidemic Diseases (Amendment) Ordinance, 2020
- ✓ Construction and demolition wastes management rules, 2016
- ✓ Guidance note on Liquid Medical Oxygen (LMO) Storage Tanks, April 2021
- ✓ Maternity Benefit Act, 1961 and Assam Rules,1965
- ✓ Child Labor (Prohibition and Regulation) Act, 1986 and Assam (Amendment) Rules, 2017
- ✓ Contract Labor (Regulation and Abolition) Act, 1970 and Assam Rules 1971
- ✓ Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act,1996 and Assam Rules, 2007
- ✓ Inter State Migrant Workmen's (Regulation of Employment and Conditions of Service) Act,1979 and Assam Rules 1981
- ✓ Equal Remuneration Act,1976
- ✓ Minimum Wages Act,1948 and Assam Rules, 1952
- ✓ Payment of Wages Act,1936 and Assam Rules, 1937
- ✓ Employees' Compensation Act,1923
- ✓ Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (RFCTLARR) Act, 2013 and Assam Rules,2015
- ✓ Scheduled Caste and the Scheduled Tribes (Prevention of Atrocities) Act,1989 and Rules, 1995
- ✓ Rights of Persons with Disabilities (PwD) Act, 2016
- ✓ Sexual Harassment of Women at Workplace Prevention, Prohibition, and Redressal Act, 2013

- ✓ Right to Information Act,2005
- ✓ Assam Scheduled Castes and Scheduled Tribes (Reservation of Posts in Services) Act,1978
- ✓ Settlement Rules under Assam Land and Revenue Regulation, 1886.
- ✓ EIA Notification No. S.O.1533(E) dated September 14, 2006 and its subsequent amendments

The details about provisions, Agency responsibility, Key provisions and relevance to project is summarized in *Chapter 3 of ESMF*, The link is attached here: https://ahidms.assam.gov.in/sites/default/files/public_utility/Environmental%20and%20Social%20Management%20Framework%20ASSIST_PMU.pdf

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CHAPTER-4
BASELINE ENVIRONMENTAL AND SOCIAL DATA

4-BASELINE ENVIRONMENTAL AND SOCIAL DATA

4.1 Physical Environment

(a) Project Site- Dibrugarh: Dibrugarh, is a city and is the headquarters of the Dibrugarh district in the state of Assam in India. Well known as the Tea City of India and emerging communication and industrial hub of North East India.

The proposed location of District Hospital is in Dibrugarh, Assam. The proposed site is a vacant land. It is located at a close proximity to Dibrugarh State Dispensary & Urban Health Centre. The Plot Area is 13,500 Sqm (10.00 Bighas). The site is surrounded by Dibrugarh State Dispensary & Urban Health Centre (120 m) in north direction, District Jail (105 m) in west direction, District Agricultural Officer Agricultural Marketing Section (78 m) in east direction and S.I.P.E Law College (110 m) in south direction.

The site location, description and topography can be seen with the help of the 500 m and 5 km buffer map of the project site as given in **Figure 4.1** & **4.2** below

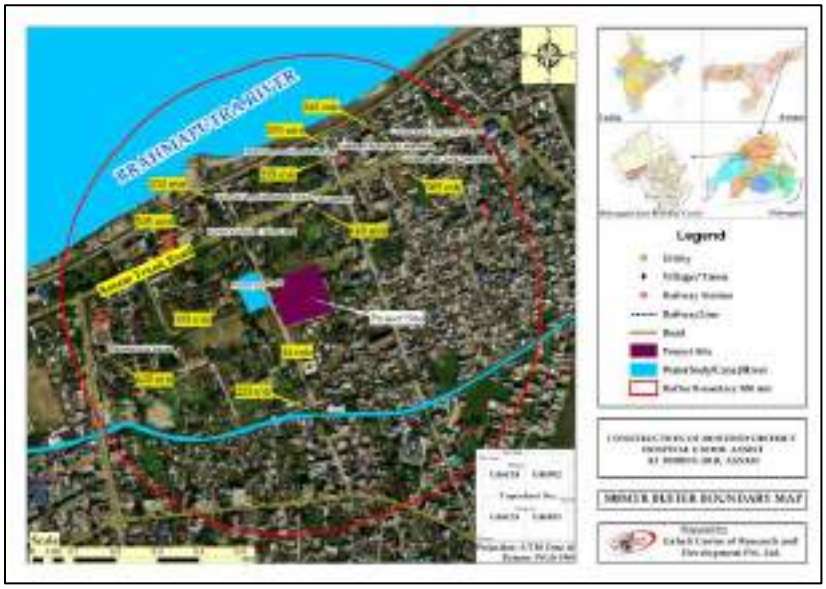

Figure 4.1: 500 m buffer map of the project site

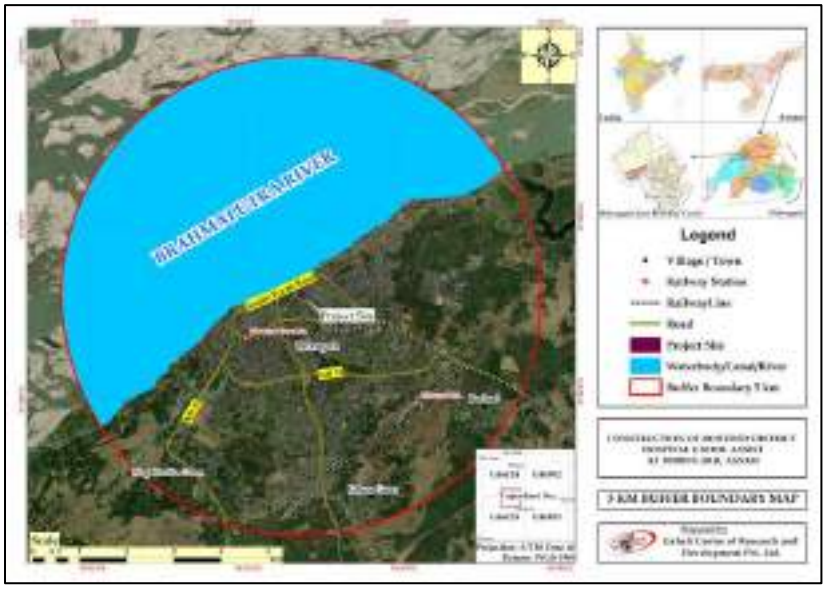

Figure 4.2: 5 Km buffer map of the project site

Out of the total plot area, proposed built up are is **29,245** Sq.m. Here the plinth or the physical footprint area is **4426.40** Sq.m. The proposed land is a government land.

4.2 Climate: Dibrugarh has a humid climate, where temperatures soar during the rainy season and mostly the weather is pleasant irrespective of what time of the year you are visiting. The heat during summers is moderate, while monsoons are usually heavy and there's lush greenery everywhere, winters are moderately cold and light.
Summers in Dibrugarh are unusually breezy with an average temperature of 38°C to 28°C.
Dibrugarh's lovely during winters, when the weather's mild, pleasant and perfect for getting around the city with temperature usually range between 29°C-8°C.
(Source- https://dibrugarh.assam.gov.in/about-district/district-glance)

4.2.1 Rainfall

The Rainfall data for the district was sourced from Customized Rainfall Information System (CRIS), Hydromet Division, India Meteorological Department (IMD). The data was collected for last five years i.e. 2018-2022. The data has been presented in **Table 4.1**

Table 4.1: Rainfall data (in mm)

	2018	2019	2020	2021	2022
January	16.3	15.0	39.0	14.3	31.5
February	24.1	56.4	35.9	2.5	60.3
March	151.0	71.5	36.7	42.2	60.4
April	119.2	151.4	114.4	69.7	409.5
May	193.2	479.4	326.1	290.1	304.4
June	376.5	293.3	563.6	371.4	515.0
July	431.8	555.3	433.9	241.5	339.2
August	304.1	169.8	271.5	354.1	276.2
September	245.1	302.4	249.1	136.8	237.0
October	63.3	18.5	186.1	67.2	226.0
November	37.0	5.9	35.0	8.8	0.0
December	26.9	3.8	0.0	20.6	17.9
Min	16.3	3.8	0.0	2.5	0.0
Max	431.8	479.4	563.6	371.4	515.0
Average	165.70	176.89	190.94	134.93	206.45

4.2.2 Earthquake

As per the plate tectonics, Assam is in the eastern-most projection of the Indian Plate, where the plate is thrusting underneath the Eurasian Plate creating a subduction zone and the Himalayas. This led the state of Assam fall under the seismic zone V making the entire State prone to earthquake of moderate to very high intensity. The State has experienced two major earthquakes in the year 1897 and 1950. The intensities of these two earthquakes were 8.7 and 8.5 on the Richter scales respectively.
(Source:https://asdma.gov.in/hazardous.html#:~:text=This%20led%20the%20state%20of,the%20year%201897%20and%201950)

A total of 306 earthquakes with a magnitude of four or above have struck within 300 km (186 mi) of Dibrugarh, Assam in the past 10 years. This comes down to a yearly average of 30 earthquakes per year, or 2 per month. On average an earthquake will hit near Dibrugarh roughly every 11 days. A relatively large number of earthquakes occurred near Dibrugarh in 2021. A total of 52 earthquakes (mag 4+) were detected within 300 km of Dibrugarh that year. The strongest had a 6 magnitude.

The strongest recent earthquake of the past 10 years near Dibrugarh occurred on Nov 18, 2017 04:04 local time (Asia/Kolkata time zone). It had a magnitude of 6.4 and struck 262 kilometers (163 mi) north of Dibrugarh, at a depth of 8 km.

A longer time ago, a MAG-8.6 earthquake struck on Aug 15, 1950 19:39, 180 kilometers (112 mi) north of Dibrugarh. It is the strongest earthquake near Dibrugarh in the past 125 years.

(Source: https://earthquakelist.org/india/assam/dibrugarh/)

4.2.3 Flood Scenario

Brahmaputra River is present in the vicinity of the project site (about 350 m). There is problem of drainage /floods in the area. There were incidence of flood/submergence in year 2015 & 2019 in the month of June and July as per discussion with the locals and available records. Further, as per last 5-year Flood data of Assam State, Flood events had occurred in Dibrugarh, Assam in June 2021, June 2022 and June 2023 as per data reported in the Flood Reports published by Assam State Disaster Management Authority. The supporting flood data is given in **Annexure XVIII.**

In the Geotechnical Investigation Report, the existing water level in the proposed DH is 1.5 m.

As per Flood information system, Government of Assam, Water resources, The Danger level of Brahmaputra River (Dibrugarh) is 105.70 m and HFL is 106.48 m with respect to the site level of the project site.

Adequate measures will be taken from flooding point of view by raising plinth level of proposed DH and proposing retaining walls to minimize the risk of water logging.

4.3 Baseline Environment

Base line attributes like ambient air, water, meteorology, noise, and soil were collected on 13.05.2024. Secondary data was also collected from various government department as well as local people. Methodology adopted in this study is as follows:

4.3.1 Soil Environment

The composite soil samples were collected from the study area analyzed for characterization. The locations of the monitoring sites are depicted in the **table 4.2** within the study area of the proposed project. The sample was collected by driving an auger into the soil. The present study on the soil quality establishes the baseline characteristics and identifies the incremental concentrations if any, due to the proposed project. The objective of the sampling are:

- To determine the baseline soil characteristics of the study area;
- To determine the impact of proposed activity on soil characteristics and;
- To determine the impact on soil more importantly agriculture production point of view.

The test results for soil sampling locations are provided below and map showing the monitoring location is given in **Figure 4.3** and monitoring photographs are given in **Annexure XVII.**

Table 4.2: Soil Sampling Locations

S. No	Location of monitoring	Distance from site (km)	Latitudes	Longitudes
1	Project site	--	27°29'7.27"N	94°54'44.57"E
2	Public High School	2.41	27°28'41.20"N	94°56'6.34"E

Soil Analysis

Result obtained is compared with the standard soil classification as given in Agriculture Handbook. Two numbers of soil samples have been collected within study area and analyzed for physical and chemical properties. The table showing the results of soil analysis is given in **table 4.3**. The Environment Monitoring Report for soil quality analysis has been attached as **Annexure XII.**

Table 4.3: Soil Analysis Monitoring Results

S. No.	Parameters	Units	Test Method	SQ1	SQ2
				Project Site	Public High School
1	Texture	-	GEL/LAB/SOP/SOIL/22	Sandy Clay Loam	Sandy Clay Loam
	Sand	%		57	56
	Silt	%		16.5	17.6
	Clay	%		26.5	26.4
2	*Color	-	GEL/LAB/SOP/SOIL/07	Grayish	Grayish
3	pH (1:2 Suspension)	-	IS 2720 (P-26): 1987, RA 2011	5.9	6.1
4	Specific Conductivity	µmhos/cm	IS 14767: 2000, RA 2016	413	476
5	Moisture	%	IS 2720(Part-2): 1973, RA 2015	22.2	23.3
6	Exchangeable Potassium	mg/kg	GEL/LAB/SOP/SOIL/07	9.6	8.5
7	Exchangeable Sodium	mg/kg	GEL/LAB/SOP/SOIL/06	18.5	19.2
8	Exchangeable Calcium	mg/kg	GEL/LAB/SOP/SOIL/08	298	291
9	Exchangeable Magnesium	mg/kg	GEL/LAB/SOP/SOIL/08	78.2	79.0
10	Porosity	%	GEL/LAB/SOP/SOIL/20	31.5	32.5
11	Organic Matter	%	IS 2720 (P-22) : 1972, RA 2010	1.5	1.6
12	Phosphorous	mg/kg	GEL/LAB/SOP/SOIL/10	11.3	12.2
13	*Nitrogen	mg/kg	GEL/LAB/SOP/SOIL/09	62.3	72.2
14	Chloride	mg/kg	GEL/LAB/SOP/SOIL/14	59	60
15	Bulk Density	gm/cc	IS 2720 (P-28) : 1974, RA 2010	1.8	1.7

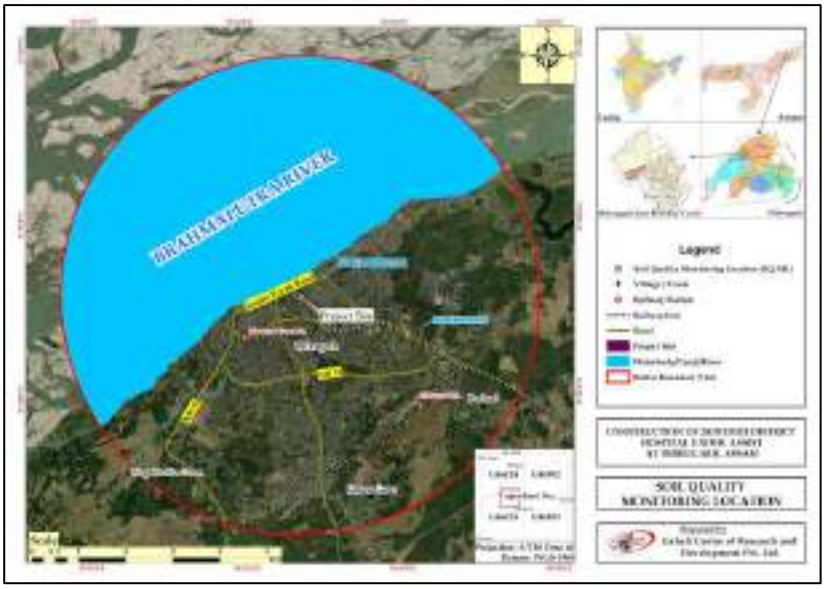

Figure 4.3: Map Showing the Soil Quality Locations

4.3.2 Ambient Air Quality

The ambient air quality at selected 05 locations was carried out as per Indian standards guidelines and monitoring stations was selected as per CPCB manual. The location of the monitoring stations with reference to the proposed project is given in the **table 4.4** and map showing the monitoring locations are given in **Figure 4.4.** Monitoring photographs are given in **Annexure XVII.**

Table 4.4: Ambient Air Monitoring Stations

S. No	Location of monitoring	Distance from site (km)	Coordinates	Criteria
1	Project site	--	27°29'11.30"N 94°54'44.70"E	Core Zone
2	Dibrugarh-Residential	0.45	27°28'56.99"N 94°54'46.42"E	Residential area
3	D.H.S.K. college	1.45	27°28'45.49"N 94°55'27.55"E	Sensitive Receptor
4	Public High School	2.42	27°28'41.37"N 94°56'5.93"E	Sensitive Receptor
5	Sri Alkhiya Ganesh Mandir	0.86	27°29'6.01"N 94°55'15.38"E	Sensitive Receptor

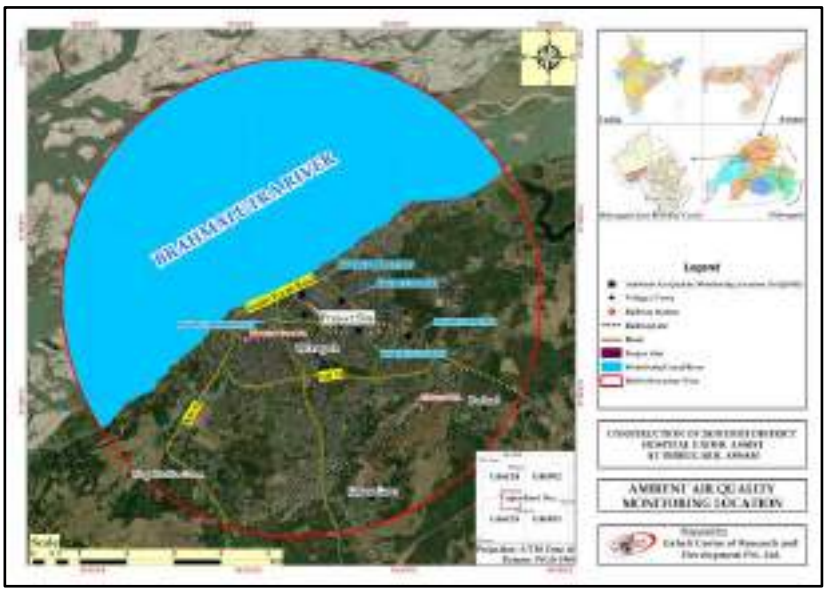

Figure 4.4: Map Showing the Ambient Air Quality Locations

4.3.2.1 Ambient Air Quality Monitoring Inference

All the measured parameters were found below the standards prescribed by CPCB, New Delhi. The Environment Monitoring Report for Ambient Air Quality has been given in **Annexure XII.**

Table 4.5: Ambient Air Quality Analysis Results

S. No	Location of monitoring	Parameters						
		PM10 µg/m^3	PM 2.5 µg/m^3	PM1 µg/m^3	So_2 µg/m^3	No_2 µg/m^3	Temperature ^{0}c	Humidity %
1.	Project site	09	08	07	4.2	5.8	35	41
2.	Dibrugarh-Residential	11	10	08	4.9	4.1	33	47
3.	D.H.S.K. college	15	13	09	5.1	6.3	33	49
4.	Public High School	17	15	12	5.0	5.8	28	72
5.	Sri Alkhiya Ganesh Mandir	11	10	07	5.2	5.6	33	46
NAAQS		**100**	**60**	**--**	**80**	**80**	**--**	**--**

4.3.3 Noise Level in the Study Area

A preliminary reconnaissance survey was undertaken to identify the major noise generating sources in the area. The noise survey was conducted on 13.05.2024, to assess the background noise levels in different zones viz. industrial, commercial, and residential and silence zones.

The sampling locations for noise are confined to residential, commercial, and sensitive areas; however, no industrial area is present within the study area.

The baseline noise levels have been monitored at 05 locations within the study zone. Locations were identified for assessment of existing noise level status, keeping in view the land use pattern,

industrial area, Silence Zone, residential areas in villages etc., if available within the study area. The day levels have been monitored during 6.00 AM to 10.00 PM and night noise levels, during 10.00 PM to 6.00 AM. The noise monitoring stations are shown in the **table 4.6** and map showing the monitoring locations are given in **Figure 4.5.** Monitoring photographs are given in **Annexure XVII.**

Table 4.6: Noise Quality Monitoring Locations

S. No	Location of monitoring	Zone	Latitude	Longitude
1	Project site	Silence zone	27°29'11.21"N	94°54'44.41"E
2	Dibrugarh-Residential	Residential area	27°28'57.20"N	94°54'46.36"E
3	D.H.S.K. college	Silence zone	27°28'45.51"N	94°55'27.68"E
4	Public High School	Residential area	27°28'41.43"N	94°56'5.86"E
5	Sri Alkhiya Ganesh Mandir	Silence zone	27°29'5.97"N	94°55'15.42"E

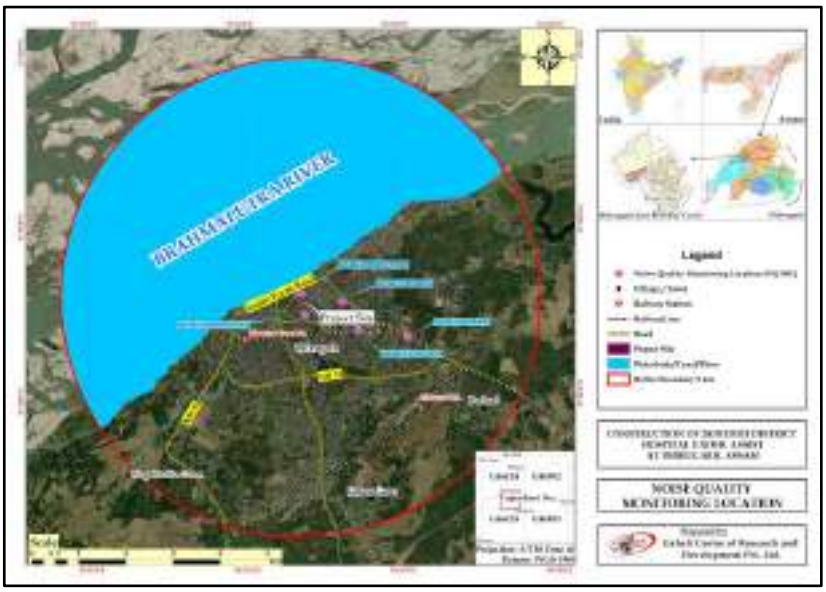

Figure 4.5: Map Showing the Noise Quality Locations

4.3.3.1 Interpretation and conclusion

Generally, noise levels in public places like temples and community hall have higher values in day time. The table showing the results of noise level is given in **Table 4.7.**

Table 4.7: Noise Level Monitoring Results

S. No.	Date	Location	Zone	Limit for As Per EPA, 1986 ; Leq, dB (A)		Observed Value Leq, dB (A)	
				Day Time*	Night Time**	Day Time*	Night Time**
1.	13.05. 2024	Project site	Silence zone	50	40	45.2	37.4
2.	13.05. 2024	Dibrugarh-Residential	Residential area	55	45	51.6	41.5
3.	13.05. 2024	D.H.S.K. college	Silence zone	50	40	46.5	37.2

4.	13.05.2024	Public High School	Residential area	55	45	46.4	36.2
5.	13.05.2024	Sri Alkhiya Ganesh Mandir	Silence zone	50	40	45.2	38.2
*** Day Time**			**6.00 a.m. to 10.00 p.m.**				
****Night Time**			**10.00 p.m. to 6.00 a.m.**				

The Environment Monitoring Report for noise quality has been given in **Annexure XII.** All the results are within the noise standards prescribed by CPCB for residential, sensitive, and industrial areas.

4.3.4 Water

To analyze the surface and ground water quality of study area, sampling was carried out on 13.05.2024 for primary data. Sampling of surface and ground water was collected as per IS 3025 Part I. Water quality assessment is one of the essential components of Baseline study. Such assessment helps in evaluating the existing health of water body and suggesting appropriate mitigation measures to minimize the potential impact from proposed project.

4.3.4.1 Water Monitoring Sampling Locations

Ground water and Surface have been collected from the study area. The water sampling locations are provided in the **table 4.8** and monitoring photographs are given in **Annexure XVII.** Map showing the monitoring locations are given in **Figure 4.6.**

Table 4.8: Water Monitoring Sampling Locations

S. No.	Sampling Locations	Latitude	Longitude
1.	Civil Hospital	27°29'15.20"N	94°54'44.66"E
2.	School (Ground Water)	27°28'41.37"N	94°56'9.03"E
3.	Brahmaputra River (Surface Water)	27°29'23.76"N	94°54'47.68"E

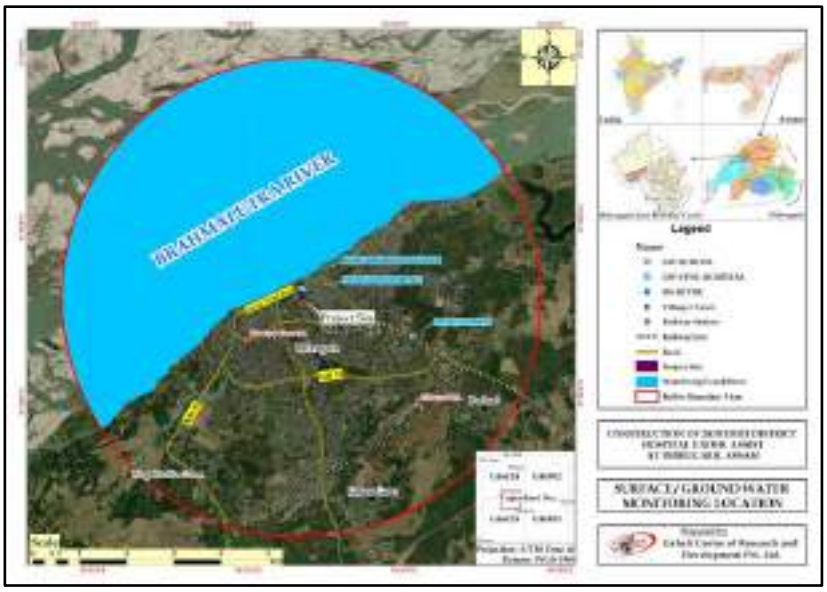

Figure 4.6: Map Showing the Surface/Ground Water Monitoring Locations

4.3.5 Ground Water Level

Ground water level data for the district is sourced from India Water Resources Information System (India-WRIS). The data is presented in **table 4.9** and **figure 4.7** below

Table 4.9: Year Wise Average Ground Water Level in the District

S. No.	Year	Average Ground Water Level (in m)
1.	2018	3.4
2.	2019	3.5
3.	2020	4.2
4.	2021	4.1
5.	2022	4.0

Figure 4.7: Year Wise Average Ground Water Level in the District

4.3.6 Surface and Ground Water Quality Inference

4.3.6.1 Surface Water

Surface water samples were collected and analyzed and compared with Indian standard, The table showing the results of Surface Water is given in **table 4.10.** The Environment Monitoring Report for Surface Water has been given in **Annexure XII.** The overall surface water quality of the available sources within the study area was found to be good physico-chemically with respect to all the parameters. There is no organic load observed in the sources monitored indicating no pollution load in the source.

Table 4.10: Surface Water Monitoring Results

S. No.	Parameter	Protocol Used	Results	IS: 10500:2012 (Second Revision)		Unit
				Desirable Limit	Max. Permissible Limit	
PHYSICAL TEST						
1.	pH	IS: 3025: Part 11	7.92	6.5 – 8.5	No Relaxation	pH unit

2.	TDS	IS: 3025: Part 16	135	500	2000	mg/L
3.	Turbidity	IS: 3025: Part 10	133	1	5	NTU
4.	Colour	IS: 3025: Part 4	40	5	15	Hazen
CHEMICAL TEST						
5.	Chloride	IS: 3025: Part 32	24.10	250	1000	mg/L
6.	Total Hardness	IS: 3025: Part 21	120	200	600	mg/L
7.	Total Alkalinity	IS: 3025: Part 23	125	200	600	mg/L
8.	Calcium	IS: 3025: Part 40	32.06	75	200	mg/L
9.	Magnesium	APHA 3500- Mg B	9.72	30	100	mg/L
10.	Iron	APHA 3500- Fe B	2.04	1	No Relaxation	mg/L
11.	Nitrate	APHA 3500- Fe B	5.08	45	No Relaxation	mg/L
12.	Sulphate	APHA 4500- SO_4 E	7.02	200	400	mg/L
13.	Fluoride	APHA 4500- NO_3 B	0.56	1	1.5	mg/L
14.	Arsenic	IS: 3025: Part 37	BDL	0.01	No Relaxation	mg/L
15.	Residual Chlorine	APHA 4500- Cl B	0	0.2	1	mg/L
BACTERIOLOGICAL TEST						
16.	Bacteria	H_2S Vial	Present	No Relaxation	No Relaxation	

Mitigation measure for high iron content

Measures like manganese green sand filter along water softener installation can be considered in the area where high iron content is reported.

4.3.6.2 Ground Water

The table showing the results of Ground Water is given in **Table 4.11**. The Environment Monitoring Report for Ground Water has been given in **Annexure XII.**

Table 4.11: Ground Water Monitoring Results

S. No.	Parameter	Protocol Used	Results: Public School, Dibrugarh	Results: Civil Hospital	IS: 10500:2012 (Second Revision)		Unit
					Desirable Limit	Max. Permissible Limit	
PHYSICAL TEST							
1.	pH	IS: 3025: Part 11	6.75	6.01	6.5 – 8.5	No Relaxation	pH unit
2.	TDS	IS: 3025: Part 16	183	75	500	2000	mg/L
3.	Turbidity	IS: 3025: Part 10	0.4	1.2	1	5	NTU
4.	Colour	IS: 3025: Part 4	<5	10	5	15	Hazen
CHEMICAL TEST							
5.	Chloride	IS: 3025: Part 32	17.01	19.85	250	1000	mg/L
6.	Total Hardness	IS: 3025: Part 21	114	58	200	600	mg/L
7.	Total Alkalinity	IS: 3025: Part 23	90	55	200	600	mg/L
8.	Calcium	IS: 3025: Part 40	28.05	14.42	75	200	mg/L
9.	Magnesium	APHA 3500-Mg B	10.69	5.34	30	100	mg/L
10.	Iron	APHA 3500- Fe B	0.51	0.25	1	No Relaxation	mg/L
11.	Nitrate	APHA 3500- Fe B	5.72	3.66	45	No Relaxation	mg/L
12.	Sulphate	APHA 4500-SO_4 E	5.08	4.72	200	400	mg/L

13.	Fluoride	APHA 4500-NO_3 B	0.28	0.25	1	1.5	mg/L
14.	Arsenic	IS: 3025: Part 37	BDL	BDL	0.01	No Relaxation	mg/L
15.	Residual Chlorine	APHA 4500- Cl B	0	0	0.2	1	mg/L
BACTERIOLOGICAL TEST							
16.	Bacteria	H_2S Vial	Absent	Absent	No Relaxation	No Relaxation	

4.3.7 Data of inflow of patients in the existing facilities

Based on records and data provided by the Hospital Authorities for the Last week of April 2024, it was found that:

- About 150-180 patients were visiting the OPD per day, 35 IPD in a month (mainly labor cases) were taking place, that to normal cases. The cesarean cases were referred to AMCH.
- The Labour room records also included information such as age, address of patient, type of delivery, delivery outcome, Gestation (full term or premature), weight and gender of baby, complications, Hbgms %, blood group, gravida/Parity/abortion/living children etc. On the basis of this record, it was analyzed that average age of patient during sample period was found to be 23 years and all the babies delivered were normal and alive and average weight of the baby observed was 2.85 kg. No high-risk pregnancies were observed during the sample period and G1P0 gravida/Parity/abortion/living children was prevalent.
- Child Immunization Services are provided by the hospital which includes vaccinations of BCG, OPV-1&2, PCV-1, Pentavalent 1, 2 & 3, IPV-1, RVV-1,2& 3, vitamin A (A1-A9) etc.

The Extracts of Patient inflow data received from the hospital is given in **Annexure IV.**

4.3.8 Biological Environment

The Biological Study was undertaken which comprises of primary and secondary data collection gathered during field survey and from records of Forest Dept. and published literatures.

4.3.8.1 Flora

Vegetation observed during site visit- The common trees observed are Gulmohar (*Delonixregia*), Banyan tree (*Ficus benghalensis*), Siris (*Albizzia sp.*), Bakain (*Melia azedarach*), Kadamba (*Bauhinia malabarica*), Bakain (*Melia azedarach*), Sissoo (*Dalbergia sissoo*), Imli (*Tamarindusindica*), Rubber tree (*Ficuselastica*), Amaltas (*Crassia fistula*), Semal (*Bombaxceiba*), Jamun (*Eugenia jambolana*), Coconut (Cocos*nucifera*) and Bamboo etc. The herbs and shrubs observed in the area are Lantana (*Lantana camera*), Pragmites (*Pragmiteskarkar*), Congress grass (*Parthenium hysterophorus*), Dub grass (*Cynodon dactylon*), jimson weed (*Daturastramonium*), Barnyard grass (*Echinochloa crus galli*), Johnson grass (*Sorghum halepense*), Echino chloacolona, Chick weeds (*Ageratum conyzoides*) and Green giant (*Alocasia sp*.).

4.3.8.2 Fauna

The common fauna species observed are: Gilahri (*Funambulus pennant*), Chuha (*Bandicot abangalonsis*), Nevala (*Herpeste sedwardsi*), Langur (*Presliptis entellus*), Bandar (M*acaca mulatto*), Chamgadad(*Cynopterus sphinx*), Bamboo Rat (*Rhizomyspruinosu*), dog (*Canis lupus familiaris*), Sheep (*Ovis Aries*), Cow (*Bostaurus*) etc.

The detailed list of flora and fauna is given in **Annexure V.**

4.4 Socio-Economic Characteristics

4.4.1 Description of the study area

In conducting the ESIA, area within 5 km radius from the "Project Site" is considered as the "Study Area". The proposed project covers 8 Villages and 3 town of Dibrugarh District in Assam State.

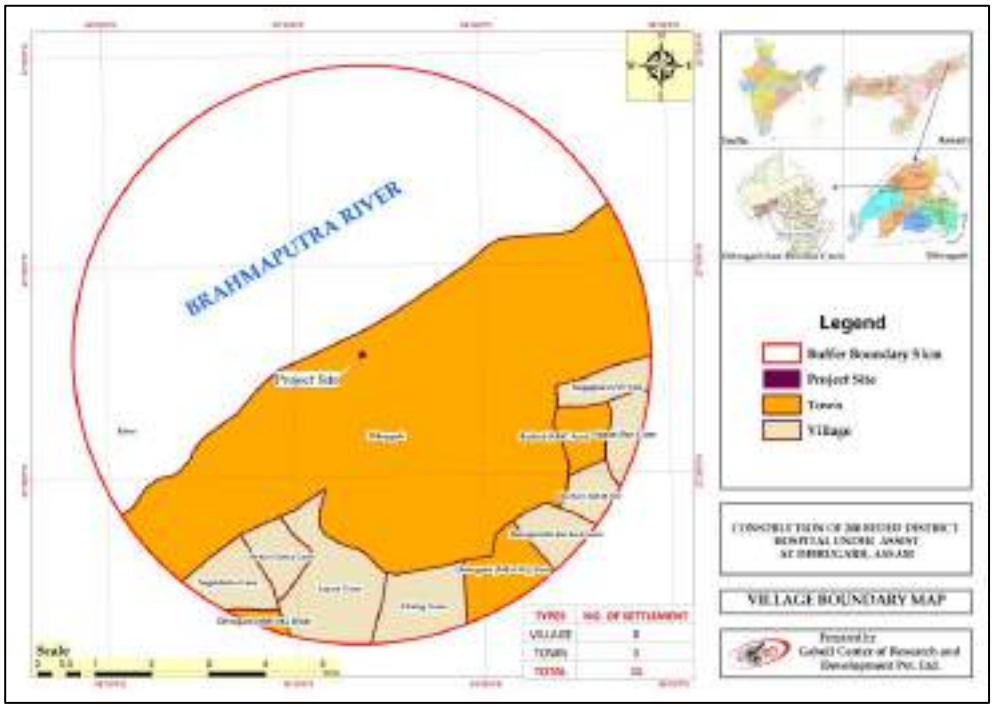

Figure 4.8: Village Boundary Map

4.4.2 The salient features of the study area includes –

1. Total population of study area is **2,99,538.** The percentages of male & female population are **51.76%** & **48.24%** respectively with sex ratio (number of Females per thousand Male) of the study area is **932.**
2. Total household in the study area are **65,465** with a family size of **5**.
3. Total number of literates in the study area is **2,41,973 (80.78%).**
4. Sex ratio (number of Females per thousand Male) of the study area is **932** which shows that male population is higher in the study area as compared with the female population.
5. Out of the total population, Scheduled Caste population in the study area is **26237 (8.76%)** and Scheduled Tribe population is **9187 (3.07%).**
6. Child population (0-6 years) in the study area is 27888 which is **9.31%** of the total Population out of which 14378 **(9.27%)** is boys population and 13510 **(9.35%)** is girls population.

4.4.3 Social Structure

a) The Schedule Caste:

The total number of Schedule caste within the study area is approximately **26237** which is 8.76% of total population with 13505 (4.51%) Male and 12732 (4.25%) are female. The graphical representation is given below.

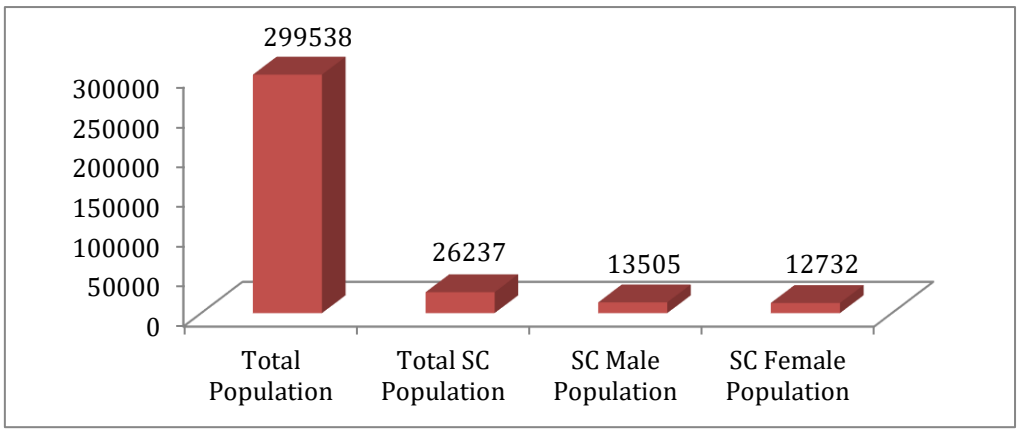

Figure 4.9: Graph Showing Schedule Caste Structure of the Study Area

b) The Schedule Tribe:

The Schedule Tribe (ST) population within the study Area is 9187 **(3.07%)** of the total population with **4492 (1.50%)** Males and **4695 (1.57%)** Females. Detailed status of social structure and their graphical representation for the same is given below –

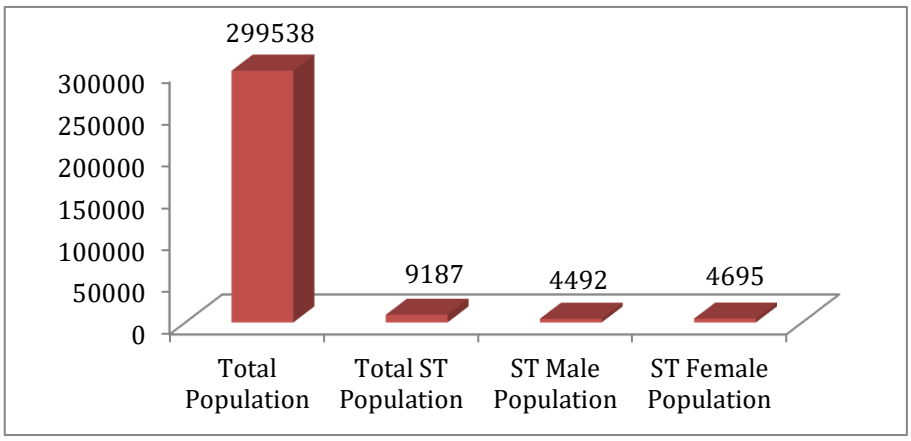

Figure 4.10: Graph Showing Schedule Tribe Structure of the Study Area

c) Literacy

The total number of literates within the study area is approximately **241973** which are 80.78% of total population. Male literacy rate of the study area is **129221** (**53.40**%) and female literacy rate is **112752** (**46.60**%). Detailed status of literacy is given below. Graphical structure of the literacy & illiteracy structure of the area is as follows:

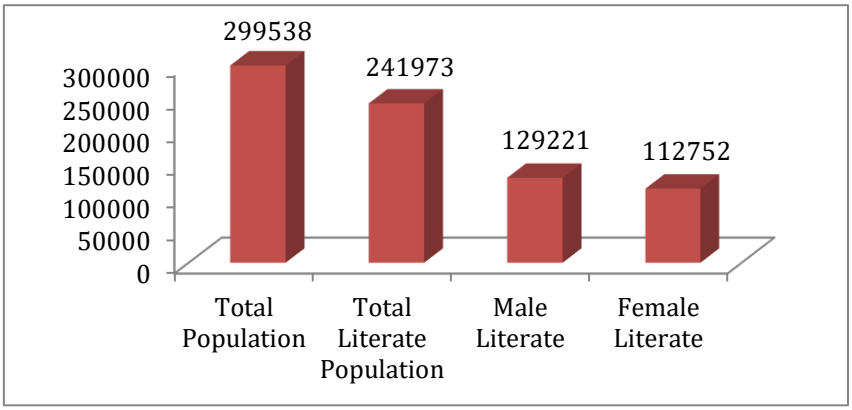

Figure 4.11: Graph showing Literacy Structure of the Study Area

d) Illiteracy

The total number of illiterates within the study area is approximately 57565 which are 19.22**%** of total population. Male Illiteracy in the study area is 25830 **(44.87%)** and female Illiteracy is 31735 (55.31%). Graphical representation for the same is given below:

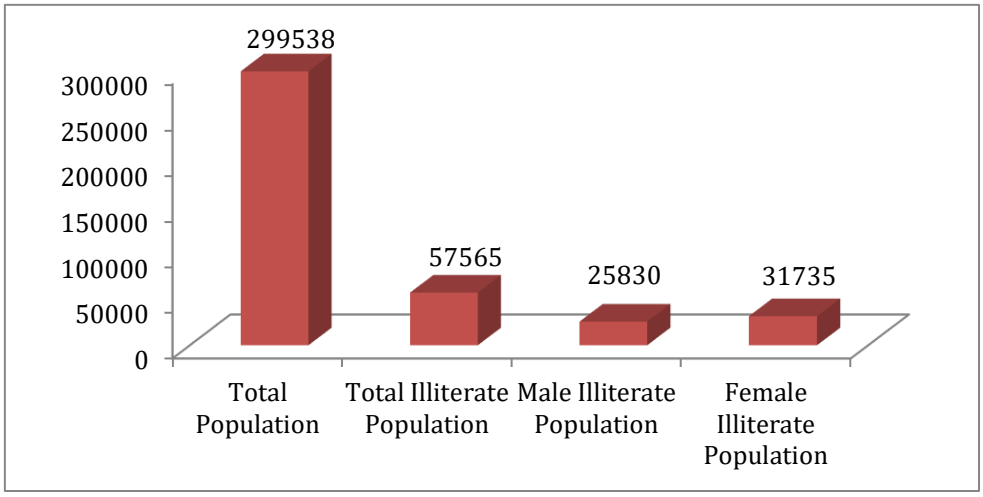

Figure 4.12: Graph showing Illiteracy structure of the Study area

The details of Demographic Structure of the Study Area is given in **Annexure VI.**

4.4.4 Occupational Structure

"Occupational Structure" of the population in the 'Study Area' has been studied with reference to the total workers and non-workers. Further total workers grouped into two categories "main workers" and "marginal workers".

4.4.4.1 Total workers

"Work" is defined as participation in any economically productive activity with or without compensation, wages or profit; such participation may be physical and/or mental in nature.

The number of total workers in the study area is approximately **113753 (37.98%)** out of which **91310 (80.27%)** are male and **22443 (19.73%)** are female workers.

Total workers further divided into main workers and marginal workers –

(i) Main Workers

The workers who had worked for the major part of the reference period (i.e. 6 months or more) are termed as "Main Workers". Total number of main workers in the Study Area is approximately **97674** persons**,** which is **85.86%** of total workers and **32.61%** of total population.

(ii) Marginal Workers

Marginal Workers are those workers, who are engaged in some work for a period of less than six months, during the reference year prior to the census survey. Total number of marginal workers in the Study Area is approximately **5473** persons which, is **23.72%** of the total workers and **8.20%** of total population.

4.4.4.2 Non-Workers

The non-workers include those engaged in unpaid household duties, students, retired persons, dependents, beggars etc. More than half **185785 (62.02%)** of population is not working. **34.31%** of male population and **65.69%** is female population are non-workers.

Occupation structure of each village in the study area is tabulated below and the graphical representation has also been provided.

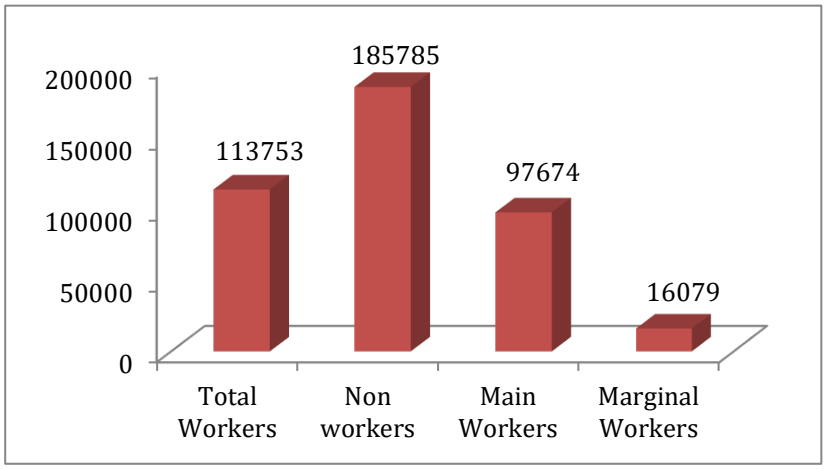

Figure 4.13: Occupational Pattern in the Study Area

The details of Occupational Pattern of the Study Area is given in Annexure VII.

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CHAPTER-5
ENVIRONMENT AND SOCIAL RISKS AND IMPACTS

5. ENVIRONMENT AND SOCIAL RISKS AND IMPACTS

5.1. Introduction

This Chapter identifies and discusses both positive and negative impacts associated with the proposed project. Screenings of potential environmental and social impacts are categorized into three categories considering project phases: pre-construction impacts, construction impacts and operations and maintenance impacts.

Screening of environmental and social impacts has been assessed on the basis of screening format for Environment & Social Risks/Impacts as given in ASSIST-ESMF (Jan-Feb 2023), baseline data collected through primary as well as secondary sources and stakeholder consultations.

5.1.1. Pre-Construction Impacts

i. Consents, permits, clearances, no objection certificate (NOC), etc.

All the consents, permits, clearances and NOCs should be obtained before start of construction activities. Failure to obtain necessary consents, permits, NOCs, etc. can result to design revisions and/or stoppage of works. Suggestive list of consents, permits, NOCs etc. required before construction works are given in table below:

Table 5.1: Suggestive lists of consents, permits, NOCs

S. No	Construction Activity	Statute under which Clearance is Required	Responsibility
1	Establishment of new 200 bedded DH /Temporary Labor camps / storage of construction materials batching plant etc.	Pre establishment permission (consents, authorization) from Assam Pollution Control Board.	Contractor
2	Tree Cutting (if required)	Assam State Forest department	Contractor
3	RMC/Batching plants (if required)	Consent to establish and consent to operate under Water and Air Act, 1981 from ASPCB	Contractor
4	Use of vehicles and equipment	Pollution under control certificate (PUC) form RTO	Contractor
5	Temporary water supply and Electrical Connections for work site and camps during construction phase	Concerned local state department	Contractor
6	Labor License	Concerned local / state department	Contractor

ii. Anticipated Risks/ Impacts during Pre-Construction Activities

Table 5.2: Pre-Construction Activities and its risk/Impacts

S. No	Pre-Construction Activity	Anticipated Risk/Impacts
1.	Site clearance	• The plot proposed for the DH, Dibrugarh is a vacant land

		• Presently, an electric pole, transformer and electric line near to Pharmacy Girls Hostel exist at the boundary of the site. • At present, 25 trees are present at the boundary of proposed DH site and 8 trees are present within the site of proposed DH and they may possess the risk during the development of new building structures. • There is a low-lying area in the plot of proposed DH but it is temporary (due to extraction of soil by District Jail officials for construction work). In rainy season the said area gets filled with rain water, therefore it seems as low lying area but it was a temporary phenomenon.
2.	Site Selection	Selection of proper sites for Construction worker camps, stockpile areas, storage areas and sources of materials safeguarding environmental and social concerns governing the same.
3.	Debris disposal	Prior to the commencement of works, contractor shall identify a debris disposal site (possibly near to project site) in consultation with local body and implementing agency. It will prevent impending soil and water pollution to be caused by construction activities. Further, Asbestos is not a part of debris disposal site as the proposed site is a vacant land. Hence there will not be generation of asbestos at the site.
4.	Consultations	• Lack of awareness on the project among community may restrict public participation in decision making • Lack of knowledge on the facilities to be provided by the proposed DH at their own neighborhood will prevent them from availing the facilities. • Lack of prior intimation of the demolition and construction activities may lead to health hazards caused by probable air, water and noise pollution.
5	Grievances of community	• Public resistance anticipating negative impacts of the project like tree felling for site clearance, air and land and water pollution due to heavy construction activities • Accessibility issues of public • Land demarcation issues.

5.1.2. Construction Phase Impacts

Table 5.3: Construction Activities and its Anticipated Risk

S. No	Concerns	Anticipated Risk
1.	Demolition of existing structures	Not applicable as the plot proposed for the DH as the site is a vacant land.

2.	Ground Water	Ground water contamination and Ground water depletion due to construction works and machine operations
3.	Surface Water	Temporary flooding at site and nearby areas and contamination of the surface water bodies in and around site
4.	Ambient Air Quality	Dust Emissions (PM), SO2, NO2 and CO from construction activities, Vehicular movement, DG sets
5.	Noise and visual impacts	Environmental noise can cause Hearing impairment, hypertension, and ischemic heart disease (IHD), annoyance and sleep disturbances. Noise exposure may also cause birth defects
6.	Land Environment	Loss of topsoil, soil erosion, and soil contamination due to construction activities. Loss of agricultural productivity due to contamination of drained off water & sludge from construction site or drained off cement from batching plant.
7.	Waste Management	Water pollution, emissions and soil degradation
8.	Storm Water Management	Poor sanitation, drainage problem which results in water running over roads and water logging.
9.	Hazardous material storage and waste handling & disposal	Storage and handling of hazardous substances: substances that may harm people or the environment shall be handled and stored in a way that prevents accidental release.
10.	Energy Efficiency	Loss of natural resources
11.	Fire Fighting	Loss of Life and Property
12.	Occupational Health & Safety (OHS) and Community Health & Safety	Contractor's staff and Labors will be engaged in the proposed construction. So there will be Health and Safety risks to construction workers; as well as to the community living near the proposed construction sites.
13.	Gender based violence, SEA/SH	During construction phase, probable incidents of gender-based discrimination in employment and Sexual Exploitation and Abuse/ Sexual Harassment (SEA/SH) of women workers at site (consultants and contractors' staff & laborers) as well as in the community in and around may take place.
14.	Road safety	Issues and concerns of Road safety to pedestrians and community staying nearby site due to movement of construction vehicles
15.	Grievances of workers as well as community	• The workers at the construction site may have grievances due to non-receipt of basic facilities,

		PPE related, non- Receipt of dues, work place discrimination, excessive work load etc. • Potential conflict between migrant workforce and local may take place • Moreover, local residents and passers-by may raise concerns regarding the lack of transparency about the project, construction-related issues such as pollution, waterlogging, and tree felling for site clearance, as well as problems related to demolition and restricted accessibility.

5.1.3 Operation Phase Impacts

The project has positive impact on the society as provider of health care services to the local people. This will alleviate the overall health status of the local people in terms of affordable health care services.

During the operational phase, various impacts relating to the functioning of the healthcare facilities supported under the project are summarized below:

Table 5.4: Anticipated Risk during operation phase

S. No	Concerns	Anticipated Risk
1.	Consent to Operate under Air & Water Act	Violations to applicable environment norms, which overall affects the start of operations of proposed project.
2.	Authorization for Handling, Storage, Treatment of BMW under BMW Rules	Violations to applicable environment norms, which overall affects the start of operations of proposed project.
3.	Air Pollution	Emissions from vehicular movement and functioning of DG sets are envisaged.
4.	Water	Risk of Ground water contamination is envisaged from wide range of medications, pharmaceuticals activities can persist in wastewater and contaminate groundwater, sterilization and cleaning processes which lead to the release of heavy metals into wastewater and Pathogens.
5.	Solid waste	Risk of Improper solid waste generation is envisaged from various departments and activities, including surgical operations, dialysis, laboratories, and general areas is envisaged.
6.	Infection control	Improper handling and disposal of Biomedical waste. Improper waste disposal can create unsanitary conditions that can spread infectious diseases.
7.	Occupational Health and Safety	Health, Hygiene and Safety of employees
8.	Life and fire safety	Loss of Life and Property
9.	Gender based violence's,	There may be issues of GBV, SEA/SH of women

	SEA/SH	patients and attendants as well as the women employees & staff at the new Hospital.
10.	Grievance Redressal of community/ patients and employees.	The community people/ patients may have grievances of not receiving or delay in treatment, lack of doctors/nurses, insurance, facilities at hospital, lack of medicines etc. And employees may have grievances of not having basic and proper facilities at hospital, hectic schedules etc.

The Environment Health and Safety (EHS) committee assisted by other members of healthcare facility will be formed which will do the best to minimize the environment and social risk.

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CHAPTER-6
STAKEHOLDER ENGAGEMENT

CHAPTER 6- STAKEHOLDER ENGAGEMENT

6.1 Introduction on Stakeholder Engagement

Stakeholder Engagement is a process made to involve the public as stakeholders in project preparation through consultations and focus group discussion meetings. Stakeholder Engagement seeks to provide a transparent engagement and open communication between and among the project stakeholders to maximize participation and inclusion for project design, implementation, monitoring and evaluation; enhance project acceptance and improve the environmental and social sustainability.

The main objectives of undertaking these consultations are dissemination of information to build awareness among stakeholders and inform them about the objective, the adverse and positive impacts, design aspects of the project and discuss about the training requirements to enhance their skills and livelihood options.

6.2 Key Stakeholders

(i) **Affected Parties** are impacted or likely to be impacted directly or indirectly, positively or adversely, by the Project.

The Stakeholder engagement with affected parties such as patients, healthcare workforce and social activist (influencer) was undertaken.

(ii) **Interested Parties** may have an interest in the Project. They include individuals or groups whose interests may be affected by the Project and who have the potential to influence the Project outcomes in any way.

The Stakeholder engagement with interested parties such as social activist (influencer), ASHA workers was undertaken.

(iii) **Vulnerable Groups** include:

- Patients: Elderly, persons with disabilities, persons below poverty line, female and minor patients at heightened risk of gender-based violence, ethnic minorities, LGBTQI.
- Communities affected by the construction activities: Scheduled tribes (ST), scheduled castes (SC), and communities living in remote and hilly locations, female headed households, illiterate and poor population.

6.3. Methods of Stakeholder Engagement

Different tools were employed in interviews conducted and discussions ranged from informal and undirected to formal and directed.

6.3.1. Stakeholder Consultation

As part of the ESIA process, the project team has undertaken consultation with the stakeholders of the project to understand their expectations from the proposed project. The main objective of the stakeholder consultation is to develop an understanding and awareness on the project among the different stakeholders, assess the level of stakeholder interest and support for the project, and to ensure that appropriate measures for mitigating environmental and social risks and impacts are disclosed to stakeholders in a timely, understandable, accessible and appropriate manner.

6.3.2 Stakeholder Engagement Meeting

Stakeholder Meeting for the proposed DH has been conducted on 13.05.2024 at Campus of Dibrugarh State Dispensary & Urban Health Centre, Assam. The meeting was attended by 18

people including (i) Joint Director Health Services, Dibrugarh (ii) Additional CM & H.O, Dibrugarh (iii) Mayor- Dibrugarh Municipal Corporation (iv) M.O (Ayur) (v) Pharmacist (vi) Locals (viii) ANM-ASHA workers and (vii) patients. The attendance sheet is given in **Annexure VIII**. The photographs of stakeholder Engagement are given in **figure 6.1.**

Figure 6.1: Photographs of stakeholder engagement

6.3.3 Information, Education and Communication (IEC)

The Information, Education & Communication (IEC) aims to create awareness and disseminate information regarding the benefits available under various schemes/programmes through banner, leaflets, posters, announcements, newspaper, notices, signages, social media etc. The aim of such advertisements is to encourage people to adopt positive behavior, raise awareness and disseminate information regarding availability and access to quality healthcare provided by the Government. Snippets of incorporation of IEC in the Dibrugarh State Dispensary & Urban Health Centre are shown in the figure below:

Figure 6.2: Banners and posters displayed at Dibrugarh State Dispensary & Urban Health Centre

6.3.4. Outcome of the stakeholder Consultation

During stakeholder consultation, dissemination of information for building awareness about the project was discussed. The outcome of the meeting was that there is inadequate facility present for Cesarean section cases, as presently they have to go to Assam Medical College & Hospital, Dibrugarh. There will be no delay in health services as the location of new proposed District Hospital is vacant land.

All the stakeholders supported for the development of proposed New District Hospital and were in support of the construction of proposed new District Hospital. The proposed project will cater to all

the concerns of stakeholder once it gets start functioning. The key suggestion given by stakeholder are presented in table below:

Table 6.1: Key issues and suggestions of different Stakeholders

S. No.	Stakeholders	Commitment made during the Stakeholder Engagement meeting
1.	Joint Director Health Services, Dibrugarh	• Mr. Rajib Kr Baruah, Joint Director Health Services, Dibrugarh the representative for new District Hospital • He supports the proposed project. • Presently, the proposed site is a vacant land with a few old structures. Therefore, no present mode of disposal. Safe disposal of biomedical waste will be done. He ensured that in operation phase, agreement with CBWTF at Lekai in Dibrugarh for disposal of BMW, 8.5 km from the site will be made before starting operation of District Hospital and the disposal at this facility will be streamlined. • To ensure all the activities related to healthcare facilities will be followed. • There will no discrimination on the basis of gender, age, and color.
2.	Local body/Mayor (Dibrugarh Municipal Corporation)	• Dr Saikat Patra was the representative from the Dibrugarh Municipal Corporation. • As a representative of the Municipal Corporation, he has no objection on the proposed project. • He has given suggestion for the proposed project related to address problem of water logging during rainy season and parking problem • He issued the suggestion letter regarding the proposed project activities and same is given in **Annexure VIII.**
3.	Locality within 100 m from the hospital building	• Mr. Rudreshwar Sonowal attended the Engagement meeting. • He supported the proposed project.
4.	Pharmacist	• Mr. Minumai. K supports the project.

5.	Patients (Vulnerable Group)	• Mrs. Parbin Begum and Mrs. Rubi. B attended the Stakeholder Engagement meeting under vulnerable group (patient). • They were happy with the services available at the hospital and was in support of the new proposed DH. • Various Pregnant women, Elderly patients and Patients with Disabilities were interacted and informed about various ongoing Govt. Insurance Schemes such as Pradhan Mantri Jan Arogya Yojana (PM-JAY) and Janani Suraksha Yojana (JSY).

6.4. Cost for implementation of IEC, Community meetings and Awareness & Training

The budget for the same has been allocated and mentioned under **table 6.2** given below:

Table 6.2: Cost for implementation of IEC, Community meetings and Awareness & Training

S. No.	Particular	Stage	Total Cost INR
1.	IEC Development (Banner, Leaflets, posters, announcement costs, new paper Notices, signage, etc.)	Pre-Construction, Construction and facility operation phase	1,00,000/-
2.	Community meetings in nearby locations	Construction	50,000/-
3.	Awareness & training programs with Stakeholders	Construction	2,00,000/-
Total			**3,50,000/-**

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CHAPTER-7
ENVIRONMENT AND SOCIAL MANAGEMENT PLAN (ESMP)

7- ENVIRONMENT AND SOCIAL MANAGEMENT PLAN (ESMP)

7.1 Environment and Social Management Plan Introduction

The objective of ESMP is to manage and monitor environmental and social impacts during the **pre-construction, construction and operation phase** of the proposed project. To attain this, the ESMP identifies possible adverse impacts from the proposed project activities and outlines mitigation measures required to reduce the likely negative effects on the built, natural and social environment. ESMP is covering the following parameters-

1. Legal Consents, permits, clearances, NOCs, etc. required before the commencement of the project.
2. Existing condition of Air Environment, Noise Environment, Water Environment (Ground water/ Surface Water) and Biological Environment and impact induced on these during the Pre-construction, Construction and Operational Phases.
3. Community Health and Safety, Labor welfare, Occupational Health & Safety, Transportation and Vehicle Movement, Socio-economic condition during and after commencement of the project.
4. Key areas/activities/concerns resulting in adverse environmental and social impacts and its mitigation measures including impacts, operating procedure and agencies that would be responsible.
5. Estimation of potential environmental and social impacts and their mitigation measures given in **Table 7.1.** below:

Table 7.1(i): Environmental and Social Risks/Impacts assessment and Mitigation Measures during Pre-Construction Phase

Key Area/Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
Consent to Establish from Assam State Pollution Control Board, Land ownership documents from Government of Assam, tree cutting permission from Assam State Forest Department.	Non availability of the necessary consents or permits can result in stoppage of further processing of works.	➢ Ensure availability of necessary consents, clearances and permits, land compensation, design, engineering, equipment, material, construction, erection, testing & commissioning.	Contractor, Joint Director, DH & Project In-charge
Site Clearance	Presently an electric pole, transformer and electric line near to Pharmacy Girls Hostel exist at the boundary of the site, 25 trees are present at the boundary of proposed DH site and 8 trees are present within the site of proposed DH and they may possess the risk during the development of new building structures.	➢ Electric pole, transformer and electric line will not be shifted as they are located at the boundary of the project site. ➢ 25 trees at the boundary of the site will be retained and rest 8 trees present within the site will be cut. ➢ Use barriers to protect tree trunks from mechanical injuries caused by construction equipment. ➢ Maintain a regular watering schedule to support tree health throughout the construction process, especially during dry periods. ➢ Regularly monitor the condition of protected trees and adjust protection measures as needed to respond to potential stress or damage.	Contractor, Joint Director, DH & Project In-charge

		➢ Mark and provide sign boards in order to prevent any mishap. ➢ Proper site levelling of the area will be done to avoid water retention.	
Archeology and Cultural Heritage	Sir John Berry White auditorium (110 m)- Architectural heritage site	➢ The proposed District Hospital Project will be implemented within the assigned boundaries. Therefore, no impact expected from this component.	NA
Site Selection	Selection of site for Construction worker camps, stockpile areas, storage areas, sources of materials	➢ For establishing temporarily workers camp, the priority should be to locate these near the subproject sites. ➢ The temporary workers camp, storage of fuel and lubricants should be avoided near any water body, at land being used for production of crops, near to any sensitive area. ➢ Prior permission is required from concerned agency for establishing workers camps, stockpile areas, storage areas. ➢ Verify the suitability of all material sources and to obtain the approval of applicable department and local revenue administration.	Contractor & Project In-charge
Debris disposal	Prior to the commencement of works, contractor shall identify a debris disposal site (possibly near to project site) in consultation with local body and implementing agency.	➢ The site shall be selected preferably from barren, infertile lands. ➢ Prepare a construction and demolition waste management plan in preconstruction phase for safe disposal. Asbestos is not a part of debris disposal site as the proposed site is a vacant land. Hence there will not be generation of	Contractor, Joint Director, DH & Project In-charge

		asbestos at the site. ➢ As the proposed DH is surrounded by residential area, at the time of selecting the disposal site minimum distance criteria will be followed and minimum 0.350 km (Brahmaputra River) away from sensitive locations like hospitals, religious places, ponds/lakes or other water bodies.	
Stakeholder Engagement	Lack of awareness on the project among community may restrict them from participating in decision making and knowing about the facilities to be provided by the proposed DH at their own neighborhood thereby preventing them from availing the facilities. Further lack of prior intimation of the demolition and construction activities may lead to health hazards caused by probable air, water and noise pollution.	• Prior intimation to the public about the time and the duration of the particular construction works which causes inconveniences to the community residing nearby. • Stakeholder consultation for o allowing them to participate in decision making for the proposed DH o Making people aware of the proposed DH and the facilities to be provided by the DH at specific intervals with representation from all the sections of the community in and around the proposed site including women members of the community. o responding to their queries regarding, proposed DH, construction activity etc.	Contractor, Joint Director, DH & Project In-charge
Grievances of community	• Public resistance for the project anticipating negative impacts of the project like tree felling for site clearance, air and land and water pollution due to heavy construction activities • Accessibility issues of public	• Public consultation to gather data on the proposed site while also raising awareness about the potential impacts and benefits of the project. • Installation of Drop Boxes with proper signage's at entry gate so that it is visible to community to drop grievances.	Contractor, Joint Director, DH & Project In-charge

	Land demarcation issues.	• Display of contact number and e-mail dedicated for GRM at entry gate • Developing of Grievance Redressal Protocol to address the grievances received at site • Designation of manpower to register the grievances at site • Developing of proper formats to capture all the relevant details of complainant for registering grievances of Community	

Table 7.1(ii): Environmental and Social Risks/Impacts assessment and Mitigation Measures during Construction Phase

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
Disruption of Health services	No major disruption/delay of health services will be involved during construction of new District Hospital.	It will be ensured that there will not be major delay/disruption of health services due to upgradation of health facility. Health care facilities will be availed through existing Dibrugarh State Dispensary & Urban Health Centre in the vicinity.	Project In-charge
Relocation of Staff Accommodation	No relocation of staff accommodation for the proposed DH.	No relocation of staff accommodation for the proposed DH.	Project In-charge
Demolition of brick wall/ existing	Noise, dust, disruption of the neighborhood, underground or overhead services (if any) etc.	➢ Structures to be demolished should be wetted through water sprinkling to reduce dust	Contractor

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
structures		emission. ➢ C&D rules and mitigation measures should be displayed at the project site. ➢ Green net fencing (3m high) all around the site. ➢ The location of any underground or overhead services (water, electricity, gas, etc.) ➢ Appropriate site for storage and disposal of demolished materials (properly covered) ➢ All the safety measures such as providing appropriate Personal Protective Equipment (PPE) should be adopted during demolition activities. ➢ Development of greenbelt in and around project site. ➢ A Management Plan for Construction and Demolition waste is prepared and attached as **Annexure- I.**	
Ground Water	➢ Ground Water Contamination ➢ Ground Water Depletion	➢ Waste water generating at the project site will be disposed of in the septic tanks/soak pits conforming to CPCB/ASPCB	Contractor and Project In-charge

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
		norms. ➢ Waste water to be treated in STP and reused for flushing toilets and irrigation purposes. ➢ Disposal of liquid waste from Labs, blood bank, O.Ts etc. during operations phase shall be disposed through proposed ETP in operational phase. ➢ Will use the available water more efficiently. ➢ Will use Re-cycled water ➢ Use of Water Efficient fixtures like flow regulators & dual flushing cisterns ➢ Provision of RWH pits to collect rain water for ground water recharge.	
Surface Water	Surface water contamination	➢ Curing will be done by spraying water to reduce run-off. ➢ It will be ensured that surface water runoff will be disposed through proper drainage channel to minimize the contamination risk. ➢ Rain water Harvesting	Contractor
Ambient Air	Dust Emissions (PM), SO2, NO2 and CO from Construction	➢ Water sprinkling will be carried	Contractor in

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
Quality	activities, Vehicular movement, DG sets	out. ➢ Regular sweeping of construction site Construction material & debris carrying vehicles will be covered. ➢ Regular monitoring of emissions and control measures will be taken to reduce the emission levels. ➢ Use of low sulfur diesel. ➢ Regular maintenance and servicing of vehicles. ➢ Stack height of DG set as per CPCB standards ➢ Developing of Green belt ➢ All vehicles must carry Pollution under Control Certificate. ➢ All transportation/vehicle movements for material transport shall be carried out during 10.00 pm to 6.00 am ➢ All the material shall be properly covered at site as well as during transportation so that the dust cannot get airborne ➢ Hard barricading shall be provided around the construction	consultation with hired consultant (environment monitoring)

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
		site ➢ Regular ambient air monitoring (twice a year).	
Noise and visual impacts	➢ Environmental noise can cause Hearing impairment, hypertension, and ischemic heart disease (IHD), annoyance and sleep disturbances. Noise exposure may also cause birth defects	➢ Construction activities involving high level noise generation will be restricted to day time only. ➢ Provision of ear muffs to workers. ➢ Use of machinery of modern make meeting the noise standards ➢ Development of green belt. ➢ DG sets will be provided with acoustic enclosures and will be placed in a room to reduce noise level. ➢ Proper traffic management & circulation. ➢ Honking will be prohibited in the premises. ➢ All vehicles will carry PUC. ➢ Regular ambient noise monitoring and work site noise monitoring	Contractor
Land Environment	Soil Contamination	➢ Construction debris will be used for leveling or sent to authorized site for disposal	Contractor

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
		➢ Proper work management to avoid spillage ➢ Excavated topsoil will be re-used for landscaping in the project area.	
Waste Management	Water pollution, emissions and soil degradation	➢ Estimation of waste generated, on site handling, storage and processing, collection, transfer and transport, processing and recovery & disposal through following methods. ➢ Installation of STP for domestic effluent and ETP for Lab, OT and blood bank waste separately. ➢ Garbage chute system and color coded bins at source for segregation of domestic waste and biomedical waste respectively. ➢ Organic Waste Compost Machine for 100 Kg/Day Waste per Day will be installed.	Contractor in consultation with Architect
Storm Water Management	Poor sanitation, drainage problem which results in water running over roads and water logging.	➢ Re-establish the drainage pattern to the extent practicable. ➢ Provision of dual plumbing system/ two pipe (stack) system	Contractor in consultation with Architect

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
		and use of zero liquid discharge technology. Water balance chart is attached in **Annexure XIII.** ➢ The rain water to be diverted using rainwater pipes to the drainage network. ➢ The entire site storm water to be diverted into the rainwater harvesting well for recharging the aquifer and the surplus will be connect to the municipal drain.	
Transportation and Vehicle Movement	Increase in volume of traffic Issues and concerns of Road safety to pedestrians and community staying nearby site due to movement of construction vehicles	➢ As proposed works of construction of DH at Dibrugarh is limited to proposed site only, which is a closed premise bounded by distinct wall and gate. Separate routes for transportation of vehicles for construction are planned in the site. ➢ The road will be metaled and regularly water sprinkled during construction activities ➢ During construction, transportation during busy traffic hours will be avoided and	Contractor and Project In-charge

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
		time schedules will be prepared for transportation of construction materials in consultation with the authorities concerned ➢ Proper Traffic Management & circulation with adequate lighting and signage system. ➢ Provision of adequate parking spaces as per Norms. ➢ Trained and qualified drivers/operators. ➢ Separate routes for the movement of machineries and vehicles away from the patients/visitor's route. ➢ Regular checks and inspections for the ambulances and other vehicles. ➢ Traffic Survey was conducted near the vicinity of the project and details of survey forms and its analysis are given in **Annexure-X.**	
Hazardous material storage and waste	Storage and handling of hazardous substances: substances that may harm people or the environment shall be handled and stored in a way that prevents accidental release.	➢ Drip trays shall be placed under leaking under vehicles and other equipment to prevent spills of	Contractor and Project In-charge

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
handling & disposal		hydrocarbons reaching the soil or watercourses. ➢ Storage of hazardous substances shall have secondary containment, so that leaking liquids can be contained in the event of a failure. Secondary containment should ideally have a capacity of at least 110% of the holding capacity of the primary storage. ➢ To avoid leaks, proper funnels should be used when decanting to other containers. It is recommended to use a hand pump rather than a funnel and smaller containers for frequent/routine transfers from one container to another (or to a vehicle tank). ➢ Disposal of waste from site must only be carried out as per the applicable rules and regulations in an authorized and licensed areas / facilities. ➢ Asbestos is not a part of debris disposal site as the proposed site	

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
		is a vacant land. Hence there will not be generation of asbestos at the site	
Occupational Health and Safety	➢ Workers Injuries ➢ Health, Hygiene and Safety of Workers	➢ In the construction phase, approx. 100 workers (preferably local) including both skilled and unskilled workers will be engaged at site. The workers for civil construction (on contract basis- on payroll of construction agency will be employed for the period of one year initially; later on, contract will be extended further. Several workers including casual laborers, plumbers, and engineers are expected to work on the site. Occupational Health and Safety of the workers is utmost essential as it could prevent risks of injuries and accidents, health, hygiene and safety of workers. ➢ Comply with the labor laws. ➢ Provide training on occupational health and safety to all the workers. ➢ Ensuring all workers are	Contractor and Project In-charge

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
		provided with personal protective equipment's like helmet, gumboot, safety belt, gloves, nose mask and ear plugs. ➢ Provision of harness, lifts etc. for workers working on heights ➢ Ensuring that qualified first-aid is provided along with Standard first aid box with all standard contents at site. ➢ Provide medical insurance coverage for workers. ➢ Provide worker's accommodation which may include Provision of fuel for cooking, proper & hygienic lodging/living facility, proper toilets & bathroom, liquid and solid waste management facilities for workers and safety measures in labor camps ➢ No child labor will be employed. ➢ Emergency Readiness Plan	

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
		to be displayed at a prominent site ➢ Training to workers on emergency readiness ➢ Occupational Health and Safety Plan is attached as **Annexure XIV.**	
Community Health and Safety	➢ Injury, accidents and sickness of workers and local people ➢ Restricted movement of visitors within the facility premises	➢ Organizing regular health check-ups and creating awareness about diseases like on communicable diseases like COVID, Tuberculosis, HIV and STDs. ➢ Alternative and safe routes for patient's flow. ➢ Mandatory deployment of security personnel at site specifically at high-risk zones ➢ Scheduling of fixed time for movement of vehicles carrying construction machineries and materials in consultation with the authority of proposed DH to ensure safe movement of passersby. ➢ Construction area to be properly hard barricaded and safety	Contractor and Medical In-charge

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
		signage's viz. "No entry for public"; "Work is going on, be careful"; "Area for reinforcement", "Construction Zone", etc and also important signage's indicating diversion, danger signs at appropriate locations are to be installed during construction. ➢ 24×7 security in and around project.	
Employment	Employment generation during construction phase and operation phase.	➢ Demand for skilled, semi-skilled and unskilled workers during construction period. ➢ Employment opportunities will be generated. ➢ Equal and minimum wages as per govt. norms will be provided.	Contractor
Energy Efficiency	Loss of natural resources	➢ Use energy efficient measures as per DPR such as Water Efficient fixtures, STP treated water after regular testing shall be used for, flushing & landscape irrigation, Rain water harvesting system, Pressure reducing device, Sprinkler Irrigation etc.	Architect and Contractor

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
Fire Fighting	Loss of Life and Property	➢ Provision of Fire extinguisher system at site. ➢ Staff should be trained to handle emergency situations like firefighting and should be responsible to contact the emergency personnel in case of any emergency. ➢ Provision of Fire Alarm System fire buckets, fire extinguishers, fire pumps, fire proof enclosures etc. ➢ Storage of raw water in underground fire water tanks has been provided for hospital building.	Architect and Contractor
Stakeholder Engagement	Lack of prior intimation of the demolition and construction activities may lead to health hazards caused by probable air, water and noise pollution. Community health and safety concerns	Prior intimation to the public about the time and the duration of particular construction works which causes inconveniences to the community residing nearby. • Stakeholder consultation for ➢ Responding to the queries of community regarding, proposed DH, construction activity etc. ➢ Making community aware that all safety measures in terms of air pollution, noise pollution,	Contractor, Joint Director, DH & Project In-charge

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
		water pollution, community health and safety will be undertaken in the construction phase.	
Gender based violence's, SEA/SH	• Risks of SEA/SH to community members, particularly women and children by contractors' workers during construction period • About 75 percent of the contract workers are anticipated to be men, and women's participation is around 25 percent. The women labor force may face GBV/SEA/SH because of their numerical inferiority at the workplace • Risks of workplace sexual harassment at project site (consultants and contractors' staff & laborers).	➢ Codes of conduct will be prepared in languages easy to understand, preferably in local language and adopted by Contractor as well as all the workers under Contractor of the project. Annexure XIV ➢ Any GBV/SEA/SH complaints to be taken care by Local Committee_notified under POSH Act by District Commissioner to receive complains on SEA/SH from establishments where Internal Committee has not been constituted. ➢ Duties of Contractor who employs the labours are to : o Provide a safe secure working environment for workers like provision of lighting around project sites, including around latrines and access routes, separate	Contractor, Joint Director, DH & Project In-charge

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
		and lockable toilets for female construction workers etc. o Display (a) warnings which say "Respect the dignity of women" alike at conspicuous positions in site premises , (b) project site is an area where GBV/SEA/SH is prohibited (c) order constituting the Local Committee (LC) o Organize regular trainings on (a) CoC and (b) prevention of GBV/SEA/SH to all workers, including contractors, subcontractors, core suppliers, and relevant consultants and clients (c) sensitization on Local Committee (LC) o Ensuring all employees should attend regular training programs on the prevention of SEA/SH in the workplace, including training for new	

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
		workers/employees o Treat Sexual harassment as misconduct and initiate action for such misconduct. o Facilitating complainants by providing linkages with One Stop Centres of the district, orienting on Women Helpline Number 181 etc.	
Grievances of workers as well as community	**Grievances of workers** • The workers at the construction site may have grievances due to non-receipt of basic facilities, PPE related, non- Receipt of dues, workplace discrimination, excessive workload etc. • Potential conflict between migrant workforce and local may take place **Grievances of Community** • Tree felling for site clearance. • Inconveniences caused to community by construction activities like dust, water source contamination, noise, water logging, etc. • Community health and safety concerns Community residing nearby site or passers-by may have grievances related to non-disclosure of project information, tree felling	❖ **GRM at proposed DH Site (Manual):** • Submission of grievances by workers and community o Installation of Drop Boxes with proper signage's at workers camp and entry gate so that it is visible to workers and community to drop grievances in person at site. o Display of contact number and e-mail dedicated for GRM at workers camp and entry gate for submission of grievances by workers and community. • Designation of manpower to	Contractor, Joint Director, DH & Project In-charge

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
		register grievances at site • Developing of proper formats to capture all the relevant details of complainant for registering grievances of Labors and Community received at the site physically. • Developing a Grievance Redressal Protocol to address the grievances physically received at site (till the time the online platform is operationalized) • Sensitization of workers on the existing physical GRM mechanism at site. ❖ **<u>GRM Portal (Online)</u>** • An online GRM Portal to be developed for grievance online submission and Redressal of the grievances of the workers and community. The grievances received through drop boxes, email, online entry, mobile phone will be registered on the online portal and the Redressal will be done	

Key Area/ Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
		following a protocol developed for the purpose. The stakeholder departments will have the credentials to redress and escalate the grievances. The complainant will be communicated receipt and final Redressal of the grievances with SMSs. • Grievance Redressal Mechanism is detailed at Annexure XV.	

Table 7.1(iii): Environmental and Social Risks/Impacts assessment and Mitigation Measures during Operation Phase

Key Area/Activities	Potential E&S Risks and Impacts	Proposed Mitigation Measures	Responsibilities
Consent to Operate, Authorization under BMW Rules 2016, Land ownership documents, Fire NOC	Non availability of the necessary consents, authorization or permits can result in closure of the facility by concerned authority.	➢ Ensure availability of consent to establish and consent to operate under Water Act 1974 and Air Act 1981, Authorization under BMW Rules 2016/2018 from PCBA, other necessary clearances, Licenses and permits	Contractor, Hospital Authority, Dibrugarh DH & Project In-charge
Flora and Fauna	Deforestation and loss of vegetation cover (if happened post construction phase)	➢ Development of thick green belt with local and indigenous species in consultation of forest department ➢ To maintain the aesthetic beauty of the site.	Contractor, Hospital Authority, Dibrugarh DH & Project In-charge
Ground Water	➢ Ground Water Contamination ➢ Ground Water Depletion	➢ Dual plumping system is proposed in the project. ➢ Waste water will be treated in a STP and reused during operational phase.	Hospital Authority, Dibrugarh DH & Project In-charge

		➢ Use of Water Efficient fixtures like flow regulators & dual flushing cisterns	
Surface Water	Surface water contamination	➢ It will be ensured that surface water runoff will be disposed through proper drainage channel to minimize the contamination risk. ➢ Regular maintenance of rain water harvesting system	Hospital Authority, Dibrugarh DH & Project In-charge
Ambient Air Quality	Emissions from vehicular movement and operation of DG sets	➢ Water sprinkling will be carried out to reduce emission ➢ Regular monitoring of emissions and control measures will be taken to reduce the emission levels. ➢ Use of low sulfur diesel. ➢ Acoustic enclosures ➢ Green belt development	Hospital Authority, Dibrugarh DH & Project In-charge
Noise and visual impacts	➢ Environmental noise can cause Hearing impairment, hypertension, and ischemic heart disease (IHD), annoyance and sleep disturbances. Noise exposure may also cause birth defects	➢ DG sets will be provided with acoustic enclosures and will be placed in a room to reduce noise level. ➢ Proper traffic management & circulation. ➢ Honking will be prohibited in the premises. ➢ All vehicles will carry PUC. ➢ Regular ambient noise monitoring and work site noise monitoring	Hospital Authority, Dibrugarh DH & Project In-charge
Waste Management	Solid Waste generation	➢ Garbage chute system and color coded bins at source for segregation of domestic waste and biomedical waste respectively. ➢ Organic Waste Compost Machine for 100 Kg/Day Waste per Day will be installed.	Hospital Authority, Dibrugarh DH & Project In-charge

BMW Management	Infections and Toxicity due to improper handling of bio-medical wastes	➢ The authorization for handling of BMW will be obtained from Assam State Pollution Control Board. ➢ Separate temporary storage area shall be provided inside the premises of DH for temporary storage of color-coded biomedical waste bags/containers and disposal to take place within 48 hrs. ➢ Presently, the proposed site is a vacant land with a few old structures. Therefore, no present mode of disposal. In operation phase, for safe disposal of Biomedical waste, agreement with CBWTF at Lekai in Dibrugarh for disposal of BMW, 8.5 km from the site will be made before starting operation of District Hospital. ➢ Formation of BMW Management Committee as per BMW Rules. ➢ Details about biomedical medical waste are given in **Waste management plan** which is attached as **Annexure IX.**	Hospital Authority, Dibrugarh DH & Project In-charge
Water Management	Poor sanitation, drainage problem which results in water running over roads and water logging.	➢ Re-establish the drainage pattern to the extent practicable. ➢ Provision of dual plumbing system/ two pipe (stack) system and use of zero liquid discharge technology. ➢ The rain water to be diverted using rain water pipes to the drainage network.	Hospital Authority, Dibrugarh DH & Project In-charge
Transportation and Vehicle Movement	Increase in volume of traffic	➢ Proper Traffic Management & circulation with adequate lighting and signage system.	Hospital Authority, Dibrugarh DH & Project

		➢ Provision of adequate parking spaces as per Norms. ➢ Trained and qualified drivers/operators. ➢ Separate routes for the movement of machineries and vehicles away from the patients/visitor's route. ➢ Regular checks and inspections for the ambulances and other vehicles.	In-charge
Occupational Health and Safety	➢ Health, Hygiene and Safety of employs	➢ Provision of PPE to healthcare workers ➢ Provision of PPE to BMW handling staff ➢ Regular immunization of the staff and waste handlers ➢ Regular Health checkup ➢ Provide training on health and safety to all the employs. ➢ Provide medical insurance coverage for employs. ➢ Emergency Readiness Plan to be displayed at a prominent site ➢ Training to employs on emergency readiness ➢ Occupational Health and Safety Plan is attached as **Annexure XIV.**	Hospital Authority, Dibrugarh DH & Project In-charge
Gender based violence's, SEA/SH	➢ There may be issues of GBV, SEA/SH of women patients and attendants as well as the women employees & staff at the new Hospital.	➢ GBV/SEA/SH complaints of staff as well as community to be taken care by Internal Committee notified under POSH Act by the Hospital ➢ Duties of Head of the Hospital are to : o Provide (a) a safe secure working environment like provision of 24x7 security	Hospital Authority, Dibrugarh DH & Project In-charge

		service manned by both male and female security guards, (b) lighting around the hospital, including around latrines and access routes, (c) separate and lockable toilets for female staff and patients (d) proper signage's of male and female toilets and wards o display (a) warnings which say "Respect the dignity of women" alike at conspicuous positions in hospital premises , (b) Hospital is an area where GBV/SEA/SH is prohibited (c) order constituting the Internal Committee (IC) o organize regular trainings on (a) prevention of GBV/SEA/SH to all staff including all male and females (c) sensitization on Internal Committee (IC) o ensuring all employees should attend regular training programs on the prevention of SEA/SH in the workplace, including training for new staff/employees o treat Sexual harassment as misconduct and initiate action for such misconduct. ➢ Facilitating complainants by providing linkages with One Stop Centers of the district, orienting on Women Helpline Number 181. etc.	
Grievance Redressal of community/ patients and employees	➢ The community people/ patients may have grievances of not receiving or delay in treatment,	• Installation of Drop Boxes with proper signage's at multiple sites of the Hospital so that it is visible to community to drop	Hospital Authority, Dibrugarh DH & Project In-charge

	lack of doctors /nurses, insurance, facilities at hospital, lack of medicines etc. ➢ And employees may have grievances of not having basic and proper facilities at hospital, hectic schedules etc.	grievances. • Display of contact number and e-mail dedicated for GRM at specific sites. • Developing a Grievance Redressal Protocol to address the grievances received at Hospital • Designation of manpower to register the grievances at Hospital • The online GRM Portal will facilitate submission of grievance of Patients and Hospital Staff and Redressal of the same. The grievances received through drop boxes, email, online entry, mobile phone will be registered in the online portal and the Redressal to be done will follow a protocol where stakeholder departments will have the credentials to redress and escalate the grievances. The complainant will be communicated receipt and final Redressal of the grievances with SMSs.	

CHAPTER-8
ANALYSIS OF ALTERNATIVES (TECHNOLOGY & SITE)

CHAPTER 8- ANALYSIS OF ALTERNATIVES

8.1 Introduction

This chapter includes the assessment of various options may be available for different components of the project in terms of environmental sustainability. Consideration of alternative technologies to be used in building material, energy conservation, and transportation methods are addressed in this chapter. The various applicable options are thus evaluated for their suitability or availability to project site and local environment.

8.2 Building Material

Only IS approved building materials will be used for the construction. Construction material will be selected based on their thermal characteristics and the U and R values. The additional considerations are as under.

- The major materials required for construction of the project are steel, cement, bricks, metal, stones, electrical fittings, water, etc.
- All the items used in the project are as per the national building code specification.
- The basic materials used for the construction of the proposed project are cement, steel, bricks, stones, ready mix concrete, sand, plywood, hard wood, aluminum, glass etc.

The following measures is proposed to for conserving the energy

- Low energy embodied materials will be preferred.
- Energy efficient construction materials such as Autoclaved Aerated Concrete Blocks (AAC Blocks) will be used. Apart from energy efficiency, AAC Blocks are durable and a high-strength building material that has excellent insulation properties and is resistant to fire and moisture.
- Ready Mix Concrete will be used for construction of RCC structures.
- Minimizing overall waste and the transport of waste from site.
- Provision for Solar powered street lighting for common areas is planned.
- LED's, CFL bulbs, lights, and fixtures for most of the common area,
- Use of energy efficient lighting.
- All the items used in the project will be as per the National Building Code-2016 and ECBC.

8.2.1 Use of Recycled Material

Recycled materials will be used in filling of roads as well as for pavers. Also, materials with low embodied energy used in construction which will significantly result in energy savings. The total savings in terms of roads and paving may be up-to 20%. Whole Bricks received from segregation of C&D Waste will be kept separately for use. Recyclable waste construction materials will be sold to authorized recyclers and recycled into aggregates which are converted to Ready Mix Concrete (RMC), pavement blocks, kerb stones and concrete bricks. Recycled coarse aggregate will be used in construction of roads within the site.

8.2.2 Walls

8.2.2.1 Conventional Material

Redbrick for peripheral walls and AAC blocks for internal walls are used for construction. Bricks are laid in courses and numerous patterns known as bonds, collectively known as brickwork, and laid in various kinds of cement mortar to hold the bricks together to make a durable structure. Cement mortar becomes hard when it cures, resulting in a rigid aggregate structure.

8.2.2.2 Alternatives

• **Structural Insulated Panels-** Structural Insulated Panels are modular wall sections made from foam sandwiched between two pieces of Oriented Strand Board. They're incredibly strong and energy efficient, as the foam inside the Oriented Strand Board acts not only as the web to provide strength but also as insulation.

• **Brick and block** products with waste and recycled contents (waste from coal burning plants), blast furnace slag, sewage sludge, waste wood fiber, rice husk ash, etc.

• **Concrete blocks using lime or waste wood fiber** provide reduction of waste and saves energy.

8.2.3 Roofs Conventional Material

Roofing is RCC, as it is suitable for longer spans. The constituents of RCC, i.e., cement, sand, aggregate and steel all are energy intensive materials and high-embodied energy content.

Alternatives

• **Pre-cast/aerated cellular concrete walling blocks and roofing slabs-** These are manufactured by the aerated cellular concrete manufacturing process. When used in multistoried structures, they reduce the weight, resulting in a more economical design.

• **Roofing sheets-** Corrugated roofing sheets for their reliable utility and enhanced strength, Polycarbonate roofing sheets for their insulation properties and high strength quotient and Metal roofing sheets for their high insulating capabilities can be used.

8.2.4 Roads & Open Spaces

Use of grass pavers along the roadside, parking and pedestrian areas is a solution to reduce the heat island effect. Recycled materials are being used for construction of road purpose as well as for pavers and will be followed for expansion purpose if locally available.

• **Permeable paving**-Permeable (porous) paving will be provided to control surface water runoff by allowing storm water to infiltrate the soil and return to the ground water. The traffic areas will however continue to be impermeable

Gravel/crusher fines: Loose aggregate materials from masonry wastes will be used to cover pedestrian surfaces.

• **Drainage System**: Drainage system is placed under gravels for collection of rainwater and will be collected to the sump.

8.3 Natural Hazards Prone Areas

The project falls under zone V (as per IS 1893 (Part-I):2002), as per the Seismic Zone Map of India and Assam. Zone 5 covers the areas with the highest risk of suffering earthquakes of intensity MSK IX or more significantly. Adequate measures will be adopted during operation phase of the project by project proponent. All applicable guidelines will also be followed in this regard to ensure safety of the building.

8.4 Alternatives of Location

The State Government of Assam has allotted the required land to the project proponent for development of 200 Bedded Hospital; hence no other alternative of the location was explored.

8.5 Energy Efficiency & Renewable Energy

To promote energy conservation, it is proposed to provide the buildings with low energy consuming fixtures maximize availability of natural light and make plans in conformance to the sun's path. In

the operational phase, appropriate energy conservation measures and management plan will be adopted to minimize the consumptions of non-renewable fuel. The following measures are suggested to be adopted.

- All Buildings are spaced in such a way that sunlight, natural ventilation is not disturbed due to each other.
- Buildings will be designed to have least exposed surface of glass.
- Energy efficient compact fluorescent lamps to be used as these CFL gives same illumination with less wattage compared to GLS Lamps.
- Power factor of the complete electrical system will be maintained close to unity. This will reduce electrical power distribution losses in the installation.
- Occupancy Sensor based light system to be used for rooms which detect movement within a room and automatically turn lights on or off as needed.

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CHAPTER-9
RECOMMENDATIONS AND CONCLUSIONS

CHAPTER 9- RECOMMENDATIONS AND CONCLUSIONS

9.1 Recommendations

The following are recommendations applicable to the project to ensure no significant impacts:

- Obtain all statutory clearances at the earliest time possible (CTE, Environment Clearance and Tree cutting permission at first) and ensure conditions/provisions are incorporated in the detailed design
- Asbestos is not a part of debris disposal site as the proposed site is a vacant land. Hence there will not be generation of asbestos at the site.
- Include this ESIA in contract documents
- Commitment from contractors to protect the environment and the people from any impact during project implementation
- Update/revise this ESIA based on detailed design and/or if there are unanticipated impacts, change in scope, alignment, or location
- Conduct safeguards induction to the contractor before start of construction works.
- Contractor to submit site specific Contractors Environment and Social Management Plan (C-ESMP) with final designs.
- Ensure contractor to appoint qualified environment, health and safety (EHS) officer prior to start of works
- Timely disclosure of information and establishment of Grievance Redressal Management (GRM)
- Effective implementation of GRM
- Strictly supervise EMP implementation
- Continuous consultations with stakeholders and grievance redress; if any
- Documentation and reporting on a regular basis as indicated in the ESMF.

9.2 Conclusions

The ESIA-ESMP described in this document has detailed about the environmental and social impacts of the proposed construction of 200 bedded District Hospital under ASSIST at Dibrugarh, Assam. All potential impacts have been identified in relation to pre-construction, construction, and operation phases and a mitigation plan along with its monitoring schedule has also been incorporated in the ESIA-ESMP. Planning principles and design considerations have been reviewed and incorporated into the site planning and design process wherever possible as per DPR.

During the construction phase, environmental and social impacts mainly arise from the construction dust; handling and storage of building materials; movement and noise of construction machineries and vehicles in an area surrounded by local residents, schools, Civil Hospital, fire station, district jail and passersby of the adjacent roads.

The public participation (stakeholder consultation) was undertaken during project design ensured stakeholders are engaged during the preparation of the ESMP. The views and suggestions were taken into account in preparing the ESIA-ESMP. This will make the proposed project a success in providing essential and affordable health care services.

The Environmental and Social Management Plan (ESMP) proposed in the project includes mitigation measures for identified impacts, training and capacity building activities, an environment monitoring

plan to ensure that the environmental standards are maintained throughout the project construction period and a reporting plan to ensure that the project is implemented as per environmentally sound engineering and construction practices. Social Impact Assessment also considered Gender Based Violence, Gender equality, equal wages, minimum wages (as per Government Norms), workers facilities etc. The budgetary provisions for mitigating the anticipated impacts were proposed for effective implementation of the ESMP.

The ESMP will assist the implementing agency, Architect and Contractor in mitigating the environmental and social impacts, and guide them in the environmentally sound execution of the proposed project. The ESMP will also ensure efficient lines of communication between AHIDMS, Implementing agency, architect and contractor. A copy of the ESIA-ESMP will be kept on-site during the construction period at all times. The ESIA-ESMP will make all sub-contractors operating on the site accountable, and will be included in the contractual clauses. Noncompliance with, or any deviation from, the conditions set out in this document shall constitute a failure in compliance.

The project will benefit the general public including local community, patients and health care workers with the initiation of the new District Hospital at Dibrugarh. The potential adverse environmental and social impacts are mainly related to the construction period and operational period, which can be minimized by the mitigation measures and environmentally sound engineering and safe construction practices.

This report presents a comprehensive environmental and social impact assessment for the proposed project. The study proposed measures for mitigating the adverse impacts while enhancing the positive ones during the phases of construction, operation & maintenance. The proposed construction works of District Hospital will bring a series of benefits to the local people such as:

- Improved Health status;
- Employment Generation during construction and operational period;
- Increased Economic Opportunity after operation of facility starts (in terms of Diagnostics, chemist and other supporting services);
- Women Empowerment;
- Providing basic infrastructure, road connectivity, clean air through thick landscaping around site.
- Overall Quality of life increases

Based on the ESIA findings, it has been found that there are no significant adverse impacts of proposed project. The report's objectives are in line with World Bank Safeguard Policies and Governmental (India and Assam) regulatory requirements.

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LIST OF ANNEXURES

ANNEXURE-I

Construction and Demolition Waste

ANNEXURE-I
Construction and Demolition Waste

1.0 Introduction

As per the Construction and Demolition (C&D) Waste Rules 2016, "any waste comprising of building materials, debris and rubble resulting from construction, remodeling, repair and demolition of any civil structure" is classified as C&D waste.

Improper management of C&D waste impacts environment in the following ways:

• C&D waste is routinely dumped in open drains and water channels, clogging them and leading to urban flooding during rains.

• Dumping of C&D waste in wetlands, water channels and riverbeds disrupts the hydrology and destroys the aquatic ecosystem.

• Leachate and fine chemical particles from C&D waste degrade the soil, leading to land and groundwater pollution. Especially hazardous components include paints, oil and asbestos sheets.

• C&D waste is filling up existing landfills and dump-yards, resulting in the need for more landfills or alternative dumpsites.

• C&D waste usually gets mixed up with other municipal solid waste during the process of transfer or at the collection site. Once mixed, it makes composting and/or recycling of MSW highly difficult.

• C&D waste includes hazardous substances such as sharps, broken glass, boulders, broken wooden logs, rusted metal, broken ceramics, etc., which create a hazardous environment when dumped on unfenced open places.

• C&D waste dumped on streets and footpaths blocks traffic and pedestrians, frequently contributing to traffic congestion and even accidents.

• C&D waste is one of the primary sources of fugitive dust pollution.

2.0 C&D Waste Management Rules, 2016

The Ministry of Environment, Forest and Climate Change (MoEFCC) notified the Construction and Demolition Management Rules in 2016.

Key highlights of the C&D Waste Management Rules, 2016:

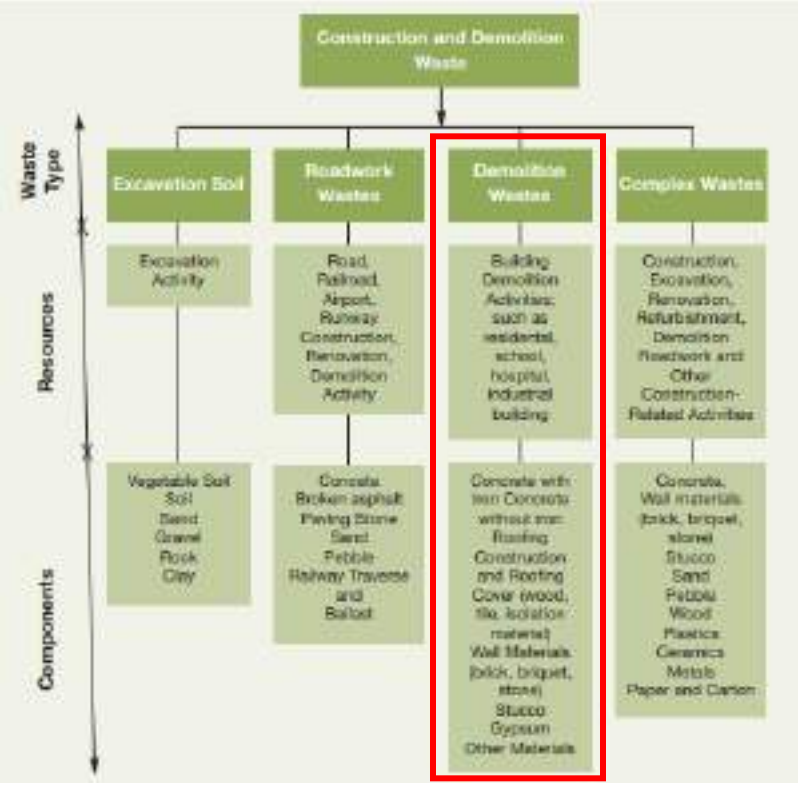
• The Rules mandate use of recycled products in construction. Local bodies will have to utilize 10–20 per cent of material from C&D waste in municipal and government contracts for construction.

• The tipping fee for delivery of C&D waste to the recycling plant, and terms and conditions of civic body with the concessionaire may be designed to keep the price of C&D waste recycled products about 20 per cent lower than the corresponding conventional products.

• All large developers are accountable for collection and disposal of C&D waste

• Local authorities to give appropriate incentives to waste generators for salvaging, processing, and recycling, preferably in situ.

• Recycling facilities will have to be created at a safe distance from habitation with adequate buffer zone.
• Local authorities to establish a database and update it once in a year.
• All renovation projects involving demolition, even in the private sector, may be mandated to use at least 20 per cent of recycled C&D waste products.



3.0 Details regarding the Proposed Project

Presently, the proposed site is a vacant land with a few old structures. It is located at a close proximity to Dibrugarh State Dispensary & Urban Health Centre which is catering the medical needs of the local people.
The Proposed Location of the 200 bedded District Hospital is in Dibrugarh, Assam. The land is available for the new construction activities.

4.0 Details regarding the Existing Structures in Proposed Project

The proposed project involves demolition of brick wall of few existing temporary house which are vacant and very old in existence, thus it does not requires any displacement of people. Site photographs of the existing structures is given below-

Figure 1. Site photographs of the existing structures

Lifting of Construction & Demolition Waste from Storage bins would be manual or mechanical through JCB, Loader and dumper. Following proposals regarding Construction and Demolition waste generated at the project site would be made-

- Whole Bricks received from segregation of C&D Waste will be kept separately for internal use.
- Recyclable waste construction materials will be sold to authorized recyclers and recycled into aggregates which are converted to Ready Mix Concrete (RMC), pavement blocks, kerb stones and concrete bricks.
- Recycled coarse aggregate will be used in construction of roads within the site.
- Wood will be chipped to make particle boards, pallets or to create mulch for the protection and improvement of soil.
- Unusable and excess Construction and Demolition debris will be disposed at designated places in tune with the local and national norms. No asbestos generation at site.
- C&D Waste mitigation measures shall be displayed prominently at the construction site for easy public viewing.

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ANNEXURE-II

List of Facilities -Proposed
(200 Beds District Hospital)

ANNEXURE II
List of Facilities -Proposed (200 Beds District Hospital)

1. Ground Floor

Emergency Care Unit

- Emergency Entrance Lobby, Emergency Help Desk/ Reception
- Police Post
- Triage Room with 10 No. Yellow zone beds, 4 No. Paediatrics beds,5 Red Zone beds 2 Isolation beds, Toilet, Nurse's station, CU & DU, Medical Equipment Room. Toilet, Nurse's station, Cu & DU.
- Plaster and Plaster Cutting room, Ultrasound room, Point of care.
- Examination/treatment room, Doctor's room, CCMO room with attached toilet, Medico-Legal room attached to CCMO Room
- 3 Number Pre/Post OP beds, Nurse's room with attached toilet, Change rooms.
- Change rooms.
- Emergency OT Lobby, Patient Holding Area, Emergency TSSU, OT Pharmacy, Sterile store, Dirty Utility
- 1 No. Emergency Operation theatre
- AHU Room

Outpatient Department

- OPD & MCH Entrance Lobby (Double Height)
- OPD & MCH Registration (6 Counters)
- Pharmacy with 4 counters and Pharmacy store
- General Public toilet, Lift Lobby and Staircase
- ***Radiology*** with CT Scan room, 1 X-ray, ECG, Mobile X-ray, Dark room Printing, Dental Room, USG with colour doppler, Reporting Room and Radiology Waiting Area
- ***OPD consultation rooms:*** Medicine (2 rooms), Dermatology, ENT, Family medicine, Orthopaedics, Plaster room, Procedure room.
- ***Support Services (Dietary):*** Receiving & Sorting area, gas bank, Pot wash, Dish wash, Store with cold storage, Kitchen, Cafeteria.
- ***Support Services (Laundry):*** Laundry with Laundry manager.
- Solid Waste disposal and Hazardous waste disposal with collection system is planned on the ground floor.

2. FIRST FLOOR

Outpatient Department

- OPD Waiting Area with Lift Lobby, public toilets, staircase

- ***OPD consultation rooms:*** Dental, Surgery, PAC, ENT, Dermatology, Ophthalmology, Counselling room, OPD Nutrition, NCD, Pediatrics, Immunization/Cold chain, Physiotherapy, Family Medicine, Wellness Clinic, Physical medicine & Rehab, teleconsultation room, specialized OPDs, Psychiatry, Dental Lab.
- ***Laboratory:*** Waiting Area, Registration counters, Phlebotomy rooms (4 Numbers), Doctor's
- Lounges, Staff rooms, Point of care.
- Lobby with toilets, Cytology & Biochemistry, Hematology & biochemistry lab, donning & doffing area, washing and sterilization, culture/ Media prep lab, bacteriology lab with TB lab, molecular diagnostics/ virology labs, mycobacteriology lab, cold room, store.

Administrative unit

- Waiting area, Medical Superintendent room with attached toilet, Nursing-in-charge room, Hospital manager room, programme Office Area with supervisors' cabins, meeting hall.

3. SECOND FLOOR

Mother & Child Hospital

- MCH Triage 2 beds, examination room, Doctor's room with toilet, change rooms, Delivery complex reception and Lobby, MW Room, change rooms, MW LDR Complex-5 Nos with NBCC and toilet, Isolation LDR with NBCC and toilet, Minor OT, AHU Room.
- **Obstetrics Critical Care unit:** Air lock, patient changing area, Change room, Obstetrics HDU- 6 Nos., Obstetrics ICU-2 beds, Isolation Room-2 numbers, CU room, Linen room, Toilet, Critical Equipment room, Nurse-in-charge, Therapeutic diet prep.
- **Mother's & newborn Ward:** 30 bedded mothers & new born ward, Nurse's Lounge, Duty doctor with toilet, Nurse's Station, patient toilet.
- **SNCU & NICU:** Triage + Radiant warmer Area, Doctor's Lounge with toilet, dirty Linen & Sluice room, pantry, out born (07 beds), In born (07 beds), 04 beds ventilator NICU, Isolation-2 Nos., Nurses station, feeding room, Point of care, NICU store, dirty linen and sluice room, AHU Room.
- **Comprehensive Lactation Management Centre:** Passage with Storage space, Lab, Milk processing room, change rooms, Waiting area, group counselling room, shower cubicles, CU & DU, milk collection room, autoclave.
- **Hospital Stores**

4. THIRD FLOOR

- Main entrance lobby with lifts, staircase, Ramp, waiting area
- OPD Consultation rooms: Obstetrics & Gynaecology, Ultrasound room, patient waiting area.
- **District Early Intervention Centre:** Dental examination room, store, hearing assessment room with soundproof room, vision assessment room, early interventional occupational therapy, sensory integration room, anthropometry, nourishing nutrition room, examination room, play area, stores, ECG, Lab, Lang, Psych.

- **NRC ward complex:** 18 beds ward complex, Nurse's station, Procedure room, CU & DU, Pantry, Duty doctor, Pantry, Store, Toilets.
- **General ward (Female):** 24 beds ward complex, Isolation room with change, Nurse's station, CU & DU, Pantry, Duty doctor, Pantry, Store, Toilets.
- **ANC ward complex:** 24 beds ward complex, Isolation room with change, Nurse's station, CU & DU, Pantry, Procedure room, Staff Lounge, Duty doctor, Pantry, Store, Toilets.
- **PNC ward complex:** 24 beds ward complex, Isolation room with change, Nurse's station, CU & DU, Pantry, Procedure room, Nurse Lounge, Duty doctor, Pantry, Store, Toilets.

5. FOURTH FLOOR

- Waiting area with public toilet, ramp, lift lobby and staircase.
- **Prison ward:** 06 beds ward, Security room, treatment room, Nurse's Station, Duty doctor, Nurse's Duty room, CU & DU, Toilets.
- **Burn unit:** 04 beds ward, 2 beds Isolation, treatment room, Nurse's Station, Duty doctor, CU & DU, Toilet complex.
- **Dialysis Complex:** Change rooms with toilets, Dialysis ward with 5 beds and nurses' station,
- Isolation room, Wash Area, RO Room, toilets.
- **Day care ward:** 8 beds day care ward with nurses' station and toilets.
- **General ward (Male):** 24 beds ward complex, Isolation room with change, Nurse's station, CU & DU, Pantry, Duty doctor, Pantry, Store, Toilets.
- **HDU Ward:** HDU Waiting, Counselling room, Patient change, Change room with toilet, Pediatrics HDU beds-2 Nos. with 1 bed ICU, general HDU beds-5 Nos., 2 No. isolation bed, duty doctor with attached toilet, support staff room, centrally placed nurses' station, Critical Equipment room, AHU & UPS rooms.

6. FIFTH FLOOR

- Waiting area with public toilet, ramp, lift lobby and staircase.
- **Blood bank:** Reception with waiting area, Testing & Counselling, Donor's room, refreshment area, laboratory, Doctor's room, Sterilization cum washing area, components separation room, blood storage room.
- **OT Complex:** Change rooms (Doctor's, nurse's and staff change), Trolley exchange area, 4 No. preoperative and 4 number post Operative ward, Nurse's station, Toilet, Doctor's room, Nurse's room, Airlock, Sterile corridor, patient Holding area, Scrub Area, sterile store, Modular Operation Theatre-3 Nos., TSSU, Ahu rooms, Dirty Corridor.
- **Private Rooms:** 22 rooms with attached toilet, almirah and attendant's sleeping couch. Doctor's Lounge, Nurse's Lounge, Pantry. Nurse's

7. SIXTH FLOOR

- Waiting area with public toilet, ramp, lift lobby and staircase.
- **Private Rooms:** 18 rooms with attached toilet, almirah and attendant's sleeping couch.

- Doctor's Lounge, Nurse's Lounge, Pantry. Nurse's station, Treatment room, CU & DU, toilets.
- Doctor's Dormitory with attached toilet and Library.
- **Skills Lab:** Reception and waiting area, Skills Lab/Seminar Hall, Cabin (IP), Cabin (ANC), staff room, cabin (FP), Cabin (PNC/CM), Labor room, store.
- **Training Hall, Storeroom, AHU rooms**

8. BASEMENT FLOOR

- **Mortuary:** Waiting and reception, Body viewing area, Store, Body cold storage area, Change rooms, Postmortem room, Embalming room, Instrument room, X-ray room, Supervisor room, Toilets.
- 82 Number Four-Wheeler Parking.
- 48 Number Two-Wheeler Parking.
- BMW storage room

List of Additional Facilities

- Provision of ramps, Handicap Washroom, Common public space and reserve parking space for Handicap
- Selection of local & indigenous plant species for greenbelt development
- Provision of Dual plumbing, Rain Water Harvesting and use of solar energy
- Adequate parking provision for smooth traffic movement
- Solid waste management through on site Organic Waste Convertor
- Waste water treatment through on-site STP and ETP

** Services such as UGT, Gas manifold, STP and ETP (Liquid waste treatment of O.T/Blood Bank) are located on the ground floor in a separate block.

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ANNEXURE-III

Area Statement of the proposed project

ANNEXURE III
Area Statement of The Proposed Project

	Main District Hospital (B+G.F.+6)	Gas Manifold (G.F.)	ESS Block (G.F.)
Floor Height	**4.05**	**3.60**	**5.10**
Basement Floor	4875.00		
Ground floor	4025.80	150.60	250.00
First floor	3576.70		
Second floor	3518.10		
Third floor	3518.10		
Fourth floor	3518.10		
Fifth Floor	3518.10		
Sixth Floor	2294.50		
Total	**28844.40**	**150.60**	**250.00**
Grand Total	**29245.00**		
Total Beds	**200**	**Beds**	
Total Campus area	13500.00	Sqm	
Less total ground coverage	-4426.40	Sqm	
Actual Development Area	9073.60	Sqm	
Total Boundary wall length	475.00	Meter	
Floor to Floor Height (in meter)	4.05	3.60	5.10
Plinth Height (in meter)	0.60	0.60	0.60
Lifts	02 Nos (26 Pax Bed Lift)		
	02 Nos. Service Lift		

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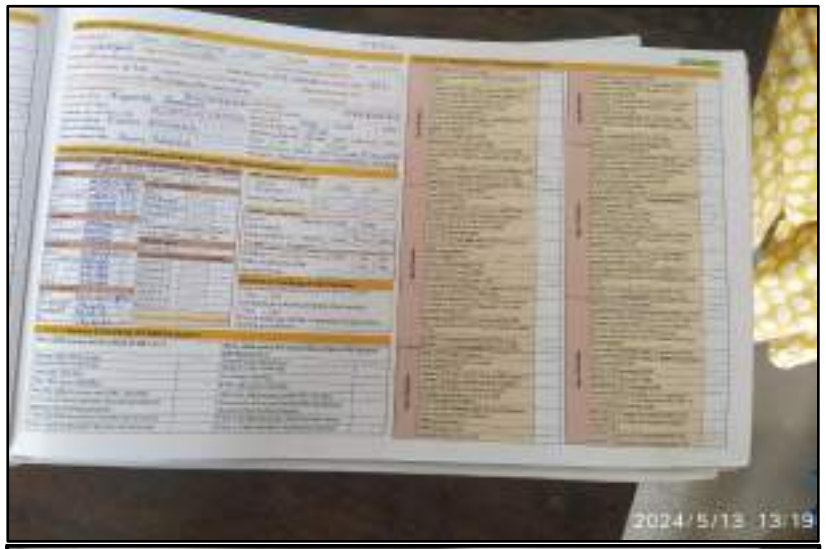
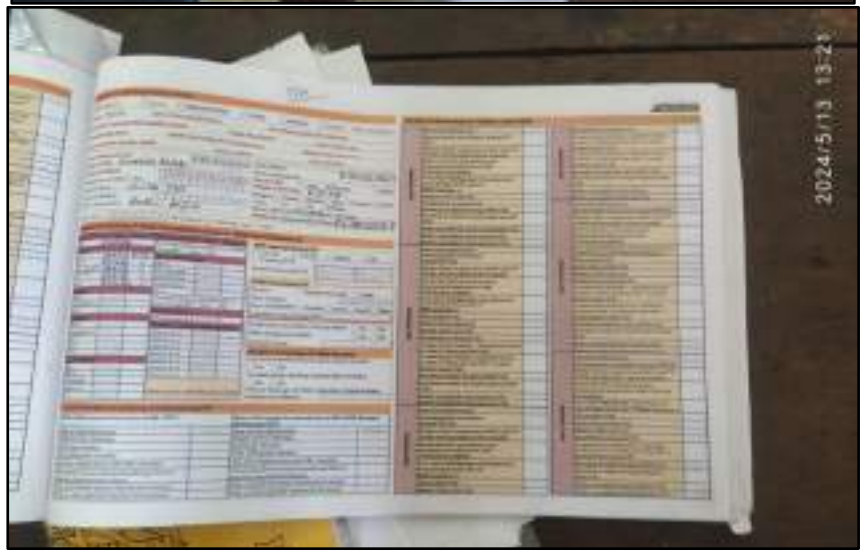
ANNEXURE-IV

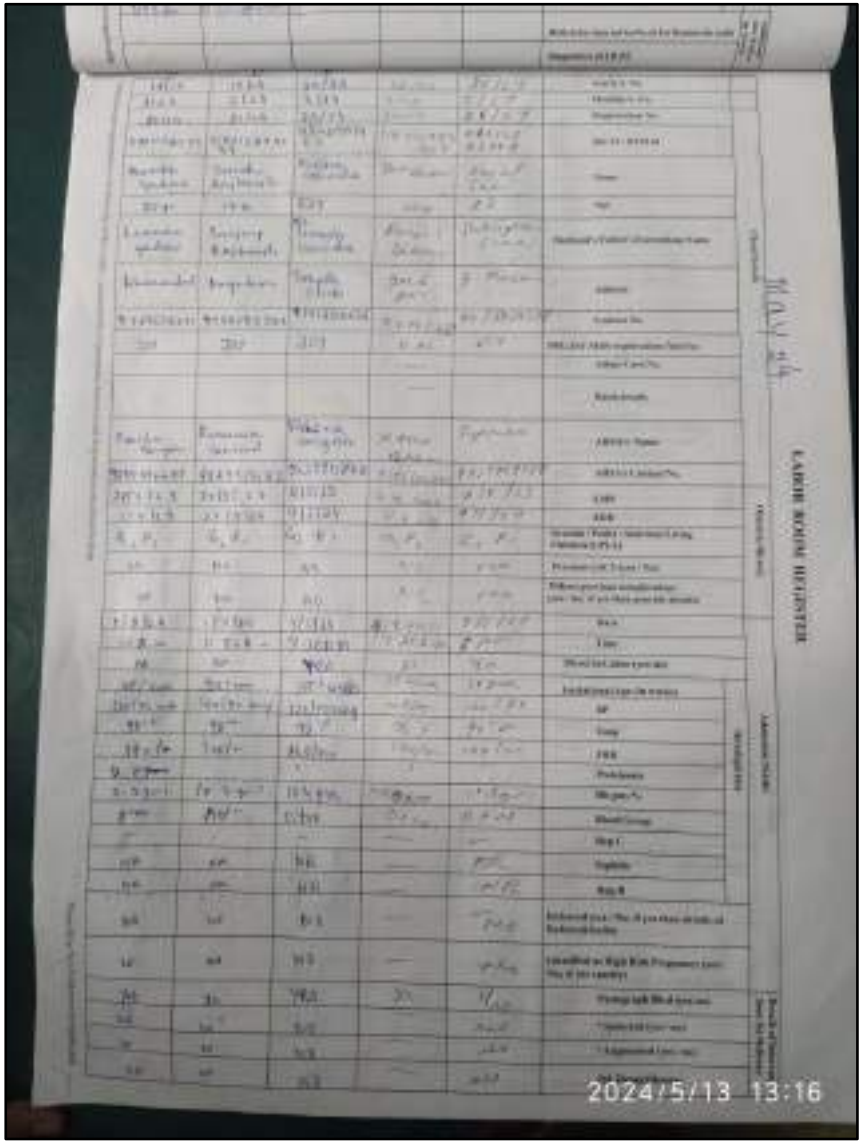
Extracts of Patient inflow data received from the hospital

ANNEXURE IV

Extracts of Patient Inflow Data Received from The Hospital



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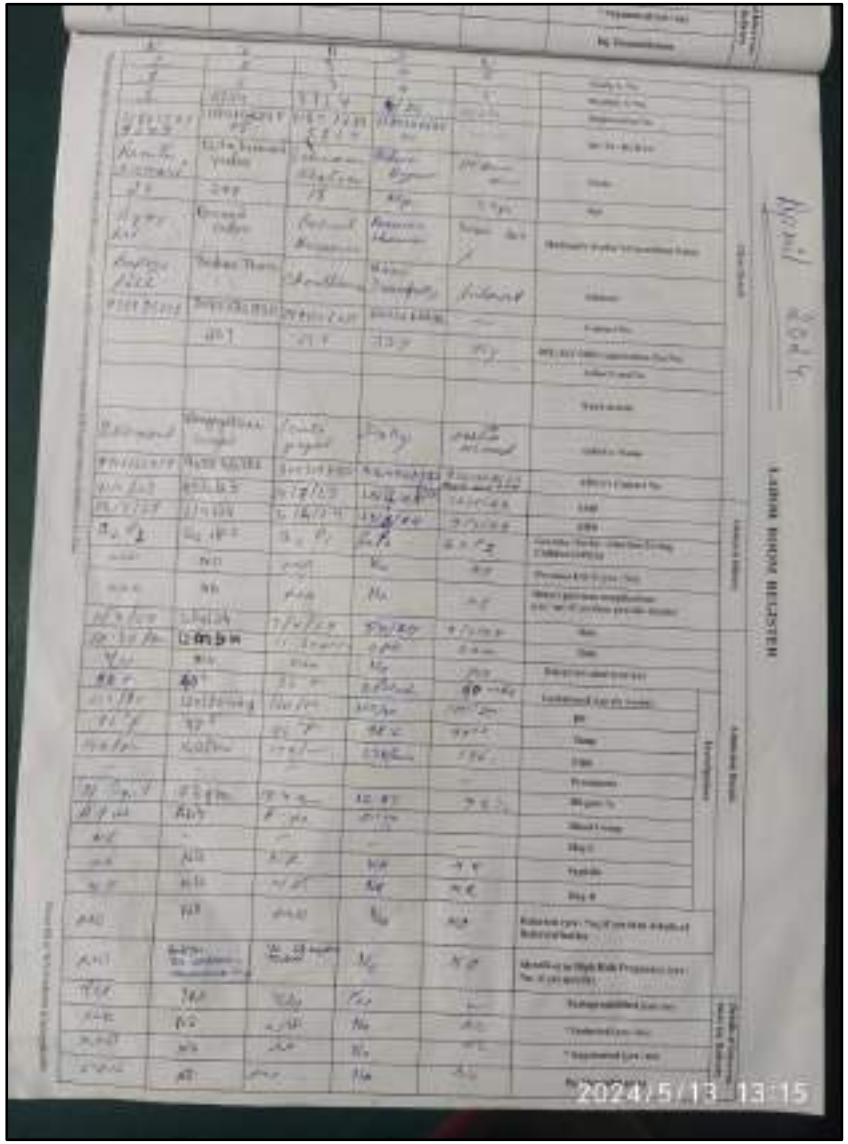
2024/5/13 13:16


EARTH WORK REGISTER
2024/5/13 13:15

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ANNEXURE-V

List of Flora and Fauna found in the region

ANNEXURE V
List of Flora and Fauna found in the region

1. List of Flora found in the region

S. No.	Scientific Name	Local Name
	TREES	
1	*Acacia auriculiformis*	Akash moni
2	*Acacia catechu*	Khair
3	*Acacia nilotica*	Babul
4	*Adina cordifolia*	Karam
5	*Aeglemarmelos*	Bel
6	*Albizzialebbek*	Siris
7	*Albizziaodoratissima*	Jung siris
8	*Albizziaprocera*	Safed siris
9	*Anogeissuslatifolia*	-
10	*Areca catechu*	Supari
11	*Artocarpus Hitrophyllum*	Kathal
12	*Azadirachta indica*	Neem
13	*Bauhinia variegata*	Kachnar
14	*Bischofia javanica*	Uraim
15	*Bombax ceiba*	Semal
16	*Boswellia serrata*	Salia
17	*Buchnania lanzan*	Piar
18	*Butea monosperma*	Palas
19	*Cassia fistula*	Dharanj/Amaltash
20	*Cocus nucifera*	Nariyal
21	*Cordia dichotma*	Bahuar
22	*Dalbergia sissoo*	Sheesham
23	*Delonix regia*	Gulmohar
24	*Eugenia jambolana*	Jamun
25	*Ficus bengalensis*	Bar
26	*Ficus elastica*	Ruber
27	*Ficus religiosa*	Pipal
28	*Gmelina arborea*	Gamhar
29	*Holoptelea integrifolia*	Chilbil
30	*Kydia calycina Roxb.*	Puda
31	*Lager stoemiaparviflora*	Sida/Dauli
32	*Mangifera indica.*	Aam
33	*Phoenix sylvestric*	Khajur
34	*Pongamia pinnata*	Kranj
35	*Pterocarpus marsupium*	Piasal
36	*Schima wallichii*	Ghugra
37	*Shorea robusta*	Sal/ Sakhua

38	*Stereospermum prsonatum*	Paruli
39	*Tectona grandis*	Saguan
40	*Terminalia arjuna*	Arjun
41	*Terminalia bellirica*	Bahera
42	*Terminalia tomentosa*	Asan
43	*Toona ciliate*	Pooma
44	*Zizyphus mauritiana*	Ber
SHRUBS		
1	*Asparagus racemosus*	Satawar
2	*Agave americana*	Rambas
3	*Calotropisgigantea*	Akaon
4	*Carissa carandas*	Kanwar
5	*Cannabis sativa*	Bhang
6	*Casiaalata*	-
7	*Catharanthusroseus*	-
8	*Datura metal*	Dhatura
9	*Dichrosta chyscinerea*	-
10	*Cyperusrotundus*	-
11	*Flacourtia Ramontchi*	Salpani
12	*Indigo ferapulchela*	Jirhul
13	*Ipomoea carnea*	-
14	*Lantana camara*	Putus
15	*Phoenix acaulis*	Khejur
16	*Randia dumetorum*	Mowar
17	*Thespesia lampas*	Ban kapasi
18	*Vitex negundo*	Sindwar
19	*Bougainvillea spectabilis*	Voganvila
20	*Zizyphus oenoplia*	-
21	*Ricinus communis*	Arandi
22	*Rosa rubiginosa*	Rosa
HERBS		
1	*Achyranthe saspera*	Chirchiri
2	*Aervalanata*	-
3	*Ageratum conyzoides*	-
4	*Alternantherasessilis*	-
5	*Boerhaviadiffusa*	-
6	*Cassia tora*	Chakor
7	*Elephantopusscaber*	-
8	*Euphorbia hirta*	-
9	*Hygrophilaspinosa*	-
10	*Justiciaprocumbens.*	-
11	*Leonotisnepataiefolia*	-
12	*Mimosa pudica*	-
13	*Partheniumhisterophorus.*	-
14	*SidaacutaBurm.*	-

15	*Sidarhombifolia*	-
16	*Solanum nigrum*	Makoi
17	*Solanumsurattense*	-
18	*Sphaeranthusindicus*	-
19	*Tridaxprocumbens*	-
20	*Xanthium strumarium*	-
GRASSES AND CLIMBERS		
1	*Vetiveriazizanoides*	Khus-Khus
2	*Apludavaria*	Dudhiasauri
3	*Arundinellasetosa*	Jharu/Motaminjhar
4	*Bambusaarundinaceae*	Bara bans
5	*Cymbopogon martini*	-
6	*Cynodondactylon*	Dhoob
7	*Dendrocalamusstricus*	Bans/Bamboo
8	*Eulaliopsisbinata*	-
9	*Heteropogoncontortus*	Kher/Sauri
10	*Imperata cylindrical*	-
11	*Saccharummunja*	Munj
12	*Mukiamaderaspatana*	Bilari
13	*Abrusprecatorius*	Karjani
14	*Acacia pinnata*	Arar
15	*Buteaparviflora*	Cihut

2. List of Fauna found in the region

S. No.	Scientific Name	Local Name/Common Name
MAMMALS		
1	*Funambulus pennant*	Gilahri
2	*Bandicota bangalonsis*	Chuha
3	*Herpestes edwardsi*	Nevala
4	*Presliptis entellus*	Langur
5	*Macaca mulatto*	Bandar
6	*Cynopterus sphinx*	Chamgadad
7	*Rhizomyspruinosu*	Bamboo Rat
8	*Canis lupus familiaris*	Dog
9	*Ovis Aries*	Sheep
10	Bostaurus	Cow
AMPHIBIANS AND REPTILES		
1	*Rana tigrina*	Frog
2	*Najanaja*	Binocellate cobra
3	*Bungaru scoeruleus*	Common Krait
4	*Ptyasmucosus*	Rat snake
5	*Calotes versicolor*	Forest Lizard
6	*Hoplobatrachustigerinus*	Indian bull frog
7	*Viperarussellis*	Russell's Viper

8	*Chameleon zegylanicus*	Indian chameleon
AVIFAUNA		
1	*Corvussplendens*	House Crow
2	*Dicrurus macrocerus*	Black Drongo
3	*Passer domesticus*	Sparrow
4	*Streptopeliachinensis*	Spotted Dove
5	*Centropussinensis*	Greater Coucal
6	*Acridotherestristis*	Common Myna
7	*Saxicoloidesfulicata*	Indian Robin
8	*Bubulcus ibis*	Cattle Egret
9	*Venetlus indicus*	Lapwing
10	*Anasplatyrhyncos*	Duck

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ANNEXURE-VI

Demographic Structure of the Study Area

ANNEXURE VI

Demographic Structure of The Study Area

(a) Demographic Structure of the Study Area

S. No.	Name	No_HH	TOT_P	TOT_M	TOT_F	Sex Ratio	P_06	M_06	F_06	Sex Ratio
1	Nagakhalia Gaon	89	423	217	206	949	50	27	23	852
2	Chring Gaon	325	1380	695	685	986	99	53	46	868
3	Boiragimoth Kachari Gaon	817	3665	1875	1790	955	361	191	170	890
4	Behia Chetia Gaon	196	955	499	456	914	109	63	46	730
5	Japara Gaon	406	1967	980	987	1007	242	125	117	936
6	Saguni Bari Gaon	433	2133	1072	1061	990	253	124	129	1040
7	Barbari 12/141 Orr	278	1366	688	678	985	225	100	125	1250
8	Nogaghuli 16/177 Orr	218	1137	576	561	974	161	75	86	1147
9	Dibrugarh (MB + OG) (Part)	31552	144063	74607	69456	931	13261	6853	6408	935
10	Dibrugarh (MB)	30525	139565	72384	67181	928	12811	6624	6187	934
11	Barbari (Amc Area) (CT)	626	2884	1458	1426	978	316	143	173	1210
Total		**65465**	**299538**	**155051**	**144487**	**932**	**27888**	**14378**	**13510**	**940**

(b) Demographic Structure of the Study Area

S. No.	Name	P_SC	M_SC	F_SC	P_ST	M_ST	F_ST	P_LIT	M_LIT	F_LIT	P_ILL	M_ILL	F_ILL
1	Nagakhalia Gaon	140	76	64	7	4	3	359	185	174	64	32	32
2	Chring Gaon	38	21	17	302	144	158	1167	593	574	213	102	111
3	Boiragimoth Kachari Gaon	82	45	37	413	213	200	3057	1596	1461	608	279	329
4	Behia Chetia Gaon	294	157	137	1	1	0	744	402	342	211	97	114
5	Japara Gaon	31	16	15	12	6	6	1586	807	779	381	173	208
6	Saguni Bari Gaon	55	27	28	42	23	19	1262	711	551	871	361	510
7	Barbari 12/141 Orr	590	307	283	4	3	1	676	414	262	690	274	416
8	Nogaghuli 16/177 Orr	0	0	0	0	0	0	487	312	175	650	264	386
9	Dibrugarh (MB + OG) (Part)	12732	6542	6190	4191	2043	2148	117122	62465	54657	26941	12142	14799

10	Dibrugarh (MB)	11983	6169	5814	4089	1989	2100	113345	60555	52790	26220	11829	14391
11	Barbari (Amc Area) (CT)	292	145	147	126	66	60	2168	1181	987	716	277	439
Total		**26237**	**13505**	**12732**	**9187**	**4492**	**4695**	**241973**	**129221**	**112752**	**57565**	**25830**	**31735**

(Source: As per Census Data, 2011)

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ANNEXURE-VII

Occupational Pattern of the Study Area

ANNEXURE VII

Occupational Pattern of the Study Area

(a): Occupational Pattern of the Study Area

S. No.	Particulars	Number of workers in the study area				
		Total	Male	Male %	Female	Female %
1	Total Workers	113753	91310	80.27	22443	19.73
2	Non-Workers	185785	63741	34.31	122044	65.69
3	Main Workers	97674	81364	83.30	16310	16.70
4	Marginal Workers	16079	9946	61.86	6133	38.14

(b): Occupation Structure of Each Village in the Study Area

S. No.	Name	Total Workers			Main workers			Marginal Workers			Non-Workers		
		Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
1	Nagakhalia Gaon	246	127	119	96	79	17	150	48	102	177	90	87
2	Chring Gaon	514	373	141	427	326	101	87	47	40	866	322	544
3	Boiragimoth Kachari Gaon	1366	1017	349	1128	842	286	238	175	63	2299	858	1441
4	Behia Chetia Gaon	309	262	47	240	219	21	69	43	26	646	237	409
5	Japara Gaon	629	559	70	534	484	50	95	75	20	1338	421	917
6	Saguni Bari Gaon	888	592	296	557	424	133	331	168	163	1245	480	765
7	Barbari 12/141 Orr	722	396	326	621	340	281	101	56	45	644	292	352
8	Nogaghuli 16/177 Orr	541	303	238	326	193	133	215	110	105	596	273	323
9	Dibrugarh (MB + OG) (Part)	54536	44091	10445	47071	39433	7638	7465	4658	2807	89527	30516	59011
10	Dibrugarh (MB)	52986	42884	10102	45684	38331	7353	7302	4553	2749	86579	29500	57079
11	Barbari (Amc Area) (CT)	1016	706	310	990	693	297	26	13	13	1868	752	1116
Total		**113753**	**91310**	**22443**	**97674**	**81364**	**16310**	**16079**	**9946**	**6133**	**185785**	**63741**	**122044**

(Source: Census Data, 2011)

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ANNEXURE-VIII

Stakeholder Consutation-Attendence sheeet & NOCs

Stakeholder Consultation Meeting (**attendance sheet**)
Proposed District Hospital Dibrugarh, Assam [Date: 13.05.2024]

S.No	Name of Person	Designation	Signature
1	Dr. Rajib Kr Bora	Jt. DHS	
2.	Dr Krishna Borah	Addl CM&HO F.W. Dib	
3.	Dr SAIKAT PATRA	MAYOR	13/5/24
4	Dr utpala Baruah	MO (AYUR)	
5	Dr Shahnusha Alam	MOHO-I	13/05/24
6	Basanta Bordoloi	ABPM, Dib HD	13/5/24
7	Mineral Kanek	Pharmacist	13/5/24
8	Rupali Phukon	A.N.M	13/5/24
9	Dipti Rekha Sonowal	ASHA	Dipti 13/5/24
10	Saina Bhumij	ASHA	S. Bhumij 13/5/24

Stakeholder Consultation Meeting (**attendance sheet**)
Proposed District Hospital Dibrugarh, Assam [Date: 13.05.2024]

S.No	Name of Person	Designation	Signature
11	Parbin Bagwar	Local	Parbin
12.	Rubi Bhemiy	~~Rubi~~ Local.	Rubi
13.	[illegible]	Local.	[illegible]
14.	Rudreswar Saraood	Local; Dibrugarh.	[illegible]
15.	Pallavi Domerah.	Laboratory Technician.	[illegible]
16.	Vishnu Bhumal	Asst. DVHC	[illegible]
17.	Gaurav Jatav	GEL, Delhi	[illegible]
18.	Amrit Sharma	GEL, Delhi	[illegible]

STOCKHOLDER CONSULTANT FORM

Name of the project: Proposed District Hospital, Dibrugarh, Assam

Location of the project: Dibrugarh, Assam

Date of Meeting: 13.05.2024

S. No	Stakeholders	Represented by	Roles/ responsibility	Social Impact and tasks	Commitment checklist	Commitments/remarks	Environmental impact and Tasks	Commitment checklist	Commitments/remarks
4	Local body DMC	Dr SAIKAT CATRO	During Pre and post construction phase	Supervision	Tax collection Solid waste collection Disposal of C & D waste	Given in annexure I			

Mayor
DIBRUGARH MUNICIPAL CORPORATION
DIBRUGARH

STOCKHOLDER CONSULTANT FORM

Name of the project: Proposed District Hospital, Dibrugarh, Assam

Location of the project: Dibrugarh, Assam

Date of Meeting: 13.05.2024.

S. No	Stakeholders	Represented by	Roles/ responsibility	Social Impact and tasks	Commitment checklist	Commitments/remarks	Environmental impact and Tasks	Commitment checklist	Commitments/remarks
3	Locality within 100 m from the hospital building	Parbin Begum Rika Rubi Bhemoj Rubi	During Pre and post construction phase	1. Easy accessibility and affordability of the medical facility 2. Employment generation	1. Hospital at doorstep 2. Opening of hospital supportive activities 3. Preference will be given to locals for employment 3. Sourcing of local, organic and sustainable grown food	OK. agreed OK. agreed	1. Greenbelt development 2. Clean environment 3. Disposal of waste	1.local & indigenous plant species 2. Energy Conservation 3. Waste reduction 4. Deploy electricity vehicle for hospital use	ok. agreed ok. agreed

Annex 1.

Dr. Saikat Patra

Mayor,
Dibrugarh Municipal Corporation
Dibrugarh

Residence :
Santipara, Dibrugarh
Mobile : 9435030377

Ref. No. .....

Date 13/5/24

Suggestion for proposed 200 bedded Civil Hospital at Dibrugarh

① Plinth area to be raised substantially to avoid artificial water logging during rainy season.

② Car Parking problem → one vacant space is there (just opposite to proposed new OPD site) which can be used to park the ambulance & casualty patients.

③ Existing Civil Hospital already caters to a huge number of patients and many Govt Officers are stationed nearby. There will create Traffic problem also when the new one come up

④ As a physician I can say the doctors in Dibrugarh to attend more patients

13/5/24

Mayor
DIBRUGARH MUNICIPAL CORPORATION
DIBRUGARH

ANNEXURE-IX

Waste Management Plan

ANNEXURE IX
Waste Management Plan
(During construction and post construction phase)

1.0 SOLID WASTE GENERATION

Solid waste will be generated both during construction and post construction phase.

2.0 WASTE GENERATION DURING CONSTRUCTION PHASE

The expected to be generated during the construction phase will comprise of excavated materials, used bags, bricks, concrete, MS rods, tiles, wood etc. The following steps are proposed to be taken for proper management of solid waste:

- Construction yards are proposed for storage of construction materials.
- The excavated materials such as topsoil and stones will be stacked in a safe place for reuse during later stages of construction.
- Excavated top soil will be stored in temporary constructed soil bank and will be reused for landscaping**.**
- Remaining soil will be utilized for refilling, road construction and rising of site level at various locations or selling to outside agency for their use.

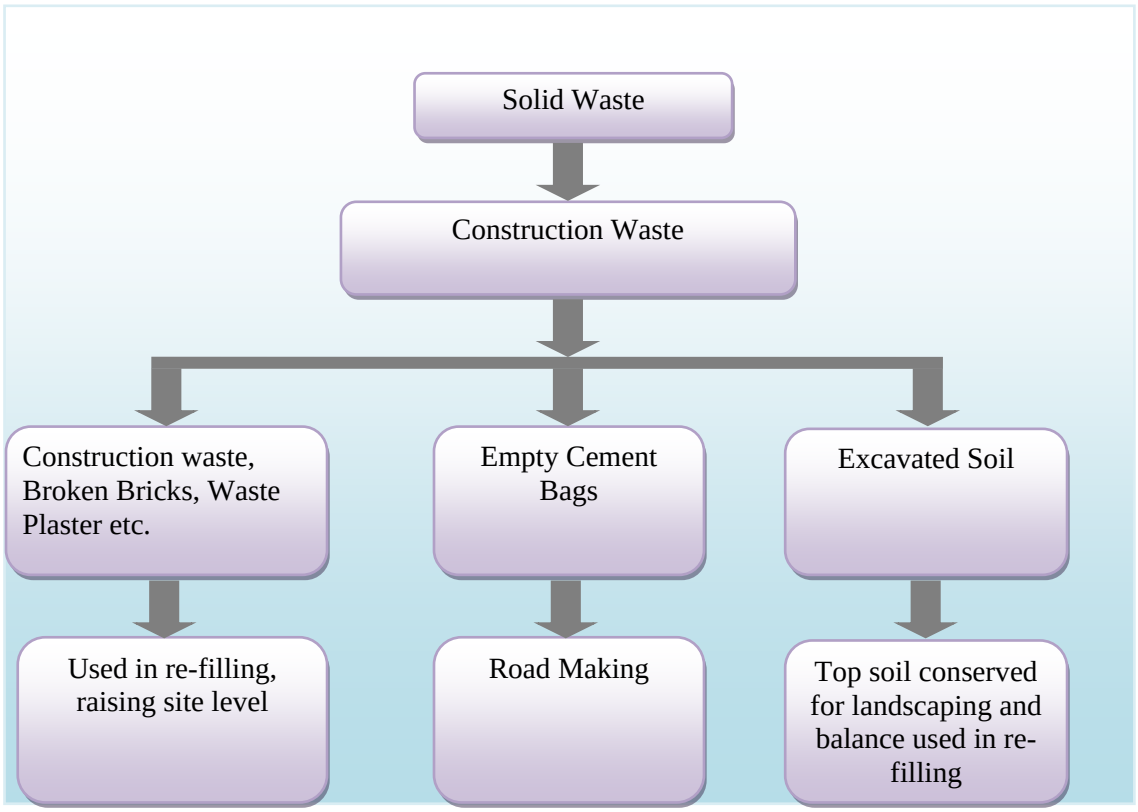

Figure 1: Solid Waste Management Scheme (Construction Phase)

2.1 TYPES OF CONSTRUCTION WASTE

Based on the type of material, construction waste can be classified into the following types:

Concrete, Bricks, Tiles and Ceramics

Concrete, Bricks Tiles & Ceramics and Concrete, bricks, tiles and ceramics in mixtures, containing no hazardous substances (Non-Hazardous Waste)

Concrete, Bricks, Tiles & Ceramics (alone or in mixtures containing hazardous substances) – Hazardous Waste

Wood, Glass & Plastic

Untreated Wood, Waste, Uncontaminated Glass, Plastic (Excluding Packaging Plastic):
Non-Hazardous Waste

Treated Wood (Alone or in Mixtures Containing Hazardous Substances), Treated Glass (Alone or in Mixtures Containing Hazardous Substances) and Treated Plastic (Alone or in Mixtures Containing Hazardous Substances) – Hazardous Waste

Metallic Waste (Includes Electrical Wires and Cable)

Copper, Brass, Bronze, Lead, Iron, Steel, Tin, Mixed Metals- Non Hazardous

Metals Containing Hazardous Substances, Cables containing Oil & Cables containing Coal Tar – Hazardous Waste

Soil, Contaminated Soil, Stones & Dredging Spoil

Soil containing hazardous substances, Stones containing hazardous substances and Dredging Spoil containing hazardous substances – Hazardous Waste

Other Soil and Other Stones and Other Dredging Spoil – Non-Hazardous Waste

Gypsum

Gypsum Materials – Non-Hazardous Waste

Other Gypsum Materials containing hazardous substances- Hazardous Waste

Insulation, Fiber Glass & Asbestos

Insulation Containing Asbestos (if any), Fiberglass, FRP and Other Construction Materials – Hazardous Waste

Other Insulation Containing Hazardous Substances and Other Insulation Materials – Non Hazardous Waste.

** Disposal is planned through handing over such waste to HW-recycler registered with State Pollution Control Board, Assam.

Cement

Unused Cement and Unset Cement – Hazardous Waste

Paints & Varnishes

Paint Cans Paint Remover Varnish Remover Organic Solvents and Other Hazardous Substances.

** Disposal is planned through handing over such waste to HW-recycler registered with State Pollution Control Board, Assam.

Adhesives & Sealants

Adhesive Containers and Sealant Containers – Hazardous Waste

** Disposal is planned through handing over such waste to HW-recycler registered with State Pollution Control Board, Assam.

3.0 WASTE GENERATION IN OPERATION PHASE

3.1 Type of Waste

- Bio-Degradable waste
- Non-Bio-Degradable waste

3.2 Collection and Segregation

1. The local vendors will be hired to provide separate-colored bins for dry recyclables and Bio-Degradable waste.
2. For waste collection, adequate number of colored bins (Green, Blue and dark grey bins separately for Bio-degradable and Non Bio-degradable) are proposed to be provided at strategic locations of the area.
3. Litter bins will also be provided in open areas like parks etc.

3.3 Treatment of waste

- **Bio-Degradable wastes**

1. Bio-degradable waste will be subjected to Organic Waste Converter and 20% of the subjected waste will be used as manure.
2. STP sludge is proposed to be used for horticultural purposes as manure.
3. Horticultural Waste is proposed to be composted and will be used for gardening purposes.

- **Recyclable wastes**

i. The cropped grasses will be spread on the green area. It will act as manure after decomposition. Recyclable wastes like paper, plastic, metals etc. will be sold to recyclers.

3.4 Disposal of Recyclable and Non-Recyclable Wastes

Recyclable and non-recyclable wastes will be disposed through Govt. approved agency. Hence, the Municipal Solid Waste Management will be conducted as per the guidelines of Municipal Solid Wastes (Management and Handling) Rules, 2000. A Solid waste management Scheme is depicted in the following figure for the proposed Project.

❖ **The Hazardous waste Management**

The Hazardous waste will be managed/ disposed according to ***Hazardous and Other Wastes (Management and Tran boundary Movement) Rules, 2016.***

For the management of hazardous and other wastes, an occupier shall follow the following steps, namely:-

(a) Prevention;

(b) Minimization;

(c) Reuse,

(d) Recycling;

(e) Recovery, utilization including co-processing;

(f) Safe disposal according to waste generation (category wise) as per rules in accordance with norms of State Pollution Control Board, Assam.

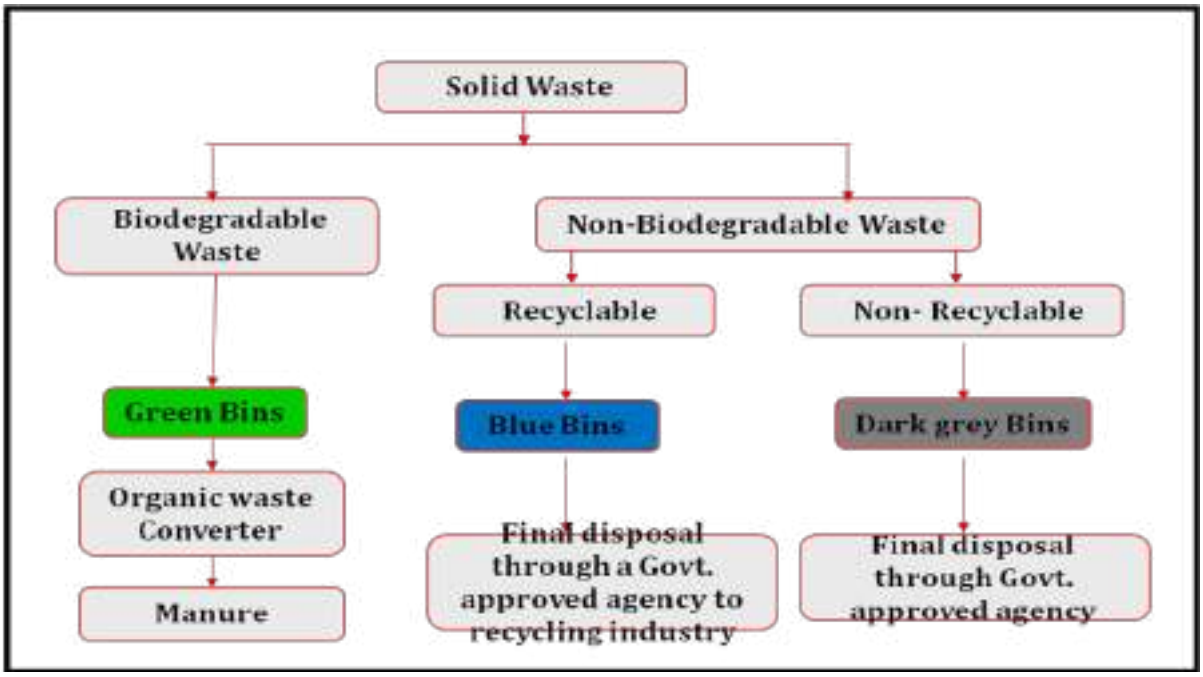

Figure 2: Solid Waste Management Scheme (Operational Phase)

4.0 Biomedical Waste Management

4.1 Introduction

Biomedical waste management (BMWM) Plan is a management tool for effective management of BMW and associated risks on health functionaries and communities. Biomedical waste management is an essential requirement for compliance to the Biomedical Waste Management Rules, 2016 and for managing environmental, occupational health and safety, community safety aspects and their impacts. This plan is being prepared for Dibrugarh New District Hospital (proposed).

4.2 Project specific waste generation details

For calculating biomedical waste generated from the proposed district hospital first we have to calculate solid waste, which is summarized as follows in below table:

Table 1: Calculation of Solid Waste Generation

S. No.	Category	Kg per capita per day	Waste generated (kg/day)
1	Patients	200 @ 1.5 kg/day	300.0
2	Staff	100 @ 0.25 kg / day	25.0
3	Visitor +OPD	2500 @ 0.025 kg /day	62.5
4.	Landscape waste (1350.0 m^2)	0.33 @ 0.2 kg/acres	0.066
Total Solid Waste Generated			**387.566 KG/Day or say 388 kg/day**

Total Waste generated per day: 388.0 kg/day

S. No	Waste	Quantity Kg/day	Percentage
1	Biomedical waste	75.0	**Estimated generation of total waste @1.5 kg/bed: 200* 1.5 = 150 kg/day Estimated generation of bio-medical waste @ 25% of the total waste generated: 75.0 **kg/day**
Rest remaining MSW 313 kg/day			
2	Bio degradable waste	156.50	50
3	Non-bio degradable	125.20	40
4	Recyclable waste	31.30	10

****Source**: CPHEEO Manual Ministry of Urban Development (MoUD), Government of India (May 2000) on municipal solid waste management 2000 under **Chapter VII-Biomedical waste (Page -34)**

1. Following arrangements will be made at the site in accordance to Municipal Solid Wastes (Management and Handling) Rules, 2000
2. Total Bio medical waste is 25% of total solid waste generated from hospital block i.e. **75 kg/day.**

Category	Type of Waste	Estimated Generated Quantity	
		%	kg/day
Yellow	(a) Human Anatomical Waste	75.0	56.25
	(b)Animal Anatomical Waste		
	(c) Soiled Waste		
	(d) Expired or Discarded Medicines		
	(e) Chemical Solid Waste		
	(f) Chemical Liquid Waste		
	(g) Discarded linen, mattresses, beddings contaminated with blood or body fluid.		
	(h) Microbiology, Biotechnology and other clinical laboratory waste		
Red	Contaminated Waste (Recyclable)	10.0	7.50
White (Translucent)	Waste sharps including Metals	8.0	6.0
Blue	Glassware	7.0	5.25
	Metallic Body Implants		
Total			**37.5**

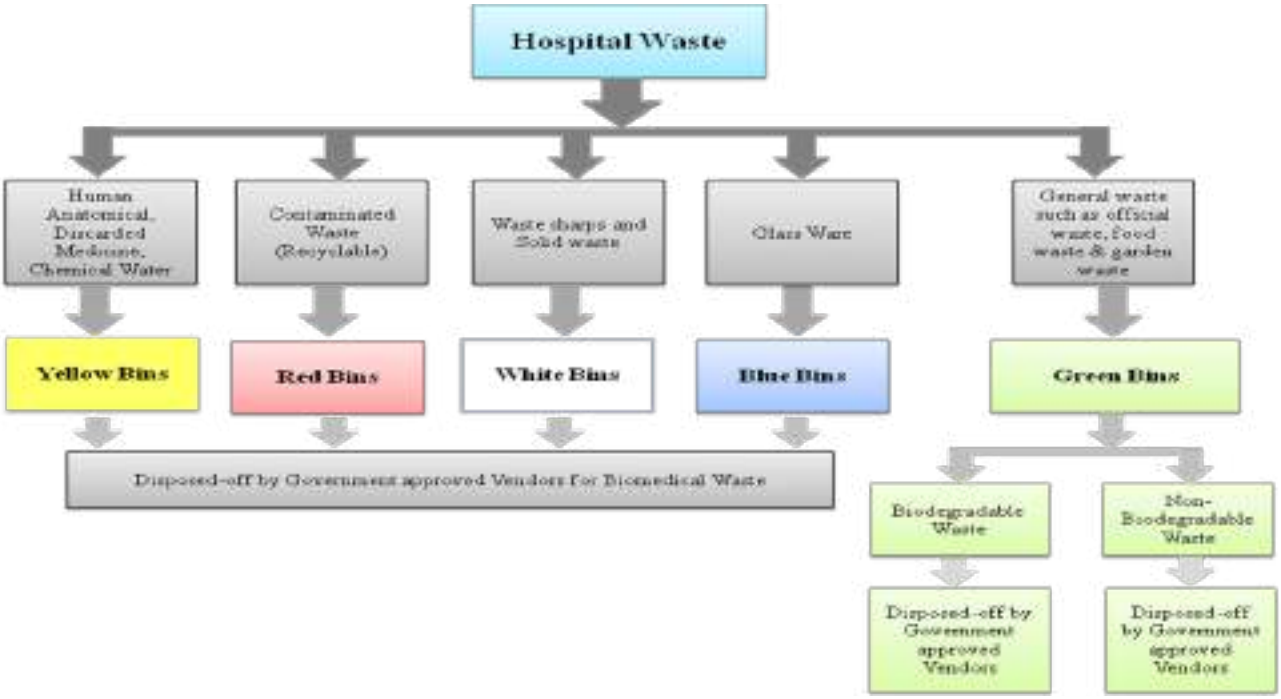

Figure 3: BMW Waste Management Scheme (Operation Phase)

4.3 Organization arrangement at Facility level for Biomedical waste Management and disposal

A Bio Medical Waste Management Committee will be formed in the proposed facility. The indicative composition of such committee is given below:

- SMO/ CMO/ MedicalSuperintendent (Chairperson)
- District Quality Consultant/ District BMW Officer (Invitee Members)
- Quality Manager
- Hospital Infection Control Nurse/ Officer
- Nursing in-charge
- Medical Officer (Surgery)
- Medical Officer (Emergency)
- Medical Officer (Gynae & Obs) Microbiologist/ Pathologist
- OT Nurse / Technician/ Assistant
- Lab Technician
- Blood Bank/Storage Unit Technician
- Housekeeping in-charge
- Pharmacist

✓ The Committee shall meet once in every six months and the record of the minutes of the meetings of this committee shall be submitted along with the annual report to the Pollution Control Board. The function of such committee is to ensure that bio-medical wastes shall be segregated at source, and disposed of safely, legally, and in compliance with all applicable regulations by the Assam Pollution Control Board.

- ✓ HCFs should submit the annual report
- ✓ To maintain all record for operation of incineration, hydro or autoclaving etc., for a period of five years;
- ✓ HCFs may have a dedicated budget forBMWM as a part of annual budget of the health care facilities. Such budget must include recurring and non- recurring costs expected to be incurred by HCFs, related to Bio Medical Waste Management

4.4 Training and capacity building

Based on the identified needs, training plan for awareness and training on BMW management covering district health facilities will takes place. The training sessions will be designed for specific groups of workers.

4.5 Implementation of waste management in health facilities

Waste management is the implementation plan covers details of options and mitigative measures to be implemented covering entire cycle of different types of BMW at facility level including special provisions for meeting requirements during outbreaks, including following according to BMW rules:

- Generation of waste
- Segregation
- Handling and storage within the facilities
- On-site treatment of wastes e.g., disinfection, microwaving, incineration, deep burials etc.
- Transportation to external facilities
- End treatment
- Final disposal
- Compliance status

Presently at Dibrugarh State Dispensary & Urban Health Center, Dibrugarh there is deep burial pit and sharp pit facility which exists at site for Yellow (a), (b) and (c) wastes namely human anatomical, animal anatomical and soiled Waste and sharps (white). This is being treated as per norms.

Effort will be made to make a tie up Fresh Air (CBMWTF), Lekai, for disposal of BMW. Necessary agreement and authorization for BMW will be taken from CBMWTF/ASPCB before the start of such activity

4.6 Treatment and Disposal of BMW as per rules as follows:

Type of Waste	Type of Bag or Container to be used	Treatment and Disposal options
Human or Animal anatomical waste	Yellow colored non-chlorinated plastic bags	Incineration or Plasma Pyrolysis or deep burial
Soiled Waste		Incineration or Plasma Pyrolysis or deep burial* In absence of above facilities, autoclaving or micro-waving/hydroclaving followed by shredding or mutilation or combination of sterilization and shredding. Treated waste to be sent for energy Recovery.
Expired or Discarded Medicines (Pharmaceutical waste like antibiotics, cytotoxic drugs including all items contaminated with cytotoxic drugs along with glass or plastic ampoules,	Yellow colored non-chlorinated plastic bags	Expired `cytotoxic drugs and items contaminated with cytotoxic drugs to be returned back to the manufacturer or supplier for incineration at temperature >1200 0C or to common bio-medical waste treatment facility or hazardous waste treatment, storage and disposal facility for incineration at >12000C

vials etc.)		Or Encapsulation or Plasma Pyrolysis at >12000C. All other discarded medicines shall be either sent back to manufacturer or disposed by incineration.
Chemical Waste (Chemicals used in production of biological and used or discarded disinfectants)	Yellow colored non-chlorinated plastic bags	Disposed of by incineration or Plasma Pyrolysis or Encapsulation in hazardous waste treatment, storage and disposal facility.
Chemical Liquid Waste : Liquid waste generated due to use of chemicals in production of biological and used or discarded disinfectants, Silver X-ray film developing liquid, discarded Formalin, infected secretions, aspirated body fluids, liquid from laboratories and floor washings, cleaning, house-keeping and disinfecting activities etc.	Separate collection system leading to effluent treatment system	After resource recovery, the chemical liquid waste shall be pre-treated before mixing with other wastewater. The combined discharge shall conform to the discharge norms given in Schedule III.
Discarded linen, mattresses, beddings contaminated with blood or body fluid, routine mask and gown	Non-chlorinated yellow plastic bags or suitable packing material	Non- chlorinated chemical disinfection followed by incineration or Plasma Pyrolysis or for energy recovery. In absence of above facilities, shredding or mutilation or combination of sterilization and shredding. Treated waste to be sent for energy recovery or incineration or Plasma Pyrolysis.

Microbiology, Biotechnology and other clinical laboratory waste (Blood bags, Laboratory cultures, stocks or specimens of micro-organisms, live or attenuated vaccines, human and animal cell cultures used in research, industrial laboratories, production of biological, residual toxins, dishes and devices used for cultures)	Autoclave or Microwave or Hydroclave safe plastic bags or containers	Pre-treat to sterilize with non-chlorinated chemicals on-site as per World Health Organization (WHO) guidelines on Safe management of wastes from health care activities and WHO Blue Book, 2014 and then sent for Incineration.
Contaminated Waste (Recyclable) (a) Wastes generated from disposable items such as tubing, bottles, intravenous tubes and sets, catheters, urine bags, syringes (without needles and fixed needle syringes and vaccutainers with their needles cut) and gloves.	Red coloured non-chlorinated plastic bags or containers	Autoclaving or micro-waving/ hydroclaving followed by shredding or mutilation or combination of sterilization and shredding. Treated waste to be sent to registered or authorized recyclers or for energy recovery or plastics to diesel or fuel oil or for road making, whichever is possible. Plastic waste should not be sent to landfill sites.
Waste sharps including Metals (Needles, syringes with fixed needles, needles from needle tip cutter or burner, scalpels, blades, or any other contaminated sharp object that may cause puncture and cuts. This includes both used, discarded and contaminated metal sharps)	Puncture proof, Leak proof, tamper proof containers	Autoclaving or Dry Heat Sterilization followed by shredding or mutilation or encapsulation in metal container or cement concrete; combination of shredding cum autoclaving; and sent for final disposal to iron foundries (having consent to operate from the State Pollution Control Boards or Pollution Control Committees) or sanitary landfill or designated concrete waste sharp pit.

Glassware: Broken or discarded and contaminated glass including medicine vials and ampoules except those contaminated with cytotoxic wastes.	Puncture proof and leak proof boxes or containers with blue colored marking	Disinfection (by soaking the washed glass waste after cleaning with detergent and Sodium Hypochlorite treatment) or through autoclaving or microwaving or hydroclaving and then sent for recycling.
Metallic Body Implants	Puncture proof and leak proof boxes or containers with blue colored marking	

4.7 Resources and tools for BMW management

Effective management of wastes such as sharps and infectious wastes cannot be achieved without provision of safety to waste handlers and proper equipment for storage and transportation of wastes. Therefore, necessary occupational safeguards will be taken into account for waste collection bags, trolleys, needle cutters, personal protective equipment, disinfectants etc.

4.8 Occupational health and safety provisions to be implemented at health facilities covering:

- Infection, prevention and Control (IPC) protocols for biological hazards, with special emphasis for high-risk infectious diseases agents for health sector workers e.g., MERS, SARSCov2, Ebola etc.
- Safe work practices for hazardous works e.g., handling sharps, cytotoxic drugs, radiation work, environmental sanitation, etc.
- Preventive immunization of health workers against Hepatitis B
- Availability of Post Exposure Prophylaxis against HIV infections.

4.9 Supervision of BMWM implementation by Nodal officer (qualified medical practitioner) / members of Waste Management Committee are required, covering following minimum aspects:

- Segregation of waste into appropriate bags and bins.
- Availability and use of needle cutters, waste collection and transportation materials etc.
- Availability and use of personal protective gears by waste handlers.
- Regular environmental cleaning e.g., cleaning of walls, surfaces and equipment etc by housekeeping staff.
- Regular transport of biomedical wastes from wards / clinics to central wastes storage area (if present) or to deep burial site / common treatment facility and quantities of wastes disposed.

4.10 Monitoring and evaluation mechanism

Monitoring and evaluation mechanisms with role and responsibilities and resources available for carrying out activities will be developed for the proposed project. The monitoring activities and organization will be aligned to the Quality Assurance activities for patient safety.

****

ANNEXURE-X

Traffic survey

Traffic Study

Vehicular Traffic Density

Traffic study was carried out as primary data to know the existing traffic density. Traffic survey forms are attached as **Annexure.**

Incremental pollution load as per IRC 64 has been calculated to estimate the level of services (LOS). Traffic study was conducted at the following survey point:

1. Assam trunk road
2. Jail Road

Then depending on the capacity of the road, the number of vehicles that will be added to the present scenario will be compared to the carrying capacity as recommended by Indian Road Congress (IRC). The existing volume of traffic and, the Level of Service are given below:

Traffic data was collected from the following points.

For Assam trunk road

1. Barbari To Bor Baruah- (2198- vehicle count)
2. Bor Baruah To Barbari – (2330-vehicle count)

The road is undivided 2 lane (Assam trunk road) with RoW = 15.5 Meters.
Survey hours: 8.00 am to 8.00 pm
Vehicle Count in PCU = 4463

1. Barbari To Bor Baruah- (2150.50 vehicle count)
2. Bor Baruah To Barbari – (2312.50-vehicle count)

Total accommodative capacity of the Assam trunk road, IRC: 64 – 1990 is 15,000 PCU.

Carrying capacity, Assam trunk road = Volume /Capacity = 4463/ 15,000 = 0.29 (LOS – B – Very Good)

Additional Traffic load added due to proposed project:

PCU of Cars: 155 PCU
PCU of Two wheelers: 24 PCU

Modified V/C Ratio Assam trunk road
= Existing PCU + Additional PCU load of project /15,000
=4463+179/15,000 = 0.30

Inference: New V/C ratio for Assam trunk road is 0.30 (LOS – B – Very Good)

Even if the entire load of project of 179 PCU (worst case scenario) is added upon, the level of service will have minimal impact and correspond to LOS – B – Very Good at Assam trunk road.




Traffic Survey Photographs

Traffic data was collected from the following points.

For Jail Road

1. Assam Trunk Road to KC Gogoi Path- (955- vehicle count)
2. KC Gogoi Path to Assam Trunk Road– (937-vehicle count)

The road is single lane (Jail Road) with RoW = 5.0 Meters.
Survey hours: 8.00 am to 8.00 pm
Vehicle Count in PCU = 1677.50

1. Assam Trunk Road to KC Gogoi Path- (858.50 vehicle count)
2. KC Gogoi Path to Assam Trunk Road– (819-vehicle count)

Total accommodative capacity of the Jail Road, IRC: 64 – 1990 is 9,000 PCU.

Carrying capacity, Jail Road = Volume /Capacity = 1677.50/ 9,000 = 0.18(LOS – A – Excellent)

Additional Traffic load added due to proposed project:

PCU of Cars: 155 PCU

PCU of Two wheelers: 24 PCU

Modified V/C Ratio Jail Road
= Existing PCU + Additional PCU load of project /15,000
=1677.50+179/15,000 = 0.20

Inference: New V/C ratio for Jail Road is 0.20 (LOS – B – Very Good)

Even if the entire load of project of 179 PCU (worst case scenario) is added upon, the level of service will have minimal impact and correspond to LOS – B – Very Good at Jail Road.

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ANNEXURE-XI

Dust mitigation plan

ANNEXURE-XI

DUST MITIGATION PLAN

Introduction: In the building Construction projects, dust mitigation is one of the primary concerns and which needs to be addressed properly to minimize its impacts. In the proposed project, dust mitigation measures have been proposed for different stages of the project. The proposed project is 200 bedded district hospital located at Dibrugarh, Assam. Presently, the proposed site is a vacant land with a few old structures. The Plot Area is 13,500 Sqm (10.00 Bighas).

Dust Mitigation measures proposed for the project is given below:

S. No	Project Stage	Dust generation Source	Mitigation Measures
1.	Pre-construction Stage	1. Demolition waste 2. Site Preparation 3. Vehicle Movement	1. Tarpaulin or green net should be there around the boundary of the construction site. 2. The vehicle carrying the demolition waste should be fully covered with tarpaulin sheet. 3. All vehicles including carrying construction debris of any kind should be cleaned and wheels washed. 4. All construction debris and construction material of any kind should be stored on the site and not dumped on public roads or pavements. 5. No loose soil or sand or Construction & Demolition Waste or any other construction material that causes dust shall be left uncovered. 6. Every worker working on construction site and involved in loading, unloading and carriage of construction material and construction debris should be provided with

			dust-mask to prevent inhalation of dust particle. 7. Vehicle with PUC certificate will be allowed in construction site. 8. Construction and demolition waste should be recycled on-site or transported to authorized recycling facility and due record of the same should be maintained.
2.	Construction phase	1. Construction activities 2. Vehicle Movement	1. Tarpaulin or green net should be there around the boundary of the construction site. 2. The vehicle carrying the construction and demolition waste, construction materials should be fully covered with tarpaulin sheet. 3. All vehicles including carrying construction debris of any kind and construction material should be cleaned and wheels washed. 4. All construction debris and construction material of any kind should be stored on the site and not dumped on public roads or pavements. 5. No loose soil or sand or Construction & Demolition Waste or any other construction material that causes dust shall be left uncovered. 6. Every worker working on construction site and involved in loading, unloading and carriage of construction material and construction debris should be provided with dust-mask to prevent inhalation of dust particle. 7. Vehicle with PUC certificate will be allowed

			in construction site. 8. No grinding and cutting of building materials in open area. Wet jet should be used in grinding and stone cutting. 9. Unpaved surfaces, if any and areas with loose soil should be adequately sprinkled with water to suppress dust. 10. Dust mitigation measures shall be displayed prominently at the construction site for easy public viewing.
3.	Operational phase	Vehicular movement	Water sprinkling will be done twice a week.

****

ANNEXURE-XII

Environment monitoring reports

Gaheli Environmental Laboratory
(A unit of Gaheli Center of Research and Development Pvt. Ltd.)
(ISO 9001:2015, 14001:2015, OHSAS 18001:2007 Certified Company & NABL Accredited Laboratory)
Circuit House Road, Near Parwani Orthopadic Hospital, New Paradise Fountain Circle,
Porbandar - 360575, Gujarat, E-mail - contact@gcrdindia.com, website - www.gcrdindia.com
Tel.: 0286-2253630, Mobile: +91-9990416608, **GSTIN : 24AHCPA6690B1ZV**

TEST REPORT

Report Code: GEL/A/2024/05/20-001
Issued to: Project in charge- Construction of proposed 200 Bedded District Hospital under ASSIST at Dibrugarh, Assam.

Issue Date : 20.05.2024
Date of Sampling : 13.05.2024
Sample Collected on : 13.05.2024 to 14.05.2024
Sample Collected b : GEL STAFF

RESULTS
(Ambient Air Quality Analysis)

SAMPLING DETAILS

Sampling Protocol : Portable air detector (AQM-02)
Weather Condition : Clear Sky

S.No	Location of monitoring	Parameters						
		PM10 µg/m³	PM 2.5 µg/m³	PM1 µg/m³	So_2 µg/m³	No_2 µg/m³	Temperature °c	Humidity %
1.	Project site	09	08	07	4.2	5.8	35	41
2.	Dibrugarh-Residential	11	10	08	4.9	4.1	33	47
3.	D.H.S.K. college	15	13	09	5.1	6.3	33	49
4.	Public High School	17	15	12	5.0	5.8	28	72
5.	Sri Alkhiya Ganesh Mandir	11	10	07	5.2	5.6	33	46
NAAQS		**100**	**60**	--	**80**	**80**	--	--

End of Report

Authorized Signatory
Varsha Pandey
(Managing Director)

Serial No.: 5861

ISO 9001:2015 QUALITY | ISO 14001:2015 ENVIRONMENT | OHSAS 18001:2007 Safety and health at work

Dispatch Date: 20.05.2024
Dispatch No.: 5861

Gaheli Environmental Laboratory

(A unit of Gaheli Center of Research and Development Pvt. Ltd.)

(ISO 9001:2015, 14001:2015, OHSAS 18001:2007 Certified Company & NABL Accredited Laboratory)

Circuit House Road, Near Parwani Orthopadic Hospital, New Paradise Fountain Circle,
Porbandar - 360575, Gujarat, E-mail - contact@gcrdindia.com, website - www.gcrdindia.com
Tel.: 0286-2253630, Mobile: +91-9990416608, **GSTIN : 24AHCPA6690B1ZV**

TEST REPORT

Report Code: GEL/N/2024/05/20-002
Issued to: Project in charge- Construction of proposed 200 Bedded District Hospital under ASSIST at Dibrugarh, Assam

Issue Date : 20.05.2024
Date of Sampling : 13.05.2024
Sample Collected on : 13.05.2024 to 14.05.2024
Sample Collected by : GEL STAFF
Sample Description : Ambient Noise

RESULTS
(Ambient Noise Quality Analysis)

S. No.	Location	Zone	Limit for As Per EPA, 1986 ; Leq, dB (A)		Observed Value Leq, dB (A)	
			Day Time*	Night Time**	Day Time*	Night Time**
1.	Project site	Silence zone	50	40	45.2	37.4
2.	Dibrugarh-Residential	Residential area	55	45	51.6	41.5
3.	D.H.S.K. college	Silence zone	50	40	46.5	37.2
4.	Public High School	Residential area	55	45	46.4	36.2
5.	Sri Alkhiya Ganesh Mandir	Silence zone	50	40	45.2	38.2
*** Day Time**			**6.00 a.m. to 10.00 p.m.**			
****Night Time**			**10.00 p.m. to 6.00 a.m.**			

End of Report*

Authorized Signatory
Varsha Pandey
(Managing Director)

Serial No.: 5862

ISO 9001:2015 QUALITY | ISO 14001:2015 ENVIRONMENT | OHSAS 18001:2007 Safety and health at work

Dispatch Date: 20.05.2024
Dispatch No.: 5862

Gaheli Environmental Laboratory
(A unit of Gaheli Center of Research and Development Pvt. Ltd.)
(ISO 9001:2015, 14001:2015, OHSAS 18001:2007 Certified Company & NABL Accredited Laboratory)
Circuit House Road, Near Parwani Orthopadic Hospital, New Paradise Fountain Circle,
Porbandar - 360575, Gujarat, E-mail - contact@gcrdindia.com, website - www.gcrdindia.com
Tel.: 0286-2253630, Mobile: +91-9990416608, **GSTIN : 24AHCPA6690B1ZV**

TEST REPORT

Report Code: GEL/S/2024/05/20-003
Issued to: Project in charge- Construction of proposed 200 Bedded District Hospital under ASSIST at Dibrugarh, Assam

Issue Date : **20.05.2024**
Sample Collected by : Amrit Kr
Sample Collected on : 13.05.2024
Sampling Protocol : GEL/LAB/SOP/SOIL/01
Sample Quantity : 1 kg
Sample Packing : Zip Polybag

Sample Description: Soil

RESULTS

(Soil Quality Analysis- Project Site, Public High School)

S. No.	Parameters	Units	Test Method	SQ1	SQ2
				Project Site	**Public High School**
1	Texture	-	GEL/LAB/SOP/SOIL/22	Sandy Clay Loam	Sandy Clay Loam
	Sand	%		57	56
	Silt	%		16.5	17.6
	Clay	%		26.5	26.4
2	*Color	-	GEL/LAB/SOP/SOIL/07	Grayish	Grayish
3	pH (1:2 Suspension)	-	IS 2720 (P-26): 1987, RA 2011	5.9	6.1
4	Specific Conductivity	µmhos/cm	IS 14767: 2000, RA 2016	413	476
5	Moisture	%	IS 2720(Part-2): 1973, RA 2015	22.2	23.3
6	Exchangeable Potassium	mg/kg	GEL/LAB/SOP/SOIL/07	9.6	8.5
7	Exchangeable Sodium	mg/kg	GEL/LAB/SOP/SOIL/06	18.5	19.2
8	Exchangeable Calcium	mg/kg	GEL/LAB/SOP/SOIL/08	298	291
9	Exchangeable Magnesium	mg/kg	GEL/LAB/SOP/SOIL/08	78.2	79.0
10	Porosity	%	GEL/LAB/SOP/SOIL/20	31.5	32.5
11	Organic Matter	%	IS 2720 (P-22) : 1972, RA 2010	1.5	1.6
12	Phosphorous	mg/kg	GEL/LAB/SOP/SOIL/10	11.3	12.2
13	*Nitrogen	mg/kg	GEL/LAB/SOP/SOIL/09	62.3	72.2
14	Chloride	mg/kg	GEL/LAB/SOP/SOIL/14	59	60
15	Bulk Density	gm/cc	IS 2720 (P-28) : 1974, RA 2010	1.8	1.7

End of Report*

Authorized Signatory
Varsha Pandey
(Managing Director)

Serial No.: 5863

ISO 9001:2015 QUALITY | ISO 14001:2015 ENVIRONMENT | OHSAS 18001:2007 Safety and health at work

Dispatch Date: 20.05.2024
Dispatch No.: 5863

GOVT. OF ASSAM
DISTRICT LEVEL LABORATORY (PHE), DIBRUGARH
Address:- Office of the Executive Engineer (PHE), Dibrugarh
Sub-Division :: Dibrugarh
Email ID:dibdll181@gmail.com

WATER ANALYSIS REPORT

Sample ID	DIB/DLL/2024-25/640	Issue Date	30/05/2024
Money Receipt No.	UPI ID:450048891216	Payment Date	13/05/2024
Issued to	Gaheli Enviormental Laboratory,New Delhi	Sample Received Date	13/05/2024
Pin point	Publice School,Dibrugarh	Block	N/A
GP	N/A	Village/Town	Dibrugarh
Type of Source	H.P.	Source Installed	Self
Quantity	1000 ml	Sample Collected On	13/05/2024
Date of Analysis Started	13/05/2024	Date of Analysis Completed	15/05/2024

Sl. No.	Parameter	Protocol Used	Results	IS: 10500:2012 (Second Revision)		Unit
				Desirable limit	Max. Permissible limit (in absence of better alternate source)	
			PHYSICAL TEST			
1	pH	IS: 3025: Part 11	6.75	6.5 - 8.5	No relaxation	pH Units
2	TDS	IS: 3025: Part 16	183	500	2000	mg/L
3	Turbidity	IS: 3025:Part 10	0.4	1	5	NTU
4	Colour	IS: 3025: Part 4	<5	5	15	Hazen
			CHEMICAL TEST			
5	Chloride	IS: 3025: Part 32	17.01	250	1000	mg/L
6	Total Hardness	IS: 3025: Part 21	114	200	600	mg/L
7	Total Alkalinity	IS: 3025: Part 23	90	200	600	mg/L
8	Calcium	IS: 3025: Part 40	28.05	75	200	mg/L
9	Magnesium	APHA-3500- Mg B	10.69	30	100	mg/L
10	Iron	APHA-3500-Fe B	0.51	1	No Relaxation	mg/L
11	Nitrate	APHA-3500- Fe B	5.72	45	No Relaxation	mg/L
12	Sulphate	APHA-4500- SO_4 E	5.08	200	400	Mg/L
13	Fluoride	APHA 4500 NO_3 B	0.28	1	1.5	mg/L
14	Arsenic	IS:3025: Part 37	BDL	0.01	No Relaxation	mg/L
15	Residual Chlorine	APHA 4500-Cl B	0	0.2	1	mg/L
			BACTERIOLOGICAL TEST			
16	Bacteria	H_2S Vial	Absent	No Relaxation	No Relaxation	

Remarks:-Analysed parameters were found within the permissible limit.

Asst. Chemist(PHE)
DLL Dibrugarh
Asst. Chemist (DLL)
PHE, Dibrugarh

**********END OF THE REPORT**********

GOVT. OF ASSAM
DISTRICT LEVEL LABORATORY (PHE), DIBRUGARH
Address:- Office of the Executive Engineer (PHE), Dibrugarh
Sub-Division :: Dibrugarh
Email ID:dibdll181@gmail.com

WATER ANALYSIS REPORT

Sample ID	DIB/DLL/2024-25/641	Issue Date	20/05/2024
Money Receipt No.	UPI ID:450048891216	Payment Date	13/05/2024
Issued to	Gaheli Enviormental Laboratory,New Delhi	Sample Received Date	13/05/2024
Pin point	Civil Hospital	Block	N/A
GP	N/A	Village/Town	Dibrugarh
Type of Source	H.P.	Source Installed	Self
Quantity	1000 ml	Sample Collected On	13/05/2024
Date of Analysis Started	13/05/2024	Date of Analysis Completed	15/05/2024

Sl. No.	Parameter	Protocol Used	Results	IS: 10500:2012 (Second Revision)		Unit
				Desirable limit	Max. Permissible limit (in absence of better alternate source)	
PHYSICAL TEST						
1	pH	IS: 3025: Part 11	**6.01**	6.5 - 8.5	No relaxation	pH Units
2	TDS	IS: 3025: Part 16	**75**	500	2000	mg/L
3	Turbidity	IS: 3025:Part 10	**1.2**	1	5	NTU
4	Colour	IS: 3025: Part 4	**10**	5	15	Hazen
CHEMICAL TEST						
5	Chloride	IS: 3025: Part 32	**19.85**	250	1000	mg/L
6	Total Hardness	IS: 3025: Part 21	**58**	200	600	mg/L
7	Total Alkalinity	IS: 3025: Part 23	**55**	200	600	mg/L
8	Calcium	IS: 3025: Part 40	**14.42**	75	200	mg/L
9	Magnesium	APHA-3500- Mg B	**5.34**	30	100	mg/L
10	Iron	APHA-3500-Fe B	**0.25**	1	No Relaxation	mg/L
11	Nitrate	APHA-3500- Fe B	**3.66**	45	No Relaxation	mg/L
12	Sulphate	APHA-4500- SO_4 E	**4.72**	200	400	Mg/L
13	Fluoride	APHA 4500 NO_3 B	**0.25**	1	1.5	mg/L
14	Arsenic	IS:3025: Part 37	**BDL**	0.01	No Relaxation	mg/L
15	Residual Chlorine	APHA 4500-Cl B	**0**	0.2	1	mg/L
BACTERIOLOGICAL TEST						
16	Bacteria	H_2S Vial	**Absent**	No Relaxation	No Relaxation	

Remarks:-Water is Acidic

Asst. Chemist(PHE)
DLL Dibrugarh

Asst. Chemist (DLL)
PHE, Dibrugarh

**********END OF THE REPORT**********

**********END OF THE REPORT

GOVT. OF ASSAM
DISTRICT LEVEL LABORATORY (PHE), DIBRUGARH
Address:- Office of the Executive Engineer (PHE), Dibrugarh
Sub-Division :: Dibrugarh
Email ID:dibdll181@gmail.com

WATER ANALYSIS REPORT

Sample ID	DIB/DLL/2024-25/642	Issue Date	30/05/2024
Money Receipt No.	UPI ID:450048891216	Payment Date	13/05/2024
Issued to	Gaheli Enviormental Laboratory,New Delhi	Sample Received Date	13/05/2024
Pin point	Surface WaterBrahmputra River	Block	N/A
GP	N/A	Village/Town	Near Muncipal Board,Dibrugarh
Type of Source	Surface Water	Source Installed	Self
Quantity	1000 ml	Sample Collected On	13/05/2024
Date of Analysis Started	13/05/2024	Date of Analysis Completed	15/05/2024

Sl. No.	Parameter	Protocol Used	Results	IS: 10500:2012 (Second Revision) Desirable limit	Max. Permissible limit (in absence of better alternate source)	Unit
			PHYSICAL TEST			
1	pH	IS: 3025: Part 11	7.92	6.5 - 8.5	No relaxation	pH Units
2	TDS	IS: 3025: Part 16	135	500	2000	mg/L
3	Turbidity	IS: 3025:Part 10	133	1	5	NTU
4	Colour	IS: 3025: Part 4	40	5	15	Hazen
			CHEMICAL TEST			
5	Chloride	IS: 3025: Part 32	24.10	250	1000	mg/L
6	Total Hardness	IS: 3025: Part 21	120	200	600	mg/L
7	Total Alkalinity	IS: 3025: Part 23	125	200	600	mg/L
8	Calcium	IS: 3025: Part 40	32.06	75	200	mg/L
9	Magnesium	APHA-3500- Mg B	9.72	30	100	mg/L
10	Iron	APHA-3500-Fe B	2.04	1	No Relaxation	mg/L
11	Nitrate	APHA-3500- Fe B	5.08	45	No Relaxation	mg/L
12	Sulphate	APHA-4500- SO_4 E	7.02	200	400	Mg/L
13	Fluoride	APHA 4500 NO_3 B	0.56	1	1.5	mg/L
14	Arsenic	IS:3025: Part 37	BDL	0.01	No Relaxation	mg/L
15	Residual Chlorine	APHA 4500-Cl B	0	0.2	1	mg/L
			BACTERIOLOGICAL TEST			
16	Bacteria	H_2S Vial	Present	No Relaxation	No Relaxation	

**********END OF THE REPORT**********

Asst. Chemist(PHE)
Asst. Chemist (DLL)
PHE, Dibrugarh

**********END OF THE REPORT**********

Asst. Chemist

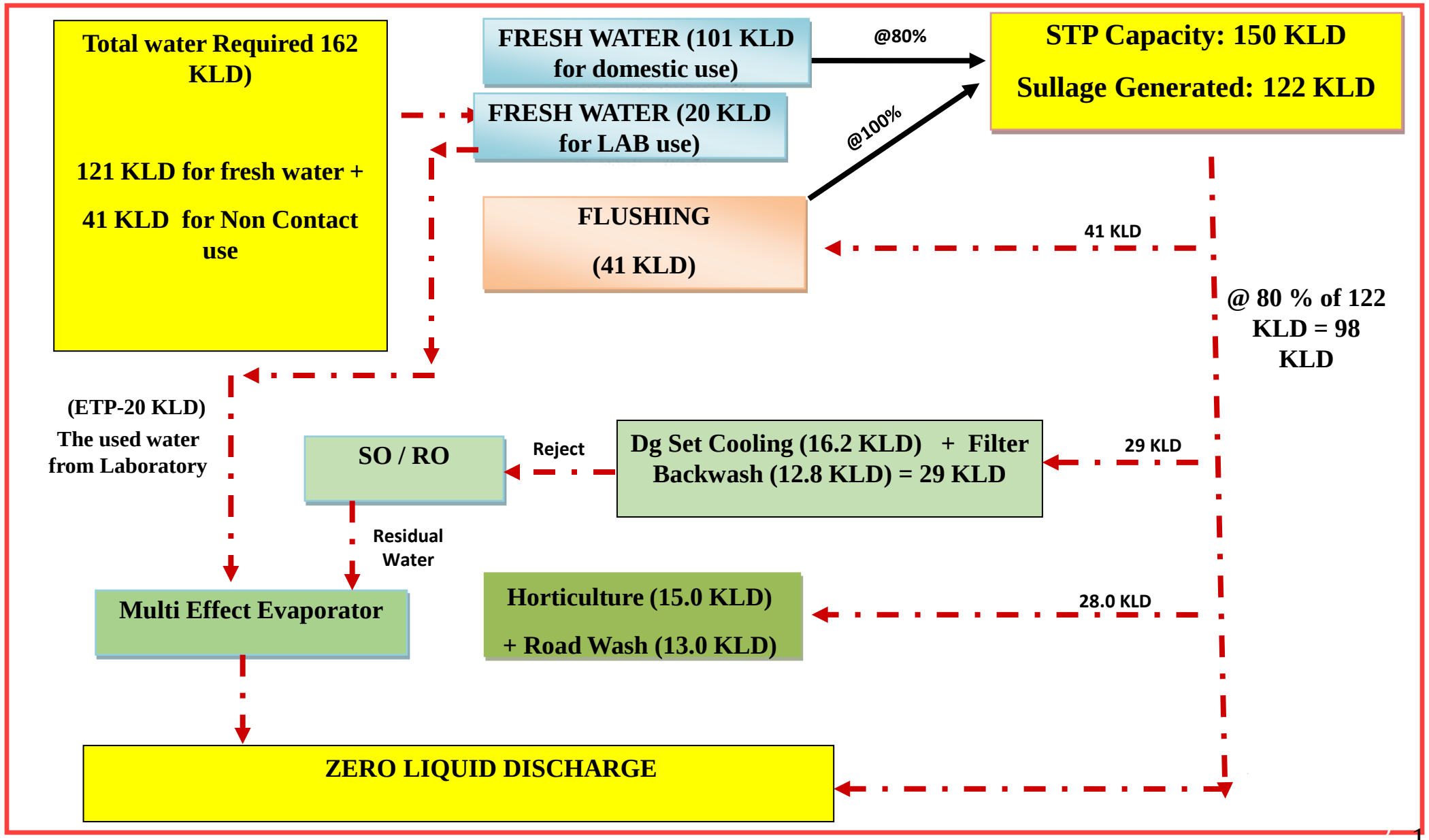
ANNEXURE-XIII

Water requirement

WATER REQUIREMENT CALCULATION

S. No	Description	No of Occupancy	Consumption Litres per Head/ day NBC, 2016 -BIS	Total /Litres per Head/ day /KLD	Fresh water (KLD)	Non contact use (KLD)
1.	Number of beds	200	450 LPH/D (300 fresh + 150 Non contact water)	90000 LPH/D or 90.0 KLD	60.0	30.0
2.	OPD	2000	15 LPH/D (10 fresh + 5 Non contact water)	30000 LPH/D or 30.0 KLD	20.0	10.0
3.	Labs, Operation Theaters & Labour Rooms Etc.	--	10,000 LPH/D or 10 KLD	10000 LPH/D or 10.0 KLD	10.0	--
4.	Laundry @ 100L per day/bed	--	--	20000 LPH/D or 20.0 KLD	20.0	--
5.	Kitchen @ 3 meals per bed per day	600	15 LPCD (15 fresh + 0 Non contact water)	9000 LPH/D or 9.0 KLD	9.0	--
6.	Cafeteria	40	35 LPCD (25 fresh + 10 Non contact water)	1400 LPH/D or 1.4 KLD	1.0	0.4
7.	Mortuary and Gas Manifold	32	45 (25 fresh + 20 Non contact water)	1440 LPH/D or 1.44 KLD	0.80	0.64
8.	DG Set	2250 KVA	0.9 *KVA * 8 HOURS	16200 LPH/D or 16.2 KLD	--	--
9.	Horticulture	2500 Sqm	6 sqm/litre	15.0 KLD	--	--
Total Water (in KLD)					**120.8 Say 121 KLD**	**41.04 Say 41 KLD**

WATER BALANCE DIAGRAM



ANNEXURE-XIV

Occupational Health and Safety Plan

ANNEXURE XIV
Occupational Health and Safety Plan

1.0 Introduction: An Occupational Health and Safety (OHS) Plan is a comprehensive approach aimed at ensuring the safety and health of workers working at the site. The plan sets out processes and practices to help prevent injuries, illnesses, and fatalities on the job.
Its emphasis is on proactive measures to identify and manage workplace hazards, thereby reducing risks.

2.0 Purpose of an Occupational Health and Safety Plan: The purpose of an Occupational Health and Safety Plan is the prevention of workplace injuries, illnesses, and fatalities. Here are the main objectives and purposes of an OHS Plan:
Protection of Workers: At its core, the primary purpose of an OHS Plan is to protect employees and other individuals at the workplace from potential hazards that could harm them physically, mentally, or emotionally.
Compliance with Legislation: An OHS Plan helps ensure that the project is compliant with these regulatory requirements.
Identification of Hazards: The plan provides a systematic approach to identifying potential dangers in the workplace, from machinery operations during construction phase to health hazards exposure during operational phase.
Risk Management: Beyond identifying hazards, the plan outlines measures to assess, prioritize, and mitigate risks associated with these hazards.
Emergency Preparedness: The plan ensures that there are protocols in place to handle unexpected events, such as fires, chemical spills, or natural disasters, thereby reducing potential harm.
Promotion of a Safety Culture: A well-documented and communicated OHS Plan fosters a culture where safety is valued and prioritized, encouraging workers at all levels to participate actively in safety initiatives.
Reduction in Economic Costs: Injuries, illnesses, and accidents can be expensive in terms of medical costs, compensation, lost workdays, and reduced productivity. An OHS Plan helps reduce these economic impacts.
Continuous Improvement: The plan provides mechanisms for regular reviews, audits, and feedback, facilitating a process of ongoing improvement in safety standards and practices.
Training and Awareness: The OHS Plan ensures that employees are adequately trained and aware of potential workplace hazards and know how to protect themselves.
Clear Communication: It sets clear lines of communication regarding safety concerns, reporting mechanisms, and responsibilities, ensuring that everyone knows what's expected of them.
3. OHS Provisions for the proposed project: As the proposed project plans major infrastructure construction in the form of developing new district hospital and refurbishment of the existing ones. So, comprehensive OHS provisions to protect health and safety of the labour workforce will be provided on construction site. These provisions shall incorporate in Construction Contracts by the construction agency and monitored by health facilities officials in a systematic manner.

3.1 Construction phase: ASSIST Project, AHIMDS will appoint the contractor and he will abide by the applicable norms during construction phase of the project. The contractor will manage construction related workplace occupational health and safety, community health and safety risks. Occupational health and safety measures as given below will be implemented:

• PPE will be provided to all workers along with provision of onsite toilet and washing facilities, potable drinking, waste and rest areas, standard First -Aid box at site.
• Cordoning off areas under construction and provide hazards communication signage to warn of ongoing construction works and prevent nuance of dust etc. to the health workers and community.
• Providing Safety signs that will allow management to warn and raise health and safety awareness for employees and visitors. Appropriately place them around the site where necessary.
• Workers will be made familiar with the construction site safety tips and different signs: prohibition signs, mandatory signs, warning signs, safe condition signs, and firefighting equipment signs.
• Often, accidents occur due to the misuse of a tool or equipment. Using makeshift tools will be avoided. Instead, the correct tool to get the job done quicker and safer will be used.
• Pre-checks on tools and equipment will be done before commencing work and it will be ensured that tools and equipment to be used are free of defect or damage.
• Training will be given to workers to report defects and near misses on site as soon as they notice them. The sooner issues get reported, the fewer chances of them worsening and causing accidents or further damage.
• Planning and implementing the awareness sessions for workers and community on health and safety hazards and risks and their role in their management including their responsibilities.

- Equal wages will be given without discrimination on the basis of gender, age and color
- Temporary labor camp will be provided with crèche for children
- To provide the basic facilities like safe drinking water, mobile toilets, fuel for cooking and mobile STP/septic tank
- Fencing of the project during construction phase
- Green net covering for loose building material will be done

3.2 Operational Phase: Occupational Health and safety provisions like regular Immunizations, health screening, post exposure prophylaxis and use of personal protective devices etc. for health care providers will be provided to reduce occupational hazard during operational phase. Further details related to hospital infection and its prevention measures are provided separately under ***Annexure XIX*** *Hospital Infection Prevention and Control Plan.*

4.0 Monitoring and evaluation:

Safety & Occupational Health issues will be periodically monitored during construction and operation phase and reviewed at all relevant levels, including the highest levels will be done. This will ensure continual improvement for District hospital which helps in minimize occupational health and safety issues.

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ANNEXURE-XV

Worker site Management Plan

ANNEXURE-XV
Worker Site Management Plan

1. Introduction

The Worker Site Management Plan sets out the Program's approach to meeting national requirements as well as objectives of the World Bank's Environmental and Social Framework, specific objectives of Environmental and Socials Standard 2: Labor and Working Conditions (ESS2) and Standard 4: Community Health and Safety (ESS4).

2. Assessment of Key Potential Labor Risks

The safety and health risks to which the workers and staff may be exposed from any project-related activities will be assessed. The ability to prevent or eliminate such risks or, if the risk cannot be controlled or eliminated, measures to protect workers and staff from exposure will be explored. Though, given the small-scale construction works, no major risks are envisaged.

Potential risks that may arise from the nature of activities to be undertaken include:

a) Employment practice that are not compliant with either labor law or ESS 2. For example, not providing written documents of assignments, wages not proportionate with tasks performed, or industry standards, excess workload without provision of adequate rests and leisure, lack of hygiene facilities, discrimination towards women and labor with disability, unlawful termination, and withholding of benefit, etc.
b) Lack of Occupational Health and Safety (OHS) practice and procedures during construction and operation resulting in unsafe work environment.
c) Short and long-term effects on health due to over exposure to dust, noise levels, and exposure to chemicals /hazardous wastes.
d) Absence or inadequate or non-responsive emergency response mechanism for rescue of workforce, during natural calamities like cloud bursts, landslides, disasters due to earthquake/floods/fire outbreak, etc.
e) Lack of adequate sanitation and health facilities at the work sites.
f) Community health and safety issues, especially, rise of communicable diseases, including Malaria and Cholera to the workforce and staff.
g) The conduct of hazardous work, such as working at heights or in confined spaces, use of heavy machinery, or use of hazardous materials.
h) Generation of solid, liquid and fecal wastes, especially around labor camps and toilet area.
i) Increased competition over resources due to influx of labor; labor conflicts and work conditions.
j) Other project related risk may include of child and forced labor and use of unscrupulous labor practice, and denial for workers' rights to form workers organizations, etc. (particularly for unskilled construction workers/labor), etc.

3. Mitigation and its Measures

1. There is a need to demarcate the risk zones. Proper signage for notifying the zones will be placed, and awareness regarding the same will be created among the most impacted workers and staff.

2. Procedure and guidelines will be defined as per best industry practices and legislative requirements applicable for task-specific hazard prevention and safety,
3. Provision of first aid room with necessary first aid items and on-call first aid providers/attendees.
4. Avoiding and minimizing the use and release of hazardous materials; for example, non-hazardous materials can substitute asbestos in building materials. Preventing uncontrolled releases of hazardous materials to the environment, e.g., paint, oils, etc.
5. Hazard communication and training programs to prepare workers to recognize and respond to workplace chemical hazards.
6. Provide appropriate Personal Protective Equipment (PPE) to workers.
7. Use of dust control methods such as covers, water suppression on loose materials and surfaces, or increased moisture content for open materials storage piles to reduce particulate matter and dust exposure.
8. Provisions will be made to provide a clean and hygiene eating place and safe drinking water at the workplace along with quarterly testing of drinking water. Similarly, an adequate provision will be made for clean and separate toilets for men and women with sewage treatment (Mobile STP).
9. Salary and other emoluments will conform to the Rules and Regulations issued by the Department of Personnel and Training (DoPT), GoI.
10. The Direct workers at the DHE will work as per State Government Rules, which will follow the relevant notification by the Department of Personnel and Training, GoI. The work hours for contracted workers will not be more than 48 hours per week and 9 hours per day. Any contract or community workers made to work over the same will be entitled to overtime pay per building and other construction workers act, 1996.

4. Worker's Code of Conduct

The Contractors are expected to prevent Gender-based Violence (GBV) and Sexual Abuse & Exploitation (SEA) emanating from the labors by developing Codes of Conduct for their workers. This needs to be continuously reinforced through positive action and trainings. The Code of Conduct will highlight the positive behavior to be demonstrated by their workers, including maintaining harmonious relations with the local communities. The CoCs will include all persons employed by the contractor, including sub-contractors and suppliers, to acceptable standards of behavior in its applicability. The CoCs will have sanctions for non-compliance, including non-compliance with specific policies related to gender-based violence, sexual exploitation, and sexual harassment (e.g., termination). The CoC will be written in plain language and signed by each worker. The Worker's Code of Conduct is detailed below:

Worker's Code of Conduct

*The **Codes of Conduct** are to prevent Gender-based Violence (GBV) and Sexual Abuse & Exploitation (SEA) of Children & Women.*

The Contractor needs to implement measures to address environmental and social risks related to the workers. The Contractor should provide an environment in which gender-based violence (GBV)

has no place, and are responsible in preventing potential risks of sexual exploitation and abuse and gender-based violence.

Therefore, in order to ensure that all staff, laborers and other employees at the Works Site are aware of this commitment, and in order to prevent, identify, and respond to any allegations of GBV, the following Code of Conduct will apply to all the staff, laborers and other employees without exception.

This Code of Conduct identifies the behavior that is required for all personnel of Contractor.

REQUIRED CONDUCT

1. Carry **ou**t his/her duties competently and diligently;
2. Comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Contractor's Personnel and any other person;
3. Maintain a safe working environment including by:
    a. Ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health;
    b. Wearing required personal protective equipment;
    c. Using appropriate measures relating to chemical, physical and biological substances and agents; and
    d. Following applicable emergency operating procedures.
4. Report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
5. Treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers or children;
6. No women shall be subjected to sexual harassment at any workplace
7. Not engage in any form of sexual harassment including unwelcome sexual advances, requests for sexual favors, and other unwanted verbal or physical conduct of a sexual nature with other Contractor's or Employer's Personnel;
8. Not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. In Bank financed projects, sexual exploitation occurs when access to or benefit from Bank financed Goods, Works, Consulting or Non-consulting services is used to extract sexual gain;
9. Not engage in circumstances of any act of behavior of sexual harassment which amounts to sexual harassment viz. (i) implied or explicit promise of preferential treatment in her employment, (ii) implied or explicit threat of detrimental treatment in her employment, (iii) implied or explicit threat about her present or future employment status, (iv) interference

with her work or creating an intimidating or offensive or hostile work environment for her, (v) humiliating treatment likely to affect her health or safety

10. Not engage in Sexual Abuse, which means sexual activity with another person who does not consent. It is a violation of bodily integrity and sexual autonomy and is broader than narrower conceptions of "rape", especially because (a) it may be committed by other means than force or violence, and (b) it does not necessarily entail penetration.
11. Not engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage;
12. Complete relevant training courses that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters, and Sexual Exploitation, and Abuse (SEA);
13. Report violations of this Code of Conduct; and
14. Not retaliate against any person who reports violations of this Code of Conduct, whether to us or the Employer, or who makes use of the [Project Grievance [Redress] Mechanism].

****

ANNEXURE-XVI

Grievance Redressal Mechanism

ANNEXURE-XVI
Grievance Redressal Mechanism

1.0 Introduction

Grievance Redressal Mechanism (GRM) shall be established to receive, assess and facilitate the resolution of affected persons' concerns, objections, and grievances about the social and environmental performance at project level. The main aim of GRM is to provide a time-bound and transparent mechanism to voice, influence and resolve social and environmental concerns related to the project. This system has been purely designed for stakeholders such as aggrieved parties, project affected people, employees, labor, contractor, workers etc. The GRM is anchored on the five principles to guide in facilitating and resolving concerns and grievances:

- **Transparency:** The GRM encourages comments and feedback (negative and positive) to improve the project. The community must be aware of all complaints, grievances and problems reported, must be involved in their solution and must be kept informed on progress made in resolving grievances.

- **Socially Inclusive:** The whole community is given the opportunity to raise concerns and the right to be accorded a response. The GRM provides an accessible, inclusive, gender-sensitive and culturally appropriate platform for receiving and facilitating resolution of affected persons' grievances related to the project.

- **Simple and Accessible:** Procedures to file complaints and seek solutions are to be kept simple and easy to understand by the affected people, most specially the non-literate, and their communities.

- **Anonymity and Security:** To remain accessible, open and trusted, the GRM must ensure that the identities of those filing complaints are kept confidential. This encourages people to openly participate.

- **Institutional Outreach:** Through the GRM, the project can strengthen channels of communication and mechanisms for grievance redressed or solution at the community/project area level.

2.0 Grievances under the Project

2.1 The possible grievances of the community as envisaged, and which could be addressed through this project include: **Grievances <u>of workers</u>**

- The workers at the construction site may have grievances due to non-receipt of basic facilities, PPE related, non- Receipt of dues, work place discrimination, excessive work load etc
- Potential conflict between migrant workforce and local may take place

2.2 Grievances of Community

- Tree felling for site clearance.
- Inconveniences caused to community by construction activities like dust, water source contamination , noise, water logging, etc
- Community health and safety concerns
- Community residing nearby site or passers-by may have grievances related to non-disclosure of project information
- Public resistance for the project anticipating negative impacts of the project like tree felling for site clearance
- Accessibility issues of public
- Land demarcation issues.

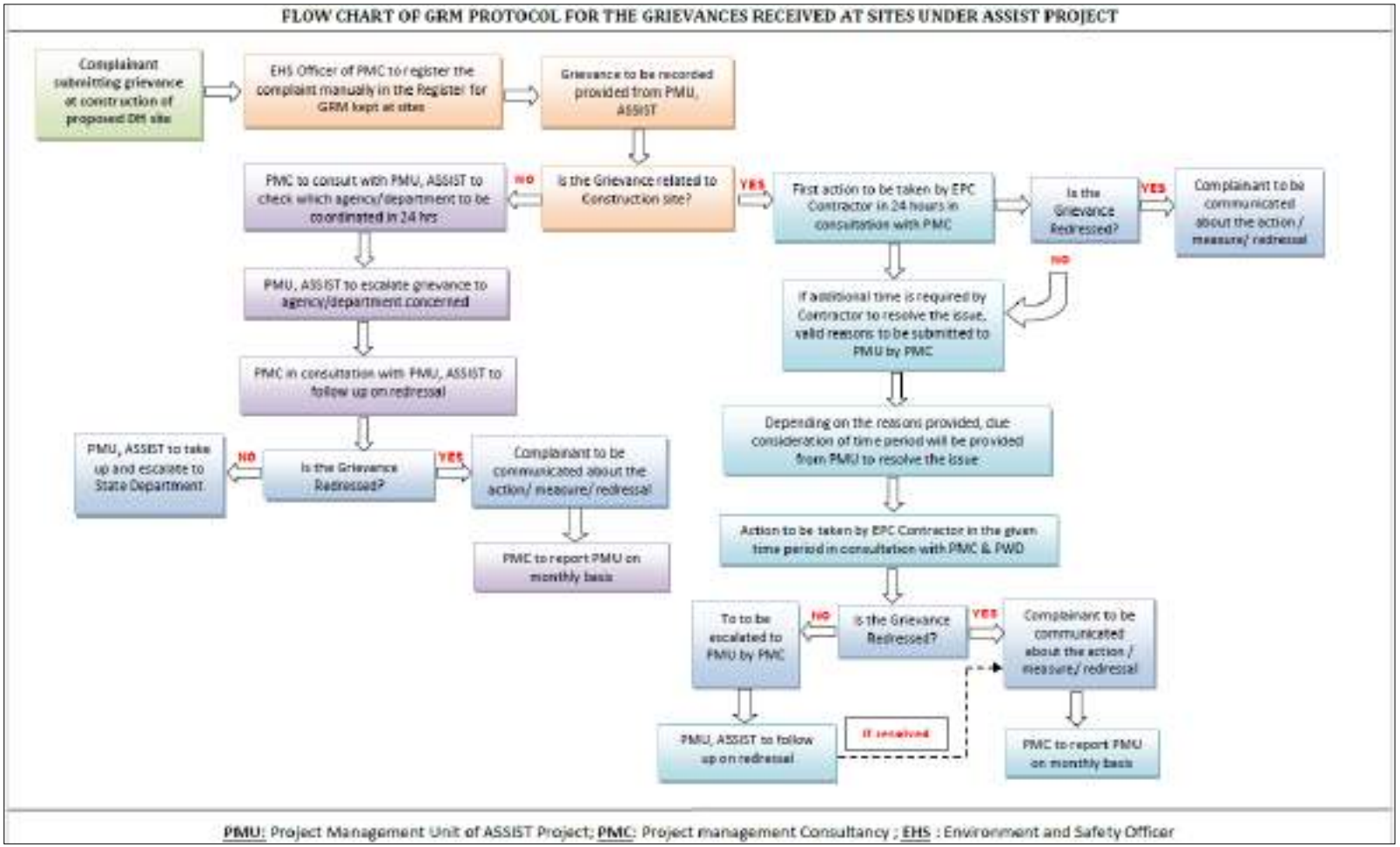
3.0 **Functioning of GRM**

All complaints and concerns will be addressed through a transparent, gender responsive, culturally appropriate process and will be readily available to the aggrieved party at no cost and without retribution. The following channels should be established to receive inquiries/comments and concerns /grievances:

- Toll free phone number
- Email, On-line form
- Regular post/mail
- Suggestion box/Walk-ins etc.

3.1 During Construction

The Contractor will be monitored by a Project Management Consultancy (PMC) and the Environment and Safety Officer of PMC will be responsible to register the grievances received from the community as well as workers of the site. The protocol for Grievance Redressal Management is shown with the help of the flow chart below:



4.0 Grievances Registration Format

For registering complaints of Community

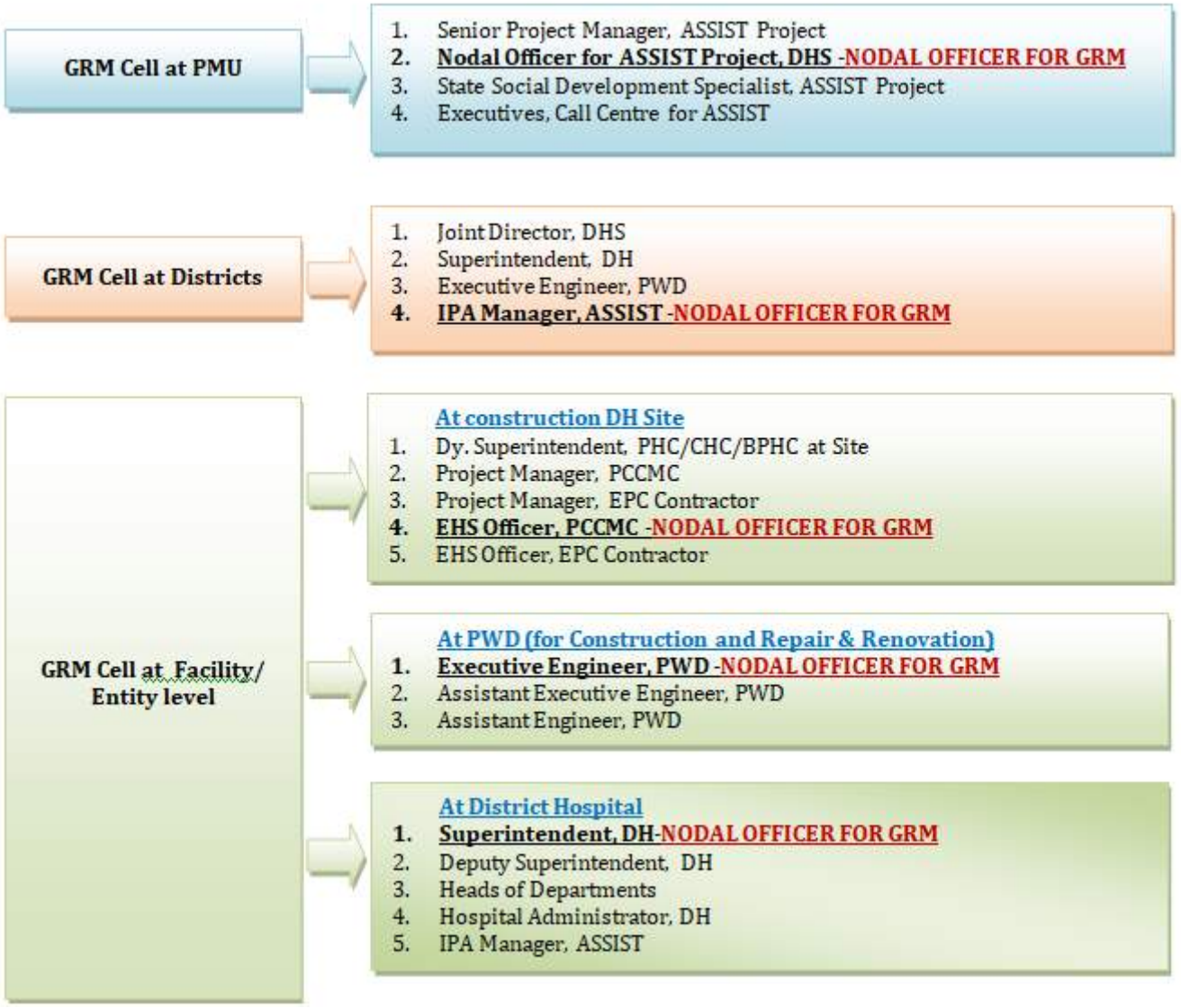
Sl. No.	Name	Gender	Phone Number	Email Address	Date of registering Complaint	Complaint Submitted by		Nature & Type of Complaint	Complaint Description	Redressal			
						Actual Complainant	Representative of Complainant In this case, please attach a copy of the representational authority signed by the complainant(s)	(Related to : land/permits & clearances/non-disclosure of project information/construction induced issues like pollution, water logging etc. / Sexual Exploitation and Abuse /Sexual Harassment(SH)/ Comments & suggestions/ seeking information on porposed DH)	To include: Date, time and place of occurrence/ What actually happened/Name of those involved etc.	Redressed			Not Redressed
										Yes/No	Nos. of Days for redressal Timeframe: First action to be taken by EPC Contractor in 24 hours. *Protocol of GRM Mechanism (Flow Chart) as provided by PMU, ASSIST to be followed for further actions*	If redressed, complainant satisfied or dissatisfied *Complainant to be communicated about the action / measure/ redressal*	Reason
A	B	C	D	E	F	G	H	I	J	K	L	M	N

For registering complaints of Workers

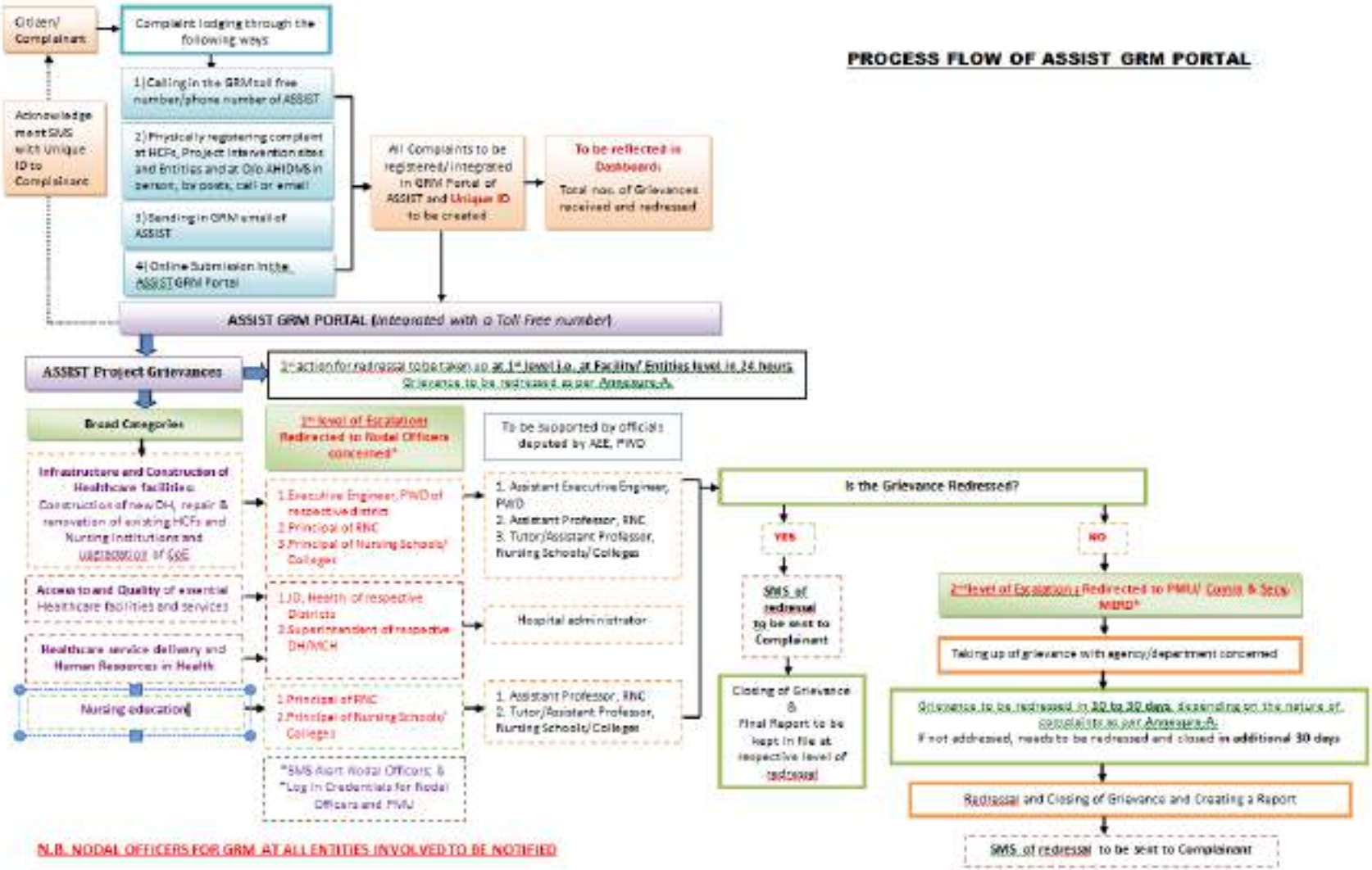
Sl. No.	Name	Gender	Phone Number	Date of registering Complaint	Complaint Submitted by		Nature & Type of Complaint	Complaint Description	Redressal			
					Actual Complainant	Representative of Complainant In this case, please attach a copy of the representational authority signed by the complainant(s)	(Related to : Sexual Exploitation and Abuse (SEA) & Sexual Harassment(SH)/ Non-receipt of facility at Labour Camp/ PPE related/ Non-Receipt of dues/ Workplace Distrimination/ Excessive Workload/any other)	To include: Date, time and place of occurrance/ What actually happened/Name of those involved etc.	Redressed			Not Redressed
									Yes/No	Nos. of Days for redressal Timeframe: First action to be taken by EPC Contractor in 24 hours *Protocol of GRM Mechanism (Flow Chart) as provided by PMU, ASSIST to be followed for further actions.*	If redressed, complainant satisfied or dissatisfied *Complainant to be communicated about the action / measure/ redressal*	Reason
A	B	C	D	E	F	G	H	I	J	K	L	M

4.1 During Operation Period :

4.1.1 The Institutional Mechanism for GRM during Operation Period is shown with the help of the flow chart below:


GRM Cell at PMU
1. Senior Project Manager, ASSIST Project
2. Nodal Officer for ASSIST Project, DHS -NODAL OFFICER FOR GRM
3. State Social Development Specialist, ASSIST Project
4. Executives, Call Centre for ASSIST
GRM Cell at Districts
1. Joint Director, DHS
2. Superintendent, DH
3. Executive Engineer, PWD
4. IPA Manager, ASSIST -NODAL OFFICER FOR GRM
GRM Cell at Facility/ Entity level
At construction DH Site
1. Dy. Superintendent, PHC/CHC/BPHC at Site
2. Project Manager, PCCMC
3. Project Manager, EPC Contractor
4. EHS Officer, PCCMC -NODAL OFFICER FOR GRM
5. EHS Officer, EPC Contractor
At PWD (for Construction and Repair & Renovation)
1. Executive Engineer, PWD -NODAL OFFICER FOR GRM
2. Assistant Executive Engineer, PWD
3. Assistant Engineer, PWD
At District Hospital
1. Superintendent, DH-NODAL OFFICER FOR GRM
2. Deputy Superintendent, DH
3. Heads of Departments
4. Hospital Administrator, DH
5. IPA Manager, ASSIST

4.1.2 The process flow of the Online GRM Portal during Operation Period which will be an comprehensive mechanism for the project is shown with the help of the flow chart below:



ANNEXURE-XVII

Monitoring Photographs

ANNEXURE XVII

Monitoring Photographs

Air Monitoring Photographs

(1)Project site

(2)Residential

(3)college

(4)School

(5) Sri Alkhiya Ganesh Mandir

Noise Monitoring Photographs

(1)Project site

(2)Dibrugarh (Residential)

(3)D.H.S.K. college

(4)Public High School

(5) Sri Alkhiya Ganesh Mandir

Soil Monitoring Photographs

	
(1)Project site	(2) Project site-1
	
(3) School	(4)School-1

Water Monitoring Photographs

(1) Ground Water- Hospital

(2) Ground Water- Hospital 1

(3) Ground Water- School

(4) Ground Water- School 1

Surface Water- River

Surface Water- River 1

ANNEXURE-XVIII

Flood Data

FRIMS Assam

Flood Reporting And Information Management System

Assam Daily Flood Report as on 10-06-2021

Particulars	Situation as on 10-06-2021 (in last 24 hours)							
District Affected	**No. of Distircts Affected**	**Name of Districts**						
	3	Biswanath, Dibrugarh, Lakhimpur						
No. Of Revenue Circles Affected	5							
Name Of Revenue Circle Affected	**District**	**Total**	**Revenue Circle**					
	Biswanath	3	Naduar RC part, Biswanath, Halem					
	Dibrugarh	1	Chabua					
	Lakhimpur	1	Nowboicha					
	Total	**5**						
Villages Affected	**District**	**Total**	**Revenue Circle**					
	Biswanath	3	(Naduar RC part | 1), (Biswanath | 1), (Halem | 1)					
	Bongaigaon	4	(Srijangram | 4)					
	Darrang	20	(Patharighat | 17), (Mangaldoi | 2), (Sipajhar | 1)					
	Dibrugarh	1	(Chabua | 1)					
	Lakhimpur	3	(Nowboicha | 3)					
	Majuli	5	(Majuli | 5)					
	Total	**36**						
Population And Crop Area Affected	**District**	**Male**	**Female**	**Children**	**Total Population**	**Population Details**	**Crop Area (in Hect.)**	**Crop Area Details**
	Biswanath	37	29	23	89	(Naduar RC part | 0), (Biswanath | 78), (Halem | 11)	10.5	(Naduar RC part | 8.00), (Biswanath | 0.00), (Halem | 2.50)
	Bongaigaon	0	0	0	0	(Srijangram | 0)	6	(Srijangram | 6.00)
	Darrang	0	0	0	0	(Patharighat | 0), (Sipajhar | 0), (Mangaldoi | 0)	139.83	(Patharighat | 63.83), (Sipajhar | 2.00), (Mangaldoi | 74.00)
	Dibrugarh	1721	986	1010	3717	(Chabua | 3717)	443	(Chabua | 443.00)
	Lakhimpur	1274	601	51	1926	(Nowboicha | 1926)	0	(Nowboicha | 0.00)
	Majuli	0	0	0	0	(Majuli | 0)	12.7	(Majuli | 12.70)
	Total	**3032**	**1616**	**1084**	**5732**		**612.03**	
Relief Camps / Centres Opened	**District**	**Total**	**Relief Camp**			**Relief Distribution Centres**		
	Biswanath	4	0(Biswanath | 0)			4(Biswanath | 4)		
	Lakhimpur	1	0(Nowboicha | 0)			1(Nowboicha | 1)		
	Total	**5**	**0**			**5**		
Inmates In Relief Camps	**Nil**							
Human Lives Lost - Confirmed	**Nil**							
Human Lives Lost Confirmed - Death Type	**Nil**							
Human Lives Lost - Missing	**Nil**							
Animals Affected	**Nil**							
Animals Washed Away	**Nil**							

Houses Damaged	**Nil**							
Rescue Operation	**Nil**							
Relief Distributed	**District**	**Rice (in Q)**	**Dal (in Q)**	**Salt (in Q)**	**M. Oil (in L)**	**Cattle Feed - Green Fooder (in Q)**	**Cattle Feed - Wheat Bran (in Q)**	**Cattle Feed - Rice Bran (in Q)**
	Biswanath	16.75	3.1	0.92	91.98	0	0	0
	Dibrugarh	60.85	11.15	0.34	0	0	0	0
	Lakhimpur	32.68	5.77	1.73	173.34	0	0	0
	Total	**110.28**	**20.02**	**2.99**	**265.32**	**0**	**0**	**0**
Relief Distributed - Others	**District**	**Baby Food Liquid**		**Baby Food Solid**		**Others**		
	Biswanath	0.00-Q		0.00-Q		0-0.00-Q		
	Chabua	0.00-Q		0.00-Q				
	Nowboicha	0.00-Q		153.00-Pkt		Sanitary Napkin -601.00-Pkt		
Infrastructure Damaged - Embankment Breached	**Nil**							
Infrastructure Damaged - Embankment Affected	**District**	**Number**	**Details**					
	Biswanath	1	Halem - Brahmajan Embankmeny | Amjaroni					
	Nalbari	0						
	Total	**1**						
Infrastructure Damaged - Road	**District**	**Number**	**Details**					
	Biswanath	0						
	Nalbari	4	Ghograpar - Approach Road on Tinipukhuri side of RCC bridge . Lengh of Approach raod : 30 Meter . The road is eroded due to rain water on 08/06/2021. No population and village is affected . | Choto Allyia , Nalbari - Kamarsuburi Road .The road is submerged due to rain water.Length of submerge : 900 Meter . No village & population is affected. | NALBARI, Sarathi Hospotal Road .The raod is submerged by rain water.No village & population is affected . Length of submergence is 250 Meter | Nalbari town area , Nalbari Bahjani to Pub Kalakuci Road . The raod is submerged by rain water.Length of submergence : Approx 20 Meter. No village & population is affected | Nalbari Revenue Circle						
	Total	**4**						
Infrastructure Damaged - Bridge	**Nil**							
Infrastructure Damaged - Others	**District**	**Wildlife affected under protected areas description**			**Other Details**			
	Biswanath							
	Nalbari				Ghograpar - Bamboo Foot Bridge | Bamboo foot bridge damaged due to increasing water level of Noona river . The length of bamboo foot bridge is 70 Meter.			
Erosion	**District**	**Details**						
	Barpeta	Barpeta - Radhakuchi | Nagaon Sikarvitha roadto karuapara via Radhakuchi eoded (from Ch.0.00 M to 2700.00 M)(Reported By PWD Barpeta, Baghbar & Chenga Territorial Road yesterday evening i.e Date - 09/06/2021) | 0						
	Biswanath	Gohpur - 1. Deunabari 2.Paken 3.Pichala 4.Luhitmukh 5.Baligaon 6.charaibari,7.Amjaroni 8. Nirmal 9.Jugubari 10.baranipathar 11.Goromiri etc of Brahmajan | 1. Erosion continues at Deunabari of Solengi R/B embankment. 2.Erosion continues at Paken, pichala, Luhitmukh, Baligaon, Charaibari etc of B/Dyke from Jamuguri to Kharoi outfall. 3.erosion continues at Amjaroni , Nirmal ,Jugubari ,baranipathar ,Goromiri etc of Brahmajan both bank embankment. | 0, (Biswanath) At District - kumulia, Singmari , Bhojmari, nutun Gaon , Sanyasi gaon, bojargaon ,Borpam Tiniali . | 1. Erosion continues at kumulia ,Singimari bhojmari ,Notun Gaon and sanyasi gaon of R/Bank B dyke of river brahmaputra from biswanath to panpur (Biswanath RC) 2. Erosion continues at bojargaon of L/ Bank of T/Dyke of river Jiabharali from NH- 15 bridge to panpur (Naduar RC) 3. Erosion continues at borpam Tiniali of R/bank of river Ghiladhari village Under (Naduar RC) Dtd: 10/06/2021 | 0						
	Majuli	Majuli - Malaya Chapori | Bank erosion occurred at Malaya Chapori in the bank of river Subansiri, launching of rcc porcupine and tree branches. Aprox. 1 katha land area eroded (as per the information of Water Resource Department). | 0, Ujani Majuli - Punia Satra at Kamjan Alengi | Bank erosion occured near Punia Satra at Kamjan Alengi gaon. Approx 3 feet of length 30-35 mtr. land area eroded (as per the information of Brahmaputra board) | 0						
	Sivasagar	Demow - 1. Dehingkalghar, 2. Laibeel 3. Makhowabari 4. Borbeel 5. konwar gaon ,Demow Revenue Circle | 1. Damage of Dehing River left bank at Dehingkalghar (Lat: N27.2566666 Long: E94.70611111 2.Damage of Dehing bund left Bank at Laibeel area(50 M Length dyke Slumped Down): Lat: N 27.24444444 Long: E 94.7225 3. Damage of Desang bund right bank at Makhowabari area(3 km): Lat; N27.024722222 Long: E94.73527778 4. Damage of Desang bund right bank at Borbeel Area(6km): Lat; N 27.0077778 Long: E94.74305556 5. Damage of Desang bund right bank at Konwargaonl Area(6km): Lat; N 27.0433333 Long: E94.715 | 0, Sivsagar - Cherakapar, Sivasagar Revenue Circle | Sloughing and river bank erosion has been observed on 08/06/2021 at Ch 14905 m to 14905 m of Dikhow bundh Right Bank from Monipuribosti to A.t Road at Cherekapar,under Sivasagar Revenue Circle | 0						
	Sonitpur	Thelamara - Village-Bhara singri, Mouza- Borgaon | Date-09:06:2021, Approx length eroded-5 bighas | 0						
Landslide	**Nil**							
Urban Flood	**Nil**							

Assam Daily Flood Report as on 14-06-2022 at 4:00 PM								
Particulars	Situation as on 14-06-2022 (in last 24 hours)							
Rivers flowing above Danger Level (as per CWC bulletin issued at 8 AM)	Rivers flowing above danger level	Brahmaputra (Neamatighat)						
	Rivers flowing above highest flood level	Nil						
District Affected	**No. of Districts Affected**	**Name of Flood Affected Districts**			**Name of Urban Flood Districts**			
	8	Darrang, Dhemaji, Dibrugarh, Dima-Hasao, Goalpara, Kamrup (M), South Salmara			Kamrup (M), Nalbari			
No. Of Revenue Circles Affected	12							
Name Of Revenue Circles Affected	**District**	**Total**	**Revenue Circle**					
	Darrang	1	Mangaldoi					
	Dhemaji	3	Jonai, Dhemaji, Sissiborgaon					
	Dibrugarh	1	Chabua					
	Dima-Hasao	1	Haflong					
	Goalpara	1	Balijana					
	Kamrup (M)	3	Azara, Guwahati, Dispur					
	Nalbari	1	Nalbari					
	South Salmara	1	Mankachar					
	Total	**12**						
Villages Affected	**District**	**Total**	**Revenue Circle**					
	Darrang	3	(Mangaldoi | 3)					
	Dhemaji	4	(Jonai | 2), (Dhemaji | 1), (Sissiborgaon | 1)					
	Dibrugarh	1	(Chabua | 1)					
	Dima-Hasao	4	(Haflong | 4)					
	Goalpara	5	(Balijana | 5)					
	Kamrup (M)	2	(Guwahati | 1), (Dispur | 1)					
	South Salmara	15	(Mankachar | 15)					
	Total	**34**						
Population And Crop Area Affected	**District**	**Male**	**Female**	**Children**	**Total Population**	**Population Details**	**Crop Area (in Hect.)**	**Crop Area Details**
	Darrang	526	465	223	1214	(Mangaldoi | 1214)	21.00	(Mangaldoi | 21.00)
	Dhemaji	913	1001	655	2569	(Jonai | 1070), (Dhemaji | 403), (Sissiborgaon | 1096)	185.00	(Jonai | 127.00), (Dhemaji | 3.00), (Sissiborgaon | 55.00)
	Dibrugarh	1567	1240	1050	3857	(Chabua | 3857)	2.50	(Chabua | 2.50)
	Goalpara	116	102	93	311	(Balijana | 311)	0.00	(Balijana | 0.00)
	Kamrup (M)	37	22	8	67	(Sonapur | 0), (Dispur | 0), (Guwahati | 67)	0.00	(Sonapur | 0.00), (Dispur | 0.00), (Guwahati | 0.00)
	South Salmara	0	0	0	0	(Mankachar | 0)	87.00	(Mankachar | 87.00)
	Total	**3159**	**2830**	**2029**	**8018**		**295.50**	
Relief	**District**	**Total**	**Relief Camp**			**Relief Distribution Centres**		

Camps / Centres Opened	Dima-Hasao	5	0(Haflong | 0)			5(Haflong | 5)			
	Kamrup (M)	2	2(Guwahati | 1, Dispur | 1)			0(Guwahati | 0, Dispur | 0)			
	Total	**7**	**2**			**5**			
Inmates In Relief Camps	**District**	**Total**	**Revenue Circlewise**		**Male**	**Female**	**Children**	**Pregnant / Lactating Mother**	**Person with Disability**
	Kamrup (M)	617	(Sonapur | 0), (Guwahati | 67), (Dispur | 550)		377	157	83	0	0
	Total	**617**			**377**	**157**	**83**	**0**	**0**
Human Lives Lost - Confirmed	**District**	**Total**	**Male**	**Female**	**Children**	**Revenue Circlewise**			
	Kamrup (M)	4	4	0	0	(Dispur | 0), (Guwahati | 4), (Sonapur | 0)			
	Total	**4**	**4**	**0**	**0**				
Human Lives Lost Confirmed - Death Type	**District**	**Total**	**Flood Death**	**General Drowning (Non Flood)**	**Landslide**				
	Kamrup (M)	4	0	0	4				
	Total	**4**	**0**	**0**	**4**				
Human Lives Lost - Missing	Nil								
Human Lives Lost Missing - Type	Nil								
Animals Affected	**District**	**Total**	**Big**	**Small**	**Poultry**				
	South Salmara	42887	7866	3969	31052				
	Total	**42887**	**7866**	**3969**	**31052**				
Animals Washed Away	Nil								
Houses Damaged	Nil								
Rescue Operation	**District**	**Agency**			**Boats Deployed**	**Person Evacuated By Boats**	**Animal Evacuated By Boats**	**Helicopters Deployed**	**Person Evacuated By Helicopters**	**Medical Team Deployed**
	Kamrup (M)	Circle Office/Local Administration, Fire & Emergency Services (F&ES), Police, SDRF			10	0	0	0	0	0
	Total				**10**	**0**	**0**	**0**	**0**	**0**
Relief Distributed	**District**	**Rice (in Q)**	**Dal (in Q)**	**Salt (in Q)**	**M. Oil (in L)**	**Cattle Feed - Green Fooder (in Q)**	**Cattle Feed - Wheat Bran (in Q)**	**Cattle Feed - Rice Bran (in Q)**		
	Dima-Hasao	12.39	1.18	0.50	59.00	0.00	0.00	0.00		
	Total	**12.39**	**1.18**	**0.50**	**59.00**	**0.00**	**0.00**	**0.00**		
Relief Distributed Others	**District**	**Baby Food Liquid**		**Baby Food Solid**		**Others**				
	Dima-Hasao	0.00-Q		0.00-Q		Haldi-59.00-Pkt; Milk-48.00-L; Potato-472.00-Kg; Onion-177.00-Kg; Biscuit-413.00-Pkt; Candle-177.00-Pkt; Match Box-59.00-Pkt; Mosquito Repellent-44.00-Pkt; Napkin-46.00-Pkt; Mosquito Net-59.00-Pieces; Battery-72.00-Pieces; Torch-36.00-Pieces				
Infrastructure Damaged - Embankmen	Nil									

t Breached			
Infrastructure Damaged - Embankments Affected	Nil		
Infrastructure Damaged - Road	**District**	**Number**	**Details**
	Barpeta	2	**Chenga** - Karaikhaity Bazar to Pathimari Road | Kholabandha | Side berm erroded and hard crust damaged at several stretches, Approx length 40.00 m Karaikhaity reported by PWD Deptt on 14/6/22 | (Long - 26.153911, Lat - 90.952675), Karaikhaity Bazar to Nirala Road | Nirala | Side berm erroded. Approx length= 250.00m reported by PWD deptt on 14/6/22 | (Long - 26.153555, Lat - 90.938905)
	Cachar	1	**Silchar** - Silchar -Kumbirgram Road | Silchar- Kumbirgram | Due to incessant Rain for Last Few Days and Consequent Flash Flood, the following Road Have been Heavily Eroded Silchar - Kumbirgram Road in 17th Km, As reported by EE PWRD Silchar & Udharbond on dated 13.06.2022. | (Long - 0.000000, Lat - 0.000000)
	Chirang	3	**Bijni** - (1) Bijni Subhaijhar Road | At 6th KM (Majrabari) | As reported by PWD Bijni(R&B) Sub-Division, road embankment eroded at Majrabari on 14-06-2022. Damaged Details:: Length=2.00 m, Breadth=4.00 m, Depth=2.50 m. | (Long - 90.657924, Lat - 26.516573), (2) Ledopara to Uttar Baldi road | Nangdorbari | As reported by PWD Chirang (R&B) Division, road embankment & Crust damaged at Nangdorbari on 13-06-2022.. Damaged Details:: Length=15m, Breadth=2.5m, Depth=1.8m. | (Long - 90.592113, Lat - 26.592359), **Sidli** - Road from NH-31 C at Chapaguri to Jinjiripara | No.2 Chapaguri | As per report received from PWD, at Chapaguri to Jinjiripara road is damaged on 14-06-2022. Damage Details:: Length : 4 m, Breadth :2.3 m, Depth:: 1 m | (Long - 90.553304, Lat - 26.505434)
	Dhemaji	4	**Dhemaji** - Dihiri panitola to Narabil PMGSY road | Dihiri Panitola | Yesterday on 13/06/2022, Road surface submerge from ch.550.00m to ch.1000.00m with a depth of 40cm, road crush partially damage with earthen shoulder from ch.550.00m to ch.1000.00m left & right side of the embankment of the road, Hume pipe culvert damage at ch.620.00m & ch.750.00m and breach at ch.570.00m & ch.950.00m. | (Long - 94.479232, Lat - 27.430591), Goroimari to Pabhomari PWD road,from ch.200.00m to ch.300.00m | Goroimari to Pabhomari | Yesterday on 13/06/2022, Road surface submerge from ch.200.00m to ch.300.00m with a depth of 20cm, Road hard crudh partially damage with earthen shoulder from ch.100.00m to ch.300.00m left & right side of the embankment of the road . | (Long - 94.502245, Lat - 27.417872), Subahi to Bangalmari Dhunaguri PWD road,from ch.50.00m to ch.575.00m and ch.1550.00m to ch.1650.00m | Subahi to Bangalmari Dhunaguri road | Today on 14/06/2022, Erosion of road side berm and embankment partially damaged of Subahi to Bangalimari dhunaguri road from ch.50.00m to ch.575.00m and ch.1550.00m to ch.1650.00m | (Long - 94.323576, Lat - 27.343532), **Sissiborgaon** - PWD road Sundarpur to Santipur jengrai | Sundarpur to Santipur jengrai | Road damaged from ch 0.00M to ch. 30.00M at up- stream side by the river Nilakh Nadi (around 319.00 Meters) on 14-06-2022 | (Long - 27.612637, Lat - 94.616615)
	Goalpara	7	**Balijana** - Lower Chotipara to Bodahpur via Kotasibari Road | Lower Chotipara | Date of occurrence- 14.06.2022 Length affected- 0.800 KM Average depth of submergence- 0.500 m Traffic Disrupted from 14.06.2022 till date No of Culvert App. damaged- 3 nos. Road side Berm & Culvert Approach has been Damaged Information received from- Dudhnoi & Goalpara East Territorial Roads Division. | (Long - 90.581620, Lat - 26.018933), Soto Khasikhagra to Boro Khasikhagra Road | Boro khasikhagra | Date of occurrence- 14.06.2022 Length affected- 1.200 KM Average depth of submergence- 0.500 m Traffic Disrupted from 14.06.2022 till date No of Culvert App. damaged- 4 nos. Road side Berm & Culvert Approach has been Damaged Information received from- Dudhnoi & Goalpara East Territorial Roads Division. | (Long - 90.570638, Lat - 26.017862), NH 51 to Meshelkhowa Road | Meshelkhowa | Date of occurrence- 14.06.2022 Length affected- 0.500 KM Average depth of submergence- 0.300 m Traffic Disrupted from 14.06.2022 till date No of Culvert App. damaged- 2 nos. Road side Berm & Culvert Approach has been Damaged Information received from- Dudhnoi & Goalpara East Territorial Roads Division. | (Long - 90.567617, Lat - 25.977105), Hudakona to Borduk Road | Hudakona | Date of occurrence- 14.06.2022 Length affected- 1.200 KM Average depth of submergence- 0.700 m Traffic Disrupted from 14.06.2022 till date No of Culvert App. damaged- 6 nos. Road side Berm & Culvert Approach has been Damaged Information received from- Dudhnoi & Goalpara East Territorial Roads Division. | (Long - 90.531831, Lat - 25.990191), Chandamari to Satboini Pahar Road | Chandamari | Date of occurrence- 14.06.2022 Length affected- 0.200 KM Average depth of submergence- 0.650 m Traffic Disrupted from 14.06.2022 till date No of Culvert App. damaged- 1 nos. Length of road breached- 200m approx Information received from- Dudhnoi & Goalpara East Territorial Roads Division. | (Long - 90.587003, Lat - 26.065915), Meshelkhowa to Hatigaon Road | Meshelkhowa | Date of occurrence- 14.06.2022 Length affected- 1.550 KM Average depth of submergence- 0.300 m Traffic Disrupted from 14.06.2022 till date No of Culvert App. damaged- 2 nos. Road side berm, culvert approach has been damaged Information received from- Dudhnoi & Goalpara East Territorial Roads Division. | (Long - 90.564667, Lat - 25.971336),

			Ab NH 37 Chandamari to Kokira Garopara ME School. | Chandamari | Date of occurrence- 14.06.2022 Length affected- 1.000 KM Average depth of submergence- 0.820 m Traffic Disrupted from 14.06.2022 till date Road submerged Information received from- Dudhnoi & Goalpara East Territorial Roads Division. | (Long - 90.587003, Lat - 26.065915)
	Kamrup	2	**Rangia** - Dipteswari Temple Road RCC Bridge 2/1 approach road | Village- Nakul | The approach road to Dipteswari Temple Road RCC Bridge 2/1 was damaged on the north side due to incessant rain on 13.06.2022 as per report of A.E.E, PWD NKT Roads, Rangia | (Long - 91.651964, Lat - 26.415844), Rangia Dhamdhama Road Bridge approach No. 7/1 | Village - Hairandab | The approach road to Rangia Dhamdhama Road Bridge (RCC) approach No. 7/1 was damaged on the west side due to incessant rain on 13.06.2022 as per report of A.E.E, PWD NKT Roads, Rangia | (Long - 91.555649, Lat - 26.481539)
	Morigaon	1	**Morigaon** - 1 No Naramari to Patrabori (13-06-2022) | Patrabori, Morigaon | Road cum embankment from 1 No Naramari to Patrobari at 5th KM (Ch. 4560.00M to 4640.00M) | (Long - 92.409383, Lat - 26.219333)
	Nalbari	1	**Ghograpar** - NH 31 to Barajol Road | Barajol | As per W.T msg received from PWRD, due to incessant rain, on 13/06/2022, NH31 to barajol road damaged , side berm eroded & pot hole arise on bridge approaches both side. Length - 200 M approx. | (Long - 0.000000, Lat - 0.000000)
	South Salmara	1	**Mankachar** - 1.Kutirghat Pathuria Road | 1.Kutirghat | As per report submitted PWRD Mankachar Territorial Road Sub Division ,Carriage way, side berm and Embankment of Kutirghat Pathuria Road has submerged from CH.100.00M to 1800.00M due to heavy rain fall on 14-06-2022. | (Long - 25.600447, Lat - 89.890999)
	Total	**22**	
Infrastructure Damaged - Bridge	**District**	**Number**	**Details**
	Tamulpur	1	**Tamulpur** - RCC Mini Bridge connecting Beltola and Sitkajan | Village No. 1 Dongargaon (Forest Reserve) | RCC Mini Bridge connecting Beltola and Sitkajan has been damaged due to incessant rain at Village No 1 Dongargaon Dated 14/06/2022. | (Long - 91.648339, Lat - 26.773085)
	Total	**1**	
Infrastructure Damaged - Wildlife	Nil		
Infrastructure Damaged - Others	**District**	**Other Details**	
	Barpeta	**Chenga** - Power Dept. Poles | 5 nos of HT pole fell of 11 kV batgaon Feeder due to excessive rise of water levelPower supply effected at batgaon,ganakpara villages. Reported by APDCL deptt on 14/6/22	
	Chirang	**Bijni** - Culvert Approach Road Damaged | As reported by PWD Bijni(R&B) Sub-Division, culvert approach road of culvert No. 1/1(Size 2.00m×2.00m, 1 cell opening) eroded and damaged at Barpathar to Panbari road on 12-06-2022. Damaged Details:: Length=6.00m, Breadth=12.00m, Depth=4.00m. Longitude=90.808535 Latitude=26.630902	
	Darrang	**Mangaldoi** - Power Dept. Poles | Damaged occurred due to heavy rain and wind at various locations under Mangaldai Electrical Sub Division Approx pole damaged 5 Nos on 14.06.2022	
	Dibrugarh	**Chabua** - Health Sub-Centre | DODHIA KULIGAON HEALTH SUB-CENTRE SUBMERGED AS PER INFORMATION RECEIVED FROM HEALTH DEPT. ON 14/6/2022, Elementary Schools Damaged | DODHIA ME SCHOOL SUBMERGED AS PER INFORMATION RECEIVED FROM EDUCATION DEPT. ON 14/6/2022 , Elementary Schools Damaged | DODHIA KULIGAON LPS SUBMERGED AS PER INFORMATION RECEIVED FROM EDUCATION DEPT. ON 14/6/2022, Elementary Schools Damaged | DODHIA KARMI LPS SUBMERGED AS PER INFORMATION RECEIVED FROM EDUCATION DEPT. ON 14/6/2022, Elementary Schools Damaged | DODHIA TENGABARI LPS SUBMERGED AS PER INFORMATION RECEIVED FROM EDUCATION DEPT. ON 14/6/2022, Elementary Schools Damaged | DODHIA CHALBIL LPS SUBMERGED AS PER INFORMATION RECEIVED FROM EDUCATION DEPT ON 14/6/2022	
	Goalpara	**Matia** - Irrigation Canal/Scheme Damaged | Kaliasastra Canal under Matia LIS, total damaged length = 10 meters (on 14/06/2022) as information received from Irrigation Department, Dudhnoi Goalpara East Division.	
	Kokrajhar	**Bagribari** - Bridge Approach Road Damaged | As per report received from Asstt. Executive Engineer, PWD Rural Road Sub Div. Gossaigaon, both side approaches of Bridge No.1/1, 2/1, 3/1, 10/1, 11/1 on Kazigaon Bashbari Road have been damaged due to incessant rainfall from 11/06/2022, Culvert Approach Road Damaged | As per report received from Asstt. Executive Engineer, PWD Rural Road Sub Div. Gossaigaon, both side approaches of Culvert No.6/1, 6/2 on Kazigaon Bashbari Road have been damaged due to incessant rainfall from 11/06/2022, Bridge Approach Road Damaged | As per report received from Asstt. Executive Engineer, PWD Rural Road Sub Div. Gossaigaon, both side approaches of Bridge No.3/3 on Chechapani Monglajhora Road has been damaged due to incessant rainfall from 11/06/2022	
	South Salmara	**Mankachar** - Fisheries/Pond | As per report submitted Fishery Department total 514 Nos. Fishery/ Pond damaged due to heavy rain fall on 14/06/2022	
	Udalguri	**Kalaigaon** - Protection Bundh Damaged | The RCC check Dam has damaged on 14/05/2022 due to high water pressure caused by overflowing of flood water from river Gerua at village Maugaon covering a length of around	

		12 meters and depth of 3 meters. Longitude:91.896154, Latitude: 26.61464
Erosion	**District**	**Details**
	Bajali	**Bajali** - Madhapur | Bank migration of Pahumara river This report is received from AAE,Water Resource,Bajali on 14 junethe length of the erosion is 100mtr. | 0
	Bongaigaon	**Srijangram** - Tinkonia Part III | Erosion happened yesterday i.e on 13.06.2022 at Tinkonia part III (in a length of 1 km approx).Houses shifted to safer place by the affected population yesterday. 16 Tarpaulin distributed amongst them today . | 72
	Morigaon	**Laharighat** - Leruamukh, Goroimari , Bhajaikhati gaon & Barchapori | As per report received from the Water resources dept on 14-06-2022, maximum erosion is seen in places like Leruamukh(1 m), Goroimari(0 m) , Bhajaikhati gaon (3 m) & Barchapori (2m) | 0
	Nagaon	**Kampur** - Ghilani | Around 200 metre River Bank erosion and sloughening at South Ghilani area (in between chainage 700m-800m) in the road cum embankment of River Kopili on dated 13.06.2022. The eroded river bank area near the road cum embankment belongs to Water Resources Dept. | 0
	Nalbari	**Tihu** - Bamunbari (PWD road from NH31 to Palha) | Date of erosion:13/06/2022, Information received from JE, PWD(R), Barama Division. Length:12mts(approx). The PWD road is eroded due to incessant rainfall and rising water level at Tihu Nadi's sub tributary. | 0, **Ghograpar** - Narayangaon-Gargari | As per information received from WRD, Erosion have seen at the L/B of river Noona on 13/06/2022 at village Narayangaon, Length 290 M Approx. | 0
	Tamulpur	**Tamulpur** - Village Natun Howly | As report received from field, erosion is taking place on both the banks of River Motonga. Approx damage 400+300= 700 m. Dated 14/06/2022. | 0
	Udalguri	**Harisinga** - (1)Borongajuli Kasina Basti (2) Letpetkhat village (3)No.2 Bholatar (4)Choibari Village (5) Mazgaon | 1.erosion occurred at left bank of the suklai river at Kasinabasti near Borangajuli TE on 14th June around 2km eroded. Lat-26.7644/ Long- 91.7947 (2)Letpetkhat left bank of Kulshi river reach length 450m on 13th June 2022. Lat- 26.3910/Long-91.5718. (3)Erosion occured at letf bank of the Sukali river at No.2 Bholatar village approximate damage 15m on 13th June 2022. Lat-26.8366/ long-91.8332. (4) erosion occured right bank of the Bhola river at village Chaibari 750m on 13th June 2022. Lat-26.6519/ Long-91.9519. (5)Erosion occured at satiyapara mazgaon village on left bank of the River kulshi, 20m eroded on 13th June 2022. Lat-26.6679/Long-91.9392. (6) erosion occured on three parts of the village Botakuchi by river Botiamari on 13th June 2022, 150m/200m/200m. Lat-26.7311/26.6996/26.6996 /Long-91.9675/91.9494/91.9494 | 0, **Udalguri** - 1. Paharpur (Chouhan Basti) 2. Kalajhar | 1. Erosion Occured on the R/B of Golandi river at Paharpur (Chouhan Basti) village around 125m on 13.06.2022. GPS - Lat - 26.817854 Long - 92.086699 2. Erosion Occured on the L/B of Golandi river at Kalajhar village around 100m on 13.06.2022. GPS - Lat - 26.84900 Long - 92.06974 | 0, **Mazbat** - 1/ Chutiabasti village 2/ Paharpur village 3/ Alisinga(Rowmari) village 4/ Orang college stadium | 1/ Erosion occurred at L/B of river Rowtamukh at village chutiabasti(Potabil) on 13/6/2022.(26.454840, 92.1510987). Length- 200m(approx) 2/ Erosion occurred at L/B of river Monai at village Paharpur on 13/6/2022(26.523395, 92.101913) Length- 140m(approx) 3/ Erosion occurred at R/B of river Panchnoi at village Alisinga(Rowmari) on 13/6/2022(26.3952494, 92.194893). Length-220m(approx) 4/ Erosion occurred at R/B of river Panchnoi near Orang college stadium on 13/6/2022.(26.412859, 92.205244). length- 160m | 0, **Kalaigaon** - Pub Jangalpara | Erosion occurred at village Pub Jangalpara covering a length of 150 meters and depth of 2.5 meters by Naika river on 14/06/2022 in the R/B of the river near Nareswar Rabha's house due to heavy current of the river. | 35
Landslide	**District**	**Details**
	Kamrup (M)	**Azara** - Pamohi Road, Matiyapahar | Few boulders fell down. dated 14/06/2022 | 0, **Sonapur** - Amching Jorabat | A Guard wall collapsed and fall onto a pucca house which got partially damaged. 3 nos.of houses partially damaged and lying in vulnerable condition. Families were evacuated and shifted to a safer place. Occured on 14/06/2022 | 14, **Guwahati** - Boragaon, Chandmari Nizarapara, Happy Villa, Uzan Bazari, Navagraha Hills , Kharghuli Beltol, Krishna Nagar, Chandmari, Maligaon, Devkatanagar, 2no Maszid, Durgasarubar, Gandhibasti bye lane 3, North Jyoti Nagar, Matri Mandir | A 12 nos of major and minor landslide incidents occured under Guwahati Revenue Circle on 14/06/2022. At Boragaon 4 nos of person lost their lives. | 0, **Dispur** - Hengrabari , Moithghoria, Bamunpara, Sawkuchi, Pratiksha | Occured on today 14/06/2022 | 550
Urban Flood	**District**	**Details**
	Kamrup (M)	**Azara** - Dharapur Chowk | Water logging on 14/06/2022 | 0, **Guwahati** - Noonmati, Bamunimaidan, Guwahati Club, Chandmari, Silphukuri, Ulubari, Paltanbazar, Bharalu, Kumarpara, Santipur, Athgaon, Maligaon, Bhoothnath, Kalipur, Gotanagar, Boragaon, Jalukbari, Pandu, Adabari, GS Road, Anil Nagar, Nabin Nagar, Lachit Nagar, rajgarh road, Dhirenpara, Manpara, Ganeshpara | Artificial flood, waterlogging on 14/06/2022 | 0, **Dispur** - Sawkuchi, Tarun Nagar, Anil Nagar, Satgaon, Noonmati, Tetelia, Garhchuk, Rukmini gaon, Six mile, GS Road, Borbari, Hatigaom, Fatashil Ambari, Kahilipara, Jyotia, LalganeshPibco, Beltola, Narengi, Zoo Tiniali, Rajgarh | Artificial Flood Waterlogging Occured date on 14/06/2022 | 550
	Nalbari	**Nalbari** - Hajo Road, Palla Road , Circuit House Road,Bidyapur. MNC Collage Road, Forest Office Road, Gopal Bazar, Sarathi Road, Collage Road, Nagira Chowk, Udaypur | Due to continuous raining urban flood is occurred report received from LM on 14.06.2022. | 3500

Assam Daily Flood Report as on 18-06-2022 at 4:00 PM			
Particulars	Situation as on 18-06-2022 (in last 24 hours)		
Rivers flowing above Danger Level (as per CWC bulletin issued at 8 AM)	Rivers flowing above danger level	Beki (Road Bridge), Manas (Nh Road Crossing), Pagladiya (Nt Road Crossing), Puthimari (Nh Road Crossing), Kopili (Dharamtul), Jia-Bharali (Nt Road Crossing), Brahmaputra (Dhubri; Tezpur; Neamatighat)	
	Rivers flowing above highest flood level	Kopili (Kampur)	
District Affected	**No. of Districts Affected**	**Name of Flood Affected Districts**	**Name of Urban Flood Districts**
	32	Bajali, Baksa, Barpeta, Biswanath, Bongaigaon, Cachar, Chirang, Darrang, Dhemaji, Dhubri, Dibrugarh, Dima-Hasao, Goalpara, Golaghat, Hojai, Kamrup, Kamrup (M), Karbi Anglong West, Karimganj, Kokrajhar, Lakhimpur, Majuli, Morigaon, Nagaon, Nalbari, Sivasagar, Sonitpur, South Salmara, Tamulpur, Tinsukia, Udalguri	Barpeta, Darrang, Goalpara, Hailakandi, Kamrup (M), Nalbari, Udalguri
No. Of Revenue Circles Affected	118		

Name Of Revenue Circles Affected	**District**	**Total**	**Revenue Circle**
	Bajali	2	Bajali, Sarupeta
	Baksa	5	Baska, Jalah, Baganpara, Barnagar RC part, Barama
	Barpeta	6	Baghbar, Kalgachia, Chenga, Barpeta, Barnagar, Sarthebari
	Biswanath	1	Halem
	Bongaigaon	5	Manikpur, Boitamari, Bongaigaon, Dangtol, Srijangram
	Cachar	5	Silchar, Katigorah, Udharbond, Lakhipur, Sonai
	Chirang	3	Sidli, Bijni, Bengtal
	Darrang	4	Dalgaon, Patharighat, Mangaldoi, Sipajhar
	Dhemaji	4	Dhemaji, Gogamukh, Sissiborgaon, Jonai
	Dhubri	7	Dhubri, Gauripur, South Salmara Part, Bilasipara, Golakganj, Athani, Chapar
	Dibrugarh	3	Naharkatia, Chabua, Dibrugarh West
	Dima-Hasao	1	Haflong
	Goalpara	4	Matia, Balijana, Lakhipur, Rongjuli
	Golaghat	1	Khumtai
	Hailakandi	1	Hailakandi
	Hojai	3	Lanka, Hojai, Doboka
	Kamrup	9	Rangia, Boko, Chaygaon, Kayan, Goroimari, Kamalpur, Palashbari, North Ghy, Hajo
	Kamrup (M)	3	Sonapur, Guwahati, Dispur
	Karbi Anglong West	1	Donkamokam
	Karimganj	5	Badarpur, Patherkandi, Karimganj, Nilambazar, RK Nagar
	Kokrajhar	5	Bhawraguri, Gossaigaon, Dotma, Kokrajhar, Bagribari
	Lakhimpur	6	Subansiri, Bihpuria, Dhakuakhana, North Lakhimpur, Kadam, Nowboicha
	Majuli	2	Majuli, Ujani Majuli
	Morigaon	4	Bhuragaon, Mayong, Laharighat, Morigaon
	Nagaon	5	Kaliabor, Samaguri, Raha, Kampur, Nagaon
	Nalbari	7	Ghograpar, Tihu, Nalbari, Banekuchi, Barkhetri, Paschim Nalbari, Barbhag
	Sivasagar	2	Demow, Sivsagar
	Sonitpur	4	Thelamara, Chariduar, Dhekiajuli, Tezpur

	South Salmara	2	Mankachar, South Salmara
	Tamulpur	2	Goreswar, Tamulpur
	Tinsukia	1	Doomdooma
	Udalguri	5	Khairabari, Udalguri, Mazbat, Kalaigaon, Harisinga
	Total	**118**	
Villages Affected	**District**	**Total**	**Revenue Circle**
	Bajali	173	(Bajali | 95), (Sarupeta | 78)
	Baksa	67	(Baska | 17), (Jalah | 7), (Baganpara | 7), (Barnagar RC part | 20), (Barama | 16)
	Barpeta	584	(Baghbar | 121), (Kalgachia | 99), (Chenga | 50), (Barpeta | 145), (Barnagar | 34), (Sarthebari | 135)
	Biswanath	5	(Halem | 5)
	Bongaigaon	147	(Manikpur | 72), (Boitamari | 3), (Bongaigaon | 4), (Dangtol | 36), (Srijangram | 32)
	Cachar	90	(Silchar | 11), (Katigorah | 64), (Udharbond | 4), (Lakhipur | 5), (Sonai | 6)
	Chirang	29	(Sidli | 5), (Bijni | 17), (Bengtal | 7)
	Darrang	374	(Dalgaon | 92), (Patharighat | 59), (Mangaldoi | 165), (Sipajhar | 58)
	Dhemaji	85	(Dhemaji | 5), (Gogamukh | 32), (Sissiborgaon | 14), (Jonai | 34)
	Dhubri	439	(Dhubri | 49), (Gauripur | 44), (South Salmara Part | 83), (Bilasipara | 201), (Golakganj | 8), (Athani | 51), (Chapar | 3)
	Dibrugarh	7	(Naharkatia | 2), (Chabua | 4), (Dibrugarh West | 1)
	Dima-Hasao	11	(Haflong | 11)
	Goalpara	284	(Matia | 77), (Balijana | 99), (Lakhipur | 94), (Rongjuli | 14)
	Golaghat	4	(Khumtai | 4)
	Hojai	97	(Lanka | 15), (Hojai | 58), (Doboka | 24)
	Kamrup	283	(Rangia | 78), (Boko | 17), (Chaygaon | 5), (Kayan | 28), (Goroimari | 15), (Kamalpur | 76), (Palashbari | 3), (North Ghy | 23), (Hajo | 38)
	Kamrup (M)	32	(Chandrapur | 8), (Sonapur | 5), (Guwahati | 7), (Azara | 3), (Dispur | 9)
	Karbi Anglong West	10	(Donkamokam | 10)
	Karimganj	152	(Badarpur | 1), (Patherkandi | 10), (Karimganj | 3), (Nilambazar | 60), (RK Nagar | 78)
	Kokrajhar	178	(Bhawraguri | 27), (Gossaigaon | 5), (Dotma | 34), (Kokrajhar | 6), (Bagribari | 106)
	Lakhimpur	166	(Subansiri | 10), (Bihpuria | 31), (Dhakuakhana | 6), (Narayanpur | 10), (North Lakhimpur | 53), (Kadam | 12), (Nowboicha | 44)
	Majuli	41	(Majuli | 32), (Ujani Majuli | 9)
	Morigaon	108	(Bhuragaon | 11), (Mayong | 74), (Laharighat | 2), (Morigaon | 21)
	Nagaon	150	(Kaliabor | 2), (Samaguri | 5), (Raha | 29), (Kampur | 102), (Nagaon | 12)
	Nalbari	364	(Ghograpar | 71), (Tihu | 26), (Nalbari | 71), (Banekuchi | 19), (Barkhetri | 115), (Paschim Nalbari | 25), (Barbhag | 37)
	Sivasagar	25	(Demow | 6), (Sivsagar | 19)
	Sonitpur	118	(Thelamara | 33), (Chariduar | 30), (Dhekiajuli | 26), (Tezpur | 29)
	South Salmara	55	(Mankachar | 37), (South Salmara | 18)
	Tamulpur	46	(Goreswar | 29), (Tamulpur | 17)
	Tinsukia	18	(Doomdooma | 18)
	Udalguri	149	(Khairabari | 23), (Udalguri | 38), (Mazbat | 25), (Kalaigaon | 49), (Harisinga | 14)
	Total	**4291**	

Population And Crop Area Affected	**District**	**Male**	**Female**	**Children**	**Total Population**	**Population Details**	**Crop Area (in Hect.)**	**Crop Area Details**
	Bajali	178500	139200	34850	352550	(Bajali | 160000), (Sarupeta | 192550)	520.00	(Bajali | 0.00), (Sarupeta | 520.00)
	Baksa	14001	11151	7658	32810	(Barnagar RC part | 22064), (Baska | 1140), (Jalah | 3317), (Baganpara | 4855), (Barama | 1434)	748.07	(Barnagar RC part | 498.00), (Baska | 35.07), (Jalah | 147.00), (Baganpara | 43.00), (Barama | 25.00)
	Barpeta	306120	267810	157114	731044	(Kalgachia | 105700), (Chenga | 121150), (Barpeta | 105228), (Barnagar | 9865), (	13771.33	(Kalgachia | 1822.50), (Chenga | 1256.00), (Barpeta | 6230.00), (Barnagar | 1757.50), (

						Sarthebari | 335837), (Baghbar | 53264)		Sarthebari | 1860.33), (Baghbar | 845.00)
	Biswanath	851	693	547	2091	(Halem | 2091)	38.50	(Halem | 38.50)
	Bongaigaon	45834	40938	26140	112912	(Manikpur | 103609), (Bongaigaon | 0), (Dangtol | 0), (Srijangram | 8718), (Boitamari | 585)	2413.50	(Manikpur | 1946.00), (Bongaigaon | 196.50), (Dangtol | 271.00), (Srijangram | 0.00), (Boitamari | 0.00)
	Cachar	9805	8759	4343	22907	(Silchar | 4570), (Katigorah | 17871), (Udharbond | 96), (Lakhipur | 80), (Sonai | 290)	0.00	(Silchar | 0.00), (Katigorah | 0.00), (Udharbond | 0.00), (Lakhipur | 0.00), (Sonai | 0.00)
	Chirang	5294	5328	4150	14772	(Bijni | 9082), (Sidli | 2808), (Bengtal | 2882)	2871.50	(Bijni | 2871.50), (Sidli | 0.00), (Bengtal | 0.00)
	Darrang	145525	126716	81971	354212	(Dalgaon | 122440), (Patharighat | 75294), (Mangaldoi | 120007), (Sipajhar | 36471)	7463.70	(Dalgaon | 3795.50), (Patharighat | 1181.20), (Mangaldoi | 1572.00), (Sipajhar | 915.00)
	Dhemaji	13454	12822	6558	32834	(Gogamukh | 17117), (Sissiborgaon | 7721), (Jonai | 4462), (Dhemaji | 3534)	4521.50	(Gogamukh | 510.00), (Sissiborgaon | 405.00), (Jonai | 3565.50), (Dhemaji | 41.00)
	Dhubri	7805	7970	4564	20339	(Dhubri | 0), (Gauripur | 0), (South Salmara Part | 12655), (Bilasipara | 6545), (Golakganj | 66), (Athani | 503), (Chapar | 570)	4870.70	(Dhubri | 478.00), (Gauripur | 265.30), (South Salmara Part | 2069.00), (Bilasipara | 0.00), (Golakganj | 0.00), (Athani | 1040.20), (Chapar | 1018.20)
	Dibrugarh	2883	2213	1593	6689	(Chabua | 6667), (Dibrugarh West | 22), (Naharkatia | 0)	6.14	(Chabua | 5.70), (Dibrugarh West | 0.00), (Naharkatia | 0.44)
	Goalpara	106795	78708	35472	220975	(Balijana | 93322), (Lakhipur | 122317), (Matia | 5336), (Rongjuli | 0)	1400.50	(Balijana | 762.50), (Lakhipur | 0.00), (Matia | 614.00), (Rongjuli | 24.00)
	Golaghat	0	0	0	0	(Khumtai | 0)	26.00	(Khumtai | 26.00)
	Hojai	63889	47920	13526	125335	(Lanka | 12494), (Hojai | 88148), (Doboka | 24693)	3344.00	(Lanka | 791.00), (Hojai | 2227.00), (Doboka | 326.00)
	Kamrup	87703	73221	57229	218153	(Rangia | 50242), (Chaygaon | 0), (Kayan | 38122), (Boko | 0), (Goroimari | 0), (Kamalpur | 26362), (Palashbari | 0), (North Ghy | 463), (Hajo | 102964)	3737.85	(Rangia | 594.00), (Chaygaon | 144.00), (Kayan | 358.00), (Boko | 10.45), (Goroimari | 165.50), (Kamalpur | 492.90), (Palashbari | 198.00), (North Ghy | 58.00), (Hajo | 1717.00)
	Kamrup (M)	8110	6095	358	14563	(Chandrapur | 0), (Sonapur | 0), (Guwahati | 863), (Azara | 0), (Dispur | 13700)	219.00	(Chandrapur | 0.00), (Sonapur | 219.00), (Guwahati | 0.00), (Azara | 0.00), (Dispur | 0.00)
	Karbi Anglong West	5285	5286	5736	16307	(Donkamokam | 16307)	0.00	(Donkamokam | 0.00)
	Karimganj	27491	18362	6401	52254	(RK Nagar | 30425), (Badarpur | 50), (Patherkandi | 1335), (Karimganj | 3151), (Nilambazar | 17293)	200.00	(RK Nagar | 200.00), (Badarpur | 0.00), (Patherkandi | 0.00), (Karimganj | 0.00), (Nilambazar | 0.00)
	Kokrajhar	24771	20763	9158	54692	(Bagribari | 22829), (	717.79	(Bagribari | 284.49), (

	Kokrajhar	1	1	0						
	Tamulpur	1	1	0						
	Total	**8**	**8**	**0**						
Animals Affected	**District**	**Total**	**Big**	**Small**	**Poultry**					
	Bajali	100886	56719	29567	14600					
	Baksa	17170	10214	6956	0					
	Barpeta	601542	243350	131213	226979					
	Bongaigaon	147206	20089	10422	116695					
	Chirang	2715	840	595	1280					
	Darrang	222250	126603	62347	33300					
	Dhemaji	58744	21164	12773	24807					
	Dhubri	221706	138040	83666	0					
	Dibrugarh	1754	1477	277	0					
	Goalpara	52634	32520	11725	8389					
	Hojai	99612	35185	19927	44500					
	Kamrup	355253	204549	31909	118795					
	Kamrup (M)	5485	3850	1635	0					
	Kokrajhar	50185	20554	10386	19245					
	Lakhimpur	39307	24406	10876	4025					
	Nagaon	50788	29062	13002	8724					
	Nalbari	218783	105134	86759	26890					
	Sonitpur	9021	5668	3143	210					
	South Salmara	271672	104987	74164	92521					
	Tamulpur	18761	5721	6437	6603					
	Udalguri	8986	4677	3487	822					
	Total	**2554460**	**1194809**	**611266**	**748385**					
Animals Washed Away	**District**	**Total**	**Big**	**Small**	**Poultry**					
	Baksa	12	0	12	0					
	Goalpara	5	0	5	0					
	Nagaon	2	2	0	0					
	Sonitpur	2	0	2	0					
	Udalguri	10	10	0	0					
	Total	**31**	**12**	**19**	**0**					
Houses Damaged	**District**	**Fully Kuccha**	**Fully Pukka**	**Fully Total**	**Partially Kuccha**	**Partially Pukka**	**Partially Total**	**Others Huts**	**Others Cattle Shed**	**Others Total**
	Baksa	6	1	7	1	0	1	0	0	0
	Darrang	30	0	30	0	0	0	0	0	0
	Kamrup (M)	0	0	0	0	3	3	0	0	0
	Sonitpur	10	5	15	10	3	13	4	0	4
	South Salmara	6	0	6	0	0	0	0	0	0
	Total	**52**	**6**	**58**	**11**	**6**	**17**	**4**	**0**	**4**
Rescue Operation	**District**	**Agency**			**Boats Deployed**	**Person Evacuated By Boats**	**Animal Evacuated By Boats**	**Helicopters Deployed**	**Person Evacuated By Helicopters**	**Medical Team Deployed**
	Bajali	Army/Paramilitary force, SDRF, NDRF			6	203	0	0	0	0
	Baksa	Army/Paramilitary force			2	50	0	0	0	1
	Barpeta	NDRF, Fire & Emergency Services (F&ES), SDRF			28	1584	994	0	0	0
	Bongaigaon	Local People, SDRF, Country Boat, Engine Boat, Circle Office/Local Administration			28	230	0	0	0	13
	Chirang	Circle Office/Local Administration, SDRF, SSB HQ Chaprakata			5	514	0	0	0	10

	Goalpara	20.71	3.77	1.14	113.22	0.00	0.00	0.00
	Hojai	300.00	7.80	3.25	156.00	0.00	0.00	60.00
	Kamrup	206.06	67.51	19.98	1997.68	0.00	1494.00	0.00
	Kamrup (M)	0.60	0.10	0.03	3.00	0.00	0.00	0.00
	Karbi Anglong West	129.56	24.46	7.34	7.34	0.00	0.00	0.00
	Karimganj	13.00	1.20	0.50	0.00	0.00	0.00	0.00
	Kokrajhar	56.51	10.38	3.12	311.58	4.50	0.00	0.00
	Lakhimpur	549.12	101.78	30.53	3137.88	0.00	0.00	126.30
	Nagaon	22.17	4.04	1.21	0.00	0.00	0.00	0.00
	Nalbari	277.67	62.08	19.93	1993.00	0.00	0.00	0.00
	Sonitpur	506.45	95.66	28.62	0.00	0.00	226.40	0.00
	Tamulpur	363.20	64.01	19.43	393.09	0.00	0.00	0.00
	Udalguri	461.50	87.19	20.02	186.59	0.00	0.00	0.00
	Total	**14061.89**	**2697.56**	**1211.53**	**18205.70**	**4.50**	**9543.44**	**1109.05**

	District	**Baby Food Liquid**	**Baby Food Solid**	**Others**
Relief Distributed Others	Bajali	0.00-Q, 0.00-ml	0.00-Q, 0.00-ml	wheat bran-851.00-Q; candle-17.00-Pieces
	Baksa	0.00-Q, 0.00-Pkt	0.00-Q, 47.00-Pkt	Animal feed-10000.00-Kg; Biscuit-643.00-Pkt; Candel-643.00-Pkt; Candle-5.00-Pkt; Biscuits -82.00-Pkt; Mosquito coil -2.00-Q
	Barpeta	0.00-Pkt, 0.00-Q	11.00-Pkt, 0.00-Q	Sanitary napkins -200.00-Pkt; Candle -50.00-Pkt; Mosquito coil -50.00-Pkt
	Bongaigaon	2043.00-Pkt, 0.00-Q, 568.80-L	2043.00-Pkt, 450.00-Q	Tarpaulin-600.00-Pieces; Mother horlicks -25.00-Pkt; Sanitary Pad-474.00-Pkt; Tarpaulin -460.00-Pieces; candle-372.00-Pkt; matches -10.00-Pkt; chira-1.62-Q; gur-0.30-Q
	Cachar	0.00-Q	0.00-Q	
	Chirang	0.00-Q	0.00-Q, 42.00-Pkt	Tarpaulin-623.00-Pieces; Candle-295.00-Pkt; Mosquito Coil-298.00-Pkt; Soap-38.00-Pieces; Sanitary Napkin-48.00-Pkt; Match Box-4.00-Pkt
	Darrang	0.00-Q, 0.00-Pkt	0.00-Q, 448.00-Pkt	Tarpaulin-2150.00-Pieces
	Dhemaji	0.00-Q	0.00-Q	Tarpaulin-159.00-Pieces; Tarpaulin -490.00-Pieces
	Dhubri	375.00-Pkt, 0.00-Q	0.00-Q, 26.00-Pkt	Candle-60.00-Pkt; M. Coil-60.00-Pkt; M.Box-60.00-Pieces; Tarpaulin-84.00-Pieces; sanitary napkins-90.00-Pkt
	Dibrugarh	0.00-Q	0.00-Q	Tarpaulin -2.00-Pieces
	Dima-Hasao	0.00-Q	0.00-Q	Haldi-6.00-Pkt; Milk-6.00-L; Potato-30.00-Kg; Onion-6.00-Kg; Biscuit-42.00-Pkt; Candle-18.00-Pkt; Match Box-6.00-Pkt; Mosquito Repellent-12.00-Pkt
	Goalpara	0.00-Q	0.00-Q	Chira-1.93-Q; Gur-0.34-Q; Mosquito Coil-252.00-Pkt; Match Box-252.00-Pkt; Candle-252.00-Pkt; Tarpaulin-1118.00-Pieces
	Hojai	0.00-Q	0.00-Q	Amul Taza-156.00-L; Water-240.00-L; Sanitary Pad-65.00-Pkt; Water Bottle-1320.00-L
	Kamrup	73.00-Pkt, 0.00-Q	73.00-Pkt, 0.00-Q	Candles-40.00-Pkt; Mosquito Coil-40.00-Pkt; Sanitary Napkin-8.00-Pkt; Tarpaulin-500.00-Pieces; Candle-15344.00-Pkt; Candel-20.00-Pkt
	Kamrup (M)	0.00-Q	0.00-Q	Tarpouline-430.00-Pieces; Bread-50.00-Pkt; Biscuit-50.00-Pkt; Candle-5.00-Pkt
	Karbi Anglong West	0.00-Q	0.00-Q	
	Karimganj	0.00-Q	0.00-Q	0-0.00-Q
	Kokrajhar	0.00-Q	0.00-Q, 46.50-Kg, 12.00-Pkt	Candle-340.00-Pieces; Match Box-430.00-Pieces; CANDLE-92.00-Pkt; CORNFLAKES-3.90-Kg; MOTHER HORLICKS-9.00-Kg; BISCUITS-117.00-Pkt; SANITARY NAPKIN-240.00-Pieces; HAND SANITIZER-2.00-L; SOAP-398.00-Pieces; BLEACHING POWDER-10.00-Kg; Biscuit-54.00-Pkt; Candle-34.00-Pkt; Match Box-15.00-Pkt; Mosquito Coil-84.00-Pkt; Bath Soap-84.00-Pieces
	Lakhimpur	0.00-Q	0.00-Q, 64.00-Pkt	Suji 1/2 kg-30.00-Pkt; Horlicks 500 g-14.00-Pkt; concentrated cattle feed Godrej Supreme-76.00-Q; Tarpaulin-113.00-Pieces; Concentrate Feed (Cattle Feed)-28.00-Q; Halogen Tablet-4000.00-Pieces; Horlics (Baby Food)-60.00-Pieces; 0-0.00-Q
	Nagaon	500.00-Pkt	500.00-Pkt	Candle-100.00-Pkt; HTW-1.00-Pieces

			2.Dhanua 3.Jangal Chariali 4. Kalair Alga 5. Diara to Kalapani. 6.Sadullabari To Kalapani. | As per report submitted PWRD Mankachar Territorial Road sub-Division Mankachar road damaged due to heavy rain fall on 16/06/22.The details as shown below:- 1.Road surface of halliday ganj Mankachar Road has badly damaged due to heavy rain. 2.HM Road to Dhanua PMGSY road has submerged from 1st KM to 4th by flash flood water. 3. Road surface and side berm of PMGSY road Jangal Chariali to Puthimari Bazar has damaged due to heavy rain . 4.Road surface and side berm of road from H.K road to Kalairalga has damaged due to heavy rain . 5. Road surface and side berm of Diara kalapani has damaged due to heavy rain fall. 6. Road surface and side berm of sadullabari kalapani road has damaged due to heavy rain fall. | (Long - 25.595986, Lat - 89.918953)
	Total	**219**	
Infrastructure Damaged - Bridge	**District**	**Number**	**Details**
	Bajali	2	**Sarupeta** - puran bhabanipur to sarupeta bridge, | puran bhabanipur | report received from concerned LM on 18/06/2022 | (Long - 91.310000, Lat - 26.290000), luwashur to sarupeta road | sarupeta | report received from concerned LM on 18/06/2022 | (Long - 91.060000, Lat - 26.490000)
	Morigaon	1	**Morigaon** - RCC Bridge No. 1/1 over river Killing 18/06/2022 | Kuthuribagisa | Bridge approaches of RCC Bridge No. 1/1 over river Killing on NH-37 to Kuthuribagisa Road eroded. | (Long - 92.297482, Lat - 26.089079)
	Nalbari	1	**Nalbari** - RCC Br No 1/1 | Patkata Dhekiabari road | as per the report of PWRD, RCC BR no 1/1 on Patkata Dhekiabari Road approach damaged Dated: 17/06/2022 | (Long - 0.000000, Lat - 0.000000)
	Sonitpur	1	**Dhekiajuli** - Keherukhanda to Katalu Dub PWD road Rcc bridge approach damaged due to water action. dated 17.6.22 | Keherukhanda to Katalu Dub PWD road Rcc bridge approach damaged due to water action. dated 17.6.22 | | (Long - 92.533161, Lat - 26.724542)
	Total	**5**	
Infrastructure Damaged - Wildlife	**District**	**Wildlife affected under protected areas description**	
	Morigaon	**Mayong** - Pobitora WLS Out of a total of 25nos of Camp 15nos of camps were affected and 2nos of camps were inundated as reported by Range Officer PWLS on 18/06/2022	
Infrastructure Damaged - Others	**District**	**Other Details**	
	Baksa	**Baska** - Culvert Approach Road Damaged | DUE TO HEAVY RAIN SUZIT NARZARY ROAD AT 2NO KATLIGAON RAVA SUPA SLAB CULVERT APPROACHE DAMAGED ON DT. 16/06/2022 91°21'37.31"E 26°38'49.07"N at Village Katligaon Rabha Supa, Culvert Approach Road Damaged | DUE TO HEAVY RAIN SILPATA TO POLASH CHAWK VIA DWIMUGURI ROAD CULVERT APPROACHE DAMAGED ON DT. 16/06/2022 91°21'43.83"E 26°41'3.83"N at Village Motipur DWIMUGURI , Culvert Approach Road Damaged | DUE TO HEAVY RAIN KAREMURA TO NIKASHI ROAD HP CULVERT DAMAGED ON DT. 16/06/2022 91°18'3.83"E 26°34'23.34"N at Village Choudhiritrop, Culvert Approach Road Damaged | DUE TO HEAVY RAIN BATHOPURI TO KOLA CHAWK ROAD SLAB CULVERT DAMAGED AT MOTIPUR ON DT. 16/06/2022 91°21'30.05"E 26°40'36.68"N at Village Amarabati, Culvert Approach Road Damaged | DUE TO HEAVY RAIN GARAMDEW TO BHEBARI ROAD AT PATABARI SUPA CULVERT APPROACHE DAMAGED ON DT. 16/06/2022 91°18'46.62"E 26°40'1.21"N at Village Geramdeu, Culvert Approach Road Damaged | DUE TO HEAVY RAIN GARAMDEW TO AMRAGURI ROAD CULVERT APPROACHE DAMAGED ON DT. 16/06/2022 91°18'12.39"E 26°39'56.91"N at Village Garamdew Amraguri, Culvert Approach Road Damaged | DUE TO HEAVY RAIN UZIRBARI SLAB CULVERT APPROACHE ERODED ON DT. 15/06/2022 91°18'7.58"E 26°38'31.38"N at Village Ujirbari, Culvert Approach Road Damaged | ROAD & CULVERT SIDE DAMAGED AT L36 to SANGBAN KHUTI ROAD UNDER PMGSY ON DT. 15/06/2022 91°21'40.45"E 26°37'25.75"N at Village Bunbari, Culvert Approach Road Damaged | ROAD & CULVERT DAMAGED ON NUSHALPUR TO PURAN MUSHALPUR ROAD AT ATHIABARI ON DT.15/06/2022 91°17'21.66"E 26°35'55.01"N at Village Pub Athiabari, Culvert Approach Road Damaged | CULVERT APPROACHE DAMAGED ON LAFAKUCHI TO BHURKUCHI SUPA PWD ROAD ON DT. 15/06/2022 91°18'29.41"E 26°38'19.52"N at Village Laphakuchi, Culvert Approach Road Damaged | Mushalpur to Thomna Road Slab culvert 1 slab damaged and one Culvert Approch damaged ON DT. 15/06/2022 91°19'31.10"E 26°38'46.08"N at Village Sirisbari, Irrigation Canal/Scheme Damaged | Jiaguri FIS - The D/S guide bund along with protection works are completely damaged and U/S afflux bund protection work is partially damaged on 17-06-2022. co-ordinates 26.685558, 91.362254 , Irrigation Canal/Scheme Damaged | Dekadong FIS - The canal system (specially at MRD-I) At some changes are damaged & Hume pipe aqueduct is damaged 17-06-2022. co-ordinate 26.693771, 91293476/ 26.703664, 91.305508, Irrigation Canal/Scheme Damaged | Sirisbari FIS - The earthen canal at some changes are damaged, 17-06-2022 Co-ordiante 26.636306, 91.338764, Irrigation Canal/Scheme Damaged | Tatlapara FIS- The gate and U/S afflux bund is partially damaged, 17-06-

		Kinaborgaon on 15/06/2022, Irrigation Canal/Scheme Damaged | As reported by Irrigation Department Sidli Division, Ghorabandha FIS irrigation Canal embankment damaged at Amlaiguri village on 16/06/2022. Damage Details: Length: 5M, Breadth: 2.5M depth: 1.8 M (Long:90.4556270 Lat: 26.575982), **Bijni** - Bridge Approach Road Damaged | As reported by PWD Bijni(R&B) Sub Division, bridge approach of Br. No 1/1 eroded at 1st KM of Bagargaon Gundamara road. Length=70.00 mtr, Breadth=8.0 mtr, Depth=6.00 mtr. Date of Occurrence=16-06-2022, Culvert Approach Road Damaged | As report by PWD Bijni(R&B) Sub Division, H.P. Culvert approach eroded at 1st Km (Ch 1500.00m) of Bangaljhora sariali to Bangaljhora road. Length=8.00 mtr, Breadth=2.00 mtr, Depth=2.50 mtr. Date of Occurrence=17-06-2022, **Bengtal** - Irrigation Canal/Scheme Damaged | As reported by Soil Conservation Dept. Subaijhar LDP damaged on 18-06-2022, L-127m B-12m D-1.5m, Lat- 26.594446 Long-90.498086, Irrigation Canal/Scheme Damaged | As reported by Soil Conservation Dept. Domgaon Water Harvesting Project damaged on 18-06-2022, L-115m B-4.5m D-1.4, Lat- 26.58552 Long-90.502833
	Darrang	**Patharighat** - PWSS Damaged | 2 PWSS affected as reported by JE PHE, **Mangaldoi** - Power Dept. Poles | 10 nos of poles are damaged dated 18.06.2022, Handloom & Textile Deptt | 111 nos weiver affected as repoted by Handloom & Textile dated 18.06.2022, **Sipajhar** - Power Dept. Poles | 18, Power Dept. Conductors | 20 km approx, Fisheries/Pond | Total number of fish farmers affected (approximately) - 550 nosTotal water area affected (approximately) - 41 Hac, Handloom & Textile Deptt | weavers affected 151, loom accessories 5, no. of warp 151, Sericulture Deptt. Damaged | 75 nos.
	Dibrugarh	**Chabua** - Health Sub-Centre | DODHIA KULIGAON HEALTH SUB-CENTRE SUBMERGED AS PER INFORMATION RECEIVED FROM HEALTH DEPT. ON 18/6/2022 Coordinates-N27 35.835 E95 13.266, Elementary Schools Damaged | DODHIA ME SCHOOL SUBMERGED AS PER INFORMATION RECEIVED FROM EDUCATION DEPT. ON 18/6/2022 N27 36.390 E95 13.651, Elementary Schools Damaged | DODHIA KULIGAON LPS SUBMERGED AS PER INFORMATION RECEIVED FROM EDUCATION DEPT. ON 18/6/2022 N27 35.845 E95 13.227, Elementary Schools Damaged | DODHIA KARMI LPS SUBMERGED AS PER INFORMATION RECEIVED FROM EDUCATION DEPT. ON 18/6/2022 N 27 36.032 E95 14.787, Elementary Schools Damaged | DODHIA TENGABARI LPS SUBMERGED AS PER INFORMATION RECEIVED FROM EDUCATION DEPT. ON 18/6/2022 N27 36.652 E95 14.237, Elementary Schools Damaged | DODHIA CHALBIL LPS SUBMERGED AS PER INFORMATION RECEIVED FROM EDUCATION DEPT ON 18/6/2022 N27 36.462 E95 14.673, Anganwadi Centres Affected | DODHIA KULIGAON AWC SUBMERGED AS PER INFORMATION RECEIVED FROM SOCIAL WELFARE DEPT. ON 18/6/2022 N27 35.845 E 95 13.227, Anganwadi Centres Affected | DODHIA TENGABARI AWC SUBMERGED AS PER INFORMATION RECEIVED FROM SOCIAL WELFARE DEPT ON 18/6/2022 N27 36.652 E95 14.237, Anganwadi Centres Affected | DODHIA AWC SUBMERGED AS PER INFORMATION RECEIVED FROM SOCIAL WELFARE DEPT ON 18/6/2022 N27 36.390 E95 13.651, Elementary Schools Damaged | MOHMORA HINDI LPS SUBMERGED AS PER INFORMATION RECEIVED FROM EDUCATION DEPT. ON 18/06/2022. N27 34'5.0514" E95 10'23.7144", Elementary Schools Damaged | MIRIGAON LPS SUBMERGED AS PER INFORMATION RECEIVED FROM EDUCATION DEPT. ON 18/06/2022. N27 30'44.51" E95 12'49.41", Anganwadi Centres Affected | UPPER GEREKI AWC SUBMERGED AS PER INFORMATION RECEIVED FROM SOCIAL WELFARE DEPT. ON 18/6/2022 N27 33.942 E95 15.125, Anganwadi Centres Affected | DODHIA CHALBIL AWC SUBMERGED AS PER INFORMATION RECEIVED FROM SOCIAL WELFARE DEPT ON 18/6/2022. N27. 5714 E95. 2346
	Dima-Hasao	**Haflong** - Road Breaches | Nablaidisa - Hajadisa Road blocked due to landslide as per info received from PWRD dated 18/06/2022, Road Breaches | Mahur - Laisong Road blocked due to landslide as per info received from PWRD dated 18/06/2022, Road Breaches | Gunjung - Maibang Road blocked due to landslide as per info received from PWRD dated 18/06/2022, Road Breaches | Retzawl - Amranagar Road blocked due to landslide as per info received from PWRD dated 18/06/2022, Road Breaches |
	Hojai	**Lanka** - PWSS Damaged | Dakhin Laskarpathar PWSS submarged on 17/06/2022, PWSS Damaged | Manduli PWSS submarged on 17/06/2022, PWSS Damaged | Uttar Laskar Pathar PWSS submarged on 17/06/2022, PWSS Damaged | Dublpng PWSS submarged on 17/06/2022, PWSS Damaged | Simlai pather PWSS submarged on 17/06/2022, **Hojai** - PWSS Damaged | Warigeding PWSS submarged on 17/06/2022, PWSS Damaged | Alinager PWSS submarged on 17/06/2022, PWSS Damaged | Solmarijan PWSS submarged on 17/06/2022, PWSS Damaged | Fatehpur PWSS submarged on 17/06/2022,

Assam Daily Flood Report as on 15-06-2023 at 4:00 PM								
Particulars	Situation as on 15-06-2023 (in last 24 hours)							
Rivers flowing above Danger Level (as per CWC bulletin issued at 8 AM)	Rivers flowing above danger level					Nil		
	Rivers flowing above highest flood level					Nil		
District Affected	**No. of Districts Affected**	**Name of Flood Affected Districts**				**Name of Urban Flood Districts**		
	6	Dhemaji, Dibrugarh, Lakhimpur				Cachar, Kamrup (M), Nalbari		
No. Of Revenue Circles Affected	10							
Name Of Revenue Circles Affected	**District**	**Total**	**Revenue Circle**					
	Cachar	1	Silchar					
	Dhemaji	2	Dhemaji, Sissiborgaon					
	Dibrugarh	1	Chabua					
	Kamrup (M)	2	Dispur, Guwahati					
	Lakhimpur	3	North Lakhimpur, Nowboicha, Kadam					
	Nalbari	1	Nalbari					
	Total	**10**						
Villages Affected	**District**	**Total**	**Revenue Circle**					
	Dhemaji	8	(Dhemaji | 5), (Sissiborgaon | 3)					
	Dibrugarh	1	(Chabua | 1)					
	Lakhimpur	16	(North Lakhimpur | 1), (Nowboicha | 11), (Kadam | 4)					
	Total	**25**						
Population And Crop Area Affected	**District**	**Male**	**Female**	**Children**	**Total Population**	**Population Details**	**Crop Area (in Hect.)**	**Crop Area Details**
	Dhemaji	676	599	222	1497	(Dhemaji | 510), (Sissiborgaon | 987)	35.00	(Dhemaji | 15.00), (Sissiborgaon | 20.00)
	Dibrugarh	1567	1240	1050	3857	(Chabua | 3857)	0.00	(Chabua | 0.00)
	Lakhimpur	11275	11026	1215	23516	(North Lakhimpur | 1050), (Kadam | 0), (Nowboicha | 22466)	180.57	(North Lakhimpur | 0.00), (Kadam | 4.07), (Nowboicha | 176.50)
	Total	**13518**	**12865**	**2487**	**28870**		**215.57**	
Relief Camps / Centres Opened	**District**	**Total**	**Relief Camp**			**Relief Distribution Centres**		
	Lakhimpur	3	0(Nowboicha | 0)			3(Nowboicha | 3)		
	Total	**3**	**0**			**3**		
Inmates In Relief Camps	Nil							
Human Lives Lost - Confirmed	Nil							
Human Lives Lost Confirmed - Death Type	Nil							
Human Lives Lost - Missing	Nil							

Human Lives Lost Missing - Type	Nil									
Animals Affected	**District**	**Total**	**Big**	**Small**	**Poultry**					
	Dhemaji	953	214	108	631					
	Lakhimpur	5354	3780	1574	0					
	Total	**6307**	**3994**	**1682**	**631**					
Animals Washed Away	Nil									
Houses Damaged	**District**	**Fully Kuccha**	**Fully Pukka**	**Fully Total**	**Partially Kuccha**	**Partially Pukka**	**Partially Total**	**Others Huts**	**Others Cattle Shed**	**Others Total**
	Lakhimpur	2	1	3	10	1	11	0	1	1
	Total	**2**	**1**	**3**	**10**	**1**	**11**	**0**	**1**	**1**
Rescue Operation	**District**	**Agency**			**Boats Deployed**	**Person Evacuated By Boats**	**Animal Evacuated By Boats**	**Helicopters Deployed**	**Person Evacuated By Helicopters**	**Medical Team Deployed**
	Lakhimpur	SDRF			1	10	0	0	0	2
	Total				**1**	**10**	**0**	**0**	**0**	**2**
Relief Distributed	**District**	**Rice (in Q)**	**Dal (in Q)**	**Salt (in Q)**	**M. Oil (in L)**	**Cattle Feed - Green Fooder (in Q)**	**Cattle Feed - Wheat Bran (in Q)**	**Cattle Feed - Rice Bran (in Q)**		
	Lakhimpur	32.38	6.24	1.87	187.00	0.00	0.00	0.00		
	Total	**32.38**	**6.24**	**1.87**	**187.00**	**0.00**	**0.00**	**0.00**		
Relief Distributed Others	**District**	**Baby Food Liquid**		**Baby Food Solid**		**Others**				
	Lakhimpur	0.00-Q		339.00-Pkt		Candles -491.00-Pkt				
Infrastructure Damaged - Embankment Breached	**District**	**Number**	**Details**							
	Goalpara	1	**Matia** - Dohapara Bamunpara Bandh | Bamunpara | Right Bank of Dudhnoi River, Total Breach Length = 10 m as on 15/06/2023 as reported by Water Resources Department, Goalpara | (Long - 90.753727, Lat - 26.020408, Dept - P&RD)							
	Total	**1**								
Infrastructure Damaged - Embankment Affected	**District**	**Number**	**Details**							
	Biswanath	2	**Gohpur** - Gupsarguri marginal embankment | Mild erosion observed at R/Bank of river Sessa on 15/06/23 of length 30 mtr | | (Long - 93.716944, Lat - 26.979166, Dept - --Select Department--), Baligaon marginal embankment | Mild erosion is observed at R/Bank of river sessa on 15/06/23 of Length 50 mtr | | (Long - 93.712256, Lat - 26.989844, Dept - Water Resource Deptt.)							
	Dhemaji	1	**Dhemaji** - Kumatiya left Embankment from NH-15 to Gurathali Chapori | Kumatiya Left Bank | Yesterday on 14/06/2023, Due to incessant rainfall and flood affected, several rain cuts depression etc. all along the reach has been inadequate to withstand flood thrust and also the said reach lacks sufficient free board. Length 800 meters (approx) | (Long - 94.462329, Lat - 27.419640, Dept - Water Resource Deptt.)							
	Total	**3**								
Infrastructure Damaged - Road	**District**	**Number**	**Details**							
	Lakhimpur	4	**Subansiri** - Champora to Keseruguri road | Champora to Keseruguri Road at 1st KM. | Road embankment is erroded on left bank Champora to Keseruguri Road at 1st KM (L= 60M) as per report submitted by PWD roads, Dhakuakhana Divn on 15/06/2023. | (Long - 0.000000, Lat - 0.000000, Dept - PWD (Roads)), Sonari Chapori to Sapekhati Road | Sonari Chapori to Sapekhati Road at 2nd KM. | Road embankment is eroded on Sonari Chapori to Sapekhati Road at 2nd KM (L= 150M) as per report submitted by PWD roads, Dhakuakhana Divn on 15/06/2023. | (Long - 0.000000, Lat - 0.000000, Dept - PWD (Roads)), **Nowboicha** - NH-15 to Mahghuli Borchala Road | 1 No. Solmoria | water submerged from Ch 1600 mm to Ch 4500 mm reported by PWD roads , Nowboichha on 15/06/2023. | (Long - 27.149188, Lat - 94.003676, Dept - PWD (Roads)), Pandhowa to Mohghuli Road under PMGHY | Pandhowa | Road embankment and soldier erosion and flood water overtopping from Ch. 1290 mm to Ch 1800 mm as reported by PWD roads, Nowboicha on 15/06/2023. | (Long - 27.083436, Lat - 94.035292, Dept - PWD (Roads))							

	Total	**4**	
Infrastructure Damaged - Bridge	Nil		
Infrastructure Damaged - Wildlife	Nil		
Infrastructure Damaged - Others	**District**	**Other Details**	
	Baksa	**Baska** - Road Breaches | Road breached at Dighaldonga to Query Chawk at village Bhabanipur B-Block, Coordinate : 26.713426, 91.380591, Date: 15/06/2023, Agri Bundh Damaged | Goldingpara Agri Bund damage at village Goldingpara due to rivulet Golding. Coordinate : 26.597401, 91.324011, date 15/06/2023	
	Dima-Hasao	**Haflong** - Fisheries/Pond | Fishery of Sri Poten Johori of village Langting Hasin II was severely affected due to excessive rainfall on 10th June, 2023. But information received on 14th June late evening, Fisheries/Pond | Fishery of Sri Kamingbe Nkuame of village N. Kubing was severely affected on 15th June 2023	
	Goalpara	**Lakhipur** - Irrigation Canal/Scheme Damaged | The marginal bund constructed by RHAC breaches in last night on dated 14-06-2023 at down stream of Dharsi FIS due to overflow of water & due to obstruction at down stream for falling of big trees Due to overflow of water at Lahapara Revenue Village Chainage 30m to 35m Chainage 105m to 115m Chainage 140m to 160m Chainage 170m to 190m Chainage 225m to 235m Lat:25.9797406 Long: 90.3276739, **Matia** - Irrigation Canal/Scheme Damaged | Canal damage in Islampur point under Matia LIS On 15/06/2023 20 m approx. Lat:26.067235 and Long:90.76722	
	Karimganj	**Karimganj** - Bridge Approach Road Washed Away | Bridge Approach Road washed away (Damaged) approx 2.5M on 14/06/2023 near longai bridge at umapati- Anorpar Road. The GPS coordinates of the incident place is Lat 24.854889 , long 92.345481	
	Lakhimpur	**Subansiri** - Bridge Approach Road Damaged | Bridge approach at RCC Bridge No 3/1 on Left bank Champora to Keseruguri Road (L= 10 M) as per report submitted by PWD roads, Dhakuakhana Divn on 15/06/2023., **Nowboicha** - Power Dept. Conductors | 33.46 KM .Report received from APDCL Nowboicha on 15/06/2023., Power Dept. Poles | 41 Nos. Report received from APDCL Nowboicha on 15/06/2023., Power Dept. Transformers | 3 Nos. Report received from APDCL Nowboicha on 15/06/2023., PWSS Damaged | 10 Nos. Report received from PHE, Lakhimpur on 15/06/2023, Culvert Approach Road Damaged | Culvert approach damaged at Cul No. 2/1 on NH-15 to Mohghuli Pandhowa Road. Report received from PWD (Roads)on 15/06/2023., Fisheries/Pond | 655 Nos. of Fishery (125.2 Hect.) overflow due to Singra River Flood water .Report received from Fishery Dept. Lakhimpur on 15/06/2023., Anganwadi Centres Affected | 4 Nos. (Kalakhowa 3B, No 1 Kolakhowa, Phukan Doloni,Solmoria) of AWCs affected due to Singra River Flood water. Report received from ICDS Project Nowboicha on 15/06/2023., Elementary Schools Damaged | 7 Nos. of LPS (No 1 Kolakhowa, No 1 solmoria, Alichuk, sumoni Adibashi, Balitika, Dakhin Kolakhowa, No 1 Dejoo Pather) and 1 No. MES (Dakhin Nowboicha) water submerged due to Flood water . Report received from Block Ele Edu. Office Nowboicha on 15/06/2023., Culvert Approach Road Damaged | 5/1 culvert approach damaged at NH 15 to Mohghuli via Borchala as reported by PWD roads, Nowboicha on 15/06/2023., **Kadam** - Road Breaches | The connecting road between Dirgha NC and Lalapani village breache around 30 feet as reported by concerned Gaon Pradhan on 15/06/2023	
Erosion	**District**	**Details**	
	Biswanath	**Gohpur** - Erosion is observed at Dakhin Deonabari R/Bank embankment of river Solengi | of length 10 mtr on 15/06/23 | 0 | (Long - 93.642885, Lat - 26.910851), **Naduar RC part** - kalakati | Dated 15/06/2023, As per report submitted by Biswanath WR Sub-Division, Active bank erosion is observed in between 6th to 7th km of Biswanath-Panpur Dyke of river Brahmaputra. Lat 26.67441008 Long 93.09784163 | 0 | (Long - 93.097955, Lat - 26.674689), **Halem** - Paken | 1) Mild bank erosion continues by the river Brahmaputra at Paken area of BDyke from Jumuguri to Kharoi outfall. Length 30.00m, report on 15/06/2023 | 0 | (Long - 90.627646, Lat - 26.800760), **Biswanath** - 4 No. Kumalia (Forciati) | continuous active bank erosion is observed at Forciati area in between Ch. 3rd to 4th Km of Biswanath-Panpur and 6th to 7th Km of Solmari Kalakati area of Biswanath - Panpur Dyke of river Brahmaputra. on 15/06/2023 | 0 | (Long - 93.128236, Lat - 26.685182)	
	Bongaigaon	**Srijangram** - Tinkonia Pt 2, Tinkonia Pt3 | 10 no.s of house dismantled/damaged to the ongoing erosion at the above mentioned villages. Dated 15.06.2023 | 54 | (Long - 90.642406, Lat - 26.238362)	
	Dibrugarh	**Dibrugarh East** - Upstream of Spur no -VII | Flood damaged due to river brahmaputra at upstream of stone spur no VII of DTP dyke damaging around 25m reach as on 15.06.2023 report received from Water Resource Department. GPS Co-Ordinates - From 27.48466, 94.90048 to 27.48492,94.90117. | 0 | (Long - 27.480000, Lat - 94.900000)	
	Jorhat	**Teok** - Upper Hatimuriah | Severe damage has been observed at Hatimuriah area of left bank of river Jhanji on 14-06-2023 due to sudden drawn down of current flood wave of river Jhanji. Length of the area is approx 100 M. | 0 | (Long - 94.516111, Lat - 26.803056)	
	Lakhimpur	**Bihpuria** - Dahgharia & Madhupur area | Active erosion is observed at Dahgharia and Modhupur area on Dikrong R/B. Temporary works are in progress as reported by WRD, Bihpuria Sub division on 15/06/2023. | 0 | (Long - 0.000000, Lat - 0.000000), **Kadam** - Bhimpara Mathauri | Around 50 mtrs area eroded by the river Subansiri at Bhimpara Mathuri village	

		are, reported by the Circle Officer and Concerned LM on 15/06/2023, 5 nos of households will be affected | 25 | (Long - 0.000000, Lat - 0.000000)
	Morigaon	**Bhuragaon** - Kupatomari | As per water resource department, Morigaon 1 meter land eroded by Brahmaputra River at Kupatimari from 13-06-2023 to 15-06-2023 | 0 | (Long - 26.411427, Lat - 92.248777)
	Sonitpur	**Thelamara** - Village- Nabeel and Ghatua | Date-15/06/2023, As reported by Tezpur Water Resource Division. on 15/06/2023, Bank erosion is observed on the R/Bank of river Gabharu near Nabeel area.Length -80m, Latitude-26.64162 and Longitude-92.627171 Bank erosion observed at Ghatua area on the R/Bank of river Gabharu. Length-200m, Latitude-26.696956 and longitude-92.630724 | 0 | (Long - 26.641620, Lat - 92.627171), **Tezpur** - Kalibari Rajah Sahar | Dated: 15/06/2023. As reported by Tezpur Water Resources Division,Tezpur bank erosion is observed at Kolibari area under Kolibari Rajah Sahar village on the R/Bank of river Brahmaputra. Length =12.00m. | 0 | (Long - 92.812909, Lat - 26.614766)
	Udalguri	**Harisinga** - Kathalguri | Kathalguri FIS. Irrigation canal eroded approximately 40m length and 4m width on 14th June 2023 due to heavy rainfall. | 0 | (Long - 91.981554, Lat - 26.702468)
Landslide	**District**	**Details**
	Cachar	**Sonai** - Mohankhal | Due to heavy rainfall from past few days an incident of landslide took place today morning (15/06/2023) in Mohankhal Village of Mohankhal-Rammaniukpur GP under Sonai Revenue Circle resulting in the partially damage of one Pucca house belongs to Matibur Rahman Mazumder S/o Mur Uddin Mazumder | 5 | (Long - 92.968381, Lat - 24.581718), **Katigorah** - Talkar Grant | A landslide due to incessant rainfall has occurred in Talkar Grant under Katigorah Revenue Circle on 14.06.2023 where the house of Boby Ghatowar has been affected | 4 | (Long - 92.524285, Lat - 24.982357)
	Kamrup (M)	**Dispur** - Khanapar and Satgaon | 1. A landslide incident occurred when rainwater and dirt pour down at Pathaquary, Lakhi Mandir Road. No reported casualties. Latitude: 26°09'13.9"N Longitude: 91°50'15.0"E. Date:15-06-2023 2. A Landslide incident occurred at the backside of Greenwood Resort, Lakshinagar, near Trinagar Namghar which partially damaged the Greenwood Resort's boundary wall and which partially blocked the Natural drain. No reported casualties. Latitude: 26°7'9"N Longitude: 91°50'4"E.Date:15-06-2023 | 0 | (Long - 0.000000, Lat - 0.000000)
Urban Flood	**District**	**Details**
	Cachar	**Silchar** - National Highway, Link Road, Ambicapatty, N.S. AVENUE, Sonai Road, Charch Road, Bilpar | Due to heavy rainfall flash flood occurred in different places of Silchar Town dated 15.06.2023 | 17000 | (Long - 0.000000, Lat - 0.000000)
	Kamrup (M)	**Dispur** - Hatigaon, Wireless, Rukminigaon, Baghorbori, Kalitakuchi and Sorumotoria Revenue Village | Water-logging reports at Sijubari-Hatigaon, Wireless BSNL office's back side, Rukminigaon Manasha Mandir, near Rukminigaon High School, Rukminagar side, Baghorbori, Kalitakuchi, Anil Nagar and Dwarandha-Sorumotoria, Dated:15-06-2023 | 0 | (Long - 0.000000, Lat - 0.000000), **Guwahati** - Boragaon national highway near excelcare hospital | Due to rain on 15/06/2023 waterlogging took place | 0 | (Long - 0.000000, Lat - 0.000000)
	Nalbari	**Nalbari** - Commerce collage road, veterinary roas, malikuchi road, Debiram H.S -balilecha road, Nalbari-Hajo road, Bhakat para road, Forest office road, circuit house road, Law collage road, Agriculture office road, Block office road, L.N.B road, Palla road, Alternative road, Satra MV to Premoda hotel road, Bishnupur road | As per reported by LM under Nalbari Rev. Circle these roads(area) are submerged due to continuous raining. dated 15/06/2023 | 2300 | (Long - 0.000000, Lat - 0.000000)
		*****Bajali, Biswanath, Hojai and Tamulpur are sub-divisions (Independent)

Assam Daily Flood Report as on 18-06-2023 at 4:00 PM								
Particulars	Situation as on 18-06-2023 (in last 24 hours)							
Rivers flowing above Danger Level (as per CWC bulletin issued at 8 AM)	Rivers flowing above danger level	Puthimari (Nh Road Crossing), Kopili (Kampur), Brahmaputra (Neamatighat)						
	Rivers flowing above highest flood level	Nil						
District/Sub-division Affected	**No. of Districts/Sub-divisions* Affected**	**Name of Flood Affected Districts/Sub-divisions***	**Name of Urban Flood Districts/Sub-divisions***					
	14	Biswanath, Cachar, Darrang, Dhemaji, Dibrugarh, Golaghat, Hojai, Lakhimpur, Nagaon, Nalbari, Sonitpur, Tinsukia, Udalguri	Cachar, Kamrup (M), Nalbari					
No. Of Revenue Circles Affected	25							
Name Of Revenue Circles Affected	**District/Sub-division***	**Total**	**Revenue Circle**					
	Biswanath	2	Gohpur, Halem					
	Cachar	1	Silchar					
	Darrang	3	Dalgaon, Patharighat, Mangaldoi					
	Dhemaji	1	Dhemaji					
	Dibrugarh	2	Dibrugarh West, Chabua					
	Golaghat	1	Bokakhat					
	Hojai	3	Doboka, Lanka, Hojai					
	Kamrup (M)	1	Dispur					
	Lakhimpur	2	Nowboicha, Narayanpur					
	Nagaon	1	Raha					
	Nalbari	2	Tihu, Nalbari					
	Sonitpur	3	Dhekiajuli, Tezpur, Chariduar					
	Tinsukia	1	Tinsukia					
	Udalguri	2	Harisinga, Kalaigaon					
	Total	**25**						
Villages Affected	**District/Sub-division***	**Total**	**Revenue Circle**					
	Biswanath	23	(Gohpur | 5), (Halem | 18)					
	Cachar	2	(Silchar | 2)					
	Darrang	16	(Dalgaon | 10), (Patharighat | 1), (Mangaldoi | 5)					
	Dhemaji	3	(Dhemaji | 3)					
	Dibrugarh	7	(Dibrugarh West | 6), (Chabua | 1)					
	Golaghat	4	(Bokakhat | 4)					
	Hojai	20	(Doboka | 3), (Lanka | 4), (Hojai | 13)					
	Lakhimpur	21	(Nowboicha | 13), (Narayanpur | 8)					
	Nagaon	11	(Raha | 11)					
	Nalbari	1	(Tihu | 1)					
	Sonitpur	28	(Dhekiajuli | 1), (Tezpur | 19), (Chariduar | 8)					
	Tinsukia	3	(Tinsukia | 3)					
	Udalguri	3	(Harisinga | 2), (Kalaigaon | 1)					
	Total	**142**						
Population And Crop Area Affected	**District/Sub-division***	**Male**	**Female**	**Children**	**Total Population**	**Population Details**	**Crop Area (in Hect.)**	**Crop Area Details**
	Biswanath	0	0	0	0	(Gohpur | 0), (Halem	26.30	(Gohpur | 16.30), (

						| 0)		Halem | 10.00)
	Cachar	250	225	90	565	(Silchar | 565)	0.00	(Silchar | 0.00)
	Darrang	230	181	241	652	(Dalgaon | 272), (Patharighat | 6), (Mangaldoi | 374)	51.00	(Dalgaon | 51.00), (Patharighat | 0.00), (Mangaldoi | 0.00)
	Dhemaji	45	43	13	101	(Dhemaji | 101)	10.00	(Dhemaji | 10.00)
	Dibrugarh	1567	1240	1050	3857	(Dibrugarh West | 0), (Chabua | 3857)	170.50	(Dibrugarh West | 54.00), (Chabua | 116.50)
	Golaghat	0	0	0	0	(Bokakhat | 0)	38.00	(Bokakhat | 38.00)
	Hojai	0	0	0	0	(Hojai | 0), (Doboka | 0), (Lanka | 0)	343.26	(Hojai | 279.60), (Doboka | 37.00), (Lanka | 26.66)
	Lakhimpur	12221	12094	960	25275	(Nowboicha | 25097), (Narayanpur | 178)	0.00	(Nowboicha | 0.00), (Narayanpur | 0.00)
	Nagaon	0	0	0	0	(Raha | 0)	585.72	(Raha | 585.72)
	Nalbari	7	5	8	20	(Tihu | 20)	8.00	(Tihu | 8.00)
	Sonitpur	29	23	0	52	(Dhekiajuli | 52), (Chariduar | 0), (Tezpur | 0)	31.20	(Dhekiajuli | 0.00), (Chariduar | 16.00), (Tezpur | 15.20)
	Tinsukia	985	848	833	2666	(Tinsukia | 2666)	238.00	(Tinsukia | 238.00)
	Udalguri	112	92	20	224	(Udalguri | 0), (Harisinga | 215), (Kalaigaon | 9)	9.00	(Udalguri | 0.00), (Harisinga | 0.00), (Kalaigaon | 9.00)
	Total	**15446**	**14751**	**3215**	**33412**		**1510.98**	

Relief Camps / Centres Opened	**District/Sub-division***	**Total**	**Relief Camp**	**Relief Distribution Centres**
	Biswanath	2	0(Gohpur | 0)	2(Gohpur | 2)
	Lakhimpur	13	0(Nowboicha | 0, Narayanpur | 0)	13(Nowboicha | 11, Narayanpur | 2)
	Udalguri	2	1(Kalaigaon | 1, Harisinga | 0)	1(Kalaigaon | 0, Harisinga | 1)
	Total	**17**	**1**	**16**

Inmates In Relief Camps	**District/Sub-division***	**Total**	**Revenue Circlewise**	**Male**	**Female**	**Children**	**Pregnant / Lactating Mother**	**Person with Disability**
	Udalguri	9	(Harisinga | 0), (Udalguri | 0), (Kalaigaon | 9)	4	4	0	1	0
	Total	**9**		**4**	**4**	**0**	**1**	**0**

Human Lives Lost - Confirmed	Nil
Human Lives Lost Confirmed - Death Type	Nil
Human Lives Lost - Missing	Nil
Human Lives Lost Missing - Type	Nil

Animals Affected	**District/Sub-division***	**Total**	**Big**	**Small**	**Poultry**
	Biswanath	2791	1945	846	0
	Darrang	3563	1797	1307	459
	Dibrugarh	5368	4418	950	0
	Lakhimpur	8398	5185	3213	0
	Udalguri	285	242	0	43
	Total	**20405**	**13587**	**6316**	**502**

Animals Washed Away	**District/Sub-division***	**Total**	**Big**	**Small**	**Poultry**
	Darrang	21	21	0	0
	Total	**21**	**21**	**0**	**0**

Houses Damaged	**District/Sub-division***	**Fully Kuccha**	**Fully Pukka**	**Fully Total**	**Partially Kuccha**	**Partially Pukka**	**Partially Total**	**Others Huts**	**Others Cattle Shed**	**Others Total**

	Lakhimpur	0	0	0	5	0	5	0	0	0
	Total	**0**	**0**	**0**	**5**	**0**	**5**	**0**	**0**	**0**
Rescue Operation	**District/Sub-division***	**Agency**			**Boats Deployed**	**Person Evacuated By Boats**	**Animal Evacuated By Boats**	**Helicopters Deployed**	**Person Evacuated By Helicopters**	**Medical Team Deployed**
	Biswanath				0	0	0	0	0	1
	Dibrugarh	NDRF, SDRF			5	7	0	0	0	0
	Lakhimpur				0	0	0	0	0	3
	Total				**5**	**7**	**0**	**0**	**0**	**4**
Relief Distributed	**District/Sub-division***	**Rice (in Q)**	**Dal (in Q)**	**Salt (in Q)**	**M. Oil (in L)**	**Cattle Feed - Green Fooder (in Q)**	**Cattle Feed - Wheat Bran (in Q)**	**Cattle Feed - Rice Bran (in Q)**		
	Biswanath	0.00	0.00	0.00	0.00	0.00	0.00	600.00		
	Lakhimpur	409.96	75.82	22.75	2275.00	0.00	0.00	54.69		
	Udalguri	3.60	0.65	0.19	19.35	0.00	0.00	13.80		
	Total	**413.56**	**76.47**	**22.94**	**2294.35**	**0.00**	**0.00**	**668.49**		
Relief Distributed Others	**District/Sub-division***	**Baby Food Liquid**		**Baby Food Solid**		**Others**				
	Biswanath	0.00-Q		0.00-Q						
	Lakhimpur	0.00-Q		432.00-Pkt, 0.00-Q						
	Udalguri	0.00-Q		0.00-Q		Sanitary Napkin-50.00-Pkt; Match box-5.00-Pkt; Candle - 45.00-Pkt; 0-0.00-Q				
Infrastructure Damaged - Embankment Breached	Nil									
Infrastructure Damaged - Embankment Affected	**District/Sub-division***	**Number**	**Details**							
	Biswanath	3	**Gohpur** - Bank Erosion is observed R/Bank embankment of river Solengi. | at Dakhin Deonabari of length 30 mtr on 18/06/23 | | (Long - 93.643767, Lat - 26.913720, Dept - --Select Department--), Mild bank erosion is observed on R/Bank of river Sessa. | at Gopsarguri marginal embankment of length 120 mtr on 18/06/23 | | (Long - 93.716944, Lat - 26.979166, Dept - Water Resource Deptt.), Mild bank Erosion is observed on R/Bank of river Sessa | at Baligaon mmginal embankment near Gopsarguri area of length 100 mtr on 18/06/23 | | (Long - 93.712256, Lat - 26.989844, Dept - Water Resource Deptt.)								
	Lakhimpur	1	**Nowboicha** - Pabha River Bund | Mohghuli Borgola | 10 Mtr. eroded on 17.06.2023 at Pabha River Bund from Shoniboria Bazar to Ruhul Chuburi MGNREGA 15-16 under BMP GP. Report received from Karunabari Block Dev. Office | (Long - 27.063610, Lat - 94.039671, Dept - P&RD)								
	Total	**4**								
Infrastructure Damaged - Road	**District/Sub-division***	**Number**	**Details**							
	Cachar	7	**Silchar** - Badri Bridge Approach Road | Badripar | Badri Bridge Approach Road have been submerged and damaged due to incessant rain for the last few days, as per report received from PWRD Silchar & Udharbond (T) Road Division, Dated 17.06.2023 | (Long - 0.000000, Lat - 0.000000, Dept - PWD (Roads)), **Udharbond** - T-01 TO BHOLA PUNJEE | BHOLA PUNJEE | T-01 TO BHOLA PUNJEE AT CH. 500.00M. CH. 700.00M, CH. 4300.00M & CH.4500.00M (PKG. NO. AS-03-164) IN STRETCHES road have been submerged and damaged due to incessant rain for the last few days, as per report received from PWRD Silchar & Udharbond (T) Road Division, Dated 17.06.2023 | (Long - 0.000000, Lat - 0.000000, Dept - PWD (Roads)), PAILAPOOL KUMARCHERRA NEC ROAD TO LANKAR PUNJI ROAD | PAILAPOOL KUMARCHERRA | PAILAPOOL KUMARCHERRA NEC ROAD TO LANKAR PUNJI ROAD (PKG. NO. AS-03-110) IN STRETCHES have been submerged and damaged due to incessant rain for the last few days, as per report received from PWRD Silchar & Udharbond (T) Road Division, Dated 17.06.2023 | (Long - 0.000000, Lat - 0.000000, Dept - PWD (Roads)), S.K. ROAD TO KULICHERRA | KULICHERRA | S.K. ROAD TO KULICHERRA AT 4TH KM. have been submerged and damaged due to incessant rain for the last few days, as per report received from PWRD Silchar & Udharbond (T) Road Division, Dated 17.06.2023 | (Long - 0.000000, Lat - 0.000000, Dept - PWD (Roads)), TIKALPAR ONGC POINT TO BAMDOO TE VIA KUMBHA AND ENDOGRAM | TIKALPAR | TIKALPAR ONGC POINT TO BAMDOO TE VIA KUMBHA AND ENDOGRAM AT CH. 500.00M. CH. 600.00M PKG. NO. AS-03-269 have been submerged and damaged due to incessant rain for the last few days, as per report received from PWRD Silchar & Udharbond (T) Road								

- Wildlife		
Infrastructure Damaged - Others	**District/Sub-division***	**Other Details**
	Biswanath	**Gohpur** - Elementary Schools Damaged | No.2 Upper Charaibari LPS is submerged fully on 18-06-2023
	Chirang	**Bengtal** - Bamboo Foot Bridge | As reported by LM, Temporary bamboo foot bridge washed away, at Nangalbhanga due to river Nangalbhanga . Latitude-26.616555, Longitude-90.551045 L-8m, B-2.5, D-2m. date of occurrence- 17-06-2023, **Sidli** - Culvert Approach Road Damaged | As reported by AE,PWD(Road),Chirang, Sundari to Basugaon via Khakragaon road , RCC culvert approach damage of ch 1154.00m both approach Length- 8.00m and 9.00m, Breadth-8.40m and 4.80m, depth- 5.00 and 5.00m at Ghilaguri(Over Duramari River), Latitude-26.461331, Longitude-90.434467 date of occurrance 18-06-2023
	Dibrugarh	**Chabua** - Anganwadi Centres Affected | Kottock line AWC affected as per information received from Social Welfare department on 18-06-2023 coordinates Lat 27.531478 Long 95.21476, Anganwadi Centres Affected | Dodhia Kuligaon AWC affected as per information received from Social Welfare department on 18-06-2023 coordinates Lat 27.597042 Long 95.215409, Anganwadi Centres Affected | Tengabari AWC affected as per information received from Social Welfare department on 18-06-2023 coordinates Lat 27.611502 Long 95.239086, Anganwadi Centres Affected | Dadhia AWC affected as per information received from Social Welfare department on 18-06-2023 coordinates Lat 27.559956 Long 95.255222
	Goalpara	**Lakhipur** - Irrigation Canal/Scheme Damaged | As per report submitted by Irrigation department, Ghagua FIS left side D/S guide bund erosion CH. 0 M to 30 M and width of erosion 0.25 meter at the revenue village Rakhalkilla from 16.06.2023 to till date i.e. 18.06.2023, Lat-25.96803 Long-90.199927
	Kamrup	**Kamalpur** - Irrigation Canal/Scheme Damaged | Collapse of irrigation canal embankment at kharikata village under Bihdia Jajikona Dev. Block.. Reported by BDO, Bihdia Jajikona Dev. Block. Date- 17/06/2023. Co-ordinates- 26.399163, 91.761723
	Karbi Anglong	**Silonijan** - Road Breaches | Damaged due to heavy rain and over flow of Koloyani River as on 18-06-2023, BBDC Road to Koliyoni Shyam Gaon Budhist Monastery Road Lenght-2Km, B- 3.75 M under PWD(R) Barpather division under Silonijan Revenue Circle . Coordinates Lat: 26.474956 Long: 93.778599
	Karimganj	**Nilambazar** - Secondary Schools Damaged | Dated on 18/06/2023, due to incessant rain fall, two class room building of Eraligool Public High School at village- Eraligool under Bandarkuna GP got washed away and base of this school building is already eroded as beacause the school is located in hillock. (Lat- 24.672627, Long- 92.369295)
	Lakhimpur	**Nowboicha** - Fisheries/Pond | 2355 Nos. Fishery (420 Hect.) over flow due to Singra River Flood water at Balitika, Haripur, Phukan Doloni, 1 No. Brochala village on 17.06.2023. Report received from Fishery Development Office, Lakhimpur, **Dhakuakhana** - Bamboo Foot Bridge | Bridge no. 2/2 at Narayanpur Chapori to Ghilaguri road is damaged on 18/06/2023. Length: 60M. Report submitted by Dhakuakhana Territorial Road Division, Ghilamara., Bamboo Foot Bridge | Bridge no. 3/1 over Charikaria river at Katharbari to Krishnapur via Ghilaguri road is washed away on 18/06/2023. Length: 140M. Report submitted by Dhakuakhana Territorial Road Division, Ghilamara., **Narayanpur** - Culvert Approach Road Damaged | Today I.e 18/06/2023 a box cell culvert approached eroded and damaged at deotala Chariali to sribhuyan via jurhotia Gaon road located between chamoguri and purabil village as per report from PWD roads
	Sonitpur	**Naduar** - Culvert Approach Road Damaged | As per report submitted by Asst. Executive Engineer, PWRD, Sootea Territorial Road Sub -Division on Dated 18/06/2023, Due to incessant heavy rainfall from last few days the approaches of culvert No. 3/1 eroded & settle down on 17/06/2023 and threat the road communication L053- Hatinga to Tengabasti road, PMGSY package no. AS-22-264 under Naduar Block. Lat 26.812406 Long 92.95778
	Udalguri	**Mazbat** - Irrigation Canal/Scheme Damaged | damaged RCC canal lining at ch 800 m of right side main canal of siloni bundh FIS due to incessant rain on 18/6/2023.(Lat: 26.8333213, long: 92.33655) , Irrigation Canal/Scheme Damaged | damaged RCC canal lining at ch 2500 m of right side main canal of Rowmari FIS due to incessant rain on 18/6/2023.(Lat: 26.843413, long: 92.265679) , Irrigation Canal/Scheme Damaged | Erosion of afflux bundh and CC floor of Pagla FIS due to incessant rain on 18/6/2023.(Lat: 26.849105, long: 9232368) , Irrigation Canal/Scheme Damaged | Erosion of kukrakhaity bundh due to incessant rain on 18/6/2023.(Lat: 26.80115, long: 92.300256)) , **Harisinga** - Bamboo Foot Bridge | Paneri TE MV link road bamboo foot bridge damage due to heavy rainfall on 17th June 2023. Lat 26.8532 Long 91.8368
Erosion	**District/Sub-division***	**Details**
	Biswanath	**Gohpur** - at Auguri area | Mild Erosion observed at R/Bank embankment of river Sessa on 18-06-2023 | 0 | (Long - 93.737047, Lat - 26.952548), **Halem** - Paken area | River Brahmaputra: 1) Mild hank erosion continues at Paken area of IV/Dyke from Jamugari to Kharot outfall. Length 30.00. on 18/06/2023 | 0 | (Long - 93.626984, Lat - 26.800677)
	Bongaigaon	**Srijangram** - Tinkonia Part- II and Tinkonia Part-III | Erosion is still prevaling in the above mentioned village.29 house have been dismantled in the fear of being affected by erosion. dated 17.06.023 | 5 | (Long - 90.641348, Lat - 26.237802)
	Dibrugarh	**Dibrugarh West** - Bhogamur Block Gaon ring bund | Due to the rising water level of river Buridehing to the

ANNEXURE-XIX

Hospital Infection Prevention And Control Plan

ANNEXURE-XIX

HOSPITAL INFECTION PREVENTION AND CONTROL PLAN

1.0 Introduction: Health care-associated infections (HAIs) are preventable with correct infection prevention and control (IPC) practices. This IPC guideline will ensure a safe working environment for the health care providers and patients.

2.0 Cause of Infections: The most important HAIs are

- Urinary tract infections, pneumonia, and diarrhea
- Infections following surgery or invasive medical procedures
- Maternal and newborn infections

The organisms causing most HAIs come from the patient's own body (endogenous flora). They also can come from contact with staff (cross-contamination), contaminated instruments and needles, and the environment (exogenous flora). Key contributing factors are:

- Inadequate standards and practices for operating blood transfusion services
- Increasing use of invasive medical devices (e.g., mechanical ventilators, urinary catheters, and central intravenous lines) without proper training or laboratory support
- Use of contaminated intravenous fluids
- Antibiotic resistance due to overuse of broad-spectrum antibiotics
- Unsafe and frequently unnecessary injections
- Unscientific disposal of BMW Infection to waste handlers

3.0 Preventive Measures from the Infection: Most of these infections can be prevented with readily available, relatively inexpensive strategies by:

- Adhering to recommended infection prevention practices, especially hand hygiene and wearing gloves.
- Paying attention to well-established processes for decontamination and cleaning of soiled instruments and other items, followed by either sterilization or high-level disinfection
- Improving safety in operating rooms and other high-risk areas where the most serious and frequent injuries and exposures to infectious agents occur.

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